

TEST REPORT

Product Name : All-in-one panel PC
Model Number : TPC101-RK99
FCC ID : 2BEA6TPC101

Prepared for : Vantron Technology, Inc.
Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA

Prepared by : EMTEK (SHENZHEN) CO., LTD.
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Report Number : ENS2404260267W00205R
Date(s) of Tests : May 16, 2024 to June 15, 2024
Date of issue : June 18, 2024

TABLE OF CONTENTS

| | |
|--|-----------|
| 1. TEST RESULT CERTIFICATION | 3 |
| 2. EUT DESCRIPTION | 4 |
| 3. SUMMARY OF TEST RESULT | 6 |
| 4. TEST METHODOLOGY | 7 |
| 4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS | 7 |
| 4.2 MEASUREMENT EQUIPMENT USED | 7 |
| 4.3 DESCRIPTION OF TEST MODES | 8 |
| 5. FACILITIES AND ACCREDITATIONS | 11 |
| 5.1 FACILITIES | 11 |
| 5.2 EQUIPMENT | 11 |
| 5.3 LABORATORY ACCREDITATIONS AND LISTINGS | 11 |
| 6. SETUP OF EQUIPMENT UNDER TEST | 12 |
| 6.1 SETUP CONFIGURATION OF EUT | 12 |
| 6.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL: | 12 |
| 6.3 SUPPORT EQUIPMENT | 13 |
| 7. DYNAMIC FREQUENCY SELECTION REQUIREMENTS | 14 |
| 7.1 APPLICABLE STANDARD | 14 |
| 7.2 CONFORMANCE LIMIT | 14 |
| 7.3 TEST CONFIGURATION | 14 |
| 7.4 TEST PARAMETERS OF DFS TEST SIGNAL | 15 |
| 7.5 TRANSMITTER OUTPUT POWER | 16 |
| 7.6 OPERATION MODES AND REQUIREMENT TEST ITEMS | 17 |
| 7.7 TEST PROCEDURE | 17 |
| 8. TEST RESULT | 18 |
| 8.1 DETAILED TEST RESULTS | 18 |
| 8.2 RADAR WAVEFORM | 19 |
| 8.3 IN-SERVICE MONITORING | 21 |
| 8.4 NON-OCCUPANCY PERIOD | 24 |

1. TEST RESULT CERTIFICATION

Applicant : Vantron Technology, Inc.
 Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA
 Manufacturer : Vantron Technology, Inc.
 Address : 48434 Milmont Drive Fremont, CA 94538-7324, USA
 EUT : All-in-one panel PC
 Model Name : TPC101-RK99
 Trademark : Vantron


Measurement Procedure Used:


| APPLICABLE STANDARDS | |
|-------------------------------|-------------|
| STANDARD | TEST RESULT |
| FCC 47 CFR Part 15, Subpart E | PASS |
| IC RSS-247 Issue 2(02-2017) | PASS |

The above equipment was tested by EMTEK (SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.407 and IC RSS-247 Issue 2.

The test results of this report relate only to the tested sample identified in this report.

Date of Test : May 16, 2024 to June 15, 2024

Prepared by : 
 Una Yu/Editor

Reviewer : 
 Joe Xia/Supervisor

Approve & Authorized Signer : 
 Lisa Wang/Manager



2. EUT DESCRIPTION

| Characteristics | Description | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---------------------------|----------------------|----------------------|--------------------|-------------|---------------------------|-----------|---|-------------------------|-----------|---|-------------------|------|---|----------------|---------------------------|-----------|---|-------------------------|-----------|---|------------------|------|---|----------------|---------------------------|-----------|----|-------------------------|-----------|---|------------------|-----------|---|---------------|---------------------------|-----------|---|-------------------------|-----------|---|------------------|------|---|
| Device style: | 5G WIFI (Slave equipment without radar detection function) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Product: | All-in-one panel PC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Model Number: | TPC101-RK99 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample: | 2# | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IEEE 802.11 WLAN Mode Supported: | <input checked="" type="checkbox"/> 802.11a/n/ac(20MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11n/ac(40MHz channel bandwidth) <input checked="" type="checkbox"/> 802.11ac(80MHz channel bandwidth) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data Rate: | 802.11a: 54/48/36/24/18/12/9/6Mbps 802.11n: MCS0-MCS15 802.11ac: MCS0-MCS9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Modulation: | <input checked="" type="checkbox"/> OFDM with BPSK/QPSK/16QAM/64QAM for 802.11a/n; <input checked="" type="checkbox"/> OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11ac; | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Frequency Rang: | <table border="1"> <thead> <tr> <th>WIFI 5G Band</th> <th>Mode</th> <th>Frequency Range(MHz)</th> <th>Number of channels</th> </tr> </thead> <tbody> <tr> <td rowspan="3">UNII Band I</td> <td>802.11a/n(HT20)/ac(VHT20)</td> <td>5180-5240</td> <td>4</td> </tr> <tr> <td>802.11n(HT40)/ac(VHT40)</td> <td>5190-5230</td> <td>2</td> </tr> <tr> <td>802.11 ac(VHT80))</td> <td>5210</td> <td>1</td> </tr> <tr> <td rowspan="3">UNII Band II-A</td> <td>802.11a/n(HT20)/ac(VHT20)</td> <td>5260-5320</td> <td>4</td> </tr> <tr> <td>802.11n(HT40)/ac(VHT40)</td> <td>5270-5310</td> <td>2</td> </tr> <tr> <td>802.11 ac(VHT80)</td> <td>5290</td> <td>1</td> </tr> <tr> <td rowspan="3">UNII Band II-C</td> <td>802.11a/n(HT20)/ac(VHT20)</td> <td>5500-5700</td> <td>11</td> </tr> <tr> <td>802.11n(HT40)/ac(VHT40)</td> <td>5510-5670</td> <td>5</td> </tr> <tr> <td>802.11 ac(VHT80)</td> <td>5530-5610</td> <td>2</td> </tr> <tr> <td rowspan="3">UNII Band III</td> <td>802.11a/n(HT20)/ac(VHT20)</td> <td>5745-5825</td> <td>5</td> </tr> <tr> <td>802.11n(HT40)/ac(VHT40)</td> <td>5755-5795</td> <td>2</td> </tr> <tr> <td>802.11 ac(VHT80)</td> <td>5775</td> <td>1</td> </tr> </tbody> </table> | WIFI 5G Band | Mode | Frequency Range(MHz) | Number of channels | UNII Band I | 802.11a/n(HT20)/ac(VHT20) | 5180-5240 | 4 | 802.11n(HT40)/ac(VHT40) | 5190-5230 | 2 | 802.11 ac(VHT80)) | 5210 | 1 | UNII Band II-A | 802.11a/n(HT20)/ac(VHT20) | 5260-5320 | 4 | 802.11n(HT40)/ac(VHT40) | 5270-5310 | 2 | 802.11 ac(VHT80) | 5290 | 1 | UNII Band II-C | 802.11a/n(HT20)/ac(VHT20) | 5500-5700 | 11 | 802.11n(HT40)/ac(VHT40) | 5510-5670 | 5 | 802.11 ac(VHT80) | 5530-5610 | 2 | UNII Band III | 802.11a/n(HT20)/ac(VHT20) | 5745-5825 | 5 | 802.11n(HT40)/ac(VHT40) | 5755-5795 | 2 | 802.11 ac(VHT80) | 5775 | 1 |
| | WIFI 5G Band | Mode | Frequency Range(MHz) | Number of channels | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | UNII Band I | 802.11a/n(HT20)/ac(VHT20) | 5180-5240 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11n(HT40)/ac(VHT40) | 5190-5230 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11 ac(VHT80)) | 5210 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | UNII Band II-A | 802.11a/n(HT20)/ac(VHT20) | 5260-5320 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11n(HT40)/ac(VHT40) | 5270-5310 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11 ac(VHT80) | 5290 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | UNII Band II-C | 802.11a/n(HT20)/ac(VHT20) | 5500-5700 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11n(HT40)/ac(VHT40) | 5510-5670 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11 ac(VHT80) | 5530-5610 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | UNII Band III | 802.11a/n(HT20)/ac(VHT20) | 5745-5825 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 802.11n(HT40)/ac(VHT40) | 5755-5795 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 802.11 ac(VHT80) | | 5775 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| For DFS frequency band: UNII Band II-A. UNII Band II-C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antenna Type: | FPC Antenna | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Smart system: | <input checked="" type="checkbox"/> SISO <input type="checkbox"/> MIMO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Antenna Gain: | 8.30 dBi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Power Supply: | DC 12V from adapter, POE power supply | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adapter: | MODEL:FJ-SW20261203000 INPUT:AC 100-240V~50/60Hz 1.5A Max OUTPUT:12V, 3.0A, 36.0W | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Voltage: | AC 120V/60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|---------------------------|--------------|
| Date of Received: | May 16, 2024 |
| Temperature Range: | 0°C ~ +40°C |

Note: for more details, please refer to the User's manual of the EUT.



3. SUMMARY OF TEST RESULT

| FCC PartClause | IC Part Clause | Test Parameter | Remarks | Pass/Fail |
|----------------|----------------|-----------------------------------|------------|-----------|
| 15.407(h) | RSS-247, 6.3 | DFS Detection Threshold | N/A | N/A |
| | | Channel Availability Check Time | N/A | N/A |
| | | Channel Move Time | Applicable | Pass |
| | | Channel Closing Transmission Time | Applicable | Pass |
| | | Non- Occupancy Period | Applicable | Pass |
| | | Uniform Spreading | N/A | N/A |
| | | U-NII Detection Bandwidth | N/A | N/A |



4. TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 06-96

FCC 47 CFR Parts 15, Subpart E

FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

IC RSS-247 Issue 2(02-2017)

4.2 MEASUREMENT EQUIPMENT USED

For other test items:

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------------------------------|--------------|-----------|------------|-----------|---------------|
| Signal Analyzer | Agilent | N9010A | MY53470879 | 2024/5/10 | 1Year |
| Vector Signal Generator | Agilent | N5182B | MY53050878 | 2024/5/10 | 1Year |
| Analog Signal Generator | Agilent | N5171B | MY53050553 | 2024/5/10 | 1Year |
| RF Control Unit(Power Meter) | Tonscend | JS0806-2 | \ | 2024/5/10 | 1Year |
| Temperature&Humidity Chamber | ESPEC | EL-02KA | 12107166 | 2024/5/10 | 1Year |

4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11a: 54 Mbps; 802.11n(HT20): MCS0; 802.11ac(VHT20): MCS0; 802.11n(HT40): MCS0; 802.11ac(VHT40): MCS0; 802.11ac(VHT80): MCS0;) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.



Wifi 5G with U-NII -2A
Frequency and Channel list 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40):

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

Frequency and Channel list for 802.11ac (VHT80):

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 58 | 5290 | | | | |

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 52 | 5260 | 56 | 5280 | 64 | 5320 |

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 54 | 5270 | N/A | N/A | 62 | 5310 |

Test Frequency and channel for 802.11ac (VHT80):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 58 | 5290 | | | | |

Wifi 5G with U-NII -2C
Frequency and Channel list for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

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

Frequency and Channel list for 802.11n (HT40), 802.11ac (VHT40):

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---------|-----------------|---------|-----------------|---------|-----------------|
| 102 | 5510 | 118 | 5590 | 134 | 5670 |
| 110 | 5550 | 126 | 5630 | | |

Frequency and Channel list for 802.11ac (VHT80):

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

Test Frequency and Channel for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 100 | 5500 | 120 | 5600 | 140 | 5700 |

Test Frequency and channel for 802.11n (HT40), 802.11ac (VHT40):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 102 | 5510 | | | 134 | 5670 |

Test Frequency and channel for 802.11ac (VHT80):

| Lowest Frequency | | Middle Frequency | | Highest Frequency | |
|------------------|-----------------|------------------|-----------------|-------------------|-----------------|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 106 | 5530 | | | | |

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

Bldg 69, Majialong Industry Zone District, Nanshan District, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L2291.

The Laboratory has been assessed and proved to be in compliance with CNAS-CL01 (identical to ISO/IEC 17025:2017)

Accredited by FCC

Designation Number: CN1204

Test Firm Registration Number: 882943

Accredited by A2LA

The Certificate Number is 4321.01.

Accredited by Industry Canada

The Conformity Assessment Body Identifier is CN0008

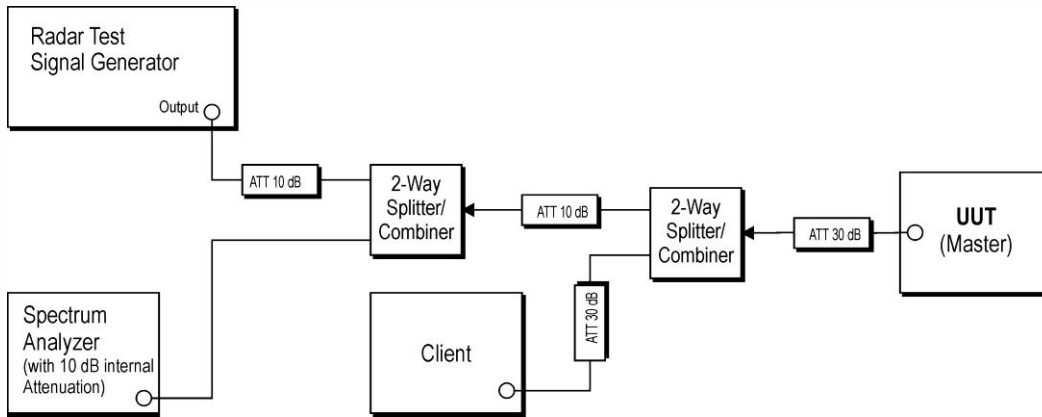
Name of Firm : EMTEK (SHENZHEN) CO., LTD.

Site Location : Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China

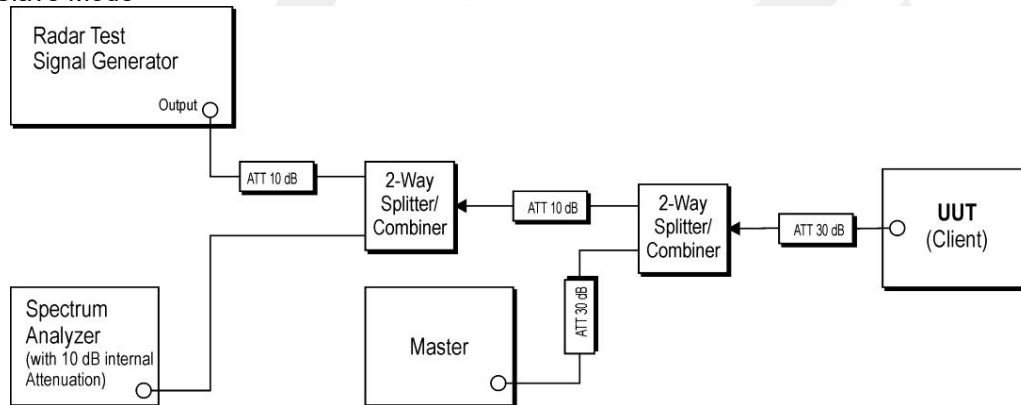
6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

Master Modes



Slave Mode



6.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL:

A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of -62 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from -62 dBm. Adjust the Reference Level Offset of the spectrum analyzer to this difference.

The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of -62 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.

Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjust the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold.

Separate signal generator amplitude settings are determined as required for each radar type.

6.3 SUPPORT EQUIPMENT

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Note |
|---|-----------------------|---------------|----------------|------------|---|
| 1. | Wireless Access Point | <i>Ruijie</i> | RG-RAP2260(H) | N/A | FCC ID: 2AX5J-RAP2260H IC:27676-RAP2260H |
| | | | | | |
| Note: Software for transferring data between master and slave devices is TFGEN-1.00 | | | | | |

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



7. DYNAMIC FREQUENCY SELECTION REQUIREMENTS

7.1 APPLICABLE STANDARD

According to 15.407(h) and RSS-247 6.3

7.2 CONFORMANCE LIMIT

The dynamic frequency selection requirement

| Parameter | Value |
|--|---|
| Non-occupancy period | Minimum 30 minutes |
| Channel Availability Check Time | 60 seconds |
| Channel Move Time | 10 seconds See Note 1. |
| Channel Closing Transmission Time | 200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2. |
| U-NII Detection Bandwidth | Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3. |
| <p>Note 1: <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.</p> <p>Note 2: The <i>Channel Closing Transmission Time</i> is comprised of 200 milliseconds starting at the beginning of the <i>Channel Move Time</i> plus any additional intermittent control signals required to facilitate a <i>Channel</i> 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.</p> <p>Note 3: During the <i>U-NII Detection Bandwidth</i> detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.</p> | |

The following table lists the DFS The detection threshold values

| Maximum Transmit Power | Value (See Notes 1, 2, and 3) |
|---|----------------------------------|
| EIRP \geq 200 milliwatt | -64 dBm |
| EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz | -62 dBm |
| EIRP < 200 milliwatt that do not meet the power spectral density requirement | -64 dBm |
| <p>Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.</p> <p>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.</p> <p>Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.</p> | |

7.3 TEST CONFIGURATION

Conducted measurements shall be used for DFS test

7.4 TEST PARAMETERS OF DFS TEST SIGNAL

The following table lists the parameters of radar test signals

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 | Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a | Roundup $\left\{ \begin{matrix} \left(\frac{1}{360} \right) \cdot \\ \left(\frac{19 \cdot 10^6}{PRI_{\mu sec}} \right) \end{matrix} \right\}$ | 60% | 30 |
| | | Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A | | | |
| 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. | | | | | |

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 |

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 |

7.5 TRANSMITTER OUTPUT POWER

25°C

Humidity:

55 % RH

| Band | Max Power | |
|-----------------|------------------------|--------------------|
| | Conducted Output Power | E.I.R.P |
| 5250MHz-5350MHz | 15.90dBm(38.90mW) | 21.27dBm(133.97mW) |
| 5470MHz-5725MHz | 16.83dBm(48.19mW) | 22.20dBm(165.96mW) |



7.6 OPERATION MODES AND REQUIREMENT TEST ITEMS

The manufacture shall state whether the EUT is capable of operating as a Master or a Slave modes,if the EUT is capable of operating in more than one operational mode then every operating mode shall be assessed separately.

Applicability of DFS Requirements Prior to Use of a Channel

| Requirement | Operational Mode | | |
|---------------------------------|------------------|--------------------------------|-----------------------------|
| | Master | Client Without Radar Detection | Client With Radar Detection |
| Non-Occupancy Period | Yes | Not required | Yes |
| DFS Detection Threshold | Yes | Not required | Yes |
| Channel Availability Check Time | Yes | Not required | Not required |
| Uniform Spreading | Yes | Not required | Not required |
| U-NII Detection Bandwidth | Yes | Not required | Yes |

Applicability of DFS requirements during normal operation

| Requirement | Operational Mode | | |
|-----------------------------------|------------------|--------------------------------|-----------------------------|
| | Master | Client Without Radar Detection | Client With Radar Detection |
| DFS Detection Threshold | Yes | Not required | Yes |
| Channel Closing Transmission Time | Yes | Yes | Yes |
| Channel Move Time | Yes | Yes | Yes |
| U-NII Detection Bandwidth | Yes | Not required | Yes |

7.7 TEST PROCEDURE

According to KDB 905462 D02v02 Section 7.

8. TEST RESULT

8.1 DETAILED TEST RESULTS

| Clause | MODES | Test Parameter | Remark | Verdict |
|--------|---|-----------------------------------|------------|---------|
| 15.407 | <input type="checkbox"/> Master | DFS Detection Threshold | N/A | N/A |
| 15.407 | | Channel Availability Check Time | N/A | N/A |
| 15.407 | | Channel Move Time | N/A | N/A |
| 15.407 | | Channel Closing Transmission Time | N/A | N/A |
| 15.407 | | Non-Occupancy Period | N/A | N/A |
| 15.407 | | Uniform Spreading | N/A | N/A |
| 15.407 | | U-NII Detection Bandwidth | N/A | N/A |
| 15.407 | <input checked="" type="checkbox"/> Slave | Radar Detection Threshold | N/A | 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 | | U-NII Detection Bandwidth | N/A | N/A |

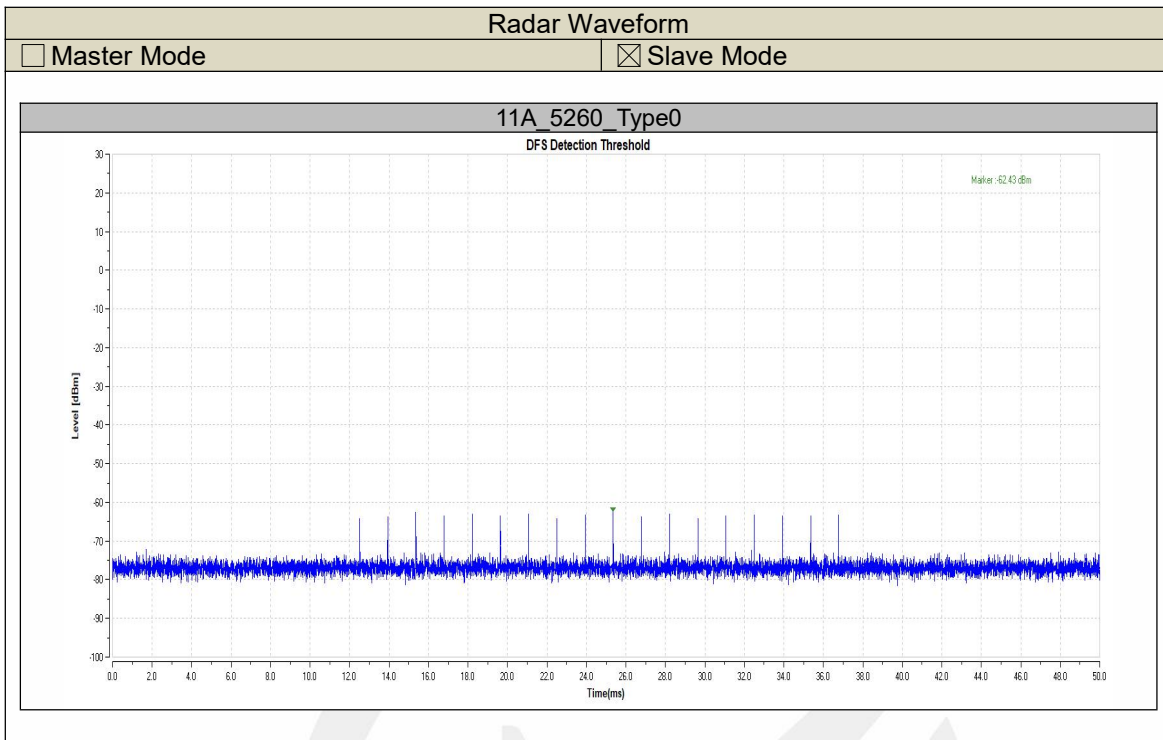
8.2 RADAR WAVEFORM

Calibration:

Maximum Transmit Power EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz so detection threshold level is -62dBm.

The 801.11a/n/ac have been tested, and the worst result have been recorded in the below page.





8.3 IN-SERVICE MONITORING

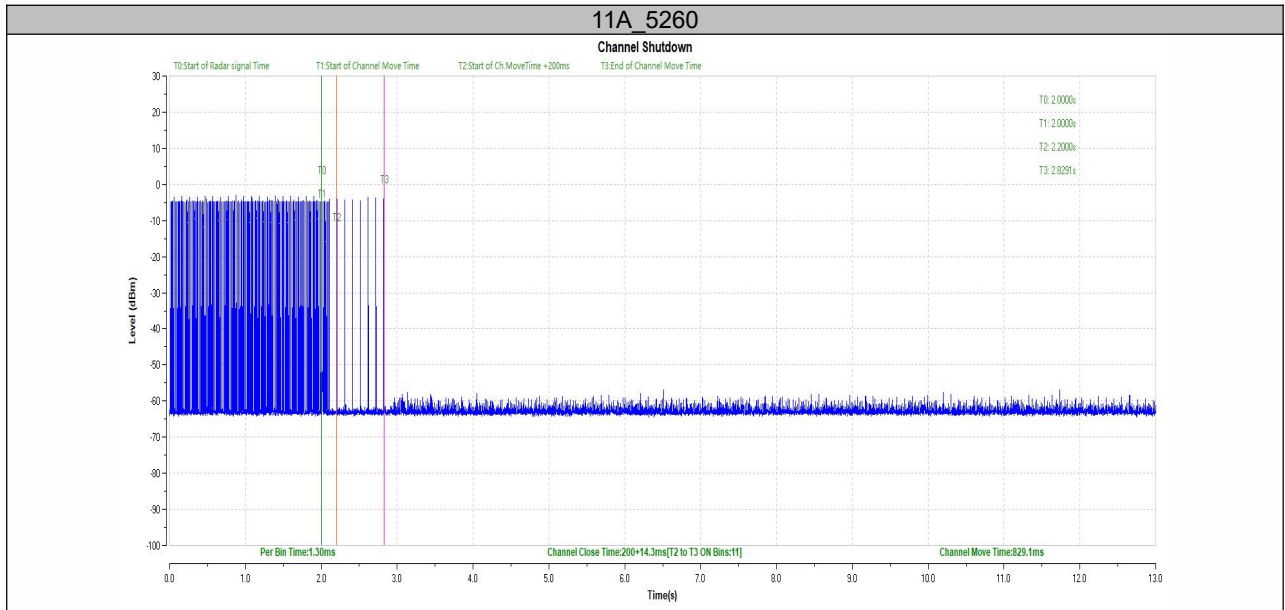
UNII Band II-A

| Radar test signal type 0 | | | | | Detection(Y/N) |
|--------------------------|-----------------|---------|------------------|---------------------|----------------|
| Trial ID | Pulse Width(us) | PRI(us) | Number of Pulses | Waveform Length(us) | |
| 0 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 1 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| 2 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 3 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 4 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 5 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 6 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 7 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 8 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 9 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 10 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| 11 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 12 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 13 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 14 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 15 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 16 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 17 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| 18 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 19 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 20 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 21 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 22 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 23 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 24 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 25 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 26 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 27 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 28 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 29 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| Detection Rate | | | | | 90% |

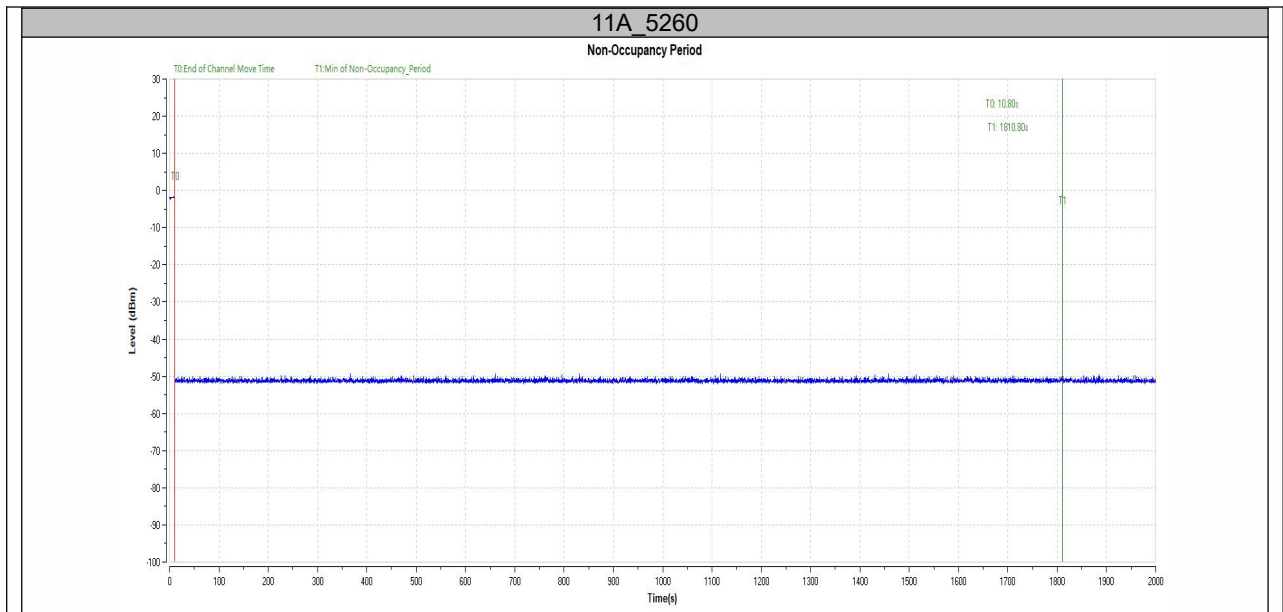
UNII Band II-C

| Radar test singal type 0 | | | | | Detection(Y/N) |
|--------------------------|-----------------|---------|------------------|---------------------|----------------|
| Trial ID | Pulse Width(us) | PRI(us) | Number of Pulses | Waveform Length(us) | |
| 0 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 1 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 2 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 3 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| 4 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 5 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 6 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 7 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 8 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 9 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 10 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 11 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 12 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 13 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 14 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 15 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| 16 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 17 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 18 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 19 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 20 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 21 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 22 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 23 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 24 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 25 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 26 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 27 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 28 | 1.0 | 1428.0 | 18 | 25704.0 | Y |
| 29 | 1.0 | 1428.0 | 18 | 25704.0 | N |
| Detection Rate | | | | | 90% |

| TestMode | Frequency[MHz] | CCTT[ms] | Limit[ms] | CMT[ms] | Limit[ms] | Verdict |
|----------|----------------|----------|-----------|---------|-----------|---------|
| 11A | 5260 | 200+14.3 | 200+60 | 829.1 | 10000 | PASS |



8.4 NON-OCCUPANCY PERIOD



*** End of Report ***