





RADIO TEST REPORT

Test Report No. 14913509H-B-R2

| | |
|---------------------|---|
| Customer | Panasonic Automotive Systems Co., Ltd. |
| Description of EUT | Car Navigation |
| Model Number of EUT | AT2402 |
| FCC ID | ACJ932AT2402 |
| Test Regulation | FCC Part 15 Subpart C |
| Test Result | Complied |
| Issue Date | April 23, 2025 |
| Remarks | - Wireless LAN (2.4 GHz band) and Bluetooth Low Energy part(s) - Radiated Spurious Emission only |

| | |
|--|--|
| Representative Test Engineer | Approved By |
|  |  |
| Tomoya Sone Engineer | Takumi Shimada Engineer |
| |   |
| | CERTIFICATE 5107.02 |
| <input type="checkbox"/> The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan, Inc. | |
| <input checked="" type="checkbox"/> There is no testing item of "Non-accreditation". | |

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 23.0

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. Ise 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 test report(s) referred in this report, the latest version (including any revisions) is always referred.

REVISION HISTORY

Original Test Report No.: 14913509H-B

This report is a revised version of 14913509H-B-R1. 14913509H-B-R1 is replaced with this report.

| Revision | Test Report No. | Date | Page Revised Contents |
|-----------------|-----------------|-----------------|--|
| - (Original) | 14913509H-B | August 26, 2024 | - |
| 1 | 14913509H-B-R1 | March 24, 2025 | Figure 1: Test Setup in SECTION 5 Corrected description for 1 GHz to 10 GHz (Figure and calculating formula). |
| 2 | 14913509H-B-R2 | April 23, 2025 | 4.1 Operating Mode(s) Table of Mode for BT LE (Page 11) - Corrected of Power Setting: 9 dBm -> Fixed 4.2 Configuration and Peripherals Table for List of Cables Used - Corrected information of Cable 12 and 13: DC Cable -> Signal Cable |

Reference: Abbreviations (Including words undescribed in this report)

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

| CONTENTS | PAGE |
|--|-------------|
| SECTION 1: Customer Information | 5 |
| SECTION 2: Equipment Under Test (EUT) | 5 |
| SECTION 3: Test Specification, Procedures & Results | 7 |
| SECTION 4: Operation of EUT during testing | 10 |
| SECTION 5: Radiated Spurious Emission | 14 |
| APPENDIX 1: Test Data | 16 |
| Burst rate confirmation | 16 |
| Radiated Spurious Emission..... | 19 |
| APPENDIX 2: Test Instruments | 59 |
| APPENDIX 3: Photographs of Test Setup | 60 |
| Radiated Spurious Emission..... | 60 |

SECTION 1: Customer Information

| | |
|------------------|---|
| Company Name | Panasonic Automotive Systems Co., Ltd. *1) |
| Address | 4261, Ikonobe-cho, Tsuzuki-ku, Yokohama-shi, Kanagawa-ken 224-8520, Japan |
| Telephone Number | +81-50-1802-5117 |
| Contact Person | Daisuke Takahata |

*1) The Grantee name in the FCC application is "Panasonic Corporation of North America".

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 | Car Navigation |
| Model Number | AT2402 |
| Serial Number | Refer to SECTION 4.2 |
| Condition | Production prototype (Not for Sale: This sample is equivalent to mass-produced items.) |
| Modification | No Modification by the test lab |
| Receipt Date | June 26, 2024 |
| Test Date | June 30 to July 10, 2024 |

2.2 Product Description

General Specification

| | |
|-----------------------|--------------------------|
| Rating | DC 13.2 V |
| Operating temperature | -30 deg. C to +65 deg. C |

Radio Specification

Bluetooth (BR / EDR / BT LE)

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

WLAN (IEEE802.11b/11g/11n-20/11ax-20)

| | | |
|------------------------|---------------------------|-----------------------|
| Equipment Type | Transceiver | |
| Frequency of Operation | 2412 MHz to 2462 MHz | |
| Type of Modulation | DSSS, OFDM | |
| | OFDMA (IEEE802.11ax only) | 26/52/106/242-tone RU |
| Antenna Gain | 4 dBi | |

WLAN (IEEE802.11a/11n-20/11ac-20/11ax-20/11n-40/11ac-40/11ax-40/11ac-80/11ax-80)

| | | |
|---------------------------------------|------------------------------|--|
| Equipment Type | Transceiver | |
| Frequency of Operation | 20 MHz Band | 5180 MHz to 5240 MHz 5745 MHz to 5825 MHz |
| | 40 MHz Band | 5190 MHz to 5230 MHz 5755 MHz to 5795 MHz |
| | 80 MHz Band | 5210 MHz, 5775 MHz |
| Type of Modulation | OFDM | |
| | OFDMA (IEEE802.11ax only) | 20 MHz: 26/52/106/242-tone RU |
| | | 40 MHz: 26/52/106/242/484-tone RU |
| 80 MHz: 26/52/106/242/484/996-tone RU | | |
| Antenna Gain | RF0: 5 dBi RF1: 5 dBi | |

SECTION 3: Test Specification, Procedures & Results

3.1 Test Specification

| | |
|--------------------|--|
| Test Specification | FCC Part 15 Subpart C The latest version on the first day of the testing period |
| Title | FCC 47 CFR Part 15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz |

3.2 Procedures and Results

| Item | Test Procedure | Specification | Worst Margin | Results | Remarks |
|--|---|---|--------------------------------------|----------|-----------------------------------|
| Spurious Emission Restricted Band Edges | FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: RSS-Gen 6.13 | FCC: Section15.247(d) ISED: RSS-247 5.5 RSS-Gen 8.9 RSS-Gen 8.10 | 8.1 dB 2483.5 MHz Vertical, AV | Complied | Radiated (above 30 MHz) *1) |
| <p>Note: UL Japan, Inc.'s EMI Work Procedures: Work Instructions-ULID-003591 and Work Instructions-ULID-003593. * In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred.</p> <p>*1) Radiated test was selected over 30 MHz based on section 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 8.5 and 8.6.</p> | | | | | |

FCC Part 15.31 (e)

This EUT provides the stable voltage constantly to RF part regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

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

3.3 Addition to Standard

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 $k = 2$.

Radiated emission

| Measurement distance | Frequency range | | Unit | Calculated Uncertainty (+/-) |
|----------------------|---------------------|------------|------|------------------------------|
| 3 m | 9 kHz to 30 MHz | | dB | 3.3 |
| 10 m | | | dB | 3.1 |
| 3 m | 30 MHz to 200 MHz | Horizontal | dB | 4.7 |
| | | Vertical | dB | 4.7 |
| | 200 MHz to 1000 MHz | Horizontal | dB | 4.8 |
| | | Vertical | dB | 6.0 |
| 10 m | 30 MHz to 200 MHz | Horizontal | dB | 5.2 |
| | | Vertical | dB | 5.1 |
| | 200 MHz to 1000 MHz | Horizontal | dB | 5.2 |
| | | Vertical | dB | 5.2 |
| 3 m | 1 GHz to 6 GHz | | dB | 5.1 |
| | 6 GHz to 18 GHz | | dB | 5.4 |
| 1 m | 10 GHz to 18 GHz | | dB | 5.4 |
| | 18 GHz to 26.5 GHz | | dB | 5.3 |
| | 26.5 GHz to 40 GHz | | dB | 4.8 |
| 0.5 m | 26.5 GHz to 40 GHz | | dB | 5.0 |

3.5 Test Location

UL Japan, Inc. Ise EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 Japan

Telephone: +81-596-24-8999

A2LA Certificate Number: 5107.02 / FCC Test Firm Registration Number: 884919

ISED Lab Company Number: 2973C / CAB identifier: JP0002

| Test site | Width x Depth x Height (m) | Size of reference ground plane (m) / horizontal conducting plane | Other rooms | Maximum measurement distance |
|----------------------------|----------------------------|--|------------------------|------------------------------|
| No.1 semi-anechoic chamber | 19.2 x 11.2 x 7.7 | 7.0 x 6.0 | No.1 Power source room | 10 m |
| No.2 semi-anechoic chamber | 7.5 x 5.8 x 5.2 | 4.0 x 4.0 | - | 3 m |
| No.3 semi-anechoic chamber | 12.0 x 8.5 x 5.9 | 6.8 x 5.75 | No.3 Preparation room | 3 m |
| No.3 shielded room | 4.0 x 6.0 x 2.7 | N/A | - | - |
| No.4 semi-anechoic chamber | 12.0 x 8.5 x 5.9 | 6.8 x 5.75 | No.4 Preparation room | 3 m |
| No.4 shielded room | 4.0 x 6.0 x 2.7 | N/A | - | - |
| No.5 semi-anechoic chamber | 6.0 x 6.0 x 3.9 | 6.0 x 6.0 | - | - |
| No.5 measurement room | 6.4 x 6.4 x 3.0 | 6.4 x 6.4 | - | - |
| No.6 shielded room | 4.0 x 4.5 x 2.7 | 4.0 x 4.5 | - | - |
| No.6 measurement room | 4.75 x 5.4 x 3.0 | 4.75 x 4.15 | - | - |
| No.7 shielded room | 4.7 x 7.5 x 2.7 | 4.7 x 7.5 | - | - |
| No.8 measurement room | 3.1 x 5.0 x 2.7 | 3.1 x 5.0 | - | - |
| No.9 measurement room | 8.8 x 4.6 x 2.8 | 2.4 x 2.4 | - | - |
| No.10 shielded room | 3.8 x 2.8 x 2.8 | 3.8 x 2.8 | - | - |
| No.11 measurement room | 4.0 x 3.4 x 2.5 | N/A | - | - |
| No.12 measurement room | 2.6 x 3.4 x 2.5 | N/A | - | - |
| Large Chamber | 16.9 x 22.1 x 10.17 | 16.9 x 22.1 | - | 10 m |
| Small Chamber | 5.3 x 6.69 x 3.59 | 5.3 x 6.69 | - | - |

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)

| Mode | Remarks* |
|--|-----------------------|
| IEEE 802.11b (11b) | 1 Mbps, PN9 |
| IEEE 802.11ax SISO 20 MHz BW (11ax-20) | MCS 10 (G.I. 1600 ns) |
| *The worst condition was determined based on the test result of Maximum Peak Output Power (Mid Channel) | |
| *Power of the EUT was set by the software as follows; Power Setting: 11b: 12 dBm 11ax-20 (OFDM): 13 dBm 11ax-20 (OFDMA): 7 dBm (26-tone RU), 10 dBm (52-tone RU), 13 dBm (106-tone RU / 242-tone RU) Software: OFDM: wifi_2g_serial OFDMA: OFDMA_TX_2G_serial_v2 (Date: 2024.06.25, Storage location: Driven by connected PC) | |
| *This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product. Test operating mode was determined as follows according to "Section 1 of 6 802.11 a/b/g/n testing - Managing Complex Regulatory Approvals - " of TCB Council Workshop October 2009 and also was judged the necessity of 802.11ax mode by the pre-test. | |

*The Details of Operating Mode(s)

| Test Item | Operating Mode | Tested Frequency |
|--|------------------------|------------------|
| Radiated Spurious Emission (Below 1 GHz) | Tx 11ax-20 *1) | 2462 MHz |
| Radiated Spurious Emission (Above 1 GHz) | Tx 11b | 2412 MHz |
| | Tx 11ax-20 [OFDM] *2) | 2437 MHz |
| | Tx 11ax-20 [OFDMA] *3) | 2462 MHz |
| *1) The mode was tested as a representative, because it had the highest power at antenna terminal test. *2) Since 11g, 11n-20, and 11ax-20 have the same modulation method and no differences in transmitting specification, test was performed on the representative mode that had the highest output power. *3) OFDMA configuration tests were conducted only at the band edge since preliminary testing indicated that the other spurious emission was lower than OFDM. | | |

[BT LE]

| Mode | Remarks* |
|---|---|
| Bluetooth Low Energy (BT LE) | 1M-PHY Uncoded PHY (1M), Maximum Packet Size, PRBS9 |
| Bluetooth Low Energy (BT LE) | 2M-PHY Uncoded PHY (2M), Maximum Packet Size, PRBS9 |
| <p>*Power of the EUT was set by the software as follows; Power Setting: Fixed Software: bluetooth_serial_v3 (Date: 2024.07 25, Storage location: Driven by connected PC)</p> <p>*This setting of software is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.</p> | |

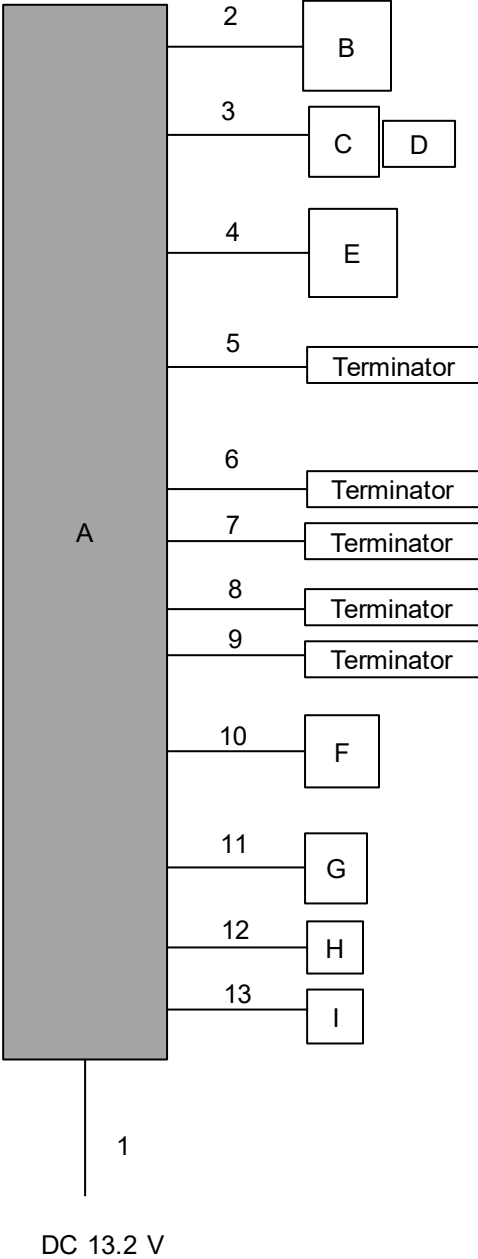
*The Details of Operating Mode(s)

| Test Item | Operating Mode | Tested Frequency |
|--|------------------|------------------|
| Radiated Spurious Emission (Below 1 GHz) | Tx BT LE, 2M *1) | 2402 MHz |
| Radiated Spurious Emission (Above 1 GHz) | Tx BT LE, 1M | 2402 MHz |
| | Tx BT LE, 2M | 2440 MHz |
| | | 2480 MHz |
| <p>*1) Spurious emissions for frequencies below 1 GHz were limited to the channel that had the highest power during the antenna terminal test, as preliminary testing indicated that changing the operating frequency had no significant impact on the emissions in those frequency bands.</p> | | |

Simultaneous transmission

| Test Item | Mode *1) |
|--|---|
| Radiated Spurious Emission | Tx BT LE 2M 2480 MHz + 11ax-20 [52-tone RU/Index 40] 5825 MHz |
| <p>*1) The test was conducted on representative mode, the worst mode of GHz band at Spurious emission test for BT and the mode had the highest power at Antenna terminal conducted test for WLAN 5 GHz band.</p> | |

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 and Support Equipment

| No. | Item | Model number | Serial Number | Manufacturer | Remarks |
|-----|-----------------|--------------|---------------|---|---------|
| A | Car Navigation | AT2402 | 500071 | Panasonic | EUT |
| B | ADAS Jig | GVIF3OUT2A | 8 | Persol AVC Technology Co., Ltd. | - |
| C | USB BOX | DEP38-10029 | - | Japan Aviation Electronics Industry, Ltd. | - |
| D | USB Memory | RUF3-K16GB | P10416 | Buffalo Inc. | - |
| E | Speaker Dummy | HS50 4RF | - | ARCOL UK Limited | - |
| F | Steering Switch | - | 1400 | Panasonic | - |
| G | GPS Antenna | ANN-MS | 20N40132 | U-Blox | - |
| H | Microphone | SDA3520A | 4AC011627 | Panasonic | - |
| I | Microphone | SDA3520A | 4AC011628 | Panasonic | - |

List of Cables Used

| No. | Name | Length (m) | Shield | | Remarks |
|-----|-------------------|------------|------------|------------|---------|
| | | | Cable | Connector | |
| 1 | DC Cable | 4.3 | Unshielded | Unshielded | - |
| 2 | Signal Cable | 1.9 | Unshielded | Unshielded | - |
| 3 | USB Cable | 2.3 | Shielded | Shielded | - |
| 4 | Audio Cable | 2.5 | Shielded | Shielded | - |
| 5 | XM Antenna Cable | 3.0 | Shielded | Shielded | - |
| 6 | LAN Cable | 3.0 | Shielded | Shielded | - |
| 7 | Signal Cable | 1.0 | Shielded | Shielded | - |
| 8 | FM Cable | 3.0 | Shielded | Shielded | - |
| 9 | Radio Cable | 3.0 | Shielded | Shielded | - |
| 10 | Signal Cable | 4.3 | Unshielded | Unshielded | - |
| 11 | GPS Antenna Cable | 2.0 | Shielded | Shielded | - |
| 12 | Signal Cable | 4.3 | Unshielded | Unshielded | - |
| 13 | Signal Cable | 4.3 | Unshielded | Unshielded | - |

SECTION 5: Radiated Spurious Emission

Test Procedure

It was measured based on "8.5 and 8.6 of KDB 558074 D01 15.247 Meas Guidance v05r02".

[For below 1 GHz]

EUT was placed on a urethane platform of nominal size, 0.5 m by 1.0 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

[For above 1 GHz]

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane. Test 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 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 the electric field strength.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear 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 | 30 MHz to 200 MHz | 200 MHz to 1 GHz | Above 1 GHz |
| Antenna Type | Biconical | Logperiodic | Horn |

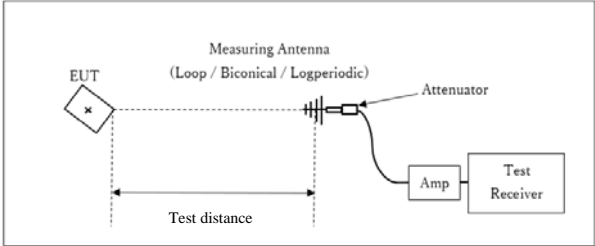
In any 100 kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20 dBc was applied to the frequency over the limit of FCC 15.209 / Table 4 of RSS-Gen 8.9(ISED) and outside the restricted band of FCC15.205 / Table 6 of RSS-Gen 8.10 (ISED).

| | | | | |
|-----------------|---------------|--------------------------|---|------------------------------|
| Frequency | Below 1 GHz | Above 1 GHz | | 20 dBc |
| Instrument Used | Test Receiver | Spectrum Analyzer | | Spectrum Analyzer |
| Detector | QP | PK | AV | PK |
| IF Bandwidth | BW 120 kHz | RBW: 1 MHz VBW: 3 MHz | <u>11.12.2.5.1</u> RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (RMS) Trace: 100 traces <u>11.12.2.5.2</u> The duty cycle was less than 98% for detected noise, a duty factor was added to the 11.12.2.5.1 results. | RBW: 100 kHz VBW: 300 kHz |

Figure 1: Test Setup

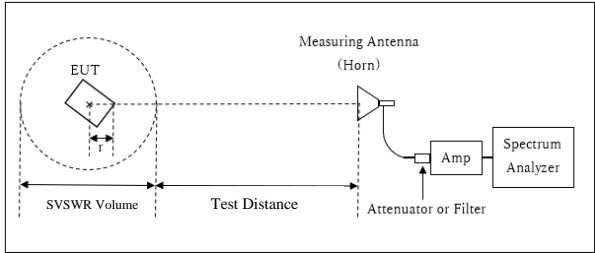
Below 1 GHz



* : Center of turn table

Test Distance: 3 m

1 GHz to 10 GHz



r : Radius of an outer periphery of EUT
 * : Center of turn table

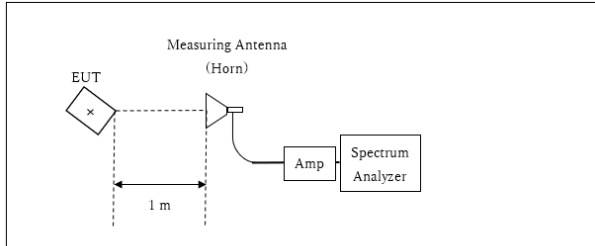
[1 GHz to 6 GHz]
 Distance Factor: $20 \times \log(3.6 \text{ m}^* / 3.0 \text{ m}) = 1.59 \text{ dB}$
 *(Test Distance + SVSWR Volume / 2) - r = 3.6 m

Test Distance: 3 m
 SVSWR Volume : 1.5 m
 (SVSWR Volume has been calibrated based on CISPR 16-1-4.)
 r : 0.15 m

[6 GHz to 10 GHz]
 Distance Factor: $20 \times \log(3.6 \text{ m}^* / 3.0 \text{ m}) = 1.59 \text{ dB}$
 *(Test Distance + SVSWR Volume / 2) - r = 3.6 m

Test Distance: 3.25 m
 SVSWR Volume : 1.0 m
 (SVSWR Volume has been calibrated based on CISPR 16-1-4.)
 r : 0.15 m

10 GHz to 26.5 GHz



* : Center of turn table

Distance Factor: $20 \times \log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$
 *Test Distance: 1 m

The test was made on EUT at the normal use position.

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

Measurement Range : 30 MHz to 26.5 GHz
Test Data : APPENDIX
Test Result : Pass

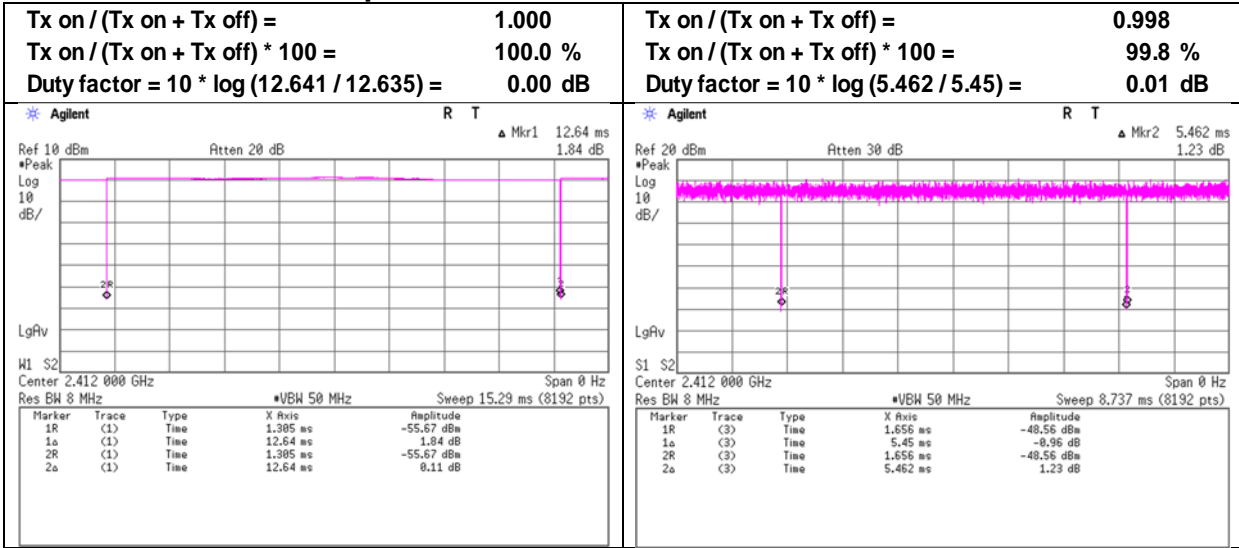
APPENDIX 1: Test Data

Burst rate confirmation

| | | |
|------------------------|---|---------------------|
| Test place | Ise EMC Lab. No.2 Semi Anechoic Chamber | |
| Date | June 30, 2024 | July 1, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 23 deg. C / 71 % RH |
| Engineer | Tomoya Sone | Nachi Konegawa |
| Mode | Tx | |

11b 1 Mbps

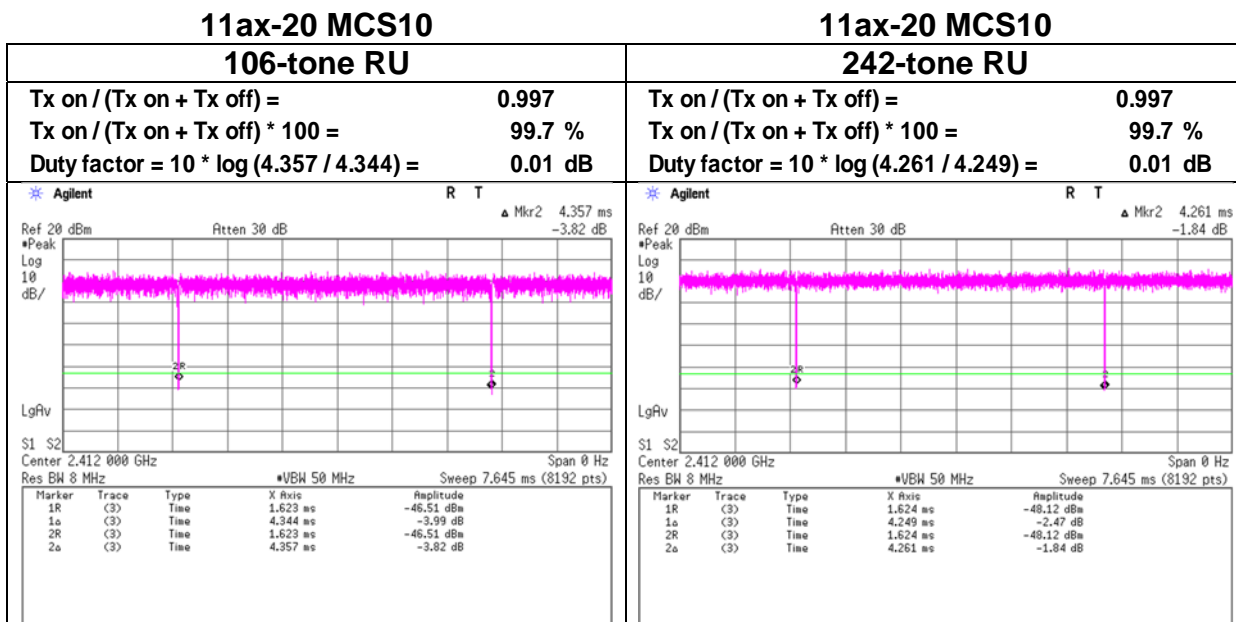
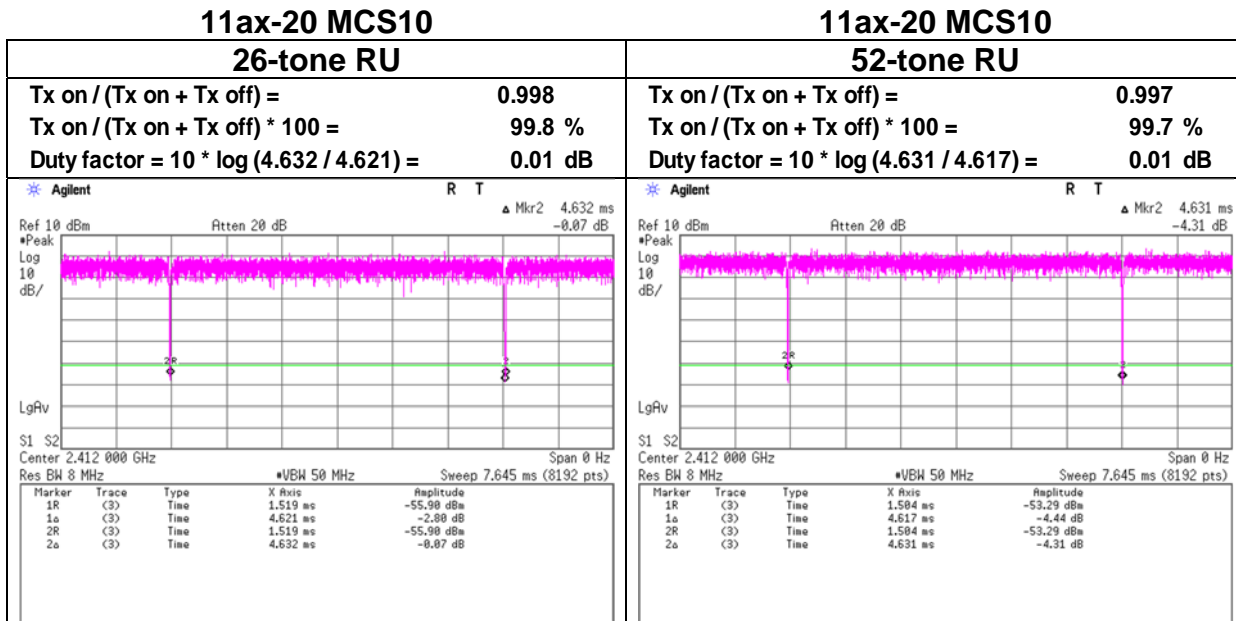
11ax-20 MCS10



* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place Ise EMC Lab. No.2 Semi Anechoic Chamber
Date July 1, 2024
Temperature / Humidity 23 deg. C / 71 % RH
Engineer Nachi Konegawa
Mode Tx



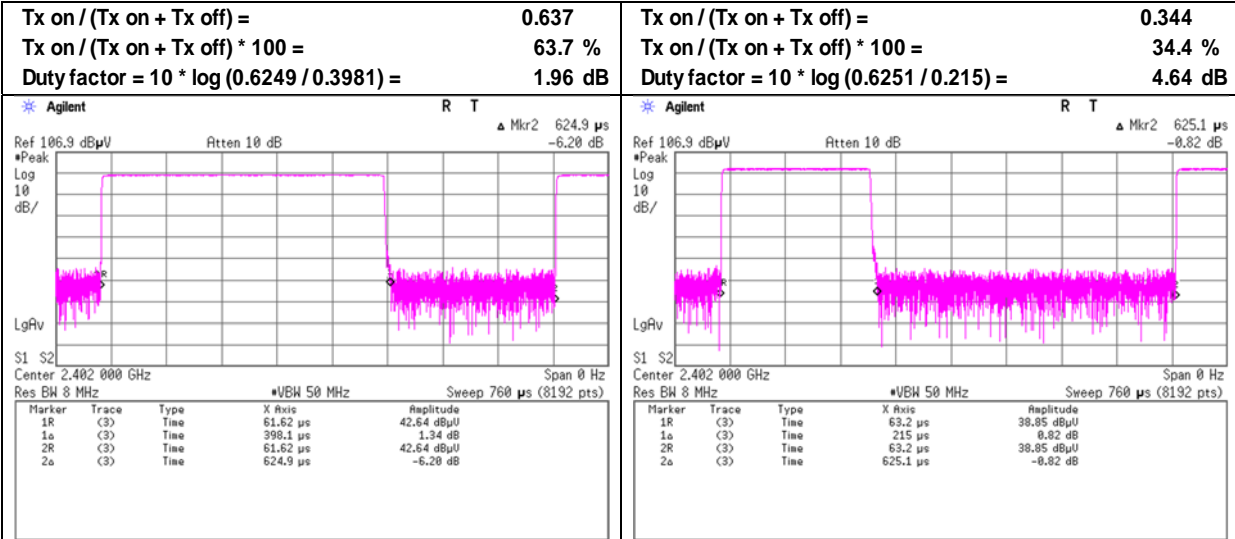
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place Ise EMC Lab. No.2 Semi Anechoic Chamber
 Date June 30, 2024
 Temperature / Humidity 22 deg. C / 56 % RH
 Engineer Tomoya Sone
 Mode Tx

BT LE 1M

BT LE 2M



* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Radiated Spurious Emission

| | | | |
|------------------------|--------------------------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 5, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Nachi Konegawa | Tomoya Sone |
| Mode | (1 GHz to 10 GHz) Tx 11b 2412 MHz | (10 GHz to 18 GHz) | (Above 18 GHz) |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2390.0 | 45.6 | 35.2 | 27.7 | 4.9 | 34.4 | - | 43.8 | 33.3 | 73.9 | 53.9 | 30.1 | 20.6 | |
| Hori. | 4824.0 | 44.4 | 32.4 | 31.6 | 7.2 | 33.6 | - | 49.6 | 37.6 | 73.9 | 53.9 | 24.4 | 16.3 | Floor noise |
| Hori. | 7236.0 | 43.2 | 35.2 | 35.7 | 8.5 | 33.5 | - | 53.9 | 45.9 | 73.9 | 53.9 | 20.1 | 8.1 | Floor noise |
| Hori. | 9648.0 | 46.4 | 36.5 | 35.8 | 9.6 | 34.1 | - | 57.7 | 47.8 | 73.9 | 53.9 | 16.2 | 6.1 | Floor noise |
| Vert. | 2390.0 | 46.9 | 36.3 | 27.7 | 4.9 | 34.4 | - | 45.1 | 34.5 | 73.9 | 53.9 | 28.8 | 19.4 | |
| Vert. | 4824.0 | 44.4 | 32.5 | 31.6 | 7.2 | 33.6 | - | 49.6 | 37.7 | 73.9 | 53.9 | 24.3 | 16.2 | Floor noise |
| Vert. | 7236.0 | 43.3 | 35.0 | 35.7 | 8.5 | 33.5 | - | 53.9 | 45.7 | 73.9 | 53.9 | 20.0 | 8.2 | Floor noise |
| Vert. | 9648.0 | 46.4 | 36.5 | 35.8 | 9.6 | 34.1 | - | 57.7 | 47.8 | 73.9 | 53.9 | 16.2 | 6.1 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

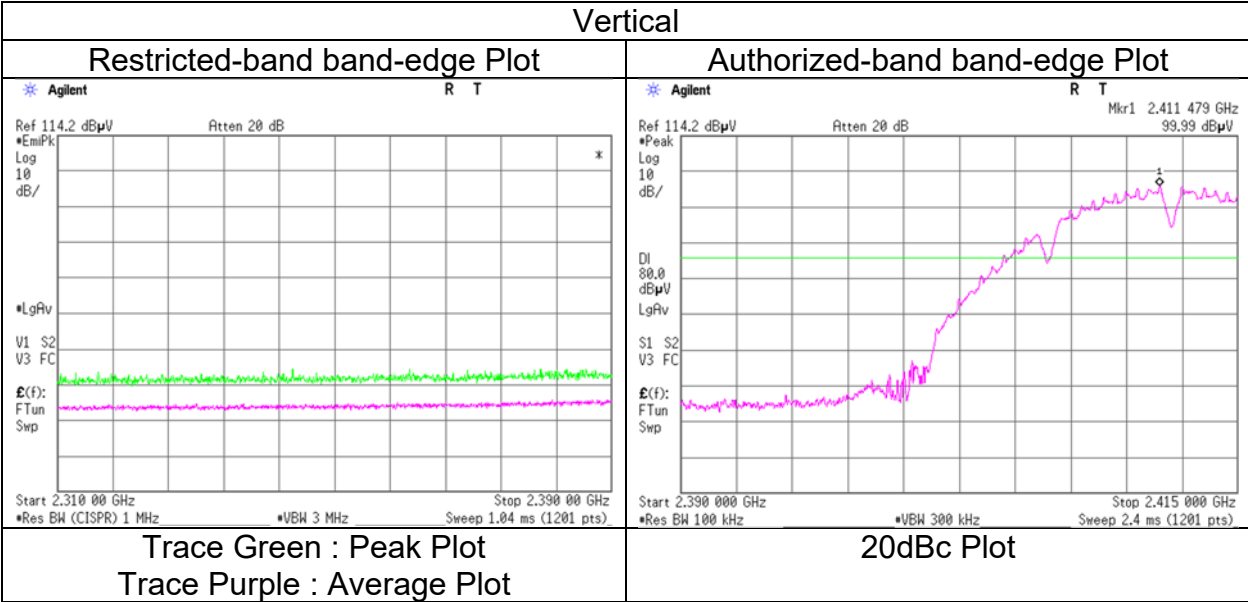
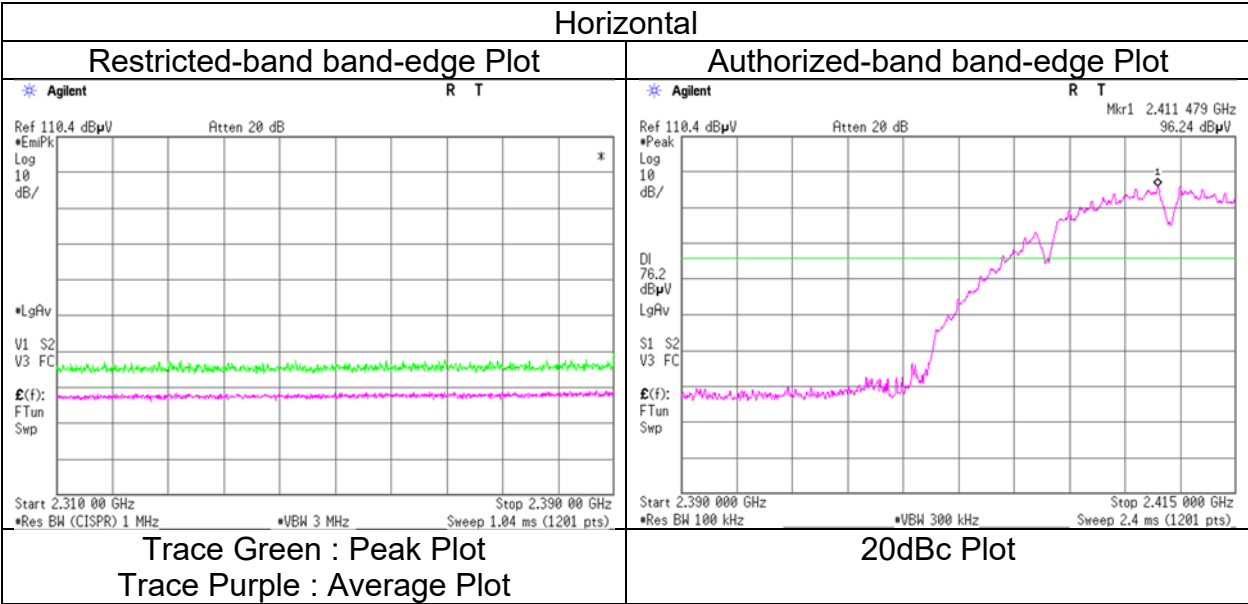
20dBc Data Sheet

| Polarity | Frequency | Reading (PK) | Ant. Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|--------------|-------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2412.0 | 96.2 | 27.6 | 4.9 | 34.4 | 94.4 | - | - | Carrier |
| Hori. | 2400.0 | 44.6 | 27.6 | 4.9 | 34.4 | 42.7 | 74.4 | 31.7 | |
| Vert. | 2412.0 | 100.0 | 27.6 | 4.9 | 34.4 | 98.1 | - | - | Carrier |
| Vert. | 2400.0 | 37.0 | 27.6 | 4.9 | 34.4 | 35.1 | 78.1 | 43.0 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Distance factor:
 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

**Radiated Spurious Emission
(Reference Plot for band-edge)**

| | |
|------------------------|---------------------|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | June 30, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH |
| Engineer | Tomoya Sone |
| | (1 GHz to 10 GHz) |
| Mode | Tx 11b 2412 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|--------------------------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 5, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Nachi Konegawa | Tomoya Sone |
| Mode | (1 GHz to 10 GHz) Tx 11b 2437 MHz | (10 GHz to 18 GHz) | (Above 18 GHz) |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 4874.0 | 42.5 | 34.2 | 31.6 | 7.2 | 33.6 | - | 47.8 | 39.4 | 73.9 | 53.9 | 26.1 | 14.5 | Floor noise |
| Hori. | 7311.0 | 42.9 | 34.6 | 35.6 | 8.5 | 33.5 | - | 53.6 | 45.3 | 73.9 | 53.9 | 20.3 | 8.7 | Floor noise |
| Hori. | 9748.0 | 45.2 | 36.3 | 36.0 | 9.6 | 34.1 | - | 56.8 | 47.8 | 73.9 | 53.9 | 17.1 | 6.1 | Floor noise |
| Vert. | 4874.0 | 42.6 | 34.3 | 31.6 | 7.2 | 33.6 | - | 47.9 | 39.6 | 73.9 | 53.9 | 26.1 | 14.4 | Floor noise |
| Vert. | 7311.0 | 43.0 | 34.7 | 35.6 | 8.5 | 33.5 | - | 53.7 | 45.4 | 73.9 | 53.9 | 20.2 | 8.5 | Floor noise |
| Vert. | 9748.0 | 45.4 | 36.3 | 36.0 | 9.6 | 34.1 | - | 56.9 | 47.9 | 73.9 | 53.9 | 17.0 | 6.0 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*QP detector was used up to 1GHz.

| | | |
|------------------|-------------------|---------------------------------|
| Distance factor: | 1 GHz - 6 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 6 GHz - 10 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 10 GHz - 26.5 GHz | 20log (1.0 m / 3.0 m) = -9.5 dB |

Radiated Spurious Emission

| | | | |
|------------------------|--------------------------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 5, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Nachi Konegawa | Tomoya Sone |
| Mode | (1 GHz to 10 GHz) Tx 11b 2462 MHz | (10 GHz to 18 GHz) | (Above 18 GHz) |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2483.5 | 44.8 | 34.4 | 27.5 | 5.0 | 34.3 | - | 42.9 | 32.5 | 73.9 | 53.9 | 31.0 | 21.4 | |
| Hori. | 4924.0 | 41.9 | 34.4 | 31.7 | 7.2 | 33.6 | - | 47.2 | 39.7 | 73.9 | 53.9 | 26.8 | 14.2 | Floor noise |
| Hori. | 7386.0 | 42.6 | 34.4 | 35.6 | 8.6 | 33.5 | - | 53.2 | 45.1 | 73.9 | 53.9 | 20.7 | 8.8 | Floor noise |
| Hori. | 9848.0 | 45.2 | 36.0 | 36.2 | 9.7 | 34.1 | - | 57.0 | 47.7 | 73.9 | 53.9 | 17.0 | 6.2 | Floor noise |
| Vert. | 2483.5 | 47.5 | 36.9 | 27.5 | 5.0 | 34.3 | - | 45.6 | 35.0 | 73.9 | 53.9 | 28.3 | 18.9 | |
| Vert. | 4924.0 | 42.1 | 34.5 | 31.7 | 7.2 | 33.6 | - | 47.3 | 39.8 | 73.9 | 53.9 | 26.6 | 14.1 | Floor noise |
| Vert. | 7386.0 | 42.7 | 34.6 | 35.6 | 8.6 | 33.5 | - | 53.3 | 45.2 | 73.9 | 53.9 | 20.6 | 8.7 | Floor noise |
| Vert. | 9848.0 | 45.3 | 36.1 | 36.2 | 9.7 | 34.1 | - | 57.1 | 47.8 | 73.9 | 53.9 | 16.8 | 6.1 | Floor noise |

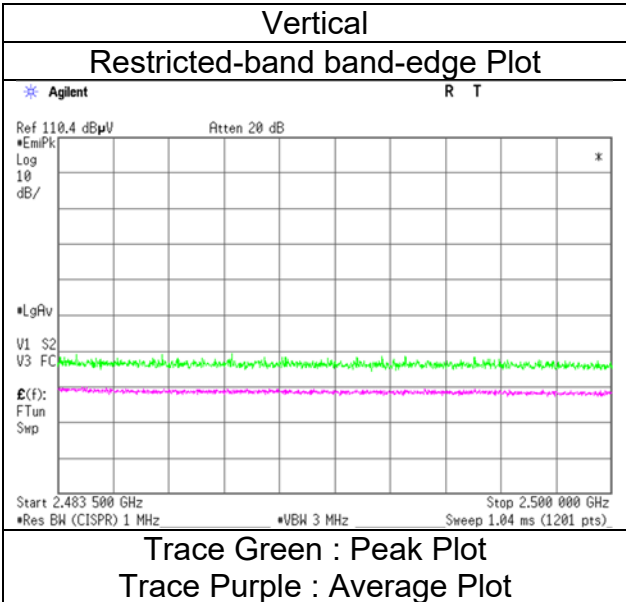
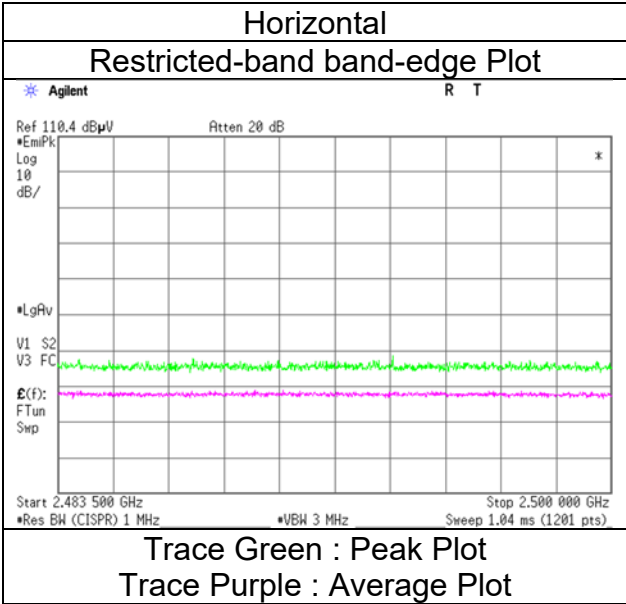
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 6 GHz - 10 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 10 GHz - 26.5 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

Test place
 Semi Anechoic Chamber
 Date
 Temperature / Humidity
 Engineer
 Mode

Ise EMC Lab.
 No.2
 June 30, 2024
 22 deg. C / 56 % RH
 Tomoya Sone
 (1 GHz to 10 GHz)
 Tx 11b 2462 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|----------------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | July 1, 2024 | July 5, 2024 | July 8, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH |
| Engineer | Nachi Konegawa | Nachi Konegawa | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx 11ax-20 [OFDM] 2412 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2390.0 | 52.9 | 39.7 | 27.7 | 4.9 | 34.4 | - | 51.0 | 37.9 | 73.9 | 53.9 | 22.9 | 16.0 | |
| Hori. | 4824.0 | 44.9 | 34.5 | 31.6 | 7.2 | 33.6 | - | 50.1 | 39.7 | 73.9 | 53.9 | 23.8 | 14.2 | Floor noise |
| Hori. | 7236.0 | 44.7 | 35.2 | 35.7 | 8.5 | 33.5 | - | 55.4 | 45.9 | 73.9 | 53.9 | 18.5 | 8.0 | Floor noise |
| Hori. | 9648.0 | 46.9 | 36.5 | 35.8 | 9.6 | 34.1 | - | 58.2 | 47.8 | 73.9 | 53.9 | 15.7 | 6.1 | Floor noise |
| Vert. | 2390.0 | 57.7 | 41.5 | 27.7 | 4.9 | 34.4 | - | 55.9 | 39.7 | 73.9 | 53.9 | 18.0 | 14.2 | |
| Vert. | 4824.0 | 44.9 | 34.5 | 31.6 | 7.2 | 33.6 | - | 50.1 | 39.7 | 73.9 | 53.9 | 23.8 | 14.2 | Floor noise |
| Vert. | 7236.0 | 44.7 | 35.2 | 35.7 | 8.5 | 33.5 | - | 55.4 | 45.9 | 73.9 | 53.9 | 18.5 | 8.0 | Floor noise |
| Vert. | 9648.0 | 46.9 | 36.5 | 35.8 | 9.6 | 34.1 | - | 58.2 | 47.8 | 73.9 | 53.9 | 15.7 | 6.1 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

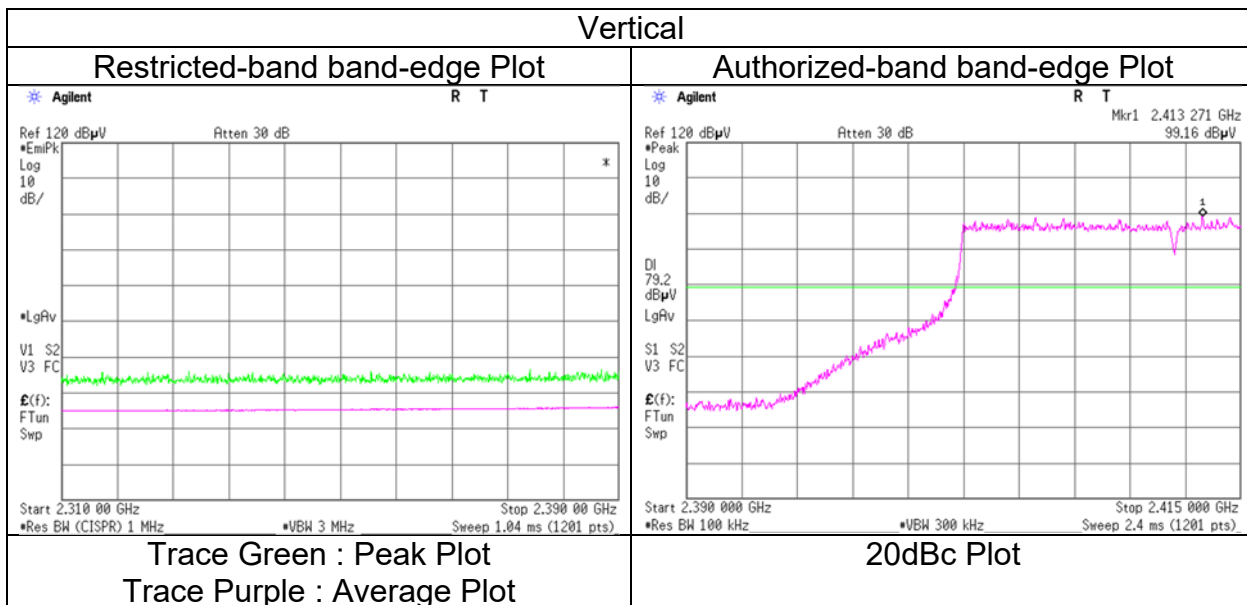
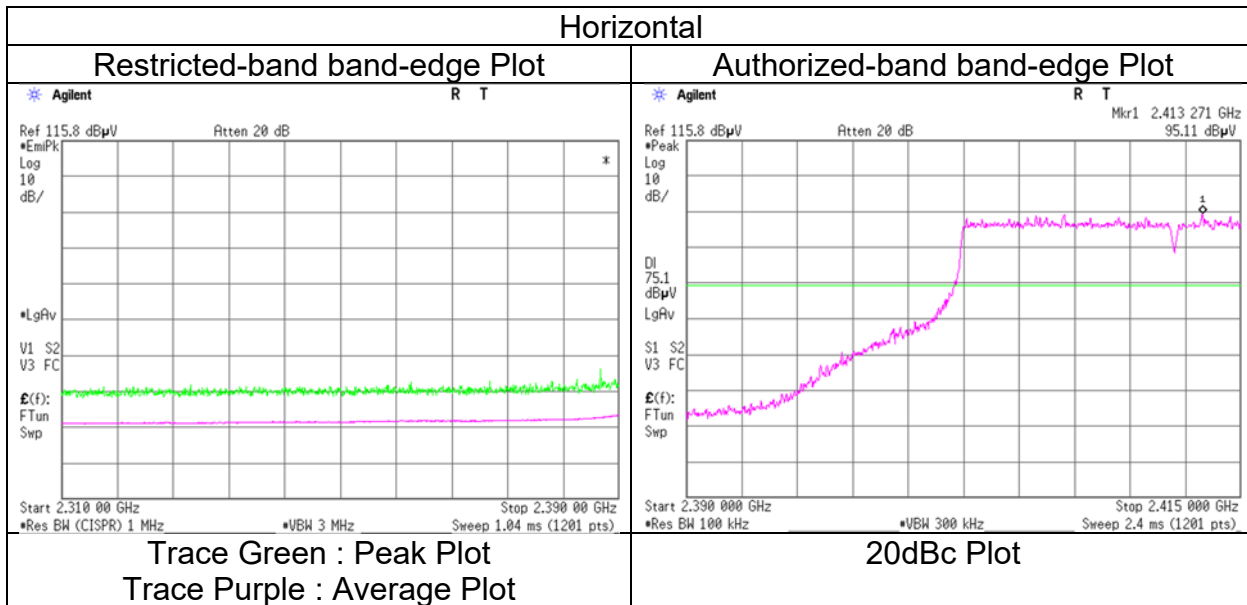
20dBc Data Sheet

| Polarity | Frequency | Reading (PK) | Ant. Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|--------------|-------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2412.0 | 95.1 | 27.6 | 4.9 | 34.4 | 93.3 | - | - | Carrier |
| Hori. | 2400.0 | 63.9 | 27.6 | 4.9 | 34.4 | 62.1 | 73.3 | 11.2 | |
| Vert. | 2412.0 | 99.2 | 27.6 | 4.9 | 34.4 | 97.3 | - | - | Carrier |
| Vert. | 2400.0 | 67.8 | 27.6 | 4.9 | 34.4 | 65.9 | 77.3 | 11.4 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Distance factor: 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission (Reference Plot for band-edge)

| | |
|------------------------|----------------------------|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa |
| | (1 GHz to 10 GHz) |
| Mode | Tx 11ax-20 [OFDM] 2412 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|----------------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | July 1, 2024 | July 5, 2024 | July 8, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH |
| Engineer | Nachi Konegawa | Nachi Konegawa | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx 11ax-20 [OFDM] 2437 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 4874.0 | 43.3 | 34.7 | 31.6 | 7.2 | 33.6 | - | 48.6 | 39.9 | 73.9 | 53.9 | 25.3 | 14.0 | Floor noise |
| Hori. | 7311.0 | 44.2 | 35.0 | 35.6 | 8.5 | 33.5 | - | 54.8 | 45.7 | 73.9 | 53.9 | 19.1 | 8.2 | Floor noise |
| Hori. | 9748.0 | 45.9 | 36.3 | 36.0 | 9.6 | 34.1 | - | 57.4 | 47.9 | 73.9 | 53.9 | 16.5 | 6.1 | Floor noise |
| Vert. | 4874.0 | 43.3 | 34.7 | 31.6 | 7.2 | 33.6 | - | 48.6 | 39.9 | 73.9 | 53.9 | 25.3 | 14.0 | Floor noise |
| Vert. | 7311.0 | 44.2 | 35.0 | 35.6 | 8.5 | 33.5 | - | 54.8 | 45.7 | 73.9 | 53.9 | 19.1 | 8.2 | Floor noise |
| Vert. | 9748.0 | 45.9 | 36.3 | 36.0 | 9.6 | 34.1 | - | 57.4 | 47.9 | 73.9 | 53.9 | 16.5 | 6.1 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*QP detector was used up to 1GHz.

| | | |
|------------------|-------------------|---------------------------------|
| Distance factor: | 1 GHz - 6 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 6 GHz - 10 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 10 GHz - 26.5 GHz | 20log (1.0 m / 3.0 m) = -9.5 dB |

Radiated Spurious Emission

| | | | | |
|------------------------|-------------------------------------|--------------------------------------|-------------------------------|------------------------------|
| Test place | Ise EMC Lab. | | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 | No.2 |
| Date | July 1, 2024 | July 5, 2024 | July 8, 2024 | July 10, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH | 24 deg. C / 65 % RH |
| Engineer | Nachi Konegawa (1 GHz to 10 GHz) | Nachi Konegawa (10 GHz to 18 GHz) | Tomoya Sone (Above 18 GHz) | Tomoya Sone (Below 1 GHz) |
| Mode | Tx 11ax-20 [OFDM] 2462 MHz | | | |

| Polarity | Frequency | Reading | Reading | Ant. | Loss | Gain | Duty | Result | Result | Limit | Limit | Margin | Margin | Remark |
|-------------|-----------|-----------|---------|--------|------|------|------|-----------|----------|-----------|----------|-----------|--------|-------------|
| [Hori/Vert] | [MHz] | (QP / PK) | (AV) | Factor | [dB] | [dB] | [dB] | (QP / PK) | (AV) | (QP / PK) | (AV) | (QP / PK) | (AV) | |
| | | [dBuV] | [dBuV] | [dB/m] | | | | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 59.9 | 23.5 | - | 9.2 | 7.0 | 28.5 | - | 11.2 | - | 40.0 | - | 28.8 | - | |
| Hori. | 77.6 | 24.5 | - | 9.1 | 7.2 | 28.5 | - | 12.3 | - | 40.0 | - | 27.7 | - | |
| Hori. | 90.0 | 23.6 | - | 9.5 | 7.3 | 28.4 | - | 11.9 | - | 43.5 | - | 31.6 | - | |
| Hori. | 220.8 | 28.8 | - | 11.2 | 8.2 | 27.9 | - | 20.4 | - | 46.0 | - | 25.6 | - | |
| Hori. | 737.6 | 32.4 | - | 20.1 | 10.6 | 29.2 | - | 34.0 | - | 46.0 | - | 12.1 | - | |
| Hori. | 811.2 | 23.3 | - | 20.9 | 10.9 | 29.0 | - | 26.1 | - | 46.0 | - | 19.9 | - | |
| Hori. | 2483.5 | 52.4 | 40.2 | 27.5 | 5.0 | 34.3 | - | 50.5 | 38.3 | 73.9 | 53.9 | 23.4 | 15.6 | |
| Hori. | 4924.0 | 42.9 | 34.8 | 31.7 | 7.2 | 33.6 | - | 48.2 | 40.1 | 73.9 | 53.9 | 25.7 | 13.8 | Floor noise |
| Hori. | 7386.0 | 43.4 | 34.6 | 35.6 | 8.6 | 33.5 | - | 54.0 | 45.3 | 73.9 | 53.9 | 19.9 | 8.6 | Floor noise |
| Hori. | 9848.0 | 46.1 | 35.9 | 36.2 | 9.7 | 34.1 | - | 57.9 | 47.7 | 73.9 | 53.9 | 16.0 | 6.2 | Floor noise |
| Vert. | 59.9 | 27.1 | - | 9.2 | 7.0 | 28.5 | - | 14.8 | - | 40.0 | - | 25.2 | - | |
| Vert. | 77.6 | 30.1 | - | 9.1 | 7.2 | 28.5 | - | 17.9 | - | 40.0 | - | 22.1 | - | |
| Vert. | 90.0 | 26.6 | - | 9.5 | 7.3 | 28.4 | - | 14.9 | - | 43.5 | - | 28.6 | - | |
| Vert. | 220.8 | 24.5 | - | 11.2 | 8.2 | 27.9 | - | 16.1 | - | 46.0 | - | 29.9 | - | |
| Vert. | 737.6 | 34.6 | - | 20.1 | 10.6 | 29.2 | - | 36.2 | - | 46.0 | - | 9.8 | - | |
| Vert. | 811.2 | 25.1 | - | 20.9 | 10.9 | 29.0 | - | 27.9 | - | 46.0 | - | 18.1 | - | |
| Vert. | 2483.5 | 61.3 | 47.6 | 27.5 | 5.0 | 34.3 | - | 59.4 | 45.7 | 73.9 | 53.9 | 14.5 | 8.2 | |
| Vert. | 4924.0 | 42.9 | 34.8 | 31.7 | 7.2 | 33.6 | - | 48.2 | 40.1 | 73.9 | 53.9 | 25.7 | 13.8 | Floor noise |
| Vert. | 7386.0 | 43.4 | 34.6 | 35.6 | 8.6 | 33.5 | - | 54.0 | 45.3 | 73.9 | 53.9 | 19.9 | 8.6 | Floor noise |
| Vert. | 9848.0 | 46.1 | 35.9 | 36.2 | 9.7 | 34.1 | - | 57.9 | 47.7 | 73.9 | 53.9 | 16.0 | 6.2 | Floor noise |

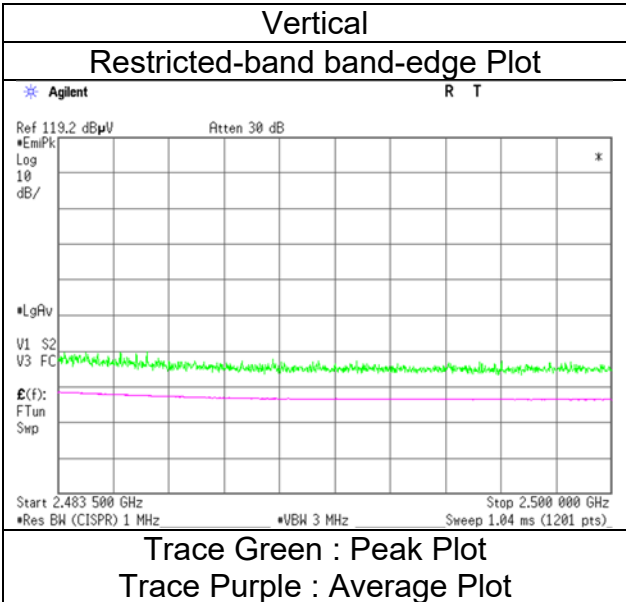
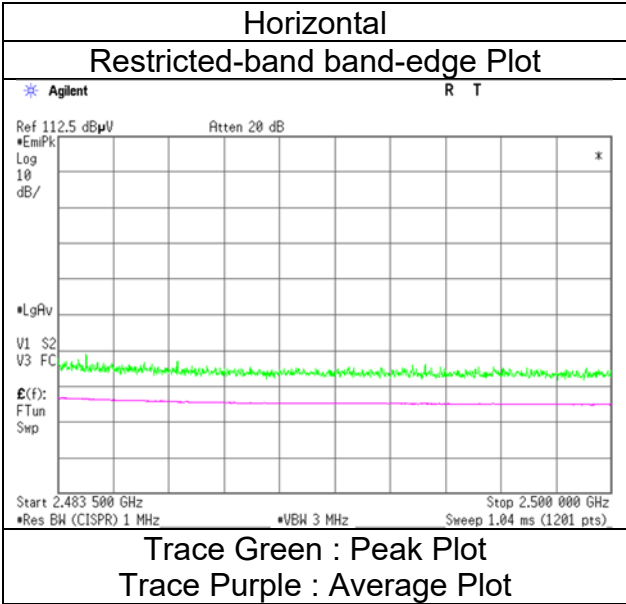
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

Distance factor: 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

Test place
 Semi Anechoic Chamber
 Date
 Temperature / Humidity
 Engineer
 Mode

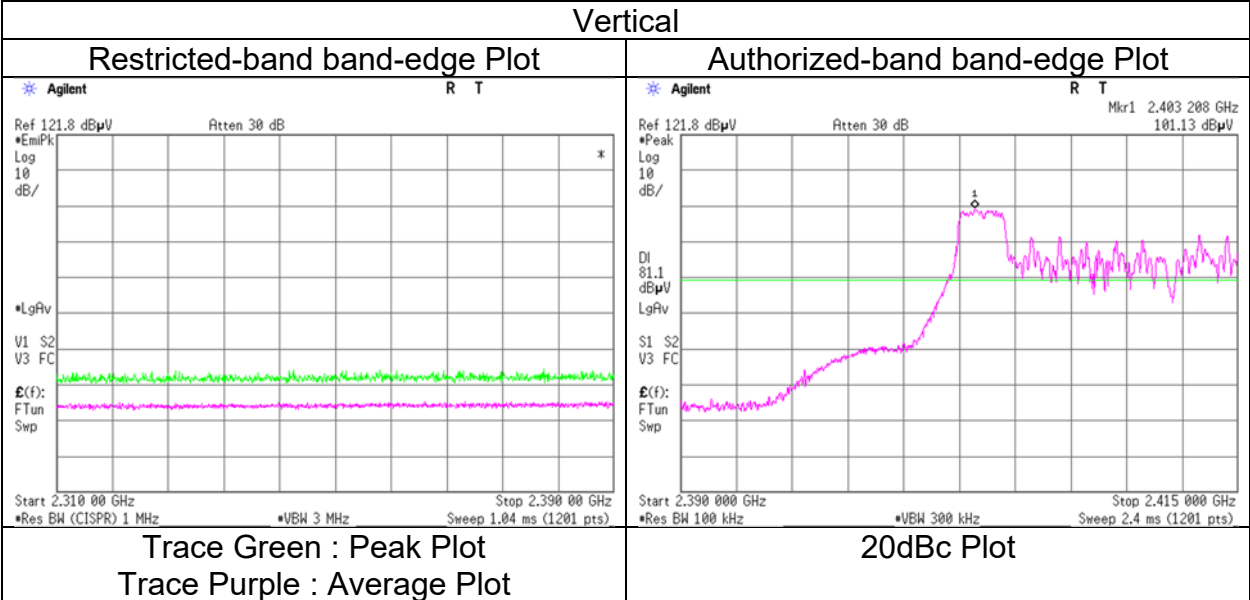
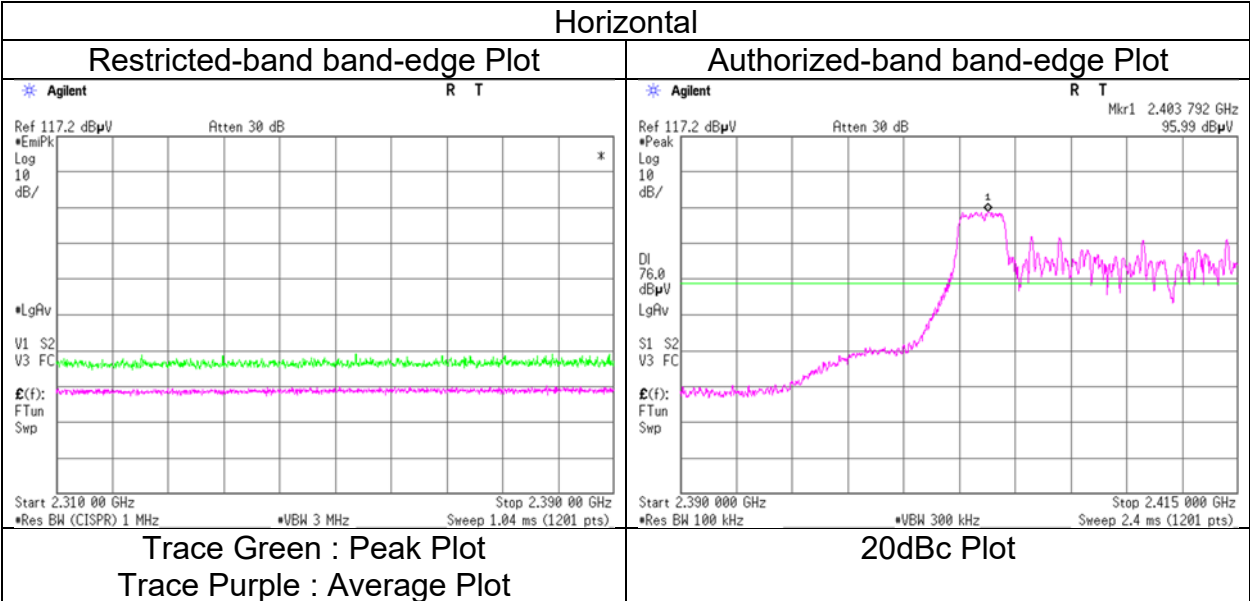
Ise EMC Lab.
 No.2
 July 1, 2024
 23 deg. C / 71 % RH
 Nachi Konegawa
 (1 GHz to 10 GHz)
 Tx 11ax-20 [OFDM] 2462 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge was shown in tabular data.

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

| | |
|------------------------|--|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa |
| Mode | Tx 11ax-20 [26-tone RU/Index 0] 2412 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.2
Date July 1, 2024
Temperature / Humidity 23 deg. C / 71 % RH
Engineer Nachi Konegawa
(1 GHz to 6 GHz)
Mode Tx 11ax-20 [52-tone RU/Index 37] 2412 MHz

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|--------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2390.0 | 46.9 | 37.4 | 27.7 | 4.9 | 34.4 | - | 45.0 | 35.5 | 73.9 | 53.9 | 28.9 | 18.4 | |
| Vert. | 2390.0 | 49.4 | 39.7 | 27.7 | 4.9 | 34.4 | - | 47.6 | 37.9 | 73.9 | 53.9 | 26.3 | 16.0 | |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
*QP detector was used up to 1GHz.

20dBc Data Sheet

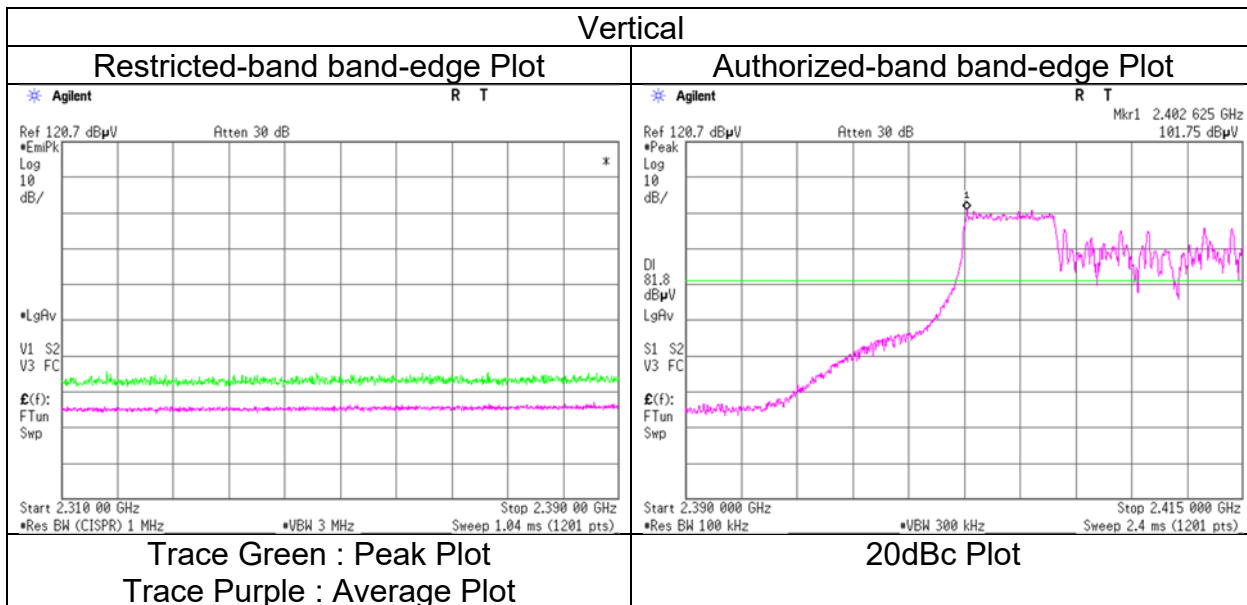
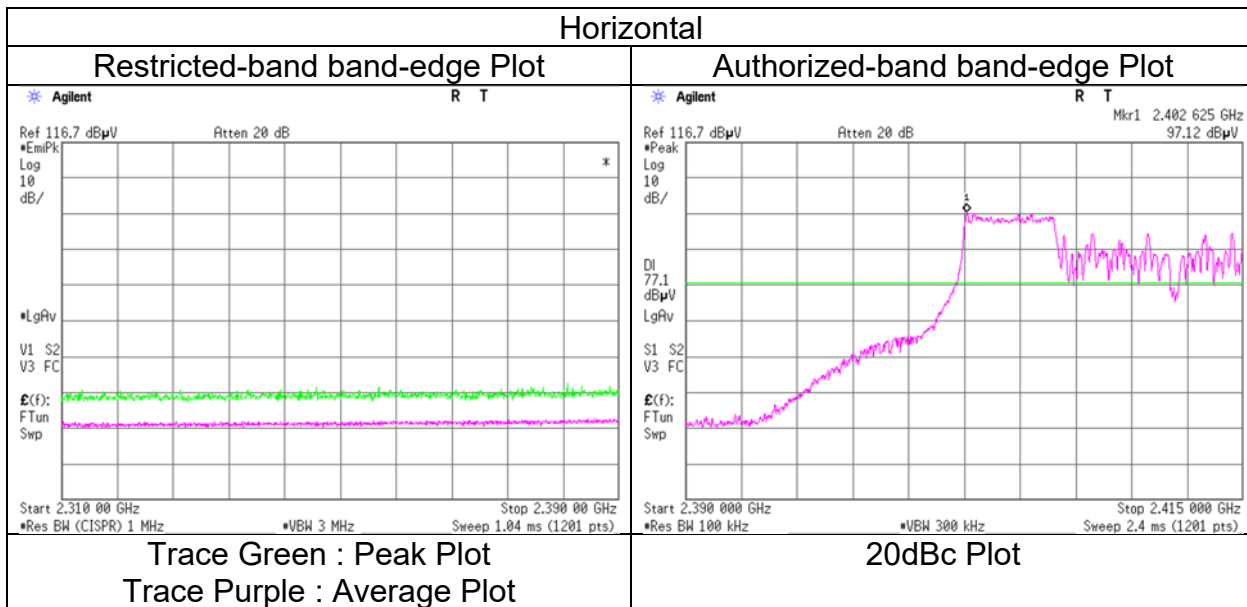
| Polarity | Frequency | Reading (PK) | Ant Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|--------------|------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2412.0 | 97.1 | 27.6 | 4.9 | 34.4 | 95.3 | - | - | Carrier |
| Hori. | 2400.0 | 62.1 | 27.6 | 4.9 | 34.4 | 60.2 | 75.3 | 15.0 | |
| Vert. | 2412.0 | 101.8 | 27.6 | 4.9 | 34.4 | 99.9 | - | - | Carrier |
| Vert. | 2400.0 | 66.8 | 27.6 | 4.9 | 34.4 | 65.0 | 79.9 | 14.9 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.2
July 1, 2024
23 deg. C / 71 % RH
Nachi Konegawa
Tx 11ax-20 [52-tone RU/Index 37] 2412 MHz

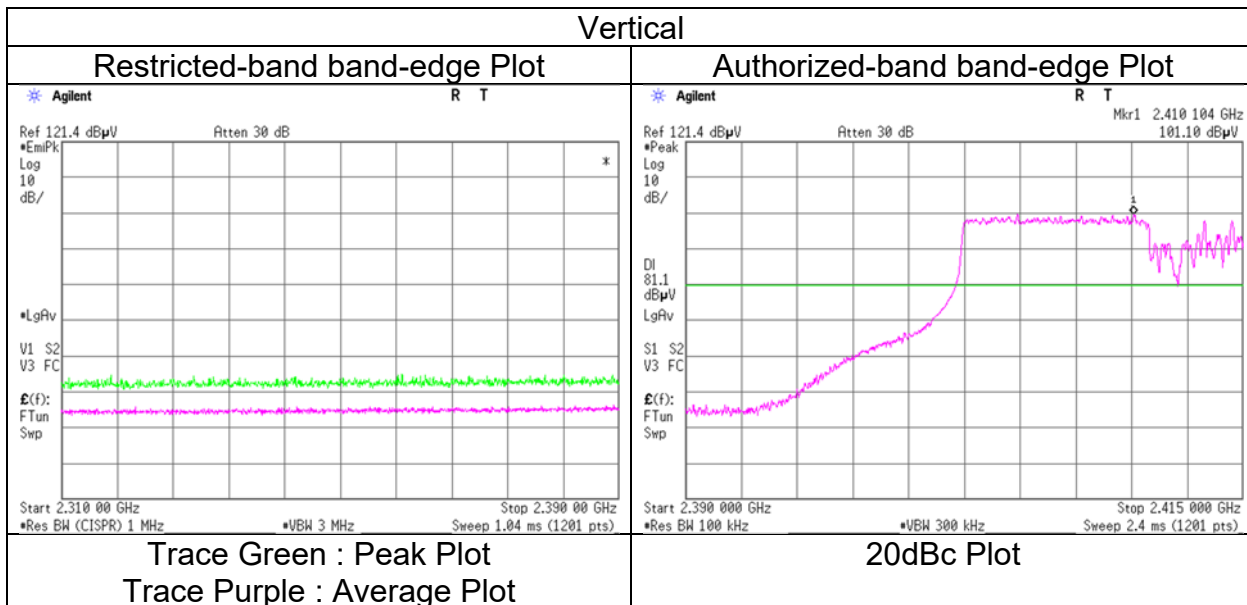
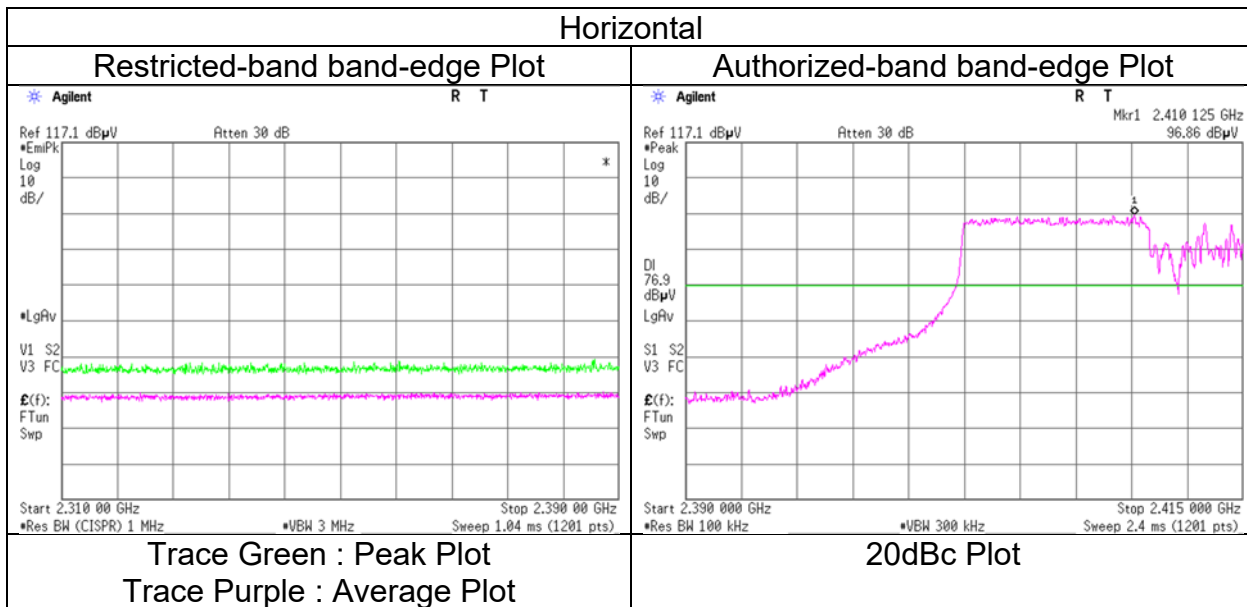


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission (Reference Plot for band-edge)

| | |
|------------------------|--|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa |
| Mode | Tx 11ax-20 [106-tone RU/Index 53] 2412 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | |
|------------------------|--|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa (1 GHz to 6 GHz) |
| Mode | Tx 11ax-20 [242-tone RU/Index 61] 2412 MHz |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|--------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2390.0 | 50.5 | 39.5 | 27.7 | 4.9 | 34.4 | - | 48.7 | 37.6 | 73.9 | 53.9 | 25.2 | 16.3 | |
| Vert. | 2390.0 | 51.1 | 41.2 | 27.7 | 4.9 | 34.4 | - | 49.3 | 39.4 | 73.9 | 53.9 | 24.6 | 14.5 | |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

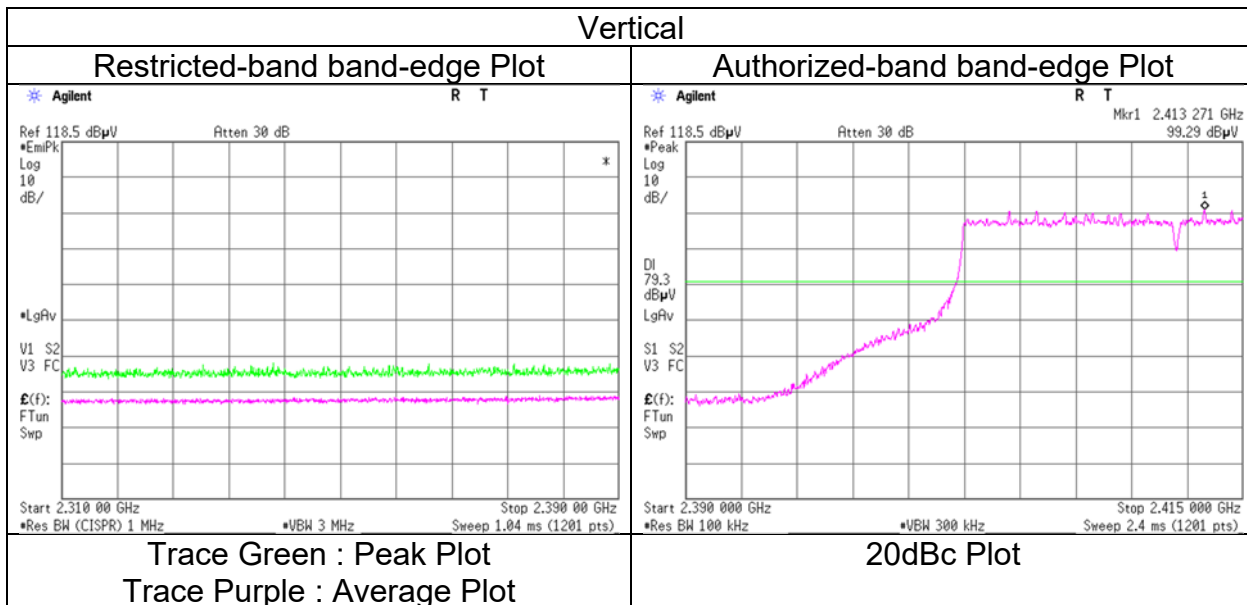
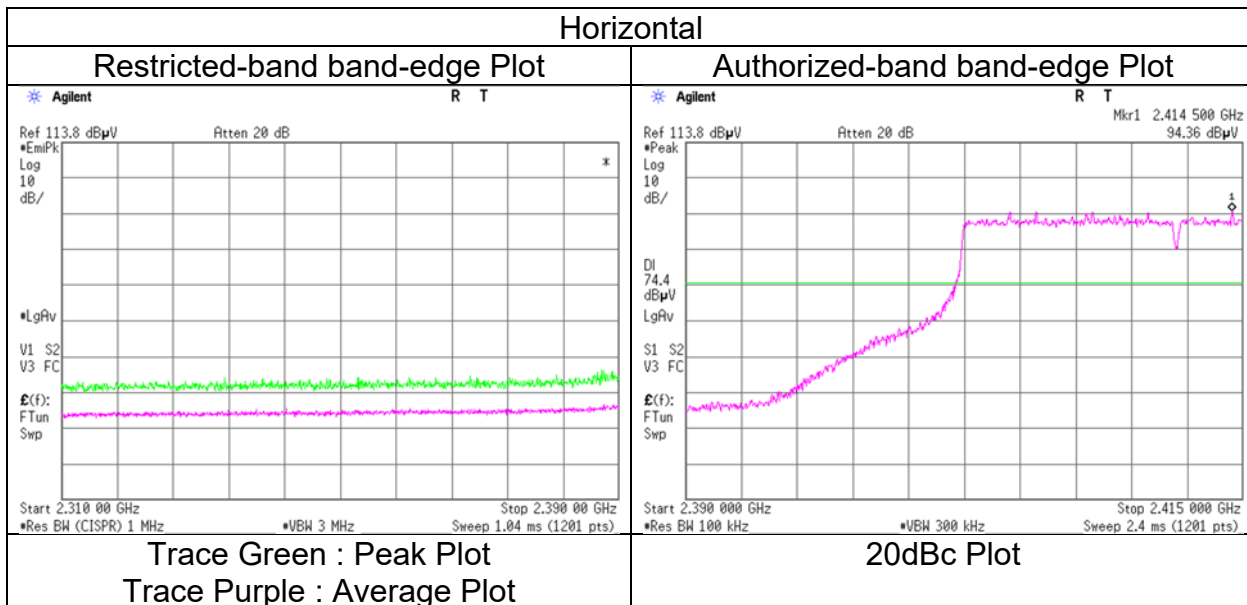
20dBc Data Sheet

| Polarity | Frequency | Reading (PK) | Ant Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|--------------|------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2412.0 | 94.4 | 27.6 | 4.9 | 34.4 | 92.5 | - | - | Carrier |
| Hori. | 2400.0 | 61.2 | 27.6 | 4.9 | 34.4 | 59.4 | 72.5 | 13.1 | |
| Vert. | 2412.0 | 99.3 | 27.6 | 4.9 | 34.4 | 97.4 | - | - | Carrier |
| Vert. | 2400.0 | 65.3 | 27.6 | 4.9 | 34.4 | 63.5 | 77.4 | 14.0 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Distance factor: 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB

Radiated Spurious Emission (Reference Plot for band-edge)

| | |
|------------------------|--|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa |
| Mode | Tx 11ax-20 [242-tone RU/Index 61] 2412 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | |
|------------------------|--|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | July 1, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH |
| Engineer | Nachi Konegawa (1 GHz to 6 GHz) |
| Mode | Tx 11ax-20 [26-tone RU/Index 8] 2462 MHz |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|----------------------|-----------------|----------------|------|------|----------------|---------------------|----------------|--------------------|---------------|---------------------|----------------|--------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2483.5 | 45.9 | 37.0 | 27.5 | 5.0 | 34.3 | - | 44.0 | 35.1 | 73.9 | 53.9 | 29.9 | 18.8 | |
| Vert. | 2483.5 | 47.6 | 38.4 | 27.5 | 5.0 | 34.3 | - | 45.7 | 36.5 | 73.9 | 53.9 | 28.2 | 17.4 | |

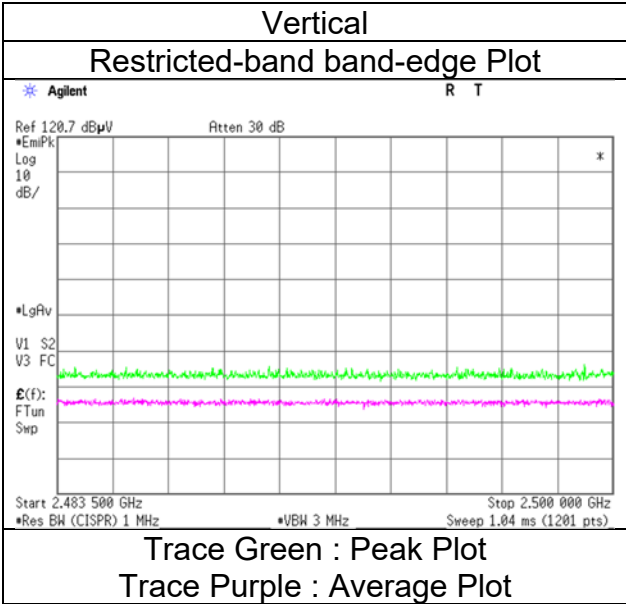
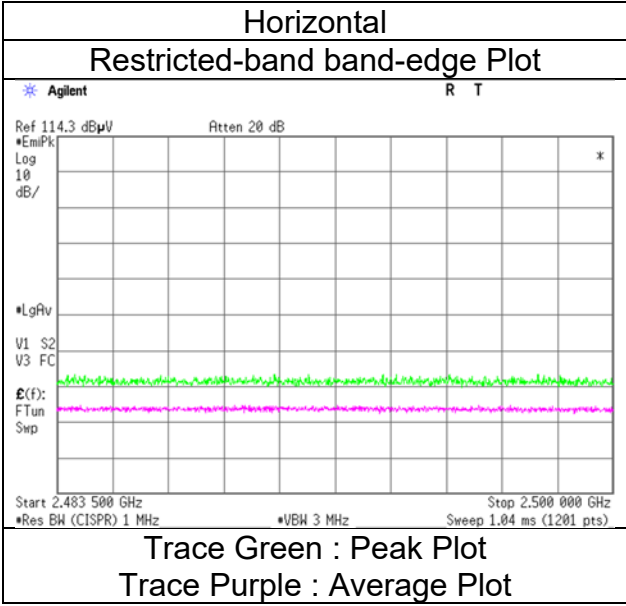
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.

Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$

**Radiated Spurious Emission
(Reference Plot for band-edge)**

Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.2
July 1, 2024
23 deg. C / 71 % RH
Nachi Konegawa
Tx 11ax-20 [26-tone RU/Index 8] 2462 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.2
Date July 1, 2024
Temperature / Humidity 23 deg. C / 71 % RH
Engineer Nachi Konegawa
(1 GHz to 6 GHz)
Mode Tx 11ax-20 [52-tone RU/Index 40] 2462 MHz

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|----------------------|-----------------|----------------|------|------|----------------|---------------------|----------------|--------------------|---------------|---------------------|----------------|--------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2483.5 | 46.7 | 37.3 | 27.5 | 5.0 | 34.3 | - | 44.8 | 35.4 | 73.9 | 53.9 | 29.1 | 18.5 | |
| Vert. | 2483.5 | 48.8 | 40.2 | 27.5 | 5.0 | 34.3 | - | 46.9 | 38.3 | 73.9 | 53.9 | 27.0 | 15.6 | |

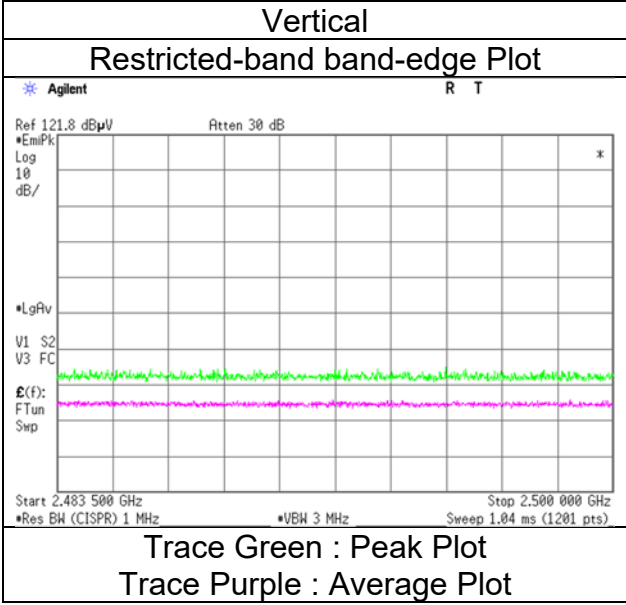
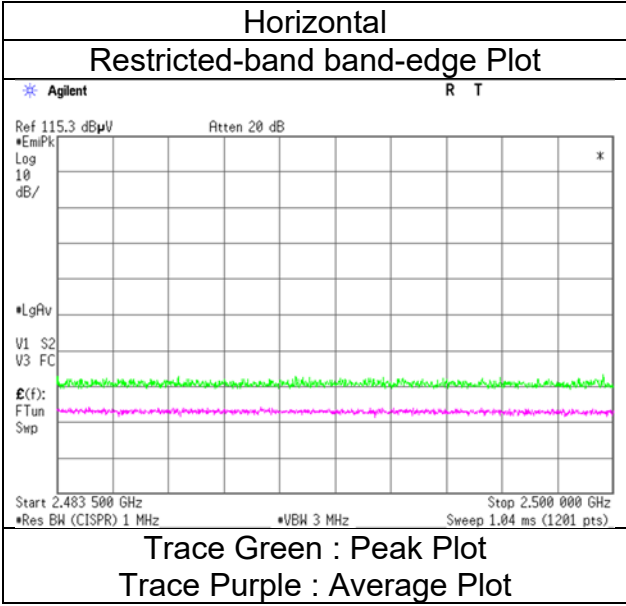
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
Result (AV) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

Test place
 Semi Anechoic Chamber
 Date
 Temperature / Humidity
 Engineer
 Mode

Ise EMC Lab.
 No.2
 July 1, 2024
 23 deg. C / 71 % RH
 Nachi Konegawa
 Tx 11ax-20 [52-tone RU/Index 40] 2462 MHz

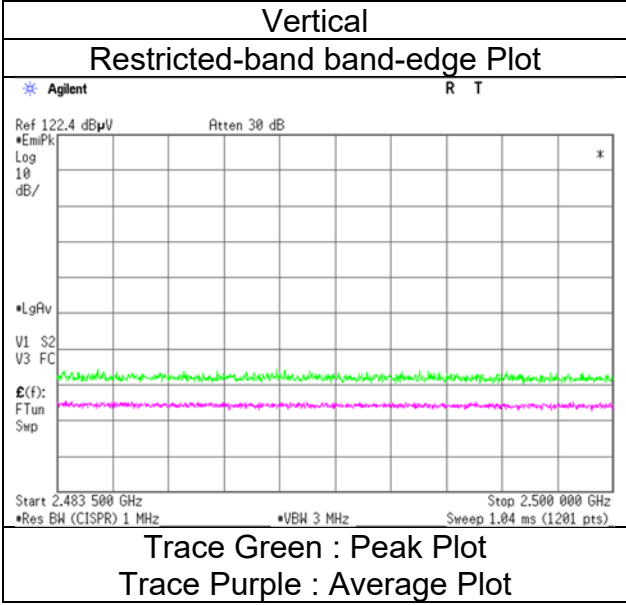
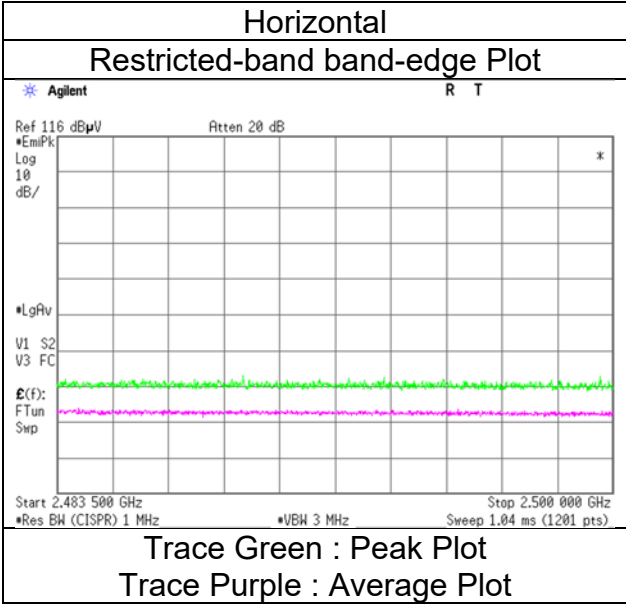


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge was shown in tabular data.

**Radiated Spurious Emission
(Reference Plot for band-edge)**

Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.2
July 1, 2024
23 deg. C / 71 % RH
Nachi Konegawa
Tx 11ax-20 [106-tone RU/Index 54] 2462 MHz

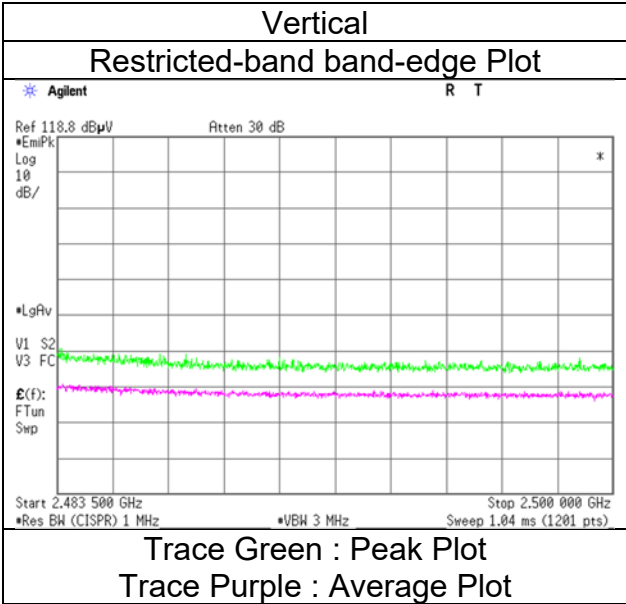
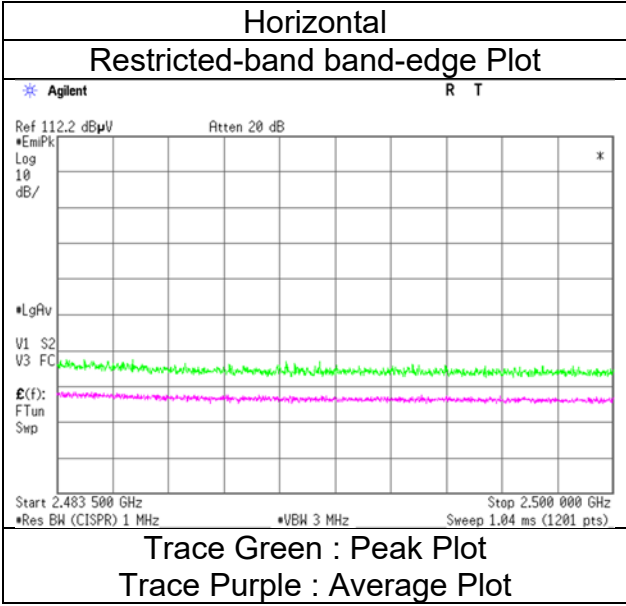


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

**Radiated Spurious Emission
(Reference Plot for band-edge)**

Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.2
July 1, 2024
23 deg. C / 71 % RH
Nachi Konegawa
Tx 11ax-20 [242-tone RU/Index 61] 2462 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

| | | |
|------------------------|----------------------|---------------------|
| Test place | Ise EMC Lab. | |
| Semi Anechoic Chamber | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH |
| Engineer | Tomoya Sone | Tetsuro Yoshida |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) |
| Mode | Tx BT LE 1M 2402 MHz | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2354.0 | 45.3 | 35.0 | 27.8 | 4.9 | 34.4 | - | 43.5 | 33.2 | 73.9 | 53.9 | 30.4 | 20.7 | |
| Hori. | 2390.0 | 44.7 | 33.9 | 27.7 | 4.9 | 34.4 | 2.0 | 42.8 | 34.0 | 73.9 | 53.9 | 31.1 | 19.9 | *1) |
| Hori. | 4804.0 | 42.9 | 32.3 | 31.6 | 7.2 | 33.6 | - | 48.1 | 37.5 | 73.9 | 53.9 | 25.8 | 16.5 | Floor noise |
| Hori. | 7206.0 | 43.8 | 33.8 | 35.6 | 8.5 | 33.4 | - | 54.5 | 44.4 | 73.9 | 53.9 | 19.4 | 9.5 | Floor noise |
| Hori. | 9608.0 | 45.0 | 36.6 | 35.7 | 9.5 | 34.0 | - | 56.2 | 47.8 | 73.9 | 53.9 | 17.7 | 6.2 | Floor noise |
| Vert. | 2354.0 | 45.9 | 35.0 | 27.8 | 4.9 | 34.4 | - | 44.2 | 33.3 | 73.9 | 53.9 | 29.7 | 20.7 | |
| Vert. | 2390.0 | 44.7 | 33.6 | 27.7 | 4.9 | 34.4 | 2.0 | 42.8 | 33.8 | 73.9 | 53.9 | 31.1 | 20.1 | *1) |
| Vert. | 4804.0 | 42.8 | 32.1 | 31.6 | 7.2 | 33.6 | - | 48.0 | 37.3 | 73.9 | 53.9 | 25.9 | 16.6 | Floor noise |
| Vert. | 7206.0 | 43.9 | 33.7 | 35.6 | 8.5 | 33.4 | - | 54.6 | 44.3 | 73.9 | 53.9 | 19.4 | 9.6 | Floor noise |
| Vert. | 9608.0 | 45.1 | 36.6 | 35.7 | 9.5 | 34.0 | - | 56.3 | 47.8 | 73.9 | 53.9 | 17.6 | 6.1 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.
 *1) Not Out of Band emission(Leakage Power)

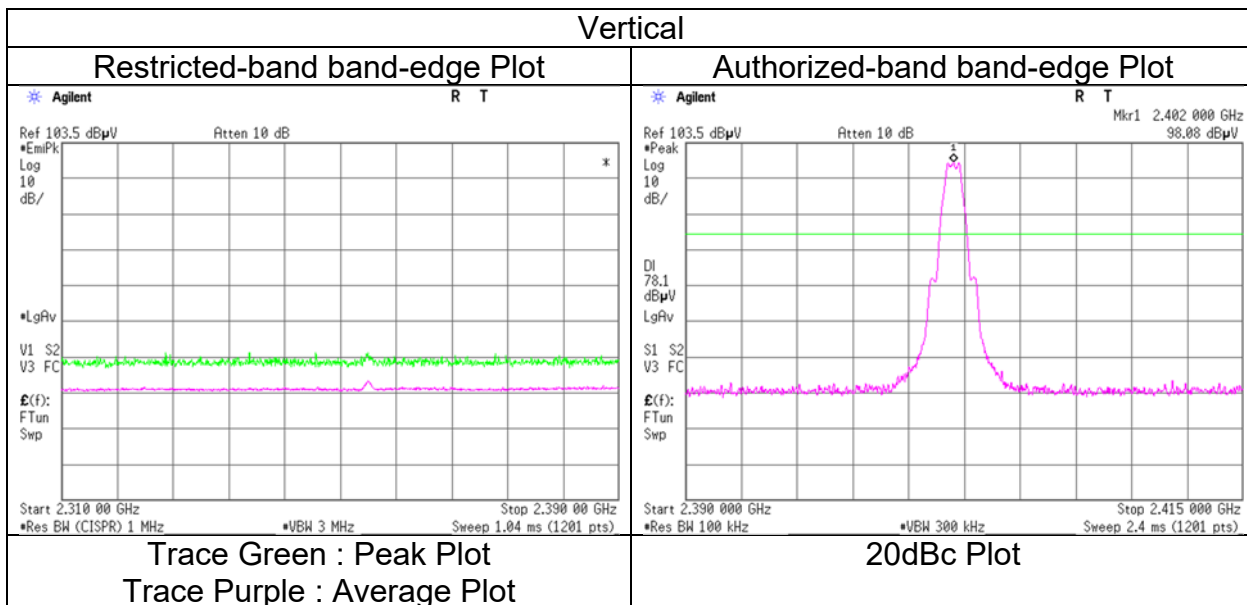
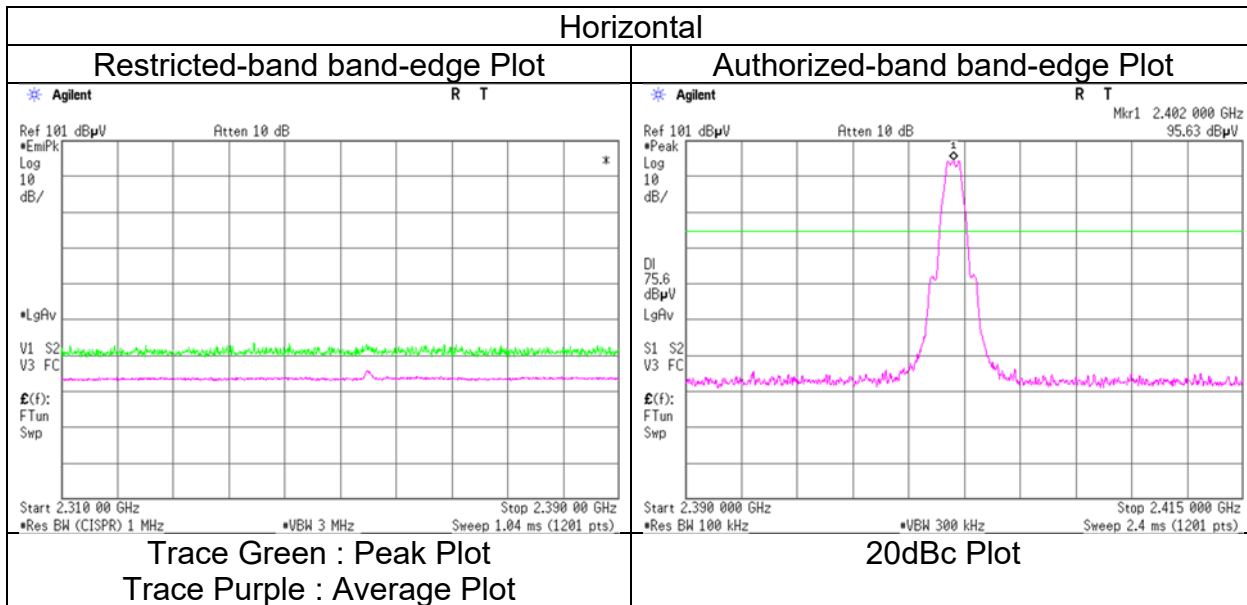
20dBc Data Sheet

| Polarity | Frequency | Reading (PK) | Ant. Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|--------------|-------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2402.0 | 95.6 | 27.6 | 4.9 | 34.4 | 93.8 | - | - | Carrier |
| Hori. | 2400.0 | 39.5 | 27.6 | 4.9 | 34.4 | 37.7 | 73.8 | 36.1 | |
| Vert. | 2402.0 | 98.1 | 27.6 | 4.9 | 34.4 | 96.2 | - | - | Carrier |
| Vert. | 2400.0 | 41.2 | 27.6 | 4.9 | 34.4 | 39.3 | 76.2 | 36.9 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Distance factor:
 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission (Reference Plot for band-edge)

| | |
|------------------------|----------------------|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | June 30, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH |
| Engineer | Tomoya Sone |
| | (1 GHz to 10 GHz) |
| Mode | Tx BT LE 1M 2402 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|----------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Tetsuro Yoshida | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx BT LE 1M 2440 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 4880.0 | 43.3 | 34.4 | 31.6 | 7.2 | 33.6 | - | 48.6 | 39.7 | 73.9 | 53.9 | 25.3 | 14.2 | Floor noise |
| Hori. | 7320.0 | 42.3 | 33.1 | 35.6 | 8.5 | 33.5 | - | 53.0 | 43.8 | 73.9 | 53.9 | 20.9 | 10.1 | Floor noise |
| Hori. | 9760.0 | 45.2 | 36.1 | 36.0 | 9.6 | 34.1 | - | 56.8 | 47.7 | 73.9 | 53.9 | 17.1 | 6.2 | Floor noise |
| Vert. | 4880.0 | 42.5 | 34.6 | 31.6 | 7.2 | 33.6 | - | 47.7 | 39.8 | 73.9 | 53.9 | 26.2 | 14.1 | Floor noise |
| Vert. | 7320.0 | 42.5 | 33.1 | 35.6 | 8.5 | 33.5 | - | 53.2 | 43.8 | 73.9 | 53.9 | 20.8 | 10.2 | Floor noise |
| Vert. | 9760.0 | 45.3 | 36.2 | 36.0 | 9.6 | 34.1 | - | 56.9 | 47.8 | 73.9 | 53.9 | 17.0 | 6.1 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*QP detector was used up to 1GHz.

| | | |
|------------------|-------------------|---------------------------------|
| Distance factor: | 1 GHz - 6 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 6 GHz - 10 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 10 GHz - 26.5 GHz | 20log (1.0 m / 3.0 m) = -9.5 dB |

Radiated Spurious Emission

| | | | |
|------------------------|----------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Tetsuro Yoshida | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx BT LE 1M 2480 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2483.5 | 45.1 | 33.7 | 27.5 | 5.0 | 34.3 | 2.0 | 43.2 | 33.8 | 73.9 | 53.9 | 30.7 | 20.1 | *1) |
| Hori. | 4960.0 | 42.7 | 32.3 | 31.7 | 7.2 | 33.6 | - | 48.0 | 37.7 | 73.9 | 53.9 | 25.9 | 16.2 | Floor noise |
| Hori. | 7440.0 | 43.6 | 32.4 | 35.5 | 8.6 | 33.5 | - | 54.2 | 43.1 | 73.9 | 53.9 | 19.7 | 10.8 | Floor noise |
| Hori. | 9920.0 | 44.5 | 35.6 | 36.2 | 9.7 | 34.1 | - | 56.4 | 47.5 | 73.9 | 53.9 | 17.5 | 6.4 | Floor noise |
| Vert. | 2483.5 | 47.2 | 34.3 | 27.5 | 5.0 | 34.3 | 2.0 | 45.3 | 34.4 | 73.9 | 53.9 | 28.6 | 19.5 | *1) |
| Vert. | 4960.0 | 42.8 | 32.4 | 31.7 | 7.2 | 33.6 | - | 48.1 | 37.7 | 73.9 | 53.9 | 25.8 | 16.2 | Floor noise |
| Vert. | 7440.0 | 43.4 | 32.6 | 35.5 | 8.6 | 33.5 | - | 54.0 | 43.2 | 73.9 | 53.9 | 19.9 | 10.7 | Floor noise |
| Vert. | 9920.0 | 44.6 | 35.8 | 36.2 | 9.7 | 34.1 | - | 56.5 | 47.6 | 73.9 | 53.9 | 17.4 | 6.3 | Floor noise |

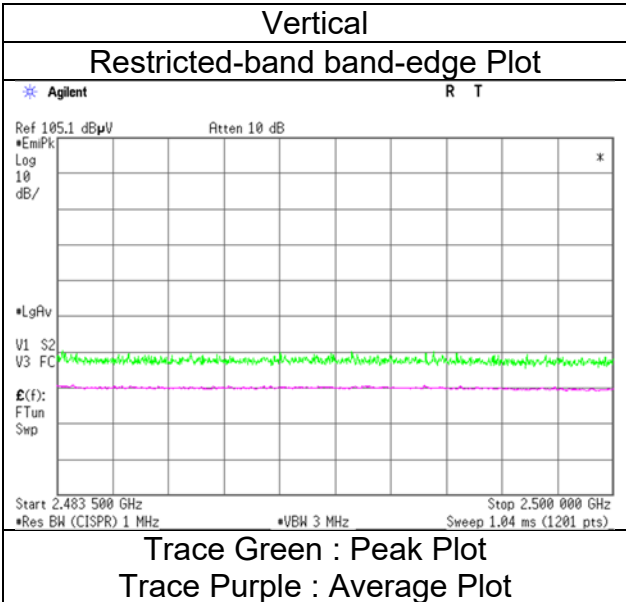
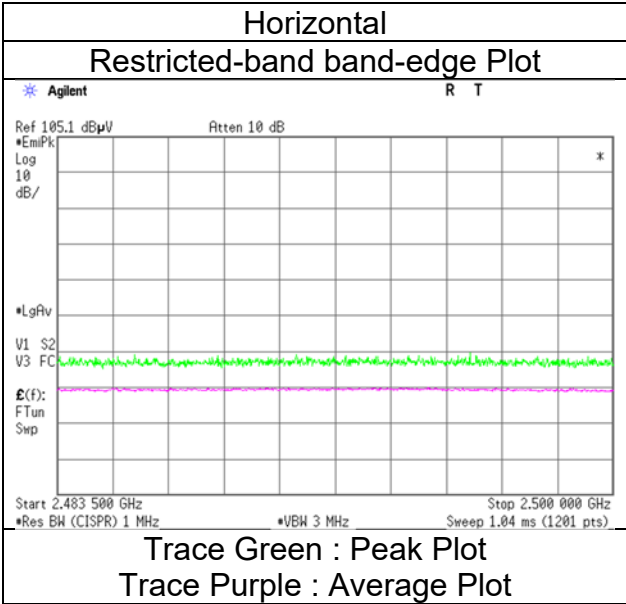
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz
 *1) Not Out of Band emission(Leakage Power)

Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 6 GHz - 10 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 10 GHz - 26.5 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

**Radiated Spurious Emission
(Reference Plot for band-edge)**

Test place
Semi Anechoic Chamber
Date
Temperature / Humidity
Engineer
Mode

Ise EMC Lab.
No.2
June 30, 2024
22 deg. C / 56 % RH
Tomoya Sone
(1 GHz to 10 GHz)
Tx BT LE 1M 2480 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

| | | | | |
|------------------------|----------------------------------|---------------------------------------|-------------------------------|------------------------------|
| Test place | Ise EMC Lab. | | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 | July 10, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH | 24 deg. C / 65 % RH |
| Engineer | Tomoya Sone (1 GHz to 10 GHz) | Tetsuro Yoshida (10 GHz to 18 GHz) | Tomoya Sone (Above 18 GHz) | Tomoya Sone (Below 1 GHz) |
| Mode | Tx BT LE 2M 2402 MHz | | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|----------------------|-----------------|----------------|------|------|----------------|---------------------|----------------|--------------------|---------------|---------------------|----------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 59.6 | 23.5 | - | 9.2 | 7.0 | 28.5 | - | 11.2 | - | 40.0 | - | 28.8 | - | |
| Hori. | 77.8 | 24.8 | - | 9.1 | 7.2 | 28.5 | - | 12.6 | - | 40.0 | - | 27.4 | - | |
| Hori. | 90.0 | 23.5 | - | 9.5 | 7.3 | 28.4 | - | 11.8 | - | 43.5 | - | 31.7 | - | |
| Hori. | 220.8 | 28.8 | - | 11.2 | 8.2 | 27.9 | - | 20.4 | - | 46.0 | - | 25.6 | - | |
| Hori. | 737.6 | 32.3 | - | 20.1 | 10.6 | 29.2 | - | 33.9 | - | 46.0 | - | 12.2 | - | |
| Hori. | 916.8 | 21.4 | - | 22.2 | 11.3 | 28.8 | - | 26.1 | - | 46.0 | - | 20.0 | - | |
| Hori. | 2354.0 | 44.6 | 34.0 | 27.8 | 4.9 | 34.4 | 4.6 | 42.9 | 36.9 | 73.9 | 53.9 | 31.0 | 17.0 | *2) |
| Hori. | 2390.0 | 44.9 | 33.4 | 27.7 | 4.9 | 34.4 | 4.6 | 43.0 | 36.2 | 73.9 | 53.9 | 30.9 | 17.7 | *1) |
| Hori. | 4804.0 | 42.7 | 32.0 | 31.6 | 7.2 | 33.6 | - | 47.8 | 37.2 | 73.9 | 53.9 | 26.1 | 16.8 | Floor noise |
| Hori. | 7206.0 | 43.8 | 33.6 | 35.6 | 8.5 | 33.4 | - | 54.4 | 44.2 | 73.9 | 53.9 | 19.5 | 9.7 | Floor noise |
| Hori. | 9608.0 | 45.1 | 36.4 | 35.7 | 9.5 | 34.0 | - | 56.3 | 47.6 | 73.9 | 53.9 | 17.6 | 6.3 | Floor noise |
| Vert. | 59.6 | 27.2 | - | 9.2 | 7.0 | 28.5 | - | 14.9 | - | 40.0 | - | 25.1 | - | |
| Vert. | 77.8 | 30.1 | - | 9.1 | 7.2 | 28.5 | - | 17.9 | - | 40.0 | - | 22.1 | - | |
| Vert. | 90.0 | 26.6 | - | 9.5 | 7.3 | 28.4 | - | 14.9 | - | 43.5 | - | 28.6 | - | |
| Vert. | 220.8 | 24.2 | - | 11.2 | 8.2 | 27.9 | - | 15.8 | - | 46.0 | - | 30.2 | - | |
| Vert. | 737.6 | 34.4 | - | 20.1 | 10.6 | 29.2 | - | 36.0 | - | 46.0 | - | 10.1 | - | |
| Vert. | 916.8 | 21.8 | - | 22.2 | 11.3 | 28.8 | - | 26.5 | - | 46.0 | - | 19.6 | - | |
| Vert. | 2354.0 | 45.5 | 34.5 | 27.8 | 4.9 | 34.4 | 4.6 | 43.8 | 37.3 | 73.9 | 53.9 | 30.2 | 16.6 | *2) |
| Vert. | 2390.0 | 44.0 | 33.4 | 27.7 | 4.9 | 34.4 | 4.6 | 42.1 | 36.2 | 73.9 | 53.9 | 31.8 | 17.7 | *1) |
| Vert. | 4804.0 | 42.8 | 32.1 | 31.6 | 7.2 | 33.6 | - | 48.0 | 37.2 | 73.9 | 53.9 | 26.0 | 16.7 | Floor noise |
| Vert. | 7206.0 | 43.9 | 33.7 | 35.6 | 8.5 | 33.4 | - | 54.5 | 44.3 | 73.9 | 53.9 | 19.4 | 9.6 | Floor noise |
| Vert. | 9608.0 | 45.0 | 36.6 | 35.7 | 9.5 | 34.0 | - | 56.2 | 47.8 | 73.9 | 53.9 | 17.7 | 6.2 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz.
 *1) Not Out of Band emission(Leakage Power)
 *2) Noise synchronized with duty of carrier frequency

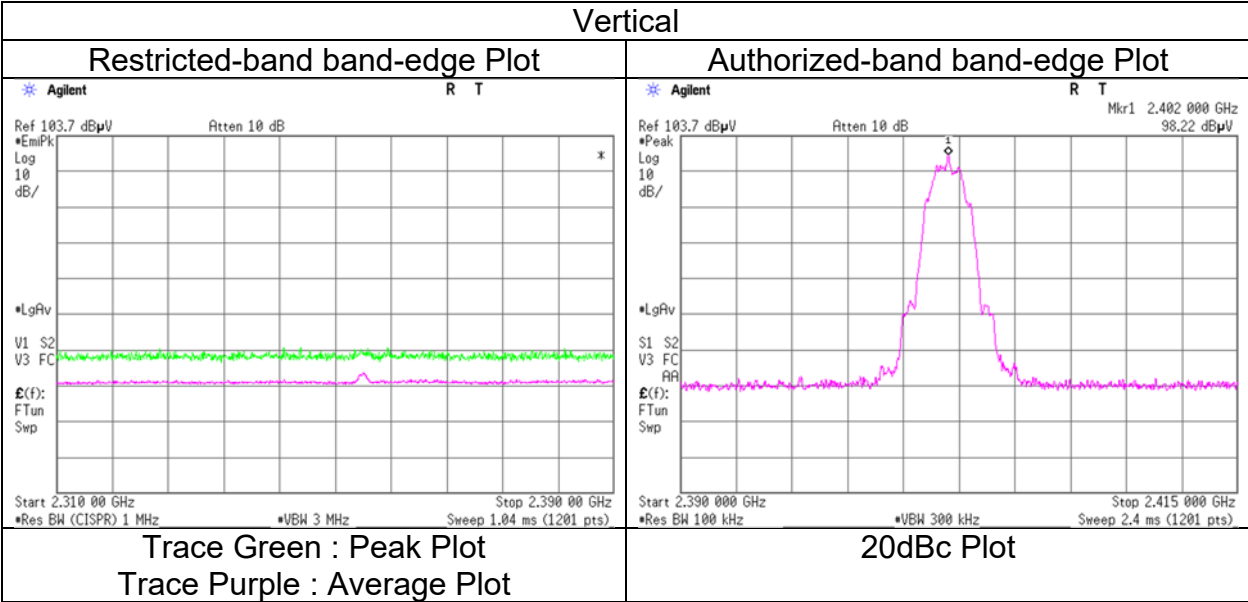
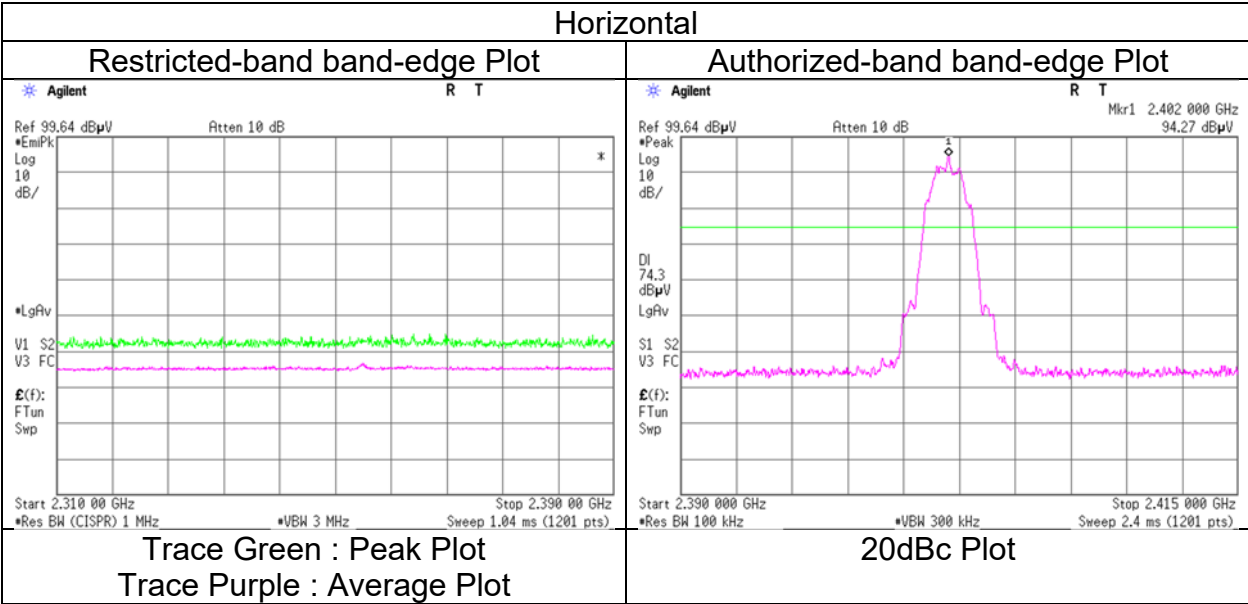
20dBc Data Sheet

| Polarity | Frequency | Reading (PK) | Ant Factor | Loss | Gain | Result | Limit | Margin | Remark |
|-------------|-----------|-----------------|---------------|------|------|----------|----------|--------|---------|
| [Hori/Vert] | [MHz] | [dBuV] | [dB/m] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dB] | |
| Hori. | 2402.0 | 94.3 | 27.6 | 4.9 | 34.4 | 92.4 | - | - | Carrier |
| Hori. | 2400.0 | 50.8 | 27.6 | 4.9 | 34.4 | 48.9 | 72.4 | 23.5 | |
| Vert. | 2402.0 | 98.2 | 27.6 | 4.9 | 34.4 | 96.4 | - | - | Carrier |
| Vert. | 2400.0 | 54.4 | 27.6 | 4.9 | 34.4 | 52.5 | 76.4 | 23.8 | |

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Distance factor:
 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

| | |
|------------------------|----------------------|
| Test place | Ise EMC Lab. |
| Semi Anechoic Chamber | No.2 |
| Date | June 30, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH |
| Engineer | Tomoya Sone |
| | (1 GHz to 10 GHz) |
| Mode | Tx BT LE 2M 2402 MHz |



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge and authorized band edge were shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|----------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Tetsuro Yoshida | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx BT LE 2M 2440 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 4880.0 | 42.5 | 34.6 | 31.6 | 7.2 | 33.6 | - | 47.7 | 39.9 | 73.9 | 53.9 | 26.2 | 14.0 | Floor noise |
| Hori. | 7320.0 | 42.3 | 33.1 | 35.6 | 8.5 | 33.5 | - | 53.0 | 43.8 | 73.9 | 53.9 | 20.9 | 10.2 | Floor noise |
| Hori. | 9760.0 | 45.3 | 36.2 | 36.0 | 9.6 | 34.1 | - | 56.9 | 47.8 | 73.9 | 53.9 | 17.0 | 6.1 | Floor noise |
| Vert. | 4880.0 | 42.5 | 34.5 | 31.6 | 7.2 | 33.6 | - | 47.8 | 39.8 | 73.9 | 53.9 | 26.2 | 14.1 | Floor noise |
| Vert. | 7320.0 | 42.4 | 33.2 | 35.6 | 8.5 | 33.5 | - | 53.1 | 43.8 | 73.9 | 53.9 | 20.8 | 10.1 | Floor noise |
| Vert. | 9760.0 | 45.4 | 36.1 | 36.0 | 9.6 | 34.1 | - | 57.0 | 47.7 | 73.9 | 53.9 | 16.9 | 6.2 | Floor noise |

Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)

Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor

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

*QP detector was used up to 1GHz.

| | | |
|------------------|-------------------|---------------------------------|
| Distance factor: | 1 GHz - 6 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 6 GHz - 10 GHz | 20log (3.6 m / 3.0 m) = 1.59 dB |
| | 10 GHz - 26.5 GHz | 20log (1.0 m / 3.0 m) = -9.5 dB |

Radiated Spurious Emission

| | | | |
|------------------------|----------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH |
| Engineer | Tomoya Sone | Tetsuro Yoshida | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) |
| Mode | Tx BT LE 2M 2480 MHz | | |

| Polarity | Frequency | Reading (QP / PK) | Reading (AV) | Ant. Factor | Loss | Gain | Duty Factor | Result (QP / PK) | Result (AV) | Limit (QP / PK) | Limit (AV) | Margin (QP / PK) | Margin (AV) | Remark |
|-------------|-----------|-------------------|--------------|-------------|------|------|-------------|------------------|-------------|-----------------|------------|------------------|-------------|-------------|
| [Hori/Vert] | [MHz] | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 2483.5 | 46.3 | 36.3 | 27.5 | 5.0 | 34.3 | 4.6 | 44.5 | 39.1 | 73.9 | 53.9 | 29.5 | 14.8 | *1) |
| Hori. | 4960.0 | 42.7 | 32.4 | 31.7 | 7.2 | 33.6 | - | 48.1 | 37.7 | 73.9 | 53.9 | 25.8 | 16.2 | Floor noise |
| Hori. | 7440.0 | 43.6 | 32.5 | 35.5 | 8.6 | 33.5 | - | 54.2 | 43.2 | 73.9 | 53.9 | 19.7 | 10.8 | Floor noise |
| Hori. | 9920.0 | 44.6 | 35.7 | 36.2 | 9.7 | 34.1 | - | 56.5 | 47.6 | 73.9 | 53.9 | 17.4 | 6.3 | Floor noise |
| Vert. | 2483.5 | 48.6 | 34.5 | 27.5 | 5.0 | 34.3 | 4.6 | 46.8 | 37.3 | 73.9 | 53.9 | 27.2 | 16.6 | *1) |
| Vert. | 4960.0 | 42.8 | 32.5 | 31.7 | 7.2 | 33.6 | - | 48.2 | 37.8 | 73.9 | 53.9 | 25.7 | 16.1 | Floor noise |
| Vert. | 7440.0 | 43.5 | 32.5 | 35.5 | 8.6 | 33.5 | - | 54.1 | 43.1 | 73.9 | 53.9 | 19.8 | 10.8 | Floor noise |
| Vert. | 9920.0 | 44.6 | 35.6 | 36.2 | 9.7 | 34.1 | - | 56.4 | 47.5 | 73.9 | 53.9 | 17.5 | 6.4 | Floor noise |

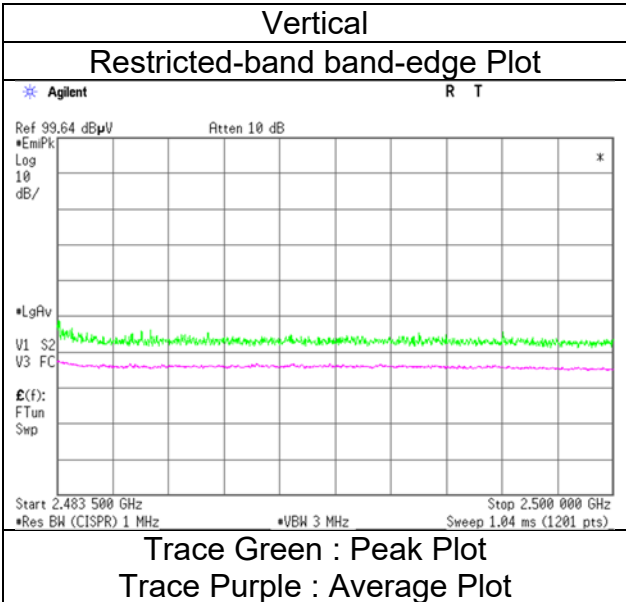
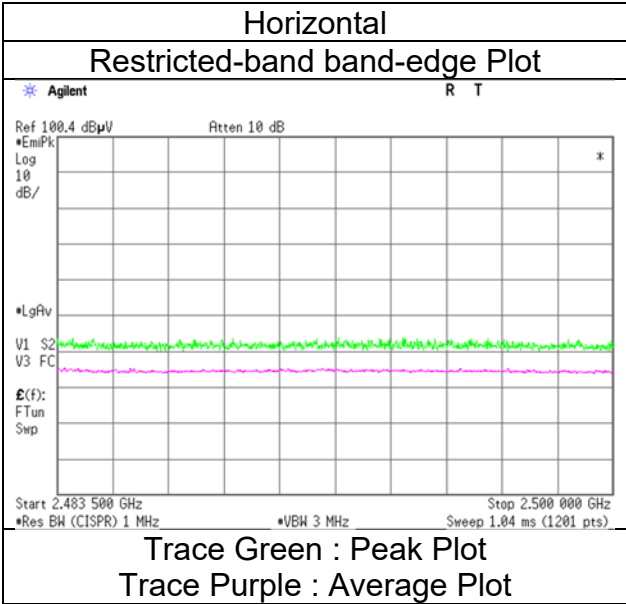
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz
 *1) Not Out of Band emission(Leakage Power)

Distance factor: 1 GHz - 6 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 6 GHz - 10 GHz $20\log(3.6\text{ m} / 3.0\text{ m}) = 1.59\text{ dB}$
 10 GHz - 26.5 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

Test place
 Semi Anechoic Chamber
 Date
 Temperature / Humidity
 Engineer
 Mode

Ise EMC Lab.
 No.2
 June 30, 2024
 22 deg. C / 56 % RH
 Tomoya Sone
 (1 GHz to 10 GHz)
 Tx BT LE 2M 2480 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission

| | | | |
|------------------------|---|--|------------------------------|
| Test place | Ise EMC Lab. | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 |
| Date | July 8, 2024 | July 9, 2024 | July 10, 2024 |
| Temperature / Humidity | 23 deg. C / 70 % RH | 22 deg. C / 69 % RH | 24 deg. C / 65 % RH |
| Engineer | Shousei Hamaguchi (Above 26.5 GHz) | Shousei Hamaguchi (1 GHz to 26.5 GHz) | Tomoya Sone (Below 1 GHz) |
| Mode | Tx BT LE 2M 2480 MHz + 11ax-20 [52-tone RU/Index 40] 5825 MHz | | |

| Polarity [Hori/Vert] | Frequency [MHz] | Reading | Reading | Ant Factor | Loss | Gain | Duty Factor | Result | Result | Limit | Limit | Margin | Margin | Remark |
|-------------------------|--------------------|-----------|---------|---------------|------|------|----------------|-----------|----------|-----------|----------|-----------|--------|-------------|
| | | (QP / PK) | (AV) | | | | | (QP / PK) | (AV) | (QP / PK) | (AV) | (QP / PK) | (AV) | |
| | | [dBuV] | [dBuV] | [dB/m] | [dB] | [dB] | [dB] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dBuV/m] | [dB] | [dB] | |
| Hori. | 60.3 | 23.3 | - | 9.2 | 7.0 | 28.5 | - | 11.0 | - | 40.0 | - | 29.0 | - | |
| Hori. | 77.6 | 24.6 | - | 9.1 | 7.2 | 28.5 | - | 12.4 | - | 40.0 | - | 27.6 | - | |
| Hori. | 90.0 | 23.6 | - | 9.5 | 7.3 | 28.4 | - | 11.9 | - | 43.5 | - | 31.6 | - | |
| Hori. | 220.8 | 28.5 | - | 11.2 | 8.2 | 27.9 | - | 20.1 | - | 46.0 | - | 25.9 | - | |
| Hori. | 737.6 | 31.9 | - | 20.1 | 10.6 | 29.2 | - | 33.5 | - | 46.0 | - | 12.6 | - | |
| Hori. | 824.0 | 23.3 | - | 21.0 | 10.9 | 29.0 | - | 26.2 | - | 46.0 | - | 19.8 | - | |
| Hori. | 2483.5 | 44.5 | 34.1 | 27.5 | 4.9 | 34.3 | 4.6 | 42.5 | 36.8 | 73.9 | 53.9 | 31.4 | 17.1 | *1) |
| Hori. | 4960.0 | 42.0 | 34.7 | 31.7 | 7.0 | 33.6 | - | 47.2 | 39.9 | 73.9 | 53.9 | 26.7 | 14.0 | Floor noise |
| Hori. | 7440.0 | 43.6 | 32.5 | 35.5 | 8.6 | 33.5 | - | 54.2 | 43.2 | 73.9 | 53.9 | 19.7 | 10.8 | Floor noise |
| Hori. | 9920.0 | 44.6 | 35.7 | 36.2 | 9.7 | 34.1 | - | 56.5 | 47.6 | 73.9 | 53.9 | 17.4 | 6.3 | Floor noise |
| Vert. | 60.3 | 26.8 | - | 9.2 | 7.0 | 28.5 | - | 14.5 | - | 40.0 | - | 25.5 | - | |
| Vert. | 77.6 | 30.1 | - | 9.1 | 7.2 | 28.5 | - | 17.9 | - | 40.0 | - | 22.1 | - | |
| Vert. | 90.0 | 26.6 | - | 9.5 | 7.3 | 28.4 | - | 14.9 | - | 43.5 | - | 28.6 | - | |
| Vert. | 220.8 | 23.4 | - | 11.2 | 8.2 | 27.9 | - | 15.0 | - | 46.0 | - | 31.0 | - | |
| Vert. | 737.6 | 34.0 | - | 20.1 | 10.6 | 29.2 | - | 35.6 | - | 46.0 | - | 10.5 | - | |
| Vert. | 824.0 | 24.8 | - | 21.0 | 10.9 | 29.0 | - | 27.7 | - | 46.0 | - | 18.3 | - | |
| Vert. | 2483.5 | 50.7 | 34.5 | 27.5 | 4.9 | 34.3 | 4.6 | 48.7 | 37.2 | 73.9 | 53.9 | 25.2 | 16.7 | *1) |
| Vert. | 4960.0 | 42.0 | 34.7 | 31.7 | 7.0 | 33.6 | - | 47.2 | 39.9 | 73.9 | 53.9 | 26.7 | 14.0 | Floor noise |
| Vert. | 7440.0 | 43.5 | 32.5 | 35.5 | 8.6 | 33.5 | - | 54.1 | 43.1 | 73.9 | 53.9 | 19.8 | 10.8 | Floor noise |
| Vert. | 9920.0 | 44.6 | 35.6 | 36.2 | 9.7 | 34.1 | - | 56.4 | 47.5 | 73.9 | 53.9 | 17.5 | 6.4 | Floor noise |

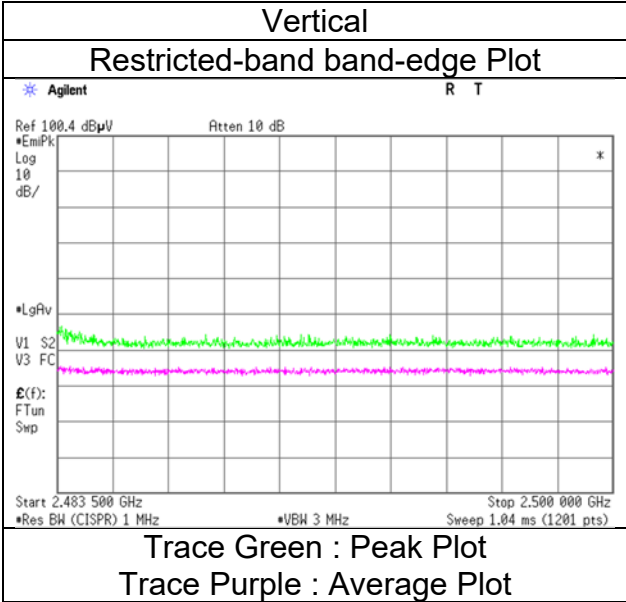
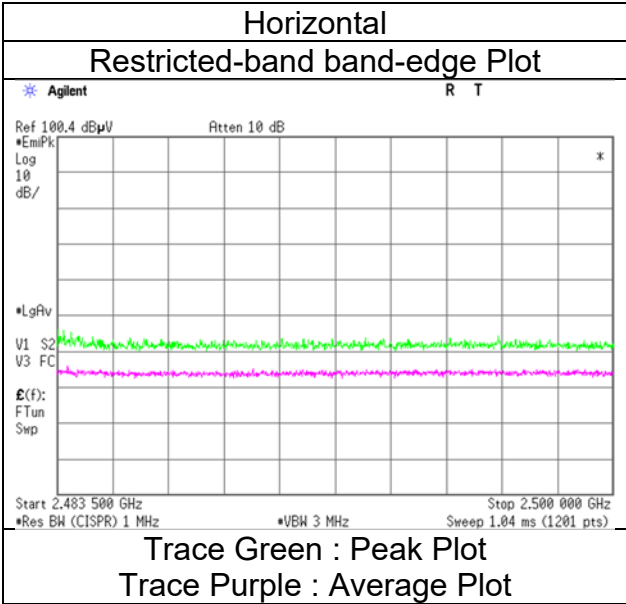
Result (QP / PK) = Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier)
 Result (AV)= Reading + Ant Factor + Loss (Cable+Attenuator+Filter+Distance factor(above 1 GHz)) - Gain(Amplifier) + Duty factor
 *Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).
 *QP detector was used up to 1GHz
 *1) Not Out of Band emission(Leakage Power)

Distance factor: 1 GHz - 6 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 6 GHz - 10 GHz 20log (3.6 m / 3.0 m) = 1.59 dB
 10 GHz - 26.5 GHz 20log (1.0 m / 3.0 m) = -9.5 dB

**Radiated Spurious Emission
 (Reference Plot for band-edge)**

Test place
 Semi Anechoic Chamber
 Date
 Temperature / Humidity
 Engineer
 Mode

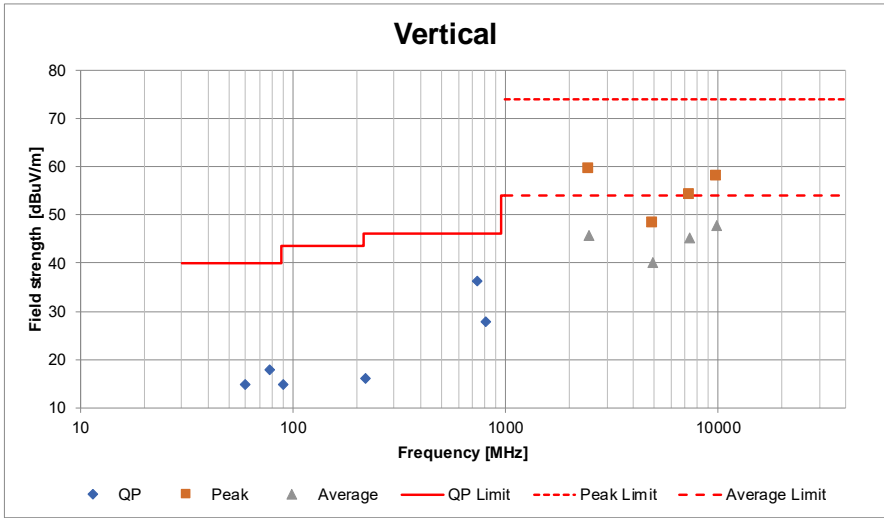
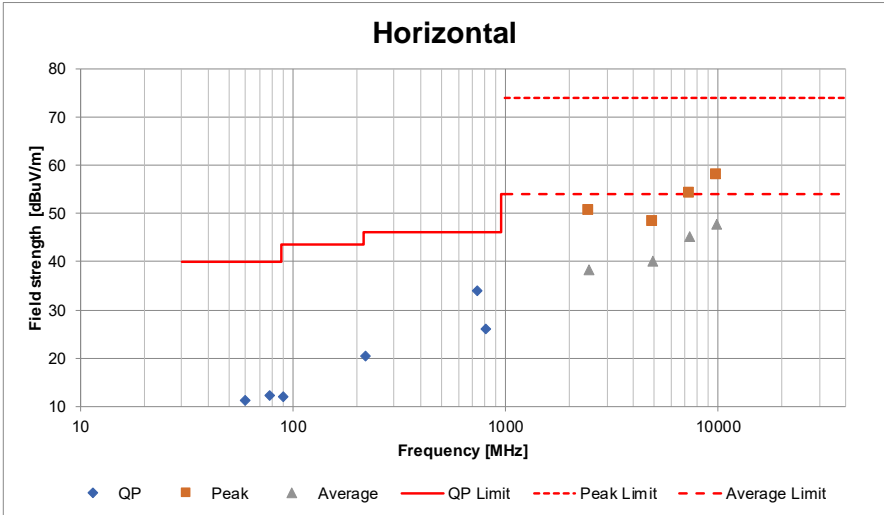
Ise EMC Lab.
 No.2
 July 9, 2024
 22 deg. C / 69 % RH
 Shousei Hamaguchi
 (1 GHz to 26.5 GHz)
 Tx BT LE 2M 2480 MHz + 11ax-20 [52-tone RU/Index 40] 5825 MHz



* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.
 Final result of restricted band edge was shown in tabular data.

Radiated Spurious Emission
(Plot data, Worst case mode for Maximum Peak Output Power)

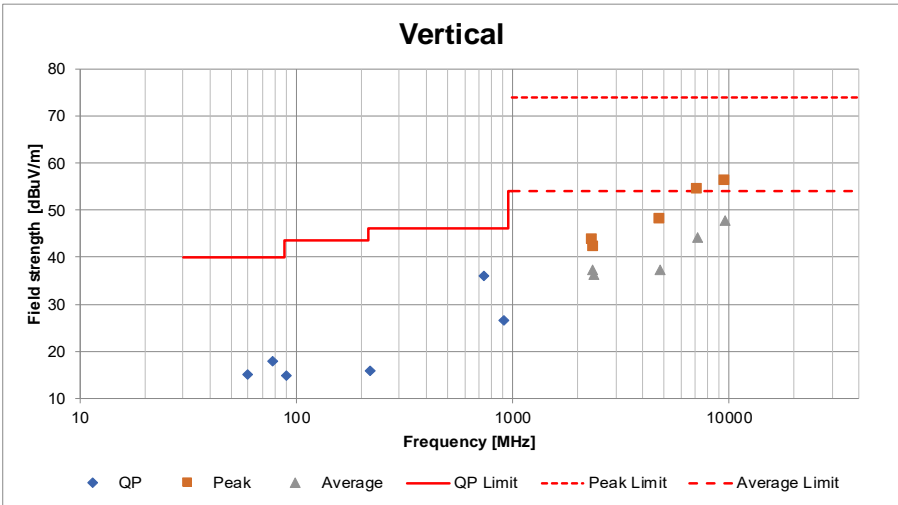
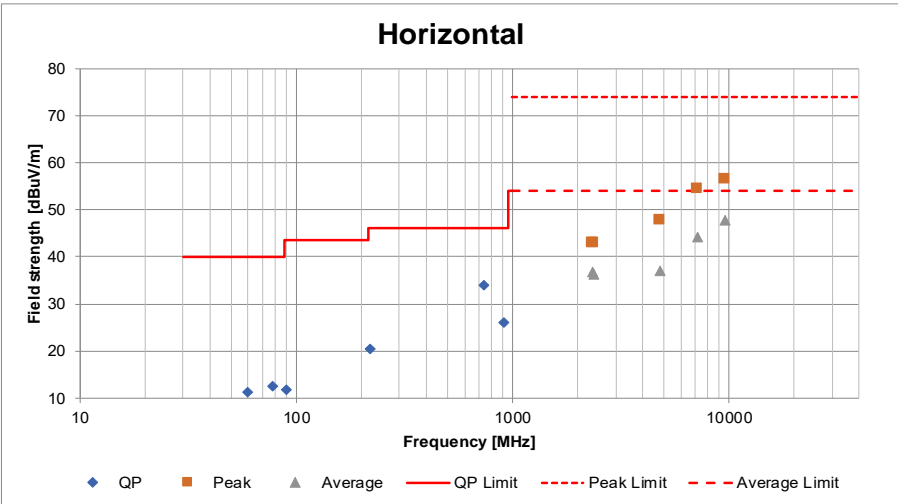
| | | | | |
|------------------------|----------------------------|---------------------|---------------------|---------------------|
| Test place | Ise EMC Lab. | | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 | No.2 |
| Date | July 1, 2024 | July 5, 2024 | July 8, 2024 | July 10, 2024 |
| Temperature / Humidity | 23 deg. C / 71 % RH | 22 deg. C / 71 % RH | 23 deg. C / 70 % RH | 24 deg. C / 65 % RH |
| Engineer | Nachi Konegawa | Nachi Konegawa | Tomoya Sone | Tomoya Sone |
| | (1 GHz to 10 GHz) | (10 GHz to 18 GHz) | (Above 18 GHz) | (Below 1 GHz) |
| Mode | Tx 11ax-20 [OFDM] 2462 MHz | | | |



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

Radiated Spurious Emission
(Plot data, Worst case mode for Maximum Peak Output Power)

| | | | | |
|------------------------|----------------------------------|---------------------------------------|-------------------------------|------------------------------|
| Test place | Ise EMC Lab. | | | |
| Semi Anechoic Chamber | No.2 | No.2 | No.2 | No.2 |
| Date | June 30, 2024 | July 7, 2024 | July 8, 2024 | July 10, 2024 |
| Temperature / Humidity | 22 deg. C / 56 % RH | 22 deg. C / 68 % RH | 23 deg. C / 70 % RH | 24 deg. C / 65 % RH |
| Engineer | Tomoya Sone (1 GHz to 10 GHz) | Tetsuro Yoshida (10 GHz to 18 GHz) | Tomoya Sone (Above 18 GHz) | Tomoya Sone (Below 1 GHz) |
| Mode | Tx BT LE 2M 2402 MHz | | | |



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

APPENDIX 2: Test Instruments

Test Equipment

| Test Item | LIMS ID | Description | Manufacturer | Model | Serial | Last Calibration Date | Cal Int |
|-----------|---------|-----------------------------------|---------------------------------|---|-------------------------------|-----------------------|---------|
| RE | 141232 | High Pass Filter 3.5-18.0GHz | UL Japan | HPF SELECTOR | 001 | 09/04/2023 | 12 |
| RE | 141266 | Logperiodic Antenna (200-1000MHz) | Schwarzbeck Mess-Elektronik OHG | VUSLP9111B | 9111B-191 | 08/10/2023 | 12 |
| RE | 141279 | Microwave Cable | Junkosha | MMX221-00500DMSDMS | 1502S303 | 03/04/2024 | 12 |
| RE | 141296 | High Pass Filter 3.5-18.0GHz | UL Japan | HPF SELECTOR | 002 | 09/01/2023 | 12 |
| RE | 141317 | Coaxial Cable | UL Japan | - | - | 09/12/2023 | 12 |
| RE | 141393 | Microwave Cable | Junkosha | MWX221 | 1604S254(1 m) / 1608S088(5 m) | 07/06/2024 | 12 |
| RE | 141404 | High Pass Filter 3.5-24GHz | TOKIMEC | TF323DCA | 601 | 05/23/2024 | 12 |
| RE | 141512 | Horn Antenna 1-18GHz | Schwarzbeck Mess-Elektronik OHG | BBHA9120D | 254 | 10/17/2023 | 12 |
| RE | 141513 | Horn Antenna 15-40GHz | Schwarzbeck Mess-Elektronik OHG | BBHA9170 | BBHA9170306 | 07/19/2023 | 12 |
| RE | 141517 | Horn Antenna 26.5-40GHz | ETS-Lindgren | 3160-10 | 152399 | 11/20/2023 | 12 |
| RE | 141542 | Digital Tester | Fluke Corporation | FLUKE 26-3 | 78030611 | 08/01/2023 | 12 |
| RE | 141579 | Pre Amplifier | Keysight Technologies Inc | 8449B | 3008A02142 | 02/17/2024 | 12 |
| RE | 141588 | Pre Amplifier | L3 Narda-MITEQ | AMF-6F-2600400-33-8P / AMF-4F-2600400-33-8P | 1871355 / 1871328 | 01/22/2024 | 12 |
| RE | 141594 | Pre Amplifier | Keysight Technologies Inc | 8447D | 2944A10150 | 02/17/2024 | 12 |
| RE | 141885 | Spectrum Analyzer | Keysight Technologies Inc | E4448A | US44300523 | 11/29/2023 | 12 |
| RE | 141902 | Spectrum Analyzer | Keysight Technologies Inc | E4440A | MY46187105 | 05/30/2024 | 12 |
| RE | 141949 | Test Receiver | Rohde & Schwarz | ESCI | 100767 | 06/05/2024 | 12 |
| RE | 142004 | AC2_Semi Anechoic Chamber(NSA) | TDK | Semi Anechoic Chamber 3m | DA-06902 | 12/12/2023 | 24 |
| RE | 142006 | AC2_Semi Anechoic Chamber(SVSWR) | TDK | Semi Anechoic Chamber 3m | DA-06902 | 04/17/2023 | 24 |
| RE | 142228 | Measure, Tape, Steel | KOMELON | KMC-36 | - | - | - |
| RE | 160324 | Coaxial Cable | Huber+Suhner | SUCOFLEX 102A | MY009/2A | 10/05/2023 | 12 |
| RE | 178648 | EMI measurement program | TSJ (Techno Science Japan) | TEPTO-DV | - | - | - |
| RE | 197990 | Biconical Antenna | Schwarzbeck Mess-Elektronik OHG | VHBB 9124 + BBA 9106 | 01365 | 11/29/2023 | 12 |
| RE | 220646 | Attenuator | Huber+Suhner | 6806 N-50-1 | - | 03/12/2024 | 12 |
| RE | 234602 | Microwave Cable | Huber+Suhner | SF126E/11PC35/11 PC35/1000M,5000M | 537063/126E / 537074/126E | 03/08/2024 | 12 |
| RE | 238713 | Double Ridge Horn Antenna | Schwarzbeck Mess-Elektronik OHG | BBHA 9120 C | 688 | 08/10/2023 | 12 |
| RE | 244707 | Thermo-Hygrometer | HIOKI E.E. CORPORATION | LR5001 | 231202102 | 01/25/2024 | 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:

RE: Radiated Emission