RADIO TEST REPORT

Test Report No. 14173112H-A

Customer	**Sony Interactive Entertainment Inc.**
Description of EUT	**Wireless communication module**
Model Number of EUT	**J20H100**
FCC ID	**AK8M19DFR1**
Test Regulation	**FCC Part 15 Subpart E: 2021**
Test Result	**Complied (Refer to SECTION 3)**
Issue Date	**February 17, 2022**
Remarks	**WLAN (5 GHz band) part** **For Permissive change** **Except for DFS test** **Radiated Spurious Emission tests only**

Representative Test Engineer	**Approved By**
Yuta Moriya Engineer	Takayuki Shimada Leader

CERTIFICATE 5107.02

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

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

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- 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.: 14173112H-A

Revision	Test Report No.	Date	Page Revised Contents
- (Original)	14173112H-A	February 17, 2022	-

Reference: Abbreviations (Including words undescribed in this report)

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

CONTENTS PAGE

SECTION 1: Customer Information **5**
SECTION 2: Equipment Under Test (EUT) **5**
SECTION 3: Test specification, Procedures & Results **8**
SECTION 4: Operation of EUT during testing **11**
SECTION 5: Radiated Spurious Emission and Band Edge Compliance **14**
APPENDIX 1: Test Data **17**
Burst rate confirmation 17
Radiated Spurious Emission 23
APPENDIX 2: Test Instruments **242**
APPENDIX 3: Photographs of Test Setup **243**
Radiated Spurious Emission 243
Worst Case Position 244
Test Configuration and peripherals 246

SECTION 1: Customer Information

Company Name	Sony Interactive Entertainment Inc.
Brand Name	SONY
Address	1-7-1 Konan, Minato-ku, Tokyo, 108-0075 Japan
Telephone Number	+81-50-3807-5639
Contact Person	Miho Nakamura

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	Wireless communication module
Model Number	J20H100
Serial Number	Refer to SECTION 4.2
Condition	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab
Receipt Date	January 17, 2022
Test Date	January 18 to 31, 2022

2.2 Product Description

General Specification

Rating	DC 3.3 V, DC 1.8 V

Radio Specification

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

Equipment Type	Transceiver	
Frequency of Operation	2412 MHz to 2462 MHz	
Type of Modulation	DSSS, OFDM	
	OFDMA (IEEE802.11ax only)	20 MHz: 26/52/106/242-tone RU
Bandwidth & Channel spacing	Less than 20 MHz & 5 MHz	
Method of frequency generation	Synthesizer	
Antenna Type	PIFA	
Antenna Gain: G_{ANT}	Antenna 1: 5.0 dBi Antenna 2: 5.0 dBi	
Directional Gain *1)	8.01 dBi	
Maximum clock frequency	320 MHz	

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

Equipment Type	Transceiver	
Frequency of Operation	20 M Band: 5180 MHz to 5240 MHz 5260 MHz to 5320 MHz 5500 MHz to 5720 MHz 5745 MHz to 5825 MHz	
	40 M Band: 5190 MHz to 5230 MHz 5270 MHz to 5310 MHz 5510 MHz to 5710 MHz 5755 MHz to 5795 MHz	
	80 M Band: 5210 MHz 5290 MHz 5530 MHz to 5690 MHz 5775 MHz	
Type of Modulation	OFDM	
	OFDMA (IEEE802.11ax only)	20 MHz: 26/52/106/242-tone RU
		40 MHz: 26/52/106/242/484-tone RU
		80 MHz: 26/52/106/242/484/996-tone RU
Bandwidth & Channel spacing	Less than 20 MHz / 40 MHz / 80 MHz & 20 MHz / 40 MHz / 80 MHz	
Method of frequency generation	Synthesizer	
Antenna Type	PIFA	
Antenna Gain: G_{ANT}	Antenna 1: 6.4 dBi Antenna 3: 5.0 dBi	
Directional Gain *1)	8.74 dBi	
Maximum clock frequency	512 MHz	

BT1: Bluetooth (BR / EDR / Low Energy)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	BT: FHSS (GFSK, π/4DQPSK, 8DPSK) BT LE: GFSK
Bandwidth / Channel spacing	BT:79 MHz / 1 MHz BT LE: 1 MHz & 2 MHz / 2 MHz
Method of frequency generation	Synthesizer
Antenna Type	PIFA
Antenna Gain	Antenna 3: 5.8 dBi
Maximum clock frequency	128 MHz

BT2: Bluetooth (BR / EDR / Low Energy)

Equipment Type	Transceiver
Frequency of Operation	2402 MHz to 2480 MHz
Type of Modulation	BT: FHSS (GFSK, π/4DQPSK, 8DPSK) BT LE: GFSK
Bandwidth / Channel spacing	BT:79 MHz / 1 MHz BT LE: 1 MHz & 2 MHz / 2 MHz
Method of frequency generation	Synthesizer
Antenna Type	PIFA
Antenna Gain	Antenna 4: 5.8 dBi
Maximum clock frequency	128 MHz

*1) Directional antenna gain = $10\log((10^{\frac{G_{ANT1}}{20}}+10^{\frac{G_{ANT2}}{20}})^2/2)$

*This test report applies to WLAN (5 GHz band) part.

2.3 Contents of modification

Each antenna was changed from original application.

SECTION 3: Test specification, Procedures & Results

3.1 Test Specification

Test Specification	FCC Part 15 Subpart E FCC Part 15 final revised on May 3, 2021 and effective July 2, 2021
Title	FCC 47 CFR Part 15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices Section 15.407 General technical requirements

3.2 Procedures and Results

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
Spurious Emission Restricted Band Edge	**FCC:** ANSI C63.10-2013 KDB Publication Number 789033	**FCC:** 15.407 (b), 15.205 and 15.209	3.9 dB 928.9 MHz, Vertical, QP	Complied# a)	Radiated (> 30 MHz) *1)
	ISED: -	**ISED:** RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.2			
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422. * 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 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)

The stable voltage will be supplied by the end product, which will be required to have a power supply regulator. Therefore, the EUT complies with the requirement.

FCC Part 15.203/212 Antenna requirement

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

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, Facsimile: +81 596 24 8124

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	-	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0 m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

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 802.11ax MIMO 20 MHz BW (11ax-20)	MCS 9 (2TX), PN9
IEEE 802.11ax MIMO 40 MHz BW (11ax-40)	MCS 10 (2TX), PN9
IEEE 802.11ax MIMO 80 MHz BW (11ax-80)	MCS 10 (1TX), PN9
*The worst antenna and condition was determined based on the test result of Maximum Conducted Output Power.	

*Power of the EUT was set by the software as follows;
- Power Setting: See the table below
- Software: Dut Labtool
- Version: 1.0.0.100
(Date: December 30, 2020, 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.

High Power Setting

		W52			W53/W56/W58		
		20 MHz BW	40 MHz BW	80 MHz BW	20 MHz BW	40 MHz BW	80 MHz BW
OFDM		6.5			8.0		
OFDMA	26-tone RU	-3.5	-6.5	-10.0	-2.0	-5.0	-8.0
	52-tone RU	-0.5	-3.5	-7.0	1.0	-2.0	-5.0
	106-tone RU	3.0	0	-4.0	4.5	1.0	-2.0
	242-tone RU	6.5	4.0	0	8.0	5.0	2.0
	484-tone RU	-	6.5	3.0	-	8.0	5.0
	996-tone RU	-	-	6.5	-	-	8.0

(dBm)

*The details of Operation mode(s)

Test Item	Operating Mode	Tested Antenna	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Radiated Spurious Emission (Below 1 GHz)	Tx 11ax-40 OFDM *1)	Antenna 1 + 3	-	-	-	5755 MHz
Radiated Spurious Emission (Above 1 GHz)	Tx 11ax-20 OFDM *2) Tx 11ax-20 OFDMA *3)	Antenna 1 + 3	5180 MHz	5260 MHz 5320 MHz	5500 MHz *4) 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx 11ax-40 OFDM *2) Tx 11ax-40 OFDMA *3)		5190 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx 11ax-80 OFDM *2) Tx 11ax-80 OFDMA *3)		5210 MHz	5290 MHz	5530 MHz 5610 MHz 5690 MHz	5775 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.
*3) OFDMA configuration tests were conducted only at the band edge since they had lower power and density than OFDM.
*2) Since each of 20 MHz BW (11n-20 / 11ac-20 / 11ax-20), 40 MHz BW (11n-40 / 11ac-40 / 11ax-40) and 80 MHz BW (11ac-80 / 11ax-80) 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) Only 11ax-20 OFDMA (26-tone RU), the test at 5500 MHz was excluded since the EUT didn't support the feature.

Simultaneous transmission (Only Antenna 3 simultaneously transmits BT1 and WLAN 5 GHz on a single antenna.)

Test Item	Mode *1)	Tested Antenna
Radiated Spurious Emission	Tx 11ax-80 5530 MHz (OFDM) + BT1 3DH5 Hopping	Antenna 3

*1) The test was performed on the mode as a representative, because it had the highest power of BT1 at antenna terminal test.

4.2 Configuration and Peripherals

This page has been submitted for a separate exhibit.

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:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ (uV/m)}$$

:P is the e.i.r.p. (Watts)

Test Antennas are used as below;

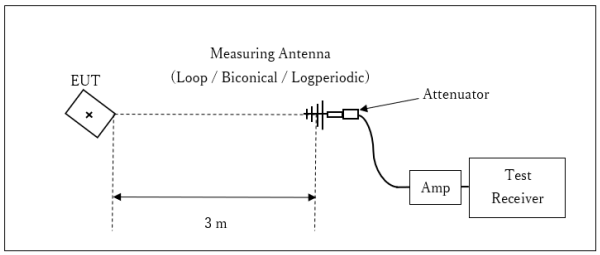
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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 AD *1) RBW: 1 MHz VBW: 3 MHz Detector: Power Averaging (RMS) Trace: ≥ 100 traces If duty cycle was less than 98%, a duty factor was added to the results.

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

Figure 2: Test Setup

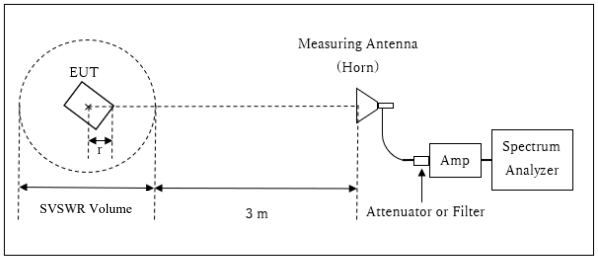
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz to 10 GHz



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

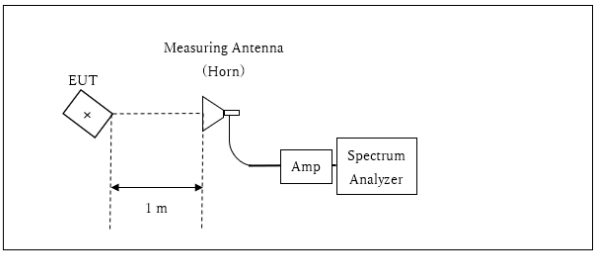
[No.2 Semi Anechoic Chamber]
Distance Factor: 20 x log (3.65 m / 3.0 m) = 1.71 dB
* Test Distance: (3 + SVSWR Volume /2) - r = 3.7 m

SVSWR Volume : 1.5 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 0.1 m

[No.3 Semi Anechoic Chamber]
Distance Factor: 20 x log (3.9 m / 3.0 m) = 2.28 dB
* Test Distance: (3 + SVSWR Volume /2) - r = 3.9 m

SVSWR Volume : 2.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
r = 0.1 m

10 GHz to 40 GHz



× : Center of turn table

Distance Factor: 20 x log (1.0 m / 3.0 m) = -9.5 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

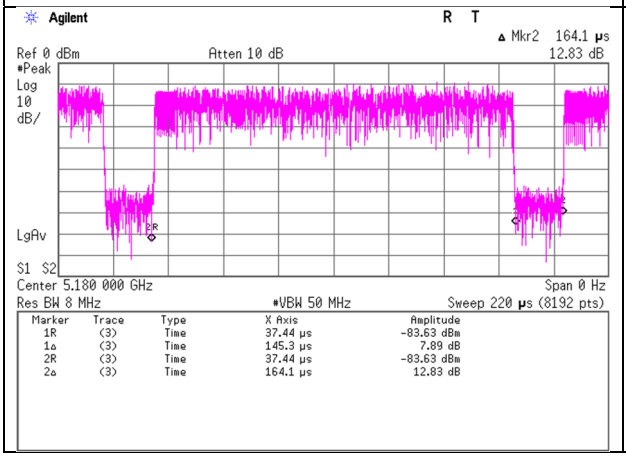
APPENDIX 1: Test Data

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx

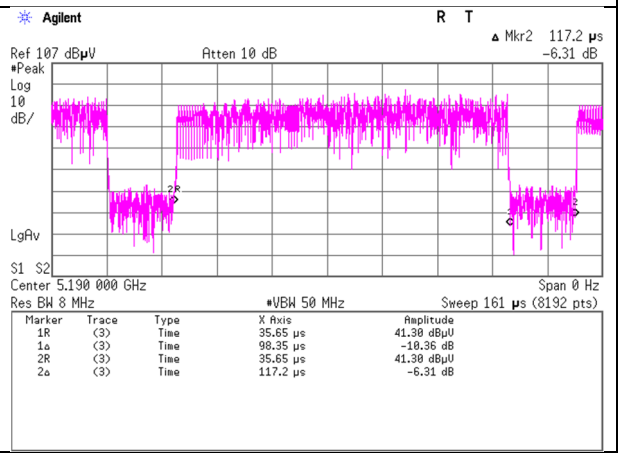
11ax-20 (OFDM) MCS 9

Tx on / (Tx on + Tx off) =	0.885
Tx on / (Tx on + Tx off) * 100 =	88.5 %
Duty factor = 10 * log (164.1 / 145.3) =	0.53 dB



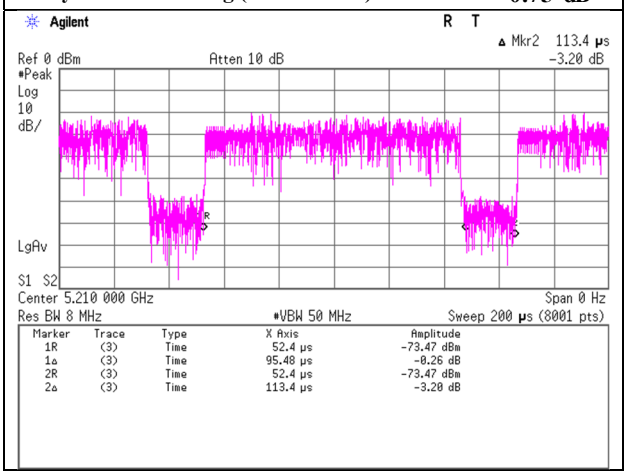
11ax-40 (OFDM) MCS 10

Tx on / (Tx on + Tx off) =	0.839
Tx on / (Tx on + Tx off) * 100 =	83.9 %
Duty factor = 10 * log (117.2 / 98.35) =	0.76 dB



11ax-80 (OFDM) MCS 10

Tx on / (Tx on + Tx off) =	0.842
Tx on / (Tx on + Tx off) * 100 =	84.2 %
Duty factor = 10 * log (113.4 / 95.48) =	0.75 dB



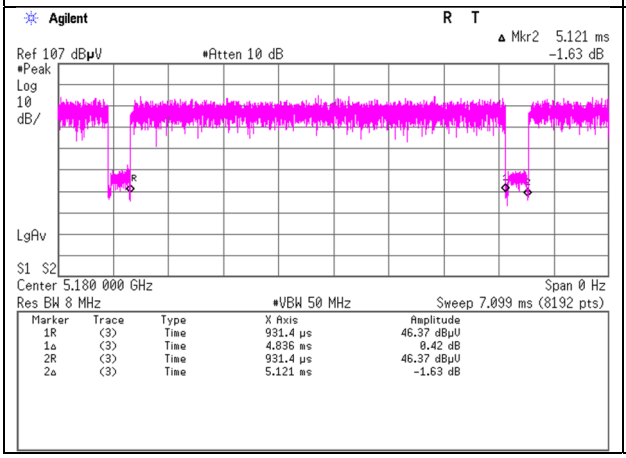
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx

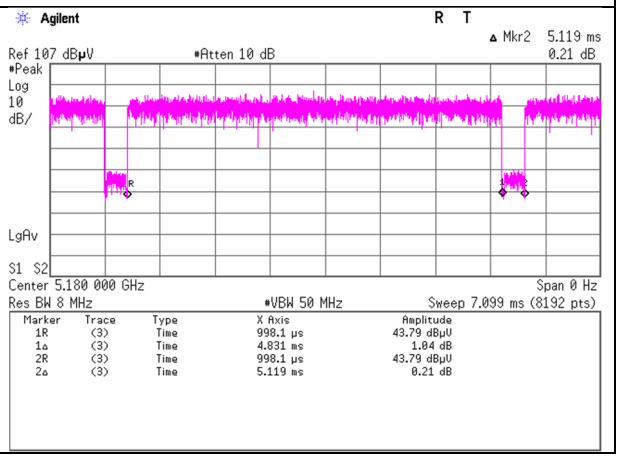
11ax-20 (26-tone RU) MCS 9

Tx on / (Tx on + Tx off) =	**0.944**
Tx on / (Tx on + Tx off) * 100 =	**94.4 %**
Duty factor = 10 * log (5.121 / 4.836) =	**0.25 dB**



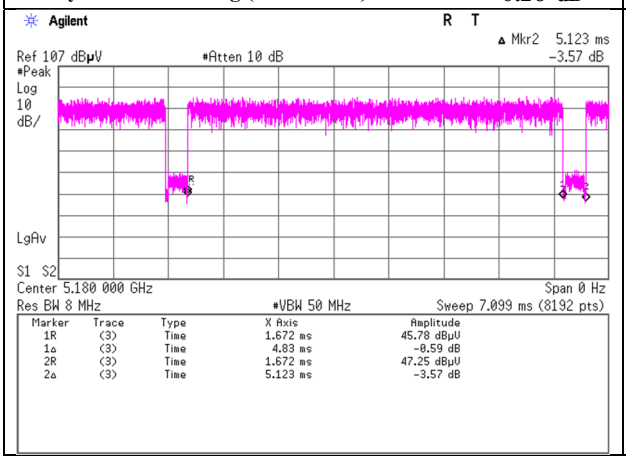
11ax-20 (52-tone RU) MCS 9

Tx on / (Tx on + Tx off) =	**0.944**
Tx on / (Tx on + Tx off) * 100 =	**94.4 %**
Duty factor = 10 * log (5.119 / 4.831) =	**0.25 dB**



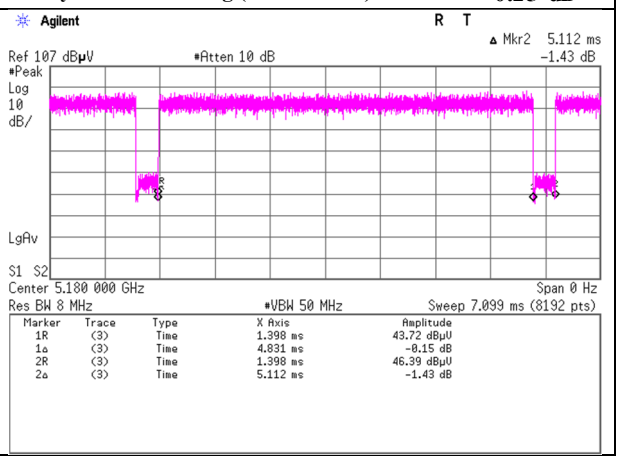
11ax-20 (106-tone RU) MCS 9

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.123 / 4.83) =	**0.26 dB**



11ax-20 (242-tone RU) MCS 9

Tx on / (Tx on + Tx off) =	**0.945**
Tx on / (Tx on + Tx off) * 100 =	**94.5 %**
Duty factor = 10 * log (5.112 / 4.831) =	**0.25 dB**



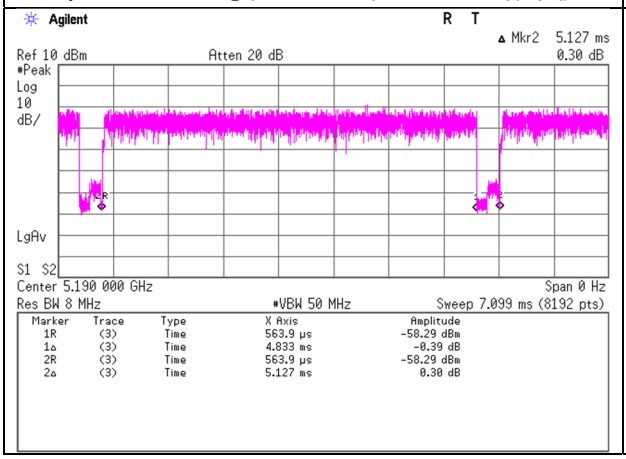
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 20, 2022
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Takeshi Hiyaji
Mode	Tx

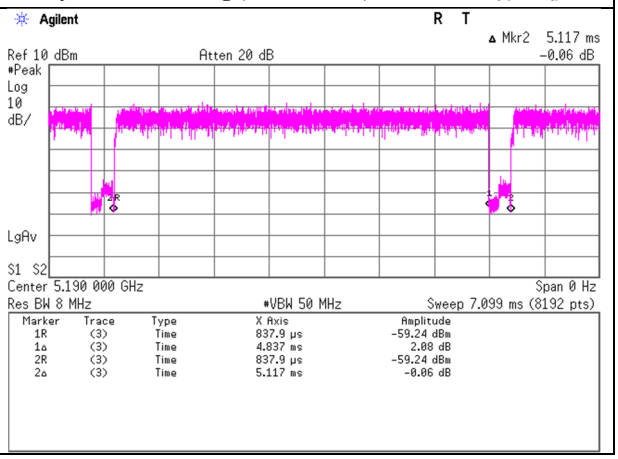
11ax-40 (26-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.127 / 4.833) =	**0.26 dB**



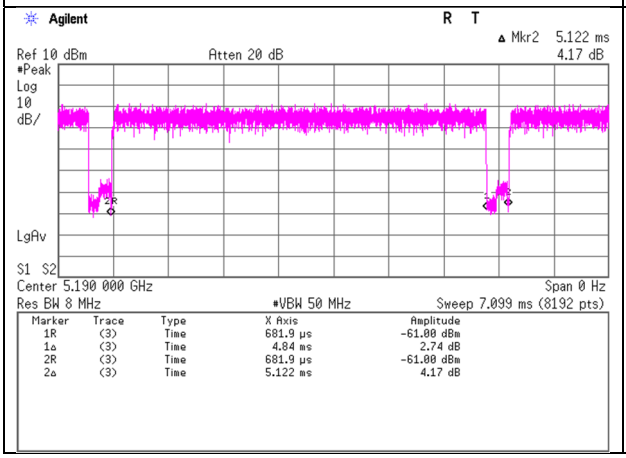
11ax-40 (52-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.945**
Tx on / (Tx on + Tx off) * 100 =	**94.5 %**
Duty factor = 10 * log (5.117 / 4.837) =	**0.24 dB**



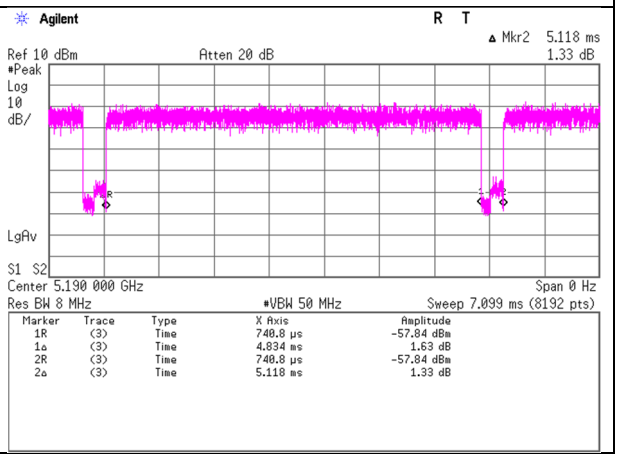
11ax-40 (106-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.945**
Tx on / (Tx on + Tx off) * 100 =	**94.5 %**
Duty factor = 10 * log (5.122 / 4.84) =	**0.25 dB**



11ax-20 (242-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.945**
Tx on / (Tx on + Tx off) * 100 =	**94.5 %**
Duty factor = 10 * log (5.118 / 4.834) =	**0.25 dB**



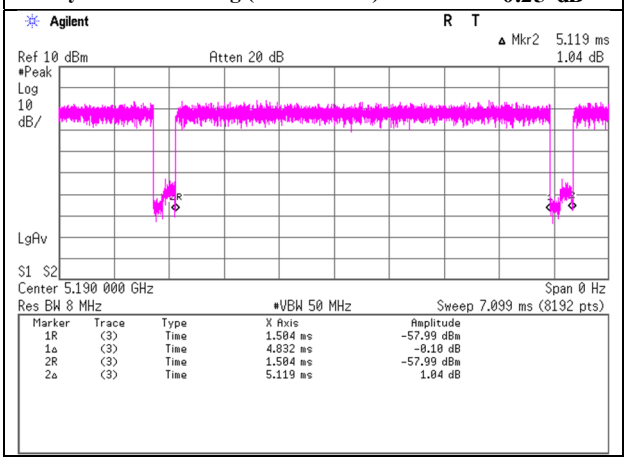
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 20, 2022
Temperature / Humidity	24 deg. C / 41 % RH
Engineer	Takeshi Hiyaji
Mode	Tx

11ax-40 (484-tone RU)
MCS 10

Tx on / (Tx on + Tx off) =	**0.944**
Tx on / (Tx on + Tx off) * 100 =	**94.4 %**
Duty factor = 10 * log (5.119 / 4.832) =	**0.25 dB**



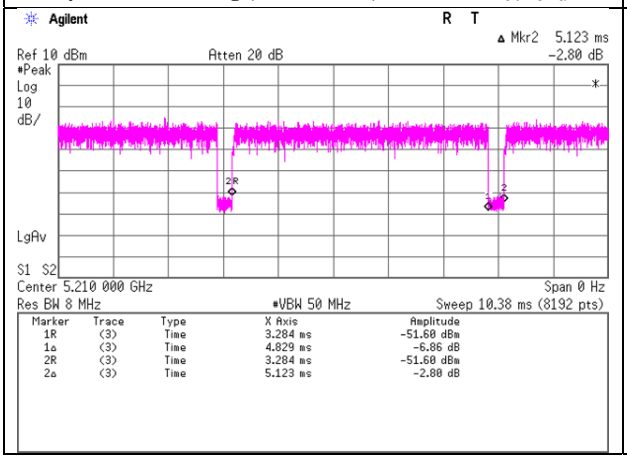
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 22, 2022
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takumi Nishida
Mode	Tx

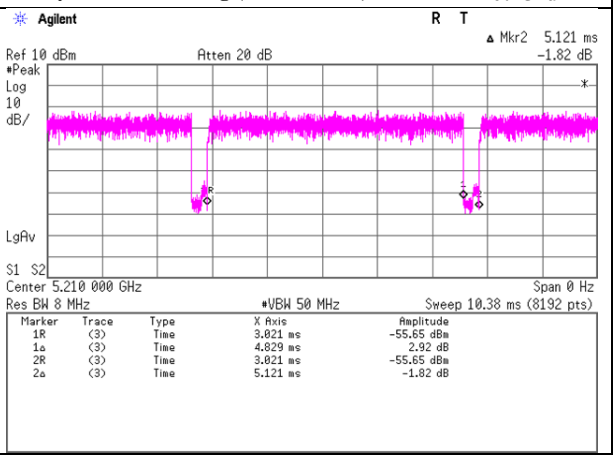
11ax-80 (26-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.123 / 4.829) =	**0.26 dB**



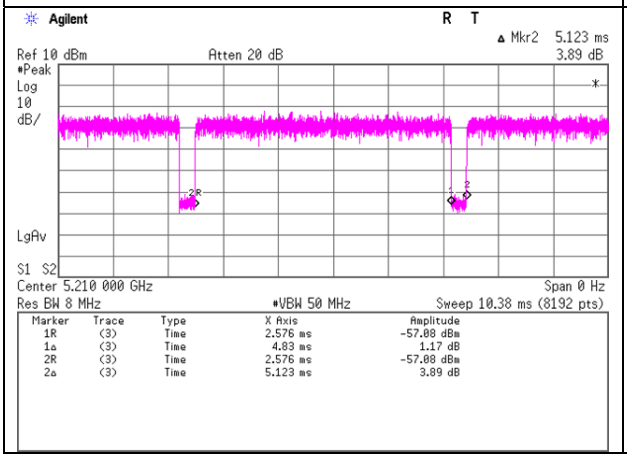
11ax-80 (52-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.121 / 4.829) =	**0.25 dB**



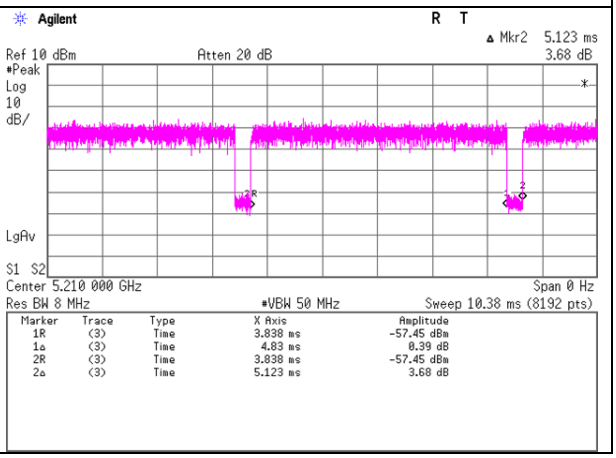
11ax-80 (106-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.123 / 4.83) =	**0.26 dB**



11ax-80 (242-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.123 / 4.83) =	**0.26 dB**



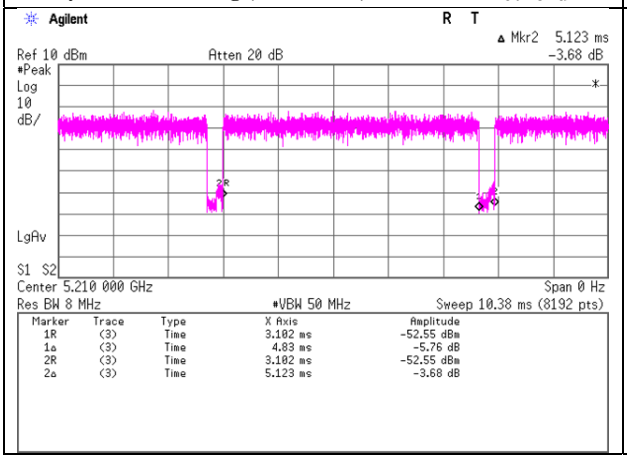
* Since the burst rate is not different between the channels, the data has been obtained on the representative channel.

Burst rate confirmation

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 22, 2022
Temperature / Humidity	22 deg. C / 41 % RH
Engineer	Takumi Nishida
Mode	Tx

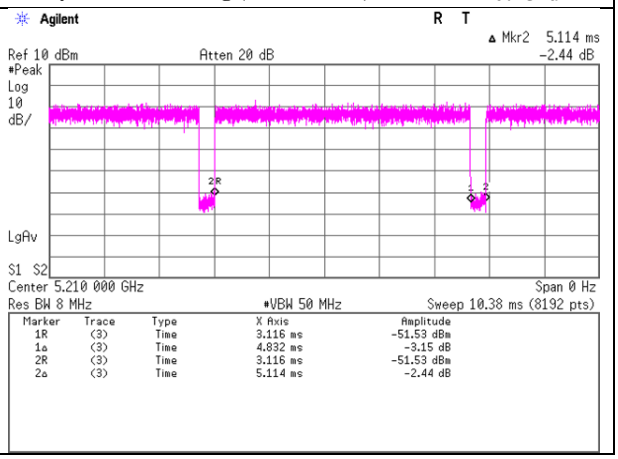
11ax-80 (484-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.943**
Tx on / (Tx on + Tx off) * 100 =	**94.3 %**
Duty factor = 10 * log (5.123 / 4.83) =	**0.26 dB**



11ax-80 (996-tone RU) MCS 10

Tx on / (Tx on + Tx off) =	**0.945**
Tx on / (Tx on + Tx off) * 100 =	**94.5 %**
Duty factor = 10 * log (5.114 / 4.832) =	**0.25 dB**



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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5180 MHz (OFDM)		

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	43.3	34.7	31.7	5.4	33.7	0.5	46.8	38.7	73.9	53.9	27.2	15.2	*1)
Hori.	10360.0	44.3	-	39.2	-2.5	34.0	-	47.0	-	68.2	-	21.2	-	Floor noise
Hori.	15540.0	44.8	36.4	37.4	-0.8	32.9	-	48.4	40.1	73.9	53.9	25.5	13.8	Floor noise
Vert.	5150.0	43.2	34.3	31.7	5.4	33.7	0.5	46.6	38.2	73.9	53.9	27.3	15.7	*1)
Vert.	10360.0	44.3	-	39.2	-2.5	34.0	-	47.0	-	68.2	-	21.2	-	Floor noise
Vert.	15540.0	44.8	36.4	37.4	-0.8	32.9	-	48.4	40.1	73.9	53.9	25.5	13.8	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

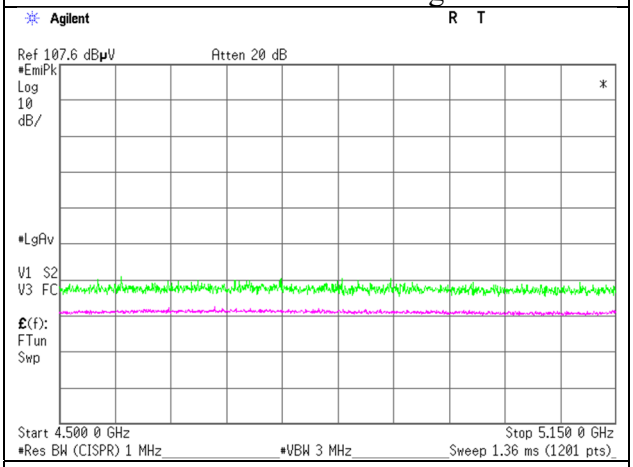
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji (1 GHz - 10 GHz)
Mode	Tx 11ax-20 5180 MHz (OFDM)

Horizontal

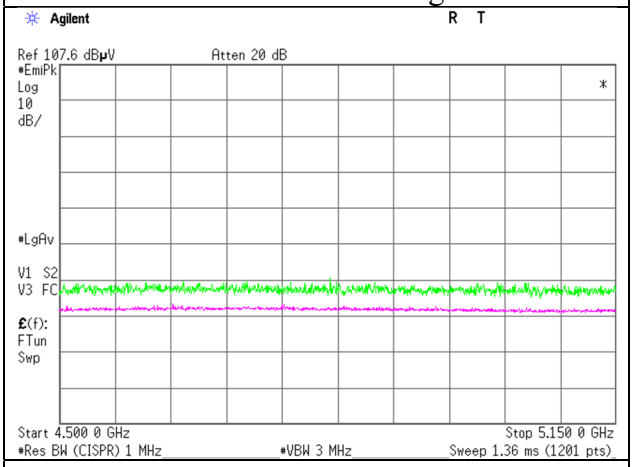
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5260 MHz (OFDM)		

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	42.9	-	39.2	-2.4	33.9	-	45.8	-	68.2	-	22.5	-	Floor noise
Hori.	15780.0	44.3	36.4	37.2	-0.8	33.1	-	47.6	39.7	73.9	53.9	26.3	14.2	Floor noise
Vert.	10520.0	42.9	-	39.2	-2.4	33.9	-	45.8	-	68.2	-	22.5	-	Floor noise
Vert.	15780.0	44.3	36.4	37.2	-0.8	33.1	-	47.6	39.7	73.9	53.9	26.3	14.2	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5320 MHz (OFDM)		

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	43.6	35.2	31.6	5.5	33.6	0.5	47.0	39.2	73.9	53.9	26.9	14.7	*1)
Hori.	10640.0	43.2	34.8	39.2	-2.4	33.8	-	46.1	37.7	73.9	53.9	27.8	16.2	Floor noise
Hori.	15960.0	44.8	36.7	37.6	-0.8	33.2	-	48.4	40.4	73.9	53.9	25.5	13.5	Floor noise
Vert.	5350.0	44.1	35.3	31.6	5.5	33.6	0.5	47.6	39.3	73.9	53.9	26.3	14.6	*1)
Vert.	10640.0	43.2	34.8	39.2	-2.4	33.8	-	46.1	37.7	73.9	53.9	27.8	16.2	Floor noise
Vert.	15960.0	44.8	36.7	37.6	-0.8	33.2	-	48.4	40.4	73.9	53.9	25.5	13.5	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

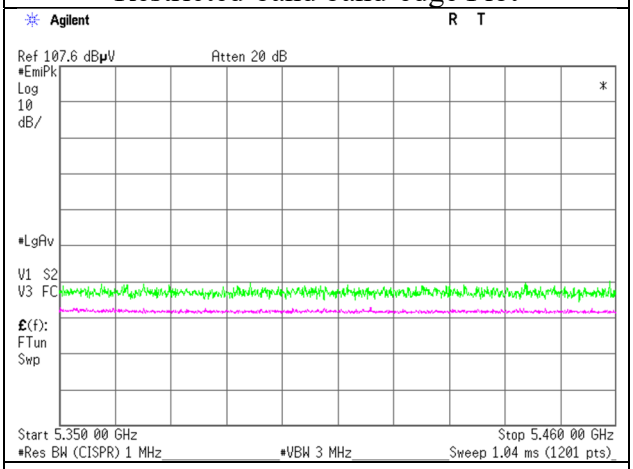
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-20 5320 MHz (OFDM)

Horizontal

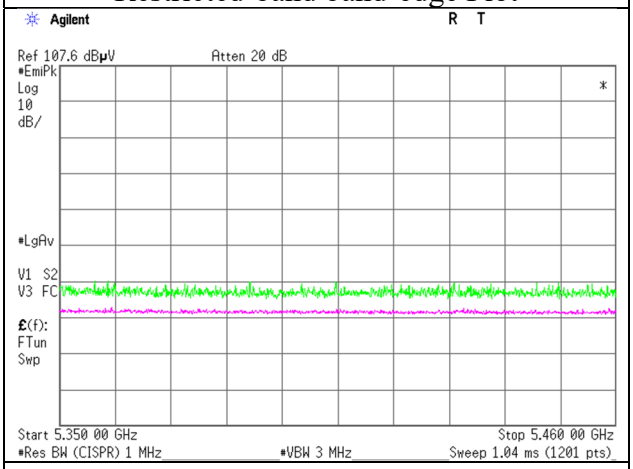
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5500 MHz (OFDM)		

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.	5460.0	43.2	34.9	31.8	5.5	33.5	0.5	47.0	39.2	68.2	53.9	21.2	14.7	*1)
Hori.	5470.0	45.1	-	31.8	5.5	33.5	-	48.9	-	68.2	-	19.3	-	
Hori.	11000.0	43.3	35.2	39.6	-2.3	33.6	-	47.0	38.9	73.9	53.9	26.9	15.0	Floor noise
Hori.	16500.0	44.9	-	39.8	-0.7	32.8	-	51.2	-	68.2	-	17.0	-	Floor noise
Vert.	5460.0	43.2	34.5	31.8	5.5	33.5	0.5	47.0	38.8	68.2	53.9	21.2	15.1	*1)
Vert.	5470.0	43.8	-	31.8	5.5	33.5	-	47.6	-	68.2	-	20.6	-	
Vert.	11000.0	43.3	35.2	39.6	-2.3	33.6	-	47.0	38.9	73.9	53.9	26.9	15.0	Floor noise
Vert.	16500.0	44.9	-	39.8	-0.7	32.8	-	51.2	-	68.2	-	17.0	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

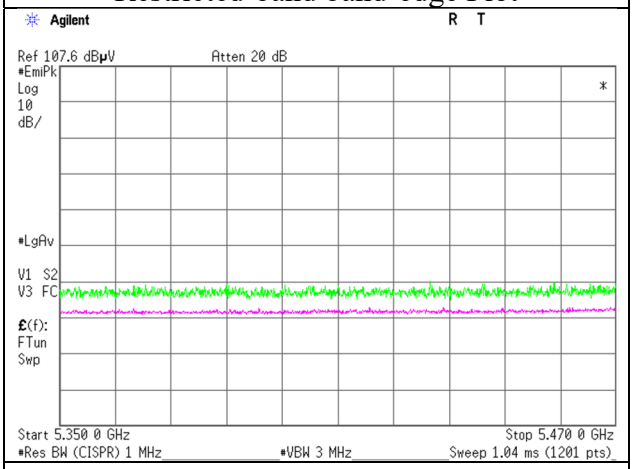
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-20 5500 MHz (OFDM)

Horizontal

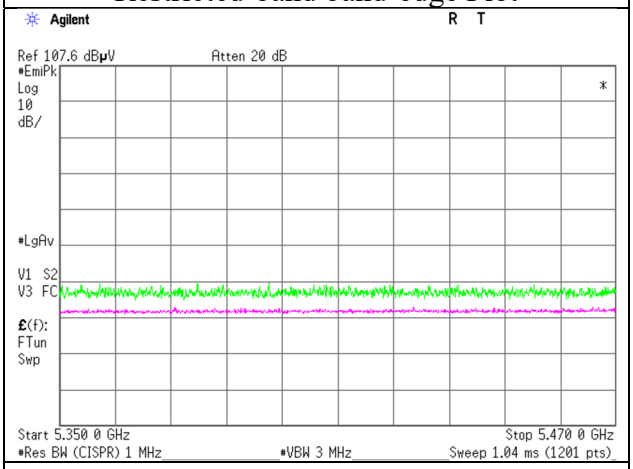
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5580 MHz (OFDM)		

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.	11160.0	44.0	35.1	39.5	-2.2	33.5	-	47.8	38.9	73.9	53.9	26.2	15.0	Floor noise
Hori.	16740.0	44.8	-	40.6	-0.7	32.6	-	52.1	-	68.2	-	16.2	-	Floor noise
Vert.	11160.0	44.0	35.1	39.5	-2.2	33.5	-	47.8	38.9	73.9	53.9	26.2	15.0	Floor noise
Vert.	16740.0	44.8	-	40.6	-0.7	32.6	-	52.1	-	68.2	-	16.2	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5700 MHz (OFDM)		

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.	5725.0	45.0	-	31.9	5.6	33.5	-	49.0	-	68.2	-	19.2	-	
Hori.	11400.0	44.0	35.0	39.6	-2.0	33.5	-	48.1	39.1	73.9	53.9	25.8	14.8	Floor noise
Hori.	17100.0	44.9	-	41.3	-0.6	32.4	-	53.2	-	68.2	-	15.0	-	Floor noise
Vert.	5725.0	43.7	-	31.9	5.6	33.5	-	47.7	-	68.2	-	20.5	-	
Vert.	11400.0	44.0	35.0	39.6	-2.0	33.5	-	48.1	39.1	73.9	53.9	25.8	14.8	Floor noise
Vert.	17100.0	44.9	-	41.3	-0.6	32.4	-	53.2	-	68.2	-	15.0	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

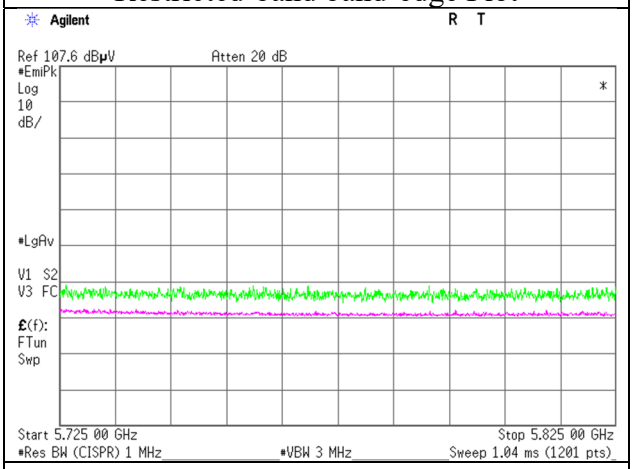
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-20 5700 MHz (OFDM)

Horizontal

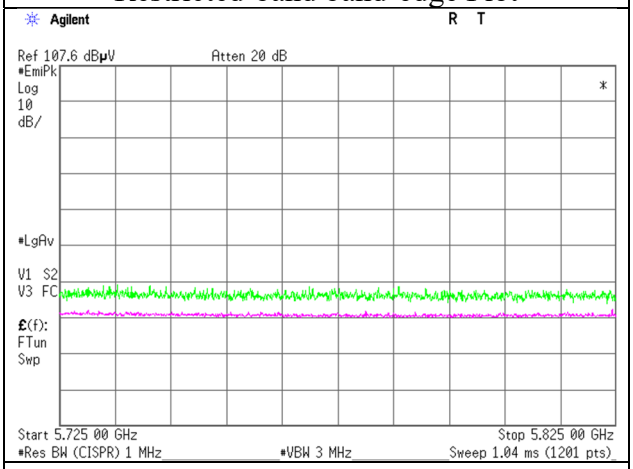
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5745 MHz (OFDM)		

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.	5650.0	43.1	-	31.8	5.6	33.5	-	47.0	-	68.2	-	21.2	-	
Hori.	5700.0	43.4	-	31.9	5.6	33.5	-	47.3	-	105.2	-	57.9	-	
Hori.	5720.0	46.9	-	31.9	5.6	33.5	-	50.9	-	110.8	-	59.9	-	
Hori.	5725.0	49.1	-	31.9	5.6	33.5	-	53.1	-	122.2	-	69.1	-	
Hori.	11490.0	43.2	34.7	39.5	-2.0	33.5	-	47.2	38.8	73.9	53.9	26.7	15.2	Floor noise
Hori.	17235.0	44.1	-	42.3	-0.6	32.4	-	53.4	-	68.2	-	14.8	-	Floor noise
Vert.	5650.0	42.9	-	31.8	5.6	33.5	-	46.8	-	68.2	-	21.5	-	
Vert.	5700.0	43.1	-	31.9	5.6	33.5	-	47.0	-	105.2	-	58.2	-	
Vert.	5720.0	43.8	-	31.9	5.6	33.5	-	47.8	-	110.8	-	63.0	-	
Vert.	5725.0	45.8	-	31.9	5.6	33.5	-	49.8	-	122.2	-	72.4	-	
Vert.	11490.0	43.2	34.7	39.5	-2.0	33.5	-	47.2	38.8	73.9	53.9	26.7	15.2	Floor noise
Vert.	17235.0	44.1	-	42.3	-0.6	32.4	-	53.4	-	68.2	-	14.8	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

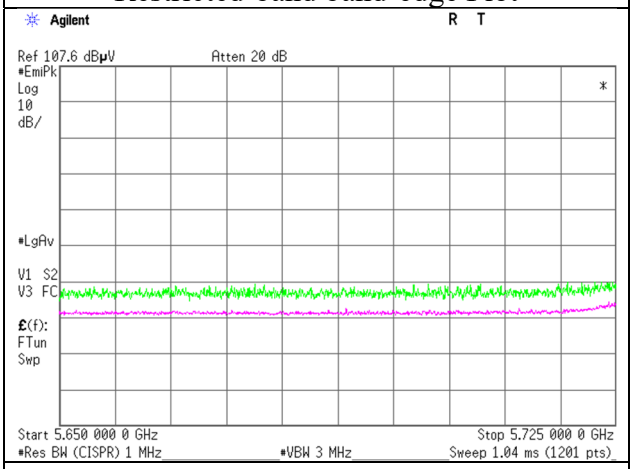
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-20 5745 MHz (OFDM)

Horizontal

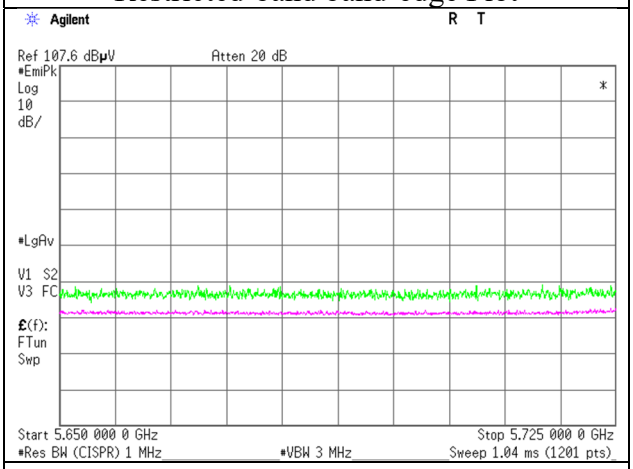
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5785 MHz (OFDM)		

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.	11570.0	43.3	34.8	39.2	-1.9	33.4	-	47.2	38.6	73.9	53.9	26.8	15.3	Floor noise
Hori.	17355.0	43.7	-	43.4	-0.5	32.4	-	54.2	-	68.2	-	14.0	-	Floor noise
Vert.	11570.0	43.3	34.8	39.2	-1.9	33.4	-	47.2	38.6	73.9	53.9	26.8	15.3	Floor noise
Vert.	17355.0	43.7	-	43.4	-0.5	32.4	-	54.2	-	68.2	-	14.0	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-20 5825 MHz (OFDM)		

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.	5850.0	47.6	-	32.2	5.7	33.5	-	51.9	-	122.2	-	70.3	-	
Hori.	5855.0	45.5	-	32.2	5.7	33.5	-	49.8	-	110.8	-	61.0	-	
Hori.	5875.0	44.1	-	32.2	5.7	33.5	-	48.5	-	105.2	-	56.8	-	
Hori.	5925.0	42.9	-	32.3	5.7	33.5	-	47.3	-	68.2	-	20.9	-	
Hori.	11650.0	44.3	35.1	38.9	-1.9	33.4	-	48.0	38.7	73.9	53.9	26.0	15.2	Floor noise
Hori.	17475.0	44.4	-	44.2	-0.5	32.4	-	55.8	-	68.2	-	12.4	-	Floor noise
Vert.	5850.0	44.7	-	32.2	5.7	33.5	-	49.0	-	122.2	-	73.2	-	
Vert.	5855.0	44.1	-	32.2	5.7	33.5	-	48.4	-	110.8	-	62.4	-	
Vert.	5875.0	43.3	-	32.2	5.7	33.5	-	47.6	-	105.2	-	57.6	-	
Vert.	5925.0	42.1	-	32.3	5.7	33.5	-	46.6	-	68.2	-	21.7	-	
Vert.	11650.0	44.3	35.1	38.9	-1.9	33.4	-	48.0	38.7	73.9	53.9	26.0	15.2	Floor noise
Vert.	17475.0	44.4	-	44.2	-0.5	32.4	-	55.8	-	68.2	-	12.4	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

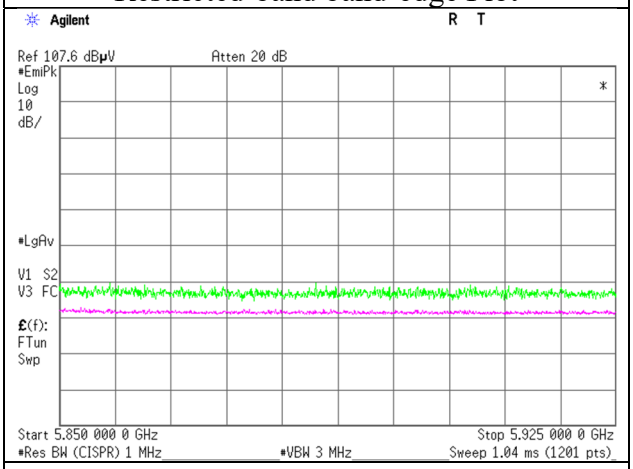
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-20 5825 MHz (OFDM)

Horizontal

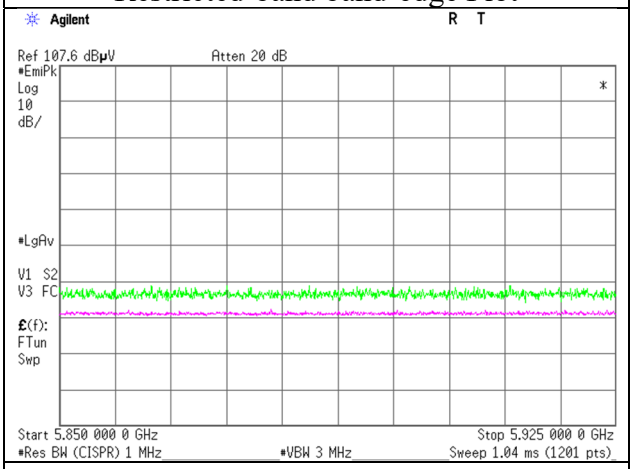
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5190 MHz (OFDM)		

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	46.6	35.6	31.7	5.4	33.7	0.8	50.0	39.7	73.9	53.9	23.9	14.2	*1)
Hori.	10380.0	44.4	-	39.2	-2.5	34.0	-	47.1	-	68.2	-	21.1	-	Floor noise
Hori.	15570.0	44.5	36.7	37.3	-0.8	32.9	-	48.1	40.2	73.9	53.9	25.8	13.7	Floor noise
Vert.	5150.0	46.0	34.9	31.7	5.4	33.7	0.8	49.4	39.0	73.9	53.9	24.5	14.9	*1)
Vert.	10380.0	44.4	-	39.2	-2.5	34.0	-	47.1	-	68.2	-	21.1	-	Floor noise
Vert.	15570.0	44.5	36.7	37.3	-0.8	32.9	-	48.1	40.2	73.9	53.9	25.8	13.7	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

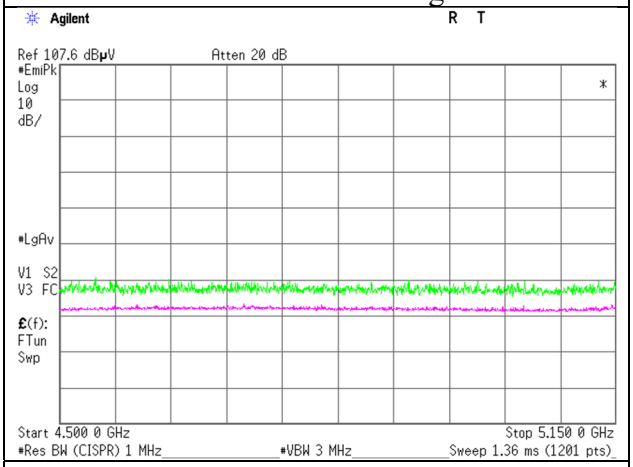
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji (1 GHz - 10 GHz)
Mode	Tx 11ax-40 5190 MHz (OFDM)

Horizontal

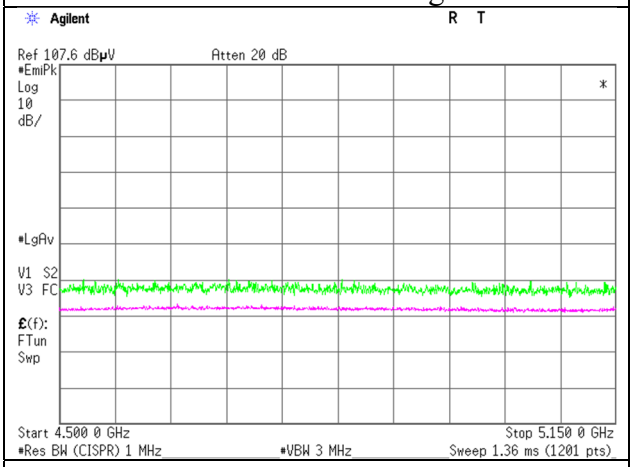
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5270 MHz (OFDM)		

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.	10540.0	43.2	-	39.2	-2.4	33.9	-	46.1	-	68.2	-	22.1	-	Floor noise
Hori.	15810.0	45.0	36.3	37.2	-0.8	33.1	-	48.3	39.6	73.9	53.9	25.6	14.3	Floor noise
Vert.	10540.0	43.2	-	39.2	-2.4	33.9	-	46.1	-	68.2	-	22.1	-	Floor noise
Vert.	15810.0	45.0	36.3	37.2	-0.8	33.1	-	48.3	39.6	73.9	53.9	25.6	14.3	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5310 MHz (OFDM)		

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	49.6	37.6	31.6	5.5	33.6	0.8	53.0	41.8	73.9	53.9	20.9	12.1	*1)
Hori.	10620.0	43.6	34.7	39.2	-2.4	33.9	-	46.5	37.6	73.9	53.9	27.4	16.4	Floor noise
Hori.	15930.0	44.5	36.5	37.5	-0.8	33.2	-	48.0	40.0	73.9	53.9	25.9	13.9	Floor noise
Vert.	5350.0	47.3	36.2	31.6	5.5	33.6	0.8	50.8	40.4	73.9	53.9	23.1	13.5	*1)
Vert.	10620.0	43.6	34.7	39.2	-2.4	33.9	-	46.5	37.6	73.9	53.9	27.4	16.4	Floor noise
Vert.	15930.0	44.5	36.5	37.5	-0.8	33.2	-	48.0	40.0	73.9	53.9	25.9	13.9	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

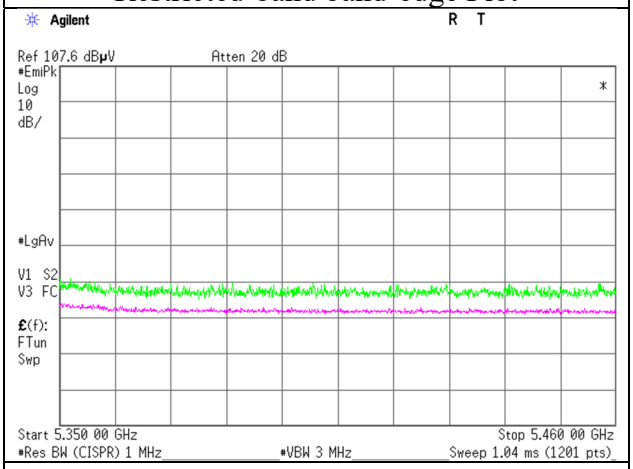
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
Mode	Tx 11ax-40 5310 MHz (OFDM)		

Horizontal

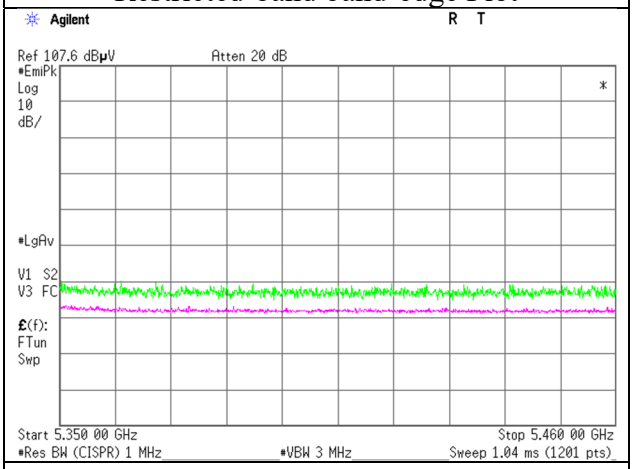
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5510 MHz (OFDM)		

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.	5460.0	44.7	35.1	31.8	5.5	33.5	0.8	48.4	39.7	68.2	53.9	19.8	14.3	*1)
Hori.	5470.0	46.0	-	31.8	5.5	33.5	-	49.8	-	68.2	-	18.4	-	
Hori.	11020.0	43.0	35.4	39.6	-2.3	33.6	-	46.7	39.1	73.9	53.9	27.2	14.8	Floor noise
Hori.	16530.0	44.2	-	39.7	-0.7	32.8	-	50.5	-	68.2	-	17.7	-	Floor noise
Vert.	5460.0	43.3	35.1	31.8	5.5	33.5	0.8	47.1	39.6	68.2	53.9	21.1	14.3	*1)
Vert.	5470.0	44.8	-	31.8	5.5	33.5	-	48.5	-	68.2	-	19.7	-	
Vert.	11020.0	43.0	35.4	39.6	-2.3	33.6	-	46.7	39.1	73.9	53.9	27.2	14.8	Floor noise
Vert.	16530.0	44.2	-	39.7	-0.7	32.8	-	50.5	-	68.2	-	17.7	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

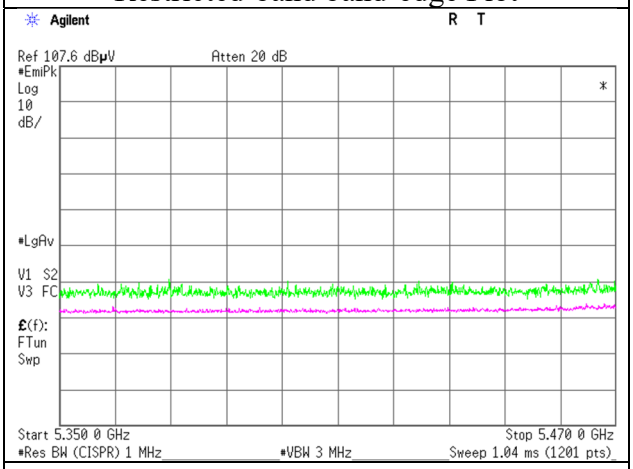
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-40 5510 MHz (OFDM)

Horizontal

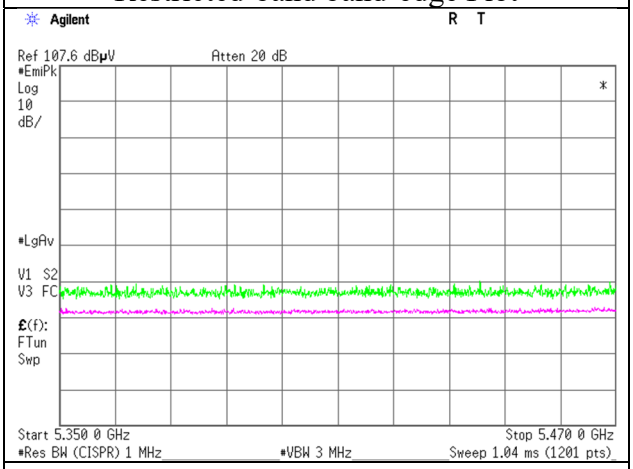
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5550 MHz (OFDM)		

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.	11100.0	44.6	35.1	39.5	-2.2	33.6	-	48.4	38.8	73.9	53.9	25.5	15.1	Floor noise
Hori.	16650.0	44.9	-	40.1	-0.7	32.7	-	51.7	-	68.2	-	16.5	-	Floor noise
Vert.	11100.0	44.6	35.1	39.5	-2.2	33.6	-	48.4	38.8	73.9	53.9	25.5	15.1	Floor noise
Vert.	16650.0	44.9	-	40.1	-0.7	32.7	-	51.7	-	68.2	-	16.5	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5670 MHz (OFDM)		

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.	5725.0	44.7	-	31.9	5.6	33.5	-	48.7	-	68.2	-	19.6	-	
Hori.	11340.0	43.8	35.2	39.5	-2.1	33.5	-	47.7	39.1	73.9	53.9	26.2	14.8	Floor noise
Hori.	17010.0	44.6	-	41.1	-0.6	32.4	-	52.6	-	68.2	-	15.6	-	Floor noise
Vert.	5725.0	43.7	-	31.9	5.6	33.5	-	47.7	-	68.2	-	20.5	-	
Vert.	11340.0	43.8	35.2	39.5	-2.1	33.5	-	47.7	39.1	73.9	53.9	26.2	14.8	Floor noise
Vert.	17010.0	44.6	-	41.1	-0.6	32.4	-	52.6	-	68.2	-	15.6	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

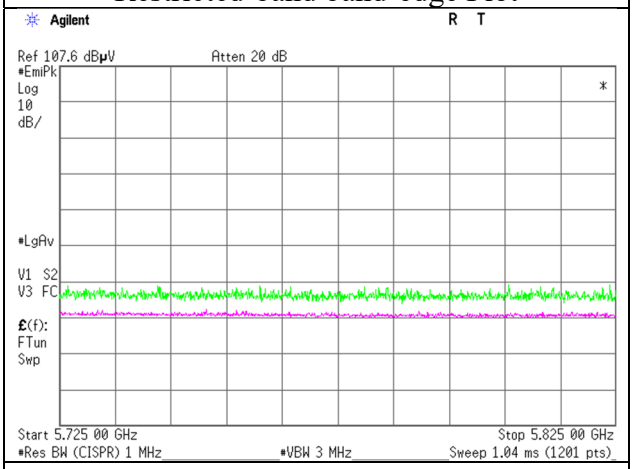
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-40 5670 MHz (OFDM)

Horizontal

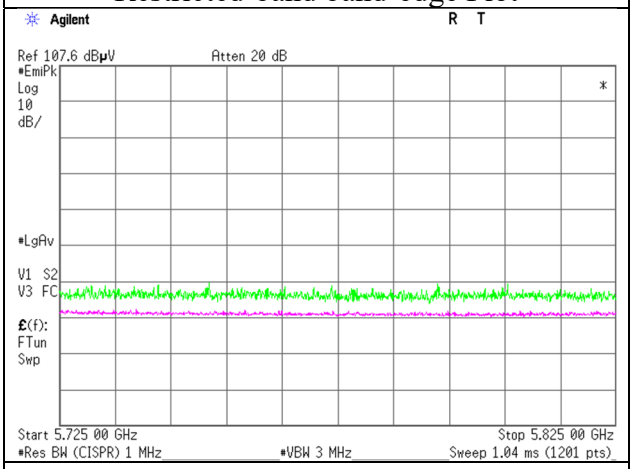
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.			
Semi Anechoic Chamber	No.2	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022	January 24, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH	23 deg. C / 50 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki	Takeshi Hiyaji
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)	(Below 1 GHz)
Mode	Tx 11ax-40 5755 MHz (OFDM)			

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.	51.2	30.4	-	10.9	7.0	28.4	-	19.8	-	40.0	-	20.2	-	
Hori.	55.7	35.4	-	9.3	7.0	28.4	-	23.2	-	40.0	-	16.8	-	
Hori.	88.8	39.7	-	8.4	7.4	28.3	-	27.1	-	43.5	-	16.4	-	
Hori.	177.7	40.1	-	16.1	8.0	28.0	-	36.2	-	43.5	-	7.3	-	
Hori.	359.0	43.8	-	15.4	9.3	28.0	-	40.4	-	46.0	-	5.6	-	
Hori.	645.1	37.2	-	19.4	10.3	29.2	-	37.7	-	46.0	-	8.3	-	
Hori.	928.9	32.5	-	22.2	11.3	28.7	-	37.3	-	46.0	-	8.8	-	
Hori.	5650.0	43.0	-	31.8	5.6	33.5	-	46.8	-	68.2	-	21.4	-	
Hori.	5700.0	44.4	-	31.9	5.6	33.5	-	48.3	-	105.2	-	56.9	-	
Hori.	5720.0	52.2	-	31.9	5.6	33.5	-	56.2	-	110.8	-	54.7	-	
Hori.	5725.0	55.5	-	31.9	5.6	33.5	-	59.5	-	122.2	-	62.8	-	
Hori.	11510.0	43.2	34.6	39.4	-1.9	33.5	-	47.2	38.6	73.9	53.9	26.7	15.3	Floor noise
Hori.	17265.0	44.0	-	42.5	-0.5	32.4	-	53.6	-	68.2	-	14.6	-	Floor noise
Vert.	51.2	44.4	-	10.9	7.0	28.4	-	33.8	-	40.0	-	6.2	-	
Vert.	55.7	48.0	-	9.3	7.0	28.4	-	35.9	-	40.0	-	4.1	-	
Vert.	88.8	49.5	-	8.4	7.4	28.3	-	36.9	-	43.5	-	6.6	-	
Vert.	177.7	39.0	-	16.1	8.0	28.0	-	35.1	-	43.5	-	8.4	-	
Vert.	359.0	37.7	-	15.4	9.3	28.0	-	34.3	-	46.0	-	11.8	-	
Vert.	645.1	40.7	-	19.4	10.3	29.2	-	41.2	-	46.0	-	4.8	-	
Vert.	928.9	37.3	-	22.2	11.3	28.7	-	42.1	-	46.0	-	3.9	-	
Vert.	5650.0	43.1	-	31.8	5.6	33.5	-	46.9	-	68.2	-	21.3	-	
Vert.	5700.0	43.3	-	31.9	5.6	33.5	-	47.2	-	105.2	-	58.0	-	
Vert.	5720.0	48.3	-	31.9	5.6	33.5	-	52.2	-	110.8	-	58.6	-	
Vert.	5725.0	50.0	-	31.9	5.6	33.5	-	54.0	-	122.2	-	68.2	-	
Vert.	11510.0	43.2	34.6	39.4	-1.9	33.5	-	47.2	38.6	73.9	53.9	26.7	15.3	Floor noise
Vert.	17265.0	44.0	-	42.5	-0.5	32.4	-	53.6	-	68.2	-	14.6	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

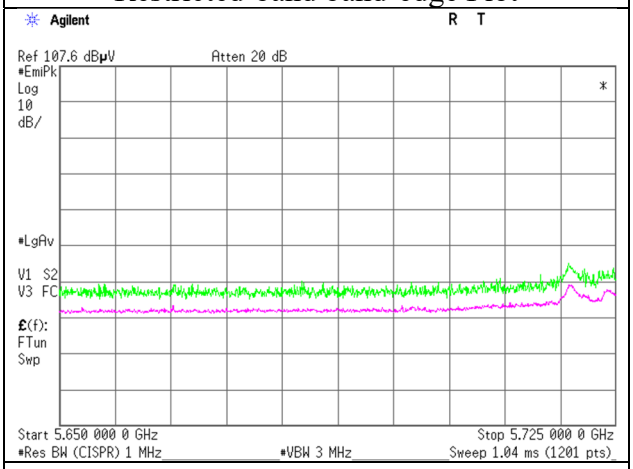
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-40 5755 MHz (OFDM)

Horizontal

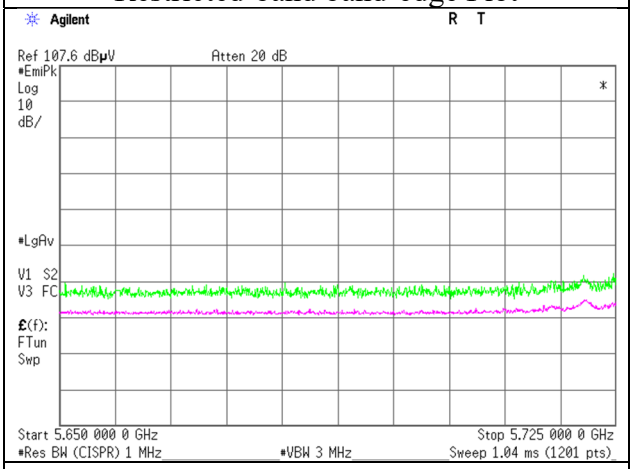
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 18, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	22 deg. C / 42 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Takeshi Hiyaji	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-40 5795 MHz (OFDM)		

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.	5850.0	44.8	-	32.2	5.7	33.5	-	49.1	-	122.2	-	73.1	-	
Hori.	5855.0	43.4	-	32.2	5.7	33.5	-	47.7	-	110.8	-	63.1	-	
Hori.	5875.0	43.1	-	32.2	5.7	33.5	-	47.5	-	105.2	-	57.7	-	
Hori.	5925.0	42.6	-	32.3	5.7	33.5	-	47.0	-	68.2	-	21.2	-	
Hori.	11590.0	43.3	34.7	39.1	-1.9	33.4	-	47.1	38.5	73.9	53.9	26.8	15.4	Floor noise
Hori.	17385.0	44.3	-	43.6	-0.5	32.4	-	55.0	-	68.2	-	13.2	-	Floor noise
Vert.	5850.0	45.1	-	32.2	5.7	33.5	-	49.4	-	122.2	-	72.8	-	
Vert.	5855.0	43.6	-	32.2	5.7	33.5	-	48.0	-	110.8	-	62.9	-	
Vert.	5875.0	43.2	-	32.2	5.7	33.5	-	47.6	-	105.2	-	57.6	-	
Vert.	5925.0	42.3	-	32.3	5.7	33.5	-	46.8	-	68.2	-	21.4	-	
Vert.	11590.0	43.3	34.7	39.1	-1.9	33.4	-	47.1	38.5	73.9	53.9	26.8	15.4	Floor noise
Vert.	17385.0	44.3	-	43.6	-0.5	32.4	-	55.0	-	68.2	-	13.2	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

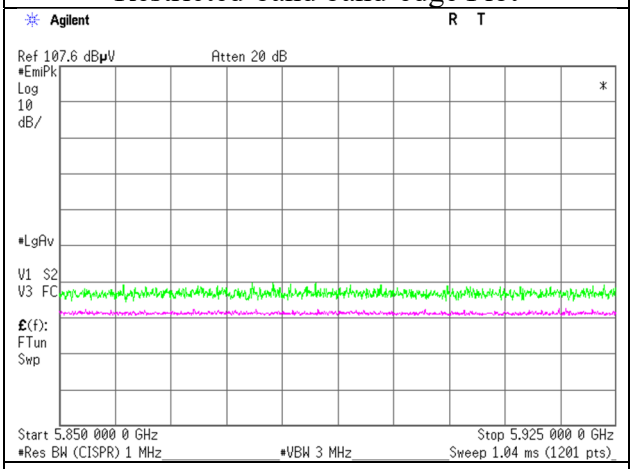
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji
Mode	Tx 11ax-40 5795 MHz (OFDM)

Horizontal

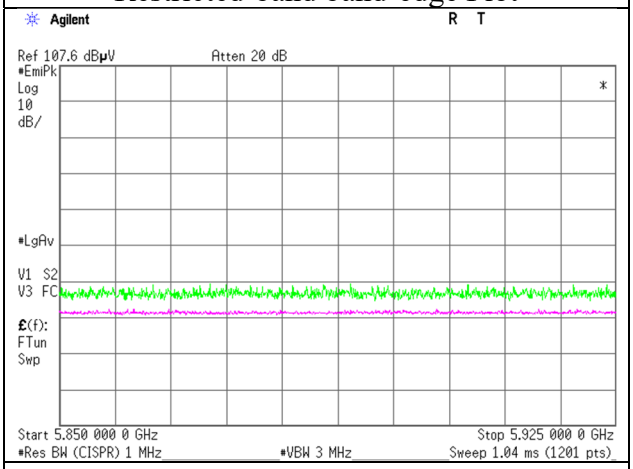
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 19, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	23 deg. C / 38 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Yuta Moriya	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-80 5210 MHz (OFDM)		

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	45.0	35.4	31.7	5.4	33.7	0.8	48.5	39.5	73.9	53.9	25.5	14.4	*1)
Hori.	10420.0	43.6	-	39.2	-2.5	34.0	-	46.4	-	68.2	-	21.8	-	Floor noise
Hori.	15630.0	45.7	36.8	37.2	-0.8	33.0	-	49.1	40.3	73.9	53.9	24.8	13.7	Floor noise
Vert.	5150.0	45.9	35.8	31.7	5.4	33.7	0.8	49.3	40.0	73.9	53.9	24.6	14.0	*1)
Vert.	10420.0	43.6	-	39.2	-2.5	34.0	-	46.4	-	68.2	-	21.8	-	Floor noise
Vert.	15630.0	45.7	36.8	37.2	-0.8	33.0	-	49.1	40.3	73.9	53.9	24.8	13.7	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

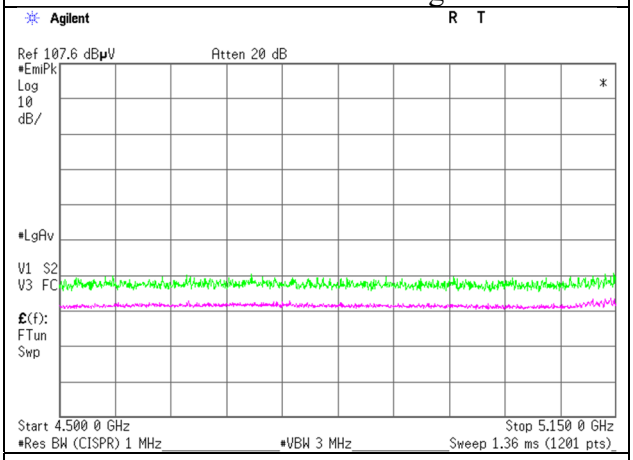
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 19, 2022
Temperature / Humidity	23 deg. C / 38 % RH
Engineer	Yuta Moriya (1 GHz - 10 GHz)
Mode	Tx 11ax-80 5210 MHz (OFDM)

Horizontal

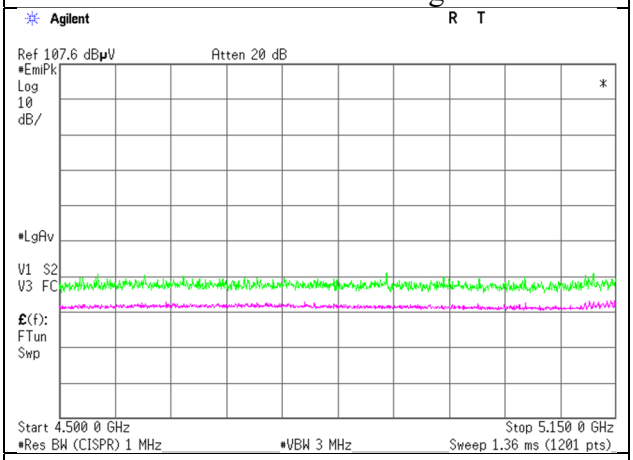
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 19, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	23 deg. C / 38 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Yuta Moriya	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-80 5290 MHz (OFDM)		

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	54.0	40.7	31.6	5.5	33.6	0.8	57.5	44.8	73.9	53.9	16.4	9.1	*1)
Hori.	5353.7	54.0	39.7	31.6	5.5	33.6	0.8	57.4	43.9	73.9	53.9	16.5	10.0	*2)
Hori.	10580.0	43.8	-	39.2	-2.4	33.9	-	46.7	-	68.2	-	21.5	-	Floor noise
Hori.	15870.0	46.0	36.9	37.4	-0.8	33.1	-	49.4	40.3	73.9	53.9	24.5	13.6	Floor noise
Vert.	5350.0	51.3	37.8	31.6	5.5	33.6	0.8	54.7	42.0	73.9	53.9	19.2	11.9	*1)
Vert.	5353.7	52.3	38.5	31.6	5.5	33.6	0.8	55.7	42.7	73.9	53.9	18.2	11.2	*2)
Vert.	10580.0	43.8	-	39.2	-2.4	33.9	-	46.7	-	68.2	-	21.5	-	Floor noise
Vert.	15870.0	46.0	36.9	37.4	-0.8	33.1	-	49.4	40.3	73.9	53.9	24.5	13.6	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

*2) Noise synchronized with duty of carrier frequency

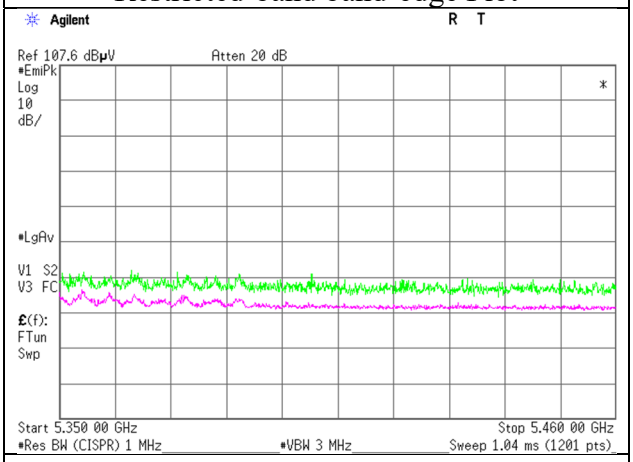
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 19, 2022
Temperature / Humidity	23 deg. C / 38 % RH
Engineer	Yuta Moriya
Mode	Tx 11ax-80 5290 MHz (OFDM)

Horizontal

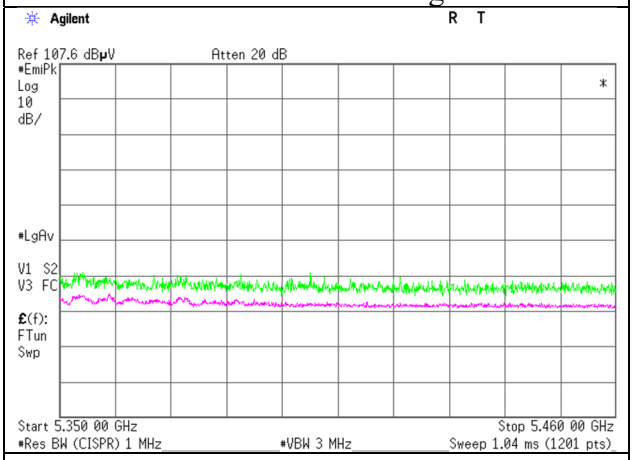
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 19, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	23 deg. C / 38 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Yuta Moriya	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-80 5530 MHz (OFDM)		

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.	5460.0	53.3	42.4	31.8	5.5	33.5	0.8	57.1	47.0	68.2	53.9	11.1	7.0	*1)
Hori.	5470.0	53.5	-	31.8	5.5	33.5	-	57.3	-	68.2	-	10.9	-	
Hori.	11060.0	44.0	35.1	39.5	-2.2	33.6	-	47.7	38.8	73.9	53.9	26.2	15.1	Floor noise
Hori.	16590.0	46.1	-	40.1	-0.7	32.7	-	52.8	-	68.2	-	15.4	-	Floor noise
Vert.	5460.0	51.0	40.1	31.8	5.5	33.5	0.8	54.8	44.7	68.2	53.9	13.4	9.3	*1)
Vert.	5470.0	50.9	-	31.8	5.5	33.5	-	54.6	-	68.2	-	13.6	-	
Vert.	11060.0	44.0	35.1	39.5	-2.2	33.6	-	47.7	38.8	73.9	53.9	26.2	15.1	Floor noise
Vert.	16590.0	46.1	-	40.1	-0.7	32.7	-	52.8	-	68.2	-	15.4	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

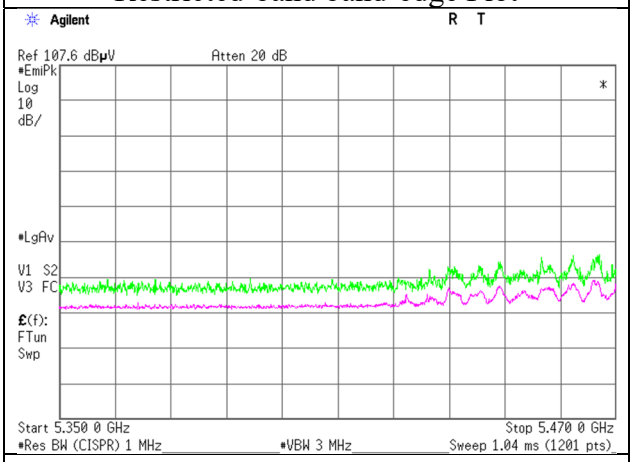
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 19, 2022
Temperature / Humidity	23 deg. C / 38 % RH
Engineer	Yuta Moriya
Mode	Tx 11ax-80 5530 MHz (OFDM)

Horizontal

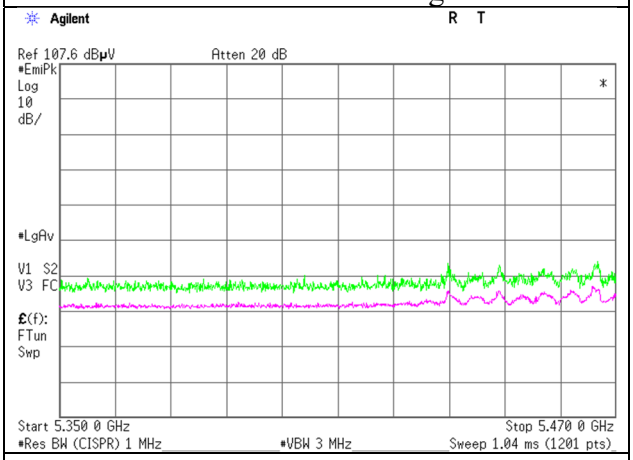
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.		
Semi Anechoic Chamber	No.2	No.2	No.2
Date	January 19, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	23 deg. C / 38 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Yuta Moriya (1 GHz - 10 GHz)	Yuta Moriya (10 GHz - 18 GHz)	Yuichiro Yamazaki (Above 18 GHz)
Mode	Tx 11ax-80 5610 MHz (OFDM)		

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.	5725.0	46.5	-	31.9	5.6	33.5	-	50.5	-	68.2	-	17.7	-	
Hori.	11220.0	43.9	34.8	39.5	-2.1	33.5	-	47.7	38.6	73.9	53.9	26.2	15.3	Floor noise
Hori.	16830.0	44.6	-	40.9	-0.7	32.5	-	52.3	-	68.2	-	15.9	-	Floor noise
Vert.	5725.0	43.5	-	31.9	5.6	33.5	-	47.5	-	68.2	-	20.7	-	
Vert.	11220.0	43.9	34.8	39.5	-2.1	33.5	-	47.7	38.6	73.9	53.9	26.2	15.3	Floor noise
Vert.	16830.0	44.6	-	40.9	-0.7	32.5	-	52.3	-	68.2	-	15.9	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

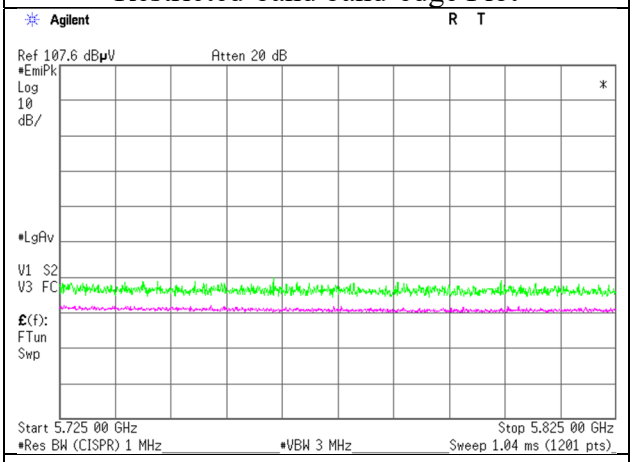
Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 dB
	10 GHz - 40 GHz	20log (1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 19, 2022
Temperature / Humidity	23 deg. C / 38 % RH
Engineer	Yuta Moriya
Mode	Tx 11ax-80 5610 MHz (OFDM)

Horizontal

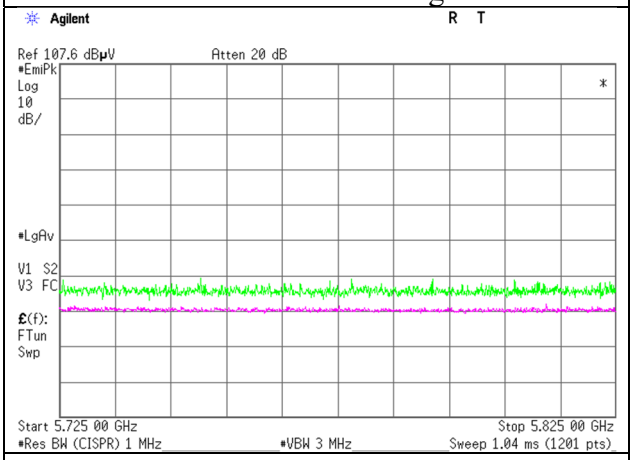
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.3
Date	January 31, 2022
Temperature / Humidity	20 deg. C / 35 % RH
Engineer	Hiroki Numata
	(1 GHz - 40 GHz)
Mode	Tx 11ax-80 5690 MHz (OFDM)

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.	11380.0	42.8	34.4	40.1	-2.0	33.2	-	47.7	39.3	73.9	53.9	26.2	14.6	Floor noise
Hori.	17070.0	43.8	-	41.8	0.4	32.4	-	53.7	-	68.2	-	14.5	-	Floor noise
Vert.	11380.0	42.8	34.7	40.1	-2.0	33.2	-	47.8	39.7	73.9	53.9	26.1	14.3	Floor noise
Vert.	17070.0	44.3	-	41.8	0.4	32.4	-	54.2	-	68.2	-	14.0	-	Floor noise

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

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

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

*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.9 m / 3.0 m) = 2.28 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.2	No.2	No.2
Date	January 19, 2022	January 23, 2022	January 23, 2022
Temperature / Humidity	23 deg. C / 38 % RH	22 deg. C / 43 % RH	23 deg. C / 45 % RH
Engineer	Yuta Moriya	Yuta Moriya	Yuichiro Yamazaki
	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(Above 18 GHz)
Mode	Tx 11ax-80 5775 MHz (OFDM)		

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.	5650.0	46.2	-	31.8	5.6	33.5	-	50.1	-	68.2	-	18.1	-	
Hori.	5700.0	53.6	-	31.9	5.6	33.5	-	57.5	-	105.2	-	47.7	-	
Hori.	5720.0	54.0	-	31.9	5.6	33.5	-	58.0	-	110.8	-	52.8	-	
Hori.	5725.0	52.3	-	31.9	5.6	33.5	-	56.3	-	122.2	-	65.9	-	
Hori.	5850.0	50.9	-	32.2	5.7	33.5	-	55.2	-	122.2	-	67.0	-	
Hori.	5855.0	51.5	-	32.2	5.7	33.5	-	55.8	-	110.8	-	55.0	-	
Hori.	5875.0	49.6	-	32.2	5.7	33.5	-	53.9	-	105.2	-	51.3	-	
Hori.	5925.0	43.7	-	32.3	5.7	33.5	-	48.1	-	68.2	-	20.1	-	
Hori.	11550.0	43.5	34.8	39.3	-1.9	33.4	-	47.4	38.7	73.9	53.9	26.5	15.2	Floor noise
Hori.	17325.0	44.6	-	43.1	-0.5	32.4	-	54.8	-	68.2	-	13.5	-	Floor noise
Vert.	5650.0	44.4	-	31.8	5.6	33.5	-	48.3	-	68.2	-	19.9	-	
Vert.	5700.0	50.4	-	31.9	5.6	33.5	-	54.4	-	105.2	-	50.8	-	
Vert.	5720.0	51.1	-	31.9	5.6	33.5	-	55.1	-	110.8	-	55.7	-	
Vert.	5725.0	49.5	-	31.9	5.6	33.5	-	53.5	-	122.2	-	68.7	-	
Vert.	5850.0	49.1	-	32.2	5.7	33.5	-	53.4	-	122.2	-	68.8	-	
Vert.	5855.0	48.1	-	32.2	5.7	33.5	-	52.4	-	110.8	-	58.4	-	
Vert.	5875.0	45.8	-	32.2	5.7	33.5	-	50.2	-	105.2	-	55.0	-	
Vert.	5925.0	43.7	-	32.3	5.7	33.5	-	48.1	-	68.2	-	20.1	-	
Vert.	11550.0	43.5	34.8	39.3	-1.9	33.4	-	47.4	38.7	73.9	53.9	26.5	15.2	Floor noise
Vert.	17325.0	44.6	-	43.1	-0.5	32.4	-	54.8	-	68.2	-	13.5	-	Floor noise

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

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

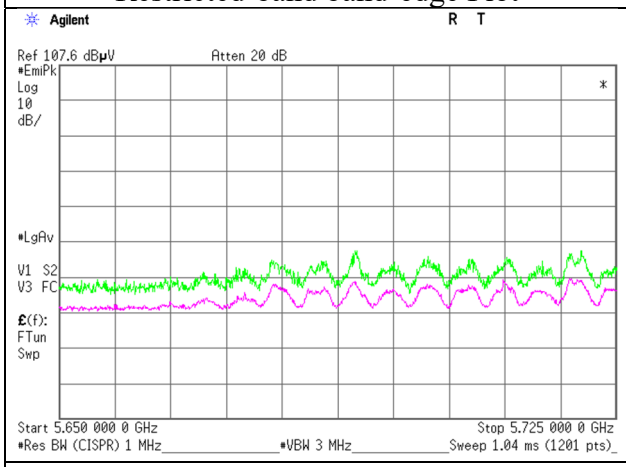
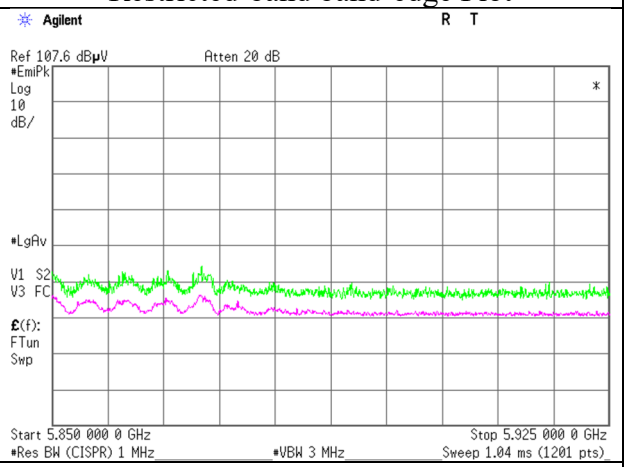
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20 dB).

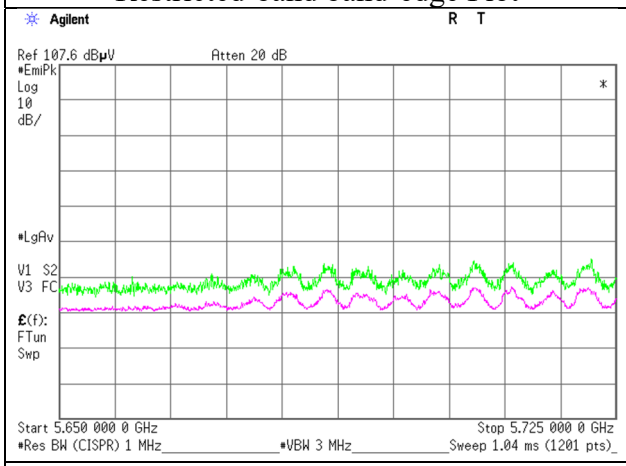
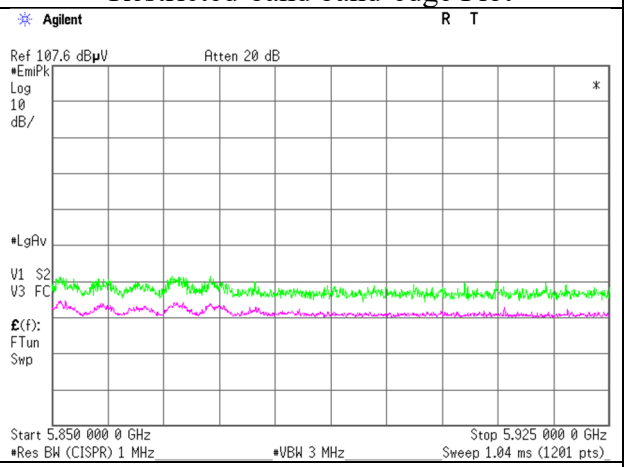
*QP detector was used up to 1GHz.

Distance factor:	1 GHz - 10 GHz	20log (3.65 m / 3.0 m) = 1.71 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.2
Date	January 19, 2022
Temperature / Humidity	23 deg. C / 38 % RH
Engineer	Yuta Moriya
Mode	Tx 11ax-80 5775 MHz (OFDM)

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

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

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

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji (1 GHz - 10 GHz)
Mode	Tx 11ax-20 5180 MHz (26-tone RU)

RU Index 0

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	42.6	33.9	31.7	5.4	33.7	0.3	46.0	37.6	73.9	53.9	27.9	16.3	*1)
Vert.	5150.0	42.9	33.9	31.7	5.4	33.7	0.3	46.3	37.6	73.9	53.9	27.6	16.4	*1)

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

Distance factor: 1 GHz - 10 GHz 20log(3.65 m / 3.0 m) = 1.71 dB

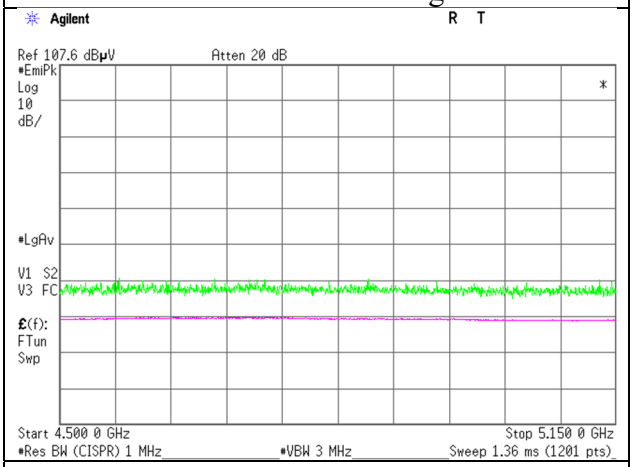
Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji (1 GHz - 10 GHz)
Mode	Tx 11ax-20 5180 MHz (26-tone RU)

RU Index 0

Horizontal

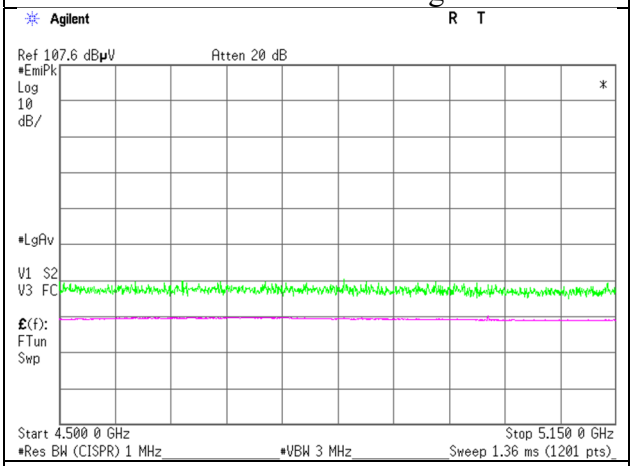
Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

Vertical

Restricted-band band-edge Plot



Trace Green: Peak Plot
Trace Purple: Average Plot

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

Radiated Spurious Emission

Test place	Ise EMC Lab.
Semi Anechoic Chamber	No.2
Date	January 18, 2022
Temperature / Humidity	22 deg. C / 42 % RH
Engineer	Takeshi Hiyaji (1 GHz - 10 GHz)
Mode	Tx 11ax-20 5180 MHz (52-tone RU)

RU Index 37

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	43.6	34.0	31.7	5.4	33.7	0.3	47.0	37.7	73.9	53.9	26.9	16.2	*1)
Vert.	5150.0	43.0	34.1	31.7	5.4	33.7	0.3	46.4	37.8	73.9	53.9	27.5	16.1	*1)

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

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

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

*QP detector was used up to 1GHz.

*1) Not Out of Band emission(Leakage Power)

Distance factor: 1 GHz - 10 GHz 20log (3.65 m / 3.0 m) = 1.71 dB