



FCC RADIO TEST REPORT

FCC ID : UDX-60053020
Equipment : LTE & Wi-Fi Router
Brand Name : CISCO
Model Name : Z3C-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 Apr. 27, 2018 and testing was started from May 09, 2018 and completed on May 25, 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
FR811724-04	01	Initial issue of report	Dec. 25, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403(i)	26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407(a)	Maximum Conducted Output Power	Pass	-
3.3	15.407(a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 1.09 dB at 5350.080 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 15.33 dB at 4.085 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 FR811724-04 report reuse test data from the FR811724D 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: Lucy Wu

1 General Description

1.1 Product Feature of Equipment Under Test

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

Product Specification subjective to this standard	
Antenna Type	WWAN: PIFA Antenna WLAN <Ant. 1>: PIFA Antenna <Ant. 2>: Dipole Antenna Bluetooth: PIFA Antenna

Antenna information		
5250 MHz ~ 5350 MHz	Peak Gain (dBi)	Ant. 1: 4.0 Ant. 2: 3.5
5470 MHz ~ 5725 MHz	Peak Gain (dBi)	Ant. 1: 4.0 Ant. 2: 3.5

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.
	03CH12-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 (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
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)
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 Link (LAN) + Bluetooth Link + USB Link + Adapter + Connects to the MR33 via RJ-45

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

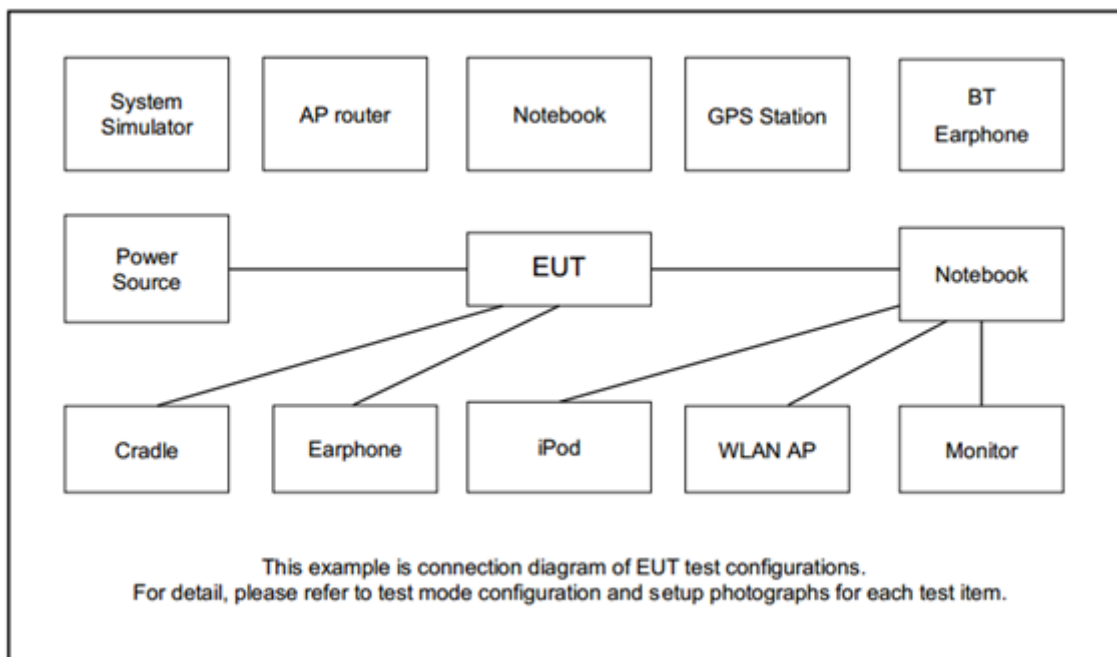
Ch. #		Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT20	802.11n HT20
L	Low	52	100
M	Middle	60	116
H	High	64	140
Straddle		-	144

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	-
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	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
2.	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
3.	Mobile Phone	Apple	Apple 6S Plus	N/A	N/A	N/A
4.	USB Flash Drive	Kingston	OTEG9	N/A	N/A	N/A
5.	Cloud-Managed	CISCO	MR33	N/A	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items and TXBF mode, 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.

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

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

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

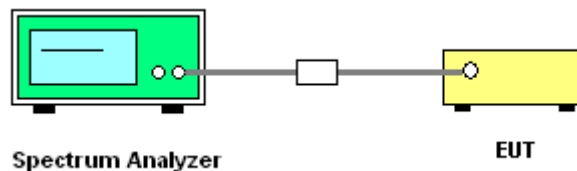
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

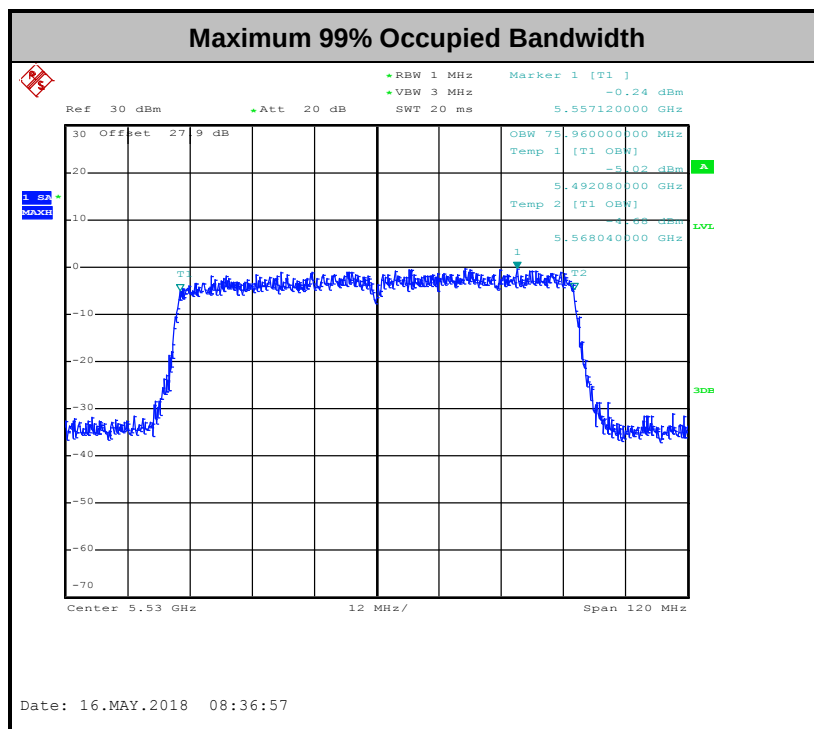
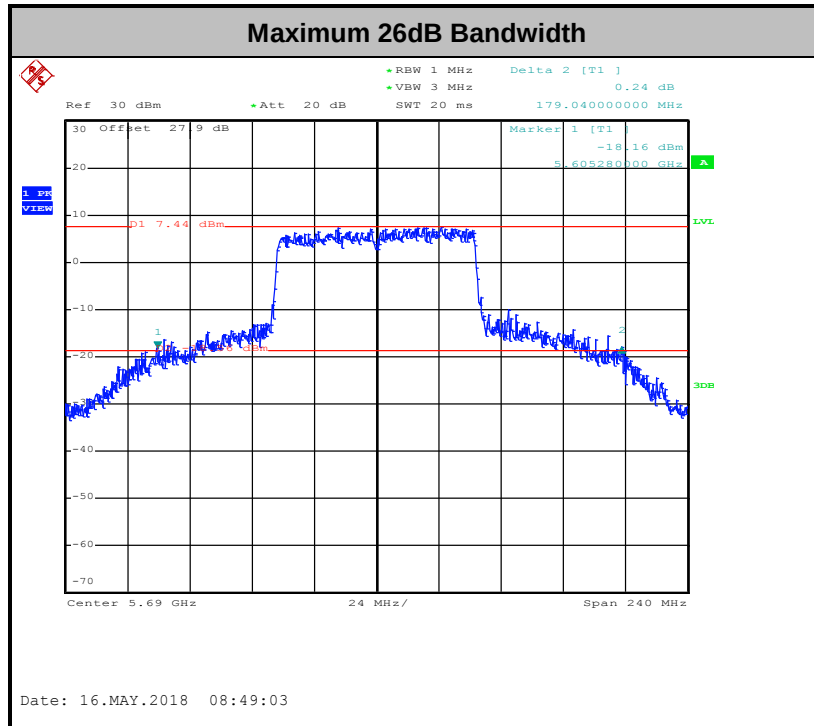
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB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

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.



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



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For the 5.25–5.725 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.

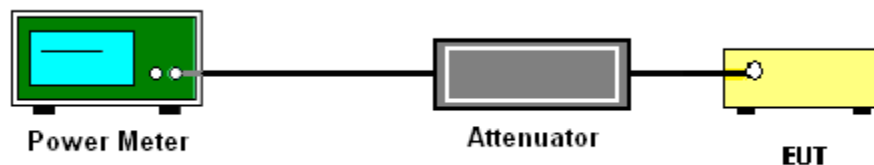
Method PM (Measurement using an RF average power meter):

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 $10 \log(N = 2)$ 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

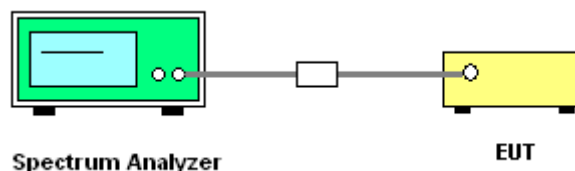
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

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

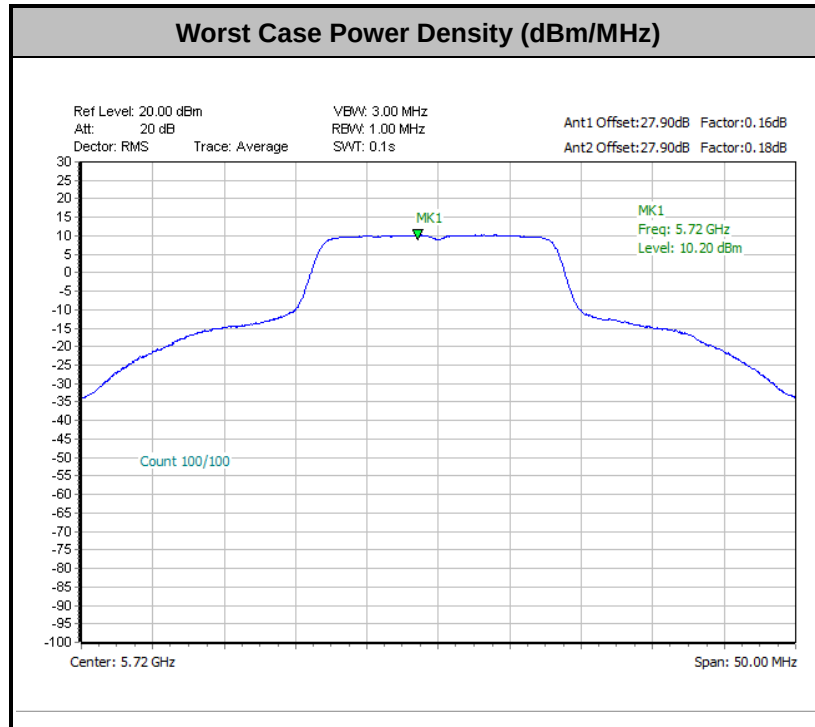
3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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

3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

EIRP (dBm)	Field Strength at 3m (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 $\geq$ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

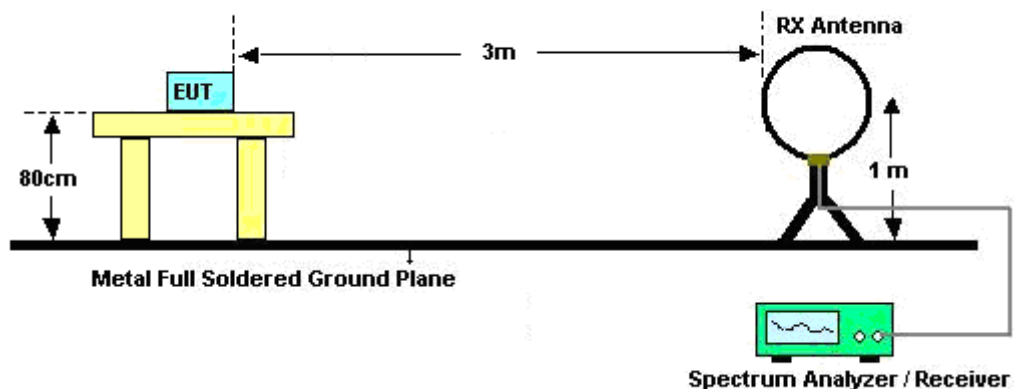
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

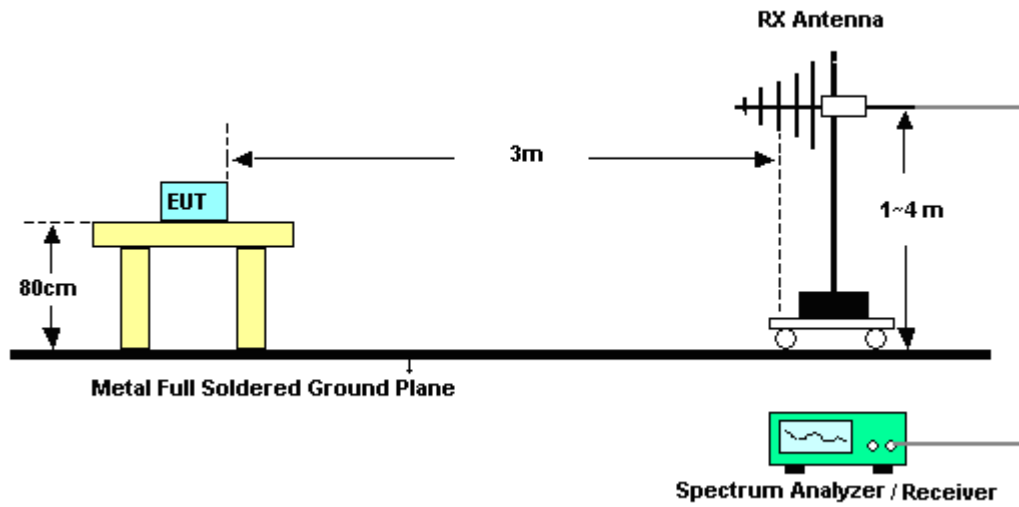
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

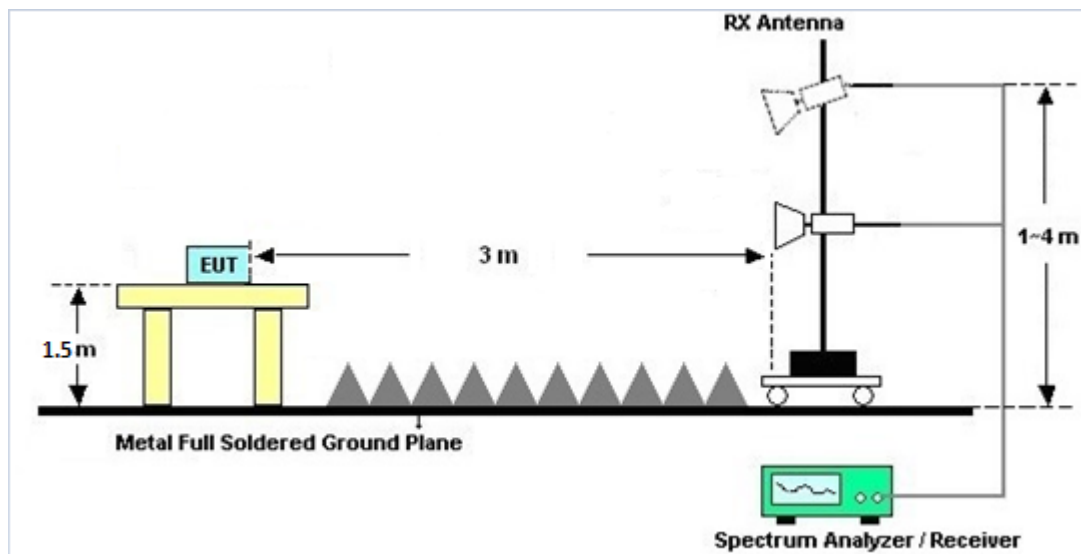
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





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

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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

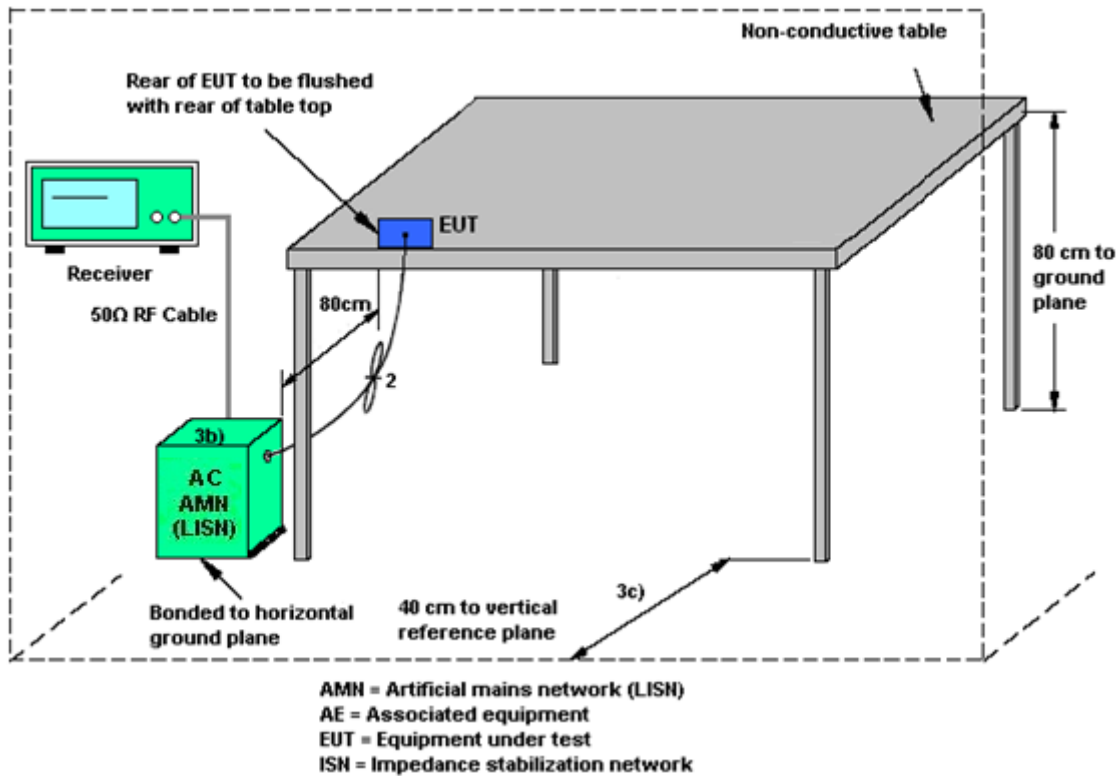
3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

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

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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

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

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

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

			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
Band II	4.00	3.50	4.00	6.76	0.00	0.76
Band III	4.00	3.50	4.00	6.76	0.00	0.76

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 k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th 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	4.00	3.50	6.76	6.76	0.76	0.76
Band III	4.00	3.50	6.76	6.76	0.76	0.76

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 26, 2017	May 11, 2018~ May 18, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 26, 2017	May 11, 2018~ May 18, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	May 11, 2018~ May 18, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	May 11, 2018~ May 18, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 25, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	May 25, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	May 25, 2018	Nov. 29, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 25, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	May 25, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	May 25, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	May 09, 2018 ~ May 12, 2018	Jul. 17, 2018	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHz	Oct. 31, 2017	May 09, 2018 ~ May 12, 2018	Oct. 30, 2018	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL6111D&00802N1D01N-06	47020&06	30MHz~1GHz	Nov. 20, 2017	May 09, 2018 ~ May 12, 2018	Nov. 19, 2018	Radiation (03CH12-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	May 09, 2018 ~ May 12, 2018	Nov. 22, 2018	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 25, 2017	May 09, 2018 ~ May 12, 2018	Dec. 24, 2018	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Oct. 20, 2017	May 09, 2018 ~ May 12, 2018	Oct. 19, 2018	Radiation (03CH12-HY)
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Jan. 19, 2018	May 09, 2018 ~ May 12, 2018	Jan. 18, 2020	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY53270148	1GHz~26.5GHz	Jan. 15, 2018	May 09, 2018 ~ May 12, 2018	Jan. 14, 2019	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12SS	SN2	1.2G Low Pass	Jul. 17, 2017	May 09, 2018 ~ May 12, 2018	Jul. 16, 2018	Radiation (03CH12-HY)
Filter	Woken	WHKX8-5272.5-6750-18000-40ST	SN2	6.75G Highpass	Jul. 17, 2017	May 09, 2018 ~ May 12, 2018	Jul. 16, 2018	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	May 09, 2018 ~ May 12, 2018	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	May 09, 2018 ~ May 12, 2018	N/A	Radiation (03CH12-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz ~ 40GHz	Nov. 27, 2017	May 09, 2018 ~ May 12, 2018	Nov. 26, 2018	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1590074	1GHz~18GHz	May 22, 2017	May 09, 2018 ~ May 12, 2018	May 21, 2018	Radiation (03CH12-HY)
Software	Audix	E36.2009-8-24	RK-000989	N/A	N/A	May 09, 2018 ~ May 12, 2018	N/A	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 14, 2018	May 09, 2018 ~ May 12, 2018	Mar. 13, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY15539/4	30M-18G	Mar. 14, 2018	May 09, 2018 ~ May 12, 2018	Mar. 13, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36979/4	30M-18G	Mar. 14, 2018	May 09, 2018 ~ May 12, 2018	Mar. 13, 2019	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 17, 2017	May 09, 2018 ~ May 12, 2018	Oct. 16, 2018	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 17, 2017	May 09, 2018 ~ May 12, 2018	Oct. 16, 2018	Radiation (03CH12-HY)

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.1
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.7
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu/Eason Huang	Temperature:	21~25	°C
Test Date:	2018/05/11~2018/05/18	Relative Humidity:	51~54	%

<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	17.95	19.80	37.60	40.30	23.54		29.54		23.98		
11a	6Mbps	2	60	5300	17.70	17.75	36.70	39.40	23.48		29.48		23.98		
11a	6Mbps	2	64	5320	17.30	17.45	23.70	33.55	23.38		29.38		23.98		
HT20	MCS0	2	52	5260	24.20	27.95	46.65	48.70	23.98		30.00		23.98		
HT20	MCS0	2	60	5300	21.50	26.80	45.50	47.70	23.98		30.00		23.98		
HT20	MCS0	2	64	5320	18.35	18.35	23.65	29.15	23.64		29.64		23.98		
HT40	MCS0	2	54	5270	39.40	46.40	78.03	86.77	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	36.30	36.20	40.68	41.04	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	75.84	75.84	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	0.16	0.18	19.09	19.08	22.10	23.98		4.00		30	Pass
11a	6Mbps	2	60	5300	0.16	0.18	19.35	19.28	22.33	23.98		4.00		30	Pass
11a	6Mbps	2	64	5320	0.16	0.18	16.37	16.90	19.66	23.98		4.00		30	Pass
HT20	MCS0	2	52	5260	0.10	0.10	19.33	19.30	22.33	23.98		4.00		30	Pass
HT20	MCS0	2	60	5300	0.10	0.10	19.20	19.29	22.26	23.98		4.00		30	Pass
HT20	MCS0	2	64	5320	0.10	0.10	15.63	16.00	18.83	23.98		4.00		30	Pass
HT40	MCS0	2	54	5270	0.18	0.18	19.03	19.08	22.06	23.98		4.00		30	Pass
HT40	MCS0	2	62	5310	0.18	0.18	13.74	14.00	16.88	23.98		4.00		30	Pass
VHT20	MCS0	2	52	5260	0.10	0.10	19.30	19.22	22.27	23.98		4.00		30	Pass
VHT20	MCS0	2	60	5300	0.10	0.10	19.13	19.20	22.18	23.98		4.00		30	Pass
VHT20	MCS0	2	64	5320	0.10	0.10	15.60	15.93	18.78	23.98		4.00		30	Pass
VHT40	MCS0	2	54	5270	0.18	0.14	19.01	18.99	22.01	23.98		4.00		30	Pass
VHT40	MCS0	2	62	5310	0.18	0.14	13.53	13.94	16.75	23.98		4.00		30	Pass
VHT80	MCS0	2	58	5290	0.33	0.31	11.66	11.74	14.71	23.98		4.00		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	0.16	0.18			9.76	10.24		6.76		Pass	
11a	6Mbps	2	60	5300	0.16	0.18			9.89	10.24		6.76		Pass	
11a	6Mbps	2	64	5320	0.16	0.18			7.06	10.24		6.76		Pass	
HT20	MCS0	2	52	5260	0.10	0.10			9.75	10.24		6.76		Pass	
HT20	MCS0	2	60	5300	0.10	0.10			9.57	10.24		6.76		Pass	
HT20	MCS0	2	64	5320	0.10	0.10			7.26	10.24		6.76		Pass	
HT40	MCS0	2	54	5270	0.18	0.18			6.74	10.24		6.76		Pass	
HT40	MCS0	2	62	5310	0.18	0.18			1.47	10.24		6.76		Pass	
VHT80	MCS0	2	58	5290	0.33	0.31			-3.95	10.24		6.76		Pass	

TEST RESULTS DATA
26dB and 99% OBW

Band III																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth In U-NII 2C (MHz)		26 dB Bandwidth In U-NII 2C (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		6 dB Bandwidth for Straddle Channel (MHz)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	2	100	5500	17.25	17.20	21.10	21.20	23.36		29.36		23.98		----	----
11a	6Mbps	2	116	5580	17.55	17.95	33.80	36.20	23.44		29.44		23.98		----	----
11a	6Mbps	2	140	5700	17.25	17.30	21.90	22.10	23.37		29.37		23.98		----	----
11a	6Mbps	2	144	5720	14.35	14.40	24.20	24.75	22.57		28.57		23.98		3.15	3.15
HT20	MCS0	2	100	5500	18.25	18.25	22.00	22.00	23.61		29.61		23.98		----	----
HT20	MCS0	2	116	5580	19.10	21.30	42.70	45.05	23.81		29.81		23.98		----	----
HT20	MCS0	2	140	5700	18.20	18.20	22.00	21.90	23.60		29.60		23.98		----	----
HT20	MCS0	2	144	5720	18.90	19.70	29.75	29.90	23.76		29.76		23.98		3.75	3.75
HT40	MCS0	2	102	5510	36.20	36.30	40.68	40.68	23.98		30.00		23.98		----	----
HT40	MCS0	2	110	5550	36.80	37.60	72.68	75.70	23.98		30.00		23.98		----	----
HT40	MCS0	2	134	5670	36.40	36.40	41.22	41.77	23.98		30.00		23.98		----	----
HT40	MCS0	2	142	5710	45.00	43.00	63.72	62.90	23.98		30.00		23.98		3.18	3.09
VHT80	MCS0	2	106	5530	75.96	75.72	83.52	83.52	23.98		30.00		23.98		----	----
VHT80	MCS0	2	138	5690	73.28	73.28	116.84	119.72	23.98		30.00		23.98		3.1	2.78

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	0.16	0.18	13.88	14.46	17.19	23.98		4.00		30	Pass
11a	6Mbps	2	116	5580	0.16	0.18	17.26	17.93	20.62	23.98		4.00		30	Pass
11a	6Mbps	2	140	5700	0.16	0.18	14.86	15.22	18.06	23.98		4.00		30	Pass
11a	6Mbps	2	144	5720	0.16	0.18	17.51	17.68	20.61	23.98		4.00		30	Pass
HT20	MCS0	2	100	5500	0.10	0.10	13.00	13.25	16.14	23.98		4.00		30	Pass
HT20	MCS0	2	116	5580	0.10	0.10	18.45	19.00	21.75	23.98		4.00		30	Pass
HT20	MCS0	2	140	5700	0.10	0.10	13.07	13.15	16.12	23.98		4.00		30	Pass
HT20	MCS0	2	144	5720	0.10	0.10	18.70	18.73	21.73	23.98		4.00		30	Pass
HT40	MCS0	2	102	5510	0.18	0.18	12.17	12.67	15.43	23.98		4.00		30	Pass
HT40	MCS0	2	110	5550	0.18	0.18	18.18	19.07	21.65	23.98		4.00		30	Pass
HT40	MCS0	2	134	5670	0.18	0.18	14.67	15.10	17.90	23.98		4.00		30	Pass
HT40	MCS0	2	142	5710	0.18	0.18	20.66	20.28	23.48	23.98		4.00		30	Pass
VHT20	MCS0	2	100	5500	0.10	0.10	12.95	13.13	16.05	23.98		4.00		30	Pass
VHT20	MCS0	2	116	5580	0.10	0.10	18.42	18.90	21.68	23.98		4.00		30	Pass
VHT20	MCS0	2	140	5700	0.10	0.10	13.03	13.11	16.08	23.98		4.00		30	Pass
VHT20	MCS0	2	144	5720	0.10	0.10	18.69	18.65	21.68	23.98		4.00		30	Pass
VHT40	MCS0	2	102	5510	0.18	0.14	12.13	12.56	15.36	23.98		4.00		30	Pass
VHT40	MCS0	2	110	5550	0.18	0.14	18.12	19.01	21.60	23.98		4.00		30	Pass
VHT40	MCS0	2	134	5670	0.18	0.14	14.49	15.06	17.79	23.98		4.00		30	Pass
VHT40	MCS0	2	142	5710	0.18	0.14	20.63	20.17	23.41	23.98		4.00		30	Pass
VHT80	MCS0	2	106	5530	0.33	0.31	9.28	9.83	12.57	23.98		4.00		30	Pass
VHT80	MCS0	2	138	5690	0.33	0.31	17.41	17.91	20.68	23.98		4.00		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	0.16	0.18			6.20	10.24		6.76		Pass
11a	6Mbps	2	116	5580	0.16	0.18			9.92	10.24		6.76		Pass
11a	6Mbps	2	140	5700	0.16	0.18			7.39	10.24		6.76		Pass
11a	6Mbps	2	144	5720	0.16	0.18			10.20	10.24		6.76		Pass
HT20	MCS0	2	100	5500	0.10	0.10			4.27	10.24		6.76		Pass
HT20	MCS0	2	116	5580	0.10	0.10			9.96	10.24		6.76		Pass
HT20	MCS0	2	140	5700	0.10	0.10			3.59	10.24		6.76		Pass
HT20	MCS0	2	144	5720	0.10	0.10			9.83	10.24		6.76		Pass
HT40	MCS0	2	102	5510	0.18	0.18			0.76	10.24		6.76		Pass
HT40	MCS0	2	110	5550	0.18	0.18			7.08	10.24		6.76		Pass
HT40	MCS0	2	134	5670	0.18	0.18			3.05	10.24		6.76		Pass
HT40	MCS0	2	142	5710	0.18	0.18			7.66	10.24		6.76		Pass
VHT80	MCS0	2	106	5530	0.33	0.31			-4.99	10.24		6.76		Pass
VHT80	MCS0	2	138	5690	0.33	0.31			2.68	10.24		6.76		Pass

<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	16.32	16.29	19.32	23.22	6.76	30	Pass		
HT20	MCS0	2	60	5300	0.10	0.10	16.19	16.28	19.25	23.22	6.76	30	Pass		
HT20	MCS0	2	64	5320	0.10	0.10	12.62	12.99	15.82	23.22	6.76	30	Pass		
HT40	MCS0	2	54	5270	0.18	0.18	16.02	16.07	19.05	23.22	6.76	30	Pass		
HT40	MCS0	2	62	5310	0.18	0.18	10.73	10.99	13.87	23.22	6.76	30	Pass		
VHT20	MCS0	2	52	5260	0.10	0.10	16.29	16.21	19.26	23.22	6.76	30	Pass		
VHT20	MCS0	2	60	5300	0.10	0.10	16.12	16.19	19.17	23.22	6.76	30	Pass		
VHT20	MCS0	2	64	5320	0.10	0.10	12.59	12.92	15.77	23.22	6.76	30	Pass		
VHT40	MCS0	2	54	5270	0.18	0.14	16.00	15.98	19.00	23.22	6.76	30	Pass		
VHT40	MCS0	2	62	5310	0.18	0.14	10.52	10.93	13.74	23.22	6.76	30	Pass		
VHT80	MCS0	2	58	5290	0.33	0.31	8.65	8.73	11.70	23.22	6.76	30	Pass		

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	9.99	10.24	13.13	23.22	6.76	30	Pass		
HT20	MCS0	2	116	5580	0.10	0.10	15.44	15.99	18.74	23.22	6.76	30	Pass		
HT20	MCS0	2	140	5700	0.10	0.10	10.06	10.14	13.11	23.22	6.76	30	Pass		
HT20	MCS0	2	144	5720	0.10	0.10	15.69	15.72	18.72	23.22	6.76	30	Pass		
HT40	MCS0	2	102	5510	0.18	0.18	9.16	9.66	12.42	23.22	6.76	30	Pass		
HT40	MCS0	2	110	5550	0.18	0.18	15.17	16.06	18.64	23.22	6.76	30	Pass		
HT40	MCS0	2	134	5670	0.18	0.18	11.66	12.09	14.89	23.22	6.76	30	Pass		
HT40	MCS0	2	142	5710	0.18	0.18	17.65	17.27	20.47	23.22	6.76	30	Pass		
VHT20	MCS0	2	100	5500	0.10	0.10	9.94	10.12	13.04	23.22	6.76	30	Pass		
VHT20	MCS0	2	116	5580	0.10	0.10	15.41	15.89	18.67	23.22	6.76	30	Pass		
VHT20	MCS0	2	140	5700	0.10	0.10	10.02	10.10	13.07	23.22	6.76	30	Pass		
VHT20	MCS0	2	144	5720	0.10	0.10	15.68	15.64	18.67	23.22	6.76	30	Pass		
VHT40	MCS0	2	102	5510	0.18	0.14	9.12	9.55	12.35	23.22	6.76	30	Pass		
VHT40	MCS0	2	110	5550	0.18	0.14	15.11	16.00	18.59	23.22	6.76	30	Pass		
VHT40	MCS0	2	134	5670	0.18	0.14	11.48	12.05	14.78	23.22	6.76	30	Pass		
VHT40	MCS0	2	142	5710	0.18	0.14	17.62	17.16	20.40	23.22	6.76	30	Pass		
VHT80	MCS0	2	106	5530	0.33	0.31	6.27	6.82	9.56	23.22	6.76	30	Pass		
VHT80	MCS0	2	138	5690	0.33	0.31	14.40	14.90	17.67	23.22	6.76	30	Pass		

Remark: TXBF = CDD power + 3.01 dB



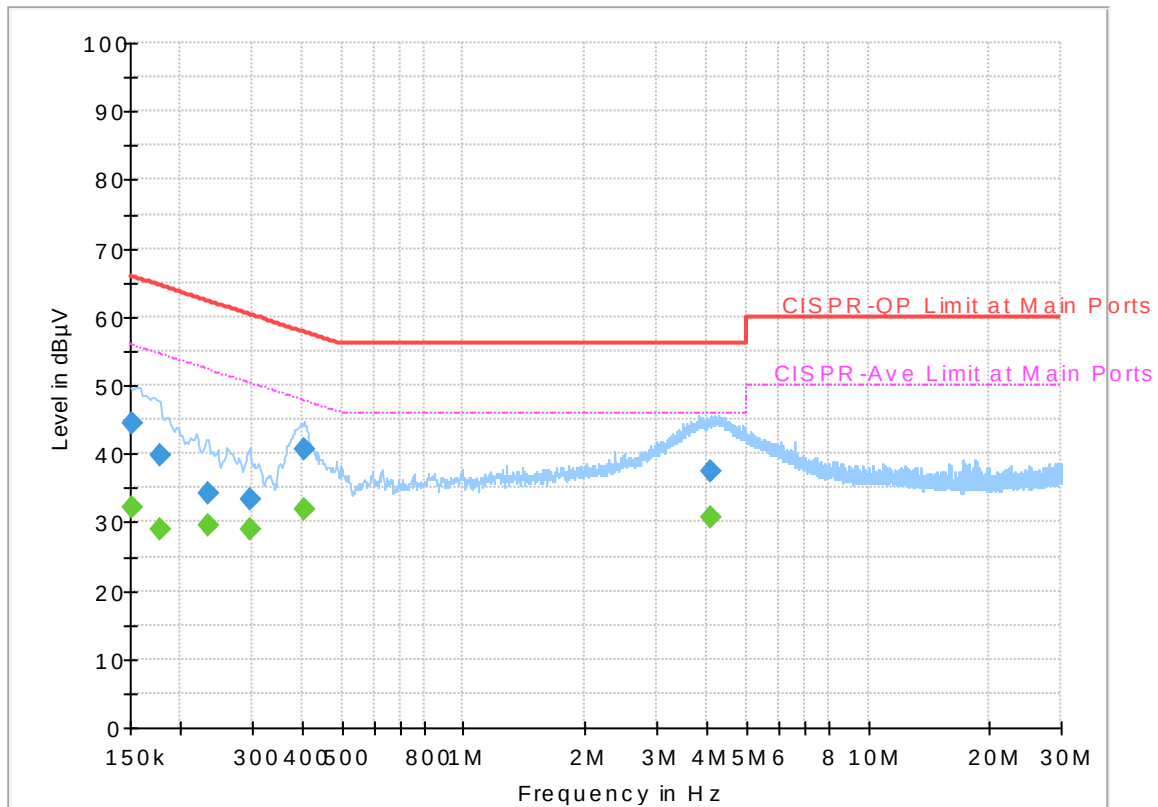
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Arthur Hsieh	Temperature :	25~26°C
		Relative Humidity :	64~66%

EUT Information

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

Full Spectrum



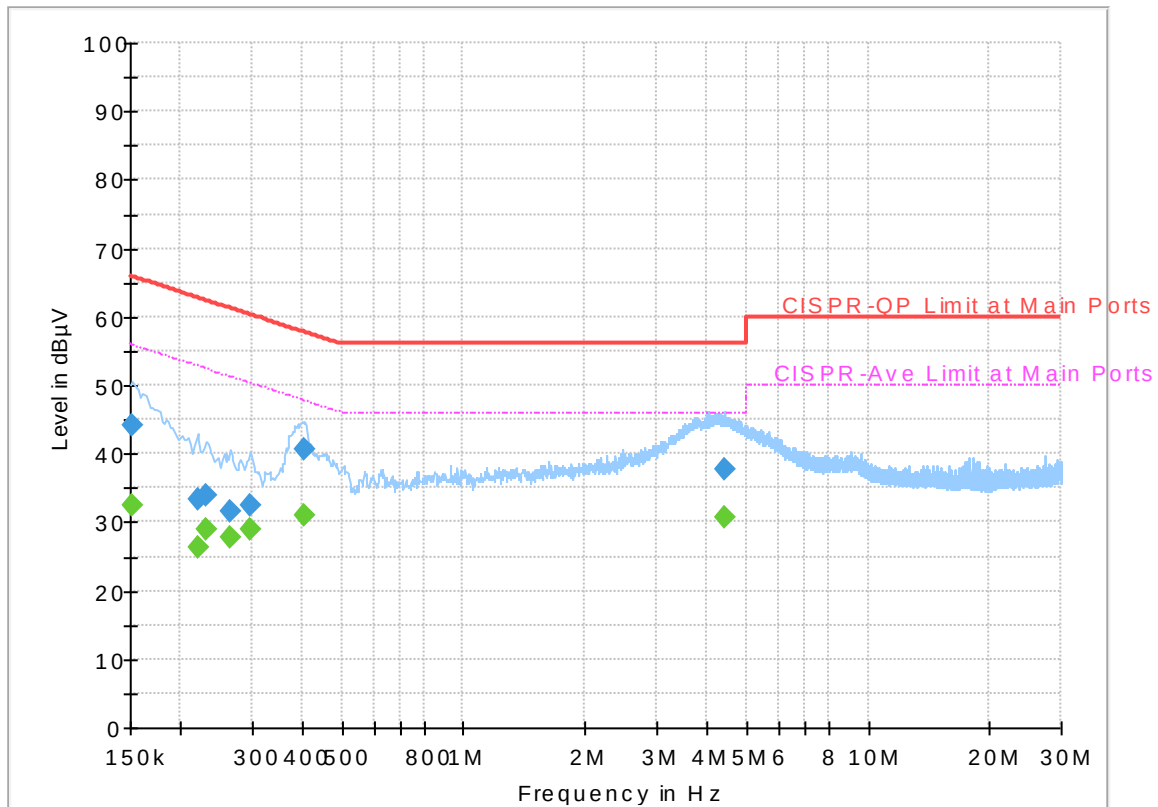
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	32.25	55.88	23.63	L1	OFF	19.5
0.152250	44.41	---	65.88	21.47	L1	OFF	19.5
0.177000	---	29.02	54.63	25.61	L1	OFF	19.5
0.177000	39.85	---	64.63	24.78	L1	OFF	19.5
0.233250	---	29.50	52.33	22.83	L1	OFF	19.5
0.233250	34.22	---	62.33	28.11	L1	OFF	19.5
0.296250	---	29.06	50.35	21.29	L1	OFF	19.5
0.296250	33.19	---	60.35	27.16	L1	OFF	19.5
0.404250	---	31.80	47.77	15.97	L1	OFF	19.5
0.404250	40.57	---	57.77	17.20	L1	OFF	19.5
4.085250	---	30.67	46.00	15.33	L1	OFF	19.6
4.085250	37.50	---	56.00	18.50	L1	OFF	19.6

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)
0.152250	---	32.34	55.88	23.54	N	OFF	19.5
0.152250	44.25	---	65.88	21.63	N	OFF	19.5
0.219750	---	26.24	52.83	26.59	N	OFF	19.5
0.219750	33.43	---	62.83	29.40	N	OFF	19.5
0.231000	---	28.85	52.41	23.56	N	OFF	19.5
0.231000	33.93	---	62.41	28.48	N	OFF	19.5
0.264750	---	27.73	51.28	23.55	N	OFF	19.5
0.264750	31.68	---	61.28	29.60	N	OFF	19.5
0.298500	---	29.06	50.28	21.22	N	OFF	19.5
0.298500	32.39	---	60.28	27.89	N	OFF	19.5
0.406500	---	30.97	47.72	16.75	N	OFF	19.5
0.406500	40.66	---	57.72	17.06	N	OFF	19.5
4.409250	---	30.61	46.00	15.39	N	OFF	19.6
4.409250	37.82	---	56.00	18.18	N	OFF	19.6



Appendix C. Radiated Spurious Emission

Test Engineer :	Watt Tseng, Karl Hou, and Nick Yu	Temperature :	21~23°C
		Relative Humidity :	59~62%

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		5135.66	50.58	-23.42	74	43.96	31.78	5.98	31.14	271	163	P	H
		5039.78	41.93	-12.07	54	35.42	31.73	5.92	31.14	271	163	A	H
	*	5260	121.51	-	-	114.73	31.86	6.07	31.15	271	163	P	H
	*	5260	110.67	-	-	103.89	31.86	6.07	31.15	271	163	A	H
		5357.76	53.35	-20.65	74	46.47	31.91	6.12	31.15	271	163	P	H
		5424.24	42.49	-11.51	54	35.51	31.95	6.18	31.15	271	163	A	H
		5139.4	49.08	-24.92	74	42.46	31.78	5.98	31.14	100	231	P	V
		5120.02	38.14	-15.86	54	31.54	31.77	5.97	31.14	100	231	A	V
	*	5260	115.54	-	-	108.76	31.86	6.07	31.15	100	231	P	V
	*	5260	104.79	-	-	98.01	31.86	6.07	31.15	100	231	A	V
		5351.76	51.14	-22.86	74	44.26	31.91	6.12	31.15	100	231	P	V
		5353.92	38.84	-15.16	54	31.96	31.91	6.12	31.15	100	231	A	V
802.11a CH 60 5300MHz		5136.34	50.65	-23.35	74	44.03	31.78	5.98	31.14	281	160	P	H
		5039.78	40.9	-13.1	54	34.39	31.73	5.92	31.14	281	160	A	H
	*	5300	123.2	-	-	116.38	31.88	6.09	31.15	281	160	P	H
	*	5300	112.19	-	-	105.37	31.88	6.09	31.15	281	160	A	H
		5351.04	65.64	-8.36	74	58.76	31.91	6.12	31.15	281	160	P	H
		5350.08	52.82	-1.18	54	45.94	31.91	6.12	31.15	281	160	A	H
		5113.22	48.86	-25.14	74	42.26	31.77	5.97	31.14	100	232	P	V
		5136	37.88	-16.12	54	31.26	31.78	5.98	31.14	100	232	A	V
	*	5300	117.44	-	-	110.62	31.88	6.09	31.15	100	232	P	V
	*	5300	106.7	-	-	99.88	31.88	6.09	31.15	100	232	A	V
		5351.52	60.48	-13.52	74	53.6	31.91	6.12	31.15	100	232	P	V
		5350.32	48.42	-5.58	54	41.54	31.91	6.12	31.15	100	232	A	V



802.11a CH 64 5320MHz	*	5320	118.71	-	-	111.87	31.89	6.1	31.15	281	160	P	H
	*	5320	108.17	-	-	101.33	31.89	6.1	31.15	281	160	A	H
		5352.64	67.08	-6.92	74	60.2	31.91	6.12	31.15	281	160	P	H
		5352.96	52.7	-1.3	54	45.82	31.91	6.12	31.15	281	160	A	H
													H
													H
	*	5320	114.22	-	-	107.38	31.89	6.1	31.15	100	229	P	V
	*	5320	103.26	-	-	96.42	31.89	6.1	31.15	100	229	A	V
		5352.8	62.61	-11.39	74	55.73	31.91	6.12	31.15	100	229	P	V
		5350.08	48.66	-5.34	54	41.78	31.91	6.12	31.15	100	229	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	45.52	-22.68	68.2	55.89	40.11	9.87	60.35	175	160	P	H
		15780	66.58	-7.42	74	73.92	38.05	12.32	57.71	175	160	P	H
		15780	52.53	-1.47	54	59.87	38.05	12.32	57.71	175	160	A	H
													H
		10520	47.73	-20.47	68.2	58.1	40.11	9.87	60.35	100	0	P	V
		15780	63.46	-10.54	74	70.8	38.05	12.32	57.71	189	228	P	V
		15780	49.55	-4.45	54	56.89	38.05	12.32	57.71	189	228	A	V
													V
802.11a CH 60 5300MHz		10600	47.3	-26.7	74	57.76	40.18	9.9	60.54	100	0	P	H
		15900	65.28	-8.72	74	72.64	37.81	12.37	57.54	177	160	P	H
		15900	51.78	-2.22	54	59.14	37.81	12.37	57.54	177	160	A	H
													H
		10600	48.01	-25.99	74	58.47	40.18	9.9	60.54	100	0	P	V
		15900	63.87	-10.13	74	71.23	37.81	12.37	57.54	189	224	P	V
		15900	49.87	-4.13	54	57.23	37.81	12.37	57.54	189	224	A	V
													V
802.11a CH 64 5320MHz		10640	49.09	-24.91	74	59.61	40.21	9.91	60.64	100	0	P	H
		15960	58	-16	74	65.41	37.67	12.38	57.46	175	160	P	H
		15960	43.29	-10.71	54	50.7	37.67	12.38	57.46	175	160	A	H
													H
		10640	48.08	-25.92	74	58.6	40.21	9.91	60.64	100	0	P	V
		15960	49.32	-24.68	74	56.73	37.67	12.38	57.46	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)
802.11n HT20 CH 52 5260MHz		5146.54	60.4	-13.6	74	53.76	31.79	5.99	31.14	253	157	P	H
		5147.22	41.73	-12.27	54	35.09	31.79	5.99	31.14	253	157	A	H
	*	5260	123.2	-	-	116.42	31.86	6.07	31.15	253	157	P	H
	*	5260	110.44	-	-	103.66	31.86	6.07	31.15	253	157	A	H
		5360.16	60.32	-13.68	74	53.42	31.91	6.14	31.15	253	157	P	H
		5362.32	43.66	-10.34	54	36.75	31.92	6.14	31.15	253	157	A	H
		5146.54	50.67	-23.33	74	44.03	31.79	5.99	31.14	100	220	P	V
		5145.52	37.86	-16.14	54	31.22	31.79	5.99	31.14	100	220	A	V
	*	5260	117.3	-	-	110.52	31.86	6.07	31.15	100	220	P	V
	*	5260	104.61	-	-	97.83	31.86	6.07	31.15	100	220	A	V
		5361.12	53.17	-20.83	74	46.26	31.92	6.14	31.15	100	220	P	V
		5361.36	39.36	-14.64	54	32.45	31.92	6.14	31.15	100	220	A	V
802.11n HT20 CH 60 5300MHz		5120.02	50.39	-23.61	74	43.79	31.77	5.97	31.14	262	152	P	H
		5120.02	39.81	-14.19	54	33.21	31.77	5.97	31.14	262	152	A	H
	*	5300	123.01	-	-	116.19	31.88	6.09	31.15	262	152	P	H
	*	5300	110.4	-	-	103.58	31.88	6.09	31.15	262	152	A	H
		5364	67.88	-6.12	74	60.97	31.92	6.14	31.15	262	152	P	H
		5350.08	52.89	-1.11	54	46.01	31.91	6.12	31.15	262	152	A	H
		5140.76	48.5	-25.5	74	41.87	31.79	5.98	31.14	100	228	P	V
		5120.02	37.01	-16.99	54	30.41	31.77	5.97	31.14	100	228	A	V
	*	5300	117.25	-	-	110.43	31.88	6.09	31.15	100	228	P	V
	*	5300	104.78	-	-	97.96	31.88	6.09	31.15	100	228	A	V
		5350.32	68.07	-5.93	74	61.19	31.91	6.12	31.15	100	228	P	V
		5350.08	52.91	-1.09	54	46.03	31.91	6.12	31.15	100	228	A	V



802.11n HT20 CH 64 5320MHz	*	5320	117.95	-	-	111.11	31.89	6.1	31.15	290	162	P	H
	*	5320	105.79	-	-	98.95	31.89	6.1	31.15	290	162	A	H
		5354.4	67.4	-6.6	74	60.52	31.91	6.12	31.15	290	162	P	H
		5350.08	52.8	-1.2	54	45.92	31.91	6.12	31.15	290	162	A	H
													H
													H
	*	5320	112.86	-	-	106.02	31.89	6.1	31.15	100	228	P	V
	*	5320	100.47	-	-	93.63	31.89	6.1	31.15	100	228	A	V
		5351.04	62.67	-11.33	74	55.79	31.91	6.12	31.15	100	228	P	V
		5350.08	49.17	-4.83	54	42.29	31.91	6.12	31.15	100	228	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)
802.11n HT20 CH 52 5260MHz		10520	46.32	-21.88	68.2	56.69	40.11	9.87	60.35	100	0	P	H
		15780	66.49	-7.51	74	73.83	38.05	12.32	57.71	173	160	P	H
		15780	52.77	-1.23	54	60.11	38.05	12.32	57.71	173	160	A	H
													H
		10520	45.82	-22.38	68.2	56.19	40.11	9.87	60.35	100	0	P	V
		15780	64.82	-9.18	74	72.16	38.05	12.32	57.71	194	228	P	V
		15780	49.55	-4.45	54	56.89	38.05	12.32	57.71	194	228	A	V
													V
802.11n HT20 CH 60 5300MHz		10600	47.51	-26.49	74	57.97	40.18	9.9	60.54	100	0	P	H
		15900	65.65	-8.35	74	73.01	37.81	12.37	57.54	174	161	P	H
		15900	51.28	-2.72	54	58.64	37.81	12.37	57.54	174	161	A	H
													H
		10600	48.12	-25.88	74	58.58	40.18	9.9	60.54	100	0	P	V
		15900	63.74	-10.26	74	71.1	37.81	12.37	57.54	196	228	P	V
		15900	48.23	-5.77	54	55.59	37.81	12.37	57.54	196	228	A	V
													V
802.11n HT20 CH 64 5320MHz		10640	47.58	-26.42	74	58.1	40.21	9.91	60.64	100	0	P	H
		15960	58.02	-15.98	74	65.43	37.67	12.38	57.46	175	160	P	H
		15960	41.03	-12.97	54	48.44	37.67	12.38	57.46	175	160	A	H
													H
		10640	46.99	-27.01	74	57.51	40.21	9.91	60.64	100	0	P	V
		15960	56.57	-17.43	74	63.98	37.67	12.38	57.46	184	224	P	V
		15960	40.06	-13.94	54	47.47	37.67	12.38	57.46	184	224	A	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)
802.11n HT40 CH 54 5270MHz		5136.34	56.72	-17.28	74	50.1	31.78	5.98	31.14	268	161	P	H
		5143.48	45.31	-8.69	54	38.67	31.79	5.99	31.14	268	161	A	H
	*	5270	118.54	-	-	111.75	31.86	6.08	31.15	268	161	P	H
	*	5270	107.69	-	-	100.9	31.86	6.08	31.15	268	161	A	H
		5350.56	65.91	-8.09	74	59.03	31.91	6.12	31.15	268	161	P	H
		5359.68	51.24	-2.76	54	44.34	31.91	6.14	31.15	268	161	A	H
		5144.84	53.89	-20.11	74	47.25	31.79	5.99	31.14	219	230	P	V
		5148.58	41.62	-12.38	54	34.98	31.79	5.99	31.14	219	230	A	V
	*	5270	112.97	-	-	106.18	31.86	6.08	31.15	219	230	P	V
	*	5270	102.27	-	-	95.48	31.86	6.08	31.15	219	230	A	V
		5354.4	58.95	-15.05	74	52.07	31.91	6.12	31.15	219	230	P	V
		5350.08	46.36	-7.64	54	39.48	31.91	6.12	31.15	219	230	A	V
802.11n HT40 CH 62 5310MHz		5114.92	50.49	-23.51	74	43.89	31.77	5.97	31.14	281	159	P	H
		5136	41.33	-12.67	54	34.71	31.78	5.98	31.14	281	159	A	H
	*	5310	113.13	-	-	106.29	31.89	6.1	31.15	281	159	P	H
	*	5310	102.74	-	-	95.9	31.89	6.1	31.15	281	159	A	H
		5355.6	66.11	-7.89	74	59.23	31.91	6.12	31.15	281	159	P	H
		5354.16	52.74	-1.26	54	45.86	31.91	6.12	31.15	281	159	A	H
		5138.38	48.5	-25.5	74	41.88	31.78	5.98	31.14	202	226	P	V
		5136	38.68	-15.32	54	32.06	31.78	5.98	31.14	202	226	A	V
	*	5310	107.81	-	-	100.97	31.89	6.1	31.15	202	226	P	V
	*	5310	97.45	-	-	90.61	31.89	6.1	31.15	202	226	A	V
		5354.4	57.52	-16.48	74	50.64	31.91	6.12	31.15	202	226	P	V
		5350.08	46.78	-7.22	54	39.9	31.91	6.12	31.15	202	226	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)
802.11n HT40 CH 54 5270MHz		10540	47.37	-20.83	68.2	57.76	40.13	9.88	60.4	100	0	P	H
		15810	61.17	-12.83	74	68.52	37.98	12.34	57.67	172	160	P	H
		15810	48.88	-5.12	54	56.23	37.98	12.34	57.67	172	160	A	H
													H
		10540	47.21	-20.99	68.2	57.6	40.13	9.88	60.4	100	0	P	V
		15810	58.47	-15.53	74	65.82	37.98	12.34	57.67	195	228	P	V
		15810	45.21	-8.79	54	52.56	37.98	12.34	57.67	195	228	A	V
													V
802.11n HT40 CH 62 5310MHz		10620	47.57	-26.43	74	58.06	40.2	9.9	60.59	100	0	P	H
		15930	46.58	-27.42	74	53.95	37.74	12.39	57.5	100	0	P	H
													H
													H
		10620	46.84	-27.16	74	57.33	40.2	9.9	60.59	100	0	P	V
		15930	44.46	-29.54	74	51.83	37.74	12.39	57.5	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		5136	52.66	-21.34	74	46.04	31.78	5.98	31.14	247	157	P	H
		5120.02	42.95	-11.05	54	36.35	31.77	5.97	31.14	247	157	A	H
	*	5290	107.42	-	-	100.61	31.87	6.09	31.15	247	157	P	H
	*	5290	96.97	-	-	90.16	31.87	6.09	31.15	247	157	A	H
		5355.12	63.93	-10.07	74	57.05	31.91	6.12	31.15	247	157	P	H
		5356.08	52.39	-1.61	54	45.51	31.91	6.12	31.15	247	157	P	H
		5134.3	49.07	-24.93	74	42.45	31.78	5.98	31.14	100	231	P	V
		5120.02	39.06	-14.94	54	32.46	31.77	5.97	31.14	100	231	A	V
	*	5290	102.84	-	-	96.03	31.87	6.09	31.15	100	231	P	V
	*	5290	91.84	-	-	85.03	31.87	6.09	31.15	100	231	A	V
		5362.08	57.47	-16.53	74	50.56	31.92	6.14	31.15	100	231	P	V
		5360.4	46.68	-7.32	54	39.78	31.91	6.14	31.15	100	231	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)
802.11ac VHT80 CH 58 5290MHz		10580	47.75	-20.45	68.2	58.17	40.17	9.9	60.49	100	0	P	H
		15870	45.94	-28.06	74	53.33	37.84	12.35	57.58	100	0	P	H
													H
													H
		10580	48.72	-19.48	68.2	59.14	40.17	9.9	60.49	100	0	P	V
		15870	45.79	-28.21	74	53.18	37.84	12.35	57.58	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		5459.12	59.35	-14.65	74	52.32	31.97	6.21	31.15	271	160	P	H
		5468.08	66.76	-1.44	68.2	59.7	31.98	6.23	31.15	271	160	P	H
		5459.12	45.05	-8.95	54	38.02	31.97	6.21	31.15	271	160	A	H
	*	5500	116.11	-	-	109.02	32	6.24	31.15	271	160	P	H
	*	5500	105.17	-	-	98.08	32	6.24	31.15	271	160	A	H
													H
		5459.92	52.93	-21.07	74	45.9	31.97	6.21	31.15	100	235	P	V
		5468.4	61.88	-6.32	68.2	54.82	31.98	6.23	31.15	100	235	P	V
		5459.12	41.18	-12.82	54	34.15	31.97	6.21	31.15	100	235	A	V
	*	5500	111.2	-	-	104.11	32	6.24	31.15	100	235	P	V
	*	5500	100.35	-	-	93.26	32	6.24	31.15	100	235	A	V
													V
802.11a CH 116 5580MHz		5452.24	52.19	-21.81	74	45.16	31.97	6.21	31.15	265	158	P	H
		5467.12	54.26	-13.94	68.2	47.2	31.98	6.23	31.15	265	158	P	H
		5424.16	39.97	-14.03	54	32.99	31.95	6.18	31.15	265	158	A	H
	*	5580	121.42	-	-	114.2	32.1	6.32	31.2	265	158	P	H
	*	5580	110.84	-	-	103.62	32.1	6.32	31.2	265	158	A	H
		5736.65	49.84	-18.36	68.2	42.4	32.34	6.37	31.27	265	158	P	H
		5423.2	49.27	-24.73	74	42.29	31.95	6.18	31.15	100	236	P	V
		5468.08	50.29	-17.91	68.2	43.23	31.98	6.23	31.15	100	236	P	V
		5423.92	38.53	-15.47	54	31.55	31.95	6.18	31.15	100	236	A	V
	*	5580	117.25	-	-	110.03	32.1	6.32	31.2	100	236	P	V
	*	5580	106.22	-	-	99	32.1	6.32	31.2	100	236	A	V
		5730.665	49.1	-19.1	68.2	41.69	32.31	6.37	31.27	100	236	P	V



802.11a CH 140 5700MHz	*	5700	114.83	-	-	107.45	32.27	6.36	31.25	261	168	P	H
	*	5700	104.22	-	-	96.84	32.27	6.36	31.25	261	168	A	H
		5725.56	66.39	-1.81	68.2	58.97	32.31	6.37	31.26	261	168	P	H
													H
													H
													H
	*	5700	111.49	-	-	104.11	32.27	6.36	31.25	275	178	P	V
	*	5700	101.15	-	-	93.77	32.27	6.36	31.25	275	178	A	V
		5725.16	65.15	-3.05	68.2	57.73	32.31	6.37	31.26	275	178	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	47.81	-26.19	74	58.73	40.5	10.08	61.5	100	0	P	H
		16500	43.86	-24.34	68.2	49.07	39.6	12.49	57.3	100	0	P	H
													H
													H
		11000	47.95	-26.05	74	58.87	40.5	10.08	61.5	100	0	P	V
		16500	43.68	-24.52	68.2	48.89	39.6	12.49	57.3	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	56.17	-17.83	74	67.17	40.37	10.16	61.53	200	160	P	H
		11160	42.33	-11.67	54	53.33	40.37	10.16	61.53	200	160	A	H
		16740	50.9	-17.3	68.2	55.07	40.13	12.52	56.82	100	0	P	H
													H
		11160	53.96	-20.04	74	64.96	40.37	10.16	61.53	204	184	P	V
		11160	40.44	-13.56	54	51.44	40.37	10.16	61.53	204	184	A	V
		16740	50.24	-17.96	68.2	54.41	40.13	12.52	56.82	100	0	P	V
													V
802.11a CH 140 5700MHz		11400	46.23	-27.77	74	57.34	40.18	10.29	61.58	100	0	P	H
		17100	47.28	-20.92	68.2	49.66	41.06	12.64	56.08	100	0	P	H
													H
													H
		11400	46.68	-27.32	74	57.79	40.18	10.29	61.58	100	0	P	V
		17100	47.3	-20.9	68.2	49.68	41.06	12.64	56.08	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)
802.11n HT20 CH 100 5500MHz		5456.56	55.02	-18.98	74	47.99	31.97	6.21	31.15	270	157	P	H
		5470	66.95	-1.25	68.2	59.89	31.98	6.23	31.15	270	157	P	H
		5456.24	41.77	-12.23	54	34.74	31.97	6.21	31.15	270	157	A	H
	*	5500	115.79	-	-	108.7	32	6.24	31.15	270	157	P	H
	*	5500	104.38	-	-	97.29	32	6.24	31.15	270	157	A	H
													H
		5442.32	50.15	-23.85	74	43.15	31.96	6.19	31.15	100	225	P	V
		5468.56	60.62	-7.58	68.2	53.56	31.98	6.23	31.15	100	225	P	V
		5424.08	38.52	-15.48	54	31.54	31.95	6.18	31.15	100	225	A	V
	*	5500	109.6	-	-	102.51	32	6.24	31.15	100	225	P	V
	*	5500	98.63	-	-	91.54	32	6.24	31.15	100	225	A	V
													V
802.11n HT20 CH 116 5580MHz		5459.2	54.86	-19.14	74	47.83	31.97	6.21	31.15	272	172	P	H
		5461.84	54.42	-13.78	68.2	47.39	31.97	6.21	31.15	272	172	P	H
		5423.92	41.46	-12.54	54	34.48	31.95	6.18	31.15	272	172	A	H
	*	5580	121.35	-	-	114.13	32.1	6.32	31.2	272	172	P	H
	*	5580	109.07	-	-	101.85	32.1	6.32	31.2	272	172	A	H
		5746.73	49.85	-18.35	68.2	42.41	32.34	6.37	31.27	272	172	P	H
		5458.24	50.51	-23.49	74	43.48	31.97	6.21	31.15	270	177	P	V
		5464.96	50.09	-18.11	68.2	43.05	31.98	6.21	31.15	270	177	P	V
		5423.92	38.21	-15.79	54	31.23	31.95	6.18	31.15	270	177	A	V
	*	5580	116.47	-	-	109.25	32.1	6.32	31.2	270	177	P	V
	*	5580	104.24	-	-	97.02	32.1	6.32	31.2	270	177	A	V
		5740.115	50.18	-18.02	68.2	42.74	32.34	6.37	31.27	270	177	P	V



802.11n HT20 CH 140 5700MHz	*	5700	113.43	-	-	106.05	32.27	6.36	31.25	263	128	P	H
	*	5700	102	-	-	94.62	32.27	6.36	31.25	263	128	A	H
		5725.16	65.69	-2.51	68.2	58.27	32.31	6.37	31.26	263	128	P	H
													H
													H
													H
	*	5700	110.88	-	-	103.5	32.27	6.36	31.25	286	181	P	V
	*	5700	99.19	-	-	91.81	32.27	6.36	31.25	286	181	A	V
		5725.08	60.53	-7.67	68.2	53.11	32.31	6.37	31.26	286	181	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)
802.11n HT20 CH 100 5500MHz		11000	47.84	-26.16	74	58.76	40.5	10.08	61.5	100	0	P	H
		16500	44.32	-23.88	68.2	49.53	39.6	12.49	57.3	100	0	P	H
													H
													H
		11000	47.14	-26.86	74	58.06	40.5	10.08	61.5	100	0	P	V
		16500	44.08	-24.12	68.2	49.29	39.6	12.49	57.3	100	0	P	V
													V
													V
802.11n HT20 CH 116 5580MHz		11160	56.34	-17.66	74	67.34	40.37	10.16	61.53	202	162	P	H
		11160	41.06	-12.94	54	52.06	40.37	10.16	61.53	202	162	A	H
		16740	50.4	-17.8	68.2	54.57	40.13	12.52	56.82	100	0	P	H
													H
		11160	49.58	-24.42	74	60.58	40.37	10.16	61.53	100	0	P	V
		16740	50.26	-17.94	68.2	54.43	40.13	12.52	56.82	100	0	P	V
													V
													V
802.11n HT20 CH 140 5700MHz		11400	46.17	-27.83	74	57.28	40.18	10.29	61.58	100	0	P	H
		17100	46.42	-21.78	68.2	48.8	41.06	12.64	56.08	100	0	P	H
													H
													H
		11400	45.98	-28.02	74	57.09	40.18	10.29	61.58	100	0	P	V
		17100	46.99	-21.21	68.2	49.37	41.06	12.64	56.08	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)
802.11n HT40 CH 102 5510MHz		5457.28	64.71	-9.29	74	57.68	31.97	6.21	31.15	267	157	P	H
		5470	67.09	-1.11	68.2	60.03	31.98	6.23	31.15	267	157	P	H
		5459.92	51.47	-2.53	54	44.44	31.97	6.21	31.15	267	157	A	H
	*	5510	110.94	-	-	103.84	32	6.26	31.16	267	157	P	H
	*	5510	100.46	-	-	93.36	32	6.26	31.16	267	157	A	H
		5749.88	50.18	-18.02	68.2	42.74	32.34	6.37	31.27	267	157	P	H
		5458.72	59.21	-14.79	74	52.18	31.97	6.21	31.15	100	236	P	V
		5461.84	61.11	-7.09	68.2	54.08	31.97	6.21	31.15	100	236	P	V
		5459.92	46.07	-7.93	54	39.04	31.97	6.21	31.15	100	236	A	V
	*	5510	106.83	-	-	99.73	32	6.26	31.16	100	236	P	V
	*	5510	95.8	-	-	88.7	32	6.26	31.16	100	236	A	V
		5748.305	49.33	-18.87	68.2	41.89	32.34	6.37	31.27	100	236	P	V
802.11n HT40 CH 110 5550MHz		5446	60.99	-13.01	74	53.98	31.97	6.19	31.15	273	172	P	H
		5467.12	64.04	-4.16	68.2	56.98	31.98	6.23	31.15	273	172	P	H
		5457.52	49.86	-4.14	54	42.83	31.97	6.21	31.15	273	172	A	H
	*	5550	116.84	-	-	109.65	32.07	6.29	31.17	273	172	P	H
	*	5550	106.13	-	-	98.94	32.07	6.29	31.17	273	172	A	H
		5748.305	50.79	-17.41	68.2	43.35	32.34	6.37	31.27	273	172	P	H
		5456.32	58.11	-15.89	74	51.08	31.97	6.21	31.15	273	181	P	V
		5466.64	61.47	-6.73	68.2	54.41	31.98	6.23	31.15	273	181	P	V
		5456.8	47.51	-6.49	54	40.48	31.97	6.21	31.15	273	181	A	V
	*	5550	111.81	-	-	104.62	32.07	6.29	31.17	273	181	P	V
	*	5550	101.1	-	-	93.91	32.07	6.29	31.17	273	181	A	V
		5736.335	49.77	-18.43	68.2	42.33	32.34	6.37	31.27	273	181	P	V



802.11n HT40 CH 134 5670MHz		5412.65	50.05	-23.95	74	43.07	31.95	6.18	31.15	259	167	P	H
		5459.9	48.28	-25.72	74	41.25	31.97	6.21	31.15	259	167	P	H
		5423.85	41.57	-12.43	54	34.59	31.95	6.18	31.15	259	167	A	H
	*	5670	112.41	-	-	105.05	32.24	6.35	31.23	259	167	P	H
	*	5670	102.12	-	-	94.76	32.24	6.35	31.23	259	167	A	H
		5729.125	65.43	-2.77	68.2	58.01	32.31	6.37	31.26	259	167	P	H
		5389.9	49.51	-24.49	74	42.58	31.93	6.15	31.15	263	180	P	V
		5463.05	48.15	-20.05	68.2	41.11	31.98	6.21	31.15	263	180	P	V
		5423.85	38.78	-15.22	54	31.8	31.95	6.18	31.15	263	180	A	V
	*	5670	109.23	-	-	101.87	32.24	6.35	31.23	263	180	P	V
	*	5670	98.85	-	-	91.49	32.24	6.35	31.23	263	180	A	V
		5729.125	60.71	-7.49	68.2	53.29	32.31	6.37	31.26	263	180	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)
802.11n HT40 CH 102 5510MHz		11020	47.59	-26.41	74	58.5	40.49	10.1	61.5	100	0	P	H
		16530	44.65	-23.55	68.2	49.72	39.68	12.49	57.24	100	0	P	H
													H
													H
		11020	47.97	-26.03	74	58.88	40.49	10.1	61.5	100	0	P	V
		16530	44.49	-23.71	68.2	49.56	39.68	12.49	57.24	100	0	P	V
													V
													V
802.11n HT40 CH 110 5550MHz		11100	48.75	-25.25	74	59.71	40.42	10.14	61.52	100	0	P	H
		16650	45.95	-22.25	68.2	50.5	39.94	12.51	57	100	0	P	H
													H
													H
		11100	47.55	-26.45	74	58.51	40.42	10.14	61.52	100	0	P	V
		16650	46.94	-21.26	68.2	51.49	39.94	12.51	57	100	0	P	V
													V
													V
802.11n HT40 CH 134 5670MHz		11340	46.76	-27.24	74	57.84	40.23	10.26	61.57	100	0	P	H
		17010	47.03	-21.17	68.2	49.99	40.76	12.56	56.28	100	0	P	H
													H
													H
		11340	47.04	-26.96	74	58.12	40.23	10.26	61.57	100	0	P	V
		17010	46.5	-21.7	68.2	49.46	40.76	12.56	56.28	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)
802.11ac VHT80 CH 106 5530MHz		5458.72	63.69	-10.31	74	56.66	31.97	6.21	31.15	268	158	P	H
		5460.88	63.04	-5.16	68.2	56.01	31.97	6.21	31.15	268	158	P	H
		5457.76	52.47	-1.53	54	45.44	31.97	6.21	31.15	268	158	A	H
	*	5530	105.41	-	-	98.29	32.02	6.27	31.17	268	158	P	H
	*	5530	94.83	-	-	87.71	32.02	6.27	31.17	268	158	A	H
		5730.035	50.11	-18.09	68.2	42.69	32.31	6.37	31.26	268	158	P	H
		5441.2	57.63	-16.37	74	50.63	31.96	6.19	31.15	100	237	P	V
		5461.6	60.25	-7.95	68.2	53.22	31.97	6.21	31.15	100	237	P	V
		5459.92	46.63	-7.37	54	39.6	31.97	6.21	31.15	100	237	A	V
	*	5530	100.39	-	-	93.27	32.02	6.27	31.17	100	237	P	V
	*	5530	89.59	-	-	82.47	32.02	6.27	31.17	100	237	A	V
		5736.965	49.02	-19.18	68.2	41.58	32.34	6.37	31.27	100	237	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)
802.11ac VHT80 CH 106 5530MHz		11060	47.41	-26.59	74	58.35	40.45	10.12	61.51	100	0	P	H
		16590	44.41	-23.79	68.2	49.24	39.79	12.5	57.12	100	0	P	H
													H
													H
		11060	46.68	-27.32	74	57.62	40.45	10.12	61.51	100	0	P	V
		16590	44.53	-23.67	68.2	49.36	39.79	12.5	57.12	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 802.11a (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz	*	5720	121.16	-	-	113.74	32.31	6.37	31.26	284	165	P	H
	*	5720	110	-	-	102.58	32.31	6.37	31.26	284	165	A	H
	*	5720	117.53	-	-	110.11	32.31	6.37	31.26	273	182	P	V
	*	5720	106.35	-	-	98.93	32.31	6.37	31.26	273	182	A	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	53.89	-20.11	74	65.03	40.15	10.3	61.59	199	150	P	H
		11440	40.53	-13.47	54	51.67	40.15	10.3	61.59	199	150	A	H
		17160	48.94	-19.26	68.2	50.92	41.3	12.67	55.95	100	0	P	H
													H
		11440	48.16	-25.84	74	59.3	40.15	10.3	61.59	100	0	P	V
		17160	51.38	-16.82	68.2	53.36	41.3	12.67	55.95	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)
802.11n HT20 CH 144 5720MHz	*	5720	120.64	-	-	113.22	32.31	6.37	31.26	274	171	P	H
	*	5720	108.01	-	-	100.59	32.31	6.37	31.26	274	171	A	H
	*	5720	117.69	-	-	110.27	32.31	6.37	31.26	255	179	P	V
	*	5720	105.1	-	-	97.68	32.31	6.37	31.26	255	179	A	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)
802.11n HT20 CH 144 5720MHz		11440	54.34	-19.66	74	65.48	40.15	10.3	61.59	193	155	P	H
		11440	39.11	-14.89	54	50.25	40.15	10.3	61.59	193	155	A	H
		17160	49.74	-18.46	68.2	51.72	41.3	12.67	55.95	100	0	P	H
													H
		11440	49.55	-24.45	74	60.69	40.15	10.3	61.59	100	0	P	V
		17160	50.17	-18.03	68.2	52.15	41.3	12.67	55.95	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)
802.11n HT40 CH 142 5710MHz	*	5710	118.99	-	-	111.6	32.29	6.36	31.26	275	159	P	H
	*	5710	106.95	-	-	99.56	32.29	6.36	31.26	275	159	A	H
	*	5710	114.58	-	-	107.19	32.29	6.36	31.26	258	179	P	V
	*	5710	103.46	-	-	96.07	32.29	6.36	31.26	258	179	A	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)
802.11n HT40 CH 142 5710MHz		11420	48.5	-25.5	74	59.62	40.17	10.29	61.58	100	0	P	H
		17130	48.07	-20.13	68.2	50.24	41.18	12.66	56.01	100	0	P	H
													H
													H
		11420	47.62	-26.38	74	58.74	40.17	10.29	61.58	100	0	P	V
		17130	49.64	-18.56	68.2	51.81	41.18	12.66	56.01	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)
802.11ac VHT80 CH 138 5690MHz	*	5690	111.56	-	-	104.18	32.27	6.36	31.25	278	172	P	H
	*	5690	100.77	-	-	93.39	32.27	6.36	31.25	278	172	A	H
	*	5690	108.7	-	-	101.32	32.27	6.36	31.25	247	180	P	V
	*	5690	97.67	-	-	90.29	32.27	6.36	31.25	247	180	A	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)
802.11ac VHT80 CH 138 5690MHz		10380	46.76	-21.44	68.2	57.11	39.89	9.8	60.04	100	0	P	H
		17070	47.08	-21.12	68.2	49.68	40.94	12.61	56.15	100	0	P	H
													H
													H
		10380	47.27	-20.93	68.2	57.62	39.89	9.8	60.04	100	0	P	V
		17070	46.61	-21.59	68.2	49.21	40.94	12.61	56.15	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

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 LF		30.27	25.85	-14.15	40	29.39	26.2	0.44	30.18	-	-	P	H
		86.16	25.48	-14.52	40	40.6	14.5	0.82	30.44	-	-	P	H
		209.82	28.42	-15.08	43.5	41.11	16.28	1.33	30.3	-	-	P	H
		309.1	27.16	-18.84	46	35.77	19.99	1.53	30.13	-	-	P	H
		857.9	32.35	-13.65	46	30.31	28.75	2.49	29.2	-	-	P	H
		921.6	33.42	-12.58	46	30.36	29.47	2.67	29.08	100	0	P	H
													H
													H
													H
													H
													H
													H
		33.51	33.14	-6.86	40	39.05	23.88	0.45	30.24	100	0	P	V
		72.39	31.3	-8.7	40	48.07	12.95	0.73	30.45	-	-	P	V
		209.28	22.66	-20.84	43.5	35.35	16.28	1.33	30.3	-	-	P	V
		400.8	24.52	-21.48	46	30.32	22.52	1.66	29.98	-	-	P	V
		836.9	32.2	-13.8	46	30.43	28.55	2.46	29.24	-	-	P	V
		997.2	32.82	-21.18	54	29	29.91	2.77	28.86	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Band 3 5470~5725MHz

Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 LF		87.24	26.88	-13.12	40	41.9	14.6	0.82	30.44	100	0	P	H
		209.55	28.66	-14.84	43.5	41.35	16.28	1.33	30.3	-	-	P	H
		280.02	25.93	-20.07	46	35.34	19.3	1.47	30.18	-	-	P	H
		311.2	26.31	-19.69	46	34.85	20.05	1.53	30.12	-	-	P	H
		747.3	30.56	-15.44	46	30.02	27.64	2.31	29.41	-	-	P	H
		988.8	33.48	-20.52	54	29.66	29.95	2.75	28.88	-	-	P	H
													H
													H
													H
													H
													H
													H
		36.48	36.21	-3.79	40	43.89	22.14	0.46	30.28	100	0	P	V
		72.39	30.75	-9.25	40	47.52	12.95	0.73	30.45	-	-	P	V
		210.09	23.45	-20.05	43.5	36.12	16.3	1.33	30.3	-	-	P	V
		508.6	26.41	-19.59	46	29.82	24.46	1.9	29.77	-	-	P	V
		729.1	30.77	-15.23	46	30.69	27.25	2.28	29.45	-	-	P	V
		951	33.79	-12.21	46	29.95	30.1	2.73	28.99	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

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

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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

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

For Peak Limit @ 2390MHz:

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

For Average Limit @ 2390MHz:

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

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



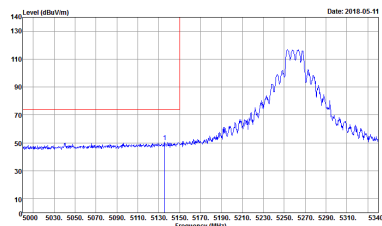
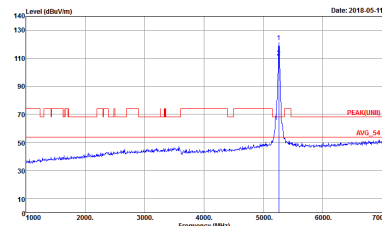
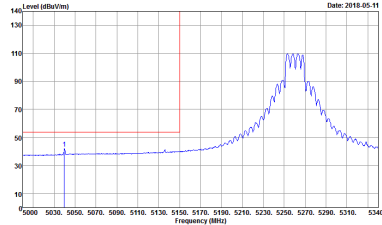
Appendix D. Radiated Spurious Emission

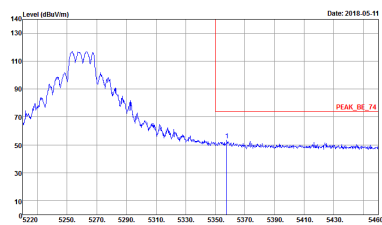
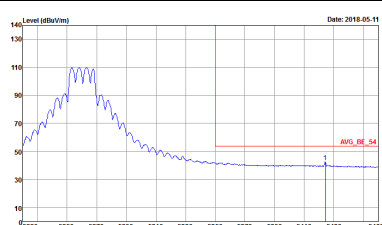
Test Engineer :	Watt Tseng, Karl Hou, and Nick Yu	Temperature :	21~23°C
		Relative Humidity :	59~62%

Note symbol

-L	Low channel location
-R	High channel location

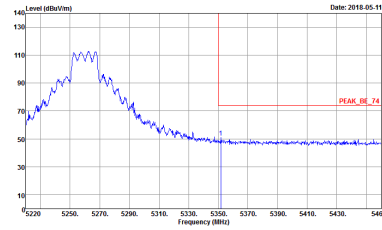
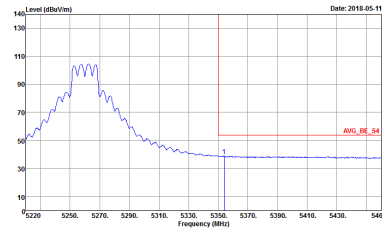
Band 2 - 5250~5350MHz
WIFI 802.11a (Band Edge @ 3m)

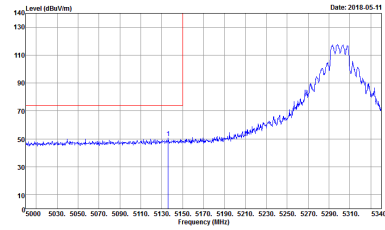
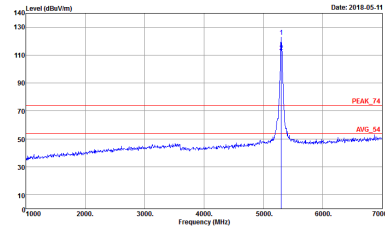
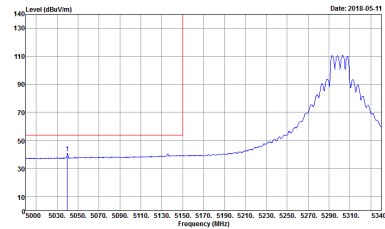
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL : RBW:1000.0000kHz VBW:3000.0000Hz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL : RBW:1000.0000kHz VBW:3000.0000Hz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL : RBW:1000.0000kHz VBW:1.0000kHz SWT:Auto	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank



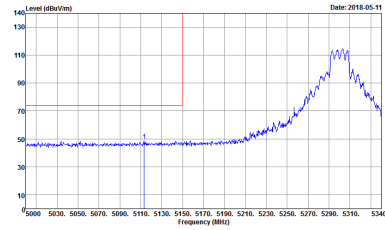
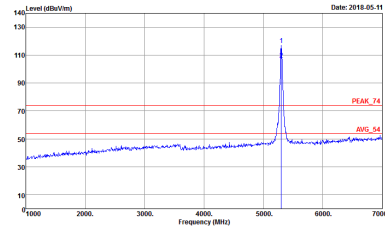
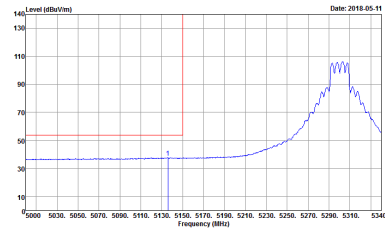
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1+2	Vertical	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

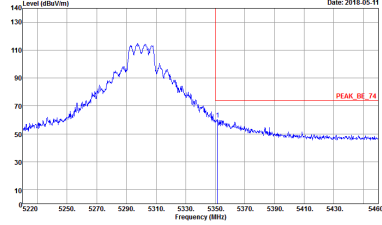
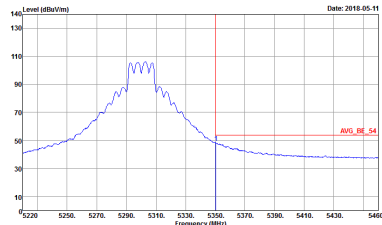
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

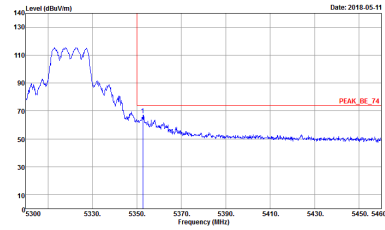
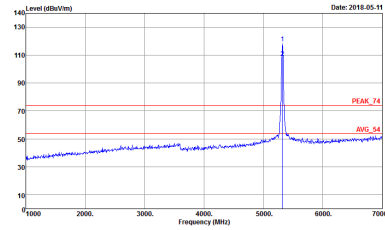
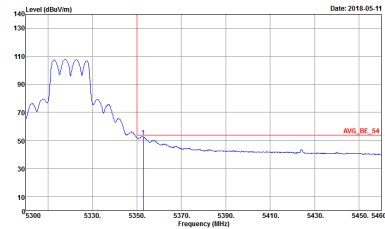
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_T4 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

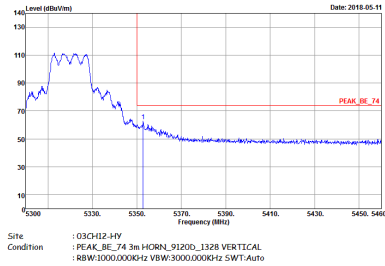
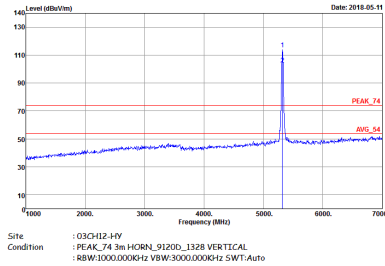
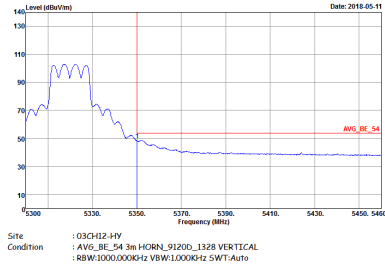


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	Site : 03CH12-HY Condition : AVG_BE_64 3m HORN_91200_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_T4 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

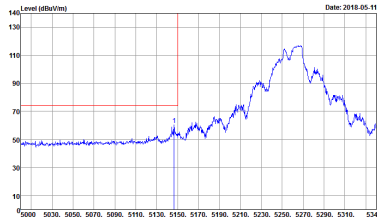
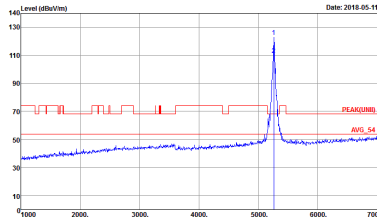
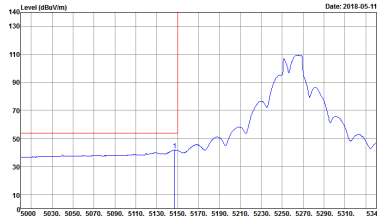
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_64 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

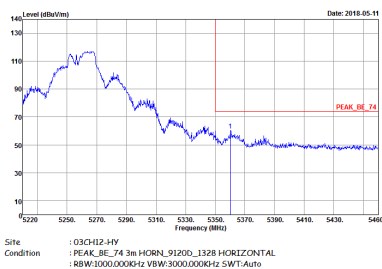
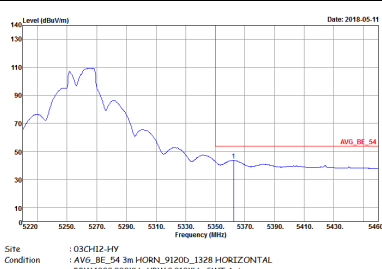
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_T4 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

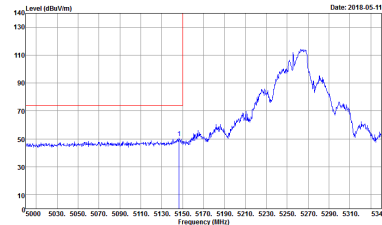
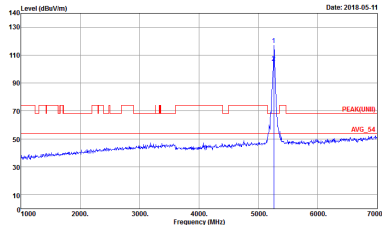
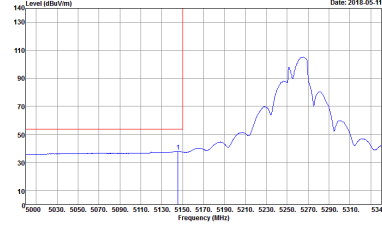
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank



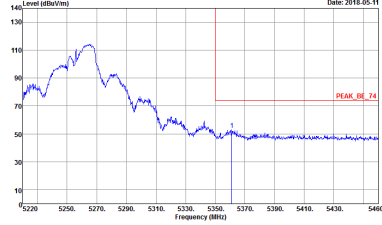
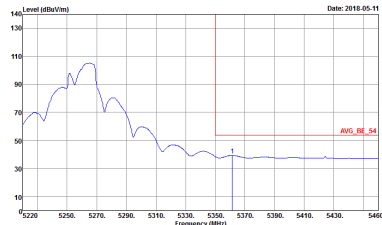
Band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

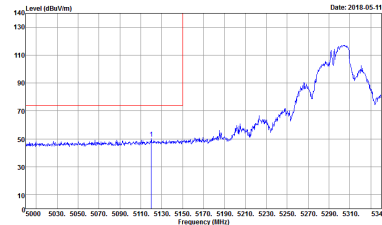
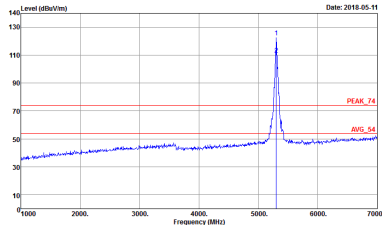
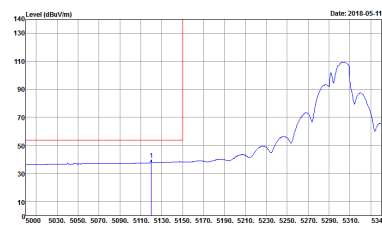
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank

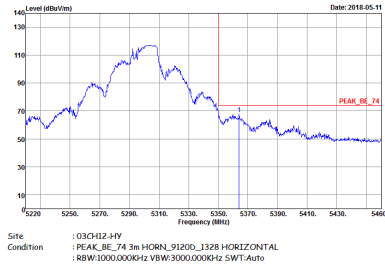
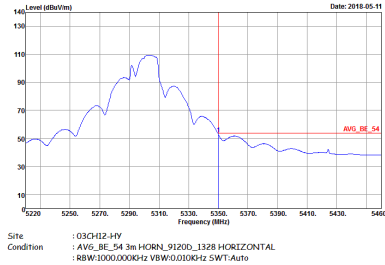
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:1010KHz SWT:Auto	Left blank

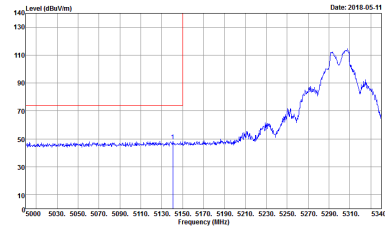
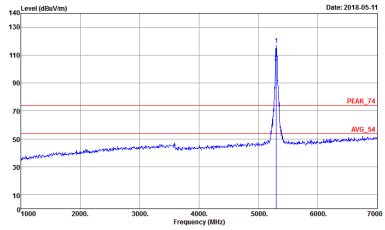
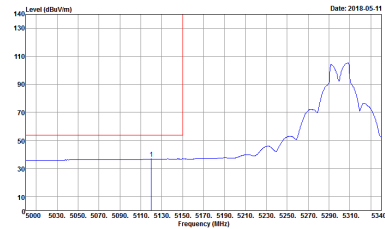


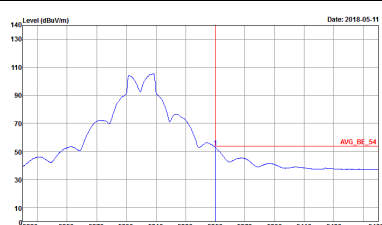
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 VERTICAL : RBW:1000.000KHz VBW:1000.000KHz SWT:Auto	Left blank

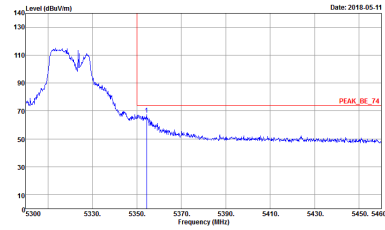
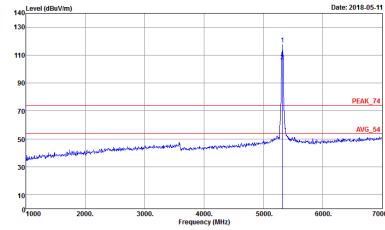
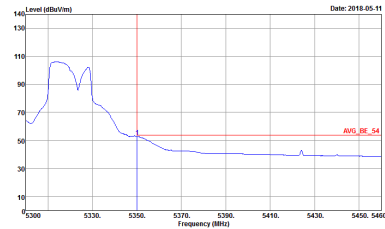
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_T4 3m HORN_91200_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL : RBW:1000.000KHz VBW:1010KHz SWT:Auto	Left blank

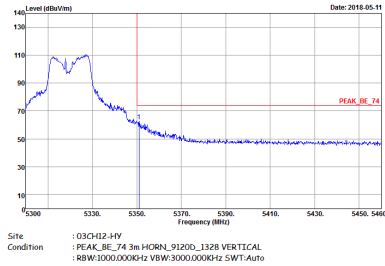
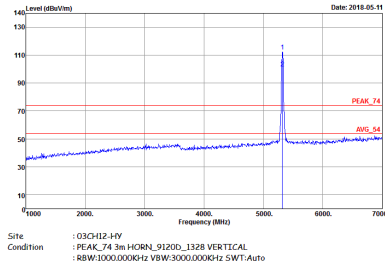
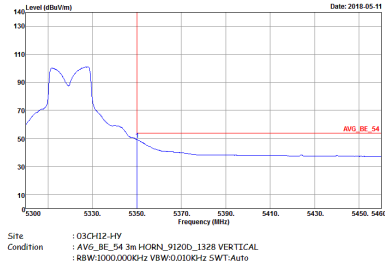
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Horizontal	Vertical
Peak		Left blank
Avg.		Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1+2	Vertical	Fundamental
Peak	 Site: 03CH12-HY Condition: : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018-05-11	 Site: 03CH12-HY Condition: : PEAK_T4 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018-05-11
Avg.	 Site: 03CH12-HY Condition: : AVG_BE_54 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto Date: 2018-05-11	Left blank

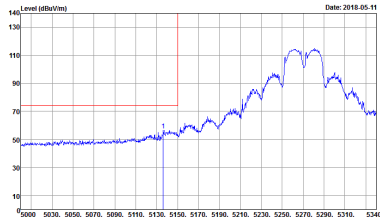
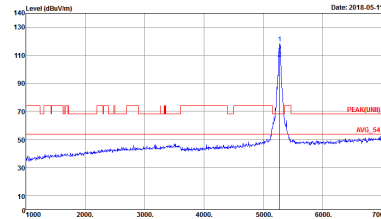
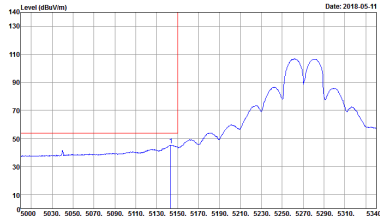
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_64 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:1000.000KHz SWT:Auto	Left blank

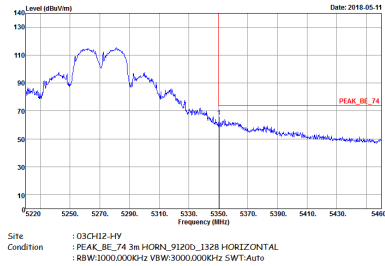
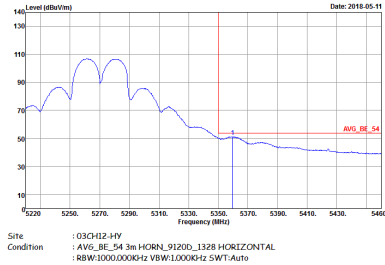
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_74 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000kHz VBW:1000.000kHz SWT:Auto	Left blank

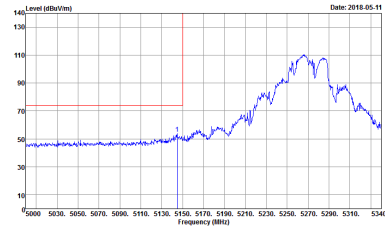
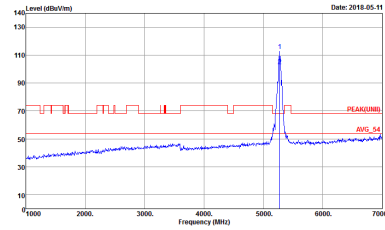
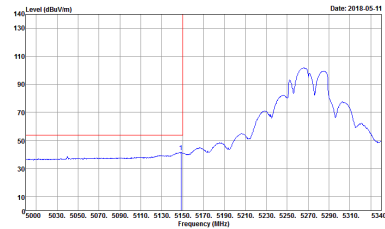
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

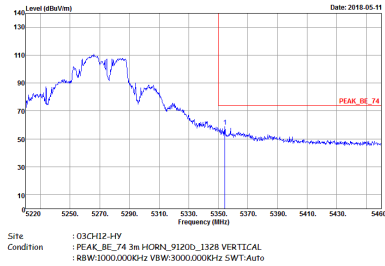
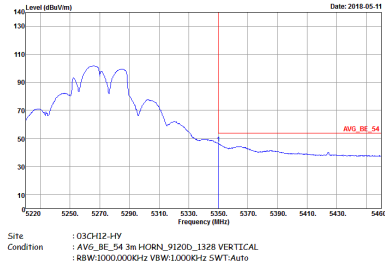


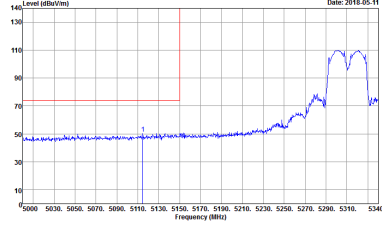
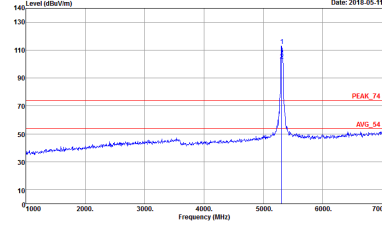
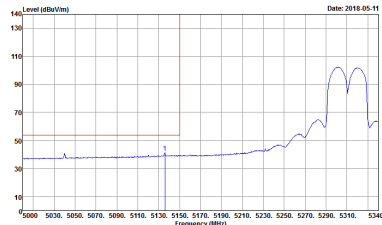
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

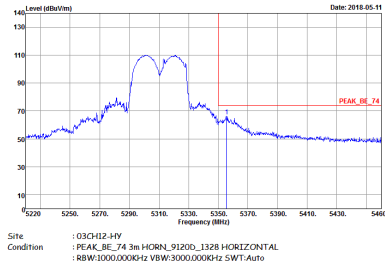
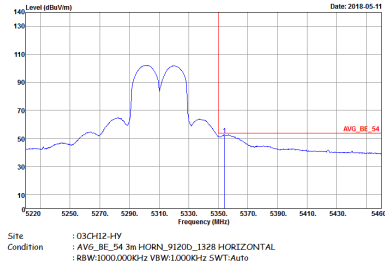
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

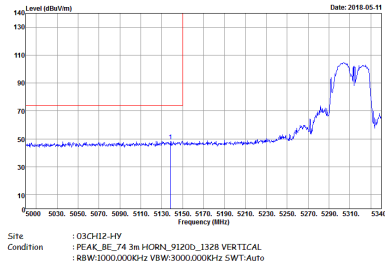
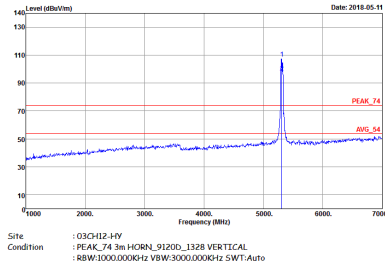
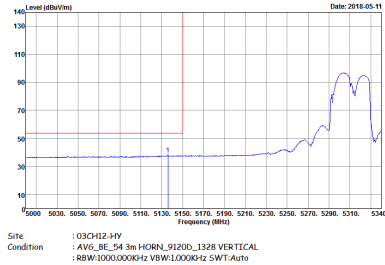
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

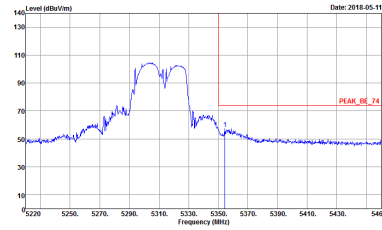
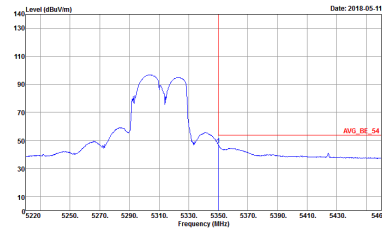
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1+2	Vertical	Vertical
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	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	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK_T4 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

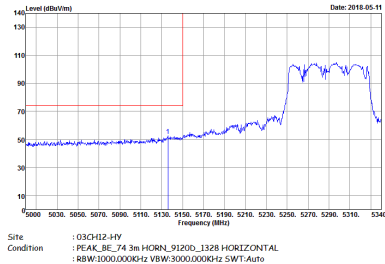
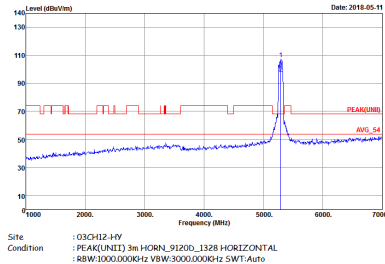
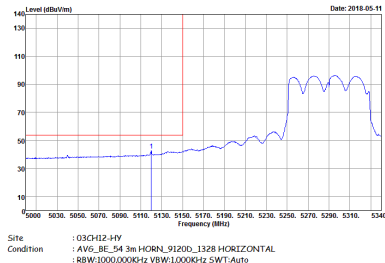
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

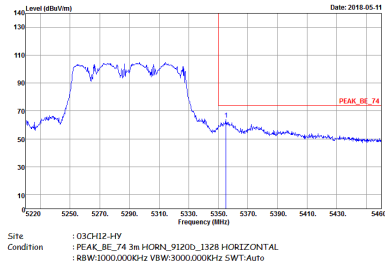
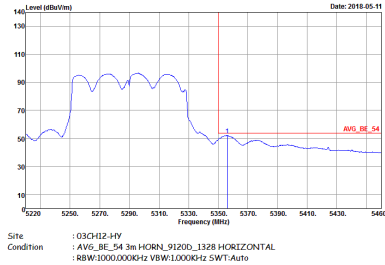
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

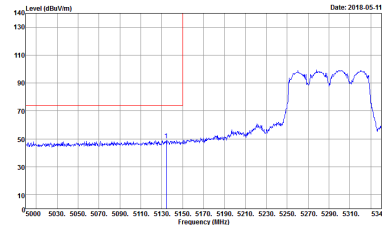
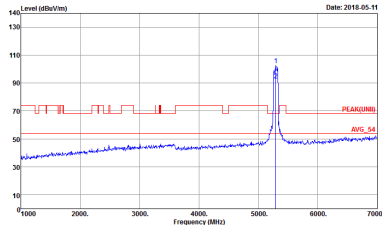
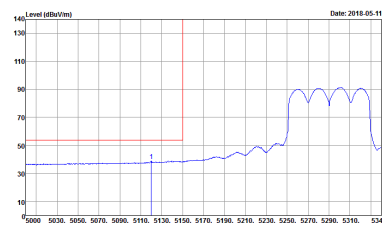
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_64 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

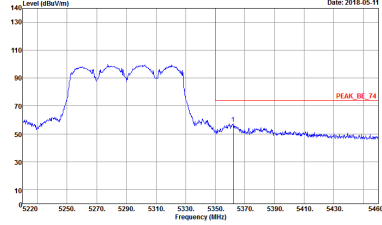
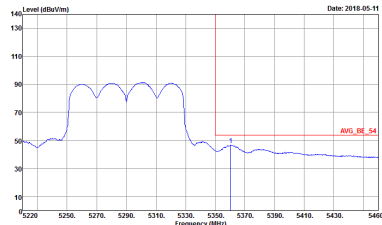


Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

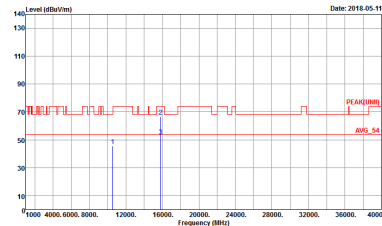
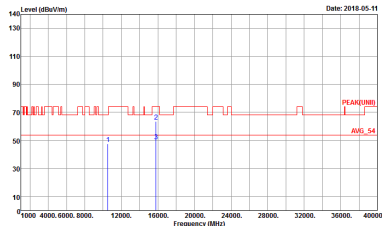
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	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	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE_74 3m HORN_91200_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank
Avg.	 Site : 03CH12-HY Condition : AVG_BE_54 3m HORN_91200_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	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.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL



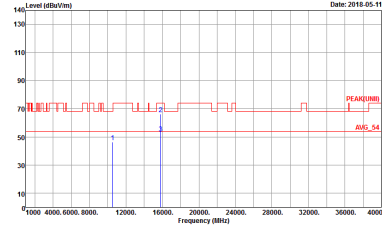
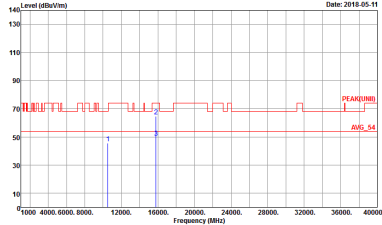
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 VERTICAL



WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 VERTICAL



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.	 Site : 03CH12-14Y Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-14Y Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL

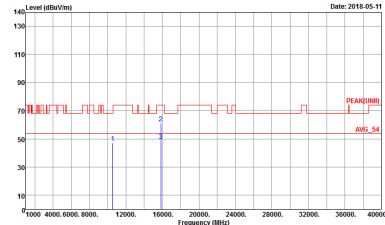
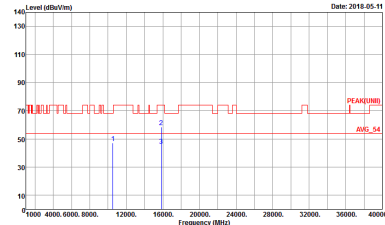


WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH60 5300MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 VERTICAL



WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Horizontal	Vertical
Peak Avg.	140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 Level (dBm/1m) Date: 2018-05-11 Frequency (MHz) Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 HORIZONTAL	140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 Level (dBm/1m) Date: 2018-05-11 Frequency (MHz) Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 VERTICAL

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

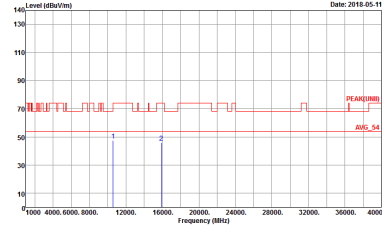
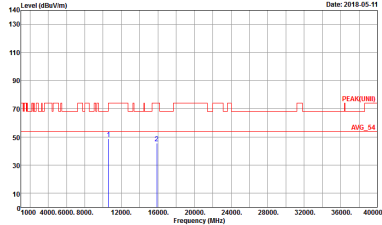
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH54 5270	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



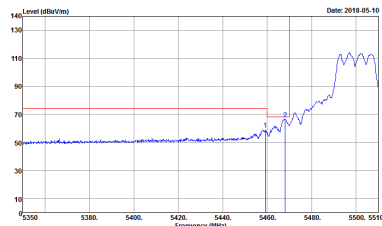
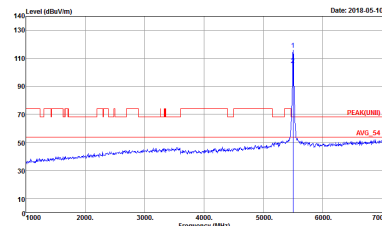
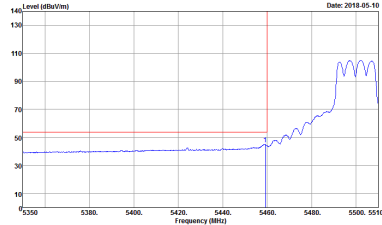
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH62 5310	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK_74 3m HORN_91200_1328 VERTICAL

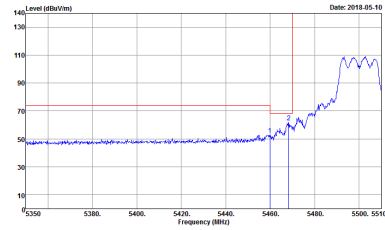
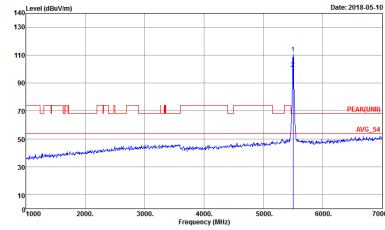
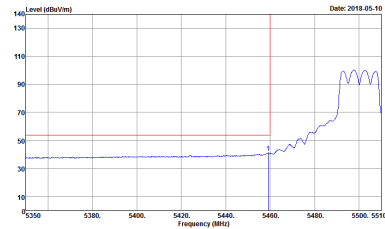


Band 2 5250~5350MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

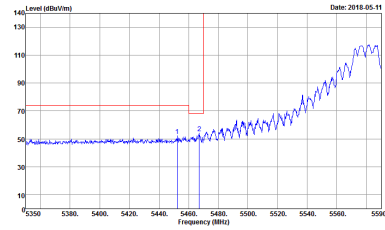
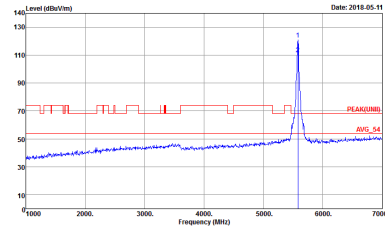
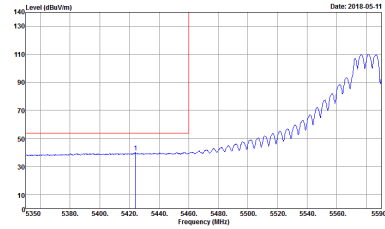
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL

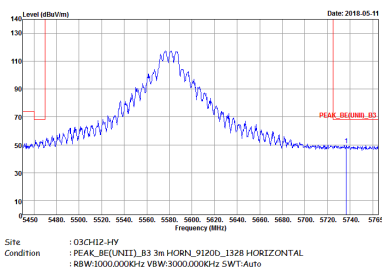
Band 3 - 5470~5725MHz
WIFI 802.11a (Band Edge @ 3m)

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

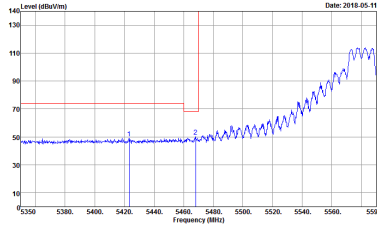
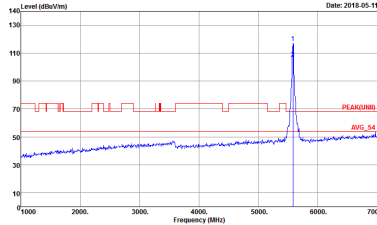
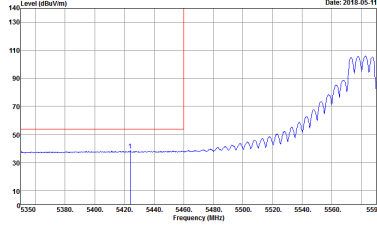
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank



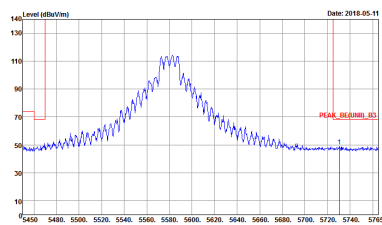
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site: 03CH12-HY Condition: : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018-05-11	 Site: 03CH12-HY Condition: : PEAK(UNIT1) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018-05-11
Avg.	 Site: 03CH12-HY Condition: : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto Date: 2018-05-11	Left blank

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

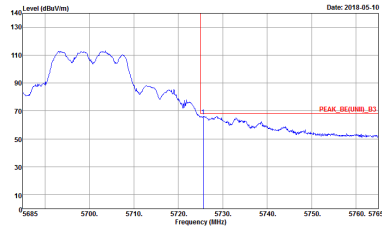
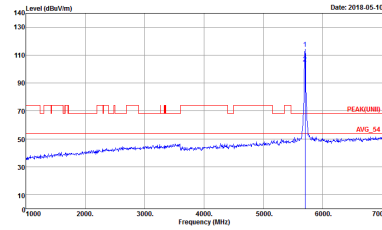


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT]_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.11	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-4NY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-4NY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

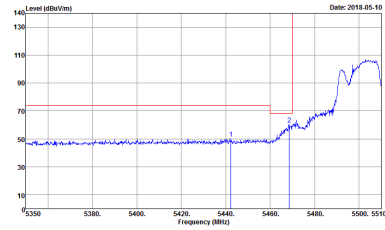
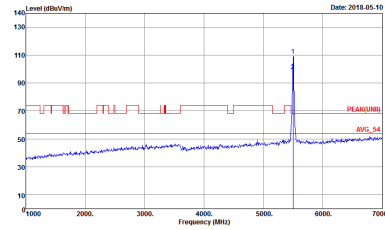
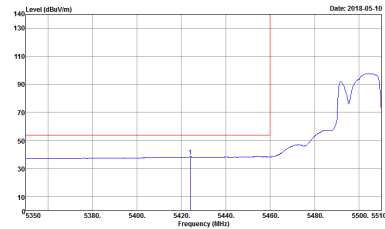


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Vertical	Fundamental
Peak	Site : 03CH12-4NY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-4NY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

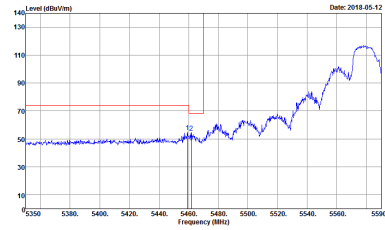
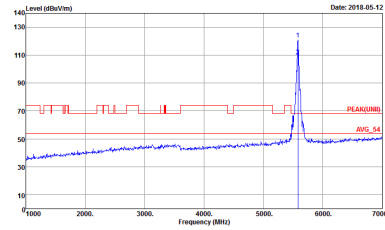
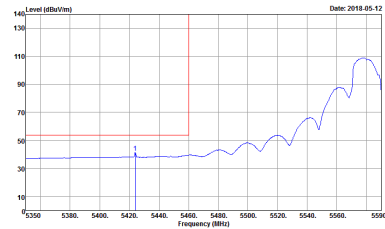


Band 3 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

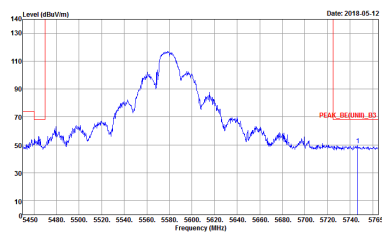
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:0.010KHz SWT:Auto	Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1010KHz SWT:Auto	Left blank

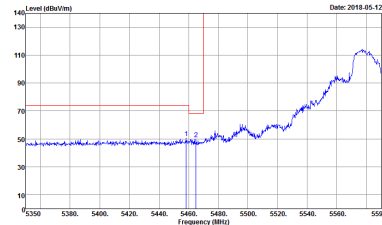
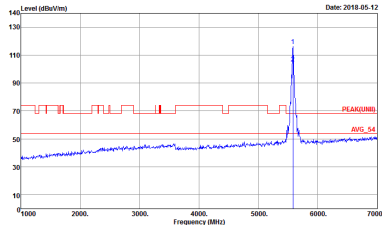
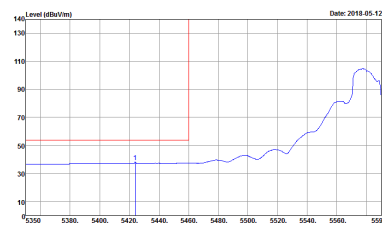


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

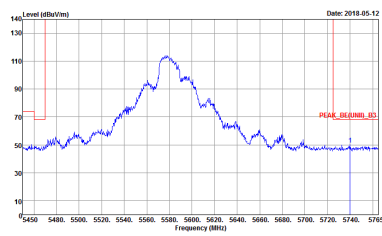


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH2-4Y Condition : PEAK_BE[UNIT], B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.12	Left blank

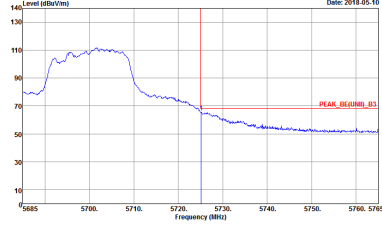
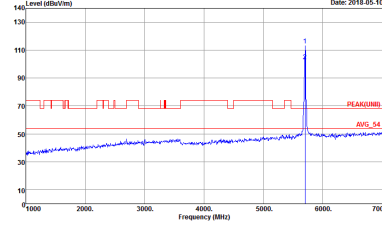


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

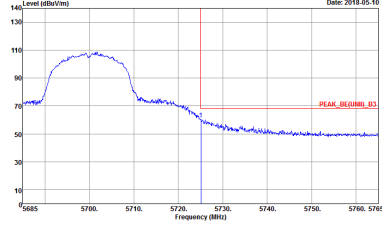
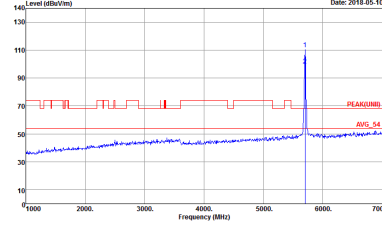


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT], B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.12	Left blank



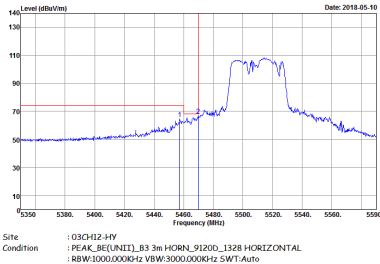
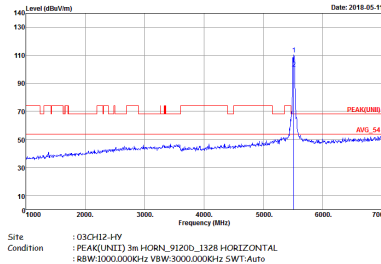
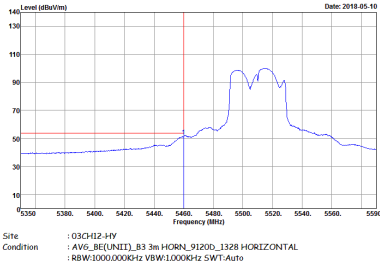
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-4NY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH12-4NY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto



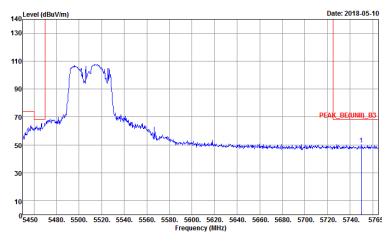
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Vertical	Fundamental
Peak.	 Site : 03CH12-4NY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-4NY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

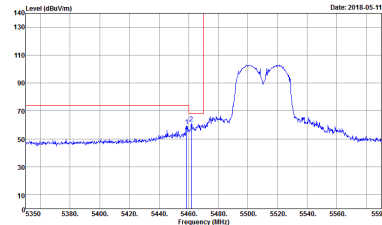
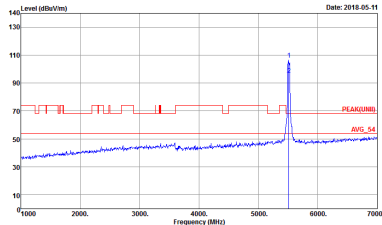
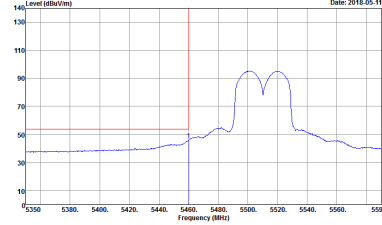


Band 3 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

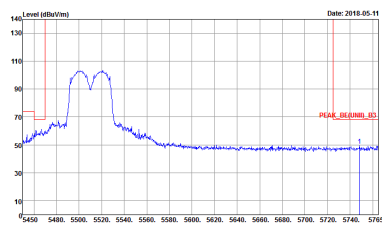
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

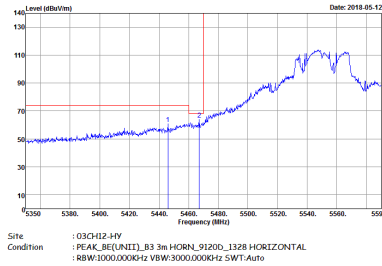
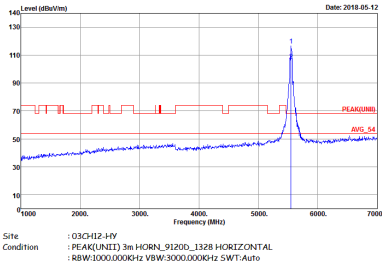
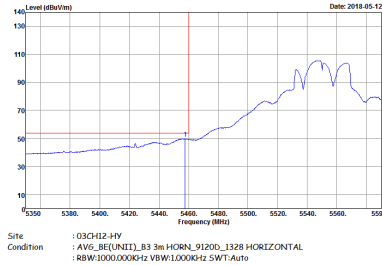


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT]_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.10	Left blank

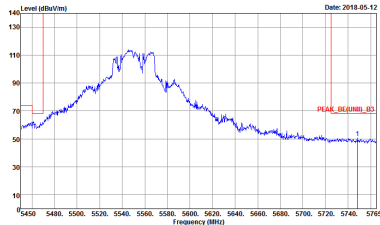
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank



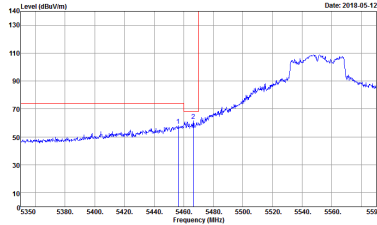
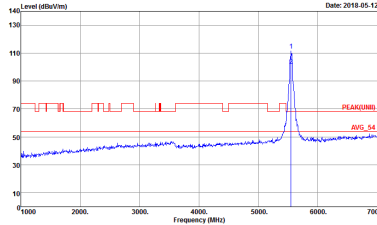
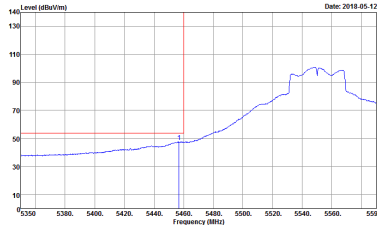
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT]_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.11	Left blank

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

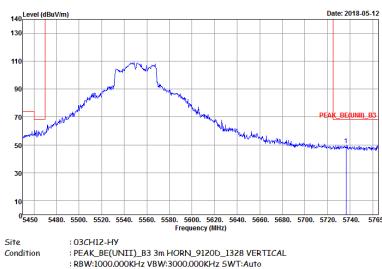


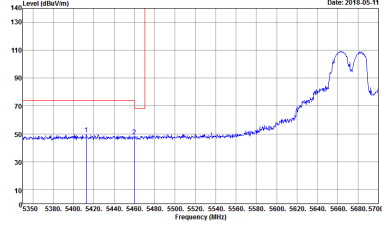
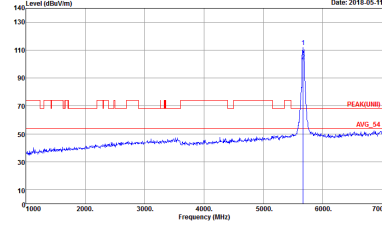
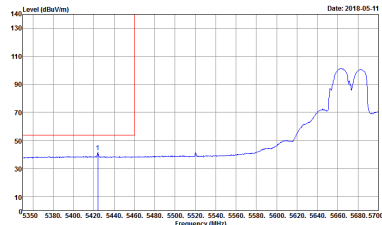
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT]_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.12	Left blank



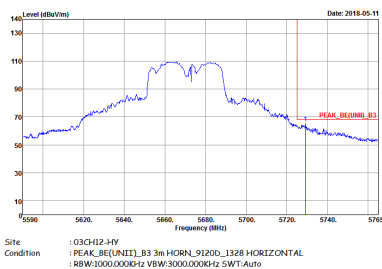
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank

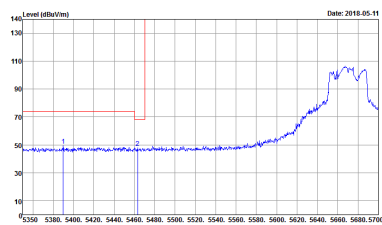
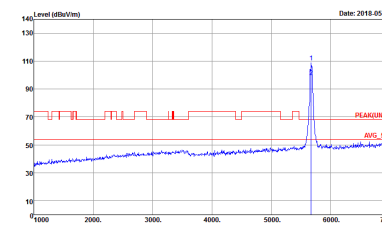
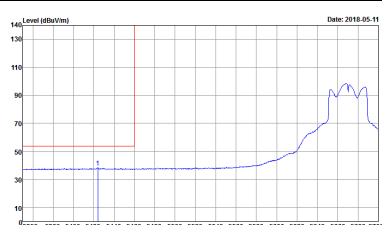


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank

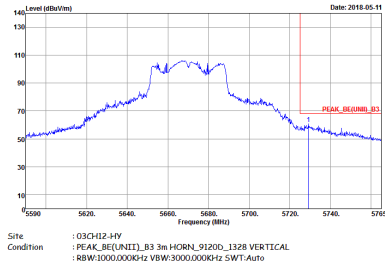
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank



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

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:1000KHz SWT:Auto	Left blank



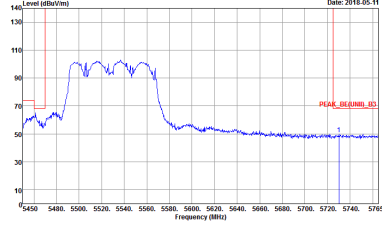
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank



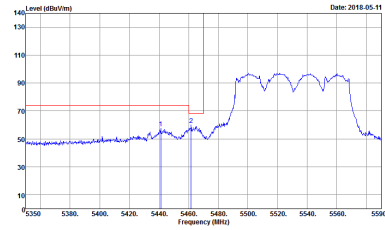
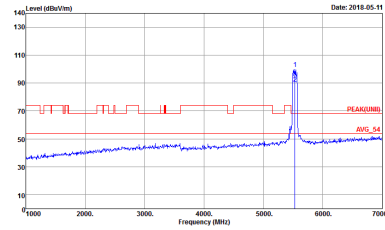
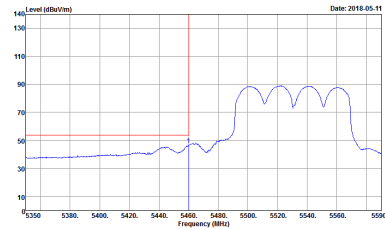
Band 3 5470~5725MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Horizontal	Fundamental
Peak	Site : 03CH12-HY Condition : PEAK_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Site : 03CH12-HY Condition : PEAK(UNIT1) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	Site : 03CH12-HY Condition : AVG_BE(UNIT1)_B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank

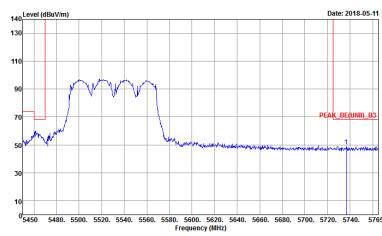


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT],B3 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	Left blank

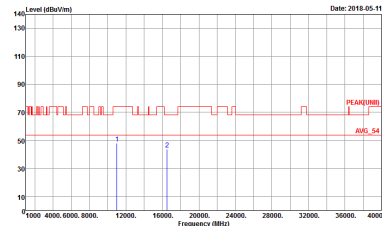
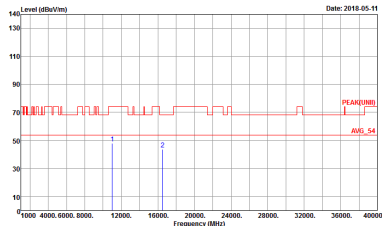


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : PEAK_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto
Avg.	 Site : 03CH12-HY Condition : AVG_BE(UNIT)_B3 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH2-47Y Condition : PEAK_BE[UNIT]_B3 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Date: 2018.05.11	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.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



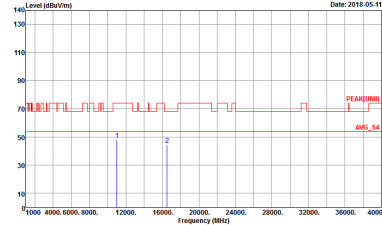
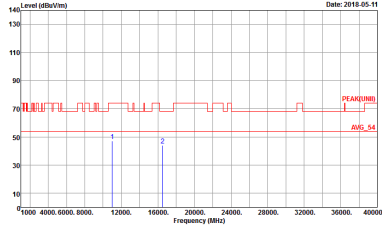
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH116 5580MHz	
1+2	Horizontal	Vertical
Peak Avg.	140 130 120 110 100 90 80 70 60 50 40 30 20 10 Level (dBm/1m) 12000 16000 20000 24000 28000 32000 36000 40000 Frequency (MHz) Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	140 130 120 110 100 90 80 70 60 50 40 30 20 10 Level (dBm/1m) 12000 16000 20000 24000 28000 32000 36000 40000 Frequency (MHz) Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL



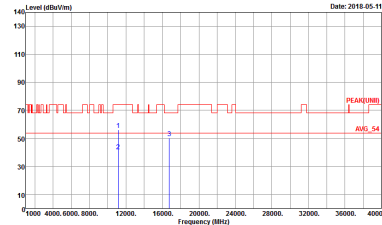
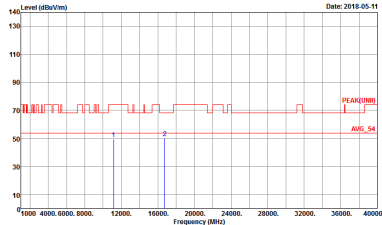
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-11 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL



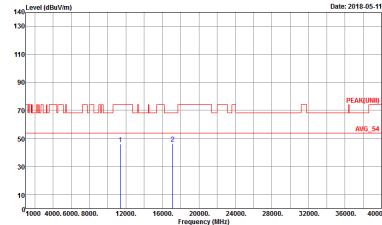
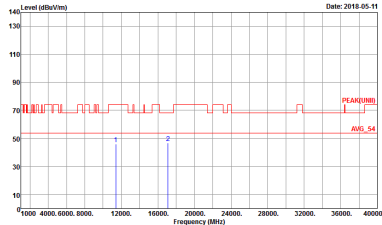
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



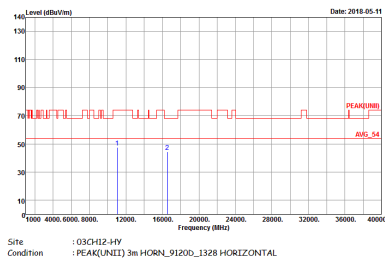
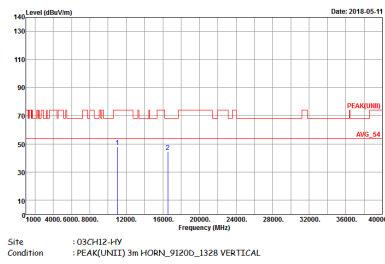
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH116 5580MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL



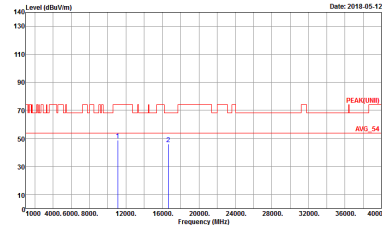
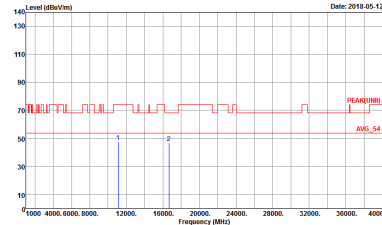
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL



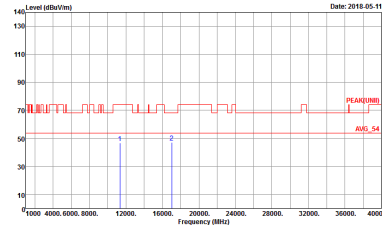
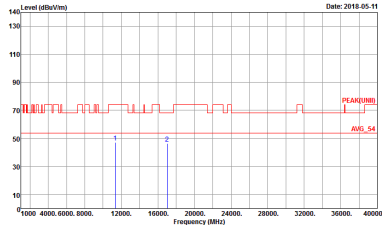
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH110 5550MHz	
1+2	Horizontal	Vertical
Peak Avg.	Level (dBm/1m) Date: 2018-05-12  Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL	Level (dBm/1m) Date: 2018-05-12  Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL

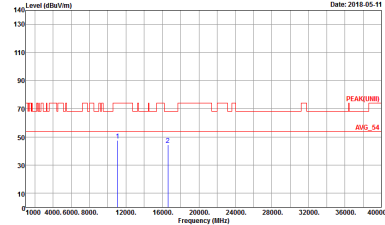
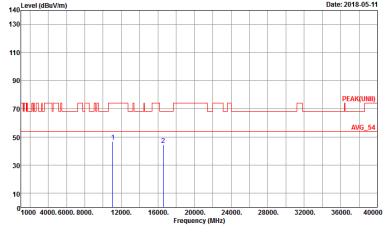


WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH134 5670MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK[UNIT] 3m HORN_91200_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK[UNIT] 3m HORN_91200_1328 VERTICAL



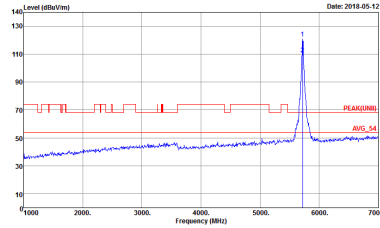
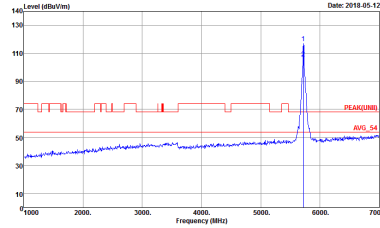
Band 3 5470~5725MHz

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.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL

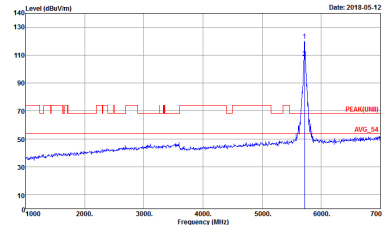
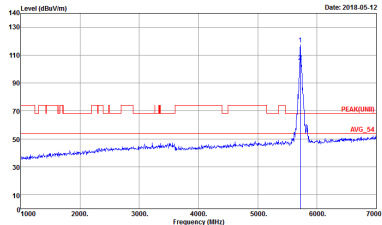


Band 3 - Straddle Channel
WIFI 802.11a (Fundamental @ 3m)

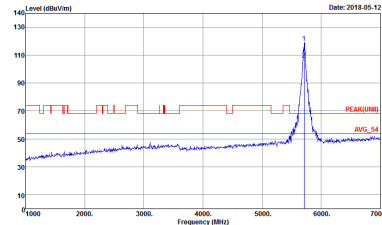
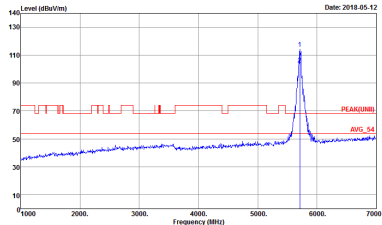
WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11a CH144 5720MHz - L	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UM) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UM) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto



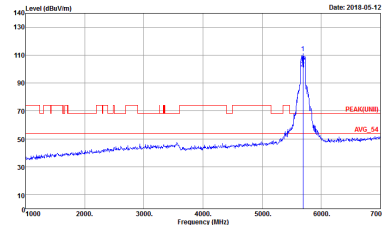
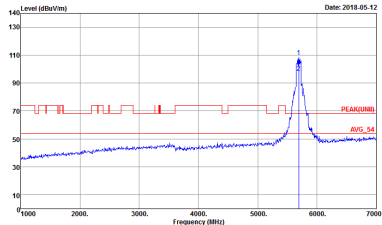
Band 3 – Straddle Channel
WIFI 802.11n HT20 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT20 CH144 5720MHz - L	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

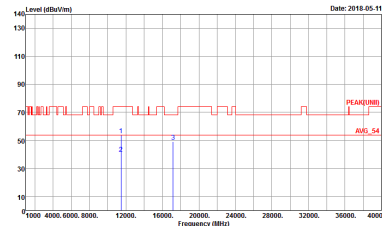
Band 3 – Straddle Channel
WIFI 802.11n HT40 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT40 CH142 5710MHz - L	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto

Band 3 – Straddle Channel
WIFI 802.11ac VHT80 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz - L	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 HORIZONTAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_91200_1328 VERTICAL RBW:1000.000kHz VBW:3000.000kHz SWT:Auto

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.	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



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.	Site : 03CH12-14Y Condition : PEAK(UNII) 3m HORN_9120D_1328 HORIZONTAL	Site : 03CH12-14Y Condition : PEAK(UNII) 3m HORN_9120D_1328 VERTICAL

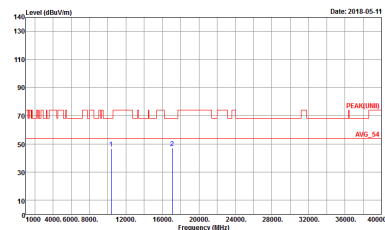
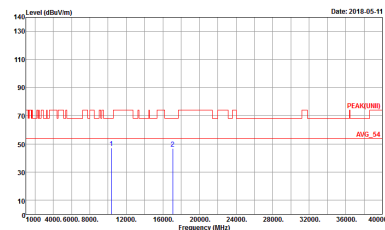


Band 3 – Straddle Channel
WIFI 802.11n HT40 (Harmonic @ 3m)

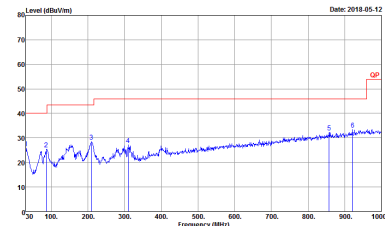
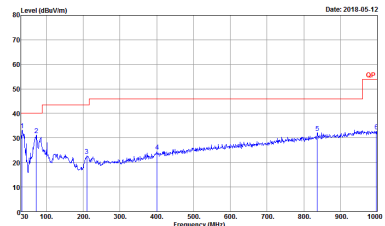
WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11n HT40 CH142 5710MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH12-14Y Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	Site : 03CH12-14Y Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL



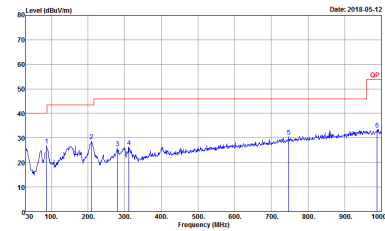
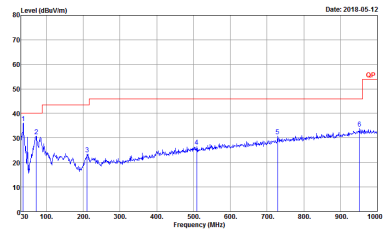
Band 3 – Straddle Channel
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 HORIZONTAL	 Site : 03CH12-1HY Condition : PEAK(UNIT) 3m HORN_9120D_1328 VERTICAL

Band 2 5250~5350MHz
Emission below 1GHz
5GHz WIFI 802.11n HT20 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT20 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH12-14Y Condition : QP 3m BIL06_611D_47020606 HORIZONTAL	 Site : 03CH12-14Y Condition : QP 3m BIL06_611D_47020606 VERTICAL

Band 3 5470~5725MHz
Emission below 1GHz
5GHz WIFI 802.11n HT40 (LF)

WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH12-14Y Condition : QP 3m B1LO6_611D_47020M06 HORIZONTAL	 Site : 03CH12-14Y Condition : QP 3m B1LO6_611D_47020M06 VERTICAL

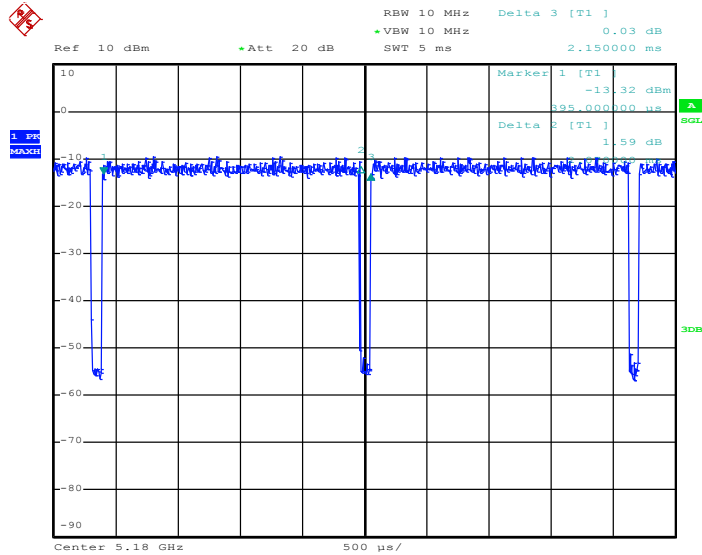


Appendix E. Duty Cycle Plots

Antenna	Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor (dB)
1+2	802.11a for Ant. 1	96.28	2070.00	0.48	1kHz	0.16
1+2	802.11a for Ant. 2	95.83	2070.00	0.48	1kHz	0.18
1+2	5GHz 802.11n HT20 for Ant. 1	97.65	4995.00	0.20	300Hz	0.10
1+2	5GHz 802.11n HT20 for Ant. 2	97.63	4950.00	0.20	300Hz	0.10
1+2	5GHz 802.11n HT40 for Ant. 1	96.03	2420.00	0.41	1kHz	0.18
1+2	5GHz 802.11n HT40 for Ant. 2	96.03	2420.00	0.41	1kHz	0.18
1+2	5GHz 802.11ac VHT80 for Ant. 1	92.74	1150.00	0.87	1kHz	0.33
1+2	5GHz 802.11ac VHT80 for Ant. 2	93.12	1150.00	0.87	1kHz	0.31

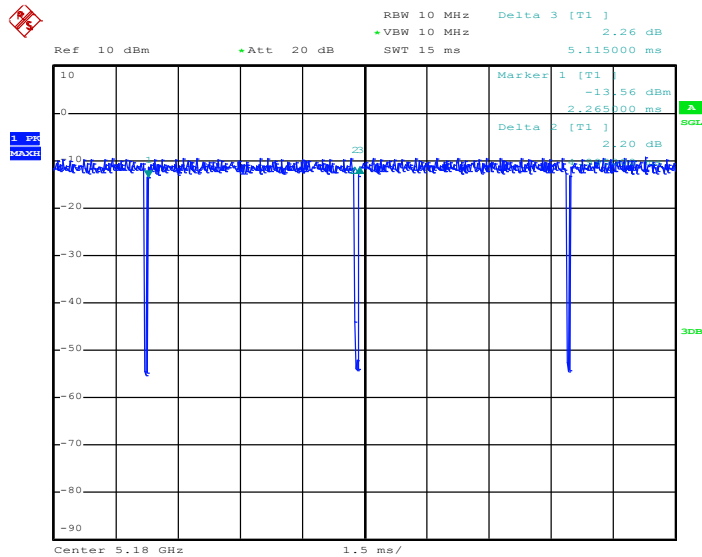
MIMO <Ant. 1>

802.11a



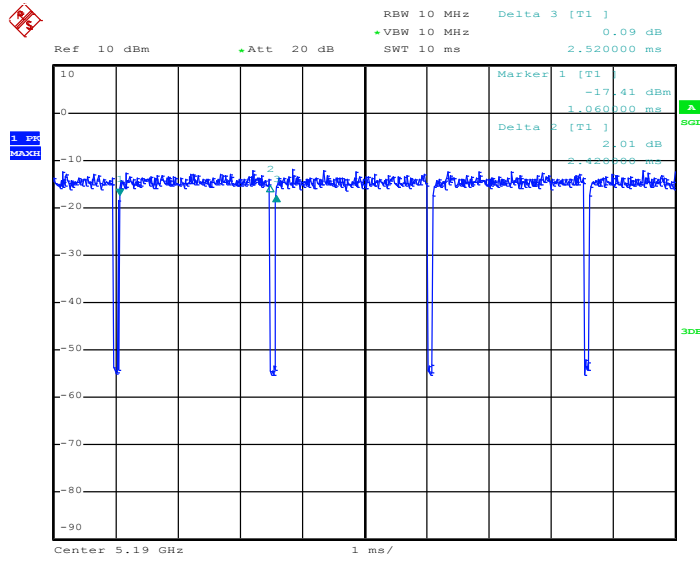
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802.11n HT20



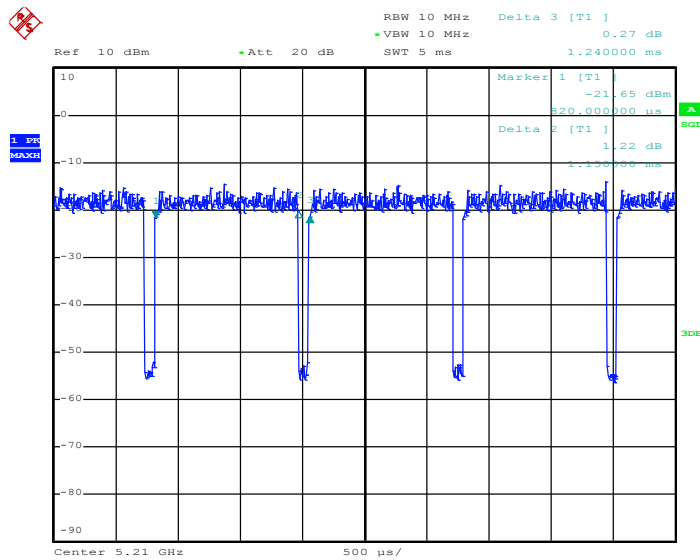
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802.11n HT40



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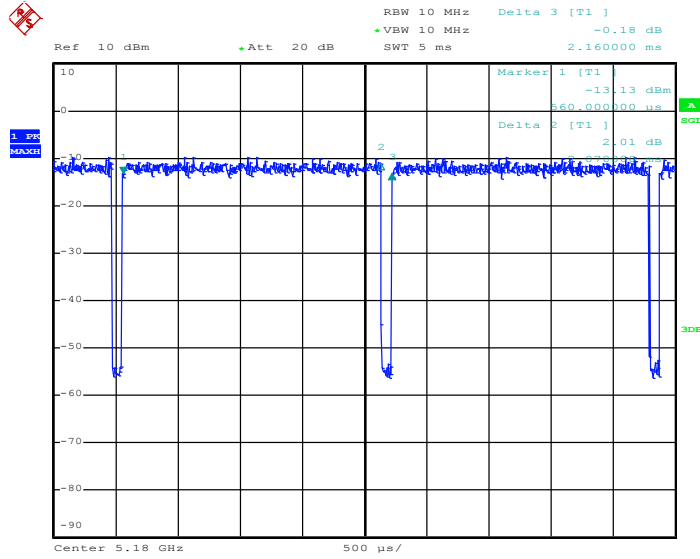
802.11ac VHT80



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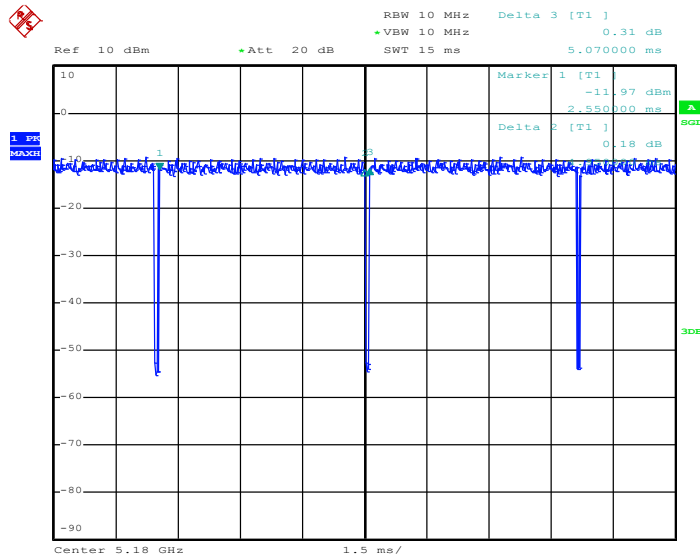
MIMO <Ant. 2>

802.11a



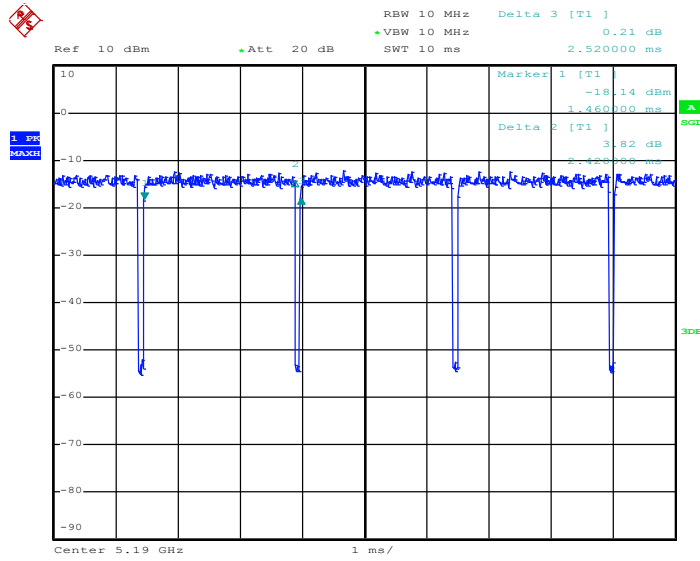
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802.11n HT20



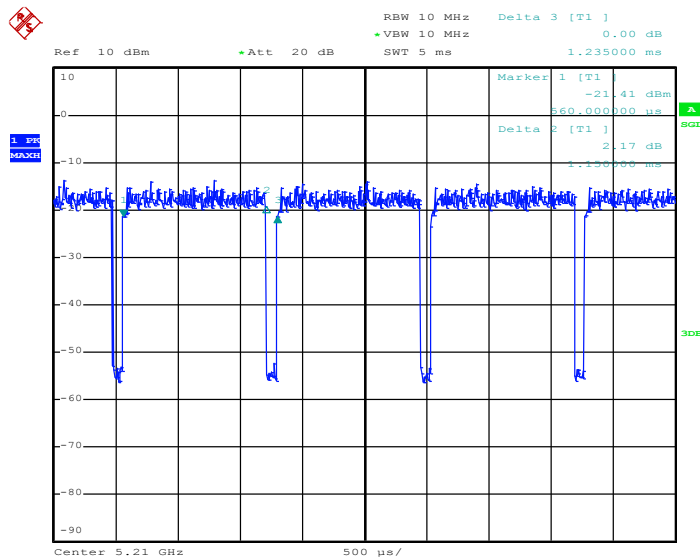
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802.11n HT40



Date: 11.MAY.2018 10:56:06

802.11ac VHT80



Date: 11.MAY.2018 11:02:11