RADIO TEST REPORT

Test Report No. 15058392M-C

Customer	**ALPS ALPINE CO., LTD.**
Description of EUT	**Head Unit**
Model Number of EUT	**AH00ICB 4**
FCC ID	**A269ZUA171**
Test Regulation	**FCC Part 15 Subpart E**
Test Result	**Complied**
Issue Date	**June 25, 2024**
Remarks	**WLAN (5 GHz band) part Radiated Spurious Emission only**

Representative Test Engineer	**Approved By**
Kazuhiro Ando Engineer	Kenichi Suda Manager

CERTIFICATE 1266.01

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan, Inc.

☒ There is no testing item of "Non-accreditation".

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

REVISION HISTORY

Original Test Report No. 15058392M-C

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	15058392M-C	June 25, 2024	-

Reference: Abbreviations (Including words undescribed in this report)

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

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SECTION 1: Customer Information

Company Name	ALPS ALPINE CO., LTD.
Address	20-1 Yoshima Industrial park, Iwaki, Fukushima, Japan 970-1192
Telephone Number	+81-246-36-4111
Contact Person	Kenji Nagase

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	Head Unit
Model Number	AH00ICB 4
Serial Number	Refer to SECTION 4.2
Condition	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	January 23, 2024
Test Date	February 8 to March 19, 2024

2.2 Product Description

General Specification

Rating	DC 13.2 V
Operating temperature	-30 deg. C to +70 deg. C

Radio Specification

This report contains data provided by the customer which can impact the validity of results. UL Japan, Inc. is only responsible for the validity of results after the integration of the data provided by the customer. The data provided by the customer is marked “a)” in the table below.

Bluetooth (BR / EDR / Low Energy)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	BT: FHSS (GFSK, π/4 DQPSK, 8 DPSK) BT LE: GFSK
Antenna Type	Planar Inverted-F Antenna
Antenna Gain[a)]	-0.2 dBi

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

Equipment Type	Transceiver
Frequency of Operation	2412 MHz to 2462 MHz
Type of Modulation	DSSS, OFDM
Antenna Type	Planar Inverted-F Antenna
Antenna Gain[a)]	-0.78 dBi

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

Equipment Type	Transceiver	
Frequency of Operation	20 MHz Band	5180 MHz to 5240 MHz 5260 MHz to 5320 MHz 5500 MHz to 5720 MHz 5745 MHz to 5825 MHz
	40 MHz Band	5190 MHz to 5230 MHz 5270 MHz to 5310 MHz 5510 MHz to 5710 MHz 5755 MHz to 5795 MHz
	80 MHz Band	5210 MHz 5290 MHz 5530 MHz to 5690 MHz 5775 MHz
Type of Modulation	OFDM	
Antenna Type	Planar Inverted-F Antenna	
Antenna Gain[a)]	+2.71 dBi (Chain 1) +2.29 dBi (Chain 2)	

SECTION 3: Test specification, Procedures & Results

3.1 Test Specification

Test Specification	FCC Part 15 Subpart E The latest version on the first day of the testing period
Title	FCC 47 CFR Part 15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements

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

3.2 Procedures and Results

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
Spurious Emission Restricted Band Edge	**FCC:** ANSI C63.10-2013 KDB Publication Number 789033	**FCC:** 15.407 (b), 15.205 and 15.209	5.3 dB 5150.000 MHz, AV, Vertical Mode: Tx 11n-40 5190 MHz with BT Hopping On 3DH5	Complied	Radiated (> 30 MHz) *1)
	ISED: -	**ISED:** RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.3			
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. *1) Radiated test was selected over 30 MHz based on FCC 15.407 (b) and KDB 789033 D02 G.3.b).					

FCC Part 15.31 (e)
The EUT provides stable voltage constantly to the RF Part regardless of input voltage. Instead of a new battery, DC power supply was used for the test. That does not affect the test result, therefore the 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	Uncertainty (+/-)
3 m	9 kHz to 30 MHz	3.2 dB
	30 MHz to 200 MHz	6.2 dB
	200 MHz to 1000 MHz	6.3 dB
	1 GHz to 6 GHz	4.7 dB
	6 GHz to 18 GHz	5.1 dB
	18 GHz to 40 GHz	5.5 dB
1 m	1 GHz to 18 GHz	5.2 dB
	18 GHz to 40 GHz	5.6 dB
0.5 m	26.5 GHz to 40 GHz	5.8 dB

3.5 Test Location

UL Japan, Inc. Kashima EMC Lab.
1614 Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan
Telephone: +81-478-88-6500
A2LA Certificate Number: 1266.01 / FCC Test Firm Registration Number: 910230
ISED Lab Company Number: 4659A / CAB identifier: JP0006

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Open site	6.0 x 5.5 x 2.5	20 x 40	10 m
No.5 Open site	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	5.4 x 4.5 x 2.3	-	-
No.5 Shielded Room	4.2 x 3.1 x 2.5	-	-
No.9 Shielded Room	6.1 x 3.6 x 2.8	-	-
No.6 Semi-anechoic Chamber	8.5 x 5.5 x 5.2	-	3 m
No.10 Semi-anechoic Chamber	18.4 x 9.9 x 7.7	-	10 m
No.11 Semi-anechoic Chamber	9.0 x 6.5 x 5.2	-	3 m
No.1 Measurement room	5.0 x 3.7 x 2.6	-	-
No.2 Measurement room	4.3 x 4.4 x 2.7	-	-

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)

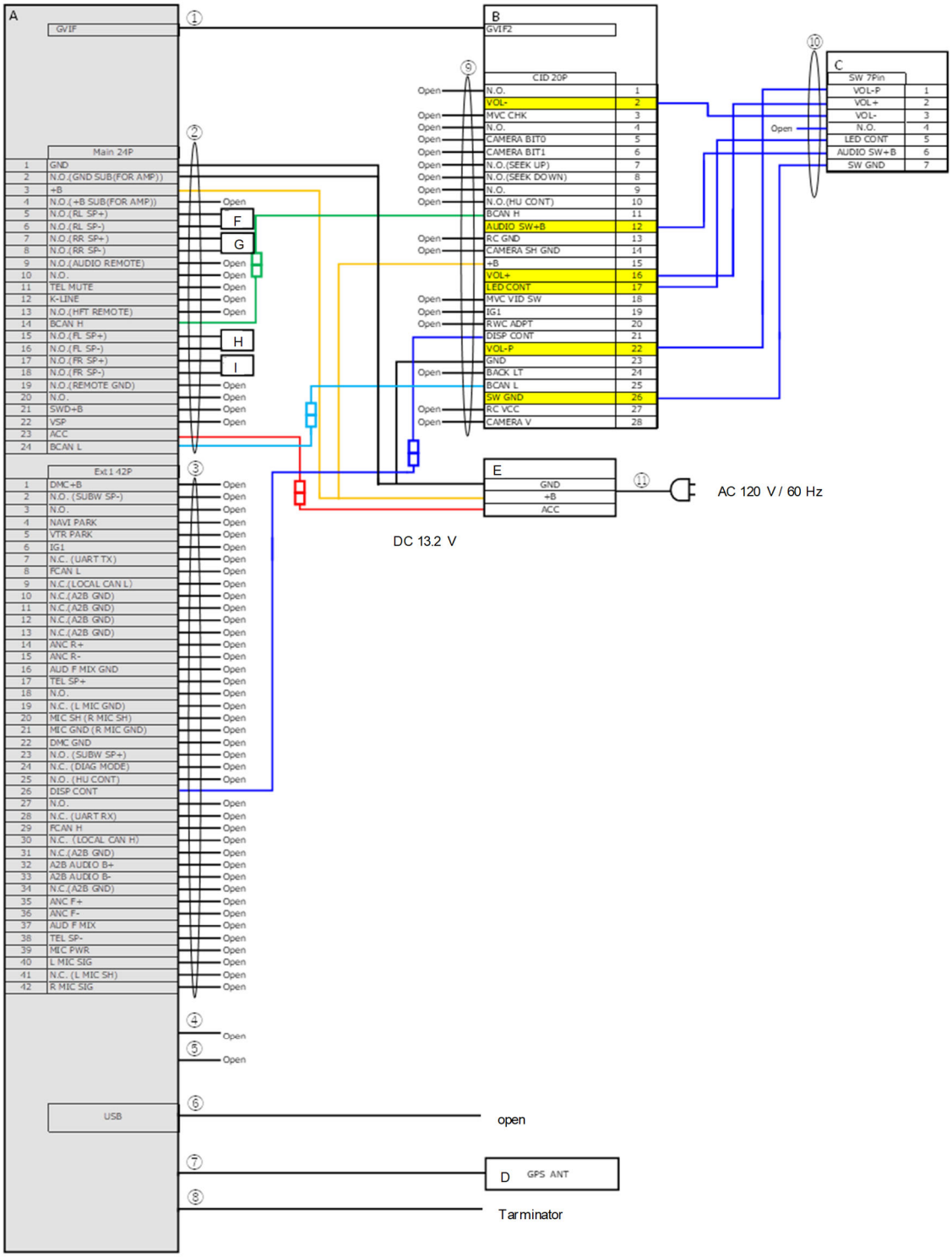
Mode	Remarks*
IEEE 802.11a SISO (11a (SISO))	18 Mbps (Chain 2), PN9
IEEE 802.11ac SISO 20 MHz BW (11ac-20 (SISO))	MCS 2 (Chain 2), PN9
IEEE 802.11n SISO 40 MHz BW (11n-40 (SISO))	MCS 3 (Chain 2), PN9
IEEE 802.11ac SISO 40 MHz BW (11ac-40 (SISO))	MCS 2 (Chain 2), PN9
IEEE 802.11ac SISO 80 MHz BW (11ac-80 (SISO))	MCS 5 (Chain 2), PN9
*The worst antenna (Chain 2) and condition was determined based on the test result of Maximum Conducted Output Power.	
*Power of the EUT was set by the software as follows; Power Setting: 11a, 11n-20: 10.5 dBm 11n-40:11 dBm 11ac-20: 6 dBm 11ac-40, 11ac-80: 7 dBm Software: QRCT (Qualcomm Radio Control Toolkit) Version: 4.0.00195.0 (Date: 2021.10.19, 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 802.11ac mode by the pre-test.	

*The Details of Operation Mode(s)

Test Item	Operating Mode	Tested Antenna *2)	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Radiated Spurious Emission (Below 1 GHz) *1)	Tx 11a (SISO) Tx 11a (SISO) with BT Hopping On 3DH5 Tx 11a (SISO) with BT LE 2M-PHY 2440 MHz	Chain 2	5180 MHz	-	-	-
	Tx 11a (SISO) with 11n-20 2462 MHz	Chain 1	5180 MHz	-	-	-
Radiated Spurious Emission (Above 1 GHz)	Tx 11a (SISO)	Chain 2	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx 11ac-20 (SISO)	Chain 2	5180 MHz	5320 MHz	5500 MHz 5700 MHz	5745 MHz 5825 MHz
	Tx 11n-40 (SISO)	Chain 2	5190 MHz 5230 MHz	5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-40 (SISO)	Chain 2	5190 MHz	5310 MHz	5510 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 (SISO)	Chain 2	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
	Tx 11a (SISO) with 11n-20 2462 MHz Tx 11ac-20 (SISO) with 11n-20 2462 MHz	Chain 1	5180 MHz	5320 MHz	5500 MHz 5700 MHz	5745 MHz 5825 MHz
	Tx 11n-40 (SISO) with 11n-20 2462 MHz Tx 11ac-40 (SISO) with 11n-20 2462 MHz	Chain 1	5190 MHz	5310 MHz	5510 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 (SISO) with 11n-20 2462 MHz	Chain 1	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
	Tx 11a (SISO) with BT Hopping On 3DH5 Tx 11ac-20 (SISO) with BT Hopping On 3DH5	Chain 2	5180 MHz	5320 MHz	5500 MHz 5700 MHz	5745 MHz 5825 MHz
	Tx 11n-40 (SISO) with BT Hopping On 3DH5 Tx 11ac-40 (SISO) with BT Hopping On 3DH5	Chain 2	5190 MHz	5310 MHz	5510 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 (SISO) with BT Hopping On 3DH5	Chain 2	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
	Tx 11a (SISO) with BT LE 2M-PHY 2440 MHz Tx 11ac-20 (SISO) with BT LE 2M-PHY 2440 MHz	Chain 2	5180 MHz	5320 MHz	5500 MHz 5700 MHz	5745 MHz 5825 MHz
	Tx 11n-40 (SISO) with BT LE 2M-PHY 2440 MHz Tx 11ac-40 (SISO) with BT LE 2M-PHY 2440 MHz	Chain 2	5190 MHz	5310 MHz	5510 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ac-80 (SISO) with BT LE 2M-PHY 2440 MHz	Chain 2	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.
*2) The test was performed with the antenna that had higher power as a representative.
Wireless LAN 2.4 GHz is transmitted with only Test antenna (Chain 1).
Bluetooth and Bluetooth low energy are transmitted with only Test antenna (Chain 2).

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	Head Unit	AH00ICB 4	13	ALPS ALPINE CO., LTD.	EUT
B	Display	QH00274A	68	ALPS ALPINE CO., LTD.	-
C	Switch Unit	-	-	ALPS ALPINE CO., LTD.	-
D	GPS Antenna	8B550-T20-A111-M1	17430300	YOKOWO	-
E	DC Power Supply	GSV3000	60646742	DIAMOND ANTENNA	-
F	Speaker	KFC-RS101	482C	JVC KENWOOD	-
G	Speaker	KFC-RS101	482C	JVC KENWOOD	-
H	Speaker	KFC-RS101	482C	JVC KENWOOD	-
I	Speaker	KFC-RS101	482C	JVC KENWOOD	-

List of Cables Used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	GVIF Cable	2.4	Shielded	Shielded	-
2	Main Harness	2.2	Unshielded	Unshielded	-
3	EXT1 Harness	2.1	Unshielded	Unshielded	-
4	Ethernet Cable	2.2	Unshielded	Unshielded	-
5	EXT2 Cable	2.1	Unshielded	Unshielded	-
6	USB Cable	2.2	Shielded	Shielded	-
7	GPS Antenna Cable	2.7	Shielded	Shielded	-
8	Tuner Cable (Main/Sub)	2.2	Shielded	Shielded	-
9	Display Harness	1.5	Unshielded	Unshielded	-
10	Switch Unit Harness	1.0	Unshielded	Unshielded	-
11	AC Power Cable	2.0	Unshielded	Unshielded	-

SECTION 5: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1 GHz >
EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

< 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.

< Below 1 GHz >
The result also satisfied with the general limits specified in section 15.209 (a).

< Above 1 GHz >
Inside of restricted bands (Section 15.205):
Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:
Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p.*) in the Section 15.407 (b) (1) (2) (3).

For 5.8 GHz band Bandedge
-27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge in the section 15.407(b)(4)(i).

Restricted band edge:
Apply to limit in the Section 15.209 (a).
Since this limit is severer than the limit of the inside of restricted bands.

*Electric field strength to e.i.r.p. conversion:

$E = \frac{1000000\sqrt{30P}}{3}$ (uV/m) :*P* is the e.i.r.p. (Watts)

Test Antennas are used as below;

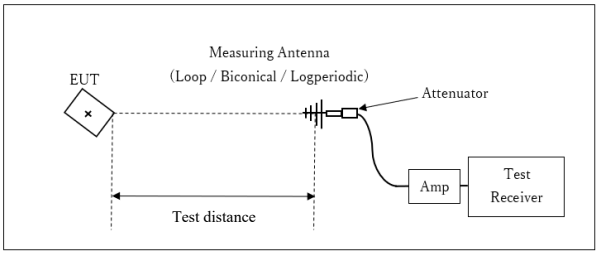
Frequency	30 MHz to 1 GHz	Above 1 GHz
Antenna Type	Hybrid	Horn

Frequency	Below 1 GHz	Above 1 GHz	
Instrument Used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	Method VB *1) RBW: 1 MHz VBW: 1/T MHz (T: Burst length, refer to Appendix) Detector: Peak Trace mode: Max hold

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v02r01 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E".

Figure 2: Test Setup

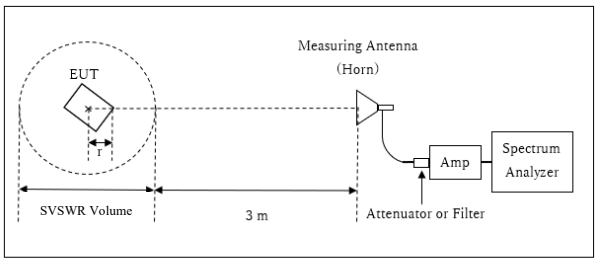
Below 1 GHz



× : 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

[No,10 test site]

Distance Factor: 20 x log (4.39 m / 3.0 m) = 3.31 dB
* Test Distance: (3 + SVSWR Volume /2) - r = 4.39 m

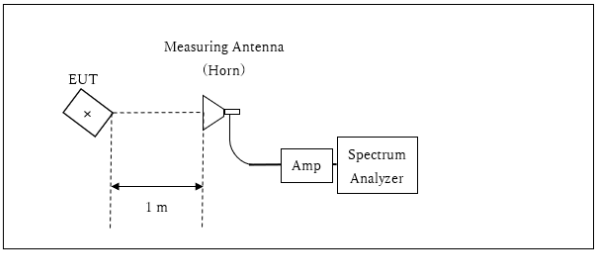
SVSWR Volume : 3.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 0.11 m

[No.11 test site]

Distance Factor: 20 x log (3.89 m / 3.0 m) = 2.26 dB
* Test Distance: (3 + SVSWR Volume /2) - r = 3.89 m

SVSWR Volume : 2.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 0.11 m

10 GHz to 40 GHz



× : Center of turn table

Distance Factor: 20 x log (1.0 m / 3.0 m) = -9.54 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 40 GHz
Test Data : APPENDIX
Test Result : Pass

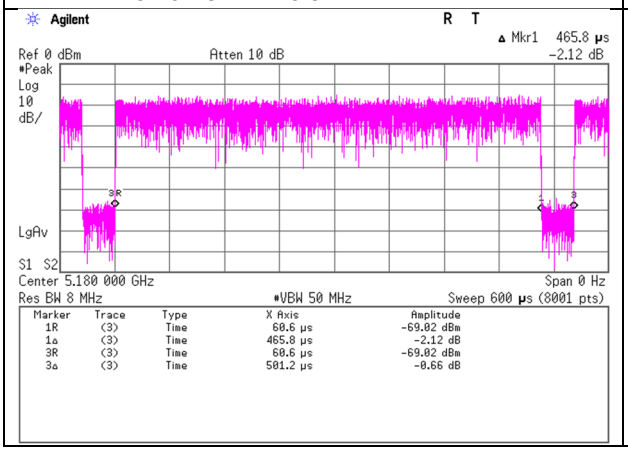
APPENDIX 1: Test Data

Burst rate confirmation

Test place	Kashima EMC Lab. No.11 Semi-anechoic Chamber
Date	February 18, 2024
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Kazuhiro Ando
Mode	Tx

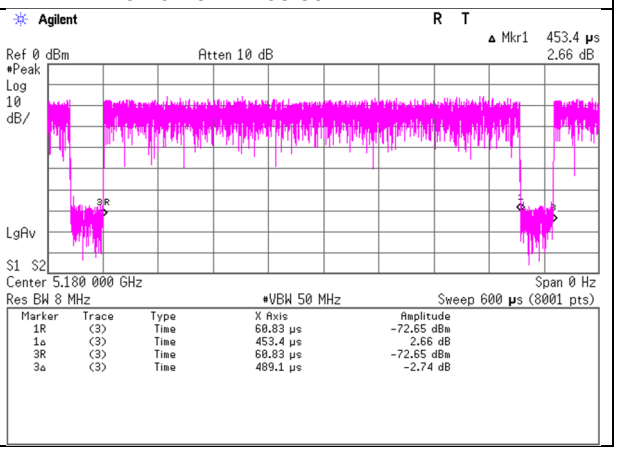
11a 18 Mbps

Tx on / (Tx on + Tx off) = 0.929
Tx on / (Tx on + Tx off) * 100 = 92.9 %
Duty factor = 10 * log (0.5012 / 0.4658) 0.32 dB
VBW: 1 / on time = 2146.84 Hz < 2.2 kHz



11ac-20 MCS 2

Tx on / (Tx on + Tx off) = 0.927
Tx on / (Tx on + Tx off) * 100 = 92.7 %
Duty factor = 10 * log (0.4891 / 0.4534) 0.33 dB
VBW: 1 / on time = 2205.56 Hz < 2.4 kHz

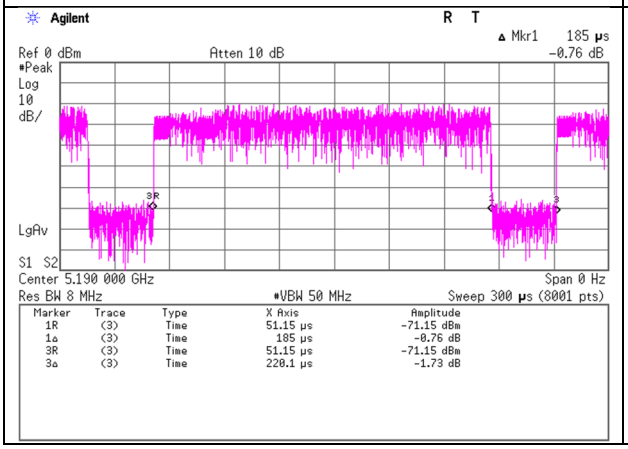


Burst rate confirmation

Test place	Kashima EMC Lab. No.11 Semi-anechoic Chamber
Date	February 18, 2024
Temperature / Humidity	21 deg. C / 40 % RH
Engineer	Kazuhiro Ando
Mode	Tx

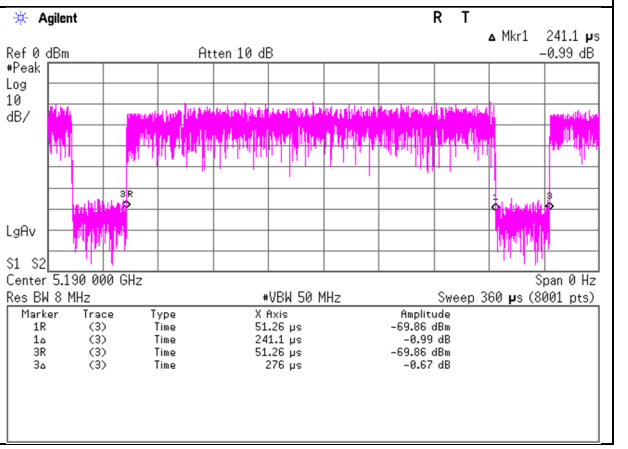
11n-40 MCS 3

Tx on / (Tx on + Tx off) = 0.841
Tx on / (Tx on + Tx off) * 100 = 84.1 %
Duty factor = 10 * log (0.2201 / 0.185) = 0.75 dB
VBW: 1 / on time = 5405.41 Hz < 5.6 kHz



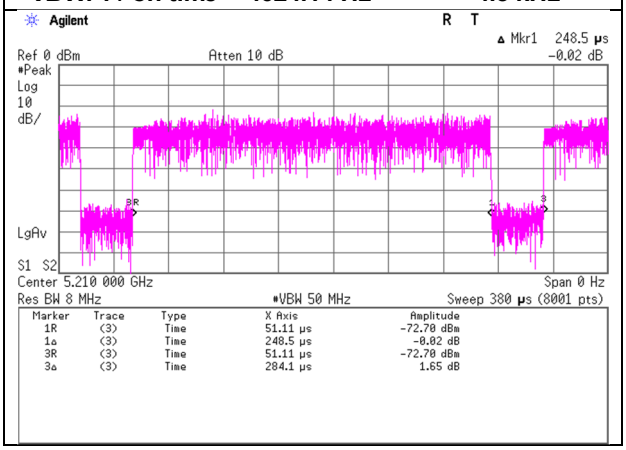
11ac-40 MCS 2

Tx on / (Tx on + Tx off) = 0.874
Tx on / (Tx on + Tx off) * 100 = 87.4 %
Duty factor = 10 * log (0.276 / 0.2411) = 0.59 dB
VBW: 1 / on time = 4147.66 Hz < 4.3 kHz



11ac-80 MCS 5

Tx on / (Tx on + Tx off) = 0.875
Tx on / (Tx on + Tx off) * 100 = 87.5 %
Duty factor = 10 * log (0.2841 / 0.2485) 0.58 dB
VBW: 1 / on time = 4024.14 Hz < 4.3 kHz



Radiated Spurious Emission

Test place	Kashima EMC Lab.					
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11	No.11
Date	February 23, 2024	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	19 deg. C / 42 % RH	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (30 MHz to 1 GHz)	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5180 MHz					

(below 1 GHz and above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	318.287	QP	44.70	13.99	7.71	31.94	0.00	34.46	46.0	11.5	153	303	
Hori.	947.844	QP	30.30	23.96	10.06	30.96	0.00	33.36	46.0	12.6	149	211	
Hori.	5150.000	PK	52.45	32.60	15.04	45.81	2.26	56.54	73.9	17.3	293	350	
Hori.	15540.000	PK	46.58	38.35	9.99	41.97	-9.54	43.41	73.9	30.4	150	0	Floor noise
Hori.	20720.000	PK	44.76	-3.86	10.43	0.00	-9.54	41.79	73.9	32.1	156	193	*1)
Hori.	5150.000	AV	41.36	32.60	15.04	45.81	2.26	45.45	53.9	8.4	293	350	VBW:2.2 kHz
Hori.	15540.000	AV	35.90	38.35	9.99	41.97	-9.54	32.73	53.9	21.1	150	0	Floor noise
Hori.	20720.000	AV	34.89	-3.86	10.43	0.00	-9.54	31.92	53.9	21.9	156	193	VBW:2.2 kHz,*1)
Vert.	31.818	QP	44.20	12.56	5.68	32.18	0.00	30.26	40.0	9.7	100	0	
Vert.	36.270	QP	45.90	12.91	5.74	32.17	0.00	32.38	40.0	**7.6**	100	254	
Vert.	170.000	QP	37.20	12.87	6.89	32.06	0.00	24.90	43.5	18.6	100	180	
Vert.	314.475	QP	41.30	13.90	7.69	31.94	0.00	30.95	46.0	15.0	100	168	
Vert.	816.000	QP	37.80	22.62	9.63	31.75	0.00	38.30	46.0	7.7	146	200	
Vert.	947.608	QP	29.50	23.95	10.06	30.96	0.00	32.55	46.0	13.4	161	307	
Vert.	5150.000	PK	53.13	32.60	15.04	45.81	2.26	57.22	73.9	16.6	210	0	
Vert.	15540.000	PK	47.12	38.35	9.99	41.97	-9.54	43.95	73.9	29.9	150	0	Floor noise
Vert.	20720.000	PK	45.92	-3.86	10.43	0.00	-9.54	42.95	73.9	30.9	194	0	*1)
Vert.	5150.000	AV	41.58	32.60	15.04	45.81	2.26	45.67	53.9	8.2	210	0	VBW:2.2 kHz
Vert.	15540.000	AV	36.19	38.35	9.99	41.97	-9.54	33.02	53.9	20.8	150	0	Floor noise
Vert.	20720.000	AV	37.81	-3.86	10.43	0.00	-9.54	34.84	53.9	19.0	194	0	VBW:2.2 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10360.000	PK	50.62	38.52	8.08	43.12	-9.54	44.56	-50.66	-27.0	23.6	283	286	
Vert.	10360.000	PK	50.81	38.52	8.08	43.12	-9.54	44.75	-50.47	-27.0	23.4	240	305	

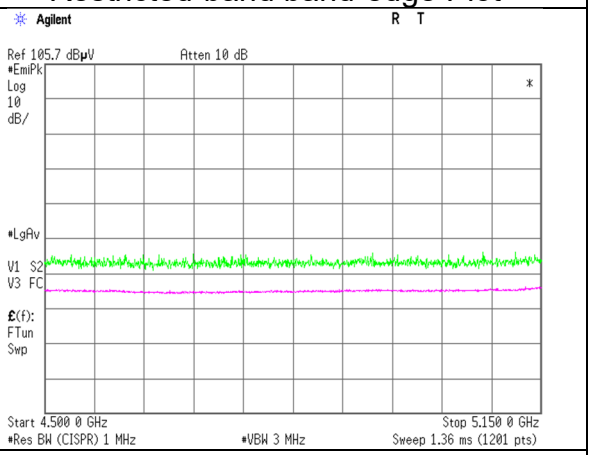
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5180 MHz

Horizontal

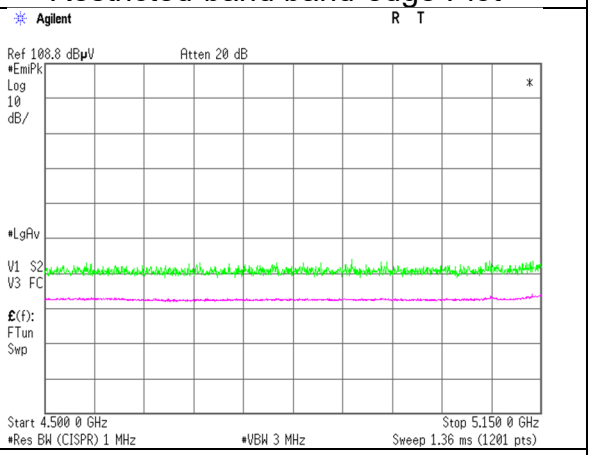
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5240 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15720.000	PK	47.93	38.39	10.06	42.16	-9.54	44.68	73.9	29.2	150	0	Floor noise
Hori.	20960.000	PK	45.13	-4.11	10.47	0.00	-9.54	41.95	73.9	31.9	157	191	*1)
Hori.	15720.000	AV	36.43	38.39	10.06	42.16	-9.54	33.18	53.9	20.7	150	0	Floor noise
Hori.	20960.000	AV	35.54	-4.11	10.47	0.00	-9.54	32.36	53.9	21.5	157	191	VBW:2.2 kHz,*1)
Vert.	15720.000	PK	47.92	38.39	10.06	42.16	-9.54	44.67	73.9	29.2	150	0	Floor noise
Vert.	20960.000	PK	46.52	-4.11	10.47	0.00	-9.54	43.34	73.9	30.5	164	338	*1)
Vert.	15720.000	AV	36.74	38.39	10.06	42.16	-9.54	33.49	53.9	20.4	150	0	Floor noise
Vert.	20960.000	AV	37.55	-4.11	10.47	0.00	-9.54	34.37	53.9	**19.5**	164	338	VBW:2.2 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10480.000	PK	50.12	38.64	8.13	43.14	-9.54	44.21	-51.01	-27.0	24.0	281	283	
Vert.	10480.000	PK	50.32	38.64	8.13	43.14	-9.54	44.41	-50.81	-27.0	23.8	239	308	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5320 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	51.32	32.99	15.16	45.75	2.26	55.98	73.9	17.9	385	353	
Hori.	10640.000	PK	49.88	38.64	8.20	43.09	-9.54	44.09	73.9	29.8	283	284	
Hori.	15960.000	PK	46.92	38.65	10.13	41.68	-9.54	44.48	73.9	29.4	150	0	Floor noise
Hori.	21280.000	PK	45.56	-4.33	10.57	0.00	-9.54	42.26	73.9	31.6	183	168	*1)
Hori.	5350.000	AV	39.96	32.99	15.16	45.75	2.26	44.62	53.9	9.2	385	353	VBW:2.2 kHz
Hori.	10640.000	AV	39.44	38.64	8.20	43.09	-9.54	33.65	53.9	20.2	283	284	VBW:2.2 kHz
Hori.	15960.000	AV	36.37	38.65	10.13	41.68	-9.54	33.93	53.9	19.9	150	0	Floor noise
Hori.	21280.000	AV	36.55	-4.33	10.57	0.00	-9.54	33.25	53.9	20.6	183	168	VBW:2.2 kHz,*1)
Vert.	5350.000	PK	51.87	32.99	15.16	45.75	2.26	56.53	73.9	17.3	212	5	
Vert.	10640.000	PK	50.28	38.64	8.20	43.09	-9.54	44.49	73.9	29.4	238	308	
Vert.	15960.000	PK	47.21	38.65	10.13	41.68	-9.54	44.77	73.9	29.1	150	0	Floor noise
Vert.	21280.000	PK	46.78	-4.33	10.57	0.00	-9.54	43.48	73.9	30.4	210	344	*1)
Vert.	5350.000	AV	40.31	32.99	15.16	45.75	2.26	44.97	53.9	**8.9**	212	5	VBW:2.2 kHz
Vert.	10640.000	AV	38.82	38.64	8.20	43.09	-9.54	33.03	53.9	20.8	238	308	VBW:2.2 kHz
Vert.	15960.000	AV	35.95	38.65	10.13	41.68	-9.54	33.51	53.9	20.3	150	0	Floor noise
Vert.	21280.000	AV	39.41	-4.33	10.57	0.00	-9.54	36.11	53.9	17.7	210	344	VBW:2.2 kHz,*1)

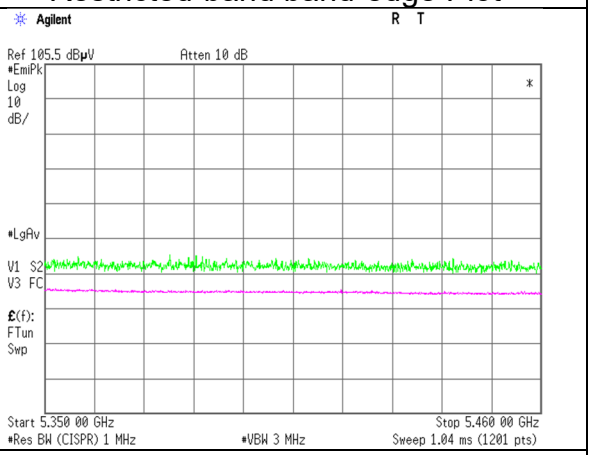
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5320 MHz

Horizontal

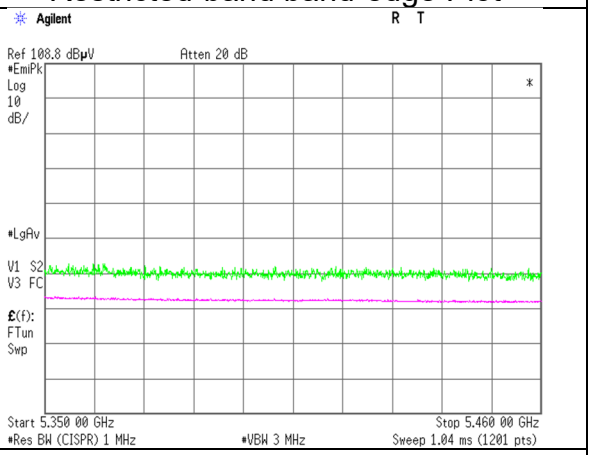
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5500 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	51.75	33.14	15.22	45.68	2.26	56.69	73.9	17.2	183	333	
Hori.	11000.000	PK	50.77	38.73	8.28	43.21	-9.54	45.03	73.9	28.8	276	283	
Hori.	5460.000	AV	41.02	33.14	15.22	45.68	2.26	45.96	53.9	**7.9**	183	333	VBW:2.2 kHz
Hori.	11000.000	AV	39.83	38.73	8.28	43.21	-9.54	34.09	53.9	19.8	276	283	VBW:2.2 kHz
Vert.	5460.000	PK	52.35	33.14	15.22	45.68	2.26	57.29	73.9	16.6	369	4	
Vert.	11000.000	PK	51.33	38.73	8.28	43.21	-9.54	45.59	73.9	28.3	245	305	
Vert.	5460.000	AV	40.89	33.14	15.22	45.68	2.26	45.83	53.9	8.0	369	4	VBW:2.2 kHz
Vert.	11000.000	AV	39.89	38.73	8.28	43.21	-9.54	34.15	53.9	19.7	245	305	VBW:2.2 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	52.17	33.17	15.23	45.68	2.26	57.15	-38.07	-27.0	11.0	183	333	
Hori.	16500.000	PK	47.81	40.11	10.27	42.25	-9.54	46.40	-48.82	-27.0	21.8	150	0	Floor noise
Hori.	22000.000	PK	45.27	-4.50	10.76	0.00	-9.54	41.99	-53.23	-27.0	26.2	157	241	*1)
Vert.	5470.000	PK	52.59	33.17	15.23	45.68	2.26	57.57	-37.65	-27.0	10.6	369	4	
Vert.	16500.000	PK	48.06	40.11	10.27	42.25	-9.54	46.65	-48.57	-27.0	21.5	150	0	Floor noise
Vert.	22000.000	PK	46.18	-4.50	10.76	0.00	-9.54	42.90	-52.32	-27.0	25.3	160	221	*1)

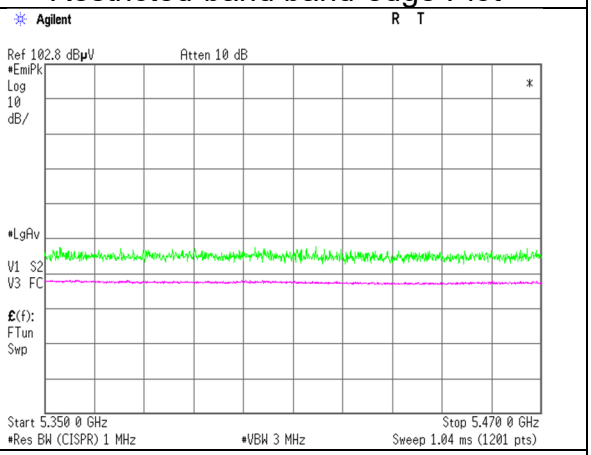
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5500 MHz

Horizontal

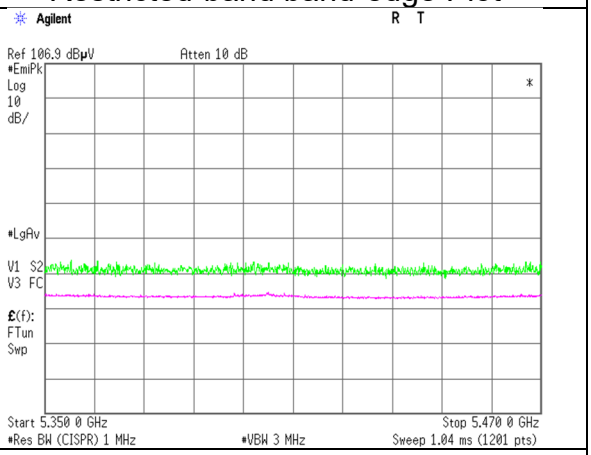
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5580 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11160.000	PK	51.02	38.46	8.32	43.20	-9.54	45.06	73.9	28.8	281	285	
Hori.	22320.000	PK	46.48	-4.21	10.83	0.00	-9.54	43.56	73.9	30.3	172	160	*1)
Hori.	11160.000	AV	38.99	38.46	8.32	43.20	-9.54	33.03	53.9	20.8	281	285	VBW:2.2 kHz
Hori.	22320.000	AV	37.10	-4.21	10.83	0.00	-9.54	34.18	53.9	**19.7**	172	160	VBW:2.2 kHz,*1)
Vert.	11160.000	PK	50.13	38.46	8.32	43.20	-9.54	44.17	73.9	29.7	241	307	
Vert.	22320.000	PK	46.18	-4.21	10.83	0.00	-9.54	43.26	73.9	30.6	159	209	*1)
Vert.	11160.000	AV	39.63	38.46	8.32	43.20	-9.54	33.67	53.9	20.2	241	307	VBW:2.2 kHz
Vert.	22320.000	AV	36.66	-4.21	10.83	0.00	-9.54	33.74	53.9	20.1	159	209	VBW:2.2 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.000	PK	47.27	40.56	10.32	41.87	-9.54	46.74	-48.48	-27.0	21.4	150	0	Floor noise
Vert.	16740.000	PK	47.21	40.56	10.32	41.87	-9.54	46.68	-48.54	-27.0	21.5	150	0	Floor noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5700 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11400.000	PK	52.76	38.66	8.38	43.28	-9.54	46.98	73.9	26.9	285	284	
Hori.	22800.000	PK	45.35	-3.92	10.95	0.00	-9.54	42.84	73.9	31.0	157	188	*1)
Hori.	11400.000	AV	41.75	38.66	8.38	43.28	-9.54	35.97	53.9	17.9	285	284	VBW:2.2 kHz
Hori.	22800.000	AV	35.47	-3.92	10.95	0.00	-9.54	32.96	53.9	20.9	157	188	VBW:2.2 kHz,*1)
Vert.	11400.000	PK	51.72	38.66	8.38	43.28	-9.54	45.94	73.9	27.9	242	312	
Vert.	22800.000	PK	45.42	-3.92	10.95	0.00	-9.54	42.91	73.9	30.9	161	213	*1)
Vert.	11400.000	AV	41.18	38.66	8.38	43.28	-9.54	35.40	53.9	18.5	242	312	VBW:2.2 kHz
Vert.	22800.000	AV	35.22	-3.92	10.95	0.00	-9.54	32.71	53.9	21.1	161	213	VBW:2.2 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.37	33.64	15.39	45.70	2.26	57.96	-37.26	-27.0	10.2	228	84	
Hori.	17100.000	PK	48.75	41.13	10.44	42.54	-9.54	48.24	-46.98	-27.0	19.9	150	0	Floor noise
Vert.	5725.000	PK	53.21	33.64	15.39	45.70	2.26	58.80	-36.42	-27.0	**9.4**	379	350	
Vert.	17100.000	PK	48.80	41.13	10.44	42.54	-9.54	48.29	-46.93	-27.0	19.9	150	0	Floor noise

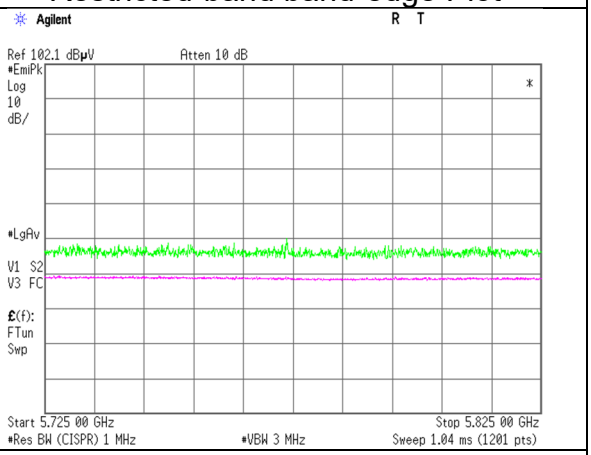
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5700 MHz

Horizontal

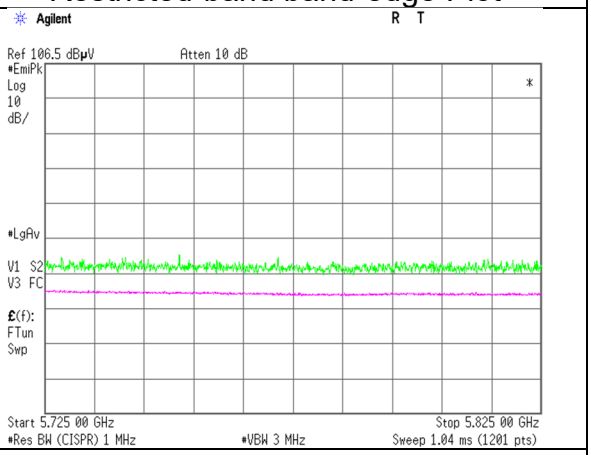
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5745 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	54.42	38.82	8.41	43.34	-9.54	48.77	73.9	25.1	282	281	
Hori.	22980.000	PK	45.02	-3.72	10.98	0.00	-9.54	42.74	73.9	31.1	150	222	*1)
Hori.	11490.000	AV	43.35	38.82	8.41	43.34	-9.54	37.70	53.9	16.2	282	281	VBW:2.2 kHz
Hori.	22980.000	AV	33.92	-3.72	10.98	0.00	-9.54	31.64	53.9	22.2	150	222	VBW:2.2 kHz,*1)
Vert.	11490.000	PK	53.24	38.82	8.41	43.34	-9.54	47.59	73.9	26.3	217	305	
Vert.	22980.000	PK	44.05	-3.72	10.98	0.00	-9.54	41.77	73.9	32.1	168	185	*1)
Vert.	11490.000	AV	42.24	38.82	8.41	43.34	-9.54	36.59	53.9	17.3	217	305	VBW:2.2 kHz
Vert.	22980.000	AV	34.07	-3.72	10.98	0.00	-9.54	31.79	53.9	22.1	168	185	VBW:2.2 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	52.13	33.39	15.34	45.73	2.26	57.39	-37.83	-27.0	**10.8**	400	54	
Hori.	5700.000	PK	52.71	33.53	15.37	45.72	2.26	58.15	-37.07	10.0	47.0	400	54	
Hori.	5720.000	PK	53.98	33.61	15.38	45.70	2.26	59.53	-35.69	15.6	51.2	400	54	
Hori.	5725.000	PK	52.80	33.64	15.39	45.70	2.26	58.39	-36.83	27.0	63.8	400	54	
Hori.	17235.000	PK	49.50	41.30	10.52	42.39	-9.54	49.39	-45.83	-27.0	18.8	150	0	Floor noise
Vert.	5650.000	PK	51.34	33.39	15.34	45.73	2.26	56.60	-38.62	-27.0	11.6	398	355	
Vert.	5700.000	PK	52.27	33.53	15.37	45.72	2.26	57.71	-37.51	10.0	47.5	398	355	
Vert.	5720.000	PK	52.89	33.61	15.38	45.70	2.26	58.44	-36.78	15.6	52.3	398	355	
Vert.	5725.000	PK	53.34	33.64	15.39	45.70	2.26	58.93	-36.29	27.0	63.2	398	355	
Vert.	17235.000	PK	48.75	41.30	10.52	42.39	-9.54	48.64	-46.58	-27.0	19.5	150	0	Floor noise

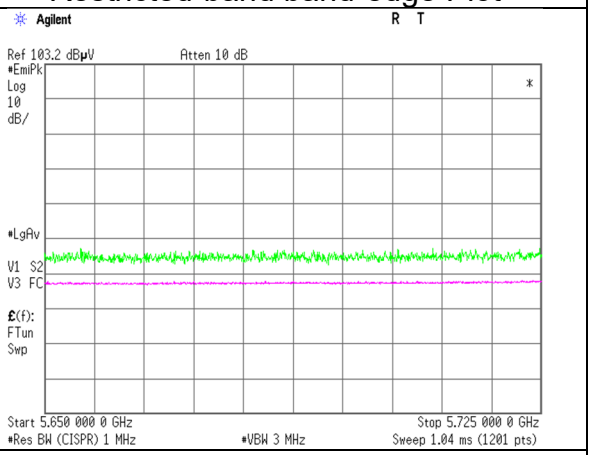
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5745 MHz

Horizontal

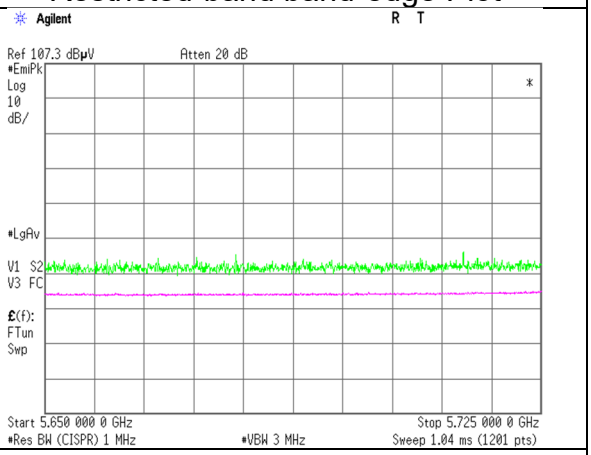
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5785 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	54.20	38.68	8.42	43.35	-9.54	48.41	73.9	25.4	261	289	
Hori.	11570.000	AV	42.77	38.68	8.42	43.35	-9.54	36.98	53.9	**16.9**	261	289	VBW:2.2 kHz
Vert.	11570.000	PK	52.77	38.68	8.42	43.35	-9.54	46.98	73.9	26.9	232	304	
Vert.	11570.000	AV	42.51	38.68	8.42	43.35	-9.54	36.72	53.9	17.1	232	304	VBW:2.2 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	49.13	41.41	10.59	42.75	-9.54	48.84	-46.38	-27.0	19.3	150	0	Floor noise
Hori.	23140.000	PK	44.59	-3.59	11.03	0.00	-9.54	42.49	-52.73	-27.0	25.7	152	205	*1)
Vert.	17355.000	PK	48.65	41.41	10.59	42.75	-9.54	48.36	-46.86	-27.0	19.8	150	0	Floor noise
Vert.	23140.000	PK	44.80	-3.59	11.03	0.00	-9.54	42.70	-52.52	-27.0	25.5	159	220	*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 14, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 41 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11a 5825 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11650.000	PK	50.29	38.73	8.43	43.30	-9.54	44.61	73.9	29.2	241	299	
Hori.	11650.000	AV	39.86	38.73	8.43	43.30	-9.54	34.18	53.9	19.7	241	299	VBW:2.2 kHz
Vert.	11650.000	PK	51.22	38.73	8.43	43.30	-9.54	45.54	73.9	28.3	288	299	
Vert.	11650.000	AV	40.05	38.73	8.43	43.30	-9.54	34.37	53.9	19.5	288	299	VBW:2.2 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.88	34.18	15.46	45.53	2.26	56.25	-38.97	27.0	65.9	253	83	
Hori.	5855.000	PK	50.19	34.22	15.46	45.52	2.26	56.61	-38.61	15.6	54.2	253	83	
Hori.	5875.000	PK	51.09	34.36	15.48	45.50	2.26	57.69	-37.53	10.0	47.5	253	83	
Hori.	5925.000	PK	51.14	34.65	15.51	45.46	2.26	58.10	-37.12	-27.0	10.1	253	83	
Hori.	17475.000	PK	48.61	41.51	10.65	43.05	-9.54	48.18	-47.04	-27.0	20.0	150	0	Floor noise
Hori.	23300.000	PK	45.52	-3.78	11.11	0.00	-9.54	43.31	-51.91	-27.0	24.9	164	148	*1)
Vert.	5850.000	PK	51.32	34.18	15.46	45.53	2.26	57.69	-37.53	27.0	64.5	400	353	
Vert.	5855.000	PK	51.21	34.22	15.46	45.52	2.26	57.63	-37.59	15.6	53.1	400	353	
Vert.	5875.000	PK	51.84	34.36	15.48	45.50	2.26	58.44	-36.78	10.0	46.7	400	353	
Vert.	5925.000	PK	52.88	34.65	15.51	45.46	2.26	59.84	-35.38	-27.0	**8.3**	400	353	
Vert.	17475.000	PK	48.61	41.51	10.65	43.05	-9.54	48.18	-47.04	-27.0	20.0	150	0	Floor noise
Vert.	23300.000	PK	45.76	-3.78	11.11	0.00	-9.54	43.55	-51.67	-27.0	24.6	160	41	*1)

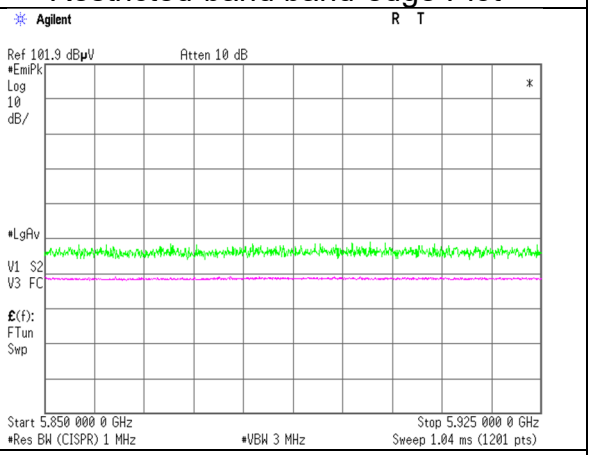
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11a 5825 MHz

Horizontal

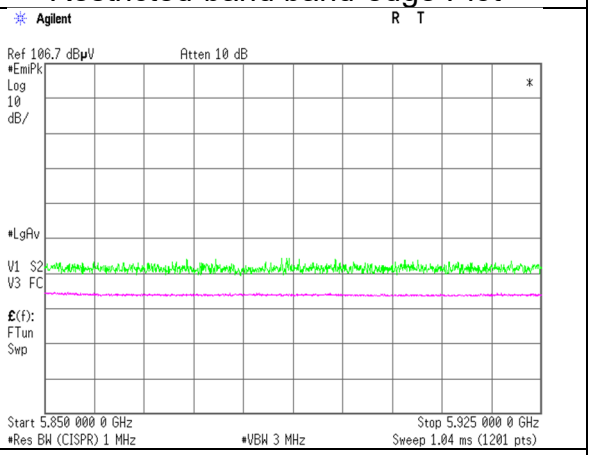
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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

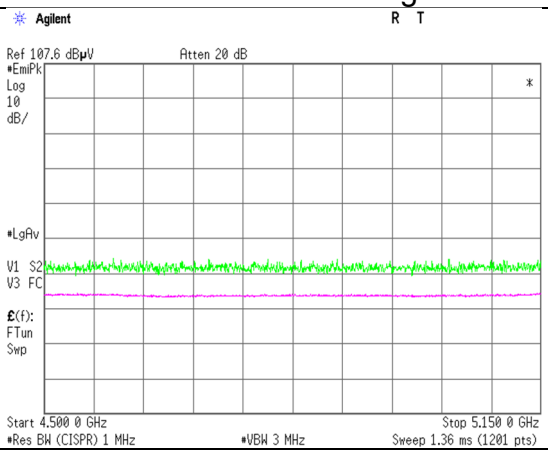
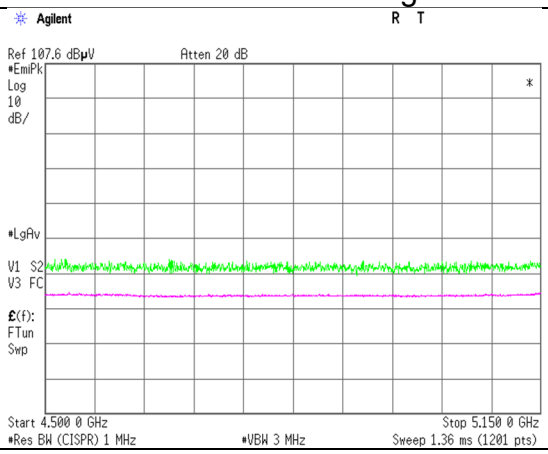
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5180 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	52.57	32.60	15.04	45.81	2.26	56.66	73.9	17.2	292	350	
Hori.	5150.000	AV	41.50	32.60	15.04	45.81	2.26	45.59	53.9	**8.3**	292	350	VBW:2.4 kHz
Vert.	5150.000	PK	53.36	32.60	15.04	45.81	2.26	57.45	73.9	16.4	400	0	
Vert.	5150.000	AV	41.11	32.60	15.04	45.81	2.26	45.20	53.9	8.7	400	0	VBW:2.4 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

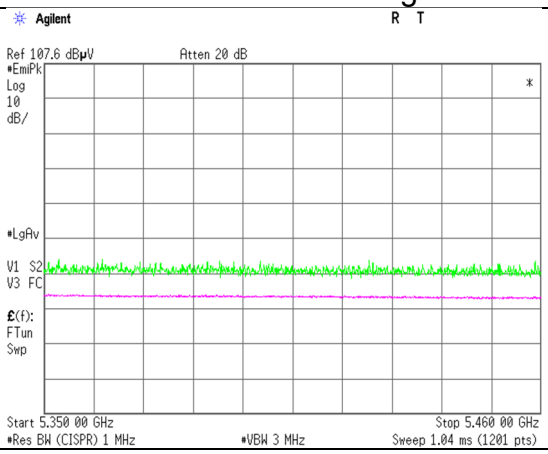
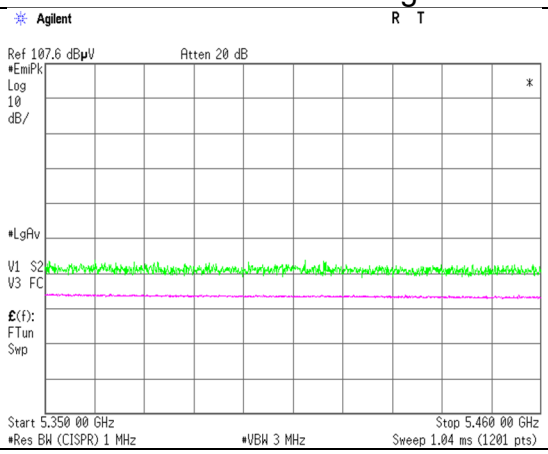
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 14, 2024
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5320 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	51.11	32.99	15.16	45.75	2.26	55.77	73.9	18.1	400	25	
Hori.	5350.000	AV	39.81	32.99	15.16	45.75	2.26	44.47	53.9	9.4	400	25	VBW:2.4 kHz
Vert.	5350.000	PK	51.31	32.99	15.16	45.75	2.26	55.97	73.9	17.9	323	0	
Vert.	5350.000	AV	40.37	32.99	15.16	45.75	2.26	45.03	53.9	**8.8**	323	0	VBW:2.4 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5500 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	52.01	33.14	15.22	45.68	2.26	56.95	73.9	16.9	400	25	
Hori.	5460.000	AV	40.79	33.14	15.22	45.68	2.26	45.73	53.9	8.1	400	25	VBW:2.4 kHz
Vert.	5460.000	PK	52.62	33.14	15.22	45.68	2.26	57.56	73.9	16.3	363	6	
Vert.	5460.000	AV	41.46	33.14	15.22	45.68	2.26	46.40	53.9	**7.5**	363	6	VBW:2.4 kHz

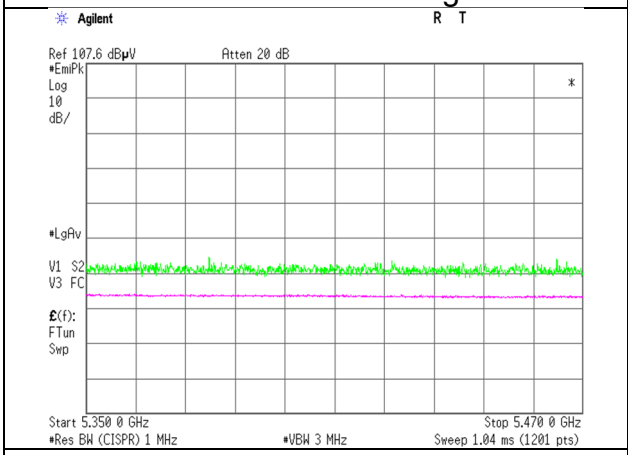
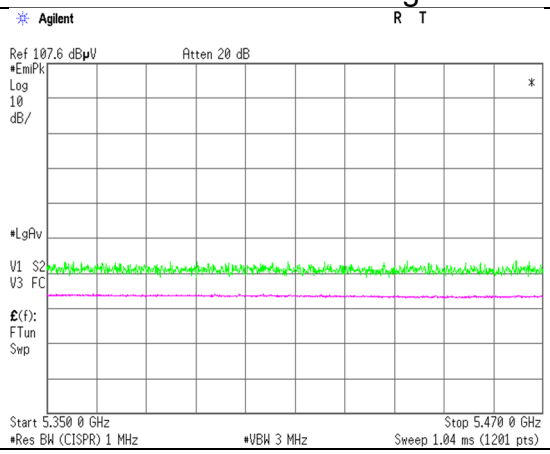
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	51.86	33.17	15.23	45.68	2.26	56.84	-38.38	-27.0	11.3	400	25	
Vert.	5470.000	PK	51.60	33.17	15.23	45.68	2.26	56.58	-38.64	-27.0	11.6	363	6	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

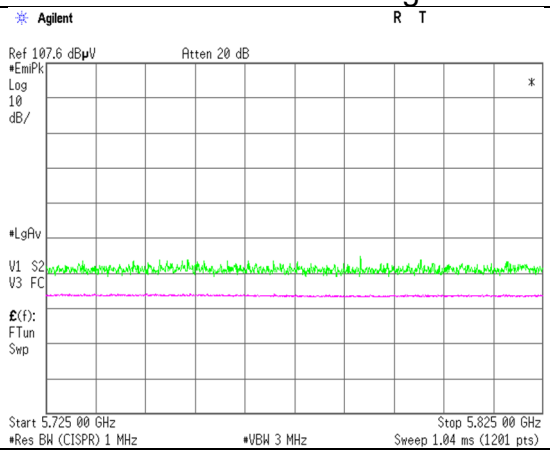
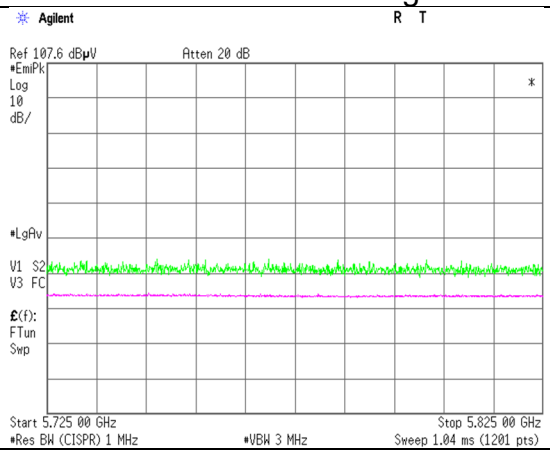
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5700 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.45	33.64	15.39	45.70	2.26	58.04	-37.18	-27.0	**10.1**	400	0	
Vert.	5725.000	PK	52.01	33.64	15.39	45.70	2.26	57.60	-37.62	-27.0	10.6	196	13	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

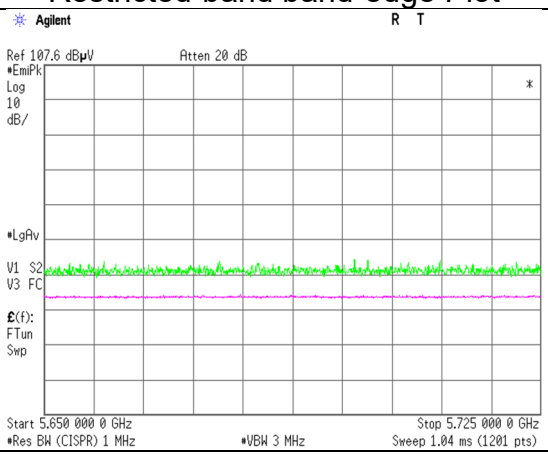
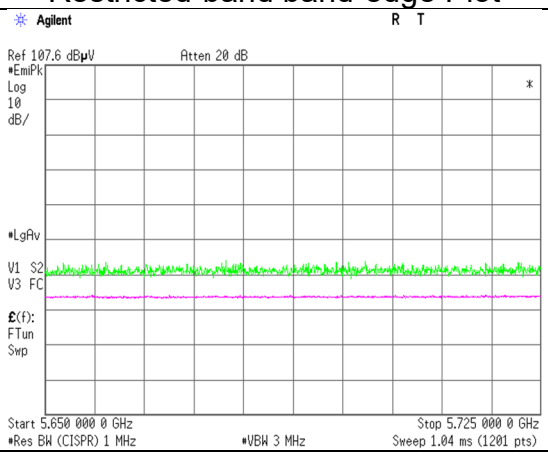
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5745 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	53.20	33.39	15.34	45.73	2.26	58.46	-36.76	-27.0	9.7	400	0	
Hori.	5700.000	PK	54.12	33.53	15.37	45.72	2.26	59.56	-35.66	10.0	45.6	400	0	
Hori.	5720.000	PK	53.86	33.61	15.38	45.70	2.26	59.41	-35.81	15.6	51.4	400	0	
Hori.	5725.000	PK	53.84	33.64	15.39	45.70	2.26	59.43	-35.79	27.0	62.7	400	0	
Vert.	5650.000	PK	54.27	33.39	15.34	45.73	2.26	59.53	-35.69	-27.0	**8.6**	355	13	
Vert.	5700.000	PK	54.42	33.53	15.37	45.72	2.26	59.86	-35.36	10.0	45.3	355	13	
Vert.	5720.000	PK	54.64	33.61	15.38	45.70	2.26	60.19	-35.03	15.6	50.6	355	13	
Vert.	5725.000	PK	54.34	33.64	15.39	45.70	2.26	59.93	-35.29	27.0	62.2	355	13	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

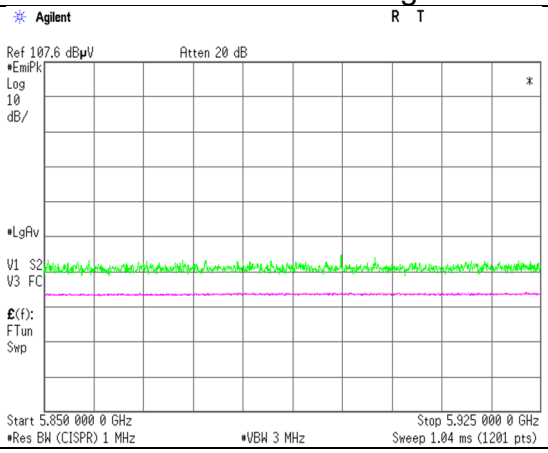
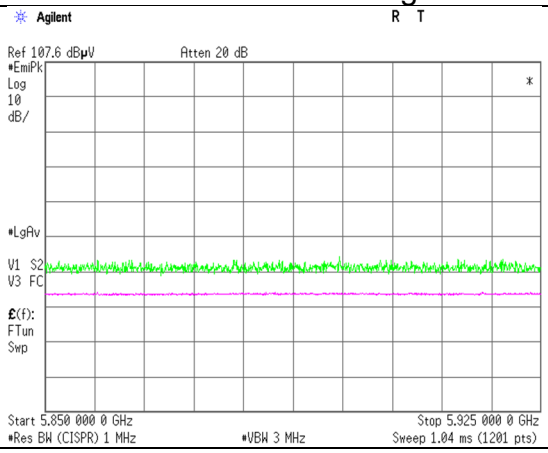
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-20 5825 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	50.42	34.18	15.46	45.53	2.26	56.79	-38.43	27.0	65.4	400	0	
Hori.	5855.000	PK	50.58	34.22	15.46	45.52	2.26	57.00	-38.22	15.6	53.8	400	0	
Hori.	5875.000	PK	50.53	34.36	15.48	45.50	2.26	57.13	-38.09	10.0	48.0	400	0	
Hori.	5925.000	PK	51.07	34.65	15.51	45.46	2.26	58.03	-37.19	-27.0	10.1	400	0	
Vert.	5850.000	PK	50.71	34.18	15.46	45.53	2.26	57.08	-38.14	27.0	65.1	300	7	
Vert.	5855.000	PK	50.49	34.22	15.46	45.52	2.26	56.91	-38.31	15.6	53.9	300	7	
Vert.	5875.000	PK	50.31	34.36	15.48	45.50	2.26	56.91	-38.31	10.0	48.3	300	7	
Vert.	5925.000	PK	51.40	34.65	15.51	45.46	2.26	58.36	-36.86	-27.0	**9.8**	300	7	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5190 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	53.18	32.60	15.04	45.81	2.26	57.27	73.9	16.6	400	16	
Hori.	15570.000	PK	46.84	38.36	10.00	42.07	-9.54	43.59	73.9	30.3	150	0	Floor noise
Hori.	20760.000	PK	44.60	-3.91	10.44	0.00	-9.54	41.59	73.9	32.3	158	194	*1)
Hori.	5150.000	AV	43.18	32.60	15.04	45.81	2.26	47.27	53.9	6.6	400	16	VBW:5.6 kHz
Hori.	15570.000	AV	36.23	38.36	10.00	42.07	-9.54	32.98	53.9	20.9	150	0	Floor noise
Hori.	20760.000	AV	34.69	-3.91	10.44	0.00	-9.54	31.68	53.9	22.2	158	194	VBW:5.6 kHz,*1)
Vert.	5150.000	PK	54.89	32.60	15.04	45.81	2.26	58.98	73.9	14.9	337	0	
Vert.	15570.000	PK	47.78	38.36	10.00	42.07	-9.54	44.53	73.9	29.3	150	0	Floor noise
Vert.	20760.000	PK	46.04	-3.91	10.44	0.00	-9.54	43.03	73.9	30.8	159	13	*1)
Vert.	5150.000	AV	43.68	32.60	15.04	45.81	2.26	47.77	53.9	**6.1**	337	0	VBW:5.6 kHz
Vert.	15570.000	AV	36.75	38.36	10.00	42.07	-9.54	33.50	53.9	20.4	150	0	Floor noise
Vert.	20760.000	AV	38.39	-3.91	10.44	0.00	-9.54	35.38	53.9	18.5	159	13	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10380.000	PK	48.03	38.53	8.10	43.13	-9.54	41.99	-53.23	-27.0	26.2	286	292	
Vert.	10380.000	PK	50.67	38.53	8.10	43.13	-9.54	44.63	-50.59	-27.0	23.5	271	317	

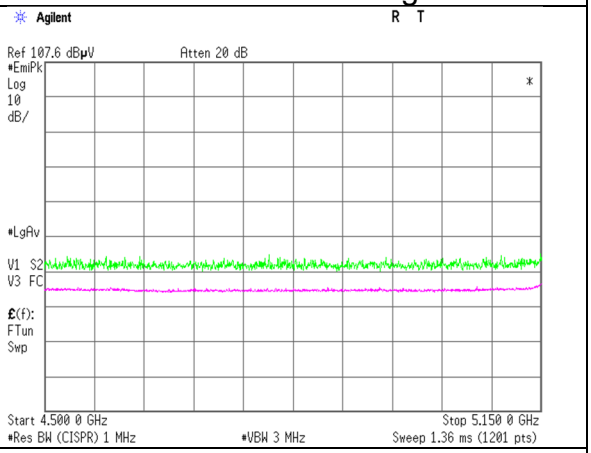
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5190 MHz

Horizontal

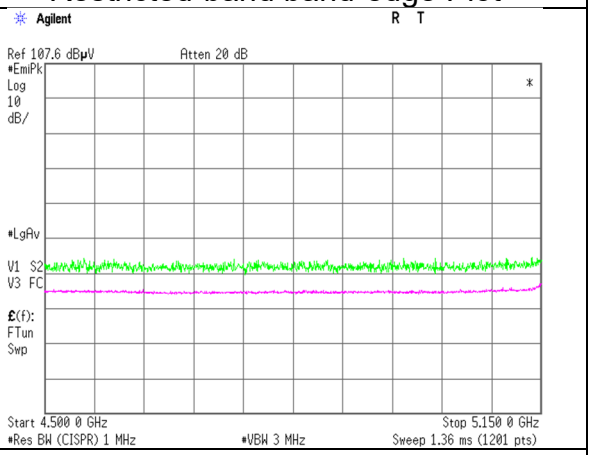
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5230 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15690.000	PK	47.71	38.38	10.05	42.25	-9.54	44.35	73.9	29.5	150	0	Floor noise
Hori.	20920.000	PK	45.58	-4.08	10.46	0.00	-9.54	42.42	73.9	31.4	161	194	*1)
Hori.	15690.000	AV	36.38	38.38	10.05	42.25	-9.54	33.02	53.9	20.8	150	0	Floor noise
Hori.	20920.000	AV	36.52	-4.08	10.46	0.00	-9.54	33.36	53.9	20.5	161	194	VBW:5.6 kHz,*1)
Vert.	15690.000	PK	47.92	38.38	10.05	42.25	-9.54	44.56	73.9	29.3	150	0	Floor noise
Vert.	20920.000	PK	46.74	-4.08	10.46	0.00	-9.54	43.58	73.9	30.3	170	337	*1)
Vert.	15690.000	AV	36.69	38.38	10.05	42.25	-9.54	33.33	53.9	20.5	150	0	Floor noise
Vert.	20920.000	AV	38.09	-4.08	10.46	0.00	-9.54	34.93	53.9	**18.9**	170	337	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10460.000	PK	49.14	38.56	8.11	43.15	-9.54	43.12	-52.10	-27.0	25.1	288	282	
Vert.	10460.000	PK	49.30	38.56	8.11	43.15	-9.54	43.28	-51.94	-27.0	24.9	274	314	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando	Kazuhiro Ando	Hiromitsu Tanabe
	(1 GHz to 6.4 GHz)	(6.4 GHz to 10 GHz)	(10 GHz to 18 GHz)	(18 GHz to 26.5 GHz)	(26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5310 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	52.18	32.99	15.16	45.75	2.26	56.84	73.9	17.0	400	23	
Hori.	10620.000	PK	48.81	38.69	8.19	43.08	-9.54	43.06	73.9	30.8	281	279	
Hori.	15930.000	PK	47.26	38.56	10.13	41.60	-9.54	44.81	73.9	29.0	150	0	Floor noise
Hori.	21240.000	PK	45.59	-4.32	10.56	0.00	-9.54	42.29	73.9	31.6	171	168	*1)
Hori.	5350.000	AV	41.25	32.99	15.16	45.75	2.26	45.91	53.9	7.9	400	23	VBW:5.6 kHz
Hori.	10620.000	AV	37.93	38.69	8.19	43.08	-9.54	32.19	53.9	21.7	281	279	VBW:5.6 kHz
Hori.	15930.000	AV	36.14	38.56	10.13	41.60	-9.54	33.69	53.9	20.2	150	0	Floor noise
Hori.	21240.000	AV	36.76	-4.32	10.56	0.00	-9.54	33.46	53.9	20.4	171	168	VBW:5.6 kHz,*1)
Vert.	5350.000	PK	51.38	32.99	15.16	45.75	2.26	56.04	73.9	17.8	346	0	
Vert.	10620.000	PK	49.60	38.69	8.19	43.08	-9.54	43.86	73.9	30.0	255	309	
Vert.	15930.000	PK	47.10	38.56	10.13	41.60	-9.54	44.65	73.9	29.2	150	0	Floor noise
Vert.	21240.000	PK	46.83	-4.32	10.56	0.00	-9.54	43.53	73.9	30.3	216	343	*1)
Vert.	5350.000	AV	41.38	32.99	15.16	45.75	2.26	46.04	53.9	**7.8**	346	0	VBW:5.6 kHz
Vert.	10620.000	AV	38.08	38.69	8.19	43.08	-9.54	32.34	53.9	21.5	255	309	VBW:5.6 kHz
Vert.	15930.000	AV	36.01	38.56	10.13	41.60	-9.54	33.56	53.9	20.3	150	0	Floor noise
Vert.	21240.000	AV	39.80	-4.32	10.56	0.00	-9.54	36.50	53.9	17.4	216	343	VBW:5.6 kHz,*1)

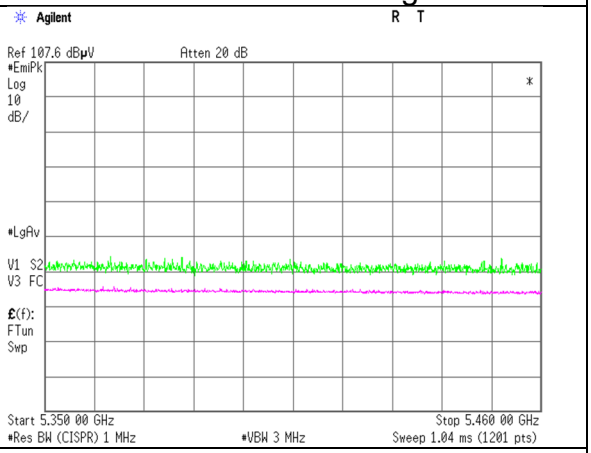
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5310 MHz

Horizontal

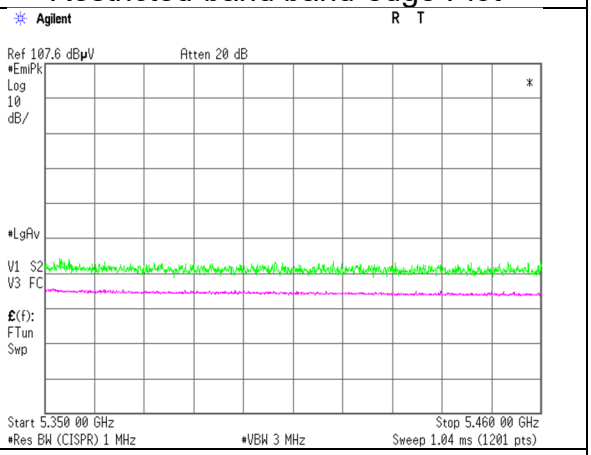
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5510 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	52.19	33.14	15.22	45.68	2.26	57.13	73.9	16.7	383	23	
Hori.	11020.000	PK	48.91	38.68	8.28	43.21	-9.54	43.12	73.9	30.7	281	279	
Hori.	22040.000	PK	45.53	-4.44	10.76	0.00	-9.54	42.31	73.9	31.5	160	207	*1)
Hori.	5460.000	AV	41.88	33.14	15.22	45.68	2.26	46.82	53.9	7.0	383	23	VBW:5.6 kHz
Hori.	11020.000	AV	38.13	38.68	8.28	43.21	-9.54	32.34	53.9	21.5	281	279	VBW:5.6 kHz
Hori.	22040.000	AV	36.31	-4.44	10.76	0.00	-9.54	33.09	53.9	20.8	160	207	VBW:5.6 kHz,*1)
Vert.	5460.000	PK	51.96	33.14	15.22	45.68	2.26	56.90	73.9	17.0	365	335	
Vert.	11020.000	PK	48.60	38.68	8.28	43.21	-9.54	42.81	73.9	31.1	252	317	
Vert.	22040.000	PK	46.64	-4.44	10.76	0.00	-9.54	43.42	73.9	30.4	157	220	*1)
Vert.	5460.000	AV	42.17	33.14	15.22	45.68	2.26	47.11	53.9	**6.7**	365	335	VBW:5.6 kHz
Vert.	11020.000	AV	37.85	38.68	8.28	43.21	-9.54	32.06	53.9	21.8	252	317	VBW:5.6 kHz
Vert.	22040.000	AV	37.45	-4.44	10.76	0.00	-9.54	34.23	53.9	19.6	157	220	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	53.12	33.17	15.23	45.68	2.26	58.10	-37.12	-27.0	10.1	383	23	
Hori.	16530.000	PK	47.32	40.14	10.29	42.33	-9.54	45.88	-49.34	-27.0	22.3	150	0	Floor noise
Vert.	5470.000	PK	53.06	33.17	15.23	45.68	2.26	58.04	-37.18	-27.0	10.1	365	335	
Vert.	16530.000	PK	48.34	40.14	10.29	42.33	-9.54	46.90	-48.32	-27.0	21.3	150	0	Floor noise

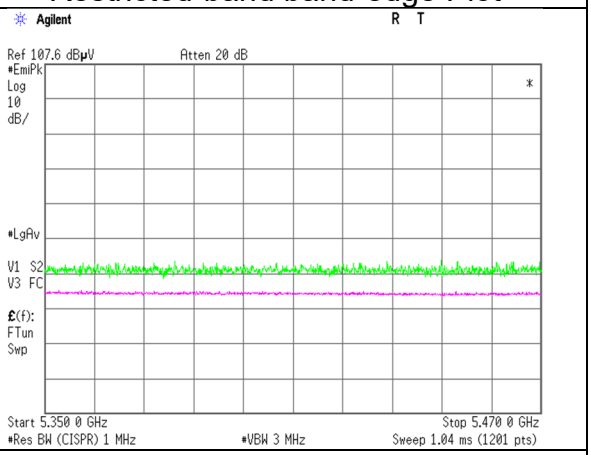
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5510 MHz

Horizontal

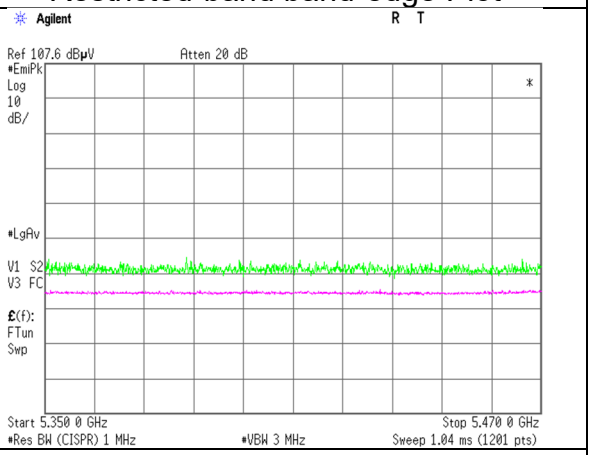
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5550 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11100.000	PK	49.41	38.47	8.30	43.21	-9.54	43.43	73.9	30.4	282	280	
Hori.	22200.000	PK	45.51	-4.39	10.80	0.00	-9.54	42.38	73.9	31.5	160	199	*1)
Hori.	11100.000	AV	37.81	38.47	8.30	43.21	-9.54	31.83	53.9	22.0	282	280	VBW:5.6 kHz
Hori.	22200.000	AV	36.50	-4.39	10.80	0.00	-9.54	33.37	53.9	20.5	160	199	VBW:5.6 kHz,*1)
Vert.	11100.000	PK	48.31	38.47	8.30	43.21	-9.54	42.33	73.9	31.5	252	316	
Vert.	22200.000	PK	45.38	-4.39	10.80	0.00	-9.54	42.25	73.9	31.6	147	207	*1)
Vert.	11100.000	AV	37.75	38.47	8.30	43.21	-9.54	31.77	53.9	22.1	252	316	VBW:5.6 kHz
Vert.	22200.000	AV	36.59	-4.39	10.80	0.00	-9.54	33.46	53.9	**20.4**	147	207	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16650.000	PK	47.06	40.42	10.30	42.20	-9.54	46.04	-49.18	-27.0	22.1	150	0	Floor noise
Vert.	16650.000	PK	47.19	40.42	10.30	42.20	-9.54	46.17	-49.05	-27.0	22.0	150	0	Floor noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5670 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11340.000	PK	50.71	38.59	8.38	43.23	-9.54	44.91	73.9	28.9	283	283	
Hori.	22680.000	PK	45.47	-4.03	10.93	0.00	-9.54	42.83	73.9	31.0	159	208	*1)
Hori.	11340.000	AV	42.26	38.59	8.38	43.23	-9.54	36.46	53.9	17.4	283	283	VBW:5.6 kHz
Hori.	22680.000	AV	36.15	-4.03	10.93	0.00	-9.54	33.51	53.9	20.3	159	208	VBW:5.6 kHz,*1)
Vert.	11340.000	PK	49.88	38.59	8.38	43.23	-9.54	44.08	73.9	29.8	251	285	
Vert.	22680.000	PK	45.61	-4.03	10.93	0.00	-9.54	42.97	73.9	30.9	157	212	*1)
Vert.	11340.000	AV	39.98	38.59	8.38	43.23	-9.54	34.18	53.9	19.7	251	285	VBW:5.6 kHz
Vert.	22680.000	AV	36.07	-4.03	10.93	0.00	-9.54	33.43	53.9	20.4	157	212	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.36	33.64	15.39	45.70	2.26	57.95	-37.27	-27.0	**10.2**	400	51	
Hori.	17010.000	PK	47.82	41.01	10.43	42.63	-9.54	47.09	-48.13	-27.0	21.1	150	0	Floor noise
Vert.	5725.000	PK	52.22	33.64	15.39	45.70	2.26	57.81	-37.41	-27.0	10.4	363	0	
Vert.	17010.000	PK	46.91	41.01	10.43	42.63	-9.54	46.18	-49.04	-27.0	22.0	150	0	Floor noise

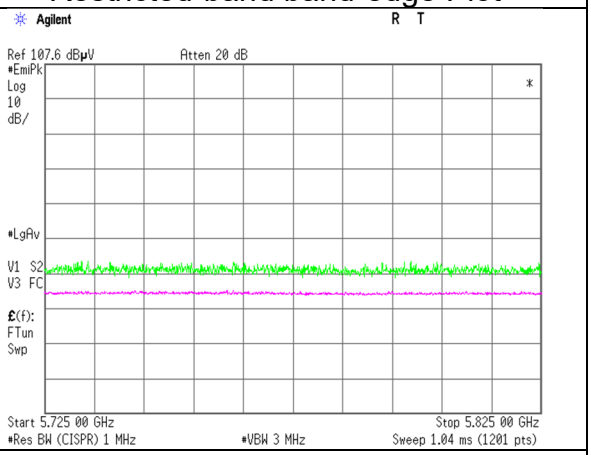
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5670 MHz

Horizontal

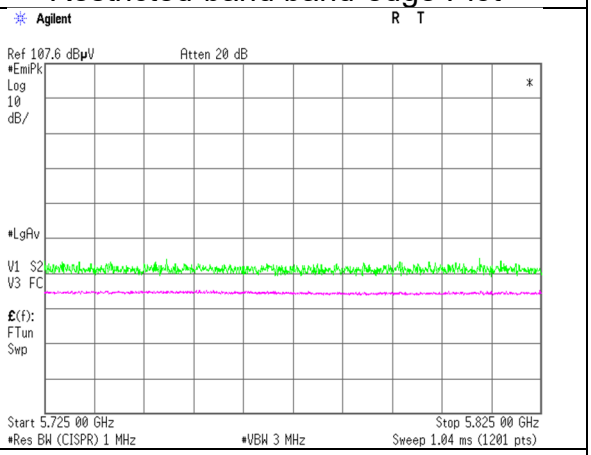
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5755 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	52.41	38.81	8.42	43.35	-9.54	46.75	73.9	27.1	271	289	
Hori.	23020.000	PK	45.21	-3.67	10.99	0.00	-9.54	42.99	73.9	30.9	158	219	*1)
Hori.	11510.000	AV	42.95	38.81	8.42	43.35	-9.54	37.29	53.9	16.6	271	289	VBW:5.6 kHz
Hori.	23020.000	AV	35.68	-3.67	10.99	0.00	-9.54	33.46	53.9	20.4	158	219	VBW:5.6 kHz,*1)
Vert.	11510.000	PK	50.25	38.81	8.42	43.35	-9.54	44.59	73.9	29.3	279	294	
Vert.	23020.000	PK	44.98	-3.67	10.99	0.00	-9.54	42.76	73.9	31.1	161	35	*1)
Vert.	11510.000	AV	41.97	38.81	8.42	43.35	-9.54	36.31	53.9	17.5	279	294	VBW:5.6 kHz
Vert.	23020.000	AV	35.53	-3.67	10.99	0.00	-9.54	33.31	53.9	20.5	161	35	VBW:5.6 kHz,*1)

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	52.21	33.39	15.34	45.73	2.26	57.47	-37.75	-27.0	10.7	400	65	
Hori.	5700.000	PK	53.00	33.53	15.37	45.72	2.26	58.44	-36.78	10.0	46.7	400	65	
Hori.	5720.000	PK	54.48	33.61	15.38	45.70	2.26	60.03	-35.19	15.6	50.7	400	65	
Hori.	5725.000	PK	54.36	33.64	15.39	45.70	2.26	59.95	-35.27	27.0	62.2	400	65	
Hori.	17265.000	PK	48.73	41.37	10.54	42.44	-9.54	48.66	-46.56	-27.0	19.5	150	0	Floor noise
Vert.	5650.000	PK	52.80	33.39	15.34	45.73	2.26	58.06	-37.16	-27.0	**10.1**	351	349	
Vert.	5700.000	PK	52.40	33.53	15.37	45.72	2.26	57.84	-37.38	10.0	47.3	351	349	
Vert.	5720.000	PK	54.16	33.61	15.38	45.70	2.26	59.71	-35.51	15.6	51.1	351	349	
Vert.	5725.000	PK	55.06	33.64	15.39	45.70	2.26	60.65	-34.57	27.0	61.5	351	349	
Vert.	17265.000	PK	48.97	41.37	10.54	42.44	-9.54	48.90	-46.32	-27.0	19.3	150	0	Floor noise

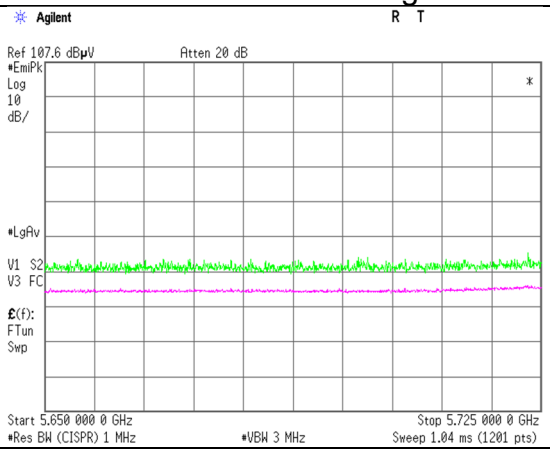
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5755 MHz

Horizontal

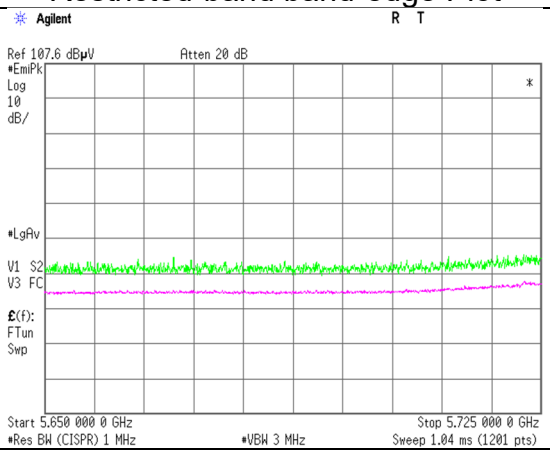
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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	Kashima EMC Lab.				
Semi Anechoic Chamber	No.11	No.11	No.11	No.11	No.11
Date	February 15, 2024	February 8, 2024	February 9, 2024	February 11, 2024	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH	21 deg. C / 40 % RH	20 deg. C / 38 % RH	20 deg. C / 37 % RH	22 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)	Kazuhiro Ando (6.4 GHz to 10 GHz)	Kazuhiro Ando (10 GHz to 18 GHz)	Kazuhiro Ando (18 GHz to 26.5 GHz)	Hiromitsu Tanabe (26.5 GHz to 40 GHz)
Mode	Tx 11n-40 5795 MHz				

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	49.99	38.65	8.43	43.34	-9.54	44.19	73.9	29.7	271	289	
Hori.	11590.000	AV	40.65	38.65	8.43	43.34	-9.54	34.85	53.9	19.0	271	289	VBW:5.6 kHz
Vert.	11590.000	PK	50.35	38.65	8.43	43.34	-9.54	44.55	73.9	29.3	257	301	
Vert.	11590.000	AV	41.18	38.65	8.43	43.34	-9.54	35.38	53.9	18.5	257	301	VBW:5.6 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	50.35	34.18	15.46	45.53	2.26	56.72	-38.50	27.0	65.5	400	52	
Hori.	5855.000	PK	50.27	34.22	15.46	45.52	2.26	56.69	-38.53	15.6	54.1	400	52	
Hori.	5875.000	PK	51.11	34.36	15.48	45.50	2.26	57.71	-37.51	10.0	47.5	400	52	
Hori.	5925.000	PK	51.13	34.65	15.51	45.46	2.26	58.09	-37.13	-27.0	10.1	400	52	
Hori.	17385.000	PK	48.13	41.44	10.61	42.86	-9.54	47.78	-47.44	-27.0	20.4	150	0	Floor noise
Hori.	23180.000	PK	45.22	-3.60	11.04	0.00	-9.54	43.12	-52.10	-27.0	25.1	154	192	*1)
Vert.	5850.000	PK	50.28	34.18	15.46	45.53	2.26	56.65	-38.57	27.0	65.5	367	0	
Vert.	5855.000	PK	50.51	34.22	15.46	45.52	2.26	56.93	-38.29	15.6	53.8	367	0	
Vert.	5875.000	PK	50.92	34.36	15.48	45.50	2.26	57.52	-37.70	10.0	47.7	367	0	
Vert.	5925.000	PK	51.89	34.65	15.51	45.46	2.26	58.85	-36.37	-27.0	**9.3**	367	0	
Vert.	17385.000	PK	49.63	41.44	10.61	42.86	-9.54	49.28	-45.94	-27.0	18.9	150	0	Floor noise
Vert.	23180.000	PK	45.12	-3.60	11.04	0.00	-9.54	43.02	-52.20	-27.0	25.2	159	219	*1)

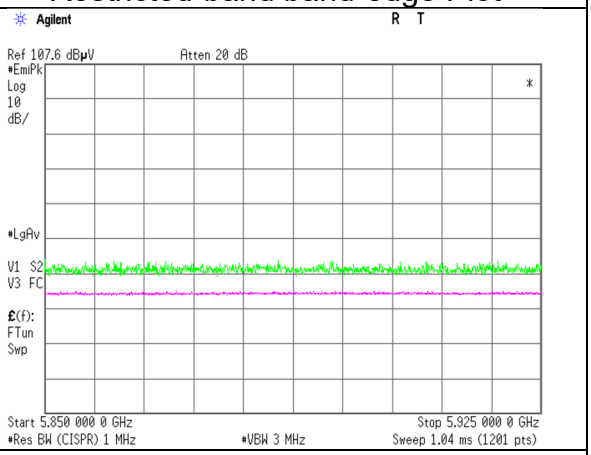
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB
*1) Antenna factor includes amprifier gain

Radiated Spurious Emission

Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 15, 2024
Temperature / Humidity	24 deg. C / 39 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11n-40 5795 MHz

Horizontal

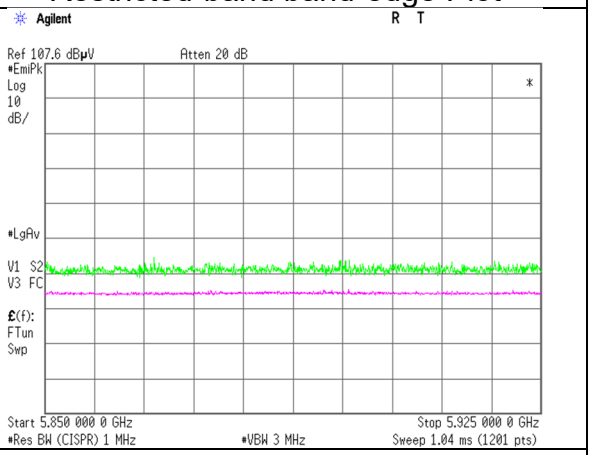
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

* 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

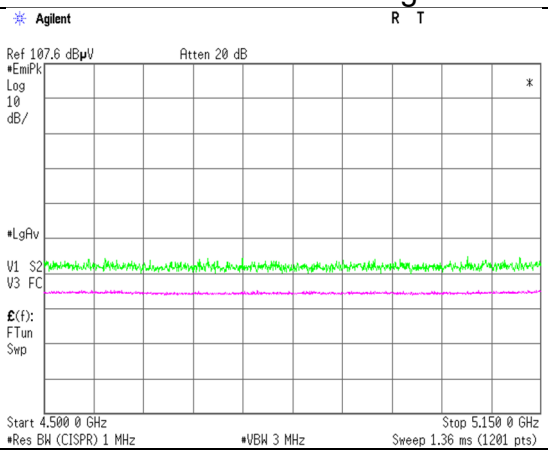
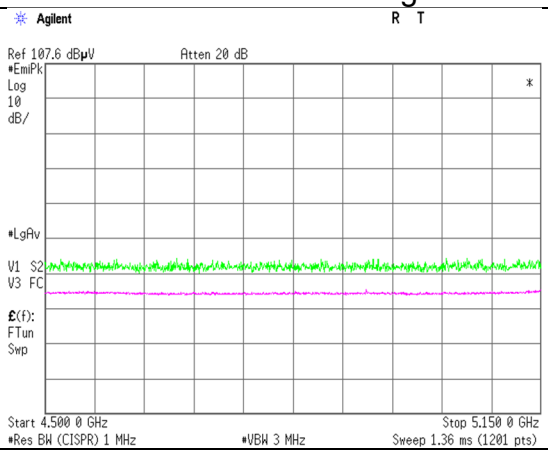
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 16, 2024
Temperature / Humidity	20 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-40 5190 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	52.53	32.60	15.04	45.81	2.26	56.62	73.9	17.2	368	73	
Hori.	5150.000	AV	41.61	32.60	15.04	45.81	2.26	45.70	53.9	**8.2**	368	73	VBW:4.3 kHz
Vert.	5150.000	PK	52.91	32.60	15.04	45.81	2.26	57.00	73.9	16.9	344	0	
Vert.	5150.000	AV	41.58	32.60	15.04	45.81	2.26	45.67	53.9	**8.2**	344	0	VBW:4.3 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

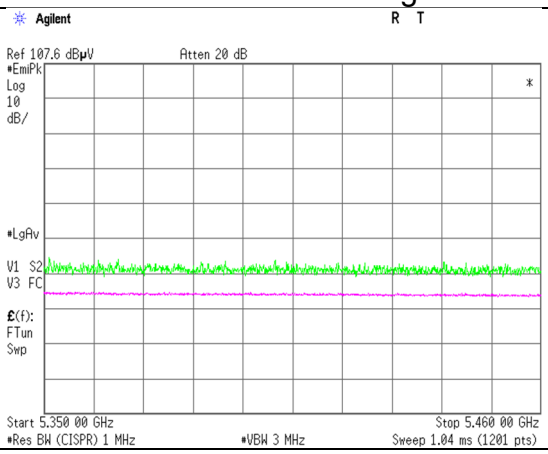
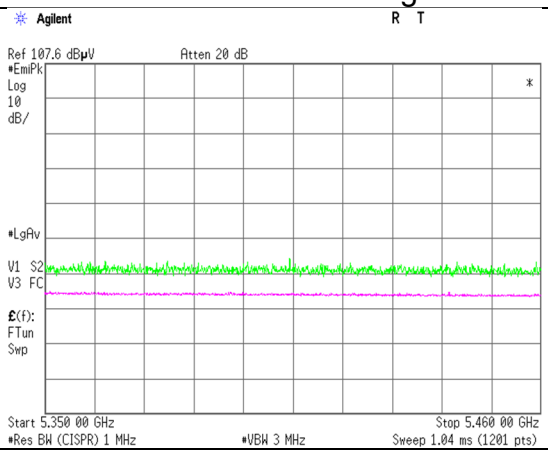
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 16, 2024
Temperature / Humidity	20 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-40 5310 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	51.15	32.99	15.16	45.75	2.26	55.81	73.9	18.0	315	52	
Hori.	5350.000	AV	40.34	32.99	15.16	45.75	2.26	45.00	53.9	8.9	315	52	VBW:4.3 kHz
Vert.	5350.000	PK	51.39	32.99	15.16	45.75	2.26	56.05	73.9	17.8	349	0	
Vert.	5350.000	AV	40.54	32.99	15.16	45.75	2.26	45.20	53.9	**8.7**	349	0	VBW:4.3 kHz

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 16, 2024
Temperature / Humidity	20 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-40 5510 MHz

(above 1 GHz Inside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	51.83	33.14	15.22	45.68	2.26	56.77	73.9	17.1	245	73	
Hori.	5460.000	AV	41.28	33.14	15.22	45.68	2.26	46.22	53.9	**7.6**	245	73	VBW:4.3 kHz
Vert.	5460.000	PK	51.58	33.14	15.22	45.68	2.26	56.52	73.9	17.3	364	0	
Vert.	5460.000	AV	41.36	33.14	15.22	45.68	2.26	46.30	53.9	**7.6**	364	0	VBW:4.3 kHz

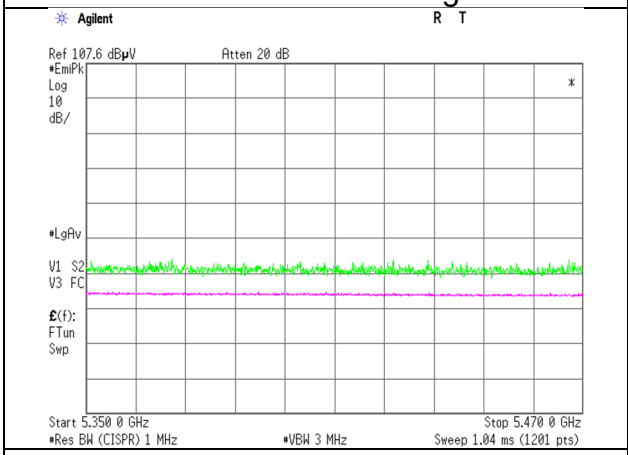
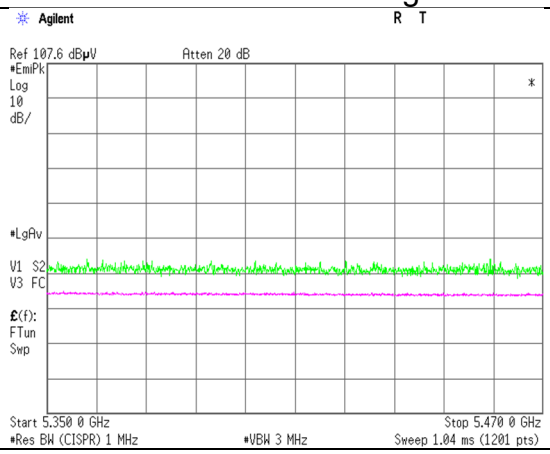
Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	51.94	33.17	15.23	45.68	2.26	56.92	-38.30	-27.0	11.3	245	73	
Vert.	5470.000	PK	51.78	33.17	15.23	45.68	2.26	56.76	-38.46	-27.0	11.4	364	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

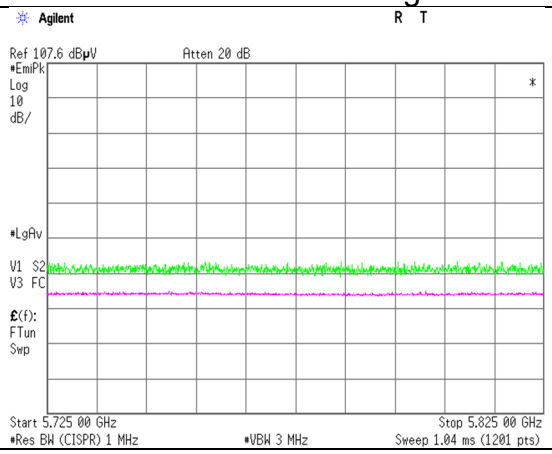
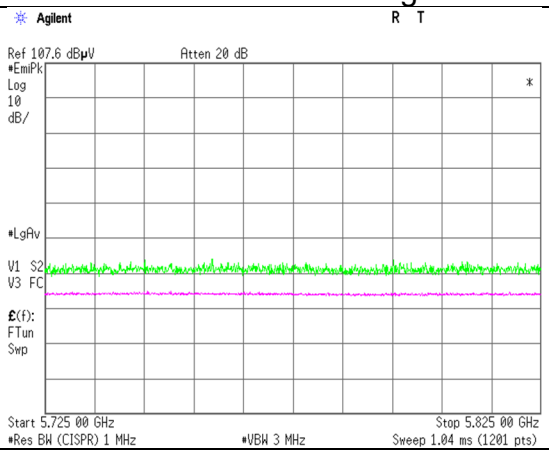
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 16, 2024
Temperature / Humidity	20 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-40 5670 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	51.56	33.64	15.39	45.70	2.26	57.15	-38.07	-27.0	11.0	275	81	
Vert.	5725.000	PK	53.07	33.64	15.39	45.70	2.26	58.66	-36.56	-27.0	**9.5**	310	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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

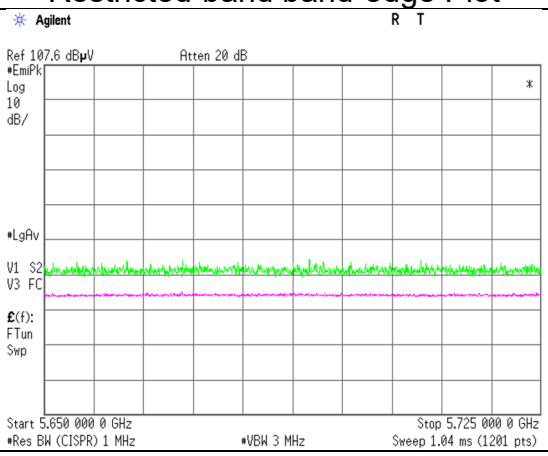
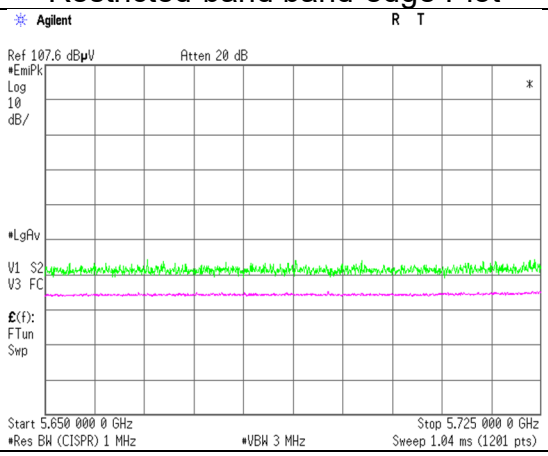
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.11
Date	February 16, 2024
Temperature / Humidity	20 deg. C / 40 % RH
Engineer	Hiromitsu Tanabe (1 GHz to 6.4 GHz)
Mode	Tx 11ac-40 5755 MHz

(Calculation) (above 1 GHz Outside of the restricted band)

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	52.37	33.39	15.34	45.73	2.26	57.63	-37.59	-27.0	**10.5**	339	87	
Hori.	5700.000	PK	52.01	33.53	15.37	45.72	2.26	57.45	-37.77	10.0	47.7	339	87	
Hori.	5720.000	PK	51.80	33.61	15.38	45.70	2.26	57.35	-37.87	15.6	53.4	339	87	
Hori.	5725.000	PK	51.71	33.64	15.39	45.70	2.26	57.30	-37.92	27.0	64.9	339	87	
Vert.	5650.000	PK	51.64	33.39	15.34	45.73	2.26	56.90	-38.32	-27.0	11.3	369	0	
Vert.	5700.000	PK	51.86	33.53	15.37	45.72	2.26	57.30	-37.92	10.0	47.9	369	0	
Vert.	5720.000	PK	52.47	33.61	15.38	45.70	2.26	58.02	-37.20	15.6	52.8	369	0	
Vert.	5725.000	PK	51.76	33.64	15.39	45.70	2.26	57.35	-37.87	27.0	64.8	369	0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).
Distance factor : 1 GHz - 10 GHz : 20log (3.89 m / 3.0 m) = 2.26 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Horizontal	Vertical
Restricted-band band-edge Plot	Restricted-band band-edge Plot
	
Trace Green: Peak Plot Trace Purple: Average Plot	Trace Green: Peak Plot Trace Purple: Average Plot

* 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.