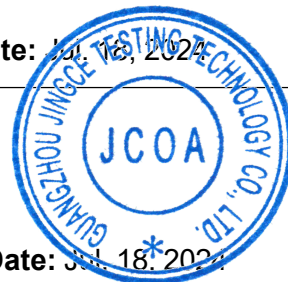
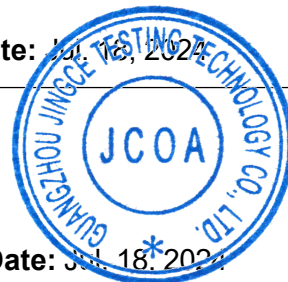
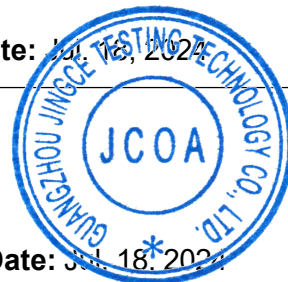




## FCC AND ISCED CERTIFICATION TEST REPORT

|                                                                                                                                            |                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant:</b>                                                                                                                          | Guangzhou Shikun Electronics Co., Ltd                                                                                            |
| <b>Address:</b>                                                                                                                            | NO.6 Liankun Road, Huangpu District, Guangzhou, China                                                                            |
| <b>Manufacturer:</b>                                                                                                                       | Guangzhou Shikun Electronics Co., Ltd                                                                                            |
| <b>Address:</b>                                                                                                                            | NO.6 Liankun Road, Huangpu District, Guangzhou, China                                                                            |
| <b>Product Description:</b>                                                                                                                | IEEE 802.11b/g/n/a/ac 2T2R USB WiFi Module Integrated BT 2.1+EDR/4.2/5.0                                                         |
| <b>Brand Name:</b>                                                                                                                         | NA                                                                                                                               |
| <b>Tested Model:</b>                                                                                                                       | SKI.WB822CU.8                                                                                                                    |
| <b>FCC ID:</b>                                                                                                                             | 2AR82-SKIWB822CU8                                                                                                                |
| <b>IC:</b>                                                                                                                                 | 24728-SKIWB822CU8                                                                                                                |
| <b>Report No.:</b>                                                                                                                         | JCF240627041-004                                                                                                                 |
| <b>Received Date:</b>                                                                                                                      | Jun. 27, 2024                                                                                                                    |
| <b>Tested Date:</b>                                                                                                                        | Jun. 27, 2024 ~Jul. 18, 2024                                                                                                     |
| <b>Issued Date:</b>                                                                                                                        | Jul. 18, 2024                                                                                                                    |
| <b>Test Standards:</b>                                                                                                                     | FCC Rules and Regulations Part 15 Subpart E,<br>RSS-247 Issue 3 August 2023                                                      |
| <b>Test Procedure:</b>                                                                                                                     | ANSI C63.10:2013,<br>789033 D02 General U-NII Test Procedures New Rules v02r01,<br>662911 D01 Multiple Transmitter Output v02r01 |
| <b>Test Result:</b>                                                                                                                        | Pass                                                                                                                             |
| <b>Prepared By:</b><br><br><u>Roger Li/Engineer</u>     |                                                                                                                                  |
| <b>Date:</b> Jul. 18, 2024                             |                                                                                                                                  |
| <b>Reviewed By:</b><br><br><u>Kennys Zhang/Engineer</u> |                                                                                                                                  |
| <b>Date:</b> Jul. 18, 2024                             |                                                                                                                                  |
| <b>Approved By:</b><br><br><u>Talent Zhang/Engineer</u> |                                                                                                                                  |
| <b>Date:</b> Jul. 18, 2024                             |                                                                                                                                  |

Note: The test results in this report apply exclusively to the tested model / sample. Without written approval of Guangzhou Jingce Testing Technology Co., Ltd. the test report shall not be reproduced except in full.

**Report Revise Record**

| Report Version | Revise Time | Issued Date   | Valid Version   | Notes |
|----------------|-------------|---------------|-----------------|-------|
| V1.0           | /           | Jul. 18, 2024 | Original Report | /     |

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## 1. Test Report Declare

|                                |                                                                          |
|--------------------------------|--------------------------------------------------------------------------|
| <b>Applicant:</b>              | Guangzhou Shikun Electronics Co., Ltd                                    |
| <b>Address:</b>                | NO.6 Liankun Road, Huangpu District, Guangzhou, China                    |
| <b>Manufacturer:</b>           | Guangzhou Shikun Electronics Co., Ltd                                    |
| <b>Address:</b>                | NO.6 Liankun Road, Huangpu District, Guangzhou, China                    |
| <b>Product Name:</b>           | IEEE 802.11b/g/n/a/ac 2T2R USB WiFi Module Integrated BT 2.1+EDR/4.2/5.0 |
| <b>Brand Name:</b>             | NA                                                                       |
| <b>Model Name:</b>             | SKI.WB822CU.8                                                            |
| <b>Difference Description:</b> | NA                                                                       |

### We Declare:

The equipment described above is tested by Guangzhou Jingce Testing Technology Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangzhou Jingce Testing Technology Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests except as provided information by clients.

## 2. Summary of test results

The EUT have been tested according to the applicable standards as referenced below.

| Clause | Description of Test Item                 | Standard                                                                               | Verdict |
|--------|------------------------------------------|----------------------------------------------------------------------------------------|---------|
| 1      | 6/26dB Bandwidth                         | FCC 15.407 (a)&(e)<br>RSS-247 Clause 6.2                                               | Pass    |
| 2      | 99% Occupied Bandwidth                   | RSS-Gen Clause 6.6                                                                     | Pass    |
| 3      | Maximum Conducted Output Power           | FCC 15.407 (a)<br>RSS-247 Clause 6.2                                                   | Pass    |
| 4      | Power Spectral Density                   | FCC 15.407 (a)<br>RSS-247 Clause 6.2                                                   | Pass    |
| 5      | Frequency Stability Measurement          | FCC 15.407 (g)                                                                         | Pass    |
| 6      | Radiated Band edge and Spurious Emission | FCC 15.407 (b)<br>FCC 15.209<br>FCC 15.205<br>RSS-247 Clause 6.2<br>RSS-GEN Clause 8.9 | Pass    |
| 7      | Power Line Conducted Emission            | FCC 15.207<br>RSS-GEN Clause 8.8                                                       | NA      |
| 8      | Antenna requirement                      | FCC 15.203<br>RSS-GEN Clause 8.3                                                       | Pass    |
| 9      | Dynamic Frequency Selection              | FCC 15.407 (h)<br>RSS-247 Clause 6.3                                                   | Pass    |

## 3. Test Laboratory

Guangzhou Jingce Testing Technology Co., Ltd.

Add.: No.10, Hefeng No.1 street, Huangpu District, Guangzhou, Guangdong, People's Republic of China

Association for Laboratory Accreditation(A2LA). Certificate Number: 6594.03

FCC Designation Number: CN1381. Test Firm Registration Number: 486550

IC Test Firm Registration Number: 31808

Conformity Assessment Body identifier: CN0173

## 4. Equipment Under Test

### 4.1. Description of EUT

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name:</b>                 | IEEE 802.11b/g/n/a/ac 2T2R USB WiFi Module Integrated BT 2.1+EDR/4.2/5.0                                                                                                                                                                                                                                                                                                                                                               |
| <b>Model Number:</b>             | SKI.WB822CU.8                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>EUT Function Description:</b> | Please refer to user manual of this device                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Power Supply:</b>             | DC 3.3V±0.3                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Radio Specification:</b>      | IEEE 802.11a/n/ac                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Operation Frequency:</b>      | IEEE 802.11a: 5180MHz—5825MHz<br>IEEE 802.11n HT20: 5180MHz—5825MHz<br>IEEE 802.11n HT40: 5190MHz—5795MHz<br>IEEE 802.11ac VHT20: 5180MHz—5825MHz<br>IEEE 802.11ac VHT40: 5190MHz—5795MHz<br>IEEE 802.11ac VHT80: 5210MHz—5775MHz                                                                                                                                                                                                      |
| <b>Modulation:</b>               | IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK)<br>IEEE 802.11ac (VHT20/40/80): OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)                                                                                                                                                                                                                                                      |
| <b>Data Rate:</b>                | IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps<br>IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130, 144.4 Mbps<br>IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps<br>IEEE 802.11ac VHT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130, 144.4, 173.3 Mbps<br>IEEE 802.11ac VHT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps<br>IEEE 802.11ac VHT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.7 Mbps |
| <b>Antenna Type:</b>             | Shrapnel Antenna 1, MAX. Gain: 4.56 dBi<br>Shrapnel Antenna 2, MAX. Gain: 2.80 dBi                                                                                                                                                                                                                                                                                                                                                     |

Note 1: EUT is the ab. of equipment under test.

Note 2: The antenna gain is declared by the customer and the laboratory is not responsible for the accuracy of the antenna gain.

### 4.2. Channel List

| UNII-1<br>(For Bandwidth = 20 MHz)  |                 | UNII-1<br>(For Bandwidth = 40 MHz)  |                 |
|-------------------------------------|-----------------|-------------------------------------|-----------------|
| Channel                             | Frequency (MHz) | Channel                             | Frequency (MHz) |
| 36                                  | 5180            | 38                                  | 5190            |
| 40                                  | 5200            | 46                                  | 5230            |
| 44                                  | 5220            | /                                   | /               |
| 48                                  | 5240            | /                                   | /               |
| UNII-1<br>(For Bandwidth = 80 MHz)  |                 |                                     |                 |
| Channel                             |                 | Frequency (MHz)                     |                 |
| 42                                  |                 | 5210                                |                 |
| UNII-2A<br>(For Bandwidth = 20 MHz) |                 | UNII-2A<br>(For Bandwidth = 40 MHz) |                 |
| Channel                             | Frequency (MHz) | Channel                             | Frequency (MHz) |
| 52                                  | 5260            | 54                                  | 5270            |

|                                     |      |                 |      |
|-------------------------------------|------|-----------------|------|
| 56                                  | 5280 | 62              | 5310 |
| 60                                  | 5300 | /               | /    |
| 64                                  | 5320 | /               | /    |
| UNII-2A<br>(For Bandwidth = 80 MHz) |      |                 |      |
| Channel                             |      | Frequency (MHz) |      |
| 58                                  |      | 5290            |      |

| UNII-2C<br>(For Bandwidth = 20 MHz) |                 | UNII-2C<br>(For Bandwidth = 40 MHz) |                 |
|-------------------------------------|-----------------|-------------------------------------|-----------------|
| Channel                             | Frequency (MHz) | Channel                             | Frequency (MHz) |
| 100                                 | 5500            | 102                                 | 5510            |
| 104                                 | 5520            | 110                                 | 5550            |
| 108                                 | 5540            | 118                                 | 5590            |
| 112                                 | 5560            | 126                                 | 5630            |
| 116                                 | 5580            | 134                                 | 5670            |
| 120                                 | 5600            | 142                                 | 5710            |
| 124                                 | 5620            | /                                   | /               |
| 128                                 | 5640            | /                                   | /               |
| 132                                 | 5660            | /                                   | /               |
| 136                                 | 5680            | /                                   | /               |
| 140                                 | 5700            | /                                   | /               |
| 144                                 | 5720            | /                                   | /               |
| UNII-2C<br>(For Bandwidth = 80 MHz) |                 |                                     |                 |
| Channel                             |                 | Frequency (MHz)                     |                 |
| 106                                 |                 | 5530                                |                 |
| 122                                 |                 | 5610                                |                 |
| 138                                 |                 | 5690                                |                 |

| UNII-3<br>(For Bandwidth = 20 MHz) |                 | UNII-3<br>(For Bandwidth = 40 MHz) |                 |
|------------------------------------|-----------------|------------------------------------|-----------------|
| Channel                            | Frequency (MHz) | Channel                            | Frequency (MHz) |
| 149                                | 5745            | 151                                | 5755            |
| 153                                | 5765            | 159                                | 5795            |
| 157                                | 5785            | /                                  | /               |
| 161                                | 5805            | /                                  | /               |
| 165                                | 5825            | /                                  | /               |
| UNII-3<br>(For Bandwidth = 80 MHz) |                 |                                    |                 |
| Channel                            |                 | Frequency (MHz)                    |                 |
| 155                                |                 | 5775                               |                 |

### 4.3. Test Channel Configuration

| Mode                   | Data rate (Mbps)<br>(see Note) | Test Channel and Frequency |
|------------------------|--------------------------------|----------------------------|
| 802.11a TX Mode        | 6                              | CH36, 5180                 |
|                        | 6                              | CH44, 5220                 |
|                        | 6                              | CH48, 5240                 |
|                        | 6                              | CH52, 5260                 |
|                        | 6                              | CH60, 5300                 |
|                        | 6                              | CH64, 5320                 |
|                        | 6                              | CH100, 5500                |
|                        | 6                              | CH116, 5580                |
|                        | 6                              | CH140, 5700                |
|                        | 6                              | CH144, 5720                |
|                        | 6                              | CH149, 5745                |
|                        | 6                              | CH157, 5785                |
|                        | 6                              | CH165, 5825                |
| 802.11n HT20 TX Mode   | MCS 8                          | CH36, 5180                 |
|                        | MCS 8                          | CH44, 5220                 |
|                        | MCS 8                          | CH48, 5240                 |
|                        | MCS 8                          | CH52, 5260                 |
|                        | MCS 8                          | CH60, 5300                 |
|                        | MCS 8                          | CH64, 5320                 |
|                        | MCS 8                          | CH100, 5500                |
|                        | MCS 8                          | CH116, 5580                |
|                        | MCS 8                          | CH140, 5700                |
|                        | MCS 8                          | CH144, 5720                |
|                        | MCS 8                          | CH149, 5745                |
|                        | MCS 8                          | CH157, 5785                |
|                        | MCS 8                          | CH165, 5825                |
| 802.11n HT40 TX Mode   | MCS 8                          | CH38, 5190                 |
|                        | MCS 8                          | CH46, 5230                 |
|                        | MCS 8                          | CH54, 5270                 |
|                        | MCS 8                          | CH62, 5310                 |
|                        | MCS 8                          | CH102, 5510                |
|                        | MCS 8                          | CH110, 5550                |
|                        | MCS 8                          | CH134, 5670                |
|                        | MCS 8                          | CH142, 5710                |
|                        | MCS 8                          | CH151, 5755                |
|                        | MCS 8                          | CH159, 5795                |
| 802.11ac VHT20 TX Mode | MCS 0                          | CH36, 5180                 |
|                        | MCS 0                          | CH44, 5220                 |

|                        |       |             |
|------------------------|-------|-------------|
|                        | MCS 0 | CH48, 5240  |
|                        | MCS 0 | CH52, 5260  |
|                        | MCS 0 | CH60, 5300  |
|                        | MCS 0 | CH64, 5320  |
|                        | MCS 0 | CH100, 5500 |
|                        | MCS 0 | CH116, 5580 |
|                        | MCS 0 | CH140, 5700 |
|                        | MCS 0 | CH140, 5720 |
|                        | MCS 0 | CH149, 5745 |
|                        | MCS 0 | CH157, 5785 |
|                        | MCS 0 | CH165, 5825 |
| 802.11ac VHT40 TX Mode | MCS 0 | CH38, 5190  |
|                        | MCS 0 | CH46, 5230  |
|                        | MCS 0 | CH54, 5270  |
|                        | MCS 0 | CH62, 5310  |
|                        | MCS 0 | CH102, 5510 |
|                        | MCS 0 | CH110, 5550 |
|                        | MCS 0 | CH134, 5670 |
|                        | MCS 0 | CH142, 5710 |
|                        | MCS 0 | CH151, 5755 |
|                        | MCS 0 | CH159, 5795 |
| 802.11ac VHT80 TX Mode | MCS 0 | CH42, 5210  |
|                        | MCS 0 | CH58, 5290  |
|                        | MCS 0 | CH106, 5530 |
|                        | MCS 0 | CH122, 5610 |
|                        | MCS 0 | CH138, 5690 |
|                        | MCS 0 | CH155, 5775 |

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

#### 4.4. Test Environment Conditions

During the measurement the environmental conditions were within the listed ranges:

|                   | Normal Conditions        | Extreme Conditions |
|-------------------|--------------------------|--------------------|
| Temperature range | 21-25 °C                 | 0 °C to +40 °C     |
| Humidity range    | 40-75%                   | N/A                |
| Pressure range    | 86-106 kPa               | N/A                |
| Power supply      | NV: DC 3.3V from battery | N/A                |

Note: The Extreme temperature range and extreme voltages are declared by the manufacturer.

#### 4.5. The Worse Case Power Setting Parameter

| The Worse Case Power Setting Parameter |         |                |
|----------------------------------------|---------|----------------|
| Test Software                          | MP Tool |                |
| Mode                                   | Channel | Soft set value |

|                |     | ANT0 | ANT1 |
|----------------|-----|------|------|
| 802.11a        | 36  | 95   | 90   |
|                | 44  | 95   | 90   |
|                | 48  | 90   | 90   |
|                | 52  | 85   | 90   |
|                | 60  | 85   | 90   |
|                | 64  | 85   | 90   |
|                | 100 | 85   | 60   |
|                | 116 | 85   | 60   |
|                | 140 | 85   | 60   |
|                | 144 | 75   | 60   |
|                | 149 | 75   | 60   |
|                | 157 | 75   | 60   |
|                | 165 | 75   | 60   |
| 802.11n HT20   | 36  | 75   | 75   |
|                | 44  | 75   | 75   |
|                | 48  | 75   | 75   |
|                | 52  | 75   | 75   |
|                | 60  | 75   | 75   |
|                | 64  | 75   | 75   |
|                | 100 | 60   | 60   |
|                | 116 | 65   | 65   |
|                | 140 | 65   | 65   |
|                | 144 | 65   | 65   |
|                | 149 | 50   | 50   |
|                | 157 | 50   | 50   |
|                | 165 | 50   | 50   |
| 802.11n HT40   | 38  | 75   | 75   |
|                | 46  | 80   | 80   |
|                | 54  | 80   | 80   |
|                | 62  | 60   | 60   |
|                | 102 | 60   | 60   |
|                | 110 | 60   | 60   |
|                | 134 | 60   | 60   |
|                | 142 | 60   | 60   |
|                | 151 | 60   | 60   |
|                | 159 | 50   | 50   |
| 802.11ac VHT20 | 36  | 80   | 80   |
|                | 44  | 80   | 80   |
|                | 48  | 80   | 80   |
|                | 52  | 80   | 80   |

|                |     |    |    |
|----------------|-----|----|----|
|                | 60  | 80 | 80 |
|                | 64  | 70 | 70 |
|                | 100 | 70 | 70 |
|                | 116 | 60 | 60 |
|                | 140 | 60 | 60 |
|                | 144 | 60 | 60 |
|                | 149 | 60 | 60 |
|                | 157 | 60 | 60 |
|                | 165 | 60 | 60 |
| 802.11ac VHT40 | 38  | 75 | 75 |
|                | 46  | 75 | 75 |
|                | 54  | 75 | 75 |
|                | 62  | 75 | 75 |
|                | 102 | 65 | 65 |
|                | 110 | 60 | 60 |
|                | 134 | 60 | 60 |
|                | 144 | 60 | 60 |
|                | 151 | 60 | 60 |
|                | 159 | 55 | 60 |
| 802.11ac VHT80 | 42  | 75 | 75 |
|                | 58  | 65 | 65 |
|                | 106 | 65 | 65 |
|                | 122 | 55 | 55 |
|                | 138 | 55 | 55 |
|                | 155 | 45 | 45 |

#### 4.6. Description of Available Antennas

| Test Mode      | Transmit and Receive Mode | Description                                                   |
|----------------|---------------------------|---------------------------------------------------------------|
| 802.11a        | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |
| 802.11n HT20   | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |
| 802.11n HT40   | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |
| 802.11ac VHT20 | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |
| 802.11ac VHT40 | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |
| 802.11ac VHT80 | ☒ 2TX, 2RX                | ANT 1 and ANT2 can be used as transmitting/receiving antenna. |

## 5. Description of Test Setup

### 5.1. Accessory

| Description of Accessories | Manufacturer | Model Number | Description | Remark |
|----------------------------|--------------|--------------|-------------|--------|
| /                          | /            | /            | /           | /      |

### 5.2. Support Equipment

| Equipment | Brand Name | Model Name | P/N |
|-----------|------------|------------|-----|
| PC        | Lenovo     | T480       | /   |

### 5.3. Test Setup

The EUT can work in Fixed Frequency mode.

### 5.4. Setup Diagram for Tests



## 6. Measurement uncertainty

| Test Item                    | Uncertainty |
|------------------------------|-------------|
| AC Power Conduction emission | 1.37 dB     |
| All Radiated emissions       | 5.4dB       |
| Conducted emissions          | 3.09 dB     |
| Occupied Channel Bandwidth   | 1.1%        |
| Conducted Output power       | 0.82dB      |
| Power Spectral Density       | 0.82dB      |

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of  $k = 2$ .

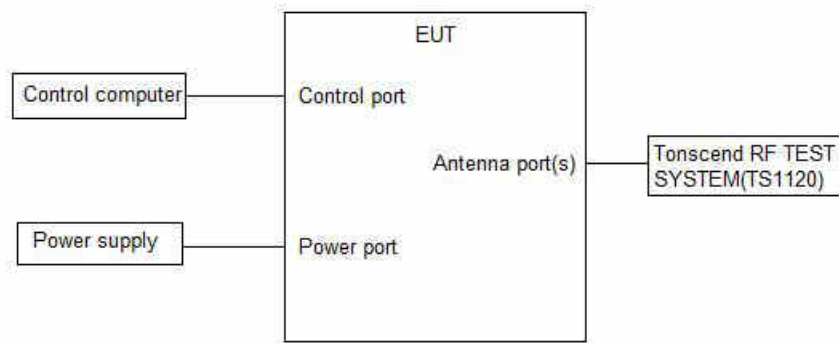
## 7. Measuring Instrument and Software Used

| TS Test System                            |                                     |              |              |              |               |               |
|-------------------------------------------|-------------------------------------|--------------|--------------|--------------|---------------|---------------|
| Used                                      | Equipment                           | Manufacturer | Model No.    | Serial No.   | Last Cal.     | Due. Date     |
| <input checked="" type="checkbox"/>       | Spectrum Analyzer                   | Keysight     | N9030B       | MY56320512   | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Vector Signal Generator             | Keysight     | N5182B       | MY57300334   | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Signal Generator                    | Keysight     | N5171B       | MY57280639   | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | DC POWER                            | Keysight     | E342A        | MY59020356   | Jun. 29, 2024 | Jun. 28, 2025 |
| <input checked="" type="checkbox"/>       | Incubator thermometer               | GWS          | EL-02JA      | 21107288     | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Control unit(Power sensor)          | Tonscend     | JS0806-2     | /            | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Wideband radio communication tester | R&S          | CMW500       | 163478       | Jul. 03, 2024 | Jul. 02, 2025 |
| <input checked="" type="checkbox"/>       | Spectrum Analyzer                   | Keysight     | N9020B       | MY60112206   | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Control unit(Power sensor)          | Tonscend     | JS0806-2     | 21H8060465   | Sep. 12, 2023 | Sep. 12, 2024 |
| Software                                  |                                     |              |              |              |               |               |
| Used                                      | Description                         | Manufacturer | Name         |              | Version       |               |
| <input checked="" type="checkbox"/>       | Test software                       | Tonscend     | JS1120-3     |              | V3.3.10       |               |
| RSE Test System                           |                                     |              |              |              |               |               |
| Used                                      | Equipment                           | Manufacturer | Model No.    | Serial No.   | Last Cal.     | Due. Date     |
| <input checked="" type="checkbox"/>       | EMI Receiver                        | R&S          | ESR          | 102154       | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | Bilog Antenna                       | Schwarzbeck  | VULB 9163    | 01361        | Aug. 16, 2023 | Aug. 15, 2024 |
| <input checked="" type="checkbox"/>       | Horn Antenna 1                      | Schwarzbeck  | BBHA 9120 D  | 02411        | May. 28, 2024 | May. 27, 2025 |
| <input checked="" type="checkbox"/>       | Horn Antenna 2                      | ETS          | BBHA 9170    | 1090         | Sep. 04, 2023 | Sep. 03, 2024 |
| <input checked="" type="checkbox"/>       | loop-antenna                        | Schwarzbeck  | FMZB 1513-60 | 00030        | Jan. 14, 2024 | Jan. 13, 2025 |
| <input checked="" type="checkbox"/>       | Signal Pre-Amplifier                | Tonscend     | TAP01018050  | AP23I8060293 | Oct. 12, 2023 | Oct. 11, 2024 |
| <input checked="" type="checkbox"/>       | Signal Pre-Amplifier                | ETS          | 3116C-PA     | 00217677     | Aug. 24, 2023 | Aug. 23, 2024 |
| <input checked="" type="checkbox"/>       | 966 Chamber                         | YIHENG       | 9m*6m*6m     | 001          | Sep. 05, 2023 | Sep. 04, 2026 |
| Software                                  |                                     |              |              |              |               |               |
| Used                                      | Description                         | Manufacturer | Name         |              | Version       |               |
| <input checked="" type="checkbox"/>       | Test software                       | Tonscend     | TS+          |              | V3.0.0.4      |               |
| Conducted Emission Test For AC Power Port |                                     |              |              |              |               |               |
| Used                                      | Equipment                           | Manufacturer | Model No.    | Serial No.   | Last Cal.     | Due. Date     |
| <input checked="" type="checkbox"/>       | LISN                                | R&S          | ENV216       | 102509       | Sep. 12, 2023 | Sep. 11, 2024 |
| <input checked="" type="checkbox"/>       | EMI Receiver                        | R&S          | ESR          | 102154       | Sep. 12, 2023 | Sep. 11, 2024 |
| Software                                  |                                     |              |              |              |               |               |
| Used                                      | Description                         | Manufacturer | Name         |              | Version       |               |
| <input checked="" type="checkbox"/>       | Test software                       | EZ           | EZ-EMC       |              | EMEC-3A1      |               |

| Other Instrument                    |                        |              |           |            |               |               |
|-------------------------------------|------------------------|--------------|-----------|------------|---------------|---------------|
| Used                                | Equipment              | Manufacturer | Model No. | Serial No. | Last Cal.     | Due. Date     |
| <input checked="" type="checkbox"/> | Temperature & Humidity | Temperature  | HTC-1     | /          | Nov. 02, 2023 | Nov. 01, 2024 |

## 8. Duty Cycle

### 8.1. Block Diagram of Test Setup



### 8.2. Limits

None; for reporting purposes only.

### 8.3. Procedure

Refer to KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.B.

The zero-span mode on a spectrum analyzer or EMI receiver, if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal.

Set the center frequency of the instrument to the center frequency of the transmission.

Set RBW  $\geq$  EBW if possible; otherwise,

set RBW to the largest available value. Set VBW  $\geq$  RBW.

Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are  $> 50/T$ , where T is defined in II.B.1.a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if  $T \leq 16.7$  microseconds.)

### 8.4. Results

| Test Mode | Ant. | Freq. (MHz) | Transmission Duration (ms) | Transmission Period (ms) | Duty Cycle (%) |
|-----------|------|-------------|----------------------------|--------------------------|----------------|
| 11A       | Ant1 | 5180        | 1.36                       | 1.87                     | 72.73          |
|           | Ant2 | 5180        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5200        | 1.36                       | 1.87                     | 72.73          |
|           | Ant2 | 5200        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5240        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5240        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5260        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5260        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5280        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5280        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5320        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5320        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5500        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5500        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5580        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5580        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5700        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5700        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5720        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5720        | 1.36                       | 1.87                     | 72.73          |
|           | Ant1 | 5745        | 1.36                       | 1.86                     | 73.12          |
|           | Ant2 | 5745        | 1.36                       | 1.86                     | 73.12          |
|           | Ant1 | 5785        | 1.36                       | 1.86                     | 73.12          |

|            |      |      |      |      |       |
|------------|------|------|------|------|-------|
|            | Ant2 | 5785 | 1.36 | 1.87 | 72.73 |
|            | Ant1 | 5825 | 1.36 | 1.87 | 72.73 |
|            | Ant2 | 5825 | 1.36 | 1.87 | 72.73 |
| 11N20MIMO  | Ant1 | 5180 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5180 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5200 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5200 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5240 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5240 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5260 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5260 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5280 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5280 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5320 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5320 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5500 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5500 | 1.28 | 1.78 | 71.91 |
|            | Ant1 | 5580 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5580 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5700 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5700 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5720 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5720 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5745 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5745 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5785 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5785 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5825 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5825 | 1.27 | 1.77 | 71.75 |
| 11N40MIMO  | Ant1 | 5190 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5190 | 0.63 | 1.13 | 55.75 |
|            | Ant1 | 5230 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5230 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5270 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5270 | 0.63 | 1.13 | 55.75 |
|            | Ant1 | 5310 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5310 | 0.63 | 1.13 | 55.75 |
|            | Ant1 | 5510 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5510 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5550 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5550 | 0.63 | 1.13 | 55.75 |
|            | Ant1 | 5670 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5670 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5710 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5710 | 0.63 | 1.13 | 55.75 |
|            | Ant1 | 5755 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5755 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5795 | 0.63 | 1.13 | 55.75 |
|            | Ant2 | 5795 | 0.63 | 1.13 | 55.75 |
| 11AC20MIMO | Ant1 | 5180 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5180 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5200 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5200 | 1.27 | 1.78 | 71.35 |
|            | Ant1 | 5240 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5240 | 1.27 | 1.78 | 71.35 |
|            | Ant1 | 5260 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5260 | 1.28 | 1.78 | 71.91 |
|            | Ant1 | 5280 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5280 | 1.28 | 1.78 | 71.91 |
|            | Ant1 | 5320 | 1.27 | 1.78 | 71.35 |

|            |      |      |      |      |       |
|------------|------|------|------|------|-------|
|            | Ant2 | 5320 | 1.28 | 1.78 | 71.91 |
|            | Ant1 | 5500 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5500 | 1.27 | 1.78 | 71.35 |
|            | Ant1 | 5580 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5580 | 1.27 | 1.78 | 71.35 |
|            | Ant1 | 5700 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5700 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5720 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5720 | 1.27 | 1.78 | 71.35 |
|            | Ant1 | 5745 | 1.28 | 1.78 | 71.91 |
|            | Ant2 | 5745 | 1.27 | 1.77 | 71.75 |
|            | Ant1 | 5785 | 1.27 | 1.78 | 71.35 |
|            | Ant2 | 5785 | 1.28 | 1.78 | 71.91 |
|            | Ant1 | 5825 | 1.27 | 1.77 | 71.75 |
|            | Ant2 | 5825 | 1.27 | 1.77 | 71.75 |
| 11AC40MIMO | Ant1 | 5190 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5190 | 0.64 | 1.14 | 56.14 |
|            | Ant1 | 5230 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5230 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5270 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5270 | 0.64 | 1.14 | 56.14 |
|            | Ant1 | 5310 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5310 | 0.64 | 1.14 | 56.14 |
|            | Ant1 | 5510 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5510 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5550 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5550 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5670 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5670 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5710 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5710 | 0.63 | 1.14 | 55.26 |
|            | Ant1 | 5755 | 0.63 | 1.14 | 55.26 |
|            | Ant2 | 5755 | 0.64 | 1.14 | 56.14 |
|            | Ant1 | 5795 | 0.64 | 1.14 | 56.14 |
|            | Ant2 | 5795 | 0.64 | 1.14 | 56.14 |
| 11AC80MIMO | Ant1 | 5210 | 0.31 | 0.82 | 37.80 |
|            | Ant2 | 5210 | 0.32 | 0.82 | 39.02 |
|            | Ant1 | 5290 | 0.31 | 0.82 | 37.80 |
|            | Ant2 | 5290 | 0.32 | 0.82 | 39.02 |
|            | Ant1 | 5530 | 0.32 | 0.82 | 39.02 |
|            | Ant2 | 5530 | 0.32 | 0.82 | 39.02 |
|            | Ant1 | 5610 | 0.31 | 0.82 | 37.80 |
|            | Ant2 | 5610 | 0.32 | 0.82 | 39.02 |
|            | Ant1 | 5690 | 0.32 | 0.82 | 39.02 |
|            | Ant2 | 5690 | 0.31 | 0.82 | 37.80 |
|            | Ant1 | 5775 | 0.32 | 0.82 | 39.02 |
|            | Ant2 | 5775 | 0.32 | 0.82 | 39.02 |

## 8.5. Original Test Data





















































