FCC RF Test Report

APPLICANT	**:**	**Bullitt Group**
EQUIPMENT	**:**	**Rugged Smart Phone**
BRAND NAME	**:**	**CAT**
MODEL NAME	**:**	**S41**
MARKETING NAME	**:**	**S41**
FCC ID	**:**	**ZL5S41**
STANDARD	**:**	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	**:**	**(NII) Unlicensed National Information Infrastructure**

The product was received on Jun. 09, 2017 and testing was completed on Aug. 09, 2017. 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.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR732839-01E	Rev. 01	Initial issue of report	Aug. 23, 2017

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 1.07 dB at 5725.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 17.50 dB at 0.606 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

Bullitt Group
One Valpy, Valpy Street, Reading, Berkshire, England RG1 1AR

1.2 Manufacturer

Compal Electronics, INC.
No. 385, Yangguang St. Neihu District, Taipei City 11491, Taiwan, R.O.C

1.3 Product Feature of Equipment Under Test

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, FM Receiver, NFC, and GPS.

Product Specification subjective to this standard	
Antenna Type	WWAN: PIFA + Coupling type (LDS) Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna GPS / Glonass : PIFA Antenna NFC: Loop Antenna FM: Integral Antenna (Earphone acting as FM antenna deemed as an integral antenna)

<Sample Information>

S41 has two different variant	
Sample 1	Dual SIM
Sample 2	Single SIM
For Dual-SIM or Single-SIM control by SW, the HW difference is SIM holder.	

Remark: All test items were performed with Sample 1.

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW0007 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.**	
	TH05-HY	CO05-HY

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

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd. Guishan Dist, Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	**Sporton Site No.**	
	03CH11-HY	

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

1.6 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
- 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

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

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

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
	-	-		

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
	-	-		

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
	-	-	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

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

Note: The above Frequency and Channel in "*" were 802.11n HT40.

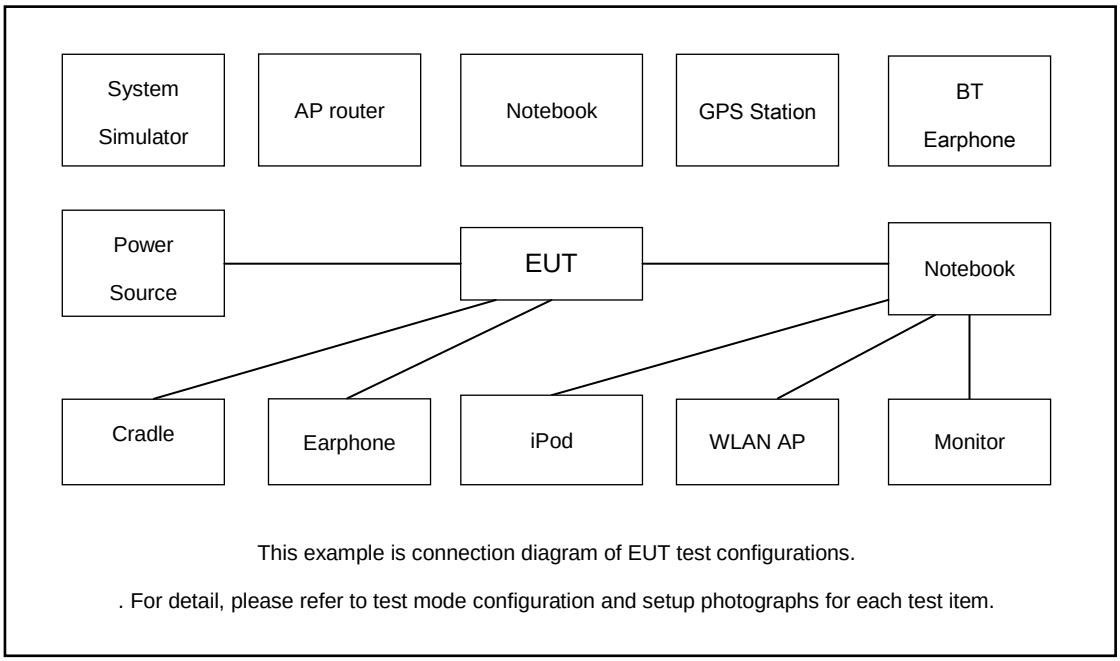
2.2 Test Mode

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

Test Cases	
AC Conducted Emission	Mode 1 : LTE Band 7 Idle + Bluetooth Link + WIFI (5GHz) Link + NFC on + FM Rx (98MHz) + Earphone + Battery + USB Cable (charging from Adapter)

2.3 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
2.	Bluetooth Earphone	SonyErricsson	MW600	PY700A2029	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
4.	NOTE BOOK	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, an engineering code was provided and enabled to make EUT continuous transmit/receive.

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.

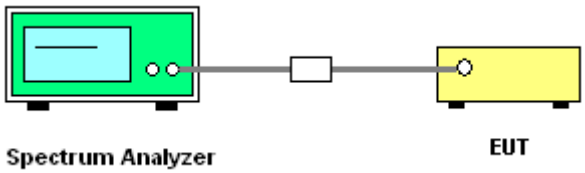
3.1.2 Measuring Instruments

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 v01r04. 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.

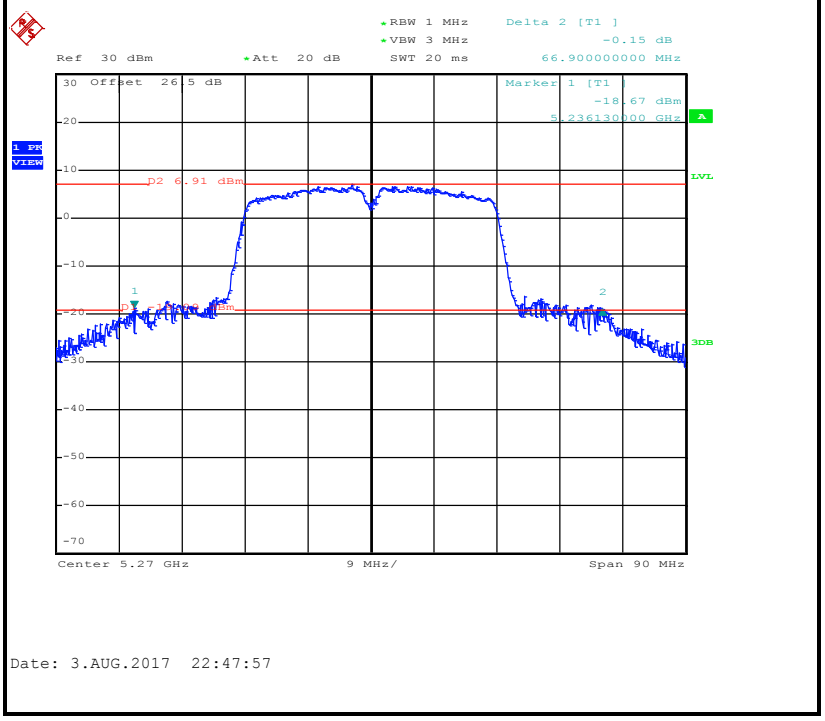
3.1.4 Test Setup



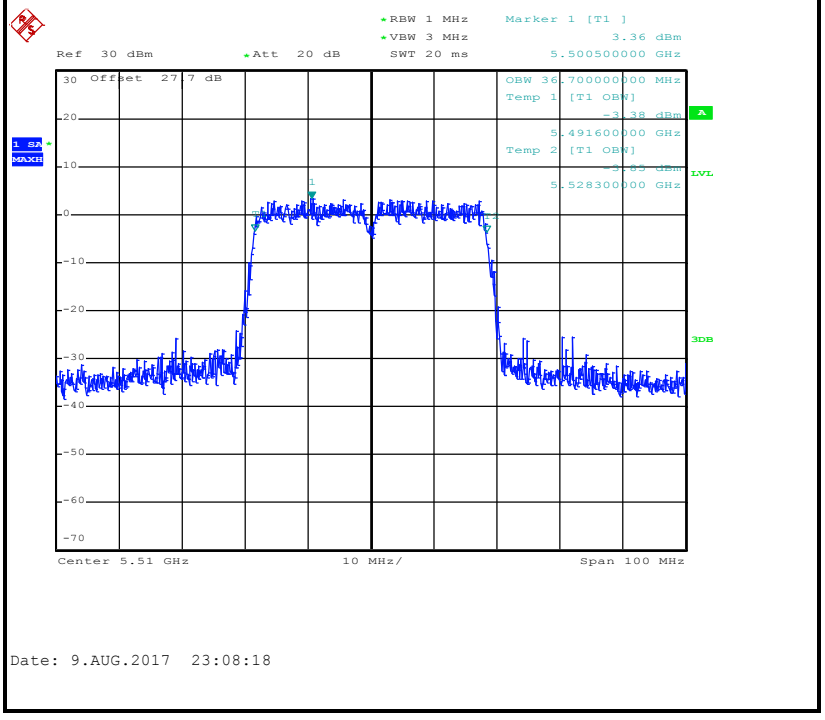
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

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

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.

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

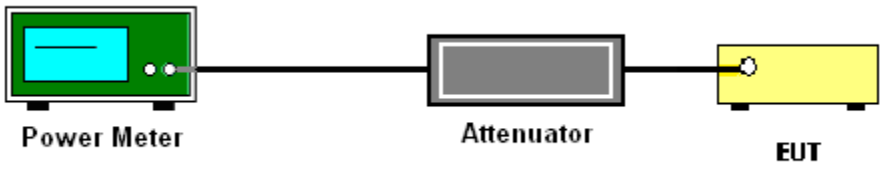
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

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

<FCC 14-30 CFR 15.407>

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

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

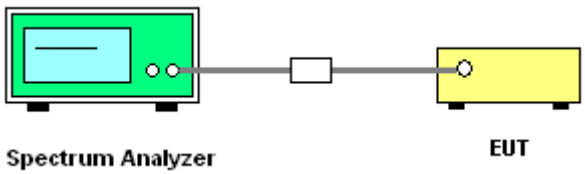
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04. Section F) Maximum power spectral density.

 # 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 v01r04.
   - 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.

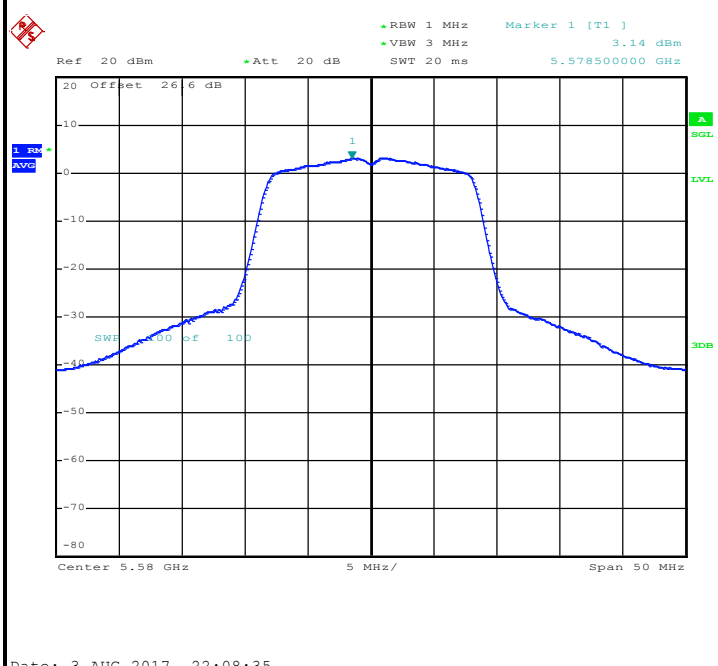
3.3.4 Test Setup



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

3.4.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 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 v01r04 G)2)c)

(i) Section 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and 2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz. However, an out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz dBm/MHz peak emission limit.

(ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the alternative 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 v01r04. 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

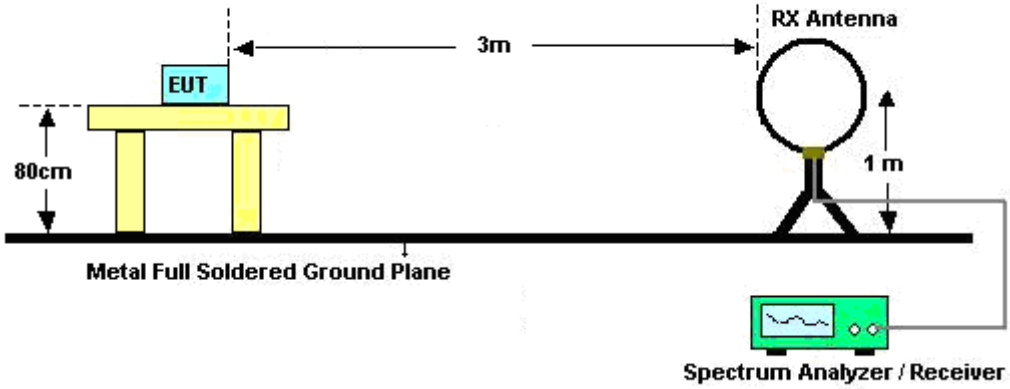
- RBW = 1 MHz

- 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.

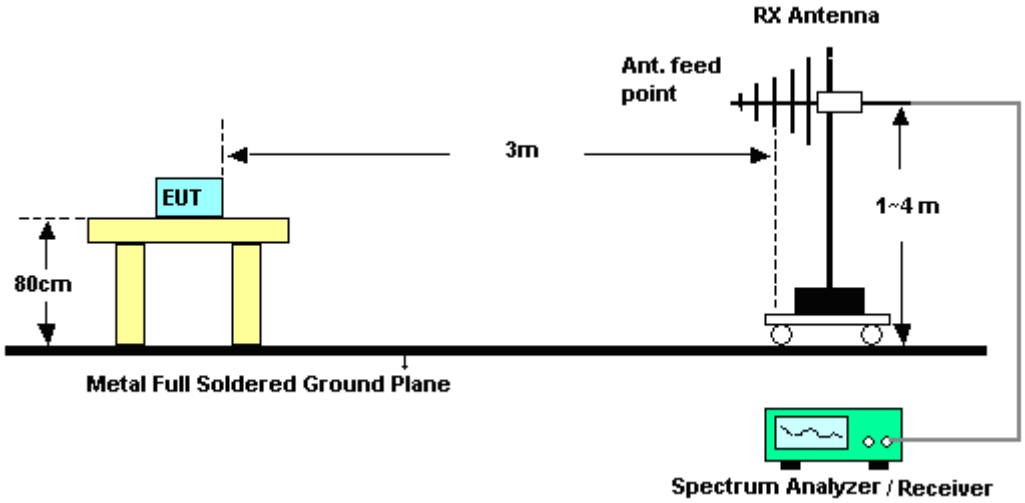
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

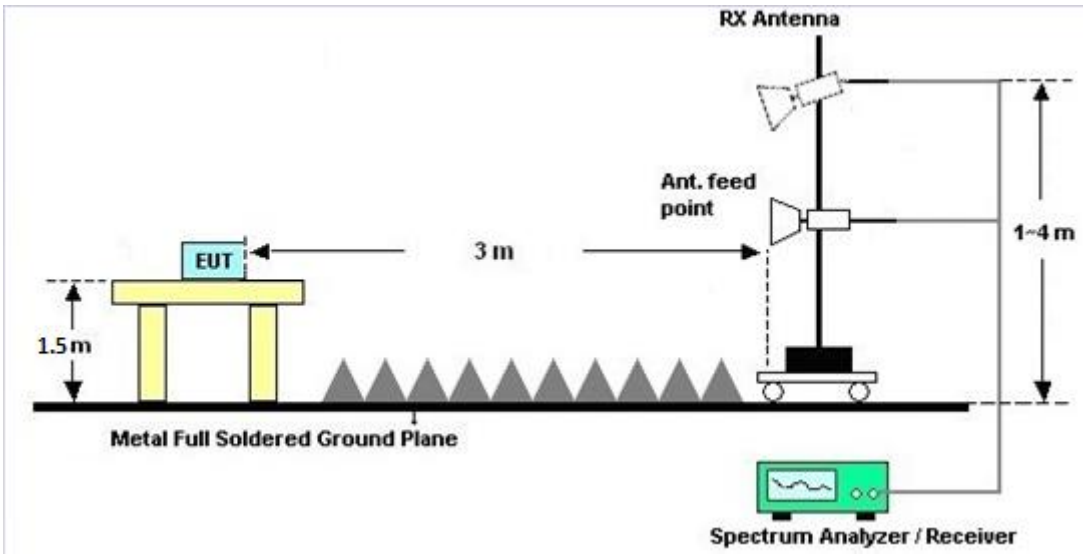
For radiated emissions below 30MHz



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 was not reported.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.4.7 Duty Cycle

Please refer to Appendix E.

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

Please refer to Appendix C and D.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

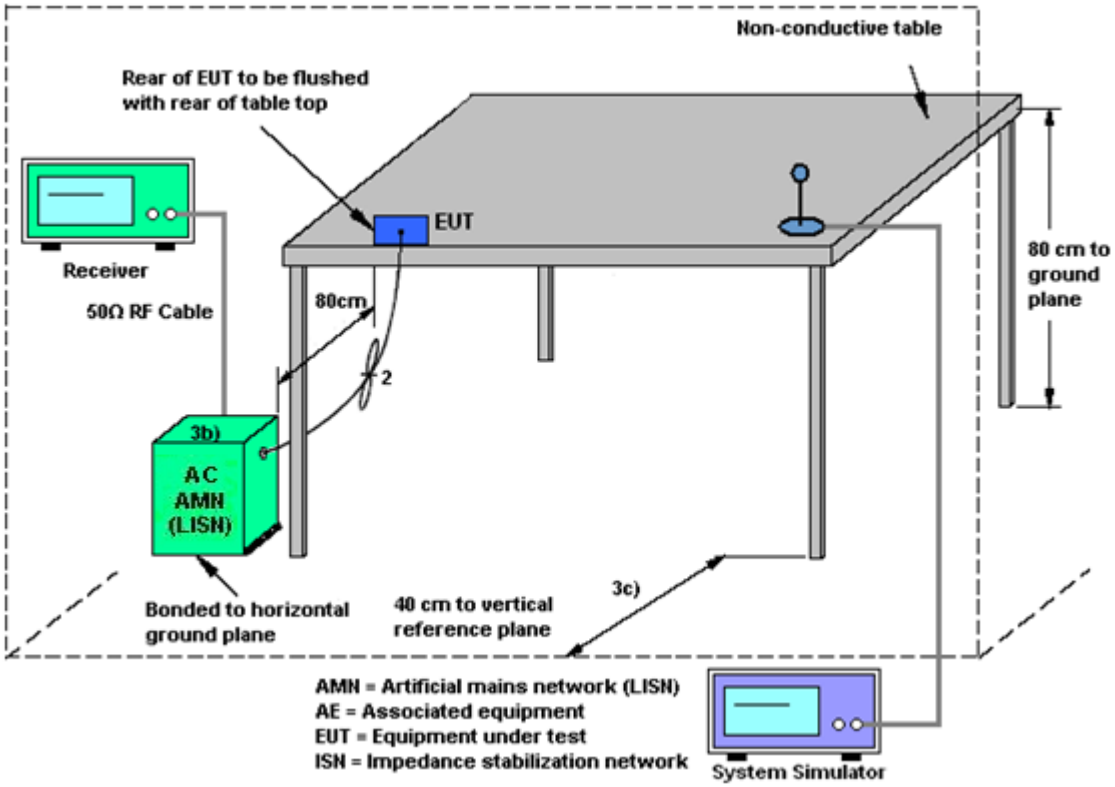
3.5.2 Measuring Instruments

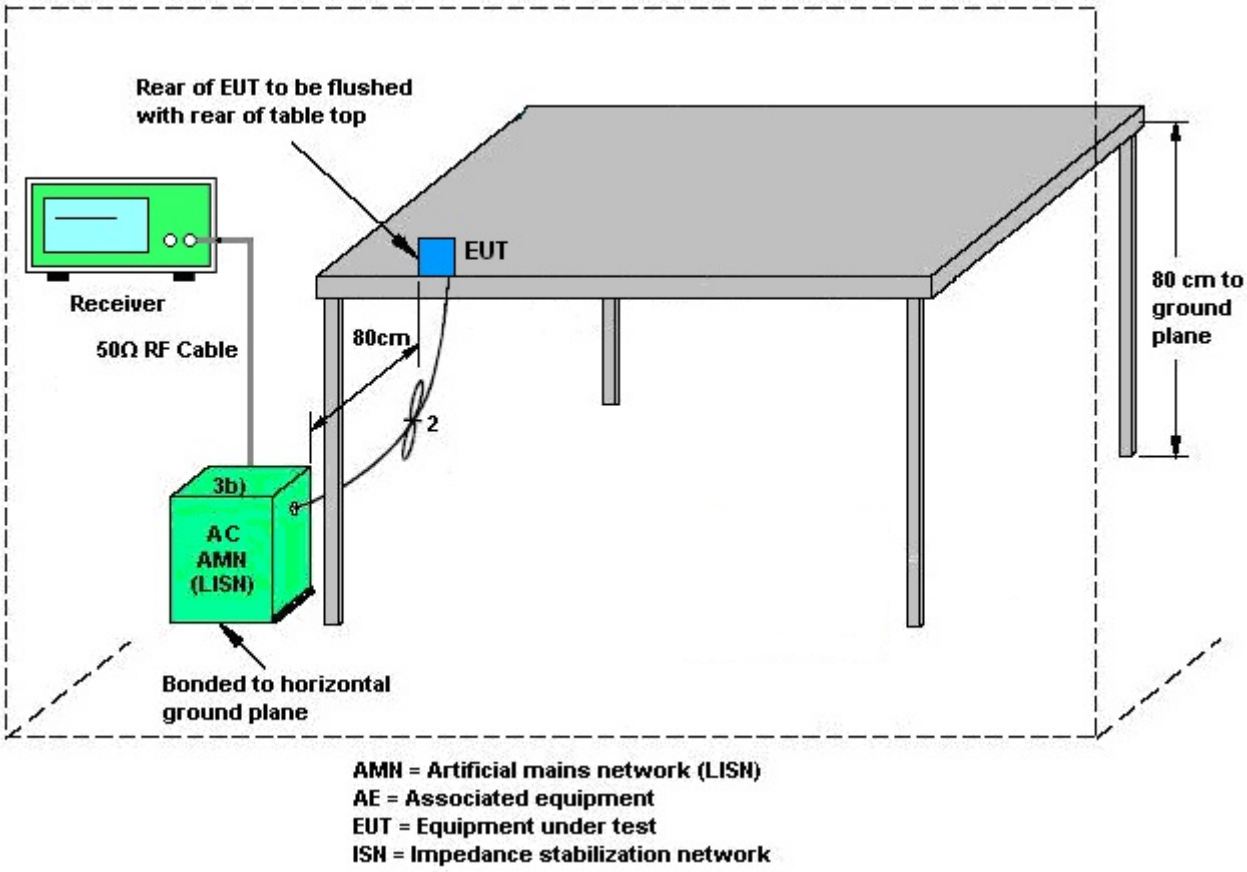
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

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

3.5.4 Test Setup





3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

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

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	0932001	N/A	Sep. 29, 2016	Jul.27.2017~ Aug.09.2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Jul.27.2017~ Aug.09.2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 17, 2016	Jul.27.2017~ Aug.09.2017	Nov. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Jul.27.2017~ Aug.09.2017	Aug. 31, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Aug. 04, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Aug. 04, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Aug. 04, 2017	Nov. 28, 2017	Conduction (CO05-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 21, 2017	Aug. 04, 2017~ Aug. 09, 2017	Jul. 20, 2018	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Aug. 04, 2017~ Aug. 09, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N 0602	30MHz~1GHz	Oct. 15, 2016	Aug. 04, 2017~ Aug. 09, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 07, 2016	Aug. 04, 2017~ Aug. 09, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Oct. 20, 2016	Aug. 04, 2017~ Aug. 09, 2017	Oct. 19, 2018	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Aug. 04, 2017~ Aug. 09, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1902247	1GHz~18GHz	Jun. 23, 2017	Aug. 04, 2017~ Aug. 09, 2017	Jun. 22, 2018	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 12, 2016	Aug. 04, 2017~ Aug. 09, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Aug. 04, 2017~ Aug. 09, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 04, 2017~ Aug. 09, 2017	N/A	Radiation (03CH11-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 12, 2017	Aug. 04, 2017~ Aug. 09, 2017	Jan. 11, 2018	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 08, 2016	Aug. 04, 2017~ Aug. 09, 2017	Nov. 07, 2017	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.70**

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

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

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. Test Result of Conducted Test Items

Test Engineer:	Shiming Liu/Allne Lin/Derek Hsu	Temperature:	21~25	°C
Test Date:	2017/7/27~2017/8/9	Relative Humidity:	51~54	%

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	17.60	31.20	-	22.46		
11a	6Mbps	1	44	5220	17.55	32.60	-	22.44		
11a	6Mbps	1	48	5240	17.65	32.15	-	22.47		
HT20	MCS0	1	36	5180	18.25	28.35	-	22.61		
HT20	MCS0	1	44	5220	18.30	27.95	-	22.62		
HT20	MCS0	1	48	5240	18.15	30.00	-	22.59		
HT40	MCS0	1	38	5190	36.60	45.18	-	23.01		
HT40	MCS0	1	46	5230	36.40	65.43	-	23.01		

TEST RESULTS DATA
Average Power Table

FCC Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)		Pass/Fail
11a	6Mbps	1	36	5180	0.12	13.92	24.00	-1.90		Pass
11a	6Mbps	1	44	5220	0.12	13.77	24.00	-1.90		Pass
11a	6Mbps	1	48	5240	0.12	13.62	24.00	-1.90		Pass
HT20	MCS0	1	36	5180	0.13	12.75	24.00	-1.90		Pass
HT20	MCS0	1	44	5220	0.13	12.65	24.00	-1.90		Pass
HT20	MCS0	1	48	5240	0.13	12.58	24.00	-1.90		Pass
HT40	MCS0	1	38	5190	0.23	9.64	24.00	-1.90		Pass
HT40	MCS0	1	46	5230	0.23	12.83	24.00	-1.90		Pass

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	0.12	3.08	11.00	-1.90		Pass
11a	6Mbps	1	44	5220	0.12	2.48	11.00	-1.90		Pass
11a	6Mbps	1	48	5240	0.12	2.28	11.00	-1.90		Pass
HT20	MCS0	1	36	5180	0.13	1.74	11.00	-1.90		Pass
HT20	MCS0	1	44	5220	0.13	1.28	11.00	-1.90		Pass
HT20	MCS0	1	48	5240	0.13	1.03	11.00	-1.90		Pass
HT40	MCS0	1	38	5190	0.23	-5.90	11.00	-1.90		Pass
HT40	MCS0	1	46	5230	0.23	-2.08	11.00	-1.90		Pass

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	17.65	30.35	23.47	29.47	23.98	
11a	6M bps	1	60	5300	17.60	28.55	23.46	29.46	23.98	
11a	6M bps	1	64	5320	17.55	33.85	23.44	29.44	23.98	
HT20	MCS 0	1	52	5260	18.25	25.20	23.61	29.61	23.98	
HT20	MCS 0	1	60	5300	18.25	28.65	23.61	29.61	23.98	
HT20	MCS 0	1	64	5320	18.20	26.15	23.60	29.60	23.98	
HT40	MCS 0	1	54	5270	36.40	66.90	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.50	41.04	23.98	30.00	23.98	

TEST RESULTS DATA
Average Power Table

FCC Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
11a	6M bps	1	52	5260	0.12	13.87	23.98	0.11	26.99	Pass
11a	6M bps	1	60	5300	0.12	13.97	23.98	0.11	26.99	Pass
11a	6M bps	1	64	5320	0.12	13.99	23.98	0.11	26.99	Pass
HT20	MCS 0	1	52	5260	0.13	12.68	23.98	0.11	26.99	Pass
HT20	MCS 0	1	60	5300	0.13	12.93	23.98	0.11	26.99	Pass
HT20	MCS 0	1	64	5320	0.13	12.98	23.98	0.11	26.99	Pass
HT40	MCS 0	1	54	5270	0.23	12.91	23.98	0.11	26.99	Pass
HT40	MCS 0	1	62	5310	0.23	9.83	23.98	0.11	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band II										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	52	5260	0.12	2.56	11.00	0.11		Pass
11a	6M bps	1	60	5300	0.12	2.55	11.00	0.11		Pass
11a	6M bps	1	64	5320	0.12	2.80	11.00	0.11		Pass
HT20	MCS 0	1	52	5260	0.13	0.81	11.00	0.11		Pass
HT20	MCS 0	1	60	5300	0.13	1.44	11.00	0.11		Pass
HT20	MCS 0	1	64	5320	0.13	1.17	11.00	0.11		Pass
HT40	MCS 0	1	54	5270	0.23	-1.94	11.00	0.11		Pass
HT40	MCS 0	1	62	5310	0.23	-5.53	11.00	0.11		Pass

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	17.50	29.80	23.43	29.43	23.98	
11a	6M bps	1	116	5580	17.45	26.70	23.42	29.42	23.98	
11a	6M bps	1	140	5700	17.50	25.85	23.43	29.43	23.98	
HT20	MCS 0	1	100	5500	18.25	26.25	23.61	29.61	23.98	
HT20	MCS 0	1	116	5580	18.20	26.55	23.60	29.60	23.98	
HT20	MCS 0	1	140	5700	18.45	28.15	23.66	29.66	23.98	
HT40	MCS 0	1	102	5510	36.70	41.22	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	36.60	64.85	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	36.50	53.55	23.98	30.00	23.98	

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	0.12	13.97	23.98	0.44	26.99	Pass
11a	6M bps	1	116	5580	0.12	13.94	23.98	0.44	26.99	Pass
11a	6M bps	1	140	5700	0.12	13.55	23.98	0.44	26.99	Pass
HT20	MCS 0	1	100	5500	0.13	12.63	23.98	0.44	26.99	Pass
HT20	MCS 0	1	116	5580	0.13	12.58	23.98	0.44	26.99	Pass
HT20	MCS 0	1	140	5700	0.13	12.56	23.98	0.44	26.99	Pass
HT40	MCS 0	1	102	5510	0.23	9.99	23.98	0.44	26.99	Pass
HT40	MCS 0	1	110	5550	0.23	12.80	23.98	0.44	26.99	Pass
HT40	MCS 0	1	134	5670	0.23	12.67	23.98	0.44	26.99	Pass

TEST RESULTS DATA
Power Spectral Density

Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Power Density (dBm/MHz)	Average PSD Limit (dBm/MHz)	DG (dBi)		Pass/Fail
11a	6M bps	1	100	5500	0.12	3.16	11.00	0.44		Pass
11a	6M bps	1	116	5580	0.12	3.26	11.00	0.44		Pass
11a	6M bps	1	140	5700	0.12	1.94	11.00	0.44		Pass
HT20	MCS 0	1	100	5500	0.13	1.74	11.00	0.44		Pass
HT20	MCS 0	1	116	5580	0.13	2.03	11.00	0.44		Pass
HT20	MCS 0	1	140	5700	0.13	-0.25	11.00	0.44		Pass
HT40	MCS 0	1	102	5510	0.23	-4.30	11.00	0.44		Pass
HT40	MCS 0	1	110	5550	0.23	-2.17	11.00	0.44		Pass
HT40	MCS 0	1	134	5670	0.23	-2.79	11.00	0.44		Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5179.975	-0.025	-4.83	50	4	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	4	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.4	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	3.6	
11a	6Mbps	1	36	5180	5180.025	0.025	4.83	20	4	

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	4	
11a	6Mbps	1	64	5320	5320.050	0.050	9.40	-30	4	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.4	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.6	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4	

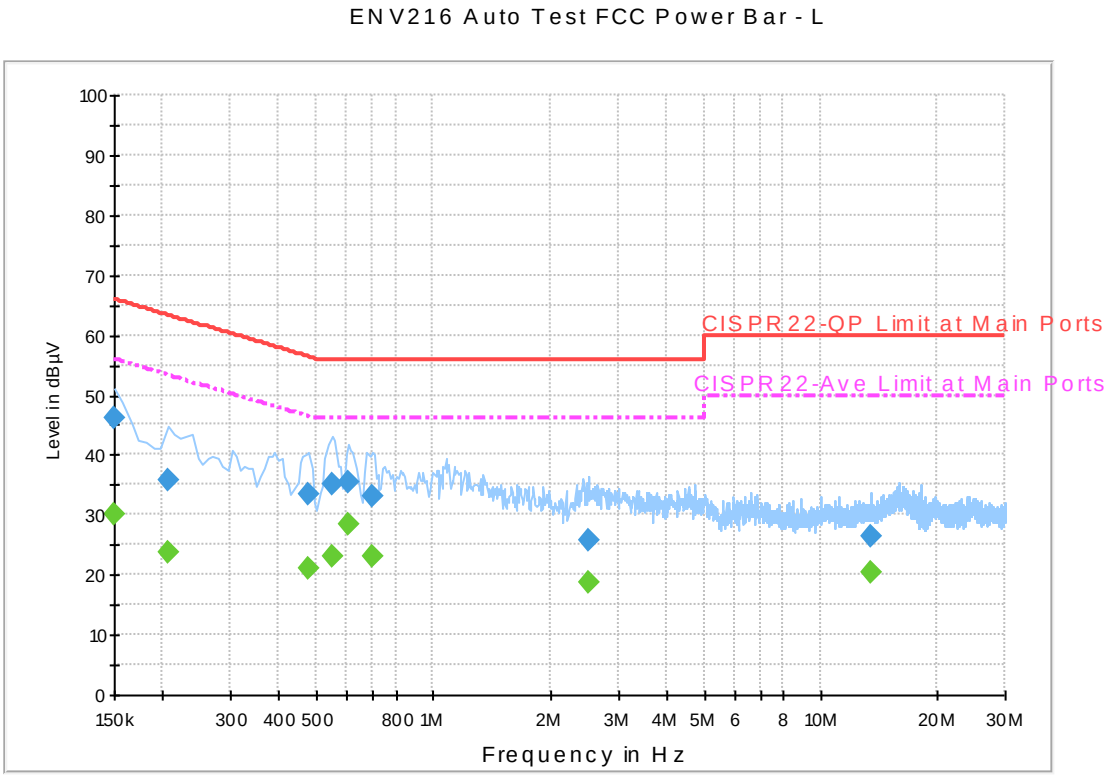
Band III										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	50	4	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	-30	4	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	4.4	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.6	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	4	

Appendix B. AC Conducted Emission Test Results

Test Engineer :	Shareef-Yu	**Temperature :**	26~27℃
		Relative Humidity :	40~42%

EUT Information

Report NO :	732839-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Line



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.0	Off	L1	19.6	20.0	66.0
0.206000	35.8	Off	L1	19.6	27.6	63.4
0.478000	33.6	Off	L1	19.6	22.8	56.4
0.550000	35.2	Off	L1	19.6	20.8	56.0
0.606000	35.3	Off	L1	19.6	20.7	56.0
0.694000	33.2	Off	L1	19.6	22.8	56.0
2.526000	25.9	Off	L1	19.3	30.1	56.0
13.558000	26.3	Off	L1	20.2	33.7	60.0

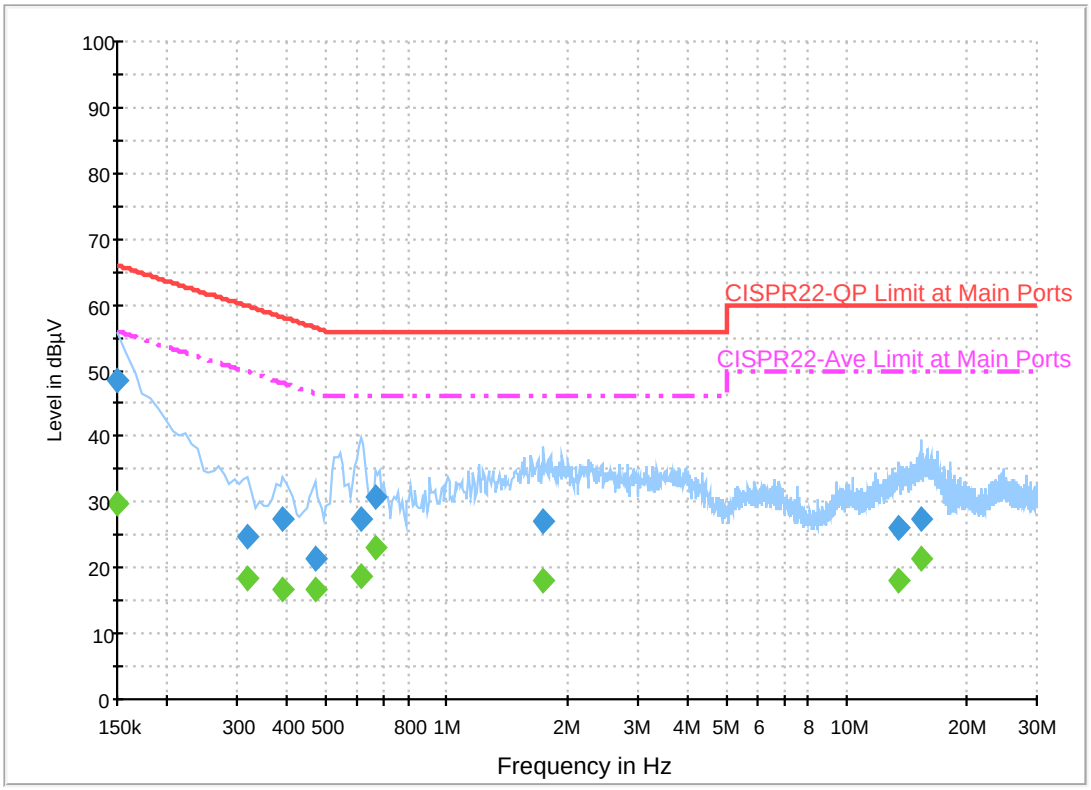
Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	29.9	Off	L1	19.6	26.1	56.0
0.206000	23.8	Off	L1	19.6	29.6	53.4
0.478000	21.0	Off	L1	19.6	25.4	46.4
0.550000	23.1	Off	L1	19.6	22.9	46.0
0.606000	28.5	Off	L1	19.6	17.5	46.0
0.694000	23.2	Off	L1	19.6	22.8	46.0
2.526000	18.8	Off	L1	19.3	27.2	46.0
13.558000	20.4	Off	L1	20.2	29.6	50.0

EUT Information

Report NO :	732839-01
Test Mode :	Mode 1
Test Voltage :	120Vac/60Hz
Phase :	Neutral

ENV216 Auto Test FCC Power Bar - N



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.3	Off	N	19.5	17.7	66.0
0.318000	24.7	Off	N	19.5	35.1	59.8
0.390000	27.4	Off	N	19.5	30.7	58.1
0.470000	21.4	Off	N	19.5	35.1	56.5
13.558000	26.0	Off	N	19.5	30.0	56.0
0.614000	27.3	Off	N	19.5	28.7	56.0
0.662000	30.9	Off	N	19.5	25.1	56.0
1.750000	27.1	Off	N	19.6	28.9	56.0
15.430000	27.5	Off	N	20.4	32.5	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	29.8	Off	N	19.5	26.2	56.0
0.318000	18.4	Off	N	19.5	31.4	49.8
0.390000	16.8	Off	N	19.5	31.3	48.1
0.470000	16.8	Off	N	19.5	29.7	46.5
13.558000	18.0	Off	N	19.5	28.0	46.0
0.614000	18.8	Off	N	19.5	27.2	46.0
0.662000	22.9	Off	N	19.5	23.1	46.0
1.750000	18.1	Off	N	19.6	27.9	46.0
15.430000	21.4	Off	N	20.4	28.6	50.0

Appendix C. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	Temperature :	24~26°C
		Relative Humidity :	50~55%

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		5117.26	52.62	-21.38	74	44.61	32.02	9.03	33.04	100	345	P	H
		5100.1	44.96	-9.04	54	36.99	32	9.01	33.04	100	345	A	H
	*	5180	106.39	-	-	98.27	32.08	9.07	33.03	100	345	P	H
	*	5180	98.95	-	-	90.83	32.08	9.07	33.03	100	345	A	H
													H
													H
		5126.62	53.78	-20.22	74	45.75	32.03	9.03	33.03	281	31	P	V
		5146.64	44.91	-9.09	54	36.84	32.05	9.05	33.03	281	31	A	V
	*	5180	107.64	-	-	99.52	32.08	9.07	33.03	281	31	P	V
	*	5180	100.14	-	-	92.02	32.08	9.07	33.03	281	31	A	V
													V
													V
802.11a CH 44 5220MHz		5145.86	51.03	-22.97	74	42.96	32.05	9.05	33.03	108	345	P	H
		5140.14	44.7	-9.3	54	36.63	32.05	9.05	33.03	108	345	A	H
	*	5220	105.31	-	-	97.11	32.12	9.11	33.03	108	345	P	H
	*	5220	97.7	-	-	89.5	32.12	9.11	33.03	108	345	A	H
		5458.08	48.69	-25.31	74	40.07	32.35	9.29	33.02	108	345	P	H
		5428.32	40.16	-13.84	54	31.6	32.32	9.26	33.02	108	345	A	H
		5147.68	51.8	-22.2	74	43.73	32.05	9.05	33.03	289	35	P	V
		5140.14	43.95	-10.05	54	35.88	32.05	9.05	33.03	289	35	A	V
	*	5220	106.93	-	-	98.73	32.12	9.11	33.03	289	35	P	V
	*	5220	91.28	-	-	83.08	32.12	9.11	33.03	289	35	A	V
		5355.36	50.12	-23.88	74	41.71	32.25	9.19	33.03	289	35	P	V
		5373.36	42.09	-11.91	54	33.64	32.27	9.2	33.02	289	35	A	V

802.11a CH 48 5240MHz		5085.54	50.68	-23.32	74	42.73	31.98	9.01	33.04	103	346	P	H
		5149.76	42.58	-11.42	54	34.51	32.05	9.05	33.03	103	346	A	H
	*	5240	104.88	-	-	96.66	32.13	9.12	33.03	103	346	P	H
	*	5240	96.8	-	-	88.58	32.13	9.12	33.03	103	346	A	H
		5447.76	48.74	-25.26	74	40.12	32.35	9.29	33.02	103	346	P	H
		5365.92	39.94	-14.06	54	31.51	32.27	9.19	33.03	103	346	A	H
		5110.24	49.52	-24.48	74	41.51	32.02	9.03	33.04	285	34	P	V
		5147.68	42.49	-11.51	54	34.42	32.05	9.05	33.03	285	34	A	V
	*	5240	107.17	-	-	98.95	32.13	9.12	33.03	285	34	P	V
	*	5240	98.96	-	-	90.74	32.13	9.12	33.03	285	34	A	V
		5372.88	49.95	-24.05	74	41.51	32.27	9.2	33.03	285	34	P	V
		5351.04	42.56	-11.44	54	34.15	32.25	9.19	33.03	285	34	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	45.74	-28.26	74	56.46	38.41	14.63	64.07	100	0	P	H
		15540	46.51	-27.49	74	52.96	37.58	17.95	62.37	100	0	P	H
													H
													H
		10360	44.89	-29.11	74	55.92	38.41	14.63	64.07	100	0	P	V
		15540	47.01	-26.99	74	53.85	37.58	17.95	62.37	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	47.01	-26.99	74	57.6	38.51	14.68	64.09	100	0	P	H
		15660	53.16	-20.84	74	59.52	37.14	18.06	61.91	222	231	P	H
		15660	44.33	-9.67	54	50.69	37.14	18.06	61.91	222	231	A	H
													H
		10440	46.25	-27.75	74	57.15	38.51	14.68	64.09	100	0	P	V
		15660	48.79	-25.21	74	55.5	37.14	18.06	61.91	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	45.81	-28.19	74	56.3	38.58	14.72	64.1	100	0	P	H
		15720	53.99	-20.01	74	60.32	36.89	18.1	61.65	211	238	P	H
		15720	44.68	-9.32	54	51.01	36.89	18.1	61.65	211	238	A	H
													H
		10480	45.37	-28.63	74	56.17	38.58	14.72	64.1	100	0	P	V
		15720	51.73	-22.27	74	58.39	36.89	18.1	61.65	317	9	P	V
		15720	42.11	-11.89	54	48.77	36.89	18.1	61.65	317	9	A	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5073.06	52.8	-21.2	74	44.87	31.98	8.99	33.04	100	345	P	H
		5143.78	44.06	-9.94	54	35.99	32.05	9.05	33.03	100	345	A	H
	*	5180	104.37	-	-	96.25	32.08	9.07	33.03	100	345	P	H
	*	5180	97.04	-	-	88.92	32.08	9.07	33.03	100	345	A	H
802.11n													H
HT20													H
CH 36		5118.3	51.26	-22.74	74	43.24	32.02	9.03	33.03	279	31	P	V
5180MHz		5150	43.94	-10.06	54	35.87	32.05	9.05	33.03	279	31	A	V
	*	5180	105.3	-	-	97.18	32.08	9.07	33.03	279	31	P	V
	*	5180	97.8	-	-	89.68	32.08	9.07	33.03	279	31	A	V
													V
													V
		5146.38	51.51	-22.49	74	43.44	32.05	9.05	33.03	108	345	P	H
		5140.14	43.97	-10.03	54	35.9	32.05	9.05	33.03	108	345	A	H
	*	5220	104.1	-	-	95.9	32.12	9.11	33.03	108	345	P	H
	*	5220	95.18	-	-	86.98	32.12	9.11	33.03	108	345	A	H
802.11n		5404.32	49.41	-24.59	74	40.91	32.3	9.22	33.02	108	345	P	H
HT20		5354.88	39.92	-14.08	54	31.51	32.25	9.19	33.03	108	345	A	H
CH 44		5146.12	52.18	-21.82	74	44.11	32.05	9.05	33.03	288	35	P	V
5220MHz		5140.14	43.21	-10.79	54	35.14	32.05	9.05	33.03	288	35	A	V
	*	5220	105.17	-	-	96.97	32.12	9.11	33.03	288	35	P	V
	*	5220	97.01	-	-	88.81	32.12	9.11	33.03	288	35	A	V
		5350.56	49.9	-24.1	74	41.49	32.25	9.19	33.03	288	35	P	V
		5371.68	42.43	-11.57	54	33.99	32.27	9.2	33.03	288	35	A	V

		5006.76	50.03	-23.97	74	42.2	31.92	8.95	33.04	103	345	P	H
		5148.2	42.09	-11.91	54	34.02	32.05	9.05	33.03	103	345	A	H
	*	5240	102.96	-	-	94.74	32.13	9.12	33.03	103	345	P	H
	*	5240	96.26	-	-	88.04	32.13	9.12	33.03	103	345	A	H
802.11n		5395.92	48.45	-25.55	74	39.95	32.3	9.22	33.02	103	345	P	H
HT20		5442.96	40.08	-13.92	54	31.51	32.33	9.26	33.02	103	345	A	H
CH 48		5083.72	49.77	-24.23	74	41.82	31.98	9.01	33.04	303	37	P	V
5240MHz		5148.72	41.59	-12.41	54	33.52	32.05	9.05	33.03	303	37	A	V
	*	5240	106.35	-	-	98.13	32.13	9.12	33.03	303	37	P	V
	*	5240	98.71	-	-	90.49	32.13	9.12	33.03	303	37	A	V
		5430.96	49.42	-24.58	74	40.85	32.33	9.26	33.02	303	37	P	V
		5392.08	41.77	-12.23	54	33.31	32.28	9.2	33.02	303	37	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		5146.12	59.06	-14.94	74	50.99	32.05	9.05	33.03	100	316	P	H
		5149.76	51.94	-2.06	54	43.87	32.05	9.05	33.03	100	316	A	H
	*	5190	100.02	-	-	91.88	32.08	9.09	33.03	100	316	P	H
	*	5190	92	-	-	83.86	32.08	9.09	33.03	100	316	A	H
		5361.44	48.71	-25.29	74	40.28	32.27	9.19	33.03	100	316	P	H
		5454.12	41.02	-12.98	54	32.4	32.35	9.29	33.02	100	316	A	H
		5148.2	56.98	-17.02	74	48.91	32.05	9.05	33.03	100	3	P	V
		5149.76	51.61	-2.39	54	43.54	32.05	9.05	33.03	100	3	A	V
	*	5190	100.15	-	-	92.01	32.08	9.09	33.03	100	3	P	V
	*	5190	91.97	-	-	83.83	32.08	9.09	33.03	100	3	A	V
		5411.28	49.16	-24.84	74	40.66	32.3	9.22	33.02	100	3	P	V
		5366.48	41.81	-12.19	54	33.38	32.27	9.19	33.03	100	3	A	V
802.11n HT40 CH 46 5230MHz		5117.78	49.98	-24.02	74	41.97	32.02	9.03	33.04	105	316	P	H
		5146.64	43.4	-10.6	54	35.33	32.05	9.05	33.03	105	316	A	H
	*	5230	102.92	-	-	94.71	32.13	9.11	33.03	105	316	P	H
	*	5230	95.38	-	-	87.17	32.13	9.11	33.03	105	316	A	H
		5445.72	49.39	-24.61	74	40.77	32.35	9.29	33.02	105	316	P	H
		5442.64	41.07	-12.93	54	32.5	32.33	9.26	33.02	105	316	A	H
		5088.4	50.39	-23.61	74	42.44	31.98	9.01	33.04	288	18	P	V
		5150	42.8	-11.2	54	34.73	32.05	9.05	33.03	288	18	A	V
	*	5230	104.79	-	-	96.58	32.13	9.11	33.03	288	18	P	V
	*	5230	97.3	-	-	89.09	32.13	9.11	33.03	288	18	A	V
		5352.2	50.77	-23.23	74	42.36	32.25	9.19	33.03	288	18	P	V
		5380.48	42.98	-11.02	54	34.52	32.28	9.2	33.02	288	18	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5017.34	50.26	-23.74	74	42.43	31.92	8.95	33.04	101	345	P	H
		5107.44	42.11	-11.89	54	34.1	32.02	9.03	33.04	101	345	A	H
	*	5260	104.55	-	-	96.29	32.17	9.12	33.03	101	345	P	H
	*	5260	96.94	-	-	88.68	32.17	9.12	33.03	101	345	A	H
		5394.96	48.41	-25.59	74	39.91	32.3	9.22	33.02	101	345	P	H
		5350.32	40.2	-13.8	54	31.79	32.25	9.19	33.03	101	345	A	H
		5021.08	50.39	-23.61	74	42.55	31.93	8.95	33.04	286	35	P	V
		5148.92	41.47	-12.53	54	33.4	32.05	9.05	33.03	286	35	A	V
	*	5260	108.79	-	-	100.53	32.17	9.12	33.03	286	35	P	V
	*	5260	100.88	-	-	92.62	32.17	9.12	33.03	286	35	A	V
		5351.04	50.97	-23.03	74	42.56	32.25	9.19	33.03	286	35	P	V
		5350.56	43.48	-10.52	54	35.07	32.25	9.19	33.03	286	35	A	V
802.11a CH 60 5300MHz		5125.8	49.94	-24.06	74	41.91	32.03	9.03	33.03	100	31	P	H
		5147.9	41.49	-12.51	54	33.42	32.05	9.05	33.03	100	31	A	H
	*	5300	103.87	-	-	95.54	32.2	9.16	33.03	100	31	P	H
	*	5300	95.74	-	-	87.41	32.2	9.16	33.03	100	31	A	H
		5368.08	49.57	-24.43	74	41.13	32.27	9.2	33.03	100	31	P	H
		5350.32	41.9	-12.1	54	33.49	32.25	9.19	33.03	100	31	A	H
		5079.56	50.31	-23.69	74	42.38	31.98	8.99	33.04	285	34	P	V
		5146.88	41.84	-12.16	54	33.77	32.05	9.05	33.03	285	34	A	V
	*	5300	109.44	-	-	101.11	32.2	9.16	33.03	285	34	P	V
	*	5300	101.31	-	-	92.98	32.2	9.16	33.03	285	34	A	V
		5354.88	53.64	-20.36	74	45.23	32.25	9.19	33.03	285	34	P	V
		5350.32	46.23	-7.77	54	37.82	32.25	9.19	33.03	285	34	A	V

802.11a CH 64 5320MHz	*	5320	103.81	-	-	95.45	32.22	9.17	33.03	297	345	P	H
	*	5320	96.57	-	-	88.21	32.22	9.17	33.03	297	345	A	H
		5375.84	50.55	-23.45	74	42.1	32.27	9.2	33.02	297	345	P	H
		5350.24	43.11	-10.89	54	34.7	32.25	9.19	33.03	297	345	A	H
													H
													H
	*	5320	109.89	-	-	101.53	32.22	9.17	33.03	297	35	P	V
	*	5320	101.25	-	-	92.89	32.22	9.17	33.03	297	35	A	V
		5352.64	55.53	-18.47	74	47.12	32.25	9.19	33.03	297	35	P	V
		5350.08	47.39	-6.61	54	38.98	32.25	9.19	33.03	297	35	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	45.68	-28.32	74	56.11	38.62	14.74	64.1	100	0	P	H
		15780	55.46	-18.54	74	61.74	36.71	18.15	61.45	219	233	P	H
		15780	45.46	-8.54	54	51.74	36.71	18.15	61.45	219	233	A	H
													H
		10520	46.33	-27.67	74	57.07	38.62	14.74	64.1	100	0	P	V
		15780	51.68	-22.32	74	58.27	36.71	18.15	61.45	274	7	P	V
		15780	42.08	-11.92	54	48.67	36.71	18.15	61.45	274	7	A	V
													V
802.11a CH 60 5300MHz		10600	45.57	-28.43	74	55.82	38.72	14.8	64.08	100	0	P	H
		15900	54.84	-19.16	74	61.03	36.27	18.25	60.99	216	239	P	H
		15900	45.35	-8.65	54	51.54	36.27	18.25	60.99	216	239	A	H
													H
		10600	45.14	-28.86	74	55.7	38.72	14.8	64.08	100	0	P	V
		15900	53.4	-20.6	74	59.87	36.27	18.25	60.99	377	12	P	V
		15900	43.03	-10.97	54	49.5	36.27	18.25	60.99	377	12	A	V
													V
802.11a CH 64 5320MHz		10640	45.44	-28.56	74	55.62	38.77	14.82	64.07	100	0	P	H
		15960	56.7	-17.3	74	62.85	36.02	18.3	60.73	213	240	P	H
		15960	46.96	-7.04	54	53.11	36.02	18.3	60.73	213	240	A	H
													H
		10640	45.67	-28.33	74	56.15	38.77	14.82	64.07	100	0	P	V
		15960	53.73	-20.27	74	60.14	36.02	18.3	60.73	388	12	P	V
		15960	44.27	-9.73	54	50.68	36.02	18.3	60.73	388	12	A	V
													V

Remark

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

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5067.32	49.4	-24.6	74	41.48	31.97	8.99	33.04	251	317	P	H
		5107.78	41.36	-12.64	54	33.35	32.02	9.03	33.04	251	317	A	H
	*	5260	104.23	-	-	95.97	32.17	9.12	33.03	251	317	P	H
	*	5260	96.28	-	-	88.02	32.17	9.12	33.03	251	317	A	H
802.11n		5458.56	48.24	-25.76	74	39.62	32.35	9.29	33.02	251	317	P	H
HT20		5350.56	40.82	-13.18	54	32.41	32.25	9.19	33.03	251	317	A	H
CH 52		5101.32	49.86	-24.14	74	41.89	32	9.01	33.04	285	35	P	V
5260MHz		5108.12	41.61	-12.39	54	33.6	32.02	9.03	33.04	285	35	A	V
	*	5260	107.06	-	-	98.8	32.17	9.12	33.03	285	35	P	V
	*	5260	99.36	-	-	91.1	32.17	9.12	33.03	285	35	A	V
		5386.8	50.22	-23.78	74	41.76	32.28	9.2	33.02	285	35	P	V
		5350.08	42.53	-11.47	54	34.12	32.25	9.19	33.03	285	35	A	V
		5131.58	50.35	-23.65	74	42.32	32.03	9.03	33.03	266	317	P	H
		5148.24	41.31	-12.69	54	33.24	32.05	9.05	33.03	266	317	A	H
	*	5300	103.01	-	-	94.68	32.2	9.16	33.03	266	317	P	H
	*	5300	95.84	-	-	87.51	32.2	9.16	33.03	266	317	A	H
802.11n		5379.6	50.7	-23.3	74	42.24	32.28	9.2	33.02	266	317	P	H
HT20		5380.08	42.3	-11.7	54	33.84	32.28	9.2	33.02	266	317	A	H
CH 60		5135.66	50.95	-23.05	74	42.9	32.03	9.05	33.03	287	36	P	V
5300MHz		5148.24	41.68	-12.32	54	33.61	32.05	9.05	33.03	287	36	A	V
	*	5300	107.27	-	-	98.94	32.2	9.16	33.03	287	36	P	V
	*	5300	99.24	-	-	90.91	32.2	9.16	33.03	287	36	A	V
		5354.4	52.36	-21.64	74	43.95	32.25	9.19	33.03	287	36	P	V
		5380.08	44.46	-9.54	54	36	32.28	9.2	33.02	287	36	A	V

	*	5320	103.42	-	-	95.06	32.22	9.17	33.03	297	348	P	H
	*	5320	95.1	-	-	86.74	32.22	9.17	33.03	297	348	A	H
		5352.32	49.89	-24.11	74	41.48	32.25	9.19	33.03	297	348	P	H
		5351.36	42.73	-11.27	54	34.32	32.25	9.19	33.03	297	348	A	H
802.11n													H
HT20													H
CH 64	*	5320	106.99	-	-	98.63	32.22	9.17	33.03	296	35	P	V
5320MHz	*	5320	98.54	-	-	90.18	32.22	9.17	33.03	296	35	A	V
		5372.16	54.22	-19.78	74	45.78	32.27	9.2	33.03	296	35	P	V
		5351.52	45.12	-8.88	54	36.71	32.25	9.19	33.03	296	35	A	V
													V
													V

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

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 54 5270MHz		5046.58	49.76	-24.24	74	41.88	31.95	8.97	33.04	100	316	P	H
		5123.76	42.85	-11.15	54	34.82	32.03	9.03	33.03	100	316	A	H
	*	5270	101.86	-	-	93.58	32.17	9.14	33.03	100	316	P	H
	*	5270	94.41	-	-	86.13	32.17	9.14	33.03	100	316	A	H
		5352.48	49.49	-24.51	74	41.08	32.25	9.19	33.03	100	316	P	H
		5351.76	41.64	-12.36	54	33.23	32.25	9.19	33.03	100	316	A	H
		5071.06	50.33	-23.67	74	42.41	31.97	8.99	33.04	281	18	P	V
		5122.4	42.67	-11.33	54	34.65	32.02	9.03	33.03	281	18	A	V
	*	5270	104.53	-	-	96.25	32.17	9.14	33.03	281	18	P	V
	*	5270	97.29	-	-	89.01	32.17	9.14	33.03	281	18	A	V
		5352.24	51.26	-22.74	74	42.85	32.25	9.19	33.03	281	18	P	V
		5353.92	44.12	-9.88	54	35.71	32.25	9.19	33.03	281	18	A	V
802.11n HT40 CH 62 5310MHz		5075.82	49.81	-24.19	74	41.88	31.98	8.99	33.04	102	317	P	H
		5140.08	41.63	-12.37	54	33.56	32.05	9.05	33.03	102	317	A	H
	*	5310	97.62	-	-	89.27	32.22	9.16	33.03	102	317	P	H
	*	5310	90.4	-	-	82.05	32.22	9.16	33.03	102	317	A	H
		5350.08	58.67	-15.33	74	50.26	32.25	9.19	33.03	102	317	P	H
		5350.32	48.26	-5.74	54	39.85	32.25	9.19	33.03	102	317	A	H
		5148.24	49.69	-24.31	74	41.62	32.05	9.05	33.03	276	13	P	V
		5131.92	41.68	-12.32	54	33.65	32.03	9.03	33.03	276	13	A	V
	*	5310	101.64	-	-	93.29	32.22	9.16	33.03	276	13	P	V
	*	5310	94.47	-	-	86.12	32.22	9.16	33.03	276	13	A	V
		5353.44	57.82	-16.18	74	49.41	32.25	9.19	33.03	276	13	P	V
		5350.08	52.44	-1.56	54	44.03	32.25	9.19	33.03	276	13	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5444.56	51.73	-22.27	74	43.16	32.33	9.26	33.02	100	20	P	H
		5470	52.24	-15.96	68.2	43.6	32.37	9.29	33.02	100	20	P	H
		5457.68	43.35	-10.65	54	34.73	32.35	9.29	33.02	100	20	P	H
	*	5500	105.14	-	-	96.39	32.4	9.37	33.02	100	20	P	H
	*	5500	98	-	-	89.25	32.4	9.37	33.02	100	20	A	H
													H
		5438.64	55.27	-18.73	74	46.7	32.33	9.26	33.02			P	V
		5468.24	56	-12.2	68.2	47.36	32.37	9.29	33.02	100	240	P	V
		5456.56	46.55	-7.45	54	37.93	32.35	9.29	33.02			P	V
	*	5500	109.76	-	-	101.01	32.4	9.37	33.02	100	240	P	V
	*	5500	102.72	-	-	93.97	32.4	9.37	33.02	100	240	A	V
													V
802.11a CH 116 5580MHz		5405.68	49.65	-24.35	74	41.15	32.3	9.22	33.02	100	20	P	H
		5461.12	49.69	-18.51	68.2	41.07	32.35	9.29	33.02	100	20	P	H
		5427.28	40.61	-13.39	54	32.05	32.32	9.26	33.02	100	20	A	H
	*	5580	103.62	-	-	94.64	32.57	9.48	33.07	100	20	P	H
	*	5580	95.55	-	-	86.57	32.57	9.48	33.07	100	20	A	H
		5756.81	50.34	-17.86	68.2	40.53	33.02	9.95	33.16	100	20	P	H
		5353.6	50.16	-23.84	74	41.75	32.25	9.19	33.03	107	239	P	V
		5463.28	48.87	-19.33	68.2	40.23	32.37	9.29	33.02	107	239	P	V
		5427.76	41.79	-12.21	54	33.23	32.32	9.26	33.02	107	239	A	V
	*	5580	107.69	-	-	98.71	32.57	9.48	33.07	107	239	P	V
	*	5580	100.69	-	-	91.71	32.57	9.48	33.07	107	239	A	V
		5732.87	51.16	-17.04	68.2	41.49	32.94	9.88	33.15	107	239	P	V

802.11a CH 140 5700MHz	*	5700	103.51	-	-	94.02	32.86	9.75	33.12	114	19	P	H
	*	5700	95.5	-	-	86.01	32.86	9.75	33.12	114	19	A	H
		5728.04	52.51	-15.69	68.2	42.89	32.94	9.81	33.13	114	19	P	H
													H
													H
													H
	*	5700	107.19	-	-	97.7	32.86	9.75	33.12	101	238	P	V
	*	5700	100.1	-	-	90.61	32.86	9.75	33.12	101	238	A	V
		5728.12	58.36	-9.84	68.2	48.74	32.94	9.81	33.13	101	238	P	V
													V
													V
													V

Remark

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

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	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	48.12	-25.88	74	57.54	39.2	15.08	64	100	0	P	H
		16500	56.12	-12.08	68.2	62.68	37.1	18.74	62.7	100	0	P	H
													H
													H
		11000	47.81	-26.19	74	57.23	39.2	15.08	64	100	0	P	V
		16500	56.02	-12.18	68.2	62.58	37.1	18.74	62.7	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	47.76	-26.24	74	56.97	38.97	15.2	63.67	100	0	P	H
		16740	59.08	-9.12	68.2	63.6	38.93	18.93	62.7	100	0	P	H
													H
													H
		11160	48.11	-25.89	74	57.32	38.97	15.2	63.67	100	0	P	V
		16740	60.11	-8.09	68.2	64.63	38.93	18.93	62.7	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	45.28	-28.72	74	54.18	38.64	15.38	63.2	100	0	P	H
		17100	64.35	-3.85	68.2	65.98	40.84	19.18	62	100	0	P	H
													H
													H
		11400	46.84	-27.16	74	55.74	38.64	15.38	63.2	100	0	P	V
		17100	63.09	-5.11	68.2	64.72	40.84	19.18	62	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	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)
		5462.96	52.16	-21.84	74	43.52	32.37	9.29	33.02	108	251	P	H
		5466	43.89	-10.11	54	35.25	32.37	9.29	33.02	108	251	A	H
	*	5500	104.62	-	-	95.87	32.4	9.37	33.02	108	251	P	H
	*	5500	97.33	-	-	88.58	32.4	9.37	33.02	108	251	A	H
802.11n													H
HT20													H
CH 100		5464.24	55.64	-18.36	74	47	32.37	9.29	33.02	100	243	P	V
5500MHz		5469.04	47.85	-6.15	54	39.21	32.37	9.29	33.02	100	243	A	V
	*	5500	109.7	-	-	100.95	32.4	9.37	33.02	100	243	P	V
	*	5500	102.87	-	-	94.12	32.4	9.37	33.02	100	243	A	V
													V
													V
		5425.6	49.81	-24.19	74	41.25	32.32	9.26	33.02	124	251	P	H
		5469.28	40.82	-13.18	54	32.18	32.37	9.29	33.02	124	251	A	H
	*	5580	102.26	-	-	93.28	32.57	9.48	33.07	124	251	P	H
	*	5580	94.76	-	-	85.78	32.57	9.48	33.07	124	251	A	H
802.11n		5756.81	49.25	-24.75	74	39.44	33.02	9.95	33.16	124	251	P	H
HT20		5737.595	41.6	-12.4	54	31.89	32.98	9.88	33.15	124	251	A	H
CH 116		5428.24	50.31	-23.69	74	41.75	32.32	9.26	33.02	100	243	P	V
5580MHz		5428.24	42.47	-11.53	54	33.91	32.32	9.26	33.02	100	243	A	V
	*	5580	110.89	-	-	101.91	32.57	9.48	33.07	100	243	P	V
	*	5580	101.64	-	-	92.66	32.57	9.48	33.07	100	243	A	V
		5758.07	51.46	-22.54	74	41.65	33.02	9.95	33.16	100	243	P	V
		5731.61	44.38	-9.62	54	34.71	32.94	9.88	33.15	100	243	A	V

	*	5700	100.24	-	-	90.75	32.86	9.75	33.12	100	359	P	H
	*	5700	91.9	-	-	82.41	32.86	9.75	33.12	100	359	A	H
		5725.16	55.95	-18.05	74	46.33	32.94	9.81	33.13	100	359	P	H
		5725.08	46.22	-7.78	54	36.6	32.94	9.81	33.13	100	359	A	H
802.11n													H
HT20													H
CH 140	*	5700	108.14	-	-	98.65	32.86	9.75	33.12	100	243	P	V
5700MHz	*	5700	99.33	-	-	89.84	32.86	9.75	33.12	100	243	A	V
		5725	62.4	-11.6	74	52.78	32.94	9.81	33.13	100	243	P	V
		5725	52.93	-1.07	54	43.31	32.94	9.81	33.13	100	243	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 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5458.96	51.65	-22.35	74	43.03	32.35	9.29	33.02	100	253	P	H
		5468.32	62.75	-5.45	68.2	54.11	32.37	9.29	33.02	100	253	P	H
		5459.92	45.58	-8.42	54	36.96	32.35	9.29	33.02	100	253	A	H
	*	5510	101.76	-	-	93.02	32.4	9.37	33.03	100	253	P	H
802.11n	*	5510	93.4	-	-	84.66	32.4	9.37	33.03	100	253	A	H
HT40		5743.895	49.45	-18.75	68.2	39.74	32.98	9.88	33.15	100	253	P	H
CH 102		5455.36	61.06	-12.94	74	52.44	32.35	9.29	33.02	100	244	P	V
5510MHz		5469.76	65.79	-2.41	68.2	57.15	32.37	9.29	33.02	100	244	P	V
		5459.92	50.31	-3.69	54	41.69	32.35	9.29	33.02	100	244	A	V
	*	5510	107.49	-	-	98.75	32.4	9.37	33.03	100	244	P	V
	*	5510	99.91	-	-	91.17	32.4	9.37	33.03	100	244	A	V
		5739.17	50.22	-17.98	68.2	40.51	32.98	9.88	33.15	100	244	P	V
		5418.16	49.29	-24.71	74	40.77	32.32	9.22	33.02	137	253	P	H
		5469.76	42.13	-11.87	54	33.49	32.37	9.29	33.02	137	253	A	H
	*	5550	99.51	-	-	90.6	32.52	9.44	33.05	137	253	P	H
	*	5550	91.81	-	-	82.9	32.52	9.44	33.05	137	253	A	H
802.11n		5740.43	51.43	-22.57	74	41.72	32.98	9.88	33.15	137	253	P	H
HT40		5749.25	42.49	-11.51	54	32.78	32.98	9.88	33.15	137	253	A	H
CH 110		5469.04	51.67	-22.33	74	43.03	32.37	9.29	33.02	100	244	P	V
5550MHz		5469.76	44.99	-9.01	54	36.35	32.37	9.29	33.02	100	244	A	V
	*	5550	107.02	-	-	98.11	32.52	9.44	33.05	100	244	P	V
	*	5550	98.9	-	-	89.99	32.52	9.44	33.05	100	244	A	V
		5725.94	53.49	-20.51	74	43.87	32.94	9.81	33.13	100	244	P	V
		5726.885	44.44	-9.56	54	34.82	32.94	9.81	33.13	100	244	A	V

		5442.75	48.61	-25.39	74	40.04	32.33	9.26	33.02	279	326	P	H
		5468.3	41	-13	54	32.36	32.37	9.29	33.02	279	326	A	H
	*	5670	99.92	-	-	90.54	32.81	9.68	33.11	279	326	P	H
	*	5670	91.51	-	-	82.13	32.81	9.68	33.11	279	326	A	H
802.11n		5729.125	52.43	-21.57	74	42.81	32.94	9.81	33.13	279	326	P	H
HT40		5725	44.67	-9.33	54	35.05	32.94	9.81	33.13	279	326	A	H
CH 134		5450.8	48.56	-25.44	74	39.94	32.35	9.29	33.02	100	243	P	V
5670MHz		5467.95	41.68	-12.32	54	33.04	32.37	9.29	33.02	100	243	A	V
	*	5670	106.7	-	-	97.32	32.81	9.68	33.11	100	243	P	V
	*	5670	98.89	-	-	89.51	32.81	9.68	33.11	100	243	A	V
		5727.9	62.44	-11.56	74	52.82	32.94	9.81	33.13	100	243	P	V
		5727.025	49.35	-4.65	54	39.73	32.94	9.81	33.13	100	243	A	V

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

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		98.31	29.41	-14.09	43.5	44.69	15.79	1.39	32.48	-	-	P	H
		120.72	28.77	-14.73	43.5	42.29	17.51	1.39	32.46	-	-	P	H
		145.02	35.97	-7.53	43.5	49.61	17.22	1.51	32.44	105	269	P	H
		302.1	22.81	-23.19	46	33.61	19.25	2.22	32.37	-	-	P	H
		573	27.11	-18.89	46	30.52	25.91	3.03	32.44	-	-	P	H
		948.2	33.29	-12.71	46	29.79	30.73	3.82	31.22	-	-	P	H
													H
													H
													H
													H
													H
													H
		47.28	34.84	-5.16	40	50.93	15.38	1.02	32.49	100	312	P	V
		55.38	26.35	-13.65	40	45.56	12.25	1.02	32.49	-	-	P	V
		74.28	25.43	-14.57	40	44.21	12.47	1.22	32.49	-	-	P	V
		425.3	24.35	-21.65	46	31.17	22.84	2.63	32.34	-	-	P	V
		680.8	28.44	-17.56	46	30.96	26.56	3.27	32.47	-	-	P	V
		958.7	33.94	-12.06	46	29.84	31.14	3.9	31.12	-	-	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 D. Radiated Spurious Emission

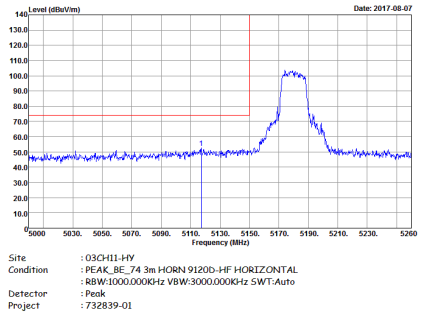
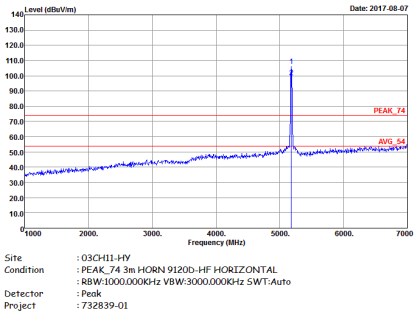
Test Engineer :	J.C. Liang, Jacky Hung and Ken Wu	Temperature :	24~26°C
		Relative Humidity :	50~55%

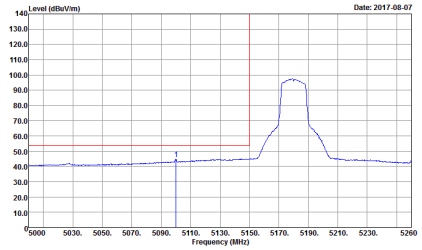
Note symbol

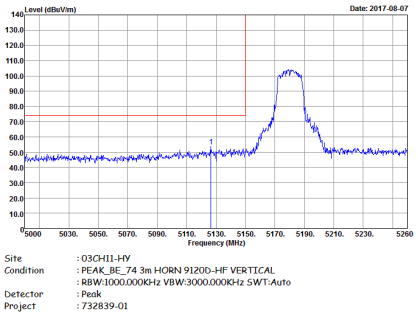
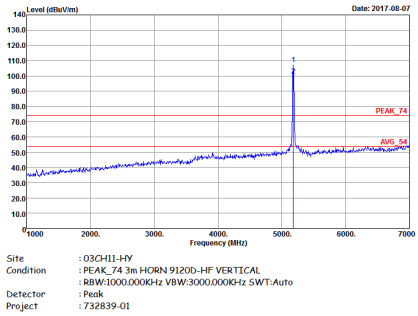
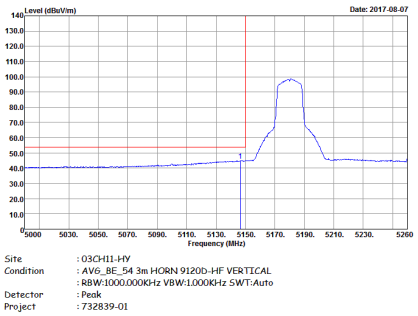
-L	**Low channel location**
-R	**High channel location**

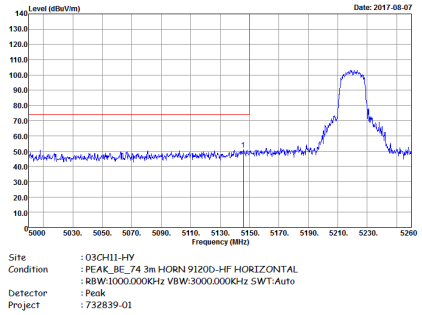
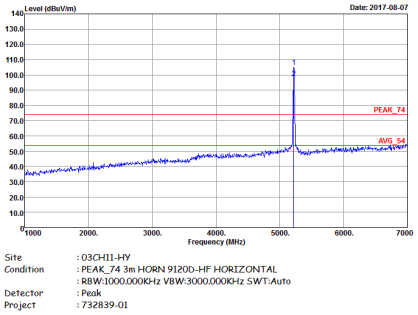
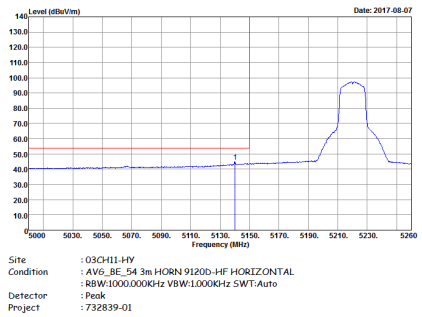
Band 1 - 5150~5250MHz

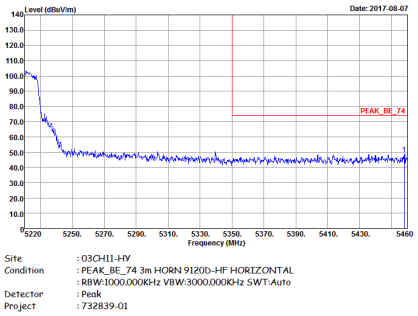
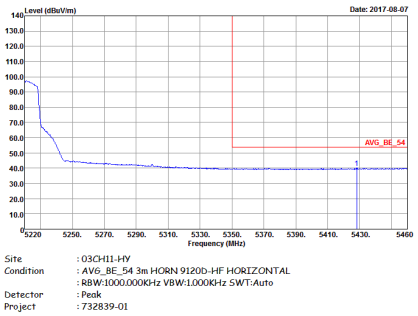
WIFI 802.11a (Band Edge @ 3m)

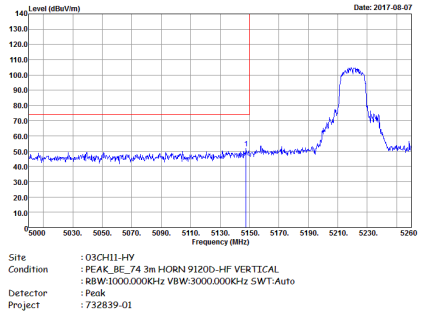
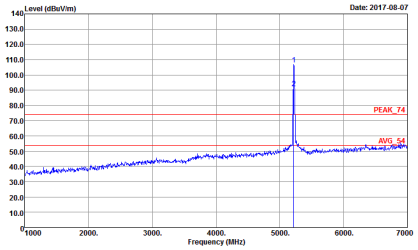
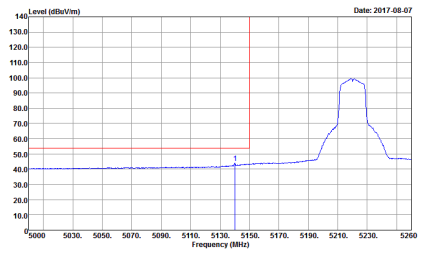
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		

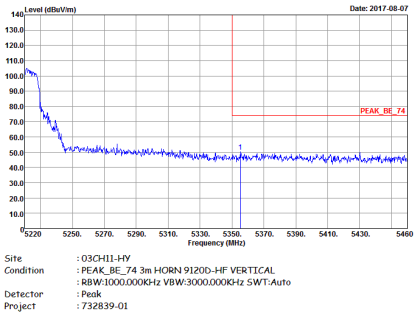
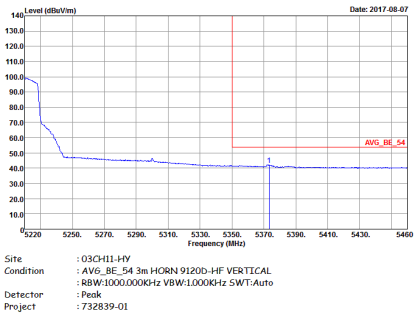
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

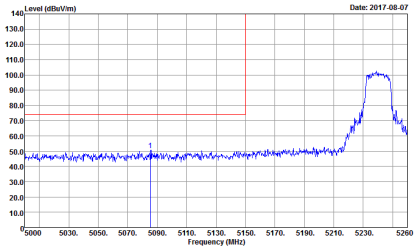
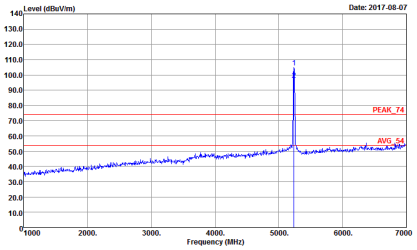
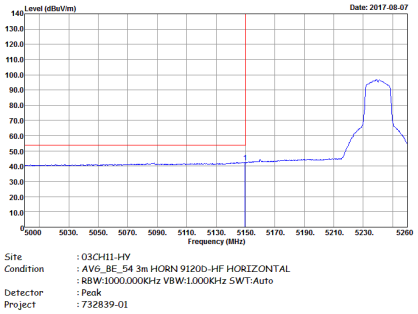
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

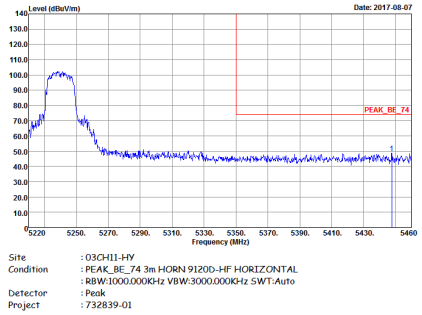
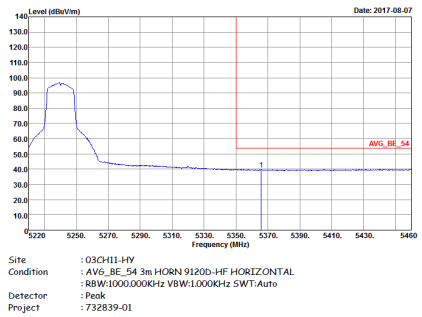
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

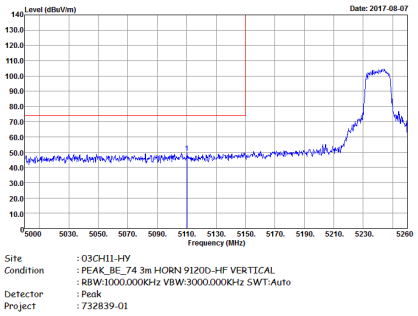
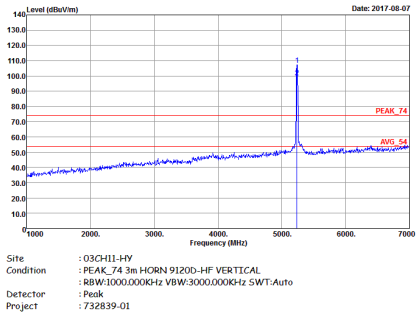
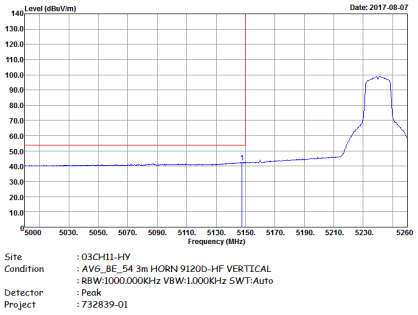
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

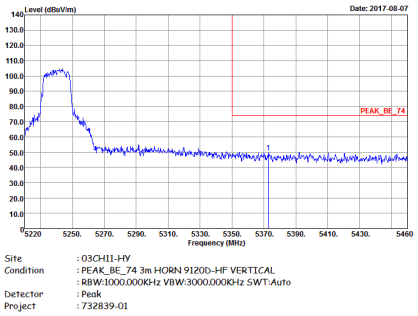
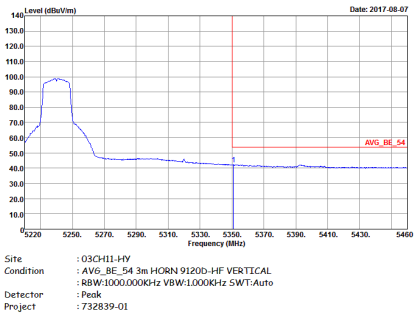
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	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

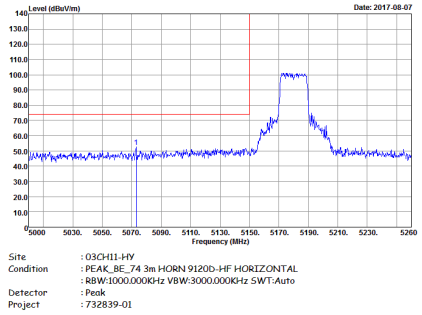
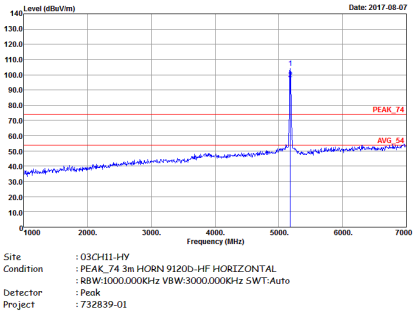
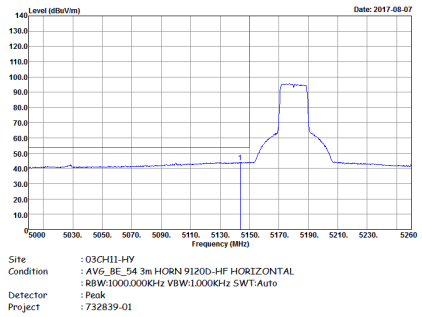
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

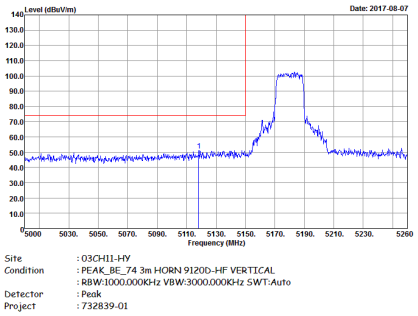
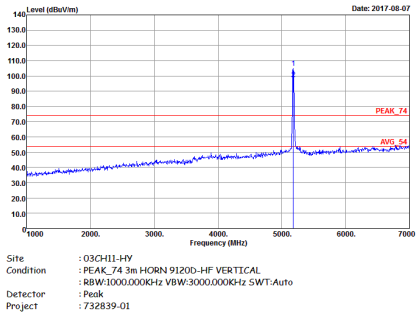
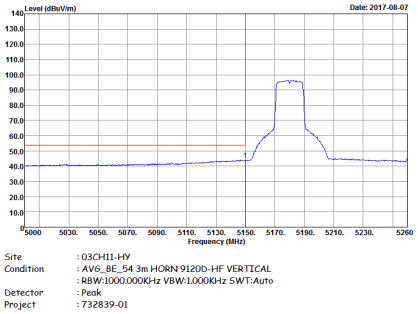
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

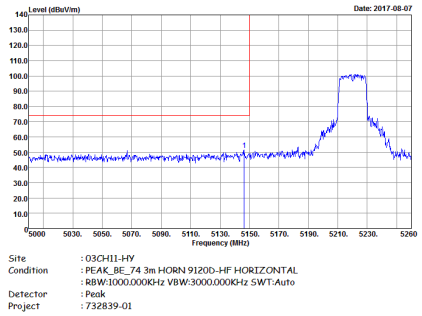
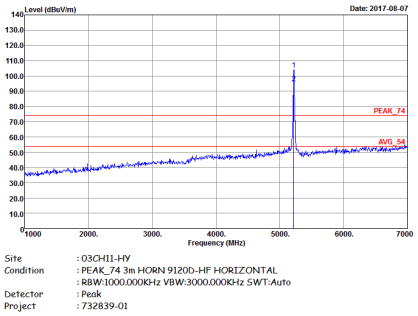
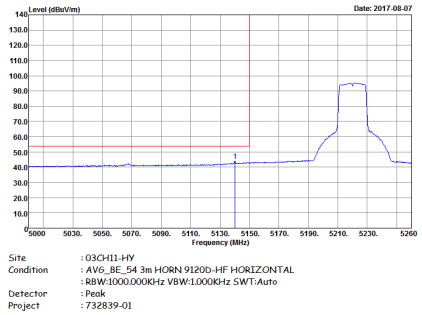
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

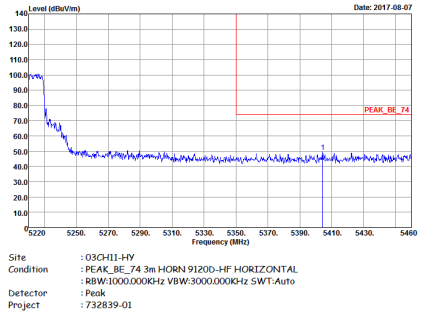
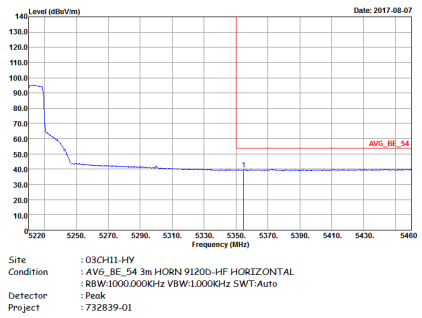
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

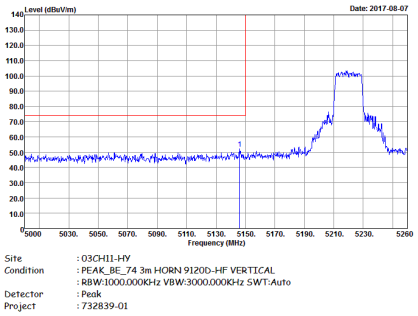
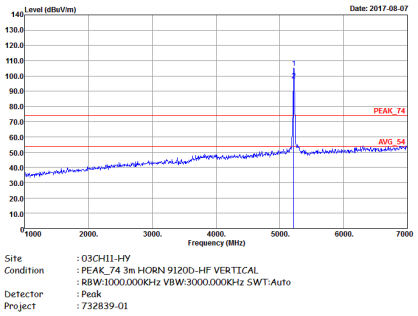
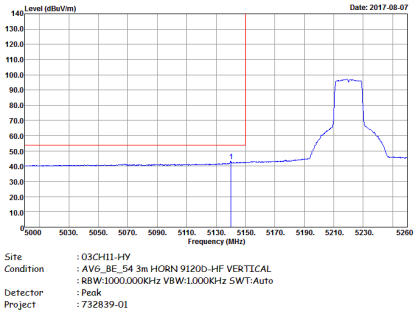
Band 1 5150~5250MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

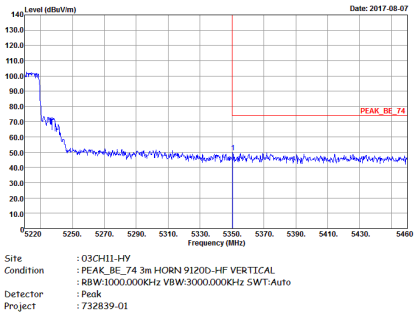
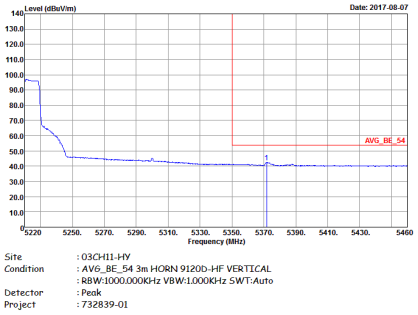
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

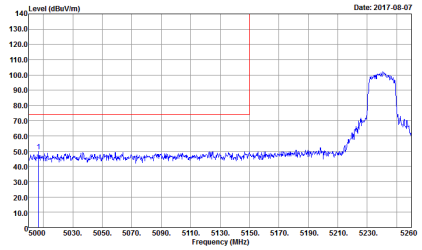
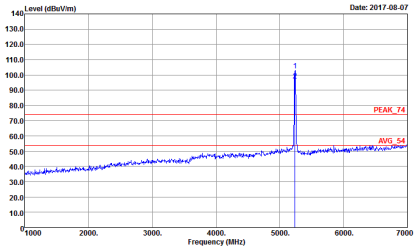
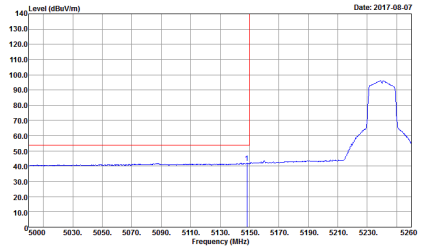
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

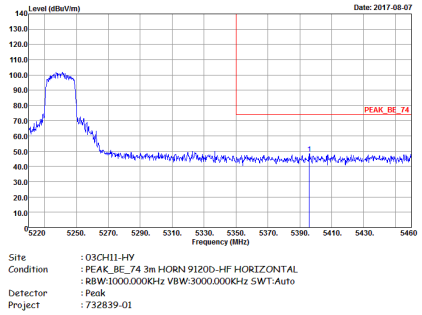
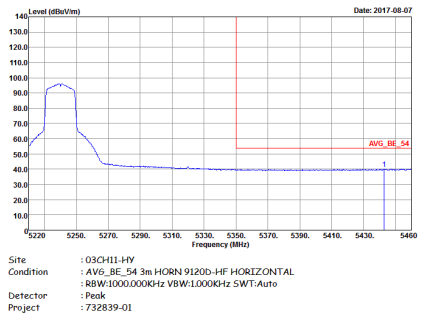
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

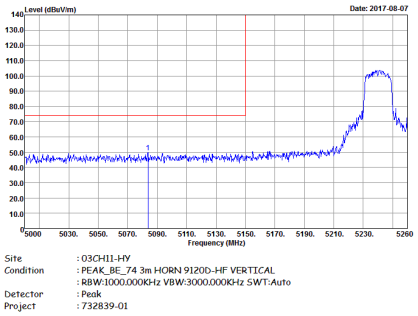
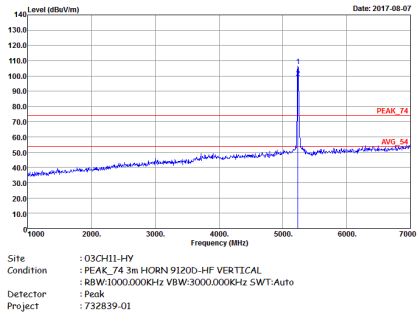
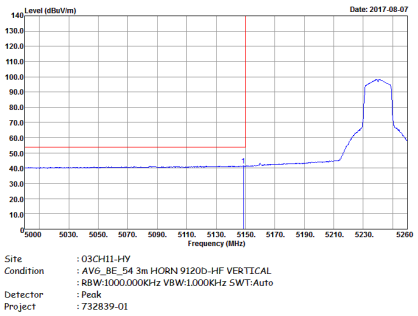
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

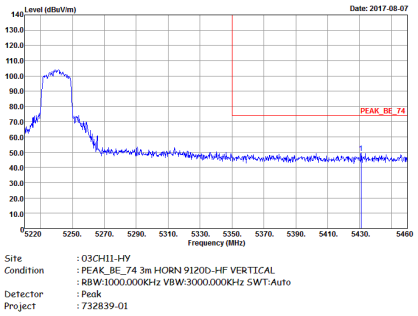
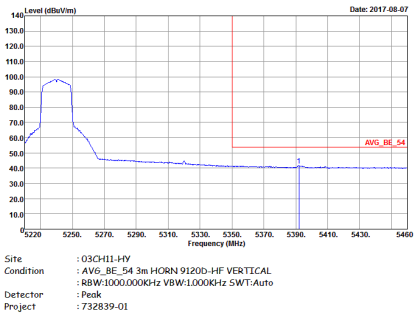
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

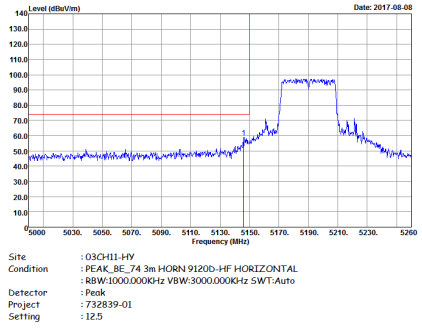
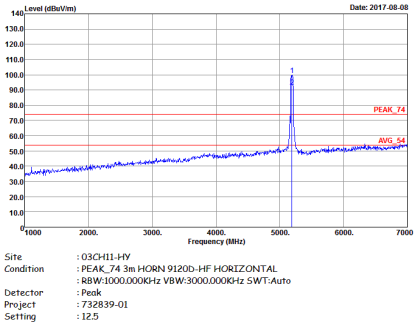
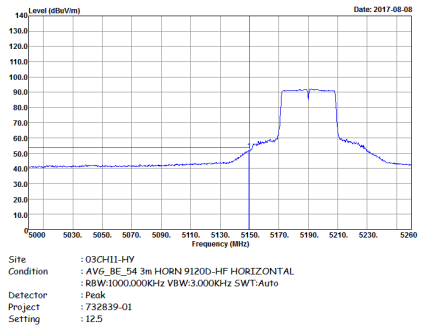
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

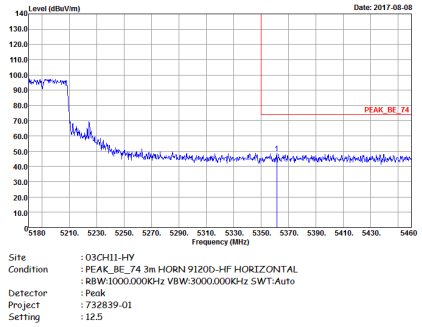
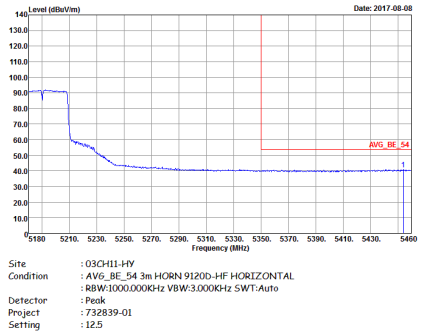
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

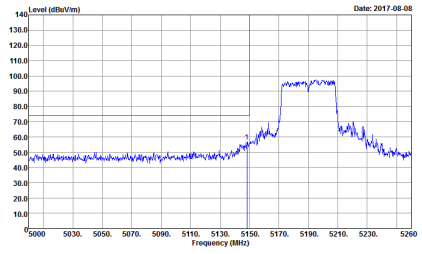
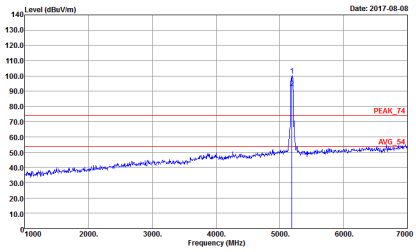
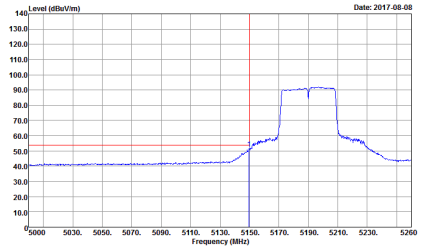
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

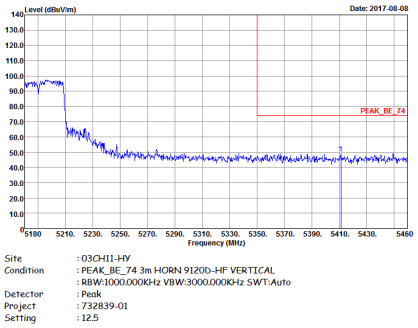
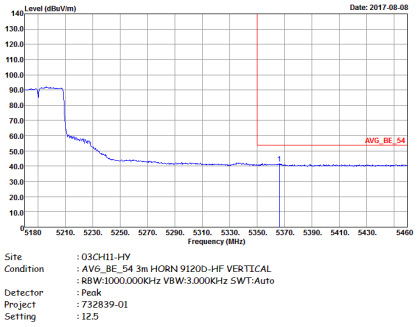
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

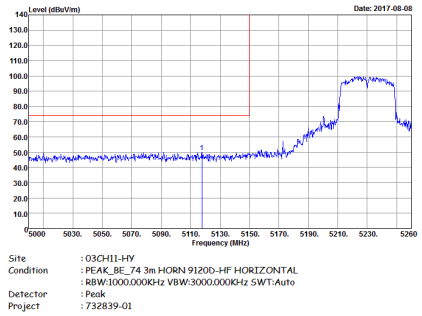
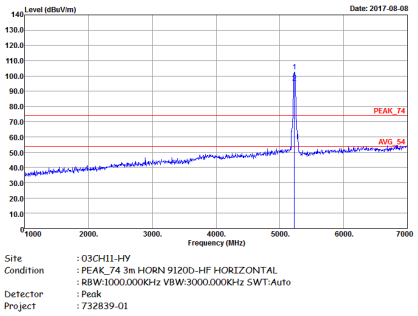
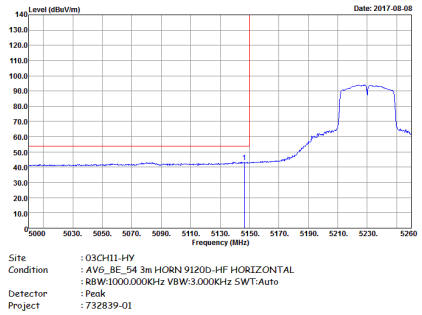
Band 1 5150~5250MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

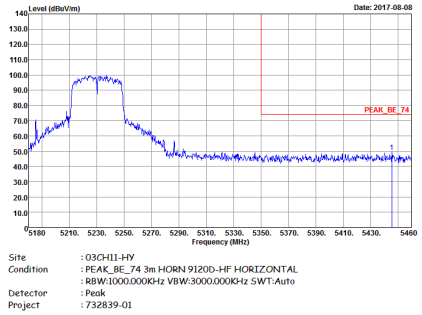
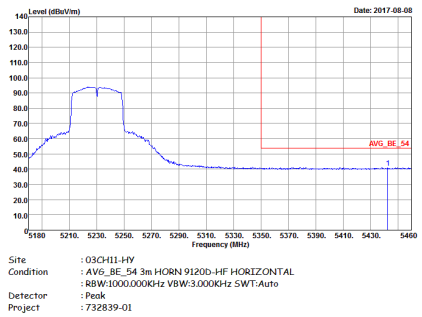
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

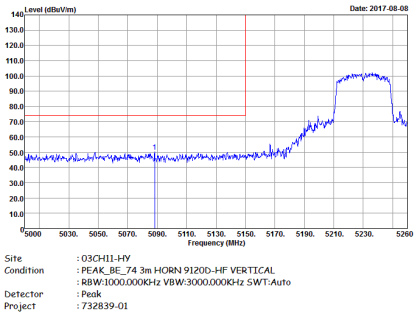
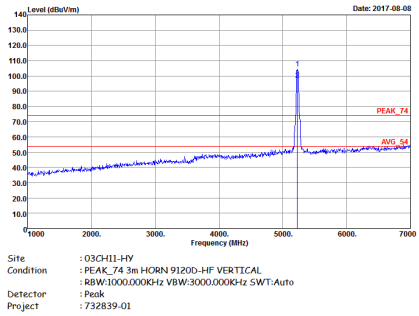
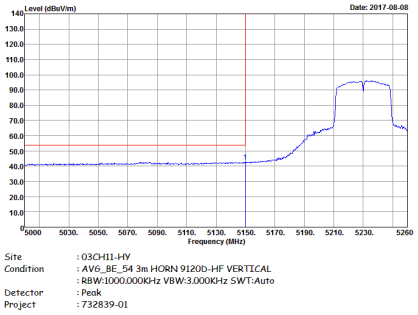
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

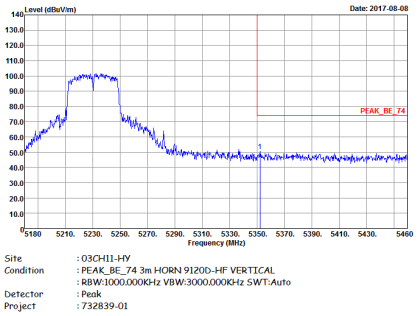
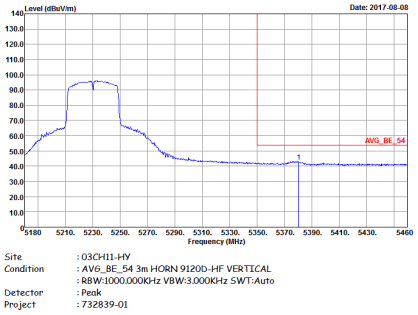
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01 Setting : 12.5	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01 Setting : 12.5
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 732839-01 Setting : 12.5	Left blank

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

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

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

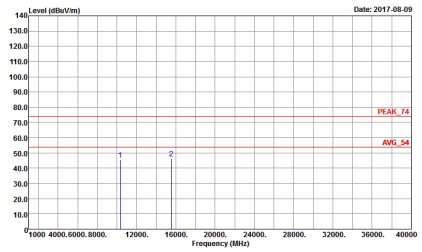
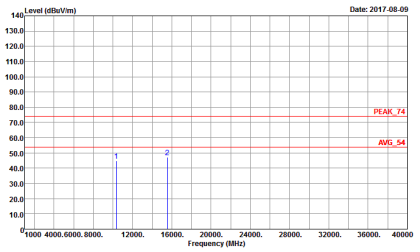
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

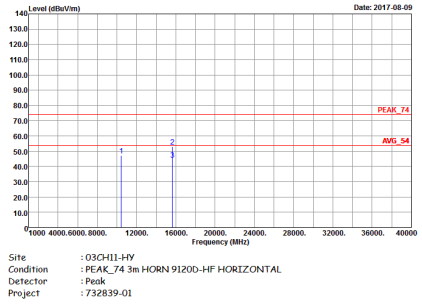
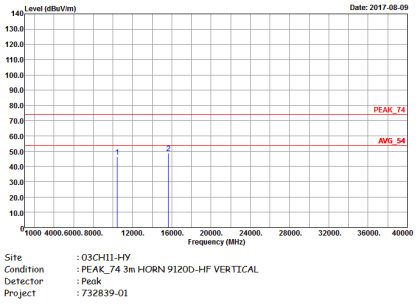
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

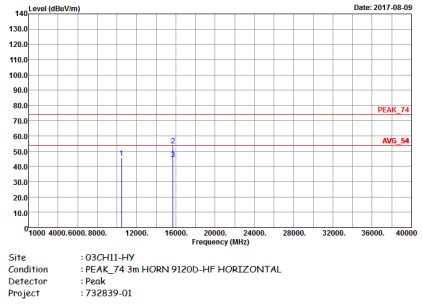
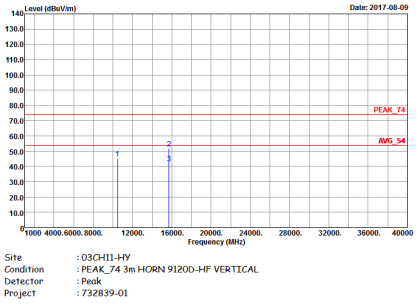
Band 1 5150~5250MHz

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

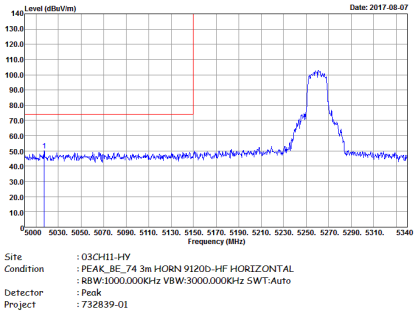
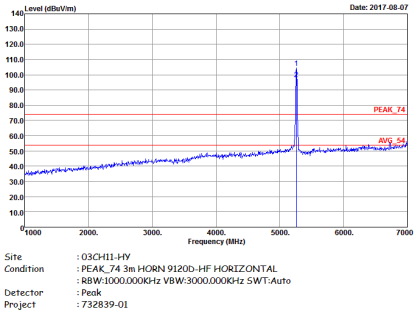
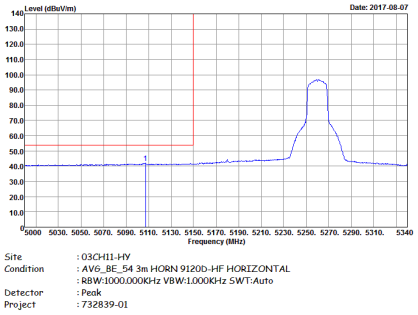
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

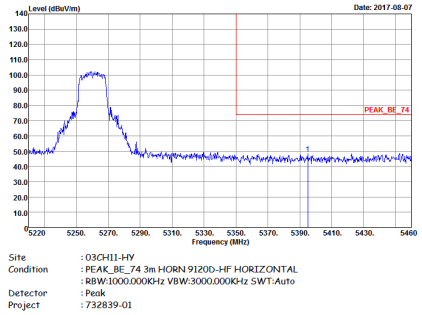
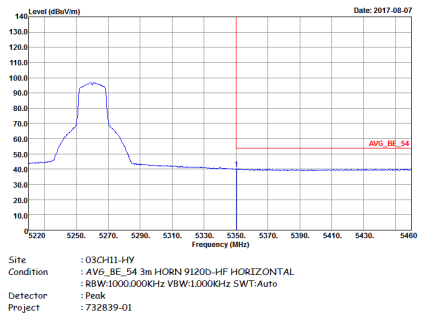
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

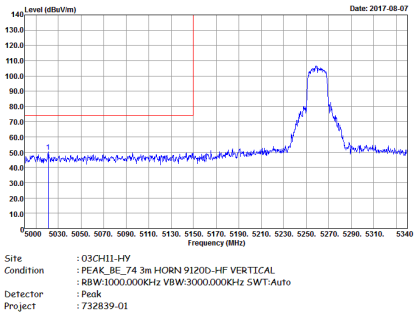
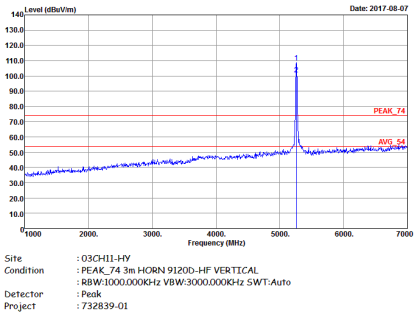
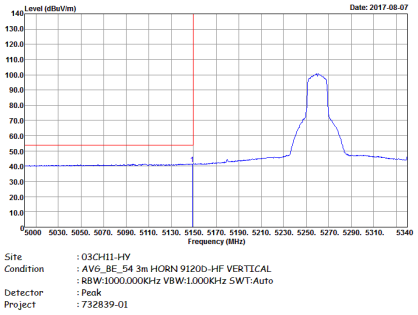
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

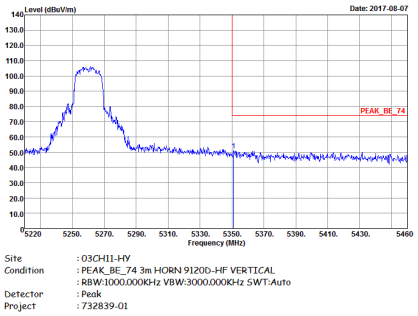
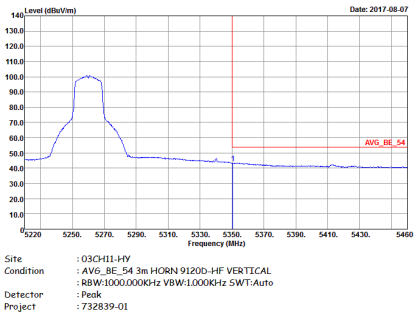
Band 2 - 5250~5350MHz

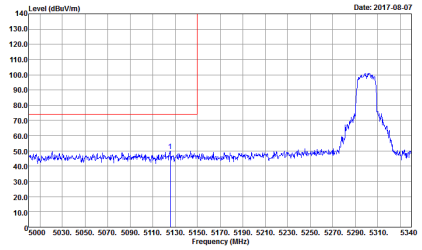
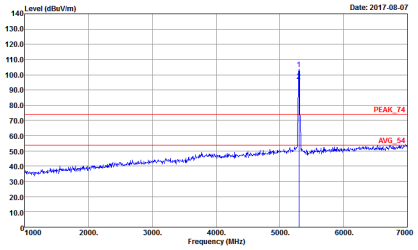
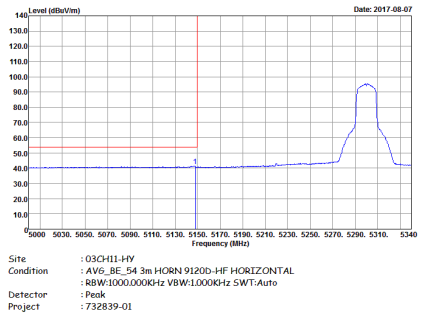
WIFI 802.11a (Band Edge @ 3m)

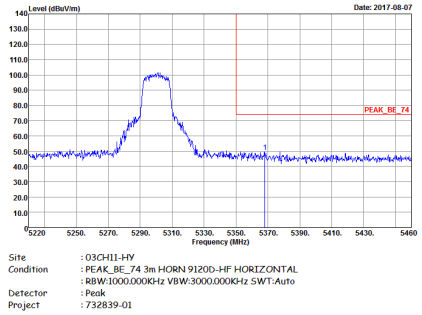
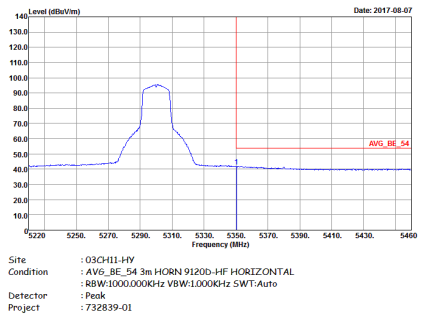
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

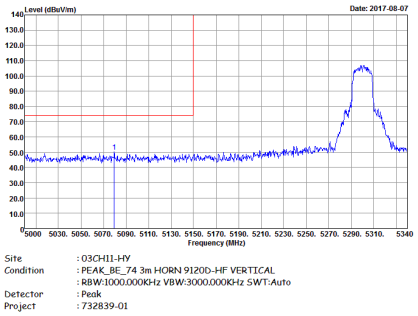
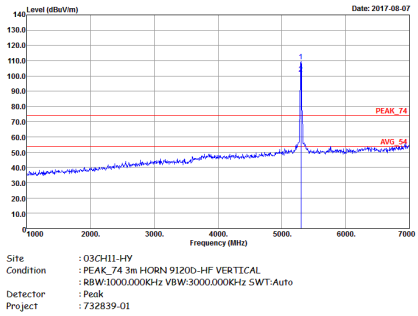
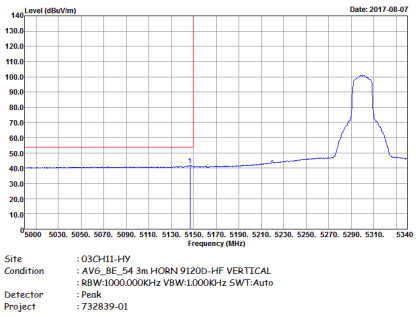
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

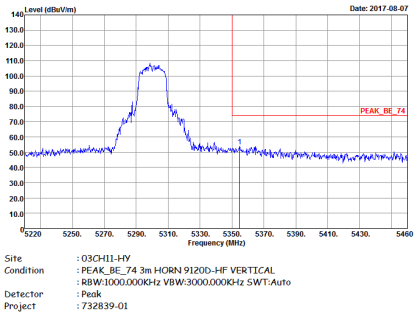
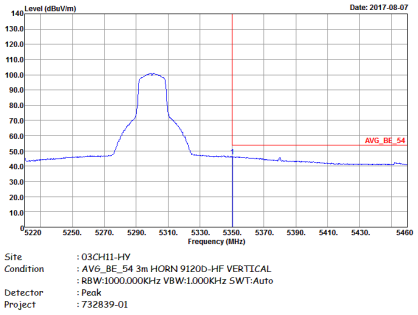
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

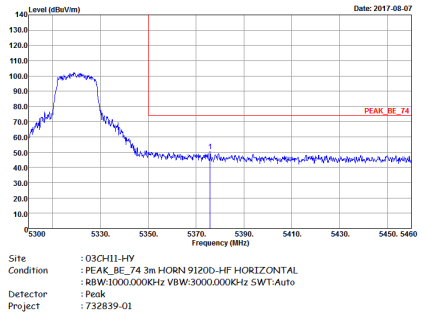
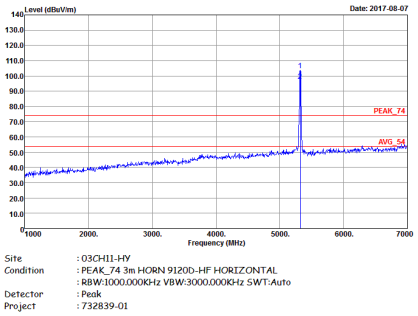
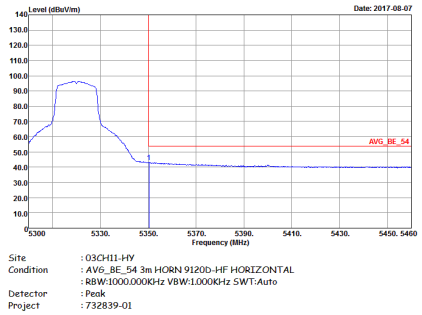
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

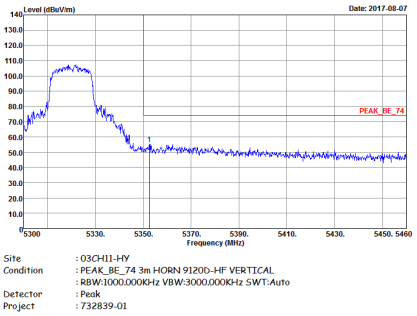
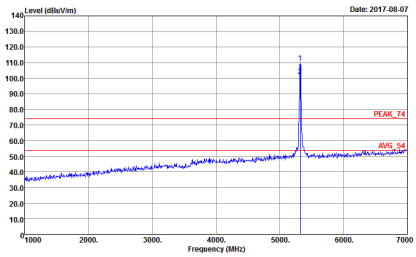
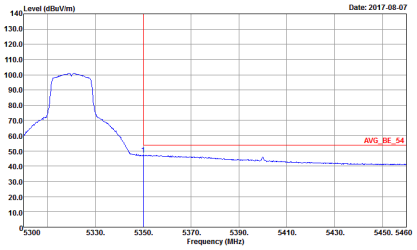
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

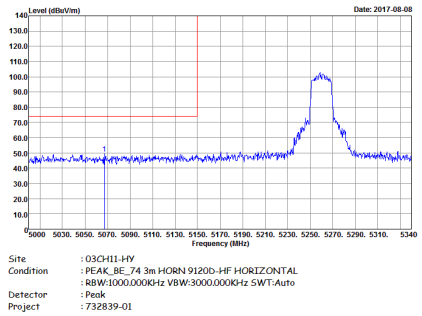
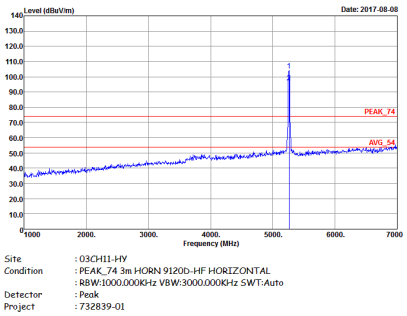
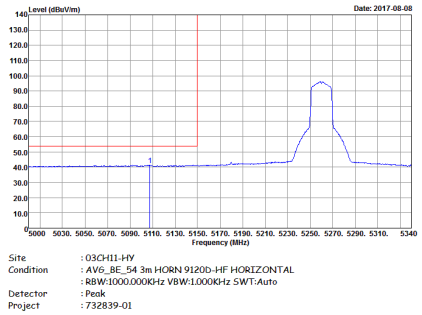
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

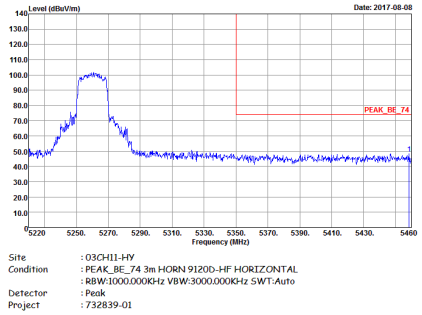
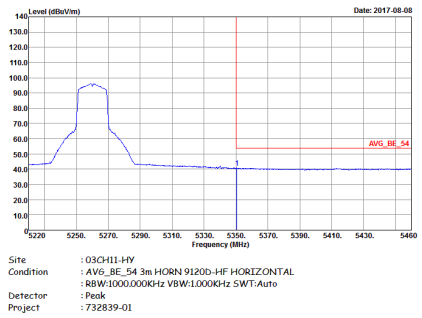
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

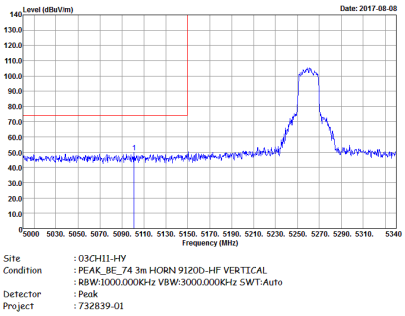
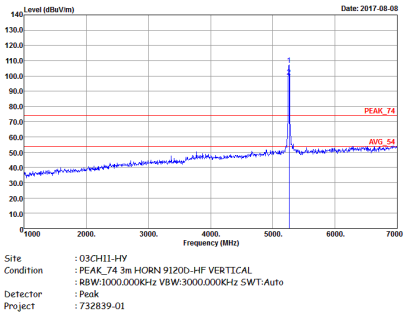
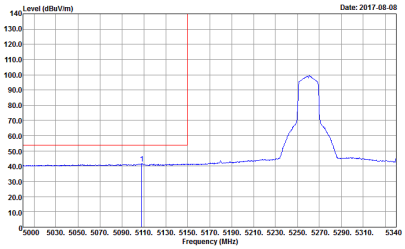
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

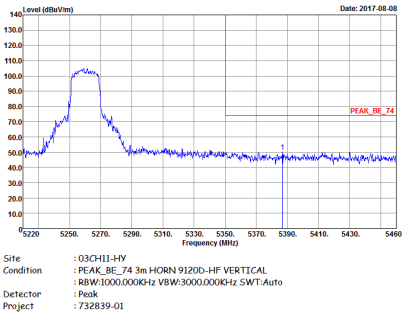
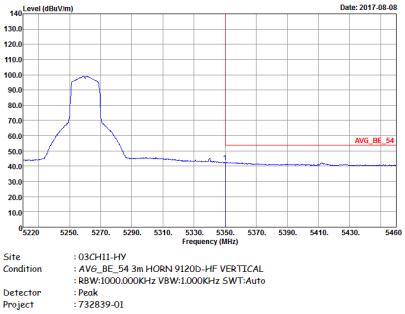
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

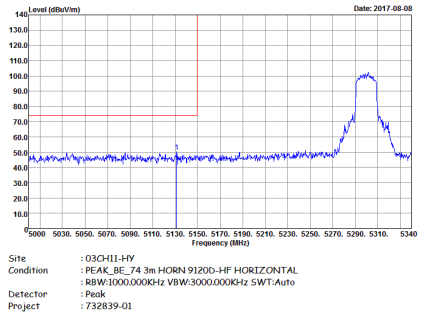
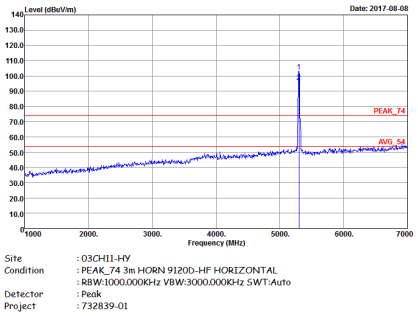
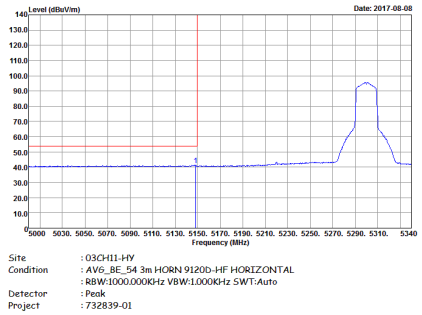
Band 2 5250~5350MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

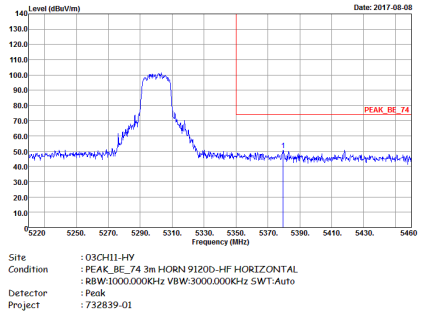
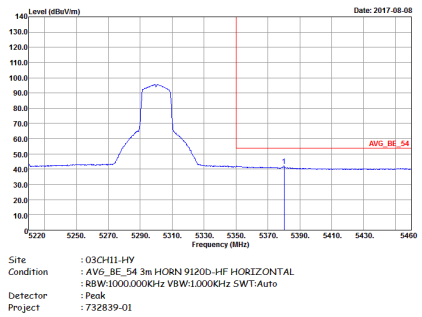
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

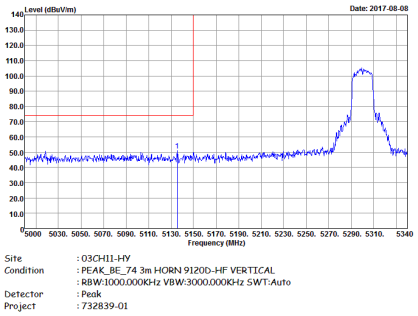
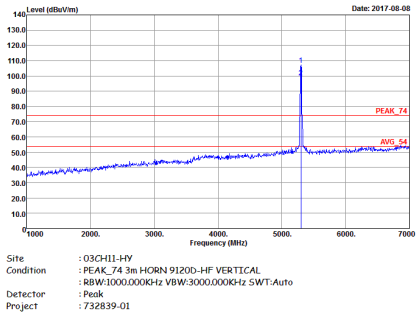
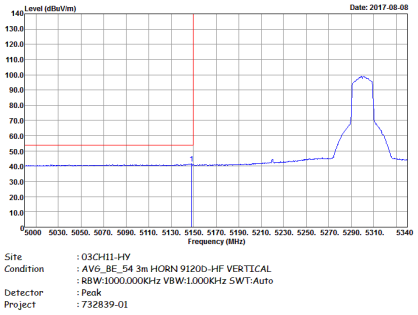
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

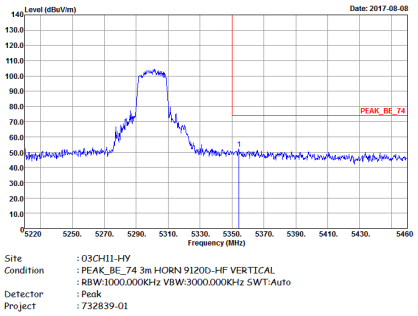
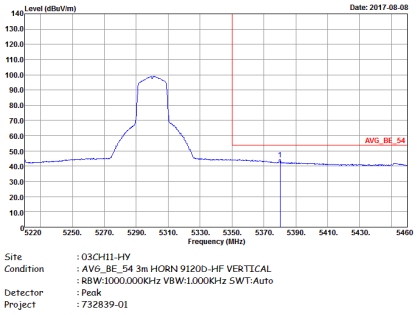
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

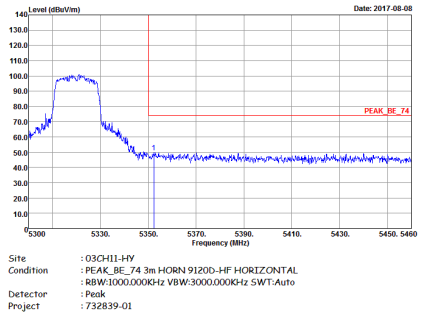
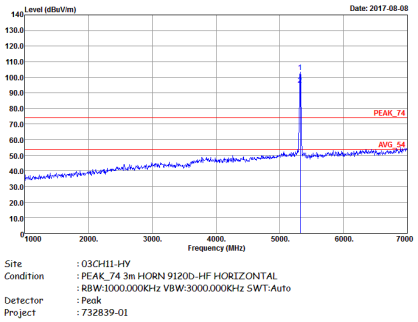
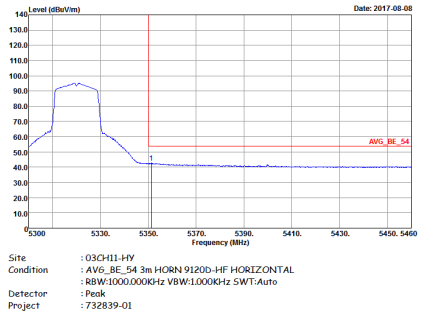
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

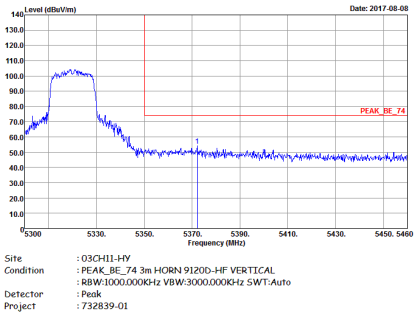
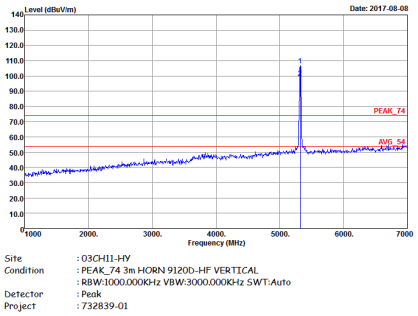
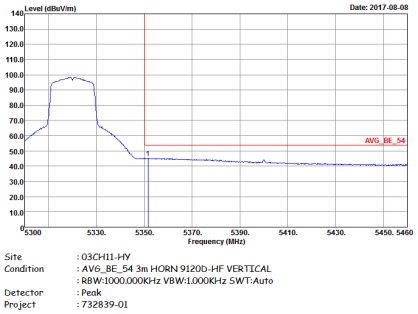
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

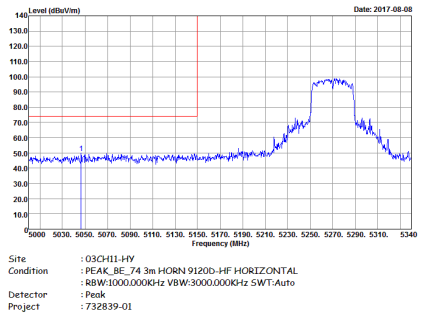
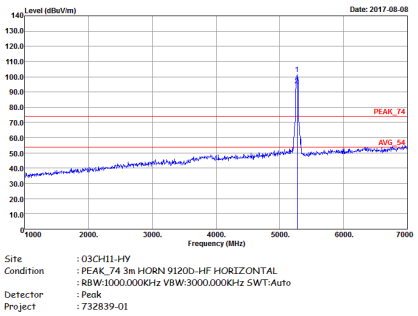
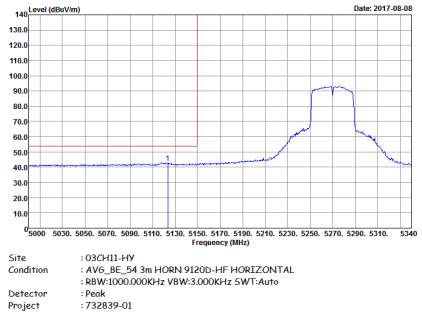
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

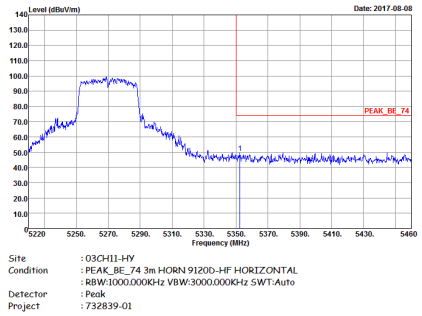
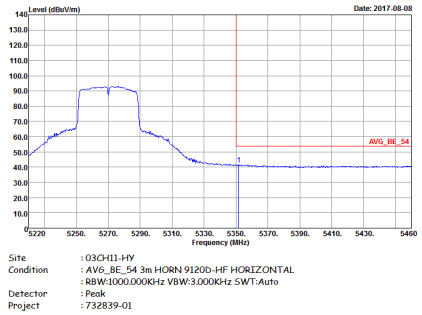
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

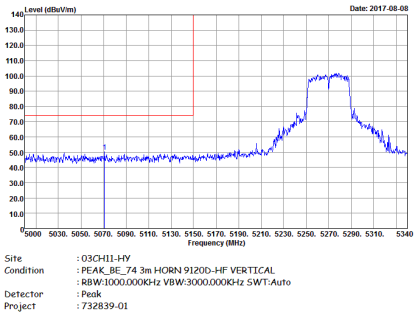
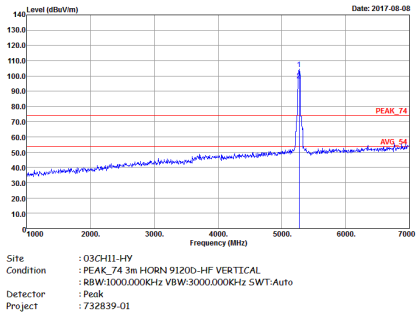
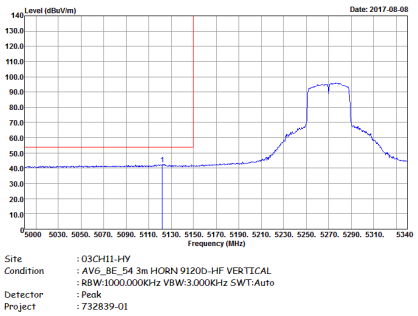
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

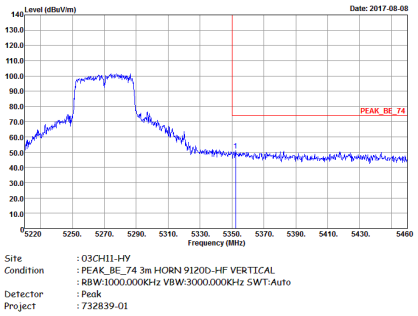
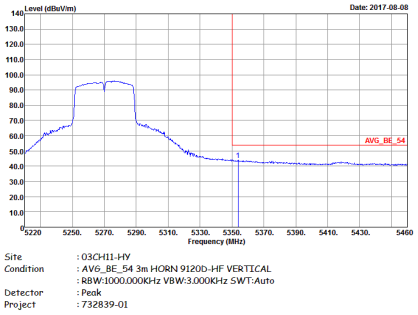
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

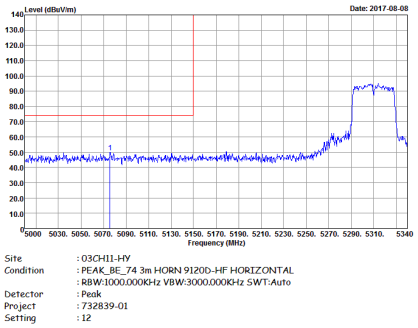
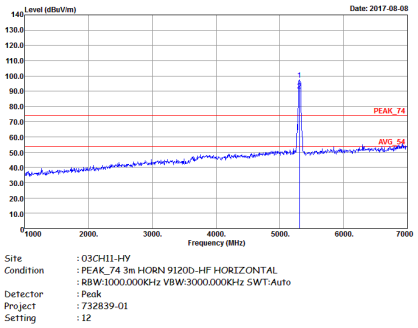
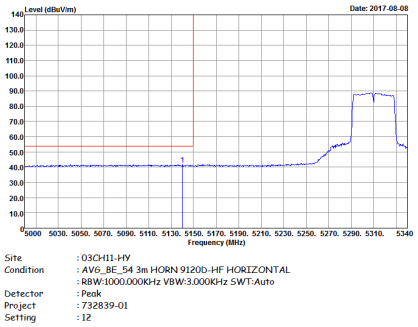
Band 2 5250~5350MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

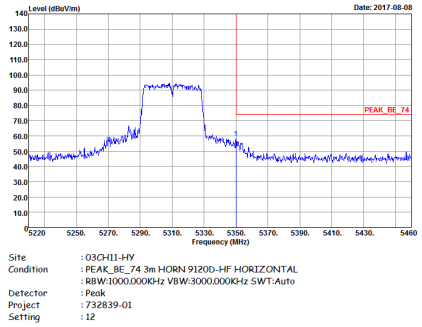
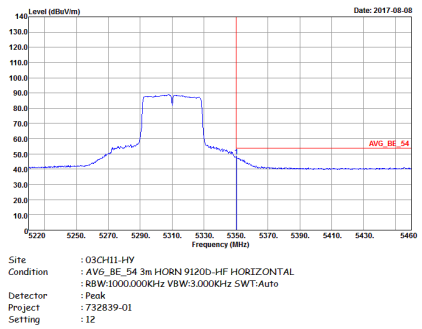
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

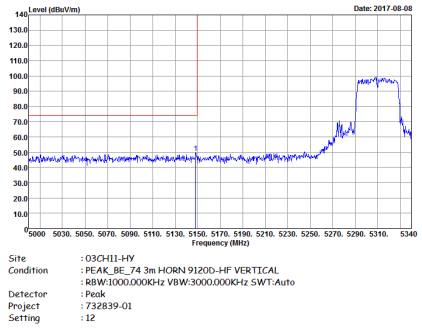
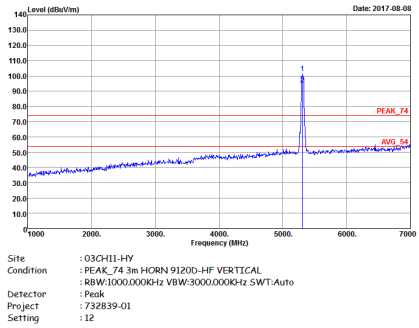
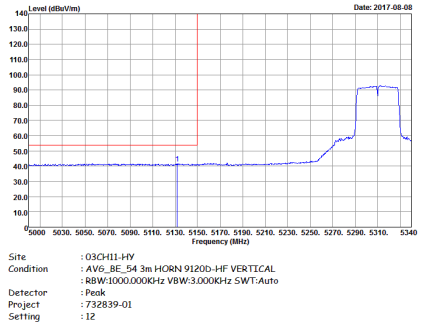
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

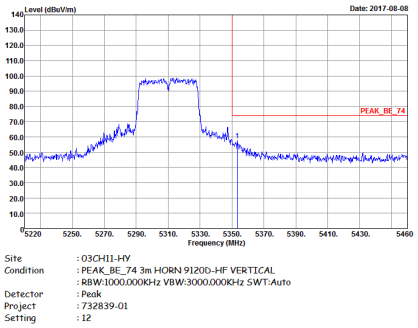
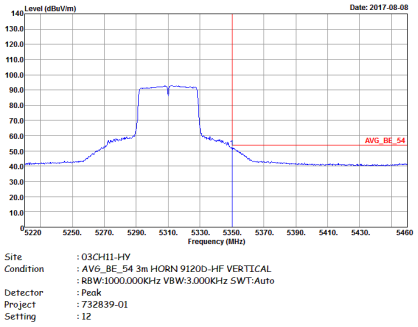
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1	Vertical	Vertical
Peak		
Avg.		Left blank

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

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

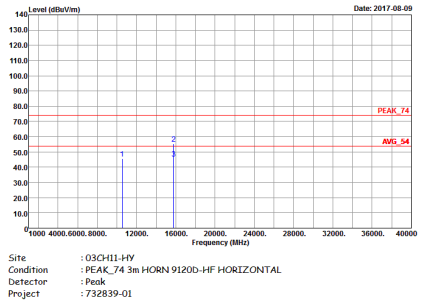
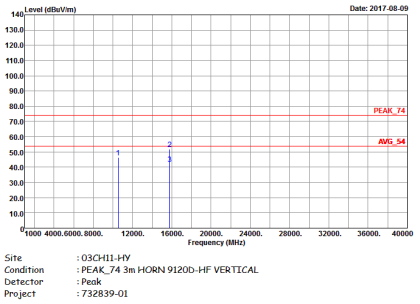
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

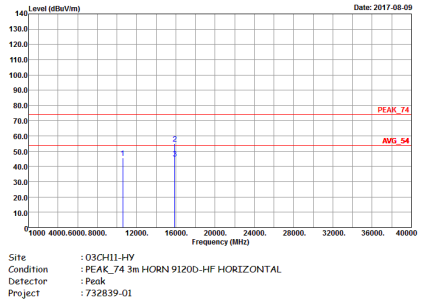
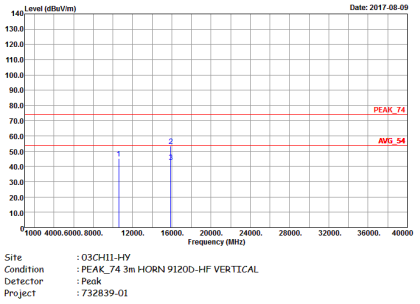
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

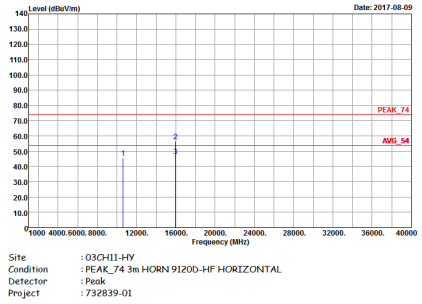
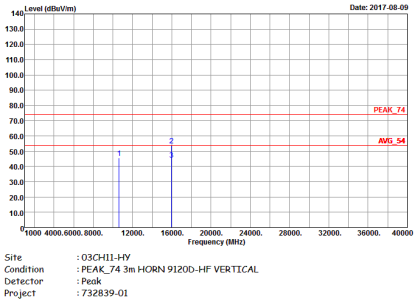
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 2 - 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

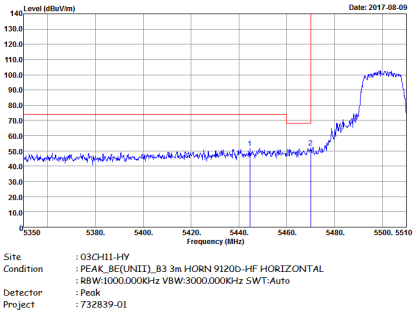
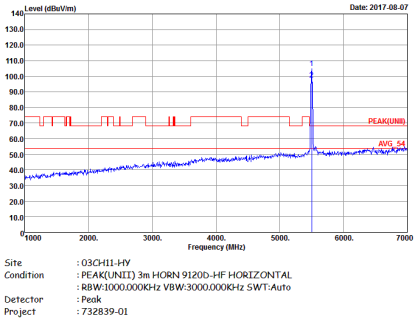
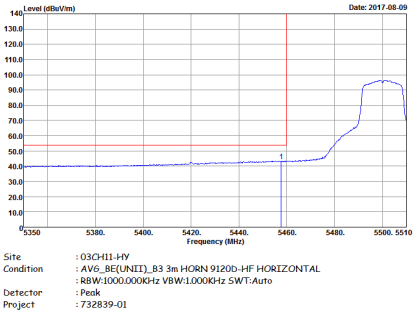
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

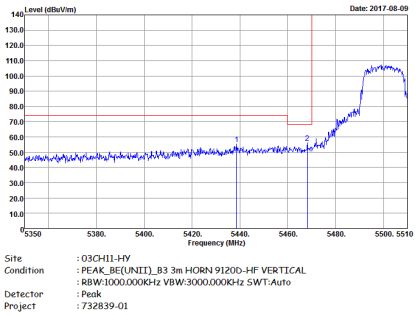
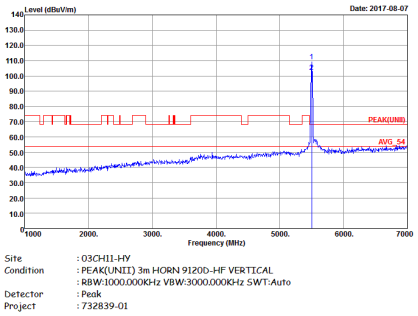
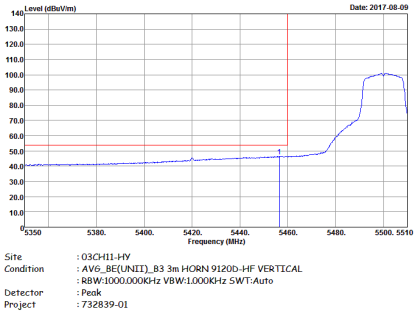
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

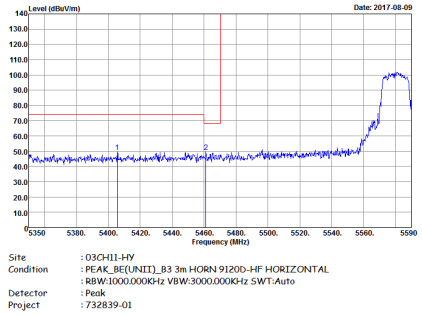
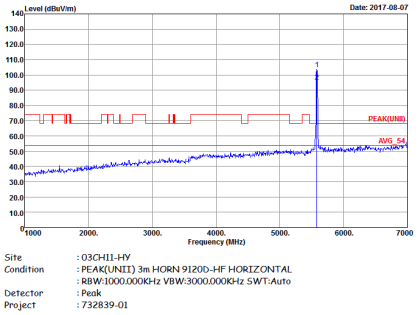
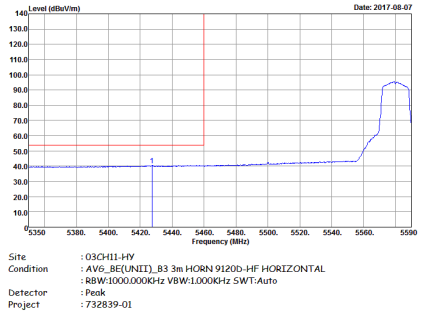
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

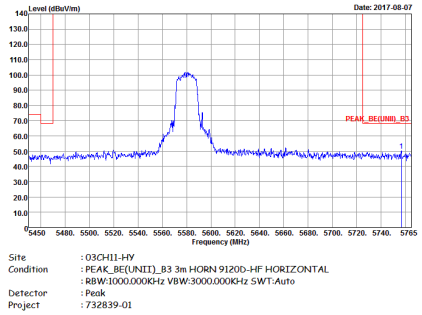
Band 3 - 5470~5725MHz

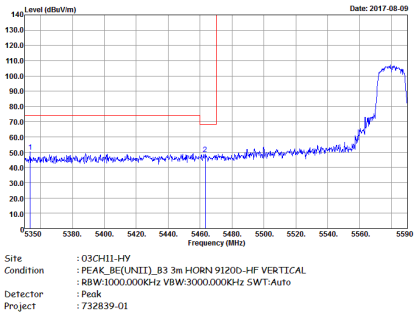
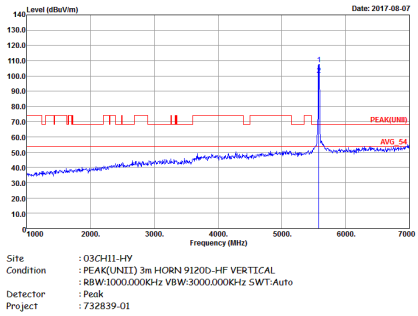
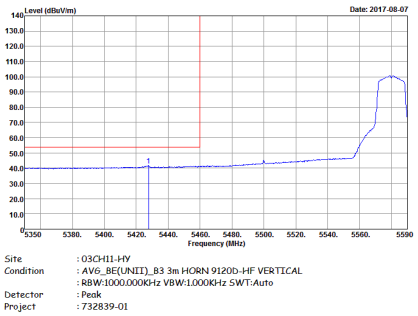
WIFI 802.11a (Band Edge @ 3m)

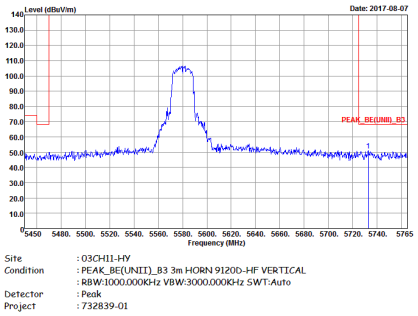
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

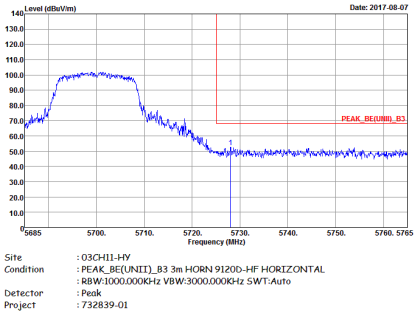
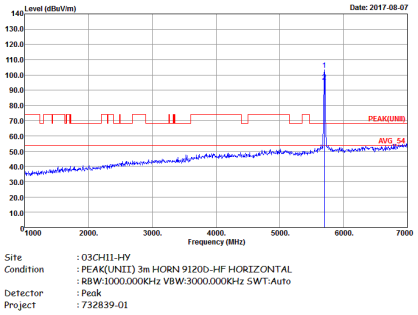
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

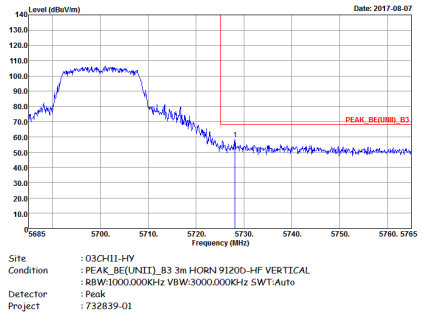
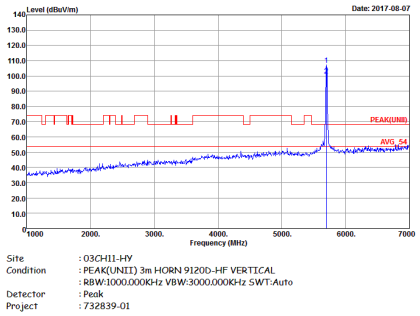
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

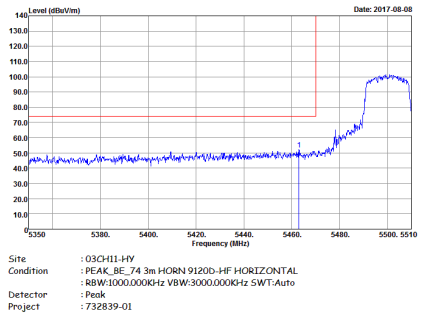
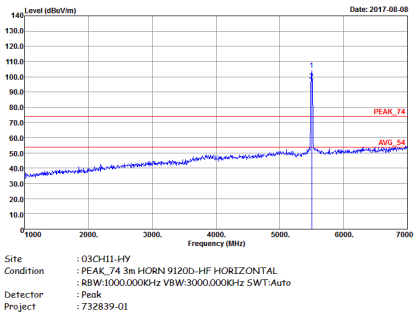
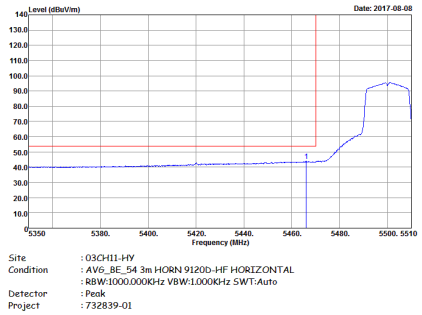
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

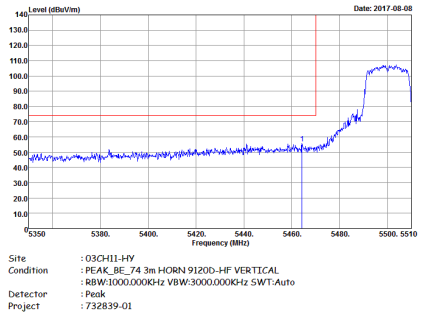
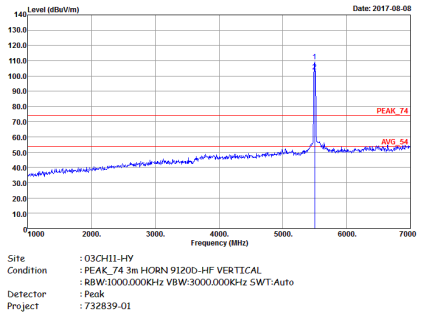
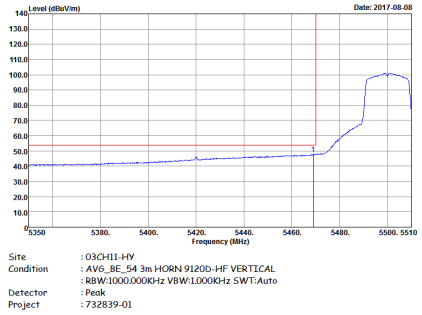
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank

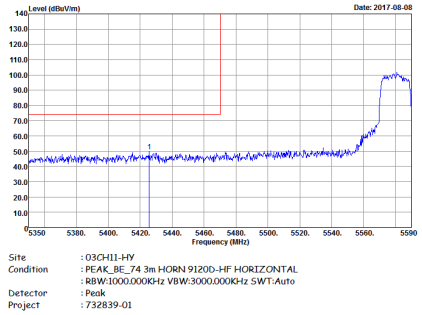
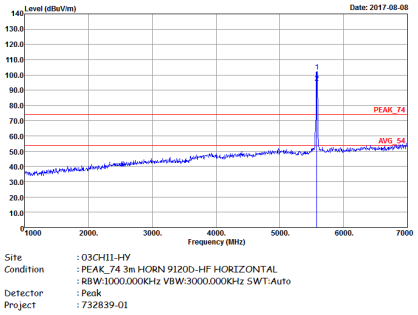
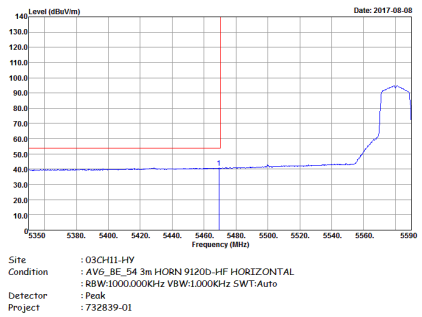
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01

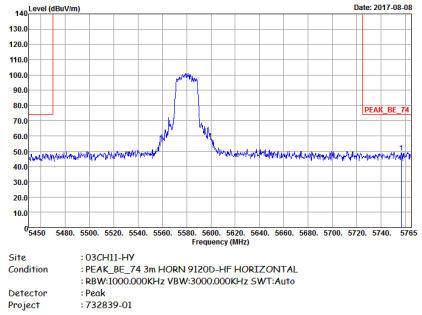
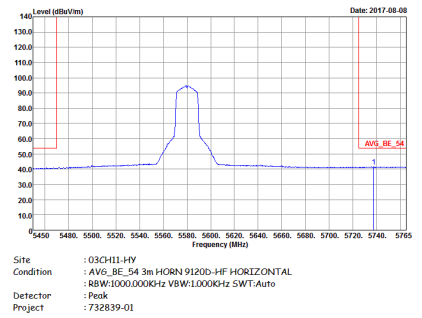
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Vertical	Fundamental
Peak		

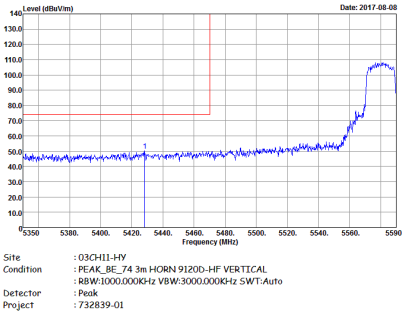
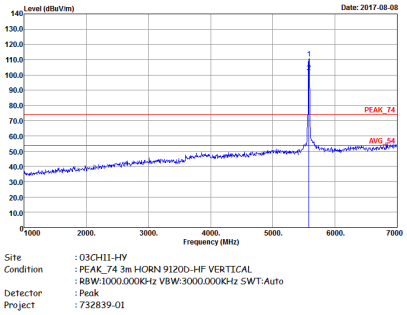
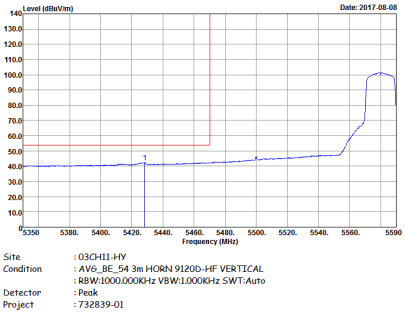
Band 3 5470~5725MHz
WIFI 802.11n HT20 (Band Edge @ 3m)

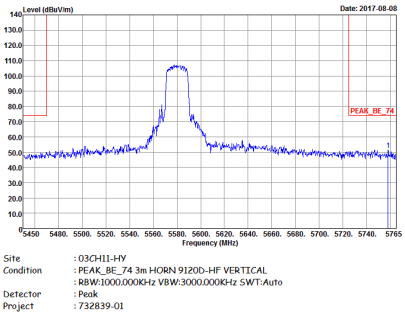
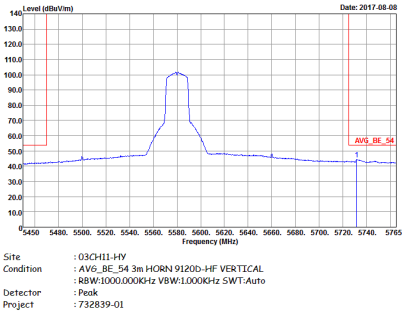
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

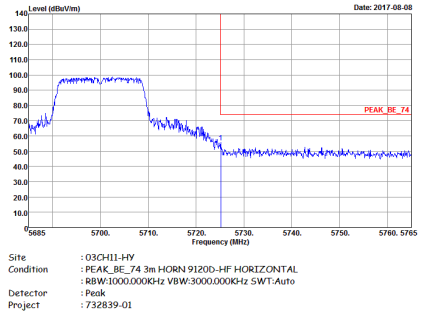
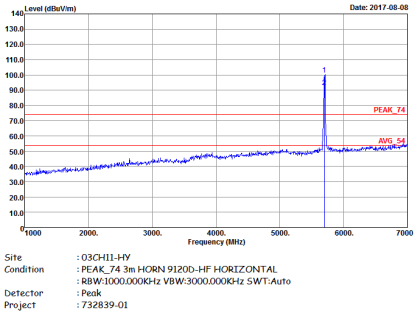
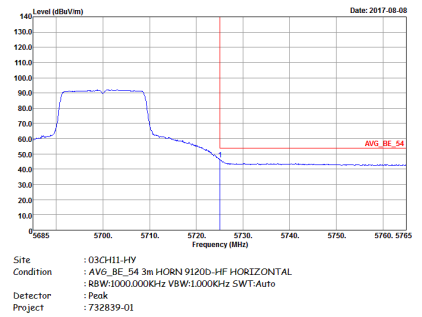
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

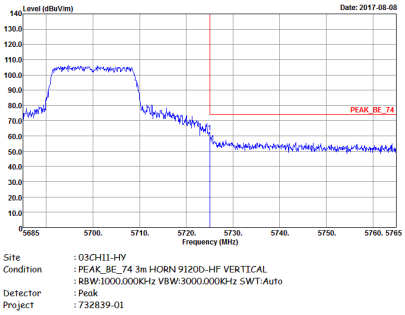
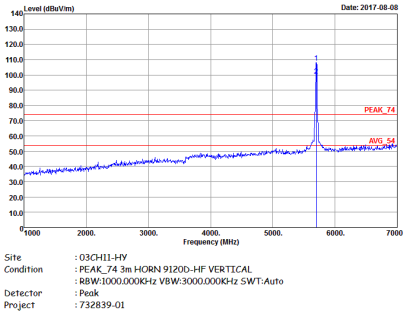
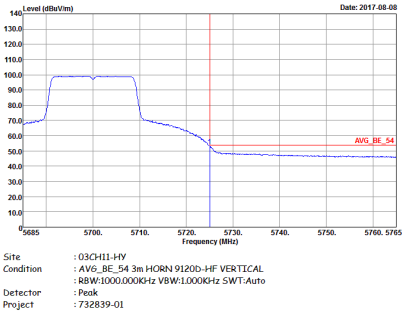
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

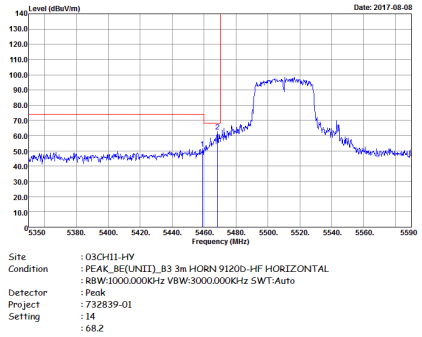
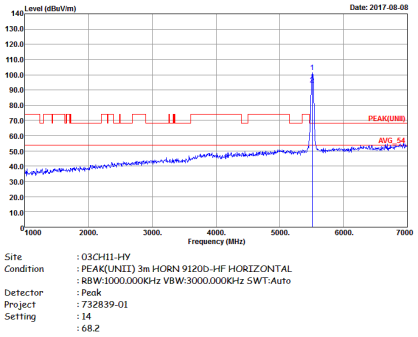
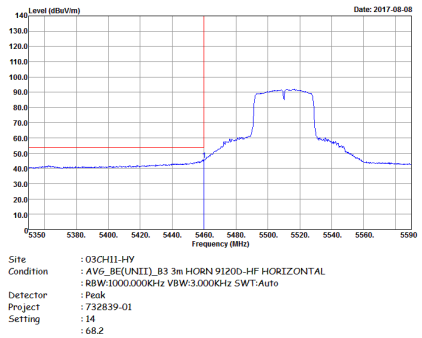
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

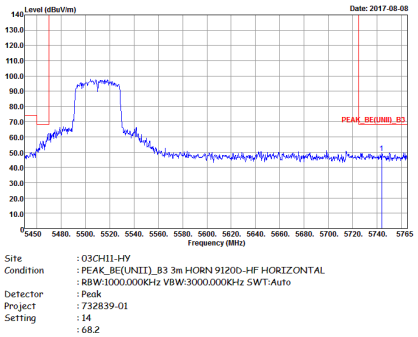
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

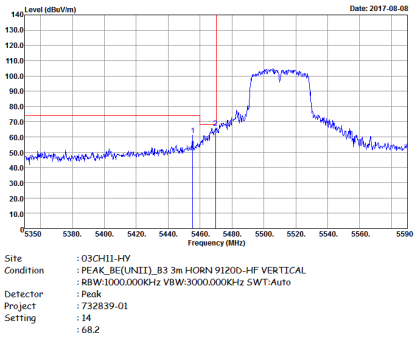
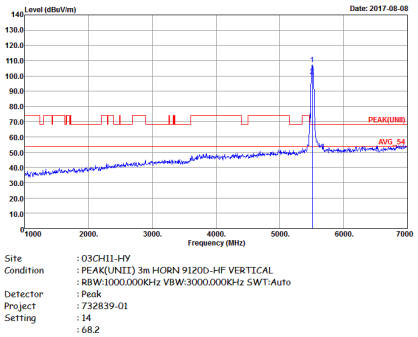
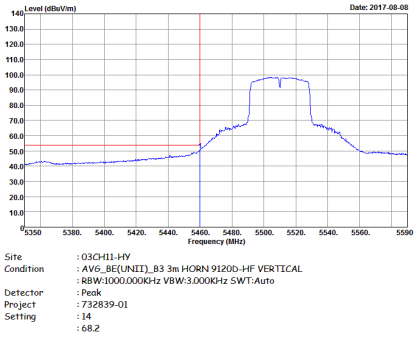
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 732839-01	Left blank

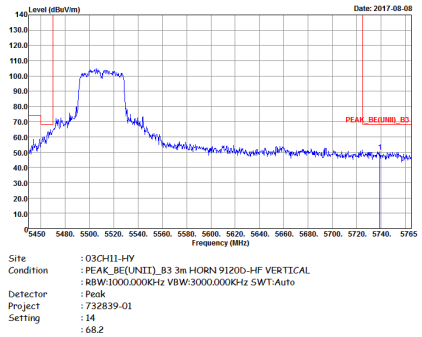
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Vertical	Fundamental
Peak.		
Avg.		Left blank

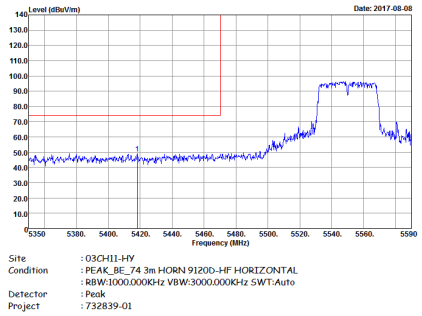
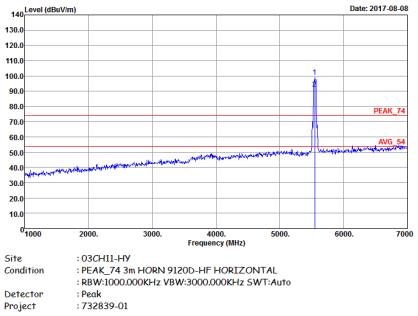
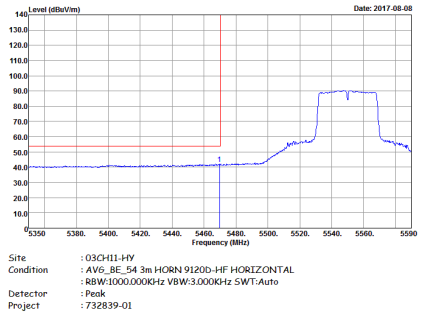
Band 3 5470~5725MHz
WIFI 802.11n HT40 (Band Edge @ 3m)

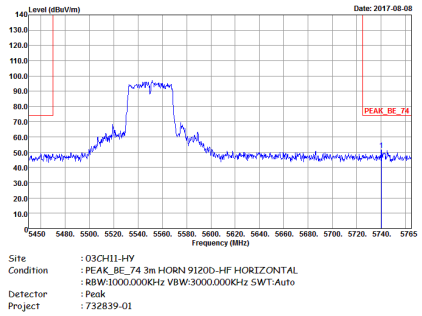
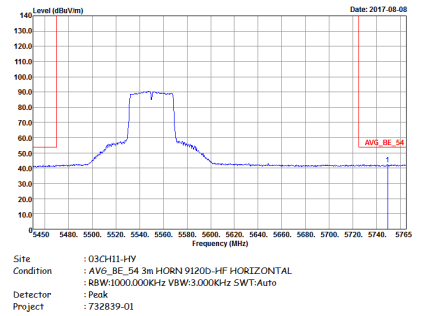
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

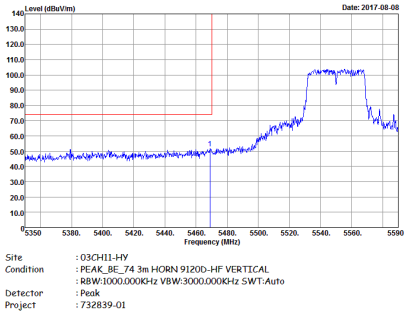
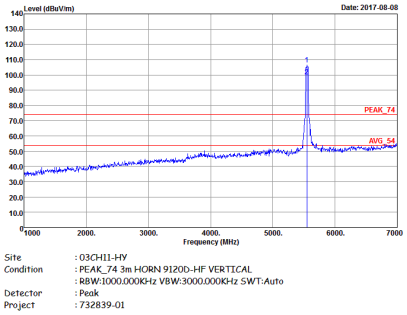
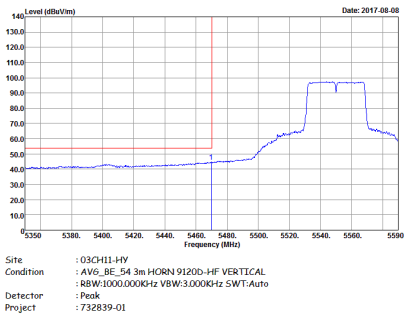
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01 Setting : 14 : 68.2	Left blank

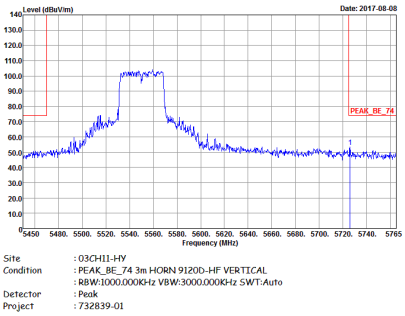
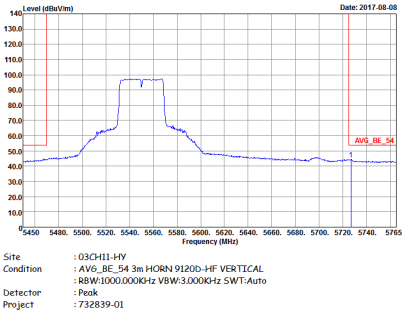
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

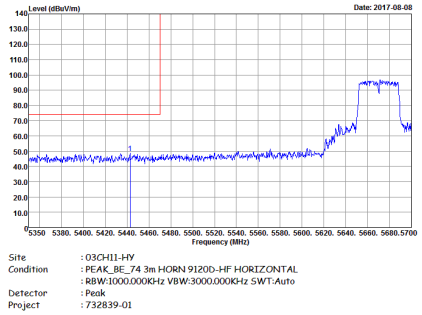
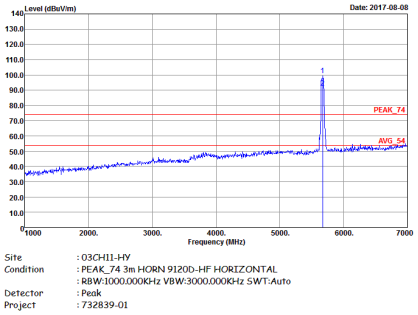
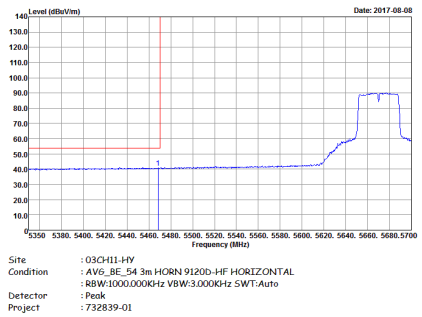
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(UNII)_B3 3m HORN 9120D-HF VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 732839-01 Setting : 14 : 68.2	Left blank

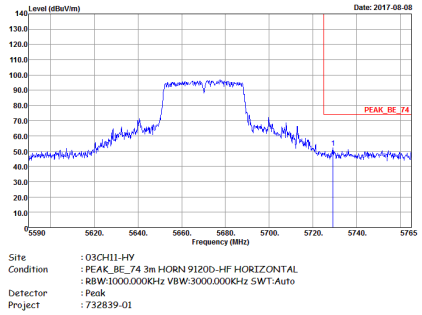
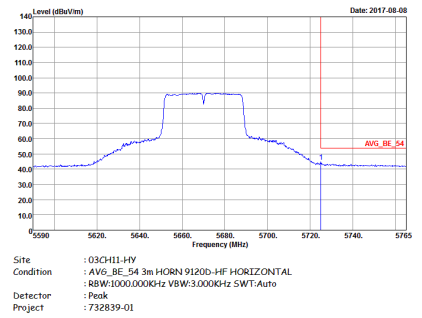
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

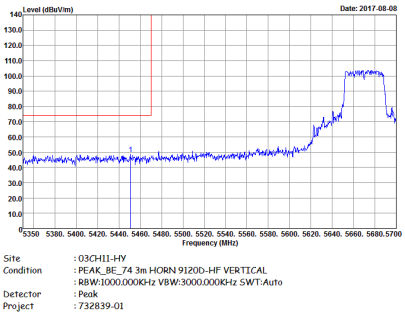
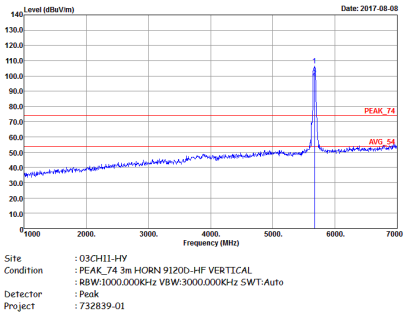
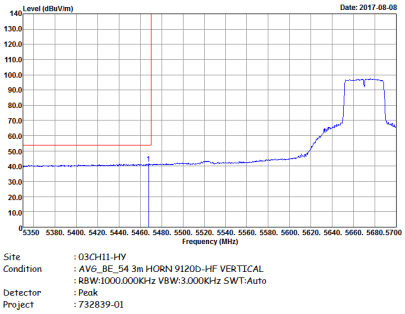
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

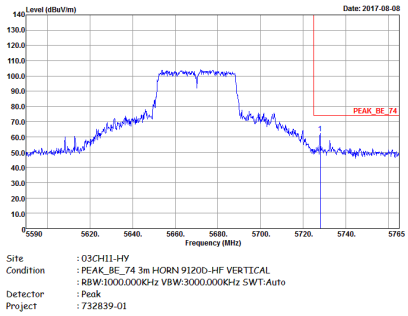
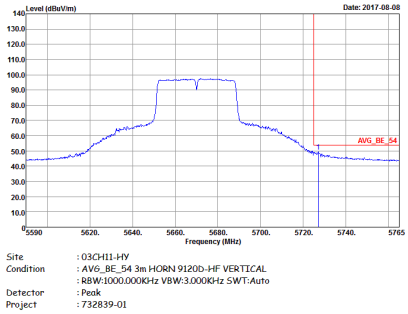
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

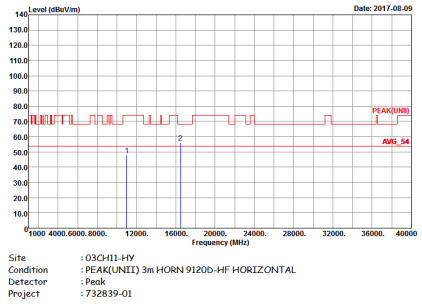
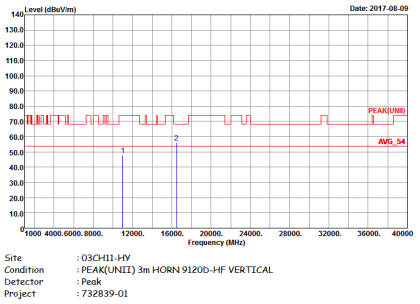
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

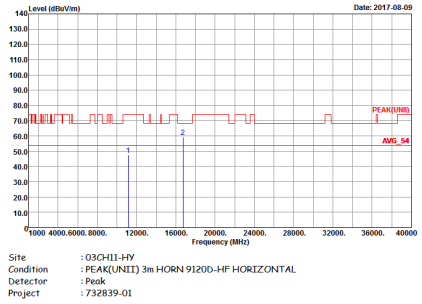
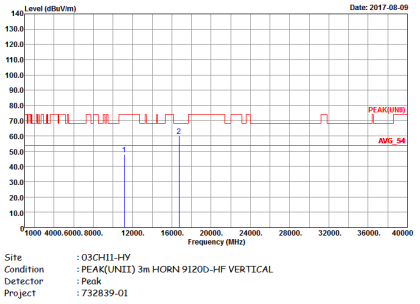
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

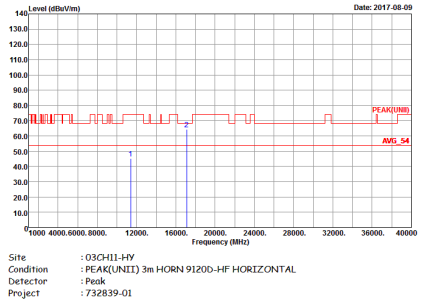
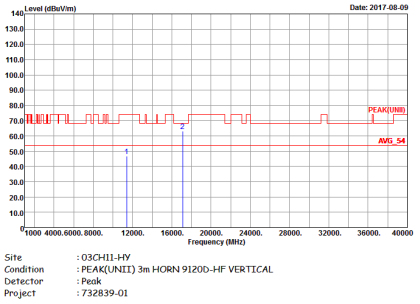
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

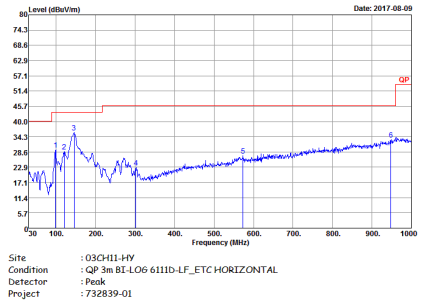
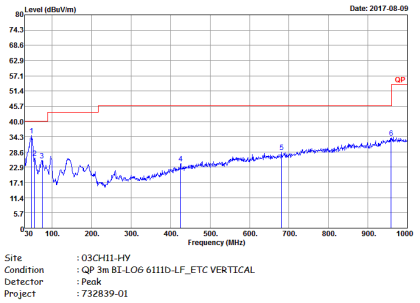
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

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.		

Emission below 1GHz

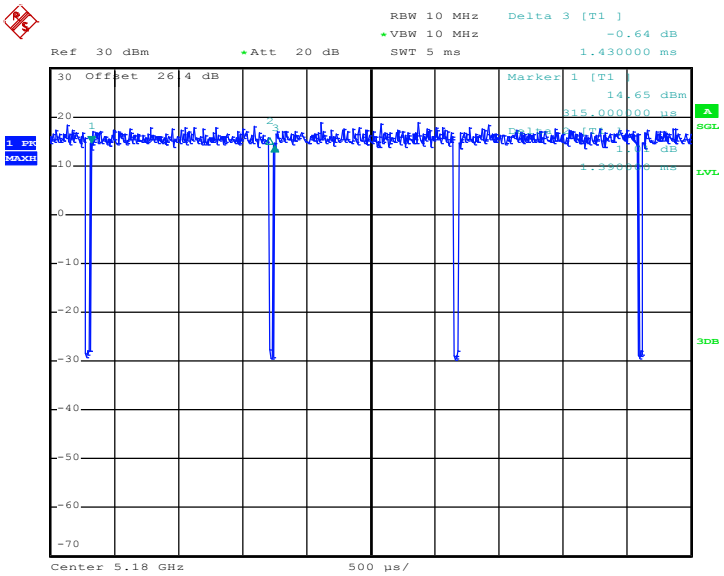
5GHz WIFI 802.11n HT20 (LF)

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

Appendix E. Duty Cycle Plots

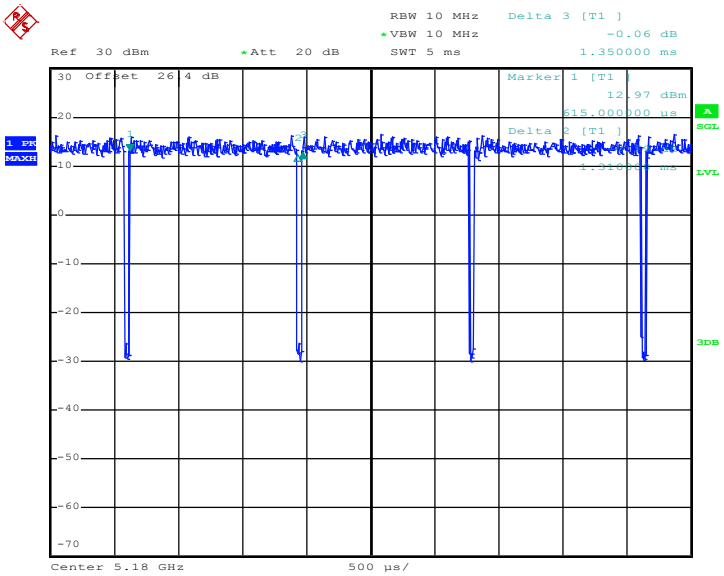
Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	97.203	1390	0.72	1kHz
5GHz 802.11n HT20	97.037	1310	0.76	
5GHz 802.11n HT40	94.737	648	1.54	3kHz

802.11a



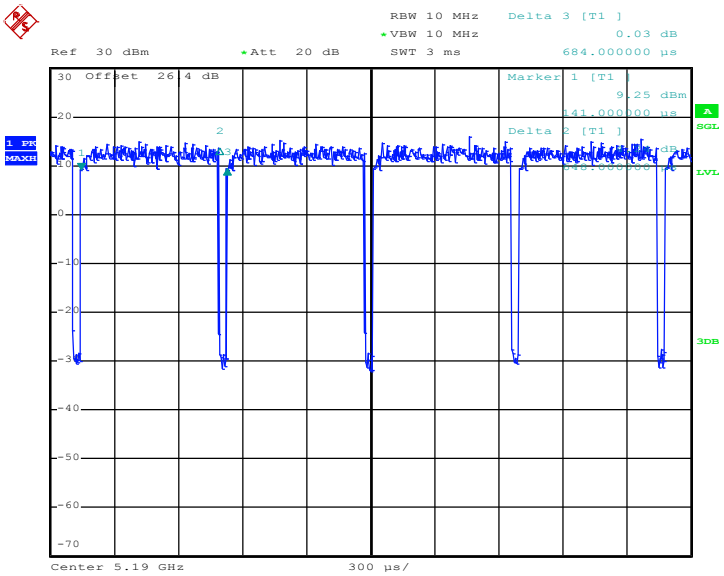
Date: 27.JUL.2017 23:08:31

802.11n HT20



Date: 28.JUL.2017 00:58:09

802.11n HT40



Date: 28.JUL.2017 01:11:11