







RADIO TEST REPORT

Test Report No. 14178415H-C-R1

Customer	silex technology, Inc.
Description of EUT	Embedded Wireless Module
Model Number of EUT	SX-USBAC
FCC ID	N6C-USBAC
Test Regulation	FCC Part 15 Subpart E
Test Result	Complied (Refer to SECTION 3)
Issue Date	June 14, 2022
Remarks	* WLAN (5 GHz band) part * Maximum Conducted Output Power and Radiated Spurious Emission tests only * For Permissive Change

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

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- The all test items in this test report are conducted by UL Japan, Inc. Ise EMC Lab.
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- The information provided from the applicant for this report is identified in Section 1.
- For test report(s) referred in this report, the latest version (including any revisions) is always referred.

REVISION HISTORY

Original Test Report No.: 14178415H-C

This report is a revised version of 14178415H-C. 14178415H-C is replaced with this report.

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	14178415H-C	May 30, 2022	-
1	14178415H-C-R1	June 14, 2022	-Section2.2: Radio Specification Correction of Type of Modulation for WLAN 5 GHz band. DSSS, OFDM → OFDM
1	14178415H-C-R1	June 14, 2022	-Section 3.2: Procedures and Results Correction of FCC Part 15.203/212 Antenna requirement. The EUT has an external antenna connector, but it is installed by the professionals. → The EUT has a unique coupling/antenna connector (MHF).
1	14178415H-C-R1	June 14, 2022	P33, 52 Correction of test data. Limit (QP/ PK) of 22000.0 MHz: 73.9 → 68.2 Limit (AV) of 22000.0 MHz: 53.9 → -

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	silex technology, Inc.
Address	2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto 619-0237, Japan
Telephone Number	+81-774-98-3878
Contact Person	Yoshinori Nakai

The information provided from 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
- * The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

SECTION 2: Equipment Under Test (EUT)

2.1 Identification of EUT

Description	Embedded Wireless Module
Model Number	SX-USBAC
Serial Number	Refer to SECTION 4.2
Condition	Production model
Modification	No Modification by the test lab
Receipt Date	January 25, 2022
Test Date	April 10 to 24, 2022

2.2 Product Description

General Specification

Rating	Typ: DC 3.3 V (Min: DC 3.14 V to Max: DC 3.46 V)
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Radio Specification

WLAN (IEEE802.11b/11g/11n-20/11n-40)

Equipment Type	Transceiver	
Frequency of Operation	20 MHz Band:	2412 MHz to 2462 MHz
	40 MHz Band:	2422 MHz to 2452 MHz
Type of Modulation	DSSS, OFDM	
Antenna Type	PCB antenna	
Antenna Gain:	3.25 dBi	

Bluetooth (BR / EDR / Low Energy)

Equipment Type	Transceiver	
Frequency of Operation	2402 MHz to 2480 MHz	
Type of Modulation	BT: FHSS (GFSK, $\pi/4$ DQPSK, 8 DPSK) BT LE: GFSK	
Antenna Type	PCB antenna	
Antenna Gain	3.25 dBi	

WLAN (IEEE802.11a/11n-20/11ac-20/11n-40/11ac-40/11ac-80) *1)

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	PCB antenna	
Antenna Gain:	5.0 dBi	

*1) This test report applies to Wireless LAN (5GHz Band).

SECTION 3: Test specification, Procedures & Results

3.1 Test Specification

Test Specification	FCC Part 15 Subpart E FCC Part 15 final revised on April 1, 2022 and effective May 2, 2022
Title	FCC 47 CFR Part 15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements

* The revision does not affect the test result conducted before its effective date.

3.2 Procedures and Results

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
Maximum Conducted Output Power	FCC: KDB Publication Number 789033	FCC: 15.407 (a) (1) (2) (3)	See data	Complied a)	Conducted
	ISED: -	ISED: RSS-247 6.2.1.1 6.2.2.1 6.2.3.1 6.2.4.1			
Spurious Emission Restricted Band Edge	FCC: ANSI C63.10-2013 KDB Publication Number 789033	FCC: 15.407 (b), 15.205 and 15.209	0.3 dB 5350.0 MHz, AV, Vert.	Complied# b)	Radiated (> 30 MHz) *1)
	ISED: -	ISED: RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.2			
	ISED: -	ISED: RSS-247 6.2.4.1			

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).

a) Refer to APPENDIX 1 (data of Maximum Conducted Output Power)
b) Refer to APPENDIX 1 (data of Radiated Spurious Emission)

Symbols:
Complied The data of this test item has enough margin, more than the measurement uncertainty.
Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration

FCC Part 15.31 (e)

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

FCC Part 15.203/212 Antenna requirement

The EUT has a unique coupling/antenna connector (MHF).
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

There is no applicable rule of uncertainty in this applied standard. Therefore, the following results are derived depending on whether or not laboratory uncertainty is applied.

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	
10 m		3.0 dB	
3 m	30 MHz to 200 MHz	(Horizontal)	4.8 dB
		(Vertical)	5.0 dB
	200 MHz to 1000 MHz	(Horizontal)	5.1 dB
		(Vertical)	6.2 dB
10 m	30 MHz to 200 MHz	(Horizontal)	4.8 dB
		(Vertical)	4.8 dB
	200 MHz to 1000 MHz	(Horizontal)	5.0 dB
		(Vertical)	5.0 dB
3 m	1 GHz to 6 GHz	4.9 dB	
	6 GHz to 18 GHz	5.2 dB	
1 m	10 GHz to 26.5 GHz	5.4 dB	
	26.5 GHz to 40 GHz	5.4 dB	
0.5 m	26.5 GHz to 40 GHz	5.4 dB	
10 m	1 GHz to 18 GHz	5.4 dB	

Antenna Terminal test

Test Item	Uncertainty (+/-)
26 dB Emission Bandwidth / 6 dB Emission Bandwidth / 99 % Occupied Bandwidth	0.96 %
Maximum Conducted Output Power / Average Output Power	1.5 dB
Burst Rate	0.10 %
Maximum Power Spectral Density	2.7 dB
Conducted Spurious Emission	2.7 dB

3.5 Test Location

UL Japan, Inc. Ise EMC Lab.

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

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

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

Telephone: +81-596-24-8999

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

3.6 Test Data, Test Instruments, and Test Set Up

Refer to APPENDIX.

SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

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.

Mode	Remarks*
IEEE 802.11a (11a)	12 Mbps, PN9
IEEE 802.11n 20MHz BW (11n-20)	MCS 2, PN9
IEEE 802.11ac 20MHz BW (11ac-20)	MCS 2, PN9
IEEE 802.11n 40MHz BW (11n-40)	MCS 2, PN9
IEEE 802.11ac 40MHz BW (11ac-40)	MCS 2, PN9
IEEE 802.11ac 80MHz BW (11ac-80)	MCS 2, PN9
*The worst 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 settings: Refer to the following table Software: QRCT Ver 4.0.00132.0 (Date: May 21, 2019, 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.	

[Power setting]

	Rate	Ch	Frequency	Power Setting [dBm]
11a	12 Mbps	36	5180 MHz	10.5
		40	5200 MHz	11.5
		52	5260 MHz	11.5
		60	5300 MHz	11.5
		64	5320 MHz	10
		100	5500 MHz	9.5
		116	5580 MHz	9.5
		140	5700 MHz	10
		149	5745 MHz	10.5
		157	5785 MHz	10.5
		165	5825 MHz	10.5
11n-20/ 11ac-20	MCS 2	36	5180 MHz	11
		40	5200 MHz	13
		52	5260 MHz	13
		60	5300 MHz	13
		64	5320 MHz	10.5
		100	5500 MHz	10
		116	5580 MHz	10
		140	5700 MHz	10.5
		149	5745 MHz	11
		157	5785 MHz	11
		165	5825 MHz	11
11n-40/ 11ac-40	MCS 2	38	5190 MHz	9.5
		46	5230 MHz	12
		54	5270 MHz	12
		62	5310 MHz	9.5
		110	5550 MHz	10.5
		134	5670 MHz	10.5
		151	5755 MHz	10
		159	5795 MHz	10
11ac-80	MCS 2	42	5210 MHz	9.5
		58	5290 MHz	9.5
		106	5530 MHz	10
		122	5610 MHz	11.5
		155	5775 MHz	11.5

*The details of Operation mode(s)

Test Item	Operating Mode	Tested Frequency			
		Lower Band	Middle Band	Additional Band	Upper Band
Radiated Spurious Emission (Below 1 GHz)	Tx 11ac-20 *1)	-	5300 MHz	-	-
Maximum Conducted Output Power	11n-40 Tx 11ac-40 Tx *2)	-	5310 MHz	-	-
Radiated Spurious Emission (Above 1 GHz)	11a Tx	5180 MHz	5260 MHz	5500 MHz	5745 MHz
	11ac-20 Tx *3) *4)	5200 MHz	5300 MHz	5580 MHz	5785 MHz
	11ac-40 Tx *3) *4)	5190 MHz	5270 MHz	5510 MHz	5755 MHz
		5230 MHz	5310 MHz	5550 MHz	5795 MHz
11ac-80 Tx	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) Since only these modes have a change in the power setting value from the original report, the test was performed again.
 *3) Since each of 20 MHz BW (11n-20 /11ac-20) and 40 MHz BW (11n-40 /11ac-40) have the same modulation method and no differences in transmitting specification, the test was performed on the representative mode that had the highest output power.
 *4) For the U-NII-2C high channels including straddle channels, the test was conducted on the mode that had higher output power.

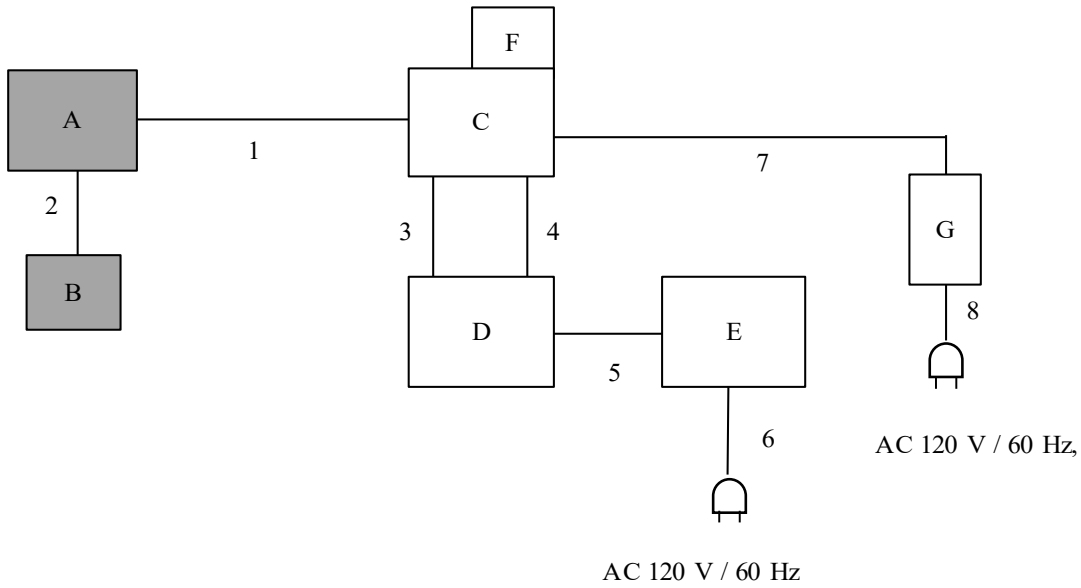
Simultaneous transmission

(Simultaneously transmits Bluetooth (BR / EDR) and Wireless LAN 5 GHz band on a single antenna.)

Test Item	Mode
Radiated Spurious Emission	Tx 11ac-20, 5300MHz *1) + 3DH5, 2480 MHz *1) Tx 11ac-80, 5210MHz *2) + 3DH5, 2480 MHz *1)

*1) This is the highest power mode at maximum output power test of Wireless LAN 5 GHz band and Bluetooth (BR / EDR).
 *2) This is the worst margin mode at radiated spurious emission test for Non-simultaneous transmission of Wireless LAN 5 GHz band.
 * The test was performed with a combination of the representative mode of *1) and *2).
 ** Wireless LAN 2.4 GHz and Bluetooth do not transmit simultaneously.

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	Module	SX-USBAC	BB4BC2	silex technology, Inc.	EUT
B	PCB Antenna	146153	-	Molex	EUT
C	Jig board	MCIMX6SX-SDB	SX07042	NXP	-
D	Laptop PC	Latitude 5590	HSLHST2	DELL	-
E	AC Adaptor	LA90PM130	CN-50GT3K-LOC00-8AF-4EB6-A02	DELL	-
F	SD card	SDSDUN-008G-J01	SX05150	SanDisk	-
G	AC Adaptor	ATS036T-A050	SX04648	Sceptre	-

List of Cables Used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	USB Cable	1.8	Shielded	Shielded	-
2	Antenna Cable	0.1	Shielded	Shielded	-
3	LAN Cable	3.0	Unshielded	Unshielded	-
4	USB Cable	0.9	Shielded	Shielded	-
5	DC Cable	1.8	Unshielded	Unshielded	-
6	AC Cable	0.9	Unshielded	Unshielded	-
7	DC Cable	1.0	Unshielded	Unshielded	-
8	AC Cable	1.8	Unshielded	Unshielded	-

SECTION 5: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1GHz >

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

< Above 1GHz >

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.

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.

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 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 1GHz >

The result also satisfied with the general limits specified in section 15.209 (a).

< Above 1GHz >

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 W58 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:

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

Test Antennas are used as below;

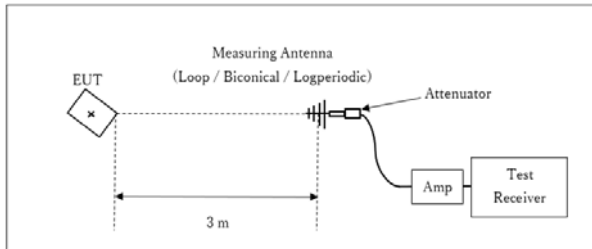
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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 Detector: Peak Averaging (RMS) Trace: 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

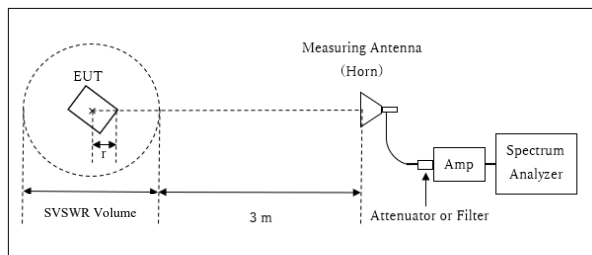
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz to 10 GHz

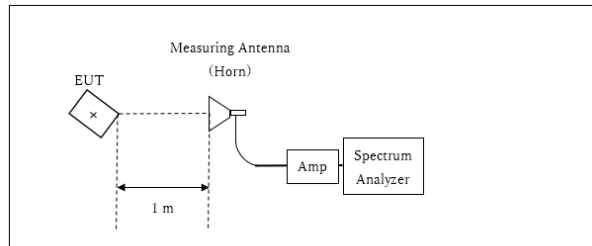


r : Radius of an outer periphery of EUT
× : Center of turn table

Distance Factor: $20 \times \log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$
* Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 3.95 \text{ m}$

SVSWR Volume : 2.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 0.05 m

10 GHz to 40 GHz



× : Center of turn table

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

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

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

Measurement Range : 30 MHz to 40 GHz
Test Data : APPENDIX
Test Result : Pass

SECTION 6: Antenna Terminal Conducted Tests

Test Procedure

The tests were made with below setting connected to the antenna port.

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
Maximum Conducted Output Power	-	-	-	Auto	Average	-	Power Meter (Sensor: 80 MHz BW) (Method PM)

* 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".

The test results and limit are rounded off to two decimals place, so some differences might be observed.
The equipment and cables were not used for factor 0 dB of the data sheets.

Test Data : **APPENDIX**
Test Result : **Pass**

APPENDIX 1: Test Data

Maximum Conducted Output Power

Test place Ise EMC Lab. No.4 Measurement Room
 Date April 24, 2022
 Temperature / Humidity 20 deg. C / 50 % RH
 Engineer Yuta Moriya
 Mode Tx 11n-40

11n-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for 1C) [MHz]	Conducted Power			e.i.r.p.				
								Result [dBm]	Limit [dBm]	Margin [dB]	Result [dBm]	Limit [dBm]	Margin [dB]		
5310	-1.07	0.99	9.59	1.68	5.0	39.206	35.860	11.19	13.15	23.97	12.78	16.19	41.59	29.97	13.78

Sample Calculation:

Conducted Power Result = Reading + Cable Loss + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

*The values of 26 dB EBW and 99% OBW are refer to 13521383H-C-R1.

Maximum Conducted Output Power

Test place	Ise EMC Lab. No.4 Measurement Room
Date	April 24, 2022
Temperature / Humidity	20 deg. C / 50 % RH
Engineer	Yuta Moriya
Mode	Tx 11ac-40

11ac-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99% OBW (B for IC) [MHz]	Conducted Power			e.i.r.p.				
								Result [dBm]	Limit [dBm]	Margin [dB]	Result [dBm]	Limit [dBm]	Margin [dB]		
5310	-1.08	0.99	9.59	1.74	5.0	41.272	35.885	11.24	13.30	23.97	12.73	16.24	42.07	29.97	13.73

Sample Calculation:

Conducted Power Result = Reading + Cable Loss + Atten. Loss + Duty Factor

e.i.r.p. Result = Conducted Power Result + Antenna Gain

Conducted Power Limit (5250 MHz-5350 MHz, 5470 MHz-5725 MHz) = 250 mW or (11 + 10logB) dBm, whichever is lower

Conducted Power Limit (5725 MHz-5850 MHz) = 1W

*The values of 26 dB EBW and 99% OBW are refer to 13521383H-C-R1.

Average Output Power
(Reference data for RF Exposure)

Test place Ise EMC Lab. No.4 Measurement Room
Date April 24, 2022
Temperature / Humidity 20 deg. C / 50 % RH
Engineer Yuta Moriya
Mode Tx 11n-40

11n-40

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5310	-0.32	0.99	9.59	10.26	10.62

Sample Calculation:

Result (Timed average) = Reading + Cable Loss + Atten. Loss

The average output power was measured with the lowest order modulation and lowest data rate configuration in each IEEE 802.11 mode based on KDB 248227 D01.

Average Output Power
(Reference data for RF Exposure)

Test place Ise EMC Lab. No.4 Measurement Room
Date April 24, 2022
Temperature / Humidity 20 deg. C / 50 % RH
Engineer Yuta Moriya
Mode Tx 11ac-40

11ac-40

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Result (Timed average)	
				[dBm]	[mW]
5310	-0.33	0.99	9.59	10.25	10.59

Sample Calculation:

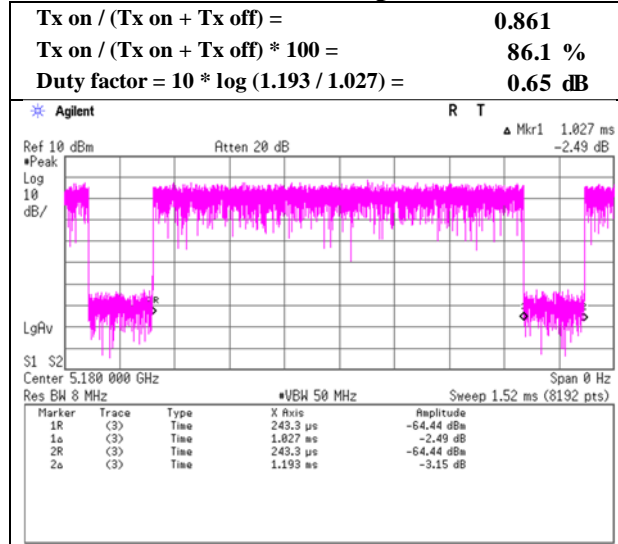
$$\text{Result (Timed average)} = \text{Reading} + \text{Cable Loss} + \text{Atten. Loss}$$

The average output power was measured with the lowest order modulation and lowest data rate configuration in each IEEE 802.11 mode based on KDB 248227 D01.

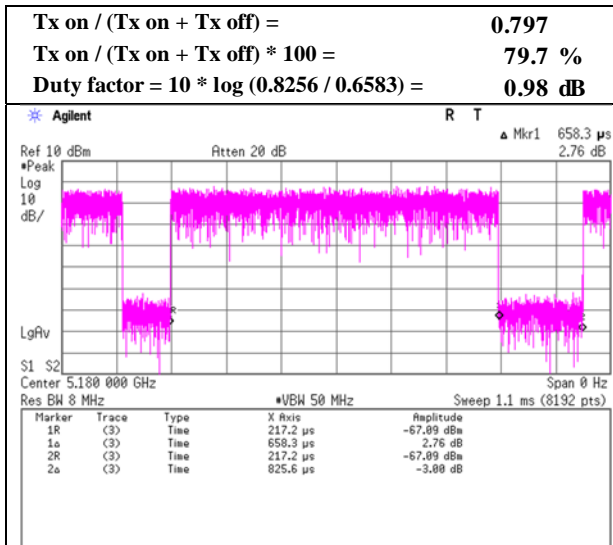
Burst rate confirmation

Test place Ise EMC Lab. No.4 Semi Anechoic Chamber
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
Mode Tx

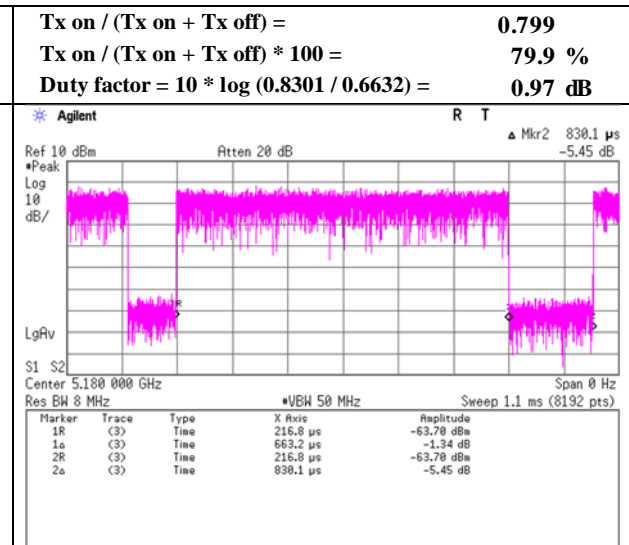
11a 12 Mbps



11n-20 MCS 2



11ac-20 MCS 2

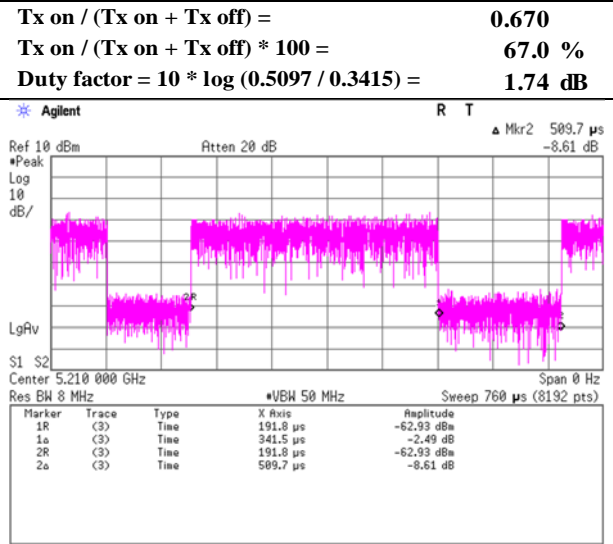
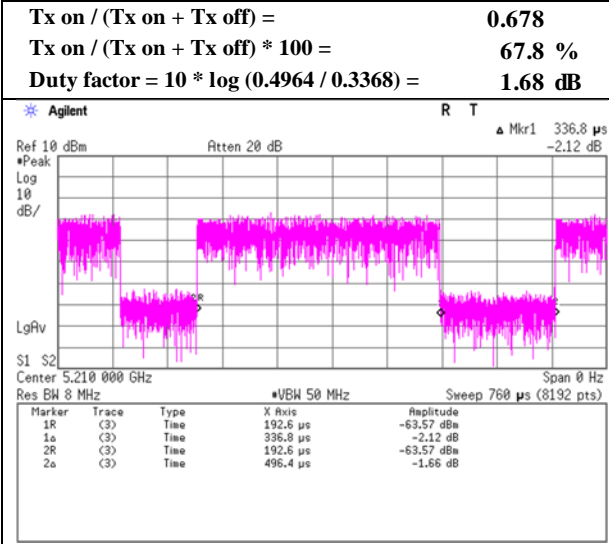


Burst rate confirmation

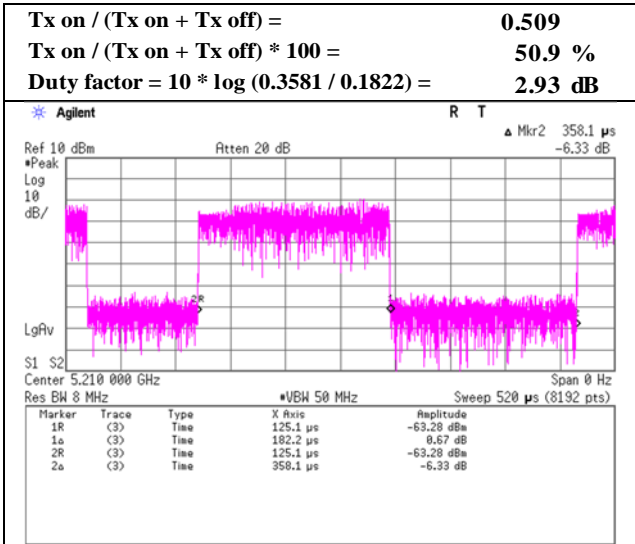
Test place Ise EMC Lab. No.4 Semi Anechoic Chamber
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
Mode Tx

11n-40 MCS 2

11ac-40 MCS 2



11ac-80 MCS 2



Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 10, 2022	April 12, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	20 deg. C / 45 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Sayaka Hara (1 GHz - 10 GHz)	Kiyoshiro Okazaki (10 GHz - 18 GHz)	Nachi Konegawa (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5180 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	59.5	37.7	32.2	5.9	30.9	-	66.9	45.0	73.9	53.9	7.1	8.9	
Hori.	10360.0	47.3	-	39.7	-2.5	32.5	-	52.0	-	68.2	-	16.2	-	
Hori.	15540.0	44.0	35.5	38.0	-1.2	32.2	-	48.6	40.1	73.9	53.9	25.4	13.8	Floor noise
Hori.	20720.0	49.1	42.5	38.0	-0.4	33.3	-	53.3	46.7	73.9	53.9	20.6	7.2	
Vert.	5150.0	61.7	38.8	32.2	5.9	30.9	-	69.0	46.1	73.9	53.9	4.9	7.8	
Vert.	10360.0	47.6	-	39.7	-2.5	32.5	-	52.3	-	68.2	-	16.0	-	
Vert.	15540.0	43.0	35.1	38.0	-1.2	32.2	-	47.5	39.7	73.9	53.9	26.4	14.3	Floor noise
Vert.	20720.0	48.1	42.1	38.0	-0.4	33.3	-	52.4	46.3	73.9	53.9	21.5	7.6	

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

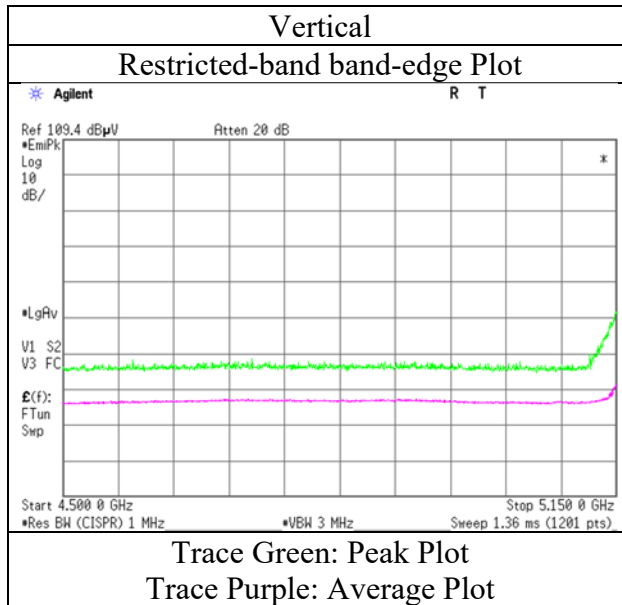
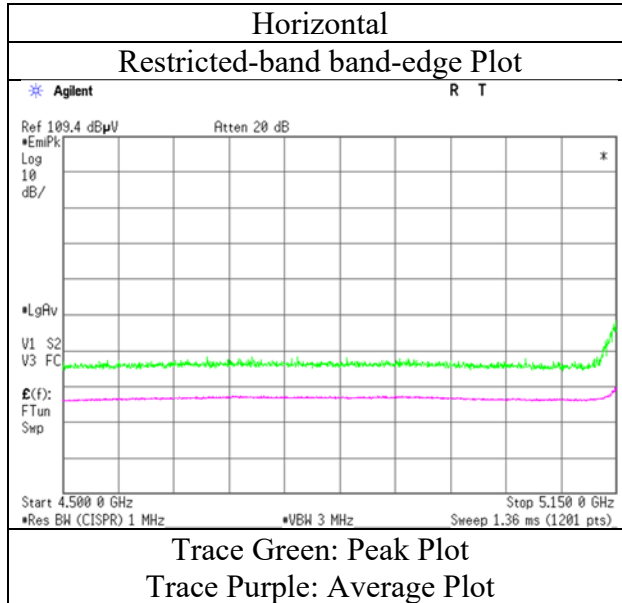
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
 (1 GHz - 10 GHz)
Mode Tx 11a 5180 MHz



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

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
 (1 GHz - 10 GHz)
Mode Tx 11a 5200 MHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	53.7	33.1	32.2	5.9	30.9	-	61.0	40.4	73.9	53.9	12.9	13.5	
Vert.	5150.0	54.7	34.0	32.2	5.9	30.9	-	62.0	41.4	73.9	53.9	11.9	12.6	

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

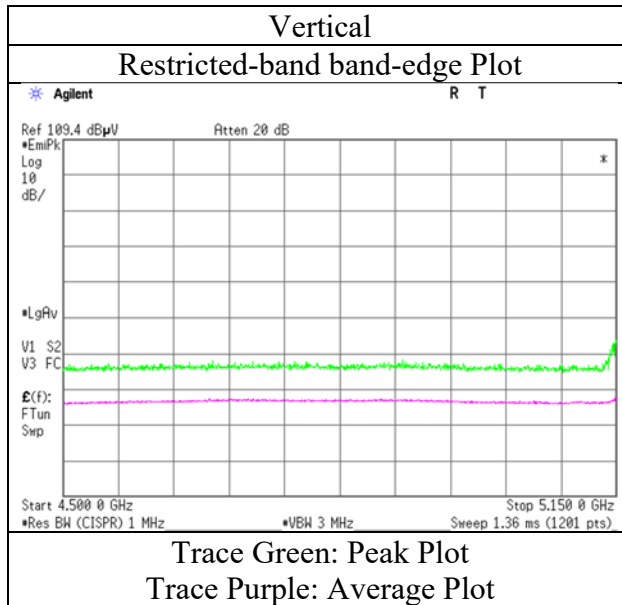
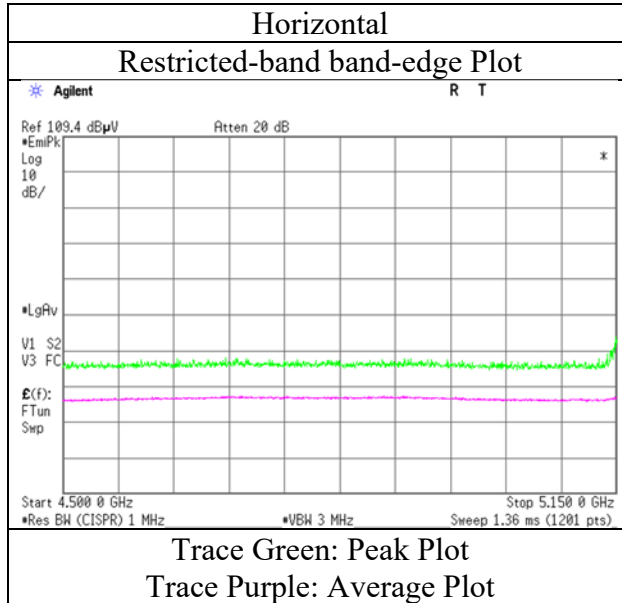
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log(3.95 m / 3.0 m) = 2.39 dB

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
 (1 GHz - 10 GHz)
Mode Tx 11a 5200 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 10, 2022	April 12, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	20 deg. C / 45 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Sayaka Hara (1 GHz - 10 GHz)	Kiyoshiro Okazaki (10 GHz - 18 GHz)	Nachi Konegawa (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5260 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	10520.0	45.8	-	39.7	-2.4	32.6	-	50.6	-	68.2	-	17.7	-	
Hori.	15780.0	43.1	35.0	37.8	-1.2	32.3	-	47.4	39.3	73.9	53.9	26.5	14.6	Floor noise
Hori.	21040.0	47.3	40.0	38.2	-0.3	33.4	-	51.7	44.5	73.9	53.9	22.2	9.4	
Vert.	10520.0	46.2	-	39.7	-2.4	32.6	-	50.9	-	68.2	-	17.3	-	
Vert.	15780.0	43.8	35.2	37.8	-1.2	32.3	-	48.1	39.5	73.9	53.9	25.8	14.4	Floor noise
Vert.	21040.0	47.9	40.3	38.2	-0.3	33.4	-	52.3	44.8	73.9	53.9	21.6	9.1	

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
 (1 GHz - 10 GHz)
Mode Tx 11a 5300 MHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	51.8	32.9	31.8	6.0	30.9	-	58.7	39.9	73.9	53.9	15.2	14.1	
Vert.	5350.0	53.4	34.6	31.8	6.0	30.9	-	60.3	41.5	73.9	53.9	13.6	12.4	

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

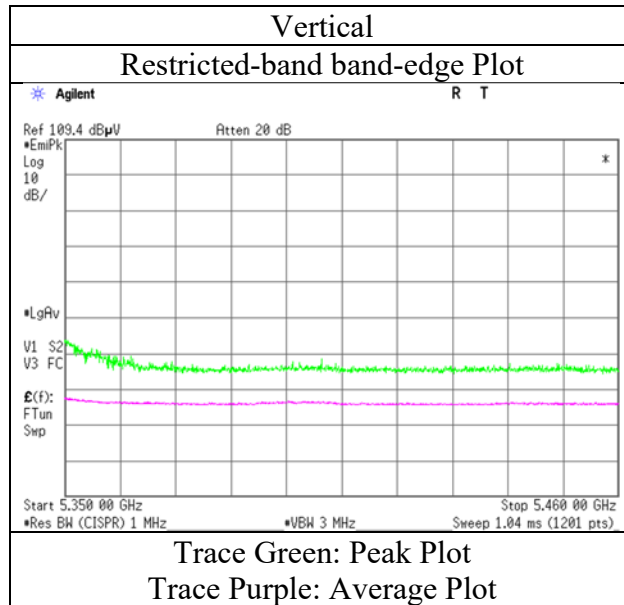
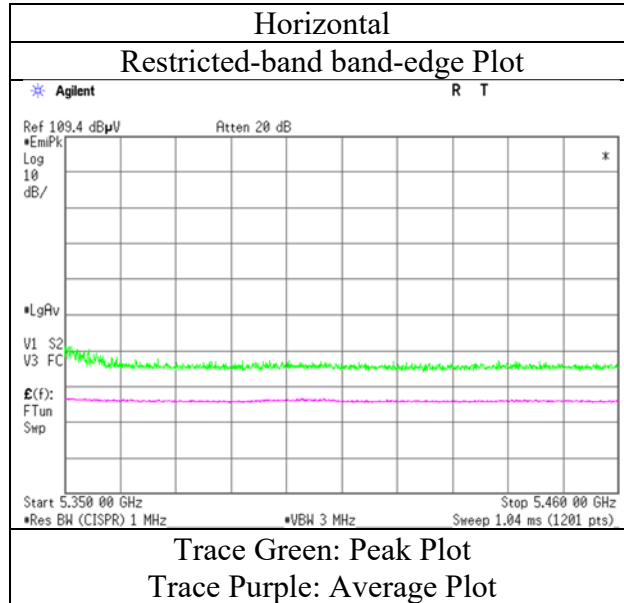
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 10, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Sayaka Hara
 (1 GHz - 10 GHz)
Mode Tx 11a 5300 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 10, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	21 deg. C / 59 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Sayaka Hara (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Nachi Konegawa (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5320 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	58.9	36.7	31.8	6.0	30.9	-	65.8	43.7	73.9	53.9	8.1	10.3	
Hori.	10640.0	46.4	38.2	39.7	-2.4	32.6	-	51.1	42.9	73.9	53.9	22.8	11.1	
Hori.	15960.0	42.6	33.3	37.9	-1.2	32.3	-	47.0	37.7	73.9	53.9	26.9	16.2	Floor noise
Hori.	21280.0	46.6	39.2	38.2	-0.3	33.3	-	51.2	43.8	73.9	53.9	22.7	10.1	
Vert.	5350.0	62.1	40.6	31.8	6.0	30.9	-	69.0	47.5	73.9	53.9	4.9	6.4	
Vert.	10640.0	46.8	39.2	39.7	-2.4	32.6	-	51.4	43.9	73.9	53.9	22.5	10.0	
Vert.	15960.0	42.9	33.3	37.9	-1.2	32.3	-	47.3	37.7	73.9	53.9	26.6	16.2	Floor noise
Vert.	21280.0	46.9	39.4	38.2	-0.3	33.3	-	51.6	44.1	73.9	53.9	22.4	9.8	

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

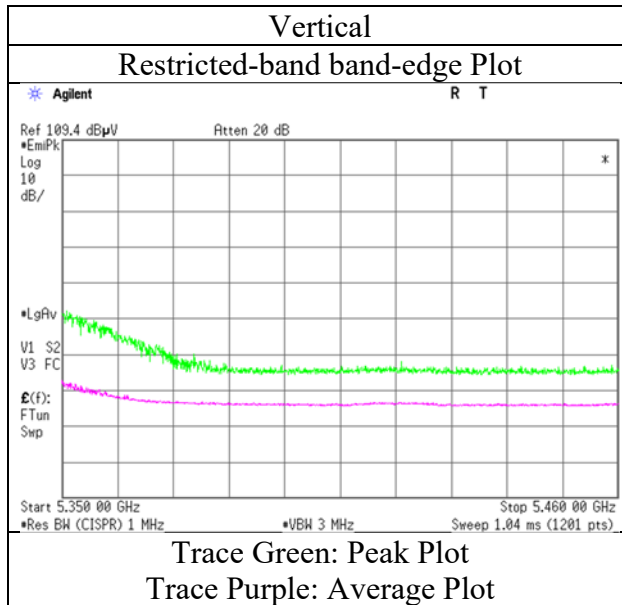
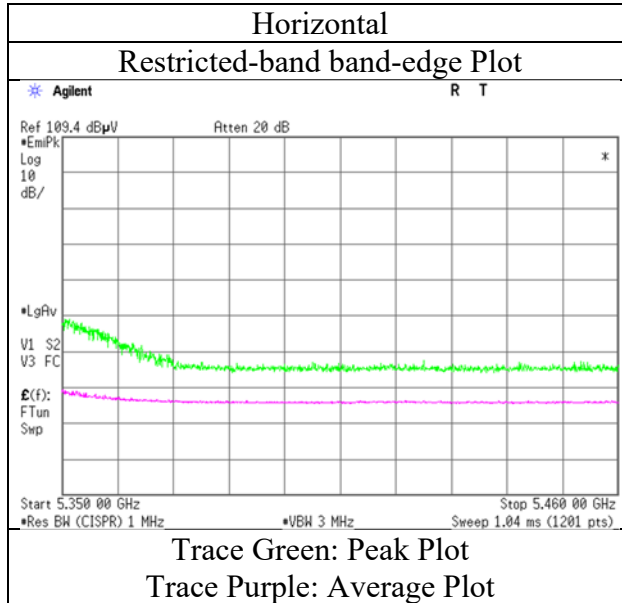
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$
 10 GHz - 40 GHz $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 10, 2022
Temperature / Humidity	23 deg. C / 33 % RH
Engineer	Sayaka Hara (1 GHz - 10 GHz)
Mode	Tx 11a 5320 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno	Nachi Konegawa	Nachi Konegawa	Kouki Yamada
Mode	(1 GHz - 10 GHz) Tx 11a 5500 MHz	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3666.7	44.5	37.1	29.2	5.3	31.2	-	47.8	40.4	73.9	53.9	26.1	13.5	
Hori.	5460.0	54.1	33.2	32.0	5.9	30.9	-	61.2	40.3	68.2	53.9	7.0	13.6	
Hori.	5470.0	48.8	-	32.1	6.1	30.9	-	56.0	-	68.2	-	12.2	-	*1)
Hori.	11000.0	43.3	33.8	39.9	-2.3	32.7	-	48.2	38.7	73.9	53.9	25.7	15.2	
Hori.	16500.0	44.0	-	39.5	-1.0	32.2	-	50.2	-	68.2	-	18.0	-	Floor noise
Hori.	22000.0	46.8	-	38.2	-0.1	33.0	-	51.9	-	68.2	-	16.3	-	
Vert.	3666.7	44.2	36.8	29.2	5.3	31.2	-	47.4	40.1	73.9	53.9	26.5	13.8	
Vert.	5460.0	56.9	34.9	32.0	5.9	30.9	-	63.9	42.0	68.2	53.9	4.3	11.9	
Vert.	5470.0	53.0	-	32.1	6.1	30.9	-	60.2	-	68.2	-	8.0	-	*1)
Vert.	11000.0	44.4	35.6	39.9	-2.3	32.7	-	49.3	40.5	73.9	53.9	24.6	13.4	
Vert.	16500.0	44.0	-	39.5	-1.0	32.2	-	50.2	-	68.2	-	18.0	-	Floor noise
Vert.	22000.0	47.3	-	38.2	-0.1	33.0	-	52.4	-	68.2	-	15.8	-	

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

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

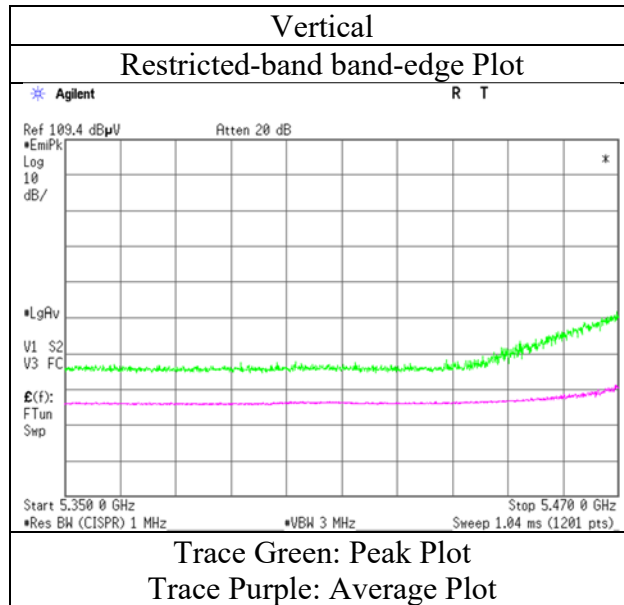
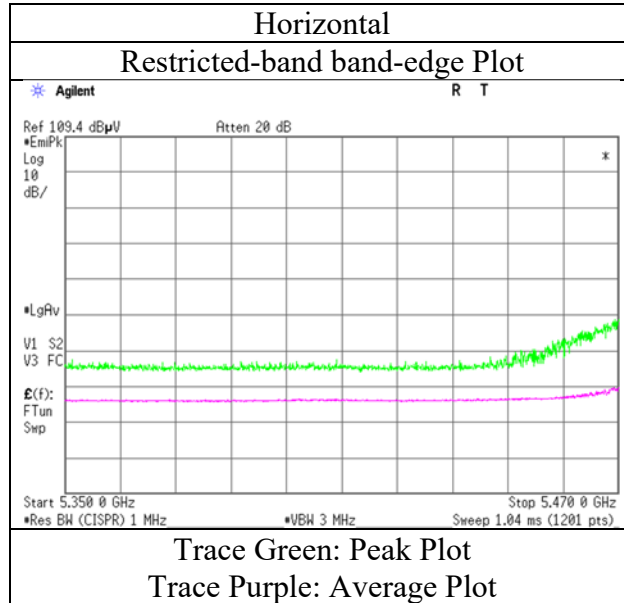
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)
Mode	Tx 11a 5500 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	21 deg. C / 59 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Nachi Konegawa (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5580 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3720.0	43.5	38.7	29.3	5.4	31.1	-	47.0	42.2	73.9	53.9	26.9	11.7	
Hori.	11160.0	45.3	36.1	39.7	-2.3	32.7	-	50.0	40.8	73.9	53.9	23.9	13.1	
Hori.	16740.0	42.5	-	40.2	-0.9	32.2	-	49.6	-	68.2	-	18.6	-	Floor noise
Hori.	22320.0	46.2	38.3	38.3	0.0	33.0	-	51.6	43.6	73.9	53.9	22.4	10.3	
Vert.	3720.0	45.0	39.0	29.3	5.4	31.1	-	48.5	42.5	73.9	53.9	25.4	11.4	
Vert.	11160.0	44.2	34.5	39.7	-2.3	32.7	-	48.9	39.2	73.9	53.9	25.0	14.7	
Vert.	16740.0	42.7	-	40.2	-0.9	32.2	-	49.7	-	68.2	-	18.5	-	Floor noise
Vert.	22320.0	47.1	38.6	38.3	0.0	33.0	-	52.5	43.9	73.9	53.9	21.4	10.0	

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

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

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 59 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno	Nachi Konegawa	Nachi Konegawa	Kouki Yamada
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11a 5700 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3800.0	45.2	40.3	29.5	5.3	31.1	-	48.8	44.0	73.9	53.9	25.1	9.9	
Hori.	5725.0	50.6	-	32.4	6.1	31.0	-	58.1	-	68.2	-	10.1	-	*1)
Hori.	11400.0	44.2	34.9	39.9	-2.3	32.6	-	49.2	39.9	73.9	53.9	24.7	14.0	
Hori.	17100.0	43.7	-	41.0	-0.8	32.1	-	51.8	-	68.2	-	16.4	-	Floor noise
Hori.	22800.0	46.3	38.7	38.5	0.1	32.9	-	52.0	44.5	73.9	53.9	21.9	9.5	
Vert.	3800.0	45.8	41.4	29.5	5.3	31.1	-	49.5	45.0	73.9	53.9	24.5	8.9	
Vert.	5725.0	54.2	-	32.4	6.1	31.0	-	61.7	-	68.2	-	6.5	-	*1)
Vert.	11400.0	45.0	36.1	39.9	-2.3	32.6	-	50.0	41.1	73.9	53.9	23.9	12.8	
Vert.	17100.0	43.8	-	41.0	-0.8	32.1	-	51.9	-	68.2	-	16.3	-	Floor noise
Vert.	22800.0	46.7	39.2	38.5	0.1	32.9	-	52.4	44.9	73.9	53.9	21.5	9.0	

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

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

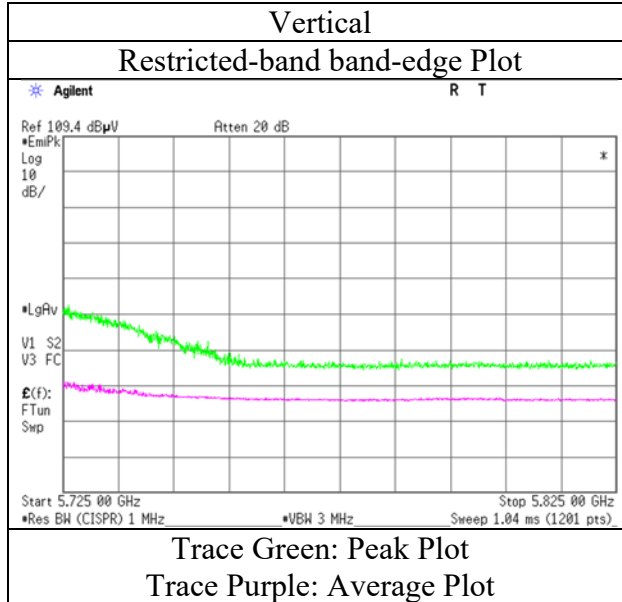
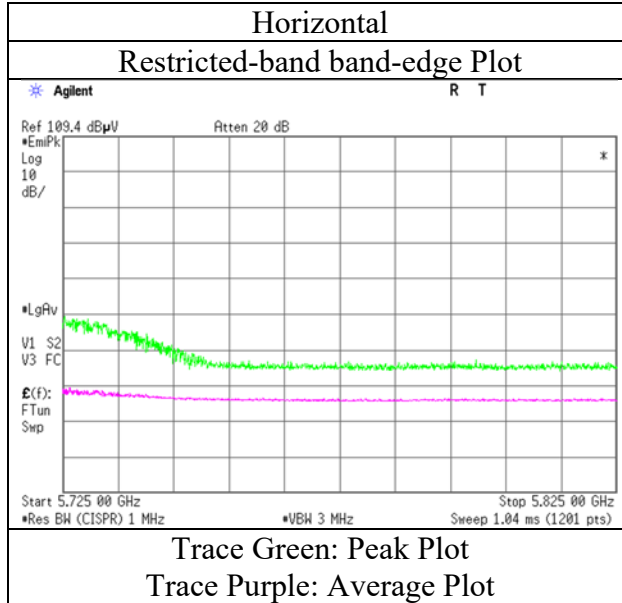
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	April 11, 2022
Date	22 deg. C / 44 % RH
Temperature / Humidity	Junya Okuno
Engineer	(1 GHz - 10 GHz)
Mode	Tx 11a 5700 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5745 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3829.9	45.3	40.9	29.6	5.4	31.1	-	49.2	44.8	73.9	53.9	24.7	9.1	
Hori.	5650.0	41.3	-	32.3	6.1	31.0	-	48.7	-	68.2	-	19.5	-	
Hori.	5700.0	49.9	-	32.4	6.2	31.0	-	57.4	-	105.2	-	47.8	-	
Hori.	5720.0	59.7	-	32.4	6.2	31.0	-	67.3	-	110.8	-	43.5	-	
Hori.	5725.0	62.3	-	32.4	6.2	31.0	-	69.9	-	122.2	-	52.3	-	
Hori.	11490.0	44.9	35.1	39.9	-2.3	32.6	-	49.9	40.1	73.9	53.9	24.0	13.8	
Hori.	17235.0	44.3	-	41.8	-0.8	32.1	-	53.3	-	68.2	-	14.9	-	Floor noise
Hori.	22980.0	45.4	39.6	38.4	-1.5	32.6	-	49.7	43.8	73.9	53.9	24.2	10.1	
Vert.	3829.9	46.2	42.7	29.6	5.4	31.1	-	50.1	46.6	73.9	53.9	23.8	7.3	
Vert.	5650.0	41.9	-	32.3	6.1	31.0	-	49.4	-	68.2	-	18.8	-	
Vert.	5700.0	54.8	-	32.4	6.2	31.0	-	62.4	-	105.2	-	42.8	-	
Vert.	5720.0	63.7	-	32.4	6.2	31.0	-	71.3	-	110.8	-	39.5	-	
Vert.	5725.0	65.4	-	32.4	6.2	31.0	-	73.0	-	122.2	-	49.2	-	
Vert.	11490.0	45.5	36.2	39.9	-2.3	32.6	-	50.5	41.2	73.9	53.9	23.4	12.7	
Vert.	17235.0	44.3	-	41.8	-0.8	32.1	-	53.2	-	68.2	-	15.0	-	Floor noise
Vert.	22980.0	46.5	40.3	38.4	-1.5	32.6	-	50.7	44.6	73.9	53.9	23.2	9.3	

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

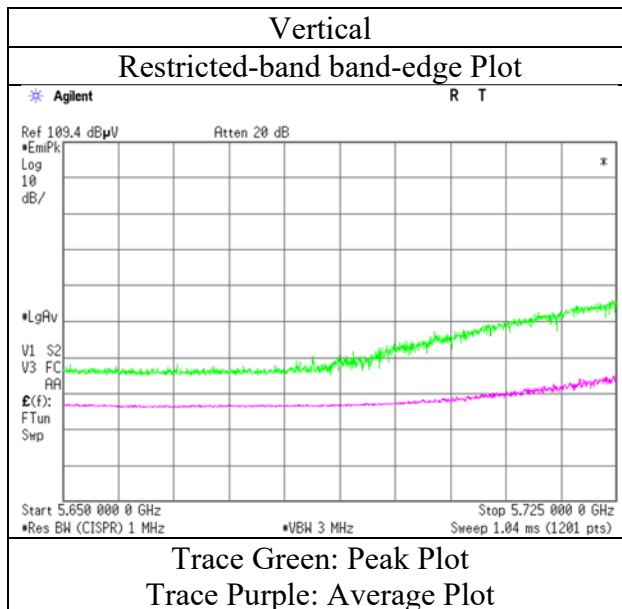
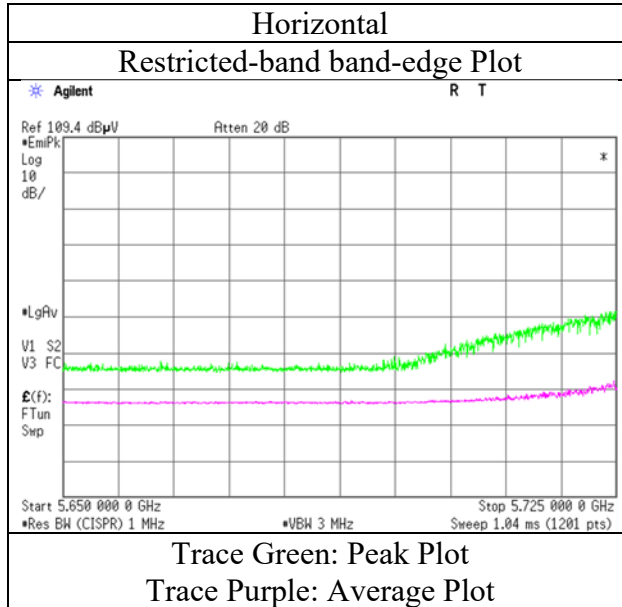
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Kiyoshiro Okazaki
 (1 GHz - 10 GHz)
Mode Tx 11a 5745 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022
Temperature / Humidity	23 deg. C / 33 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)
Mode	Tx 11a 5785 MHz		

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3856.6	46.8	42.6	29.6	5.5	31.1	-	50.8	46.6	73.9	53.9	23.1	7.3	
Hori.	11570.0	44.5	35.6	39.7	-2.2	32.6	-	49.4	40.4	73.9	53.9	24.5	13.5	
Hori.	17355.0	44.0	-	42.8	-0.7	32.1	-	54.0	-	68.2	-	14.2	-	Floor noise
Hori.	23140.0	46.1	-	38.5	-1.4	32.6	-	50.5	-	68.2	-	17.7	-	
Vert.	3856.6	47.0	43.5	29.6	5.5	31.1	-	51.0	47.5	73.9	53.9	22.9	6.4	
Vert.	11570.0	46.1	37.7	39.7	-2.2	32.6	-	50.9	42.5	73.9	53.9	23.0	11.4	
Vert.	17355.0	44.1	-	42.8	-0.7	32.1	-	54.1	-	68.2	-	14.1	-	Floor noise
Vert.	23140.0	48.1	-	38.5	-1.4	32.6	-	52.5	-	68.2	-	15.7	-	

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

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

*QP detector was used up to 1GHz.

Distance factor:
 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 33 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11a 5825 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3883.4	46.0	42.1	29.7	5.5	31.1	-	50.1	46.2	73.9	53.9	23.8	7.7	
Hori.	5850.0	59.3	-	32.7	6.2	31.0	-	67.2	-	122.2	-	55.0	-	
Hori.	5855.0	57.2	-	32.7	6.2	31.0	-	65.2	-	110.8	-	45.6	-	
Hori.	5875.0	47.4	-	32.7	6.2	31.0	-	55.3	-	105.2	-	49.9	-	
Hori.	5925.0	41.6	-	32.7	6.3	31.0	-	49.6	-	68.2	-	18.6	-	
Hori.	11650.0	45.6	36.3	39.4	-2.2	32.6	-	50.1	40.8	73.9	53.9	23.8	13.1	
Hori.	17475.0	44.0	-	43.8	-0.7	32.1	-	55.0	-	68.2	-	13.2	-	Floor noise
Hori.	23300.0	44.8	-	38.6	-1.4	32.6	-	49.4	-	68.2	-	18.8	-	
Vert.	3883.4	46.4	42.3	29.7	5.4	31.1	-	50.4	46.3	73.9	53.9	23.5	7.6	
Vert.	5850.0	63.2	-	32.7	6.2	31.0	-	71.1	-	122.2	-	51.1	-	
Vert.	5855.0	60.1	-	32.7	6.2	31.0	-	68.0	-	110.8	-	42.8	-	
Vert.	5875.0	52.1	-	32.7	6.2	31.0	-	60.1	-	105.2	-	45.1	-	
Vert.	5925.0	42.3	-	32.7	6.3	31.0	-	50.3	-	68.2	-	18.0	-	
Vert.	11650.0	46.4	37.9	39.4	-2.2	32.6	-	50.9	42.4	73.9	53.9	23.0	11.5	
Vert.	17475.0	44.1	-	43.8	-0.7	32.1	-	55.1	-	68.2	-	13.2	-	Floor noise
Vert.	23300.0	45.9	-	38.6	-1.4	32.6	-	50.5	-	68.2	-	17.7	-	

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

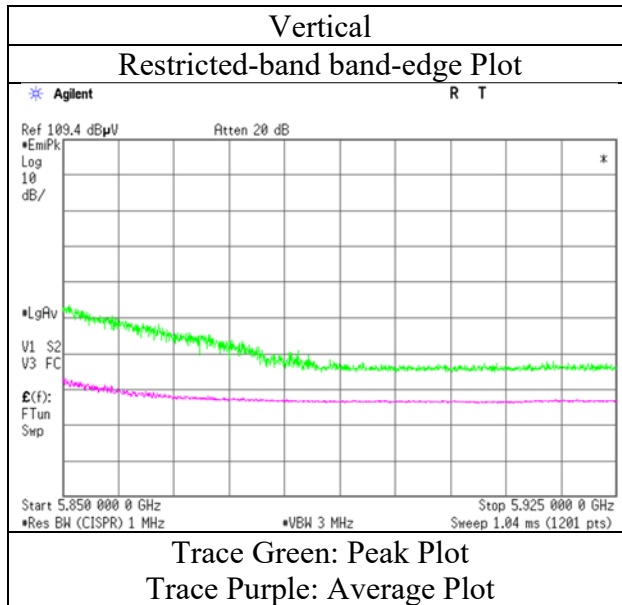
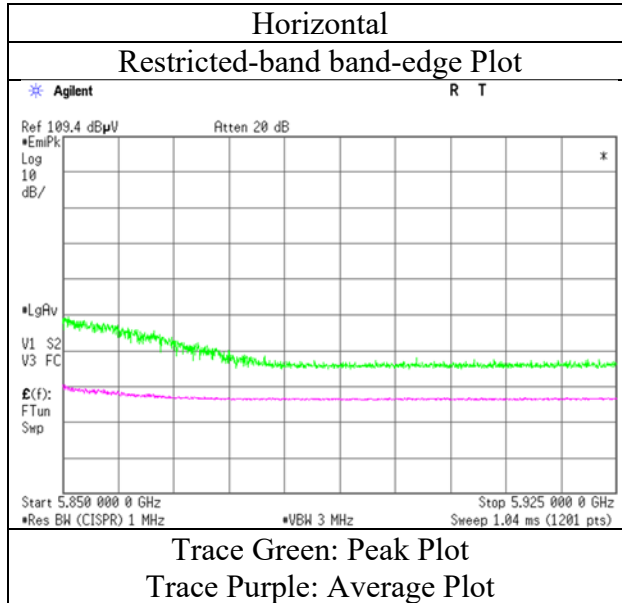
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 23 deg. C / 33 % RH
Engineer Kiyoshiro Okazaki
 (1 GHz - 10 GHz)
Mode Tx 11a 5825 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5180 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	61.7	42.6	32.2	5.9	30.9	-	69.0	49.9	73.9	53.9	4.9	4.0	
Hori.	10360.0	47.2	-	39.7	-2.5	32.5	-	51.9	-	68.2	-	16.3	-	
Hori.	15540.0	44.0	34.0	38.0	-1.2	32.2	-	48.6	38.5	73.9	53.9	25.4	15.4	Floor noise
Hori.	20720.0	48.9	44.8	37.9	-1.8	32.6	-	52.4	48.3	73.9	53.9	21.5	5.6	
Vert.	5150.0	61.9	42.8	32.2	5.9	30.9	-	69.2	50.1	73.9	53.9	4.7	3.8	
Vert.	10360.0	47.6	-	39.7	-2.5	32.5	-	52.3	-	68.2	-	15.9	-	
Vert.	15540.0	44.0	34.0	38.0	-1.2	32.2	-	48.5	38.5	73.9	53.9	25.4	15.4	Floor noise
Vert.	20720.0	48.1	43.6	37.9	-1.8	32.6	-	51.6	47.1	73.9	53.9	22.3	6.8	

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

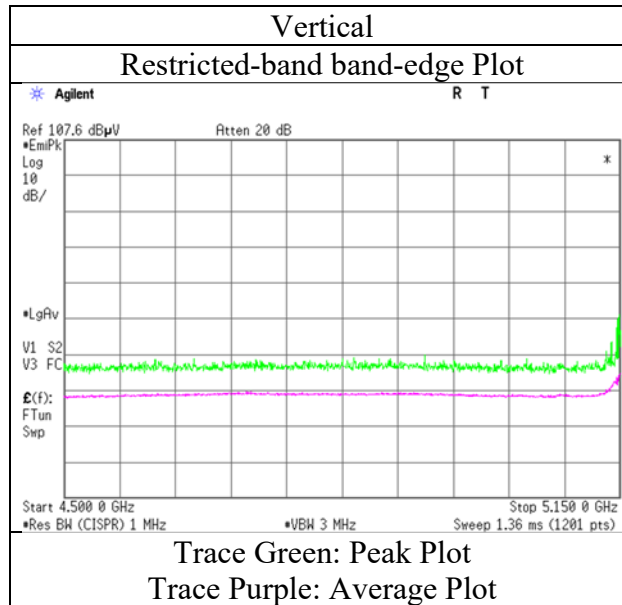
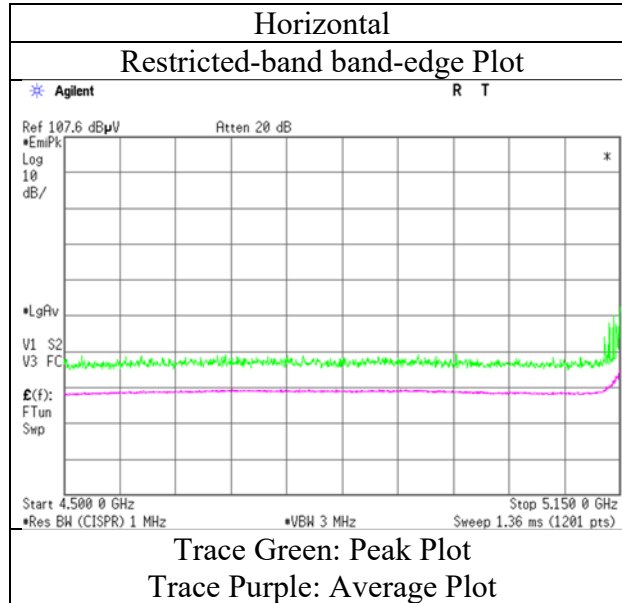
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)
Mode	Tx 11ac-20 5180 MHz



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

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 22 deg. C / 44 % RH
Engineer Junya Okuno
 (1 GHz - 10 GHz)
Mode Tx 11ac-20 5200 MHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	55.2	36.8	32.2	5.9	30.9	-	62.5	44.1	73.9	53.9	11.4	9.8	
Vert.	5150.0	56.5	37.4	32.2	5.9	30.9	-	63.8	44.7	73.9	53.9	10.1	9.2	

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

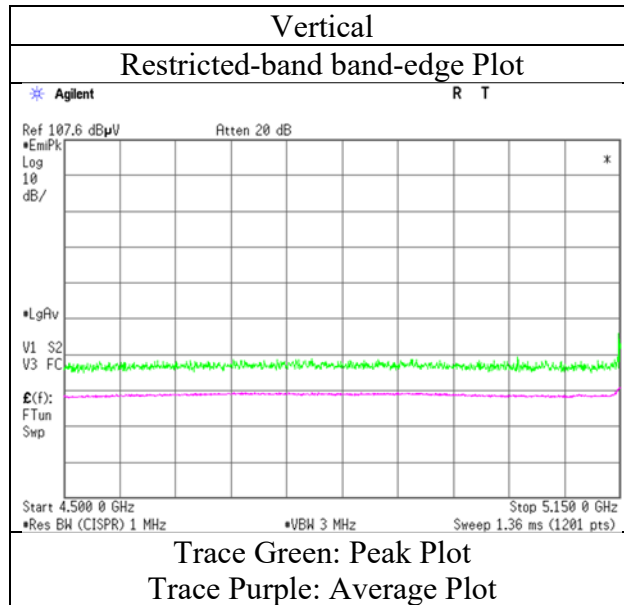
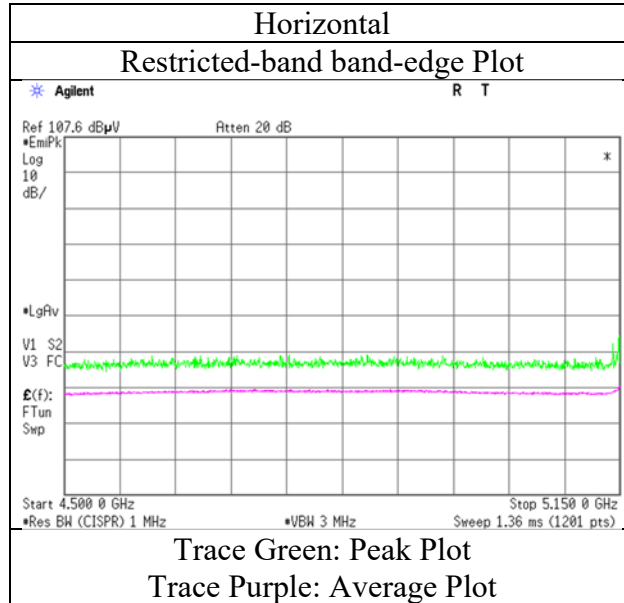
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz 20log(3.95 m / 3.0 m) = 2.39 dB

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 22 deg. C / 44 % RH
Engineer Junya Okuno
 (1 GHz - 10 GHz)
Mode Tx 11ac-20 5200 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno	Nachi Konegawa	Kiyoshiro Okazaki	Kouki Yamada
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5260 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	10520.0	47.3	-	39.7	-2.4	32.6	-	52.1	-	68.2	-	16.2	-	
Hori.	15780.0	43.6	33.8	37.8	-1.2	32.3	-	47.9	38.1	73.9	53.9	26.0	15.8	Floor noise
Hori.	21040.0	47.1	42.8	38.0	-1.8	32.7	-	50.7	46.4	73.9	53.9	23.2	7.5	
Vert.	10520.0	47.8	-	39.7	-2.4	32.6	-	52.6	-	68.2	-	15.7	-	
Vert.	15780.0	43.6	33.8	37.8	-1.2	32.3	-	47.9	38.0	73.9	53.9	26.0	15.9	Floor noise
Vert.	21040.0	46.0	40.9	38.0	-1.8	32.7	-	49.5	44.5	73.9	53.9	24.4	9.4	

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

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

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.	No.4
Semi Anechoic Chamber	No.4	April 19, 2022
Date	April 11, 2022	April 19, 2022
Temperature / Humidity	22 deg. C / 44 % RH	24 deg. C / 34 % RH
Engineer	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(Below 1 GHz)
Mode	Tx 11ac-20 5300 MHz	

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	233.6	31.9	-	11.7	8.9	32.0	-	20.5	-	46.0	-	25.5	-	
Hori.	288.0	28.2	-	13.7	9.3	32.0	-	19.2	-	46.0	-	26.8	-	
Hori.	334.4	36.5	-	14.9	9.6	32.1	-	29.0	-	46.0	-	17.0	-	
Hori.	360.3	36.0	-	15.2	9.8	32.1	-	28.9	-	46.0	-	17.1	-	
Hori.	381.0	28.7	-	15.3	9.9	32.1	-	21.9	-	46.0	-	24.1	-	
Hori.	479.0	27.5	-	17.3	10.6	32.2	-	23.1	-	46.0	-	22.9	-	
Hori.	5350.0	54.6	36.3	31.8	6.1	30.9	-	61.7	43.3	73.9	53.9	12.2	10.6	
Vert.	49.3	40.0	-	11.4	7.3	32.1	-	26.6	-	40.0	-	13.4	-	
Vert.	68.1	44.1	-	6.5	7.5	32.1	-	26.0	-	40.0	-	14.0	-	
Vert.	91.2	46.5	-	8.8	7.8	32.1	-	30.9	-	43.5	-	12.6	-	
Vert.	95.8	46.2	-	9.6	7.8	32.1	-	31.5	-	43.5	-	12.0	-	
Vert.	100.8	45.2	-	10.5	7.9	32.1	-	31.5	-	43.5	-	12.1	-	
Vert.	478.2	32.4	-	17.3	10.6	32.2	-	28.0	-	46.0	-	18.0	-	
Vert.	5350.0	56.5	37.3	31.8	6.1	30.9	-	63.5	44.3	73.9	53.9	10.4	9.6	

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

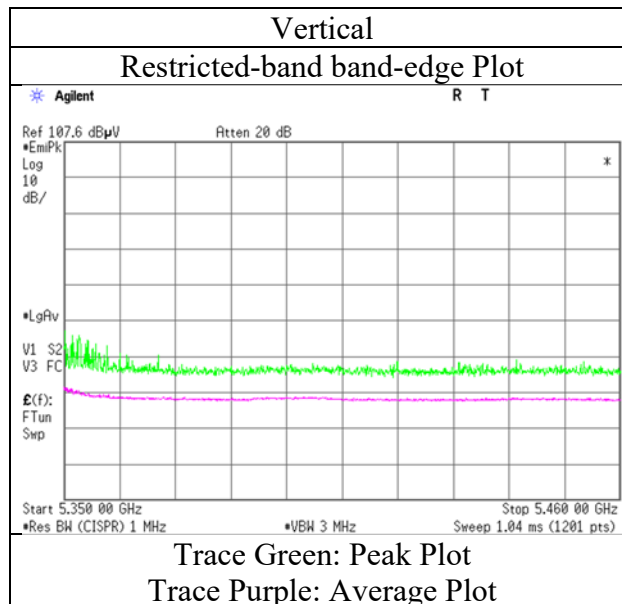
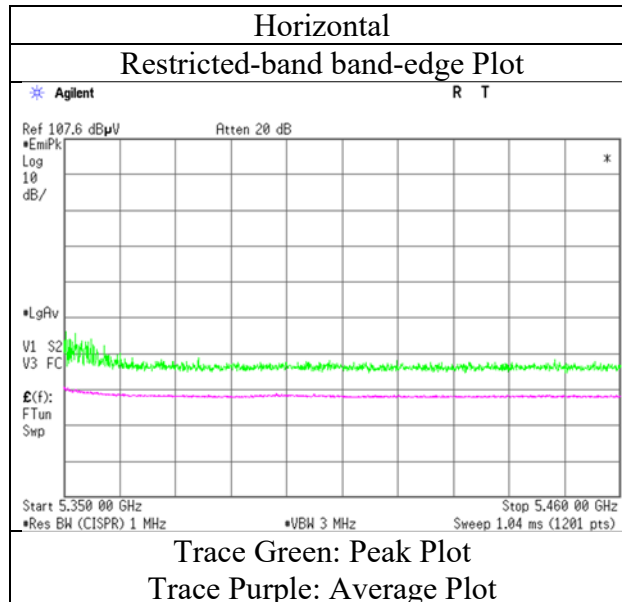
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)
Mode	Tx 11ac-20 5300 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5320 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	60.3	40.7	31.8	6.0	30.9	-	67.2	47.6	73.9	53.9	6.7	6.3	
Hori.	10640.0	46.5	38.6	39.7	-2.4	32.6	-	51.2	43.3	73.9	53.9	22.7	10.6	
Hori.	15960.0	43.0	33.6	37.9	-1.2	32.3	-	47.4	38.0	73.9	53.9	26.5	15.9	Floor noise
Hori.	21280.0	47.5	43.0	38.1	-1.7	32.6	-	51.2	46.8	73.9	53.9	22.7	7.1	
Vert.	5350.0	62.0	42.2	31.8	6.0	30.9	-	68.9	49.2	73.9	53.9	5.0	4.8	
Vert.	10640.0	46.6	38.8	39.7	-2.4	32.6	-	51.2	43.5	73.9	53.9	22.7	10.4	
Vert.	15960.0	43.1	33.6	37.9	-1.2	32.3	-	47.5	38.0	73.9	53.9	26.4	15.9	Floor noise
Vert.	21280.0	46.5	39.7	38.1	-1.7	32.6	-	50.3	43.5	73.9	53.9	23.6	10.4	

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

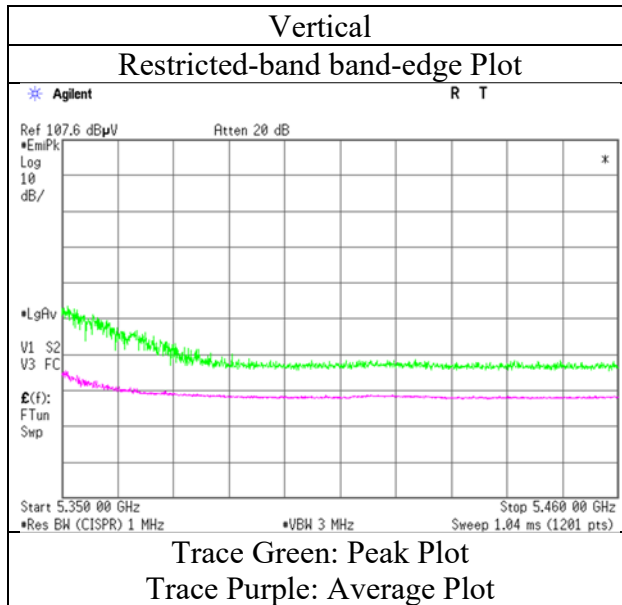
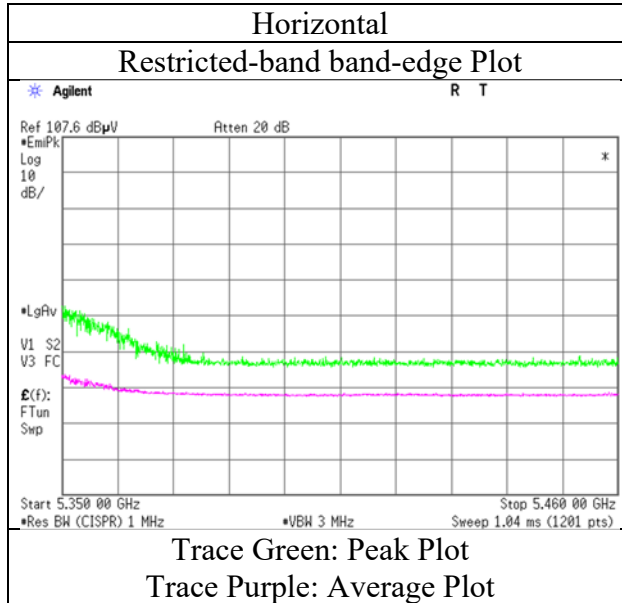
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	22 deg. C / 44 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)
Mode	Tx 11ac-20 5320 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno	Nachi Konegawa	Kiyoshiro Okazaki	Kouki Yamada
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5500 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3666.7	44.5	37.8	29.2	5.3	31.2	-	47.7	41.1	73.9	53.9	26.2	12.8	
Hori.	5460.0	54.9	33.7	32.0	5.9	30.9	-	62.0	40.8	68.2	53.9	6.2	13.1	
Hori.	5470.0	50.0	-	32.1	6.1	30.9	-	57.2	-	68.2	-	11.0	-	*1)
Hori.	11000.0	45.7	36.6	39.9	-2.3	32.7	-	50.6	41.5	73.9	53.9	23.3	12.4	
Hori.	16500.0	44.1	-	39.5	-1.0	32.2	-	50.3	-	68.2	-	17.9	-	Floor noise
Hori.	22000.0	45.8	-	38.1	-1.6	32.4	-	49.9	-	68.2	-	18.3	-	
Vert.	3666.7	44.7	36.5	29.2	5.3	31.2	-	48.0	39.8	73.9	53.9	25.9	14.1	
Vert.	5460.0	56.5	34.3	32.0	5.9	30.9	-	63.6	41.3	68.2	53.9	4.6	12.6	
Vert.	5470.0	53.6	-	32.1	6.1	30.9	-	60.7	-	68.2	-	7.5	-	*1)
Vert.	11000.0	45.3	36.4	39.9	-2.3	32.7	-	50.2	41.3	73.9	53.9	23.7	12.6	
Vert.	16500.0	44.2	-	39.5	-1.0	32.2	-	50.4	-	68.2	-	17.8	-	Floor noise
Vert.	22000.0	44.1	-	38.1	-1.6	32.4	-	48.2	-	68.2	-	20.0	-	

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

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

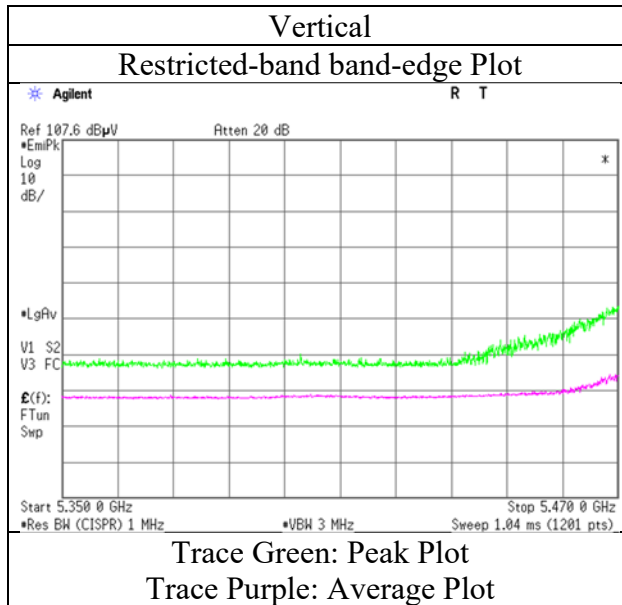
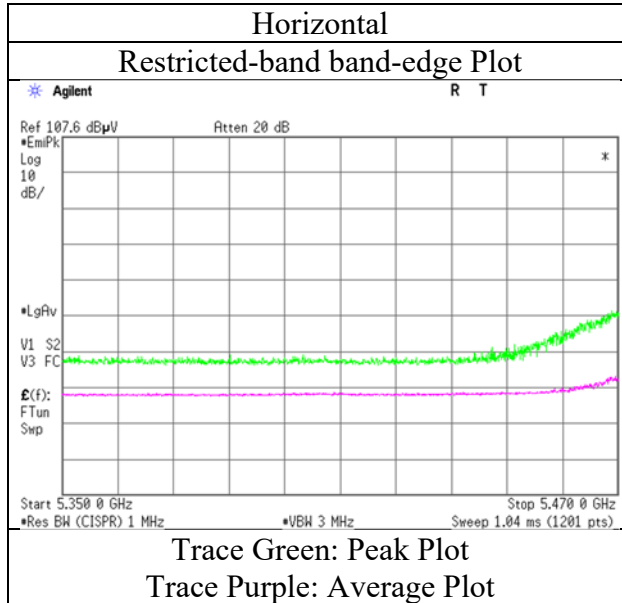
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 22 deg. C / 44 % RH
Engineer Junya Okuno
 (1 GHz - 10 GHz)
Mode Tx 11ac-20 5500 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5580 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3720.0	45.1	39.4	29.3	5.3	31.1	-	48.5	42.8	73.9	53.9	25.5	11.1	
Hori.	11160.0	45.2	35.9	39.7	-2.3	32.7	-	49.9	40.6	73.9	53.9	24.0	13.3	
Hori.	16740.0	44.0	-	40.2	-0.9	32.2	-	51.1	-	68.2	-	17.1	-	Floor noise
Hori.	22320.0	44.9	38.2	38.2	-1.5	32.5	-	49.0	42.4	73.9	53.9	24.9	11.6	
Vert.	3720.0	45.9	40.8	29.3	5.3	31.1	-	49.3	44.2	73.9	53.9	24.6	9.7	
Vert.	11160.0	45.7	36.2	39.7	-2.3	32.7	-	50.4	40.9	73.9	53.9	23.5	13.0	
Vert.	16740.0	44.0	-	40.2	-0.9	32.2	-	51.1	-	68.2	-	17.1	-	Floor noise
Vert.	22320.0	46.4	41.3	38.2	-1.5	32.5	-	50.6	45.4	73.9	53.9	23.4	8.5	

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5700 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3800.0	45.9	40.0	29.5	5.3	31.1	-	49.6	43.7	73.9	53.9	24.4	10.3	
Hori.	5725.0	54.2	-	32.4	6.1	31.0	-	61.7	-	68.2	-	6.5	-	*1)
Hori.	11400.0	44.6	35.0	39.9	-2.3	32.6	-	49.6	40.0	73.9	53.9	24.3	13.9	
Hori.	17100.0	43.5	-	41.0	-0.8	32.1	-	51.6	-	68.2	-	16.6	-	Floor noise
Hori.	22800.0	44.8	38.3	38.3	-1.5	32.6	-	49.0	42.5	73.9	53.9	24.9	11.4	
Vert.	3800.0	46.9	43.1	29.5	5.3	31.1	-	50.6	46.7	73.9	53.9	23.3	7.2	
Vert.	5725.0	55.0	-	32.4	6.1	31.0	-	62.5	-	68.2	-	5.7	-	*1)
Vert.	11400.0	45.2	36.2	39.9	-2.3	32.6	-	50.2	41.2	73.9	53.9	23.7	12.7	
Vert.	17100.0	43.4	-	41.0	-0.8	32.1	-	51.5	-	68.2	-	16.7	-	Floor noise
Vert.	22800.0	45.6	40.7	38.3	-1.5	32.6	-	49.8	44.9	73.9	53.9	24.1	9.1	

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

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

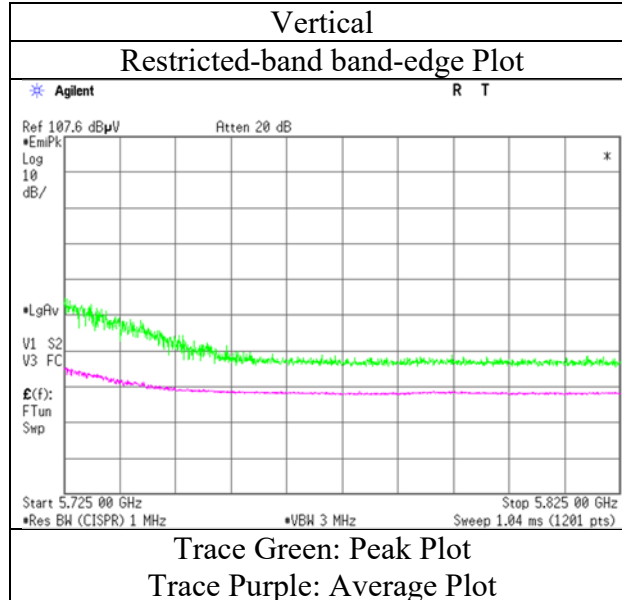
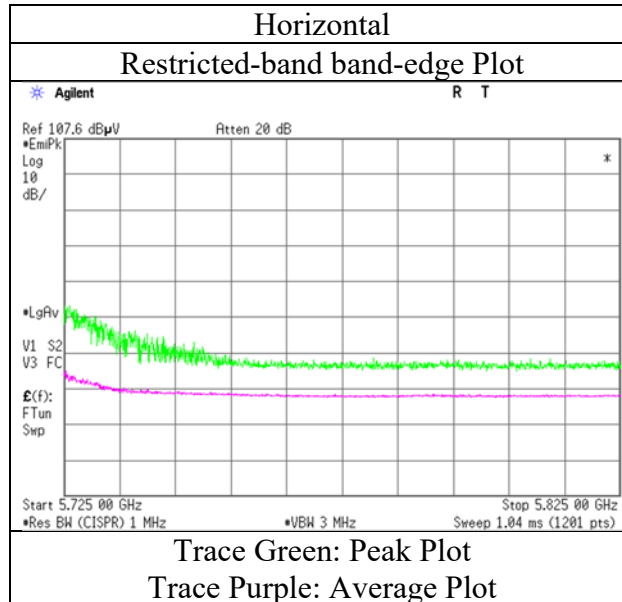
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	April 11, 2022
Date	22 deg. C / 44 % RH
Temperature / Humidity	Junya Okuno
Engineer	(1 GHz - 10 GHz)
Mode	Tx 11ac-20 5700 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 35 % RH	21 deg. C / 59 % RH	22 deg. C / 42 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki	Nachi Konegawa	Junya Okuno	Kouki Yamada
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5745 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3829.9	45.9	41.2	29.6	5.4	31.1	-	49.8	45.1	73.9	53.9	24.1	8.8	
Hori.	5650.0	41.3	-	32.3	6.1	31.0	-	48.7	-	68.2	-	19.5	-	
Hori.	5700.0	52.1	-	32.4	6.2	31.0	-	59.6	-	105.2	-	45.6	-	
Hori.	5720.0	62.6	-	32.4	6.2	31.0	-	70.3	-	110.8	-	40.5	-	
Hori.	5725.0	63.8	-	32.4	6.2	31.0	-	71.4	-	122.2	-	50.8	-	
Hori.	11490.0	44.9	35.4	39.9	-2.3	32.6	-	49.9	40.5	73.9	53.9	24.0	13.5	
Hori.	17235.0	44.2	-	41.8	-0.8	32.1	-	53.2	-	68.2	-	15.0	-	Floor noise
Hori.	22980.0	44.6	37.1	38.4	-1.5	32.6	-	48.9	41.3	73.9	53.9	25.0	12.6	
Vert.	3829.9	46.9	43.0	29.6	5.4	31.1	-	50.7	46.9	73.9	53.9	23.2	7.0	
Vert.	5650.0	42.4	-	32.3	6.1	31.0	-	49.8	-	68.2	-	18.4	-	
Vert.	5700.0	54.5	-	32.4	6.2	31.0	-	62.0	-	105.2	-	43.2	-	
Vert.	5720.0	64.0	-	32.4	6.2	31.0	-	71.7	-	110.8	-	39.1	-	
Vert.	5725.0	64.7	-	32.4	6.2	31.0	-	72.4	-	122.2	-	49.8	-	
Vert.	11490.0	45.2	36.7	39.9	-2.3	32.6	-	50.2	41.7	73.9	53.9	23.7	12.2	
Vert.	17235.0	44.4	-	41.8	-0.8	32.1	-	53.3	-	68.2	-	14.9	-	Floor noise
Vert.	22980.0	46.3	39.4	38.4	-1.5	32.6	-	50.6	43.7	73.9	53.9	23.4	10.2	

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

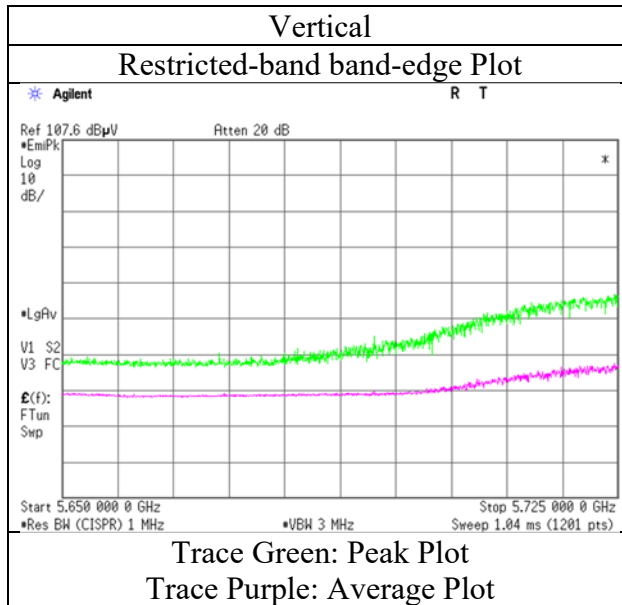
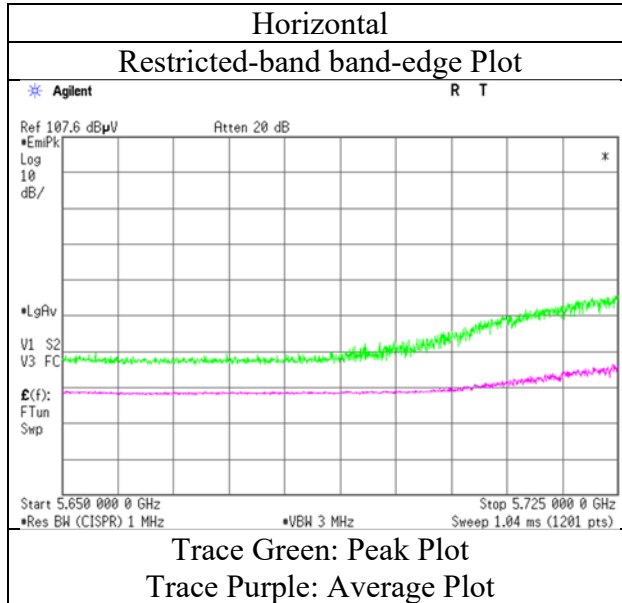
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	23 deg. C / 35 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-20 5745 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 35 % RH	21 deg. C / 59 % RH	22 deg. C / 42 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Junya Okuno (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5785 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3856.6	46.1	42.1	29.6	5.5	31.1	-	50.1	46.1	73.9	53.9	23.8	7.8	
Hori.	11570.0	44.6	35.0	39.7	-2.2	32.6	-	49.4	39.9	73.9	53.9	24.5	14.0	
Hori.	17355.0	43.7	-	42.8	-0.7	32.1	-	53.7	-	68.2	-	14.5	-	Floor noise
Hori.	23140.0	44.5	-	38.5	-1.4	32.6	-	48.9	-	68.2	-	19.3	-	
Vert.	3856.6	47.7	43.2	29.6	5.5	31.1	-	51.7	47.2	73.9	53.9	22.2	6.7	
Vert.	11570.0	45.8	36.9	39.7	-2.2	32.6	-	50.6	41.7	73.9	53.9	23.3	12.2	
Vert.	17355.0	43.6	-	42.8	-0.7	32.1	-	53.6	-	68.2	-	14.6	-	Floor noise
Vert.	23140.0	46.9	-	38.5	-1.4	32.6	-	51.3	-	68.2	-	16.9	-	

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

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

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 35 % RH	21 deg. C / 59 % RH	22 deg. C / 42 % RH	24 deg. C / 49 % RH
Engineer	Kiyoshiro Okazaki	Nachi Konegawa	Junya Okuno	Kouki Yamada
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-20 5825 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3883.3	45.4	41.6	29.7	5.5	31.1	-	49.4	45.7	73.9	53.9	24.5	8.2	
Hori.	5850.0	59.6	-	32.7	6.2	31.0	-	67.5	-	122.2	-	54.7	-	
Hori.	5855.0	58.3	-	32.7	6.2	31.0	-	66.2	-	110.8	-	44.6	-	
Hori.	5875.0	47.8	-	32.7	6.2	31.0	-	55.8	-	105.2	-	49.4	-	
Hori.	5925.0	41.3	-	32.7	6.3	31.0	-	49.2	-	68.2	-	19.0	-	
Hori.	11650.0	44.9	35.7	39.4	-2.2	32.6	-	49.5	40.2	73.9	53.9	24.4	13.7	
Hori.	17475.0	43.6	-	43.8	-0.7	32.1	-	54.6	-	68.2	-	13.6	-	Floor noise
Hori.	23300.0	46.0	-	38.6	-1.4	32.6	-	50.5	-	68.2	-	17.7	-	
Vert.	3883.3	46.9	43.0	29.7	5.5	31.1	-	51.0	47.1	73.9	53.9	22.9	6.8	
Vert.	5850.0	63.0	-	32.7	6.2	31.0	-	71.0	-	122.2	-	51.2	-	
Vert.	5855.0	61.2	-	32.7	6.2	31.0	-	69.2	-	110.8	-	41.6	-	
Vert.	5875.0	50.6	-	32.7	6.2	31.0	-	58.5	-	105.2	-	46.7	-	
Vert.	5925.0	42.5	-	32.7	6.3	31.0	-	50.5	-	68.2	-	17.7	-	
Vert.	11650.0	46.9	38.5	39.4	-2.2	32.6	-	51.4	43.0	73.9	53.9	22.5	10.9	
Vert.	17475.0	43.7	-	43.8	-0.7	32.1	-	54.7	-	68.2	-	13.5	-	Floor noise
Vert.	23300.0	46.7	-	38.6	-1.4	32.6	-	51.3	-	68.2	-	16.9	-	

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

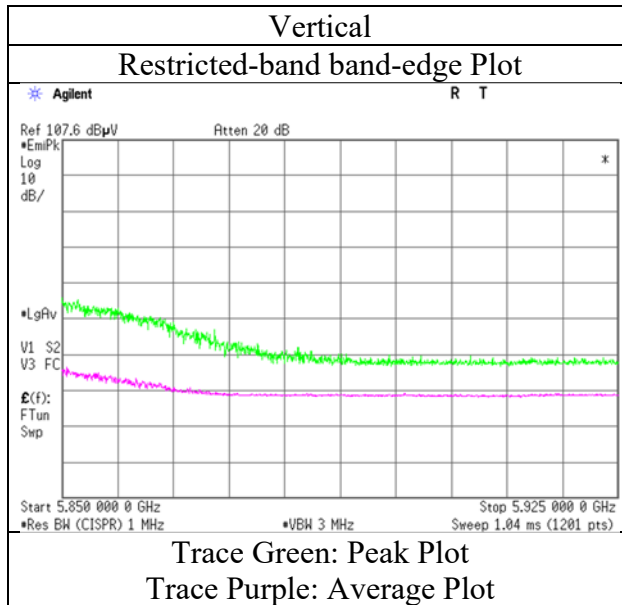
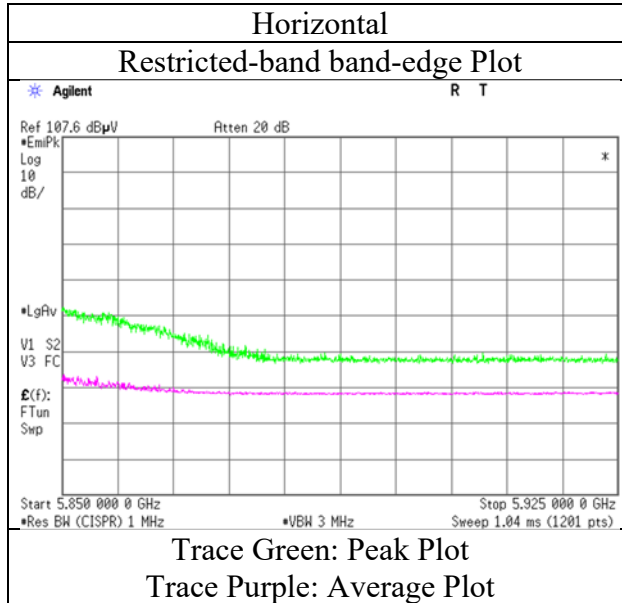
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	23 deg. C / 35 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-20 5825 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 35 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kiyoshiro Okazaki	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-40 5190 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	60.7	41.2	32.2	5.9	30.9	-	68.0	48.5	73.9	53.9	5.9	5.4	*1)
Hori.	10380.0	44.2	-	39.7	-2.5	32.5	-	48.9	-	68.2	-	19.3	-	
Hori.	15570.0	43.5	34.7	38.0	-1.2	32.3	-	48.0	39.2	73.9	53.9	25.9	14.8	Floor noise
Hori.	20760.0	47.4	42.9	37.9	-1.8	32.6	-	50.9	46.4	73.9	53.9	23.0	7.5	
Vert.	5150.0	55.4	44.1	32.2	5.9	30.9	-	62.8	51.4	73.9	53.9	11.2	2.5	*2)
Vert.	10380.0	47.1	-	39.7	-2.5	32.5	-	51.8	-	68.2	-	16.4	-	
Vert.	15570.0	44.4	35.1	38.0	-1.2	32.3	-	48.9	39.5	73.9	53.9	25.0	14.4	Floor noise
Vert.	20760.0	47.8	42.9	37.9	-1.8	32.6	-	51.3	46.4	73.9	53.9	22.6	7.5	

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

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

*QP detector was used up to 1GHz.

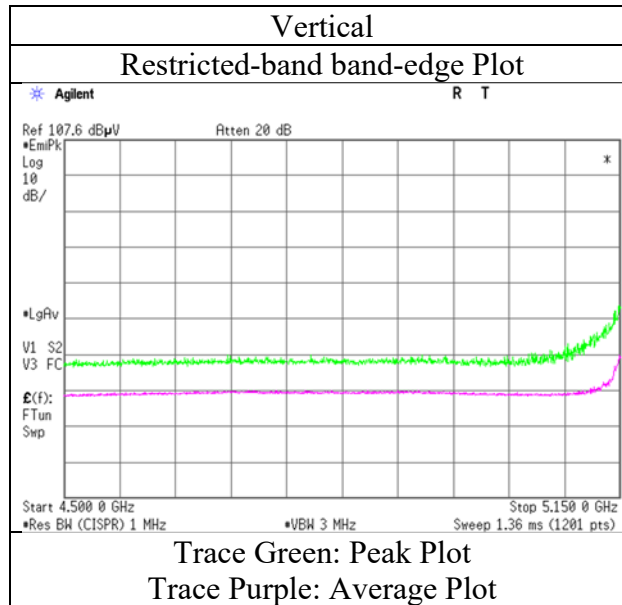
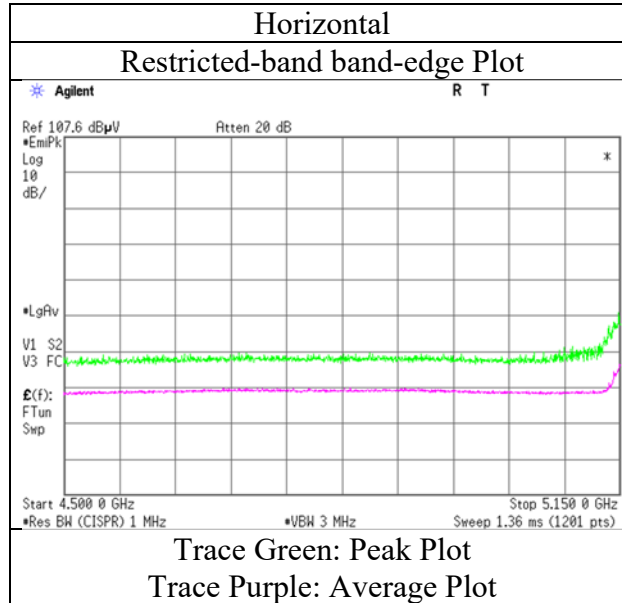
*1) Integration Method (AV only)

*2) Integration Method (PK and AV)

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	23 deg. C / 35 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5190 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	23 deg. C / 35 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5230 MHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	49.7	34.8	32.2	5.9	30.9	-	57.0	42.1	73.9	53.9	16.9	11.8	
Vert.	5150.0	52.5	36.6	32.2	5.9	30.9	-	59.8	43.9	73.9	53.9	14.1	10.0	

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

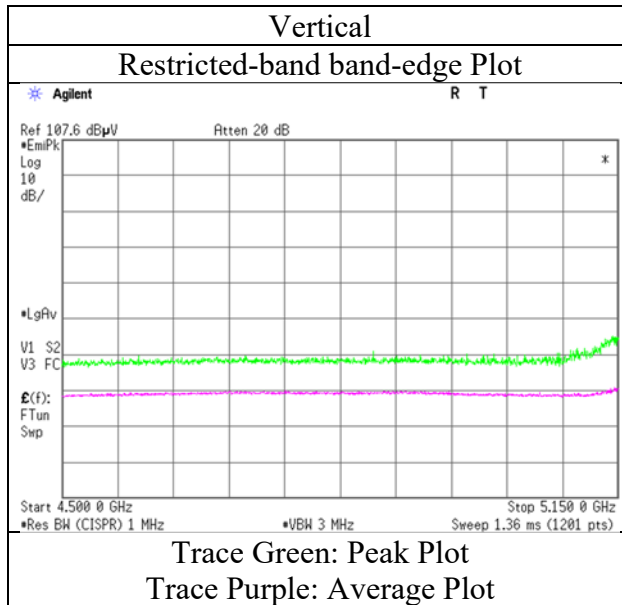
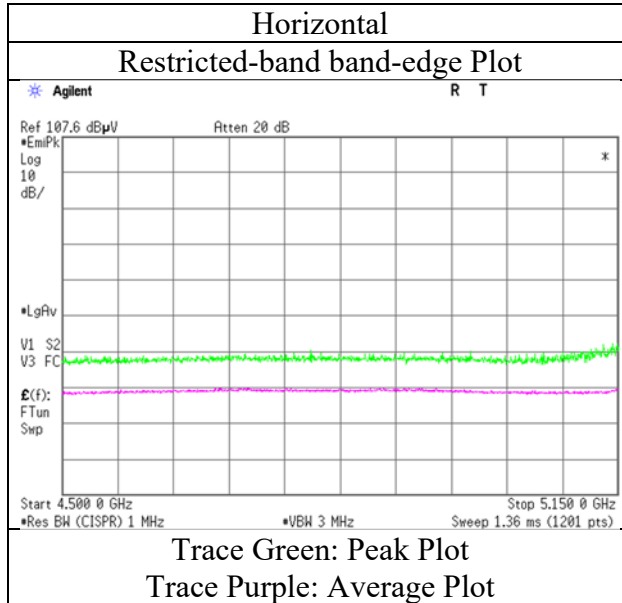
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 11, 2022
Temperature / Humidity	23 deg. C / 35 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5230 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	23 deg. C / 35 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)	Kiyoshiro Okazaki (10 GHz - 18 GHz)	Junya Okuno (18 GHz - 26.5 GHz)	Junya Okuno (26.5 GHz - 40 GHz)
Mode	Tx 11ac-40 5270 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	52.6	35.4	31.8	6.0	30.9	-	59.5	42.4	73.9	53.9	14.4	11.5	
Hori.	10540.0	46.3	-	39.7	-2.4	32.6	-	51.0	-	68.2	-	17.3	-	
Hori.	15810.0	44.9	35.0	37.8	-1.2	32.3	-	49.2	39.3	73.9	53.9	24.7	14.6	Floor noise
Hori.	21080.0	44.0	36.4	38.0	-1.7	32.7	-	47.6	40.0	73.9	53.9	26.3	13.9	
Vert.	5350.0	55.4	38.7	31.8	6.0	30.9	-	62.3	45.6	73.9	53.9	11.6	8.3	
Vert.	10540.0	44.8	-	39.7	-2.4	32.6	-	49.5	-	68.2	-	18.7	-	
Vert.	15810.0	42.7	34.8	37.8	-1.2	32.3	-	47.0	39.0	73.9	53.9	26.9	14.9	Floor noise
Vert.	21080.0	46.8	40.6	38.0	-1.7	32.7	-	50.4	44.2	73.9	53.9	23.5	9.7	

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

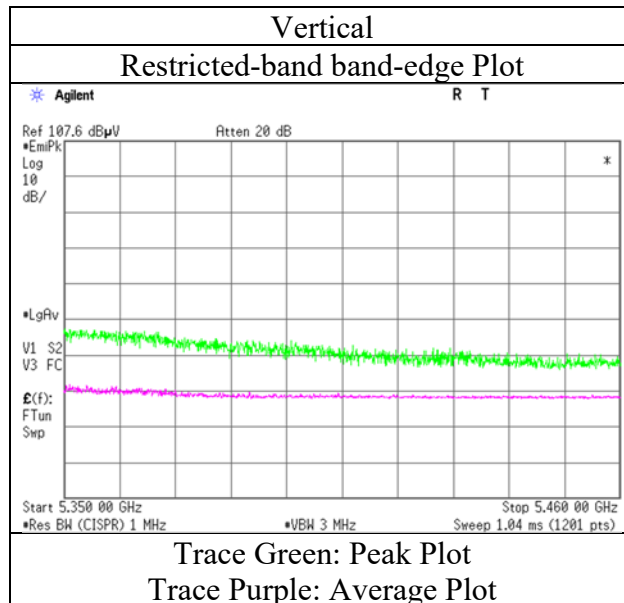
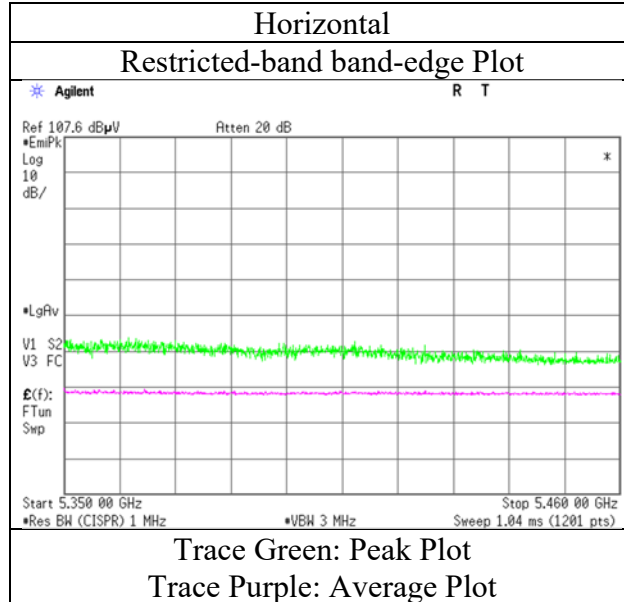
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place Ise EMC Lab.
Semi Anechoic Chamber No.4
Date April 11, 2022
Temperature / Humidity 23 deg. C / 35 % RH
Engineer Kiyoshiro Okazaki
 (1 GHz - 10 GHz)
Mode Tx 11ac-40 5270 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.4	No.4
Date	April 19, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	21 deg. C / 43 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kouki Yamada	Junya Okuno	Junya Okuno
	(1 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-40 5310 MHz		

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	52.9	43.1	31.8	6.1	30.9	-	59.9	50.1	73.9	53.9	14.0	3.8	*1)
Hori.	10620.0	43.9	35.3	39.7	-2.4	32.6	-	48.6	39.9	73.9	53.9	25.3	14.0	
Hori.	15930.0	42.8	34.2	37.9	-1.2	32.3	-	47.1	38.5	73.9	53.9	26.8	15.4	Floor noise
Hori.	21240.0	44.2	36.7	38.1	-1.7	32.6	-	47.9	40.4	73.9	53.9	26.0	13.5	
Vert.	5350.0	54.9	44.9	31.8	6.1	30.9	-	61.9	51.9	73.9	53.9	12.0	2.0	*1)
Vert.	10620.0	44.2	36.6	39.7	-2.4	32.6	-	48.8	41.3	73.9	53.9	25.1	12.6	
Vert.	15930.0	42.6	34.2	37.9	-1.2	32.3	-	47.0	38.6	73.9	53.9	26.9	15.3	Floor noise
Vert.	21240.0	47.3	40.7	38.1	-1.7	32.6	-	51.0	44.4	73.9	53.9	22.9	9.5	

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

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

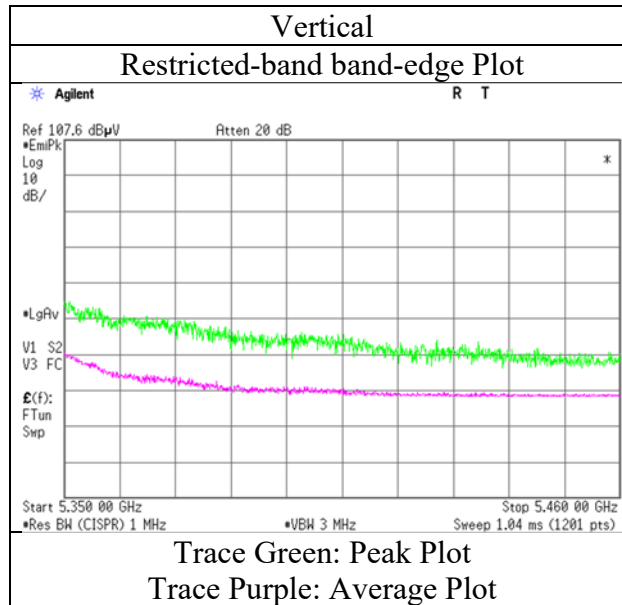
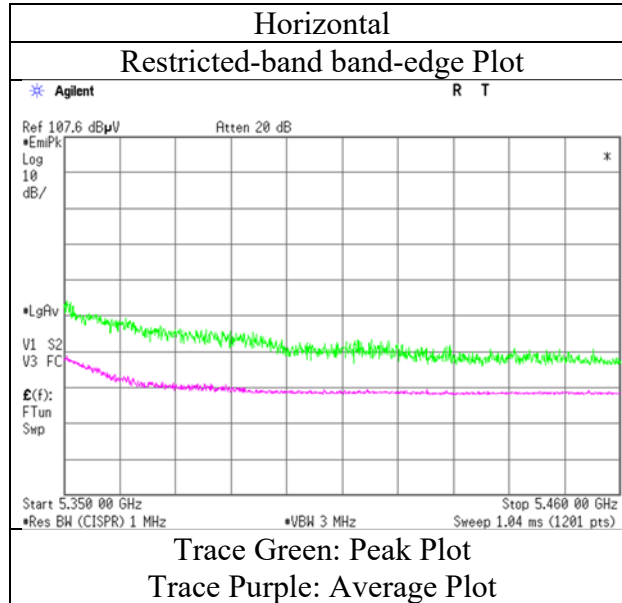
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 19, 2022
Temperature / Humidity	21 deg. C / 43 % RH
Engineer	Kouki Yamada (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5310 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-40 5510 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3673.4	44.3	37.6	29.2	5.4	31.2	-	47.7	41.0	73.9	53.9	26.2	12.9	
Hori.	5460.0	54.9	38.5	32.0	6.1	30.9	-	62.1	45.7	68.2	53.9	6.1	8.2	
Hori.	5470.0	49.5	-	32.1	6.1	30.9	-	56.7	-	68.2	-	11.5	-	*1)
Hori.	11020.0	42.8	36.8	39.9	-2.3	32.7	-	47.6	41.7	73.9	53.9	26.3	12.2	
Hori.	16530.0	44.2	-	39.6	-1.0	32.2	-	50.5	-	68.2	-	17.7	-	Floor noise
Hori.	22040.0	45.4	36.6	38.1	-1.6	32.4	-	49.5	40.7	73.9	53.9	24.4	13.2	
Vert.	3673.4	45.1	39.2	29.2	5.4	31.2	-	48.5	42.6	73.9	53.9	25.4	11.3	
Vert.	5460.0	57.1	39.8	32.0	6.1	30.9	-	64.2	46.9	68.2	53.9	4.0	7.0	
Vert.	5470.0	50.2	-	32.1	6.1	30.9	-	57.4	-	68.2	-	10.8	-	*1)
Vert.	11020.0	42.4	34.8	39.9	-2.3	32.7	-	47.2	39.6	73.9	53.9	26.7	14.3	
Vert.	16530.0	44.0	-	39.6	-1.0	32.2	-	50.3	-	68.2	-	17.9	-	Floor noise
Vert.	22040.0	46.8	39.1	38.1	-1.6	32.4	-	50.9	43.2	73.9	53.9	23.0	10.7	

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

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

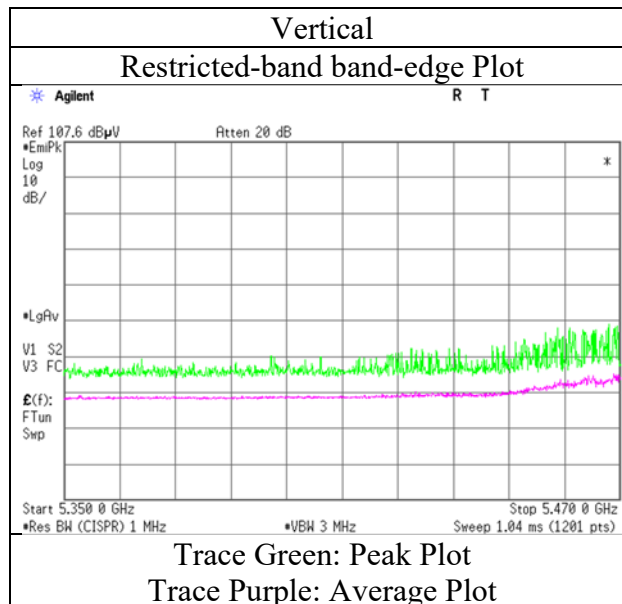
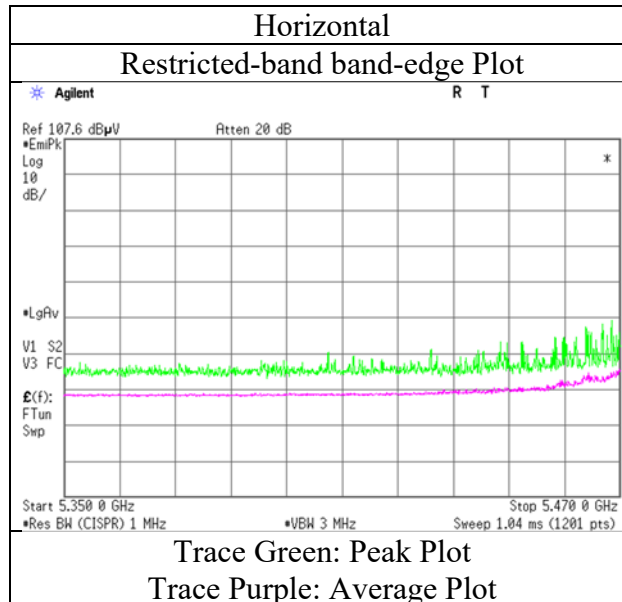
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5510 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-40 5550 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3700.2	43.7	37.4	29.2	5.4	31.1	-	47.1	40.8	73.9	53.9	26.8	13.1	
Hori.	5460.0	52.8	36.3	32.0	6.1	30.9	-	60.0	43.5	68.2	53.9	8.2	10.4	
Hori.	5470.0	53.6	-	32.1	6.1	30.9	-	60.8	-	68.2	-	7.4	-	
Hori.	11100.0	41.9	35.3	39.7	-2.3	32.7	-	46.6	40.0	73.9	53.9	27.3	13.9	
Hori.	16650.0	42.9	-	39.9	-1.0	32.2	-	49.6	-	68.2	-	18.6	-	Floor noise
Hori.	22200.0	46.5	39.3	38.1	-1.5	32.5	-	50.6	43.4	73.9	53.9	23.3	10.5	
Vert.	3700.2	45.3	38.9	29.2	5.4	31.1	-	48.7	42.4	73.9	53.9	25.2	11.5	
Vert.	5460.0	54.1	38.2	32.0	6.1	30.9	-	61.3	45.3	68.2	53.9	6.9	8.6	
Vert.	5470.0	54.8	-	32.1	6.1	30.9	-	62.0	-	68.2	-	6.2	-	
Vert.	11100.0	42.2	34.5	39.7	-2.3	32.7	-	46.9	39.3	73.9	53.9	27.0	14.6	
Vert.	16650.0	43.1	-	39.9	-1.0	32.2	-	49.8	-	68.2	-	18.4	-	Floor noise
Vert.	22200.0	46.6	40.5	38.1	-1.5	32.5	-	50.7	44.6	73.9	53.9	23.2	9.3	

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

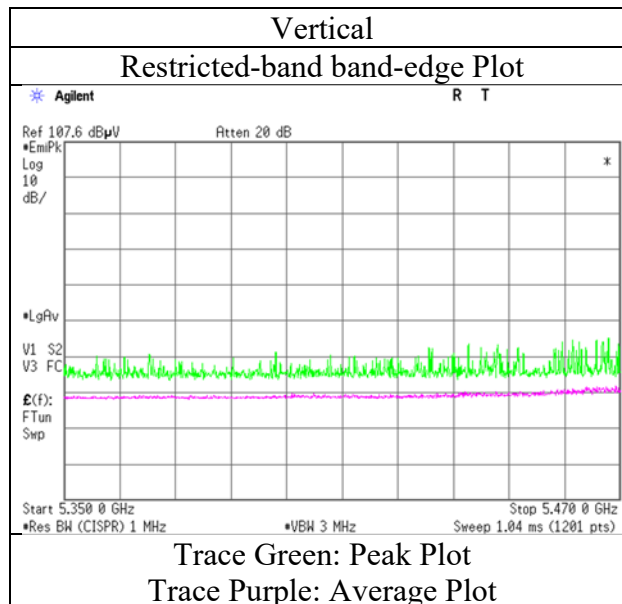
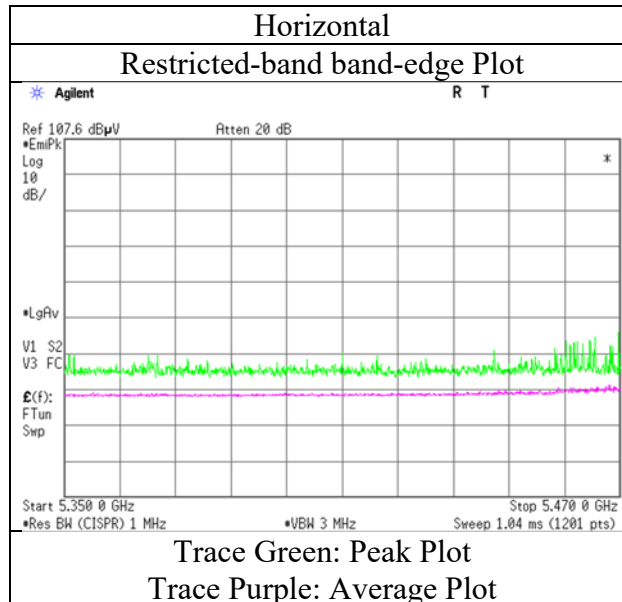
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5550 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-40 5670 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3780.0	45.5	40.2	29.4	5.4	31.1	-	49.2	43.9	73.9	53.9	24.7	10.0	
Hori.	5725.0	45.4	33.3	32.4	6.3	31.0	-	53.1	41.0	73.9	53.9	20.8	12.9	*1)
Hori.	11340.0	42.8	33.4	39.9	-2.3	32.7	-	47.7	38.3	73.9	53.9	26.2	15.6	
Hori.	17010.0	43.5	-	40.7	-0.9	32.1	-	51.2	-	68.2	-	17.0	-	Floor noise
Hori.	22680.0	44.8	37.1	38.2	-1.5	32.6	-	49.0	41.2	73.9	53.9	24.9	12.7	
Vert.	3780.0	47.0	42.0	29.4	5.4	31.1	-	50.7	45.8	73.9	53.9	23.2	8.2	
Vert.	5725.0	47.7	34.3	32.4	6.3	31.0	-	55.4	42.1	73.9	53.9	18.5	11.8	*1)
Vert.	11340.0	43.0	35.6	39.9	-2.3	32.7	-	47.9	40.5	73.9	53.9	26.0	13.4	
Vert.	17010.0	43.6	-	40.7	-0.9	32.1	-	51.3	-	68.2	-	16.9	-	Floor noise
Vert.	22680.0	46.0	39.5	38.2	-1.5	32.6	-	50.2	43.6	73.9	53.9	23.7	10.3	

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

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

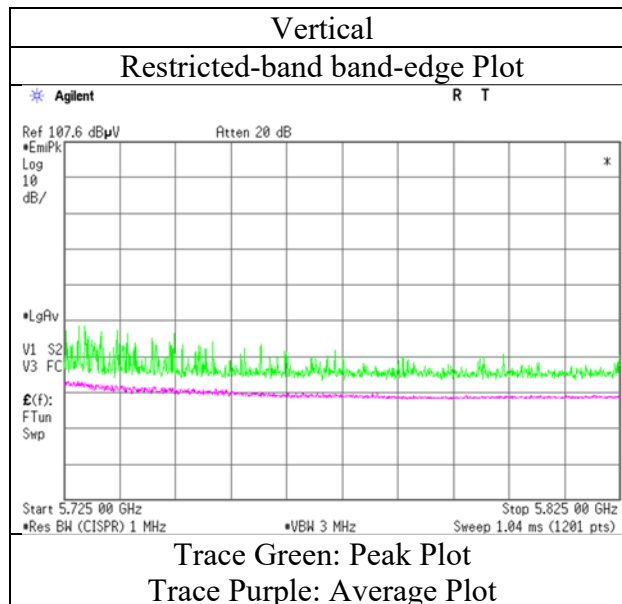
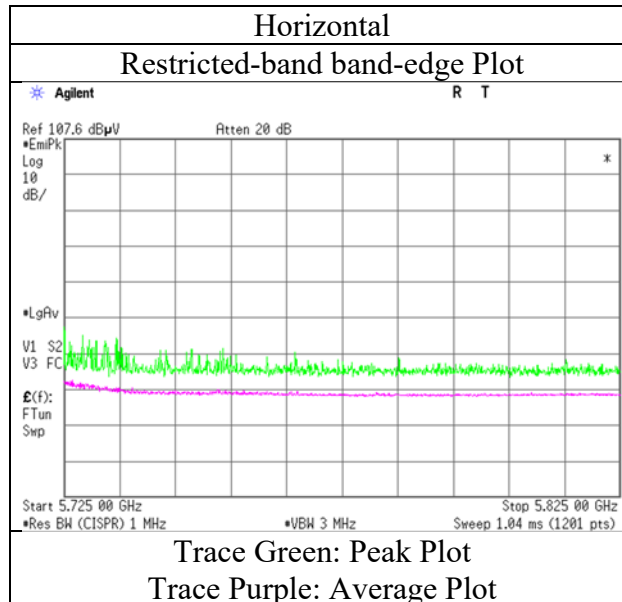
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5670 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-40 5755 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3836.7	46.2	40.8	29.6	5.4	31.1	-	50.1	44.7	73.9	53.9	23.8	9.2	
Hori.	5650.0	48.3	-	32.3	6.1	31.0	-	55.7	-	68.2	-	12.5	-	
Hori.	5700.0	56.2	-	32.4	6.2	31.0	-	63.7	-	105.2	-	41.5	-	
Hori.	5720.0	66.2	-	32.4	6.2	31.0	-	73.9	-	110.8	-	36.9	-	
Hori.	5725.0	66.9	-	32.4	6.2	31.0	-	74.5	-	122.2	-	47.7	-	
Hori.	11510.0	43.4	35.2	39.9	-2.3	32.6	-	48.4	40.2	73.9	53.9	25.5	13.8	
Hori.	17265.0	44.7	-	42.1	-0.8	32.1	-	53.9	-	68.2	-	14.3	-	Floor noise
Hori.	23020.0	46.2	38.8	38.4	-1.5	32.6	-	50.5	43.1	73.9	53.9	23.4	10.8	
Vert.	3836.7	47.7	42.9	29.6	5.4	31.1	-	51.6	46.8	73.9	53.9	22.3	7.1	
Vert.	5650.0	52.5	-	32.3	6.1	31.0	-	59.9	-	68.2	-	8.3	-	
Vert.	5700.0	57.9	-	32.4	6.2	31.0	-	65.5	-	105.2	-	39.7	-	
Vert.	5720.0	66.9	-	32.4	6.2	31.0	-	74.5	-	110.8	-	36.3	-	
Vert.	5725.0	67.4	-	32.4	6.2	31.0	-	75.1	-	122.2	-	47.2	-	
Vert.	11510.0	42.6	35.6	39.9	-2.3	32.6	-	47.6	40.6	73.9	53.9	26.3	13.3	
Vert.	17265.0	45.1	-	42.1	-0.8	32.1	-	54.3	-	68.2	-	13.9	-	Floor noise
Vert.	23020.0	46.4	39.5	38.4	-1.5	32.6	-	50.7	43.8	73.9	53.9	23.2	10.1	

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

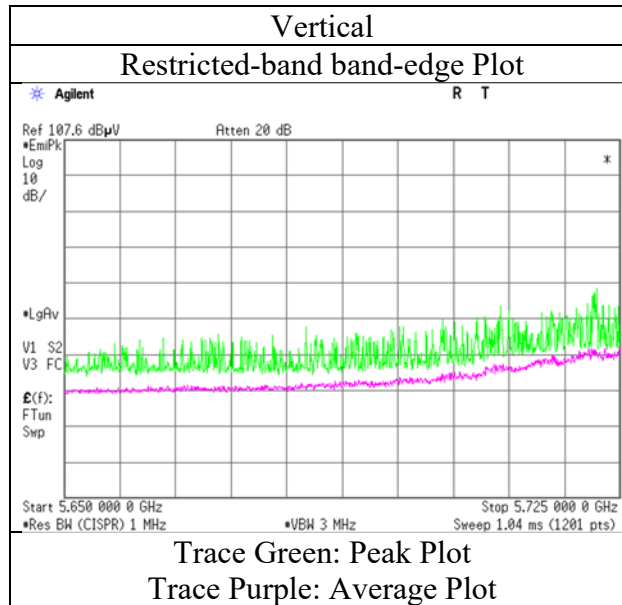
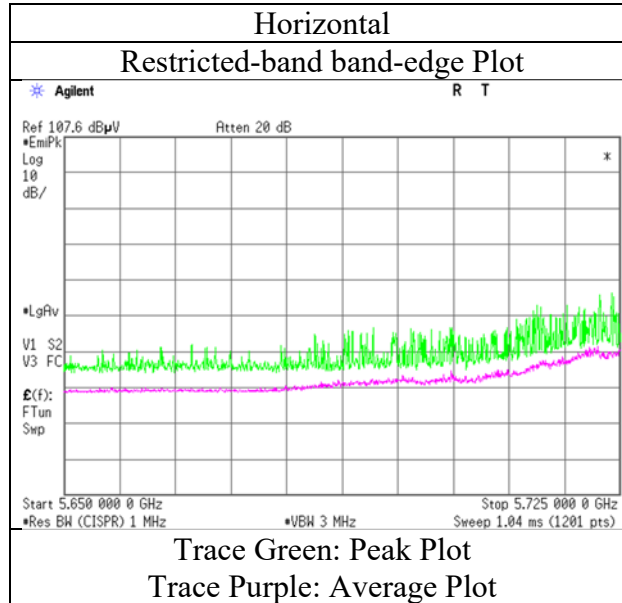
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5755 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-40 5795 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3863.3	47.1	41.2	29.6	5.5	31.1	-	51.2	45.2	73.9	53.9	22.8	8.7	
Hori.	5850.0	55.3	-	32.7	6.2	31.0	-	63.3	-	122.2	-	59.0	-	
Hori.	5855.0	54.7	-	32.7	6.3	31.0	-	62.8	-	110.8	-	48.0	-	
Hori.	5875.0	50.2	-	32.7	6.3	31.0	-	58.3	-	105.2	-	46.9	-	
Hori.	5925.0	44.6	-	32.7	6.4	31.0	-	52.6	-	68.2	-	15.6	-	
Hori.	11590.0	42.6	34.1	39.6	-2.2	32.6	-	47.3	38.9	73.9	53.9	26.6	15.1	
Hori.	17385.0	43.8	-	43.1	-0.7	32.1	-	54.1	-	68.2	-	14.2	-	Floor noise
Hori.	23180.0	47.3	-	38.5	-1.4	32.6	-	51.7	-	68.2	-	16.5	-	
Vert.	3863.3	47.8	43.0	29.6	5.5	31.1	-	51.8	47.0	73.9	53.9	22.1	6.9	
Vert.	5850.0	56.9	-	32.7	6.2	31.0	-	64.8	-	122.2	-	57.4	-	
Vert.	5855.0	55.5	-	32.7	6.3	31.0	-	63.6	-	110.8	-	47.2	-	
Vert.	5875.0	53.5	-	32.7	6.3	31.0	-	61.5	-	105.2	-	43.7	-	
Vert.	5925.0	46.7	-	32.7	6.4	31.0	-	54.8	-	68.2	-	13.4	-	
Vert.	11590.0	42.8	36.2	39.6	-2.2	32.6	-	47.5	41.0	73.9	53.9	26.4	12.9	
Vert.	17385.0	44.3	-	43.1	-0.7	32.1	-	54.6	-	68.2	-	13.6	-	Floor noise
Vert.	23180.0	47.3	-	38.5	-1.4	32.6	-	51.7	-	68.2	-	16.5	-	

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

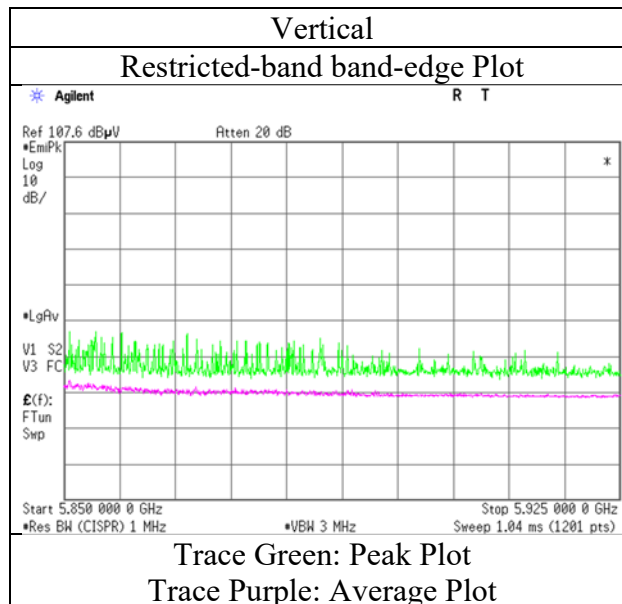
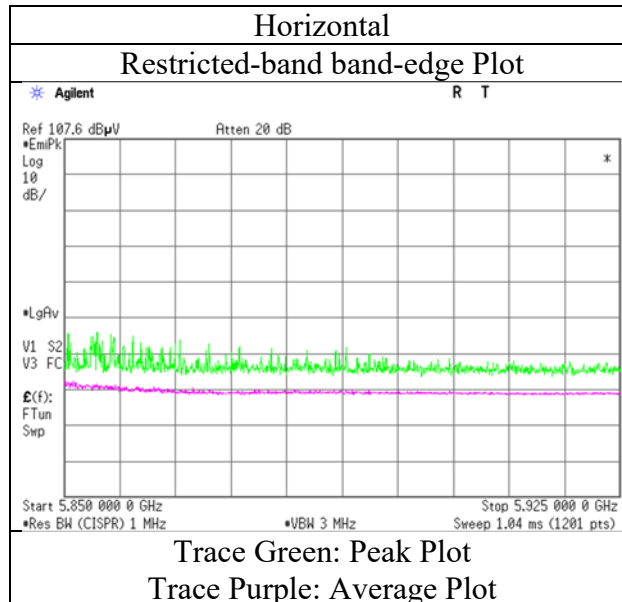
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-40 5795 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-80 5210 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5150.0	57.0	44.3	32.2	5.9	30.9	-	64.3	51.7	73.9	53.9	9.6	2.2	*1)
Hori.	10420.0	43.5	-	39.7	-2.4	32.5	-	48.2	-	68.2	-	20.0	-	-
Hori.	15630.0	42.6	35.1	37.9	-1.2	32.3	-	47.0	39.5	73.9	53.9	26.9	14.4	Floor noise
Hori.	20840.0	47.2	42.1	37.9	-1.8	32.6	-	50.6	45.6	73.9	53.9	23.3	8.3	-
Vert.	5150.0	58.9	46.1	32.2	5.9	30.9	-	66.3	53.4	73.9	53.9	7.7	0.5	*1)
Vert.	10420.0	43.2	-	39.7	-2.4	32.5	-	47.9	-	68.2	-	20.3	-	-
Vert.	15630.0	42.6	35.0	37.9	-1.2	32.3	-	46.9	39.4	73.9	53.9	27.0	14.5	Floor noise
Vert.	20840.0	47.5	42.2	37.9	-1.8	32.6	-	50.9	45.7	73.9	53.9	23.0	8.2	-

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

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

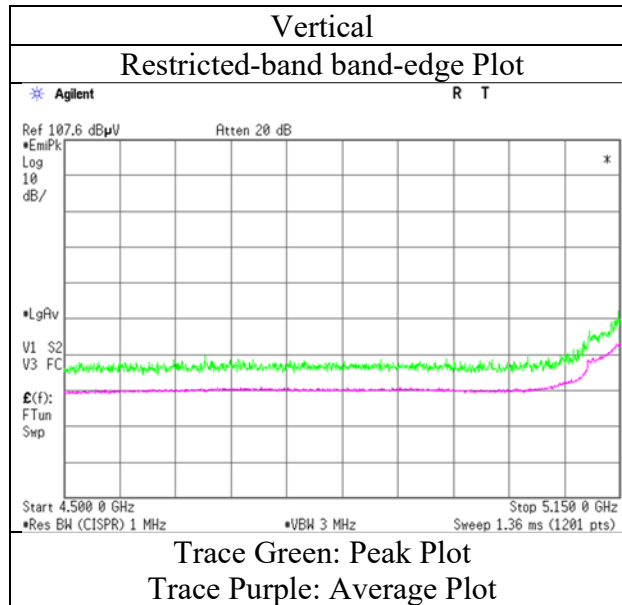
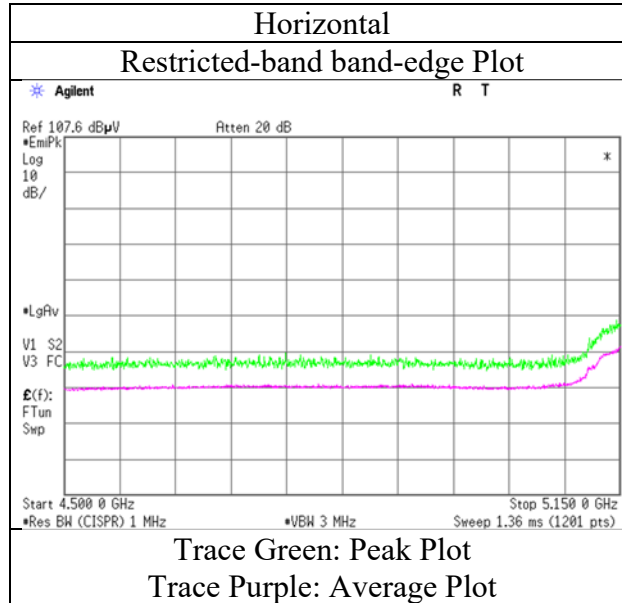
*QP detector was used up to 1GHz.

*1) Integration Method (AV only)

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-80 5210 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 55 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	Tx 11ac-80 5290 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	59.2	45.4	31.8	6.0	30.9	-	66.1	52.3	73.9	53.9	7.8	1.6	*1)
Hori.	10580.0	43.4	-	39.7	-2.4	32.6	-	48.1	-	68.2	-	20.1	-	-
Hori.	15870.0	42.6	34.3	37.8	-1.2	32.3	-	46.9	38.6	73.9	53.9	27.1	15.3	Floor noise
Hori.	21160.0	46.1	40.2	38.0	-1.7	32.6	-	49.8	43.8	73.9	53.9	24.2	10.1	-
Vert.	5350.0	60.5	46.7	31.8	6.0	30.9	-	67.4	53.6	73.9	53.9	6.5	0.3	*1)
Vert.	10580.0	42.3	-	39.7	-2.4	32.6	-	47.0	-	68.2	-	21.2	-	-
Vert.	15870.0	42.7	34.7	37.8	-1.2	32.3	-	47.0	39.0	73.9	53.9	26.9	14.9	Floor noise
Vert.	21160.0	46.4	40.5	38.0	-1.7	32.6	-	50.1	44.2	73.9	53.9	23.9	9.8	-

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

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

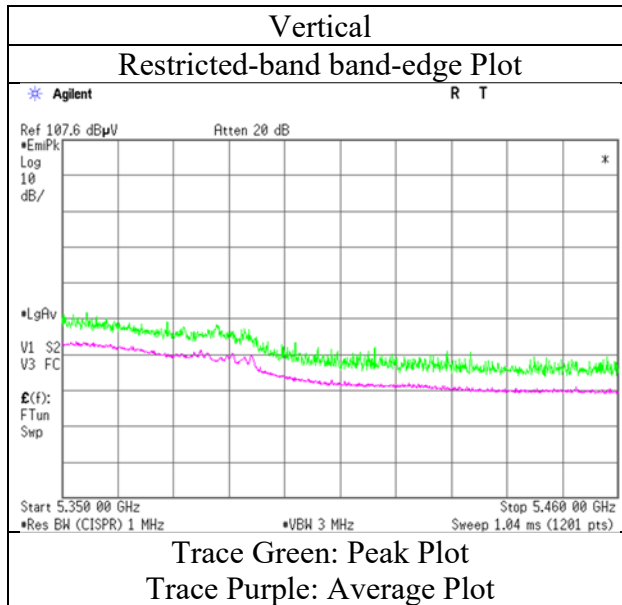
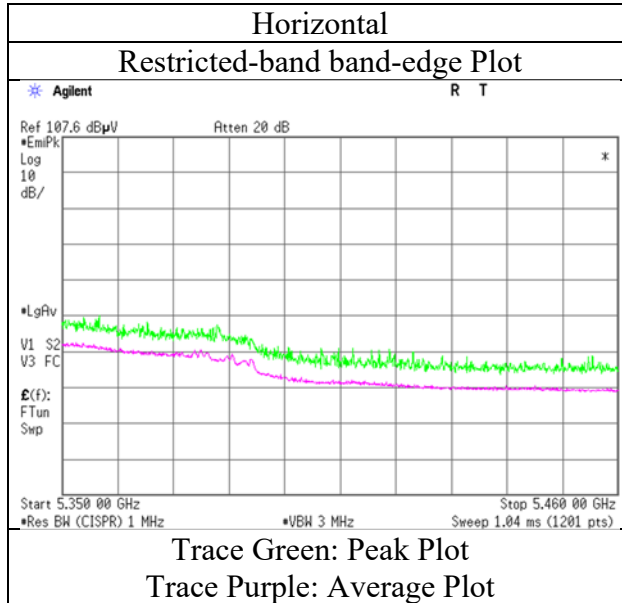
*QP detector was used up to 1GHz.

*1) Integration Method (AV only)

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 55 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-80 5290 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 45 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kiyoshiro Okazaki	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5530 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3686.7	43.6	38.1	29.2	5.4	31.1	-	47.0	41.5	73.9	53.9	26.9	12.4	
Hori.	5460.0	57.3	42.8	32.0	6.1	30.9	-	64.4	49.9	68.2	53.9	3.8	4.0	*1)
Hori.	5470.0	57.7	-	32.1	6.1	30.9	-	64.9	-	68.2	-	3.3	-	-
Hori.	11060.0	42.0	36.0	39.8	-2.3	32.7	-	46.9	40.8	73.9	53.9	27.0	13.1	-
Hori.	16590.0	44.0	-	39.7	-1.0	32.2	-	50.5	-	68.2	-	17.7	-	Floor noise
Hori.	22120.0	46.4	40.9	38.1	-1.5	32.5	-	50.5	45.0	73.9	53.9	23.4	8.9	-
Vert.	3686.7	43.5	37.8	29.2	5.4	31.1	-	46.9	41.2	73.9	53.9	27.0	12.7	-
Vert.	5460.0	58.3	44.4	32.0	6.1	30.9	-	65.5	51.5	68.2	53.9	2.7	2.4	*1)
Vert.	5470.0	56.1	-	32.1	6.1	30.9	-	63.2	-	68.2	-	5.0	-	*1)
Vert.	11060.0	43.5	36.7	39.8	-2.3	32.7	-	48.3	41.5	73.9	53.9	25.6	12.4	-
Vert.	16590.0	43.9	-	39.7	-1.0	32.2	-	50.4	-	68.2	-	17.8	-	Floor noise
Vert.	22120.0	47.3	41.0	38.1	-1.5	32.5	-	51.4	45.1	73.9	53.9	22.5	8.8	-

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

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

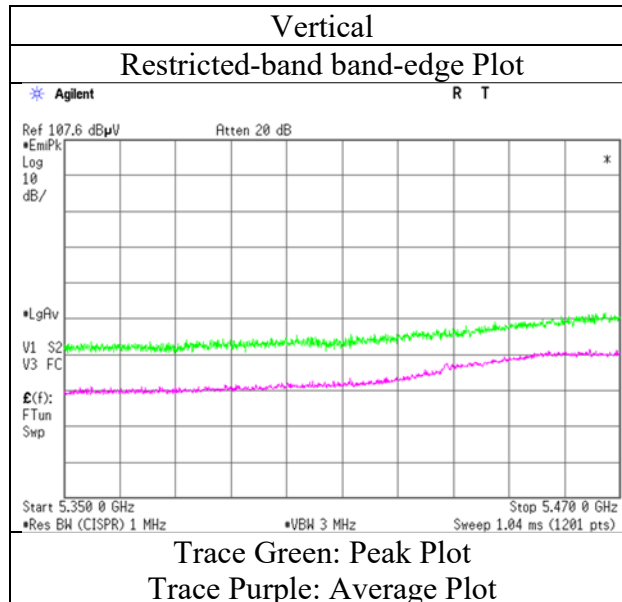
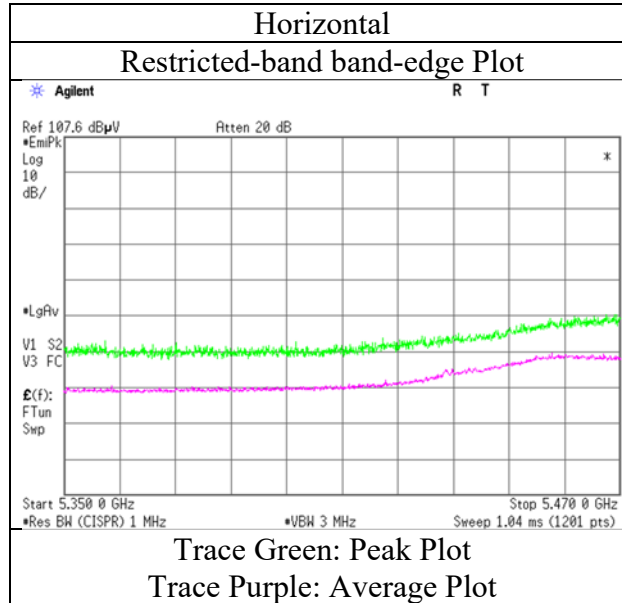
*QP detector was used up to 1GHz.

*1) Integration Method

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$
 10 GHz - 40 GHz $20\log(1.0 \text{ m} / 3.0 \text{ m}) = -9.5 \text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 45 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-80 5530 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 45 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kiyoshiro Okazaki	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
Mode	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
	Tx 11ac-80 5610 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3739.9	44.8	40.1	29.3	5.4	31.1	-	48.4	43.7	73.9	53.9	25.5	10.2	
Hori.	5725.0	47.2	-	32.4	6.2	31.0	-	54.8	-	68.2	-	13.4	-	
Hori.	11220.0	42.3	33.5	39.7	-2.3	32.7	-	47.1	38.2	73.9	53.9	26.9	15.7	
Hori.	16830.0	43.4	-	40.4	-0.9	32.2	-	50.8	-	68.2	-	17.4	-	Floor noise
Hori.	22440.0	46.7	39.8	38.2	-1.5	32.5	-	50.8	44.0	73.9	53.9	23.1	9.9	
Vert.	3739.9	45.3	40.5	29.3	5.4	31.1	-	48.9	44.0	73.9	53.9	25.0	9.9	
Vert.	5725.0	50.7	-	32.4	6.2	31.0	-	58.4	-	68.2	-	9.8	-	
Vert.	11220.0	42.5	35.4	39.7	-2.3	32.7	-	47.2	40.1	73.9	53.9	26.7	13.8	
Vert.	16830.0	43.5	-	40.4	-0.9	32.2	-	50.8	-	68.2	-	17.4	-	Floor noise
Vert.	22440.0	46.7	40.5	38.2	-1.5	32.5	-	50.8	44.6	73.9	53.9	23.1	9.3	

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

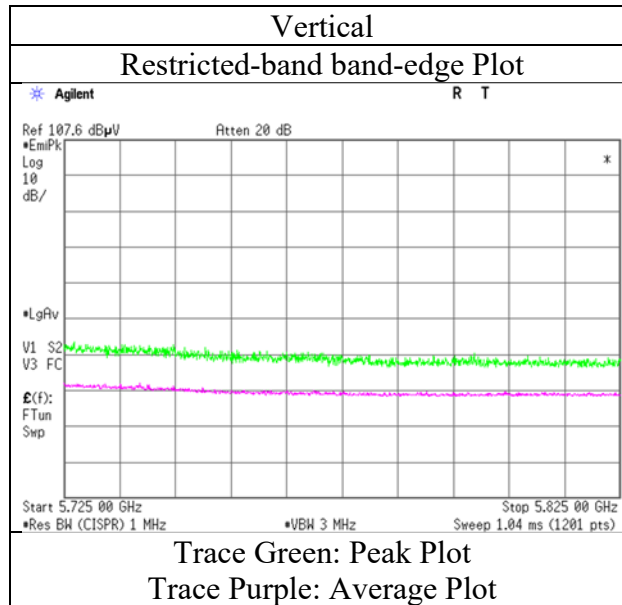
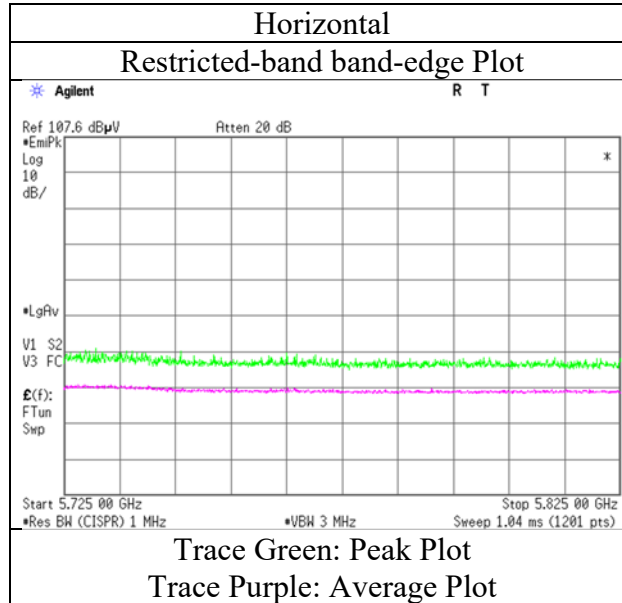
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor: 1 GHz - 10 GHz $20\log(3.95\text{ m} / 3.0\text{ m}) = 2.39\text{ dB}$
 10 GHz - 40 GHz $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 45 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-80 5610 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.4	No.4	No.4	No.4
Date	April 12, 2022	April 13, 2022	April 17, 2022	April 18, 2022
Temperature / Humidity	20 deg. C / 45 % RH	24 deg. C / 45 % RH	22 deg. C / 42 % RH	20 deg. C / 50 % RH
Engineer	Kiyoshiro Okazaki	Kiyoshiro Okazaki	Junya Okuno	Junya Okuno
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)	(26.5 GHz - 40 GHz)
Mode	Tx 11ac-80 5775 MHz			

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	3850.0	45.6	42.5	29.6	5.4	31.1	-	49.6	46.4	73.9	53.9	24.3	7.5	
Hori.	5650.0	49.5	-	32.3	6.1	31.0	-	56.9	-	68.2	-	11.3	-	
Hori.	5700.0	55.4	-	32.4	6.2	31.0	-	63.0	-	105.2	-	42.2	-	
Hori.	5720.0	59.8	-	32.4	6.2	31.0	-	67.5	-	110.8	-	43.4	-	
Hori.	5725.0	61.9	-	32.4	6.2	31.0	-	69.5	-	122.2	-	52.7	-	
Hori.	5850.0	58.1	-	32.7	6.2	31.0	-	66.0	-	122.2	-	56.2	-	
Hori.	5855.0	55.8	-	32.7	6.2	31.0	-	63.8	-	110.8	-	47.0	-	
Hori.	5875.0	50.7	-	32.7	6.2	31.0	-	58.7	-	105.2	-	46.5	-	
Hori.	5925.0	45.0	-	32.7	6.3	31.0	-	53.0	-	68.2	-	15.2	-	
Hori.	11550.0	43.4	35.4	39.8	-2.3	32.6	-	48.3	40.3	73.9	53.9	25.6	13.6	
Hori.	17325.0	44.4	-	42.6	-0.7	32.1	-	54.1	-	68.2	-	14.1	-	Floor noise
Hori.	23100.0	46.8	39.6	38.4	-1.5	32.6	-	51.1	44.0	73.9	53.9	22.8	10.0	
Vert.	3850.0	45.8	42.8	29.6	5.4	31.1	-	49.8	46.8	73.9	53.9	24.1	7.1	
Vert.	5650.0	53.4	-	32.3	6.1	31.0	-	60.8	-	68.2	-	7.4	-	
Vert.	5700.0	59.0	-	32.4	6.2	31.0	-	66.6	-	105.2	-	38.6	-	
Vert.	5720.0	63.0	-	32.4	6.2	31.0	-	70.6	-	110.8	-	40.2	-	
Vert.	5725.0	65.1	-	32.4	6.2	31.0	-	72.7	-	122.2	-	49.5	-	
Vert.	5850.0	62.0	-	32.7	6.2	31.0	-	69.9	-	122.2	-	52.3	-	
Vert.	5855.0	60.1	-	32.7	6.2	31.0	-	68.0	-	110.8	-	42.8	-	
Vert.	5875.0	54.4	-	32.7	6.2	31.0	-	62.4	-	105.2	-	42.8	-	
Vert.	5925.0	47.7	-	32.7	6.3	31.0	-	55.6	-	68.2	-	12.6	-	
Vert.	11550.0	43.6	36.7	39.8	-2.3	32.6	-	48.5	41.5	73.9	53.9	25.5	12.4	
Vert.	17325.0	44.6	-	42.6	-0.7	32.1	-	54.3	-	68.2	-	13.9	-	Floor noise
Vert.	23100.0	46.9	40.6	38.4	-1.5	32.6	-	51.2	45.0	73.9	53.9	22.7	9.0	

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

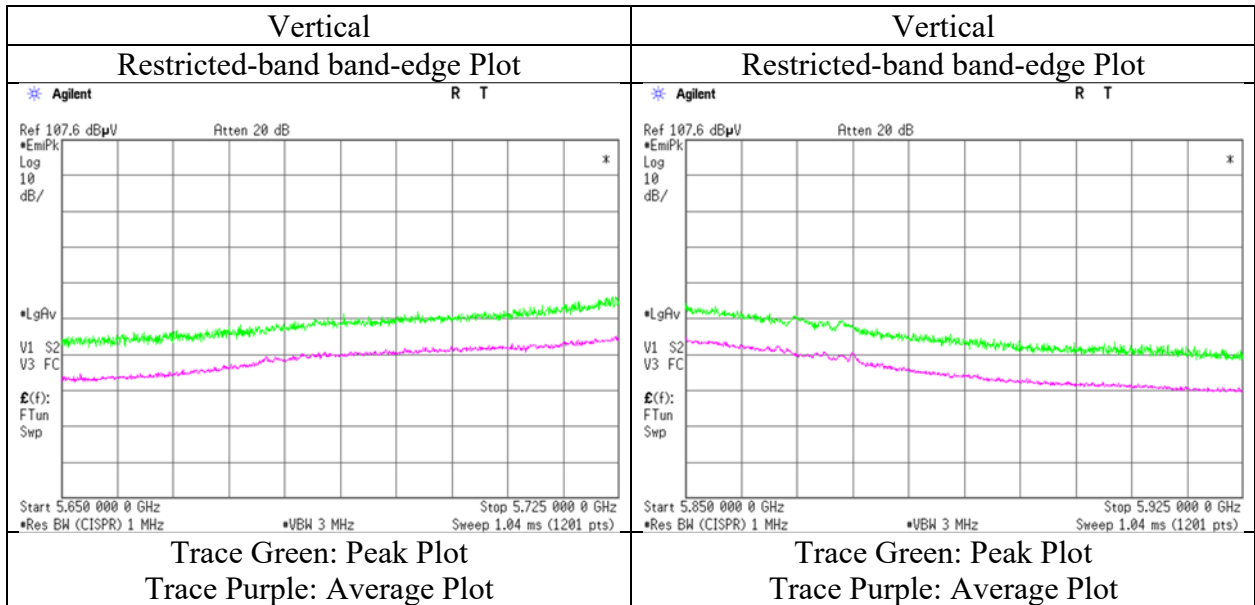
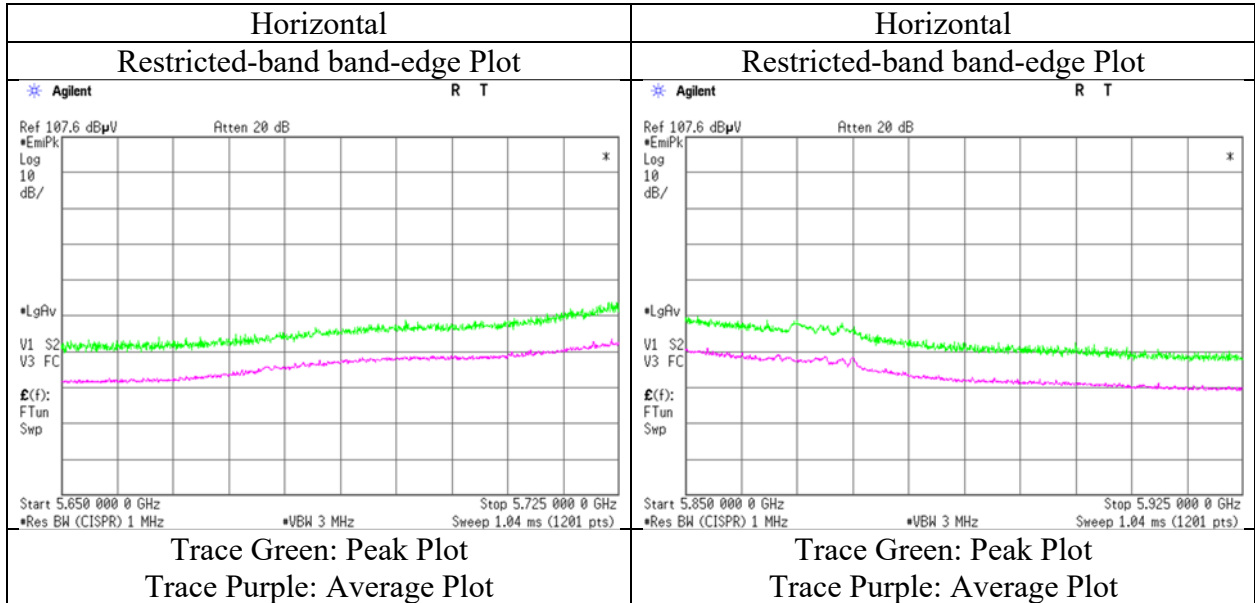
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 12, 2022
Temperature / Humidity	20 deg. C / 45 % RH
Engineer	Kiyoshiro Okazaki (1 GHz - 10 GHz)
Mode	Tx 11ac-80 5775 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.4	No.4	No.4
Date	April 20, 2022	April 24, 2022	April 24, 2022
Temperature / Humidity	22 deg. C / 40 % RH	20 deg. C / 50 % RH	20 deg. C / 50 % RH
Engineer	Nachi Konegawa	Yuta Moriya	Yuta Moriya
	(1 GHz - 18 GHz)	(18 GHz - 40 GHz)	(Below 1GHz)
Mode	Tx 11ac-20, 5300MHz + 3DH5, 2480 MHz		

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	191.8	36.9	-	16.5	8.5	32.0	-	29.9	-	43.5	-	13.6	-	
Hori.	236.2	42.6	-	11.7	8.8	32.0	-	31.1	-	46.0	-	14.9	-	
Hori.	284.8	30.5	-	13.7	9.1	32.0	-	21.3	-	46.0	-	24.7	-	
Hori.	319.3	33.3	-	14.3	9.4	32.1	-	25.0	-	46.0	-	21.0	-	
Hori.	433.5	28.4	-	16.3	10.1	32.2	-	22.7	-	46.0	-	23.3	-	
Hori.	535.1	30.9	-	17.9	10.8	32.3	-	27.2	-	46.0	-	18.8	-	
Hori.	2820.0	48.3	37.8	28.5	5.7	31.5	-	50.9	40.4	73.9	53.9	23.0	13.5	
Hori.	5350.0	53.0	33.2	31.8	7.0	30.9	-	60.9	41.1	73.9	53.9	13.0	12.8	*1)
Hori.	10600.0	42.7	34.5	39.7	-2.4	32.6	-	47.4	39.2	73.9	53.9	26.5	14.7	
Hori.	15900.0	44.5	33.3	37.8	-1.2	32.3	-	48.8	37.6	73.9	53.9	25.1	16.3	Floor noise
Hori.	21200.0	46.7	40.0	38.2	-0.3	33.3	-	51.3	44.6	73.9	53.9	22.6	9.3	
Vert.	45.8	35.3	-	12.7	7.1	32.1	-	23.0	-	40.0	-	17.0	-	
Vert.	72.0	39.1	-	6.3	7.4	32.1	-	20.7	-	40.0	-	19.3	-	
Vert.	102.6	37.7	-	10.7	7.7	32.1	-	24.0	-	43.5	-	19.5	-	
Vert.	191.8	42.3	-	16.5	8.5	32.0	-	35.3	-	43.5	-	8.2	-	
Vert.	235.3	45.0	-	11.7	8.8	32.0	-	33.5	-	46.0	-	12.5	-	
Vert.	535.0	32.2	-	17.9	10.8	32.3	-	28.6	-	46.0	-	17.5	-	
Vert.	2820.0	55.0	44.3	28.5	5.7	31.5	-	57.6	46.9	73.9	53.9	16.3	7.0	
Vert.	5350.0	55.1	34.9	31.8	7.0	30.9	-	63.0	42.8	73.9	53.9	10.9	11.1	*1)
Vert.	10600.0	47.2	37.6	39.7	-2.4	32.6	-	51.9	42.3	73.9	53.9	22.0	11.7	
Vert.	15900.0	44.4	33.3	37.8	-1.2	32.3	-	48.7	37.6	73.9	53.9	25.2	16.3	Floor noise
Vert.	21200.0	45.8	38.8	38.2	-0.3	33.3	-	50.4	43.4	73.9	53.9	23.5	10.5	

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

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

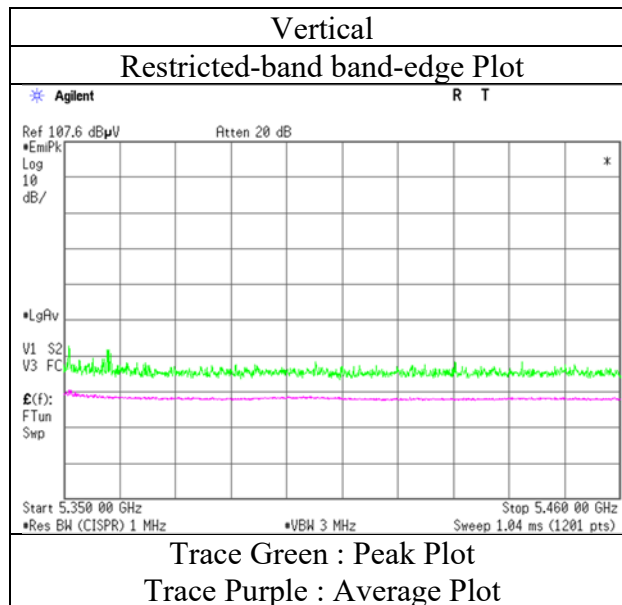
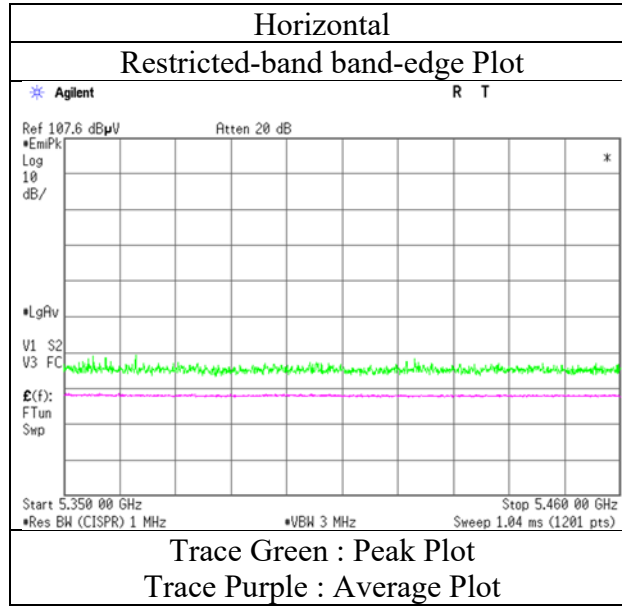
*QP detector was used up to 1GHz.

*1) Integration Method (AV only)

Distance factor:	1 GHz - 10 GHz	20log(3.95 m / 3.0 m) = 2.39 dB
	10 GHz - 40 GHz	20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission (Reference Plot for band-edge)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 20, 2022
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Nachi Konegawa
Mode	(1 GHz - 10 GHz) Tx 11ac-20, 5300MHz + 3DH5, 2480 MHz



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

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 20, 2022
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Nachi Konegawa (1 GHz - 10 GHz)
Mode	Tx 11ac-80, 5210MHz + 3DH5, 2480 MHz

Polarity [Hori/Vert]	Frequency [MHz]	Reading (QP / PK) [dBuV]	Reading (AV) [dBuV]	Ant. Factor [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result (QP / PK) [dBuV/m]	Result (AV) [dBuV/m]	Limit (QP / PK) [dBuV/m]	Limit (AV) [dBuV/m]	Margin (QP / PK) [dB]	Margin (AV) [dB]	Remark
Hori.	5350.0	57.6	44.3	31.8	7.0	30.9	-	65.5	52.3	73.9	53.9	8.4	1.6	*1)
Vert.	5350.0	60.0	45.6	31.8	7.0	30.9	-	67.9	53.5	73.9	53.9	6.0	0.4	*1)

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

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

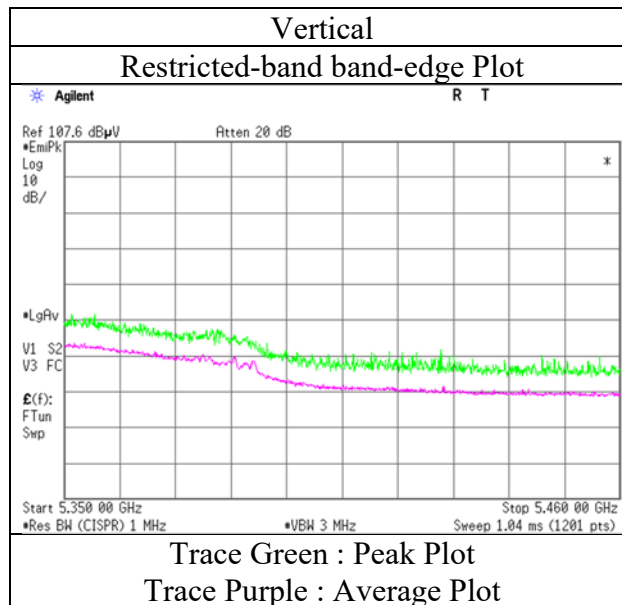
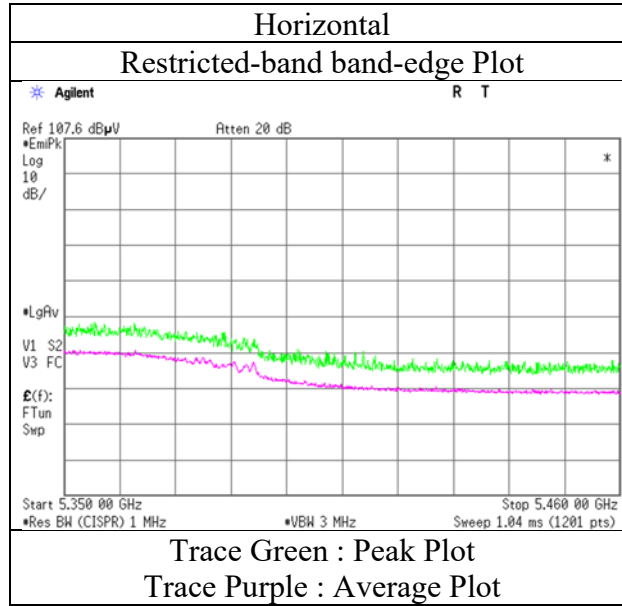
*QP detector was used up to 1GHz.

*1) Integration Method (AV only)

Distance factor: 1 GHz - 10 GHz $20\log(3.95 \text{ m} / 3.0 \text{ m}) = 2.39 \text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.4
Date	April 20, 2022
Temperature / Humidity	22 deg. C / 40 % RH
Engineer	Nachi Konegawa
Mode	(1 GHz - 10 GHz) Tx 11ac-80, 5210MHz + 3DH5, 2480 MHz

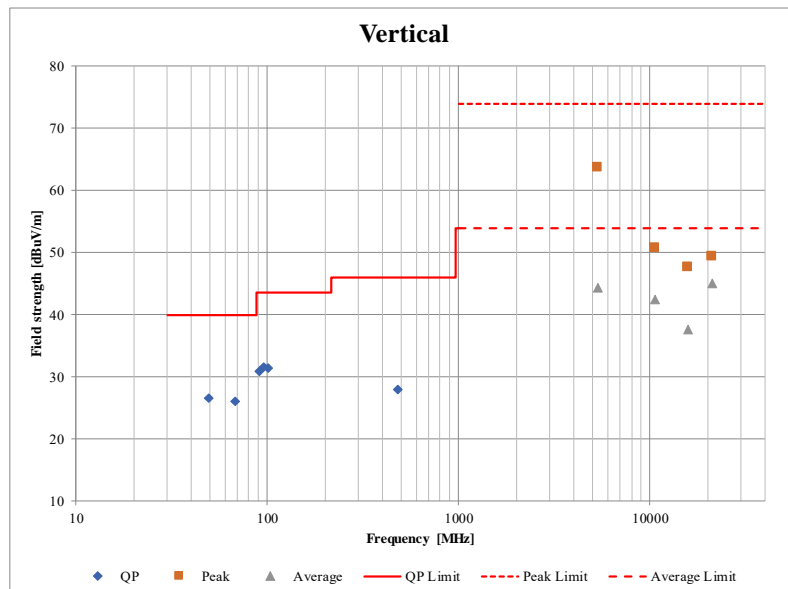
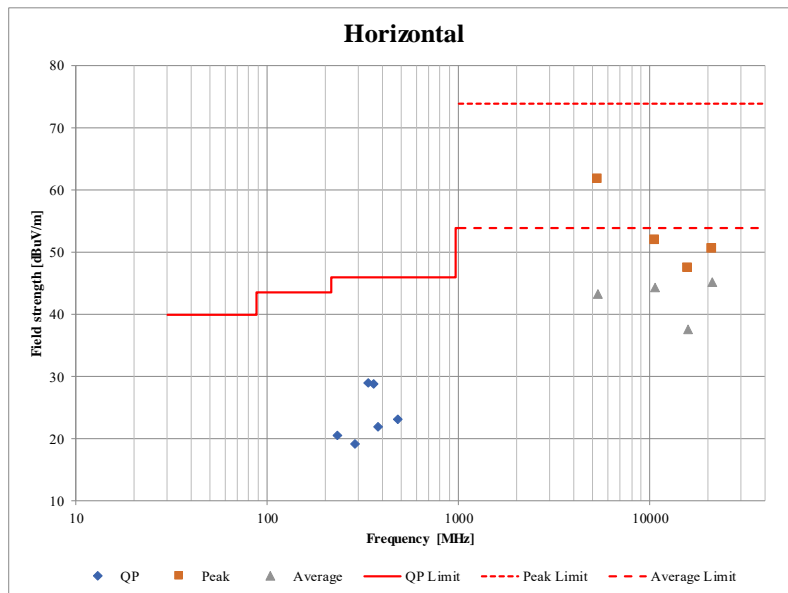


* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

Final result of restricted band edge was shown in tabular data.

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

Test place	Ise EMC Lab.	No.4	No.4	No.4	No.4
Semi Anechoic Chamber	No.4	No.4	No.4	No.4	No.4
Date	April 11, 2022	April 13, 2022	April 14, 2022	April 18, 2022	April 19, 2022
Temperature / Humidity	22 deg. C / 44 % RH	21 deg. C / 59 % RH	21 deg. C / 55 % RH	24 deg. C / 49 % RH	24 deg. C / 34 % RH
Engineer	Junya Okuno (1 GHz - 10 GHz)	Nachi Konegawa (10 GHz - 18 GHz)	Kiyoshiro Okazaki (18 GHz - 26.5 GHz)	Kouki Yamada (26.5 GHz - 40 GHz)	Junya Okuno (Below 1 GHz)
Mode	Tx 11ac-20 5300 MHz				



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

APPENDIX 2: Test Instruments

Test Equipment (1/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	COTS-MEMI-02	178648	EMI measurement program	TSJ (Techno Science Japan)	TEPTO-DV	-	-	-
RE	MAEC-03-SVSWR	142013	AC3_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-10005	04/01/2021	24
RE	MAEC-04	142011	AC4_Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	05/25/2020	24
RE	MAEC-04-SVSWR	142017	AC4_Semi Anechoic Chamber(SVSWR)	TDK	Semi Anechoic Chamber 3m	DA-10005	04/12/2021	24
RE	MAT-95	142314	Attenuator	Pasternack Enterprises	PE7390-6	D/C 1504	06/09/2021	12
RE	MBA-05	141425	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHA9103+BBA9106	VHA 91031302	08/28/2021	12
RE	MCC-178	141227	Microwave Cable	Junkosha	MMX221-00500DMSDMS	1502S305	03/15/2022	12
RE	MCC-231	177964	Microwave Cable	Junkosha INC.	MMX221	1901S329(1m)/1902S579(5m)	03/15/2022	12
RE	MCC-257	208936	Microwave Cable	Huber+Suhner	SF126E/11PC35/11PC35/1000M,5000M	537061/126E / 537076/126E	07/18/2021	12
RE	MCC-50	141397	Coaxial Cable	UL Japan	-	-	11/03/2021	12
RE	MCC-54	141325	Microwave Cable	Suhner	SUCOFLEX101	2873(1m) / 2876(5m)	03/17/2022	12
RE	MHA-17	141506	Horn Antenna 15-40GHz	Schwarzbeck Mess-Elektronik OHG	BBHA9170	BBHA9170307	07/20/2021	12
RE	MHA-20	141507	Horn Antenna 1-18GHz	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	258	11/09/2021	12
RE	MHA-21	141508	Horn Antenna 1-18GHz	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	557	05/10/2021	12
RE	MHF-23	141294	High Pass Filter 7-20GHz	TOKIMEC	TF37NCCC	603	02/24/2022	12
RE	MHF-25	141232	High Pass Filter 3.5-18.0GHz	UL Japan	HPF SELECTOR	001	09/30/2021	12
RE	MHF-26	141296	High Pass Filter 3.5-18.0GHz	UL Japan	HPF SELECTOR	002	09/30/2021	12
RE	MJM-16	142183	Measure	KOMELON	KMC-36	-	-	-
RE	MJM-29	142230	Measure	KOMELON	KMC-36	-	-	-
RE	MLA-23	141267	Logperiodic Antenna(200-1000MHz)	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	9111B-192	08/28/2021	12
RE	MMM-08	141532	DIGITAL HiTESTER	HIOKI E.E. CORPORATION	3805	51201197	01/16/2022	12
RE	MMM-10	141545	DIGITAL HiTESTER	HIOKI E.E. CORPORATION	3805	51201148	01/16/2022	12
RE	MOS-13	141554	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	1301	01/10/2022	12
RE	MOS-15	141562	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0010	01/10/2022	12
RE	MPA-11	141580	MicroWave System Amplifier	Keysight Technologies Inc	83017A	MY39500779	03/17/2022	12
RE	MPA-12	141581	MicroWave System Amplifier	Keysight Technologies Inc	83017A	00650	10/07/2021	12

Test Equipment (2/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	MPA-14	141583	Pre Amplifier	SONOMA INSTRUMENT	310	260833	04/04/2022	12
RE	MPA-22	141588	Pre Amplifier	MITEQ, Inc	AMF-6F-2600400-33-8P / AMF-4F-2600400-33-8P	1871355 /1871328	09/30/2021	12
RE	MSA-03	141884	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY44020357	03/31/2022	12
RE	MSA-14	141901	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY48250080	01/10/2022	12
RE	MSA-22	141978	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY46180899	03/24/2022	12
RE	MTR-03	141942	Test Receiver	Rohde & Schwarz	ESCI	100300	08/05/2021	12
AT	MAT-90	141223	Attenuator	Weinschel Associates	WA56-10	56100306	05/14/2021	12
AT	MCC-208	141287	Microwave Cable	RS Pro	R-132G7210200CD	-	02/28/2022	12
AT	MPM-16	141812	Power Meter	Keysight Technologies Inc	8990B	MY51000271	08/11/2021	12
AT	MPSE-22	141842	Power sensor	Keysight Technologies Inc	N1923A	MY54070003	08/11/2021	12
AT	MOS-15	141562	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	0010	01/10/2022	12
AT	MMM-10	141545	DIGITAL HiTESTER	HIOKI E.E. CORPORATION	3805	51201148	01/16/2022	12

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

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

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

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

Test item:

RE: Radiated Emission

AT: Antenna Terminal Conducted