



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. 08, 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.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR632203-01E	Rev. 01	Initial issue of report	Jun. 10, 2016



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	> 500kHz	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 30 dBm/500kHz	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 0.76 dB at 5645.000 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

Standards-related Product Specification															
Tx/Rx Channel Frequency Range		5745 MHz ~ 5825 MHz													
Maximum Output Power		Legacy Diversity <Ant. 1> 802.11a : 16.97 dBm / 0.0498 W SISO <Ant. 1> 802.11n HT20 : 16.99 dBm / 0.0500 W 802.11n HT40 : 16.85 dBm / 0.0484 W 802.11ac VHT20: 16.97 dBm / 0.0498 W 802.11ac VHT40: 16.79 dBm / 0.0478 W 802.11ac VHT80: 16.52 dBm / 0.0449 W MIMO <Ant. 1 + 2> 802.11n HT20 : 19.98 dBm / 0.0995 W 802.11n HT40 : 19.99 dBm / 0.0998 W 802.11ac VHT20: 19.97 dBm / 0.0993 W 802.11ac VHT40: 19.92 dBm / 0.0982 W 802.11ac VHT80: 19.51 dBm / 0.0893 W													
99% Occupied Bandwidth		802.11a : 18.30 MHz 802.11n HT20 : 19.40 MHz 802.11n HT40 : 37.00 MHz 802.11ac VHT20 : 19.20 MHz 802.11ac VHT40 : 37.30 MHz 802.11ac VHT80 : 76.20 MHz													
Type of Modulation		802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)													
Antenna Type		Main Antenna : Fixed Internal Antenna Aux. Antenna : Fixed Internal Antenna													
Antenna Gain		Main Antenna : 3.47 dBi Aux. Antenna : 3.11 dBi													
Antenna Function Description		<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>			Ant. 1	Ant. 2	802.11 a	V	V	802.11 n/ac SISO	V	V	802.11 n/ac MIMO	V	V
	Ant. 1	Ant. 2													
802.11 a	V	V													
802.11 n/ac SISO	V	V													
802.11 n/ac MIMO	V	V													

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 1 st 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)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155 [#]	5775	165	5825

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.

<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)	16.97	16.96	16.96	16.53	16.67	16.69	16.67	16.72

SISO <Ant. 1>

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.99	16.54	16.56	16.65	16.77	16.80	16.74	16.65

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	16.85	16.82	16.83	16.81	16.84	16.83	16.84	16.82

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)	16.97	16.56	16.52	16.69	16.81	16.71	16.63	16.64	16.66

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)	16.79	16.78	16.75	16.77	16.78	16.75	16.76	16.78	16.77	16.76

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)	16.52	16.50	16.47	16.50	16.49	16.51	16.48	16.50	16.49	16.48



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)	19.98	19.86	19.72	19.96	19.96	19.89	19.97	19.95

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)	19.99	19.94	19.98	19.42	19.56	19.47	19.38	19.43

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)	19.97	19.76	19.73	19.84	19.81	19.87	19.94	19.80	19.90

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)	19.92	19.90	19.91	19.40	19.62	19.49	19.48	19.40	19.37	19.49

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)	19.51	19.50	19.50	19.21	19.15	19.19	19.12	19.22	19.30	19.18

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.

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

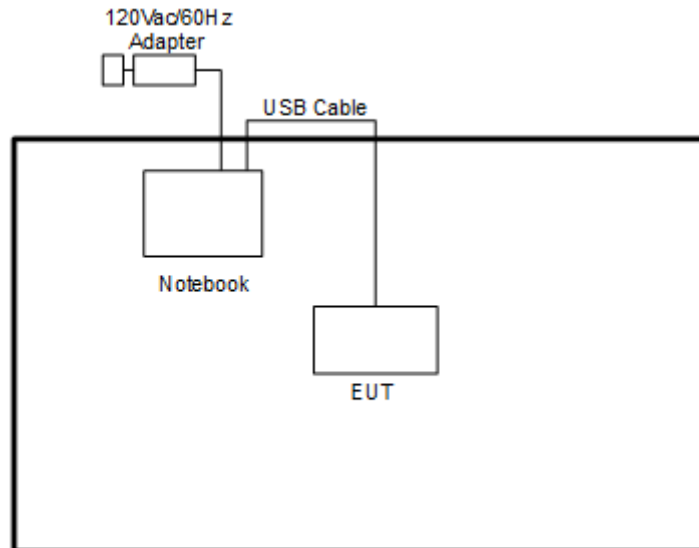
AC Conducted Emission	Mode 1 : WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter) + WLAN (5GHz) Link with WLAN AP + Bluetooth Link with Bluetooth Earphone
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Ch. #		Band IV : 5725-5850 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	149	149	151
M	Middle	157	157	-
H	High	165	165	159

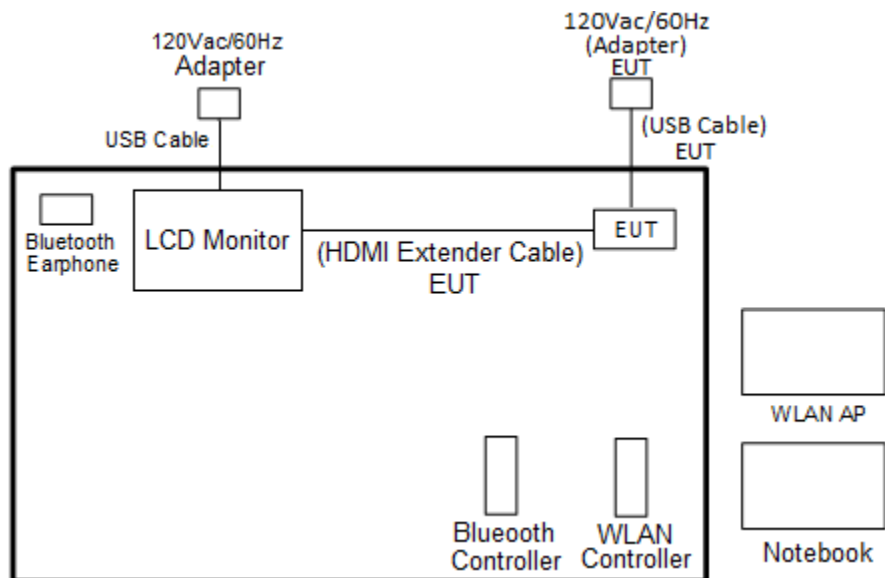
Ch. #		Band IV : 5725-5850 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

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.

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

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

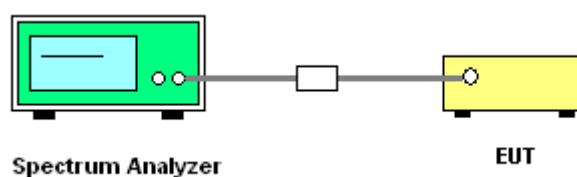
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

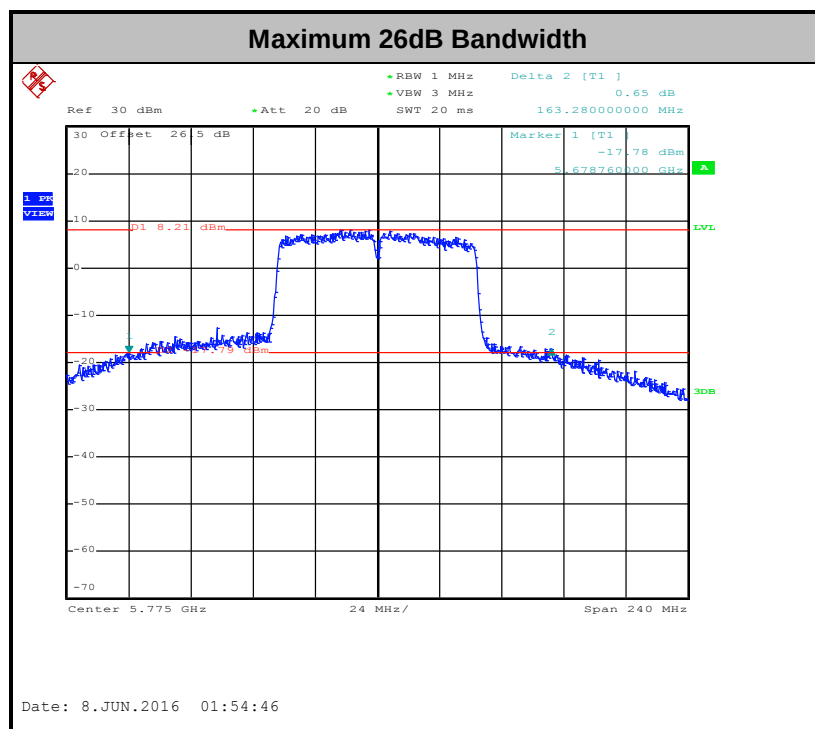
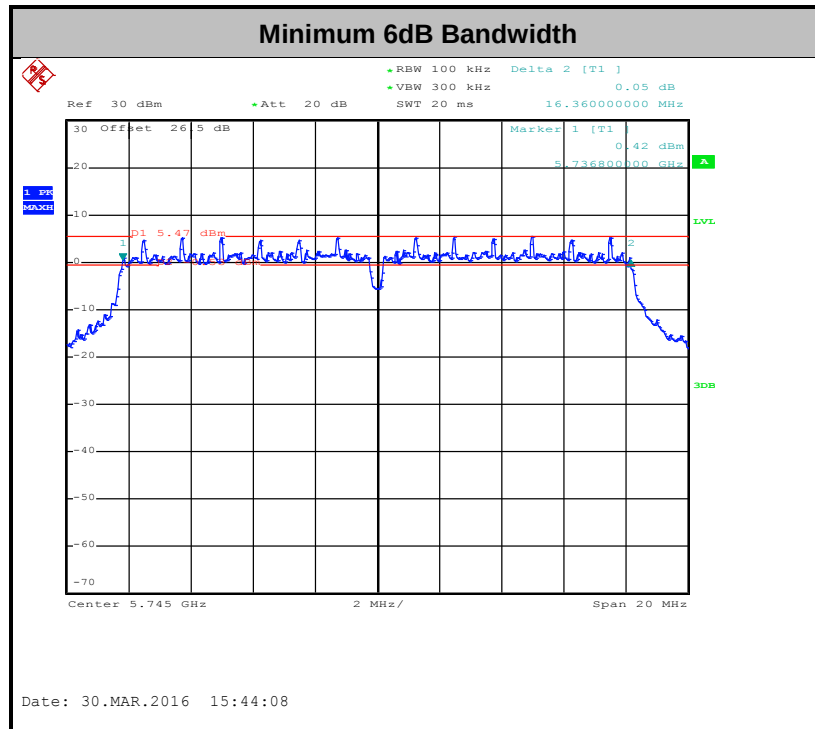
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

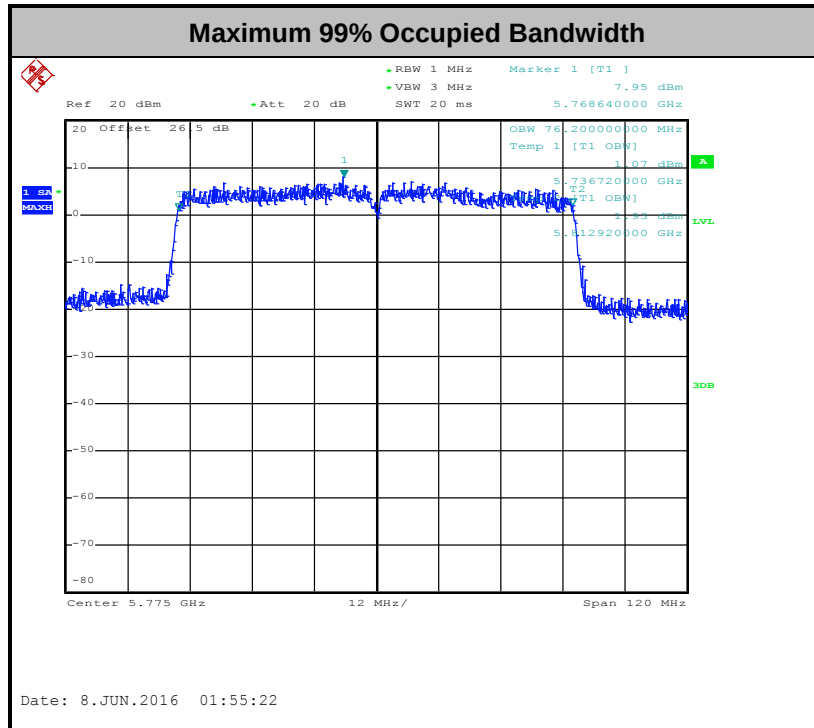
3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.





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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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

3.2.2 Measuring Instruments

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

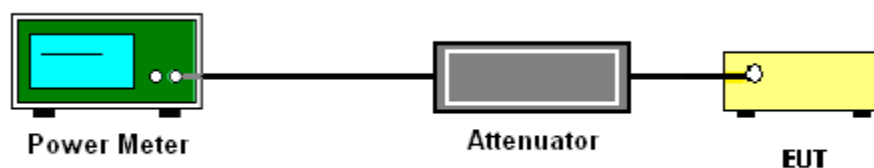
3.2.3 Test Procedures

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

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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).

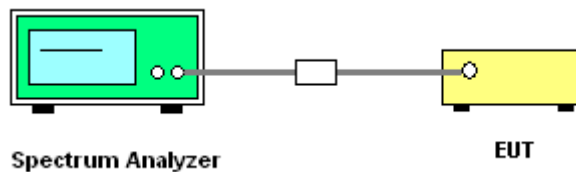
1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02.
 - Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 300 kHz.
 - Set VBW $\geq$ 1 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(500\text{kHz}/\text{RBW})$ to the test result.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

4. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

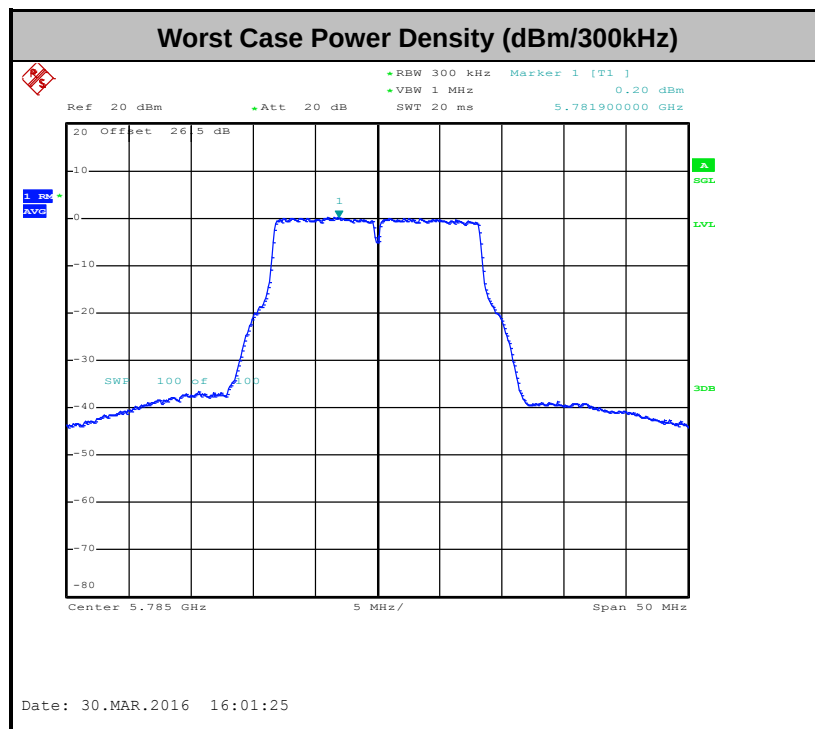
The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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 Part 15.205.

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band:

15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

- (2) Unwanted spurious emissions fallen in restricted bands per FCC Part 15.205 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.

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

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

- (3) KDB 789033 D02 General UNII Test Procedures New Rules 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 $\geq$ 3 MHz
- Detector = Peak
- Sweep time = auto
- Trace mode = max hold

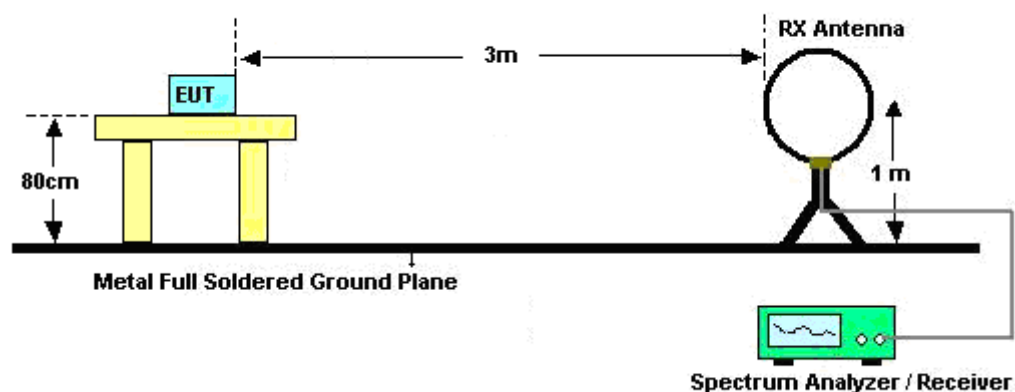
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

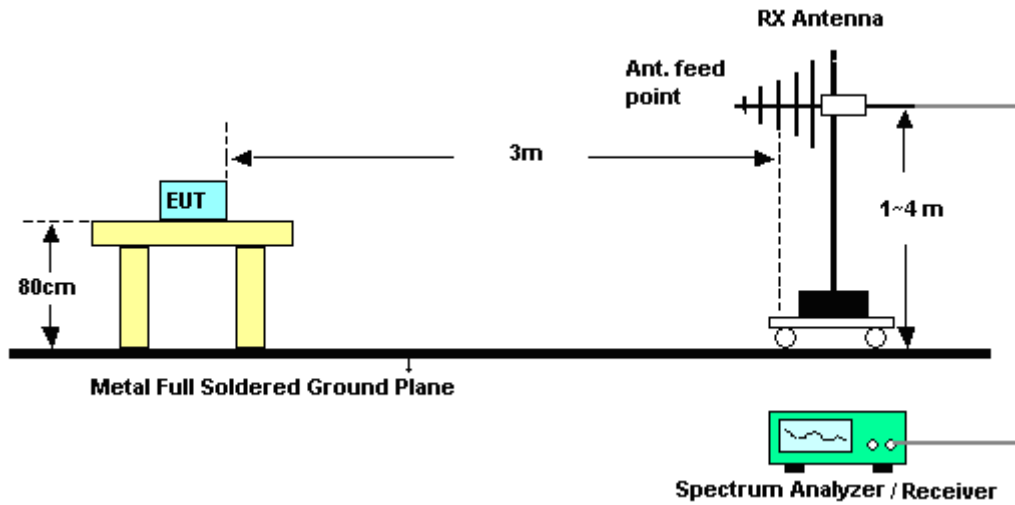
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

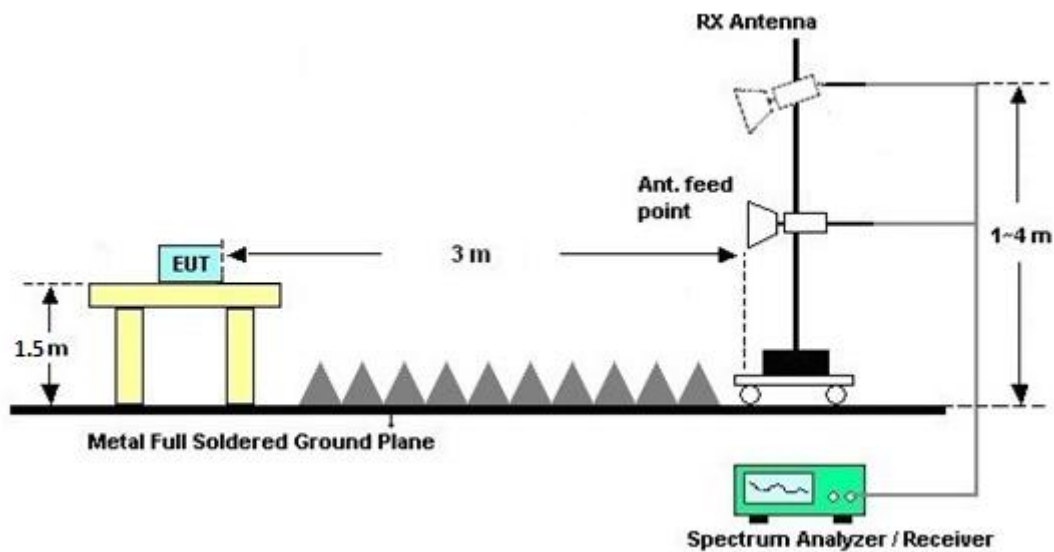
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.4.5 Test Results of Radiated 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 (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

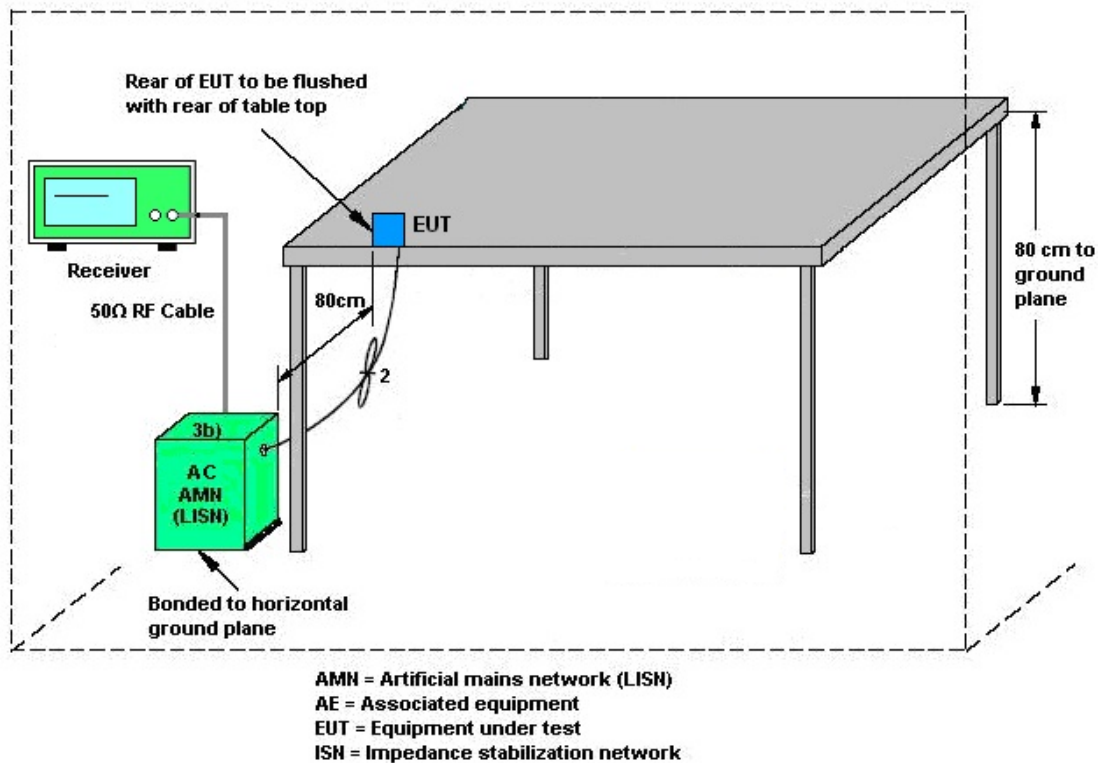
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

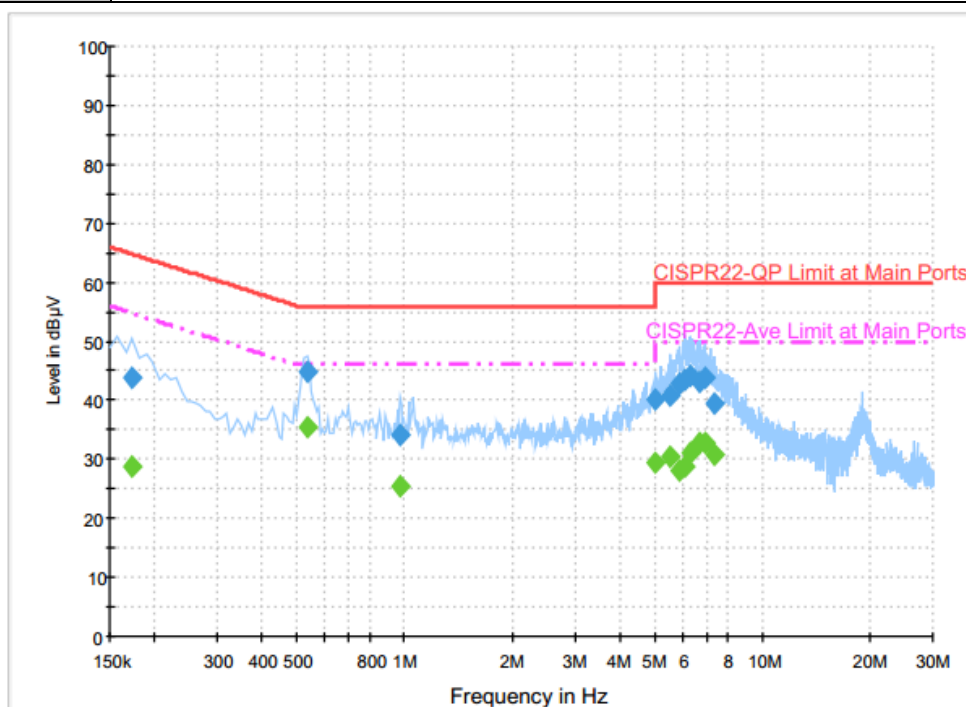
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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



3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	24~25°C
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		

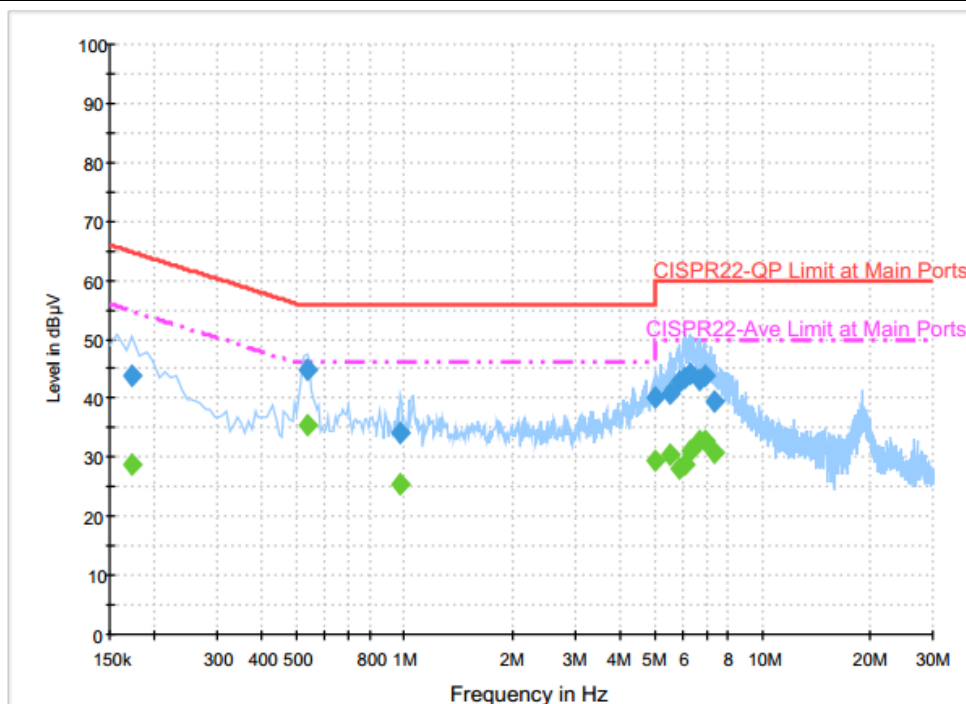


Final Result : QuasiPeak

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



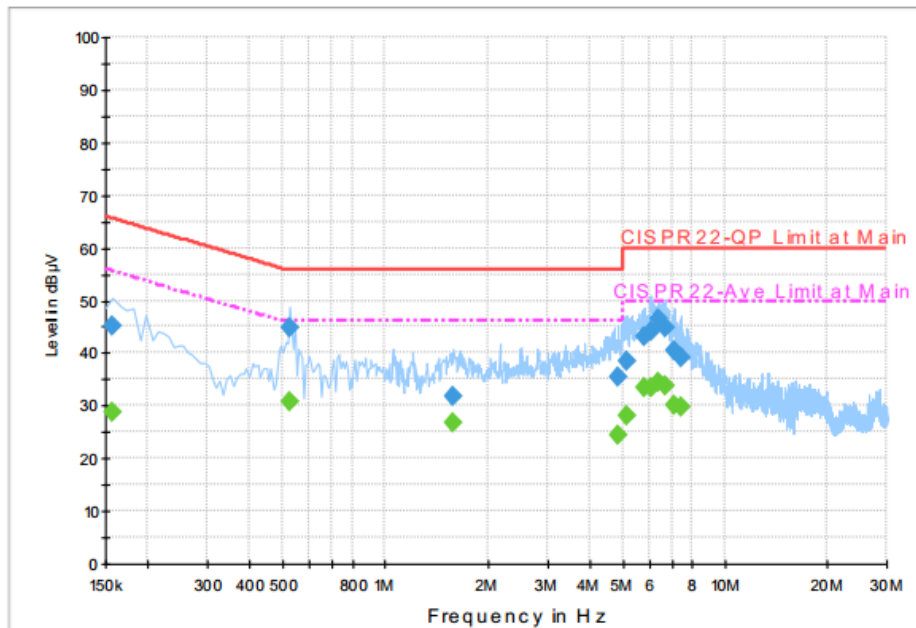
Test Mode :	Mode 1	Temperature :	24~25°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link with WLAN Controller + Bluetooth Link with Bluetooth Controller + MPEG4 (720P) + HDMI Extender Cable + USB Cable (Charging from Adapter)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



Final Result : Average

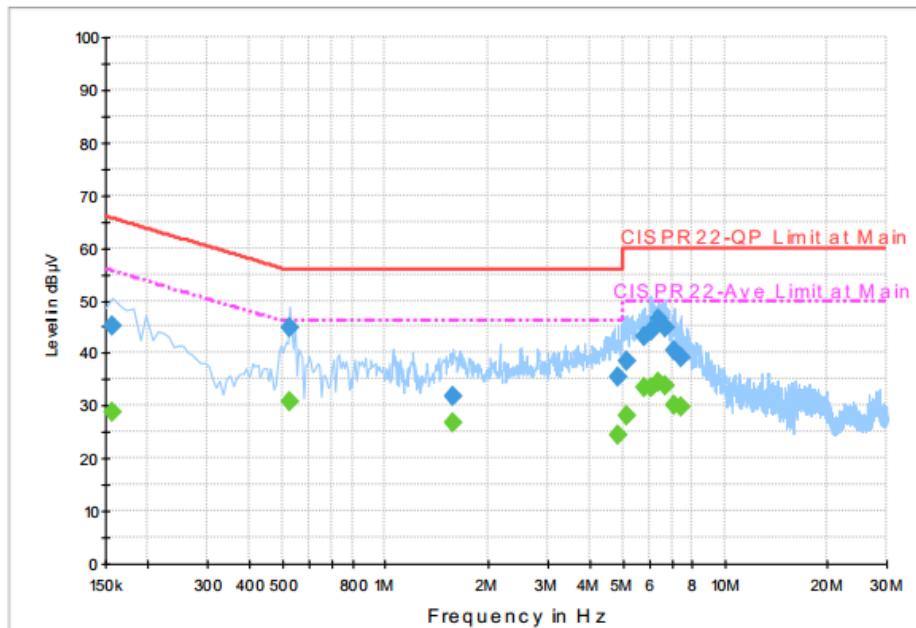
Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	28.8	Off	L1	19.6	26.0	54.8
0.534000	35.4	Off	L1	19.6	10.6	46.0
0.974000	25.3	Off	L1	19.7	20.7	46.0
5.046000	29.3	Off	L1	19.8	20.7	50.0
5.534000	30.3	Off	L1	19.9	19.7	50.0
5.846000	28.2	Off	L1	19.9	21.8	50.0
6.094000	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°C
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°C
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.

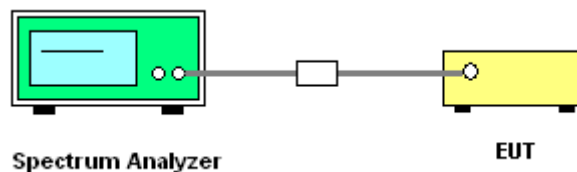
3.6.2 Measuring Instruments

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.



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.



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 $N_{ANT} \leq 4$.

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 (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant 1 (dBi)	Ant 2 (dBi)				
Band IV	3.47	3.11	3.47	6.30	0.00	0.30

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 ~ Jun. 08, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 12, 2015	Mar. 29, 2016 ~ Jun. 08, 2016	Aug. 11, 2016	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2015	Mar. 29, 2016 ~ Jun. 08, 2016	Nov. 12, 2016	Conducted (TH02-HY)
Temperature Chamber	ESPEC	SU-241	92003713	-30℃ ~95℃	Jun. 15, 2015	Mar. 29, 2016 ~ Jun. 08, 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 ~ Jun. 08, 2016	Oct. 04, 2016	Conducted (TH02-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)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Sep. 01, 2016	Radiation (03CH12-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Nov. 19, 2016	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Sep. 24, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Sep. 23, 2016	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D	37059	30MHz~1GHz	Dec. 29, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Dec. 28, 2016	Radiation (03CH12-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100390	20Hz~26.5GHz	Dec. 21, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Dec. 20, 2016	Radiation (03CH12-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Jun. 03, 2016 ~ Jun. 06, 2016	Feb. 14, 2017	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 02, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Nov. 01, 2016	Radiation (03CH12-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1815698	1GHz~18GHz	Dec. 14, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Dec. 13, 2016	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 03, 2016 ~ Jun. 06, 2016	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 03, 2016 ~ Jun. 06, 2016	N/A	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jun. 03, 2016 ~ Jun. 06, 2016	Nov. 01, 2016	Radiation (03CH12-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4
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Appendix A. Conducted Test Results

Test Engineer:	AnAn Wu/Derek Hsu	Temperature:	21~25	°C
Test Date:	2016/3/29~2016/06/08	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 26dB EBW and 99% OBW

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	18.30		23.00		16.36		0.5	0.5	Pass
11a	6Mbps	1	157	5785	18.15		23.30		16.36		0.5	0.5	Pass
11a	6Mbps	1	165	5825	15.25		23.00		16.36		0.5	0.5	Pass
HT20	MCS0	1	149	5745	19.05		23.40		17.60		0.5	0.5	Pass
HT20	MCS0	1	157	5785	19.05		23.60		17.60		0.5	0.5	Pass
HT20	MCS0	1	165	5825	19.00		23.30		17.64		0.5	0.5	Pass
HT40	MCS0	1	151	5755	36.70		41.58		36.40		0.5	0.5	Pass
HT40	MCS0	1	159	5795	36.90		41.58		36.40		0.5	0.5	Pass
VHT20	MCS0	1	149	5745	19.00		23.40		17.60		0.5	0.5	Pass
VHT20	MCS0	1	157	5785	19.20		23.30		17.60		0.5	0.5	Pass
VHT20	MCS0	1	165	5825	19.05		23.40		17.64		0.5	0.5	Pass
VHT40	MCS0	1	151	5755	36.70		41.40		36.32		0.5	0.5	Pass
VHT40	MCS0	1	159	5795	36.80		41.58		36.40		0.5	0.5	Pass
VHT80	MCS0	1	155	5775	75.84		82.24		75.52		0.5	0.5	Pass
HT20	MCS0	2	149	5745	19.05	19.40	23.45	38.30	17.56	17.56	0.5		Pass
HT20	MCS0	2	157	5785	19.00	18.75	23.30	23.15	17.56	17.58	0.5		Pass
HT20	MCS0	2	165	5825	18.90	18.75	23.30	23.20	17.56	17.56	0.5		Pass
HT40	MCS0	2	151	5755	36.80	36.90	41.97	41.40	36.32	36.32	0.5		Pass
HT40	MCS0	2	159	5795	36.70	37.00	41.55	57.75	36.24	36.32	0.5		Pass
VHT20	MCS0	2	149	5745	18.75	18.80	23.25	23.25	17.56	17.58	0.5		Pass
VHT20	MCS0	2	157	5785	19.10	18.90	23.50	23.15	17.56	17.62	0.5		Pass
VHT20	MCS0	2	165	5825	18.80	18.90	23.50	23.30	17.56	17.58	0.5		Pass
VHT40	MCS0	2	151	5755	37.30	36.80	79.50	41.25	36.20	36.24	0.5		Pass
VHT40	MCS0	2	159	5795	37.00	36.90	72.12	41.49	36.08	36.28	0.5		Pass
VHT80	MCS0	2	155	5775	75.84	76.20	81.68	163.28	75.04	75.04	0.5		Pass

TEST RESULTS DATA
Average Power Table

Band IV														
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	149	5745	0.32		16.97			30.00	30.00	3.47	3.11	Pass
11a	6Mbps	1	157	5785	0.32		16.94			30.00	30.00	3.47	3.11	Pass
11a	6Mbps	1	165	5825	0.32		16.90			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	149	5745	0.31		16.97			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	157	5785	0.31		16.99			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	165	5825	0.31		16.79			30.00	30.00	3.47	3.11	Pass
HT40	MCS0	1	151	5755	0.60		16.85			30.00	30.00	3.47	3.11	Pass
HT40	MCS0	1	159	5795	0.60		16.75			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	149	5745	0.34		16.96			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	157	5785	0.34		16.97			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	165	5825	0.34		16.68			30.00	30.00	3.47	3.11	Pass
VHT40	MCS0	1	151	5755	0.60		16.79			30.00	30.00	3.47	3.11	Pass
VHT40	MCS0	1	159	5795	0.60		16.61			30.00	30.00	3.47	3.11	Pass
VHT80	MCS0	1	155	5775	1.20		16.52			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	2	149	5745	0.31	0.31	16.89	17.04	19.98	30.00		3.47		Pass
HT20	MCS0	2	157	5785	0.31	0.31	16.96	16.89	19.94	30.00		3.47		Pass
HT20	MCS0	2	165	5825	0.31	0.31	16.75	16.73	19.75	30.00		3.47		Pass
HT40	MCS0	2	151	5755	0.60	0.61	17.00	16.96	19.99	30.00		3.47		Pass
HT40	MCS0	2	159	5795	0.60	0.61	16.82	16.65	19.75	30.00		3.47		Pass
VHT20	MCS0	2	149	5745	0.31	0.31	16.91	17.01	19.97	30.00		3.47		Pass
VHT20	MCS0	2	157	5785	0.31	0.31	16.90	16.91	19.92	30.00		3.47		Pass
VHT20	MCS0	2	165	5825	0.31	0.31	16.53	16.69	19.62	30.00		3.47		Pass
VHT40	MCS0	2	151	5755	0.60	0.60	16.93	16.89	19.92	30.00		3.47		Pass
VHT40	MCS0	2	159	5795	0.60	0.60	16.64	16.63	19.65	30.00		3.47		Pass
VHT80	MCS0	2	155	5775	1.14	1.14	16.52	16.48	19.51	30.00		3.47		Pass

TEST RESULTS DATA
Power Spectral Density

Band IV																
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.32		2.22	2.22	2.57			30.00	30.00	3.47	3.11	Pass
11a	6Mbps	1	157	5785	0.32		2.22	2.22	2.74			30.00	30.00	3.47	3.11	Pass
11a	6Mbps	1	165	5825	0.32		2.22	2.22	2.25			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	149	5745	0.31		2.22	2.22	2.20			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	157	5785	0.31		2.22	2.22	2.15			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	1	165	5825	0.31		2.22	2.22	1.84			30.00	30.00	3.47	3.11	Pass
HT40	MCS0	1	151	5755	0.60		2.22	2.22	-0.63			30.00	30.00	3.47	3.11	Pass
HT40	MCS0	1	159	5795	0.60		2.22	2.22	-1.04			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	149	5745	0.34		2.22	2.22	2.18			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	157	5785	0.34		2.22	2.22	2.10			30.00	30.00	3.47	3.11	Pass
VHT20	MCS0	1	165	5825	0.34		2.22	2.22	1.97			30.00	30.00	3.47	3.11	Pass
VHT40	MCS0	1	151	5755	0.60		2.22	2.22	-0.62			30.00	30.00	3.47	3.11	Pass
VHT40	MCS0	1	159	5795	0.60		2.22	2.22	-1.14			30.00	30.00	3.47	3.11	Pass
VHT80	MCS0	1	155	5775	1.20		2.22	2.22	-3.76			30.00	30.00	3.47	3.11	Pass
HT20	MCS0	2	149	5745	0.31	0.31	2.22				5.93	29.70		6.30		Pass
HT20	MCS0	2	157	5785	0.31	0.31	2.22				5.88	29.70		6.30		Pass
HT20	MCS0	2	165	5825	0.31	0.31	2.22				5.96	29.70		6.30		Pass
HT40	MCS0	2	151	5755	0.60	0.61	2.22				2.76	29.70		6.30		Pass
HT40	MCS0	2	159	5795	0.60	0.61	2.22				2.15	29.70		6.30		Pass
VHT20	MCS0	2	149	5745	0.31	0.31	2.22				5.91	29.70		6.30		Pass
VHT20	MCS0	2	157	5785	0.31	0.31	2.22				5.38	29.70		6.30		Pass
VHT20	MCS0	2	165	5825	0.31	0.31	2.22				4.47	29.70		6.30		Pass
VHT40	MCS0	2	151	5755	0.60	0.60	2.22				2.79	29.70		6.30		Pass
VHT40	MCS0	2	159	5795	0.60	0.60	2.22				1.89	29.70		6.30		Pass
VHT80	MCS0	2	155	5775	1.14	1.14	2.22				-0.22	29.70		6.30		Pass

TEST RESULTS DATA
Frequency Stability

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	149	5745	5744.975	-0.025	-4.35	20	4.5	
11a	6Mbps	1	149	5745	5744.975	-0.025	-4.35	20	5.5	
11a	6Mbps	1	149	5745	5745.000	0.000	0.00	20	5	
11a	6Mbps	1	149	5745	5745.100	0.100	17.41	0	5	
11a	6Mbps	1	149	5745	5745.025	0.025	4.35	35	5	



Appendix B. Radiated Spurious Emission

Test Engineer :	Citta Ke and Ricky Su	Temperature :	22~24°C
		Relative Humidity :	50~54%

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 149 5745MHz		5633.8	55.92	-12.38	68.3	42.94	32.19	11.79	31	100	305	P	H
		5699	61.18	-43.38	104.56	48.1	32.27	11.82	31.01	100	305	P	H
		5719.6	73.81	-36.98	110.79	60.68	32.31	11.84	31.02	100	305	P	H
		5723.4	76.39	-42.26	118.65	63.26	32.31	11.84	31.02	100	305	P	H
		5746	110.8	-	-	97.63	32.34	11.86	31.03	100	305	P	H
		5746	101.33	-	-	88.16	32.34	11.86	31.03	100	305	A	H
													H
													H
		5603	55.51	-12.79	68.3	42.59	32.14	11.77	30.99	350	95	P	V
		5699.6	57.16	-47.85	105.01	44.08	32.27	11.82	31.01	350	95	P	V
		5718.8	67.7	-42.86	110.56	54.57	32.31	11.84	31.02	350	95	P	V
		5724.6	71.21	-50.18	121.39	58.08	32.31	11.84	31.02	350	95	P	V
		5746	106.02	-	-	92.85	32.34	11.86	31.03	350	95	P	V
		5746	96.19	-	-	83.02	32.34	11.86	31.03	350	95	A	V
													V
													V



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 157 5785MHz		5618.2	56.45	-11.85	68.3	43.5	32.17	11.77	30.99	100	305	P	H
		5692.2	56.48	-43.07	99.55	43.4	32.27	11.82	31.01	100	305	P	H
		5720	57.03	-53.87	110.9	43.9	32.31	11.84	31.02	100	305	P	H
		5724.6	58.18	-63.21	121.39	45.05	32.31	11.84	31.02	100	305	P	H
		5783	110.51	-	-	97.29	32.39	11.88	31.05	100	305	P	H
		5783	101.14	-	-	87.92	32.39	11.88	31.05	100	305	A	H
		5851	56.95	-63.07	120.02	43.5	32.48	12.03	31.06	100	305	P	H
		5858	57.77	-52.29	110.06	44.3	32.51	12.03	31.07	100	305	P	H
		5898	56.39	-31.85	88.24	42.74	32.56	12.17	31.08	100	305	P	H
		5940.6	56.22	-12.08	68.3	42.23	32.63	12.45	31.09	100	305	P	H
													H
													H
		5626.4	56.2	-12.1	68.3	43.23	32.17	11.79	30.99	384	100	P	V
		5664.8	56.21	-23.08	79.29	43.18	32.22	11.82	31.01	384	100	P	V
		5708.2	55.71	-51.89	107.6	42.6	32.29	11.84	31.02	384	100	P	V
		5722.6	56.53	-60.3	116.83	43.4	32.31	11.84	31.02	384	100	P	V
		5782	106.83	-	-	93.61	32.39	11.88	31.05	384	100	P	V
		5782	96.67	-	-	83.45	32.39	11.88	31.05	384	100	A	V
		5851	55.03	-64.99	120.02	41.58	32.48	12.03	31.06	384	100	P	V
		5871.8	55.77	-50.42	106.19	42.14	32.53	12.17	31.07	384	100	P	V
		5907.6	57.13	-24.01	81.14	43.32	32.58	12.31	31.08	384	100	P	V
		5940.6	56.18	-12.12	68.3	42.19	32.63	12.45	31.09	384	100	P	V
													V
													V



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 165 5825MHz		5824	112.52	-	-	99.08	32.46	12.03	31.05	117	304	P	H
		5824	101.52	-	-	88.08	32.46	12.03	31.05	117	304	A	H
		5850.8	69.29	-51.19	120.48	55.84	32.48	12.03	31.06	117	304	P	H
		5856.4	67.19	-43.32	110.51	53.71	32.51	12.03	31.06	117	304	P	H
		5880	57.96	-43.63	101.59	44.33	32.53	12.17	31.07	117	304	P	H
		5947.8	56.6	-11.7	68.3	42.61	32.63	12.45	31.09	117	304	P	H
													H
													H
		5824	107.44	-	-	94	32.46	12.03	31.05	377	101	P	V
		5824	97.24	-	-	83.8	32.46	12.03	31.05	377	101	A	V
		5851.2	65.2	-54.36	119.56	51.75	32.48	12.03	31.06	377	101	P	V
		5855.8	61.27	-49.41	110.68	47.79	32.51	12.03	31.06	377	101	P	V
		5879	58.11	-44.22	102.33	44.48	32.53	12.17	31.07	377	101	P	V
		5925.4	55.9	-12.4	68.3	42.08	32.6	12.31	31.09	377	101	P	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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 149 5745MHz		11490	54.47	-19.53	74	53.74	40.11	18.4	57.78	125	277	P	H
		11490	43.93	-10.07	54	43.2	40.11	18.4	57.78	125	277	A	H
		17235	49.4	-18.9	68.3	41.75	41.65	23.14	57.14	100	0	P	H
													H
		11490	52.88	-21.12	74	52.15	40.11	18.4	57.78	400	208	P	V
		11490	41.25	-12.75	54	40.52	40.11	18.4	57.78	400	208	A	V
		17235	49.5	-18.8	68.3	41.85	41.65	23.14	57.14	100	0	P	V
													V
802.11a CH 157 5785MHz		11570	54.58	-19.42	74	53.94	39.95	18.49	57.8	122	276	P	H
		11570	44.24	-9.76	54	43.6	39.95	18.49	57.8	122	276	A	H
		17355	50.03	-18.27	68.3	42.32	42.02	23.25	57.56	100	0	P	H
													H
		11570	52.38	-21.62	74	51.74	39.95	18.49	57.8	369	349	P	V
		11570	40.87	-13.13	54	40.23	39.95	18.49	57.8	369	349	A	V
		17355	50.05	-18.25	68.3	42.34	42.02	23.25	57.56	100	0	P	V
													V
802.11a CH 165 5825MHz		11650	57.1	-16.9	74	56.52	39.8	18.58	57.8	130	275	P	H
		11650	46.46	-7.54	54	45.88	39.8	18.58	57.8	130	275	A	H
		17475	48.63	-19.67	68.3	40.86	42.39	23.36	57.98	100	0	P	H
													H
		11650	54.54	-19.46	74	53.96	39.8	18.58	57.8	400	212	P	V
		11650	43.59	-10.41	54	43.01	39.8	18.58	57.8	400	212	A	V
		17475	48.68	-19.62	68.3	40.91	42.39	23.36	57.98	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		5649.2	56.47	-11.83	68.3	43.49	32.19	11.79	31	103	304	P	H
		5691.6	59.22	-39.89	99.11	46.14	32.27	11.82	31.01	103	304	P	H
		5717	68.31	-41.75	110.06	55.2	32.29	11.84	31.02	103	304	P	H
		5722.8	75.42	-41.86	117.28	62.29	32.31	11.84	31.02	103	304	P	H
		5743	111.15	-	-	97.98	32.34	11.86	31.03	103	304	P	H
		5743	100.32	-	-	87.15	32.34	11.86	31.03	103	304	A	H
													H
													H
		5602.8	56.4	-11.9	68.3	43.48	32.14	11.77	30.99	370	102	P	V
		5699.8	56.63	-48.52	105.15	43.55	32.27	11.82	31.01	370	102	P	V
		5718.6	64.83	-45.68	110.51	51.7	32.31	11.84	31.02	370	102	P	V
		5724.6	70.71	-50.68	121.39	57.58	32.31	11.84	31.02	370	102	P	V
		5746	106.29	-	-	93.12	32.34	11.86	31.03	370	102	P	V
		5746	96.62	-	-	83.45	32.34	11.86	31.03	370	102	A	V
													V
													V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5648.2	55.93	-12.37	68.3	42.95	32.19	11.79	31	119	303	P	H
		5684.8	56.41	-37.68	94.09	43.33	32.27	11.82	31.01	119	303	P	H
		5715.2	57.58	-51.98	109.56	44.47	32.29	11.84	31.02	119	303	P	H
		5722.8	57.39	-59.89	117.28	44.26	32.31	11.84	31.02	119	303	P	H
		5785	111.35	-	-	98.13	32.39	11.88	31.05	119	303	P	H
		5785	101.18	-	-	87.96	32.39	11.88	31.05	119	303	A	H
		5854.6	57.07	-54.74	111.81	43.59	32.51	12.03	31.06	119	303	P	H
		5859.8	57.15	-52.4	109.55	43.68	32.51	12.03	31.07	119	303	P	H
		5902.2	56.72	-28.41	85.13	42.93	32.56	12.31	31.08	119	303	P	H
		5930	56.32	-11.98	68.3	42.5	32.6	12.31	31.09	119	303	P	H
													H
													H
		5646.2	56.42	-11.88	68.3	43.44	32.19	11.79	31	387	111	P	V
		5673.8	56.02	-29.93	85.95	42.97	32.24	11.82	31.01	387	111	P	V
		5706.6	56.14	-51.01	107.15	43.03	32.29	11.84	31.02	387	111	P	V
		5724.2	55.95	-64.53	120.48	42.82	32.31	11.84	31.02	387	111	P	V
		5785	107.06	-	-	93.84	32.39	11.88	31.05	387	111	P	V
		5785	96.74	-	-	83.52	32.39	11.88	31.05	387	111	A	V
		5851	56.68	-63.34	120.02	43.23	32.48	12.03	31.06	387	111	P	V
		5871.2	56.48	-49.88	106.36	42.85	32.53	12.17	31.07	387	111	P	V
		5900	56.57	-30.19	86.76	42.92	32.56	12.17	31.08	387	111	P	V
		5929.2	56.92	-11.38	68.3	43.1	32.6	12.31	31.09	387	111	P	V
													V
													V



WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz		5825	111.09	-	-	97.65	32.46	12.03	31.05	129	303	P	H
		5825	111.09	-	-	97.65	32.46	12.03	31.05	129	303	A	H
		5850.4	70.44	-50.95	121.39	56.99	32.48	12.03	31.06	129	303	P	H
		5856.6	67.62	-42.83	110.45	54.14	32.51	12.03	31.06	129	303	P	H
		5879	57.95	-44.38	102.33	44.32	32.53	12.17	31.07	129	303	P	H
		5936.4	57.24	-11.06	68.3	43.42	32.6	12.31	31.09	129	303	P	H
													H
													H
		5825	108.53	-	-	95.09	32.46	12.03	31.05	400	100	P	V
		5825	97.5	-	-	84.06	32.46	12.03	31.05	400	100	A	V
		5850.6	65.81	-55.12	120.93	52.36	32.48	12.03	31.06	400	100	P	V
		5855.2	60.32	-50.52	110.84	46.84	32.51	12.03	31.06	400	100	P	V
		5905.2	56.86	-26.05	82.91	43.05	32.58	12.31	31.08	400	100	P	V
		5949	56.41	-11.89	68.3	42.42	32.63	12.45	31.09	400	100	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	52.89	-21.11	74	52.16	40.11	18.4	57.78	120	275	P	H
		11490	43.54	-10.46	54	42.81	40.11	18.4	57.78	120	275	A	H
		17235	49.12	-19.18	68.3	41.47	41.65	23.14	57.14	100	0	P	H
													H
		11490	52.04	-21.96	74	51.31	40.11	18.4	57.78	356	2	P	V
		11490	40.75	-13.25	54	40.02	40.11	18.4	57.78	356	2	A	V
		17235	49.94	-18.36	68.3	42.29	41.65	23.14	57.14	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	53.25	-20.75	74	52.61	39.95	18.49	57.8	126	275	P	H
		11570	43.63	-10.37	54	42.99	39.95	18.49	57.8	126	275	A	H
		17355	49.97	-18.33	68.3	42.26	42.02	23.25	57.56	100	0	P	H
													H
		11570	52.37	-21.63	74	51.73	39.95	18.49	57.8	389	0	P	V
		11570	41.19	-12.81	54	40.55	39.95	18.49	57.8	389	0	A	V
		17355	50.91	-17.39	68.3	43.2	42.02	23.25	57.56	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	56.1	-17.9	74	55.52	39.8	18.58	57.8	120	275	P	H
		11650	46.13	-7.87	54	45.55	39.8	18.58	57.8	120	275	A	H
		17475	49.13	-19.17	68.3	41.36	42.39	23.36	57.98	100	0	P	H
													H
		11650	54.13	-19.87	74	53.55	39.8	18.58	57.8	394	1	P	V
		11650	43.35	-10.65	54	42.77	39.8	18.58	57.8	394	1	A	V
		17475	49.28	-19.02	68.3	41.51	42.39	23.36	57.98	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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 151 5755MHz		5639.2	56.22	-12.08	68.3	43.24	32.19	11.79	31	106	303	P	H
		5696.8	67.39	-35.55	102.94	54.31	32.27	11.82	31.01	106	303	P	H
		5717.2	76.42	-33.7	110.12	63.31	32.29	11.84	31.02	106	303	P	H
		5721.4	77.58	-36.51	114.09	64.45	32.31	11.84	31.02	106	303	P	H
		5755	108.77	-	-	95.58	32.36	11.86	31.03	106	303	P	H
		5755	97.78	-	-	84.59	32.36	11.86	31.03	106	303	A	H
		5850	57.53	-64.77	122.3	44.08	32.48	12.03	31.06	106	303	P	H
		5855.6	57.11	-53.62	110.73	43.63	32.51	12.03	31.06	106	303	P	H
		5879.8	56.95	-44.78	101.73	43.32	32.53	12.17	31.07	106	303	P	H
		5947	56.9	-11.4	68.3	42.91	32.63	12.45	31.09	106	303	P	H
													H
													H
		5639.2	56.14	-12.16	68.3	43.16	32.19	11.79	31	388	99	P	V
		5700	60.88	-44.42	105.3	47.8	32.27	11.82	31.01	388	99	P	V
		5719.2	70.37	-40.31	110.68	57.24	32.31	11.84	31.02	388	99	P	V
		5722.2	70.35	-45.57	115.92	57.22	32.31	11.84	31.02	388	99	P	V
		5755	104.72	-	-	91.53	32.36	11.86	31.03	388	99	P	V
		5755	93.69	-	-	80.5	32.36	11.86	31.03	388	99	A	V
		5850.2	55.95	-65.89	121.84	42.5	32.48	12.03	31.06	388	99	P	V
		5859.6	55.65	-53.96	109.61	42.18	32.51	12.03	31.07	388	99	P	V
		5913	56.37	-20.78	77.15	42.57	32.58	12.31	31.09	388	99	P	V
		5941	56.79	-11.51	68.3	42.8	32.63	12.45	31.09	388	99	P	V
													V
													V



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 159 5795MHz		5646.2	56	-12.3	68.3	43.02	32.19	11.79	31	130	303	P	H
		5694.2	58.47	-42.55	101.02	45.39	32.27	11.82	31.01	130	303	P	H
		5716.6	60.73	-49.22	109.95	47.62	32.29	11.84	31.02	130	303	P	H
		5723.6	63.32	-55.79	119.11	50.19	32.31	11.84	31.02	130	303	P	H
		5795	107.03	-	-	93.79	32.41	11.88	31.05	130	303	P	H
		5795	97.88	-	-	84.64	32.41	11.88	31.05	130	303	A	H
		5851.2	63.45	-56.11	119.56	50	32.48	12.03	31.06	130	303	P	H
		5856.8	62.44	-47.96	110.4	48.96	32.51	12.03	31.06	130	303	P	H
		5878.4	58.74	-44.03	102.77	45.11	32.53	12.17	31.07	130	303	P	H
		5925.6	56.52	-11.78	68.3	42.7	32.6	12.31	31.09	130	303	P	H
													H
													H
		5638	55.45	-12.85	68.3	42.47	32.19	11.79	31	383	100	P	V
		5690.4	55.67	-42.55	98.22	42.59	32.27	11.82	31.01	383	100	P	V
		5715.6	57.51	-52.16	109.67	44.4	32.29	11.84	31.02	383	100	P	V
		5722.6	56.77	-60.06	116.83	43.64	32.31	11.84	31.02	383	100	P	V
		5795	103.6	-	-	90.36	32.41	11.88	31.05	383	100	P	V
		5795	94.01	-	-	80.77	32.41	11.88	31.05	383	100	A	V
		5850.2	58.63	-63.21	121.84	45.18	32.48	12.03	31.06	383	100	P	V
		5864.6	57.85	-50.36	108.21	44.24	32.51	12.17	31.07	383	100	P	V
		5896.4	56.99	-32.44	89.43	43.34	32.56	12.17	31.08	383	100	P	V
		5946.4	56.58	-11.72	68.3	42.59	32.63	12.45	31.09	383	100	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	51.67	-22.33	74	50.92	40.1	18.45	57.8	130	277	P	H
		11510	41.76	-12.24	54	41.01	40.1	18.45	57.8	130	277	A	H
		17265	49.33	-18.97	68.3	41.67	41.75	23.17	57.26	100	0	P	H
													H
		11510	49.4	-24.6	74	48.65	40.1	18.45	57.8	100	0	P	V
		17265	48.66	-19.64	68.3	41	41.75	23.17	57.26	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	52.39	-21.61	74	51.74	39.91	18.54	57.8	120	275	P	H
		11590	42.18	-11.82	54	41.53	39.91	18.54	57.8	120	275	A	H
		17385	49.62	-18.68	68.3	41.88	42.13	23.29	57.68	100	0	P	H
													H
		11590	51.48	-22.52	74	50.83	39.91	18.54	57.8	386	1	P	V
		11590	39.76	-14.24	54	39.11	39.91	18.54	57.8	386	1	A	V
		17385	49.71	-18.59	68.3	41.97	42.13	23.29	57.68	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

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 155 5775MHz		5649.4	61.5	-6.8	68.3	48.52	32.19	11.79	31	141	301	P	H
		5698.8	70.78	-33.64	104.42	57.7	32.27	11.82	31.01	141	301	P	H
		5717.6	73.2	-37.03	110.23	60.07	32.31	11.84	31.02	141	301	P	H
		5720.4	72.52	-39.29	111.81	59.39	32.31	11.84	31.02	141	301	P	H
		5775	105.04	-	-	91.83	32.39	11.86	31.04	141	301	P	H
		5775	94.54	-	-	81.33	32.39	11.86	31.04	141	301	A	H
		5853.4	67.79	-46.76	114.55	54.34	32.48	12.03	31.06	141	301	P	H
		5858	67.24	-42.82	110.06	53.77	32.51	12.03	31.07	141	301	P	H
		5875.4	63.99	-41.01	105	50.36	32.53	12.17	31.07	141	301	P	H
		5945.6	57.86	-10.44	68.3	43.87	32.63	12.45	31.09	141	301	P	H
													H
													H
		5645.4	58.67	-9.63	68.3	45.69	32.19	11.79	31	389	109	P	V
		5695	64.3	-37.31	101.61	51.22	32.27	11.82	31.01	389	109	P	V
		5718.8	67.78	-42.78	110.56	54.65	32.31	11.84	31.02	389	109	P	V
		5722.6	66.11	-50.72	116.83	52.98	32.31	11.84	31.02	389	109	P	V
		5775	100.45	-	-	87.24	32.39	11.86	31.04	389	109	P	V
		5775	90.06	-	-	76.85	32.39	11.86	31.04	389	109	A	V
		5855	61.68	-49.22	110.9	48.2	32.51	12.03	31.06	389	109	P	V
		5869.4	62.23	-44.64	106.87	48.62	32.51	12.17	31.07	389	109	P	V
		5875.8	59.92	-44.79	104.71	46.29	32.53	12.17	31.07	389	109	P	V
		5930	56.62	-11.68	68.3	42.8	32.6	12.31	31.09	389	109	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	47.82	-26.18	74	47.14	39.99	18.49	57.8	100	0	P	H
		17325	49.87	-18.43	68.3	42.19	41.91	23.21	57.44	100	0	P	H
													H
													H
		11550	48.2	-25.8	74	47.52	39.99	18.49	57.8	100	0	P	V
		17325	49.28	-19.02	68.3	41.6	41.91	23.21	57.44	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

5GHz WIFI 802.11ac VHT80 (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)
5GHz 802.11ac VHT80 LF		81.03	36.7	-3.3	40	54.27	13.81	1.06	32.44	200	117	P	H
		118.83	40	-3.5	43.5	53.45	17.55	1.43	32.43	-	-	P	H
		203.34	39.7	-3.8	43.5	54.49	15.91	1.7	32.4	-	-	P	H
		301.4	35.41	-10.59	46	45.74	19.56	2.34	32.23	-	-	P	H
		479.9	35.97	-10.03	46	41.64	23.64	3.08	32.39	-	-	P	H
		720.7	36.27	-9.73	46	37.86	26.89	3.89	32.37	-	-	P	H
													H
													H
													H
													H
													H
													H
		85.89	35.82	-4.18	40	52.84	14.36	1.06	32.44	-	-	P	V
		119.1	40.09	-3.41	43.5	53.54	17.55	1.43	32.43	155	43	P	V
		204.96	39.78	-3.72	43.5	54.54	15.94	1.7	32.4	-	-	P	V
		302.8	32.48	-13.52	46	42.78	19.59	2.34	32.23	-	-	P	V
		428.1	37.36	-8.64	46	44.15	22.7	2.89	32.38	-	-	P	V
		479.9	36.94	-9.06	46	42.61	23.64	3.08	32.39	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Band 4 - 5725~5850MHz

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)
802.11n HT20 CH 149 5745MHz		5637.8	56.59	-11.71	68.3	43.61	32.19	11.79	31	100	250	P	H
		5699.2	71.1	-33.61	104.71	58.02	32.27	11.82	31.01	100	250	P	H
		5717	82.11	-27.95	110.06	69	32.29	11.84	31.02	100	250	P	H
		5725	84.1	-38.2	122.3	70.97	32.31	11.84	31.02	100	250	P	H
		5745	113.04	-	-	99.87	32.34	11.86	31.03	100	250	P	H
		5745	104.59	-	-	91.42	32.34	11.86	31.03	100	250	A	H
													H
													H
		5619.2	55.91	-12.39	68.3	42.96	32.17	11.77	30.99	390	118	P	V
		5697.8	58.54	-45.14	103.68	45.46	32.27	11.82	31.01	390	118	P	V
		5718.2	73.21	-37.19	110.4	60.08	32.31	11.84	31.02	390	118	P	V
		5725	77.2	-45.1	122.3	64.07	32.31	11.84	31.02	390	118	P	V
		5745	109.42	-	-	96.25	32.34	11.86	31.03	390	118	P	V
		5745	100.3	-	-	87.13	32.34	11.86	31.03	390	118	A	V
													V
													V



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 157 5785MHz		5616	56.18	-12.12	68.3	43.23	32.17	11.77	30.99	100	262	P	H
		5699	57.44	-47.12	104.56	44.36	32.27	11.82	31.01	100	262	P	H
		5718.8	58.36	-52.2	110.56	45.23	32.31	11.84	31.02	100	262	P	H
		5724	59	-61.02	120.02	45.87	32.31	11.84	31.02	100	262	P	H
		5785	112.19	-	-	98.97	32.39	11.88	31.05	100	262	P	H
		5785	102.87	-	-	89.65	32.39	11.88	31.05	100	262	A	H
		5851.4	57.33	-61.78	119.11	43.88	32.48	12.03	31.06	100	262	P	H
		5857.2	57.38	-52.9	110.28	43.9	32.51	12.03	31.06	100	262	P	H
		5880	57.38	-44.21	101.59	43.75	32.53	12.17	31.07	100	262	P	H
		5931.8	56.68	-11.62	68.3	42.86	32.6	12.31	31.09	100	262	P	H
													H
													H
		5646	56.8	-11.5	68.3	43.82	32.19	11.79	31	367	114	P	V
		5681.4	56.37	-35.2	91.57	43.32	32.24	11.82	31.01	367	114	P	V
		5716.6	55.62	-54.33	109.95	42.51	32.29	11.84	31.02	367	114	P	V
		5724.8	57.35	-64.49	121.84	44.22	32.31	11.84	31.02	367	114	P	V
		5785	108.86	-	-	95.64	32.39	11.88	31.05	367	114	P	V
		5785	99.95	-	-	86.73	32.39	11.88	31.05	367	114	A	V
		5851.6	55.96	-62.69	118.65	42.51	32.48	12.03	31.06	367	114	P	V
		5858	55.64	-54.42	110.06	42.17	32.51	12.03	31.07	367	114	P	V
		5906.8	56.73	-25	81.73	42.92	32.58	12.31	31.08	367	114	P	V
		5941.8	56.36	-11.94	68.3	42.37	32.63	12.45	31.09	367	114	P	V
													V
													V



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 165 5825MHz		5825	112.91	-	-	99.47	32.46	12.03	31.05	100	308	P	H
		5825	103.55	-	-	90.11	32.46	12.03	31.05	100	308	A	H
		5851	74.88	-45.14	120.02	61.43	32.48	12.03	31.06	100	308	P	H
		5856.2	73.52	-37.04	110.56	60.04	32.51	12.03	31.06	100	308	P	H
		5876.6	61.69	-42.42	104.11	48.06	32.53	12.17	31.07	100	308	P	H
		5936	57.42	-10.88	68.3	43.6	32.6	12.31	31.09	100	308	P	H
													H
													H
		5827	111.46	-	-	98.02	32.46	12.03	31.05	400	101	P	V
		5827	99.98	-	-	86.54	32.46	12.03	31.05	400	101	A	V
		5851	73.72	-46.3	120.02	60.27	32.48	12.03	31.06	400	101	P	V
		5856.2	71.94	-38.62	110.56	58.46	32.51	12.03	31.06	400	101	P	V
		5879.4	60.84	-41.19	102.03	47.21	32.53	12.17	31.07	400	101	P	V
		5937.2	60.26	-8.04	68.3	46.44	32.6	12.31	31.09	400	101	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 149 5745MHz		11490	56.39	-17.61	74	55.66	40.11	18.4	57.78	120	281	P	H
		11490	46.47	-7.53	54	45.74	40.11	18.4	57.78	120	281	A	H
		17235	49.79	-18.51	68.3	42.14	41.65	23.14	57.14	100	0	P	H
													H
		11490	52.69	-21.31	74	51.96	40.11	18.4	57.78	400	277	P	V
		11490	43.1	-10.9	54	42.37	40.11	18.4	57.78	400	277	A	V
		17235	49.42	-18.88	68.3	41.77	41.65	23.14	57.14	100	0	P	V
													V
802.11n HT20 CH 157 5785MHz		11570	63.1	-10.9	74	62.46	39.95	18.49	57.8	123	274	P	H
		11570	47.79	-6.21	54	47.15	39.95	18.49	57.8	123	274	A	H
		17355	50.51	-17.79	68.3	42.8	42.02	23.25	57.56	100	0	P	H
													H
		11570	55.93	-18.07	74	55.29	39.95	18.49	57.8	369	127	P	V
		11570	42.13	-11.87	54	41.49	39.95	18.49	57.8	369	127	A	V
		17355	49.53	-18.77	68.3	41.82	42.02	23.25	57.56	100	0	P	V
													V
802.11n HT20 CH 165 5825MHz		11650	63.25	-10.75	74	62.67	39.8	18.58	57.8	109	241	P	H
		11650	48.59	-5.41	54	48.01	39.8	18.58	57.8	109	241	A	H
		17475	48.6	-19.7	68.3	40.83	42.39	23.36	57.98	100	0	P	H
													H
		11650	46.76	-27.24	74	46.18	39.8	18.58	57.8	100	0	P	V
		17475	47.98	-20.32	68.3	40.21	42.39	23.36	57.98	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		5645.2	59.93	-8.37	68.3	46.95	32.19	11.79	31	100	249	P	H
		5700	75.84	-29.46	105.3	62.76	32.27	11.82	31.01	100	249	P	H
		5719.8	83.14	-27.7	110.84	70.01	32.31	11.84	31.02	100	249	P	H
		5725	83.77	-38.53	122.3	70.64	32.31	11.84	31.02	100	249	P	H
		5755	109.69	-	-	96.5	32.36	11.86	31.03	100	249	P	H
		5755	101.05	-	-	87.86	32.36	11.86	31.03	100	249	A	H
		5851.8	56.59	-61.61	118.2	43.14	32.48	12.03	31.06	100	249	P	H
		5863.2	57.46	-51.14	108.6	43.85	32.51	12.17	31.07	100	249	P	H
		5896.2	57.07	-32.5	89.57	43.42	32.56	12.17	31.08	100	249	P	H
		5929.2	57.01	-11.29	68.3	43.19	32.6	12.31	31.09	100	249	P	H
													H
													H
		5645.2	57.29	-11.01	68.3	44.31	32.19	11.79	31	387	118	P	V
		5700	65.67	-39.63	105.3	52.59	32.27	11.82	31.01	387	118	P	V
		5715.4	73.72	-35.89	109.61	60.61	32.29	11.84	31.02	387	118	P	V
		5723.2	77.42	-40.78	118.2	64.29	32.31	11.84	31.02	387	118	P	V
		5755	106.51	-	-	93.32	32.36	11.86	31.03	387	118	P	V
		5755	97.6	-	-	84.41	32.36	11.86	31.03	387	118	A	V
		5850.8	56.08	-64.4	120.48	42.63	32.48	12.03	31.06	387	118	P	V
		5868.8	56.07	-50.96	107.03	42.46	32.51	12.17	31.07	387	118	P	V
		5916.6	56.18	-18.31	74.49	42.38	32.58	12.31	31.09	387	118	P	V
		5942.2	56.21	-12.09	68.3	42.22	32.63	12.45	31.09	387	118	P	V
													V
													V



WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 159 5795MHz		5611	56.56	-11.74	68.3	43.64	32.14	11.77	30.99	117	264	P	H
		5693.2	59.11	-41.18	100.29	46.03	32.27	11.82	31.01	117	264	P	H
		5717.6	63.77	-46.46	110.23	50.64	32.31	11.84	31.02	117	264	P	H
		5722.8	68.3	-48.98	117.28	55.17	32.31	11.84	31.02	117	264	P	H
		5795	109.01	-	-	95.77	32.41	11.88	31.05	117	264	P	H
		5795	100.05	-	-	86.81	32.41	11.88	31.05	117	264	A	H
		5851.2	65.25	-54.31	119.56	51.8	32.48	12.03	31.06	117	264	P	H
		5855	62.96	-47.94	110.9	49.48	32.51	12.03	31.06	117	264	P	H
		5875	57.39	-47.91	105.3	43.76	32.53	12.17	31.07	117	264	P	H
		5935	56.39	-11.91	68.3	42.57	32.6	12.31	31.09	117	264	P	H
													H
													H
		5638.4	57	-11.3	68.3	44.02	32.19	11.79	31	362	88	P	V
		5677.6	56.95	-31.81	88.76	43.9	32.24	11.82	31.01	362	88	P	V
		5715.4	61.55	-48.06	109.61	48.44	32.29	11.84	31.02	362	88	P	V
		5723	64.17	-53.57	117.74	51.04	32.31	11.84	31.02	362	88	P	V
		5795	104.91	-	-	91.67	32.41	11.88	31.05	362	88	P	V
		5795	96.29	-	-	83.05	32.41	11.88	31.05	362	88	A	V
		5853	64.67	-50.79	115.46	51.22	32.48	12.03	31.06	362	88	P	V
		5855.8	63.44	-47.24	110.68	49.96	32.51	12.03	31.06	362	88	P	V
		5876.4	57.76	-46.5	104.26	44.13	32.53	12.17	31.07	362	88	P	V
		5938.6	56.31	-11.99	68.3	42.46	32.63	12.31	31.09	362	88	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 151 5755MHz		11510	59.95	-14.05	74	59.2	40.1	18.45	57.8	128	275	P	H
		11510	45.73	-8.27	54	44.98	40.1	18.45	57.8	128	275	A	H
		17268	48.27	-20.03	68.3	40.61	41.75	23.17	57.26	100	0	P	H
													H
		11650	46.74	-27.26	74	46.16	39.8	18.58	57.8	100	0	P	V
		17475	47.66	-20.64	68.3	39.89	42.39	23.36	57.98	100	0	P	V
													V
													V
802.11n HT40 CH 159 5795MHz		11590	60.23	-13.77	74	59.58	39.91	18.54	57.8	124	278	P	H
		11590	46.32	-7.68	54	45.67	39.91	18.54	57.8	124	278	A	H
		17325	49.69	-18.61	68.3	42.01	41.91	23.21	57.44	100	0	P	H
													H
		11590	50.7	-23.3	74	50.05	39.91	18.54	57.8	100	0	P	V
		17325	48.7	-19.6	68.3	41.02	41.91	23.21	57.44	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		5645	67.54	-0.76	68.3	54.56	32.19	11.79	31	100	246	P	H
		5699	77.96	-26.6	104.56	64.88	32.27	11.82	31.01	100	246	P	H
		5705.6	79.5	-27.37	106.87	66.39	32.29	11.84	31.02	100	246	P	H
		5722.8	80.11	-37.17	117.28	66.98	32.31	11.84	31.02	100	246	P	H
		5775	107.51	-	-	94.3	32.39	11.86	31.04	100	246	P	H
		5775	98.42	-	-	85.21	32.39	11.86	31.04	100	246	A	H
		5850.4	69.05	-52.34	121.39	55.6	32.48	12.03	31.06	100	246	P	H
		5860.2	68.1	-41.34	109.44	54.49	32.51	12.17	31.07	100	246	P	H
		5875.6	65.65	-39.2	104.85	52.02	32.53	12.17	31.07	100	246	P	H
		5930.2	56.78	-11.52	68.3	42.96	32.6	12.31	31.09	100	246	P	H
													H
													H
		5648	63.48	-4.82	68.3	50.5	32.19	11.79	31	386	88	P	V
		5691	70.92	-27.74	98.66	57.84	32.27	11.82	31.01	386	88	P	V
		5718.8	73.81	-36.75	110.56	60.68	32.31	11.84	31.02	386	88	P	V
		5723.2	74.37	-43.83	118.2	61.24	32.31	11.84	31.02	386	88	P	V
		5775	102.65	-	-	89.44	32.39	11.86	31.04	386	88	P	V
		5775	93.85	-	-	80.64	32.39	11.86	31.04	386	88	A	V
		5851.2	65.31	-54.25	119.56	51.86	32.48	12.03	31.06	386	88	P	V
		5860.4	65.15	-44.24	109.39	51.54	32.51	12.17	31.07	386	88	P	V
		5876	63.46	-41.1	104.56	49.83	32.53	12.17	31.07	386	88	P	V
		5936	57.04	-11.26	68.3	43.22	32.6	12.31	31.09	386	88	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**Band 4 5725~5850MHz****WIFI 802.11ac VHT80 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 155 5775MHz		11550	46.76	-27.24	74	46.08	39.99	18.49	57.8	100	0	P	H
		17325	50.05	-18.25	68.3	42.37	41.91	23.21	57.44	100	0	P	H
													H
													H
		11550	46.3	-27.7	74	45.62	39.99	18.49	57.8	100	0	P	V
		17325	49.32	-18.98	68.3	41.64	41.91	23.21	57.44	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

5GHz WIFI 802.11ac VHT80 (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)
5GHz 802.11ac VHT80 LF		46.47	36.65	-3.35	40	51.7	16.63	0.78	32.46	-	-	P	H
		129.36	40.26	-3.24	43.5	53.29	17.96	1.43	32.42	-	-	P	H
		215.22	40.27	-3.23	43.5	54.9	16.05	1.7	32.38	117	58	P	H
		324.5	35.16	-10.84	46	44.83	20.25	2.34	32.26	-	-	P	H
		497.4	39.59	-6.41	46	44.96	23.95	3.08	32.4	-	-	P	H
		717.2	37.13	-8.87	46	38.81	26.8	3.89	32.37	-	-	P	H
													H
													H
													H
													H
													H
													H
		82.92	36.62	-3.38	40	53.97	14.03	1.06	32.44	112	110	P	V
		206.04	40	-3.5	43.5	54.74	15.96	1.7	32.4	-	-	P	V
		295.95	40.68	-5.32	46	51.25	19.42	2.25	32.24	-	-	P	V
		318.9	32.11	-13.89	46	41.95	20.08	2.34	32.26	-	-	P	V
		479.9	35.76	-10.24	46	41.43	23.64	3.08	32.39	-	-	P	V
		720.7	33.96	-12.04	46	35.55	26.89	3.89	32.37	-	-	P	V
													V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



Note symbol

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



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

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

1. 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 Plots

Test Engineer :	Citta Ke and Ricky Su	Temperature :	22~24°C
		Relative Humidity :	50~54%

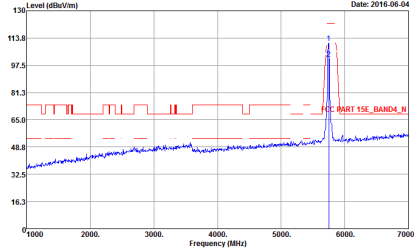
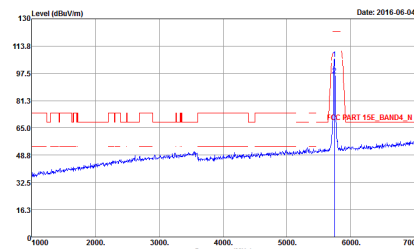
Note symbol

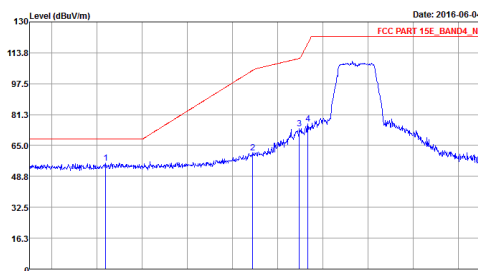
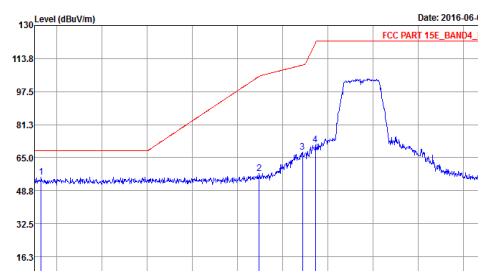
-L	Low channel location
-R	High channel location



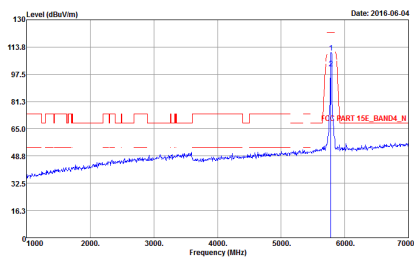
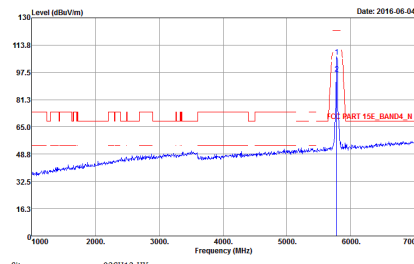
Band 4 - 5725~5850MHz

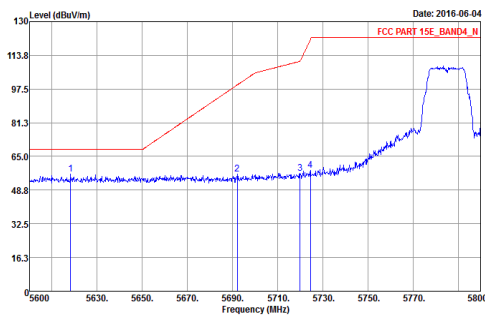
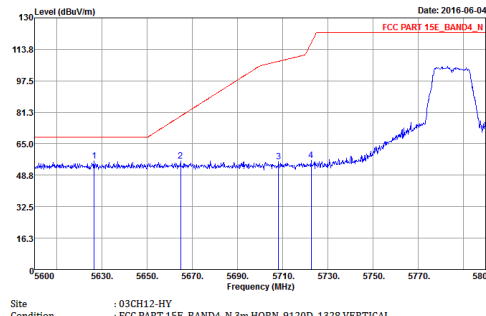
WIFI 802.11a (Band Edge and Fundamental @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 1	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 1

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 1	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 1



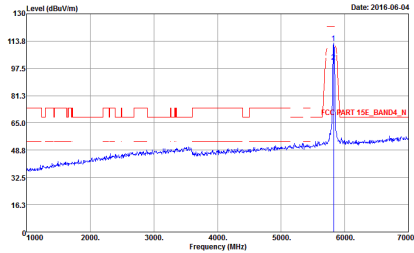
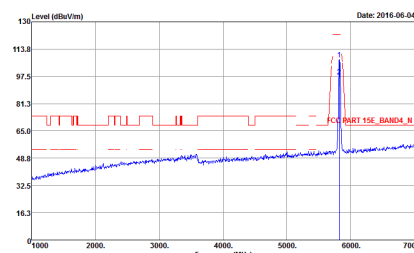
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2

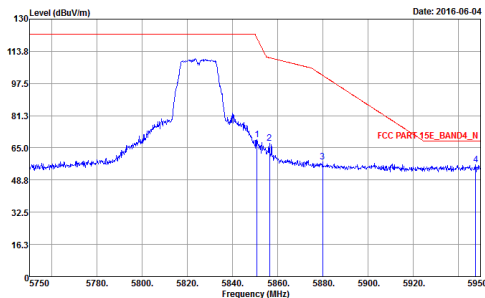
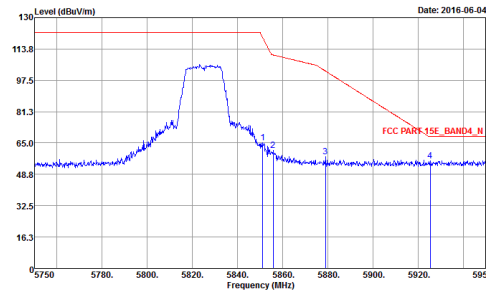
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz – L	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz – R	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2016-06-04 FCC PART 15E_BAND4_N Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2	Level (dBuV/m) Date: 2016-06-04 FCC PART 15E_BAND4_N Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 2



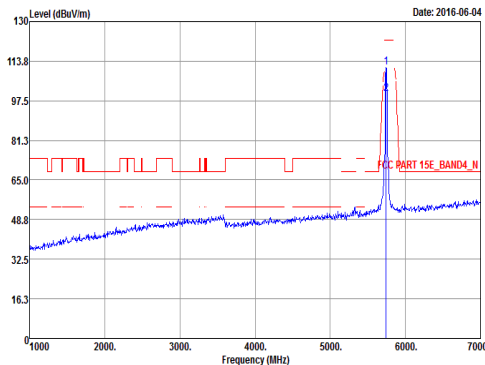
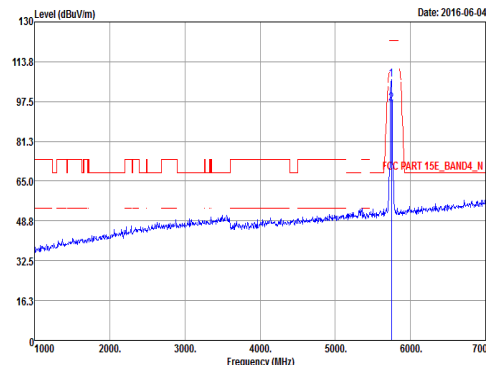
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 3	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 3

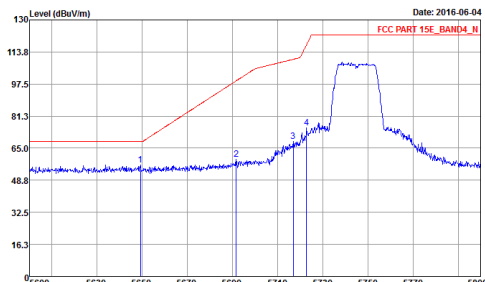
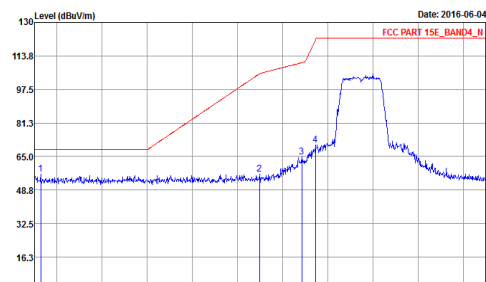
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 3	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 3



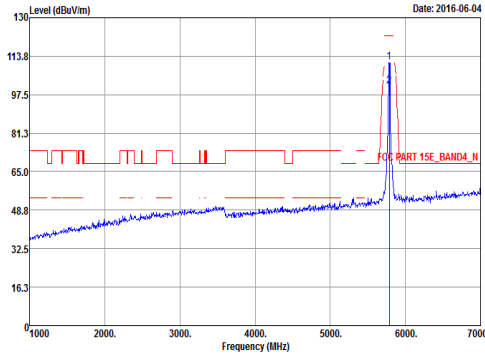
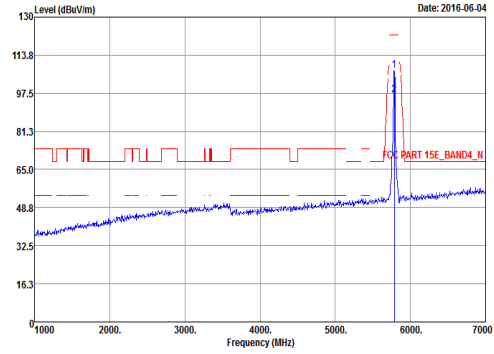
Band 4 5725~5850MHz

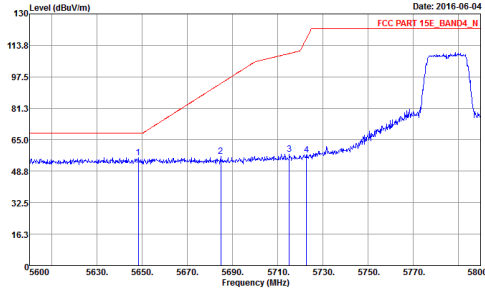
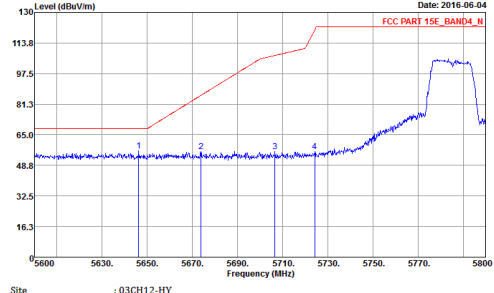
WIFI 802.11n HT20 (Fundamental and Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 4	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 4

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 4	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 4



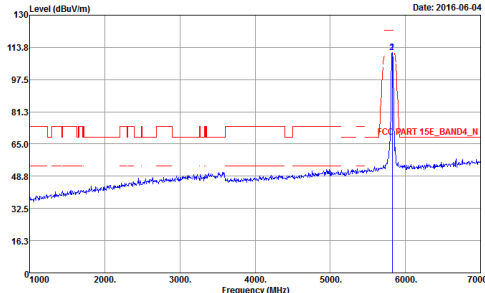
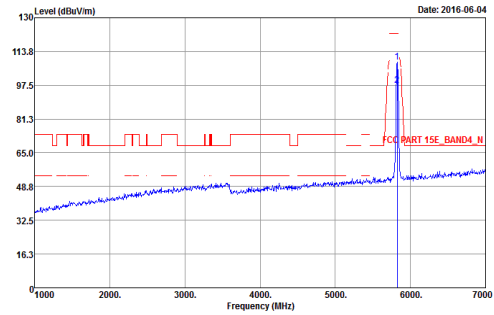
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 5	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 5

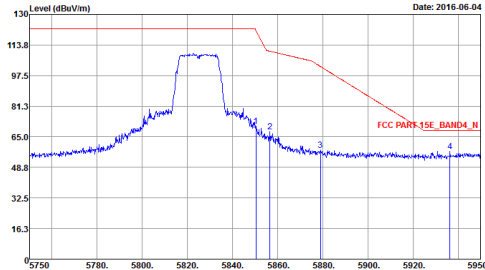
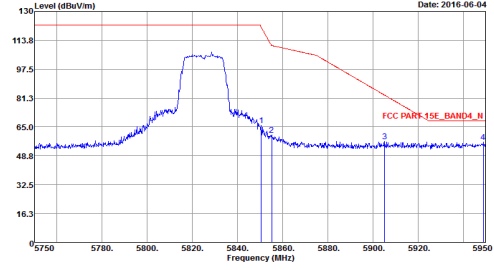
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 5	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 5



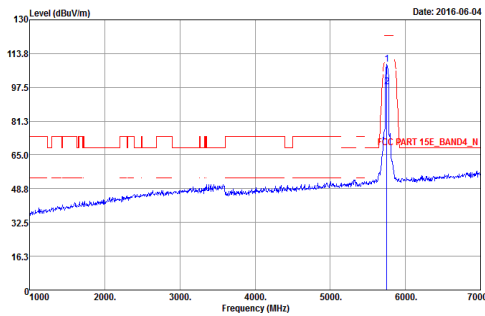
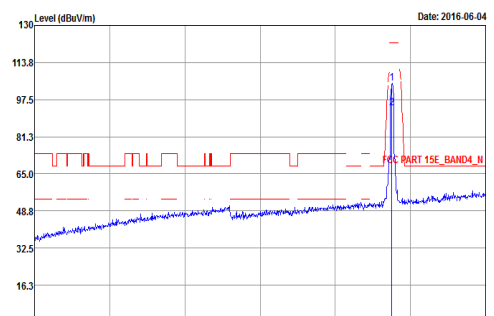
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - R	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2016-06-04 FCC PART 15E BAND4_N Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 5	Level (dBuV/m) Date: 2016-06-04 FCC PART 15E BAND4_N Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 5

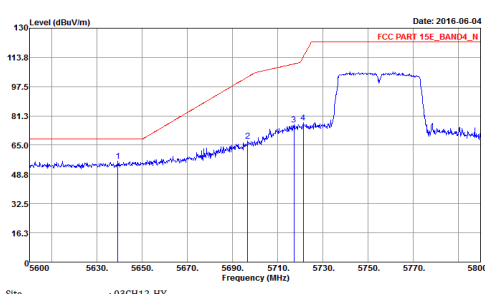
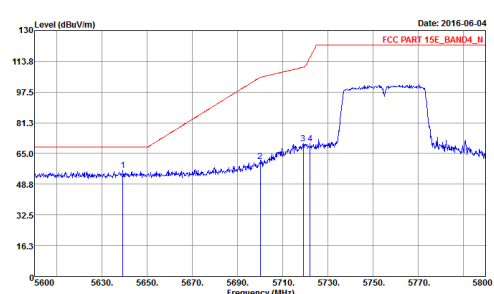


WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 6	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 6

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 6	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 6

Band 4 5725~5850MHz
WIFI 802.11n HT40 (Fundamental and Band Edge @ 3m)

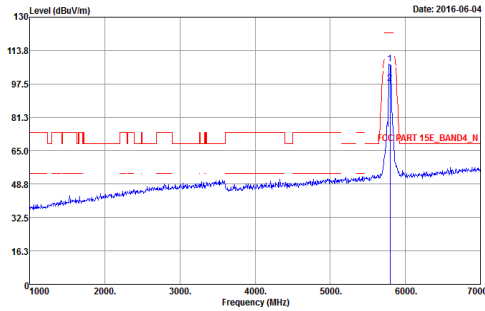
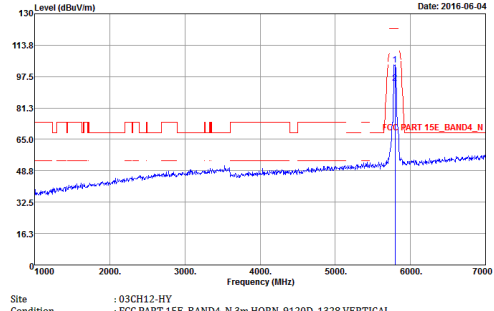
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 632203-01 Mode : 7	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 632203-01 Mode : 7

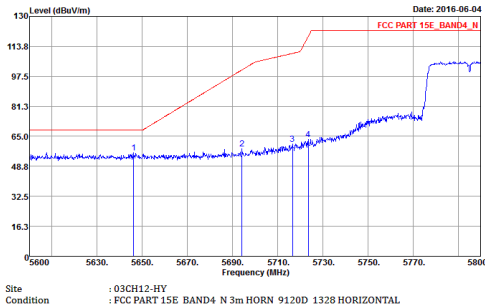
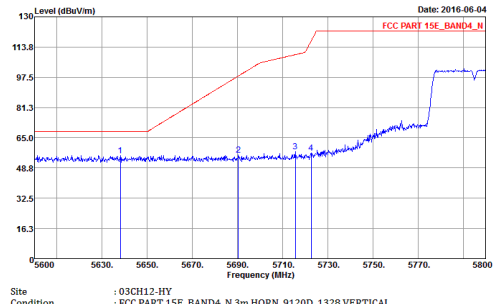
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 632203-01 Mode : 7	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 632203-01 Mode : 7



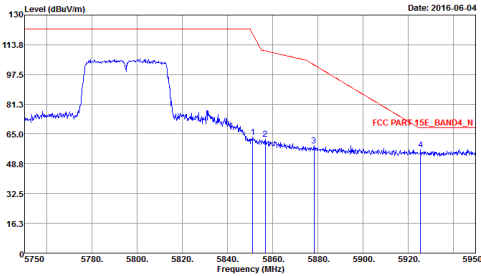
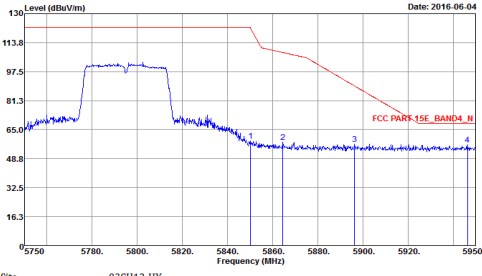
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz - R	
1	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2016-06-04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 7	Level (dBuV/m) Date: 2016-06-04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 7



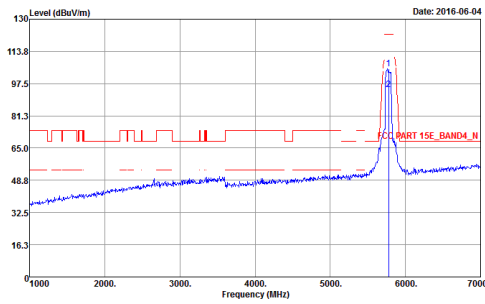
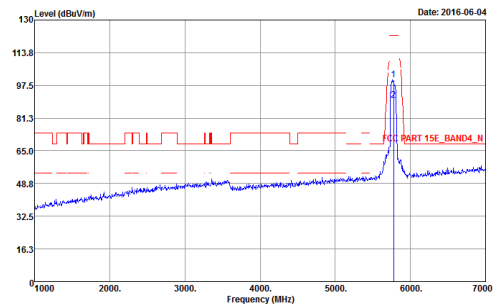
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 8	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 8

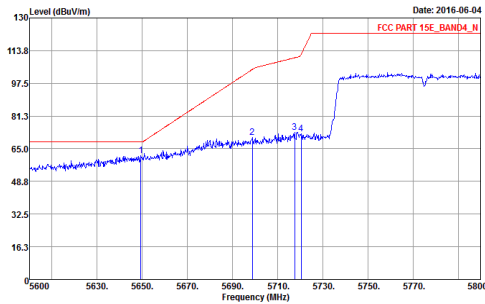
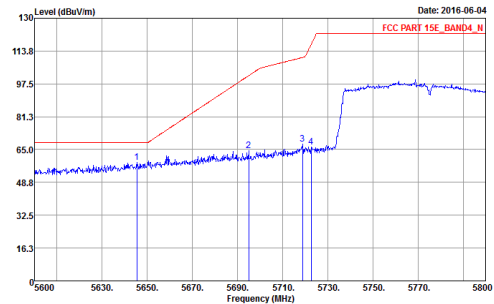
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - L	
1	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 8	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 8



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - R	
1	Horizontal	Vertical
Peak	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 8 	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 8 

Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Fundamental and Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz - L	
1	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9

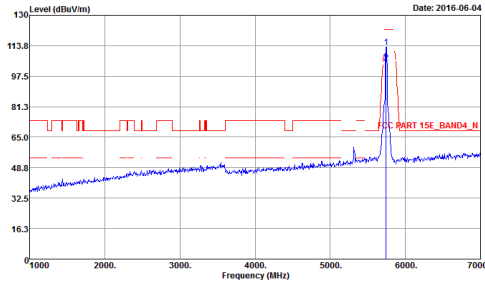
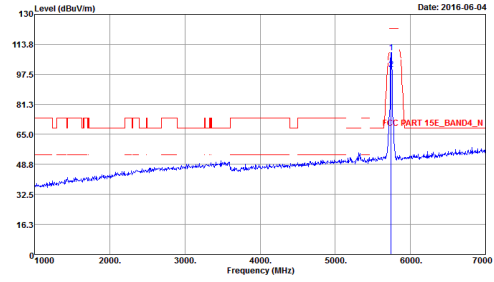


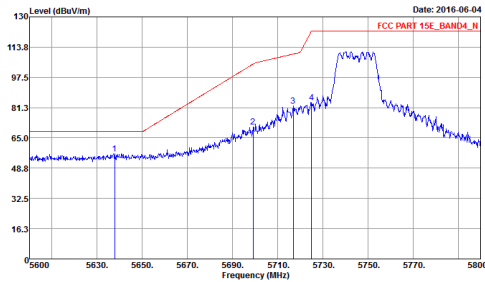
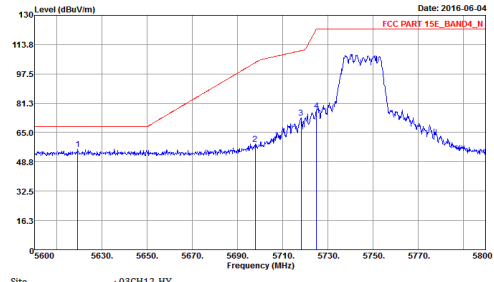
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz - R	
1	Horizontal	Vertical
Peak	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 9



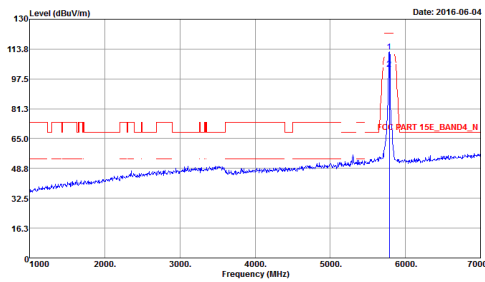
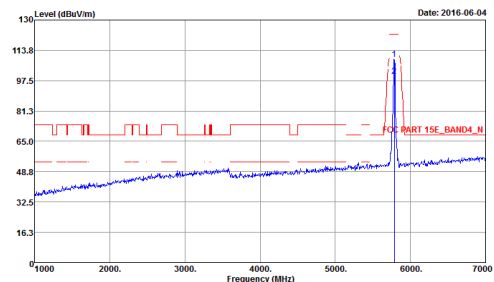
Band 4 - 5725~5850MHz

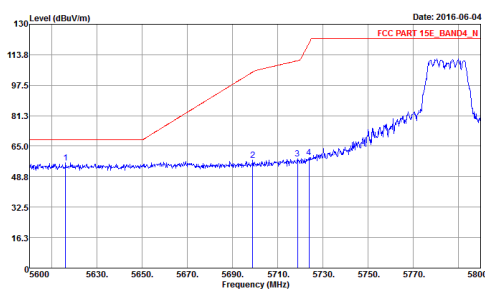
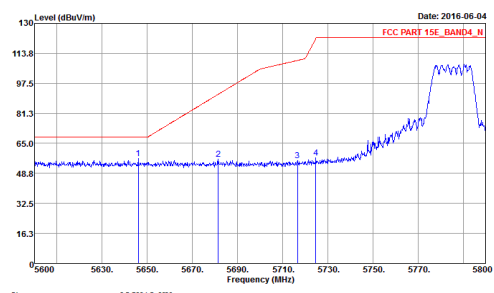
WIFI 802.11n HT20 (Fundamental and Band Edge @ 3m)

WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 10	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 10

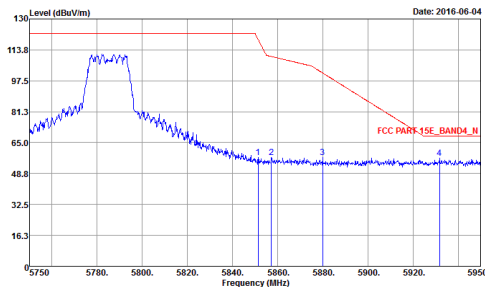
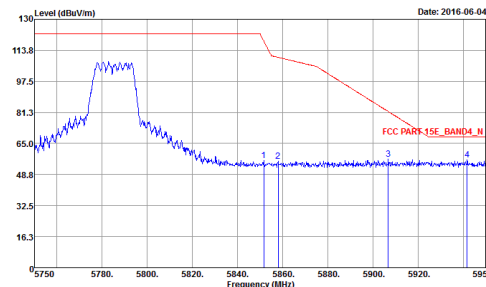
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 10	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 10



WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 11	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 11

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - L	
1+2	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 11	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 11



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH157 5785MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 11	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 11



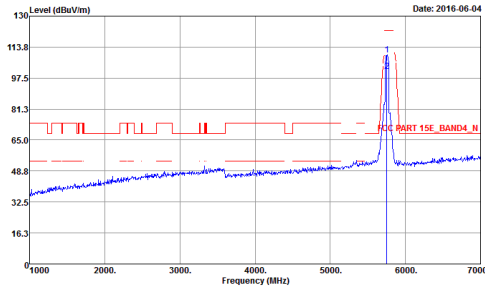
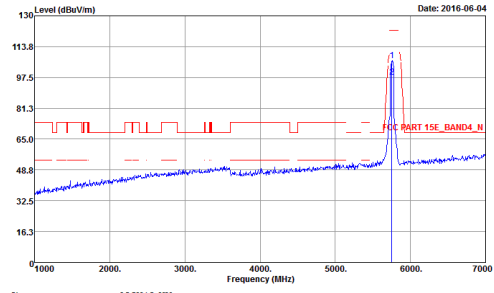
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 12	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 12

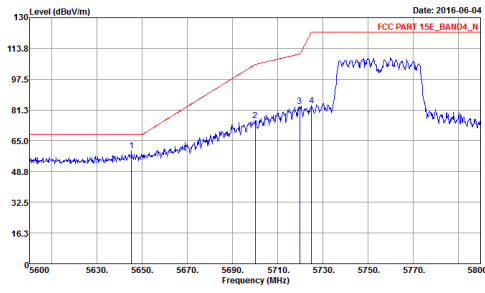
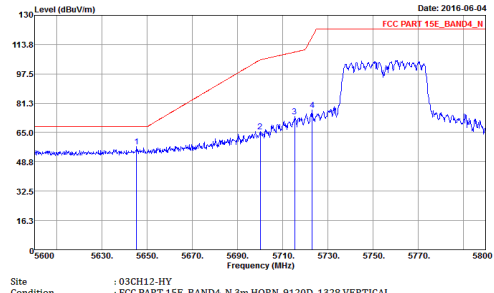
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 12	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 12



Band 4 5725~5850MHz

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

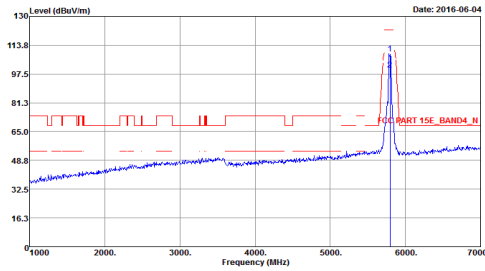
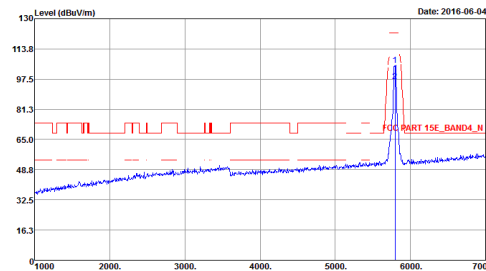
WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 13	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 13

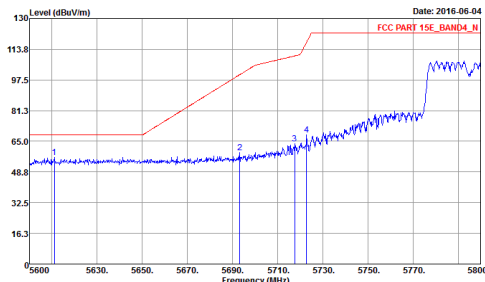
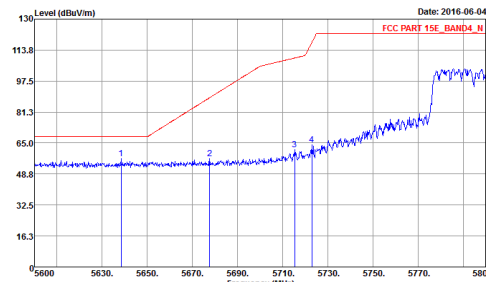
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz - L	
1+2	Horizontal	Vertical
Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 13	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 13



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH151 5755MHz - R	
1+2	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2016.06.04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 13	Level (dBuV/m) Date: 2016.06.04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN 9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 13



WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 14	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 14

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - L	
1+2	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 14	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 632203-01 : 14

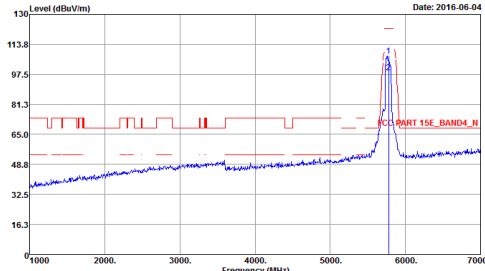
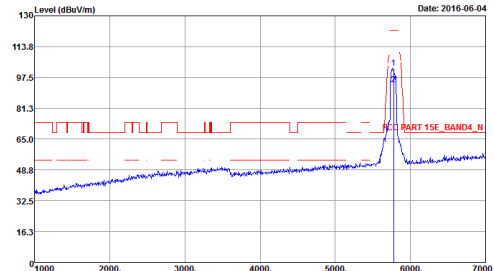


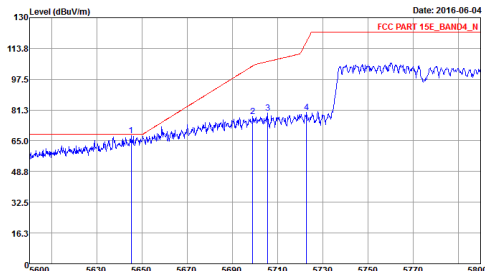
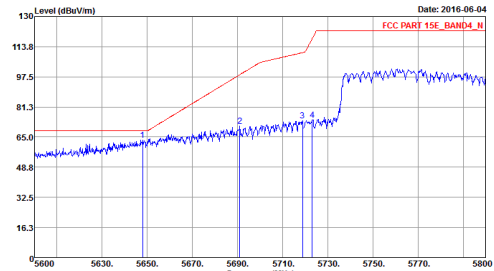
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11n HT40 CH159 5795MHz - R	
1+2	Horizontal	Vertical
Peak	Level (dBuV/m) Date: 2016-06-04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 14	Level (dBuV/m) Date: 2016-06-04 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 14



Band 4 5725~5850MHz

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

WIFI	Band 4 5725~5850MHz Fundamental @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 14	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 14

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz - L	
1+2	Horizontal	Vertical
Peak	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 14	 Site Condition : 03CH12-HY : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 632203-01 Mode : 14



WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz - R	
1+2	Horizontal	Vertical
Peak	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 14	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 14

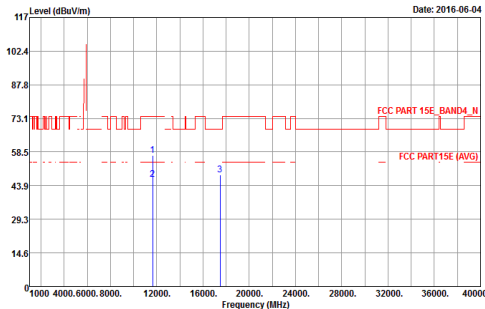
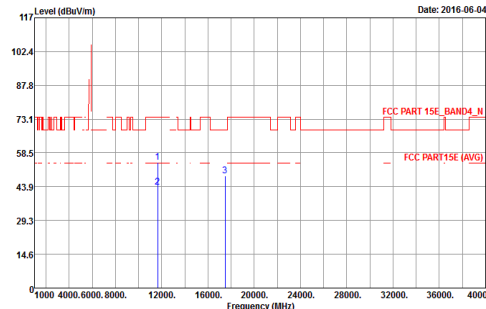


Band 4 - 5725~5850MHz
WIFI 802.11a (Harmonic @ 3m)

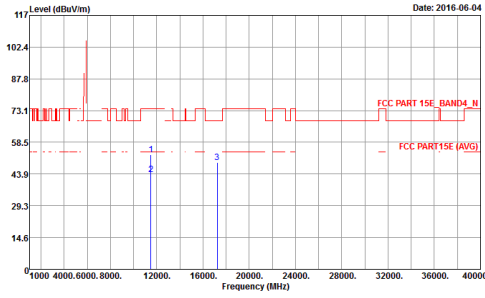
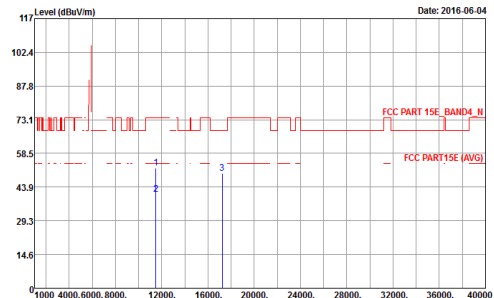
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 1	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 1

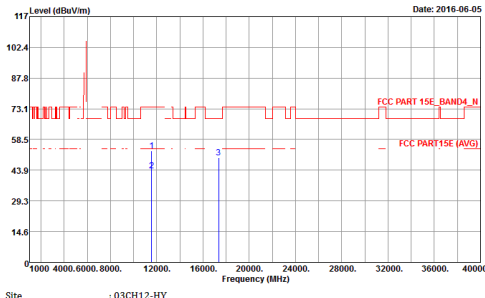
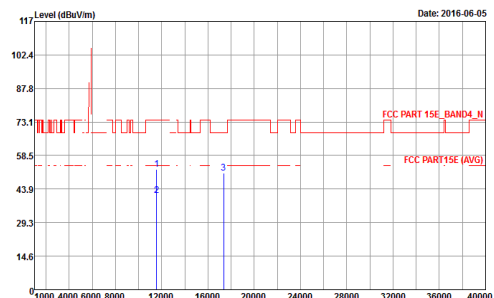
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 2	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 2



WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 3	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 3

Band 4 5725~5850MHz
WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 4	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 4

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 5	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 5

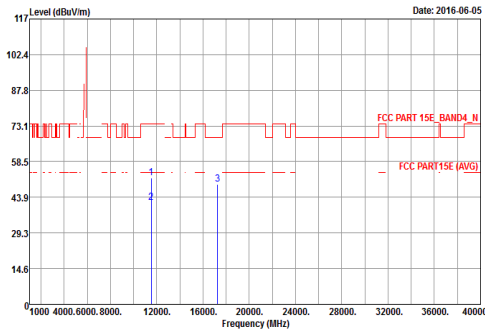
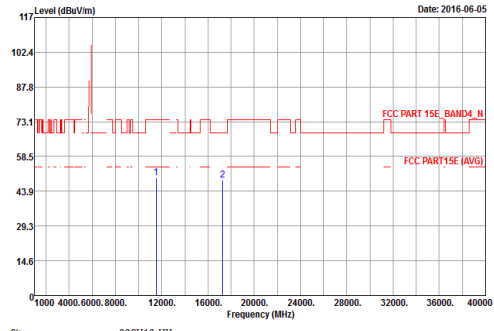


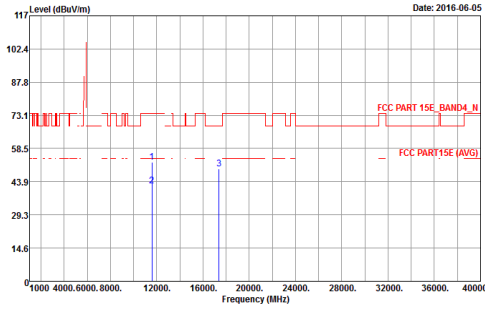
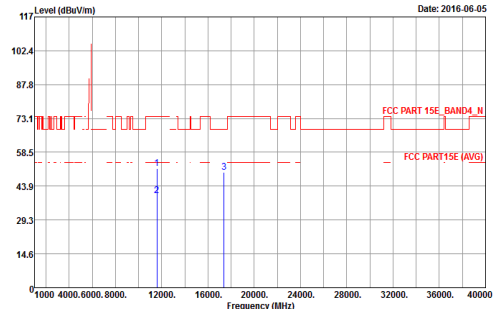
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1	Horizontal	Vertical
Peak Avg.	Level (dBuV/m) Date: 2016-06-05 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 6	Level (dBuV/m) Date: 2016-06-05 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 6



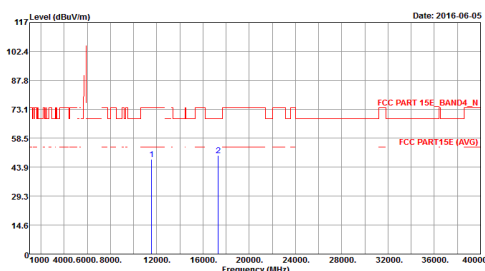
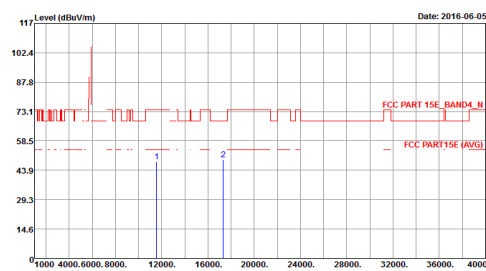
Band 4 5725~5850MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 7	 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 7

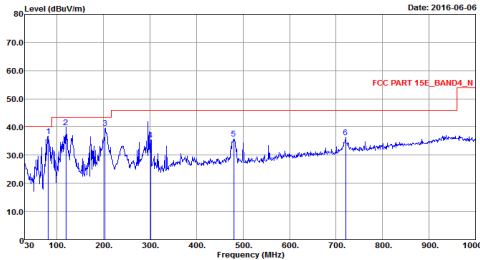
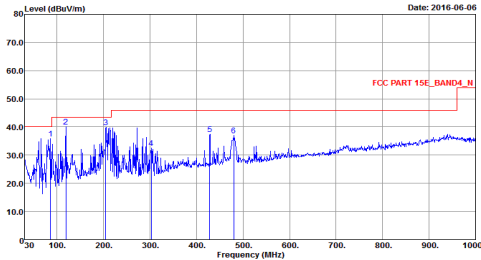
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 8	 Site : 03CH12-HY Condition : FCC PART 15E, BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 8

Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

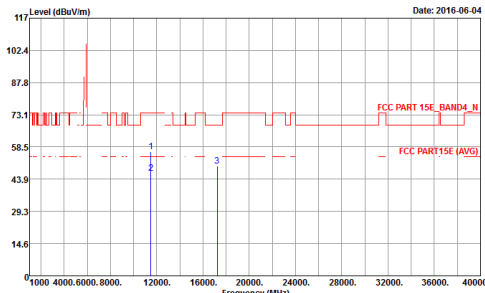
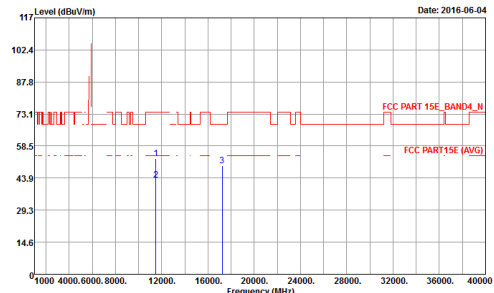
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 9	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 9

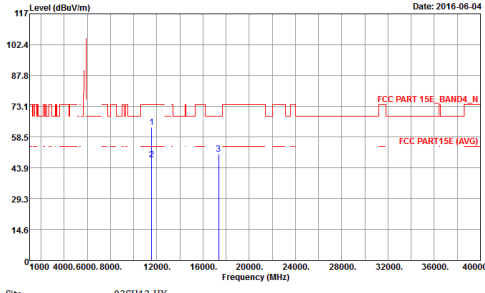
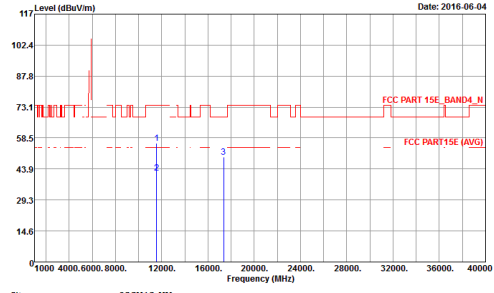


Emission below 1GHz
5GHz WIFI 802.11ac VHT80 (LF)

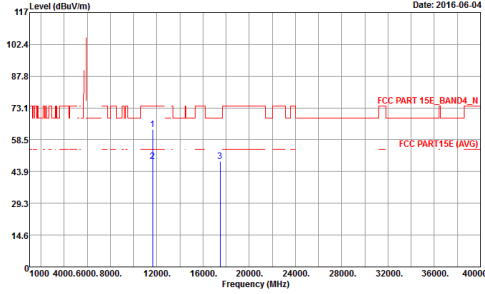
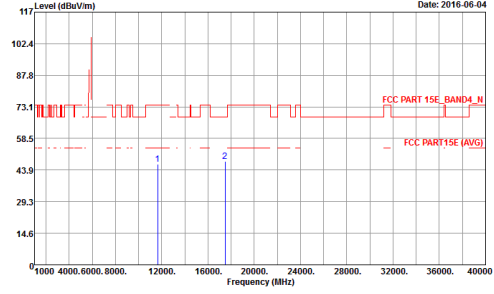
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
1	Horizontal	Vertical
QP / Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m BILOG_6111D_37059 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 10	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m BILOG_6111D_37059 VERTICAL Detector : Peak Project : 632203-01 Mode : 10

**Band 4 - 5725~5850MHz****WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 10	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 10

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 11	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 11



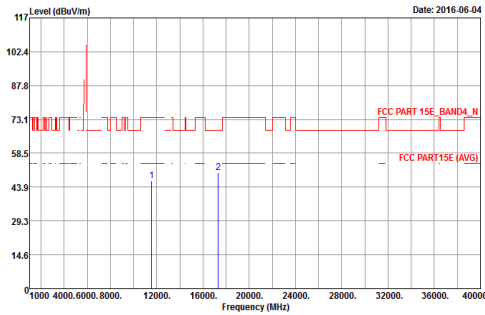
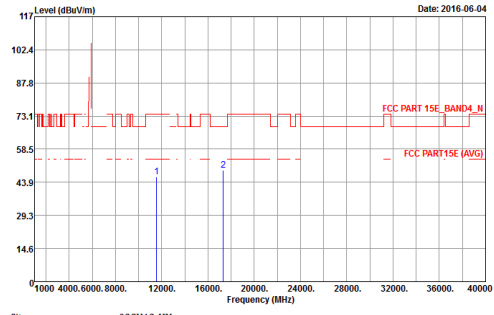
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 12	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 12

**Band 4 5725~5850MHz****WIFI 802.11n HT40 (Harmonic @ 3m)**

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 13	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 13

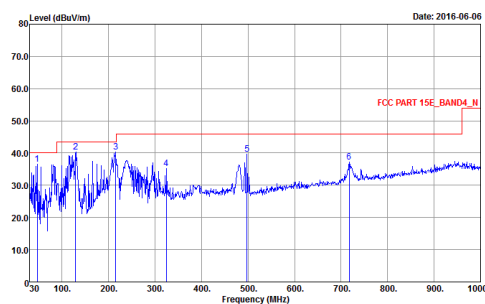
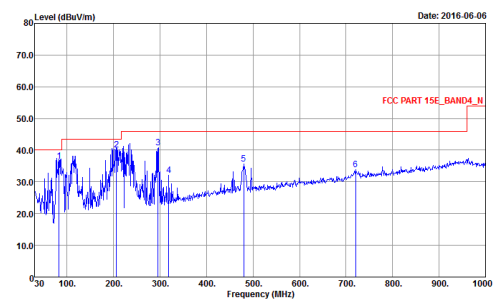
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11n HT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 14	Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Detector : Peak Project : 632203-01 Mode : 14

Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 HORIZONTAL Project : 632203-01 Mode : 14	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m HORN_9120D_1328 VERTICAL Project : 632203-01 Mode : 14



Emission below 1GHz
5GHz WIFI 802.11ac VHT80 (LF)

WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
1+2	Horizontal	Vertical
QP / Peak	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m BILOG_6111D_37059 HORIZONTAL Detector : Peak Project : 632203-01 Mode : 16	 Site : 03CH12-HY Condition : FCC PART 15E_BAND4_N 3m BILOG_6111D_37059 VERTICAL Detector : Peak Project : 632203-01 Mode : 16

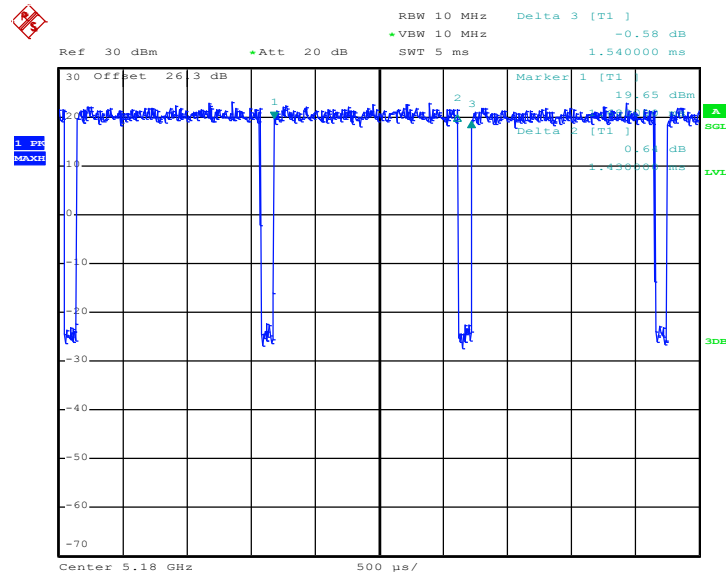
Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11a	92.86	1430.00	0.70	1kHz
1	5GHz 802.11n HT20	93.06	1340.00	0.75	1kHz
1	5GHz 802.11n HT40	87.01	670.00	1.49	3kHz
1	5GHz 802.11ac VHT80	75.93	328.00	3.05	10kHz
1+2	5GHz 802.11n HT20 for Ant 1	93.06	1340.00	0.75	1kHz
1+2	5GHz 802.11n HT20 for Ant 2	93.06	1340.00	0.75	1kHz
1+2	5GHz 802.11n HT40 for Ant 1	87.01	670.00	1.49	3kHz
1+2	5GHz 802.11n HT40 for Ant 2	86.84	660.00	1.52	3kHz
1+2	5GHz 802.11ac VHT80 for Ant 1	76.85	332.00	3.01	10kHz
1+2	5GHz 802.11ac VHT80 for Ant 2	76.85	332.00	3.01	10kHz



<Ant. 1>

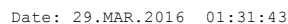
802.11a



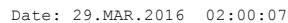
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802.11n HT20

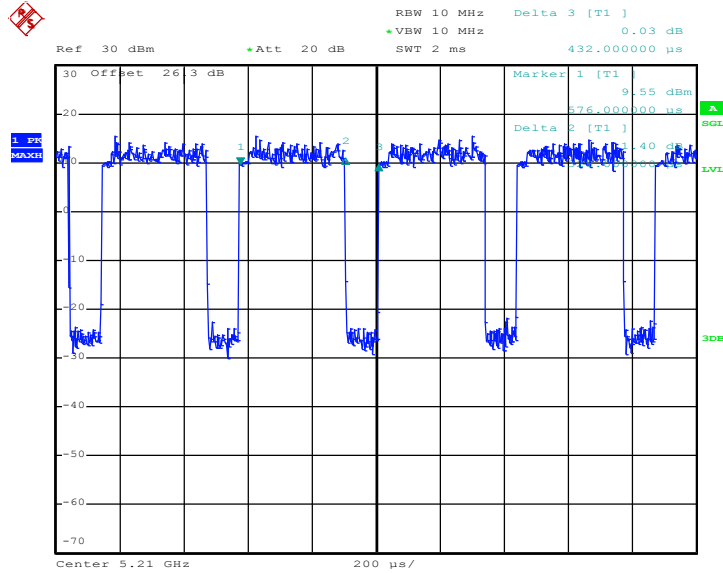


802.11n HT40





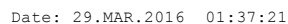
802.11ac VHT80



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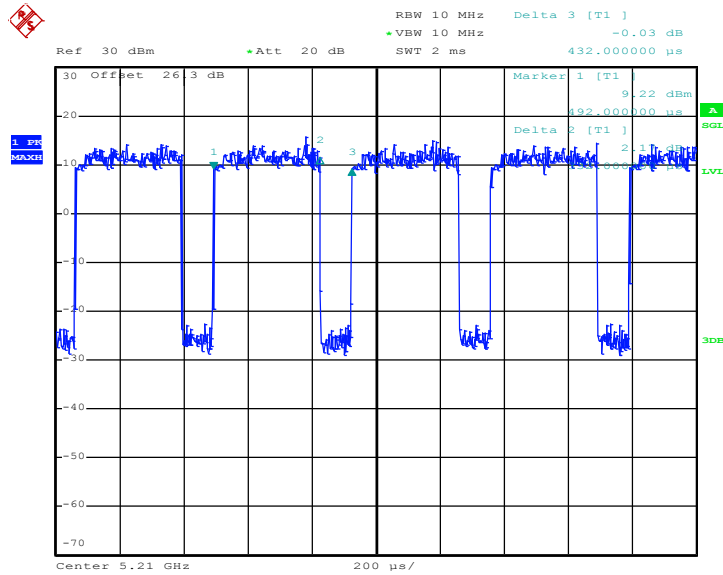


802.11n HT20

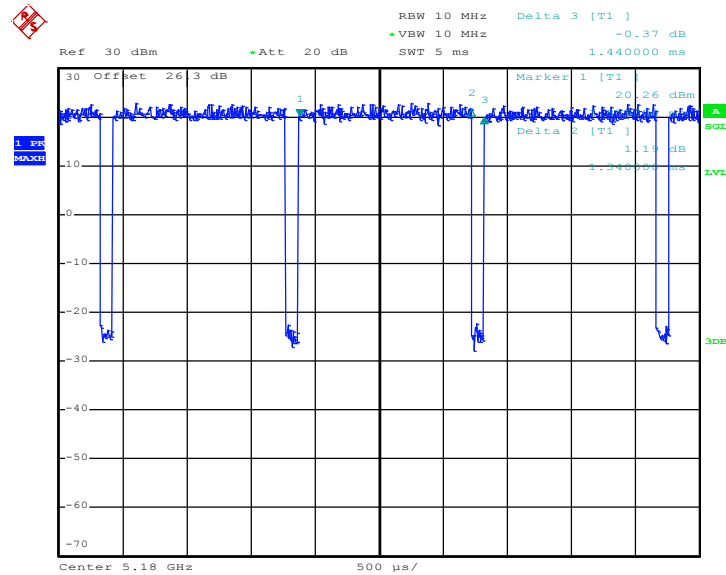


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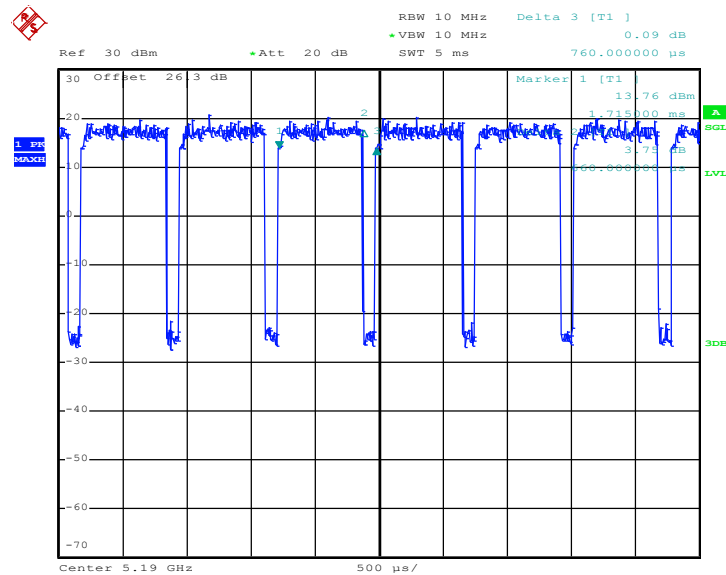
802.11ac VHT80



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

