

# RADIO TEST REPORT

## Test Report No. 15886545S-R3

|                     |                                               |
|---------------------|-----------------------------------------------|
| Customer            | Fukuda Denshi Co., Ltd.                       |
| Description of EUT  | ECG, Respiration and SpO2 Transmitter         |
| Model Number of EUT | LX-1300E                                      |
| FCC ID              | DV8LX13002                                    |
| Test Regulation     | FCC Part 95 Subpart H<br>FCC Part 2 Subpart J |
| Test Result         | Complied                                      |
| Issue Date          | December 2, 2025                              |
| Remarks             | -                                             |

### Representative Test Engineer



Kenichi Adachi  
Engineer

### Approved By



Toyokazu Imamura  
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".

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 24.0

## **ANNOUNCEMENT**

- This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
- The results in this report apply only to the sample tested. (Laboratory was not involved in sampling.)
- This sample tested is in compliance with the limits of the above regulation.
- The test results in this test report are traceable to the national or international standards.
- This test report must not be used by the customer to claim product certification, approval, or endorsement by the A2LA accreditation body.
- This test report covers Radio technical requirements.  
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
- The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
- The opinions and the interpretations to the result of the description in this report are outside scopes where  
UL Japan, Inc. has been accredited.
- The information provided by the customer for this report is identified in SECTION 1.
- The laboratory is not responsible for information provided by the customer which can impact the validity of the results.
- For any test report referred in this report, the latest version (including any revisions) is always referred to.
- If the latest version is a revision, it replaces the previous version. See the table below for revisions and versions.

## **REVISION HISTORY**

| Revision        | Test Report No. | Date              | Page Revised Contents                                                                                                                                                                                                   |
|-----------------|-----------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -<br>(Original) | 15886545S       | July 30, 2025     | -                                                                                                                                                                                                                       |
| 1               | 15886545S-R1    | November 7, 2025  | p.16-18, p.20-22: modified EIRP value table.<br>(deleted antenna power value)                                                                                                                                           |
| 2               | 15886545S-R2    | November 19, 2025 | p.5, Added "(Actual operating voltage range: DC 2.4 V to DC 3.6 V)".<br>p.5, Added test date.<br>p.12 – p.45, Added High voltage measured data.<br>p.25, Added the list of test equipment used in the additional tests. |
| 3               | 15886545S-R3    | December 2, 2025  | p.5: Added <b>2.3 Variant model(s)</b>                                                                                                                                                                                  |

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

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

---

| <b>CONTENTS</b>                                                                                                       | <b>PAGE</b> |
|-----------------------------------------------------------------------------------------------------------------------|-------------|
| <b>SECTION 1: Customer Information .....</b>                                                                          | <b>5</b>    |
| <b>SECTION 2: Equipment Under Test (EUT).....</b>                                                                     | <b>5</b>    |
| <b>SECTION 3: Test Summary .....</b>                                                                                  | <b>6</b>    |
| <b>SECTION 4: Operation of EUT during testing .....</b>                                                               | <b>8</b>    |
| <b>SECTION 5: Bandwidth and Occupied bandwidth (99 %).....</b>                                                        | <b>9</b>    |
| <b>SECTION 6: Frequency Stability .....</b>                                                                           | <b>9</b>    |
| <b>SECTION 7: Field Strength (Fundamental Emission and Out of band emissions).....</b>                                | <b>10</b>   |
| <b>APPENDIX 1: Test data .....</b>                                                                                    | <b>12</b>   |
| Frequency Stability .....                                                                                             | 12          |
| -26 dB Bandwidth and 99 % Occupied bandwidth.....                                                                     | 15          |
| Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and<br>Band Edge Compliance) ..... | 16          |
| <b>APPENDIX 2: Test Instruments .....</b>                                                                             | <b>24</b>   |
| <b>APPENDIX 3: Photographs of test setup.....</b>                                                                     | <b>26</b>   |
| Radiated Spurious Emission.....                                                                                       | 26          |
| Pre-check of Worst Case Position .....                                                                                | 27          |
| Frequency Stability .....                                                                                             | 28          |

## **SECTION 1: Customer Information**

|                  |                                                 |
|------------------|-------------------------------------------------|
| Company Name     | Fukuda Denshi Co., Ltd.                         |
| Address          | 2-35-8 Hongo, Bunkyo-ku, Tokyo, 113-8420, Japan |
| Telephone Number | +81-3-5684-1300                                 |
| Contact Person   | Naoki Yoshida                                   |

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   | ECG, Respiration and SpO2 Transmitter                                                      |
| Model Number  | LX-1300E                                                                                   |
| 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  | January 16, 2025                                                                           |
| Test Date     | July 1 to 4, 2025 and November 17, 2025                                                    |

### **2.2 Product Description**

#### **General Specification**

|                       |                                                                            |
|-----------------------|----------------------------------------------------------------------------|
| Rating                | DC 3 V (Battery)<br>(Actual operating voltage range: DC 2.4 V to DC 3.6 V) |
| Operating Temperature | +10 deg. C to +40 deg. C                                                   |

#### **Radio Specification**

##### **NFC**

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

##### **WMTS**

|                        |                              |
|------------------------|------------------------------|
| Equipment Type         | Transmitter                  |
| Frequency of Operation | 608.0125 MHz to 613.9875 MHz |
| Type of Modulation     | FSK                          |
| Antenna Gain           | Less than +2.14 dBi          |
| Frequency stability    | +/-2.5 ppm                   |

### **2.3 Variant model(s)**

LF-1300M

Since the pre-check results showed no difference between Model LX-1300E and Model LF-1300M, the test was conducted using Model LX-1300E as the representative model.

## SECTION 3: Test Summary

### 3.1 Test Specification

|                    |                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------|
| Test Specification | FCC Part 95 Subpart H<br>The latest version on the first day of the testing period         |
| Title              | FCC 47 CFR Part 95 Personal Radio Services<br>Subpart H Wireless Medical Telemetry Service |

|                    |                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Specification | FCC Part 2 Subpart J<br>The latest version on the first day of the testing period                                                                  |
| Title              | FCC 47 CFR Part 2 Frequency Allocations and Radio Treaty Matters;<br>General Rules and Regulations<br>Subpart J Equipment Authorization Procedures |

The EUT is used for the purpose of being related to medical treatment. Therefore this device applies to §15.103(e), exempted from FCC Part 15 Subpart B.

### 3.2 Reference Standards

ANSI C63.26-2015  
ANSI/TIA-603-E-2016

### 3.3 Summary of Test Results

| Item                                                                                                         | Specification                            | Results  | Remarks  |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------|----------|----------|
| Conducted Emission                                                                                           | FCC: Section 15.207<br>ISED: RSS-Gen 8.8 | N/A      | *1)      |
| WMTS field strength limits                                                                                   | FCC: FCC 95.2369(a)<br>ISED: -           | Complied | Radiated |
| WMTS unwanted emissions limits                                                                               | FCC: FCC 95.2379<br>ISED: -              | Complied | Radiated |
| WMTS frequency accuracy                                                                                      | FCC: FCC 95.2365<br>ISED: -              | Complied | Radiated |
| Bandwidth                                                                                                    | FCC: Applicant specification<br>ISED: -  | Complied | Radiated |
| Spurious emission at antenna terminals                                                                       | FCC: -<br>ISED: -                        | N/A      | *2)      |
| Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. |                                          |          |          |
| *1) The test is not applicable since the EUT has no AC mains.                                                |                                          |          |          |
| *2) The test is not applicable since the EUT has no antenna terminals.                                       |                                          |          |          |

### 3.3 Addition to Standard

| Item                                                                                                         | Specification | Results | Remarks  |
|--------------------------------------------------------------------------------------------------------------|---------------|---------|----------|
| 99 % emission bandwidth                                                                                      | ISED: -       | -       | 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.

### 3.4 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  $k = 2$ .

Shonan EMC Lab.

| Item                                             | Frequency range   | Uncertainty (+/-)   |
|--------------------------------------------------|-------------------|---------------------|
| 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              |
|                                                  | 1 GHz to 6 GHz    | 4.7 dB              |
|                                                  | 6 GHz to 18 GHz   | 5.3 dB              |
| Antenna terminal test                            |                   | Uncertainty (+/-)   |
| Frequency Measurement                            |                   | $1.6 \times E^{-7}$ |
| Bandwidth Measurement                            |                   | 0.012 %             |
| Temperature                                      |                   | 2.2 deg.C.          |
| Humidity                                         |                   | 3.4 %               |
| Voltage                                          |                   | 0.92 %              |

### 3.5 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                 | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.2 Shielded room                 | 6.8 x 4.1 x 2.7            | 6.8 x 4.1                                                        | -                            |
| No.3 Shielded room                 | 6.3 x 4.7 x 2.7            | 6.3 x 4.7                                                        | -                            |
| No.4 Shielded room                 | 4.4 x 4.7 x 2.7            | 4.4 x 4.7                                                        | -                            |
| No.5 Shielded room                 | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.6 Shielded room                 | 7.8 x 6.4 x 2.7            | 7.8 x 6.4                                                        | -                            |
| No.8 Shielded room                 | 3.45 x 5.5 x 2.4           | 3.45 x 5.5                                                       | -                            |
| No.1 Measurement room              | 2.55 x 4.1 x 2.5           | -                                                                | -                            |
| No.2 Measurement room              | 4.5 x 3.5 x 2.5            | -                                                                | -                            |
| Wireless shielded room 1           | 3.0 x 4.5 x 2.7            | 3.0 x 4.5                                                        | -                            |
| Wireless shielded room 2           | 3.0 x 4.5 x 2.7            | 3.0 x 4.5                                                        | -                            |

### 3.6 Test Data, Test Instruments, and Test Set Up

Refer to APPENDIX.

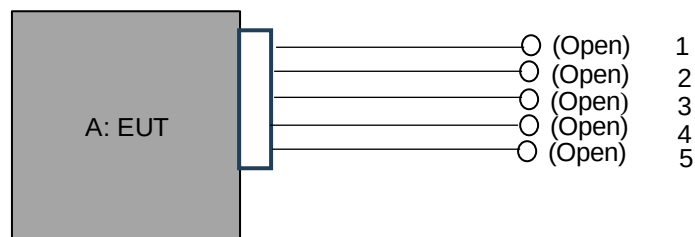
## SECTION 4: Operation of EUT during testing

### 4.1 Operating Mode(s)

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

| Mode                                                                                                                                                                                                                                                                                                                                                                                                                          | Operating mode                | Tested frequencies                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------|
| All items                                                                                                                                                                                                                                                                                                                                                                                                                     | Transmitting (modulated) (Tx) | 608.0125 MHz<br>611.0000 MHz<br>613.9875 MHz |
| *EUT has the power settings by the software as follows;<br>Power Setting: High power: 5 mW<br>Low power: 2 mW<br>Software: V01-01 Version: V01-02<br>(Date: 2025.01.15, Storage location: EUT memory)<br>*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. |                               |                                              |

### 4.2 Configuration and Peripherals



\* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

#### Description of EUT

| No. | Item                                  | Model number | Serial Number | Manufacturer            | Remarks |
|-----|---------------------------------------|--------------|---------------|-------------------------|---------|
| A   | ECG, Respiration and SpO2 Transmitter | LX-1300E     | WAF00001      | Fukuda Denshi Co., Ltd. | EUT     |

#### List of Cables Used

| No. | Name         | Length (m) | Shield   |            | Remarks |
|-----|--------------|------------|----------|------------|---------|
|     |              |            | Cable    | Connector  |         |
| 1   | Signal Cable | 0.9        | Shielded | Unshielded | -       |
| 2   | Signal Cable | 0.9        | Shielded | Unshielded | -       |
| 3   | Signal Cable | 0.9        | Shielded | Unshielded | -       |
| 4   | Signal Cable | 0.9        | Shielded | Unshielded | -       |
| 5   | Signal Cable | 0.9        | Shielded | Unshielded | -       |

## **SECTION 5: Bandwidth and Occupied bandwidth (99 %)**

### **Test Procedure**

The bandwidth was measured with a spectrum analyzer.

**Test data** : APPENDIX

**Test result** : Pass

## **SECTION 6: Frequency Stability**

### **Test Procedure**

The frequency stability was measured with a spectrum analyzer.

The temperature test was started after the temperature stabilization time of 30 minutes.

Tested temperature was -30 deg. C. to +50 deg. C.

\*) The test result on 50 deg. C., 0 deg. C., -10 deg. C., -20 deg. C., and -30 deg. C. were reference data,  
Since the specification of operating temperature of EUT was +10 deg. C. to +40 deg. C.  
(It used the manufacturer's specified conditions (refer to FCC 95.2365))

**Test data** : APPENDIX

**Test result** : Pass

## SECTION 7: Field Strength (Fundamental Emission and Out of band emissions)

### Test Procedure

EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.

The table is made of expanded polystyrol and expanded polypropylene and the table top is covered with poly carbonate. That has very low permittivity.

The Field Strength has been measured in a Semi Anechoic Chamber with a ground plane, and at a distance of 3 m.

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

The antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.

The measurements were performed for both vertical and horizontal antenna polarization with the test receiver, or spectrum analyzer.

The measurements were made with the following detector function of the test receiver and spectrum analyzer (in liner mode).

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.

### Test Antennas are used as below;

| Frequency             | Below 30 MHz                                                                 | 30 MHz to 200 MHz | 200 MHz to 1 GHz | Above 1 GHz                                                   |
|-----------------------|------------------------------------------------------------------------------|-------------------|------------------|---------------------------------------------------------------|
| Instrument used       | Test Receiver                                                                | Test Receiver     | Test Receiver    | Spectrum analyzer *1)                                         |
| Detector IF bandwidth | QP: RBW 200 Hz<br>(9 kHz to 150 kHz)<br>QP: RBW 9 kHz<br>(150 kHz to 30 MHz) | QP: RBW 120 kHz   | QP: RBW 120 kHz  | AV:<br>RBW 1 MHz<br>VBW 10 Hz<br>(No pulse emission detected) |
| Antenna Type          | Loop                                                                         | Biconical         | Logperiodic      | Horn                                                          |

\*1) When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

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

### Band edge

To determine the level of band-edge spurious, we use the following procedure:

Set the resolution bandwidth to 1 kHz in the peak detector mode.

Because we don't want to include in-band emission at BandEdge measurement if center frequencies are "608.0125 MHz" or "613.9875 MHz" and BandEdges are "608 MHz" or "614 MHz".

(The supplementation: There are some granted test report that were measured by 3 kHz RBW for the equipment that has 350 kHz for 26 dB bandwidth in similar case. )

We used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 971168 D01 (971168 D01 Power Meas License Digital Systems v03r01).

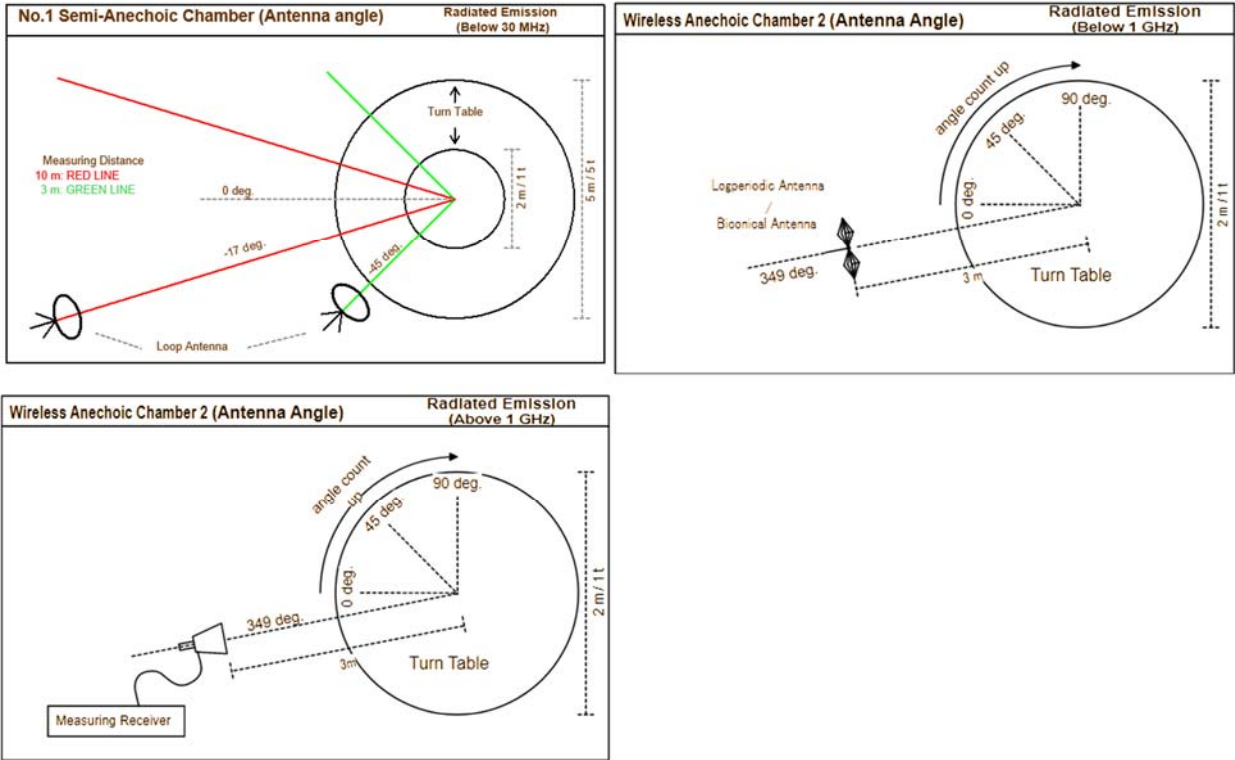
Measure the maximum level of the in-band channel closest to the band edge and the maximum level of the out-of-band emissions close to the same band edge.

Determine the ratio of the in-band signal to the out-of-band emissions. Then, measure the level of the in-band channel in CISPR quasi-peak mode with 120 kHz bandwidth. Using the ratio obtained, we calculate the equivalent level of the out-of-band emissions to determine compliance with the limits.

The emission tests, except for the band edge, were performed with the quasi-peak mode of the spectrum analyzer.

(Bandwidth: 1 MHz)

Figure 1. Antenna angle



The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

|          |            | Below 30 MHz | 30 MHz to 1 GHz | Above 1 GHz |
|----------|------------|--------------|-----------------|-------------|
| EUT unit | Horizontal | X            | Z               | Z           |
|          | Vertical   | X            | X               | Y           |
| cable    | Horizontal | X            | X               | X           |
|          | Vertical   | X            | Z               | Z           |

Test results are rounded off and limit are rounded down, so some differences might be observed.

Measurement range : 9 kHz to 10 GHz  
Test data : APPENDIX  
Test result : Pass

\* No noise from radio part was detected in 9 kHz to 30 MHz.

## APPENDIX 1: Test data

### Frequency Stability

Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 3, 2025 July 4, 2025 July 4, 2025 November 17, 2025  
Temperature / 23 deg. C / 45 % RH 23 deg. C / 50 % RH 25 deg. C / 52 % RH 24 deg. C / 56 % RH  
Humidity  
Engineer Yuta Shiba Yohsuke Matsuzawa Toshinori Yamada Kenichi Adachi  
Mode Transmitting 608.0125 MHz

| Test Condition<br>deg.C      Voltage |                     | Test Timing | Measured frequency<br>[MHz] | Frequency error<br>[MHz] | Result<br>[ppm] | Limit<br>[+/- ppm] | Margin<br>[ppm] |
|--------------------------------------|---------------------|-------------|-----------------------------|--------------------------|-----------------|--------------------|-----------------|
| 20 deg.C                             | DC 1.71 V<br>(Vmin) | Power on    | 608.012444                  | -0.000056                | -0.09           | 2.50               | 2.41            |
|                                      |                     | on 2 min.   | 608.012398                  | -0.000103                | -0.17           | 2.50               | 2.33            |
|                                      |                     | on 5 min.   | 608.012410                  | -0.000090                | -0.15           | 2.50               | 2.35            |
|                                      |                     | on 10 min.  | 608.012407                  | -0.000093                | -0.15           | 2.50               | 2.35            |
|                                      | DC 3 V<br>(Vnom)    | Power on    | 608.012438                  | -0.000062                | -0.10           | 2.50               | 2.40            |
|                                      |                     | on 2 min.   | 608.012416                  | -0.000084                | -0.14           | 2.50               | 2.36            |
|                                      |                     | on 5 min.   | 608.012432                  | -0.000068                | -0.11           | 2.50               | 2.39            |
|                                      |                     | on 10 min.  | 608.012450                  | -0.000050                | -0.08           | 2.50               | 2.42            |
|                                      | DC 3.6 V<br>(Vmax)  | Power on    | 608.011728                  | -0.000773                | -1.27           | 2.50               | 1.23            |
|                                      |                     | on 2 min.   | 608.011720                  | -0.000780                | -1.28           | 2.50               | 1.22            |
|                                      |                     | on 5 min.   | 608.011613                  | -0.000888                | -1.46           | 2.50               | 1.04            |
|                                      |                     | on 10 min.  | 608.011558                  | -0.000943                | -1.55           | 2.50               | 0.95            |
| 50 deg.C.                            | DC 3 V              | Power on    | 608.011209                  | -0.001291                | -2.12           | -                  | -               |
| on 2 min.                            |                     | 608.011159  | -0.001341                   | -2.21                    | -               | -                  |                 |
| on 5 min.                            |                     | 608.011209  | -0.001291                   | -2.12                    | -               | -                  |                 |
| on 10 min.                           |                     | 608.011200  | -0.001301                   | -2.14                    | -               | -                  |                 |
| 40 deg.C.                            |                     | Power on    | 608.011228                  | -0.001272                | -2.09           | 2.50               | 0.41            |
| on 2 min.                            |                     | 608.011253  | -0.001247                   | -2.05                    | 2.50            | 0.45               |                 |
| on 5 min.                            |                     | 608.011290  | -0.001210                   | -1.99                    | 2.50            | 0.51               |                 |
| on 10 min.                           |                     | 608.011250  | -0.001250                   | -2.06                    | 2.50            | 0.44               |                 |
| 30 deg.C.                            |                     | Power on    | 608.011753                  | -0.000747                | -1.23           | 2.50               | 1.27            |
| on 2 min.                            |                     | 608.011779  | -0.000722                   | -1.19                    | 2.50            | 1.31               |                 |
| on 5 min.                            |                     | 608.011734  | -0.000766                   | -1.26                    | 2.50            | 1.24               |                 |
| on 10 min.                           |                     | 608.011850  | -0.000650                   | -1.07                    | 2.50            | 1.43               |                 |
| 20 deg.C.                            |                     | Power on    | 608.012438                  | -0.000062                | -0.10           | 2.50               | 2.40            |
| on 2 min.                            |                     | 608.012416  | -0.000084                   | -0.14                    | 2.50            | 2.36               |                 |
| on 5 min.                            |                     | 608.012432  | -0.000068                   | -0.11                    | 2.50            | 2.39               |                 |
| on 10 min.                           |                     | 608.012450  | -0.000050                   | -0.08                    | 2.50            | 2.42               |                 |
| 10 deg.C.                            |                     | Power on    | 608.012986                  | 0.000485                 | 0.80            | 2.50               | 1.70            |
| on 2 min.                            |                     | 608.012957  | 0.000457                    | 0.75                     | 2.50            | 1.75               |                 |
| on 5 min.                            |                     | 608.012926  | 0.000425                    | 0.70                     | 2.50            | 1.80               |                 |
| on 10 min.                           |                     | 608.012864  | 0.000364                    | 0.60                     | 2.50            | 1.90               |                 |
| 0 deg.C.                             |                     | Power on    | 608.012670                  | 0.000169                 | 0.28            | -                  | -               |
| on 2 min.                            |                     | 608.012710  | 0.000210                    | 0.35                     | -               | -                  |                 |
| on 5 min.                            |                     | 608.012770  | 0.000269                    | 0.44                     | -               | -                  |                 |
| on 10 min.                           |                     | 608.012320  | -0.000181                   | -0.30                    | -               | -                  |                 |
| -10deg.C.                            |                     | Power on    | 608.011704                  | -0.000796                | -1.31           | -                  | -               |
| on 2 min.                            |                     | 608.011681  | -0.000819                   | -1.35                    | -               | -                  |                 |
| on 5 min.                            |                     | 608.011666  | -0.000834                   | -1.37                    | -               | -                  |                 |
| on 10 min.                           |                     | 608.011497  | -0.001003                   | -1.65                    | -               | -                  |                 |
| -20 deg.C                            |                     | Power on    | 608.009246                  | -0.003255                | -5.35           | -                  | -               |
| on 2 min.                            |                     | 608.009202  | -0.003299                   | -5.43                    | -               | -                  |                 |
| on 5 min.                            |                     | 608.009114  | -0.003386                   | -5.57                    | -               | -                  |                 |
| on 10 min.                           |                     | 608.008893  | -0.003608                   | -5.93                    | -               | -                  |                 |
| -30 deg.C                            |                     | Power on    | 608.004275                  | -0.008225                | -13.53          | -                  | -               |
| on 2 min.                            |                     | 608.004425  | -0.008075                   | -13.28                   | -               | -                  |                 |
| on 5 min.                            |                     | 608.004444  | -0.008056                   | -13.25                   | -               | -                  |                 |
| on 10 min.                           |                     | 608.004488  | -0.008012                   | -13.18                   | -               | -                  |                 |

Limit : 608.0125 MHz +/-0.00025 % (+/-2.5 ppm) = +/- 0.001520 MHz

\*The test on 50 deg.C., 0 deg.C., -10 deg.C., -20 deg.C. and -30 deg.C. were reference data, since the specification of operating temperature of EUT was 10 deg.C to 40 deg.C. (It used the manufacturer's specified conditions (refer to FCC 95.2365))

\* As a more stringent condition, testing was conducted using the lowest voltage (Vmin) at which operation was possible despite being outside specifications.

## Frequency Stability

Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 3, 2025 July 4, 2025 July 4, 2025 November 17, 2025  
Temperature / 23 deg. C / 45 % RH 23 deg. C / 50 % RH 25 deg. C / 52 % RH 24 deg. C / 56 % RH  
Humidity  
Engineer Yuta Shiba Yohsuke Matsuzawa Toshinori Yamada Kenichi Adachi  
Mode Transmitting 611.000 MHz

| Test Condition<br>deg.C      Voltage |                     | Test Timing | Measured frequency<br>[MHz] | Frequency error<br>[MHz] | Result<br>[ppm] | Limit<br>[+/- ppm] | Margin<br>[ppm] |
|--------------------------------------|---------------------|-------------|-----------------------------|--------------------------|-----------------|--------------------|-----------------|
| 20 deg.C                             | DC 1.71 V<br>(Vmin) | Power on    | 610.999710                  | -0.000291                | -0.48           | 2.50               | 2.02            |
|                                      |                     | on 2 min.   | 610.999863                  | -0.000137                | -0.22           | 2.50               | 2.28            |
|                                      |                     | on 5 min.   | 610.999851                  | -0.000149                | -0.24           | 2.50               | 2.26            |
|                                      |                     | on 10 min.  | 610.999979                  | -0.000022                | -0.04           | 2.50               | 2.46            |
|                                      | DC 3 V<br>(Vnom)    | Power on    | 610.999891                  | -0.000109                | -0.18           | 2.50               | 2.32            |
|                                      |                     | on 2 min.   | 610.999958                  | -0.000042                | -0.07           | 2.50               | 2.43            |
|                                      |                     | on 5 min.   | 610.999879                  | -0.000121                | -0.20           | 2.50               | 2.30            |
|                                      |                     | on 10 min.  | 610.999898                  | -0.000102                | -0.17           | 2.50               | 2.33            |
|                                      | DC 3.6 V<br>(Vmax)  | Power on    | 610.999178                  | -0.000822                | -1.35           | 2.50               | 1.15            |
|                                      |                     | on 2 min.   | 610.999125                  | -0.000875                | -1.43           | 2.50               | 1.07            |
|                                      |                     | on 5 min.   | 610.999070                  | -0.000930                | -1.52           | 2.50               | 0.98            |
|                                      |                     | on 10 min.  | 610.999053                  | -0.000947                | -1.55           | 2.50               | 0.95            |
| 50 deg.C.                            | DC 3 V              | Power on    | 610.998778                  | -0.001222                | -2.00           | -                  | -               |
| on 2 min.                            |                     | 610.998772  | -0.001229                   | -2.01                    | -               | -                  |                 |
| on 5 min.                            |                     | 610.998772  | -0.001229                   | -2.01                    | -               | -                  |                 |
| on 10 min.                           |                     | 610.998771  | -0.001229                   | -2.01                    | -               | -                  |                 |
| 40 deg.C.                            |                     | Power on    | 610.998737                  | -0.001263                | -2.07           | 2.50               | 0.43            |
|                                      |                     | on 2 min.   | 610.998772                  | -0.001229                | -2.01           | 2.50               | 0.49            |
|                                      |                     | on 5 min.   | 610.998816                  | -0.001185                | -1.94           | 2.50               | 0.56            |
|                                      |                     | on 10 min.  | 610.998835                  | -0.001165                | -1.91           | 2.50               | 0.59            |
| 30 deg.C.                            |                     | Power on    | 610.999257                  | -0.000743                | -1.22           | 2.50               | 1.28            |
|                                      |                     | on 2 min.   | 610.999294                  | -0.000706                | -1.16           | 2.50               | 1.34            |
|                                      |                     | on 5 min.   | 610.999279                  | -0.000722                | -1.18           | 2.50               | 1.32            |
|                                      |                     | on 10 min.  | 610.999269                  | -0.000732                | -1.20           | 2.50               | 1.30            |
| 20 deg.C.                            |                     | Power on    | 610.999891                  | -0.000109                | -0.18           | 2.50               | 2.32            |
|                                      |                     | on 2 min.   | 610.999958                  | -0.000042                | -0.07           | 2.50               | 2.43            |
|                                      |                     | on 5 min.   | 610.999879                  | -0.000121                | -0.20           | 2.50               | 2.30            |
|                                      |                     | on 10 min.  | 610.999898                  | -0.000102                | -0.17           | 2.50               | 2.33            |
| 10 deg.C.                            |                     | Power on    | 611.000461                  | 0.000461                 | 0.75            | 2.50               | 1.75            |
|                                      |                     | on 2 min.   | 611.000435                  | 0.000435                 | 0.71            | 2.50               | 1.79            |
|                                      |                     | on 5 min.   | 611.000401                  | 0.000401                 | 0.66            | 2.50               | 1.84            |
|                                      |                     | on 10 min.  | 611.000401                  | 0.000401                 | 0.66            | 2.50               | 1.84            |
| 0 deg.C.                             |                     | Power on    | 611.000323                  | 0.000323                 | 0.53            | -                  | -               |
|                                      |                     | on 2 min.   | 611.000348                  | 0.000347                 | 0.57            | -                  | -               |
|                                      |                     | on 5 min.   | 611.000635                  | 0.000634                 | 1.04            | -                  | -               |
|                                      |                     | on 10 min.  | 611.000332                  | 0.000332                 | 0.54            | -                  | -               |
| -10deg.C.                            |                     | Power on    | 610.999053                  | -0.000947                | -1.55           | -                  | -               |
|                                      |                     | on 2 min.   | 610.999057                  | -0.000943                | -1.54           | -                  | -               |
|                                      |                     | on 5 min.   | 610.999041                  | -0.000959                | -1.57           | -                  | -               |
|                                      |                     | on 10 min.  | 610.999031                  | -0.000969                | -1.59           | -                  | -               |
| -20 deg.C                            |                     | Power on    | 610.997043                  | -0.002958                | -4.84           | -                  | -               |
|                                      |                     | on 2 min.   | 610.996874                  | -0.003126                | -5.12           | -                  | -               |
|                                      |                     | on 5 min.   | 610.996524                  | -0.003477                | -5.69           | -                  | -               |
|                                      |                     | on 10 min.  | 610.996452                  | -0.003549                | -5.81           | -                  | -               |
| -30 deg.C                            |                     | Power on    | 610.991844                  | -0.008156                | -13.35          | -                  | -               |
|                                      |                     | on 2 min.   | 610.991985                  | -0.008016                | -13.12          | -                  | -               |
|                                      |                     | on 5 min.   | 610.991979                  | -0.008022                | -13.13          | -                  | -               |
|                                      |                     | on 10 min.  | 610.991932                  | -0.008069                | -13.21          | -                  | -               |

Limit : 611 MHz +/-0.00025 % (+/-2.5 ppm) = +/- 0.001528 MHz

\*The test on 50 deg.C., 0 deg.C., -10 deg.C., -20 deg.C. and -30 deg.C. were reference data, since the specification of operating temperature of EUT was 10 deg.C to 40 deg.C. (It used the manufacturer's specified conditions (refer to FCC 95.2365))

\* As a more stringent condition, testing was conducted using the lowest voltage (Vmin) at which operation was possible despite being outside specifications.

## Frequency Stability

Test place Shonan EMC Lab. No.5 Shielded Room  
Date July 3, 2025 July 4, 2025 July 4, 2025 November 17, 2025  
Temperature / 23 deg. C / 45 % RH 23 deg. C / 50 % RH 25 deg. C / 52 % RH 24 deg. C / 56 % RH  
Humidity  
Engineer Yuta Shiba Yohsuke Matsuzawa Toshinori Yamada Kenichi Adachi  
Mode Transmitting 613.9875 MHz

| Test Condition |                  | Test Timing | Measured frequency [MHz] | Frequency error [MHz] | Result [ppm] | Limit [+/- ppm] | Margin [ppm] |
|----------------|------------------|-------------|--------------------------|-----------------------|--------------|-----------------|--------------|
| deg.C          | Voltage          |             |                          |                       |              |                 |              |
| 20 deg.C       | DC 1.71 V (Vmin) | Power on    | 613.987404               | -0.000096             | -0.16        | 2.50            | 2.34         |
|                |                  | on 2 min.   | 613.987473               | -0.000027             | -0.04        | 2.50            | 2.46         |
|                |                  | on 5 min.   | 613.987391               | -0.000109             | -0.18        | 2.50            | 2.32         |
|                |                  | on 10 min.  | 613.987451               | -0.000049             | -0.08        | 2.50            | 2.42         |
|                | DC 3 V (Vnom)    | Power on    | 613.987354               | -0.000147             | -0.24        | 2.50            | 2.26         |
|                |                  | on 2 min.   | 613.987413               | -0.000087             | -0.14        | 2.50            | 2.36         |
|                |                  | on 5 min.   | 613.987360               | -0.000140             | -0.23        | 2.50            | 2.27         |
|                |                  | on 10 min.  | 613.987422               | -0.000078             | -0.13        | 2.50            | 2.37         |
|                | DC 3.6 V (Vmax)  | Power on    | 613.986708               | -0.000792             | -1.29        | 2.50            | 1.21         |
|                |                  | on 2 min.   | 613.986678               | -0.000822             | -1.34        | 2.50            | 1.16         |
|                |                  | on 5 min.   | 613.986680               | -0.000820             | -1.34        | 2.50            | 1.16         |
|                |                  | on 10 min.  | 613.986713               | -0.000787             | -1.28        | 2.50            | 1.22         |
| 50 deg.C.      | DC 3 V           | Power on    | 613.986203               | -0.001297             | -2.11        | -               | -            |
|                |                  | on 2 min.   | 613.986203               | -0.001297             | -2.11        | -               | -            |
|                |                  | on 5 min.   | 613.986190               | -0.001310             | -2.13        | -               | -            |
|                |                  | on 10 min.  | 613.986194               | -0.001306             | -2.13        | -               | -            |
| 40 deg.C.      |                  | Power on    | 613.986322               | -0.001178             | -1.92        | 2.50            | 0.58         |
|                |                  | on 2 min.   | 613.986331               | -0.001169             | -1.90        | 2.50            | 0.60         |
|                |                  | on 5 min.   | 613.986291               | -0.001209             | -1.97        | 2.50            | 0.53         |
|                |                  | on 10 min.  | 613.986328               | -0.001172             | -1.91        | 2.50            | 0.59         |
| 30 deg.C.      |                  | Power on    | 613.986760               | -0.000740             | -1.21        | 2.50            | 1.29         |
|                |                  | on 2 min.   | 613.986803               | -0.000697             | -1.14        | 2.50            | 1.36         |
|                |                  | on 5 min.   | 613.986810               | -0.000691             | -1.12        | 2.50            | 1.38         |
|                |                  | on 10 min.  | 613.986772               | -0.000728             | -1.19        | 2.50            | 1.31         |
| 20 deg.C.      |                  | Power on    | 613.987354               | -0.000147             | -0.24        | 2.50            | 2.26         |
|                |                  | on 2 min.   | 613.987413               | -0.000087             | -0.14        | 2.50            | 2.36         |
|                |                  | on 5 min.   | 613.987360               | -0.000140             | -0.23        | 2.50            | 2.27         |
|                |                  | on 10 min.  | 613.987422               | -0.000078             | -0.13        | 2.50            | 2.37         |
| 10 deg.C.      |                  | Power on    | 613.988038               | 0.000538              | 0.88         | 2.50            | 1.62         |
|                |                  | on 2 min.   | 613.987951               | 0.000451              | 0.73         | 2.50            | 1.77         |
|                |                  | on 5 min.   | 613.987938               | 0.000438              | 0.71         | 2.50            | 1.79         |
|                |                  | on 10 min.  | 613.987964               | 0.000464              | 0.75         | 2.50            | 1.75         |
| 0 deg.C.       |                  | Power on    | 613.987748               | 0.000248              | 0.40         | -               | -            |
|                |                  | on 2 min.   | 613.987754               | 0.000254              | 0.41         | -               | -            |
|                |                  | on 5 min.   | 613.987757               | 0.000257              | 0.42         | -               | -            |
|                |                  | on 10 min.  | 613.987801               | 0.000301              | 0.49         | -               | -            |
| -10deg.C.      |                  | Power on    | 613.986475               | -0.001025             | -1.67        | -               | -            |
|                |                  | on 2 min.   | 613.986475               | -0.001025             | -1.67        | -               | -            |
|                |                  | on 5 min.   | 613.986447               | -0.001053             | -1.72        | -               | -            |
|                |                  | on 10 min.  | 613.986469               | -0.001031             | -1.68        | -               | -            |
| -20 deg.C      |                  | Power on    | 613.983755               | -0.003745             | -6.10        | -               | -            |
|                |                  | on 2 min.   | 613.983939               | -0.003561             | -5.80        | -               | -            |
|                |                  | on 5 min.   | 613.983974               | -0.003526             | -5.74        | -               | -            |
|                |                  | on 10 min.  | 613.983955               | -0.003545             | -5.77        | -               | -            |
| -30 deg.C      |                  | Power on    | 613.979579               | -0.007921             | -12.90       | -               | -            |
|                |                  | on 2 min.   | 613.979701               | -0.007799             | -12.70       | -               | -            |
|                |                  | on 5 min.   | 613.979644               | -0.007856             | -12.80       | -               | -            |
|                |                  | on 10 min.  | 613.979507               | -0.007993             | -13.02       | -               | -            |

Limit : 613.9875 MHz +/-0.00025 % (+/-2.5 ppm) = +/- 0.001535 MHz

\*The test on 50 deg.C., 0 deg.C., -10 deg.C., -20 deg.C. and -30 deg.C. were reference data, since the specification of operating temperature of EUT was 10 deg.C to 40 deg.C. (It used the manufacturer's specified conditions (refer to FCC 95.2365))

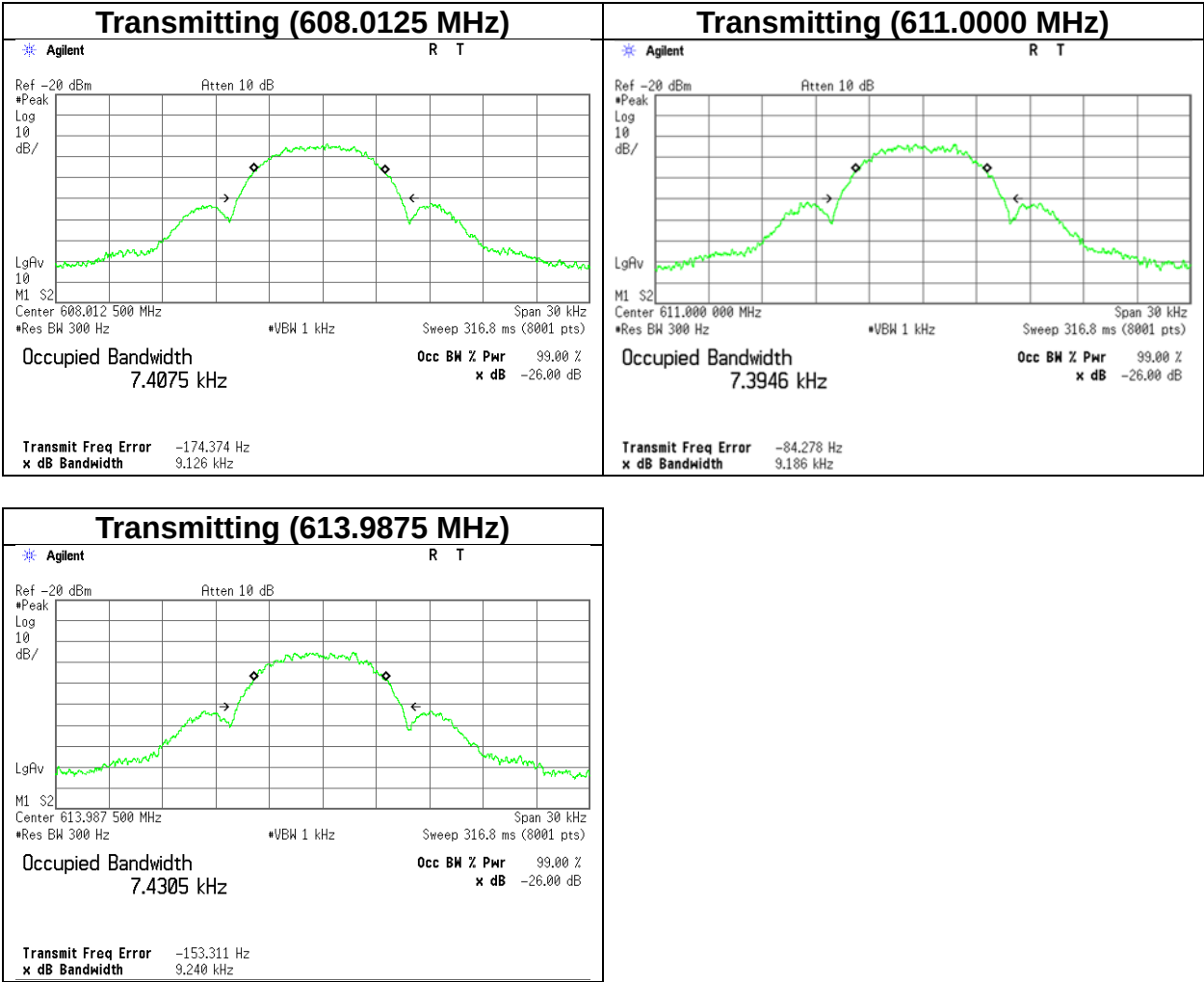
\* As a more stringent condition, testing was conducted using the lowest voltage (Vmin) at which operation was possible despite being outside specifications.

**-26 dB Bandwidth and 99 % Occupied bandwidth**

|                        |                                    |
|------------------------|------------------------------------|
| Test place             | Shonan EMC Lab. No.5 Shielded Room |
| Date                   | July 3, 2025                       |
| Temperature / Humidity | 23 deg. C / 45 % RH                |
| Engineer               | Yuta Shiba                         |
| Mode                   | Transmitting                       |

| Frequency [MHz] | -26 dB bandwidth [kHz] | 99 % Occupied bandwidth [kHz] |
|-----------------|------------------------|-------------------------------|
| 608.0125        | 9.126                  | 7.408                         |
| 611.0000        | 9.186                  | 7.395                         |
| 613.9875        | 9.240                  | 7.431                         |

No limit applied to -26 dB bandwidth



## Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)

|                        |                                       |                     |                     |
|------------------------|---------------------------------------|---------------------|---------------------|
| Test place             | Shonan EMC Lab.                       |                     |                     |
|                        | WAC 2                                 | WAC 2               | SAC 1               |
| Date                   | July 1, 2025                          | July 3, 2025        | July 3, 2025        |
| Temperature / Humidity | 25 deg. C / 49 % RH                   | 25 deg. C / 55 % RH | 25 deg. C / 60 % RH |
| Engineer               | Kenichi Adachi                        | Toshinori Yamada    | Toshinori Yamada    |
|                        | (1 GHz to 10 GHz)                     | (30 MHz to 1 GHz)   | (below 30 MHz)      |
| Mode                   | Transmitting 608.0125 MHz, High power |                     |                     |

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark                             |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|-----------------|----------------|-------------|-------------|--------------|------------------------------------|
| Hori.    | 456.012         | QP       | 39.64          | 16.66           | 8.16      | 32.44     | 32.02           | 46.00          | 13.98       | 100         | 120          |                                    |
| Hori.    | 608.000         | QP       | 92.04          | 19.39           | 8.49      | 31.94     | 87.98           | 46.00          | -           | 157         | 42           | refer to Marker Delta Method table |
| Hori.    | 608.0125        | QP       | 92.25          | 19.39           | 8.49      | 31.94     | 88.19           | 106.00         | 17.81       | 157         | 42           | Carrier                            |
| Hori.    | 1216.025        | Av       | 65.85          | 24.34           | -39.03    | 0.00      | 51.16           | 53.90          | 2.74        | 123         | 145          | VBW 10 Hz                          |
| Hori.    | 1824.038        | Av       | 53.22          | 25.52           | -38.30    | 0.00      | 40.44           | 53.90          | 13.46       | 118         | 133          | VBW 10 Hz                          |
| Hori.    | 2432.050        | Av       | 52.78          | 27.77           | -37.73    | 0.00      | 42.82           | 53.90          | 11.08       | 116         | 0            | VBW 10 Hz                          |
| Hori.    | 3040.063        | Av       | 51.74          | 28.97           | -37.08    | 0.00      | 43.63           | 53.90          | 10.27       | 100         | 117          | VBW 10 Hz                          |
| Hori.    | 3648.075        | Av       | 50.69          | 30.00           | -36.85    | 0.00      | 43.84           | 53.90          | 10.06       | 100         | 116          | VBW 10 Hz                          |
| Hori.    | 4256.088        | Av       | 53.03          | 31.49           | -36.67    | 0.00      | 47.85           | 53.90          | 6.05        | 100         | 118          | VBW 10 Hz                          |
| Hori.    | 4864.100        | Av       | 34.32          | 32.18           | -36.47    | 0.00      | 30.03           | 53.90          | 23.87       | 100         | 117          | VBW 10 Hz                          |
| Hori.    | 5472.113        | Av       | 34.97          | 33.05           | -35.78    | 0.00      | 32.24           | 53.90          | 21.66       | 100         | 119          | VBW 10 Hz                          |
| Hori.    | 6080.125        | Av       | 35.16          | 34.41           | -35.66    | 0.00      | 33.91           | 53.90          | 19.99       | 100         | 117          | VBW 10 Hz                          |
| Vert.    | 456.012         | QP       | 38.96          | 16.66           | 8.16      | 32.44     | 31.34           | 46.00          | 14.66       | 134         | 30           |                                    |
| Vert.    | 608.000         | QP       | 89.77          | 19.39           | 8.49      | 31.94     | 85.71           | 46.00          | -           | 215         | 169          | refer to Marker Delta Method table |
| Vert.    | 608.0125        | QP       | 90.15          | 19.39           | 8.49      | 31.94     | 86.09           | 106.00         | 19.91       | 215         | 169          | Carrier                            |
| Vert.    | 1216.025        | Av       | 63.27          | 24.34           | -39.03    | 0.00      | 48.58           | 53.90          | 5.32        | 104         | 21           | VBW 10 Hz                          |
| Vert.    | 1824.038        | Av       | 54.35          | 25.52           | -38.30    | 0.00      | 41.57           | 53.90          | 12.33       | 125         | 174          | VBW 10 Hz                          |
| Vert.    | 2432.050        | Av       | 52.46          | 27.77           | -37.73    | 0.00      | 42.50           | 53.90          | 11.40       | 123         | 319          | VBW 10 Hz                          |
| Vert.    | 3040.063        | Av       | 52.97          | 28.97           | -37.08    | 0.00      | 44.86           | 53.90          | 9.04        | 117         | 174          | VBW 10 Hz                          |
| Vert.    | 3648.075        | Av       | 50.23          | 30.00           | -36.85    | 0.00      | 43.38           | 53.90          | 10.52       | 112         | 215          | VBW 10 Hz                          |
| Vert.    | 4256.088        | Av       | 51.46          | 31.49           | -36.67    | 0.00      | 46.28           | 53.90          | 7.62        | 114         | 203          | VBW 10 Hz                          |
| Vert.    | 4864.100        | Av       | 38.06          | 32.18           | -36.47    | 0.00      | 33.77           | 53.90          | 20.13       | 116         | 162          | VBW 10 Hz                          |
| Vert.    | 5472.113        | Av       | 38.85          | 33.05           | -35.78    | 0.00      | 36.12           | 53.90          | 17.78       | 111         | 164          | VBW 10 Hz                          |
| Vert.    | 6080.125        | Av       | 35.68          | 34.41           | -35.66    | 0.00      | 34.43           | 53.90          | 19.47       | 112         | 167          | VBW 10 Hz                          |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) (for below 1 GHz range)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) - Gain(none) (for above 1 GHz range)

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

\*The 10th harmonic was not seen so the result was its base noise level.

### Marker Delta Method(Test distance 3 m)

|       |                             | Polarity     | AV      |          |         |          |
|-------|-----------------------------|--------------|---------|----------|---------|----------|
|       |                             |              | Hor.    |          | Ver.    |          |
|       |                             |              | [dBuV]  | [dBuV/m] | [dBuV]  | [dBuV/m] |
|       |                             | RBW          | Reading | Result   | Reading | Result   |
| Step1 | Fundamental(608.0125 MHz)   | QP (120 kHz) | 92.3    | 88.2     | 90.2    | 86.1     |
| Step2 | Fundamental(608.0125 MHz)   | 1 kHz/3 kHz  | 91.8    | 87.7     | 89.5    | 85.4     |
|       | Band-edge(608 MHz)          | 1 kHz/3 kHz  | 41.5    | 37.4     | 39.7    | 35.6     |
|       | Amplitude delta             | -            | 50.3    | 50.3     | 49.8    | 49.8     |
| Step3 | Field strength of band-edge | -            | -       | 37.9     | -       | 36.3     |
|       | Limit                       | -            | -       | 46.0     | -       | 46.0     |
|       | Margin                      | -            | -       | 8.1      | -       | 9.7      |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we stated at section 7 ("Bandedge" section), we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 971168 D01 (KDB 971168 D01 Power Meas Licence Digital System D03r01).

(for RF Exposure sheet)

[RF output power]

|         | radiated emission [dBuV/m] | EIRP [mW] |
|---------|----------------------------|-----------|
| carrier | 88.19                      | 0.198     |
| Level   |                            |           |

Calculation: ("Radiated emission value refer to above table)

EIRP [mW] = (((10<sup>(Result [dBuV/m]) / 20</sup>) × 10<sup>(-6)</sup>)

× (distance=) 3 [m] )<sup>2</sup>) / ( 30 × 1 ) × 10<sup>3</sup>

## Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission)

|                        |                                       |                     |                     |
|------------------------|---------------------------------------|---------------------|---------------------|
| Test place             | Shonan EMC Lab.                       |                     |                     |
|                        | WAC 2                                 | WAC 2               | SAC 1               |
| Date                   | July 1, 2025                          | July 3, 2025        | July 3, 2025        |
| Temperature / Humidity | 25 deg. C / 49 % RH                   | 25 deg. C / 55 % RH | 25 deg. C / 60 % RH |
| Engineer               | Kenichi Adachi                        | Toshinori Yamada    | Toshinori Yamada    |
|                        | (1 GHz to 10 GHz)                     | (30 MHz to 1 GHz)   | (below 30 MHz)      |
| Mode                   | Transmitting 611.0000 MHz, High power |                     |                     |

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark    |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|-----------------|----------------|-------------|-------------|--------------|-----------|
| Hori.    | 458.249         | QP       | 39.78          | 16.71           | 8.17      | 32.43     | 32.23           | 46.00          | 13.77       | 100         | 34           |           |
| Hori.    | 611.0000        | QP       | 92.68          | 19.42           | 8.49      | 31.93     | 88.66           | 106.00         | 17.34       | 152         | 42           | carrier   |
| Hori.    | 1222.000        | Av       | 62.19          | 24.35           | -39.03    | 0.00      | 47.51           | 53.90          | 6.39        | 148         | 244          | VBW 10 Hz |
| Hori.    | 1833.000        | Av       | 50.91          | 25.59           | -38.29    | 0.00      | 38.21           | 53.90          | 15.69       | 118         | 142          | VBW 10 Hz |
| Hori.    | 2444.000        | Av       | 52.79          | 27.78           | -37.72    | 0.00      | 42.85           | 53.90          | 11.05       | 124         | 264          | VBW 10 Hz |
| Hori.    | 3055.000        | Av       | 49.54          | 28.99           | -37.08    | 0.00      | 41.45           | 53.90          | 12.45       | 121         | 65           | VBW 10 Hz |
| Hori.    | 3666.000        | Av       | 51.61          | 29.98           | -36.85    | 0.00      | 44.74           | 53.90          | 9.16        | 119         | 117          | VBW 10 Hz |
| Hori.    | 4277.000        | Av       | 51.64          | 31.48           | -36.65    | 0.00      | 46.47           | 53.90          | 7.43        | 122         | 92           | VBW 10 Hz |
| Hori.    | 4888.000        | Av       | 41.65          | 32.31           | -36.47    | 0.00      | 37.49           | 53.90          | 16.41       | 108         | 146          | VBW 10 Hz |
| Hori.    | 5499.000        | Av       | 38.09          | 33.19           | -35.75    | 0.00      | 35.53           | 53.90          | 18.37       | 100         | 144          | VBW 10 Hz |
| Hori.    | 6110.000        | Av       | 34.66          | 34.51           | -35.64    | 0.00      | 33.53           | 53.90          | 20.37       | 100         | 138          | VBW 10 Hz |
| Vert.    | 458.249         | QP       | 39.22          | 16.71           | 8.17      | 32.43     | 31.67           | 46.00          | 14.33       | 131         | 298          |           |
| Vert.    | 611.0000        | QP       | 89.55          | 19.42           | 8.49      | 31.93     | 85.53           | 106.00         | 20.47       | 218         | 160          | carrier   |
| Vert.    | 1222.000        | Av       | 63.07          | 24.35           | -39.03    | 0.00      | 48.39           | 53.90          | 5.51        | 147         | 226          | VBW 10 Hz |
| Vert.    | 1833.000        | Av       | 54.04          | 25.59           | -38.29    | 0.00      | 41.34           | 53.90          | 12.56       | 128         | 169          | VBW 10 Hz |
| Vert.    | 2444.000        | Av       | 51.49          | 27.78           | -37.72    | 0.00      | 41.55           | 53.90          | 12.35       | 124         | 306          | VBW 10 Hz |
| Vert.    | 3055.000        | Av       | 52.05          | 28.99           | -37.08    | 0.00      | 43.96           | 53.90          | 9.94        | 119         | 158          | VBW 10 Hz |
| Vert.    | 3666.000        | Av       | 55.97          | 29.98           | -36.85    | 0.00      | 49.10           | 53.90          | 4.80        | 113         | 145          | VBW 10 Hz |
| Vert.    | 4277.000        | Av       | 54.66          | 31.48           | -36.65    | 0.00      | 49.49           | 53.90          | 4.41        | 111         | 196          | VBW 10 Hz |
| Vert.    | 4888.000        | Av       | 42.32          | 32.31           | -36.47    | 0.00      | 38.16           | 53.90          | 15.74       | 113         | 144          | VBW 10 Hz |
| Vert.    | 5499.000        | Av       | 36.22          | 33.19           | -35.75    | 0.00      | 33.66           | 53.90          | 20.24       | 108         | 21           | VBW 10 Hz |
| Vert.    | 6110.000        | Av       | 35.58          | 34.51           | -35.64    | 0.00      | 34.45           | 53.90          | 19.45       | 103         | 134          | VBW 10 Hz |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) (for below 1 GHz range)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter - Gain(Amplifier)) - Gain(none) (for above 1 GHz range)

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

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)

[RF output power]

|         | radiated emission [dBuV/m] | EIRP [mW] |
|---------|----------------------------|-----------|
| carrier | 88.66                      | 0.220     |
| Level   |                            |           |

Calculation: (\*Radiated emission value refer to above table)

EIRP [mW] = (((10<sup>Result [dBuV/m]</sup> / 20) × 10<sup>-6</sup>)

× (distance= 3 [m] ) <sup>2</sup> ) / ( 30 × 1 ) × 10<sup>-3</sup>

## Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)

|                        |                                       |                     |                     |
|------------------------|---------------------------------------|---------------------|---------------------|
| Test place             | Shonan EMC Lab.                       |                     |                     |
|                        | WAC 2                                 | WAC 2               | SAC 1               |
| Date                   | July 1, 2025                          | July 3, 2025        | July 3, 2025        |
| Temperature / Humidity | 25 deg. C / 49 % RH                   | 25 deg. C / 55 % RH | 25 deg. C / 60 % RH |
| Engineer               | Kenichi Adachi                        | Toshinori Yamada    | Toshinori Yamada    |
|                        | (1 GHz to 10 GHz)                     | (30 MHz to 1 GHz)   | (below 30 MHz)      |
| Mode                   | Transmitting 613.9875 MHz, High power |                     |                     |

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark                             |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|-----------------|----------------|-------------|-------------|--------------|------------------------------------|
| Hori.    | 460.487         | QP       | 37.45          | 16.76           | 8.17      | 32.42     | 29.96           | 46.00          | 16.04       | 100         | 116          |                                    |
| Hori.    | 613.9875        | QP       | 91.48          | 19.43           | 8.50      | 31.91     | 87.50           | 106.00         | 18.50       | 154         | 43           | carrier                            |
| Hori.    | 614.000         | QP       | 91.27          | 19.43           | 8.50      | 31.91     | 87.29           | 46.00          | -           | 154         | 43           | refer to Marker Delta Method table |
| Hori.    | 1227.975        | Av       | 64.09          | 24.36           | -39.02    | 0.00      | 49.43           | 53.90          | 4.47        | 142         | 102          | VBW 10 Hz                          |
| Hori.    | 1841.963        | Av       | 50.67          | 25.67           | -38.28    | 0.00      | 38.06           | 53.90          | 15.84       | 123         | 97           | VBW 10 Hz                          |
| Hori.    | 2455.950        | Av       | 52.94          | 27.78           | -37.70    | 0.00      | 43.02           | 53.90          | 10.88       | 124         | 248          | VBW 10 Hz                          |
| Hori.    | 3069.938        | Av       | 51.81          | 28.97           | -37.06    | 0.00      | 43.72           | 53.90          | 10.18       | 116         | 64           | VBW 10 Hz                          |
| Hori.    | 3683.925        | Av       | 59.06          | 29.97           | -36.85    | 0.00      | 52.18           | 53.90          | 1.72        | 111         | 138          | VBW 10 Hz                          |
| Hori.    | 4297.913        | Av       | 56.75          | 31.44           | -36.65    | 0.00      | 51.54           | 53.90          | 2.36        | 114         | 132          | VBW 10 Hz                          |
| Hori.    | 4911.900        | Av       | 44.53          | 32.45           | -36.47    | 0.00      | 40.51           | 53.90          | 13.39       | 111         | 116          | VBW 10 Hz                          |
| Hori.    | 5525.888        | Av       | 34.98          | 33.31           | -35.75    | 0.00      | 32.54           | 53.90          | 21.36       | 100         | 134          | VBW 10 Hz                          |
| Hori.    | 6139.875        | Av       | 35.22          | 34.58           | -35.63    | 0.00      | 34.17           | 53.90          | 19.73       | 100         | 131          | VBW 10 Hz                          |
| Vert.    | 460.487         | QP       | 36.93          | 16.76           | 8.17      | 32.42     | 29.44           | 46.00          | 16.56       | 134         | 20           |                                    |
| Vert.    | 613.9875        | QP       | 88.47          | 19.43           | 8.50      | 31.91     | 84.49           | 106.00         | 21.51       | 201         | 162          | carrier                            |
| Vert.    | 614.000         | QP       | 88.25          | 19.43           | 8.50      | 31.91     | 84.27           | 46.00          | -           | 201         | 162          | refer to Marker Delta Method table |
| Vert.    | 1227.975        | Av       | 62.91          | 24.36           | -39.02    | 0.00      | 48.25           | 53.90          | 5.65        | 100         | 41           | VBW 10 Hz                          |
| Vert.    | 1841.963        | Av       | 51.34          | 25.67           | -38.28    | 0.00      | 38.73           | 53.90          | 15.17       | 125         | 169          | VBW 10 Hz                          |
| Vert.    | 2455.950        | Av       | 51.22          | 27.78           | -37.70    | 0.00      | 41.30           | 53.90          | 12.60       | 121         | 326          | VBW 10 Hz                          |
| Vert.    | 3069.938        | Av       | 54.48          | 28.97           | -37.06    | 0.00      | 46.39           | 53.90          | 7.51        | 114         | 174          | VBW 10 Hz                          |
| Vert.    | 3683.925        | Av       | 59.27          | 29.97           | -36.85    | 0.00      | 52.39           | 53.90          | 1.51        | 100         | 154          | VBW 10 Hz                          |
| Vert.    | 4297.913        | Av       | 56.13          | 31.44           | -36.65    | 0.00      | 50.92           | 53.90          | 2.98        | 100         | 156          | VBW 10 Hz                          |
| Vert.    | 4911.900        | Av       | 45.44          | 32.45           | -36.47    | 0.00      | 41.42           | 53.90          | 12.48       | 112         | 143          | VBW 10 Hz                          |
| Vert.    | 5525.888        | Av       | 36.54          | 33.31           | -35.75    | 0.00      | 34.10           | 53.90          | 19.80       | 110         | 18           | VBW 10 Hz                          |
| Vert.    | 6139.875        | Av       | 35.42          | 34.58           | -35.63    | 0.00      | 34.37           | 53.90          | 19.53       | 104         | 132          | VBW 10 Hz                          |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) (for below 1 GHz range)

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier) - Gain(none) (for above 1 GHz range)

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

\*The 10th harmonic was not seen so the result was its base noise level.

### Marker Delta Method(Test distance 3 m)

|       |                             | Polarity     | AV     |          |        |          |
|-------|-----------------------------|--------------|--------|----------|--------|----------|
|       |                             |              | Hor.   |          | Ver.   |          |
|       |                             |              | [dBuV] | [dBuV/m] | [dBuV] | [dBuV/m] |
| Step1 | Fundamental(613.9875 MHz)   | QP (120 kHz) | 91.5   | 87.5     | 88.5   | 84.5     |
| Step2 | Fundamental(613.9875 MHz)   | 1 kHz/3 kHz  | 91.1   | 87.2     | 87.9   | 83.9     |
|       | Band-edge(614 MHz)          | 1 kHz/3 kHz  | 37.9   | 34.0     | 35.0   | 31.0     |
|       | Amplitude delta             | -            | 53.2   | 53.2     | 52.9   | 52.9     |
| Step3 | Field strength of band-edge | -            | -      | 34.3     | -      | 31.6     |
|       | Limit                       | -            | -      | 46.0     | -      | 46.0     |
|       | Margin                      | -            | -      | 11.7     | -      | 14.4     |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we stated at section 7 ("Bandedge" section), we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 971168 D01 (KDB 971168 D01 Power Meas Licence Digital System D03r01).

(for RF Exposure sheet)

[RF output power]

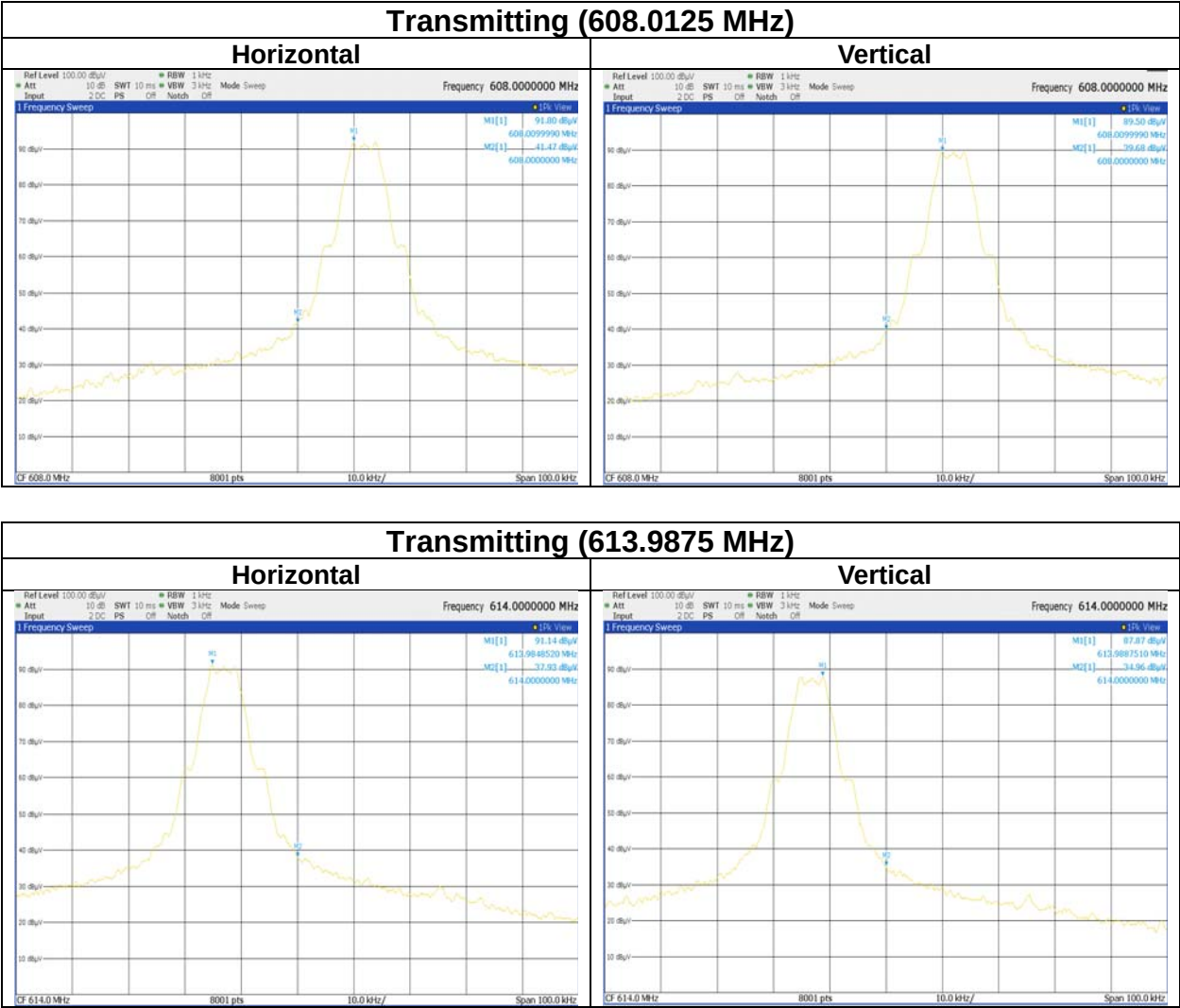
|         | radiated emission [dBuV/m] | EIRP [mW] |
|---------|----------------------------|-----------|
| carrier | 87.50                      | 0.169     |
| Level   |                            |           |

Calculation: (\*Radiated emission value refer to above table)

EIRP [mW] = (((10<sup>4</sup> × Result [dBuV/m] / 20) × 10<sup>4</sup> × 6) ×

× (distance= 3 [m] )<sup>2</sup> ) / ( 30 × 1 ) × 10<sup>-3</sup>

**Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)**  
Band Edge compliance (for Maker Delta Method)



**Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)**

Test place      Shonan EMC Lab. Wireless Anechoic Chamber No.2  
Date              July 3, 2025  
Temperature /    25 deg. C / 55 % RH  
Humidity  
Engineer         Toshinori Yamada  
Mode              Transmitting 608.0125 MHz, Low power

| Polarity | Frequency<br>[MHz] | Detector | Reading<br>[dBuV] | Ant.Fac.<br>[dB/m] | Loss<br>[dB] | Gain<br>[dB] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Height<br>[cm] | Angle<br>[deg.] | Remark                             |
|----------|--------------------|----------|-------------------|--------------------|--------------|--------------|--------------------|-------------------|----------------|----------------|-----------------|------------------------------------|
| Hori.    | 608.000            | QP       | 87.87             | 19.39              | 8.49         | 31.94        | 83.81              | 46.00             | -              |                |                 | refer to Marker Delta Method table |
| Hori.    | 608.0125           | QP       | 88.12             | 19.39              | 8.49         | 31.94        | 84.06              | 106.00            | 21.94          |                |                 | Carrier                            |
| Vert.    | 608.000            | QP       | 86.63             | 19.39              | 8.49         | 31.94        | 82.57              | 46.00             | -              |                |                 | refer to Marker Delta Method table |
| Vert.    | 608.0125           | QP       | 86.89             | 19.39              | 8.49         | 31.94        | 82.83              | 106.00            | 23.17          |                |                 | Carrier                            |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)  
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).  
\*The 10th harmonic was not seen so the result was its base noise level.

**Marker Delta Method(Test distance 3 m)**

|       |                             | Polarity     | AV                |                    |                   |                    |
|-------|-----------------------------|--------------|-------------------|--------------------|-------------------|--------------------|
|       |                             |              | Hor.              |                    | Ver.              |                    |
|       |                             | RBW \ VBW    | [dBuV]<br>Reading | [dBuV/m]<br>Result | [dBuV]<br>Reading | [dBuV/m]<br>Result |
| Step1 | Fundamental(608.0125 MHz)   | QP (120 kHz) | 88.1              | 84.1               | 86.9              | 86.9               |
| Step2 | Fundamental(608.0125 MHz)   | 1 kHz/3 kHz  | 87.9              | 83.8               | 86.5              | 82.4               |
|       | Band-edge(608 MHz)          | 1 kHz/3 kHz  | 38.7              | 34.6               | 35.7              | 31.7               |
|       | Amplitude delta             | -            | 49.2              | 49.2               | 50.8              | 50.8               |
| Step3 | Field strength of band-edge | -            | -                 | 34.8               | -                 | 36.1               |
|       | Limit                       | -            | -                 | 46.0               | -                 | 46.0               |
|       | Margin                      | -            | -                 | 11.2               | -                 | 9.9                |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)  
\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)  
\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta  
\*As we stated at section 7 ("Bandedge" section), we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 971168 D01 (KDB 971168 D01 Power Meas Licence Digital System D03r01).

(for RF Exposure sheet)

| [RF output power] |       |
|-------------------|-------|
|                   |       |
| radiated emission | EIRP  |
| [dBuV/m]          | [mW]  |
| carrier           | 84.06 |
| Level             | 0.076 |

Calculation: (\*Radiated emission value refer to above table)  
 $EIRP [mW] = (((10^{Result [dBuV/m]} / 20) \times 10^{-6}) \times (distance)^2) / (30 \times 1) \times 10^{-3}$

**Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission)**

Test place        Shonan EMC Lab. Wireless Anechoic Chamber No.2  
Date                July 3, 2025  
Temperature /    25 deg. C / 55 % RH  
Humidity  
Engineer          Toshinori Yamada  
Mode                Transmitting 611.0000 MHz, Low power

| Polarity | Frequency<br>[MHz] | Detector | Reading<br>[dBuV] | Ant.Fac.<br>[dB/m] | Loss<br>[dB] | Gain<br>[dB] | Result<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Height<br>[cm] | Angle<br>[deg.] | Remark  |
|----------|--------------------|----------|-------------------|--------------------|--------------|--------------|--------------------|-------------------|----------------|----------------|-----------------|---------|
| Hori.    | 611.0000           | QP       | 88.50             | 19.42              | 8.49         | 31.93        | 84.48              | 106.00            | 21.52          |                |                 | carrier |
| Vert.    | 611.0000           | QP       | 86.54             | 19.42              | 8.49         | 31.93        | 82.52              | 106.00            | 23.48          |                |                 | carrier |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

\*The 10th harmonic was not seen so the result was its base noise level.

(for RF Exposure sheet)  
[RF output power]

|                  | radiated emission<br>[dBuV/m] | EIRP<br>[mW] |
|------------------|-------------------------------|--------------|
| carrier<br>Level | 84.48                         | 0.084        |

Calculation: (\*Radiated emission value refer to above table)

$$\text{EIRP [mW]} = ((10^{(\text{Result [dBuV/m]} / 20)} \times 10^{(-6)}) \times (\text{distance} \Rightarrow 3 \text{ [m]} )^2 ) / ( 30 \times 1 ) \times 10^3$$

**Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)**

Test place Shonan EMC Lab. Wireless Anechoic Chamber No.2  
Date July 3, 2025  
Temperature / Humidity 25 deg. C / 55 % RH  
Engineer Toshinori Yamada  
Mode Transmitting 613.9875 MHz, Low power

| Polarity | Frequency [MHz] | Detector | Reading [dBuV] | Ant.Fac. [dB/m] | Loss [dB] | Gain [dB] | Result [dBuV/m] | Limit [dBuV/m] | Margin [dB] | Height [cm] | Angle [deg.] | Remark                             |
|----------|-----------------|----------|----------------|-----------------|-----------|-----------|-----------------|----------------|-------------|-------------|--------------|------------------------------------|
| Hori.    | 613.9875        | QP       | 89.37          | 19.43           | 8.50      | 31.91     | 85.39           | 106.00         | 20.61       |             |              | carrier                            |
| Hori.    | 614.000         | QP       | 89.14          | 19.43           | 8.50      | 31.91     | 85.16           | 46.00          | -           |             |              | refer to Marker Delta Method table |
| Vert.    | 613.9875        | QP       | 85.56          | 19.43           | 8.50      | 31.91     | 81.58           | 106.00         | 24.42       |             |              | carrier                            |
| Vert.    | 614.000         | QP       | 85.17          | 19.43           | 8.50      | 31.91     | 81.19           | 46.00          | -           |             |              | refer to Marker Delta Method table |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

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

\*The 10th harmonic was not seen so the result was its base noise level.

**Marker Delta Method(Test distance 3 m)**

|       |                             | Polarity     | AV                |                    |                   |                    |
|-------|-----------------------------|--------------|-------------------|--------------------|-------------------|--------------------|
|       |                             |              | Hor.              |                    | Ver.              |                    |
|       |                             | RBW \ VBW    | [dBuV]<br>Reading | [dBuV/m]<br>Result | [dBuV]<br>Reading | [dBuV/m]<br>Result |
| Step1 | Fundamental(613.9875 MHz)   | QP (120 kHz) | 89.4              | 85.4               | 85.6              | 85.6               |
| Step2 | Fundamental(613.9875 MHz)   | 1 kHz/3 kHz  | 89.1              | 85.1               | 84.6              | 80.6               |
|       | Band-edge(614 MHz)          | 1 kHz/3 kHz  | 35.5              | 31.5               | 32.3              | 28.4               |
|       | Amplitude delta             | -            | 53.6              | 53.6               | 52.2              | 52.2               |
| Step3 | Field strength of band-edge | -            | -                 | 31.8               | -                 | 33.3               |
|       | Limit                       | -            | -                 | 46.0               | -                 | 46.0               |
|       | Margin                      | -            | -                 | 14.3               | -                 | 12.7               |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter) - Gain(Amplifier)

\*1 Amplitude delta = Fundamental(RBW:1 kHz,VBW:3 kHz) - Band-edge(RBW:1 kHz,VBW:3 kHz)

\*2 Field strength of band-edge = Fundamental(AV) - Amplitude delta

\*As we stated at section 7 ("Bandedge" section), we used RBW = 1 kHz (greater than 1 % bandwidth) to prevent to detect in-band emission. Refer to KDB 971168 D01 (KDB 971168 D01 Power Meas Licence Digital System D03r01).

(for RF Exposure sheet)

[RF output power]

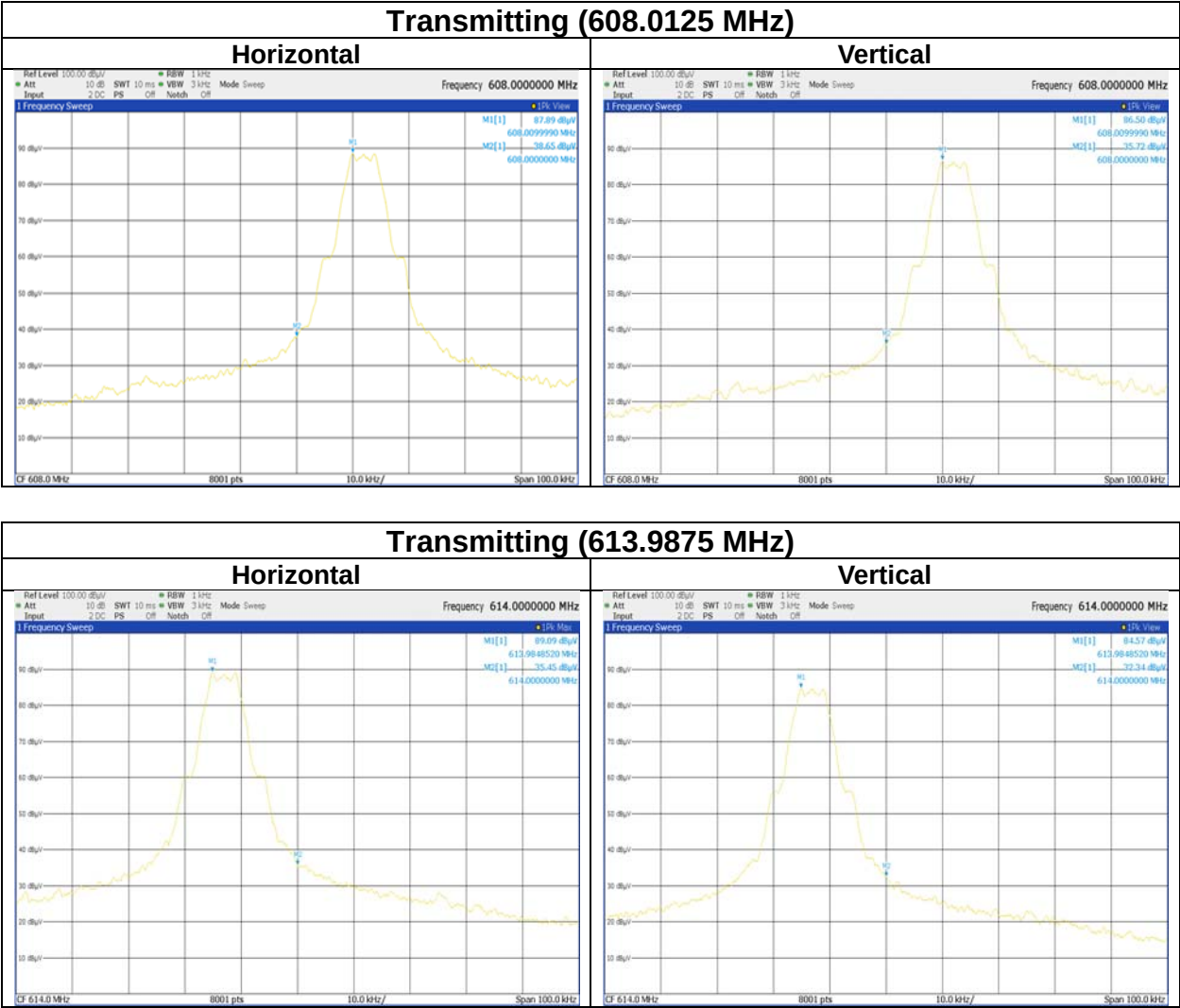
|         | radiated emission [dBuV/m] | EIRP [mW] |
|---------|----------------------------|-----------|
| carrier | 85.39                      | 0.104     |
| Level   |                            |           |

Calculation: (\*Radiated emission value refer to above table)

EIRP [mW] = (((10^(Result [dBuV/m] / 20)) x 10^(-6))

x (distance=) 3 [m] ) ^2 ) / ( 30 x 1 ) x 10^3

**Field Strength (Electric Field Strength of Fundamental Emission, Spurious Emission and Band Edge Compliance)**  
Band Edge compliance (for Maker Delta Method)



## APPENDIX 2: Test Instruments

### Test Equipment [1/3] (July 1, 2025 to July 4, 2025)

| Test Item | LIMS ID | Description                      | Manufacturer              | Model      | Serial     | Last Calibration Date | Cal Int |
|-----------|---------|----------------------------------|---------------------------|------------|------------|-----------------------|---------|
| Freq,BW   | 146178  | Search coil                      | Langer                    | RF-R 400-1 | 02-0634    | -                     | -       |
| Freq,BW   | 145089  | Spectrum Analyzer                | Keysight Technologies Inc | E4446A     | MY46180525 | 2024/08/19            | 12      |
| Freq      | 145200  | Temperature and Humidity Chamber | Espec                     | PL-1KT     | 14020837   | 2025/04/10            | 12      |
| Freq      | 259713  | Thermo-Hygrometer                | CUSTOM. Inc               | CTH-230    | -          | 2025/04/11            | 12      |

### Test Equipment [2/3] (July 1, 2025 to July 4, 2025)

| Test Item | LIMS ID | Description                       | Manufacturer                                | Model                                      | Serial                                  | Last Calibration Date | Cal Int |
|-----------|---------|-----------------------------------|---------------------------------------------|--------------------------------------------|-----------------------------------------|-----------------------|---------|
| RE        | 167096  | Attenuator                        | JFW                                         | 50HF-006N                                  | -                                       | 2025/02/19            | 12      |
| RE        | 199783  | Attenuator                        | JFW                                         | 50HF-006N                                  | -                                       | 2025/06/04            | 12      |
| RE        | 239787  | Biconical Antenna                 | Schwarzbeck Mess-Elektronik OHG             | VHBB 9124+BBA9106                          | 01908                                   | 2024/08/10            | 12      |
| RE        | 194601  | Coaxial Cable                     | Fjikura                                     | 5D-2W                                      | -                                       | 2024/11/21            | 12      |
| RE        | 236720  | Coaxial Cable                     | Huber+Suhner                                | SF106/SF106/SF106                          | 2001167/2001168/2001161                 | 2025/05/28            | 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        | 239650  | Coaxial Cable                     | Huber+Suhner                                | SUCOFLEX 102                               | 2001218/2                               | 2024/08/20            | 12      |
| RE        | 144968  | Coaxial Cable&RF Selector         | Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO | 8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906 | -/0901-269(RF Selector)                 | 2025/04/05            | 12      |
| RE        | 145792  | Digital Hitester                  | HIOKI E. E. CORPORATION                     | 3805-50                                    | 80997812                                | 2024/09/24            | 12      |
| RE        | 235640  | DIGITAL MULTIMETER                | HIOKI E. E. CORPORATION                     | DT4261                                     | 230313157                               | 2025/05/22            | 12      |
| RE        | 170932  | EMI Software                      | TSJ (Techno Science Japan)                  | TEPTO-DV3(RE,CE,ME,PE)                     | Ver 3.1.0546                            | -                     | -       |
| RE        | 145300  | Highpass Filter                   | Micro-Tronics                               | HPM50115                                   | 1                                       | 2024/10/10            | 12      |
| RE        | 236584  | Horn Antenna                      | AINFO Inc.                                  | LB-8180-NF                                 | 2030013000112                           | 2025/04/25            | 12      |
| RE        | 145528  | Logperiodic Antenna               | Schwarzbeck Mess-Elektronik OHG             | VUSLP9111B                                 | 195                                     | 2025/03/18            | 12      |
| RE        | 245074  | Loop(Active) Antenna              | ETS-Lindgren                                | 6502                                       | 00262458                                | 2025/04/09            | 12      |
| RE        | 145003  | Pre Amplifier                     | SONOMA                                      | 310N                                       | 290211                                  | 2025/02/19            | 12      |
| RE        | 236967  | Pre Amplifier                     | TSJ (Techno Science Japan)                  | MLA-9K01-L01                               | 23050010                                | 2025/06/04            | 12      |
| RE        | 237786  | RF RELAY MATRIX with preamplifier | TSJ (Techno Science Japan)                  | RFM-E221261R                               | 07796                                   | 2024/11/12            | 12      |
| RE        | 145568  | Semi Anechoic Chamber(ME)         | TDK                                         | Semi Anechoic Chamber 3m/10m               | 1, 2, 3                                 | 2024/10/12            | 24      |
| RE        | 145597  | Semi-Anechoic Chamber             | TDK                                         | SAEC-01(NSA)                               | 1                                       | 2025/04/04            | 12      |
| RE        | 236615  | Semi-Anechoic Chamber             | TDK                                         | SWAC-02(NSA)                               | 2                                       | 2025/05/12            | 12      |
| RE        | 207279  | Tape Measure                      | ASKUL                                       | -                                          | -                                       | -                     | -       |
| RE        | 207281  | Tape Measure                      | ASKUL                                       | -                                          | -                                       | -                     | -       |
| RE        | 145790  | Test Receiver                     | Rohde & Schwarz                             | ESU40                                      | 100093                                  | 2025/04/18            | 12      |
| RE        | 235268  | Test Receiver                     | Rohde & Schwarz                             | ESW44                                      | 103212                                  | 2024/12/18            | 12      |
| RE        | 235738  | Thermo-Hygrometer                 | CUSTOM. Inc                                 | CTH-230                                    | -                                       | 2025/04/16            | 12      |
| RE        | 259708  | Thermo-Hygrometer                 | CUSTOM. Inc                                 | CTH-230                                    | -                                       | 2025/04/11            | 12      |

**Test Equipment [3/3] (November 17, 2025)**

| Test Item | LIMS ID | Description       | Manufacturer              | Model      | Serial     | Last Calibration Date | Cal Int |
|-----------|---------|-------------------|---------------------------|------------|------------|-----------------------|---------|
| Freq      | 146178  | Search coil       | Langer                    | RF-R 400-1 | 02-0634    | -                     | -       |
| Freq      | 236410  | Spectrum Analyzer | Keysight Technologies Inc | N9030B     | MY63050151 | 2025/04/29            | 12      |
| Freq      | 259714  | Thermo-Hygrometer | CUSTOM. Inc               | CTH-230    | -          | 2025/04/11            | 12      |
| Freq      | 146212  | Digital Hitester  | HIOKI E. E. CORPORATION   | 3805-50    | 80997828   | 2025/09/10            | 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:**

Freq: Frequency Stability  
BW: -26 dB Bandwidth and 99 % Occupied bandwidth  
RE: Radiated Emission