



RADIO TEST REPORT

Test Report No. : 13994981S-J-R1

Applicant : KONICA MINOLTA, INC.
Type of EUT : SKR 3000
Model Number of EUT : P-85
FCC ID : YR7SKR3000P8
Test regulation : FCC Part 15 Subpart E: 2021
Test item : Radiated Spurious Emission
Test result : Complied (Refer to SECTION 3)

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7. The all test items in this test report are conducted by UL Japan, Inc. Shonan EMC Lab.
8. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
9. The information provided from the customer for this report is identified in SECTION 1.
10. This report is a revised version of 13994981S-J. 13994981S-J is replaced with this report.

Date of test: November 19 to December 1, 2021

Representative test engineer:

T. Kawakami

Takahiro Kawakami
Engineer

Approved by:

T. Imamura

Toyokazu Imamura
Leader



CERTIFICATE 1266.03

- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

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REVISION HISTORY

Original Test Report No.: 13994981S-J

Revision	Test report No.	Date	Page revised	Contents
- (Original)	13994981S-J	January 19, 2022	-	-
1	13994981S-J-R1	February 22, 2022	6	Addition of Conducted Emission in 3.2

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Reference: Abbreviations (Including words undescribed in this report)

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

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SECTION 1: Customer information

Company Name : KONICA MINOLTA, INC.
 Address : 1, Sakura-machi, Hino-shi, Tokyo, Japan 191-8511
 Telephone Number : +81-42-589-8429
 Contact Person : Yukihiro Niekawa

The information provided from the customer is as follows;

- Applicant, Type 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
- 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

Type : SKR 3000
 Model Number : P-85
 Serial Number : Refer to SECTION 4.2
 Receipt Date : September 22, 2021
 Condition : Production prototype
 (Not for Sale: This sample is equivalent to mass-produced items.)
 Modification : No Modification by the test lab.

2.2 Product Description

Model: P-85 (referred to as the EUT in this report) is SKR 3000.

General Specification

Rating : DC 15 V

Radio Specification

Equipment Type : Transceiver
 Operating Temperature : 10 deg. C to 35 deg. C

	IEEE802.11b	IEEE802.11g	IEEE802.11a	IEEE802.11n (20 M band)	IEEE802.11n (40 M band)
Frequency of operation	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5700 MHz 5745 MHz - 5825 MHz	2412 MHz - 2462 MHz 5180 MHz - 5240 MHz 5260 MHz - 5320 MHz 5500 MHz - 5700 MHz 5745 MHz - 5825 MHz	5190 MHz - 5230 MHz 5270 MHz - 5310 MHz 5510 MHz - 5670 MHz 5755 MHz - 5795 MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM,QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)		OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel spacing	5 MHz		20 MHz	5 MHz (2.4 GHz band) 20 MHz (5 GHz band)	40 MHz
Antenna Type	[Main Antenna (chain 0)/Sub Antenna(chain 1)]PIFA (Planar Inverted F Antenna)				
Antenna gain	[Main Antenna (chain 0)]	-1.95 dBi (2.4 GHz Band), -0.98 dBi (5 GHz Band)			
	[Sub Antenna (chain 1)]	-2.21 dBi (2.4 GHz Band), -1.54 dBi (5 GHz Band)			
Antenna Connector type	[Main Antenna (chain0)/Sub Antenna(chain 1)] Connector PCB side: ULF, Antenna side: Soldered				

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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

*The customer has declared that the EUT has complies with FCC Part 15 Subpart B as SDoC.

Following test items were performed in this report (See clause 3.2). The rest of the test items required were conducted with wireless module SX-SDMAN2. Refer to the test report 13568152S-L.

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

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.10-2013 ISED: RSS-Gen 8.8	FCC: 15.407 (b) (6) / 15.207 ISED: RSS-Gen 8.8	-	N/A	*1)
Spurious Emission Restricted Band Edge	FCC: ANSI C63.10-2013 KDB Publication Number 789033 ISED: -	FCC: 15.407 (b), 15.205 and 15.209 ISED: RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.2	6.7 dB 5459.983 MHz, AV, Vertical, Mode: Tx 11a 5500 MHz 5355.967 MHz, AV, Horizontal, Mode: Tx 11a 5320 MHz	Complied a)	Radiated (> 30 MHz) *2)
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422. *1) The test is not applicable since the EUT has no AC mains. Wireless LAN does not operate during charging. *2) 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.					

* In case any questions arise about test procedure, ANSI C63.10: 2013 is also referred.

FCC Part 15.31 (e)

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

FCC Part 15.203 Antenna requirement

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

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 $k = 2$.

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Item	Frequency range	Uncertainty (+/-)		
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	2.6 dB	2.6 dB	2.7 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	2.9 dB	2.9 dB	2.9 dB
	30 MHz-200 MHz	4.6 dB	4.6 dB	4.6 dB
	200 MHz-1 GHz	6.0 dB	6.0 dB	6.0 dB
	1 GHz-6 GHz	4.8 dB	4.8 dB	4.8 dB
	6 GHz-18 GHz	5.4 dB	5.4 dB	5.4 dB
	18 GHz-40 GHz	5.6 dB	5.6 dB	5.7 dB
Radiated emission (Measurement distance: 1 m)	1 GHz-18 GHz	5.7 dB	5.7 dB	5.7 dB
	18 GHz-40 GHz	5.9 dB	5.9 dB	5.9 dB

SAC=Semi-Anechoic Chamber

SR=Shielded Room is applied besides radiated emission

3.5 Test Location

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A2LA Certificate Number: 1266.03

(FCC test firm registration number: 626366, ISED lab company number: 2973D / CAB identifier: JP0001)

Test site	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5 m
No.4 Semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
No.1 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.2 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
No.3 Shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
No.4 Shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
No.5 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.6 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
No.8 Shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
No.1 Measurement room	-	2.55 x 4.1 x 2.5	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

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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.

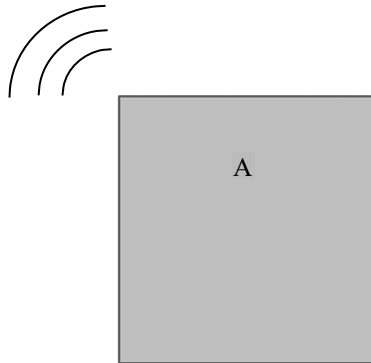
Mode	Remarks*
IEEE 802.11a (11a)	18 Mbps, PN9
IEEE 802.11n MIMO 20 MHz BW (11n-20)	MCS 11 (Long GI), PN9
IEEE 802.11n MIMO 40 MHz BW (11n-40)	MCS 10 (Long GI), PN9
*The worst condition was determined based on the test result of Maximum Peak Output Power (Mid Channel) (Reference test report No.: Refer to 3.1)	
*Power of the EUT was set by the software as follows; Power settings: 8 dBm Software: Refer to the below table.	
*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.	

Software name	Version	Released Date	Storage location
Panel Firmware	V4.10R00.001	2021/6/8	EUT memory (*. operated by connected host PC)
Wlan Auth Tool	1.3.0.3	2017/4/18	Connected host PC

*The details of Operation mode(s)

Test Item	Operating Mode	Tested Antenna *2)	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Radiated Spurious Emission (Below 1 GHz)	11n-20 (MIMO) *1)	Main +Sub	5180 MHz	-	-	-
Radiated Spurious Emission (Above 1 GHz)	11a	Sub	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	11n-20 (MIMO)	Main +Sub	5180 MHz 5240 MHz	5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	11n-40(MIMO)	Main +Sub	5190 MHz 5230 MHz	5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.						
*2) The test was performed with the antenna that had higher power as a representative.						

4.2 Configuration and peripherals



Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remark
A	SKR 3000	P-85	ADU0-S0001	KONICA MINOLTA INC.	EUT

SECTION 5: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1GHz >

EUT was placed on a platform of nominal size, 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane. The table is made of expanded polystyrol and expanded polypropylene and the table top is covered with polycarbonate. That has very low permittivity.
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 U-NII-3 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;

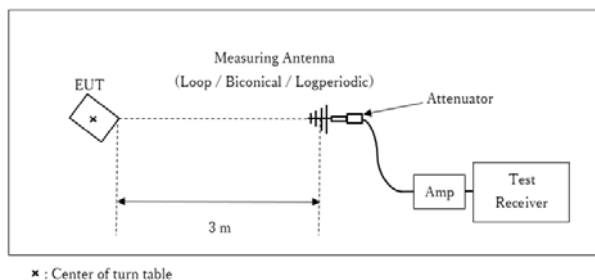
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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 MHz (T: Burst length, refer to the reference test report mentioned in 3.1.) Detector: Peak Trace mode: Max hold

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

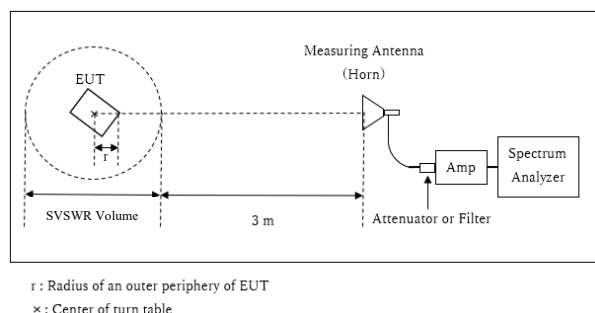
Figure 1: Test Setup

Below 1 GHz



Test Distance: 3 m

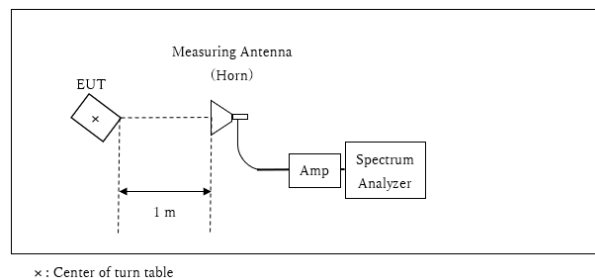
1 GHz - 10 GHz



Distance Factor: $20 \times \log (3.81 \text{ m} / 3.0 \text{ m}) = 2.08 \text{ dB}$
* Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 3.81 \text{ m}$

SVSWR Volume : 2.0 m
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)
 $r = 0.19 \text{ m}$

10 GHz - 40 GHz



Distance Factor: $20 \times \log (1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$
*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.

Antenna polarization	Carrier	Spurious (30 MHz - 1 GHz)	Spurious (1 GHz - 6.4 GHz)	Spurious (6.4 GHz - 10 GHz)	Spurious (10 GHz - 18 GHz)	Spurious (18 GHz - 26.5 GHz)	Spurious (26.5 GHz - 40 GHz)
Horizontal	Y	X	Y	Z	X	X	X
Vertical	X	X	X	Z	X	X	X

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

Measurement range : 30 MHz - 40 GHz
Test data : APPENDIX
Test result : Pass

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APPENDIX 1: Test data

Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5180 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	44.07	32.44	16.30	38.72	2.08	56.17	73.9	17.7	146	97	-
Hori.	15540.000	PK	46.64	39.62	11.59	40.46	-9.54	47.85	73.9	26.0	150	0	-
Hori.	5150.000	AV	32.92	32.44	16.30	38.72	2.08	45.02	53.9	8.8	146	97	VBW: 1.5 kHz
Hori.	15540.000	AV	35.92	39.62	11.59	40.46	-9.54	37.13	53.9	16.7	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5150.000	PK	44.10	32.44	16.30	38.72	2.08	56.20	73.9	17.7	219	86	-
Vert.	15540.000	PK	46.95	39.62	11.59	40.46	-9.54	48.16	73.9	25.7	150	0	-
Vert.	5150.000	AV	32.88	32.44	16.30	38.72	2.08	44.98	53.9	8.9	219	86	VBW: 1.5 kHz
Vert.	15540.000	AV	36.10	39.62	11.59	40.46	-9.54	37.31	53.9	16.5	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6906.581	PK	52.69	36.18	8.13	43.25	2.08	55.83	-39.40	-27.0	12.4	163	253	-
Hori.	10360.000	PK	47.95	36.21	9.26	42.73	-9.54	41.15	-54.08	-27.0	27.0	150	0	-
Vert.	6906.617	PK	52.55	36.18	8.13	43.25	2.08	55.69	-39.54	-27.0	12.5	244	271	-
Vert.	10360.000	PK	47.75	36.21	9.26	42.73	-9.54	40.95	-54.28	-27.0	27.2	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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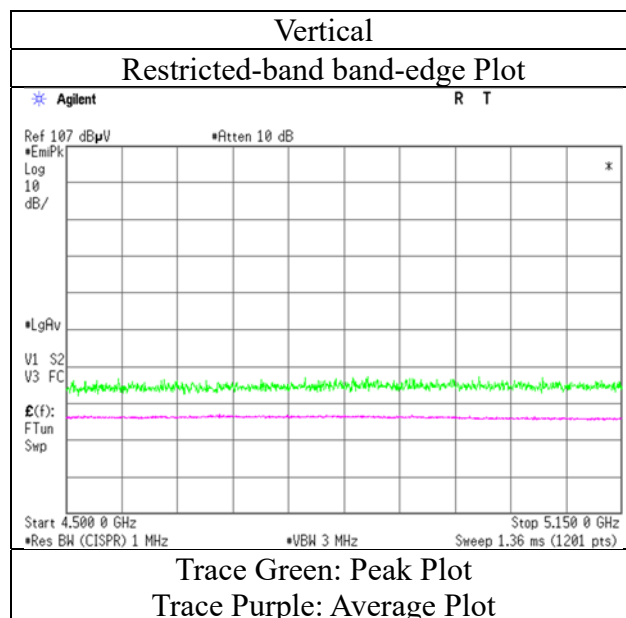
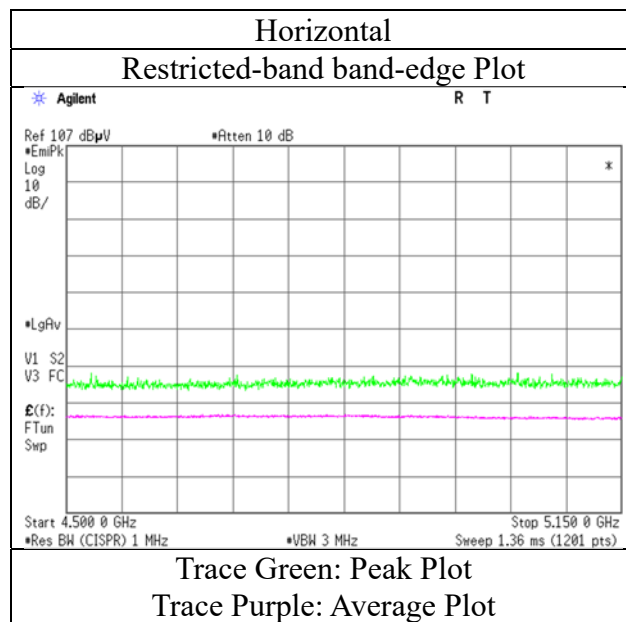
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 19, 2021
Temperature / Humidity 22 deg.C, 34 %RH
Engineer Yohsuke Matsuzawa
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

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5240 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15720.000	PK	46.70	39.84	11.55	40.32	-9.54	48.23	73.9	25.6	150	0	-
Hori.	15720.000	AV	36.16	39.84	11.55	40.32	-9.54	37.69	53.9	16.2	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	15720.000	PK	46.38	39.84	11.55	40.32	-9.54	47.91	73.9	25.9	150	0	-
Vert.	15720.000	AV	36.14	39.84	11.55	40.32	-9.54	37.67	53.9	16.2	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6986.605	PK	51.29	36.66	8.13	43.17	2.08	54.99	-40.24	-27.0	13.2	179	252	-
Hori.	10480.000	PK	47.28	36.30	9.30	42.76	-9.54	40.58	-54.65	-27.0	27.6	150	0	-
Vert.	6986.666	PK	51.37	36.66	8.13	43.17	2.08	55.07	-40.16	-27.0	13.1	287	270	-
Vert.	10480.000	PK	47.50	36.30	9.30	42.76	-9.54	40.80	-54.43	-27.0	27.4	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP) [dBm] = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20)) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5320 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	44.99	32.23	16.44	38.82	2.08	56.92	73.9	16.9	146	106	-
Hori.	5355.967	PK	46.30	32.24	16.44	38.83	2.08	58.23	73.9	15.6	146	106	-
Hori.	5381.000	PK	43.65	32.27	16.45	38.84	2.08	55.61	73.9	18.2	146	106	-
Hori.	5407.917	PK	45.84	32.32	16.46	38.85	2.08	57.85	73.9	16.0	146	106	-
Hori.	5433.000	PK	43.55	32.35	16.48	38.87	2.08	55.59	73.9	18.3	146	106	-
Hori.	10640.000	PK	47.55	36.83	9.37	42.82	-9.54	41.39	73.9	32.5	150	0	-
Hori.	15960.000	PK	46.26	40.23	11.47	40.13	-9.54	48.29	73.9	25.6	150	0	-
Hori.	5350.000	AV	33.05	32.23	16.44	38.82	2.08	44.98	53.9	8.9	146	106	VBW: 1.5 kHz
Hori.	5355.967	AV	35.20	32.24	16.44	38.83	2.08	47.13	53.9	6.7	146	106	VBW: 1.5 kHz
Hori.	5381.000	AV	34.55	32.27	16.45	38.84	2.08	46.51	53.9	7.3	146	106	VBW: 1.5 kHz
Hori.	5407.917	AV	34.20	32.32	16.46	38.85	2.08	46.21	53.9	7.6	146	106	VBW: 1.5 kHz
Hori.	5433.000	AV	34.43	32.35	16.48	38.87	2.08	46.47	53.9	7.4	146	106	VBW: 1.5 kHz
Hori.	10640.000	AV	37.26	36.83	9.37	42.82	-9.54	31.10	53.9	22.8	150	0	VBW: 1.5 kHz, Floor Noise
Hori.	15960.000	AV	35.09	40.23	11.47	40.13	-9.54	37.12	53.9	16.7	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5350.000	PK	44.88	32.23	16.44	38.82	2.08	56.81	73.9	17.0	166	96	-
Vert.	5355.972	PK	44.80	32.24	16.44	38.83	2.08	56.73	73.9	17.1	166	96	-
Vert.	5407.927	PK	45.94	32.32	16.46	38.85	2.08	57.95	73.9	15.9	166	96	-
Vert.	10640.000	PK	47.86	36.83	9.37	42.82	-9.54	41.70	73.9	32.2	150	0	-
Vert.	15960.000	PK	45.84	40.23	11.47	40.13	-9.54	47.87	73.9	26.0	150	0	-
Vert.	5350.000	AV	32.97	32.23	16.44	38.82	2.08	44.90	53.9	9.0	166	96	VBW: 1.5 kHz
Vert.	5355.972	AV	33.92	32.24	16.44	38.83	2.08	45.85	53.9	8.0	166	96	VBW: 1.5 kHz
Vert.	5407.927	AV	34.55	32.32	16.46	38.85	2.08	46.56	53.9	7.3	166	96	VBW: 1.5 kHz
Vert.	10640.000	AV	37.13	36.83	9.37	42.82	-9.54	30.97	53.9	22.9	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	15960.000	AV	35.03	40.23	11.47	40.13	-9.54	37.06	53.9	16.8	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7093.236	PK	50.96	37.12	8.19	43.26	2.08	55.09	-40.14	-27.0	13.1	179	255	-
Vert.	7093.213	PK	50.60	37.12	8.19	43.26	2.08	54.73	-40.50	-27.0	13.5	302	273	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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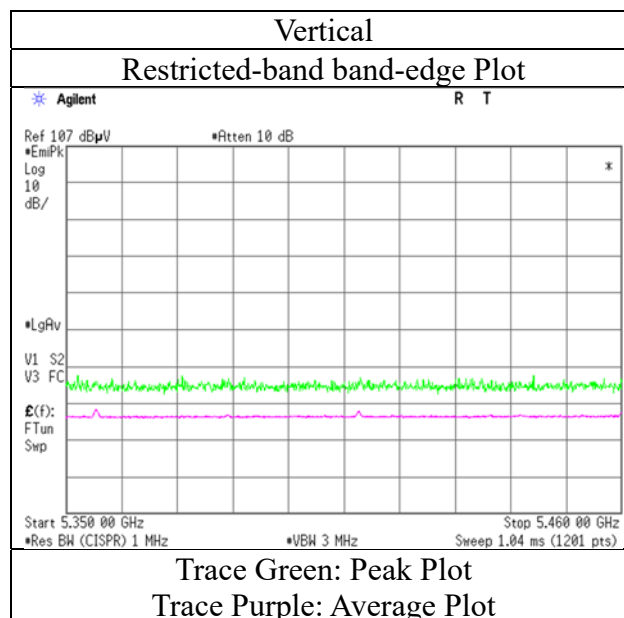
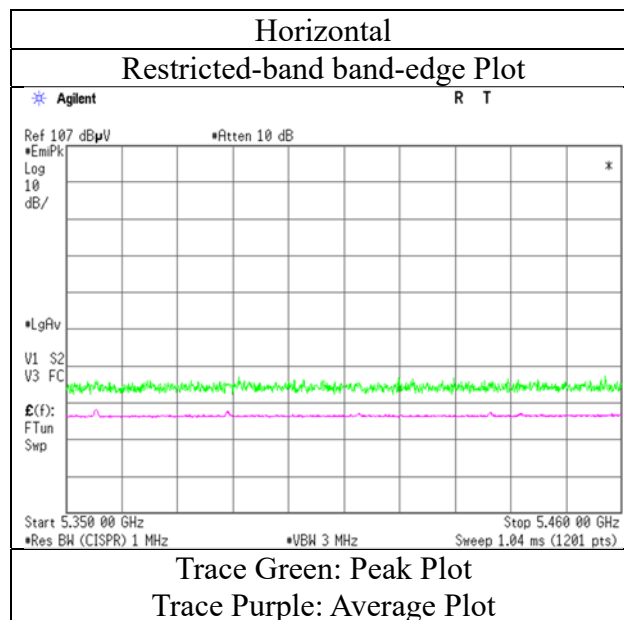
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 19, 2021
Temperature / Humidity 22 deg.C, 34 %RH
Engineer Yohsuke Matsuzawa
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

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5500 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5355.850	PK	43.70	32.24	16.44	38.83	2.08	55.63	73.9	18.2	119	74	-
Hori.	5381.958	PK	43.79	32.27	16.45	38.84	2.08	55.75	73.9	18.1	119	74	-
Hori.	5407.875	PK	43.73	32.32	16.46	38.85	2.08	55.74	73.9	18.1	119	74	-
Hori.	5459.983	PK	44.43	32.38	16.50	38.88	2.08	56.51	73.9	17.3	119	74	-
Hori.	5460.000	PK	45.21	32.38	16.50	38.88	2.08	57.29	73.9	16.6	119	74	-
Hori.	7333.111	PK	51.38	37.56	8.35	43.53	2.08	55.84	73.9	18.0	208	256	-
Hori.	11000.000	PK	47.58	37.23	9.48	42.99	-9.54	41.76	73.9	32.1	150	0	-
Hori.	5355.850	AV	35.13	32.24	16.44	38.83	2.08	47.06	53.9	6.8	119	74	VBW: 1.5 kHz
Hori.	5381.958	AV	34.20	32.27	16.45	38.84	2.08	46.16	53.9	7.7	119	74	VBW: 1.5 kHz
Hori.	5407.875	AV	34.33	32.32	16.46	38.85	2.08	46.34	53.9	7.5	119	74	VBW: 1.5 kHz
Hori.	5459.983	AV	34.17	32.38	16.50	38.88	2.08	46.25	53.9	7.6	119	74	VBW: 1.5 kHz
Hori.	5460.000	AV	33.88	32.38	16.50	38.88	2.08	45.96	53.9	7.9	119	74	VBW: 1.5 kHz
Hori.	7333.111	AV	41.47	37.56	8.35	43.53	2.08	45.93	53.9	7.9	208	256	VBW: 1.5 kHz
Hori.	11000.000	AV	36.65	37.23	9.48	42.99	-9.54	30.83	53.9	23.0	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5355.850	PK	44.94	32.24	16.44	38.83	2.08	56.87	73.9	17.0	138	82	-
Vert.	5381.958	PK	44.90	32.27	16.45	38.84	2.08	56.86	73.9	17.0	138	82	-
Vert.	5407.875	PK	45.25	32.32	16.46	38.85	2.08	57.26	73.9	16.6	138	82	-
Vert.	5459.983	PK	45.38	32.38	16.50	38.88	2.08	57.46	73.9	16.4	138	82	-
Vert.	5460.000	PK	45.37	32.38	16.50	38.88	2.08	57.45	73.9	16.4	138	82	-
Vert.	7333.282	PK	50.91	37.56	8.35	43.53	2.08	55.37	73.9	18.5	268	277	-
Vert.	11000.000	PK	47.30	37.23	9.48	42.99	-9.54	41.48	73.9	32.4	150	0	-
Vert.	5355.850	AV	34.50	32.24	16.44	38.83	2.08	46.43	53.9	7.4	138	82	VBW: 1.5 kHz
Vert.	5381.958	AV	33.39	32.27	16.45	38.84	2.08	45.35	53.9	8.5	138	82	VBW: 1.5 kHz
Vert.	5407.875	AV	35.01	32.32	16.46	38.85	2.08	47.02	53.9	6.8	138	82	VBW: 1.5 kHz
Vert.	5459.983	AV	35.04	32.38	16.50	38.88	2.08	47.12	53.9	6.7	138	82	VBW: 1.5 kHz
Vert.	5460.000	AV	34.43	32.38	16.50	38.88	2.08	46.51	53.9	7.3	138	82	VBW: 1.5 kHz
Vert.	7333.282	AV	41.22	37.56	8.35	43.53	2.08	45.68	53.9	8.2	268	277	VBW: 1.5 kHz
Vert.	11000.000	AV	36.80	37.23	9.48	42.99	-9.54	30.98	53.9	22.9	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	45.29	32.39	16.51	38.88	2.08	57.39	-37.84	-27.0	10.8	119	74	-
Hori.	16500.000	PK	46.15	39.88	12.23	40.32	-9.54	48.40	-46.83	-27.0	19.8	150	0	-
Vert.	5470.000	PK	44.79	32.39	16.51	38.88	2.08	56.89	-38.34	-27.0	11.3	138	82	-
Vert.	16500.000	PK	46.02	39.88	12.23	40.32	-9.54	48.27	-46.96	-27.0	19.9	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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Shonan EMC Lab.

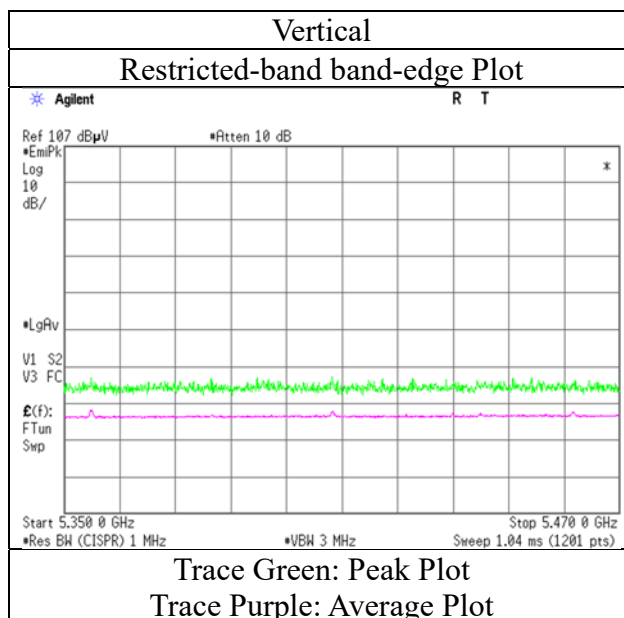
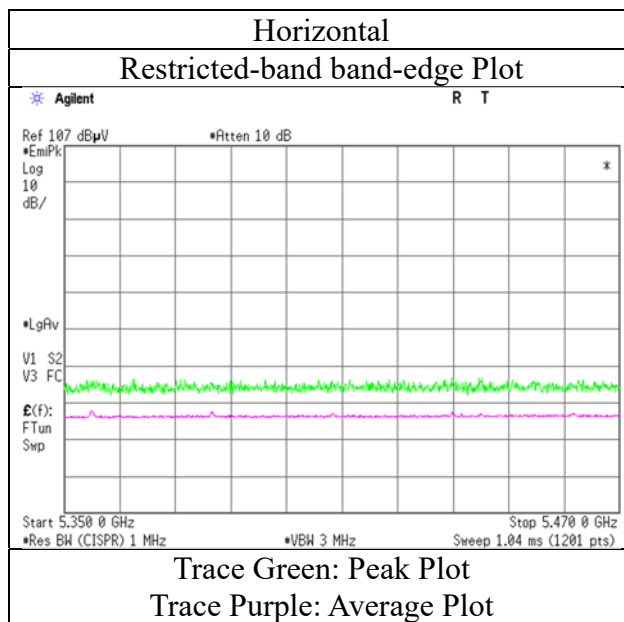
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Radiated Spurious Emission

Report No.	13994981S-J-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	2
Date	November 19, 2021
Temperature / Humidity	22 deg.C, 34 %RH
Engineer	Yohsuke Matsuzawa
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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5580 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7440.078	PK	50.06	37.62	8.41	43.65	2.08	54.52	73.9	19.3	134	285	-
Hori.	11160.000	PK	46.60	37.20	9.59	42.85	-9.54	41.00	73.9	32.9	150	0	-
Hori.	7440.078	AV	39.13	37.62	8.41	43.65	2.08	43.59	53.9	10.3	134	285	VBW: 1.5 kHz
Hori.	11160.000	AV	35.57	37.20	9.59	42.85	-9.54	29.97	53.9	23.9	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	7439.886	PK	50.64	37.62	8.41	43.65	2.08	55.10	73.9	18.8	282	267	-
Vert.	11160.000	PK	46.23	37.20	9.59	42.85	-9.54	40.63	73.9	33.2	150	0	-
Vert.	7439.886	AV	39.50	37.62	8.41	43.65	2.08	43.96	53.9	9.9	282	267	VBW: 1.5 kHz
Vert.	11160.000	AV	35.80	37.20	9.59	42.85	-9.54	30.20	53.9	23.7	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.000	PK	45.59	39.41	12.35	40.33	-9.54	47.48	-47.75	-27.0	20.7	150	0	-
Vert.	16740.000	PK	45.24	39.41	12.35	40.33	-9.54	47.13	-48.10	-27.0	21.1	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3\text{ [m]}^2 / 30 * 10^{\wedge}3)$

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5700 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7600.380	PK	50.38	37.47	8.43	43.59	2.08	54.77	73.9	19.1	126	284	-
Hori.	11400.000	PK	46.31	37.76	9.75	42.65	-9.54	41.63	73.9	32.2	150	0	-
Hori.	7600.380	AV	39.51	37.47	8.43	43.59	2.08	43.90	53.9	10.0	126	284	VBW: 1.5 kHz
Hori.	11400.000	AV	35.77	37.76	9.75	42.65	-9.54	31.09	53.9	22.8	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	7600.380	PK	50.32	37.47	8.43	43.59	2.08	54.71	73.9	19.1	284	277	-
Vert.	11400.000	PK	46.43	37.76	9.75	42.65	-9.54	41.75	73.9	32.1	150	0	-
Vert.	7600.380	AV	39.64	37.47	8.43	43.59	2.08	44.03	53.9	9.8	284	277	VBW: 1.5 kHz
Vert.	11400.000	AV	35.66	37.76	9.75	42.65	-9.54	30.98	53.9	22.9	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	45.27	32.81	16.65	38.93	2.08	57.88	-37.35	-27.0	10.3	170	109	-
Hori.	17100.000	PK	45.86	39.77	12.48	40.33	-9.54	48.24	-46.99	-27.0	19.9	150	0	-
Vert.	5725.000	PK	44.28	32.81	16.65	38.93	2.08	56.89	-38.34	-27.0	11.3	118	92	-
Vert.	17100.000	PK	45.75	39.77	12.48	40.33	-9.54	48.13	-47.10	-27.0	20.1	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}]^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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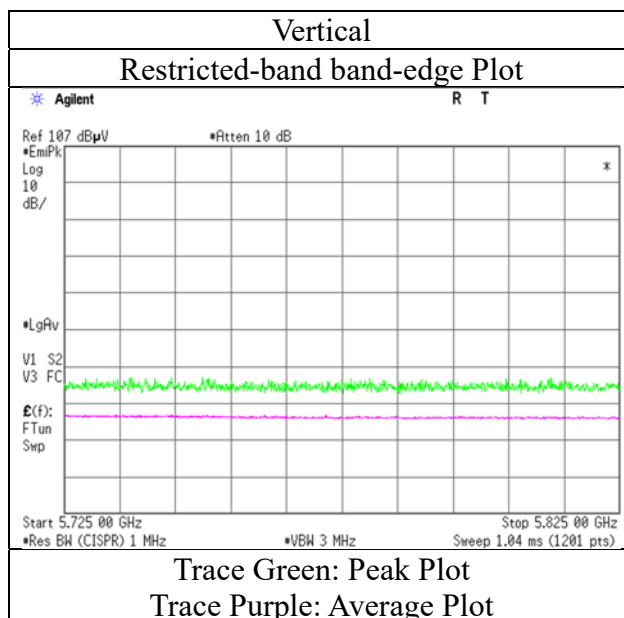
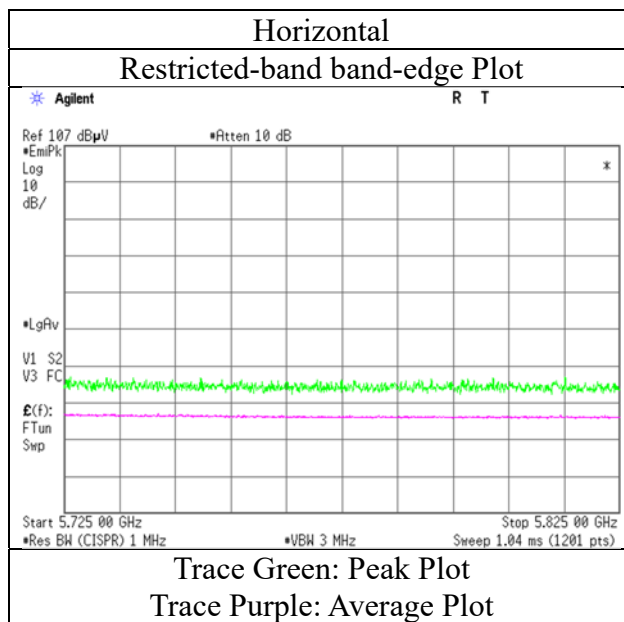
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No.	13994981S-J-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	2
Date	November 19, 2021
Temperature / Humidity	22 deg.C, 34 %RH
Engineer	Yohsuke Matsuzawa
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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	46.45	37.91	9.82	42.57	-9.54	42.07	73.9	31.8	150	0	-
Hori.	11490.000	AV	36.09	37.91	9.82	42.57	-9.54	31.71	53.9	22.1	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11490.000	PK	46.38	37.91	9.82	42.57	-9.54	42.00	73.9	31.9	150	0	-
Vert.	11490.000	AV	36.07	37.91	9.82	42.57	-9.54	31.69	53.9	22.2	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.08	32.60	16.62	38.92	2.08	57.46	-37.77	-27.0	10.7	170	113	-
Hori.	5700.000	PK	44.57	32.73	16.64	38.92	2.08	57.10	-38.13	10.0	48.1	170	113	-
Hori.	5720.000	PK	46.44	32.79	16.65	38.93	2.08	59.03	-36.20	15.6	51.8	170	113	-
Hori.	5725.000	PK	58.87	32.81	16.65	38.93	2.08	71.48	-23.75	27.0	50.7	170	113	-
Hori.	17235.000	PK	45.72	40.03	12.53	40.32	-9.54	48.42	-46.81	-27.0	19.8	150	0	-
Vert.	5650.000	PK	45.05	32.60	16.62	38.92	2.08	57.43	-37.80	-27.0	10.8	179	79	-
Vert.	5700.000	PK	44.53	32.73	16.64	38.92	2.08	57.06	-38.17	10.0	48.1	179	79	-
Vert.	5720.000	PK	46.67	32.79	16.65	38.93	2.08	59.26	-35.97	15.6	51.5	179	79	-
Vert.	5725.000	PK	59.17	32.81	16.65	38.93	2.08	71.78	-23.45	27.0	50.4	179	79	-
Vert.	17235.000	PK	45.46	40.03	12.53	40.32	-9.54	48.16	-47.07	-27.0	20.0	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log((10 \wedge (\text{Electric Field Strength [dBuV/m]} / 20) * 10 \wedge (-6) * \text{Distance : 3 [m]}) \wedge 2 / 30 * 10 \wedge 3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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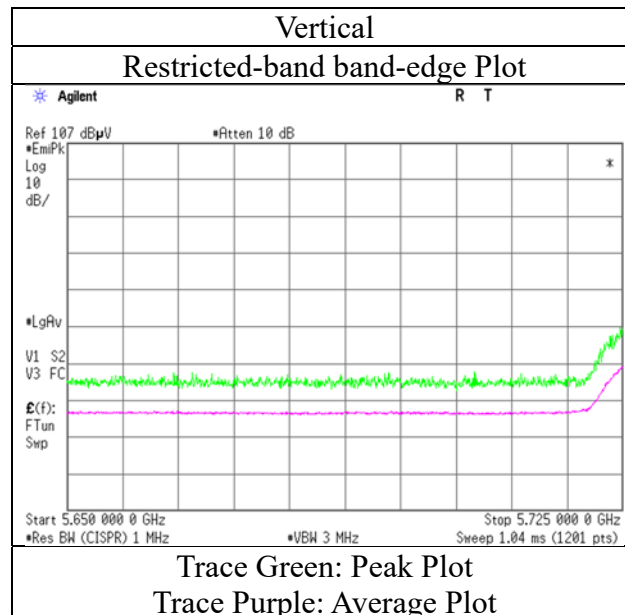
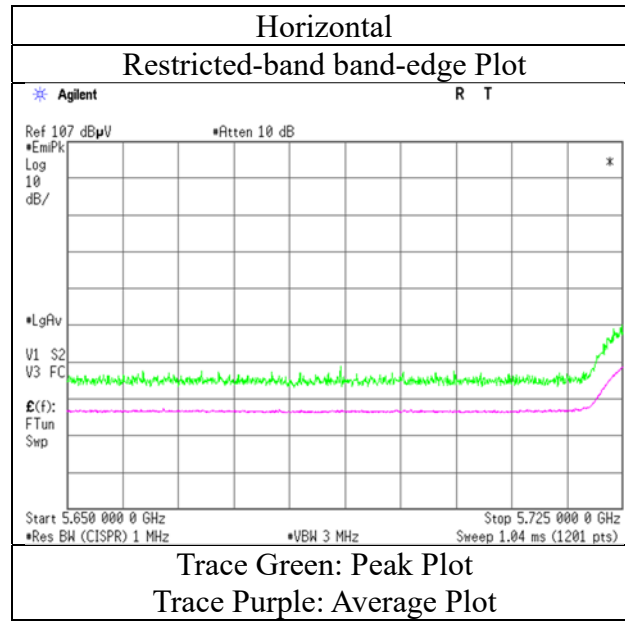
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 19, 2021
Temperature / Humidity 22 deg.C, 34 %RH
Engineer Yohsuke Matsuzawa
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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5785 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	47.62	37.98	9.87	42.56	-9.54	43.37	73.9	30.5	150	0	-
Hori.	11570.000	AV	36.80	37.98	9.87	42.56	-9.54	32.55	53.9	21.3	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11570.000	PK	47.77	37.98	9.87	42.56	-9.54	43.52	73.9	30.3	150	0	-
Vert.	11570.000	AV	36.65	37.98	9.87	42.56	-9.54	32.40	53.9	21.5	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	46.25	40.19	12.57	40.31	-9.54	49.16	-46.07	-27.0	19.0	150	0	-
Vert.	17355.000	PK	46.33	40.19	12.57	40.31	-9.54	49.24	-45.99	-27.0	18.9	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	3	2
Date	November 19, 2021	November 26, 2021	November 28, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 34 %RH	23 deg.C, 27 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH
Engineer	Yohsuke Matsuzawa	Takahiro Kawakami	Shiro Kobayashi	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11a 5825 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11650.000	PK	47.74	37.98	9.92	42.57	-9.54	43.53	73.9	30.3	150	0	-
Hori.	11650.000	AV	36.77	37.98	9.92	42.57	-9.54	32.56	53.9	21.3	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11650.000	PK	48.04	37.98	9.92	42.57	-9.54	43.83	73.9	30.0	150	0	-
Vert.	11650.000	AV	36.72	37.98	9.92	42.57	-9.54	32.51	53.9	21.3	150	0	VBW: 1.5 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.76	33.12	16.73	38.94	2.08	57.75	-37.48	27.0	64.4	169	115	-
Hori.	5855.000	PK	44.60	33.14	16.73	38.94	2.08	57.61	-37.62	15.6	53.2	169	115	-
Hori.	5875.000	PK	44.18	33.18	16.76	38.95	2.08	57.25	-37.98	10.0	47.9	169	115	-
Hori.	5925.000	PK	43.85	33.28	16.78	38.95	2.08	57.04	-38.19	-27.0	11.1	169	115	-
Hori.	17475.000	PK	46.63	40.34	12.61	40.30	-9.54	49.74	-45.49	-27.0	18.4	150	0	-
Vert.	5850.000	PK	44.40	33.12	16.73	38.94	2.08	57.39	-37.84	27.0	64.8	161	77	-
Vert.	5855.000	PK	43.72	33.14	16.73	38.94	2.08	56.73	-38.50	15.6	54.1	161	77	-
Vert.	5875.000	PK	44.09	33.18	16.76	38.95	2.08	57.16	-38.07	10.0	48.0	161	77	-
Vert.	5925.000	PK	44.15	33.28	16.78	38.95	2.08	57.34	-37.89	-27.0	10.8	161	77	-
Vert.	17475.000	PK	46.21	40.34	12.61	40.30	-9.54	49.32	-45.91	-27.0	18.9	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log((10 \wedge (\text{Electric Field Strength [dBuV/m]} / 20) * 10 \wedge (-6) * \text{Distance : 3 [m]}) \wedge 2 / 30 * 10 \wedge 3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

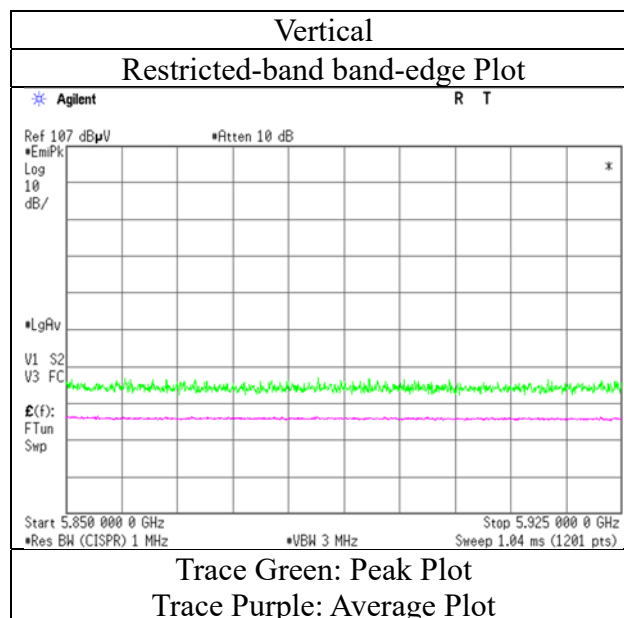
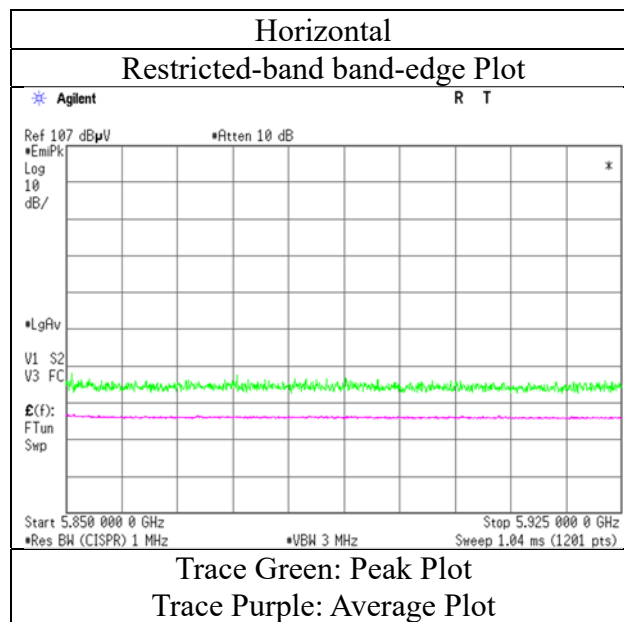
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 19, 2021
Temperature / Humidity 22 deg.C, 34 %RH
Engineer Yohsuke Matsuzawa
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

Report No.	13994981S-J-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	2	3	2	2
Date	December 1, 2021	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 38 %RH	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Yosuke Murakami	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(30 MHz -1 GHz)	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5180 MHz				

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	350.000	QP	28.90	15.25	6.80	31.63	0.00	19.32	46.0	26.6	100	169	-
Hori.	500.000	QP	23.40	17.92	7.69	31.61	0.00	17.40	46.0	28.6	100	1	-
Hori.	900.000	QP	28.30	22.11	9.71	30.86	0.00	29.26	46.0	16.7	100	355	-
Hori.	950.000	QP	28.50	22.15	9.95	30.48	0.00	30.12	46.0	15.8	100	350	-
Hori.	1000.000	QP	29.00	22.51	10.18	30.15	0.00	31.54	53.9	22.3	100	353	-
Hori.	5150.000	PK	45.15	32.44	16.30	38.72	2.08	57.25	73.9	16.6	134	78	-
Hori.	15540.000	PK	44.97	39.52	11.37	37.29	-9.54	49.03	73.9	24.8	150	0	-
Hori.	5150.000	AV	33.82	32.44	16.30	38.72	2.08	45.92	53.9	7.9	134	78	VBW: 3.6 kHz
Hori.	15540.000	AV	34.42	39.52	11.37	37.29	-9.54	38.48	53.9	15.4	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	450.000	QP	28.10	16.76	7.45	31.63	0.00	20.68	46.0	25.3	126	147	-
Vert.	750.000	QP	23.30	20.32	9.00	31.47	0.00	21.15	46.0	24.8	100	33	-
Vert.	900.000	QP	26.70	22.11	9.71	30.86	0.00	27.66	46.0	18.3	132	141	-
Vert.	5150.000	PK	44.36	32.44	16.30	38.72	2.08	56.46	73.9	17.4	152	3	-
Vert.	15540.000	PK	44.84	39.52	11.37	37.29	-9.54	48.90	73.9	25.0	150	0	-
Vert.	5150.000	AV	33.79	32.44	16.30	38.72	2.08	45.89	53.9	8.0	152	3	VBW: 3.6 kHz
Vert.	15540.000	AV	34.31	39.52	11.37	37.29	-9.54	38.37	53.9	15.5	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6906.692	PK	51.60	36.18	8.13	43.25	2.08	54.74	-40.49	-27.0	13.4	149	256	-
Hori.	10360.000	PK	47.65	36.34	9.07	39.88	-9.54	43.64	-51.59	-27.0	24.5	150	0	-
Vert.	6906.692	PK	52.34	36.18	8.13	43.25	2.08	55.48	-39.75	-27.0	12.7	260	272	-
Vert.	10360.000	PK	47.31	36.34	9.07	39.88	-9.54	43.30	-51.93	-27.0	24.9	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP) [dBm] = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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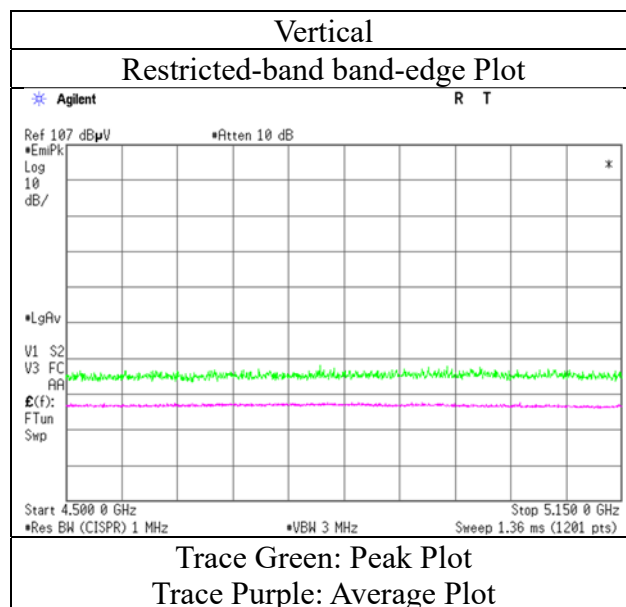
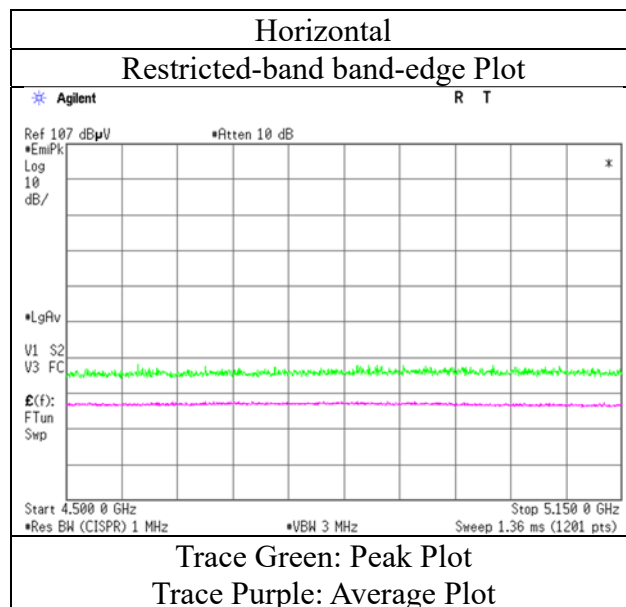
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 20, 2021
Temperature / Humidity 20 deg.C, 43 %RH
Engineer Miku Ikudome
Mode Tx 11n-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

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5240 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15720.000	PK	44.34	39.88	11.33	37.27	-9.54	48.74	73.9	25.1	150	0	-
Hori.	15720.000	AV	34.42	39.88	11.33	37.27	-9.54	38.82	53.9	15.0	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	15720.000	PK	44.52	39.88	11.33	37.27	-9.54	48.92	73.9	24.9	150	0	-
Vert.	15720.000	AV	34.36	39.88	11.33	37.27	-9.54	38.76	53.9	15.1	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6986.671	PK	50.65	36.66	8.13	43.17	2.08	54.35	-40.88	-27.0	13.8	152	252	-
Hori.	10480.000	PK	47.58	36.57	9.10	39.91	-9.54	43.80	-51.43	-27.0	24.4	150	0	-
Vert.	6986.628	PK	50.56	36.66	8.13	43.17	2.08	54.26	-40.97	-27.0	13.9	267	276	-
Vert.	10480.000	PK	47.59	36.57	9.10	39.91	-9.54	43.81	-51.42	-27.0	24.4	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP) [dBm] = $10 * \log((10^{(Electric\ Field\ Strength\ [dBuV/m] / 20)}) * 10^{(-6)} * Distance : 3 [m])^2 / 30 * 10^{(-3)})$

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5320 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	44.43	32.23	16.44	38.82	2.08	56.36	73.9	17.5	151	109	-
Hori.	10640.000	PK	47.32	37.16	9.17	39.97	-9.54	44.14	73.9	29.7	150	0	-
Hori.	15960.000	PK	45.13	39.99	11.27	37.25	-9.54	49.60	73.9	24.3	150	0	-
Hori.	5350.000	AV	33.83	32.23	16.44	38.82	2.08	45.76	53.9	8.1	151	109	VBW: 3.6 kHz
Hori.	10640.000	AV	36.66	37.16	9.17	39.97	-9.54	33.48	53.9	20.4	150	0	VBW: 3.6 kHz, Floor Noise
Hori.	15960.000	AV	34.32	39.99	11.27	37.25	-9.54	38.79	53.9	15.1	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	5350.000	PK	45.21	32.23	16.44	38.82	2.08	57.14	73.9	16.7	145	4	-
Vert.	10640.000	PK	47.36	37.16	9.17	39.97	-9.54	44.18	73.9	29.7	150	0	-
Vert.	15960.000	PK	44.76	39.99	11.27	37.25	-9.54	49.23	73.9	24.6	150	0	-
Vert.	5350.000	AV	33.95	32.23	16.44	38.82	2.08	45.88	53.9	8.0	145	4	VBW: 3.6 kHz
Vert.	10640.000	AV	36.50	37.16	9.17	39.97	-9.54	33.32	53.9	20.5	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	15960.000	AV	34.49	39.99	11.27	37.25	-9.54	38.96	53.9	14.9	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7093.318	PK	50.15	37.12	8.19	43.26	2.08	54.28	-40.95	-27.0	13.9	162	251	-
Vert.	7093.318	PK	50.29	37.12	8.19	43.26	2.08	54.42	-40.81	-27.0	13.8	288	274	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor: 1 GHz - 10 GHz: 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz: 20log (1.0 m / 3.0 m) = -9.54 dB

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Shonan EMC Lab.

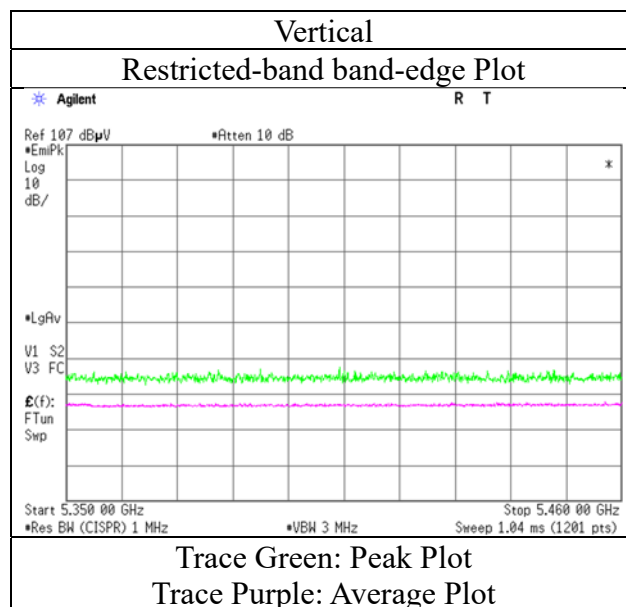
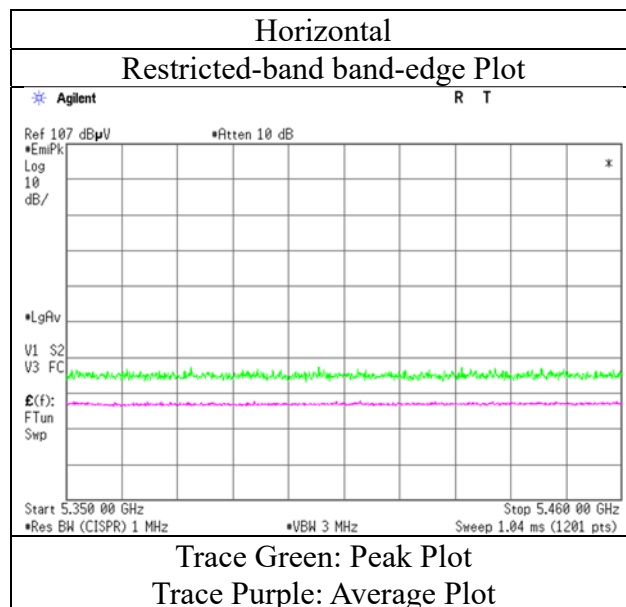
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 20, 2021
Temperature / Humidity 20 deg.C, 43 %RH
Engineer Miku Ikudome
Mode Tx 11n-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

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5500 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	44.12	32.38	16.50	38.88	2.08	56.20	73.9	17.7	136	105	-
Hori.	7333.405	PK	50.91	37.56	8.35	43.53	2.08	55.37	73.9	18.5	172	256	-
Hori.	11000.000	PK	46.53	37.32	9.29	40.09	-9.54	43.51	73.9	30.3	150	0	-
Hori.	5460.000	AV	33.88	32.38	16.50	38.88	2.08	45.96	53.9	7.9	136	105	VBW: 3.6 kHz
Hori.	7333.405	AV	41.12	37.56	8.35	43.53	2.08	45.58	53.9	8.3	172	256	VBW: 3.6 kHz
Hori.	11000.000	AV	36.10	37.32	9.29	40.09	-9.54	33.08	53.9	20.8	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	5460.000	PK	44.59	32.38	16.50	38.88	2.08	56.67	73.9	17.2	261	8	-
Vert.	7333.320	PK	50.97	37.56	8.35	43.53	2.08	55.43	73.9	18.4	297	277	-
Vert.	11000.000	PK	46.74	37.32	9.29	40.09	-9.54	43.72	73.9	30.1	150	0	-
Vert.	5460.000	AV	33.70	32.38	16.50	38.88	2.08	45.78	53.9	8.1	261	8	VBW: 3.6 kHz
Vert.	7333.320	AV	40.78	37.56	8.35	43.53	2.08	45.24	53.9	8.6	297	277	VBW: 3.6 kHz
Vert.	11000.000	AV	36.32	37.32	9.29	40.09	-9.54	33.30	53.9	20.6	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	44.40	32.39	16.51	38.88	2.08	56.50	-38.73	-27.0	11.7	136	105	-
Hori.	16500.000	PK	44.43	39.97	12.04	36.98	-9.54	49.92	-45.31	-27.0	18.3	150	0	-
Vert.	5470.000	PK	44.64	32.39	16.51	38.88	2.08	56.74	-38.49	-27.0	11.4	261	8	-
Vert.	16500.000	PK	44.31	39.97	12.04	36.98	-9.54	49.80	-45.43	-27.0	18.4	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^2 / 30 * 10^{\wedge}3)$

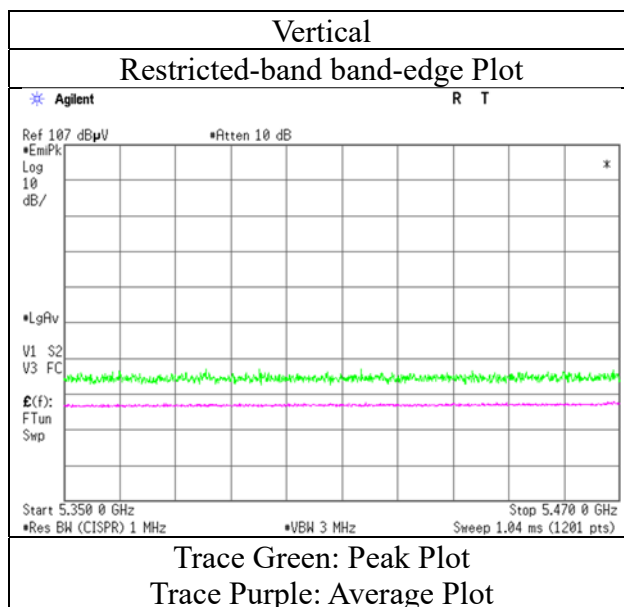
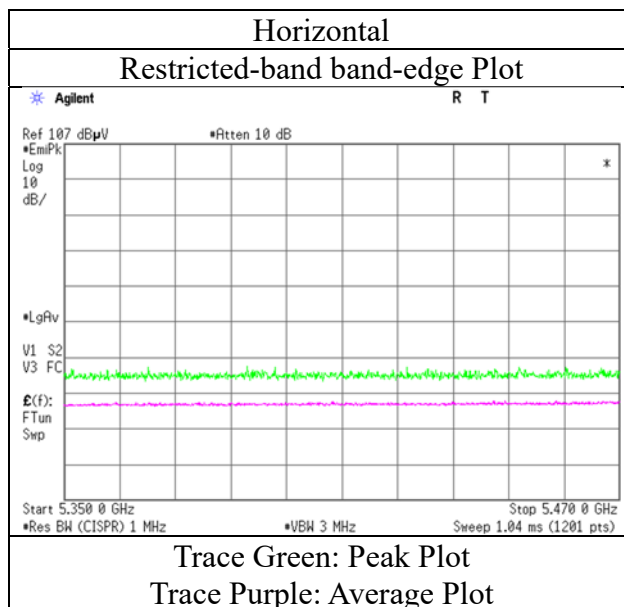
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13994981S-J-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	2
Date	November 20, 2021
Temperature / Humidity	20 deg.C, 43 %RH
Engineer	Miku Ikudome
Mode	Tx 11n-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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5580 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7440.070	PK	49.90	37.62	8.41	43.65	2.08	54.36	73.9	19.5	213	254	-
Hori.	11160.000	PK	47.01	37.38	9.40	40.18	-9.54	44.07	73.9	29.8	150	0	-
Hori.	7440.070	AV	39.62	37.62	8.41	43.65	2.08	44.08	53.9	9.8	213	254	VBW: 3.6 kHz
Hori.	11160.000	AV	36.56	37.38	9.40	40.18	-9.54	33.62	53.9	20.2	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	7439.859	PK	49.48	37.62	8.41	43.65	2.08	53.94	73.9	19.9	270	277	-
Vert.	11160.000	PK	47.44	37.38	9.40	40.18	-9.54	44.50	73.9	29.4	150	0	-
Vert.	7439.859	AV	39.04	37.62	8.41	43.65	2.08	43.50	53.9	10.4	270	277	VBW: 3.6 kHz
Vert.	11160.000	AV	36.85	37.38	9.40	40.18	-9.54	33.91	53.9	19.9	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.000	PK	44.74	39.54	12.18	37.10	-9.54	49.82	-45.41	-27.0	18.4	150	0	-
Vert.	16740.000	PK	44.61	39.54	12.18	37.10	-9.54	49.69	-45.54	-27.0	18.5	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5700 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7600.000	PK	49.97	37.47	8.43	43.59	2.08	54.36	73.9	19.5	167	286	-
Hori.	11400.000	PK	46.11	37.79	9.56	40.31	-9.54	43.61	73.9	30.2	150	0	-
Hori.	7600.000	AV	39.52	37.47	8.43	43.59	2.08	43.91	53.9	9.9	167	286	VBW: 3.6 kHz
Hori.	11400.000	AV	36.03	37.79	9.56	40.31	-9.54	33.53	53.9	20.3	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	7600.000	PK	50.99	37.47	8.43	43.59	2.08	55.38	73.9	18.5	312	271	-
Vert.	11400.000	PK	46.44	37.79	9.56	40.31	-9.54	43.94	73.9	29.9	150	0	-
Vert.	7600.000	AV	39.69	37.47	8.43	43.59	2.08	44.08	53.9	9.8	312	271	VBW: 3.6 kHz
Vert.	11400.000	AV	36.09	37.79	9.56	40.31	-9.54	33.59	53.9	20.3	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	45.31	32.81	16.65	38.93	2.08	57.92	-37.31	-27.0	10.3	136	106	-
Hori.	17100.000	PK	44.43	39.85	12.35	37.22	-9.54	49.87	-45.36	-27.0	18.3	150	0	-
Vert.	5725.000	PK	45.51	32.81	16.65	38.93	2.08	58.12	-37.11	-27.0	10.1	271	5	-
Vert.	17100.000	PK	44.24	39.85	12.35	37.22	-9.54	49.68	-45.55	-27.0	18.5	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}]^2 / 30 * 10^{\wedge}3)$

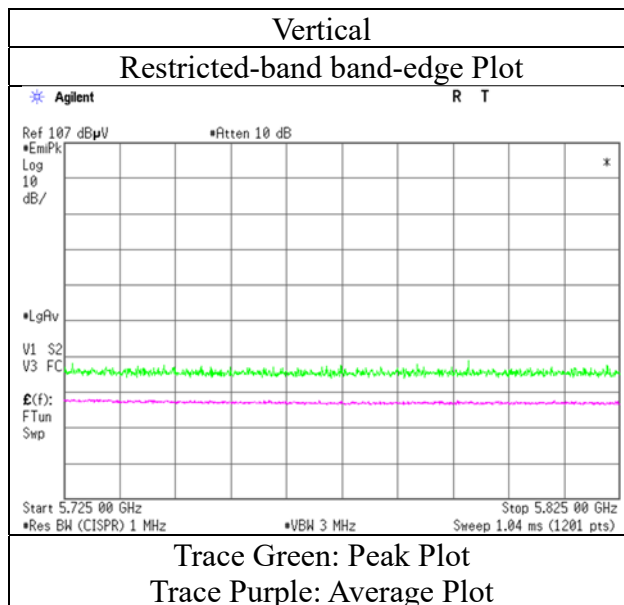
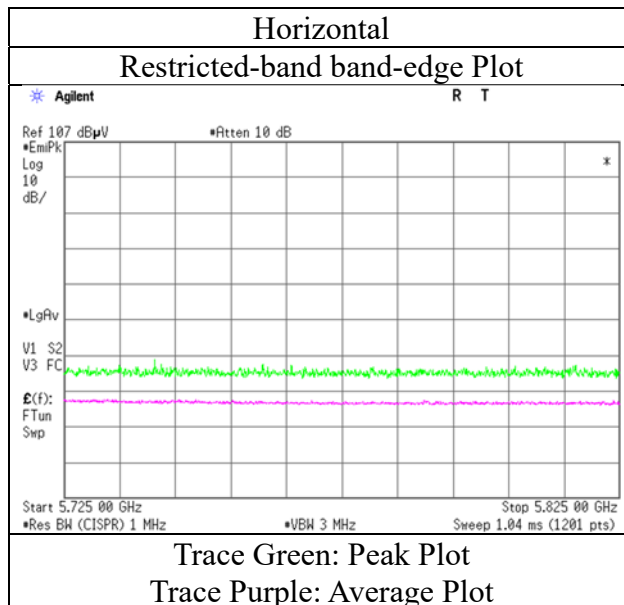
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor: 1 GHz - 10 GHz: $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz: $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13994981S-J-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	2
Date	November 20, 2021
Temperature / Humidity	20 deg.C, 43 %RH
Engineer	Miku Ikudome
Mode	Tx 11n-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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5745 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	46.48	37.90	9.61	40.35	-9.54	44.10	73.9	29.8	150	0	-
Hori.	11490.000	AV	35.64	37.90	9.61	40.35	-9.54	33.26	53.9	20.6	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11490.000	PK	46.15	37.90	9.61	40.35	-9.54	43.77	73.9	30.1	150	0	-
Vert.	11490.000	AV	35.83	37.90	9.61	40.35	-9.54	33.45	53.9	20.4	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	45.56	32.60	16.62	38.92	2.08	57.94	-37.29	-27.0	10.2	155	108	-
Hori.	5700.000	PK	45.00	32.73	16.64	38.92	2.08	57.53	-37.70	10.0	47.7	155	108	-
Hori.	5720.000	PK	45.85	32.79	16.65	38.93	2.08	58.44	-36.79	15.6	52.3	155	108	-
Hori.	5725.000	PK	52.69	32.81	16.65	38.93	2.08	65.30	-29.93	27.0	56.9	155	108	-
Hori.	17235.000	PK	44.54	40.06	12.38	37.20	-9.54	50.24	-44.99	-27.0	17.9	150	0	-
Vert.	5650.000	PK	44.15	32.60	16.62	38.92	2.08	56.53	-38.70	-27.0	11.7	276	1	-
Vert.	5700.000	PK	44.51	32.73	16.64	38.92	2.08	57.04	-38.19	10.0	48.1	276	1	-
Vert.	5720.000	PK	45.19	32.79	16.65	38.93	2.08	57.78	-37.45	15.6	53.0	276	1	-
Vert.	5725.000	PK	51.06	32.81	16.65	38.93	2.08	63.67	-31.56	27.0	58.5	276	1	-
Vert.	17235.000	PK	44.71	40.06	12.38	37.20	-9.54	50.41	-44.82	-27.0	17.8	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log((10 \wedge (\text{Electric Field Strength [dBuV/m]} / 20) * 10 \wedge (-6) * \text{Distance : 3 [m]}) \wedge 2 / 30 * 10 \wedge 3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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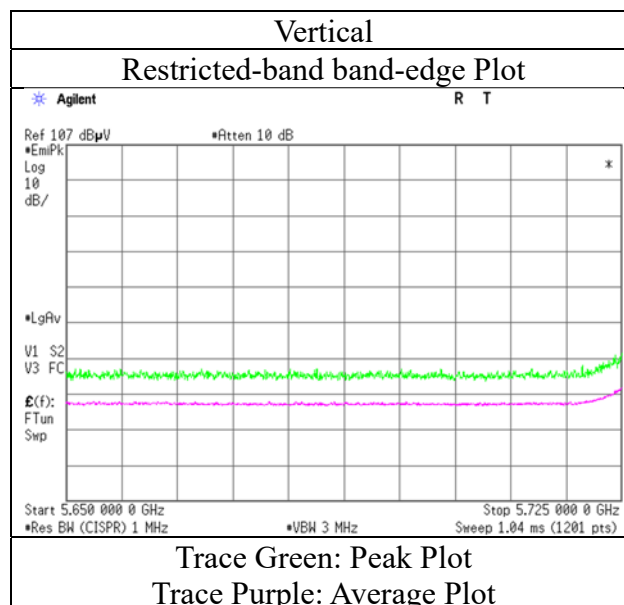
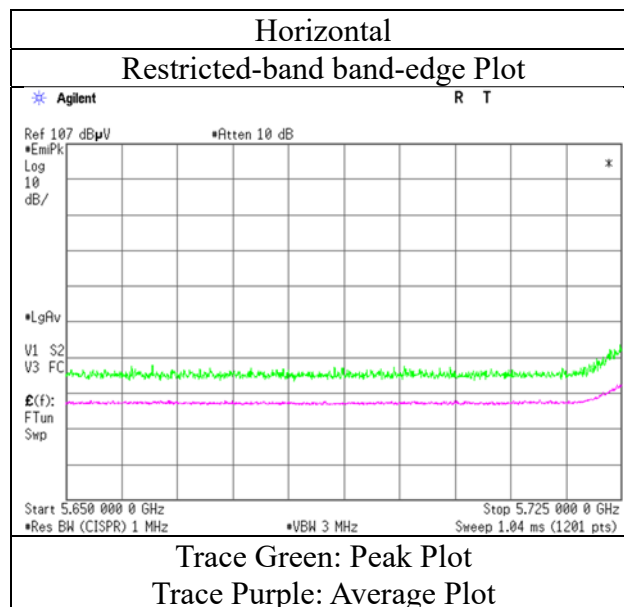
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 20, 2021
Temperature / Humidity 20 deg.C, 43 %RH
Engineer Miku Ikudome
Mode Tx 11n-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.

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Shonan EMC Lab.

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Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5785 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	46.36	37.96	9.66	40.32	-9.54	44.12	73.9	29.7	150	0	-
Hori.	11570.000	AV	35.84	37.96	9.66	40.32	-9.54	33.60	53.9	20.3	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11570.000	PK	46.26	37.96	9.66	40.32	-9.54	44.02	73.9	29.8	150	0	-
Vert.	11570.000	AV	35.72	37.96	9.66	40.32	-9.54	33.48	53.9	20.4	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	44.45	40.17	12.39	37.18	-9.54	50.29	-44.94	-27.0	17.9	150	0	-
Vert.	17355.000	PK	44.47	40.17	12.39	37.18	-9.54	50.31	-44.92	-27.0	17.9	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}])^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

Radiated Spurious Emission

Report No.	13994981S-J-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	2	3	2	2
Date	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5825 MHz			

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11650.000	PK	45.64	37.99	9.71	40.28	-9.54	43.52	73.9	30.3	150	0	-
Hori.	11650.000	AV	35.33	37.99	9.71	40.28	-9.54	33.21	53.9	20.6	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11650.000	PK	45.42	37.99	9.71	40.28	-9.54	43.30	73.9	30.6	150	0	-
Vert.	11650.000	AV	35.11	37.99	9.71	40.28	-9.54	32.99	53.9	20.9	150	0	VBW: 3.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	45.15	33.12	16.73	38.94	2.08	58.14	-37.09	27.0	64.0	155	105	-
Hori.	5855.000	PK	44.33	33.14	16.73	38.94	2.08	57.34	-37.89	15.6	53.4	155	105	-
Hori.	5875.000	PK	43.81	33.18	16.76	38.95	2.08	56.88	-38.35	10.0	48.3	155	105	-
Hori.	5925.000	PK	43.79	33.28	16.78	38.95	2.08	56.98	-38.25	-27.0	11.2	155	105	-
Hori.	17475.000	PK	44.77	40.19	12.42	37.16	-9.54	50.68	-44.55	-27.0	17.5	150	0	-
Vert.	5850.000	PK	44.46	33.12	16.73	38.94	2.08	57.45	-37.78	27.0	64.7	279	1	-
Vert.	5855.000	PK	44.92	33.14	16.73	38.94	2.08	57.93	-37.30	15.6	52.9	279	1	-
Vert.	5875.000	PK	44.33	33.18	16.76	38.95	2.08	57.40	-37.83	10.0	47.8	279	1	-
Vert.	5925.000	PK	45.02	33.28	16.78	38.95	2.08	58.21	-37.02	-27.0	10.0	279	1	-
Vert.	17475.000	PK	44.51	40.19	12.42	37.16	-9.54	50.42	-44.81	-27.0	17.8	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log((10 \wedge (\text{Electric Field Strength [dBuV/m]} / 20) * 10 \wedge (-6) * \text{Distance : 3 [m]}) \wedge 2 / 30 * 10 \wedge 3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

UL Japan, Inc.

Shonan EMC Lab.

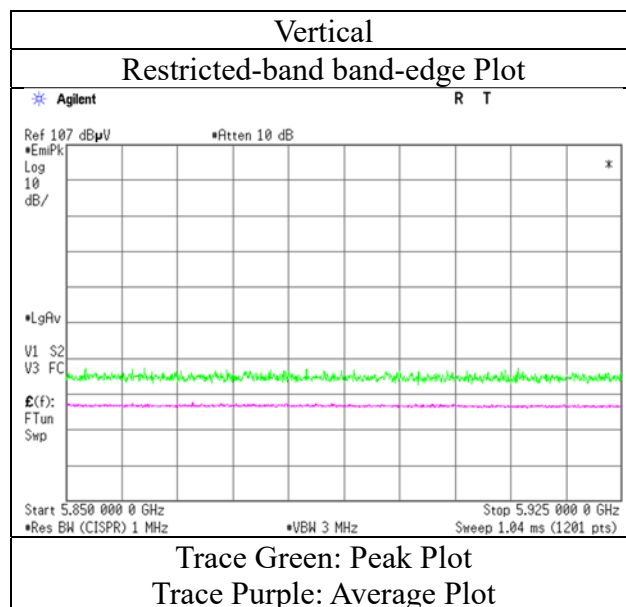
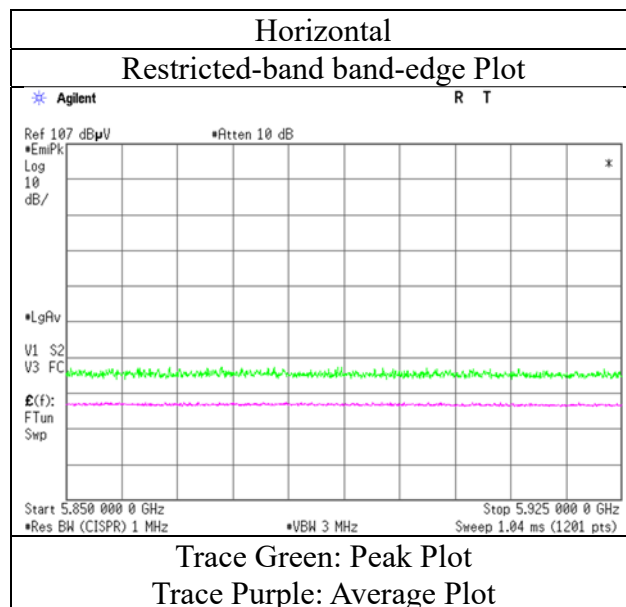
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Radiated Spurious Emission

Report No.	13994981S-J-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	2
Date	November 20, 2021
Temperature / Humidity	20 deg.C, 43 %RH
Engineer	Miku Ikudome
Mode	Tx 11n-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.

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Radiated Spurious Emission

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5190 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	44.05	32.44	16.30	38.72	2.08	56.15	73.9	17.7	136	76	-
Hori.	15570.000	PK	45.16	39.60	11.36	37.28	-9.54	49.30	73.9	24.6	150	0	-
Hori.	5150.000	AV	34.45	32.44	16.30	38.72	2.08	46.55	53.9	7.3	136	76	VBW: 5.6 kHz
Hori.	15570.000	AV	34.80	39.60	11.36	37.28	-9.54	38.94	53.9	14.9	150	0	VBW: 5.6 kHz Floor Noise
Vert.	5150.000	PK	44.14	32.44	16.30	38.72	2.08	56.24	73.9	17.6	127	186	-
Vert.	15570.000	PK	44.85	39.60	11.36	37.28	-9.54	48.99	73.9	24.9	150	0	-
Vert.	5150.000	AV	33.02	32.44	16.30	38.72	2.08	45.12	53.9	8.7	127	186	VBW: 5.6 kHz
Vert.	15570.000	AV	34.84	39.60	11.36	37.28	-9.54	38.98	53.9	14.9	150	0	VBW: 5.6 kHz Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6919.963	PK	51.82	36.25	8.12	43.24	2.08	55.03	-40.20	-27.0	13.2	147	252	-
Hori.	10380.000	PK	47.08	36.36	9.08	39.89	-9.54	43.09	-52.14	-27.0	25.1	150	0	-
Vert.	6919.963	PK	51.49	36.25	8.12	43.24	2.08	54.70	-40.53	-27.0	13.5	271	271	-
Vert.	10380.000	PK	46.82	36.36	9.08	39.89	-9.54	42.83	-52.40	-27.0	25.4	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

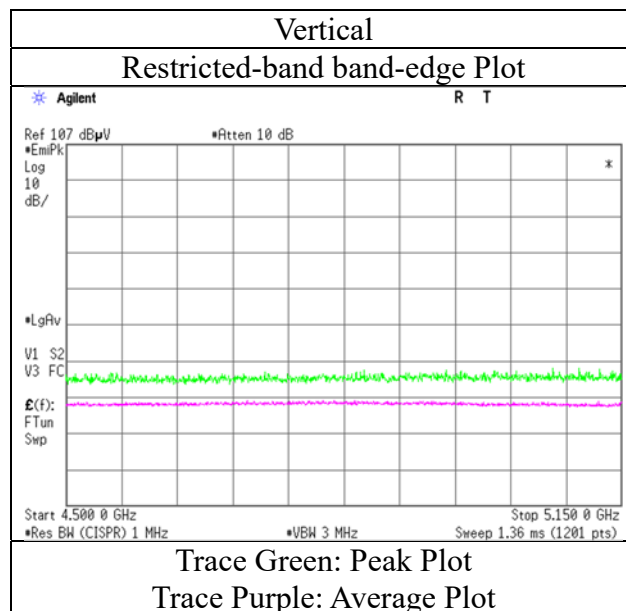
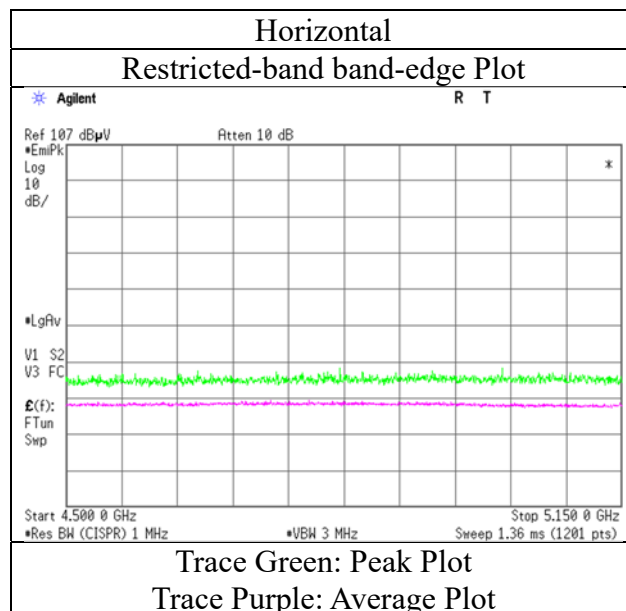
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-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

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5230 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15690.000	PK	44.77	39.81	11.33	37.27	-9.54	49.10	73.9	24.8	150	0	-
Hori.	15690.000	AV	34.60	39.81	11.33	37.27	-9.54	38.93	53.9	14.9	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	15690.000	PK	44.50	39.81	11.33	37.27	-9.54	48.83	73.9	25.0	150	0	-
Vert.	15690.000	AV	34.60	39.81	11.33	37.27	-9.54	38.93	53.9	14.9	150	0	VBW: 5.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	6973.351	PK	50.67	36.58	8.13	43.19	2.08	54.27	-40.96	-27.0	13.9	156	252	-
Hori.	10460.000	PK	47.22	36.51	9.10	39.91	-9.54	43.38	-51.85	-27.0	24.8	150	0	-
Vert.	6973.361	PK	49.83	36.58	8.13	43.19	2.08	53.43	-41.80	-27.0	14.8	271	260	-
Vert.	10460.000	PK	47.35	36.51	9.10	39.91	-9.54	43.51	-51.72	-27.0	24.7	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3\text{ [m]})^2 / 30 * 10^{\wedge}3$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Radiated Spurious Emission

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5310 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	44.13	32.23	16.44	38.82	2.08	56.06	73.9	17.8	163	108	-
Hori.	10620.000	PK	46.57	37.09	9.15	39.96	-9.54	43.31	73.9	30.5	150	0	-
Hori.	15930.000	PK	44.37	39.98	11.28	37.26	-9.54	48.83	73.9	25.0	150	0	-
Hori.	5350.000	AV	34.57	32.23	16.44	38.82	2.08	46.50	53.9	7.4	163	108	VBW: 5.6 kHz
Hori.	10620.000	AV	36.95	37.09	9.15	39.96	-9.54	33.69	53.9	20.2	150	0	VBW: 5.6 kHz, Floor Noise
Hori.	15930.000	AV	34.45	39.98	11.28	37.26	-9.54	38.91	53.9	14.9	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	5350.000	PK	43.71	32.23	16.44	38.82	2.08	55.64	73.9	18.2	136	174	-
Vert.	10620.000	PK	46.89	37.09	9.15	39.96	-9.54	43.63	73.9	30.2	150	0	-
Vert.	15930.000	PK	44.54	39.98	11.28	37.26	-9.54	49.00	73.9	24.9	150	0	-
Vert.	5350.000	AV	34.26	32.23	16.44	38.82	2.08	46.19	53.9	7.7	136	174	VBW: 5.6 kHz
Vert.	10620.000	AV	37.16	37.09	9.15	39.96	-9.54	33.90	53.9	20.0	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	15930.000	AV	34.99	39.98	11.28	37.26	-9.54	39.45	53.9	14.4	150	0	VBW: 5.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7080.000	PK	50.74	37.06	8.19	43.25	2.08	54.82	-40.41	-27.0	13.4	162	252	-
Vert.	7080.000	PK	50.14	37.06	8.19	43.25	2.08	54.22	-41.01	-27.0	14.0	279	269	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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Shonan EMC Lab.

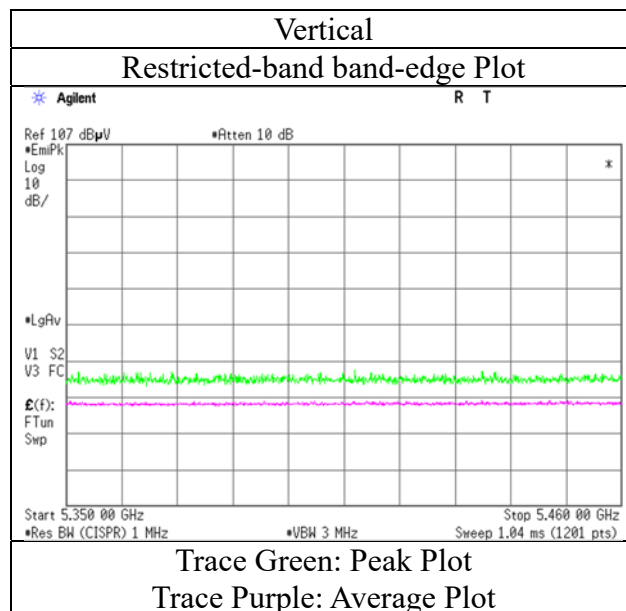
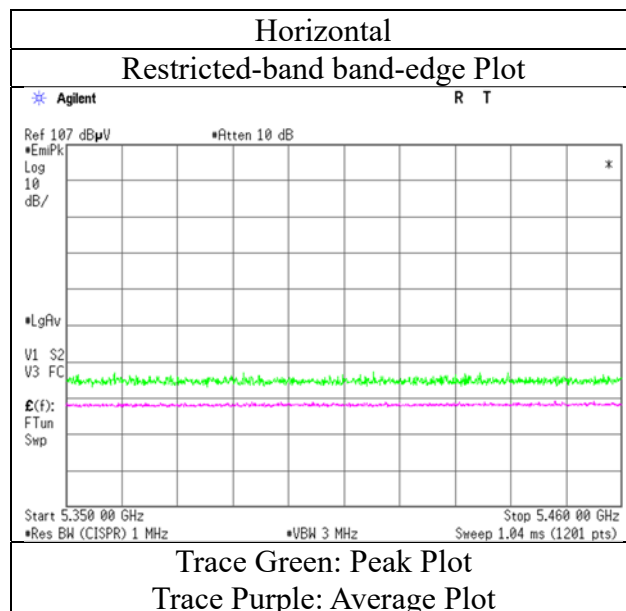
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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-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

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5510 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	43.84	32.38	16.50	38.88	2.08	55.92	73.9	17.9	152	104	-
Hori.	11020.000	PK	46.88	37.31	9.30	40.10	-9.54	43.85	73.9	30.0	150	0	-
Hori.	5460.000	AV	34.21	32.38	16.50	38.88	2.08	46.29	53.9	7.6	152	104	VBW: 5.6 kHz
Hori.	11020.000	AV	36.86	37.31	9.30	40.10	-9.54	33.83	53.9	20.0	150	0	VBW: 5.6 kHz Floor Noise
Vert.	5460.000	PK	43.63	32.38	16.50	38.88	2.08	55.71	73.9	18.1	134	192	-
Vert.	11020.000	PK	46.56	37.31	9.30	40.10	-9.54	43.53	73.9	30.3	150	0	-
Vert.	5460.000	AV	34.49	32.38	16.50	38.88	2.08	46.57	53.9	7.3	134	192	VBW: 5.6 kHz
Vert.	11020.000	AV	36.82	37.31	9.30	40.10	-9.54	33.79	53.9	20.1	150	0	VBW: 5.6 kHz Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	44.18	32.39	16.51	38.88	2.08	56.28	-38.95	-27.0	11.9	152	104	-
Hori.	16530.000	PK	44.19	39.92	12.05	37.00	-9.54	49.62	-45.61	-27.0	18.6	150	0	-
Vert.	5470.000	PK	44.83	32.39	16.51	38.88	2.08	56.93	-38.30	-27.0	11.3	134	192	-
Vert.	16530.000	PK	43.92	39.92	12.05	37.00	-9.54	49.35	-45.88	-27.0	18.8	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

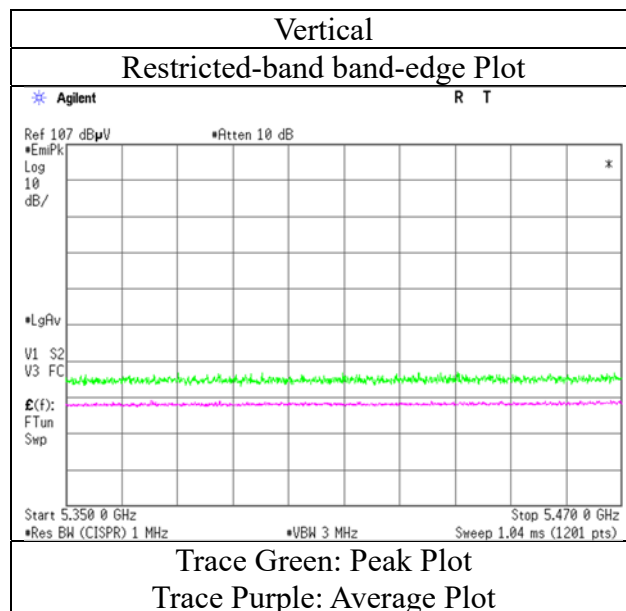
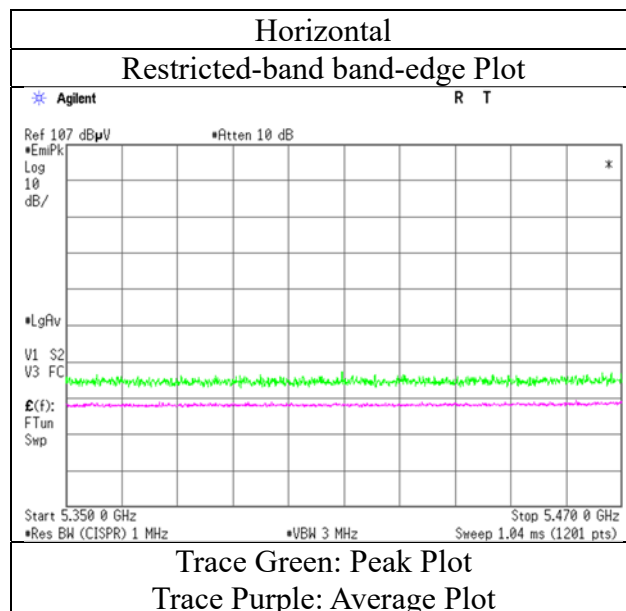
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-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

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5550 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	7400.703	PK	49.83	37.62	8.38	43.61	2.08	54.30	73.9	19.6	239	253	-
Hori.	11100.000	PK	47.03	37.30	9.34	40.14	-9.54	43.99	73.9	29.9	150	0	-
Hori.	7400.703	AV	40.18	37.62	8.38	43.61	2.08	44.65	53.9	9.2	239	253	VBW: 5.6 kHz
Hori.	11100.000	AV	37.24	37.30	9.34	40.14	-9.54	34.20	53.9	19.7	150	0	VBW: 5.6 kHz Floor Noise
Vert.	7400.056	PK	49.87	37.62	8.38	43.61	2.08	54.34	73.9	19.5	312	270	-
Vert.	11100.000	PK	47.28	37.30	9.34	40.14	-9.54	44.24	73.9	29.6	150	0	-
Vert.	7400.056	AV	40.31	37.62	8.38	43.61	2.08	44.78	53.9	9.1	312	270	VBW: 5.6 kHz
Vert.	11100.000	AV	37.29	37.30	9.34	40.14	-9.54	34.25	53.9	19.6	150	0	VBW: 5.6 kHz Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16650.000	PK	44.38	39.67	12.14	37.06	-9.54	49.59	-45.64	-27.0	18.6	150	0	-
Vert.	16650.000	PK	44.30	39.67	12.14	37.06	-9.54	49.51	-45.72	-27.0	18.7	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}]^{\wedge}2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Radiated Spurious Emission

Report No.	13994981S-J-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	2	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome	
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)	
Mode	Tx 11n-40 5670 MHz					

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11340.000	PK	46.30	37.67	9.50	40.27	-9.54	43.66	73.9	30.2	150	0	-
Hori.	11340.000	AV	36.88	37.67	9.50	40.27	-9.54	34.24	53.9	19.6	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11340.000	PK	46.09	37.67	9.50	40.27	-9.54	43.45	73.9	30.4	150	0	-
Vert.	11340.000	AV	36.89	37.67	9.50	40.27	-9.54	34.25	53.9	19.6	150	0	VBW: 5.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	44.05	32.81	16.65	38.93	2.08	56.66	-38.57	-27.0	11.5	150	108	-
Hori.	17010.000	PK	44.97	39.70	12.34	37.24	-9.54	50.23	-45.00	-27.0	18.0	150	0	-
Vert.	5725.000	PK	44.47	32.81	16.65	38.93	2.08	57.08	-38.15	-27.0	11.1	145	169	-
Vert.	17010.000	PK	45.11	39.70	12.34	37.24	-9.54	50.37	-44.86	-27.0	17.8	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3\text{ [m]})^2 / 30 * 10^{\wedge}3$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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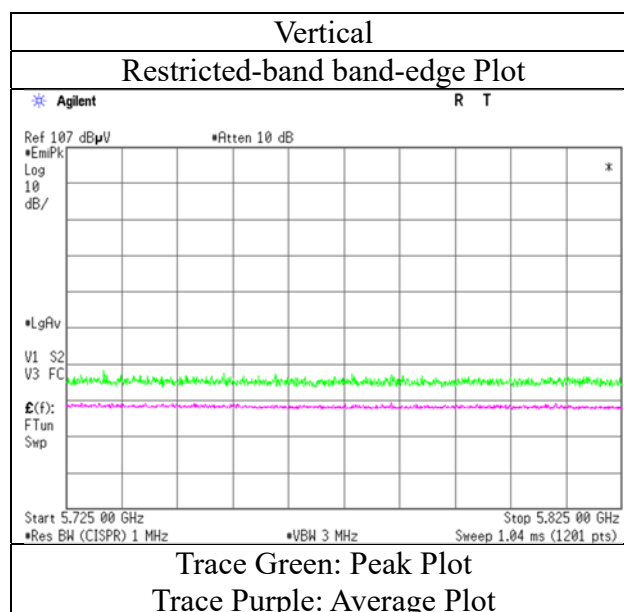
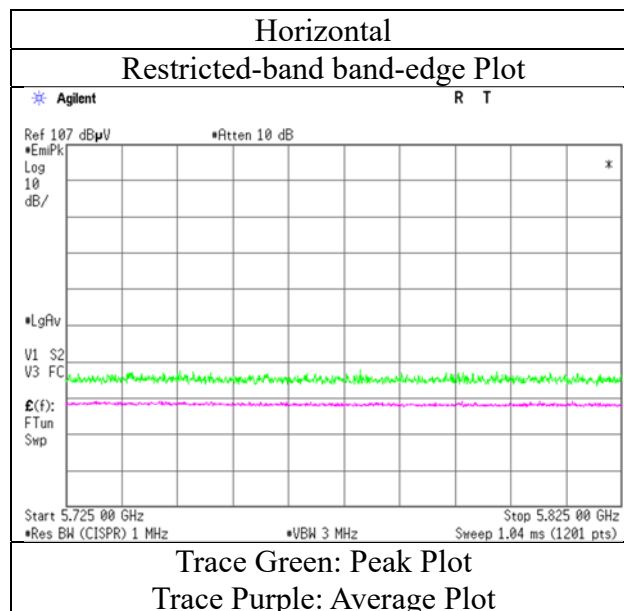
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-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

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2 3 2 2 2
Date November 21, 2021 November 26, 2021 November 29, 2021 November 30, 2021 December 1, 2021
Temperature / Humidity 21 deg.C, 38 %RH 23 deg.C, 27 %RH 23 deg.C, 34 %RH 20 deg.C, 32 %RH 22 deg.C, 38 %RH
Engineer Akihiro Oda Takahiro Kawakami Yosuke Murakami Yosuke Murakami Miku Ikudome
(1 GHz -6.4 GHz) (6.4 GHz -10 GHz) (10 GHz -18 GHz) (18 GHz -26.5 GHz) (26.5 GHz -40 GHz)
Mode Tx 11n-40 5755 MHz

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	46.33	37.92	9.61	40.35	-9.54	43.97	73.9	29.9	150	0	-
Hori.	11510.000	AV	36.56	37.92	9.61	40.35	-9.54	34.20	53.9	19.7	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11510.000	PK	46.07	37.92	9.61	40.35	-9.54	43.71	73.9	30.1	150	0	-
Vert.	11510.000	AV	36.35	37.92	9.61	40.35	-9.54	33.99	53.9	19.9	150	0	VBW: 5.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	44.01	32.60	16.62	38.92	2.08	56.39	-38.84	-27.0	11.8	137	98	-
Hori.	5700.000	PK	44.18	32.73	16.64	38.92	2.08	56.71	-38.52	10.0	48.5	137	98	-
Hori.	5720.000	PK	48.74	32.79	16.65	38.93	2.08	61.33	-33.90	15.6	49.5	137	98	-
Hori.	5725.000	PK	49.91	32.81	16.65	38.93	2.08	62.52	-32.71	27.0	59.7	137	98	-
Hori.	17265.000	PK	44.05	40.07	12.38	37.20	-9.54	49.76	-45.47	-27.0	18.4	150	0	-
Vert.	5650.000	PK	44.81	32.60	16.62	38.92	2.08	57.19	-38.04	-27.0	11.0	117	177	-
Vert.	5700.000	PK	44.89	32.73	16.64	38.92	2.08	57.42	-37.81	10.0	47.8	117	177	-
Vert.	5720.000	PK	47.17	32.79	16.65	38.93	2.08	59.76	-35.47	15.6	51.0	117	177	-
Vert.	5725.000	PK	49.20	32.81	16.65	38.93	2.08	61.81	-33.42	27.0	60.4	117	177	-
Vert.	17265.000	PK	43.93	40.07	12.38	37.20	-9.54	49.64	-45.59	-27.0	18.5	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = $10 * \log(10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^2 / 30 * 10^{\wedge}3)$

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

Distance factor : 1 GHz - 10 GHz : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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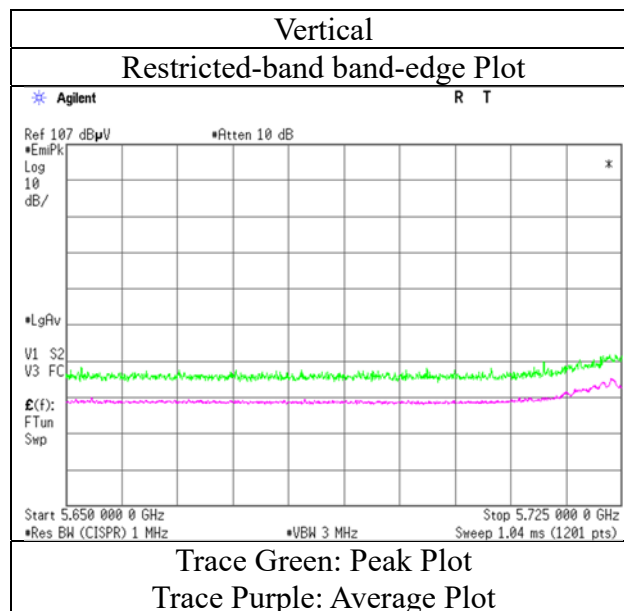
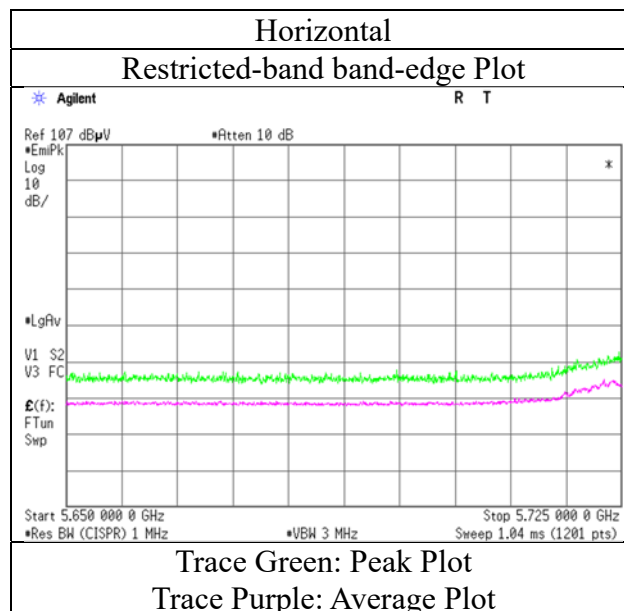
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-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

Report No.	13994981S-J-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	2	2	2
Date	November 21, 2021	November 26, 2021	November 29, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	21 deg.C, 38 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami	Miku Ikudome
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)
Mode	Tx 11n-40 5795 MHz				

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	45.79	37.96	9.67	40.31	-9.54	43.57	73.9	30.3	150	0	-
Hori.	11590.000	AV	36.09	37.96	9.67	40.31	-9.54	33.87	53.9	20.0	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11590.000	PK	45.80	37.96	9.67	40.31	-9.54	43.58	73.9	30.3	150	0	-
Vert.	11590.000	AV	35.90	37.96	9.67	40.31	-9.54	33.68	53.9	20.2	150	0	VBW: 5.6 kHz, Floor Noise

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	44.04	33.12	16.73	38.94	2.08	57.03	-38.20	27.0	65.2	144	102	-
Hori.	5855.000	PK	43.06	33.14	16.73	38.94	2.08	56.07	-39.16	15.6	54.7	144	102	-
Hori.	5875.000	PK	43.98	33.18	16.76	38.95	2.08	57.05	-38.18	10.0	48.1	144	102	-
Hori.	5925.000	PK	43.01	33.28	16.78	38.95	2.08	56.20	-39.03	-27.0	12.0	144	102	-
Hori.	17385.000	PK	44.22	40.14	12.41	37.18	-9.54	50.05	-45.18	-27.0	18.1	150	0	-
Vert.	5850.000	PK	43.54	33.12	16.73	38.94	2.08	56.53	-38.70	27.0	65.7	119	194	-
Vert.	5855.000	PK	43.19	33.14	16.73	38.94	2.08	56.20	-39.03	15.6	54.6	119	194	-
Vert.	5875.000	PK	43.29	33.18	16.76	38.95	2.08	56.36	-38.87	10.0	48.8	119	194	-
Vert.	5925.000	PK	43.02	33.28	16.78	38.95	2.08	56.21	-39.02	-27.0	12.0	119	194	-
Vert.	17385.000	PK	44.15	40.14	12.41	37.18	-9.54	49.98	-45.25	-27.0	18.2	150	0	-

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Result (EIRP [dBm]) = 10 * LOG ((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance : 3 [m]) ^ 2 / 30 * 10 ^ 3)

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

Distance factor : 1 GHz - 10 GHz : 20log (3.81 m / 3.0 m) = 2.08 dB

10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

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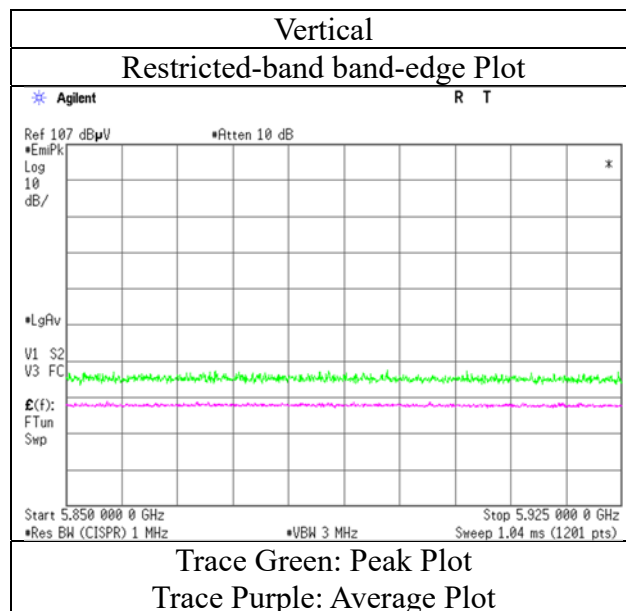
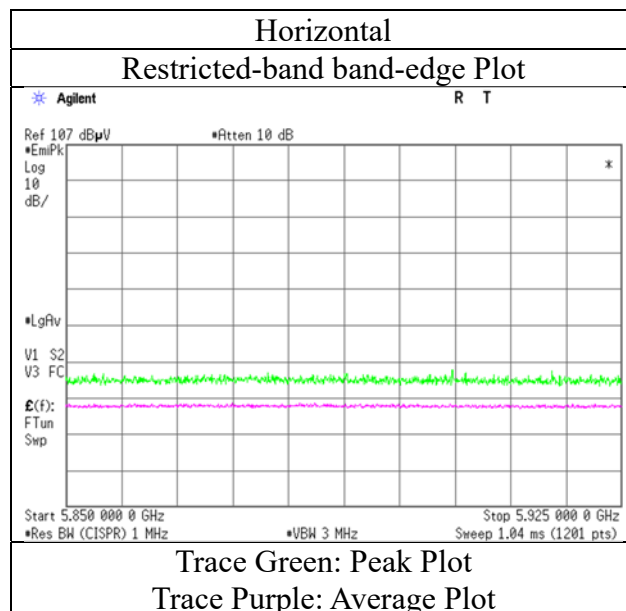
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Radiated Spurious Emission

Report No. 13994981S-J-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 21 deg.C, 38 %RH
Engineer Akihiro Oda
Mode Tx 11n-40 5795 MHz



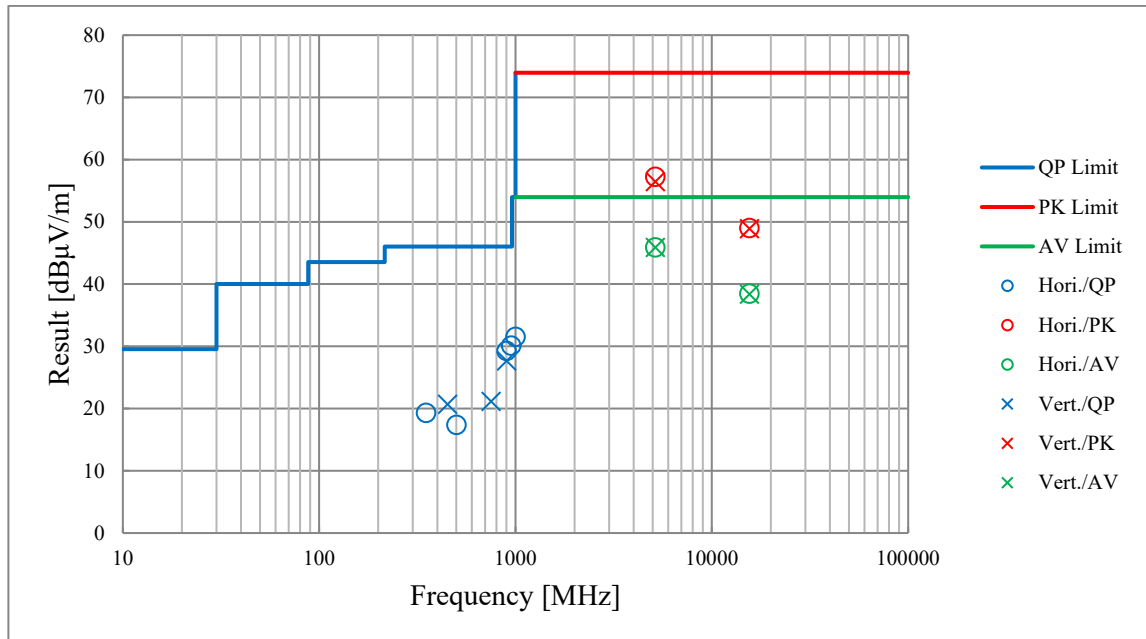
* The measurement was conducted for a sufficiently long enough time to detect any possible spurious emissions.

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

Radiated Spurious Emission

(Plot data, Worst case mode for Maximum Conducted Output Power of the test report mentioned in 3.1)

Report No.	13994981S-J-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	2	3	2	2
Date	December 1, 2021	November 20, 2021	November 26, 2021	November 29, 2021	November 30, 2021
Temperature / Humidity	22 deg.C, 38 %RH	20 deg.C, 43 %RH	23 deg.C, 27 %RH	23 deg.C, 34 %RH	20 deg.C, 32 %RH
Engineer	Yosuke Murakami	Miku Ikudome	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
	(30 MHz -1 GHz)	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -40 GHz)
Mode	Tx 11n-20 5180 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-SEMI-5	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3 (RE,CE,ME,PE)	-	-	-
RE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
RE	KJM-10	146454	Measure	KOMELON	KMC-36	-	-	-
RE	KSA-08	145089	Spectrum Analyzer	Keysight Technologies Inc	E4446A	MY46180525	2021/10/13	12
RE	SAEC-02(NSA)	145563	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	2021/03/16	12
RE	SAEC-02 (SVSWR)	145598	Semi-Anechoic Chamber	TDK	SAEC-02(SVSWR)	2	2021/05/20	12
RE	SAEC-03 (SVSWR)	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2021/05/21	12
RE	SAF-02	145004	Pre Amplifier	SONOMA	310N	290212	2021/02/10	12
RE	SAF-05	145128	Pre Amplifier	Toyo Corporation	TPA0118-36	1440490	2021/05/17	12
RE	SAF-06	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	1440491	2021/02/08	12
RE	SAF-08	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2021/03/01	12
RE	SAF-10	145129	Pre Amplifier	Toyo Corporation	HAP26-40W	10	2021/03/01	12
RE	SAT10-06	145137	Attenuator	Keysight Technologies Inc	8493C-010	74865	2021/10/05	12
RE	SAT3-11	150921	Attenuator	JFW	50HF-003N	-	2021/01/26	12
RE	SAT6-14	167095	Attenuator	JFW	50HF-006N	-	2021/02/10	12
RE	SBA-02	145022	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	BBA9106	91032665	2021/04/10	12
RE	SCC-B1/B3/B5/B7/B8/B13/SRSE-02	144975	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	2021/04/12	12
RE	SCC-B2/B4/B6/B7/B8/B13/SRSE-02	144976	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	2021/04/12	12
RE	SCC-G15	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2021/03/01	12
RE	SCC-G40	166491	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	1612S005	2021/01/19	12
RE	SCC-G41	151617	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	1612S006	2021/01/19	12
RE	SCC-G43	156380	Coaxial Cable	Huber+Suhner	SUCOFLEX_104_E	SN MY 13406/4E	2021/05/17	12
RE	SCC-G50	178573	Coaxial Cable	Huber+Suhner	SUCOFLEX_104_E	MY13407/4E	2021/03/01	12

UL Japan, Inc.

Shonan EMC Lab.

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Test equipment (2/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	SCC-G51	178572	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	800288 /4A	2021/03/01	12
RE	SCC-G57	179540	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	802815/2	2021/05/18	12
RE	SCC-G58	183047	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	800287/4A	2021/05/17	12
RE	SCC-G69	200009	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575617/4	2021/07/06	12
RE	SCC-G70	200010	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575618/4	2021/07/06	12
RE	SFL-03	145377	Highpass Filter	MICRO-TRONICS	HPM50112	28	2021/10/05	12
RE	SHA-02	145384	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-726	2021/06/14	12
RE	SHA-03	145501	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-739	2021/06/14	12
RE	SHA-04	145512	Horn Antenna	ETS-Lindgren	3160-09	00094868	2021/06/14	12
RE	SHA-06	145514	Horn Antenna	ETS-Lindgren	3160-10	00092383	2021/06/14	12
RE	SHA-09	194684	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	695	2021/03/03	12
RE	SHA-10	194685	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	711	2021/03/03	12
RE	SJM-20	207277	Measuring	ASKUL	-	-	-	-
RE	SLA-06	145528	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	195	2021/04/10	12
RE	SOS-21	191838	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2021/08/02	12
RE	SOS-23	191840	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2021/08/02	12
RE	SSA-02	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2021/04/13	12
RE	SSA-03	145801	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250152	2021/08/09	12
RE	STR-02	145791	Test Receiver	Rohde & Schwarz	ESCI	100575	2021/06/02	12
RE	STS-02	145793	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997819	2021/04/28	12
RE	STS-03	146210	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997823	2021/09/14	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

UL Japan, Inc.

Shonan EMC Lab.

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