

FCC PART 15C TEST REPORT FOR CERTIFICATION  
On Behalf of

IAdea Corporation

Room Booking Panel

Model No.: IAD-18010H

FCC ID: Y9E-IAD-18010H

Prepared for : IAdea Corporation  
3F, No.21, Lane 168, Xingshan Road, Neihu Dist. Taipei, 114  
Taiwan

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Report Number : ACS-F23026  
Date of Test : Jan.11~Feb.16, 2023  
Date of Report : Mar.02, 2023

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Appendix A. Photograph of Test

Appendix B. Photo of the EUT

**TEST REPORT**

Applicant : IAdea Corporation  
Manufacture : IAdea Corporation  
EUT Description : Room Booking Panel  
FCC ID : Y9E-IAD-18010H  
(A) Model No. : IAD-18010H  
(B) Test Voltage : AC 120V/60Hz

Tested for comply with:  
FCC CFR 47 Part 15 Subpart C

Test procedure used:  
ANSI C63.10:2020

The device described above is tested by Audix Technology (Shenzhen) Co., Ltd. to confirm comply with all the FCC Part 15 Subpart C requirements.

The test results are contained in this test report and Audix Technology (Shenzhen) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to single evaluation of one sample of above mentioned product and shall not be reproduced in part without written approval of Audix Technology (Shenzhen) Co., Ltd.

Date of Test : Jan.11~Feb.16, 2023 Report of date: Mar.02, 2023

Prepared by : Mia Zhao Reviewer by : Thomas Chen  
Mia Zhao / Assistant Thomas Chen / Assistant Manager



Approved & Authorized Signer : Sunny Lu  
Sunny Lu / Manager

## 1. SUMMARY OF STANDARDS AND RESULTS

### 1.1. Description of Standards and Results

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

| EMISSION                 |                                                                                    |         |
|--------------------------|------------------------------------------------------------------------------------|---------|
| Description of Test Item | Standard                                                                           | Results |
| Conducted Emission Test  | FCC Part 15: 15.207<br>ANSI C63.10:2020                                            | PASS    |
| Radiated Emission Test   | FCC Part 15: 15.205, 15.209<br>FCC Part 15: 15.225(a)(b)(c)(d)<br>ANSI C63.10:2020 | PASS    |
| Frequency Stability Test | FCC Part 15: 15.225(e)                                                             | PASS    |
| 20dB Bandwidth Test      | FCC Part 15: 15.215                                                                | PASS    |

## 2. GENERAL INFORMATION

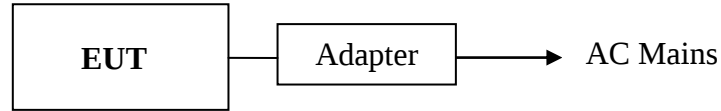
### 2.1. Description of Equipment Under Test

|                      |                                                                                                                                                                                           |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Applicant            | IAdea Corporation                                                                                                                                                                         |
| Applicant Address    | 3F, No.21, Lane 168, Xingshan Road, Neihu Dist. Taipei, 114 Taiwan                                                                                                                        |
| Manufacturer         | IAdea Corporation                                                                                                                                                                         |
| Manufacturer Address | 3F, No.21, Lane 168, Xingshan Road, Neihu Dist. Taipei, 114 Taiwan                                                                                                                        |
| Product              | Room Booking Panel                                                                                                                                                                        |
| Model No.            | IAD-18010H                                                                                                                                                                                |
| FCC ID               | Y9E-IAD-18010H                                                                                                                                                                            |
| Radio                | NFC                                                                                                                                                                                       |
| Operation Frequency  | 13.56MHz                                                                                                                                                                                  |
| Type of Modulation   | ASK                                                                                                                                                                                       |
| AC Adapter           | Manufacturer: Asian Power Devices Inc. Model No.: WB-24J12R<br>Input: 100-240V~50-60Hz, 0.7A Max<br>Output: DC 12V, 2.0A, 24W<br>DC Cable: Unshielded, Undetachable, 1.8m( with one core) |
| Sample Type          | Prototype production                                                                                                                                                                      |
| Date of Receipt      | Jan.05,2023                                                                                                                                                                               |
| Date of Test         | Jan.11~Feb.16, 2023                                                                                                                                                                       |

## 2.2. Tested Supporting System Details

N/A

## 2.3. Block diagram of connection between the EUT and simulators



**(EUT: Room Booking Panel)**

## 2.4. Test Facility

Site Description

Name of Firm

: Audix Technology (Shenzhen) Co., Ltd.  
No. 6, Kefeng Road, Science & Technology  
Park, Nanshan District , Shenzhen, Guangdong,  
China

EMC Lab.

: Certificated by ISED, Canada  
Company Number: 5183A  
CAB identifier: CN0034  
Valid Date: Mar.31, 2023

Accredited by NVLAP, USA  
NVLAP Code: 200372-0  
Valid Date: Mar.31, 2023

Certificated by FCC, USA  
Designation No: CN5022  
Valid Date: Mar.31, 2023

## 2.5. Measurement Uncertainty (95% confidence levels, k=2)

| Test Item                                                           | Uncertainty                                                      |
|---------------------------------------------------------------------|------------------------------------------------------------------|
| Uncertainty for Conduction emission test in No. 1 Conduction        | $\pm 2.6\text{dB}(150\text{KHz to } 30\text{MHz})$               |
| Uncertainty for Radiation Emission test in 3m chamber               | $\pm 3.8\text{dB}(30\sim 200\text{MHz, Polarization: H})$        |
|                                                                     | $\pm 3.8\text{dB}(30\sim 200\text{MHz, Polarization: V})$        |
|                                                                     | $\pm 4.0\text{dB}(200\text{M}\sim 1\text{GHz, Polarization: H})$ |
|                                                                     | $\pm 4.0\text{dB}(200\text{M}\sim 1\text{GHz, Polarization: V})$ |
| Uncertainty for radiated spurious emission at frequency below 30MHz | $\pm 2.6\text{dB}(9\text{kHz}\sim 30\text{MHz})$                 |
| Uncertainty for Frequency range test                                | $\pm 7\times 10^{-8}$                                            |
| Uncertainty for Bandwidth test                                      | $\pm 83\text{ kHz}$                                              |
| Uncertainty for DC power test                                       | $\pm 1.9\%$                                                      |
| Uncertainty for test site temperature and humidity                  | $\pm 0.6^{\circ}\text{C}$                                        |
|                                                                     | $\pm 3\%$                                                        |

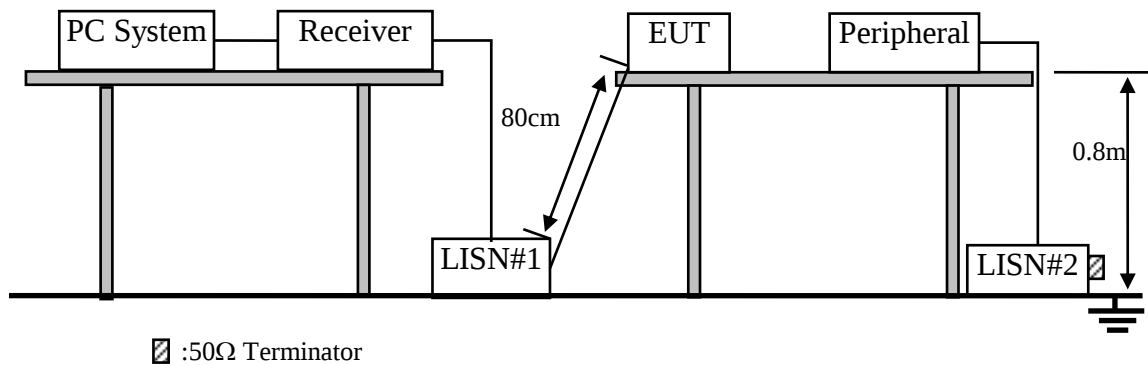
### 3. POWER LINE CONDUCTED EMISSION TEST

#### 3.1. Test Equipments

| Item | Equipment         | Manufacturer    | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|-------------------|-----------------|-----------|------------|-----------|---------------|
| 1.   | 1# Shielding Room | AUDIX           | N/A       | N/A        | Sep.16,22 | 5 Year        |
| 2.   | EMI Test Receiver | Rohde & Schwarz | ESCI      | 100842     | Apr.07,22 | 1 Year        |
| 3.   | L.I.S.N.#1        | Rohde & Schwarz | ENV216    | 102160     | Oct.08,22 | 1 Year        |
| 4.   | L.I.S.N.#2        | Kyoritsu        | KNW-407   | 8-1628-5   | Apr.06,22 | 1 Year        |
| 5.   | RF Cable          | Eastsheep       | RG223     | 190424     | Oct.08,22 | 1Year         |
| 6.   | Terminator        | Hubersuhner     | 50Ω       | No.1       | Apr.06,22 | 1 Year        |
| 7.   | Test Software     | AUDIX           | e3        | 210616     | N/A       | N/A           |

Note: N/A means Not applicable.

#### 3.2. Block Diagram of Test Setup



#### 3.3. Power Line Conducted Emission Test Limits

| Frequency       | Maximum RF Line Voltage    |                         |
|-----------------|----------------------------|-------------------------|
|                 | Quasi-Peak Level<br>dB(μV) | Average Level<br>dB(μV) |
| 150kHz ~ 500kHz | 66 ~ 56*                   | 56 ~ 46*                |
| 500kHz ~ 5MHz   | 56                         | 46                      |
| 5MHz ~ 30MHz    | 60                         | 50                      |

Notes: 1. \* Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3. Emission Level (dBμV) = Factor (L.I.S.N.) (dB) + Cable Loss (dB) + Reading (Receiver) (dBμV)

#### 3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

##### 3.4.1. Room Booking Panel (EUT)

Model No. : IAD-18010H

Serial No. : N/A

##### 3.4.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

### 3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipments.

3.5.3. PC run test software to control EUT work in Tx mode.

### 3.6. Test Procedure

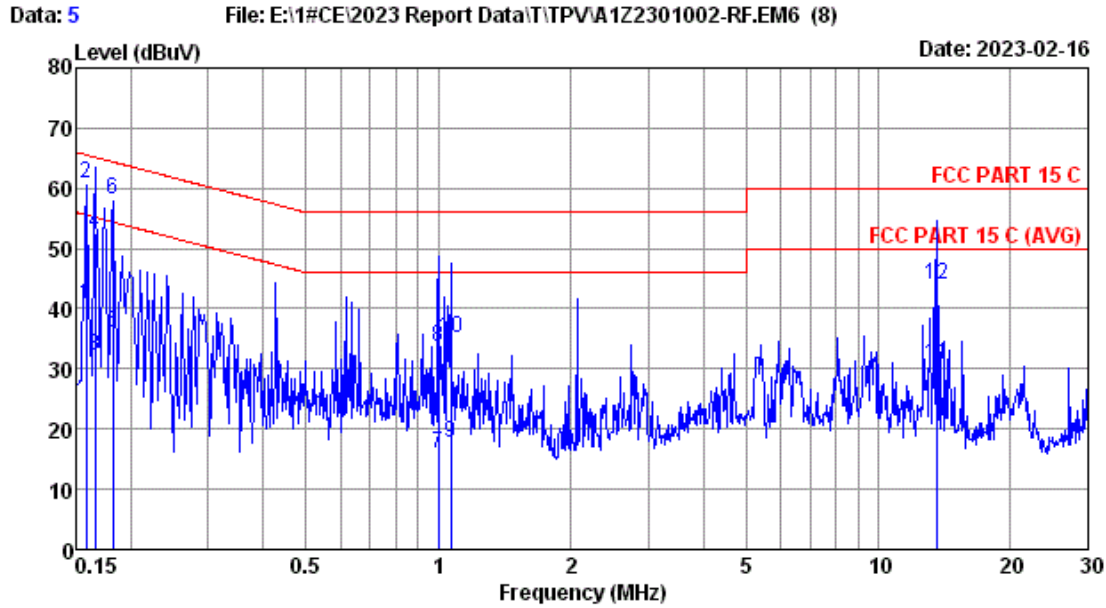
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

### 3.7. Power Line Conducted Emission Test Results

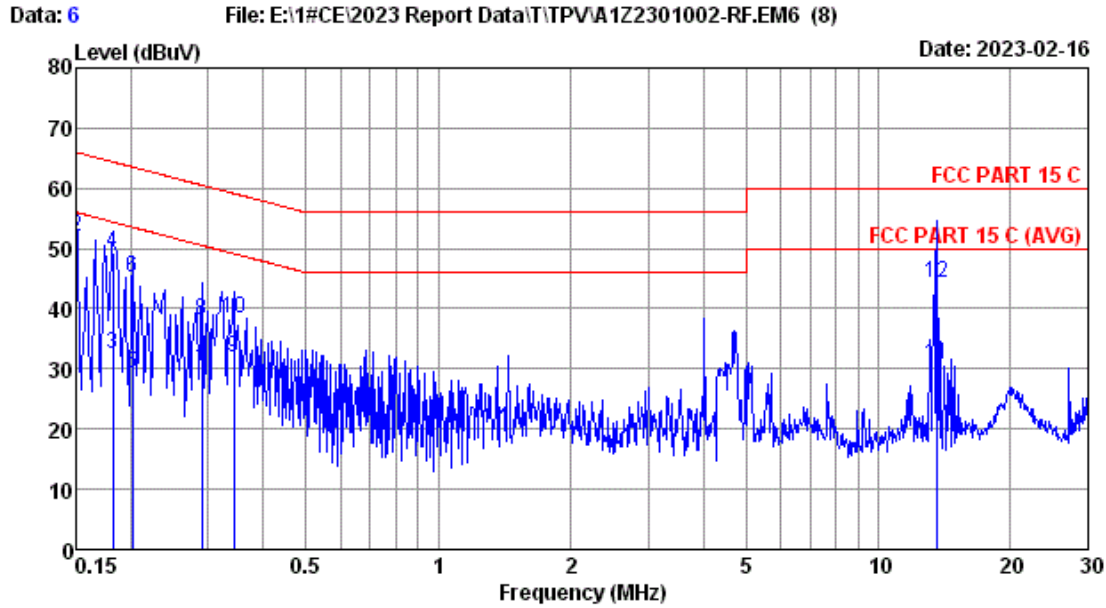
**PASS.** (All emissions not reported below are too low against the prescribed limits.)



Site no :1# CE Data No :5  
 Dis./Lisn :2022 ENV216-L  
 Limit :FCC PART 15 C  
 Env./Ins. :22.3°C/45% Engineer :Sucy  
 Test Mode :NFC TX Mode

| No | Freq<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|---------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.158         | 9.60                   | 0.01                  | 31.00             | 40.61                       | 55.57            | 14.96          | Average |
| 2  | 0.158         | 9.60                   | 0.01                  | 51.30             | 60.91                       | 65.57            | 4.66           | QP      |
| 3  | 0.166         | 9.60                   | 0.01                  | 22.50             | 32.11                       | 55.16            | 23.05          | Average |
| 4  | 0.166         | 9.60                   | 0.01                  | 43.00             | 52.61                       | 65.16            | 12.55          | QP      |
| 5  | 0.182         | 9.60                   | 0.01                  | 26.50             | 36.11                       | 54.39            | 18.28          | Average |
| 6  | 0.182         | 9.60                   | 0.01                  | 48.60             | 58.21                       | 64.39            | 6.18           | QP      |
| 7  | 1.002         | 9.40                   | 0.01                  | 6.50              | 15.91                       | 46.00            | 30.09          | Average |
| 8  | 1.002         | 9.40                   | 0.01                  | 24.20             | 33.61                       | 56.00            | 22.39          | QP      |
| 9  | 1.066         | 9.39                   | 0.01                  | 8.41              | 17.81                       | 46.00            | 28.19          | Average |
| 10 | 1.066         | 9.39                   | 0.01                  | 25.71             | 35.11                       | 56.00            | 20.89          | QP      |
| 11 | 13.562        | 9.20                   | 0.07                  | 21.50             | 30.77                       | 50.00            | 19.23          | Average |
| 12 | 13.562        | 9.20                   | 0.07                  | 34.80             | 44.07                       | 60.00            | 15.93          | QP      |

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector,  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.



Site no :1# CE Data No :6  
 Dis./Lisn :2022 ENV216-N  
 Limit :FCC PART 15 C  
 Env./Ins. :22.3°C/45% Engineer :Sucy  
 Test Mode :NFC TX Mode

| No | Freq<br>(MHz) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV) | Limits<br>(dBuV) | Margin<br>(dB) | Remark  |
|----|---------------|------------------------|-----------------------|-------------------|-----------------------------|------------------|----------------|---------|
| 1  | 0.150         | 9.60                   | 0.01                  | 24.00             | 33.61                       | 56.00            | 22.39          | Average |
| 2  | 0.150         | 9.60                   | 0.01                  | 42.30             | 51.91                       | 66.00            | 14.09          | QP      |
| 3  | 0.182         | 9.60                   | 0.01                  | 22.90             | 32.51                       | 54.39            | 21.88          | Average |
| 4  | 0.182         | 9.60                   | 0.01                  | 39.70             | 49.31                       | 64.39            | 15.08          | QP      |
| 5  | 0.202         | 9.60                   | 0.01                  | 19.70             | 29.31                       | 53.53            | 24.22          | Average |
| 6  | 0.202         | 9.60                   | 0.01                  | 35.70             | 45.31                       | 63.53            | 18.22          | QP      |
| 7  | 0.290         | 9.60                   | 0.01                  | 19.90             | 29.51                       | 50.52            | 21.01          | Average |
| 8  | 0.290         | 9.60                   | 0.01                  | 28.50             | 38.11                       | 60.52            | 22.41          | QP      |
| 9  | 0.342         | 9.60                   | 0.01                  | 22.30             | 31.91                       | 49.15            | 17.24          | Average |
| 10 | 0.342         | 9.60                   | 0.01                  | 28.80             | 38.41                       | 59.15            | 20.74          | QP      |
| 11 | 13.562        | 9.40                   | 0.07                  | 21.10             | 30.57                       | 50.00            | 19.43          | Average |
| 12 | 13.562        | 9.40                   | 0.07                  | 34.70             | 44.17                       | 60.00            | 15.83          | QP      |

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.  
 2.If the average limit is met when using a quasi-peak detector,  
 the EUT shall be deemed to meet both limits and measurement  
 with average detector is unnecessary.

## 4. RADIATED EMISSION TEST

### 4.1. Test Equipments

Frequency Range: 30-1000MHz

| Item | Equipment                 | Manufacturer    | Model No.   | Serial No. | Last Cal. | Cal. Interval |
|------|---------------------------|-----------------|-------------|------------|-----------|---------------|
| 1.   | 3#Chamber(NSA)            | AUDIX           | N/A         | N/A        | Aug.11,22 | 5 Year        |
| 2.   | 3#Chamber(SE)             | AUDIX           | N/A         | N/A        | Sep.16,22 | 5 Year        |
| 3.   | Signal Analyzer           | Rohde & Schwarz | FSV30       | 104050     | Apr.06,22 | 1 Year        |
| 4.   | Tri-log-Broadband Antenna | SCHWARZBECK     | VULB 9168   | 01317      | Otc.28,22 | 1 Year        |
| 5.   | NSA Cable                 | HUBER+SUHNER    | CFD400NL-LW | No.3       | Oct.09,22 | 1 Year        |
| 6.   | Coaxial Switch            | Anritsu         | MP59B       | 6201397223 | Apr.06,22 | 1 Year        |
| 7.   | EMI Test Receiver         | Rohde & Schwarz | ESR7        | 101547     | Apr.06,22 | 1 Year        |
| 8.   | Amplifier                 | HP              | 8447D       | 2944A11159 | Apr.06,22 | 1 Year        |
| 9.   | Test Software             | AUDIX           | e3          | 6.100913a  | N/A       | N/A           |

Note: N/A means Not applicable.

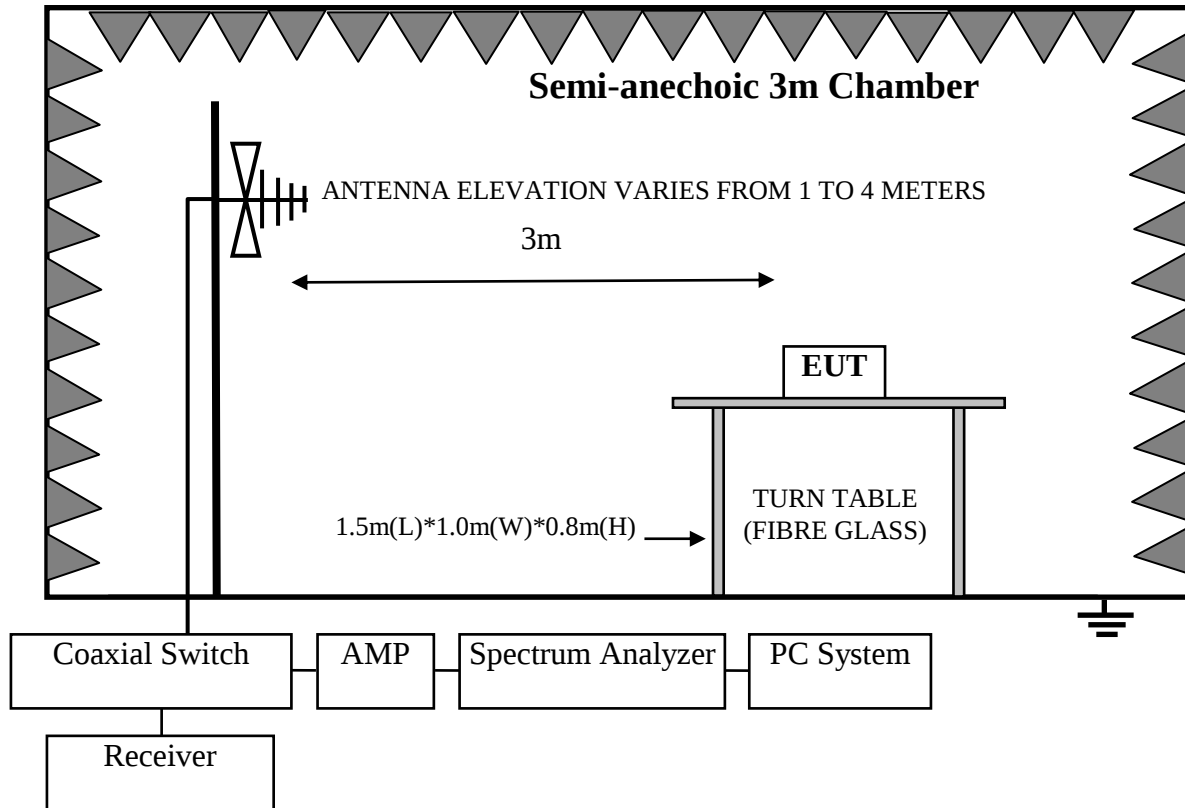
Frequency Range: 1.705-30MHz

| Item | Equipment         | Manufacturer    | Model No.   | Serial No. | Last Cal. | Cal. Interval |
|------|-------------------|-----------------|-------------|------------|-----------|---------------|
| 1.   | 10m Chamber(NSA)  | AUDIX           | N/A         | N/A        | Aug.12,22 | 5 Year        |
| 2.   | 10m Chamber(SE)   | AUDIX           | N/A         | N/A        | Sep.16,22 | 5 Year        |
| 3.   | Loop Antenna      | Schwarzbeck     | FMZB 1519B  | 00075      | Apr.17,21 | 2 Year        |
| 4.   | EMI Test Receiver | Rohde & Schwarz | ESR3        | 102891     | Oct.10,22 | 1 Year        |
| 5.   | RF Cable          | SPUMA           | CFD400NL-LW | NO.4       | Apr.06,22 | 1 Year        |
| 6.   | Amplifier         | EMCI            | EMC9135     | 980348     | Mar.02,22 | 1 Year        |
| 7.   | Signal Analyzer   | Rohde & Schwarz | FSV30       | 103669     | Oct.09,22 | 1 Year        |
| 8.   | Test Software     | AUDIX           | e3          | 210616     | N/A       | N/A           |

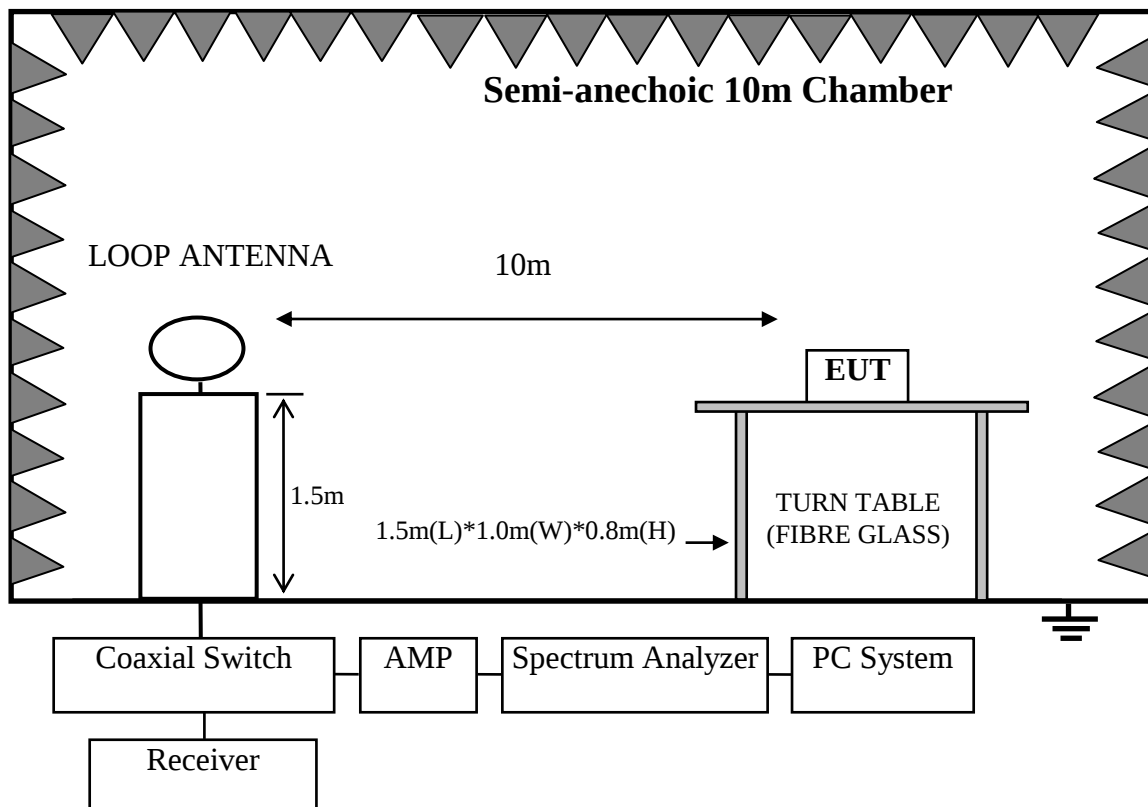
Note: N/A means Not applicable.

## 4.2. Block Diagram of Test Setup

Frequency Range: 30-1000MHz



Frequency Range: 1.705-30MHz



#### 4.3. Radiated Emission Limits

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Remark : (1) Emission level dBμV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

#### 4.4. 15.205 Restricted bands of operation

| MHz                        | MHz                   | MHz             | GHz              |
|----------------------------|-----------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423        | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525   | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475   | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67          | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25          | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6             | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2           | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94          | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138             | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05        | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 - 156.52525 | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.7 - 156.9         | 2690 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 162.0125 - 167.17     | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 167.72 - 173.2        | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 240 - 285             | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 322 - 335.4           | 3600 - 4400     | ( <sup>2</sup> ) |

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 4.5. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

#### 4.6. Operating Condition of EUT

4.6.1. Setup the EUT as shown in Section 4.2.

4.6.2. Turn on the power of all equipments.

4.6.3. Let the EUT work in test mode (Tx Mode) and test it.

#### 4.7. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it work in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

For frequency range below 30MHz the Loop antenna was used at 10m measurement distance with antenna heights of 1m and antenna loop front and side faced to the EUT.

The axis of the antenna was rotated to maximize the emission. A CISPR quasi-peak detector is used for measurements below 30MHz and RBW/VBW is 9kHz/30kHz.

The limit 1.705MHz to 30MHz in clause 4.3 are specified at 30 meters, and measurements were made at 10 meters, the limit is translated to 10 meters by using a formula as follows:

$$\text{Limit}_{30\text{m}} = \text{Limit}_{10\text{m}} + 40\log(30\text{m}/10)$$

#### 4.8. Radiated Emission Test Results

**PASS.**

The frequency range from 30MHz to 1000MHz and 1.705MHz to 30MHz is investigated. Please see the following pages.

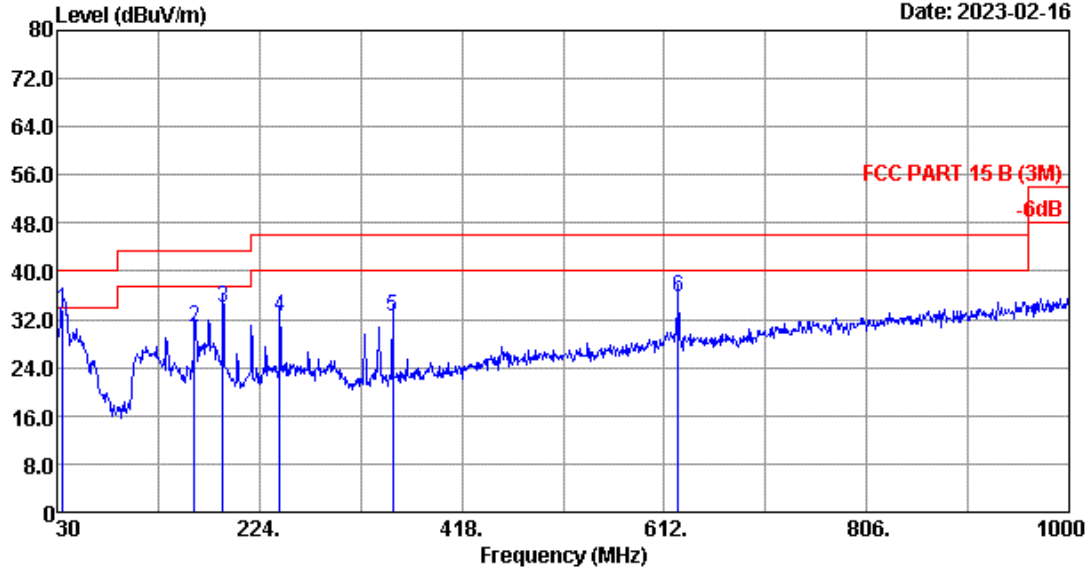
Note: According to exploratory test, 9kHz to 1.705MHz no obvious signal can be detected.

### Frequency Range: 30-1000MHz

Data: 1

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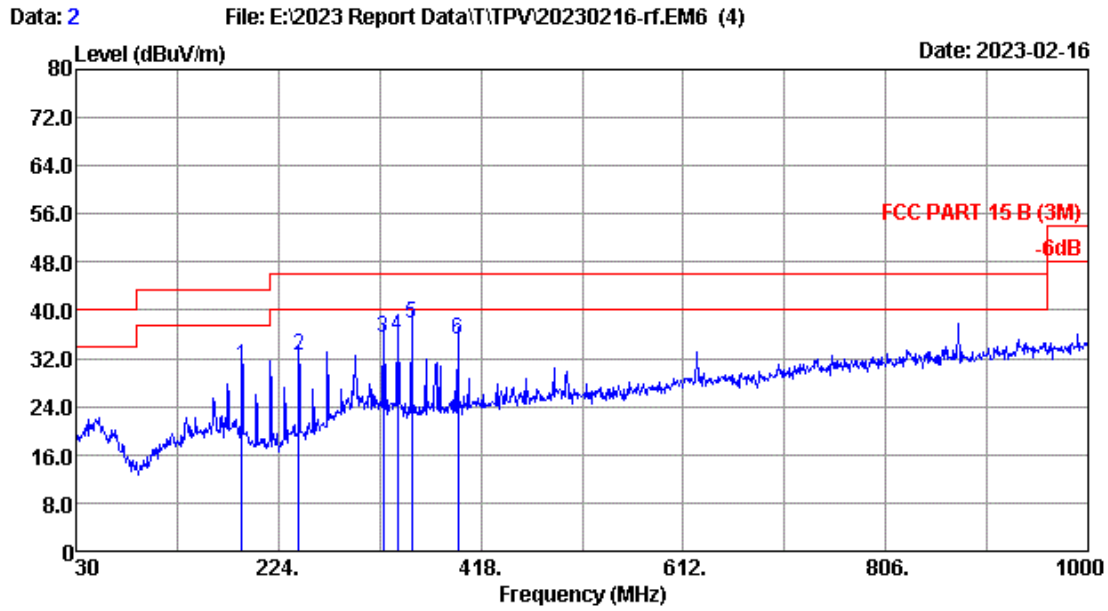
Date: 2023-02-16



Site no. : 3m Chamber Data no. : 1  
 Dis. / Ant. : 3m 2022 VULB 9168-01317 Ant. pol. : VERTICAL  
 Limit : FCC PART 15 B (3M)  
 Env. / Ins. : 23.4°C/51% Engineer : Abel  
 Test Mode : NFC TX Mode

| No. | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Emission<br>Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------------------|-------------------------------|--------------------|----------------|--------|
| 1   | 35.820         | 18.90                    | 0.60                  | 14.20                         | 33.70                         | 40.00              | 6.30           | QP     |
| 2   | 161.920        | 19.20                    | 1.27                  | 10.09                         | 30.56                         | 43.50              | 12.94          | QP     |
| 3   | 189.080        | 16.70                    | 1.38                  | 15.94                         | 34.02                         | 43.50              | 9.48           | QP     |
| 4   | 243.400        | 17.67                    | 1.57                  | 13.11                         | 32.35                         | 46.00              | 13.65          | QP     |
| 5   | 352.040        | 20.24                    | 1.93                  | 10.24                         | 32.41                         | 46.00              | 13.59          | QP     |
| 6   | 625.580        | 26.08                    | 2.71                  | 7.08                          | 35.87                         | 46.00              | 10.13          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 2  
 Dis. / Ant. : 3m 2022 VULB 9168-01317 Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15 B (3M)  
 Env. / Ins. : 23.4°C/51% Engineer : Abel  
 Test Mode : NFC TX Mode

| No. | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1   | 189.080        | 16.70                    | 1.38                  | 12.58             | 30.66                         | 43.50              | 12.84          | QP     |
| 2   | 243.400        | 17.67                    | 1.57                  | 13.14             | 32.38                         | 46.00              | 13.62          | QP     |
| 3   | 324.880        | 20.20                    | 1.86                  | 13.45             | 35.51                         | 46.00              | 10.49          | QP     |
| 4   | 338.460        | 20.20                    | 1.89                  | 13.68             | 35.77                         | 46.00              | 10.23          | QP     |
| 5   | 352.040        | 20.24                    | 1.93                  | 15.72             | 37.89                         | 46.00              | 8.11           | QP     |
| 6   | 395.690        | 21.42                    | 2.05                  | 11.78             | 35.25                         | 46.00              | 10.75          | QP     |

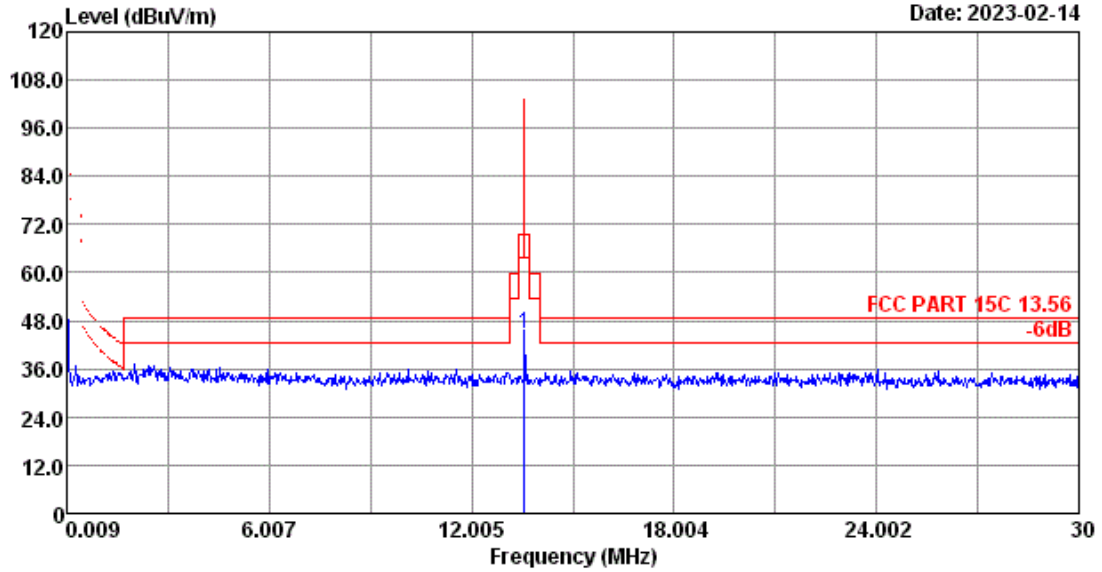
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.  
 2. The emission levels that are 20dB below the official limit are not reported.

### Frequency Range: Below 30MHz

Data: 5

File: F:\2023 Report\TPV\20230214NFC.EM6 (10)

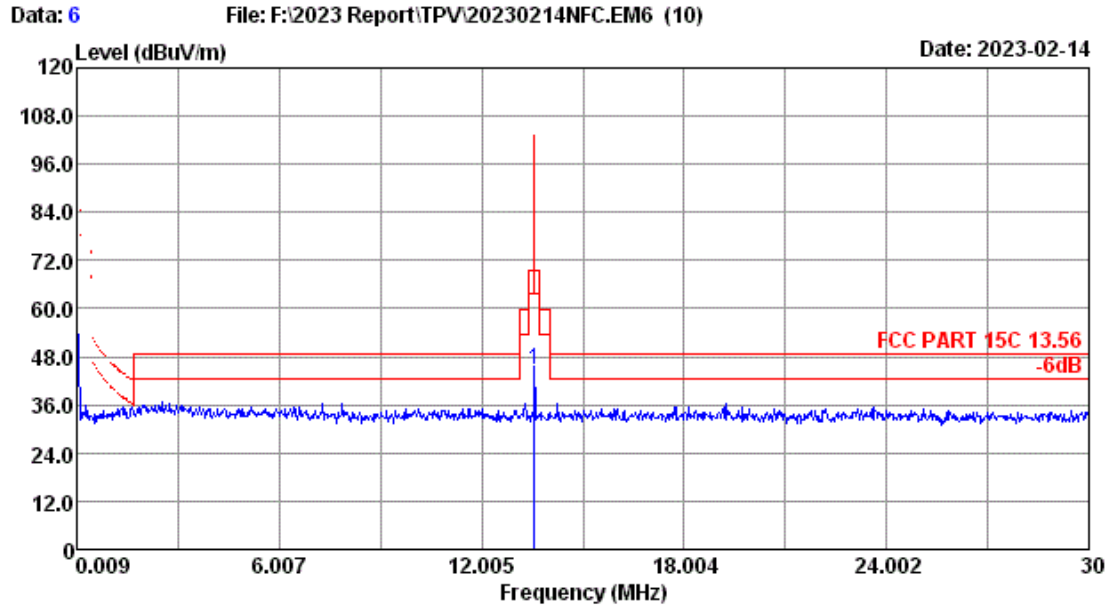
Date: 2023-02-14



Site no. : 10m Chamber Data no. : 5  
 Dis. / Ant. : 10m 2021 LOOPANTENNA FMZ Ant. pol. : VERTICAL  
 Limit : FCC PART 15C 13.56  
 Env. / Ins. : 23.5°C/46% Engineer : Gavin  
 Test Mode : NFC TX Mode

| No. | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Amp<br>factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-----------------------|-------------------------------|--------------------|----------------|--------|
| 1   | 13.56          | 20.31                    | 0.57                  | 61.36             | 37.42                 | 44.82                         | 103.42             | 58.60          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 -Amp factor.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.



Site no. : 10m Chamber Data no. : 6  
 Dis. / Ant. : 10m 2021 LOOPANTENNA FMZ Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C 13.56  
 Env. / Ins. : 23.5°C/46% Engineer : Gavin  
 Test Mode : NFC TX Mode

| No. | Freq.<br>(MHz) | Ant.<br>Factor<br>(dB/m) | Cable<br>Loss<br>(dB) | Reading<br>(dBuV) | Amp<br>factor<br>(dB) | Emission<br>Level<br>(dBuV/m) | Limits<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-----------------------|-------------------------------|--------------------|----------------|--------|
| 1   | 13.56          | 20.31                    | 0.57                  | 61.05             | 37.42                 | 44.51                         | 103.42             | 58.91          | QP     |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  
 -Amp factor.  
 2. The emission levels that are 20dB below the official  
 limit are not reported.

## 5. FREQUENCY STABILITY TEST

### 5.1. Test Equipments

| Item | Equipment           | Manufacturer | Model No.       | Serial No. | Last Cal. | Cal. Interval |
|------|---------------------|--------------|-----------------|------------|-----------|---------------|
| 1.   | PXA Signal Analyzer | Agilent      | N9030A          | MY51380221 | Apr.07,22 | 1 Year        |
| 2.   | RF Cable            | eastsheep    | 141-SMA-JJ-1000 | NO.7       | Jul.01,22 | 1 Year        |

### 5.2. Limits

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

### 5.3. Test Procedure

The EUT was placed in an environmental test chamber and powered such that control element received normal voltage and the transmitter provided maximum RF output.

#### 5.4. Test result

|                         |                         |                        |
|-------------------------|-------------------------|------------------------|
| EUT: Room Booking Panel |                         |                        |
| M/N: IAD-18010H         |                         |                        |
| Test date: 2023-01-11   | Pressure: 102.5±1.0 kpa | Humidity: 53.6±3.0%    |
| Tested by: Carl         | Test site: RF site      | Temperature: 24.4±0.6℃ |

| Frequency stability VS Voltage (Temperature:25℃)        |             |                 |                      |            |           |
|---------------------------------------------------------|-------------|-----------------|----------------------|------------|-----------|
| Test Voltage                                            | Temperature | Frequency (MHz) | Max. Reading ( MHz ) | Result (%) | Limit (%) |
| AC 96V                                                  | 25℃         | 13.56           | 13.56020             | 0.01       | ±0.01     |
| AC 120V                                                 | 25℃         | 13.56           | 13.56015             | 0.01       | ±0.01     |
| AC 138V                                                 | 25℃         | 13.56           | 13.56010             | 0.01       | ±0.01     |
| Frequency stability VS Voltage (Supply voltage AC 230V) |             |                 |                      |            |           |
| AC 120V                                                 | 0℃          | 13.56           | 13.56009             | 0.01       | ±0.01     |
| AC 120V                                                 | 10℃         | 13.56           | 13.56009             | 0.01       | ±0.01     |
| AC 120V                                                 | 20℃         | 13.56           | 13.56010             | 0.01       | ±0.01     |
| AC 120V                                                 | 30℃         | 13.56           | 13.56010             | 0.01       | ±0.01     |
| AC 120V                                                 | 40℃         | 13.56           | 13.56010             | 0.01       | ±0.01     |
| AC 120V                                                 | 50℃         | 13.56           | 13.56009             | 0.01       | ±0.01     |
| Conclusion: PASS                                        |             |                 |                      |            |           |

## 6. 20 DB BANDWIDTH TEST

### 6.1. Test Equipments

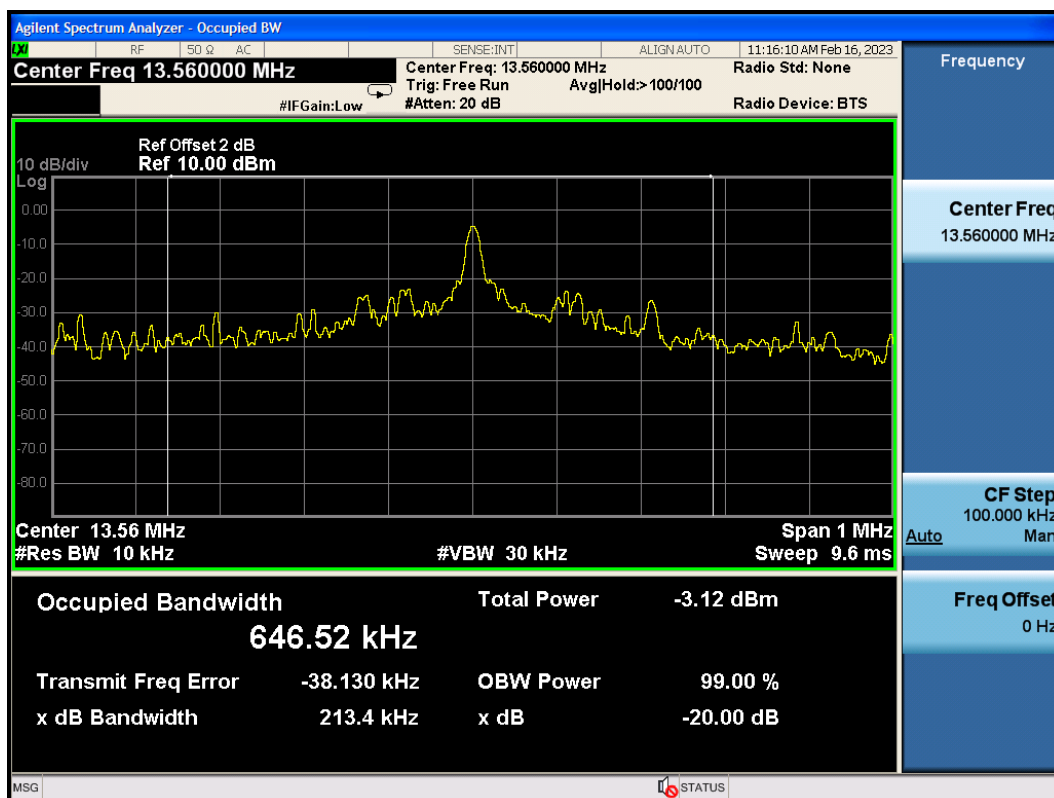
| Item | Equipment           | Manufacturer | Model No.       | Serial No. | Last Cal. | Cal. Interval |
|------|---------------------|--------------|-----------------|------------|-----------|---------------|
| 3.   | PXA Signal Analyzer | Agilent      | N9030A          | MY51380221 | Apr.07,22 | 1 Year        |
| 4.   | RF Cable            | eastsheep    | 141-SMA-JJ-1000 | NO.7       | Jul.01,22 | 1 Year        |

### 6.2.Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 6.3. Test Results

|                         |                           |                        |
|-------------------------|---------------------------|------------------------|
| EUT: Room Booking Panel |                           |                        |
| M/N: IAD-18010H         |                           |                        |
| Test date: 2023-02-16   | Pressure: 102.1±1.0 kpa   | Humidity: 53.2±3.0%    |
| Tested by: Carl         | Test site: RF site        | Temperature: 22.3±0.6℃ |
| Frequency               | 20dB bandwidth<br>( KHz ) | Limit<br>(KHz)         |
| 13.56MHz                | 213.4                     | N/A                    |
| Conclusion : PASS       |                           |                        |



## 7. DEVIATION TO TEST SPECIFICATIONS

[NONE]

..... THE END .....