



# **SIMULTANEOUSLY TRANSMISSION AND CO-LOCATION TEST REPORT**

*For*

**WiFi Module**

**MODEL NUMBER: SI06B**

**FCC ID:2AFG6-SI06B**

**IC:22166-SI06B**

**REPORT NUMBER: 4790446022-2-RF-6**

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*Prepared for*

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Revision History

| <u>Rev.</u> | <u>Issue Date</u> | <u>Revisions</u> | <u>Revised By</u> |
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## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: Guangzhou Shirui Electronics Co., Ltd.  
Address: 192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China

### Manufacturer Information

Company Name: Guangzhou Shirui Electronics Co., Ltd.  
Address: 192 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District, Guangzhou, Guangdong, China

### EUT Information

EUT Name: WiFi Module  
Model: SI06B  
Sample Received Date: June 24, 2022  
Sample Status: Normal  
Sample ID: 5161650  
Date of Tested: June 25, 2022 to July 22, 2022

Prepared By:

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, CFR 47 FCC Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

## 3. FACILITIES AND ACCREDITATION

|                           |   |
|---------------------------|---|
| Accreditation Certificate | <p><b>A2LA (Certificate No.: 4102.01)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p><b>FCC (FCC Designation No.: CN1187)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules</p> <p><b>ISED (Company No.: 21320)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p><b>VCCI (Registration No.: G-20019, R-20004, C-20012 and T-20011)</b><br/>UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793.<br/>Facility Name:<br/>Chamber D, the VCCI registration No. is G-20019 and R-20004<br/>Shielding Room B , the VCCI registration No. is C-20012 and T-20011</p> |
|---------------------------|---|

Note 1: All tests measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi tech Development Zone, Dongguan, 523808, China

Note 2: The test anechoic chamber in UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.

Note 3: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. And these measurements below 30MHz had been correlated to measurements performed on an OFS.



## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Test Item  | Uncertainty             |
|--|-------------------------|
| Radiated Emission<br>(Included Fundamental Emission) (1 GHz to 40 GHz)   | 5.78 dB (1 GHz-18 GHz)  |
|  | 5.23dB (18 GHz-26 GHz)  |
|  | 5.64 dB (26 GHz-40 GHz) |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2. |                         |



## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

|              |             |
|--------------|-------------|
| EUT Name     | WiFi Module |
| Model        | SI06B       |
| Power Supply | DC 12 V     |

### 5.2. THE TEST CASE CONFIGURATIONS

Note: The EUT have two wireless modules, one is called module SKI.WB800D.3 and the other one called module SKI.W7613E.1.

Simultaneously Transmission Conditions:

| Module       | Support Technology |                  | Support (YES/NO) |
|--------------|--------------------|------------------|------------------|
| SKI.WB800D.3 | BT                 | WLAN (2.4G) SISO | YES              |
|              | BLE                | WLAN (2.4G) SISO | YES              |
|              | BT                 | WLAN (5G) SISO   | YES              |
|              | BLE                | WLAN (5G) SISO   | YES              |

Co-Location Conditions:

| Condition | Technology<br>(Module SKI.W7613E.1) | Technology<br>(Module SKI.WB800D.3) |                  | Support<br>(YES/NO) |
|-----------|-------------------------------------|-------------------------------------|------------------|---------------------|
| 1         | WLAN (5G) MIMO                      | BT                                  | WLAN (2.4G) SISO | YES                 |
| 2         | WLAN (5G) MIMO                      | BLE                                 | WLAN (2.4G) SISO | YES                 |
| 3         | WLAN (5G) MIMO                      | BT                                  | WLAN (5G) SISO   | YES                 |
| 4         | WLAN (5G) MIMO                      | BLE                                 | WLAN (5G) SISO   | YES                 |
| 5         | WLAN (5G) SISO                      | BT                                  | WLAN (2.4G) SISO | YES                 |
| 6         | WLAN (5G) SISO                      | BLE                                 | WLAN (2.4G) SISO | YES                 |
| 7         | WLAN (5G) SISO                      | BT                                  | WLAN (5G) SISO   | YES                 |
| 8         | WLAN (5G) SISO                      | BLE                                 | WLAN (5G) SISO   | YES                 |

Note: For SKI.W7613E.1 model, we have pre-test the SISO mode and MIMO mode, only the worst data for MIMO mode were recorded in the report. All the Conditions have been tested, only the worst data for Condition 1 and Condition 3 was recorded in the report.

For the detailed test description, please refer to the below report number:

| Wireless Module     | Technology  | Report Number     |
|---------------------|-------------|-------------------|
| Module SKI.W7613E.1 | WLAN(5G)    | 4790446022-2-RF-5 |
| Module SKI.WB800D.3 | WLAN (5G)   | 4790446022-1-RF-4 |
|                     | WLAN (2.4G) | 4790446022-1-RF-3 |
|                     | BLE         | 4790446022-1-RF-2 |
|                     | BT          | 4790446022-1-RF-1 |



## 6. MEASURING INSTRUMENT AND SOFTWARE USED

| Radiated Emissions          |               |                                     |               |               |               |
|-----------------------------|---------------|-------------------------------------|---------------|---------------|---------------|
| Equipment                   | Manufacturer  | Model No.                           | Serial No.    | Last Cal.     | Due Date      |
| MXE EMI Receiver            | KESIGHT       | N9038A                              | MY56400036    | Oct.30, 2021  | Oct.29, 2022  |
| Hybrid Log Periodic Antenna | TDK           | HLP-3003C                           | 130959        | Aug.02, 2021  | Aug.01, 2024  |
| Preamplifier                | HP            | 8447D                               | 2944A09099    | Oct.30, 2021  | Oct.29, 2022  |
| EMI Measurement Receiver    | R&S           | ESR26                               | 101377        | Oct.30, 2021  | Oct.29, 2022  |
| Horn Antenna                | TDK           | HRN-0118                            | 130940        | July 20, 2021 | July 19, 2024 |
| Preamplifier                | TDK           | PA-02-0118                          | TRS-305-00067 | Oct.30, 2021  | Oct.29, 2022  |
| Horn Antenna                | Schwarzbeck   | BBHA9170                            | 697           | July 20, 2021 | July 19, 2024 |
| Preamplifier                | TDK           | PA-02-2                             | TRS-307-00003 | Oct.31, 2021  | Oct.30, 2022  |
| Preamplifier                | TDK           | PA-02-3                             | TRS-308-00002 | Oct.31, 2021  | Oct.30, 2022  |
| Loop antenna                | Schwarzbeck   | 1519B                               | 00008         | Dec.14, 2021  | Dec.13, 2024  |
| Preamplifier                | TDK           | PA-02-001-3000                      | TRS-302-00050 | Oct.31, 2021  | Oct.30, 2022  |
| Preamplifier                | Mini-Circuits | ZX60-83LN-S+                        | SUP01201941   | Oct.31, 2021  | Oct.30, 2022  |
| High Pass Filter            | Wi            | WHKX10-2700-3000-18000-40SS         | 23            | Oct.31, 2021  | Oct.30, 2022  |
| Highpass Filter             | Wainwright    | WHKX10-5850-6500-1800-40SS          | 4             | Oct.31, 2021  | Oct.30, 2022  |
| Band Reject Filter          | Wainwright    | WRCJV12-5695-5725-5850-5880-40SS    | 4             | Oct.31, 2021  | Oct.30, 2022  |
| Band Reject Filter          | Wainwright    | WRCJV20-5120-5150-5350-5380-60SS    | 2             | Oct.31, 2021  | Oct.30, 2022  |
| Band Reject Filter          | Wainwright    | WRCJV20-5440-5470-5725-5755-60SS    | 1             | Oct.31, 2021  | Oct.30, 2022  |
| Band Reject Filter          | Wainwright    | WRCJV8-2350-2400-2483.5-2533.5-40SS | 4             | Oct.31, 2021  | Oct.30, 2022  |
| Band Reject                 | Wainwright    | WRCD5-                              | 1             | Oct.31, 2021  | Oct.30, 2022  |





|                                      |            |  |              |              |              |
|--------------------------------------|------------|--|--------------|--------------|--------------|
| Filter                               |            | 1879-<br>1879.85-<br>1880.15-<br>1881-40SS |              |              |              |
| Notch Filter                         | Wainwright | WHJ10-882-<br>980-7000-<br>40SS            | 1            | Oct.31, 2021 | Oct.30, 2022 |
| Software                             |            |  |              |              |              |
| Description                          |            |  | Manufacturer | Name         | Version      |
| Test Software for Radiated Emissions |            |  | Farad        | EZ-EMC       | Ver. UL-3A1  |



## 7. RADIATED TEST RESULTS

### LIMITS

Refer to CFR 47 FCC §15.205, §15.209 and §15.407 (b).

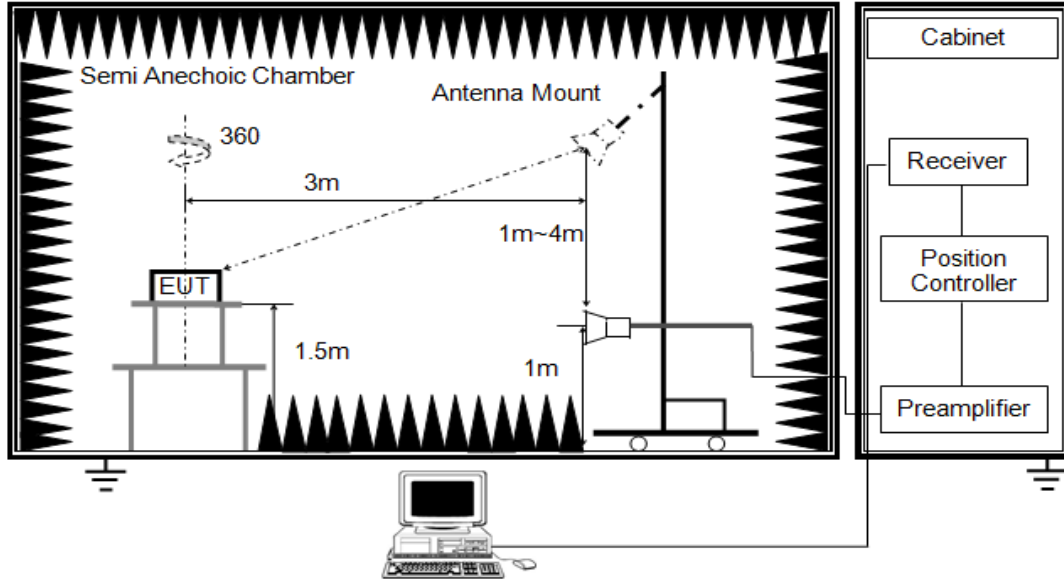
Refer to ISED RSS-GEN Clause 8.9, Clause 8.10 and ISED RSS-247 6.2.

| Emissions radiated outside of the specified frequency bands above 30MHz |                                       |   |         |
|---|---------------------------------------|---|---------|
| Frequency Range<br>(MHz)  | Field Strength Limit<br>(uV/m) at 3 m | Field Strength Limit<br>(dBuV/m) at 3 m |         |
|   |                                       | Quasi-Peak                              |         |
| 30 - 88   | 100                                   | 40                                      |         |
| 88 - 216  | 150                                   | 43.5                                    |         |
| 216 - 960   | 200                                   | 46                                      |         |
| Above 960   | 500                                   | 54                                      |         |
| Above 1000  | 500                                   | Peak                                    | Average |
|   |                                       | 74                                      | 54      |

Limits of unwanted/undesirable emission out of the restricted bands refer to CFR 47 FCC §15.407 (b) and ISED RSS-247 6.2.

| LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1GHz)  |   |   |
|---|---|---|
| Frequency Range<br>(MHz)  | EIRP Limit  | Field Strength Limit<br>(dBuV/m) at 3 m   |
| 5150~5250 MHz   | PK: -27 (dBm/MHz)   | PK:68.2(dBµV/m)   |
| 5250~5350 MHz   |   |   |
| 5470~5725 MHz   |   |   |
| 5725~5850 MHz   | PK: -27 (dBm/MHz) *1<br>PK: 10 (dBm/MHz) *2<br>PK: 15.6 (dBm/MHz) *3<br>PK: 27 (dBm/MHz) *4 | PK: 68.2(dBµV/m) *1<br>PK: 105.2 (dBµV/m) *2<br>PK: 110.8(dBµV/m) *3<br>PK: 122.2 (dBµV/m) *4 |
| <p>Note:</p> <p>*1 beyond 75 MHz or more above of the band edge.</p> <p>*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.</p> <p>*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.</p> <p>*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.</p> |   |   |

Above 1GHz

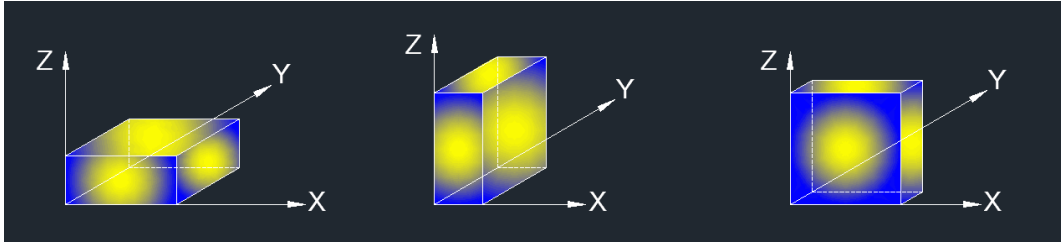


The setting of the spectrum analyser

|          |                               |
|----------|-------------------------------|
| RBW      | 1MHz                          |
| VBW      | PEAK: 3MHz<br>AVG: see note 6 |
| Sweep    | Auto                          |
| Detector | Peak                          |
| Trace    | Max hold                      |

1. The testing follows the guidelines in ANSI C63.10-2013 clause 11.11 and 11.12.
2. The testing follows the guidelines in KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 section II.G.3 ~ II.G.6.
2. The EUT was arranged to its worst case and then tune the antenna tower (1.5 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements.

X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

### **TEST ENVIRONMENT**

|                     |        |                   |         |
|---------------------|--------|-------------------|---------|
| Temperature         | 25.2°C | Relative Humidity | 65%     |
| Atmosphere Pressure | 101kPa | Test Voltage      | DC 12 V |

### **RESULTS**

Note: For spurious emissions below 1 GHz and above 18 GHz, pre-scan had done for both condition 1 and 3, the test results are almost the same as other no-co-location modes and no worse emission was found during tested, so do no show in this report.

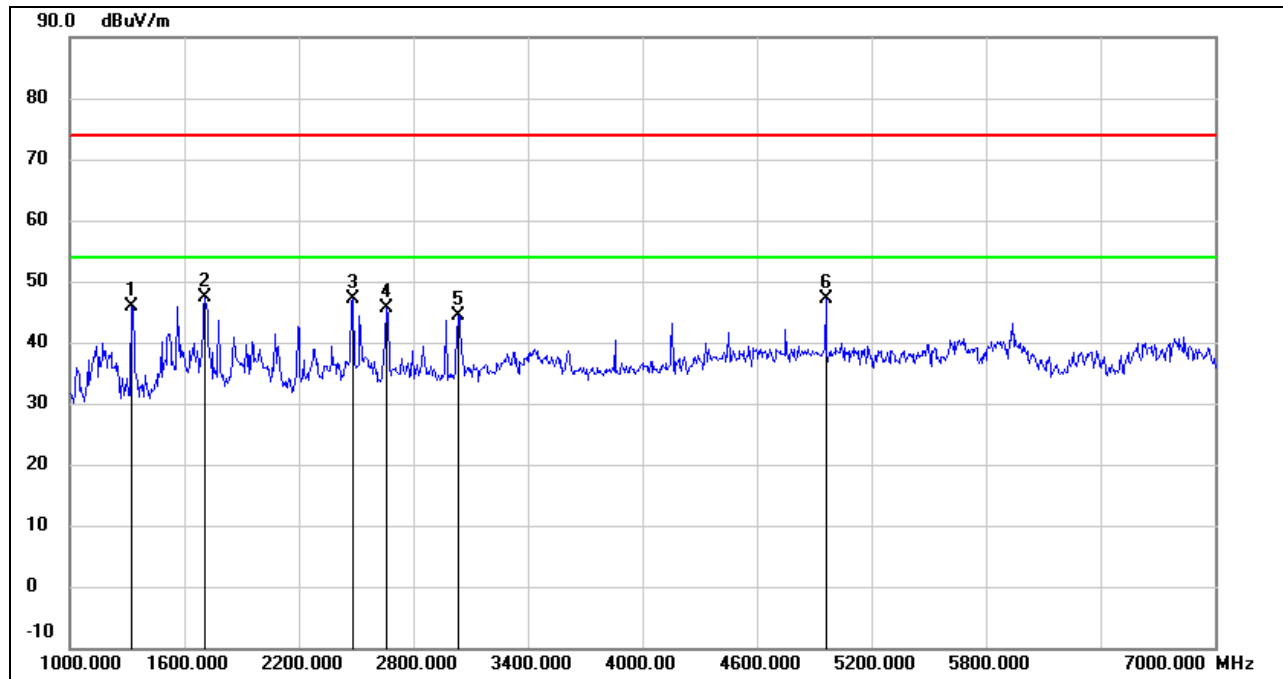
## 7.1. WORST-CASE TEST RESULTS

### 7.1.1. CONDITION 1

**MODULE SKI.WB800D.3 802.11N HT20 MODE LOW CHANNEL & BT GFSK MODE LOW CHANNEL**  
**& MODULE SKI.W7613E.1 802.11AC VHT80 MIMO MODE UNII-1 BAND LOW CHANNEL**

#### SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, HORIZONTAL)

##### 1-7 GHz



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1324.000        | 59.42          | -13.53         | 45.89           | 74.00          | -28.11      | peak   |
| 2   | 1708.000        | 59.48          | -12.02         | 47.46           | 74.00          | -26.54      | peak   |
| 3   | 2482.000        | 55.76          | -8.58          | 47.18           | 74.00          | -26.82      | peak   |
| 4   | 2662.000        | 53.54          | -8.01          | 45.53           | 74.00          | -28.47      | peak   |
| 5   | 3034.000        | 51.30          | -6.91          | 44.39           | 74.00          | -29.61      | peak   |
| 6   | 4960.000        | 47.50          | -0.32          | 47.18           | 74.00          | -26.82      | peak   |

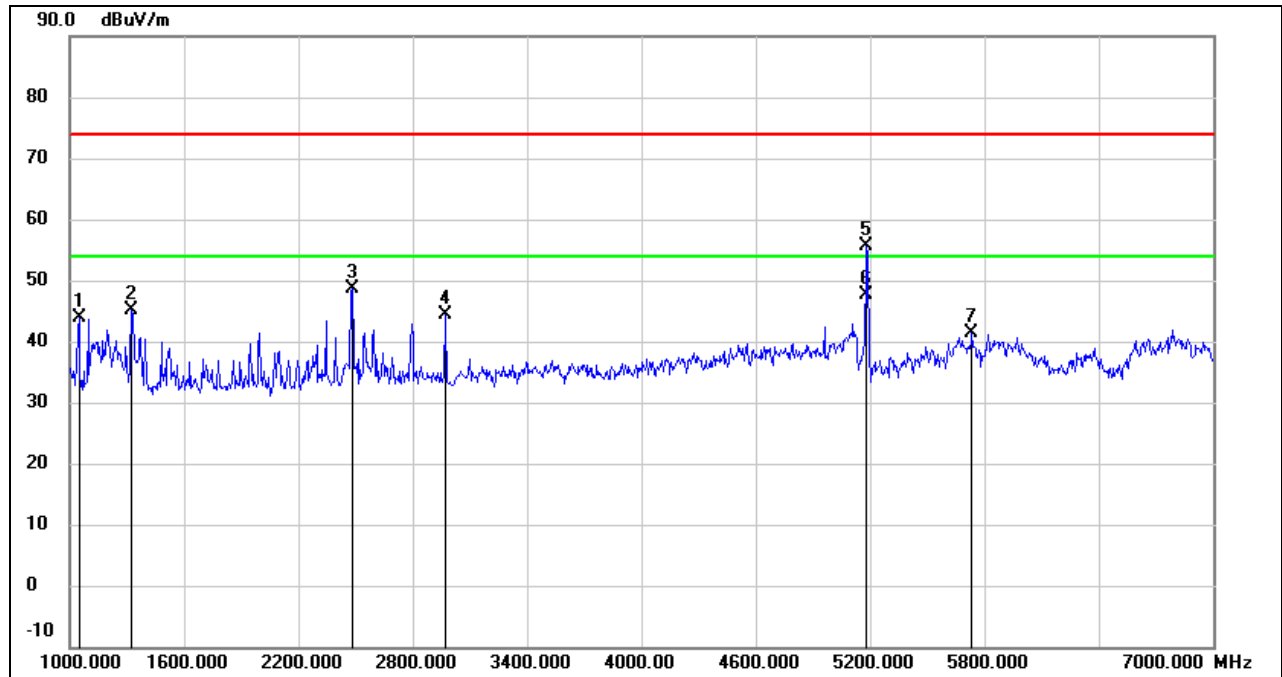
Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

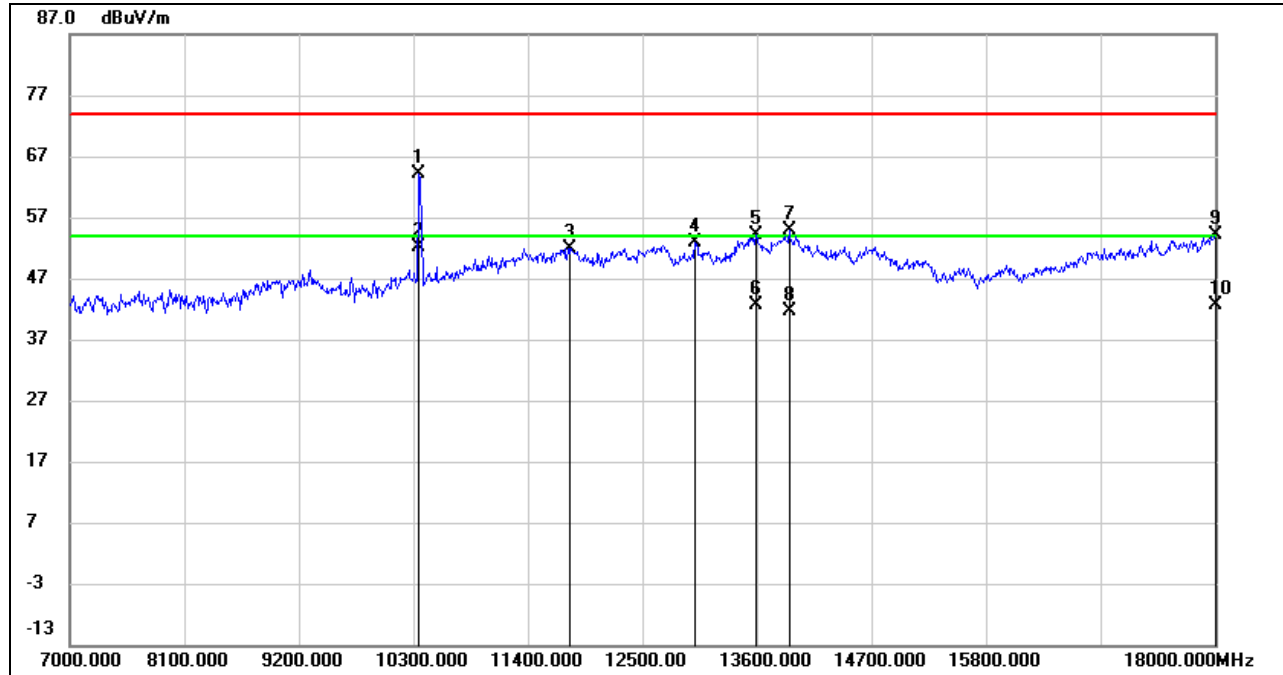
**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, VERTICAL)****1-7 GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1048.000        | 58.67          | -14.81         | 43.86           | 74.00          | -30.14      | peak   |
| 2   | 1324.000        | 58.63          | -13.53         | 45.10           | 74.00          | -28.90      | peak   |
| 3   | 2482.000        | 57.26          | -8.58          | 48.68           | 74.00          | -25.32      | peak   |
| 4   | 2968.000        | 51.46          | -7.08          | 44.38           | 74.00          | -29.62      | peak   |
| 5   | 5182.000        | 55.54          | 0.06           | 55.60           | 74.00          | -18.40      | peak   |
| 6   | 5182.000        | 47.50          | 0.06           | 47.56           | 54.00          | -6.44       | AVG    |
| 7   | 5734.000        | 40.23          | 1.08           | 41.31           | 74.00          | -32.69      | peak   |

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG:  $VBW=1/T_{on}$ , where:  $T_{on}$  is the transmitting duration.  
 5. For the transmitting duration, please refer to clause 7.1.  
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, HORIZONTAL)**

**7-18 GHz**



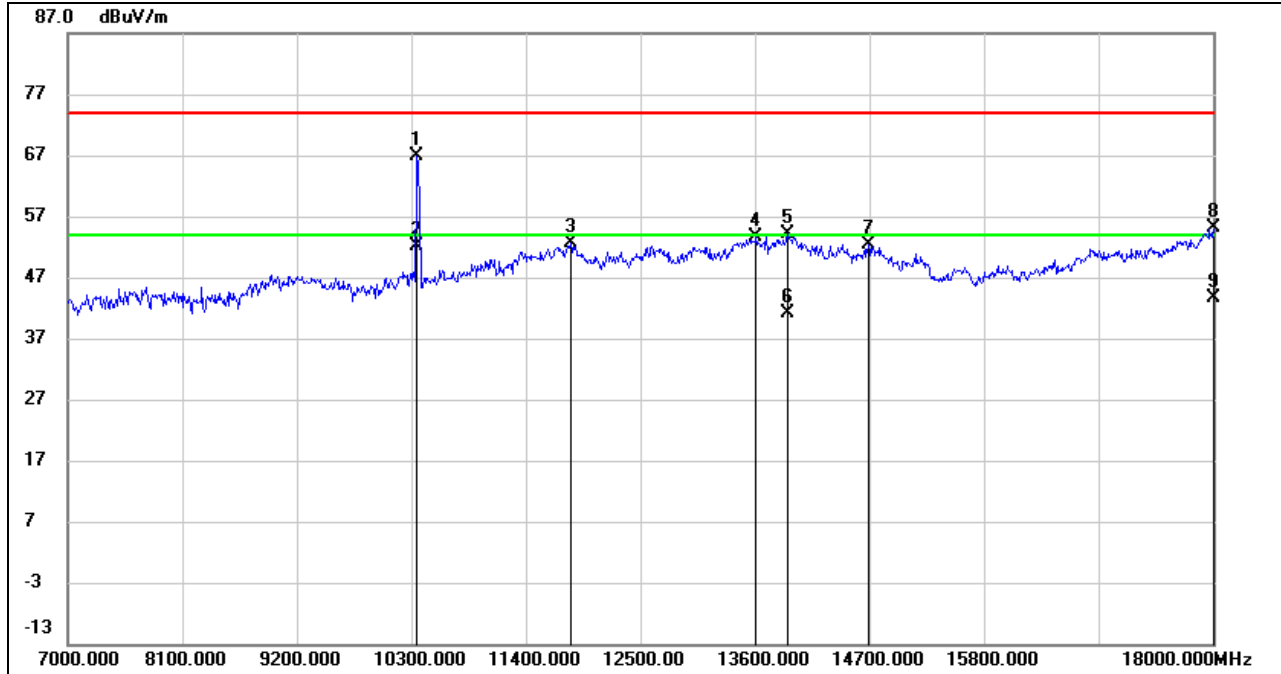
| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10355.000       | 51.73          | 12.52          | 64.25           | 74.00          | -9.75       | peak   |
| 2   | 10355.000       | 39.58          | 12.52          | 52.10           | 54.00          | -1.90       | AVG    |
| 3   | 11796.000       | 34.67          | 17.32          | 51.99           | 74.00          | -22.01      | peak   |
| 4   | 13006.000       | 34.47          | 18.47          | 52.94           | 74.00          | -21.06      | peak   |
| 5   | 13589.000       | 33.38          | 20.86          | 54.24           | 74.00          | -19.76      | peak   |
| 6   | 13589.000       | 21.69          | 20.86          | 42.55           | 54.00          | -11.45      | AVG    |
| 7   | 13908.000       | 33.11          | 21.66          | 54.77           | 74.00          | -19.23      | peak   |
| 8   | 13908.000       | 19.90          | 21.66          | 41.56           | 54.00          | -12.44      | AVG    |
| 9   | 18000.000       | 28.04          | 26.12          | 54.16           | 74.00          | -19.84      | peak   |
| 10  | 18000.000       | 16.63          | 26.12          | 42.75           | 54.00          | -11.25      | AVG    |

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG:  $VBW=1/Ton$ , where: Ton is the transmitting duration.  
 5. For the transmitting duration, please refer to clause 7.1.  
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, VERTICAL)**

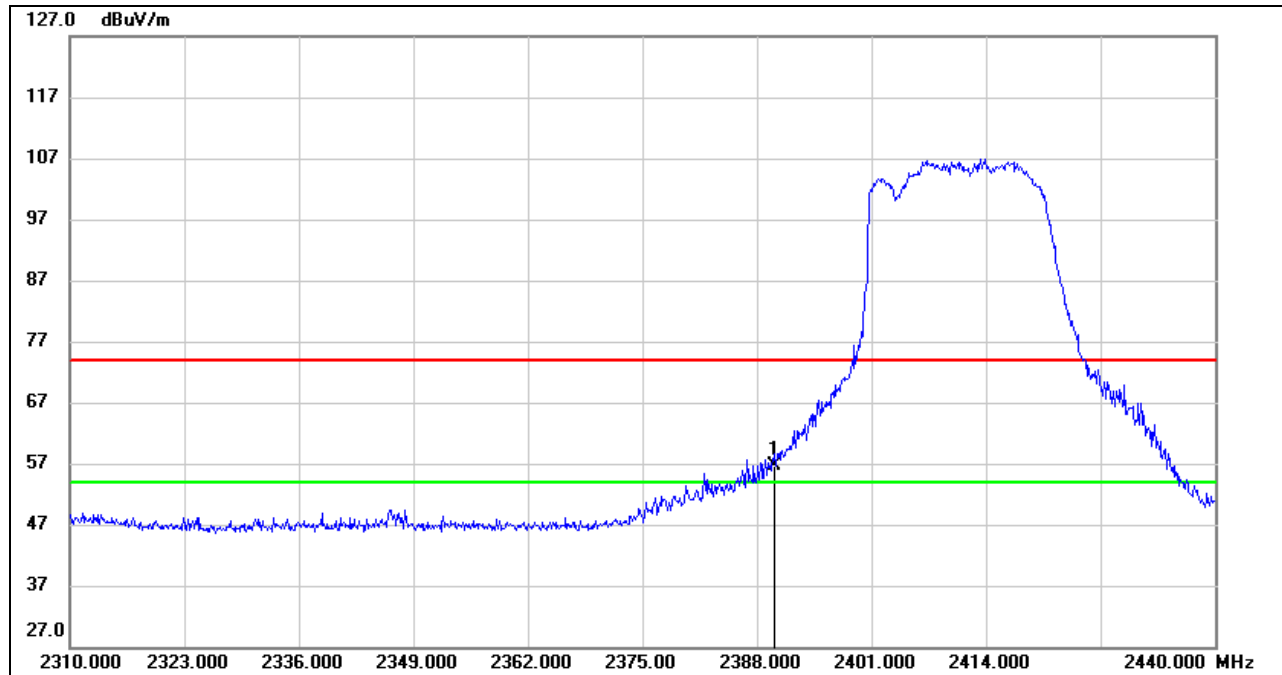
**7-18 GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10355.000       | 54.31          | 12.52          | 66.83           | 74.00          | -7.17       | peak   |
| 2   | 10355.000       | 39.58          | 12.52          | 52.10           | 54.00          | -1.90       | AVG    |
| 3   | 11829.000       | 35.14          | 17.38          | 52.52           | 74.00          | -21.48      | peak   |
| 4   | 13611.000       | 32.60          | 20.92          | 53.52           | 74.00          | -20.48      | peak   |
| 5   | 13908.000       | 32.45          | 21.66          | 54.11           | 74.00          | -19.89      | peak   |
| 6   | 13908.000       | 19.59          | 21.66          | 41.25           | 54.00          | -12.75      | AVG    |
| 7   | 14689.000       | 33.36          | 18.99          | 52.35           | 74.00          | -21.65      | peak   |
| 8   | 18000.000       | 29.07          | 26.12          | 55.19           | 74.00          | -18.81      | peak   |
| 9   | 18000.000       | 17.54          | 26.12          | 43.66           | 54.00          | -10.34      | AVG    |

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



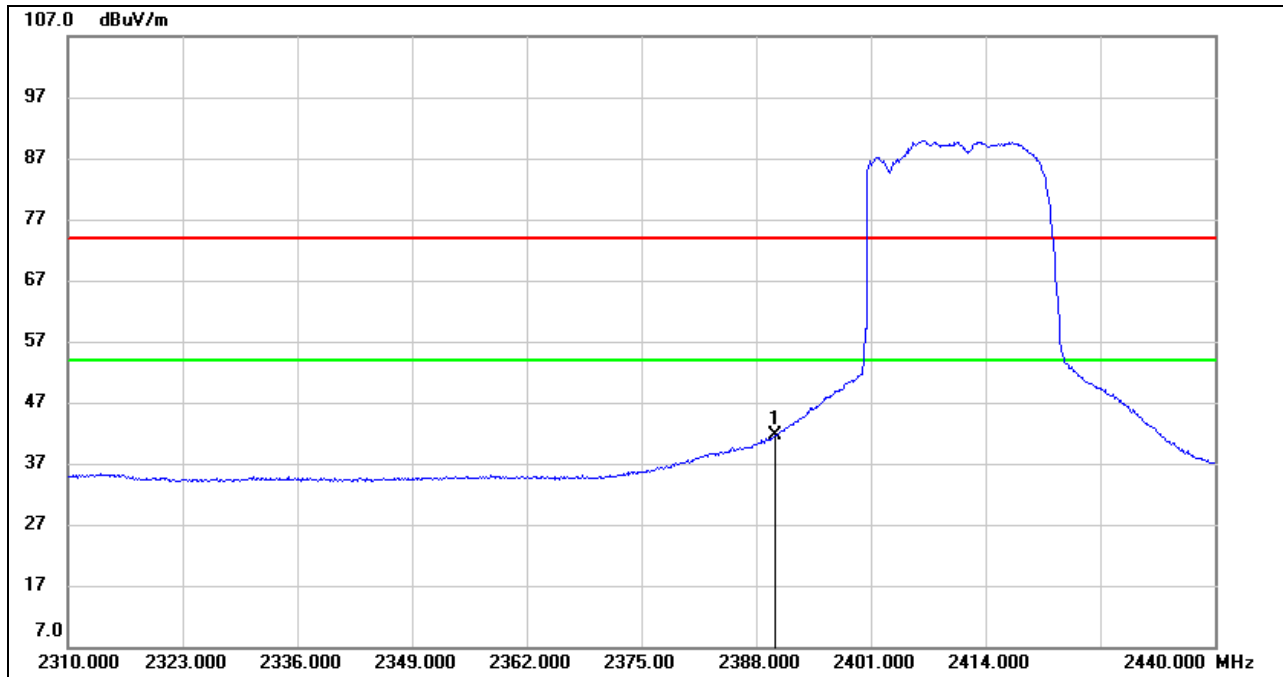
**RESTRICTED BANDEDGE (WORST-CASE CONFIGURATION, VERTICAL)****PEAK**

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------|--------------------|-------------------|----------------|--------|
| 1   | 2390.000           | 24.56             | 32.16             | 56.72              | 74.00             | -17.28         | peak   |

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**AVG**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 2390.000        | 9.36           | 32.16          | 41.52           | 54.00          | -12.48      | AVG    |

- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. AVG:  $VBW=1/Ton$ , where:  $Ton$  is the transmitting duration.
  4. For the transmitting duration, please refer to clause 7.1.
  5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the polarities (Vertical & Horizontal) had been tested, only the worst data was recorded in the report.

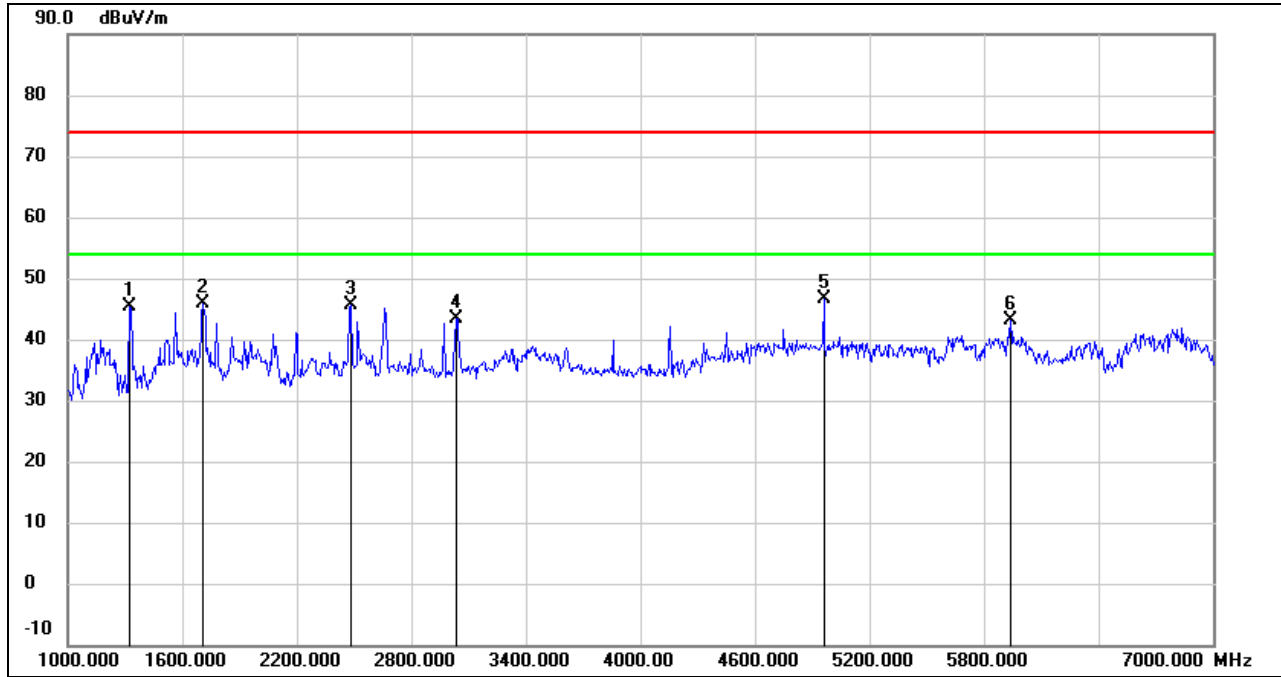
Note: All the test modes and combination have been considered. Only the worst data record in the report.

**7.1.2. CONDITION 3**

**MODULE SKI.WB800D.3 802.11A MODE UNII-1 BAND LOW CHANNEL & BT GFSK MODE LOW CHANNEL & SKI.W7613E.1 802.11AC VHT80 MIMO MODE UNII-1 BAND LOW CHANNEL**

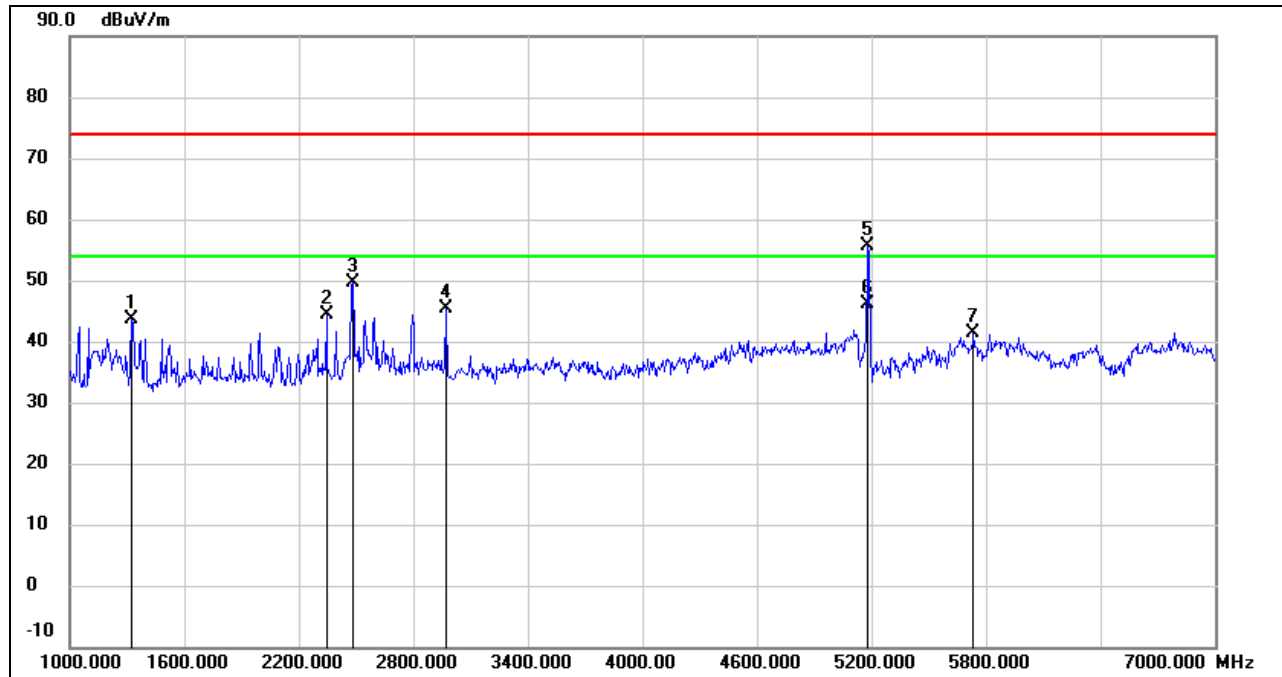
**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, HORIZONTAL)**

**1-7 GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1324.000        | 58.92          | -13.53         | 45.39           | 74.00          | -28.61      | peak   |
| 2   | 1708.000        | 57.98          | -12.02         | 45.96           | 74.00          | -28.04      | peak   |
| 3   | 2482.000        | 54.26          | -8.58          | 45.68           | 74.00          | -28.32      | peak   |
| 4   | 3034.000        | 50.30          | -6.91          | 43.39           | 74.00          | -30.61      | peak   |
| 5   | 4960.000        | 47.00          | -0.32          | 46.68           | 74.00          | -27.32      | peak   |
| 6   | 5938.000        | 41.49          | 1.67           | 43.16           | 74.00          | -30.84      | peak   |

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, VERTICAL)****1-7 GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1324.000        | 57.13          | -13.53         | 43.60           | 74.00          | -30.40      | peak   |
| 2   | 2344.000        | 53.70          | -9.30          | 44.40           | 74.00          | -29.60      | peak   |
| 3   | 2482.000        | 58.26          | -8.58          | 49.68           | 74.00          | -24.32      | peak   |
| 4   | 2968.000        | 52.46          | -7.08          | 45.38           | 74.00          | -28.62      | peak   |
| 5   | 5182.000        | 55.54          | 0.06           | 55.60           | 74.00          | -18.40      | peak   |
| 6   | 5182.000        | 46.04          | 0.06           | 46.10           | 54.00          | -7.90       | AVG    |
| 7   | 5734.000        | 40.23          | 1.08           | 41.31           | 74.00          | -32.69      | peak   |

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

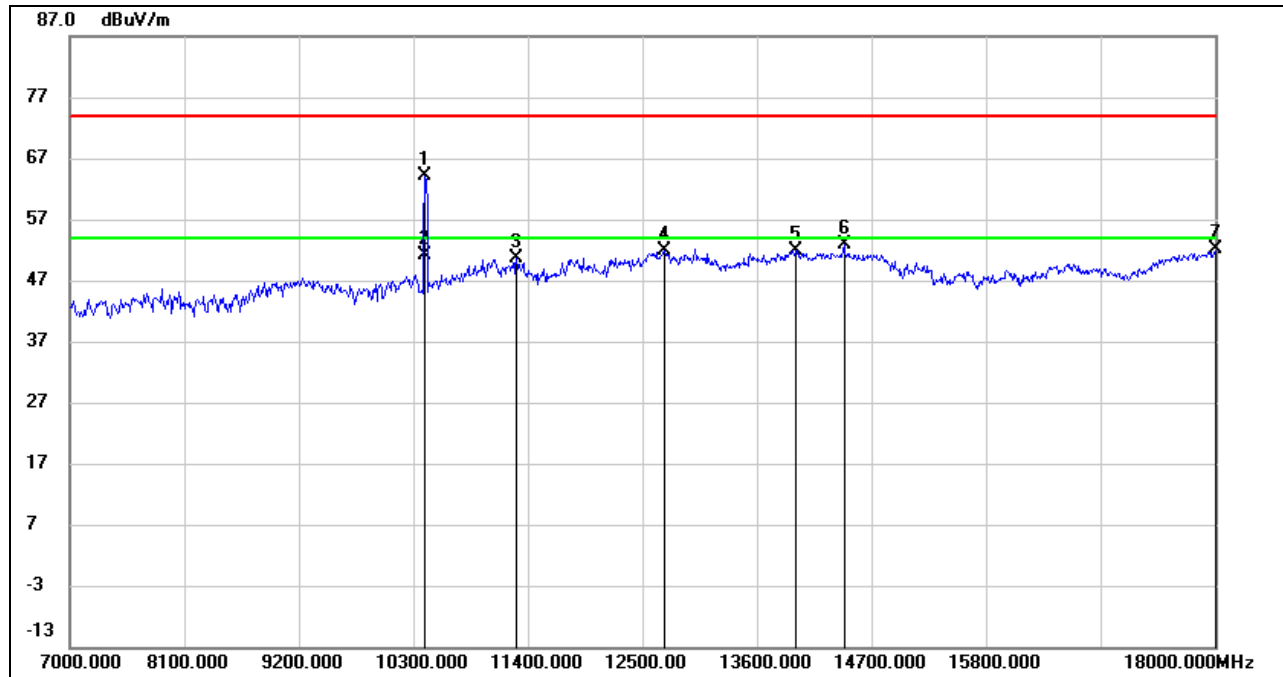
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.

5. Proper operation of the transmitter prior to adding the filter to the measurement chain.



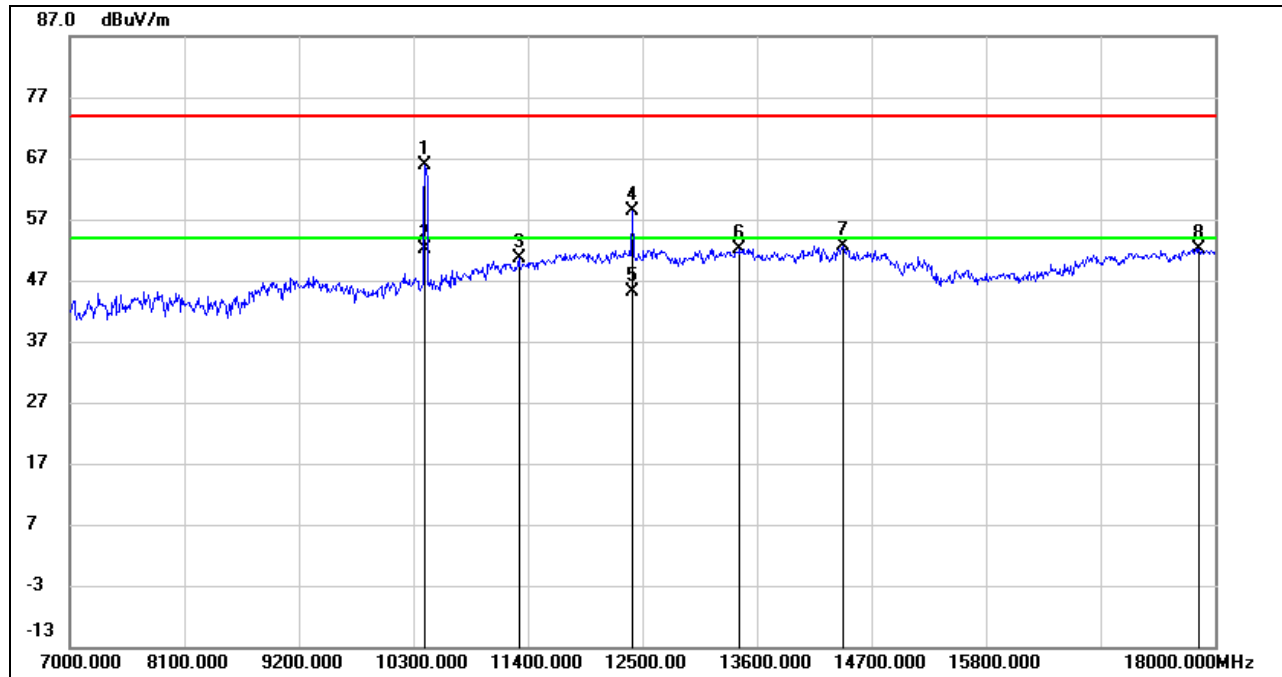
**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, HORIZONTAL)**

**7-18 GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10410.000       | 51.47          | 12.62          | 64.09           | 74.00          | -9.91       | peak   |
| 2   | 10410.000       | 38.60          | 12.62          | 51.22           | 54.00          | -2.78       | AVG    |
| 3   | 11290.000       | 34.73          | 15.90          | 50.63           | 74.00          | -23.37      | peak   |
| 4   | 12709.000       | 33.74          | 18.09          | 51.83           | 74.00          | -22.17      | peak   |
| 5   | 13974.000       | 30.15          | 21.82          | 51.97           | 74.00          | -22.03      | peak   |
| 6   | 14436.000       | 32.74          | 20.05          | 52.79           | 74.00          | -21.21      | peak   |
| 7   | 18000.000       | 25.97          | 26.12          | 52.09           | 74.00          | -21.91      | peak   |

- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. AVG:  $VBW=1/Ton$ , where: Ton is the transmitting duration.  
 5. For the transmitting duration, please refer to clause 7.1 of the main report.  
 6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.  
 7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, VERTICAL)****7-18 GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10410.000       | 53.24          | 12.62          | 65.86           | 74.00          | -8.14       | peak   |
| 2   | 10410.000       | 39.48          | 12.62          | 52.10           | 54.00          | -1.90       | AVG    |
| 3   | 11312.000       | 34.65          | 16.00          | 50.65           | 74.00          | -23.35      | peak   |
| 4   | 12401.000       | 40.59          | 17.81          | 58.40           | 74.00          | -15.60      | peak   |
| 5   | 12401.000       | 27.25          | 17.81          | 45.06           | 54.00          | -8.94       | AVG    |
| 6   | 13435.000       | 31.90          | 20.35          | 52.25           | 74.00          | -21.75      | peak   |
| 7   | 14425.000       | 32.60          | 20.09          | 52.69           | 74.00          | -21.31      | peak   |
| 8   | 17846.000       | 27.12          | 25.08          | 52.20           | 74.00          | -21.80      | peak   |

Note: 1. Peak Result = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Peak: Peak detector.

4. AVG:  $VBW=1/T_{on}$ , where:  $T_{on}$  is the transmitting duration.

5. For the transmitting duration, please refer to clause 7.1 of the main report.

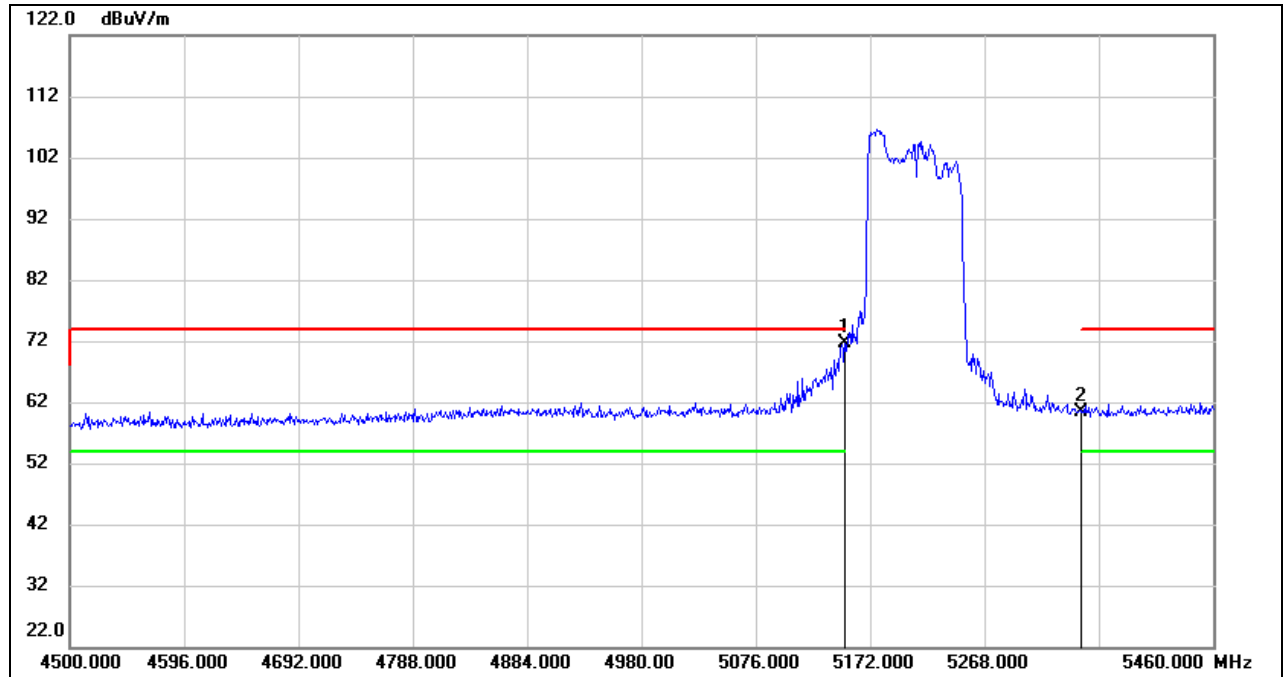
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.

7. Proper operation of the transmitter prior to adding the filter to the measurement chain.



**RESTRICTED BANDEGE (WORST-CASE CONFIGURATION, VERTICAL)**

**PEAK**

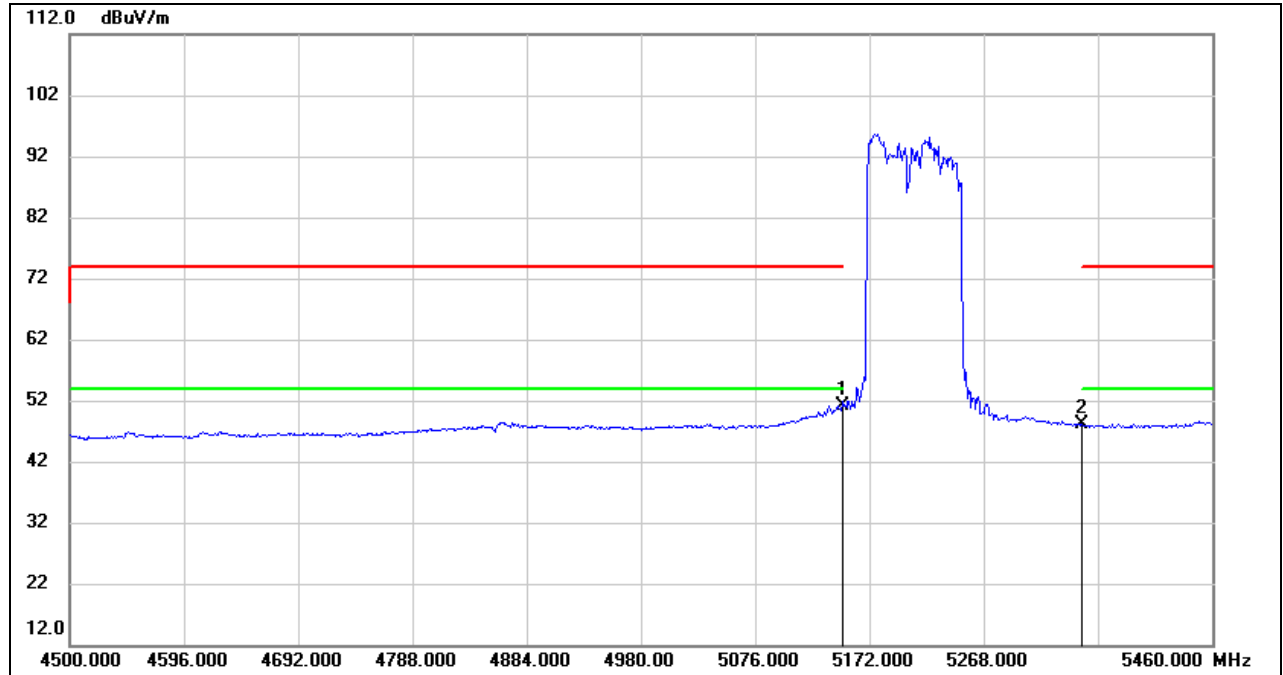


| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 5150.000        | 31.39          | 40.27          | 71.66           | 74.00          | -2.34       | peak   |
| 2   | 5350.000        | 19.79          | 40.49          | 60.28           | 74.00          | -13.72      | peak   |

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**AVG**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 5150.000        | 10.86          | 40.27          | 51.13           | 54.00          | -2.87       | AVG    |
| 2   | 5350.000        | 7.62           | 40.49          | 48.11           | 54.00          | -5.89       | AVG    |

- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. AVG:  $VBW=1/T_{on}$  where:  $t_{on}$  is transmit duration.  
 4. For transmit duration, please refer to clause 7.1 of the main report.  
 5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the polarities (Vertical & Horizontal) had been tested, only the worst data was recorded in the report.

Note: All the test modes and combination have been considered. Only the worst data record in the report.

**END OF REPORT**