

## Test Report

Report No.: HQ191231EL07-FD

FCC ID: 2AWK4SR200615

Applicant: Suirui Group Co., Ltd.

Address: Buildings 18/19, North Olympic Sci.&Tech. Park, 1st Baosheng S.  
Rd., Haidian, Beijing, P.R.C.

Product: Zhumu Cloud Video Conferencing Collaboration Kit

Brand:  SUIRUI

Test Model(s): ZM-3100

Series Model(s): ZM-\*\*00 (The "\*\*\*" can be "31" to "69" for market use)

Test Date: Mar. 24, 2020 ~ May 09, 2020

Issued by: Hwa-Hsing (Dongguan) Testing Co., Ltd.

Address: No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang  
Town, Dongguan, China

FCC Part 15, Subpart E, Section 15.407; FCC 14-30

Standards: KDB 905462 D03

UNII Clients Without Radar Detection New Rules v01r02

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Scott He , Date: Jul. 31, 2020  
Scott He/Engineer

Approved by : Harry Li , Date: Aug. 24, 2020  
Harry Li/ Supervisor

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the federal government. The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies.

**Table of Contents**

|                                                             |    |
|-------------------------------------------------------------|----|
| Release Control Record .....                                | 3  |
| 1. EUT general information.....                             | 4  |
| 1.1 General description of eut.....                         | 4  |
| 1.2 Channel list of DFS band: .....                         | 5  |
| 1.3 Transmit power control (TPC).....                       | 6  |
| 1.4 Statement of the manufacturer .....                     | 6  |
| 1.5 Operating frequency bands and mode of EUT .....         | 6  |
| 1.6 EUT software and firmware version.....                  | 6  |
| 1.7 Description of available antennas to the EUT .....      | 6  |
| 2. U-NII DFS rule requirements.....                         | 7  |
| 2.1 Working modes and required test items .....             | 7  |
| 2.2 Test limits and radar signal parameters.....            | 8  |
| 2.2.1 Detection threshold values .....                      | 8  |
| 2.2.2 Parameters of dfs test signals.....                   | 9  |
| 2.3 Test & support equipment list.....                      | 10 |
| 2.3.1 Test instruments .....                                | 10 |
| 2.3.2 Description of support units.....                     | 10 |
| 2.4 Test procedure .....                                    | 11 |
| 2.4.1 DFS measurement system.....                           | 11 |
| 2.4.2 Channel loading .....                                 | 11 |
| 2.4.3 Calibration of dfs detection threshold level .....    | 12 |
| 2.4.4 Conducted test setup configuration.....               | 12 |
| 2.4.4.1 Client without radar detection mode.....            | 12 |
| 2.4.5 Deviation from test standard .....                    | 12 |
| 3. Test results .....                                       | 13 |
| 3.1 Summary of test results .....                           | 13 |
| 3.2 Detailed test results .....                             | 14 |
| 3.3 Channel closing transmission and channel move time..... | 15 |
| 3.4 Non- occupancy period .....                             | 16 |
| 3.5 Non-associated test .....                               | 16 |
| 3.6 Non- co-channel test.....                               | 16 |
| 3.7 Photographs of the test configuration .....             | 17 |
| Appendix – Information on the Testing Laboratories .....    | 18 |

**Release Control Record**

| Issue No.       | Description       | Date Issued   |
|-----------------|-------------------|---------------|
| HQ191231EL07-FD | Original release. | Aug. 24, 2020 |

## 1. EUT general information

### 1.1 General description of eut

|                                           |                                                                                                                                                                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                                   | Zhumu Cloud Video Conferencing Collaboration Kit                                                                                                                                                                                                                        |
| Brand                                     |  <b>SUIRUI</b>                                                                                                                                                                         |
| Test Model(s)                             | ZM-3100                                                                                                                                                                                                                                                                 |
| Series Model(s)                           | ZM-**00 (The "***" can be "31" to "69" for market use)                                                                                                                                                                                                                  |
| Models difference                         | Only difference for model name                                                                                                                                                                                                                                          |
| DFS Operational Mode                      | Client without radar detection                                                                                                                                                                                                                                          |
| Status of EUT                             | Engineering prototype                                                                                                                                                                                                                                                   |
| Power Supply Rating                       | DC19V from Adapter                                                                                                                                                                                                                                                      |
| Modulation Type                           | DSSS: DBPSK, DQPSK, CCK<br>OFDM: 256QAM, 64QAM, 16QAM, QPSK, BPSK                                                                                                                                                                                                       |
| Transfer Rate                             | 802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps<br>802.11n: up to 300.0Mbps; 802.11ac : up to 867Mbps                                                                                                                                                         |
| DFS Operating Frequency                   | 5260 ~ 5320MHz<br>5500 ~ 5700MHz                                                                                                                                                                                                                                        |
| Number of Channel<br>(DFS Frequency band) | 5260 ~ 5320MHz:<br>4 channels for 802.11a, 802.11n (20MHz)<br>2 channels for 802.11n, 11ac (40MHz)<br>1 channel for 802.11ac (80MHz)<br>5500 ~ 5700MHz:<br>11 channels for 802.11a, 802.11n (20MHz)<br>4 channels for 802.11n (40MHz)<br>2 channel for 802.11ac (80MHz) |
| Maximum Output Power                      | 12.24dBm for 5250 ~ 5350MHz (Maximum AVG Power)<br>12.55dBm for 5470 ~ 5725MHz (Maximum AVG Power)                                                                                                                                                                      |
| Antenna Type                              | PCB antenna with 6.55dBi gain                                                                                                                                                                                                                                           |
| Antenna Connector                         | I-PEX                                                                                                                                                                                                                                                                   |

Note:

- The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.
- The product's RLAN function supports MIMO function with 2 antennas:

| Support mode   | Transmit and receive mode | Transmit and Receive Chain |
|----------------|---------------------------|----------------------------|
| 802.11a        | MIMO                      | 2TX,2RX                    |
| 802.11n HT20   | MIMO                      | 2TX,2RX                    |
| 802.11n HT40   | MIMO                      | 2TX,2RX                    |
| 802.11ac VHT20 | MIMO                      | 2TX,2RX                    |
| 802.11ac VHT40 | MIMO                      | 2TX,2RX                    |
| 802.11ac VHT80 | MIMO                      | 2TX,2RX                    |

- The UUT power supply the adapter as below:

|             |                                                                                     |
|-------------|-------------------------------------------------------------------------------------|
| Brand name: |  |
| Model name: | HKA09019047-6U                                                                      |
| Input:      | AC100-240V~50/60Hz, 1.5A                                                            |
| Output:     | DC19V 4.74A                                                                         |

## 1.2 Channel list of DFS band:

**For 5250 ~ 5350MHz:** 802.11a, 802.11a c 20MHz, 802.11n (20MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 52      | 5260 MHz  | 56      | 5280 MHz  |
| 60      | 5300 MHz  | 64      | 5320 MHz  |

802.11a c 40MHz, 802.11n (40MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 54      | 5270 MHz  | 62      | 5310 MHz  |

802.11ac (80MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 58      | 5290MHz   | --      | --        |

**For 5470 ~ 5725MHz:** 802.11a, 802.11a c 20MHz, 802.11n (20MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 100     | 5500 MHz  | 104     | 5520 MHz  |
| 108     | 5540 MHz  | 112     | 5560 MHz  |
| 116     | 5580 MHz  | 120     | 5600 MHz  |
| 124     | 5620 MHz  | 128     | 5640 MHz  |
| 132     | 5660 MHz  | 136     | 5680 MHz  |
| 140     | 5700 MHz  | --      | --        |

802.11a c 40MHz, 802.11n (40MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 102     | 5510 MHz  | 110     | 5550 MHz  |
| 118     | 5590 MHz  | 134     | 5670 MHz  |

802.11ac (80MHz):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 106     | 5530MHz   | 122     | 5610MHz   |

### 1.3 Transmit power control (TPC)

U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an EIRP of less than 500 mW. Maximum EIRP of this device is less than 500mW which less than 500mW, therefore it's not require TPC function.

### 1.4 Statement of the manufacturer

This device (Client) is without radar detection, then the manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user. And the device doesn't have Ad Hoc mode on DFS frequency band.

### 1.5 Operating frequency bands and mode of EUT

Table 1: Operating frequency bands and mode of EUT

| Operational Mode                                | Operating Frequency Range |              |
|-------------------------------------------------|---------------------------|--------------|
|                                                 | 5250~5350MHz              | 5470~5725MHz |
| Client without radar detection                  | V                         | V            |
| Note: The EUT has support the 5600-5650MHz band |                           |              |

### 1.6 EUT Software and firmware version

Table 2: The EUT software/firmware version

| No. | Product                                          | Model No. | Software/Firmware Version |
|-----|--------------------------------------------------|-----------|---------------------------|
| 1   | Zhumu Cloud Video Conferencing Collaboration Kit | ZM-3100   | win 10/ABVCS7300          |

### 1.7 Description of available antennas to the EUT

Table 3: Antenna spec. list

| No. | Brand | Model | Connector Type | Ant Type | Frequency range (MHz to MHz) | Maximum Gain(dBi) |
|-----|-------|-------|----------------|----------|------------------------------|-------------------|
| 1   | N/A   | N/A   | I-PEX          | PCB      | 5250 - 5350                  | 6.55              |
|     |       |       |                |          | 5470 - 5725                  | 6.55              |

## 2. U-NII DFS rule requirements

### 2.1 Working modes and required test items

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 6: Applicability of DFS requirements prior to use a channel

| Requirement                     | Operational Mode |                                |                             |
|---------------------------------|------------------|--------------------------------|-----------------------------|
|                                 | Master           | Client without radar detection | Client with radar detection |
| Non-Occupancy Period            | ✓                | ✓                              | ✓                           |
| DFS Detection Threshold         | ✓                | Not required                   | ✓                           |
| Channel Availability Check Time | ✓                | Not required                   | Not required                |
| Uniform Spreading               | ✓                | Not required                   | Not required                |
| U-NII Detection Bandwidth       | ✓                | Not required                   | ✓                           |

Table 7: Applicability of DFS requirements during normal operation

| Requirement                       | Operational Mode |                                |                             |
|-----------------------------------|------------------|--------------------------------|-----------------------------|
|                                   | Master           | Client without radar detection | Client with radar detection |
| DFS Detection Threshold           | ✓                | Not required                   | ✓                           |
| Channel Closing Transmission Time | ✓                | ✓                              | ✓                           |
| Channel Move Time                 | ✓                | ✓                              | ✓                           |
| U-NII Detection Bandwidth         | ✓                | Not required                   | ✓                           |

## 2.2 Test limits and radar signal parameters

### 2.2.1 Detection threshold values

Table 8: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

| Maximum Transmit Power | Value (See Note 1 and 2) |
|------------------------|--------------------------|
| ≥ 200 milliwatt        | -64 dBm                  |
| < 200 milliwatt        | -62 dBm                  |

**Note 1:** This is the level at the input of the receiver assuming a 0 dBi receive antenna.  
**Note 2:** Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Table 9: DFS Response Requirement Values

| Parameter                         | Value                                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------|
| Non-occupancy period              | Minimum 30 minutes                                                                                        |
| Channel Availability Check Time   | 60 seconds                                                                                                |
| Channel Move Time                 | 10 seconds<br>See Note 1.                                                                                 |
| Channel Closing Transmission Time | 200 milliseconds + an aggregate of 60 Milliseconds over remaining 10 second period.<br>See Notes 1 and 2. |
| U-NII Detection Bandwidth         | 100% of the UNII transmission power bandwidth.<br>See Note 3.                                             |

**Note 1:** The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

**Note 2:** The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

**Note 3:** During the U-NII Detection Bandwidth detection test, radar type 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

## 2.2.2 Parameters of dfs test signals

Table 10: Short Pulse Radar Test Waveforms

| Radar Type                                                                                                                           | Pulse Width (μsec) | PRI (μsec)                                                                                                                                                                                                                                                                     | Number of Pulses                                                                                                                                                                         | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|--------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------|
| 0                                                                                                                                    | 1                  | 1428                                                                                                                                                                                                                                                                           | 18                                                                                                                                                                                       | See Note 1                                 | See Note 1               |
| 1                                                                                                                                    | 1                  | <p>Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a</p> <p>-----</p> <p>Test B: 15 unique PRI values randomly selected within the range of 518-3066 μs, with a minimum increment of 1 μs, excluding PRI values selected in Test A</p> | $\text{Roundup} \left\{ \begin{array}{l} \left\lceil \frac{1}{360} \right\rceil \cdot \\ \left\lceil \frac{19 \cdot 10^3}{\text{PRI}_{\mu\text{sec}}} \right\rceil \end{array} \right\}$ | 60%                                        | 30                       |
| 2                                                                                                                                    | 1-5                | 150-230                                                                                                                                                                                                                                                                        | 23-29                                                                                                                                                                                    | 60%                                        | 30                       |
| 3                                                                                                                                    | 6-10               | 200-500                                                                                                                                                                                                                                                                        | 16-18                                                                                                                                                                                    | 60%                                        | 30                       |
| 4                                                                                                                                    | 11-20              | 200-500                                                                                                                                                                                                                                                                        | 12-16                                                                                                                                                                                    | 60%                                        | 30                       |
| Aggregate (Radar Types 1-4)                                                                                                          |                    |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                          | 80%                                        | 120                      |
| Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests. |                    |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                          |                                            |                          |

Table 11: Long Pulse Radar Test Waveform

| Radar Type | Pulse Width (μsec) | Chirp Width (MHz) | PRI (μsec) | Number of Pulses per Burst | Number of Bursts | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|-------------------|------------|----------------------------|------------------|--------------------------------------------|--------------------------|
| 5          | 50-100             | 5-20              | 1000-2000  | 1-3                        | 8-20             | 80%                                        | 30                       |

Table 12: Frequency Hopping Radar Test Waveform

| Radar Type | Pulse Width (μsec) | PRI (μsec) | Pulses per Hop | Hopping Rate (kHz) | Hopping Sequence Length (msec) | Minimum Percentage of Successful Detection | Minimum Number of Trials |
|------------|--------------------|------------|----------------|--------------------|--------------------------------|--------------------------------------------|--------------------------|
| 6          | 1                  | 333        | 9              | 0.333              | 300                            | 70%                                        | 30                       |

## 2.3 Test & support equipment list

### 2.3.1 Test instruments

| Description & Manufacturer      | Model No. | Serial No. | Due Date of Calibration |
|---------------------------------|-----------|------------|-------------------------|
| Spectrum Keysight               | N9020A    | MY51240612 | 2020/10/17              |
| Spectrum Analyzer Rohde&Schwarz | FSV-40N   | 101783     | 2020/10/17              |
| Power Meter 10Hz~18GHz Tonscend | JS0806-2  | 188060126  | 2020/10/17              |
| Signal generator Keysight       | N5182A    | GB40051020 | 2020/10/17              |
| Signal generator Keysight       | N5182A    | MY47420944 | 2020/10/17              |
| Test Software Tonscend          | JS0806-2  | NA         | NA                      |
| Hygrothermograph Yuhuaze        | HTC-1     | NA         | 2020/10/17              |
| Spectrum Keysight               | N9020A    | MY51240612 | 2020/10/17              |

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA.
2. The test was performed in Chamber 1.

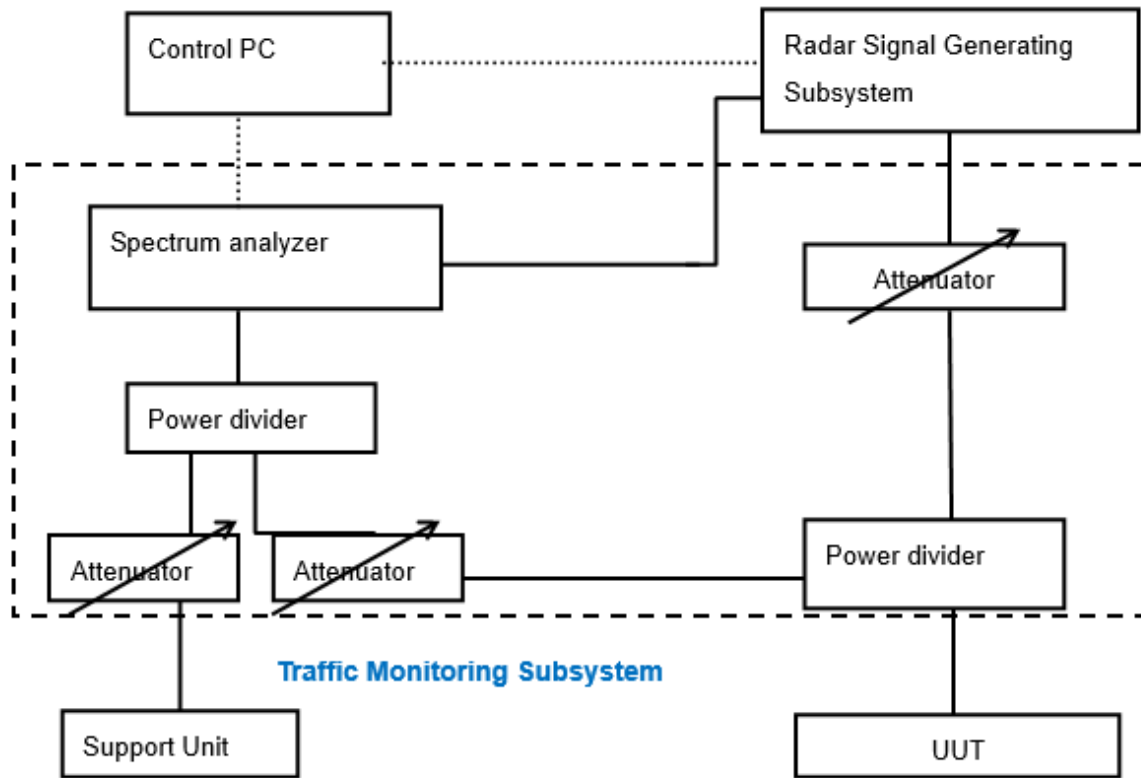
### 2.3.2 Description of support units

| No.                             | Product     | Brand | Model name | FCC ID number                                              | Maximum antenna Gain(dBi) | Maximum Transmit Power |
|---------------------------------|-------------|-------|------------|------------------------------------------------------------|---------------------------|------------------------|
| 1                               | Wireless AP | ASUS  | RT-AC1200  | MSQ-RT1D00                                                 | 5.0                       | >200 mW                |
| This device was functioned as a |             |       |            | <input checked="" type="checkbox"/> Master                 |                           |                        |
|                                 |             |       |            | <input type="checkbox"/> Slave device during the DFS test. |                           |                        |
| Software/Firmware Version       |             |       |            | V3.0.0.4.378_10571                                         |                           |                        |

## 2.4 Test procedure

### 2.4.1 DFS measurement system

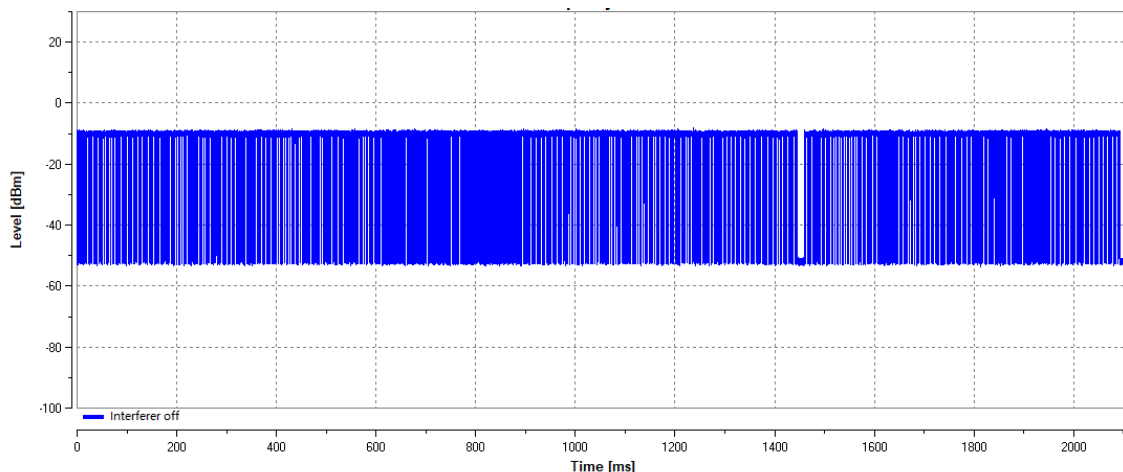
A complete DFS Measurement System consists of Radar signal generate system to generating the radar waveforms in Table 10, 11 and 12. The traffic monitoring system is specified to the type of unit under test (UUT).



### 2.4.2 Channel loading

System testing will be performed with channel-loading using means appropriate to the data types that are used by the unlicensed device. The following requirements apply:

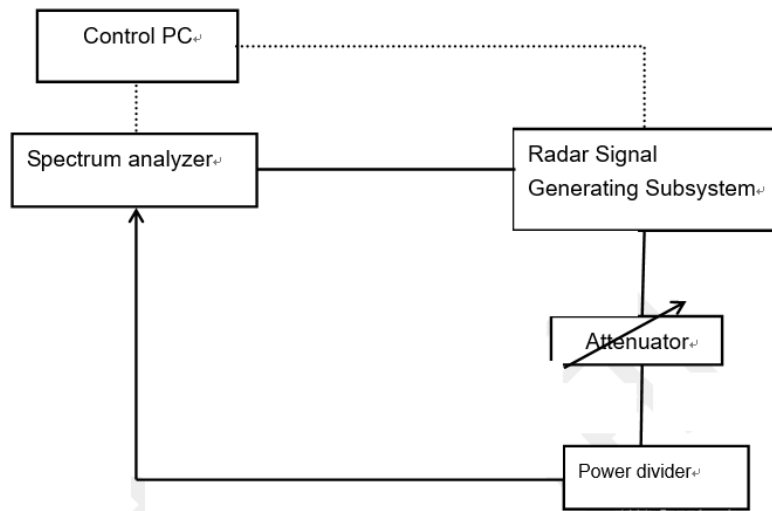
Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater.



### 2.4.3 Calibration of dfs detection threshold level

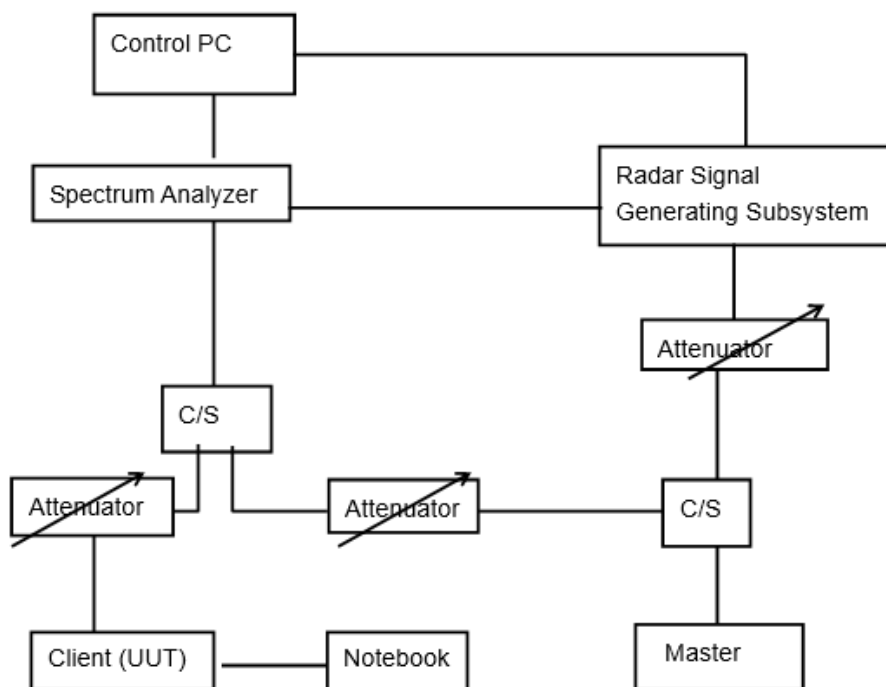
The measured channel is 5290MHz and 5530 MHz in 80MHz Bandwidth. The radar signal was the same as transmitted channels, and injected into the antenna port of AP (master) or Client Device with Radar Detection.

#### Conducted setup configuration of Calibration of DFS Detection Threshold Level



### 2.4.4 Conducted test setup configuration

#### 2.4.4.1 Client without radar detection mode



Note: The UUT is a U-NII Device operating in Client mode without radar detection. The radar test signals are injected into the Master Device.

### 2.4.5 Deviation from test standard

No deviation.

### 3. Test results

#### 3.1 Summary of test results

| Clause | Test Parameter                    | Remarks        | Pass/Fail |
|--------|-----------------------------------|----------------|-----------|
| 15.407 | DFS Detection Threshold           | Not Applicable | N/A       |
| 15.407 | Channel Availability Check Time   | Not Applicable | N/A       |
| 15.407 | Channel Move Time                 | Applicable     | Pass      |
| 15.407 | Channel Closing Transmission Time | Applicable     | Pass      |
| 15.407 | Non- Occupancy Period             | Applicable     | Pass      |
| 15.407 | Uniform Spreading                 | Not Applicable | N/A       |
| 15.407 | U-NII Detection Bandwidth         | Not Applicable | N/A       |
| 15.407 | Non-associated test               | Applicable     | Pass      |
| 15.407 | Non-Co-Channel test               | Applicable     | Pass      |

| No. | Test Parameter                    | Operation mode | Test Channel | Pass/Fail |
|-----|-----------------------------------|----------------|--------------|-----------|
| 1   | Channel Move Time                 | 802.11ac 80MHz | CH58&CH106   | Pass      |
| 2   | Channel Closing Transmission Time | 802.11ac 80MHz | CH58&CH106   | Pass      |
| 3   | Non- Occupancy Period             | 802.11ac 80MHz | CH58&CH106   | Pass      |
| 4   | Non-associated test               | 802.11ac 80MHz | CH58&CH106   | Pass      |
| 5   | Non-Co-Channel test               | 802.11ac 80MHz | CH58&CH106   | Pass      |

Note: Test procedure from KDB 905462 D02 UNII DFS Compliance Procedures New Rules v01r02.

### 3.2 Detailed test results

**Test Mode:** Device operating in Client without Radar Detection mode

The radar test signals are injected into the Master Device.

This test was investigated for widest bandwidth (80MHz). The following plots was done on 80MHz as a representative:

#### DFS detection threshold

| No. | Product     | Brand | Model name | FCC ID     | Maximum antenna Gain(dBi) | Maximum Transmit Power |
|-----|-------------|-------|------------|------------|---------------------------|------------------------|
| 1   | Wireless AP | ASUS  | RT-AC1200  | MSQ-RT1D00 | 5.0                       | >200 mW                |

The Required detection threshold is -59.0dBm (= -64 +5)dBm

The conducted radar burst level is set to -59.0dBm.

Set the RBW = 1 MHz.

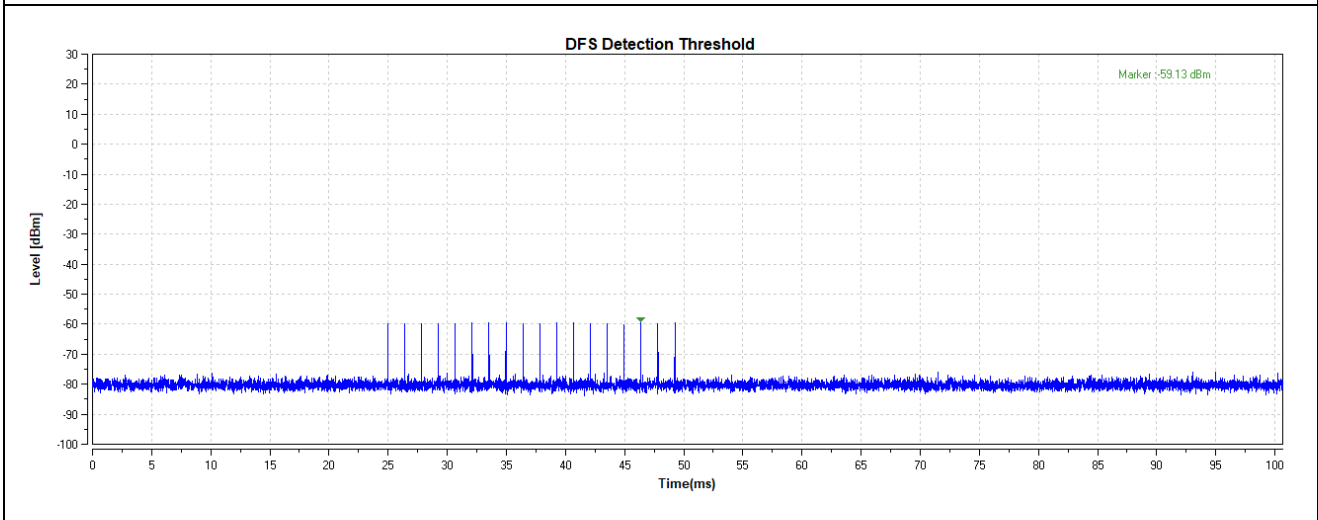
Set the VBW. = 3 MHz.

Detector = peak.

Sweep time = auto couple.

Trace mode = single trigger

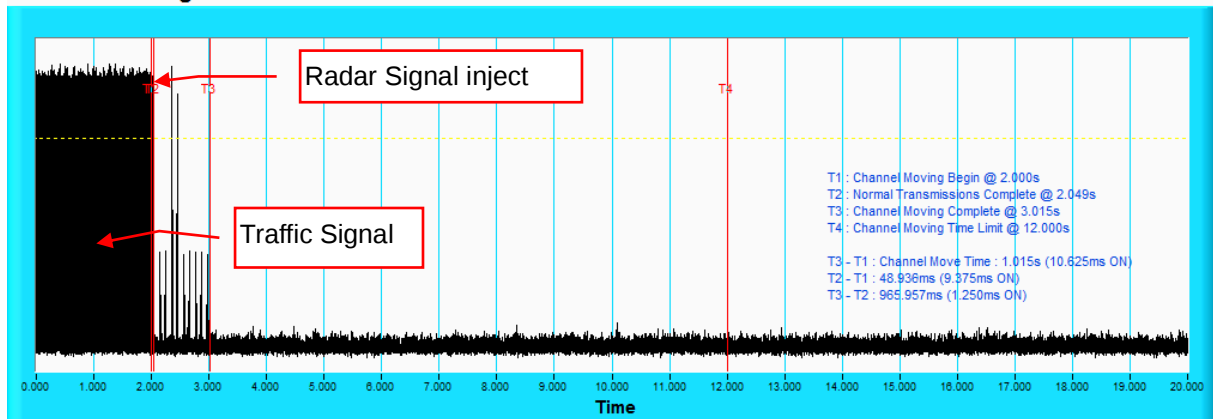
Attenuation=0dB



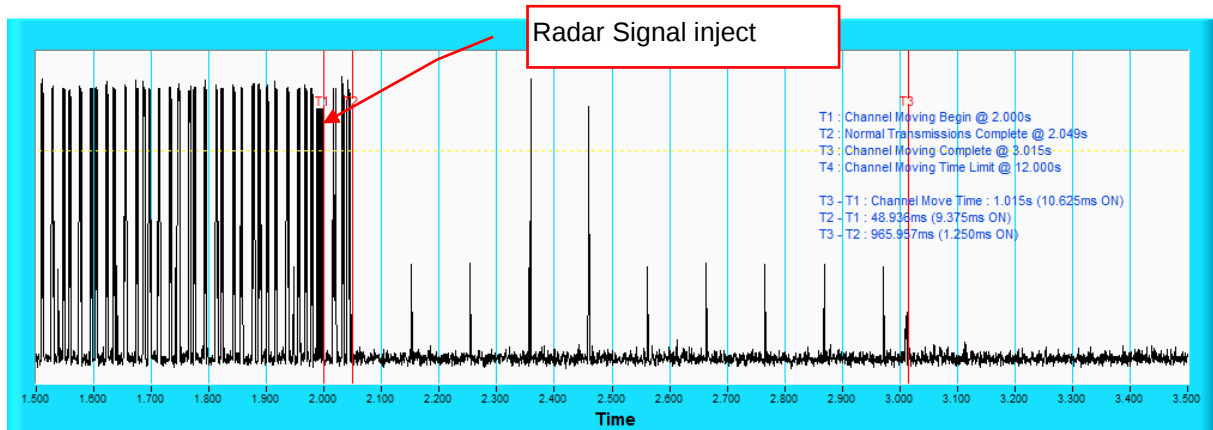
Radar Signal (Type 0)

### 3.3 Channel closing transmission and channel move time

#### 11ac (80MHz) 5530MHz



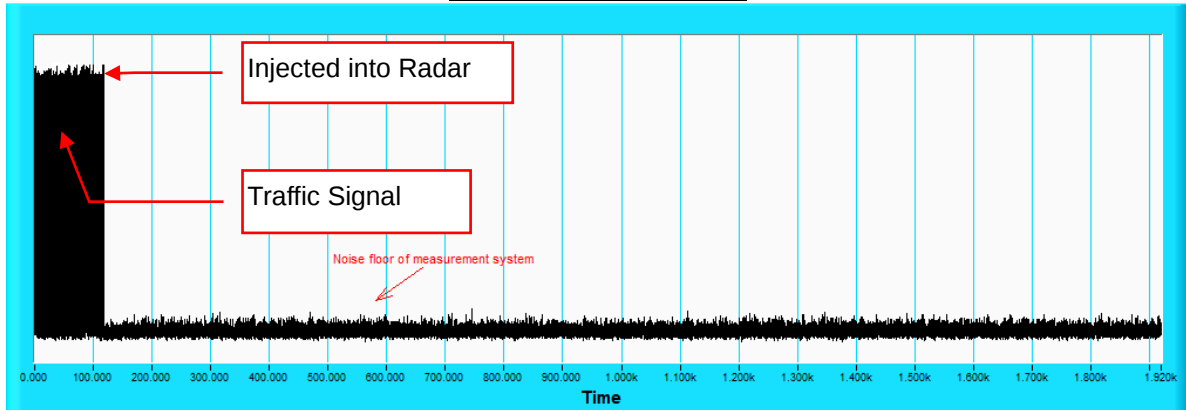
**NOTE:** T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



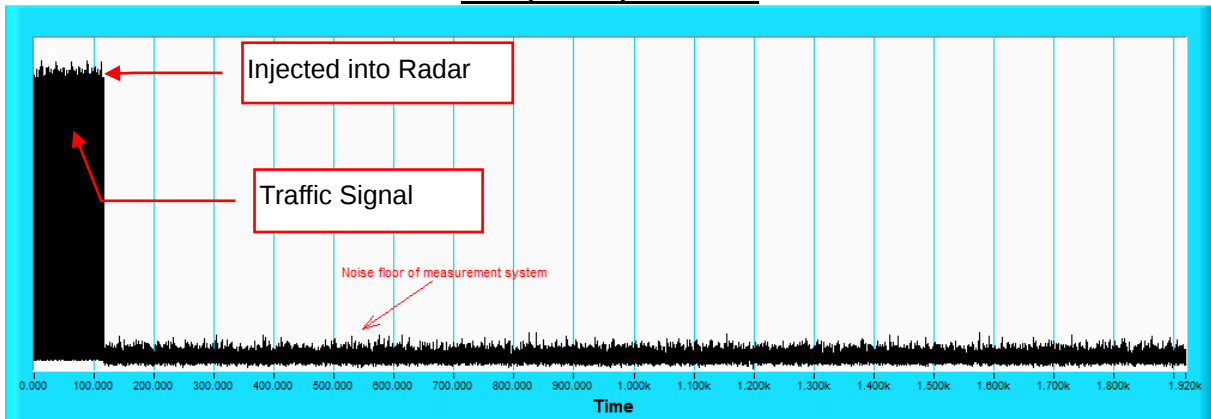
**NOTE:** An expanded plot for the device vacates the channel in the required 500ms.

### 3.4 Non- occupancy period

11ac (80MHz) 5290MHz:

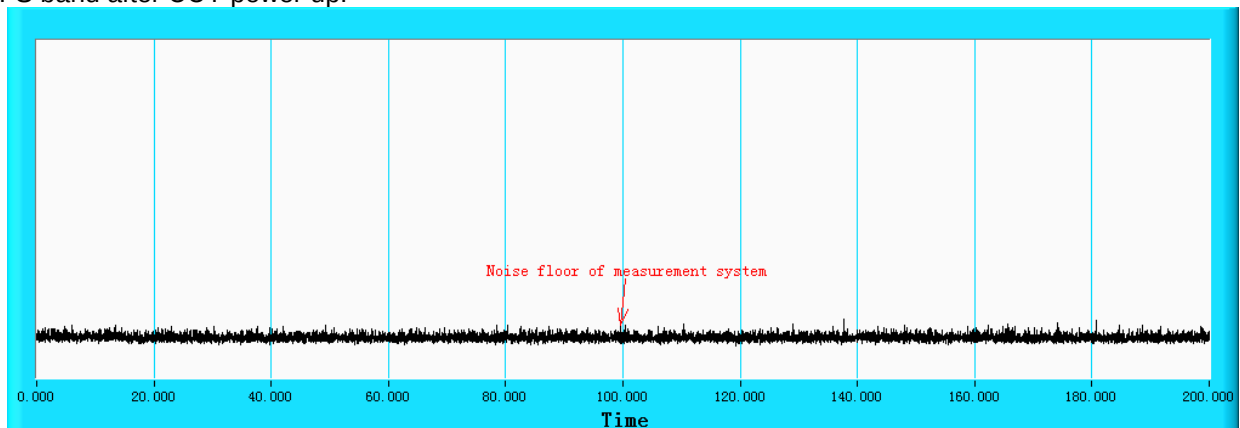


11ac (80MHz) 5530MHz:



### 3.5 Non-associated test

After the master off, during the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up.



### 3.6 Non- co-channel test

The UUT was investigated after radar was detected the channel and made sure no co-channel operation with radars.

**3.7 Photographs of the test configuration**

Refer to the test photos of No. HQ191231EL07

**Appendix – Information on the Testing Laboratories**

We, Hwa-Hsing (Dongguan) Co., Ltd., A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values "HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT", commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

**Lab Address:** [No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China](#)

**Contact Tel:** [0769-83078199](tel:0769-83078199)

**Email:** [customerservice.dg@hwa-hsing.com](mailto:customerservice.dg@hwa-hsing.com)

**Web Site:** [www.hwa-hsing.com](http://www.hwa-hsing.com)

The address and road map of all our labs can be found in our web site also.

--- END ---