



RADIO TEST REPORT

Test Report No. : 13994981S-C-R1

Applicant : KONICA MINOLTA, INC.
Type of EUT : SKR 3000
Model Number of EUT : P-82
FCC ID : YR7SKR3000P8
Test regulation : FCC Part 15 Subpart E: 2021
Test item : Radiated Spurious Emission
Test result : Complied (Refer to SECTION 3)

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by the A2LA accreditation body.
6. This test report covers Radio technical requirements.
It does not cover administrative issues such as Manual or non-Radio test related Requirements. (if applicable)
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-C. 13994981S-C is replaced with this report.

Date of test: November 21 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".

UL Japan, Inc.
Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN
Telephone : +81 463 50 6400
Facsimile : +81 463 50 6401

REVISION HISTORY

Original Test Report No.: 13994981S-C

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

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		

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

CONTENTS	PAGE
SECTION 1: Customer information.....	5
SECTION 2: Equipment under test (EUT).....	5
SECTION 3: Test specification, procedures & results.....	6
SECTION 4: Operation of EUT during testing.....	8
SECTION 5: Radiated Spurious Emission and Band Edge Compliance.....	10
APPENDIX 1: Test data	13
Radiated Spurious Emission	13
APPENDIX 2: Test instruments	58
APPENDIX 3: Photographs of test setup	60
Radiated Spurious Emission	60
Pre-check of Worst Case Position.....	61

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-82
 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-82 (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				

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

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	4.7 dB 5150.00 MHz, AV, Vertical, Mode: Tx 11n-40 5190 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 $k = 2$.

Shonan EMC Lab.

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

UL Japan, Inc. Shonan EMC Lab.

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

Telephone: +81 463 50 6400, Facsimile: +81 463 50 6401

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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

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.						

UL Japan, Inc.

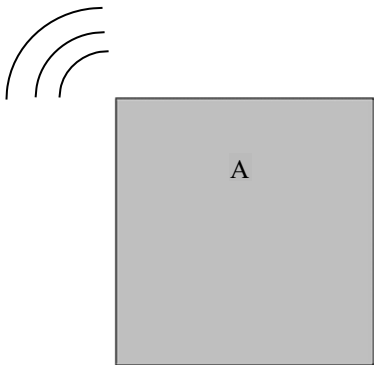
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

4.2 Configuration and peripherals



Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remark
A	SKR 3000	P-82	ADU4-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;

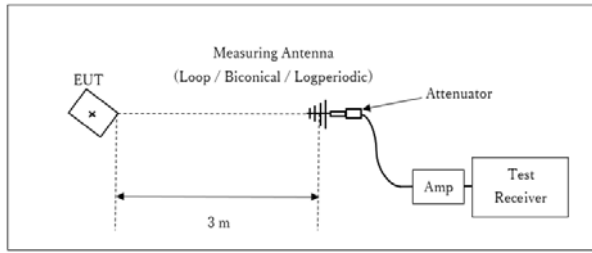
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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

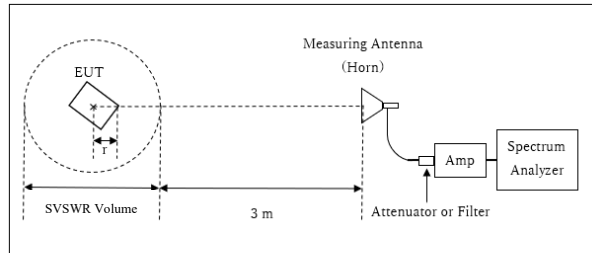
Below 1 GHz



× : Center of turn table

Test Distance: 3 m

1 GHz - 10 GHz



r : Radius of an outer periphery of EUT

× : Center of turn table

Distance Factor: $20 \times \log (3.81 \text{ m} / 3.0 \text{ m}) = 2.08 \text{ dB}$

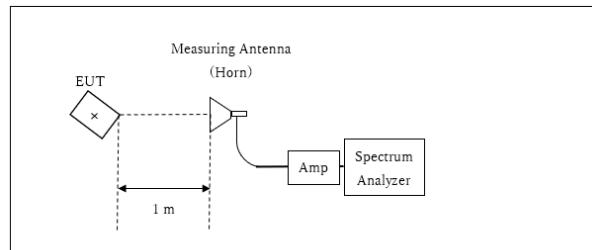
* Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 3.81 \text{ m}$

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



× : Center of turn table

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

APPENDIX 1: Test data

Radiated Spurious Emission

Report No.	13994981S-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	3	2	2
Date	November 21, 2021	November 25, 2021	November 27, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	21 deg.C, 26 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Miku Ikudome	Shunsaku Yumi	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 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	43.43	32.44	16.30	38.72	2.08	55.53	73.9	18.3	167	78	-
Hori.	15540.000	PK	46.77	39.62	11.59	40.46	-9.54	47.98	73.9	25.9	150	0	-
Hori.	5150.000	AV	32.67	32.44	16.30	38.72	2.08	44.77	53.9	9.1	167	78	VBW: 1.5 kHz
Hori.	15540.000	AV	35.93	39.62	11.59	40.46	-9.54	37.14	53.9	16.7	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5150.000	PK	44.23	32.44	16.30	38.72	2.08	56.33	73.9	17.5	158	87	-
Vert.	15540.000	PK	46.70	39.62	11.59	40.46	-9.54	47.91	73.9	25.9	150	0	-
Vert.	5150.000	AV	32.79	32.44	16.30	38.72	2.08	44.89	53.9	9.0	158	87	VBW: 1.5 kHz
Vert.	15540.000	AV	35.95	39.62	11.59	40.46	-9.54	37.16	53.9	16.7	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 : 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.	6906.583	PK	54.48	36.18	8.13	43.25	2.08	57.62	-37.61	-27.0	10.6	221	253	-
Hori.	10360.000	PK	47.66	36.21	9.26	42.73	-9.54	40.86	-54.37	-27.0	27.3	150	0	-
Vert.	6906.566	PK	53.06	36.18	8.13	43.25	2.08	56.20	-39.03	-27.0	12.0	280	275	-
Vert.	10360.000	PK	47.68	36.21	9.26	42.73	-9.54	40.88	-54.35	-27.0	27.3	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

UL Japan, Inc.

Shonan EMC Lab.

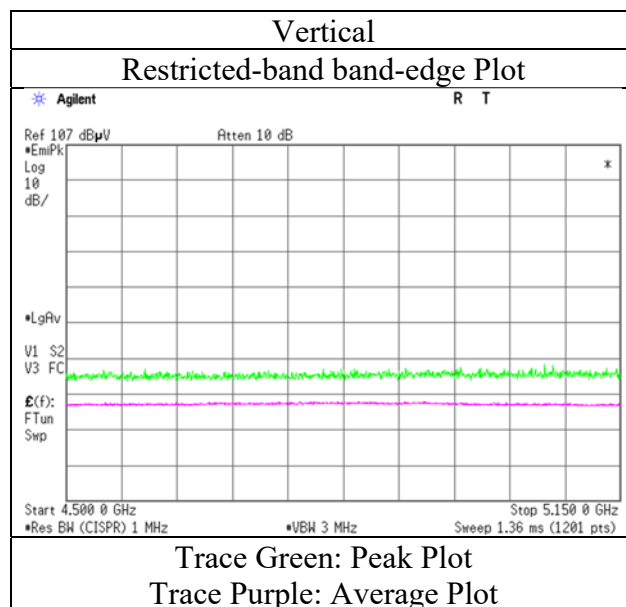
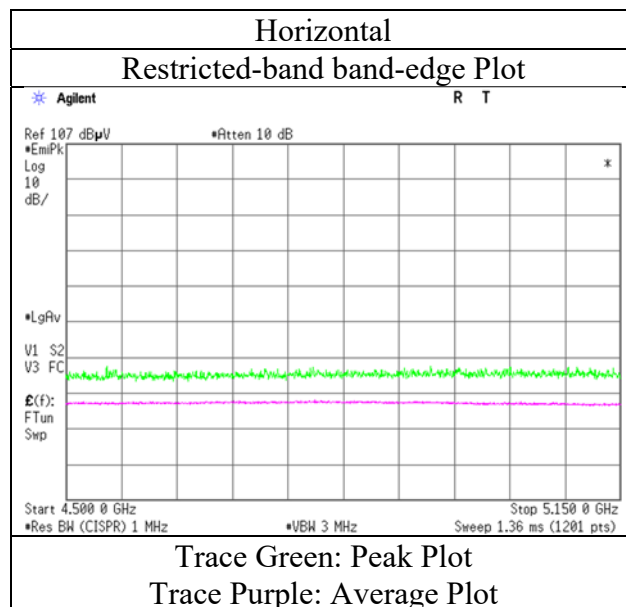
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
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-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2 3 3 2 2
Date November 21, 2021 November 25, 2021 November 27, 2021 November 30, 2021 December 1, 2021
Temperature / Humidity 22 deg.C, 35 %RH 23 deg.C, 26 %RH 21 deg.C, 26 %RH 20 deg.C, 32 %RH 22 deg.C, 38 %RH
Engineer Akihiro Oda Takahiro Kawakami Miku Ikudome Shunsaku Yumi 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 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	46.46	39.84	11.55	40.32	-9.54	47.99	73.9	25.9	150	0	-
Hori.	15720.000	AV	35.94	39.84	11.55	40.32	-9.54	37.47	53.9	16.4	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	15720.000	PK	46.23	39.84	11.55	40.32	-9.54	47.76	73.9	26.1	150	0	-
Vert.	15720.000	AV	35.92	39.84	11.55	40.32	-9.54	37.45	53.9	16.4	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.	6986.578	PK	51.68	36.66	8.13	43.17	2.08	55.38	-39.85	-27.0	12.8	232	256	-
Hori.	10480.000	PK	47.08	36.30	9.30	42.76	-9.54	40.38	-54.85	-27.0	27.8	150	0	-
Vert.	6986.542	PK	50.72	36.66	8.13	43.17	2.08	54.42	-40.81	-27.0	13.8	288	271	-
Vert.	10480.000	PK	47.47	36.30	9.30	42.76	-9.54	40.77	-54.46	-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]) = $10 * \log((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6) * \text{Distance : 3 [m]})^2 / 30 * 10^{\wedge}3)$

*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.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	3	2	2
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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	44.88	32.23	16.44	38.82	2.08	56.81	73.9	17.0	129	93	-
Hori.	10640.000	PK	47.56	36.83	9.37	42.82	-9.54	41.40	73.9	32.5	150	0	-
Hori.	15960.000	PK	45.39	40.23	11.47	40.13	-9.54	47.42	73.9	26.4	150	0	-
Hori.	5350.000	AV	32.55	32.23	16.44	38.82	2.08	44.48	53.9	9.4	129	93	VBW: 1.5 kHz
Hori.	10640.000	AV	37.18	36.83	9.37	42.82	-9.54	31.02	53.9	22.8	150	0	VBW: 1.5 kHz, Floor Noise
Hori.	15960.000	AV	34.90	40.23	11.47	40.13	-9.54	36.93	53.9	16.9	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5350.000	PK	43.52	32.23	16.44	38.82	2.08	55.45	73.9	18.4	135	73	-
Vert.	10640.000	PK	47.88	36.83	9.37	42.82	-9.54	41.72	73.9	32.1	150	0	-
Vert.	15960.000	PK	45.72	40.23	11.47	40.13	-9.54	47.75	73.9	26.1	150	0	-
Vert.	5350.000	AV	32.66	32.23	16.44	38.82	2.08	44.59	53.9	9.3	135	73	VBW: 1.5 kHz
Vert.	10640.000	AV	37.08	36.83	9.37	42.82	-9.54	30.92	53.9	22.9	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	15960.000	AV	35.02	40.23	11.47	40.13	-9.54	37.05	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.	7093.271	PK	51.32	37.12	8.19	43.26	2.08	55.45	-39.78	-27.0	12.7	228	254	-
Vert.	7093.176	PK	51.17	37.12	8.19	43.26	2.08	55.30	-39.93	-27.0	12.9	300	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

UL Japan, Inc.

Shonan EMC Lab.

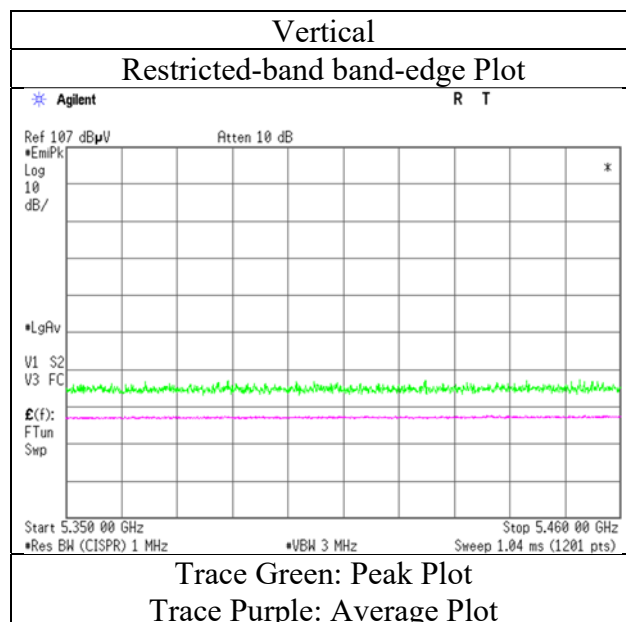
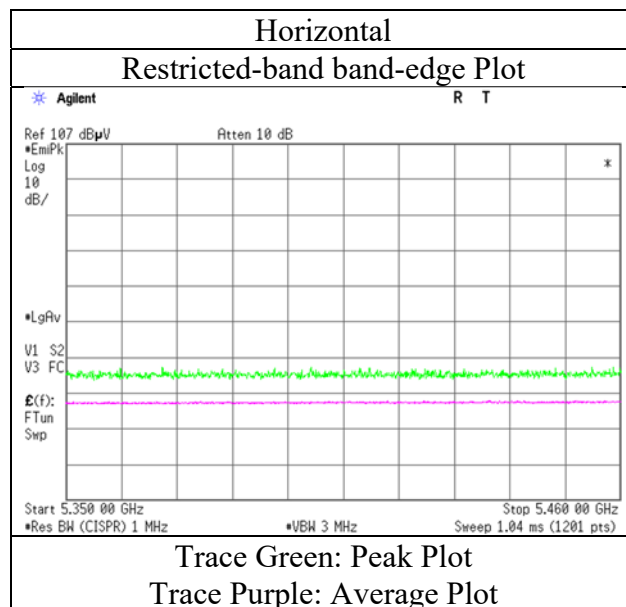
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
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-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	3	2	2
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 11a 5500 MHz				

(above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	43.63	32.38	16.50	38.88	2.08	55.71	73.9	18.1	145	97	-
Hori.	7333.282	PK	51.57	37.56	8.35	43.53	2.08	56.03	73.9	17.8	203	254	-
Hori.	11000.000	PK	47.48	37.23	9.48	42.99	-9.54	41.66	73.9	32.2	150	0	-
Hori.	5460.000	AV	33.23	32.38	16.50	38.88	2.08	45.31	53.9	8.5	145	97	VBW: 1.5 kHz
Hori.	7333.282	AV	42.00	37.56	8.35	43.53	2.08	46.46	53.9	7.4	203	254	VBW: 1.5 kHz
Hori.	11000.000	AV	36.69	37.23	9.48	42.99	-9.54	30.87	53.9	23.0	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	5460.000	PK	43.51	32.38	16.50	38.88	2.08	55.59	73.9	18.3	127	73	-
Vert.	7333.259	PK	51.17	37.56	8.35	43.53	2.08	55.63	73.9	18.2	249	280	-
Vert.	11000.000	PK	47.16	37.23	9.48	42.99	-9.54	41.34	73.9	32.5	150	0	-
Vert.	5460.000	AV	33.28	32.38	16.50	38.88	2.08	45.36	53.9	8.5	127	73	VBW: 1.5 kHz
Vert.	7333.259	AV	41.52	37.56	8.35	43.53	2.08	45.98	53.9	7.9	249	280	VBW: 1.5 kHz
Vert.	11000.000	AV	36.66	37.23	9.48	42.99	-9.54	30.84	53.9	23.0	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	43.51	32.39	16.51	38.88	2.08	55.61	-39.62	-27.0	12.6	145	97	-
Hori.	16500.000	PK	45.85	39.88	12.23	40.32	-9.54	48.10	-47.13	-27.0	20.1	150	0	-
Vert.	5470.000	PK	44.39	32.39	16.51	38.88	2.08	56.49	-38.74	-27.0	11.7	127	73	-
Vert.	16500.000	PK	45.78	39.88	12.23	40.32	-9.54	48.03	-47.20	-27.0	20.2	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

UL Japan, Inc.

Shonan EMC Lab.

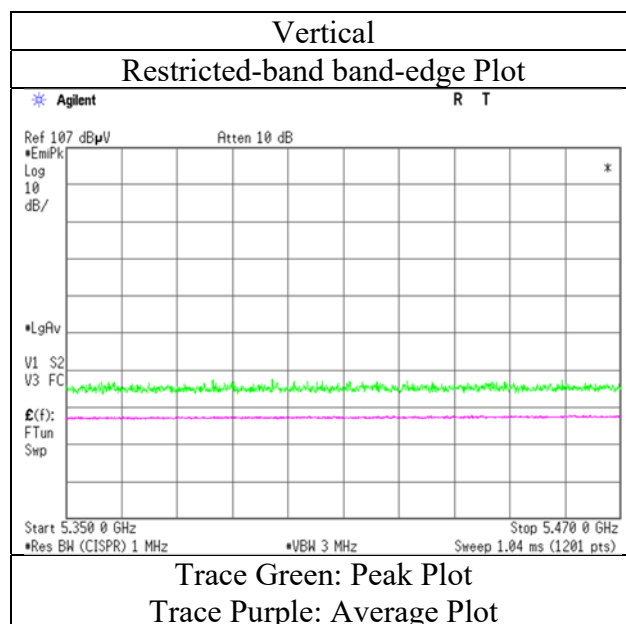
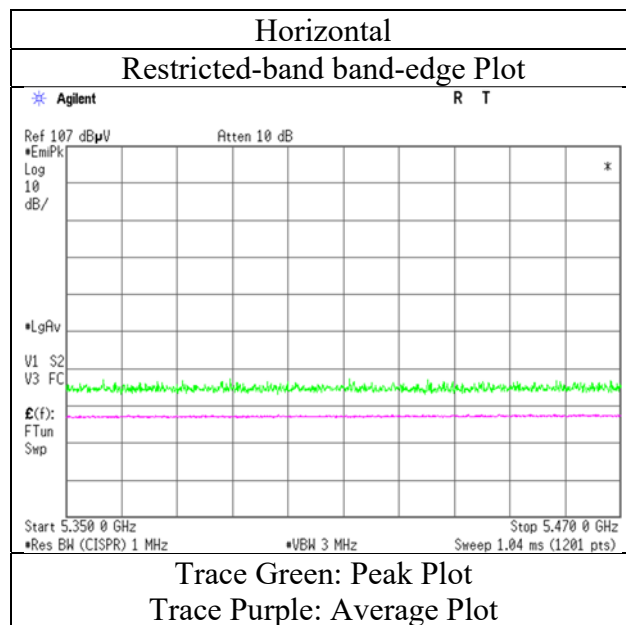
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
Mode Tx 11a 5500 MHz



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

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

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	3	2	2	
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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.	7439.878	PK	51.79	37.62	8.41	43.65	2.08	56.25	73.9	17.6	220	256	-
Hori.	11160.000	PK	46.16	37.20	9.59	42.85	-9.54	40.56	73.9	33.3	150	0	-
Hori.	7439.878	AV	39.95	37.62	8.41	43.65	2.08	44.41	53.9	9.4	220	256	VBW: 1.5 kHz
Hori.	11160.000	AV	35.64	37.20	9.59	42.85	-9.54	30.04	53.9	23.8	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	7440.075	PK	49.60	37.62	8.41	43.65	2.08	54.06	73.9	19.8	353	292	-
Vert.	11160.000	PK	46.27	37.20	9.59	42.85	-9.54	40.67	73.9	33.2	150	0	-
Vert.	7440.075	AV	39.12	37.62	8.41	43.65	2.08	43.58	53.9	10.3	353	292	VBW: 1.5 kHz
Vert.	11160.000	AV	35.49	37.20	9.59	42.85	-9.54	29.89	53.9	24.0	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	45.32	39.41	12.35	40.33	-9.54	47.21	-48.02	-27.0	21.0	150	0	-
Vert.	16740.000	PK	45.51	39.41	12.35	40.33	-9.54	47.40	-47.83	-27.0	20.8	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.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	3	2	2	
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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.	7599.853	PK	50.77	37.47	8.43	43.59	2.08	55.16	73.9	18.7	211	253	-
Hori.	11400.000	PK	46.34	37.76	9.75	42.65	-9.54	41.66	73.9	32.2	150	0	-
Hori.	7599.853	AV	39.71	37.47	8.43	43.59	2.08	44.10	53.9	9.8	211	253	VBW: 1.5 kHz
Hori.	11400.000	AV	35.65	37.76	9.75	42.65	-9.54	30.97	53.9	22.9	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	7600.125	PK	49.66	37.47	8.43	43.59	2.08	54.05	73.9	19.8	150	0	-
Vert.	11400.000	PK	46.65	37.76	9.75	42.65	-9.54	41.97	73.9	31.9	150	0	-
Vert.	7600.125	AV	38.44	37.47	8.43	43.59	2.08	42.83	53.9	11.0	150	0	VBW: 1.5 kHz
Vert.	11400.000	AV	35.67	37.76	9.75	42.65	-9.54	30.99	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.	5725.000	PK	44.48	32.81	16.65	38.93	2.08	57.09	-38.14	-27.0	11.1	156	104	-
Hori.	17100.000	PK	45.31	39.77	12.48	40.33	-9.54	47.69	-47.54	-27.0	20.5	150	0	-
Vert.	5725.000	PK	44.33	32.81	16.65	38.93	2.08	56.94	-38.29	-27.0	11.2	112	82	-
Vert.	17100.000	PK	45.67	39.77	12.48	40.33	-9.54	48.05	-47.18	-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 * 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

UL Japan, Inc.

Shonan EMC Lab.

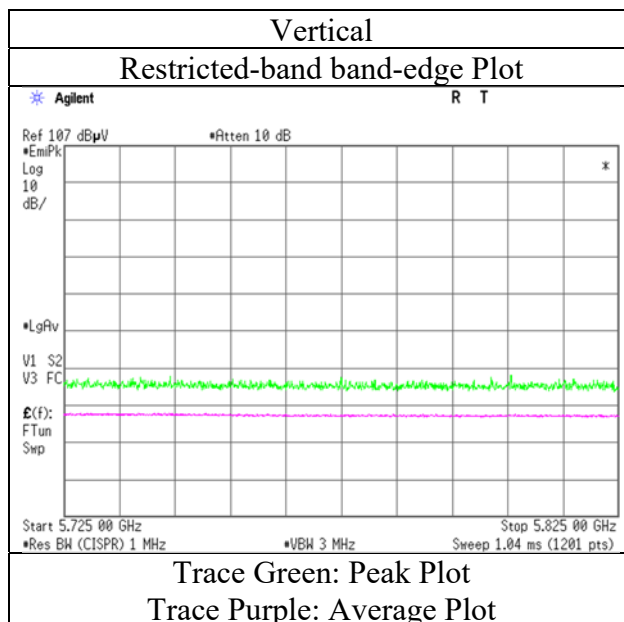
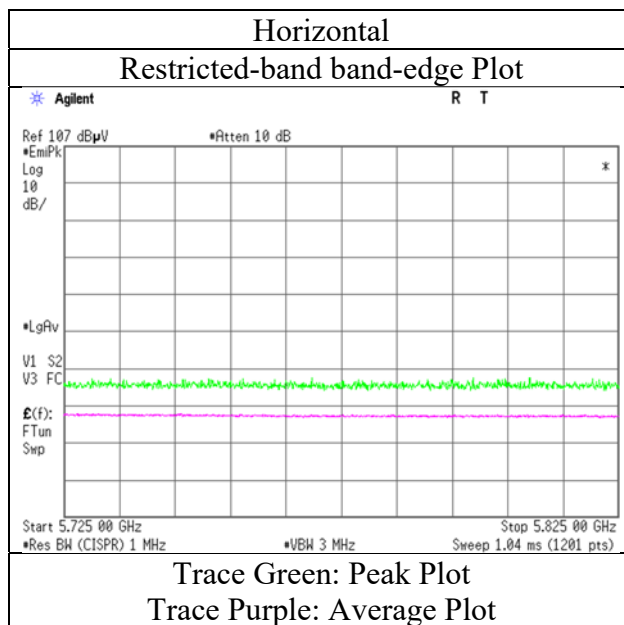
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	3	2	2
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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	46.36	37.91	9.82	42.57	-9.54	41.98	73.9	31.9	150	0	-
Hori.	11490.000	AV	36.05	37.91	9.82	42.57	-9.54	31.67	53.9	22.2	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11490.000	PK	46.51	37.91	9.82	42.57	-9.54	42.13	73.9	31.7	150	0	-
Vert.	11490.000	AV	36.01	37.91	9.82	42.57	-9.54	31.63	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	44.44	32.60	16.62	38.92	2.08	56.82	-38.41	-27.0	11.4	164	98	-
Hori.	5700.000	PK	43.88	32.73	16.64	38.92	2.08	56.41	-38.82	10.0	48.8	164	98	-
Hori.	5720.000	PK	45.39	32.79	16.65	38.93	2.08	57.98	-37.25	15.6	52.8	164	98	-
Hori.	5725.000	PK	44.42	32.81	16.65	38.93	2.08	57.03	-38.20	27.0	65.2	164	98	-
Hori.	17235.000	PK	45.65	40.03	12.53	40.32	-9.54	48.35	-46.88	-27.0	19.8	150	0	-
Vert.	5650.000	PK	43.67	32.60	16.62	38.92	2.08	56.05	-39.18	-27.0	12.1	130	101	-
Vert.	5700.000	PK	44.66	32.73	16.64	38.92	2.08	57.19	-38.04	10.0	48.0	130	101	-
Vert.	5720.000	PK	44.45	32.79	16.65	38.93	2.08	57.04	-38.19	15.6	53.7	130	101	-
Vert.	5725.000	PK	45.31	32.81	16.65	38.93	2.08	57.92	-37.31	27.0	64.3	130	101	-
Vert.	17235.000	PK	45.50	40.03	12.53	40.32	-9.54	48.20	-47.03	-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]) = $10 * \text{LOG}((10^{\wedge}(\text{Electric Field Strength [dBuV/m]} / 20)) * 10^{\wedge}(-6)) * \text{Distance} : 3 [\text{m}]^{\wedge}2 / 30 * 10^{\wedge}3$

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

UL Japan, Inc.

Shonan EMC Lab.

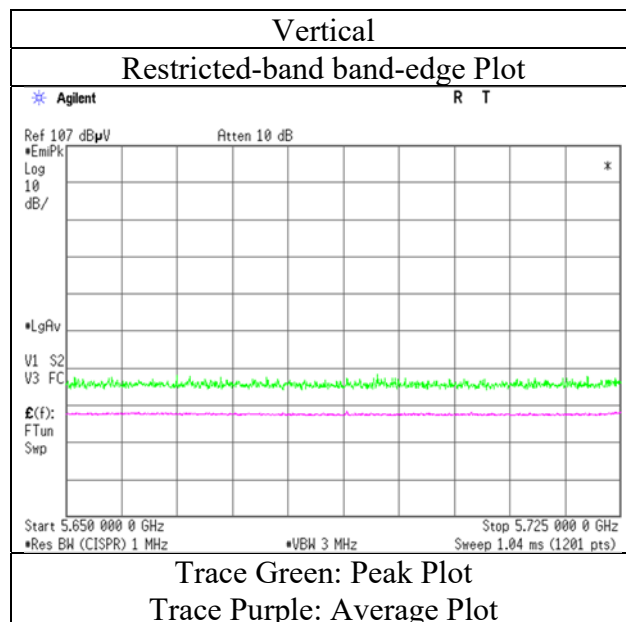
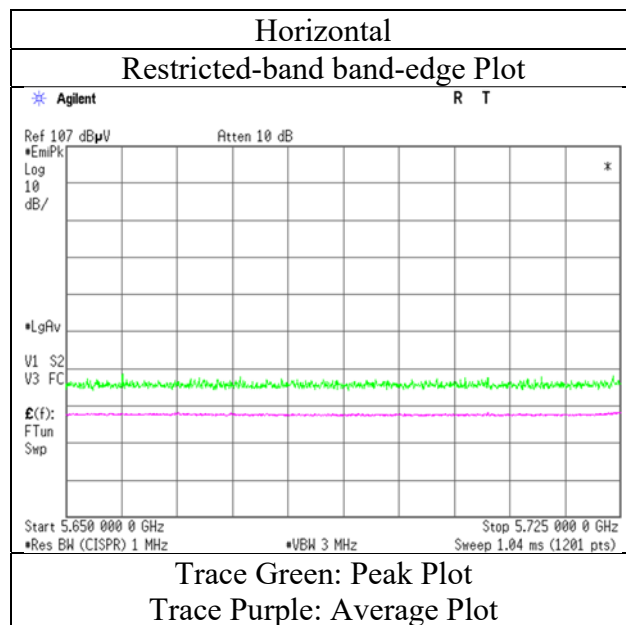
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
Mode Tx 11a 5745 MHz



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

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	3	2	2	
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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	47.68	37.98	9.87	42.56	-9.54	43.43	73.9	30.4	150	0	-
Hori.	11570.000	AV	36.51	37.98	9.87	42.56	-9.54	32.26	53.9	21.6	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11570.000	PK	47.55	37.98	9.87	42.56	-9.54	43.30	73.9	30.6	150	0	-
Vert.	11570.000	AV	36.81	37.98	9.87	42.56	-9.54	32.56	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.	17355.000	PK	46.57	40.19	12.57	40.31	-9.54	49.48	-45.75	-27.0	18.7	150	0	-
Vert.	17355.000	PK	46.32	40.19	12.57	40.31	-9.54	49.23	-46.00	-27.0	19.0	150	0	-

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

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

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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	2	3	3	2	2
Date	November 21, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 35 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Akihiro Oda	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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 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	47.47	37.98	9.92	42.57	-9.54	43.26	73.9	30.6	150	0	-
Hori.	11650.000	AV	36.57	37.98	9.92	42.57	-9.54	32.36	53.9	21.5	150	0	VBW: 1.5 kHz, Floor Noise
Vert.	11650.000	PK	47.90	37.98	9.92	42.57	-9.54	43.69	73.9	30.2	150	0	-
Vert.	11650.000	AV	36.66	37.98	9.92	42.57	-9.54	32.45	53.9	21.4	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.	5850.000	PK	43.17	33.12	16.73	38.94	2.08	56.16	-39.07	27.0	66.0	145	99	-
Hori.	5855.000	PK	43.49	33.14	16.73	38.94	2.08	56.50	-38.73	15.6	54.3	145	99	-
Hori.	5875.000	PK	42.64	33.18	16.76	38.95	2.08	55.71	-39.52	10.0	49.5	145	99	-
Hori.	5925.000	PK	44.14	33.28	16.78	38.95	2.08	57.33	-37.90	-27.0	10.9	145	99	-
Hori.	17475.000	PK	46.27	40.34	12.61	40.30	-9.54	49.38	-45.85	-27.0	18.8	150	0	-
Vert.	5850.000	PK	43.84	33.12	16.73	38.94	2.08	56.83	-38.40	27.0	65.4	116	79	-
Vert.	5855.000	PK	43.35	33.14	16.73	38.94	2.08	56.36	-38.87	15.6	54.4	116	79	-
Vert.	5875.000	PK	43.38	33.18	16.76	38.95	2.08	56.45	-38.78	10.0	48.7	116	79	-
Vert.	5925.000	PK	43.97	33.28	16.78	38.95	2.08	57.16	-38.07	-27.0	11.0	116	79	-
Vert.	17475.000	PK	46.26	40.34	12.61	40.30	-9.54	49.37	-45.86	-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)

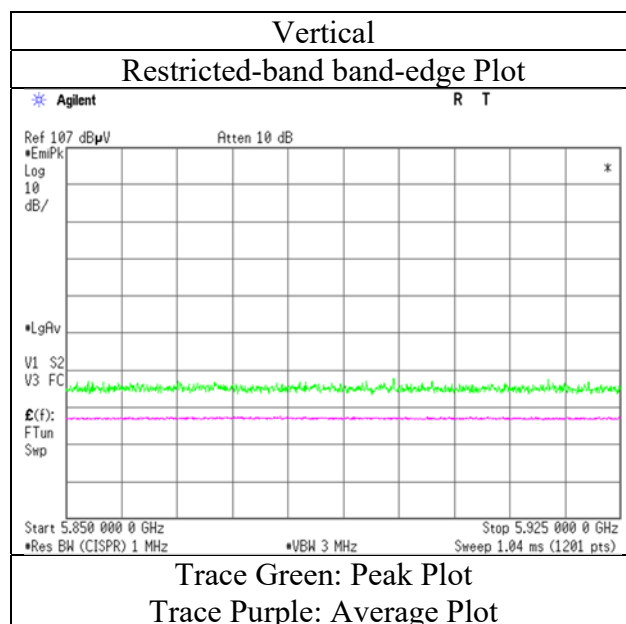
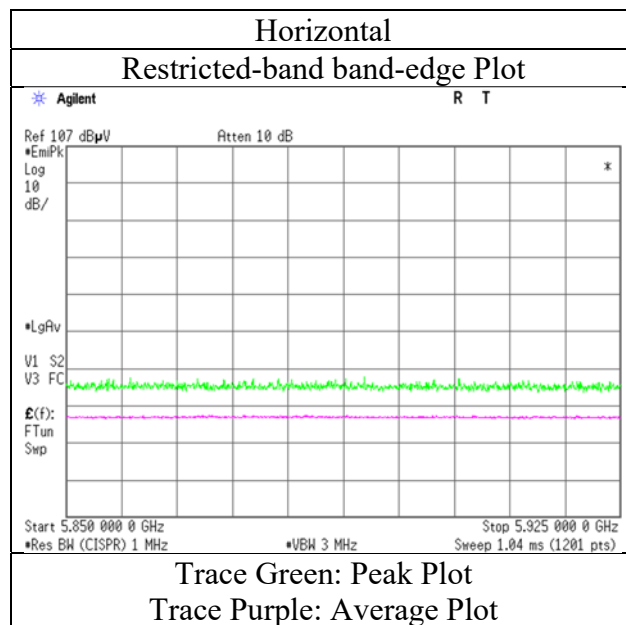
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

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-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 2
Date November 21, 2021
Temperature / Humidity 22 deg.C, 35 %RH
Engineer Akihiro Oda
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	3	3	2	2
Date	December 1, 2021	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 38 %RH	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Yosuke Murakami	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	Miku Ikudome
Mode	(30 MHz -1 GHz)	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)
	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.	250.000	QP	26.90	11.91	6.09	31.71	0.00	13.19	46.0	32.8	105	149	-
Hori.	350.000	QP	27.70	15.25	6.80	31.63	0.00	18.12	46.0	27.8	100	173	-
Hori.	450.000	QP	25.80	16.76	7.45	31.63	0.00	18.38	46.0	27.6	100	8	-
Hori.	950.000	QP	28.00	22.15	9.95	30.48	0.00	29.62	46.0	16.3	100	349	-
Hori.	5150.000	PK	48.55	32.40	16.57	43.05	2.08	56.55	73.9	17.3	147	64	-
Hori.	15540.000	PK	46.61	39.62	11.59	40.46	-9.54	47.82	73.9	26.0	150	0	-
Hori.	5150.000	AV	38.55	32.40	16.57	43.05	2.08	46.55	53.9	7.3	147	64	VBW: 3.6 kHz
Hori.	15540.000	AV	36.68	39.62	11.59	40.46	-9.54	37.89	53.9	16.0	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	450.000	QP	24.60	16.76	7.45	31.63	0.00	17.18	46.0	28.8	150	343	-
Vert.	800.000	QP	22.40	20.82	9.24	31.30	0.00	21.16	46.0	24.8	150	171	-
Vert.	850.000	QP	23.80	21.62	9.47	31.13	0.00	23.76	46.0	22.2	156	186	-
Vert.	900.000	QP	25.00	22.11	9.71	30.86	0.00	25.96	46.0	20.0	139	191	-
Vert.	5150.000	PK	49.22	32.40	16.57	43.05	2.08	57.22	73.9	16.6	103	357	-
Vert.	15540.000	PK	46.90	39.62	11.59	40.46	-9.54	48.11	73.9	25.7	150	0	-
Vert.	5150.000	AV	38.47	32.40	16.57	43.05	2.08	46.47	53.9	7.4	103	357	VBW: 3.6 kHz
Vert.	15540.000	AV	36.74	39.62	11.59	40.46	-9.54	37.95	53.9	15.9	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.	6906.694	PK	53.34	36.18	8.13	43.25	2.08	56.48	-38.75	-27.0	11.7	213	254	-
Hori.	10360.000	PK	47.51	36.21	9.26	42.73	-9.54	40.71	-54.52	-27.0	27.5	150	0	-
Vert.	6906.677	PK	52.50	36.18	8.13	43.25	2.08	55.64	-39.59	-27.0	12.5	283	275	-
Vert.	10360.000	PK	47.08	36.21	9.26	42.73	-9.54	40.28	-54.95	-27.0	27.9	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

UL Japan, Inc.

Shonan EMC Lab.

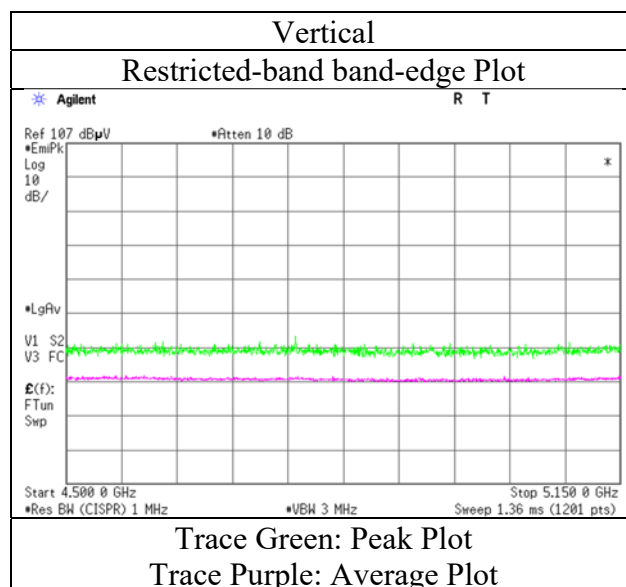
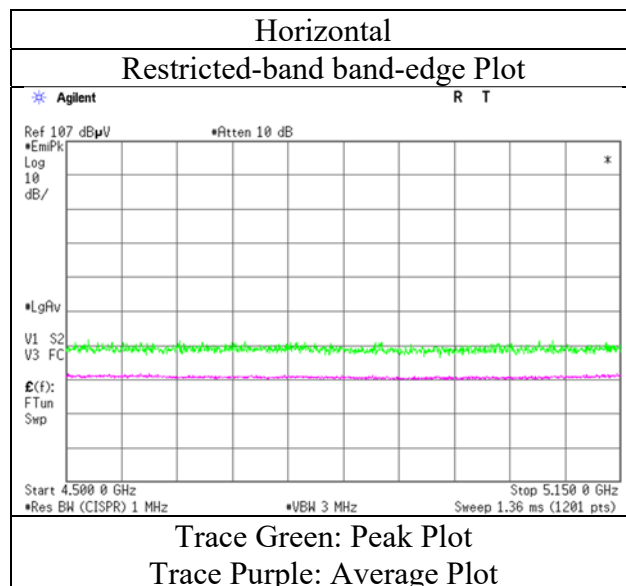
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	46.87	39.84	11.55	40.32	-9.54	48.40	73.9	25.5	150	0	-
Hori.	15720.000	AV	36.40	39.84	11.55	40.32	-9.54	37.93	53.9	15.9	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	15720.000	PK	46.82	39.84	11.55	40.32	-9.54	48.35	73.9	25.5	150	0	-
Vert.	15720.000	AV	36.44	39.84	11.55	40.32	-9.54	37.97	53.9	15.9	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.	6986.698	PK	51.07	36.66	8.13	43.17	2.08	54.77	-40.46	-27.0	13.4	227	254	-
Hori.	10480.000	PK	47.09	36.30	9.30	42.76	-9.54	40.39	-54.84	-27.0	27.8	150	0	-
Vert.	6986.646	PK	51.05	36.66	8.13	43.17	2.08	54.75	-40.48	-27.0	13.4	293	273	-
Vert.	10480.000	PK	47.42	36.30	9.30	42.76	-9.54	40.72	-54.51	-27.0	27.5	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 ^ (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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	49.41	32.23	16.69	43.26	2.08	57.15	73.9	16.7	159	106	-
Hori.	10640.000	PK	47.42	36.83	9.37	42.82	-9.54	41.26	73.9	32.6	150	0	-
Hori.	15960.000	PK	45.78	40.23	11.47	40.13	-9.54	47.81	73.9	26.0	150	0	-
Hori.	5350.000	AV	38.86	32.23	16.69	43.26	2.08	46.60	53.9	7.3	159	106	VBW: 3.6 kHz
Hori.	10640.000	AV	37.52	36.83	9.37	42.82	-9.54	31.36	53.9	22.5	150	0	VBW: 3.6 kHz, Floor Noise
Hori.	15960.000	AV	35.50	40.23	11.47	40.13	-9.54	37.53	53.9	16.3	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	5350.000	PK	49.13	32.23	16.69	43.26	2.08	56.87	73.9	17.0	298	6	-
Vert.	10640.000	PK	47.88	36.83	9.37	42.82	-9.54	41.72	73.9	32.1	150	0	-
Vert.	15960.000	PK	45.54	40.23	11.47	40.13	-9.54	47.57	73.9	26.3	150	0	-
Vert.	5350.000	AV	38.66	32.23	16.69	43.26	2.08	46.40	53.9	7.5	298	6	VBW: 3.6 kHz
Vert.	10640.000	AV	37.84	36.83	9.37	42.82	-9.54	31.68	53.9	22.2	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	15960.000	AV	35.28	40.23	11.47	40.13	-9.54	37.31	53.9	16.5	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.	7093.328	PK	50.93	37.12	8.19	43.26	2.08	55.06	-40.17	-27.0	13.1	191	253	-
Vert.	7093.292	PK	51.07	37.12	8.19	43.26	2.08	55.20	-40.03	-27.0	13.0	296	275	-

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

UL Japan, Inc.

Shonan EMC Lab.

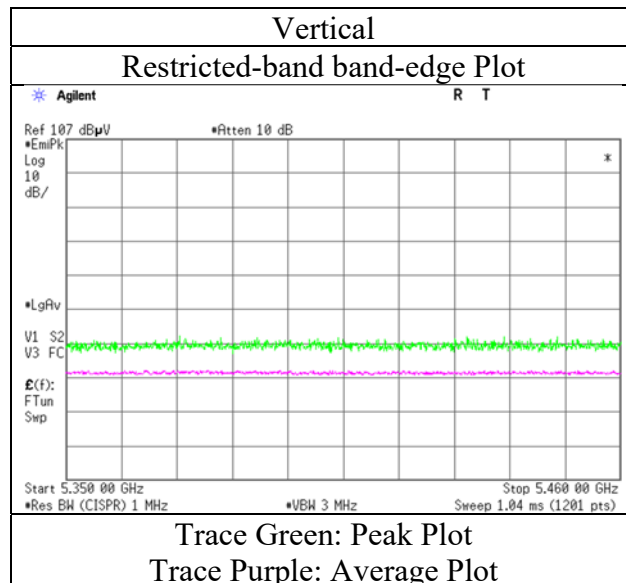
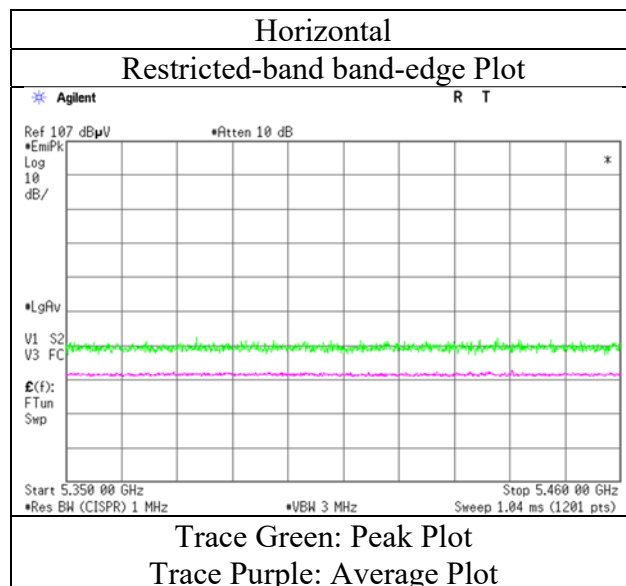
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	2	2
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	49.57	32.45	16.75	43.38	2.08	57.47	73.9	16.4	125	106	-
Hori.	7333.372	PK	51.50	37.56	8.35	43.53	2.08	55.96	73.9	17.9	198	255	-
Hori.	11000.000	PK	47.01	37.23	9.48	42.99	-9.54	41.19	73.9	32.7	150	0	-
Hori.	5460.000	AV	39.23	32.45	16.75	43.38	2.08	47.13	53.9	6.7	125	106	VBW: 3.6 kHz
Hori.	7333.372	AV	41.48	37.56	8.35	43.53	2.08	45.94	53.9	7.9	198	255	VBW: 3.6 kHz
Hori.	11000.000	AV	37.37	37.23	9.48	42.99	-9.54	31.55	53.9	22.3	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	5460.000	PK	49.56	32.45	16.75	43.38	2.08	57.46	73.9	16.4	214	7	-
Vert.	7333.398	PK	51.59	37.56	8.35	43.53	2.08	56.05	73.9	17.8	305	267	-
Vert.	11000.000	PK	47.16	37.23	9.48	42.99	-9.54	41.34	73.9	32.5	150	0	-
Vert.	5460.000	AV	38.89	32.45	16.75	43.38	2.08	46.79	53.9	7.1	214	7	VBW: 3.6 kHz
Vert.	7333.398	AV	41.68	37.56	8.35	43.53	2.08	46.14	53.9	7.7	305	267	VBW: 3.6 kHz
Vert.	11000.000	AV	37.16	37.23	9.48	42.99	-9.54	31.34	53.9	22.5	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.	5470.000	PK	49.77	32.46	16.76	43.39	2.08	57.68	-37.55	-27.0	10.5	125	106	-
Hori.	16500.000	PK	46.57	39.88	12.23	40.32	-9.54	48.82	-46.41	-27.0	19.4	150	0	-
Vert.	5470.000	PK	49.79	32.46	16.76	43.39	2.08	57.70	-37.53	-27.0	10.5	214	7	-
Vert.	16500.000	PK	46.46	39.88	12.23	40.32	-9.54	48.71	-46.52	-27.0	19.5	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 ^ (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

UL Japan, Inc.

Shonan EMC Lab.

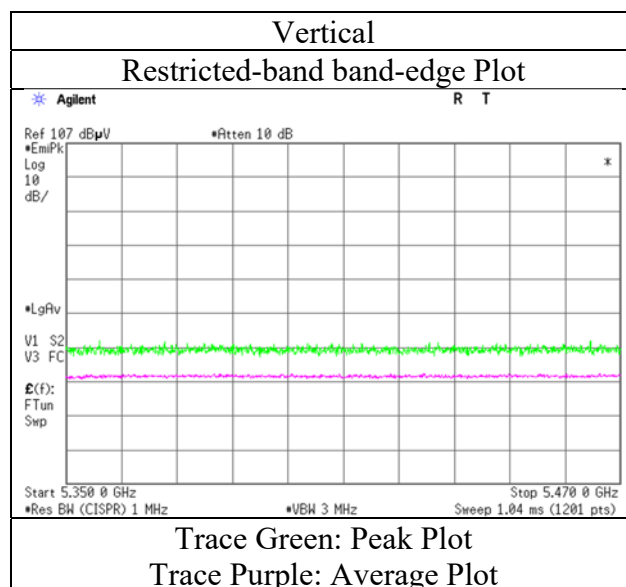
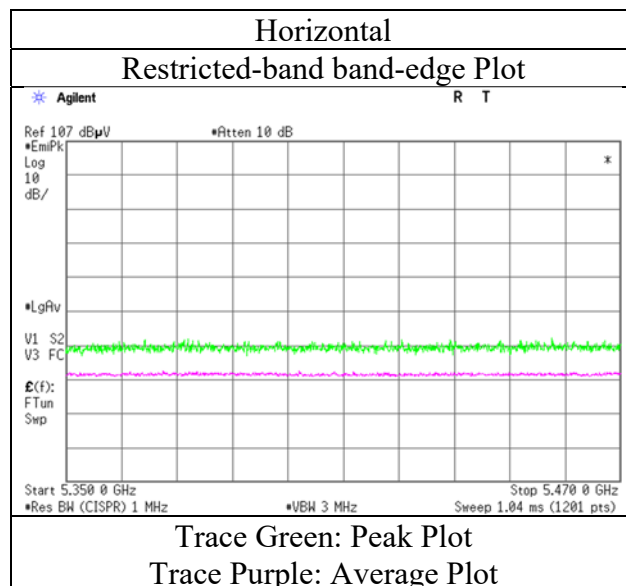
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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.	7440.274	PK	50.65	37.62	8.41	43.65	2.08	55.11	73.9	18.7	153	253	-
Hori.	11160.000	PK	46.82	37.20	9.59	42.85	-9.54	41.22	73.9	32.6	150	0	-
Hori.	7440.274	AV	39.48	37.62	8.41	43.65	2.08	43.94	53.9	9.9	153	253	VBW:3.6 kHz
Hori.	11160.000	AV	36.42	37.20	9.59	42.85	-9.54	30.82	53.9	23.0	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	7439.972	PK	50.03	37.62	8.41	43.65	2.08	54.49	73.9	19.4	277	276	-
Vert.	11160.000	PK	46.78	37.20	9.59	42.85	-9.54	41.18	73.9	32.7	150	0	-
Vert.	7439.972	AV	39.51	37.62	8.41	43.65	2.08	43.97	53.9	9.9	277	276	VBW:3.6 kHz
Vert.	11160.000	AV	36.38	37.20	9.59	42.85	-9.54	30.78	53.9	23.1	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.	16740.000	PK	45.78	39.41	12.35	40.33	-9.54	47.67	-47.56	-27.0	20.5	150	0	-
Vert.	16740.000	PK	45.62	39.41	12.35	40.33	-9.54	47.51	-47.72	-27.0	20.7	150	0	-

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

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

*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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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.	11400.000	PK	46.68	37.76	9.75	42.65	-9.54	42.00	73.9	31.9	150	0	-
Hori.	11400.000	AV	36.12	37.76	9.75	42.65	-9.54	31.44	53.9	22.4	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11400.000	PK	46.61	37.76	9.75	42.65	-9.54	41.93	73.9	31.9	150	0	-
Vert.	11400.000	AV	36.17	37.76	9.75	42.65	-9.54	31.49	53.9	22.4	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.	5725.000	PK	50.42	32.95	16.89	43.42	2.08	58.92	-36.31	-27.0	9.3	166	108	-
Hori.	17100.000	PK	45.46	39.77	12.48	40.33	-9.54	47.84	-47.39	-27.0	20.3	150	0	-
Vert.	5725.000	PK	50.32	32.95	16.89	43.42	2.08	58.82	-36.41	-27.0	9.4	100	350	-
Vert.	17100.000	PK	45.53	39.77	12.48	40.33	-9.54	47.91	-47.32	-27.0	20.3	150	0	-

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

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

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

UL Japan, Inc.

Shonan EMC Lab.

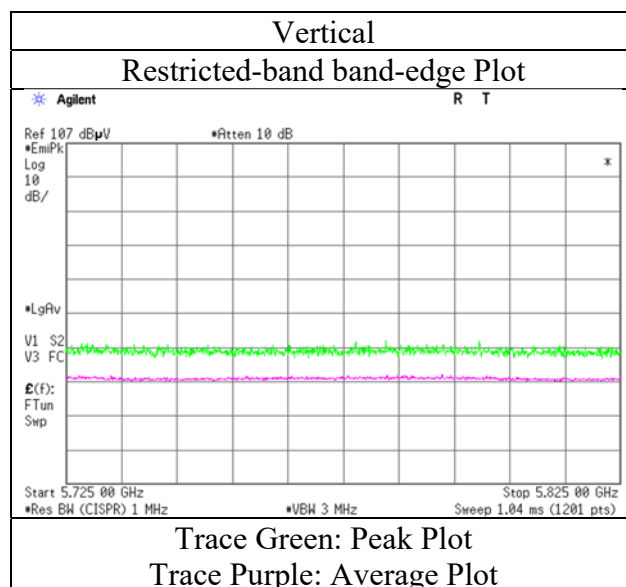
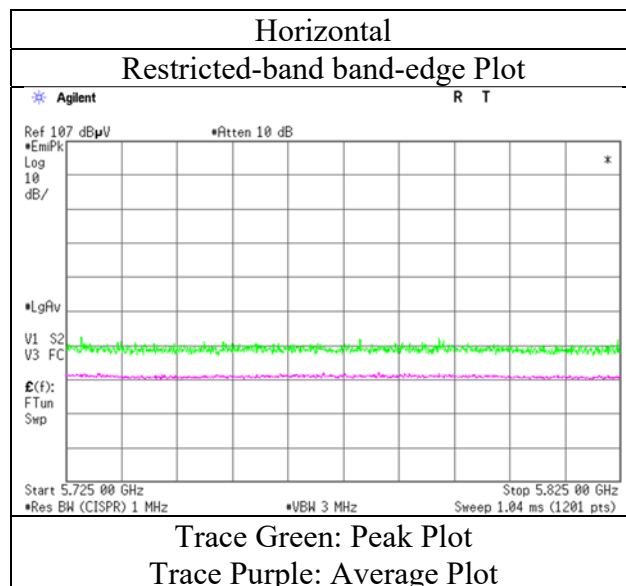
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	46.70	37.91	9.82	42.57	-9.54	42.32	73.9	31.5	150	0	-
Hori.	11490.000	AV	36.49	37.91	9.82	42.57	-9.54	32.11	53.9	21.7	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11490.000	PK	46.68	37.91	9.82	42.57	-9.54	42.30	73.9	31.6	150	0	-
Vert.	11490.000	AV	36.58	37.91	9.82	42.57	-9.54	32.20	53.9	21.7	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	48.72	32.74	16.86	43.42	2.08	56.98	-38.25	-27.0	11.2	174	104	-
Hori.	5700.000	PK	48.85	32.87	16.88	43.42	2.08	57.26	-37.97	10.0	47.9	174	104	-
Hori.	5720.000	PK	49.63	32.93	16.89	43.42	2.08	58.11	-37.12	15.6	52.7	174	104	-
Hori.	5725.000	PK	53.91	32.95	16.89	43.42	2.08	62.41	-32.82	27.0	59.8	174	104	-
Hori.	17235.000	PK	46.19	40.03	12.53	40.32	-9.54	48.89	-46.34	-27.0	19.3	150	0	-
Vert.	5650.000	PK	48.84	32.74	16.86	43.42	2.08	57.10	-38.13	-27.0	11.1	112	348	-
Vert.	5700.000	PK	48.92	32.87	16.88	43.42	2.08	57.33	-37.90	10.0	47.9	112	348	-
Vert.	5720.000	PK	49.91	32.93	16.89	43.42	2.08	58.39	-36.84	15.6	52.4	112	348	-
Vert.	5725.000	PK	56.08	32.95	16.89	43.42	2.08	64.58	-30.65	27.0	57.6	112	348	-
Vert.	17235.000	PK	46.25	40.03	12.53	40.32	-9.54	48.95	-46.28	-27.0	19.2	150	0	-

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

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

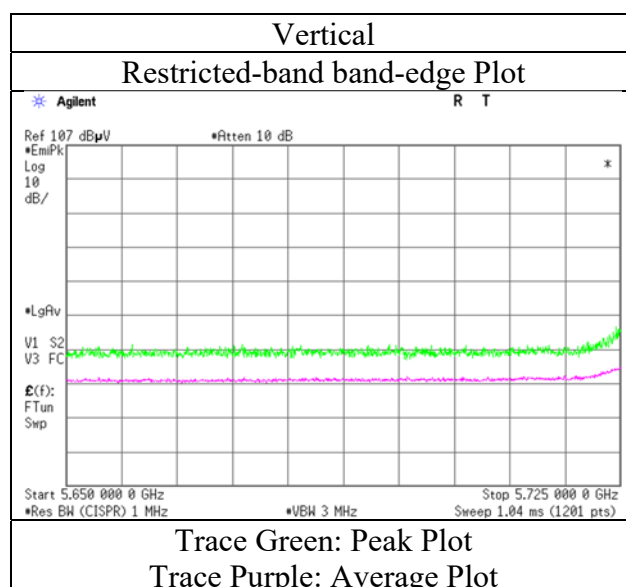
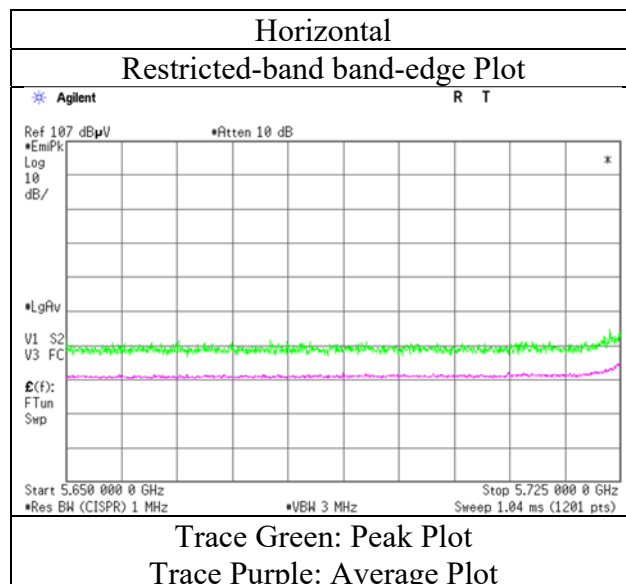
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

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-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	46.80	37.98	9.87	42.56	-9.54	42.55	73.9	31.3	150	0	-
Hori.	11570.000	AV	37.44	37.98	9.87	42.56	-9.54	33.19	53.9	20.7	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11570.000	PK	46.75	37.98	9.87	42.56	-9.54	42.50	73.9	31.4	150	0	-
Vert.	11570.000	AV	37.35	37.98	9.87	42.56	-9.54	33.10	53.9	20.8	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	46.27	40.19	12.57	40.31	-9.54	49.18	-46.05	-27.0	19.0	150	0	-
Vert.	17355.000	PK	46.11	40.19	12.57	40.31	-9.54	49.02	-46.21	-27.0	19.2	150	0	-

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

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

*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.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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-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	47.07	37.98	9.92	42.57	-9.54	42.86	73.9	31.0	150	0	
Hori.	11650.000	AV	37.30	37.98	9.92	42.57	-9.54	33.09	53.9	20.8	150	0	VBW: 3.6 kHz, Floor Noise
Vert.	11650.000	PK	46.92	37.98	9.92	42.57	-9.54	42.71	73.9	31.1	150	0	
Vert.	11650.000	AV	37.22	37.98	9.92	42.57	-9.54	33.01	53.9	20.8	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	50.50	33.26	16.98	43.43	2.08	59.39	-35.84	27.0	62.8	123	107	-
Hori.	5855.000	PK	50.33	33.27	16.98	43.43	2.08	59.23	-36.00	15.6	51.6	123	107	-
Hori.	5875.000	PK	50.90	33.31	17.00	43.43	2.08	59.86	-35.37	10.0	45.3	123	107	-
Hori.	5925.000	PK	49.17	33.43	17.02	43.43	2.08	58.27	-36.96	-27.0	9.9	123	107	-
Hori.	17475.000	PK	45.47	40.34	12.61	40.30	-9.54	48.58	-46.65	-27.0	19.6	150	0	-
Vert.	5850.000	PK	50.43	33.26	16.98	43.43	2.08	59.32	-35.91	27.0	62.9	126	357	-
Vert.	5855.000	PK	49.83	33.27	16.98	43.43	2.08	58.73	-36.50	15.6	52.1	126	357	-
Vert.	5875.000	PK	49.17	33.31	17.00	43.43	2.08	58.13	-37.10	10.0	47.1	126	357	-
Vert.	5925.000	PK	49.43	33.43	17.02	43.43	2.08	58.53	-36.70	-27.0	9.7	126	357	-
Vert.	17475.000	PK	45.84	40.34	12.61	40.30	-9.54	48.95	-46.28	-27.0	19.2	150	0	-

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

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

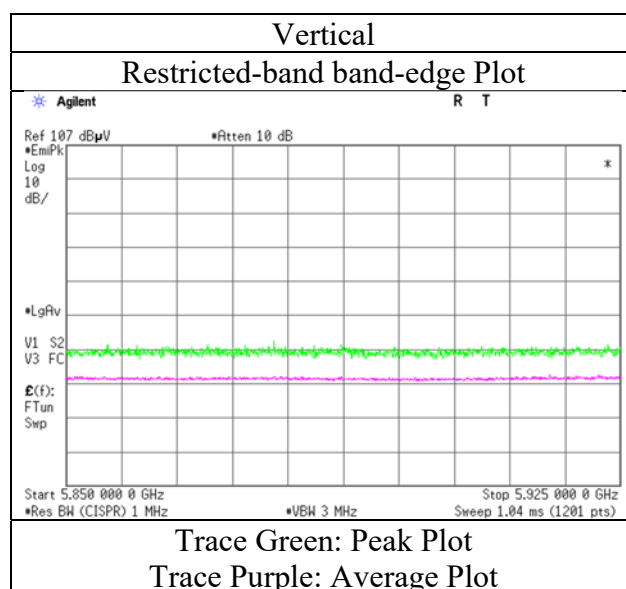
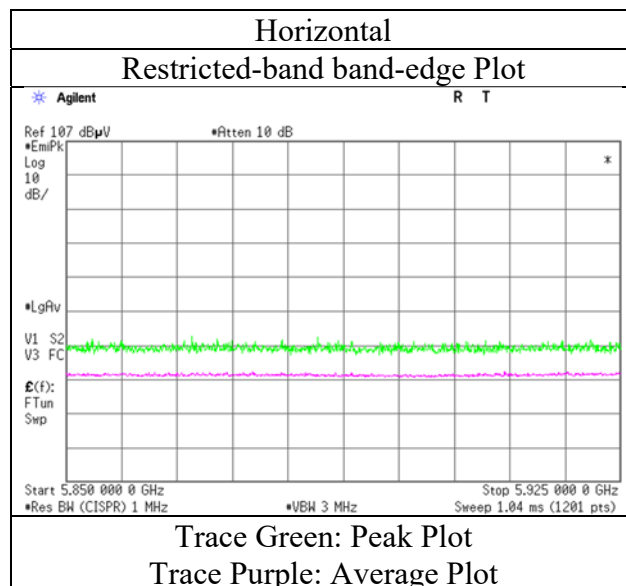
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

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-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	49.80	32.40	16.57	43.05	2.08	57.80	73.9	16.1	320	88	-
Hori.	15570.000	PK	47.41	39.58	11.58	40.44	-9.54	48.59	73.9	25.3	150	0	-
Hori.	5150.000	AV	39.22	32.40	16.57	43.05	2.08	47.22	53.9	6.6	320	88	VBW: 5.6 kHz
Hori.	15570.000	AV	37.43	39.58	11.58	40.44	-9.54	38.61	53.9	15.2	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	5150.000	PK	51.89	32.40	16.57	43.05	2.08	59.89	73.9	14.0	148	1	-
Vert.	15570.000	PK	47.28	39.58	11.58	40.44	-9.54	48.46	73.9	25.4	150	0	-
Vert.	5150.000	AV	41.15	32.40	16.57	43.05	2.08	49.15	53.9	4.7	148	1	VBW: 5.6 kHz
Vert.	15570.000	AV	37.38	39.58	11.58	40.44	-9.54	38.56	53.9	15.3	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.	6919.915	PK	52.85	36.25	8.12	43.24	2.08	56.06	-39.17	-27.0	12.1	224	251	-
Hori.	10380.000	PK	47.47	36.21	9.28	42.74	-9.54	40.68	-54.55	-27.0	27.5	150	0	-
Vert.	6919.902	PK	52.55	36.25	8.12	43.24	2.08	55.76	-39.47	-27.0	12.4	251	273	-
Vert.	10380.000	PK	47.53	36.21	9.28	42.74	-9.54	40.74	-54.49	-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

UL Japan, Inc.

Shonan EMC Lab.

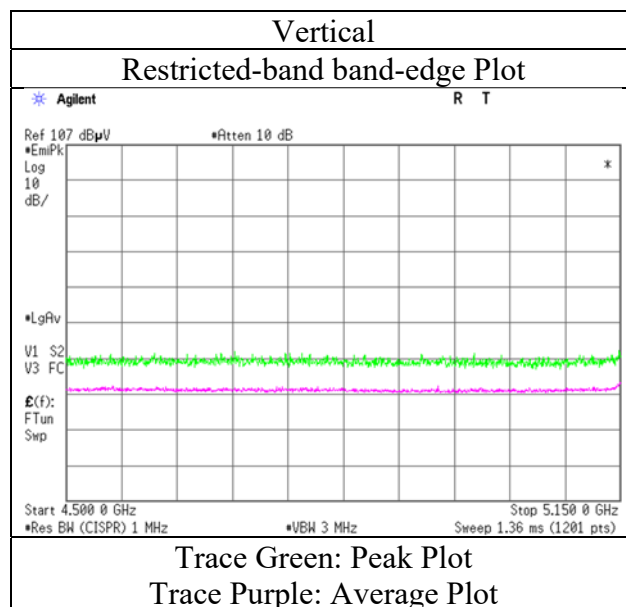
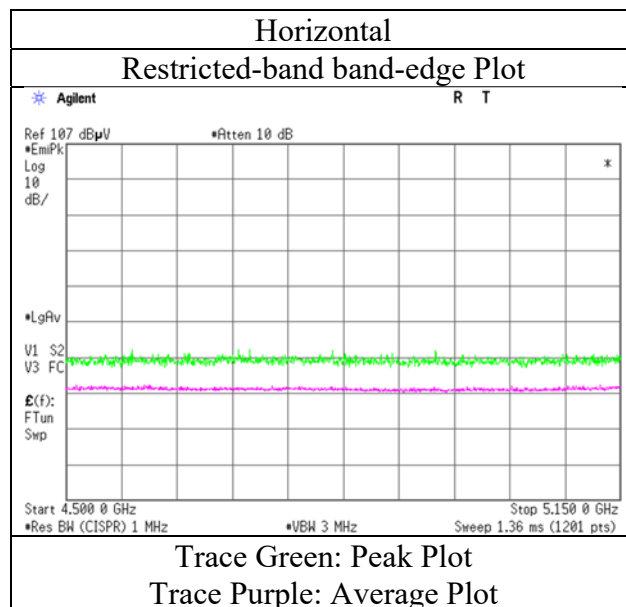
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	47.31	39.76	11.55	40.34	-9.54	48.74	73.9	25.1	150	0	-
Hori.	15690.000	AV	36.82	39.76	11.55	40.34	-9.54	38.25	53.9	15.6	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	15690.000	PK	47.14	39.76	11.55	40.34	-9.54	48.57	73.9	25.3	150	0	-
Vert.	15690.000	AV	36.85	39.76	11.55	40.34	-9.54	38.28	53.9	15.6	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.	6973.326	PK	51.24	36.58	8.13	43.19	2.08	54.84	-40.39	-27.0	13.3	225	253	-
Hori.	10460.000	PK	47.24	36.27	9.30	42.75	-9.54	40.52	-54.71	-27.0	27.7	150	0	-
Vert.	6973.312	PK	51.00	36.58	8.13	43.19	2.08	54.60	-40.63	-27.0	13.6	303	269	-
Vert.	10460.000	PK	46.98	36.27	9.30	42.75	-9.54	40.26	-54.97	-27.0	27.9	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-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	2	2
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	49.89	32.23	16.69	43.26	2.08	57.63	73.9	16.2	139	106	-
Hori.	10620.000	PK	47.79	36.75	9.35	42.82	-9.54	41.53	73.9	32.3	150	0	-
Hori.	15930.000	PK	46.40	40.20	11.48	40.15	-9.54	48.39	73.9	25.5	150	0	-
Hori.	5350.000	AV	39.17	32.23	16.69	43.26	2.08	46.91	53.9	6.9	139	106	VBW: 5.6 kHz
Hori.	10620.000	AV	37.82	36.75	9.35	42.82	-9.54	31.56	53.9	22.3	150	0	VBW: 5.6 kHz, Floor Noise
Hori.	15930.000	AV	36.04	40.20	11.48	40.15	-9.54	38.03	53.9	15.8	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	5350.000	PK	49.48	32.23	16.69	43.26	2.08	57.22	73.9	16.6	173	7	-
Vert.	10620.000	PK	47.81	36.75	9.35	42.82	-9.54	41.55	73.9	32.3	150	0	-
Vert.	15930.000	PK	46.23	40.20	11.48	40.15	-9.54	48.22	73.9	25.6	150	0	-
Vert.	5350.000	AV	39.70	32.23	16.69	43.26	2.08	47.44	53.9	6.4	173	7	VBW: 5.6 kHz
Vert.	10620.000	AV	37.73	36.75	9.35	42.82	-9.54	31.47	53.9	22.4	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	15930.000	AV	36.05	40.20	11.48	40.15	-9.54	38.04	53.9	15.8	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.	7079.932	PK	50.96	37.06	8.19	43.25	2.08	55.04	-40.19	-27.0	13.1	191	255	-
Vert.	7079.926	PK	50.69	37.06	8.19	43.25	2.08	54.77	-40.46	-27.0	13.4	300	271	-

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

UL Japan, Inc.

Shonan EMC Lab.

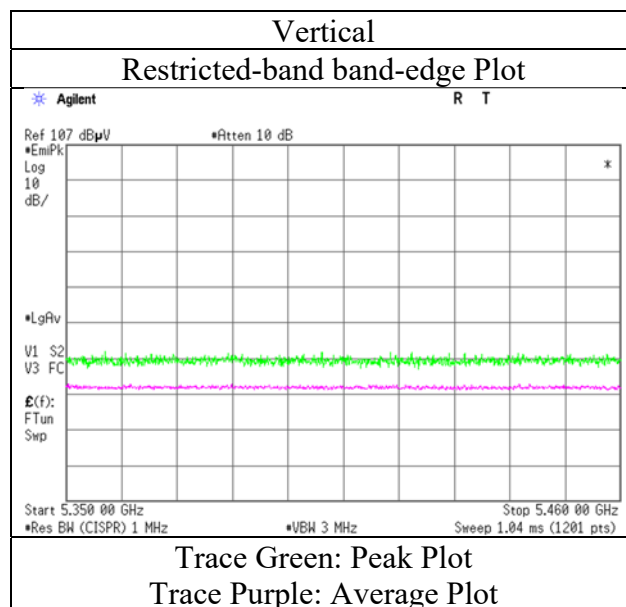
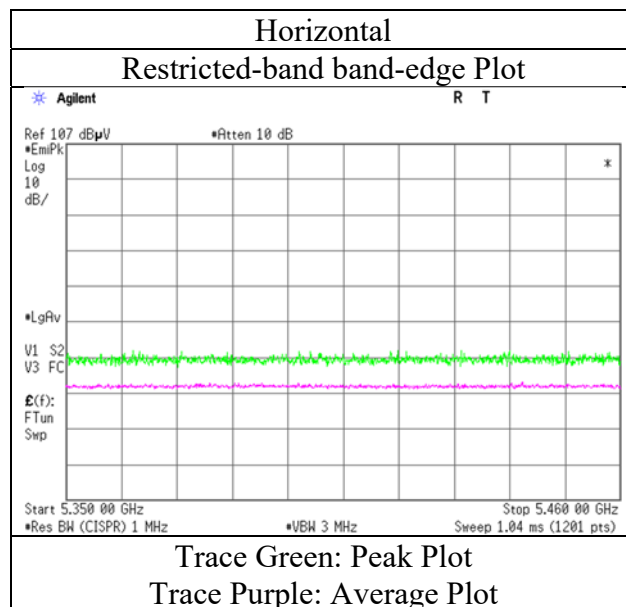
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	52.08	32.45	16.75	43.38	2.08	59.98	73.9	13.9	134	105	-
Hori.	7346.595	PK	50.90	37.58	8.35	43.55	2.08	55.36	73.9	18.5	205	256	-
Hori.	11020.000	PK	47.46	37.21	9.49	42.97	-9.54	41.65	73.9	32.2	150	0	-
Hori.	5460.000	AV	39.78	32.45	16.75	43.38	2.08	47.68	53.9	6.2	134	105	VBW: 5.6 kHz
Hori.	7346.595	AV	41.91	37.58	8.35	43.55	2.08	46.37	53.9	7.5	205	256	VBW: 5.6 kHz
Hori.	11020.000	AV	37.78	37.21	9.49	42.97	-9.54	31.97	53.9	21.9	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	5460.000	PK	48.93	32.45	16.75	43.38	2.08	56.83	73.9	17.0	259	9	-
Vert.	7346.614	PK	51.10	37.58	8.35	43.55	2.08	55.56	73.9	18.3	278	277	-
Vert.	11020.000	PK	47.10	37.21	9.49	42.97	-9.54	41.29	73.9	32.6	150	0	-
Vert.	5460.000	AV	39.31	32.45	16.75	43.38	2.08	47.21	53.9	6.6	259	9	VBW: 5.6 kHz
Vert.	7346.614	AV	41.62	37.58	8.35	43.55	2.08	46.08	53.9	7.8	278	277	VBW: 5.6 kHz
Vert.	11020.000	AV	37.95	37.21	9.49	42.97	-9.54	32.14	53.9	21.7	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	50.47	32.46	16.76	43.39	2.08	58.38	-36.85	-27.0	9.8	134	105	-
Hori.	16530.000	PK	46.64	39.86	12.24	40.32	-9.54	48.88	-46.35	-27.0	19.3	150	0	-
Vert.	5470.000	PK	50.77	32.46	16.76	43.39	2.08	58.68	-36.55	-27.0	9.5	259	9	-
Vert.	16530.000	PK	46.62	39.86	12.24	40.32	-9.54	48.86	-46.37	-27.0	19.3	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

UL Japan, Inc.

Shonan EMC Lab.

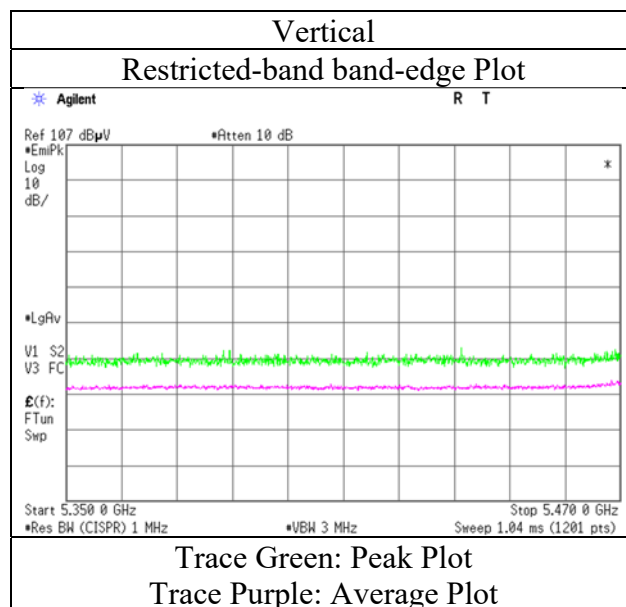
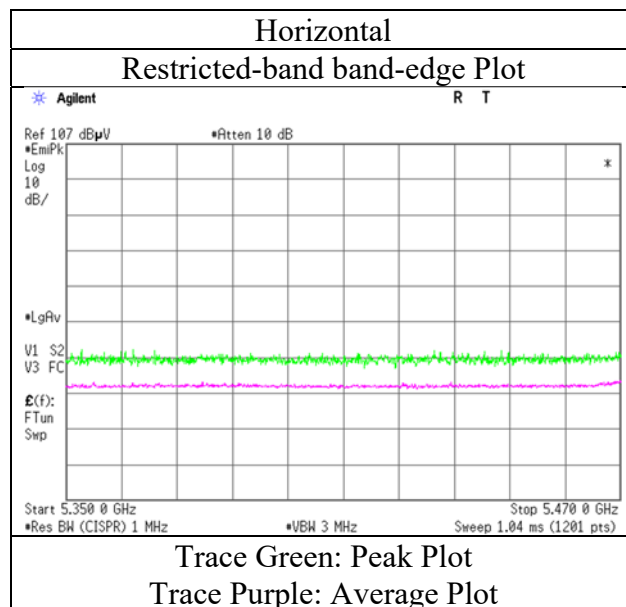
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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.	7400.041	PK	50.13	37.62	8.38	43.61	2.08	54.60	73.9	19.3	100	286	-
Hori.	11100.000	PK	47.21	37.19	9.55	42.90	-9.54	41.51	73.9	32.3	150	0	-
Hori.	7400.041	AV	40.39	37.62	8.38	43.61	2.08	44.86	53.9	9.0	100	286	VBW: 5.6 kHz
Hori.	11100.000	AV	37.19	37.19	9.55	42.90	-9.54	31.49	53.9	22.4	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	7399.896	PK	50.18	37.62	8.38	43.61	2.08	54.65	73.9	19.2	289	267	-
Vert.	11100.000	PK	46.91	37.19	9.55	42.90	-9.54	41.21	73.9	32.6	150	0	-
Vert.	7399.896	AV	40.35	37.62	8.38	43.61	2.08	44.82	53.9	9.0	289	267	VBW: 5.6 kHz
Vert.	11100.000	AV	37.03	37.19	9.55	42.90	-9.54	31.33	53.9	22.5	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.	16650.000	PK	46.60	39.57	12.30	40.33	-9.54	48.60	-46.63	-27.0	19.6	150	0	-
Vert.	16650.000	PK	46.48	39.57	12.30	40.33	-9.54	48.48	-46.75	-27.0	19.7	150	0	-

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

Result (EIRP [dBm]) = 10 * 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

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	46.15	37.62	9.71	42.70	-9.54	41.24	73.9	32.6	150	0	-
Hori.	11340.000	AV	36.48	37.62	9.71	42.70	-9.54	31.57	53.9	22.3	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11340.000	PK	46.08	37.62	9.71	42.70	-9.54	41.17	73.9	32.7	150	0	-
Vert.	11340.000	AV	36.52	37.62	9.71	42.70	-9.54	31.61	53.9	22.2	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 : $20\log(3.81\text{ m} / 3.0\text{ m}) = 2.08\text{ dB}$

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	48.57	32.95	16.89	43.42	2.08	57.07	-38.16	-27.0	11.1	168	106	-
Hori.	17010.000	PK	45.62	39.65	12.46	40.34	-9.54	47.85	-47.38	-27.0	20.3	150	0	-
Vert.	5725.000	PK	48.35	32.95	16.89	43.42	2.08	56.85	-38.38	-27.0	11.3	100	1	-
Vert.	17010.000	PK	45.31	39.65	12.46	40.34	-9.54	47.54	-47.69	-27.0	20.6	150	0	-

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

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

*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.

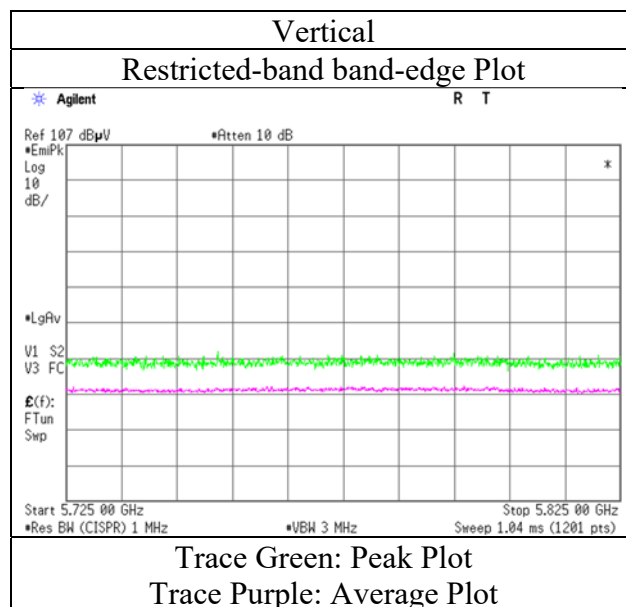
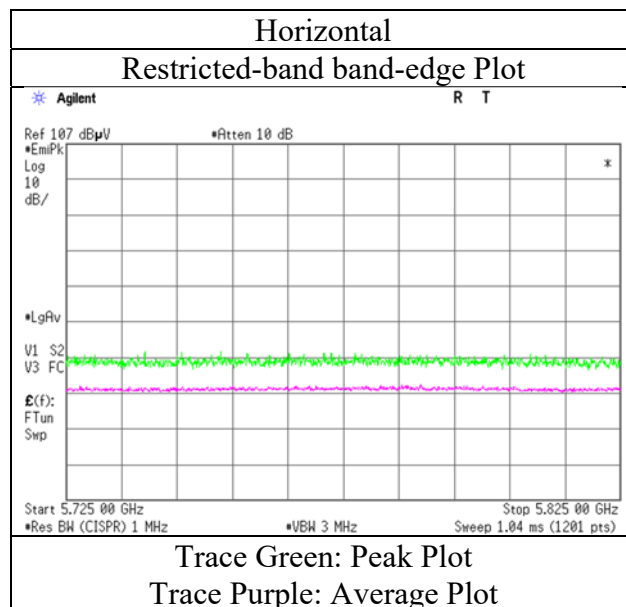
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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-C-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	2	2
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	46.62	37.93	9.82	42.56	-9.54	42.27	73.9	31.6	150	0	-
Hori.	11510.000	AV	36.95	37.93	9.82	42.56	-9.54	32.60	53.9	21.3	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11510.000	PK	46.96	37.93	9.82	42.56	-9.54	42.61	73.9	31.2	150	0	-
Vert.	11510.000	AV	36.88	37.93	9.82	42.56	-9.54	32.53	53.9	21.3	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.	5650.000	PK	49.79	32.74	16.86	43.42	2.08	58.05	-37.18	-27.0	10.1	134	73	-
Hori.	5700.000	PK	48.92	32.87	16.88	43.42	2.08	57.33	-37.90	10.0	47.9	134	73	-
Hori.	5720.000	PK	53.91	32.93	16.89	43.42	2.08	62.39	-32.84	15.6	48.4	134	73	-
Hori.	5723.000	PK	55.83	32.94	16.89	43.42	2.08	64.32	-30.91	22.5	53.4	134	73	-
Hori.	5725.000	PK	54.85	32.95	16.89	43.42	2.08	63.35	-31.88	27.0	58.8	134	73	-
Hori.	17265.000	PK	45.56	40.08	12.55	40.32	-9.54	48.33	-46.90	-27.0	19.9	150	0	-
Vert.	5650.000	PK	49.33	32.74	16.86	43.42	2.08	57.59	-37.64	-27.0	10.6	237	4	-
Vert.	5700.000	PK	49.51	32.87	16.88	43.42	2.08	57.92	-37.31	10.0	47.3	237	4	-
Vert.	5720.000	PK	52.19	32.93	16.89	43.42	2.08	60.67	-34.56	15.6	50.1	237	4	-
Vert.	5723.000	PK	55.76	32.94	16.89	43.42	2.08	64.25	-30.98	22.5	53.4	237	4	-
Vert.	5725.000	PK	53.99	32.95	16.89	43.42	2.08	62.49	-32.74	27.0	59.7	237	4	-
Vert.	17265.000	PK	45.75	40.08	12.55	40.32	-9.54	48.52	-46.71	-27.0	19.7	150	0	-

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

Result (EIRP [dBm]) = 10 * 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

UL Japan, Inc.

Shonan EMC Lab.

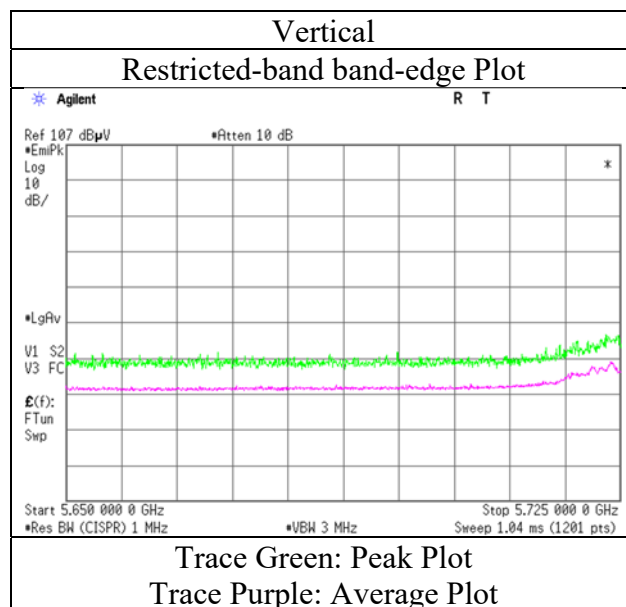
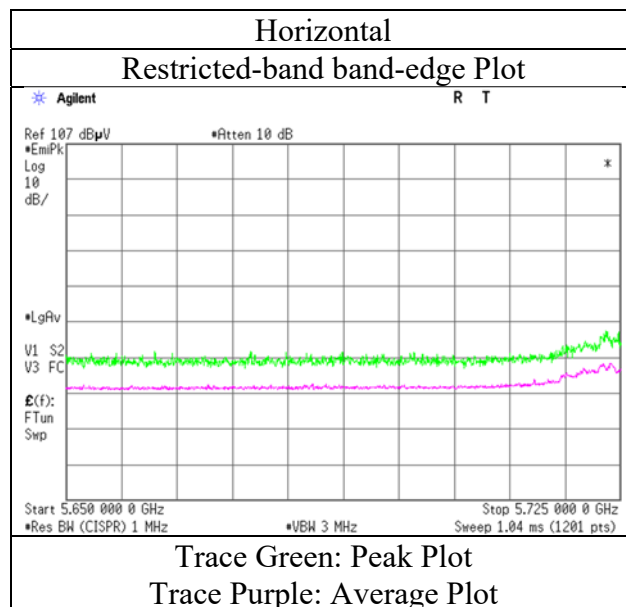
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No. 13994981S-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	2	2	
Date	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021	
Temperature / Humidity	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH	
Engineer	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	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	47.97	37.98	9.88	42.57	-9.54	43.72	73.9	30.1	150	0	-
Hori.	11590.000	AV	38.04	37.98	9.88	42.57	-9.54	33.79	53.9	20.1	150	0	VBW: 5.6 kHz, Floor Noise
Vert.	11590.000	PK	48.49	37.98	9.88	42.57	-9.54	44.24	73.9	29.6	150	0	-
Vert.	11590.000	AV	37.82	37.98	9.88	42.57	-9.54	33.57	53.9	20.3	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.	5850.000	PK	49.21	33.26	16.98	43.43	2.08	58.10	-37.13	27.0	64.1	190	105	-
Hori.	5855.000	PK	49.76	33.27	16.98	43.43	2.08	58.66	-36.57	15.6	52.1	190	105	-
Hori.	5875.000	PK	48.67	33.31	17.00	43.43	2.08	57.63	-37.60	10.0	47.6	190	105	-
Hori.	5925.000	PK	49.75	33.43	17.02	43.43	2.08	58.85	-36.38	-27.0	9.3	190	105	-
Hori.	17385.000	PK	46.04	40.24	12.59	40.31	-9.54	49.02	-46.21	-27.0	19.2	150	0	-
Vert.	5850.000	PK	49.67	33.26	16.98	43.43	2.08	58.56	-36.67	27.0	63.6	280	0	-
Vert.	5855.000	PK	48.80	33.27	16.98	43.43	2.08	57.70	-37.53	15.6	53.1	280	0	-
Vert.	5875.000	PK	50.04	33.31	17.00	43.43	2.08	59.00	-36.23	10.0	46.2	280	0	-
Vert.	5925.000	PK	49.31	33.43	17.02	43.43	2.08	58.41	-36.82	-27.0	9.8	280	0	-
Vert.	17385.000	PK	45.99	40.24	12.59	40.31	-9.54	48.97	-46.26	-27.0	19.2	150	0	-

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

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

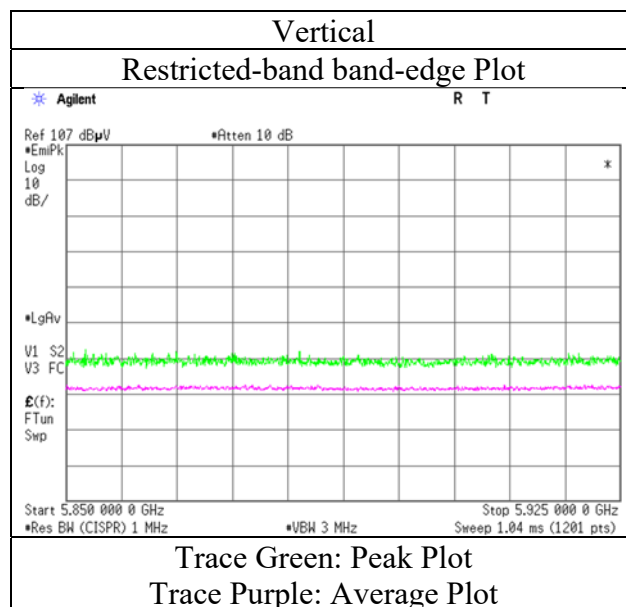
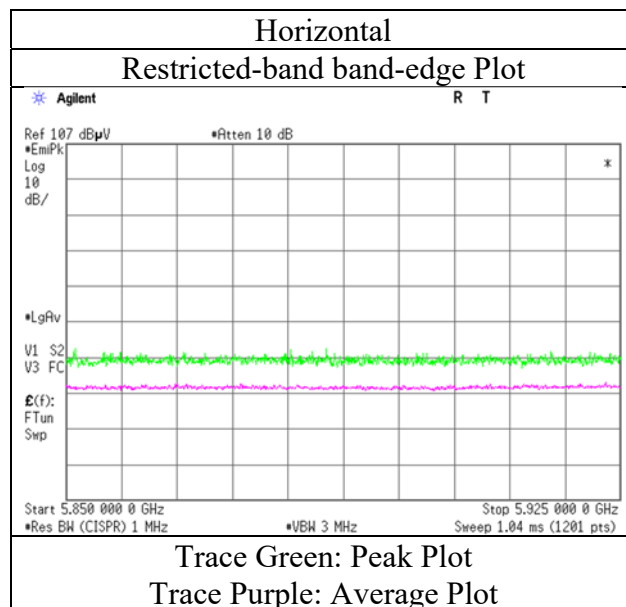
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

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-C-R1
Test place Shonan EMC Lab.
Semi Anechoic Chamber 3
Date November 24, 2021
Temperature / Humidity 25 deg.C, 27 %RH
Engineer Takahiro Kawakami
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.

UL Japan, Inc.

Shonan EMC Lab.

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

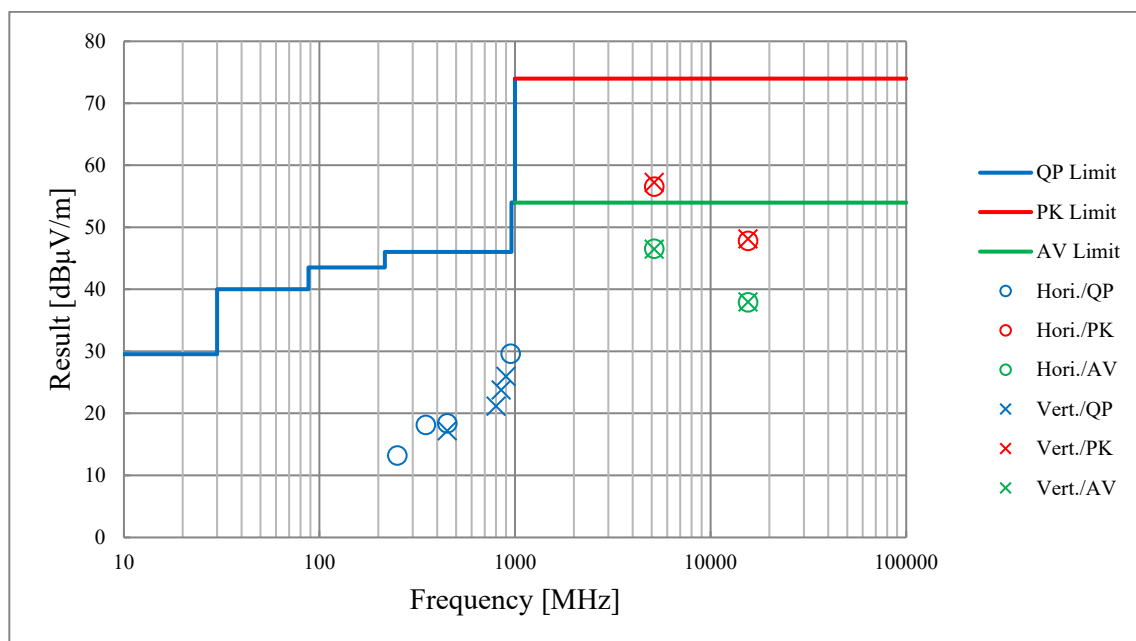
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Radiated Spurious Emission

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

Report No.	13994981S-C-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	2	3	3	3	2	2
Date	December 1, 2021	November 24, 2021	November 25, 2021	November 28, 2021	November 30, 2021	December 1, 2021
Temperature / Humidity	22 deg.C, 38 %RH	25 deg.C, 27 %RH	23 deg.C, 26 %RH	20 deg.C, 24 %RH	20 deg.C, 32 %RH	22 deg.C, 38 %RH
Engineer	Yosuke Murakami	Takahiro Kawakami	Takahiro Kawakami	Shiro Kobayashi	Shunsaku Yumi	Miku Ikudome
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	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	SAT10-05	145136	Attenuator	Keysight Technologies Inc	8493C-010	74864	2021/10/07	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

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-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-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.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401