



# FCC RADIO TEST REPORT

**FCC ID** : 2AJZB-0308  
**Equipment** : Digital Media Streaming Device  
**Model Name** : EX69VW  
**Applicant** : Verdegrass LLC  
                  233 South 13th Street Suite 1100 Lincoln,  
                  Nebraska 68508  
**Standard** : FCC Part 15 Subpart E §15.407

The testing was completed on Sep. 04, 2018. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Joseph Lin

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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## History of this test report

Report No.	Version	Description	Issued Date
FR742534-06	01	Initial issue of report	Sep. 11, 2018



## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.403(i)	26dB Bandwidth	Pass
3.1	2.1049	99% Occupied Bandwidth	Reporting only
3.2	15.407(a)	Maximum Conducted Output Power	Pass
3.3	15.407(a)	Power Spectral Density	Pass
3.4	15.407(b)	Unwanted Emissions	Pass
-	15.207	AC Conducted Emission	Not Required
3.5	15.407(c)	Automatically Discontinue Transmission	Pass
3.6	15.203 15.407(a)	Antenna Requirement	Pass
<b>Remark:</b> 1. Not required means after assessing, test items are not necessary to carry out. 2. This is a variant report by adding WIFI 5GHz band 2 and 3. All the test cases were performed on original report which can be referred to Sporton Report Number FR742534-01D. Based on the original report, the test cases were verified.			

Reviewed by: Wii Chang

Report Producer: Nancy Yang



## 1 General Description

### 1.1 Product Feature of Equipment Under Test

Product Feature	
<b>Equipment</b>	Digital Media Streaming Device
<b>Model Name</b>	EX69VW
<b>FCC ID</b>	2AJZB-0308
<b>EUT supports Radios application</b>	WLAN 11a/b/g/n HT20 HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

### 1.1. Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx/Rx Frequency Range</b>	5260 MHz ~ 5320 MHz 5500 MHz ~ 5720 MHz
<b>Maximum Output Power to Antenna &lt;CDD Modes&gt;</b>	<b>&lt;5260 MHz ~ 5320 MHz&gt;</b> <b>MIMO &lt;Ant. 1 + 2&gt;</b> 802.11a : 18.48 dBm / 0.0705 W 802.11n HT20 : 18.49 dBm / 0.0706 W 802.11n HT40 : 17.47 dBm / 0.0558 W 802.11ac VHT20: 18.41 dBm / 0.0693 W 802.11ac VHT40: 17.40 dBm / 0.0550 W 802.11ac VHT80: 14.59 dBm / 0.0288 W <b>&lt;5500 MHz ~ 5720 MHz &gt;</b> <b>MIMO &lt;Ant. 1 + 2&gt;</b> 802.11a : 18.45 dBm / 0.0700 W 802.11n HT20 : 18.42 dBm / 0.0695 W 802.11n HT40 : 17.49 dBm / 0.0561 W 802.11ac VHT20: 18.37 dBm / 0.0687 W 802.11ac VHT40: 17.44 dBm / 0.0555 W 802.11ac VHT80: 16.30 dBm / 0.0427 W
<b>99% Occupied Bandwidth</b>	<b>MIMO&lt;Ant. 1&gt;</b> 802.11a : 17.23 MHz 802.11n HT20 : 17.23 MHz 802.11n HT40 : 36.86 MHz 802.11ac VHT80: 77.08 MHz <b>MIMO&lt;Ant. 2&gt;</b> 802.11a : 17.28 MHz 802.11n HT20 : 17.28 MHz 802.11n HT40 : 36.76 MHz 802.11ac VHT80: 76.84 MHz
<b>Antenna Type / Gain</b>	<b>&lt;5250 MHz ~ 5350 MHz&gt;</b> <b>Ant. 1 :</b> Fixed internal Antenna with gain 2.63 dBi <b>Ant. 2 :</b> Fixed internal Antenna with gain 4.92 dBi <b>&lt;5470 MHz ~ 5725 MHz&gt;</b> <b>Ant. 1 :</b> Fixed internal Antenna with gain 3.89 dBi <b>Ant. 2 :</b> Fixed internal Antenna with gain 4.79 dBi



Standards-related Product Specification		
<b>Type of Modulation</b>		802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
<b>Antenna Function Description</b>	Ant. 1	Ant. 2
	802.11 a/n/ac MIMO	V

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

## 1.2 Modification of EUT

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

## 1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b> TH05-HY

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

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b> 03CH15-HY

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



## 1.4 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 v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

**Remark:** All test items were verified and recorded according to the standards and without any deviation during the test.



## 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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, all the possible configuration was pre-scanned with power adaptor and peripherals (HDMI, USB and IR connector). It was determined that the worst configuration was EUT with adaptor but no peripherals. The final radiated testing was performed with EUT with adaptor but no peripherals.

### 2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2 (U-NII-2A)	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58#	5290		
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5725 MHz Band 3 (U-NII-2C)	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106#	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122#	5610	128	5640
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	138#	5690	144	5720
	142*	5710		

**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 modes are considering the modulation and worse data rates as below table.

**MIMO Mode**

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0



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

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

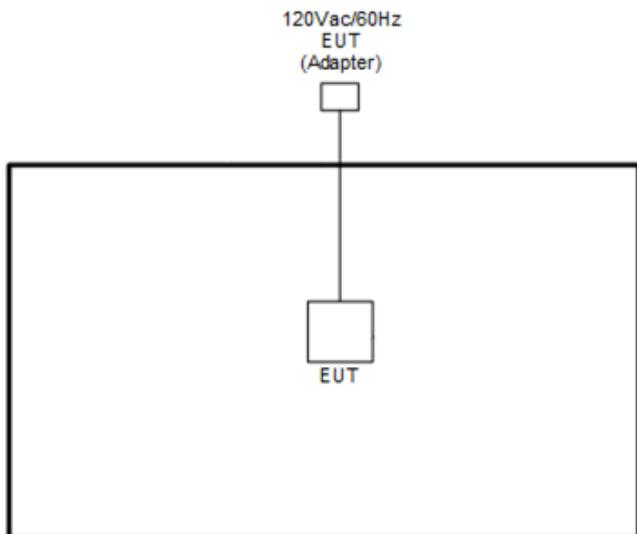
Ch. #		Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11n HT40	802.11n HT40
L	Low	54	102
M	Middle	-	110
H	High	62	134
Straddle		-	142

Ch. #		Band II : 5250-5350 MHz	Band III : 5470-5725MHz
		802.11ac VHT80	802.11ac VHT80
L	Low	-	106
M	Middle	58	122
H	High	-	-
Straddle		-	138

## 2.3 Connection Diagram of Test System

<WLAN Tx Mode>



## 2.4 EUT Operation Test Setup

The RF test items, utility “CMD” was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

## 2.5 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.

$$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}.$$

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

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



### 3 Test Result

#### 3.1 26dB & 99% Occupied Bandwidth Measurement

##### 3.1.1 Description of 26dB & 99% Occupied Bandwidth

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

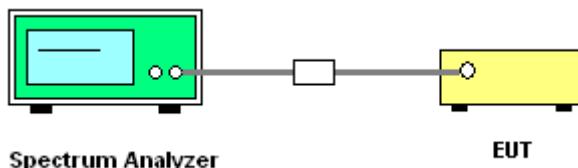
##### 3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

##### 3.1.3 Test Procedures

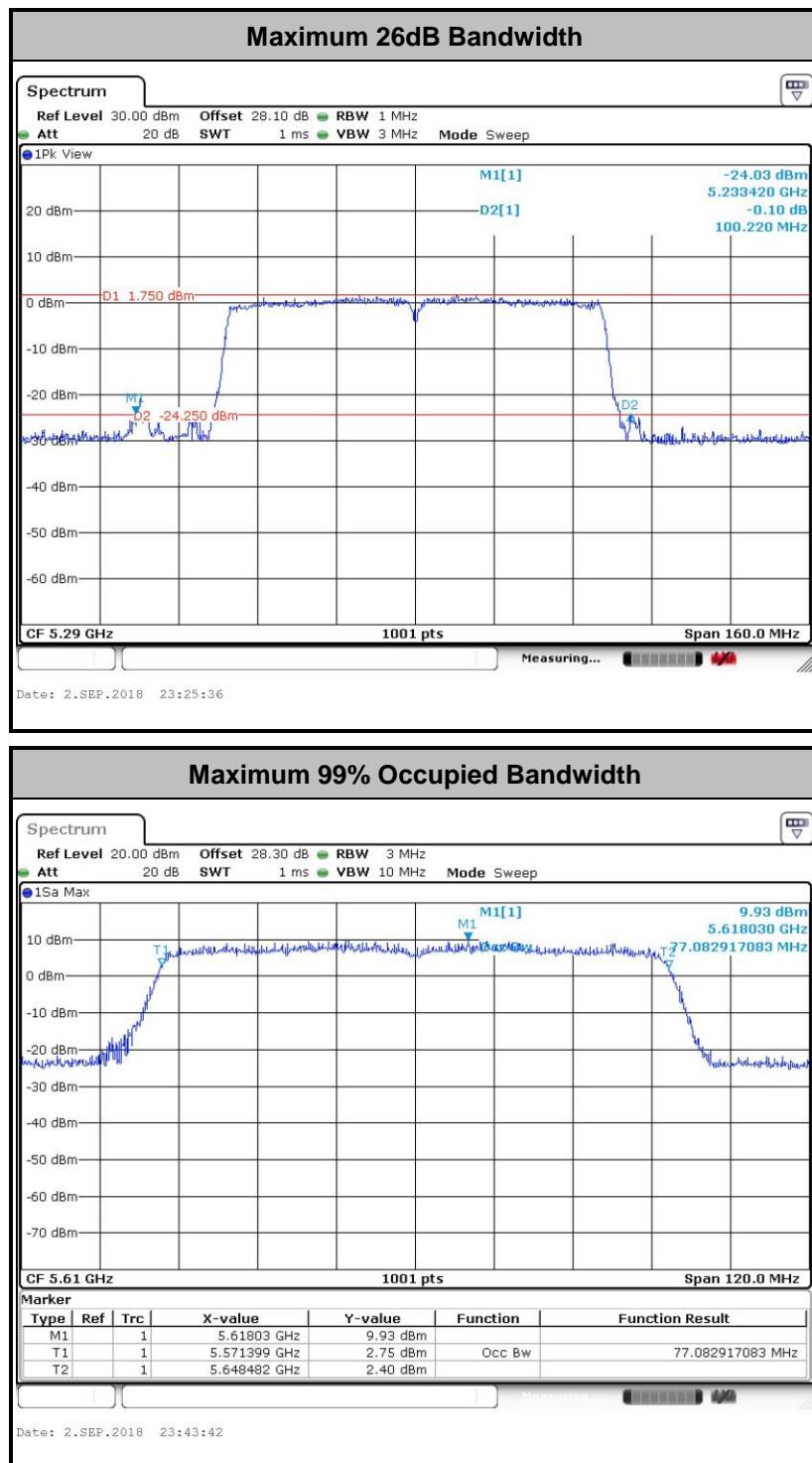
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB 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 1-5% of the emission bandwidth and set the Video bandwidth (VBW)  $\geq 3 * \text{RBW}$ .
8. Measure and record the results in the test report.

##### 3.1.4 Test Setup



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

Please refer to Appendix A.



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



## 3.2 Maximum Conducted Output Power Measurement

### 3.2.1 Limit of Maximum Conducted Output Power

#### <FCC 14-30 CFR 15.407>

##### For the 5.15–5.25 GHz bands:

- For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW. For 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 5.25–5.725 GHz bands:

- The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or  $11 \text{ dBm} + 10 \log B$ , where B is the 26 dB emission bandwidth in megahertz.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

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

### 3.2.2 Measuring Instruments

See list of measuring equipment of this test report.



### 3.2.3 Test Procedures

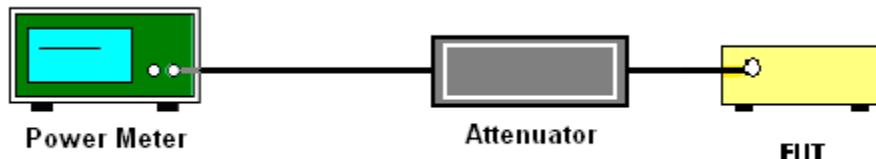
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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

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

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

### 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

##### <FCC 14-30 CFR 15.407>

###### **For the 5.15–5.25 GHz bands:**

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band. 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 1.0 MHz band.

###### **For the 5.25–5.725 GHz bands:**

The maximum power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For Straddle Channel, according to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, if the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

See list of measuring equipment of this test report.



### 3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Section F) Maximum power spectral density.

#### # Method SA-2 #

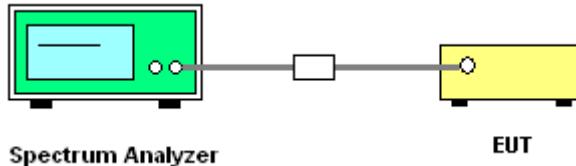
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
  - Set span to encompass the entire emission bandwidth (EBW) of the signal.
  - Set RBW = 1 MHz.
  - Set VBW  $\geq$  3 MHz.
  - Number of points in sweep  $\geq$  2 Span / RBW.
  - Sweep time = auto.
  - Detector = RMS
  - Trace average at least 100 traces in power averaging mode.
  - Add  $10 \log(1/x)$ , 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.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
  2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
  3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

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

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

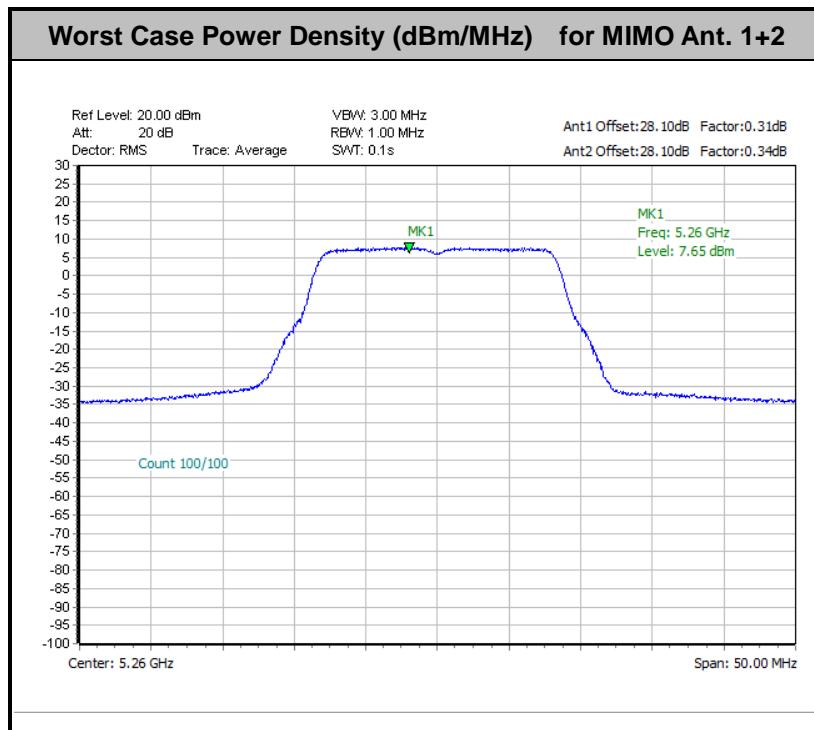
### 3.3.4 Test Setup





### 3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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



## 3.4 Unwanted Emissions Measurement

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

### 3.4.1 Limit of Unwanted Emissions

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

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits 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.

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



EIRP (dBm)	Field Strength at 3m (dB $\mu$ V/m)
- 27	68.3

## (3) KDB789033 D02 v02r01 G)2)c)

- (i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.<sup>3</sup>
- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.<sup>4</sup>

**Note 3:** An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.

**Note 4:** Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

### 3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.4.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.  
Section G) Unwanted emissions measurement.
  - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
    - RBW = 120 kHz
    - VBW = 300 kHz
    - Detector = Peak
    - Trace mode = max hold
  - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
    - RBW = 1 MHz
    - VBW  $\geq$  3 MHz
    - Detector = Peak
    - Sweep time = auto
    - Trace mode = max hold

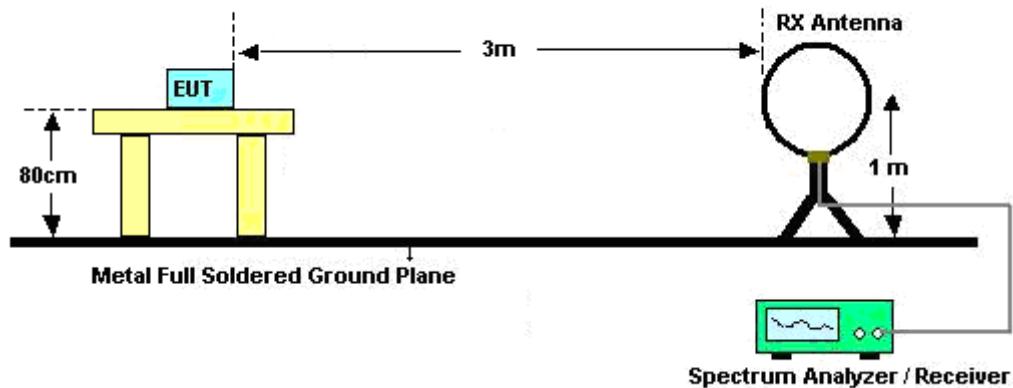


## (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

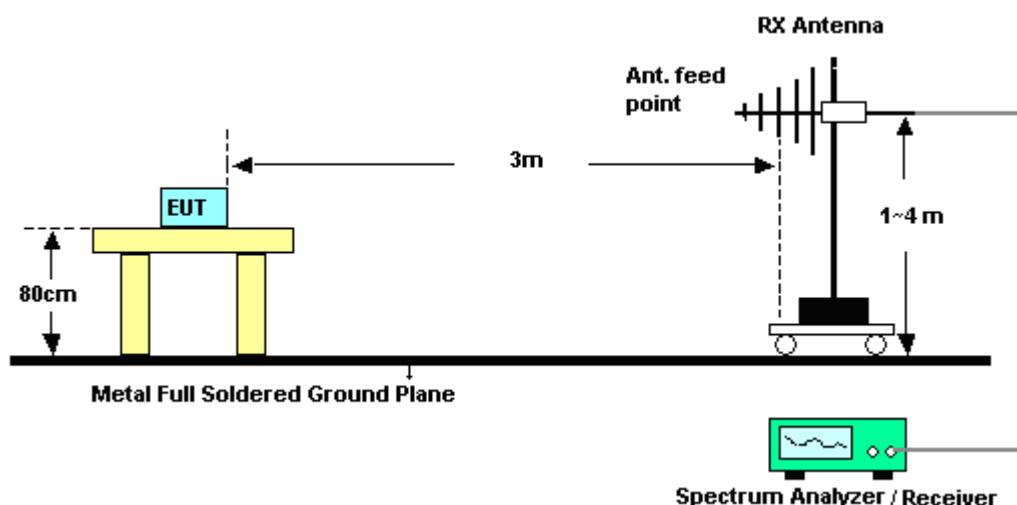
- RBW = 1 MHz
  - VBW = 10 Hz, when duty cycle is no less than 98 percent.
  - VBW  $\geq$  1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
  3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
  4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
  5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
  6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
  7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

### 3.4.4 Test Setup

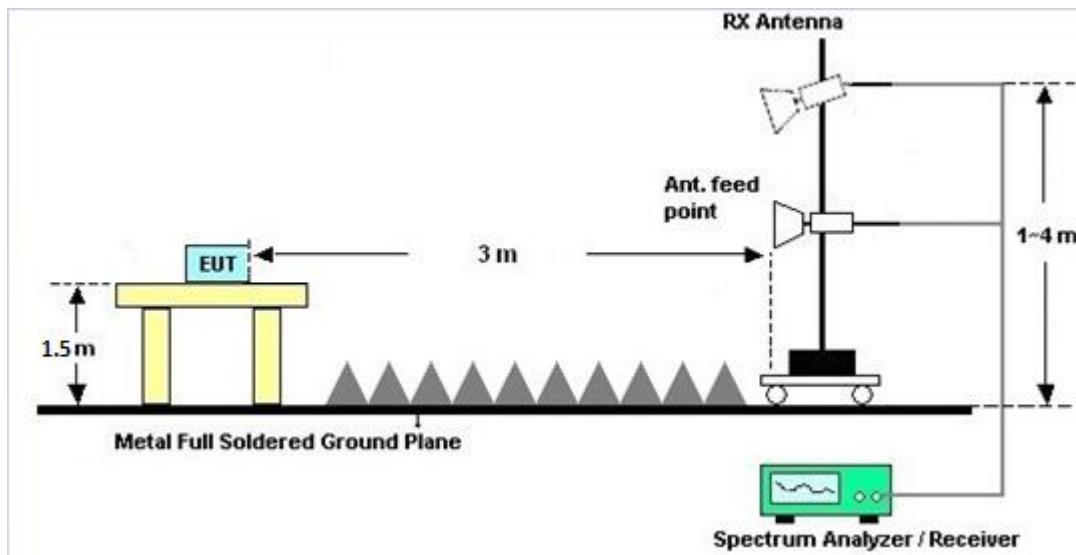
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

### 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 Automatically Discontinue Transmission

### 3.5.1 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.

### 3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

### 3.5.3 Test Result of Automatically Discontinue Transmission

EUT is verified this characteristic during the function check of normal sample associated with an access point:

- A. Information start: make EUT supply information to the access point.
- B. Information stop: stop supplying information to the access point.

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

- C. Information start: make EUT supply information to the access point again.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



Note : The control / signalling information during the period B is precluded.



## 3.6 Antenna Requirements

### 3.6.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### 3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

### 3.6.3 Antenna Gain

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

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

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

Array Gain =  $10 \log(NANT/NSS=1)$  dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $NANT \leq 4$ .

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

The EUT supports CDD mode.

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., F2)f)i).

For PSD, the directional gain calculation is following F2)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.

<CDD Modes>						
	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
Band II	2.63	4.92	4.92	6.86	0.00	0.86
Band III	3.89	4.79	4.79	7.36	0.00	1.36

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

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



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 26, 2017	Aug. 01, 2018~ Sep. 04, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	0846202	300MHz~40GHz	Sep. 26, 2017	Aug. 01, 2018~ Sep. 04, 2018	Sep. 25, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz ~ 30GHz	Nov. 13, 2017	Aug. 01, 2018~ Sep. 04, 2018	Nov. 12, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Aug. 01, 2018~ Sep. 04, 2018	Feb. 28, 2019	Conducted (TH05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Aug. 07, 2018~ Aug. 11, 2018	Nov. 22, 2018	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	17100018000550006	1GHz~18GHz	Jul. 10, 2018	Aug. 07, 2018~ Aug. 11, 2018	Jul. 09, 2019	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 26, 2017	Aug. 07, 2018~ Aug. 11, 2018	Dec. 25, 2018	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&08000N1D01N-06	41912&05	30MHz to 1GHz	Jan. 10, 2018	Aug. 07, 2018~ Aug. 11, 2018	Jan. 09, 2019	Radiation (03CH15-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY54130085	20Hz ~ 8.4GHz	Oct. 31, 2017	Aug. 07, 2018~ Aug. 11, 2018	Oct. 30, 2018	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1620	1G~18GHz	Oct. 03, 2017	Aug. 07, 2018~ Aug. 11, 2018	Oct. 02, 2018	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 21, 2017	Aug. 07, 2018~ Aug. 11, 2018	Aug. 20, 2018	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 25, 2018	Aug. 07, 2018~ Aug. 11, 2018	Apr. 24, 2019	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Aug. 07, 2018~ Aug. 11, 2018	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Aug. 07, 2018~ Aug. 11, 2018	N/A	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 27, 2017	Aug. 07, 2018~ Aug. 11, 2018	Nov. 26, 2018	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 05, 2017	Aug. 07, 2018~ Aug. 11, 2018	Dec. 04, 2018	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24 (K5)	ARD-SPR-000185	N/A	N/A	Aug. 07, 2018~ Aug. 11, 2018	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY36980/4	30M-18G	Apr. 16, 2018	Aug. 07, 2018~ Aug. 11, 2018	Apr. 15, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9838/4	30M-18GHz	Apr. 16, 2018	Aug. 07, 2018~ Aug. 11, 2018	Apr. 15, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	MTJ	000000-M T18A-100 D3210	30M-18G	Apr. 16, 2018	Aug. 07, 2018~ Aug. 11, 2018	Apr. 15, 2019	Radiation (03CH15-HY)
Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 17, 2017	Aug. 07, 2018~ Aug. 11, 2018	Oct. 16, 2018	Radiation (03CH15-HY)
Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 17, 2017	Aug. 07, 2018~ Aug. 11, 2018	Oct. 16, 2018	Radiation (03CH15-HY)



## 5 Uncertainty of Evaluation

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

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{C(y)}</math>)</b>	<b>5.2</b>
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### Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{C(y)}</math>)</b>	<b>5.5</b>
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### Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{C(y)}</math>)</b>	<b>5.2</b>
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## Appendix A. Test Result of Conducted Test Items

Test Engineer:	Luffy Lin	Temperature:	21~25	°C
Test Date:	2018/08/01~2018/09/04	Relative Humidity:	51~54	%

**TEST RESULTS DATA**  
**26dB and 99% OBW**

Band II															
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26 dB Bandwidth (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		Note
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	2	52	5260	17.18	17.28	22.68	22.83	23.35		29.35		23.98		
11a	6Mbps	2	60	5300	17.18	17.28	22.63	22.83	23.35		29.35		23.98		
11a	6Mbps	2	64	5320	17.23	17.28	22.68	22.78	23.36		29.36		23.98		
HT20	MCS0	2	52	5260	17.18	17.28	22.68	22.93	23.35		29.35		23.98		
HT20	MCS0	2	60	5300	17.18	17.28	22.68	22.78	23.35		29.35		23.98		
HT20	MCS0	2	64	5320	17.18	17.23	22.63	22.73	23.35		29.35		23.98		
HT40	MCS0	2	54	5270	36.86	36.66	40.91	40.91	23.98		30.00		23.98		
HT40	MCS0	2	62	5310	36.76	36.66	40.91	41.09	23.98		30.00		23.98		
VHT80	MCS0	2	58	5290	76.96	76.84	82.80	100.22	23.98		30.00		23.98		

**TEST RESULTS DATA**  
**Average Power Table**

FCC Band II														
Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2			
11a	6Mbps	2	52	5260	0.32	0.29	15.57	15.00	18.31	23.98	4.92	26.99	Pass	
11a	6Mbps	2	60	5300	0.32	0.29	15.63	15.30	18.48	23.98	4.92	26.99	Pass	
11a	6Mbps	2	64	5320	0.32	0.29	15.70	15.21	18.47	23.98	4.92	26.99	Pass	
HT20	MCS0	2	52	5260	0.31	0.34	15.68	15.24	18.48	23.98	4.92	26.99	Pass	
HT20	MCS0	2	60	5300	0.31	0.34	15.59	15.20	18.41	23.98	4.92	26.99	Pass	
HT20	MCS0	2	64	5320	0.31	0.34	15.66	15.28	18.49	23.98	4.92	26.99	Pass	
HT40	MCS0	2	54	5270	0.67	0.67	14.68	14.22	17.47	23.98	4.92	26.99	Pass	
HT40	MCS0	2	62	5310	0.67	0.67	11.78	11.38	14.59	23.98	4.92	26.99	Pass	
VHT20	MCS0	2	52	5260	0.34	0.31	15.66	15.13	18.41	23.98	4.92	26.99	Pass	
VHT20	MCS0	2	60	5300	0.34	0.31	15.56	15.06	18.33	23.98	4.92	26.99	Pass	
VHT20	MCS0	2	64	5320	0.34	0.31	15.65	15.17	18.43	23.98	4.92	26.99	Pass	
VHT40	MCS0	2	54	5270	0.66	0.67	14.60	14.16	17.40	23.98	4.92	26.99	Pass	
VHT40	MCS0	2	62	5310	0.66	0.67	11.71	11.35	14.54	23.98	4.92	26.99	Pass	
VHT80	MCS0	2	58	5290	1.23	1.25	11.82	11.32	14.59	23.98	4.92	26.99	Pass	

**TEST RESULTS DATA**  
**Power Spectral Density**

Band II													
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)	Pass /Fail
							Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2
11a	6Mbps	2	52	5260	0.32	0.29			7.25	10.14		6.86	
11a	6Mbps	2	60	5300	0.32	0.29			7.43	10.14		6.86	
11a	6Mbps	2	64	5320	0.32	0.29			7.48	10.14		6.86	
HT20	MCS0	2	52	5260	0.31	0.34			7.65	10.14		6.86	
HT20	MCS0	2	60	5300	0.31	0.34			7.60	10.14		6.86	
HT20	MCS0	2	64	5320	0.31	0.34			7.50	10.14		6.86	
HT40	MCS0	2	54	5270	0.67	0.67			3.12	10.14		6.86	
HT40	MCS0	2	62	5310	0.67	0.67			0.10	10.14		6.86	
VHT80	MCS0	2	58	5290	1.23	1.25			-3.89	10.14		6.86	

**TEST RESULTS DATA**  
**26dB and 99% OBW**

Mod.	Data Rate	N <sub>TX</sub>	CH.	Freq. (MHz)	Band III											
					99% Bandwidth In U-NII 2C (MHz)		26 dB Bandwidth In U-NII 2C (MHz)		IC 99% Bandwidth Power Limit (dBm)		IC 99% Bandwidth EIRP Limit (dBm)		FCC 26dB Bandwidth Power Limit (dBm)		6 dB Bandwidth for Straddle Channel (MHz)	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2
11a	6Mbps	2	100	5500	17.18	17.28	22.63	22.93	23.35		29.35		23.98		----	----
11a	6Mbps	2	116	5580	17.23	17.23	22.73	22.93	23.36		29.36		23.98		----	----
11a	6Mbps	2	140	5700	17.23	17.28	22.63	23.08	23.36		29.36		23.98		----	----
11a	6Mbps	2	144	5720	13.54	13.69	16.24	16.54	22.32		28.32		23.11		3.142	3.142
HT20	MCS0	2	100	5500	17.23	17.23	22.68	22.78	23.36		29.36		23.98		----	----
HT20	MCS0	2	116	5580	17.13	17.28	22.88	22.88	23.34		29.34		23.98		----	----
HT20	MCS0	2	140	5700	17.23	17.28	22.63	22.88	23.36		29.36		23.98		----	----
HT20	MCS0	2	144	5720	13.54	13.69	16.29	16.54	22.32		28.32		23.12		3.142	3.142
HT40	MCS0	2	102	5510	36.76	36.66	41.00	41.18	23.98		30.00		23.98		----	----
HT40	MCS0	2	110	5550	36.76	36.66	40.91	41.18	23.98		30.00		23.98		----	----
HT40	MCS0	2	134	5670	36.76	36.76	40.91	41.09	23.98		30.00		23.98		----	----
HT40	MCS0	2	142	5710	33.48	33.48	35.68	35.68	23.98		30.00		23.98		3.162	3.162
VHT80	MCS0	2	106	5530	76.84	76.84	83.76	82.32	23.98		30.00		23.98		----	----
VHT80	MCS0	2	122	5610	77.08	76.84	83.76	82.00	23.98		30.00		23.98		----	----
VHT80	MCS0	2	138	5690	73.72	73.72	78.64	76.24	23.98		30.00		23.98		2.764	3.04

**TEST RESULTS DATA**  
**Average Power Table**

FCC Band III															
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	2	100	5500	0.32	0.29	15.01	15.15	18.09	23.98		4.79	26.99	Pass	
11a	6Mbps	2	116	5580	0.32	0.29	14.24	14.31	17.29	23.98		4.79	26.99	Pass	
11a	6Mbps	2	140	5700	0.32	0.29	15.22	15.25	18.25	23.98		4.79	26.99	Pass	
11a	6Mbps	2	144	5720	0.32	0.29	15.40	15.47	18.45	23.11		4.79	26.99	Pass	
HT20	MCS0	2	100	5500	0.31	0.34	14.99	14.93	17.97	23.98		4.79	26.99	Pass	
HT20	MCS0	2	116	5580	0.31	0.34	14.57	14.52	17.56	23.98		4.79	26.99	Pass	
HT20	MCS0	2	140	5700	0.31	0.34	15.34	15.42	18.39	23.98		4.79	26.99	Pass	
HT20	MCS0	2	144	5720	0.31	0.34	15.39	15.42	18.42	23.12		4.79	26.99	Pass	
HT40	MCS0	2	102	5510	0.67	0.67	14.12	14.18	17.16	23.98		4.79	26.99	Pass	
HT40	MCS0	2	110	5550	0.67	0.67	14.21	14.51	17.37	23.98		4.79	26.99	Pass	
HT40	MCS0	2	134	5670	0.67	0.67	14.23	14.61	17.43	23.98		4.79	26.99	Pass	
HT40	MCS0	2	142	5710	0.67	0.67	14.47	14.49	17.49	23.98		4.79	26.99	Pass	
VHT20	MCS0	2	100	5500	0.34	0.31	14.95	14.83	17.90	23.98		4.79	26.99	Pass	
VHT20	MCS0	2	116	5580	0.34	0.31	14.56	14.43	17.51	23.98		4.79	26.99	Pass	
VHT20	MCS0	2	140	5700	0.34	0.31	15.34	15.35	18.36	23.98		4.79	26.99	Pass	
VHT20	MCS0	2	144	5720	0.34	0.31	15.39	15.33	18.37	23.12		4.79	26.99	Pass	
VHT40	MCS0	2	102	5510	0.66	0.67	14.05	14.10	17.09	23.98		4.79	26.99	Pass	
VHT40	MCS0	2	110	5550	0.66	0.67	14.14	14.47	17.32	23.98		4.79	26.99	Pass	
VHT40	MCS0	2	134	5670	0.66	0.67	14.17	14.58	17.39	23.98		4.79	26.99	Pass	
VHT40	MCS0	2	142	5710	0.66	0.67	14.44	14.42	17.44	23.98		4.79	26.99	Pass	
VHT80	MCS0	2	106	5530	1.23	1.25	10.40	10.17	13.30	23.98		4.79	26.99	Pass	
VHT80	MCS0	2	122	5610	1.23	1.25	13.29	13.23	16.27	23.98		4.79	26.99	Pass	
VHT80	MCS0	2	138	5690	1.23	1.25	13.31	13.27	16.30	23.98		4.79	26.99	Pass	

**TEST RESULTS DATA**  
**Power Spectral Density**

Band III														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Power Density (dBm/MHz)			Average PSD Limit (dBm/MHz)		DG (dBi)		Pass /Fail
							Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	
11a	6Mbps	2	100	5500	0.32	0.29			6.84	9.64		7.36		Pass
11a	6Mbps	2	116	5580	0.32	0.29			6.38	9.64		7.36		Pass
11a	6Mbps	2	140	5700	0.32	0.29			7.12	9.64		7.36		Pass
11a	6Mbps	2	144	5720	0.32	0.29			7.40	9.64		7.36		Pass
HT20	MCS0	2	100	5500	0.31	0.34			7.08	9.64		7.36		Pass
HT20	MCS0	2	116	5580	0.31	0.34			6.61	9.64		7.36		Pass
HT20	MCS0	2	140	5700	0.31	0.34			7.26	9.64		7.36		Pass
HT20	MCS0	2	144	5720	0.31	0.34			7.54	9.64		7.36		Pass
HT40	MCS0	2	102	5510	0.67	0.67			2.71	9.64		7.36		Pass
HT40	MCS0	2	110	5550	0.67	0.67			2.76	9.64		7.36		Pass
HT40	MCS0	2	134	5670	0.67	0.67			3.02	9.64		7.36		Pass
HT40	MCS0	2	142	5710	0.67	0.67			3.04	9.64		7.36		Pass
VHT80	MCS0	2	106	5530	1.23	1.25			-4.79	9.64		7.36		Pass
VHT80	MCS0	2	122	5610	1.23	1.25			-1.96	9.64		7.36		Pass
VHT80	MCS0	2	138	5690	1.23	1.25			-1.51	9.64		7.36		Pass



## Appendix B. Radiated Spurious Emission

Test Engineer :	Bill Chang and Karl Hou	Temperature :		22~25°C	
		Relative Humidity :		52~57%	

### Band 2 - 5250~5350MHz

#### WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	(dB $\mu$ V)	( dB/m )	( dB )	( dB )	( cm )	Pos	Pos	Avg.
1+2		5102.68	53.02	-20.98	74	42.74	31.76	8.61	30.09	269	186	P	H
802.11a CH 52 5260MHz		5103.02	45.47	-8.53	54	35.19	31.76	8.61	30.09	269	186	A	H
	*	5260	115.77	-	-	105.22	31.86	8.8	30.11	269	186	P	H
	*	5260	108.15	-	-	97.6	31.86	8.8	30.11	269	186	A	H
		5416.08	55.1	-18.9	74	44.17	31.95	9.11	30.13	269	186	P	H
		5414.16	47.38	-6.62	54	36.45	31.95	9.11	30.13	269	186	A	H
		5102.68	50.12	-23.88	74	39.84	31.76	8.61	30.09	354	77	P	V
		5101.66	41.73	-12.27	54	31.45	31.76	8.61	30.09	354	77	A	V
	*	5260	108.3	-	-	97.75	31.86	8.8	30.11	354	77	P	V
	*	5260	101.01	-	-	90.46	31.86	8.8	30.11	354	77	A	V
		5413.2	51.42	-22.58	74	40.49	31.95	9.11	30.13	354	77	P	V
		5417.76	43.4	-10.6	54	32.47	31.95	9.11	30.13	354	77	A	V
802.11a CH 60 5300MHz		5142.12	54.28	-19.72	74	43.96	31.79	8.63	30.1	248	188	P	H
		5142.46	45.89	-8.11	54	35.57	31.79	8.63	30.1	248	188	A	H
	*	5300	115.52	-	-	104.87	31.88	8.89	30.12	248	188	P	H
	*	5300	108.1	-	-	97.45	31.88	8.89	30.12	248	188	A	H
		5353.68	56.72	-17.28	74	45.92	31.91	9.01	30.12	248	188	P	H
		5350.08	49.13	-4.87	54	38.34	31.91	9	30.12	248	188	A	H
		5133.96	51.32	-22.68	74	41.01	31.78	8.63	30.1	351	82	P	V
		5142.12	42.31	-11.69	54	31.99	31.79	8.63	30.1	351	82	A	V
	*	5300	109.58	-	-	98.93	31.88	8.89	30.12	351	82	P	V
	*	5300	102.24	-	-	91.59	31.88	8.89	30.12	351	82	A	V
		5354.88	51.76	-22.24	74	40.96	31.91	9.01	30.12	351	82	P	V
		5350.32	43.4	-10.6	54	32.61	31.91	9	30.12	351	82	A	V



	*	5320	115.43	-	-	104.73	31.89	8.93	30.12	249	178	P	H
802.11a CH 64 5320MHz	*	5320	107.79	-	-	97.09	31.89	8.93	30.12	249	178	A	H
		5350.4	62.21	-11.79	74	51.42	31.91	9	30.12	249	178	P	H
		5350.4	52.67	-1.33	54	41.88	31.91	9	30.12	249	178	A	H
	*	5320	109.11	-	-	98.41	31.89	8.93	30.12	366	76	P	V
	*	5320	101.77	-	-	91.07	31.89	8.93	30.12	366	76	A	V
		5352.16	54.85	-19.15	74	44.06	31.91	9	30.12	366	76	P	V
		5350.08	46.45	-7.55	54	35.66	31.91	9	30.12	366	76	A	V
	Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.											



## Band 2 5250~5350MHz

## WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 52 5260MHz		5482	59.92	-8.28	68.2	48.94	31.99	9.13	30.14	100	0	P	H
		5698	56.76	-11.44	68.2	45.45	32.23	9.33	30.25	100	0	P	H
		10520	59.59	-8.61	68.2	67.88	39.92	13.41	61.62	100	0	P	H
		15780	48.85	-25.15	74	56.53	37.34	17.03	62.05	100	0	P	H
		10520	52.66	-15.54	68.2	60.95	39.92	13.41	61.62	100	0	P	V
		15780	49.63	-24.37	74	57.31	37.34	17.03	62.05	100	0	P	V
802.11a CH 60 5300MHz		5524	57.18	-11.02	68.2	46.18	32.02	9.13	30.15	100	0	P	H
		10600	61.91	-12.09	74	70.15	40.04	13.4	61.68	192	141	P	H
		10600	52.16	-1.84	54	60.4	40.04	13.4	61.68	192	141	A	H
		15900	46.58	-27.42	74	54.2	37.05	17.19	61.86	100	0	P	H
		10600	52.9	-21.1	74	61.14	40.04	13.4	61.68	267	275	P	V
		10600	43.05	-10.95	54	51.29	40.04	13.4	61.68	267	275	A	V
		15900	47.78	-26.22	74	55.4	37.05	17.19	61.86	100	0	P	V
802.11a CH 64 5320MHz		5170	56.64	-11.56	68.2	46.3	31.8	8.64	30.1	249	178	P	H
		5482	56.86	-11.34	68.2	45.88	31.99	9.13	30.14	249	178	P	H
		5548	57.18	-11.02	68.2	46.15	32.06	9.14	30.17	249	178	P	H
		5764	56.16	-12.04	68.2	44.69	32.31	9.45	30.29	249	178	P	H
		10640	60.3	-13.7	74	68.52	40.09	13.4	61.71	199	141	P	H
		10640	51.35	-2.65	54	59.57	40.09	13.4	61.71	199	141	A	H
		15960	47.73	-26.27	74	55.44	36.88	17.17	61.76	100	0	P	H
		10640	53.05	-20.95	74	61.27	40.09	13.4	61.71	258	270	P	V
		10640	43.32	-10.68	54	51.54	40.09	13.4	61.71	258	270	A	V
		15960	47.73	-26.27	74	55.44	36.88	17.17	61.76	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 2 5250~5350MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n  HT20  CH 52  5260MHz		5103.7	54.45	-19.55	74	44.17	31.76	8.61	30.09	245	182	P	H
		5101.32	45.37	-8.63	54	35.09	31.76	8.61	30.09	245	182	A	H
	*	5260	115.06	-	-	104.51	31.86	8.8	30.11	245	182	P	H
	*	5260	107.49	-	-	96.94	31.86	8.8	30.11	245	182	A	H
		5425.2	55.4	-18.6	74	44.46	31.95	9.12	30.13	245	182	P	H
		5414.88	47.5	-6.5	54	36.57	31.95	9.11	30.13	245	182	A	H
		5104.04	50.84	-23.16	74	40.56	31.76	8.61	30.09	371	92	P	V
		5103.02	41.61	-12.39	54	31.33	31.76	8.61	30.09	371	92	A	V
	*	5260	107.79	-	-	97.24	31.86	8.8	30.11	371	92	P	V
	*	5260	100.34	-	-	89.79	31.86	8.8	30.11	371	92	A	V
802.11n  HT20  CH 60  5300MHz		5421.12	49.83	-24.17	74	38.9	31.95	9.11	30.13	371	92	P	V
		5419.2	41.73	-12.27	54	30.8	31.95	9.11	30.13	371	92	A	V
		5145.86	53.78	-20.22	74	43.46	31.79	8.63	30.1	232	184	P	H
		5139.06	45.75	-8.25	54	35.44	31.78	8.63	30.1	232	184	A	H
	*	5300	114.38	-	-	103.73	31.88	8.89	30.12	232	184	P	H
	*	5300	106.66	-	-	96.01	31.88	8.89	30.12	232	184	A	H
		5350.32	56.07	-17.93	74	45.28	31.91	9	30.12	232	184	P	H
		5350.08	48.18	-5.82	54	37.39	31.91	9	30.12	232	184	A	H
		5136.34	49.91	-24.09	74	39.6	31.78	8.63	30.1	372	79	P	V
		5145.52	41.94	-12.06	54	31.62	31.79	8.63	30.1	372	79	A	V
	*	5300	107.68	-	-	97.03	31.88	8.89	30.12	372	79	P	V
	*	5300	100.31	-	-	89.66	31.88	8.89	30.12	372	79	A	V
		5358.48	51.82	-22.18	74	41.01	31.91	9.02	30.12	372	79	P	V
		5352.48	43.38	-10.62	54	32.59	31.91	9	30.12	372	79	A	V



	*	5320	114.29	-	-	103.59	31.89	8.93	30.12	249	181	P	H
802.11n	*	5320	106.62	-	-	95.92	31.89	8.93	30.12	249	181	A	H
HT20		5350.24	61.43	-12.57	74	50.64	31.91	9	30.12	249	181	P	H
CH 64		5350.72	52.68	-1.32	54	41.89	31.91	9	30.12	249	181	A	H
5320MHz	*	5320	108.48	-	-	97.78	31.89	8.93	30.12	371	79	P	V
	*	5320	100.38	-	-	89.68	31.89	8.93	30.12	371	79	A	V
		5351.68	53.07	-20.93	74	42.28	31.91	9	30.12	371	79	P	V
		5350.08	45.32	-8.68	54	34.53	31.91	9	30.12	371	79	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 2 5250~5350MHz

## WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n  HT20  CH 52  5260MHz		5482	57.59	-10.61	68.2	46.61	31.99	9.13	30.14	100	0	P	H
		5698	57.24	-10.96	68.2	45.93	32.23	9.33	30.25	100	0	P	H
		10520	57.35	-10.85	68.2	65.64	39.92	13.41	61.62	100	0	P	H
		15780	47.51	-26.49	74	55.19	37.34	17.03	62.05	100	0	P	H
		10520	50.77	-17.43	68.2	59.06	39.92	13.41	61.62	100	0	P	V
		15780	47.51	-26.49	74	55.19	37.34	17.03	62.05	100	0	P	V
802.11n  HT20  CH 60  5300MHz		5524	56.54	-11.66	68.2	45.54	32.02	9.13	30.15	100	0	P	H
		5746	55.83	-12.37	68.2	44.39	32.29	9.42	30.27	100	0	P	H
		10600	60.36	-13.64	74	68.6	40.04	13.4	61.68	194	139	P	H
		10600	51.6	-2.4	54	59.84	40.04	13.4	61.68	194	139	A	H
		15900	47.59	-26.41	74	55.21	37.05	17.19	61.86	100	0	P	H
		10600	52.24	-21.76	74	60.48	40.04	13.4	61.68	268	45	P	V
		10600	43.93	-10.07	54	52.17	40.04	13.4	61.68	268	45	A	V
		15900	47.03	-26.97	74	54.65	37.05	17.19	61.86	100	0	P	V
802.11n  HT20  CH 64  5320MHz		5164	54.91	-13.29	68.2	44.57	31.8	8.64	30.1	249	181	P	H
		5476	56.6	-11.6	68.2	45.63	31.98	9.13	30.14	249	181	P	H
		5548	59.49	-8.71	68.2	48.46	32.06	9.14	30.17	249	181	P	H
		5758	55.15	-13.05	68.2	43.69	32.31	9.44	30.29	249	181	P	H
		10640	59.61	-14.39	74	67.83	40.09	13.4	61.71	189	141	P	H
		10640	50.63	-3.37	54	58.85	40.09	13.4	61.71	189	141	A	H
		15960	45.28	-28.72	74	52.99	36.88	17.17	61.76	100	0	P	H
		10640	52.27	-21.73	74	60.49	40.09	13.4	61.71	271	239	P	V
		10640	43.14	-10.86	54	51.36	40.09	13.4	61.71	271	239	A	V
		15960	45.28	-28.72	74	52.99	36.88	17.17	61.76	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 2 5250~5350MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n HT40 CH 54 5270MHz		5126.14	52.06	-21.94	74	41.76	31.78	8.62	30.1	261	181	P	H
		5113.9	43.77	-10.23	54	33.47	31.77	8.62	30.09	261	181	A	H
	*	5270	111.02	-	-	100.45	31.86	8.82	30.11	261	181	P	H
	*	5270	103.83	-	-	93.26	31.86	8.82	30.11	261	181	A	H
		5350.8	56.66	-17.34	74	45.87	31.91	9	30.12	261	181	P	H
		5352.24	48.99	-5.01	54	38.2	31.91	9	30.12	261	181	A	H
		5114.92	50.48	-23.52	74	40.18	31.77	8.62	30.09	388	89	P	V
		5115.26	41.85	-12.15	54	31.55	31.77	8.62	30.09	388	89	A	V
	*	5270	104.42	-	-	93.85	31.86	8.82	30.11	388	89	P	V
	*	5270	96.86	-	-	86.29	31.86	8.82	30.11	388	89	A	V
802.11n HT40 CH 62 5310MHz		5389.2	50.82	-23.18	74	39.93	31.93	9.09	30.13	388	89	P	V
		5354.16	42.32	-11.68	54	31.52	31.91	9.01	30.12	388	89	A	V
		5135.66	51.28	-22.72	74	40.97	31.78	8.63	30.1	257	184	P	H
		5147.9	42.37	-11.63	54	32.05	31.79	8.63	30.1	257	184	A	H
	*	5310	107.13	-	-	96.45	31.89	8.91	30.12	257	184	P	H
	*	5310	99.68	-	-	89	31.89	8.91	30.12	257	184	A	H
		5355.6	63.4	-10.6	74	52.6	31.91	9.01	30.12	257	184	P	H
		5350.56	53.39	-0.61	54	42.6	31.91	9	30.12	257	184	A	H
		5134.98	49.86	-24.14	74	39.55	31.78	8.63	30.1	346	76	P	V
		5138.04	41.32	-12.68	54	31.01	31.78	8.63	30.1	346	76	A	V
Remark	*	5310	101.71	-	-	91.03	31.89	8.91	30.12	346	76	P	V
	*	5310	93.86	-	-	83.18	31.89	8.91	30.12	346	76	A	V
		5354.16	53.96	-20.04	74	43.16	31.91	9.01	30.12	346	76	P	V
		5351.76	46.56	-7.44	54	35.77	31.91	9	30.12	346	76	A	V



## Band 2 5250~5350MHz

## WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n  HT40  CH 54  5270MHz		10540	53.79	-14.41	68.2	62.06	39.95	13.41	61.63	100	0	P	H
		15810	44.7	-29.3	74	52.36	37.26	17.08	62	100	0	P	H
		10540	48.79	-19.41	68.2	57.06	39.95	13.41	61.63	100	0	P	V
		15810	45.15	-28.85	74	52.81	37.26	17.08	62	100	0	P	V
802.11n  HT40  CH 62  5310MHz		10620	49.73	-24.27	74	57.95	40.07	13.41	61.7	100	0	P	H
		15930	43.94	-30.06	74	51.59	36.97	17.19	61.81	100	0	P	H
		10620	46.11	-27.89	74	54.33	40.07	13.41	61.7	100	0	P	V
		15930	44.57	-29.43	74	52.22	36.97	17.19	61.81	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 2 5250~5350MHz

## WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11ac VHT80 CH 58 5290MHz		5147.22	50.81	-23.19	74	40.49	31.79	8.63	30.1	258	184	P	H
		5138.72	44.68	-9.32	54	34.37	31.78	8.63	30.1	258	184	A	H
	*	5290	104.35	-	-	93.73	31.87	8.86	30.11	258	184	P	H
	*	5290	97.4	-	-	86.78	31.87	8.86	30.11	258	184	A	H
		5386.08	58.91	-15.09	74	48.03	31.93	9.08	30.13	258	184	P	H
		5350.56	52.99	-1.01	54	42.2	31.91	9	30.12	258	184	A	H
		5110.16	49.12	-24.88	74	38.82	31.77	8.62	30.09	349	78	P	V
		5121.72	42.77	-11.23	54	32.48	31.77	8.62	30.1	349	78	A	V
	*	5290	98.05	-	-	87.43	31.87	8.86	30.11	349	78	P	V
	*	5290	91.17	-	-	80.55	31.87	8.86	30.11	349	78	A	V
		5352.48	54.04	-19.96	74	43.25	31.91	9	30.12	349	78	P	V
		5352.72	46.35	-7.65	54	35.56	31.91	9	30.12	349	78	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

## Band 2 5250~5350MHz

## WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB $\mu$ V )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
Ant. 1+2				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
802.11ac VHT80 CH 58 5290MHz		10580	46.51	-21.69	68.2	54.74	40.02	13.41	61.66	100	0	P	H
		15870	43.64	-30.36	74	51.3	37.09	17.16	61.91	100	0	P	H
		10580	45.69	-22.51	68.2	53.92	40.02	13.41	61.66	100	0	P	V
		15870	43.62	-30.38	74	51.28	37.09	17.16	61.91	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	(dB $\mu$ V)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11a CH 100 5500MHz		5458.32	57.25	-16.75	74	46.3	31.97	9.12	30.14	237	182	P	H
		5466.96	59.91	-8.29	68.2	48.95	31.98	9.12	30.14	237	182	P	H
		5458.48	48.94	-5.06	54	37.99	31.97	9.12	30.14	237	182	A	H
	*	5500	114.11	-	-	103.12	32	9.13	30.14	237	182	P	H
	*	5500	106.65	-	-	95.66	32	9.13	30.14	237	182	A	H
		5449.36	52.07	-21.93	74	41.11	31.97	9.12	30.13	353	254	P	V
		5469.36	54.24	-13.96	68.2	43.28	31.98	9.12	30.14	353	254	P	V
		5458.8	43.27	-10.73	54	32.32	31.97	9.12	30.14	353	254	A	V
	*	5500	106.82	-	-	95.83	32	9.13	30.14	353	254	P	V
	*	5500	99.64	-	-	88.65	32	9.13	30.14	353	254	A	V
802.11a CH 116 5580MHz		5421.76	57.48	-16.52	74	46.55	31.95	9.11	30.13	237	185	P	H
		5466.64	51.37	-16.83	68.2	40.41	31.98	9.12	30.14	237	185	P	H
		5418.64	48.92	-5.08	54	37.99	31.95	9.11	30.13	237	185	A	H
	*	5580	114.48	-	-	103.44	32.08	9.15	30.19	237	185	P	H
	*	5580	106.86	-	-	95.82	32.08	9.15	30.19	237	185	A	H
		5744.21	55.33	-12.87	68.2	43.89	32.29	9.42	30.27	237	185	P	H
		5425.6	51.5	-22.5	74	40.56	31.95	9.12	30.13	306	257	P	V
		5467.12	49.36	-18.84	68.2	38.4	31.98	9.12	30.14	306	257	P	V
		5415.04	42.36	-11.64	54	31.43	31.95	9.11	30.13	306	257	A	V
	*	5580	106.73	-	-	95.69	32.08	9.15	30.19	306	257	P	V
	*	5580	99.46	-	-	88.42	32.08	9.15	30.19	306	257	A	V
		5744.21	49.02	-19.18	68.2	37.58	32.29	9.42	30.27	306	257	P	V



	*	5700	116.23	-	-	104.91	32.23	9.34	30.25	258	180	P	H
802.11a CH 140 5700MHz	*	5700	108.46	-	-	97.14	32.23	9.34	30.25	258	180	A	H
		5727.32	63.48	-4.72	68.2	52.08	32.27	9.39	30.26	258	180	P	H
	*	5700	108.51	-	-	97.19	32.23	9.34	30.25	361	262	P	V
	*	5700	101.18	-	-	89.86	32.23	9.34	30.25	361	262	A	V
		5727.4	55.46	-12.74	68.2	44.06	32.27	9.39	30.26	361	262	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11a (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 100 5500MHz		5338	58.47	-9.73	68.2	47.72	31.9	8.97	30.12	100	0	P	H
		5734	57.07	-11.13	68.2	45.67	32.27	9.4	30.27	100	0	P	H
		11000	64.02	-9.98	74	71.98	40.6	13.44	62	191	227	P	H
		11000	53.28	-0.72	54	61.24	40.6	13.44	62	191	227	A	H
		16500	48.09	-20.11	68.2	51.88	38.6	17.21	59.6	100	0	P	H
		11000	56.24	-17.76	74	64.2	40.6	13.44	62	247	284	P	V
		11000	46.92	-7.08	54	54.88	40.6	13.44	62	247	284	A	V
		16500	47.02	-21.18	68.2	50.81	38.6	17.21	59.6	100	0	P	V
802.11a CH 116 5580MHz		5806	57.02	-11.18	68.2	45.42	32.37	9.53	30.3	100	0	P	H
		11160	62.64	-11.36	74	70.12	40.53	13.67	61.68	190	229	P	H
		11160	53.09	-0.91	54	60.57	40.53	13.67	61.68	190	229	A	H
		16740	48.01	-20.19	68.2	50.71	39.52	17.48	59.7	100	0	P	H
		11160	57.21	-16.79	74	64.69	40.53	13.67	61.68	252	4	P	V
		11160	47.48	-6.52	54	54.96	40.53	13.67	61.68	252	4	A	V
		16740	47.33	-20.87	68.2	50.03	39.52	17.48	59.7	100	0	P	V
802.11a CH 140 5700MHz		5860	57.08	-11.12	68.2	45.4	32.43	9.59	30.34	100	0	P	H
		5944	56.41	-11.79	68.2	44.56	32.54	9.69	30.38	100	0	P	H
		11400	56.64	-17.36	74	63.43	40.44	13.97	61.2	187	225	P	H
		11400	47.34	-6.66	54	54.13	40.44	13.97	61.2	187	225	A	H
		17100	56.66	-11.54	68.2	57.66	41.02	17.66	59.68	100	0	P	H
		11400	53.21	-20.79	74	60	40.44	13.97	61.2	100	288	P	V
		11400	43.42	-10.58	54	50.21	40.44	13.97	61.2	100	288	A	V
		17100	56.26	-11.94	68.2	57.26	41.02	17.66	59.68	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level (dB $\mu$ V)	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 100 5500MHz		5459.44	57.47	-16.53	74	46.52	31.97	9.12	30.14	240	184	P	H
		5468.88	60.26	-7.94	68.2	49.3	31.98	9.12	30.14	240	184	P	H
		5457.52	48.47	-5.53	54	37.52	31.97	9.12	30.14	240	184	A	H
	*	5500	112.72	-	-	101.73	32	9.13	30.14	240	184	P	H
	*	5500	105.11	-	-	94.12	32	9.13	30.14	240	184	A	H
		5455.12	51.67	-22.33	74	40.72	31.97	9.12	30.14	372	254	P	V
		5469.04	54.29	-13.91	68.2	43.33	31.98	9.12	30.14	372	254	P	V
		5459.12	42.93	-11.07	54	31.98	31.97	9.12	30.14	372	254	A	V
	*	5500	105.92	-	-	94.93	32	9.13	30.14	372	254	P	V
	*	5500	98.2	-	-	87.21	32	9.13	30.14	372	254	A	V
802.11n HT20 CH 116 5580MHz		5413.12	57.72	-16.28	74	46.79	31.95	9.11	30.13	250	183	P	H
		5466.16	52.07	-16.13	68.2	41.11	31.98	9.12	30.14	250	183	P	H
		5416.48	48.58	-5.42	54	37.65	31.95	9.11	30.13	250	183	A	H
	*	5580	112.69	-	-	101.65	32.08	9.15	30.19	250	183	P	H
	*	5580	105.33	-	-	94.29	32.08	9.15	30.19	250	183	A	H
		5743.58	54.23	-13.97	68.2	42.79	32.29	9.42	30.27	250	183	P	H
		5424.64	50.75	-23.25	74	39.82	31.95	9.11	30.13	365	258	P	V
		5465.44	50.09	-18.11	68.2	39.13	31.98	9.12	30.14	365	258	P	V
		5417.44	42.31	-11.69	54	31.38	31.95	9.11	30.13	365	258	A	V
	*	5580	106.57	-	-	95.53	32.08	9.15	30.19	365	258	P	V
	*	5580	98.89	-	-	87.85	32.08	9.15	30.19	365	258	A	V
		5764.37	49.53	-18.67	68.2	38.06	32.31	9.45	30.29	365	258	P	V



## FCC RADIO TEST REPORT

Report No. : FR742534-06

	*	5700	115.12	-	-	103.8	32.23	9.34	30.25	243	179	P	H
802.11n	*	5700	107.75	-	-	96.43	32.23	9.34	30.25	243	179	A	H
HT20		5725.24	67.36	-0.84	68.2	55.97	32.27	9.38	30.26	243	179	P	H
CH 140	*	5700	107.51	-	-	96.19	32.23	9.34	30.25	366	265	P	V
5700MHz	*	5700	99.81	-	-	88.49	32.23	9.34	30.25	366	265	A	V
		5725.48	58	-10.2	68.2	46.61	32.27	9.38	30.26	366	265	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n  HT20  CH 100  5500MHz		5338	59.73	-8.47	68.2	48.98	31.9	8.97	30.12	100	0	P	H
		5734	54.42	-13.78	68.2	43.02	32.27	9.4	30.27	100	0	P	H
		11000	61.84	-12.16	74	69.8	40.6	13.44	62	196	227	P	H
		11000	52.69	-1.31	54	60.65	40.6	13.44	62	196	227	A	H
		16500	46.39	-21.81	68.2	50.18	38.6	17.21	59.6	100	0	P	H
		11000	54.38	-19.62	74	62.34	40.6	13.44	62	100	216	P	V
		11000	45.14	-8.86	54	53.1	40.6	13.44	62	100	216	A	V
		16500	48.4	-19.8	68.2	52.19	38.6	17.21	59.6	100	0	P	V
802.11n  HT20  CH 116  5580MHz		5734	56.1	-12.1	68.2	44.7	32.27	9.4	30.27	100	0	P	H
		5818	56.09	-12.11	68.2	44.5	32.37	9.54	30.32	100	0	P	H
		11160	62.39	-11.61	74	69.87	40.53	13.67	61.68	194	229	P	H
		11160	53.25	-0.75	54	60.73	40.53	13.67	61.68	194	229	A	H
		16740	46.93	-21.27	68.2	49.63	39.52	17.48	59.7	100	0	P	H
		11160	56.06	-17.94	74	63.54	40.53	13.67	61.68	248	5	P	V
		11160	47.65	-6.35	54	55.13	40.53	13.67	61.68	248	5	A	V
		16740	47.92	-20.28	68.2	50.62	39.52	17.48	59.7	100	0	P	V
802.11n  HT20  CH 140  5700MHz		5854	57.08	-11.12	68.2	45.4	32.43	9.58	30.33	100	0	P	H
		5944	55.23	-12.97	68.2	43.38	32.54	9.69	30.38	100	0	P	H
		11400	57.38	-16.62	74	64.17	40.44	13.97	61.2	252	153	P	H
		11400	47.12	-6.88	54	53.91	40.44	13.97	61.2	252	153	A	H
		17100	57.38	-10.82	68.2	58.38	41.02	17.66	59.68	100	0	P	H
		11400	52.26	-21.74	74	59.05	40.44	13.97	61.2	186	290	P	V
		11400	43.18	-10.82	54	49.97	40.44	13.97	61.2	186	290	A	V
		17100	56.38	-11.82	68.2	57.38	41.02	17.66	59.68	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n  HT40  CH 102  5510MHz		5458.48	59.91	-14.09	74	48.96	31.97	9.12	30.14	250	182	P	H
		5467.84	67.62	-0.58	68.2	56.66	31.98	9.12	30.14	250	182	P	H
		5458.96	53.09	-0.91	54	42.14	31.97	9.12	30.14	250	182	A	H
	*	5510	108.89	-	-	97.91	32	9.13	30.15	250	182	P	H
	*	5510	101.73	-	-	90.75	32	9.13	30.15	250	182	A	H
		5761.85	51.19	-17.01	68.2	39.72	32.31	9.45	30.29	250	182	P	H
		5453.68	54.3	-19.7	74	43.35	31.97	9.12	30.14	349	256	P	V
		5469.04	58.75	-9.45	68.2	47.79	31.98	9.12	30.14	349	256	P	V
		5459.92	45.53	-8.47	54	34.58	31.97	9.12	30.14	349	256	A	V
	*	5510	102.58	-	-	91.6	32	9.13	30.15	349	256	P	V
	*	5510	95.48	-	-	84.5	32	9.13	30.15	349	256	A	V
		5739.8	49.76	-18.44	68.2	38.33	32.29	9.41	30.27	349	256	P	V
802.11n  HT40  CH 110  5550MHz		5459.68	56.44	-17.56	74	45.49	31.97	9.12	30.14	244	187	P	H
		5468.8	57.51	-10.69	68.2	46.55	31.98	9.12	30.14	244	187	P	H
		5459.92	46.82	-7.18	54	35.87	31.97	9.12	30.14	244	187	A	H
	*	5550	109.61	-	-	98.58	32.06	9.14	30.17	244	187	P	H
	*	5550	102.58	-	-	91.55	32.06	9.14	30.17	244	187	A	H
		5726.885	51.03	-17.17	68.2	39.64	32.27	9.38	30.26	244	187	P	H
		5435.2	50.55	-23.45	74	39.6	31.96	9.12	30.13	345	256	P	V
		5468.08	51.41	-16.79	68.2	40.45	31.98	9.12	30.14	345	256	P	V
		5403.76	42.56	-11.44	54	31.64	31.94	9.11	30.13	345	256	A	V
	*	5550	103.7	-	-	92.67	32.06	9.14	30.17	345	256	P	V
	*	5550	96.55	-	-	85.52	32.06	9.14	30.17	345	256	A	V
		5732.87	49.61	-18.59	68.2	38.21	32.27	9.4	30.27	345	256	P	V



802.11n HT40 CH 134 5670MHz		5398.3	51.32	-22.68	74	40.4	31.94	9.11	30.13	242	181	P	H
		5467.6	49.49	-18.71	68.2	38.53	31.98	9.12	30.14	242	181	P	H
		5455.35	43.22	-10.78	54	32.27	31.97	9.12	30.14	242	181	A	H
	*	5670	110.43	-	-	99.17	32.21	9.28	30.23	242	181	P	H
	*	5670	103.53	-	-	92.27	32.21	9.28	30.23	242	181	A	H
		5726.15	60.3	-7.9	68.2	48.91	32.27	9.38	30.26	242	181	P	H
		5436.8	49.66	-24.34	74	38.71	31.96	9.12	30.13	354	269	P	V
		5462.35	49.65	-18.55	68.2	38.7	31.97	9.12	30.14	354	269	P	V
		5457.1	41.62	-12.38	54	30.67	31.97	9.12	30.14	354	269	A	V
	*	5670	104.04	-	-	92.78	32.21	9.28	30.23	354	269	P	V
	*	5670	96.39	-	-	85.13	32.21	9.28	30.23	354	269	A	V
		5732.8	53.72	-14.48	68.2	42.32	32.27	9.4	30.27	354	269	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 102 5510MHz		11020	58.66	-15.34	74	66.56	40.59	13.47	61.96	195	231	P	H
		11020	48.51	-5.49	54	56.41	40.59	13.47	61.96	195	231	A	H
		16530	45.55	-22.65	68.2	49.19	38.73	17.24	59.61	100	0	P	H
		11020	49.55	-24.45	74	57.45	40.59	13.47	61.96	100	0	P	V
		16530	45.91	-22.29	68.2	49.55	38.73	17.24	59.61	100	0	P	V
802.11n HT40 CH 110 5550MHz		11100	58.36	-15.64	74	66.07	40.56	13.53	61.8	201	226	P	H
		11100	49.42	-4.58	54	57.13	40.56	13.53	61.8	201	226	A	H
		16650	45.9	-22.3	68.2	48.96	39.19	17.41	59.66	100	0	P	H
		11100	52.12	-21.88	74	59.83	40.56	13.53	61.8	244	290	P	V
		11100	43.81	-10.19	54	51.52	40.56	13.53	61.8	244	290	A	V
		16650	46.54	-21.66	68.2	49.6	39.19	17.41	59.66	100	0	P	V
802.11n HT40 CH 134 5670MHz		5836	56.95	-11.25	68.2	45.33	32.39	9.56	30.33	100	0	P	H
		11340	54.64	-19.36	74	61.49	40.47	14	61.32	193	227	P	H
		11340	43.54	-10.46	54	50.39	40.47	14	61.32	193	227	A	H
		17010	49.65	-18.55	68.2	51.31	40.59	17.54	59.79	100	0	P	H
		11340	49.25	-24.75	74	56.1	40.47	14	61.32	100	0	P	V
		17010	50.08	-18.12	68.2	51.74	40.59	17.54	59.79	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - 5470~5725MHz

## WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		5456.32	61	-13	74	50.05	31.97	9.12	30.14	256	181	P	H
		5460.16	60.61	-7.59	68.2	49.66	31.97	9.12	30.14	256	181	P	H
		5459.68	53.26	-0.74	54	42.31	31.97	9.12	30.14	256	181	A	H
	*	5530	102.66	-	-	91.67	32.02	9.14	30.17	256	181	P	H
	*	5530	96.01	-	-	85.02	32.02	9.14	30.17	256	181	A	H
		5728.46	50.39	-17.81	68.2	38.99	32.27	9.39	30.26	256	181	P	H
		5458.48	53.17	-20.83	74	42.22	31.97	9.12	30.14	342	259	P	V
		5465.68	53.68	-14.52	68.2	42.72	31.98	9.12	30.14	342	259	P	V
		5453.92	46.37	-7.63	54	35.42	31.97	9.12	30.14	342	259	A	V
	*	5530	97.05	-	-	86.06	32.02	9.14	30.17	342	259	P	V
	*	5530	89.67	-	-	78.68	32.02	9.14	30.17	342	259	A	V
		5756.81	50.1	-18.1	68.2	38.64	32.31	9.44	30.29	342	259	P	V
802.11ac VHT80 CH 122 5610MHz		5452.96	57.05	-16.95	74	46.1	31.97	9.12	30.14	250	188	P	H
		5467.12	57.31	-10.89	68.2	46.35	31.98	9.12	30.14	250	188	P	H
		5458.72	52.21	-1.79	54	41.26	31.97	9.12	30.14	250	188	A	H
	*	5610	107.15	-	-	96.07	32.12	9.17	30.21	250	188	P	H
	*	5610	100.62	-	-	89.54	32.12	9.17	30.21	250	188	A	H
		5732.24	55.17	-13.03	68.2	43.78	32.27	9.39	30.27	250	188	P	H
		5456.32	51.9	-22.1	74	40.95	31.97	9.12	30.14	361	261	P	V
		5466.16	50.88	-17.32	68.2	39.92	31.98	9.12	30.14	361	261	P	V
		5454.4	45.07	-8.93	54	34.12	31.97	9.12	30.14	361	261	A	V
	*	5610	102.87	-	-	91.79	32.12	9.17	30.21	361	261	P	V
	*	5610	95.12	-	-	84.04	32.12	9.17	30.21	361	261	A	V
		5733.815	51.51	-16.69	68.2	40.11	32.27	9.4	30.27	361	261	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 5470~5725MHz

## WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11ac VHT80 CH 106 5530MHz		11060	50.89	-23.11	74	58.7	40.57	13.5	61.88	194	229	P	H
		11060	43.43	-10.57	54	51.24	40.57	13.5	61.88	194	229	A	H
		16590	46.74	-21.46	68.2	50.13	38.93	17.32	59.64	100	0	P	H
		11060	47.3	-26.7	74	55.11	40.57	13.5	61.88	100	0	P	V
		16590	46.17	-22.03	68.2	49.56	38.93	17.32	59.64	100	0	P	V
802.11ac VHT80 CH 122 5610MHz		11220	53.95	-20.05	74	61.24	40.52	13.79	61.6	196	227	P	H
		11220	46.23	-7.77	54	53.52	40.52	13.79	61.6	196	227	A	H
		16830	47.13	-21.07	68.2	49.54	39.84	17.48	59.73	100	0	P	H
		11220	47.5	-26.5	74	54.79	40.52	13.79	61.6	100	0	P	V
		16830	46.64	-21.56	68.2	49.05	39.84	17.48	59.73	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - Straddle Channel

## WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	(dB $\mu$ V)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11a CH 144 5720MHz		5409.67	51.2	-22.8	74	40.28	31.94	9.11	30.13	257	181	P	H
		5460	50.59	-17.61	68.2	39.64	31.97	9.12	30.14	257	181	P	H
		5395.63	43.26	-10.74	54	32.35	31.94	9.1	30.13	257	181	A	H
	*	5720	116.5	-	-	105.12	32.27	9.37	30.26	257	181	P	H
	*	5720	108.75	-	-	97.37	32.27	9.37	30.26	257	181	A	H
		5874	57.28	-10.92	68.2	45.55	32.46	9.61	30.34	257	181	P	H
		5443.21	52.76	-21.24	74	41.81	31.96	9.12	30.13	400	269	P	V
		5464.66	48.68	-19.52	68.2	37.72	31.98	9.12	30.14	400	269	P	V
		5450.23	40.98	-13.02	54	30.03	31.97	9.12	30.14	400	269	A	V
	*	5720	108.51	-	-	97.13	32.27	9.37	30.26	400	269	P	V
	*	5720	101.18	-	-	89.8	32.27	9.37	30.26	400	269	A	V
		5885.25	52.13	-16.07	68.2	40.41	32.46	9.62	30.36	400	269	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 - Straddle Channel**  
**WIFI 802.11a (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11a CH 144 5720MHz		5248	54.96	-13.24	68.2	44.45	31.85	8.77	30.11	100	0	P	H
		5890	56.7	-11.5	68.2	44.96	32.48	9.62	30.36	100	0	P	H
		5962	55.99	-12.21	68.2	44.12	32.56	9.71	30.4	100	0	P	H
		11440	57.4	-16.6	74	64.15	40.43	13.94	61.12	193	149	P	H
		11440	48.24	-5.76	54	54.99	40.43	13.94	61.12	193	149	A	H
		17160	58.63	-9.57	68.2	59.11	41.37	17.76	59.61	100	0	P	H
		11440	51.46	-22.54	74	58.21	40.43	13.94	61.12	101	200	P	V
		11440	42.8	-11.2	54	49.55	40.43	13.94	61.12	101	200	A	V
		17160	57.54	-10.66	68.2	58.02	41.37	17.76	59.61	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 - Straddle Channel**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11n  HT20  CH 144  5720MHz		5404.6	52.18	-21.82	74	41.26	31.94	9.11	30.13	248	179	P	H
		5468.56	51.6	-16.6	68.2	40.64	31.98	9.12	30.14	248	179	P	H
		5400.7	43.32	-10.68	54	32.4	31.94	9.11	30.13	248	179	A	H
	*	5720	115.07	-	-	103.69	32.27	9.37	30.26	248	179	P	H
	*	5720	107.77	-	-	96.39	32.27	9.37	30.26	248	179	A	H
		5886.5	57.76	-10.44	68.2	46.04	32.46	9.62	30.36	248	179	P	H
		5446.72	50.96	-23.04	74	40	31.97	9.12	30.13	360	268	P	V
		5461.93	49.6	-18.6	68.2	38.65	31.97	9.12	30.14	360	268	P	V
		5404.99	40.91	-13.09	54	29.99	31.94	9.11	30.13	360	268	A	V
	*	5720	107.61	-	-	96.23	32.27	9.37	30.26	360	268	P	V
	*	5720	100.28	-	-	88.9	32.27	9.37	30.26	360	268	A	V
		5875.25	53.43	-14.77	68.2	41.7	32.46	9.61	30.34	360	268	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



**Band 3 - Straddle Channel**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 144 5720MHz		5236	55.97	-12.23	68.2	45.5	31.84	8.74	30.11	100	0	P	H
		5872	57.33	-10.87	68.2	45.61	32.46	9.6	30.34	100	0	P	H
		5968	55.63	-12.57	68.2	43.76	32.56	9.71	30.4	100	0	P	H
		11440	55.64	-18.36	74	62.39	40.43	13.94	61.12	189	153	P	H
		11440	47.24	-6.76	54	53.99	40.43	13.94	61.12	189	153	A	H
		17160	57.12	-11.08	68.2	57.6	41.37	17.76	59.61	100	0	P	H
		11440	51.55	-22.45	74	58.3	40.43	13.94	61.12	102	19	P	V
		11440	42.88	-11.12	54	49.63	40.43	13.94	61.12	102	19	A	V
		17160	57.12	-11.08	68.2	57.6	41.37	17.76	59.61	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - Straddle Channel

## WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 142 5710MHz		5380.03	50.87	-23.13	74	40	31.93	9.07	30.13	253	180	P	H
		5460	50.36	-17.84	68.2	39.41	31.97	9.12	30.14	253	180	P	H
		5455.3	42.82	-11.18	54	31.87	31.97	9.12	30.14	253	180	A	H
	*	5710	111.12	-	-	99.78	32.25	9.35	30.26	253	180	P	H
	*	5710	103.94	-	-	92.6	32.25	9.35	30.26	253	180	A	H
		5864	54.93	-13.27	68.2	43.25	32.43	9.59	30.34	253	180	P	H
		5449.06	49.76	-24.24	74	38.8	31.97	9.12	30.13	347	267	P	V
		5467.39	49.37	-18.83	68.2	38.41	31.98	9.12	30.14	347	267	P	V
		5437.36	41.47	-12.53	54	30.52	31.96	9.12	30.13	347	267	A	V
	*	5710	104.39	-	-	93.05	32.25	9.35	30.26	347	267	P	V
	*	5710	96.74	-	-	85.4	32.25	9.35	30.26	347	267	A	V
		5905	51.82	-16.38	68.2	40.04	32.5	9.64	30.36	347	267	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

## Band 3 - Straddle Channel

## WIFI 802.11n HT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	( dB $\mu$ V )	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11n HT40 CH 142 5710MHz		11420	52.77	-21.23	74	59.54	40.43	13.96	61.16	181	222	P	H
		11420	44.34	-9.66	54	51.11	40.43	13.96	61.16	181	222	A	H
		17130	52.49	-15.71	68.2	53.23	41.19	17.71	59.64	100	0	P	H
		11420	49.07	-24.93	74	55.84	40.43	13.96	61.16	100	0	P	V
		17130	51.16	-17.04	68.2	51.9	41.19	17.71	59.64	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Band 3 - Straddle Channel

## WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency ( MHz )	Level ( dB $\mu$ V/m )	Over Limit ( dB )	Limit Line ( dB $\mu$ V/m )	Read Level ( dB $\mu$ V )	Antenna Factor ( dB/m )	Path Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Peak Avg. ( P/A )	Pol. ( H/V )
802.11ac VHT80 CH 138 5690MHz		5455.69	51.78	-22.22	74	40.83	31.97	9.12	30.14	240	179	P	H
		5463.49	50.56	-17.64	68.2	39.6	31.98	9.12	30.14	240	179	P	H
		5459.59	44.74	-9.26	54	33.79	31.97	9.12	30.14	240	179	A	H
	*	5690	107.89	-	-	96.59	32.23	9.32	30.25	240	179	P	H
	*	5690	101.16	-	-	89.86	32.23	9.32	30.25	240	179	A	H
		5854.9	55.52	-12.68	68.2	43.84	32.43	9.58	30.33	240	179	P	H
		5411.62	50.95	-23.05	74	40.02	31.95	9.11	30.13	365	266	P	V
		5466.61	50.55	-17.65	68.2	39.59	31.98	9.12	30.14	365	266	P	V
		5389.78	43.07	-10.93	54	32.18	31.93	9.09	30.13	365	266	A	V
	*	5690	100.04	-	-	88.74	32.23	9.32	30.25	365	266	P	V
	*	5690	93.94	-	-	82.64	32.23	9.32	30.25	365	266	A	V
		5865.4	51.09	-17.11	68.2	39.4	32.43	9.6	30.34	365	266	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

## Band 3 - Straddle Channel

## WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	( dB $\mu$ V )	( dB/m )	( dB )	( dB )	( cm )	( deg )	( P/A )	( H/V )
802.11ac VHT80 CH 138 5690MHz		11380	49.12	-24.88	74	55.92	40.45	13.99	61.24	100	0	P	H
		17070	50.26	-17.94	68.2	51.51	40.85	17.62	59.72	100	0	P	H
		11380	47.49	-26.51	74	54.29	40.45	13.99	61.24	100	0	P	V
		17070	50.5	-17.7	68.2	51.75	40.85	17.62	59.72	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



## Emission below 1GHz

## WIFI 802.11n HT40 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	(dB $\mu$ V)	( dB/m )	( dB )	( dB )	( cm )	( deg )	(P/A)	(H/V)
802.11n HT40 LF		71.04	28.41	-11.59	40	47.48	12.5	1.03	32.6	-	-	P	H
		130.98	32.48	-11.02	43.5	46.19	17.48	1.37	32.56	-	-	P	H
		281.91	37.82	-8.18	46	49.1	19.25	2	32.53	-	-	P	H
		491.1	40.94	-5.06	46	46.81	24.06	2.62	32.55	100	0	P	H
		589.1	40.29	-5.71	46	44.05	25.92	2.89	32.57	-	-	P	H
		659.1	39.93	-6.07	46	42.92	26.52	3.01	32.52	-	-	P	H
		33.24	32.17	-7.83	40	41.23	22.89	0.7	32.65	-	-	P	V
		71.04	36.49	-3.51	40	55.56	12.5	1.03	32.6	100	0	P	V
		281.37	29.08	-16.92	46	40.37	19.24	2	32.53	-	-	P	V
		491.1	36.07	-9.93	46	41.94	24.06	2.62	32.55	-	-	P	V
		589.8	39.46	-6.54	46	43.23	25.91	2.89	32.57	-	-	P	V
		637.4	37.8	-8.2	46	40.85	26.53	2.96	32.54	-	-	P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

**Note symbol**

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



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

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		( MHz )	( dB $\mu$ V/m )	( dB )	( dB $\mu$ V/m )	( dB $\mu$ V )	( 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. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dB $\mu$ V/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dB $\mu$ V) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dB $\mu$ V/m) – Limit Line(dB $\mu$ V/m)

#### For Peak Limit @ 2390MHz:

1. Level(dB $\mu$ V/m)  
 $= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB $\mu$ V)} - \text{Preamp Factor(dB)}$   
 $= 32.22(\text{dB}/\text{m}) + 4.58(\text{dB}) + 54.51(\text{dB}\mu\text{V}) - 35.86 (\text{dB})$   
 $= 55.45 (\text{dB}\mu\text{V}/\text{m})$
2. Over Limit(dB)  
 $= \text{Level(dB}\mu\text{V}/\text{m)} - \text{Limit Line(dB}\mu\text{V}/\text{m)}$   
 $= 55.45(\text{dB}\mu\text{V}/\text{m}) - 74(\text{dB}\mu\text{V}/\text{m})$   
 $= -18.55(\text{dB})$

#### For Average Limit @ 2390MHz:

1. Level(dB $\mu$ V/m)  
 $= \text{Antenna Factor(dB/m)} + \text{Path Loss(dB)} + \text{Read Level(dB}\mu\text{V)} - \text{Preamp Factor(dB)}$   
 $= 32.22(\text{dB}/\text{m}) + 4.58(\text{dB}) + 42.6(\text{dB}\mu\text{V}) - 35.86 (\text{dB})$   
 $= 43.54 (\text{dB}\mu\text{V}/\text{m})$
2. Over Limit(dB) = Level(dB $\mu$ V/m) – Limit Line(dB $\mu$ V/m)  
 $= 43.54(\text{dB}\mu\text{V}/\text{m}) - 54(\text{dB}\mu\text{V}/\text{m})$   
 $= -10.46(\text{dB})$

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



## Appendix C. Radiated Spurious Emission

<b>Test Engineer :</b>	Bill Chang and Karl Hou	<b>Temperature :</b>	22~25°C
		<b>Relative Humidity :</b>	52~57%

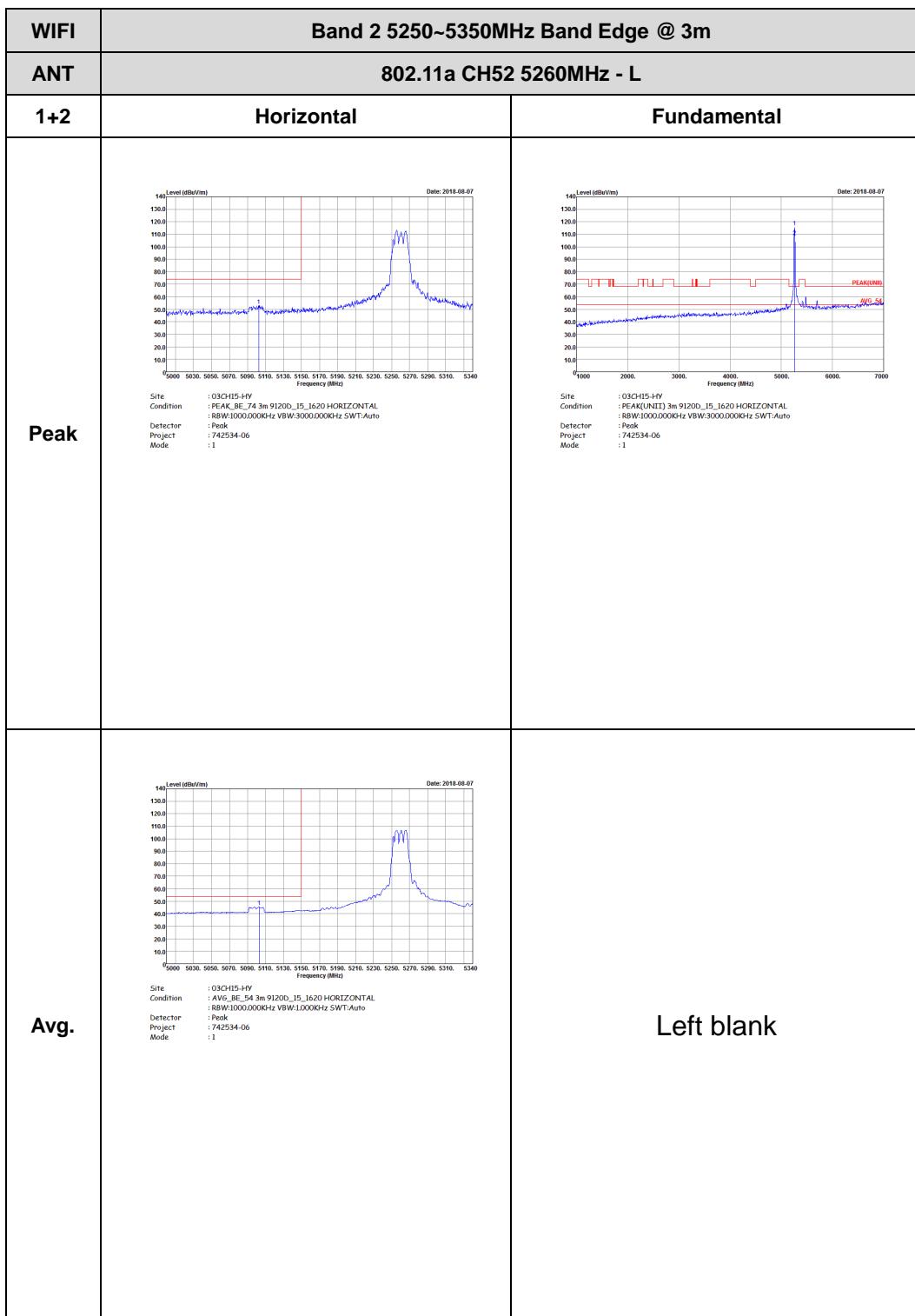
### Note symbol

-L	<b>Low channel location</b>
-R	<b>High channel location</b>

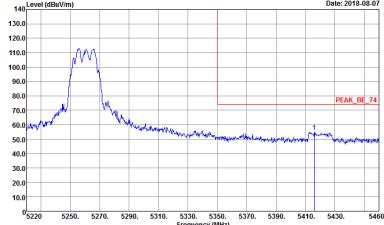


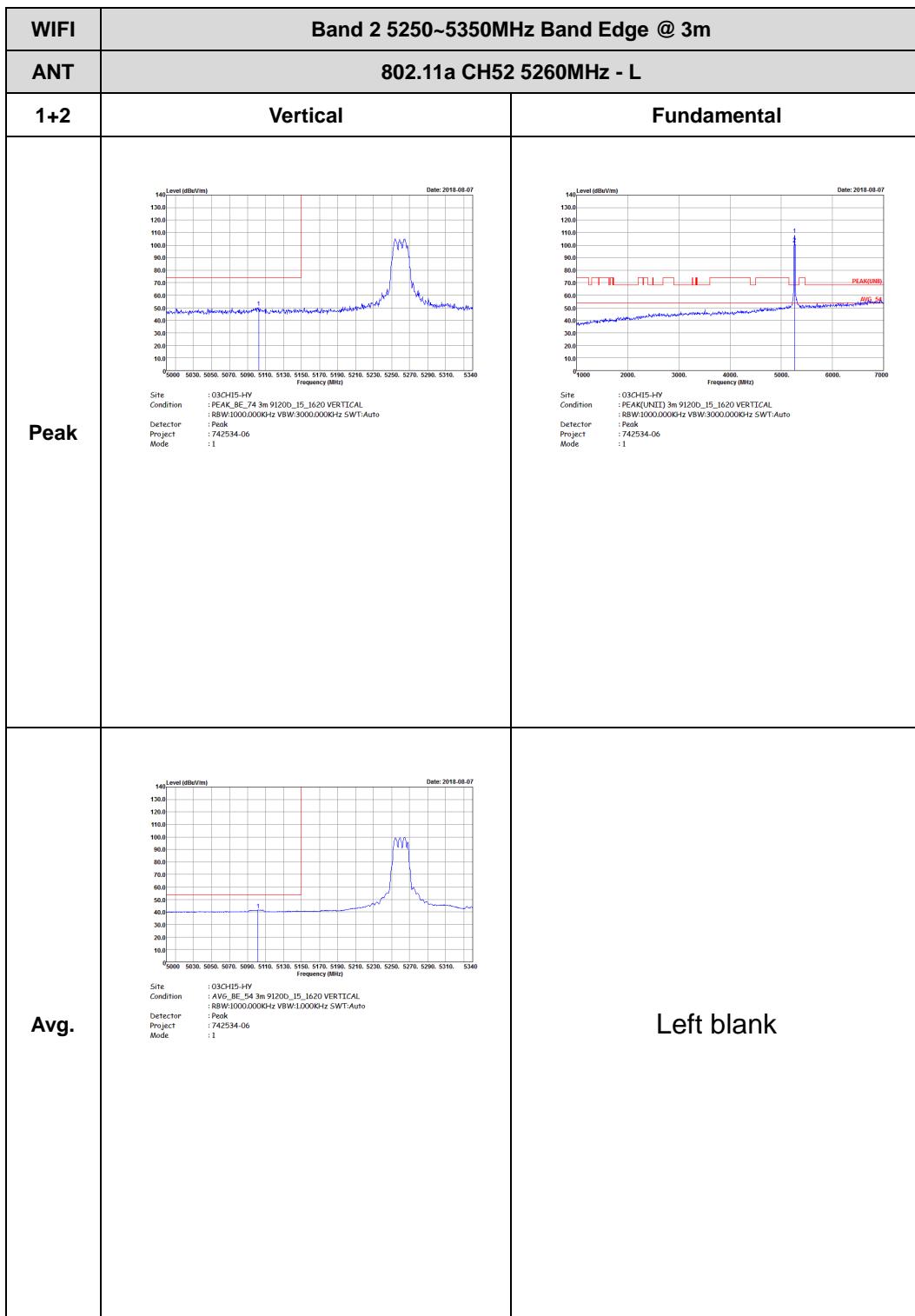
## Band 2 - 5250~5350MHz

## WIFI 802.11a (Band Edge @ 3m)



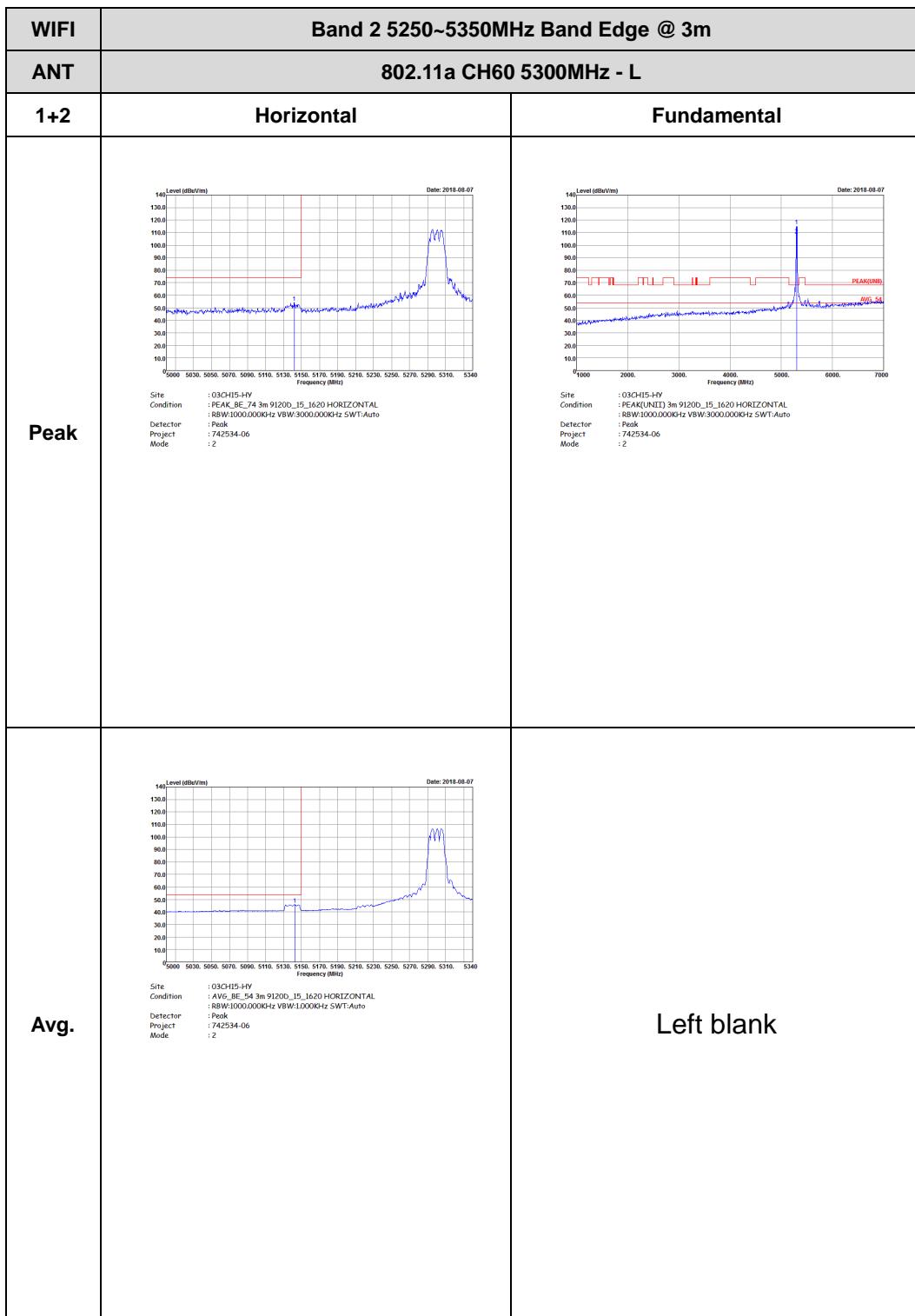


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 1</p>	Left blank
Avg.	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 1</p>	Left blank



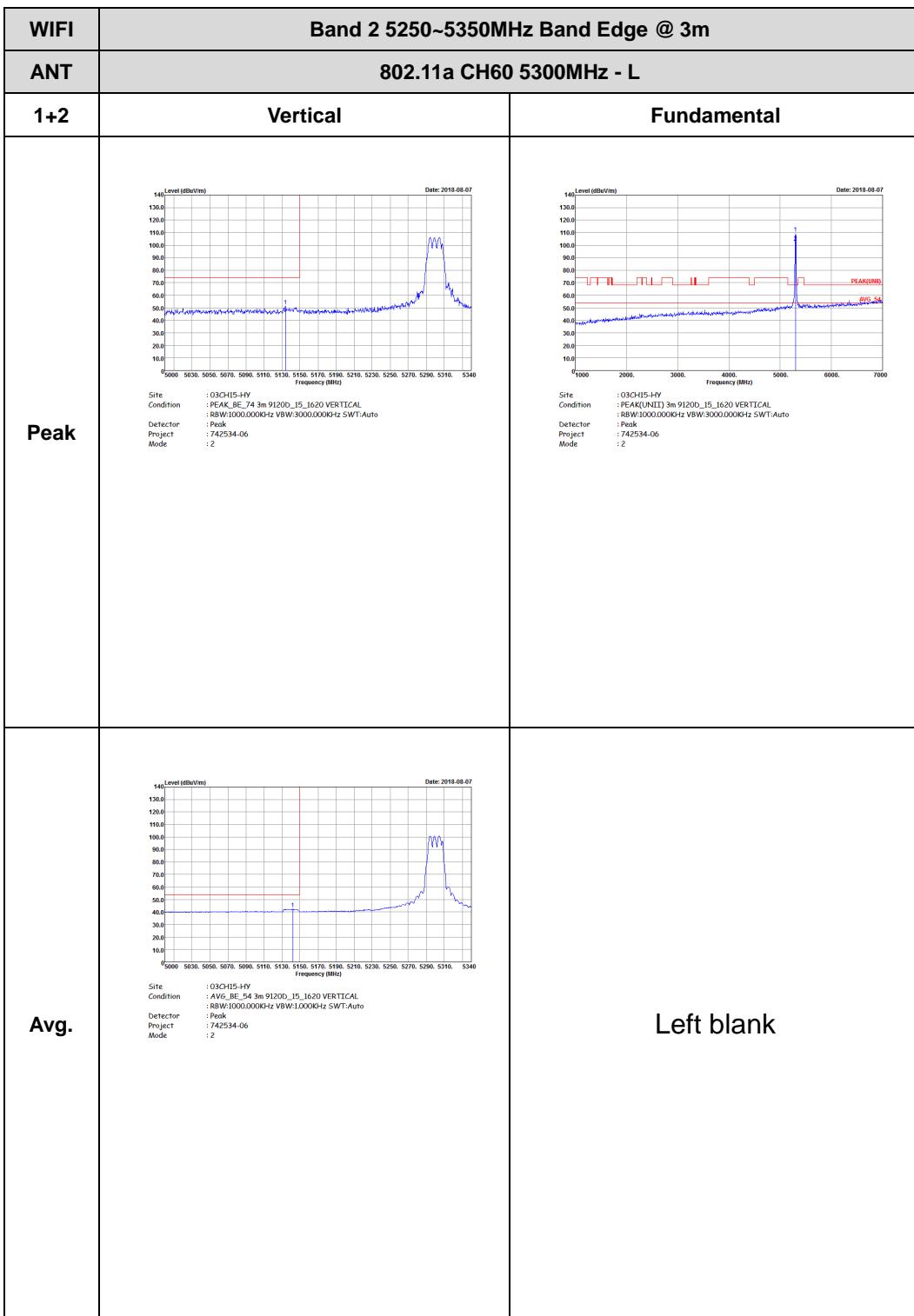


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak	 Date: 2018-08-07 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 1 : 1	Left blank
Avg.	 Date: 2018-08-07 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 1 : 1	Left blank



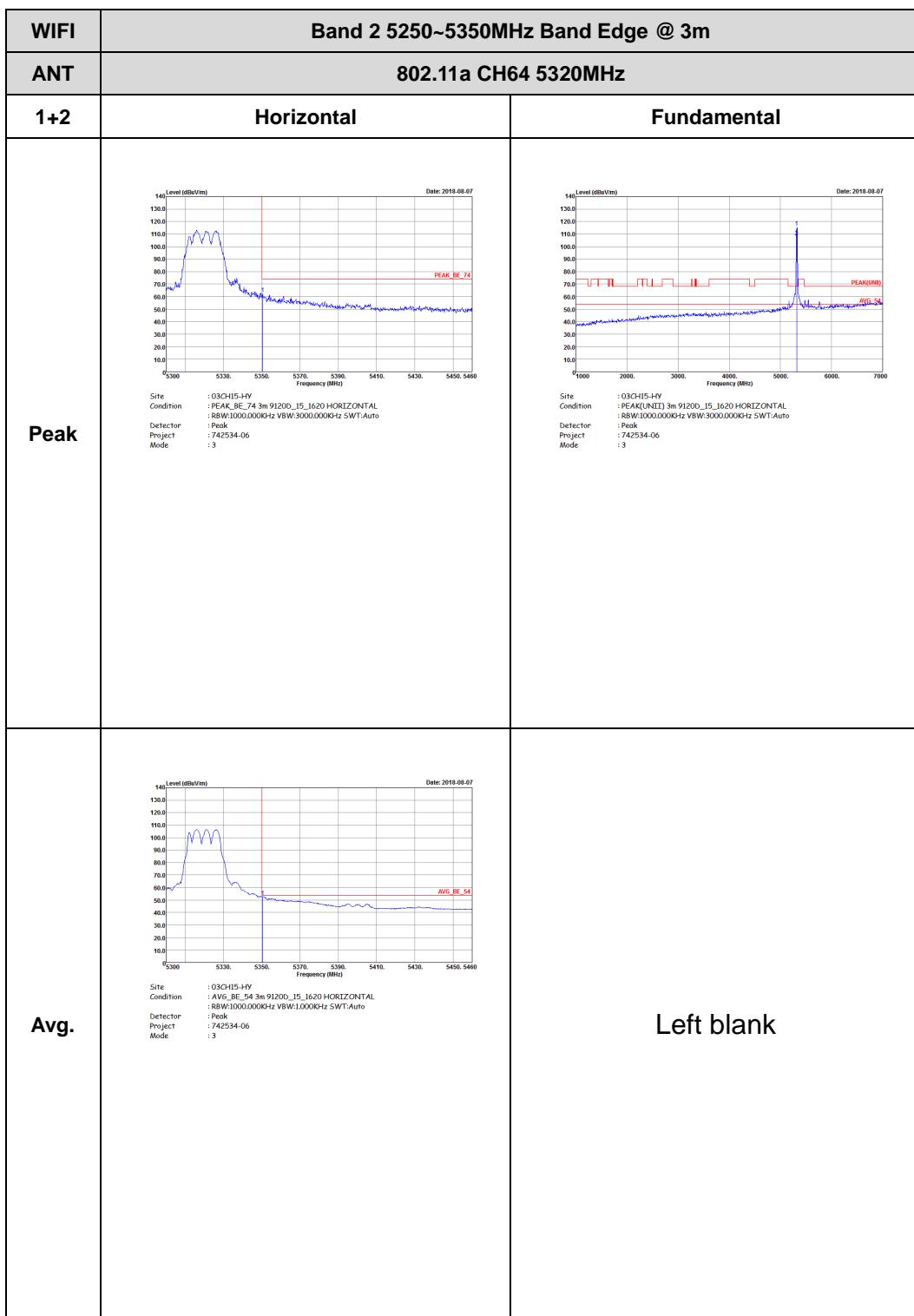


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 742534.06 : 2</p>	Left blank
Avg.	<p>Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 742534.06 : 2</p>	Left blank

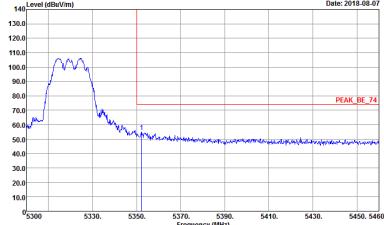
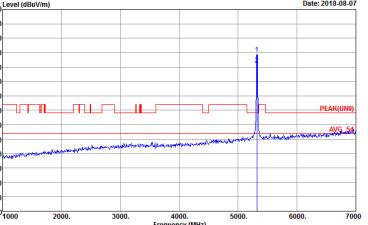




WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 742534.06 : 2	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 742534.06 : 2	Left blank

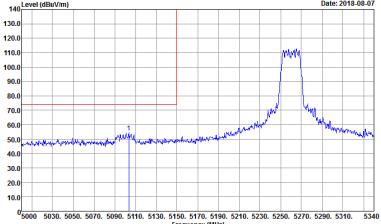
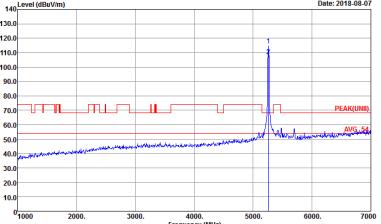
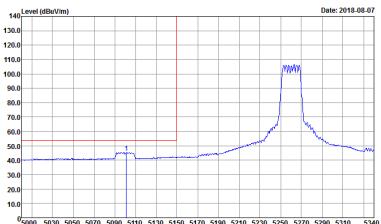




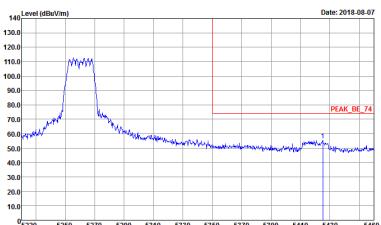
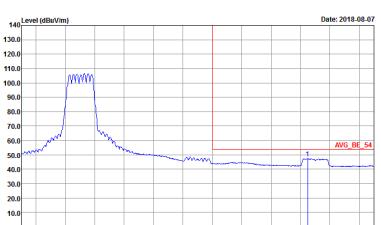
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11a CH64 5320MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAKC_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 3   Site : 03CH15-HY Condition : PCAKC_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 3	
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 3  Left blank	



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

<b>WIFI</b>	<b>Band 2 5250~5350MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11n HT20 CH52 5260MHz - L</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	 <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 4</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNIT) 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 4</p>
<b>Avg.</b>	 <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 4</p>	Left blank

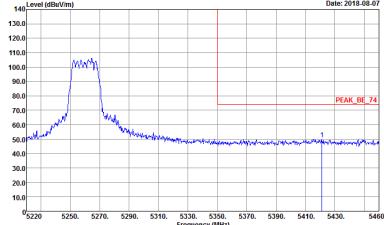
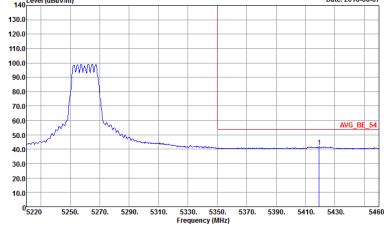


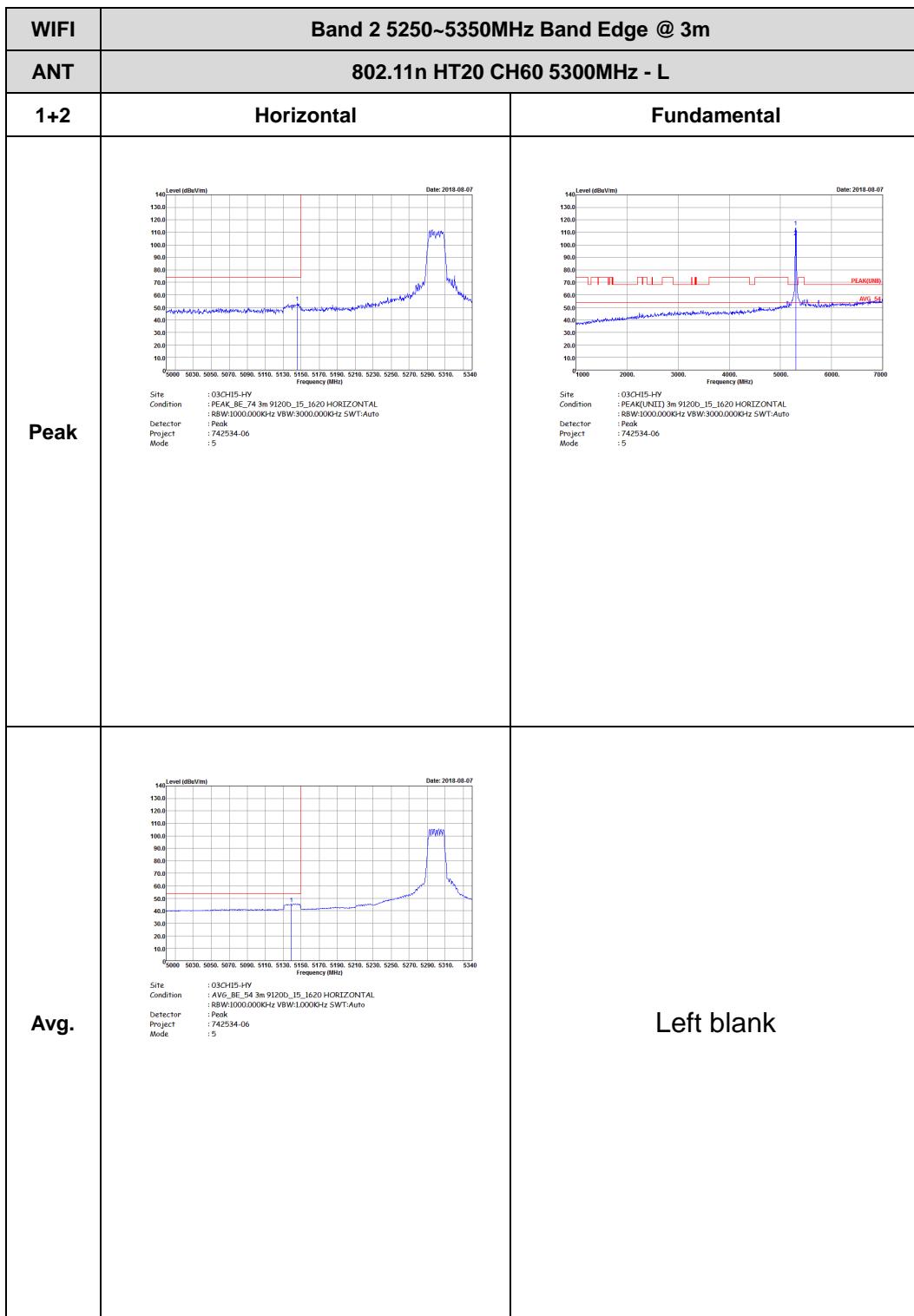
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620_HORIZONTAL Detector : R8W1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 4</p>	Left blank
Avg.	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620_HORIZONTAL Detector : R8W1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 4</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 4	 Site : 03CH15-HY Condition : PCAK(NI)I 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 4
Avg.	 Site : AVG_BE_54 3m 91200_I5_1620 VERTICAL Condition : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 4	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH52 5260MHz - R	
1+2	Vertical	Fundamental
Peak	 <p>Level (dBm/V/m) vs Frequency (MHz) Date: 2018-08-07 Site: 03CH15-HV Condition: PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector: R8W1000.000KHz VBW:3000.000KHz SWT:Auto Project: PEAK Mode: 4</p>	Left blank
Avg.	 <p>Level (dBm/V/m) vs Frequency (MHz) Date: 2018-08-07 Site: 03CH15-HV Condition: AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector: R8W1000.000KHz VBW:1.000KHz SWT:Auto Project: AVG Mode: 4</p>	Left blank





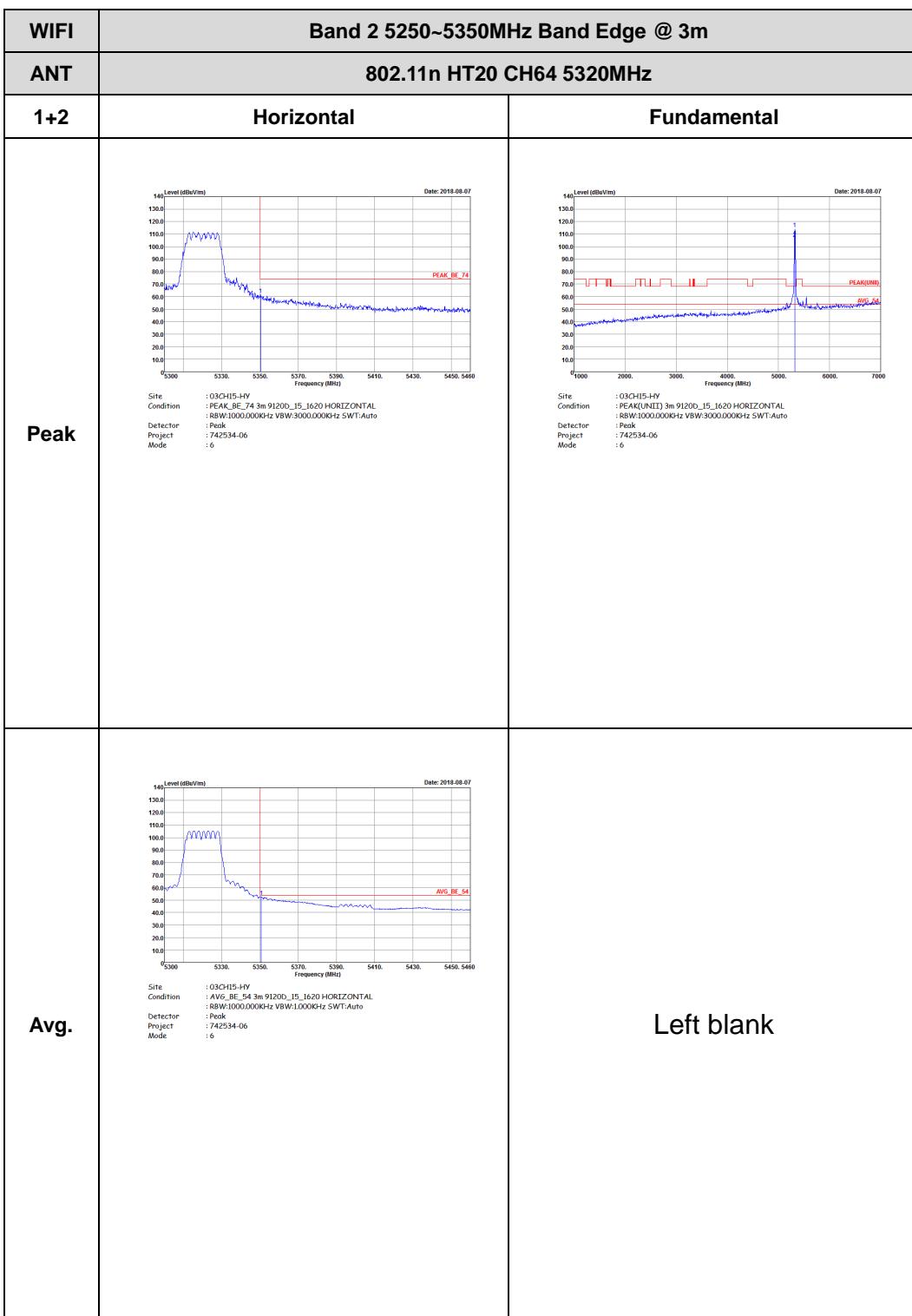
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Horizontal	Vertical
Peak	 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 5	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 5	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 5	 Site : 03CH15-HY Condition : PCAK(NI)I 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 5
Avg.	 Site : AVG_BE_54 3m 91200_I5_1620 VERTICAL Condition : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 5	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH60 5300MHz - R	
1+2	Vertical	Fundamental
Peak	 Date: 2018-08-07 Site : 03CH15-HV Condition : PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 5	Left blank
Avg.	 Date: 2018-08-07 Site : 03CH15-HV Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W1000.000KHz VBW:1.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 5	Left blank

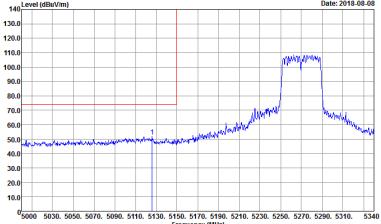
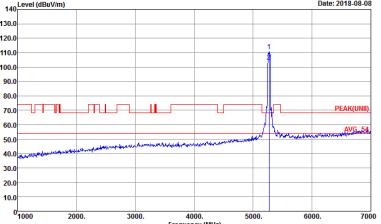
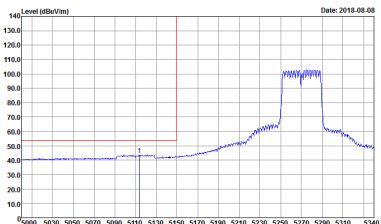




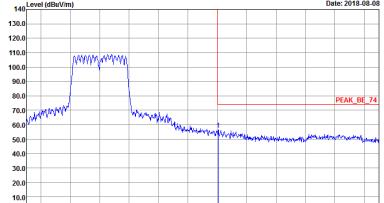
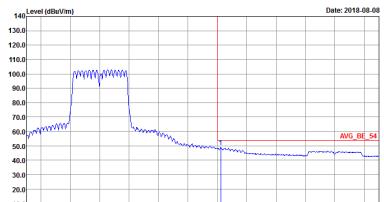
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT20 CH64 5320MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : 6	 Site : 03CH15-HY Condition : PCAK_I74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : 6
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : 742534-06 Mode : 6	Left blank

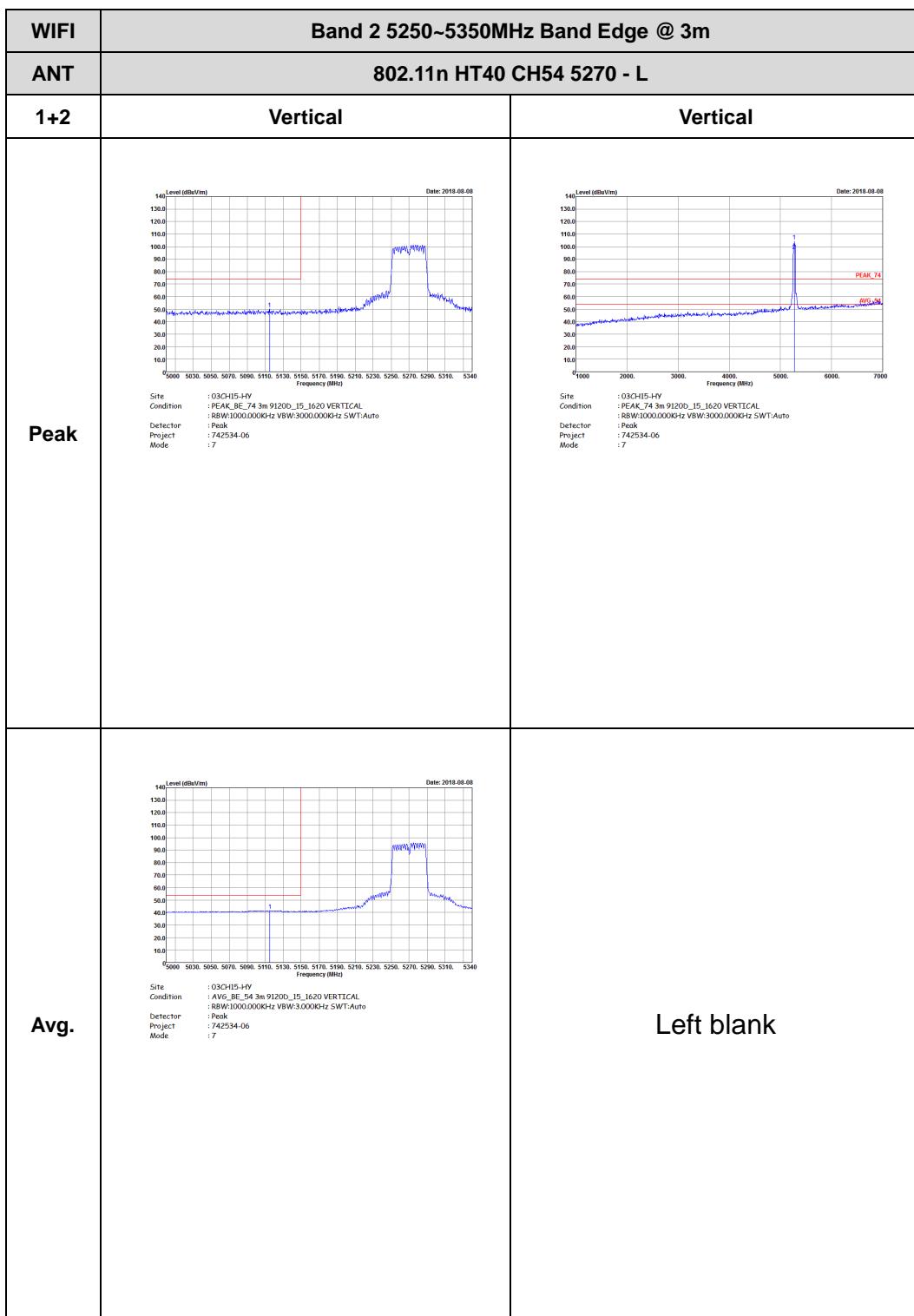


**Band 2 5250~5350MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

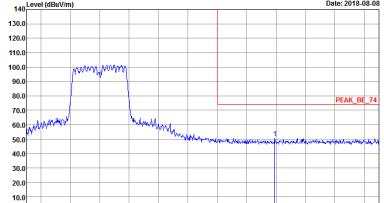
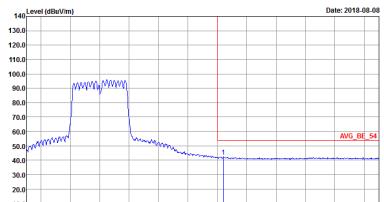
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 7	 Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 7
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 7	Left blank

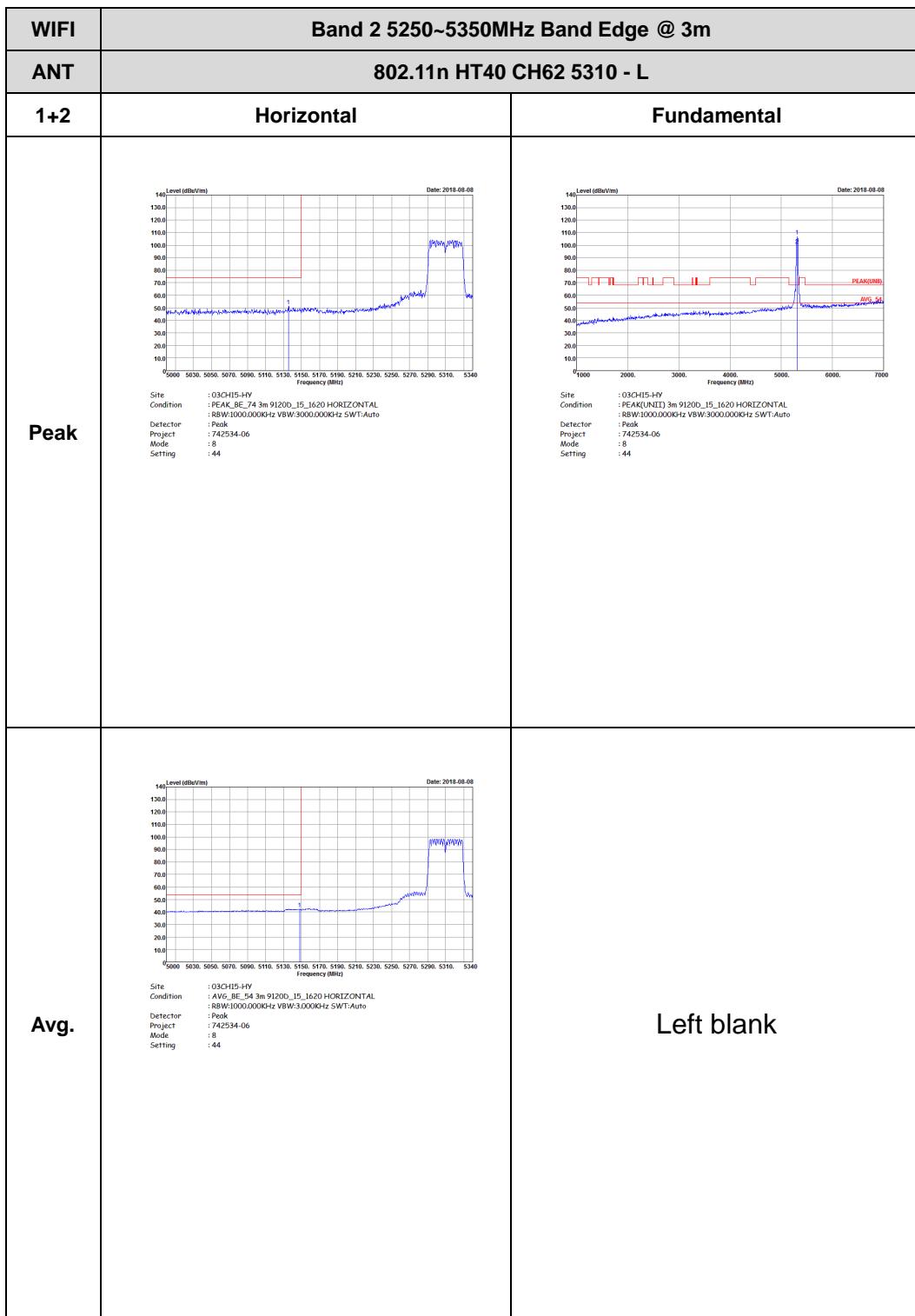


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBmV/m) vs Frequency (MHz) Date: 2018-08-08 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 7</p>	Left blank
Avg.	 <p>Level (dBmV/m) vs Frequency (MHz) Date: 2018-08-08 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 742534-06 : 7</p>	Left blank

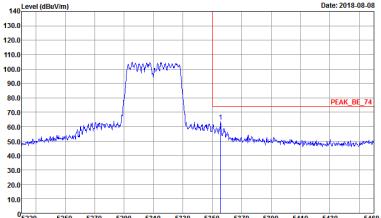
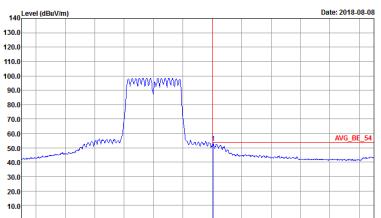




WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH54 5270 - R	
1+2	Vertical	Vertical
Peak	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 742534-06</p>	Left blank
Avg.	 <p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 742534-06</p>	Left blank





WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBmV/m) Date: 2018-08-08 Frequency (MHz) Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 8 Setting : 44</p>	Left blank
Avg.	 <p>Level (dBmV/m) Date: 2018-08-08 Frequency (MHz) Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 8 Setting : 44</p>	Left blank



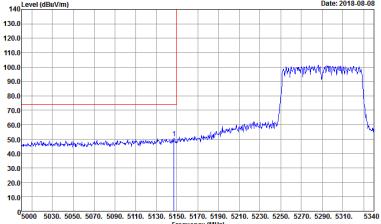
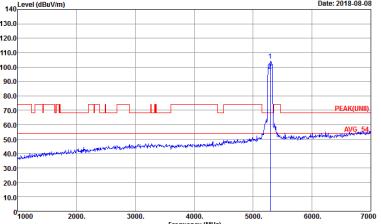
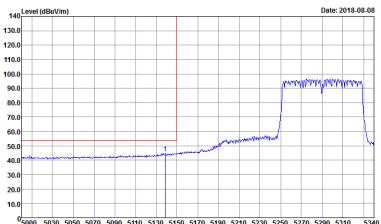
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAKC_BE_74 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 8 Setting : 44	 Site : 03CH15-HY Condition : PCAKC(NII) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 8 Setting : 44
Avg.	 Site : AVG_BE_54 3m 91200_15_1620 VERTICAL Condition : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 8 Setting : 44	Left blank



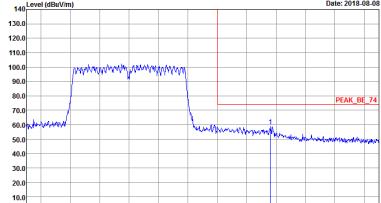
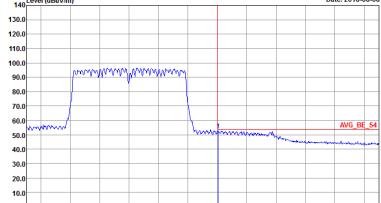
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11n HT40 CH62 5310 - R	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 8 Setting : 44	Left blank
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 742534-06 Setting : 8	Left blank



**Band 2 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Band Edge @ 3m)**

WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) Date: 2019-08-08</p> <p>Site : 03CH15-HY Condition : PEAK_BE_74 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 9 Setting : 45</p>	 <p>Level (dBuV/m) vs Frequency (MHz) Date: 2019-08-08</p> <p>Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 9 Setting : 45</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) Date: 2019-08-08</p> <p>Site : 03CH15-HY Condition : AVG_BE_54 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 9 Setting : 45</p>	Left blank

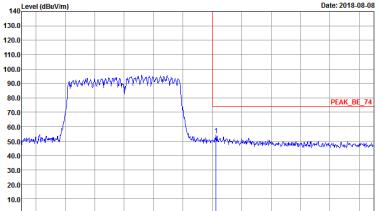
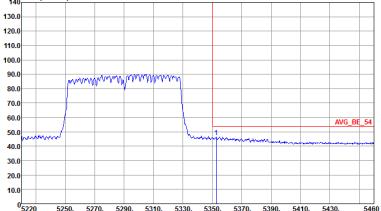


WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBmV/m) Date: 2018-08-08 Site : 03CH15-HY Condition : PCMK_BE_74 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 742534-06 Setting : 9 : 45</p>	Left blank
Avg.	 <p>Level (dBmV/m) Date: 2018-08-08 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:10.000KHz SWT:Auto Project : Peak Mode : 742534-06 Setting : 9 : 45</p>	Left blank



WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAKC_BE_74 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:10.000KHz SWT:Auto Project : Peak Mode : 9 Setting : 45	 Site : 03CH15-HY Condition : PCAKC(NITI) 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : Peak Mode : 9 Setting : 45
Avg.	 Site : 03CH15-HY Condition : AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector : R8W:1000.000KHz VBW:10.000KHz SWT:Auto Project : Peak Mode : 9 Setting : 45	Left blank

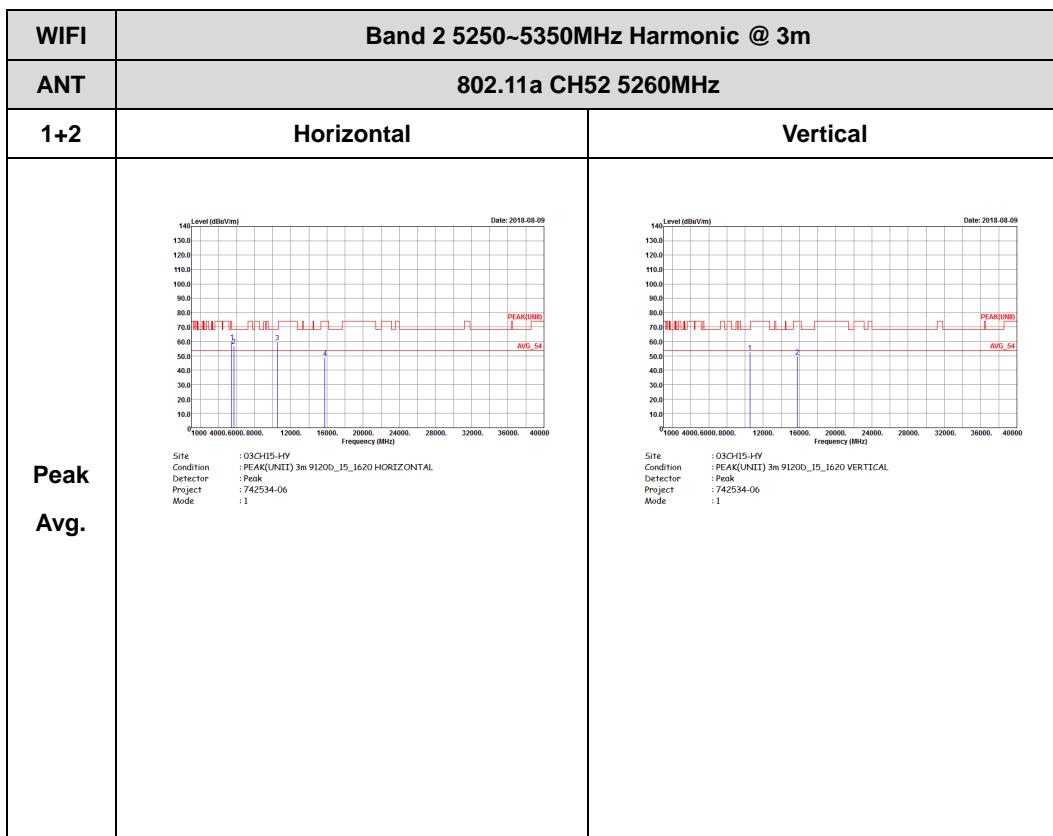


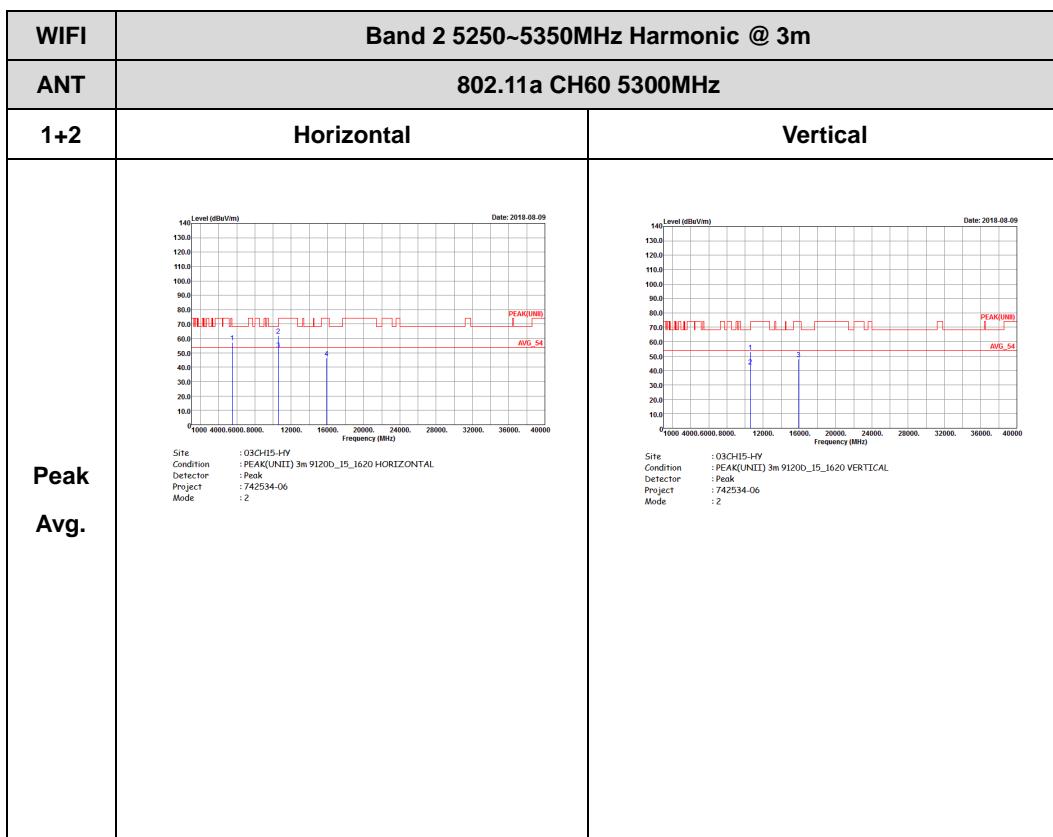
WIFI	Band 2 5250~5350MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH58 5290MHz - R	
1+2	Vertical	Fundamental
Peak	 <p>Level (dBmV/m) vs Frequency (MHz) Date: 2018-08-08 Site: 03CH15-HY Condition: PCMK_BE_74 3m 91200_I5_1620 VERTICAL Detector: R8W1000.000KHz VBW:3000.000KHz SWT:Auto Project: Peak Mode: 742534-06 Setting: 9, 45</p>	Left blank
Avg.	 <p>Level (dBmV/m) vs Frequency (MHz) Date: 2018-08-08 Site: 03CH15-HY Condition: AVG_BE_54 3m 91200_I5_1620 VERTICAL Detector: R8W1000.000KHz VBW:10.000KHz SWT:Auto Project: Peak Mode: 742534-06 Setting: 9, 45</p>	Left blank

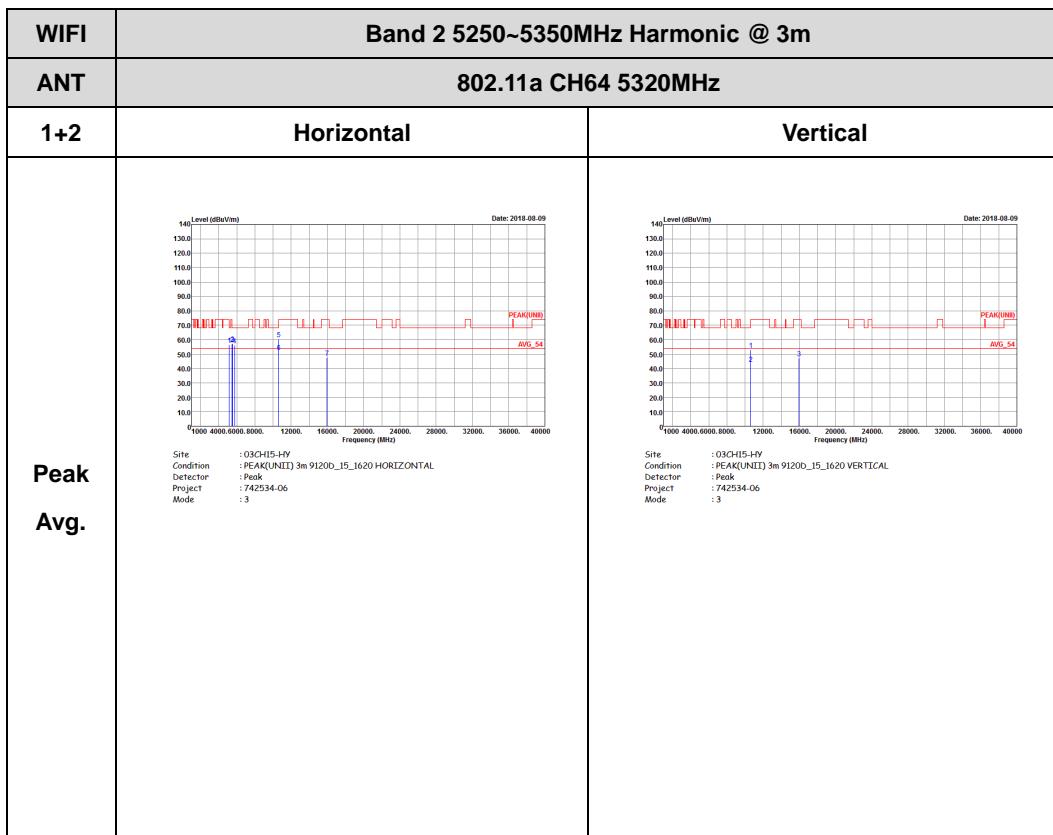


## Band 2 - 5250~5350MHz

## WIFI 802.11a (Harmonic @ 3m)

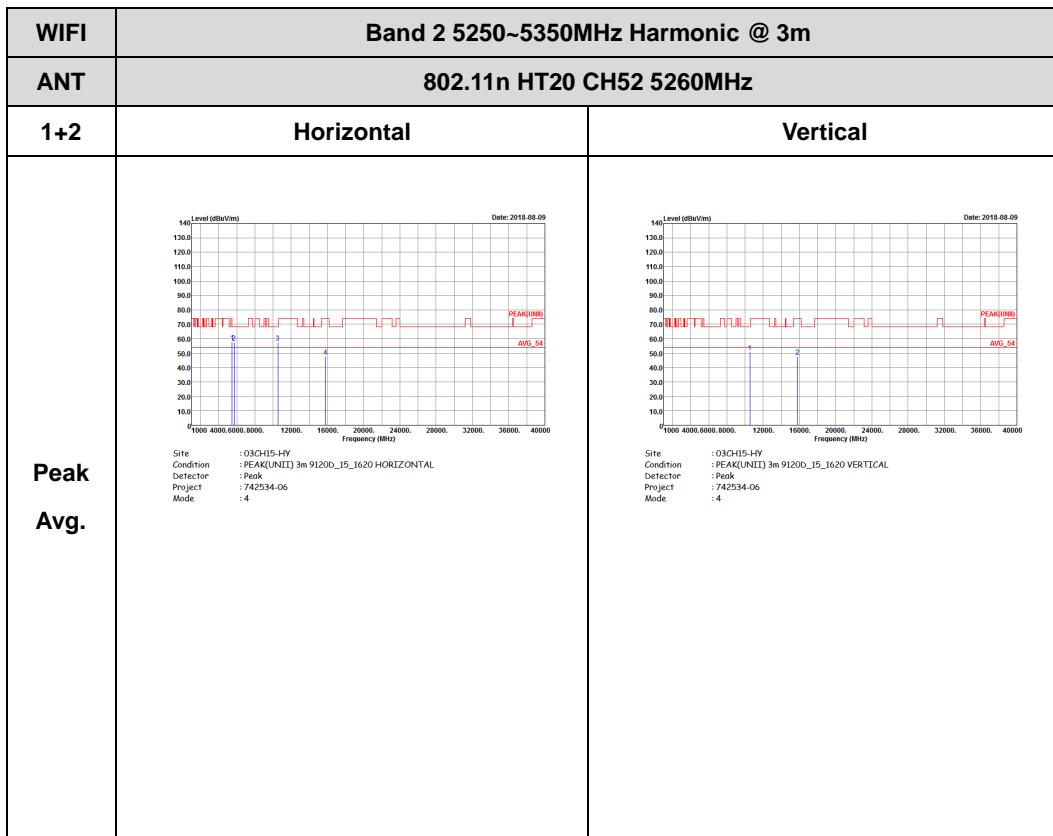


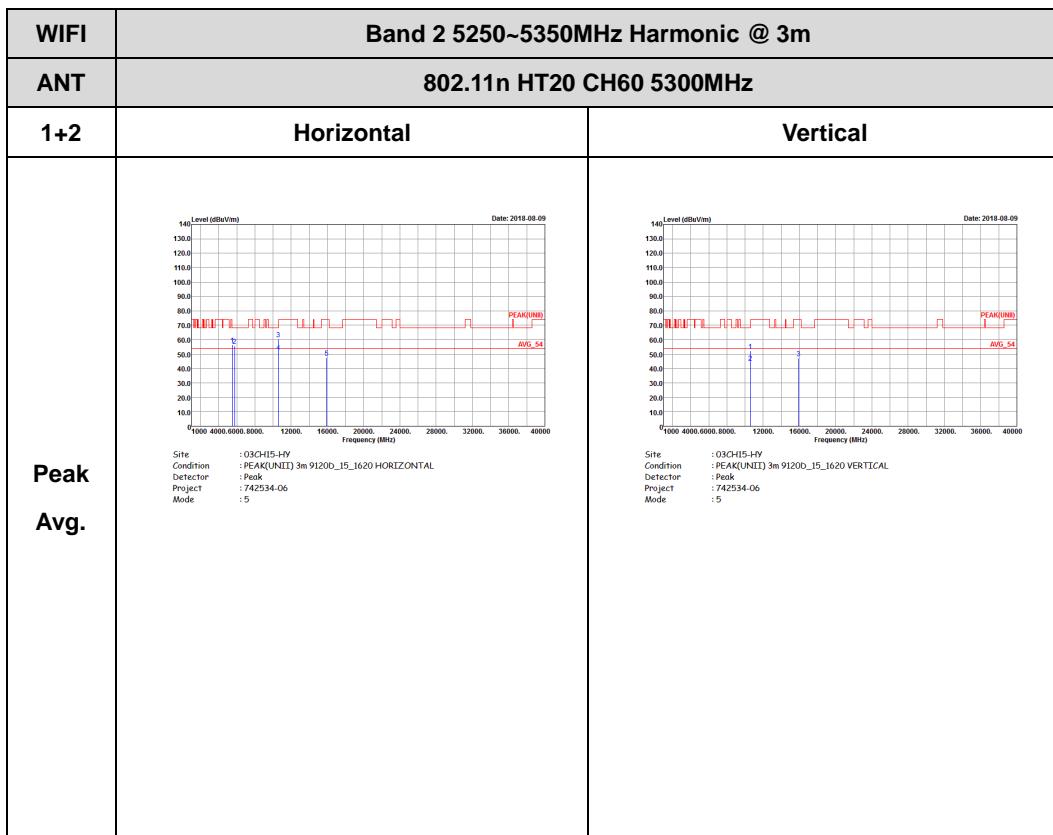


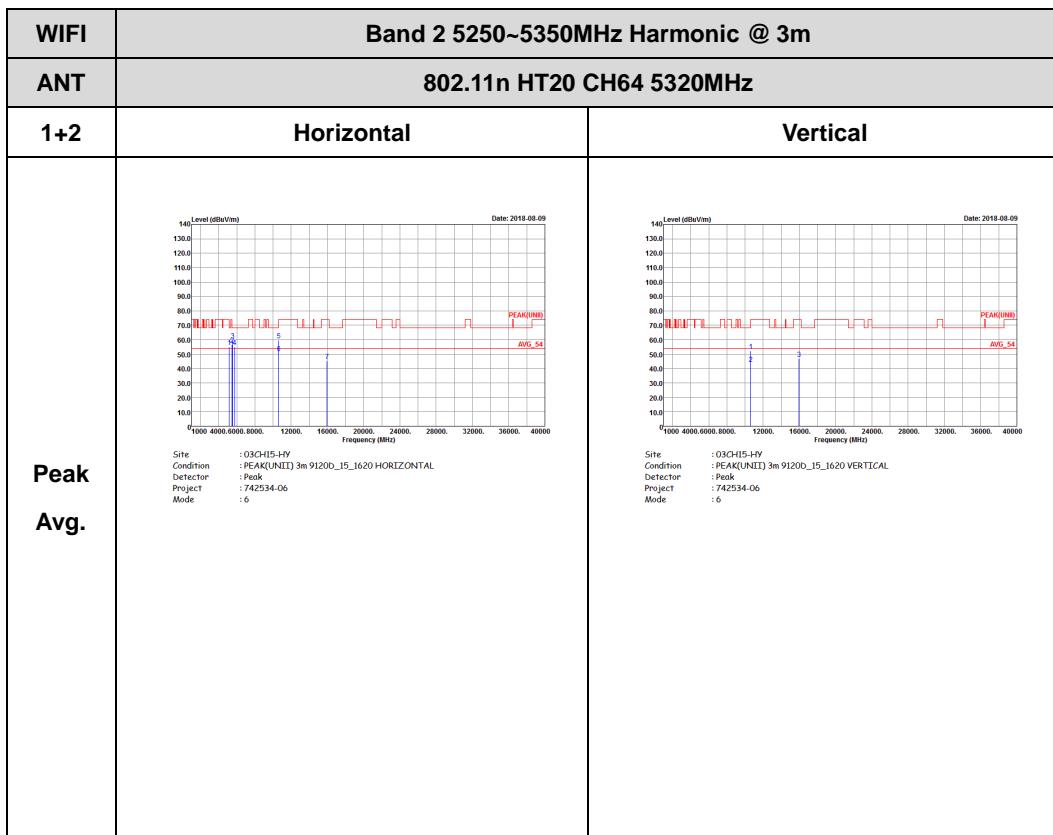




**Band 2 5250~5350MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

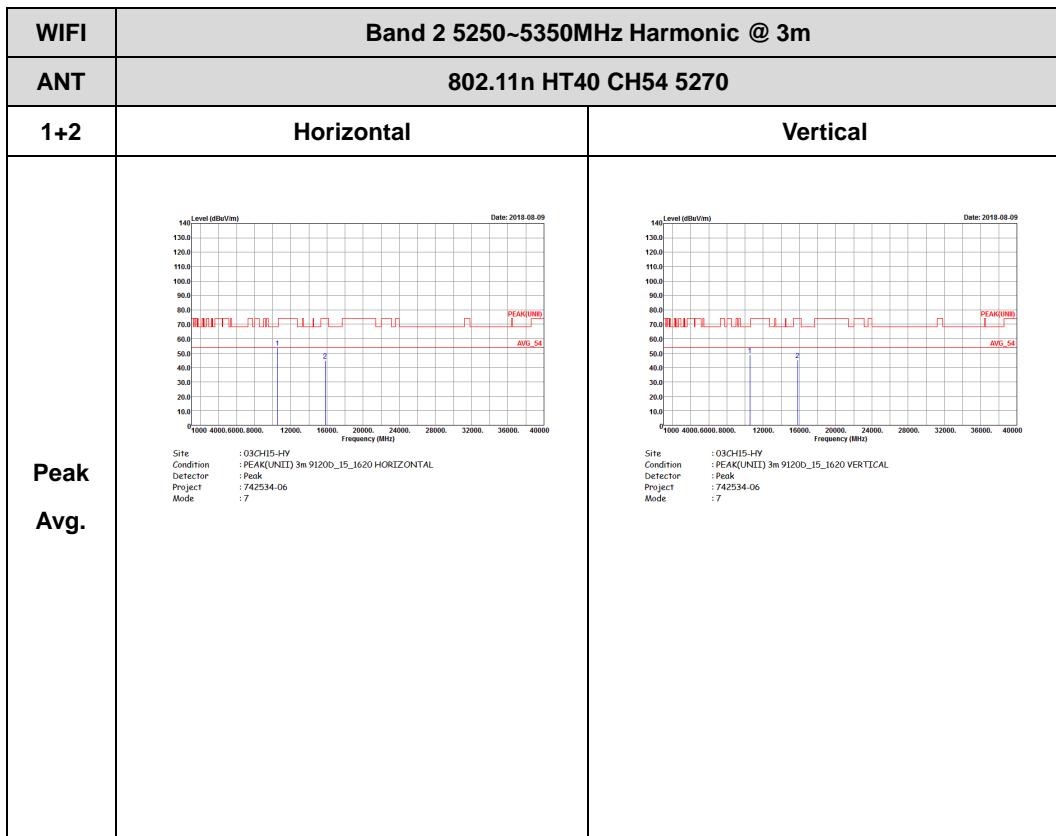


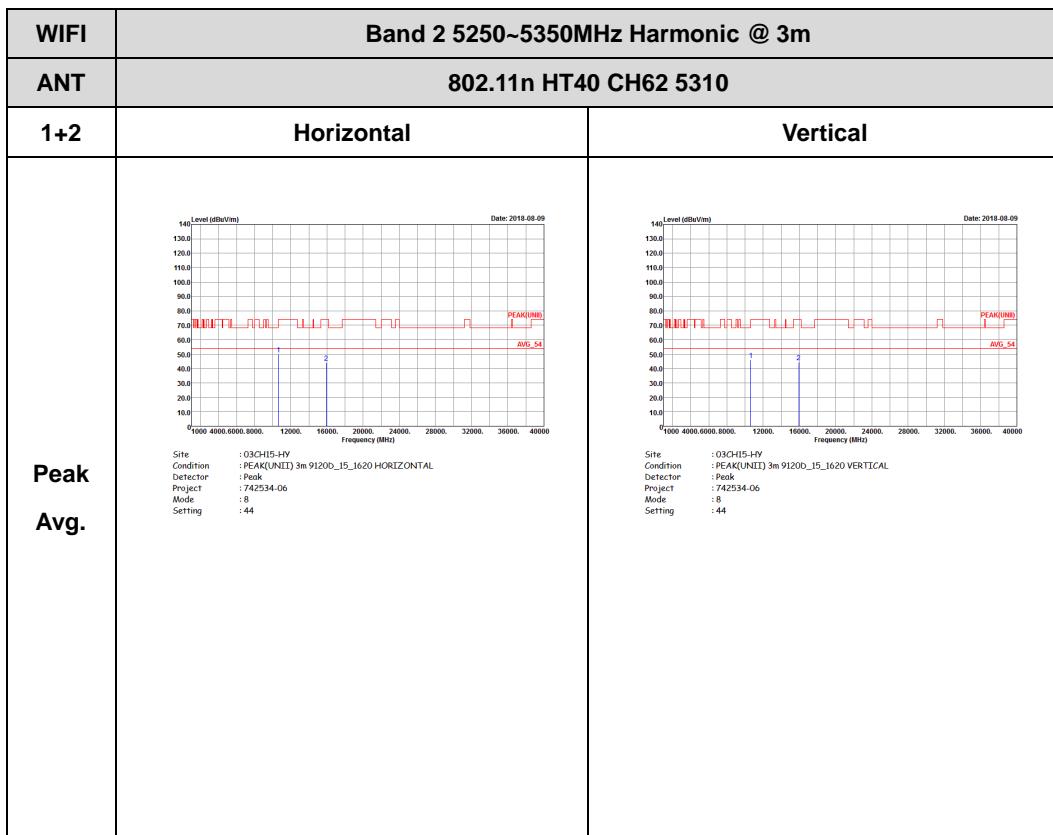






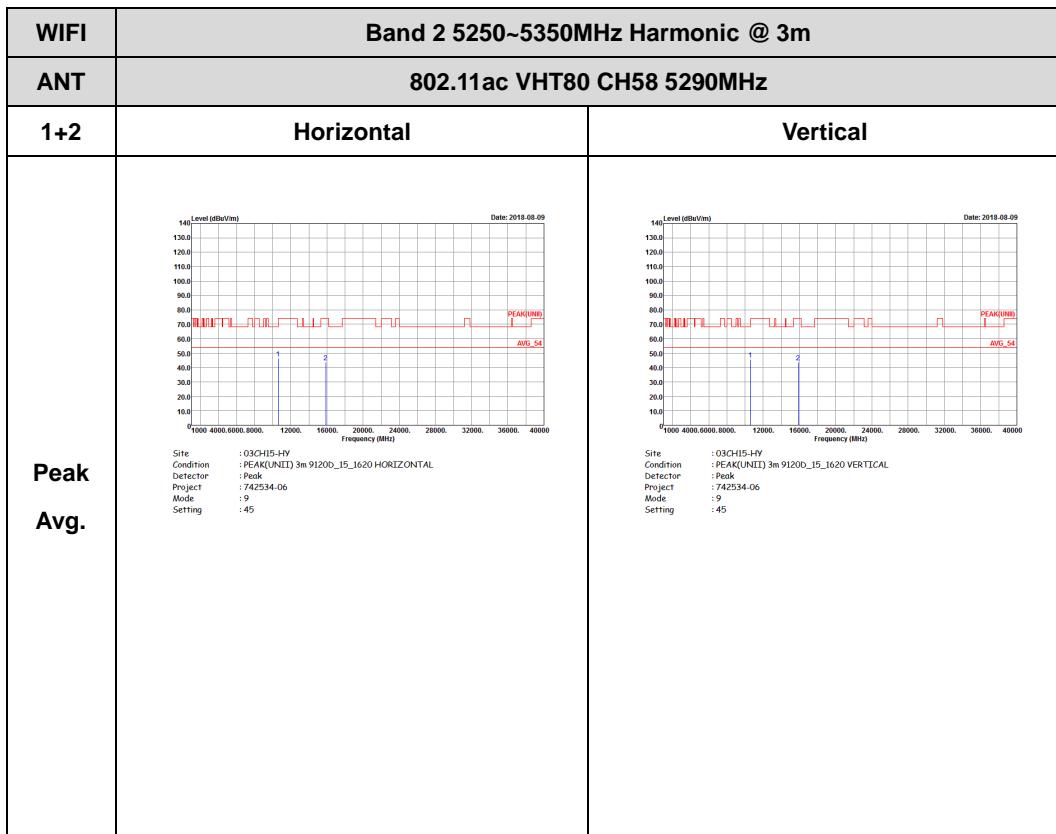
**Band 2 5250~5350MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**







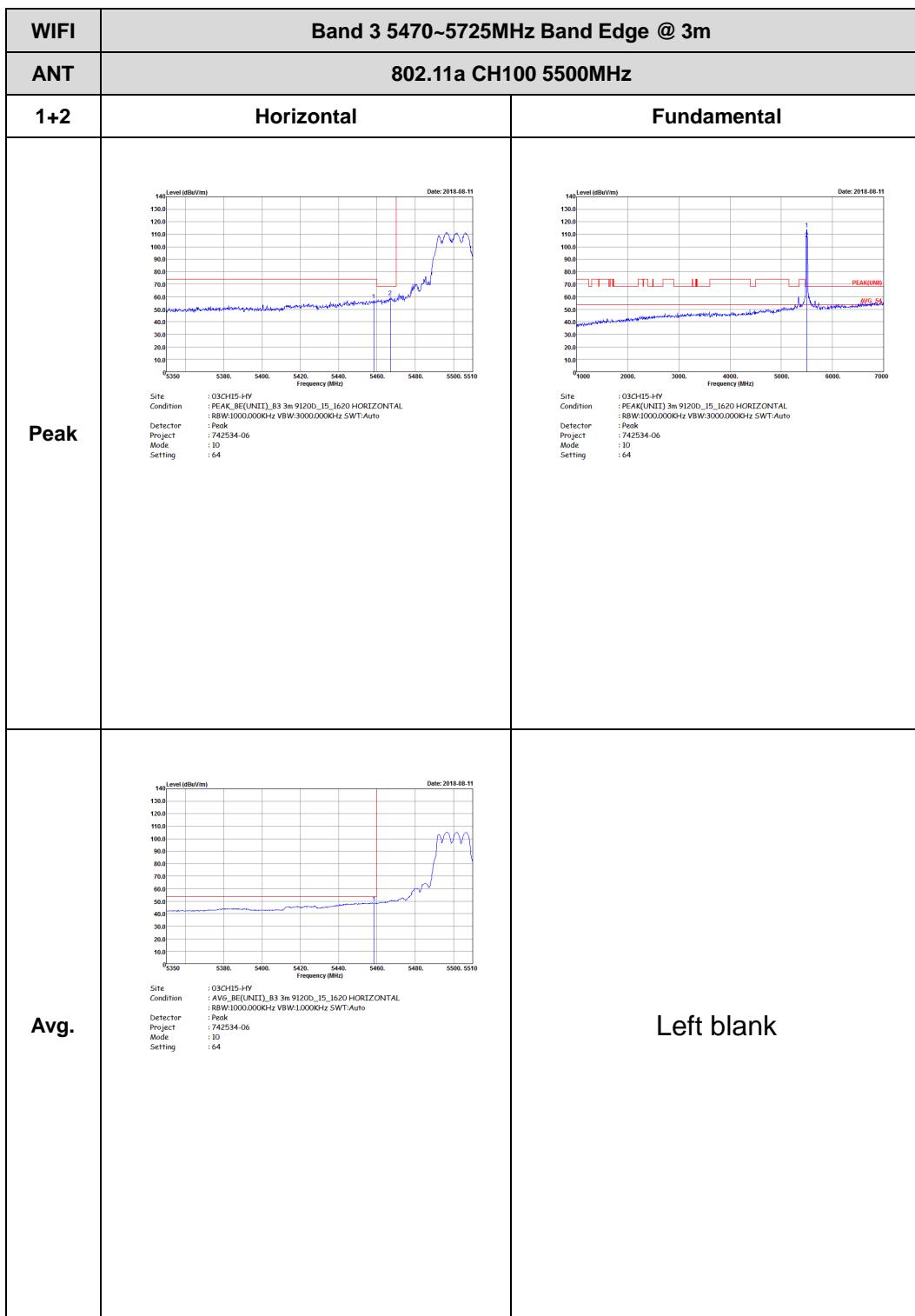
**Band 2 5250~5350MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**



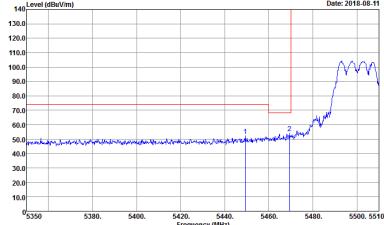
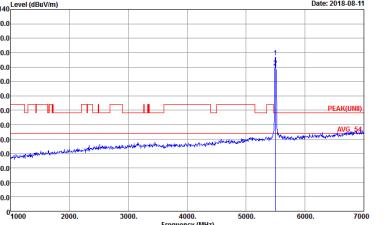
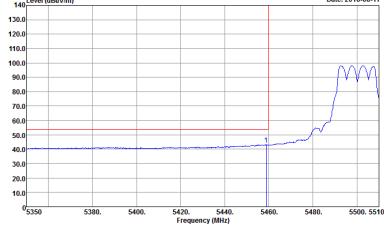


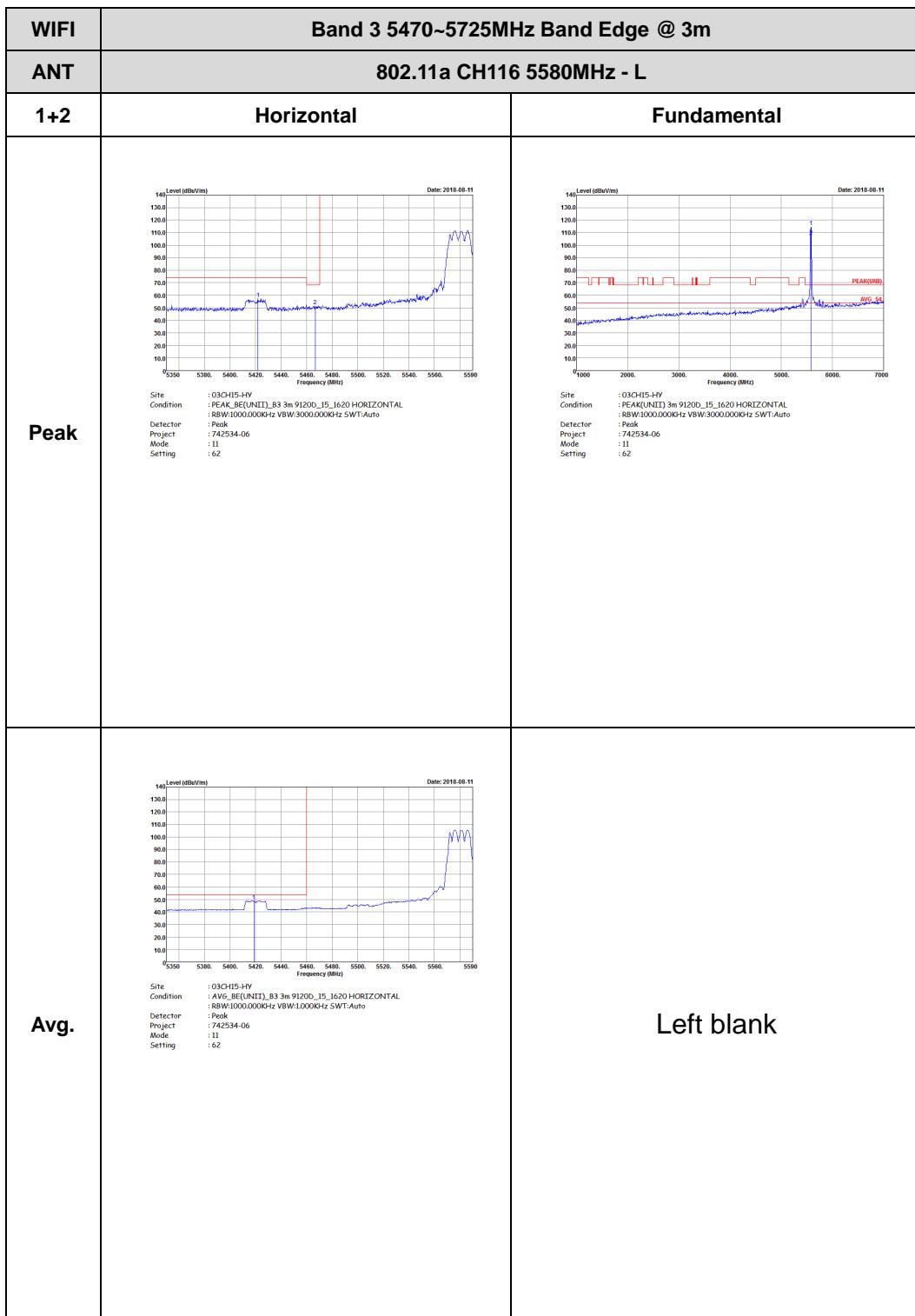
## Band 3 - 5470~5725MHz

## WIFI 802.11a (Band Edge @ 3m)



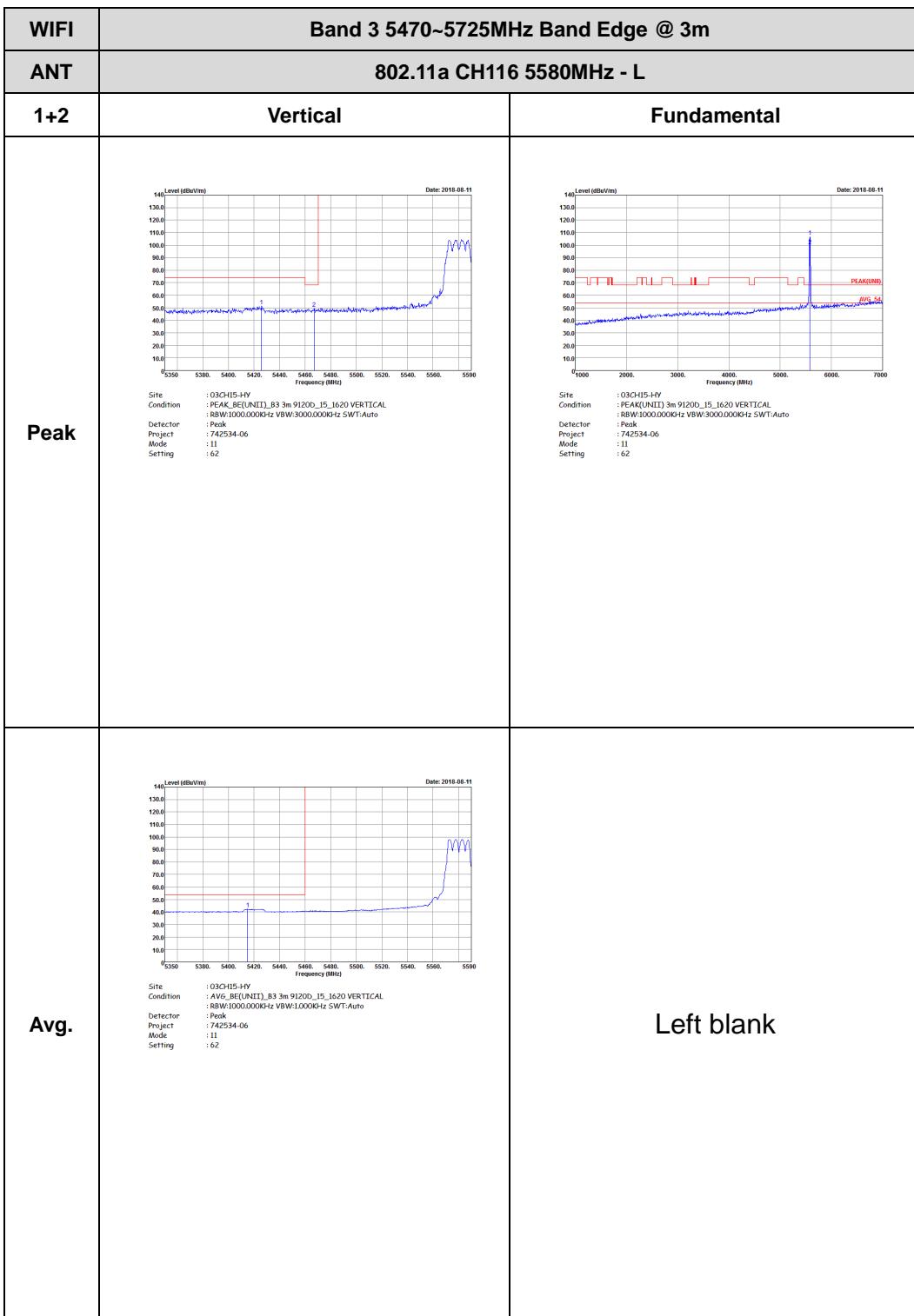


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH100 5500MHz	
1+2	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PC(AK-BE(UNIT)), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : Peak Setting : 10 Setting : 64</p>	 <p>Site : 03CH15-HY Condition : PC(AK-BE(UNIT)) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : Peak Setting : 10 Setting : 64</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG, BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : 742534-06 Mode : Peak Setting : 10 Setting : 64</p>	Left blank



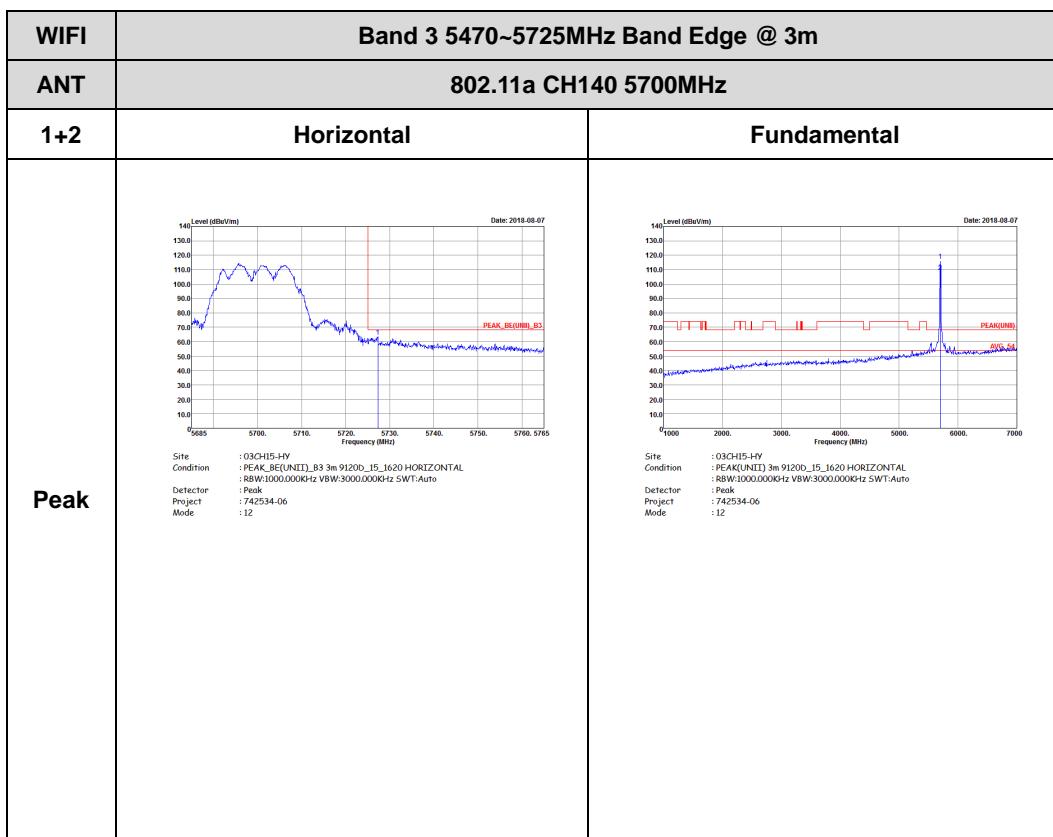


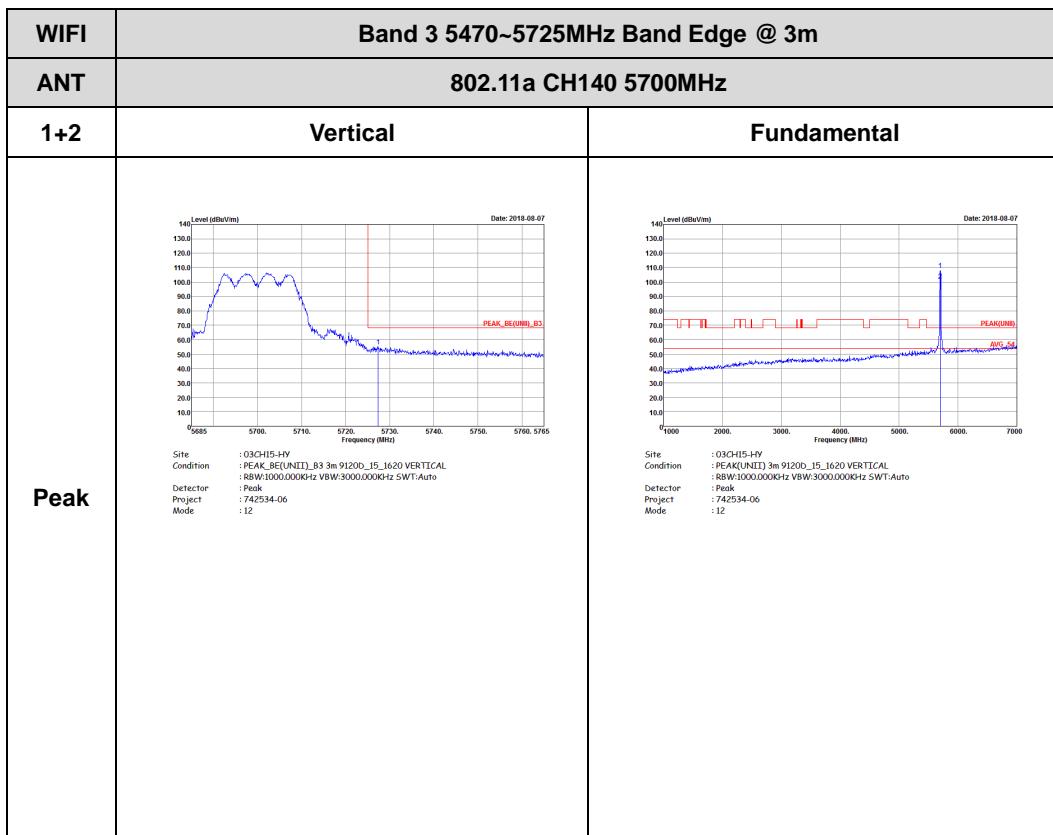
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Frequency (MHz)</p> <p>Date: 2018-08-11</p> <p>Site : 03CH15-HV Condition : PCMC_BE(UNID), B3 3m 91200_15_1620 HORIZONTAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : II Setting : 62</p>	Left blank





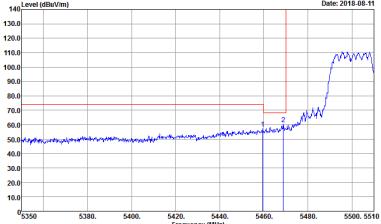
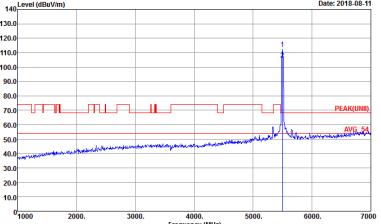
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak	<p>The figure is a spectrum plot titled "Date: 2018-08-11". The y-axis is labeled "Level (dBmV/m)" and ranges from 10.0 to 140.0. The x-axis is labeled "Frequency (MHz)" and ranges from 5450 to 5765. A blue line shows a noisy baseline with a prominent vertical red line indicating a peak at approximately 5580 MHz. The plot includes a legend and several parameters listed below:</p> <p>Site : 03CH15-HY Condition : FCC-BE(UNID), B3 3m 91200_15_1620 VERTICAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : II Setting : 62</p> <p>Left blank</p>	





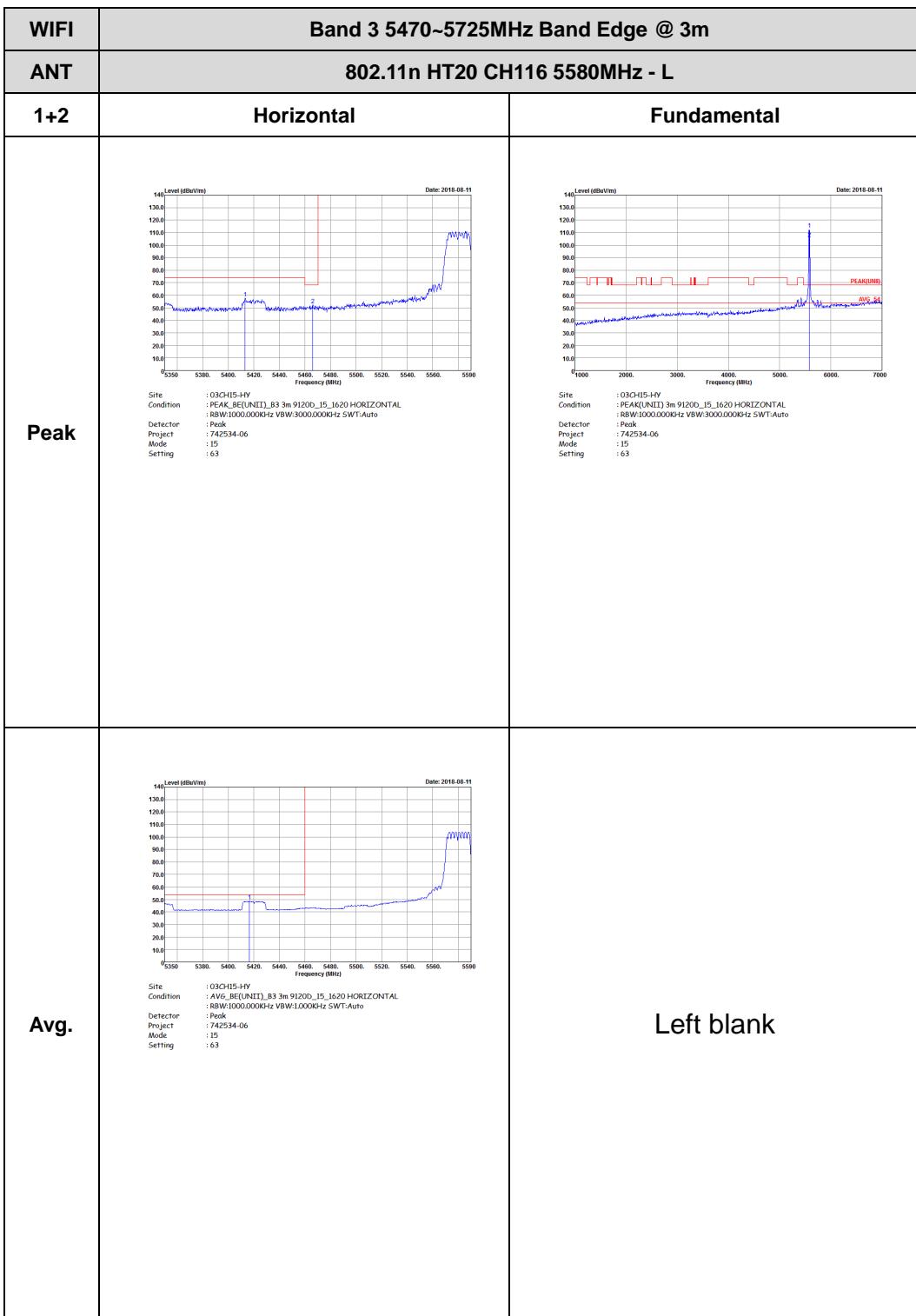


**Band 3 5470~5725MHz**  
**WIFI 802.11n HT20 (Band Edge @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PEAK(BE(UNIT))_B3 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 14 Setting : 64	 Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 14 Setting : 64
Avg.	 Site : 03CH15-HY Condition : AVG_B(E(UNIT))_B3 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:1.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 14 Setting : 64	Left blank

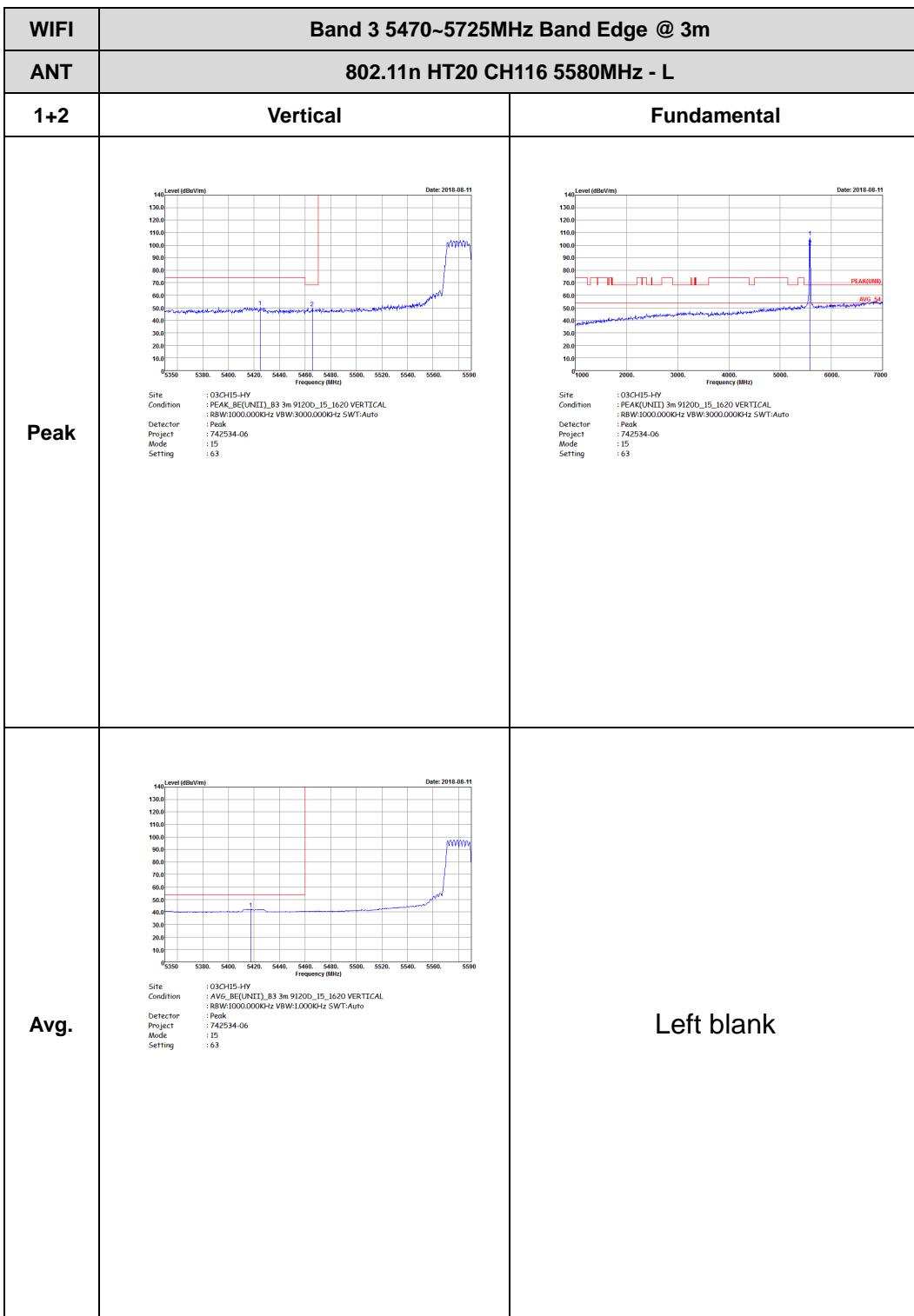


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH100 5500MHz	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAKC_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : 14 Setting : 64	 Site : 03CH15-HY Condition : PCAKC_BE(UNIT) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000Hz SWT:Auto Project : 742534-06 Mode : 14 Setting : 64
Avg.	 Site : 03CH15-HY Condition : AVG_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : 742534-06 Mode : 14 Setting : 64	Left blank



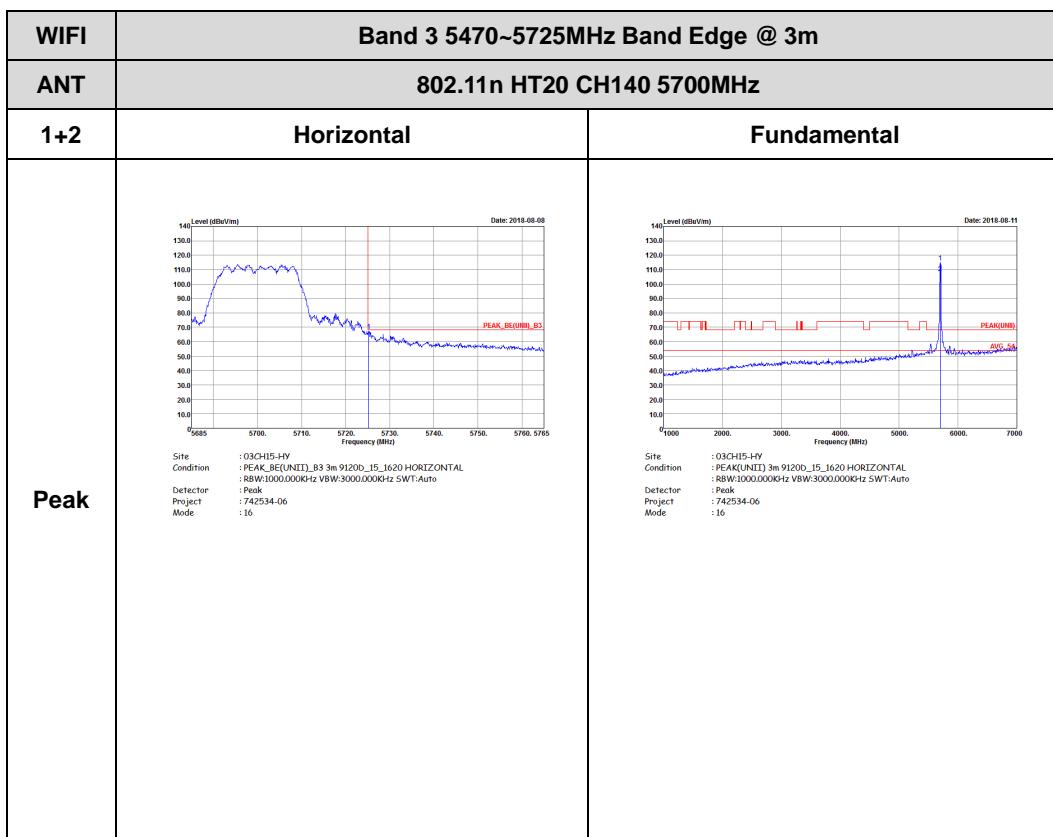


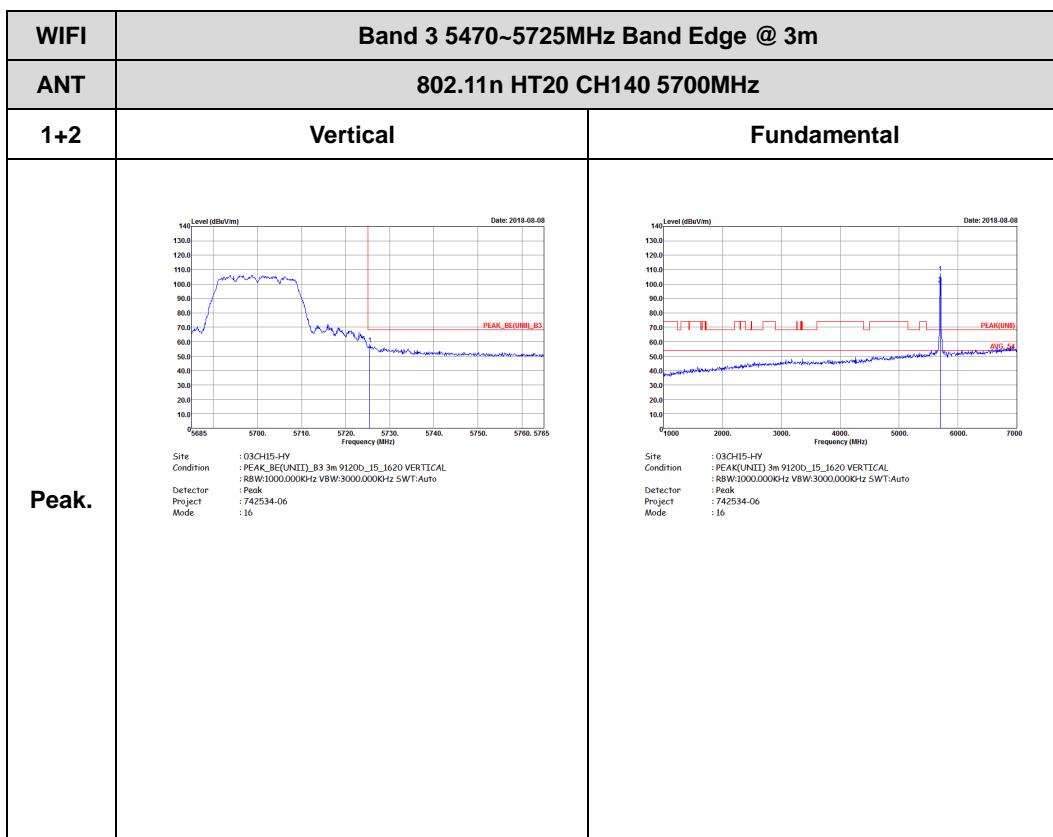
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBm/Hz)</p> <p>Date: 2018-08-11</p> <p>Frequency (MHz)</p> <p>PEAK_BE(dBm/Hz)</p> <p>Site : 03CH15-HV Condition : FCC-BE(UNIT), B3 3m 91200_15_1620 HORIZONTAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 15 Setting : 63</p>	Left blank





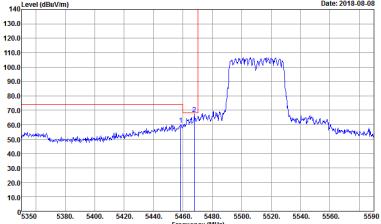
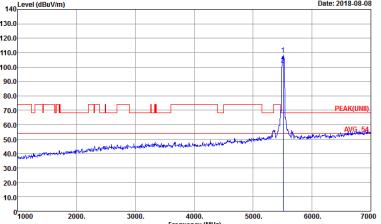
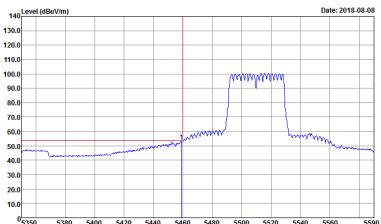
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH116 5580MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-11</p> <p>Frequency (MHz)</p> <p>PEAK_BE(dBmV/m)</p> <p>Site : 03CH15-HY Condition : FCC-BE(UNID), B3 3m 91200_15_1620 VERTICAL Detector : 188W/1000.000KHz VSWR:3000.0000Hz SWR:Auto Project : Peak Mode : 15 Setting : 63</p>	Left blank





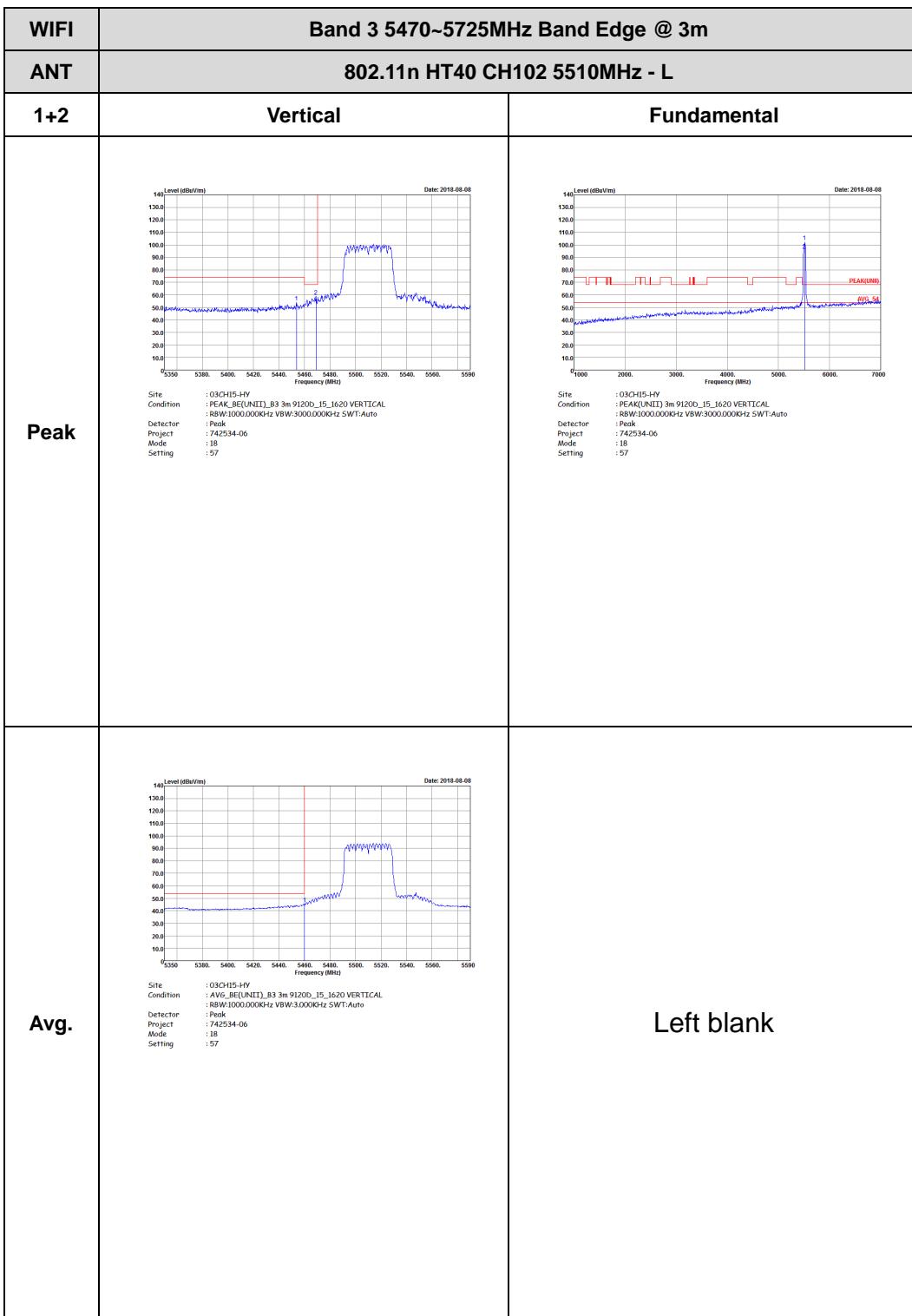


**Band 3 5470~5725MHz**  
**WIFI 802.11n HT40 (Band Edge @ 3m)**

<b>WIFI</b>	<b>Band 3 5470~5725MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11n HT40 CH102 5510MHz - L</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	 <p>Site : 03CH15-HY Condition : PEAK(BE(UNIT))_B3 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 18 Setting : 57</p>	 <p>Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 18 Setting : 57</p>
<b>Avg.</b>	 <p>Site : 03CH15-HY Condition : AVG(BE(UNIT))_B3 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3.000KHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 18 Setting : 57</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE(UNID), B3 3m 91200_15_1620 HORIZONTAL Detector : 18W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 18 Setting : 57</p>	Left blank





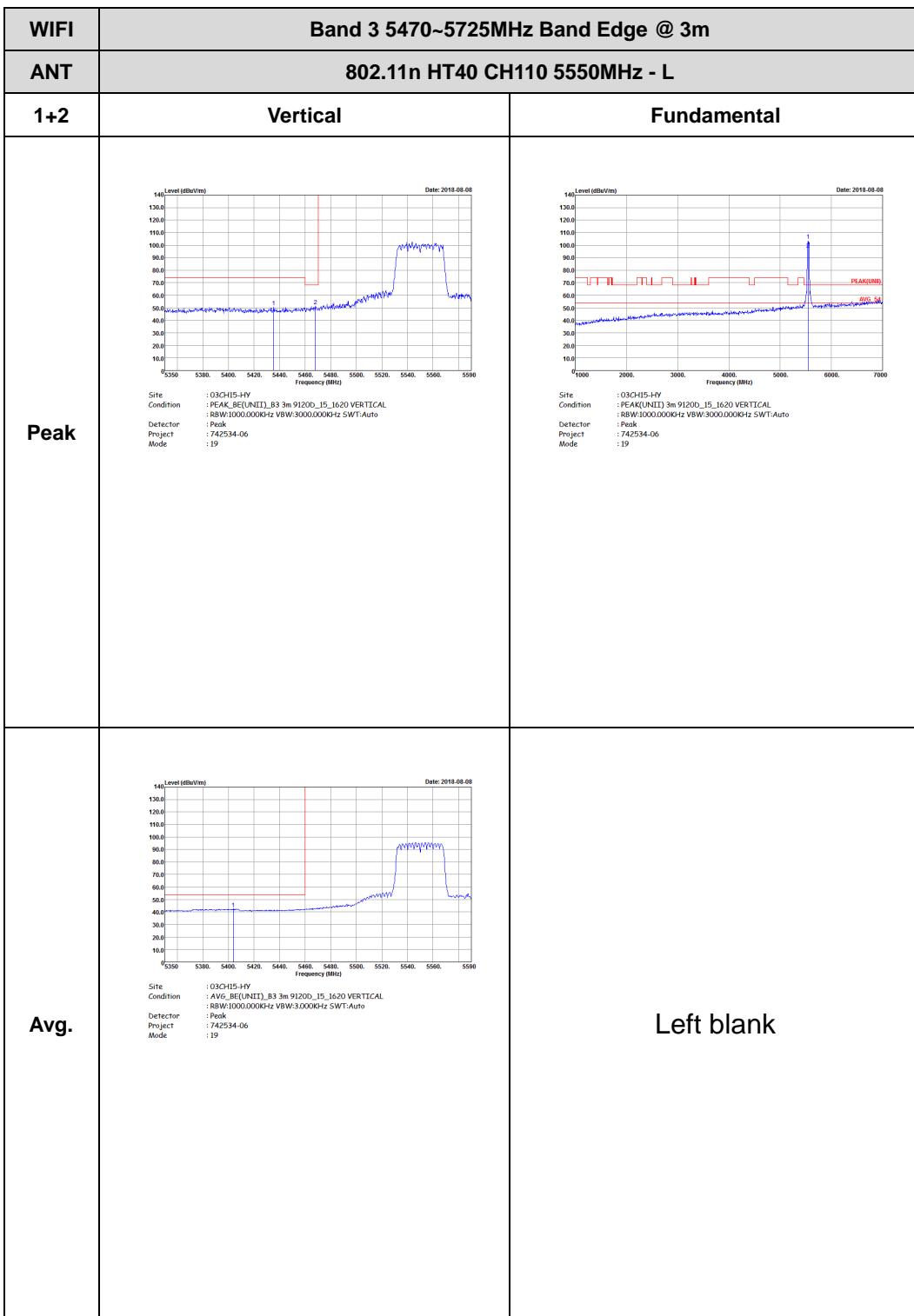
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH102 5510MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBm/V/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HV Condition : PCMK_BE(UNID), 83 3m 91200_15_1620 VERTICAL Detector : Peak Project : 742534-06 Mode : 18 Setting : 57</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAK_BEU(UNIT), B3 3m 91200_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 19	 Site : 03CH15-HY Condition : PCAK_BEU(UNIT) 3m 91200_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 19
Avg.	 Site : 03CH15-HY Condition : AVG_BE(UNIT), B3 3m 91200_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : Peak Mode : 19	Left blank

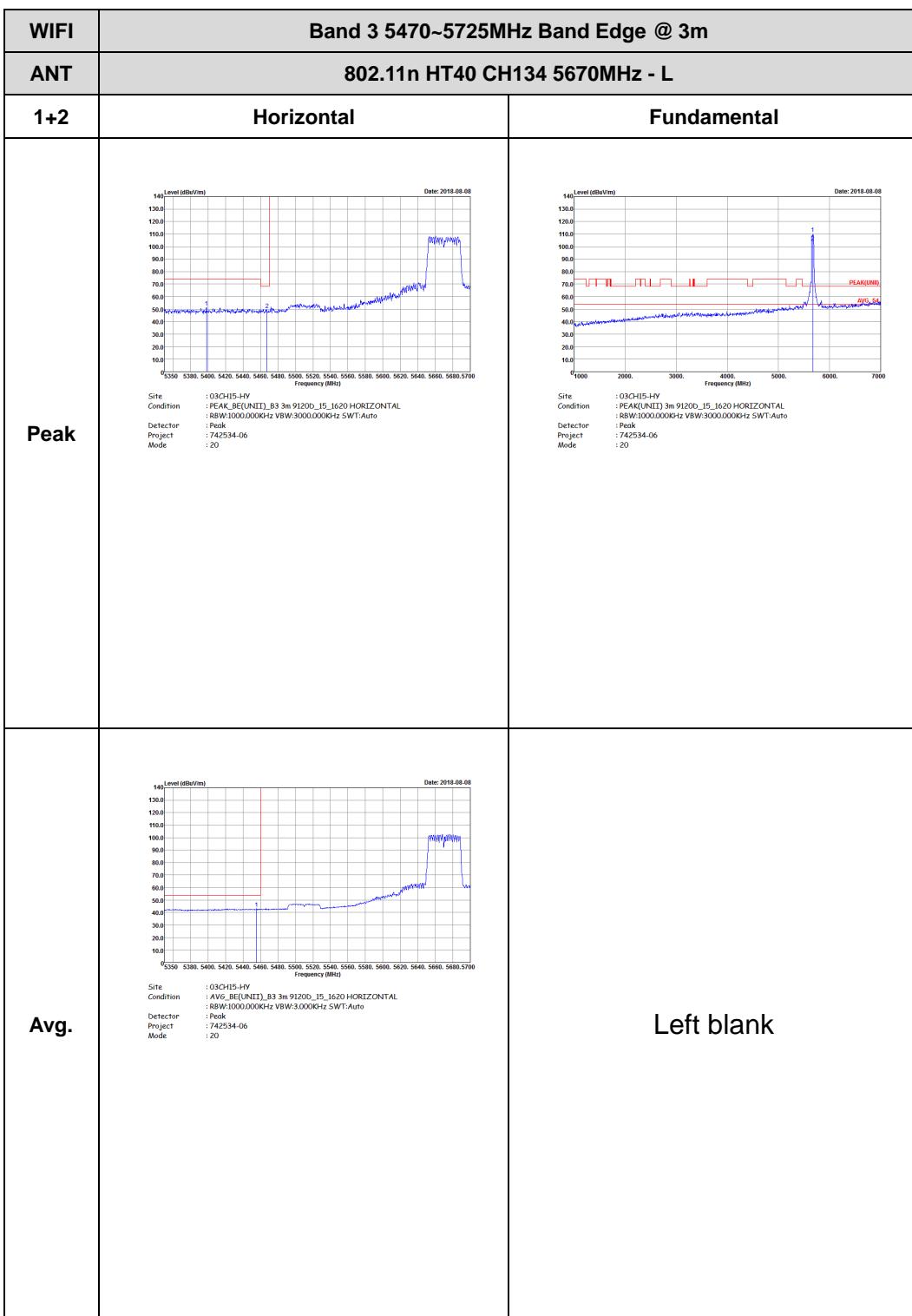


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : FCC-BE(UNIT), B3 3m 91200_15_1620 HORIZONTAL Detector : 188W1000.000KHz VSW-3000.0000Hz SWT:Auto Detector Project : Peak Mode : 19</p>	Left blank





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH110 5550MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE(UNID), B3 3m 91200_15_1620 VERTICAL Detector : 188W1000.000KHz VSW-3000.0000Hz SWT:Auto Project : Peak Mode : 19</p>	Left blank





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>PEAK_BE(0dB)_B3</p> <p>Site : 03-H15-HY Condition : FCC-BE(UNID)_B3 3m 91200_15_1620 HORIZONTAL Detector : 18W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 20</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAK_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : 742534-06 Mode : 20	 Site : 03CH15-HY Condition : PCAK_BN(UNIT) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : 742534-06 Mode : 20
Avg.	 Site : 03CH15-HY Condition : AVG_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3.000KHz SWT:Auto Project : 742534-06 Mode : 20	Left blank

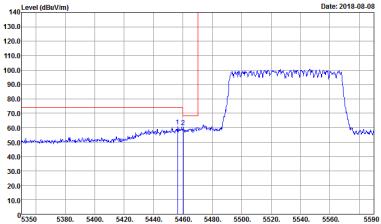
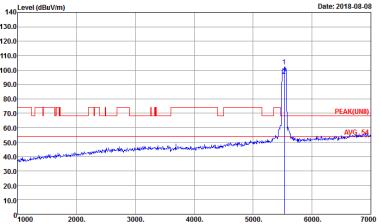
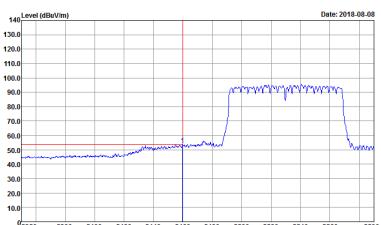


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH134 5670MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Frequency (MHz)</p> <p>Date: 2018-08-08</p> <p>Site : 03-CH15-HY Condition : PCMK_BE(UNID)_B3 3m 91200_15_1620 VERTICAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 20</p>	Left blank



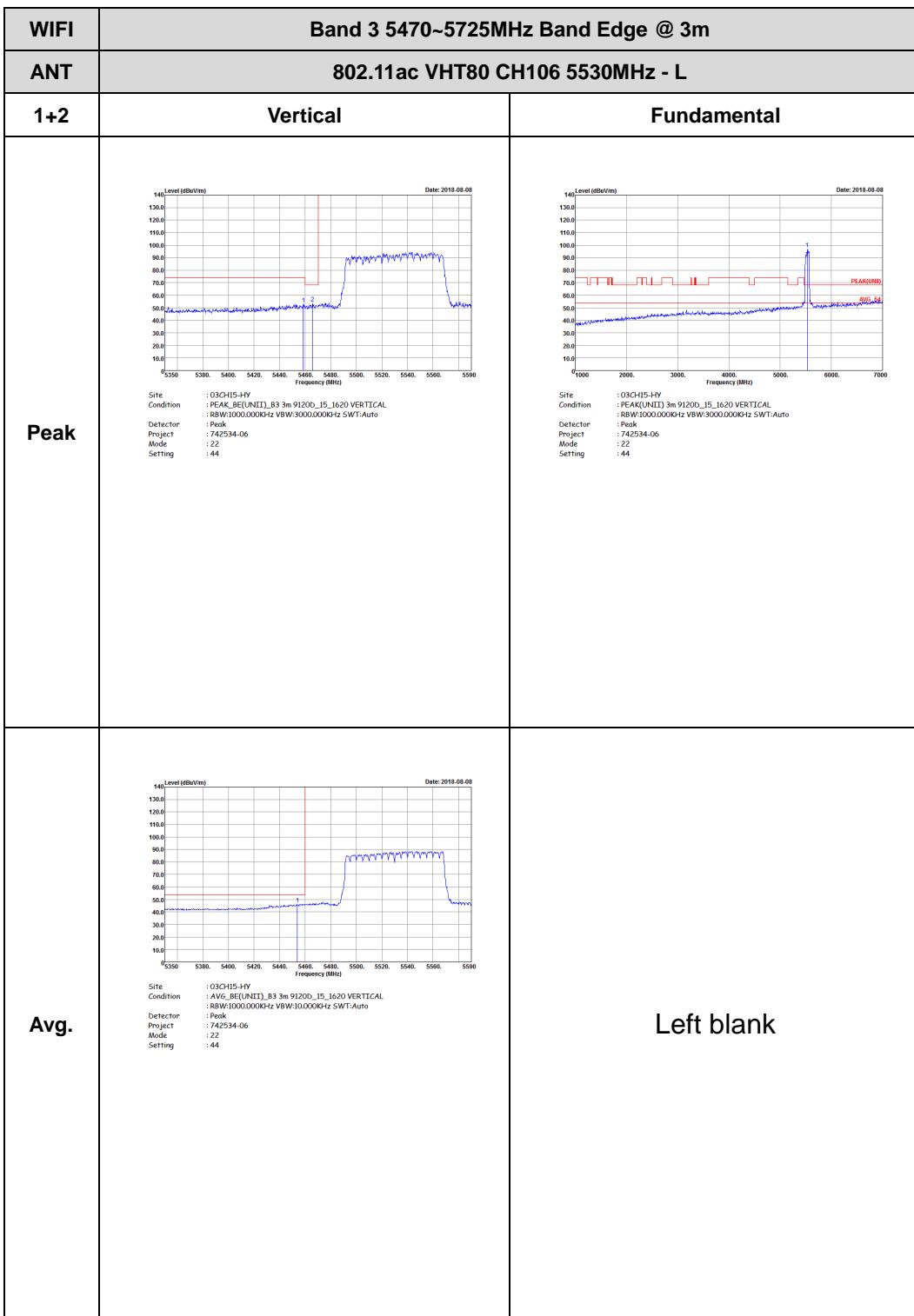
## Band 3 5470~5725MHz

WIFI 802.11ac VHT80 (Band Edge @ 3m)

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - L	
1+2	Horizontal	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : PEAK_BE(UNIT) .B3 3m 9120D_15_1620 HORIZONTAL Detector : Peak Project : 742534-06 Mode : 22 Setting : 44</p>	 <p>Site : 03CH15-HY Condition : PEAK_BE(UNIT) .B3 3m 9120D_15_1620 HORIZONTAL Detector : Peak Project : 742534-06 Mode : 22 Setting : 44</p>
Avg.	 <p>Site : 03CH15-HY Condition : AVG_BE(UNIT) .B3 3m 9120D_15_1620 HORIZONTAL Detector : Peak Project : 742534-06 Mode : 22 Setting : 44</p>	Left blank

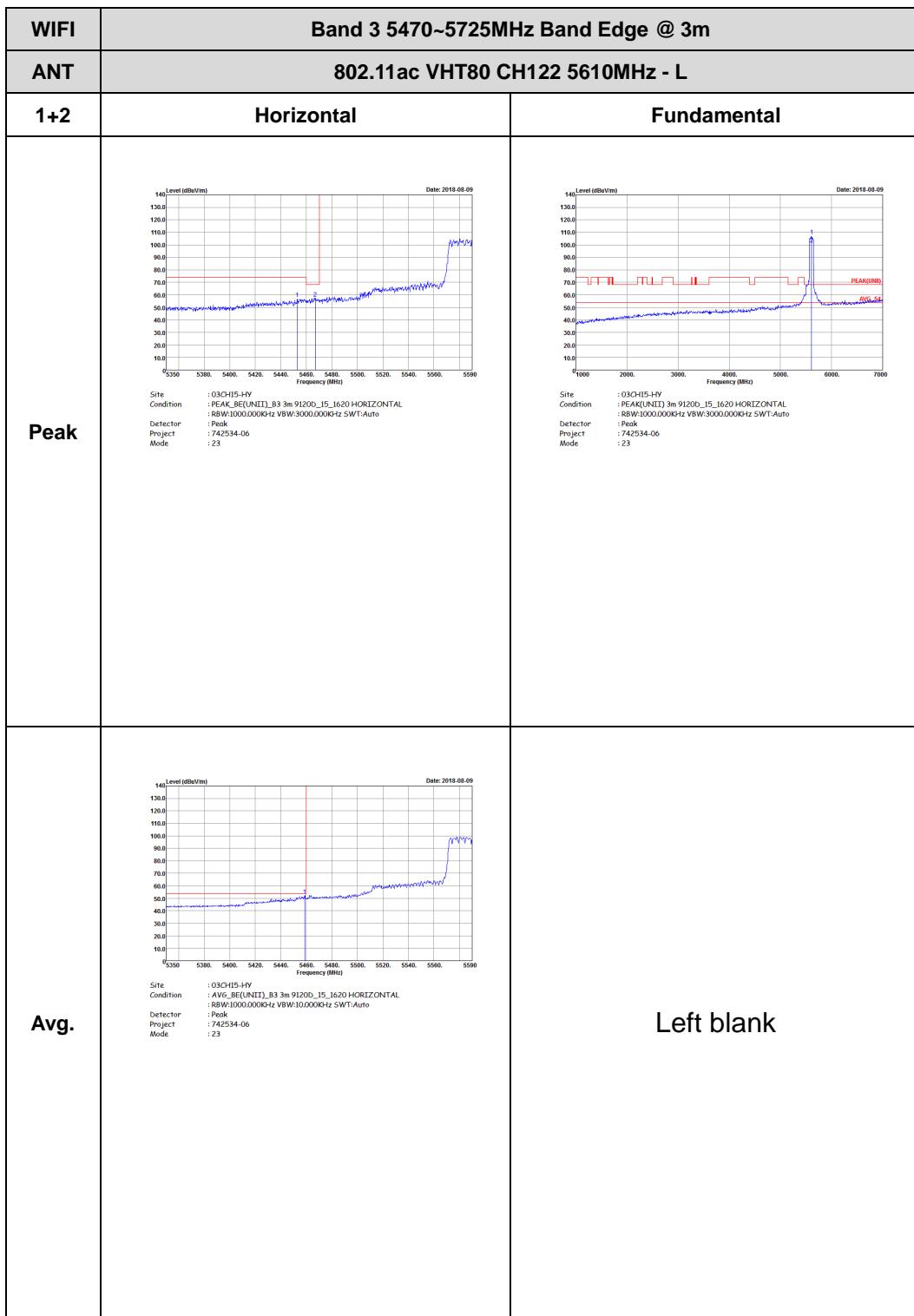


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMC_BE(UNID), B3 3m 91200_15_1620 HORIZONTAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 742534.06 Setting : 22 Setting : 44</p>	Left blank





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH106 5530MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : PCMK_BE(UNID), B3 3m 91200_15_1620 VERTICAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Project : Peak Mode : 742534.06 Setting : 22 : 44</p>	Left blank





WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-09</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : FCC-BE(UNIT), B3 3m 91200_15_1620 HORIZONTAL Detector : 188W1000.000KHz VSW-3000.000Hz SWT:Auto Detector Project : Peak Mode : 23</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : PCAKC_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 23	 Site : 03CH15-HY Condition : PCAKC_BE(UNIT) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 23
Avg.	 Site : 03CH15-HY Condition : AVG_BE(UNIT), B3 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:10.000KHz SWT:Auto Project : 742534-06 Mode : 23	Left blank

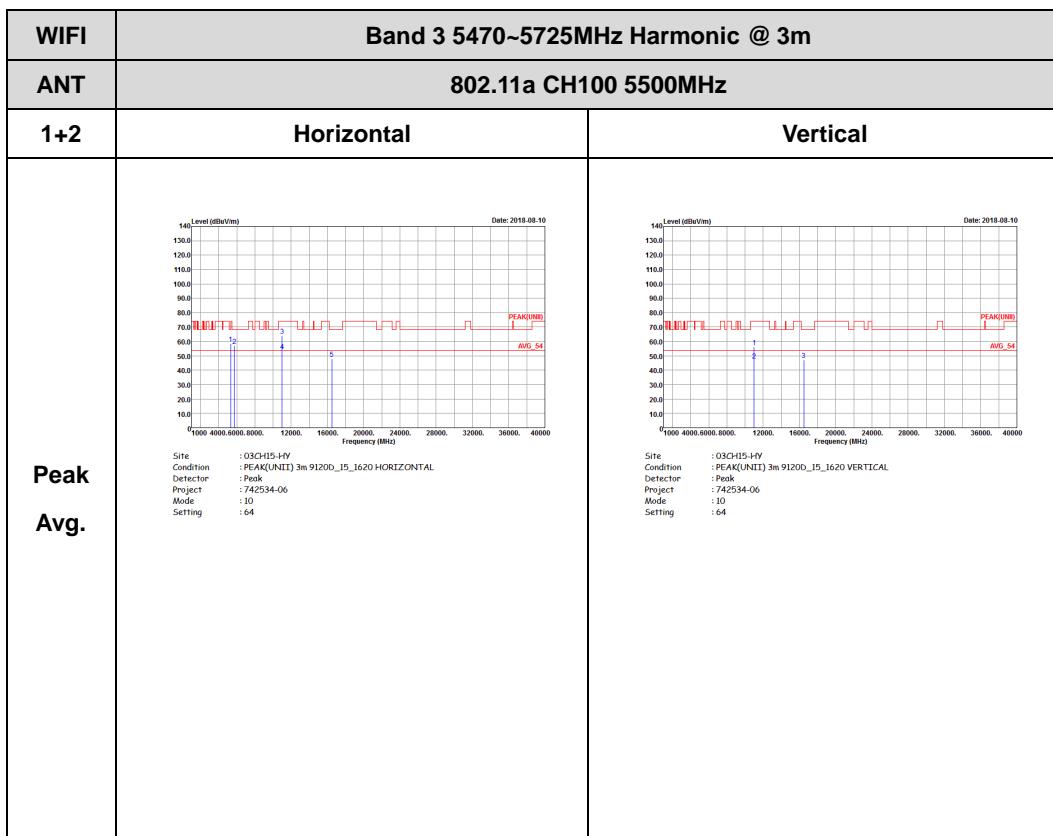


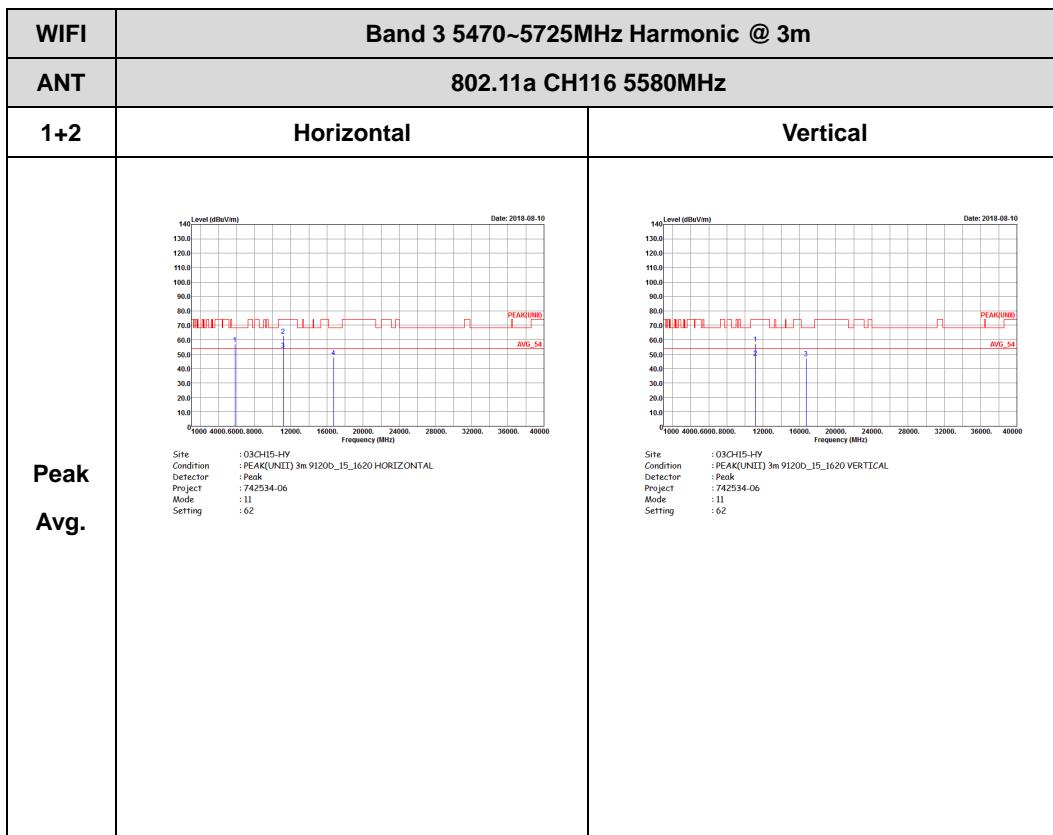
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH122 5610MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBmV/m)</p> <p>Date: 2018-08-09</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HY Condition : FCC-BE(UNID), B3 3m 91200_15_1620 VERTICAL Detector : 188W1000.000KHz VSW-3000.0000Hz SWT:Auto Project : Peak Mode : 23</p>	Left blank

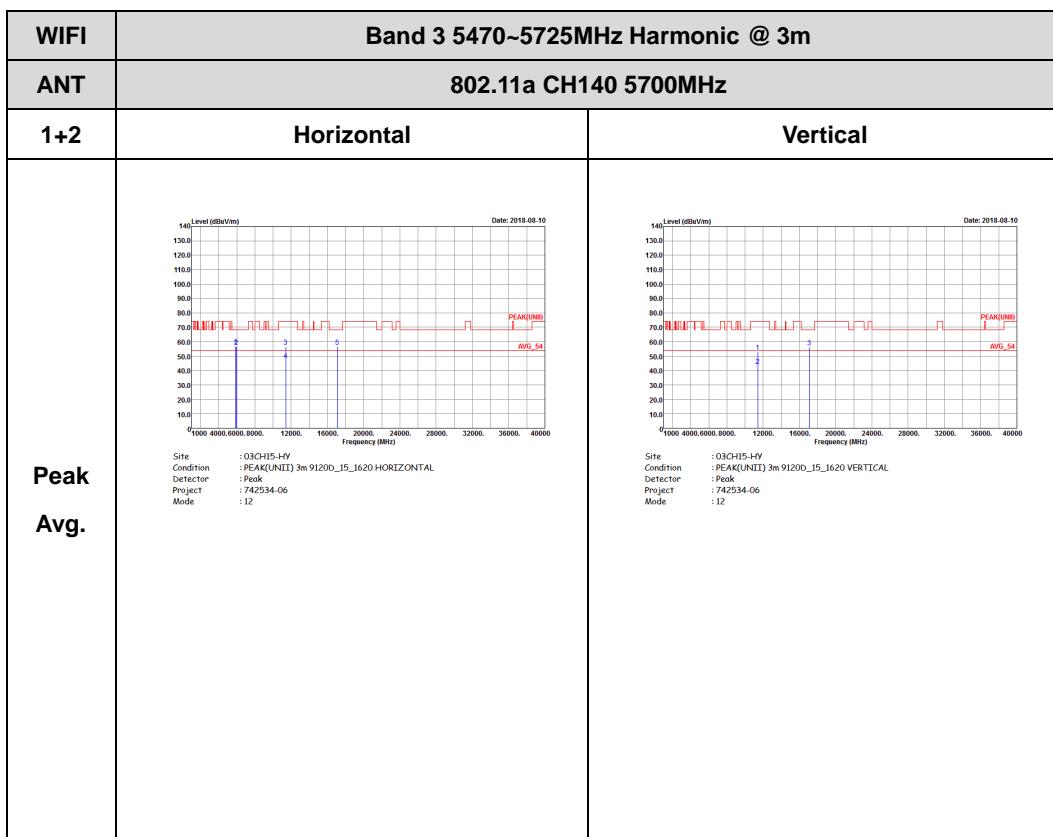


## Band 3 - 5470~5725MHz

## WIFI 802.11a (Harmonic @ 3m)

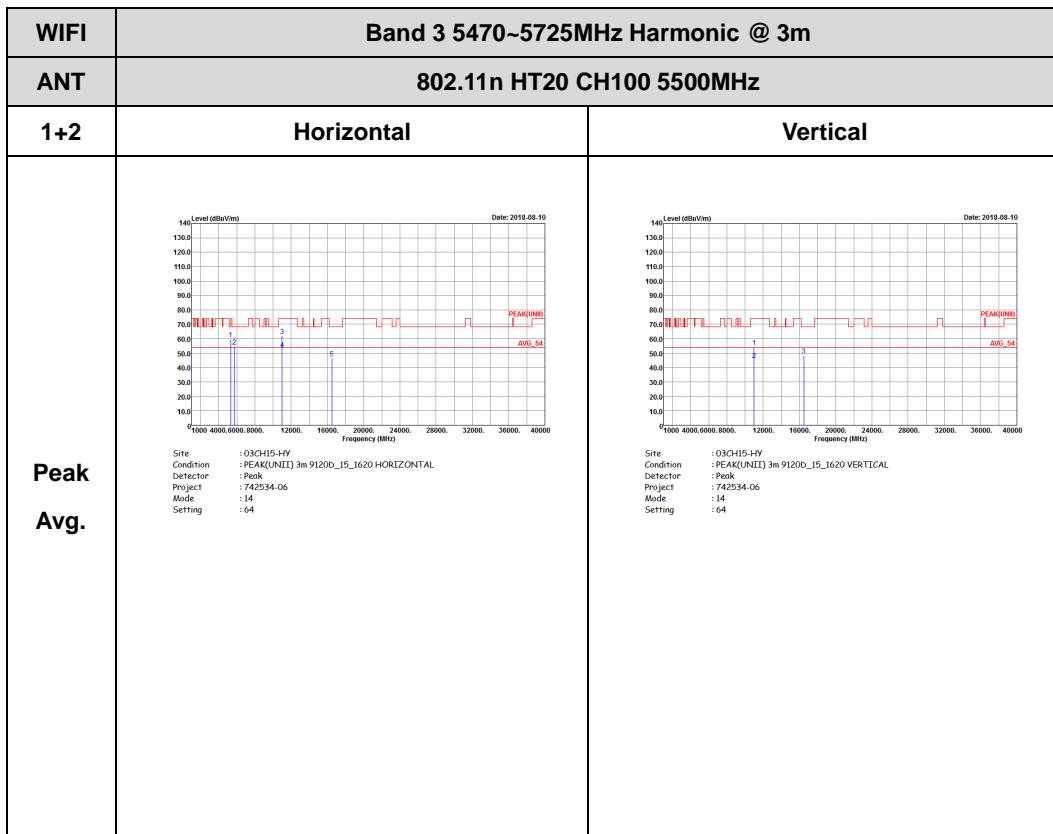


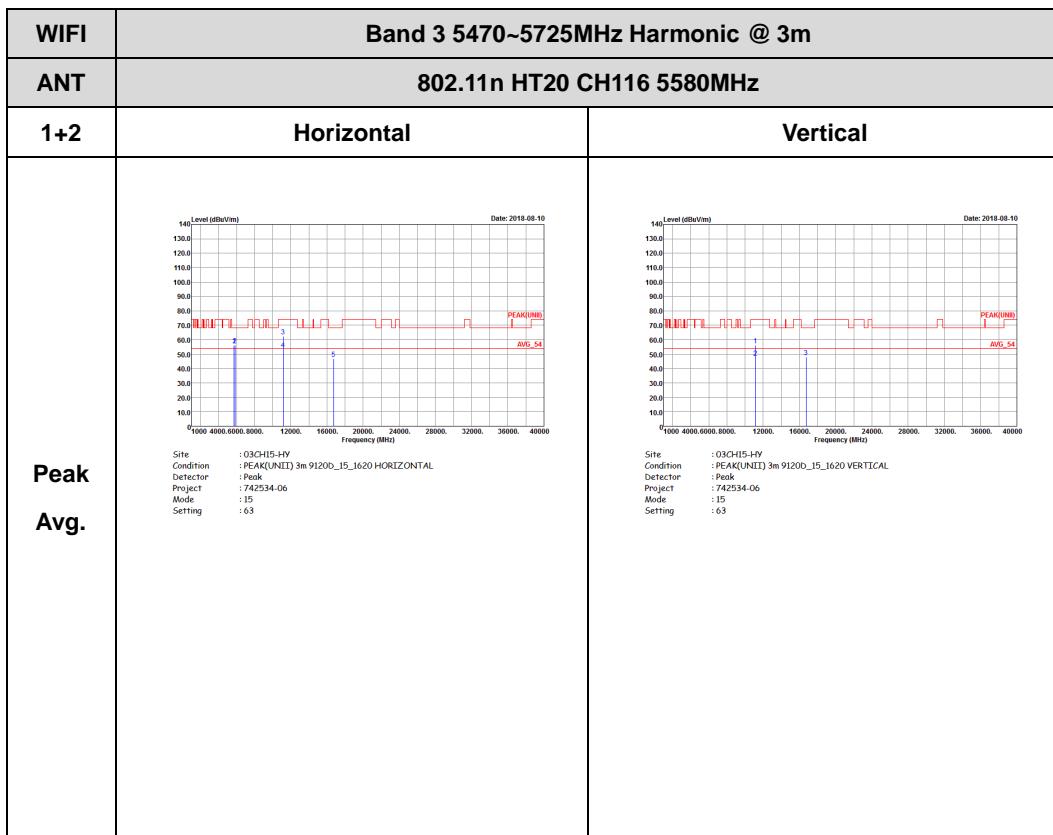


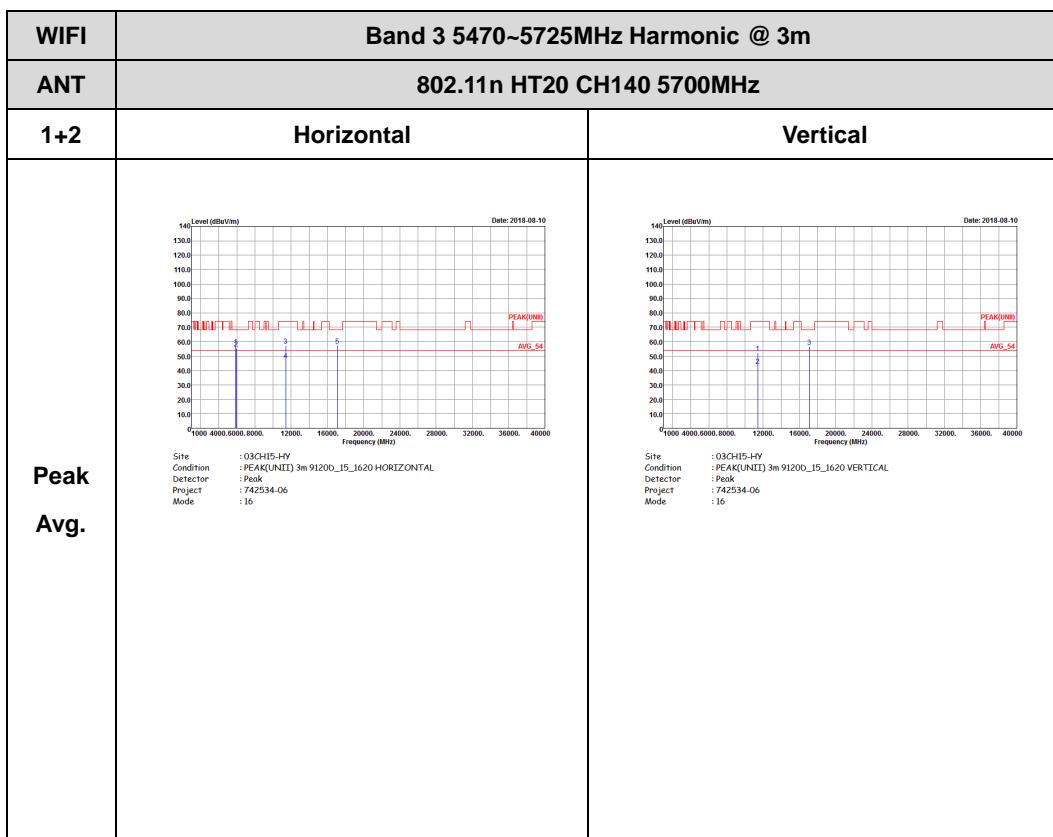




**Band 3 5470~5725MHz**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**

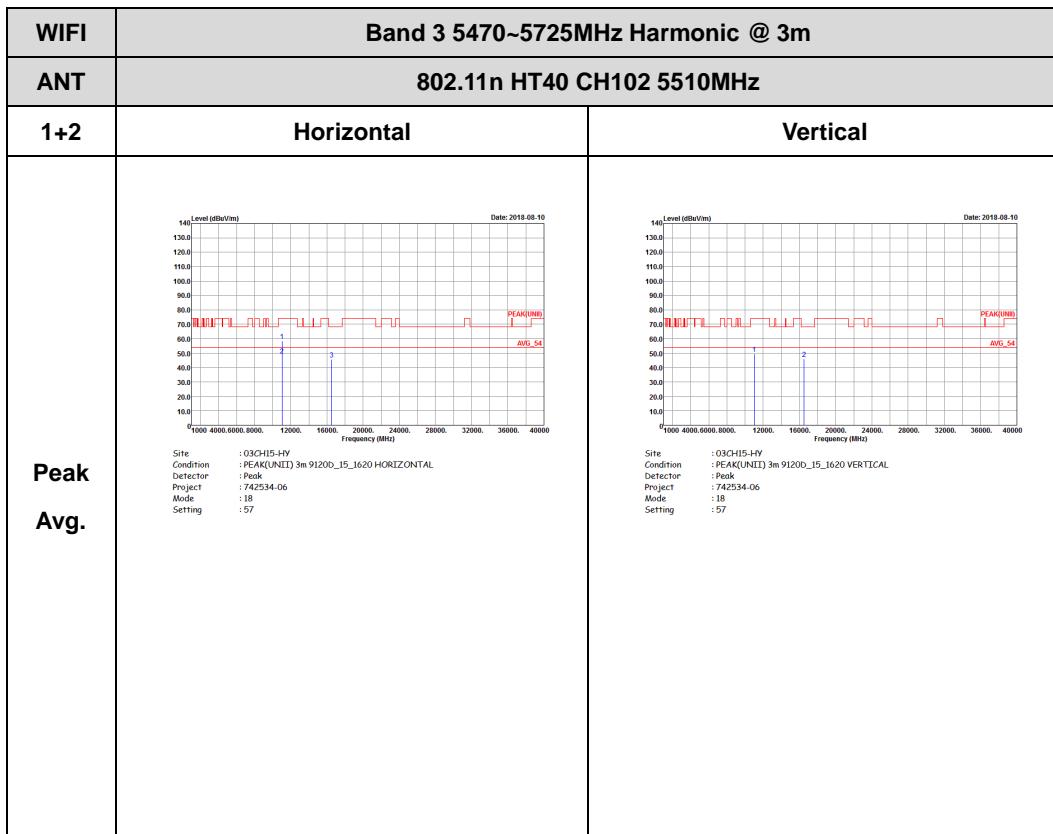


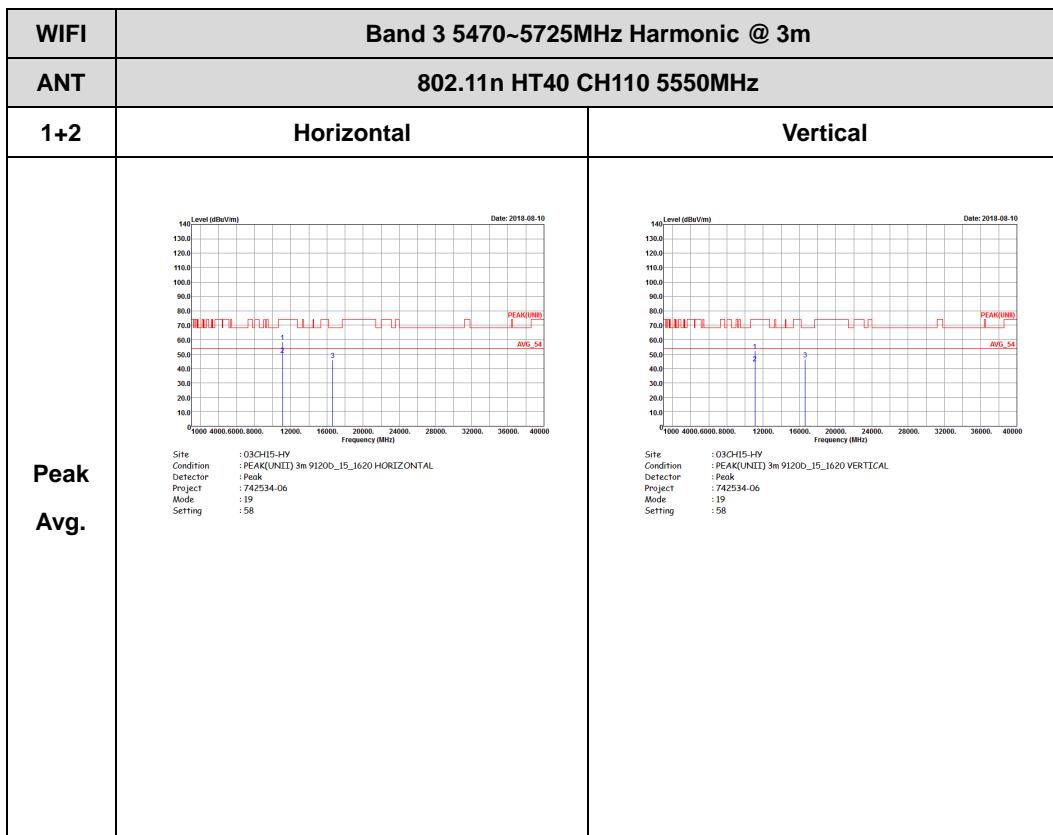


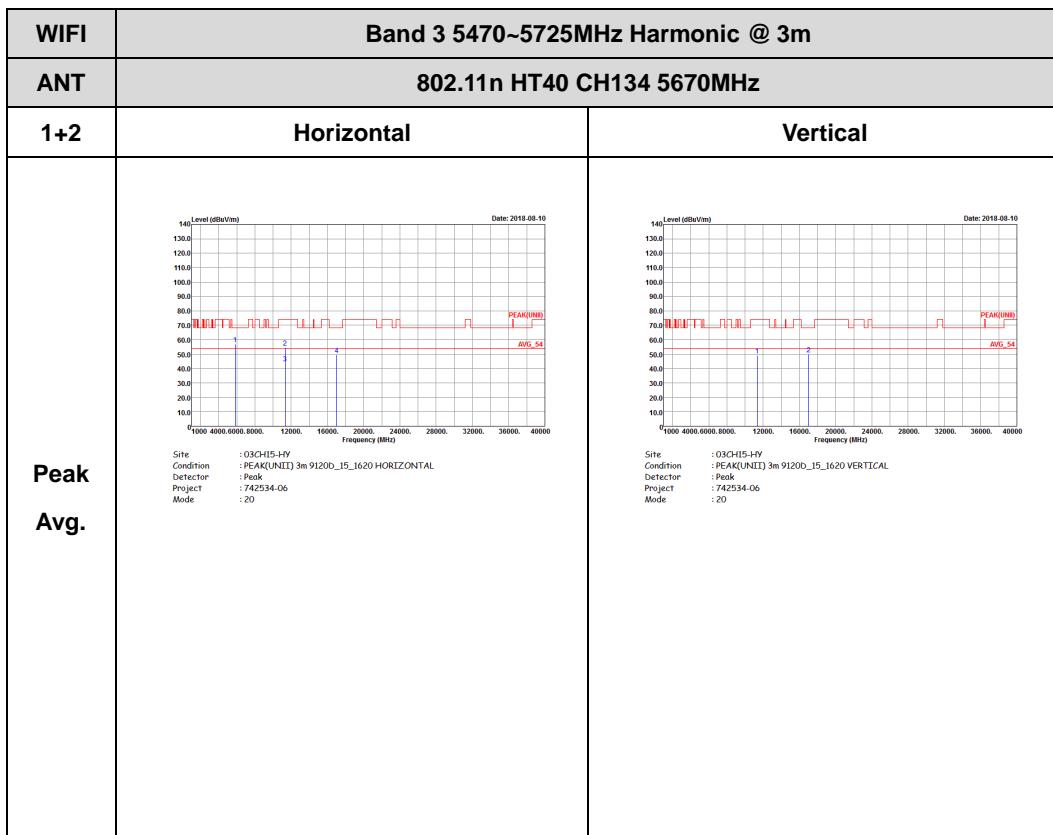




**Band 3 5470~5725MHz**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**

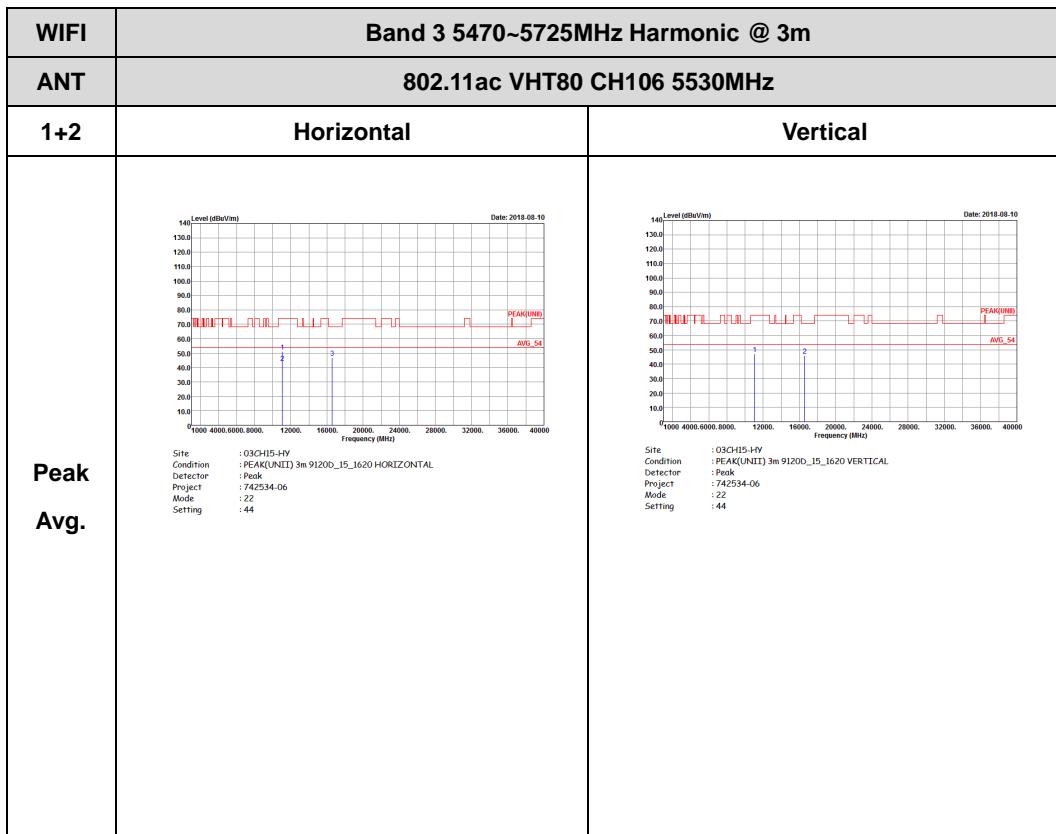


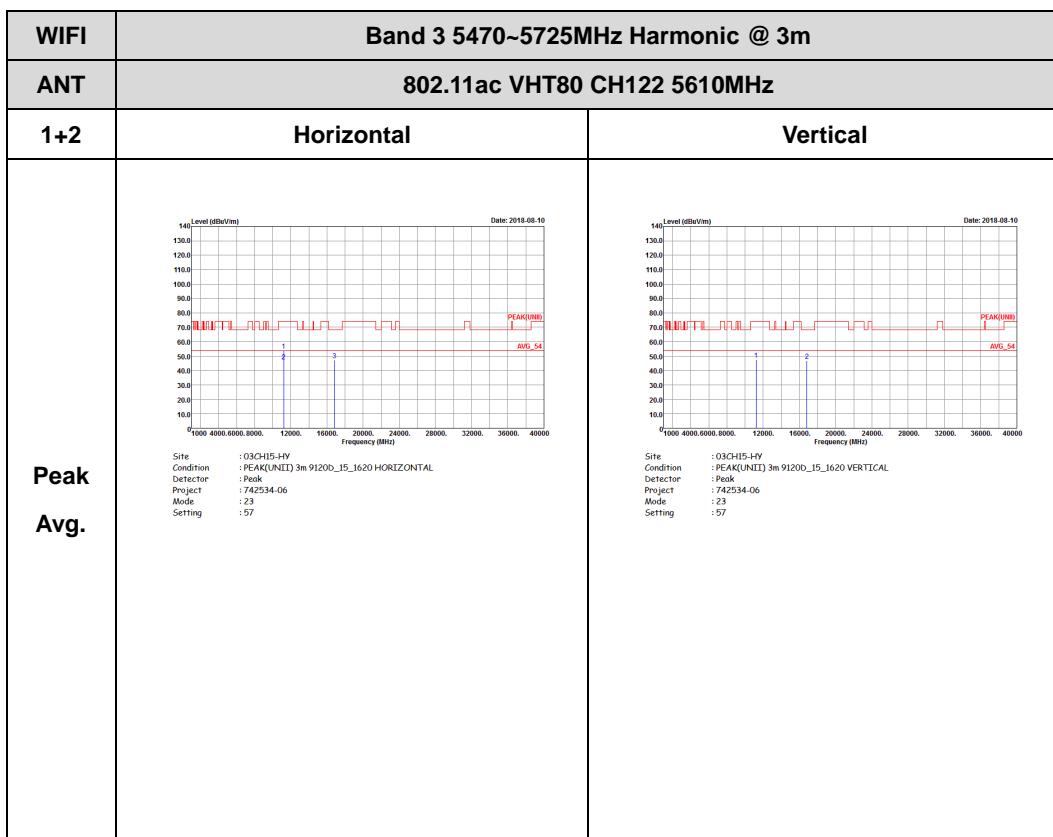






**Band 3 5470~5725MHz**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**







## Band 3 - Straddle Channel

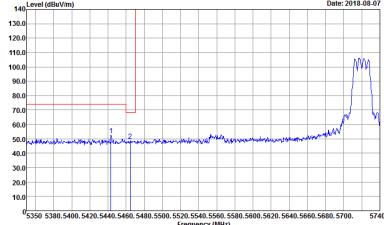
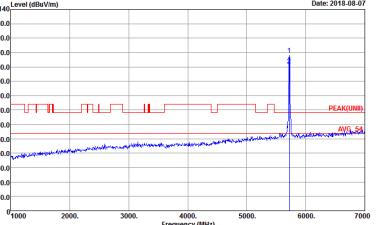
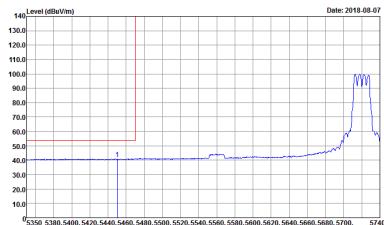
## WIFI 802.11a (Fundamental @ 3m)

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH144 5720MHz - L	
1+2	Horizontal	Fundamental
Peak	 Site : 03CH15-HY Condition : STRADDLES U-NII-1&2A 3m 9120D_15_1620 HORIZONTAL : RBW:10000000Hz VBW:3000000Hz SWT:Auto Detector : Peak Project : 742534-06 Mode : 13	 Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:10000000Hz VBW:3000000Hz SWT:Auto Detector : Peak Project : 742534-06 Mode : 13
Avg.	 Site : 03CH15-HY Condition : U-NII-1&2A AVERAGE 3m 9120D_15_1620 HORIZONTAL : RBW:10000000Hz VBW:1000kHz SWT:Auto Detector : Peak Project : 742534-06 Mode : 13	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH144 5720MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBm/V/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HV Condition : STRADDLES U-NII-1A2/A 3m 91200_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 13</p>	Left blank



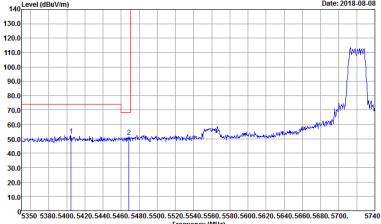
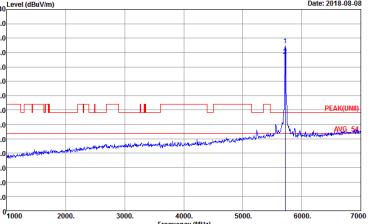
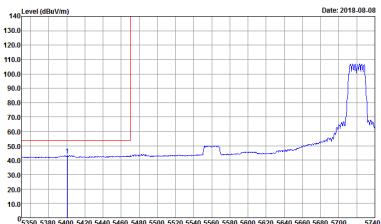
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH144 5720MHz - L	
1+2	Vertical	Fundamental
Peak	 <p>Site : 03CH15-HY Condition : U-NIT1-I2/A 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 13</p>	 <p>Site : 03CH15-HY Condition : PC4K(UNIT1) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 13</p>
Avg.	 <p>Site : 03CH15-HY Condition : U-NIT1-I2/A AVERAGE 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : 742534-06 Mode : 13</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11a CH144 5720MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBm/V/m)</p> <p>Date: 2018-08-07</p> <p>Frequency (MHz)</p> <p>Site : GS-CH15-PV Condition : STRADDLES U-NI-18-2A 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 13</p>	Left blank



**Band 3 – Straddle Channel**  
**WIFI 802.11n HT20 (Fundamental @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH144 5720MHz - L	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) from 5350 to 5740. A red step function shows a flat level of ~55 dBuV/m until 5670 MHz, then rises to ~135 dBuV/m at 5720 MHz. A blue line shows a sharp peak reaching ~110 dBuV/m at 5720 MHz. Text below the plot:</p> <p>Date: 2018-08-08 Site : 03CH15-HY Condition : STRADDLES U-NII-1&amp;2A 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000Hz SWF:Auto Detector : Peak Project : 742534-06 Mode : 17</p>	 <p>Level (dBuV/m) vs Frequency (MHz) from 1800 to 7000. A red step function shows a flat level of ~55 dBuV/m until 5670 MHz, then rises to ~135 dBuV/m at 5720 MHz. A blue line shows a sharp peak reaching ~110 dBuV/m at 5720 MHz. Text below the plot:</p> <p>Date: 2018-08-08 Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000Hz SWF:Auto Detector : Peak Project : 742534-06 Mode : 17</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) from 5350 to 5740. A red step function shows a flat level of ~55 dBuV/m until 5670 MHz, then rises to ~135 dBuV/m at 5720 MHz. A blue line shows a sharp peak reaching ~110 dBuV/m at 5720 MHz. Text below the plot:</p> <p>Date: 2018-08-08 Site : 03CH15-HY Condition : U-NII-1&amp;2A, AVERAG3 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:1000Hz SWF:Auto Detector : Peak Project : 742534-06 Mode : 17</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH144 5720MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Site : 03CH15-HV Condition : STRADDLES U-NII-1&amp;2A 3m 9120D_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 17</p>	Left blank



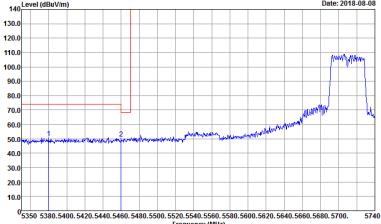
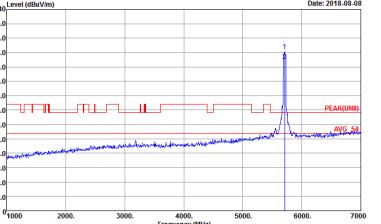
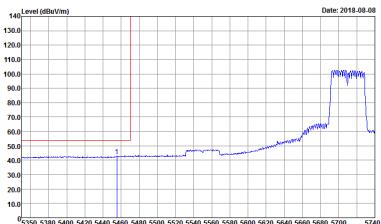
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH144 5720MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : U-NIT_1A2/A 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 17	 Site : 03CH15-HY Condition : PC4K(UNIT1) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 17
Avg.	 Site : 03CH15-HY Condition : U-NIT_1A2/A AVERAGE 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:1.000KHz SWT:Auto Project : 742534-06 Mode : 17	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT20 CH144 5720MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Site : 03CH15-HV Condition : STRADDLES U-NII-1A2A 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 17</p>	Left blank



**Band 3 – Straddle Channel**  
**WIFI 802.11n HT40 (Fundamental @ 3m)**

WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH142 5710MHz - L	
1+2	Horizontal	Fundamental
Peak	 <p>Level (dBuV/m) vs Frequency (MHz) from 5350 to 5740. A sharp peak is labeled at 5710 MHz. The plot shows a flat baseline around 50 dBuV/m with a small step up near 5700 MHz.</p> <p>Site: 03CH15-HY Condition: STRADDLES U-NII-1&amp;2 A 3m 9120D_15_1620 HORIZONTAL :RBW:1000.000KHz VBW:3000.000Hz SWF:Auto Detector: Peak Project: J42934-06 Mode: :21</p>	 <p>Level (dBuV/m) vs Frequency (MHz) from 1800 to 7000. A sharp peak is labeled at 5710 MHz. The plot shows a flat baseline around 50 dBuV/m with a small step up near 5700 MHz.</p> <p>Site: 03CH15-HY Condition: PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL :RBW:1000.000KHz VBW:3000.000Hz SWF:Auto Detector: Peak Project: J42934-06 Mode: :21</p>
Avg.	 <p>Level (dBuV/m) vs Frequency (MHz) from 5350 to 5740. A sharp peak is labeled at 5710 MHz. The plot shows a flat baseline around 50 dBuV/m with a small step up near 5700 MHz.</p> <p>Site: 03CH15-HY Condition: U-NII-1&amp;2 A, AVER4.6E 3m 9120D_15_1620 HORIZONTAL :RBW:1000.000KHz VBW:3.000Hz SWF:Auto Detector: Peak Project: J42934-06 Mode: :21</p>	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH142 5710MHz - R	
1+2	Horizontal	Fundamental
Peak	<p>Level (dBm/V/m)</p> <p>Date: 2018-08-08</p> <p>Frequency (MHz)</p> <p>Site : 03CH15-HV Condition : STRADDLES U-NII-1&amp;2A 3m 9120D_15_1620 HORIZONTAL Detector : R8W:1000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 21</p>	Left blank



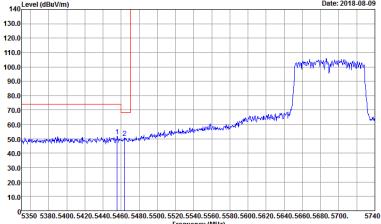
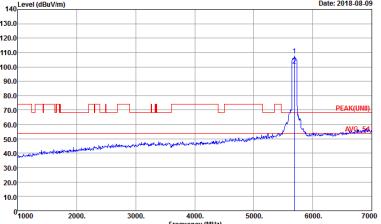
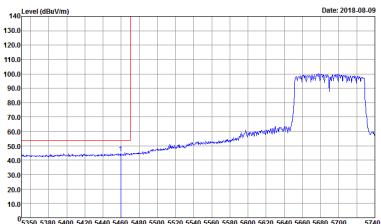
WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH142 5710MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : U-NIT_1A2/A 3m 9120D_15_1620 VERTICAL Detector : Peak Project : 742534-06 Mode : 21	 Site : 03CH15-HY Condition : PEAK(FUND) 3m 91200_15_1620 VERTICAL Detector : Peak Project : 742534-06 Mode : 21
Avg.	 Site : 03CH15-HY Condition : U-NIT_1A2/A AVERAGE 3m 9120D_15_1620 VERTICAL Detector : Peak Project : 742534-06 Mode : 21	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11n HT40 CH142 5710MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBm/V/m) vs Frequency (MHz) plot. The x-axis ranges from 5700 to 5950 MHz, and the y-axis ranges from 10.0 to 140.0 dBm/V/m. A blue line shows a sharp drop from approximately 100 dBm/V/m at 5710 MHz to about 55 dBm/V/m. A red step function highlights the transition. The text 'STRADDLES U-NI-18-2a' is overlaid on the graph. Technical parameters listed below the graph include Site: 03CH15-HV, Condition: STRADDLES U-NI-18-2a 3m 91200_15_1620 VERTICAL, Detector: R8W:1000.000KHz VSW:3000.000KHz SWT:Auto, Project: 742534-06, and Mode: 21.</p> <p>Left blank</p>	



**Band 3 – Straddle Channel**  
**WIFI 802.11ac VHT80 (Fundamental @ 3m)**

<b>WIFI</b>	<b>Band 3 5470~5725MHz Band Edge @ 3m</b>	
<b>ANT</b>	<b>802.11ac VHT80 CH138 5690MHz - L</b>	
<b>1+2</b>	<b>Horizontal</b>	<b>Fundamental</b>
<b>Peak</b>	 Site : 03CH15-HY Condition : STRADDLES U-NII-1&2A 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 24	 Site : 03CH15-HY Condition : PEAK(UNIT) 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 24
<b>Avg.</b>	 Site : 03CH15-HY Condition : U-NII-1&2A_AVG&GE 3m 9120D_15_1620 HORIZONTAL : RBW:1000.000KHz VBW:10.000KHz SWF:Auto Detector : Peak Project : 742534-06 Mode : 24	Left blank



WIFI	Band 3 5470~5725MHz Band Edge @ 3m													
ANT	802.11ac VHT80 CH138 5690MHz - R													
1+2	Horizontal	Fundamental												
Peak	<p>The graph displays a spectrum analysis from 5650 to 5950 MHz. The Y-axis represents Level (dBm/V/m) from 10.0 to 140.0. A sharp drop in signal level occurs at approximately 5690 MHz, reaching a minimum of about 65 dBm/V/m. The text "STRADDLES U-NII-1&amp;2A" is highlighted in red. Below the graph, test parameters are listed:</p> <table><tr><td>Site</td><td>: 03CH15-HV</td></tr><tr><td>Condition</td><td>: LTR4000LES U-NII-1&amp;2A 3m 9120D_15_1620 HORIZONTAL</td></tr><tr><td>Detector</td><td>: R8W:1000.000KHz VSW:3000.000KHz SWT:Auto</td></tr><tr><td>Project</td><td>: Peak</td></tr><tr><td>Mode</td><td>: 742534-06</td></tr><tr><td></td><td>: 24</td></tr></table>	Site	: 03CH15-HV	Condition	: LTR4000LES U-NII-1&2A 3m 9120D_15_1620 HORIZONTAL	Detector	: R8W:1000.000KHz VSW:3000.000KHz SWT:Auto	Project	: Peak	Mode	: 742534-06		: 24	Left blank
Site	: 03CH15-HV													
Condition	: LTR4000LES U-NII-1&2A 3m 9120D_15_1620 HORIZONTAL													
Detector	: R8W:1000.000KHz VSW:3000.000KHz SWT:Auto													
Project	: Peak													
Mode	: 742534-06													
	: 24													



WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz - L	
1+2	Vertical	Fundamental
Peak	 Site : 03CH15-HY Condition : U-NIT_1A2/A 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 24	 Site : 03CH15-HY Condition : PC4K(UNIT) 3m 91200_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:3000.0000Hz SWT:Auto Project : 742534-06 Mode : 24
Avg.	 Site : 03CH15-HY Condition : U-NIT_1A2/A AVERAGE 3m 9120D_15_1620 VERTICAL Detector : R8W:1000.000KHz VBW:10.000KHz SWT:Auto Project : 742534-06 Mode : 24	Left blank

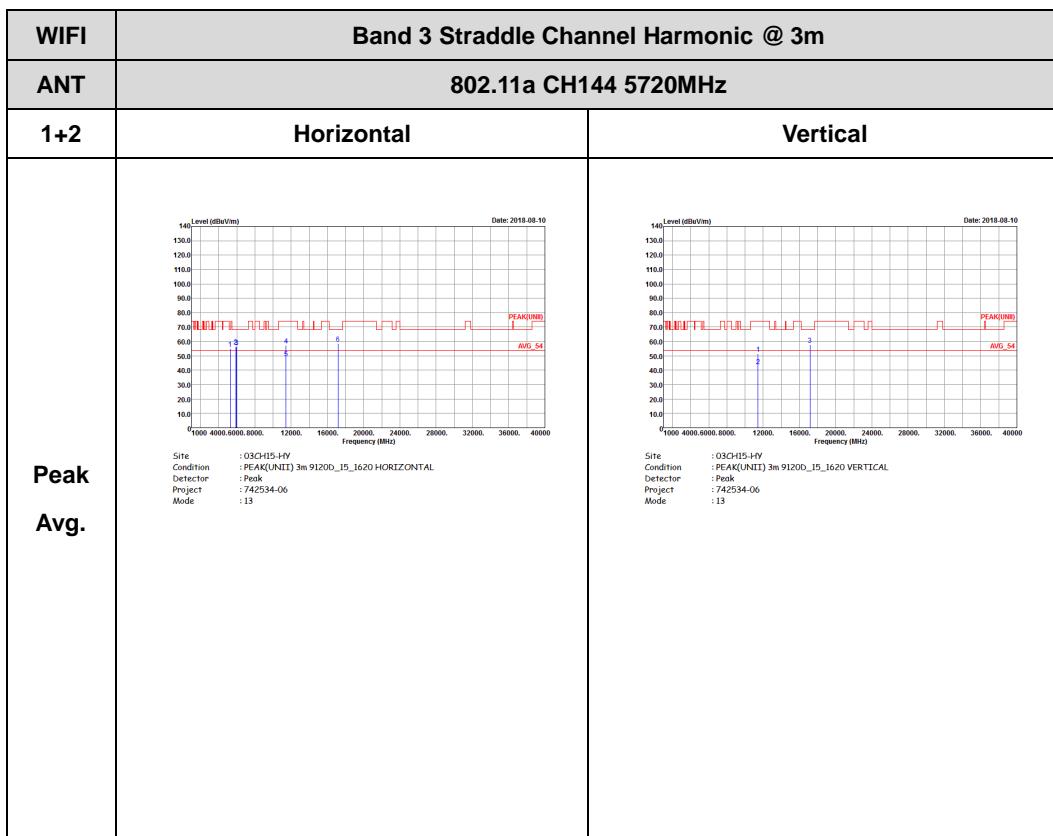


WIFI	Band 3 5470~5725MHz Band Edge @ 3m	
ANT	802.11ac VHT80 CH138 5690MHz - R	
1+2	Vertical	Fundamental
Peak	<p>Level (dBm/V/m) vs Frequency (MHz) Date: 2018-08-09</p> <p>Site : 03CH15-HV Condition : STRADDLES U-NI182A 3m 91200_15_1620 VERTICAL Detector : R8W:10000.000KHz VSW:3000.000KHz SWT:Auto Project : 742534-06 Mode : 24</p>	Left blank



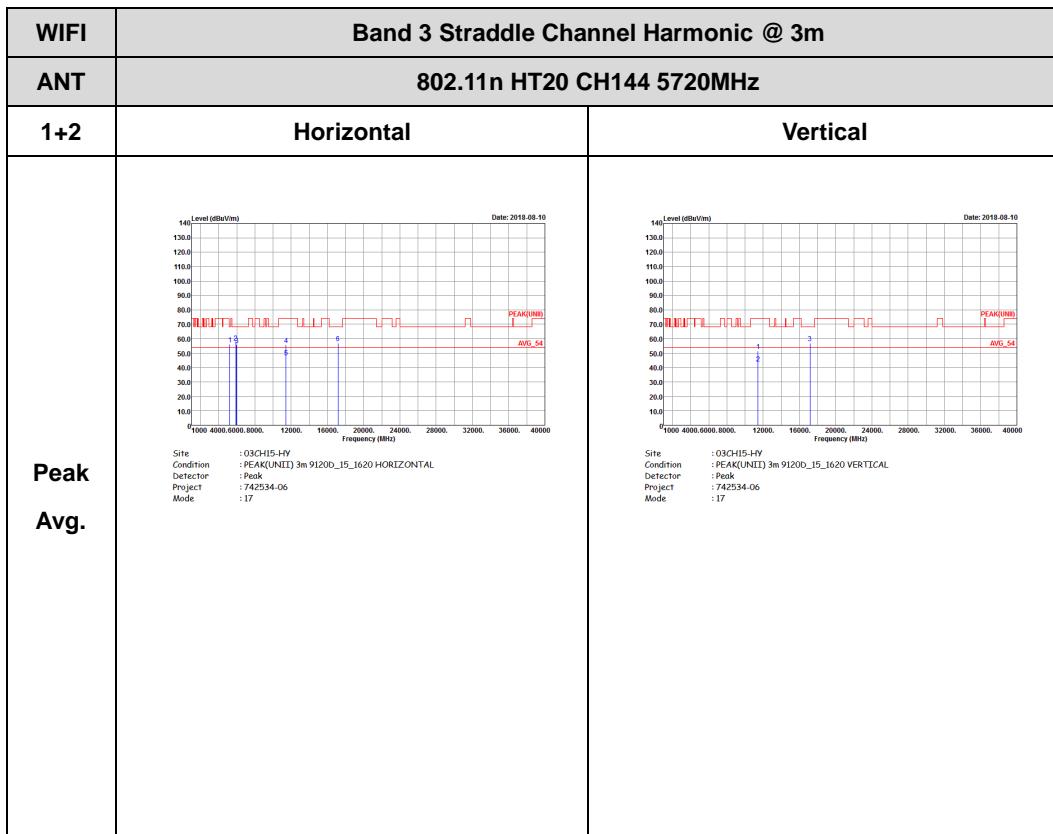
## Band 3 - Straddle Channel

WIFI 802.11a (Harmonic @ 3m)



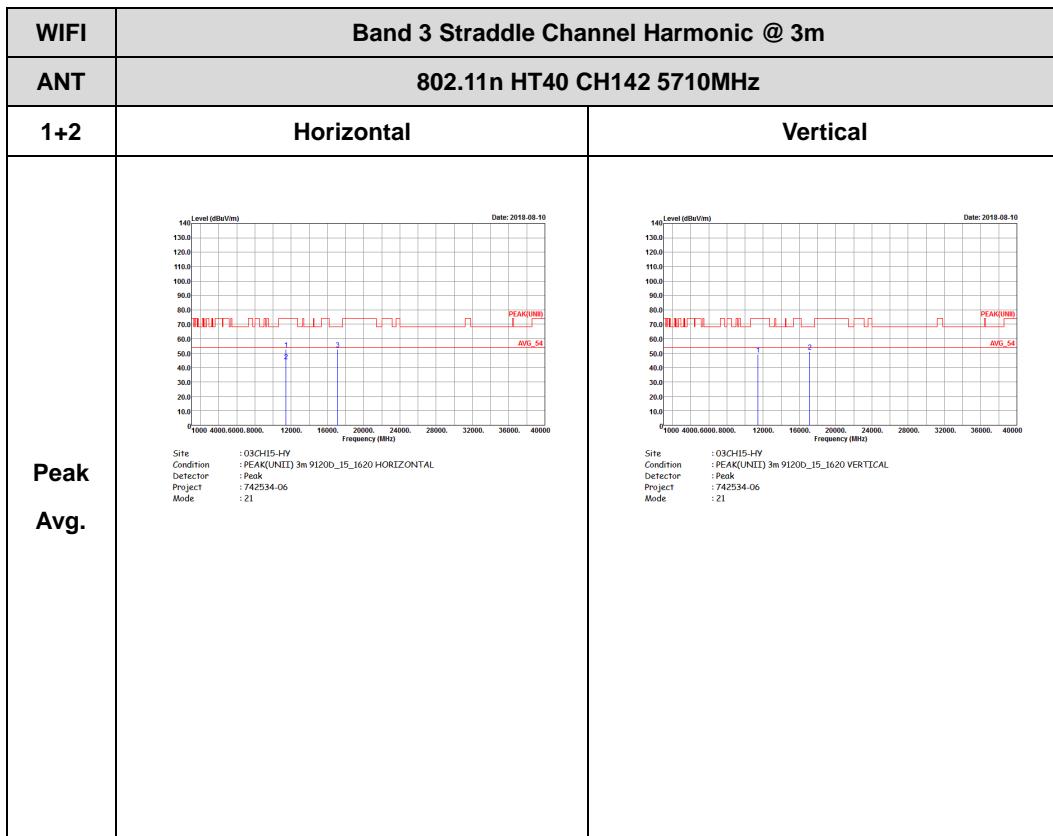


**Band 3 – Straddle Channel**  
**WIFI 802.11n HT20 (Harmonic @ 3m)**



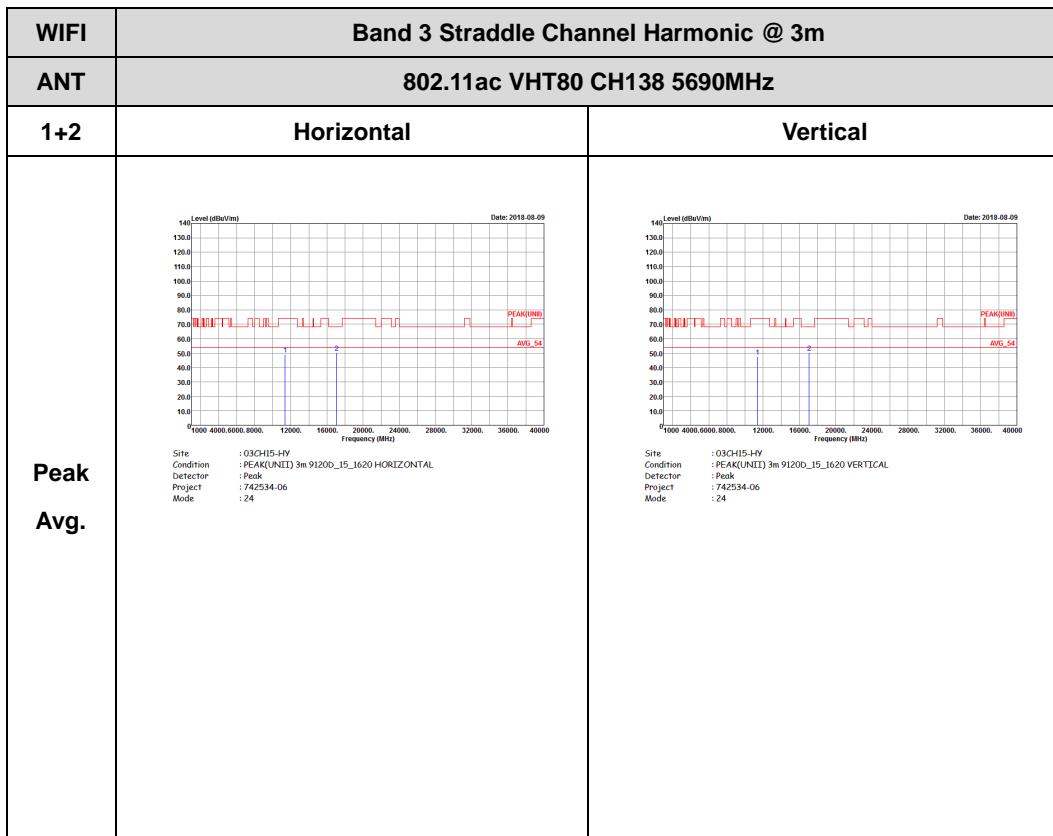


**Band 3 – Straddle Channel**  
**WIFI 802.11n HT40 (Harmonic @ 3m)**



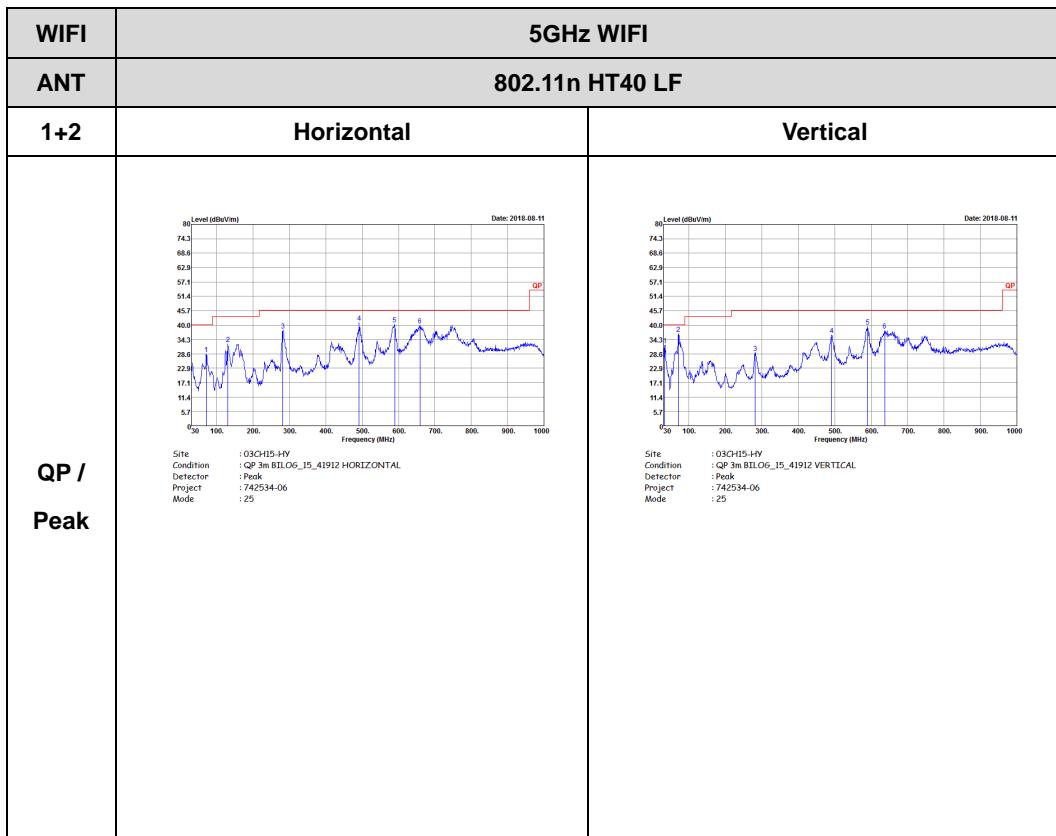


**Band 3 – Straddle Channel**  
**WIFI 802.11ac VHT80 (Harmonic @ 3m)**





**Emission below 1GHz**  
**5GHz WIFI 802.11n HT40 (LF)**





## Appendix D. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor(dB)
1+2	802.11a for Ant. 1	92.86	1430	0.70	1kHz	0.32
1+2	802.11a for Ant. 2	93.46	1430	0.70	1kHz	0.29
1+2	5GHz 802.11n HT20 for Ant. 1	93.06	1340	0.75	1kHz	0.31
1+2	5GHz 802.11n HT20 for Ant. 2	92.41	1340	0.75	1kHz	0.34
1+2	5GHz 802.11n HT40 for Ant. 1	85.71	660	1.52	3kHz	0.67
1+2	5GHz 802.11n HT40 for Ant. 2	85.71	660	1.52	3kHz	0.67
1+2	5GHz 802.11ac VHT20 for Ant. 1	92.47	1350	0.74	1kHz	0.34
1+2	5GHz 802.11ac VHT20 for Ant. 2	93.10	1350	0.74	1kHz	0.31
1+2	5GHz 802.11ac VHT40 for Ant. 1	85.90	670	1.49	3kHz	0.66
1+2	5GHz 802.11ac VHT40 for Ant. 2	85.71	660	1.52	3kHz	0.67
1+2	5GHz 802.11ac VHT80 for Ant. 1	75.34	330	3.03	10kHz	1.23
1+2	5GHz 802.11ac VHT80 for Ant. 2	75.00	324	3.09	10kHz	1.25

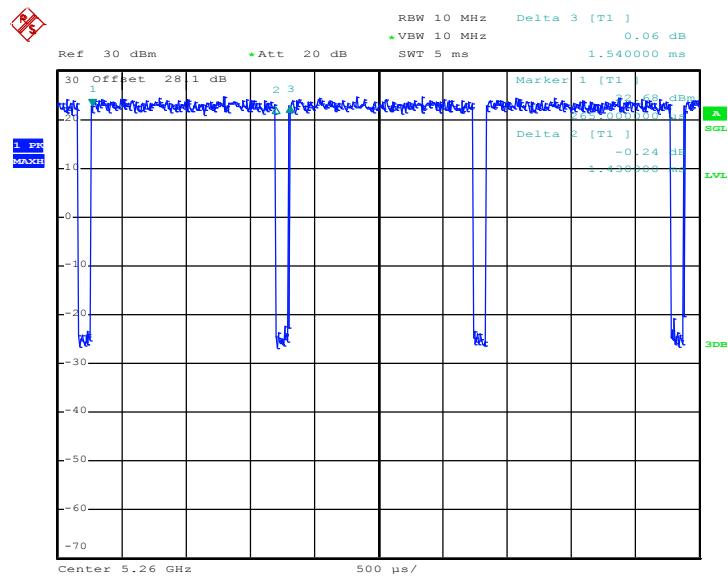


# FCC RADIO TEST REPORT

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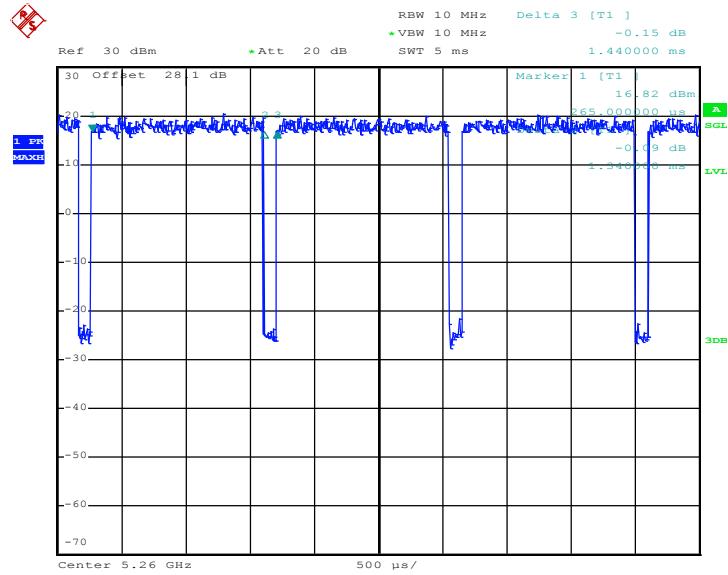
## MIMO <Ant. 1>

### 802.11a



Date: 1.AUG.2018 04:18:24

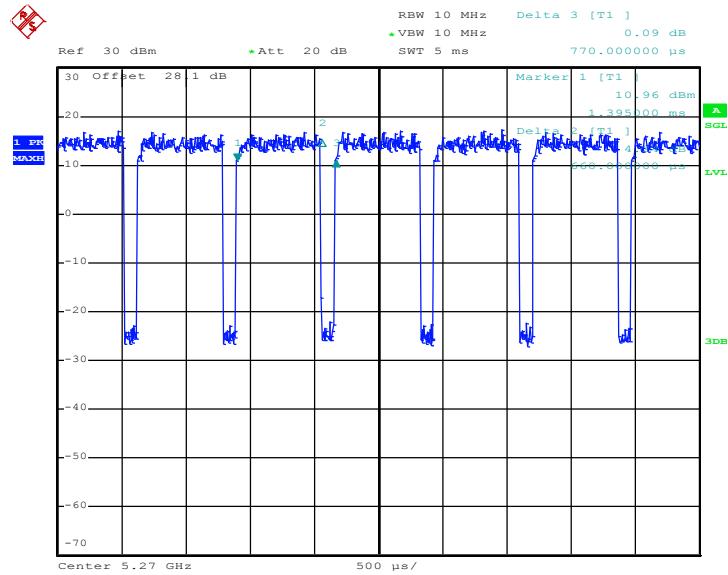
### 802.11n HT20



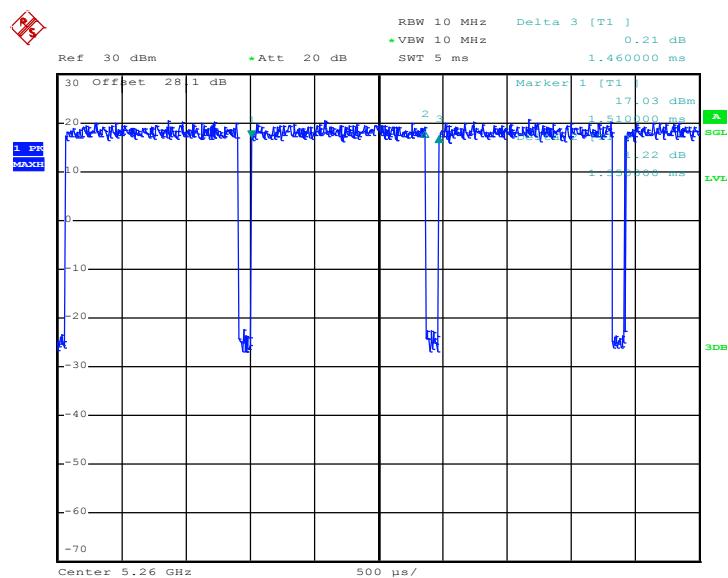
Date: 1.AUG.2018 05:17:53



## 802.11n HT40

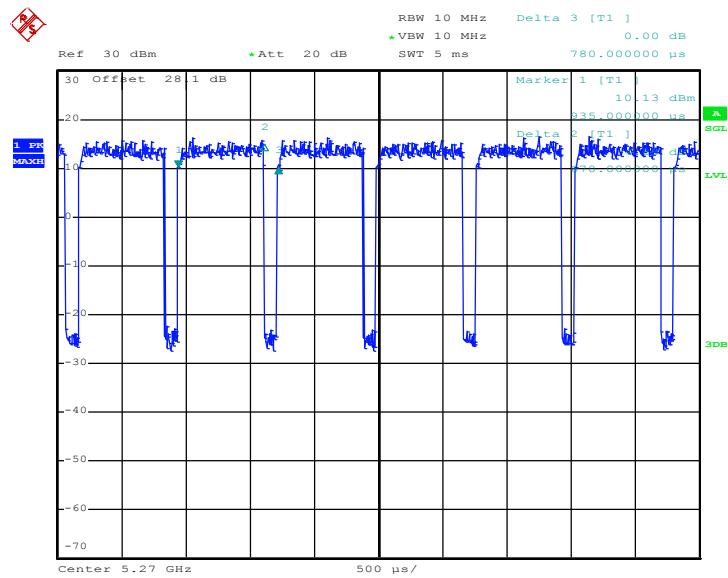


## 802.11ac VHT20



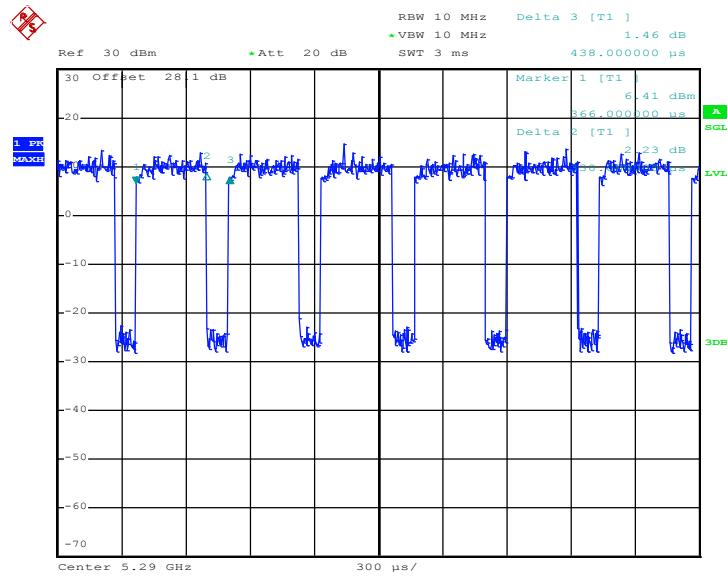


## 802.11ac VHT40



Date: 1.AUG.2018 08:20:35

## 802.11ac VHT80



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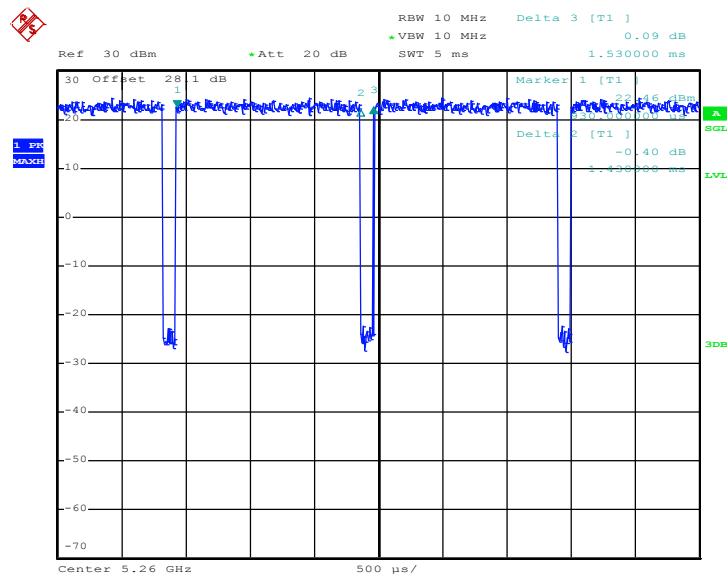


# FCC RADIO TEST REPORT

Report No. : FR742534-06

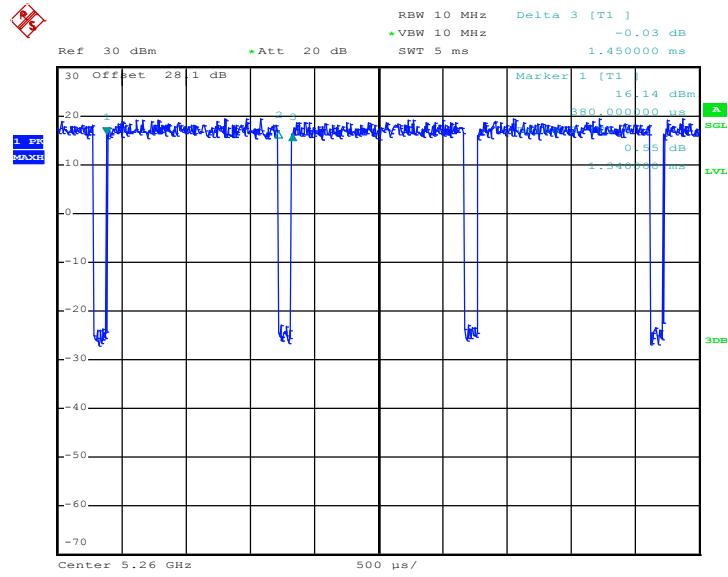
## MIMO <Ant. 2>

### 802.11a



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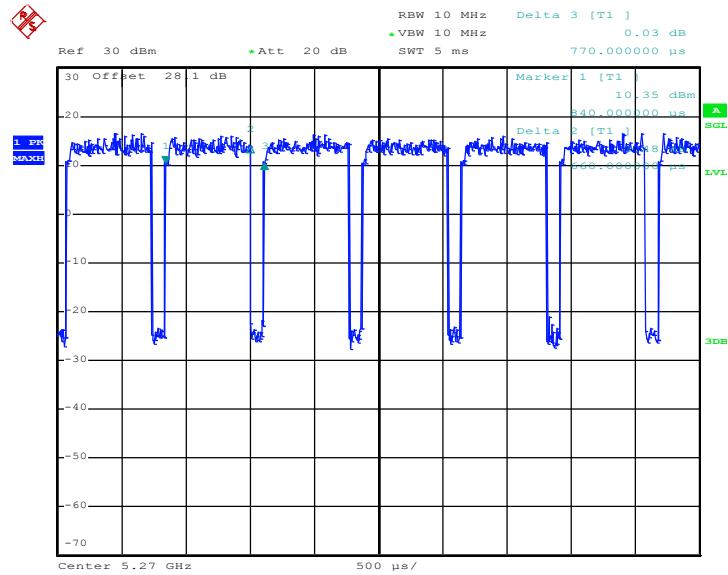
### 802.11n HT20



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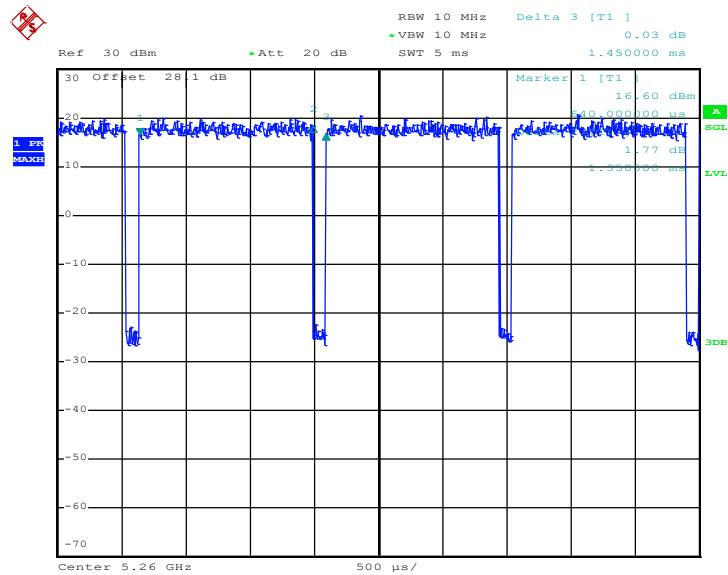


## 802.11n HT40



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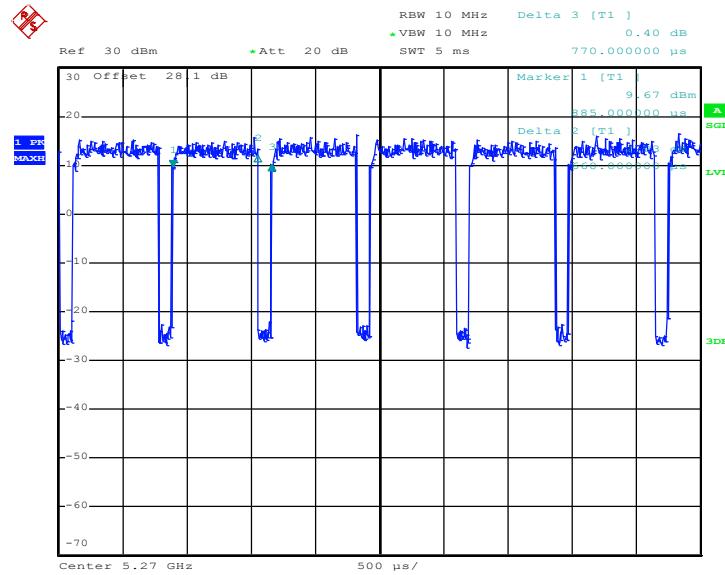
## 802.11ac VHT20



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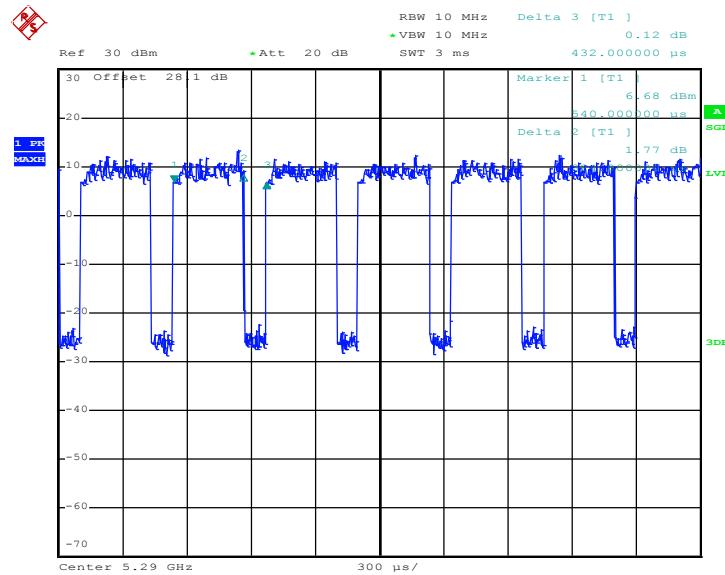


## 802.11ac VHT40



Date: 1.AUG.2018 08:21:12

## 802.11ac VHT80



Date: 1.AUG.2018 08:39:35

—————THE END—————