FCC RF Test Report

APPLICANT	:	IEI Intagration Corp
EQUIPMENT	:	Tablet PC
BRAND NAME	:	iEi
MODEL NAME	:	TRN-3200T
FCC ID	:	RFH-TRN3200T
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Sep. 02, 2016 and testing was completed on Sep. 30, 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

Testing Laboratory
1190

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

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **5**

1.1 Applicant 5
1.2 Manufacturer 5
1.3 Product Feature of Equipment Under Test 5
1.4 Product Specification of Equipment Under Test 6
1.5 Modification of EUT 6
1.6 Testing Location 7
1.7 Applicable Standards 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **8**

2.1 Carrier Frequency Channel 8
2.2 Test Mode 9
2.3 Connection Diagram of Test System 11
2.4 Support Unit used in test configuration and system 12
2.5 EUT Operation Test Setup 12
2.6 Measurement Results Explanation Example 13

3 TEST RESULT **14**

3.1 26dB & 99% Occupied Bandwidth Measurement 14
3.2 Maximum Conducted Output Power Measurement 16
3.3 Power Spectral Density Measurement 18
3.4 Unwanted Radiated Emission Measurement 21
3.5 AC Conducted Emission Measurement 26
3.6 Frequency Stability Measurement 32
3.7 Automatically Discontinue Transmission 33
3.8 Antenna Requirements 34

4 LIST OF MEASURING EQUIPMENTS **35**

5 UNCERTAINTY OF EVALUATION **36**

APPENDIX A. CONDUCTED TEST RESULTS

APPENDIX B. RADIATED SPURIOUS EMISSION

APPENDIX C. RADIATED SPURIOUS EMISSION PLOTS

APPENDIX D. DUTY CYCLE PLOTS

APPENDIX E. SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR690221E	Rev. 01	Initial issue of report	Oct. 04, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	FCC ≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	FCC ≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 3.41 dB at 193.890 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 5.70 dB at 2.470 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

IEI Intagration Corp
No.29, Zhongxing Rd., Xizhi Dist., New Taipei City 221. Taiwan (R.O.C)

1.2 Manufacturer

IEI Intagration Corp
No.29, Zhongxing Rd., Xizhi Dist., New Taipei City 221. Taiwan (R.O.C)

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	iEi
Model Name	TRN-3200T
FCC ID	RFH-TRN3200T
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	1.01
SW Version	1.00
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 12.99 dBm / 0.0199 W 802.11n HT20 : 11.99 dBm / 0.0158 W 802.11n HT40 : 11.92 dBm / 0.0156 W 802.11ac VHT20 : 12.00 dBm / 0.0158 W 802.11ac VHT40 : 11.99 dBm / 0.0158 W 802.11ac VHT80 : 9.99 dBm / 0.0100 W **<5260 MHz ~ 5320 MHz>** 802.11a : 12.94 dBm / 0.0197 W 802.11n HT20 : 11.94 dBm / 0.0156 W 802.11n HT40 : 11.90 dBm / 0.0155 W 802.11ac VHT20 : 11.95 dBm / 0.0157 W 802.11ac VHT40 : 11.99 dBm / 0.0158 W 802.11ac VHT80 : 9.91 dBm / 0.0098 W **<5500 MHz ~ 5700 MHz >** 802.11a : 12.89 dBm / 0.0195 W 802.11n HT20 : 11.96 dBm / 0.0157 W 802.11n HT40 : 11.88 dBm / 0.0154 W 802.11ac VHT20 : 11.97 dBm / 0.0157 W 802.11ac VHT40 : 11.98 dBm / 0.0158 W 802.11ac VHT80 : 9.63 dBm / 0.0092 W
99% Occupied Bandwidth	802.11a : 18.05 MHz 802.11ac VHT20: 18.75 MHz 802.11ac VHT40 : 37.10 MHz 802.11ac VHT80 : 75.36 MHz
Antenna Gain / Gain	**<5150 MHz ~ 5250 MHz>** PCB Antenna with gain 2.00 dBi **<5250 MHz ~ 5350 MHz>** PCB Antenna with gain 2.00 dBi **<5470 MHz ~ 5725 MHz>** PCB Antenna with gain 2.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note: WLAN operation in 5600 MHz ~ 5650 MHz is notched.

1.5 Modification of EUT

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

1.6 Testing Location

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

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	**Sporton Site No.**		
	TH02-HY	CO05-HY	03CH07-HY

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

1.7 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 v01r03
- 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 (Z plane) were recorded in this report.

2.1 Carrier Frequency Channel

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

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

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

Note:

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

2.2 Test Mode

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

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

Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN (5GHz) Link + TC + TF

Remark:

1. TF stands for Test Function, and consists of H-Pattern, MPEG4, and Camera.
2. TC stands for Test Configuration, and consists of SD Card, Earphone, LCD Monitor (Mini HDMI Out), USB HD, RJ-45 Link, Ultrasound Probe (Load), and Adapter.

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

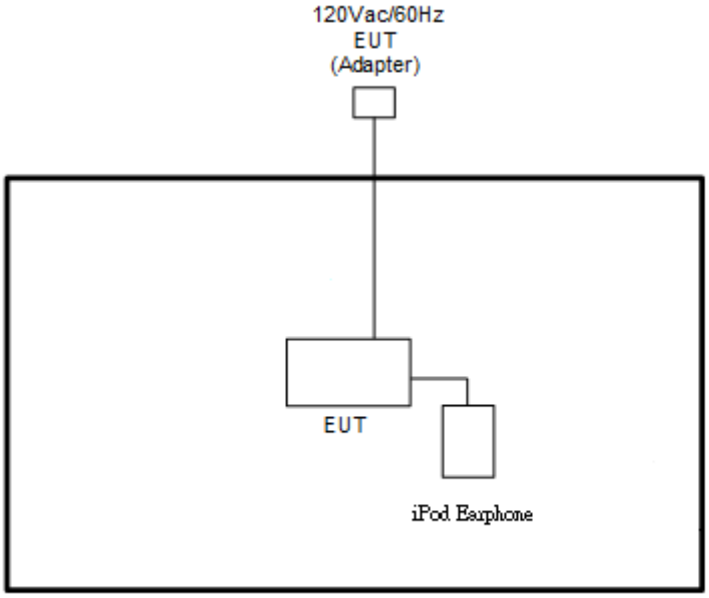
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ac VHT20	802.11ac VHT20	802.11ac VHT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ac VHT40	802.11ac VHT40	802.11ac VHT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

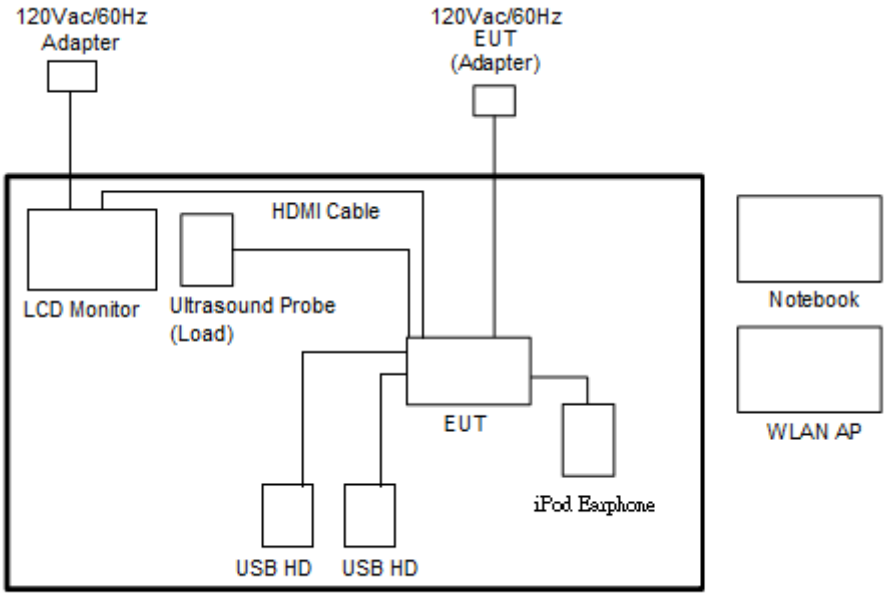
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11ac VHT80	802.11ac VHT80	802.11ac VHT80
L	Low	-	-	-
M	Middle	42	58	106
H	High	-	-	-

2.3 Connection Diagram of Test System

< Radiated Emission Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	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.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
5.	Ultrasound Probe	Terason	5C2A	N/A	Shielded, 2.0 m	N/A
6.	USB HD	WD	WDBAAR3200A BK-PESN	FCC DoC	Unshielded, 0.5 m	N/A
7.	USB HD	lenovo	F310S	FCC DoC	Unshielded, 0.5 m	N/A
8.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
9.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

The programmed RF utility “TX Tool”, is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

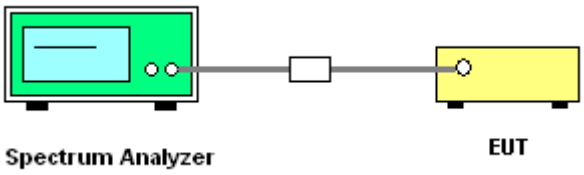
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

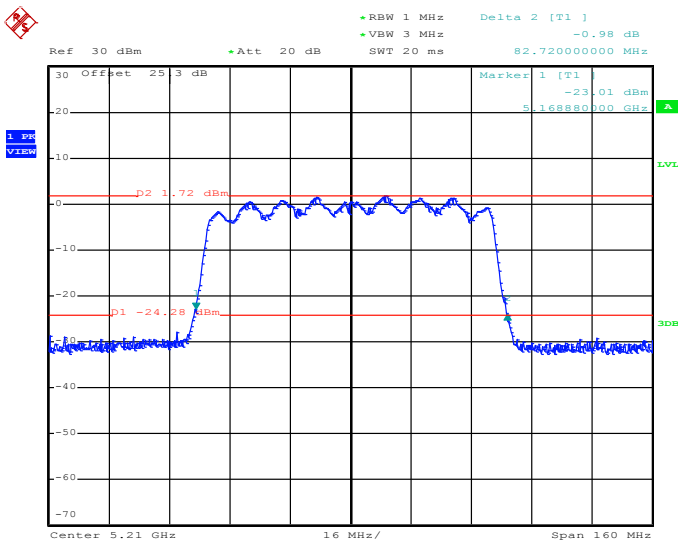
3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

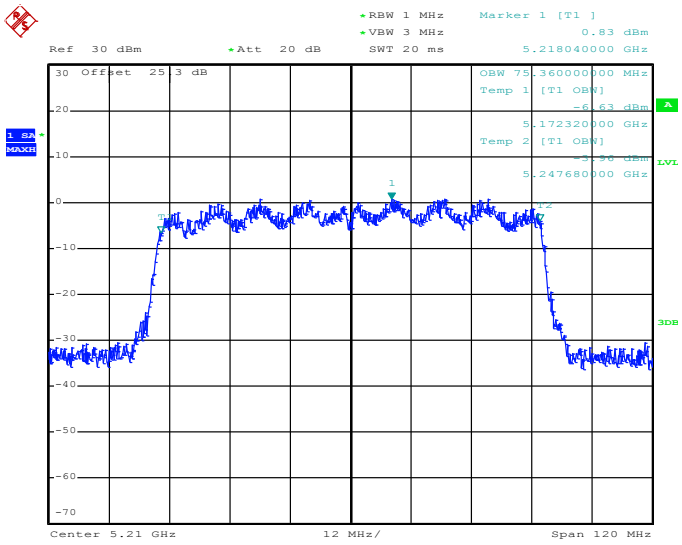
Please refer to Appendix A.

Maximum 26dB Bandwidth



Date: 26.SEP.2016 09:16:22

Maximum 99% Occupied Bandwidth



Date: 26.SEP.2016 09:15:44

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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

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

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For 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.

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

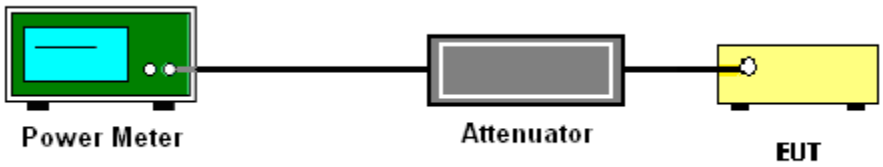
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.

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

For normal channel:



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

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

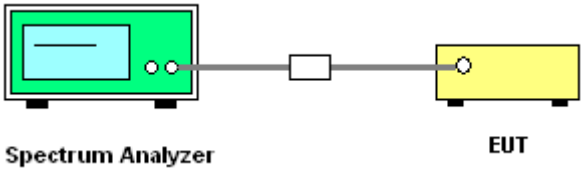
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section F) Maximum power spectral density.

 # 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 v01r03.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

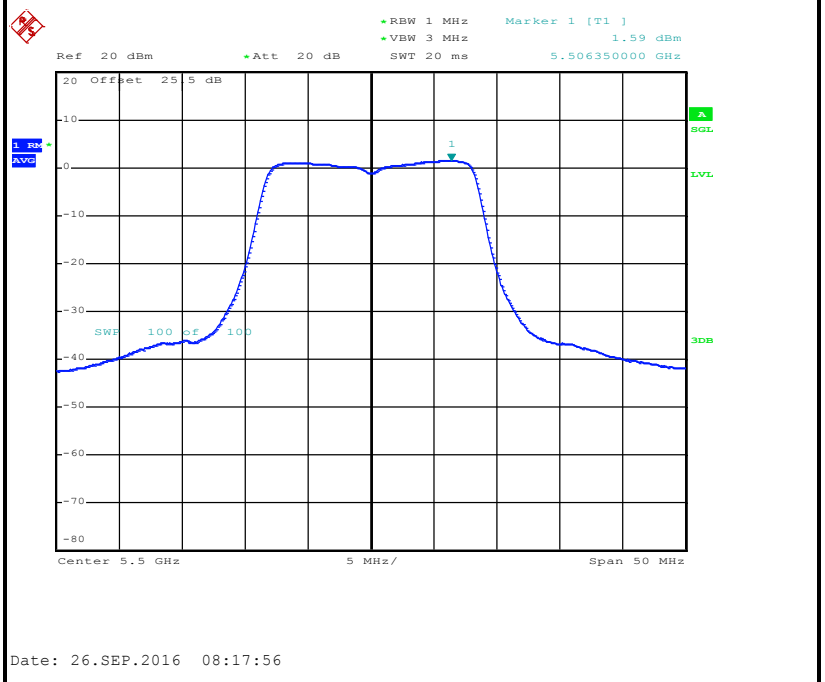
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Spectral Density(dBm/MHz)



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

3.4 Unwanted Radiated Emission Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

(3) KDB789033 D02 v01r03 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 v01r03. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

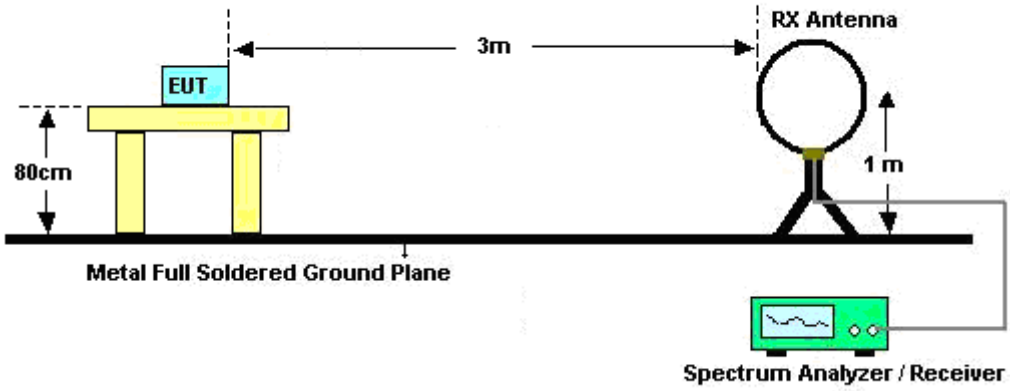
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

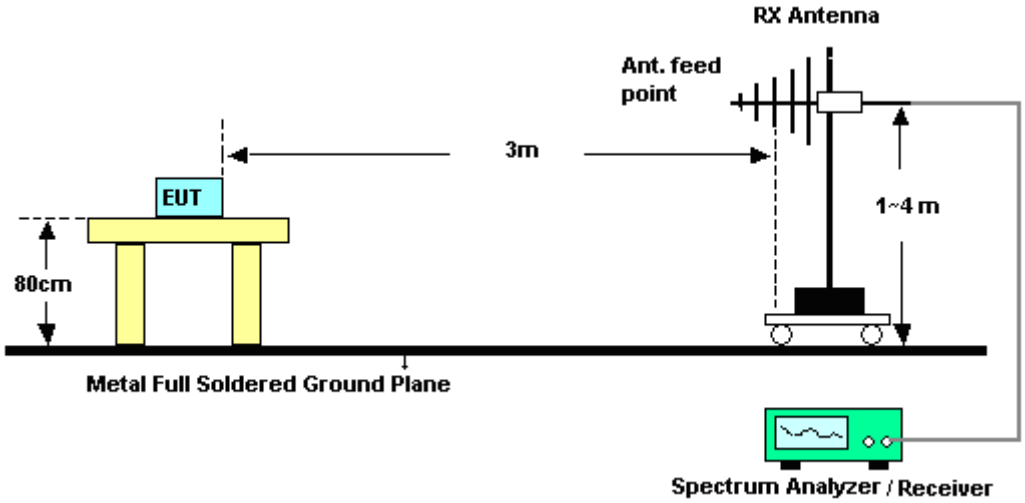
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

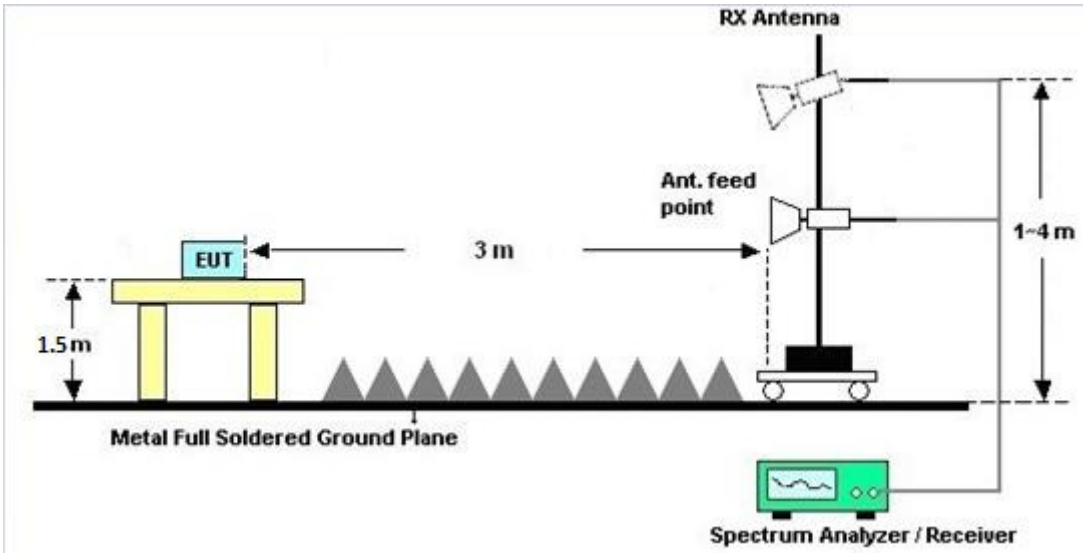
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

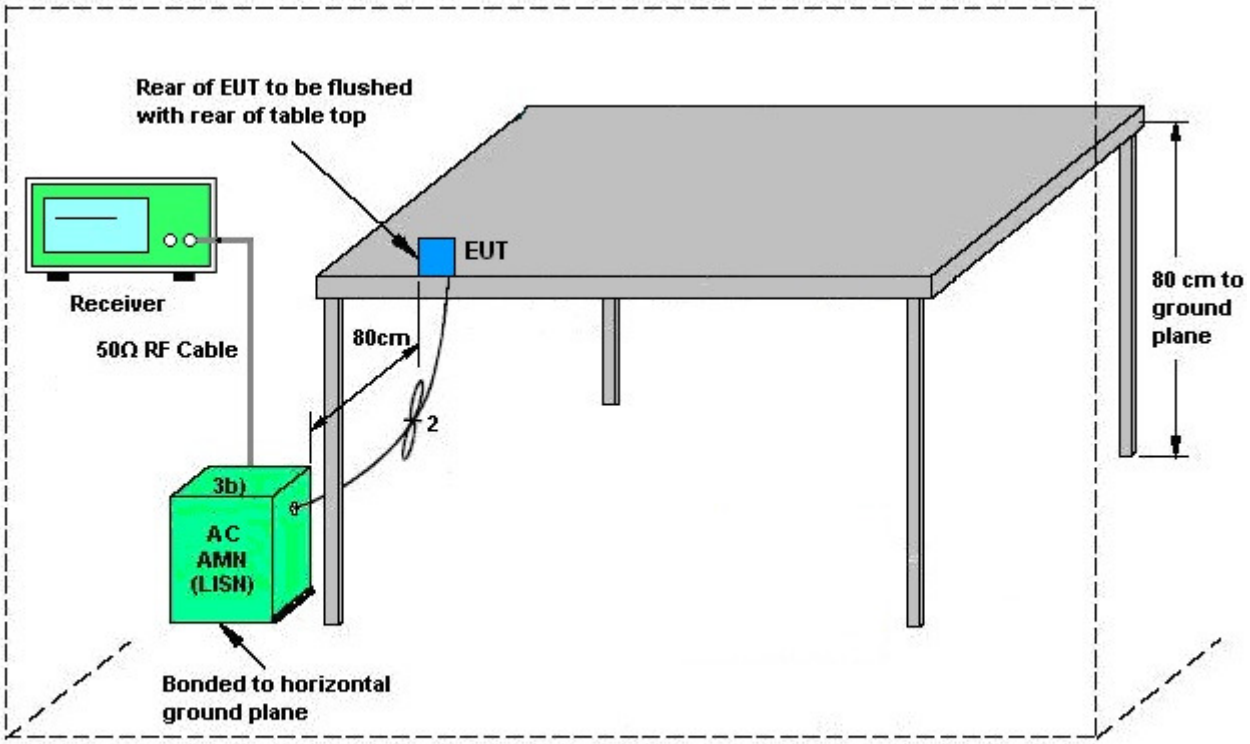
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

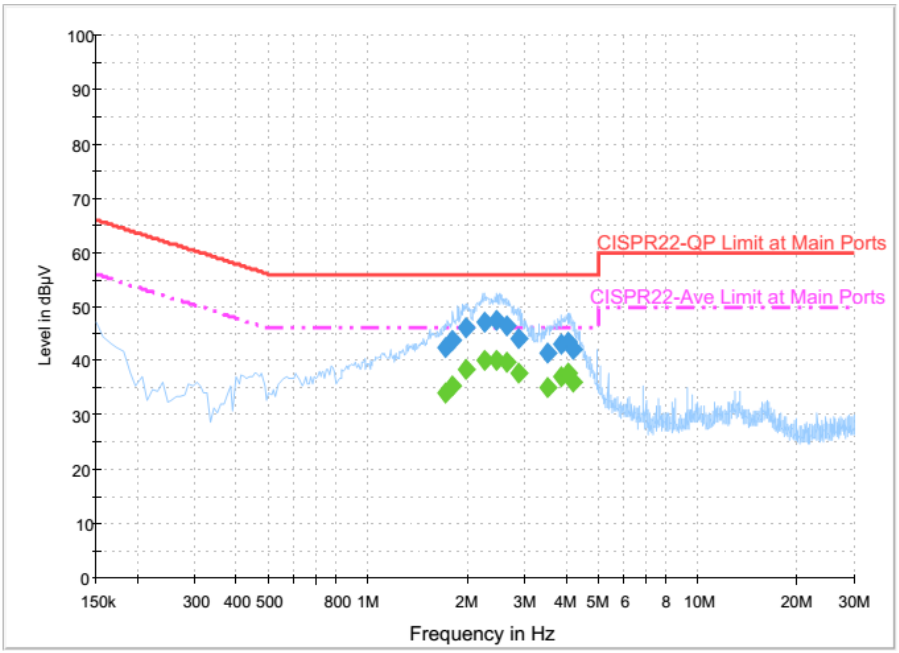
3.5.4 Test Setup



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

3.5.5 Test Result of AC Conducted Emission

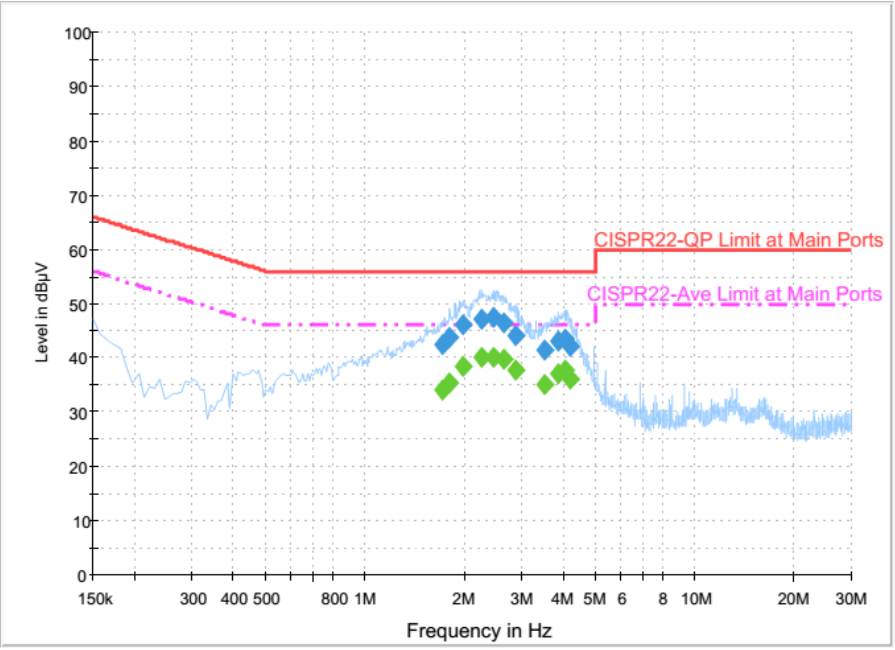
Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Bluetooth Link + WLAN (5GHz) Link + TC + TF		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.718000	42.4	Off	L1	19.6	13.6	56.0
1.814000	43.7	Off	L1	19.6	12.3	56.0
1.998000	46.3	Off	L1	19.6	9.7	56.0
2.270000	47.3	Off	L1	18.4	8.7	56.0
2.470000	47.4	Off	L1	19.0	8.6	56.0
2.630000	46.6	Off	L1	19.2	9.4	56.0
2.862000	44.0	Off	L1	19.4	12.0	56.0
3.510000	41.3	Off	L1	19.6	14.7	56.0
3.862000	43.0	Off	L1	19.7	13.0	56.0
4.078000	43.6	Off	L1	19.7	12.4	56.0
4.230000	42.0	Off	L1	19.7	14.0	56.0

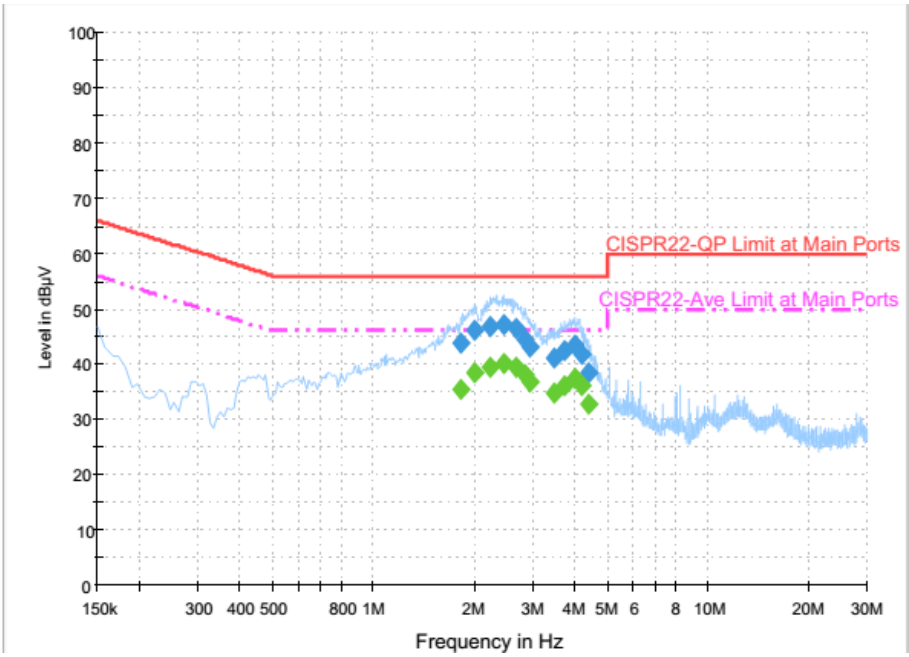
Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Bluetooth Link + WLAN (5GHz) Link + TC + TF		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.718000	34.3	Off	L1	19.6	11.7	46.0
1.814000	35.5	Off	L1	19.6	10.5	46.0
1.998000	38.4	Off	L1	19.6	7.6	46.0
2.270000	40.2	Off	L1	18.4	5.8	46.0
2.470000	40.3	Off	L1	19.0	5.7	46.0
2.630000	39.7	Off	L1	19.2	6.3	46.0
2.862000	37.9	Off	L1	19.4	8.1	46.0
3.510000	35.3	Off	L1	19.6	10.7	46.0
3.862000	37.1	Off	L1	19.7	8.9	46.0
4.078000	37.7	Off	L1	19.7	8.3	46.0
4.230000	36.2	Off	L1	19.7	9.8	46.0

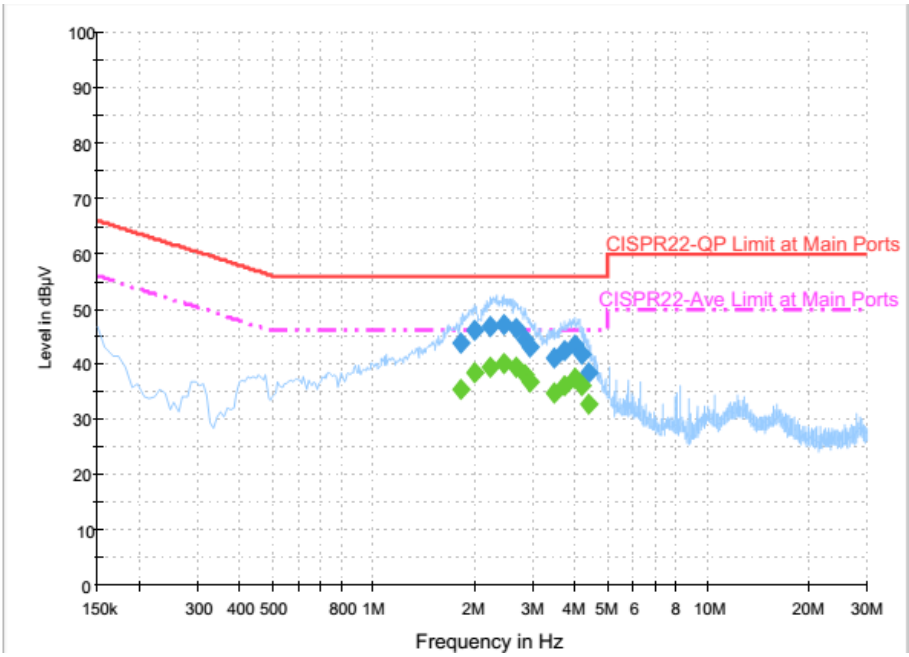
Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	Bluetooth Link + WLAN (5GHz) Link + TC + TF		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.822000	43.7	Off	N	19.6	12.3	56.0
2.014000	46.2	Off	N	19.6	9.8	56.0
2.238000	46.9	Off	N	18.3	9.1	56.0
2.462000	47.1	Off	N	19.0	8.9	56.0
2.686000	46.4	Off	N	19.3	9.6	56.0
2.854000	44.6	Off	N	19.4	11.4	56.0
2.958000	43.3	Off	N	19.5	12.7	56.0
3.462000	41.0	Off	N	19.6	15.0	56.0
3.734000	42.4	Off	N	19.6	13.6	56.0
4.022000	43.4	Off	N	19.6	12.6	56.0
4.206000	41.9	Off	N	19.7	14.1	56.0
4.398000	38.5	Off	N	19.7	17.5	56.0

Test Mode :	Mode 1	**Temperature :**	23~25℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	Bluetooth Link + WLAN (5GHz) Link + TC + TF		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
1.822000	35.6	Off	N	19.6	10.4	46.0
2.014000	38.4	Off	N	19.6	7.6	46.0
2.238000	39.6	Off	N	18.3	6.4	46.0
2.462000	40.1	Off	N	19.0	5.9	46.0
2.686000	39.5	Off	N	19.3	6.5	46.0
2.854000	38.1	Off	N	19.4	7.9	46.0
2.958000	36.8	Off	N	19.5	9.2	46.0
3.462000	34.8	Off	N	19.6	11.2	46.0
3.734000	36.2	Off	N	19.6	9.8	46.0
4.022000	37.4	Off	N	19.6	8.6	46.0
4.206000	36.0	Off	N	19.7	10.0	46.0
4.398000	32.7	Off	N	19.7	13.3	46.0

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.

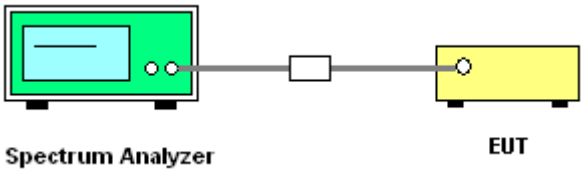
3.6.2 Measuring Instruments

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

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

3.8 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

The antenna gain is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Jul. 28, 2016	Sep. 18, 2016 ~ Sep. 26, 2016	Jul. 27, 2017	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Jul. 28, 2016	Sep. 18, 2016 ~ Sep. 26, 2016	Jul. 27, 2017	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 17, 2016	Sep. 18, 2016 ~ Sep. 26, 2016	Jun. 16, 2017	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 11, 2016	Sep. 18, 2016 ~ Sep. 26, 2016	Jul. 10, 2017	Conducted (TH02-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 05, 2015	Sep. 18, 2016 ~ Sep. 26, 2016	Oct. 04, 2016	Conducted (TH02-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Sep. 26, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Sep. 26, 2016	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Sep. 26, 2016	Dec. 01, 2016	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 14, 2015	Sep. 26, 2016	Dec. 13, 2016	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 08, 2016	Sep. 26, 2016	Jan. 07, 2017	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Sep. 19, 2016 ~ Sep. 23, 2016	Sep. 01, 2017	Radiation (03CH07-HY)
Bilog Antenna	TESEQ	CBL 6111D	35419	30MHz to 1GHz	Jan. 13, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Jan. 12, 2017	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Aug. 18, 2017	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Sep. 19, 2016 ~ Sep. 23, 2016	Nov. 01, 2016	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1GHz	Mar. 18, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Mar. 17, 2017	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 15, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Apr. 14, 2017	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 19, 2015	Sep. 19, 2016 ~ Sep. 23, 2016	Oct. 18, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	JS44-18004000-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Jun. 13, 2017	Radiation (03CH07-HY)
EMI Test Receiver	Keysight	N9038A(MXE)	MY54130085	20Hz ~ 8.4GHz	Nov. 04, 2015	Sep. 19, 2016 ~ Sep. 23, 2016	Nov. 03, 2016	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Feb. 27, 2016	Sep. 19, 2016 ~ Sep. 23, 2016	Feb. 26, 2017	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Sep. 19, 2016 ~ Sep. 23, 2016	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Sep. 19, 2016 ~ Sep. 23, 2016	N/A	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.70

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.50

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.20

Appendix A. Conducted Test Results

Report Number : FR690221E

Test Engineer:	AC Chang	Temperature:	21~25	°C
Test Date:	2016/9/18~2016/9/26	Relative Humidity:	51~54	%

Report Number : FR690221E

TEST RESULTS DATA
26dB and 99% OBW

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)		
11a	6Mbps	1	36	5180	17.85	23.10	-	22.52		
11a	6Mbps	1	44	5220	17.85	23.20	-	22.52		
11a	6Mbps	1	48	5240	17.90	23.10	-	22.53		
VHT20	MCS0	1	36	5180	18.55	23.70	-	22.68		
VHT20	MCS0	1	44	5220	18.65	23.60	-	22.71		
VHT20	MCS0	1	48	5240	18.75	23.60	-	22.73		
VHT40	MCS0	1	38	5190	37.10	45.72	-	23.01		
VHT40	MCS0	1	46	5230	36.90	45.72	-	23.01		
VHT80	MCS0	1	42	5210	75.36	82.72	-	23.01		

Report Number : FR690221E

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.00	12.85	24.00	2.00		Pass
11a	6Mbps	1	44	5220	0.00	12.83	24.00	2.00		Pass
11a	6Mbps	1	48	5240	0.00	12.99	24.00	2.00		Pass
HT20	MCS0	1	36	5180	0.00	11.95	24.00	2.00		Pass
HT20	MCS0	1	44	5220	0.00	11.99	24.00	2.00		Pass
HT20	MCS0	1	48	5240	0.00	11.96	24.00	2.00		Pass
HT40	MCS0	1	38	5190	0.00	11.92	24.00	2.00		Pass
HT40	MCS0	1	46	5230	0.00	11.61	24.00	2.00		Pass
VHT20	MCS0	1	36	5180	0.00	11.96	24.00	2.00		Pass
VHT20	MCS0	1	44	5220	0.00	12.00	24.00	2.00		Pass
VHT20	MCS0	1	48	5240	0.00	11.98	24.00	2.00		Pass
VHT40	MCS0	1	38	5190	0.00	11.99	24.00	2.00		Pass
VHT40	MCS0	1	46	5230	0.00	11.98	24.00	2.00		Pass
VHT80	MCS0	1	42	5210	0.00	9.99	24.00	2.00		Pass

Report Number : FR690221E

TEST RESULTS DATA
Power Spectral Density

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)	-	Pass/Fail
11a	6Mbps	1	36	5180	0.00	0.64	11.00	2.00		Pass
11a	6Mbps	1	44	5220	0.00	0.71	11.00	2.00		Pass
11a	6Mbps	1	48	5240	0.00	0.61	11.00	2.00		Pass
VHT20	MCS0	1	36	5180	0.00	0.11	11.00	2.00		Pass
VHT20	MCS0	1	44	5220	0.00	-0.31	11.00	2.00		Pass
VHT20	MCS0	1	48	5240	0.00	-0.49	11.00	2.00		Pass
VHT40	MCS0	1	38	5190	0.00	-3.39	11.00	2.00		Pass
VHT40	MCS0	1	46	5230	0.00	-3.41	11.00	2.00		Pass
VHT80	MCS0	1	42	5210	0.00	-6.83	11.00	2.00		Pass

Report Number : FR690221E

TEST RESULTS DATA
26dB and 99% OBW

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	52	5260	17.70	23.20	23.48	29.48	23.98	
11a	6M bps	1	60	5300	17.80	23.10	23.50	29.50	23.98	
11a	6M bps	1	64	5320	17.95	23.20	23.54	29.54	23.98	
VHT20	MCS 0	1	52	5260	18.65	23.70	23.71	29.71	23.98	
VHT20	MCS 0	1	60	5300	18.65	23.70	23.71	29.71	23.98	
VHT20	MCS 0	1	64	5320	18.70	23.70	23.72	29.72	23.98	
VHT40	MCS 0	1	54	5270	36.80	45.90	23.98	30.00	23.98	
VHT40	MCS 0	1	62	5310	36.90	45.36	23.98	30.00	23.98	
VHT80	MCS 0	1	58	5290	75.36	82.56	23.98	30.00	23.98	

Report Number : FR690221E

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.00	12.91	23.98	2.00	26.99	Pass
11a	6M bps	1	60	5300	0.00	12.94	23.98	2.00	26.99	Pass
11a	6M bps	1	64	5320	0.00	12.68	23.98	2.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.00	11.75	23.98	2.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.00	11.69	23.98	2.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.00	11.94	23.98	2.00	26.99	Pass
HT40	MCS 0	1	54	5270	0.00	11.71	23.98	2.00	26.99	Pass
HT40	MCS 0	1	62	5310	0.00	11.90	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	52	5260	0.00	11.90	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	60	5300	0.00	11.76	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	64	5320	0.00	11.95	23.98	2.00	26.99	Pass
VHT40	MCS 0	1	54	5270	0.00	11.99	23.98	2.00	26.99	Pass
VHT40	MCS 0	1	62	5310	0.00	11.95	23.98	2.00	26.99	Pass
VHT80	MCS 0	1	58	5290	0.00	9.91	23.98	2.00	26.99	Pass

Report Number : FR690221E

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.00	0.40	11.00	2.00		Pass
11a	6M bps	1	60	5300	0.00	0.63	11.00	2.00		Pass
11a	6M bps	1	64	5320	0.00	0.38	11.00	2.00		Pass
VHT20	MCS 0	1	52	5260	0.00	-0.70	11.00	2.00		Pass
VHT20	MCS 0	1	60	5300	0.00	-0.55	11.00	2.00		Pass
VHT20	MCS 0	1	64	5320	0.00	-0.44	11.00	2.00		Pass
VHT40	MCS 0	1	54	5270	0.00	-2.74	11.00	2.00		Pass
VHT40	MCS 0	1	62	5310	0.00	-3.44	11.00	2.00		Pass
VHT80	MCS 0	1	58	5290	0.00	-7.03	11.00	2.00		Pass

Report Number : FR690221E

TEST RESULTS DATA
26dB and 99% OBW

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	Note
11a	6M bps	1	100	5500	17.90	23.10	23.53	29.53	23.98	
11a	6M bps	1	116	5580	18.05	23.20	23.56	29.56	23.98	
11a	6M bps	1	140	5700	18.05	23.10	23.56	29.56	23.98	
VHT20	MCS 0	1	100	5500	18.65	23.60	23.71	29.71	23.98	
VHT20	MCS 0	1	116	5580	18.70	23.70	23.72	29.72	23.98	
VHT20	MCS 0	1	140	5700	18.65	23.60	23.71	29.71	23.98	
VHT40	MCS 0	1	102	5510	37.00	45.63	23.98	30.00	23.98	
VHT40	MCS 0	1	110	5550	36.90	45.54	23.98	30.00	23.98	
VHT40	MCS 0	1	134	5670	36.90	45.72	23.98	30.00	23.98	
VHT80	MCS 0	1	106	5530	75.24	82.24	23.98	30.00	23.98	

Report Number : FR690221E

TEST RESULTS DATA
Average Power Table

FCC Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	100	5500	0.00	12.89	23.98	2.00	26.99	Pass
11a	6M bps	1	116	5580	0.00	12.65	23.98	2.00	26.99	Pass
11a	6M bps	1	140	5700	0.00	12.59	23.98	2.00	26.99	Pass
HT20	MCS 0	1	100	5500	0.00	11.96	23.98	2.00	26.99	Pass
HT20	MCS 0	1	116	5580	0.00	11.95	23.98	2.00	26.99	Pass
HT20	MCS 0	1	140	5700	0.00	11.94	23.98	2.00	26.99	Pass
HT40	MCS 0	1	102	5510	0.00	11.88	23.98	2.00	26.99	Pass
HT40	MCS 0	1	110	5550	0.00	11.87	23.98	2.00	26.99	Pass
HT40	MCS 0	1	134	5670	0.00	11.86	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	100	5500	0.00	11.97	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	116	5580	0.00	11.96	23.98	2.00	26.99	Pass
VHT20	MCS 0	1	140	5700	0.00	11.95	23.98	2.00	26.99	Pass
VHT40	MCS 0	1	102	5510	0.00	11.98	23.98	2.00	26.99	Pass
VHT40	MCS 0	1	110	5550	0.00	11.96	23.98	2.00	26.99	Pass
VHT40	MCS 0	1	134	5670	0.00	11.88	23.98	2.00	26.99	Pass
VHT80	MCS 0	1	106	5530	0.00	9.63	23.98	2.00	26.99	Pass

Report Number : FR690221E

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.00	1.59	11.00	2.00		Pass
11a	6M bps	1	116	5580	0.00	1.52	11.00	2.00		Pass
11a	6M bps	1	140	5700	0.00	0.85	11.00	2.00		Pass
VHT20	MCS 0	1	100	5500	0.00	0.45	11.00	2.00		Pass
VHT20	MCS 0	1	116	5580	0.00	0.58	11.00	2.00		Pass
VHT20	MCS 0	1	140	5700	0.00	0.08	11.00	2.00		Pass
VHT40	MCS 0	1	102	5510	0.00	-2.27	11.00	2.00		Pass
VHT40	MCS 0	1	110	5550	0.00	-2.38	11.00	2.00		Pass
VHT40	MCS 0	1	134	5670	0.00	-2.70	11.00	2.00		Pass
VHT80	MCS 0	1	106	5530	0.00	-6.19	11.00	2.00		Pass

Report Number : FR690221E

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	19	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	19	
11a	6Mbps	1	36	5180	5179.975	-0.025	-4.83	20	19.95	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	18.05	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	19	

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	64	5320	5320.025	0.025	4.70	50	19	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-30	19	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	19.95	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	18.05	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	19	

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	50	19	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	-30	19	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	19.95	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	18.05	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	19	

Appendix B. Radiated Spurious Emission

Test Engineer :	Jesse Wang and James Chiu and Ken Wu	Temperature :	20~24°C
		Relative Humidity :	50~54%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5061.62	49.77	-24.23	74	40.37	33.47	11.14	35.21	174	146	P	H
		5150	40.09	-13.91	54	30.41	33.69	11.21	35.22	174	146	A	H
	*	5180	98.63	-	-	88.86	33.78	11.21	35.22	174	146	P	H
	*	5180	91.35	-	-	81.58	33.78	11.21	35.22	174	146	A	H
													H
													H
		5097.24	50.22	-23.78	74	40.74	33.56	11.14	35.22	125	220	P	V
		5150	41.54	-12.46	54	31.86	33.69	11.21	35.22	125	220	A	V
	*	5180	103.66	-	-	93.89	33.78	11.21	35.22	125	220	P	V
	*	5180	96.13	-	-	86.36	33.78	11.21	35.22	125	220	A	V
													V
													V
802.11a CH 44 5220MHz		5039.52	48.82	-25.18	74	39.49	33.43	11.11	35.21	170	150	P	H
		5139.88	39.62	-14.38	54	29.97	33.69	11.18	35.22	170	150	A	H
	*	5220	98.36	-	-	88.47	33.86	11.25	35.22	170	150	P	H
	*	5220	90.87	-	-	80.98	33.86	11.25	35.22	170	150	A	H
		5438.4	49.03	-24.97	74	37.95	34.43	11.89	35.24	170	150	P	H
		5456.16	39.74	-14.26	54	28.62	34.47	11.89	35.24	170	150	A	H
		5042.64	48.87	-25.13	74	39.54	33.43	11.11	35.21	200	162	P	V
		5139.88	40	-14	54	30.35	33.69	11.18	35.22	200	162	A	V
	*	5220	101.26	-	-	91.37	33.86	11.25	35.22	200	162	P	V
	*	5220	93.98	-	-	84.09	33.86	11.25	35.22	200	162	A	V
		5455.68	49.31	-24.69	74	38.19	34.47	11.89	35.24	200	162	P	V
		5380.08	40.3	-13.7	54	29.34	34.3	11.89	35.23	200	162	A	V

802.11a CH 48 5240MHz		5126.62	50.15	-23.85	74	40.54	33.65	11.18	35.22	167	151	P	H
		5080.08	39.64	-14.36	54	30.19	33.52	11.14	35.21	167	151	A	H
	*	5240	98.18	-	-	88.11	33.91	11.38	35.22	167	151	P	H
	*	5240	90.71	-	-	80.64	33.91	11.38	35.22	167	151	A	H
		5447.52	48.87	-25.13	74	37.75	34.47	11.89	35.24	167	151	P	H
		5458.8	39.66	-14.34	54	28.54	34.47	11.89	35.24	167	151	A	H
		5104	50.23	-23.77	74	40.71	33.56	11.18	35.22	198	161	P	V
		5080.08	39.87	-14.13	54	30.42	33.52	11.14	35.21	198	161	A	V
	*	5240	101.4	-	-	91.33	33.91	11.38	35.22	198	161	P	V
	*	5240	94.2	-	-	84.13	33.91	11.38	35.22	198	161	A	V
		5390.4	49.12	-24.88	74	38.16	34.3	11.89	35.23	198	161	P	V
		5400	40.6	-13.4	54	29.6	34.34	11.89	35.23	198	161	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	45.6	-28.4	74	48.55	39.09	17.17	59.21	100	0	P	H
		15540	45.49	-28.51	74	41.99	41.07	19.61	57.18	100	0	P	H
													H
													H
		10360	44.58	-29.42	74	47.53	39.09	17.17	59.21	100	0	P	V
		15540	46.08	-27.92	74	42.58	41.07	19.61	57.18	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	44.7	-29.3	74	47.53	39.15	17.17	59.15	100	0	P	H
		15660	46.32	-27.68	74	42.44	41.31	19.68	57.11	100	0	P	H
													H
													H
		10440	45.15	-28.85	74	47.98	39.15	17.17	59.15	100	0	P	V
		15660	46.84	-27.16	74	42.96	41.31	19.68	57.11	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	45.31	-28.69	74	48.06	39.19	17.17	59.11	100	0	P	H
		15720	46.91	-27.09	74	42.8	41.45	19.73	57.07	100	0	P	H
													H
													H
		10480	45.18	-28.82	74	47.93	39.19	17.17	59.11	100	0	P	V
		15720	47.53	-26.47	74	43.42	41.45	19.73	57.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 36 5180MHz		5034.58	49.16	-24.84	74	39.87	33.39	11.11	35.21	150	169	P	H
		5150	39.93	-14.07	54	30.25	33.69	11.21	35.22	150	169	A	H
	*	5180	98.16	-	-	88.39	33.78	11.21	35.22	150	169	P	H
	*	5180	90.47	-	-	80.7	33.78	11.21	35.22	150	169	A	H
													H
													H
		5107.9	50.08	-23.92	74	40.52	33.6	11.18	35.22	117	213	P	V
		5150	41.54	-12.46	54	31.86	33.69	11.21	35.22	117	213	A	V
	*	5180	103.41	-	-	93.64	33.78	11.21	35.22	117	213	P	V
	*	5180	95.84	-	-	86.07	33.78	11.21	35.22	117	213	A	V
													V
													V
802.11ac VHT20 CH 44 5220MHz		5082.94	48.88	-25.12	74	39.43	33.52	11.14	35.21	171	150	P	H
		5139.62	39.54	-14.46	54	29.89	33.69	11.18	35.22	171	150	A	H
	*	5220	96.35	-	-	86.46	33.86	11.25	35.22	171	150	P	H
	*	5220	88.46	-	-	78.57	33.86	11.25	35.22	171	150	A	H
		5397.84	49	-25	74	38	34.34	11.89	35.23	171	150	P	H
		5459.52	39.79	-14.21	54	28.67	34.47	11.89	35.24	171	150	A	H
		5137.8	50.08	-23.92	74	40.47	33.65	11.18	35.22	119	213	P	V
		5139.88	40.72	-13.28	54	31.07	33.69	11.18	35.22	119	213	A	V
	*	5220	102.62	-	-	92.73	33.86	11.25	35.22	119	213	P	V
	*	5220	95.02	-	-	85.13	33.86	11.25	35.22	119	213	A	V
		5406.72	48.73	-25.27	74	37.73	34.34	11.89	35.23	119	213	P	V
		5379.84	40.08	-13.92	54	29.25	34.3	11.76	35.23	119	213	A	V

802.11ac VHT20 CH 48 5240MHz		5067.34	49.26	-24.74	74	39.86	33.47	11.14	35.21	159	150	P	H
		5079.82	39.68	-14.32	54	30.23	33.52	11.14	35.21	159	150	A	H
	*	5240	97.43	-	-	87.36	33.91	11.38	35.22	159	150	P	H
	*	5240	89.53	-	-	79.46	33.91	11.38	35.22	159	150	A	H
		5408.88	49.55	-24.45	74	38.55	34.34	11.89	35.23	159	150	P	H
		5457.12	39.71	-14.29	54	28.59	34.47	11.89	35.24	159	150	A	H
		5072.8	48.83	-25.17	74	39.38	33.52	11.14	35.21	134	215	P	V
		5080.08	40.51	-13.49	54	31.06	33.52	11.14	35.21	134	215	A	V
	*	5240	102.28	-	-	92.21	33.91	11.38	35.22	134	215	P	V
	*	5240	94.43	-	-	84.36	33.91	11.38	35.22	134	215	A	V
		5430.48	49.02	-24.98	74	37.94	34.43	11.89	35.24	134	215	P	V
		5400	40.11	-13.89	54	29.11	34.34	11.89	35.23	134	215	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 36 5180MHz		10360	44.97	-29.03	74	47.92	39.09	17.17	59.21	100	0	P	H
		15540	46.1	-27.9	74	42.6	41.07	19.61	57.18	100	0	P	H
													H
													H
		10360	44.67	-29.33	74	47.62	39.09	17.17	59.21	100	0	P	V
		15540	46.07	-27.93	74	42.57	41.07	19.61	57.18	100	0	P	V
													V
													V
802.11ac VHT20 CH 44 5220MHz		10440	45.16	-28.84	74	47.99	39.15	17.17	59.15	100	0	P	H
		15660	46.13	-27.87	74	42.25	41.31	19.68	57.11	100	0	P	H
													H
													H
		10440	45.07	-28.93	74	47.9	39.15	17.17	59.15	100	0	P	V
		15660	46.35	-27.65	74	42.47	41.31	19.68	57.11	100	0	P	V
													V
													V
802.11ac VHT20 CH 48 5240MHz		10480	44.93	-29.07	74	47.68	39.19	17.17	59.11	100	0	P	H
		15720	46.9	-27.1	74	42.79	41.45	19.73	57.07	100	0	P	H
													H
													H
		10480	45.16	-28.84	74	47.91	39.19	17.17	59.11	100	0	P	V
		15720	46.81	-27.19	74	42.7	41.45	19.73	57.07	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 38 5190MHz		5147.68	50.91	-23.09	74	41.23	33.69	11.21	35.22	150	169	P	H
		5150	43.04	-10.96	54	33.36	33.69	11.21	35.22	150	169	A	H
	*	5190	94.86	-	-	85.05	33.78	11.25	35.22	150	169	P	H
	*	5190	87.03	-	-	77.22	33.78	11.25	35.22	150	169	A	H
		5365.68	48.4	-25.6	74	37.62	34.25	11.76	35.23	150	169	P	H
		5458.56	39.71	-14.29	54	28.59	34.47	11.89	35.24	150	169	A	H
		5149.76	55.12	-18.88	74	45.44	33.69	11.21	35.22	127	190	P	V
		5150	46.94	-7.06	54	37.26	33.69	11.21	35.22	127	190	A	V
	*	5190	100.13	-	-	90.32	33.78	11.25	35.22	127	190	P	V
	*	5190	92.29	-	-	82.48	33.78	11.25	35.22	127	190	A	V
		5456.4	49.04	-24.96	74	37.92	34.47	11.89	35.24	127	190	P	V
		5350.08	40.13	-13.87	54	29.39	34.21	11.76	35.23	127	190	A	V
802.11ac VHT40 CH 46 5230MHz		5042.38	49.79	-24.21	74	40.46	33.43	11.11	35.21	156	150	P	H
		5069.94	39.43	-14.57	54	30.03	33.47	11.14	35.21	156	150	A	H
	*	5230	94.41	-	-	84.34	33.91	11.38	35.22	156	150	P	H
	*	5230	86.66	-	-	76.59	33.91	11.38	35.22	156	150	A	H
		5417.28	49.21	-24.79	74	38.18	34.38	11.89	35.24	156	150	P	H
		5459.76	39.71	-14.29	54	28.59	34.47	11.89	35.24	156	150	A	H
		5061.36	49.25	-24.75	74	39.85	33.47	11.14	35.21	120	213	P	V
		5150	40.09	-13.91	54	30.41	33.69	11.21	35.22	120	213	A	V
	*	5230	99.71	-	-	89.64	33.91	11.38	35.22	120	213	P	V
	*	5230	91.98	-	-	81.91	33.91	11.38	35.22	120	213	A	V
		5413.44	49.45	-24.55	74	38.41	34.38	11.89	35.23	120	213	P	V
		5389.92	39.83	-14.17	54	28.87	34.3	11.89	35.23	120	213	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 38 5190MHz		10380	45.56	-28.44	74	48.47	39.11	17.17	59.19	100	0	P	H
		15570	46.93	-27.07	74	43.32	41.14	19.63	57.16	100	0	P	H
													H
													H
		10380	44.98	-29.02	74	47.89	39.11	17.17	59.19	100	0	P	V
		15570	47.09	-26.91	74	43.48	41.14	19.63	57.16	100	0	P	V
													V
													V
802.11ac VHT40 CH 46 5230MHz		10460	44.97	-29.03	74	47.78	39.16	17.17	59.14	100	0	P	H
		15690	46.21	-27.79	74	42.22	41.38	19.7	57.09	100	0	P	H
													H
													H
		10460	44.71	-29.29	74	47.52	39.16	17.17	59.14	100	0	P	V
		15690	46.66	-27.34	74	42.67	41.38	19.7	57.09	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		5119.86	50.91	-23.09	74	41.35	33.6	11.18	35.22	158	153	P	H
		5145.08	42.26	-11.74	54	32.58	33.69	11.21	35.22	158	153	A	H
	*	5210	90.08	-	-	80.19	33.86	11.25	35.22	158	153	P	H
	*	5210	82.49	-	-	72.6	33.86	11.25	35.22	158	153	A	H
		5425.2	48.59	-25.41	74	37.56	34.38	11.89	35.24	158	153	P	H
		5459.52	39.7	-14.3	54	28.58	34.47	11.89	35.24	158	153	A	H
		5148.2	55.77	-18.23	74	46.09	33.69	11.21	35.22	123	213	P	V
		5148.2	46.93	-7.07	54	37.25	33.69	11.21	35.22	123	213	A	V
	*	5210	96.52	-	-	86.63	33.86	11.25	35.22	123	213	P	V
	*	5210	88.64	-	-	78.75	33.86	11.25	35.22	123	213	A	V
		5404.8	48.11	-25.89	74	37.11	34.34	11.89	35.23	123	213	P	V
		5457.84	39.8	-14.2	54	28.68	34.47	11.89	35.24	123	213	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 42 5210MHz		10420	45.4	-28.6	74	48.27	39.13	17.17	59.17	100	0	P	H
		15630	46.25	-27.75	74	42.41	41.28	19.68	57.12	100	0	P	H
													H
													H
		10420	45.33	-28.67	74	48.2	39.13	17.17	59.17	100	0	P	V
		15630	46.95	-27.05	74	43.11	41.28	19.68	57.12	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 - 5250~5350MHz

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 52 5260MHz		5115.18	49.13	-24.87	74	39.57	33.6	11.18	35.22	195	150	P	H
		5099.58	40.33	-13.67	54	30.85	33.56	11.14	35.22	195	150	A	H
	*	5260	97.22	-	-	87.08	33.99	11.38	35.23	195	150	P	H
	*	5260	89.65	-	-	79.51	33.99	11.38	35.23	195	150	A	H
		5444.4	48.78	-25.22	74	37.7	34.43	11.89	35.24	195	150	P	H
		5459.76	40.78	-13.22	54	29.66	34.47	11.89	35.24	195	150	A	H
		5071.76	50.27	-23.73	74	40.82	33.52	11.14	35.21	123	213	P	V
		5100.1	41.05	-12.95	54	31.53	33.56	11.18	35.22	123	213	A	V
	*	5260	103.33	-	-	93.19	33.99	11.38	35.23	123	213	P	V
	*	5260	95.35	-	-	85.21	33.99	11.38	35.23	123	213	A	V
		5440.32	48.45	-25.55	74	37.37	34.43	11.89	35.24	123	213	P	V
		5419.92	40.82	-13.18	54	29.79	34.38	11.89	35.24	123	213	A	V
802.11a CH 60 5300MHz		5124.54	49.24	-24.76	74	39.63	33.65	11.18	35.22	194	150	P	H
		5115.18	40.3	-13.7	54	30.74	33.6	11.18	35.22	194	150	A	H
	*	5300	97.73	-	-	87.37	34.08	11.51	35.23	194	150	P	H
	*	5300	89.86	-	-	79.5	34.08	11.51	35.23	194	150	A	H
		5385.12	48.73	-25.27	74	37.77	34.3	11.89	35.23	194	150	P	H
		5460	41.27	-12.73	54	30.15	34.47	11.89	35.24	194	150	A	H
		5133.38	49.21	-24.79	74	39.6	33.65	11.18	35.22	108	213	P	V
		5139.88	41.23	-12.77	54	31.58	33.69	11.18	35.22	108	213	A	V
	*	5300	102.17	-	-	91.81	34.08	11.51	35.23	108	213	P	V
	*	5300	94.51	-	-	84.15	34.08	11.51	35.23	108	213	A	V
		5456.16	49.35	-24.65	74	38.23	34.47	11.89	35.24	108	213	P	V
		5460	40.93	-13.07	54	29.81	34.47	11.89	35.24	108	213	A	V

802.11a CH 64 5320MHz	*	5320	98.53	-	-	88.01	34.12	11.63	35.23	203	147	P	H
	*	5320	90.85	-	-	80.33	34.12	11.63	35.23	203	147	A	H
		5433.12	49.06	-24.94	74	37.98	34.43	11.89	35.24	203	147	P	H
		5350.08	40.06	-13.94	54	29.32	34.21	11.76	35.23	203	147	A	H
													H
													H
	*	5320	101.73	-	-	91.21	34.12	11.63	35.23	116	213	P	V
	*	5320	94.03	-	-	83.51	34.12	11.63	35.23	116	213	A	V
		5433.12	49.09	-24.91	74	38.01	34.43	11.89	35.24	116	213	P	V
		5350.08	40.53	-13.47	54	29.79	34.21	11.76	35.23	116	213	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	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 52 5260MHz		10520	45.92	-28.08	74	48.65	39.18	17.17	59.08	100	0	P	H
		15780	46.49	-27.51	74	42.22	41.55	19.75	57.03	100	0	P	H
													H
													H
		10520	47.15	-26.85	74	49.88	39.18	17.17	59.08	100	0	P	V
		15780	46.07	-27.93	74	41.8	41.55	19.75	57.03	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	45.69	-28.31	74	48.42	39.06	17.17	58.96	100	0	P	H
		15900	46.71	-27.29	74	42.06	41.79	19.82	56.96	100	0	P	H
													H
													H
		10600	44.63	-29.37	74	47.36	39.06	17.17	58.96	100	0	P	V
		15900	47.2	-26.8	74	42.55	41.79	19.82	56.96	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	45.53	-28.47	74	48.26	39.01	17.17	58.91	100	0	P	H
		15960	46.01	-27.99	74	41.13	41.93	19.87	56.92	100	0	P	H
													H
													H
		10640	44.09	-29.91	74	46.82	39.01	17.17	58.91	100	0	P	V
		15960	45.95	-28.05	74	41.07	41.93	19.87	56.92	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 52 5260MHz		5121.42	48.91	-25.09	74	39.35	33.6	11.18	35.22	195	150	P	H
		5134.42	40.35	-13.65	54	30.74	33.65	11.18	35.22	195	150	A	H
	*	5260	95.98	-	-	85.84	33.99	11.38	35.23	195	150	P	H
	*	5260	88.16	-	-	78.02	33.99	11.38	35.23	195	150	A	H
		5412.48	48.78	-25.22	74	37.74	34.38	11.89	35.23	195	150	P	H
		5419.92	40.73	-13.27	54	29.7	34.38	11.89	35.24	195	150	A	H
		5092.04	49.31	-24.69	74	39.83	33.56	11.14	35.22	123	213	P	V
		5099.84	41.59	-12.41	54	32.11	33.56	11.14	35.22	123	213	A	V
	*	5260	102.05	-	-	91.91	33.99	11.38	35.23	123	213	P	V
	*	5260	94.25	-	-	84.11	33.99	11.38	35.23	123	213	A	V
		5427.36	49.43	-24.57	74	38.4	34.38	11.89	35.24	123	213	P	V
		5456.88	40.76	-13.24	54	29.64	34.47	11.89	35.24	123	213	A	V
802.11ac VHT20 CH 60 5300MHz		5121.42	49.06	-24.94	74	39.5	33.6	11.18	35.22	194	150	P	H
		5146.38	40.35	-13.65	54	30.67	33.69	11.21	35.22	194	150	A	H
	*	5300	96.31	-	-	85.95	34.08	11.51	35.23	194	150	P	H
	*	5300	88.25	-	-	77.89	34.08	11.51	35.23	194	150	A	H
		5442.96	50.53	-23.47	74	39.45	34.43	11.89	35.24	194	150	P	H
		5460	41.36	-12.64	54	30.24	34.47	11.89	35.24	194	150	A	H
		5092.56	49.38	-24.62	74	39.9	33.56	11.14	35.22	108	213	P	V
		5139.88	40.87	-13.13	54	31.22	33.69	11.18	35.22	108	213	A	V
	*	5300	100.99	-	-	90.63	34.08	11.51	35.23	108	213	P	V
	*	5300	93.06	-	-	82.7	34.08	11.51	35.23	108	213	A	V
		5360.16	48.57	-25.43	74	37.83	34.21	11.76	35.23	108	213	P	V
		5460	41.28	-12.72	54	30.16	34.47	11.89	35.24	108	213	A	V

	*	5320	97.66	-	-	87.14	34.12	11.63	35.23	203	147	P	H
	*	5320	89.73	-	-	79.21	34.12	11.63	35.23	203	147	A	H
		5449.92	49.43	-24.57	74	38.31	34.47	11.89	35.24	203	147	P	H
		5399.84	40.06	-13.94	54	29.06	34.34	11.89	35.23	203	147	A	H
802.11ac													H
VHT20													H
CH 64	*	5320	101.05	-	-	90.53	34.12	11.63	35.23	116	213	P	V
5320MHz	*	5320	93.17	-	-	82.65	34.12	11.63	35.23	116	213	A	V
		5396.96	49.21	-24.79	74	38.21	34.34	11.89	35.23	116	213	P	V
		5350.08	40.4	-13.6	54	29.66	34.21	11.76	35.23	116	213	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 52 5260MHz		10520	44.47	-29.53	74	47.2	39.18	17.17	59.08	100	0	P	H
		15780	46.91	-27.09	74	42.64	41.55	19.75	57.03	100	0	P	H
													H
													H
		10520	45.73	-28.27	74	48.46	39.18	17.17	59.08	100	0	P	V
		15780	46.48	-27.52	74	42.21	41.55	19.75	57.03	100	0	P	V
													V
													V
802.11ac VHT20 CH 60 5300MHz		10600	45.7	-28.3	74	48.43	39.06	17.17	58.96	100	0	P	H
		15900	46.58	-27.42	74	41.93	41.79	19.82	56.96	100	0	P	H
													H
													H
		10600	44.28	-29.72	74	47.01	39.06	17.17	58.96	100	0	P	V
		15900	46.53	-27.47	74	41.88	41.79	19.82	56.96	100	0	P	V
													V
													V
802.11ac VHT20 CH 64 5320MHz		10640	44.27	-29.73	74	47	39.01	17.17	58.91	100	0	P	H
		15960	46.57	-27.43	74	41.69	41.93	19.87	56.92	100	0	P	H
													H
													H
		10640	44.86	-29.14	74	47.59	39.01	17.17	58.91	100	0	P	V
		15960	47.16	-26.84	74	42.28	41.93	19.87	56.92	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 54 5270MHz		5096.98	49.3	-24.7	74	39.82	33.56	11.14	35.22	200	150	P	H
		5109.98	39.39	-14.61	54	29.83	33.6	11.18	35.22	200	150	A	H
	*	5270	93.86	-	-	83.59	33.99	11.51	35.23	200	150	P	H
	*	5270	85.31	-	-	75.04	33.99	11.51	35.23	200	150	A	H
		5443.68	48.87	-25.13	74	37.79	34.43	11.89	35.24	200	150	P	H
		5429.76	40.02	-13.98	54	28.94	34.43	11.89	35.24	200	150	A	H
		5122.72	48.47	-25.53	74	38.86	33.65	11.18	35.22	133	212	P	V
		5109.98	40.15	-13.85	54	30.59	33.6	11.18	35.22	133	212	A	V
	*	5270	100.15	-	-	89.88	33.99	11.51	35.23	133	212	P	V
	*	5270	92.44	-	-	82.17	33.99	11.51	35.23	133	212	A	V
		5428.8	48.89	-25.11	74	37.81	34.43	11.89	35.24	133	212	P	V
		5430	40.17	-13.83	54	29.09	34.43	11.89	35.24	133	212	A	V
802.11ac VHT40 CH 62 5310MHz		5058.76	49.05	-24.95	74	39.68	33.47	11.11	35.21	200	150	P	H
		5103.22	39.38	-14.62	54	29.86	33.56	11.18	35.22	200	150	A	H
	*	5310	93.58	-	-	83.06	34.12	11.63	35.23	200	150	P	H
	*	5310	85.86	-	-	75.34	34.12	11.63	35.23	200	150	A	H
		5354.88	52.9	-21.1	74	42.16	34.21	11.76	35.23	200	150	P	H
		5350.08	41.68	-12.32	54	30.94	34.21	11.76	35.23	200	150	A	H
		5098.8	49.52	-24.48	74	40.04	33.56	11.14	35.22	127	188	P	V
		5150	40.12	-13.88	54	30.44	33.69	11.21	35.22	127	188	A	V
	*	5310	99.19	-	-	88.67	34.12	11.63	35.23	127	188	P	V
	*	5310	91.23	-	-	80.71	34.12	11.63	35.23	127	188	A	V
		5351.52	52.67	-21.33	74	41.93	34.21	11.76	35.23	127	188	P	V
		5350.08	44.63	-9.37	54	33.89	34.21	11.76	35.23	127	188	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 54 5270MHz		10540	44.7	-29.3	74	47.43	39.15	17.17	59.05	100	0	P	H
		15810	46.26	-27.74	74	41.88	41.62	19.77	57.01	100	0	P	H
													H
													H
		10540	44.58	-29.42	74	47.31	39.15	17.17	59.05	100	0	P	V
		15810	46.63	-27.37	74	42.25	41.62	19.77	57.01	100	0	P	V
													V
													V
802.11ac VHT40 CH 62 5310MHz		10620	44.89	-29.11	74	47.62	39.03	17.17	58.93	100	0	P	H
		15930	46.17	-27.83	74	41.41	41.86	19.84	56.94	100	0	P	H
													H
													H
		10620	45.45	-28.55	74	48.18	39.03	17.17	58.93	100	0	P	V
		15930	46.6	-27.4	74	41.84	41.86	19.84	56.94	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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 58 5290MHz		5086.32	49.58	-24.42	74	40.14	33.52	11.14	35.22	195	150	P	H
		5090.22	39.4	-14.6	54	29.92	33.56	11.14	35.22	195	150	A	H
	*	5290	89.55	-	-	79.23	34.04	11.51	35.23	195	150	P	H
	*	5290	81.75	-	-	71.43	34.04	11.51	35.23	195	150	A	H
		5353.2	52.06	-21.94	74	41.32	34.21	11.76	35.23	195	150	P	H
		5352.72	42.05	-11.95	54	31.31	34.21	11.76	35.23	195	150	A	H
		5136.24	49.52	-24.48	74	39.91	33.65	11.18	35.22	122	188	P	V
		5130	40.07	-13.93	54	30.46	33.65	11.18	35.22	122	188	A	V
	*	5290	94.4	-	-	84.08	34.04	11.51	35.23	122	188	P	V
	*	5290	86.66	-	-	76.34	34.04	11.51	35.23	122	188	A	V
		5352.24	55.28	-18.72	74	44.54	34.21	11.76	35.23	122	188	P	V
		5352.72	45.73	-8.27	54	34.99	34.21	11.76	35.23	122	188	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	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 58 5290MHz		10580	44.59	-29.41	74	47.32	39.08	17.17	58.98	100	0	P	H
		15870	48.31	-25.69	74	43.7	41.76	19.82	56.97	100	0	P	H
													H
													H
		10580	44.7	-29.3	74	47.43	39.08	17.17	58.98	100	0	P	V
		15870	47.74	-26.26	74	43.13	41.76	19.82	56.97	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI 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 100 5500MHz		5440.56	49.25	-24.75	74	38.17	34.43	11.89	35.24	199	221	P	H
		5468.24	40.26	-13.74	54	29.1	34.51	11.89	35.24	199	221	A	H
	*	5500	101.66	-	-	90.41	34.6	11.89	35.24	199	221	P	H
	*	5500	94.18	-	-	82.93	34.6	11.89	35.24	199	221	A	H
													H
													H
		5467.28	49.78	-24.22	74	38.62	34.51	11.89	35.24	199	198	P	V
		5470	40.61	-13.39	54	29.45	34.51	11.89	35.24	199	198	A	V
	*	5500	103.54	-	-	92.29	34.6	11.89	35.24	199	198	P	V
	*	5500	96.23	-	-	84.98	34.6	11.89	35.24	199	198	A	V
													V
													V
802.11a CH 116 5580MHz		5451.04	48.93	-25.07	74	37.81	34.47	11.89	35.24	199	147	P	H
		5419.84	40.16	-13.84	54	29.13	34.38	11.89	35.24	199	147	A	H
	*	5580	101.83	-	-	90.6	34.6	11.89	35.26	199	147	P	H
	*	5580	94.52	-	-	83.29	34.6	11.89	35.26	199	147	A	H
		5728.6	50.23	-23.77	74	38.86	34.6	12.06	35.29	199	147	P	H
		5739.975	43.1	-10.9	54	31.73	34.6	12.06	35.29	199	147	A	H
		5446.24	48.85	-25.15	74	37.73	34.47	11.89	35.24	194	205	P	V
		5419.84	40.55	-13.45	54	29.52	34.38	11.89	35.24	194	205	A	V
	*	5580	102.45	-	-	91.22	34.6	11.89	35.26	194	205	P	V
	*	5580	95.99	-	-	84.76	34.6	11.89	35.26	194	205	A	V
		5743.65	51.14	-22.86	74	39.72	34.6	12.11	35.29	194	205	P	V
		5739.975	43.13	-10.87	54	31.76	34.6	12.06	35.29	194	205	A	V

802.11a CH 140 5700MHz	*	5700	101.68	-	-	90.36	34.6	12	35.28	162	196	P	H
	*	5700	94.19	-	-	82.87	34.6	12	35.28	162	196	A	H
		5725.24	51.23	-22.77	74	39.86	34.6	12.06	35.29	162	196	P	H
		5725	41.83	-12.17	54	30.45	34.6	12.06	35.28	162	196	A	H
													H
													H
	*	5700	103.42	-	-	92.1	34.6	12	35.28	184	204	P	V
	*	5700	97.91	-	-	86.59	34.6	12	35.28	184	204	A	V
		5725.48	52.45	-21.55	74	41.08	34.6	12.06	35.29	184	204	P	V
		5725.08	42.31	-11.69	54	30.94	34.6	12.06	35.29	184	204	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	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 100 5500MHz		11000	44.5	-29.5	74	47.23	38.5	17.17	58.4	100	0	P	H
		16500	49.76	-24.24	74	42.63	43	20.23	56.1	100	0	P	H
													H
													H
		11000	45.18	-28.82	74	47.91	38.5	17.17	58.4	100	0	P	V
		16500	49.51	-24.49	74	42.38	43	20.23	56.1	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	45	-29	74	47.1	38.77	17.16	58.03	100	0	P	H
		16740	49.25	-24.75	74	41.92	42.9	20.39	55.96	100	0	P	H
													H
													H
		11160	44.67	-29.33	74	46.77	38.77	17.16	58.03	100	0	P	V
		16740	49.19	-24.81	74	41.86	42.9	20.39	55.96	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	44.65	-29.35	74	45.87	39.14	17.16	57.52	100	0	P	H
		17100	49.98	-24.02	74	42.53	42.64	20.65	55.84	100	0	P	H
													H
													H
		11400	45.01	-28.99	74	46.23	39.14	17.16	57.52	100	0	P	V
		17100	49.51	-24.49	74	42.06	42.64	20.65	55.84	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 100 5500MHz		5466.64	49.44	-24.56	74	38.28	34.51	11.89	35.24	190	222	P	H
		5469.68	40.28	-13.72	54	29.12	34.51	11.89	35.24	190	222	A	H
	*	5500	100.84	-	-	89.59	34.6	11.89	35.24	190	222	P	H
	*	5500	93.26	-	-	82.01	34.6	11.89	35.24	190	222	A	H
													H
													H
		5392.88	48.99	-25.01	74	38.03	34.3	11.89	35.23	199	198	P	V
		5470	40.57	-13.43	54	29.41	34.51	11.89	35.24	199	198	A	V
	*	5500	102.95	-	-	91.7	34.6	11.89	35.24	199	198	P	V
	*	5500	95.19	-	-	83.94	34.6	11.89	35.24	199	198	A	V
													V
													V
802.11ac VHT20 CH 116 5580MHz		5372.08	49.26	-24.74	74	38.48	34.25	11.76	35.23	192	199	P	H
		5466.4	39.91	-14.09	54	28.75	34.51	11.89	35.24	192	199	A	H
	*	5580	100.23	-	-	89	34.6	11.89	35.26	192	199	P	H
	*	5580	92.68	-	-	81.45	34.6	11.89	35.26	192	199	A	H
		5734.725	50.49	-23.51	74	39.12	34.6	12.06	35.29	192	199	P	H
		5739.975	41.99	-12.01	54	30.62	34.6	12.06	35.29	192	199	A	H
		5464.72	48.83	-25.17	74	37.67	34.51	11.89	35.24	192	204	P	V
		5420.08	40.58	-13.42	54	29.55	34.38	11.89	35.24	192	204	A	V
	*	5580	102.75	-	-	91.52	34.6	11.89	35.26	192	204	P	V
	*	5580	95.06	-	-	83.83	34.6	11.89	35.26	192	204	A	V
		5737	50.19	-23.81	74	38.82	34.6	12.06	35.29	192	204	P	V
		5739.975	43.34	-10.66	54	31.97	34.6	12.06	35.29	192	204	A	V

	*	5700	101.26	-	-	89.94	34.6	12	35.28	200	146	P	H
	*	5700	93.7	-	-	82.38	34.6	12	35.28	200	146	A	H
		5726.44	51.02	-22.98	74	39.65	34.6	12.06	35.29	200	146	P	H
		5725	42.24	-11.76	54	30.86	34.6	12.06	35.28	200	146	A	H
802.11ac													H
VHT20													H
CH 140	*	5700	102.12	-	-	90.8	34.6	12	35.28	189	186	P	V
5700MHz	*	5700	94.6	-	-	83.28	34.6	12	35.28	189	186	A	V
		5735.48	50.07	-23.93	74	38.7	34.6	12.06	35.29	189	186	P	V
		5725	42.08	-11.92	54	30.7	34.6	12.06	35.28	189	186	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT20 (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 VHT20 CH 100 5500MHz		11000	44.81	-29.19	74	47.54	38.5	17.17	58.4	100	0	P	H
		16500	49.05	-24.95	74	41.92	43	20.23	56.1	100	0	P	H
													H
													H
		11000	45.34	-28.66	74	48.07	38.5	17.17	58.4	100	0	P	V
		16500	49.61	-24.39	74	42.48	43	20.23	56.1	100	0	P	V
													V
													V
802.11ac VHT20 CH 116 5580MHz		11160	44.91	-29.09	74	47.01	38.77	17.16	58.03	100	0	P	H
		16740	49.1	-24.9	74	41.77	42.9	20.39	55.96	100	0	P	H
													H
													H
		11160	44.48	-29.52	74	46.58	38.77	17.16	58.03	100	0	P	V
		16740	49.24	-24.76	74	41.91	42.9	20.39	55.96	100	0	P	V
													V
													V
802.11ac VHT20 CH 140 5700MHz		11400	45.35	-28.65	74	46.57	39.14	17.16	57.52	100	0	P	H
		17100	49.01	-24.99	74	41.56	42.64	20.65	55.84	100	0	P	H
													H
													H
		11400	45.14	-28.86	74	46.36	39.14	17.16	57.52	100	0	P	V
		17100	49.64	-24.36	74	42.19	42.64	20.65	55.84	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 102 5510MHz		5470	51.09	-22.91	74	39.93	34.51	11.89	35.24	211	153	P	H
		5470	43.24	-10.76	54	32.08	34.51	11.89	35.24	211	153	A	H
	*	5510	97.56	-	-	86.31	34.6	11.89	35.24	211	153	P	H
	*	5510	90.23	-	-	78.98	34.6	11.89	35.24	211	153	A	H
		5744.875	50.87	-23.13	74	39.45	34.6	12.11	35.29	211	153	P	H
		5749.95	40.63	-13.37	54	29.21	34.6	12.11	35.29	211	153	A	H
		5469.04	53.49	-20.51	74	42.33	34.51	11.89	35.24	186	196	P	V
		5470	44.72	-9.28	54	33.56	34.51	11.89	35.24	186	196	A	V
	*	5510	99.98	-	-	88.73	34.6	11.89	35.24	186	196	P	V
	*	5510	92.35	-	-	81.1	34.6	11.89	35.24	186	196	A	V
		5743.125	50.88	-23.12	74	39.46	34.6	12.11	35.29	186	196	P	V
		5749.95	40.84	-13.16	54	29.42	34.6	12.11	35.29	186	196	A	V
802.11ac VHT40 CH 110 5550MHz		5468.8	48.9	-25.1	74	37.74	34.51	11.89	35.24	210	148	P	H
		5470	40.03	-13.97	54	28.87	34.51	11.89	35.24	210	148	A	H
	*	5550	97.71	-	-	86.47	34.6	11.89	35.25	210	148	P	H
	*	5550	90.1	-	-	78.86	34.6	11.89	35.25	210	148	A	H
		5729.125	49.87	-24.13	74	38.5	34.6	12.06	35.29	210	148	P	H
		5749.95	41.13	-12.87	54	29.71	34.6	12.11	35.29	210	148	A	H
		5451.76	48.78	-25.22	74	37.66	34.47	11.89	35.24	186	190	P	V
		5470	40.21	-13.79	54	29.05	34.51	11.89	35.24	186	190	A	V
	*	5550	98.88	-	-	87.64	34.6	11.89	35.25	186	190	P	V
	*	5550	91.6	-	-	80.36	34.6	11.89	35.25	186	190	A	V
		5738.225	50.07	-23.93	74	38.7	34.6	12.06	35.29	186	190	P	V
		5749.95	41.27	-12.73	54	29.85	34.6	12.11	35.29	186	190	A	V

802.11ac VHT40 CH 134 5670MHz		5355.52	48.09	-25.91	74	37.35	34.21	11.76	35.23	186	146	P	H
		5470	39.93	-14.07	54	28.77	34.51	11.89	35.24	186	146	A	H
	*	5670	97.8	-	-	86.47	34.6	12	35.27	186	146	P	H
	*	5670	90.23	-	-	78.9	34.6	12	35.27	186	146	A	H
		5738.4	50.66	-23.34	74	39.29	34.6	12.06	35.29	186	146	P	H
		5749.95	41.46	-12.54	54	30.04	34.6	12.11	35.29	186	146	A	H
		5447.2	50.06	-23.94	74	38.94	34.47	11.89	35.24	200	186	P	V
		5470	40.02	-13.98	54	28.86	34.51	11.89	35.24	200	186	A	V
	*	5670	98.49	-	-	87.16	34.6	12	35.27	200	186	P	V
	*	5670	90.71	-	-	79.38	34.6	12	35.27	200	186	A	V
		5742.6	50.39	-23.61	74	38.97	34.6	12.11	35.29	200	186	P	V
		5749.95	41.41	-12.59	54	29.99	34.6	12.11	35.29	200	186	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11ac VHT40 (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 VHT40 CH 102 5510MHz		11020	44.51	-29.49	74	47.17	38.53	17.17	58.36	100	0	P	H
		16530	49.81	-24.19	74	42.65	42.99	20.25	56.08	100	0	P	H
													H
													H
		11020	45.09	-28.91	74	47.75	38.53	17.17	58.36	100	0	P	V
		16530	49.09	-24.91	74	41.93	42.99	20.25	56.08	100	0	P	V
													V
													V
802.11ac VHT40 CH 110 5550MHz		11100	44.22	-29.78	74	46.58	38.66	17.16	58.18	100	0	P	H
		16650	50.01	-23.99	74	42.74	42.94	20.34	56.01	100	0	P	H
													H
													H
		11100	44.43	-29.57	74	46.79	38.66	17.16	58.18	100	0	P	V
		16650	49.2	-24.8	74	41.93	42.94	20.34	56.01	100	0	P	V
													V
													V
802.11ac VHT40 CH 134 5670MHz		11340	44.24	-29.76	74	45.72	39.03	17.16	57.67	100	0	P	H
		17010	50.01	-23.99	74	42.46	42.77	20.59	55.81	100	0	P	H
													H
													H
		11340	44.95	-29.05	74	46.43	39.03	17.16	57.67	100	0	P	V
		17010	50.23	-23.77	74	42.68	42.77	20.59	55.81	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1	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 106 5530MHz		5459.68	49.71	-24.29	74	38.59	34.47	11.89	35.24	200	149	P	H
		5468.8	41.96	-12.04	54	30.8	34.51	11.89	35.24	200	149	A	H
	*	5530	93.83	-	-	82.59	34.6	11.89	35.25	200	149	P	H
	*	5530	86.62	-	-	75.38	34.6	11.89	35.25	200	149	A	H
		5764.3	50.73	-23.27	74	39.31	34.6	12.11	35.29	200	149	P	H
		5729.825	41.29	-12.71	54	29.92	34.6	12.06	35.29	200	149	A	H
		5468.56	52.08	-21.92	74	40.92	34.51	11.89	35.24	173	206	P	V
		5465.2	43.37	-10.63	54	32.21	34.51	11.89	35.24	173	206	A	V
	*	5530	94.74	-	-	83.5	34.6	11.89	35.25	173	206	P	V
	*	5530	87.36	-	-	76.12	34.6	11.89	35.25	173	206	A	V
		5741.025	49.59	-24.41	74	38.17	34.6	12.11	35.29	173	206	P	V
		5730	41.41	-12.59	54	30.04	34.6	12.06	35.29	173	206	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1	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 106 5530MHz		11060	44.26	-29.74	74	46.74	38.61	17.16	58.25	100	0	P	H
		16590	48.57	-25.43	74	41.34	42.97	20.31	56.05	100	0	P	H
													H
													H
		11060	44.83	-29.17	74	47.31	38.61	17.16	58.25	100	0	P	V
		16590	49	-25	74	41.77	42.97	20.31	56.05	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ac VHT40 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT40 LF		30.27	27.54	-12.46	40	31.82	26	1.07	31.35	-	-	P	H
		83.73	30.03	-9.97	40	46.04	14.26	1.28	31.55	-	-	P	H
		193.89	40.09	-3.41	43.5	54	15.7	1.87	31.48	200	90	P	H
		379.1	40.93	-5.07	46	47.71	21.91	2.5	31.19	-	-	P	H
		848.8	38.26	-7.74	46	36.05	28.68	4.1	30.57	-	-	P	H
		912.5	38.69	-7.31	46	35.8	29.31	4.12	30.54	-	-	P	H
													H
													H
													H
													H
													H
													H
		31.89	27.34	-12.66	40	32.73	24.92	1.07	31.38	-	-	P	V
		75.9	30.66	-9.34	40	47.59	13.35	1.28	31.56	-	-	P	V
		194.16	28.07	-15.43	43.5	41.98	15.7	1.87	31.48	-	-	P	V
		370	34.44	-11.56	46	41.45	21.69	2.5	31.2	-	-	P	V
		475.7	36.74	-9.26	46	41.11	23.65	3.04	31.06	-	-	P	V
		792.1	39.23	-6.77	46	38.31	27.62	3.9	30.6	100	29	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix C. Radiated Spurious Emission

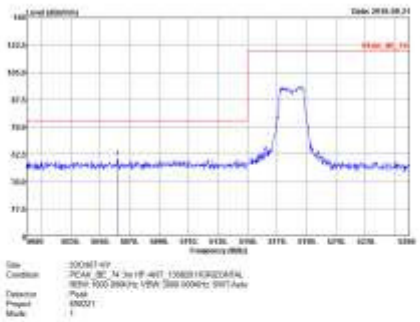
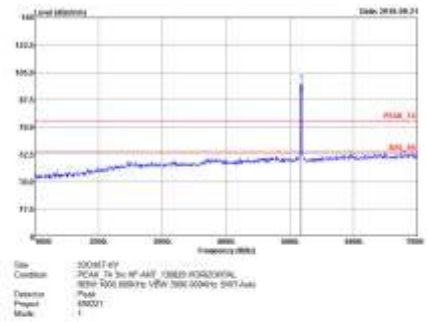
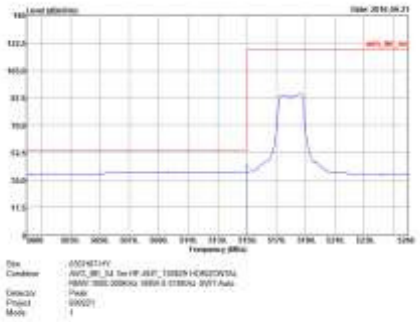
Test Engineer :	Jesse Wang and James Chiu and Ken Wu	Temperature :	20~24°C
		Relative Humidity :	50~54%

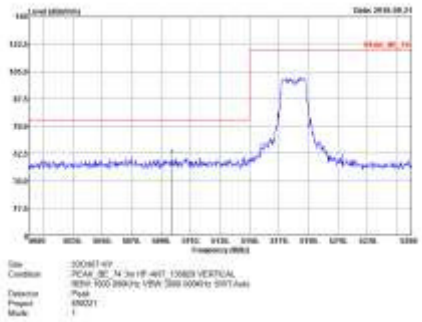
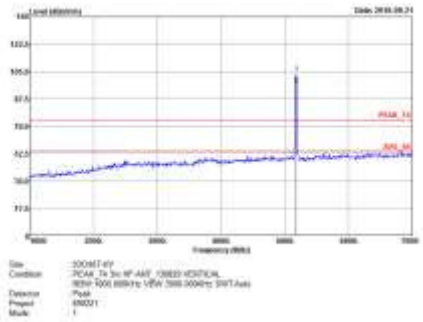
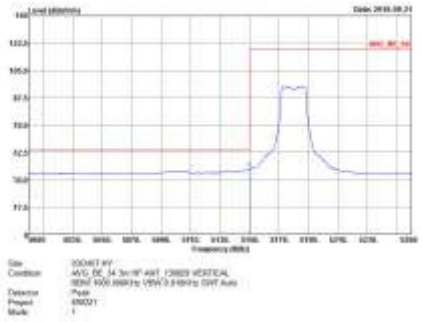
Note symbol

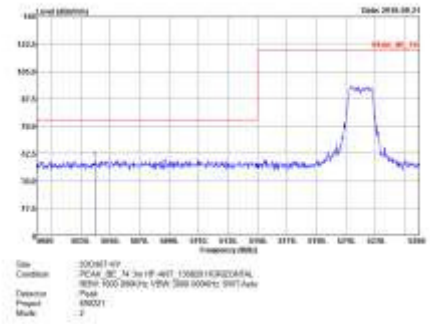
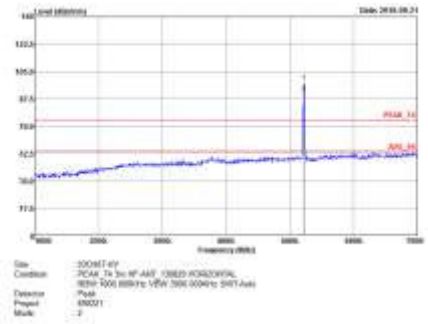
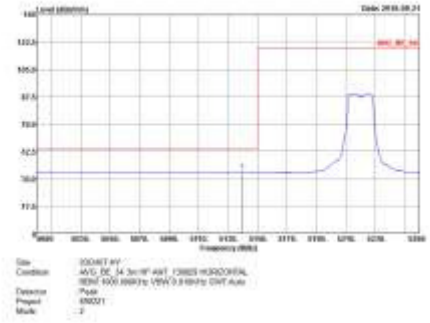
-L	**Low channel location**
-R	**High channel location**

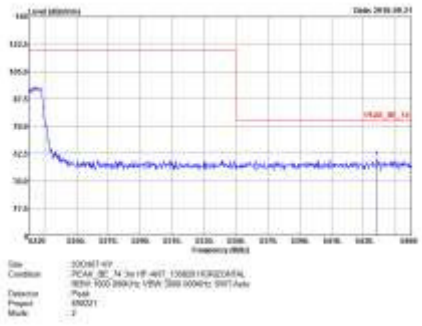
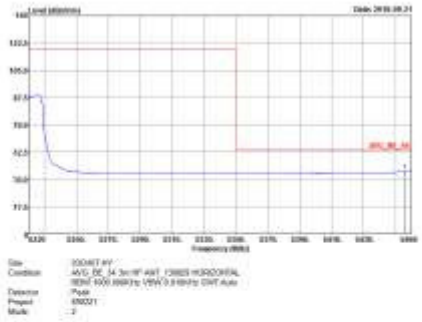
Band 1 - 5150~5250MHz

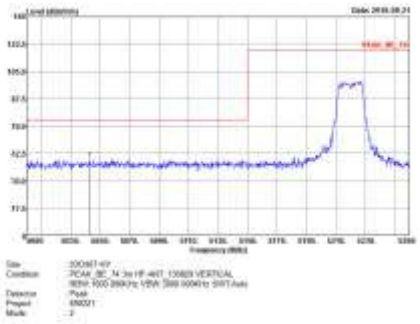
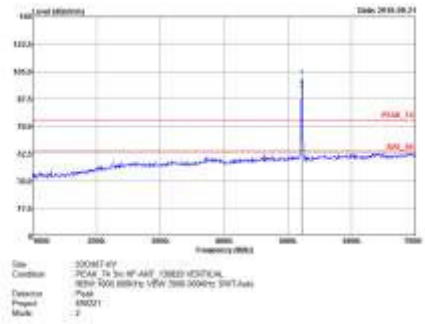
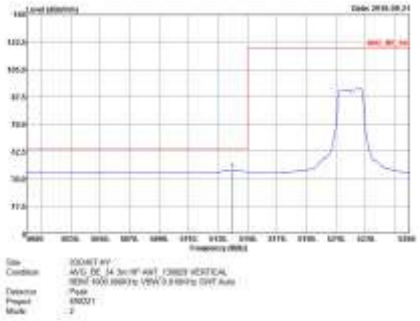
WIFI 802.11a (Band Edge @ 3m)

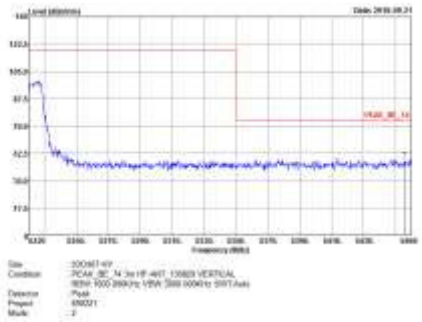
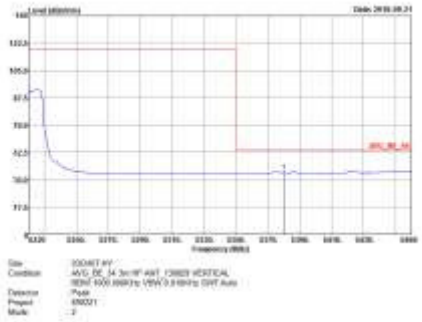
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

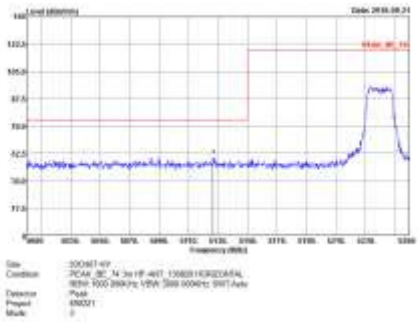
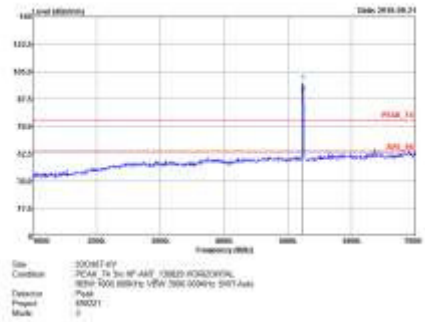
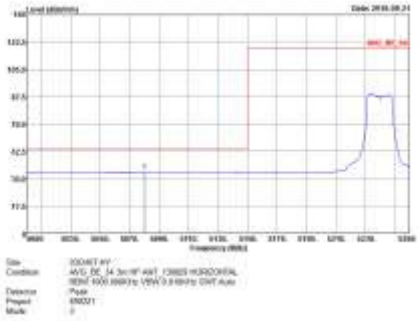
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

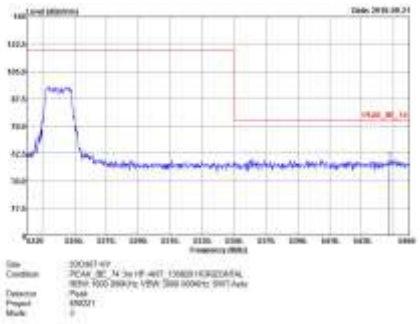
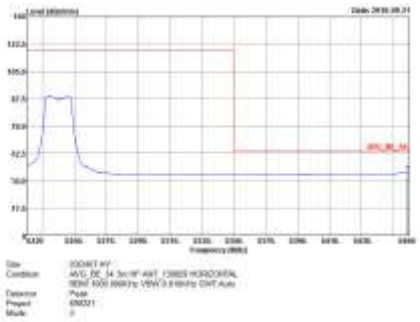
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

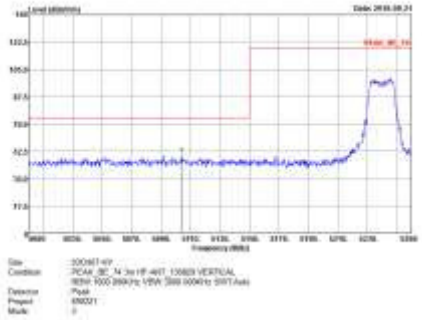
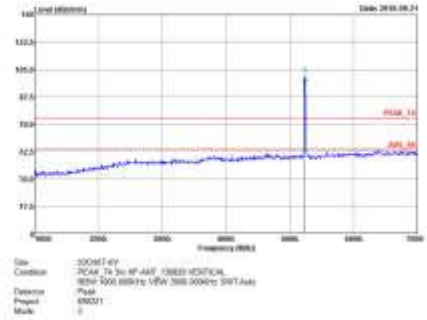
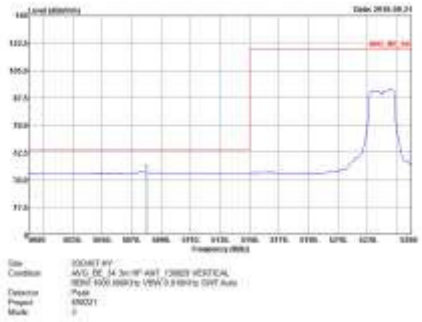
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

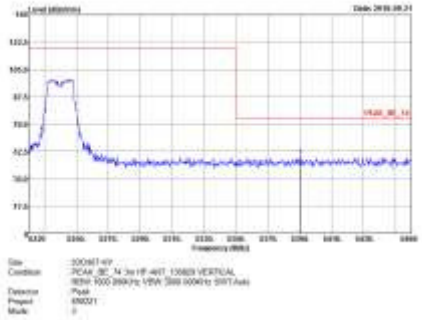
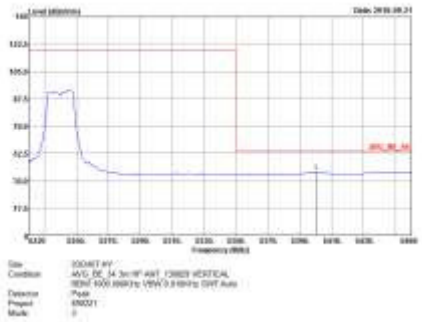
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

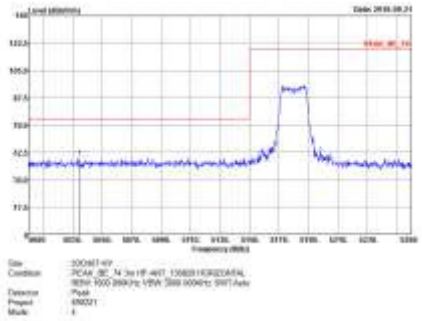
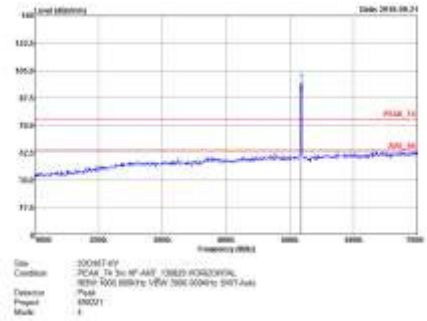
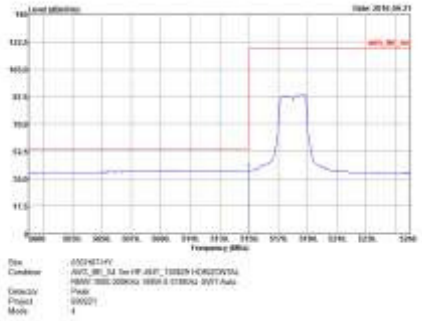
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

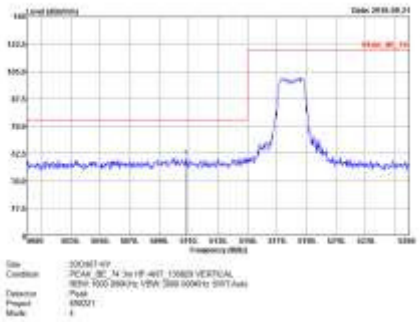
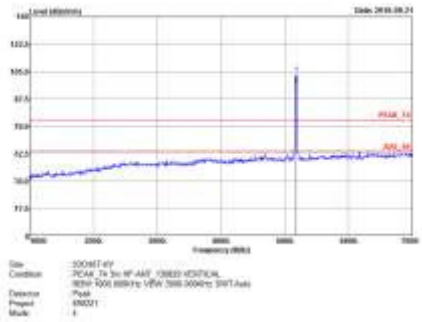
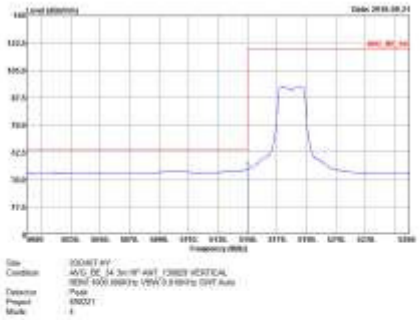
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

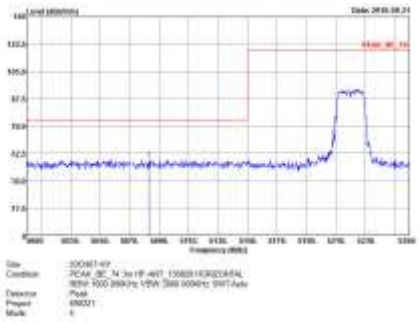
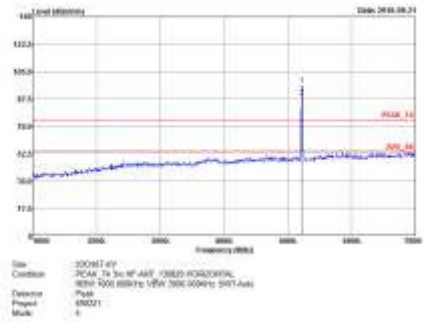
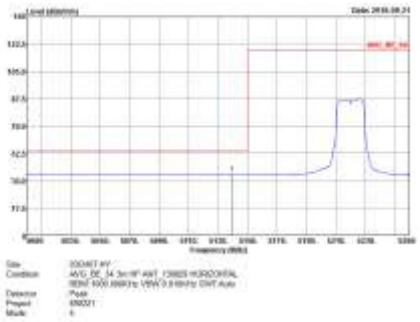
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

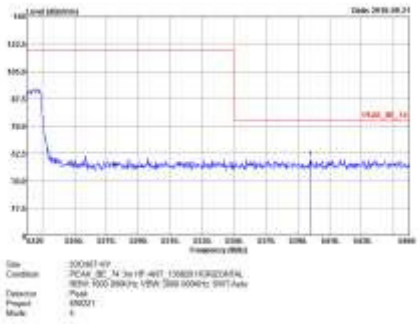
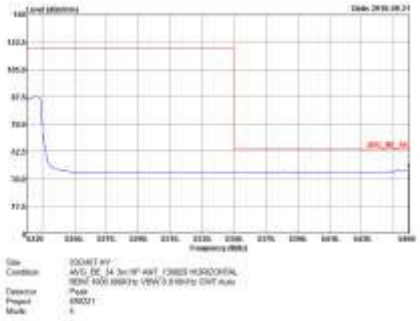
Band 1 5150~5250MHz

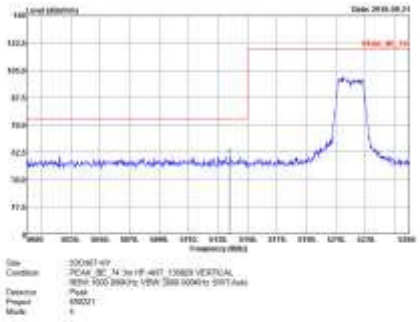
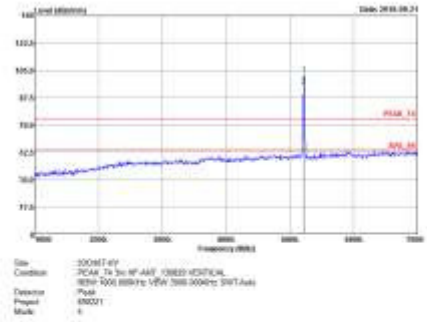
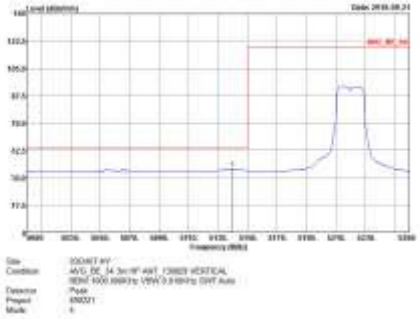
WIFI 802.11ac VHT20 (Band Edge @ 3m)

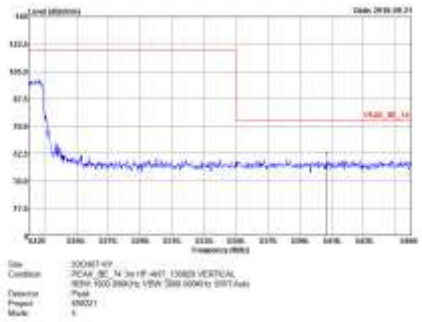
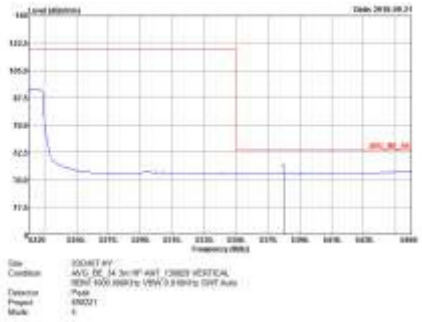
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

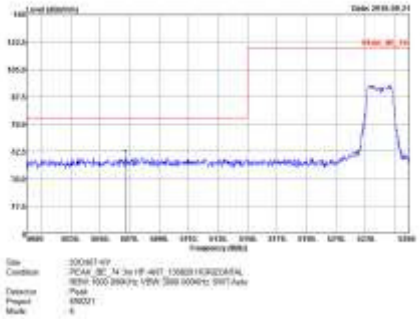
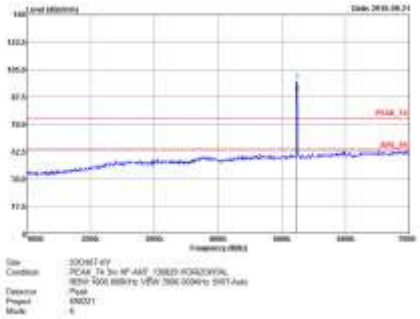
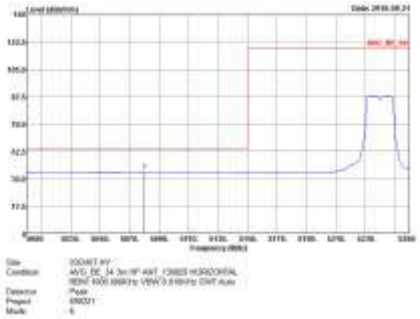
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

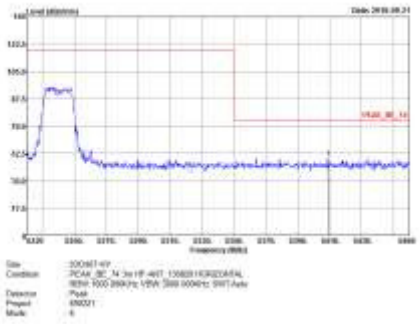
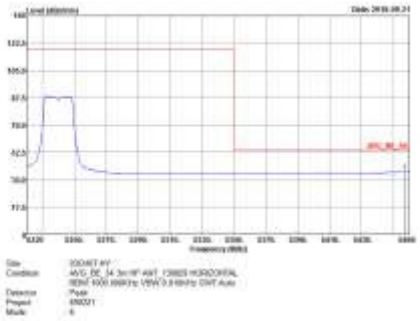
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

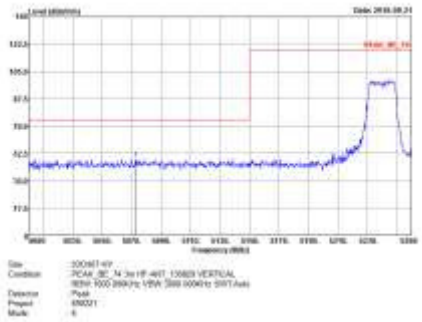
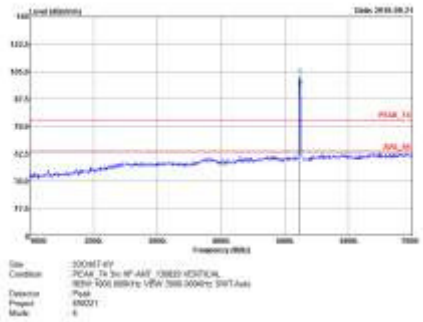
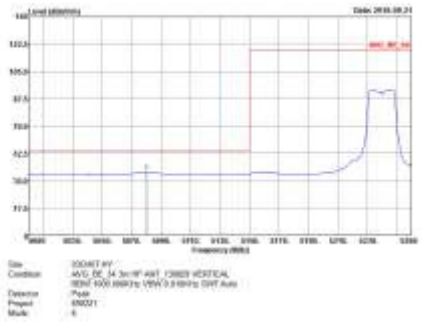
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

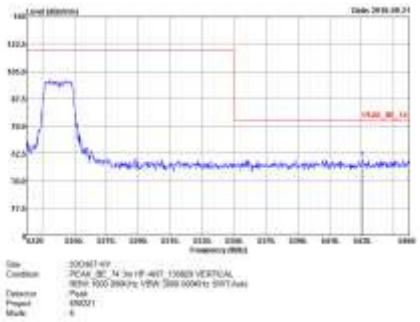
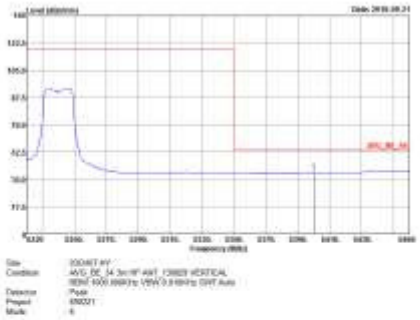
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

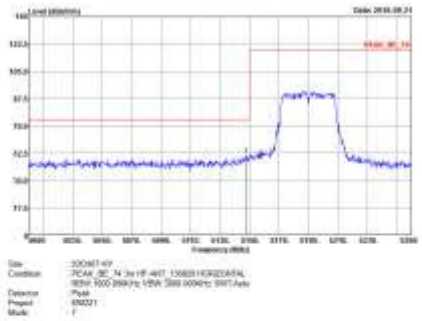
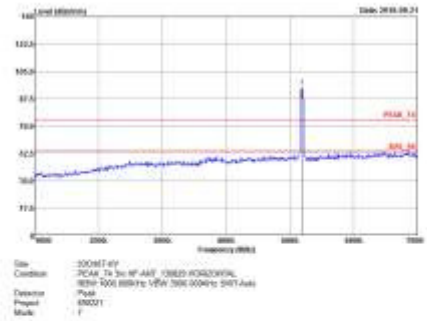
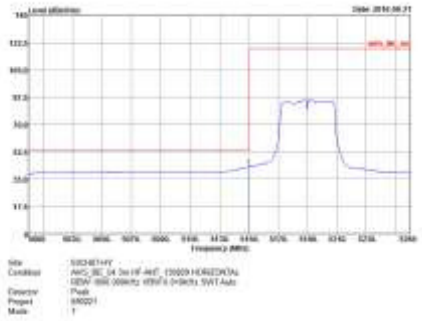
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

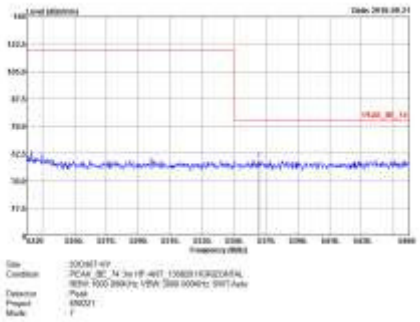
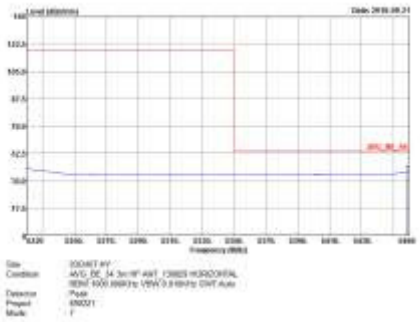
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

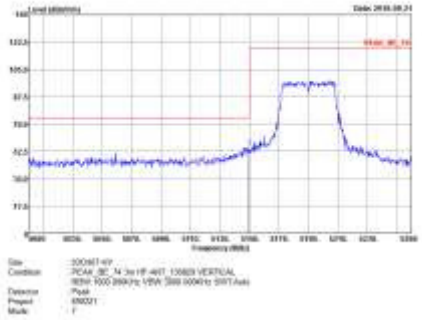
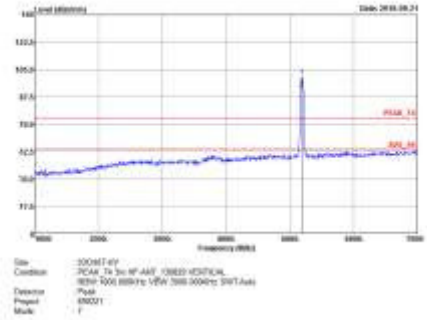
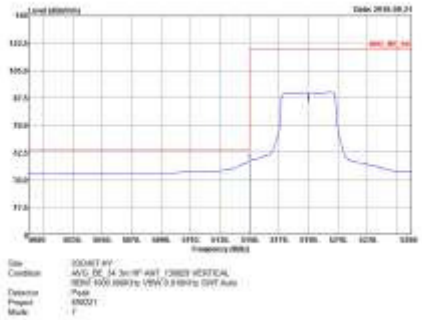
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

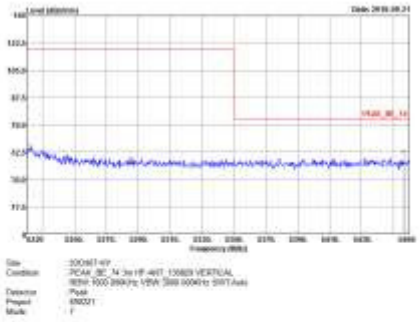
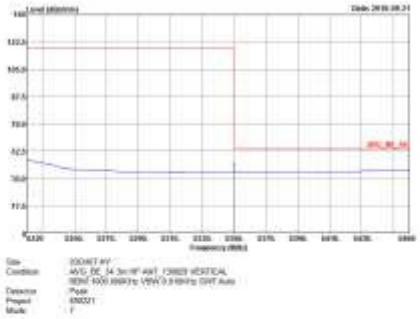
Band 1 5150~5250MHz

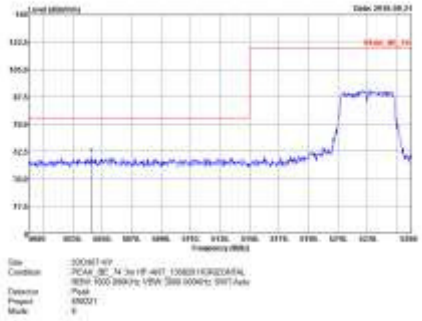
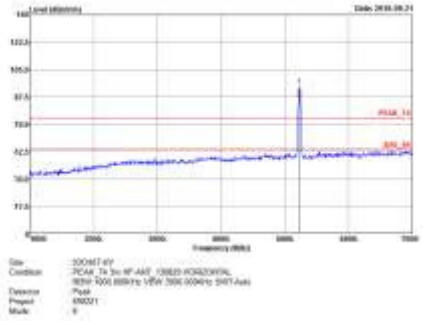
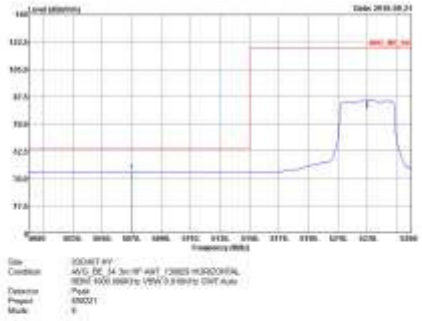
WIFI 802.11ac VHT40 (Band Edge @ 3m)

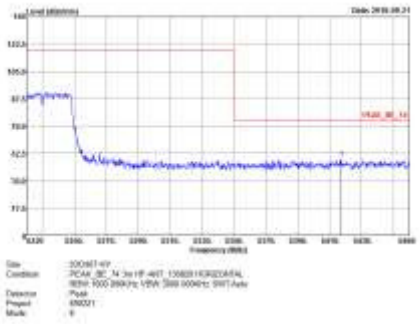
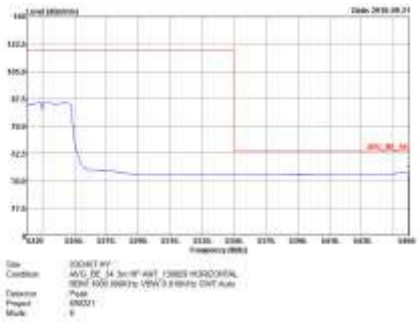
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

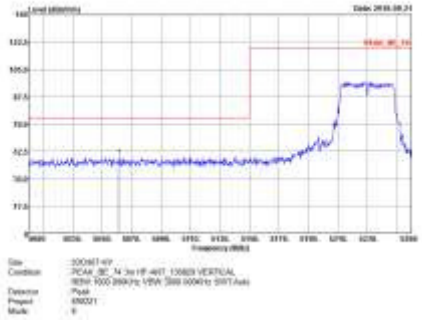
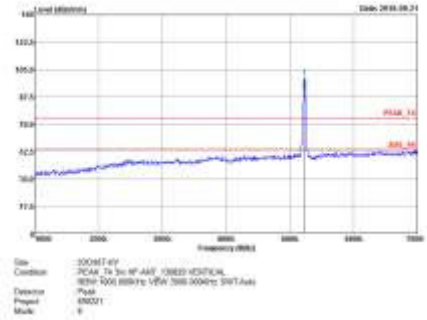
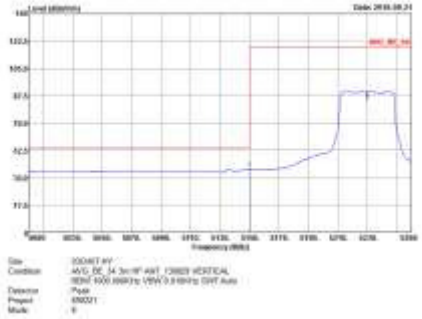
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

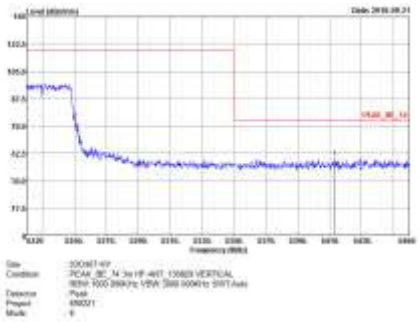
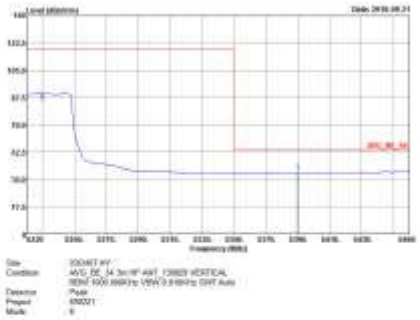
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

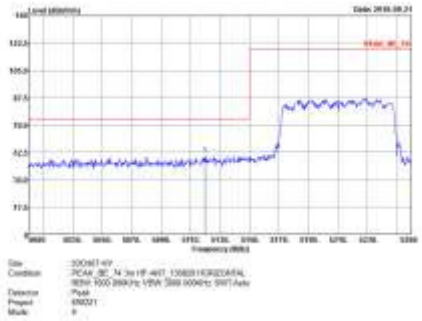
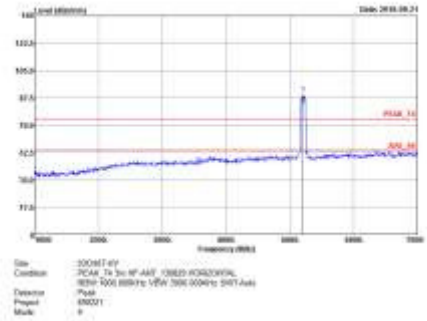
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

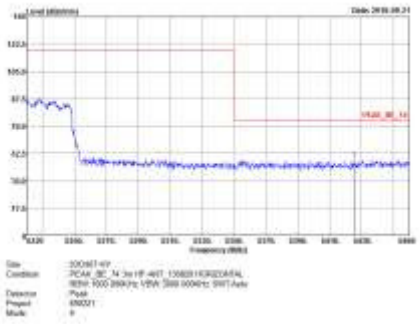
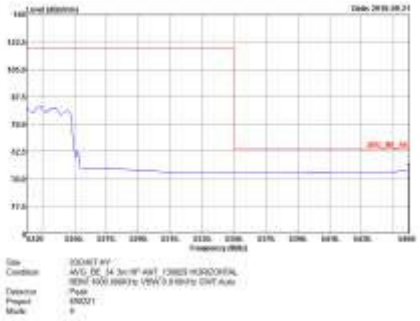
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

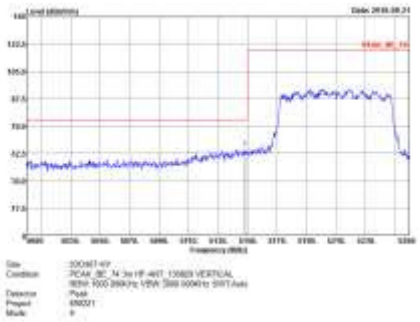
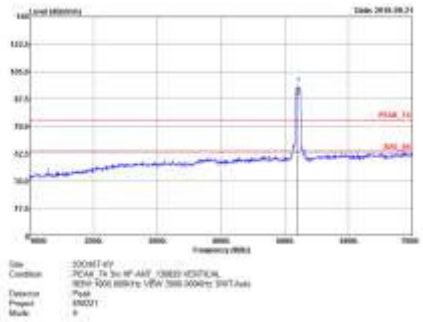
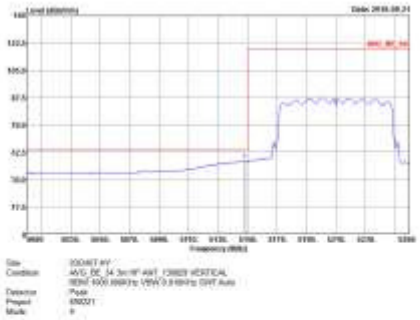
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

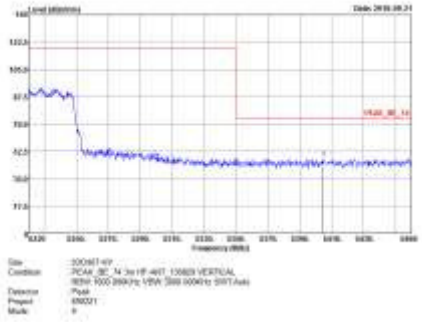
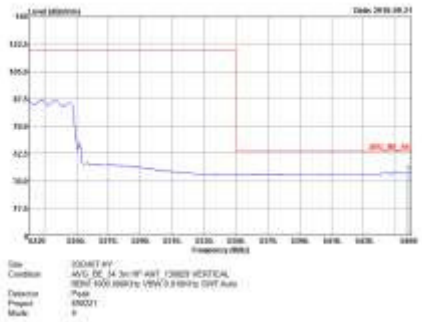
Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

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

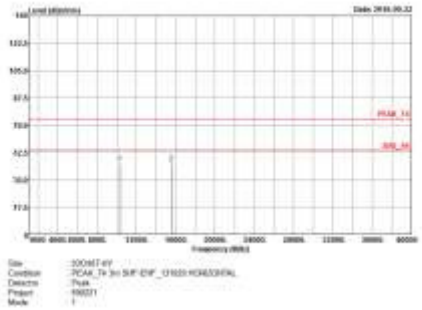
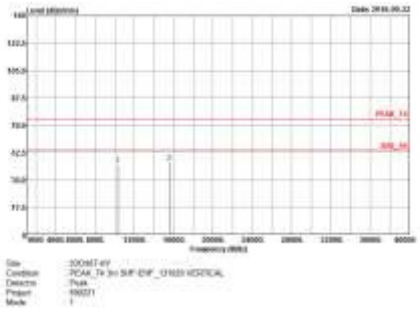
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

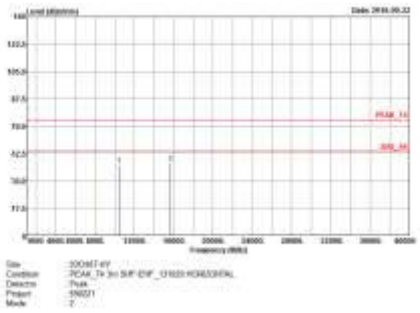
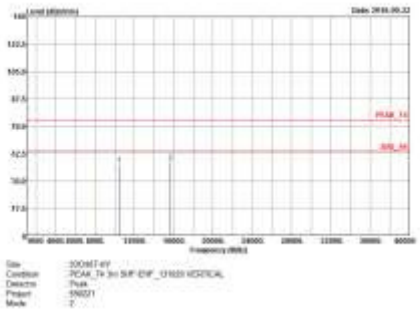
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

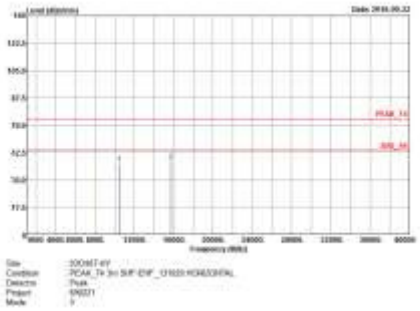
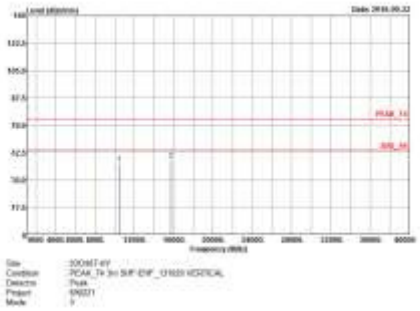
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

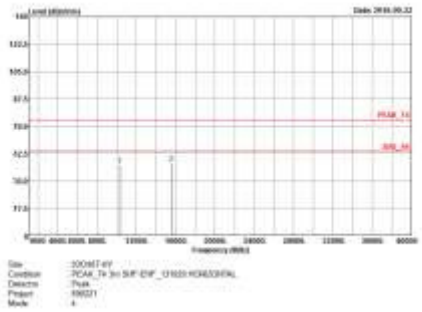
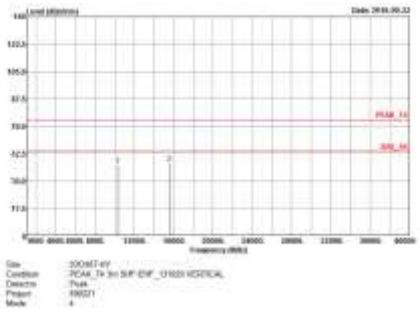
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

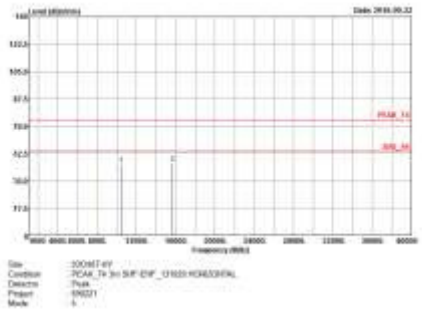
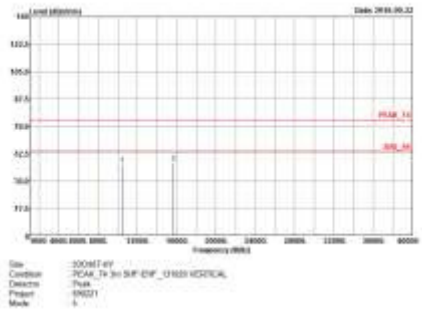
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

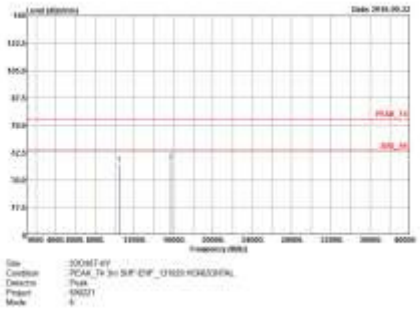
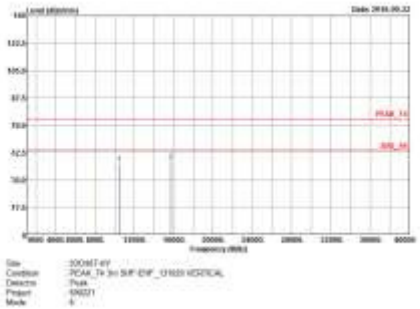
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

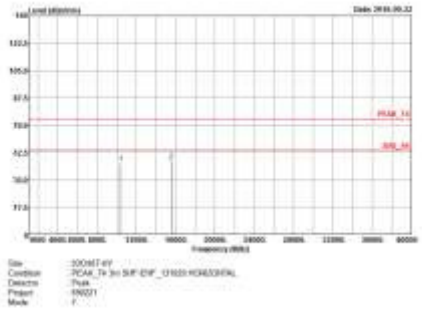
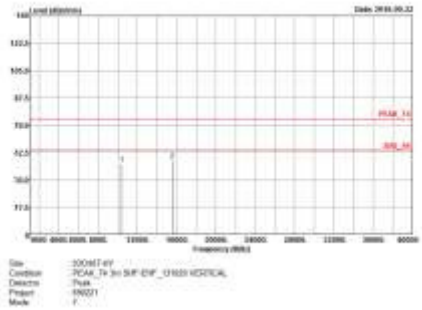
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

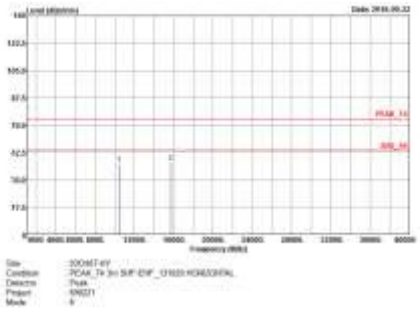
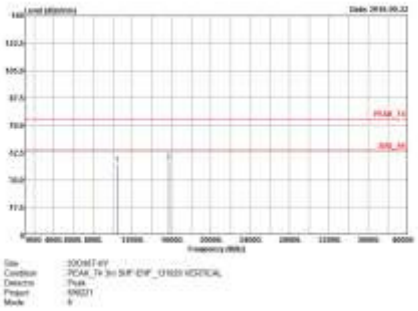
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

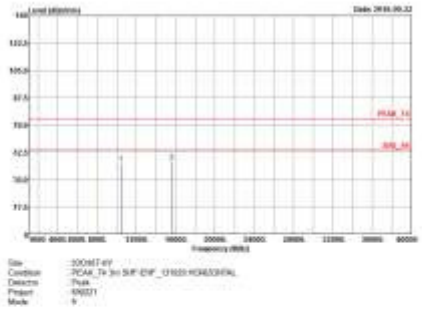
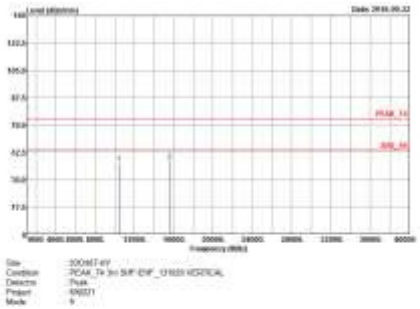
WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.		

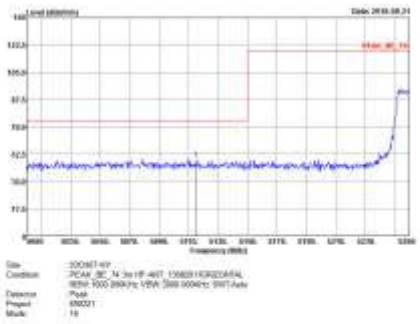
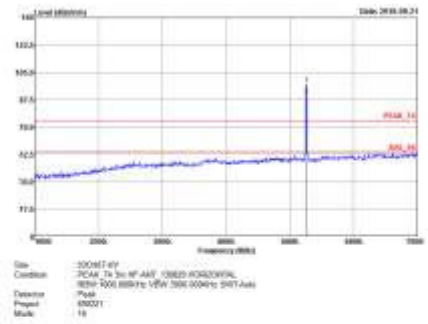
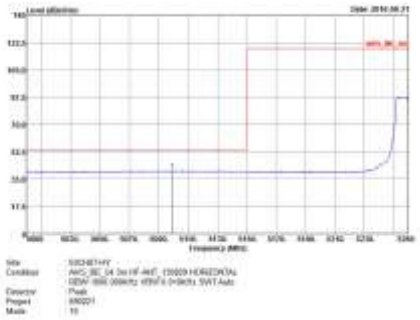
Band 1 5150~5250MHz

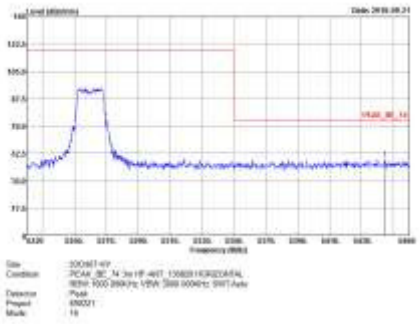
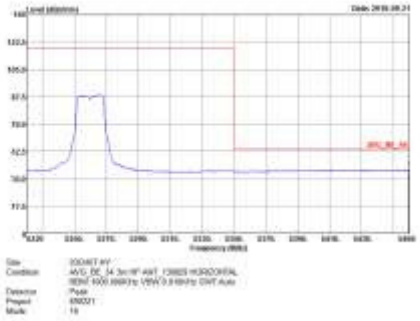
WIFI 802.11ac VHT80 (Harmonic @ 3m)

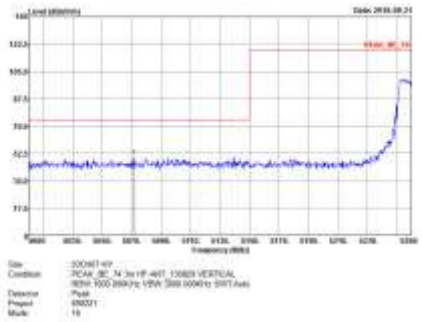
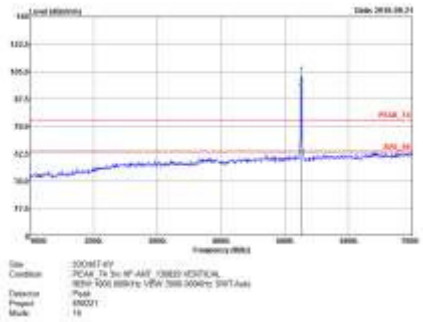
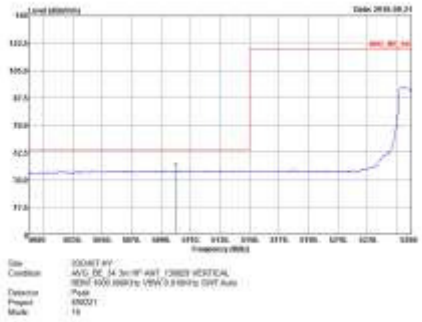
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz	
1	Horizontal	Vertical
Peak Avg.		

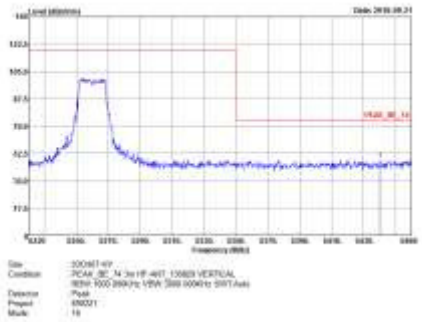
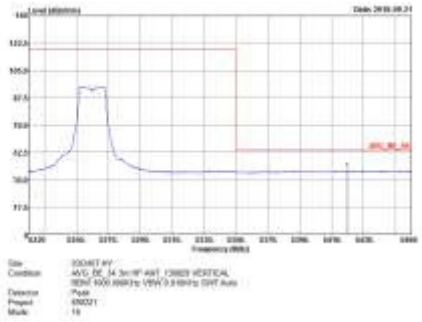
Band 2 - 5250~5350MHz

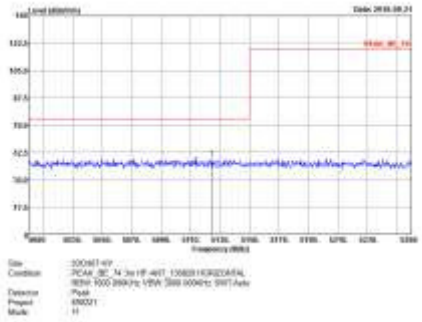
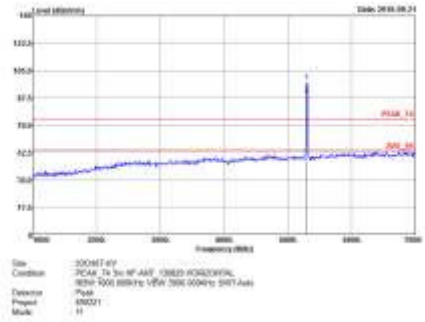
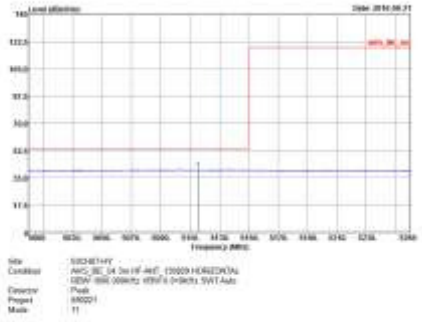
WIFI 802.11a (Band Edge @ 3m)

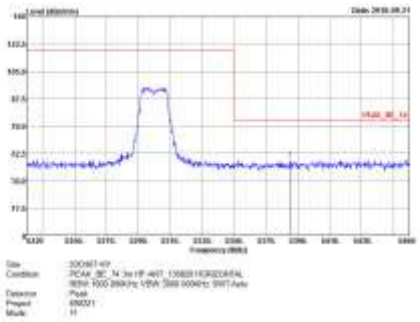
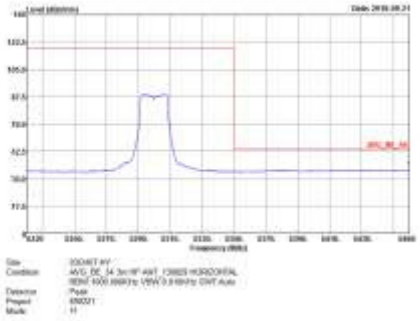
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

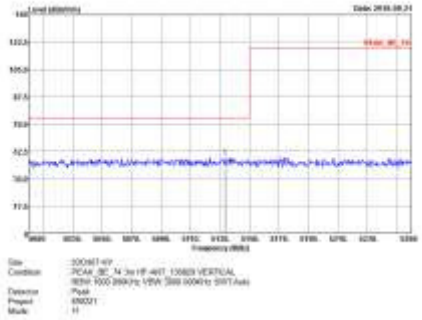
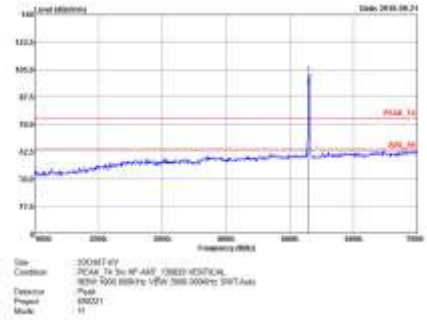
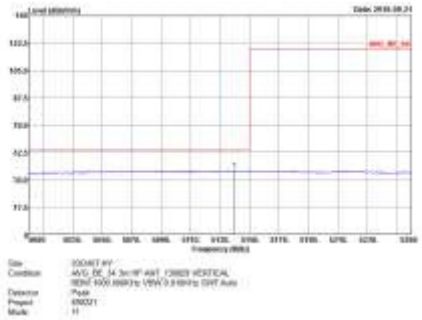
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

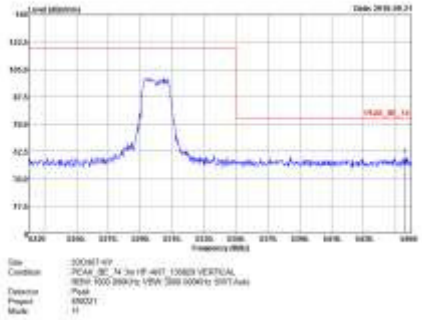
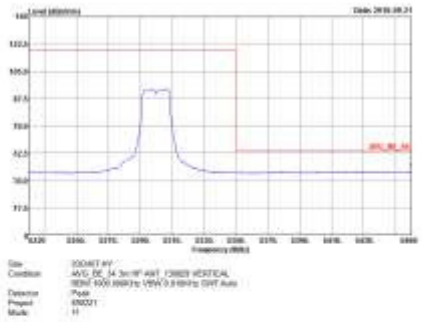
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

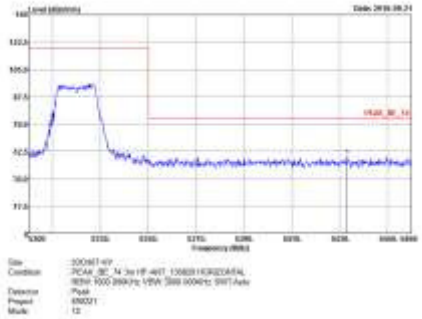
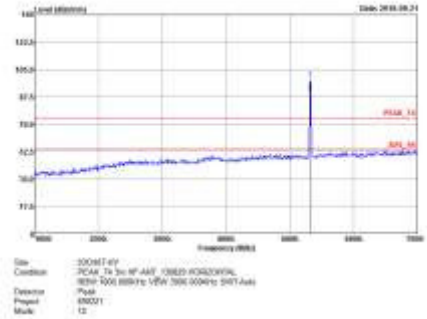
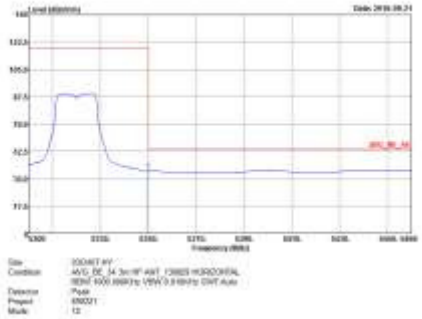
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

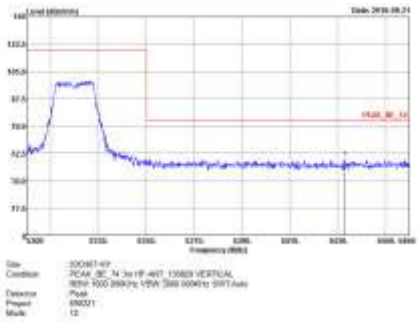
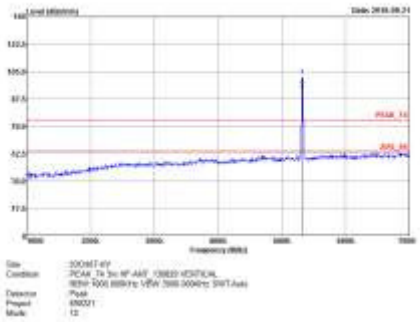
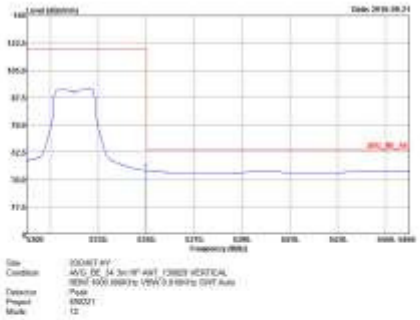
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

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

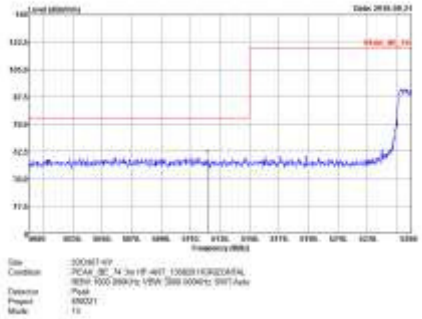
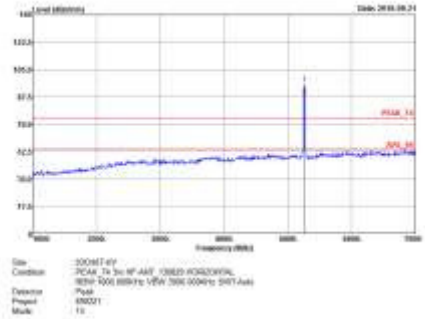
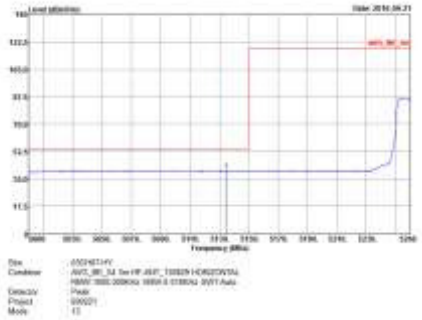
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

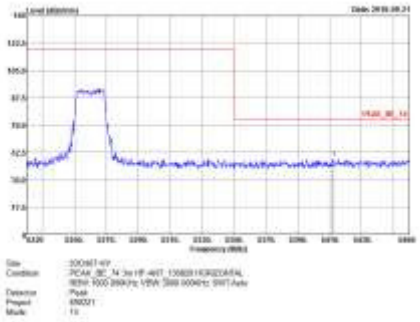
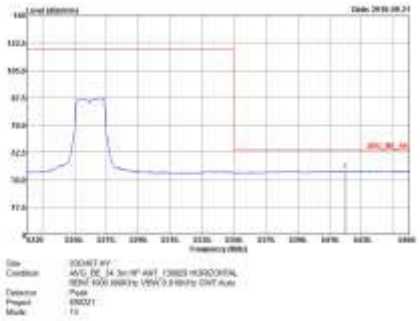
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

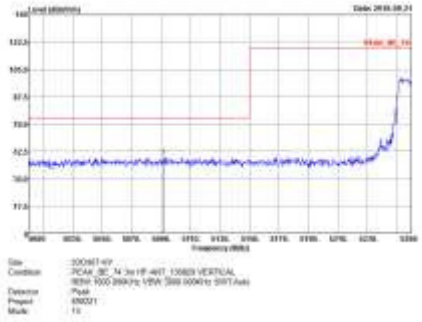
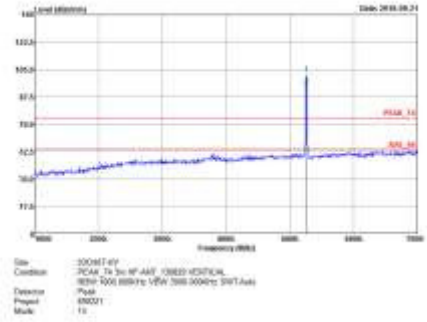
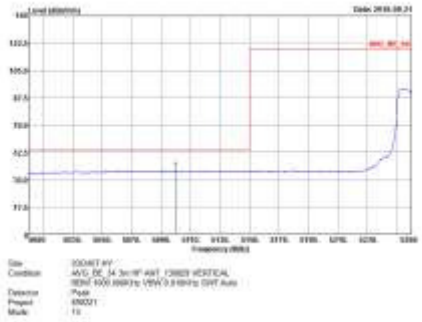
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

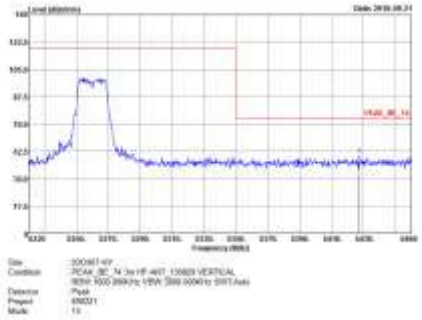
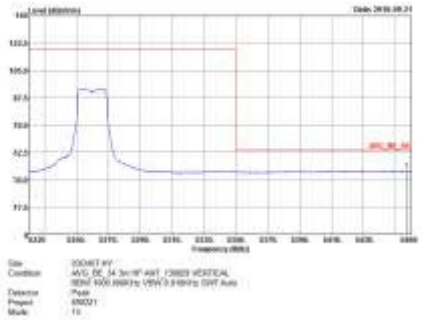
Band 2 5250~5350MHz

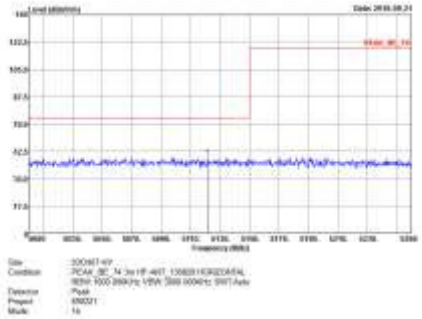
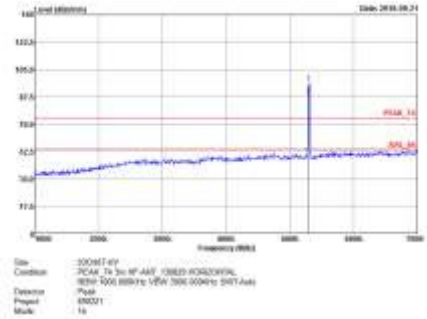
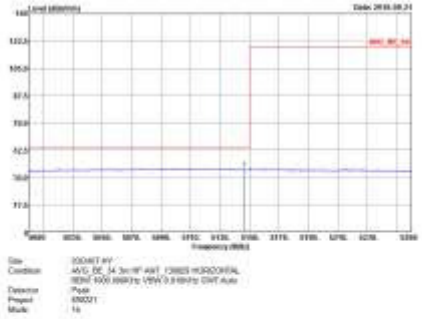
WIFI 802.11ac VHT20 (Band Edge @ 3m)

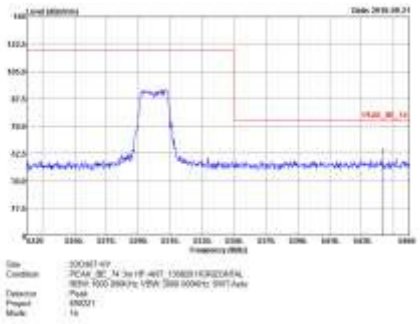
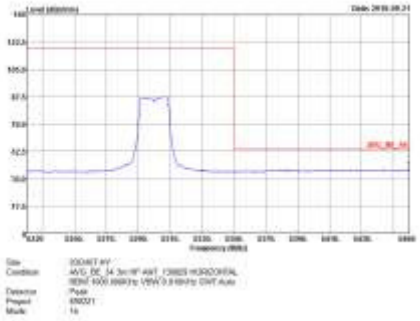
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

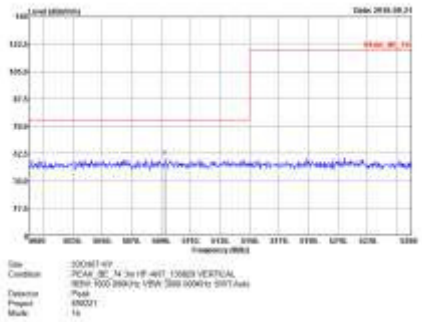
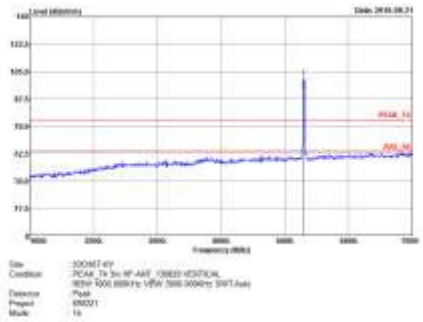
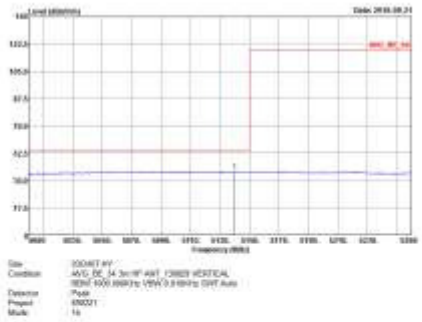
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

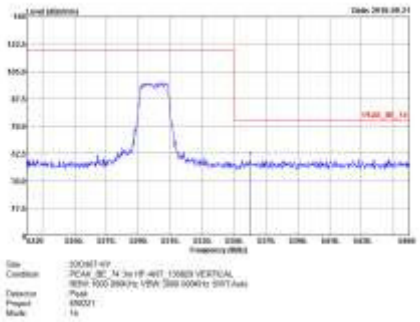
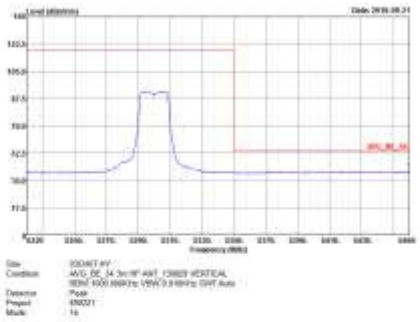
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

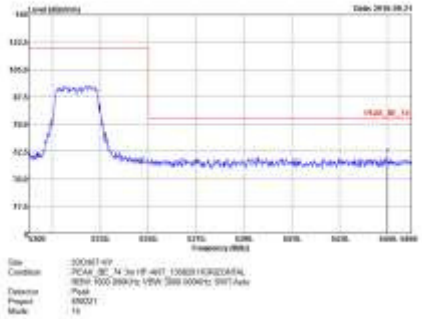
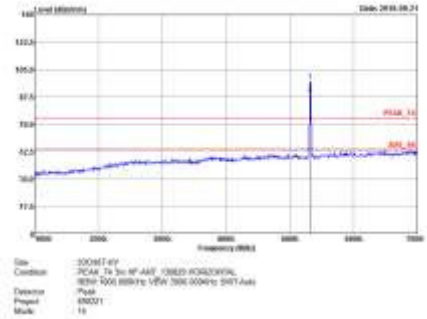
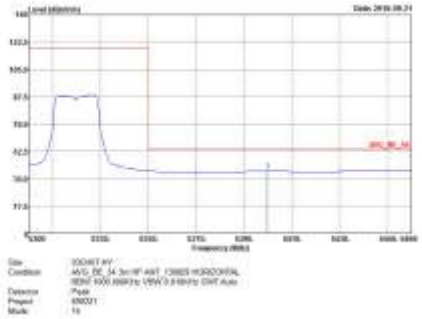
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

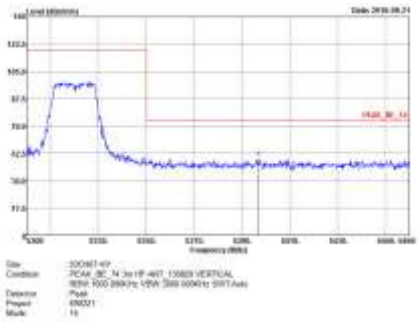
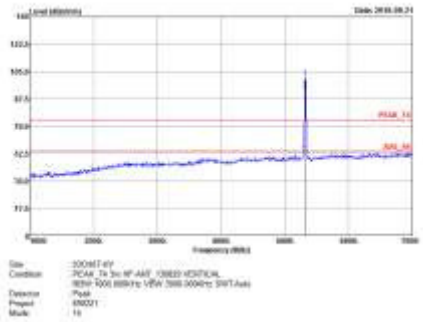
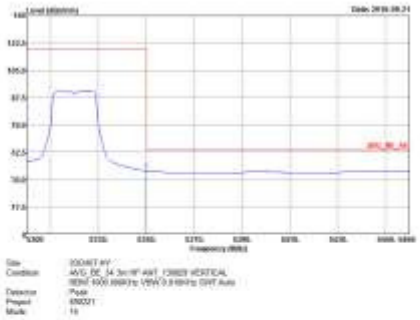
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH60 5300MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH60 5300MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

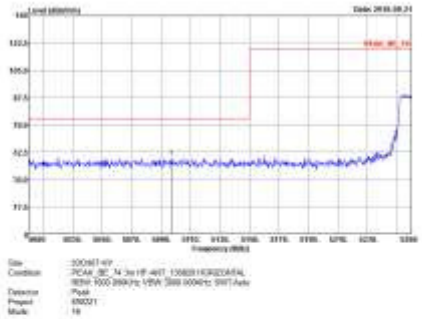
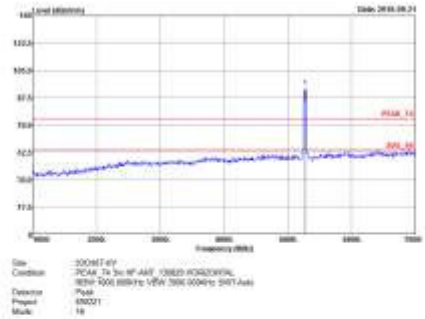
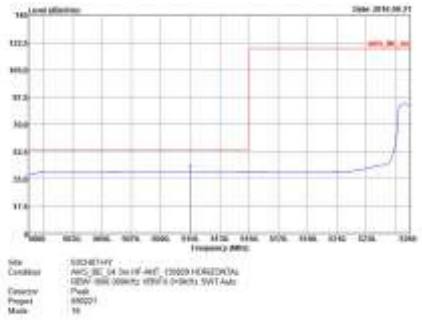
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

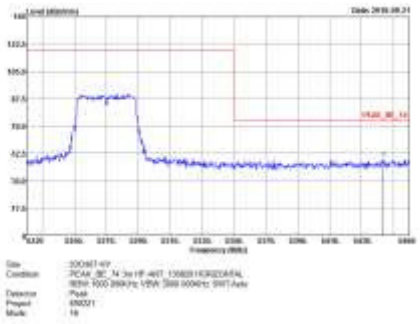
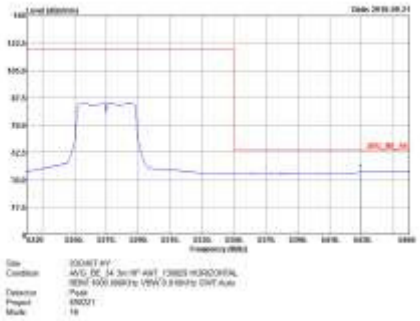
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

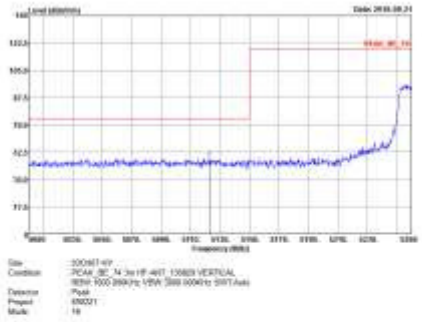
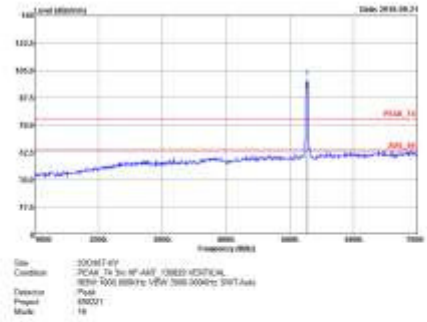
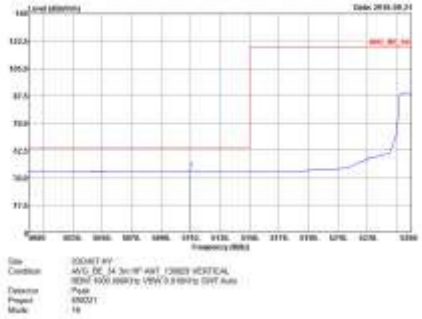
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

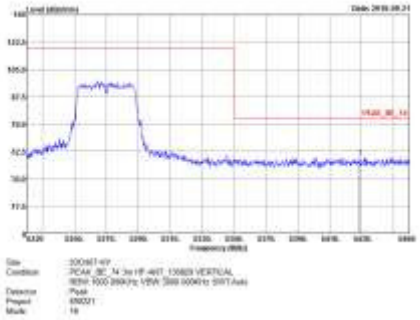
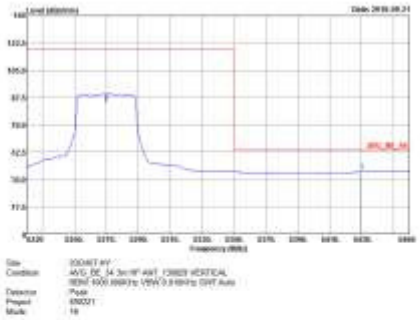
Band 2 5250~5350MHz

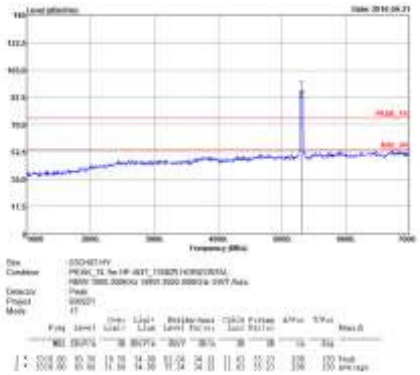
WIFI 802.11ac VHT40 (Band Edge @ 3m)

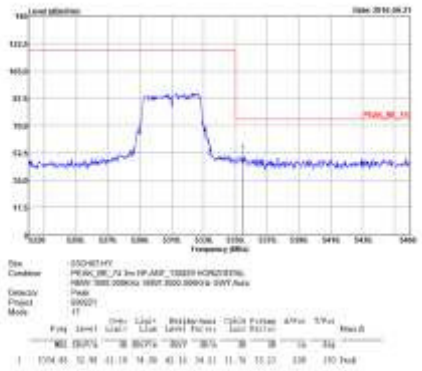
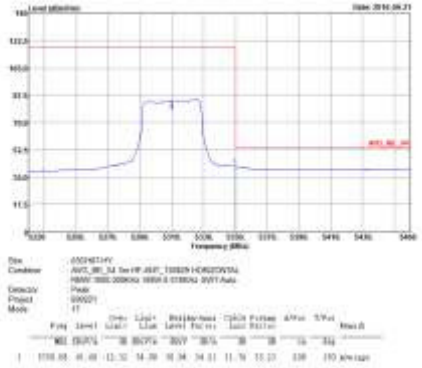
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH54 5270 - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

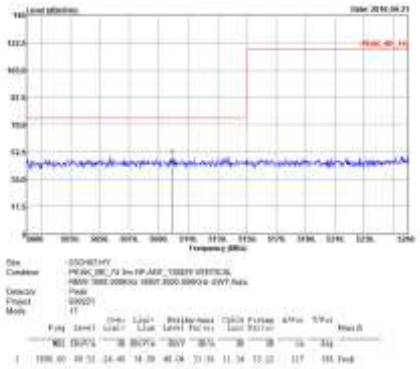
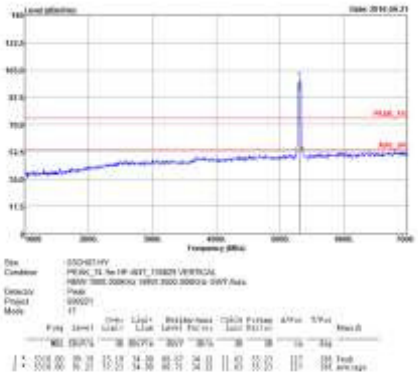
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH54 5270 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

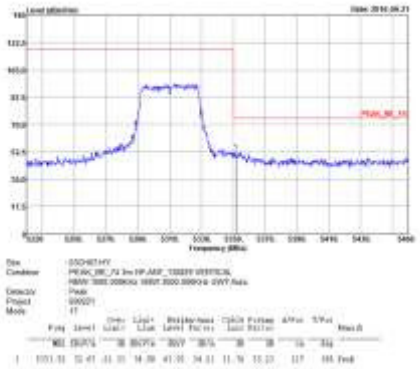
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH54 5270 - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH54 5270 - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH62 5310 - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

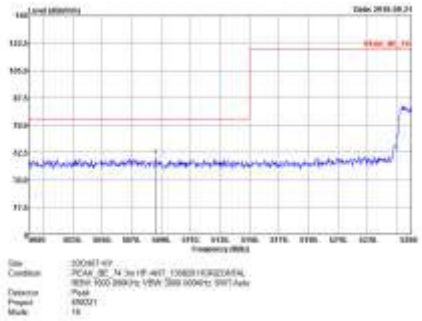
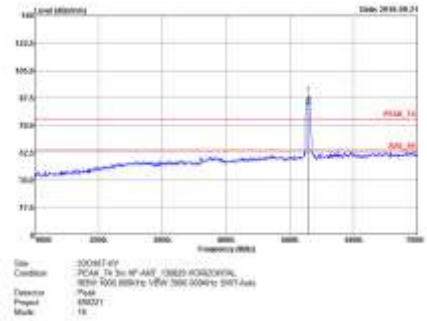
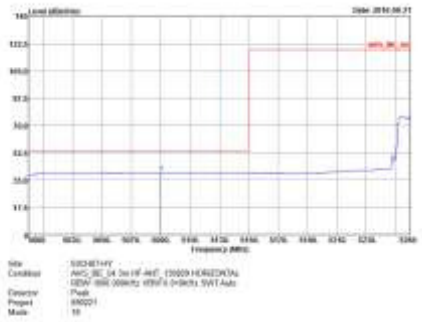
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH62 5310 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

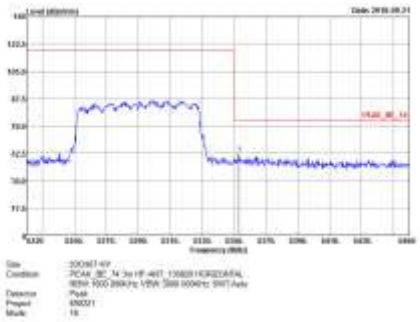
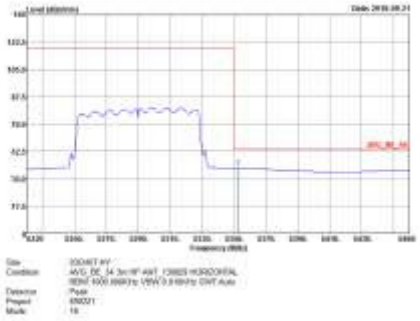
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH62 5310 - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

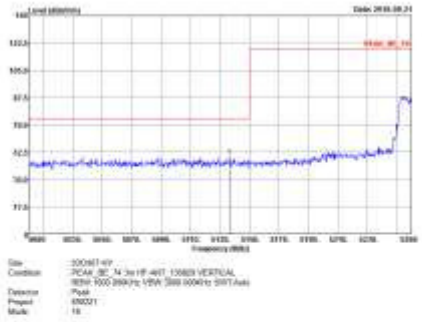
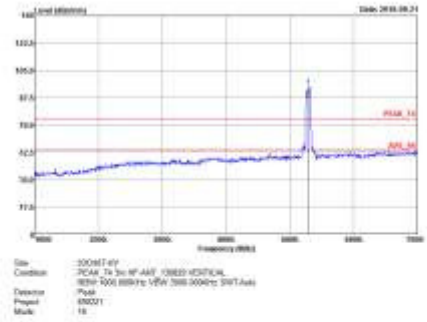
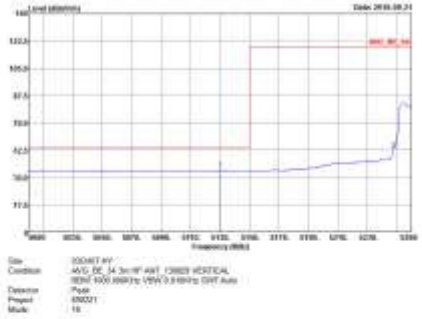
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH62 5310 - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

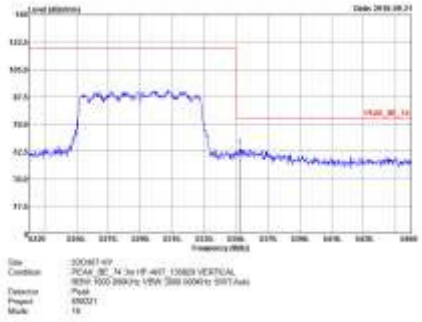
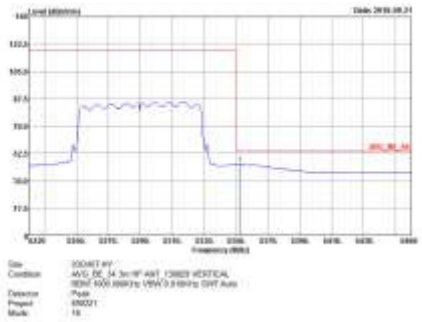
Band 2 5250~5350MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

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

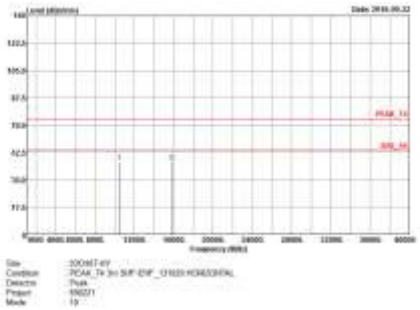
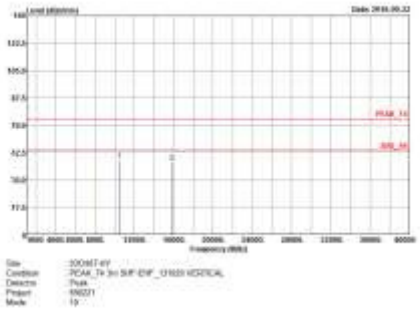
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

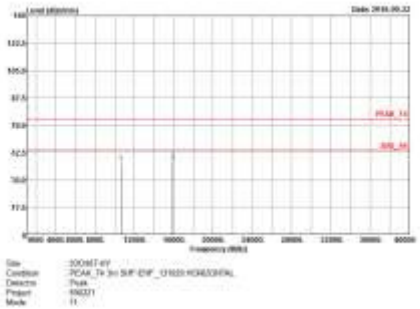
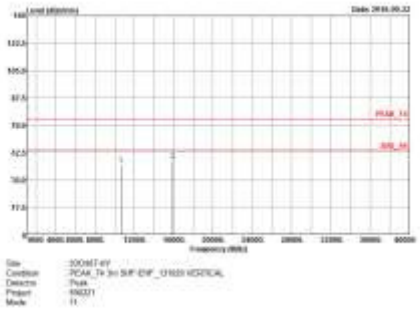
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

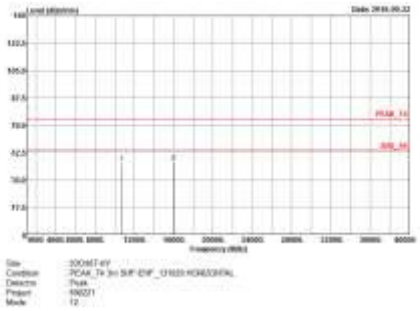
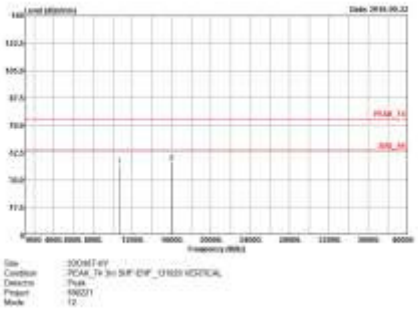
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 2 - 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

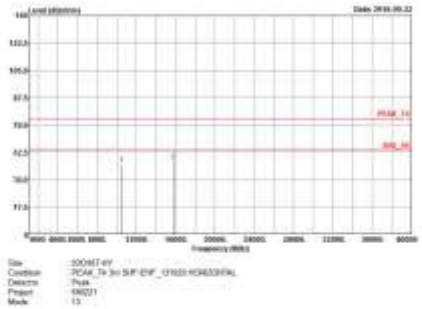
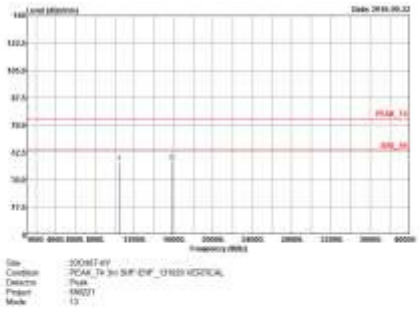
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

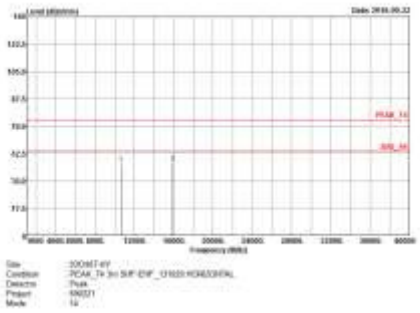
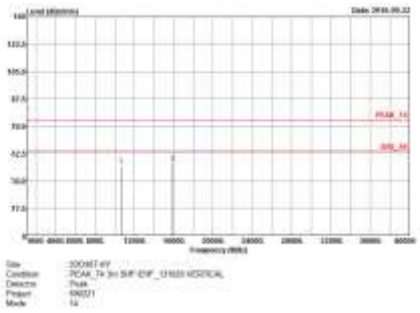
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

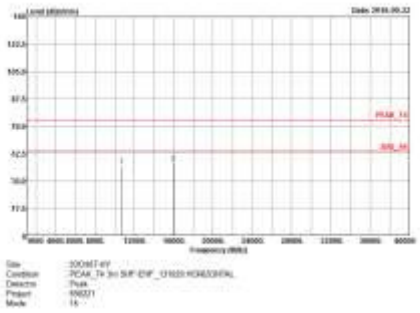
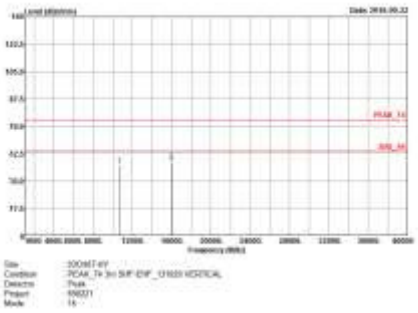
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

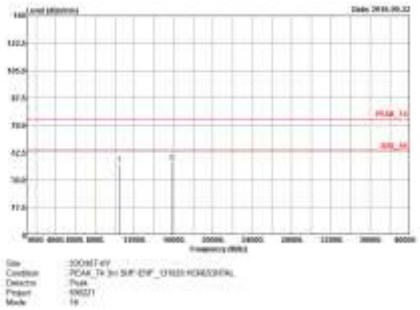
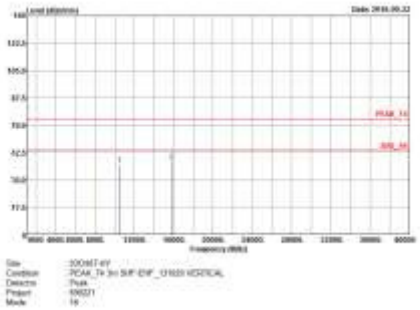
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

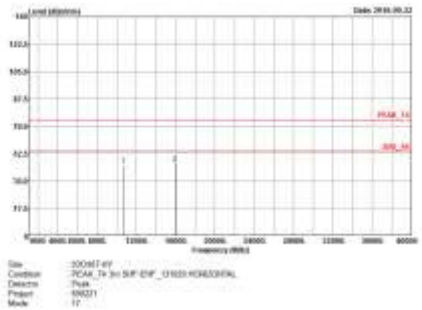
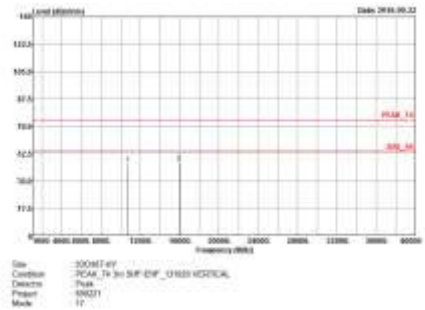
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

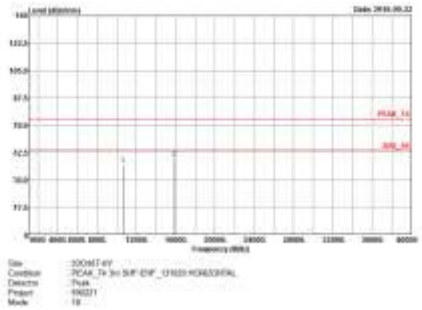
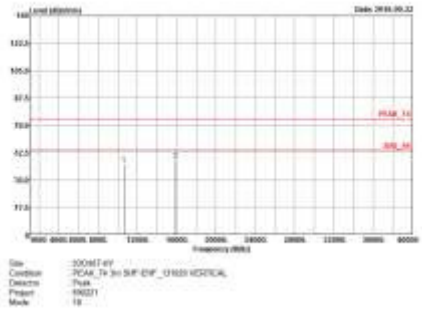
WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH54 5270	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH62 5310	
1	Horizontal	Vertical
Peak Avg.		

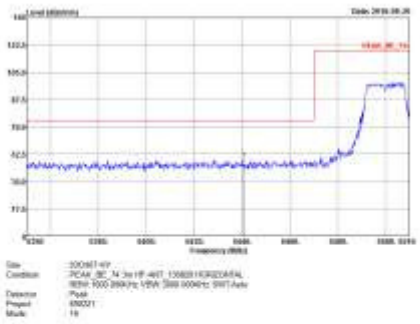
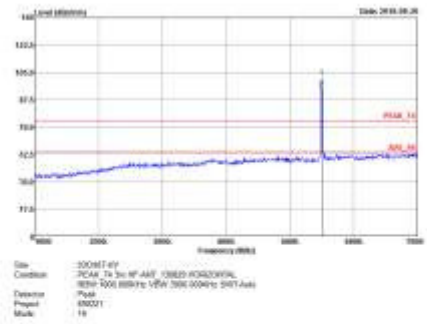
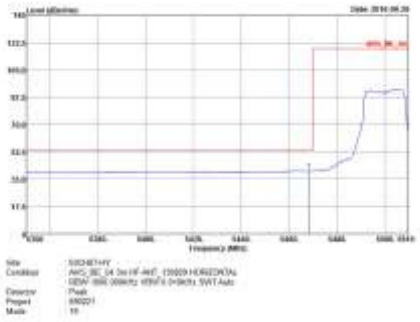
Band 2 5250~5350MHz

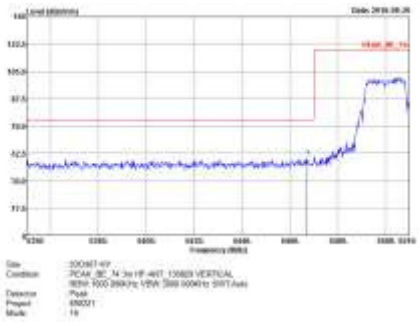
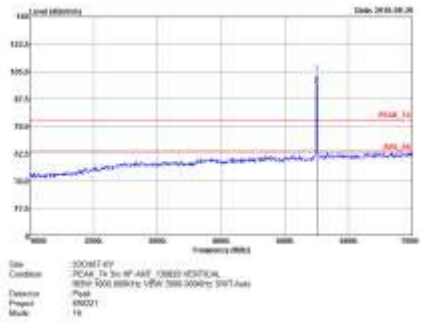
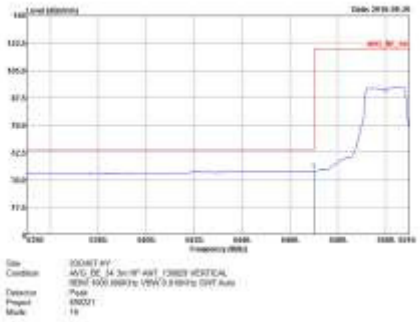
WIFI 802.11ac VHT80 (Harmonic @ 3m)

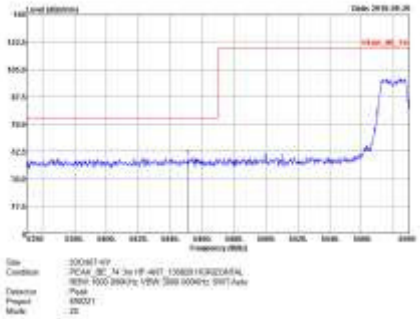
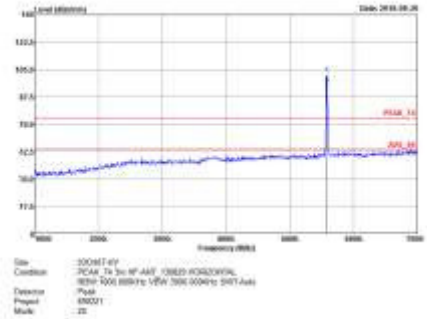
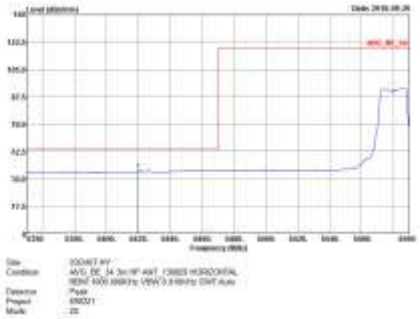
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz	
1	Horizontal	Vertical
Peak Avg.		

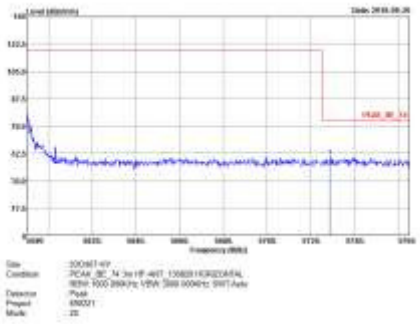
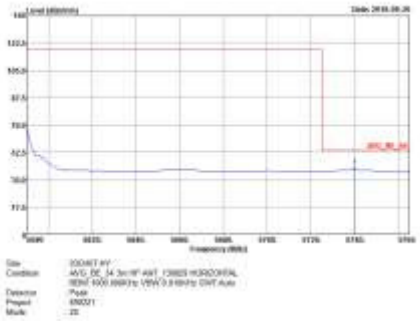
Band 3 - 5470~5725MHz

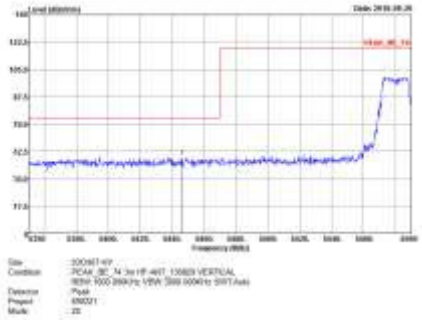
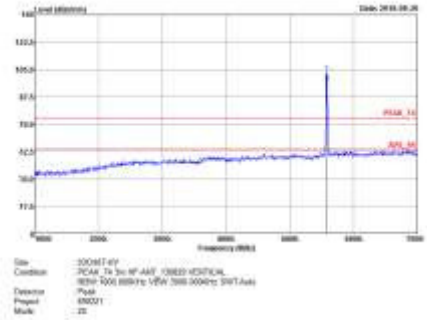
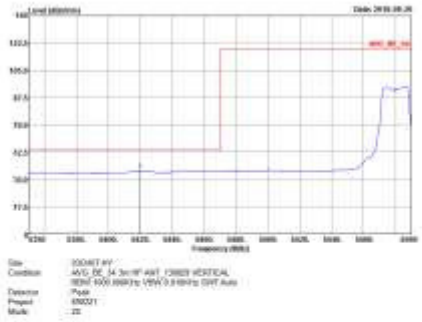
WIFI 802.11a (Band Edge @ 3m)

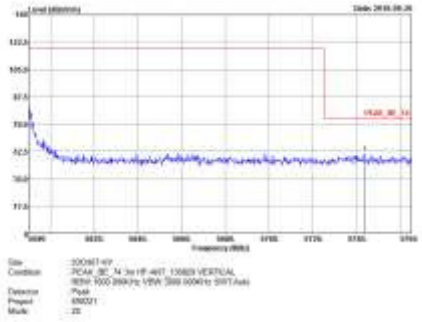
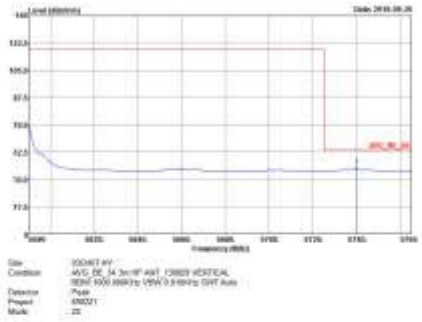
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

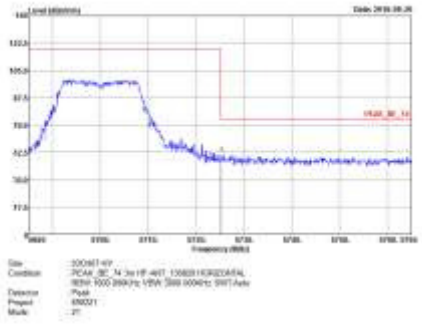
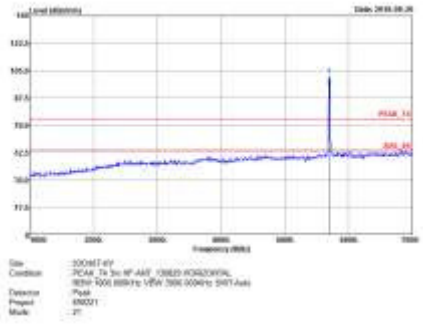
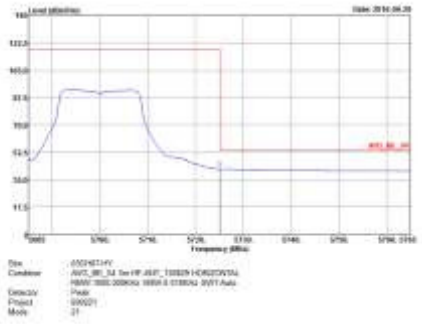
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

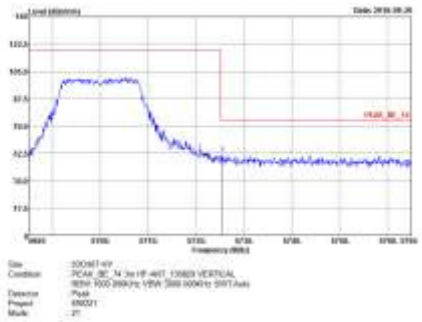
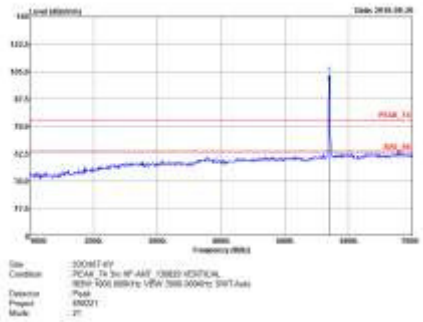
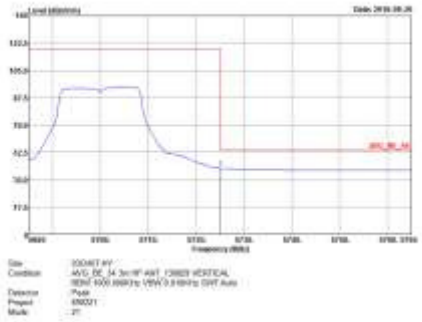
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

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

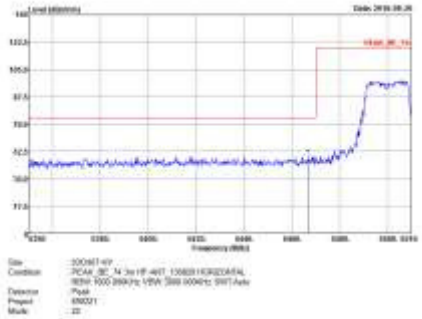
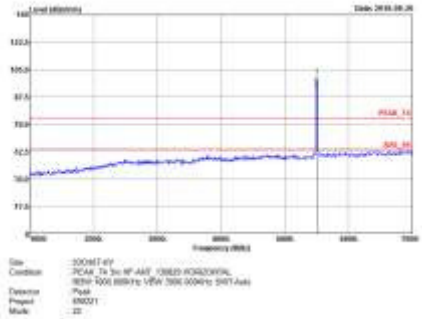
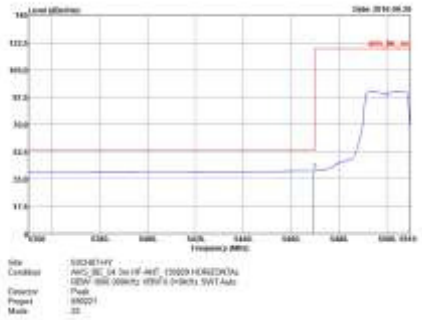
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

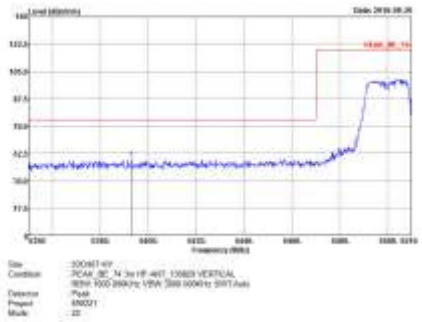
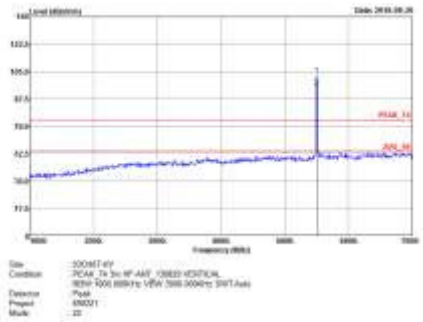
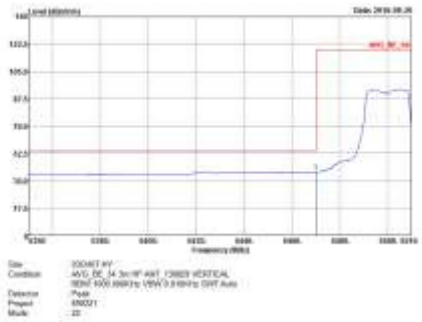
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

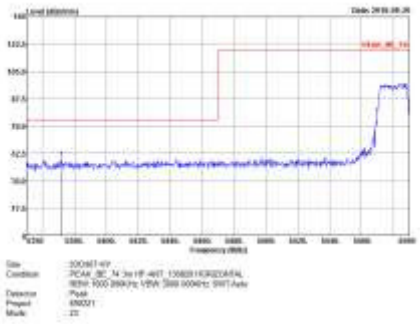
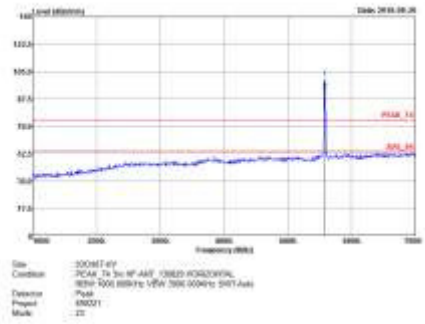
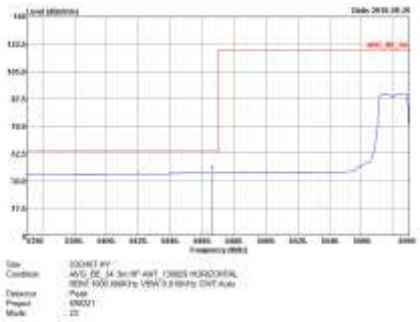
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

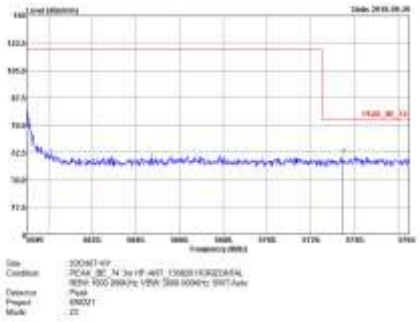
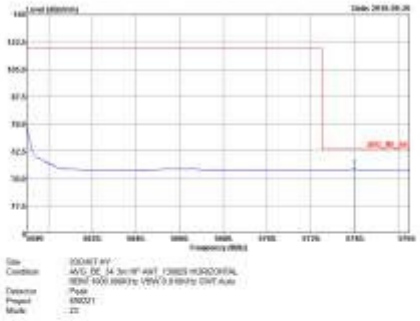
Band 3 5470~5725MHz

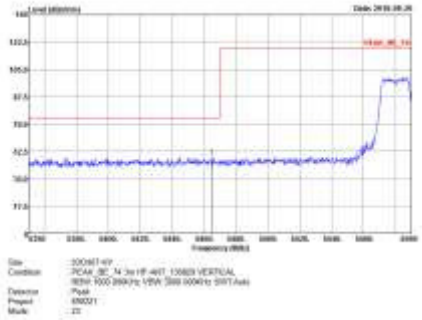
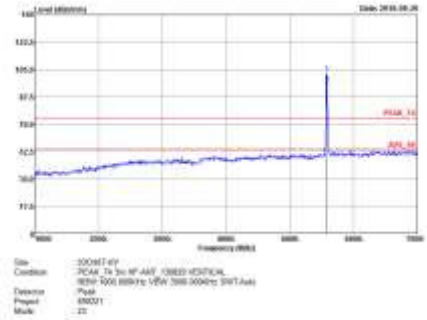
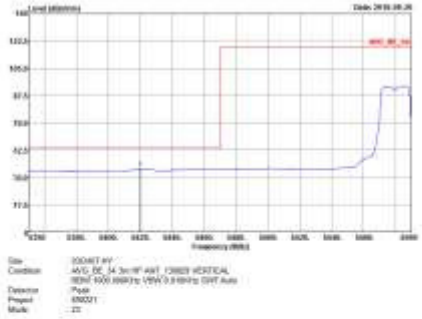
WIFI 802.11ac VHT20 (Band Edge @ 3m)

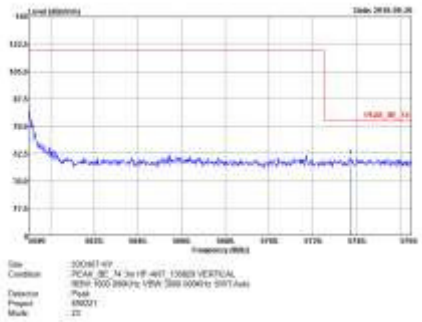
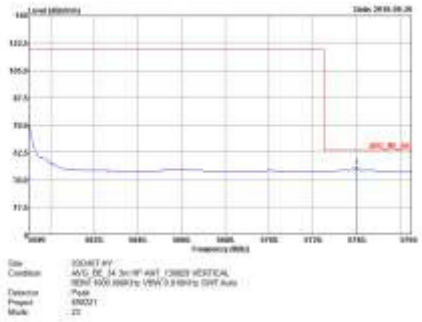
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

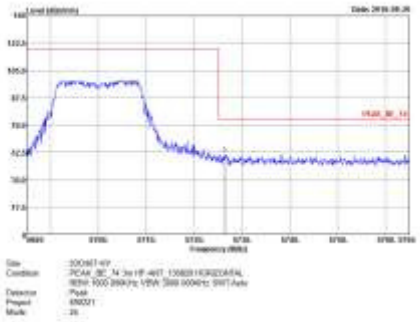
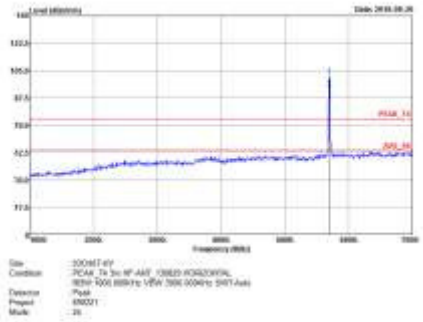
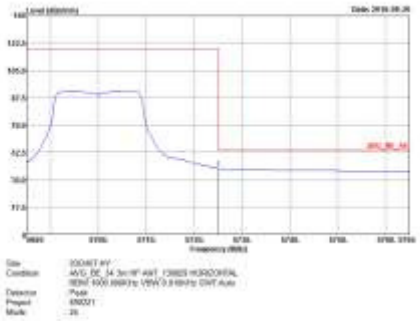
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

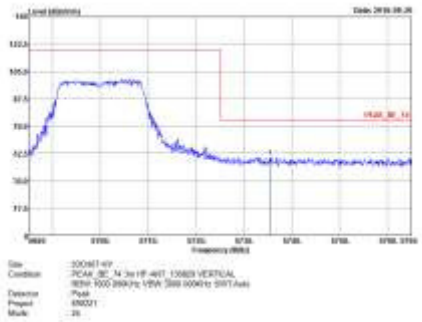
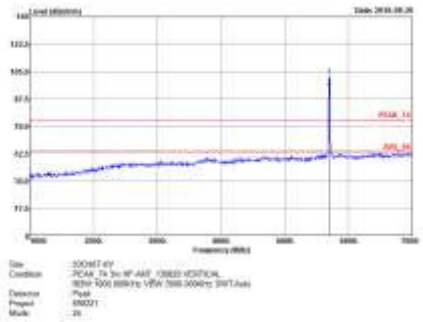
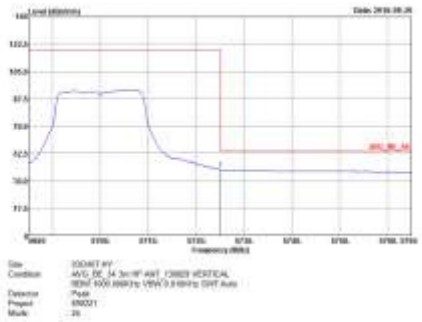
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH116 5580MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH116 5580MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

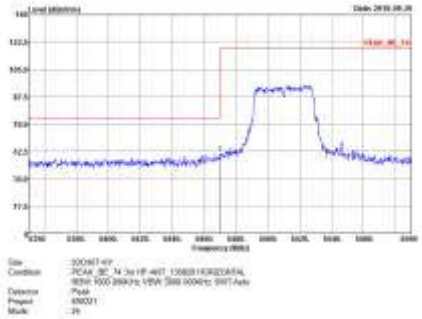
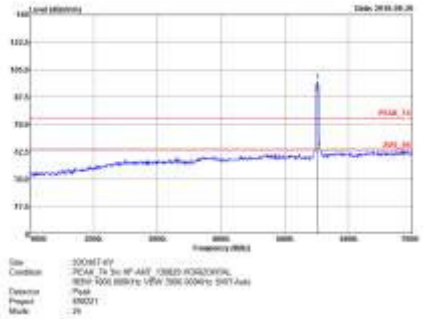
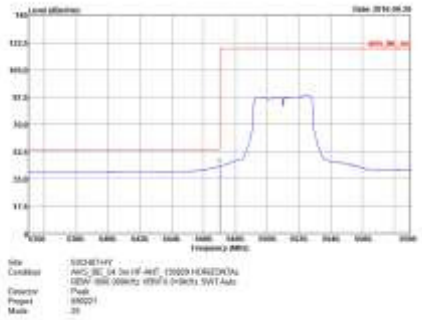
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

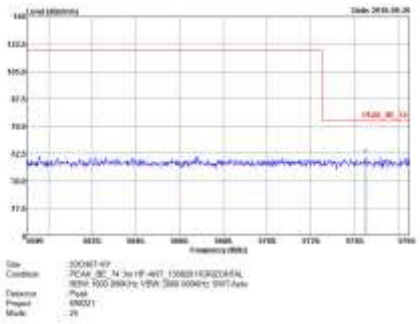
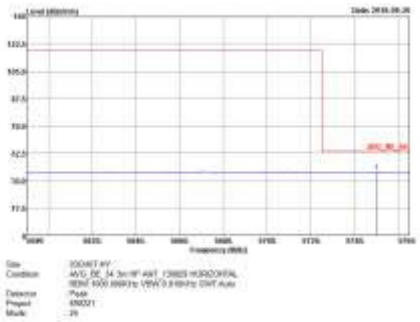
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH140 5700MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

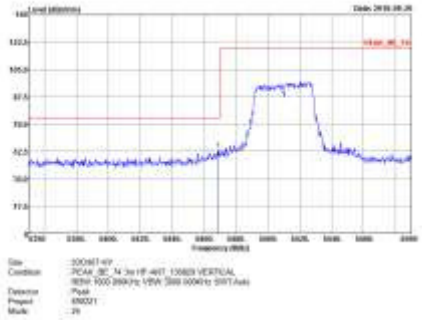
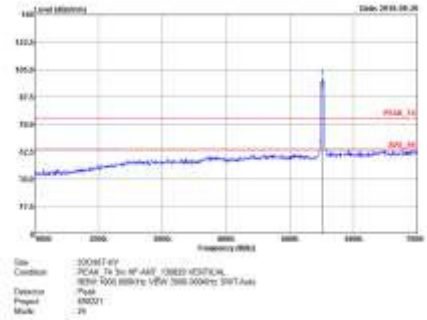
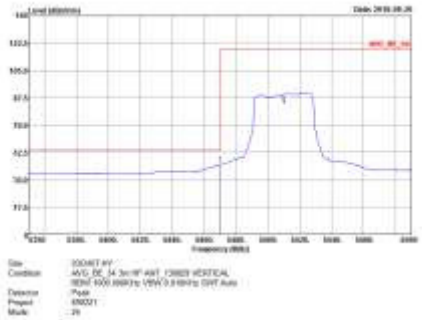
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH140 5700MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

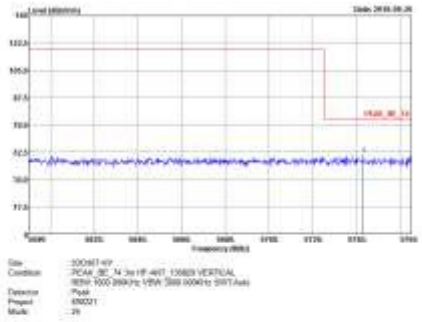
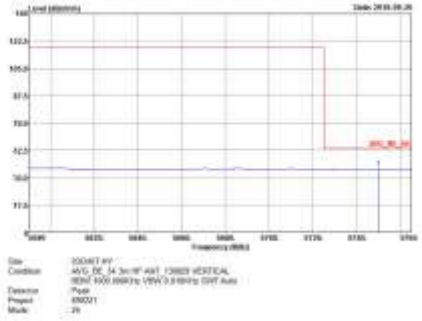
Band 3 5470~5725MHz

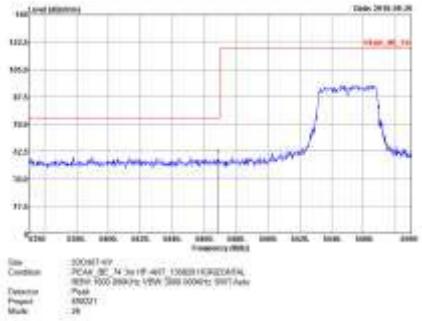
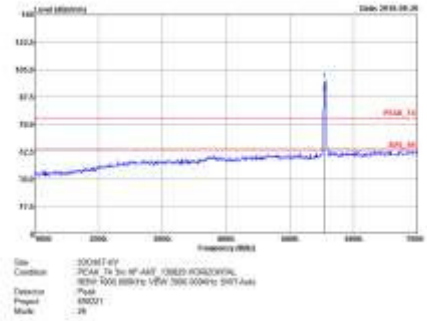
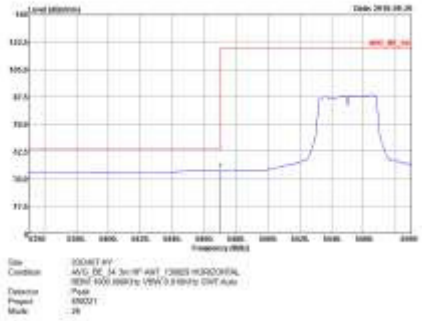
WIFI 802.11ac VHT40 (Band Edge @ 3m)

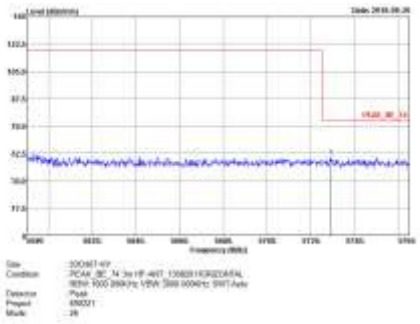
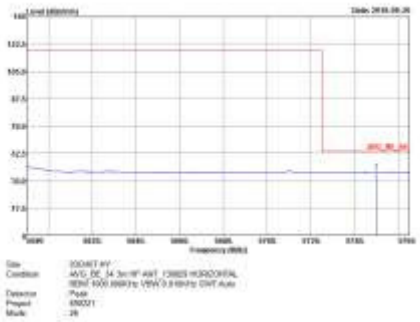
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH102 5510MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

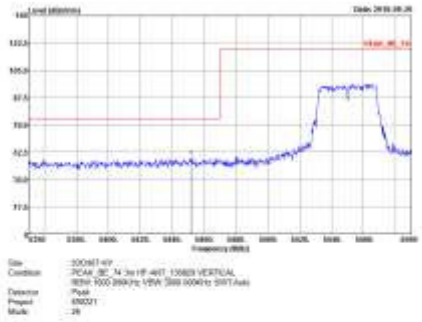
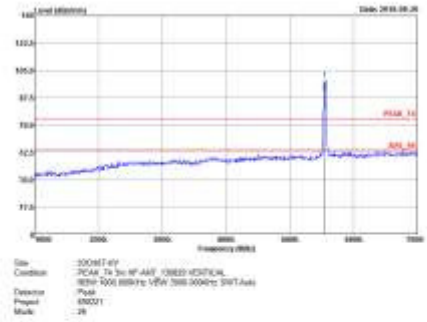
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH102 5510MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

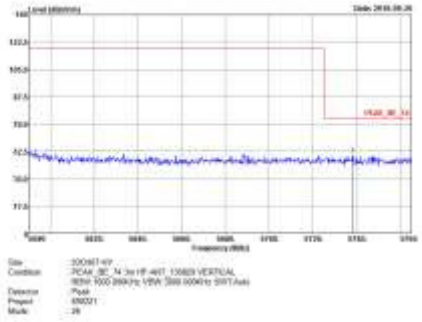
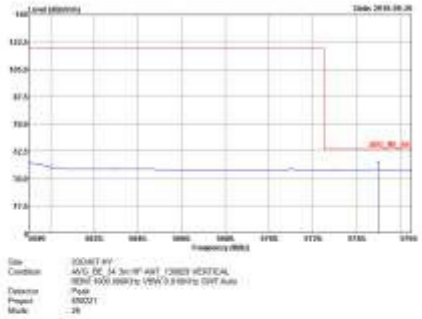
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH102 5510MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

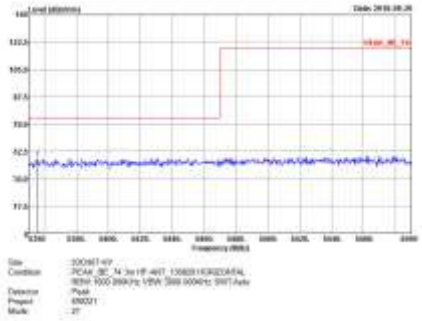
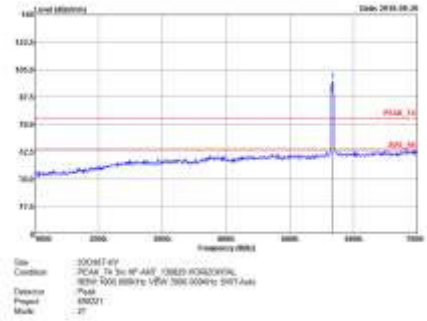
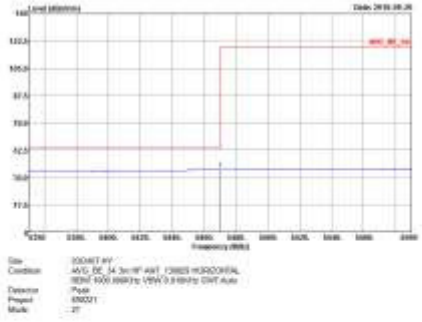
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH102 5510MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

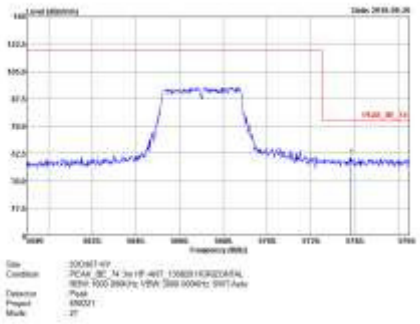
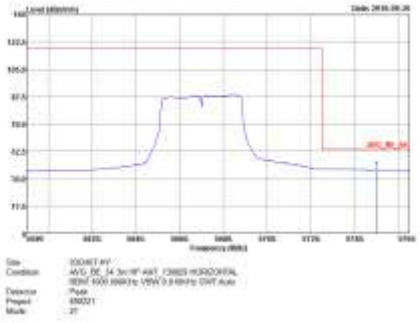
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH110 5550MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

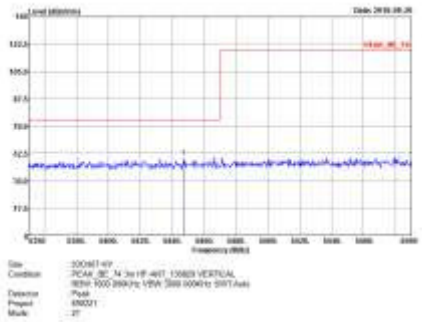
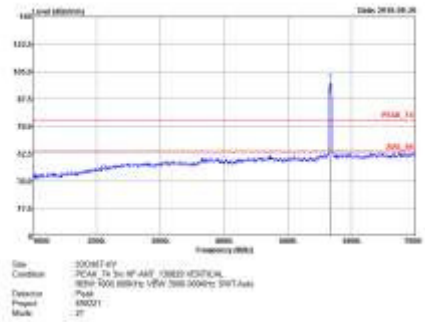
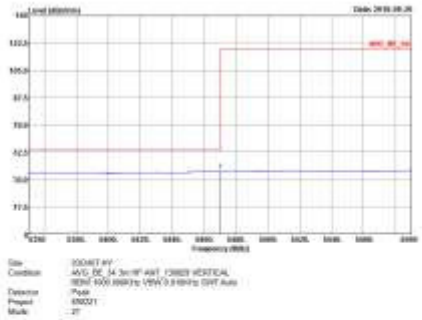
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH110 5550MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

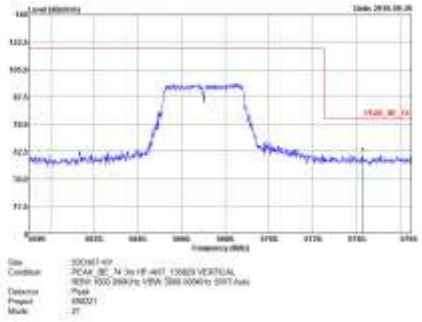
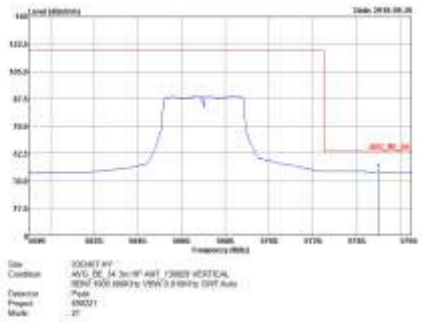
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH110 5550MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH110 5550MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH134 5670MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

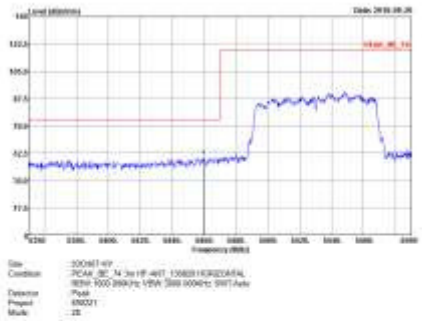
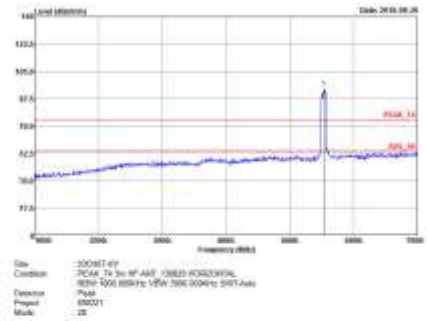
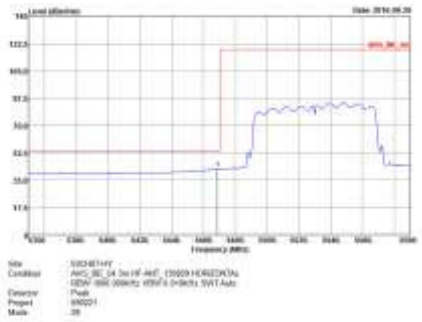
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH134 5670MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

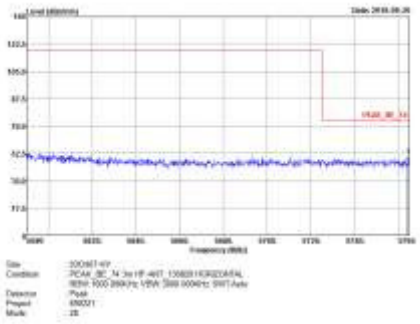
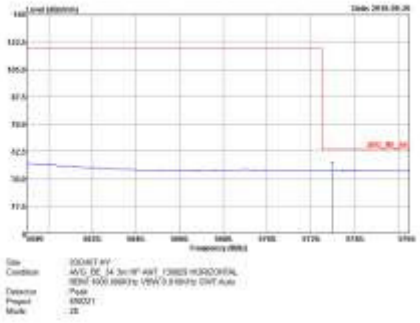
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH134 5670MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

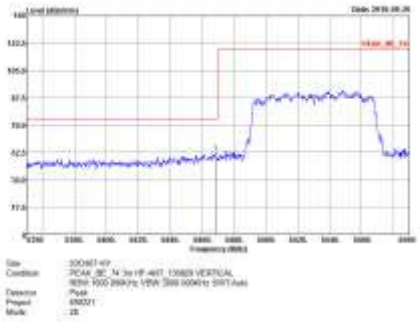
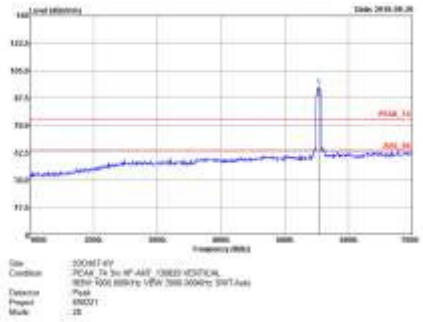
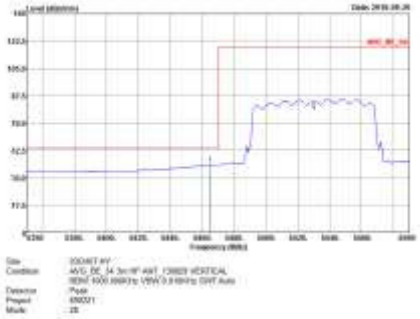
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH134 5670MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

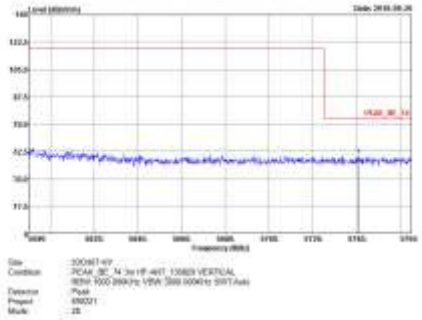
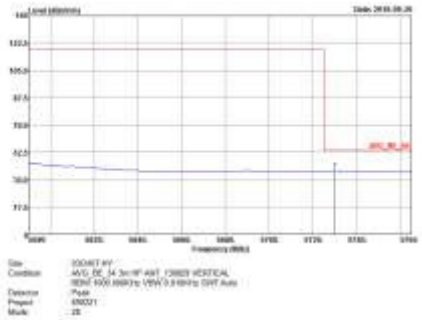
Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

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

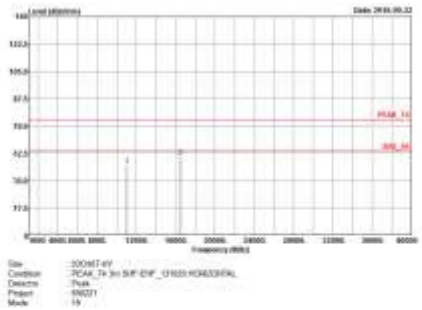
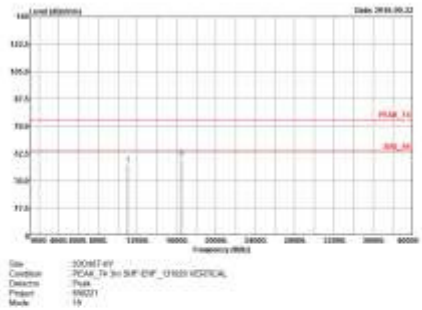
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

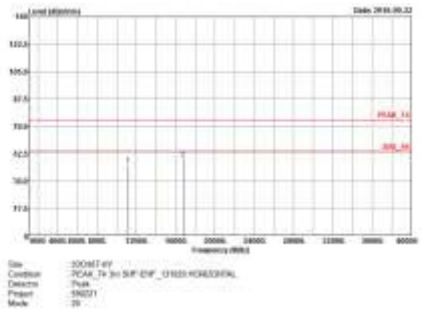
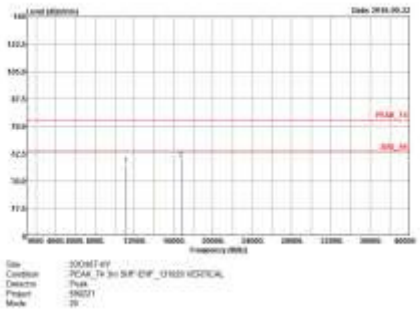
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

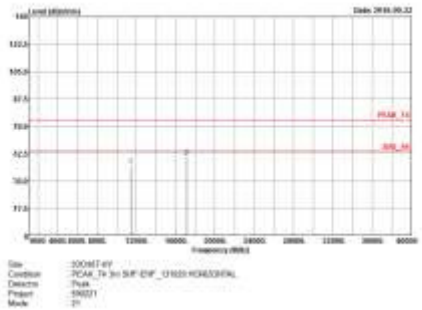
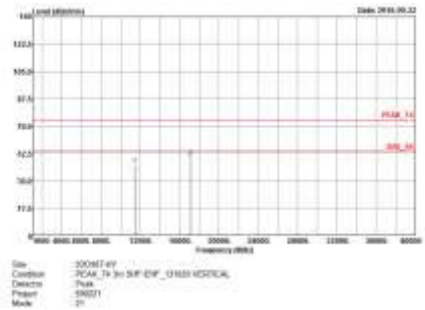
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

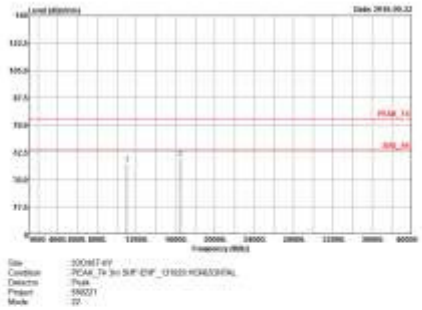
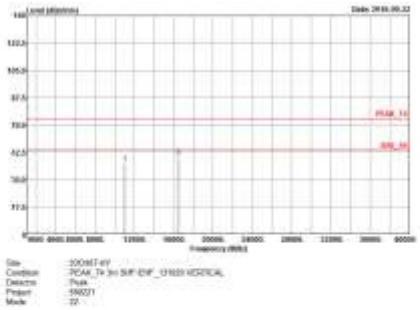
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

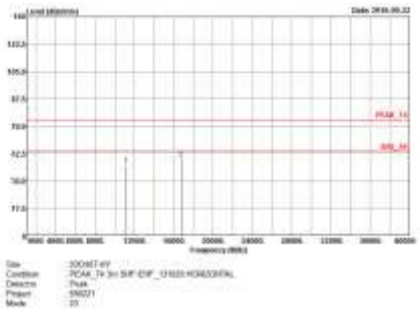
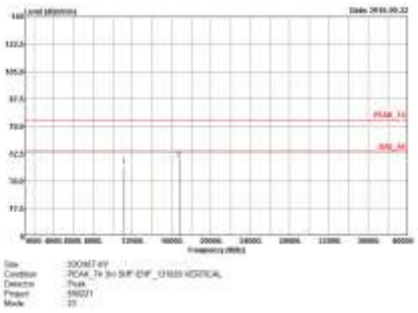
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

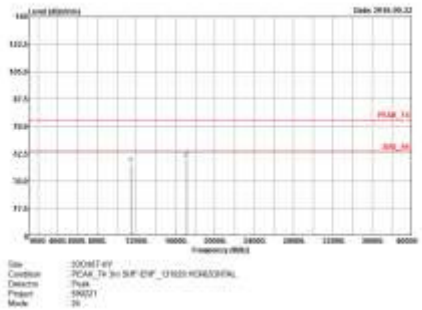
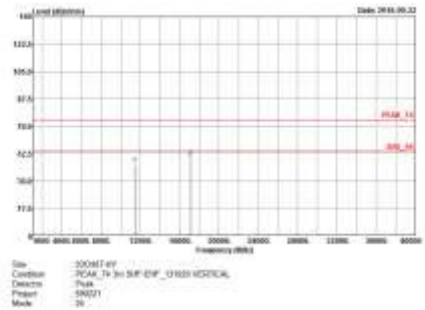
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

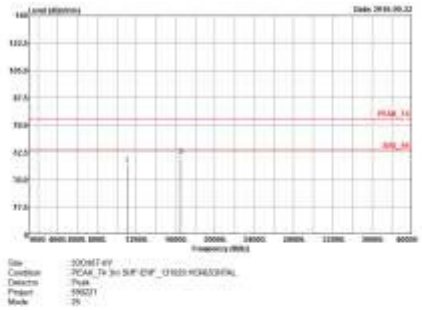
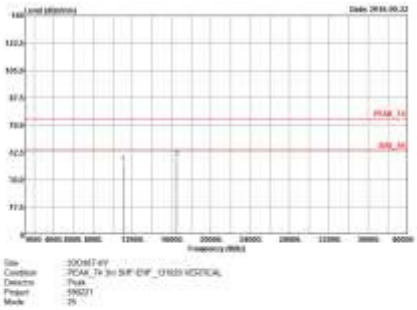
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

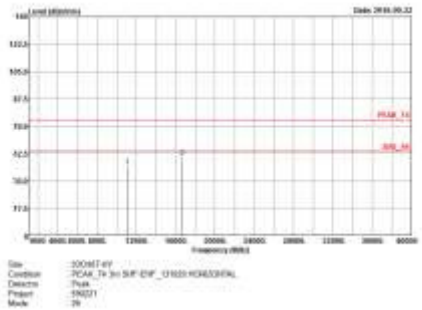
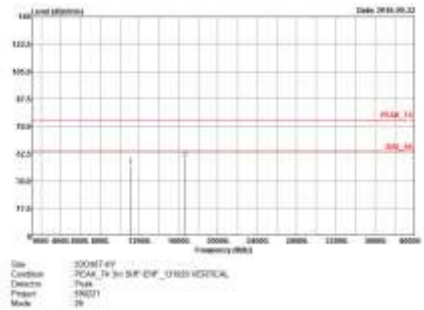
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

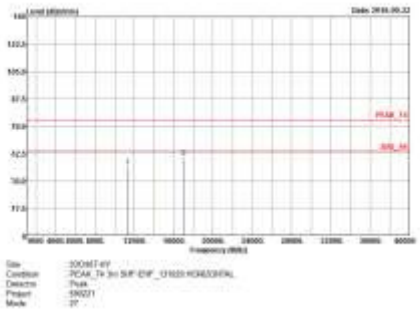
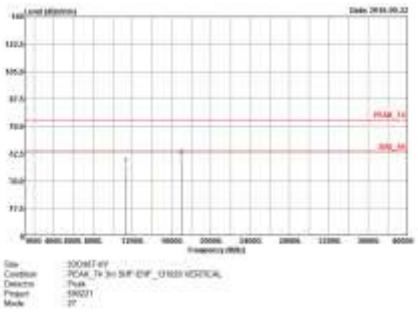
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

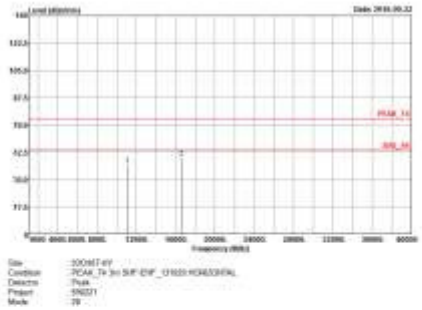
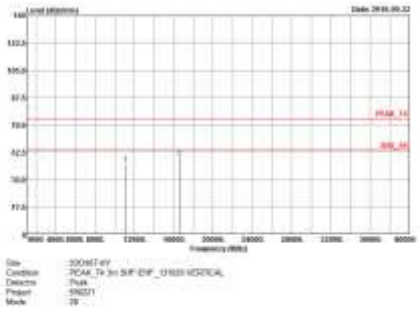
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH102 5510MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH110 5550MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH134 5670MHz	
1	Horizontal	Vertical
Peak Avg.		

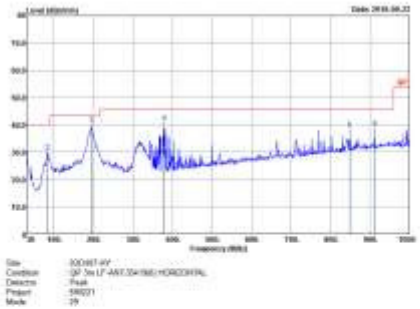
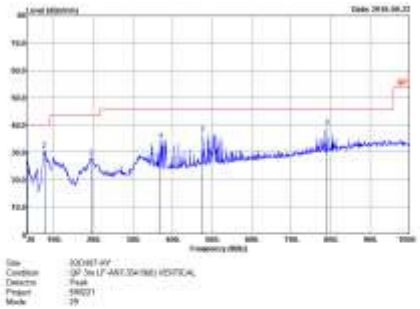
Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

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

Emission below 1GHz

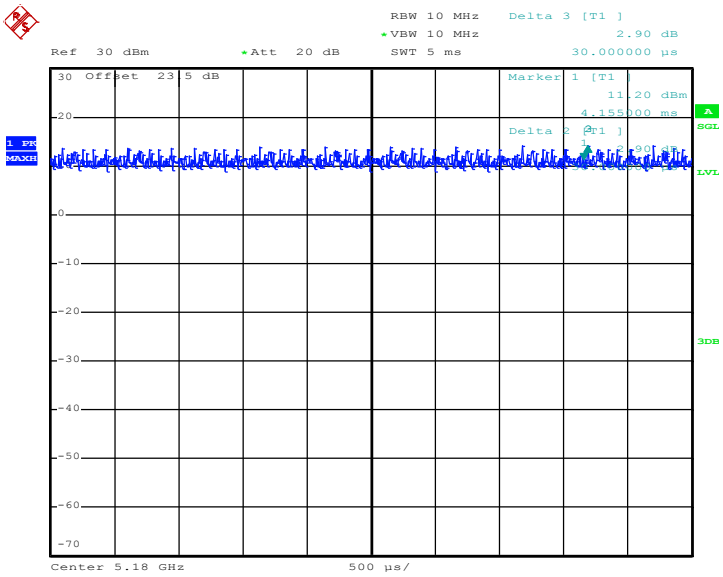
5GHz WIFI 802.11ac VHT40 (LF)

WIFI	5GHz WIFI	
ANT	802.11ac VHT40 LF	
1	Horizontal	Vertical
QP / Peak		

Appendix D Duty Cycle Plots

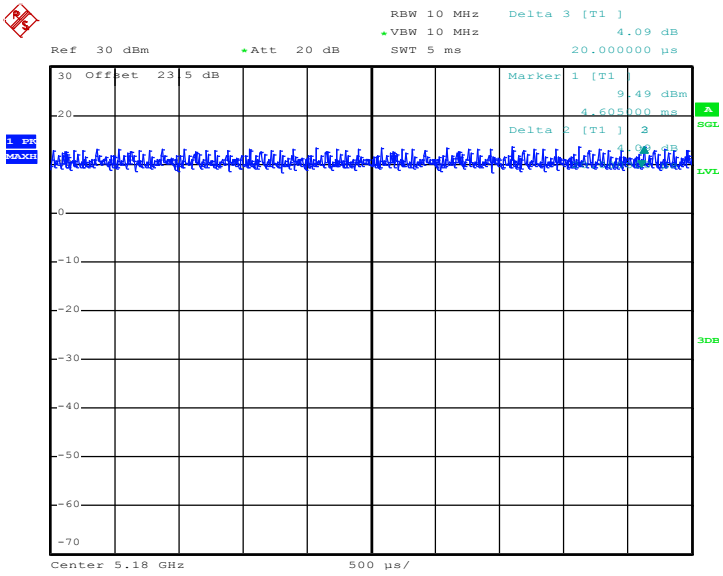
Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	100	-	-	10Hz
5GHz 802.11n VHT20	100	-	-	10Hz
5GHz 802.11n VHT40	100	-	-	10Hz
5GHz 802.11n VHT80	100	-	-	10Hz

802.11a



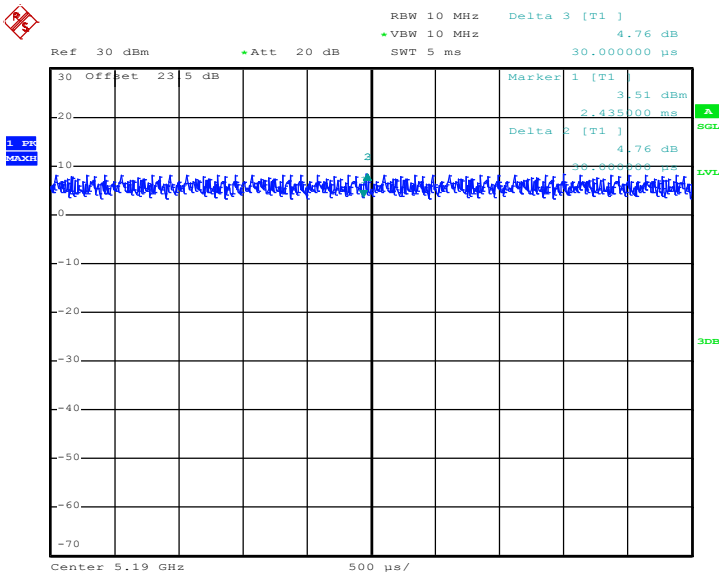
Date: 18.SEP.2016 08:51:22

5GHz 802.11n VHT20



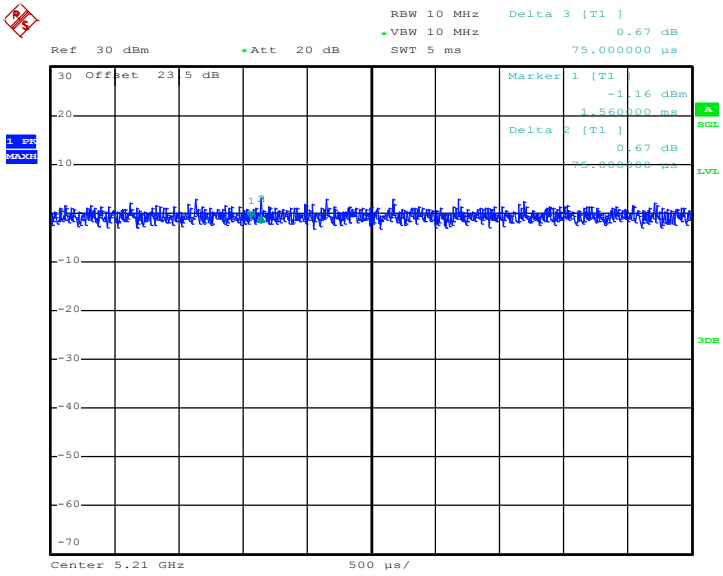
Date: 18.SEP.2016 08:52:03

5GHz 802.11n VHT40



Date: 18.SEP.2016 08:52:16

5GHz 802.11n VHT80



Date: 18.SEP.2016 08:53:09