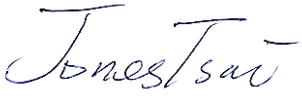
FCC RF Test Report

APPLICANT	:	TP-Link Technologies Co., Ltd.
EQUIPMENT	:	AC1200 Wi-Fi Range Extender
BRAND NAME	:	TP-Link
MODEL NAME	:	RE305
FCC ID	:	TE7RE305
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Sep. 02, 2016 and testing was completed on Jan. 16, 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

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR690205B	Rev. 01	Initial issue of report	Jan. 19, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	2.1049 15.403(i)	6dB, 26dB and 99% Occupied Bandwidth	- > 500kHz for U-NII-3	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 17 dBm (depend on band) for U-NII-1 ≤ 30 dBm/500kHz for U-NII-3	Pass	-
3.4	15.407(b)	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a) for U-NII-1 15.407(b)(4)(i) &15.209(a) for U-NII-3	Pass	Under limit 0.14 dB at 5150.000 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 11.30 dB at 0.502 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

TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

1.2 Manufacturer

TP-Link Technologies Co., Ltd.
Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	AC1200 Wi-Fi Range Extender
Brand Name	TP-Link
Model Name	RE305
FCC ID	TE7RE305
EUT supports Radios application	WLAN a/b/g/n HT20/HT40 WLAN ac VHT20/VHT40/VHT80
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.

1.4 Product Specification of Equipment Under Test

<table>
<tr><th colspan="2">Standards-related Product Specification</th></tr>
<tr><td>Tx/Rx Frequency Range</td><td>5180 MHz ~ 5240 MHz
5745 MHz ~ 5825 MHz</td></tr>
<tr><td>Maximum Output Power to Antenna</td><td>MIMO <Ant. 1 + 2>
<5180 MHz ~ 5240 MHz>
802.11a : 22.19 dBm / 0.1656 W
802.11n HT20 : 21.92 dBm / 0.1556 W
802.11n HT40 : 21.76 dBm / 0.1500 W
802.11ac VHT20: 22.26 dBm / 0.1683 W
802.11ac VHT40: 21.81 dBm / 0.1517 W
802.11ac VHT80: 15.52 dBm / 0.0356 W
<5745 MHz ~ 5825 MHz>
802.11a : 22.72 dBm / 0.1871 W
802.11n HT20 : 21.44 dBm / 0.1393 W
802.11n HT40 : 21.35 dBm / 0.1365 W
802.11ac VHT20: 21.66 dBm / 0.1466 W
802.11ac VHT40: 21.50 dBm / 0.1413 W
802.11ac VHT80: 20.89 dBm / 0.1227 W</td></tr>
<tr><td>99% Occupied Bandwidth</td><td><5180 MHz ~ 5240 MHz>
802.11a : 19.10 MHz
802.11ac VHT20 : 20.20 MHz
802.11ac VHT40 : 37.60 MHz
802.11ac VHT80 : 75.12 MHz
<5745 MHz ~ 5825 MHz>
802.11a : 20.15 MHz
802.11ac VHT20 : 24.85 MHz
802.11ac VHT40 : 44.20 MHz
802.11ac VHT80 : 76.08 MHz</td></tr>
<tr><td>Antenna Type / Gain</td><td>Ant. 1 : omni-directional Antenna with gain 3.00 dBi
Ant. 2 : omni-directional Antenna with gain 3.00 dBi</td></tr>
<tr><td>Type of Modulation</td><td>802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><th></th><th>Ant. 1</th><th>Ant. 2</th></tr>
<tr><td>802.11 a/n/ac MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

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

1.5 Modification of EUT

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

1.6 Testing Location

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

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	**Sporton Site No.**	
	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., Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +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
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- FCC KDB 644545 D03 Guidance for IEEE 802 11ac New Rules v01
- ANSI C63.10-2013

Remark:

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane for Band 1 and Y plane for Band 4) were recorded in this report.

2.1 Carrier Frequency and Channel

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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4 (U-NII-3)	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

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

2.2 Test Mode

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

MIMO Antenna

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

Test Cases	
AC Conducted Emission	Mode 1 : WLAN (5GHz) Link + LAN Link

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

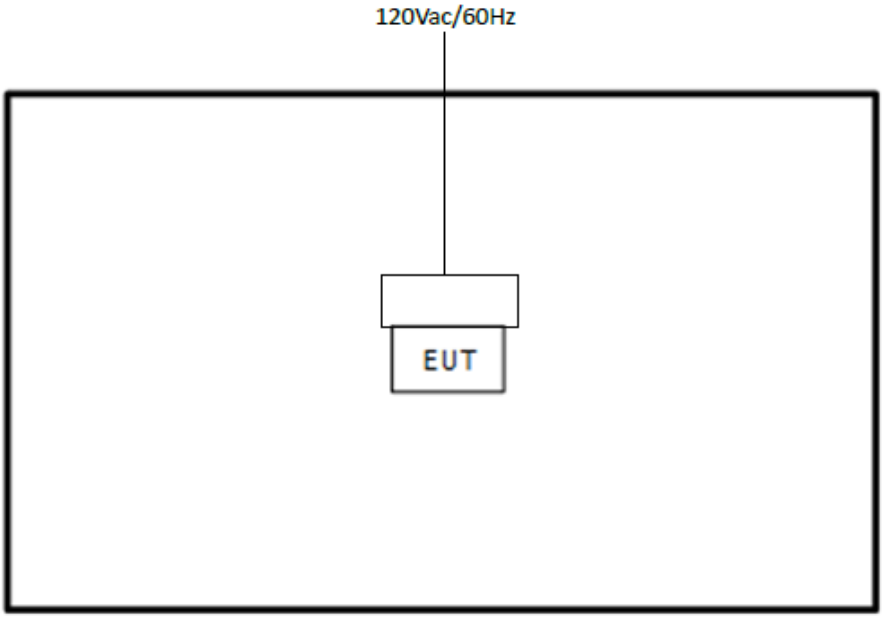
Ch. #		Band I：5150-5250 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	36	38	-
M	Middle	44	-	42
H	High	48	46	-

Ch. #		Band IV：5725-5850 MHz		
		802.11a	802.11n HT20	802.11n HT40
L	Low	149	149	151
M	Middle	157	157	-
H	High	165	165	159

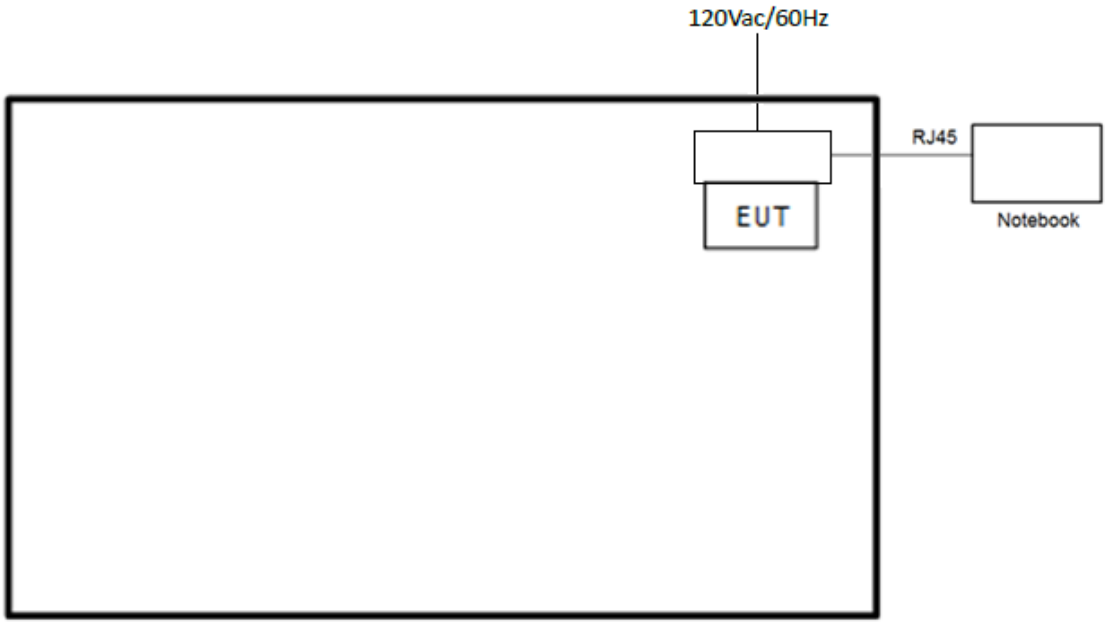
Ch. #		Band IV：5725-5850 MHz		
		802.11ac VHT20	802.11ac VHT40	802.11ac VHT80
L	Low	149	151	-
M	Middle	157	-	155
H	High	165	159	-

2.3 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.	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

2.5 EUT Operation Test Setup

For WLAN CDD modes, programmed RF utility, “MT76xxE_AP” 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 6dB and 26dB and 99% Occupied Bandwidth Measurement

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

For the 5.15–5.25 GHz bands

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

For the 5.725–5.85 GHz bands

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

26dB and 99% Occupied bandwidth are reporting only.

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

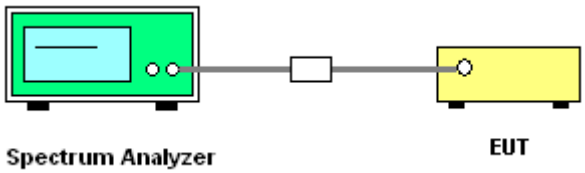
For the 5.15–5.25 GHz bands

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.

For the 5.725–5.85 GHz bands

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section C) Emission bandwidth for the band 5.725-5.85GHz
2. Set RBW = 100kHz.
3. Set the VBW ≥ 3 x RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
7. Measure and record the results in the test report.

3.1.4 Test Setup

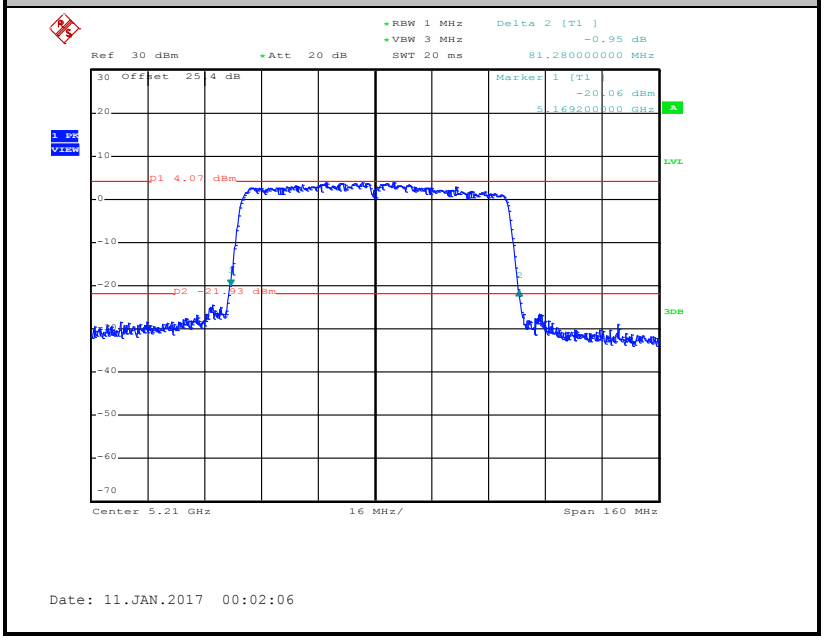


3.1.5 Test Result of 6dB & 26dB & 99% Occupied Bandwidth

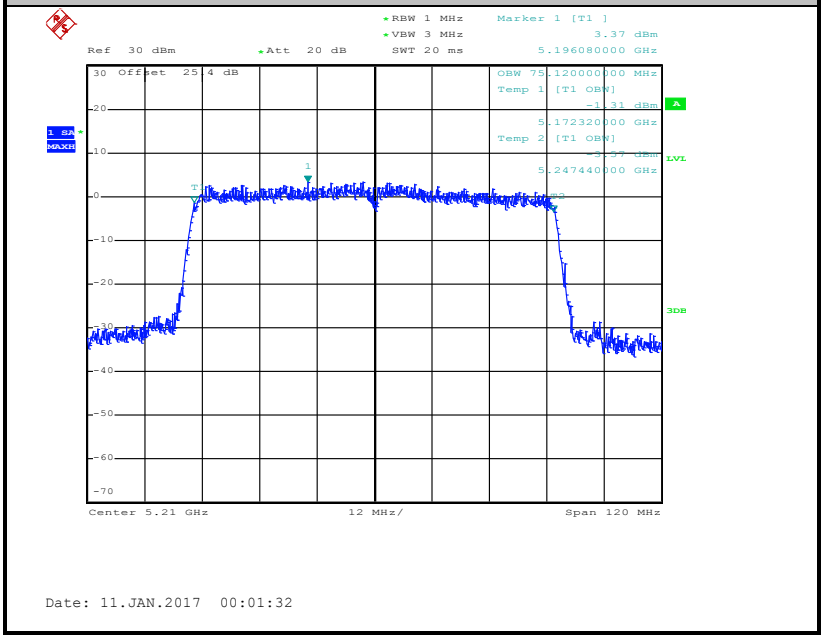
Please refer to Appendix A.

For the 5.15–5.25 GHz bands

Maximum 26dB Bandwidth



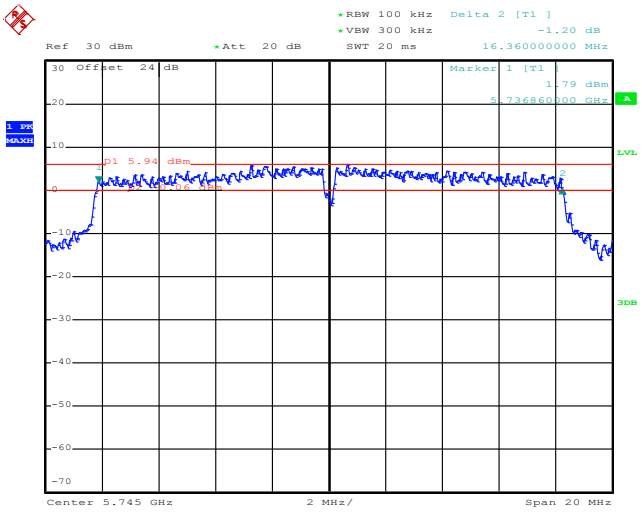
Maximum 99% Occupied Bandwidth



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

For the 5.725–5.85 GHz bands

Minimum 6dB Bandwidth



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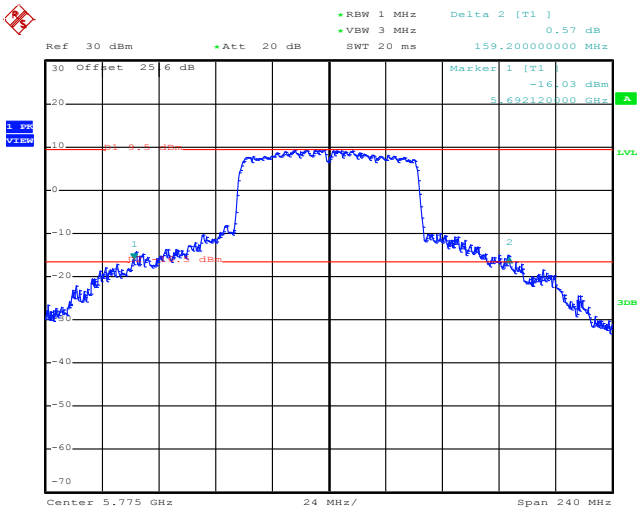
Maximum 26dB Bandwidth



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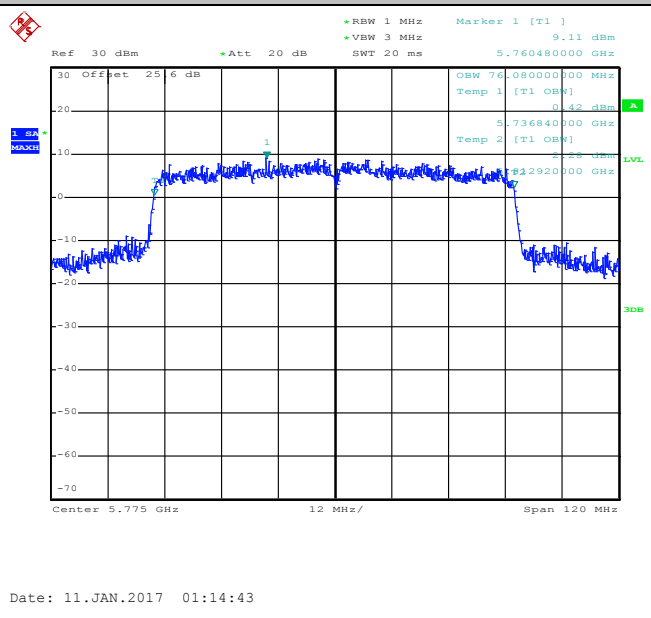
Maximum 99% Occupied Bandwidth



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

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

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

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

3.2.2 Measuring Instruments

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

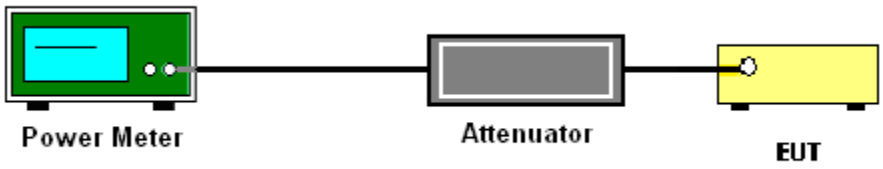
3.2.3 Test Procedures

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

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

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

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

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

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

 # Method SA-2 #

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

1. The testing follows Method SA-2 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = RMS
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

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

For the 5.15–5.25 GHz bands

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

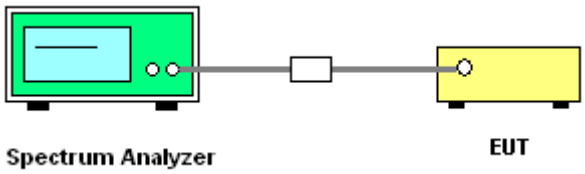
The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of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

For the 5.725–5.85 GHz bands

Method (c): Measure and add 10 log(N_{ANT}) dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity 10 log(N_{ANT}) dB is added to each spectrum value before comparing to the emission limit. The addition of 10 log(N_{ANT}) dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

3.3.4 Test Setup

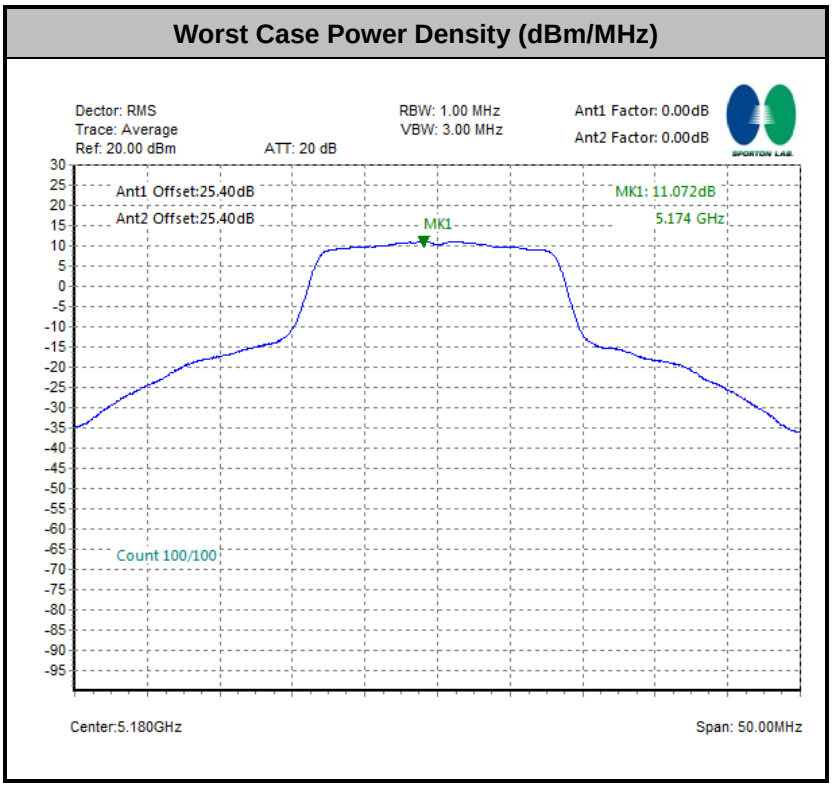


3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

For the 5.15–5.25 GHz bands

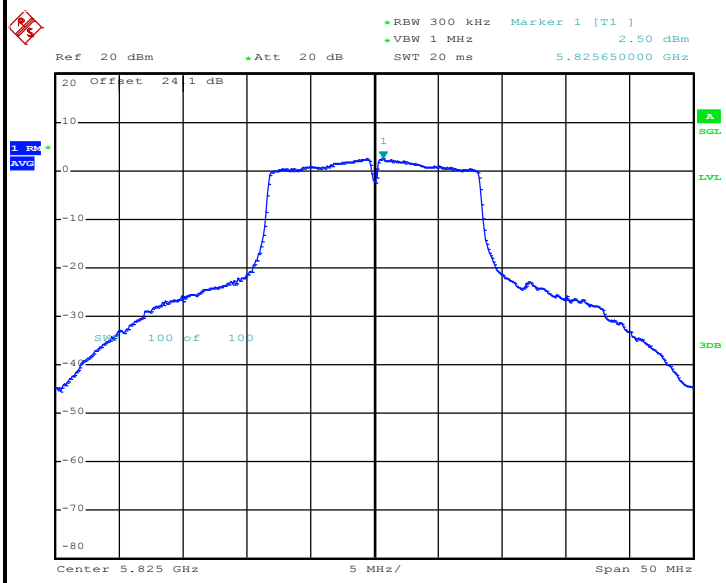
Worst Case Power Density (dBm/MHz)



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

For the 5.725–5.85 GHz bands

Worst Case Power Density (dBm/300kHz) for MIMO Ant. 1



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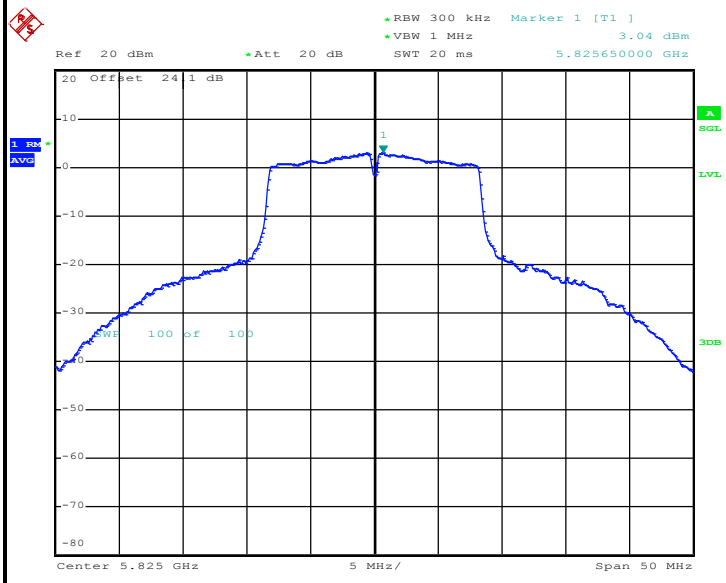
Worst Case Power Density (dBm/300kHz) for MIMO Ant. 2



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3.4 Unwanted Emissions Measurement

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

3.4.1 Limit of Unwanted Emissions

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

For transmitters operating in the 5.725-5.85 GHz band:
15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2) Unwanted spurious emissions fallen in restricted bands per FCC 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) **For the 5.15–5.25 GHz bands**

KDB789033 D02 v01r03 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

(4) **For the 5.725–5.85 GHz bands**

KDB 789033 D02 General UNII Test Procedures New Rules v01r03 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r03. Section G) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

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

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

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

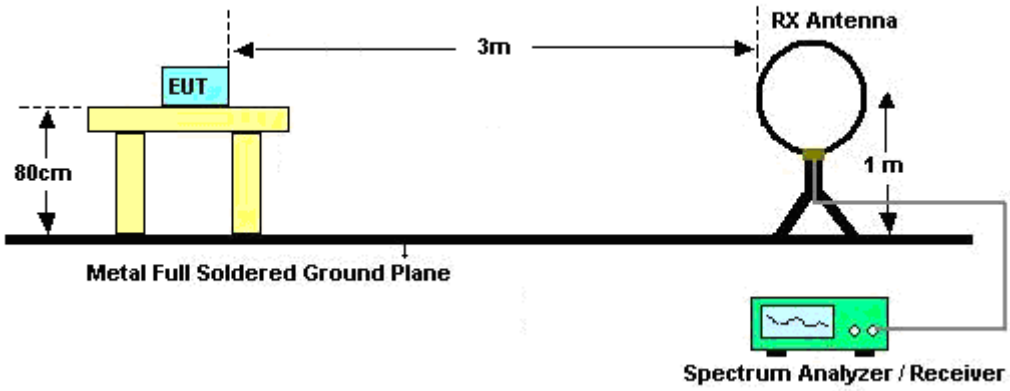
(3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

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

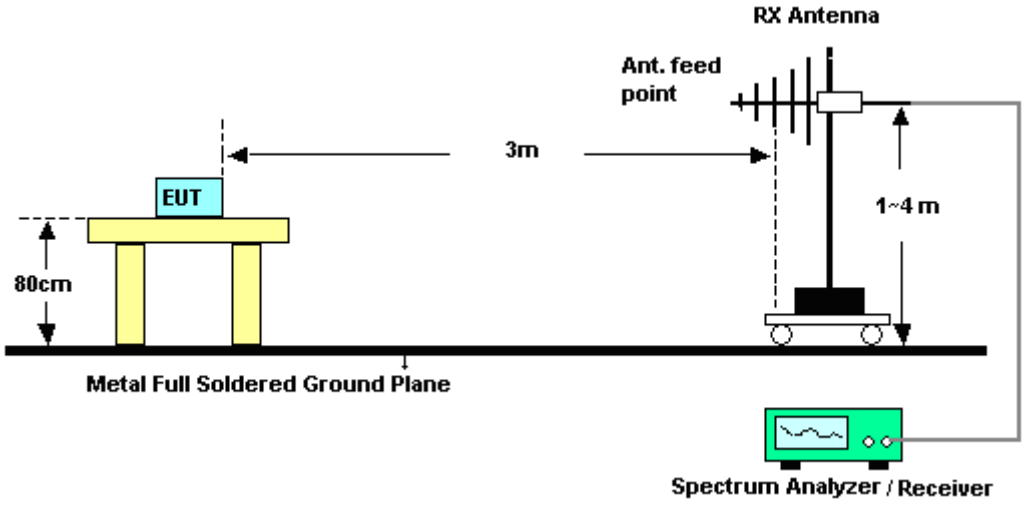
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband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

3.4.4 Test Setup

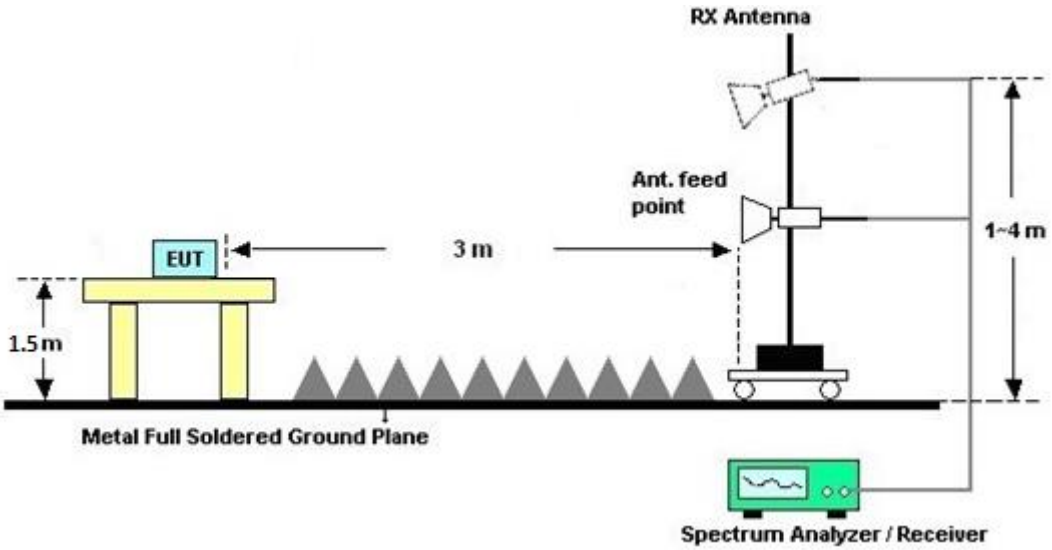
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Radiated Spurious 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.

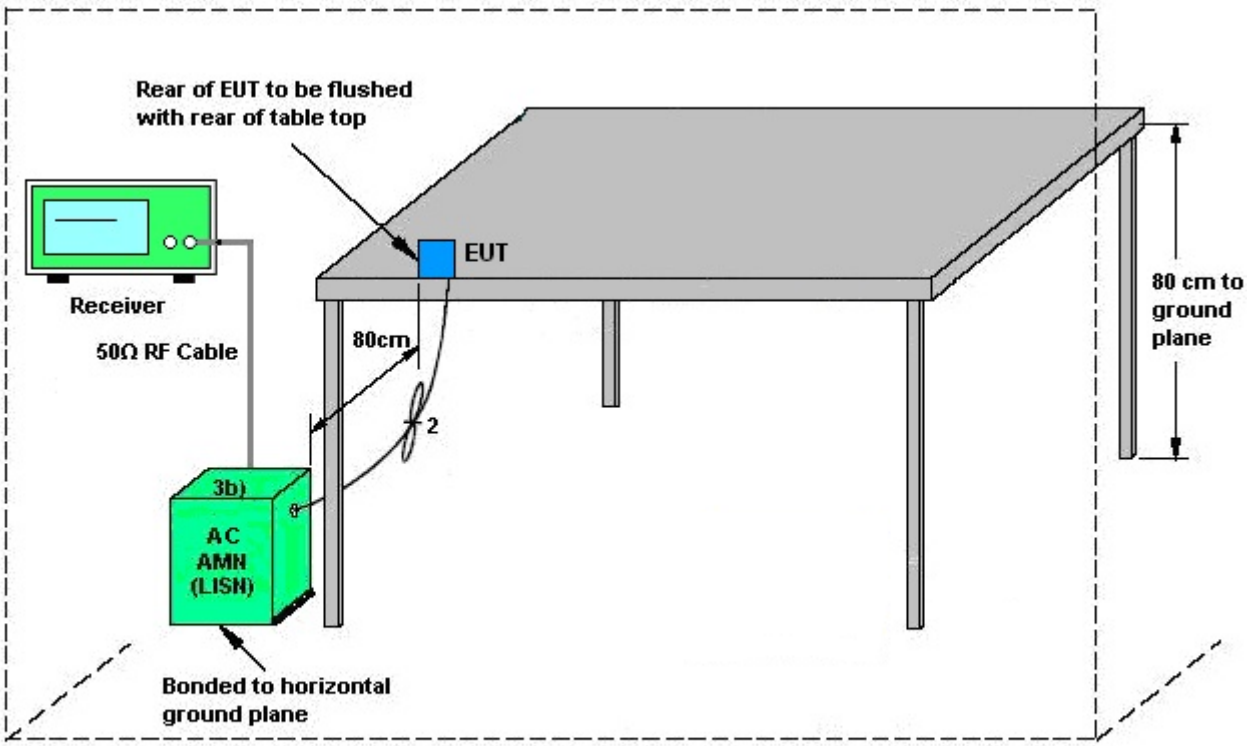
3.5.2 Measuring Instruments

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.

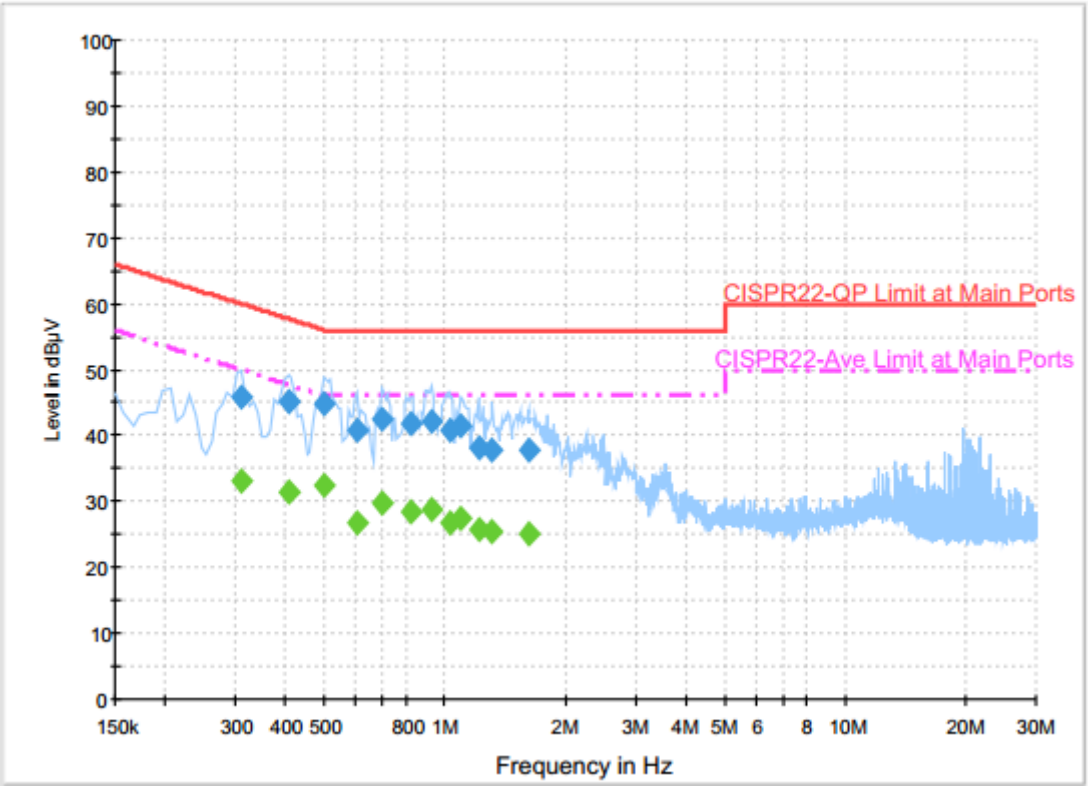
3.5.4 Test Setup



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

3.5.5 Test Result of AC Conducted Emission

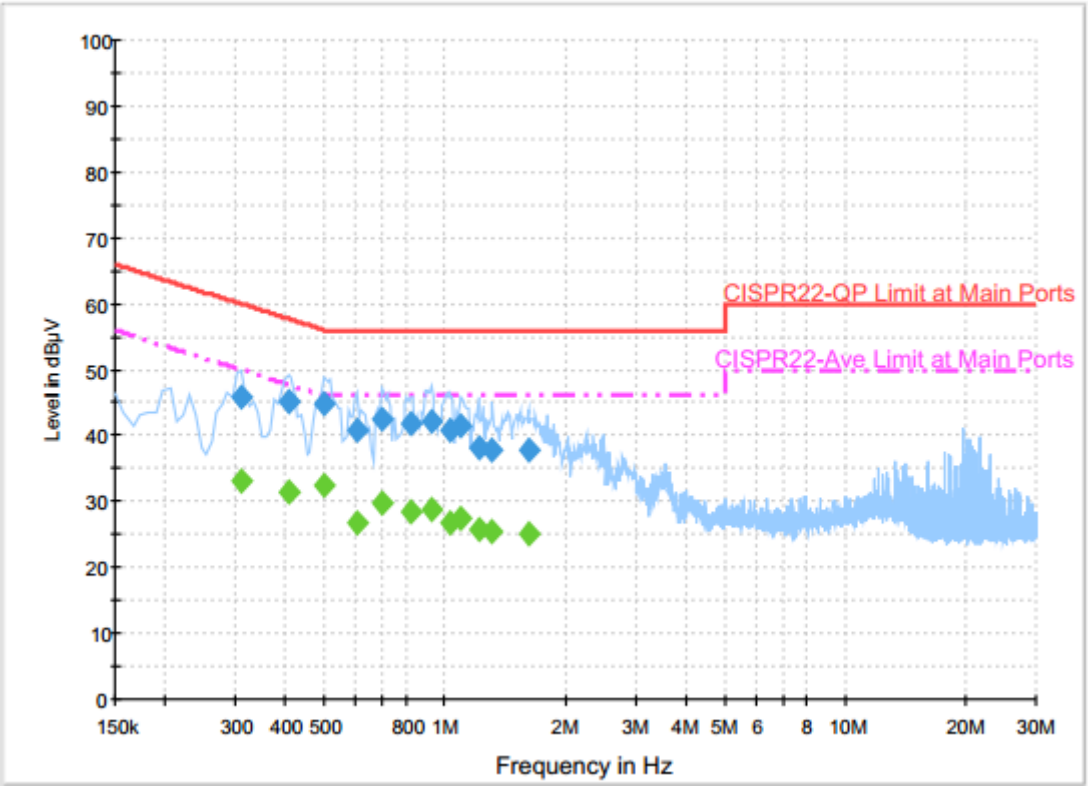
Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Link + LAN Link		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.310000	45.9	Off	L1	19.6	14.1	60.0
0.406000	45.2	Off	L1	19.6	12.5	57.7
0.502000	44.7	Off	L1	19.6	11.3	56.0
0.606000	40.8	Off	L1	19.6	15.2	56.0
0.694000	42.4	Off	L1	19.6	13.6	56.0
0.822000	41.9	Off	L1	19.6	14.1	56.0
0.926000	42.3	Off	L1	19.7	13.7	56.0
1.038000	40.8	Off	L1	19.7	15.2	56.0
1.094000	41.3	Off	L1	19.7	14.7	56.0
1.214000	38.0	Off	L1	19.7	18.0	56.0
1.310000	37.8	Off	L1	19.7	18.2	56.0
1.614000	37.8	Off	L1	19.7	18.2	56.0

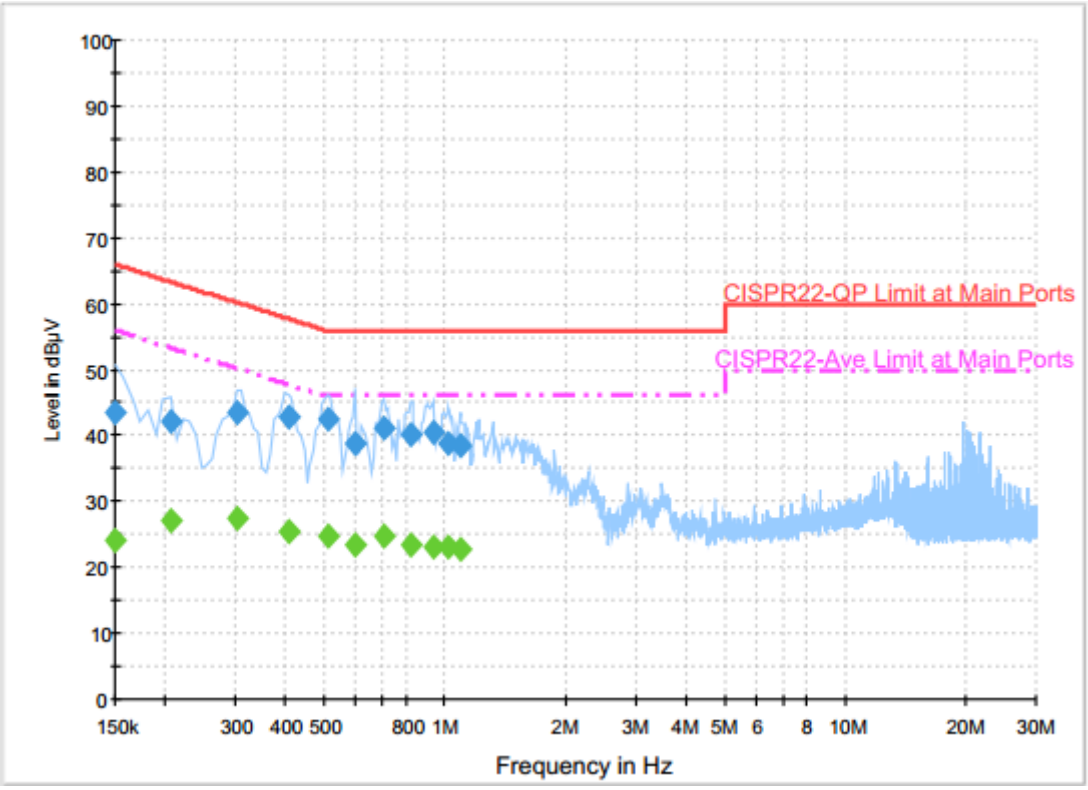
Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (5GHz) Link + LAN Link		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.310000	33.1	Off	L1	19.6	16.9	50.0
0.406000	31.5	Off	L1	19.6	16.2	47.7
0.502000	32.5	Off	L1	19.6	13.5	46.0
0.606000	26.9	Off	L1	19.6	19.1	46.0
0.694000	29.6	Off	L1	19.6	16.4	46.0
0.822000	28.4	Off	L1	19.6	17.6	46.0
0.926000	28.7	Off	L1	19.7	17.3	46.0
1.038000	26.7	Off	L1	19.7	19.3	46.0
1.094000	27.5	Off	L1	19.7	18.5	46.0
1.214000	25.7	Off	L1	19.7	20.3	46.0
1.310000	25.4	Off	L1	19.7	20.6	46.0
1.614000	25.0	Off	L1	19.7	21.0	46.0

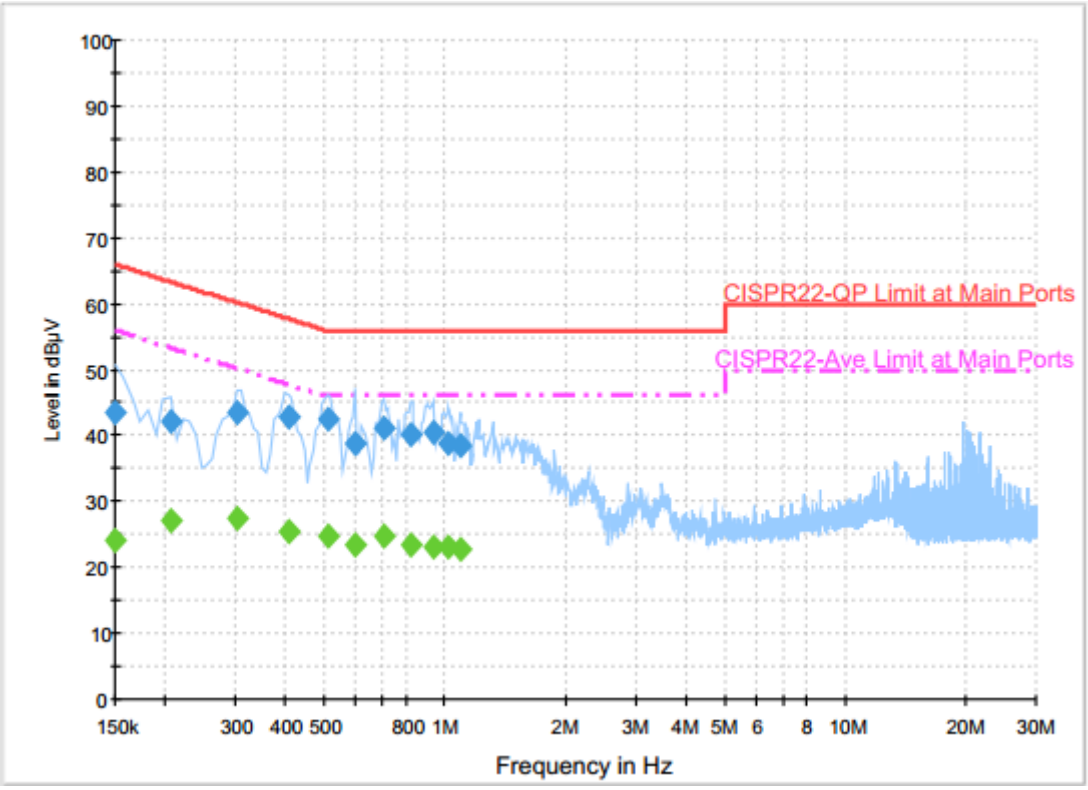
Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (5GHz) Link + LAN Link		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	43.5	Off	N	19.6	22.5	66.0
0.206000	42.0	Off	N	19.6	21.4	63.4
0.302000	43.6	Off	N	19.6	16.6	60.2
0.406000	42.9	Off	N	19.6	14.8	57.7
0.510000	42.3	Off	N	19.6	13.7	56.0
0.598000	38.8	Off	N	19.6	17.2	56.0
0.702000	41.0	Off	N	19.6	15.0	56.0
0.822000	40.1	Off	N	19.6	15.9	56.0
0.934000	40.3	Off	N	19.6	15.7	56.0
1.022000	38.9	Off	N	19.6	17.1	56.0
1.094000	38.5	Off	N	19.6	17.5	56.0

Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	Arthur Hsieh	Relative Humidity :	50~51%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (5GHz) Link + LAN Link		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	24.0	Off	N	19.6	32.0	56.0
0.206000	27.1	Off	N	19.6	26.3	53.4
0.302000	27.5	Off	N	19.6	22.7	50.2
0.406000	25.5	Off	N	19.6	22.2	47.7
0.510000	24.7	Off	N	19.6	21.3	46.0
0.598000	23.5	Off	N	19.6	22.5	46.0
0.702000	24.8	Off	N	19.6	21.2	46.0
0.822000	23.4	Off	N	19.6	22.6	46.0
0.934000	23.0	Off	N	19.6	23.0	46.0
1.022000	23.2	Off	N	19.6	22.8	46.0
1.094000	22.7	Off	N	19.6	23.3	46.0

3.6 Frequency Stability Measurement

3.6.1 Limit of Frequency Stability

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

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup

3.6.5 Test Result of Frequency Stability

Please refer to Appendix A.

3.7 Automatically Discontinue Transmission

3.7.1 Limit of Automatically Discontinue Transmission

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

3.7.2 Measuring Instruments

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

3.7.3 Test Result of Automatically Discontinue Transmission

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

3.8 Antenna Requirements

3.8.1 Standard Applicable

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

3.8.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.8.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

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

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

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

For power measurements on IEEE 802.11 devices,

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

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

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain “DG” is calculated as following table.

	Ant 1 (dBi)	Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band I	3.00	3.00	3.00	6.01	0.00	0.01
Band IV	3.00	3.00	3.00	6.01	0.00	0.01

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

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 17, 2016	Sep. 20, 2016 ~ Jan. 11, 2017	Jun. 16, 2017	Conducted (TH05-HY)
Power Meter	Anritsu	ML2495A	1240001	300MHz~40GHz	Sep. 07, 2016	Sep. 20, 2016 ~ Jan. 11, 2017	Sep. 06, 2017	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2016	Sep. 20, 2016 ~ Jan. 11, 2017	Sep. 06, 2017	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SU-241	92003713	-30℃ ~95℃	Jun. 06, 2016	Sep. 20, 2016 ~ Jan. 11, 2017	Jun. 05, 2017	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890089	1V~20V 0.5A~5A	Jan. 18, 2016	Sep. 20, 2016 ~ Jan. 11, 2017	Jan. 17, 2017	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Sep. 21, 2016	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Aug. 30, 2016	Sep. 21, 2016	Aug. 29, 2017	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 02, 2015	Sep. 21, 2016	Dec. 01, 2016	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 08, 2016	Sep. 21, 2016	Jan. 07, 2017	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep. 02, 2015	Oct. 01, 2016 ~ Jan. 16, 2017	Sep. 01, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N 0602	30MHz~1GHz	Nov. 17, 2015	Oct. 01, 2016 ~ Oct. 14, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-06	35414&AT-N 0602	30MHz~1GHz	Oct. 15, 2016	Oct. 15, 2016 ~ Jan. 16, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1GHz ~ 18GHz	Mar. 30, 2016	Oct. 01, 2016 ~ Jan. 16, 2017	Mar. 31, 2017	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	Apr. 15, 2016	Oct. 01, 2016 ~ Jan. 16, 2017	Apr. 14, 2017	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Oct. 01, 2016 ~ Nov. 09, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Nov. 10, 2016 ~ Jan. 16, 2017	Nov. 09, 2018	Radiation (03CH11-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	1902247	1GHz~18GHz	Jun. 22, 2016	Oct. 01, 2016 ~ Jan. 16, 2017	Jun. 21, 2017	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Oct. 01, 2016 ~ Nov. 09, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Nov. 10, 2016 ~ Jan. 16, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Oct. 01, 2016 ~ Jan. 16, 2017	Feb. 14, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Agilent	N9030A	MY52350276	3Hz~44GHz	Mar. 21, 2016	Oct. 01, 2016 ~ Jan. 16, 2017	Mar. 20, 2017	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 01, 2016 ~ Jan. 16, 2017	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Oct. 01, 2016 ~ Jan. 16, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Oct. 01, 2016 ~ Jan. 16, 2017	N/A	Radiation (03CH11-HY)

5 Uncertainty of Evaluation

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

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

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

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

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

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

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

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

Appendix A. Test Result of Conducted Test Items

Test Engineer:	Kai Liao	Temperature:	21~25	°C
Test Date:	2016/9/20~2017/1/11	Relative Humidity:	51~54	%

Report Number : FR690205B

TEST RESULTS DATA
26dB and 99% OBW

Band I														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)			Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	36	5180	18.30	18.15	35.10	32.80	-		22.59			
11a	6Mbps	2	44	5220	18.50	19.10	37.05	38.85	-		22.67			
11a	6Mbps	2	48	5240	18.25	18.40	35.65	36.10	-		22.61			
VHT20	MCS0	2	36	5180	19.35	18.90	43.30	42.30	-		22.76			
VHT20	MCS0	2	44	5220	19.05	20.20	43.18	43.75	-		22.80			
VHT20	MCS0	2	48	5240	18.80	19.45	42.36	43.38	-		22.74			
VHT40	MCS0	2	38	5190	36.30	36.50	42.12	42.12	-		23.01			
VHT40	MCS0	2	46	5230	37.60	36.90	74.52	70.56	-		23.01			
VHT80	MCS0	2	42	5210	75.12	75.00	81.28	81.28	-		23.01			

TEST RESULTS DATA
Average Power Table

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	36	5180	0.00	0.00	18.82	18.28	21.57	30.00		3.00			Pass
11a	6Mbps	2	44	5220	0.00	0.00	19.31	19.05	22.19	30.00		3.00			Pass
11a	6Mbps	2	48	5240	0.00	0.00	19.30	18.51	21.93	30.00		3.00			Pass
HT20	MCS0	2	36	5180	0.00	0.00	19.01	18.38	21.72	30.00		3.00			Pass
HT20	MCS0	2	44	5220	0.00	0.00	19.28	18.51	21.92	30.00		3.00			Pass
HT20	MCS0	2	48	5240	0.00	0.00	19.26	17.84	21.62	30.00		3.00			Pass
HT40	MCS0	2	38	5190	0.00	0.00	14.11	13.24	16.71	30.00		3.00			Pass
HT40	MCS0	2	46	5230	0.00	0.00	19.07	18.41	21.76	30.00		3.00			Pass
VHT20	MCS0	2	36	5180	0.00	0.00	19.06	18.42	21.76	30.00		3.00			Pass
VHT20	MCS0	2	44	5220	0.00	0.00	19.61	18.85	22.26	30.00		3.00			Pass
VHT20	MCS0	2	48	5240	0.00	0.00	19.38	18.42	21.94	30.00		3.00			Pass
VHT40	MCS0	2	38	5190	0.00	0.00	14.18	13.30	16.77	30.00		3.00			Pass
VHT40	MCS0	2	46	5230	0.00	0.00	19.12	18.45	21.81	30.00		3.00			Pass
VHT80	MCS0	2	42	5210	0.00	0.00	12.92	12.06	15.52	30.00		3.00			Pass

TEST RESULTS DATA
Power Spectral Density

FCC Band I															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)			Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	36	5180	0.00	0.00			11.07	16.99		6.01			Pass
11a	6Mbps	2	44	5220	0.00	0.00			10.68	16.99		6.01			Pass
11a	6Mbps	2	48	5240	0.00	0.00			10.92	16.99		6.01			Pass
VHT20	MCS0	2	36	5180	0.00	0.00			10.99	16.99		6.01			Pass
VHT20	MCS0	2	44	5220	0.00	0.00			10.46	16.99		6.01			Pass
VHT20	MCS0	2	48	5240	0.00	0.00			10.54	16.99		6.01			Pass
VHT40	MCS0	2	38	5190	0.00	0.00			2.99	16.99		6.01			Pass
VHT40	MCS0	2	46	5230	0.00	0.00			7.43	16.99		6.01			Pass
VHT80	MCS0	2	42	5210	0.00	0.00			-1.55	16.99		6.01			Pass

TEST RESULTS DATA
Frequency Stability

Band I										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	50	120	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	-30	120	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	138	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	102	
11a	6Mbps	1	36	5180	5180.050	0.050	9.65	20	120	

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

Band IV													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)		Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	18.65	20.15	37.80	39.15	16.40	16.36	0.5		Pass
11a	6Mbps	2	157	5785	18.00	19.00	36.40	38.40	16.44	16.40	0.5		Pass
11a	6Mbps	2	165	5825	18.15	19.10	34.25	37.80	16.40	16.40	0.5		Pass
VHT20	MCS0	2	149	5745	20.45	23.25	43.70	45.95	17.60	17.60	0.5		Pass
VHT20	MCS0	2	157	5785	19.75	23.95	43.75	45.50	17.64	17.68	0.5		Pass
VHT20	MCS0	2	165	5825	19.70	24.85	43.80	46.20	17.68	17.68	0.5		Pass
VHT40	MCS0	2	151	5755	38.00	44.20	77.46	86.37	36.32	36.32	0.5		Pass
VHT40	MCS0	2	159	5795	37.90	39.90	76.53	80.16	36.32	36.28	0.5		Pass
VHT80	MCS0	2	155	5775	76.08	75.60	159.20	132.08	75.76	75.68	0.5		Pass

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TEST RESULTS DATA
Average Power Table

Band IV															
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)			Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	149	5745	0.00	0.00	19.66	19.75	22.72	30.00		3.00			Pass
11a	6Mbps	2	157	5785	0.00	0.00	18.47	18.56	21.53	30.00		3.00			Pass
11a	6Mbps	2	165	5825	0.00	0.00	18.52	17.75	21.16	30.00		3.00			Pass
HT20	MCS0	2	149	5745	0.00	0.00	18.73	17.95	21.37	30.00		3.00			Pass
HT20	MCS0	2	157	5785	0.00	0.00	18.53	17.93	21.25	30.00		3.00			Pass
HT20	MCS0	2	165	5825	0.00	0.00	18.52	18.33	21.44	30.00		3.00			Pass
HT40	MCS0	2	151	5755	0.00	0.00	18.82	17.79	21.35	30.00		3.00			Pass
HT40	MCS0	2	159	5795	0.00	0.00	18.55	18.10	21.34	30.00		3.00			Pass
VHT20	MCS0	2	149	5745	0.00	0.00	18.94	18.34	21.66	30.00		3.00			Pass
VHT20	MCS0	2	157	5785	0.00	0.00	19.03	18.16	21.63	30.00		3.00			Pass
VHT20	MCS0	2	165	5825	0.00	0.00	18.55	18.34	21.46	30.00		3.00			Pass
VHT40	MCS0	2	151	5755	0.00	0.00	18.98	17.94	21.50	30.00		3.00			Pass
VHT40	MCS0	2	159	5795	0.00	0.00	18.65	18.25	21.46	30.00		3.00			Pass
VHT80	MCS0	2	155	5775	0.00	0.00	18.43	17.24	20.89	30.00		3.00			Pass

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TEST RESULTS DATA
Power Spectral Density

Band IV																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	149	5745	0.00	0.00	2.22				8.22	29.99		6.01		Pass
11a	6Mbps	2	157	5785	0.00	0.00	2.22				7.93	29.99		6.01		Pass
11a	6Mbps	2	165	5825	0.00	0.00	2.22				8.27	29.99		6.01		Pass
VHT20	MCS0	2	149	5745	0.00	0.00	2.22				8.20	29.99		6.01		Pass
VHT20	MCS0	2	157	5785	0.00	0.00	2.22				7.66	29.99		6.01		Pass
VHT20	MCS0	2	165	5825	0.00	0.00	2.22				7.88	29.99		6.01		Pass
VHT40	MCS0	2	151	5755	0.00	0.00	2.22				4.68	29.99		6.01		Pass
VHT40	MCS0	2	159	5795	0.00	0.00	2.22				4.61	29.99		6.01		Pass
VHT80	MCS0	2	155	5775	0.00	0.00	2.22				1.13	29.99		6.01		Pass

TEST RESULTS DATA
Frequency Stability

Band IV										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stablility (ppm)	Temperature (°C)	Voltage (V)	Note
11a	6Mbps	1	149	5745	5745.025	0.025	4.35	50	120	
11a	6Mbps	1	149	5745	5744.925	-0.075	-13.05	-30	120	
11a	6Mbps	1	149	5745	5745.050	0.050	8.70	20	138	
11a	6Mbps	1	149	5745	5745.025	0.025	4.35	20	102	
11a	6Mbps	1	149	5745	5745.050	0.050	8.70	20	120	

Appendix B. Radiated Spurious Emission

Test Engineer :	J.C. Liang and Jacky Hung	Temperature :	20~23°C
		Relative Humidity :	50~54%

Band 1 - 5150~5250MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11a CH 36 5180MHz		5149.76	66.35	-7.65	74	55.99	32.21	11.18	33.03	100	149	P	H
		5150	53.01	-0.99	54	42.65	32.21	11.18	33.03	100	149	A	H
	*	5180	117.23	-	-	106.82	32.26	11.18	33.03	100	149	P	H
	*	5180	109.38	-	-	98.97	32.26	11.18	33.03	100	149	A	H
													H
													H
		5146.9	53.26	-20.74	74	42.9	32.21	11.18	33.03	100	208	P	V
		5150	44.28	-9.72	54	33.92	32.21	11.18	33.03	100	208	A	V
	*	5180	107.9	-	-	97.49	32.26	11.18	33.03	100	208	P	V
	*	5180	99.74	-	-	89.33	32.26	11.18	33.03	100	208	A	V
													V
													V
802.11a CH 44 5220MHz		5138.06	56.18	-17.82	74	47.87	31.56	10.22	33.47	380	151	P	H
		5142.22	48.29	-5.71	54	39.95	31.58	10.23	33.47	380	151	A	H
	*	5224	117.28	-	-	108.72	31.66	10.37	33.47	380	151	P	H
	*	5224	109.48	-	-	100.92	31.66	10.37	33.47	380	151	A	H
		5415.12	49.36	-24.64	74	40.07	31.9	10.87	33.48	380	151	P	H
		5379.36	40.53	-13.47	54	31.4	31.86	10.75	33.48	380	151	A	H
		5139.36	49.41	-24.59	74	41.1	31.56	10.22	33.47	325	135	P	V
		5139.36	40.04	-13.96	54	31.73	31.56	10.22	33.47	325	135	A	V
	*	5220	109.14	-	-	100.71	31.66	10.24	33.47	325	135	P	V
	*	5220	100.47	-	-	92.04	31.66	10.24	33.47	325	135	A	V
		5411.04	48.34	-25.66	74	39.07	31.88	10.87	33.48	325	135	P	V
		5380.56	37.75	-16.25	54	28.5	31.86	10.87	33.48	325	135	A	V

802.11a CH 48 5240MHz		5113.62	52.01	-21.99	74	43.72	31.54	10.22	33.47	114	353	P	H
		5120.9	43.81	-10.19	54	35.52	31.54	10.22	33.47	114	353	A	H
	*	5240	117.11	-	-	108.53	31.68	10.37	33.47	114	353	P	H
	*	5240	109.7	-	-	101.12	31.68	10.37	33.47	114	353	A	H
		5399.52	50.01	-23.99	74	40.74	31.88	10.87	33.48	114	353	P	H
		5360.64	40.71	-13.29	54	31.6	31.84	10.75	33.48	114	353	A	H
		5121.68	48.94	-25.06	74	40.65	31.54	10.22	33.47	398	111	P	V
		5119.34	38.93	-15.07	54	30.64	31.54	10.22	33.47	398	111	A	V
	*	5240	110.12	-	-	101.54	31.68	10.37	33.47	398	111	P	V
	*	5240	102.72	-	-	94.14	31.68	10.37	33.47	398	111	A	V
		5378.16	46.68	-27.32	74	37.55	31.86	10.75	33.48	398	111	P	V
		5399.28	36.99	-17.01	54	27.72	31.88	10.87	33.48	398	111	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+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 36 5180MHz		10360	43.05	-30.95	74	39.58	39.69	14.86	51.08	100	0	P	H
		15540	55.64	-18.36	74	51.33	38.22	17.89	51.8	218	324	P	H
		15540	45.53	-8.47	54	41.22	38.22	17.89	51.8	218	324	A	H
													H
		10360	42.08	-31.92	74	38.61	39.69	14.86	51.08	100	0	P	V
		15540	49.63	-24.37	74	45.32	38.22	17.89	51.8	100	0	P	V
													V
													V
802.11a CH 44 5220MHz		10440	42.05	-31.95	74	38.51	39.79	14.91	51.16	100	0	P	H
		15660	60.21	-13.79	74	56.11	37.96	17.94	51.8	213	354	P	H
		15660	49.93	-4.07	54	45.83	37.96	17.94	51.8	213	354	A	H
													H
		10440	42.25	-31.75	74	38.71	39.79	14.91	51.16	100	0	P	V
		15660	56.51	-17.49	74	52.41	37.96	17.94	51.8	210	27	P	V
		15660	45.98	-8.02	54	41.88	37.96	17.94	51.8	210	27	A	V
													V
802.11a CH 48 5240MHz		10480	46.52	-27.48	74	42.91	39.87	14.94	51.2	100	0	P	H
		15720	58.81	-15.19	74	54.83	37.81	17.97	51.8	205	317	P	H
		15720	47.99	-6.01	54	44.01	37.81	17.97	51.8	205	317	A	H
													H
		10480	43.84	-30.16	74	40.23	39.87	14.94	51.2	100	0	P	V
		15720	55.89	-18.11	74	51.91	37.81	17.97	51.8	221	25	P	V
		15720	46.91	-7.09	54	42.93	37.81	17.97	51.8	221	25	A	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5150	67.3	-6.7	74	56.94	32.21	11.18	33.03	100	342	P	H
		5150	53.86	-0.14	54	43.5	32.21	11.18	33.03	100	342	A	H
	*	5180	116.7	-	-	106.29	32.26	11.18	33.03	100	342	P	H
	*	5180	109.08	-	-	98.67	32.26	11.18	33.03	100	342	A	H
802.11ac													H
VHT20													H
CH 36		5147.16	61.09	-12.91	74	50.73	32.21	11.18	33.03	364	103	P	V
5180MHz		5150	48.26	-5.74	54	37.9	32.21	11.18	33.03	364	103	A	V
	*	5180	109.69	-	-	99.28	32.26	11.18	33.03	364	103	P	V
	*	5180	102.26	-	-	91.85	32.26	11.18	33.03	364	103	A	V
													V
													V
		5140.66	56.86	-17.14	74	48.52	31.58	10.23	33.47	288	0	P	H
		5140.92	47.59	-6.41	54	39.25	31.58	10.23	33.47	288	0	A	H
	*	5220	116.76	-	-	108.33	31.66	10.24	33.47	288	0	P	H
	*	5220	108.41	-	-	99.98	31.66	10.24	33.47	288	0	A	H
802.11ac		5372.4	50.67	-23.33	74	41.56	31.84	10.75	33.48	288	0	P	H
VHT20		5379.12	40.93	-13.07	54	31.8	31.86	10.75	33.48	288	0	A	H
CH 44		5137.8	52.44	-21.56	74	44.13	31.56	10.22	33.47	387	233	P	V
5220MHz		5139.1	43.5	-10.5	54	35.19	31.56	10.22	33.47	387	233	A	V
	*	5220	113.01	-	-	104.58	31.66	10.24	33.47	387	233	P	V
	*	5220	104.26	-	-	95.83	31.66	10.24	33.47	387	233	A	V
		5378.88	47.47	-26.53	74	38.34	31.86	10.75	33.48	387	233	P	V
		5377.68	37.52	-16.48	54	28.39	31.86	10.75	33.48	387	233	A	V

		5119.86	51.12	-22.88	74	42.68	31.69	10.22	33.47	100	354	P	H
		5119.34	42.98	-11.02	54	34.54	31.69	10.22	33.47	100	354	A	H
	*	5240	116.31	-	-	107.62	31.79	10.37	33.47	100	354	P	H
	*	5240	108.23	-	-	99.54	31.79	10.37	33.47	100	354	A	H
802.11ac		5400.48	50.18	-23.82	74	40.87	31.92	10.87	33.48	100	354	P	H
VHT20		5359.2	41.3	-12.7	54	32.15	31.88	10.75	33.48	100	354	A	H
CH 48		5116.74	49.12	-24.88	74	40.68	31.69	10.22	33.47	396	114	P	V
5240MHz		5120.64	39.31	-14.69	54	30.87	31.69	10.22	33.47	396	114	A	V
	*	5240	111.45	-	-	102.76	31.79	10.37	33.47	396	114	P	V
	*	5240	102.55	-	-	93.86	31.79	10.37	33.47	396	114	A	V
		5415.84	47.72	-26.28	74	38.4	31.93	10.87	33.48	396	114	P	V
		5361.36	37.68	-16.32	54	28.52	31.89	10.75	33.48	396	114	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10360	40.18	-33.82	74	36.71	39.69	14.86	51.08	100	0	P	H
		15540	57.26	-16.74	74	52.95	38.22	17.89	51.8	210	354	P	H
802.11ac		15540	45.87	-8.13	54	41.56	38.22	17.89	51.8	210	354	A	H
VHT20													H
CH 36		10360	39.39	-34.61	74	35.92	39.69	14.86	51.08	100	0	P	V
5180MHz		15540	49.66	-24.34	74	45.35	38.22	17.89	51.8	100	0	P	V
													V
													V
		10440	45.54	-28.46	74	42	39.79	14.91	51.16	100	0	P	H
		15660	60.32	-13.68	74	56.22	37.96	17.94	51.8	241	314	P	H
802.11ac		15660	49.21	-4.79	54	45.11	37.96	17.94	51.8	241	314	A	H
VHT20													H
CH 44		10440	43.25	-30.75	74	39.71	39.79	14.91	51.16	100	0	P	V
5220MHz		15660	57.51	-16.49	74	53.41	37.96	17.94	51.8	218	26	P	V
		15660	45.33	-8.67	54	41.23	37.96	17.94	51.8	218	26	A	V
													V
		10480	40.95	-33.05	74	37.34	39.87	14.94	51.2	100	0	P	H
		15720	61.43	-12.57	74	57.45	37.81	17.97	51.8	211	355	P	H
802.11ac		15720	48.92	-5.08	54	44.94	37.81	17.97	51.8	211	355	A	H
VHT20													H
CH 48		10480	39.71	-34.29	74	36.1	39.87	14.94	51.2	100	0	P	V
5240MHz		15720	57.85	-16.15	74	53.87	37.81	17.97	51.8	217	26	P	V
		15720	44.52	-9.48	54	40.54	37.81	17.97	51.8	217	26	A	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5147.94	61.06	-12.94	74	50.7	32.21	11.18	33.03	135	354	P	H
		5150	53.35	-0.65	54	42.99	32.21	11.18	33.03	135	354	A	H
	*	5190	107.96	-	-	97.56	32.26	11.17	33.03	135	354	P	H
	*	5190	98.71	-	-	88.31	32.26	11.17	33.03	135	354	A	H
802.11ac		5363.52	51.78	-22.22	74	41.02	32.51	11.28	33.03	135	354	P	H
VHT40		5351.28	40.38	-13.62	54	29.64	32.49	11.28	33.03	135	354	A	H
CH 38		5150	55.04	-18.96	74	44.68	32.21	11.18	33.03	343	102	P	V
5190MHz		5150	46.2	-7.8	54	35.84	32.21	11.18	33.03	343	102	A	V
	*	5190	102.29	-	-	91.89	32.26	11.17	33.03	343	102	P	V
	*	5190	93.14	-	-	82.74	32.26	11.17	33.03	343	102	A	V
		5440.32	49.96	-24.04	74	39.03	32.61	11.34	33.02	343	102	P	V
		5457.36	39.81	-14.19	54	28.86	32.63	11.34	33.02	343	102	A	V
		5142.74	56.3	-17.7	74	45.94	32.21	11.18	33.03	372	150	P	H
		5148.98	47.97	-6.03	54	37.61	32.21	11.18	33.03	372	150	A	H
	*	5230	113.69	-	-	103.2	32.33	11.19	33.03	372	150	P	H
	*	5230	104.74	-	-	94.25	32.33	11.19	33.03	372	150	A	H
802.11ac		5350.8	54.69	-19.31	74	43.95	32.49	11.28	33.03	372	150	P	H
VHT40		5351.76	43.09	-10.91	54	32.35	32.49	11.28	33.03	372	150	A	H
CH 46		5137.8	53.62	-20.38	74	43.27	32.19	11.19	33.03	364	244	P	V
5230MHz		5148.98	44.36	-9.64	54	34	32.21	11.18	33.03	364	244	A	V
	*	5230	108.74	-	-	98.25	32.33	11.19	33.03	364	244	P	V
	*	5230	99.44	-	-	88.95	32.33	11.19	33.03	364	244	A	V
		5400	50.92	-23.08	74	40.07	32.56	11.31	33.02	364	244	P	V
		5380.56	40.3	-13.7	54	29.47	32.54	11.31	33.02	364	244	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10380	41.87	-32.13	74	38.42	39.71	14.86	51.12	100	0	P	H
		15570	54.36	-19.64	74	50.11	38.15	17.9	51.8	207	314	P	H
802.11ac		15570	44.57	-9.43	54	40.32	38.15	17.9	51.8	207	314	A	H
VHT40													H
CH 38		10380	42.83	-31.17	74	39.38	39.71	14.86	51.12	100	0	P	V
5190MHz		15570	49.22	-24.78	74	44.97	38.15	17.9	51.8	100	0	P	V
													V
													V
		10460	41.92	-32.08	74	38.39	39.82	14.91	51.2	100	0	P	H
		15690	54.68	-19.32	74	50.64	37.88	17.96	51.8	207	314	P	H
802.11ac		15690	43.99	-10.01	54	39.95	37.88	17.96	51.8	207	314	A	H
VHT40													H
CH 46		10460	40.35	-33.65	74	36.82	39.82	14.91	51.2	100	0	P	V
5230MHz		15690	51.56	-22.44	74	47.52	37.88	17.96	51.8	220	27	P	V
		15690	40.75	-13.25	54	36.71	37.88	17.96	51.8	220	27	A	V
													V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5147.94	63.64	-10.36	74	53.28	32.21	11.18	33.03	100	347	P	H
		5144.82	53.49	-0.51	54	43.13	32.21	11.18	33.03	100	347	A	H
	*	5210	104.27	-	-	93.83	32.3	11.17	33.03	100	347	P	H
	*	5210	94.42	-	-	83.98	32.3	11.17	33.03	100	347	A	H
		5442.72	50.54	-23.46	74	39.61	32.61	11.34	33.02	100	347	P	H
802.11ac		5450.16	40.43	-13.57	54	29.48	32.63	11.34	33.02	100	347	A	H
VHT80												P	H
CH 42												A	H
5210MHz		5138.06	56.18	-17.82	74	45.83	32.19	11.19	33.03	380	104	P	V
		5135.2	47.23	-6.77	54	36.88	32.19	11.19	33.03	380	104	A	V
	*	5210	99.8	-	-	89.36	32.3	11.17	33.03	380	104	P	V
	*	5210	90.09	-	-	79.65	32.3	11.17	33.03	380	104	A	V
		5438.64	50.43	-23.57	74	39.5	32.61	11.34	33.02	380	104	P	V
		5454.96	39.98	-14.02	54	29.03	32.63	11.34	33.02	380	104	A	V

Remark

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

Band 1 5150~5250MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		10420	40.92	-33.08	74	37.42	39.77	14.89	51.16	100	0	P	H
		15630	40.46	-33.54	74	36.32	38	17.94	51.8	100	0	P	H
802.11ac													H
VHT80													H
CH 42		10420	42.07	-31.93	74	38.57	39.77	14.89	51.16	100	0	P	V
5210MHz		15630	40.21	-33.79	74	36.07	38	17.94	51.8	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

WIFI 802.11ac VHT20 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11ac VHT20 LF		30.27	24.06	-15.94	40	29.57	25.7	1.29	32.5			P	H
		171.48	25.35	-18.15	43.5	40.35	15.77	2	32.77			P	H
		184.44	25.18	-18.32	43.5	40.66	15.24	2.1	32.82			P	H
		514.9	25.96	-20.04	46	30.66	24.31	3.38	32.39			P	H
		760.6	29.87	-16.13	46	30.24	27.83	4.09	32.29			P	H
		895	32.87	-13.13	46	30.82	29.17	4.57	31.69	164	314	P	H
													H
													H
													H
													H
													H
													H
		31.62	35.45	-4.55	40	41.99	24.66	1.29	32.49	165	226	P	V
		37.56	28.56	-11.44	40	38.34	21.42	1.29	32.49			P	V
		51.87	33.93	-6.07	40	50.83	14.3	1.29	32.49			P	V
		766.2	30.48	-15.52	46	30.77	27.9	4.09	32.28			P	V
		871.9	31.43	-14.57	46	29.64	29.03	4.57	31.81			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+2		(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".

Band 4 - 5725~5850MHz

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5633.2	49.2	-19	68.2	39.86	32.19	10.69	33.54	253	120	P	H
		5700	59.77	-45.43	105.2	50.39	32.27	10.67	33.56	253	120	P	H
		5717.8	77.36	-32.82	110.18	67.97	32.31	10.65	33.57	253	120	P	H
		5724.8	83.58	-38.16	121.74	74.19	32.31	10.65	33.57	253	120	P	H
	*	5745	109.8	-	-	100.4	32.34	10.63	33.57	253	120	P	H
	*	5745	102.59	-	-	93.19	32.34	10.63	33.57	253	120	A	H
													H
802.11a													H
CH 149		5625.6	53.27	-14.93	68.2	43.94	32.17	10.69	33.53	319	339	P	V
5745MHz		5700	69.39	-35.81	105.2	60.01	32.27	10.67	33.56	319	339	P	V
		5717.4	89.41	-20.66	110.07	80.04	32.29	10.65	33.57	319	339	P	V
		5724.8	91.84	-29.9	121.74	82.45	32.31	10.65	33.57	319	339	P	V
	*	5745	119.01	-	-	109.61	32.34	10.63	33.57	319	339	P	V
	*	5745	111.54	-	-	102.14	32.34	10.63	33.57	319	339	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5627.6	47.03	-21.17	68.2	37.7	32.17	10.69	33.53	277	147	P	H
		5668	47.69	-33.87	81.56	38.33	32.24	10.67	33.55	277	147	P	H
		5704.2	48.59	-57.79	106.38	39.21	32.29	10.65	33.56	277	147	P	H
		5724.4	48.59	-72.24	120.83	39.2	32.31	10.65	33.57	277	147	P	H
	*	5785	108.04	-	-	98.63	32.39	10.61	33.59	277	147	P	H
	*	5785	100.89	-	-	91.48	32.39	10.61	33.59	277	147	A	H
		5851.8	49.08	-69.02	118.1	39.43	32.48	10.78	33.61	277	147	P	H
		5868.2	49.8	-57.3	107.1	39.97	32.51	10.94	33.62	277	147	P	H
		5913.8	50.11	-26.35	76.46	40.06	32.58	11.11	33.64	277	147	P	H
		5929.8	48.74	-19.46	68.2	38.67	32.6	11.11	33.64	277	147	P	H
													H
802.11a CH 157 5785MHz													H
		5645	50.21	-17.99	68.2	40.87	32.19	10.69	33.54	185	62	P	V
		5697.8	56.15	-47.43	103.58	46.77	32.27	10.67	33.56	185	62	P	V
		5701.4	56.55	-49.04	105.59	47.17	32.29	10.65	33.56	185	62	P	V
		5725	57.55	-64.65	122.2	48.16	32.31	10.65	33.57	185	62	P	V
	*	5785	118.91	-	-	109.5	32.39	10.61	33.59	185	62	P	V
	*	5785	111.8	-	-	102.39	32.39	10.61	33.59	185	62	A	V
		5854.2	54.61	-58.01	112.62	44.93	32.51	10.78	33.61	185	62	P	V
		5863.2	58.63	-49.87	108.5	48.8	32.51	10.94	33.62	185	62	P	V
		5907.8	54.47	-26.42	80.89	44.41	32.58	11.11	33.63	185	62	P	V
		5943.2	51.52	-16.68	68.2	41.27	32.63	11.27	33.65	185	62	P	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	107.75	-	-	98.11	32.46	10.78	33.6	179	70	P	H
	*	5825	100.04	-	-	90.4	32.46	10.78	33.6	179	70	A	H
		5850.4	77.31	-43.98	121.29	67.66	32.48	10.78	33.61	179	70	P	H
		5855	70.19	-40.61	110.8	60.51	32.51	10.78	33.61	179	70	P	H
		5883.6	51.09	-47.72	98.81	41.25	32.53	10.94	33.63	179	70	P	H
		5933.8	49.81	-18.39	68.2	39.74	32.6	11.11	33.64	179	70	P	H
													H
802.11a													H
CH 165	*	5825	117.47	-	-	107.83	32.46	10.78	33.6	369	176	P	V
5825MHz	*	5825	110.25	-	-	100.61	32.46	10.78	33.6	369	176	A	V
		5852.8	81.32	-34.5	115.82	71.67	32.48	10.78	33.61	369	176	P	V
		5855	73.25	-37.55	110.8	63.57	32.51	10.78	33.61	369	176	P	V
		5876.8	58.62	-45.24	103.86	48.77	32.53	10.94	33.62	369	176	P	V
		5941.2	52.46	-15.74	68.2	42.21	32.63	11.27	33.65	369	176	P	V
													V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 149 5745MHz		11490	43.86	-30.14	74	39.21	40.3	15.59	51.24	100	0	P	H
		17235	58.51	-9.69	68.2	50.26	41.64	18.6	51.99	123	347	P	H
													H
													H
		11490	41.74	-32.26	74	37.09	40.3	15.59	51.24	100	0	P	V
		17240	56.54	-11.66	68.2	48.29	41.64	18.6	51.99	244	302	P	V
													V
													V
802.11a CH 157 5785MHz		11570	42.75	-31.25	74	38.25	40.12	15.64	51.26	100	0	P	H
		17355	60.86	-7.34	68.2	52.16	42.06	18.65	52.01	100	344	P	H
													H
													H
		11570	42.54	-31.46	74	38.04	40.12	15.64	51.26	100	0	P	V
		17355	59.65	-8.55	68.2	50.95	42.06	18.65	52.01	253	301	P	V
													V
													V
802.11a CH 165 5825MHz		11650	41.47	-32.53	74	37.13	39.94	15.69	51.29	100	0	P	H
		17475	59.55	-8.65	68.2	50.39	42.48	18.7	52.02	123	347	P	H
													H
													H
		11650	40.89	-33.11	74	36.55	39.94	15.69	51.29	100	0	P	V
		17475	57.87	-10.33	68.2	48.71	42.48	18.7	52.02	259	298	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5627	48.61	-19.59	68.2	39.28	32.17	10.69	33.53	296	132	P	H
		5696.8	64.12	-38.72	102.84	54.74	32.27	10.67	33.56	296	132	P	H
		5717	78.84	-31.12	109.96	69.47	32.29	10.65	33.57	296	132	P	H
		5725	82.41	-39.79	122.2	73.02	32.31	10.65	33.57	296	132	P	H
	*	5745	108.93	-	-	99.53	32.34	10.63	33.57	296	132	P	H
	*	5745	99.21	-	-	89.81	32.34	10.63	33.57	296	132	A	H
802.11ac													H
VHT20													H
CH 149		5624.2	53.61	-14.59	68.2	44.28	32.17	10.69	33.53	216	2	P	V
5745MHz		5699.2	71.54	-33.07	104.61	62.16	32.27	10.67	33.56	216	2	P	V
		5720	85.87	-24.93	110.8	76.48	32.31	10.65	33.57	216	2	P	V
		5725	96.33	-25.87	122.2	86.94	32.31	10.65	33.57	216	2	P	V
	*	5745	119.36	-	-	109.96	32.34	10.63	33.57	216	2	P	V
	*	5745	111.44	-	-	102.04	32.34	10.63	33.57	216	2	A	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5641.2	47.63	-20.57	68.2	38.29	32.19	10.69	33.54	298	127	P	H
		5699	49.57	-54.89	104.46	40.19	32.27	10.67	33.56	298	127	P	H
		5704.4	49.85	-56.58	106.43	40.47	32.29	10.65	33.56	298	127	P	H
		5721.4	49.88	-64.11	113.99	40.49	32.31	10.65	33.57	298	127	P	H
	*	5785	109.58	-	-	100.17	32.39	10.61	33.59	298	127	P	H
	*	5785	101.55	-	-	92.14	32.39	10.61	33.59	298	127	A	H
		5851.6	50.23	-68.32	118.55	40.58	32.48	10.78	33.61	298	127	P	H
		5864	50.42	-57.86	108.28	40.59	32.51	10.94	33.62	298	127	P	H
		5914.4	48.58	-27.44	76.02	38.53	32.58	11.11	33.64	298	127	P	H
		5925	48.48	-19.72	68.2	38.41	32.6	11.11	33.64	298	127	P	H
802.11ac													H
VHT20													H
CH 157		5630	49.56	-18.64	68.2	40.24	32.17	10.69	33.54	313	336	P	V
5785MHz		5699.2	56.51	-48.1	104.61	47.13	32.27	10.67	33.56	313	336	P	V
		5712.2	59.9	-48.72	108.62	50.53	32.29	10.65	33.57	313	336	P	V
		5724.4	62.75	-58.08	120.83	53.36	32.31	10.65	33.57	313	336	P	V
	*	5785	119.55	-	-	110.14	32.39	10.61	33.59	313	336	P	V
	*	5785	111.6	-	-	102.19	32.39	10.61	33.59	313	336	A	V
		5852.2	56.01	-61.17	117.18	46.36	32.48	10.78	33.61	313	336	P	V
		5858.8	57.73	-52	109.73	48.06	32.51	10.78	33.62	313	336	P	V
		5907	52.82	-28.66	81.48	42.76	32.58	11.11	33.63	313	336	P	V
		5942.4	51.49	-16.71	68.2	41.24	32.63	11.27	33.65	313	336	P	V
													V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
	*	5825	107.89	-	-	98.32	32.39	10.78	33.6	174	66	P	H
	*	5825	100.08	-	-	90.51	32.39	10.78	33.6	174	66	A	H
		5850.6	75.77	-45.06	120.83	66.19	32.41	10.78	33.61	174	66	P	H
		5858.8	75.3	-34.43	109.73	65.71	32.43	10.78	33.62	174	66	P	H
		5875.6	51.38	-53.37	104.75	41.6	32.46	10.94	33.62	174	66	P	H
		5937.6	49.01	-19.19	68.2	39.03	32.52	11.11	33.65	174	66	P	H
802.11ac													H
VHT20													H
CH 165	*	5825	119.18	-	-	109.61	32.39	10.78	33.6	234	360	P	V
5825MHz	*	5825	111.3	-	-	101.73	32.39	10.78	33.6	234	360	A	V
		5850.8	87.88	-32.5	120.38	78.3	32.41	10.78	33.61	234	360	P	V
		5855.6	83.03	-27.6	110.63	73.43	32.43	10.78	33.61	234	360	P	V
		5875.6	68.76	-35.99	104.75	58.98	32.46	10.94	33.62	234	360	P	V
		5945.2	51.82	-16.38	68.2	41.66	32.54	11.27	33.65	234	360	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11490	44.4	-29.6	74	39.75	40.3	15.59	51.24	100	0	P	H
		17235	59.09	-9.11	68.2	50.84	41.64	18.6	51.99	123	347	P	H
802.11ac													H
VHT20													H
CH 149		11490	42.3	-31.7	74	37.65	40.3	15.59	51.24	100	0	P	V
5745MHz		17240	57.19	-11.01	68.2	48.94	41.64	18.6	51.99	244	302	P	V
													V
													V
		11570	43.06	-30.94	74	38.56	40.12	15.64	51.26	100	0	P	H
		17355	60.94	-7.26	68.2	52.24	42.06	18.65	52.01	100	344	P	H
802.11ac													H
VHT20													H
CH 157		11570	43.33	-30.67	74	38.83	40.12	15.64	51.26	100	0	P	V
5785MHz		17355	59.93	-8.27	68.2	51.23	42.06	18.65	52.01	253	301	P	V
													V
													V
		11650	41.94	-32.06	74	37.6	39.94	15.69	51.29	100	0	P	H
		17475	59.99	-8.21	68.2	50.83	42.48	18.7	52.02	123	347	P	H
802.11ac													H
VHT20													H
CH 165		11650	41.52	-32.48	74	37.18	39.94	15.69	51.29	100	0	P	V
5825MHz		17475	58.37	-9.83	68.2	49.21	42.48	18.7	52.02	259	298	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5643	49.53	-18.67	68.2	40.21	32.17	10.69	33.54	301	120	P	H
		5699.2	66.97	-37.64	104.61	57.63	32.23	10.67	33.56	301	120	P	H
		5718.6	79.82	-30.59	110.41	70.47	32.27	10.65	33.57	301	120	P	H
		5724	83.76	-36.16	119.92	74.41	32.27	10.65	33.57	301	120	P	H
	*	5755	107.03	-	-	97.66	32.31	10.63	33.57	301	120	P	H
	*	5755	98.69	-	-	89.32	32.31	10.63	33.57	301	120	A	H
		5854.2	50.68	-61.94	112.62	41.08	32.43	10.78	33.61	301	120	P	H
		5859.2	49.33	-60.29	109.62	39.74	32.43	10.78	33.62	301	120	P	H
		5917.4	48.71	-25.09	73.8	38.74	32.5	11.11	33.64	301	120	P	H
		5947.2	48.01	-20.19	68.2	37.85	32.54	11.27	33.65	301	120	P	H
802.11ac													H
VHT40													H
CH 151		5290	61.95	-6.25	68.2	53.11	31.83	10.49	33.48	153	20	P	V
5755MHz		5646.6	59.35	-8.85	68.2	50.03	32.17	10.69	33.54	153	20	P	V
		5699.6	81.58	-23.33	104.91	72.24	32.23	10.67	33.56	153	20	P	V
		5719.4	92.65	-17.98	110.63	83.3	32.27	10.65	33.57	153	20	P	V
		5725	96.2	-26	122.2	86.85	32.27	10.65	33.57	153	20	P	V
	*	5755	116.31	-	-	106.94	32.31	10.63	33.57	153	20	P	V
	*	5755	107.93	-	-	98.56	32.31	10.63	33.57	153	20	A	V
		5853.6	56.55	-57.44	113.99	46.95	32.43	10.78	33.61	153	20	P	V
		5859.4	56.71	-52.86	109.57	47.12	32.43	10.78	33.62	153	20	P	V
		5896.8	54.92	-34.11	89.03	45.13	32.48	10.94	33.63	153	20	P	V
		5934.2	51.4	-16.8	68.2	41.41	32.52	11.11	33.64	153	20	P	V
													V

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5606.2	47.41	-20.79	68.2	38.11	32.12	10.71	33.53	326	61	P	H
		5697.8	58.32	-45.26	103.58	48.98	32.23	10.67	33.56	326	61	P	H
		5720	63.76	-47.04	110.8	54.41	32.27	10.65	33.57	326	61	P	H
		5721.6	65.68	-48.77	114.45	56.33	32.27	10.65	33.57	326	61	P	H
	*	5795	107.13	-	-	97.76	32.35	10.61	33.59	326	61	P	H
	*	5795	98.64	-	-	89.27	32.35	10.61	33.59	326	61	A	H
		5850.8	69.85	-50.53	120.38	60.27	32.41	10.78	33.61	326	61	P	H
		5855.6	69.29	-41.34	110.63	59.69	32.43	10.78	33.61	326	61	P	H
		5876.2	62.57	-41.74	104.31	52.79	32.46	10.94	33.62	326	61	P	H
		5935.6	48.79	-19.41	68.2	38.81	32.52	11.11	33.65	326	61	P	H
802.11ac													H
VHT40													H
CH 159		5332	59.16	-9.04	68.2	50.15	31.87	10.62	33.48	180	60	P	V
5795MHz		5649.2	53.26	-14.94	68.2	43.94	32.17	10.69	33.54	180	60	P	V
		5699.4	68.61	-36.15	104.76	59.27	32.23	10.67	33.56	180	60	P	V
		5715.8	75	-34.63	109.63	65.67	32.25	10.65	33.57	180	60	P	V
		5725	79.32	-42.88	122.2	69.97	32.27	10.65	33.57	180	60	P	V
	*	5795	116.95	-	-	107.58	32.35	10.61	33.59	180	60	P	V
	*	5795	108.35	-	-	98.98	32.35	10.61	33.59	180	60	A	V
		6256	59.09	-9.11	68.2	47.8	33.4	11.7	33.81	180	60	P	V
		5850.4	82.97	-38.32	121.29	73.39	32.41	10.78	33.61	180	60	P	V
		5855	82.4	-28.4	110.8	72.8	32.43	10.78	33.61	180	60	P	V
		5876	76.42	-28.04	104.46	66.64	32.46	10.94	33.62	180	60	P	V
		5925.2	56.47	-11.73	68.2	46.48	32.52	11.11	33.64	180	60	P	V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11510	41.76	-32.24	74	37.09	40.3	15.61	51.24	100	0	P	H
		17265	54.5	-13.7	68.2	46.12	41.76	18.62	52	110	351	P	H
802.11ac													H
VHT40													H
CH 151		11510	41.74	-32.26	74	37.07	40.3	15.61	51.24	100	0	P	V
5755MHz		17265	54.83	-13.37	68.2	46.45	41.76	18.62	52	287	331	P	V
													V
													V
		11590	43.11	-30.89	74	38.63	40.08	15.66	51.26	100	0	P	H
		17385	52.23	-15.97	68.2	43.4	42.18	18.66	52.01	100	0	P	H
802.11ac													H
VHT40													H
CH 159		11590	43.23	-30.77	74	38.75	40.08	15.66	51.26	100	0	P	V
5795MHz		17385	52.44	-15.76	68.2	43.61	42.18	18.66	52.01	100	0	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		5649.8	56.94	-11.26	68.2	45.65	32.92	11.47	33.1	147	197	P	H
		5692.2	73.47	-25.98	99.45	62.15	32.97	11.47	33.12	147	197	P	H
		5718.2	76.53	-33.77	110.3	65.19	33.01	11.46	33.13	147	197	P	H
		5722	78.02	-37.34	115.36	66.68	33.01	11.46	33.13	147	197	P	H
	*	5775	102.53	34.33	-	-	33.09	11.46	33.16	147	197	P	H
	*	5775	93.07	24.87	-	-	33.09	11.46	33.16	147	197	A	H
		5851.4	69.22	-49.79	119.01	57.7	33.18	11.53	33.19	147	197	P	H
		5857	69.49	-40.75	110.24	57.94	33.21	11.53	33.19	147	197	P	H
		5875.8	59.2	-45.41	104.61	47.58	33.23	11.6	33.21	147	197	P	H
		5927.8	51.74	-16.46	68.2	40	33.3	11.67	33.23	147	197	P	H
802.11ac													H
VHT80													H
CH 155		5644.4	67.95	-0.25	68.2	56.69	32.89	11.47	33.1	244	343	P	V
5775MHz		5694.6	84.1	-17.12	101.22	72.78	32.97	11.47	33.12	244	343	P	V
		5718.2	88.01	-22.29	110.3	76.67	33.01	11.46	33.13	244	343	P	V
		5720.6	89.11	-23.06	112.17	77.77	33.01	11.46	33.13	244	343	P	V
	*	5775	113.81	45.61	-	-	33.09	11.46	33.16	244	343	P	V
	*	5775	104.09	35.89	-	-	33.09	11.46	33.16	244	343	P	V
		5853	80.93	-34.43	115.36	69.41	33.18	11.53	33.19	244	343	A	V
		5855	80.32	-30.48	110.8	68.77	33.21	11.53	33.19	244	343	P	V
		5875	73.17	-32.03	105.2	61.55	33.23	11.6	33.21	244	343	P	V
		5929.4	58.23	-9.97	68.2	46.49	33.3	11.67	33.23	244	343	P	V
													V
													V

Remark

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

Band 4 5725~5850MHz

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
		11550	43.12	-30.88	74	38.56	40.17	15.64	51.25	100	0	P	H
		17325	52.79	-15.41	68.2	44.22	41.94	18.63	52	100	0	P	H
802.11ac													H
VHT80													H
CH 155		11550	42.63	-31.37	74	38.07	40.17	15.64	51.25	100	0	P	V
5775MHz		17325	53.3	-14.9	68.2	44.73	41.94	18.63	52	100	0	P	V
													V
													V

Remark

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

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		30.27	24.24	-15.76	40	29.44	25.7	0.93	31.83			P	H
		129.9	28	-15.5	43.5	40.3	18	1.48	31.78			P	H
		196.59	30.36	-13.14	43.5	44.61	15.79	1.74	31.78			P	H
		489.7	34.35	-11.65	46	39.44	23.93	2.86	31.88	210	312	P	H
		672.4	30.79	-15.21	46	32.96	26.42	3.45	32.04			P	H
		955.9	32.13	-13.87	46	28.64	30.59	3.89	30.99			P	H
													H
													H
													H
													H
5GHz													H
802.11ac													H
VHT80		40.26	27	-13	40	38.15	19.74	0.93	31.82			P	V
LF		196.59	30	-13.5	43.5	44.25	15.79	1.74	31.78			P	V
		221.97	23.15	-22.85	46	36.61	16.34	1.98	31.78			P	V
		393.1	31.59	-14.41	46	38.59	22.22	2.58	31.8			P	V
		497.4	40.89	-5.11	46	45.87	24.05	2.86	31.89	224	258	P	V
		749.4	32.92	-13.08	46	33.58	27.7	3.62	31.98			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+2		(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

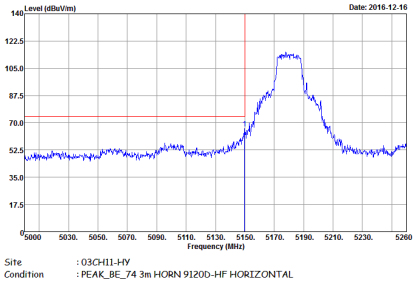
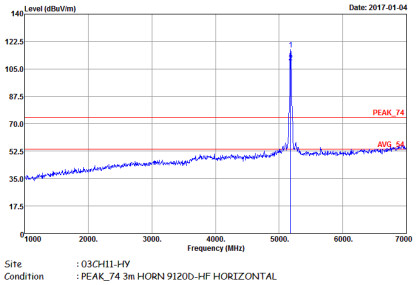
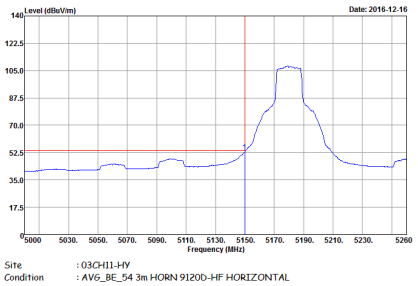
Test Engineer :	J.C. Liang and Jacky Hung	**Temperature :**	20~23°C
		Relative Humidity :	50~54%

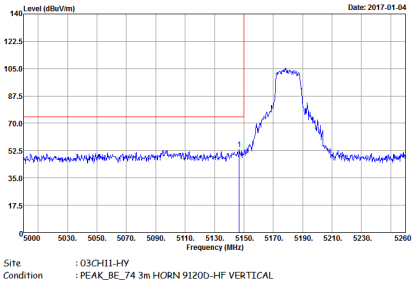
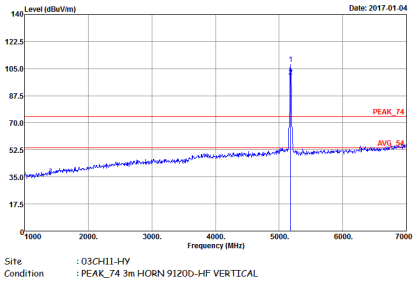
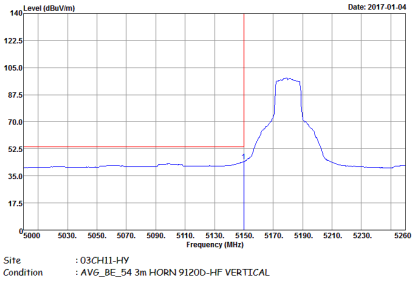
Note symbol

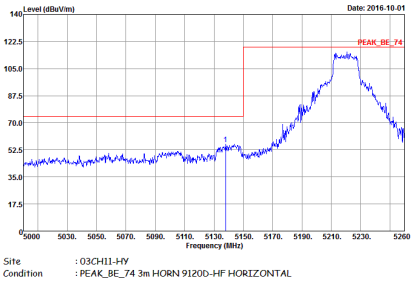
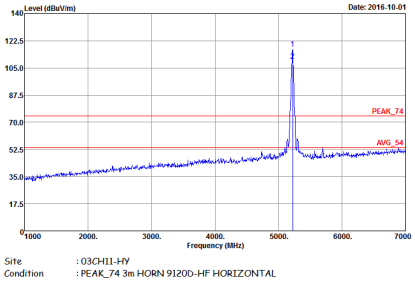
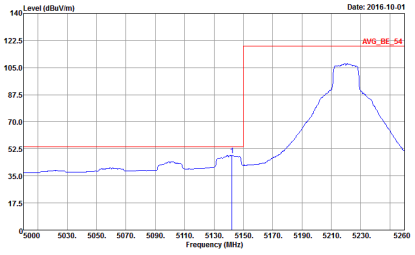
-L	**Low channel location**
-R	**High channel location**

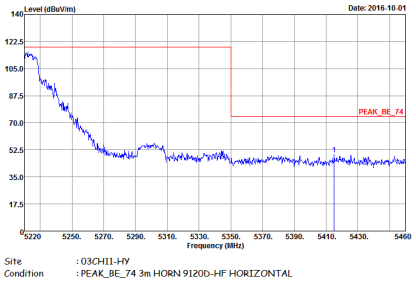
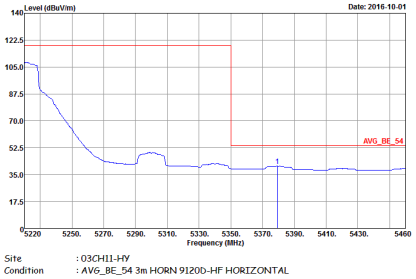
Band 1 - 5150~5250MHz

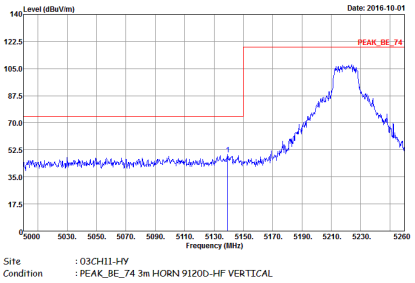
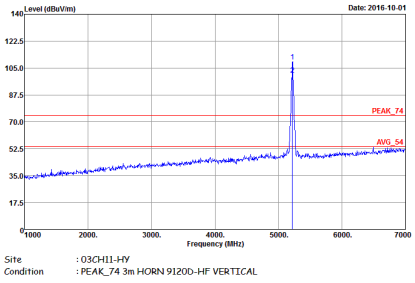
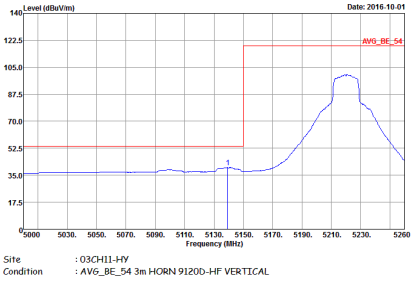
WIFI 802.11a (Band Edge @ 3m)

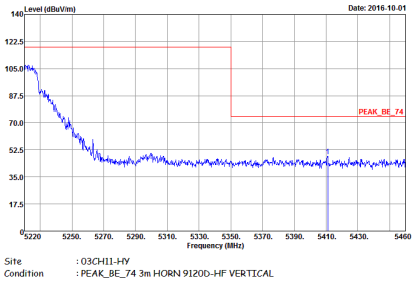
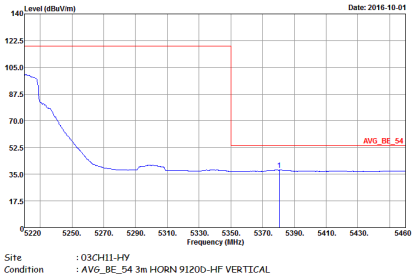
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

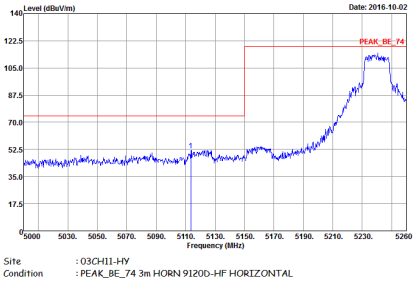
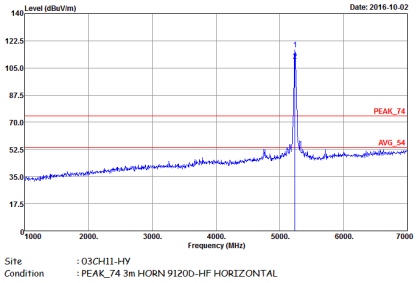
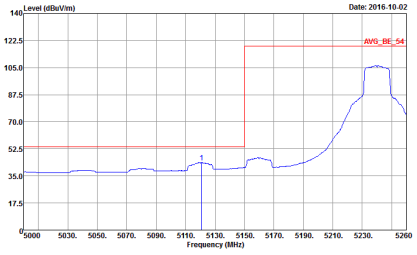
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Vertical	Vertical
Peak		
Avg.		Left blank

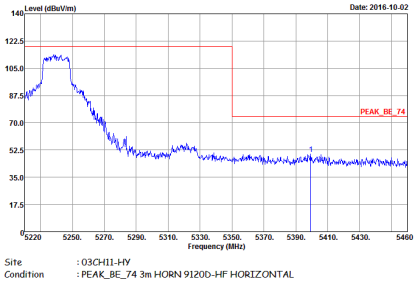
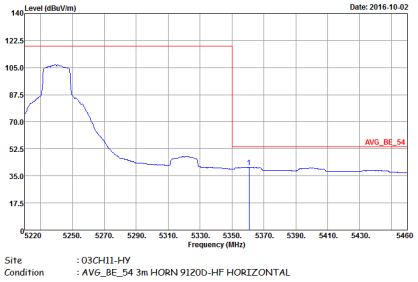
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL	Left blank

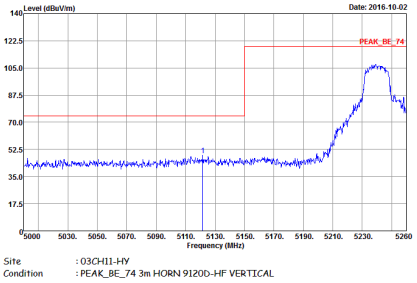
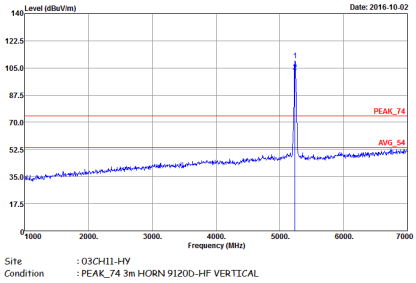
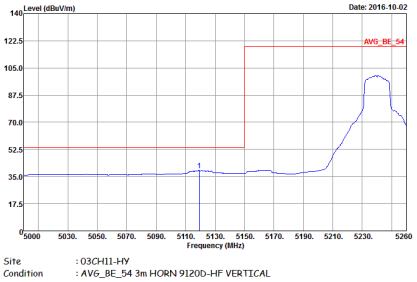
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

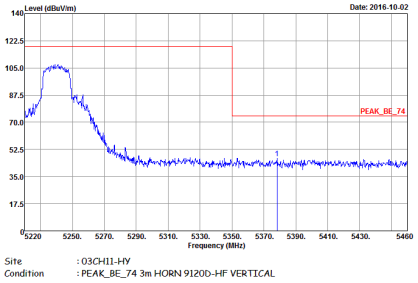
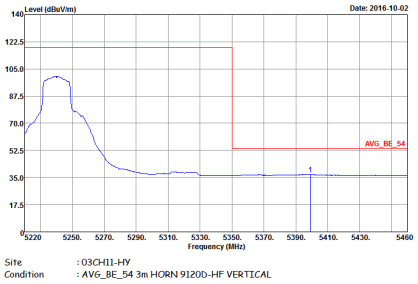
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

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

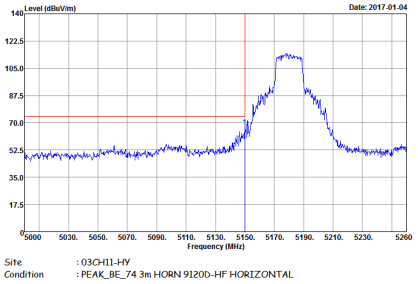
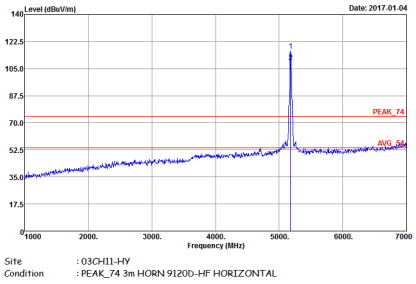
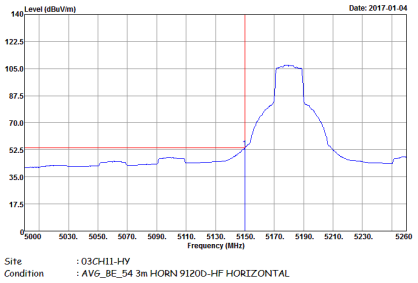
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL	Left blank

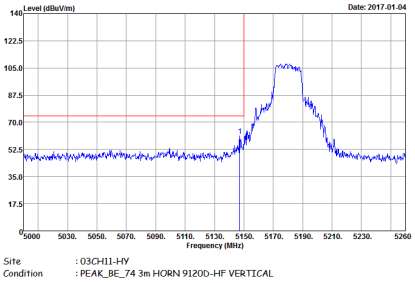
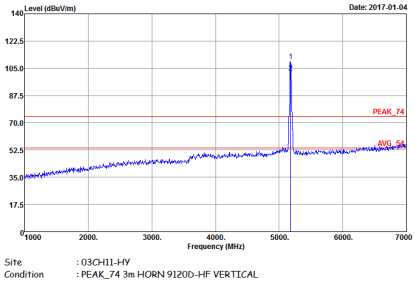
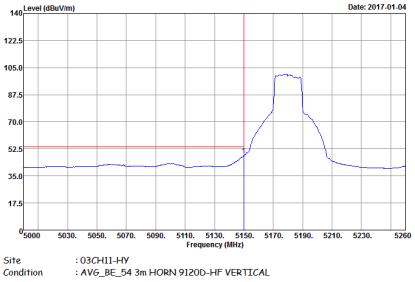
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

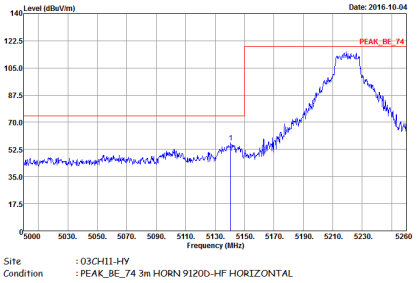
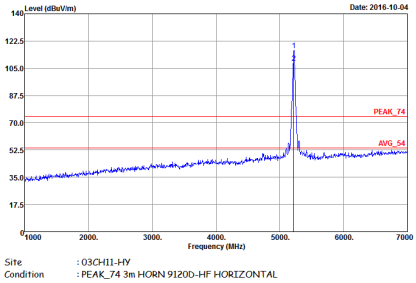
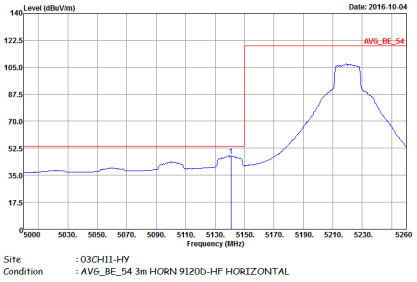
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

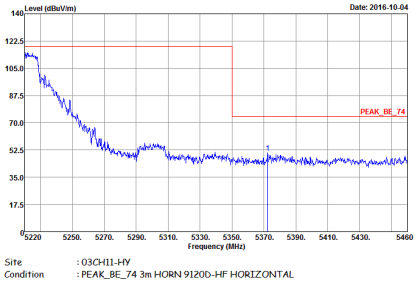
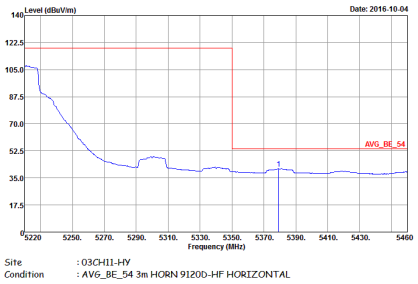
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11a CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

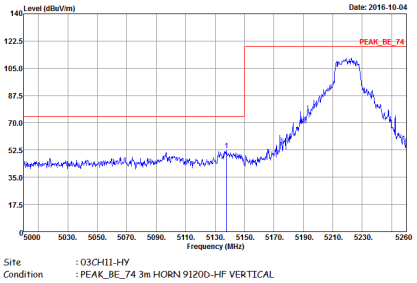
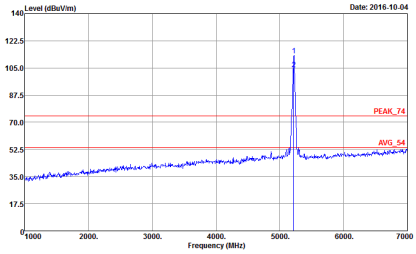
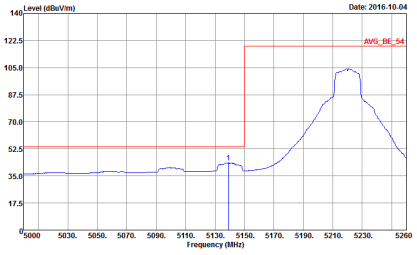
Band 1 5150~5250MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

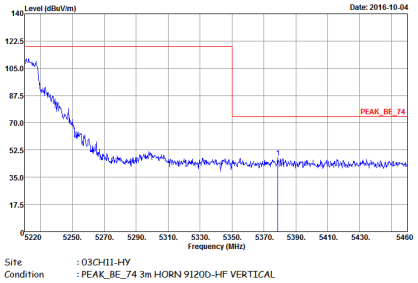
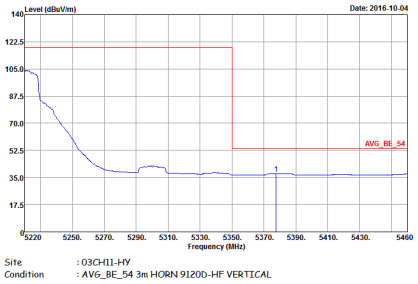
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

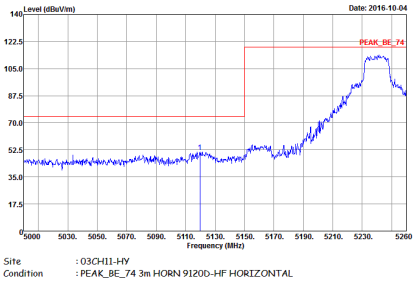
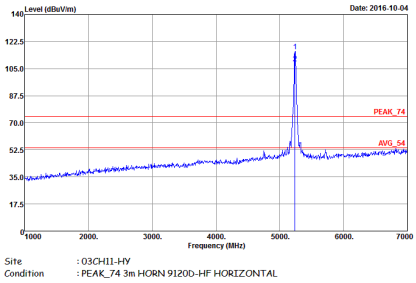
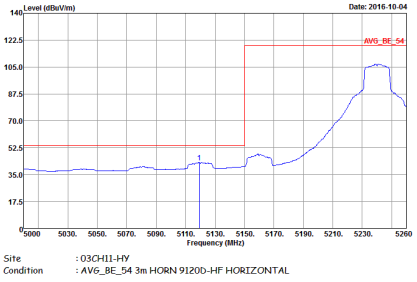
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

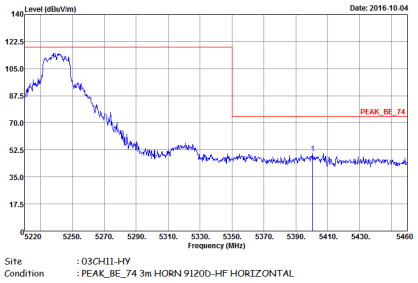
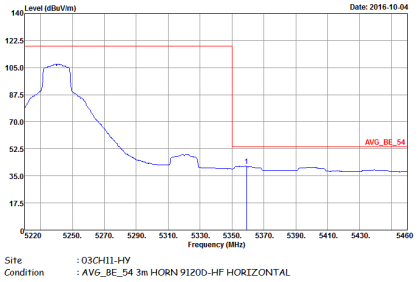
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

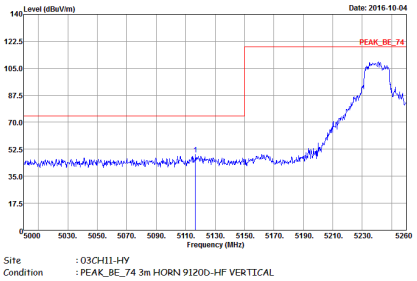
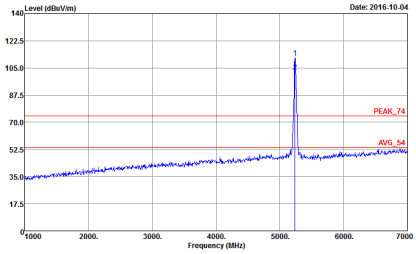
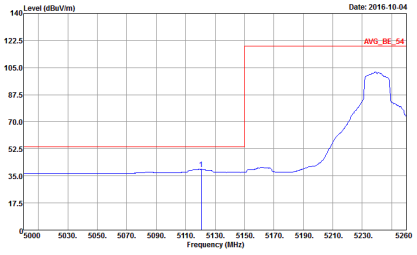
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

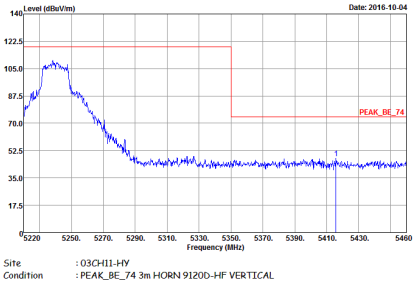
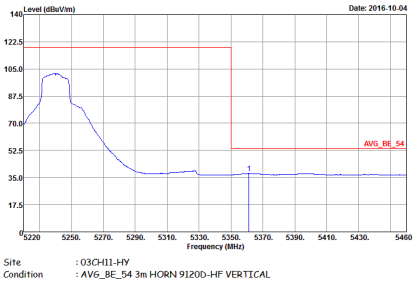
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL	Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

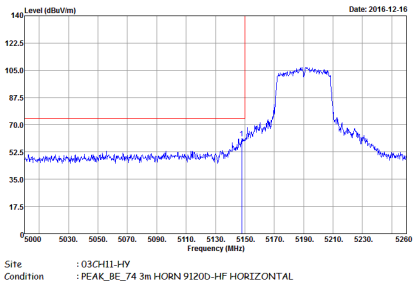
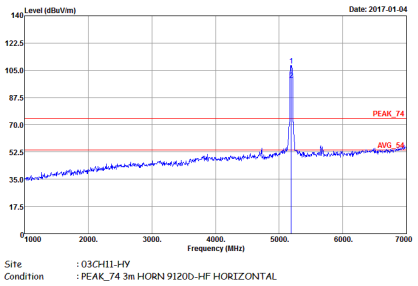
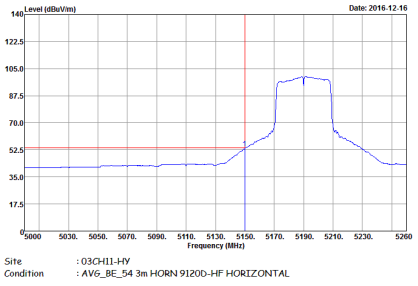
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

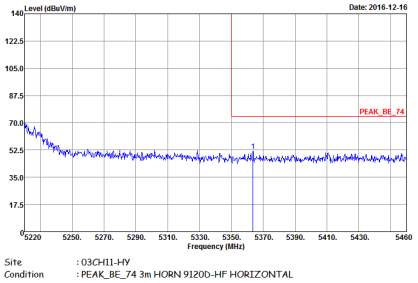
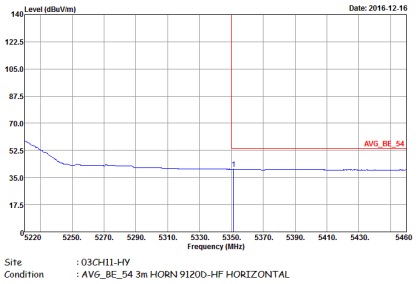
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

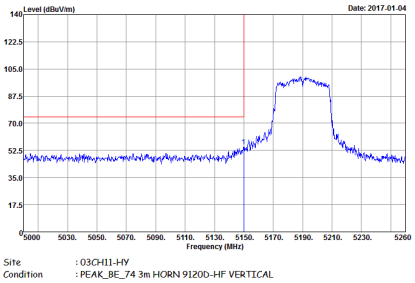
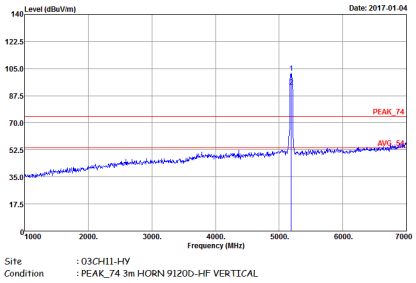
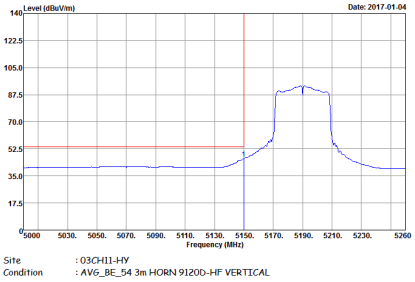
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF VERTICAL	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF VERTICAL
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF VERTICAL	Left blank

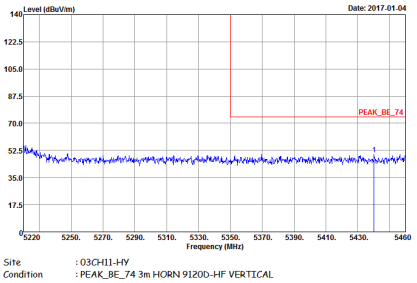
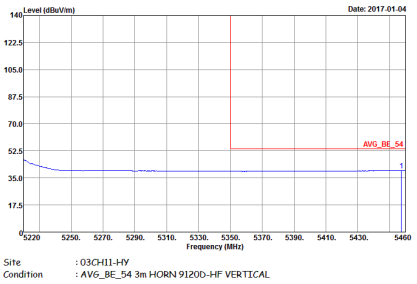
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

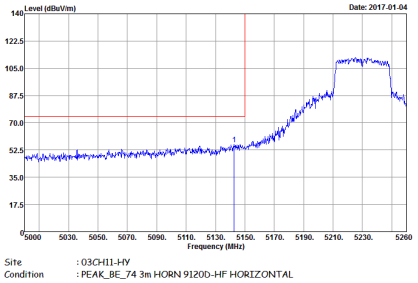
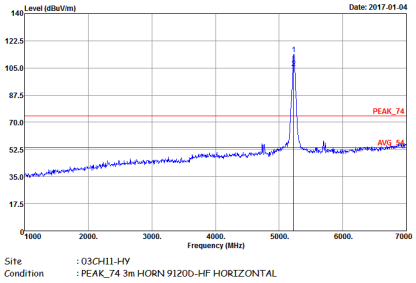
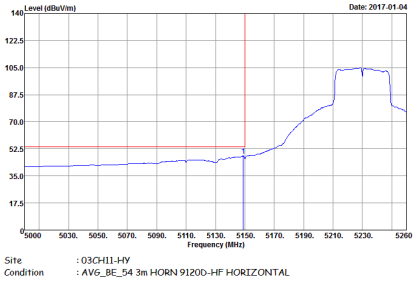
Band 1 5150~5250MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

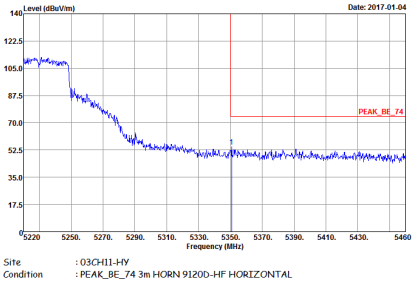
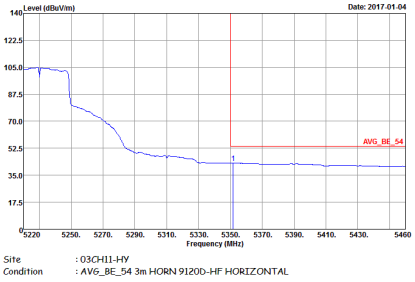
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - L	
1+2	Horizontal	Fundamental
Peak		
Avg.		Left blank

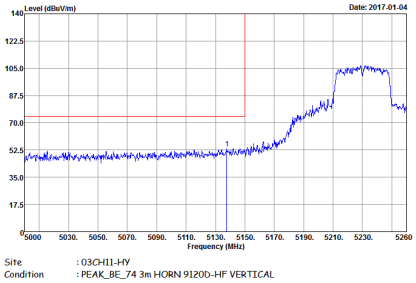
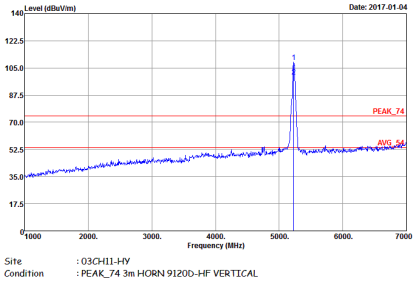
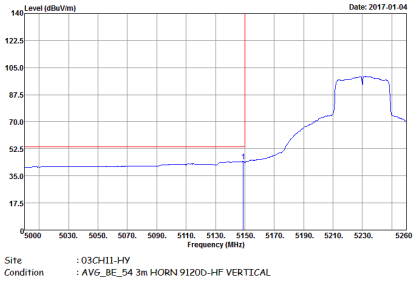
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

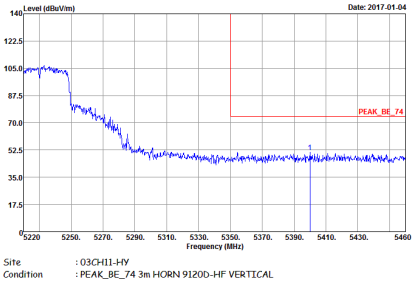
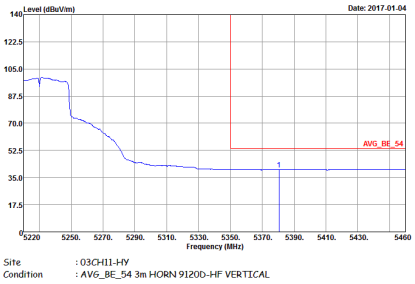
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

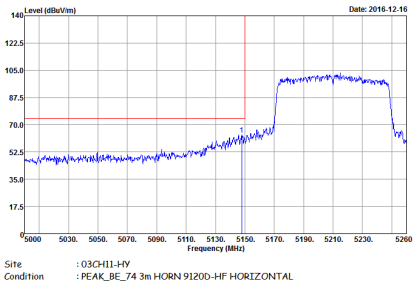
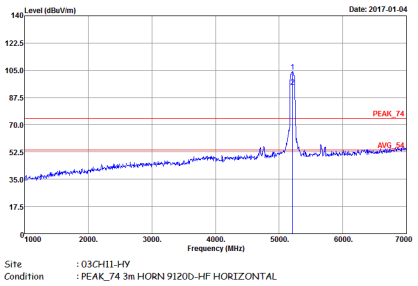
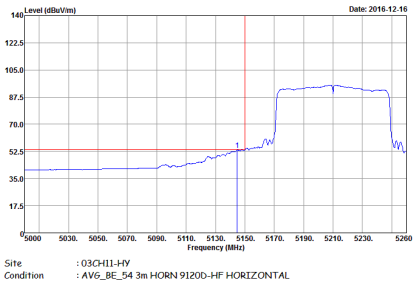
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE_74 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK_74 3m HORN 9120D-HF HORIZONTAL
Avg.	 Site : 03CH11-HY Condition : AVG_BE_54 3m HORN 9120D-HF HORIZONTAL	Left blank

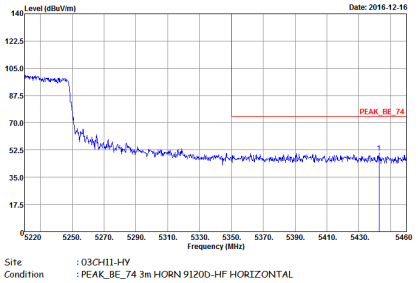
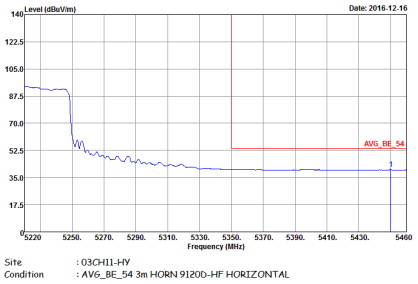
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

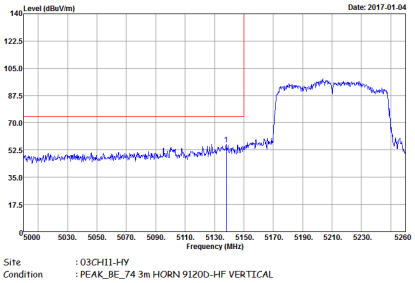
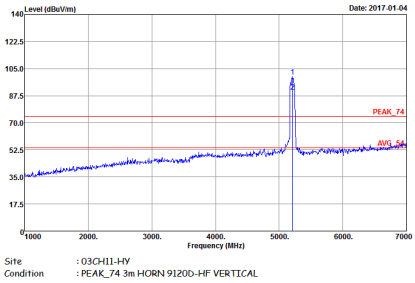
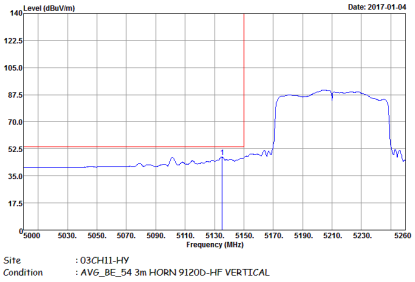
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

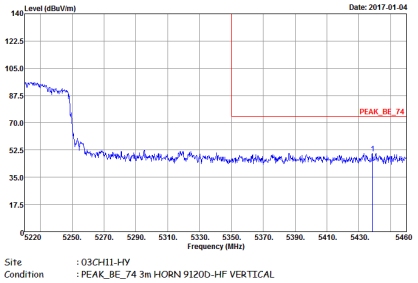
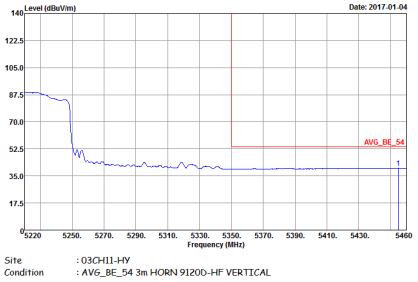
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

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

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

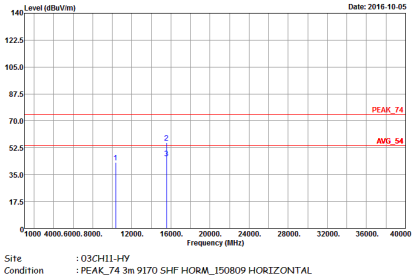
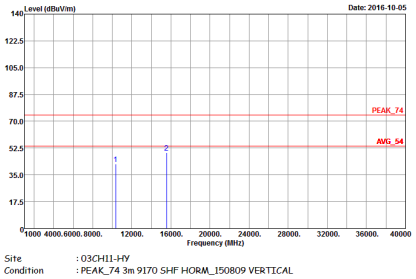
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

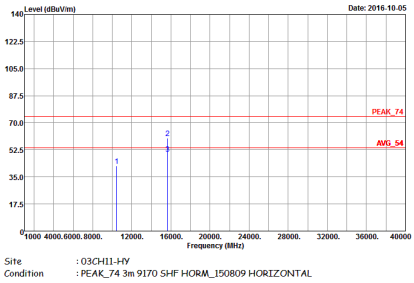
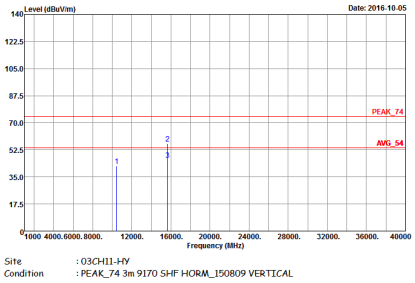
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - L	
1+2	Vertical	Fundamental
Peak		
Avg.		Left blank

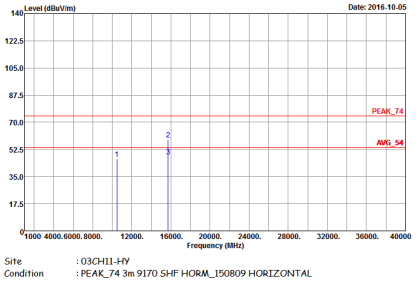
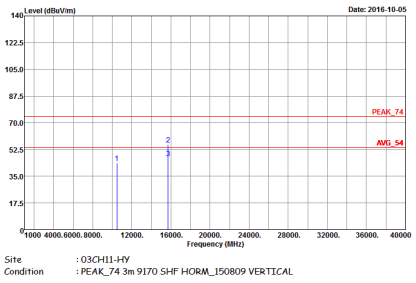
WIFI	Band 1 5150~5250MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH42 5210MHz - R	
1+2	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Band 1 - 5150~5250MHz

WIFI 802.11a (Harmonic @ 3m)

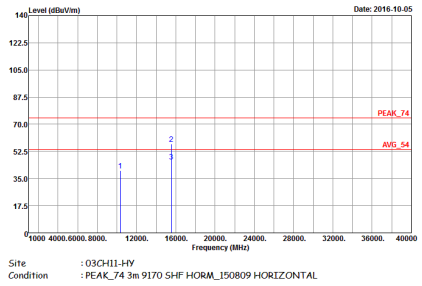
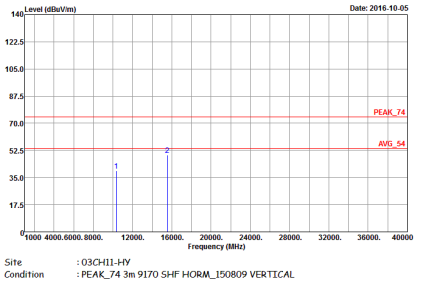
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

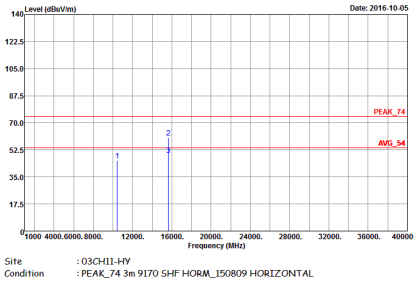
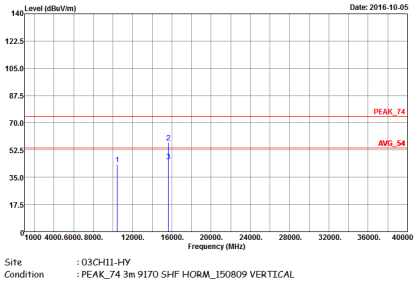
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH44 5220MHz	
1+2	Horizontal	Vertical
Peak Avg.		

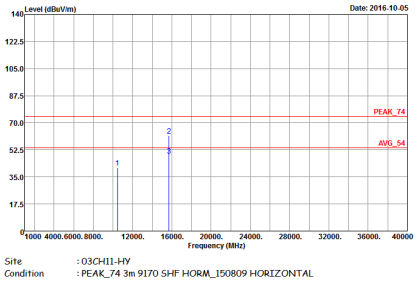
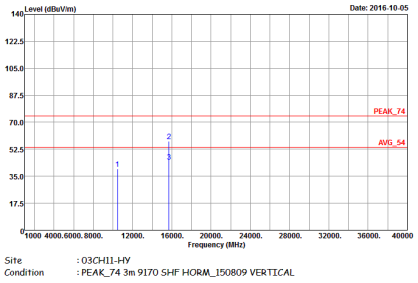
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11a CH48 5240MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Band 1 5150~5250MHz

WIFI 802.11ac VHT20 (Harmonic @ 3m)

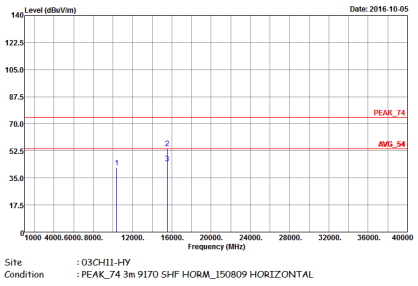
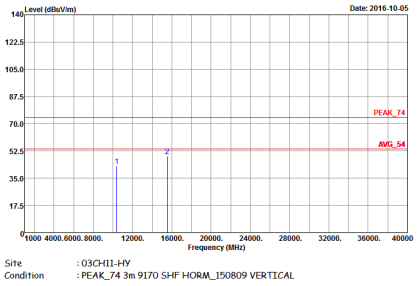
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH36 5180MHz	
1+2	Horizontal	Vertical
Peak Avg.		

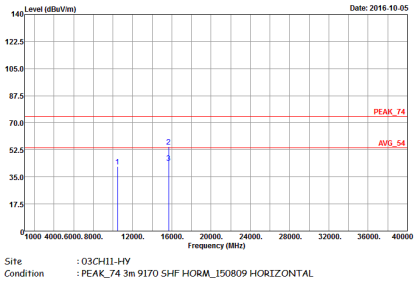
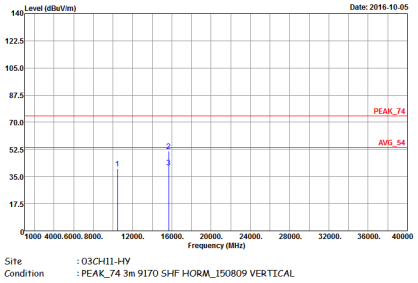
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH44 5220MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH48 5240MHz	
1+2	Horizontal	Vertical
Peak Avg.		

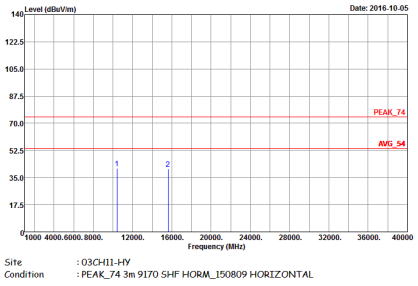
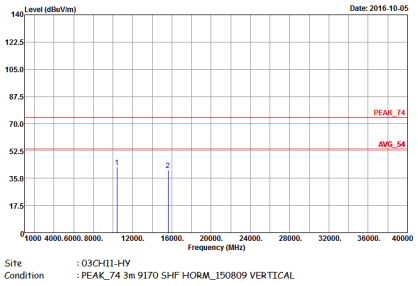
Band 1 5150~5250MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH38 5190MHz	
1+2	Horizontal	Vertical
Peak Avg.		

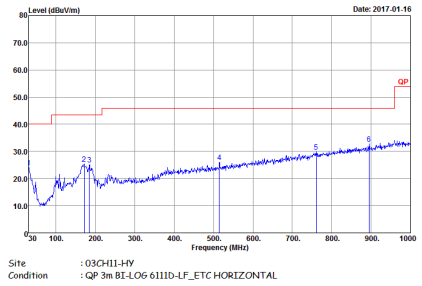
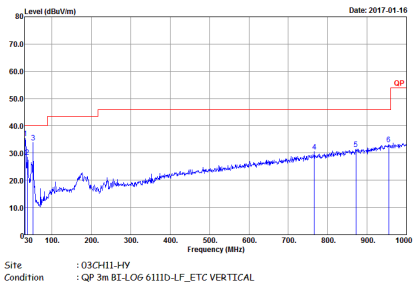
WIFI	Band 1 5150~5250MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH46 5230MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

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

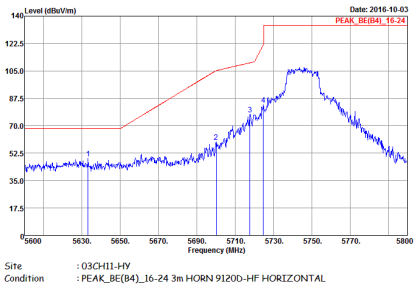
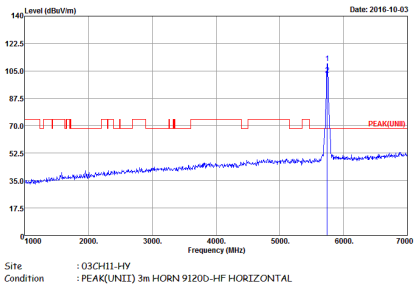
Emission below 1GHz

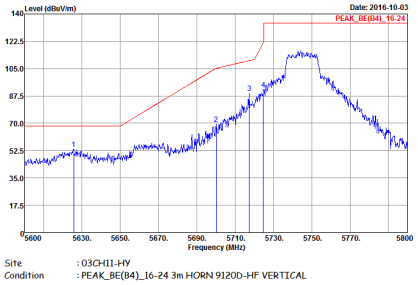
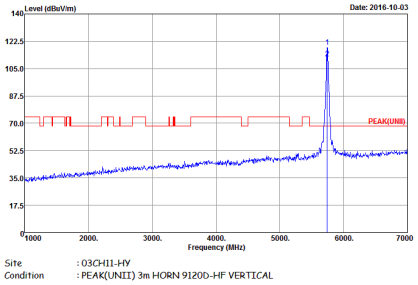
5GHz WIFI 802.11ac VHT20 (LF)

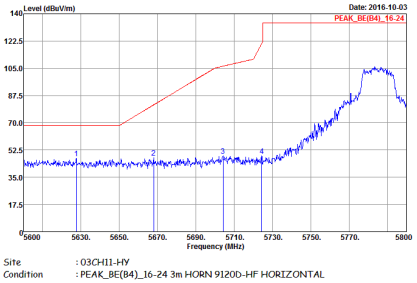
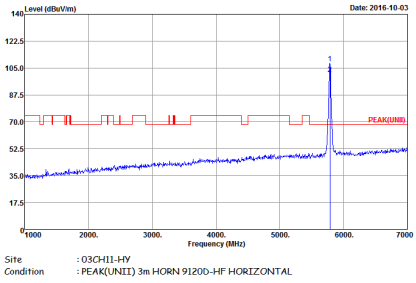
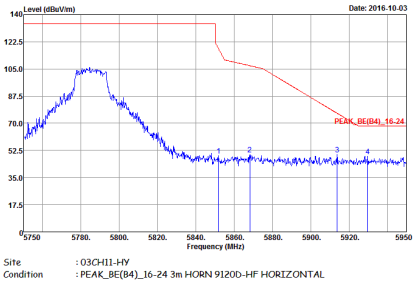
WIFI	5GHz WIFI	
ANT	802.11ac VHT20 LF	
1+2	Horizontal	Vertical
QP / Peak		

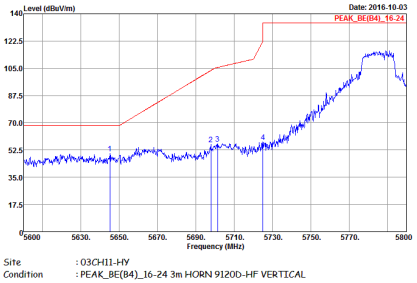
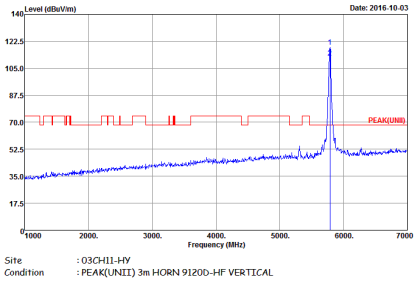
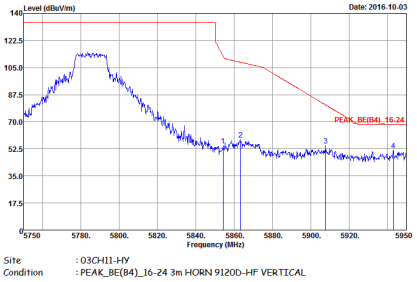
Band 4 - 5725~5850MHz

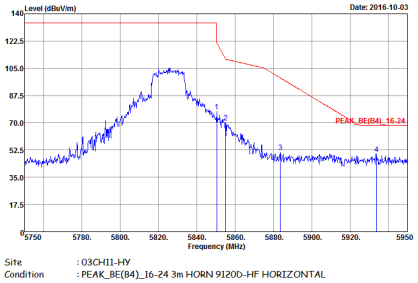
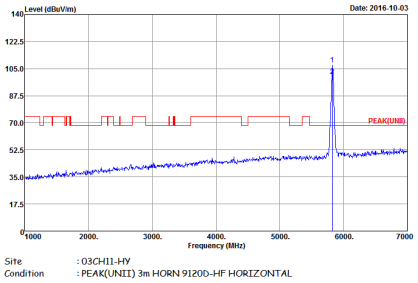
WIFI 802.11a (Band Edge @ 3m)

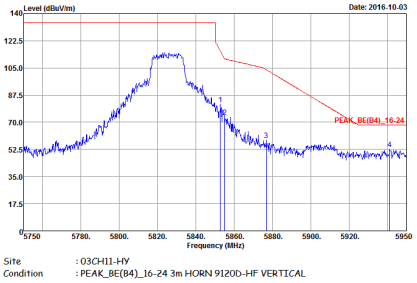
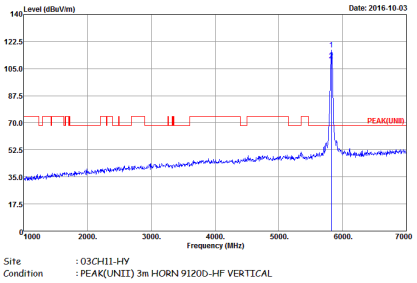
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Vertical	Fundamental
Peak		

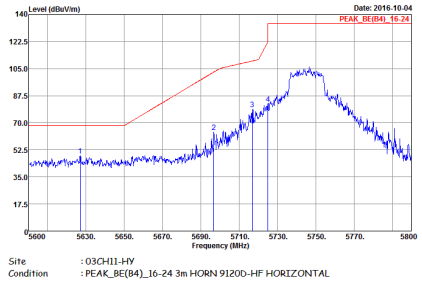
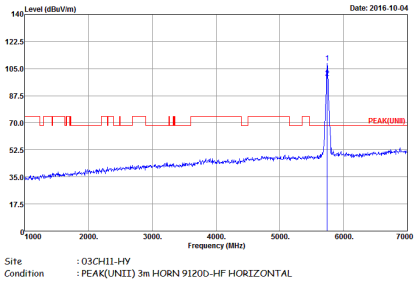
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL
Peak	 Site : 03CH11-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL	Left blank

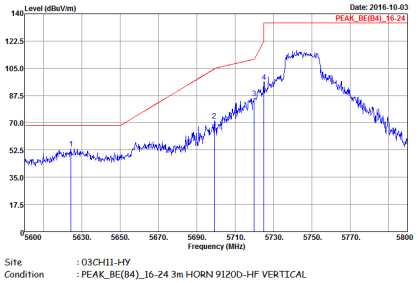
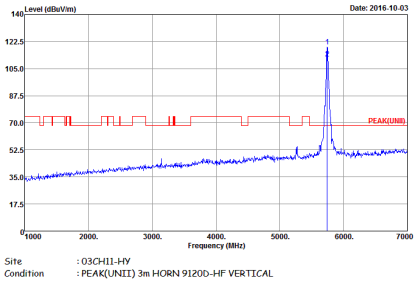
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

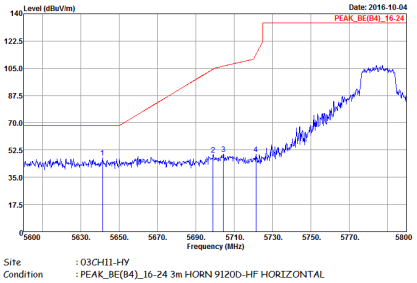
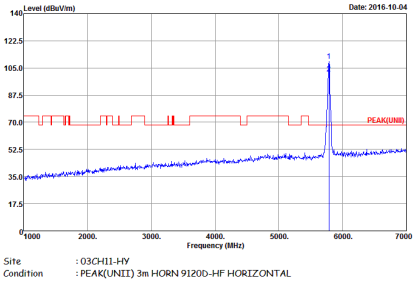
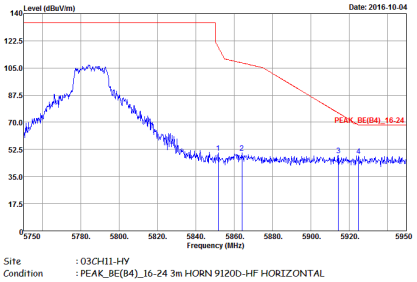
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak		

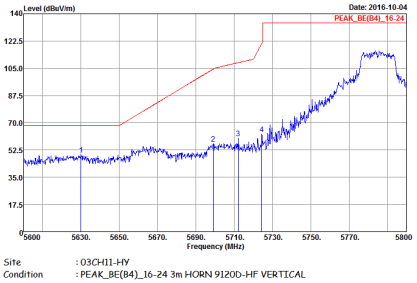
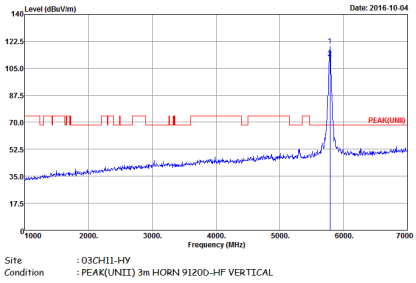
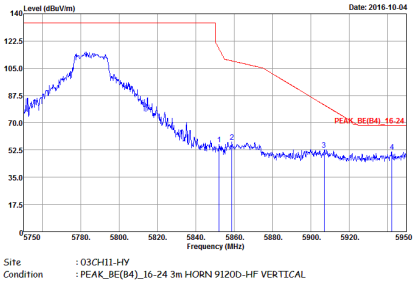
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Vertical	Fundamental
Peak		

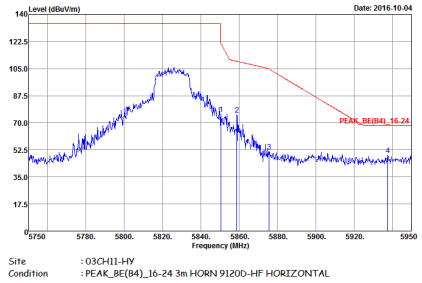
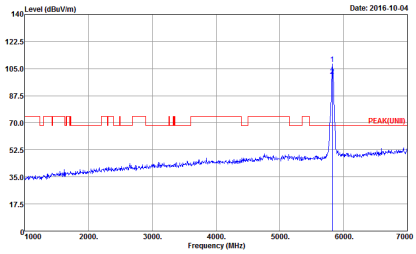
Band 4 5725~5850MHz
WIFI 802.11ac VHT20 (Band Edge @ 3m)

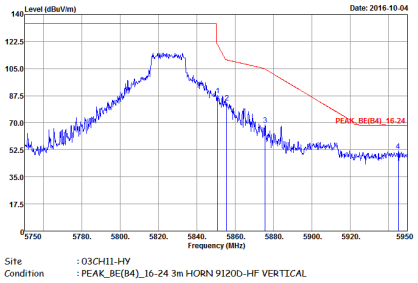
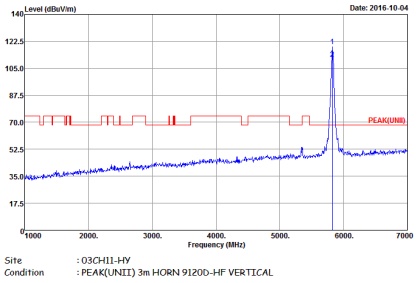
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1+2	Horizontal	Fundamental
Peak		

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1+2	Vertical	Fundamental
Peak Avg.		

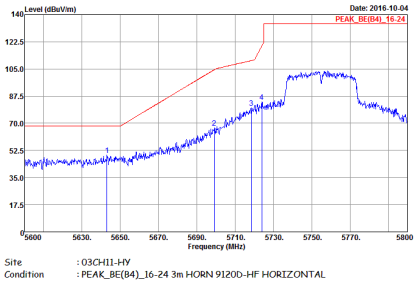
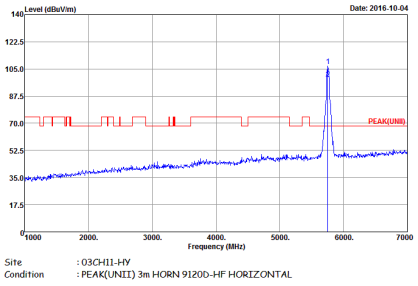
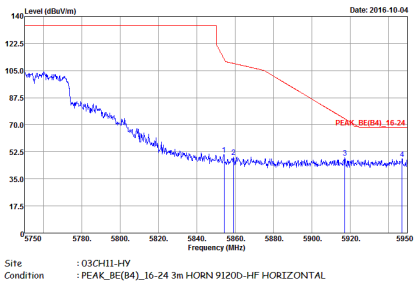
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL
Peak	 Site : 03CH11-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL	Left blank

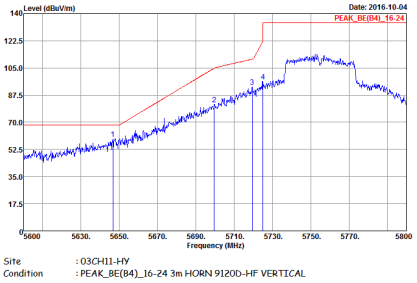
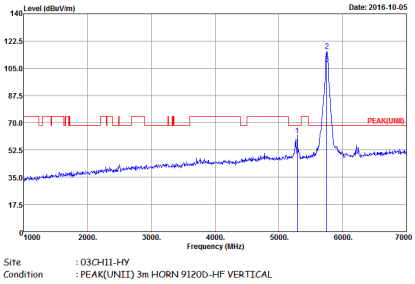
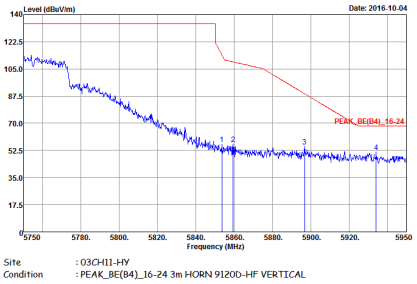
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

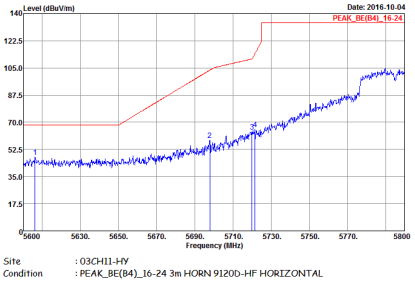
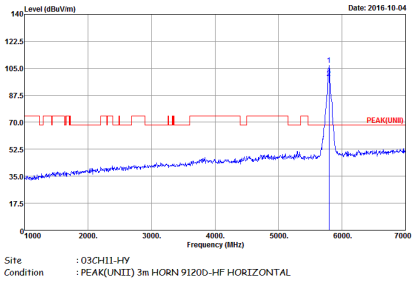
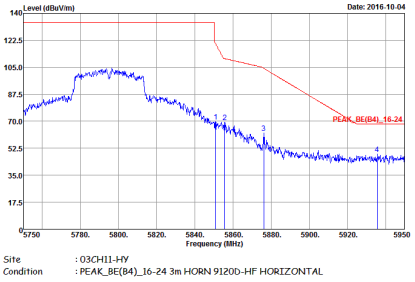
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH11-HY Condition : PEAK_BE(B4)_16-24 3m HORN 9120D-HF HORIZONTAL	 Site : 03CH11-HY Condition : PEAK(UNII) 3m HORN 9120D-HF HORIZONTAL

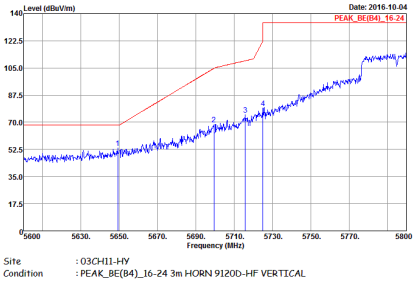
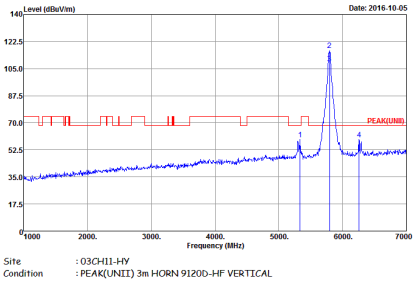
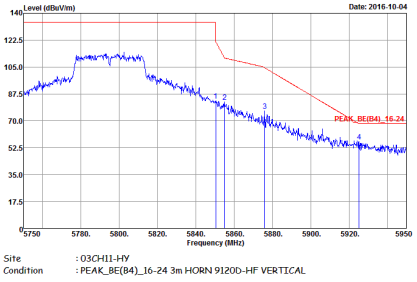
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1+2	Vertical	Fundamental
Peak Avg.		

Band 4 5725~5850MHz
WIFI 802.11ac VHT40 (Band Edge @ 3m)

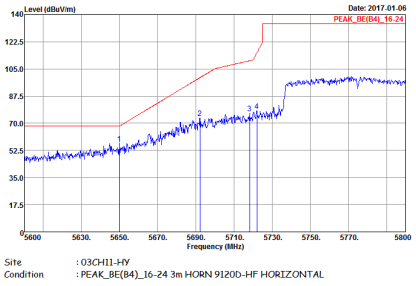
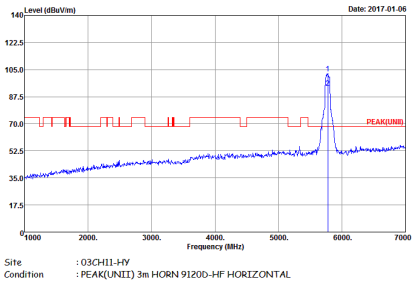
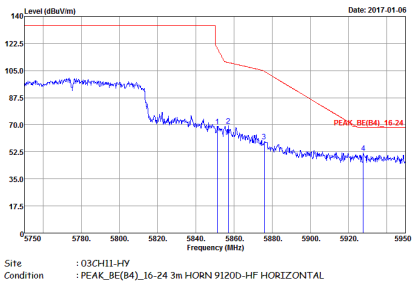
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

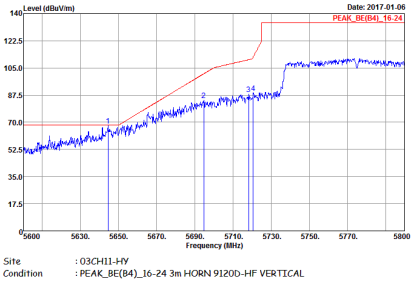
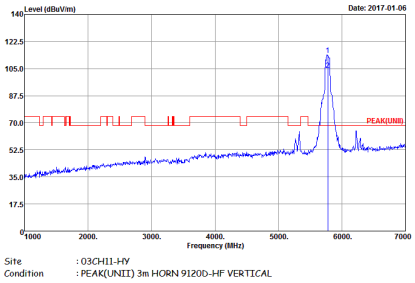
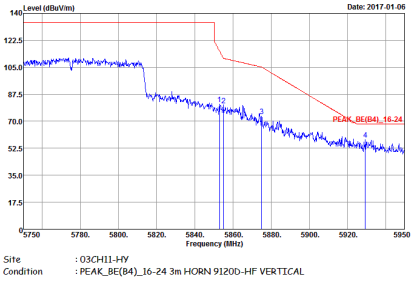
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

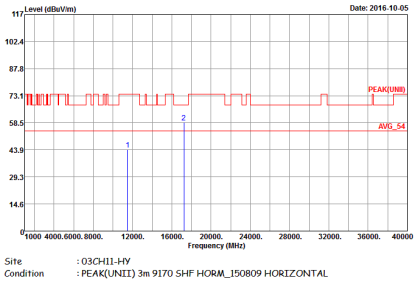
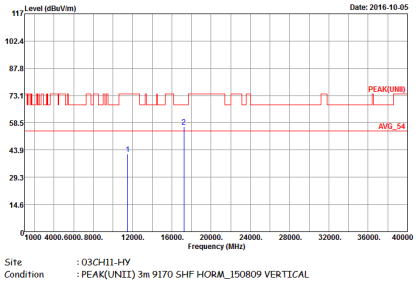
Band 4 5725~5850MHz
WIFI 802.11ac VHT80 (Band Edge @ 3m)

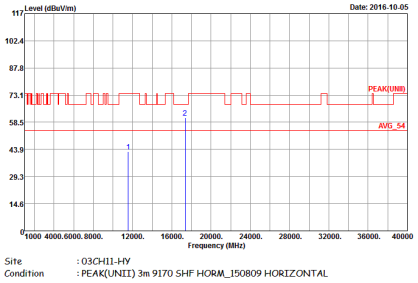
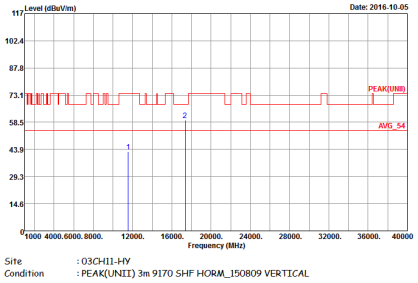
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Fundamental
Peak		
Peak		Left blank

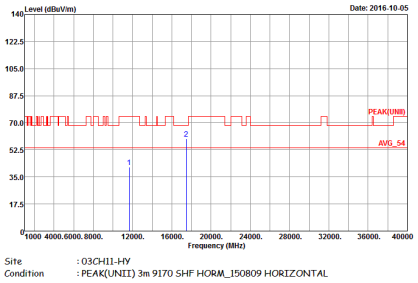
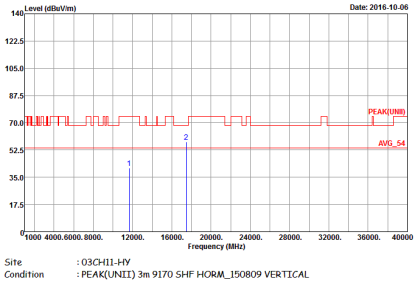
WIFI	Band 4 5725~5850MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Vertical	Fundamental
Peak		
Peak		Left blank

Band 4 - 5725~5850MHz

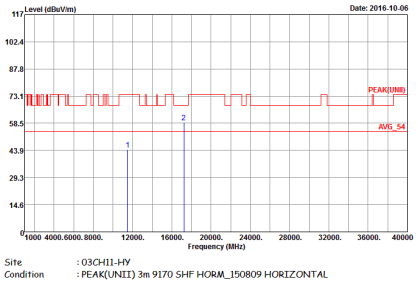
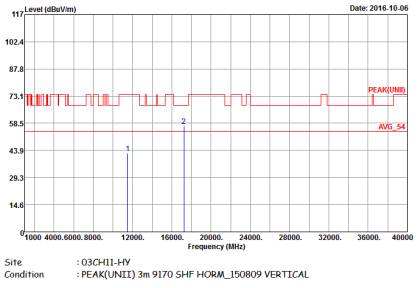
WIFI 802.11a (Harmonic @ 3m)

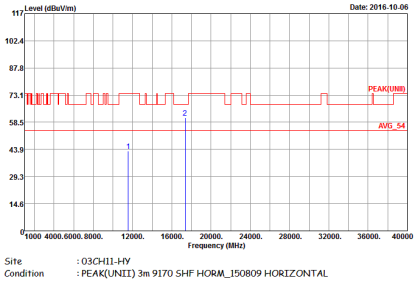
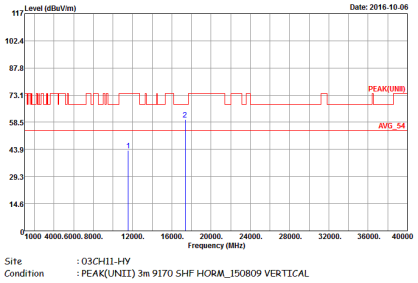
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

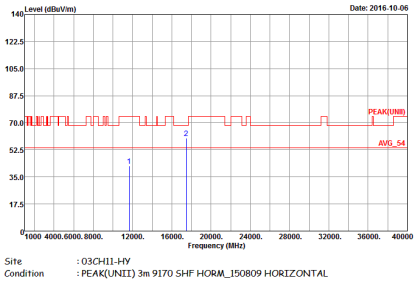
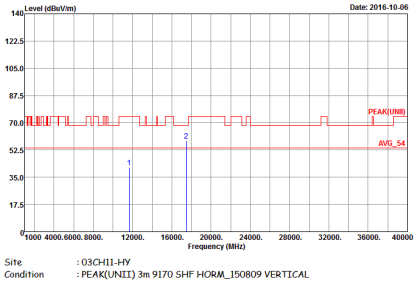
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11a CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Band 4 5725~5850MHz
WIFI 802.11ac VHT20 (Harmonic @ 3m)

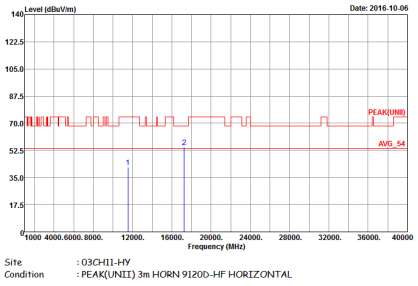
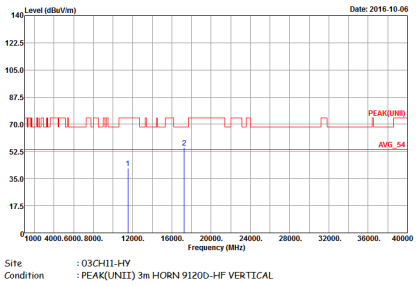
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH149 5745MHz	
1+2	Horizontal	Vertical
Peak Avg.		

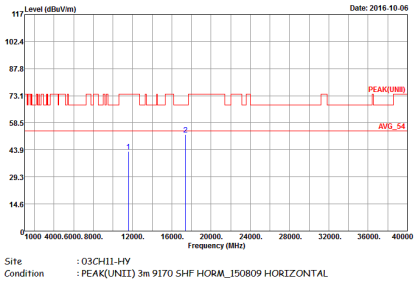
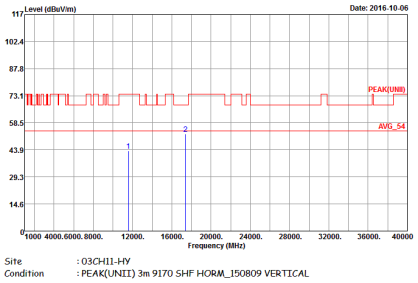
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH157 5785MHz	
1+2	Horizontal	Vertical
Peak Avg.		

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT20 CH165 5825MHz	
1+2	Horizontal	Vertical
Peak Avg.		

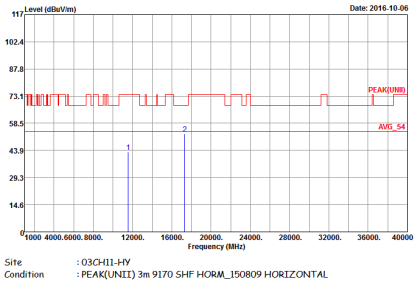
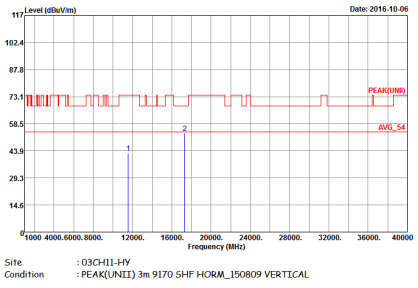
Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH151 5755MHz	
1+2	Horizontal	Vertical
Peak Avg.		

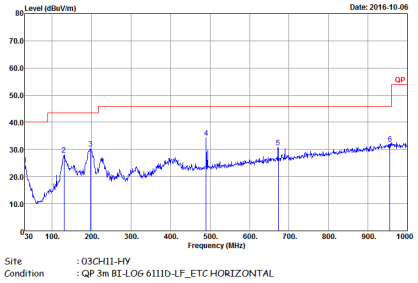
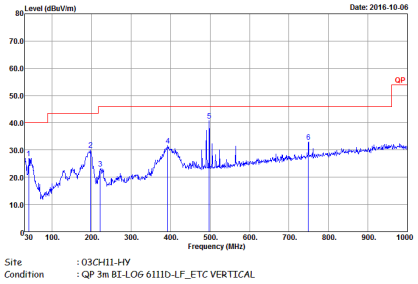
WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT40 CH159 5795MHz	
1+2	Horizontal	Vertical
Peak Avg.		

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

WIFI	Band 4 5725~5850MHz Harmonic @ 3m	
ANT	802.11ac VHT80 CH155 5775MHz	
1+2	Horizontal	Vertical
Peak Avg.		

Emission below 1GHz

5GHz WIFI 802.11ac VHT80 (LF)

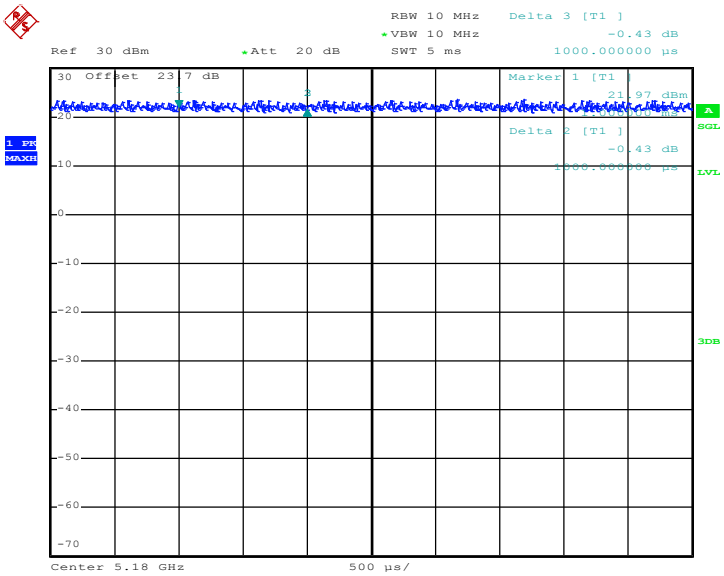
WIFI	5GHz 5725~5850MHz	
ANT	802.11ac VHT80 LF	
1+2	Horizontal	Vertical
QP / Peak		

Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1+2	5GHz 802.11a for Ant 1	100	-	-	10Hz
1+2	5GHz 802.11a for Ant 2	100	-	-	10Hz
1+2	5GHz 802.11ac VHT20 for Ant 1	100	-	-	10Hz
1+2	5GHz 802.11ac VHT20 for Ant 2	100	-	-	10Hz
1+2	5GHz 802.11ac VHT40 for Ant 1	100	-	-	10Hz
1+2	5GHz 802.11ac VHT40 for Ant 2	100	-	-	10Hz
1+2	5GHz 802.11ac VHT80 for Ant 1	100	-	-	10Hz
1+2	5GHz 802.11ac VHT80 for Ant 2	100	-	-	10Hz

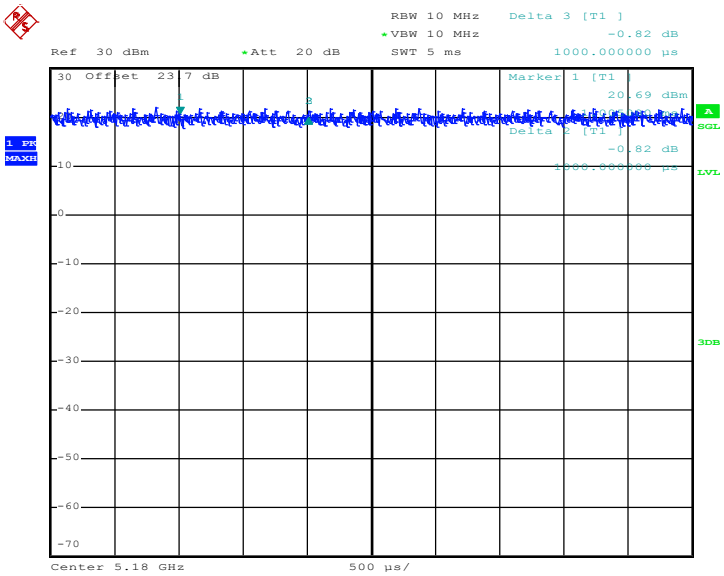
<MIMO Ant. 1+2 (1)>

802.11a



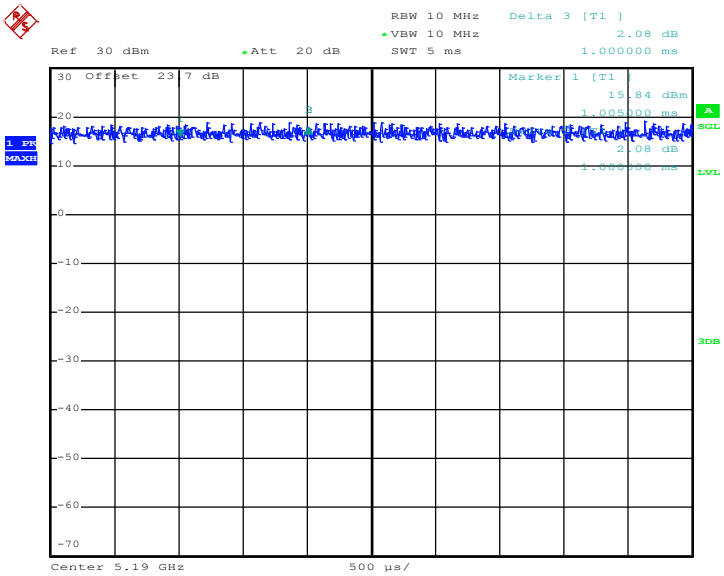
Date: 20.SEP.2016 10:53:51

802.11an VHT20



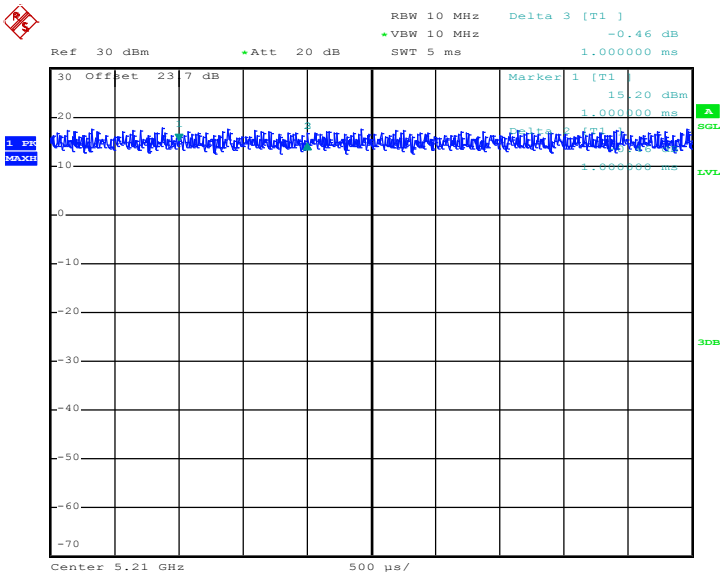
Date: 21.SEP.2016 09:27:30

802.11an VHT40



Date: 21.SEP.2016 10:32:59

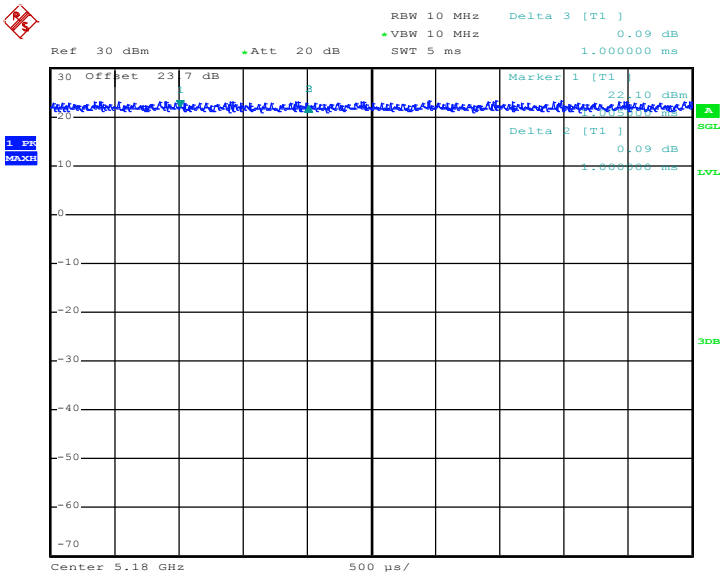
802.11ac VHT80



Date: 21.SEP.2016 11:31:00

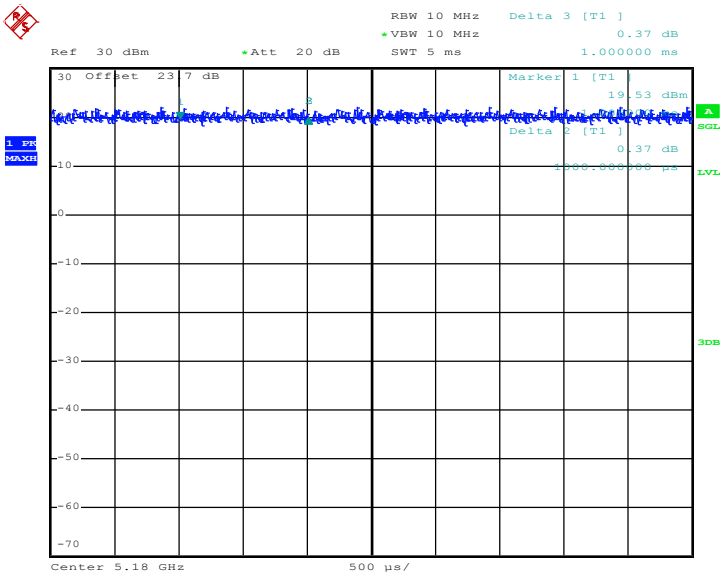
<MIMO Ant. 1+2 (2)>

802.11a



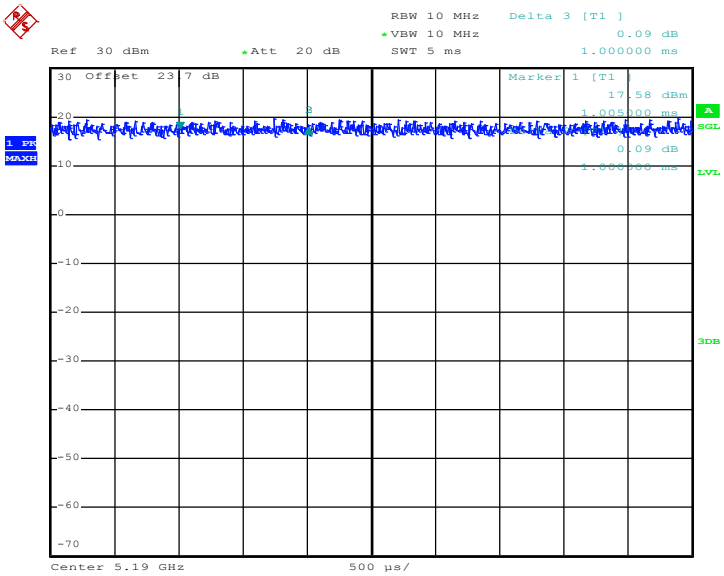
Date: 20.SEP.2016 10:58:09

802.11an VHT20



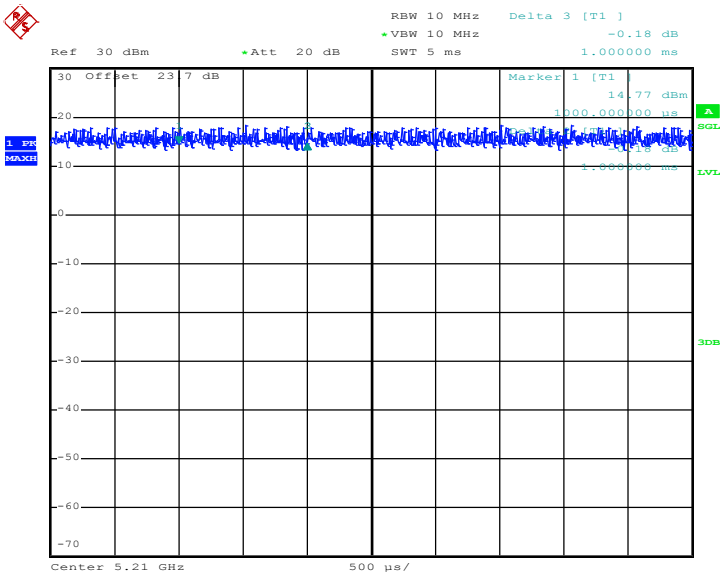
Date: 21.SEP.2016 09:32:04

802.11an VHT40



Date: 21.SEP.2016 10:33:38

802.11ac VHT80



Date: 21.SEP.2016 11:32:02