

# RADIO PERFORMANCE TEST REPORT

Test Report No. : OT-21O-RWD-060

Reception No. : 2110004416

Applicant : Remote Solution Co., Ltd.

Address : 92, Chogokri Nammyun, Kimchon City, Kyungbuk, 740-871, South Korea

Manufacturer : Remote Solution Co., Ltd.

Address : 92, Chogokri Nammyun, Kimchon City, Kyungbuk, 740-871, South Korea

Type of Equipment : BLE/RF4CE Remote controller

FCC ID. : TX4RD68A

Model Name : RD68A00

Multiple Model Name : RD68XYY (X : A~Z, YY : 00~99)

Serial number : N/A

Total page of Report : 32 pages (including this page)

Date of Incoming : October 07, 2021

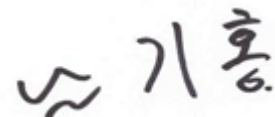
Date of issue : October 28, 2021

## SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.



Tested by  
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ONETECH Corp.

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**Revision History**

| Rev. No. | Issue Report No. | Issued Date      | Revisions       | Section Affected |
|----------|------------------|------------------|-----------------|------------------|
| 0        | OT-21O-RWD-060   | October 28, 2021 | Initial Release | All              |
|          |                  |                  |                 |                  |
|          |                  |                  |                 |                  |

## 1. VERIFICATION OF COMPLIANCE

Applicant : Remote Solution Co., Ltd.

Address : 92, Chogokri Nammyun, Kimchon City, Kyungbuk, 740-871, South Korea

Contact Person : Byung-Cheol Kim / Manager

Telephone No. : +82-54-420-4517

FCC ID : TX4RD68A

Model Name : RD68A00

Brand Name : RS OTS / RCU / Remotesolution

Serial Number : N/A

Date : October 28, 2021

|                                                         |                                                                                    |
|---------------------------------------------------------|------------------------------------------------------------------------------------|
| EQUIPMENT CLASS                                         | DTS – DIGITAL TRNSMISSION SYSTEM                                                   |
| E.U.T. DESCRIPTION                                      | BLE/RF4CE Remote controller                                                        |
| THIS REPORT CONCERNS                                    | Original Grant                                                                     |
| MEASUREMENT PROCEDURES                                  | ANSI C63.10: 2020                                                                  |
| TYPE OF EQUIPMENT TESTED                                | Pre-Production                                                                     |
| KIND OF EQUIPMENT<br>AUTHORIZATION REQUESTED            | Certification                                                                      |
| EQUIPMENT WILL BE OPERATED<br>UNDER FCC RULES PART(S)   | FCC PART 15 SUBPART C Section 15.247<br>KDB 558074 D01 15.247 Meas Guidance v05r02 |
| Modifications on the Equipment to Achieve<br>Compliance | None                                                                               |
| Final Test was Conducted On                             | 3 m, Semi Anechoic Chamber                                                         |

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

## 2. TEST SUMMARY

### 2.1 Test items and results

| SECTION        | TEST ITEMS                                          | RESULTS                |
|----------------|-----------------------------------------------------|------------------------|
| 15.247 (a) (2) | Minimum 6 dB Bandwidth                              | Met the Limit / PASS   |
| 15.247 (b) (3) | Maximum Peak Conducted Output Power                 | Met the Limit / PASS   |
| 15.247 (d)     | 100 kHz Bandwidth Outside the Frequency Band        | Met the Limit / PASS   |
| 15.247 (d)     | Radiated Emission which fall in the Restricted Band | Met the Limit / PASS   |
| 15.247 (e)     | Peak Power Spectral Density                         | Met the Limit / PASS   |
| 15.209         | Radiated Emission Limits                            | Met the Limit / PASS   |
| 15.207         | Conducted Limits                                    | N/A(See Note)          |
| 15.203         | Antenna Requirement                                 | Met requirement / PASS |

Note.: This test item is not required as EUT is operated by the DC battery.

### 2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

### 2.3 Related Submittal(s) / Grant(s)

Original submittal only

### 2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC PART 15 SUBPART C Section 15.247.

### 2.5 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.

### 2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

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### 3. GENERAL INFORMATION

#### 3.1 Product Description

The Remote Solution Co., Ltd., Model RD68A00 (referred to as the EUT in this report) is a BLE/RF4CE Remote controller. The product specification described herein was obtained from product data sheet or user's manual.

|                                                    |                             |                       |
|----------------------------------------------------|-----------------------------|-----------------------|
| Device Type                                        | BLE/RF4CE Remote controller |                       |
| Operating Frequency                                | Bluetooth LE                | 2 402 MHz ~ 2 480 MHz |
|                                                    | Zigbee                      | 2 405 MHz ~ 2 475 MHz |
| RF Output Power                                    | Bluetooth LE                | 5.58 dBm              |
|                                                    | Zigbee                      | 5.68 dBm              |
| Number of Channel                                  | Bluetooth LE                | 40 Channels           |
|                                                    | Zigbee                      | 15 Channels           |
| Modulation Type                                    | Bluetooth LE                | GFSK                  |
|                                                    | Zigbee                      | DSSS                  |
| Antenna Type                                       | PCB Antenna                 |                       |
| Antenna Gain                                       | -1.0 dBi                    |                       |
| Rated Supply Voltage                               | DC 3.0 V                    |                       |
| List of each Osc. or crystal Freq.(Freq. >= 1 MHz) | 32 MHz                      |                       |

### 3.2 Alternative type(s)/model(s); also covered by this test report.

-. The following lists consist of the added model and their differences.

| Model Name              | Differences                                                                                                                                   | Tested                              |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| RD68A00                 | Basic Model                                                                                                                                   | <input checked="" type="checkbox"/> |
| RD68XYX<br>(See Note 3) | This model is identical to the basic model except that the printed information (Label, Front cover and Brand) on the appearance is different. | <input type="checkbox"/>            |

Note: 1. Applicant consigns only basic model to test. Therefore this test report just guarantees the units, which have been tested.

2. The Applicant/manufacture is responsible for the compliance of all variants.

3. Multiple model name RD68XYX is made up of a combination of X (A~Z) and Y (00~99),

X depends on electric parts, YY depends on appearance, design and brand

### 4. EUT MODIFICATIONS

-. None

## 5. SYSTEM TEST CONFIGURATION

### 5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

| DEVICE TYPE | MANUFACTURER              | MODEL/PART NUMBER | FCC ID |
|-------------|---------------------------|-------------------|--------|
| Main Board  | Remote Solution Co., Ltd. | N/A               | N/A    |

### 5.2 Peripheral equipment

Defined as equipment needed for correct operation of the EUT, but not considered as tested:

| Model   | Manufacturer              | Description                       | Connected to |
|---------|---------------------------|-----------------------------------|--------------|
| RD68A00 | Remote Solution Co., Ltd. | BLE/RF4CE Remote controller (EUT) | -            |

### 5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set at 2 402 MHz, 2 440 MHz, and 2 480 MHz to get a maximum emission levels from the EUT. The EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis, but the worst data was recorded in this report.

-. Frequency / Channel Operations

| Channel | Frequency |
|---------|-----------|
| 0       | 2 402     |
| 19      | 2 440     |
| 39      | 2 480     |

-. Duty Cycle

| Tx On Time [ms] | Tx Off Time [ms]     | Duty Cycle [%] | FCC Duty Cycle Correction [dB] |
|-----------------|----------------------|----------------|--------------------------------|
| 1.312           | $10 - 1.312 = 8.688$ | 13.12          | 17.64                          |

## 5.4 Configuration of Test System

**Line Conducted Test:** This test item is not required as EUT is operated by the DC battery.

**Radiated Emission Test:** Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 meter Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

## 5.5 Antenna Requirement

For intentional device, according to section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### Antenna Construction:

The antenna of the EUT is PCB Antenna on the main board in the EUT, so no consideration of replacement by the user.

## 6. PRELIMINARY TEST

### 6.1 AC Power line Conducted Emissions Tests

This test item is not required as EUT is operated by the DC battery.

### 6.2 General Radiated Emissions Tests

During Preliminary Test, the following operating mode was investigated.

| Operation Mode    | The Worse operating condition (Please check one only) |
|-------------------|-------------------------------------------------------|
| Transmitting Mode | X                                                     |

## 7. MINIMUM 6 dB BANDWIDTH

### 7.1 Operating environment

Temperature : 22 °C  
Relative humidity : 46 % R.H.

### 7.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6 dB.



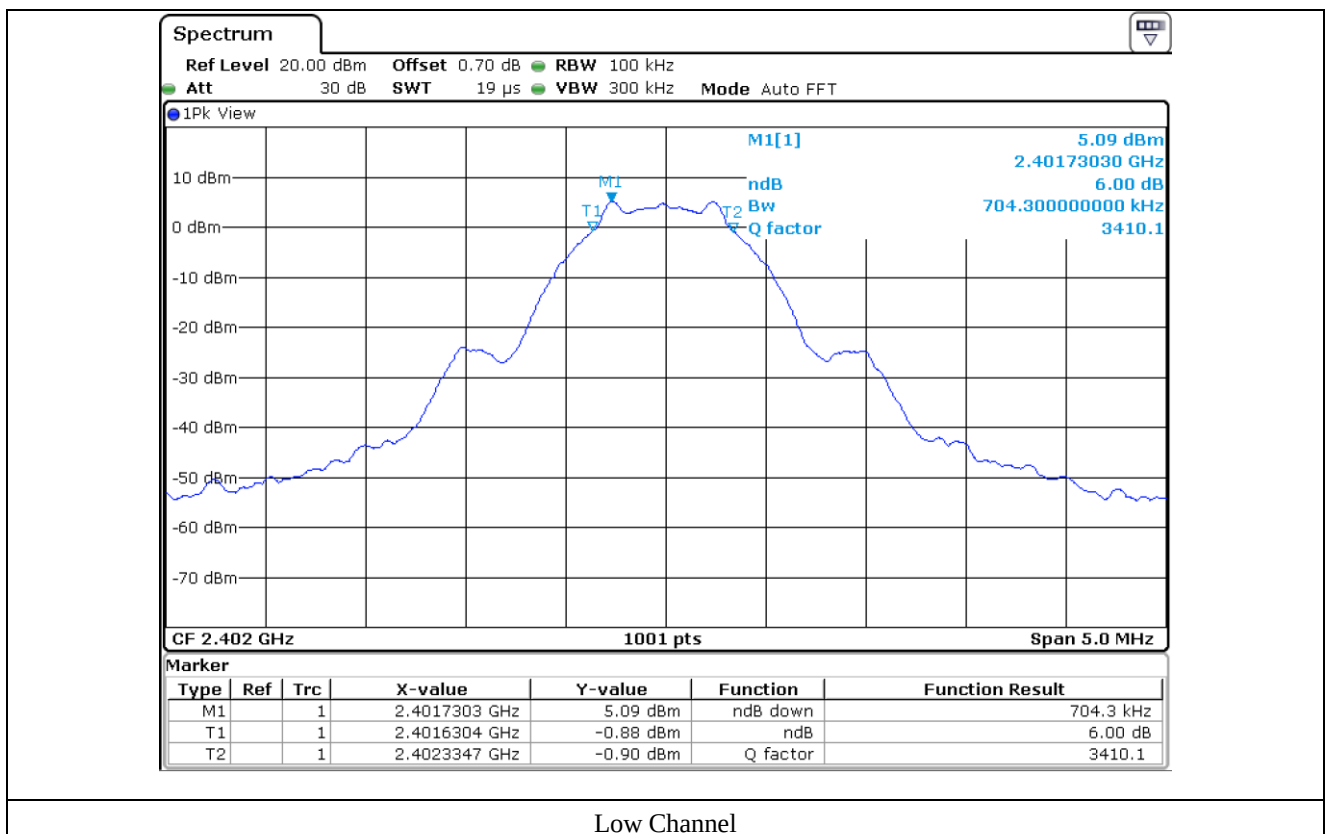
### 7.3 Test Date

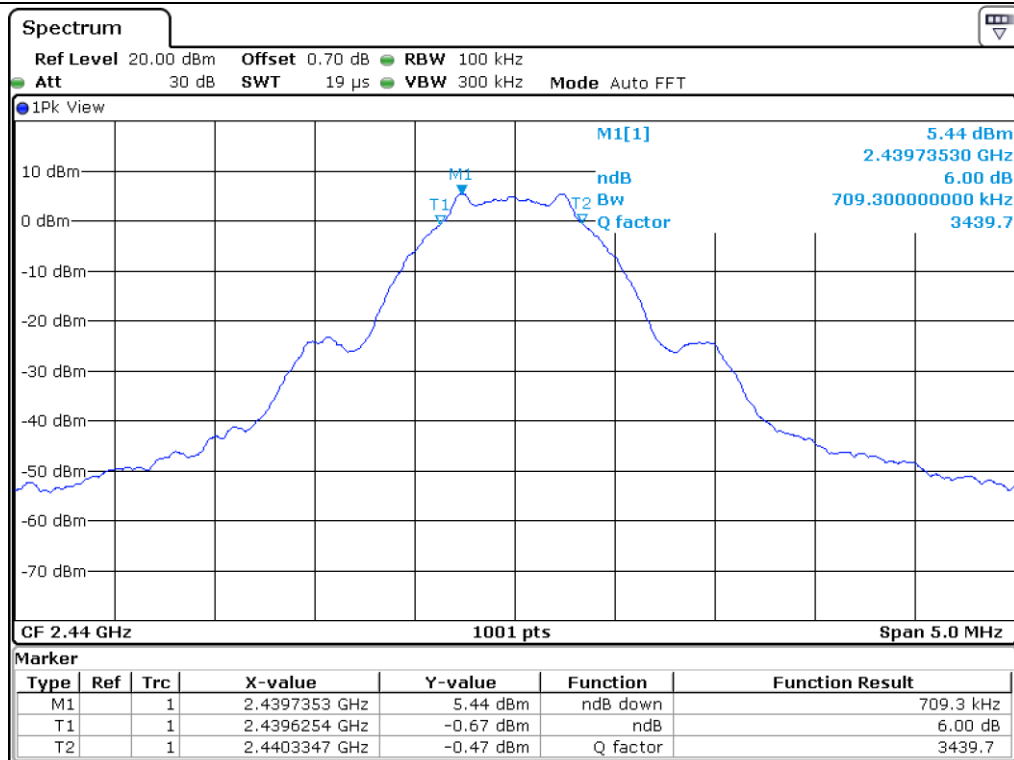
October 12, 2021 ~ October 22, 2021

## 7.4 Test data

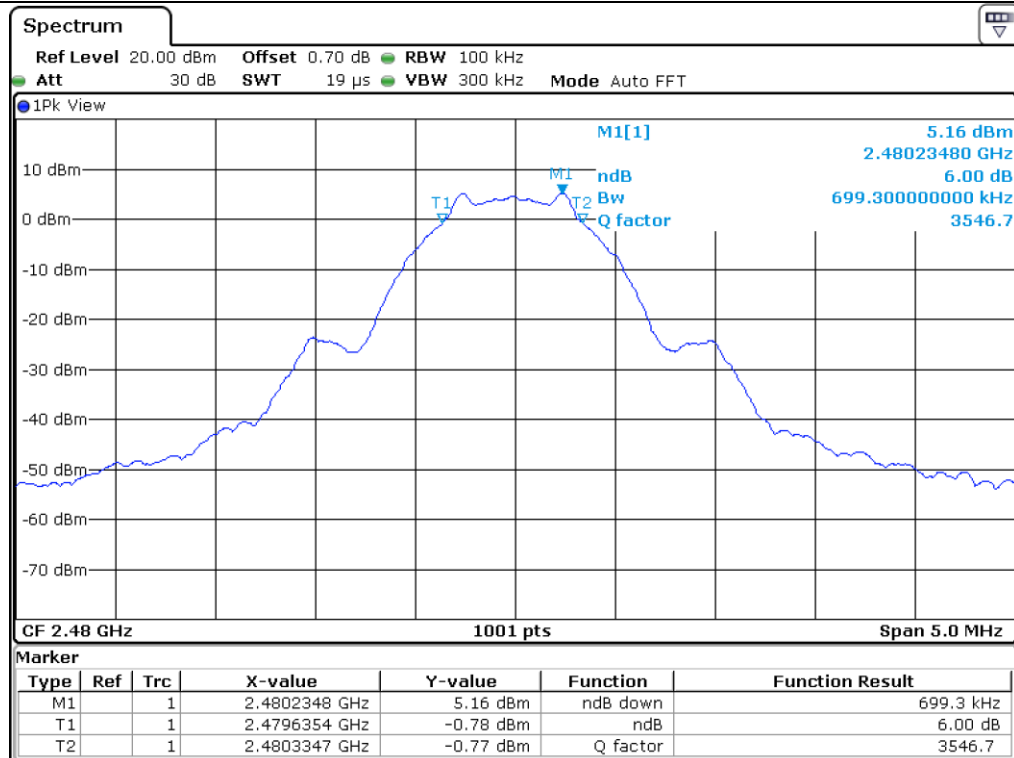
| Channel | Frequency (MHz) | Measured Value (kHz) | Limit (kHz) | Margin (kHz) |
|---------|-----------------|----------------------|-------------|--------------|
| Low     | 2 402.00        | 704.30               | 500.00      | 204.30       |
| Middle  | 2 440.00        | 709.30               | 500.00      | 209.30       |
| High    | 2 480.00        | 699.30               | 500.00      | 199.30       |

Remark. Margin = Measured Value - Limit





Middle Channel



High Channel

## 8. MAXIMUM PEAK OUTPUT POWER

### 8.1 Operating environment

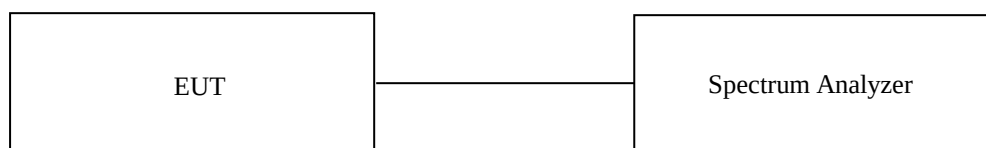
Temperature : 22 °C

Relative humidity : 46 % R.H.

### 8.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to  $\geq$  DTS Bandwidth, the video bandwidth is set to 3 times the resolution bandwidth.



### 8.3 Test Date

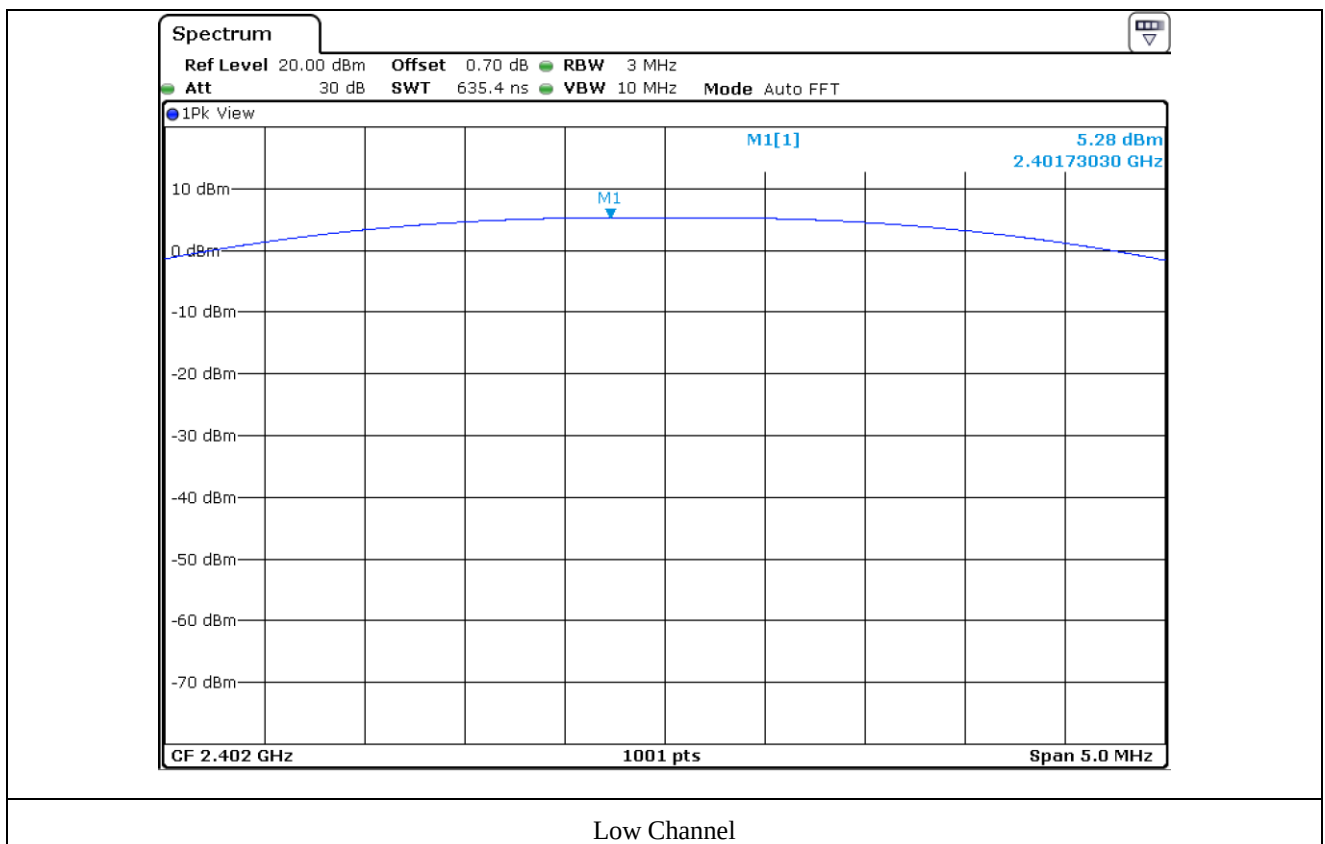
October 12, 2021 ~ October 22, 2021

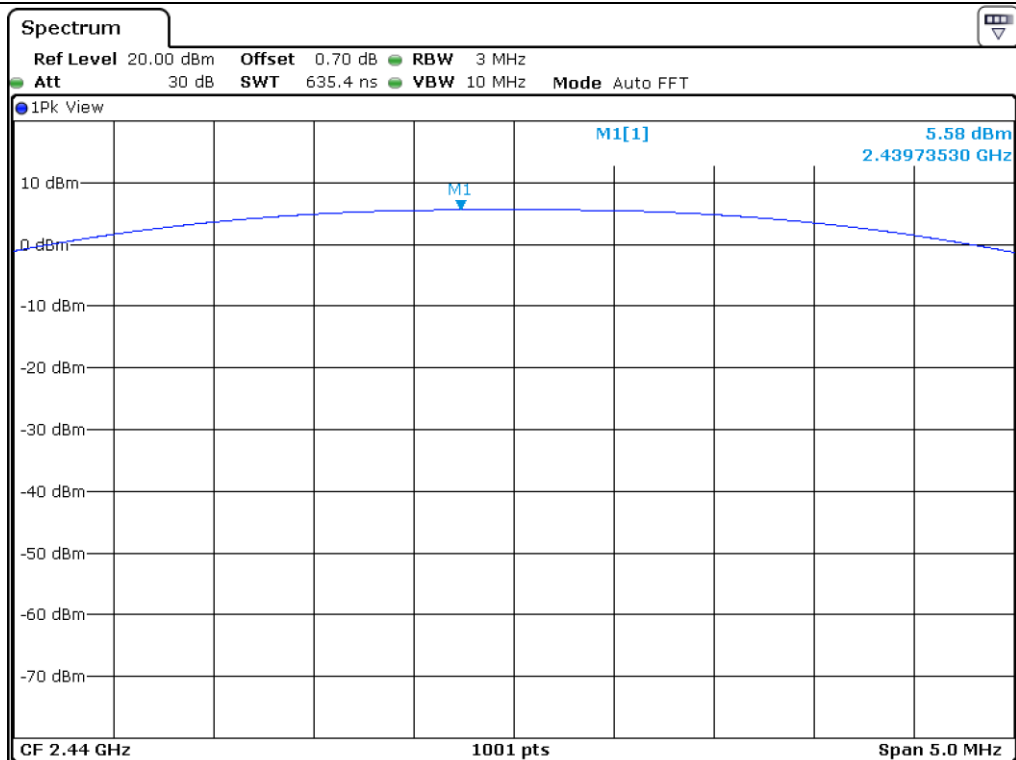
## 8.4 Test data

-. Test Result : Pass

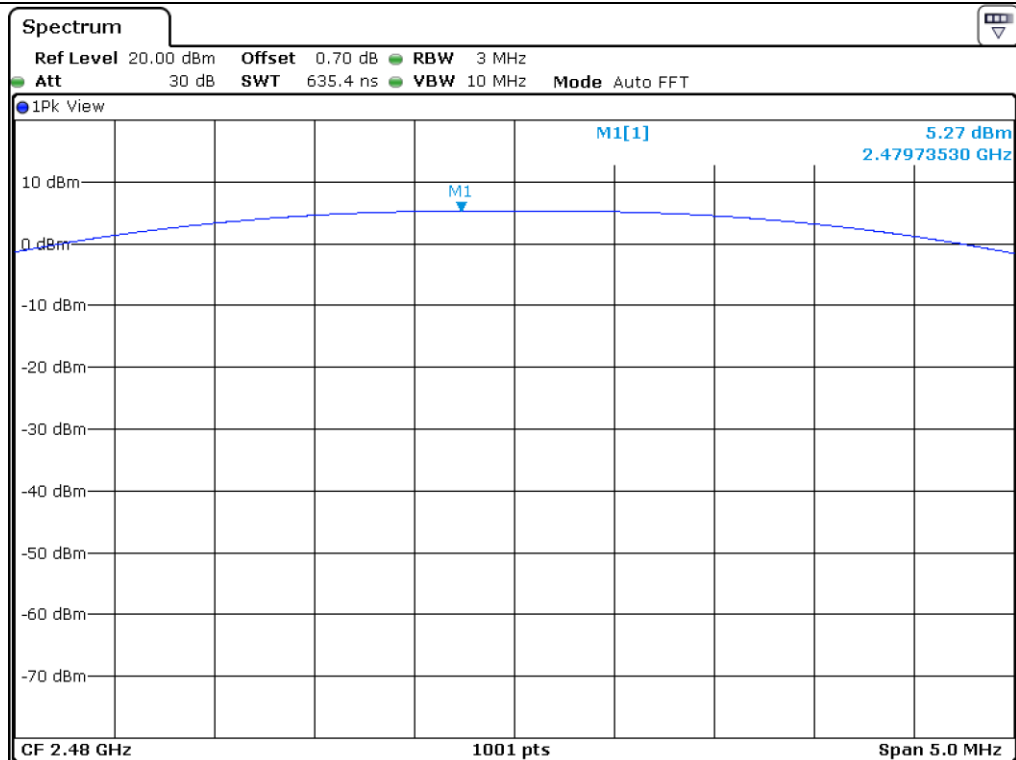
| Channel | Frequency<br>(MHz) | 6 dB Bandwidth<br>(kHz) | Measured Value<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-------------------------|-------------------------|----------------|----------------|
| Low     | 2 402.00           | 704.30                  | 5.28                    | 30.00          | 24.72          |
| Middle  | 2 440.00           | 709.30                  | 5.58                    | 30.00          | 24.42          |
| High    | 2 480.00           | 699.30                  | 5.27                    | 30.00          | 24.73          |

Remark. Margin = Limit – Measured value (=Receiver Reading + Cable Loss)





Middle Channel



High Channel

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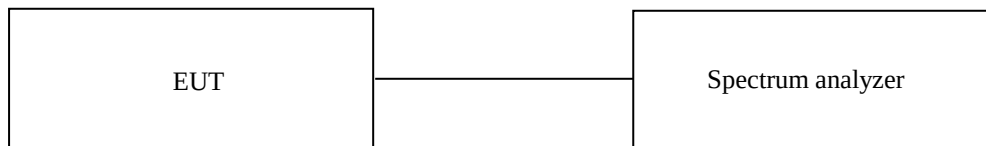
## 9. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

### 9.1 Operating environment

Temperature : 22 °C  
Relative humidity : 46 % R.H.

### 9.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, the video bandwidth is set to 3 times the resolution bandwidth and peak detection was used.



### 9.3 Test set-up for radiated measurement

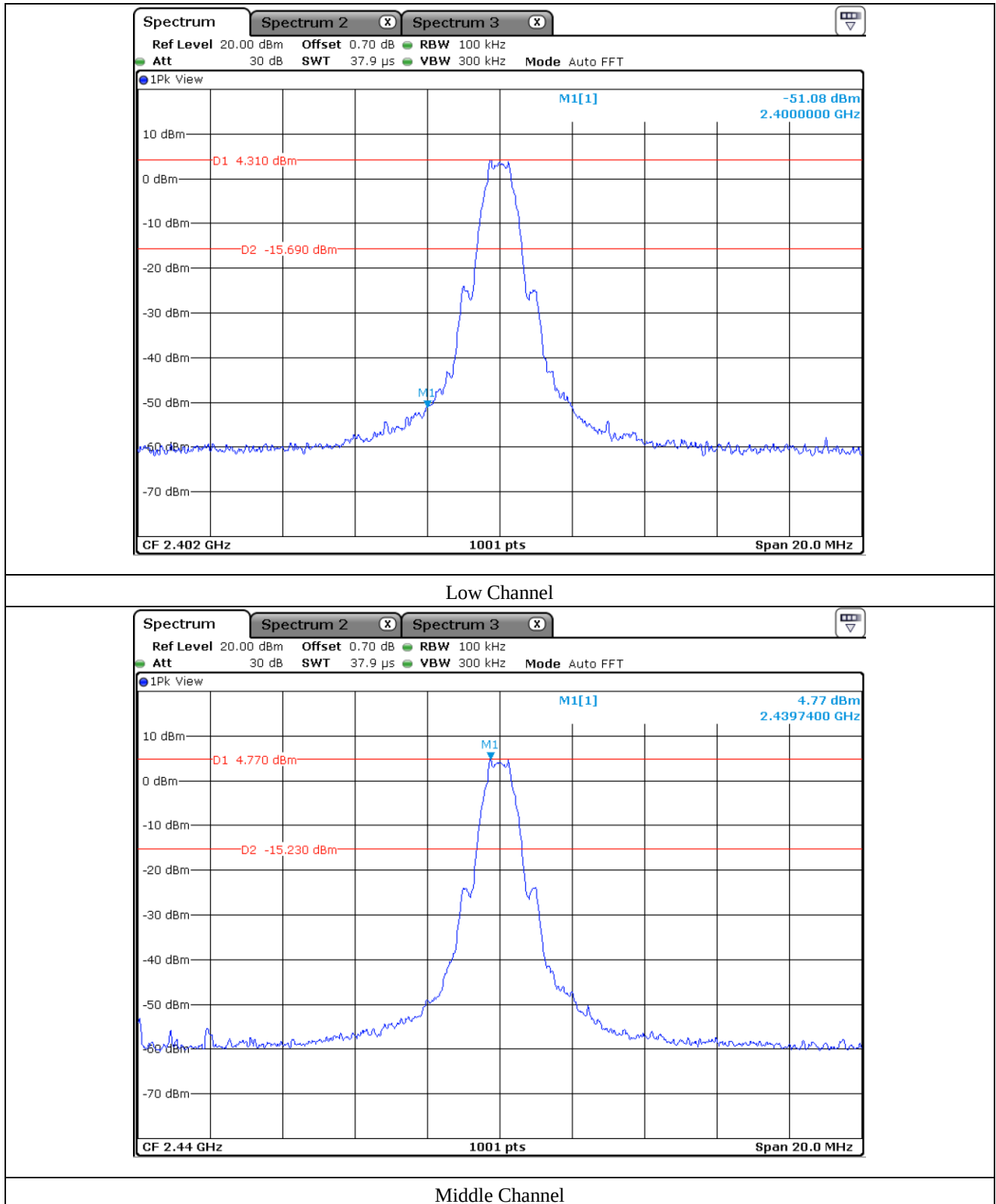
The radiated emissions measurements were performed on the 3 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

### 9.4 Test Date

October 12, 2021 ~ October 22, 2021

## 9.5 Test data for conducted emission

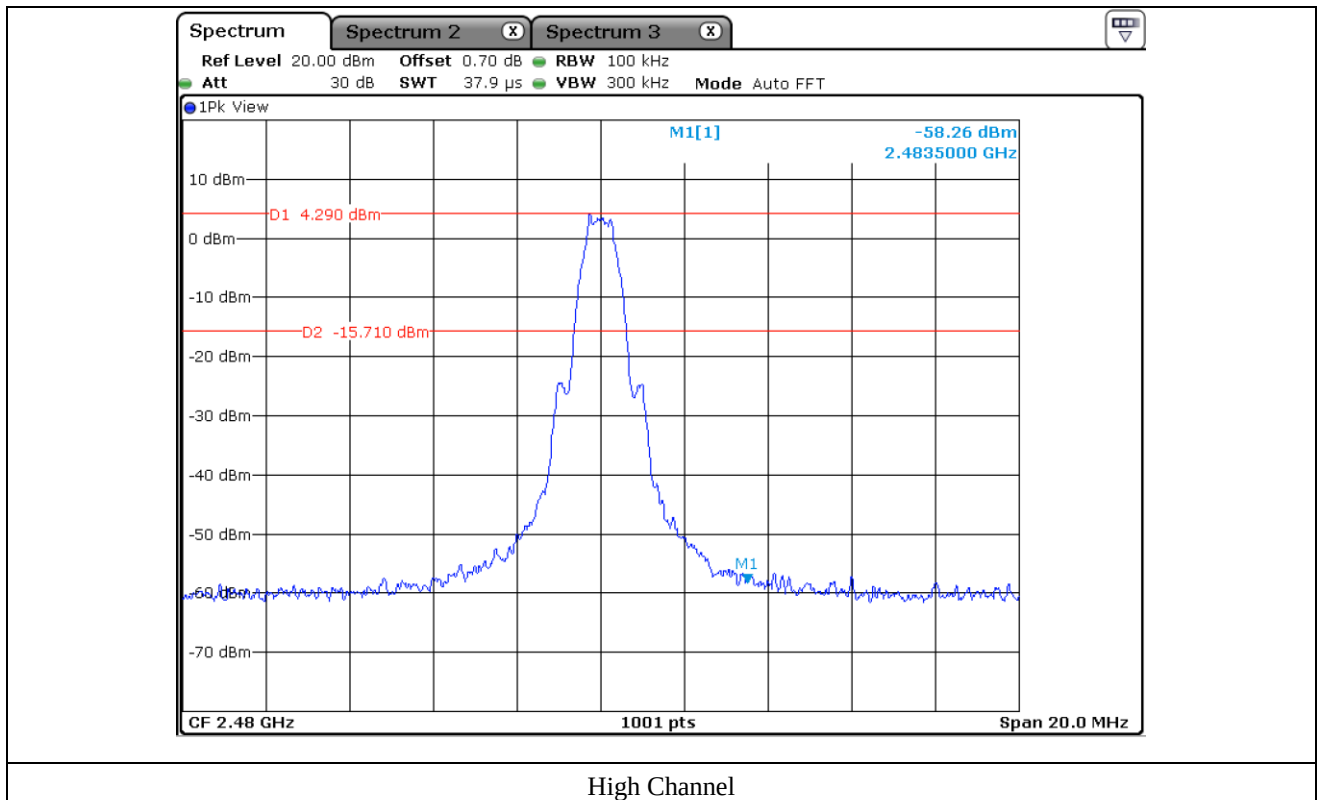


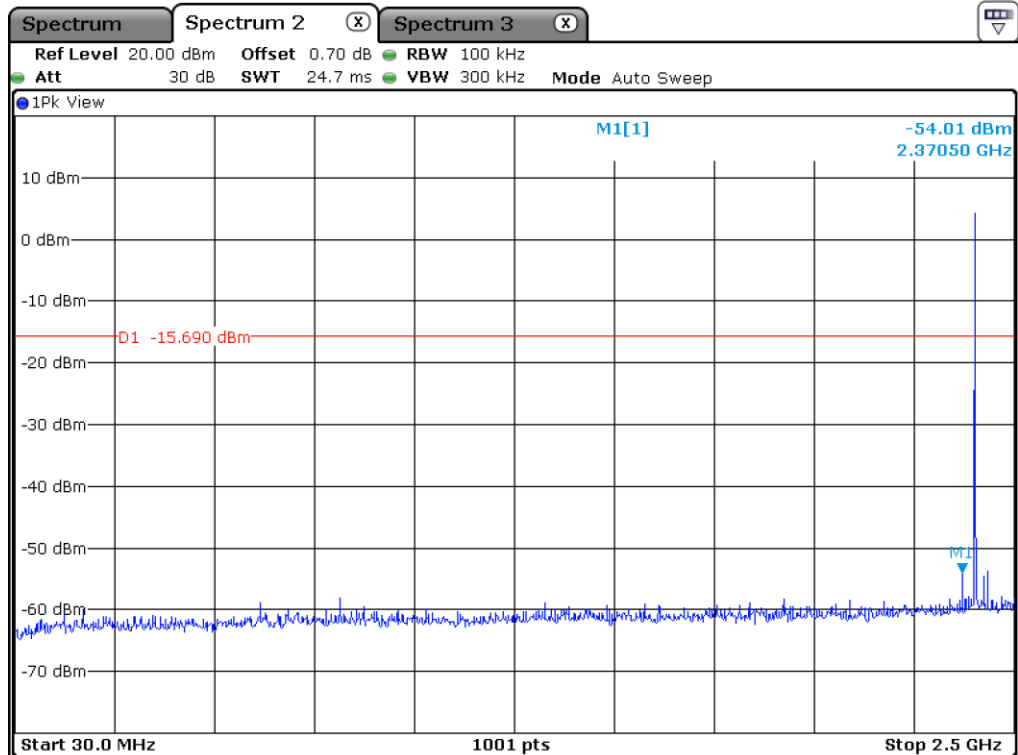
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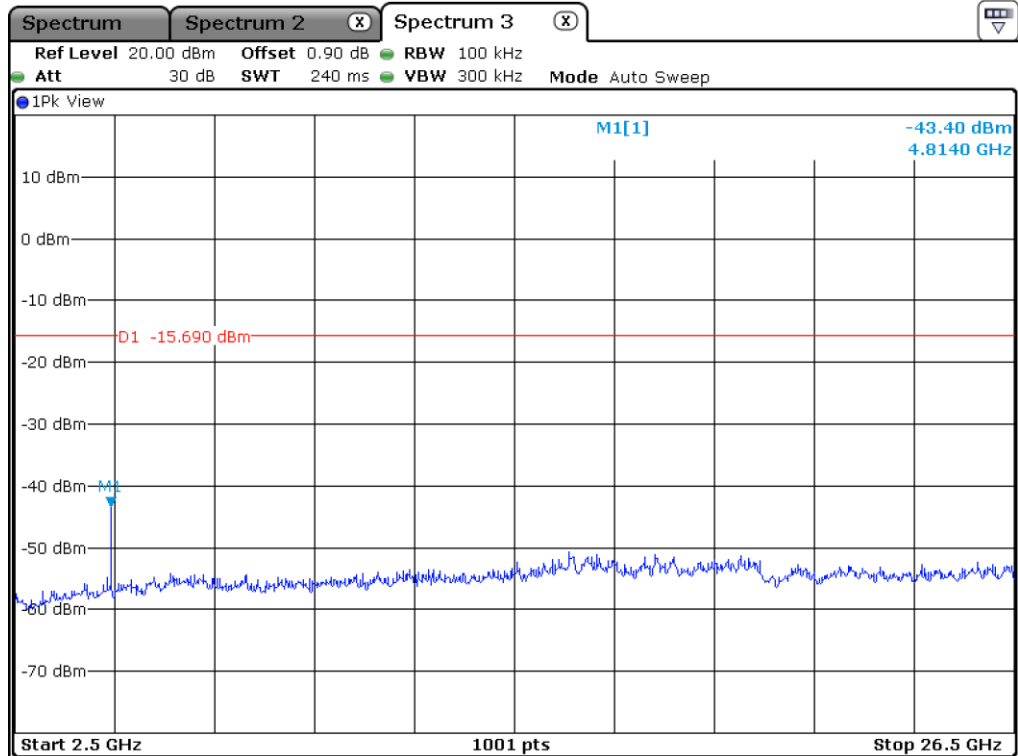
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Low Channel



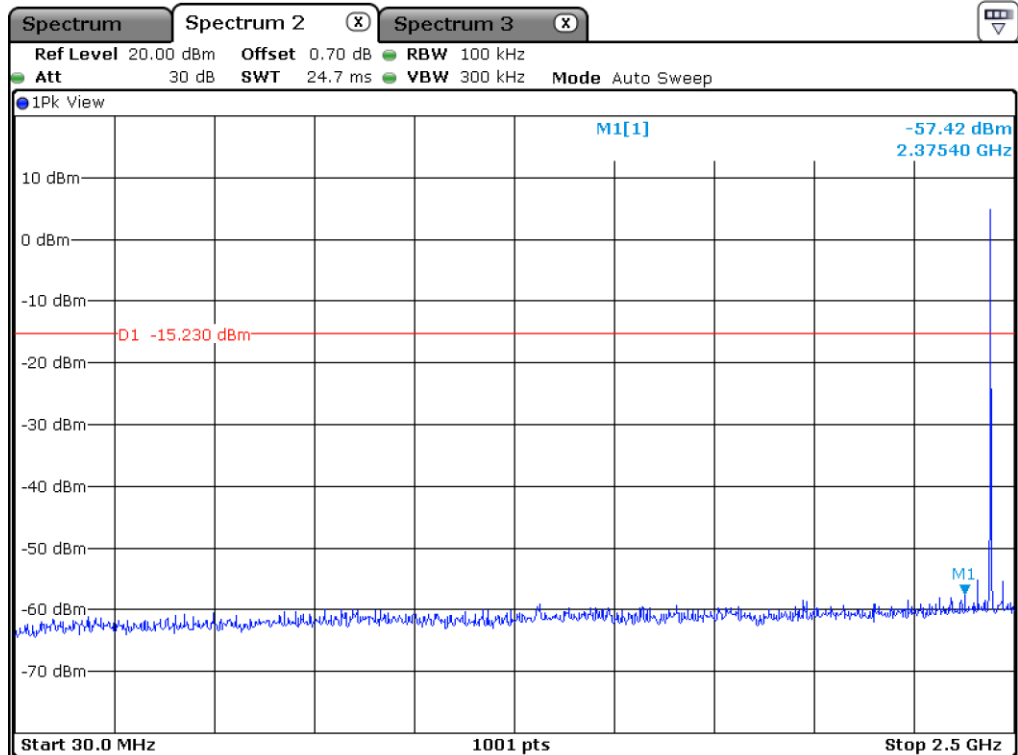
Low Channel

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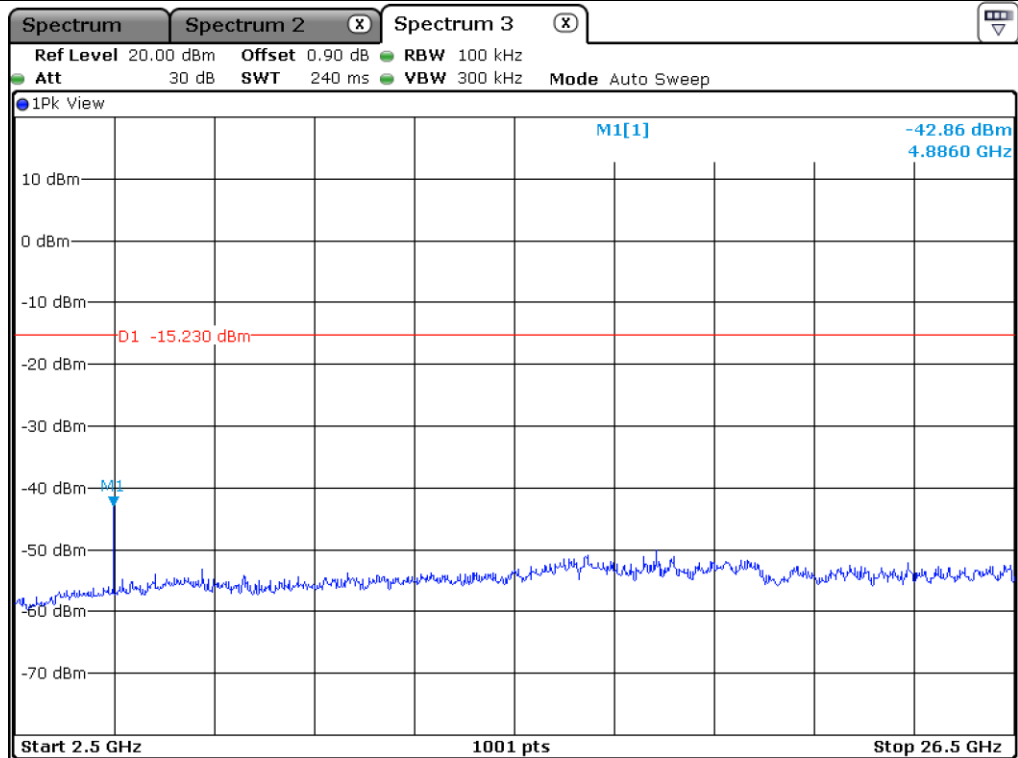
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Middle Channel



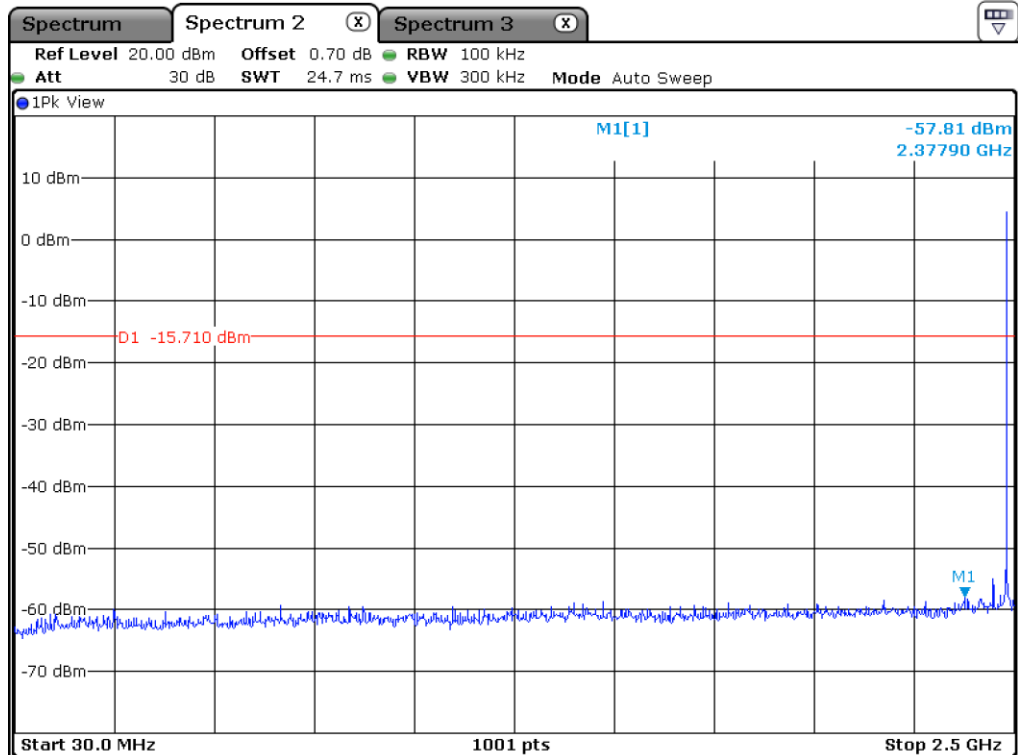
Middle Channel

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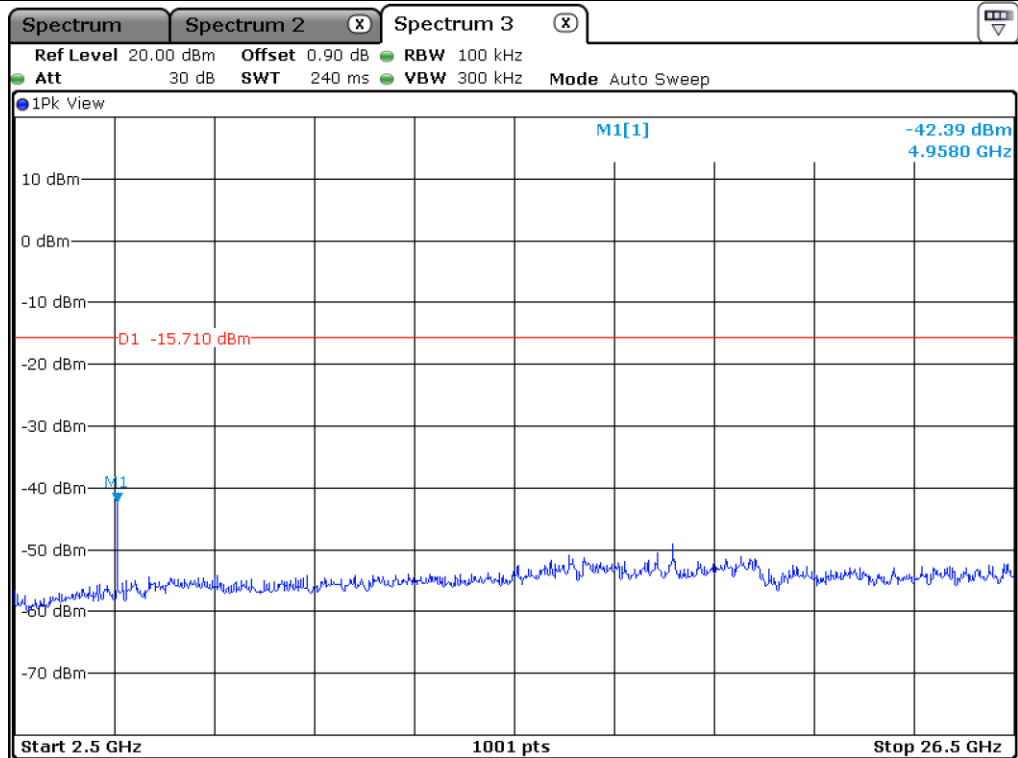
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### High Channel



### High Channel

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## 9.6 Test data for radiated emission

### 9.6.1 Radiated Emission which fall in the Restricted Band

- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode 1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 13.12 %
- . Result : PASSED

| Frequency<br>(MHz)                | Reading<br>(dBμV) | Detector<br>Mode | Ant. Pol.<br>(H/V) | Ant.<br>Factor | Cable<br>Loss | AMP<br>Gain | Duty Factor<br>(dB) | Total<br>(dBμV/m) | Limits<br>(dBμV/m) | Margin<br>(dB) |
|-----------------------------------|-------------------|------------------|--------------------|----------------|---------------|-------------|---------------------|-------------------|--------------------|----------------|
| <b>Test Data for Low Channel</b>  |                   |                  |                    |                |               |             |                     |                   |                    |                |
| 2 370.02                          | 55.28             | Peak             | H                  | 28.30          | 8.20          | 44.10       | -                   | 47.68             | 74.00              | 26.32          |
| 2 370.02                          | -                 | Average          | H                  | 28.30          | 8.20          | 44.10       | 17.64               | 30.04             | 54.00              | 23.96          |
| 2 389.26                          | 53.04             | Peak             | V                  | 28.30          | 8.20          | 44.10       | -                   | 45.44             | 74.00              | 28.56          |
| 2 389.44                          | -                 | Average          | V                  | 28.30          | 8.20          | 44.10       | 17.64               | 27.80             | 54.00              | 26.20          |
| <b>Test Data for High Channel</b> |                   |                  |                    |                |               |             |                     |                   |                    |                |
| 2 485.24                          | 53.43             | Peak             | H                  | 28.80          | 8.33          | 44.10       | -                   | 46.46             | 74.00              | 27.54          |
| 2 483.50                          | -                 | Average          | H                  | 28.80          | 8.33          | 44.10       | 17.64               | 28.82             | 54.00              | 25.18          |
| 2 495.83                          | 56.42             | Peak             | V                  | 28.80          | 8.33          | 44.10       | -                   | 49.45             | 74.00              | 24.55          |
| 2 484.76                          | -                 | Average          | V                  | 28.80          | 8.33          | 44.10       | 17.64               | 31.81             | 54.00              | 22.19          |

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Duty Factor} - \text{AMP Gain}$$

## 9.6.2 Spurious & Harmonic Radiated Emission

- Resolution bandwidth : 1 MHz for Peak and Average Mode for the emissions fall in restricted band,  
1 MHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 13.12 %
- Result : PASSED

| Frequency (MHz)                     | Reading (dBμV) | Detector Mode | Ant. Pol. (H/V) | Ant. Factor | Cable Loss | AMP Gain | Duty Factor (dB) | Total (dBμV/m) | Limits (dBμV/m) | Margin (dB) |
|-------------------------------------|----------------|---------------|-----------------|-------------|------------|----------|------------------|----------------|-----------------|-------------|
| <b>Test Data for Low Channel</b>    |                |               |                 |             |            |          |                  |                |                 |             |
| 4 804.00                            | 58.36          | Peak          | H               | 33.40       | 11.21      | 44.10    | -                | 58.87          | 74.00           | 15.13       |
| 4 804.00                            | -              | Average       | H               | 33.40       | 11.21      | 44.10    | 17.64            | 41.23          | 54.00           | 12.77       |
| 4 804.00                            | 58.10          | Peak          | V               | 33.40       | 11.21      | 44.10    | -                | 58.61          | 74.00           | 15.39       |
| 4 804.00                            | -              | Average       | V               | 33.40       | 11.21      | 44.10    | 17.64            | 40.97          | 54.00           | 13.03       |
| <b>Test Data for Middle Channel</b> |                |               |                 |             |            |          |                  |                |                 |             |
| 4 880.00                            | 58.22          | Peak          | H               | 33.30       | 11.23      | 44.10    | -                | 58.65          | 74.00           | 15.35       |
| 4 880.00                            | -              | Average       | H               | 33.30       | 11.23      | 44.10    | 17.64            | 41.01          | 54.00           | 12.99       |
| 4 880.00                            | 58.10          | Peak          | V               | 33.30       | 11.23      | 44.10    | -                | 58.53          | 74.00           | 15.47       |
| 4 880.00                            | -              | Average       | V               | 33.30       | 11.23      | 44.10    | 17.64            | 40.89          | 54.00           | 13.11       |
| <b>Test Data for High Channel</b>   |                |               |                 |             |            |          |                  |                |                 |             |
| 4 960.00                            | 56.33          | Peak          | H               | 33.60       | 11.31      | 44.10    | -                | 57.14          | 74.00           | 16.86       |
| 4 960.00                            | -              | Average       | H               | 33.60       | 11.31      | 44.10    | 17.64            | 39.50          | 54.00           | 14.50       |
| 4 960.00                            | 56.88          | Peak          | V               | 33.60       | 11.31      | 44.10    | -                | 57.69          | 74.00           | 16.31       |
| 4 960.00                            | -              | Average       | V               | 33.60       | 11.31      | 44.10    | 17.64            | 40.05          | 54.00           | 13.95       |

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Duty Factor} - \text{AMP Gain}$$

## 10. PEAK POWER SPECTRAL DENSITY

### 10.1 Operating environment

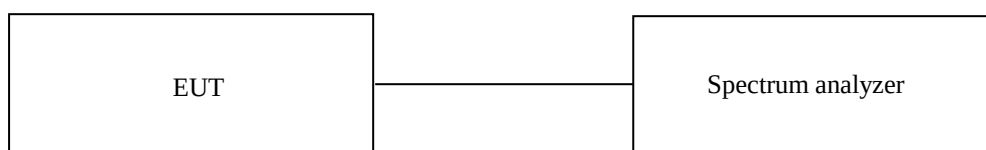
Temperature : 22 °C

Relative humidity : 46 % R.H.

### 10.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer.

The resolution bandwidth is set to  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ , the video bandwidth is set to 3 times the resolution bandwidth.



### 10.3 Test Date

October 12, 2021 ~ October 22, 2021

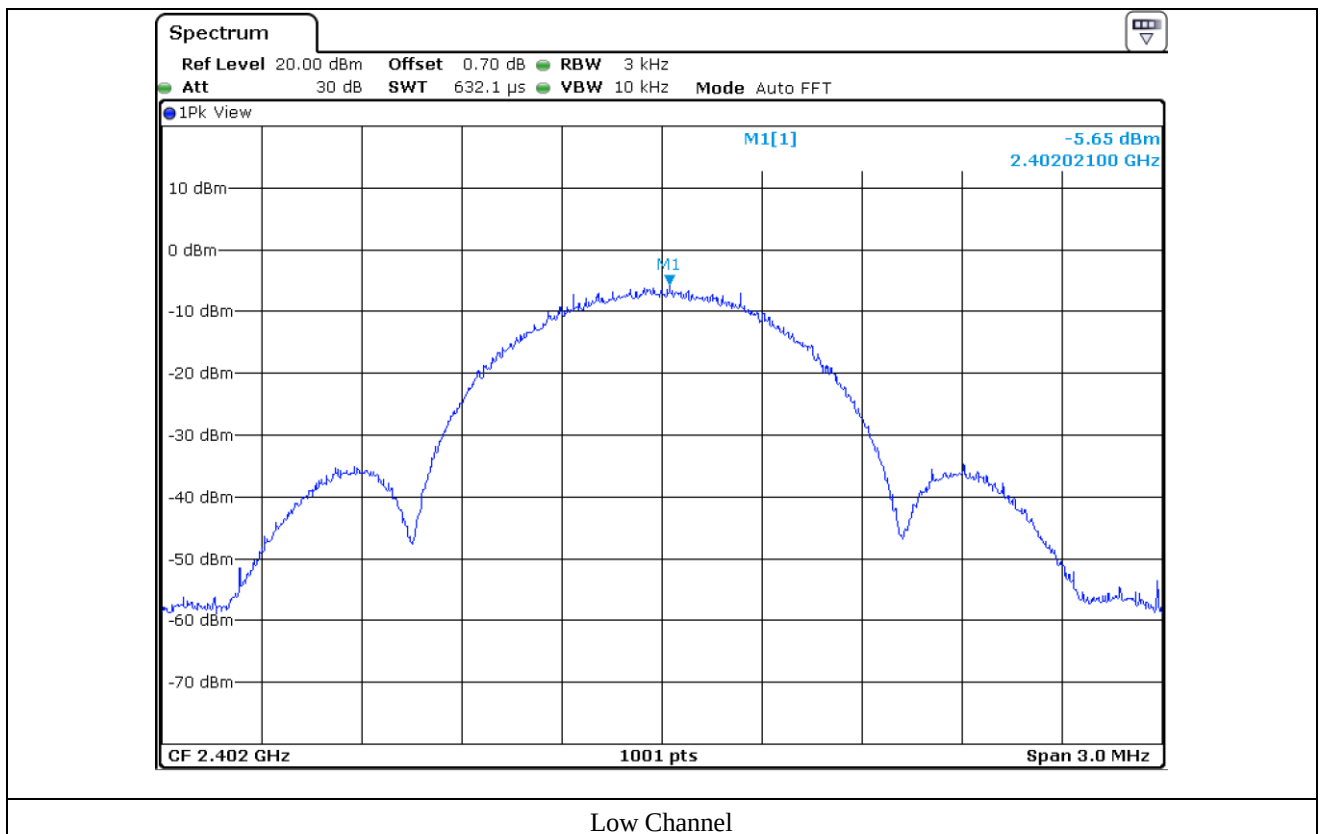
## 10.4 Test data

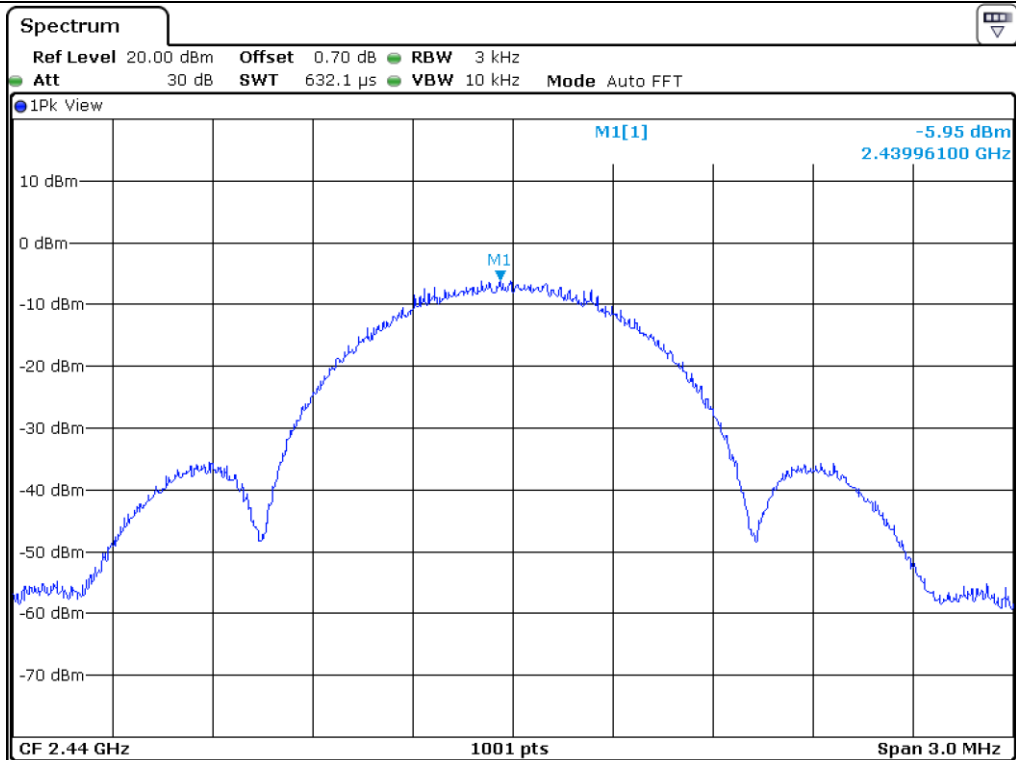
-. Test Result : Pass

-. Operating Condition : Continuous transmitting mode

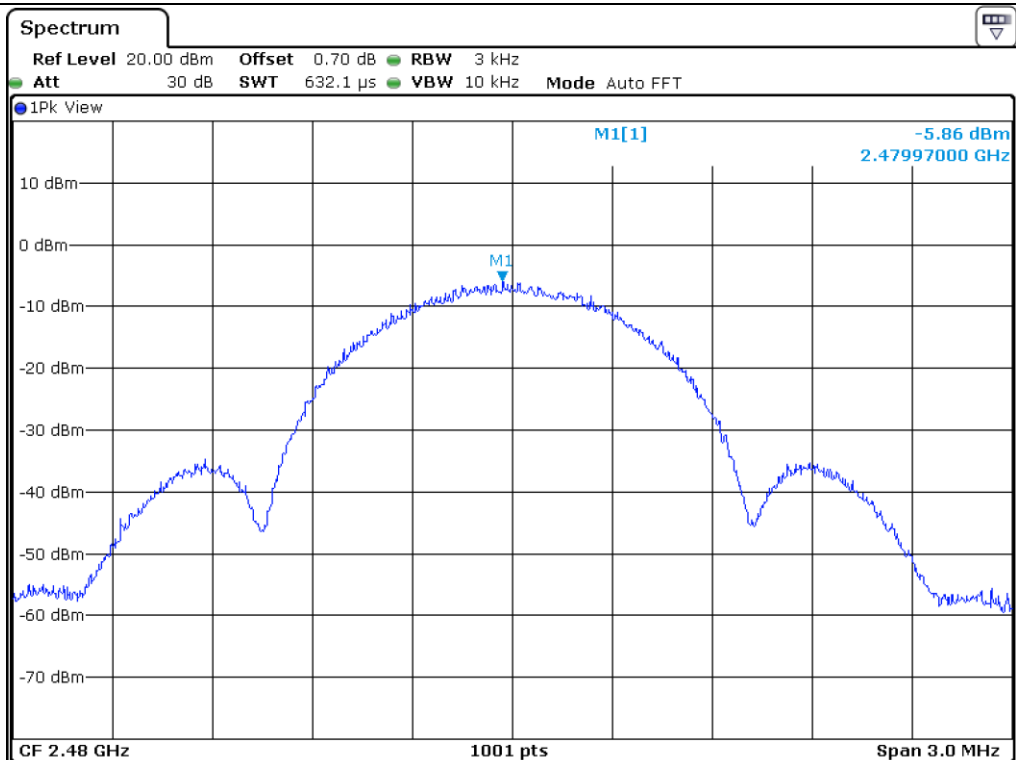
| Channel | Frequency<br>(MHz) | Measured Value<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------|--------------------|-------------------------|----------------|----------------|
| Low     | 2 402.00           | -5.65                   | 8.00           | 13.65          |
| Middle  | 2 440.00           | -5.95                   | 8.00           | 13.95          |
| High    | 2 480.00           | -5.86                   | 8.00           | 13.86          |

Remark. Margin = Limit – Measured value (=Receiver Reading + Cable Loss)





Middle Channel



High Channel

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OTC-TRF-RF-001(0)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

## 11. RADIATED EMISSION TEST

### 11.1 Operating environment

Temperature : 22 °C  
Relative humidity : 46 % R.H.

### 11.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

### 11.3 Test Date

October 12, 2021 ~ October 22, 2021

#### 11.4 Test data for 30 MHz ~ 1000 MHz

Humidity Level : 46 % R.H.

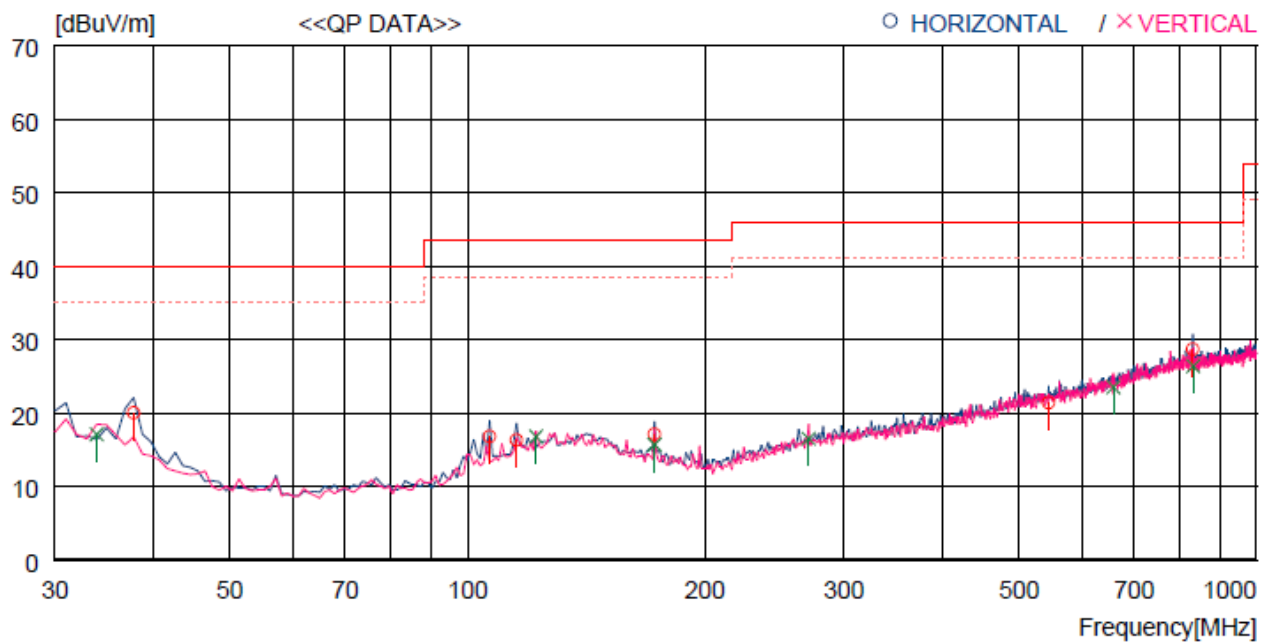
Temperature: 22 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.247

Result : PASSED

EUT : BLE/RF4CE Remote controller

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 120 kHz)



| No.                    | FREQ    | READING | ANT    | LOSS | GAIN | RESULT   | LIMIT    | MARGIN | ANTENNA | TABLE |
|------------------------|---------|---------|--------|------|------|----------|----------|--------|---------|-------|
|                        | [MHz]   | QF      | FACTOR | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB]   | [cm]    | [DEG] |
| ----- Horizontal ----- |         |         |        |      |      |          |          |        |         |       |
| 1                      | 37.760  | 32.6    | 18.1   | 1.3  | 32.0 | 20.0     | 40.0     | 20.0   | 400     | 0     |
| 2                      | 106.630 | 30.5    | 16.4   | 1.9  | 32.0 | 16.8     | 43.5     | 26.7   | 200     | 226   |
| 3                      | 115.360 | 28.6    | 17.8   | 1.9  | 32.0 | 16.3     | 43.5     | 27.2   | 200     | 133   |
| 4                      | 172.590 | 29.7    | 17.1   | 2.3  | 32.0 | 17.1     | 43.5     | 26.4   | 400     | 0     |
| 5                      | 545.070 | 26.1    | 23.6   | 4.0  | 32.3 | 21.4     | 46.0     | 24.6   | 100     | 359   |
| 6                      | 830.241 | 28.3    | 27.2   | 5.1  | 31.9 | 28.7     | 46.0     | 17.3   | 400     | 196   |
| ----- Vertical -----   |         |         |        |      |      |          |          |        |         |       |
| 7                      | 33.880  | 28.4    | 19.5   | 1.2  | 32.0 | 17.1     | 40.0     | 22.9   | 300     | 180   |
| 8                      | 122.150 | 28.1    | 18.7   | 2.0  | 32.0 | 16.8     | 43.5     | 26.7   | 400     | 171   |
| 9                      | 172.590 | 28.3    | 17.1   | 2.3  | 32.0 | 15.7     | 43.5     | 27.8   | 400     | 289   |
| 10                     | 270.560 | 27.2    | 18.4   | 2.9  | 32.0 | 16.5     | 46.0     | 29.5   | 300     | 87    |
| 11                     | 658.556 | 26.3    | 25.0   | 4.5  | 32.3 | 23.5     | 46.0     | 22.5   | 300     | 87    |
| 12                     | 831.211 | 26.0    | 27.2   | 5.1  | 31.9 | 26.4     | 46.0     | 19.6   | 400     | 359   |

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### 11.5 Test data for Below 30 MHz

- . Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- . Frequency range : 9 kHz ~ 30 MHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

| Frequency (MHz)                                                                | Reading (dBμV) | Ant. Pol. (H/V) | Ant. Height (m) | Angle (°) | Ant. Factor (dB/m) | Cable Loss | Emission Level(dBμV/m) | Limits (dBμV/m) | Margin (dB) |
|--------------------------------------------------------------------------------|----------------|-----------------|-----------------|-----------|--------------------|------------|------------------------|-----------------|-------------|
| Emission from the EUT more than 20 dB below the limit in each frequency range. |                |                 |                 |           |                    |            |                        |                 |             |

### 11.6 Test data for above 1 GHz

- . Resolution bandwidth : 1 MHz for Peak and Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Frequency range : 1 GHz ~ 26.5 GHz
- . Measurement distance : 3 m
- . Operating mode : Transmitting mode

| Frequency (MHz)                                                                | Reading (dBμV) | Ant. Pol. (H/V) | Ant. Height (m) | Angle (°) | Ant. Factor (dB/m) | Cable Loss | Emission Level(dBμV/m) | Limits (dBμV/m) | Margin (dB) |
|--------------------------------------------------------------------------------|----------------|-----------------|-----------------|-----------|--------------------|------------|------------------------|-----------------|-------------|
| Emission from the EUT more than 20 dB below the limit in each frequency range. |                |                 |                 |           |                    |            |                        |                 |             |

## 12. LIST OF TEST EQUIPMENT

| Model Number | Manufacturer      | Description              | Serial Number   | Last Cal.(Interval) |
|--------------|-------------------|--------------------------|-----------------|---------------------|
| FSV40-N      | Rohde & Schwarz   | Signal Analyzer          | 101457          | Apr. 16, 2021 (1Y)  |
| ESW          | Rohde & Schwarz   | EMI Test Receiver        | 101851          | Mar. 23, 2021 (1Y)  |
| 310N         | Sonoma Instrument | Pre-Amplifier            | 312544          | Mar. 16, 2021 (1Y)  |
| SCU40A       | Rohde & Schwarz   | Signal Conditioning unit | 100436          | Feb. 28, 2021 (1Y)  |
| SCU18        | Rohde & Schwarz   | Signal Conditioning unit | 10041           | Oct. 14, 2021 (1Y)  |
| DT3000-3t    | Innco System      | Turn Table               | DT3000/093      | N/A                 |
| CO3000       | Innco System      | Controller               | 1026/40960617/P | N/A                 |
| MA-4000XPET  | Innco System      | Antenna Master           | MA4000/509      | N/A                 |
| HLP-2008     | TDK RF Solutions  | Hybrid Antenna           | 131316          | Feb. 27, 2020 (2Y)  |
| AH-118       | Com-Power         | Horn Antenna             | 10050061        | Oct. 15, 2021 (1Y)  |
| BBHA9170     | Schwarzbeck       | Horn Antenna             | BBHA9170178     | Jan. 07, 2021(1Y)   |
| FMZB 1513    | Schwarzbeck       | Loop Antenna             | 1513-235        | Mar. 24, 2020 (2Y)  |
| HPF 3GHz     | Rohde & Schwarz   | High Pass Filter         | N/A             | Feb. 08, 2021 (1Y)  |