

# ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

**Test Report No.** : OT-19O-RWD-038

**AGR No.** : A199A-269

**Applicant** : AMOSENSE

**Address** : 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea

**Manufacturer** : AMOSENSE

**Address** : 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea

**Type of Equipment** : NOVO

**FCC ID** : 2AS9T-SB42SW

**Model Name** : SB42-SW

**Multiple Model Name** : N/A

**Serial number** : N/A

**Total page of Report** : 20 pages (including this page)

**Date of Incoming** : September 23, 2019

**Date of Issuing** : October 17, 2019

## SUMMARY

The equipment complies with the requirements of **FCC CFR 47 PART 15 SUBPART C Section 15.225**

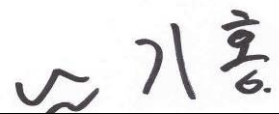
This test report contains only the result of a single test of the sample supplied for the examination.

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

Reviewed by:

  
Tae-Ho, Kim / Senior Manager  
ONETECH Corp.

Approved by:

  
Ki-Hong, Nam / Chief Engineer  
ONETECH Corp.

# CONTENTS

Page

|                                                            |           |
|------------------------------------------------------------|-----------|
| <b>1. VERIFICATION OF COMPLIANCE .....</b>                 | <b>5</b>  |
| <b>2. TEST SUMMARY.....</b>                                | <b>6</b>  |
| 2.1 TEST ITEMS AND RESULTS .....                           | 6         |
| 2.2 RELATED SUBMITTAL(S) / GRANT(S) .....                  | 6         |
| 2.3 PURPOSE OF THE TEST .....                              | 6         |
| 2.4 TEST METHODOLOGY.....                                  | 6         |
| 2.5 TEST FACILITY.....                                     | 6         |
| <b>3. GENERAL INFORMATION.....</b>                         | <b>7</b>  |
| 3.1 PRODUCT DESCRIPTION.....                               | 7         |
| 3.2 MODEL DIFFERENCES: .....                               | 7         |
| <b>4. SYSTEM TEST CONFIGURATION .....</b>                  | <b>8</b>  |
| 4.1 JUSTIFICATION.....                                     | 8         |
| 4.2 PERIPHERAL EQUIPMENT .....                             | 8         |
| 4.3 MODE OF OPERATION DURING THE TEST .....                | 8         |
| 4.4 EQUIPMENT MODIFICATIONS.....                           | 8         |
| 4.5 CONFIGURATION OF TEST SYSTEM.....                      | 9         |
| 4.6 ANTENNA REQUIREMENT .....                              | 9         |
| <b>5. PRELIMINARY TEST .....</b>                           | <b>10</b> |
| 5.1 AC POWER LINE CONDUCTED EMISSIONS TESTS.....           | 10        |
| 5.2 RADIATED EMISSIONS TESTS.....                          | 10        |
| <b>6. FINAL RESULT OF MEASUREMENT.....</b>                 | <b>11</b> |
| 6.1 RADIATED EMISSION TEST.....                            | 11        |
| 6.1.1 Operation frequency band: (13.553 ~ 13.567) MHz..... | 11        |
| 6.2 SPURIOUS EMISSION TEST.....                            | 13        |
| 6.2.1 Spurious Radiated Emission Below 30 MHz .....        | 13        |
| 6.2.2 Spurious Radiated Emission below 1 GHz.....          | 14        |
| 6.3 20 dB BANDWIDTH .....                                  | 15        |
| 6.3.1 Operating environment.....                           | 15        |
| 6.3.2 Test set-up .....                                    | 15        |
| 6.3.3 Test data .....                                      | 16        |

|                                                                |           |
|----------------------------------------------------------------|-----------|
| <b>6.4 FREQUENCY STABILITY WITH TEMPERATURE VARIATION.....</b> | <b>17</b> |
| 6.4.1 <i>Operating environment</i> .....                       | 17        |
| 6.4.2 <i>Test set-up</i> .....                                 | 17        |
| 6.4.3 <i>Test data</i> .....                                   | 17        |
| <b>6.5 FREQUENCY STABILITY WITH VOLTAGE VARIATION.....</b>     | <b>18</b> |
| 6.5.1 <i>Operating environment</i> .....                       | 18        |
| 6.5.2 <i>Test set-up</i> .....                                 | 18        |
| 6.5.3 <i>Test data</i> .....                                   | 18        |
| <b>7. FIELD STRENGTH CALCULATION .....</b>                     | <b>19</b> |
| <b>8. LIST OF TEST EQUIPMENT .....</b>                         | <b>20</b> |

**Revision History**

| Rev. No. | Issue Report No. | Issued Date      | Revisions       | Section Affected |
|----------|------------------|------------------|-----------------|------------------|
| 0        | OT-19O-RWD-038   | October 17, 2019 | Initial Release | All              |
|          |                  |                  |                 |                  |
|          |                  |                  |                 |                  |

## 1. VERIFICATION OF COMPLIANCE

Applicant : AMOSENSE  
Address : 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea  
Manufacturer : AMOSENSE  
Address : 56 Naruteo-ro, Seocho-gu, SEOUL, South Korea  
Factory : AMO VINA CO.,LTD  
Address : Lot CN12, Khai Quang industrial Park, Khai Quang Ward, Vinh Yen City, Vinh Phuc Province, Vietnam  
Contact Person : UIHAN JEONG/Research Engineer  
Telephone No. : +82-010-4948-5676  
FCC ID : 2AS9T-SB42SW  
Model Name : SB42-SW  
Brand Name : -  
Serial Number : N/A  
Date : October 17, 2019

|                                                         |                                                  |
|---------------------------------------------------------|--------------------------------------------------|
| DEVICE TYPE                                             | DXX – Low Power Communication Device Transmitter |
| E.U.T. DESCRIPTION                                      | NOVO                                             |
| THIS REPORT CONCERNS                                    | Original Grant                                   |
| MEASUREMENT PROCEDURES                                  | ANSI C63.10: 2013                                |
| TYPE OF EQUIPMENT TESTED                                | Pre-Production                                   |
| KIND OF EQUIPMENT<br>AUTHORIZATION REQUESTED            | Certification                                    |
| EQUIPMENT WILL BE OPERATED<br>UNDER FCC RULES PART(S)   | FCC CFR47 Part 15 Subpart C Section 15.225       |
| MODIFICATIONS ON THE EQUIPMENT<br>TO ACHIEVE 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                |
|--------------------|------------------------------------------------------------------------------------------------|------------------------|
| 15.215 (c)         | 20 dB BANDWIDTH                                                                                | Met the Limit / PASS   |
| 15.225 (e)         | FREQUENCY STABILITY WITH TEMPERATURE VARIATION /<br>FREQUENCY STABILITY WITH VOLTAGE VARIATION | Met the Limit / PASS   |
| 15.225 (a),(b),(c) | Radiated Emission Limits                                                                       | Met the Limit / PASS   |
| 15.209, 15.225(e)  | SPURIOUS EMISSION TEST                                                                         | Met the Limit / PASS   |
| 15.207             | Conducted Limits                                                                               | N/A (See Note)         |
| 15.203             | Antenna Requirement                                                                            | Met requirement / PASS |

Note: This test is not applicable because the EUT use battery.

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

Original submittal only

### 2.3 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 15.225.

### 2.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2013. Radiate d testing was performed at a distance of 3 m from EUT to the antenna.

### 2.5 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-4112/ C-14617/ G-10666 / T-1842

IC (Industry Canada) – Registration No. Site# 3736A-3

-. Site Accreditation:

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

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

### 3. GENERAL INFORMATION

#### 3.1 Product Description

The AMOSENSE, Model SB42-SW (referred to as the EUT in this report) is an NOVO, Product specification information described herein was obtained from product data sheet or user's manual.

|                                                       |                                                                                           |                                                                                                      |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| DEVICE TYPE                                           | NOVO                                                                                      |                                                                                                      |
| Temperature Range                                     | -20 °C ~ 50 °C                                                                            |                                                                                                      |
| OPERATING<br>FREQUENCY                                | NFC                                                                                       | 13.56 MHz                                                                                            |
|                                                       | Sig Fox                                                                                   | 902.137 5 MHz ~ 904.662 5 MHz                                                                        |
|                                                       | Bluetooth LE                                                                              | 2 402 MHz ~ 2 480 MHz                                                                                |
|                                                       | WLAN 2.4 GHz                                                                              | 2 412 MHz ~ 2 462 MHz (802.11b/g/n(HT20))                                                            |
| MODULATION<br>TYPE                                    | NFC                                                                                       | ASK                                                                                                  |
|                                                       | Sig Fox                                                                                   | DBPSK                                                                                                |
|                                                       | Bluetooth LE                                                                              | GFSK                                                                                                 |
|                                                       | WLAN 2.4 GHz                                                                              | 802.11b: DSSS Modulation(DBPSK/DQPSK/CCK)<br>802.11g/n(HT20): OFDM Modulation(BPSK/QPSK/16QAM/64QAM) |
| RF OUTPUT<br>POWER'                                   | NFC                                                                                       | 39.53 dBμV/m                                                                                         |
|                                                       | Sig Fox                                                                                   | 22.26 dBm                                                                                            |
|                                                       | Bluetooth LE                                                                              | -0.44 dBm                                                                                            |
|                                                       | WLAN 2.4 GHz                                                                              | 2.99 dBm(802.11b)<br>1.64 dBm(802.11g)<br>1.57 dBm(802.11n_HT20)                                     |
| ANTENNA TYPE                                          | NFC: FPCB Antenna<br>Sig Fox : Chip Antenna<br>WLAN 2.4 GHz / Bluetooth LE : Chip Antenna |                                                                                                      |
| ANTENNA GAIN                                          | WLAN 2.4 GHz / Bluetooth LE : 2.40 dBi<br>Sig Fox : -0.59 dBi                             |                                                                                                      |
| List of each Osc. or crystal<br>Freq.(Freq. >= 1 MHz) | 32.768 kHz, 26 MHz, 32 MHz, 50 MHz                                                        |                                                                                                      |

#### 3.2 Model Differences:

-. None

## 4. SYSTEM TEST CONFIGURATION

### 4.1 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  | AMONSENSE    | NOVO Rev04        | N/A    |
| NFC ANTENNA | N/A          | ANFA150N526 NOVO  | N/A    |

### 4.2 Peripheral equipment

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

| Model        | Manufacturer       | Description | Connected to |
|--------------|--------------------|-------------|--------------|
| SB42-SW      | AMONSENSE          | NOVO(EUT)   | -            |
| N/A          | N/A                | Jig Board   | EUT          |
| Ideapad 100  | LENOVO             | Notebook PC | -            |
| PA-1450-55LR | LITE-ON TECHNOLOGY | AC Adapter  | -            |

### 4.3 Mode of operation during the test

-. The EUT has 13.56 MHz RF boards for program was used for making continuous transmission mode during the test.

### 4.4 Equipment Modifications

-. None

#### 4.5 Configuration of Test System

**Line Conducted Test :** It is not need to test this requirement, because the EUT shall be operated by DC battery.

**Radiated Emission Test :** Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2013 to determine the worse operating conditions. The radiated emissions measurements were performed on the 10 m Semi Anechoic Chamber.

For frequencies from 150 kHz to 30 MHz measurements were made of the magnetic H field. The measuring antenna is an electrically screened loop antenna.

The frequency spectrum from 30 MHz to 1 000 MHz was scanned and maximum emission levels maximized 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 both horizontal and vertical polarization of the receiving antenna.

#### 4.6 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 FPCB Antenna on the main board in the EUT, so no consideration of replacement by the user.

## 5. PRELIMINARY TEST

### 5.1 AC Power line Conducted Emissions Tests

During Preliminary Tests, the following operating mode was investigated

| Operation Mode                                                                        | The Worse operating condition (Please check one only) |
|---------------------------------------------------------------------------------------|-------------------------------------------------------|
| It is not needed to test, because the power of the EUT is supplied from a DC battery. |                                                       |

### 5.2 Radiated Emissions Tests

During Preliminary Tests, the following operating modes were investigated

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

## 6. FINAL RESULT OF MEASUREMENT

Preliminary test was done in normal operation mode. And the final measurement was selected for the maximized emission level.

### 6.1 RADIATED EMISSION TEST

#### 6.1.1 Operation frequency band: (13.553 ~ 13.567) MHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 46 % R.H. Temperature: 23 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Type of Test : Low Power Transmitter below 1 705 kHz

Result : PASSED

EUT : NOVO

Date: September 24, 2019 ~ October 15, 2019

Operating Condition : Transmitting Mode

Detector : CISPR Quasi-Peak (6 dB Bandwidth: 9 kHz)

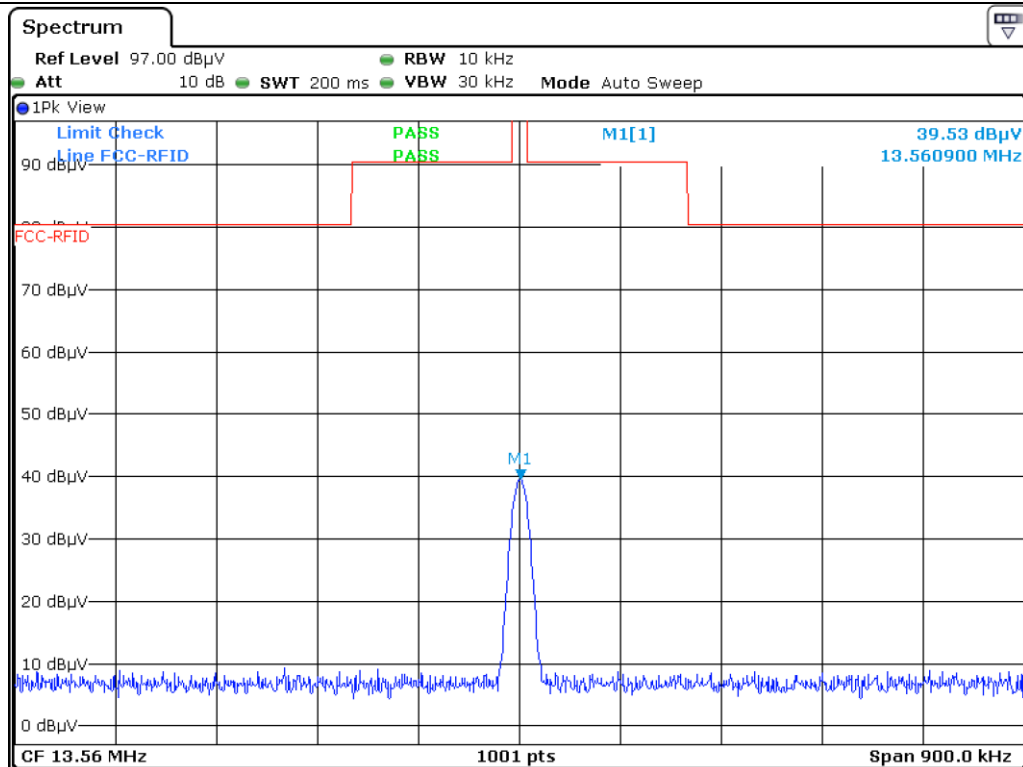
Distance : 3 m

| Radiated Emission |                    | Ant  | Correction Factors |               | Total                 | FCC               |                |
|-------------------|--------------------|------|--------------------|---------------|-----------------------|-------------------|----------------|
| Freq.<br>(MHz)    | Amplitud<br>(dBμV) | Pol. | Antenna<br>(dB/m)  | Cable<br>(dB) | Amplitude<br>(dBμV/m) | Limit<br>(dBμV/m) | Margin<br>(dB) |
| 13.56             | 39.53              | H    | 20.37              | 0.30          | 60.20                 | 124               | 63.80          |
| 13.56             | 27.63              | V    |                    |               | 48.30                 | 124               | 75.70          |

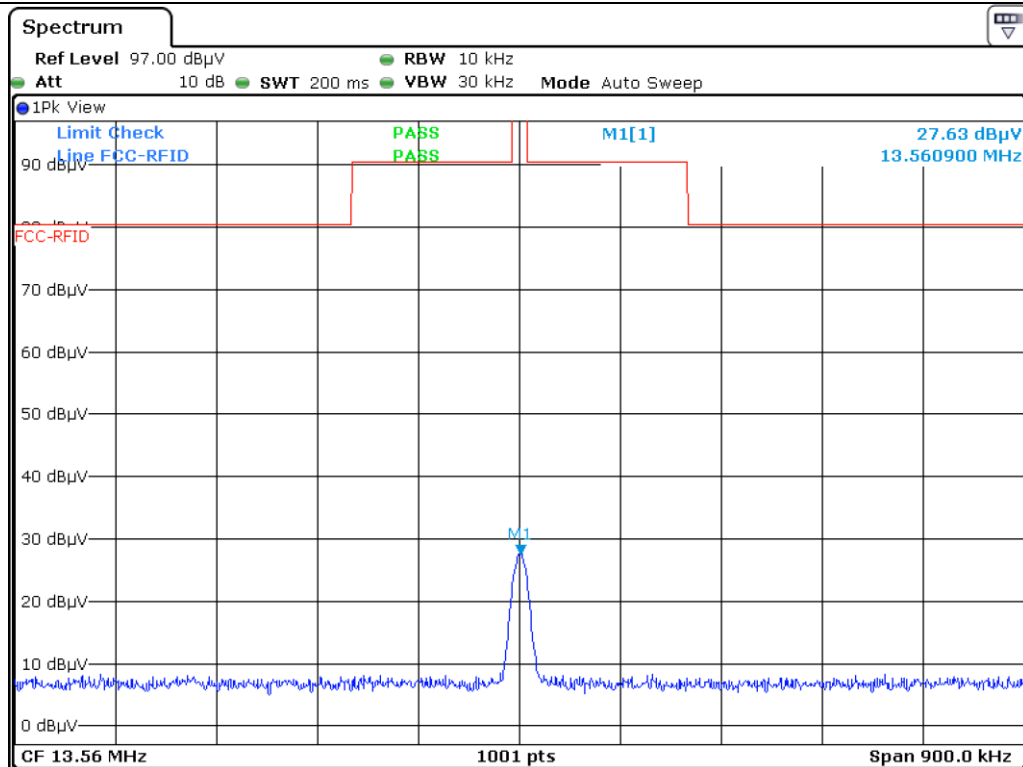
Remark. The EUT was tested at 3 m.



Tested by: Hyung-Kwon, Oh / Assistant Manager



H



V

cc. to above test data, the field strength level of 13.56 MHz is 38.11dBuV/m and the worst limit subject to 15.225 (b) and (c) is 80.5 dBuV/m, so the EUT meets the requirement.

It should not be reproduced except in full, without the written approval of ONETECH Corp.

EMC-003 (Rev.2)

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

## 6.2 SPURIOUS EMISSION TEST

### 6.2.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 43.9 % R.H.

Temperature: 24.3 °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Type of Test : Low Power Transmitter below 1 705 kHz

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : NOVO

Date: September 24, 2019 ~ October 15, 2019

Operating Condition : Transmitting Mode

Distance : 3 m

| 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) |
|-------------------------------------------------|----------------|-----------------|-----------------|-----------|--------------------|------------|------------------------|-----------------|-------------|
| It was not observed any emissions from the EUT. |                |                 |                 |           |                    |            |                        |                 |             |

  
Tested by: Hyung-Kwon, Oh / Assistant Manager

## 6.2.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : (43 ~ 44) % R.H.

Temperature: (24 ~ 25) °C

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

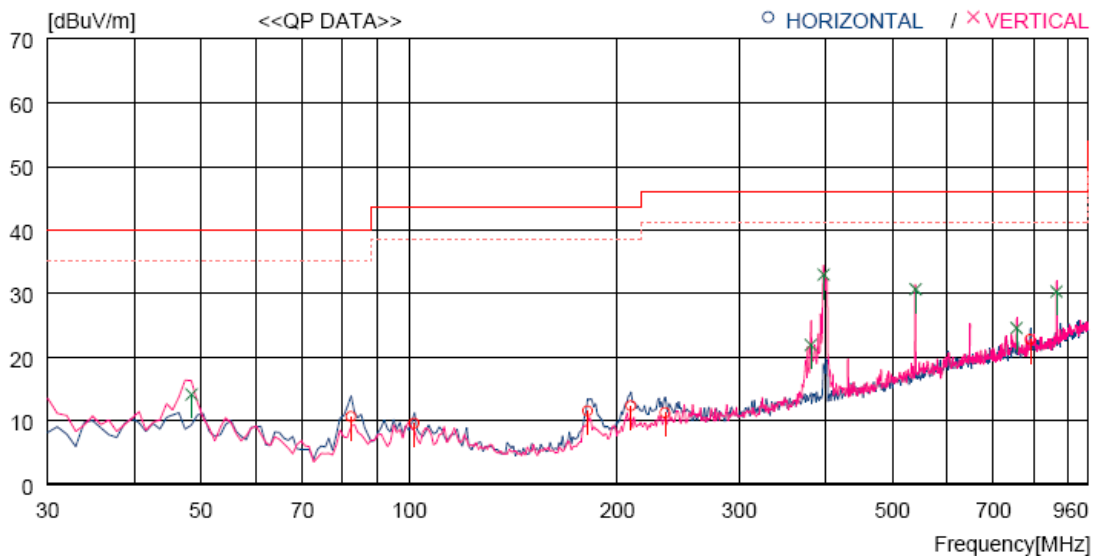
Type of Test : Low Power Transmitter below 1 705 kHz

Result : PASSED

EUT : NOVO

Date: September 24, 2019 ~ October 15, 2019

Distance : 3 m



| No.                    | FREQ    | READING | ANT    | LOSS | GAIN | RESULT   | LIMIT    | MARGIN | ANTENNA | TABLE |
|------------------------|---------|---------|--------|------|------|----------|----------|--------|---------|-------|
|                        | [MHz]   | [dBuV]  | FACTOR | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB]   | [cm]    | [DEG] |
| ----- Horizontal ----- |         |         |        |      |      |          |          |        |         |       |
| 1                      | 82.380  | 33.2    | 8.4    | 2.0  | 33.0 | 10.6     | 40.0     | 29.4   | 100     | 127   |
| 2                      | 101.780 | 27.8    | 12.4   | 2.3  | 33.0 | 9.5      | 43.5     | 34.0   | 100     | 111   |
| 3                      | 181.320 | 31.5    | 9.9    | 3.1  | 33.0 | 11.5     | 43.5     | 32.0   | 400     | 359   |
| 4                      | 209.450 | 30.9    | 11.1   | 3.3  | 33.0 | 12.3     | 43.5     | 31.2   | 300     | 0     |
| 5                      | 234.670 | 28.5    | 12.1   | 3.5  | 32.9 | 11.2     | 46.0     | 34.8   | 200     | 356   |
| 6                      | 791.442 | 28.0    | 21.2   | 6.6  | 33.1 | 22.7     | 46.0     | 23.3   | 300     | 306   |
| ----- Vertical -----   |         |         |        |      |      |          |          |        |         |       |
| 7                      | 48.430  | 31.4    | 14.2   | 1.6  | 33.1 | 14.1     | 40.0     | 25.9   | 100     | 231   |
| 8                      | 381.140 | 34.9    | 15.5   | 4.5  | 33.0 | 21.9     | 46.0     | 24.1   | 200     | 347   |
| 9                      | 397.630 | 45.6    | 15.8   | 4.6  | 33.1 | 32.9     | 46.0     | 13.1   | 200     | 0     |
| 10                     | 540.220 | 40.2    | 18.3   | 5.4  | 33.3 | 30.6     | 46.0     | 15.4   | 200     | 0     |
| 11                     | 756.523 | 30.6    | 20.7   | 6.4  | 33.2 | 24.5     | 46.0     | 21.5   | 100     | 359   |
| 12                     | 864.190 | 34.2    | 21.9   | 6.9  | 32.7 | 30.3     | 46.0     | 15.7   | 100     | 121   |

Tested by: Hyung-Kwon, Oh / Assistant Manager

### 6.3 20 dB BANDWIDTH

#### 6.3.1 Operating environment

Temperature : 24.3 °C  
Relative humidity : 43.9 % R.H.

#### 6.3.2 Test set-up

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 10 kHz, and peak detection was used. The 20 dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 20 dB.

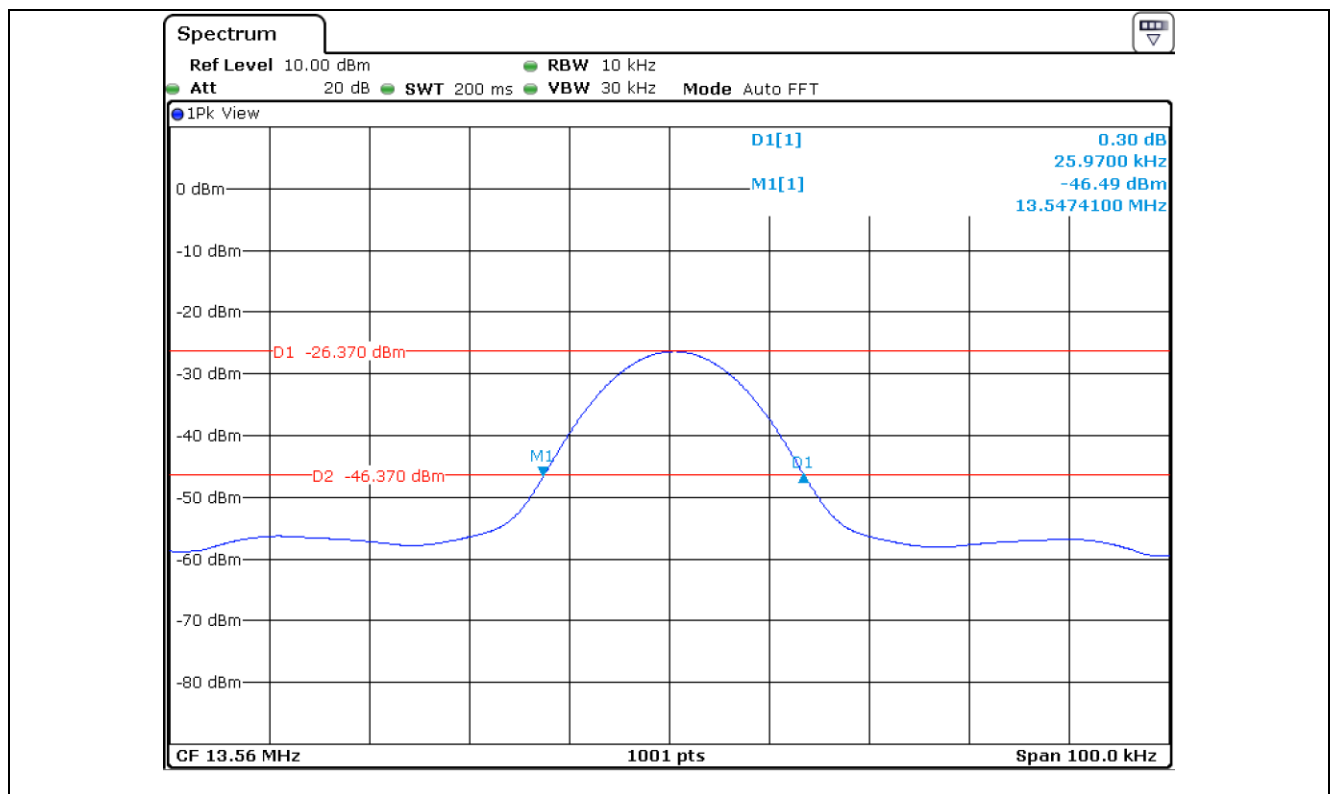


### 6.3.3 Test data

- Test Date : September 24, 2019 ~ October 15, 2019
- Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

| Operating Freq.<br>(MHz) | Measured Value (kHz) | Assigned Operating<br>Frequency Band (kHz) | Result      |
|--------------------------|----------------------|--------------------------------------------|-------------|
| 13.56                    | 25.97                | 900.00                                     | <b>PASS</b> |

  
**Tested by: Hyung-Kwon, Oh / Assistant Manager**



## 6.4 FREQUENCY STABILITY WITH TEMPERATURE VARIATION

### 6.4.1 Operating environment

Temperature : 24.3 °C  
Relative humidity : 43.9 % R.H.

### 6.4.2 Test set-up

Turn EUT off and set chamber temperature to -20 °C and then allow sufficient time (approximately 20 to 30 minutes after chamber reach the assigned temperature) for EUT to stabilize. Turn ON EUT and measure the EUT operating frequency and then turn off the EUT after the measurement. The temperature in the chamber was raised 10 °C step from -20 °C to +50°C. Repeat above method for frequency measurements every 10 °C step and then record all measured frequencies on each temperature step.

### 6.4.3 Test data

-. Test Date : September 24, 2019 ~ October 15, 2019  
-. Result : PASSED

| Temperature (°C) | Carrier Freq. (Hz) | Measured Freq. (Hz) | Margin (Hz) | Limit (Hz) |
|------------------|--------------------|---------------------|-------------|------------|
| -20              | 13,560,000.0       | 13,560,385          | 385         | ±1 356.00  |
| -10              |                    | 13,560,247          | 247         |            |
| 0                |                    | 13,560,180          | 180         |            |
| 10               |                    | 13,560,224          | 224         |            |
| 20               |                    | 13,560,475          | 475         |            |
| 30               |                    | 13,560,387          | 387         |            |
| 40               |                    | 13,560,251          | 251         |            |
| 50               |                    | 13,560,361          | 361         |            |



Tested by: Hyung-Kwon, Oh / Assistant Manager

## 6.5 FREQUENCY STABILITY WITH VOLTAGE VARIATION

### 6.5.1 Operating environment

Temperature : 24.3 °C  
Relative humidity : 43.9 % R.H.

### 6.5.2 Test set-up

An external DC power supply was connected to the input of the EUT. The voltage of EUT set to 115 % of the nominal value and then was reduced to 85 % of nominal voltage. The output frequency was recorded at each step.

### 6.5.3 Test data

-. Test Date : September 24, 2019 ~ October 15, 2019

-. Result : PASSED

| Voltage (Vdc) | Carrier Freq. (Hz) | Measured Freq. (Hz) | Margin (Hz) | Limit (Hz) |
|---------------|--------------------|---------------------|-------------|------------|
| 3.45(115 %)   | 13,560,000         | 13,560,359          | 359         | ± 1 356.00 |
| 3.00(100 %)   |                    | 13,560,425          | 425         |            |
| 2.55(85 %)    |                    | 13,560,241          | 241         |            |



Tested by: Hyung-Kwon, Oh / Assistant Manager

## 7. FIELD STRENGTH CALCULATION

Meter readings are compared to the specification limit correcting for antenna and cable losses.

|   |                  |                |
|---|------------------|----------------|
| + | Meter reading    | (dB $\mu$ V)   |
| - | Amplifier Gain   | (dB)           |
| + | Cable Loss       | (dB)           |
| - | Antenna Factor   | (dB/m)         |
| = | Corrected Result | (dB $\mu$ V/m) |

Margin (dB)

|   |                     |                |
|---|---------------------|----------------|
|   | Specification Limit | (dB $\mu$ V/m) |
| - | Corrected Result    | (dB $\mu$ V/m) |
| = | dB Relative to Spec | ( $\pm$ dB)    |

## 8. LIST OF TEST EQUIPMENT

| No. | EQUIPMENTS                 | MFR.              | MODEL       | SER. NO.                  | LAST CAL      | DUE CAL  | USE |
|-----|----------------------------|-------------------|-------------|---------------------------|---------------|----------|-----|
| 1.  | Test receiver              | R/S               | ESCI        | 101012                    | Oct. 22, 2018 | One Year | -   |
| 2.  |                            | R/S               | ESR         | 101470                    | Oct. 22, 2018 | One Year | ■   |
| 3.  |                            | R/S               | ESPI        | 101278                    | Oct. 20, 2018 | One Year | ■   |
| 4.  | Spectrum analyzer          | R/S               | FSV30       | 101372                    | Jul. 24, 2019 | One Year | ■   |
| 5.  | Amplifier                  | Sonoma Instrument | 310N        | 312544                    | Mar. 18, 2019 | One Year | ■   |
| 6.  | Amplifier                  | Sonoma Instrument | 310N        | 312545                    | Mar. 18, 2019 | One Year | -   |
| 7.  | TRILOG Broadband Antenna   | Schwarzbeck       | VULB9163    | 9163-255                  | Jun. 05, 2018 | Two Year | ■   |
| 8.  | TRILOG Broadband Antenna   | Schwarzbeck       | VULB9163    | 9163-419                  | Aug. 09, 2018 | Two Year | -   |
| 9.  | Controller                 | Innco System      | CO3000      | CO3000/904/<br>37211215/L | N/A           | N/A      | ■   |
| 10. | LISN                       | EMCO              | 3825/2      | 9109-1867                 | Mar. 27, 2019 | One Year | -   |
|     |                            |                   |             | 9109-1869                 | Mar. 19, 2019 | One Year | ■   |
|     |                            | Schwarzbeck       | NNLK8121    | 804                       | Oct. 22, 2018 | One Year | ■   |
|     |                            | Schwarzbeck       | NSLK8128    | 8128-216                  | Mar. 20, 2019 | One Year | ■   |
| 11. | Turn Table                 | Innco System      | DT3000      | 930611                    | N/A           | N/A      | ■   |
| 12. | Antenna Master             | Innco System      | MA4000-EP   | MA4000/332                | N/A           | N/A      | -   |
| 13. | Antenna Master             | Innco System      | MA-4000XPET | MA4000/509                | N/A           | N/A      | ■   |
| 14. | Loop Antenna               | Schwarzbeck       | FMZB 1513   | 1513-235                  | May 13, 2018  | Two Year | ■   |
| 15. | Frequency Counter          | HP                | 53152A      | US39270295                | Jul. 25, 2019 | One Year | ■   |
| 16. | Environmental Test Chamber | ESPEC             | PSL-2KP     | 14009407                  | Feb. 22, 2019 | One Year | ■   |
| 17. | DC Power Supply            | Protek            | PWS-3003D   | 4020409                   | Jul. 24, 2019 | One Year |     |