FCC RF Test Report

APPLICANT	:	Motorola Mobility, LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	9653
FCC ID	:	IHDT56WA1
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Feb. 03, 2017 and testing was completed on Feb. 17, 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.
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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR720310E	Rev. 01	Initial issue of report	Mar. 20, 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	≤ 24 dBm (depend on band)	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm (depend on band)	Pass	-
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.16 dB at 5150.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 17.90 dB at 0.150 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

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2 Manufacturer

Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	9653
FCC ID	IHDT56WA1
IMEI Code	351884080021126 (for Radiation) 351884080020995 (for Conduction)
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC/FM WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth BR/EDR/LE
HW Version	DVT2
EUT Stage	Identical Prototype

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

Accessory List	
AC Adapter 1	Brand Name : Motorola
	Model Name : SPN5970A
AC Adapter 2	Brand Name : Motorola
	Model Name : SPN5993A
AC Adapter 3	Brand Name : Motorola
	Model Name : SPN5978A
Battery 1	Brand Name : Motorola
	Model Name : SNN5983A
Battery 2	Brand Name : Motorola
	Model Name : SNN5985A
Earphone	Brand Name : Motorola
	Model Name : SH38C16618
USB Cable	Brand Name : Motorola
	Model Name : SKN6473A

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 19.46 dBm / 0.0883 W 802.11n HT20 : 19.56 dBm / 0.0904 W 802.11n HT40 : 20.08 dBm / 0.1019 W **<5260 MHz ~ 5320 MHz>** 802.11a : 19.06 dBm / 0.0805 W 802.11n HT20 : 19.19 dBm / 0.0830 W 802.11n HT40 : 19.66 dBm / 0.0925 W **<5500 MHz ~ 5700 MHz >** 802.11a : 18.67 dBm / 0.0736 W 802.11n HT20 : 18.16 dBm / 0.0655 W 802.11n HT40 : 18.87 dBm / 0.0771 W
Maximum Output Power to Antenna for Straddle Channel	802.11a : 18.59 dBm / 0.0723 W 802.11n HT20 : 18.04 dBm / 0.0637 W 802.11n HT40 : 18.30 dBm / 0.0676 W
99% Occupied Bandwidth	802.11a : 20.00 MHz 802.11n HT20 : 19.60 MHz 802.11n HT40 : 37.50 MHz
99% Occupied Bandwidth for Straddle Channel	802.11a : 19.30 MHz 802.11n HT20 : 19.85 MHz 802.11n HT40 : 37.70 MHz
Antenna Gain / Gain	**<5150 MHz ~ 5250 MHz>** Loop Antenna with gain -3.50 dBi **<5250 MHz ~ 5350 MHz>** Loop Antenna with gain -3.00 dBi **<5470 MHz ~ 5725 MHz>** Loop Antenna with gain -2.50 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

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

1.5 Modification of EUT

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

1.6 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. 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.

1.7 Applicable Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03
- ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

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

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)
Straddle Channel	-	-	144	5720
	142*	5710		

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

AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + MP3 + Battery 1 + USB Cable (Charging from Adapter 1)
Remark: All the radiated test cases were performance with Adapter 1 and Battery 1.	

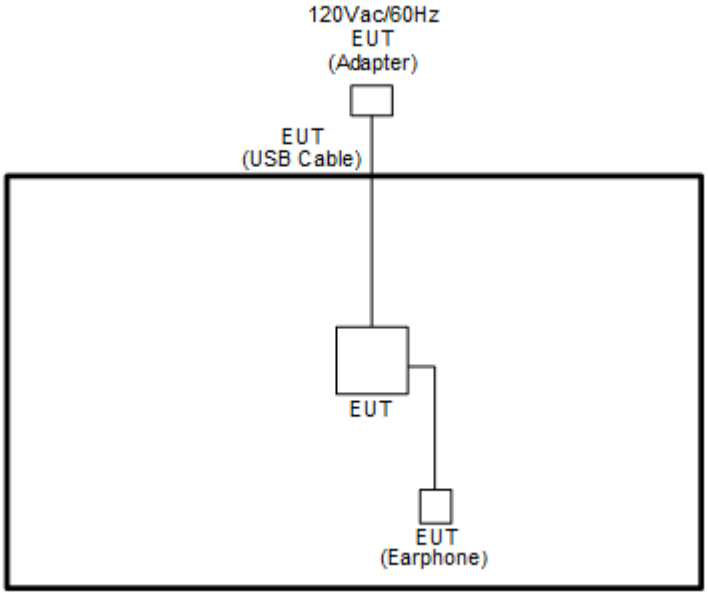
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140
Straddle		-	-	144

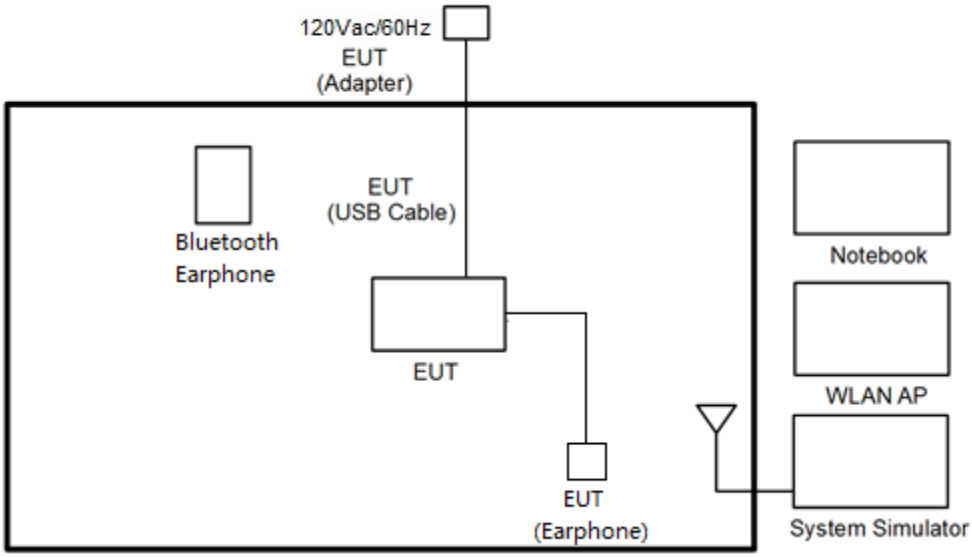
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134
Straddle		-	-	142

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.5 EUT Operation Test Setup

The RF test items, programmed RF utility, “CMD” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

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

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.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

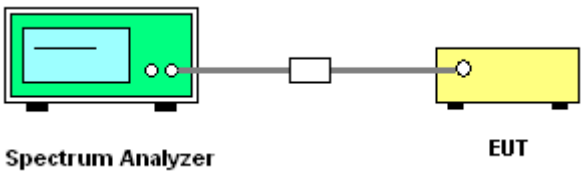
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

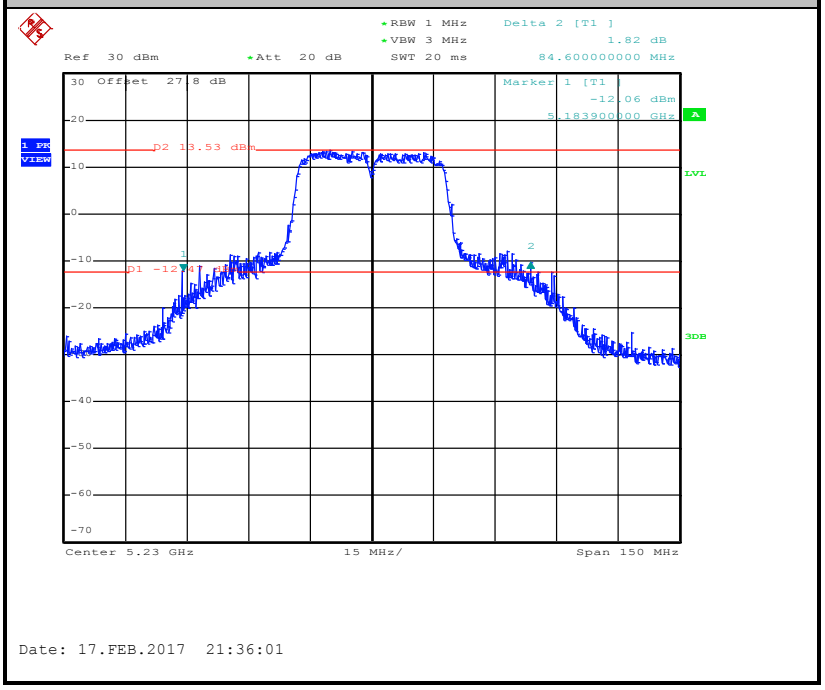
3.1.4 Test Setup



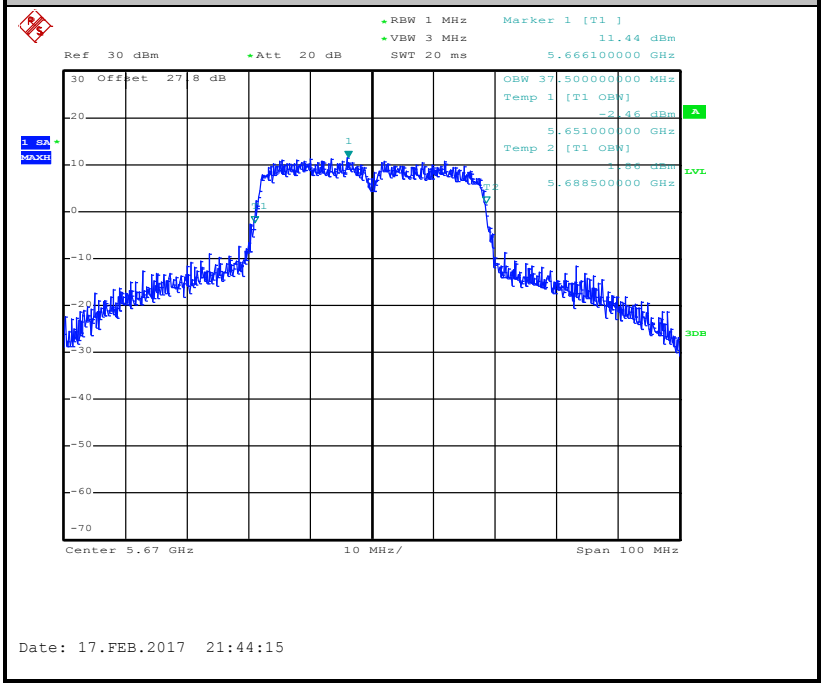
3.1.5 Test Result of 26dB & 99% Occupied Bandwidth Plots

Please refer to Appendix A.

Maximum 26dB Bandwidth



Maximum 99% Occupied Bandwidth



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.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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

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

3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

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

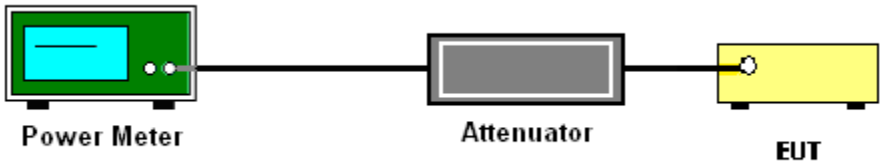
1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is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

For straddle channel, the testing follows Method SA-3 (RMS detection with max hold) of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.

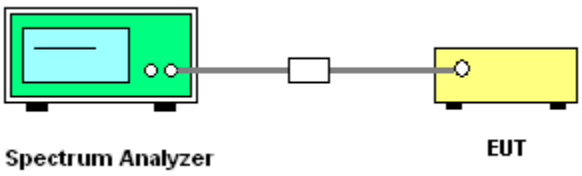
Compute power by integrating the spectrum across the 99% occupied bandwidth of the signal using the instrument's band power measurement function.

3.2.4 Test Setup

For normal channel:

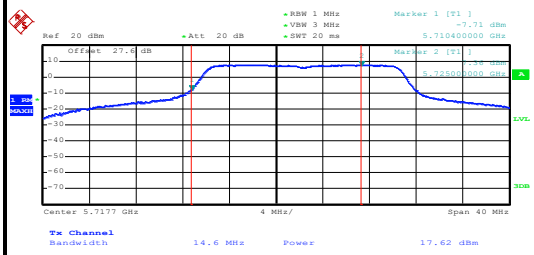
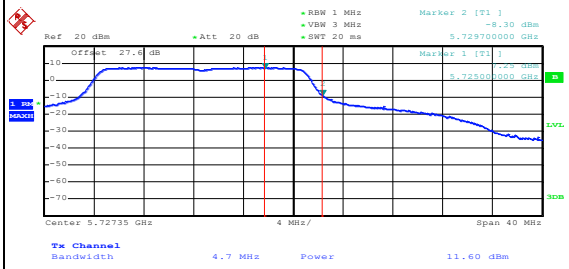


For straddle channel:



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

Worst Case Straddle Channel Power	
NII-2C Band	**DTS Band**
 Date: 9.FEB.2017 20:59:36	 Date: 9.FEB.2017 21:01:41

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.

For Straddle Channel, U-NII procedures and limits were applied for operations in the frequency band in accordance with FCC KDB 644545 D03.

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

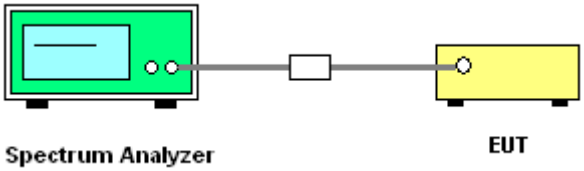
The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section F) Maximum power spectral density.

 # Method SA-2 #

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

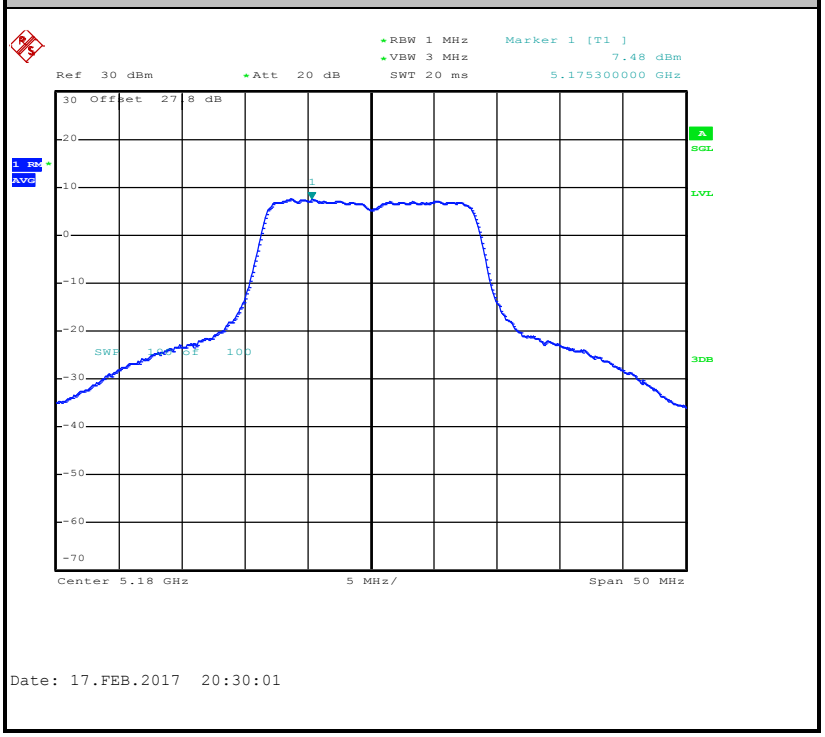
3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

Worst Case Power Spectral Density(dBm/MHz)



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

3.4 Unwanted Radiated Emission Measurement

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

3.4.1 Limit of Unwanted Emissions

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

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

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

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

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

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

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

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

(3) KDB789033 D01 v01r03 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 v01r03. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

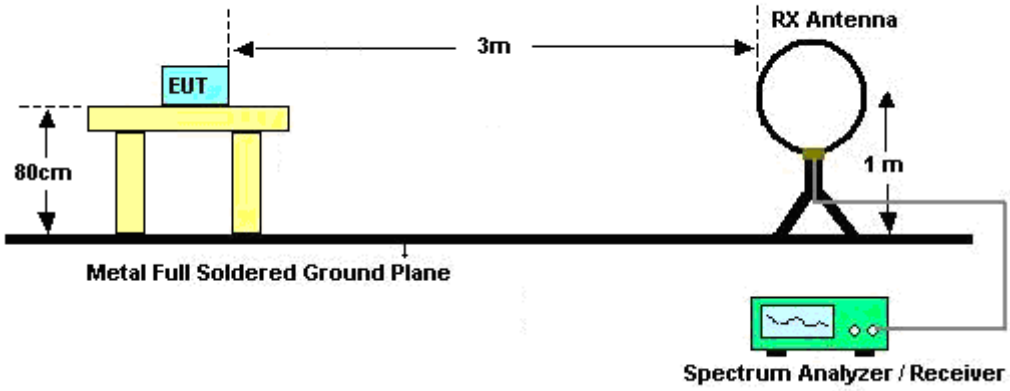
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

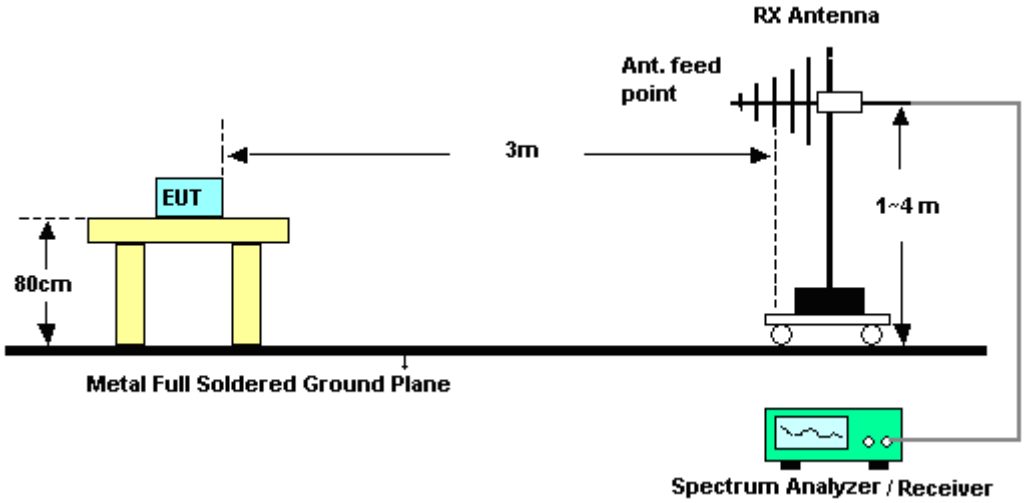
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

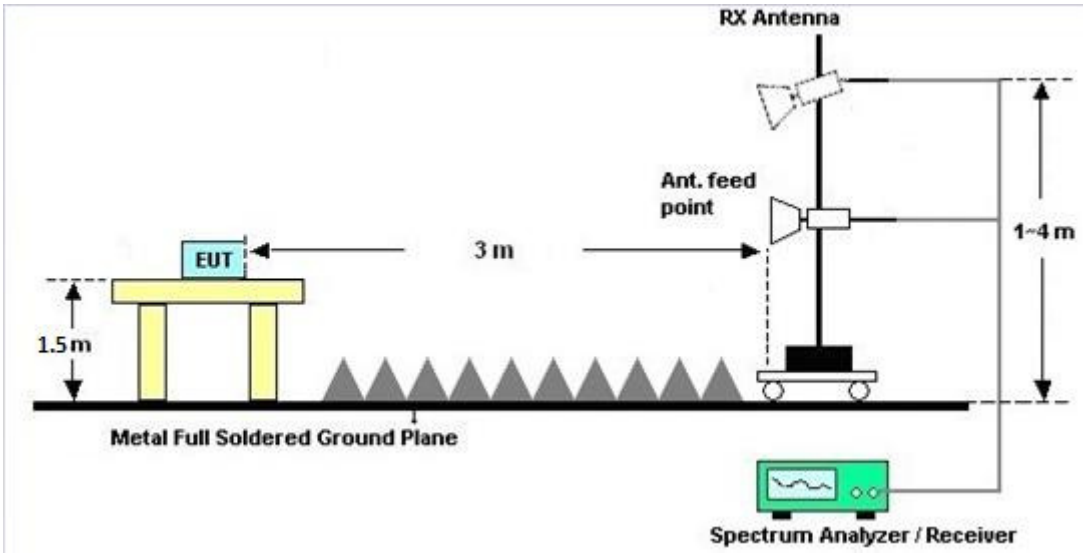
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix B and C.

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

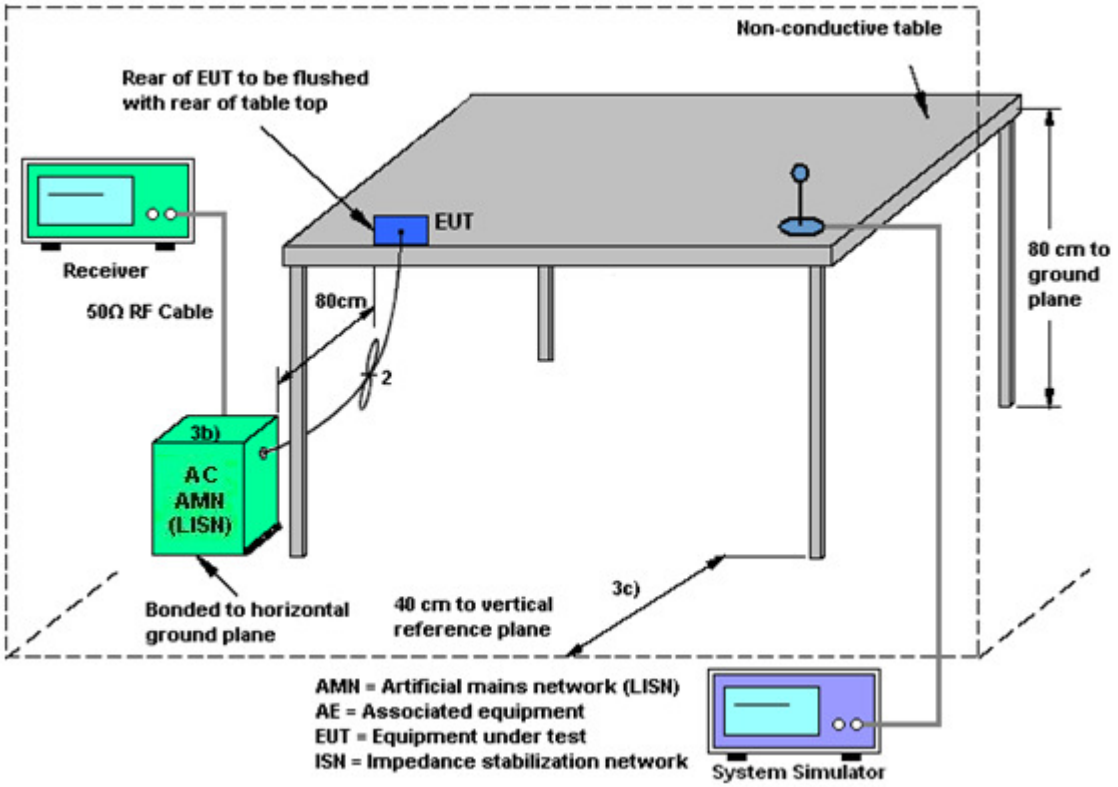
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

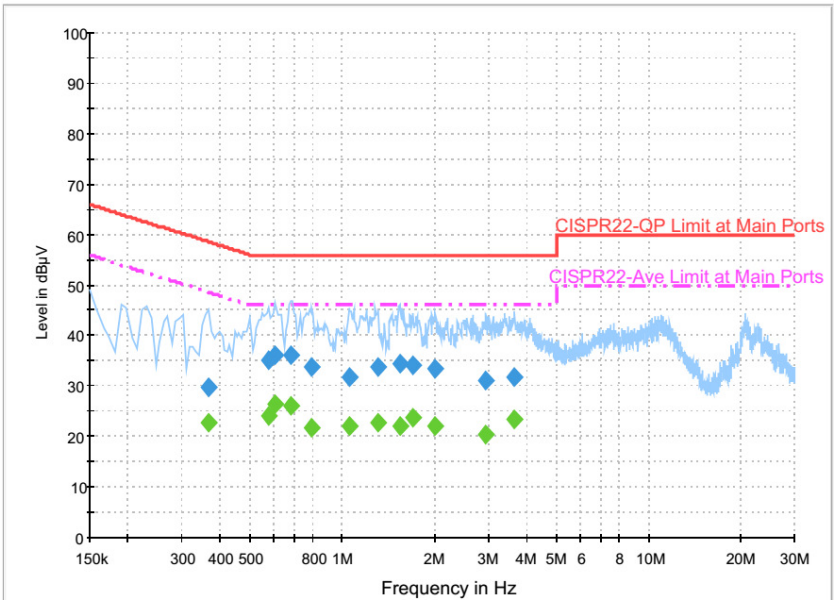
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.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

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

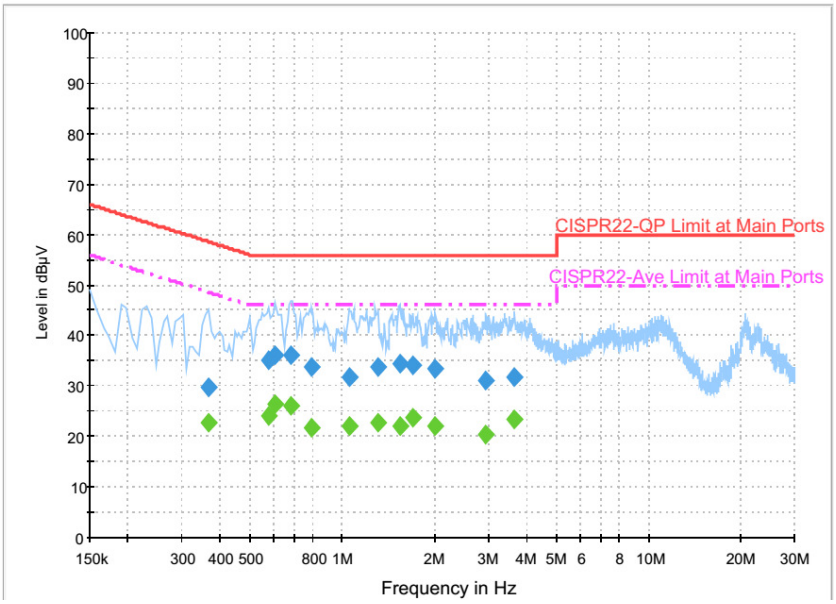
Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + MP3 + Battery 1 + USB Cable (Charging from Adapter 1)		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.366000	29.7	Off	L1	19.6	28.9	58.6
0.574000	35.1	Off	L1	19.6	20.9	56.0
0.606000	36.0	Off	L1	19.6	20.0	56.0
0.678000	36.2	Off	L1	19.6	19.8	56.0
0.798000	33.6	Off	L1	19.6	22.4	56.0
1.054000	31.9	Off	L1	19.6	24.1	56.0
1.310000	33.7	Off	L1	19.6	22.3	56.0
1.542000	34.5	Off	L1	19.6	21.5	56.0
1.702000	34.2	Off	L1	19.6	21.8	56.0
2.022000	33.4	Off	L1	19.6	22.6	56.0
2.958000	31.0	Off	L1	19.6	25.0	56.0
3.638000	31.7	Off	L1	19.7	24.3	56.0

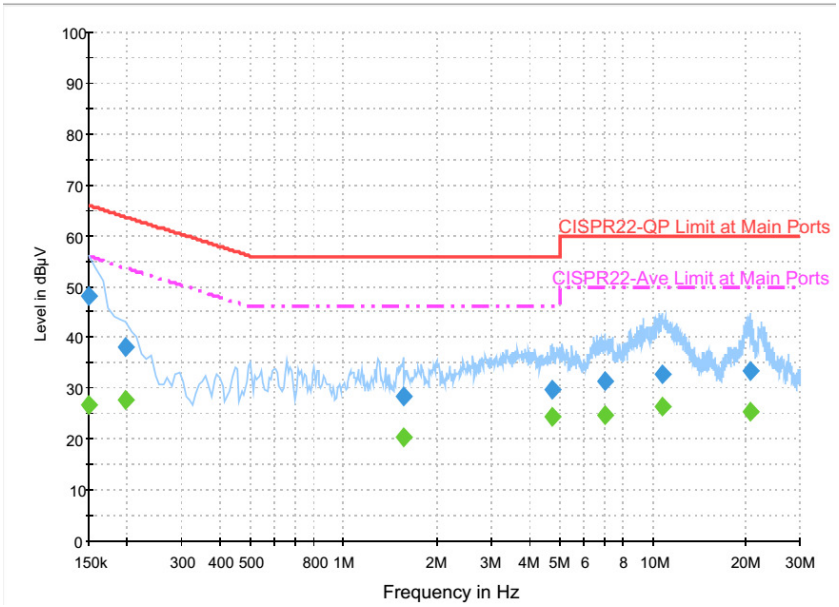
Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + MP3 + Battery 1 + USB Cable (Charging from Adapter 1)		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.366000	22.9	Off	L1	19.6	25.7	48.6
0.574000	24.2	Off	L1	19.6	21.8	46.0
0.606000	26.5	Off	L1	19.6	19.5	46.0
0.678000	25.9	Off	L1	19.6	20.1	46.0
0.798000	21.9	Off	L1	19.6	24.1	46.0
1.054000	22.1	Off	L1	19.6	23.9	46.0
1.310000	22.6	Off	L1	19.6	23.4	46.0
1.542000	22.1	Off	L1	19.6	23.9	46.0
1.702000	23.6	Off	L1	19.6	22.4	46.0
2.022000	22.2	Off	L1	19.6	23.8	46.0
2.958000	20.3	Off	L1	19.6	25.7	46.0
3.638000	23.4	Off	L1	19.7	22.6	46.0

Test Mode :	Mode 1	**Temperature :**	21~23℃
Test Engineer :	Arthur Hsieh	**Relative Humidity :**	51~55%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (5GHz) Link + Earphone + MP3 + Battery 1 + USB Cable (Charging from Adapter 1)		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.1	Off	N	19.5	17.9	66.0
0.198000	38.2	Off	N	19.5	25.5	63.7
1.558000	28.6	Off	N	19.6	27.4	56.0
4.758000	29.9	Off	N	19.7	26.1	56.0
7.038000	31.4	Off	N	19.9	28.6	60.0
10.830000	32.9	Off	N	20.1	27.1	60.0
20.830000	33.5	Off	N	20.7	26.5	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	26.9	Off	N	19.5	29.1	56.0
0.198000	27.6	Off	N	19.5	26.1	53.7
1.558000	20.5	Off	N	19.6	25.5	46.0
4.758000	24.3	Off	N	19.7	21.7	46.0
7.038000	24.7	Off	N	19.9	25.3	50.0
10.830000	26.5	Off	N	20.1	23.5	50.0
20.830000	25.5	Off	N	20.7	24.5	50.0

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

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

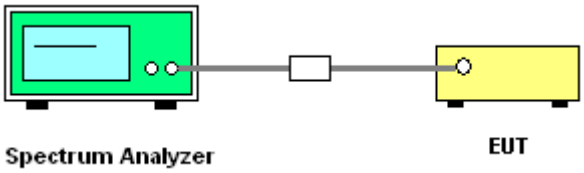
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 Limit of Automatically Discontinue Transmission

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

3.7.2 Measuring Instruments

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

3.7.3 Test Result of Automatically Discontinue Transmission

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

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

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

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	300MHz~40GHz	Sep. 29, 2016	Feb. 09, 2017 ~ Feb. 17, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 29, 2016	Feb. 09, 2017 ~ Feb. 17, 2017	Sep. 28, 2017	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz-40GHz	Jul. 17, 2016	Feb. 09, 2017 ~ Feb. 17, 2017	Jul. 16, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 01, 2016	Feb. 09, 2017 ~ Feb. 17, 2017	Aug. 31, 2017	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890094	1V~20V 0.5A~5A	Oct. 11, 2016	Feb. 09, 2017 ~ Feb. 17, 2017	Oct. 10, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Feb. 15, 2017	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Feb. 15, 2017	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 29, 2016	Feb. 15, 2017	Nov. 28, 2017	Conduction (CO05-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Feb. 09, 2017 ~ Feb. 15, 2017	Sep. 01, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Oct. 15, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1GHz ~ 18GHz	Oct. 07, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY52350276	10Hz ~ 44GHZ	Oct. 12, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Feb. 09, 2017 ~ Feb. 15, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Feb. 09, 2017 ~ Feb. 15, 2017	N/A	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1815698	1GHz~18GHz	Dec. 01, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Nov. 30, 2017	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 08, 2016	Feb. 09, 2017 ~ Feb. 15, 2017	Nov. 07, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Feb. 09, 2017 ~ Feb. 13, 2017	Feb. 14, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2017	Feb. 15, 2017	Feb. 14, 2018	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))	2.7

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.2

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.5

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.2

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Aking Chang	Temperature:	21~25	°C
Test Date:	2071/2/9~2017/02/17	Relative Humidity:	51~54	%

Report Number : FR720310E

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	18.70	40.10	-	22.72		
11a	6Mbps	1	44	5220	18.75	39.85	-	22.73		
11a	6Mbps	1	48	5240	18.55	41.10	-	22.68		
HT20	MCS0	1	36	5180	19.20	44.20	-	22.83		
HT20	MCS0	1	44	5220	19.35	42.40	-	22.87		
HT20	MCS0	1	48	5240	19.45	43.95	-	22.89		
HT40	MCS0	1	38	5190	36.40	46.10	-	23.01		
HT40	MCS0	1	46	5230	37.20	84.60	-	23.01		

Report Number : FR720310E

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	0.61	18.91	24.00	-3.50		Pass
11a	6Mbps	1	44	5220	0.61	19.46	24.00	-3.50		Pass
11a	6Mbps	1	48	5240	0.61	19.21	24.00	-3.50		Pass
HT20	MCS0	1	36	5180	0.66	18.56	24.00	-3.50		Pass
HT20	MCS0	1	44	5220	0.66	19.56	24.00	-3.50		Pass
HT20	MCS0	1	48	5240	0.66	19.21	24.00	-3.50		Pass
HT40	MCS0	1	38	5190	0.70	14.05	24.00	-3.50		Pass
HT40	MCS0	1	46	5230	0.70	20.08	24.00	-3.50		Pass

Report Number : FR720310E

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	0.61	8.09	11.00	-3.50		Pass
11a	6Mbps	1	44	5220	0.61	7.76	11.00	-3.50		Pass
11a	6Mbps	1	48	5240	0.61	7.28	11.00	-3.50		Pass
HT20	MCS0	1	36	5180	0.66	7.49	11.00	-3.50		Pass
HT20	MCS0	1	44	5220	0.66	7.72	11.00	-3.50		Pass
HT20	MCS0	1	48	5240	0.66	7.19	11.00	-3.50		Pass
HT40	MCS0	1	38	5190	0.70	-0.08	11.00	-3.50		Pass
HT40	MCS0	1	46	5230	0.70	5.15	11.00	-3.50		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	18.50	40.75	23.67	29.67	23.98	
11a	6M bps	1	60	5300	18.45	40.35	23.66	29.66	23.98	
11a	6M bps	1	64	5320	18.60	40.50	23.70	29.70	23.98	
HT20	MCS 0	1	52	5260	19.35	42.05	23.87	29.87	23.98	
HT20	MCS 0	1	60	5300	19.55	45.30	23.91	29.91	23.98	
HT20	MCS 0	1	64	5320	18.20	39.05	23.60	29.60	23.98	
HT40	MCS 0	1	54	5270	37.00	81.40	23.98	30.00	23.98	
HT40	MCS 0	1	62	5310	36.50	44.70	23.98	30.00	23.98	

Report Number : FR720310E

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	0.61	19.06	23.98	-3.00	26.99	Pass
11a	6M bps	1	60	5300	0.61	18.86	23.98	-3.00	26.99	Pass
11a	6M bps	1	64	5320	0.61	18.36	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	52	5260	0.66	19.19	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	60	5300	0.66	19.04	23.98	-3.00	26.99	Pass
HT20	MCS 0	1	64	5320	0.66	17.93	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	54	5270	0.70	19.66	23.98	-3.00	26.99	Pass
HT40	MCS 0	1	62	5310	0.70	13.42	23.98	-3.00	26.99	Pass

Report Number : FR720310E

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	0.61	6.92	11.00	-3.00		Pass
11a	6M bps	1	60	5300	0.61	6.70	11.00	-3.00		Pass
11a	6M bps	1	64	5320	0.61	6.57	11.00	-3.00		Pass
HT20	MCS 0	1	52	5260	0.66	6.80	11.00	-3.00		Pass
HT20	MCS 0	1	60	5300	0.66	6.59	11.00	-3.00		Pass
HT20	MCS 0	1	64	5320	0.66	6.23	11.00	-3.00		Pass
HT40	MCS 0	1	54	5270	0.70	4.46	11.00	-3.00		Pass
HT40	MCS 0	1	62	5310	0.70	-1.53	11.00	-3.00		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	18.90	40.15	23.76	29.76	23.98	
11a	6M bps	1	116	5580	18.70	42.05	23.72	29.72	23.98	
11a	6M bps	1	140	5700	20.00	43.15	23.98	30.00	23.98	
HT20	MCS 0	1	100	5500	19.20	42.90	23.83	29.83	23.98	
HT20	MCS 0	1	116	5580	19.60	43.10	23.92	29.92	23.98	
HT20	MCS 0	1	140	5700	19.55	45.95	23.91	29.91	23.98	
HT40	MCS 0	1	102	5510	36.60	49.60	23.98	30.00	23.98	
HT40	MCS 0	1	110	5550	37.00	80.00	23.98	30.00	23.98	
HT40	MCS 0	1	134	5670	37.50	81.70	23.98	30.00	23.98	

Report Number : FR720310E

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	0.61	18.05	23.98	-2.50	26.99	Pass
11a	6M bps	1	116	5580	0.61	18.23	23.98	-2.50	26.99	Pass
11a	6M bps	1	140	5700	0.61	18.67	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	100	5500	0.66	18.13	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	116	5580	0.66	18.15	23.98	-2.50	26.99	Pass
HT20	MCS 0	1	140	5700	0.66	18.16	23.98	-2.50	26.99	Pass
HT40	MCS 0	1	102	5510	0.70	15.85	23.98	-2.50	26.99	Pass
HT40	MCS 0	1	110	5550	0.70	18.87	23.98	-2.50	26.99	Pass
HT40	MCS 0	1	134	5670	0.70	18.35	23.98	-2.50	26.99	Pass

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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	0.61	6.64	11.00	-2.50		Pass
11a	6M bps	1	116	5580	0.61	7.09	11.00	-2.50		Pass
11a	6M bps	1	140	5700	0.61	6.35	11.00	-2.50		Pass
HT20	MCS 0	1	100	5500	0.66	6.35	11.00	-2.50		Pass
HT20	MCS 0	1	116	5580	0.66	6.67	11.00	-2.50		Pass
HT20	MCS 0	1	140	5700	0.66	5.62	11.00	-2.50		Pass
HT40	MCS 0	1	102	5510	0.70	1.31	11.00	-2.50		Pass
HT40	MCS 0	1	110	5550	0.70	4.29	11.00	-2.50		Pass
HT40	MCS 0	1	134	5670	0.70	3.46	11.00	-2.50		Pass

TEST RESULTS DATA
26dB and 99% OBW

Straddle Channel										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)	26dB Emission Bandwidth (MHz)	IC 99% Bandwidth Power Limit (dBm)	IC 99% Bandwidth EIRP Limit (dBm)	FCC 26dB Bandwidth Power Limit (dBm)	6dB Emission Bandwidth (MHz)
11a	6Mbps	1	144	5720	19.30	42.85	-	-	-	16.32
				NII-2C	14.6	26.85	22.64	28.64	23.98	13.16
				NII-3	4.7	16	30.00	36.02	-	3.16
HT20	MCS0	1	144	5720	19.85	44.45	-	-	-	17.54
				NII-2C	14.95	27.6	22.75	28.75	23.98	13.74
				NII-3	4.9	16.85	30.00	36.02	-	3.8
HT40	MCS0	1	142	5710	37.70	89.34	-	-	-	35.16
				NII-2C	34	61.74	23.98	30.00	23.98	32.56
				NII-3	3.7	27.6	30.00	36.02	-	2.6

TEST RESULTS DATA
Average Power Table

FCC Straddle Channel										
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	144	5720	0.61	18.59	-	-2.50		Pass
				NII-2C	0.61	17.62	23.98	-2.50		Pass
				NII-3	0.61	11.60	30.00	-2.50		Pass
HT20	MCS0	1	144	5720	0.66	18.04	-	-2.50		Pass
				NII-2C	0.66	16.97	23.98	-2.50		Pass
				NII-3	0.66	11.44	30.00	-2.50		Pass
HT40	MCS0	1	142	5710	0.70	18.30	-	-2.50		Pass
				NII-2C	0.70	18.00	23.98	-2.50		Pass
				NII-3	0.70	6.55	30.00	-2.50		Pass

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TEST RESULTS DATA
Power Spectral Density

Straddle Channel										
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	144	NII-2C	0.61	6.73	11.00	-2.50		Pass
				NII-3	0.61	6.73	30.00	-2.50		Pass
HT20	MCS0	1	144	NII-2C	0.66	6.07	11.00	-2.50		Pass
				NII-3	0.66	6.07	30.00	-2.50		Pass
HT40	MCS0	1	142	NII-2C	0.70	3.41	11.00	-2.50		Pass
				NII-3	0.70	3.41	30.00	-2.50		Pass

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TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	50	3.9	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	-30	3.9	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	4.35	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.4	
11a	6Mbps	1	36	5180	5180.000	0.000	0.00	20	3.9	

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	5320.050	0.050	9.40	50	3.9	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	-30	3.9	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	4.35	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.4	
11a	6Mbps	1	64	5320	5320.000	0.000	0.00	20	3.9	

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	3.9	
11a	6Mbps	1	100	5500	5500.050	0.050	9.09	-30	3.9	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	4.35	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.4	
11a	6Mbps	1	100	5500	5500.000	0.000	0.00	20	3.9	

Appendix B. Radiated Spurious Emission

Test Engineer :	J.C. Liang, Jacky Hung, and Kan Wu	Temperature :	20~24°C
		Relative Humidity :	50~54%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5147.16	54.92	-19.08	74	44.56	32.21	11.18	33.03	386	74	P	H
		5149.24	47.45	-6.55	54	37.09	32.21	11.18	33.03	386	74	A	H
	*	5180	102.54	-	-	92.13	32.26	11.18	33.03	386	74	P	H
	*	5180	95.11	-	-	84.7	32.26	11.18	33.03	386	74	A	H
													H
													H
		5149.5	59.68	-14.32	74	49.32	32.21	11.18	33.03	340	39	P	V
		5149.24	53.73	-0.27	54	43.37	32.21	11.18	33.03	340	39	A	V
	*	5180	107.78	-	-	97.37	32.26	11.18	33.03	340	39	P	V
	*	5180	99.77	-	-	89.36	32.26	11.18	33.03	340	39	A	V
													V
													V
802.11a CH 44 5220MHz		5133.9	51.11	-22.89	74	40.76	32.19	11.19	33.03	382	73	P	H
		5082.42	42.34	-11.66	54	32.05	32.12	11.21	33.04	382	73	A	H
	*	5220	103.56	-	-	93.12	32.3	11.17	33.03	382	73	P	H
	*	5220	95.66	-	-	85.22	32.3	11.17	33.03	382	73	A	H
		5434.56	49.59	-24.41	74	38.66	32.61	11.34	33.02	382	73	P	H
		5457.84	41.62	-12.38	54	30.67	32.63	11.34	33.02	382	73	A	H
		5069.94	51.54	-22.46	74	41.28	32.09	11.21	33.04	353	41	P	V
		5024.44	42.66	-11.34	54	32.43	32.05	11.22	33.04	353	41	A	V
	*	5220	107.2	-	-	96.76	32.3	11.17	33.03	353	41	P	V
	*	5220	99.02	-	-	88.58	32.3	11.17	33.03	353	41	A	V
		5436	50.37	-23.63	74	39.44	32.61	11.34	33.02	353	41	P	V
		5411.04	41.91	-12.09	54	31.06	32.56	11.31	33.02	353	41	A	V

802.11a CH 48 5240MHz		5021.06	51.52	-22.48	74	41.29	32.05	11.22	33.04	379	71	P	H
		5073.06	42.4	-11.6	54	32.11	32.12	11.21	33.04	379	71	A	H
	*	5240	104.74	-	-	94.25	32.33	11.19	33.03	379	71	P	H
	*	5240	96.53	-	-	86.04	32.33	11.19	33.03	379	71	A	H
		5394.96	49.98	-24.02	74	39.13	32.56	11.31	33.02	379	71	P	H
		5424.96	41.73	-12.27	54	30.83	32.58	11.34	33.02	379	71	A	H
		5038.74	51.14	-22.86	74	40.89	32.07	11.22	33.04	355	39	P	V
		5045.76	42.82	-11.18	54	32.57	32.07	11.22	33.04	355	39	A	V
	*	5240	106.26	-	-	95.77	32.33	11.19	33.03	355	39	P	V
	*	5240	98.49	-	-	88	32.33	11.19	33.03	355	39	A	V
		5427.12	50.53	-23.47	74	39.63	32.58	11.34	33.02	355	39	P	V
		5429.28	41.77	-12.23	54	30.84	32.61	11.34	33.02	355	39	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	45.19	-28.81	74	47.47	39.84	15.02	57.14	100	0	P	H
		15540	43.41	-30.59	74	45.26	38.21	18.16	58.22	100	0	P	H
													H
													H
		10360	44.65	-29.35	74	46.93	39.84	15.02	57.14	100	0	P	V
		15540	43.39	-30.61	74	45.24	38.21	18.16	58.22	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	46.05	-27.95	74	48.07	39.92	15.08	57.02	100	0	P	H
		15660	44.31	-29.69	74	45.81	38.23	18.23	57.96	100	0	P	H
													H
													H
		10440	45.98	-28.02	74	48	39.92	15.08	57.02	100	0	P	V
		15660	43.69	-30.31	74	45.19	38.23	18.23	57.96	100	0	P	V
													V
													V
802.11a CH 48 5240MHz		10480	45.22	-28.78	74	47.06	39.98	15.11	56.93	100	0	P	H
		15720	44.15	-29.85	74	45.44	38.24	18.28	57.81	100	0	P	H
													H
													H
		10480	45.13	-28.87	74	46.97	39.98	15.11	56.93	100	0	P	V
		15720	43.65	-30.35	74	44.94	38.24	18.28	57.81	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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)
802.11n HT20 CH 36 5180MHz		5147.42	54.68	-19.32	74	44.32	32.21	11.18	33.03	387	73	P	H
		5150	47.78	-6.22	54	37.42	32.21	11.18	33.03	387	73	A	H
	*	5180	102.14	-	-	91.73	32.26	11.18	33.03	387	73	P	H
	*	5180	94.46	-	-	84.05	32.26	11.18	33.03	387	73	A	H
													H
													H
		5147.94	61.59	-12.41	74	51.23	32.21	11.18	33.03	286	50	P	V
		5150	53.84	-0.16	54	43.48	32.21	11.18	33.03	286	50	A	V
	*	5180	107.43	-	-	97.02	32.26	11.18	33.03	286	50	P	V
	*	5180	100.12	-	-	89.71	32.26	11.18	33.03	286	50	A	V
													V
													V
802.11n HT20 CH 44 5220MHz		5124.54	51.38	-22.62	74	41.03	32.19	11.19	33.03	400	73	P	H
		5052.26	42.62	-11.38	54	32.37	32.07	11.22	33.04	400	73	A	H
	*	5220	104.08	-	-	93.64	32.3	11.17	33.03	400	73	P	H
	*	5220	96.94	-	-	86.5	32.3	11.17	33.03	400	73	A	H
		5371.92	49.83	-24.17	74	39.07	32.51	11.28	33.03	400	73	P	H
		5456.88	41.95	-12.05	54	31	32.63	11.34	33.02	400	73	A	H
		5067.86	51.86	-22.14	74	41.6	32.09	11.21	33.04	299	50	P	V
		5020.54	42.75	-11.25	54	32.52	32.05	11.22	33.04	299	50	A	V
	*	5220	108.71	-	-	98.27	32.3	11.17	33.03	299	50	P	V
	*	5220	100.45	-	-	90.01	32.3	11.17	33.03	299	50	A	V
		5442.72	50.48	-23.52	74	39.55	32.61	11.34	33.02	299	50	P	V
		5406.96	42.12	-11.88	54	31.27	32.56	11.31	33.02	299	50	A	V

802.11n HT20 CH 48 5240MHz		5066.04	50.97	-23.03	74	40.71	32.09	11.21	33.04	379	72	P	H
		5048.62	42.46	-11.54	54	32.21	32.07	11.22	33.04	379	72	A	H
	*	5240	104.61	-	-	94.12	32.33	11.19	33.03	379	72	P	H
	*	5240	96.21	-	-	85.72	32.33	11.19	33.03	379	72	A	H
		5435.52	49.92	-24.08	74	38.99	32.61	11.34	33.02	379	72	P	H
		5438.88	41.81	-12.19	54	30.88	32.61	11.34	33.02	379	72	A	H
		5063.96	51.91	-22.09	74	41.65	32.09	11.21	33.04	299	40	P	V
		5055.12	42.93	-11.07	54	32.66	32.09	11.22	33.04	299	40	A	V
	*	5240	108.32	-	-	97.83	32.33	11.19	33.03	299	40	P	V
	*	5240	99.85	-	-	89.36	32.33	11.19	33.03	299	40	A	V
		5376.24	52.04	-21.96	74	41.27	32.51	11.28	33.02	299	40	P	V
		5427.6	42.33	-11.67	54	31.43	32.58	11.34	33.02	299	40	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 36 5180MHz		10360	44.87	-29.13	74	47.15	39.84	15.02	57.14	100	0	P	H
		15540	43.21	-30.79	74	45.06	38.21	18.16	58.22	100	0	P	H
													H
													H
		10360	44.5	-29.5	74	46.78	39.84	15.02	57.14	100	0	P	V
		15540	42.5	-31.5	74	44.35	38.21	18.16	58.22	100	0	P	V
													V
													V
802.11n HT20 CH 44 5220MHz		10440	45.66	-28.34	74	47.68	39.92	15.08	57.02	100	0	P	H
		15660	43.82	-30.18	74	45.32	38.23	18.23	57.96	100	0	P	H
													H
													H
		10440	45.03	-28.97	74	47.05	39.92	15.08	57.02	100	0	P	V
		15660	43.54	-30.46	74	45.04	38.23	18.23	57.96	100	0	P	V
													V
													V
802.11n HT20 CH 48 5240MHz		10480	45.93	-28.07	74	47.77	39.98	15.11	56.93	100	0	P	H
		15720	44.02	-29.98	74	45.31	38.24	18.28	57.81	100	0	P	H
													H
													H
		10480	45.35	-28.65	74	47.19	39.98	15.11	56.93	100	0	P	V
		15720	43.58	-30.42	74	44.87	38.24	18.28	57.81	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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		5148.2	55.17	-18.83	74	44.81	32.21	11.18	33.03	384	73	P	H
		5149.76	45.89	-8.11	54	35.53	32.21	11.18	33.03	384	73	A	H
	*	5190	95.84	-	-	85.44	32.26	11.17	33.03	384	73	P	H
	*	5190	87.49	-	-	77.09	32.26	11.17	33.03	384	73	A	H
		5453.52	51.54	-22.46	74	40.59	32.63	11.34	33.02	384	73	P	H
		5456.88	42.35	-11.65	54	31.4	32.63	11.34	33.02	384	73	A	H
		5145.86	59.66	-14.34	74	49.3	32.21	11.18	33.03	309	40	P	V
		5149.5	53.19	-0.81	54	42.83	32.21	11.18	33.03	309	40	A	V
	*	5190	100.79	-	-	90.39	32.26	11.17	33.03	309	40	P	V
	*	5190	91.4	-	-	81	32.26	11.17	33.03	309	40	A	V
		5450.16	50.66	-23.34	74	39.71	32.63	11.34	33.02	309	40	P	V
		5449.68	42.23	-11.77	54	31.28	32.63	11.34	33.02	309	40	A	V
802.11n HT40 CH 46 5230MHz		5126.36	50.89	-23.11	74	40.54	32.19	11.19	33.03	400	71	P	H
		5147.68	44.72	-9.28	54	34.36	32.21	11.18	33.03	400	71	A	H
	*	5230	100.98	-	-	90.49	32.33	11.19	33.03	400	71	P	H
	*	5230	93.35	-	-	82.86	32.33	11.19	33.03	400	71	A	H
		5393.76	50.47	-23.53	74	39.64	32.54	11.31	33.02	400	71	P	H
		5353.2	42.28	-11.72	54	31.54	32.49	11.28	33.03	400	71	A	H
		5149.5	54.27	-19.73	74	43.91	32.21	11.18	33.03	338	34	P	V
		5147.42	48.89	-5.11	54	38.53	32.21	11.18	33.03	338	34	A	V
	*	5230	104.6	-	-	94.11	32.33	11.19	33.03	338	34	P	V
	*	5230	95.94	-	-	85.45	32.33	11.19	33.03	338	34	A	V
		5363.04	50.77	-23.23	74	40.01	32.51	11.28	33.03	338	34	P	V
		5353.44	43.33	-10.67	54	32.59	32.49	11.28	33.03	338	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 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 38 5190MHz		10380	44.63	-29.37	74	46.86	39.86	15.02	57.11	100	0	P	H
		15570	44.59	-29.41	74	46.34	38.21	18.19	58.15	100	0	P	H
													H
													H
		10380	44.18	-29.82	74	46.41	39.86	15.02	57.11	100	0	P	V
		15570	43.81	-30.19	74	45.56	38.21	18.19	58.15	100	0	P	V
													V
													V
802.11n HT40 CH 46 5230MHz		10460	44.8	-29.2	74	46.77	39.94	15.08	56.99	100	0	P	H
		15690	43.69	-30.31	74	45.07	38.24	18.26	57.88	100	0	P	H
													H
													H
		10460	44.72	-29.28	74	46.69	39.94	15.08	56.99	100	0	P	V
		15690	43	-31	74	44.38	38.24	18.26	57.88	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 1 5150~5250MHz

Band 2 - 5250~5350MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 52 5260MHz		5124.8	50.88	-23.12	74	40.53	32.19	11.19	33.03	374	72	P	H
		5095.42	42.34	-11.66	54	32.03	32.14	11.21	33.04	374	72	A	H
	*	5260	104.62	-	-	94.09	32.37	11.19	33.03	374	72	P	H
	*	5260	96.56	-	-	86.03	32.37	11.19	33.03	374	72	A	H
		5422.56	49.86	-24.14	74	38.96	32.58	11.34	33.02	374	72	P	H
		5409.84	41.72	-12.28	54	30.87	32.56	11.31	33.02	374	72	A	H
		5030.42	51.52	-22.48	74	41.29	32.05	11.22	33.04	316	42	P	V
		5062.4	42.81	-11.19	54	32.55	32.09	11.21	33.04	316	42	A	V
	*	5260	108.27	-	-	97.74	32.37	11.19	33.03	316	42	P	V
	*	5260	99.75	-	-	89.22	32.37	11.19	33.03	316	42	A	V
		5405.04	49.9	-24.1	74	39.05	32.56	11.31	33.02	316	42	P	V
		5446.32	42.14	-11.86	54	31.19	32.63	11.34	33.02	316	42	A	V
802.11a CH 60 5300MHz		5038.74	51.1	-22.9	74	40.85	32.07	11.22	33.04	369	63	P	H
		5091	42.33	-11.67	54	32.02	32.14	11.21	33.04	369	63	A	H
	*	5300	105.72	-	-	95.11	32.42	11.22	33.03	369	63	P	H
	*	5300	96.82	-	-	86.21	32.42	11.22	33.03	369	63	A	H
		5362.32	50.04	-23.96	74	39.28	32.51	11.28	33.03	369	63	P	H
		5352.48	43.78	-10.22	54	33.04	32.49	11.28	33.03	369	63	A	H
		5014.56	50.98	-23.02	74	40.76	32.02	11.24	33.04	323	43	P	V
		5111.28	42.69	-11.31	54	32.38	32.16	11.19	33.04	323	43	A	V
	*	5300	109.33	-	-	98.72	32.42	11.22	33.03	323	43	P	V
	*	5300	100.09	-	-	89.48	32.42	11.22	33.03	323	43	A	V
		5354.64	53.67	-20.33	74	42.93	32.49	11.28	33.03	323	43	P	V
		5352.48	46.97	-7.03	54	36.23	32.49	11.28	33.03	323	43	A	V

802.11a CH 64 5320MHz	*	5320	103.57	-	-	92.91	32.44	11.25	33.03	369	67	P	H
	*	5320	94.97	-	-	84.31	32.44	11.25	33.03	369	67	A	H
		5350.72	56.35	-17.65	74	45.61	32.49	11.28	33.03	369	67	P	H
		5350.08	46.92	-7.08	54	36.18	32.49	11.28	33.03	369	67	A	H
													H
													H
	*	5320	108.65	-	-	97.99	32.44	11.25	33.03	291	46	P	V
	*	5320	100.83	-	-	90.17	32.44	11.25	33.03	291	46	A	V
		5354.24	60.59	-13.41	74	49.85	32.49	11.28	33.03	291	46	P	V
		5350.08	53.25	-0.75	54	42.51	32.49	11.28	33.03	291	46	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	44.4	-29.6	74	46.18	39.99	15.13	56.9	100	0	P	H
		15780	44.13	-29.87	74	45.26	38.26	18.3	57.69	100	0	P	H
													H
													H
		10520	44.57	-29.43	74	46.35	39.99	15.13	56.9	100	0	P	V
		15780	42.94	-31.06	74	44.07	38.26	18.3	57.69	100	0	P	V
													V
													V
802.11a CH 60 5300MHz		10600	45.16	-28.84	74	46.93	39.92	15.19	56.88	100	0	P	H
		15900	42.89	-31.11	74	43.67	38.28	18.37	57.43	100	0	P	H
													H
													H
		10600	44.56	-29.44	74	46.33	39.92	15.19	56.88	100	0	P	V
		15900	42.78	-31.22	74	43.56	38.28	18.37	57.43	100	0	P	V
													V
													V
802.11a CH 64 5320MHz		10640	45.45	-28.55	74	47.21	39.89	15.22	56.87	100	0	P	H
		15960	43.23	-30.77	74	43.8	38.29	18.42	57.28	100	0	P	H
													H
													H
		10640	44.12	-29.88	74	45.88	39.89	15.22	56.87	100	0	P	V
		15960	42.3	-31.7	74	42.87	38.29	18.42	57.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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)
802.11n HT20 CH 52 5260MHz		5035.62	51.05	-22.95	74	40.82	32.05	11.22	33.04	373	71	P	H
		5051.22	42.36	-11.64	54	32.11	32.07	11.22	33.04	373	71	A	H
	*	5260	104.33	-	-	93.8	32.37	11.19	33.03	373	71	P	H
	*	5260	96.35	-	-	85.82	32.37	11.19	33.03	373	71	A	H
		5405.28	49.66	-24.34	74	38.81	32.56	11.31	33.02	373	71	P	H
		5455.68	41.87	-12.13	54	30.92	32.63	11.34	33.02	373	71	A	H
		5108.94	51.7	-22.3	74	41.39	32.16	11.19	33.04	317	42	P	V
		5064.48	42.98	-11.02	54	32.72	32.09	11.21	33.04	317	42	A	V
	*	5260	108.23	-	-	97.7	32.37	11.19	33.03	317	42	P	V
	*	5260	100.17	-	-	89.64	32.37	11.19	33.03	317	42	P	V
		5450.88	51.22	-22.78	74	40.27	32.63	11.34	33.02	317	42	A	V
		5445.12	42.69	-11.31	54	31.76	32.61	11.34	33.02	317	42		V
802.11n HT20 CH 60 5300MHz		5078.26	51.11	-22.89	74	40.82	32.12	11.21	33.04	391	71	P	H
		5096.72	42.37	-11.63	54	32.06	32.14	11.21	33.04	391	71	A	H
	*	5300	105.67	-	-	95.06	32.42	11.22	33.03	391	71	P	H
	*	5300	97.17	-	-	86.56	32.42	11.22	33.03	391	71	A	H
		5352.24	52.12	-21.88	74	41.38	32.49	11.28	33.03	391	71	P	H
		5351.76	44.55	-9.45	54	33.81	32.49	11.28	33.03	391	71	A	H
		5122.98	51.23	-22.77	74	40.88	32.19	11.19	33.03	327	42	P	V
		5104.52	42.78	-11.22	54	32.49	32.14	11.19	33.04	327	42	A	V
	*	5300	108.92	-	-	98.31	32.42	11.22	33.03	327	42	P	V
	*	5300	100.22	-	-	89.61	32.42	11.22	33.03	327	42	A	V
		5351.76	57.36	-16.64	74	46.62	32.49	11.28	33.03	327	42	P	V
		5351.28	47.65	-6.35	54	36.91	32.49	11.28	33.03	327	42	A	V

	*	5320	103.63	-	-	92.97	32.44	11.25	33.03	366	53	P	H
	*	5320	96.11	-	-	85.45	32.44	11.25	33.03	366	53	A	H
		5352.64	56.07	-17.93	74	45.33	32.49	11.28	33.03	366	53	P	H
		5350.56	49.17	-4.83	54	38.43	32.49	11.28	33.03	366	53	A	H
802.11n													H
HT20													H
CH 64	*	5320	109.74	-	-	99.08	32.44	11.25	33.03	326	33	P	V
5320MHz	*	5320	100.64	-	-	89.98	32.44	11.25	33.03	326	33	A	V
		5351.36	63.99	-10.01	74	53.25	32.49	11.28	33.03	326	33	P	V
		5350.4	53.57	-0.43	54	42.83	32.49	11.28	33.03	326	33	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 52 5260MHz		10520	44.2	-29.8	74	45.98	39.99	15.13	56.9	100	0	P	H
		15780	42.76	-31.24	74	43.89	38.26	18.3	57.69	100	0	P	H
													H
													H
		10520	43.72	-30.28	74	45.5	39.99	15.13	56.9	100	0	P	V
		15780	42.86	-31.14	74	43.99	38.26	18.3	57.69	100	0	P	V
													V
													V
802.11n HT20 CH 60 5300MHz		10600	43.53	-30.47	74	45.3	39.92	15.19	56.88	100	0	P	H
		15900	42.74	-31.26	74	43.52	38.28	18.37	57.43	100	0	P	H
													H
													H
		10600	43.4	-30.6	74	45.17	39.92	15.19	56.88	100	0	P	V
		15900	42.99	-31.01	74	43.77	38.28	18.37	57.43	100	0	P	V
													V
													V
802.11n HT20 CH 64 5320MHz		10640	43.91	-30.09	74	45.67	39.89	15.22	56.87	100	0	P	H
		15960	41.6	-32.4	74	42.17	38.29	18.42	57.28	100	0	P	H
													H
													H
		10640	43.43	-30.57	74	45.19	39.89	15.22	56.87	100	0	P	V
		15960	43.01	-30.99	74	43.58	38.29	18.42	57.28	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 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		5013.26	50.98	-23.02	74	40.76	32.02	11.24	33.04	391	73	P	H
		5094.38	43.12	-10.88	54	32.81	32.14	11.21	33.04	391	73	A	H
	*	5270	103.07	-	-	92.51	32.37	11.22	33.03	391	73	P	H
	*	5270	94.36	-	-	83.8	32.37	11.22	33.03	391	73	A	H
		5351.04	51.8	-22.2	74	41.06	32.49	11.28	33.03	391	73	P	H
		5352	44.51	-9.49	54	33.77	32.49	11.28	33.03	391	73	A	H
		5148.72	51.7	-22.3	74	41.34	32.21	11.18	33.03	311	39	P	V
		5147.16	43.37	-10.63	54	33.01	32.21	11.18	33.03	311	39	A	V
	*	5270	105.26	-	-	94.7	32.37	11.22	33.03	311	39	P	V
	*	5270	97.11	-	-	86.55	32.37	11.22	33.03	311	39	A	V
		5350.8	57.58	-16.42	74	46.84	32.49	11.28	33.03	311	39	P	V
		5350.32	50.01	-3.99	54	39.27	32.49	11.28	33.03	311	39	A	V
802.11n HT40 CH 62 5310MHz		5001.82	50.74	-23.26	74	40.54	32	11.24	33.04	389	72	P	H
		5103.48	43.19	-10.81	54	32.9	32.14	11.19	33.04	389	72	A	H
	*	5310	97.97	-	-	87.31	32.44	11.25	33.03	389	72	P	H
	*	5310	89.36	-	-	78.7	32.44	11.25	33.03	389	72	A	H
		5352	54.83	-19.17	74	44.09	32.49	11.28	33.03	389	72	P	H
		5350.08	47.18	-6.82	54	36.44	32.49	11.28	33.03	389	72	A	H
		5097.5	50.89	-23.11	74	40.58	32.14	11.21	33.04	323	41	P	V
		5111.28	43.28	-10.72	54	32.97	32.16	11.19	33.04	323	41	A	V
	*	5310	101.3	-	-	90.64	32.44	11.25	33.03	323	41	P	V
	*	5310	93.11	-	-	82.45	32.44	11.25	33.03	323	41	A	V
		5350.56	63.07	-10.93	74	52.33	32.49	11.28	33.03	323	41	P	V
		5350.08	53.57	-0.43	54	42.83	32.49	11.28	33.03	323	41	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	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		10540	42.69	-31.31	74	44.48	39.97	15.13	56.89	100	0	P	H
		15810	43.28	-30.72	74	44.31	38.26	18.33	57.62	100	0	P	H
													H
													H
		10540	43.39	-30.61	74	45.18	39.97	15.13	56.89	100	0	P	V
		15810	41.91	-32.09	74	42.94	38.26	18.33	57.62	100	0	P	V
													V
													V
802.11n HT40 CH 62 5310MHz		10620	43.56	-30.44	74	45.35	39.9	15.19	56.88	100	0	P	H
		15930	41.03	-32.97	74	41.69	38.29	18.4	57.35	100	0	P	H
													H
													H
		10620	43.73	-30.27	74	45.52	39.9	15.19	56.88	100	0	P	V
		15930	42.25	-31.75	74	42.91	38.29	18.4	57.35	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 2 5250~5350MHz

Band 3 - 5470~5725MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 100 5500MHz		5469.52	56.75	-17.25	74	45.74	32.65	11.38	33.02	400	75	P	H
		5470	47.77	-6.23	54	36.76	32.65	11.38	33.02	400	75	A	H
	*	5500	105.13	-	-	94.07	32.7	11.38	33.02	400	75	P	H
	*	5500	96.76	-	-	85.7	32.7	11.38	33.02	400	75	A	H
													H
													H
		5464.56	59.88	-14.12	74	48.87	32.65	11.38	33.02	322	50	P	V
		5469.04	52.01	-1.99	54	41	32.65	11.38	33.02	322	50	A	V
	*	5500	109.1	-	-	98.04	32.7	11.38	33.02	322	50	P	V
	*	5500	100.63	-	-	89.57	32.7	11.38	33.02	322	50	A	V
													V
													V
802.11a CH 116 5580MHz		5437.6	50.68	-23.32	74	39.75	32.61	11.34	33.02	392	48	P	H
		5457.52	41.75	-12.25	54	30.8	32.63	11.34	33.02	392	48	A	H
	*	5580	106.37	-	-	95.2	32.8	11.44	33.07	392	48	P	H
	*	5580	97.18	-	-	86.01	32.8	11.44	33.07	392	48	A	H
		5732.275	50.32	-23.68	74	39	33.01	11.46	33.15	392	48	P	H
		5765	42.16	-11.84	54	30.8	33.06	11.46	33.16	392	48	A	H
		5447.68	50.8	-23.2	74	39.85	32.63	11.34	33.02	327	44	P	V
		5393.92	42.24	-11.76	54	31.41	32.54	11.31	33.02	327	44	A	V
	*	5580	108.56	-	-	97.39	32.8	11.44	33.07	327	44	P	V
	*	5580	99.9	-	-	88.73	32.8	11.44	33.07	327	44	A	V
		5750.475	50.53	-23.47	74	39.18	33.04	11.46	33.15	327	44	P	V
		5762.2	42.06	-11.94	54	30.7	33.06	11.46	33.16	327	44	A	V

802.11a CH 140 5700MHz	*	5700	106.07	-	-	94.75	32.97	11.47	33.12	394	47	P	H
	*	5700	96.53	-	-	85.21	32.97	11.47	33.12	394	47	A	H
		5728.6	59.92	-14.08	74	48.58	33.01	11.46	33.13	394	47	P	H
		5725.08	52.17	-1.83	54	40.83	33.01	11.46	33.13	394	47	A	H
													H
													H
	*	5700	107.67	-	-	96.35	32.97	11.47	33.12	300	49	P	V
	*	5700	98.76	-	-	87.44	32.97	11.47	33.12	300	49	A	V
		5725.24	66.12	-7.88	74	54.78	33.01	11.46	33.13	300	49	P	V
		5725	53.11	-0.89	54	41.77	33.01	11.46	33.13	300	49	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		11000	44.77	-29.23	74	46.48	39.6	15.49	56.8	100	0	P	H
		16500	45.12	-28.88	74	42.25	39.2	19.27	55.6	100	0	P	H
													H
													H
		11000	45.52	-28.48	74	47.23	39.6	15.49	56.8	100	0	P	V
		16500	45.72	-28.28	74	42.85	39.2	19.27	55.6	100	0	P	V
													V
													V
802.11a CH 116 5580MHz		11160	45.69	-28.31	74	47.72	39.43	15.61	57.07	100	0	P	H
		16740	46.64	-27.36	74	42.15	40.55	19.68	55.74	100	0	P	H
													H
													H
		11160	48.18	-25.82	74	50.21	39.43	15.61	57.07	100	0	P	V
		16740	46.24	-27.76	74	41.75	40.55	19.68	55.74	100	0	P	V
													V
													V
802.11a CH 140 5700MHz		11400	45.62	-28.38	74	48.07	39.2	15.79	57.44	100	0	P	H
		17100	49.95	-24.05	74	43.59	42.36	20.3	56.3	100	0	P	H
													H
													H
		11400	48.99	-25.01	74	51.44	39.2	15.79	57.44	100	0	P	V
		17100	49.38	-24.62	74	43.02	42.36	20.3	56.3	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)
802.11n HT20 CH 100 5500MHz		5466.48	57.62	-16.38	74	46.61	32.65	11.38	33.02	384	45	P	H
		5470	49.12	-4.88	54	38.11	32.65	11.38	33.02	384	45	A	H
	*	5500	103.71	-	-	92.65	32.7	11.38	33.02	384	45	P	H
	*	5500	96.4	-	-	85.34	32.7	11.38	33.02	384	45	A	H
													H
													H
		5465.52	61.85	-12.15	74	50.84	32.65	11.38	33.02	322	40	P	V
		5469.52	52.07	-1.93	54	41.06	32.65	11.38	33.02	322	40	A	V
	*	5500	108.91	-	-	97.85	32.7	11.38	33.02	322	40	P	V
	*	5500	100.67	-	-	89.61	32.7	11.38	33.02	322	40	A	V
													V
													V
802.11n HT20 CH 116 5580MHz		5374.24	49.91	-24.09	74	39.14	32.51	11.28	33.02	395	44	P	H
		5466.88	41.77	-12.23	54	30.76	32.65	11.38	33.02	395	44	A	H
	*	5580	105.66	-	-	94.49	32.8	11.44	33.07	395	44	P	H
	*	5580	96.75	-	-	85.58	32.8	11.44	33.07	395	44	A	H
		5728.775	50.54	-23.46	74	39.2	33.01	11.46	33.13	395	44	P	H
		5764.65	42.15	-11.85	54	30.79	33.06	11.46	33.16	395	44	A	H
		5396.32	50.83	-23.17	74	39.98	32.56	11.31	33.02	330	51	P	V
		5467.84	41.92	-12.08	54	30.91	32.65	11.38	33.02	330	51	A	V
	*	5580	108.89	-	-	97.72	32.8	11.44	33.07	330	51	P	V
	*	5580	99.78	-	-	88.61	32.8	11.44	33.07	330	51	A	V
		5728.425	49.8	-24.2	74	38.46	33.01	11.46	33.13	330	51	P	V
		5764.825	42.15	-11.85	54	30.79	33.06	11.46	33.16	330	51	A	V

802.11n HT20 CH 140 5700MHz	*	5700	105.26	-	-	93.94	32.97	11.47	33.12	369	80	P	H
	*	5700	96.39	-	-	85.07	32.97	11.47	33.12	369	80	A	H
		5725.72	60.71	-7.49	68.2	49.37	33.01	11.46	33.13	369	80	P	H
													H
													H
													H
	*	5700	106.06	-	-	94.74	32.97	11.47	33.12	330	56	P	V
	*	5700	98.23	-	-	86.91	32.97	11.47	33.12	330	56	A	V
		5725.96	63.9	-4.3	68.2	52.56	33.01	11.46	33.13	330	56	P	V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		11000	44.22	-29.78	74	45.93	39.6	15.49	56.8	100	0	P	H
		16500	44.31	-29.69	74	41.44	39.2	19.27	55.6	100	0	P	H
													H
													H
		11000	44.54	-29.46	74	46.25	39.6	15.49	56.8	100	0	P	V
		16500	45.77	-28.23	74	42.9	39.2	19.27	55.6	100	0	P	V
													V
													V
802.11n HT20 CH 116 5580MHz		11160	45.31	-28.69	74	47.34	39.43	15.61	57.07	100	0	P	H
		16740	45.57	-28.43	74	41.08	40.55	19.68	55.74	100	0	P	H
													H
													H
		11160	45.7	-28.3	74	47.73	39.43	15.61	57.07	100	0	P	V
		16740	46.25	-27.75	74	41.76	40.55	19.68	55.74	100	0	P	V
													V
													V
802.11n HT20 CH 140 5700MHz		11400	45.73	-28.27	74	48.18	39.2	15.79	57.44	100	0	P	H
		17100	48.98	-19.22	68.2	42.62	42.36	20.3	56.3	100	0	P	H
													H
													H
		11400	49.02	-24.98	74	51.47	39.2	15.79	57.44	100	0	P	V
		17100	50.07	-18.13	68.2	43.71	42.36	20.3	56.3	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	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 102 5510MHz		5457.52	54.16	-19.84	74	43.21	32.63	11.34	33.02	383	50	P	H
		5469.04	60.3	-7.9	68.2	49.29	32.65	11.38	33.02	383	50	P	H
		5459.68	45.97	-8.03	54	35.02	32.63	11.34	33.02	383	50	A	H
	*	5510	100.59	-	-	89.51	32.7	11.41	33.03	383	50	P	H
	*	5510	92.98	-	-	81.9	32.7	11.41	33.03	383	50	A	H
		5756.425	50.73	-17.47	68.2	39.37	33.06	11.46	33.16	383	50	P	H
		5458.72	57.37	-16.63	74	46.42	32.63	11.34	33.02	321	43	P	V
		5465.44	67.67	-0.53	68.2	56.66	32.65	11.38	33.02	321	43	P	V
		5459.44	49.54	-4.46	54	38.59	32.63	11.34	33.02	321	43	A	V
	*	5510	104.53	-	-	93.45	32.7	11.41	33.03	321	43	P	V
	*	5510	97.23	-	-	86.15	32.7	11.41	33.03	321	43	A	V
		5728.075	50.71	-17.49	68.2	39.37	33.01	11.46	33.13	321	43	P	V
802.11n HT40 CH 110 5550MHz		5469.04	53.83	-20.17	74	42.82	32.65	11.38	33.02	396	47	P	H
		5469.28	43.85	-10.15	54	32.84	32.65	11.38	33.02	396	47	A	H
	*	5550	102.94	-	-	91.78	32.77	11.44	33.05	396	47	P	H
	*	5550	95.7	-	-	84.54	32.77	11.44	33.05	396	47	A	H
		5729.475	50.17	-23.83	74	38.83	33.01	11.46	33.13	396	47	P	H
		5739.625	42.99	-11.01	54	31.64	33.04	11.46	33.15	396	47	A	H
		5467.6	54.21	-19.79	74	43.2	32.65	11.38	33.02	314	51	P	V
		5469.04	46	-8	54	34.99	32.65	11.38	33.02	314	51	A	V
	*	5550	107.26	-	-	96.1	32.77	11.44	33.05	314	51	P	V
	*	5550	99.45	-	-	88.29	32.77	11.44	33.05	314	51	A	V
		5732.1	49.89	-24.11	74	38.57	33.01	11.46	33.15	314	51	P	V
		5755.2	42.89	-11.11	54	31.52	33.06	11.46	33.15	314	51	A	V

802.11n HT40 CH 134 5670MHz		5402.56	50.45	-23.55	74	39.6	32.56	11.31	33.02	398	46	P	H
		5461.36	42.66	-11.34	54	31.67	32.63	11.38	33.02	398	46	A	H
	*	5670	103.13	-	-	91.83	32.94	11.47	33.11	398	46	P	H
	*	5670	95.47	-	-	84.17	32.94	11.47	33.11	398	46	A	H
		5725	56.26	-17.74	74	44.92	33.01	11.46	33.13	398	46	P	H
		5725.1	47.72	-6.28	54	36.38	33.01	11.46	33.13	398	46	A	H
		5464.24	50.99	-23.01	74	39.98	32.65	11.38	33.02	271	50	P	V
		5469.76	42.99	-11.01	54	31.98	32.65	11.38	33.02	271	50	A	V
	*	5670	106.18	-	-	94.88	32.94	11.47	33.11	271	50	P	V
	*	5670	97.5	-	-	86.2	32.94	11.47	33.11	271	50	A	V
		5727.725	59.12	-14.88	74	47.78	33.01	11.46	33.13	271	50	P	V
		5726.325	50.39	-3.61	54	39.05	33.01	11.46	33.13	271	50	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	45.04	-28.96	74	46.8	39.58	15.49	56.83	100	0	P	H
		16530	45.78	-22.42	68.2	42.67	39.39	19.34	55.62	100	0	P	H
													H
													H
		11020	44.53	-29.47	74	46.29	39.58	15.49	56.83	100	0	P	V
		16530	44.75	-23.45	68.2	41.64	39.39	19.34	55.62	100	0	P	V
													V
													V
802.11n HT40 CH 110 5550MHz		11100	43.73	-30.27	74	45.64	39.5	15.55	56.96	100	0	P	H
		16650	46.75	-27.25	74	42.83	40.07	19.54	55.69	100	0	P	H
													H
													H
		11100	44	-30	74	45.91	39.5	15.55	56.96	100	0	P	V
		16650	46.7	-27.3	74	42.78	40.07	19.54	55.69	100	0	P	V
													V
													V
802.11n HT40 CH 134 5670MHz		11340	44.49	-29.51	74	46.82	39.27	15.73	57.33	100	0	P	H
		17010	48.93	-25.07	74	42.68	42.06	20.16	55.97	100	0	P	H
													H
													H
		11340	46.91	-27.09	74	49.24	39.27	15.73	57.33	100	0	P	V
		17010	48.4	-25.6	74	42.15	42.06	20.16	55.97	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - 5470~5725MHz

Band 3 - Straddle Channel

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 144 5720MHz	*	5720	106.36	-	-	95.02	33.01	11.46	33.13	365	81	P	H
	*	5720	98.32	-	-	86.98	33.01	11.46	33.13	365	81	A	H
													H
													H
													H
													H
	*	5720	108.82	-	-	97.48	33.01	11.46	33.13	312	54	P	V
	*	5720	100.68	-	-	89.34	33.01	11.46	33.13	312	54	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11a (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 144 5720MHz		11440	46.37	-27.63	74	48.87	39.17	15.82	57.49	100	0	P	H
		17160	49.32	-24.68	74	42.85	42.6	20.44	56.57	100	0	P	H
													H
													H
		11440	48.12	-25.88	74	50.62	39.17	15.82	57.49	100	0	P	V
		17160	50.5	-23.5	74	44.03	42.6	20.44	56.57	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz	*	5720	104.62	-	-	93.28	33.01	11.46	33.13	364	80	P	H
	*	5720	97.19	-	-	85.85	33.01	11.46	33.13	364	80	A	H
													H
													H
													H
													H
	*	5720	107.59	-	-	96.25	33.01	11.46	33.13	327	61	P	V
	*	5720	99.66	-	-	88.32	33.01	11.46	33.13	327	61	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz		11440	44.84	-29.16	74	47.34	39.17	15.82	57.49	100	0	P	H
		17160	49.39	-24.61	74	42.92	42.6	20.44	56.57	100	0	P	H
													H
													H
		11440	47.7	-26.3	74	50.2	39.17	15.82	57.49	100	0	P	V
		17160	50.27	-23.73	74	43.8	42.6	20.44	56.57	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	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 142 5710MHz	*	5710	103.05	-	-	91.73	32.99	11.46	33.13	370	80	P	H
	*	5710	95.54	-	-	84.22	32.99	11.46	33.13	370	80	A	H
													H
													H
													H
													H
	*	5710	105.27	-	-	93.95	32.99	11.46	33.13	333	63	P	V
	*	5710	97.43	-	-	86.11	32.99	11.46	33.13	333	63	A	V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 142 5710MHz		11420	45.21	-28.79	74	47.71	39.18	15.79	57.47	100	0	P	H
		17130	48.72	-25.28	74	42.3	42.48	20.37	56.43	100	0	P	H
													H
													H
		11420	46.17	-27.83	74	48.67	39.18	15.79	57.47	100	0	P	V
		17130	49.98	-24.02	74	43.56	42.48	20.37	56.43	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Band 3 - Straddle Channel

Emission below 1GHz

WIFI 802.11a (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a LF		31.35	23.14	-16.86	40	29.16	25.18	1.29	32.49	-	-	P	H
		98.31	23.99	-19.51	43.5	39.1	15.86	1.51	32.48	-	-	P	H
		205.5	28.65	-14.85	43.5	43.3	16.11	2.1	32.86	-	-	P	H
		498.1	24.68	-21.32	46	29.71	24.07	3.28	32.38	-	-	P	H
		770.4	29.89	-16.11	46	30.13	27.94	4.09	32.27	-	-	P	H
		944	32.77	-13.23	46	28.9	30.44	4.69	31.26	100	0	P	H
													H
													H
													H
													H
													H
													H
		30.81	33.69	-6.31	40	39.71	25.18	1.29	32.49	190	120	P	V
		38.1	30.01	-9.99	40	39.79	21.42	1.29	32.49	-	-	P	V
		46.2	28.77	-11.23	40	43.34	16.63	1.29	32.49	-	-	P	V
		453.3	23.96	-22.04	46	29.86	23.35	3.11	32.36	-	-	P	V
		692	27.97	-18.03	46	29.89	26.61	3.94	32.47	-	-	P	V
		954.5	33.05	-12.95	46	28.93	30.59	4.69	31.16	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11n HT20 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT20 LF		30	23.37	-16.63	40	28.88	25.7	1.29	32.5	-	-	P	H
		164.19	25.32	-18.18	43.5	39.56	16.5	2	32.74	-	-	P	H
		194.16	28.94	-14.56	43.5	44.13	15.58	2.1	32.87	-	-	P	H
		445.6	23.52	-22.48	46	29.55	23.21	3.11	32.35	-	-	P	H
		748	29.05	-16.95	46	29.63	27.66	4.09	32.33	-	-	P	H
		944.7	33.01	-12.99	46	29.11	30.46	4.69	31.25	100	0	P	H
													H
													H
													H
													H
													H
													H
		31.08	34.51	-5.49	40	40.53	25.18	1.29	32.49	193	130	P	V
		38.64	29.37	-10.63	40	39.71	20.86	1.29	32.49	-	-	P	V
		46.2	31.12	-8.88	40	45.69	16.63	1.29	32.49	-	-	P	V
		480.6	24.12	-21.88	46	29.42	23.79	3.28	32.37	-	-	P	V
		783	30.56	-15.44	46	30.44	28.09	4.26	32.23	-	-	P	V
		951	33.19	-12.81	46	29.09	30.6	4.69	31.19	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Emission below 1GHz

WIFI 802.11n HT40 (LF @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11n HT40 LF		30	23.02	-16.98	40	28.53	25.7	1.29	32.5	-	-	P	H
		98.31	24.71	-18.79	43.5	39.82	15.86	1.51	32.48	-	-	P	H
		197.13	28.51	-14.99	43.5	43.5	15.79	2.1	32.88	-	-	P	H
		447	23.78	-22.22	46	29.77	23.25	3.11	32.35	-	-	P	H
		727	28.49	-17.51	46	29.61	27.25	4.02	32.39	-	-	P	H
		953.8	33.34	-12.66	46	29.22	30.59	4.69	31.16	100	0	P	H
													H
													H
													H
													H
													H
													H
		31.08	34.22	-5.78	40	40.24	25.18	1.29	32.49	188	115	P	V
		38.1	30.2	-9.8	40	39.98	21.42	1.29	32.49	-	-	P	V
		46.2	29.01	-10.99	40	43.58	16.63	1.29	32.49	-	-	P	V
		561.8	26.32	-19.68	46	30.27	25.01	3.47	32.43	-	-	P	V
		773.9	31.03	-14.97	46	31.21	27.99	4.09	32.26	-	-	P	V
		955.2	33.1	-12.9	46	28.97	30.59	4.69	31.15	-	-	P	V
													V
													V
													V
													V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

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

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

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

1. Level(dBμV/m) =

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

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

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

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

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

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

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

Appendix C. Radiated Spurious Emission

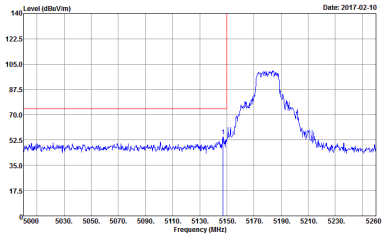
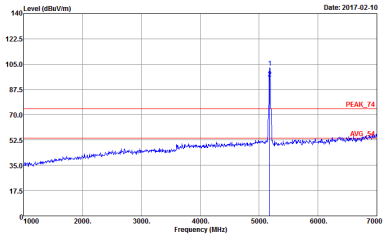
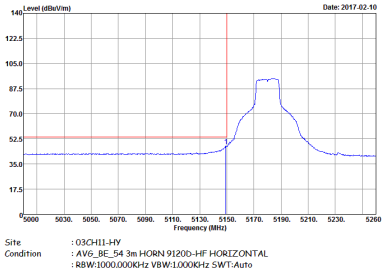
Test Engineer :	J.C. Liang, Jacky Hung, and Kan Wu	**Temperature :**	20~24°C
		Relative Humidity :	50~54%

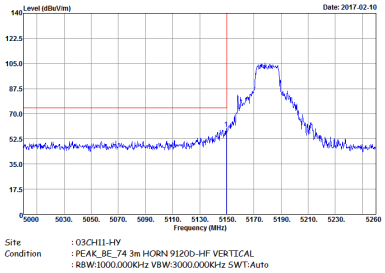
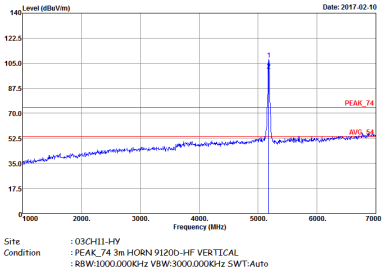
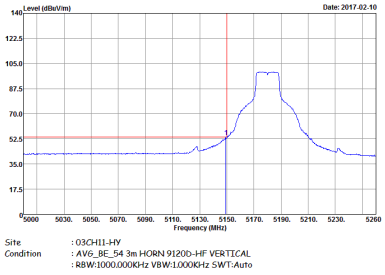
Note symbol

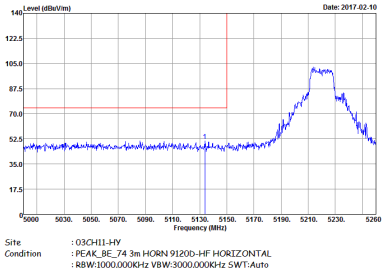
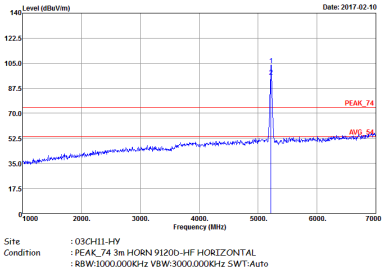
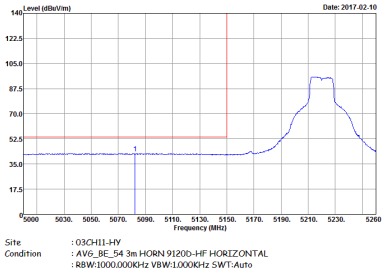
-L	**Low channel location**
-R	**High channel location**

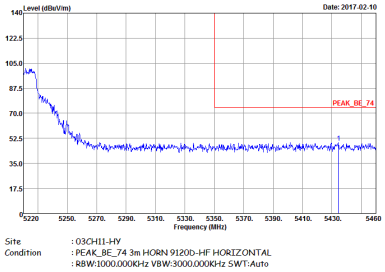
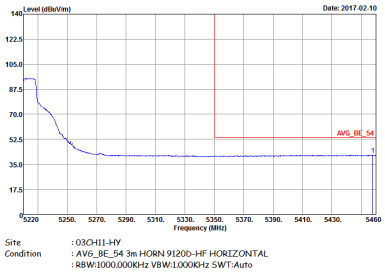
Band 1 - 5150~5250MHz

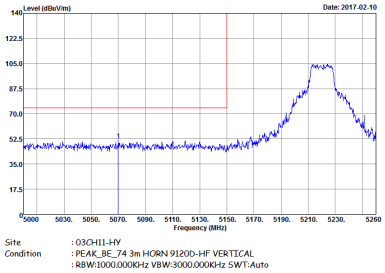
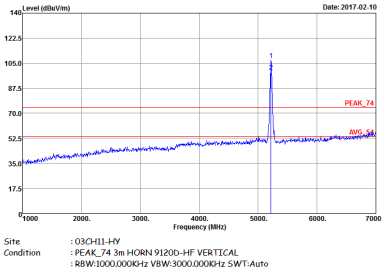
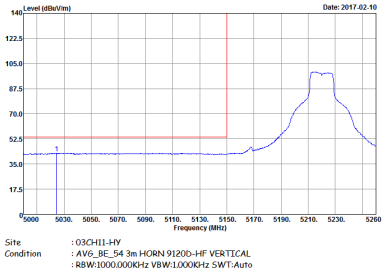
WIFI 802.11a (Band Edge @ 3m)

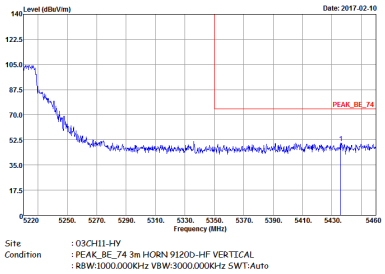
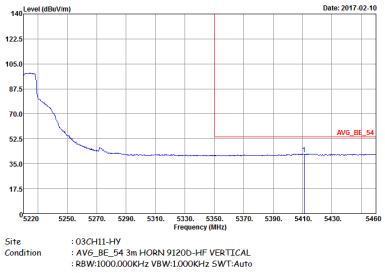
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

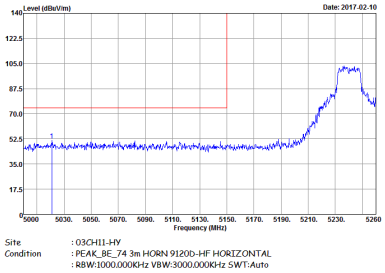
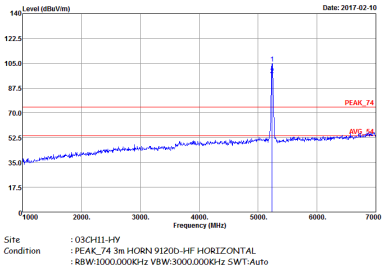
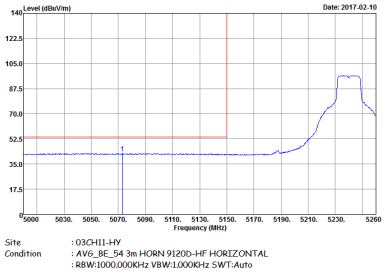
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

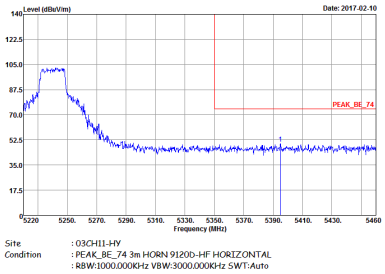
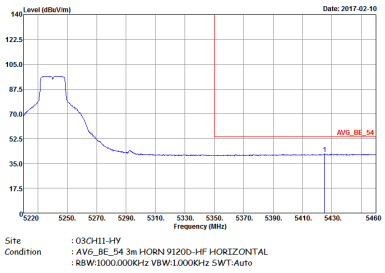
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

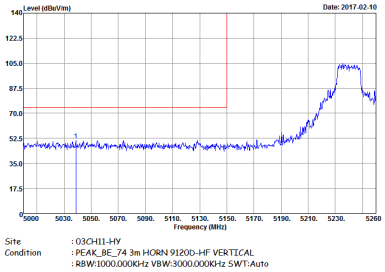
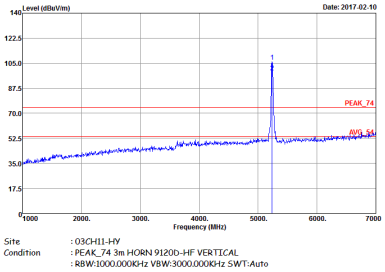
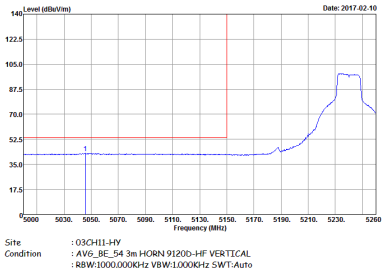
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

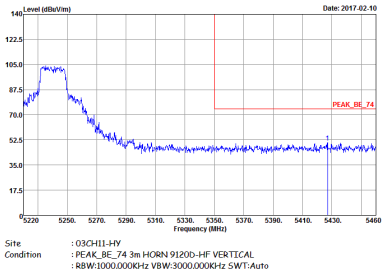
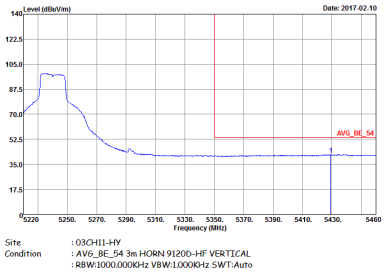
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

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

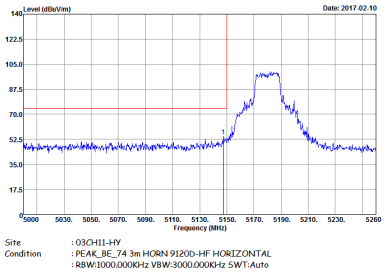
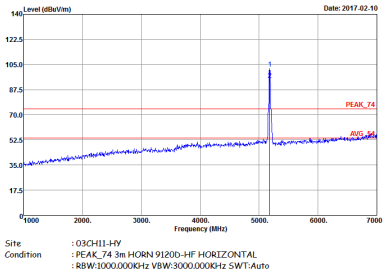
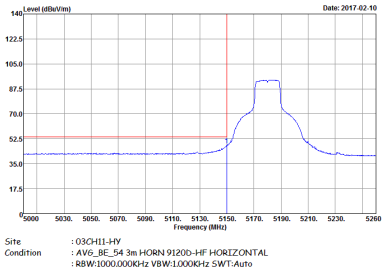
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

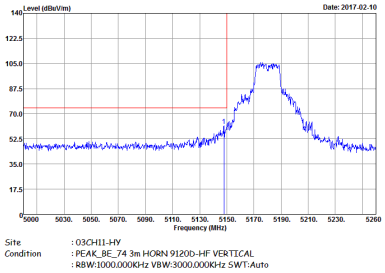
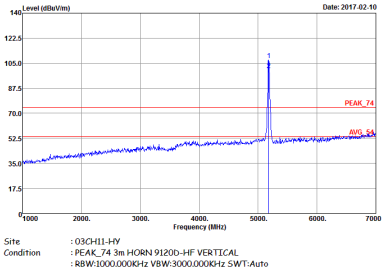
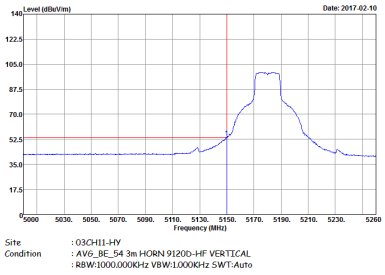
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

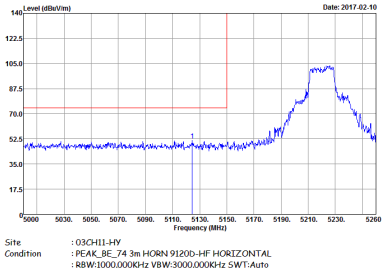
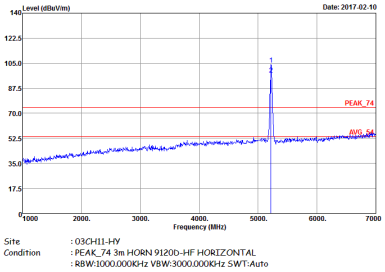
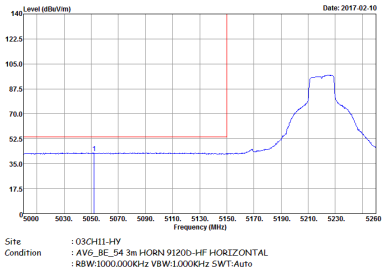
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

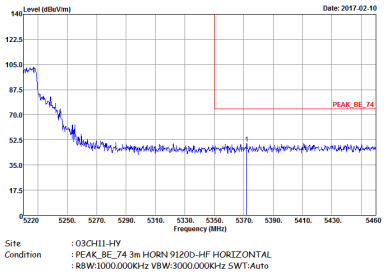
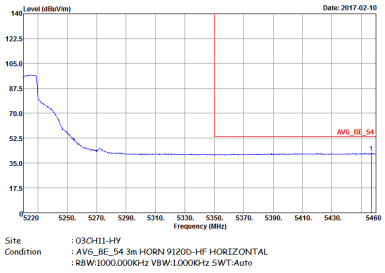
Band 1 5150~5250MHz

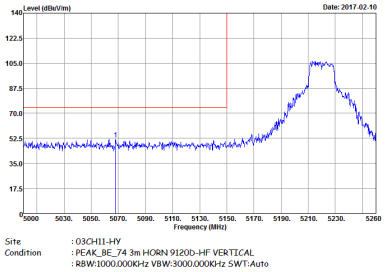
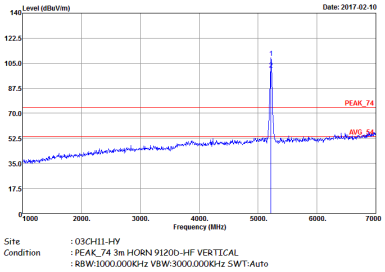
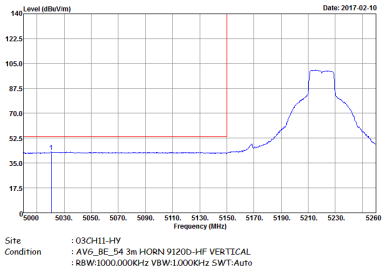
WIFI 802.11n HT20 (Band Edge @ 3m)

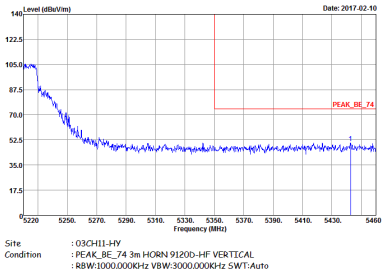
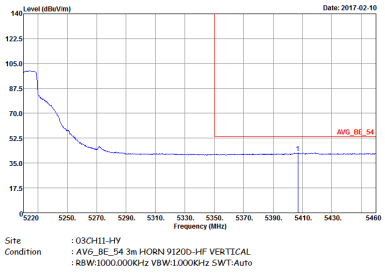
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

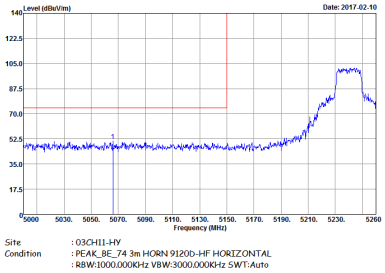
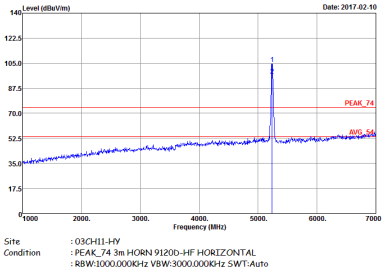
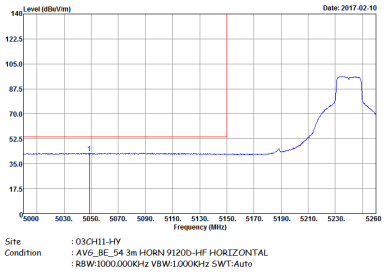
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

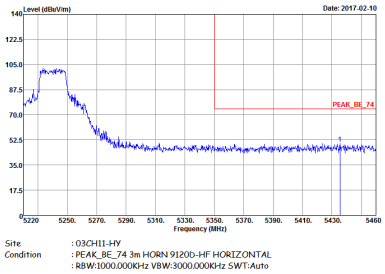
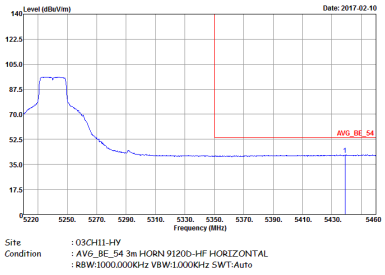
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

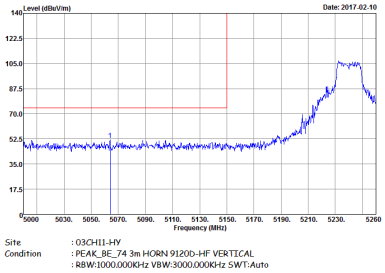
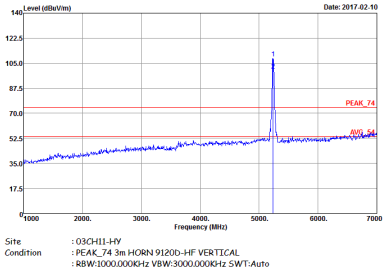
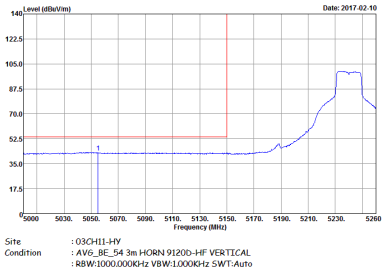
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

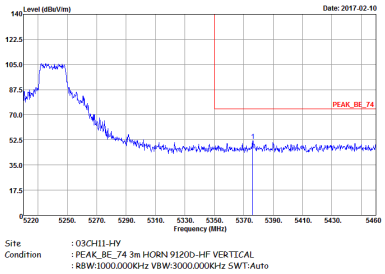
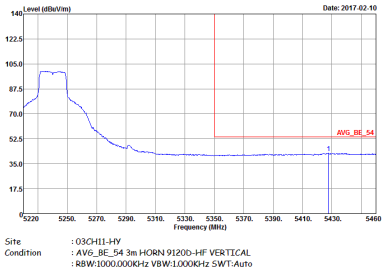
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH44 5220MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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		
Avg.		Left blank

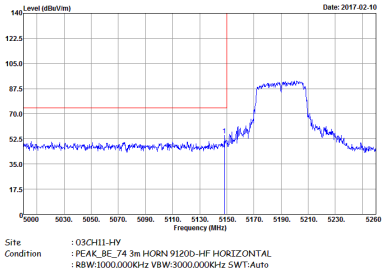
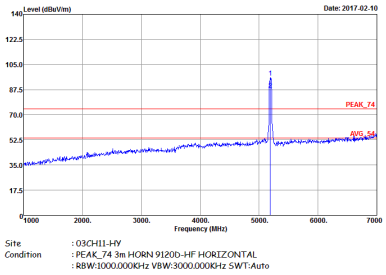
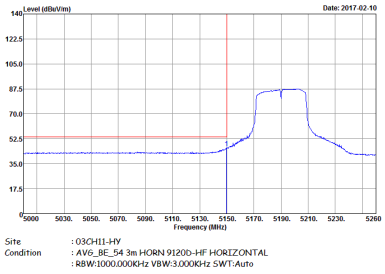
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

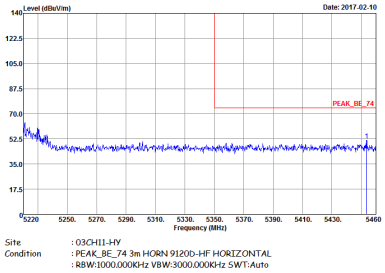
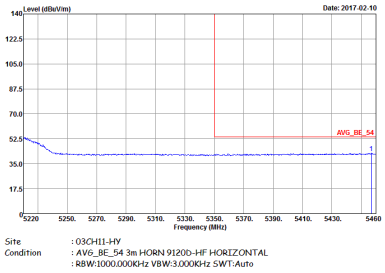
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

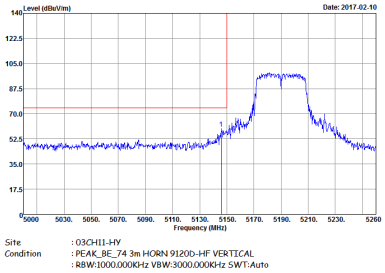
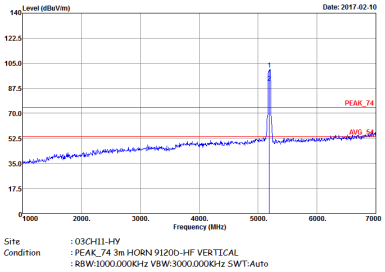
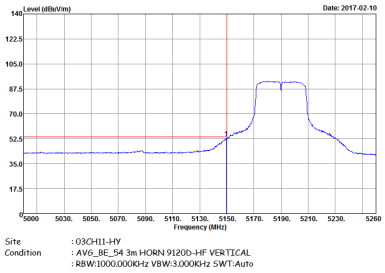
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT20 CH48 5240MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

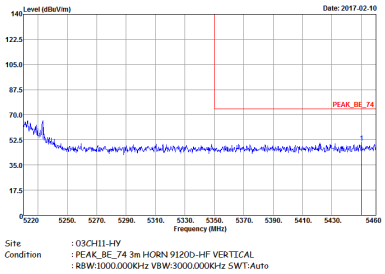
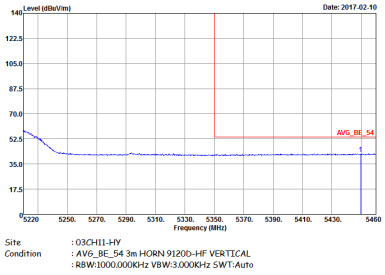
Band 1 5150~5250MHz

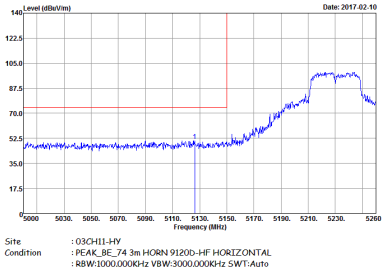
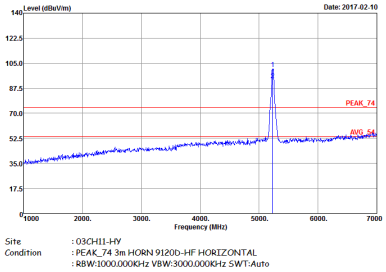
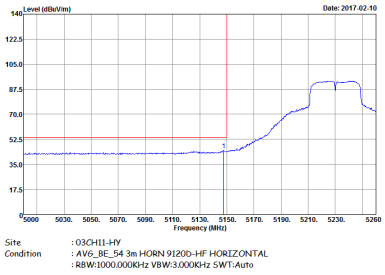
WIFI 802.11n HT40 (Band Edge @ 3m)

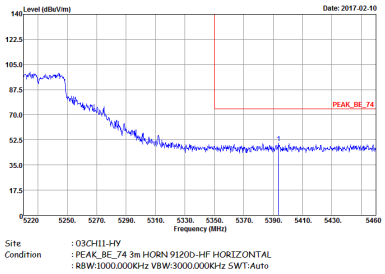
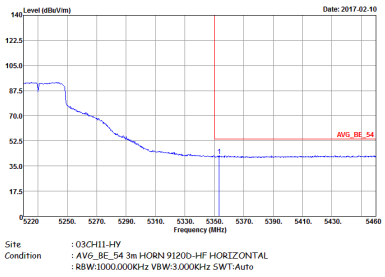
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

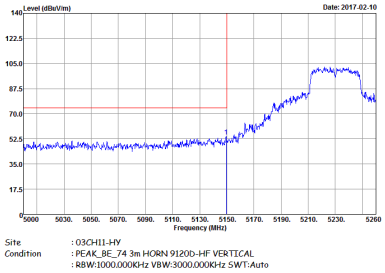
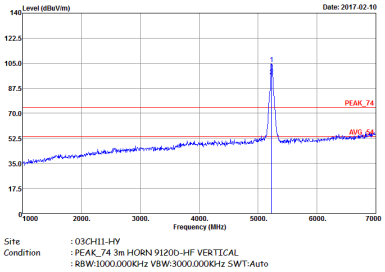
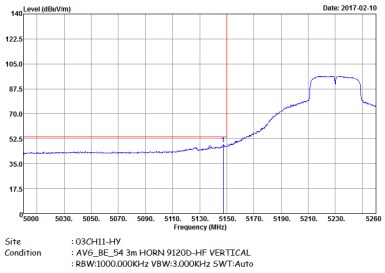
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

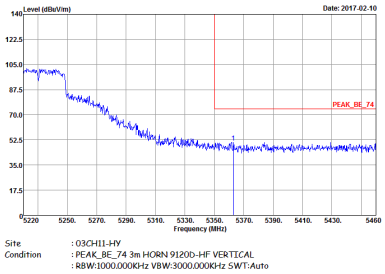
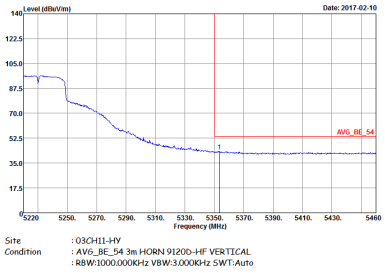
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH38 5190MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

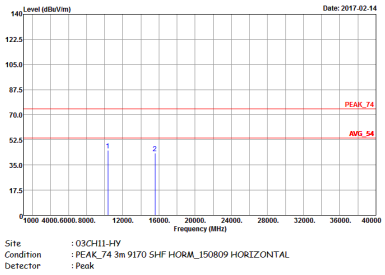
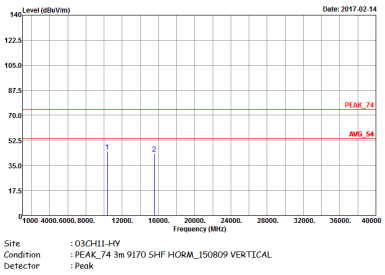
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

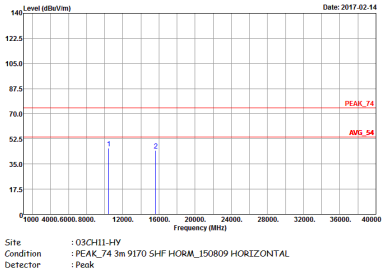
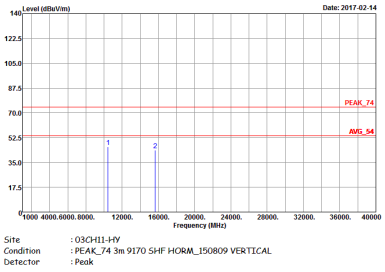
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11n HT40 CH46 5230MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

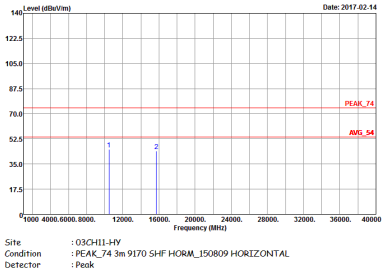
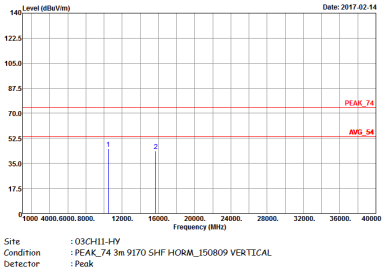
Band 1 5150~5250MHz

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

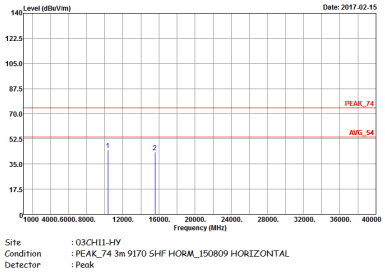
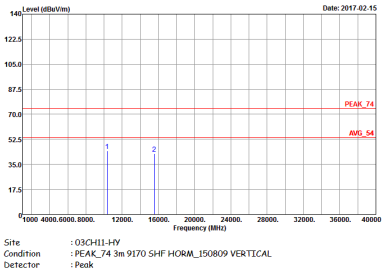
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

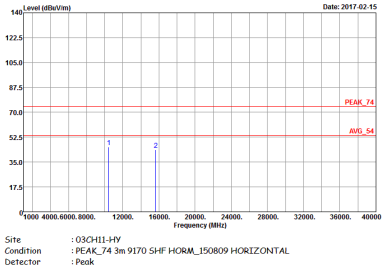
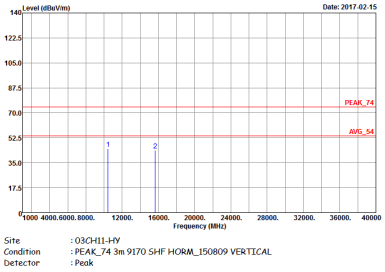
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

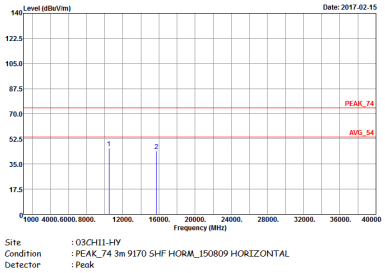
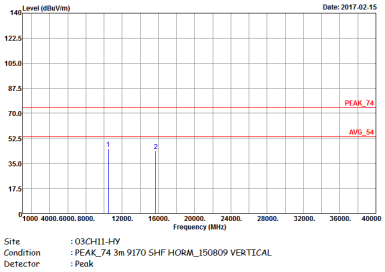
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

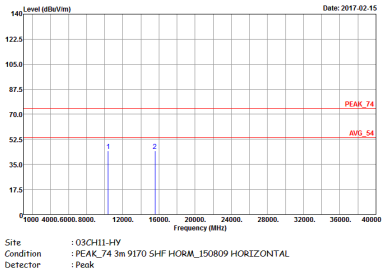
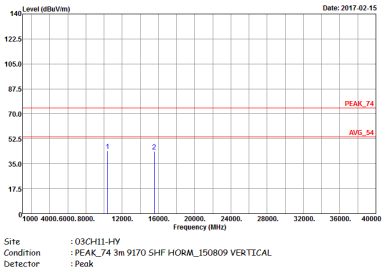
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH36 5180MHz	
1	Horizontal	Vertical
Peak Avg.		

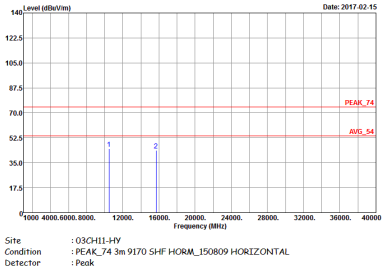
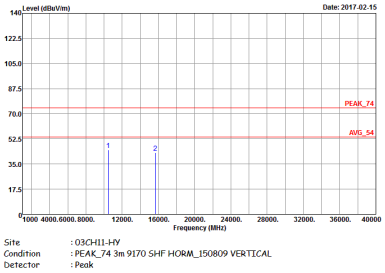
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT20 CH44 5220MHz	
1	Horizontal	Vertical
Peak Avg.		

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

Band 1 5150~5250MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

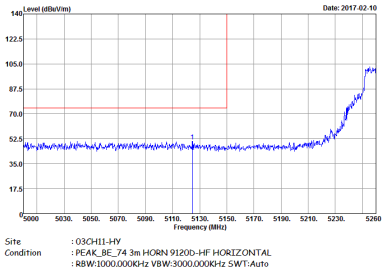
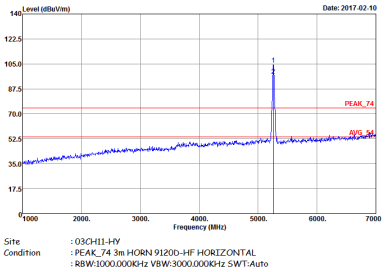
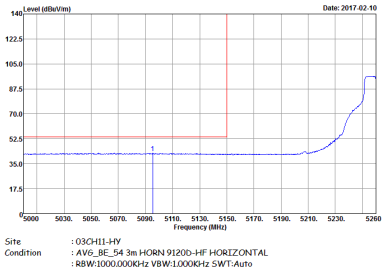
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH38 5190MHz	
1	Horizontal	Vertical
Peak Avg.		

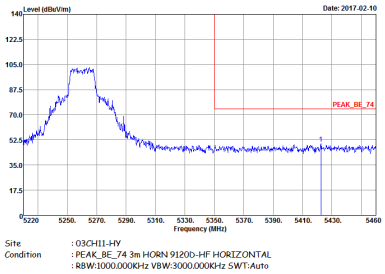
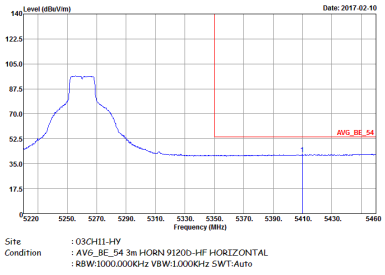
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11n HT40 CH46 5230MHz	
1	Horizontal	Vertical
Peak Avg.		

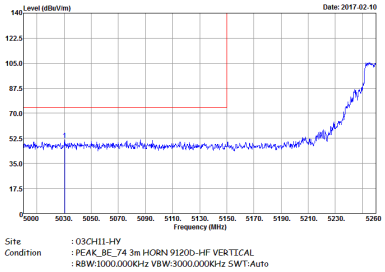
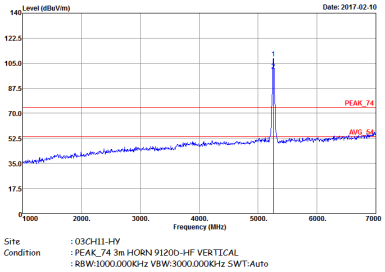
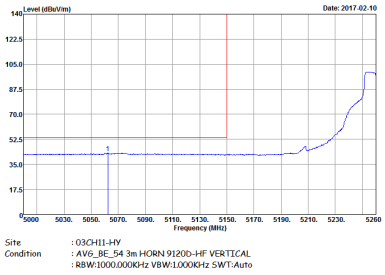
Band 1 5150~5250MHz

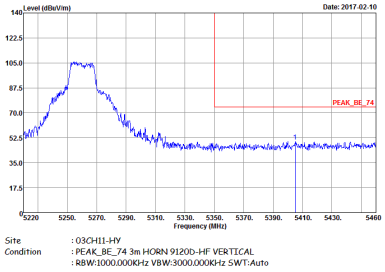
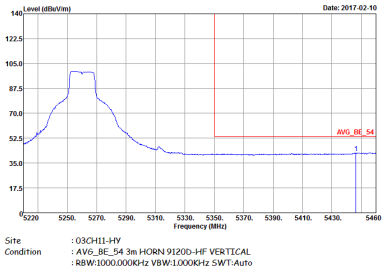
Band 2 - 5250~5350MHz

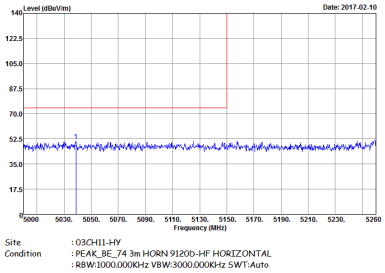
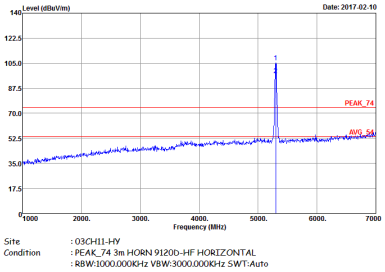
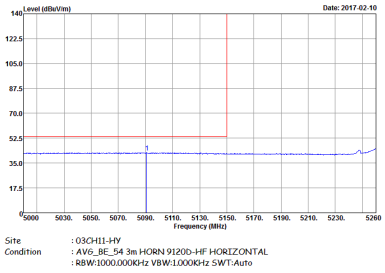
WIFI 802.11a (Band Edge @ 3m)

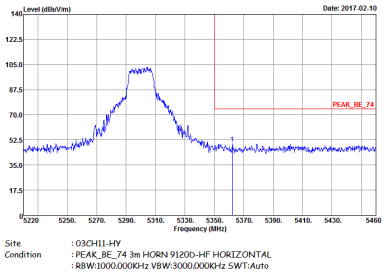
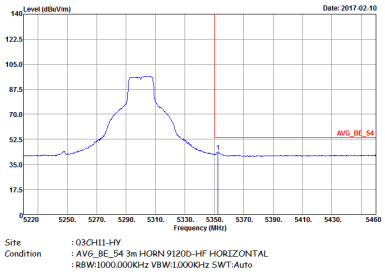
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

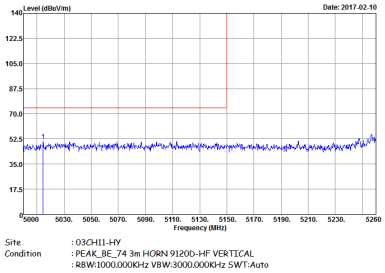
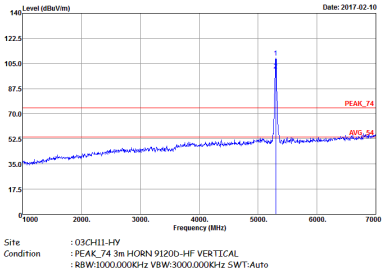
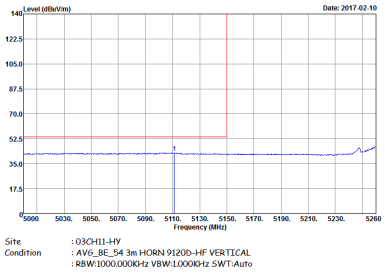
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

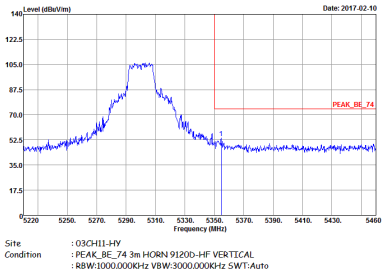
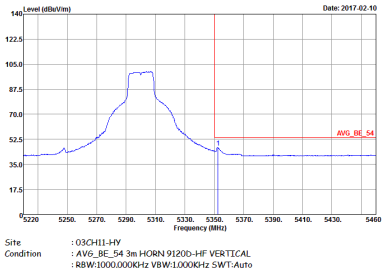
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

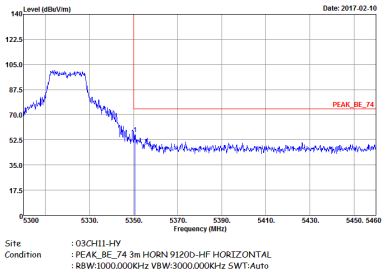
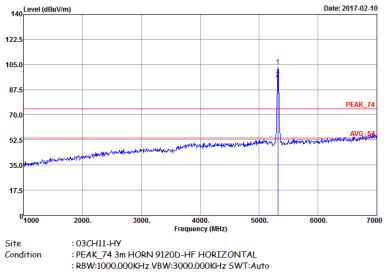
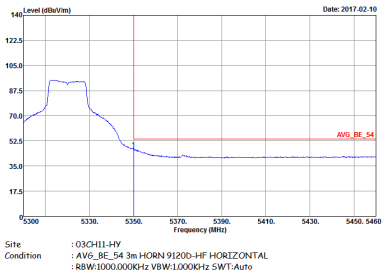
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

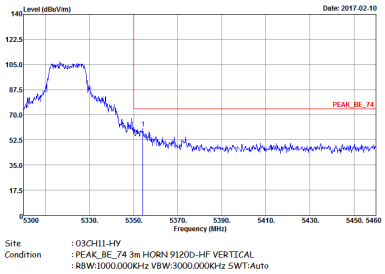
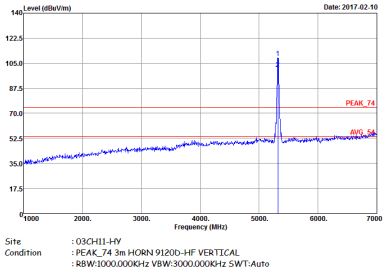
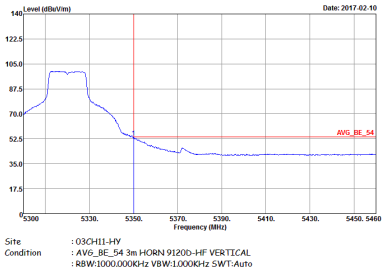
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

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

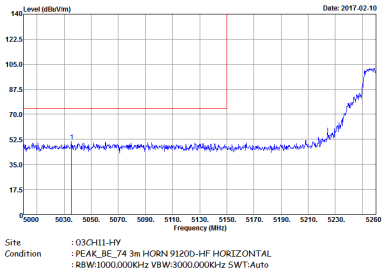
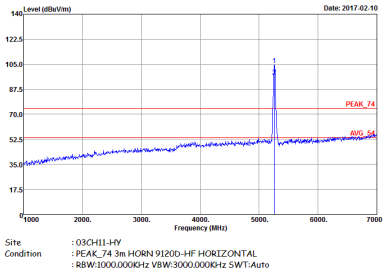
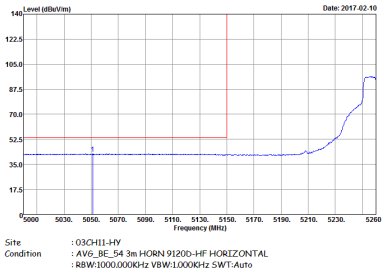
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

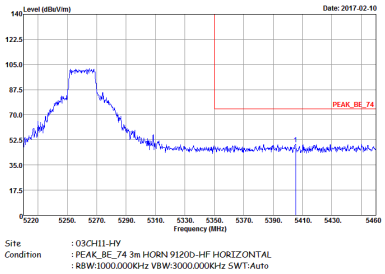
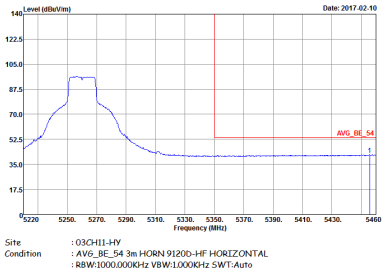
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

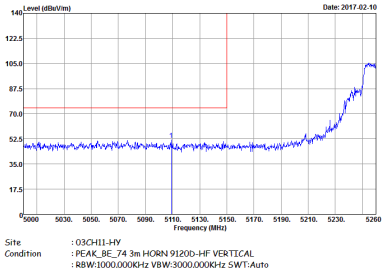
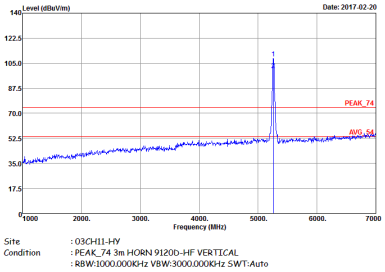
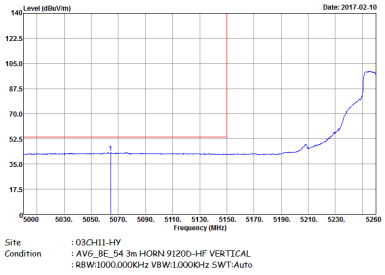
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

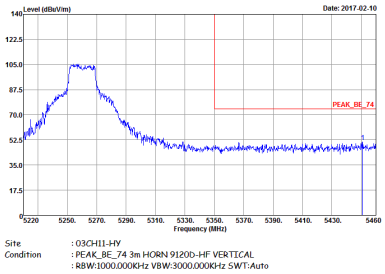
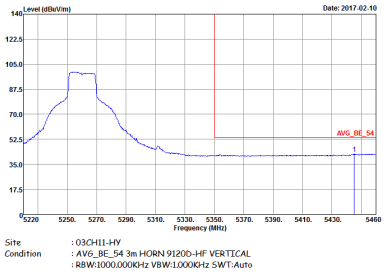
Band 2 5250~5350MHz

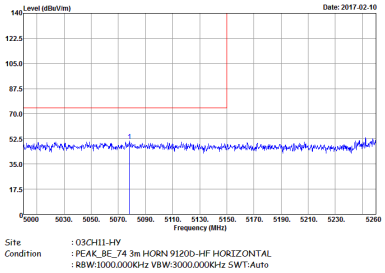
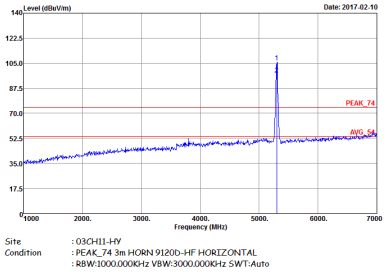
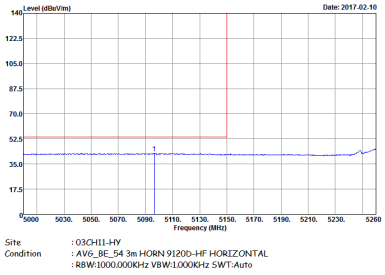
WIFI 802.11n HT20 (Band Edge @ 3m)

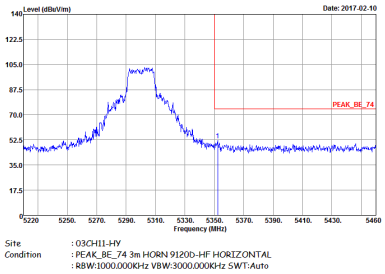
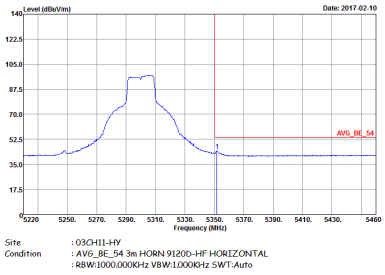
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

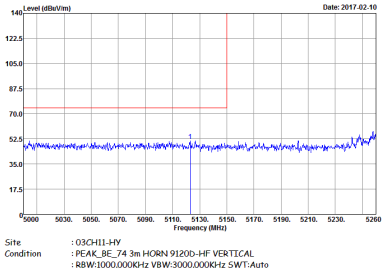
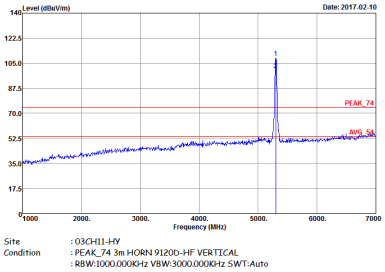
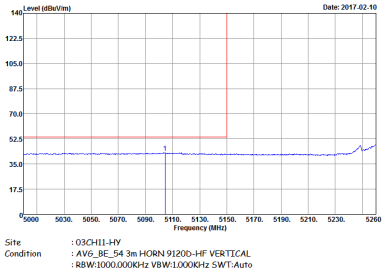
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

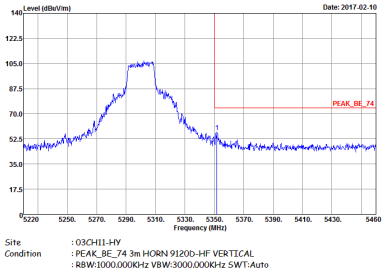
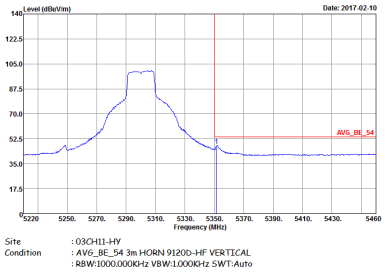
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

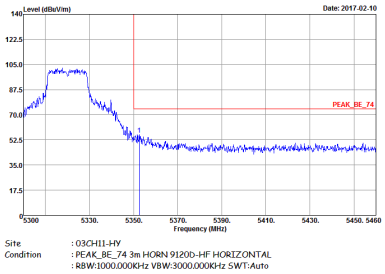
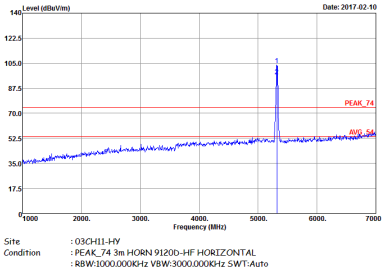
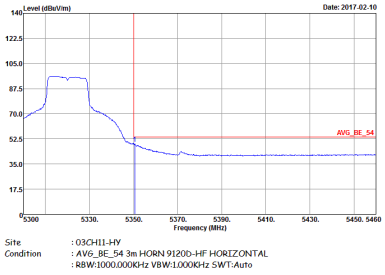
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

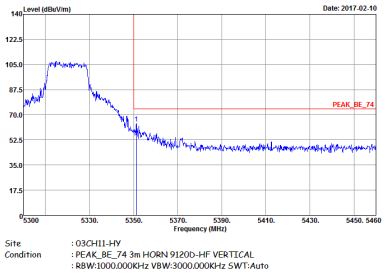
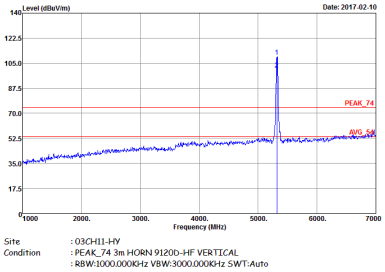
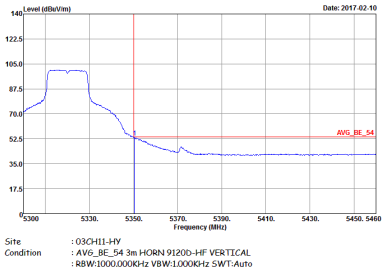
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

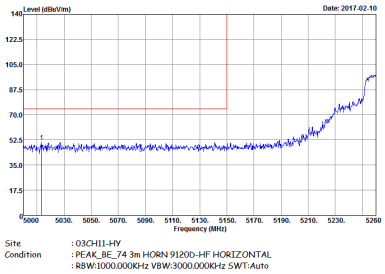
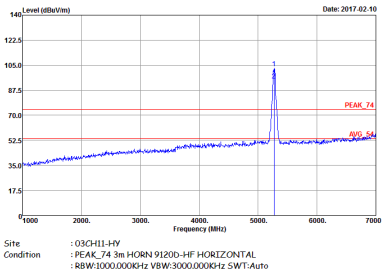
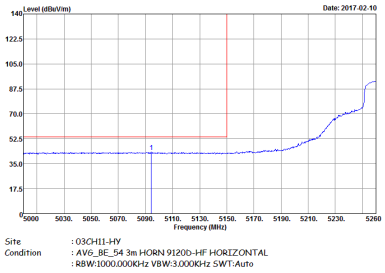
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

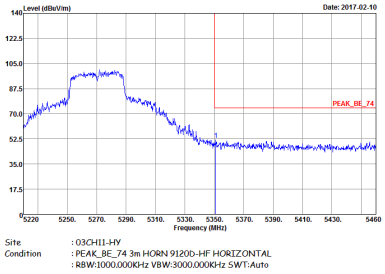
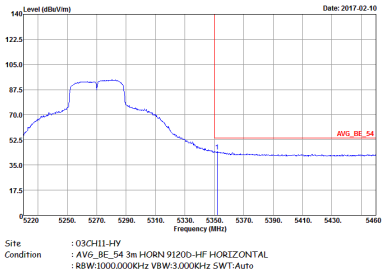
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

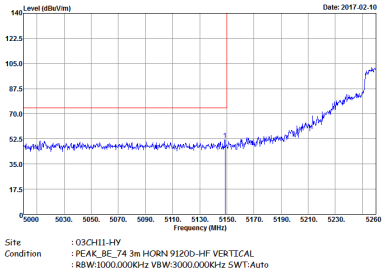
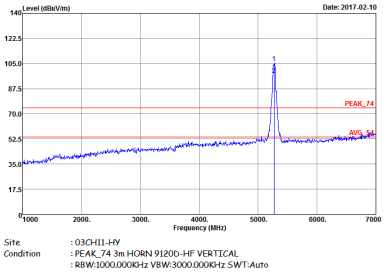
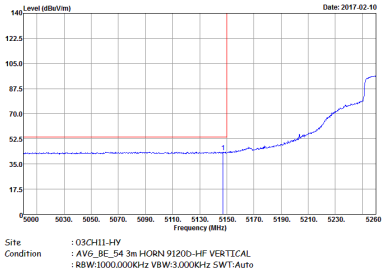
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

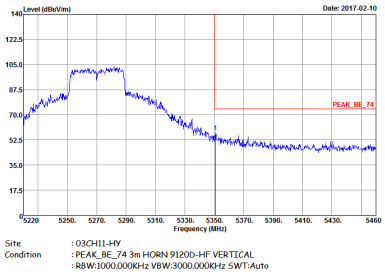
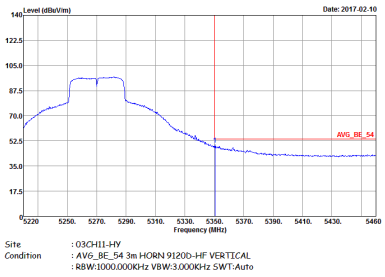
Band 2 5250~5350MHz

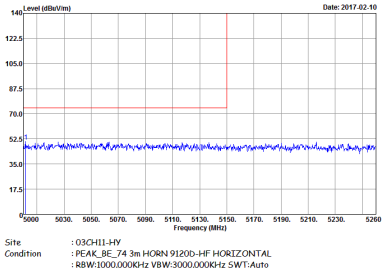
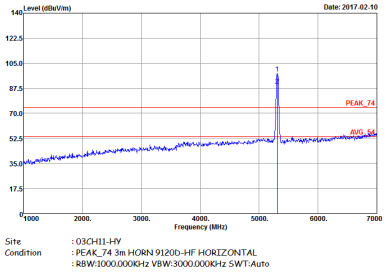
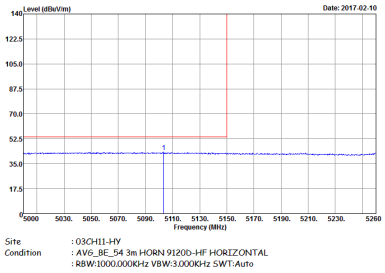
WIFI 802.11n HT40 (Band Edge @ 3m)

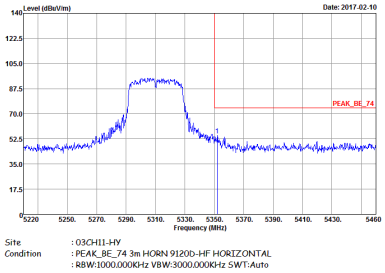
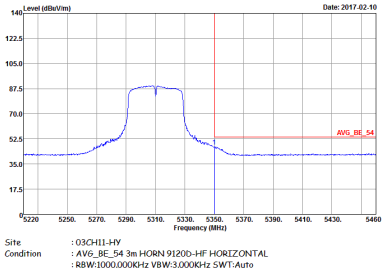
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

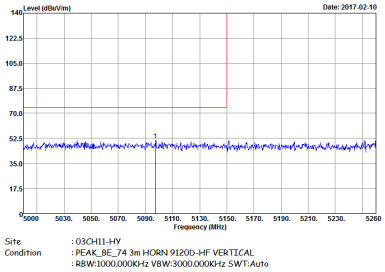
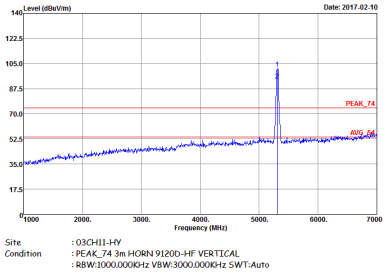
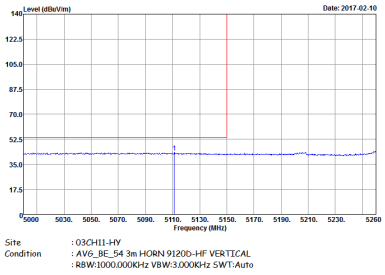
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

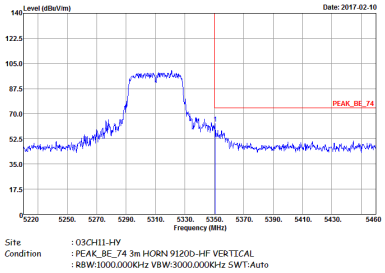
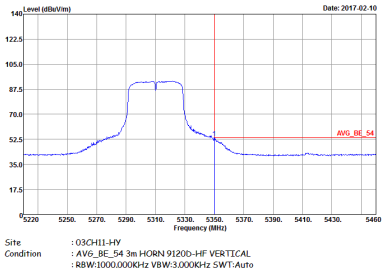
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 MHz - L	
1	Vertical	Vertical
Peak		
Avg.		Left blank

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

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

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

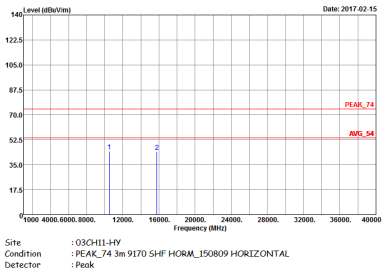
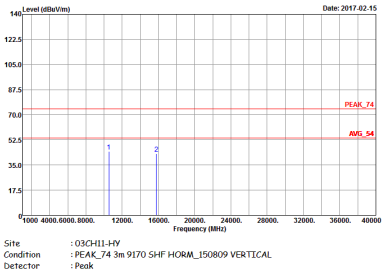
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

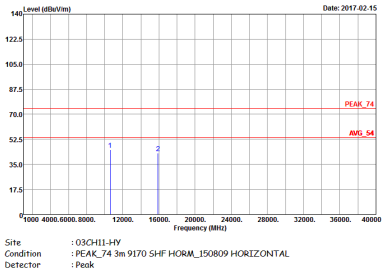
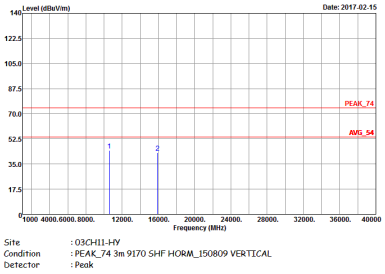
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

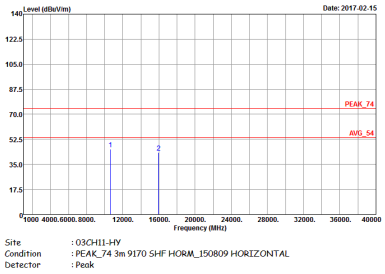
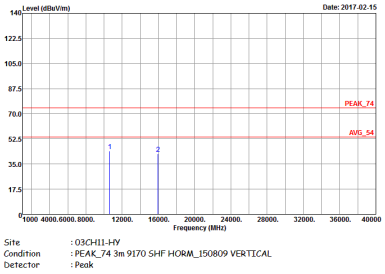
Band 2 5250~5350MHz

Band 2 - 5250~5350MHz

WIFI 802.11a (Harmonic @ 3m)

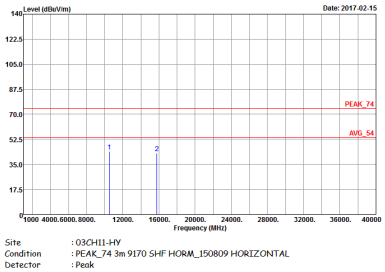
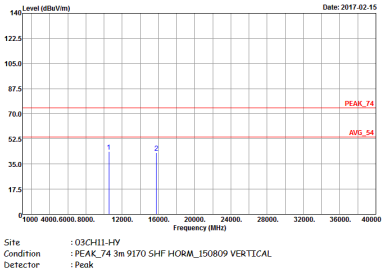
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

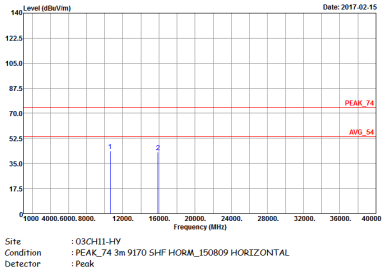
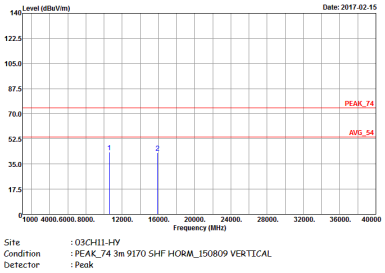
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

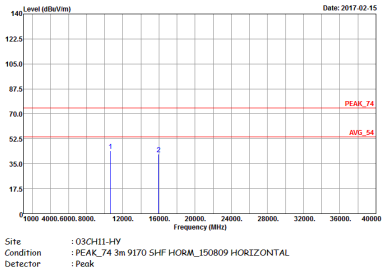
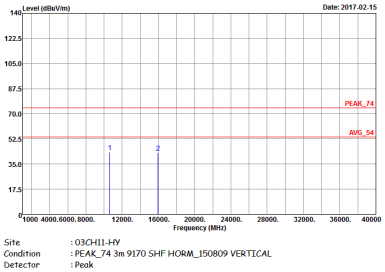
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11a CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

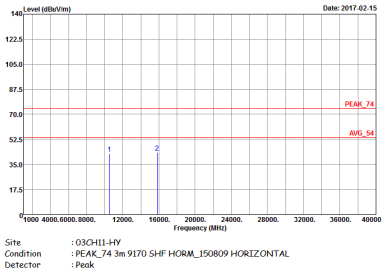
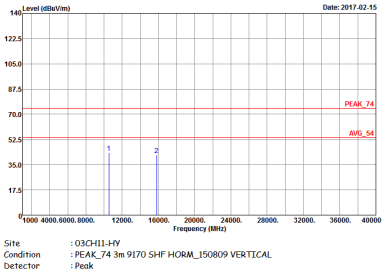
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH52 5260MHz	
1	Horizontal	Vertical
Peak Avg.		

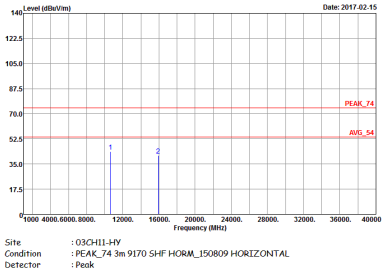
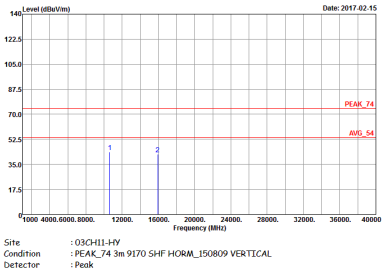
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH60 5300MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 2 5250~5350MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

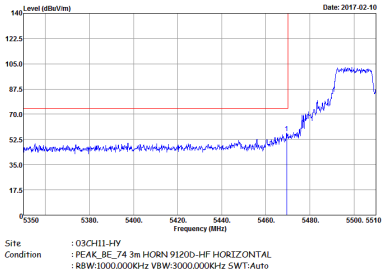
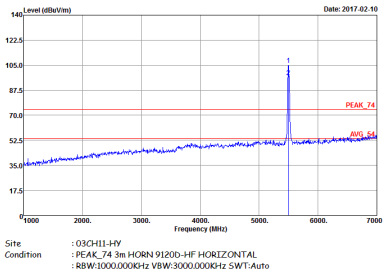
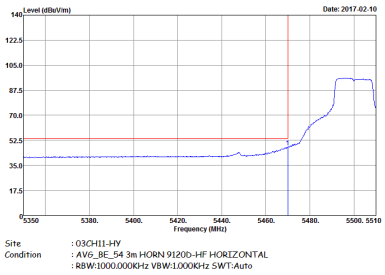
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH54 5270 MHz	
1	Horizontal	Vertical
Peak Avg.		

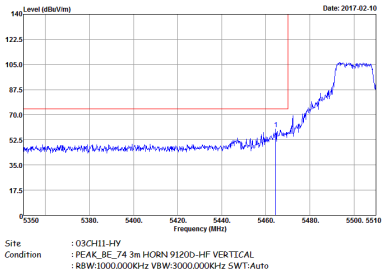
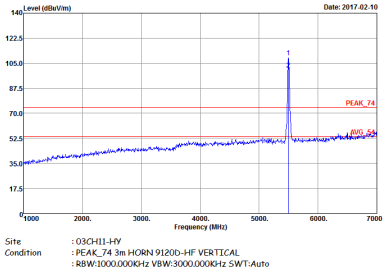
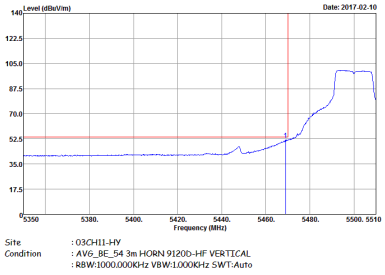
WIFI	Band 2 5250~5350MHz Harmonic @ 3m	
ANT	802.11n HT40 CH62 5310 MHz	
1	Horizontal	Vertical
Peak Avg.		

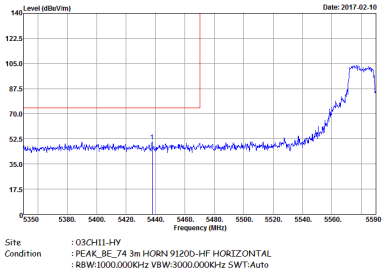
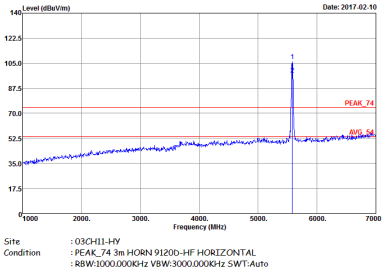
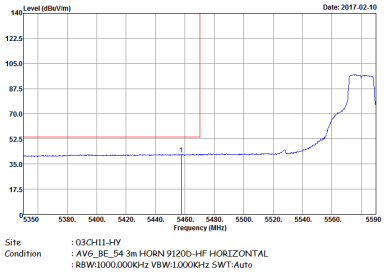
Band 2 5250~5350MHz

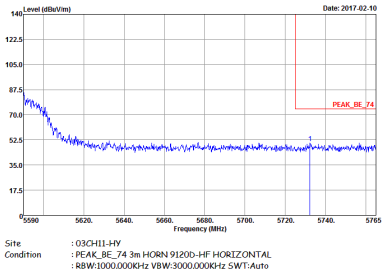
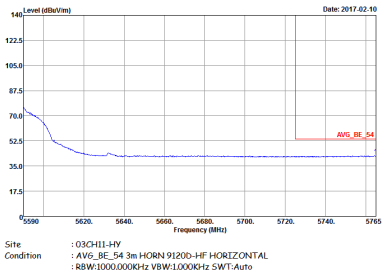
Band 3 - 5470~5725MHz

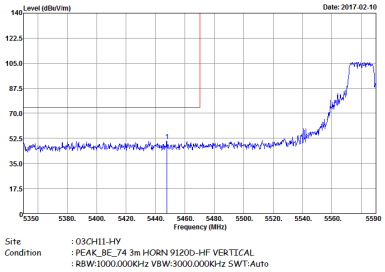
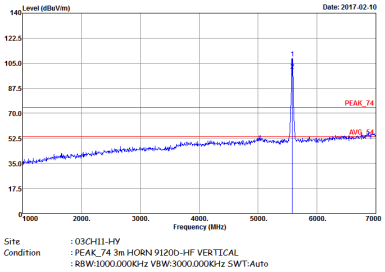
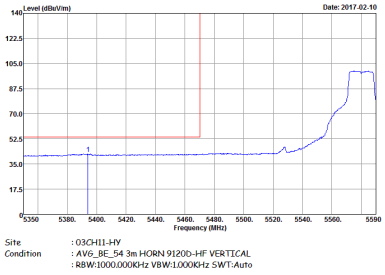
WIFI 802.11a (Band Edge @ 3m)

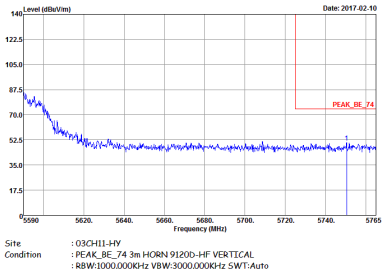
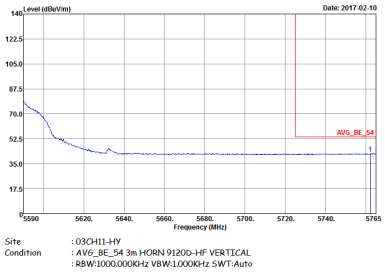
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

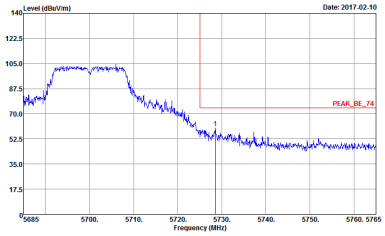
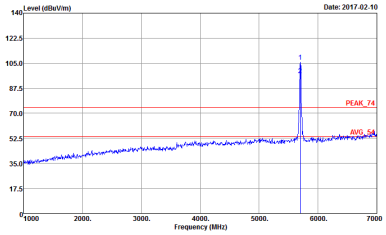
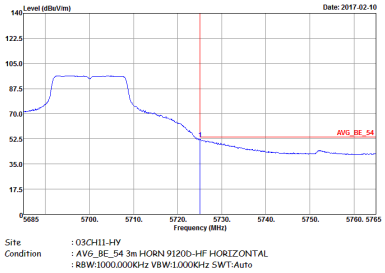
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

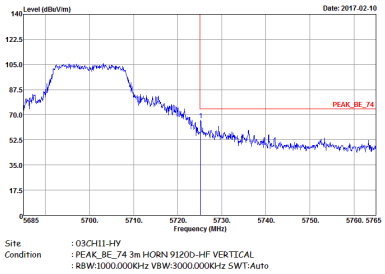
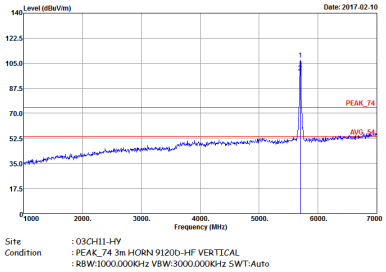
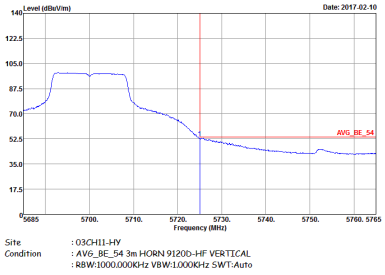
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

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

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

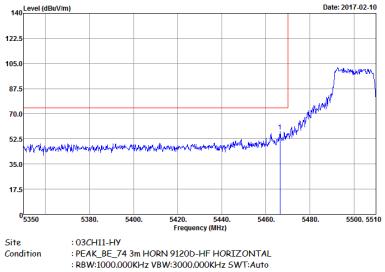
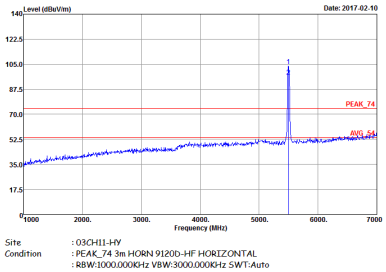
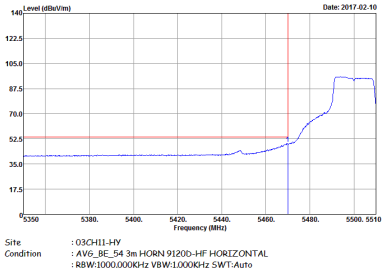
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

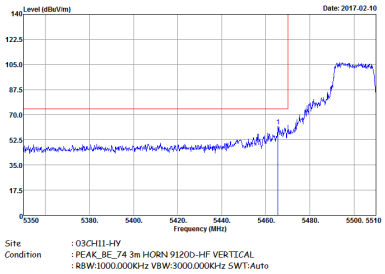
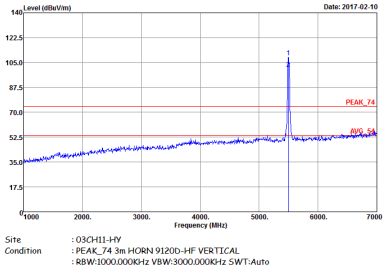
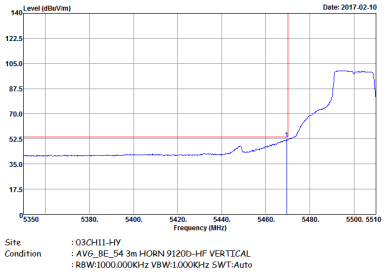
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

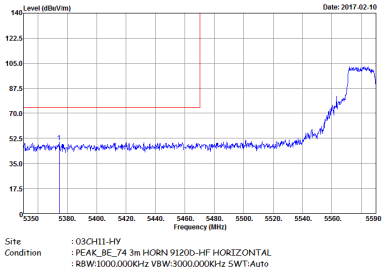
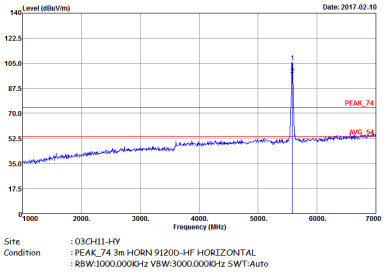
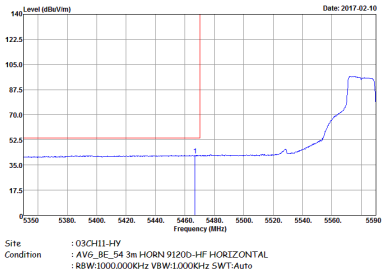
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH140 5700MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

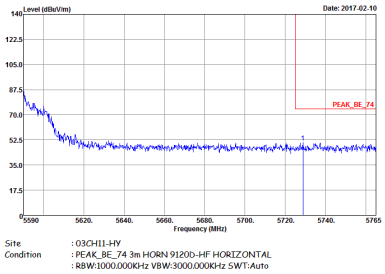
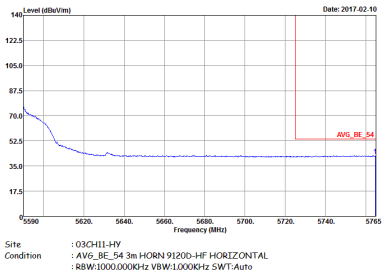
Band 3 5470~5725MHz

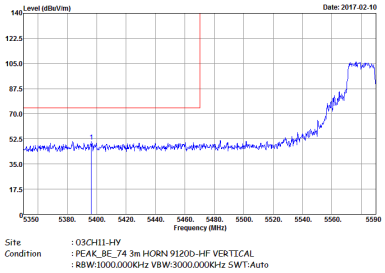
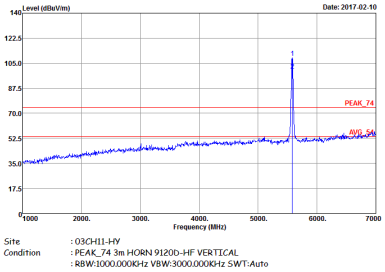
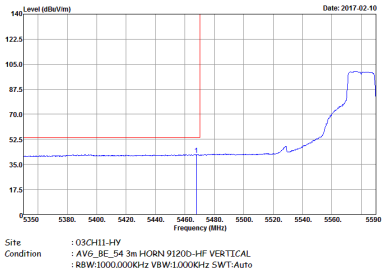
WIFI 802.11n HT20 (Band Edge @ 3m)

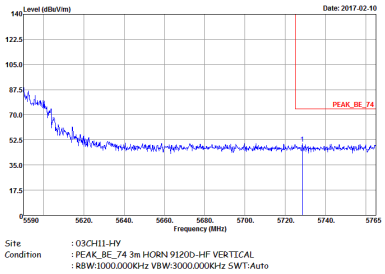
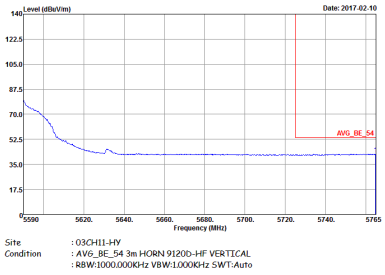
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

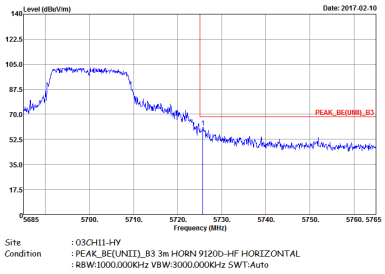
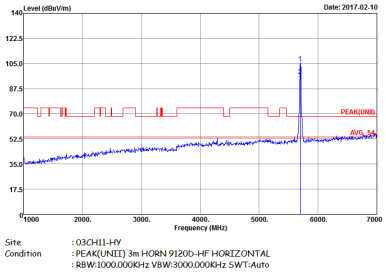
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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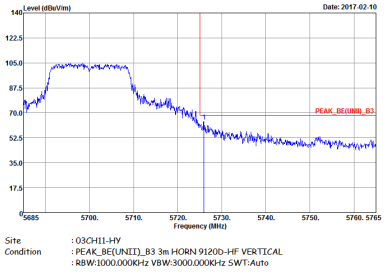
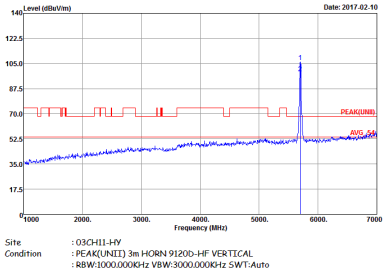
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Vertical	Fundamental
Peak.		
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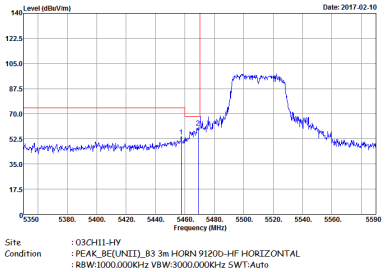
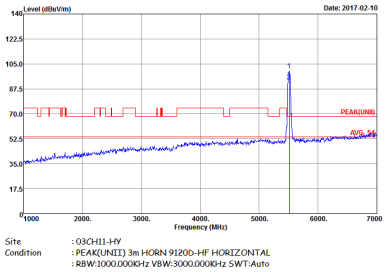
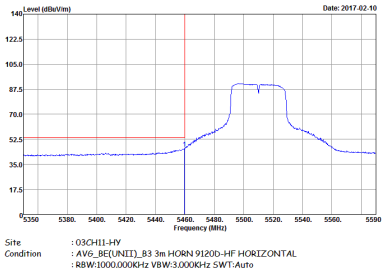
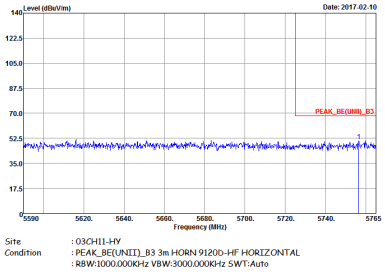
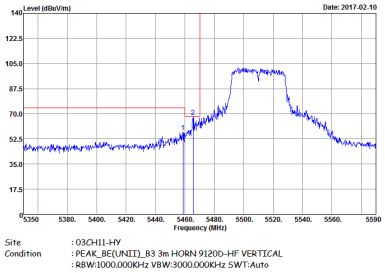
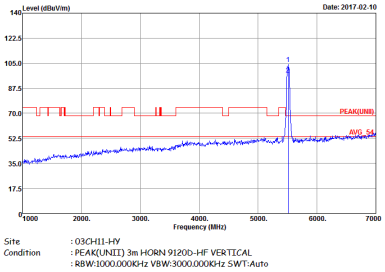
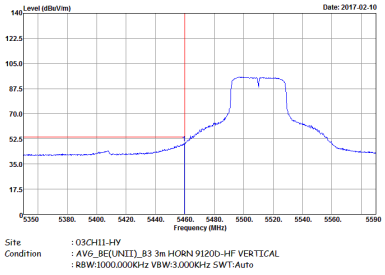
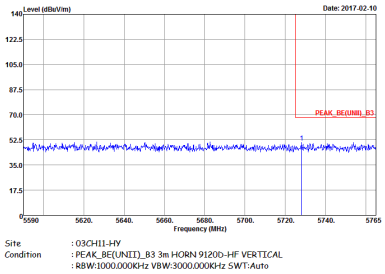
Band 3 5470~5725MHz

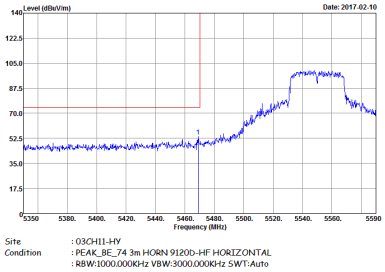
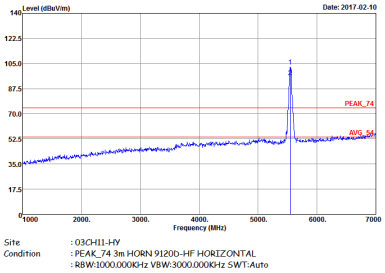
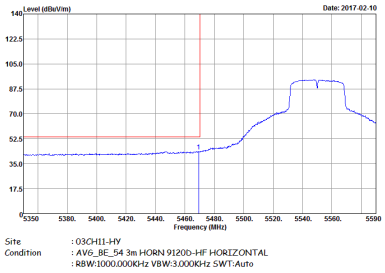
WIFI 802.11n HT40 (Band Edge @ 3m)

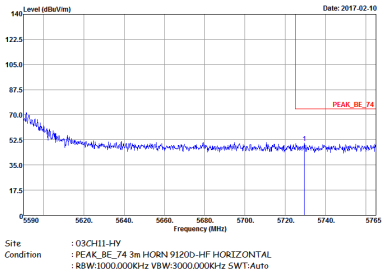
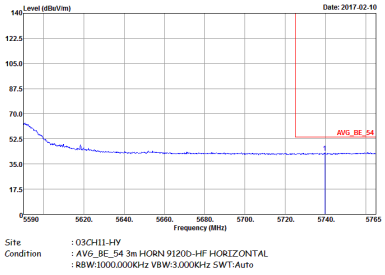
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

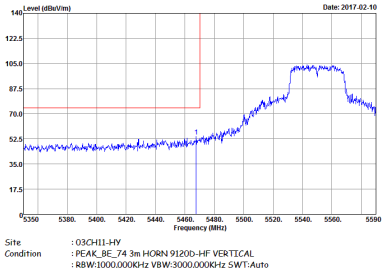
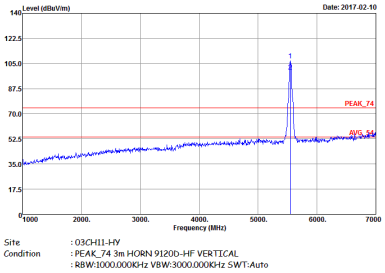
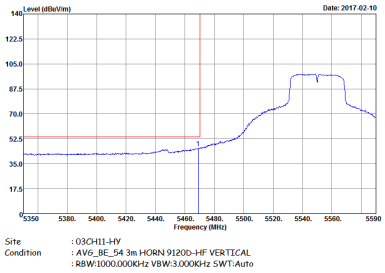
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
	Left blank	Left blank

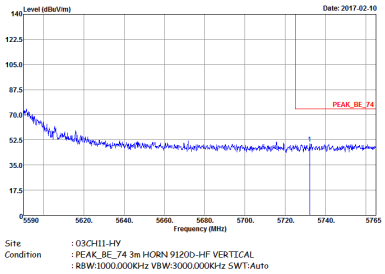
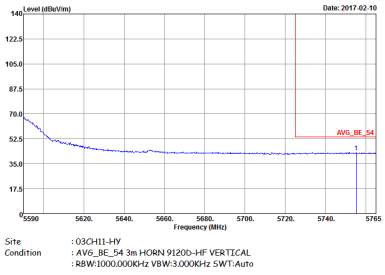
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

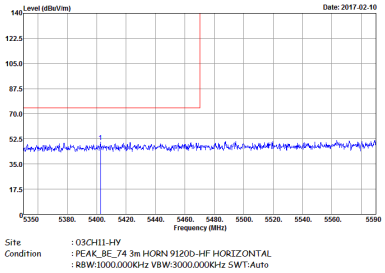
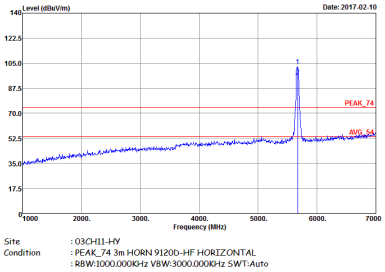
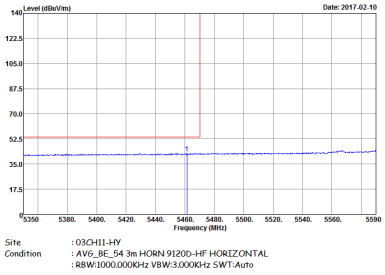
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1	Vertical	Fundamental
Peak		Left blank
	Left blank	Left blank

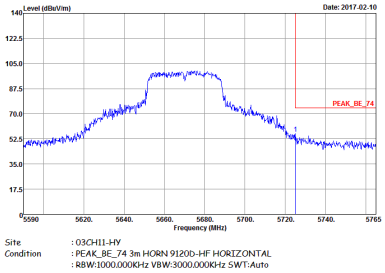
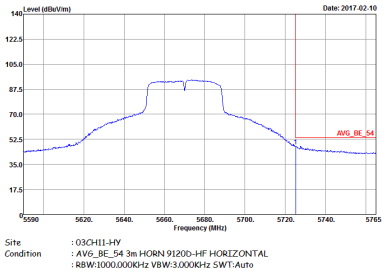
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Horizontal	Fundamental
Peak		
Avg.		Left blank

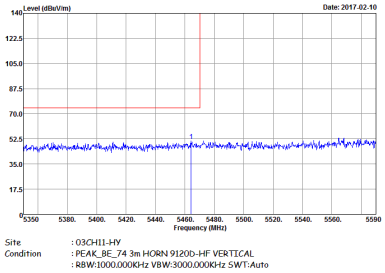
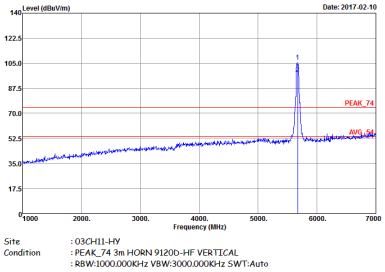
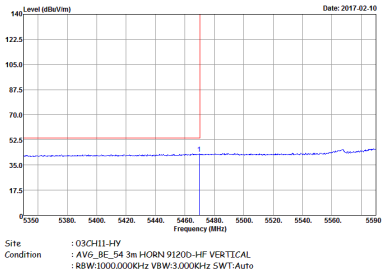
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

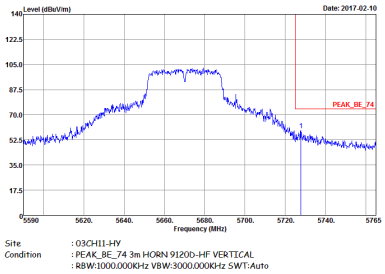
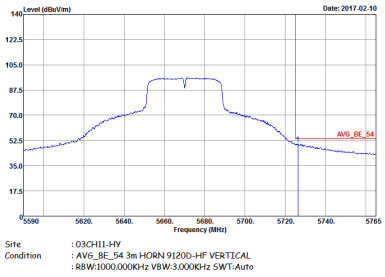
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

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

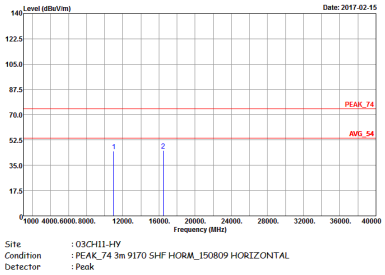
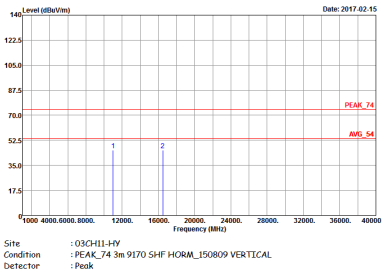
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1	Vertical	Fundamental
Peak		
Avg.		Left blank

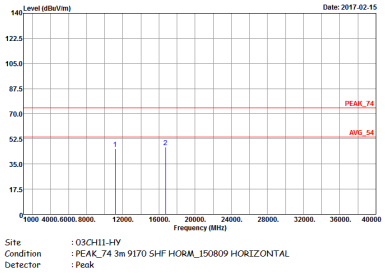
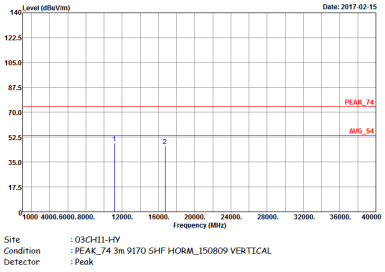
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

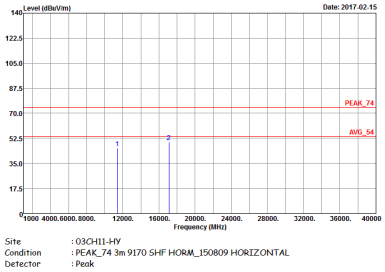
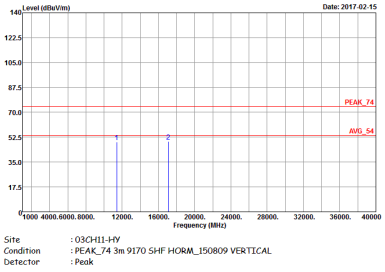
Band 3 5470~5725MHz

Band 3 - 5470~5725MHz

WIFI 802.11a (Harmonic @ 3m)

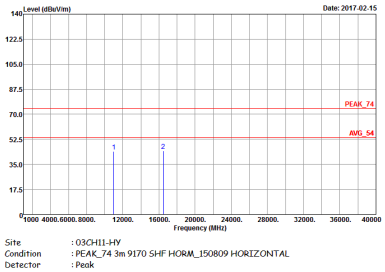
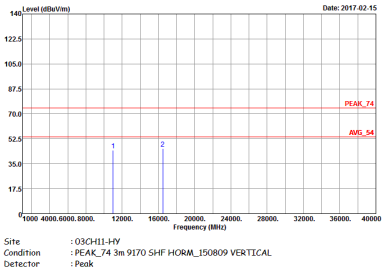
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

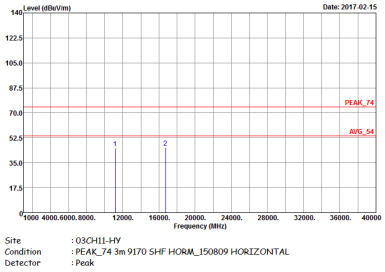
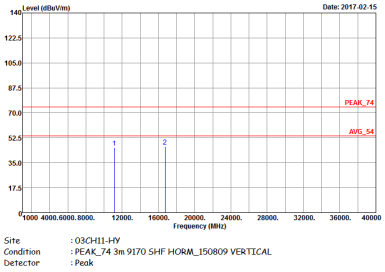
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

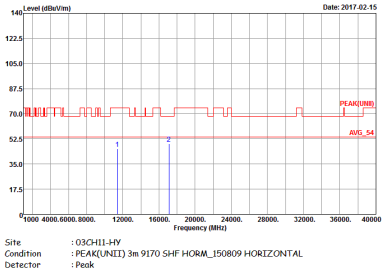
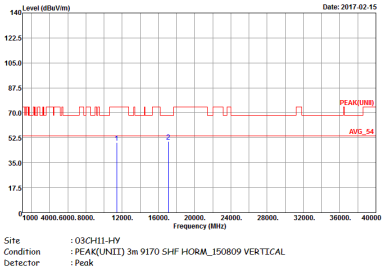
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11a CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

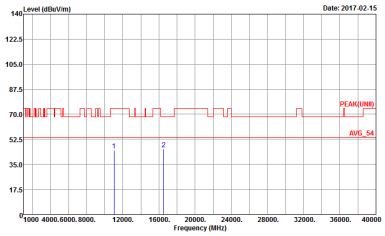
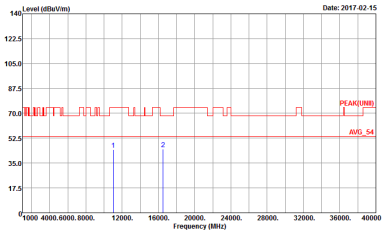
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1	Horizontal	Vertical
Peak Avg.		

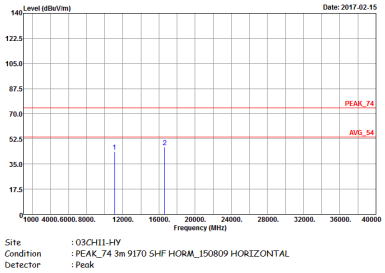
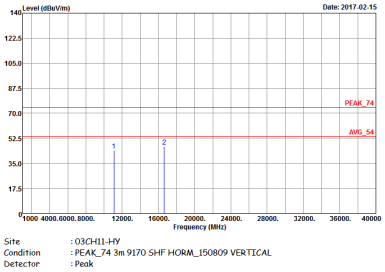
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH116 5580MHz	
1	Horizontal	Vertical
Peak Avg.		

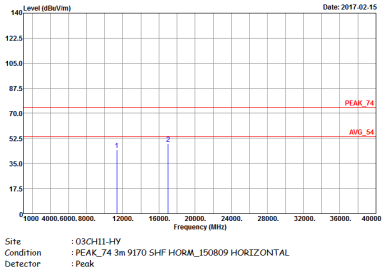
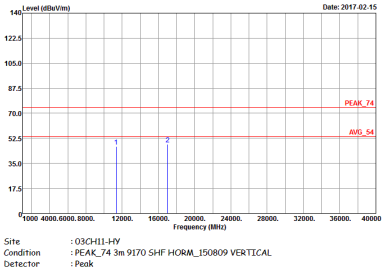
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT20 CH140 5700MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH102 5510MHz	
1	Horizontal	Vertical
Peak Avg.		

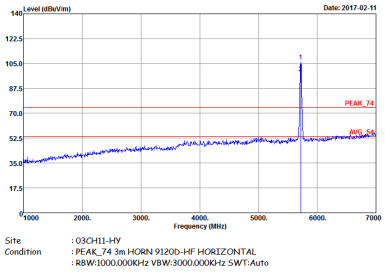
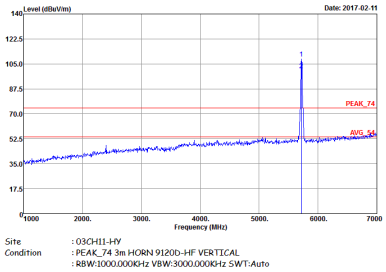
WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH110 5550MHz	
1	Horizontal	Vertical
Peak Avg.		

WIFI	Band 3 5470~5725MHz Harmonic @ 3m	
ANT	802.11n HT40 CH134 5670MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 5470~5725MHz

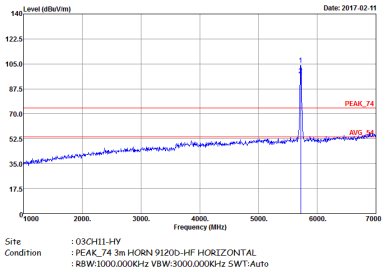
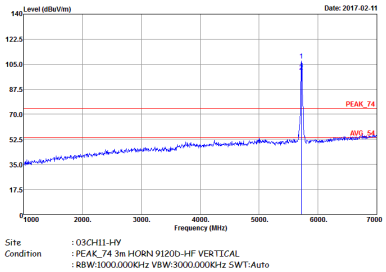
Band 3 - Straddle Channel

WIFI 802.11a (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11a CH144 5720MHz	
1	Horizontal	Vertical
Peak Avg.		

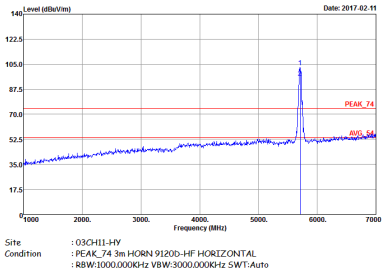
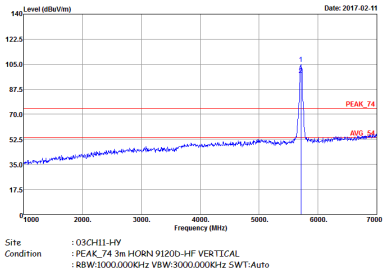
Band 3 – Straddle Channel

WIFI 802.11n HT20 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT20 CH144 5720MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 – Straddle Channel

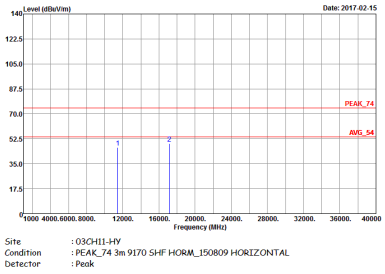
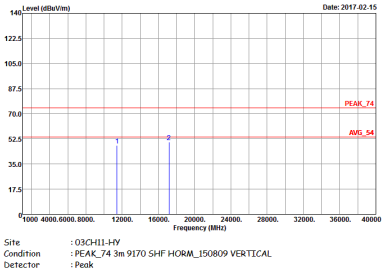
WIFI 802.11n HT40 (Fundamental @ 3m)

WIFI	Band 3 Straddle Channel Fundamental @ 3m	
ANT	802.11n HT40 CH142 5710MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 – Straddle Channel

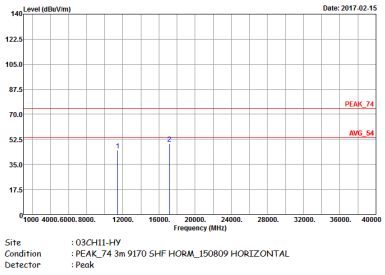
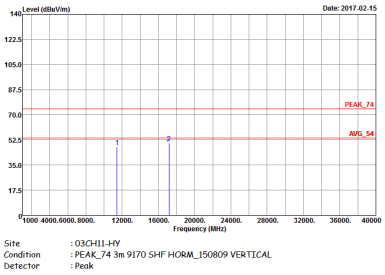
Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11a CH144 5720MHz	
1	Horizontal	Vertical
Peak Avg.		

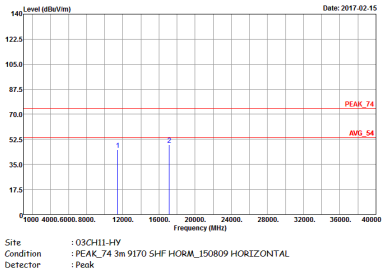
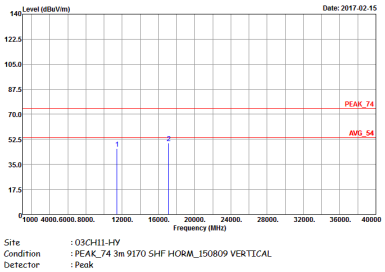
Band 3 – Straddle Channel

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11n HT20 CH144 5720MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 – Straddle Channel

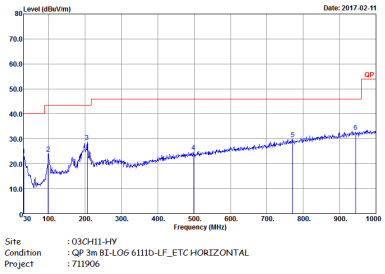
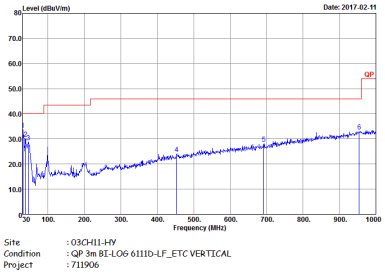
WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Band 3 Straddle Channel Harmonic @ 3m	
ANT	802.11n HT40 CH142 5710MHz	
1	Horizontal	Vertical
Peak Avg.		

Band 3 – Straddle Channel

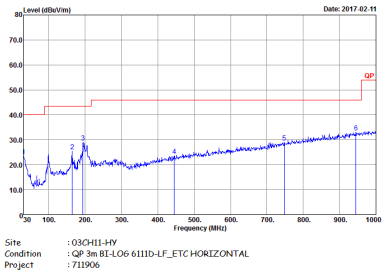
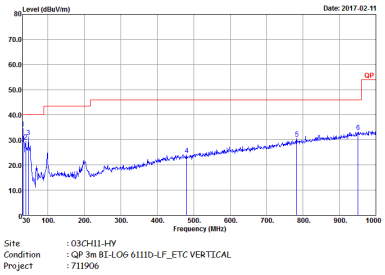
Emission below 1GHz

5GHz WIFI 802.11a (LF)

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

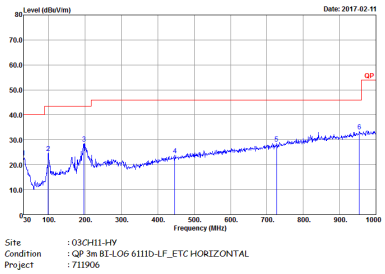
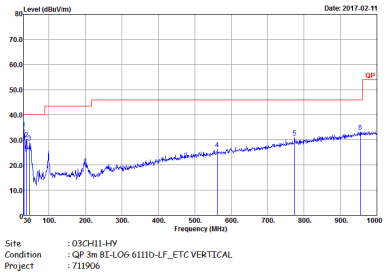
Emission below 1GHz

5GHz WIFI 802.11n HT20 (LF)

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

Emission below 1GHz

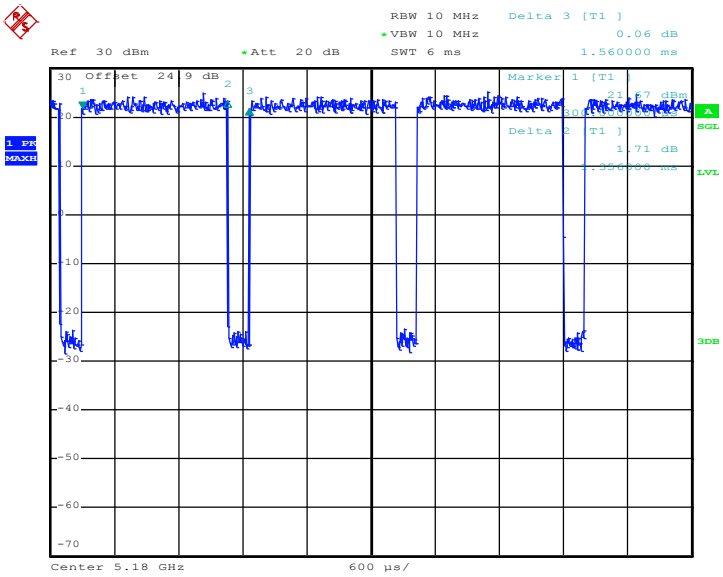
5GHz WIFI 802.11n HT40 (LF)

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

Appendix D. Duty Cycle Plots

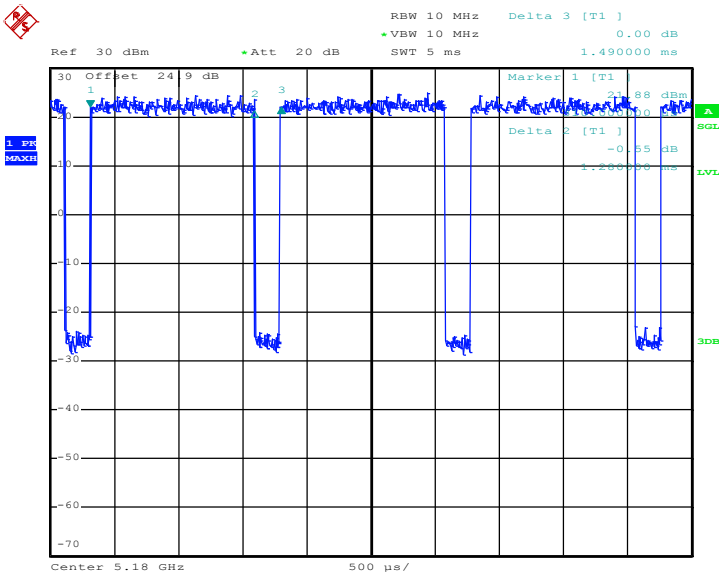
Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
802.11a	86.923	1356	0.74	1kHz
5GHz 802.11n HT20	85.906	1280	0.78	1kHz
5GHz 802.11n HT40	85.135	630	1.59	3kHz

802.11a



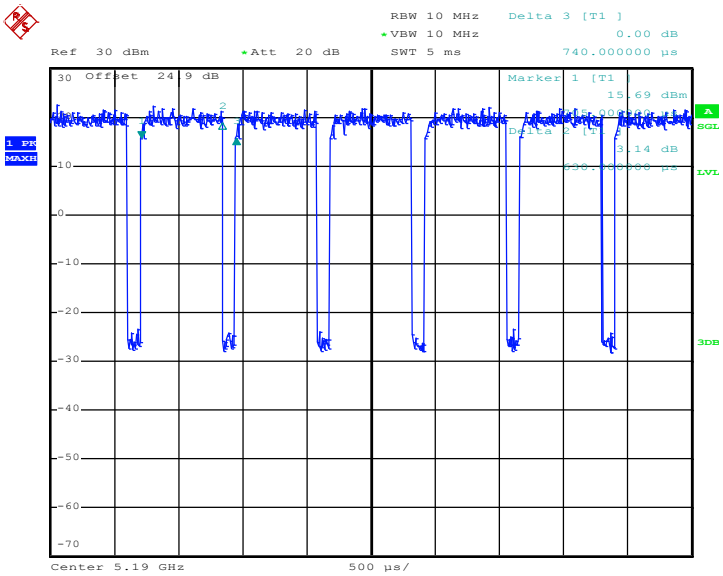
Date: 9.FEB.2017 19:44:12

802.11n HT20



Date: 9.FEB.2017 19:45:12

802.11n HT40



Date: 9.FEB.2017 19:51:26