FCC RF Test Report

APPLICANT	:	**Vlado L.L.C.**
EQUIPMENT	:	**HDMI Digital Media Receiver**
MODEL NAME	:	**LY73PR**
FCC ID	:	**2AE6S-0948**
STANDARD	:	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	:	**(NII) Unlicensed National Information Infrastructure**

The testing was completed on Jun. 23, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL INC.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR632203-01D	Rev. 01	Initial issue of report	Jun. 10, 2016
FR632203-01D	Rev. 02	Update report of updating the plots and data of band edge and fundamental at appendix B and C	Jun. 23, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.60 dB at 5149.760 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 10.60 dB at 0.534 MHz
3.6	15.407(g)	Frequency Stability	Within Operation Band	Pass	-
3.7	15.407(c)	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.8	15.203 & 15.407(a)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Vlado L.L.C.
101 Eisenhower Pkwy, Suite 300, Roseland, NJ, 07068, US 07068

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	HDMI Digital Media Receiver
Model Name	LY73PR
FCC ID	2AE6S-0948
EUT supports Radios application	WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.1 EDR/LE

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.3 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Standards-related Product Specification</th></tr>
<tr><td>Tx/Rx Channel Frequency Range</td><td>5180 MHz ~ 5240 MHz</td></tr>
<tr><td>Maximum Output Power</td><td><5180 MHz ~ 5240 MHz>
<Ant. 1>
802.11a : 16.98 dBm / 0.0499 W
SISO <Ant. Port 1>
802.11n HT20 : 16.92 dBm / 0.0492 W
802.11n HT40 : 16.66 dBm / 0.0463 W
802.11ac VHT20: 16.90 dBm / 0.0490 W
802.11ac VHT40: 16.63 dBm / 0.0460 W
802.11ac VHT80: 13.71 dBm / 0.0235 W
MIMO <Ant. Port 1 + 2>
802.11n HT20 : 19.55 dBm / 0.0902 W
802.11n HT40 : 19.98 dBm / 0.0995 W
802.11ac VHT20: 19.53 dBm / 0.0897 W
802.11ac VHT40: 19.95 dBm / 0.0989 W
802.11ac VHT80: 15.59 dBm / 0.0362 W</td></tr>
<tr><td>99% Occupied Bandwidth</td><td>802.11a : 18.30 MHz
802.11n HT20 : 19.05 MHz
802.11n HT40 : 36.70 MHz
802.11ac VHT20 : 18.95 MHz
802.11ac VHT40 : 36.80 MHz
802.11ac VHT80 : 75.84 MHz</td></tr>
<tr><td>Type of Modulation</td><td>802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</td></tr>
<tr><td>Antenna Type</td><td>Main Antenna : Fixed Internal Antenna
Aux. Antenna : Fixed Internal Antenna</td></tr>
<tr><td>Antenna Gain</td><td>Main Antenna : 3.71 dBi
Aux. Antenna : 1.96 dBi</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><td></td><td>Ant. 1</td><td>Ant. 2</td></tr>
<tr><td>802.11 a</td><td>V</td><td>V</td></tr>
<tr><td>802.11 n/ac SISO</td><td>V</td><td>V</td></tr>
<tr><td>802.11 n/ac MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	TH02-HY	CO05-HY

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

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

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

1.6 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

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: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency and Channel

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

Note:

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

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

<Ant. 1>

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	16.98	16.96	16.95	16.94	16.97	16.95	16.96	16.97

SISO <Ant. Port 1>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.92	16.86	16.87	16.91	16.90	16.91	16.89	16.88

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.66	16.65	16.64	16.64	16.65	16.63	16.65	16.65

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
Average Power (dBm)	16.90	16.88	16.85	16.89	16.86	16.89	16.88	16.86	16.87

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	16.63	16.61	16.62	16.60	16.25	16.13	16.05	16.11	16.02	16.12

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	13.71	13.56	13.65	13.06	13.20	13.13	13.25	13.22	13.14	13.00

MIMO <Ant. 1+2>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Average Power (dBm)	**19.55**	19.48	19.39	19.54	19.52	19.52	19.50	19.54

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7
Average Power (dBm)	**19.98**	19.84	19.85	19.88	19.96	19.96	19.84	19.85

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8
Average Power (dBm)	**19.53**	19.33	19.41	19.52	19.52	19.51	19.51	19.51	19.52

5GHz 802.11ac VHT40 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	**19.95**	19.90	19.90	19.92	19.18	19.08	19.15	19.15	19.11	19.18

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	MCS 0	MCS 1	MCS 2	MCS 3	MCS 4	MCS 5	MCS 6	MCS 7	MCS 8	MCS 9
Average Power (dBm)	**15.59**	15.48	15.57	15.02	15.00	15.04	15.10	15.11	15.20	15.14

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

2.3 Test Mode

Final test mode of conducted test items and radiated spurious emissions are considering the modulation and worse data rates from the power table described in section 2.2.

Single Antenna

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

MIMO Antenna

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

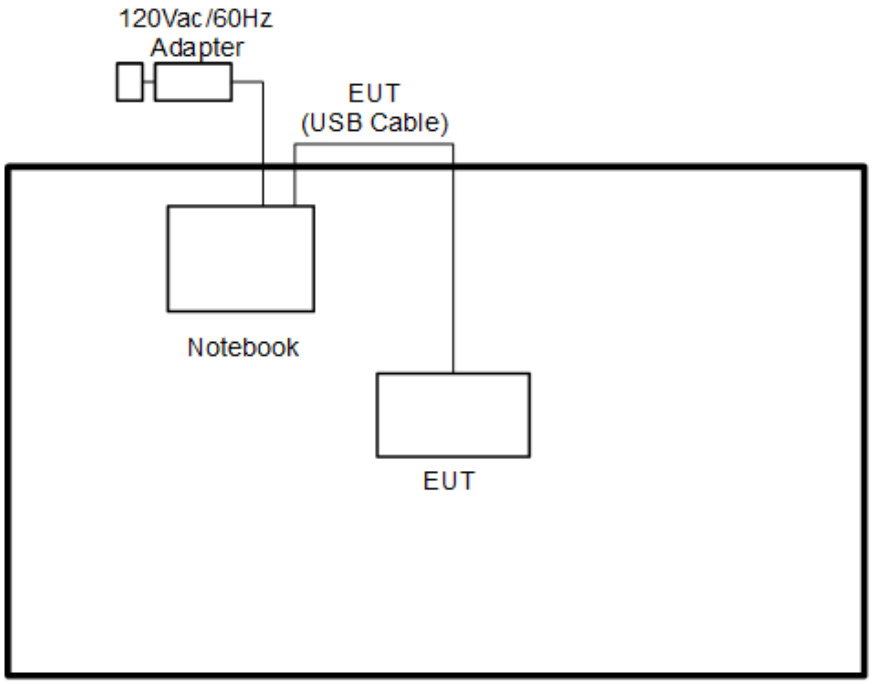
Test Cases	
AC Conducted Emission	Mode 1 : WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone

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

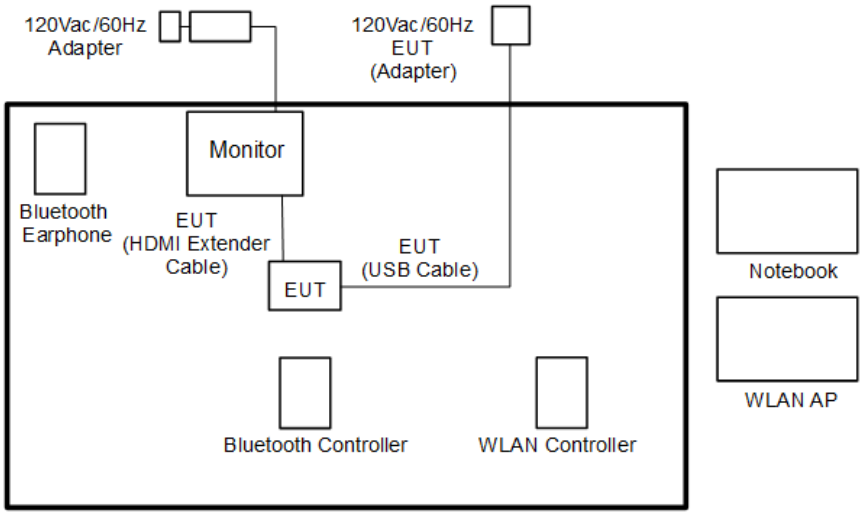
Ch. #		Band I：5150-5250 MHz	Band I：5150-5250 MHz	Band I：5150-5250 MHz
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	38	38	-
M	Middle	-	-	42
H	High	46	46	-

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	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
4.	Notebook	Lenovo	E335	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, “ADB” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

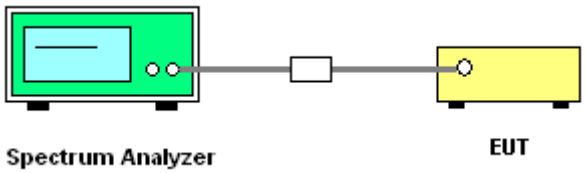
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

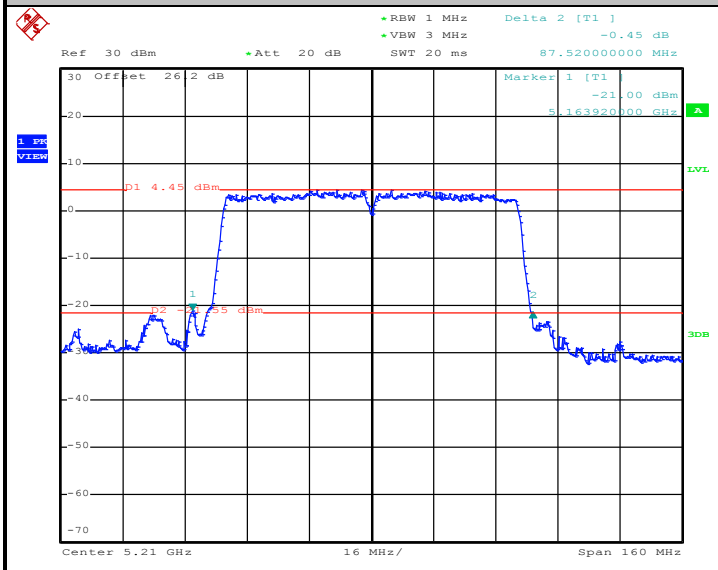
3.1.4 Test Setup



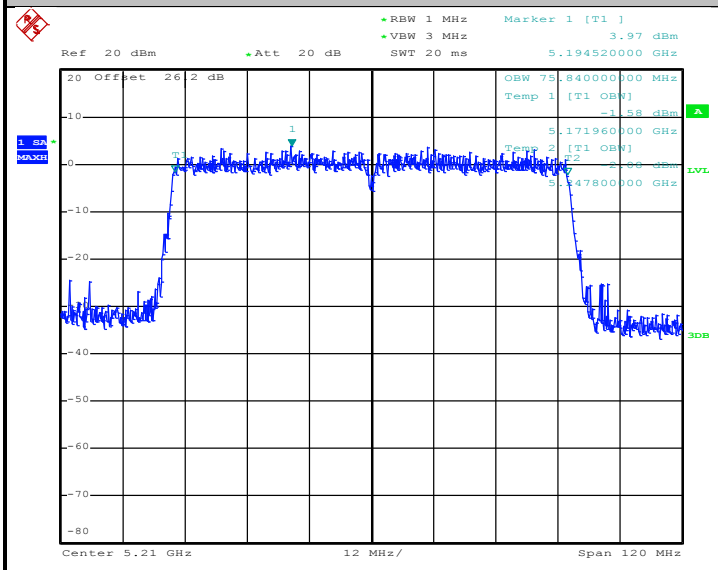
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

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

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

3.2.2 Measuring Instruments

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

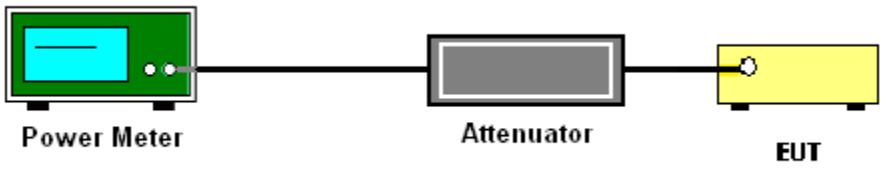
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section F) Maximum power spectral density.

 # Method SA-2 #

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

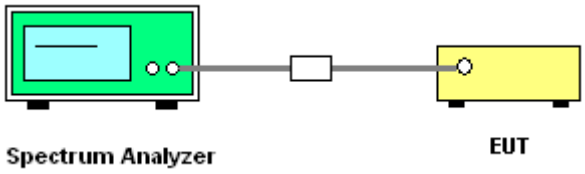
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

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

   Method (1): Measure and sum the spectra across the outputs.

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

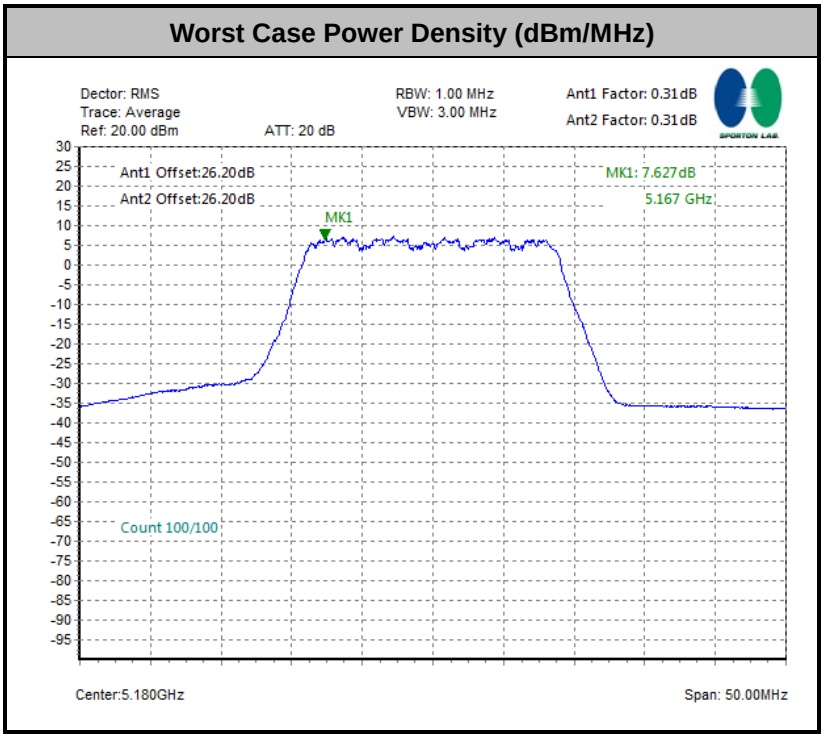
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Density (dBm/MHz)



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

3.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

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

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

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

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB789033 D02 v01r02 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

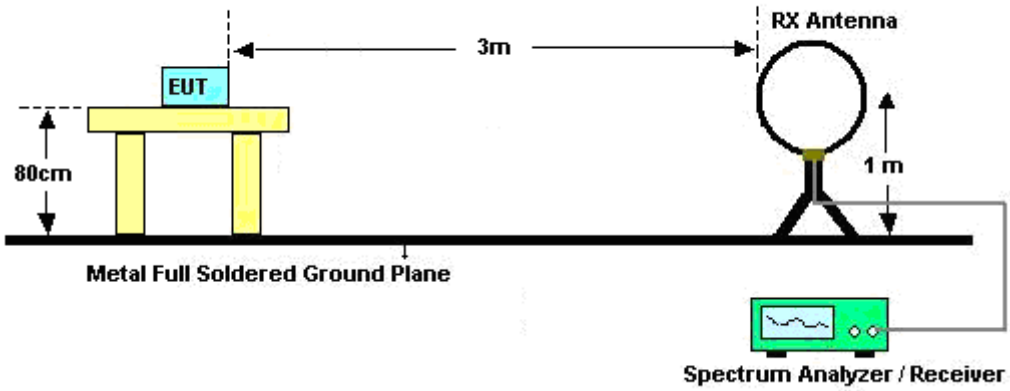
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

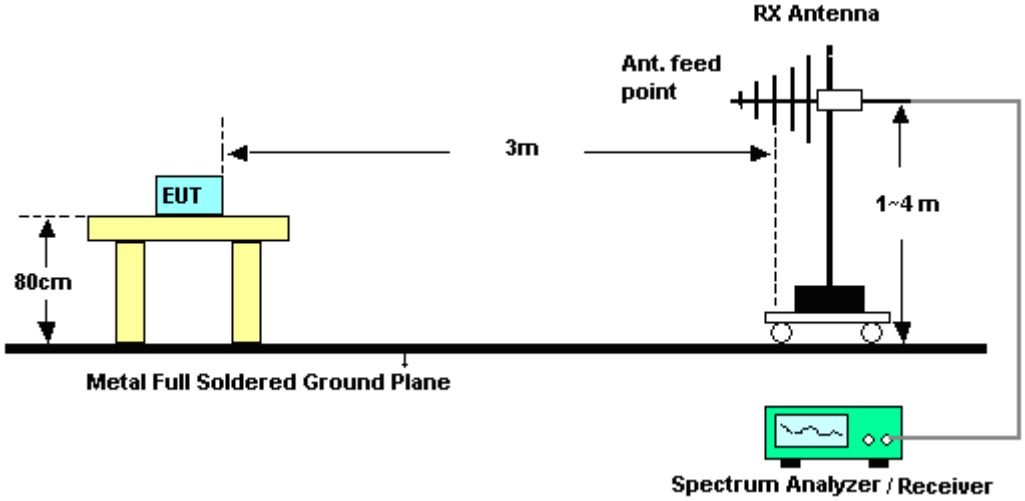
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

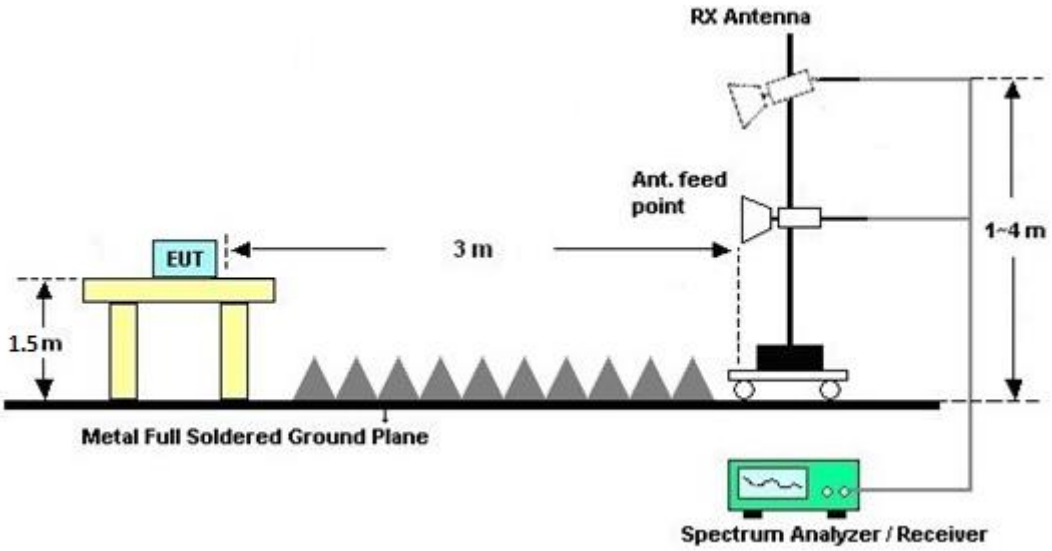
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

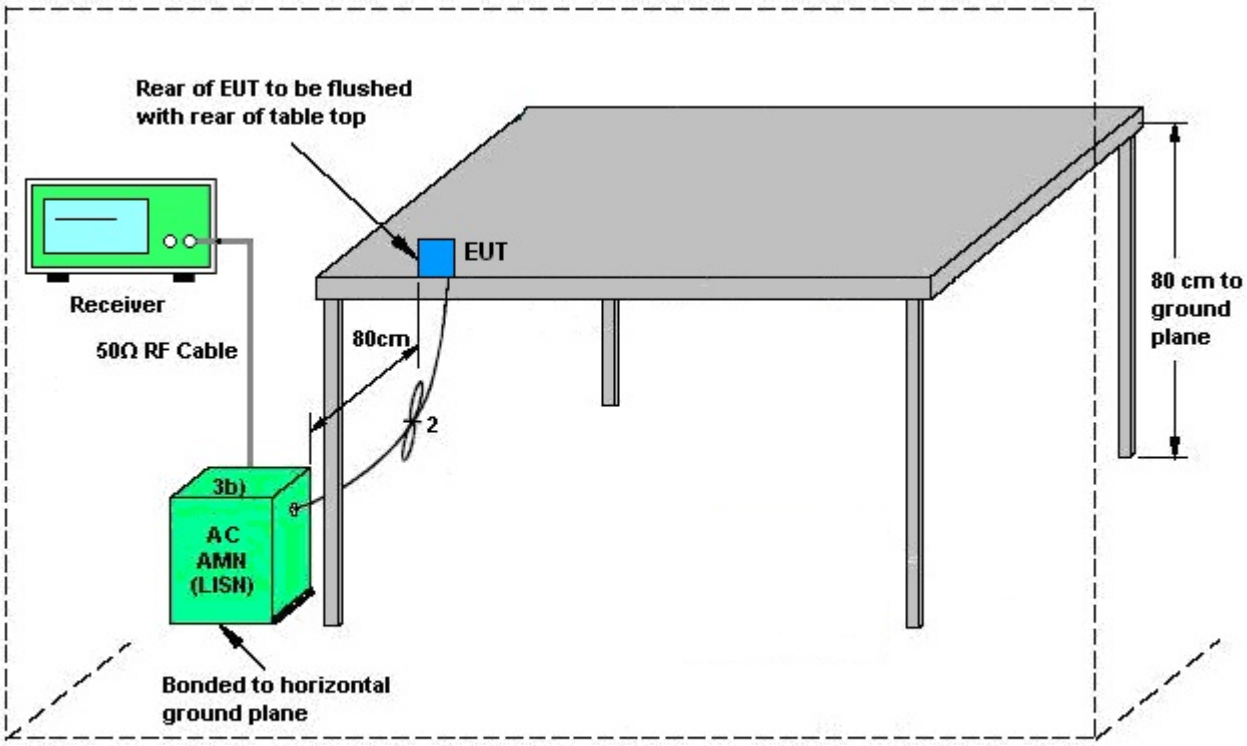
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

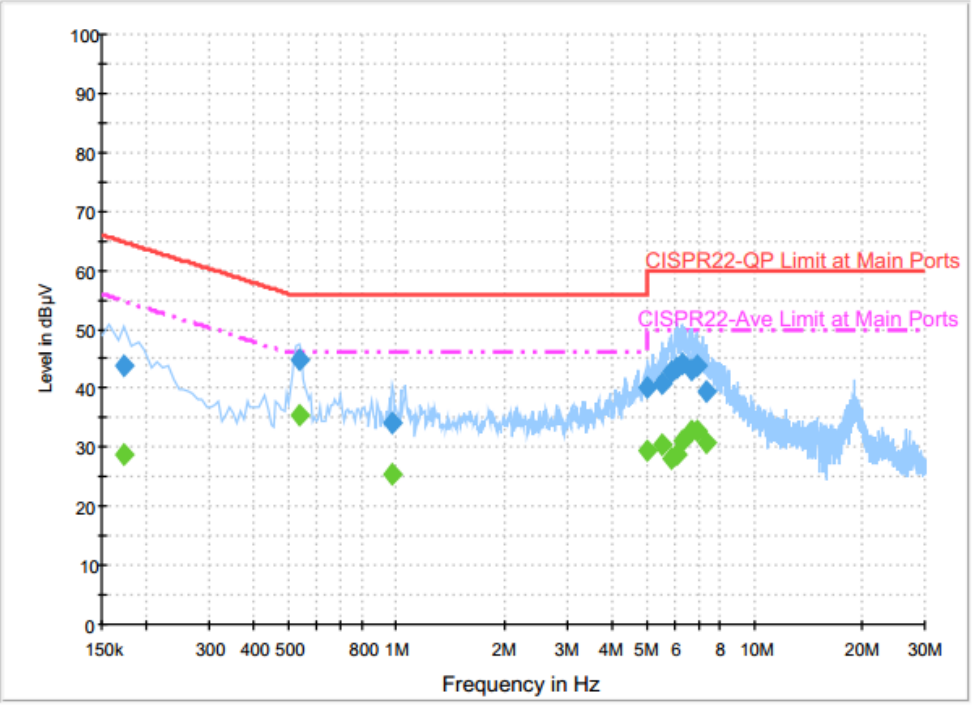
3.5.4 Test Setup



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

3.5.5 Test Result of AC Conducted Emission

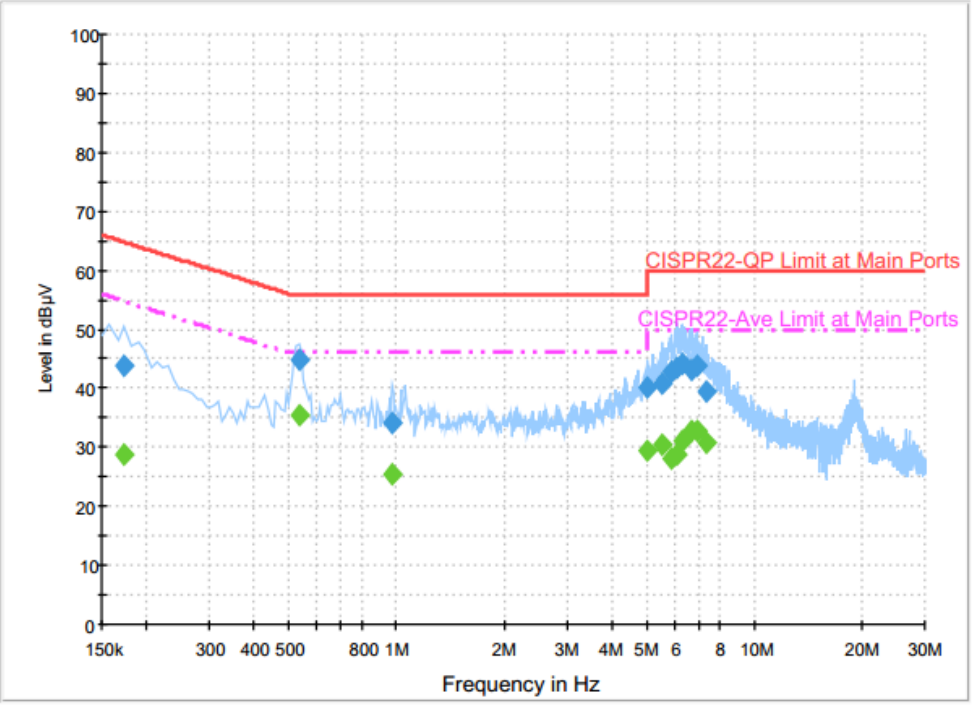
Test Mode :	Mode 1	**Temperature :**	24~25℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	45~46%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	43.8	Off	L1	19.6	21.0	64.8
0.534000	44.8	Off	L1	19.6	11.2	56.0
0.974000	34.2	Off	L1	19.7	21.8	56.0
5.046000	40.3	Off	L1	19.8	19.7	60.0
5.534000	40.9	Off	L1	19.9	19.1	60.0
5.846000	43.0	Off	L1	19.9	17.0	60.0
6.094000	43.5	Off	L1	19.9	16.5	60.0
6.326000	44.0	Off	L1	19.9	16.0	60.0
6.686000	43.3	Off	L1	19.9	16.7	60.0
6.966000	43.9	Off	L1	19.9	16.1	60.0
7.374000	39.5	Off	L1	20.0	20.5	60.0

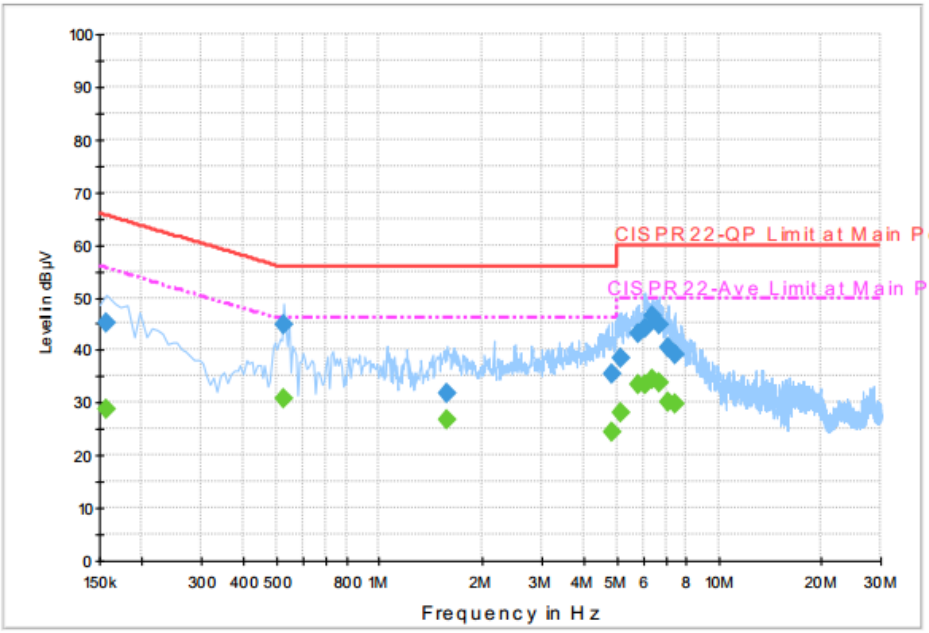
Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	28.8	Off	L1	19.6	26.0	54.8
0.534000	35.4	Off	L1	19.6	10.6	46.0
0.974000	25.3	Off	L1	19.7	20.7	46.0
5.046000	29.3	Off	L1	19.8	20.7	50.0
5.534000	30.3	Off	L1	19.9	19.7	50.0
5.846000	28.2	Off	L1	19.9	21.8	50.0
6.094000	28.9	Off	L1	19.9	21.1	50.0
6.326000	31.1	Off	L1	19.9	18.9	50.0
6.686000	32.6	Off	L1	19.9	17.4	50.0
6.966000	32.7	Off	L1	19.9	17.3	50.0
7.374000	30.8	Off	L1	20.0	19.2	50.0

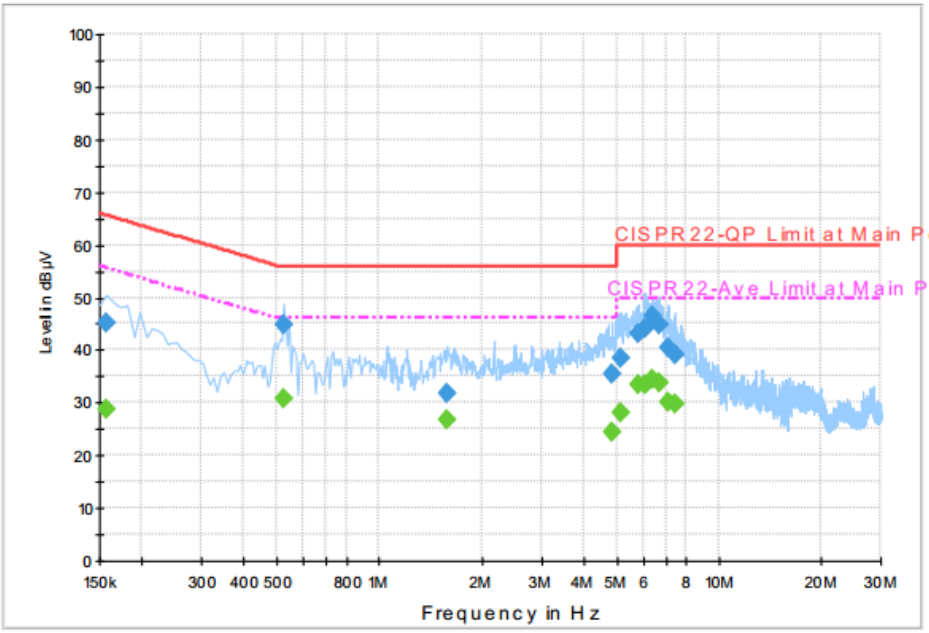
Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	45.2	Off	N	19.6	20.4	65.6
0.526000	44.9	Off	N	19.6	11.1	56.0
1.590000	31.9	Off	N	19.7	24.1	56.0
4.854000	35.5	Off	N	19.8	20.5	56.0
5.150000	38.3	Off	N	19.8	21.7	60.0
5.774000	43.3	Off	N	19.8	16.7	60.0
6.086000	44.1	Off	N	19.9	15.9	60.0
6.374000	46.6	Off	N	19.9	13.4	60.0
6.662000	44.7	Off	N	19.9	15.3	60.0
7.094000	40.3	Off	N	19.9	19.7	60.0
7.406000	39.0	Off	N	19.9	21.0	60.0

Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	28.8	Off	N	19.6	26.8	55.6
0.526000	30.6	Off	N	19.6	15.4	46.0
1.590000	26.7	Off	N	19.7	19.3	46.0
4.854000	24.4	Off	N	19.8	21.6	46.0
5.150000	28.2	Off	N	19.8	21.8	50.0
5.774000	33.4	Off	N	19.8	16.6	50.0
6.086000	33.6	Off	N	19.9	16.4	50.0
6.374000	34.5	Off	N	19.9	15.5	50.0
6.662000	33.8	Off	N	19.9	16.2	50.0
7.094000	30.0	Off	N	19.9	20.0	50.0
7.406000	29.9	Off	N	19.9	20.1	50.0

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

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

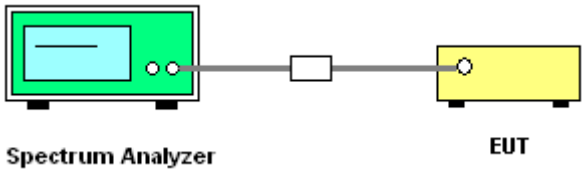
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

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

3.7 Automatically Discontinue Transmission

3.7.1 Limit of Automatically Discontinue Transmission

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

3.7.2 Measuring Instruments

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

3.7.3 Test Result of Automatically Discontinue Transmission

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

A. Information start: make EUT supply information to the access point.

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

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

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

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

5180MHz

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

3.8 Antenna Requirements

3.8.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

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	DG for PSD	Power Limit Reduction	PSD Limit Reduction
	Ant 1 (dBi)	Ant 2 (dBi)	(dBi)	(dBi)	(dB)	(dB)
Band I	3.71	1.96	3.71	5.89	0.00	0.00

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

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1132003	300MHz~40GHz	Aug. 12, 2015	Mar. 29, 2016 ~ Apr. 19, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 12, 2015	Mar. 29, 2016 ~ Apr. 19, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2015	Mar. 29, 2016 ~ Apr. 19, 2016	Nov. 12, 2016	Conducted (TH02-HY)
Temperature Chamber	ESPEC	SU-241	92003713	-30℃ ~95℃	Jun. 15, 2015	Mar. 29, 2016 ~ Apr. 19, 2016	Jun. 14, 2016	Conducted (TH02-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 05, 2015	Mar. 29, 2016 ~ Apr. 19, 2016	Oct. 04, 2016	Conducted (TH02-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Sep. 01, 2016	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHZ	Sep. 24, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Sep. 23, 2016	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D	37059	30MHz~1GHz	Dec. 29, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Dec. 28, 2016	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 21, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Dec. 20, 2016	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 02, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Nov. 01, 2016	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Nov. 01, 2016	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Apr. 01, 2016	Apr. 14, 2016 ~ Jun. 23, 2016	Mar. 31, 2017	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1815698	1GHz~18GHz	Dec. 14, 2015	Apr. 14, 2016 ~ Jun. 23, 2016	Dec. 13, 2016	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY53270148	1GHz~26.5GHz	Jan. 30, 2016	Apr. 14, 2016 ~ Jun. 23, 2016	Jan. 29, 2017	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Apr. 14, 2016 ~ Jun. 23, 2016	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0-360 degree	N/A	Apr. 14, 2016 ~ Jun. 23, 2016	N/A	Radiation (03CH12-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 03, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 26, 2015	Jun. 03, 2016	Aug. 25, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Jun. 03, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Jun. 03, 2016	Dec. 13, 2016	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.9**

Appendix A. Conducted Test Results

Test Engineer:	An Wu and Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/03/29~2016/04/19	Relative Humidity:	51~54	%

Report Number : FR632203-01D

TEST RESULTS DATA
26dB and 99% OBW

Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	18.30		23.10		-		22.62			
11a	6Mbps	1	44	5220	18.10		23.00		-		22.58			
11a	6Mbps	1	48	5240	18.20		23.00		-		22.60			
HT20	MCS0	1	36	5180	18.90		23.40		-		22.76			
HT20	MCS0	1	44	5220	18.95		23.30		-		22.78			
HT20	MCS0	1	48	5240	19.00		23.40		-		22.79			
HT40	MCS0	1	38	5190	36.70		41.76		-		23.01			
HT40	MCS0	1	46	5230	36.60		41.40		-		23.01			
VHT20	MCS0	1	36	5180	18.95		23.50		-		22.78			
VHT20	MCS0	1	44	5220	18.90		23.50		-		22.76			
VHT20	MCS0	1	48	5240	18.95		23.60		-		22.78			
VHT40	MCS0	1	38	5190	36.70		41.58		-		23.01			
VHT40	MCS0	1	46	5230	36.80		41.58		-		23.01			
VHT80	MCS0	1	42	5210	75.84		82.24		-		23.01			
HT20	MCS0	2	36	5180	19.05	18.95	23.50	23.25	-		22.78			
HT20	MCS0	2	44	5220	18.85	18.80	23.40	23.20	-		22.74			
HT20	MCS0	2	48	5240	19.00	18.90	23.35	23.30	-		22.76			
HT40	MCS0	2	38	5190	36.60	36.60	41.67	41.49	-		23.01			
HT40	MCS0	2	46	5230	36.60	36.60	41.49	41.40	-		23.01			
VHT20	MCS0	2	36	5180	18.90	18.95	23.35	23.30	-		22.76			
VHT20	MCS0	2	44	5220	18.75	18.80	23.35	23.20	-		22.73			
VHT20	MCS0	2	48	5240	18.80	18.90	23.35	23.05	-		22.74			
VHT40	MCS0	2	38	5190	36.60	36.70	41.85	41.31	-		23.01			
VHT40	MCS0	2	46	5230	36.60	36.70	41.58	41.49	-		23.01			
VHT80	MCS0	2	42	5210	75.84	75.84	83.36	87.52	-		23.01			

TEST RESULTS DATA
Average Power Table

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	0.32		16.98			24.00	24.00	3.71	1.96		Pass
11a	6Mbps	1	44	5220	0.32		16.92			24.00	24.00	3.71	1.96		Pass
11a	6Mbps	1	48	5240	0.32		16.91			24.00	24.00	3.71	1.96		Pass
HT20	MCS0	1	36	5180	0.31		16.87			24.00	24.00	3.71	1.96		Pass
HT20	MCS0	1	44	5220	0.31		16.92			24.00	24.00	3.71	1.96		Pass
HT20	MCS0	1	48	5240	0.31		16.90			24.00	24.00	3.71	1.96		Pass
HT40	MCS0	1	38	5190	0.60		14.20			24.00	24.00	3.71	1.96		Pass
HT40	MCS0	1	46	5230	0.60		16.66			24.00	24.00	3.71	1.96		Pass
VHT20	MCS0	1	36	5180	0.34		16.86			24.00	24.00	3.71	1.96		Pass
VHT20	MCS0	1	44	5220	0.34		16.90			24.00	24.00	3.71	1.96		Pass
VHT20	MCS0	1	48	5240	0.34		16.88			24.00	24.00	3.71	1.96		Pass
VHT40	MCS0	1	38	5190	0.60		14.15			24.00	24.00	3.71	1.96		Pass
VHT40	MCS0	1	46	5230	0.60		16.63			24.00	24.00	3.71	1.96		Pass
VHT80	MCS0	1	42	5210	1.20		13.71			24.00	24.00	3.71	1.96		Pass
HT20	MCS0	2	36	5180	0.31	0.31	16.07	16.95	19.55	24.00		3.71			Pass
HT20	MCS0	2	44	5220	0.31	0.31	16.05	16.93	19.53	24.00		3.71			Pass
HT20	MCS0	2	48	5240	0.31	0.31	16.03	16.92	19.51	24.00		3.71			Pass
HT40	MCS0	2	38	5190	0.60	0.61	12.89	12.72	15.82	24.00		3.71			Pass
HT40	MCS0	2	46	5230	0.60	0.61	16.60	17.30	19.98	24.00		3.71			Pass
VHT20	MCS0	2	36	5180	0.31	0.31	16.01	16.98	19.53	24.00		3.71			Pass
VHT20	MCS0	2	44	5220	0.31	0.31	16.03	16.93	19.51	24.00		3.71			Pass
VHT20	MCS0	2	48	5240	0.31	0.31	15.96	16.97	19.50	24.00		3.71			Pass
VHT40	MCS0	2	38	5190	0.60	0.60	12.88	12.70	15.81	24.00		3.71			Pass
VHT40	MCS0	2	46	5230	0.60	0.60	16.60	17.24	19.95	24.00		3.71			Pass
VHT80	MCS0	2	42	5210	1.14	1.14	12.64	12.51	15.59	24.00		3.71			Pass

Report Number : FR632203-01D

TEST RESULTS DATA
Power Spectral Density

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	36	5180	0.32		5.19			11.00	11.00	3.71	1.96		Pass
11a	6Mbps	1	44	5220	0.32		5.55			11.00	11.00	3.71	1.96		Pass
11a	6Mbps	1	48	5240	0.32		5.47			11.00	11.00	3.71	1.96		Pass
HT20	MCS0	1	36	5180	0.31		4.91			11.00	11.00	3.71	1.96		Pass
HT20	MCS0	1	44	5220	0.31		4.94			11.00	11.00	3.71	1.96		Pass
HT20	MCS0	1	48	5240	0.31		5.11			11.00	11.00	3.71	1.96		Pass
HT40	MCS0	1	38	5190	0.60		1.55			11.00	11.00	3.71	1.96		Pass
HT40	MCS0	1	46	5230	0.60		1.84			11.00	11.00	3.71	1.96		Pass
VHT20	MCS0	1	36	5180	0.34		4.77			11.00	11.00	3.71	1.96		Pass
VHT20	MCS0	1	44	5220	0.34		5.19			11.00	11.00	3.71	1.96		Pass
VHT20	MCS0	1	48	5240	0.34		5.11			11.00	11.00	3.71	1.96		Pass
VHT40	MCS0	1	38	5190	0.60		1.48			11.00	11.00	3.71	1.96		Pass
VHT40	MCS0	1	46	5230	0.60		1.84			11.00	11.00	3.71	1.96		Pass
VHT80	MCS0	1	42	5210	1.20		-1.48			11.00	11.00	3.71	1.96		Pass
HT20	MCS0	2	36	5180	0.31	0.31			7.50	11.00		5.89			Pass
HT20	MCS0	2	44	5220	0.31	0.31			7.13	11.00		5.89			Pass
HT20	MCS0	2	48	5240	0.31	0.31			7.06	11.00		5.89			Pass
HT40	MCS0	2	38	5190	0.60	0.61			1.52	11.00		5.89			Pass
HT40	MCS0	2	46	5230	0.60	0.61			4.89	11.00		5.89			Pass
VHT20	MCS0	2	36	5180	0.31	0.31			7.63	11.00		5.89			Pass
VHT20	MCS0	2	44	5220	0.31	0.31			6.47	11.00		5.89			Pass
VHT20	MCS0	2	48	5240	0.31	0.31			6.83	11.00		5.89			Pass
VHT40	MCS0	2	38	5190	0.60	0.60			1.75	11.00		5.89			Pass
VHT40	MCS0	2	46	5230	0.60	0.60			4.52	11.00		5.89			Pass
VHT80	MCS0	2	42	5210	1.14	1.14			-3.47	11.00		5.89			Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	4.5	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	5.5	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	5	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	0	5	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	35	5	

Appendix B. Radiated Spurious Emission

Test Engineer :	Citta Ke, Ricky Su, and Nick Yu	Temperature :	21~23°C
		Relative Humidity :	51~53%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5150	65.77	-8.23	74	53.86	31.65	11.21	30.95	100	59	P	H
		5150	51.75	-2.25	54	39.84	31.65	11.21	30.95	100	59	A	H
	*	5182	110.33	-	-	98.42	31.68	11.18	30.95	100	59	P	H
	*	5182	100.58	-	-	88.67	31.68	11.18	30.95	100	59	A	H
													H
													H
		5150	63.72	-10.28	74	51.81	31.65	11.21	30.95	393	91	P	V
		5150	52.11	-1.89	54	40.2	31.65	11.21	30.95	393	91	A	V
	*	5178	109.74	-	-	97.8	31.68	11.21	30.95	393	91	P	V
	*	5178	100.27	-	-	88.33	31.68	11.21	30.95	393	91	A	V
													V
													V
802.11a CH 44 5220MHz		5031.2	59.32	-14.68	74	47.43	31.53	11.31	30.95	111	53	P	H
		5146.64	48.18	-5.82	54	36.27	31.65	11.21	30.95	111	53	A	H
	*	5218	112.52	-	-	100.57	31.72	11.18	30.95	111	53	P	H
	*	5218	102.01	-	-	90.06	31.72	11.18	30.95	111	53	A	H
		5432.64	59.83	-14.17	74	47.21	31.93	11.64	30.95	111	53	P	H
		5442	48.75	-5.25	54	36.13	31.93	11.64	30.95	111	53	A	H
		5001.3	59.09	-14.91	74	47.2	31.5	11.34	30.95	384	82	P	V
		5147.42	47.63	-6.37	54	35.72	31.65	11.21	30.95	384	82	A	V
	*	5222	110.58	-	-	98.55	31.72	11.26	30.95	384	82	P	V
	*	5222	99.28	-	-	87.25	31.72	11.26	30.95	384	82	A	V
		5418.24	60.46	-13.54	74	47.89	31.92	11.6	30.95	384	82	P	V
		5441.28	48.54	-5.46	54	35.92	31.93	11.64	30.95	384	82	A	V

802.11a CH 48 5240MHz		5137.8	59.23	-14.77	74	47.31	31.63	11.24	30.95	100	59	P	H
		5137.02	47.71	-6.29	54	35.79	31.63	11.24	30.95	100	59	A	H
	*	5242	110.81	-	-	98.75	31.75	11.26	30.95	100	59	P	H
	*	5242	100.28	-	-	88.22	31.75	11.26	30.95	100	59	A	H
		5384.4	59.26	-14.74	74	46.73	31.88	11.6	30.95	100	59	P	H
		5452.56	48.38	-5.62	54	35.74	31.95	11.64	30.95	100	59	A	H
		5148.72	59.15	-14.85	74	47.24	31.65	11.21	30.95	342	77	P	V
		5141.96	47.54	-6.46	54	35.63	31.65	11.21	30.95	342	77	A	V
	*	5242	110.27	-	-	98.21	31.75	11.26	30.95	342	77	P	V
	*	5242	100.6	-	-	88.54	31.75	11.26	30.95	342	77	A	V
		5358	59.92	-14.08	74	47.5	31.85	11.52	30.95	342	77	P	V
		5457.84	48.59	-5.41	54	35.95	31.95	11.64	30.95	342	77	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	53.67	-20.33	74	54.42	39.59	17.13	57.47	100	207	P	H
		10360	43.73	-10.27	54	44.48	39.59	17.13	57.47	100	207	A	H
		15540	45.47	-28.53	74	44.13	38.26	21.61	58.53	100	0	P	H
													H
		10360	53.53	-20.47	74	54.28	39.59	17.13	57.47	399	42	P	V
		10360	42.83	-11.17	54	43.58	39.59	17.13	57.47	399	42	A	V
		15540	45.33	-28.67	74	43.99	38.26	21.61	58.53	100	0	P	V
													V
802.11a CH 44 5220MHz		10440	56.27	-17.73	74	56.69	39.69	17.22	57.33	100	203	P	H
		10440	45.46	-8.54	54	45.88	39.69	17.22	57.33	100	203	A	H
		15660	46.96	-27.04	74	45.44	38.11	21.7	58.29	100	0	P	H
													H
		10440	54.96	-19.04	74	55.38	39.69	17.22	57.33	391	43	P	V
		10440	44.01	-9.99	54	44.43	39.69	17.22	57.33	391	43	A	V
		15660	46.53	-27.47	74	45.01	38.11	21.7	58.29	100	0	P	V
													V
802.11a CH 48 5240MHz		10480	55.87	-18.13	74	56.06	39.77	17.27	57.23	118	206	P	H
		10480	45.16	-8.84	54	45.35	39.77	17.27	57.23	118	206	A	H
		15720	45.54	-28.46	74	43.9	38.03	21.76	58.15	100	0	P	H
													H
		10480	53.69	-20.31	74	53.88	39.77	17.27	57.23	400	43	P	V
		10480	43.34	-10.66	54	43.53	39.77	17.27	57.23	400	43	A	V
		15720	45.18	-28.82	74	43.54	38.03	21.76	58.15	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5150	64.79	-9.21	74	52.88	31.65	11.21	30.95	110	59	P	H
		5148.98	52.42	-1.58	54	40.51	31.65	11.21	30.95	110	59	A	H
	*	5182	111.99	-	-	100.08	31.68	11.18	30.95	110	59	P	H
	*	5182	101.64	-	-	89.73	31.68	11.18	30.95	110	59	A	H
802.11n													H
HT20													H
CH 36		5148.46	62.11	-11.89	74	50.2	31.65	11.21	30.95	354	78	P	V
5180MHz		5148.46	50.9	-3.1	54	38.99	31.65	11.21	30.95	354	78	A	V
	*	5178	109.46	-	-	97.52	31.68	11.21	30.95	354	78	P	V
	*	5178	99.85	-	-	87.91	31.68	11.21	30.95	354	78	A	V
													V
													V
		5058.24	58.77	-15.23	74	46.84	31.57	11.31	30.95	111	297	P	H
		5141.7	47.65	-6.35	54	35.74	31.65	11.21	30.95	111	297	A	H
	*	5218	109.74	-	-	97.79	31.72	11.18	30.95	111	297	P	H
	*	5218	99.14	-	-	87.19	31.72	11.18	30.95	111	297	A	H
802.11n		5369.76	59.98	-14.02	74	47.54	31.87	11.52	30.95	111	297	P	H
HT20		5443.68	48.96	-5.04	54	36.34	31.93	11.64	30.95	111	297	A	H
CH 44		5133.38	58.71	-15.29	74	46.79	31.63	11.24	30.95	384	80	P	V
5220MHz		5143.26	47.65	-6.35	54	35.74	31.65	11.21	30.95	384	80	A	V
	*	5222	110.25	-	-	98.22	31.72	11.26	30.95	384	80	P	V
	*	5222	97.83	-	-	85.8	31.72	11.26	30.95	384	80	A	V
		5439.6	59.78	-14.22	74	47.16	31.93	11.64	30.95	384	80	P	V
		5436.96	48.52	-5.48	54	35.9	31.93	11.64	30.95	384	80	A	V

		5062.4	58.98	-15.02	74	47.09	31.57	11.27	30.95	100	295	P	H
		5125.84	47.47	-6.53	54	35.55	31.63	11.24	30.95	100	295	A	H
	*	5242	109.46	-	-	97.4	31.75	11.26	30.95	100	295	P	H
	*	5242	99.35	-	-	87.29	31.75	11.26	30.95	100	295	A	H
802.11n		5391.84	59.58	-14.42	74	47.05	31.88	11.6	30.95	100	295	P	H
HT20		5457.12	48.65	-5.35	54	36.01	31.95	11.64	30.95	100	295	A	H
CH 48		5121.16	59.34	-14.66	74	47.43	31.62	11.24	30.95	342	95	P	V
5240MHz		5133.38	47.62	-6.38	54	35.7	31.63	11.24	30.95	342	95	A	V
	*	5238	110.06	-	-	98.02	31.73	11.26	30.95	342	95	P	V
	*	5238	99.27	-	-	87.23	31.73	11.26	30.95	342	95	A	V
		5453.28	60.13	-13.87	74	47.49	31.95	11.64	30.95	342	95	P	V
		5451.36	48.46	-5.54	54	35.82	31.95	11.64	30.95	342	95	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10360	53.74	-20.26	74	54.49	39.59	17.13	57.47	100	205	P	H
		10360	43.5	-10.5	54	44.25	39.59	17.13	57.47	100	205	A	H
802.11n		15540	45.03	-28.97	74	43.69	38.26	21.61	58.53	100	0	P	H
HT20													H
CH 36		10360	52.42	-21.58	74	53.17	39.59	17.13	57.47	388	42	P	V
5180MHz		10360	42.38	-11.62	54	43.13	39.59	17.13	57.47	388	42	A	V
		15540	44.9	-29.1	74	43.56	38.26	21.61	58.53	100	0	P	V
													V
		10440	56.34	-17.66	74	56.76	39.69	17.22	57.33	100	204	P	H
		10440	45.41	-8.59	54	45.83	39.69	17.22	57.33	100	204	A	H
802.11n		15660	46.58	-27.42	74	45.06	38.11	21.7	58.29	100	0	P	H
HT20													H
CH 44		10440	55.54	-18.46	74	55.96	39.69	17.22	57.33	371	43	P	V
5220MHz		10440	43.75	-10.25	54	44.17	39.69	17.22	57.33	371	43	A	V
		15660	45.93	-28.07	74	44.41	38.11	21.7	58.29	100	0	P	V
													V
		10480	57.36	-16.64	74	57.55	39.77	17.27	57.23	100	206	P	H
		10480	44.94	-9.06	54	45.13	39.77	17.27	57.23	100	206	A	H
802.11n		15720	45.23	-28.77	74	43.59	38.03	21.76	58.15	100	0	P	H
HT20													H
CH 48		10480	53.34	-20.66	74	53.53	39.77	17.27	57.23	400	42	P	V
5240MHz		10480	43.02	-10.98	54	43.21	39.77	17.27	57.23	400	42	A	V
		15720	45.81	-28.19	74	44.17	38.03	21.76	58.15	100	0	P	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5149.76	65.02	-8.98	74	53.11	31.65	11.21	30.95	100	52	P	H
		5149.5	53.26	-0.74	54	41.35	31.65	11.21	30.95	100	52	P	H
	*	5192	106.05	-	-	94.12	31.7	11.18	30.95	100	52	P	H
	*	5192	95.69	-	-	83.76	31.7	11.18	30.95	100	52	A	H
		5352.48	59.51	-14.49	74	47.09	31.85	11.52	30.95	100	52	P	H
		5398.56	49.06	-4.94	54	36.51	31.9	11.6	30.95	100	52	A	H
		5148.72	64.02	-9.98	74	52.11	31.65	11.21	30.95	353	80	P	V
		5149.5	52.41	-1.59	54	40.5	31.65	11.21	30.95	353	80	A	V
	*	5188	102.8	-	-	90.89	31.68	11.18	30.95	353	80	P	V
	*	5188	93.48	-	-	81.57	31.68	11.18	30.95	353	80	A	V
		5352.24	59.39	-14.61	74	46.97	31.85	11.52	30.95	353	80	P	V
		5381.76	48.81	-5.19	54	36.28	31.88	11.6	30.95	353	80	A	V
802.11n HT40 CH 46 5230MHz		5137.8	59.6	-14.4	74	47.68	31.63	11.24	30.95	100	52	P	H
		5150	49.42	-4.58	54	37.51	31.65	11.21	30.95	100	52	A	H
	*	5228	108.95	-	-	96.91	31.73	11.26	30.95	100	52	P	H
	*	5228	97.47	-	-	85.43	31.73	11.26	30.95	100	52	A	H
		5384.16	60.07	-13.93	74	47.54	31.88	11.6	30.95	100	52	P	H
		5368.32	48.91	-5.09	54	36.47	31.87	11.52	30.95	100	52	A	H
		5046.02	60.3	-13.7	74	48.39	31.55	11.31	30.95	384	80	P	V
		5147.16	48.64	-5.36	54	36.73	31.65	11.21	30.95	384	80	A	V
	*	5228	106.83	-	-	94.79	31.73	11.26	30.95	384	80	P	V
	*	5228	95.58	-	-	83.54	31.73	11.26	30.95	384	80	A	V
		5415.6	60.46	-13.54	74	47.89	31.92	11.6	30.95	384	80	P	V
		5413.2	49.11	-4.89	54	36.54	31.92	11.6	30.95	384	80	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10380	48.73	-25.27	74	49.42	39.61	17.13	57.43	100	0	P	H
		15570	44.94	-29.06	74	43.54	38.22	21.64	58.46	100	0	P	H
802.11n													H
HT40													H
CH 38		10380	46.85	-27.15	74	47.54	39.61	17.13	57.43	100	0	P	V
5190MHz		15570	45.33	-28.67	74	43.93	38.22	21.64	58.46	100	0	P	V
													V
													V
		10460	52.28	-21.72	74	52.64	39.72	17.22	57.3	100	207	P	H
		10460	42.69	-11.31	54	43.05	39.72	17.22	57.3	100	207	A	H
802.11n		15690	45.74	-28.26	74	44.16	38.07	21.73	58.22	100	0	P	H
HT40													H
CH 46		10460	51.51	-22.49	74	51.87	39.72	17.22	57.3	389	42	P	V
5230MHz		10460	41.03	-12.97	54	41.39	39.72	17.22	57.3	389	42	A	V
		15690	46.07	-27.93	74	44.49	38.07	21.73	58.22	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5121.94	65.43	-8.57	74	53.52	31.62	11.24	30.95	127	60	P	H
		5149.24	53.21	-0.79	54	41.3	31.65	11.21	30.95	127	60	A	H
	*	5212	102.19	-	-	90.24	31.72	11.18	30.95	127	60	P	H
	*	5212	92.64	-	-	80.69	31.72	11.18	30.95	127	60	A	H
		5360.16	59.81	-14.19	74	47.39	31.85	11.52	30.95	127	60	P	H
		5382.48	50.18	-3.82	54	37.65	31.88	11.6	30.95	127	60	A	H
		5121.94	63.56	-10.44	74	51.65	31.62	11.24	30.95	385	78	P	V
		5135.72	52.66	-1.34	54	40.74	31.63	11.24	30.95	385	78	A	V
	*	5212	99.68	-	-	87.73	31.72	11.18	30.95	385	78	P	V
	*	5212	90.56	-	-	78.61	31.72	11.18	30.95	385	78	A	V
		5411.76	59.7	-14.3	74	47.13	31.92	11.6	30.95	385	78	P	V
		5436.48	50.29	-3.71	54	37.67	31.93	11.64	30.95	385	78	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10420	48.28	-25.72	74	48.8	39.67	17.18	57.37	100	0	P	H
		15630	45.61	-28.39	74	44.1	38.13	21.7	58.32	100	0	P	H
802.11ac													H
VHT80													H
CH 42		10420	47.8	-26.2	74	48.32	39.67	17.18	57.37	100	0	P	V
5210MHz		15630	45.23	-28.77	74	43.72	38.13	21.7	58.32	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		80.49	32.65	-7.35	40	48.32	13.7	1.06	30.43	100	124	P	H
		130.44	33.6	-9.9	43.5	44.57	17.98	1.43	30.38			P	H
		240.87	33.07	-12.93	46	43.8	17.68	1.83	30.24			P	H
		482	31.81	-14.19	46	34.91	23.67	3.08	29.85			P	H
		490.4	32.5	-13.5	46	35.42	23.83	3.08	29.83			P	H
		948.9	34.53	-11.47	46	28.61	30.27	4.75	29.1			P	H
													H
													H
													H
													H
													H
													H
		76.98	36.76	-3.24	40	52.95	13.19	1.06	30.44	100	59	P	V
		196.05	38.09	-5.41	43.5	51.09	15.6	1.7	30.3			P	V
		251.94	35.95	-10.05	46	45.64	18.7	1.83	30.22			P	V
		304.2	25.57	-20.43	46	33.74	19.64	2.34	30.15			P	V
		482	29.43	-16.57	46	32.53	23.67	3.08	29.85			P	V
		929.3	34.27	-11.73	46	29.12	29.72	4.6	29.17			P	V
													V
													V
													V
													V
													V
													V

Remark

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

Band 1 - 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5149.76	67.59	-6.41	74	55.68	31.65	11.21	30.95	100	58	P	H
		5148.46	52.01	-1.99	54	40.1	31.65	11.21	30.95	100	58	A	H
	*	5182	110.89	-	-	98.98	31.68	11.18	30.95	100	58	P	H
	*	5182	101.81	-	-	89.9	31.68	11.18	30.95	100	58	A	H
802.11n													H
HT20													H
CH 36		5150	65.64	-8.36	74	53.73	31.65	11.21	30.95	351	97	P	V
5180MHz		5148.46	51.21	-2.79	54	39.3	31.65	11.21	30.95	351	97	A	V
	*	5182	109.62	-	-	97.71	31.68	11.18	30.95	351	97	P	V
	*	5182	99.59	-	-	87.68	31.68	11.18	30.95	351	97	A	V
													V
													V
		5116.48	58.76	-15.24	74	46.85	31.62	11.24	30.95	100	231	P	H
		5146.38	48.01	-5.99	54	36.1	31.65	11.21	30.95	100	231	A	H
	*	5220	111.25	-	-	99.3	31.72	11.18	30.95	100	231	P	H
	*	5220	89.83	-	-	77.88	31.72	11.18	30.95	100	231	A	H
802.11n		5431.92	60.62	-13.38	74	48	31.93	11.64	30.95	100	231	P	H
HT20		5443.68	49.98	-4.02	54	37.36	31.93	11.64	30.95	100	231	A	H
CH 44		5021.32	58.63	-15.37	74	46.74	31.53	11.31	30.95	385	92	P	V
5220MHz		5112.32	47.6	-6.4	54	35.69	31.62	11.24	30.95	385	92	A	V
	*	5220	109.7	-	-	97.75	31.72	11.18	30.95	385	92	P	V
	*	5220	99.71	-	-	87.76	31.72	11.18	30.95	385	92	A	V
		5432.16	59.68	-14.32	74	47.06	31.93	11.64	30.95	385	92	P	V
		5440.8	48.65	-5.35	54	36.03	31.93	11.64	30.95	385	92	A	V

		5080.86	58.75	-15.25	74	46.85	31.58	11.27	30.95	100	313	P	H
		5128.18	47.69	-6.31	54	35.77	31.63	11.24	30.95	100	313	A	H
	*	5240	111.57	-	-	99.53	31.73	11.26	30.95	100	313	P	H
	*	5240	101.57	-	-	89.53	31.73	11.26	30.95	100	313	A	H
802.11n		5451.84	59.88	-14.12	74	47.24	31.95	11.64	30.95	100	313	P	H
HT20		5457.36	49.2	-4.8	54	36.56	31.95	11.64	30.95	100	313	A	H
CH 48		5144.04	59.08	-14.92	74	47.17	31.65	11.21	30.95	363	84	P	V
5240MHz		5135.46	47.56	-6.44	54	35.64	31.63	11.24	30.95	363	84	A	V
	*	5240	109.47	-	-	97.43	31.73	11.26	30.95	363	84	P	V
	*	5240	99.72	-	-	87.68	31.73	11.26	30.95	363	84	A	V
		5379.84	59.28	-14.72	74	46.83	31.88	11.52	30.95	363	84	P	V
		5459.52	48.31	-5.69	54	35.67	31.95	11.64	30.95	363	84	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10360	53.06	-20.94	74	53.81	39.59	17.13	57.47	119	281	P	H
		10360	43.88	-10.12	54	44.63	39.59	17.13	57.47	119	281	A	H
802.11n		15540	45	-29	74	43.66	38.26	21.61	58.53	100	0	P	H
HT20													H
CH 36		10360	51.78	-22.22	74	52.53	39.59	17.13	57.47	100	226	P	V
5180MHz		10360	41.27	-12.73	54	42.02	39.59	17.13	57.47	100	226	A	V
		15540	44.85	-29.15	74	43.51	38.26	21.61	58.53	100	0	P	V
													V
		10440	55.77	-18.23	74	56.19	39.69	17.22	57.33	120	280	P	H
		10440	44.9	-9.1	54	45.32	39.69	17.22	57.33	120	280	A	H
802.11n		15660	46.33	-27.67	74	44.81	38.11	21.7	58.29	100	0	P	H
HT20													H
CH 44		10440	53.59	-20.41	74	54.01	39.69	17.22	57.33	100	225	P	V
5220MHz		10440	43.71	-10.29	54	44.13	39.69	17.22	57.33	100	225	A	V
		15660	45.59	-28.41	74	44.07	38.11	21.7	58.29	100	0	P	V
													V
		10480	54.7	-19.3	74	54.89	39.77	17.27	57.23	121	281	P	H
		10480	44.82	-9.18	54	45.01	39.77	17.27	57.23	121	281	A	H
802.11n		15720	46	-28	74	44.36	38.03	21.76	58.15	100	0	P	H
HT20													H
CH 48		10480	52.69	-21.31	74	52.88	39.77	17.27	57.23	100	225	P	V
5240MHz		10480	42.32	-11.68	54	42.51	39.77	17.27	57.23	100	225	A	V
		15720	45.28	-28.72	74	43.64	38.03	21.76	58.15	100	0	P	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5147.42	66.03	-7.97	74	54.12	31.65	11.21	30.95	100	233	P	H
		5149.76	53.4	-0.6	54	41.49	31.65	11.21	30.95	100	233	A	H
	*	5190	104.47	-	-	92.56	31.68	11.18	30.95	100	233	P	H
	*	5190	94.23	-	-	82.32	31.68	11.18	30.95	100	233	A	H
802.11n		5414.88	59.31	-14.69	74	46.74	31.92	11.6	30.95	100	233	P	H
HT40		5422.56	48.92	-5.08	54	36.31	31.92	11.64	30.95	100	233	A	H
CH 38		5143	63.78	-10.22	74	51.87	31.65	11.21	30.95	369	81	P	V
5190MHz		5148.46	51.67	-2.33	54	39.76	31.65	11.21	30.95	369	81	A	V
	*	5190	103.41	-	-	91.5	31.68	11.18	30.95	369	81	P	V
	*	5190	93.11	-	-	81.2	31.68	11.18	30.95	369	81	A	V
		5400	59.53	-14.47	74	46.98	31.9	11.6	30.95	369	81	P	V
		5426.88	48.91	-5.09	54	36.3	31.92	11.64	30.95	369	81	A	V
		5144.04	61.15	-12.85	74	49.24	31.65	11.21	30.95	100	314	P	H
		5150.02	50.02	-3.98	54	38.11	31.65	11.21	30.95	100	314	A	H
	*	5230	108.5	-	-	96.46	31.73	11.26	30.95	100	314	P	H
	*	5230	100.41	-	-	88.37	31.73	11.26	30.95	100	314	A	H
802.11n		5393.52	59.39	-14.61	74	46.86	31.88	11.6	30.95	100	314	P	H
HT40		5406.24	49.1	-4.9	54	36.55	31.9	11.6	30.95	100	314	A	H
CH 46		5073.84	59.14	-14.86	74	47.24	31.58	11.27	30.95	365	81	P	V
5230MHz		5149.24	49.07	-4.93	54	37.16	31.65	11.21	30.95	365	81	A	V
	*	5230	107.24	-	-	95.2	31.73	11.26	30.95	365	81	P	V
	*	5230	97.21	-	-	85.17	31.73	11.26	30.95	365	81	A	V
		5355.6	59.28	-14.72	74	46.86	31.85	11.52	30.95	365	81	P	V
		5421.12	49.2	-4.8	54	36.59	31.92	11.64	30.95	365	81	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10380	49.32	-24.68	74	50.01	39.61	17.13	57.43	100	0	P	H
		15570	44.25	-29.75	74	42.85	38.22	21.64	58.46	100	0	P	H
802.11n													H
HT40													H
CH 38		10380	48.18	-25.82	74	48.87	39.61	17.13	57.43	100	0	P	V
5190MHz		15570	45.16	-28.84	74	43.76	38.22	21.64	58.46	100	0	P	V
													V
													V
		10460	53.16	-20.84	74	53.52	39.72	17.22	57.3	118	282	P	H
		10460	42.77	-11.23	54	43.13	39.72	17.22	57.3	118	282	A	H
802.11n		15690	46.05	-27.95	74	44.47	38.07	21.73	58.22	100	0	P	H
HT40													H
CH 46		10460	52.05	-21.95	74	52.41	39.72	17.22	57.3	100	225	P	V
5230MHz		10460	41.79	-12.21	54	42.15	39.72	17.22	57.3	100	225	A	V
		15690	46.62	-27.38	74	45.04	38.07	21.73	58.22	100	0	P	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5122.98	65.38	-8.62	74	53.46	31.63	11.24	30.95	100	311	P	H
		5139.1	53.22	-0.78	54	41.3	31.63	11.24	30.95	100	311	A	H
	*	5210	103.86	-	-	91.91	31.72	11.18	30.95	100	311	P	H
	*	5210	93.05	-	-	81.1	31.72	11.18	30.95	100	311	A	H
802.11ac		5354.16	59.2	-14.8	74	46.78	31.85	11.52	30.95	100	311	P	H
VHT80		5374.08	50.4	-3.6	54	37.96	31.87	11.52	30.95	100	311	A	H
CH 42		5141.7	62.41	-11.59	74	50.5	31.65	11.21	30.95	363	85	P	V
5210MHz		5148.2	52.74	-1.26	54	40.83	31.65	11.21	30.95	363	85	A	V
	*	5210	101.99	-	-	90.04	31.72	11.18	30.95	363	85	P	V
	*	5210	93.37	-	-	81.42	31.72	11.18	30.95	363	85	A	V
		5403.84	59.52	-14.48	74	46.97	31.9	11.6	30.95	363	85	P	V
		5383.68	50.03	-3.97	54	37.5	31.88	11.6	30.95	363	85	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10420	48.64	-25.36	74	49.16	39.67	17.18	57.37	100	0	P	H
		15630	45.04	-28.96	74	43.53	38.13	21.7	58.32	100	0	P	H
802.11ac													H
VHT80													H
CH 42		10420	47.53	-26.47	74	48.05	39.67	17.18	57.37	100	0	P	V
5210MHz		15630	45.36	-28.64	74	43.85	38.13	21.7	58.32	100	0	P	V
													V
													V

Remark

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

Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		119.37	33.08	-10.42	43.5	44.49	17.55	1.43	30.39			P	H
		181.2	31.69	-11.81	43.5	45.01	15.3	1.7	30.32			P	H
		240.06	33.26	-12.74	46	43.99	17.68	1.83	30.24			P	H
		483.4	32.38	-13.62	46	35.46	23.69	3.08	29.85			P	H
		493.2	40.14	-5.86	46	43.01	23.88	3.08	29.83	100	134	P	H
		939.8	35.26	-10.74	46	29.76	30.03	4.6	29.13			P	H
													H
													H
													H
													H
													H
													H
		79.14	32.24	-7.76	40	48.04	13.57	1.06	30.43			P	V
		202.8	36.72	-6.78	43.5	49.44	15.88	1.7	30.3	100	59	P	V
		211.98	36.24	-7.26	43.5	48.74	16.08	1.7	30.28			P	V
		451.9	29.22	-16.78	46	33.12	23.13	2.89	29.92			P	V
		479.2	29.05	-16.95	46	32.21	23.62	3.08	29.86			P	V
		949.6	34.22	-11.78	46	28.27	30.3	4.75	29.1			P	V
													V
													V
													V
													V
													V
													V

Remark

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

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix C. Radiated Spurious Emission

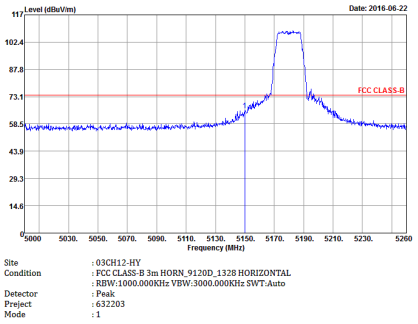
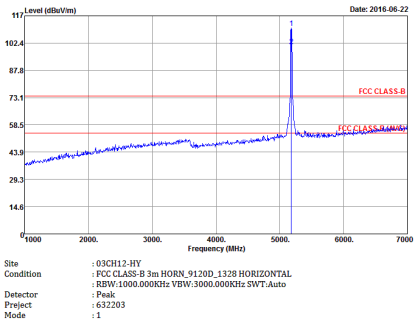
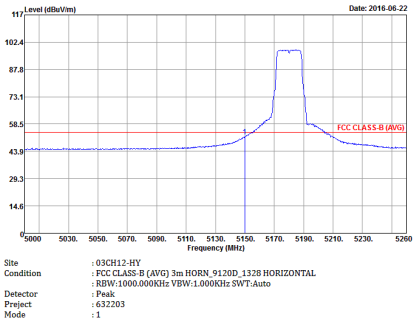
Test Engineer :	Citta Ke, Ricky Su, and Nick Yu	**Temperature :**	21~23°C
		Relative Humidity :	51~53%

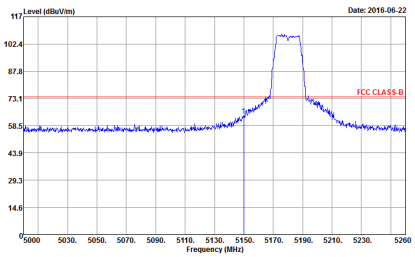
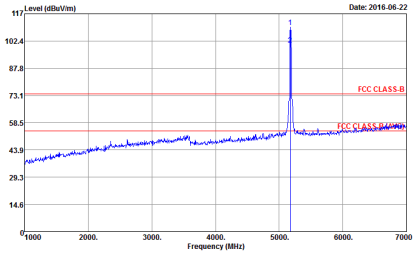
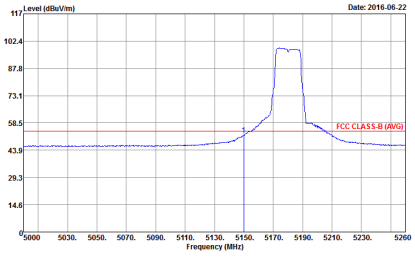
Note symbol

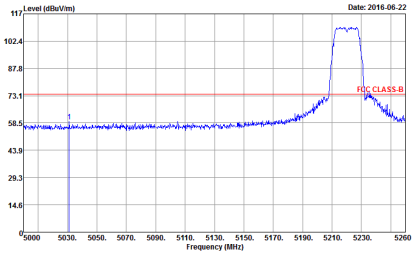
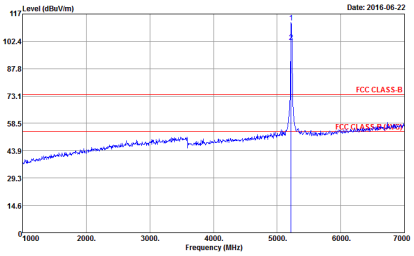
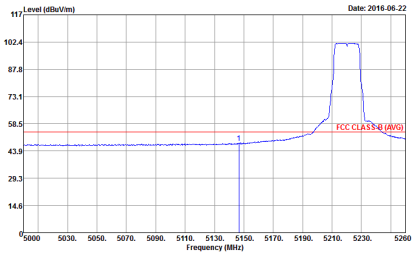
-L	**Low channel location**
-R	**High channel location**

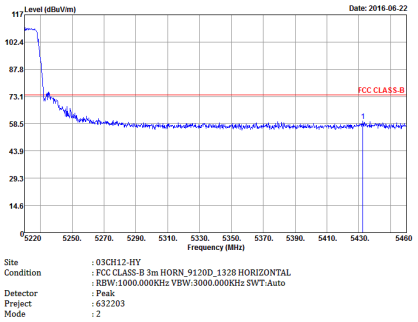
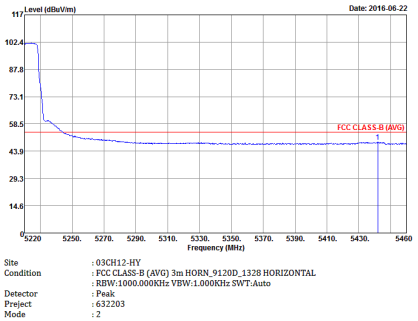
Band 1 - 5150~5250MHz

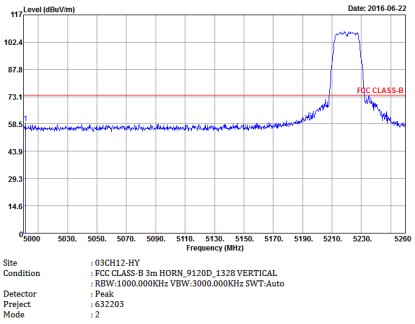
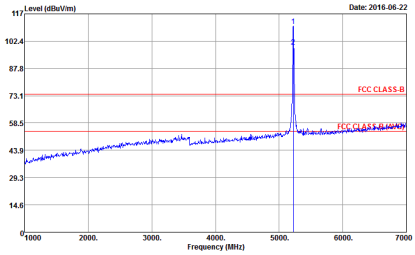
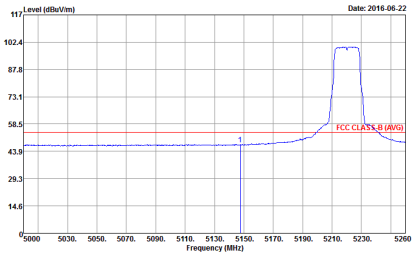
WIFI 802.11a (Band Edge and Fundamental @ 3m)

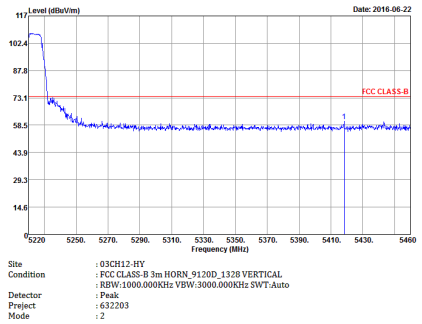
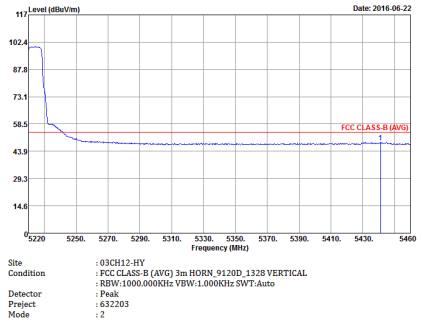
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

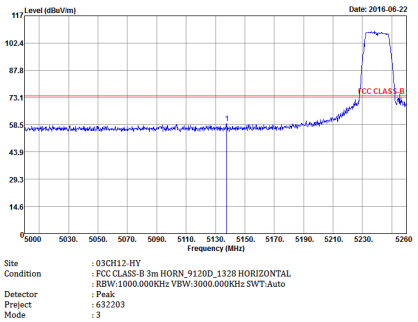
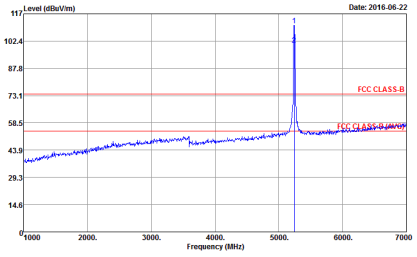
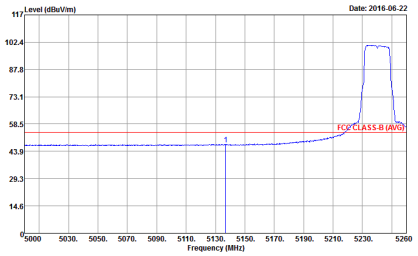
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 1	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 1
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 1	Left blank

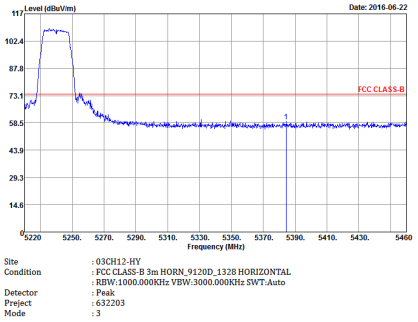
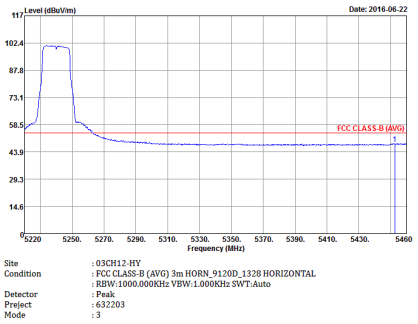
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank

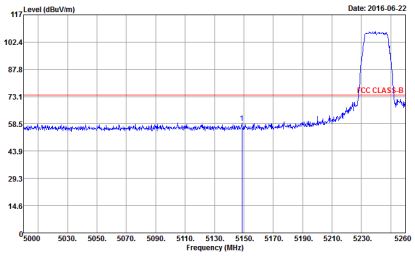
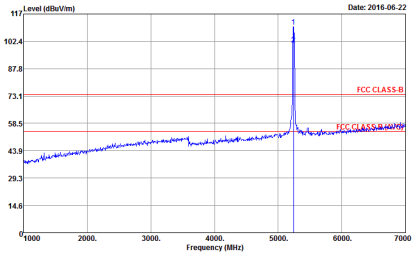
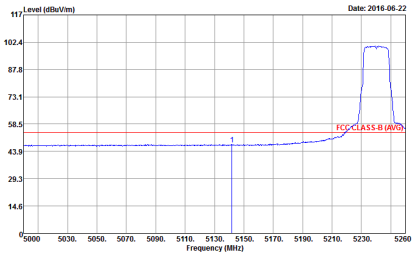
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank

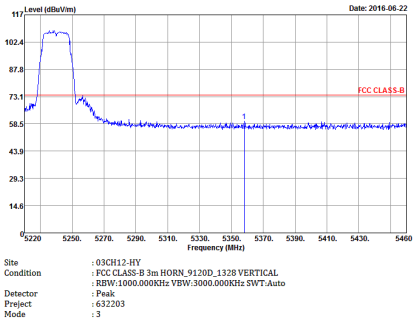
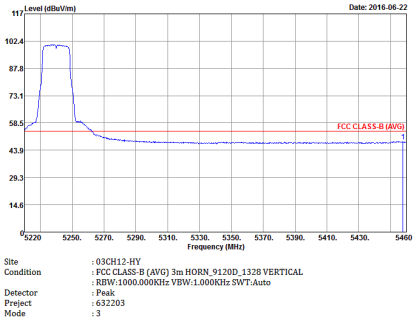
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 2	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3	Left blank

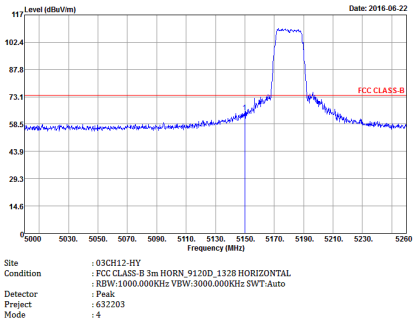
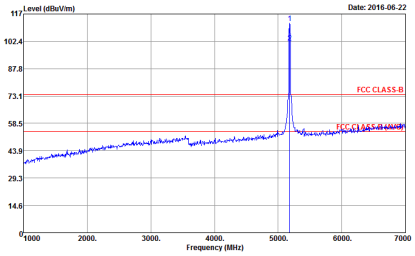
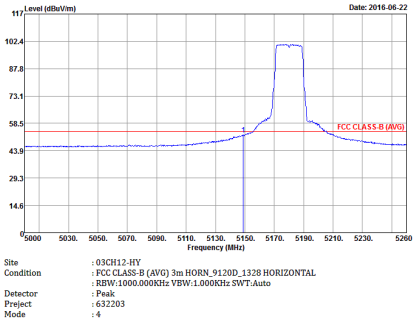
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

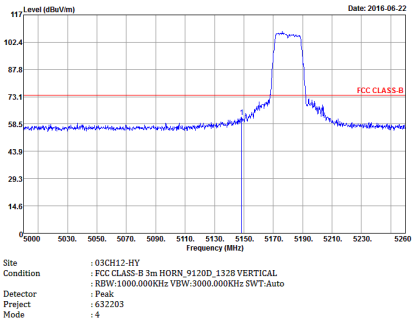
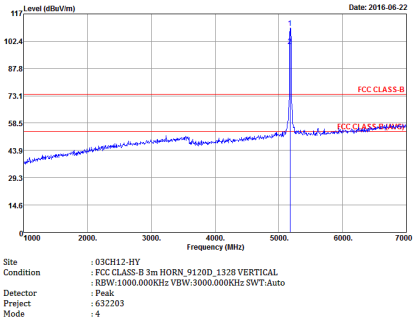
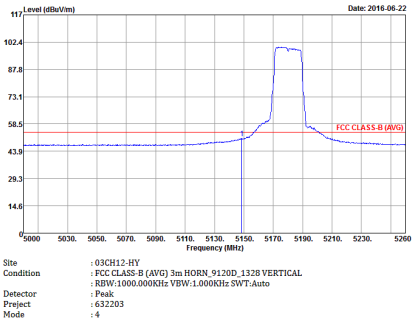
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 3	Left blank

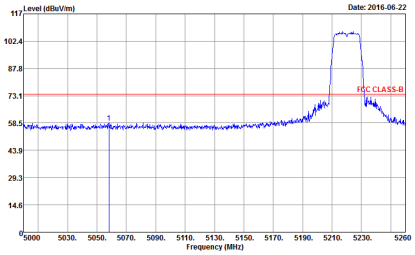
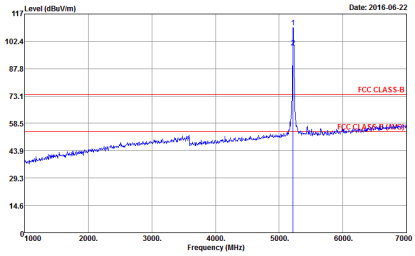
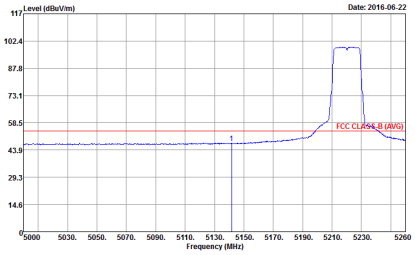
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

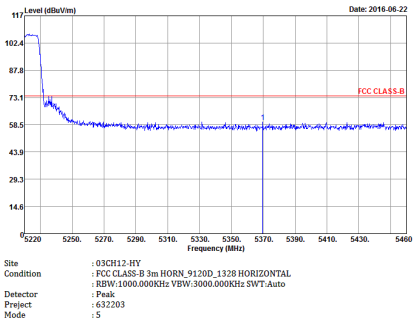
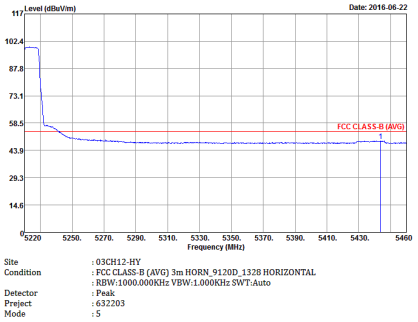
Band 1 5150~5250MHz

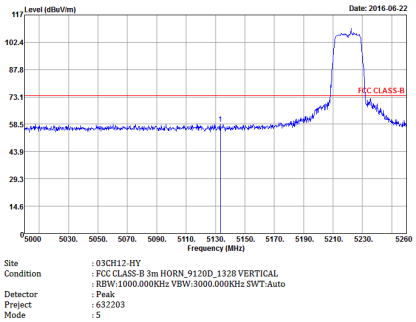
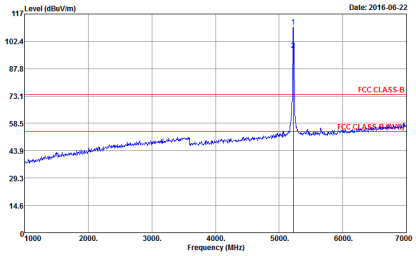
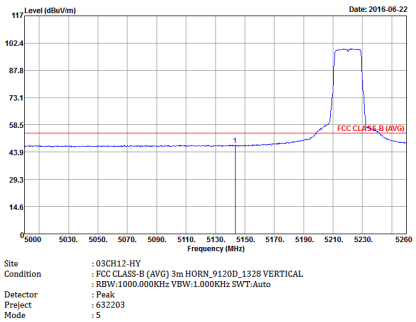
WIFI 802.11n HT20 (Band Edge and Fundamental @ 3m)

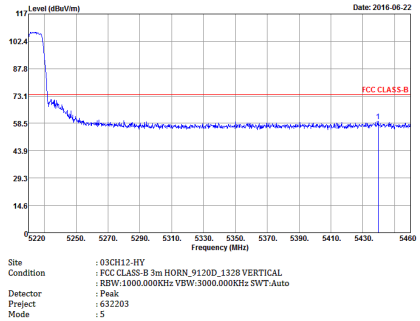
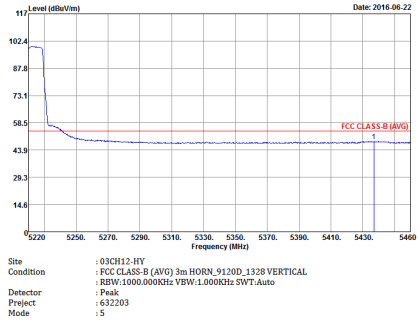
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 4	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 4
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 4	Left blank

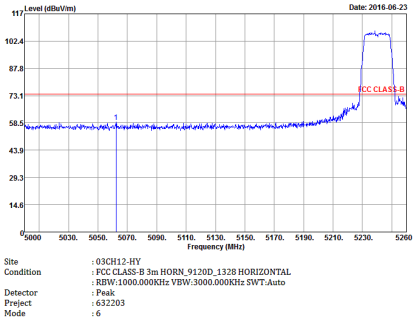
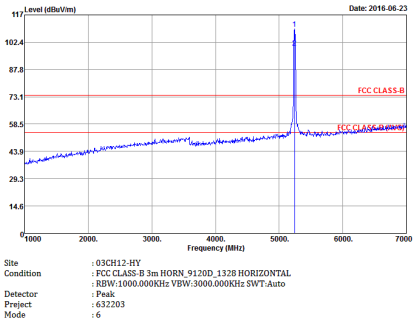
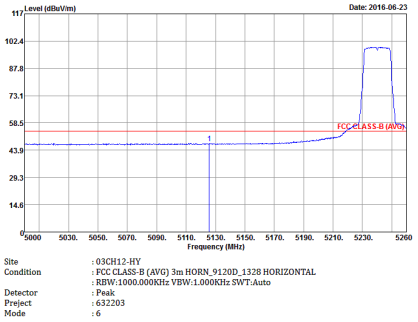
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

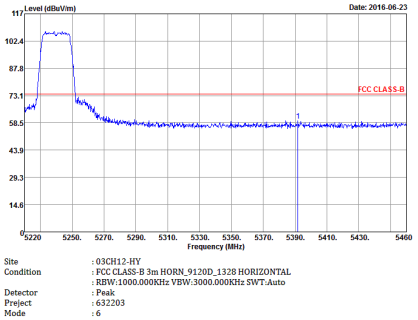
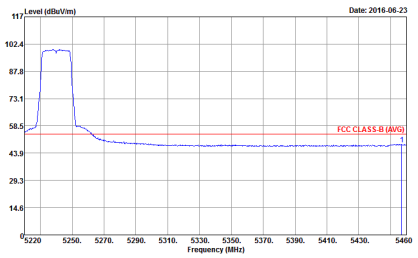
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	Left blank

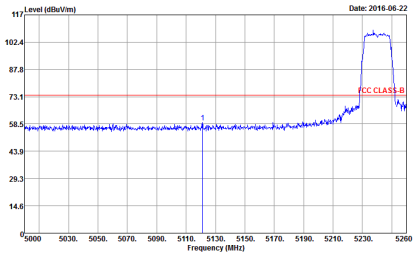
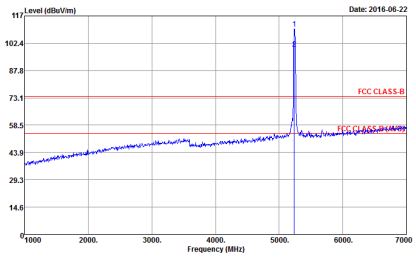
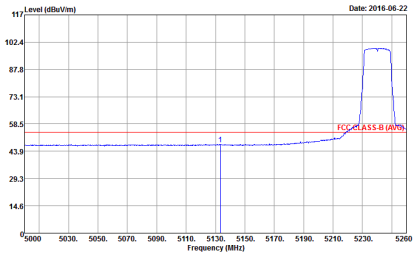
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

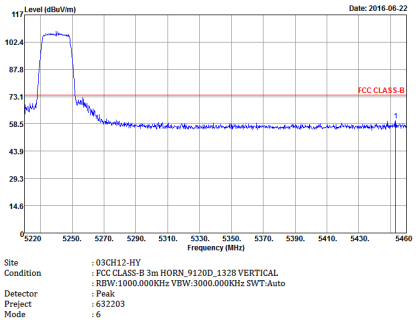
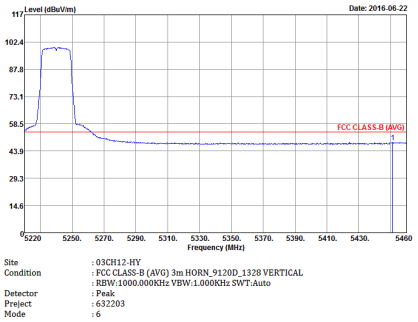
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 5	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	Left blank

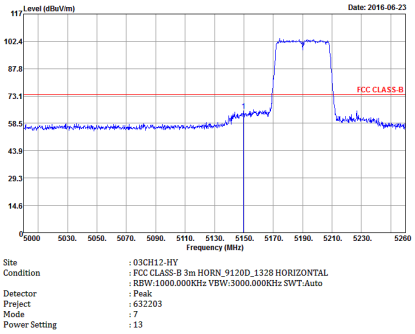
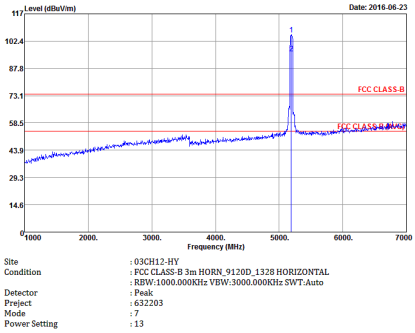
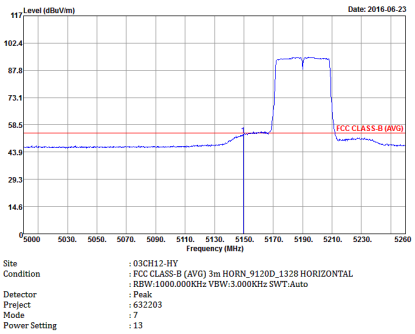
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	Left blank

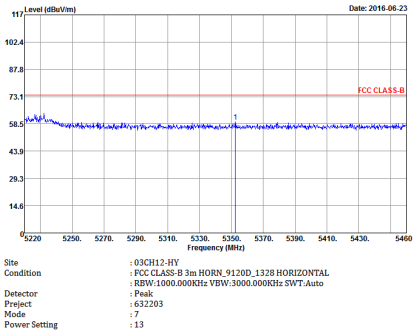
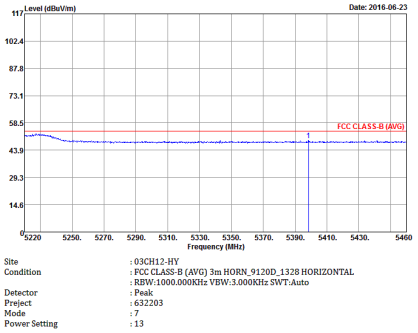
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 6	Left blank

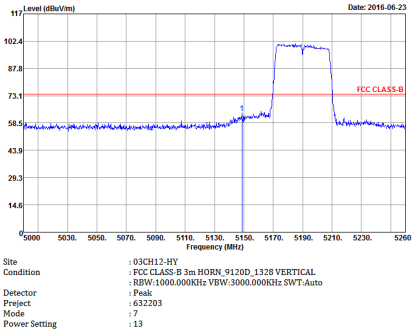
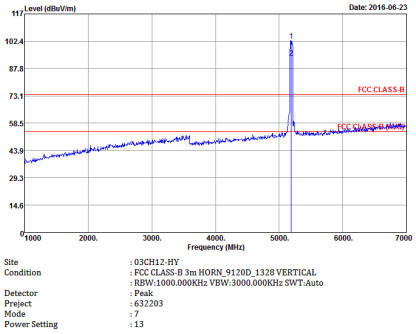
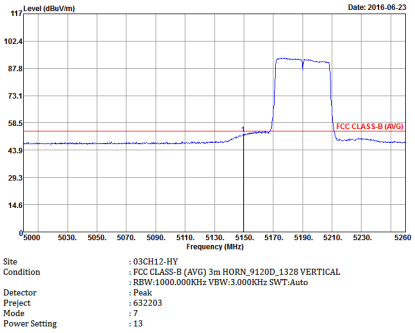
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

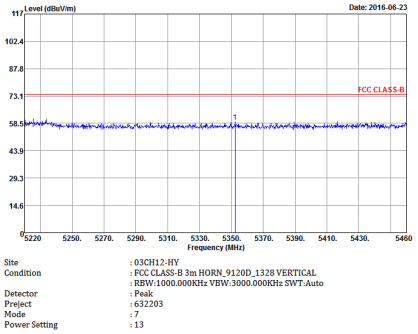
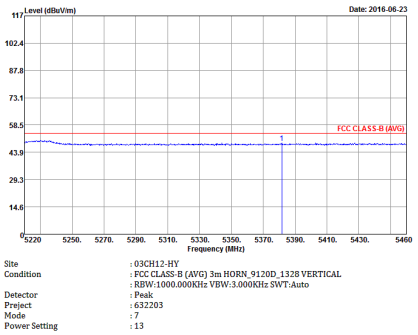
Band 1 5150~5250MHz

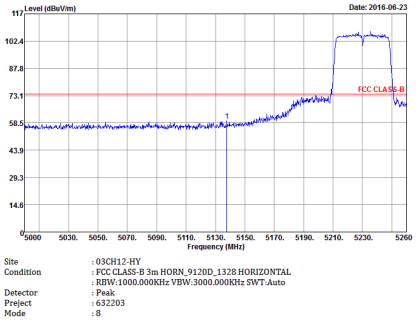
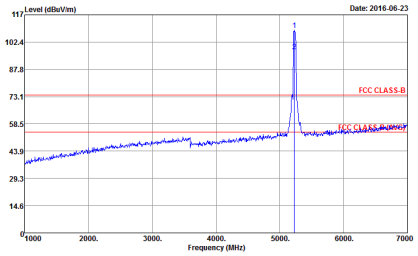
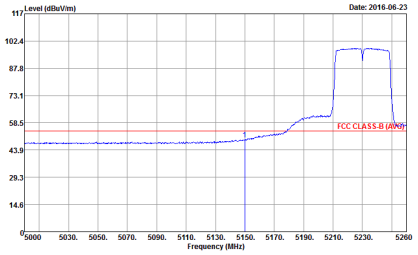
WIFI 802.11n HT40 (Band Edge and Fundamental @ 3m)

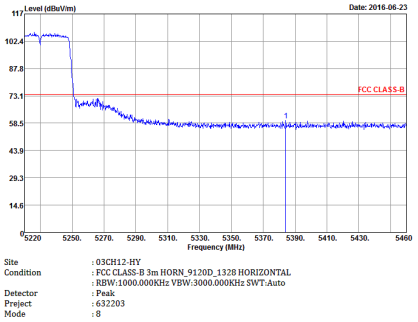
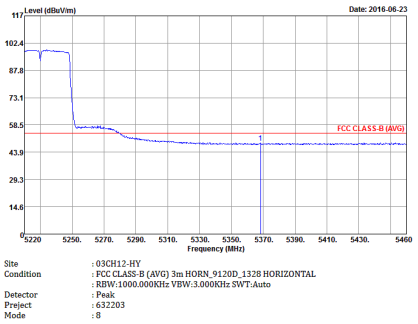
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

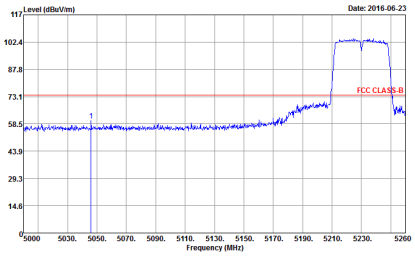
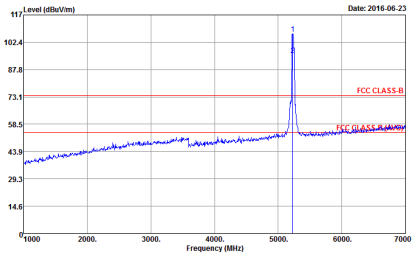
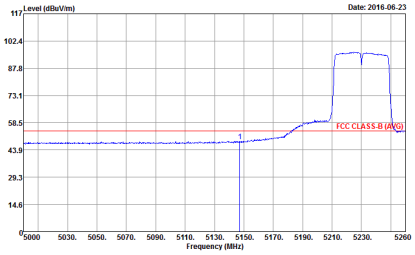
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

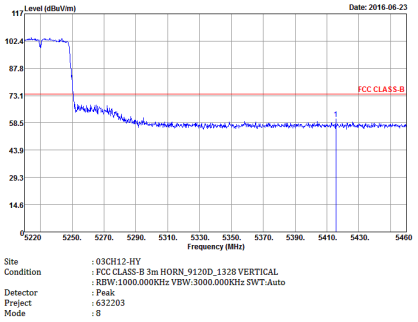
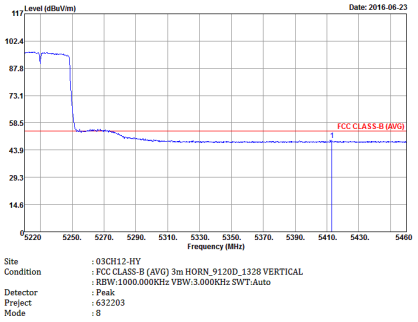
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 7 Power Setting : 13	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 7 Power Setting : 13
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 7 Power Setting : 13	Left blank

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

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8	Left blank

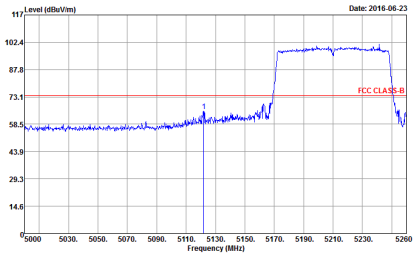
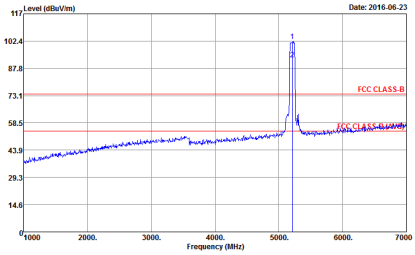
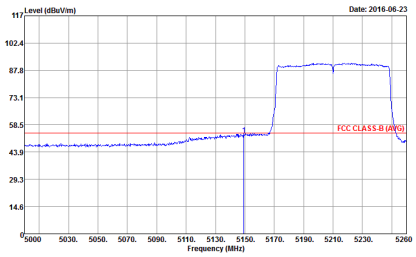
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

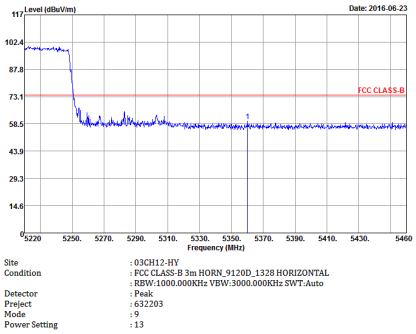
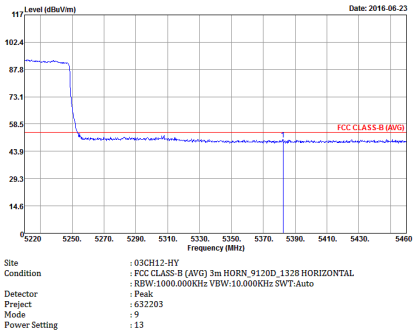
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 8	Left blank

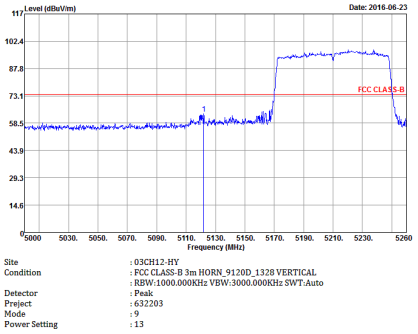
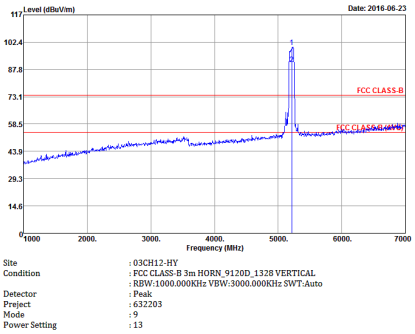
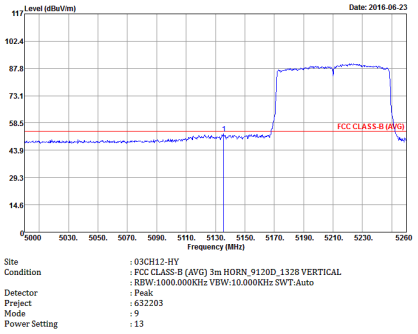
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

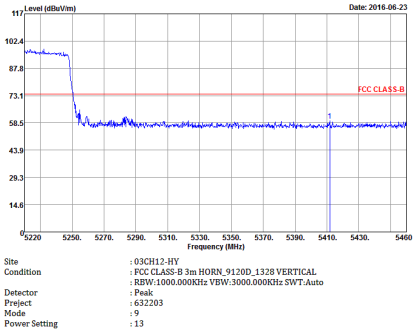
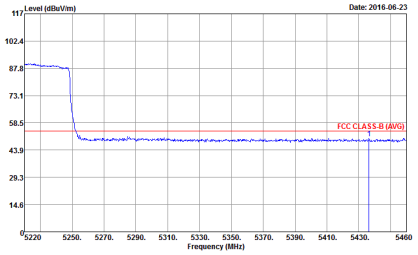
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge and Fundamental @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	Left blank

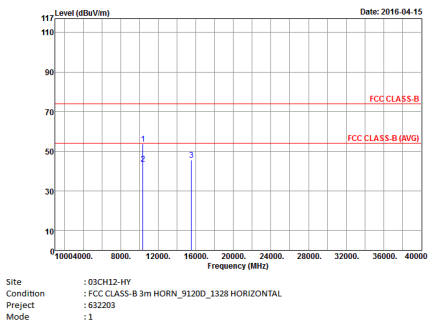
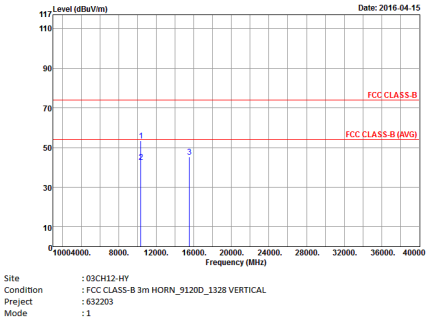
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

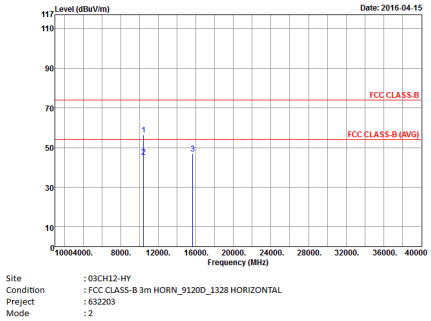
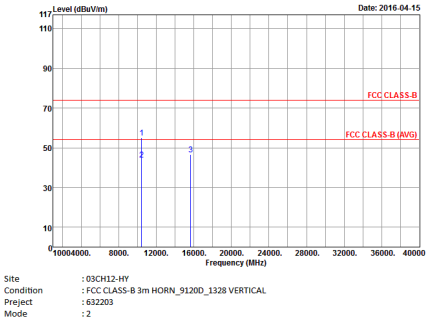
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	Left blank

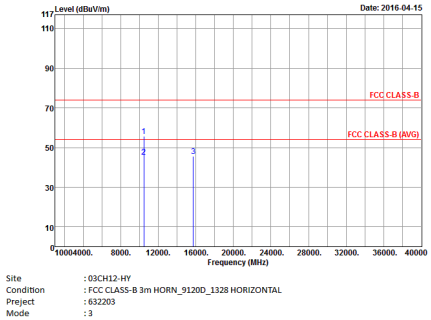
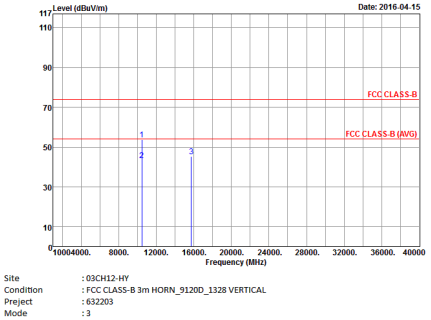
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 9 Power Setting : 13	Left blank

Band 1 - 5150~5250MHz

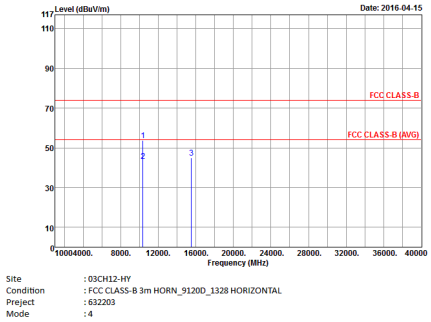
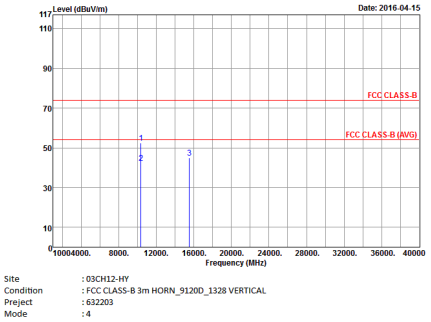
WIFI 802.11a (Harmonic @ 3m)

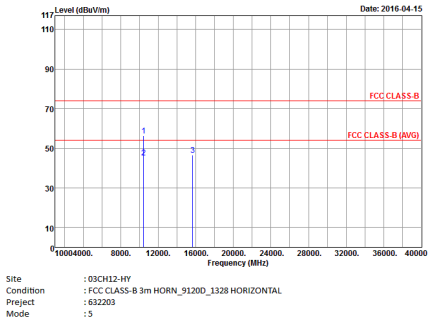
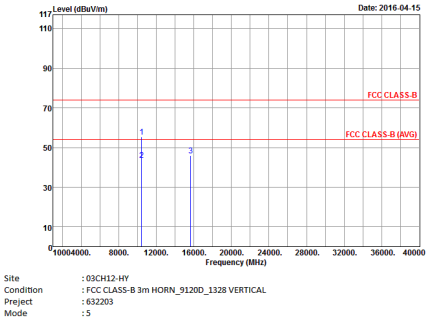
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

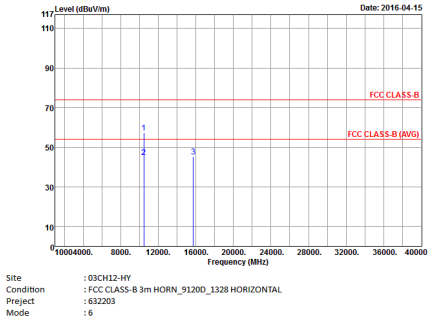
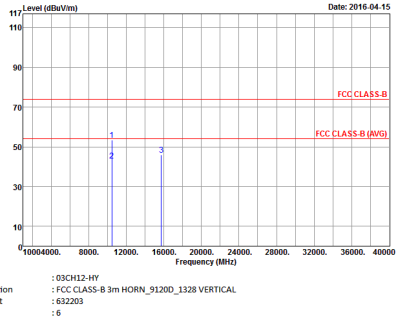
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

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

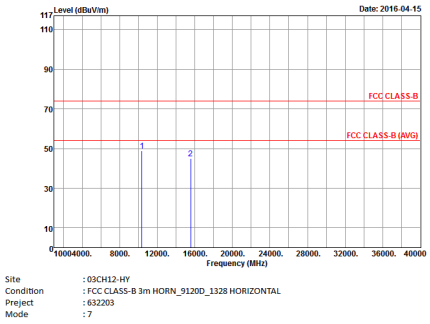
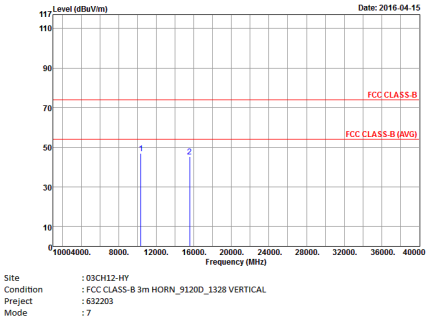
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

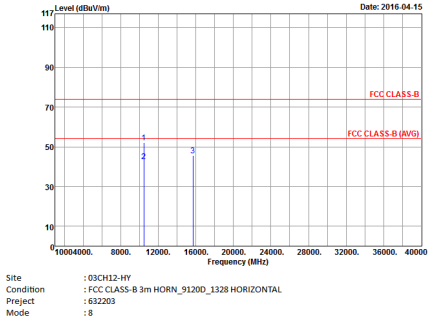
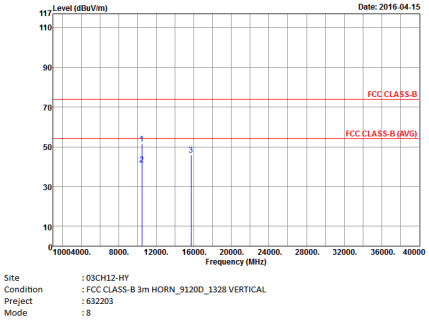
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

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

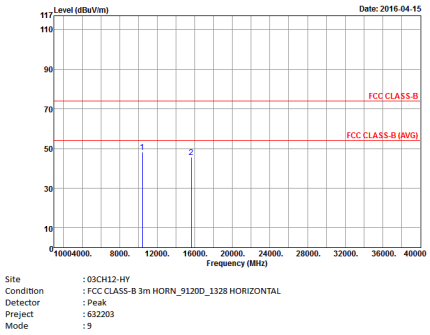
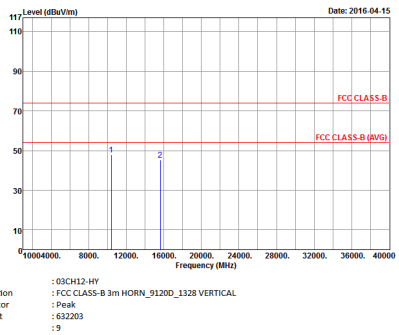
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL Preject : 632203 Mode : 6	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL Preject : 632203 Mode : 6

Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

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

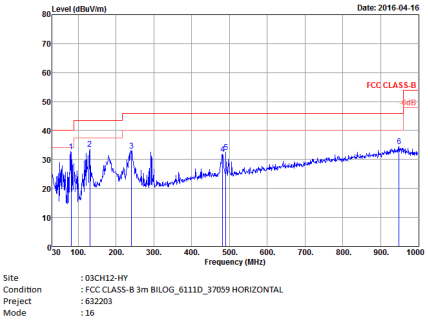
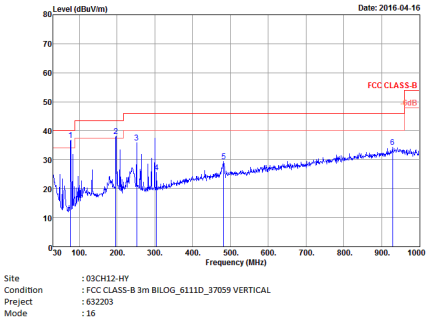
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.		

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

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

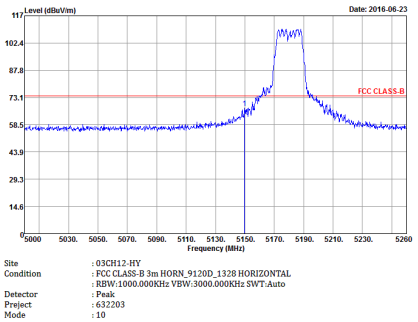
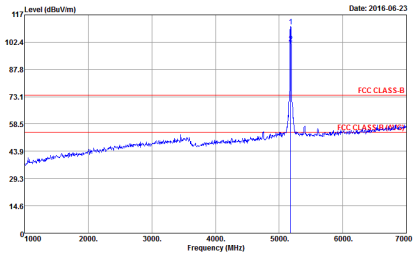
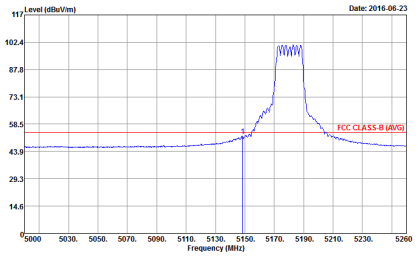
Emission below 1GHz

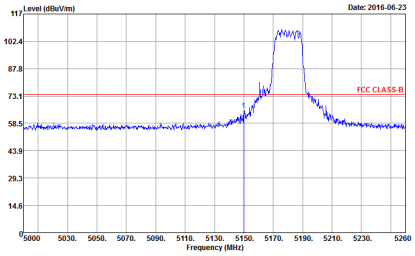
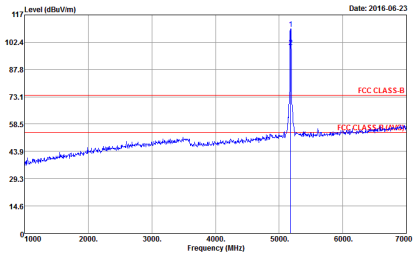
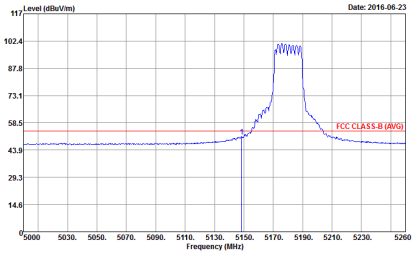
5GHz WIFI 802.11n HT40 (LF)

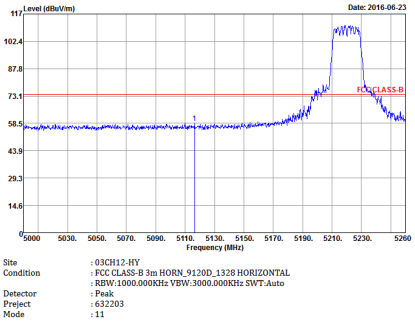
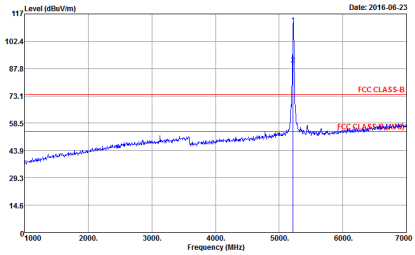
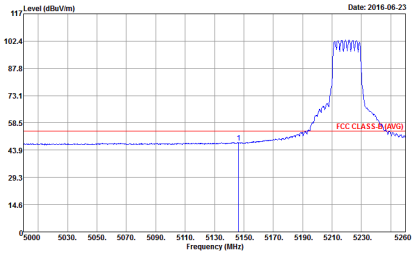
WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1	Horizontal	Vertical
QP / Peak		

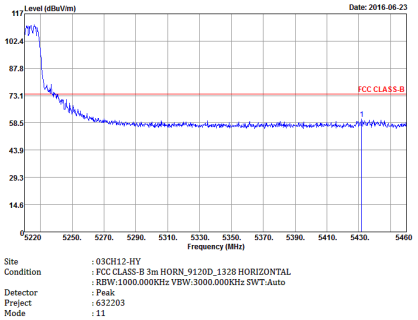
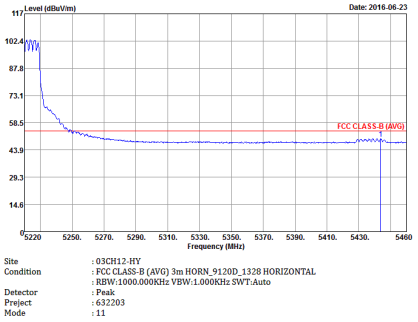
Band 1 - 5150~5250MHz

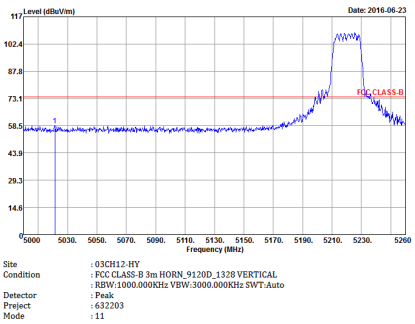
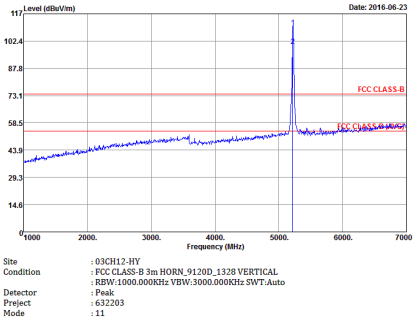
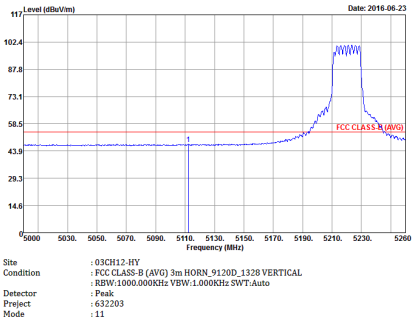
WIFI 802.11n HT20 (Band Edge and Fundamental @ 3m)

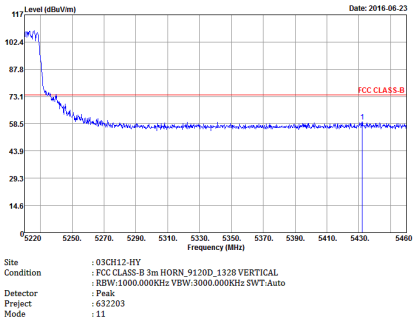
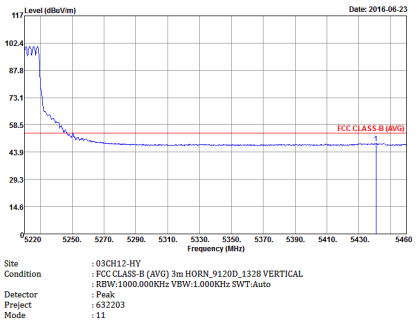
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10	Left blank

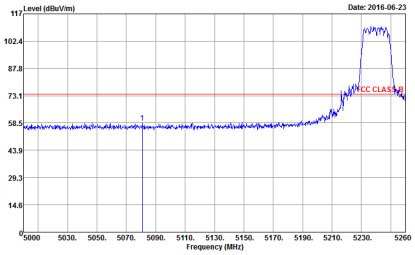
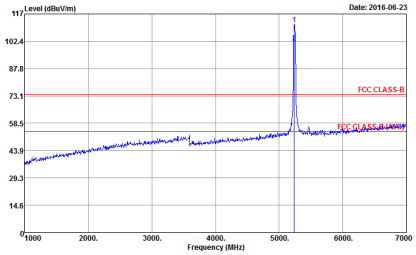
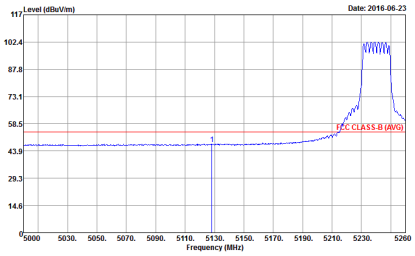
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 10	Left blank

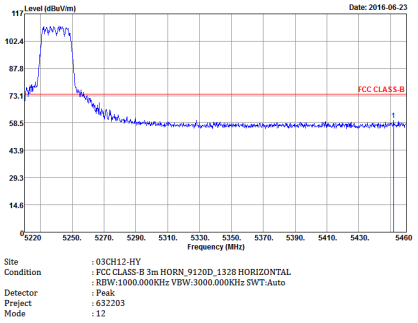
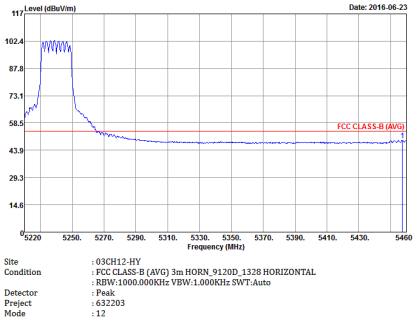
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 11	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 11
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 11	Left blank

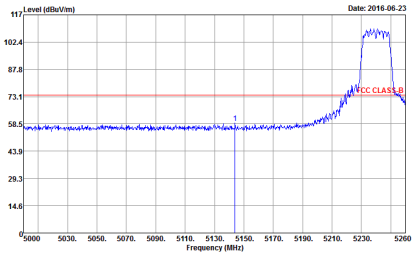
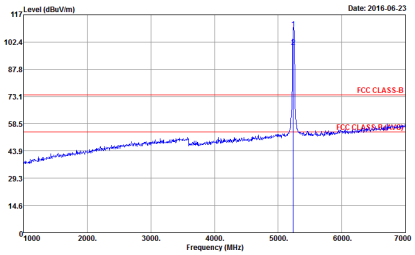
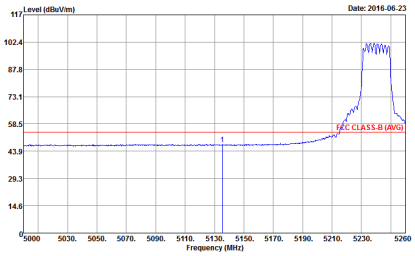
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

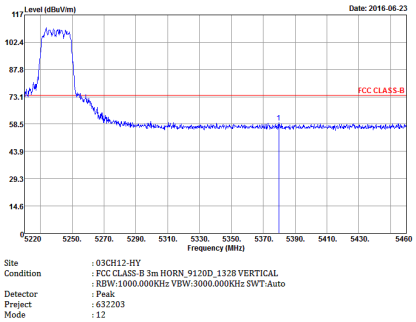
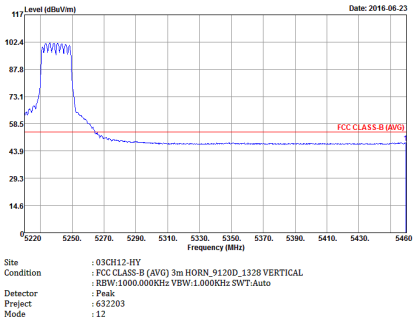
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	Left blank

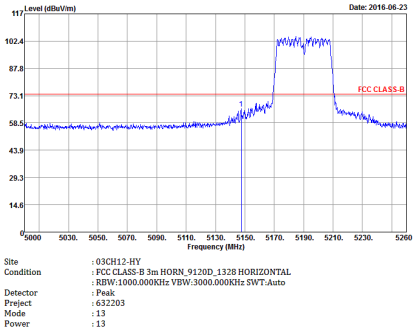
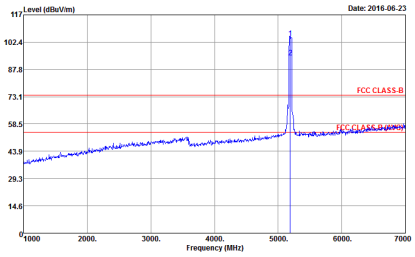
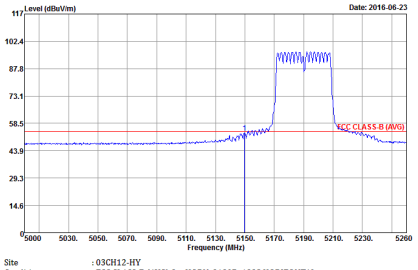
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	Left blank

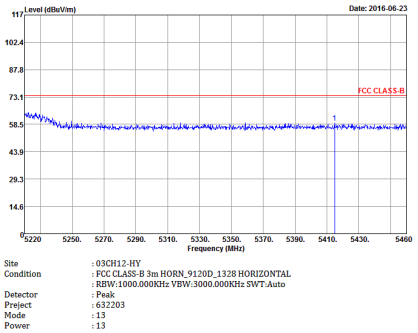
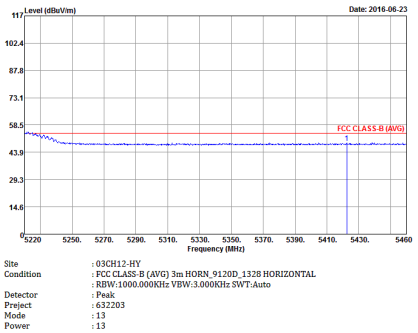
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 12	Left blank

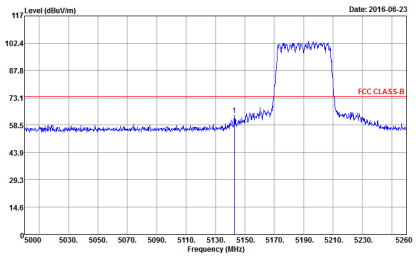
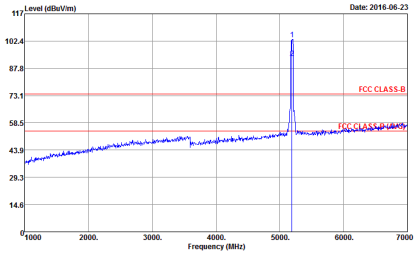
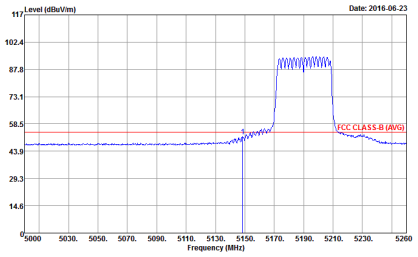
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

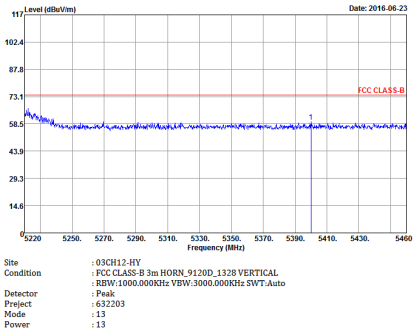
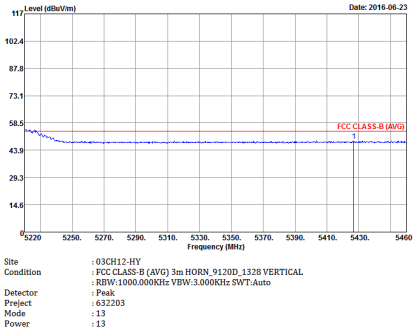
Band 1 5150~5250MHz

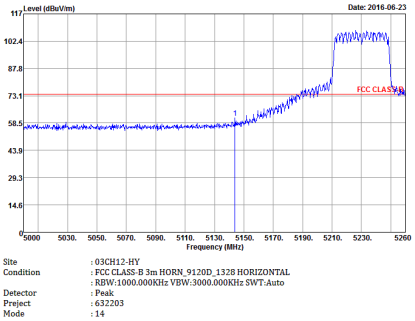
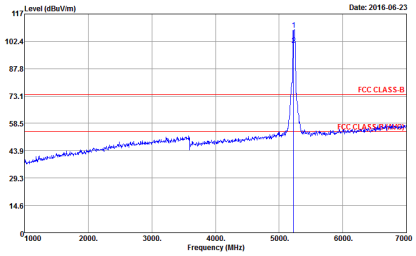
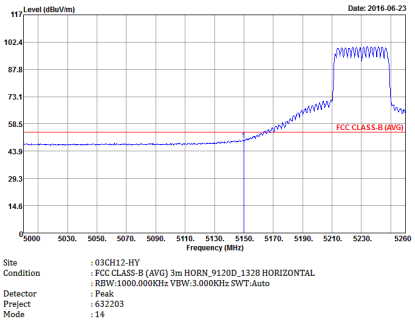
WIFI 802.11n HT40 (Band Edge and Fundamental @ 3m)

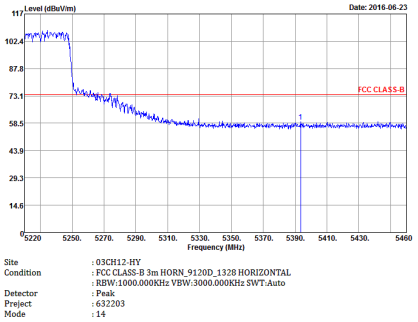
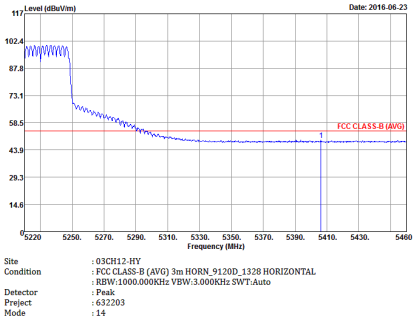
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank

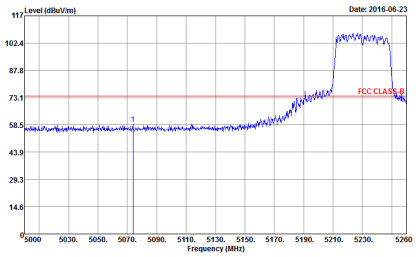
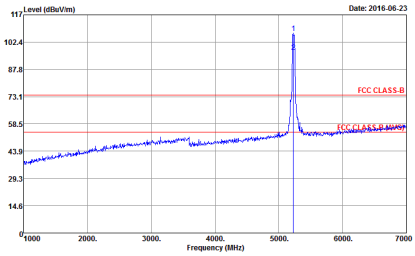
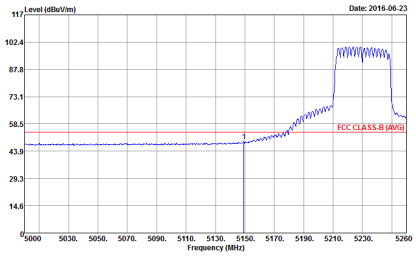
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank

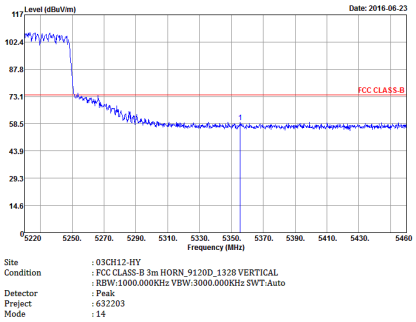
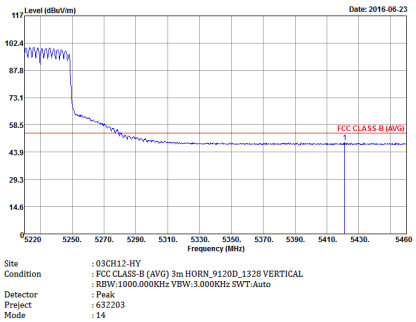
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 13 Power : 13	Left blank

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	Left blank

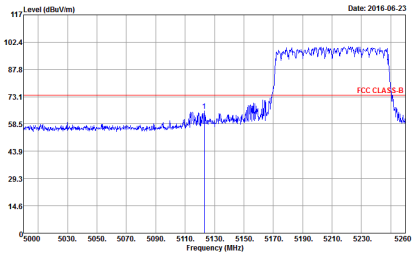
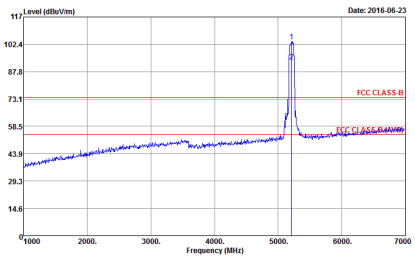
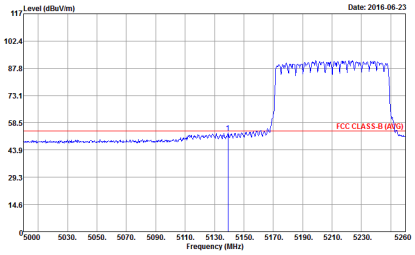
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	Left blank
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	Left blank

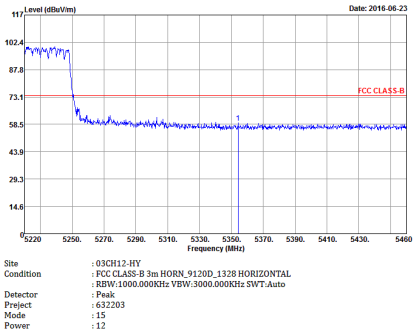
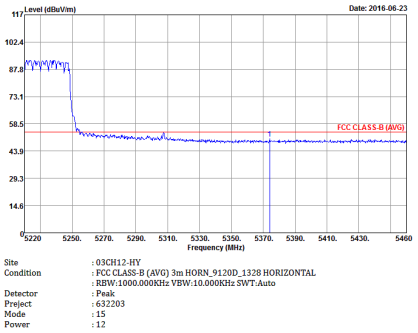
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 14	Left blank

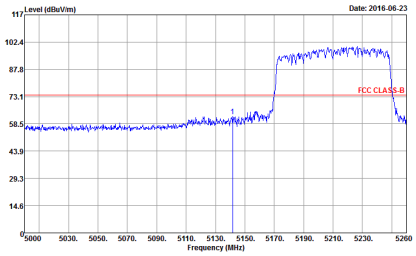
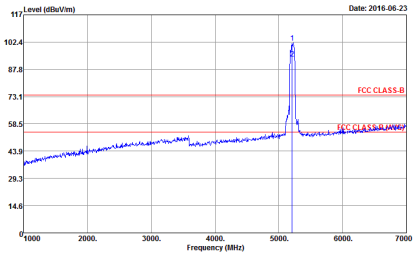
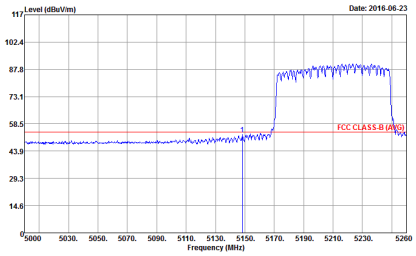
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

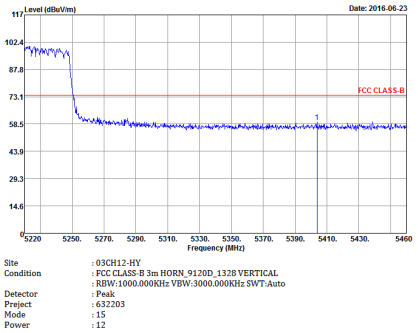
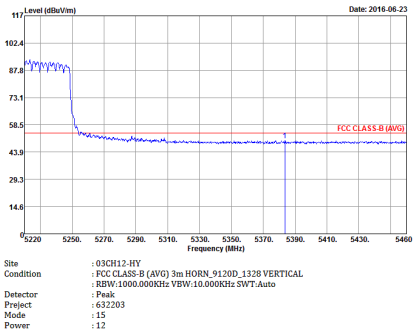
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge and Fundamental @ 3m)

WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12	Left blank

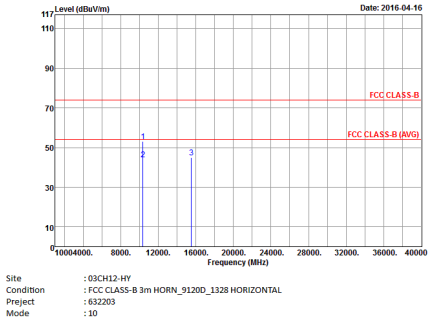
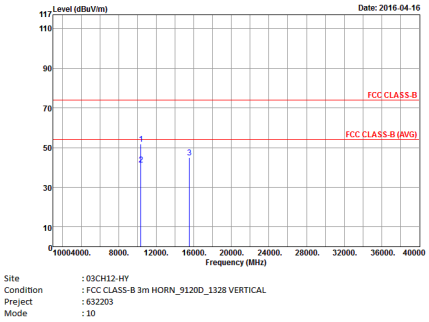
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

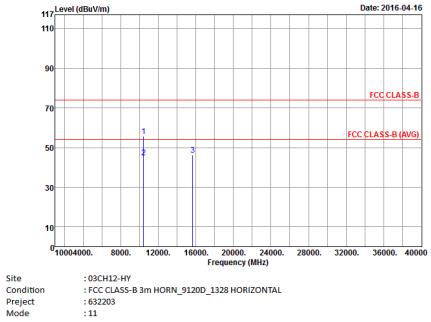
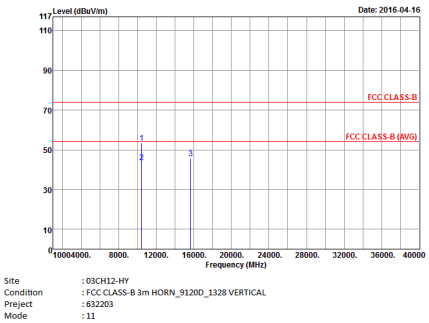
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12	 Site : 03CH12-HY Condition : FCC CLASS-B 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12
Avg.	 Site : 03CH12-HY Condition : FCC CLASS-B (AVG) 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:10.000KHz SWT:Auto Detector : Peak Preject : 632203 Mode : 15 Power : 12	Left blank

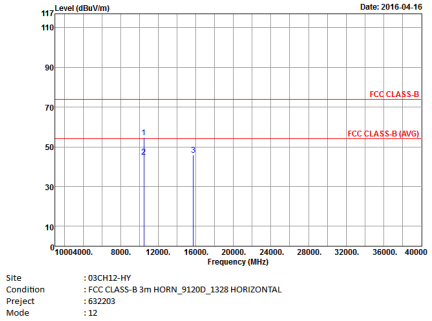
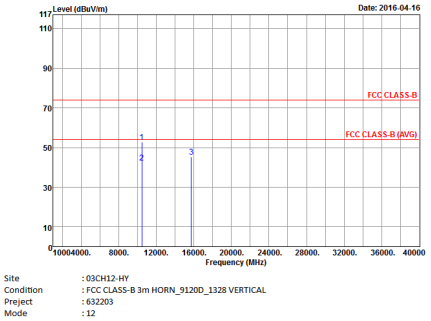
WIFI	Band 1 5150~5250MHz Band Edge and Fundamental @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

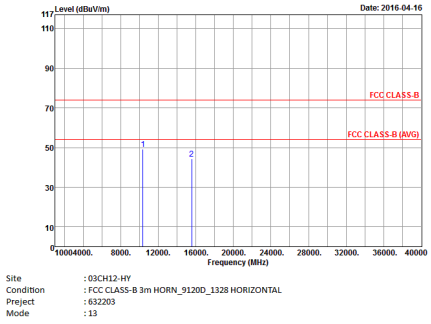
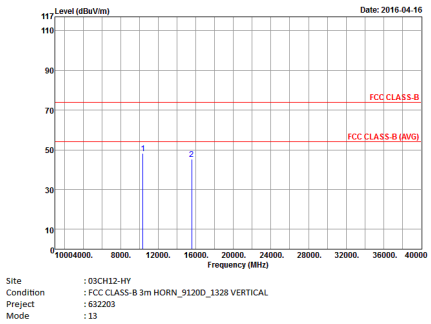
WIFI 802.11n HT20 (Harmonic @ 3m)

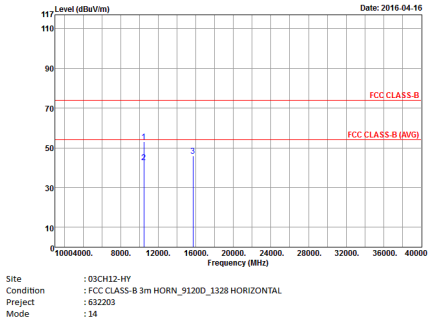
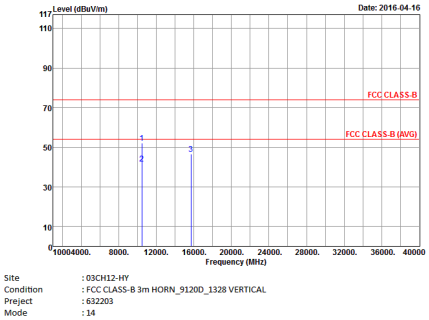
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

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

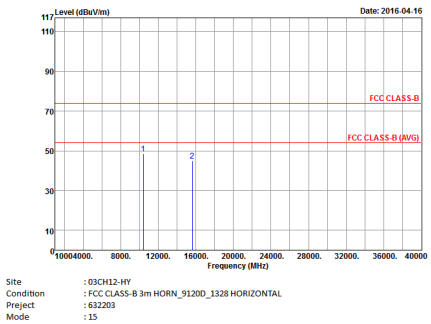
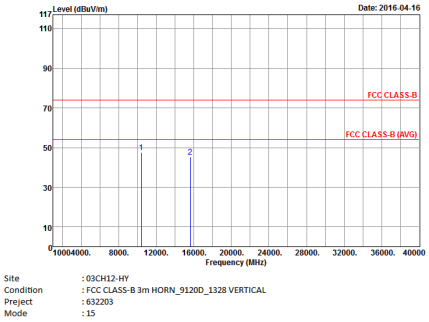
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

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

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

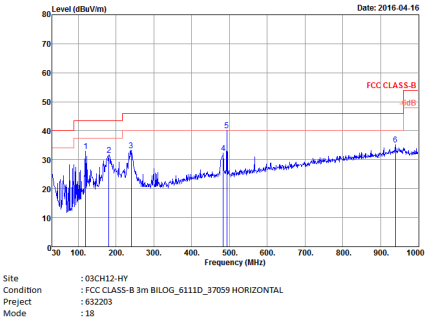
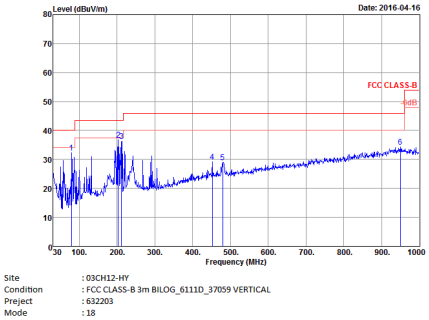
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

Emission below 1GHz

5GHz WIFI 802.11n HT40 (LF)

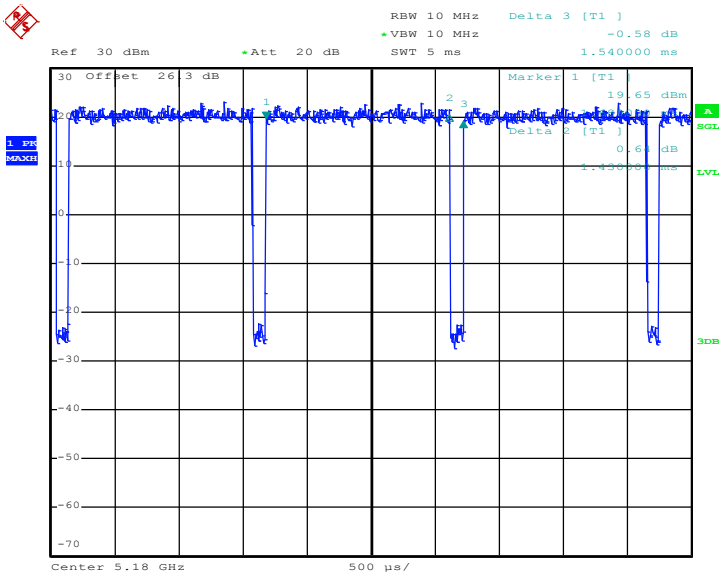
WIFI	5GHz WIFI	
ANT	802.11n HT40 LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	92.86	1430	0.70	1kHz
1	5GHz 802.11n HT20	93.06	1340	0.75	1kHz
1	5GHz 802.11n HT40	87.01	670	1.49	3kHz
1+2	5GHz 802.11n HT20 for Ant 1	93.06	1340	0.75	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	93.06	1340	0.75	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	87.01	670	1.49	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	86.84	660	1.52	3kHz
1	5GHz 802.11ac VHT80	75.93	328	3.05	10kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	76.85	332	3.01	10kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	76.85	332	3.01	10kHz

<Ant. 1>

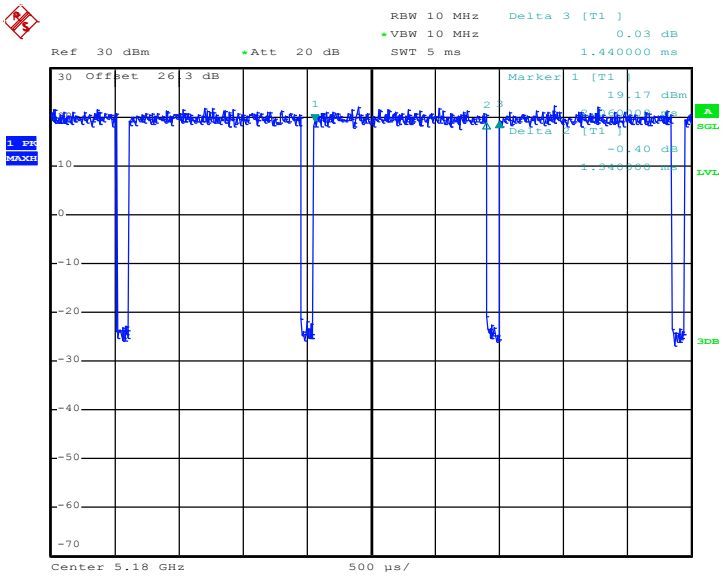
802.11a



Date: 29.MAR.2016 01:20:59

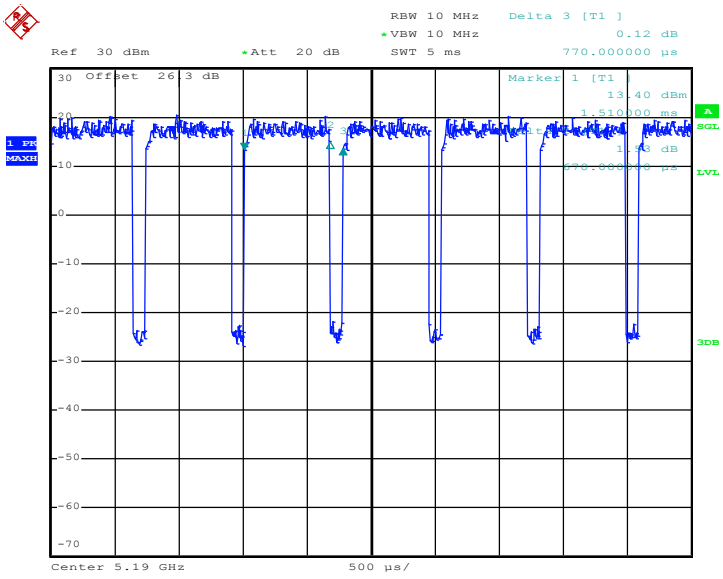
SISO <Ant. 1>

802.11n HT20



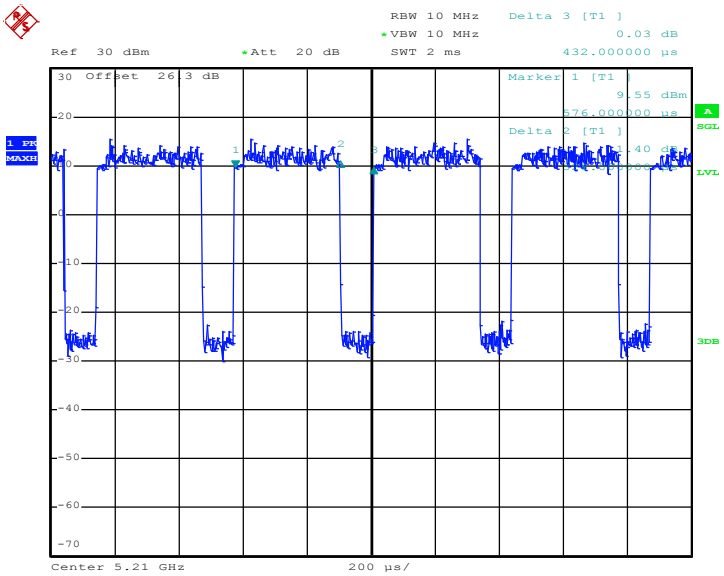
Date: 29.MAR.2016 01:31:43

802.11n HT40



Date: 29.MAR.2016 02:00:07

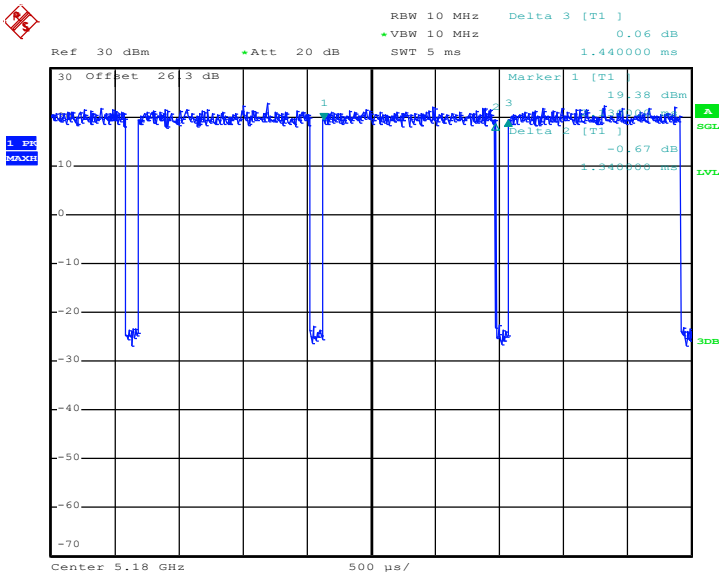
802.11ac VHT80



Date: 29.MAR.2016 12:29:48

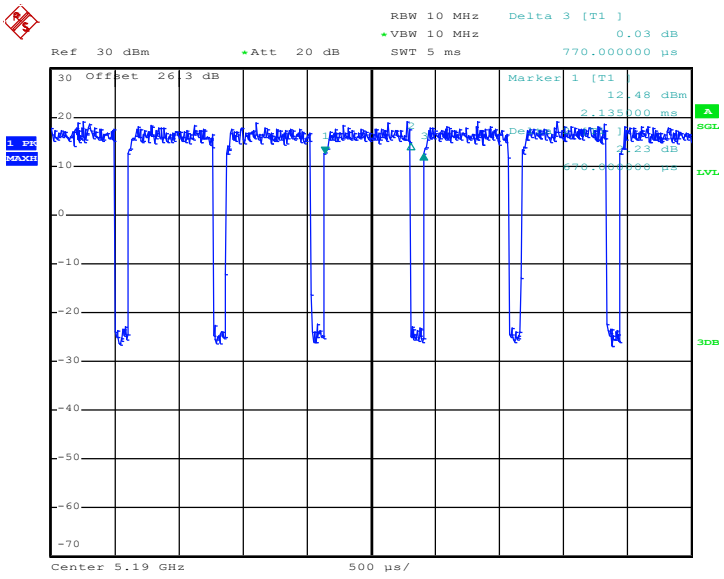
MIMO <Ant. 1+2(1)>

802.11n HT20



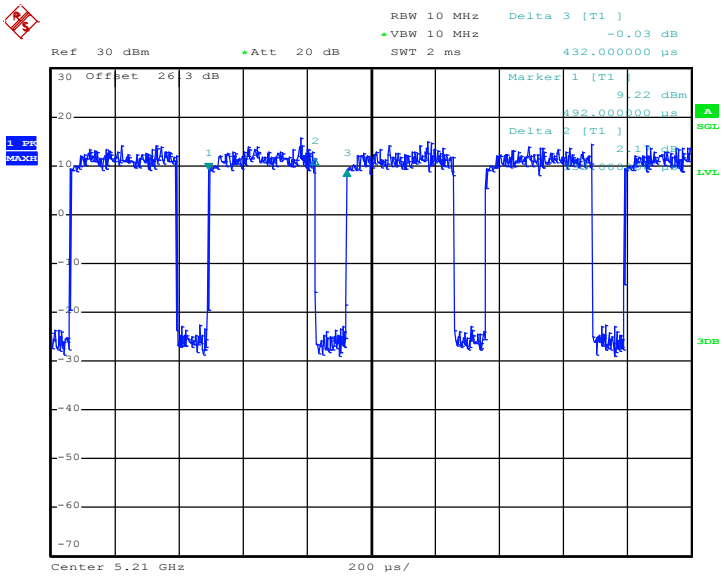
Date: 29.MAR.2016 01:37:21

802.11n HT40



Date: 29.MAR.2016 02:04:34

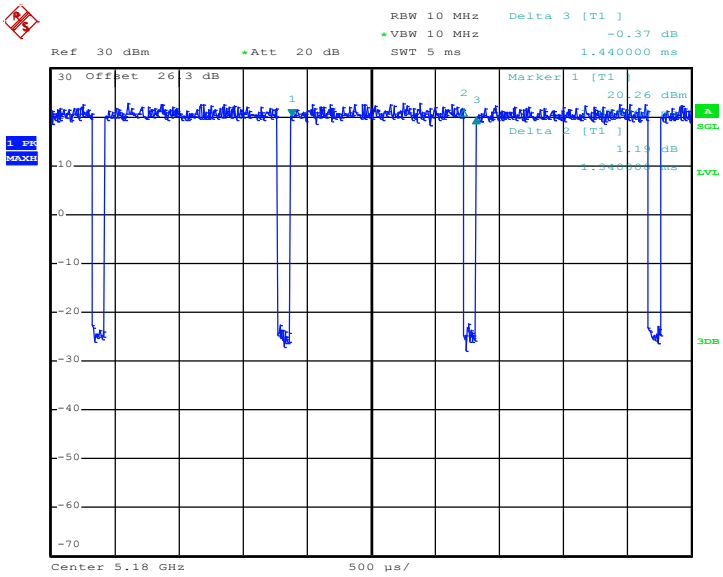
802.11ac VHT80



Date: 29.MAR.2016 12:32:19

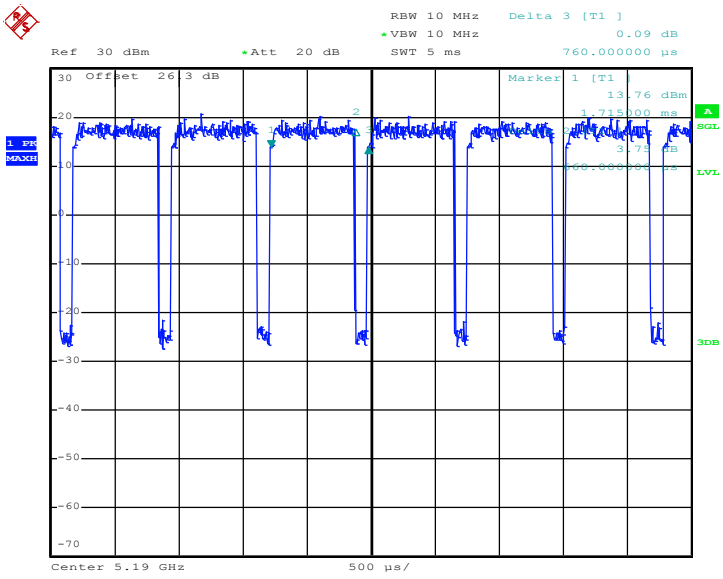
MIMO <Ant. 1+2(2)>

802.11n HT20



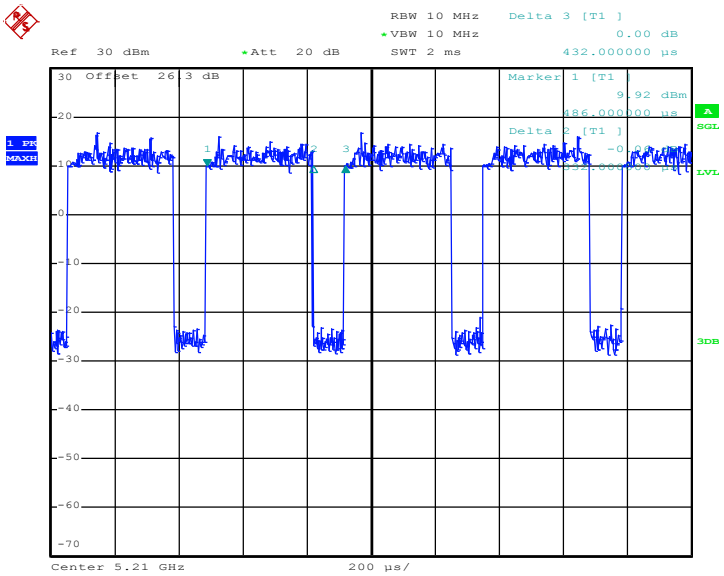
Date: 29.MAR.2016 01:37:56

802.11n HT40



Date: 29.MAR.2016 02:05:34

802.11ac VHT80



Date: 29.MAR.2016 12:33:08