



## CO-LOCATION TEST REPORT

*For*

### Integrated video conference terminal

|                   |  |
|-------------------|--|
| Model for Canada: | UC S10   |
| Model for USA:    | UC S10, MSA10, MSA11, MSA12, MSA13, MSA14, MSA15, MSA16, MSA17, MSA18, MSA19, MS10, MS11, MS12, MS13, MS14, MS15, MS16, MS17, MS18, MS19, UC S11, UC S12, UC S13, UC S14, UC S15, UC S16, UC S17, UC S18, UC S19 |

**FCC ID: 2AFG6-UCS10  
IC: 22166-UCS10**

**REPORT NUMBER: 4789531252-18**

**ISSUE DATE: July 20, 2020**

*Prepared for*

**GUANGZHOU SHIRUI ELECTRONICS CO LTD  
NO. 192 KEZHU ROAD SCIENCE PARK ECONOMIC-TECHNOLOGICAL  
DEVELOPMENT AREA GUANGZHOU GUANGDONG 510530 CHINA**

*Prepared by*

**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch**

**Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech Development Zone Dongguan, 523808, People's Republic of China**

**Tel: +86 769 22038881**

**Fax: +86 769 33244054**

**Website: [www.ul.com](http://www.ul.com)**



Revision History

| <u>Rev.</u> | <u>Issue Date</u> | <u>Revisions</u> | <u>Revised By</u> |
|-------------|-------------------|------------------|-------------------|
| V0          | 07/20/2020        | Initial Issue    |                   |



## TABLE OF CONTENTS

|  |          |
|--|----------|
| <b>1. ATTESTATION OF TEST RESULTS</b> .....            | <b>4</b> |
| <b>2. FACILITIES AND ACCREDITATION</b> .....           | <b>5</b> |
| <b>3. MEASUREMENT UNCERTAINTY</b> .....                | <b>6</b> |
| <b>4. EQUIPMENT UNDER TEST</b> .....                   | <b>7</b> |
| 4.1. <i>DESCRIPTION OF EUT</i> .....                   | 7        |
| 4.2. <i>THE TEST CASE CONFIGURATIONS</i> .....         | 7        |
| <b>5. MEASURING INSTRUMENT AND SOFTWARE USED</b> ..... | <b>8</b> |
| <b>6. RADIATED TEST RESULTS</b> .....                  | <b>9</b> |
| 6.1. <i>WORST-CASE CO-LOCATION</i> .....               | 11       |
| 6.1.1. Condition 1 .....                               | 11       |
| 6.1.2. Condition 2 .....                               | 19       |
| 6.1.3. Condition 3 .....                               | 27       |
| 6.1.4. Condition 4 .....                               | 31       |



## 1. ATTESTATION OF TEST RESULTS

### Applicant Information

Company Name: GUANGZHOU SHIRUI ELECTRONICS CO LTD  
Address: NO. 192 KEZHU ROAD SCIENCE PARK ECONOMIC-TECHNOLOGICAL DEVELOPMENT AREA GUANGZHOU GUANGDONG 510530 CHINA

### Manufacturer Information

Company Name: GUANGZHOU SHIRUI ELECTRONICS CO LTD  
Address: NO. 192 KEZHU ROAD SCIENCE PARK ECONOMIC-TECHNOLOGICAL DEVELOPMENT AREA GUANGZHOU GUANGDONG 510530 CHINA

### EUT Information

EUT Name: Integrated video conference terminal  
Model for Canada: UC S10  
Model for USA: Please refer to clause 4.1. Description of EUT  
Sample Received Date: July 1, 2020  
Sample Status: Normal  
Sample ID: 3147330  
Date of Tested: July 1 ~ 17, 2020

Prepared By:

Kebo Zhang  
Project Engineer

Checked By:

Shawn Wen  
Laboratory Leader

Approved By:

Stephen Guo  
Laboratory Manager

## 2. 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.</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.



### 3. MEASUREMENT UNCERTAINTY

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

| Test Item   | Uncertainty            |
|---|------------------------|
| Conduction Emission   | 3.62dB                 |
| Radiated Emission<br>(Included Fundamental Emission) (9kHz ~ 30MHz)   | 2.2dB                  |
| Radiated Emission<br>(Included Fundamental Emission) (30MHz ~ 1GHz)   | 4.00dB                 |
| Radiated Emission<br>(Included Fundamental Emission) (1GHz to 40GHz)  | 5.78dB (1GHz ~ 18GHz)  |
|   | 5.23dB (18GHz ~ 26GHz) |
|   | 5.64dB (26GHz-40GHz)   |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. |                        |



## 4. EQUIPMENT UNDER TEST

### 4.1. DESCRIPTION OF EUT

|                  |   |
|------------------|---|
| EUT Name         | Integrated video conference terminal  |
| Model for Canada | UC S10  |
| Model for USA    | UC S10,MSA10, MSA11,MSA12,MSA13,MSA14,MSA15,MSA16,MSA17, MSA18,MSA19,MS10,MS11,MS12,MS13,MS14,MS15,MS16,MS17,MS18, MS19,UC S11,UC S12,UC S13,UC S14,UC S15,UC S16,UC S17,UC S18, UC S19 |
| Model Difference | The only difference is the model name.  |

### 4.2. THE TEST CASE CONFIGURATIONS

Note: The EUT have two wireless modules, one is called module SKI.WB7668U.1 and the other one called module SKI.WB8821CU.1.

Simultaneously transmission condition.

| Condition                 | Technology |          | Support (YES/NO) |
|---------------------------|------------|----------|------------------|
| 1 (Module SKI.WB7668U.1)  | WLAN(2.4G) | WLAN(5G) | NO               |
| 2 (Module SKI.WB8821CU.1) | WLAN(2.4G) | WLAN(5G) | NO               |

Co-Location condition.

| Condition | Technology (Module SKI.WB7668U.1) | Technology (Module SKI.WB8821CU.1) | Support (YES/NO) |
|-----------|-----------------------------------|------------------------------------|------------------|
| 1         | WLAN (2.4G)                       | WLAN (2.4G)                        | YES              |
| 2         | WLAN (5G)                         | WLAN (5G)                          | YES              |
| 3         | WLAN (2.4G)                       | WLAN (5G)                          | YES              |
| 4         | WLAN (5G)                         | WLAN (2.4G)                        | YES              |

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

| Wireless Module       | Technology | Report Number |
|-----------------------|------------|---------------|
| Module SKI.WB7668U.1  | WLAN(2.4G) | 4789531252-1  |
|                       | WLAN(5G)   | 4789531252-2  |
| Module SKI.WB8821CU.1 | WLAN(2.4G) | 4789531252-3  |
|                       | WLAN(5G)   | 4789531252-4  |

## 5. MEASURING INSTRUMENT AND SOFTWARE USED

| Radiated Emissions                  |                             |              |                                     |               |              |              |
|-------------------------------------|-----------------------------|--------------|-------------------------------------|---------------|--------------|--------------|
| Instrument                          |                             |              |                                     |               |              |              |
| Used                                | Equipment                   | Manufacturer | Model No.                           | Serial No.    | Last Cal.    | Next Cal.    |
| <input checked="" type="checkbox"/> | MXE EMI Receiver            | KESIGHT      | N9038A                              | MY56400036    | Dec.06,2019  | Dec.06,2020  |
| <input checked="" type="checkbox"/> | Hybrid Log Periodic Antenna | TDK          | HLP-3003C                           | 130960        | Sep.17, 2018 | Sep.17, 2021 |
| <input checked="" type="checkbox"/> | Preamplifier                | HP           | 8447D                               | 2944A09099    | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | EMI Measurement Receiver    | R&S          | ESR26                               | 101377        | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Horn Antenna                | TDK          | HRN-0118                            | 130939        | Sep.17, 2018 | Sep.17, 2021 |
| <input checked="" type="checkbox"/> | High Gain Horn Antenna      | Schwarzbeck  | BBHA-9170                           | 691           | Aug.11, 2018 | Aug.11, 2021 |
| <input checked="" type="checkbox"/> | Preamplifier                | TDK          | PA-02-0118                          | TRS-305-00066 | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Preamplifier                | TDK          | PA-02-2                             | TRS-307-00003 | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Preamplifier                | TDK          | PA-02-3                             | TRS-308-00002 | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Band Reject Filter          | Wainwright   | WRCJV12-5695-5725-5850-5880-40SS    | 4             | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Band Reject Filter          | Wainwright   | WRCJV20-5120-5150-5350-5380-60SS    | 2             | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | High Pass Filter            | Wainwright   | WHKX10-5850-6500-1800-40SS          | 4             | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | Band Reject Filter          | Wainwright   | WRCJV8-2350-2400-2483.5-2533.5-40SS | 4             | Dec.05,2019  | Dec.05,2020  |
| <input checked="" type="checkbox"/> | High Pass Filter            | Wi           | WHKX10-2700-3000-18000-40SS         | 23            | Dec.05,2019  | Dec.05,2020  |

| Software                            |  |              |        |             |
|-------------------------------------|--|--------------|--------|-------------|
| Used                                | Description                            | Manufacturer | Name   | Version     |
| <input checked="" type="checkbox"/> | Test Software for Radiated disturbance | Farad        | EZ-EMC | Ver. UL-3A1 |





## 6. 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 (MHz)   | Field Strength Limit (uV/m) at 3 m | Field Strength Limit (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 (MHz)                                | EIRP Limit  | Field Strength Limit (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 |

**Note:**

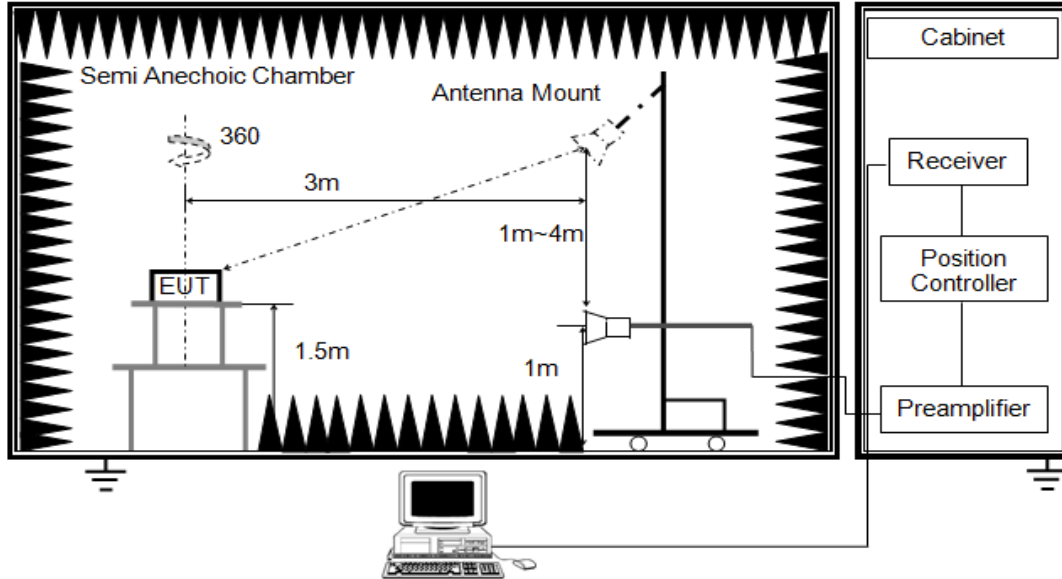
\*1 beyond 75 MHz or more above of the band edge.

\*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

\*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

\*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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.

**TEST ENVIRONMENT**

|                     |        |                   |             |
|---------------------|--------|-------------------|-------------|
| Temperature         | 23.4°C | Relative Humidity | 57%         |
| Atmosphere Pressure | 101kPa | Test Voltage      | AC120V,60HZ |

**RESULTS**

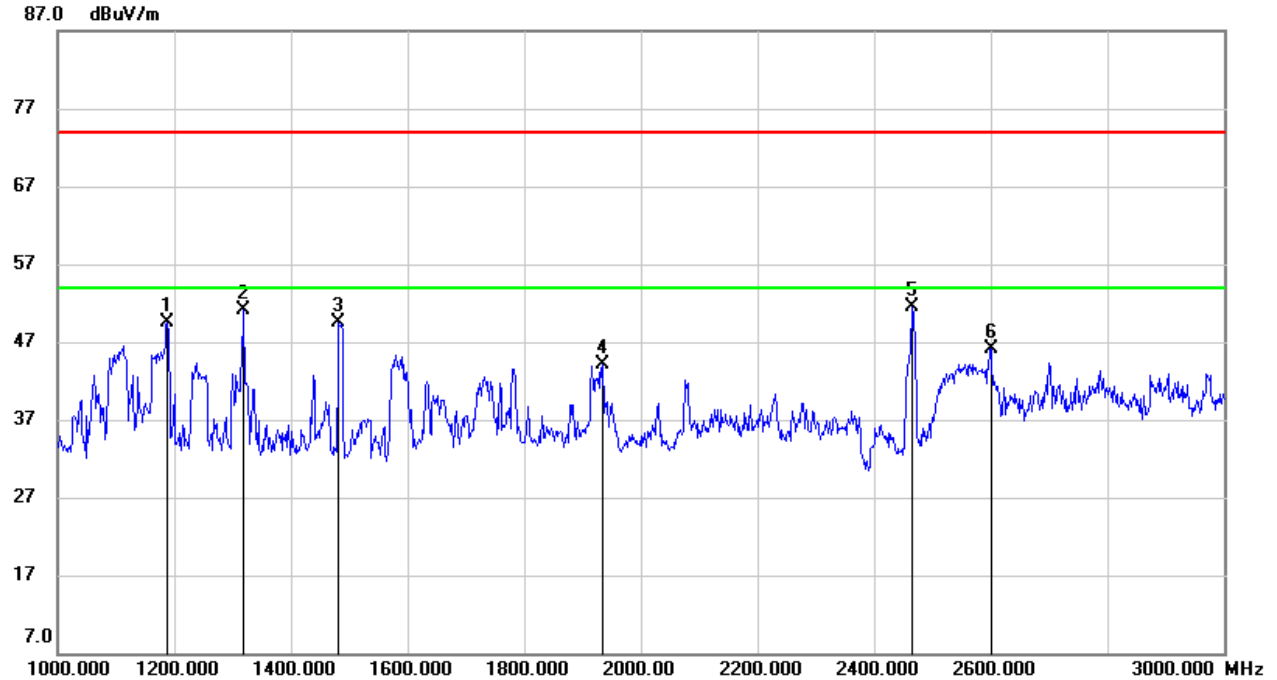
**6.1. WORST-CASE CO-LOCATION**

**6.1.1. Condition 1**

**Module SKI.WB7668U.1 802.11b SISO MODE & Module SKI.WB8821CU.1 802.11b SISO MODE**

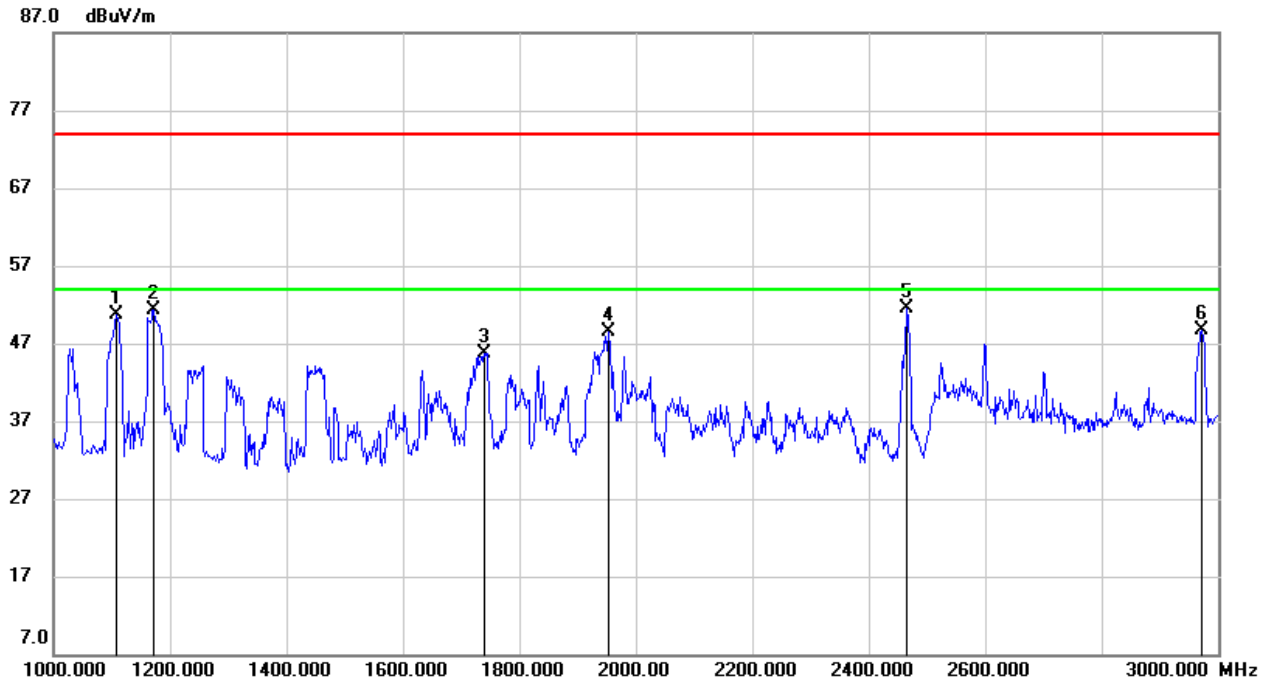
**SPURIOUS EMISSIONS (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**1-3GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark      |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|-------------|
| 1   | 1188.000        | 62.29          | -12.77         | 49.52           | 74.00          | -24.48      | peak        |
| 2   | 1318.000        | 63.37          | -12.36         | 51.01           | 74.00          | -22.99      | peak        |
| 3   | 1482.000        | 61.81          | -12.24         | 49.57           | 74.00          | -24.43      | peak        |
| 4   | 1934.000        | 54.05          | -9.91          | 44.14           | 74.00          | -29.86      | peak        |
| 5   | 2462.000        | 58.99          | -7.40          | 51.59           | /              | /           | fundamental |
| 6   | 2600.000        | 53.81          | -7.70          | 46.11           | 74.00          | -27.89      | 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 (HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****1-3GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark      |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|-------------|
| 1   | 1108.000        | 64.12          | -13.46         | 50.66           | 74.00          | -23.34      | peak        |
| 2   | 1172.000        | 64.17          | -12.91         | 51.26           | 74.00          | -22.74      | peak        |
| 3   | 1740.000        | 56.29          | -10.51         | 45.78           | 74.00          | -28.22      | peak        |
| 4   | 1952.000        | 58.46          | -9.88          | 48.58           | 74.00          | -25.42      | peak        |
| 5   | 2462.000        | 58.84          | -7.40          | 51.44           | /              | /           | fundamental |
| 6   | 2972.000        | 54.03          | -5.36          | 48.67           | 74.00          | -25.33      | peak        |

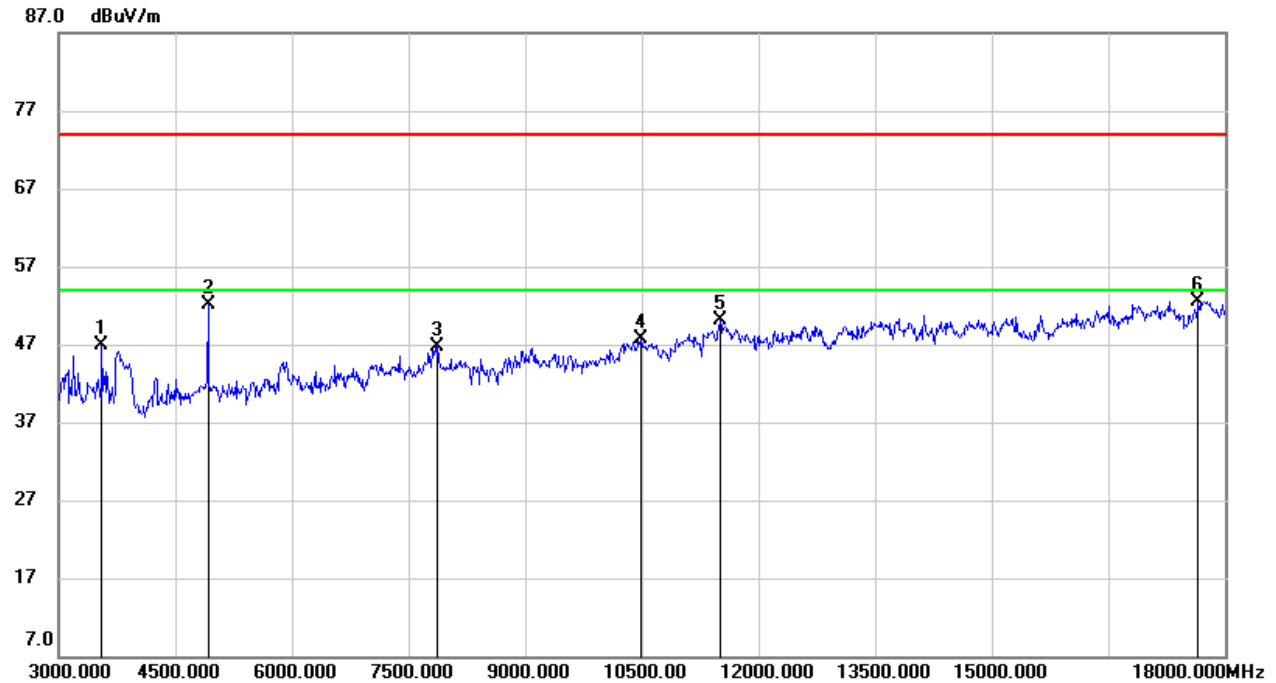
Note: 1. Peak Result = Reading Level + Correct Factor.

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 (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)****3-18GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 3555.000        | 50.70          | -3.72          | 46.98           | 74.00          | -27.02      | peak   |
| 2   | 4920.000        | 51.09          | 0.96           | 52.05           | 74.00          | -21.95      | peak   |
| 3   | 7875.000        | 39.40          | 7.40           | 46.80           | 74.00          | -27.20      | peak   |
| 4   | 10485.000       | 36.33          | 11.32          | 47.65           | 74.00          | -26.35      | peak   |
| 5   | 11505.000       | 36.66          | 13.42          | 50.08           | 74.00          | -23.92      | peak   |
| 6   | 17655.000       | 30.35          | 22.15          | 52.50           | 74.00          | -21.50      | peak   |

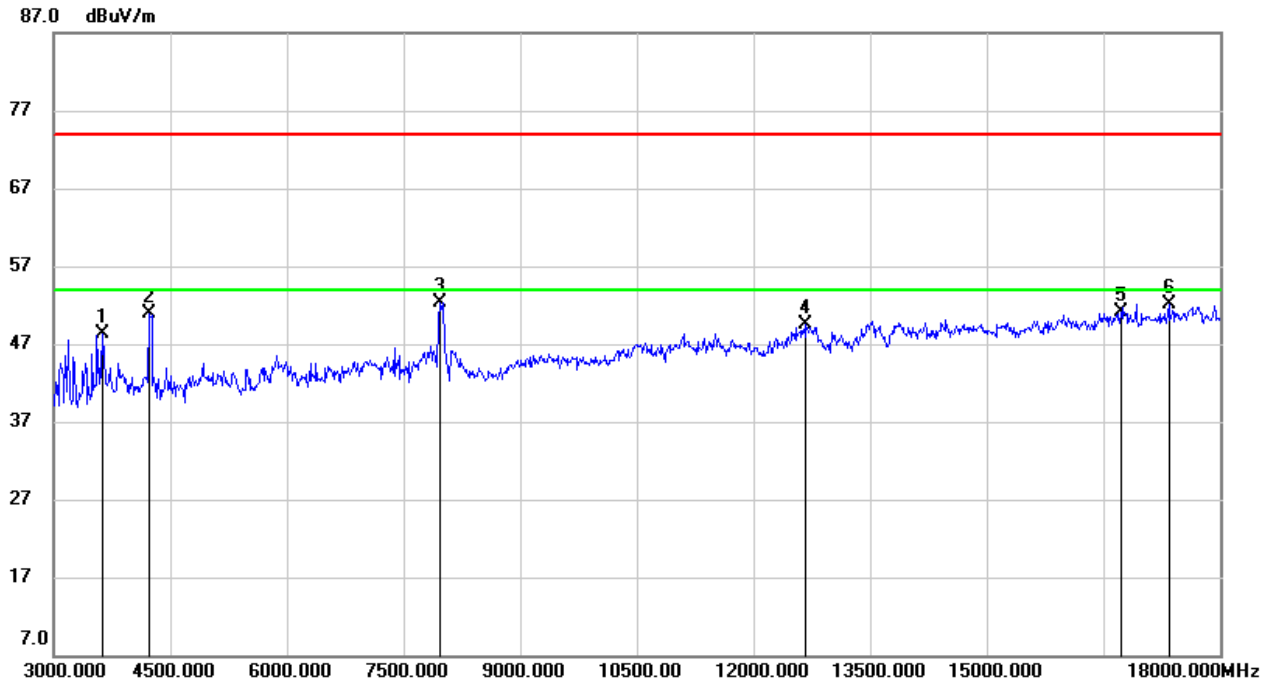
Note: 1. Peak Result = Reading Level + Correct Factor.

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 HPF losses.

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

**SPURIOUS EMISSIONS (LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****3-18GHz**

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------|--------------------|-------------------|----------------|--------|
| 1   | 3630.000           | 51.64             | -3.28             | 48.36              | 74.00             | -25.64         | peak   |
| 2   | 4230.000           | 52.45             | -1.47             | 50.98              | 74.00             | -23.02         | peak   |
| 3   | 7965.000           | 45.30             | 7.00              | 52.30              | 74.00             | -21.70         | peak   |
| 4   | 12675.000          | 35.21             | 14.21             | 49.42              | 74.00             | -24.58         | peak   |
| 5   | 16725.000          | 31.20             | 19.93             | 51.13              | 74.00             | -22.87         | peak   |
| 6   | 17340.000          | 30.46             | 21.61             | 52.07              | 74.00             | -21.93         | peak   |

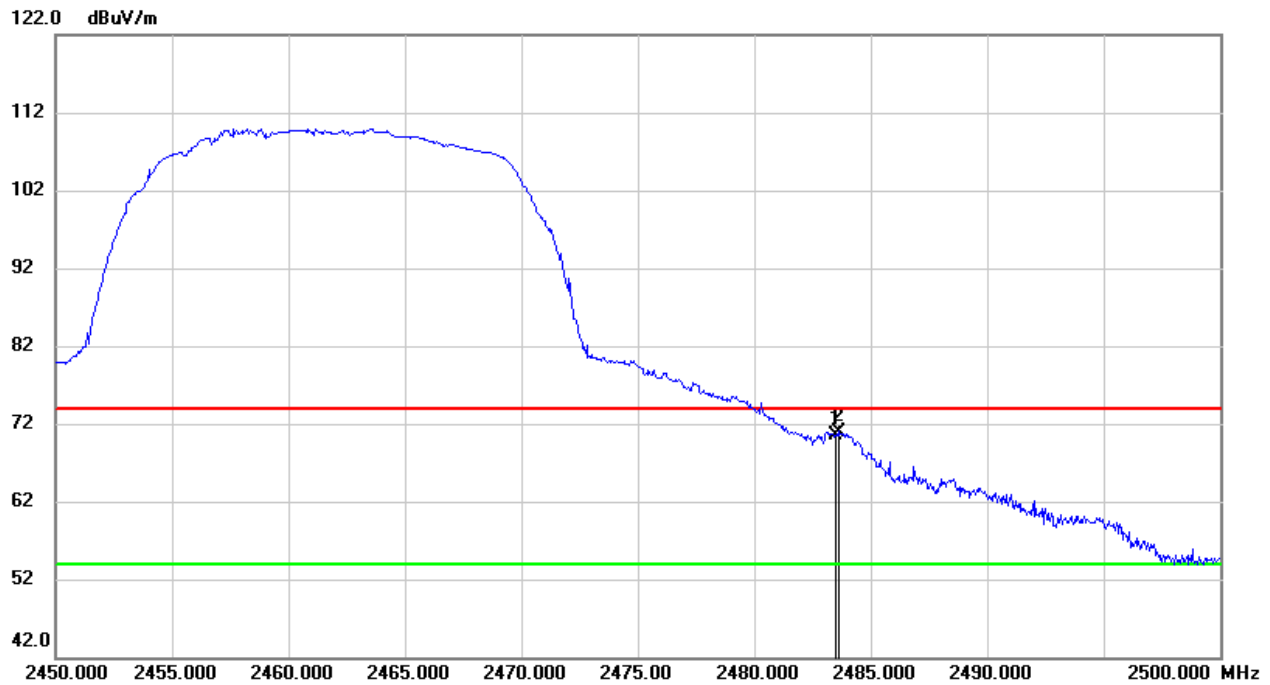
Note: 1. Peak Result = Reading Level + Correct Factor.

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

3. Peak: Peak detector.

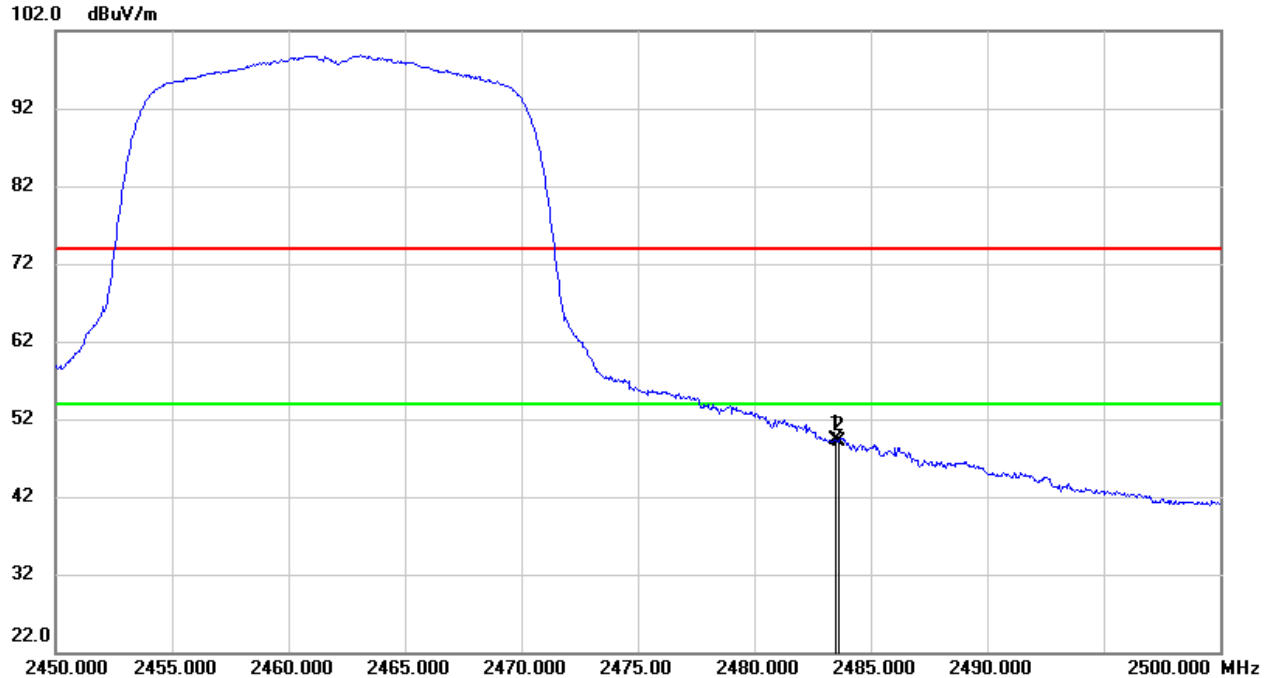
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.

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

**RESTRICTED BANDEDGE (HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)****PEAK**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 2483.500        | 36.97          | 33.58          | 70.55           | 74.00          | -3.45       | peak   |
| 2   | 2483.600        | 37.42          | 33.58          | 71.00           | 74.00          | -3.00       | peak   |

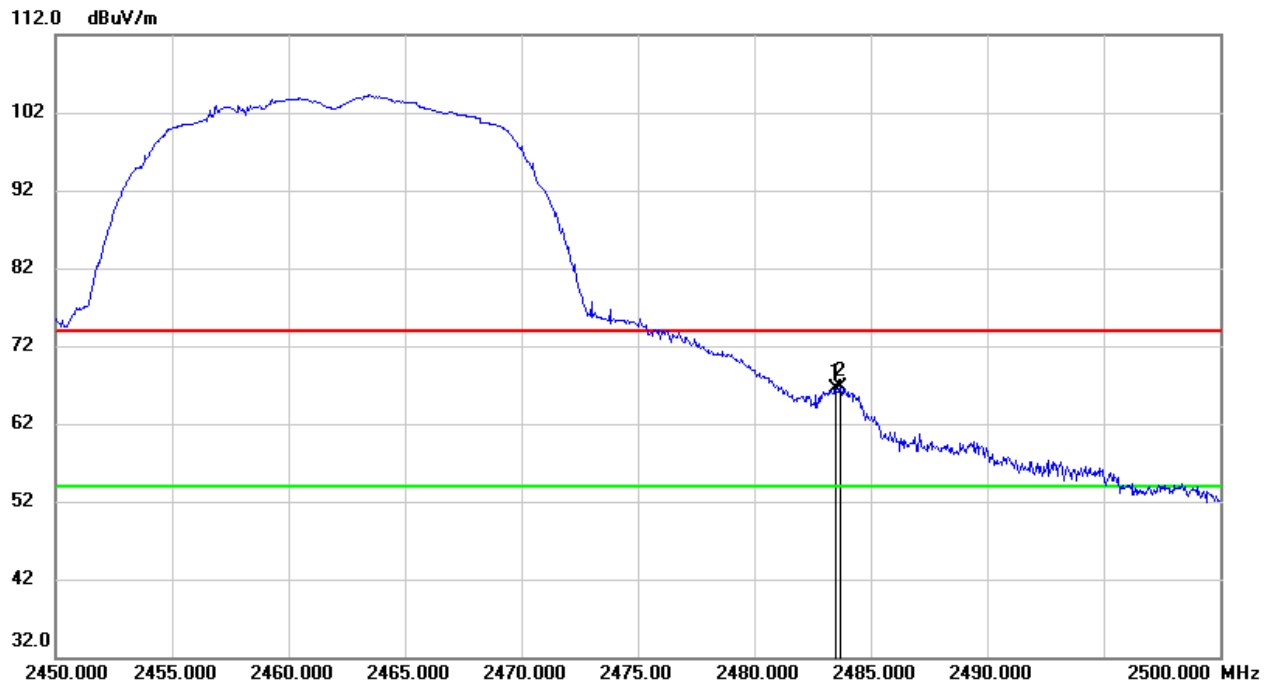
- Note: 1. Measurement = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

AVG

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 2483.500        | 15.68          | 33.58          | 49.26           | 54.00          | -4.74       | AVG    |
| 2   | 2483.600        | 15.57          | 33.58          | 49.15           | 54.00          | -4.85       | 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.
  5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)****PEAK**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 2483.500        | 32.96          | 33.58          | 66.54           | 74.00          | -7.46       | peak   |
| 2   | 2483.700        | 33.12          | 33.58          | 66.70           | 74.00          | -7.30       | peak   |

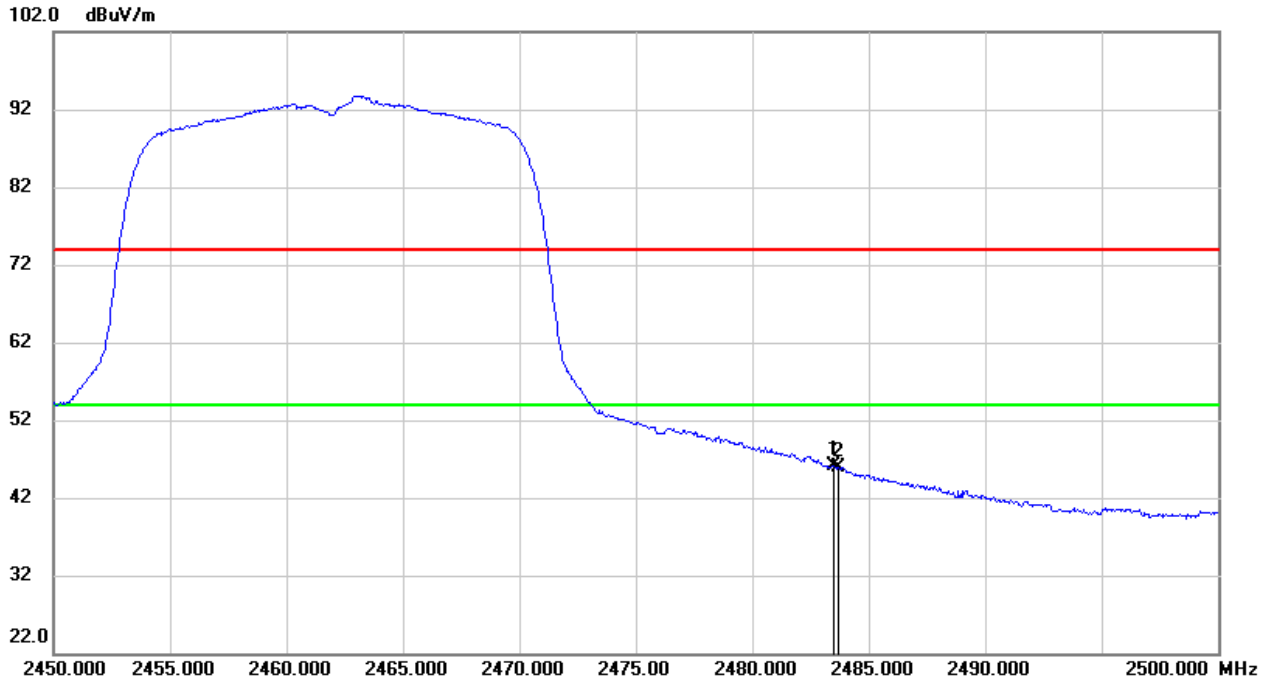
Note: 1. Measurement = Reading Level + Correct Factor.

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   | 2483.500        | 12.58          | 33.58          | 46.16           | 54.00          | -7.84       | AVG    |
| 2   | 2483.700        | 12.35          | 33.58          | 45.93           | 54.00          | -8.07       | 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 transmit duration.
  4. For transmit duration, please refer to clause 7.1.
  5. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

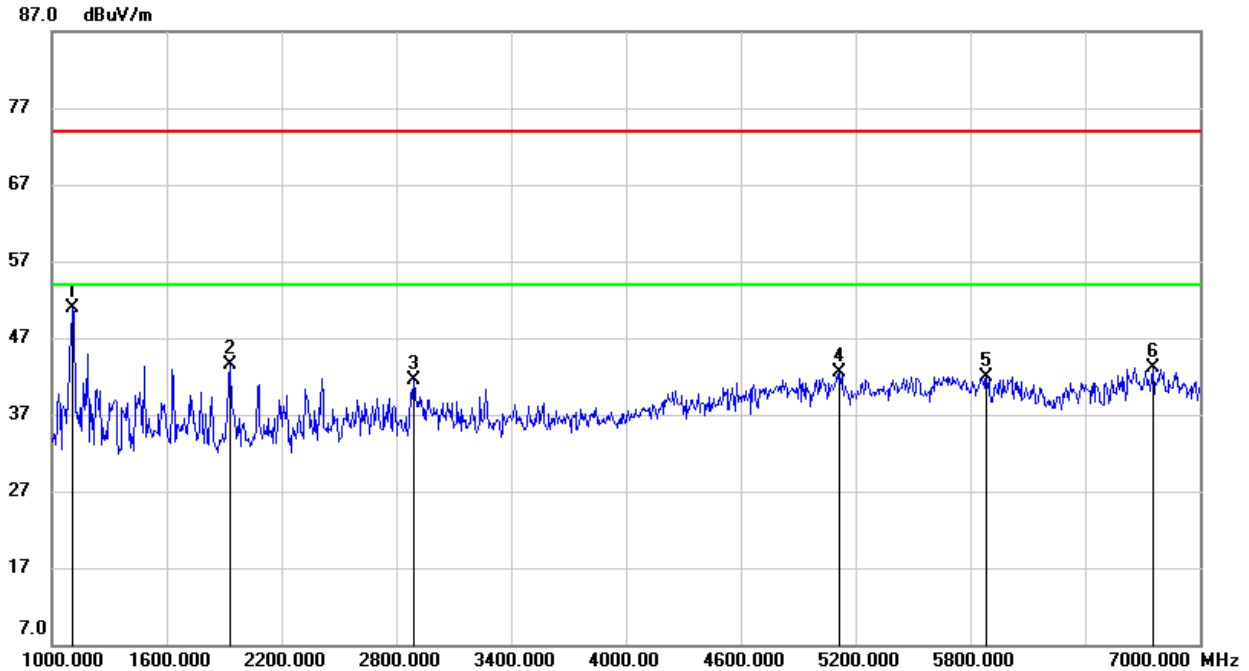
Note: All the test modes and combination have been considered. Only the worst data record in the report.

### 6.1.2. Condition 2

**Module SKI.WB7668U.1 802.11n20 MIMO MODE & Module SKI.WB8821CU.1 802.11a SISO MODE**

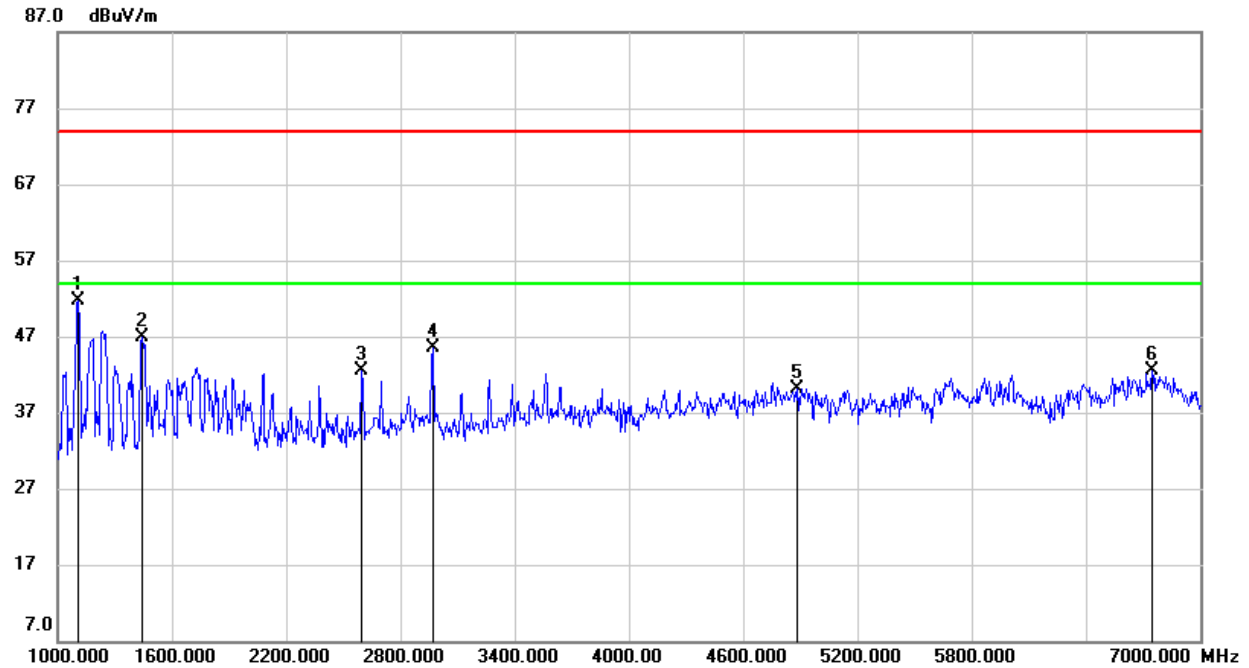
**SPURIOUS EMISSIONS (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

#### 1-7GHz



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 64.42          | -13.53         | 50.89           | 74.00          | -23.11      | peak   |
| 2   | 1930.000        | 53.61          | -10.20         | 43.41           | 74.00          | -30.59      | peak   |
| 3   | 2890.000        | 48.03          | -6.56          | 41.47           | 74.00          | -32.53      | peak   |
| 4   | 5116.000        | 41.04          | 1.47           | 42.51           | 74.00          | -31.49      | peak   |
| 5   | 5884.000        | 39.61          | 2.23           | 41.84           | 74.00          | -32.16      | peak   |
| 6   | 6754.000        | 38.56          | 4.45           | 43.01           | 74.00          | -30.99      | 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 (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****1-7GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 65.30          | -13.53         | 51.77           | 74.00          | -22.23      | peak   |
| 2   | 1444.000        | 59.47          | -12.56         | 46.91           | 74.00          | -27.09      | peak   |
| 3   | 2596.000        | 50.60          | -8.18          | 42.42           | 74.00          | -31.58      | peak   |
| 4   | 2968.000        | 51.80          | -6.22          | 45.58           | 74.00          | -28.42      | peak   |
| 5   | 4882.000        | 39.50          | 0.66           | 40.16           | 74.00          | -33.84      | peak   |
| 6   | 6748.000        | 38.04          | 4.45           | 42.49           | 74.00          | -31.51      | 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.

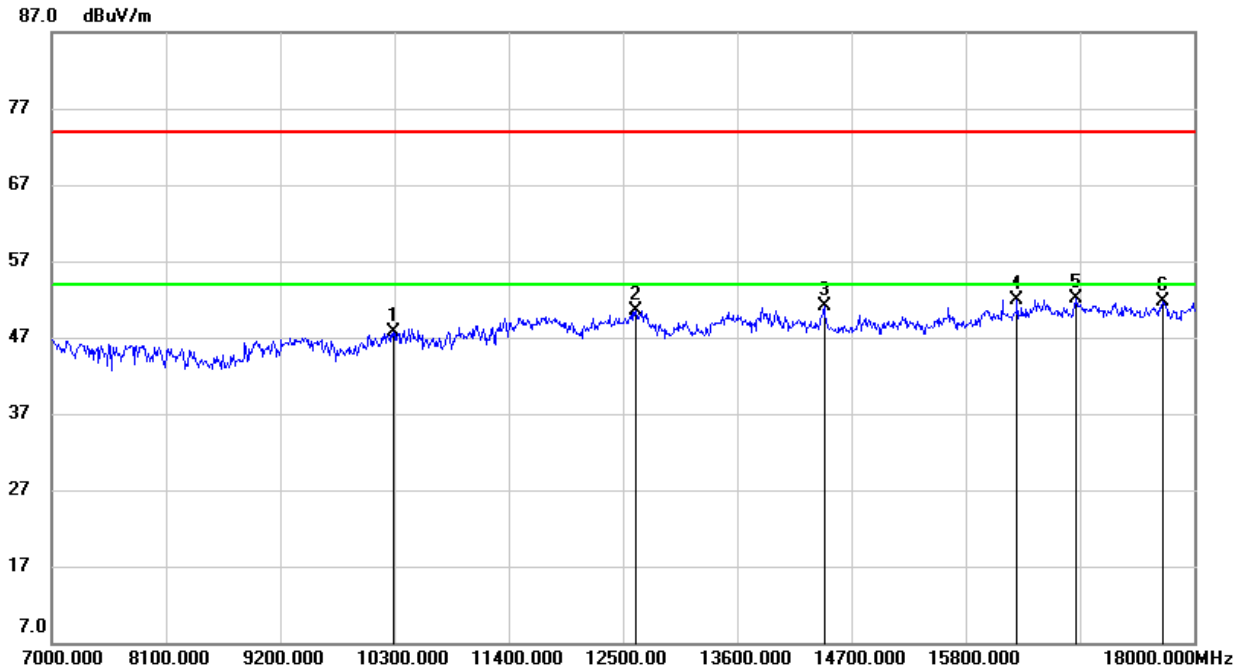
3. Peak: Peak detector.

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.

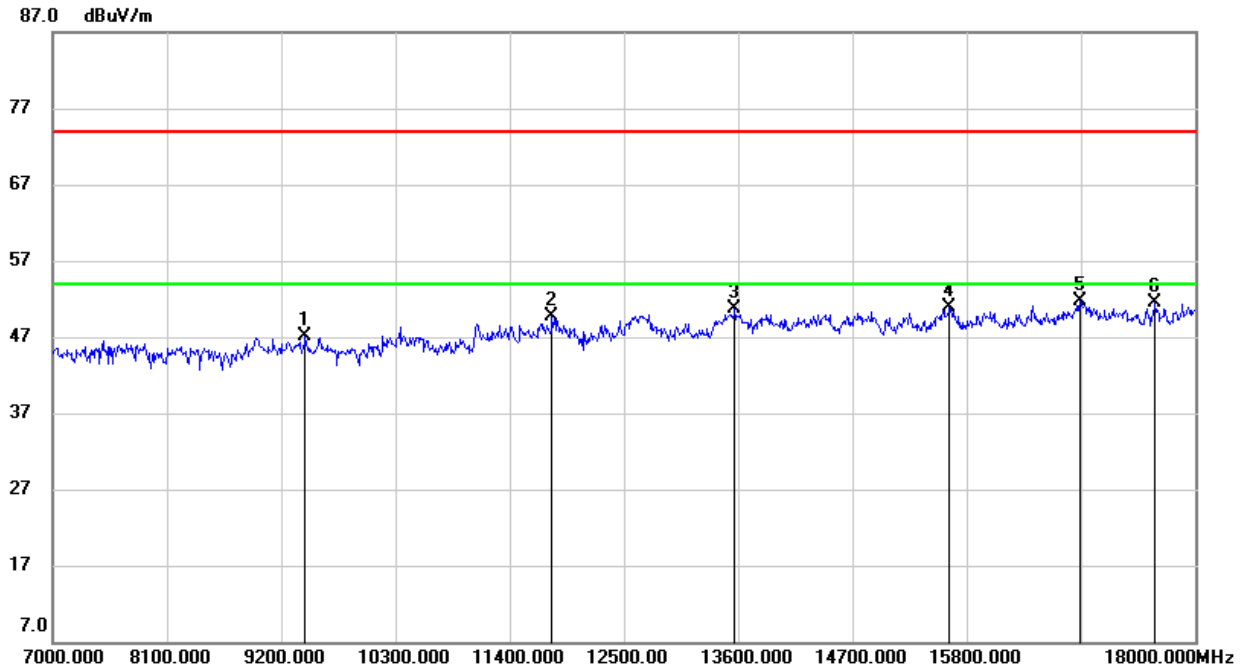
**SPURIOUS EMISSIONS (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**7-18GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10289.000       | 36.93          | 10.68          | 47.61           | 74.00          | -26.39      | peak   |
| 2   | 12621.000       | 35.40          | 15.19          | 50.59           | 74.00          | -23.41      | peak   |
| 3   | 14436.000       | 35.07          | 16.10          | 51.17           | 74.00          | -22.83      | peak   |
| 4   | 16295.000       | 33.47          | 18.51          | 51.98           | 74.00          | -22.02      | peak   |
| 5   | 16867.000       | 31.80          | 20.23          | 52.03           | 74.00          | -21.97      | peak   |
| 6   | 17692.000       | 28.96          | 22.69          | 51.65           | 74.00          | -22.35      | 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 HPF losses.
  5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)****7-18GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 9431.000        | 37.00          | 10.09          | 47.09           | 74.00          | -26.91      | peak   |
| 2   | 11807.000       | 35.18          | 14.52          | 49.70           | 74.00          | -24.30      | peak   |
| 3   | 13567.000       | 34.87          | 15.89          | 50.76           | 74.00          | -23.24      | peak   |
| 4   | 15635.000       | 34.05          | 16.77          | 50.82           | 74.00          | -23.18      | peak   |
| 5   | 16889.000       | 31.46          | 20.27          | 51.73           | 74.00          | -22.27      | peak   |
| 6   | 17615.000       | 29.33          | 22.12          | 51.45           | 74.00          | -22.55      | 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.

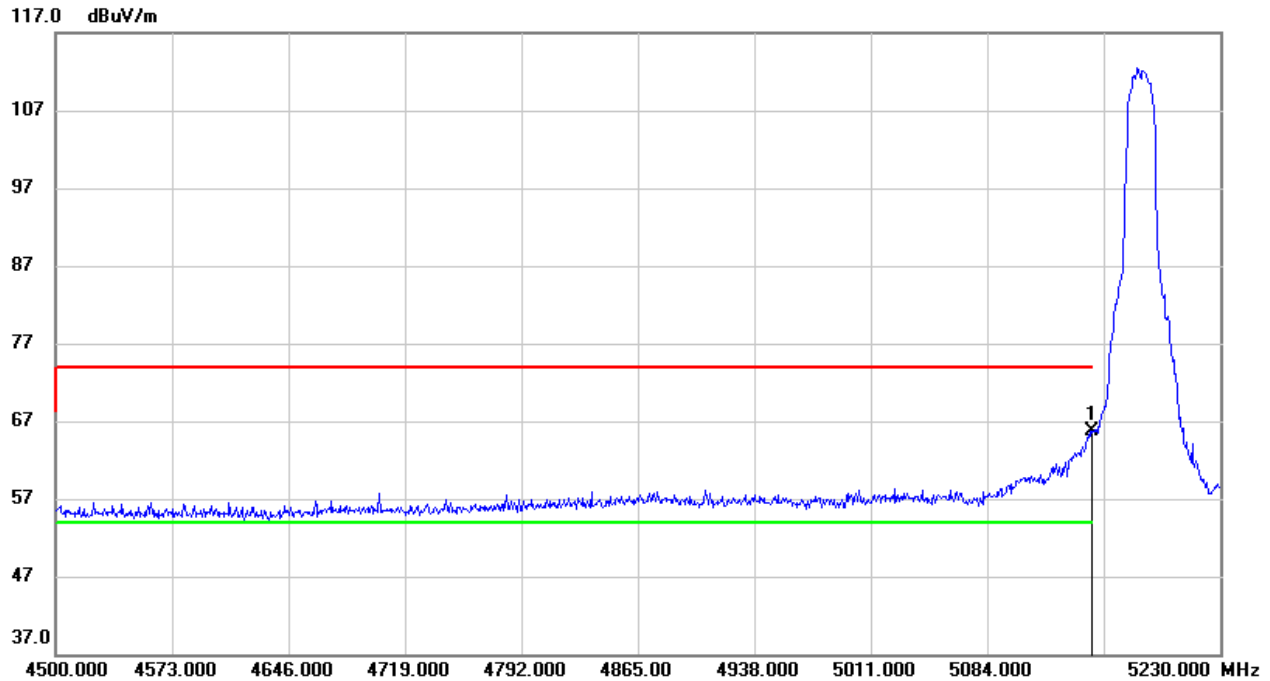
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.

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



**RESTRICTED BANDEDGE (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**PEAK**

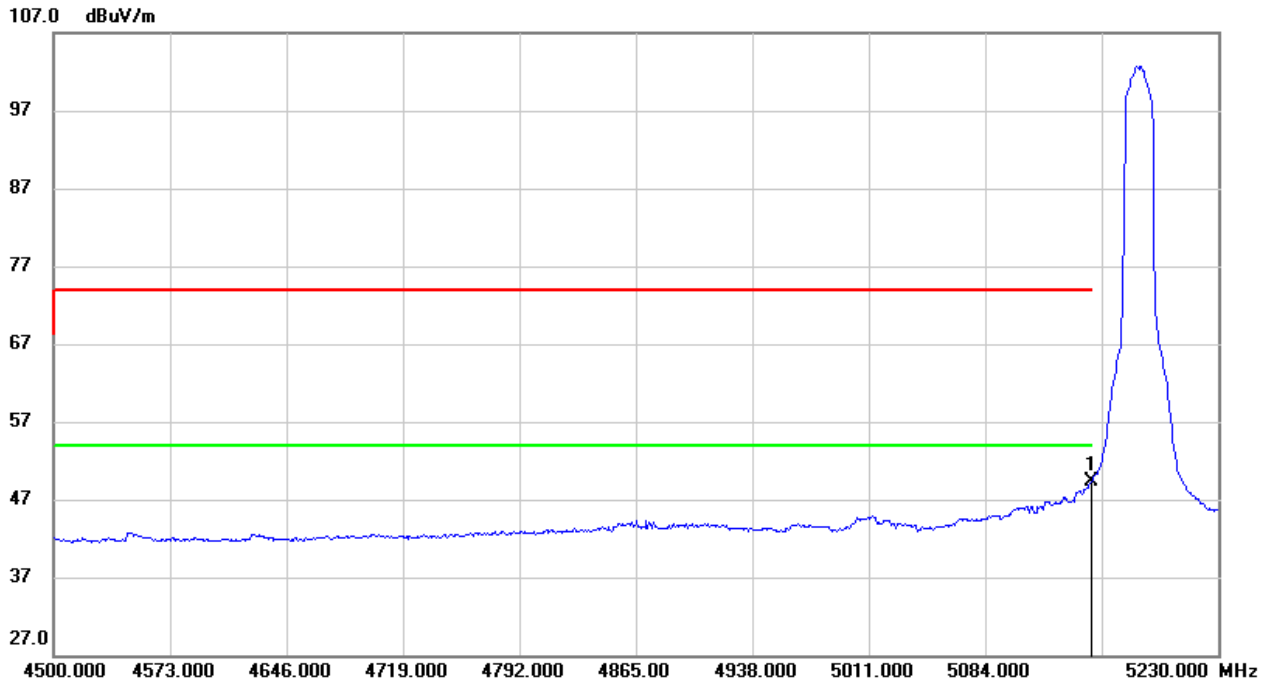


| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 5150.000        | 25.20          | 40.46          | 65.66           | 74.00          | -8.34       | 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        | 8.78           | 40.46          | 49.24           | 54.00          | -4.76       | AVG    |

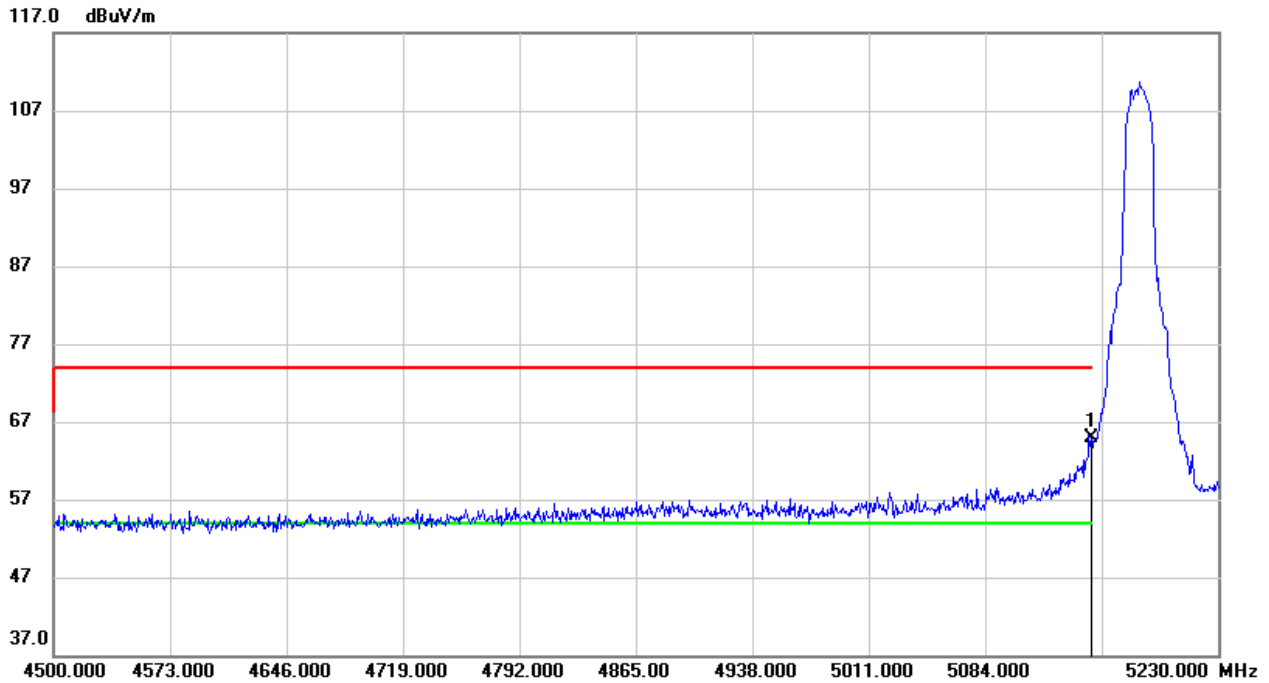
- Note:
1. Measurement = Reading Level + Correct Factor.
  2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
  3. AVG:  $VBW=1/Ton$  where: ton is transmit duration.
  4. For transmit duration, please refer to clause 7.1.
  5. Only the worst case emission was recorded,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





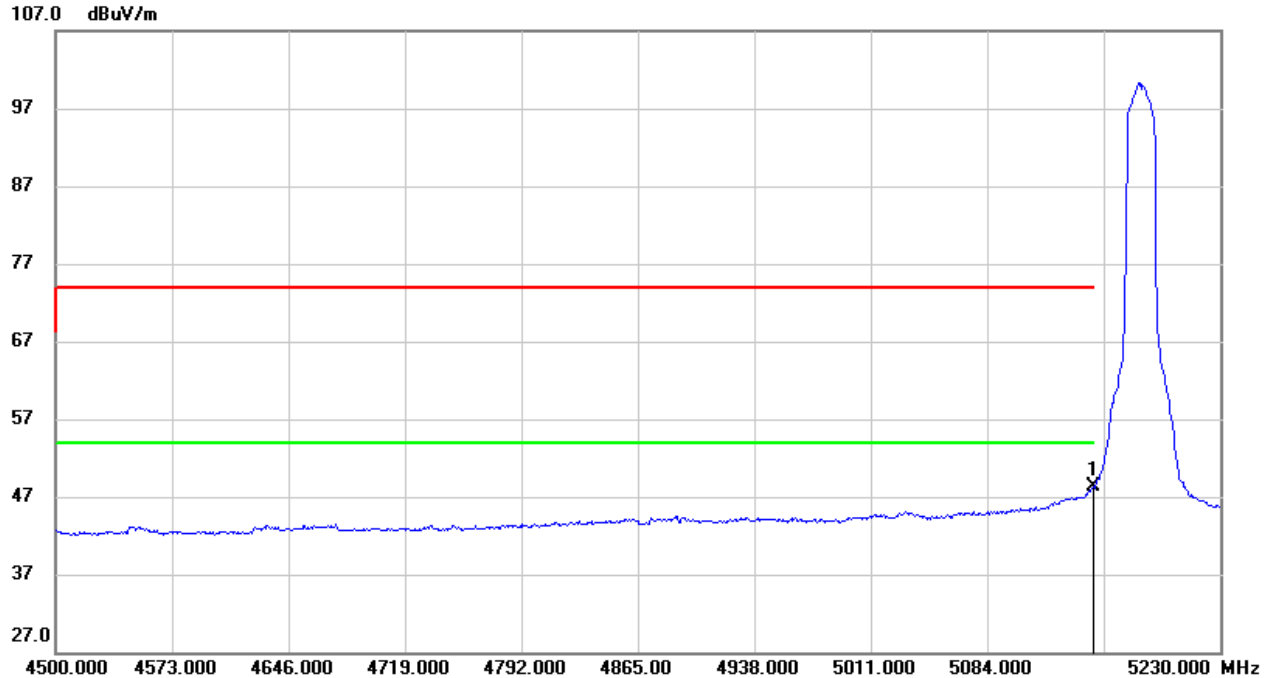
**RESTRICTED BANDEDGE (UNII-1 LOW CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**

**PEAK**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 5150.000        | 24.51          | 40.46          | 64.97           | 74.00          | -9.03       | 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        | 7.85           | 40.46          | 48.31           | 54.00          | -5.69       | 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.
  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 test modes and combination have been considered. Only the worst data record in the report.

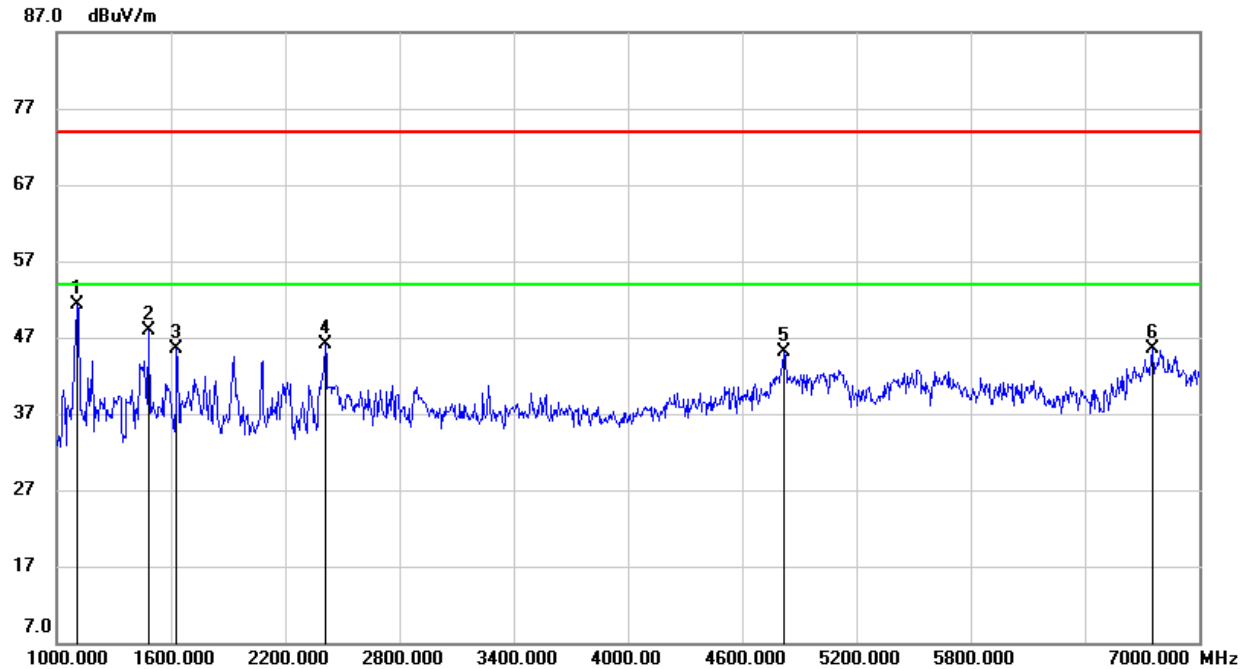
### 6.1.3. Condition 3

**Module SKI.WB7668U.1 802.11b SISO MODE & Module SKI.WB8821CU.1 802.11a SISO MODE**

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

**WIFI2.4G LOW CHANNEL+UNII-1 LOW CHANNEL**

**1-7GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 64.92          | -13.53         | 51.39           | 74.00          | -22.61      | peak   |
| 2   | 1480.000        | 60.25          | -12.40         | 47.85           | 74.00          | -26.15      | peak   |
| 3   | 1630.000        | 56.80          | -11.39         | 45.41           | 74.00          | -28.59      | peak   |
| 4   | 2410.000        | 54.75          | -8.60          | 46.15           | 74.00          | -27.85      | peak   |
| 5   | 4816.000        | 44.45          | 0.56           | 45.01           | 74.00          | -28.99      | peak   |
| 6   | 6754.000        | 41.06          | 4.45           | 45.51           | 74.00          | -28.49      | 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.

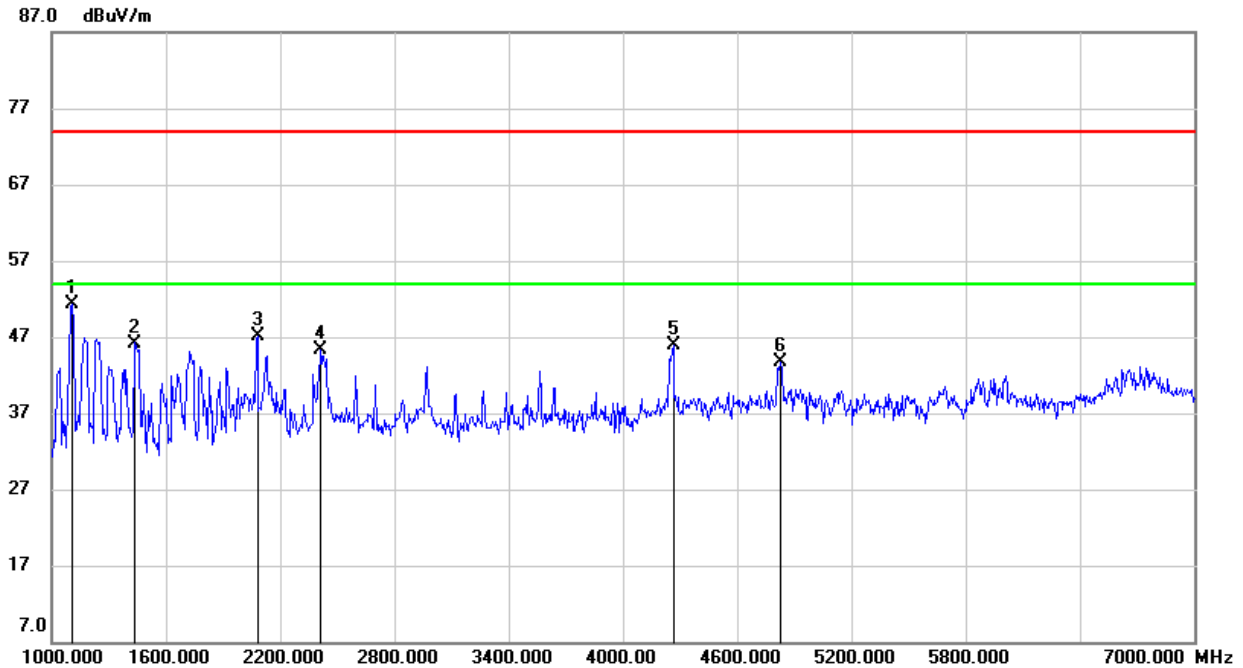
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.

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

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

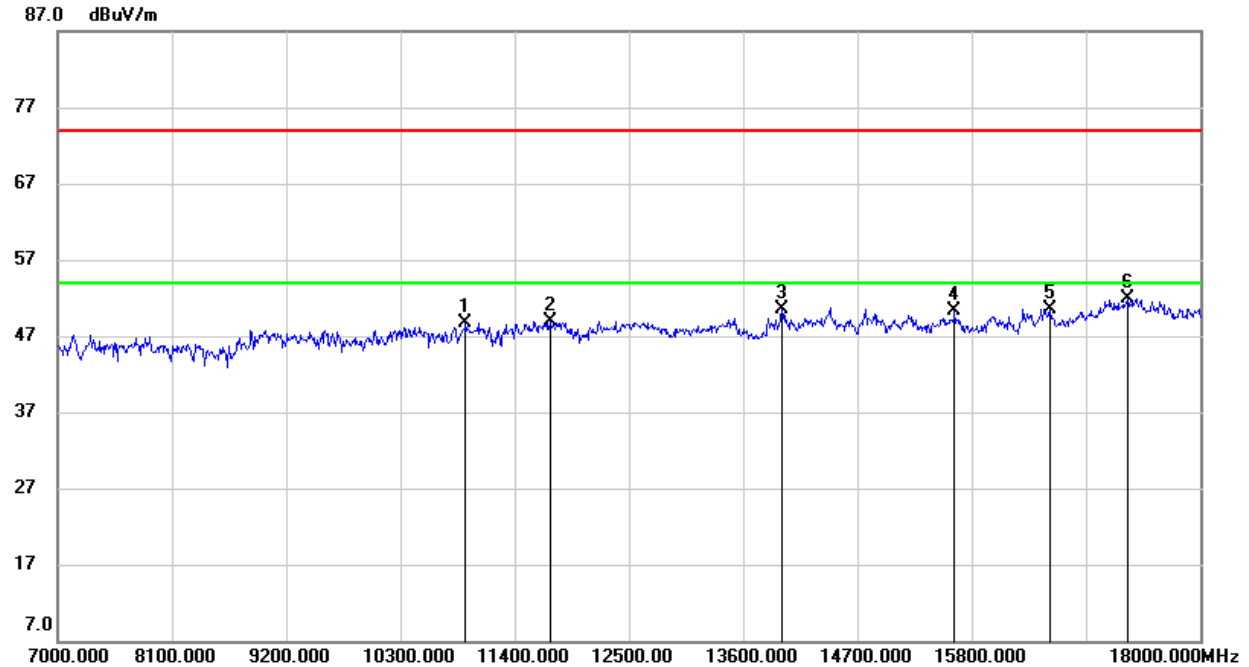
**WIFI2.4G LOW CHANNEL+UNII-1 LOW CHANNEL**

**1-7GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 64.80          | -13.53         | 51.27           | 74.00          | -22.73      | peak   |
| 2   | 1438.000        | 58.79          | -12.59         | 46.20           | 74.00          | -27.80      | peak   |
| 3   | 2080.000        | 56.96          | -9.82          | 47.14           | 74.00          | -26.86      | peak   |
| 4   | 2410.000        | 53.93          | -8.60          | 45.33           | 74.00          | -28.67      | peak   |
| 5   | 4264.000        | 47.70          | -1.84          | 45.86           | 74.00          | -28.14      | peak   |
| 6   | 4828.000        | 43.21          | 0.56           | 43.77           | 74.00          | -30.23      | 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)****WIFI2.4G LOW CHANNEL+UNII-1 LOW CHANNEL****7-18GHz**

| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10927.000       | 36.25          | 12.47          | 48.72           | 74.00          | -25.28      | peak   |
| 2   | 11741.000       | 34.55          | 14.29          | 48.84           | 74.00          | -25.16      | peak   |
| 3   | 13974.000       | 34.29          | 16.15          | 50.44           | 74.00          | -23.56      | peak   |
| 4   | 15635.000       | 33.60          | 16.77          | 50.37           | 74.00          | -23.63      | peak   |
| 5   | 16559.000       | 30.71          | 19.74          | 50.45           | 74.00          | -23.55      | peak   |
| 6   | 17307.000       | 30.48          | 21.41          | 51.89           | 74.00          | -22.11      | 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.

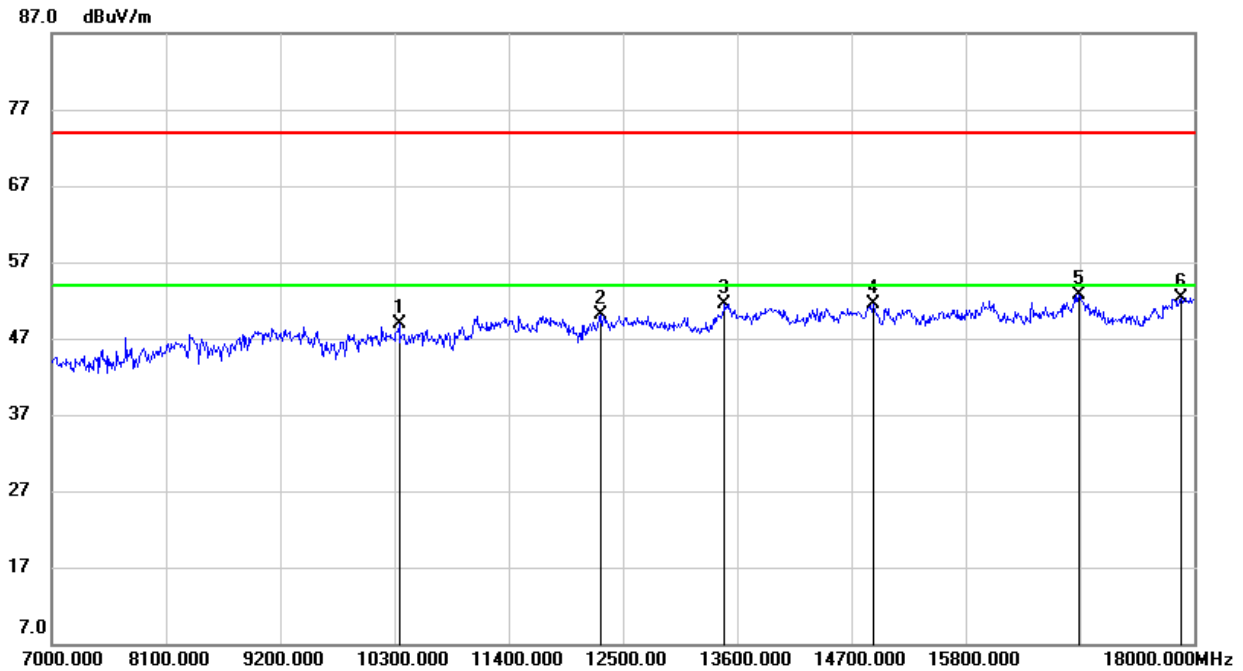
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.

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

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

**WIFI2.4G LOW CHANNEL+UNII-1 LOW CHANNEL**

**7-18GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 10344.000       | 37.95          | 10.90          | 48.85           | 74.00          | -25.15      | peak   |
| 2   | 12280.000       | 35.56          | 14.51          | 50.07           | 74.00          | -23.93      | peak   |
| 3   | 13479.000       | 35.55          | 15.95          | 51.50           | 74.00          | -22.50      | peak   |
| 4   | 14909.000       | 35.41          | 16.05          | 51.46           | 74.00          | -22.54      | peak   |
| 5   | 16889.000       | 32.46          | 20.27          | 52.73           | 74.00          | -21.27      | peak   |
| 6   | 17868.000       | 28.81          | 23.56          | 52.37           | 74.00          | -21.63      | 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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

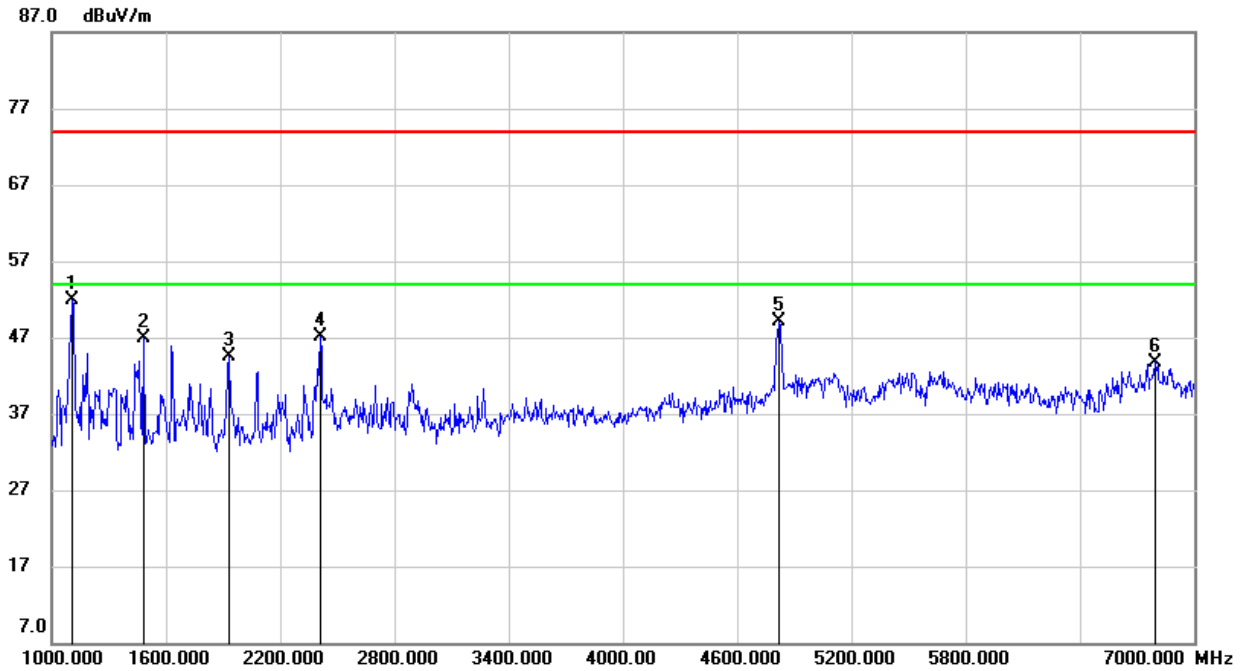
**6.1.4. Condition 4**

**Module SKI.WB7668U.1 802.11n20 MIMO MODE & Module SKI.WB8821CU.1 802.11b SISO MODE**

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

**UNII-1 LOW CHANNEL + WIFI2.4G LOW CHANNEL**

**1-7GHz**



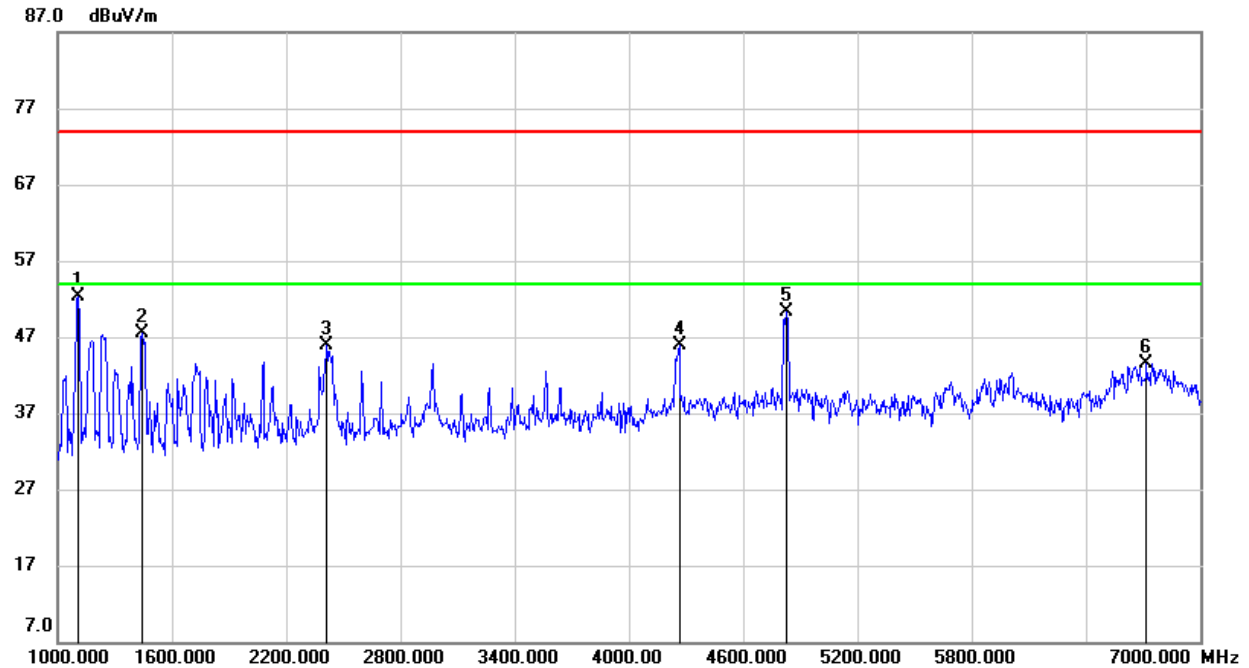
| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 65.42          | -13.53         | 51.89           | 74.00          | -22.11      | peak   |
| 2   | 1480.000        | 59.25          | -12.40         | 46.85           | 74.00          | -27.15      | peak   |
| 3   | 1930.000        | 54.61          | -10.20         | 44.41           | 74.00          | -29.59      | peak   |
| 4   | 2412.000        | 55.75          | -8.60          | 47.15           | 74.00          | -26.85      | peak   |
| 5   | 4824.000        | 48.45          | 0.56           | 49.01           | 74.00          | -24.99      | peak   |
| 6   | 6796.000        | 39.36          | 4.44           | 43.80           | 74.00          | -30.20      | 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)**

**UNII-1 LOW CHANNEL + WIFI2.4G LOW CHANNEL**

**1-7GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 1108.000        | 65.80          | -13.53         | 52.27           | 74.00          | -21.73      | peak   |
| 2   | 1444.000        | 59.97          | -12.56         | 47.41           | 74.00          | -26.59      | peak   |
| 3   | 2410.000        | 54.43          | -8.60          | 45.83           | 74.00          | -28.17      | peak   |
| 4   | 4264.000        | 47.70          | -1.84          | 45.86           | 74.00          | -28.14      | peak   |
| 5   | 4824.000        | 49.71          | 0.56           | 50.27           | 74.00          | -23.73      | peak   |
| 6   | 6718.000        | 39.06          | 4.45           | 43.51           | 74.00          | -30.49      | peak   |

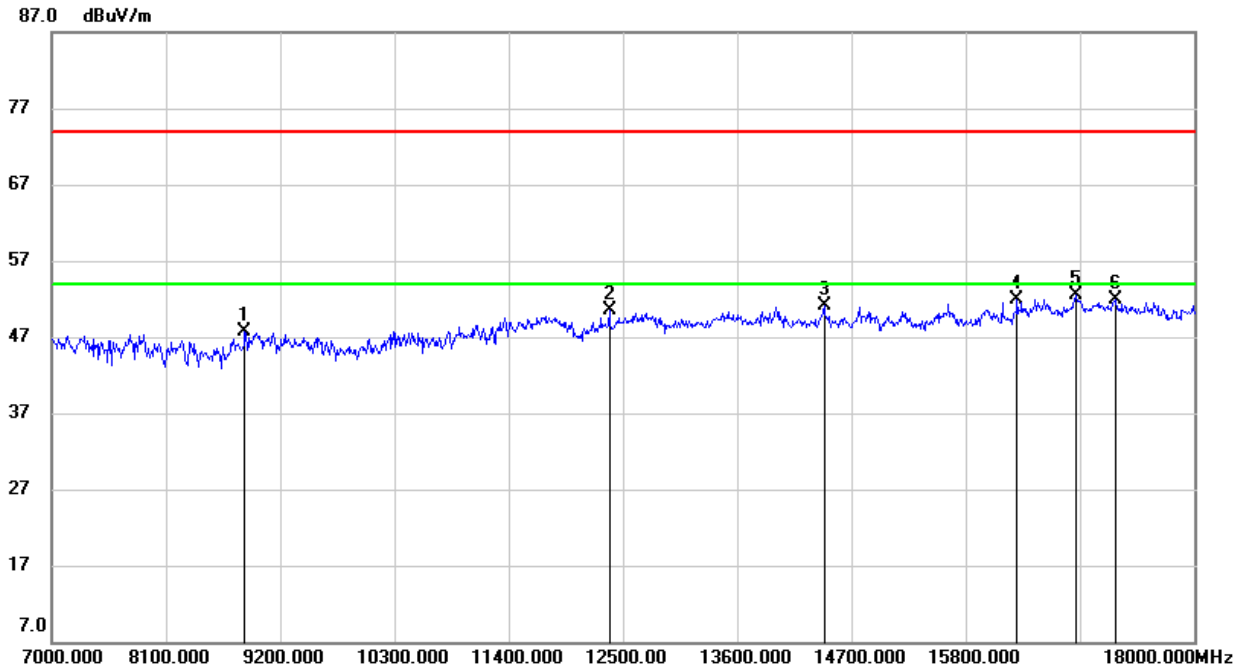
- Note: 1. Peak Result = Reading Level + Correct Factor.  
 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.  
 3. Peak: Peak detector.  
 4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject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



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

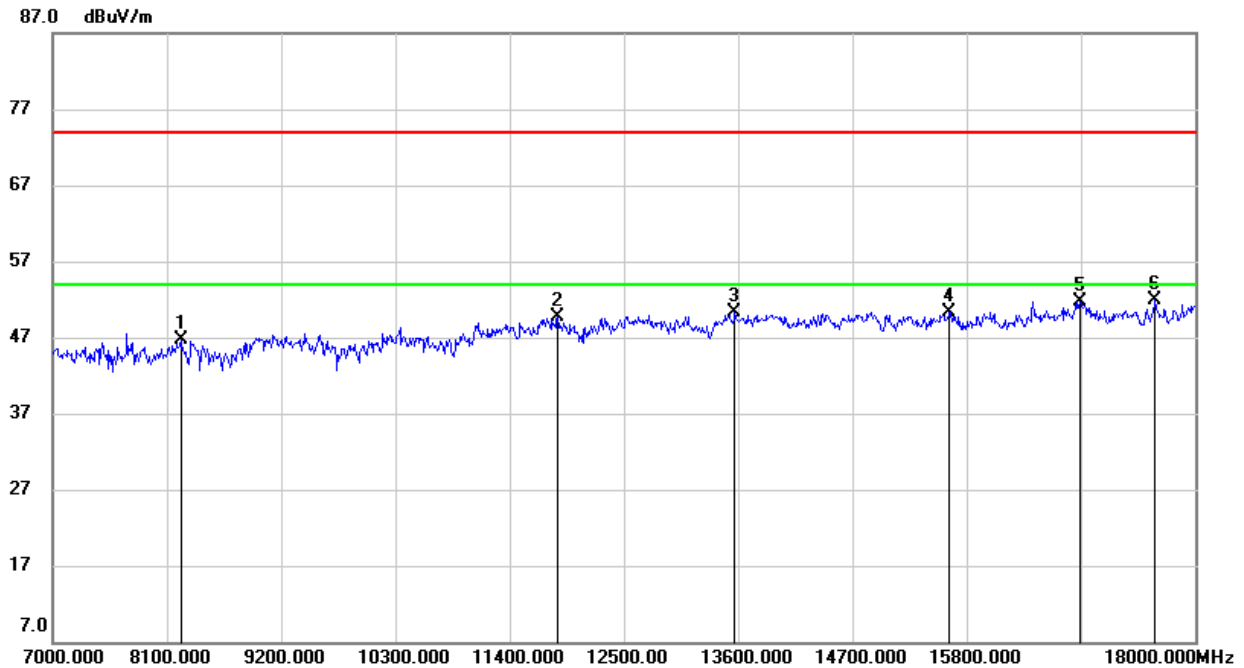
**UNII-1 LOW CHANNEL + WIFI2.4G LOW CHANNEL**

**7-18GHz**



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|-----|-----------------|----------------|----------------|-----------------|----------------|-------------|--------|
| 1   | 8859.000        | 39.01          | 8.72           | 47.73           | 74.00          | -26.27      | peak   |
| 2   | 12368.000       | 35.73          | 14.73          | 50.46           | 74.00          | -23.54      | peak   |
| 3   | 14436.000       | 35.07          | 16.10          | 51.17           | 74.00          | -22.83      | peak   |
| 4   | 16295.000       | 33.47          | 18.51          | 51.98           | 74.00          | -22.02      | peak   |
| 5   | 16867.000       | 32.30          | 20.23          | 52.53           | 74.00          | -21.47      | peak   |
| 6   | 17241.000       | 30.37          | 21.58          | 51.95           | 74.00          | -22.05      | 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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (WORST-CASE CONFIGURATION, VERTICAL)****UNII-1 LOW CHANNEL + WIFI2.4G LOW CHANNEL****7-18GHz**

| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------|--------------------|-------------------|----------------|--------|
| 1   | 8232.000           | 38.36             | 8.28              | 46.64              | 74.00             | -27.36         | peak   |
| 2   | 11862.000          | 35.20             | 14.44             | 49.64              | 74.00             | -24.36         | peak   |
| 3   | 13567.000          | 34.37             | 15.89             | 50.26              | 74.00             | -23.74         | peak   |
| 4   | 15635.000          | 33.55             | 16.77             | 50.32              | 74.00             | -23.68         | peak   |
| 5   | 16889.000          | 31.46             | 20.27             | 51.73              | 74.00             | -22.27         | peak   |
| 6   | 17615.000          | 29.83             | 22.12             | 51.95              | 74.00             | -22.05         | 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 HPF losses.  
 5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

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

**END OF REPORT**