FCC RADIO TEST REPORT

FCC ID	:	**UDX-60076027**
Equipment	:	**LTE & Wi-Fi Router**
Brand Name	:	**CISCO**
Model Name	:	**MX68CW-HW-NA**
Applicant	:	**Cisco Systems, Inc.** **170 West Tasman Drive, San Jose, CA 95134**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Mar. 16, 2018 and testing was started from Mar. 29, 2018 and completed on Aug. 03, 2018. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR831635-03	01	Initial issue of report	Dec. 24, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 0.42 dB at 5428.480 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 21.24 dB at 19.415 MHz
3.6	15.407(c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 15.407(a)	Antenna Requirement	Pass	-

Note: This report is by updating SW for DFS. Since the test result is not affected by the changes, the FR831635-03 report reuses test data from the FR831635D report.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Ruby Zou

1 General Description

1.1 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Wi-Fi 2.4GHz 802.11b/g/n/ac, and Wi-Fi 5GHz 802.11a/n/ac

Product Specification subjective to this standard	
Antenna Type	WWAN: **Main:** Dipole Antenna **Aux.:** Dipole Antenna WLAN: **Ant. 1:** Dipole Antenna **Ant. 2:** Dipole Antenna

Antenna information		
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	**Ant. 1:** 4.32 **Ant. 2:** 5.84
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	**Ant. 1:** 4.32 **Ant. 2:** 5.84

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.2 Modification of EUT

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

1.3 Testing Location

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

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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.**
	03CH10-HY

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

FCC designation No.: TW1190 and TW0007

1.4 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

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

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

2.1 Carrier Frequency and Channel

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

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

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

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

Note:

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

2.2 Test Mode

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

MIMO Mode

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

TXBF Mode (Power Only)

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + RJ-45 (LAN) Link + RJ-45 (WAN) Link + USB Link + Adapter + POE

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

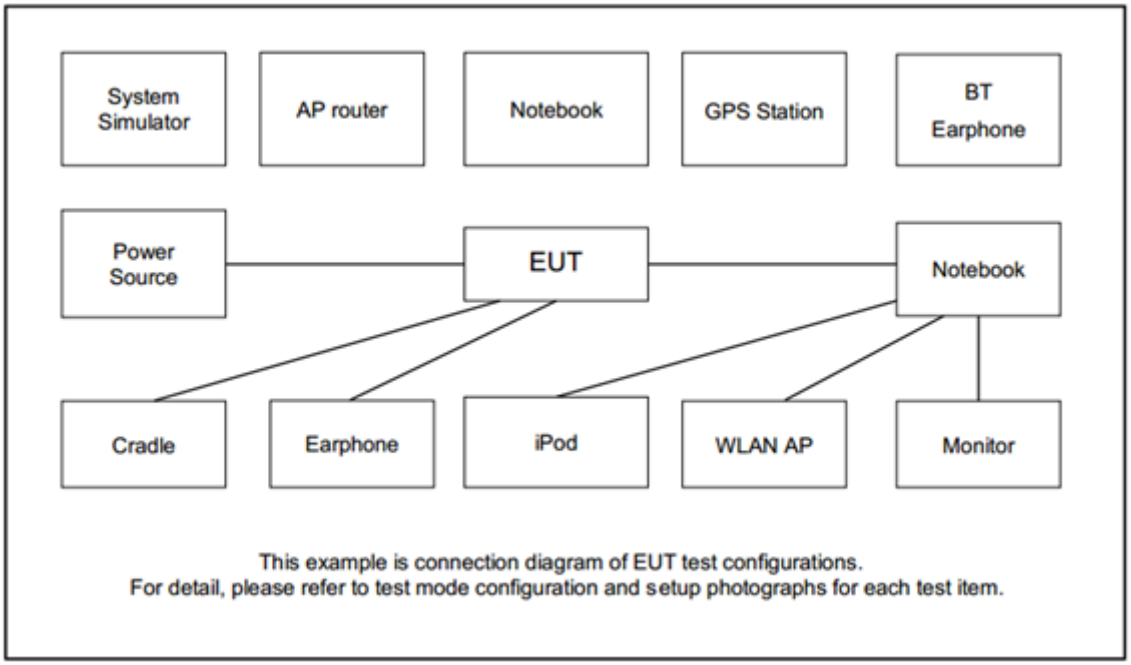
Ch. #		Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT20	802.11n HT20
L	Low	52	100
M	Middle	60	116
H	High	64	140
Straddle		-	144

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

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

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

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	ASUS	P2430U	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Notebook	DELL	Latitude E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	USB Flash Drive	Transcend	N/A	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

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

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

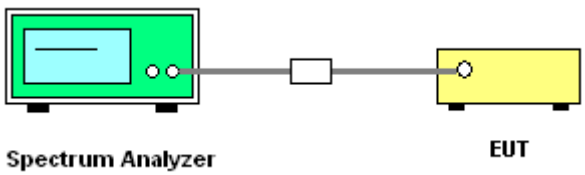
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

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

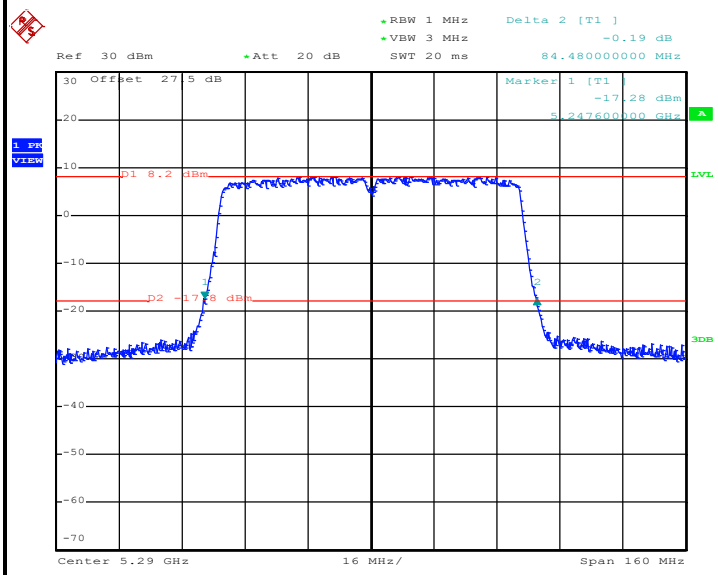
3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

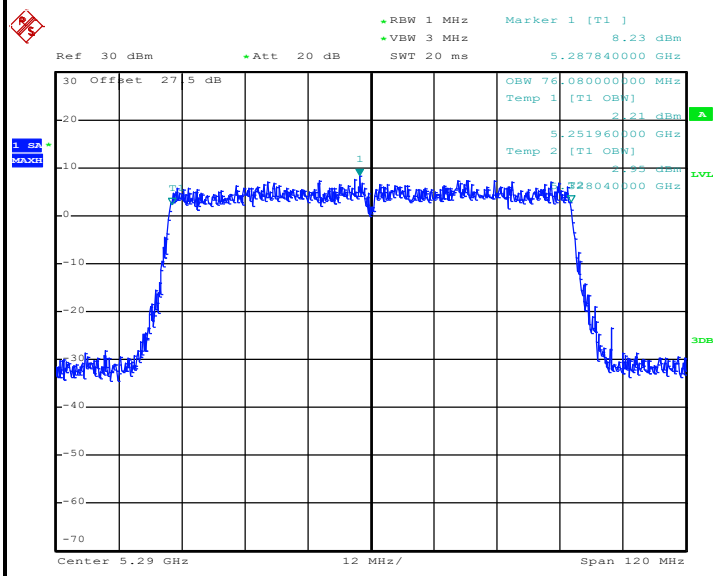
Please refer to Appendix A.

Maximum 26dB Bandwidth



Date: 3.MAY.2018 14:17:05

Maximum 99% Occupied Bandwidth



Date: 3.MAY.2018 14:18:45

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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For the 5.25–5.725 GHz bands:

■ The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

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

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

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

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

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

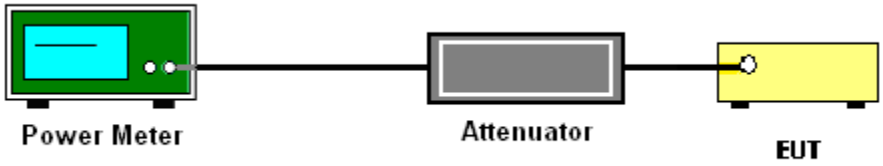
Method PM (Measurement using an RF average power meter):

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

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

Additional TXBF gain 10log (N = 2) has offset to the CDD mode in order to show compliance for TXBF mode.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For the 5.25–5.725 GHz bands:

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

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

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

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

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

Section F) Maximum power spectral density.

 # Method SA-2 #

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

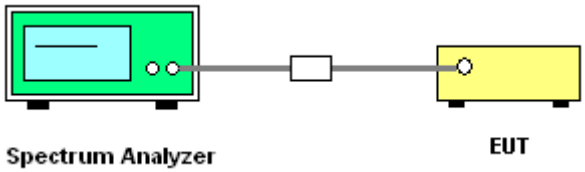
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(1/x),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

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

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

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

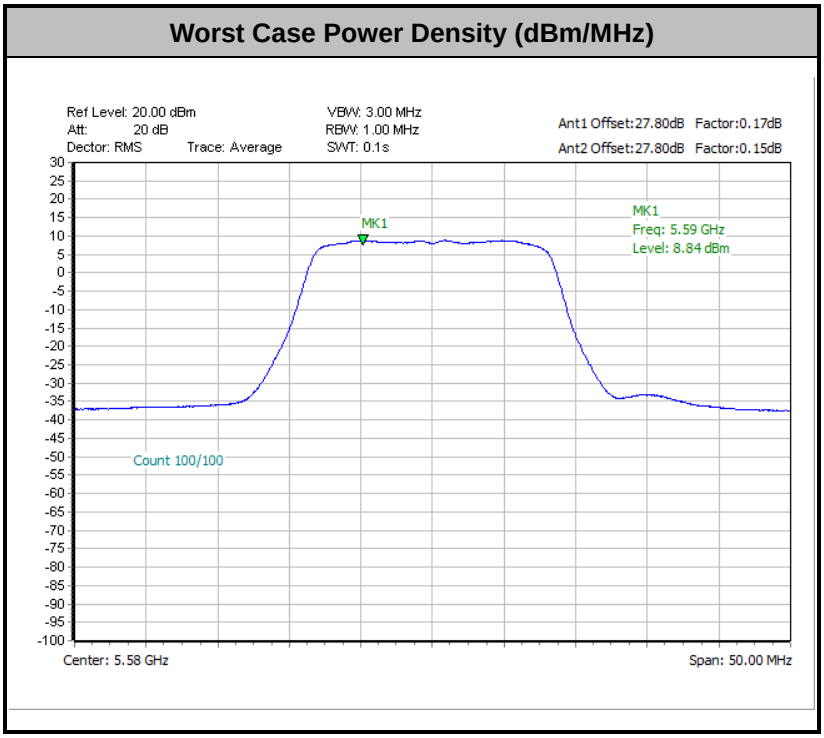
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

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

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.

(1) Procedure for Unwanted Emissions Measurements Below 1000MHz

- RBW = 120 kHz
- VBW = 300 kHz
- Detector = Peak
- Trace mode = max hold

(2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

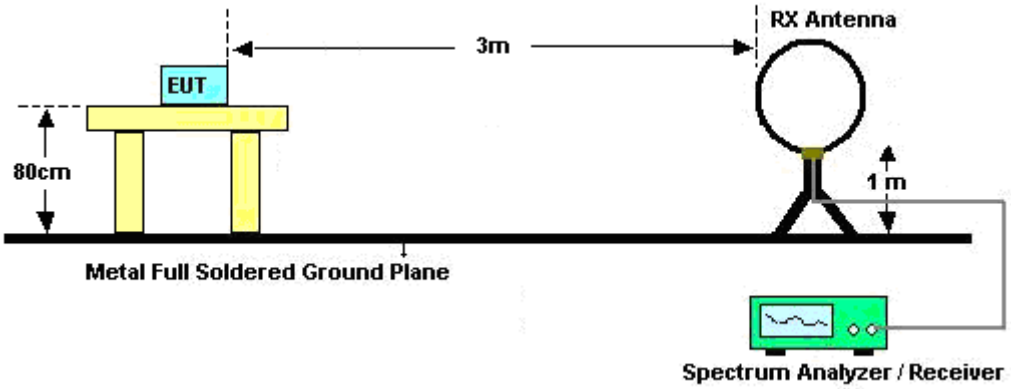
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

- 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.

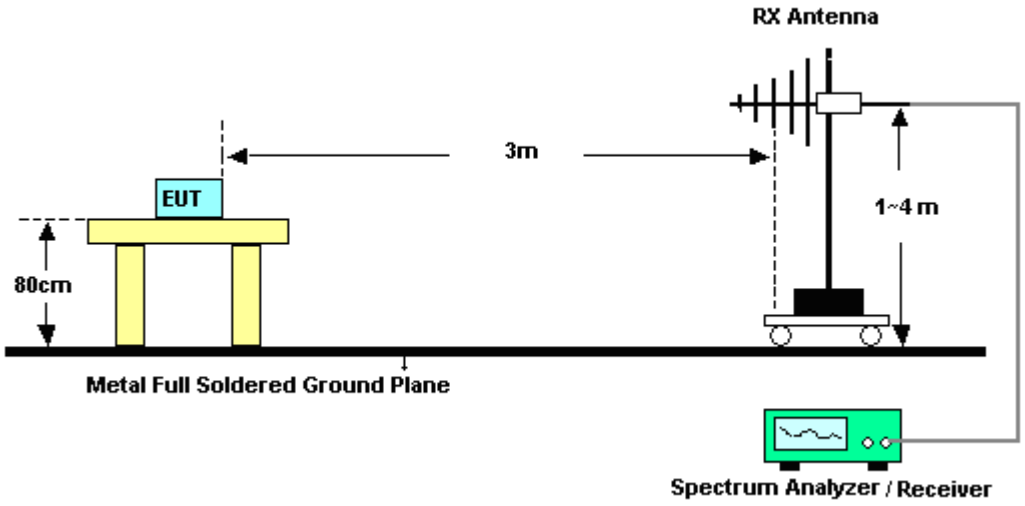
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

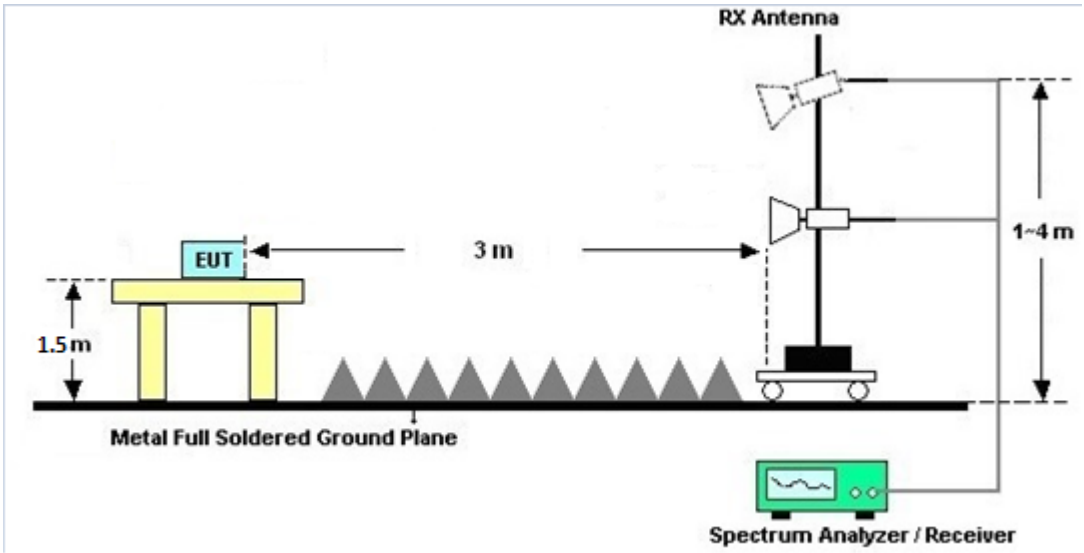
For radiated test below 30MHz



For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



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

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

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

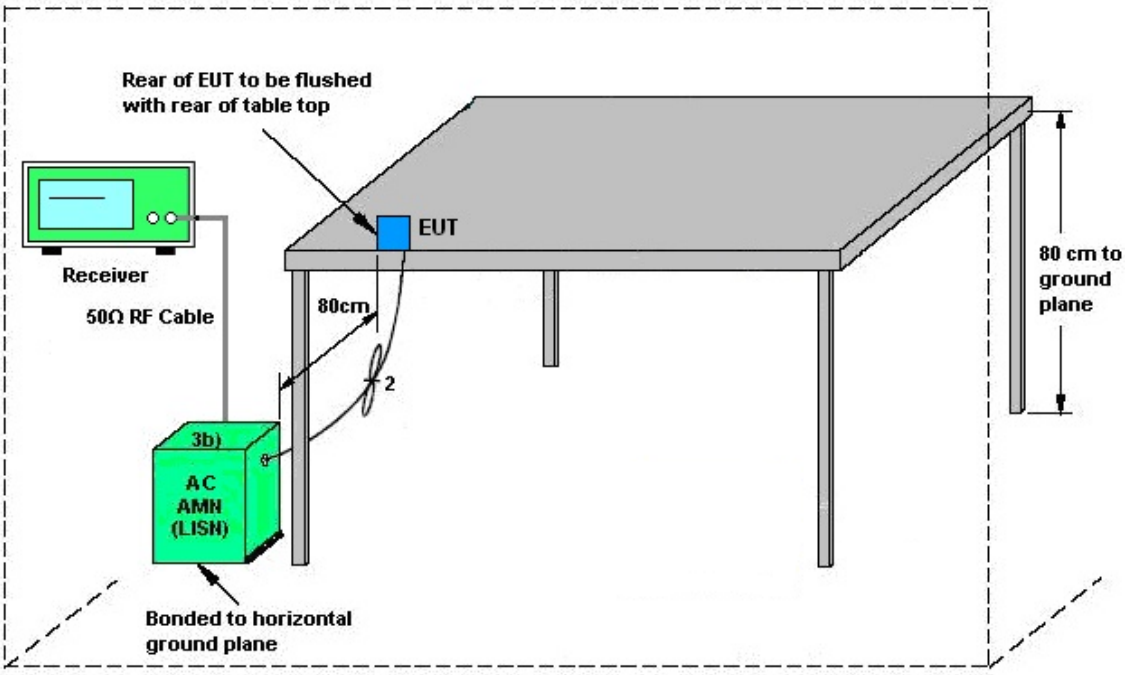
3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup



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

3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

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

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

Array Gain = 10 log(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

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

The EUT supports CDD mode.

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

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

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

The directional gain “DG” is calculated as following table.

<CDD Modes>

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band II	4.32	5.84	5.84	8.12	0.00	2.12
Band III	4.32	5.84	5.84	8.12	0.00	2.12

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

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

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

where

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

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

N_{ANT} = the total number of antennas

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

G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)ii) of KDB 662911 D01 v02r01.

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

The directional gain “DG” is calculated as following table.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 1	Ant 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band II	4.32	5.84	8.12	8.12	2.12	2.12
Band III	4.32	5.84	8.12	8.12	2.12	2.12

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

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

4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1240001	N/A	Sep. 07, 2017	Mar. 29, 2018~ Aug. 03, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Mar. 29, 2018~ Aug. 03, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Mar. 29, 2018~ Aug. 03, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Mar. 29, 2018~ Aug. 03, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jul. 23, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Jul. 23, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Jul. 23, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jul. 23, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Jul. 23, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Jul. 23, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Oct. 19, 2017	Apr. 12, 2018~ Jun. 06, 2018	Oct. 18, 2018	Radiation (03CH10-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Apr. 12, 2018~ Jun. 06, 2018	Jul. 17, 2018	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800N1D01N-06	35413&02	30MHz~1GHz	Dec. 18, 2017	Apr. 12, 2018~ Jun. 06, 2018	Dec. 17, 2018	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Sep. 27, 2017	Apr. 12, 2018~ Jun. 06, 2018	Sep. 26, 2018	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Oct. 25, 2017	Apr. 12, 2018~ Jun. 06, 2018	Oct. 24, 2018	Radiation (03CH10-HY)
Preamplifier	Jet-Power	JPA00101800-30-10P	1601180002	1GHz~18GHz	Jul. 31, 2017	Apr. 12, 2018~ Jun. 06, 2018	Jul .30, 2018	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 31, 2017	Apr. 12, 2018~ Jun. 06, 2018	Oct. 30, 2018	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Apr. 12, 2018~ Jun. 06, 2018	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0~360 Degree	N/A	Apr. 12, 2018~ Jun. 06, 2018	N/A	Radiation (03CH10-HY)
Software	Audix	E3 6.2009-8-24	RK-001042	N/A	N/A	Apr. 12, 2018~ Jun. 06, 2018	N/A	Radiation (03CH10-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Apr. 12, 2018~ Jun. 06, 2018	Nov. 22, 2018	Radiation (03CH10-HY)
Filter	Woken	WHKX8-5872.5-6750-18000-40ST	SN3	6.75G High Pass	Sep. 18, 2017	Apr. 12, 2018~ Jun. 06, 2018	Sep. 17, 2018	Radiation (03CH10-HY)

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3 GHz Highpass	Jul. 17 , 2017	Apr. 12, 2018~ Jun. 06, 2018	Jul. 18 , 2018	Radiation (03CH10-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2G Low Pass	Jul. 17, 2017	Apr. 12, 2018~ Jun. 06, 2018	Jul. 16, 2018	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24971/4,MY28655/4	9K-30M	Jan. 02, 2018	Apr. 12, 2018~ Jun. 06, 2018	Jan. 01, 2019	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4PE, MY11693/4PE, MY2855/2	30M-1G	Nov. 14, 2017	Apr. 12, 2018~ Jun. 06, 2018	Nov. 13, 2018	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104 / 102	MY11692/4PE, MY11693/4PE, MY2855/2	1G-18G	Nov. 14, 2017	Apr. 12, 2018~ Jun. 06, 2018	Nov. 13, 2018	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40G	Oct. 17, 2017	Apr. 12, 2018~ Jun. 06, 2018	Oct. 16, 2018	Radiation (03CH10-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 16, 2018	Apr. 12, 2018~ Jun. 06, 2018	Jan. 15, 2019	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 27, 2017	Apr. 12, 2018~ Jun. 06, 2018	Nov. 26, 2018	Radiation (03CH10-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))	**5.6**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.9**

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:	Allen Lin/Tommy Lee/Shiming Liu	Temperature:	21~25	°C
Test Date:	2018/3/29~2018/8/3	Relative Humidity:	51~54	%

<For CDD Mode>

TEST RESULTS DATA
26dB and 99% OBW

Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	52	5260	17.20	17.20	21.40	21.25	23.36		29.36		23.98		
11a	6Mbps	2	60	5300	17.20	17.20	21.30	21.15	23.36		29.36		23.98		
11a	6Mbps	2	64	5320	17.15	17.20	21.30	21.10	23.34		29.34		23.98		
HT20	MCS0	2	52	5260	18.25	18.15	22.20	21.90	23.59		29.59		23.98		
HT20	MCS0	2	60	5300	18.20	18.15	22.10	21.95	23.59		29.59		23.98		
HT20	MCS0	2	64	5320	18.25	18.20	22.05	22.00	23.60		29.60		23.98		
HT40	MCS0	2	54	5270	36.20	36.40	40.92	41.04	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	36.20	36.30	40.50	40.68	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	75.96	76.08	84.48	83.52	23.98		30.00		23.98		

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	52	5260	0.17	0.15	16.17	16.30	19.24	23.98		5.84		30	Pass
11a	6Mbps	2	60	5300	0.17	0.15	16.18	16.35	19.27	23.98		5.84		30	Pass
11a	6Mbps	2	64	5320	0.17	0.15	16.44	16.53	19.49	23.98		5.84		30	Pass
HT20	MCS0	2	52	5260	0.10	0.10	16.36	16.53	19.46	23.98		5.84		30	Pass
HT20	MCS0	2	60	5300	0.10	0.10	16.32	16.64	19.50	23.98		5.84		30	Pass
HT20	MCS0	2	64	5320	0.10	0.10	16.74	16.77	19.77	23.98		5.84		30	Pass
HT40	MCS0	2	54	5270	0.11	0.11	18.61	18.78	21.70	23.98		5.84		30	Pass
HT40	MCS0	2	62	5310	0.11	0.11	16.58	16.77	19.68	23.98		5.84		30	Pass
VHT20	MCS0	2	52	5260	0.10	0.10	16.32	16.50	19.42	23.98		5.84		30	Pass
VHT20	MCS0	2	60	5300	0.10	0.10	16.31	16.60	19.47	23.98		5.84		30	Pass
VHT20	MCS0	2	64	5320	0.10	0.10	16.67	16.80	19.75	23.98		5.84		30	Pass
VHT40	MCS0	2	54	5270	0.14	0.14	18.60	18.76	21.69	23.98		5.84		30	Pass
VHT40	MCS0	2	62	5310	0.14	0.14	16.61	16.71	19.67	23.98		5.84		30	Pass
VHT80	MCS0	2	58	5290	0.26	0.26	14.76	15.20	17.99	23.98		5.84		30	Pass

TEST RESULTS DATA
Power Spectral Density

Band II														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	52	5260	0.17	0.15			7.63	8.88		8.12			Pass
11a	6Mbps	2	60	5300	0.17	0.15			7.44	8.88		8.12			Pass
11a	6Mbps	2	64	5320	0.17	0.15			7.76	8.88		8.12			Pass
HT20	MCS0	2	52	5260	0.10	0.10			7.58	8.88		8.12			Pass
HT20	MCS0	2	60	5300	0.10	0.10			7.40	8.88		8.12			Pass
HT20	MCS0	2	64	5320	0.10	0.10			7.56	8.88		8.12			Pass
HT40	MCS0	2	54	5270	0.11	0.11			7.04	8.88		8.12			Pass
HT40	MCS0	2	62	5310	0.11	0.11			7.03	8.88		8.12			Pass
VHT80	MCS0	2	58	5290	0.26	0.26			1.78	8.88		8.12			Pass

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TEST RESULTS DATA
26dB and 99% OBW

Band III																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth In U-NII 2C (MHz)		26 dB Bandwidth In U-NII 2C (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		6 dB Bandwidth for Straddle Channel (MHz)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	2	100	5500	17.15	17.25	21.10	21.00	23.34		29.34		23.98		----	----
11a	6Mbps	2	116	5580	17.10	17.15	20.90	20.90	23.33		29.33		23.98		----	----
11a	6Mbps	2	140	5700	17.25	17.15	21.25	21.10	23.34		29.34		23.98		----	----
11a	#####	2	144	5720	13.65	13.55	15.75	15.50	22.32		28.32		22.90		2.9	3.15
HT20	MCS0	2	100	5500	18.25	18.30	22.00	22.10	23.61		29.61		23.98		----	----
HT20	MCS0	2	116	5580	18.15	18.15	21.90	21.90	23.59		29.59		23.98		----	----
HT20	MCS0	2	140	5700	18.20	18.20	21.95	21.90	23.60		29.60		23.98		----	----
HT20	MCS0	2	144	5720	14.10	14.15	15.95	16.00	22.49		28.49		23.03		3.4	3.15
HT40	MCS0	2	102	5510	36.20	36.10	40.68	40.68	23.98		30.00		23.98		----	----
HT40	MCS0	2	110	5550	36.20	36.20	40.50	40.86	23.98		30.00		23.98		----	----
HT40	MCS0	2	134	5670	36.20	36.30	40.68	40.77	23.98		30.00		23.98		----	----
HT40	MCS0	2	142	5710	33.20	33.20	35.43	35.34	23.98		30.00		23.98		2.5	2.5
VHT80	MCS0	2	106	5530	75.96	75.84	83.84	83.52	23.98		30.00		23.98		----	----
VHT80	MCS0	2	122	5610	75.84	76.08	83.84	83.44	23.98		30.00		23.98		----	----
VHT80	MCS0	2	138	5690	73.16	73.04	77.24	76.60	23.98		30.00		23.98		2.74	2.8

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TEST RESULTS DATA
Average Power Table

FCC Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	100	5500	0.17	0.15	15.98	16.02	19.01	23.98		5.84		30	Pass
11a	6Mbps	2	116	5580	0.17	0.15	15.89	15.75	18.83	23.98		5.84		30	Pass
11a	6Mbps	2	140	5700	0.17	0.15	16.59	16.87	19.74	23.98		5.84		30	Pass
11a	6Mbps	2	144	5720	0.17	0.15	17.07	17.24	20.16	22.90		5.84		30	Pass
HT20	MCS0	2	100	5500	0.10	0.10	16.23	16.34	19.30	23.98		5.84		30	Pass
HT20	MCS0	2	116	5580	0.10	0.10	15.77	15.70	18.75	23.98		5.84		30	Pass
HT20	MCS0	2	140	5700	0.10	0.10	16.75	17.10	19.94	23.98		5.84		30	Pass
HT20	MCS0	2	144	5720	0.10	0.10	16.88	16.90	19.90	23.03		5.84		30	Pass
HT40	MCS0	2	102	5510	0.11	0.11	17.26	17.33	20.30	23.98		5.84		30	Pass
HT40	MCS0	2	110	5550	0.11	0.11	18.23	18.16	21.20	23.98		5.84		30	Pass
HT40	MCS0	2	134	5670	0.11	0.11	17.58	18.07	20.84	23.98		5.84		30	Pass
HT40	MCS0	2	142	5710	0.11	0.11	18.54	18.81	21.68	23.98		5.84		30	Pass
VHT20	MCS0	2	100	5500	0.10	0.10	16.22	16.31	19.28	23.98		5.84		30	Pass
VHT20	MCS0	2	116	5580	0.10	0.10	15.70	15.54	18.63	23.98		5.84		30	Pass
VHT20	MCS0	2	140	5700	0.10	0.10	16.68	17.08	19.90	23.98		5.84		30	Pass
VHT20	MCS0	2	144	5720	0.10	0.10	16.82	16.88	19.86	23.98		5.84		30	Pass
VHT40	MCS0	2	102	5510	0.14	0.14	17.23	17.33	20.29	23.98		5.84		30	Pass
VHT40	MCS0	2	110	5550	0.14	0.14	18.19	18.14	21.18	23.98		5.84		30	Pass
VHT40	MCS0	2	134	5670	0.14	0.14	17.59	18.04	20.83	23.98		5.84		30	Pass
VHT40	MCS0	2	142	5710	0.14	0.14	18.54	18.78	21.67	23.98		5.84		30	Pass
VHT80	MCS0	2	106	5530	0.26	0.26	16.05	16.04	19.05	23.98		5.84		30	Pass
VHT80	MCS0	2	122	5610	0.26	0.26	18.03	18.38	21.22	23.98		5.84		30	Pass
VHT80	MCS0	2	138	5690	0.26	0.26	17.81	18.27	21.05	23.98		5.84		30	Pass

TEST RESULTS DATA
Power Spectral Density

Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		-	Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	100	5500	0.17	0.15			8.53	8.88		8.12			Pass
11a	6Mbps	2	116	5580	0.17	0.15			8.84	8.88		8.12			Pass
11a	6Mbps	2	140	5700	0.17	0.15			8.59	8.88		8.12			Pass
11a	6Mbps	2	144	5720	0.17	0.15			8.65	8.88		8.12			Pass
HT20	MCS0	2	100	5500	0.10	0.10			8.62	8.88		8.12			Pass
HT20	MCS0	2	116	5580	0.10	0.10			8.66	8.88		8.12			Pass
HT20	MCS0	2	140	5700	0.10	0.10			8.60	8.88		8.12			Pass
HT20	MCS0	2	144	5720	0.10	0.10			8.79	8.88		8.12			Pass
HT40	MCS0	2	102	5510	0.11	0.11			8.59	8.88		8.12			Pass
HT40	MCS0	2	110	5550	0.11	0.11			8.48	8.88		8.12			Pass
HT40	MCS0	2	134	5670	0.11	0.11			8.47	8.88		8.12			Pass
HT40	MCS0	2	142	5710	0.11	0.11			8.74	8.88		8.12			Pass
VHT80	MCS0	2	106	5530	0.26	0.26			3.82	8.88		8.12			Pass
VHT80	MCS0	2	122	5610	0.26	0.26			6.00	8.88		8.12			Pass
VHT80	MCS0	2	138	5690	0.26	0.26			4.79	8.88		8.12			Pass

Report Number : FR831635-03

Test Engineer:	Allen Lin/Tommy Lee/Shiming Liu	Temperature:	21~25	°C
Test Date:	2018/3/29~2018/8/3	Relative Humidity:	51~54	%

<For TXBF Mode>

TEST RESULTS DATA
Average Power Table

FCC Band II															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	2	52	5260	0.10	0.10	13.35	13.52	16.45	21.86		8.12		30	Pass
HT20	MCS0	2	60	5300	0.10	0.10	13.31	13.63	16.49	21.86		8.12		30	Pass
HT20	MCS0	2	64	5320	0.10	0.10	13.73	13.76	16.76	21.86		8.12		30	Pass
HT40	MCS0	2	54	5270	0.11	0.11	15.60	15.77	18.69	21.86		8.12		30	Pass
HT40	MCS0	2	62	5310	0.11	0.11	13.57	13.76	16.67	21.86		8.12		30	Pass
VHT20	MCS0	2	52	5260	0.10	0.10	13.31	13.49	16.41	21.86		8.12		30	Pass
VHT20	MCS0	2	60	5300	0.10	0.10	13.30	13.59	16.46	21.86		8.12		30	Pass
VHT20	MCS0	2	64	5320	0.10	0.10	13.66	13.79	16.74	21.86		8.12		30	Pass
VHT40	MCS0	2	54	5270	0.14	0.14	15.59	15.75	18.68	21.86		8.12		30	Pass
VHT40	MCS0	2	62	5310	0.14	0.14	13.60	13.70	16.66	21.86		8.12		30	Pass
VHT80	MCS0	2	58	5290	0.26	0.26	11.75	12.19	14.98	21.86		8.12		30	Pass

Remark: TXBF power = CDD Power + 3.01 dB

TEST RESULTS DATA
Average Power Table

FCC Band III															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
HT20	MCS0	2	100	5500	0.10	0.10	13.22	13.33	16.29	21.86		8.12		30	Pass
HT20	MCS0	2	116	5580	0.10	0.10	12.76	12.69	15.74	21.86		8.12		30	Pass
HT20	MCS0	2	140	5700	0.10	0.10	13.74	14.09	16.93	21.86		8.12		30	Pass
HT20	MCS0	2	144	5720	0.10	0.10	13.87	13.89	16.89	21.86		8.12		30	Pass
HT40	MCS0	2	102	5510	0.11	0.11	14.25	14.32	17.29	21.86		8.12		30	Pass
HT40	MCS0	2	110	5550	0.11	0.11	15.22	15.15	18.19	21.86		8.12		30	Pass
HT40	MCS0	2	134	5670	0.11	0.11	14.57	15.06	17.83	21.86		8.12		30	Pass
HT40	MCS0	2	142	5710	0.11	0.11	15.53	15.80	18.67	21.86		8.12		30	Pass
VHT20	MCS0	2	100	5500	0.10	0.10	13.21	13.30	16.27	21.86		8.12		30	Pass
VHT20	MCS0	2	116	5580	0.10	0.10	12.69	12.53	15.62	21.86		8.12		30	Pass
VHT20	MCS0	2	140	5700	0.10	0.10	13.67	14.07	16.89	21.86		8.12		30	Pass
VHT20	MCS0	2	144	5720	0.10	0.10	13.81	13.87	16.85	21.86		8.12		30	Pass
VHT40	MCS0	2	102	5510	0.14	0.14	14.22	14.32	17.28	21.86		8.12		30	Pass
VHT40	MCS0	2	110	5550	0.14	0.14	15.18	15.13	18.17	21.86		8.12		30	Pass
VHT40	MCS0	2	134	5670	0.14	0.14	14.58	15.03	17.82	21.86		8.12		30	Pass
VHT40	MCS0	2	142	5710	0.14	0.14	15.53	15.77	18.66	21.86		8.12		30	Pass
VHT80	MCS0	2	106	5530	0.26	0.26	13.04	13.03	16.04	21.86		8.12		30	Pass
VHT80	MCS0	2	122	5610	0.26	0.26	15.02	15.37	18.21	21.86		8.12		30	Pass
VHT80	MCS0	2	138	5690	0.26	0.26	14.80	15.26	18.04	21.86		8.12		30	Pass

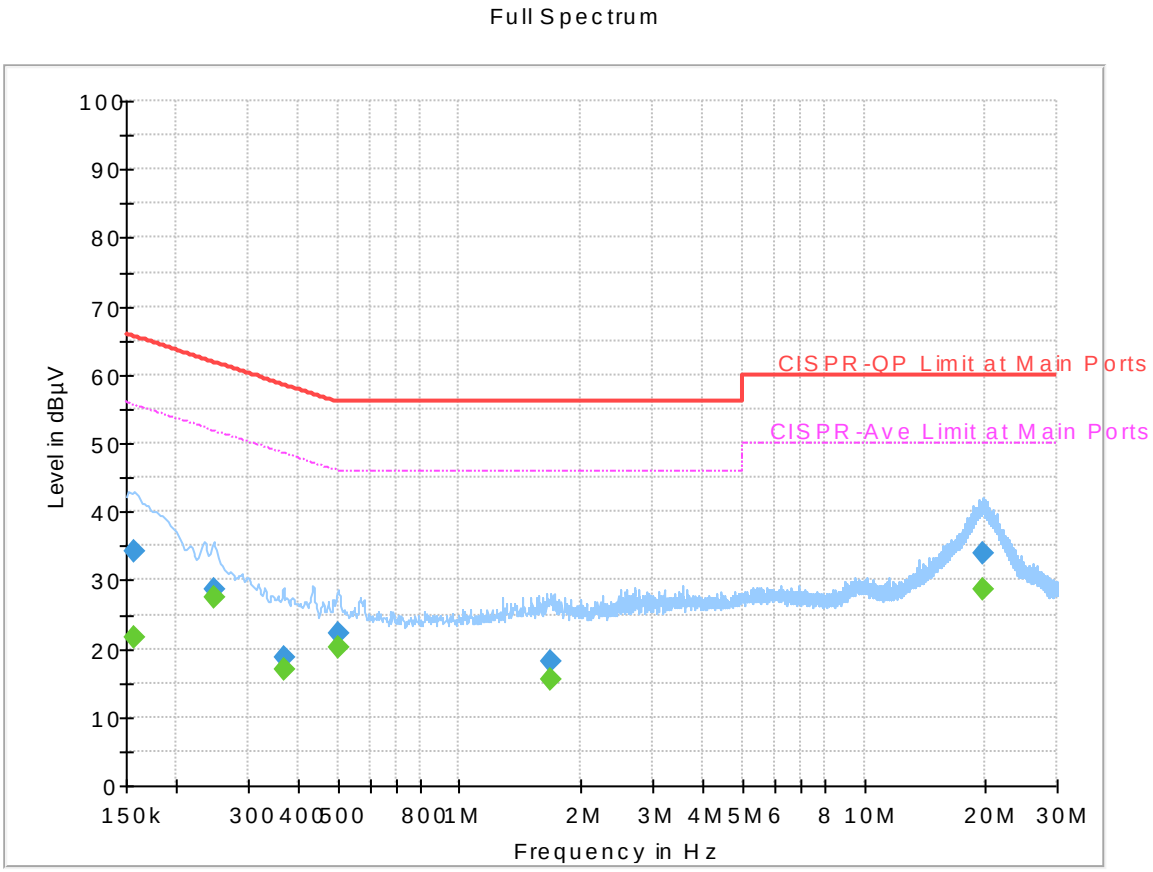
Remark: TXBF power = CDD Power + 3.01 dB

Appendix B. AC Conducted Emission Test Results

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

EUT Information

Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



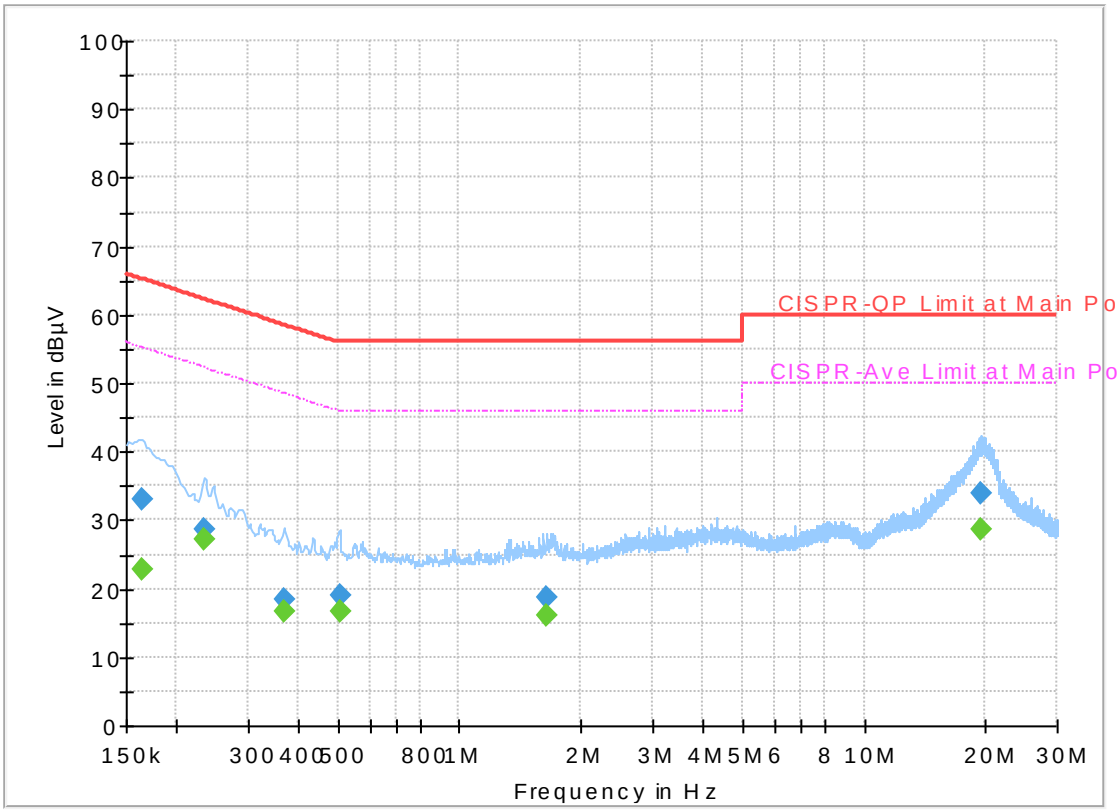
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	21.63	55.63	34.00	L1	OFF	19.5
0.156750	34.35	---	65.63	31.28	L1	OFF	19.5
0.246750	---	27.55	51.87	24.32	L1	OFF	19.5
0.246750	28.64	---	61.87	33.23	L1	OFF	19.5
0.368250	---	16.89	48.54	31.65	L1	OFF	19.5
0.368250	18.58	---	58.54	39.96	L1	OFF	19.5
0.501000	---	20.10	46.00	25.90	L1	OFF	19.5
0.501000	22.09	---	56.00	33.91	L1	OFF	19.5
1.680000	---	15.44	46.00	30.56	L1	OFF	19.6
1.680000	18.10	---	56.00	37.90	L1	OFF	19.6
19.695750	---	28.75	50.00	21.25	L1	OFF	19.8
19.695750	33.85	---	60.00	26.15	L1	OFF	19.8

EUT Information

Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.163500	---	22.90	55.28	32.38	N	OFF	19.5
0.163500	33.00	---	65.28	32.28	N	OFF	19.5
0.233250	---	27.20	52.33	25.13	N	OFF	19.5
0.233250	28.57	---	62.33	33.76	N	OFF	19.5
0.368250	---	16.58	48.54	31.96	N	OFF	19.5
0.368250	18.42	---	58.54	40.12	N	OFF	19.5
0.505500	---	16.58	46.00	29.42	N	OFF	19.5
0.505500	19.00	---	56.00	37.00	N	OFF	19.5
1.637250	---	16.22	46.00	29.78	N	OFF	19.6
1.637250	18.70	---	56.00	37.30	N	OFF	19.6
19.414500	---	28.76	50.00	21.24	N	OFF	19.9
19.414500	33.80	---	60.00	26.20	N	OFF	19.9

Appendix C. Radiated Spurious Emission

Test Engineer :	Daniel Lee and J.C. Liang	Temperature :	18~22°C
		Relative Humidity :	48~52%

Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5144.84	48.9	-25.1	74	41.32	31.68	8.38	32.48	100	313	P	H
		5119.68	40.36	-13.64	54	32.84	31.64	8.36	32.48	100	313	A	H
	*	5260	112.74	-	-	105.11	31.82	8.3	32.49	100	313	P	H
	*	5260	104.18	-	-	96.55	31.82	8.3	32.49	100	313	A	H
		5358.72	54.85	-19.15	74	47.31	31.92	8.11	32.49	100	313	P	H
		5353.2	49.47	-4.53	54	41.89	31.92	8.15	32.49	100	313	A	H
		5119	49.54	-24.46	74	42.02	31.64	8.36	32.48	390	14	P	V
		5149.26	40.99	-13.01	54	33.41	31.68	8.38	32.48	390	14	A	V
	*	5260	116.08	-	-	108.45	31.82	8.3	32.49	390	14	P	V
	*	5260	107.08	-	-	99.45	31.82	8.3	32.49	390	14	A	V
		5358.96	57.71	-16.29	74	50.17	31.92	8.11	32.49	390	14	P	V
		5359.2	51.98	-2.02	54	44.44	31.92	8.11	32.49	390	14	A	V
802.11a CH 60 5300MHz		5049.64	48.78	-25.22	74	41.36	31.56	8.33	32.47	100	313	P	H
		5120.02	40.1	-13.9	54	32.58	31.64	8.36	32.48	100	313	A	H
	*	5300	113.84	-	-	106.23	31.86	8.24	32.49	100	313	P	H
	*	5300	104.4	-	-	96.79	31.86	8.24	32.49	100	313	A	H
		5403.6	53.79	-20.21	74	46.26	31.98	8.05	32.5	100	313	P	H
		5398.8	48.03	-5.97	54	40.5	31.98	8.05	32.5	100	313	A	H
		5081.6	49.92	-24.08	74	42.44	31.6	8.35	32.47	385	323	P	V
		5130.9	40.19	-13.81	54	32.64	31.66	8.37	32.48	385	323	A	V
	*	5300	116.34	-	-	108.73	31.86	8.24	32.49	385	323	P	V
	*	5300	107.07	-	-	99.46	31.86	8.24	32.49	385	323	A	V
		5389.44	58.86	-15.14	74	51.31	31.96	8.08	32.49	385	323	P	V
		5399.28	51.9	-2.1	54	44.37	31.98	8.05	32.5	385	323	A	V

802.11a CH 64 5320MHz	*	5320	113.49	-	-	105.89	31.88	8.21	32.49	100	303	P	H
	*	5320	105.44	-	-	97.84	31.88	8.21	32.49	100	303	A	H
		5352.8	58.28	-15.72	74	50.7	31.92	8.15	32.49	100	303	P	H
		5352.64	51.84	-2.16	54	44.26	31.92	8.15	32.49	100	303	A	H
													H
													H
	*	5320	112.81	-	-	105.21	31.88	8.21	32.49	326	150	P	V
	*	5320	105.45	-	-	97.85	31.88	8.21	32.49	326	150	A	V
		5350.24	59.44	-14.56	74	51.86	31.92	8.15	32.49	326	150	P	V
		5350.08	51.84	-2.16	54	44.26	31.92	8.15	32.49	326	150	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		10520	46.1	-27.9	74	55.86	39.71	12.23	61.7	100	0	P	H
		15780	43.95	-30.05	74	51.67	37.79	16.01	61.52	100	0	P	H
													H
													H
		10520	46.73	-27.27	74	56.49	39.71	12.23	61.7	100	0	P	V
		15780	44.21	-29.79	74	51.93	37.79	16.01	61.52	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	45.32	-28.68	74	54.93	39.78	12.29	61.68	100	0	P	H
		15900	43.02	-30.98	74	51.08	37.53	16.03	61.62	100	0	P	H
													H
													H
		10600	46.05	-27.95	74	55.66	39.78	12.29	61.68	100	0	P	V
		15900	43.25	-30.75	74	51.31	37.53	16.03	61.62	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	45.2	-28.8	74	59.74	39.81	12.01	66.36	100	0	P	H
		15960	41.22	-32.78	74	53.9	37.38	15.78	65.84	100	0	P	H
													H
													H
		10640	44.18	-29.82	74	58.72	39.81	12.01	66.36	100	0	P	V
		15960	41.59	-32.41	74	54.27	37.38	15.78	65.84	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5128.18	48.31	-25.69	74	40.76	31.66	8.37	32.48	100	315	P	H
		5120.02	39.6	-14.4	54	32.08	31.64	8.36	32.48	100	315	A	H
	*	5260	114.54	-	-	106.91	31.82	8.3	32.49	100	315	P	H
	*	5260	104.2	-	-	96.57	31.82	8.3	32.49	100	315	A	H
802.11n		5363.52	54.08	-19.92	74	46.52	31.94	8.11	32.49	100	315	P	H
HT20		5362.32	47.36	-6.64	54	39.8	31.94	8.11	32.49	100	315	A	H
CH 52		5063.24	49.23	-24.77	74	41.78	31.58	8.34	32.47	393	4	P	V
5260MHz		5120.02	40.28	-13.72	54	32.76	31.64	8.36	32.48	393	4	A	V
	*	5260	115.09	-	-	107.46	31.82	8.3	32.49	393	4	P	V
	*	5260	107.75	-	-	100.12	31.82	8.3	32.49	393	4	A	V
		5360.88	58.07	-15.93	74	50.51	31.94	8.11	32.49	393	4	P	V
		5359.92	50.82	-3.18	54	43.28	31.92	8.11	32.49	393	4	A	V
		5110.5	48.35	-25.65	74	40.83	31.64	8.36	32.48	115	318	P	H
		5135.66	39.31	-14.69	54	31.76	31.66	8.37	32.48	115	318	A	H
	*	5300	113.28	-	-	105.67	31.86	8.24	32.49	115	318	P	H
	*	5300	103.77	-	-	96.16	31.86	8.24	32.49	115	318	A	H
802.11n		5397.12	53.38	-20.62	74	45.84	31.98	8.05	32.49	115	318	P	H
HT20		5400.96	46.71	-7.29	54	39.18	31.98	8.05	32.5	115	318	A	H
CH 60		5141.1	48.89	-25.11	74	41.32	31.68	8.37	32.48	344	26	P	V
5300MHz		5136	39.68	-14.32	54	32.13	31.66	8.37	32.48	344	26	A	V
	*	5300	116.02	-	-	108.41	31.86	8.24	32.49	344	26	P	V
	*	5300	106.46	-	-	98.85	31.86	8.24	32.49	344	26	A	V
		5393.28	57.75	-16.25	74	50.2	31.96	8.08	32.49	344	26	P	V
		5393.28	50.98	-3.02	54	43.43	31.96	8.08	32.49	344	26	A	V

	*	5320	113.05	-	-	105.45	31.88	8.21	32.49	112	297	P	H
	*	5320	104.61	-	-	97.01	31.88	8.21	32.49	112	297	A	H
		5350.56	60.64	-13.36	74	53.06	31.92	8.15	32.49	112	297	P	H
		5350.08	50.67	-3.33	54	43.09	31.92	8.15	32.49	112	297	A	H
802.11n													H
HT20													H
CH 64	*	5320	115.76	-	-	108.16	31.88	8.21	32.49	301	7	P	V
5320MHz	*	5320	106.92	-	-	99.32	31.88	8.21	32.49	301	7	A	V
		5350.08	62.45	-11.55	74	54.87	31.92	8.15	32.49	301	7	P	V
		5350.08	53.43	-0.57	54	45.85	31.92	8.15	32.49	301	7	A	V
													V
													V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10520	45.53	-28.47	74	55.29	39.71	12.23	61.7	100	0	P	H
		15780	44.47	-29.53	74	52.19	37.79	16.01	61.52	100	0	P	H
802.11n													H
HT20													H
CH 52		10520	45.34	-28.66	74	55.1	39.71	12.23	61.7	100	0	P	V
5260MHz		15780	44.54	-29.46	74	52.26	37.79	16.01	61.52	100	0	P	V
													V
													V
		10600	45.68	-28.32	74	55.29	39.78	12.29	61.68	100	0	P	H
		15900	42.72	-31.28	74	50.78	37.53	16.03	61.62	100	0	P	H
802.11n													H
HT20													H
CH 60		10600	45.46	-28.54	74	55.07	39.78	12.29	61.68	100	0	P	V
5300MHz		15900	43.09	-30.91	74	51.15	37.53	16.03	61.62	100	0	P	V
													V
													V
		10640	45.52	-28.48	74	55.07	39.81	12.31	61.67	100	0	P	H
		15960	43.95	-30.05	74	52.2	37.38	16.04	61.67	100	0	P	H
802.11n													H
HT20													H
CH 64		10640	45.36	-28.64	74	54.91	39.81	12.31	61.67	100	0	P	V
5320MHz		15960	43.32	-30.68	74	51.57	37.38	16.04	61.67	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5016.66	48.45	-25.55	74	41.08	31.52	8.32	32.47	100	317	P	H
		5146.88	40.09	-13.91	54	32.51	31.68	8.38	32.48	100	317	A	H
	*	5270	110.43	-	-	102.83	31.82	8.27	32.49	100	317	P	H
	*	5270	100.43	-	-	92.83	31.82	8.27	32.49	100	317	A	H
802.11n		5374.08	51.66	-22.34	74	44.1	31.94	8.11	32.49	100	317	P	H
HT40		5373.12	45.48	-8.52	54	37.92	31.94	8.11	32.49	100	317	A	H
CH 54		5119.68	51.15	-22.85	74	43.63	31.64	8.36	32.48	390	346	P	V
5270MHz		5120.36	41.64	-12.36	54	34.12	31.64	8.36	32.48	390	346	A	V
	*	5270	113.2	-	-	105.6	31.82	8.27	32.49	390	346	P	V
	*	5270	102.72	-	-	95.12	31.82	8.27	32.49	390	346	A	V
		5353.68	55.03	-18.97	74	47.45	31.92	8.15	32.49	390	346	P	V
		5353.92	48.36	-5.64	54	40.78	31.92	8.15	32.49	390	346	A	V
		5087.04	49.16	-24.84	74	41.68	31.6	8.35	32.47	160	3	P	H
		5118.66	39.87	-14.13	54	32.35	31.64	8.36	32.48	160	3	A	H
	*	5310	109.9	-	-	102.3	31.88	8.21	32.49	160	3	P	H
	*	5310	102.1	-	-	94.5	31.88	8.21	32.49	160	3	A	H
802.11n		5351.76	61.93	-12.07	74	54.35	31.92	8.15	32.49	160	3	P	H
HT40		5351.76	50	-4	54	42.42	31.92	8.15	32.49	160	3	A	H
CH 62		5122.4	50.3	-23.7	74	42.78	31.64	8.36	32.48	353	347	P	V
5310MHz		5120.02	40.59	-13.41	54	33.07	31.64	8.36	32.48	353	347	A	V
	*	5310	113.01	-	-	105.41	31.88	8.21	32.49	353	347	P	V
	*	5310	105.62	-	-	98.02	31.88	8.21	32.49	353	347	A	V
		5353.92	64.25	-9.75	74	56.67	31.92	8.15	32.49	353	347	P	V
		5352.24	53.03	-0.97	54	45.45	31.92	8.15	32.49	353	347	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10540	45.22	-28.78	74	54.94	39.73	12.24	61.69	100	0	P	H
		15810	43.69	-30.31	74	51.5	37.72	16.02	61.55	100	0	P	H
802.11n													H
HT40													H
CH 54		10540	45.62	-28.38	74	55.34	39.73	12.24	61.69	100	0	P	V
5270MHz		15810	43.9	-30.1	74	51.71	37.72	16.02	61.55	100	0	P	V
													V
													V
		10620	46.85	-27.15	74	56.44	39.8	12.29	61.68	100	0	P	H
		15930	42.81	-31.19	74	50.96	37.45	16.04	61.64	100	0	P	H
802.11n													H
HT40													H
CH 62		10620	45.76	-28.24	74	55.35	39.8	12.29	61.68	100	0	P	V
5310MHz		15930	42.22	-31.78	74	50.37	37.45	16.04	61.64	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 58 5290MHz		5130.56	50.6	-23.4	74	43.05	31.66	8.37	32.48	100	299	P	H
		5144.16	41.23	-12.77	54	33.65	31.68	8.38	32.48	100	299	A	H
	*	5290	105.01	-	-	97.42	31.84	8.24	32.49	100	299	P	H
	*	5290	96.92	-	-	89.33	31.84	8.24	32.49	100	299	A	H
		5356.8	60.27	-13.73	74	52.69	31.92	8.15	32.49	100	299	P	H
		5350.56	50.64	-3.36	54	43.06	31.92	8.15	32.49	100	299	A	H
		5149.94	52.28	-21.72	74	44.7	31.68	8.38	32.48	345	0	P	V
		5149.26	42.75	-11.25	54	35.17	31.68	8.38	32.48	345	0	A	V
	*	5290	107.22	-	-	99.63	31.84	8.24	32.49	345	0	P	V
	*	5290	99.45	-	-	91.86	31.84	8.24	32.49	345	0	A	V
		5350.32	67.81	-6.19	74	60.23	31.92	8.15	32.49	345	0	P	V
		5362.8	52.85	-1.15	54	45.29	31.94	8.11	32.49	345	0	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10580	46.33	-27.67	74	55.97	39.77	12.27	61.68	100	0	P	H
		15870	43.57	-30.43	74	51.57	37.57	16.03	61.6	100	0	P	H
802.11ac													H
VHT80													H
CH 58		10580	45.9	-28.1	74	55.54	39.77	12.27	61.68	100	0	P	V
5290MHz		15870	44.48	-29.52	74	52.48	37.57	16.03	61.6	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5458.8	57.84	-16.16	74	50.11	32.04	8.19	32.5	103	301	P	H
		5469.84	67.14	-1.06	68.2	59.34	32.06	8.24	32.5	103	301	P	H
		5459.76	51.4	-2.6	54	43.67	32.04	8.19	32.5	103	301	A	H
	*	5500	114.17	-	-	106.28	32.1	8.29	32.5	103	301	P	H
	*	5500	106.97	-	-	99.08	32.1	8.29	32.5	103	301	A	H
													H
		5405.68	56.82	-17.18	74	49.29	31.98	8.05	32.5	314	138	P	V
		5462.32	59.28	-8.92	68.2	51.55	32.04	8.19	32.5	314	138	P	V
		5406.32	50.08	-3.92	54	42.55	31.98	8.05	32.5	314	138	A	V
	*	5500	113.77	-	-	105.88	32.1	8.29	32.5	314	138	P	V
	*	5500	105.93	-	-	98.04	32.1	8.29	32.5	314	138	A	V
													V
802.11a CH 116 5580MHz		5459.2	47.94	-26.06	74	40.21	32.04	8.19	32.5	104	298	P	H
		5462.08	47.9	-20.3	68.2	40.17	32.04	8.19	32.5	104	298	P	H
		5393.44	40.46	-13.54	54	32.91	31.96	8.08	32.49	104	298	A	H
	*	5580	110.46	-	-	102.3	32.17	8.53	32.54	104	298	P	H
	*	5580	103.65	-	-	95.49	32.17	8.53	32.54	104	298	A	H
		5755.235	49.57	-18.63	68.2	40.66	32.36	9.14	32.59	104	298	P	H
		5447.68	51.47	-22.53	74	43.78	32.04	8.15	32.5	377	11	P	V
		5469.28	50.15	-18.05	68.2	42.35	32.06	8.24	32.5	377	11	P	V
		5447.92	44.48	-9.52	54	36.79	32.04	8.15	32.5	377	11	A	V
	*	5580	116.71	-	-	108.55	32.17	8.53	32.54	377	11	P	V
	*	5580	109.81	-	-	101.65	32.17	8.53	32.54	377	11	A	V
		5742.635	51.79	-16.41	68.2	42.97	32.34	9.07	32.59	377	11	P	V

802.11a CH 140 5700MHz	*	5700	111.9	-	-	103.23	32.29	8.95	32.57	106	296	P	H
	*	5700	104.8	-	-	96.13	32.29	8.95	32.57	106	296	A	H
		5728.52	60.13	-8.07	68.2	51.38	32.32	9.01	32.58	106	296	P	H
													H
													H
													H
	*	5700	117.44	-	-	108.77	32.29	8.95	32.57	379	8	P	V
	*	5700	109.74	-	-	101.07	32.29	8.95	32.57	379	8	A	V
		5725.96	66.97	-1.23	68.2	58.22	32.32	9.01	32.58	379	8	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	44.69	-29.31	74	58.78	40.1	12.31	66.5	100	0	P	H
		16500	42.66	-25.54	68.2	54.06	38.8	16.2	66.4	100	0	P	H
													H
													H
		11000	45.06	-28.94	74	59.15	40.1	12.31	66.5	100	0	P	V
		16500	43.26	-24.94	68.2	54.66	38.8	16.2	66.4	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	44.81	-29.19	74	53.67	40	12.74	61.6	100	0	P	H
		16740	45.99	-22.21	68.2	51.42	39.33	16.7	61.46	100	0	P	H
													H
													H
		11160	45.21	-28.79	74	54.07	40	12.74	61.6	100	0	P	V
		16740	45.26	-22.94	68.2	50.69	39.33	16.7	61.46	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	45.29	-28.71	74	54.09	39.86	12.94	61.6	100	0	P	H
		17100	47.07	-21.13	68.2	50.82	40.38	17.01	61.14	100	0	P	H
													H
													H
		11400	44.97	-29.03	74	53.77	39.86	12.94	61.6	100	0	P	V
		17100	45.96	-22.24	68.2	49.71	40.38	17.01	61.14	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5460.08	58.04	-10.16	68.2	50.31	32.04	8.19	32.5	112	301	P	H
		5462.8	59.81	-8.39	68.2	52.06	32.06	8.19	32.5	112	301	P	H
		5460	49.32	-4.68	54	41.59	32.04	8.19	32.5	112	301	A	H
	*	5500	115.59	-	-	107.7	32.1	8.29	32.5	112	301	P	H
802.11n	*	5500	106.29	-	-	98.4	32.1	8.29	32.5	112	301	A	H
HT20													H
CH 100		5460.08	61.39	-6.81	68.2	53.66	32.04	8.19	32.5	343	356	P	V
5500MHz		5468.24	67.29	-0.91	68.2	59.49	32.06	8.24	32.5	343	356	P	V
		5396.88	53.33	-0.67	54	45.79	31.98	8.05	32.49	343	356	A	V
	*	5500	118.09	-	-	110.2	32.1	8.29	32.5	343	356	P	V
	*	5500	110.79	-	-	102.9	32.1	8.29	32.5	343	356	A	V
													V
		5422.96	48.11	-25.89	74	40.51	32	8.1	32.5	100	303	P	H
		5465.68	47.18	-21.02	68.2	39.43	32.06	8.19	32.5	100	303	P	H
		5447.92	39.89	-14.11	54	32.2	32.04	8.15	32.5	100	303	A	H
	*	5580	110.71	-	-	102.55	32.17	8.53	32.54	100	303	P	H
802.11n	*	5580	102.04	-	-	93.88	32.17	8.53	32.54	100	303	A	H
HT20		5764.37	50.91	-17.29	68.2	42.01	32.36	9.14	32.6	100	303	P	H
CH 116		5423.68	51.67	-22.33	74	44.07	32	8.1	32.5	365	13	P	V
5580MHz		5466.88	51	-17.2	68.2	43.2	32.06	8.24	32.5	365	13	P	V
		5447.92	43.78	-10.22	54	36.09	32.04	8.15	32.5	365	13	A	V
	*	5580	116.29	-	-	108.13	32.17	8.53	32.54	365	13	P	V
	*	5580	108.79	-	-	100.63	32.17	8.53	32.54	365	13	A	V
		5736.02	51.54	-16.66	68.2	42.72	32.34	9.07	32.59	365	13	P	V

	*	5700	112.61	-	-	103.94	32.29	8.95	32.57	108	296	P	H
	*	5700	104.91	-	-	96.24	32.29	8.95	32.57	108	296	A	H
		5734.76	55.89	-12.31	68.2	47.13	32.34	9.01	32.59	108	296	P	H
													H
802.11n													H
HT20													H
CH 140	*	5700	117.91	-	-	109.24	32.29	8.95	32.57	310	4	P	V
5700MHz	*	5700	109.5	-	-	100.83	32.29	8.95	32.57	310	4	A	V
		5727.64	65.63	-2.57	68.2	56.88	32.32	9.01	32.58	310	4	P	V
													V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11000	45.94	-28.06	74	54.83	40.1	12.61	61.6	100	0	P	H
		16500	44.66	-23.54	68.2	51.06	38.8	16.5	61.7	100	0	P	H
802.11n													H
HT20													H
CH 100		11000	45.59	-28.41	74	54.48	40.1	12.61	61.6	100	0	P	V
5500MHz		16500	43.55	-24.65	68.2	49.95	38.8	16.5	61.7	100	0	P	V
													V
													V
		11160	45.76	-28.24	74	54.62	40	12.74	61.6	100	0	P	H
		16740	45.4	-22.8	68.2	50.83	39.33	16.7	61.46	100	0	P	H
802.11n													H
HT20													H
CH 116		11160	46.18	-27.82	74	55.04	40	12.74	61.6	100	0	P	V
5580MHz		16740	45.35	-22.85	68.2	50.78	39.33	16.7	61.46	100	0	P	V
													V
													V
		11400	43.92	-30.08	74	52.72	39.86	12.94	61.6	100	0	P	H
		17100	46.06	-22.14	68.2	49.81	40.38	17.01	61.14	100	0	P	H
802.11n													H
HT20													H
CH 140		11400	45.13	-28.87	74	53.93	39.86	12.94	61.6	100	0	P	V
5700MHz		17100	47.07	-21.13	68.2	50.82	40.38	17.01	61.14	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5454.64	58.25	-15.75	74	50.52	32.04	8.19	32.5	100	303	P	H
		5470	61.95	-6.25	68.2	54.15	32.06	8.24	32.5	100	303	P	H
		5455.6	46.57	-7.43	54	38.84	32.04	8.19	32.5	100	303	A	H
	*	5510	109.73	-	-	101.8	32.1	8.34	32.51	100	303	P	H
802.11n	*	5510	102.1	-	-	94.17	32.1	8.34	32.51	100	303	A	H
HT40		5759.645	51.4	-16.8	68.2	42.5	32.36	9.14	32.6	100	303	P	H
CH 102		5459.68	62.01	-11.99	74	54.28	32.04	8.19	32.5	333	2	P	V
5510MHz		5466.64	67.25	-0.95	68.2	59.45	32.06	8.24	32.5	333	2	P	V
		5459.92	51.88	-2.12	54	44.15	32.04	8.19	32.5	333	2	A	V
	*	5510	114.6	-	-	106.67	32.1	8.34	32.51	333	2	P	V
	*	5510	107.09	-	-	99.16	32.1	8.34	32.51	333	2	A	V
		5725	51.3	-16.9	68.2	42.55	32.32	9.01	32.58	333	2	P	V
		5446.96	55.44	-18.56	74	47.75	32.04	8.15	32.5	240	16	P	H
		5464.48	56.71	-11.49	68.2	48.96	32.06	8.19	32.5	240	16	P	H
		5445.04	48.83	-5.17	54	41.16	32.02	8.15	32.5	240	16	A	H
	*	5550	108.62	-	-	100.55	32.15	8.44	32.52	240	16	P	H
802.11n	*	5550	102.07	-	-	94	32.15	8.44	32.52	240	16	A	H
HT40		5736.335	50.65	-17.55	68.2	41.83	32.34	9.07	32.59	240	16	P	H
CH 110		5442.16	56.37	-17.63	74	48.7	32.02	8.15	32.5	345	0	P	V
5550MHz		5463.04	58.28	-9.92	68.2	50.53	32.06	8.19	32.5	345	0	P	V
		5443.12	50.37	-3.63	54	42.7	32.02	8.15	32.5	345	0	A	V
	*	5550	112.24	-	-	104.17	32.15	8.44	32.52	345	0	P	V
	*	5550	105.62	-	-	97.55	32.15	8.44	32.52	345	0	A	V
		5737.91	51.63	-16.57	68.2	42.81	32.34	9.07	32.59	345	0	P	V

		5428.75	48.34	-25.66	74	40.72	32.02	8.1	32.5	266	24	P	H
		5469.35	46.04	-22.16	68.2	38.24	32.06	8.24	32.5	266	24	P	H
		5446.95	39.61	-14.39	54	31.92	32.04	8.15	32.5	266	24	A	H
	*	5670	111.59	-	-	103.05	32.27	8.83	32.56	266	24	P	H
802.11n	*	5670	103.02	-	-	94.48	32.27	8.83	32.56	266	24	A	H
HT40		5753.275	55.11	-13.09	68.2	46.27	32.36	9.07	32.59	266	24	P	H
CH 134		5364.7	48.09	-25.91	74	40.53	31.94	8.11	32.49	327	355	P	V
5670MHz		5462.35	48.66	-19.54	68.2	40.93	32.04	8.19	32.5	327	355	P	V
		5459.9	41.08	-12.92	54	33.35	32.04	8.19	32.5	327	355	A	V
	*	5670	114.4	-	-	105.86	32.27	8.83	32.56	327	355	P	V
	*	5670	106.67	-	-	98.13	32.27	8.83	32.56	327	355	A	V
		5752.05	56.81	-11.39	68.2	47.97	32.36	9.07	32.59	327	355	P	V

Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11020	46.57	-27.43	74	55.45	40.09	12.63	61.6	100	0	P	H
		16530	44	-24.2	68.2	50.28	38.88	16.51	61.67	100	0	P	H
802.11n													H
HT40													H
CH 102		11020	46.13	-27.87	74	55.01	40.09	12.63	61.6	100	0	P	V
5510MHz		16530	44.32	-23.88	68.2	50.6	38.88	16.51	61.67	100	0	P	V
													V
													V
		11100	45.56	-28.44	74	54.43	40.04	12.69	61.6	100	0	P	H
		16650	45.61	-22.59	68.2	51.39	39.14	16.62	61.54	100	0	P	H
802.11n													H
HT40													H
CH 110		11100	45.86	-28.14	74	54.73	40.04	12.69	61.6	100	0	P	V
5550MHz		16650	45.58	-22.62	68.2	51.36	39.14	16.62	61.54	100	0	P	V
													V
													V
		11340	45.05	-28.95	74	53.86	39.9	12.89	61.6	100	0	P	H
		17010	45.7	-22.5	68.2	49.98	39.98	16.93	61.19	100	0	P	H
802.11n													H
HT40													H
CH 134		11340	44.68	-29.32	74	53.49	39.9	12.89	61.6	100	0	P	V
5670MHz		17010	45.89	-22.31	68.2	50.17	39.98	16.93	61.19	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5429.68	60.78	-13.22	74	53.16	32.02	8.1	32.5	100	298	P	H
		5465.68	58.8	-9.4	68.2	51.05	32.06	8.19	32.5	100	298	P	H
		5430.4	49.18	-4.82	54	41.51	32.02	8.15	32.5	100	298	A	H
	*	5530	104.77	-	-	96.78	32.12	8.39	32.52	100	298	P	H
802.11ac	*	5530	97.35	-	-	89.36	32.12	8.39	32.52	100	298	A	H
VHT80		5759.96	50.19	-18.01	68.2	41.29	32.36	9.14	32.6	100	298	P	H
CH 106		5427.04	67.16	-6.84	74	59.56	32	8.1	32.5	316	3	P	V
5530MHz		5463.76	62.99	-5.21	68.2	55.24	32.06	8.19	32.5	316	3	P	V
		5428.48	53.58	-0.42	54	45.98	32	8.1	32.5	316	3	A	V
	*	5530	110.11	-	-	102.12	32.12	8.39	32.52	316	3	P	V
	*	5530	102.43	-	-	94.44	32.12	8.39	32.52	316	3	A	V
		5725.625	55.43	-12.77	68.2	46.68	32.32	9.01	32.58	316	3	P	V
		5456.4	50.22	-23.78	74	42.49	32.04	8.19	32.5	239	21	P	H
		5463.05	49.36	-18.84	68.2	41.61	32.06	8.19	32.5	239	21	P	H
		5453.95	42.58	-11.42	54	34.85	32.04	8.19	32.5	239	21	A	H
	*	5610	105.2	-	-	96.9	32.2	8.64	32.54	239	21	P	H
802.11ac	*	5610	96.72	-	-	88.42	32.2	8.64	32.54	239	21	A	H
VHT80		5744.35	53.83	-14.37	68.2	45.01	32.34	9.07	32.59	239	21	P	H
CH 122		5458.85	51.04	-22.96	74	43.31	32.04	8.19	32.5	352	355	P	V
5610MHz		5465.15	53.88	-14.32	68.2	46.13	32.06	8.19	32.5	352	355	P	V
		5453.25	44.12	-9.88	54	36.39	32.04	8.19	32.5	352	355	A	V
	*	5610	108.99	-	-	100.69	32.2	8.64	32.54	352	355	P	V
	*	5610	101.31	-	-	93.01	32.2	8.64	32.54	352	355	A	V
		5734.375	57.93	-10.27	68.2	49.19	32.32	9.01	32.59	352	355	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11060	45.77	-28.23	74	54.65	40.06	12.66	61.6	100	0	P	H
		16590	45.1	-23.1	68.2	51.15	38.99	16.57	61.61	100	0	P	H
802.11ac													H
VHT80													H
CH 106		11060	44.94	-29.06	74	53.82	40.06	12.66	61.6	100	0	P	V
5530MHz		16590	44.39	-23.81	68.2	50.44	38.99	16.57	61.61	100	0	P	V
													V
													V
		11220	45.33	-28.67	74	54.16	39.97	12.8	61.6	100	0	P	H
		16830	45.01	-23.19	68.2	50.09	39.52	16.77	61.37	100	0	P	H
802.11ac													H
VHT80													H
CH 122		11220	44.48	-29.52	74	53.31	39.97	12.8	61.6	100	0	P	V
5610MHz		16830	46.6	-21.6	68.2	51.68	39.52	16.77	61.37	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 144 5720MHz	*	5720	114.65	-	-	105.9	32.32	9.01	32.58	104	297	P	H
	*	5720	106.93	-	-	98.18	32.32	9.01	32.58	104	297	A	H
													H
													H
													H
													H
	*	5720	118.93	-	-	110.18	32.32	9.01	32.58	308	4	P	V
	*	5720	111.79	-	-	103.04	32.32	9.01	32.58	308	4	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		11440	44.32	-29.68	74	53.11	39.84	12.97	61.6	100	0	P	H
		17160	45.38	-22.82	68.2	48.73	40.7	17.05	61.1	100	0	P	H
													H
													H
		11440	44.43	-29.57	74	53.22	39.84	12.97	61.6	100	0	P	V
		17160	45.64	-22.56	68.2	48.99	40.7	17.05	61.1	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5720	113.95	-	-	105.2	32.32	9.01	32.58	100	293	P	H
	*	5720	106.58	-	-	97.83	32.32	9.01	32.58	100	293	A	H
													H
													H
802.11n													H
HT20													H
CH 144	*	5720	118.65	-	-	109.9	32.32	9.01	32.58	294	5	P	V
5720MHz	*	5720	111.27	-	-	102.52	32.32	9.01	32.58	294	5	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11440	45.94	-28.06	74	54.73	39.84	12.97	61.6	100	0	P	H
		17160	46.13	-22.07	68.2	49.48	40.7	17.05	61.1	100	0	P	H
802.11n													H
HT20													H
CH 144		11440	44.58	-29.42	74	53.37	39.84	12.97	61.6	100	0	P	V
5720MHz		17160	46.28	-21.92	68.2	49.63	40.7	17.05	61.1	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 3 - Straddle Channel

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5710	112.8	-	-	104.12	32.31	8.95	32.58	252	24	P	H
	*	5710	104.4	-	-	95.72	32.31	8.95	32.58	252	24	A	H
													H
													H
802.11n													H
HT40													H
CH 142	*	5710	115.8	-	-	107.12	32.31	8.95	32.58	339	341	P	V
5710MHz	*	5710	108.55	-	-	99.87	32.31	8.95	32.58	339	341	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT40 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11420	43.82	-30.18	74	52.61	39.85	12.96	61.6	100	0	P	H
		17130	45.95	-22.25	68.2	49.49	40.54	17.04	61.12	100	0	P	H
802.11n													H
HT40													H
CH 142		11420	45.13	-28.87	74	53.92	39.85	12.96	61.6	100	0	P	V
5710MHz		17130	46.56	-21.64	68.2	50.1	40.54	17.04	61.12	100	0	P	V
													V
													V

Remark

1. No other spurious found.
2. All results are PASS against Peak and Average limit line.

Band 3 - Straddle Channel

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5690	107.27	-	-	98.66	32.29	8.89	32.57	263	12	P	H
	*	5690	96.36	-	-	87.75	32.29	8.89	32.57	263	12	A	H
													H
													H
802.11ac													H
VHT80													H
CH 138	*	5690	111.31	-	-	102.7	32.29	8.89	32.57	326	13	P	V
5690MHz	*	5690	100.62	-	-	92.01	32.29	8.89	32.57	326	13	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11ac VHT80 (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)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11380	45.57	-28.43	74	54.36	39.87	12.94	61.6	100	0	P	H
		17070	45.38	-22.82	68.2	49.34	40.22	16.98	61.16	100	0	P	H
802.11ac													H
VHT80													H
CH 138		11380	44.88	-29.12	74	53.67	39.87	12.94	61.6	100	0	P	V
5690MHz		17070	44.66	-23.54	68.2	48.62	40.22	16.98	61.16	100	0	P	V
													V
													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	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30.27	22.69	-17.31	40	30.22	24.57	0.68	32.78	-	-	P	H
		125.04	30.4	-13.1	43.5	43.96	17.71	1.42	32.69	-	-	P	H
		250.05	27.12	-18.88	46	39.14	18.51	2.08	32.61	-	-	P	H
		374.9	43.53	-2.47	46	52.77	20.93	2.43	32.6	100	34	QP	H
		500.2	44.45	-1.55	46	50.38	23.86	2.85	32.64	100	348	QP	H
		699.7	38.51	-7.49	46	41.29	26.62	3.38	32.78	-	-	P	H
													H
													H
													H
													H
													H
													H
		49.17	22.14	-17.86	40	39.2	14.78	0.92	32.76	-	-	P	V
		125.04	24.87	-18.63	43.5	38.43	17.71	1.42	32.69	-	-	P	V
		250.05	24.5	-21.5	46	36.52	18.51	2.08	32.61	-	-	P	V
		374.9	40.1	-5.9	46	49.34	20.93	2.43	32.6	-	-	P	V
		500.2	44.42	-1.58	46	50.35	23.86	2.85	32.64	100	12	QP	V
		624.8	42.79	-3.21	46	46.38	26.01	3.21	32.81	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+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. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

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

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix D. Radiated Spurious Emission

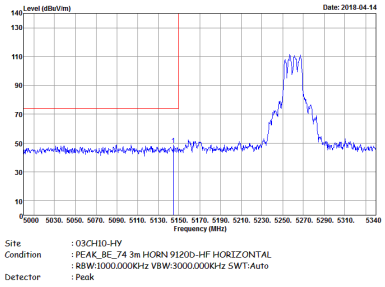
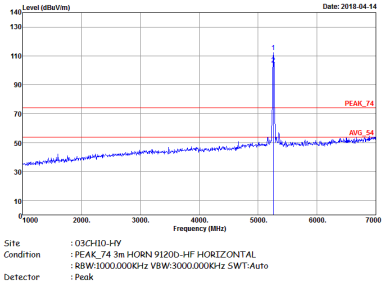
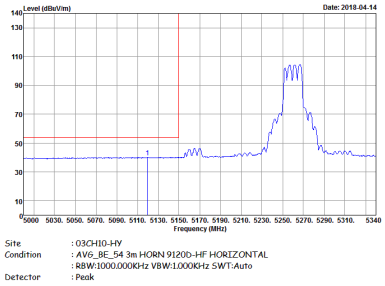
Test Engineer :	Daniel Lee and J.C. Liang	**Temperature :**	18~22°C
		Relative Humidity :	48~52%

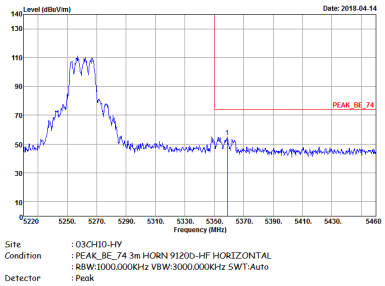
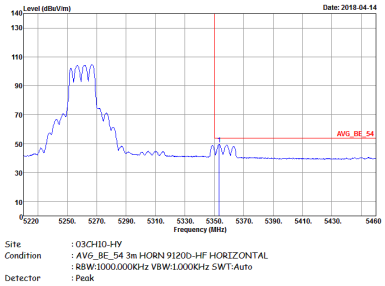
Note symbol

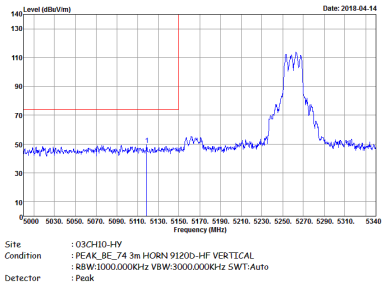
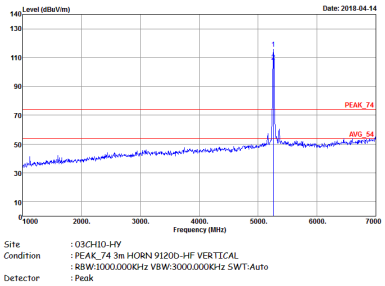
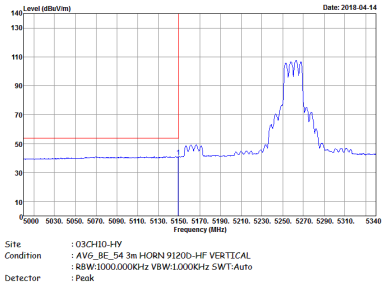
-L	**Low channel location**
-R	**High channel location**

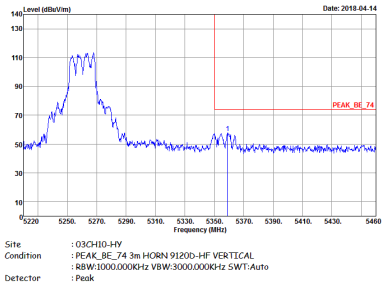
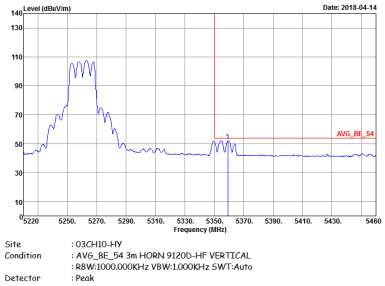
Band 2 - 5250~5350MHz

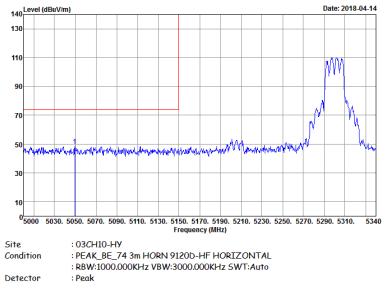
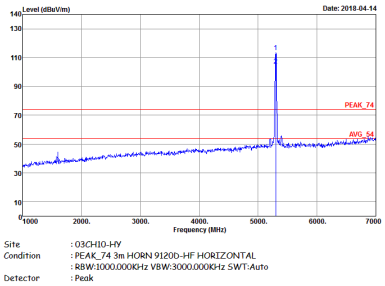
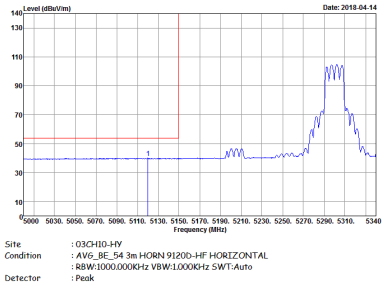
WIFI 802.11a (Band Edge @ 3m)

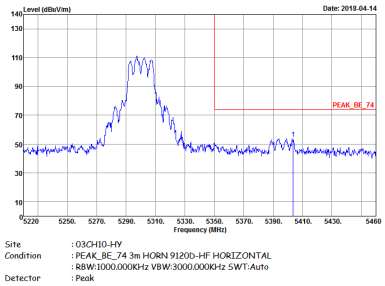
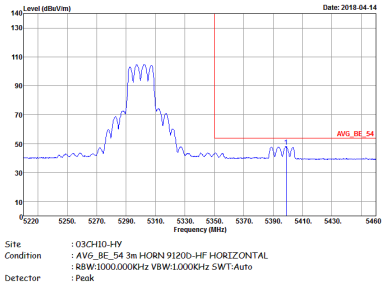
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

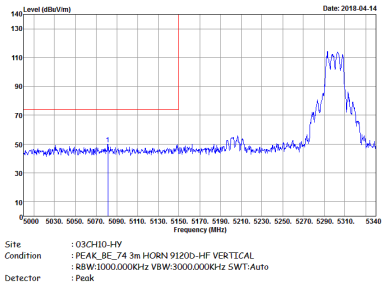
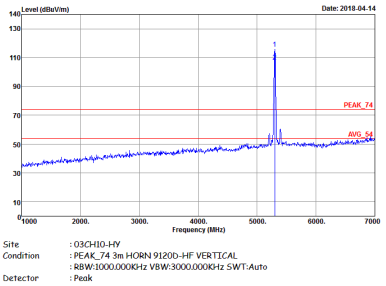
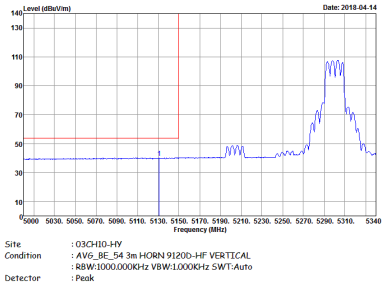
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

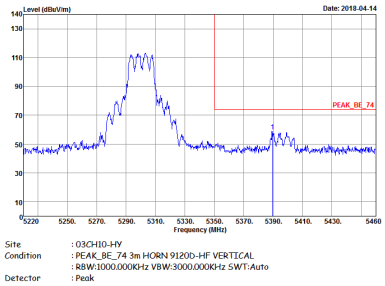
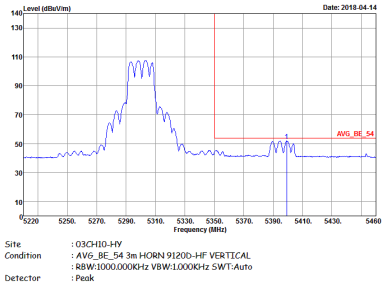
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

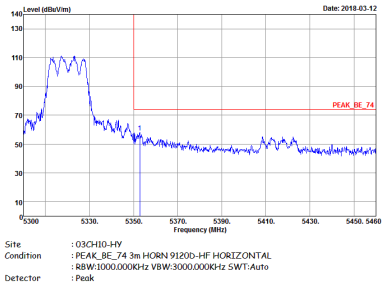
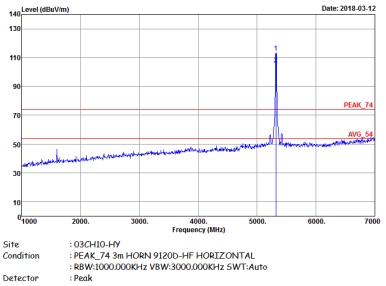
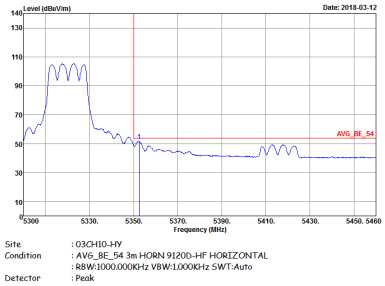
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

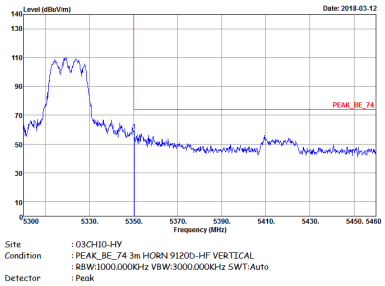
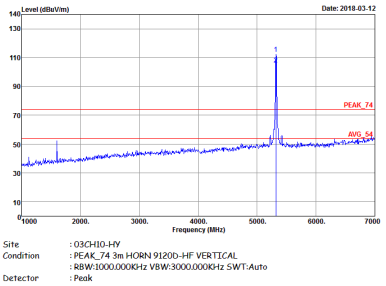
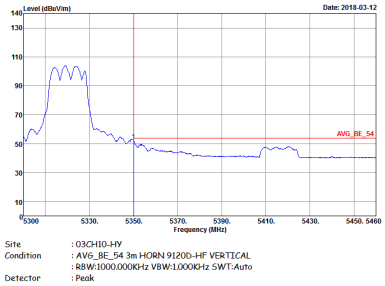
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

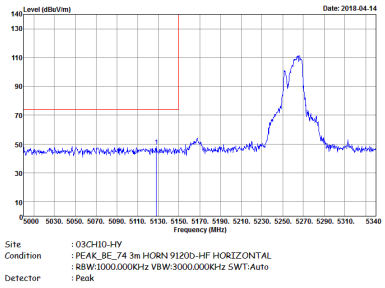
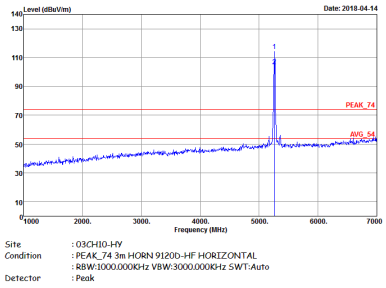
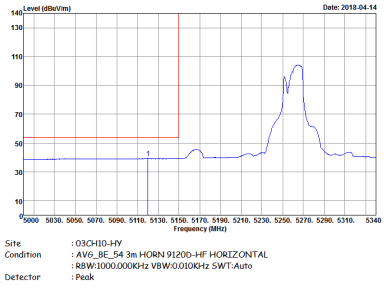
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

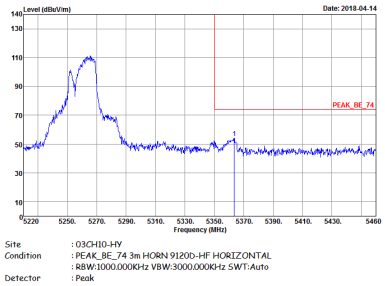
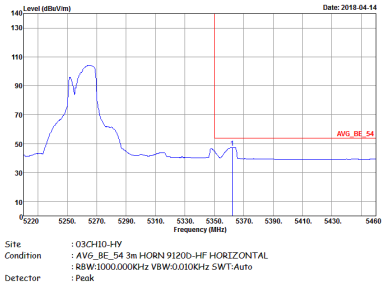
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

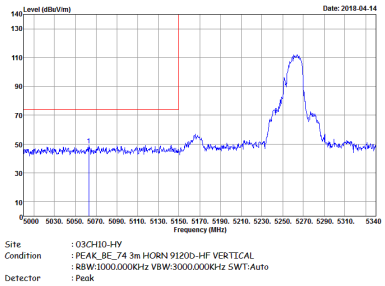
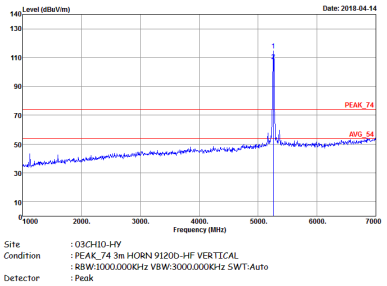
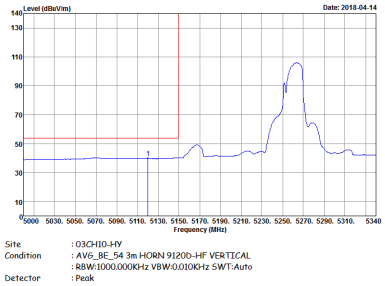
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

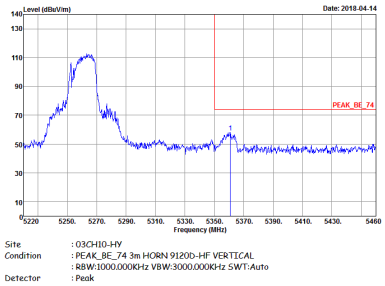
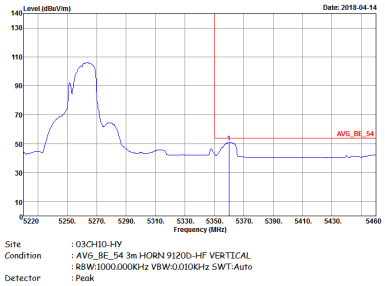
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

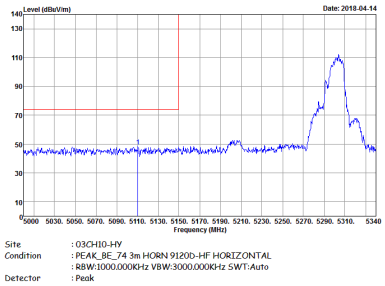
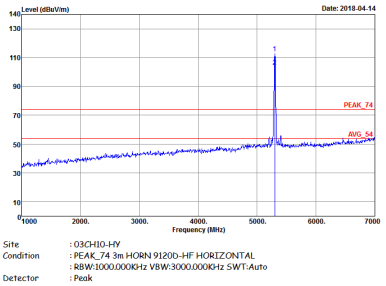
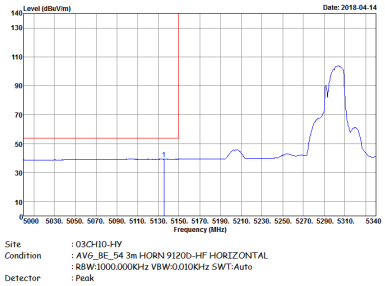
Band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

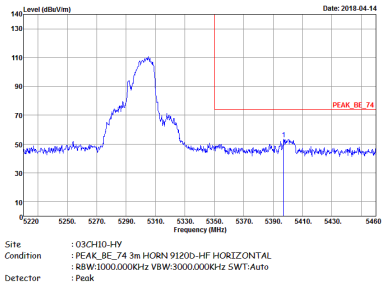
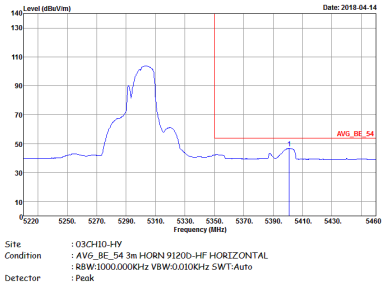
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

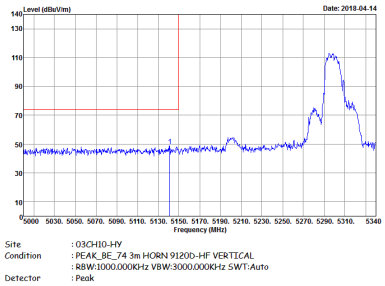
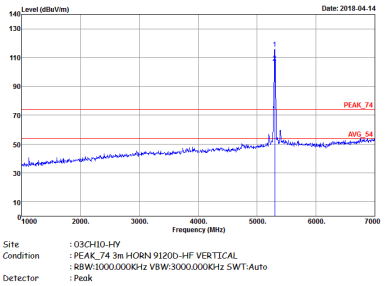
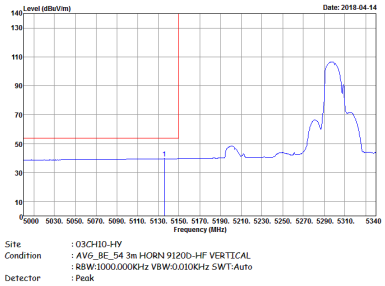
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

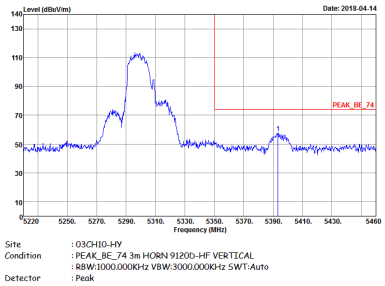
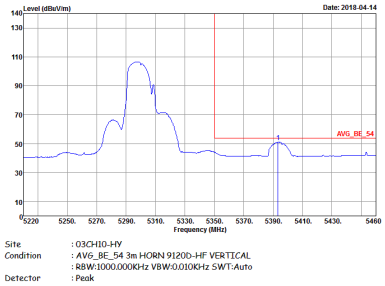
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

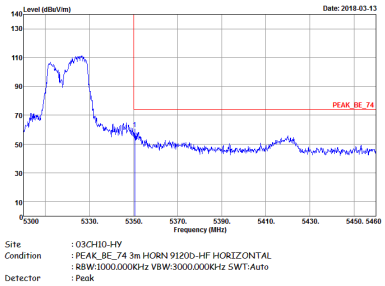
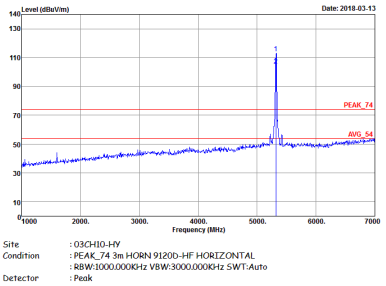
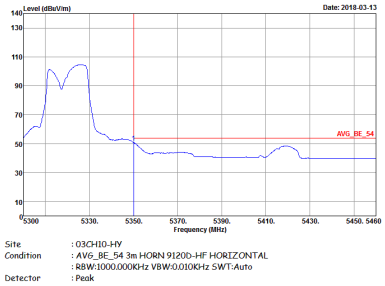
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

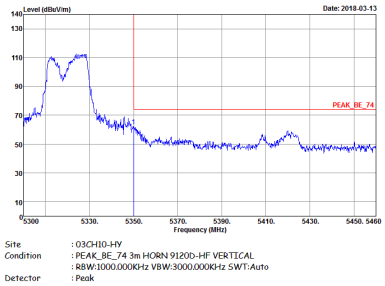
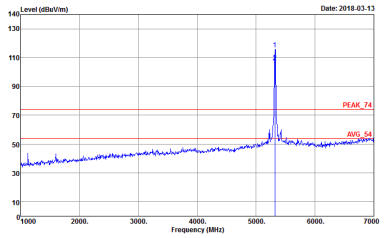
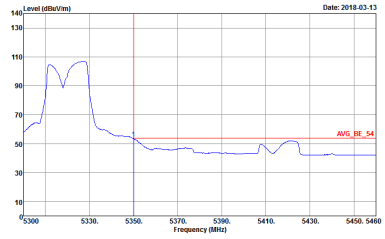
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Horizontal	Vertical
Peak		Left blank
Avg.		Left blank

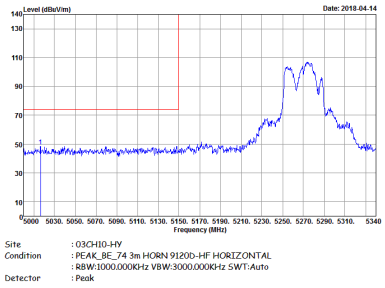
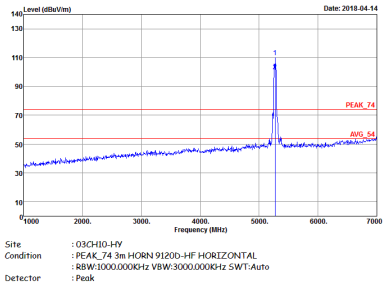
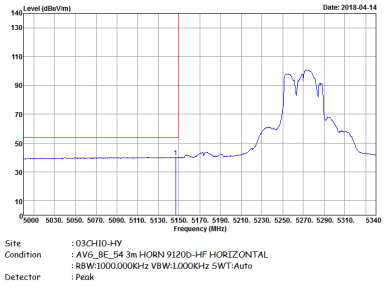
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

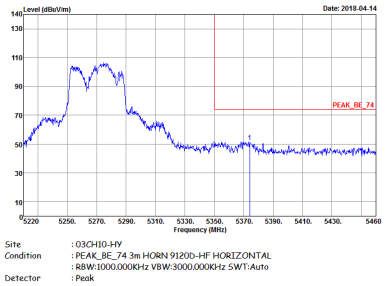
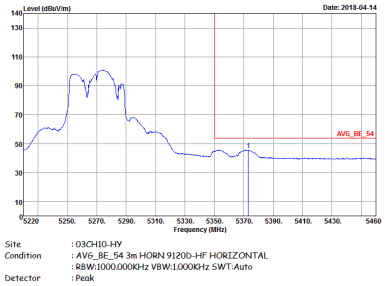
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

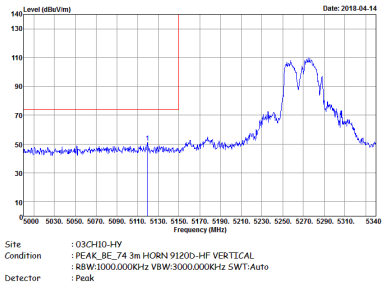
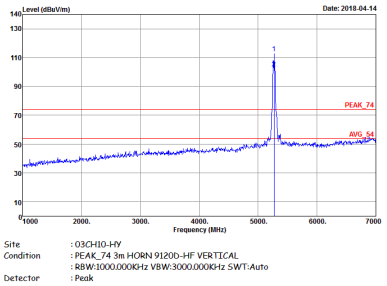
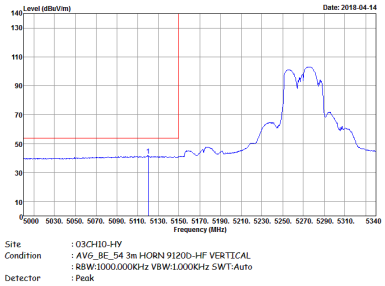
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

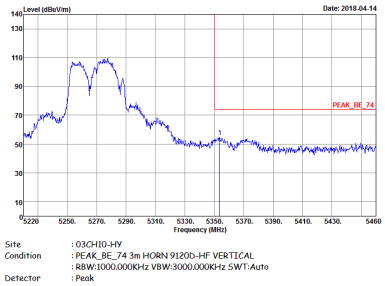
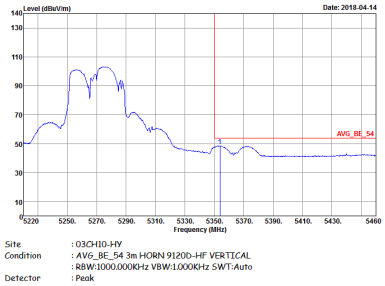
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HV Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH10-HV Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH10-HV Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

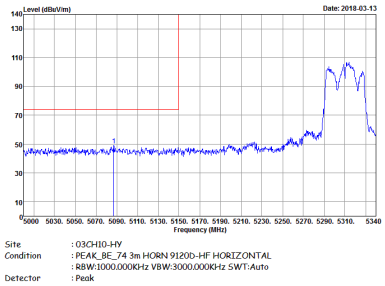
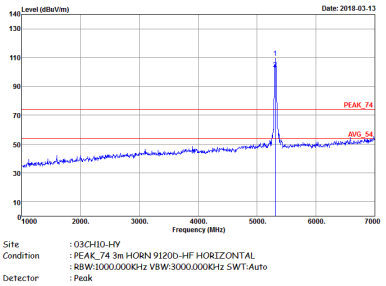
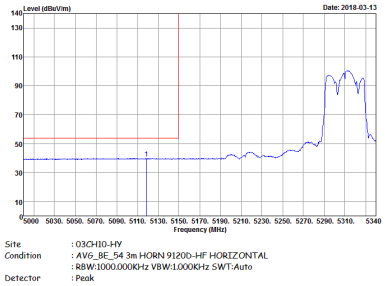
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

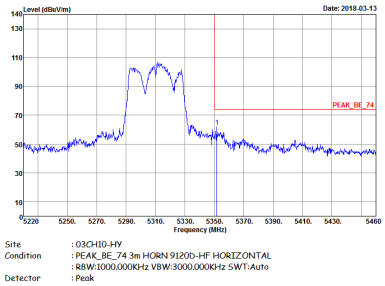
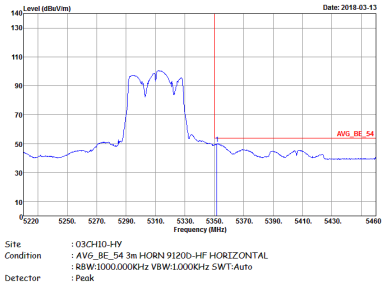
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

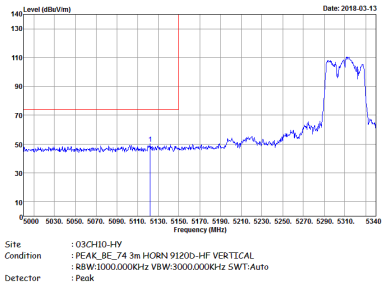
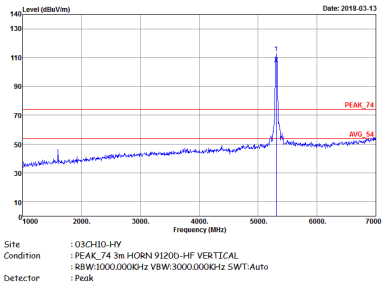
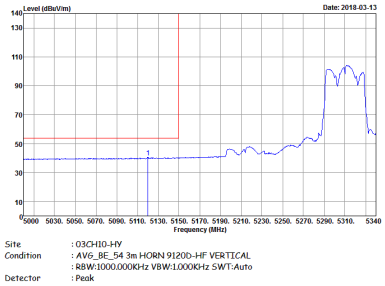
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

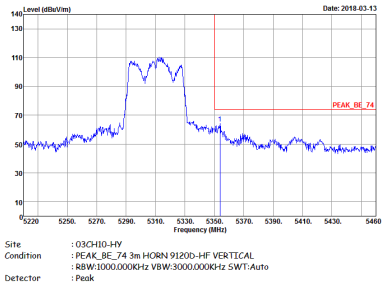
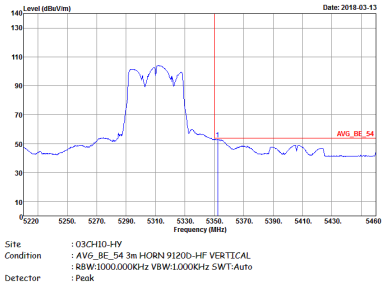
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1+2	Vertical	Vertical
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1+2	Vertical	Vertical
Peak		Left blank
Avg.		Left blank

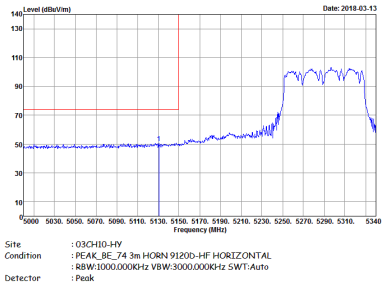
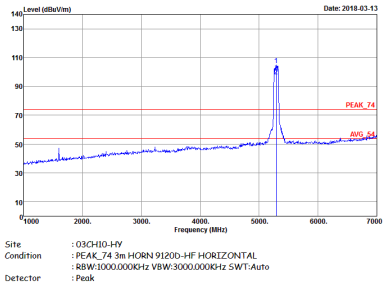
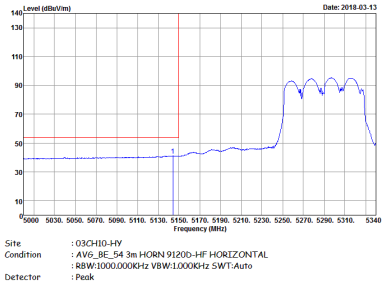
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

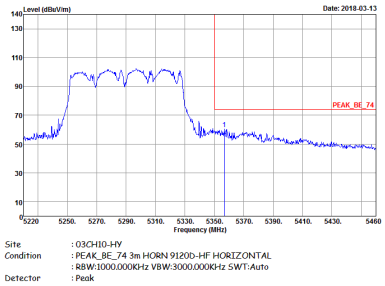
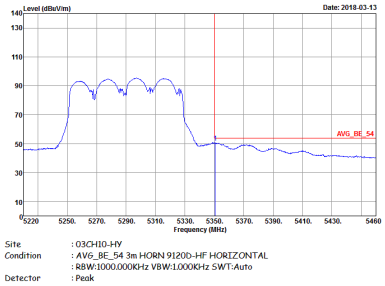
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

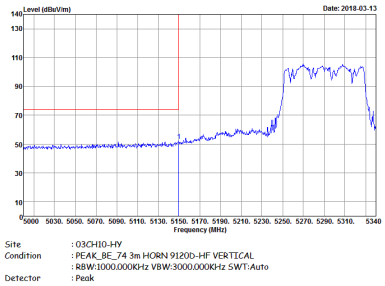
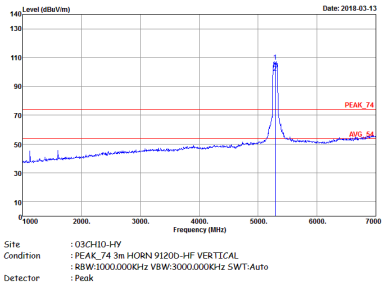
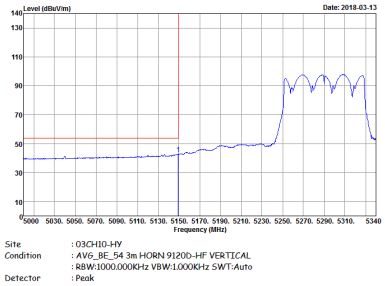
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

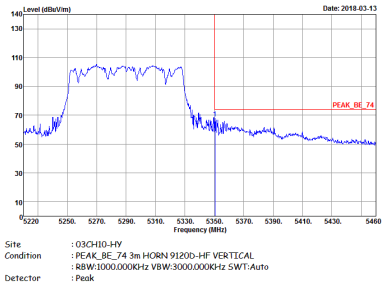
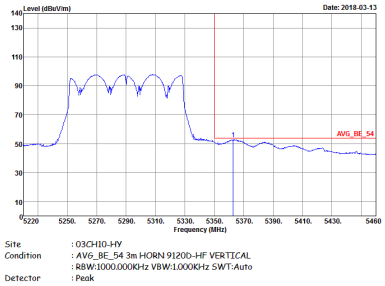
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

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

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

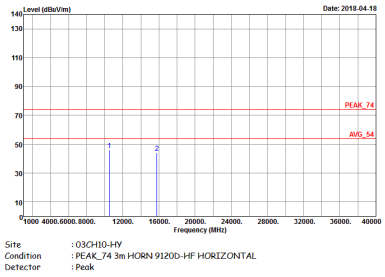
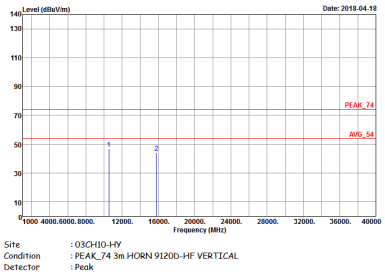
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

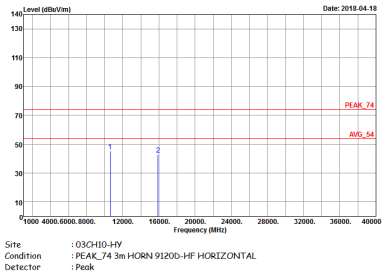
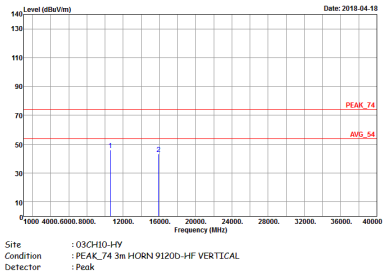
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

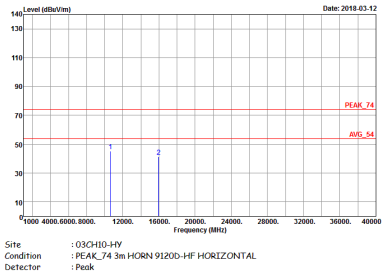
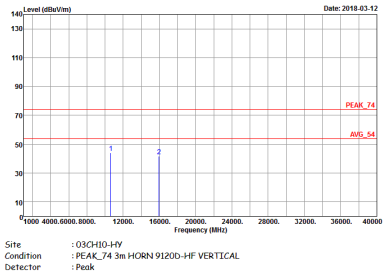
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 2 - 5250~5350MHz

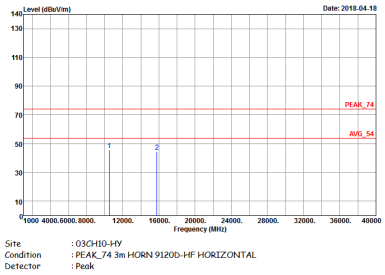
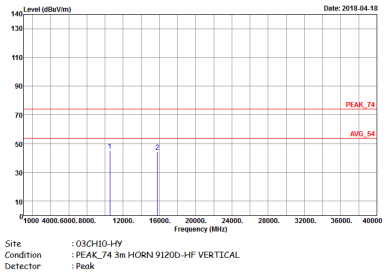
WIFI 802.11a (Harmonic @ 3m)

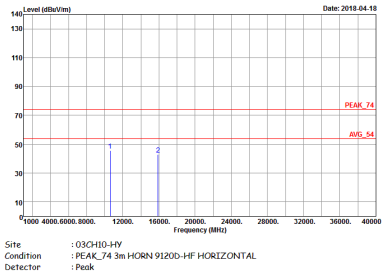
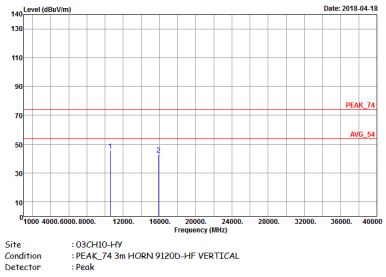
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH52 5260MHz	
1+2	Horizontal	Vertical
Peak Avg.		

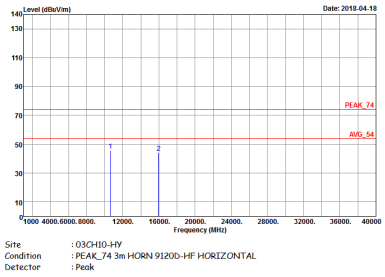
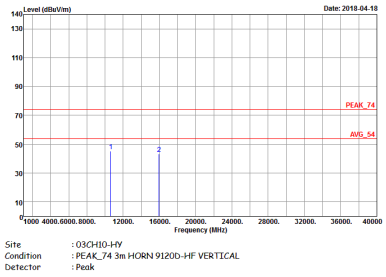
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

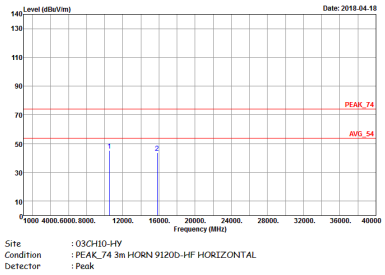
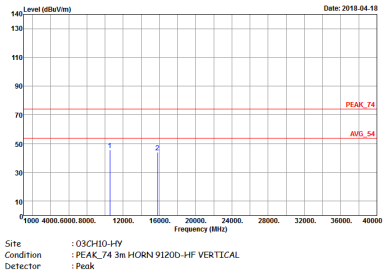
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH52 5260MHz	
1+2	Horizontal	Vertical
Peak Avg.		

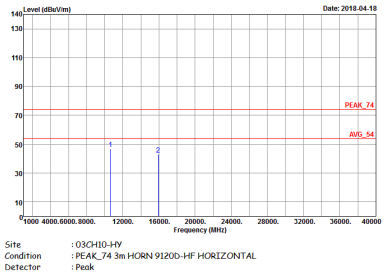
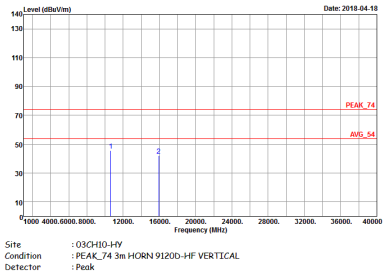
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH60 5300MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

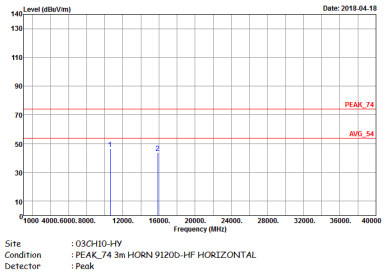
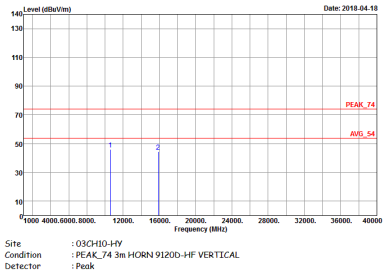
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH54 5270	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH62 5310	
1+2	Horizontal	Vertical
Peak Avg.		

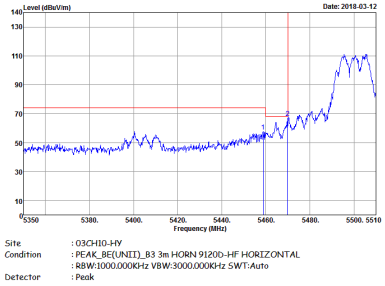
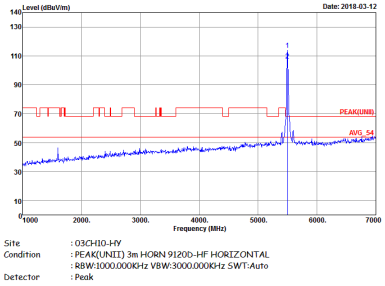
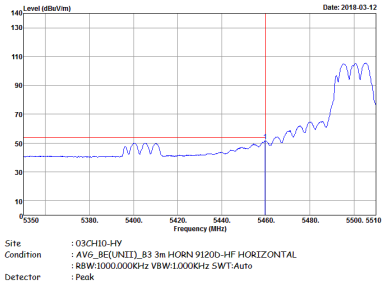
Band 2 5250~5350MHz

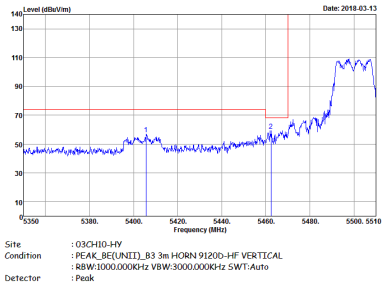
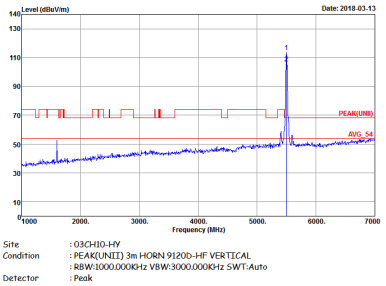
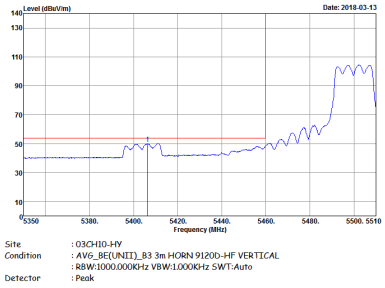
WIFI 802.11ac VHT80 (Harmonic @ 3m)

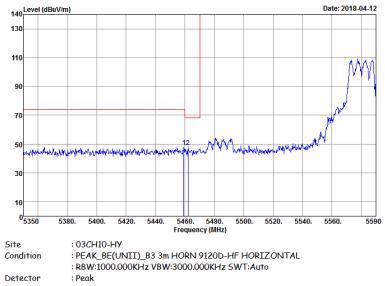
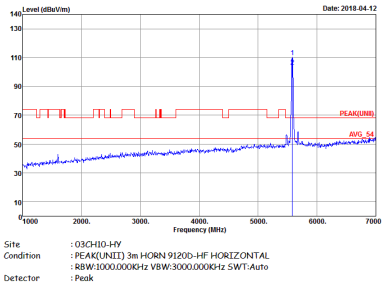
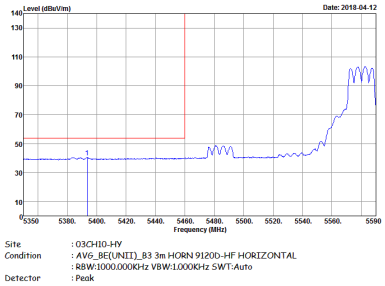
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz	
1+2	Horizontal	Vertical
Peak Avg.		

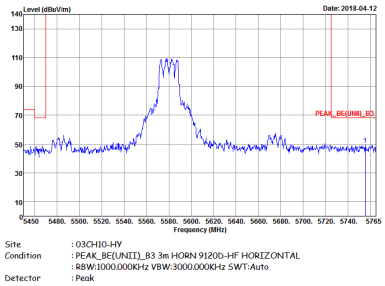
Band 3 - 5470~5725MHz

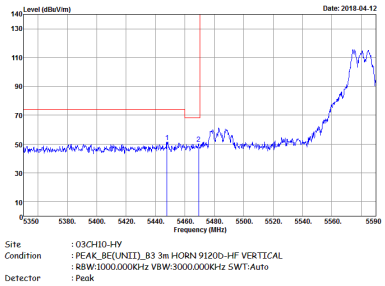
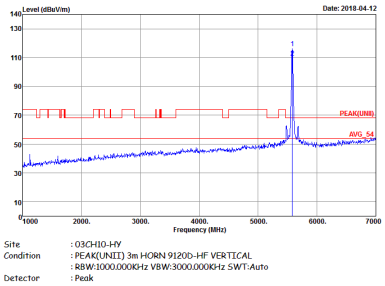
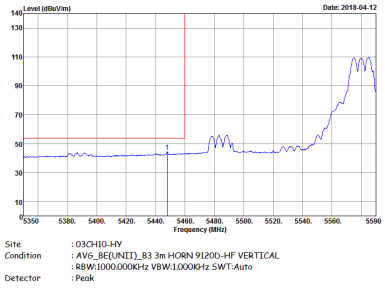
WIFI 802.11a (Band Edge @ 3m)

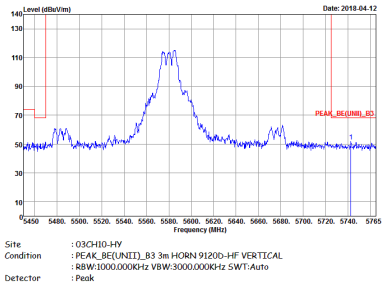
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

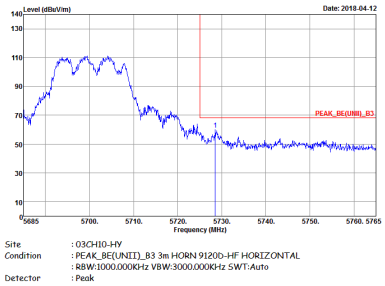
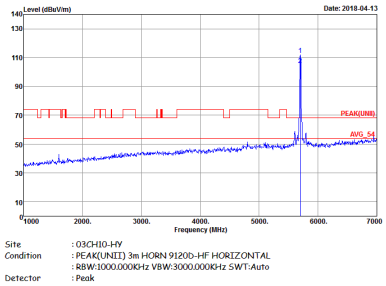
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

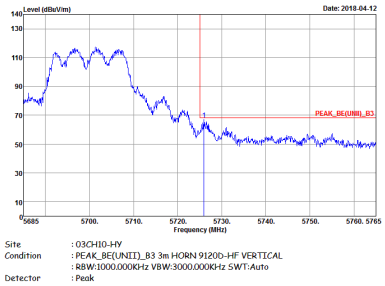
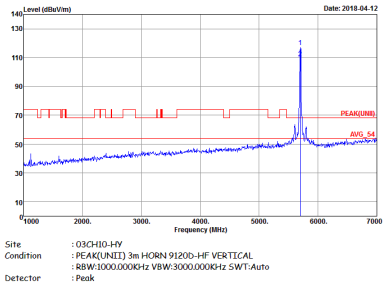
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank

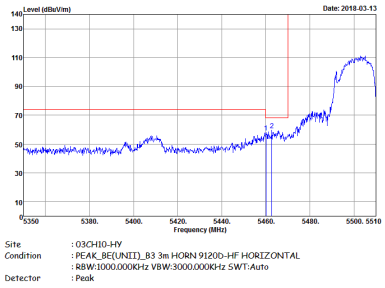
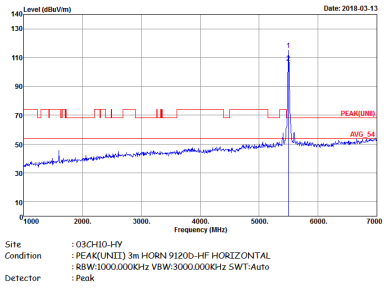
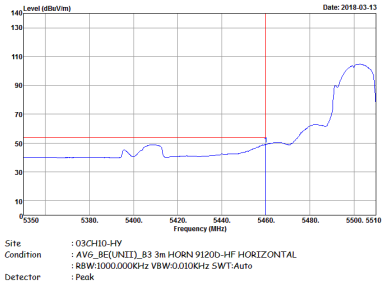
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

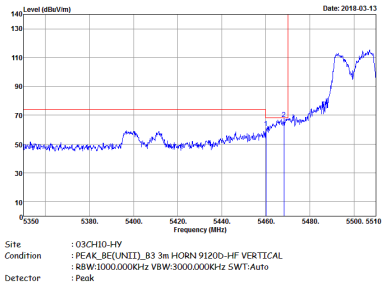
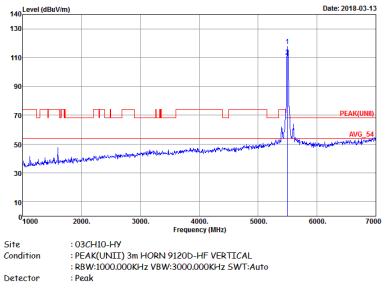
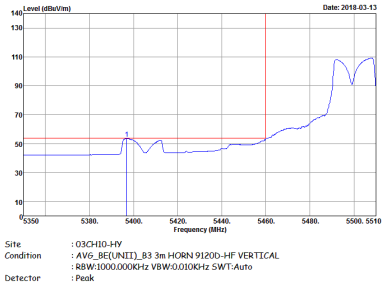
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

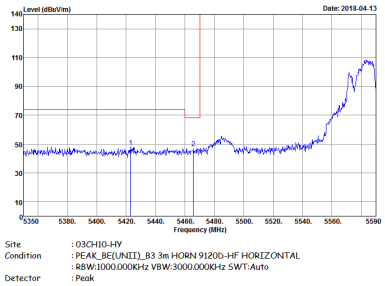
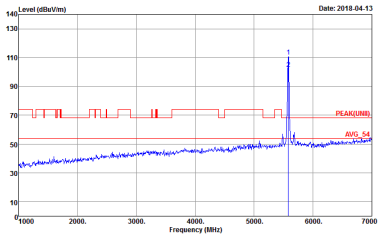
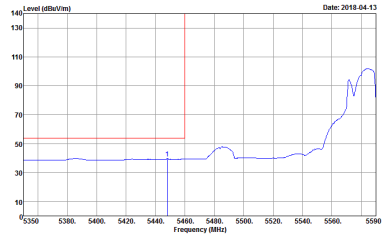
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Horizontal	Fundamental
Peak		

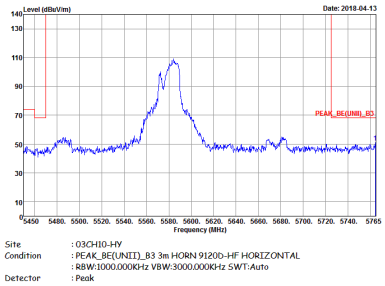
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Vertical	Fundamental
Peak		

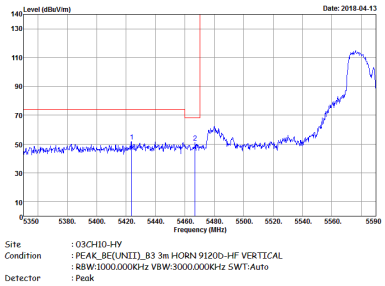
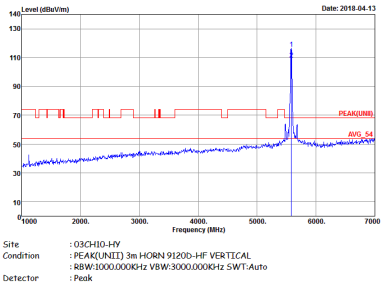
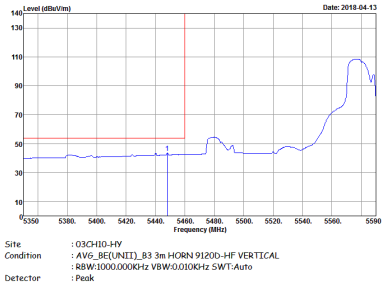
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

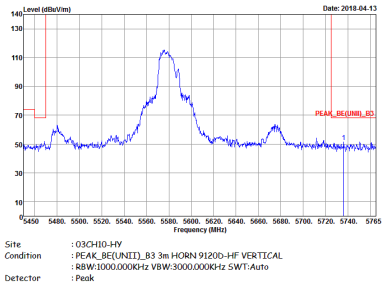
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

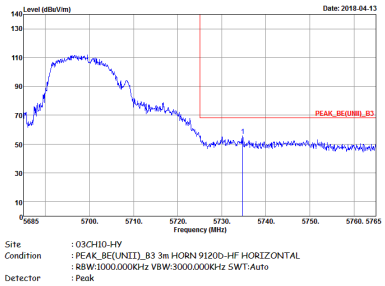
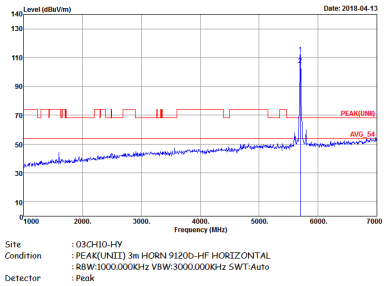
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

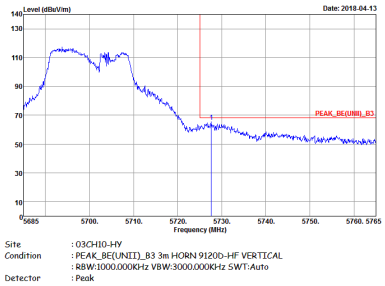
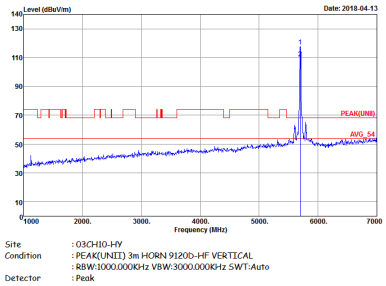
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	 Site : 03CH10-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak
Avg.	 Site : 03CH10-HY Condition : AVG_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto Detector : Peak	Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank

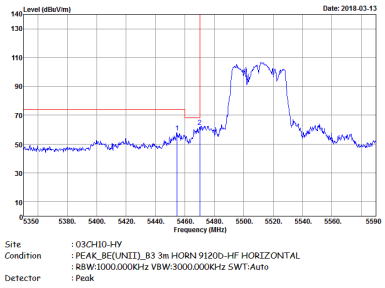
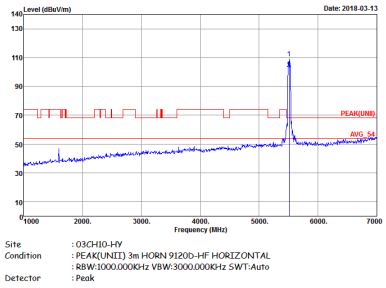
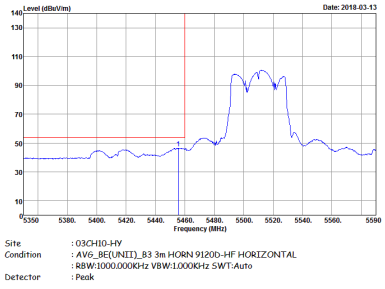
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

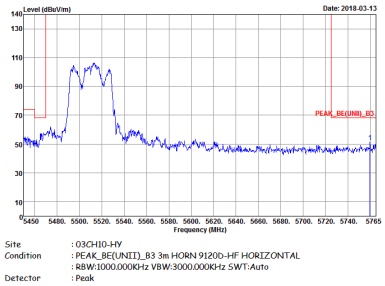
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

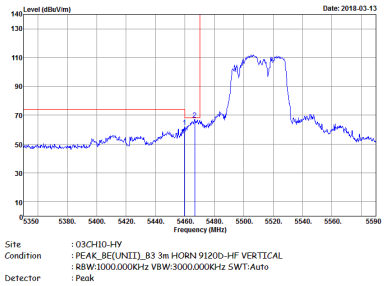
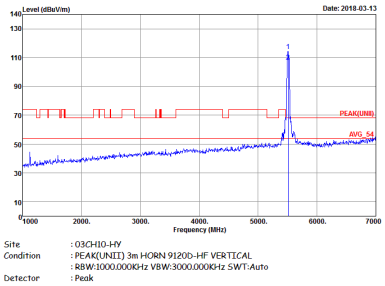
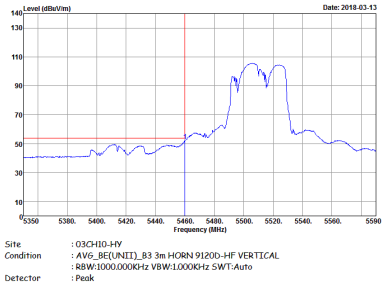
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Horizontal	Fundamental
Peak		

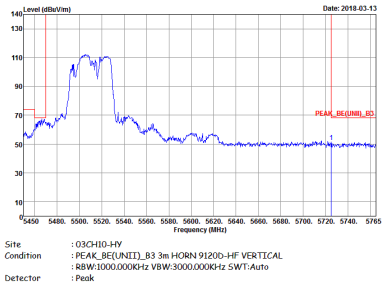
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Vertical	Fundamental
Peak.		

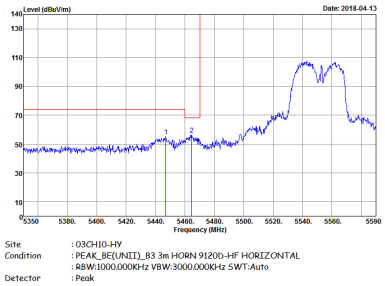
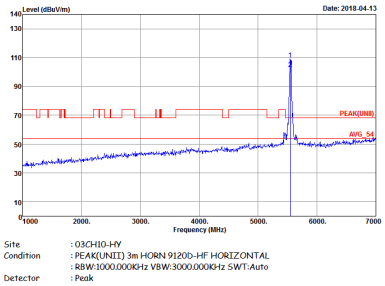
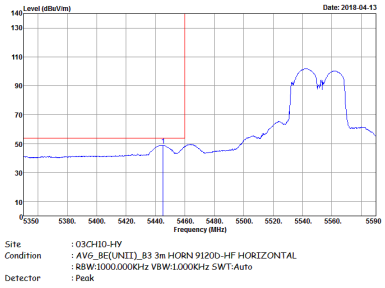
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

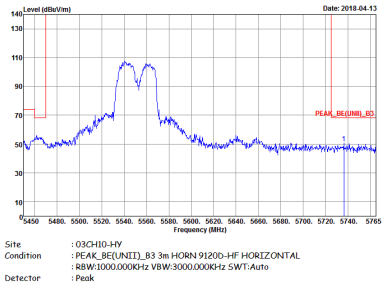
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

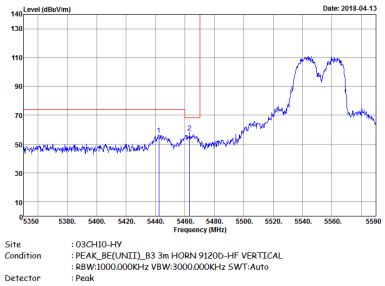
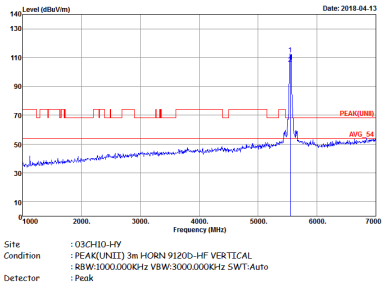
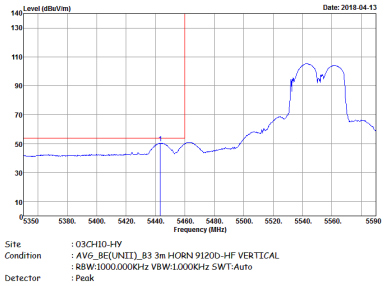
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank

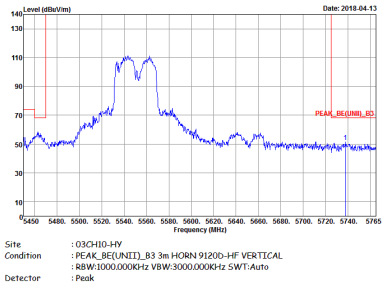
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

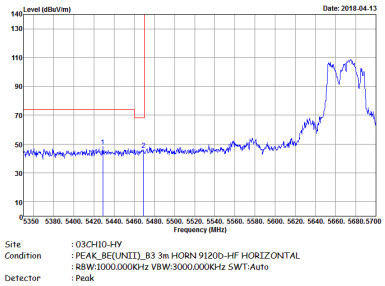
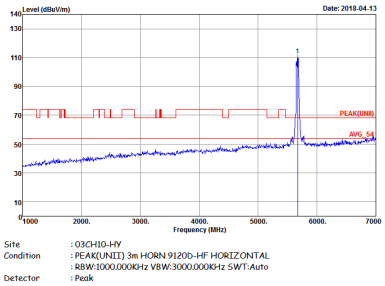
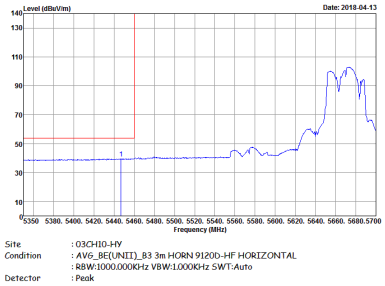
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

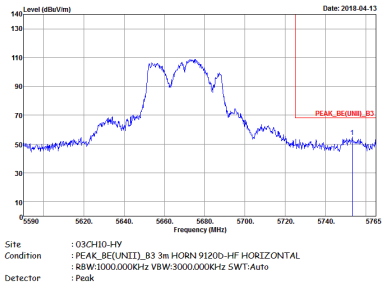
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

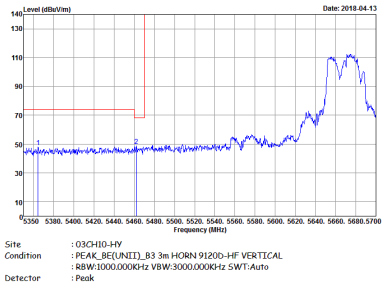
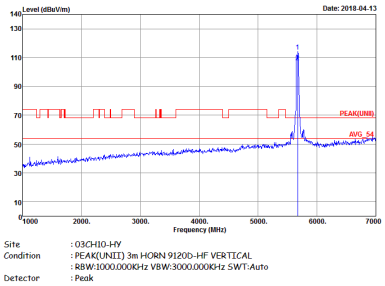
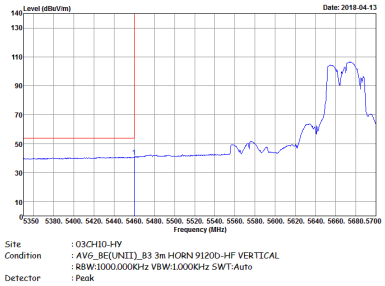
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank

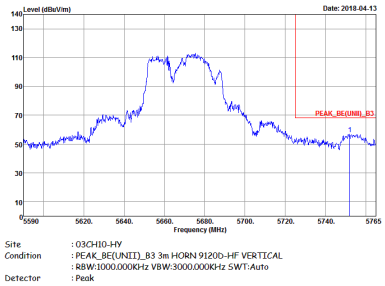
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

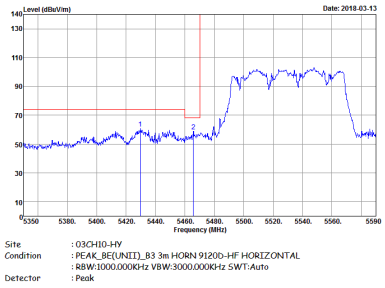
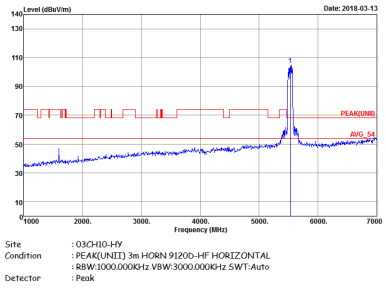
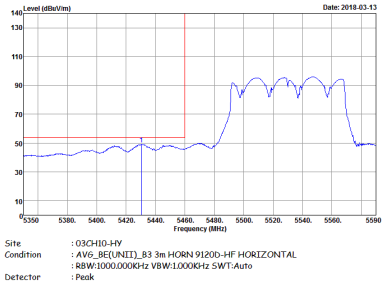
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

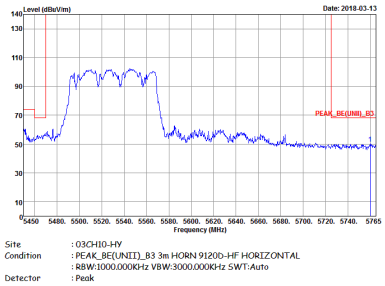
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

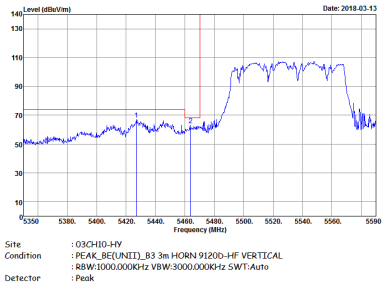
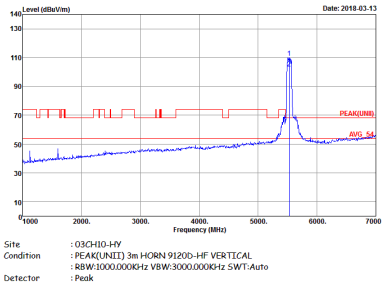
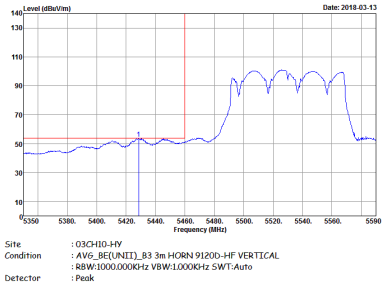
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

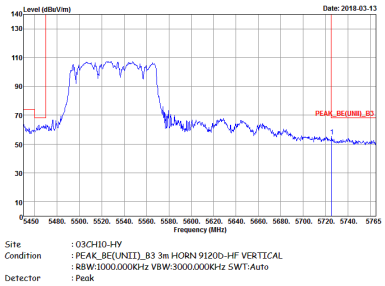
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

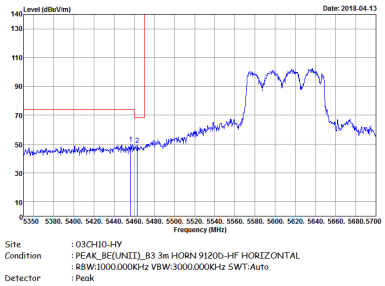
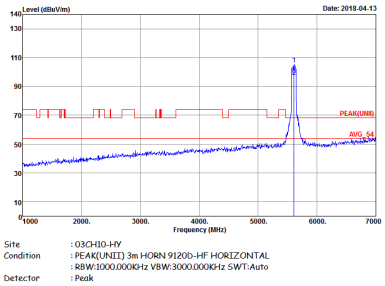
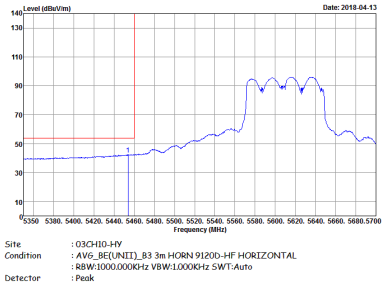
Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

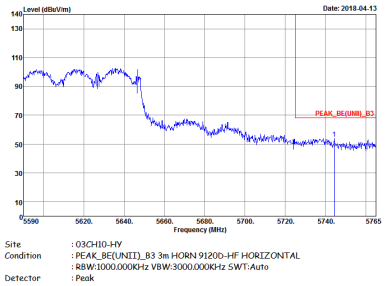
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

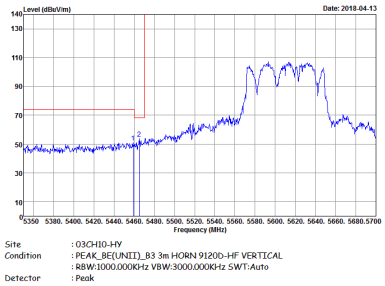
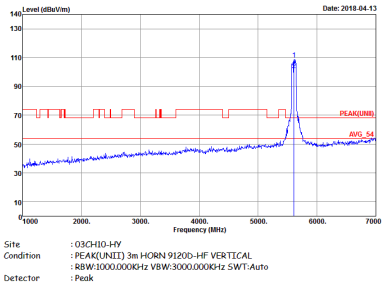
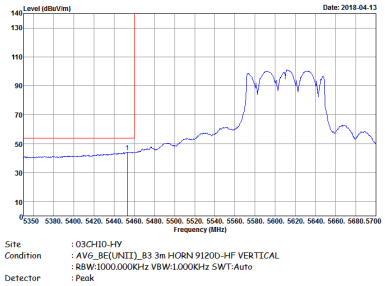
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank

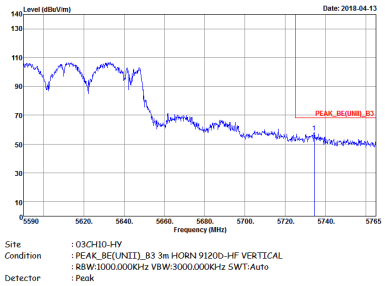
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

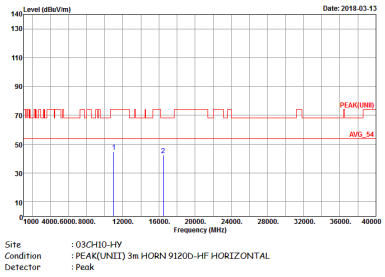
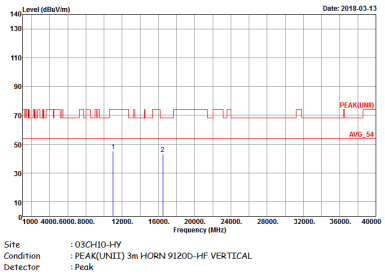
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

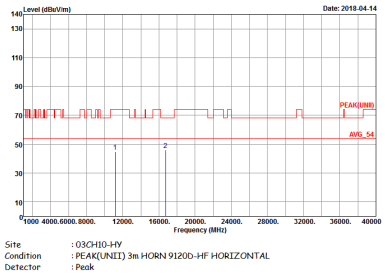
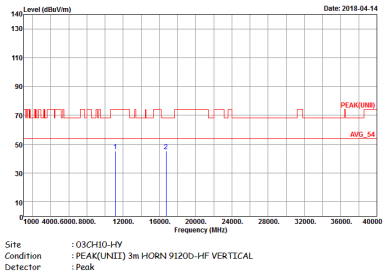
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

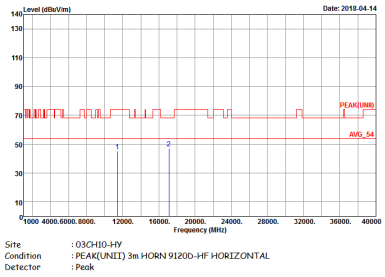
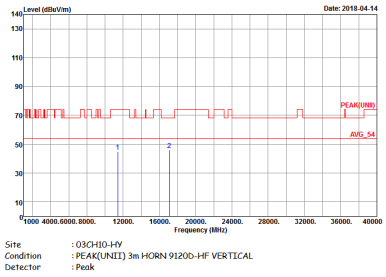
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH10-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak	Left blank

Band 3 - 5470~5725MHz

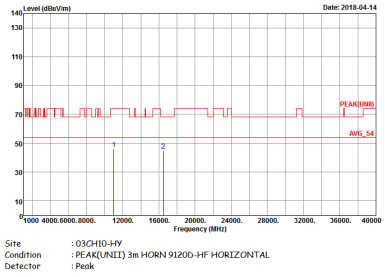
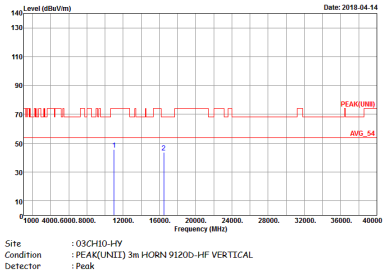
WIFI 802.11a (Harmonic @ 3m)

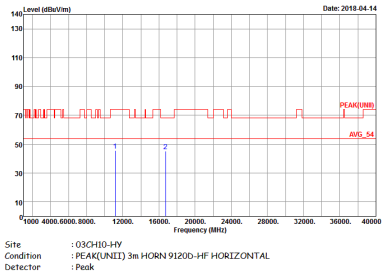
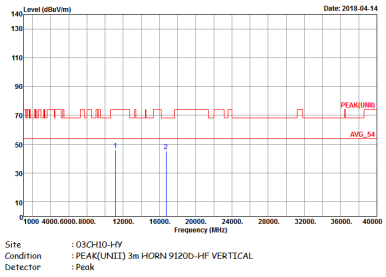
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Horizontal	Vertical
Peak Avg.		

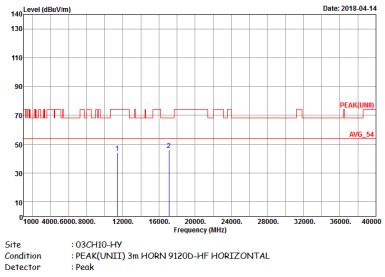
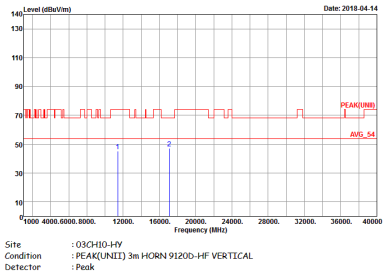
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH116 5580MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Horizontal	Vertical
Peak Avg.		

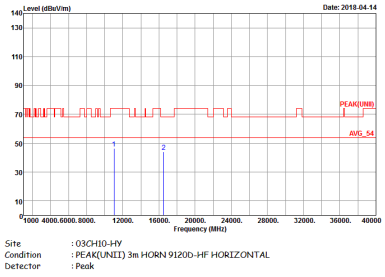
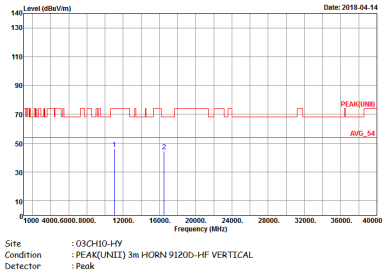
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

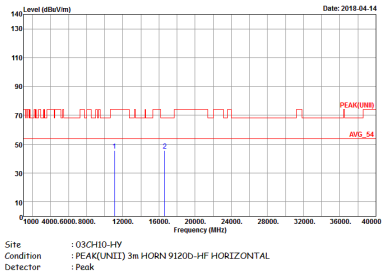
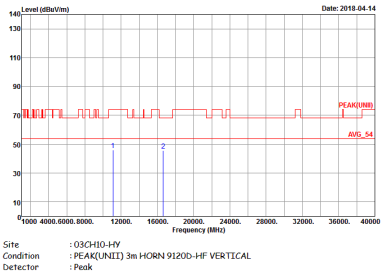
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Horizontal	Vertical
Peak Avg.		

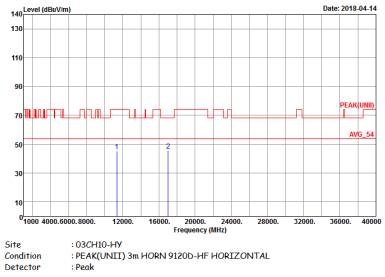
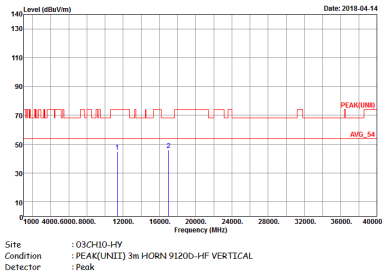
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH116 5580MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Horizontal	Vertical
Peak Avg.		

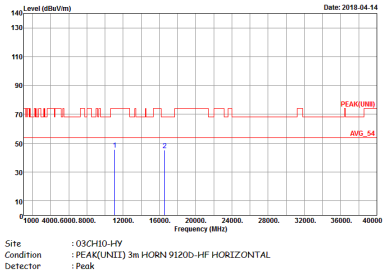
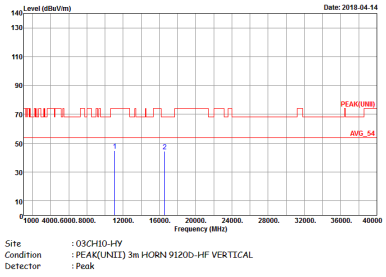
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

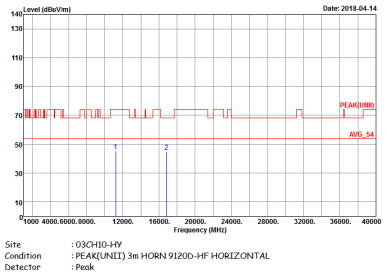
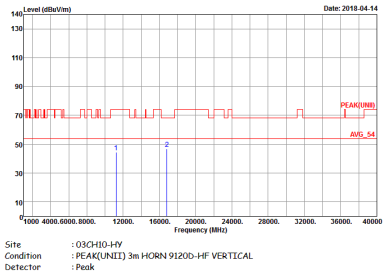
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH110 5550MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH10-HV Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL Detector : Peak	 Site : 03CH10-HV Condition : PEAK(UNII) 3m HORN 9120D-HF VERTICAL Detector : Peak

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH134 5670MHz	
1+2	Horizontal	Vertical
Peak Avg.		

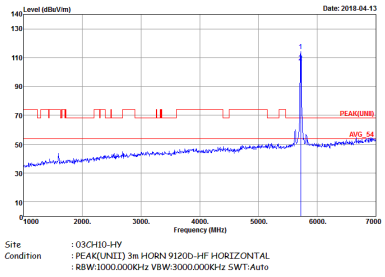
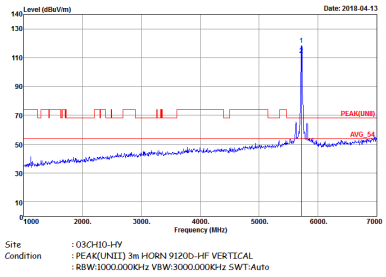
Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz	
1+2	Horizontal	Vertical
Peak Avg.		

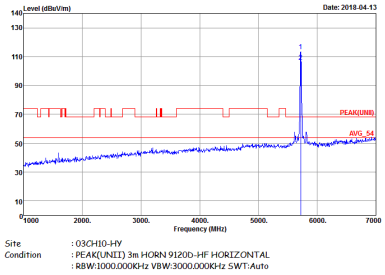
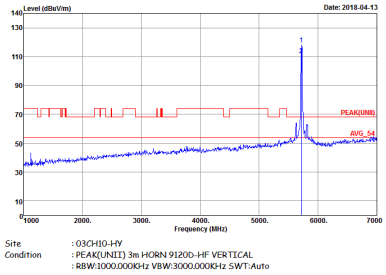
Band 3 - Straddle Channel

WIFI 802.11a (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11a CH144 5720MHz	
1+2	Horizontal	Vertical
Peak Avg.		

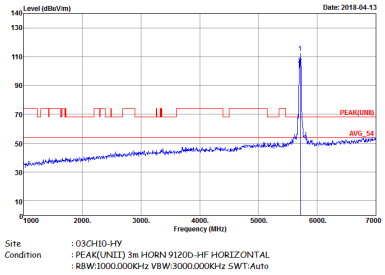
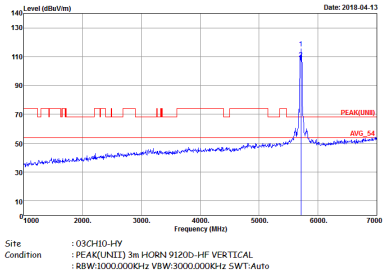
Band 3 – Straddle Channel

WIFI 802.11n HT20 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT20 CH144 5720MHz	
1+2	Horizontal	Vertical
Peak Avg.		

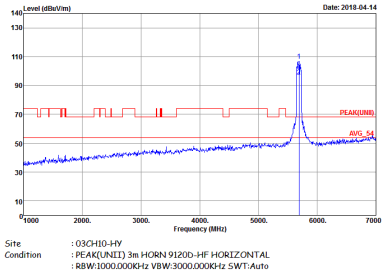
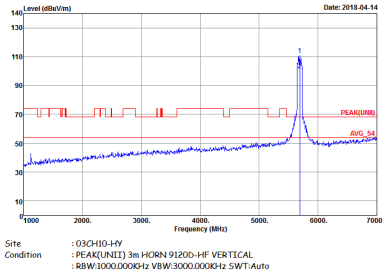
Band 3 – Straddle Channel

WIFI 802.11n HT40 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT40 CH142 5710MHz	
1+2	Horizontal	Vertical
Peak Avg.		

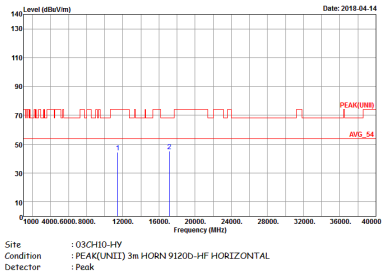
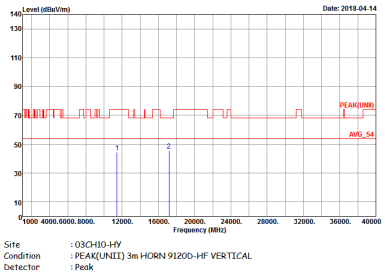
Band 3 – Straddle Channel

WIFI 802.11ac VHT80 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz	
1+2	Horizontal	Vertical
Peak Avg.		

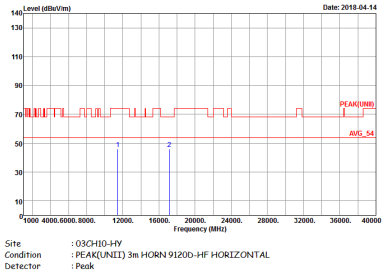
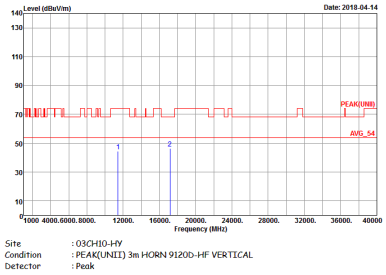
Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

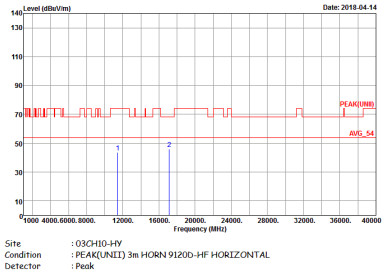
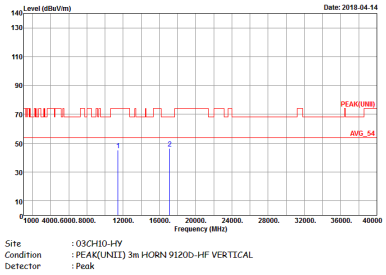
WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11a CH144 5720MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Band 3 – Straddle Channel

WIFI 802.11n HT20 (Harmonic @ 3m)

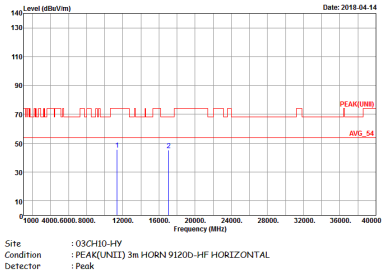
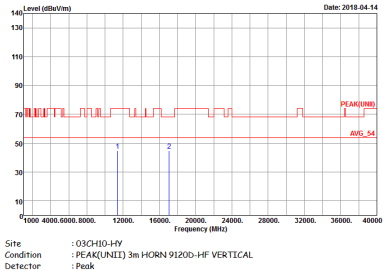
WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11n HT20 CH144 5720MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11n HT40 CH142 5710MHz	
1+2	Horizontal	Vertical
Peak Avg.		

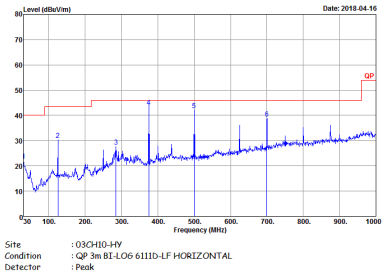
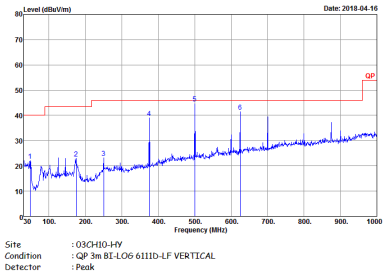
Band 3 – Straddle Channel

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11n HT20 (LF)

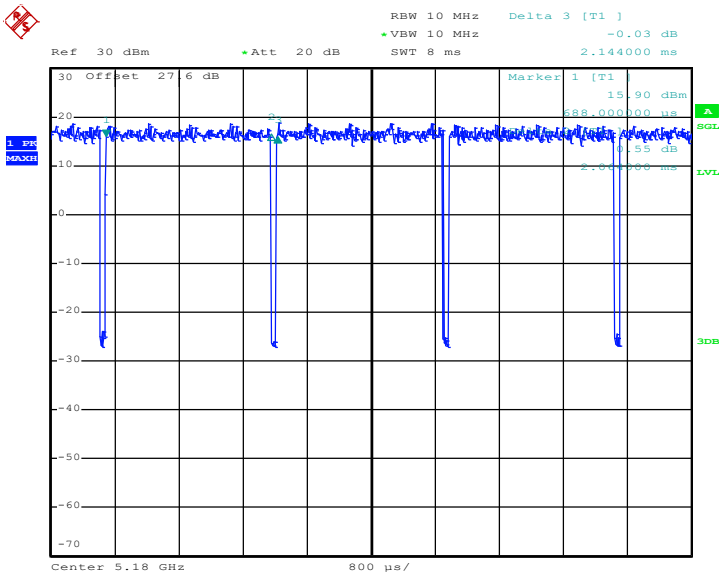
WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1+2	802.11a for Ant. 1	96.27	2064.00	0.48	1kHz	0.17
1+2	802.11a for Ant. 2	96.63	2064.00	0.48	1kHz	0.15
1+2	5GHz 802.11n HT20 for Ant. 1	97.66	5000.00	0.20	300Hz	0.10
1+2	5GHz 802.11n HT20 for Ant. 2	97.64	4960.00	0.20	300Hz	0.10
1+2	5GHz 802.11n HT40 for Ant. 1	97.60	2440.00	0.41	1kHz	0.11
1+2	5GHz 802.11n HT40 for Ant. 2	97.60	2440.00	0.41	1kHz	0.11
1+2	5GHz 802.11ac VHT80 for Ant. 1	94.26	1150.00	0.87	1kHz	0.26
1+2	5GHz 802.11ac VHT80 for Ant. 2	94.26	1150.00	0.87	1kHz	0.26

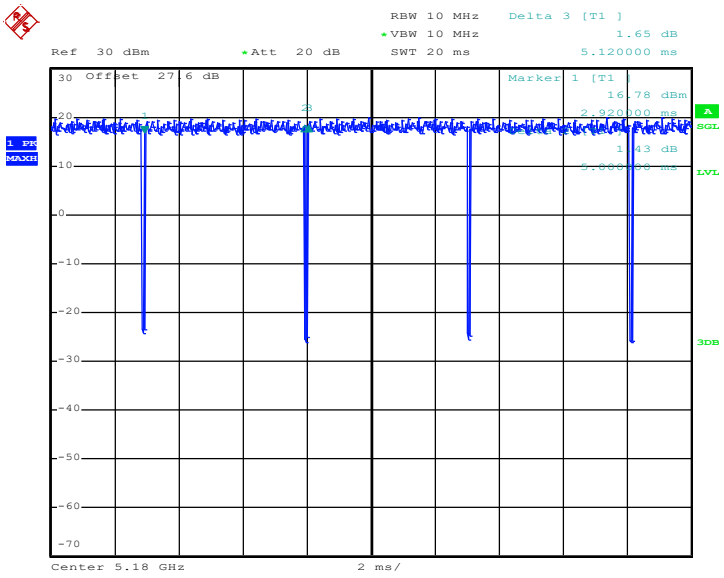
MIMO <Ant. 1>

802.11a



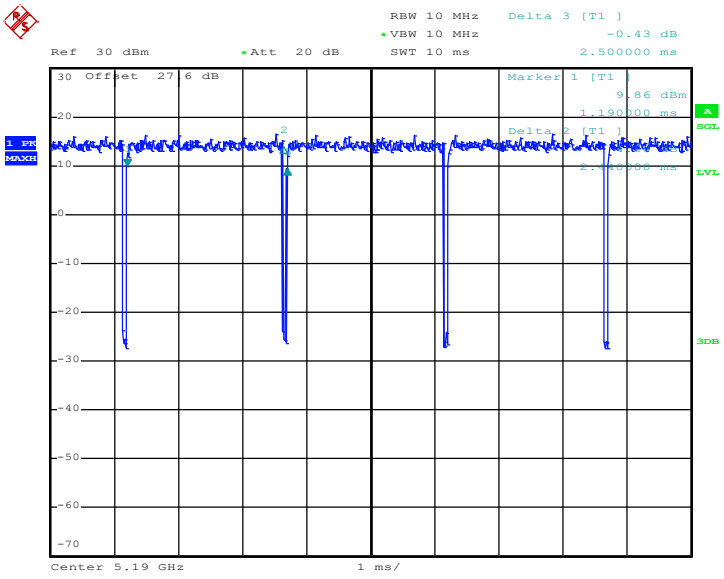
Date: 29.MAR.2018 03:04:17

802.11n HT20



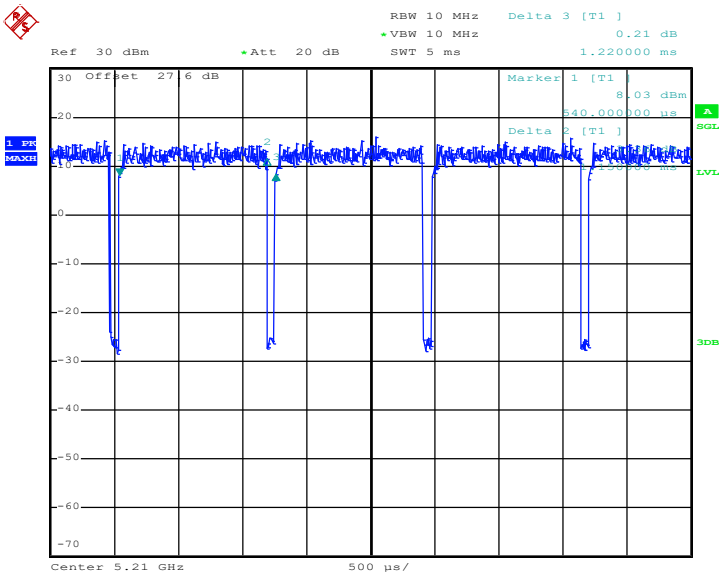
Date: 29.MAR.2018 05:09:40

802.11n HT40



Date: 29.MAR.2018 06:36:11

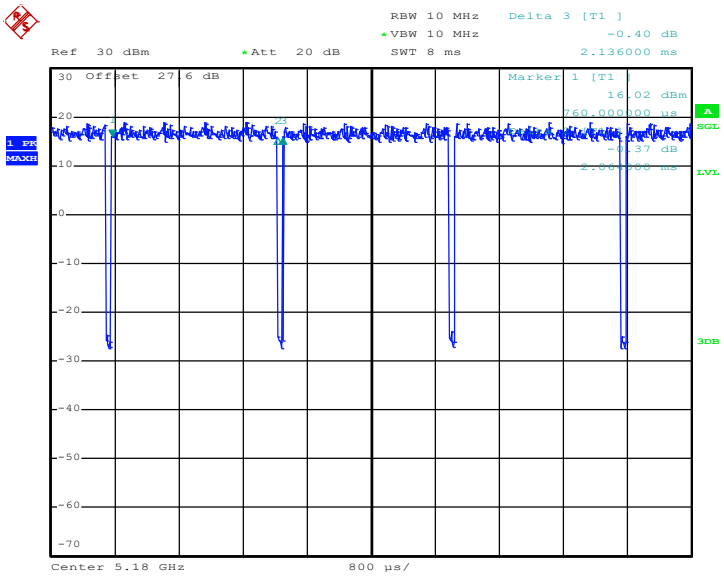
802.11ac VHT80



Date: 29.MAR.2018 07:52:23

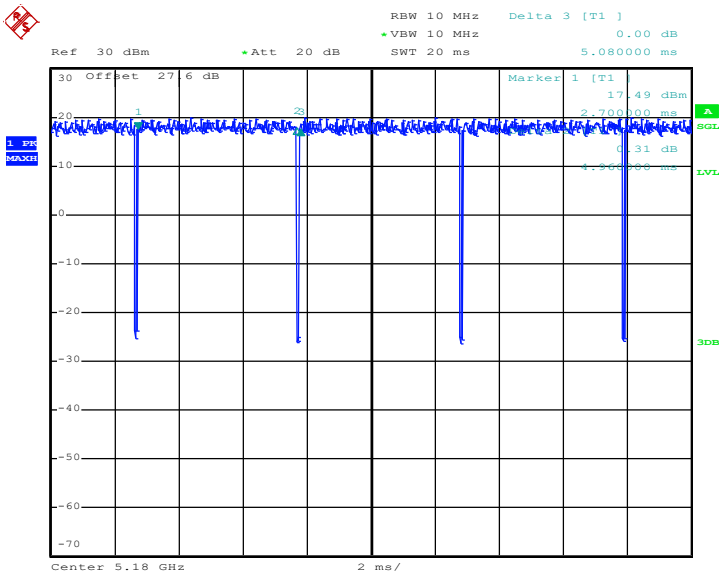
MIMO <Ant. 2>

802.11a



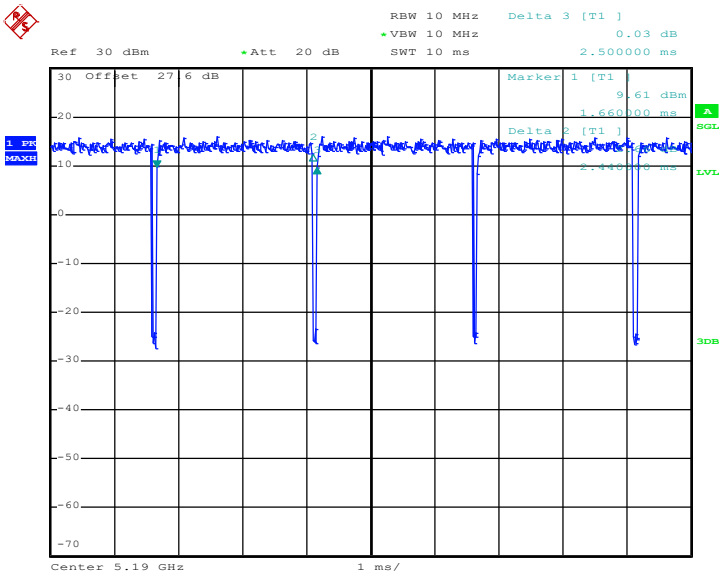
Date: 29.MAR.2018 03:06:08

802.11n HT20



Date: 29.MAR.2018 05:10:18

802.11n HT40



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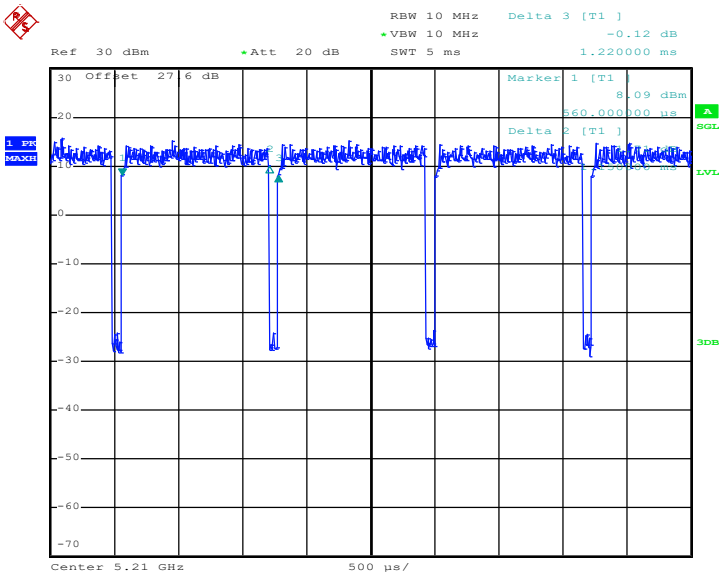
802.11ac VHT80



Date: 29.MAR.2018 07:52:59