

# RADIO TEST REPORT

## Test Report No. 15994050S-C-R1

|                     |                       |
|---------------------|-----------------------|
| Customer            | Nintendo Co., Ltd.    |
| Description of EUT  | Game controller       |
| Model Number of EUT | BEE-014(-01)          |
| FCC ID              | BKEBEE01401           |
| Test Regulation     | FCC Part 15 Subpart C |
| Test Result         | Complied              |
| Issue Date          | October 5, 2026       |
| Remarks             | RFID part             |

**Representative test engineer**Miku Ikudome  
Engineer**Approved by**Shunsaku Yumi  
Engineer

CERTIFICATE 1266.03

- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan, Inc.
- ☒ There is no testing item of "Non-accreditation".

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## **REVISION HISTORY**

| Revision     | Test Report No. | Date             | Page Revised Contents                                                           |
|--------------|-----------------|------------------|---------------------------------------------------------------------------------|
| - (Original) | 15994050S-C     | January 27, 2026 | -                                                                               |
| 1            | 15994050S-C-R1  | October 5, 2026  | Section 4.2<br>- Corrected cable name (List of Cables Used)<br>No.1 : DC to USB |

## Reference: Abbreviations (Including words undescribed in this report)

|                |                                                                 |         |                                                     |
|----------------|-----------------------------------------------------------------|---------|-----------------------------------------------------|
| A2LA           | The American Association for Laboratory Accreditation           | ICES    | Interference-Causing Equipment Standard             |
| AC             | Alternating Current                                             | IEC     | International Electrotechnical Commission           |
| AFH            | Adaptive Frequency Hopping                                      | IEEE    | Institute of Electrical and Electronics Engineers   |
| AM             | Amplitude Modulation                                            | IF      | Intermediate Frequency                              |
| Amp, AMP       | Amplifier                                                       | ILAC    | International Laboratory Accreditation Conference   |
| ANSI           | American National Standards Institute                           | ISED    | Innovation, Science and Economic Development Canada |
| Ant, ANT       | Antenna                                                         | ISO     | International Organization for Standardization      |
| AP             | Access Point                                                    | JAB     | Japan Accreditation Board                           |
| ASK            | Amplitude Shift Keying                                          | LAN     | Local Area Network                                  |
| Atten., ATT    | Attenuator                                                      | LIMS    | Laboratory Information Management System            |
| AV             | Average                                                         | MCS     | Modulation and Coding Scheme                        |
| BPSK           | Binary Phase-Shift Keying                                       | MRA     | Mutual Recognition Arrangement                      |
| BR             | Bluetooth Basic Rate                                            | N/A     | Not Applicable                                      |
| BT             | Bluetooth                                                       | NIST    | National Institute of Standards and Technology      |
| BT LE          | Bluetooth Low Energy                                            | NS      | No signal detect.                                   |
| BW             | BandWidth                                                       | NSA     | Normalized Site Attenuation                         |
| Cal Int        | Calibration Interval                                            | NVLAP   | National Voluntary Laboratory Accreditation Program |
| CCK            | Complementary Code Keying                                       | OBW     | Occupied Band Width                                 |
| Ch., CH        | Channel                                                         | OFDM    | Orthogonal Frequency Division Multiplexing          |
| CISPR          | Comite International Special des Perturbations Radioelectriques | P/M     | Power meter                                         |
| CW             | Continuous Wave                                                 | PCB     | Printed Circuit Board                               |
| DBPSK          | Differential BPSK                                               | PER     | Packet Error Rate                                   |
| DC             | Direct Current                                                  | PHY     | Physical Layer                                      |
| D-factor       | Distance factor                                                 | PK      | Peak                                                |
| DFS            | Dynamic Frequency Selection                                     | PN      | Pseudo random Noise                                 |
| DQPSK          | Differential QPSK                                               | PRBS    | Pseudo-Random Bit Sequence                          |
| DSSS           | Direct Sequence Spread Spectrum                                 | PSD     | Power Spectral Density                              |
| EDR            | Enhanced Data Rate                                              | QAM     | Quadrature Amplitude Modulation                     |
| EIRP, e.i.r.p. | Equivalent Isotropically Radiated Power                         | QP      | Quasi-Peak                                          |
| EMC            | ElectroMagnetic Compatibility                                   | QPSK    | Quadri-Phase Shift Keying                           |
| EMI            | ElectroMagnetic Interference                                    | RBW     | Resolution Band Width                               |
| EN             | European Norm                                                   | RDS     | Radio Data System                                   |
| ERP, e.r.p.    | Effective Radiated Power                                        | RE      | Radio Equipment                                     |
| EU             | European Union                                                  | RF      | Radio Frequency                                     |
| EUT            | Equipment Under Test                                            | RMS     | Root Mean Square                                    |
| Fac.           | Factor                                                          | RSS     | Radio Standards Specifications                      |
| FCC            | Federal Communications Commission                               | Rx      | Receiving                                           |
| FHSS           | Frequency Hopping Spread Spectrum                               | SA, S/A | Spectrum Analyzer                                   |
| FM             | Frequency Modulation                                            | SG      | Signal Generator                                    |
| Freq.          | Frequency                                                       | SVSWR   | Site-Voltage Standing Wave Ratio                    |
| FSK            | Frequency Shift Keying                                          | TR      | Test Receiver                                       |
| GFSK           | Gaussian Frequency-Shift Keying                                 | Tx      | Transmitting                                        |
| GNSS           | Global Navigation Satellite System                              | VBW     | Video BandWidth                                     |
| GPS            | Global Positioning System                                       | Vert.   | Vertical                                            |
| Hori.          | Horizontal                                                      | WLAN    | Wireless LAN                                        |

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## **SECTION 1: Customer Information**

|                  |                                                               |
|------------------|---------------------------------------------------------------|
| Company Name     | Nintendo Co., Ltd.                                            |
| Address          | 11-1 Hokotate-cho, Kamitoba, Minami-ku, Kyoto 601-8501, Japan |
| Telephone Number | +81-75-662-9600                                               |
| Contact Person   | Yosuke Ishikawa                                               |

The information provided by the customer is as follows;

- Customer, Description of EUT, Model Number of EUT, FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer Information
- SECTION 2: Equipment Under Test (EUT) other than the Receipt Date and Test Date
- SECTION 4: Operation of EUT during testing

## **SECTION 2: Equipment Under Test (EUT)**

### **2.1 Identification of EUT**

|               |                                                                                            |
|---------------|--------------------------------------------------------------------------------------------|
| Description   | Game controller                                                                            |
| Model Number  | BEE-014(-01)                                                                               |
| Serial Number | Refer to SECTION 4.2                                                                       |
| Condition     | Engineering prototype<br>(Not for Sale: This sample is equivalent to mass-produced items.) |
| Modification  | No Modification by the test lab                                                            |
| Receipt Date  | October 22, 2025                                                                           |
| Test Date     | October 27 to December 10, 2025                                                            |

### **2.2 Product Description**

#### **General Specification**

|                       |                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| Rating                | DC 5 V (*.Supply voltage from connector)<br>(*. DC 3.89 V from Re-chargeable Li-ion battery for the internal circuit) |
| Operating temperature | 5 deg. C to 35 deg. C                                                                                                 |

#### **Radio Specification**

##### **Bluetooth (Low Energy)**

|                        |                      |
|------------------------|----------------------|
| Equipment Type         | Transceiver          |
| Frequency of Operation | 2402 MHz to 2480 MHz |
| Type of Modulation     | GFSK                 |
| Antenna Gain           | 1.15 dBi             |

##### **Bluetooth (BR / EDR)**

|                        |                                    |
|------------------------|------------------------------------|
| Equipment Type         | Transceiver                        |
| Frequency of Operation | 2402 MHz to 2480 MHz               |
| Type of Modulation     | FHSS (GFSK, $\pi/4$ DQPSK, 8 DPSK) |
| Antenna Gain           | 1.15 dBi                           |

##### **RFID**

|                        |             |
|------------------------|-------------|
| Equipment Type         | Transceiver |
| Frequency of Operation | 13.56 MHz   |
| Type of Modulation     | ASK         |

## SECTION 3: Test Summary

### 3.1 Test Specification

|                    |                                                                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Specification | FCC Part 15 Subpart C<br>The latest version on the first day of the testing period                                                                                        |
| Title              | FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators<br>Section 15.207 Conducted limits<br>Section 15.225 Operation within the band 13.110-14.010 MHz. |

\* Also the EUT complies with FCC Part 15 Subpart B.

### 3.2 Reference Standards

ANSI/USEMCSC C63.2-2023  
ANSI C63.4-2014+C63.4a-2017  
ANSI C63.5-2017  
ANSI C63.10-2020  
ANSI/USEMCSC C63.10/Cor 1-2023  
ANSI/USEMCSC C63.10a-2024 (incl. Errata) for ISED  
ANSI C63.25.1-2018

### 3.3 Summary of Test Results

| Item                                                                                                         | Specification                                                                         | Results  | Remarks  |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------|----------|
| Conducted Emission                                                                                           | <FCC> Section 15.207<br><ISED> RSS-Gen 8.8                                            | Complied | -        |
| Electric Field Strength<br>of Fundamental Emission                                                           | <FCC> Section 15.225(a)<br><ISED> RSS-210 B.6 (a)                                     | Complied | Radiated |
| Spectrum Mask                                                                                                | <FCC> Section 15.225(b)(c)<br><ISED> RSS-210 B.6 (a)                                  | Complied | Radiated |
| 20 dB Bandwidth                                                                                              | <FCC> Section15.215(c)<br><ISED> -                                                    | Complied | Radiated |
| Electric Field Strength<br>of Spurious Emission                                                              | <FCC><br>Section 15.209, Section 15.225 (d)<br><ISED><br>RSS-210 B.6 (a), RSS-Gen 8.9 | Complied | Radiated |
| Frequency Tolerance                                                                                          | <FCC> Section 15.225(e)<br><ISED> RSS-210 B.6 (b)                                     | Complied | Radiated |
| Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. |                                                                                       |          |          |

**FCC Part 15.31 (e)**

The EUT is supplied the power from battery or connector (from host device).

In either method, this EUT provides the stable voltage constantly to RF Part regardless of input voltage. In the case of battery method, the test was performed with the full-charged battery other than the frequency tolerance test.

However, the supply voltage was varied and tested at 85 % and 115 % (Battery part), 90 % \*1) and 115 % (Connector part) of the nominal rated supply voltage during frequency tolerance test according to Section 15.225(e).

Therefore, this EUT complies with the requirement.

\*1) EUT cannot operated by lower 90 % of the normal rated voltage.

**FCC Part 15.203 Antenna requirement**

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

**3.4 Addition to standard**

| Item                                                                                                         | Test Procedure    | Results | Remarks  |
|--------------------------------------------------------------------------------------------------------------|-------------------|---------|----------|
| 99 % emission bandwidth                                                                                      | <ISED>RSS-Gen 6.7 | -       | Radiated |
| Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. |                   |         |          |

Other than above, no addition, exclusion nor deviation has been made from the standard.

### 3.5 Uncertainty

Measurement uncertainty is not taken into account when stating conformity with a specified requirement.  
Note: When margins obtained from test results are less than the measurement uncertainty, the test results may exceed the limit.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor  $k = 2$ .

| Item                                             | Frequency range   | Uncertainty (+/-) |
|--------------------------------------------------|-------------------|-------------------|
| Conducted Emission (AC Mains) LISN               | 150 kHz to 30 MHz | 3.0 dB            |
| Radiated Emission<br>(Measurement distance: 3 m) | 9 kHz to 30 MHz   | 3.3 dB            |
|                                                  | 30 MHz to 200 MHz | 4.8 dB            |
|                                                  | 200 MHz to 1 GHz  | 6.1 dB            |

| Antenna terminal test                     | Uncertainty (+/-)    |
|-------------------------------------------|----------------------|
| Bandwidth Measurement                     | 0.012 %              |
| Temperature                               | 2.2 deg.C.           |
| Humidity                                  | 3.4 %                |
| Voltage                                   | 0.92 %               |
| Frequency Measurement (Normal condition)  | $7.7 \times 10^{-8}$ |
| Frequency Measurement (Extreme condition) | $1.1 \times 10^{-7}$ |

### 3.6 Test Location

UL Japan, Inc. Shonan EMC Lab.

1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 Japan

Telephone: +81-463-50-6400

A2LA Certificate Number: 1266.03

(FCC test firm registration number: 626366, ISED lab company number: 2973D / CAB identifier: JP0001)

| Test room                          | Width x Depth x Height (m) | Size of reference ground plane (m) / horizontal conducting plane | Maximum measurement distance |
|------------------------------------|----------------------------|------------------------------------------------------------------|------------------------------|
| No.1 Semi-anechoic chamber (SAC1)  | 20.6 x 11.3 x 7.65         | 20.6 x 11.3                                                      | 10 m                         |
| No.2 Semi-anechoic chamber (SAC2)  | 20.6 x 11.3 x 7.65         | 20.6 x 11.3                                                      | 10 m                         |
| No.3 Semi-anechoic chamber (SAC3)  | 12.7 x 7.7 x 5.35          | 12.7 x 7.7                                                       | 5 m                          |
| No.4 Semi-anechoic chamber (SAC4)  | 8.1 x 5.1 x 3.55           | 8.1 x 5.1                                                        | -                            |
| Wireless anechoic chamber 1 (WAC1) | 9.5 x 6.0 x 5.4            | 9.5 x 6.0                                                        | 3 m                          |
| Wireless anechoic chamber 2 (WAC2) | 9.5 x 6.0 x 5.4            | 9.5 x 6.0                                                        | 3 m                          |
| No.1 Shielded room (SR1)           | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.2 Shielded room (SR2)           | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.3 Shielded room (SR3)           | 6.3 x 4.7 x 2.7            | 6.3 x 4.7                                                        | -                            |
| No.4 Shielded room (SR4)           | 4.4 x 4.7 x 2.7            | 4.4 x 4.7                                                        | -                            |
| No.5 Shielded room (SR5)           | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.6 Shielded room (SR6)           | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.8 Shielded room (SR8)           | 3.45 x 5.5 x 2.4           | 3.45 x 5.5                                                       | -                            |
| No.1 Measurement room (MR1)        | 2.55 x 4.1 x 2.5           | -                                                                | -                            |
| No.2 Measurement room (MR2)        | 4.5 x 3.5 x 2.5            | -                                                                | -                            |
| Wireless shielded room 1 (WSR1)    | 3.0 x 4.5 x 2.7            | 3.0 x 4.5                                                        | -                            |
| Wireless shielded room 2 (WSR2)    | 3.0 x 4.5 x 2.7            | 3.0 x 4.5                                                        | -                            |

### 3.7 Test data, Test instruments, and Test set up

Refer to APPENDIX.

## SECTION 4: Operation of EUT during testing

### 4.1 Operating Mode(s)

The mode is used:

| Test mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Remarks                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1) Transmitting mode (Tx)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The EUT Transmits and Receives at the same time and there is no receiving mode. |
| The EUT was operated in a manner similar to typical use during the tests.                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                 |
| <p>*Power of the EUT was set by the software as follows;<br/>Software: NfcCertification Version: 0.2<br/>(Date: 2025.10 22, Storage location: EUT memory)</p> <p>*This setting of software is the worst case.<br/>Any conditions under the normal use do not exceed the condition of setting.<br/>In addition, end users cannot change the settings of the output power of the product.</p> <p>Justification: The system was configured in typical fashion (as a user would normally use it) for testing.</p> |                                                                                 |

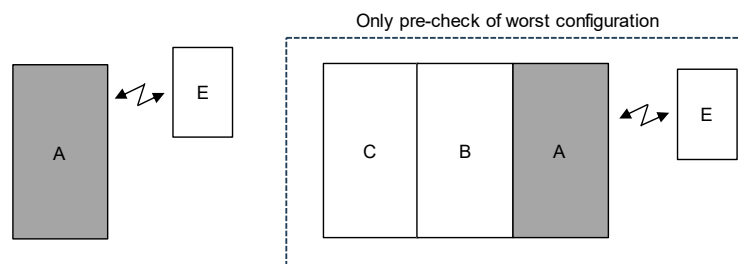
| Test Item                                       | Operating mode*                                                                                                             |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Conducted Emission                              | Tx Mod on, without Tag / Antenna terminated                                                                                 |
| Electric Field Strength of Fundamental Emission | Vertical: Tx Mod on, without Tag<br>Horizontal: Tx Mod on, with Tag                                                         |
| Spectrum Mask                                   | Vertical: Tx Mod on, without Tag<br>Horizontal: Tx Mod on, with Tag                                                         |
| 20 dB Bandwidth and 99 % Occupied Bandwidth     | Tx Mod on, without Tag                                                                                                      |
| Electric Field Strength of Spurious Emission    | Below 30 MHz<br>Vertical: Tx Mod on, with Tag<br>Horizontal: Tx Mod on, with Tag<br><br>Above 30 MHz<br>Tx Mod on, with Tag |
| Frequency Tolerance                             | Tx Mod off                                                                                                                  |

\* After the comparison of the test data between with Tag and without Tag, the tests were performed with the worst case. See Section 6 or data for worst case Tag.

| Frequency Tolerance                                                                                                                                                                                                                                  |                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature                                                                                                                                                                                                                                          | -20 deg. C to +50 deg. C<br>Step 10 deg. C                                                                                                      |
| Voltage                                                                                                                                                                                                                                              | <b>Connector part</b><br>Normal Voltage DC 5 V<br>Maximum Voltage DC 5.75 V (DC 5 V +15 %)<br>Minimum Voltage DC 4.5 V (V_min) *1)              |
|                                                                                                                                                                                                                                                      | <b>Battery part</b><br>Normal Voltage DC 3.89 V<br>Maximum Voltage DC 4.474 V (DC 3.89 V +15 %)<br>Minimum Voltage DC 3.306 V (DC 3.89 V -15 %) |
| <p>*This EUT provides stable voltage constantly to RF Part regardless of input voltage.<br/>*1) The EUT cannot operate if a voltage of 85 % rated voltage is supplied, so the test was performed at the lowest operating voltage (DC 5 V -10 %).</p> |                                                                                                                                                 |

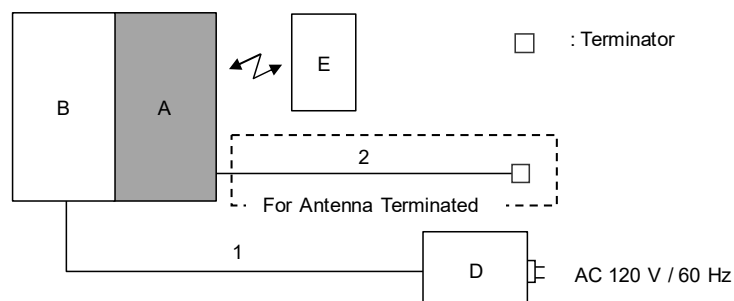
## 4.2 Configuration and peripherals

### Radiated Emission test

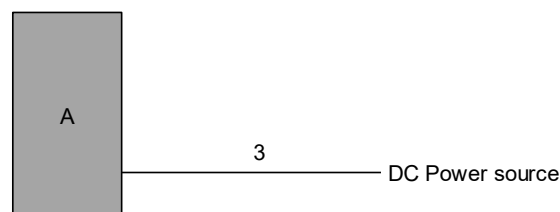


\* The carrier level and noise levels were confirmed at each condition of standalone and connected by support equipment, and the test was made at the condition that has the maximum noise.

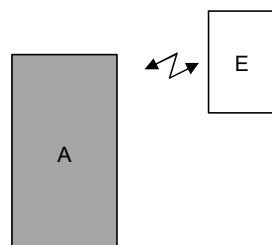
### Conducted Emission test



### Frequency Tolerance test



### Other tests



\* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.  
\* As a result of comparing AC 120 V and AC 240 V at pre-check, conducted emission test was performed with AC 120 V of the worst voltage as representative.

#### Description of EUT and Support Equipment

| No. | Item            | Model Number | Serial Number                                                                        | Manufacturer       | Remarks   |
|-----|-----------------|--------------|--------------------------------------------------------------------------------------|--------------------|-----------|
| A   | Game controller | BEE-014(-01) | HNL01000020722 *1)<br>HNL01000020968 *2)<br>HNL01000020975 *3)<br>HNL01000020982 *4) | Nintendo Co., Ltd. | EUT       |
| B   | Charging Grip   | BEE-010      | HDL04000009643                                                                       | Nintendo Co., Ltd. | -         |
| C   | Game controller | BEE-012(-01) | HML01000021613                                                                       | Nintendo Co., Ltd. | -         |
| D   | AC Adaptor      | NGN-01       | 0A00000189                                                                           | Nintendo Co., Ltd. | -         |
| E   | Tag             | -            | -                                                                                    | -                  | Type A    |
|     |                 | -            | -                                                                                    | -                  | Type B    |
|     |                 | -            | -                                                                                    | -                  | Type F    |
|     |                 | -            | -                                                                                    | -                  | ISO 15693 |

#### List of Cables Used

| No. | Name    | Length (m) | Shield     |            | Remarks  |
|-----|---------|------------|------------|------------|----------|
|     |         |            | Cable      | Connector  |          |
| 1   | USB     | 1.5        | Shielded   | Shielded   | -        |
| 2   | Coaxial | 0.2        | Shielded   | Shielded   | *5)      |
| 3   | DC      | 0.35 + 2.0 | Unshielded | Unshielded | *3), *4) |

\*1) Used for Radiated Emission test, Conducted emission test (except for Antenna terminated) and Bandwidth measurement.

\*2) Used for Conducted emission test (Antenna terminated).

\*3) Used for Frequency Tolerance test (Battery part).

\*4) Used for Frequency Tolerance test (Connector part).

\*5) Cable for antenna terminated.

## **SECTION 5: Conducted Emission**

### **Test Procedure and conditions**

EUT was placed on the platform of nominal size, 0.8 m by 1.6 m, raised 0.8 m above the conducting ground plane.

The rear of the platform was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of the platform. All other surfaces of the platform were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN).

For the tests on EUT with other peripherals (as a whole system)

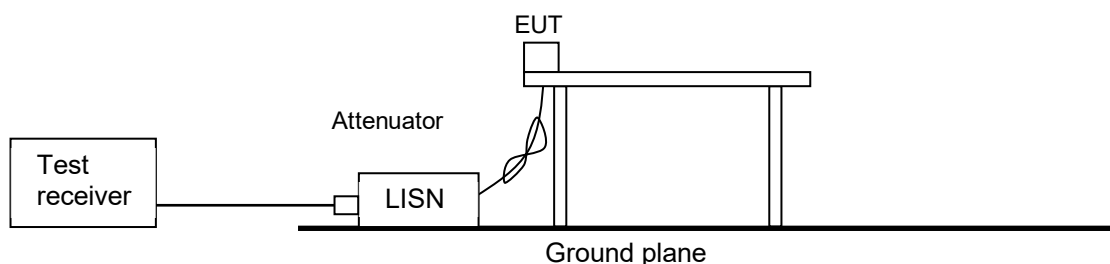
I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

**Figure 1: Test Setup**



The test results and limit are rounded off to one decimal place, so some differences might be observed.

|                          |                             |
|--------------------------|-----------------------------|
| <b>Detector</b>          | <b>: QP and CISPR AV</b>    |
| <b>Measurement range</b> | <b>: 0.15 MHz to 30 MHz</b> |
| <b>Test data</b>         | <b>: APPENDIX</b>           |
| <b>Test result</b>       | <b>: Pass</b>               |

## **SECTION 6: Radiated Emission (Fundamental, Spurious Emission and Spectrum Mask)**

### **Test Procedure**

EUT was placed on the platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

#### **[Limit conversion]**

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohms. For example, the measurement at frequency 9 kHz resulted in a level of 45.5 dBuV/m, which is equivalent to  $45.5 - 51.5 = -6.0$  dBuA/m, which has the same margin, 3 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

#### **[Frequency: From 9 kHz to 30 MHz]**

The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for vertical polarization (antenna angle: 0 deg., 45 deg., 90 deg., and 135 deg.) and horizontal polarization.

\*Refer to Figure 3 about Direction of the Loop Antenna.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open field test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

These tests were performed in semi anechoic chamber. Therefore the measured level of emissions may be higher than if measurements were made without a ground plane. However test results were confirmed to pass against standard limit.

#### **[Frequency: From 30 MHz to 1 GHz]**

The measuring antenna height varied between 1 and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization.

#### **[Test instruments and test settings]**

|              |              |                   |                  |
|--------------|--------------|-------------------|------------------|
| Frequency    | Below 30 MHz | 30 MHz to 200 MHz | 200 MHz to 1 GHz |
| Antenna Type | Loop         | Biconical         | Logperiodic      |

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

|                 |                                                  |                        |                         |                        |                      |
|-----------------|--------------------------------------------------|------------------------|-------------------------|------------------------|----------------------|
| Frequency       | From 9 kHz to 90 kHz and From 110 kHz to 150 kHz | From 90 kHz to 110 kHz | From 150 kHz to 490 kHz | From 490 kHz to 30 MHz | From 30 MHz to 1 GHz |
| Instrument used | Test Receiver                                    |                        |                         |                        |                      |
| Detector        | PK / AV                                          | QP                     | PK / AV                 | QP                     | QP                   |
| IF Bandwidth    | 200 Hz                                           | 200 Hz                 | 9 kHz                   | 9 kHz                  | 120 kHz              |
| Test Distance   | 3 m *1)                                          | 3 m *1)                | 3 m *1)                 | 3 m *2)                | 3 m                  |

\*1) Distance Factor:  $40 \times \log (3 \text{ m} / 300 \text{ m}) = -80 \text{ dB}$

\*2) Distance Factor:  $40 \times \log (3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

Figure 2: Test Setup

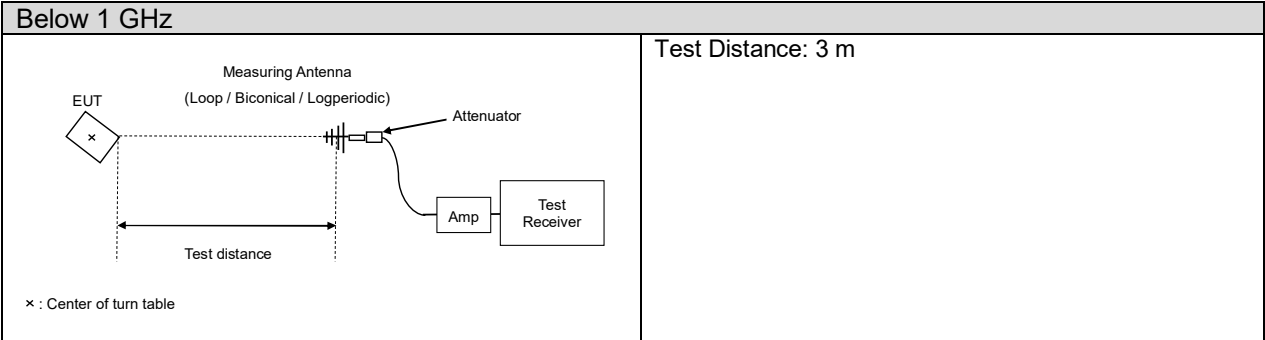
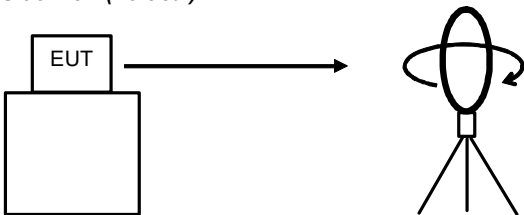
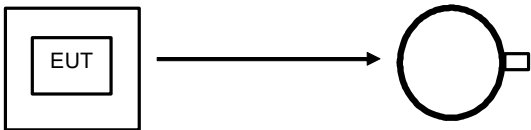


Figure 3: Direction of the Loop Antenna

Side View (Vertical)

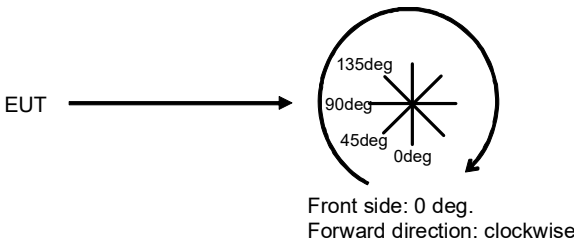


Top View (Horizontal)



Antenna was not rotated.

Top View (Vertical)



The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT and with or without the grip, to see the position of maximum noise, and the test was made at the position that has the maximum noise.

| EUT Axis   | Carrier        | Below 30 MHz   | Above 30 MHz   |
|------------|----------------|----------------|----------------|
| Horizontal | Y without Grip | Y without Grip | X without Grip |
| Vertical   | Z without Grip | Z without Grip | Y without Grip |

- The carrier level and noise levels were confirmed to see the tag type of maximum noise, and the test was made at the tag type that has the maximum noise.

| Tag        | Carrier | Below 30 MHz | Above 30 MHz |
|------------|---------|--------------|--------------|
| Horizontal | Type A  | Type B       | Type F       |
| Vertical   | Type A  | Type B       | Type F       |

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Measurement range : 9 kHz to 1 GHz  
Test data : APPENDIX  
Test result : Pass

## SECTION 7: Other tests

| Test                    | Span                                    | RBW             | VBW                | Sweep | Detector | Trace        | Instrument used   |
|-------------------------|-----------------------------------------|-----------------|--------------------|-------|----------|--------------|-------------------|
| 20 dB Bandwidth         | 1.5 MHz                                 | 7.5 kHz         | 24 kHz             | Auto  | Peak     | Max Hold     | Spectrum Analyzer |
| 99 % Occupied Bandwidth | Enough width to display emission skirts | 1 to 5 % of OBW | Three times of RBW | Auto  | Peak *1) | Max Hold *1) | Spectrum Analyzer |
| Frequency Tolerance     | -                                       | -               | -                  | -     | -        | -            | Frequency counter |

\*1) The measurement was performed with Peak detector, Max Hold since the duty cycle was not 100 %.  
Peak hold was applied as Worst-case measurement.

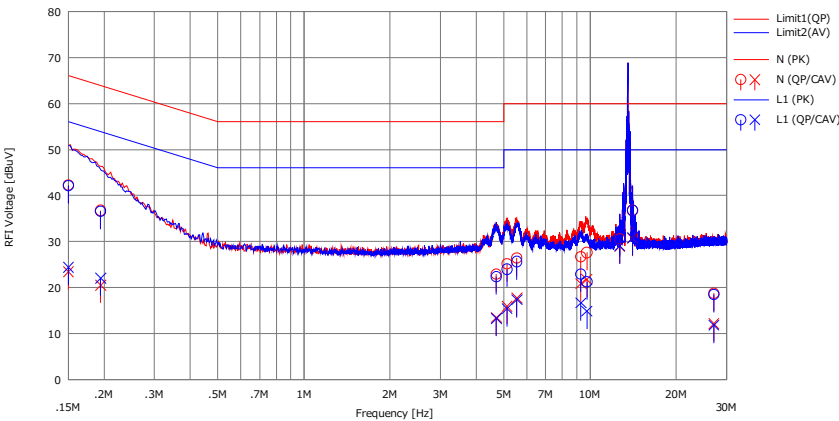
Test data : APPENDIX  
Test result : Pass

APPENDIX 1: Test data

Conducted Emission

|                  |                                 |             |          |              |                  |
|------------------|---------------------------------|-------------|----------|--------------|------------------|
| Mode             | Tx Mod on, without Tag (Type A) |             |          |              |                  |
| Date             | Test site                       | Temperature | Humidity | Engineer     | Power            |
| October 27, 2025 | SR8                             | 24 deg. C   | 54 % RH  | Kouki Yamada | AC 120 V / 60 Hz |

Limit: FCC Part 15 Subpart C (15.207)



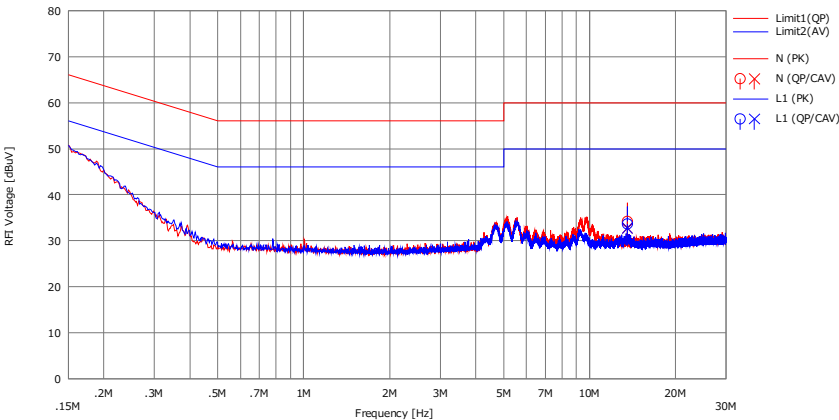
| No. | Freq.<br>[MHz] | Reading        |                 | C.Fac | Results        |                 | Limit          |                | Margin       |              | Phase | Comment |
|-----|----------------|----------------|-----------------|-------|----------------|-----------------|----------------|----------------|--------------|--------------|-------|---------|
|     |                | (QP)<br>[dBuV] | (CAV)<br>[dBuV] |       | (QP)<br>[dBuV] | (CAV)<br>[dBuV] | (QP)<br>[dBuV] | (AV)<br>[dBuV] | (QP)<br>[dB] | (AV)<br>[dB] |       |         |
| 1   | 0.15000        | 27.15          | 8.31            | 15.15 | 42.30          | 23.46           | 66.00          | 56.00          | 23.7         | 32.5         | N     |         |
| 2   | 0.19470        | 21.61          | 5.37            | 15.15 | 36.76          | 20.52           | 63.83          | 53.83          | 27.0         | 33.3         | N     |         |
| 3   | 4.70780        | 7.53           | -1.88           | 15.38 | 22.91          | 13.50           | 56.00          | 46.00          | 33.0         | 32.5         | N     |         |
| 4   | 5.13100        | 9.77           | 0.54            | 15.41 | 25.18          | 15.95           | 60.00          | 50.00          | 34.8         | 34.0         | N     |         |
| 5   | 5.55310        | 10.99          | 2.27            | 15.45 | 26.44          | 17.72           | 60.00          | 50.00          | 33.5         | 32.2         | N     |         |
| 6   | 9.29140        | 11.01          | 5.16            | 15.71 | 26.72          | 20.87           | 60.00          | 50.00          | 33.2         | 29.1         | N     |         |
| 7   | 9.74760        | 11.88          | 6.07            | 15.74 | 27.62          | 21.81           | 60.00          | 50.00          | 32.3         | 28.1         | N     |         |
| 8   | 12.71330       | 14.64          | 13.07           | 15.95 | 30.59          | 29.02           | 60.00          | 50.00          | 29.4         | 20.9         | N     |         |
| 9   | 14.09030       | 20.70          | 14.71           | 16.05 | 36.75          | 30.76           | 60.00          | 50.00          | 23.2         | 19.2         | N     |         |
| 10  | 27.12000       | 2.35           | -4.16           | 16.38 | 18.73          | 12.22           | 60.00          | 50.00          | 41.2         | 37.7         | N     |         |
| 11  | 0.15000        | 27.03          | 9.26            | 15.14 | 42.17          | 24.40           | 66.00          | 56.00          | 23.8         | 31.6         | L1    |         |
| 12  | 0.19470        | 21.42          | 6.93            | 15.16 | 36.58          | 22.09           | 63.83          | 53.83          | 27.2         | 31.7         | L1    |         |
| 13  | 4.70780        | 7.05           | -2.02           | 15.32 | 22.37          | 13.30           | 56.00          | 46.00          | 33.6         | 32.7         | L1    |         |
| 14  | 5.13100        | 8.65           | 0.14            | 15.33 | 23.98          | 15.47           | 60.00          | 50.00          | 36.0         | 34.5         | L1    |         |
| 15  | 5.55310        | 10.27          | 2.02            | 15.36 | 25.63          | 17.38           | 60.00          | 50.00          | 34.3         | 32.6         | L1    |         |
| 16  | 9.29140        | 7.34           | 1.14            | 15.57 | 22.91          | 16.71           | 60.00          | 50.00          | 37.0         | 33.2         | L1    |         |
| 17  | 9.74760        | 5.68           | -0.68           | 15.59 | 21.27          | 14.91           | 60.00          | 50.00          | 38.7         | 35.0         | L1    |         |
| 18  | 12.71330       | 15.08          | 13.34           | 15.74 | 30.82          | 29.08           | 60.00          | 50.00          | 29.1         | 20.9         | L1    |         |
| 19  | 14.09030       | 20.99          | 15.01           | 15.80 | 36.79          | 30.81           | 60.00          | 50.00          | 23.2         | 19.1         | L1    |         |
| 20  | 27.12000       | 2.22           | -4.46           | 16.29 | 18.51          | 11.83           | 60.00          | 50.00          | 41.4         | 38.1         | L1    |         |

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(LISN(AMN)+Cable+ATT)[dB]  
LISN(AMN): LIMS ID 145539

Conducted Emission

|                  |                                                      |             |          |              |                  |
|------------------|------------------------------------------------------|-------------|----------|--------------|------------------|
| Mode             | Tx Mod on, without Tag (Type A) / Antenna terminated |             |          |              |                  |
| Date             | Test site                                            | Temperature | Humidity | Engineer     | Power            |
| October 27, 2025 | SR8                                                  | 24 deg. C   | 54 % RH  | Kouki Yamada | AC 120 V / 60 Hz |

Limit: FCC Part 15 Subpart C (15.207)



| No. | Freq.<br>[MHz] | Reading        |                 | C.Fac | Results        |                 | Limit          |                | Margin       |              | Phase | Comment |
|-----|----------------|----------------|-----------------|-------|----------------|-----------------|----------------|----------------|--------------|--------------|-------|---------|
|     |                | (QP)<br>[dBuV] | (CAV)<br>[dBuV] |       | (QP)<br>[dBuV] | (CAV)<br>[dBuV] | (QP)<br>[dBuV] | (AV)<br>[dBuV] | (QP)<br>[dB] | (AV)<br>[dB] |       |         |
| 1   | 13.56000       | 18.18          | 16.75           | 16.01 | 34.19          | 32.76           | 60.00          | 50.00          | 25.8         | 17.2         | N     |         |
| 2   | 13.56000       | 17.87          | 16.99           | 15.78 | 33.65          | 32.77           | 60.00          | 50.00          | 26.3         | 17.2         | L1    |         |

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(LISN(AMN)+Cable+ATT)[dB]  
LISN(AMN): LIMS ID 145539

## Fundamental Emission and Spectrum Mask

|      |                                                                     |
|------|---------------------------------------------------------------------|
| Mode | Vertical: Tx Mod on, without Tag<br>Horizontal: Tx Mod on, with Tag |
|------|---------------------------------------------------------------------|

|                   |           |             |          |               |
|-------------------|-----------|-------------|----------|---------------|
| Date              | Test site | Temperature | Humidity | Engineer      |
| November 17, 2025 | SAC2      | 24 deg. C   | 35 % RH  | Hiromasa Sato |

### Fundamental emission

| No. | FREQ<br>[MHz] | Test Receiver<br>Reading |               | Antenna<br>Factor<br>[dB/m] | Loss<br>[dB] | AMP<br>GAIN<br>[dB] | Distance<br>factor<br>[dB] | RESULT          |                 | LIMIT<br>(30 m)<br>[dBuV/m] | MARGIN      |             |
|-----|---------------|--------------------------|---------------|-----------------------------|--------------|---------------------|----------------------------|-----------------|-----------------|-----------------------------|-------------|-------------|
|     |               | Hor<br>[dBuV]            | Ver<br>[dBuV] |                             |              |                     |                            | Hor<br>[dBuV/m] | Ver<br>[dBuV/m] |                             | Hor<br>[dB] | Ver<br>[dB] |
| 1   | 13.560        | 75.4                     | 82.8          | 9.4                         | 6.6          | 32.0                | -40.0                      | 19.5            | 26.9            | 83.9                        | 64.4        | 57.0        |

Calculation: Result[dBuV/m] = Reading[dBuV] + Ant. Fac[dB/m] + Loss(Cable+ATT)[dB] - Gain(AMP)[dB] + Distance factor[dB]  
Distance factor:  $40 \times \log(3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

### Spurious emission within the band

| No. | FREQ<br>[MHz] | Test Receiver<br>Reading |               | Antenna<br>Factor<br>[dB/m] | Loss<br>[dB] | AMP<br>GAIN<br>[dB] | Distance<br>factor<br>[dB] | RESULT          |                 | LIMIT<br>(30 m)<br>[dBuV/m] | MARGIN      |             |
|-----|---------------|--------------------------|---------------|-----------------------------|--------------|---------------------|----------------------------|-----------------|-----------------|-----------------------------|-------------|-------------|
|     |               | Hor<br>[dBuV]            | Ver<br>[dBuV] |                             |              |                     |                            | Hor<br>[dBuV/m] | Ver<br>[dBuV/m] |                             | Hor<br>[dB] | Ver<br>[dB] |
| 1   | 13.110        | 28.2                     | 39.7          | 9.5                         | 6.6          | 32.0                | -40.0                      | -27.7           | -16.2           | 29.5                        | 57.2        | 45.7        |
| 2   | 13.134        | -                        | 52.2          | 9.5                         | 6.6          | 32.0                | -40.0                      | -               | -3.6            | 40.5                        | -           | 44.1        |
| 3   | 13.137        | 43.9                     | -             | 9.5                         | 6.6          | 32.0                | -40.0                      | -12.0           | -               | 40.5                        | 52.5        | -           |
| 4   | 13.347        | 53.4                     | 64.3          | 9.5                         | 6.6          | 32.0                | -40.0                      | -2.5            | 8.4             | 40.5                        | 43.0        | 32.1        |
| 5   | 13.410        | 45.2                     | 60.0          | 9.5                         | 6.6          | 32.0                | -40.0                      | -10.7           | 4.1             | 40.5                        | 51.2        | 36.4        |
| 6   | 13.453        | -                        | 67.9          | 9.5                         | 6.6          | 32.0                | -40.0                      | -               | 12.0            | 50.4                        | -           | 38.4        |
| 7   | 13.456        | 54.5                     | -             | 9.5                         | 6.6          | 32.0                | -40.0                      | -1.4            | -               | 50.4                        | 51.8        | -           |
| 8   | 13.553        | 60.3                     | 68.3          | 9.4                         | 6.6          | 32.0                | -40.0                      | 4.3             | 12.4            | 50.4                        | 46.1        | 38.0        |
| 9   | 13.567        | 61.3                     | 69.3          | 9.4                         | 6.6          | 32.0                | -40.0                      | 5.4             | 13.3            | 50.4                        | 45.0        | 37.1        |
| 10  | 13.665        | 55.6                     | 69.0          | 9.4                         | 6.6          | 32.0                | -40.0                      | -0.4            | 13.0            | 50.4                        | 50.8        | 37.4        |
| 11  | 13.710        | 46.2                     | 61.3          | 9.4                         | 6.6          | 32.0                | -40.0                      | -9.8            | 5.4             | 40.5                        | 50.3        | 35.1        |
| 12  | 13.771        | 54.7                     | 66.0          | 9.4                         | 6.6          | 32.0                | -40.0                      | -1.3            | 10.0            | 40.5                        | 41.8        | 30.5        |
| 13  | 13.983        | -                        | 35.7          | 9.4                         | 6.6          | 32.0                | -40.0                      | -               | -20.3           | 40.5                        | -           | 60.8        |
| 14  | 13.984        | 43.0                     | -             | 9.4                         | 6.6          | 32.0                | -40.0                      | -13.0           | -               | 40.5                        | 53.5        | -           |
| 15  | 14.010        | 27.9                     | 37.7          | 9.4                         | 6.6          | 32.0                | -40.0                      | -28.1           | -18.3           | 29.5                        | 57.6        | 47.8        |

Calculation: Result[dBuV/m] = Reading[dBuV] + Ant. Fac[dB/m] + Loss(Cable+ATT)[dB] - Gain(AMP)[dB] + Distance factor[dB]  
Distance factor:  $40 \times \log(3 \text{ m} / 30 \text{ m}) = -40 \text{ dB}$

Outside filed strength frequencies

- Fc±7 kHz: 13.553 MHz to 13.567 MHz
- Fc±150 kHz: 13.410 MHz to 13.710 MHz
- Fc±450 kHz: 13.110 MHz to 14.010 MHz
- Fc = 13.56 MHz

## Spurious Emission

|      |                                                                                                                                |
|------|--------------------------------------------------------------------------------------------------------------------------------|
| Mode | Below 30 MHz<br>Vertical: Tx Mod on, without Tag<br>Horizontal: Tx Mod on, with Tag<br><br>Above 30 MHz<br>Tx Mod on, with Tag |
|------|--------------------------------------------------------------------------------------------------------------------------------|

| Date              | Test site | Temperature | Humidity | Engineer       | Measurement Range |
|-------------------|-----------|-------------|----------|----------------|-------------------|
| November 17, 2025 | SAC2      | 24 deg. C   | 35 % RH  | Hiromasa Sato  | Below 30 MHz      |
| November 20, 2025 | SAC3      | 22 deg. C   | 42 % RH  | Masahide Ozaki | Above 30 MHz      |

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Distance Factor [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark        |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|----------------------|-----------------|----------------|-------------|-------------|--------------|---------------|
| Hori.    | 13.03           | QP       | 37.4           | 9.5             | 6.6       | 32.0      | -40.0                | -18.5           | 29.5           | 48.0        | -           | 38           | * Limit: 30 m |
| Hori.    | 14.09           | QP       | 37.8           | 9.4             | 6.6       | 32.0      | -40.0                | -18.2           | 29.5           | 47.7        | -           | 38           | * Limit: 30 m |
| Hori.    | 27.12           | QP       | 31.6           | 7.0             | 6.9       | 31.9      | -40.0                | -26.5           | 29.5           | 56.0        | -           | 275          | * Limit: 30 m |
| Hori.    | 67.800          | QP       | 34.3           | 9.4             | 6.6       | 33.2      | 0.0                  | 17.0            | 40.0           | 23.0        | 309         | 38           |               |
| Hori.    | 149.160         | QP       | 34.5           | 11.8            | 7.2       | 33.2      | 0.0                  | 20.4            | 43.5           | 23.1        | 132         | 24           |               |
| Hori.    | 176.280         | QP       | 46.6           | 13.1            | 7.5       | 33.1      | 0.0                  | 34.0            | 43.5           | <b>9.5</b>  | 111         | 2            |               |
| Hori.    | 203.400         | QP       | 43.6           | 11.6            | 7.4       | 33.1      | 0.0                  | 29.5            | 43.5           | 14.1        | 164         | 314          |               |
| Hori.    | 230.520         | QP       | 38.7           | 11.4            | 7.5       | 33.0      | 0.0                  | 24.6            | 46.0           | 21.4        | 132         | 221          |               |
| Hori.    | 887.301         | QP       | 20.5           | 22.0            | 9.1       | 30.5      | 0.0                  | 21.1            | 46.0           | 24.9        | 100         | 0            |               |
| Vert.    | 13.03           | QP       | 50.5           | 9.5             | 6.6       | 32.0      | -40.0                | -5.4            | 29.5           | 34.9        | -           | 37           | * Limit: 30 m |
| Vert.    | 14.09           | QP       | 50.4           | 9.4             | 6.6       | 32.0      | -40.0                | -5.6            | 29.5           | 35.1        | -           | 37           | * Limit: 30 m |
| Vert.    | 27.12           | QP       | 30.8           | 7.0             | 6.9       | 31.9      | -40.0                | -27.3           | 29.5           | 56.8        | -           | 332          | * Limit: 30 m |
| Vert.    | 40.680          | QP       | 33.3           | 11.4            | 6.5       | 33.0      | 0.0                  | 18.2            | 40.0           | 21.8        | 100         | 69           |               |
| Vert.    | 67.800          | QP       | 37.0           | 9.4             | 6.6       | 33.2      | 0.0                  | 19.7            | 40.0           | 20.3        | 100         | 75           |               |
| Vert.    | 94.920          | QP       | 36.3           | 9.3             | 7.1       | 33.2      | 0.0                  | 19.4            | 43.5           | 24.1        | 100         | 73           |               |
| Vert.    | 176.280         | QP       | 42.1           | 13.1            | 7.5       | 33.1      | 0.0                  | 29.5            | 43.5           | 14.0        | 100         | 89           |               |
| Vert.    | 203.40          | QP       | 38.0           | 11.6            | 7.4       | 33.1      | 0.0                  | 23.9            | 43.5           | 19.7        | 100         | 72           |               |
| Vert.    | 934.63          | QP       | 20.3           | 22.0            | 9.2       | 30.2      | 0.0                  | 21.3            | 46.0           | 24.7        | 100         | 0            |               |

Result = Reading + Ant Factor + Loss (Cable+ATT+ΔAF(above 30 MHz)) - Gain(Amplifier) + Distance factor(below 30 MHz)

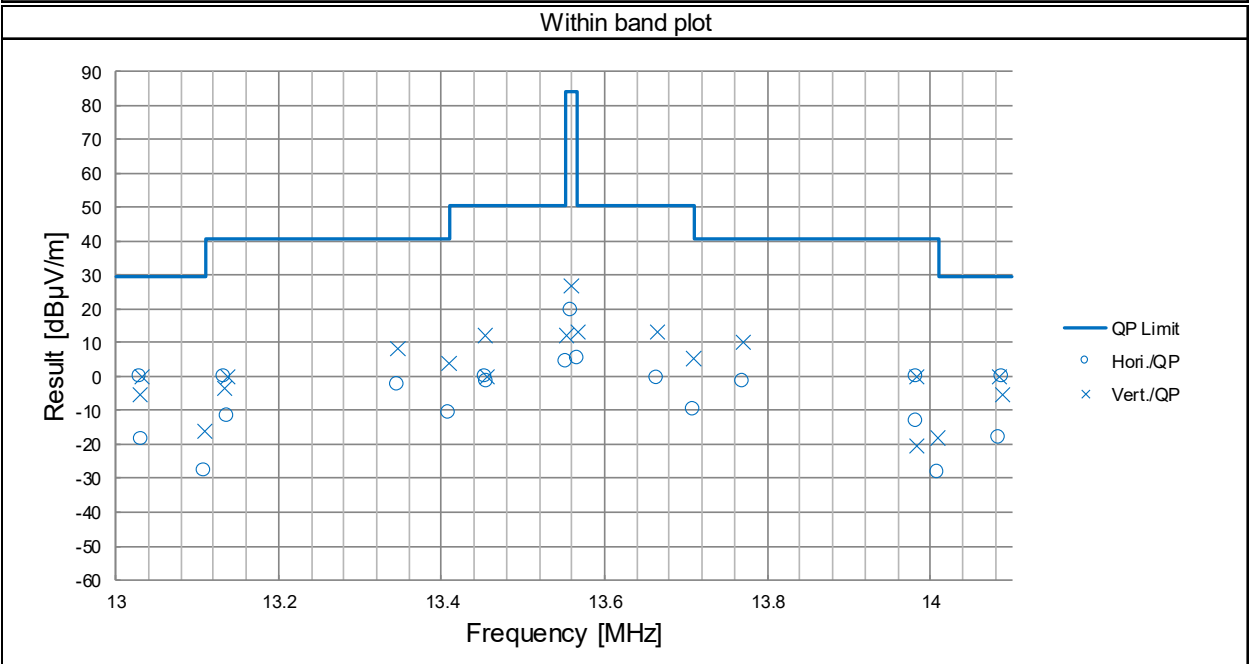
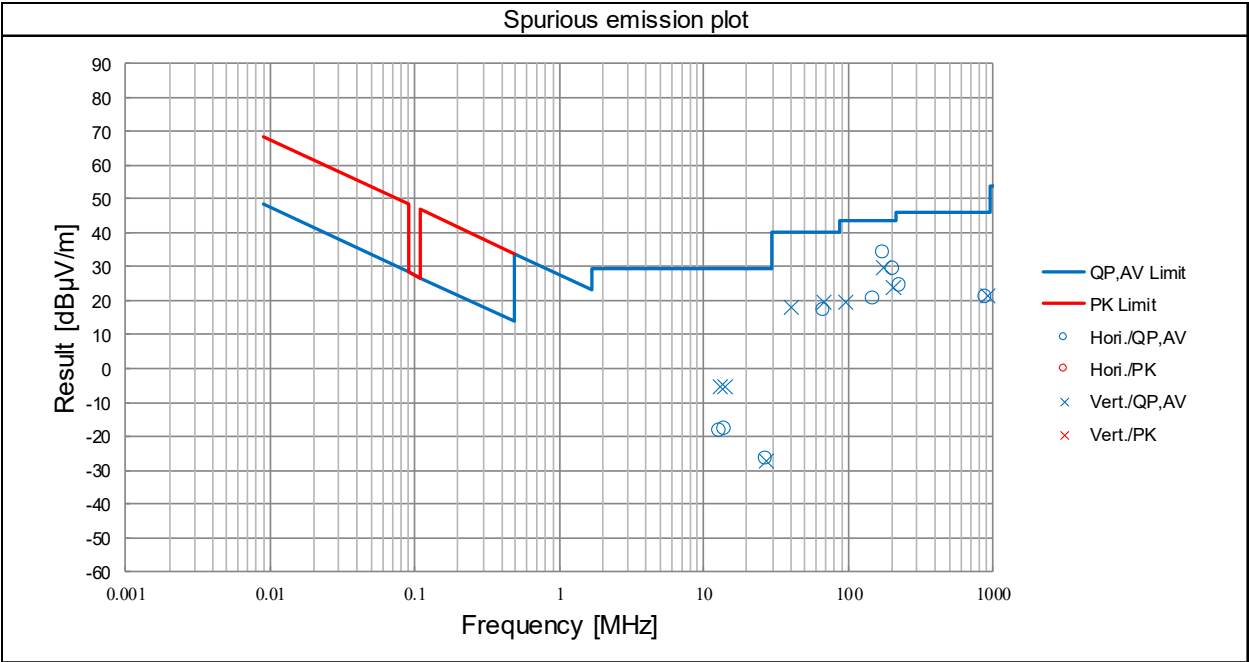
\* Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

\* Carrier level (Result at 3 m): Hor= 59.5 dBuV/m, Ver= 66.9 dBuV/m

**Radiated Spurious Emission**  
**(Plot data, Worst case for Spurious Emission)**

|      |                                                                     |
|------|---------------------------------------------------------------------|
| Mode | Below 30 MHz                                                        |
|      | Vertical: Tx Mod on, without Tag<br>Horizontal: Tx Mod on, with Tag |
|      | Above 30 MHz                                                        |
|      | Tx Mod on, with Tag                                                 |

| Date              | Test site | Temperature | Humidity | Engineer       | Measurement Range |
|-------------------|-----------|-------------|----------|----------------|-------------------|
| November 17, 2025 | SAC2      | 24 deg. C   | 35 % RH  | Hiromasa Sato  | Below 30 MHz      |
| November 20, 2025 | SAC3      | 22 deg. C   | 42 % RH  | Masahide Ozaki | Above 30 MHz      |

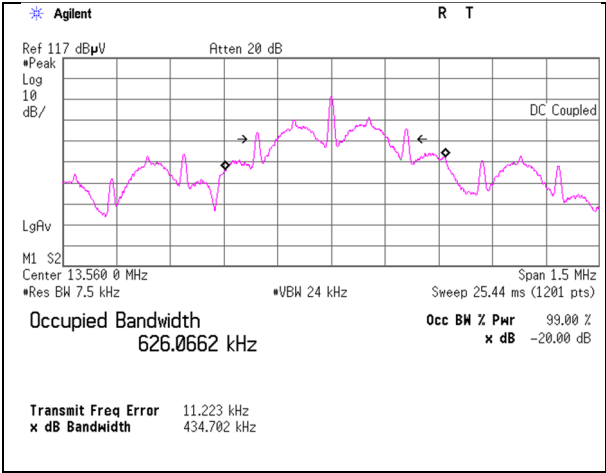


\*These plots data contains sufficient number to show the trend of characteristic features for EUT.

20 dB Bandwidth and 99 % Occupied Bandwidth

|                   |                                 |             |          |              |
|-------------------|---------------------------------|-------------|----------|--------------|
| Mode              | Tx Mod on, without Tag (Type A) |             |          |              |
| Date              | Test site                       | Temperature | Humidity | Engineer     |
| December 10, 2025 | SR5                             | 22 deg. C   | 33 % RH  | Miku Ikudome |

| FREQ<br>[MHz] | 20 dB Bandwidth<br>[kHz] | 99 % Occupied Bandwidth<br>[kHz] |
|---------------|--------------------------|----------------------------------|
| 13.56         | 434.70                   | 626.07                           |



## Frequency Tolerance

|         |              |
|---------|--------------|
| Mode    | Tx Mod off   |
| Voltage | Battery part |

|                   |           |             |          |              |
|-------------------|-----------|-------------|----------|--------------|
| Date              | Test site | Temperature | Humidity | Engineer     |
| November 28, 2025 | SR5       | 25 deg. C   | 46 % RH  | Miku Ikudome |

| Test condition |                         | Tested timing | Measured frequency [MHz] | Frequency error [MHz] | Result  |       | Limit |
|----------------|-------------------------|---------------|--------------------------|-----------------------|---------|-------|-------|
| Temp. [deg. C] | Voltage [V]             |               |                          |                       | [%]     | [ppm] |       |
| 50             | 3.89                    | Power on      | 13.560040                | 0.000040              | 0.00029 | 2.9   | 0.01  |
|                |                         | + 2 min.      | 13.560037                | 0.000037              | 0.00027 | 2.7   | 0.01  |
|                |                         | + 5 min.      | 13.560032                | 0.000032              | 0.00024 | 2.4   | 0.01  |
|                |                         | + 10 min.     | 13.560031                | 0.000031              | 0.00023 | 2.3   | 0.01  |
| 40             | 3.89                    | Power on      | 13.560055                | 0.000055              | 0.00041 | 4.1   | 0.01  |
|                |                         | + 2 min.      | 13.560049                | 0.000049              | 0.00036 | 3.6   | 0.01  |
|                |                         | + 5 min.      | 13.560049                | 0.000049              | 0.00036 | 3.6   | 0.01  |
|                |                         | + 10 min.     | 13.560048                | 0.000048              | 0.00035 | 3.5   | 0.01  |
| 30             | 3.89                    | Power on      | 13.560108                | 0.000108              | 0.00080 | 8.0   | 0.01  |
|                |                         | + 2 min.      | 13.560094                | 0.000094              | 0.00069 | 6.9   | 0.01  |
|                |                         | + 5 min.      | 13.560091                | 0.000091              | 0.00067 | 6.7   | 0.01  |
|                |                         | + 10 min.     | 13.560089                | 0.000089              | 0.00066 | 6.6   | 0.01  |
| 20             | 3.89                    | Power on      | 13.560147                | 0.000147              | 0.00108 | 10.8  | 0.01  |
|                |                         | + 2 min.      | 13.560134                | 0.000134              | 0.00099 | 9.9   | 0.01  |
|                |                         | + 5 min.      | 13.560131                | 0.000131              | 0.00097 | 9.7   | 0.01  |
|                |                         | + 10 min.     | 13.560129                | 0.000129              | 0.00095 | 9.5   | 0.01  |
| 20             | 3.306<br>(3.89 V -15 %) | Power on      | 13.560137                | 0.000137              | 0.00101 | 10.1  | 0.01  |
|                |                         | + 2 min.      | 13.560126                | 0.000126              | 0.00093 | 9.3   | 0.01  |
|                |                         | + 5 min.      | 13.560124                | 0.000124              | 0.00091 | 9.1   | 0.01  |
|                |                         | + 10 min.     | 13.560121                | 0.000121              | 0.00089 | 8.9   | 0.01  |
| 20             | 4.474<br>(3.89 V +15 %) | Power on      | 13.560125                | 0.000125              | 0.00092 | 9.2   | 0.01  |
|                |                         | + 2 min.      | 13.560118                | 0.000118              | 0.00087 | 8.7   | 0.01  |
|                |                         | + 5 min.      | 13.560117                | 0.000117              | 0.00086 | 8.6   | 0.01  |
|                |                         | + 10 min.     | 13.560116                | 0.000116              | 0.00086 | 8.6   | 0.01  |
| 10             | 3.89                    | Power on      | 13.560180                | 0.000180              | 0.00133 | 13.3  | 0.01  |
|                |                         | + 2 min.      | 13.560171                | 0.000171              | 0.00126 | 12.6  | 0.01  |
|                |                         | + 5 min.      | 13.560167                | 0.000167              | 0.00123 | 12.3  | 0.01  |
|                |                         | + 10 min.     | 13.560164                | 0.000164              | 0.00121 | 12.1  | 0.01  |
| 0              | 3.89                    | Power on      | 13.560197                | 0.000197              | 0.00145 | 14.5  | 0.01  |
|                |                         | + 2 min.      | 13.560193                | 0.000193              | 0.00142 | 14.2  | 0.01  |
|                |                         | + 5 min.      | 13.560192                | 0.000192              | 0.00142 | 14.2  | 0.01  |
|                |                         | + 10 min.     | 13.560191                | 0.000191              | 0.00141 | 14.1  | 0.01  |
| -10            | 3.89                    | Power on      | 13.560188                | 0.000188              | 0.00139 | 13.9  | 0.01  |
|                |                         | + 2 min.      | 13.560193                | 0.000193              | 0.00142 | 14.2  | 0.01  |
|                |                         | + 5 min.      | 13.560194                | 0.000194              | 0.00143 | 14.3  | 0.01  |
|                |                         | + 10 min.     | 13.560194                | 0.000194              | 0.00143 | 14.3  | 0.01  |
| -20            | 3.89                    | Power on      | 13.560161                | 0.000161              | 0.00119 | 11.9  | 0.01  |
|                |                         | + 2 min.      | 13.560170                | 0.000170              | 0.00125 | 12.5  | 0.01  |
|                |                         | + 5 min.      | 13.560172                | 0.000172              | 0.00127 | 12.7  | 0.01  |
|                |                         | + 10 min.     | 13.560173                | 0.000173              | 0.00128 | 12.8  | 0.01  |

Calculation formula: Frequency error = Measured frequency - Tested frequency  
Result [%] = Frequency error / Tested frequency \* 100

Tested frequency: 13.56 MHz  
Limit (+/-): 0.01 % (+/- 100 ppm)

\*The test was begun from 50 deg. C and the temperature was lowered each 10 deg. C.

## Frequency Tolerance

|         |                |
|---------|----------------|
| Mode    | Tx Mod off     |
| Voltage | Connector part |

|                   |           |             |          |              |
|-------------------|-----------|-------------|----------|--------------|
| Date              | Test site | Temperature | Humidity | Engineer     |
| November 28, 2025 | SR5       | 25 deg. C   | 46 % RH  | Miku Ikudome |

| Test condition<br>Temp.<br>[deg. C] | Voltage<br>[V]      | Tested<br>timing | Measured<br>frequency<br>[MHz] | Frequency<br>error<br>[MHz] | Result   |       | Limit<br>[+/- %] |
|-------------------------------------|---------------------|------------------|--------------------------------|-----------------------------|----------|-------|------------------|
|                                     |                     |                  |                                |                             | [%]      | [ppm] |                  |
| 50                                  | 5                   | Power on         | 13.559969                      | -0.000031                   | -0.00023 | -2.3  | 0.01             |
|                                     |                     | + 2 min.         | 13.559964                      | -0.000036                   | -0.00027 | -2.7  | 0.01             |
|                                     |                     | + 5 min.         | 13.559963                      | -0.000037                   | -0.00027 | -2.7  | 0.01             |
|                                     |                     | + 10 min.        | 13.559963                      | -0.000037                   | -0.00027 | -2.7  | 0.01             |
| 40                                  | 5                   | Power on         | 13.559990                      | -0.000010                   | -0.00007 | -0.7  | 0.01             |
|                                     |                     | + 2 min.         | 13.559982                      | -0.000018                   | -0.00013 | -1.3  | 0.01             |
|                                     |                     | + 5 min.         | 13.559981                      | -0.000019                   | -0.00014 | -1.4  | 0.01             |
|                                     |                     | + 10 min.        | 13.559982                      | -0.000018                   | -0.00013 | -1.3  | 0.01             |
| 30                                  | 5                   | Power on         | 13.560026                      | 0.000026                    | 0.00019  | 1.9   | 0.01             |
|                                     |                     | + 2 min.         | 13.560018                      | 0.000018                    | 0.00013  | 1.3   | 0.01             |
|                                     |                     | + 5 min.         | 13.560015                      | 0.000015                    | 0.00011  | 1.1   | 0.01             |
|                                     |                     | + 10 min.        | 13.560013                      | 0.000013                    | 0.00010  | 1.0   | 0.01             |
| 20                                  | 5                   | Power on         | 13.560069                      | 0.000069                    | 0.00051  | 5.1   | 0.01             |
|                                     |                     | + 2 min.         | 13.560056                      | 0.000056                    | 0.00041  | 4.1   | 0.01             |
|                                     |                     | + 5 min.         | 13.560054                      | 0.000054                    | 0.00040  | 4.0   | 0.01             |
|                                     |                     | + 10 min.        | 13.560053                      | 0.000053                    | 0.00039  | 3.9   | 0.01             |
| 20                                  | 4.5<br>(V_min)      | Power on         | 13.560147                      | 0.000147                    | 0.00108  | 10.8  | 0.01             |
|                                     |                     | + 2 min.         | 13.560134                      | 0.000134                    | 0.00099  | 9.9   | 0.01             |
|                                     |                     | + 5 min.         | 13.560131                      | 0.000131                    | 0.00097  | 9.7   | 0.01             |
|                                     |                     | + 10 min.        | 13.560129                      | 0.000129                    | 0.00095  | 9.5   | 0.01             |
| 20                                  | 5.75<br>(5 V +15 %) | Power on         | 13.560137                      | 0.000137                    | 0.00101  | 10.1  | 0.01             |
|                                     |                     | + 2 min.         | 13.560129                      | 0.000129                    | 0.00095  | 9.5   | 0.01             |
|                                     |                     | + 5 min.         | 13.560125                      | 0.000125                    | 0.00092  | 9.2   | 0.01             |
|                                     |                     | + 10 min.        | 13.560125                      | 0.000125                    | 0.00092  | 9.2   | 0.01             |
| 10                                  | 5                   | Power on         | 13.560102                      | 0.000102                    | 0.00075  | 7.5   | 0.01             |
|                                     |                     | + 2 min.         | 13.560094                      | 0.000094                    | 0.00069  | 6.9   | 0.01             |
|                                     |                     | + 5 min.         | 13.560091                      | 0.000091                    | 0.00067  | 6.7   | 0.01             |
|                                     |                     | + 10 min.        | 13.560089                      | 0.000089                    | 0.00066  | 6.6   | 0.01             |
| 0                                   | 5                   | Power on         | 13.560123                      | 0.000123                    | 0.00091  | 9.1   | 0.01             |
|                                     |                     | + 2 min.         | 13.560119                      | 0.000119                    | 0.00088  | 8.8   | 0.01             |
|                                     |                     | + 5 min.         | 13.560118                      | 0.000118                    | 0.00087  | 8.7   | 0.01             |
|                                     |                     | + 10 min.        | 13.560116                      | 0.000116                    | 0.00086  | 8.6   | 0.01             |
| -10                                 | 5                   | Power on         | 13.560118                      | 0.000118                    | 0.00087  | 8.7   | 0.01             |
|                                     |                     | + 2 min.         | 13.560123                      | 0.000123                    | 0.00091  | 9.1   | 0.01             |
|                                     |                     | + 5 min.         | 13.560124                      | 0.000124                    | 0.00091  | 9.1   | 0.01             |
|                                     |                     | + 10 min.        | 13.560124                      | 0.000124                    | 0.00091  | 9.1   | 0.01             |
| -20                                 | 5                   | Power on         | 13.560090                      | 0.000090                    | 0.00066  | 6.6   | 0.01             |
|                                     |                     | + 2 min.         | 13.560095                      | 0.000095                    | 0.00070  | 7.0   | 0.01             |
|                                     |                     | + 5 min.         | 13.560097                      | 0.000097                    | 0.00072  | 7.2   | 0.01             |
|                                     |                     | + 10 min.        | 13.560097                      | 0.000097                    | 0.00072  | 7.2   | 0.01             |

Calculation formula: Frequency error = Measured frequency - Tested frequency  
Result [%] = Frequency error / Tested frequency \* 100

Tested frequency: 13.56 MHz  
Limit (+/-): 0.01 % (+/- 100 ppm)

\*The test was begun from 50 deg. C and the temperature was lowered each 10 deg. C.

## APPENDIX 2: Test instruments

### Test Equipment

| Test Item | LIMS ID | Description                      | Manufacturer                                | Model                                      | Serial                                  | Last Calibration Date | Cal Int |
|-----------|---------|----------------------------------|---------------------------------------------|--------------------------------------------|-----------------------------------------|-----------------------|---------|
| BW        | 145800  | Spectrum Analyzer                | Keysight Technologies Inc                   | E4448A                                     | MY48250106                              | 2025/03/31            | 12      |
| BW,FT     | 145111  | Digital Tester                   | SANWA                                       | PC500                                      | 7019232                                 | 2025/09/11            | 12      |
| BW,FT     | 146178  | Search coil                      | Langer                                      | RF-R 400-1                                 | 02-0634                                 | -                     | -       |
| BW,FT     | 259713  | Thermo-Hygrometer                | CUSTOM. Inc                                 | CTH-230                                    | -                                       | 2025/04/11            | 12      |
| CE        | 248304  | Attenuator                       | JFW                                         | 50HFFA-006-2/18N                           | -                                       | 2025/05/14            | 12      |
| CE        | 144969  | Coaxial Cable&RF Selector        | Suhner/Suhner/TOYO                          | RG223U/141PE/NS 4906                       | -/0901-270(RF Selector)                 | 2025/04/05            | 12      |
| CE        | 145113  | Digital Multimeter               | Agilent Technologies                        | U1251A                                     | TW46350095                              | 2025/09/11            | 12      |
| CE        | 145539  | LISN                             | Rohde & Schwarz                             | ENV216                                     | 100512                                  | 2025/02/01            | 12      |
| CE        | 235715  | Tape Measure                     | ASKUL                                       | -                                          | -                                       | -                     | -       |
| CE        | 242076  | Terminator                       | Weinschel - API Technologies Corp           | M1459A                                     | 121090                                  | 2025/11/02            | 12      |
| CE        | 146317  | Thermo-Hygrometer                | A&D Company                                 | AD-5681                                    | 4063325                                 | 2025/08/15            | 12      |
| CE,RE     | 170932  | EMI Software                     | TSJ (Techno Science Japan)                  | TEPTO-DV3(RE,CE,ME,PE)                     | Ver 3.1.0612                            | -                     | -       |
| CE,RE     | 235268  | Test Receiver                    | Rohde & Schwarz                             | ESW44                                      | 103212                                  | 2025/12/19            | 12      |
| FT        | 183119  | Microwave Counter                | Keysight Technologies Inc                   | 53151A                                     | US40511493                              | 2025/12/19            | 12      |
| FT        | 145200  | Temperature and Humidity Chamber | Espec                                       | PL-1KT                                     | 14020837                                | 2025/04/10            | 12      |
| RE        | 150921  | Attenuator                       | JFW                                         | 50HF-003N                                  | -                                       | 2025/02/19            | 12      |
| RE        | 167096  | Attenuator                       | JFW                                         | 50HF-006N                                  | -                                       | 2025/02/19            | 12      |
| RE        | 199783  | Attenuator                       | JFW                                         | 50HF-006N                                  | -                                       | 2025/06/04            | 12      |
| RE        | 248305  | Attenuator                       | JFW                                         | 50HFFA-006-2/18N                           | -                                       | 2025/05/14            | 12      |
| RE        | 145022  | Biconical Antenna                | Schwarzbeck Mess-Elektronik OHG             | BBA9106                                    | 91032665                                | 2025/04/22            | 12      |
| RE        | 239787  | Biconical Antenna                | Schwarzbeck Mess-Elektronik OHG             | VHBB 9124+BBA9106                          | 01908                                   | 2025/08/14            | 12      |
| RE        | 194601  | Coaxial Cable                    | Fjikura                                     | 5D-2W                                      | -                                       | 2025/11/12            | 12      |
| RE        | 236724  | Coaxial Cable                    | Hayashi-Repic co., Ltd.                     | SF106(HUBER+SUHNER)/LMR400UF/GL310C/GL310C | 2000430/47753-2/47256-01-04/47256-01-02 | 2025/05/12            | 12      |
| RE        | 144975  | Coaxial Cable&RF Selector        | Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO | 8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906 | -/0901-270(RF Selector)                 | 2025/04/05            | 12      |
| RE        | 144976  | Coaxial Cable&RF Selector        | Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO | 8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906 | -/0901-270(RF Selector)                 | 2025/04/05            | 12      |
| RE        | 145793  | Digital Hitester                 | HIOKI E. E. CORPORATION                     | 3805-50                                    | 80997819                                | 2025/05/23            | 12      |
| RE        | 235640  | DIGITAL MULTIMETER               | HIOKI E. E. CORPORATION                     | DT4261                                     | 230313157                               | 2025/05/22            | 12      |
| RE        | 145528  | Logperiodic Antenna              | Schwarzbeck Mess-Elektronik OHG             | VUSLP9111B                                 | 195                                     | 2025/03/18            | 12      |
| RE        | 236418  | Logperiodic Antenna              | Schwarzbeck Mess-Elektronik OHG             | VULP 9118 B                                | 00975                                   | 2025/07/22            | 12      |
| RE        | 245074  | Loop(Active) Antenna             | ETS-Lindgren                                | 6502                                       | 00262458                                | 2025/04/09            | 12      |
| RE        | 145004  | Pre Amplifier                    | SONOMA                                      | 310N                                       | 290212                                  | 2025/02/19            | 12      |
| RE        | 236967  | Pre Amplifier                    | TSJ (Techno Science Japan)                  | MLA-9K01-L01                               | 23050010                                | 2025/06/04            | 12      |
| RE        | 145568  | Semi Anechoic Chamber(ME)        | TDK                                         | Semi Anechoic Chamber 3m/10m               | 1, 2, 3                                 | 2024/10/12            | 24      |
| RE        | 145563  | Semi-Anechoic Chamber            | TDK                                         | SAEC-02(NSA)                               | 2                                       | 2025/03/05            | 12      |
| RE        | 236615  | Semi-Anechoic Chamber            | TDK                                         | SWAC-02(NSA)                               | 2                                       | 2025/05/12            | 12      |
| RE        | 207277  | Tape Measure                     | ASKUL                                       | -                                          | -                                       | -                     | -       |
| RE        | 207281  | Tape Measure                     | ASKUL                                       | -                                          | -                                       | -                     | -       |
| RE        | 150463  | Test Receiver                    | Rohde & Schwarz                             | ESW44                                      | 101581                                  | 2025/08/29            | 12      |
| RE        | 235738  | Thermo-Hygrometer                | CUSTOM. Inc                                 | CTH-230                                    | -                                       | 2025/04/16            | 12      |
| RE        | 259709  | Thermo-Hygrometer                | CUSTOM. Inc                                 | CTH-230                                    | -                                       | 2025/04/11            | 12      |

\*Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item:

CE: Conducted Emission

RE: Radiated Emission

FT: Frequency Tolerance

BW: Bandwidth