



# RADIO TEST REPORT


Test Report No. : 14026147S-B-R1

**Applicant** : Canon Inc.  
**Type of EUT** : Wireless LAN Module  
**Model Number of EUT** : K30387  
**FCC ID** : AZDK30387  
**Test regulation** : FCC Part 15 Subpart E: 2021  
(Except for DFS test)  
**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 14026147S-B. 14026147S-B is replaced with this report.

**Date of test:** June 8 to July 1, 2021

**Representative test engineer:**   
Shiro Kobayashi  
Engineer

**Approved by:**   
Shinichi Takano  
Engineer



CERTIFICATE 1266.03

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

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## REVISION HISTORY

**Original Test Report No.: 14026147S-B**

Revision	Test report No.	Date	Page revised	Contents																																								
- (Original)	14026147S-B	December 16, 2021	-	-																																								
1	14026147S-B-R1	January 17, 2022	P.48	Correction of 26 dB EBW and 99 % OBW: From: <table border="1" style="display: inline-table; margin-right: 20px;"> <thead> <tr> <th>26 dB EBW (B for FCC) [MHz]</th> <th>99 % OBW (B for SED) [MHz]</th> </tr> </thead> <tbody> <tr><td>-</td><td>36.461</td></tr> <tr><td>-</td><td>36.510</td></tr> <tr><td>39.584</td><td>36.653</td></tr> <tr><td>39.726</td><td>36.561</td></tr> <tr><td>39.731</td><td>36.498</td></tr> <tr><td>39.495</td><td>36.428</td></tr> <tr><td>39.775</td><td>36.454</td></tr> <tr><td>-</td><td>36.518</td></tr> <tr><td>-</td><td>36.511</td></tr> </tbody> </table> To: <table border="1" style="display: inline-table;"> <thead> <tr> <th>26 dB EBW (B for FCC) [MHz]</th> <th>99 % OBW (B for SED) [MHz]</th> </tr> </thead> <tbody> <tr><td>-</td><td>36.617</td></tr> <tr><td>-</td><td>36.527</td></tr> <tr><td>39.677</td><td>36.532</td></tr> <tr><td>39.700</td><td>36.506</td></tr> <tr><td>39.597</td><td>36.538</td></tr> <tr><td>39.649</td><td>36.425</td></tr> <tr><td>39.856</td><td>36.522</td></tr> <tr><td>-</td><td>36.517</td></tr> <tr><td>-</td><td>36.481</td></tr> </tbody> </table>	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for SED) [MHz]	-	36.461	-	36.510	39.584	36.653	39.726	36.561	39.731	36.498	39.495	36.428	39.775	36.454	-	36.518	-	36.511	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for SED) [MHz]	-	36.617	-	36.527	39.677	36.532	39.700	36.506	39.597	36.538	39.649	36.425	39.856	36.522	-	36.517	-	36.481
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			P.56, 57	Addition of comment: “* The VBW was also applied to spurious emissions that have the same duty cycle as the carrier, in addition to the carrier harmonics.”																																								
			P.196	Correction of title From: (Plot data, Worst case) To: (Plot data, Worst case mode for Maximum Conducted Output Power)																																								

## Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	MCS	Modulation and Coding Scheme
AC	Alternating Current	MRA	Mutual Recognition Arrangement
AFH	Adaptive Frequency Hopping	N/A	Not Applicable
AM	Amplitude Modulation	NIST	National Institute of Standards and Technology
Amp, AMP	Amplifier	NS	No signal detect.
ANSI	American National Standards Institute	NSA	Normalized Site Attenuation
Ant, ANT	Antenna	NVLAP	National Voluntary Laboratory Accreditation Program
AP	Access Point	OBW	Occupied Band Width
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	Quadri-Phase Shift Keying
CW	Continuous Wave	RBW	Resolution Band Width
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	RSS	Radio Standards Specifications
DSSS	Direct Sequence Spread Spectrum	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	Test Receiver
EN	European Norm	Tx	Transmitting
ERP, e.r.p.	Effective Radiated Power	VBW	Video BandWidth
EU	European Union	Vert.	Vertical
EUT	Equipment Under Test	WLAN	Wireless LAN
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		
LIMS	Laboratory Information Management System		

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## **SECTION 1: Customer information**

Company Name : Canon Inc.  
Address : 451, Tsukagoshi 3-chome, Saiwai-ku, Kawasaki-shi, Kanagawa  
212-8530, Japan  
Telephone Number : +81-3-3758-2111  
Contact Person : Hiroyuki Saito

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 : Wireless LAN Module  
Model Number : K30387  
Serial Number : Refer to SECTION 4.2  
Rating : DC 3.3 V  
Receipt Date : June 7, 2021  
Country of Mass-production : Thailand, Vietnam  
Condition : Engineering prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)  
Modification : No Modification by the test lab.

## 2.2 Product Description

Model: K30387 (referred to as the EUT in this report) is a Wireless LAN Module.

### Radio Specification

	IEEE802.11b	IEEE802.11g	IEEE802.11n (20 MHz band)	IEEE802.11n (40 MHz band)
Frequency of operation	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz, 5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 MHz	2422 MHz - 2452 MHz, 5190 MHz - 5230 MHz, 5270 MHz - 5310 MHz, 5510 MHz - 5670 MHz, 5755 MHz - 5795 MHz
Channel spacing	5 MHz		2.4 GHz band: 5 MHz 5 GHz band: 20 MHz	2.4 GHz band: 5 MHz 5 GHz band: 40 MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)	
	IEEE802.11a	IEEE802.11ac (20 MHz band)	IEEE802.11ac (40 MHz band)	IEEE802.11ac (80 MHz band)
Frequency of operation	5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 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	5210 MHz, 5290 MHz, 5530 MHz, 5610 MHz, 5775 MHz
Channel spacing	20 MHz		40 MHz	80 MHz
Modulation	OFDM (64QAM, 16QAM, QPSK, BPSK)	OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)		
Antenna type	Inverted-L antenna			
Antenna Gain	2.4 GHz	1.8 dBi		
	U-NII-1, U-NII-2A	2.1 dBi		
	U-NII-2C	2.1 dBi		
	U-NII-3	2.1 dBi		
Master / Slave	2.4 GHz	Master and Slave		
	U-NII-1	Master and Slave		
	U-NII-2A	Slave		
	U-NII-2C	Slave		
U-NII-3	Master and Slave			
Operating Temperature	0 deg. C to + 45 deg. C			

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

### 3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.10-2013	FCC: 15.407 (b) (6) / 15.207	12.7 dB, 0.38489 MHz, AV, L1 Mode: Tx 11a 5785 MHz	Complied# a)	
	ISED: RSS-Gen 8.8	ISED: RSS-Gen 8.8			
26 dB Emission Bandwidth	FCC: KDB Publication Number 789033	FCC: 15.407 (a) (1) (2) (3)	See data	Complied b)	Conducted
	ISED: -	ISED: -			
Maximum Conducted Output Power	FCC: KDB Publication Number 789033	FCC: 15.407 (a) (1) (2) (3)		Complied c)	Conducted
	ISED: -	ISED: RSS-247 6.2.1.1 6.2.2.1 6.2.3.1 6.2.4.1			
Maximum Power Spectral Density	FCC: KDB Publication Number 789033	FCC : 15.407 (a) (1) (2) (3)		Complied d)	Conducted
	ISED: -	ISED: RSS-247 6.2.1.1 6.2.2.1 6.2.3.1 6.2.4.1			
Spurious Emission Restricted Band Edge	FCC: ANSI C63.10-2013 KDB Publication Number 789033	FCC: 15.407 (b), 15.205 and 15.209	3.3 dB 5725.000 MHz, PK, Hori Mode: Tx 11ac-20 5700 MHz	Complied e) / f)	Conducted (< 30 MHz) / Radiated (> 30 MHz) *1)
	ISED: -	ISED: RSS-247 6.2.1.2 6.2.2.2 6.2.3.2 6.2.4.2			
6 dB Emission Bandwidth	FCC: ANSI C63.10-2013	FCC: 15.407 (e)	See data	Complied g)	Conducted
	ISED: -	ISED: RSS-247 6.2.4.1			
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422. *1) Radiated test was selected over 30 MHz based on FCC 15.407 (b) and KDB 789033 D02 G.3.b).  a) Refer to APPENDIX 1 (data of Conducted Emission) b) Refer to APPENDIX 1 (data of 26 dB Emission Bandwidth and 99 % Occupied Bandwidth) c) Refer to APPENDIX 1 (data of Maximum Conducted Output Power) d) Refer to APPENDIX 1 (data of Maximum Power Spectral Density) e) Refer to APPENDIX 1 (data of Radiated Spurious Emission) f) Refer to APPENDIX 1 (data of Conducted Spurious Emission) g) Refer to APPENDIX 1 (data of 6 dB Bandwidth)  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)**

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

#### **FCC Part 15.203 Antenna requirement**

The antenna is not removable from the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

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### 3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Band Width	ISED: RSS-Gen 6.7	ISED: -	N/A	Complied a)	Conducted
a) Refer to APPENDIX 1 (data of 26 dB Emission Bandwidth and 99 % Occupied Bandwidth)					

Other than above, no addition, exclusion nor deviation has been made from the standard.

### 3.4 Uncertainty

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

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor  $k=2$ .

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Item	Frequency range	Uncertainty (+/-)		
		No. 1 SAC / SR	No. 2 SAC / SR	No. 3 SAC / SR
Conducted emission (AC Mains) LISN	150 kHz-30 MHz	2.6 dB	2.6 dB	2.6 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.0 dB	2.7 dB	2.7 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	5.3 dB	5.3 dB	5.3 dB
Radiated emission (Measurement distance: 1 m)	1 GHz-18 GHz	5.7 dB	5.7 dB	5.7 dB
	18 GHz-40 GHz	5.6 dB	5.6 dB	5.6 dB

SAC=Semi-Anechoic Chamber

SR= Shielded Room is applied besides radiated emission

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)_SPM-06	1.4 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-06	1.6 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.89 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-07	1.2 dB
Power Measurement above 1 GHz (Average Detector)_SPM-13	0.91 dB
Power Measurement above 1 GHz (Peak Detector)_SPM-13	1.2 dB
Spurious emission (Conducted) below 1GHz	0.87 dB
Spurious emission (Conducted) 1 GHz-3 GHz	0.96 dB
Spurious emission (Conducted) 3 GHz-18 GHz	3.0 dB
Spurious emission (Conducted) 18 GHz-26.5 GHz	2.6 dB
Spurious emission (Conducted) 26.5 GHz-40 GHz	2.2 dB
Bandwidth Measurement	0.012 %
Duty cycle and Time Measurement	0.27 %
Temperature_SCH-01	0.87 deg.C.
Humidity_SCH-01	4.3 %
Temperature_SCH-02	2.0 deg.C.
Humidity_SCH-02	6.6 %
Voltage	0.86 %

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### 3.5 Test Location

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A2LA Certificate Number: 1266.03

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

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

### 3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

## **SECTION 4: Operation of EUT during testing**

### **4.1 Operating Mode(s)**

Test operating mode was determined as follows according to “Section 1 of 6 802.11 a/b/g/n testing - Managing Complex Regulatory Approvals -” of TCB Council Workshop October 2009 and also was judged the necessity of 802.11ac mode by the pre-test.

<b>Mode</b>	<b>Remarks*</b>
IEEE 802.11a (11a)	6 Mbps, PN9
IEEE 802.11n SISO 20 MHz BW (11n-20)	MCS 0, PN9
IEEE 802.11n SISO 40 MHz BW (11n-40)	MCS 7, PN9
IEEE 802.11ac SISO 20 MHz BW (11ac-20)	MCS 0, PN9
IEEE 802.11ac SISO 40 MHz BW (11ac-40)	MCS 7, PN9
IEEE 802.11ac SISO 80 MHz BW (11ac-80)	MCS 7, PN9
*The worst condition was determined based on the test result of Maximum Conducted Output Power.	
*Power of the EUT was set by the software as follows; Power settings: <ul style="list-style-type: none"> <li>· 11a(6 Mbps to 48 Mbps)/n-20(MCS 0 to MCS 5)/ac-20(MCS 0 to MCS 5) (5180 MHz,5320 MHz,5500 MHz,5700 MHz,5745 MHz,5825 MHz): 8 dBm (Another channel):10 dBm</li> <li>· 11a(54 Mbps)/n-20(MCS 6 to MCS 7)/ac-20(MCS 6 to MCS 8): (all channel)7 dBm</li> <li>· 11n-40 (5190 MHz,5310 MHz,5510 MHz,5755 MHz): 4 dBm (Another channel): 7 dBm</li> <li>· 11ac-40 (5190 MHz,5310 MHz,5510 MHz,5755 MHz): 4 dBm (Another channel): 7 dBm (MCS 0 to MCS 7) 5 dBm (MCS 8 to MCS 9)</li> <li>· 11ac-80 (All channel): 4 dBm</li> </ul> Software: RF Testing Tool for CYW4373SUSB Version FW_13_10_246_225 (Date: 2020.3.17, Storage location: Driven by connected Smart Devices Board)	
*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.	

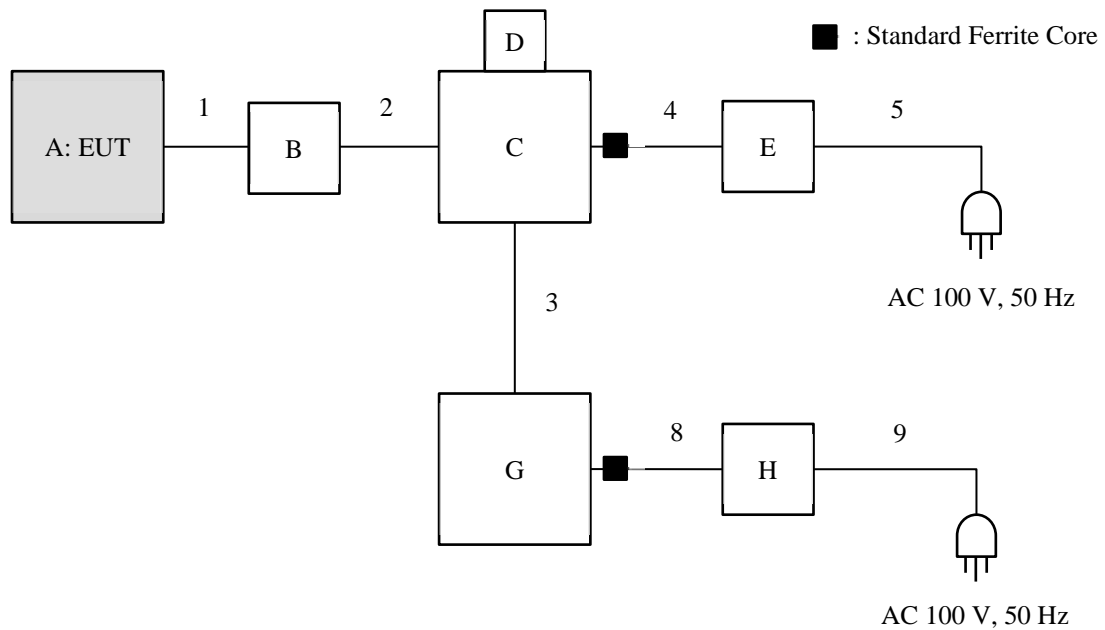
\*The details of Operation mode(s)

Test Item	Operating Mode	Tested Frequency			
		Lower Band	Middle Band	Additional Band	Upper Band
Conducted emission	Tx, 11a *1)	-	-	-	5785 MHz
26 dB Emission Bandwidth	Tx, 11a Tx, 11n-20 Tx, 11ac-20	-	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	-
	Tx, 11n-40 Tx, 11ac-40	-	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	-
	Tx, 11ac-80	-	5290 MHz	5530 MHz 5610 MHz	-
99 % Occupied Bandwidth, Maximum Conducted Output Power, Maximum Power Spectral Density	Tx, 11a Tx, 11n-20 Tx, 11ac-20	5180 MHz 5220 MHz 5240 MHz	5260 MHz 5300 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz	5745 MHz 5785 MHz 5825 MHz
	Tx, 11n-40 Tx, 11ac-40	5190 MHz 5230 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx, 11ac-80	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
6 dB Bandwidth	Tx, 11a Tx, 11n-20 Tx, 11ac-20	-	-	-	5745 MHz 5785 MHz 5825 MHz
	Tx, 11n-40 Tx, 11ac-40	-	-	-	5755 MHz 5795 MHz
	Tx, 11ac-80	-	-	-	5775 MHz
Radiated Spurious Emission (Below 1 GHz)	Tx 11a *1)	-	-	-	5785 MHz
Radiated Spurious Emission (Above 1 GHz)	Tx, 11a Tx, 11n-20 *2) Tx, 11ac-20 *2)	5180 MHz 5200 MHz *3) 5240 MHz	5300 MHz *3) 5320 MHz	5500 MHz 5520 MHz *3) 5580 MHz 5680 MHz *3) 5700 MHz	5745 MHz 5765 MHz *3) 5785 MHz 5805 MHz *3) 5825 MHz
	Tx, 11n-40 Tx, 11ac-40 *2)	5190 MHz 5230 MHz	5270 MHz *3) 5310 MHz	5510 MHz 5550 MHz 5670 MHz	5755 MHz 5795 MHz
	Tx, 11ac-80	5210 MHz	5290 MHz	5530 MHz 5610 MHz	5775 MHz
Conducted Spurious Emission	11a Tx *1)	-	-	-	5785 MHz

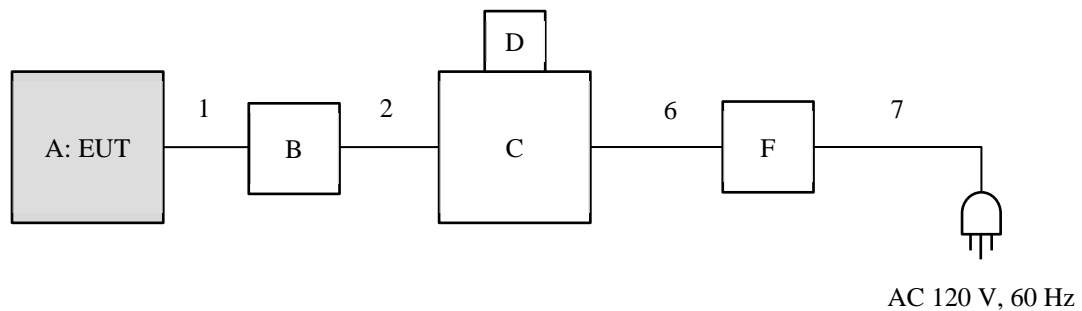
\*1) The mode was tested as a representative, because it had the highest power at antenna terminal test.  
\*2) This mode wasn't worst, but only band edge of spurious emissions were measured for confirmation.  
\*3) This mode wasn't Lowest/Highest channel of each band, but only band edge of spurious emissions were measured for confirmation.

## 4.2 Configuration and peripherals

<For Antenna Terminal Conducted test>



<For Radiated Emission test and Conducted emission test>



\* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

\*As a result of comparing AC 120 V and AC 240 V at pre-check, conducted emission test was performed with AC 120 V of the worst voltage as representative.

**Description of EUT and Support equipment**

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	WLAN Module	K30387	A42	Canon	EUT
B	WLAN JOINT PCB	-	-	Canon	-
C	Smart Devices Board	MCIMX6SX-SDB	TR19451175	NXP	-
D	SD Card	SDS/16GB	-	Kingston	-
E	AC Adaptor	GST40A05	EB93405832	MEAN WELL	-
F	AC Adapter	ATS036T-A050	400-75956	SCEPTRE	-
G	Laptop Computer	E1Q57PA#ABJ	5CB3310KHW	HP	-
H	AC Adapter	PPP009L-E	3453442403	HP	-

**List of cables used**

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	FLAT	0.1	Unshielded	Unshielded	-
2	USB	1.0	Shielded	Shielded	-
3	LAN	1.5	Unshielded	Unshielded	-
4	DC	1.0	Unshielded	Unshielded	-
5	AC	1.8	Unshielded	Unshielded	-
6	DC	1.0	Unshielded	Unshielded	-
7	AC	1.8	Unshielded	Unshielded	-
8	DC	1.7	Unshielded	Unshielded	-
9	AC	1.7	Unshielded	Unshielded	-

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## **SECTION 5: Conducted Emission**

### **Test Procedure and conditions**

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN) / Artificial mains Network (AMN) and excess AC cable was bundled in center.

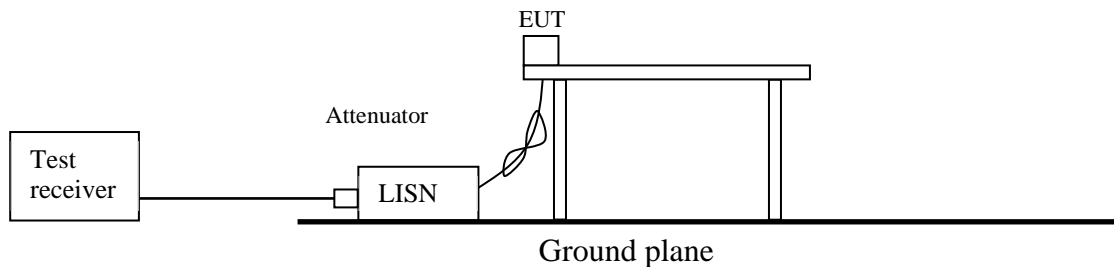
All unused 50 ohm connectors of the LISN (AMN) were resistivity terminated in 50 ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Shielded room. The EUT was connected to a LISN (AMN). An overview sweep with peak detection has been performed.

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

**Detector** : QP and CISPR Average  
**Measurement range** : 0.15 MHz - 30 MHz  
**Test data** : APPENDIX  
**Test result** : Pass

**Figure 1: Test Setup**



## **SECTION 6: Radiated Spurious Emission and Band Edge Compliance**

### **Test Procedure**

< Below 1GHz >

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

< Above 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;**

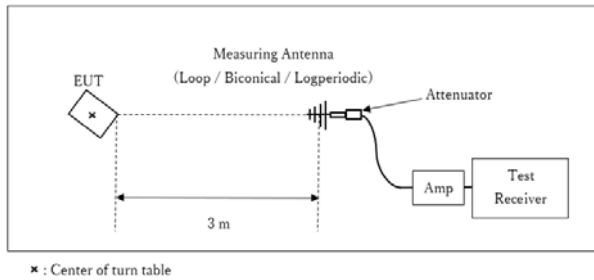
Frequency	30 MHz to 200 MHz	200 MHz to 1 GHz	Above 1 GHz
Antenna Type	Biconical	Logperiodic	Horn

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 Burst rate confirmation sheet) Detector: Peak Trace mode: Max hold

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

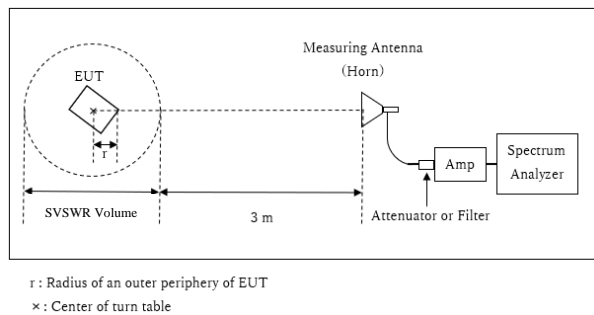
**Figure 2: Test Setup**

Below 1 GHz



Test Distance: 3 m

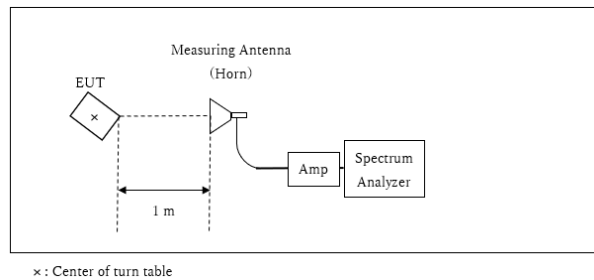
1 GHz - 10 GHz



Distance Factor:  $20 \times \log(3.98 \text{ m} / 3.0 \text{ m}) = 2.46 \text{ dB}$   
\* Test Distance:  $(3 + \text{SVSWR Volume} / 2) - r = 3.98 \text{ m}$

SVSWR Volume : 2.0 m  
(SVSWR Volume has been calibrated based on CISPR 16-1-4.)  
 $r = 0.02 \text{ m}$

10 GHz - 40 GHz



Distance Factor:  $20 \times \log(1.0 \text{ m} / 3.0 \text{ m}) = -9.54 \text{ dB}$   
\*Test Distance: 1 m

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

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

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

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

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## **SECTION 7: Antenna Terminal Conducted Tests**

### **Test Procedure**

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

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used and Test method
26 dB Bandwidth	Enough to capture the emission	Close to 1 % of EBW	> RBW	Auto	Peak	Max Hold	Spectrum Analyzer
99 % Occupied Bandwidth *1)	Enough width to display emission skirts	1 % to 5 % of OBW	≥ 3 RBW	Auto	Peak	Max Hold	Spectrum Analyzer
6 dB Bandwidth	Enough to capture the emission	100 kHz	300 kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Maximum Conducted Output Power	-	-	-	Auto	Average	-	Power Meter (Sensor: 160 MHz BW) (Method PM-G)
Maximum Power Spectral Density	Encompass the entire EBW	1 MHz or 100 kHz *2)	≥ 3 RBW	Auto	RMS Power Averaging (100 times)	Clear Write	Spectrum Analyzer
Conducted Spurious Emission*3) *4)	9 kHz – 150 kHz 150 kHz – 30 MHz	200 Hz 10 kHz	620 Hz 30 kHz	Auto	Peak	Max Hold	Spectrum Analyzer

\* 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".

\*1) Peak hold was applied as Worst-case measurement.

\*2) KDB 789033 D02 says that RBW is set to be 500 kHz for 5.725 GHz-5.850 GHz, but it is not possible with spectrum analyzer, so RBW Correction Factor ( $10 \log(500 \text{ kHz} / 100 \text{ kHz})$ ) was added to the test result.

\*3) In the frequency range below 30 MHz, RBW was narrowed to separate the noise contents.

Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart. (9 kHz-150 kHz: RBW = 200 Hz, 150 kHz-30 MHz: RBW = 10 kHz)

\*4) The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 Ohms. For example, the measurement at frequency 9 kHz resulted in a level of 45.5 dBuV/m, which is equivalent to  $45.5 - 51.5 = -6.0$  dBuA/m, which has the same margin, 3 dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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

The equipment and cables were not used for factor 0 dB of the data sheets.

**Test data : APPENDIX**

**Test result : Pass**

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**APPENDIX 1: Test data**

**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

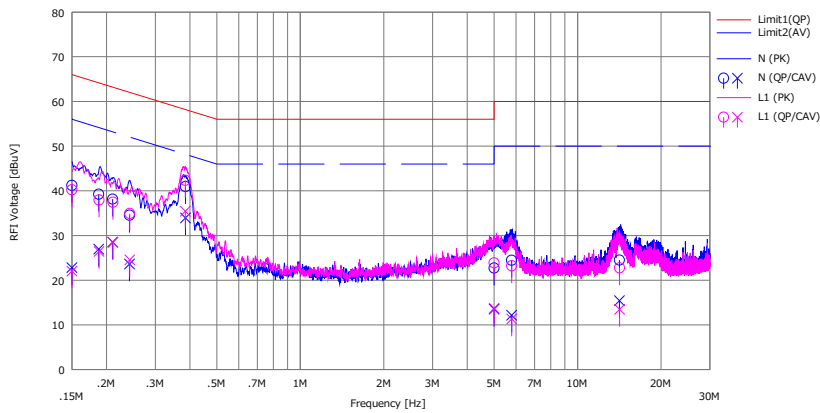
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2021/06/26

Mode : Tx 11a 5785 MHz  
Power : DC 3.3 V, AC 120 V / 60 Hz (AC adaptor)  
Temp./Humi. : 25 deg.C / 40 %RH

Remarks : -

Limit : FCC\_Part 15 Subpart C(15.207)

Engineer : Yusuke Tanikawara



No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<CAV> [dBuV]		<QP> [dBuV]	<CAV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	28.80	10.40	12.42	41.22	22.82	66.00	56.00	24.7	33.1	N	
2	0.18739	26.80	14.50	12.44	39.24	26.94	64.15	54.15	24.9	27.2	N	
3	0.21042	25.70	16.10	12.45	38.15	28.55	63.19	53.19	25.0	24.6	N	
4	0.24205	22.10	11.20	12.44	34.54	23.64	62.03	52.03	27.4	28.3	N	
5	0.38553	28.50	21.50	12.45	40.95	33.95	58.16	48.16	17.2	14.2	N	
6	5.00000	10.00	0.80	12.72	22.72	13.52	56.00	46.00	33.2	32.4	N	
7	5.78387	11.70	-0.60	12.76	24.46	12.16	60.00	50.00	35.5	37.8	N	
8	14.16077	11.40	2.30	13.11	24.51	15.41	60.00	50.00	35.4	34.5	N	
9	0.15001	27.80	9.60	12.43	40.23	22.03	66.00	56.00	25.7	33.9	L1	
10	0.18798	25.50	14.00	12.44	37.94	26.44	64.13	54.13	26.1	27.6	L1	
11	0.21095	25.00	16.00	12.45	37.45	28.45	63.17	53.17	25.7	24.7	L1	
12	0.24270	22.50	12.10	12.44	34.94	24.54	62.00	52.00	27.0	27.4	L1	
13	0.38489	29.90	23.00	12.44	42.34	35.44	58.17	48.17	15.8	12.7	L1	
14	5.00000	11.20	1.00	12.69	23.89	13.69	56.00	46.00	32.1	32.3	L1	
15	5.78667	10.50	-1.40	12.73	23.23	11.33	60.00	50.00	36.7	38.6	L1	
16	14.16890	9.80	0.50	12.97	22.77	13.47	60.00	50.00	37.2	36.5	L1	

Calculation: Result[dBuV]=Reading[dBuV]+C.Fac(LISN(AMN)+Cable+ATT)[dB]  
LISN(AMN) : SLS-05

## 26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021 June 10, 2021  
Temperature / Humidity 22 deg. C / 55 % RH 24 deg. C / 51 % RH  
Engineer Shiro Kobayashi Shiro Kobayashi  
Mode Tx

11a

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5180	-	17176.9
-	5220	-	17326.8
-	5240	-	17321.2
-	5260	21.343	17298.0
-	5300	21.409	17271.2
-	5320	21.208	17216.2
-	5500	21.452	17227.4
-	5580	21.293	17295.1
-	5700	21.250	17241.6
-	5745	-	17254.7
-	5785	-	17314.2
-	5825	-	17317.1

11n-20

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5180	-	18394.9
-	5220	-	18464.1
-	5240	-	18504.6
-	5260	21.675	18479.9
-	5300	21.872	18451.1
-	5320	21.558	18408.2
-	5500	21.733	18475.8
-	5580	21.884	18412.7
-	5700	21.702	18386.6
-	5745	-	18421.6
-	5785	-	18555.8
-	5825	-	18473.0

11ac-20

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5180	-	18444.5
-	5220	-	18581.6
-	5240	-	18682.0
-	5260	21.797	18710.4
-	5300	21.759	18595.7
-	5320	21.661	18515.0
-	5500	21.766	18411.6
-	5580	21.711	18549.4
-	5700	21.674	18391.6
-	5745	-	18490.8
-	5785	-	18571.7
-	5825	-	18429.1

## 26 dB Emission Bandwidth and 99 % Occupied Bandwidth

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 10, 2021  
Temperature / Humidity 24 deg. C / 51 % RH  
Engineer Shiro Kobayashi  
Mode Tx

11n-40

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5190	-	36461.0
	5230	-	36509.9
	5270	39.584	36653.5
	5310	39.726	36560.7
	5510	39.731	36498.1
	5550	39.495	36528.0
	5670	39.775	36454.4
	5755	-	36517.7
	5795	-	36510.9

11ac-40

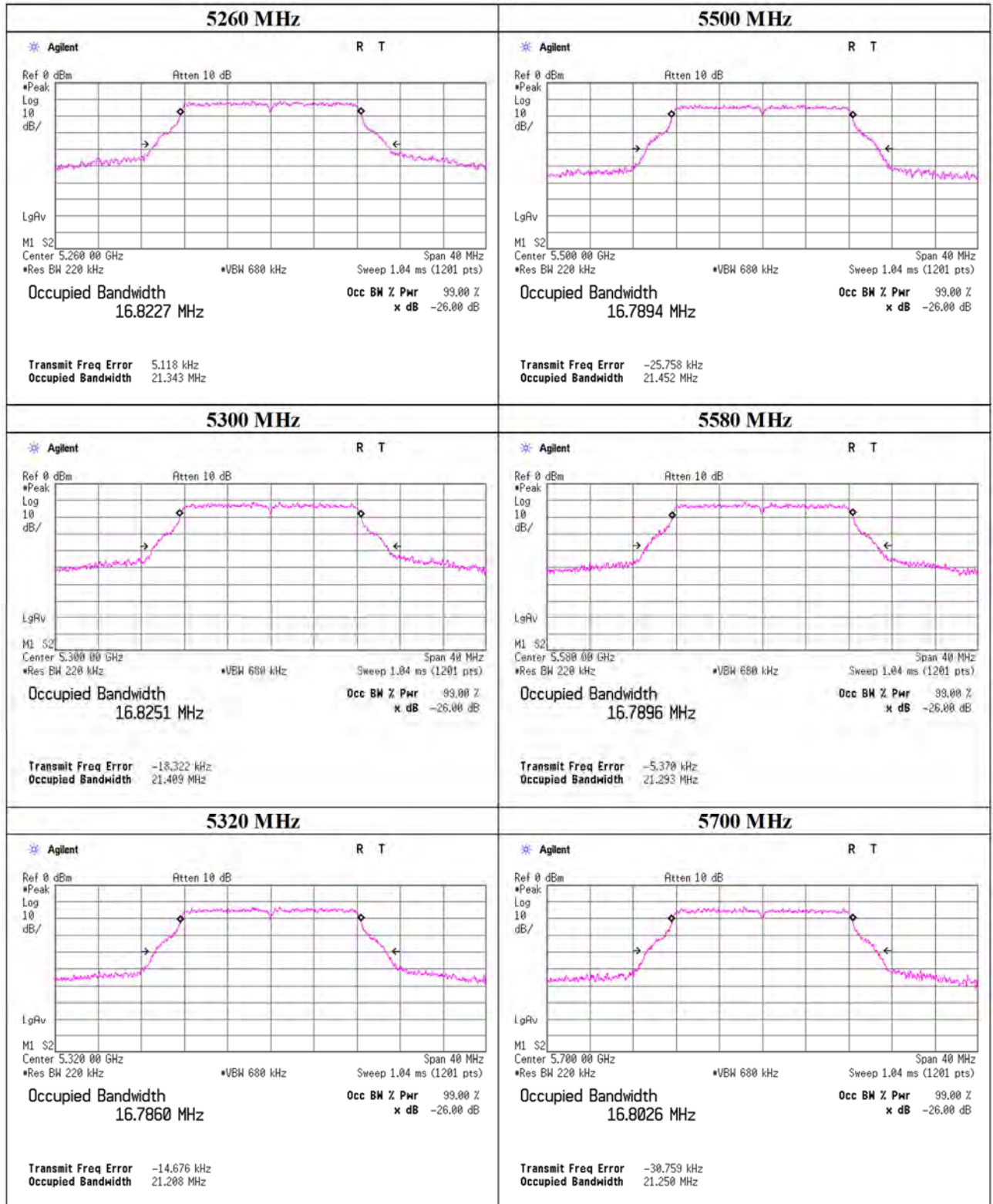
Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5190	-	36617.4
	5230	-	36526.6
	5270	39.677	36532.3
	5310	39.700	36506.4
	5510	39.597	36538.1
	5550	39.649	36425.1
	5670	39.856	36521.7
	5755	-	36517.4
	5795	-	36480.6

11ac-80

Antenna	Tested Frequency [MHz]	26 dB Emission Bandwidth [MHz]	99 % Occupied Bandwidth [kHz]
-	5210	-	75995.7
	5290	81.369	75882.5
	5530	81.448	76079.4
	5610	81.244	75973.9
	5775	-	75945.2

## 26 dB Emission Bandwidth

11a



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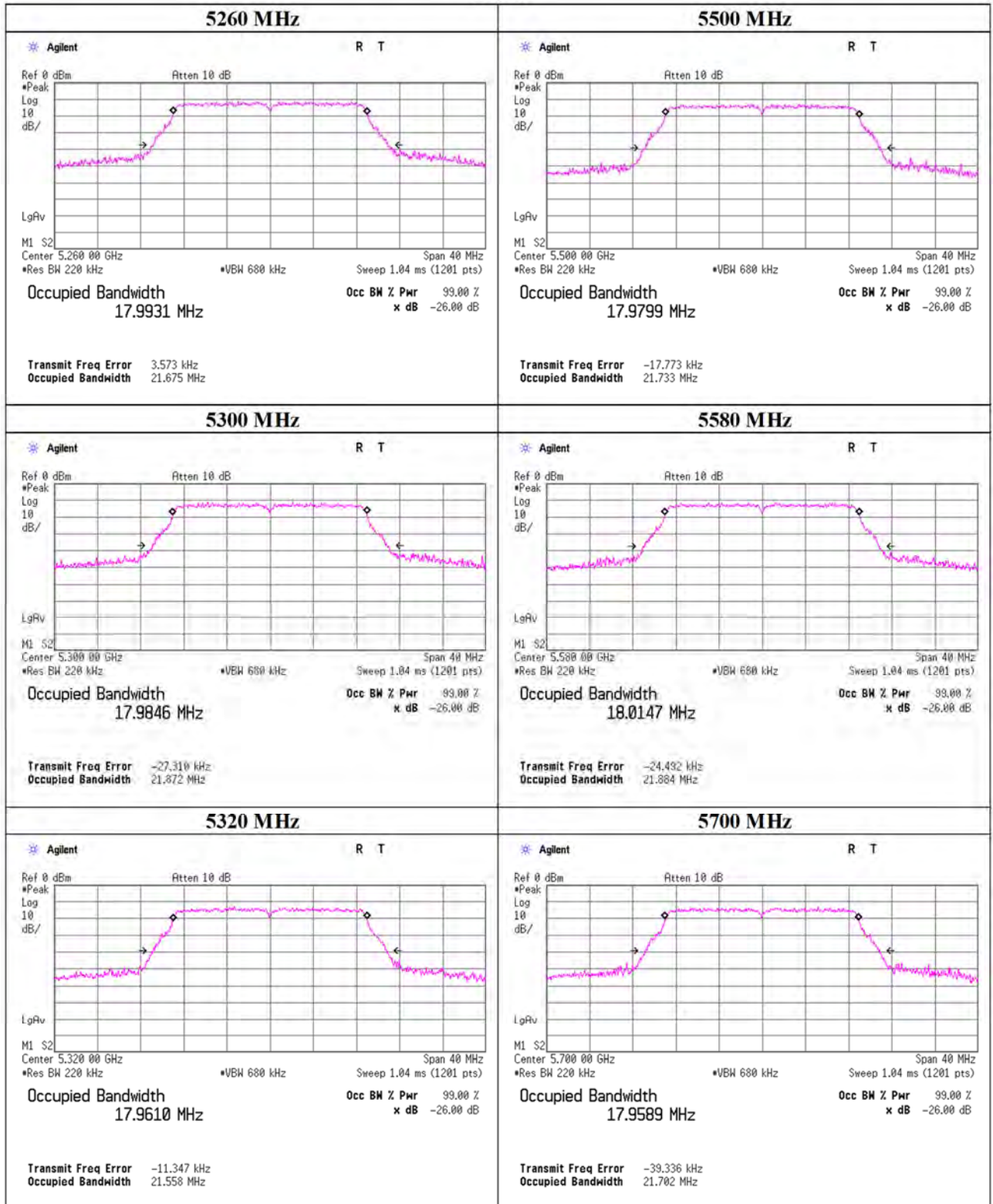
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## 26 dB Emission Bandwidth

11n-20



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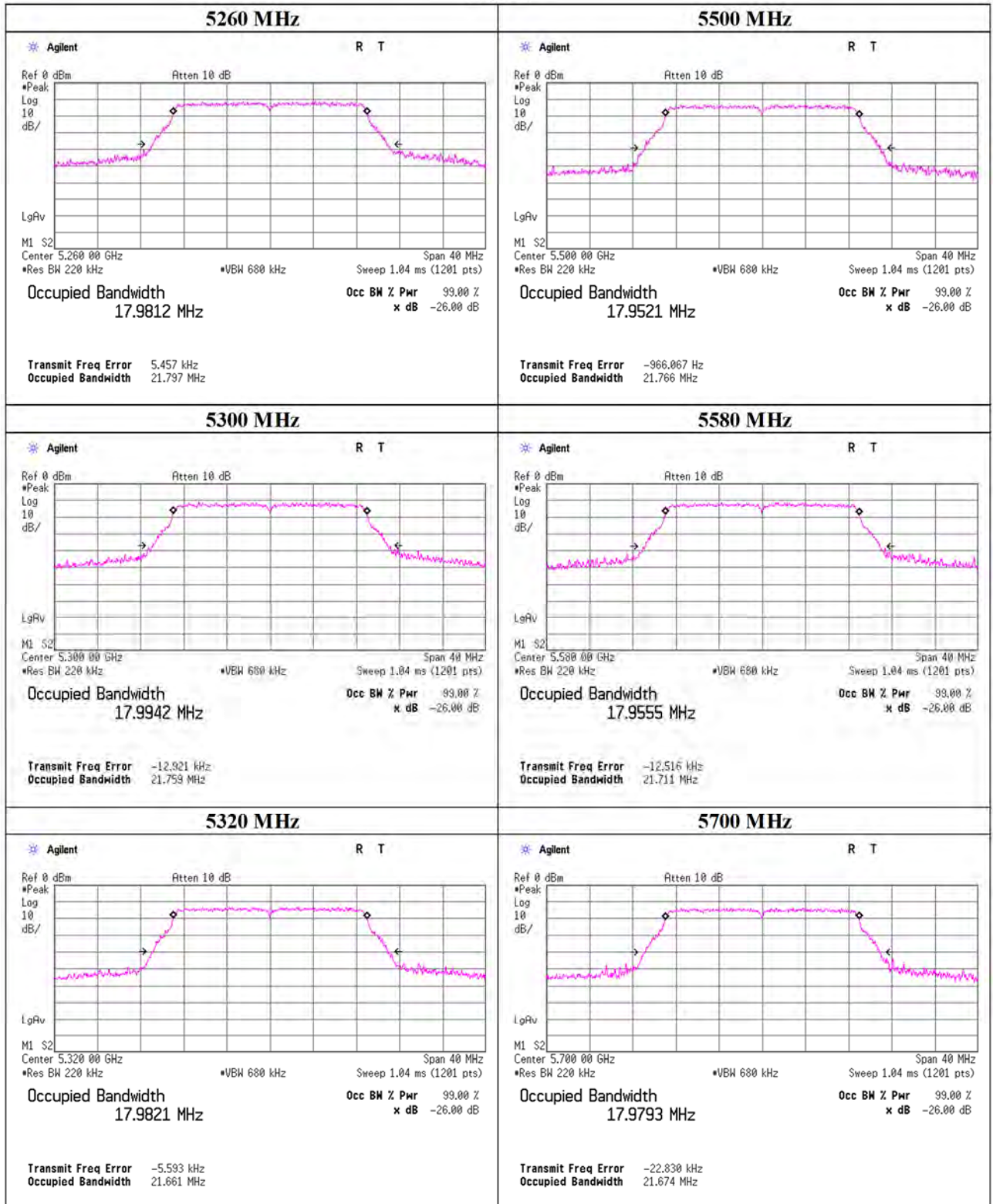
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Facsimile : +81 463 50 6401



## 26 dB Emission Bandwidth

11ac-20



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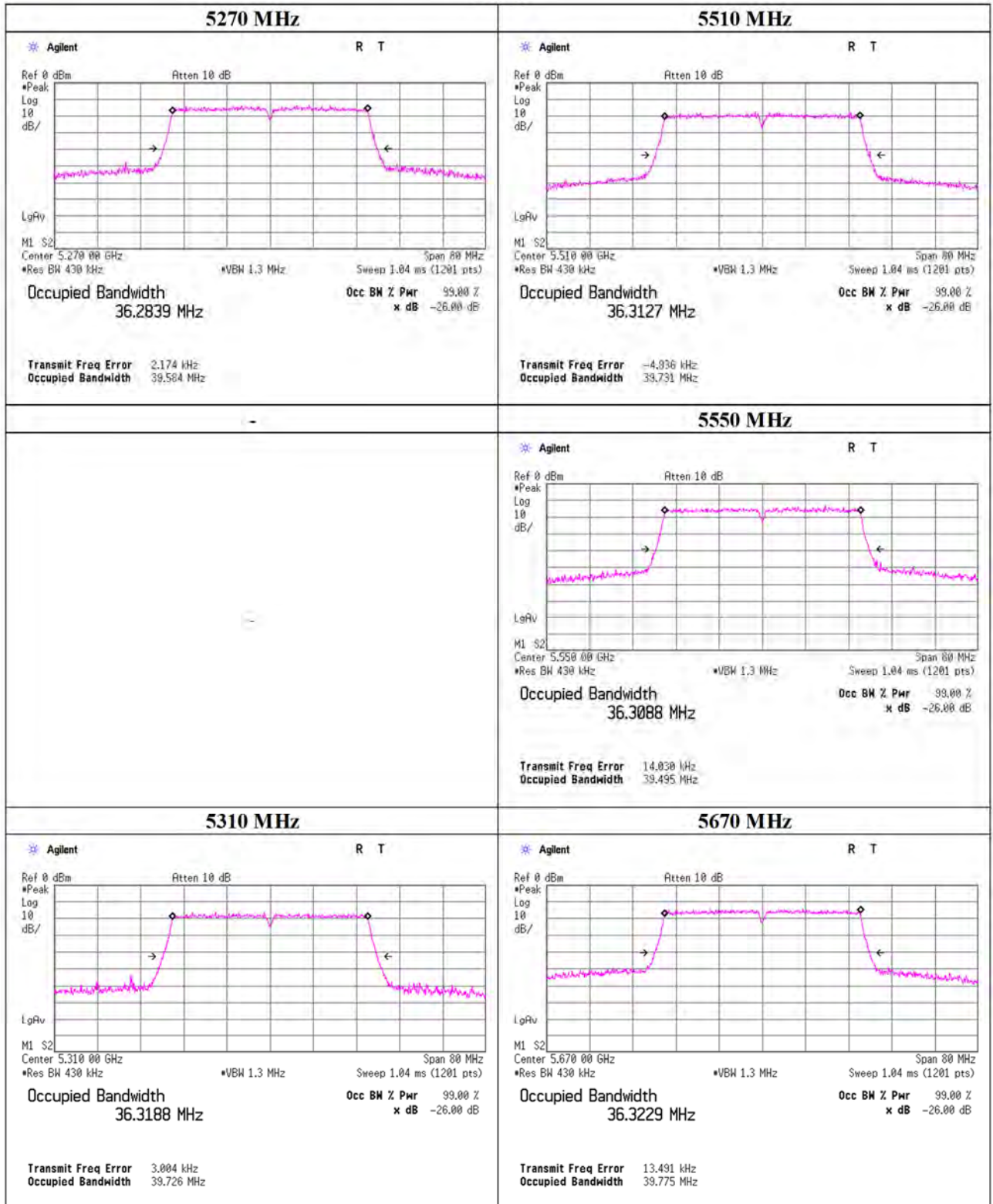
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## 26 dB Emission Bandwidth

11n-40



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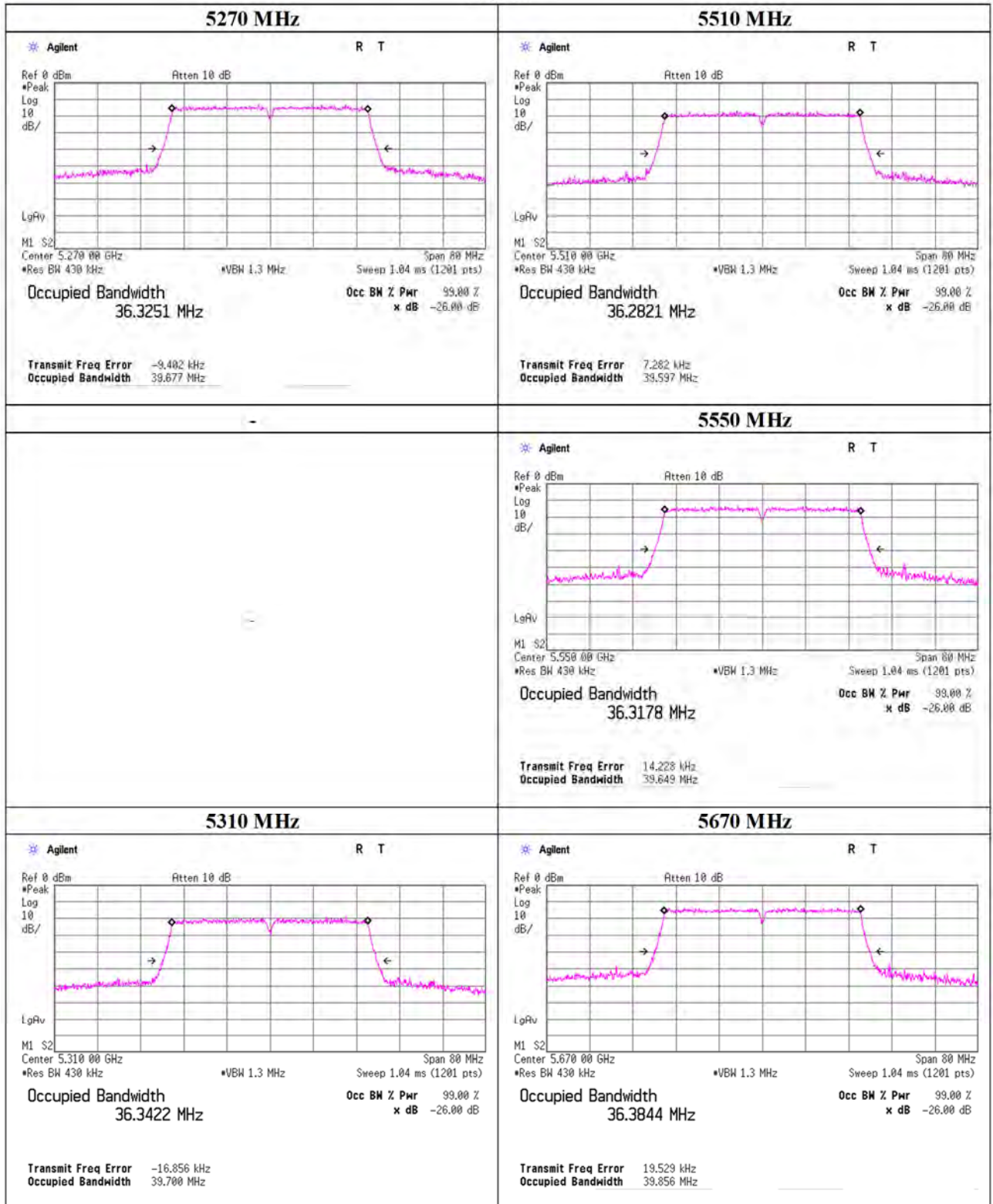
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## 26 dB Emission Bandwidth

11ac-40



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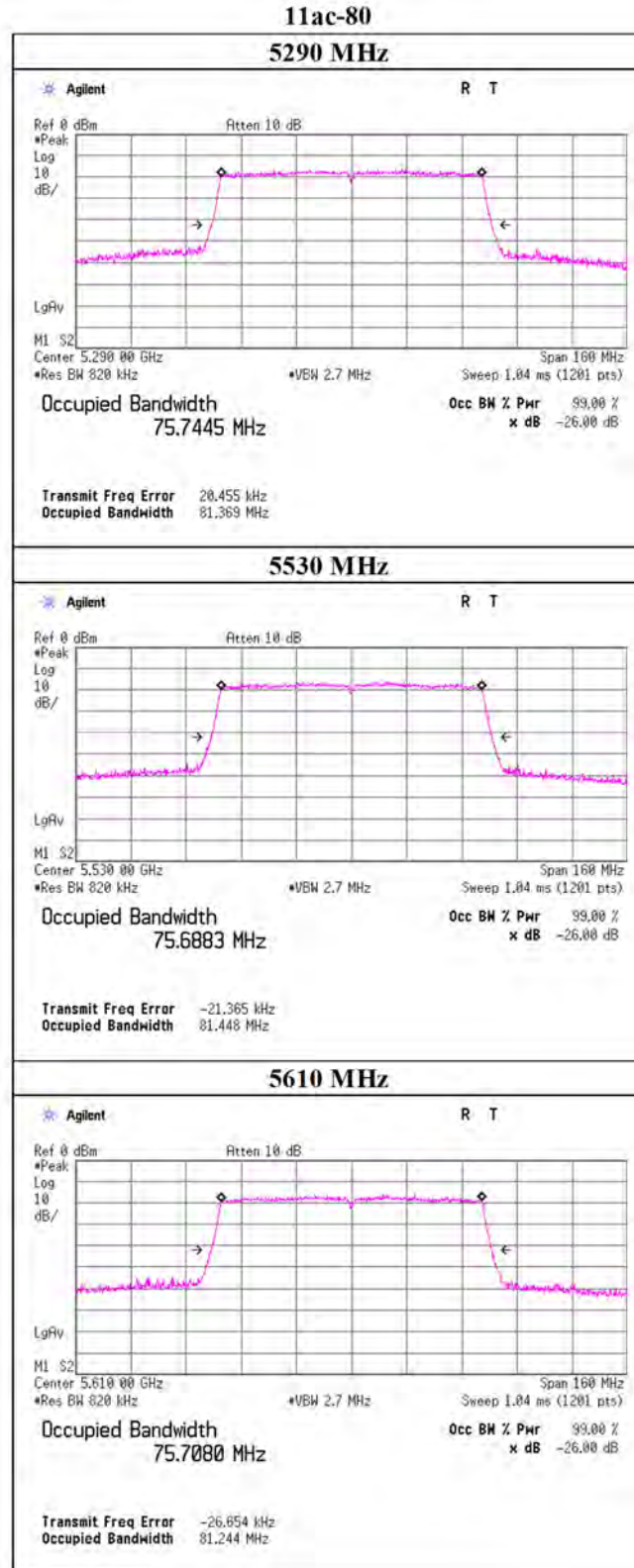
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Telephone : +81 463 50 6400

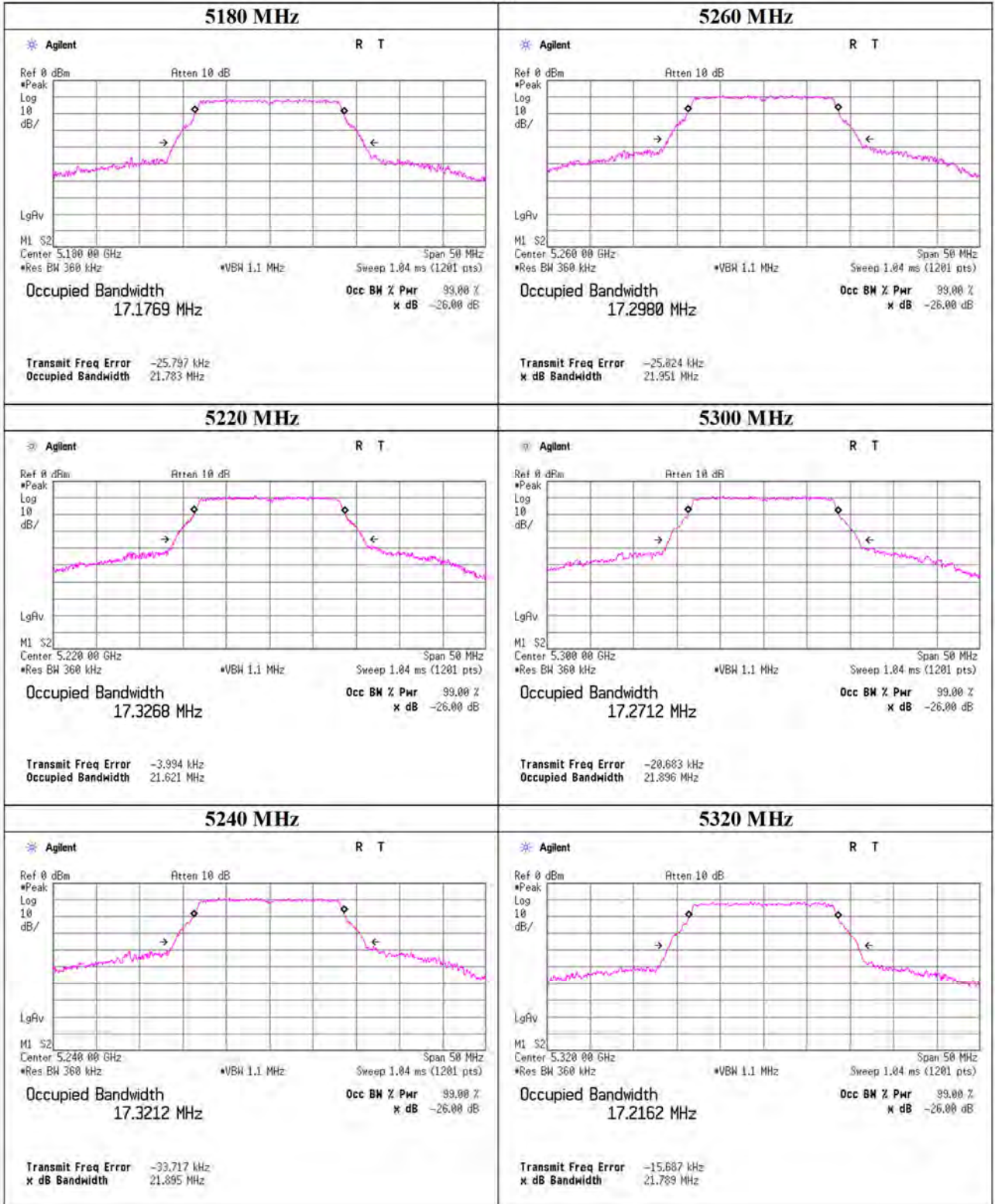
Facsimile : +81 463 50 6401

## 26 dB Emission Bandwidth



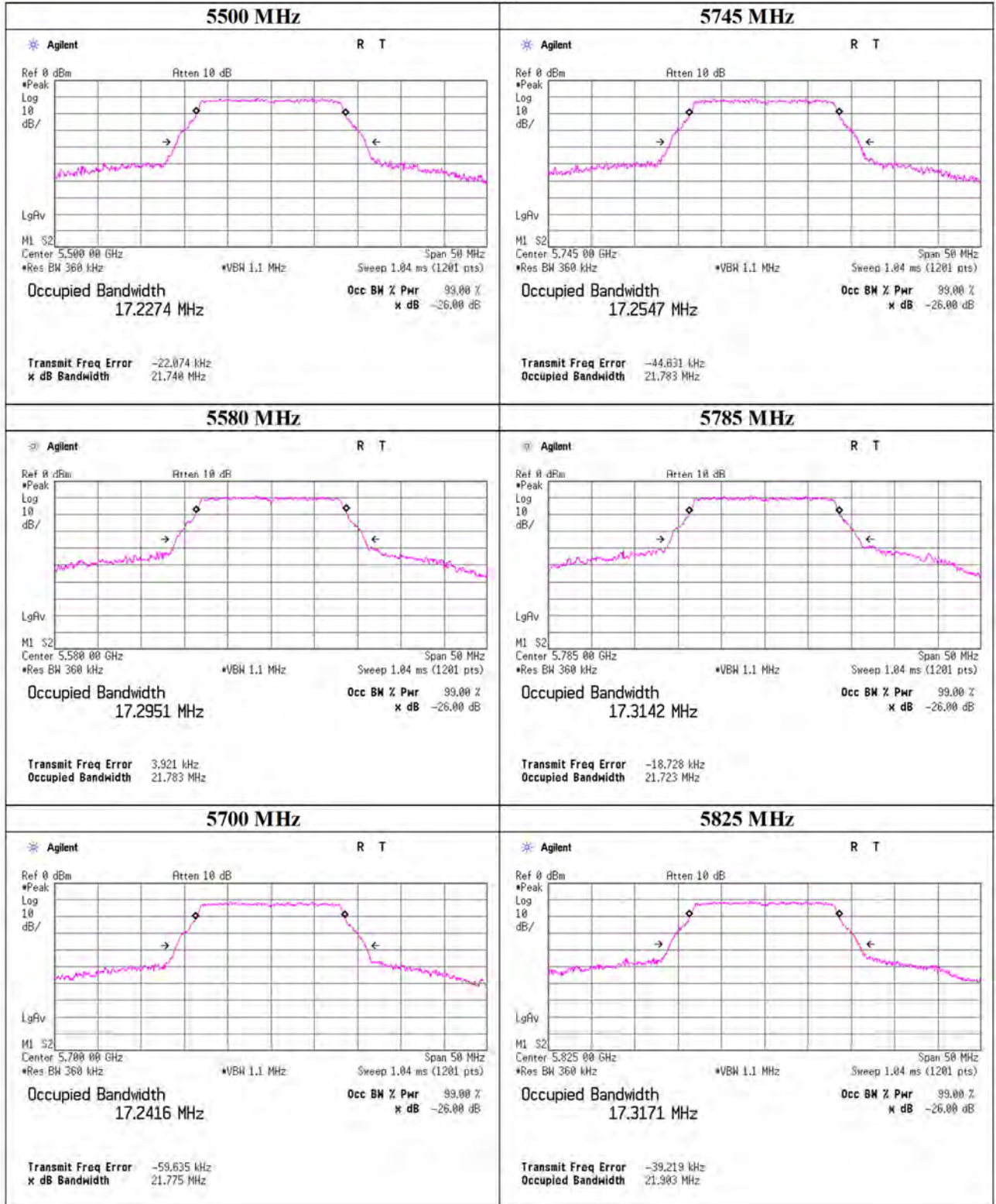
**99 % Occupied Bandwidth**

11a



**99 % Occupied Bandwidth**

11a



**UL Japan, Inc.**

**Shonan EMC Lab.**

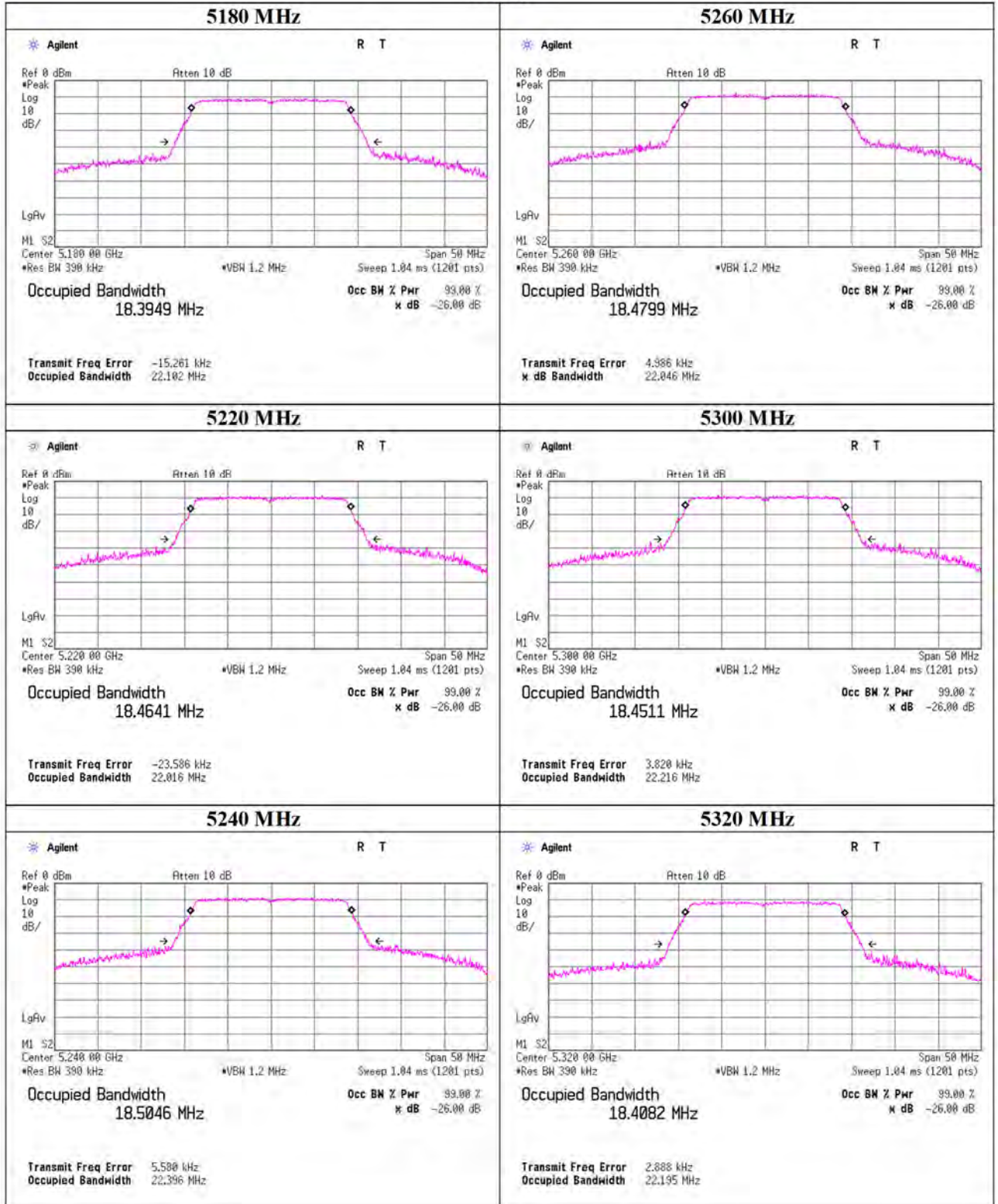
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

**99 % Occupied Bandwidth**

11n-20



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**Shonan EMC Lab.**

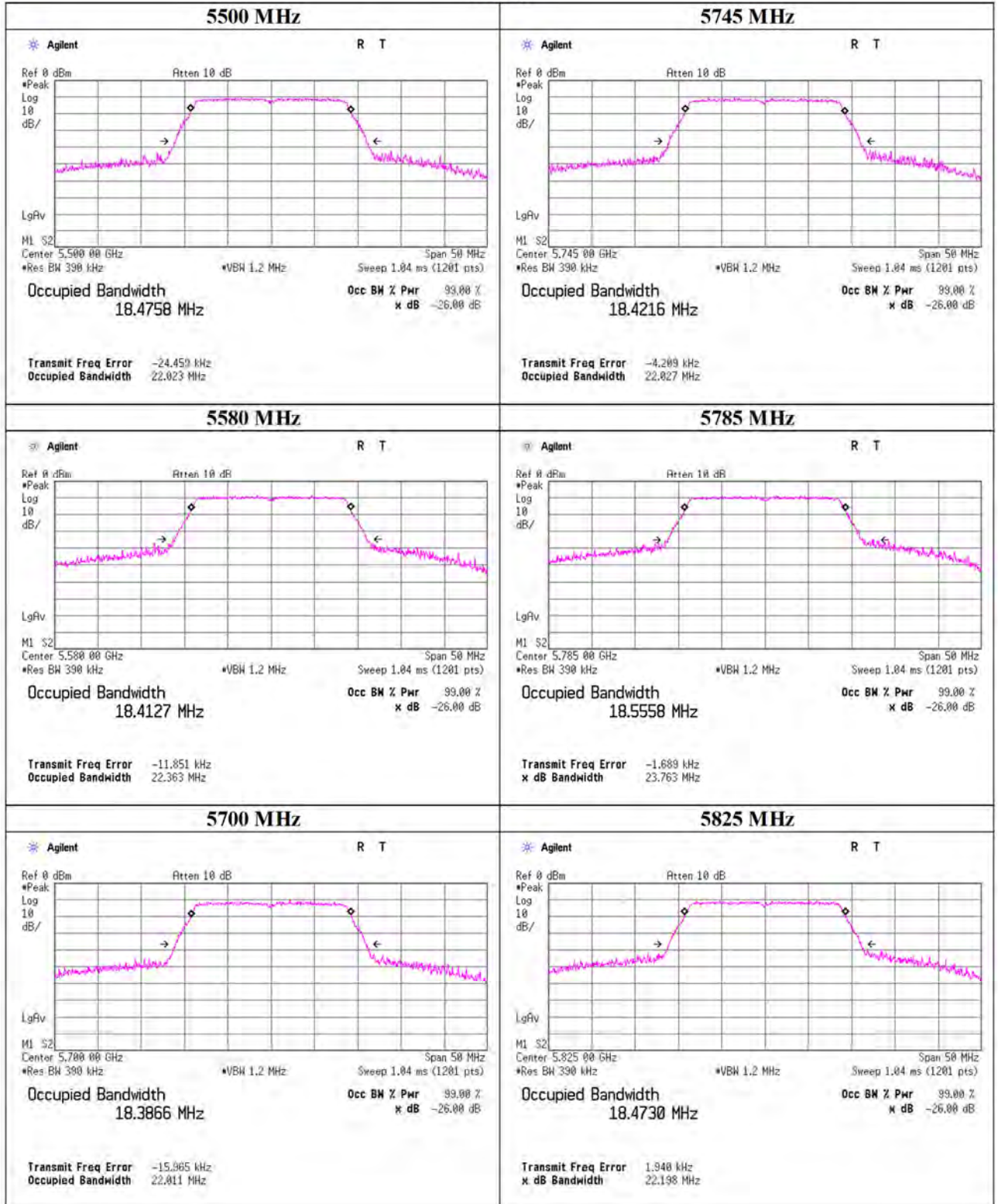
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

**99 % Occupied Bandwidth**

11n-20



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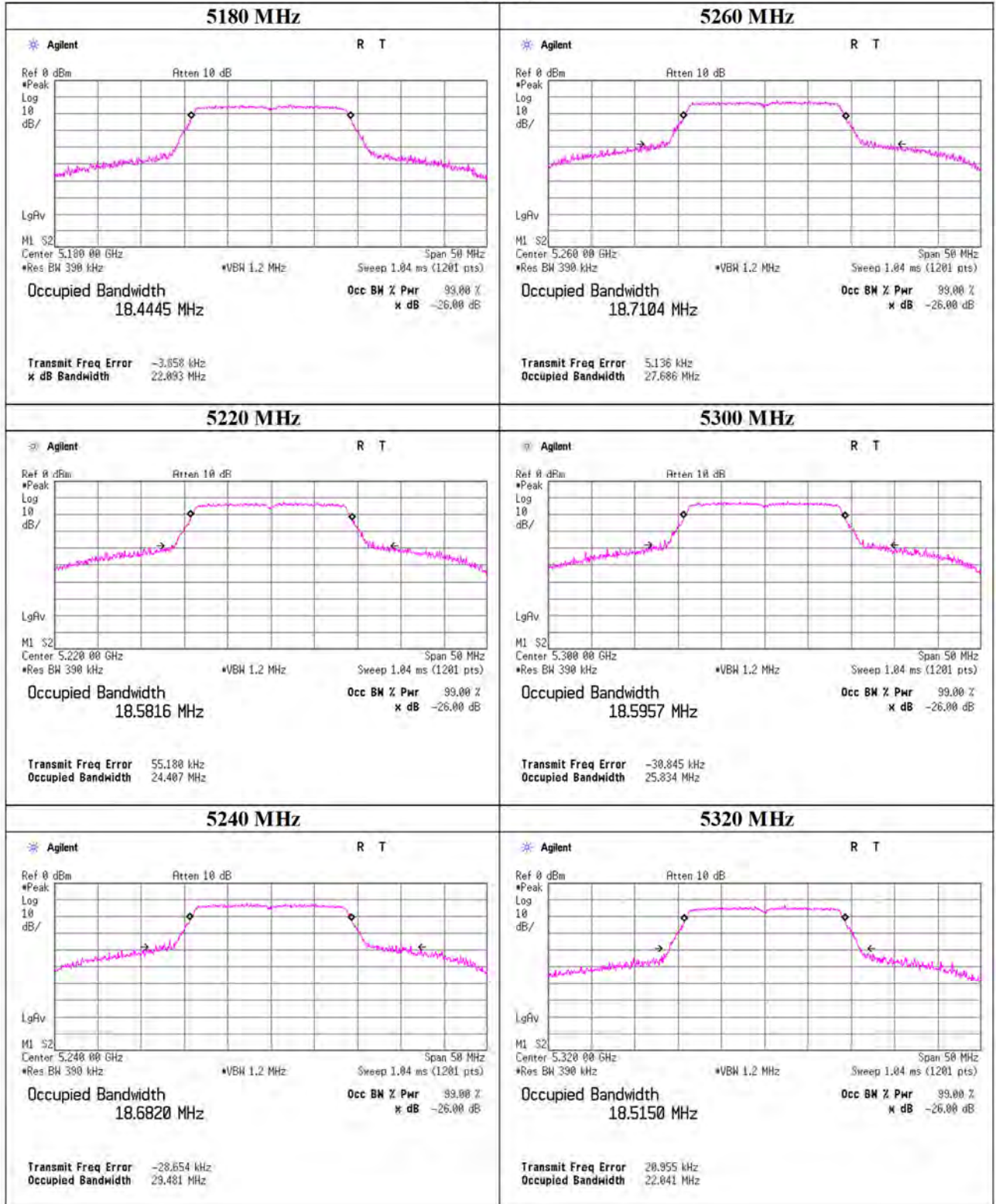
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Facsimile : +81 463 50 6401



**99 % Occupied Bandwidth**

11ac-20



**UL Japan, Inc.**

**Shonan EMC Lab.**

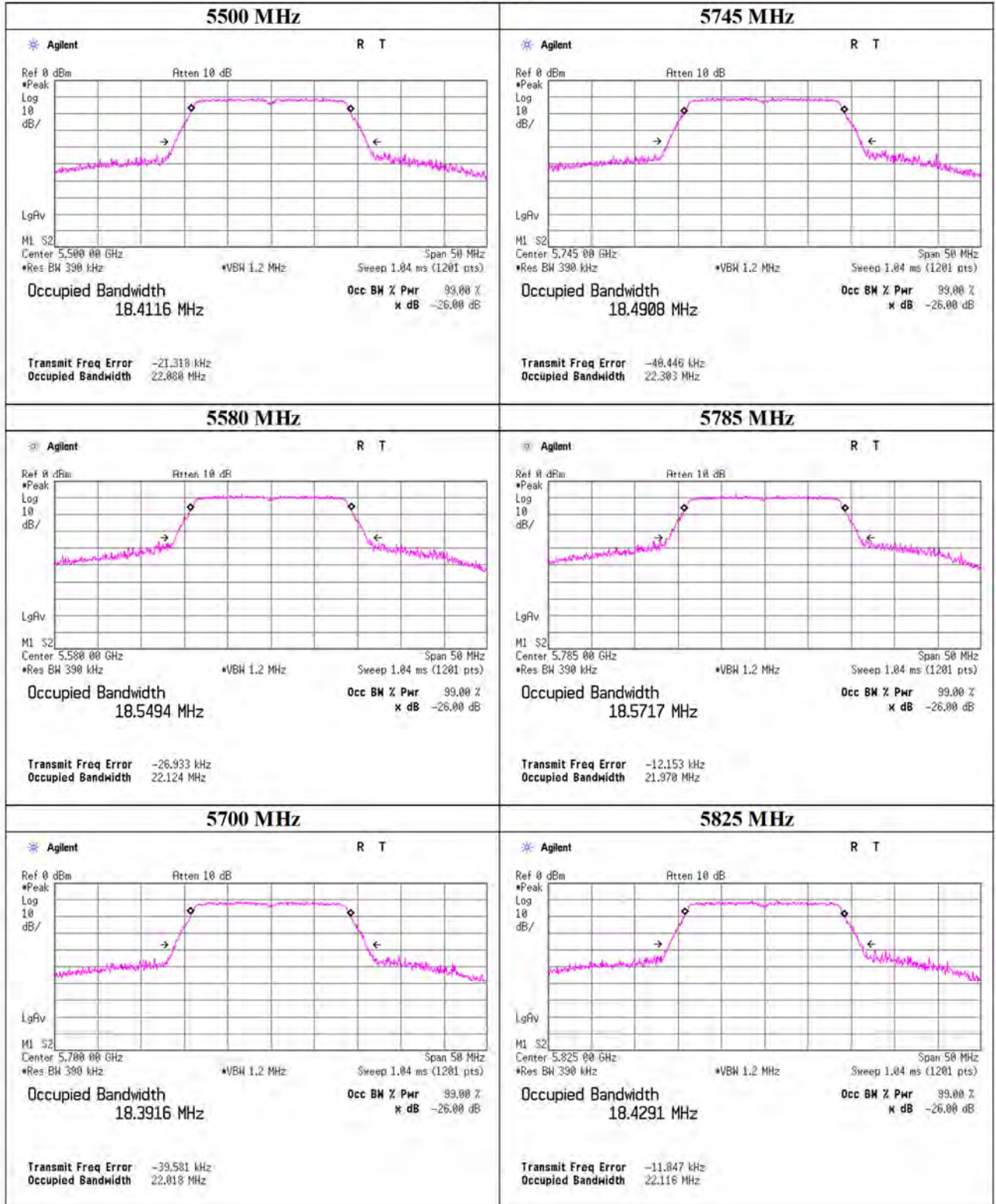
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Telephone : +81 463 50 6400

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**99 % Occupied Bandwidth**

11ac-20



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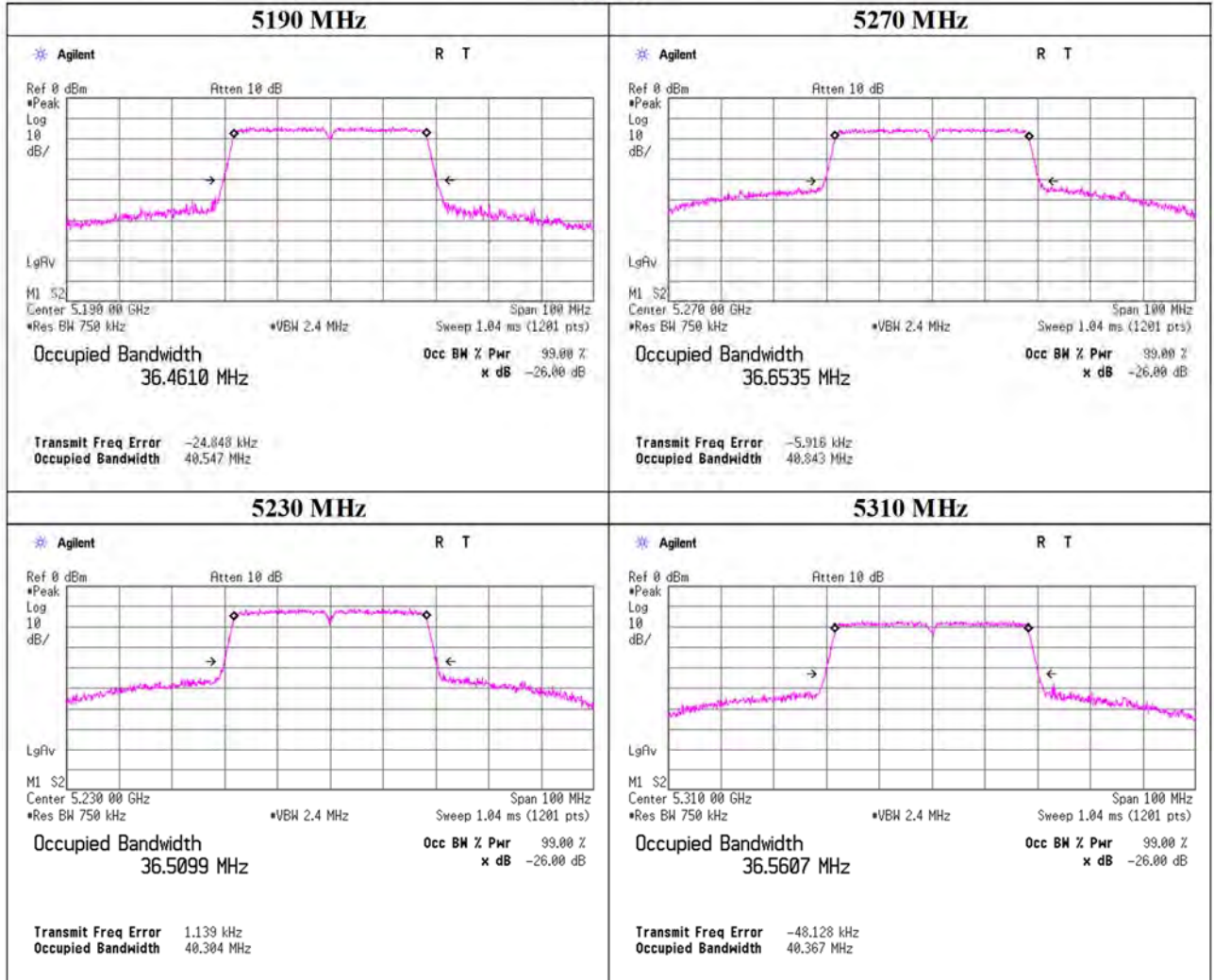
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

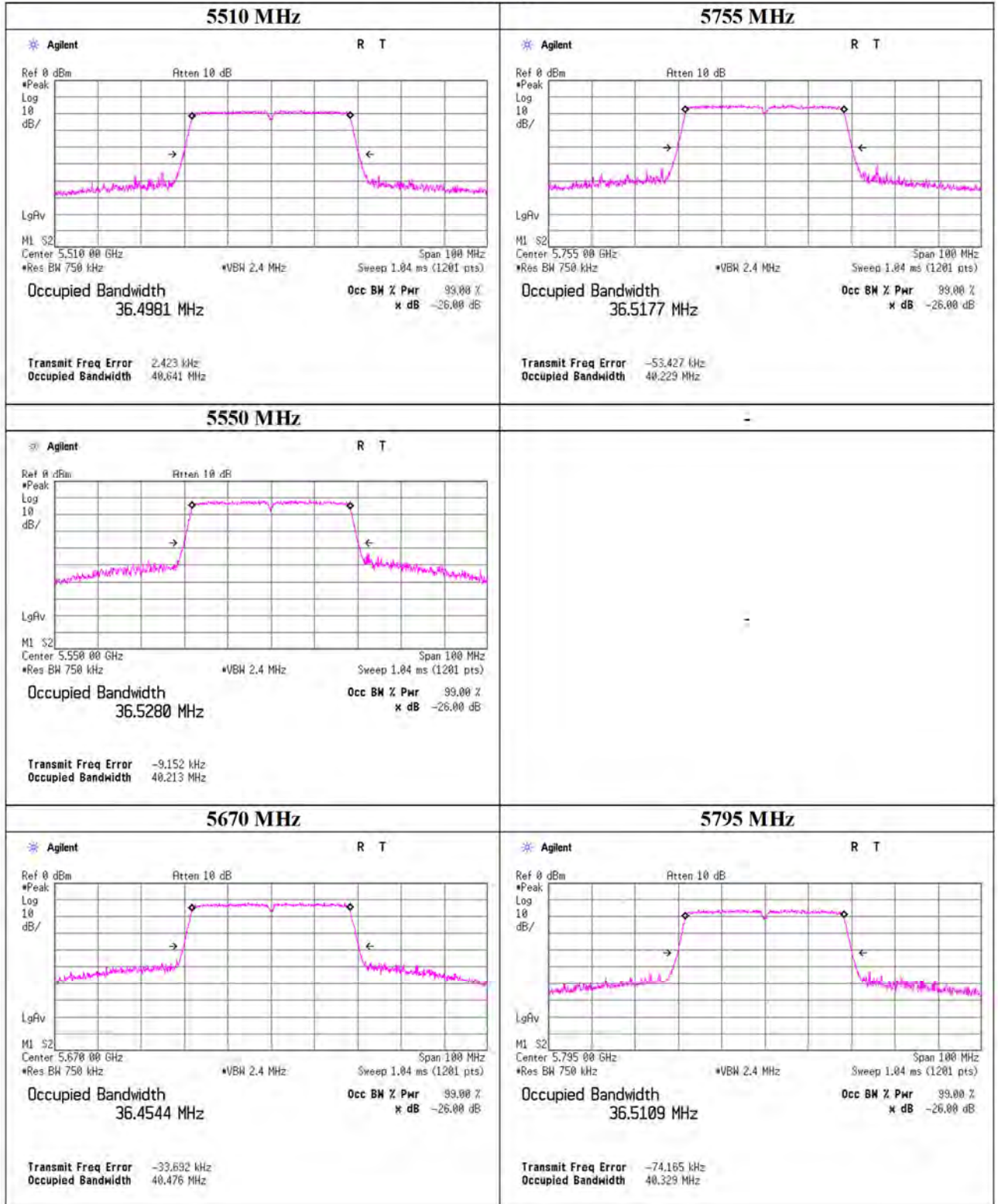
**99 % Occupied Bandwidth**

11n-40



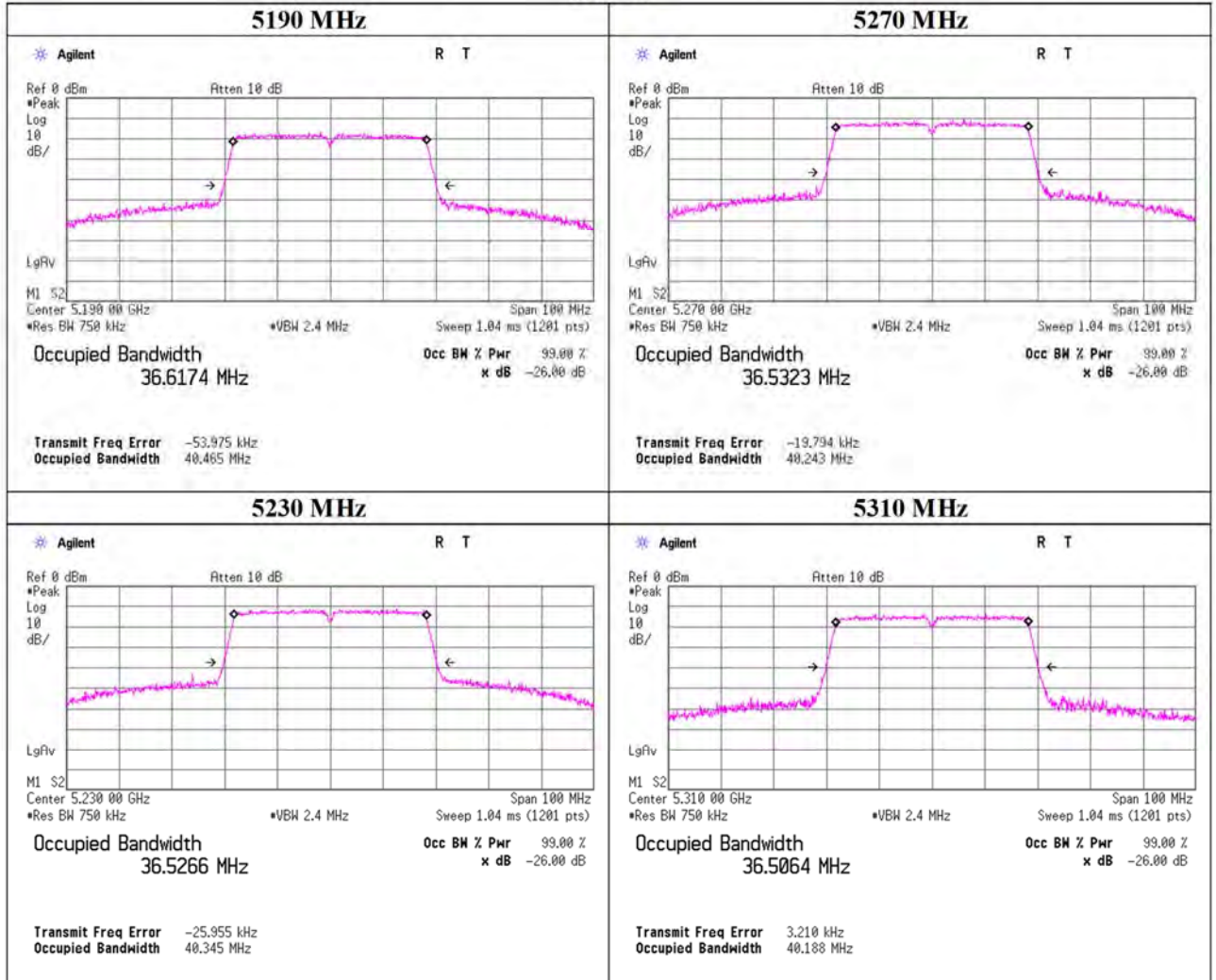
**99 % Occupied Bandwidth**

11n-40



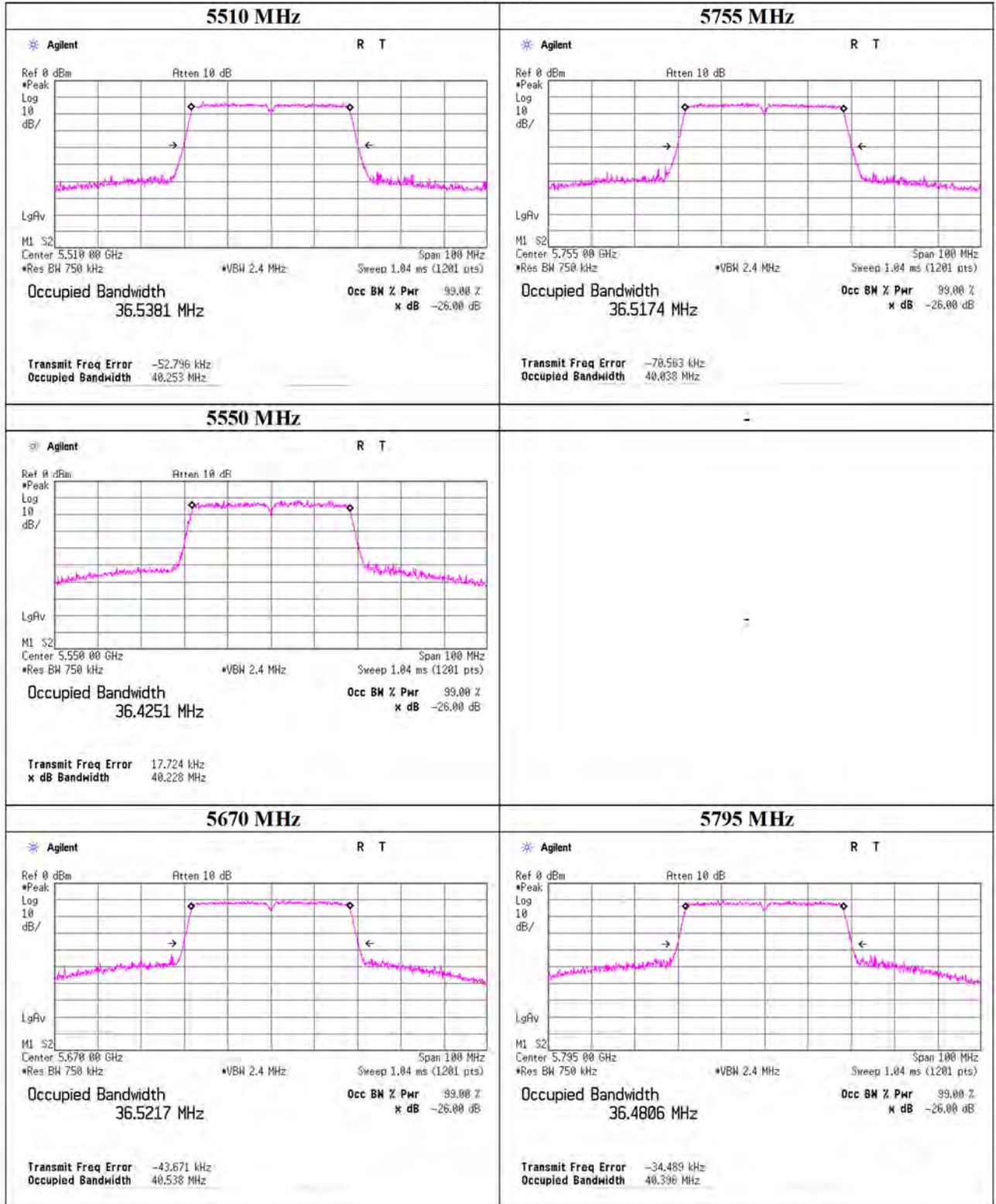
**99 % Occupied Bandwidth**

11ac-40



**99 % Occupied Bandwidth**

11ac-40



**UL Japan, Inc.**

**Shonan EMC Lab.**

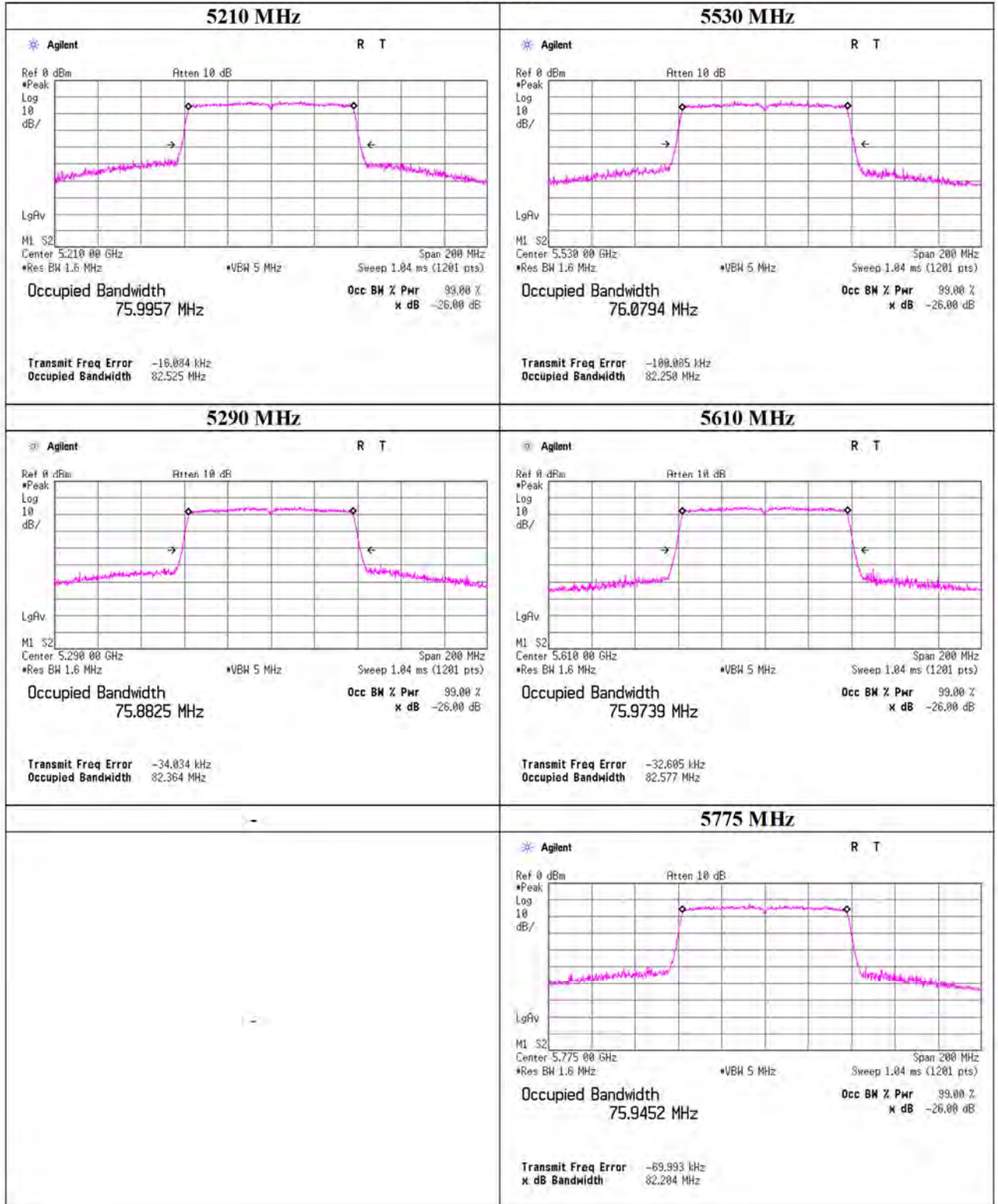
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

**99 % Occupied Bandwidth**

11ac-80



## 6 dB Bandwidth

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 10, 2021  
Temperature / Humidity 24 deg. C / 51 % RH  
Engineer Shiro Kobayashi  
Mode Tx

11a

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5745	16.432	> 0.500
	5785	16.448	> 0.500
	5825	16.425	> 0.500

11n-20

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5745	17.669	> 0.500
	5785	17.678	> 0.500
	5825	17.634	> 0.500

11ac-20

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5745	17.653	> 0.500
	5785	17.671	> 0.500
	5825	17.639	> 0.500

11n-40

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5755	36.583	> 0.500
	5795	36.569	> 0.500

11ac-40

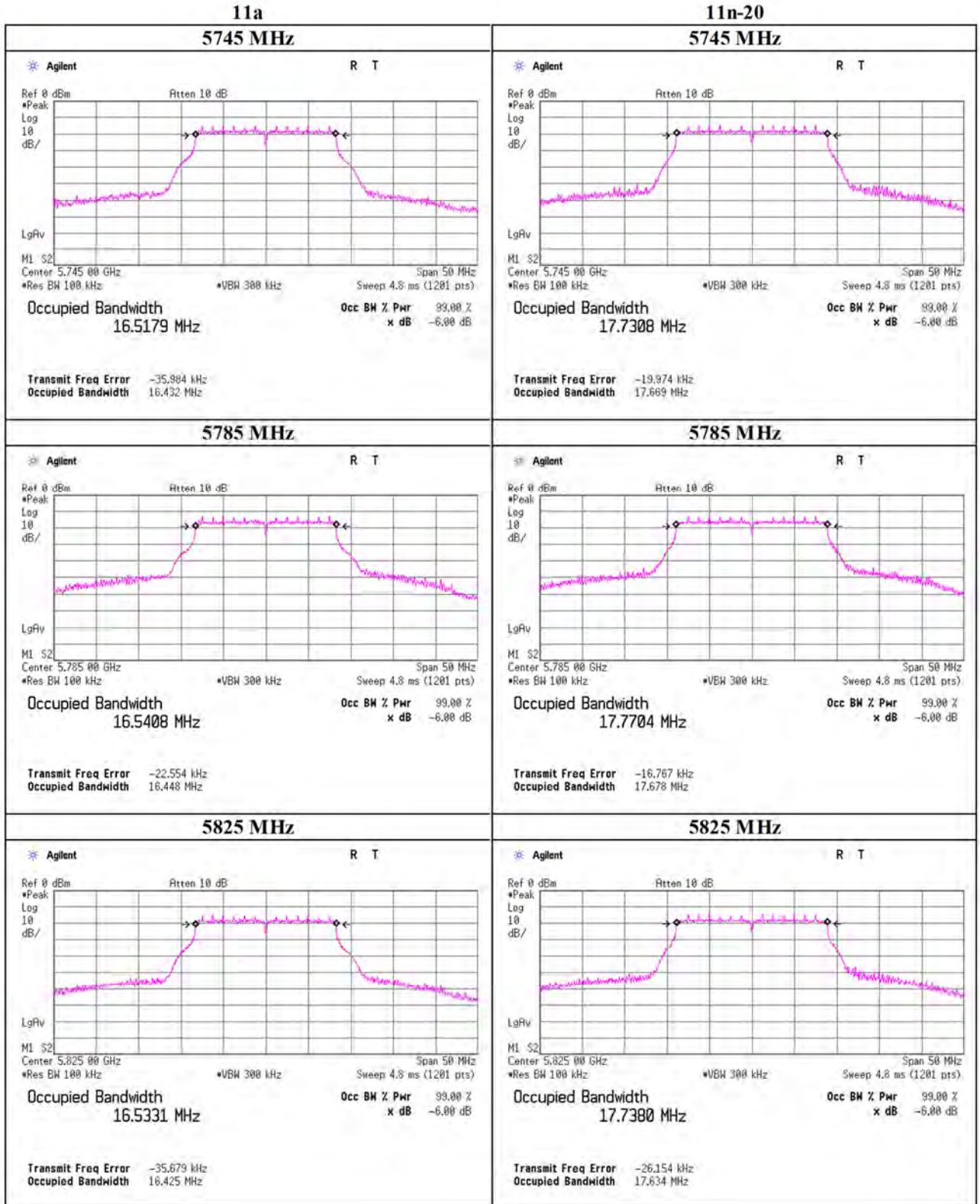
Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5755	36.542	> 0.500
	5795	36.567	> 0.500

11ac-80

Antenna	Tested Frequency [MHz]	6 dB Bandwidth [MHz]	Limit [MHz]
-	5775	76.510	> 0.500



**6 dB Bandwidth**



**UL Japan, Inc.**

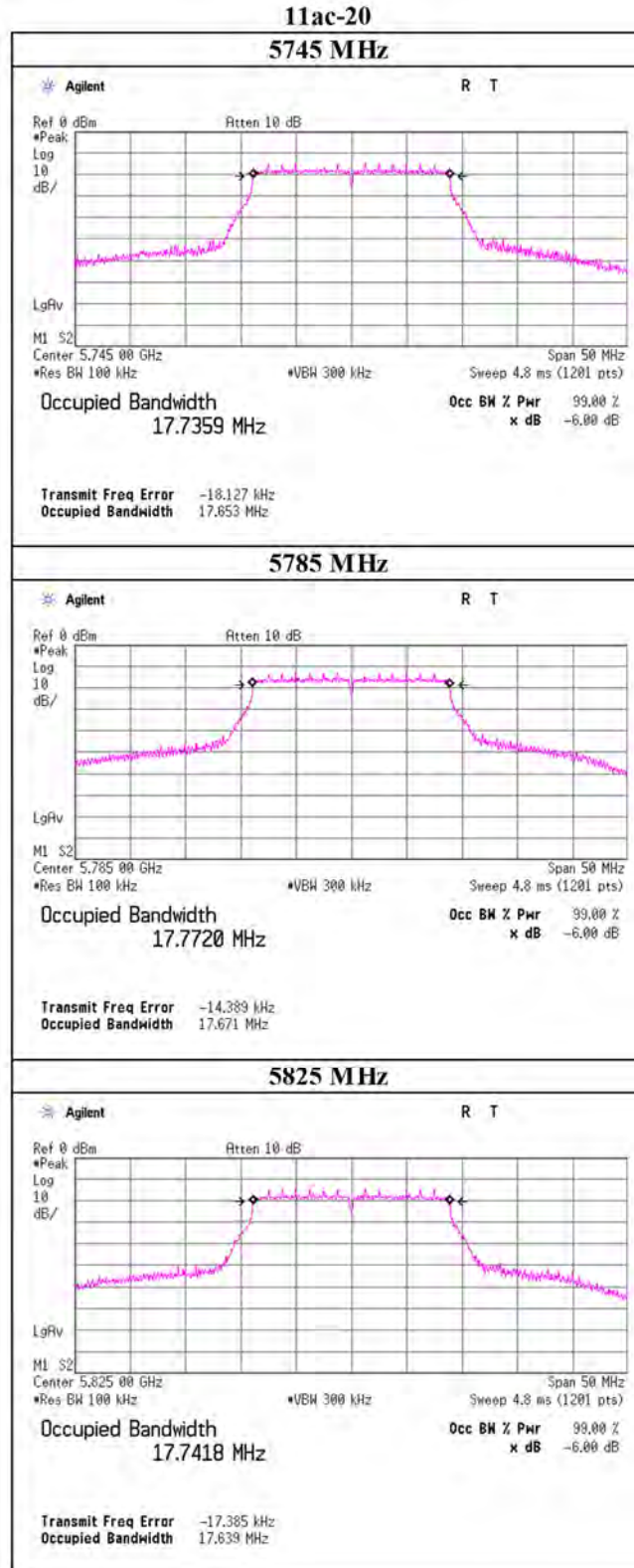
**Shonan EMC Lab.**

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

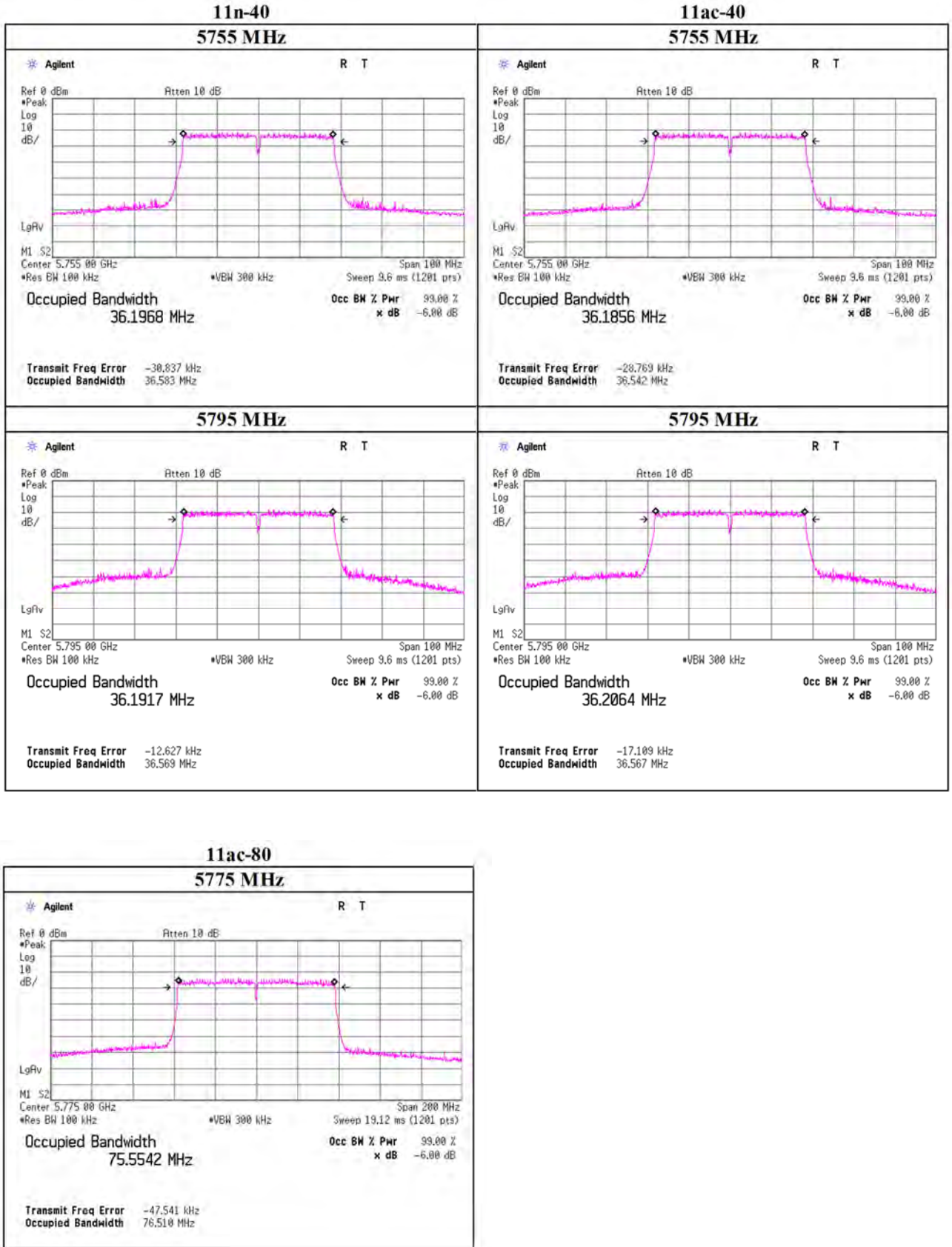
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## 6 dB Bandwidth



### 6 dB Bandwidth



## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11a

11a

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result [dBm]	[mW]	Limit [dBm]	Margin [dB]	Result [dBm]	[mW]	Limit [dBm]	Margin [dB]
5180	-3.24	2.27	10.01	2.10	-	17.177	9.04	8.02	23.97	14.93	11.14	13.00	29.97	18.83
5220	-1.44	2.28	10.01	2.10	-	17.327	10.85	12.16	23.97	13.12	12.95	19.72	29.97	17.02
5240	-1.52	2.28	10.01	2.10	-	17.321	10.77	11.94	23.97	13.20	12.87	19.36	29.97	17.10
5260	-1.50	2.29	10.01	2.10	21.343	17.298	10.80	12.02	23.97	13.17	12.90	19.50	29.97	17.07
5300	-1.49	2.30	10.01	2.10	21.409	17.271	10.82	12.08	23.97	13.15	12.92	19.59	29.97	17.05
5320	-3.33	2.30	10.01	2.10	21.208	17.216	8.98	7.91	23.97	14.99	11.08	12.82	29.97	18.89
5500	-3.09	2.33	10.01	2.10	21.452	17.227	9.25	8.41	23.97	14.72	11.35	13.65	29.97	18.62
5580	-1.50	2.35	10.01	2.10	21.293	17.295	10.86	12.19	23.97	13.11	12.96	19.77	29.97	17.01
5700	-3.33	2.37	10.01	2.10	21.250	17.242	9.05	8.04	23.97	14.92	11.15	13.03	29.97	18.82
5745	-3.16	2.37	10.01	2.10	-	17.255	9.22	8.36	30.00	20.78	11.32	13.55	36.00	24.68
5785	-1.24	2.38	10.02	2.10	-	17.314	11.16	13.06	30.00	18.84	13.26	21.18	36.00	22.74
5825	-3.46	2.39	10.02	2.10	-	17.317	8.95	7.85	30.00	21.05	11.05	12.74	36.00	24.95

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-20

**11n-20**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result		Limit	Margin	Result		Limit	Margin
							[dBm]	[mW]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[dB]
5180	-3.23	2.27	10.01	2.10	-	18.395	9.05	8.04	23.97	14.92	11.15	13.03	29.97	18.82
5220	-1.47	2.28	10.01	2.10	-	18.464	10.82	12.08	23.97	13.15	12.92	19.59	29.97	17.05
5240	-1.58	2.28	10.01	2.10	-	18.505	10.71	11.78	23.97	13.26	12.81	19.10	29.97	17.16
5260	-1.47	2.29	10.01	2.10	21.675	18.480	10.83	12.11	23.97	13.14	12.93	19.63	29.97	17.04
5300	-1.48	2.30	10.01	2.10	21.872	18.451	10.83	12.11	23.97	13.14	12.93	19.63	29.97	17.04
5320	-3.41	2.30	10.01	2.10	21.558	18.408	8.90	7.76	23.97	15.07	11.00	12.59	29.97	18.97
5500	-3.01	2.33	10.01	2.10	21.733	18.476	9.33	8.57	23.97	14.64	11.43	13.90	29.97	18.54
5580	-1.44	2.35	10.01	2.10	21.884	18.413	10.92	12.36	23.97	13.05	13.02	20.04	29.97	16.95
5700	-3.55	2.37	10.01	2.10	21.702	18.387	8.83	7.64	23.97	15.14	10.93	12.39	29.97	19.04
5745	-3.18	2.37	10.01	2.10	-	18.422	9.20	8.32	30.00	20.80	11.30	13.49	36.00	24.70
5785	-1.25	2.38	10.02	2.10	-	18.556	11.15	13.03	30.00	18.85	13.25	21.13	36.00	22.75
5825	-3.43	2.39	10.02	2.10	-	18.473	8.98	7.91	30.00	21.02	11.08	12.82	36.00	24.92

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-20

**11ac-20**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result [dBm]	[mW]	Limit [dBm]	Margin [dB]	Result [dBm]	[mW]	Limit [dBm]	Margin [dB]
5180	-3.25	2.27	10.01	2.10	-	18.444	9.03	8.00	23.97	14.94	11.13	12.97	29.97	18.84
5220	-1.63	2.28	10.01	2.10	-	18.582	10.66	11.64	23.97	13.31	12.76	18.88	29.97	17.21
5240	-1.49	2.28	10.01	2.10	-	18.682	10.80	12.02	23.97	13.17	12.90	19.50	29.97	17.07
5260	-1.50	2.29	10.01	2.10	21.797	18.710	10.80	12.02	23.97	13.17	12.90	19.50	29.97	17.07
5300	-1.49	2.30	10.01	2.10	21.759	18.596	10.82	12.08	23.97	13.15	12.92	19.59	29.97	17.05
5320	-3.52	2.30	10.01	2.10	21.661	18.515	8.79	7.57	23.97	15.18	10.89	12.27	29.97	19.08
5500	-2.96	2.33	10.01	2.10	21.766	18.412	9.38	8.67	23.97	14.59	11.48	14.06	29.97	18.49
5580	-1.38	2.35	10.01	2.10	21.711	18.549	10.98	12.53	23.97	12.99	13.08	20.32	29.97	16.89
5700	-3.53	2.37	10.01	2.10	21.674	18.392	8.85	7.67	23.97	15.12	10.95	12.45	29.97	19.02
5745	-3.14	2.37	10.01	2.10	-	18.491	9.24	8.39	30.00	20.76	11.34	13.61	36.00	24.66
5785	-1.36	2.38	10.02	2.10	-	18.572	11.04	12.71	30.00	18.96	13.14	20.61	36.00	22.86
5825	-3.42	2.39	10.02	2.10	-	18.429	8.99	7.93	30.00	21.01	11.09	12.85	36.00	24.91

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-40

**11n-40**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result [dBm]	[mW]	Limit [dBm]	Margin [dB]	Result [dBm]	[mW]	Limit [dBm]	Margin [dB]
5190	-7.09	2.27	10.01	2.10	-	36.461	5.19	3.30	23.97	18.78	7.29	5.36	29.97	22.68
5230	-4.31	2.28	10.01	2.10	-	36.510	7.98	6.28	23.97	15.99	10.08	10.19	29.97	19.89
5270	-4.42	2.29	10.01	2.10	39.584	36.653	7.88	6.14	23.97	16.09	9.98	9.95	29.97	19.99
5310	-7.41	2.30	10.01	2.10	39.726	36.561	4.90	3.09	23.97	19.07	7.00	5.01	29.97	22.97
5510	-6.94	2.33	10.01	2.10	39.731	36.498	5.40	3.47	23.97	18.57	7.50	5.62	29.97	22.47
5550	-4.09	2.34	10.01	2.10	39.495	36.528	8.26	6.70	23.97	15.71	10.36	10.86	29.97	19.61
5670	-4.21	2.36	10.01	2.10	39.775	36.454	8.16	6.55	23.97	15.81	10.26	10.62	29.97	19.71
5755	-7.24	2.37	10.02	2.10	-	36.518	5.15	3.27	30.00	24.85	7.25	5.31	36.00	28.75
5795	-4.30	2.38	10.02	2.10	-	36.511	8.10	6.46	30.00	21.90	10.20	10.47	36.00	25.80

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-40

**11ac-40**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result [dBm]	[mW]	Limit [dBm]	Margin [dB]	Result [dBm]	[mW]	Limit [dBm]	Margin [dB]
5190	-7.01	2.27	10.01	2.10	-	36.617	5.27	3.37	23.97	18.70	7.37	5.46	29.97	22.60
5230	-4.35	2.28	10.01	2.10	-	36.527	7.94	6.22	23.97	16.03	10.04	10.09	29.97	19.93
5270	-4.50	2.29	10.01	2.10	39.677	36.532	7.80	6.03	23.97	16.17	9.90	9.77	29.97	20.07
5310	-7.24	2.30	10.01	2.10	39.700	36.506	5.07	3.21	23.97	18.90	7.17	5.21	29.97	22.80
5510	-7.08	2.33	10.01	2.10	39.597	36.538	5.26	3.36	23.97	18.71	7.36	5.45	29.97	22.61
5550	-4.11	2.34	10.01	2.10	39.649	36.425	8.24	6.67	23.97	15.73	10.34	10.81	29.97	19.63
5670	-4.23	2.36	10.01	2.10	39.856	36.522	8.14	6.52	23.97	15.83	10.24	10.57	29.97	19.73
5755	-7.15	2.37	10.02	2.10	-	36.517	5.24	3.34	30.00	24.76	7.34	5.42	36.00	28.66
5795	-4.33	2.38	10.02	2.10	-	36.481	8.07	6.41	30.00	21.93	10.17	10.40	36.00	25.83

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)



## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-80

**11ac-80**

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	Power Meter Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Antenna Gain [dBi]	26 dB EBW (B for FCC) [MHz]	99 % OBW (B for ISED) [MHz]	Conducted Power				e.i.r.p.			
							Result [dBm]	[mW]	Limit [dBm]	Margin [dB]	Result [dBm]	[mW]	Limit [dBm]	Margin [dB]
5210	-7.12	2.28	10.01	2.10	-	75.996	5.17	3.29	23.97	18.80	7.27	5.33	29.97	22.70
5290	-7.27	2.29	10.01	2.10	81.369	75.883	5.03	3.18	23.97	18.94	7.13	5.16	29.97	22.84
5530	-6.90	2.34	10.01	2.10	81.448	76.079	5.45	3.51	23.97	18.52	7.55	5.69	29.97	22.42
5610	-7.03	2.35	10.01	2.10	81.244	75.974	5.33	3.41	23.97	18.64	7.43	5.53	29.97	22.54
5775	-7.24	2.38	10.02	2.10	-	75.945	5.16	3.28	30.00	24.84	7.26	5.32	36.00	28.74

Sample Calculation:

Conducted Power Result = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

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

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

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

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11a

### 5180 MHz

Antenna	Rate [Mbps]	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	6	-3.24	2.27	10.01	9.04	*
	9	-3.27	2.27	10.01	9.01	-
	12	-3.43	2.27	10.01	8.85	-
	18	-3.38	2.27	10.01	8.90	-
	24	-3.40	2.27	10.01	8.88	-
	36	-3.38	2.27	10.01	8.90	-
	48	-3.26	2.27	10.01	9.02	-
	54	-4.31	2.27	10.01	7.97	-

\*: Worst rate

Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-20

### 5180 MHz

Antenna	MCS Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	0	-3.23	2.27	10.01	9.05	*
	1	-3.31	2.27	10.01	8.97	-
	2	-3.30	2.27	10.01	8.98	-
	3	-3.27	2.27	10.01	9.01	-
	4	-3.27	2.27	10.01	9.01	-
	5	-3.29	2.27	10.01	8.99	-
	6	-4.23	2.27	10.01	8.05	-
	7	-4.07	2.27	10.01	8.21	-

\*: Worst rate

Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 8, 2021  
Temperature / Humidity 25 deg. C / 49 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-20

### 5180 MHz

Antenna	MCS Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	0	-3.25	2.27	10.01	9.03	*
	1	-3.34	2.27	10.01	8.94	-
	2	-3.33	2.27	10.01	8.95	-
	3	-3.30	2.27	10.01	8.98	-
	4	-3.27	2.27	10.01	9.01	-
	5	-3.26	2.27	10.01	9.02	-
	6	-4.31	2.27	10.01	7.97	-
	7	-4.30	2.27	10.01	7.98	-
	8	-4.07	2.27	10.01	8.21	-

\*: Worst rate

Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-40

### 5190 MHz

Antenna	MCS Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	0	-7.13	2.27	10.01	5.15	-
	1	-7.18	2.27	10.01	5.10	-
	2	-7.13	2.27	10.01	5.15	-
	3	-7.11	2.27	10.01	5.17	-
	4	-7.10	2.27	10.01	5.18	-
	5	-7.18	2.27	10.01	5.10	-
	6	-7.15	2.27	10.01	5.13	-
	7	-7.09	2.27	10.01	5.19	*

\*: Worst rate

Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-40

### 5230 MHz

Antenna	MCS Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	0	-4.37	2.28	10.01	7.92	-
	1	-4.38	2.28	10.01	7.91	-
	2	-4.38	2.28	10.01	7.91	-
	3	-4.38	2.28	10.01	7.91	-
	4	-4.41	2.28	10.01	7.88	-
	5	-4.39	2.28	10.01	7.90	-
	6	-4.40	2.28	10.01	7.89	-
	7	-4.35	2.28	10.01	7.94	*
	8	-6.15	2.28	10.01	6.14	-
	9	-6.17	2.28	10.01	6.12	-

\*: Worst rate

Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

## Maximum Conducted Output Power

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 9, 2021  
Temperature / Humidity 22 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-80

### 5210 MHz

Antenna	MCS Index	Reading [dBm]	Cable Loss [dB]	Atten. Loss [dB]	Conducted power [dBm]	Remarks
-	0	-7.15	2.28	10.01	5.14	-
	1	-7.15	2.28	10.01	5.14	-
	2	-7.18	2.28	10.01	5.11	-
	3	-7.15	2.28	10.01	5.14	-
	4	-7.16	2.28	10.01	5.13	-
	5	-7.15	2.28	10.01	5.14	-
	6	-7.13	2.28	10.01	5.16	-
	7	-7.12	2.28	10.01	5.17	*
	8	-7.15	2.28	10.01	5.14	-
	9	-7.19	2.28	10.01	5.10	-

\*: Worst rate

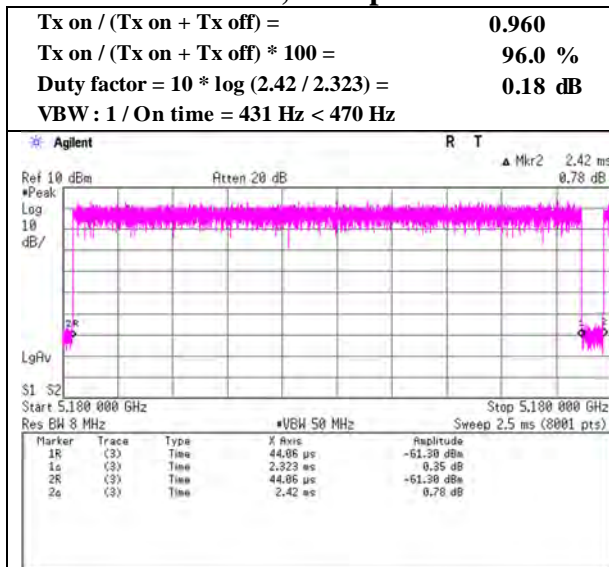
Sample Calculation:

Conducted Power = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss

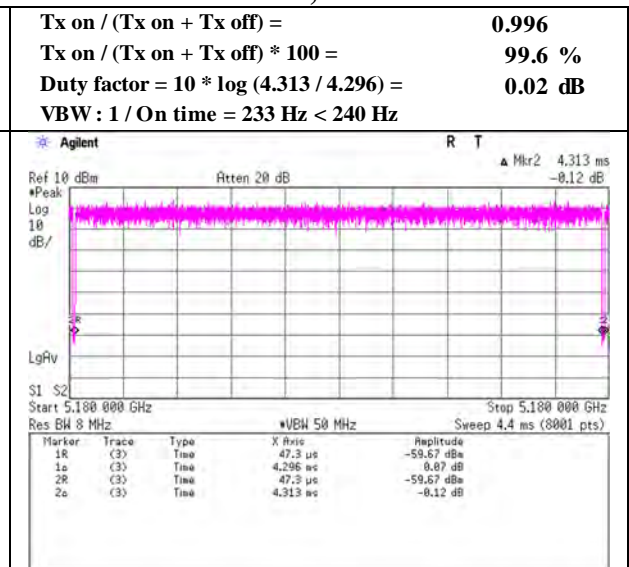
**Burst rate confirmation**

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 10, 2021  
Temperature / Humidity 24 deg. C / 51 % RH  
Engineer Shiro Kobayashi  
Mode Tx

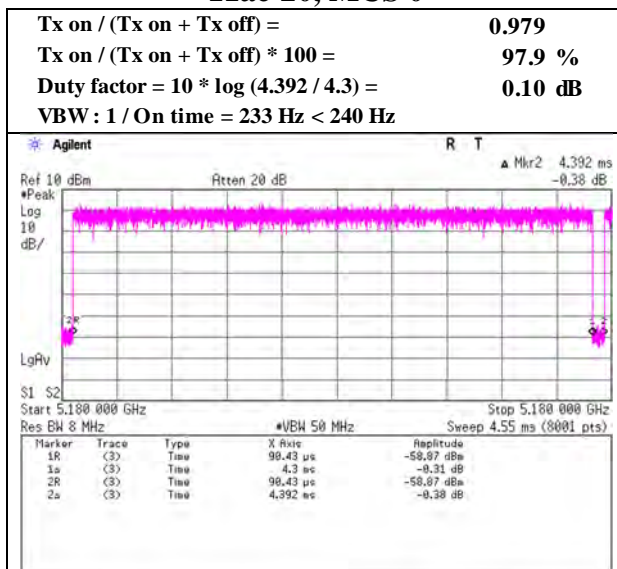
**11a, 6 Mbps**



**11n-20, MCS 0**



**11ac-20, MCS 0**



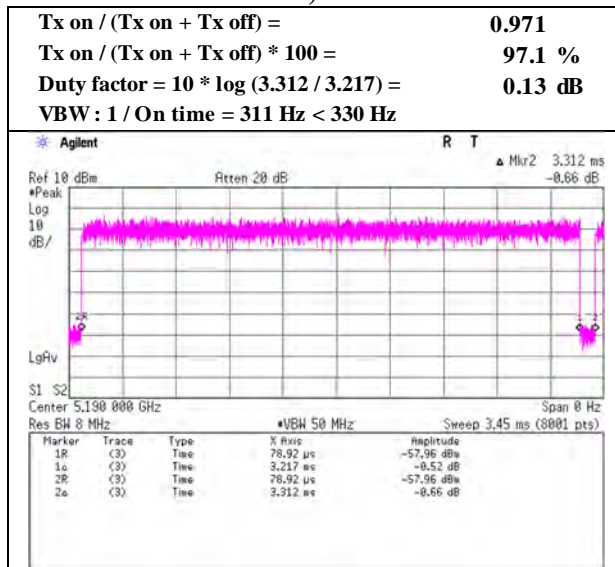
\* The VBW was also applied to spurious emissions that have the same duty cycle as the carrier, in addition to the carrier harmonics.



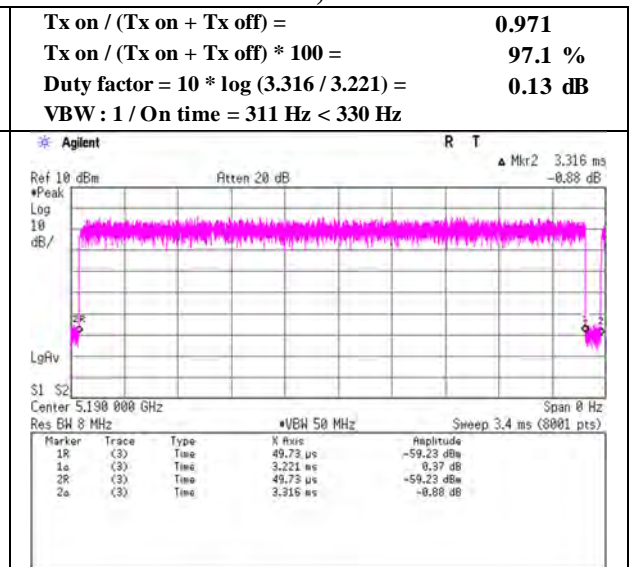
**Burst rate confirmation**

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 10, 2021  
Temperature / Humidity 24 deg. C / 51 % RH  
Engineer Shiro Kobayashi  
Mode Tx

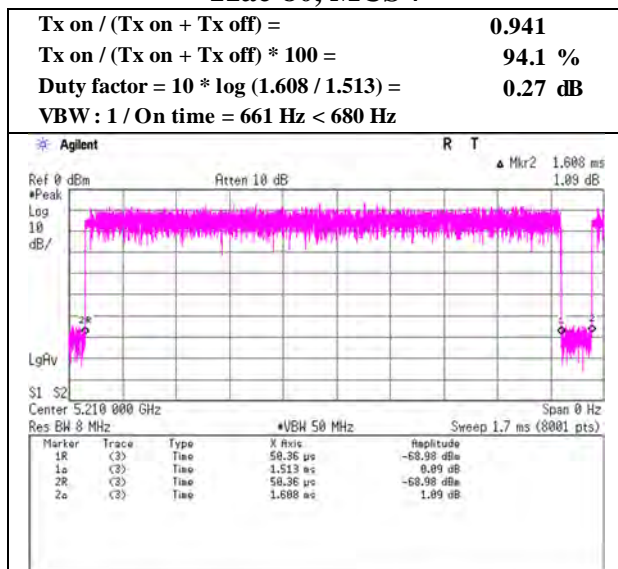
**11n-40, MCS 7**



**11ac-40, MCS 7**



**11ac-80, MCS 7**



\* The VBW was also applied to spurious emissions that have the same duty cycle as the carrier, in addition to the carrier harmonics.

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11a

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-14.07	2.27	10.01	0.18	2.10	0.00	-1.61	11.00	12.61	0.49	17.00	16.51
5220	-12.06	2.28	10.01	0.18	2.10	0.00	0.41	11.00	10.59	2.51	17.00	14.49
5240	-11.83	2.28	10.01	0.18	2.10	0.00	0.64	11.00	10.36	2.74	17.00	14.26
5260	-11.94	2.29	10.01	0.18	2.10	0.00	0.54	11.00	10.46	2.64	17.00	14.36
5300	-12.05	2.30	10.01	0.18	2.10	0.00	0.44	11.00	10.56	2.55	17.00	14.46
5320	-14.10	2.30	10.01	0.18	2.10	0.00	-1.61	11.00	12.61	0.49	17.00	16.51
5500	-13.76	2.33	10.01	0.18	2.10	0.00	-1.24	11.00	12.24	0.86	17.00	16.14
5580	-12.00	2.35	10.01	0.18	2.10	0.00	0.54	11.00	10.46	2.64	17.00	14.36
5700	-14.37	2.37	10.01	0.18	2.10	0.00	-1.81	11.00	12.81	0.29	17.00	16.71
5745	-22.67	2.37	10.01	0.18	2.10	6.99	-3.12	30.00	33.12	-1.02	36.00	37.02
5785	-21.22	2.38	10.02	0.18	2.10	6.99	-1.65	30.00	31.65	0.45	36.00	35.55
5825	-22.93	2.39	10.02	0.18	2.10	6.99	-3.35	30.00	33.35	-1.25	36.00	37.25

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-20

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-14.16	2.27	10.01	0.02	2.10	0.00	-1.86	11.00	12.86	0.24	17.00	16.76
5220	-12.39	2.28	10.01	0.02	2.10	0.00	-0.08	11.00	11.08	2.02	17.00	14.98
5240	-12.32	2.28	10.01	0.02	2.10	0.00	-0.01	11.00	11.01	2.09	17.00	14.91
5260	-12.14	2.29	10.01	0.02	2.10	0.00	0.18	11.00	10.82	2.28	17.00	14.72
5300	-12.17	2.30	10.01	0.02	2.10	0.00	0.16	11.00	10.84	2.26	17.00	14.74
5320	-14.13	2.30	10.01	0.02	2.10	0.00	-1.80	11.00	12.80	0.30	17.00	16.70
5500	-13.95	2.33	10.01	0.02	2.10	0.00	-1.59	11.00	12.59	0.51	17.00	16.49
5580	-12.21	2.35	10.01	0.02	2.10	0.00	0.17	11.00	10.83	2.27	17.00	14.73
5700	-14.19	2.37	10.01	0.02	2.10	0.00	-1.79	11.00	12.79	0.31	17.00	16.69
5745	-23.21	2.37	10.01	0.02	2.10	6.99	-3.82	30.00	33.82	-1.72	36.00	37.72
5785	-21.47	2.38	10.02	0.02	2.10	6.99	-2.06	30.00	32.06	0.04	36.00	35.96
5825	-23.18	2.39	10.02	0.02	2.10	6.99	-3.76	30.00	33.76	-1.66	36.00	37.66

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-20

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5180	-14.05	2.27	10.01	0.10	2.10	0.00	-1.67	11.00	12.67	0.43	17.00	16.57
5220	-12.22	2.28	10.01	0.10	2.10	0.00	0.17	11.00	10.83	2.27	17.00	14.73
5240	-12.44	2.28	10.01	0.10	2.10	0.00	-0.05	11.00	11.05	2.05	17.00	14.95
5260	-12.35	2.29	10.01	0.10	2.10	0.00	0.05	11.00	10.95	2.15	17.00	14.85
5300	-12.34	2.30	10.01	0.10	2.10	0.00	0.07	11.00	10.93	2.17	17.00	14.83
5320	-14.40	2.30	10.01	0.10	2.10	0.00	-1.99	11.00	12.99	0.12	17.00	16.89
5500	-13.75	2.33	10.01	0.10	2.10	0.00	-1.31	11.00	12.31	0.79	17.00	16.21
5580	-12.26	2.35	10.01	0.10	2.10	0.00	0.20	11.00	10.80	2.30	17.00	14.70
5700	-14.48	2.37	10.01	0.10	2.10	0.00	-2.00	11.00	13.00	0.10	17.00	16.90
5745	-23.06	2.37	10.01	0.10	2.10	6.99	-3.59	30.00	33.59	-1.49	36.00	37.49
5785	-21.50	2.38	10.02	0.10	2.10	6.99	-2.01	30.00	32.01	0.09	36.00	35.91
5825	-23.03	2.39	10.02	0.10	2.10	6.99	-3.53	30.00	33.53	-1.43	36.00	37.43

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11n-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-21.20	2.27	10.01	0.13	2.10	0.00	-8.79	11.00	19.79	-6.69	17.00	23.69
5230	-18.33	2.28	10.01	0.13	2.10	0.00	-5.91	11.00	16.91	-3.81	17.00	20.81
5270	-18.12	2.29	10.01	0.13	2.10	0.00	-5.69	11.00	16.69	-3.59	17.00	20.59
5310	-21.08	2.30	10.01	0.13	2.10	0.00	-8.64	11.00	19.64	-6.54	17.00	23.54
5510	-21.08	2.33	10.01	0.13	2.10	0.00	-8.61	11.00	19.61	-6.51	17.00	23.51
5550	-17.90	2.34	10.01	0.13	2.10	0.00	-5.42	11.00	16.42	-3.32	17.00	20.32
5670	-18.02	2.36	10.01	0.13	2.10	0.00	-5.52	11.00	16.52	-3.42	17.00	20.42
5755	-30.51	2.37	10.02	0.13	2.10	6.99	-11.00	30.00	41.00	-8.90	36.00	44.90
5795	-27.63	2.38	10.02	0.13	2.10	6.99	-8.11	30.00	38.11	-6.01	36.00	42.01

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-40

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5190	-20.94	2.27	10.01	0.13	2.10	0.00	-8.53	11.00	19.53	-6.43	17.00	23.43
5230	-18.05	2.28	10.01	0.13	2.10	0.00	-5.63	11.00	16.63	-3.53	17.00	20.53
5270	-18.16	2.29	10.01	0.13	2.10	0.00	-5.73	11.00	16.73	-3.63	17.00	20.63
5310	-21.05	2.30	10.01	0.13	2.10	0.00	-8.61	11.00	19.61	-6.51	17.00	23.51
5510	-20.84	2.33	10.01	0.13	2.10	0.00	-8.37	11.00	19.37	-6.27	17.00	23.27
5550	-18.00	2.34	10.01	0.13	2.10	0.00	-5.52	11.00	16.52	-3.42	17.00	20.42
5670	-17.83	2.36	10.01	0.13	2.10	0.00	-5.33	11.00	16.33	-3.23	17.00	20.23
5755	-30.25	2.37	10.02	0.13	2.10	6.99	-10.74	30.00	40.74	-8.64	36.00	44.64
5795	-27.64	2.38	10.02	0.13	2.10	6.99	-8.12	30.00	38.12	-6.02	36.00	42.02

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11ac-80

Applied limit: 15.407, mobile and portable client device

Tested Frequency [MHz]	PSD Reading [dBm /MHz]	Cable Loss [dB]	Atten. Loss [dB]	Duty Factor [dB]	Antenna Gain [dBi]	RBW Correction Factor [dB]	PSD (Conducted)			PSD (e.i.r.p.)		
							Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]	Result [dBm /MHz]	Limit [dBm /MHz]	Margin [dB]
5210	-23.76	2.28	10.01	0.27	2.10	0.00	-11.20	11.00	22.20	-9.10	17.00	26.10
5290	-23.98	2.29	10.01	0.27	2.10	0.00	-11.41	11.00	22.41	-9.31	17.00	26.31
5530	-24.01	2.34	10.01	0.27	2.10	0.00	-11.39	11.00	22.39	-9.29	17.00	26.29
5610	-24.01	2.35	10.01	0.27	2.10	0.00	-11.38	11.00	22.38	-9.28	17.00	26.28
5775	-33.68	2.38	10.02	0.27	2.10	6.99	-14.02	30.00	44.02	-11.92	36.00	47.92

Sample Calculation:

PSD: Power Spectral Density

The PSD within 5725 MHz to 5825 MHz are based on any 500 kHz band.

RBW Correction Factor =  $10 * \log(\text{Specified bandwidth} / \text{Measured bandwidth})$

PSD Result (Conducted) = Reading + Cable Loss (including the cable(s) customer supplied) + Atten. Loss + Duty Factor + RBW Correction Factor

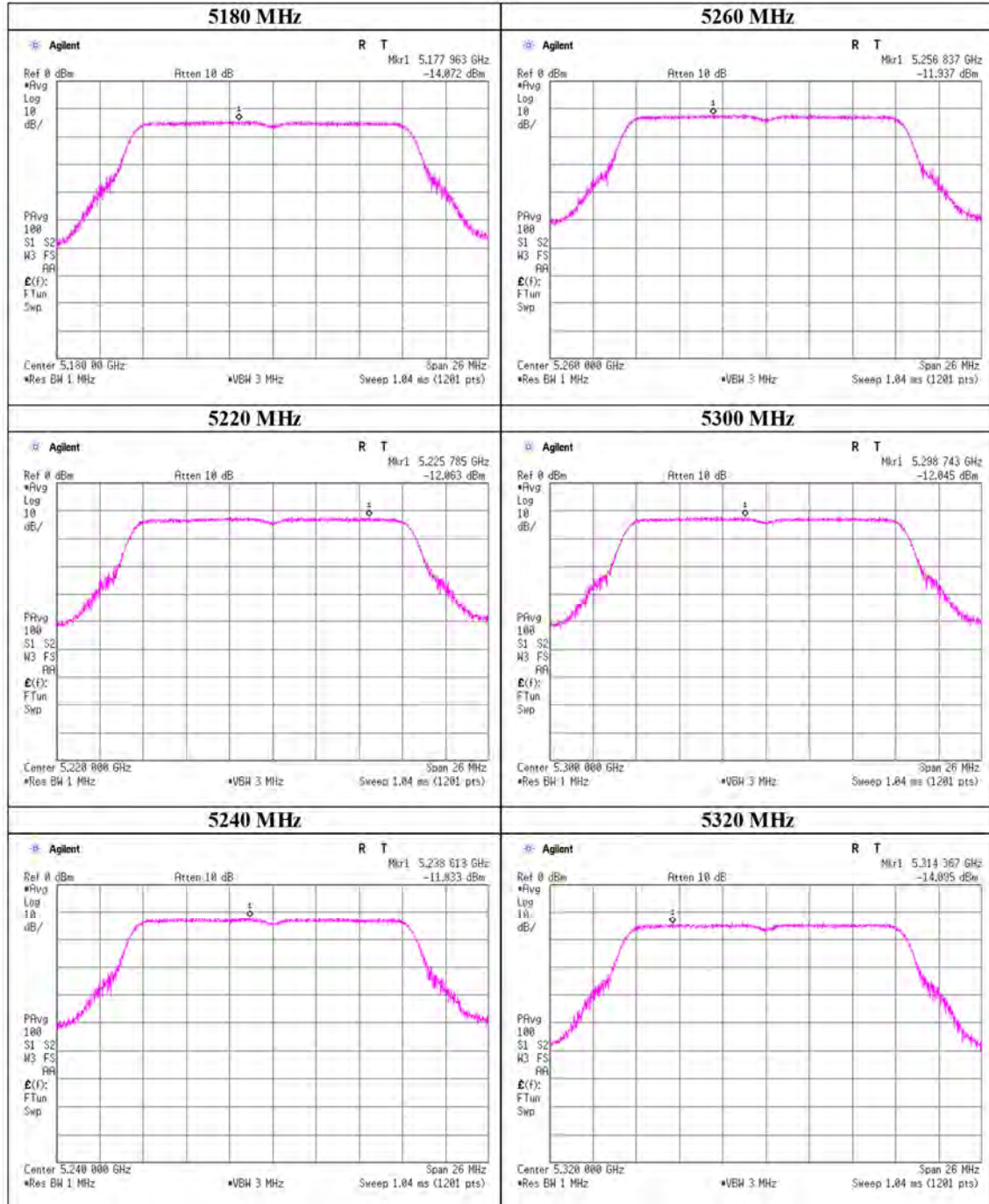
PSD Result (e.i.r.p.) = Conducted PSD Result + Antenna Gain

Although the EUT operates on Master mode, more stringent limit for Client device was applied. (U-NII-1 for FCC)

## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11a

11a

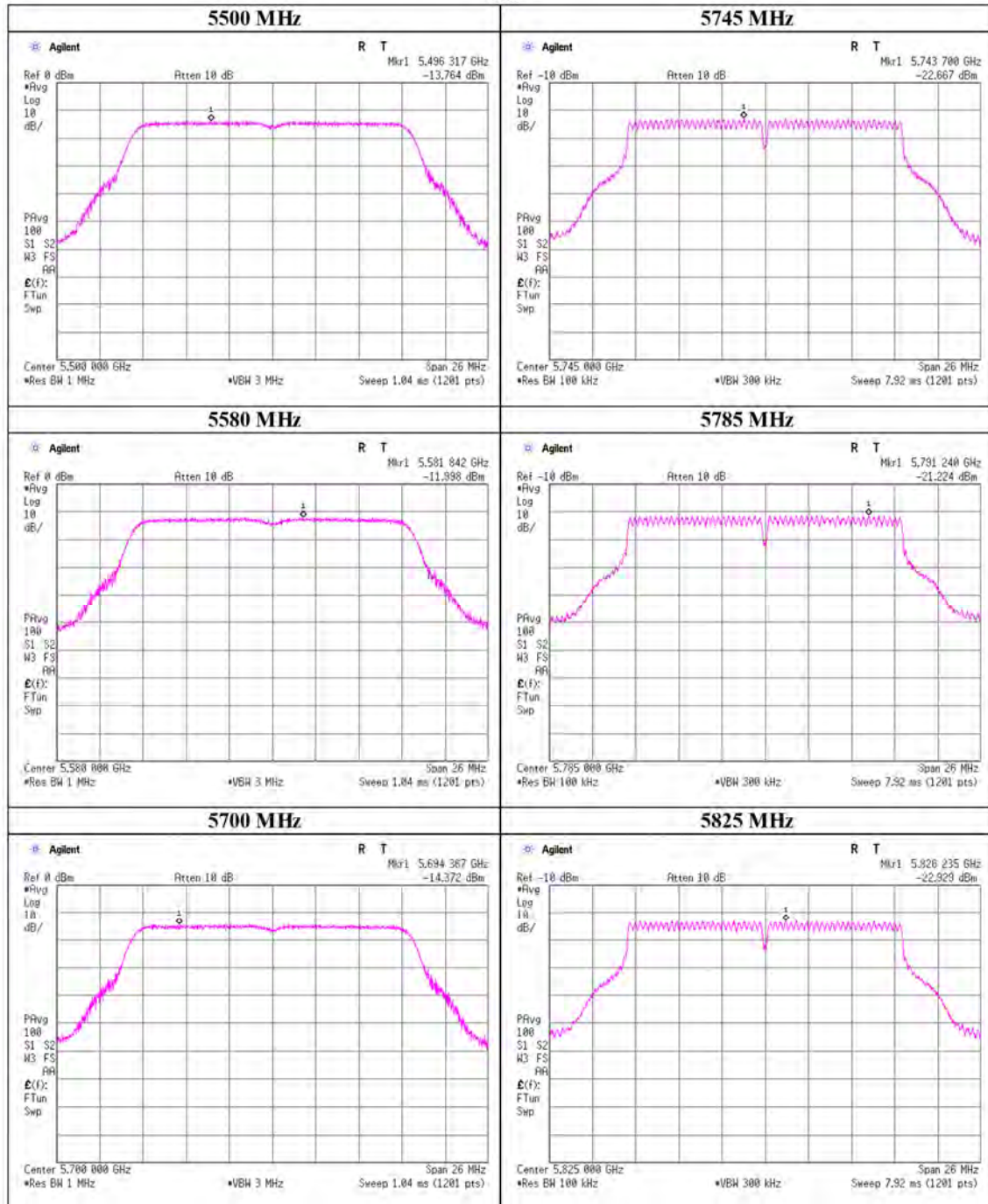




## Maximum Power Spectral Density

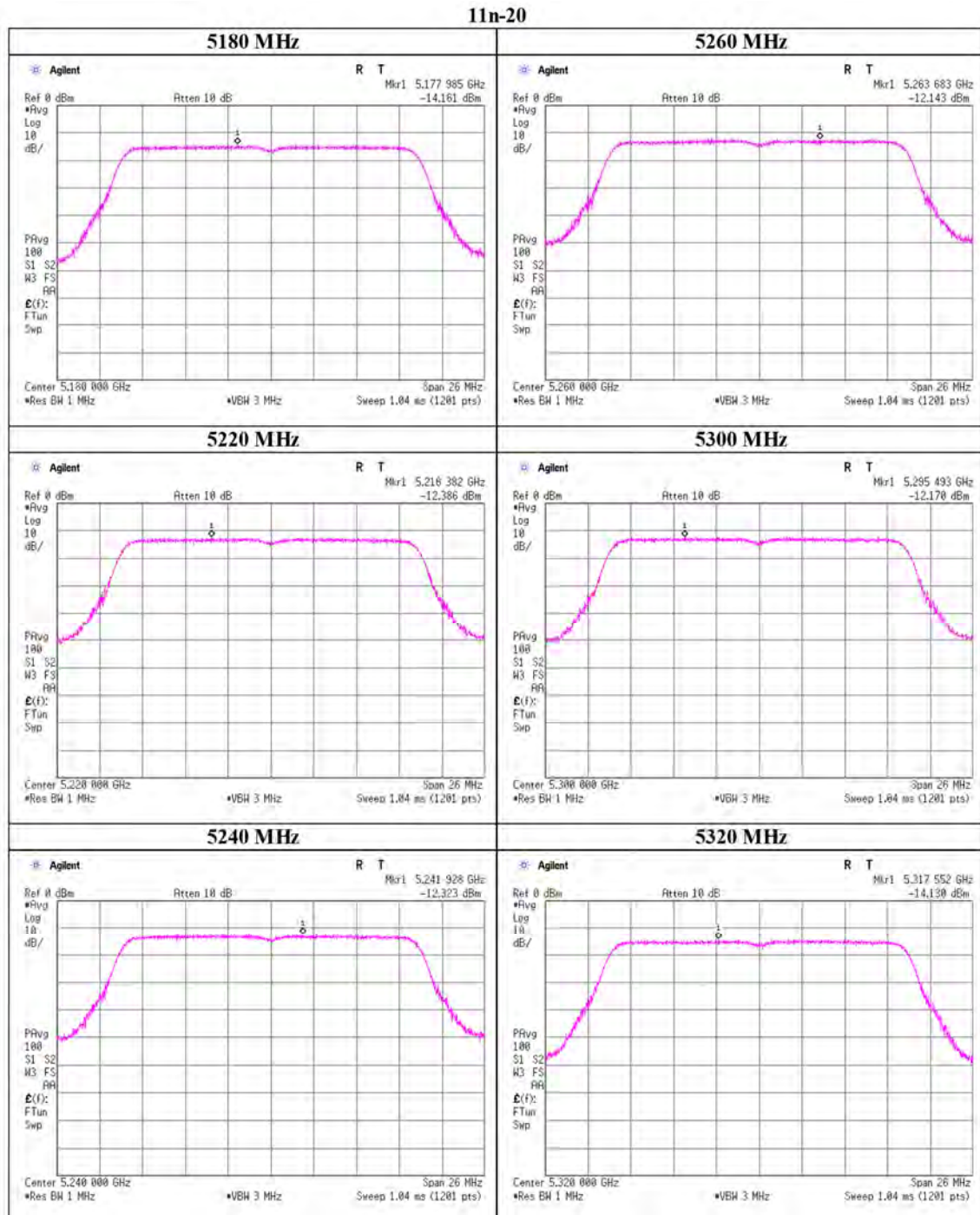
Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11a

11a



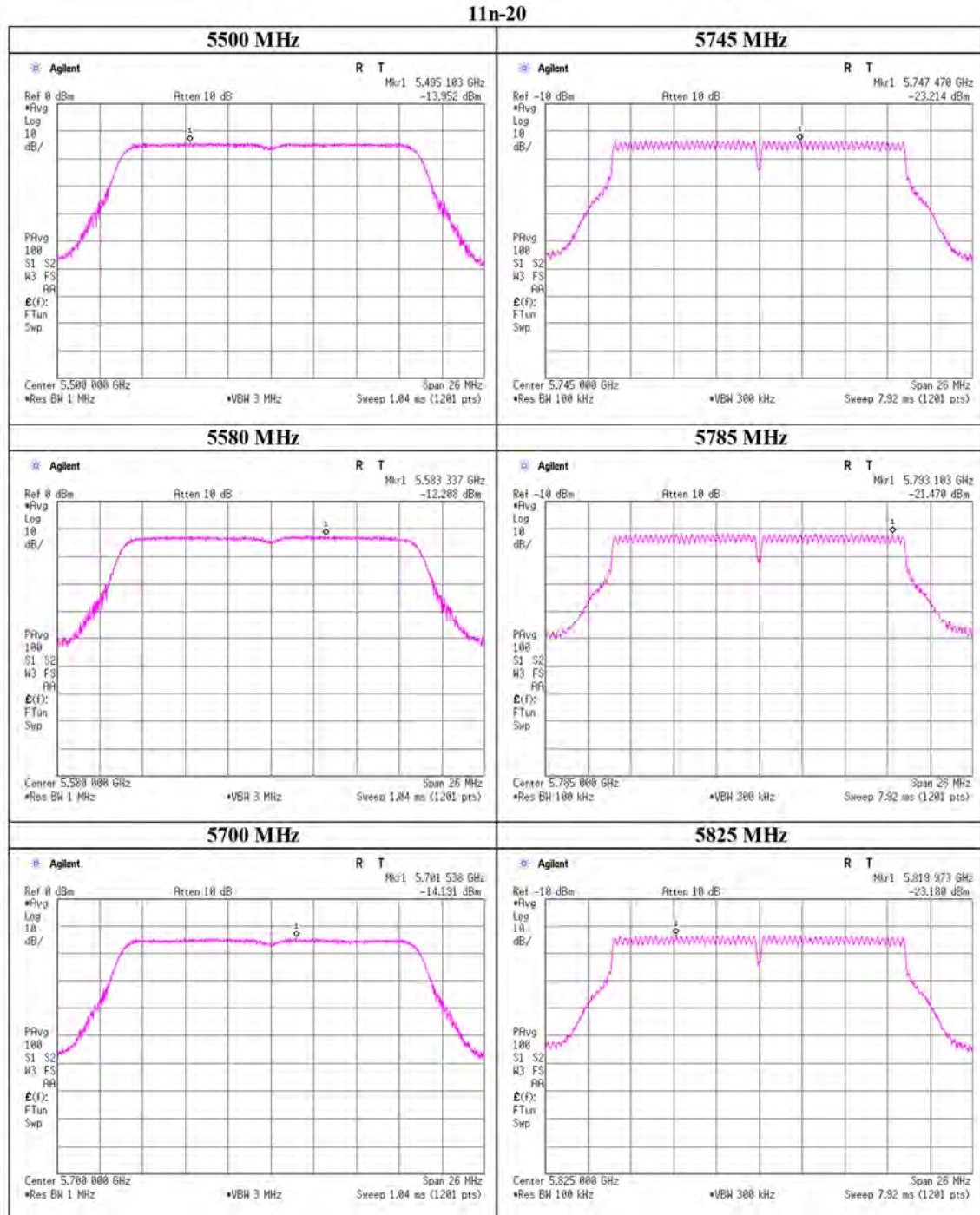
## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-20



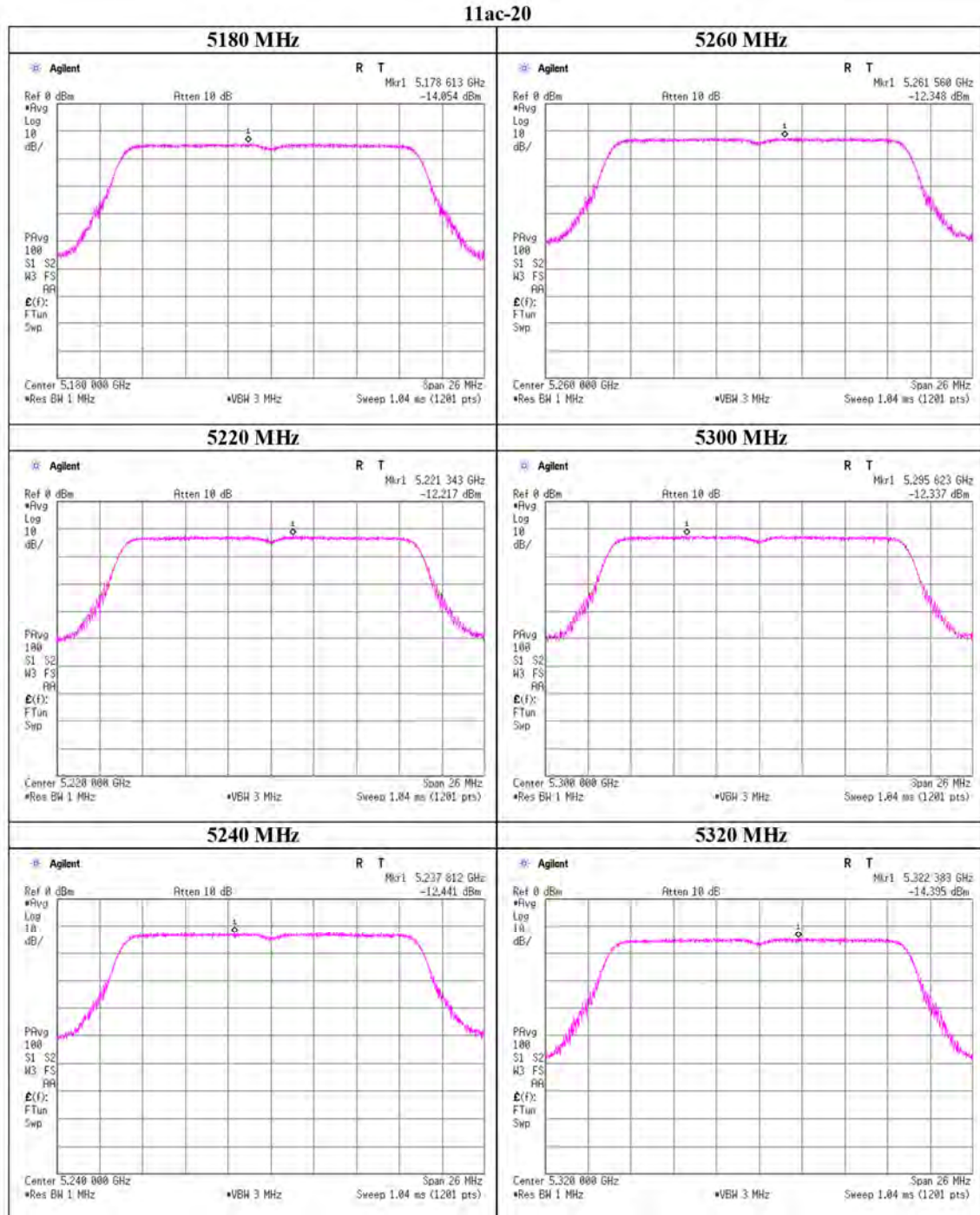
## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-20



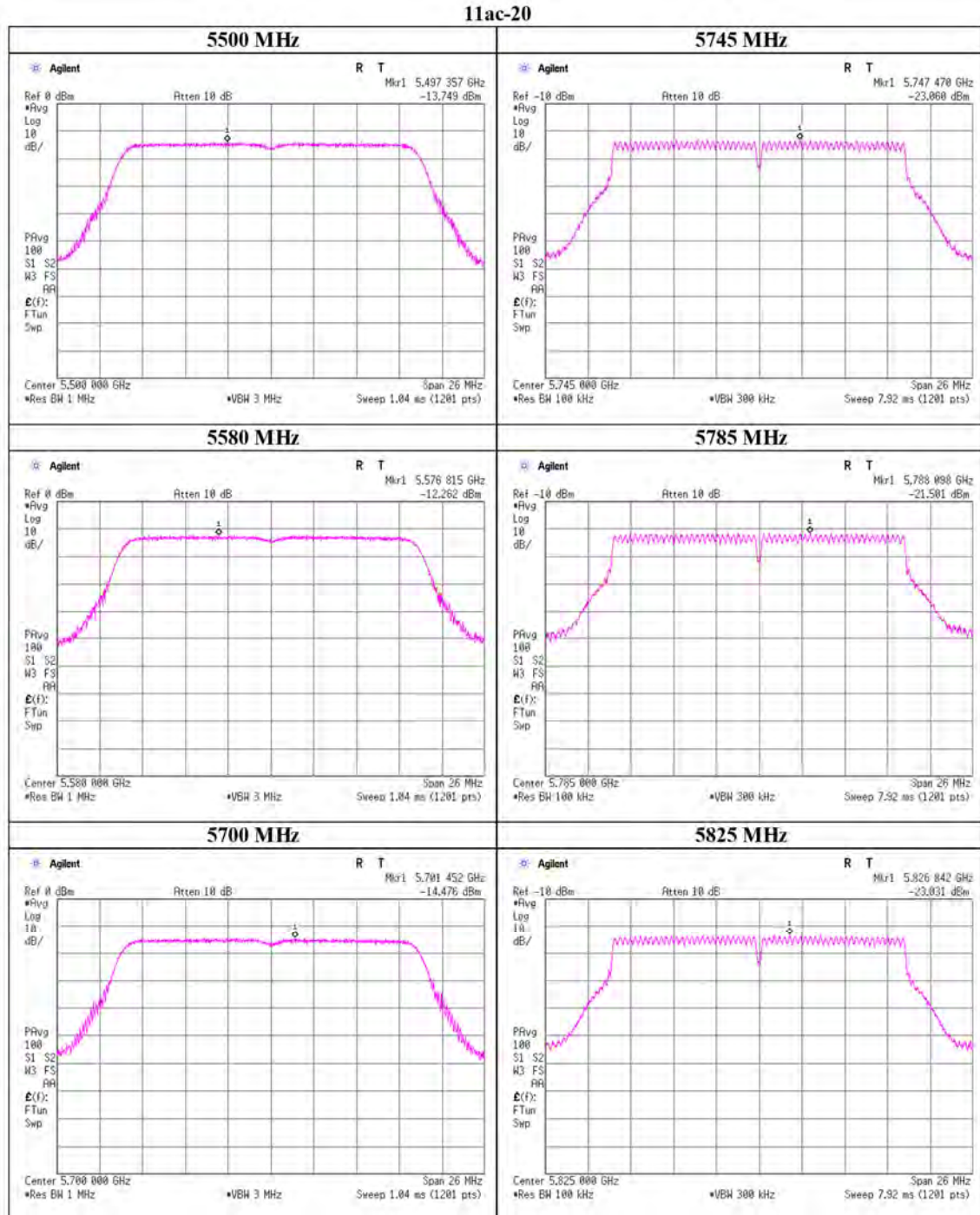
## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-20



## Maximum Power Spectral Density

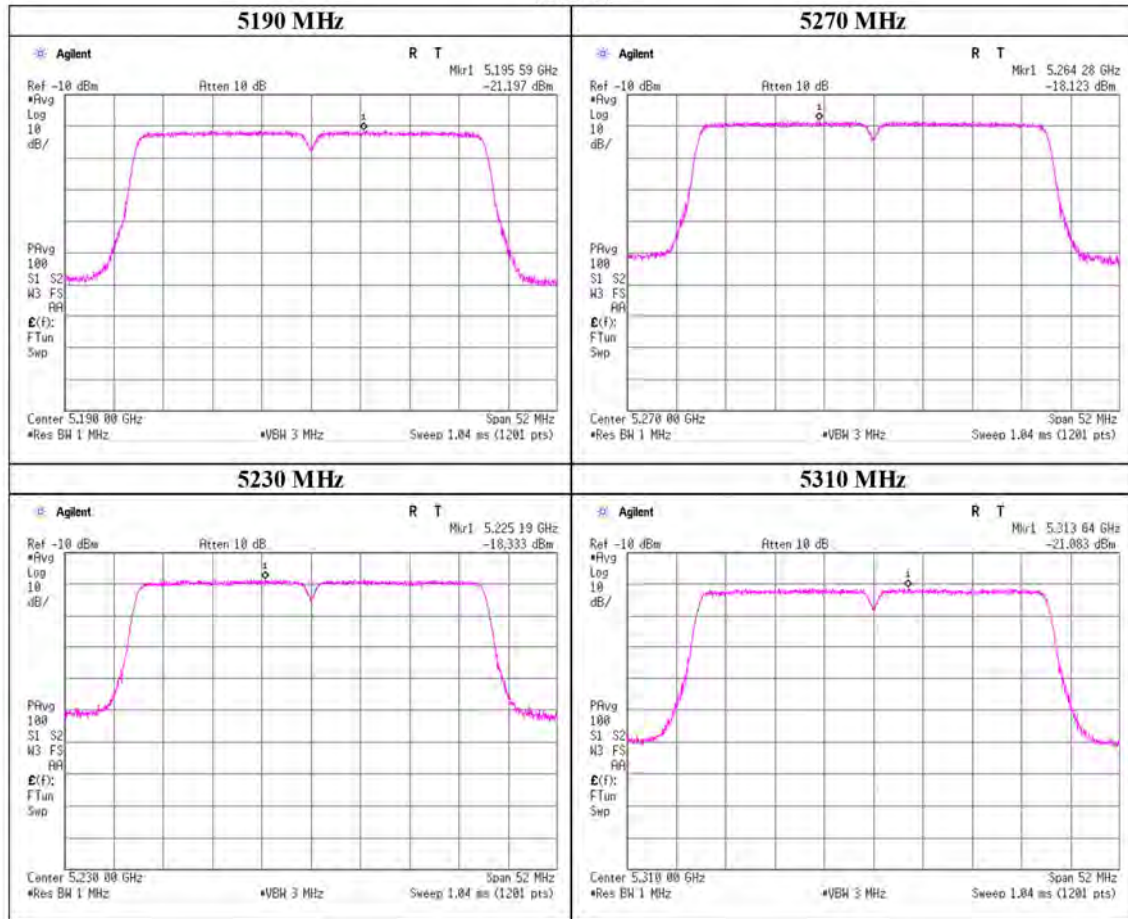
Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-20



## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40

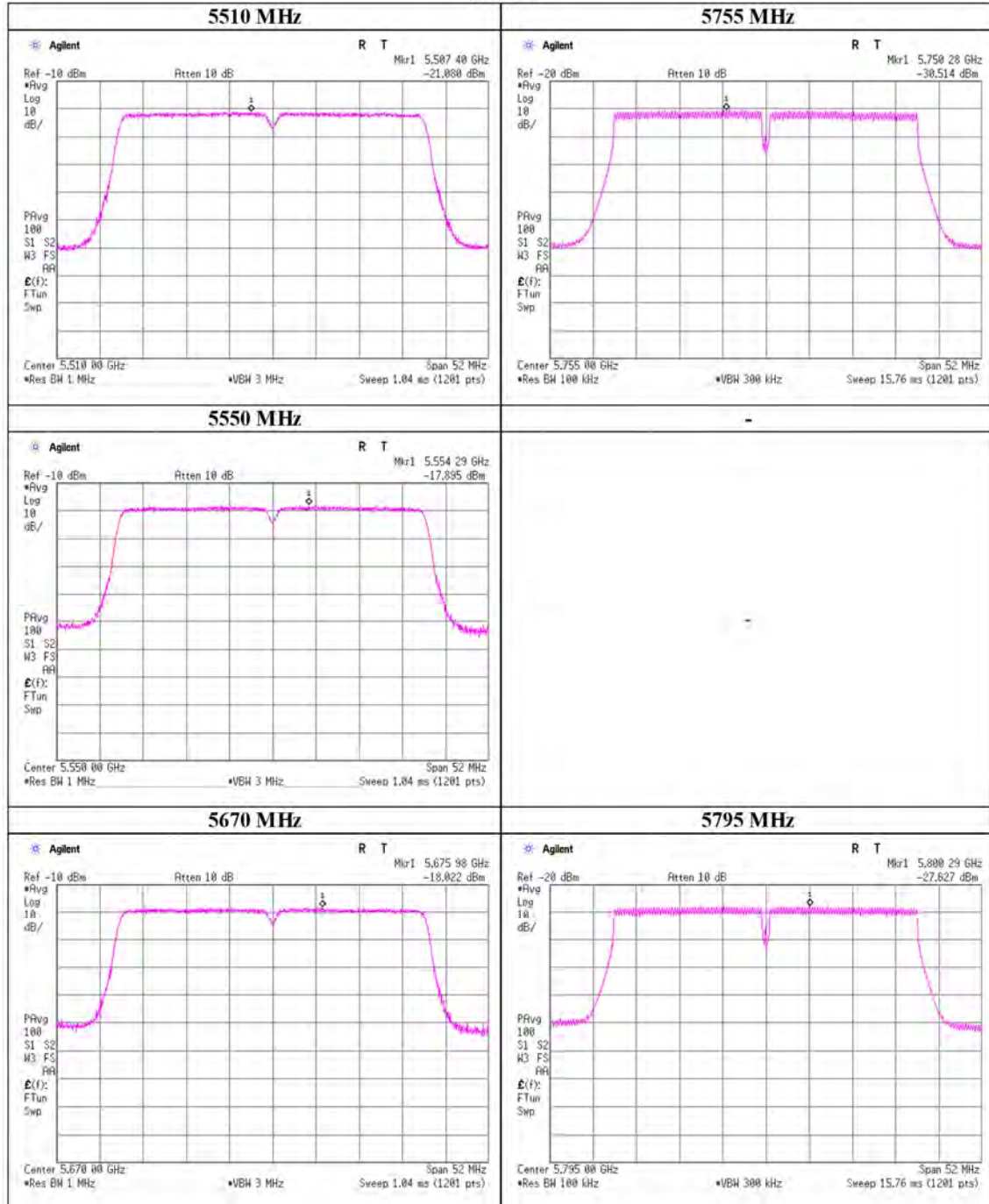
### 11ac-40



## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40

### 11ac-40



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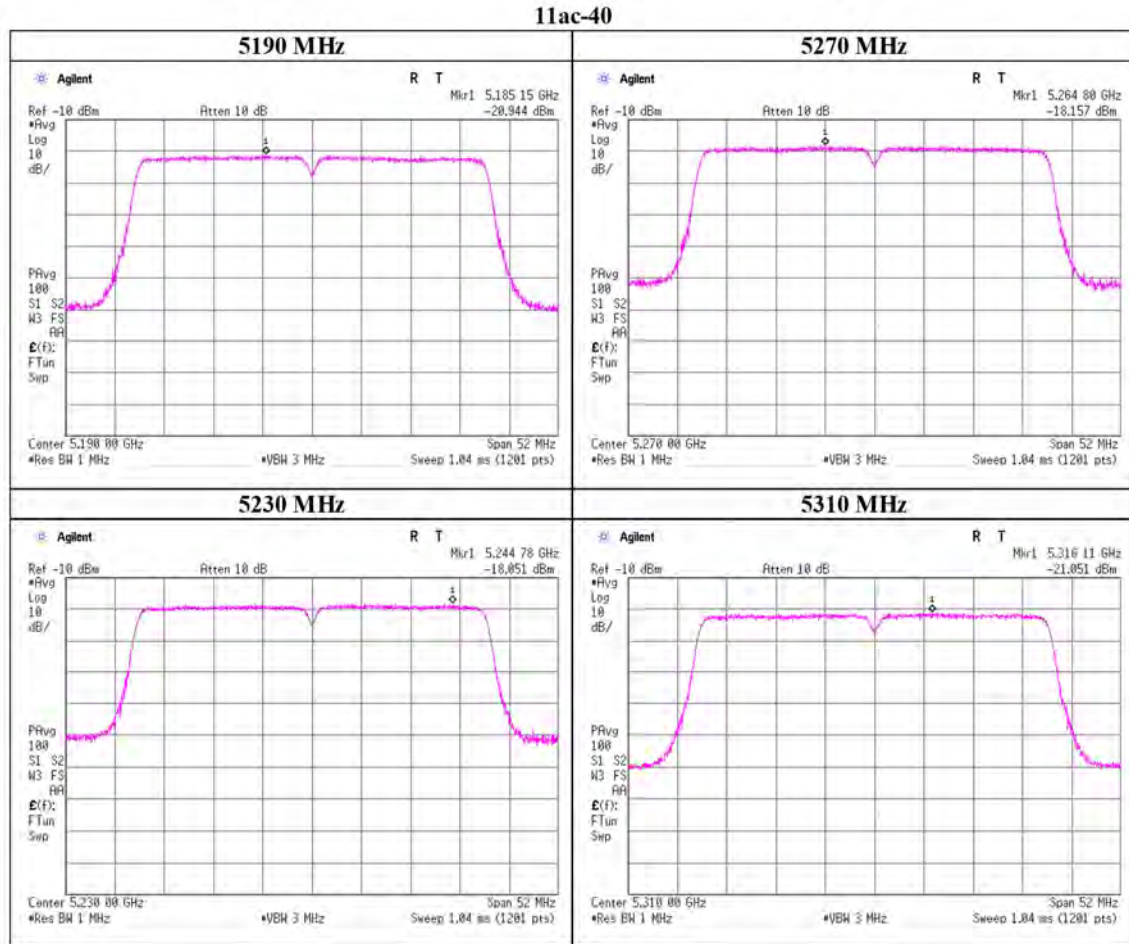
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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Facsimile : +81 463 50 6401

## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-40



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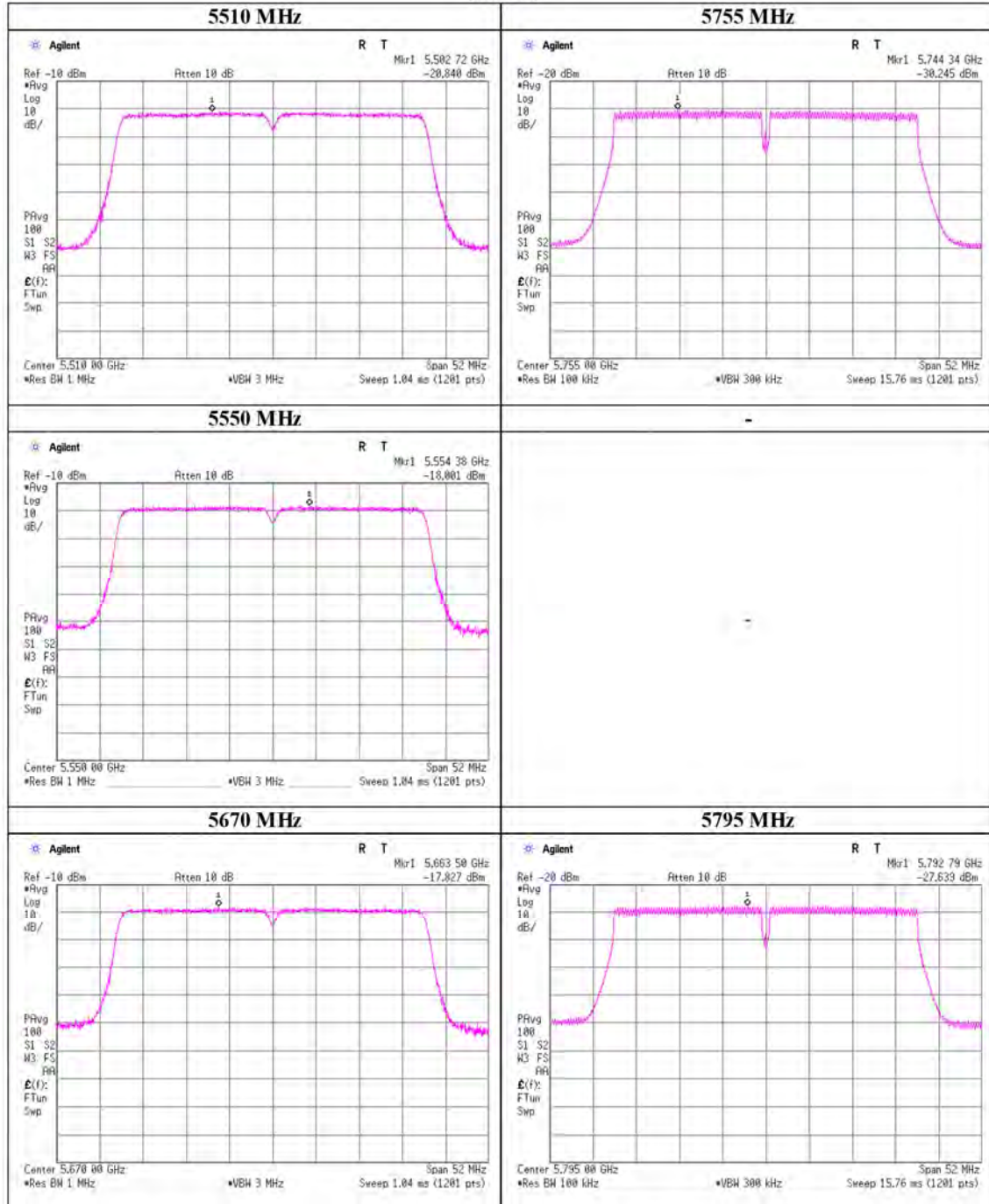
Facsimile : +81 463 50 6401



## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-40

### 11ac-40

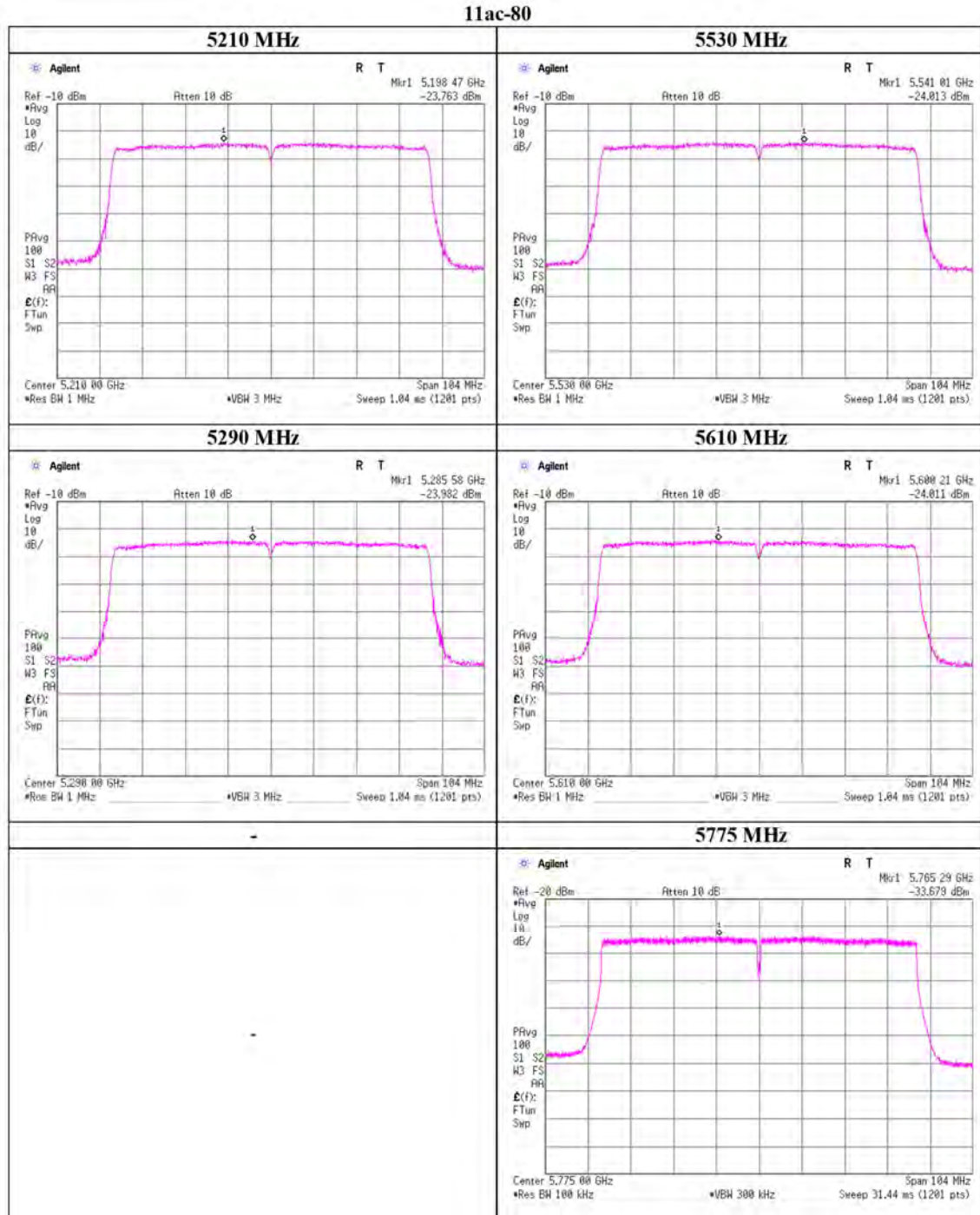


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 Facsimile : +81 463 50 6401

## Maximum Power Spectral Density

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	June 11, 2021
Temperature / Humidity	23 deg. C / 55 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80



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## Radiated Spurious Emission

Report No.	14026147S-B-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	3	3	3
Date	June 14, 2016	June 15, 2021	June 23, 2021
Temperature / Humidity	22 deg.C, 53 %RH	23 deg.C, 51 %RH	23 deg.C, 58 %RH
Engineer	Takahiro Suzuki	Takahiro Suzuki	Hiromasa Sato
	(1 GHz -6.4 GHz)	(6.4 GHz -10 GHz)	(10 GHz -18 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	53.85	31.84	16.54	43.05	2.46	61.64	73.9	12.2	241	109	-
Hori.	15540.000	PK	46.29	39.62	11.63	40.46	-9.54	47.54	73.9	26.3	150	0	-
Hori.	20720.000	PK	48.64	40.25	14.34	47.30	-9.54	46.39	73.9	27.5	113	60	-
Hori.	5150.000	AV	38.16	31.84	16.54	43.05	2.46	45.95	53.9	7.9	241	109	VBW:470 Hz
Hori.	15540.000	AV	34.61	39.62	11.63	40.46	-9.54	35.86	53.9	18.0	150	0	VBW:470 Hz,Floor noise
Hori.	20720.000	AV	43.93	40.25	14.34	47.30	-9.54	41.68	53.9	12.2	113	60	VBW:470 Hz
Vert.	5150.000	PK	52.26	31.84	16.54	43.05	2.46	60.05	73.9	13.8	100	71	-
Vert.	15540.000	PK	45.93	39.62	11.63	40.46	-9.54	47.18	73.9	26.7	150	0	-
Vert.	20720.000	PK	50.72	40.25	14.34	47.30	-9.54	48.47	73.9	25.4	139	322	-
Vert.	5150.000	AV	38.71	31.84	16.54	43.05	2.46	46.50	53.9	7.4	100	71	VBW:470 Hz
Vert.	15540.000	AV	34.31	39.62	11.63	40.46	-9.54	35.56	53.9	18.3	150	0	VBW:470 Hz,Floor noise
Vert.	20720.000	AV	47.14	40.25	14.34	47.30	-9.54	44.89	53.9	9.0	139	322	VBW:470 Hz

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 (3.98 m/ 3.0 m) = 2.46 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.	3453.400	PK	51.38	28.42	15.30	42.12	2.46	55.44	-39.79	-27.0	12.7	100	79	-
Hori.	10360.000	PK	50.20	36.21	9.27	42.73	-9.54	43.41	-51.82	-27.0	24.8	141	233	-
Vert.	3453.400	PK	51.98	28.42	15.30	42.12	2.46	56.04	-39.19	-27.0	12.1	176	248	-
Vert.	10360.000	PK	50.71	36.21	9.27	42.73	-9.54	43.92	-51.31	-27.0	24.3	137	248	-

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)

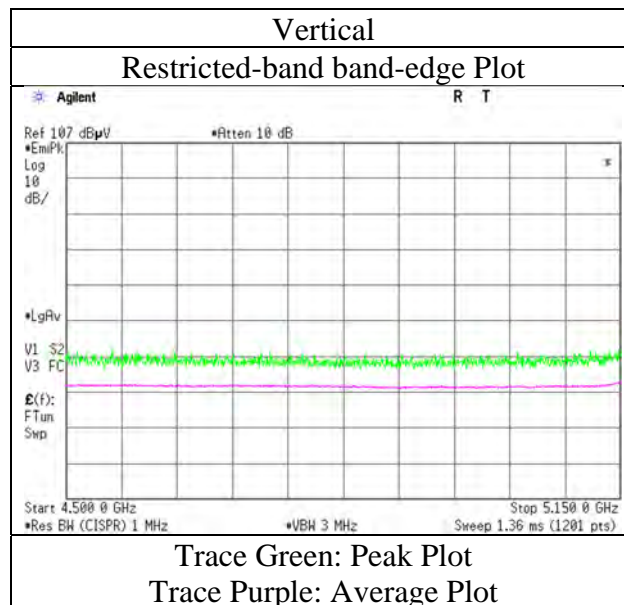
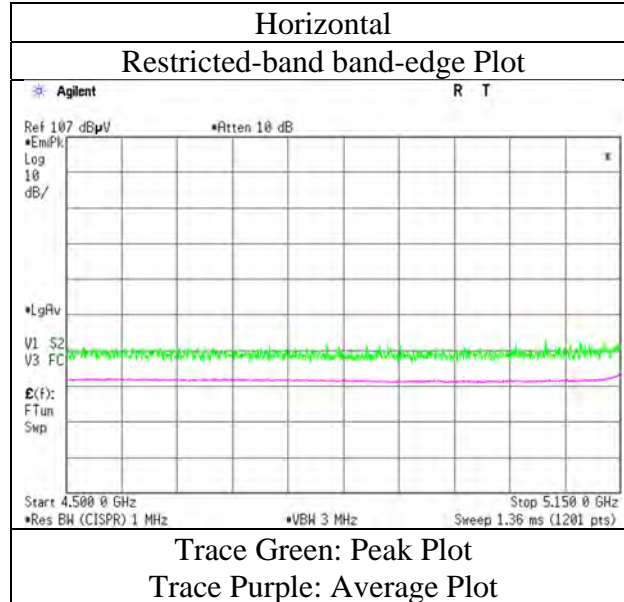
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m/ 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 14, 2016  
Temperature / Humidity 22 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
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.

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5200 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	49.83	31.84	16.54	43.05	2.46	57.62	73.9	16.2	206	121	-
Hori.	5150.000	AV	37.91	31.84	16.54	43.05	2.46	45.70	53.9	<b>8.2</b>	206	121	VBW:470 Hz
Vert.	5150.000	PK	49.74	31.84	16.54	43.05	2.46	57.53	73.9	16.3	178	74	-
Vert.	5150.000	AV	37.71	31.84	16.54	43.05	2.46	45.50	53.9	8.4	178	74	VBW:470 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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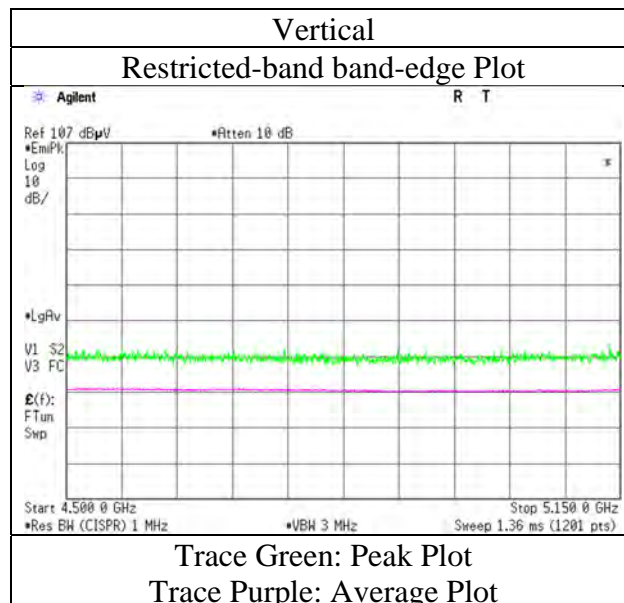
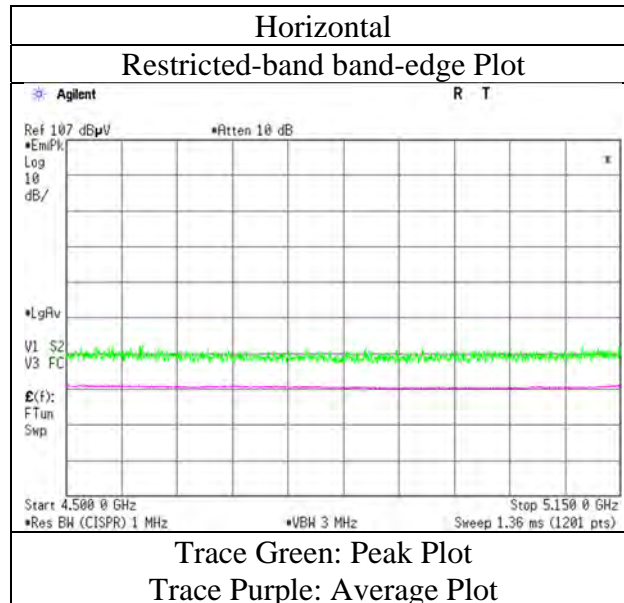
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5200 MHz



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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	3	3	3
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 24, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	24 deg.C, 56 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Yosuke Murakami (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Hiromasa Sato (18 GHz -26.5 GHz)	Yosuke Murakami (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	45.49	39.84	11.60	40.32	-9.54	47.07	73.9	26.8	150	0	-
Hori.	20960.000	PK	48.19	40.22	14.47	47.23	-9.54	46.11	73.9	27.7	133	332	-
Hori.	15720.000	AV	34.08	39.84	11.60	40.32	-9.54	35.66	53.9	18.2	150	0	VBW :470 Hz,Floor Noise
Hori.	20960.000	AV	42.22	40.22	14.47	47.23	-9.54	40.14	53.9	13.7	133	332	VBW :470 Hz
Vert.	15720.000	PK	45.65	39.84	11.60	40.32	-9.54	47.23	73.9	26.6	150	0	-
Vert.	20960.000	PK	49.97	40.22	14.47	47.23	-9.54	47.89	73.9	26.0	138	331	-
Vert.	15720.000	AV	33.74	39.84	11.60	40.32	-9.54	35.32	53.9	18.5	150	0	VBW :470 Hz,Floor Noise
Vert.	20960.000	AV	46.09	40.22	14.47	47.23	-9.54	44.01	53.9	<b>9.8</b>	138	331	VBW :470 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3493.375	PK	52.39	28.60	15.34	42.15	2.46	56.64	-38.59	-27.0	11.5	145	85	-
Hori.	10480.000	PK	50.95	36.30	9.31	42.76	-9.54	44.26	-50.97	-27.0	23.9	145	237	-
Vert.	3493.375	PK	52.40	28.60	15.34	42.15	2.46	56.65	-38.58	-27.0	11.5	141	234	-
Vert.	10480.000	PK	50.72	36.30	9.31	42.76	-9.54	44.03	-51.20	-27.0	24.2	157	256	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5300 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	49.28	31.60	16.68	43.26	2.46	56.76	73.9	17.1	363	120	-
Hori.	5350.000	AV	38.59	31.60	16.68	43.26	2.46	46.07	53.9	<b>7.8</b>	363	120	VBW:470 Hz
Vert.	5350.000	PK	49.79	31.60	16.68	43.26	2.46	57.27	73.9	16.6	112	136	-
Vert.	5350.000	AV	38.38	31.60	16.68	43.26	2.46	45.86	53.9	8.0	112	136	VBW:470 Hz

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).

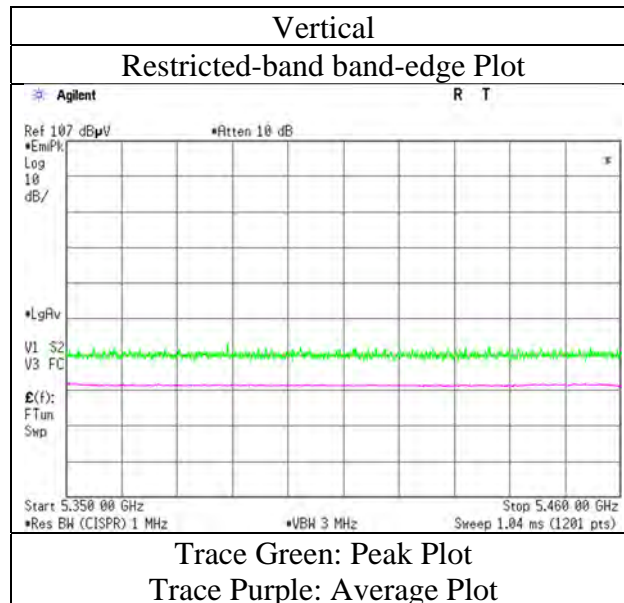
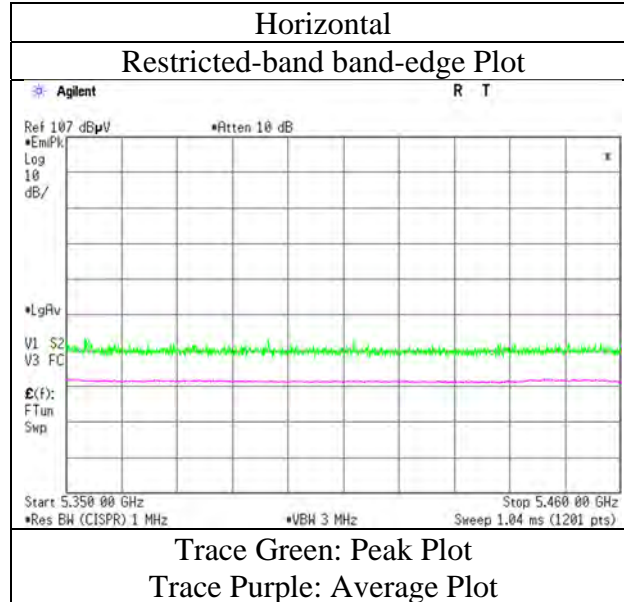
Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5300 MHz



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

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	3	3	3
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 24, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	24 deg.C, 56 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Yosuke Murakami (6.4 GHz -10 GHz)	Hirosasa Sato (10 GHz -18 GHz)	Hirosasa Sato (18 GHz -26.5 GHz)	Yosuke Murakami (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	51.35	31.60	16.68	43.26	2.46	58.83	73.9	15.0	372	121	-
Hori.	10640.000	PK	50.45	36.83	9.38	42.82	-9.54	44.30	73.9	29.6	136	247	-
Hori.	15960.000	PK	46.85	40.23	11.53	40.13	-9.54	48.94	73.9	24.9	150	0	-
Hori.	21280.000	PK	48.35	40.23	14.60	47.21	-9.54	46.43	73.9	27.4	136	325	-
Hori.	5350.000	AV	39.46	31.60	16.68	43.26	2.46	46.94	53.9	6.9	372	121	VBW:470 Hz
Hori.	10640.000	AV	38.55	36.83	9.38	42.82	-9.54	32.40	53.9	21.5	136	247	VBW:470 Hz
Hori.	15960.000	AV	34.59	40.23	11.53	40.13	-9.54	36.68	53.9	17.2	150	0	VBW:470 Hz,Floor noise
Hori.	21280.000	AV	43.23	40.23	14.60	47.21	-9.54	41.31	53.9	12.5	136	325	VBW:470 Hz
Vert.	5350.000	PK	50.51	31.60	16.68	43.26	2.46	57.99	73.9	15.9	145	90	-
Vert.	10640.000	PK	49.46	36.83	9.38	42.82	-9.54	43.31	73.9	30.5	157	260	-
Vert.	15960.000	PK	45.61	40.23	11.53	40.13	-9.54	47.70	73.9	26.2	150	0	-
Vert.	21280.000	PK	50.40	40.23	14.60	47.21	-9.54	48.48	73.9	25.4	133	336	-
Vert.	5350.000	AV	38.73	31.60	16.68	43.26	2.46	46.21	53.9	7.6	145	90	VBW:470 Hz
Vert.	10640.000	AV	38.26	36.83	9.38	42.82	-9.54	32.11	53.9	21.7	157	260	VBW:470 Hz
Vert.	15960.000	AV	34.51	40.23	11.53	40.13	-9.54	36.60	53.9	17.3	150	0	VBW:470 Hz,Floor noise
Vert.	21280.000	AV	46.08	40.23	14.60	47.21	-9.54	44.16	53.9	9.7	133	336	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3546.706	PK	51.19	28.82	15.38	42.16	2.46	55.69	-39.54	-27.0	12.5	122	82	-
Vert.	3546.706	PK	52.22	28.82	15.38	42.16	2.46	56.72	-38.51	-27.0	11.5	107	245	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

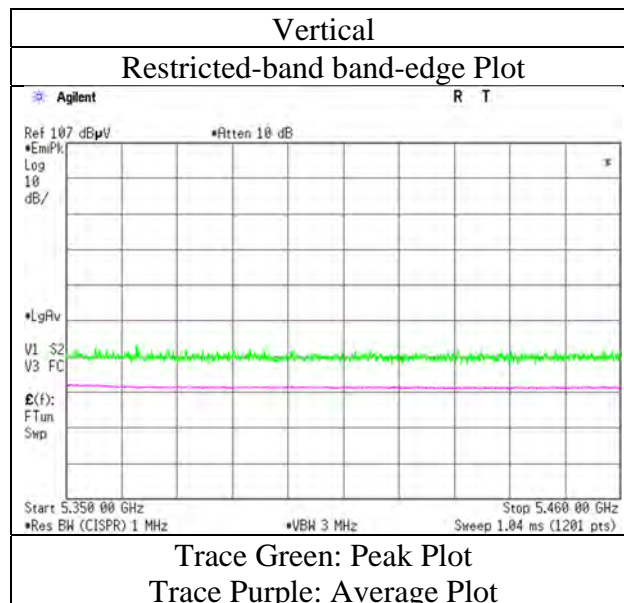
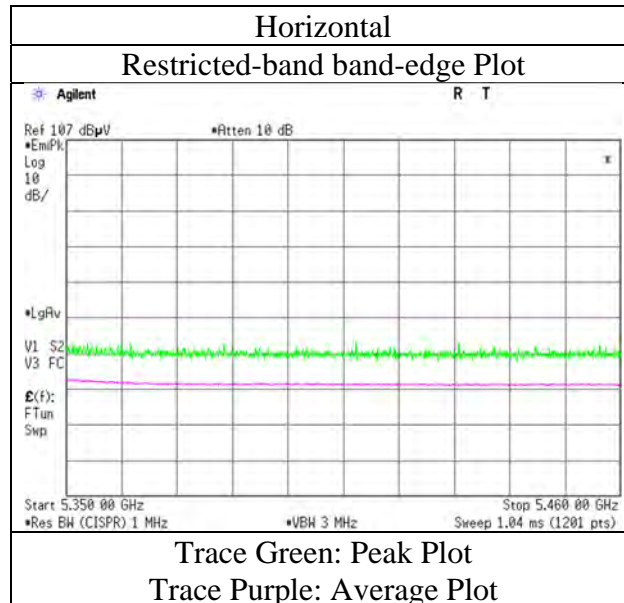
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
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.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	3	3	3
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 24, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	24 deg.C, 56 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Yosuke Murakami (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Hiromasa Sato (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3666.677	PK	51.06	29.12	15.46	42.19	2.46	55.91	73.9	17.9	184	83	-
Hori.	5460.000	PK	51.29	31.81	16.74	43.38	2.46	58.92	73.9	14.9	400	119	-
Hori.	11000.000	PK	56.67	37.23	9.50	42.99	-9.54	50.87	73.9	23.0	144	243	-
Hori.	3666.677	AV	40.73	29.12	15.46	42.19	2.46	45.58	53.9	8.3	184	83	VBW:470 Hz
Hori.	5460.000	AV	38.93	31.81	16.74	43.38	2.46	46.56	53.9	7.3	400	119	VBW:470 Hz
Hori.	11000.000	AV	43.77	37.23	9.50	42.99	-9.54	37.97	53.9	15.9	144	243	VBW:470 Hz
Vert.	3666.677	PK	50.80	29.12	15.46	42.19	2.46	55.65	73.9	18.2	109	104	-
Vert.	5460.000	PK	50.02	31.81	16.74	43.38	2.46	57.65	73.9	16.2	128	85	-
Vert.	11000.000	PK	53.57	37.23	9.50	42.99	-9.54	47.77	73.9	26.1	154	290	-
Vert.	3666.677	AV	40.55	29.12	15.46	42.19	2.46	45.40	53.9	8.5	109	104	VBW:470 Hz
Vert.	5460.000	AV	38.64	31.81	16.74	43.38	2.46	46.27	53.9	7.6	128	85	VBW:470 Hz
Vert.	11000.000	AV	41.63	37.23	9.50	42.99	-9.54	35.83	53.9	18.0	154	290	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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	53.20	31.82	16.75	43.39	2.46	60.84	-34.39	-27.0	7.3	400	119	-
Hori.	16500.000	PK	46.52	39.88	12.24	40.32	-9.54	48.78	-46.45	-27.0	19.4	150	0	-
Hori.	22000.000	PK	46.24	40.43	14.92	47.73	-9.54	44.32	-50.91	-27.0	23.9	134	330	-
Vert.	5470.000	PK	51.37	31.82	16.75	43.39	2.46	59.01	-36.22	-27.0	9.2	128	85	-
Vert.	16500.000	PK	46.03	39.88	12.24	40.32	-9.54	48.29	-46.94	-27.0	19.9	150	0	-
Vert.	22000.000	PK	48.05	40.43	14.92	47.73	-9.54	46.13	-49.10	-27.0	22.1	129	351	-

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)

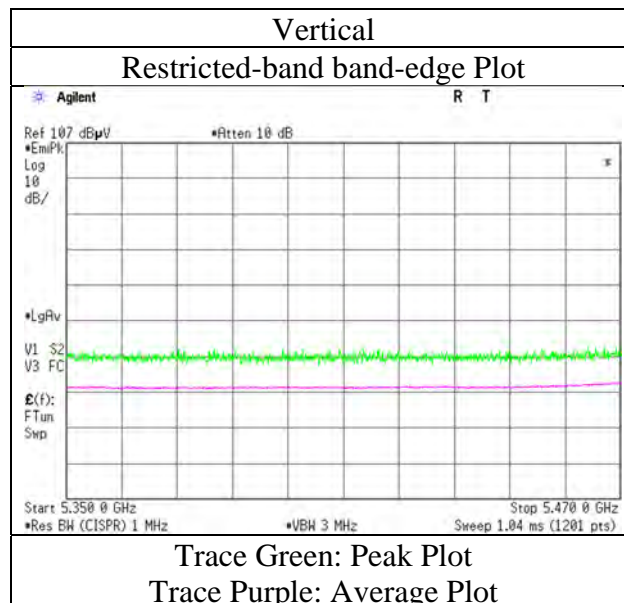
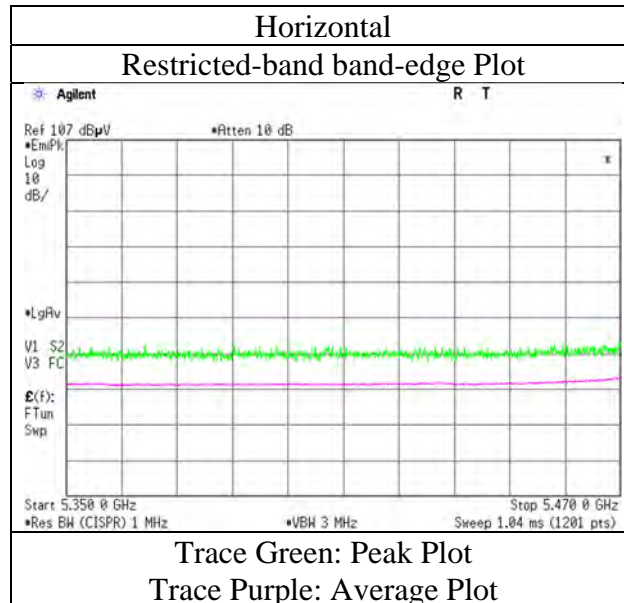
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5520 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	49.07	31.81	16.74	43.38	2.46	56.70	73.9	17.2	373	122	-
Hori.	5460.000	AV	38.23	31.81	16.74	43.38	2.46	45.86	53.9	<b>8.0</b>	373	122	VBW:470 Hz
Vert.	5460.000	PK	49.69	31.81	16.74	43.38	2.46	57.32	73.9	16.5	122	89	-
Vert.	5460.000	AV	38.15	31.81	16.74	43.38	2.46	45.78	53.9	8.1	122	89	VBW:470 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	49.15	31.82	16.75	43.39	2.46	56.79	-38.44	-27.0	11.4	373	122	-
Vert.	5470.000	PK	49.86	31.82	16.75	43.39	2.46	57.50	-37.73	-27.0	10.7	122	89	-

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

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

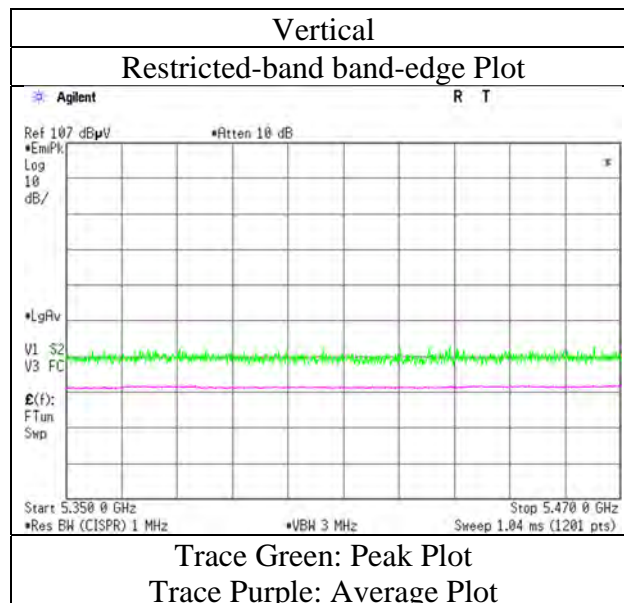
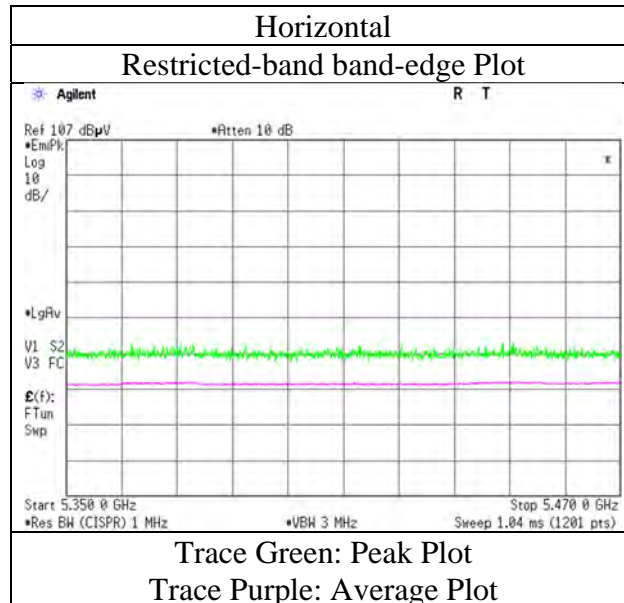
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5520 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.**

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	3	3	3
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 24, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	24 deg.C, 56 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki	Yosuke Murakami	Hiromasa Sato	Hiromasa Sato	Yosuke Murakami	
	(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.	3720.032	PK	50.82	29.23	15.50	42.20	2.46	55.81	73.9	18.0	180	87	-
Hori.	11160.000	PK	59.91	37.20	9.59	42.85	-9.54	54.31	73.9	19.5	140	250	-
Hori.	22320.000	PK	45.95	40.44	14.97	47.94	-9.54	43.88	73.9	30.0	135	332	-
Hori.	3720.032	AV	39.68	29.23	15.50	42.20	2.46	44.67	53.9	9.2	180	87	VBW:470 Hz
Hori.	11160.000	AV	47.28	37.20	9.59	42.85	-9.54	41.68	53.9	12.2	140	250	VBW:470 Hz
Hori.	22320.000	AV	37.84	40.44	14.97	47.94	-9.54	35.77	53.9	18.1	135	332	VBW:470 Hz
Vert.	3720.032	PK	51.33	29.23	15.50	42.20	2.46	56.32	73.9	17.5	114	247	-
Vert.	11160.000	PK	57.70	37.20	9.59	42.85	-9.54	52.10	73.9	21.8	152	220	-
Vert.	22320.000	PK	47.93	40.44	14.97	47.94	-9.54	45.86	73.9	28.0	138	324	-
Vert.	3720.032	AV	40.42	29.23	15.50	42.20	2.46	45.41	53.9	8.4	114	247	VBW:470 Hz
Vert.	11160.000	AV	46.24	37.20	9.59	42.85	-9.54	40.64	53.9	13.2	152	220	VBW:470 Hz
Vert.	22320.000	AV	42.00	40.44	14.97	47.94	-9.54	39.93	53.9	13.9	138	324	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	16740.000	PK	44.78	39.41	12.35	40.33	-9.54	46.67	-48.56	-27.0	21.5	150	0	-
Vert.	16740.000	PK	47.44	39.41	12.35	40.33	-9.54	49.33	-45.90	-27.0	18.9	150	0	-

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

Result (EIRP [dBm]) = 10 \* LOG ( (10 ^ (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 (3.98 m / 3.0 m) = 2.46 dB

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



## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5680 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	50.21	31.98	16.89	43.42	2.46	58.12	-37.11	-27.0	<b>10.1</b>	356	119	-
Vert.	5725.000	PK	49.97	31.98	16.89	43.42	2.46	57.88	-37.35	-27.0	10.3	130	68	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

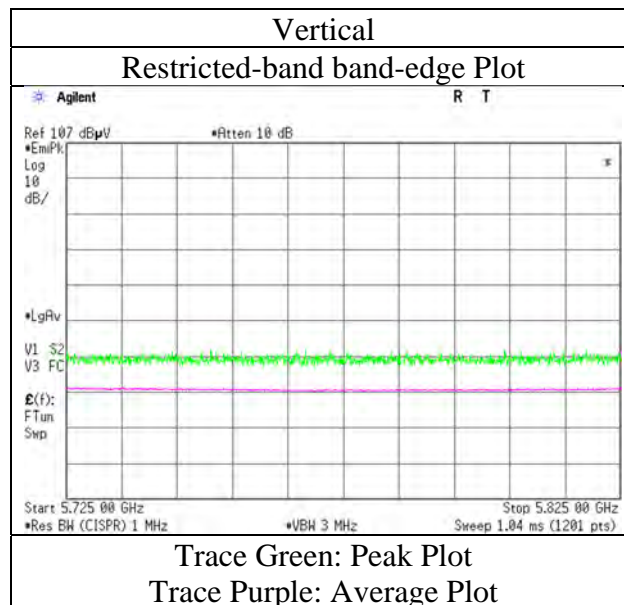
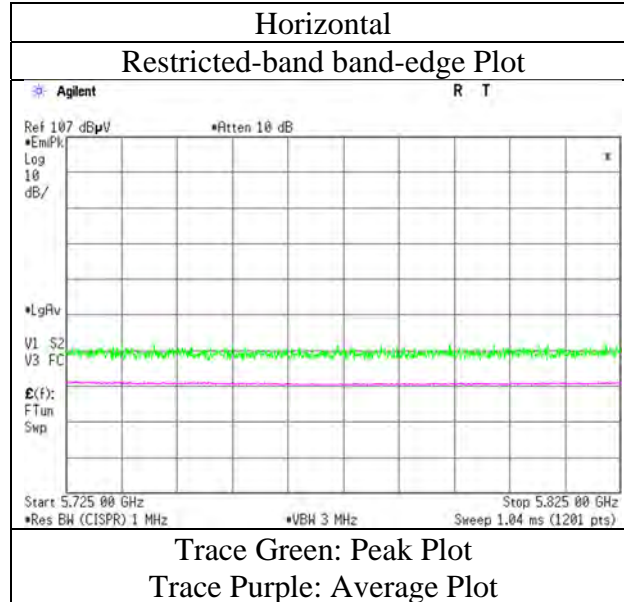
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5680 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.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Yosuke Murakami (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3800.019	PK	51.92	29.42	15.58	42.22	2.46	57.16	73.9	16.7	116	91	-
Hori.	11400.000	PK	56.16	37.76	9.72	42.65	-9.54	51.45	73.9	22.4	147	250	-
Hori.	19000.000	PK	45.62	40.25	13.67	44.90	-9.54	45.10	73.9	28.8	147	89	-
Hori.	22800.000	PK	46.48	40.31	15.11	46.79	-9.54	45.57	73.9	28.3	142	334	-
Hori.	3800.019	AV	40.99	29.42	15.58	42.22	2.46	46.23	53.9	7.6	116	91	VBW:470 Hz
Hori.	11400.000	AV	43.50	37.76	9.72	42.65	-9.54	38.79	53.9	15.1	147	250	VBW:470 Hz
Hori.	19000.000	AV	39.35	40.25	13.67	44.90	-9.54	38.83	53.9	15.0	147	89	VBW:470 Hz
Hori.	22800.000	AV	39.67	40.31	15.11	46.79	-9.54	38.76	53.9	15.1	142	334	VBW:470 Hz
Vert.	3800.019	PK	51.76	29.42	15.58	42.22	2.46	57.00	73.9	16.9	151	229	-
Vert.	11400.000	PK	55.93	37.76	9.72	42.65	-9.54	51.22	73.9	22.6	149	259	-
Vert.	19000.000	PK	45.40	40.25	13.67	44.90	-9.54	44.88	73.9	29.0	144	304	-
Vert.	22800.000	PK	47.57	40.31	15.11	46.79	-9.54	46.66	73.9	27.2	144	122	-
Vert.	3800.019	AV	40.12	29.42	15.58	42.22	2.46	45.36	53.9	8.5	151	229	VBW:470 Hz
Vert.	11400.000	AV	42.87	37.76	9.72	42.65	-9.54	38.16	53.9	15.7	149	259	VBW:470 Hz
Vert.	19000.000	AV	37.56	40.25	13.67	44.90	-9.54	37.04	53.9	16.8	144	304	VBW:470 Hz
Vert.	22800.000	AV	42.37	40.31	15.11	46.79	-9.54	41.46	53.9	12.4	144	122	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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	52.85	31.98	16.89	43.42	2.46	60.76	-34.47	-27.0	7.4	394	121	-
Hori.	17100.000	PK	44.51	39.77	12.49	40.33	-9.54	46.90	-48.33	-27.0	21.3	150	0	-
Vert.	5725.000	PK	52.72	31.98	16.89	43.42	2.46	60.63	-34.60	-27.0	7.6	108	110	-
Vert.	17100.000	PK	45.50	39.77	12.49	40.33	-9.54	47.89	-47.34	-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 ^ (Electric Field Strength [dBuV/m] / 20) \* 10 ^ (-6) \* Distance : 3 [m] ) ^ 2 / 30 \* 10 ^ 3)

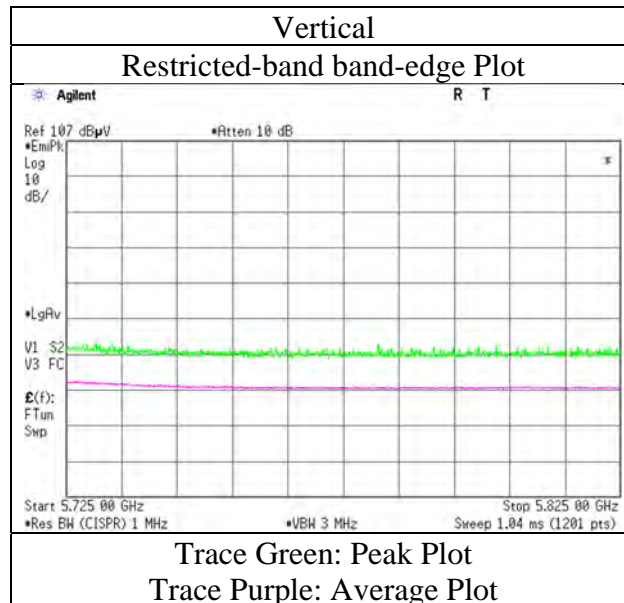
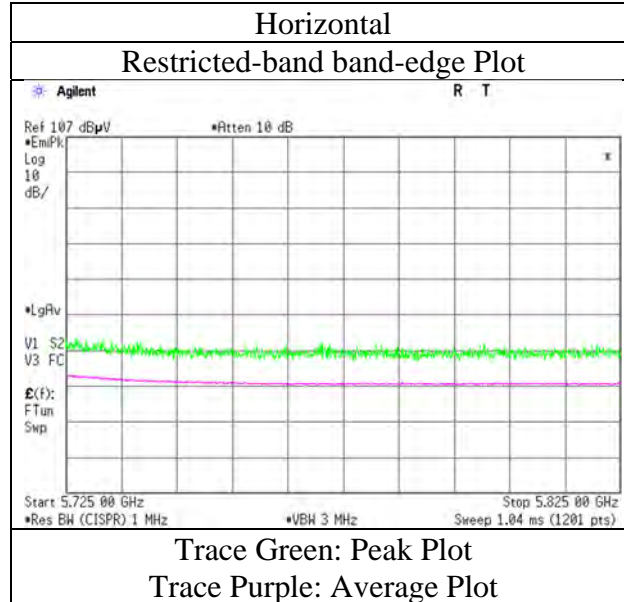
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5700 MHz



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

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	22 deg.C, 63 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Yosuke Murakami (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3830.046	PK	50.79	29.47	15.59	42.23	2.46	56.08	73.9	17.8	120	89	-
Hori.	11490.000	PK	55.79	37.91	9.79	42.57	-9.54	51.38	73.9	22.5	151	249	-
Hori.	19150.000	PK	45.94	40.34	13.74	44.79	-9.54	45.69	73.9	28.2	147	89	-
Hori.	22980.000	PK	45.93	40.24	15.18	46.88	-9.54	44.93	73.9	28.9	143	333	-
Hori.	3830.046	AV	40.48	29.47	15.59	42.23	2.46	45.77	53.9	8.1	120	89	VBW:470 Hz
Hori.	11490.000	AV	43.41	37.91	9.79	42.57	-9.54	39.00	53.9	14.9	151	249	VBW:470 Hz
Hori.	19150.000	AV	39.45	40.34	13.74	44.79	-9.54	39.20	53.9	14.7	147	89	VBW:470 Hz
Hori.	22980.000	AV	36.96	40.24	15.18	46.88	-9.54	35.96	53.9	17.9	143	333	VBW:470 Hz
Vert.	3830.046	PK	50.99	29.47	15.59	42.23	2.46	56.28	73.9	17.6	156	246	-
Vert.	11490.000	PK	54.86	37.91	9.79	42.57	-9.54	50.45	73.9	23.4	147	263	-
Vert.	19150.000	PK	45.47	40.34	13.74	44.79	-9.54	45.22	73.9	28.6	144	309	-
Vert.	22980.000	PK	46.96	40.24	15.18	46.88	-9.54	45.96	73.9	27.9	143	118	-
Vert.	3830.046	AV	40.69	29.47	15.59	42.23	2.46	45.98	53.9	7.9	156	246	VBW:470 Hz
Vert.	11490.000	AV	42.14	37.91	9.79	42.57	-9.54	37.73	53.9	16.1	147	263	VBW:470 Hz
Vert.	19150.000	AV	37.55	40.34	13.74	44.79	-9.54	37.30	53.9	16.6	144	309	VBW:470 Hz
Vert.	22980.000	AV	40.09	40.24	15.18	46.88	-9.54	39.09	53.9	14.8	143	118	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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	49.55	31.83	16.86	43.42	2.46	57.28	-37.95	-27.0	10.9	387	123	-
Hori.	5700.000	PK	49.64	31.92	16.88	43.42	2.46	57.48	-37.75	10.0	47.7	387	123	-
Hori.	5720.000	PK	57.73	31.96	16.89	43.42	2.46	65.62	-29.61	15.6	45.2	387	123	-
Hori.	5725.000	PK	60.50	31.98	16.89	43.42	2.46	68.41	-26.82	27.0	53.8	387	123	-
Hori.	17235.000	PK	47.21	40.03	12.54	40.32	-9.54	49.92	-45.31	-27.0	18.3	150	0	-
Vert.	5650.000	PK	49.29	31.83	16.86	43.42	2.46	57.02	-38.21	-27.0	11.2	104	90	-
Vert.	5700.000	PK	50.11	31.92	16.88	43.42	2.46	57.95	-37.28	10.0	47.2	104	90	-
Vert.	5720.000	PK	55.81	31.96	16.89	43.42	2.46	63.70	-31.53	15.6	47.1	104	90	-
Vert.	5725.000	PK	59.61	31.98	16.89	43.42	2.46	67.52	-27.71	27.0	54.7	104	90	-
Vert.	17235.000	PK	47.03	40.03	12.54	40.32	-9.54	49.74	-45.49	-27.0	18.4	150	0	-

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

Result (EIRP [dBm]) = 10 \* LOG ( (10 ^ (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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

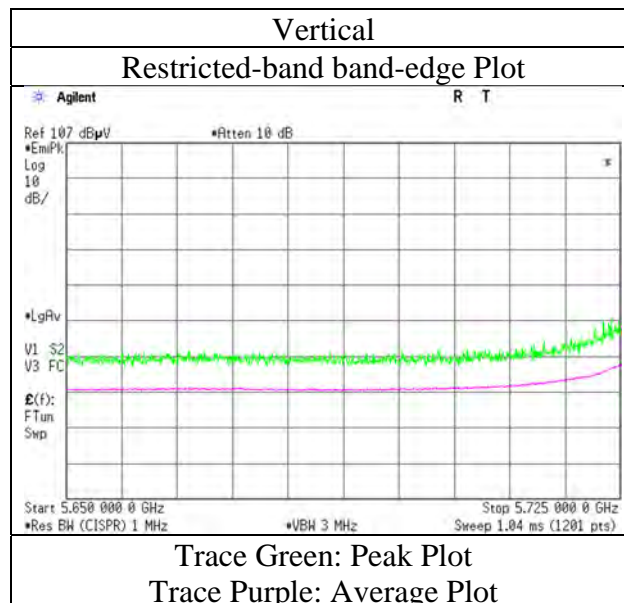
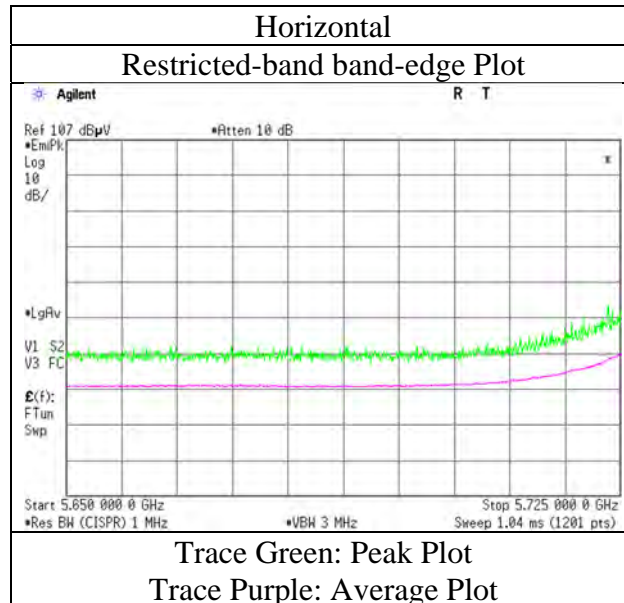
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5765 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.70	31.83	16.86	43.42	2.46	57.43	-37.80	-27.0	<b>10.8</b>	389	119	-
Hori.	5700.000	PK	49.74	31.92	16.88	43.42	2.46	57.58	-37.65	10.0	47.6	389	119	-
Hori.	5720.000	PK	49.80	31.96	16.89	43.42	2.46	57.69	-37.54	15.6	53.1	389	119	-
Hori.	5725.000	PK	51.87	31.98	16.89	43.42	2.46	59.78	-35.45	27.0	62.4	389	119	-
Vert.	5650.000	PK	48.38	31.83	16.86	43.42	2.46	56.11	-39.12	-27.0	12.1	100	101	-
Vert.	5700.000	PK	50.06	31.92	16.88	43.42	2.46	57.90	-37.33	10.0	47.3	100	101	-
Vert.	5720.000	PK	50.11	31.96	16.89	43.42	2.46	58.00	-37.23	15.6	52.8	100	101	-
Vert.	5725.000	PK	51.72	31.98	16.89	43.42	2.46	59.63	-35.60	27.0	62.6	100	101	-

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 )

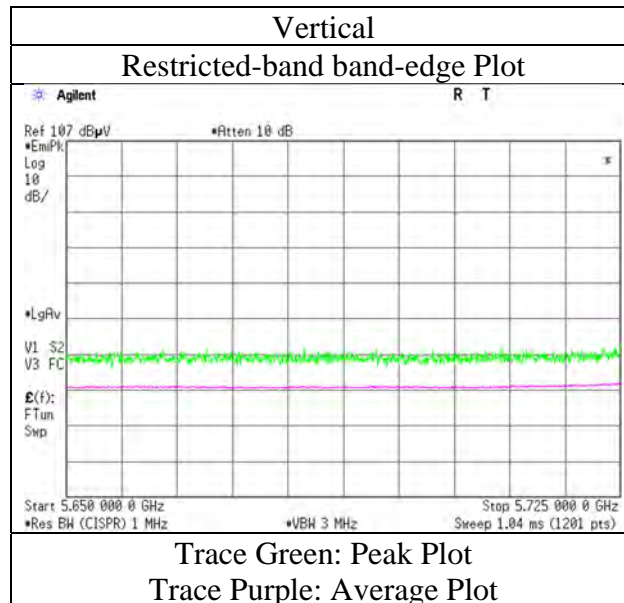
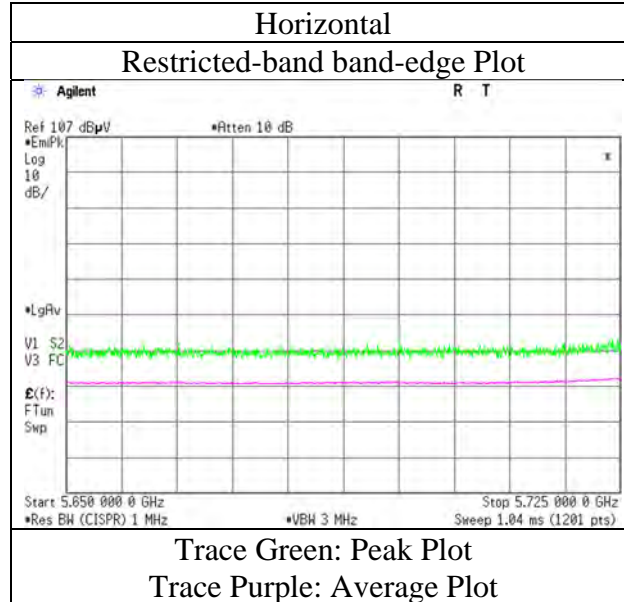
\* Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5765 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.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 26, 2021	June 22, 2021	June 15, 2021	June 23, 2021	June 25, 2021	July 1, 2021
Temperature / Humidity	24 deg.C, 50 %RH	22 deg.C, 55 %RH	23 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH
Engineer	Yusuke Tanikawara (30 MHz -1 GHz)	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (26.5 GHz -40 GHz)
Mode	Tx 11a 5785 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.	196.649	QP	33.80	16.47	7.84	32.05	0.00	26.06	43.5	17.4	100	295	-
Hori.	321.183	QP	49.00	14.30	8.69	31.95	0.00	40.04	46.0	5.9	100	270	-
Hori.	392.922	QP	42.60	15.68	9.02	31.94	0.00	35.36	46.0	10.6	100	255	-
Hori.	402.064	QP	42.10	15.97	9.07	31.94	0.00	35.20	46.0	10.8	100	252	-
Hori.	575.400	QP	37.10	18.55	9.80	31.93	0.00	33.52	46.0	12.4	173	91	-
Hori.	3856.676	PK	52.91	29.52	15.61	42.24	2.46	58.26	73.9	15.6	207	281	-
Hori.	11570.000	PK	57.06	37.98	9.83	42.56	-9.54	52.77	73.9	21.1	153	251	-
Hori.	19283.330	PK	46.10	40.34	13.80	44.70	-9.54	46.00	73.9	27.9	150	88	-
Hori.	3856.676	AV	42.26	29.52	15.61	42.24	2.46	47.61	53.9	6.2	207	281	VBW:470 Hz
Hori.	11570.000	AV	44.07	37.98	9.83	42.56	-9.54	39.78	53.9	14.1	153	251	VBW:470 Hz
Hori.	19283.330	AV	39.71	40.34	13.80	44.70	-9.54	39.61	53.9	14.2	150	88	VBW:470 Hz
Vert.	50.523	QP	36.90	11.02	6.78	32.17	0.00	22.53	40.0	17.4	100	173	-
Vert.	196.660	QP	37.30	16.47	7.84	32.05	0.00	29.56	43.5	13.9	100	151	-
Vert.	207.796	QP	43.50	11.45	8.06	32.04	0.00	30.97	43.5	12.5	100	188	-
Vert.	483.931	QP	37.30	17.53	9.43	31.92	0.00	32.34	46.0	13.6	134	182	-
Vert.	3856.676	PK	51.16	29.52	15.61	42.24	2.46	56.51	73.9	17.3	171	246	-
Vert.	11570.000	PK	56.41	37.98	9.83	42.56	-9.54	52.12	73.9	21.7	151	257	-
Vert.	19283.330	PK	45.80	40.34	13.80	44.70	-9.54	45.70	73.9	28.2	138	303	-
Vert.	3856.676	AV	40.18	29.52	15.61	42.24	2.46	45.53	53.9	8.3	171	246	VBW:470 Hz
Vert.	11570.000	AV	43.65	37.98	9.83	42.56	-9.54	39.36	53.9	14.5	151	257	VBW:470 Hz
Vert.	19283.330	AV	39.31	40.34	13.80	44.70	-9.54	39.21	53.9	14.6	138	303	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 dB

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	47.08	40.19	12.58	40.31	-9.54	50.00	-45.23	-27.0	18.2	150	0	-
Hori.	23140.000	PK	46.75	40.19	15.25	46.96	-9.54	45.69	-49.54	-27.0	22.5	145	332	-
Vert.	17355.000	PK	46.25	40.19	12.58	40.31	-9.54	49.17	-46.06	-27.0	19.0	150	0	-
Vert.	23140.000	PK	45.81	40.19	15.25	46.96	-9.54	44.75	-50.48	-27.0	23.4	135	258	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11a 5805 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.31	32.27	16.97	43.43	2.46	57.58	-37.65	27.0	64.6	400	123	-
Hori.	5855.000	PK	49.34	32.28	16.97	43.43	2.46	57.62	-37.61	15.6	53.2	400	123	-
Hori.	5875.000	PK	49.52	32.31	17.00	43.43	2.46	57.86	-37.37	10.0	47.3	400	123	-
Hori.	5925.000	PK	49.35	32.36	17.02	43.43	2.46	57.76	-37.47	-27.0	10.4	400	123	-
Vert.	5850.000	PK	51.15	32.27	16.97	43.43	2.46	59.42	-35.81	27.0	62.8	121	110	-
Vert.	5855.000	PK	51.35	32.28	16.97	43.43	2.46	59.63	-35.60	15.6	51.2	121	110	-
Vert.	5875.000	PK	51.52	32.31	17.00	43.43	2.46	59.86	-35.37	10.0	45.3	121	110	-
Vert.	5925.000	PK	50.84	32.36	17.02	43.43	2.46	59.25	-35.98	-27.0	<b>8.9</b>	121	110	-

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 )

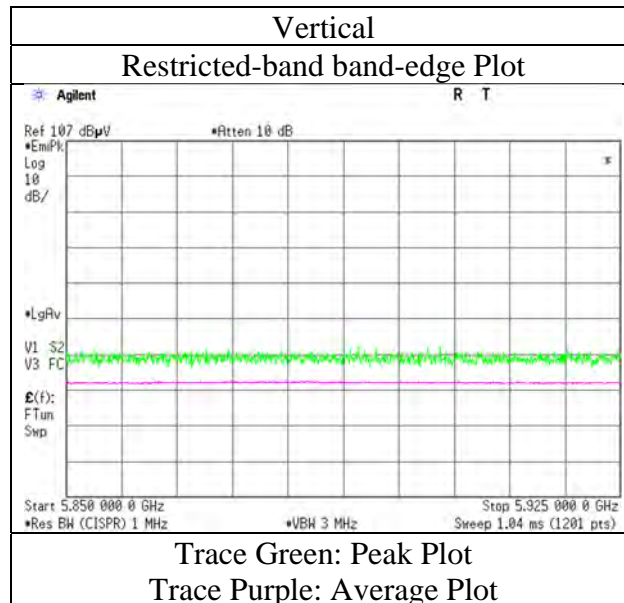
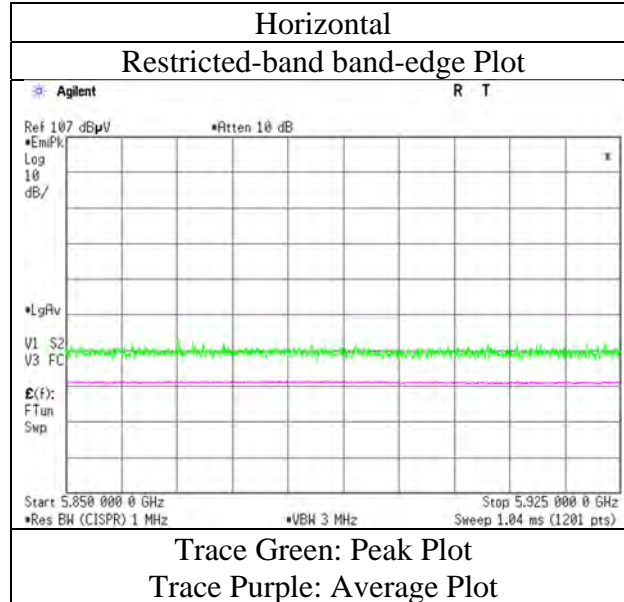
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11a 5805 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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 15, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	23 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasu Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3883.332	PK	51.68	29.56	15.63	42.24	2.46	57.09	73.9	16.8	100	87	-
Hori.	11650.000	PK	52.92	37.98	9.88	42.57	-9.54	48.67	73.9	25.2	143	250	-
Hori.	19416.660	PK	46.00	40.36	13.86	44.60	-9.54	46.08	73.9	27.8	150	87	-
Hori.	3883.332	AV	40.21	29.56	15.63	42.24	2.46	45.62	53.9	8.2	100	87	VBW:470 Hz
Hori.	11650.000	AV	40.70	37.98	9.88	42.57	-9.54	36.45	53.9	17.4	143	250	VBW:470 Hz
Hori.	19416.660	AV	39.93	40.36	13.86	44.60	-9.54	40.01	53.9	13.8	150	87	VBW:470 Hz
Vert.	3883.332	PK	51.67	29.56	15.63	42.24	2.46	57.08	73.9	16.8	143	109	-
Vert.	11650.000	PK	50.66	37.98	9.88	42.57	-9.54	46.41	73.9	27.4	100	0	-
Vert.	19416.660	PK	46.92	40.36	13.86	44.60	-9.54	47.00	73.9	26.9	138	312	-
Vert.	3883.332	AV	40.40	29.56	15.63	42.24	2.46	45.81	53.9	8.0	143	109	VBW:470 Hz
Vert.	11650.000	AV	39.24	37.98	9.88	42.57	-9.54	34.99	53.9	18.9	100	0	VBW:470 Hz
Vert.	19416.660	AV	41.22	40.36	13.86	44.60	-9.54	41.30	53.9	12.6	138	312	VBW:470 Hz

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 (3.98 m / 3.0 m) = 2.46 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	52.89	32.27	16.97	43.43	2.46	61.16	-34.07	27.0	61.0	377	120	-
Hori.	5855.000	PK	52.65	32.28	16.97	43.43	2.46	60.93	-34.30	15.6	49.9	377	120	-
Hori.	5875.000	PK	51.48	32.31	17.00	43.43	2.46	59.82	-35.41	10.0	45.4	377	120	-
Hori.	5925.000	PK	50.73	32.36	17.02	43.43	2.46	59.14	-36.09	-27.0	9.0	377	120	-
Hori.	17475.000	PK	47.16	40.34	12.62	40.30	-9.54	50.28	-44.95	-27.0	17.9	150	0	-
Hori.	23300.000	PK	46.89	40.18	15.32	47.03	-9.54	45.82	-49.41	-27.0	22.4	144	334	-
Vert.	5850.000	PK	53.13	32.27	16.97	43.43	2.46	61.40	-33.83	27.0	60.8	104	86	-
Vert.	5855.000	PK	51.16	32.28	16.97	43.43	2.46	59.44	-35.79	15.6	51.3	104	86	-
Vert.	5875.000	PK	51.00	32.31	17.00	43.43	2.46	59.34	-35.89	10.0	45.8	104	86	-
Vert.	5925.000	PK	50.39	32.36	17.02	43.43	2.46	58.80	-36.43	-27.0	9.4	104	86	-
Vert.	17475.000	PK	46.70	40.34	12.62	40.30	-9.54	49.82	-45.41	-27.0	18.4	150	0	-
Vert.	23300.000	PK	46.34	40.18	15.32	47.03	-9.54	45.27	-49.96	-27.0	22.9	139	88	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

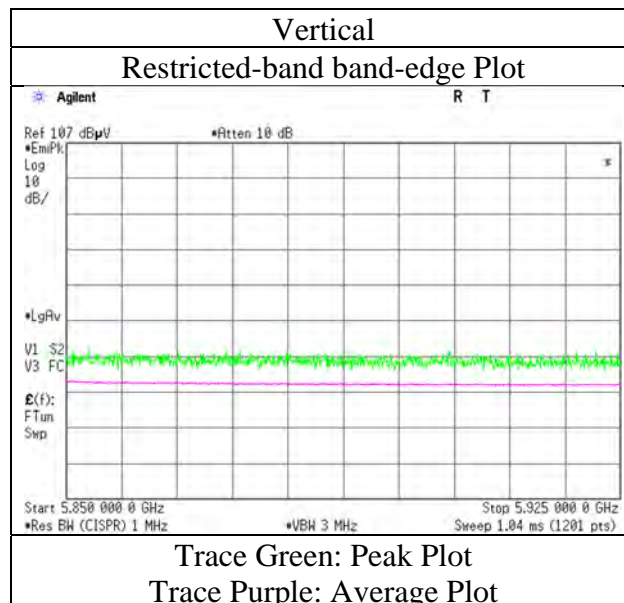
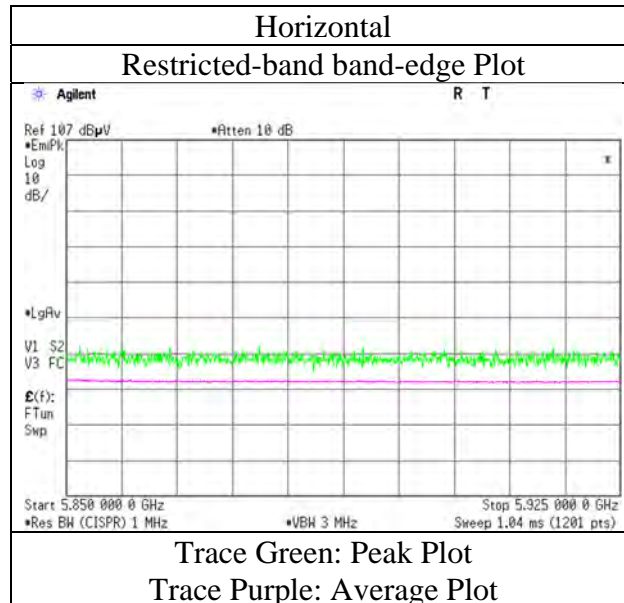
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11a 5825 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5180 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	55.02	31.84	16.54	43.05	2.46	62.81	73.9	11.0	100	105	-
Hori.	5150.000	AV	39.89	31.84	16.54	43.05	2.46	47.68	53.9	<b>6.2</b>	100	105	VBW:240 Hz
Vert.	5150.000	PK	53.59	31.84	16.54	43.05	2.46	61.38	73.9	12.5	100	77	-
Vert.	5150.000	AV	39.08	31.84	16.54	43.05	2.46	46.87	53.9	7.0	100	77	VBW:240 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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**Shonan EMC Lab.**

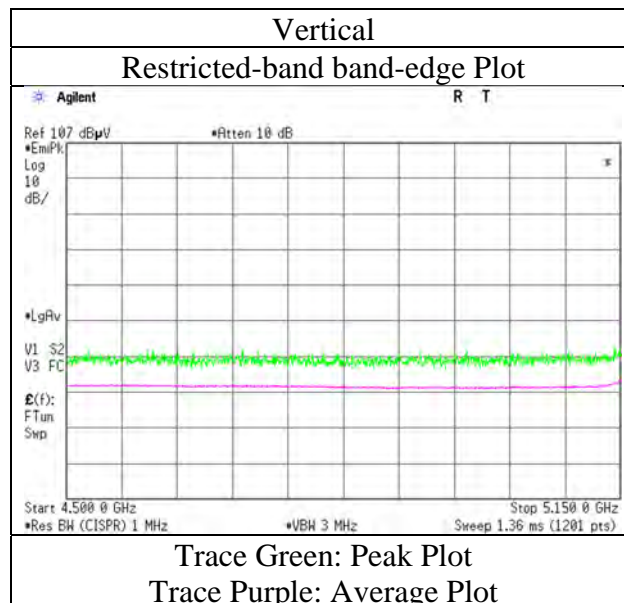
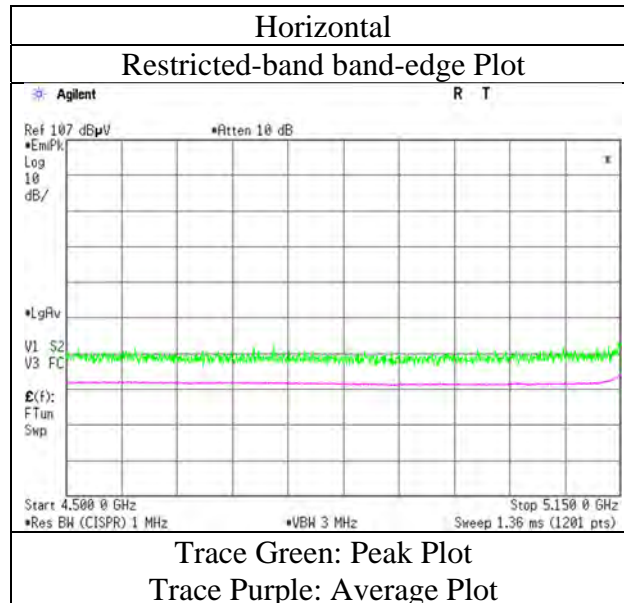
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-20 5180 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5200 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	51.28	31.84	16.54	43.05	2.46	59.07	73.9	14.8	116	107	-
Hori.	5150.000	AV	38.17	31.84	16.54	43.05	2.46	45.96	53.9	<b>7.9</b>	116	107	VBW:240 Hz
Vert.	5150.000	PK	51.22	31.84	16.54	43.05	2.46	59.01	73.9	14.8	105	82	-
Vert.	5150.000	AV	37.69	31.84	16.54	43.05	2.46	45.48	53.9	8.4	105	82	VBW:240 Hz

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).

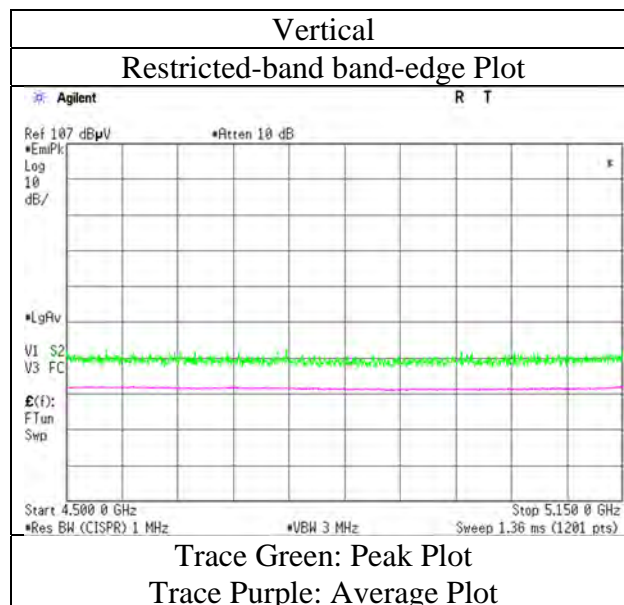
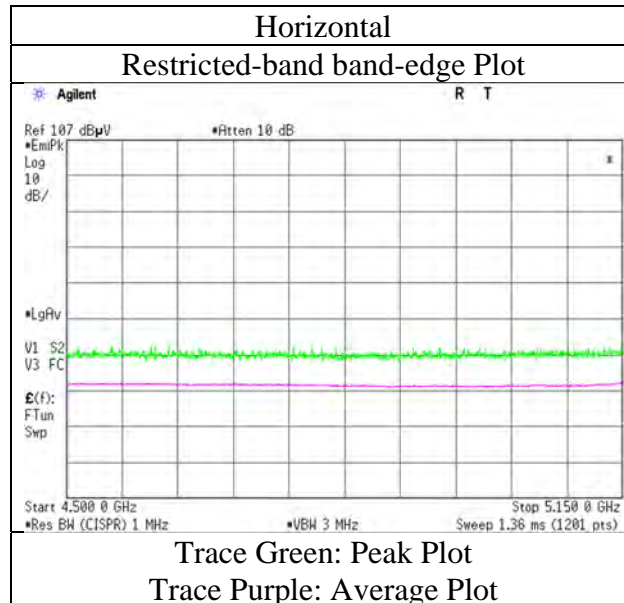
Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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



## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11n-20 5200 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5300 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	51.90	31.60	16.68	43.26	2.46	59.38	73.9	14.5	172	115	-
Hori.	5350.000	AV	38.61	31.60	16.68	43.26	2.46	46.09	53.9	<b>7.8</b>	172	115	VBW:240 Hz
Vert.	5350.000	PK	51.27	31.60	16.68	43.26	2.46	58.75	73.9	15.1	134	133	-
Vert.	5350.000	AV	38.25	31.60	16.68	43.26	2.46	45.73	53.9	8.1	134	133	VBW:240 Hz

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

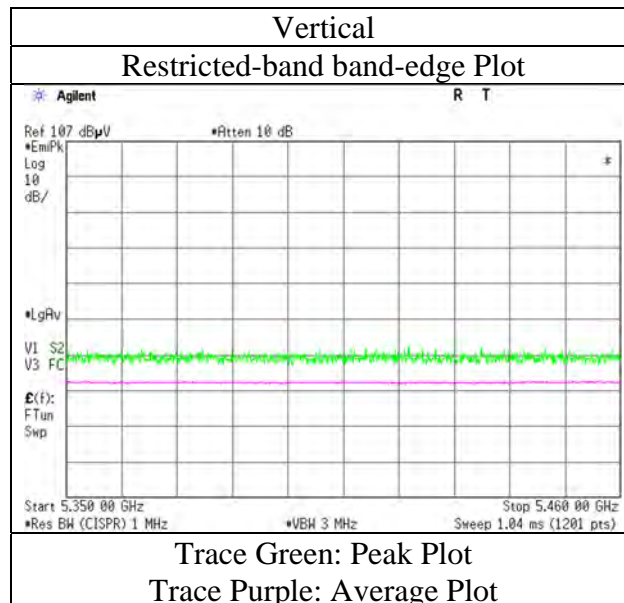
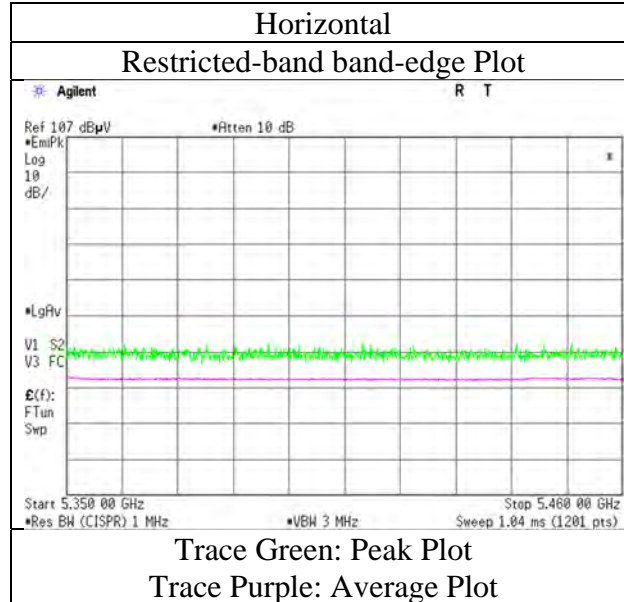
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11n-20 5300 MHz



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

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

**UL Japan, Inc.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 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	53.92	31.60	16.68	43.26	2.46	61.40	73.9	12.5	234	116	-
Hori.	5352.842	PK	52.48	31.61	16.68	43.26	2.46	59.97	73.9	13.9	234	116	-
Hori.	5350.000	AV	39.93	31.60	16.68	43.26	2.46	47.41	53.9	<b>6.4</b>	234	116	VBW:240 Hz
Hori.	5352.842	AV	38.13	31.61	16.68	43.26	2.46	45.62	53.9	8.2	234	116	VBW:240 Hz
Vert.	5350.000	PK	52.81	31.60	16.68	43.26	2.46	60.29	73.9	13.6	130	78	-
Vert.	5350.642	PK	51.51	31.60	16.68	43.26	2.46	58.99	73.9	14.9	130	78	-
Vert.	5350.000	AV	39.43	31.60	16.68	43.26	2.46	46.91	53.9	6.9	130	78	VBW:240 Hz
Vert.	5350.642	AV	37.84	31.60	16.68	43.26	2.46	45.32	53.9	8.5	130	78	VBW:240 Hz

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

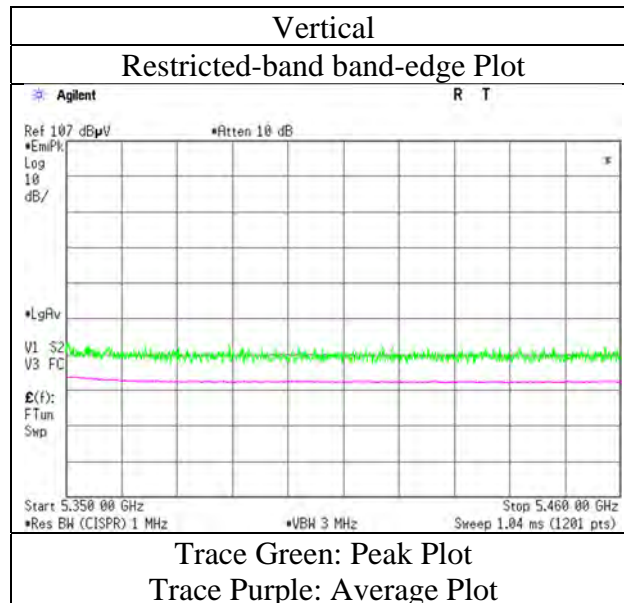
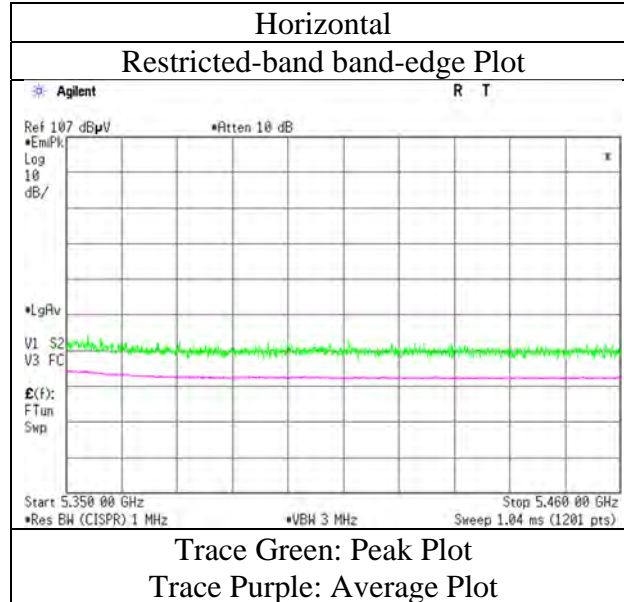
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
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.

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 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	52.75	31.81	16.74	43.38	2.46	60.38	73.9	13.5	204	121	-
Hori.	5460.000	AV	38.77	31.81	16.74	43.38	2.46	46.40	53.9	7.5	204	121	VBW:240 Hz
Vert.	5460.000	PK	51.81	31.81	16.74	43.38	2.46	59.44	73.9	14.4	109	82	-
Vert.	5460.000	AV	40.92	31.81	16.74	43.38	2.46	48.55	53.9	5.3	109	82	VBW:240 Hz

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 (3.98 m / 3.0 m) = 2.46 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	55.74	31.82	16.75	43.39	2.46	63.38	-31.85	-27.0	4.8	204	121	-
Vert.	5470.000	PK	53.55	31.82	16.75	43.39	2.46	61.19	-34.04	-27.0	7.0	109	82	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

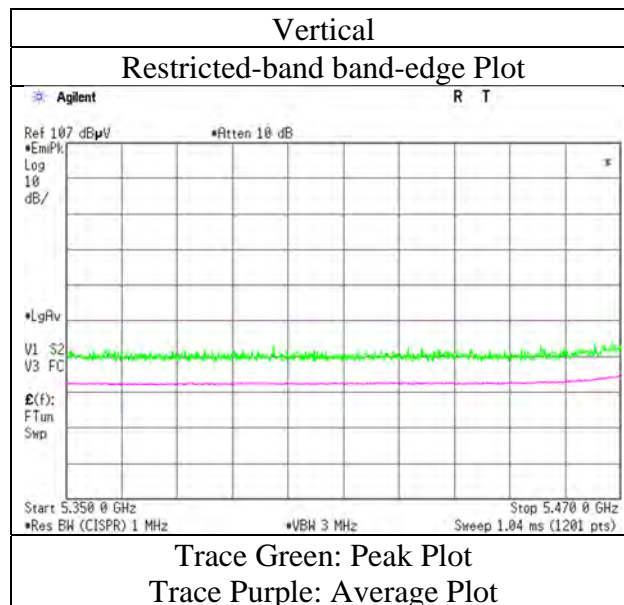
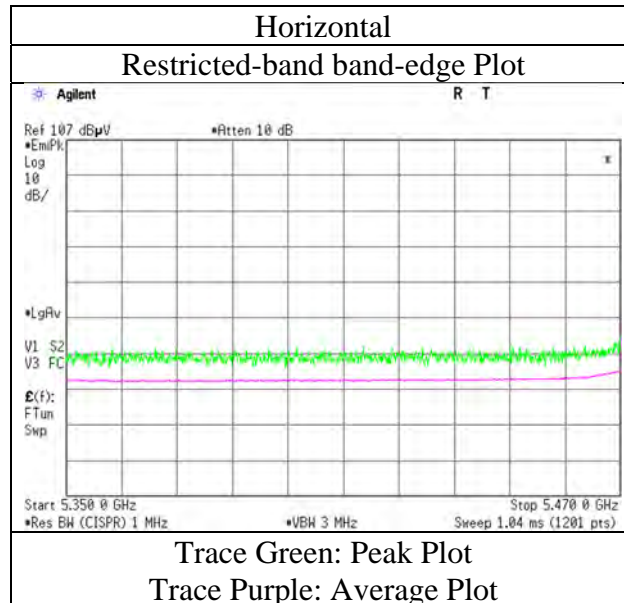
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5520 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	51.26	31.81	16.74	43.38	2.46	58.89	73.9	15.0	234	113	-
Hori.	5460.000	AV	38.40	31.81	16.74	43.38	2.46	46.03	53.9	<b>7.8</b>	234	113	VBW:240 Hz
Vert.	5460.000	PK	51.09	31.81	16.74	43.38	2.46	58.72	73.9	15.1	100	134	-
Vert.	5460.000	AV	38.39	31.81	16.74	43.38	2.46	46.02	53.9	<b>7.8</b>	100	134	VBW:240 Hz

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 (3.98 m / 3.0 m) = 2.46 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	50.89	31.82	16.75	43.39	2.46	58.53	-36.70	-27.0	9.7	234	113	-
Vert.	5470.000	PK	51.13	31.82	16.75	43.39	2.46	58.77	-36.46	-27.0	9.4	100	134	-

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 (3.98 m / 3.0 m) = 2.46 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

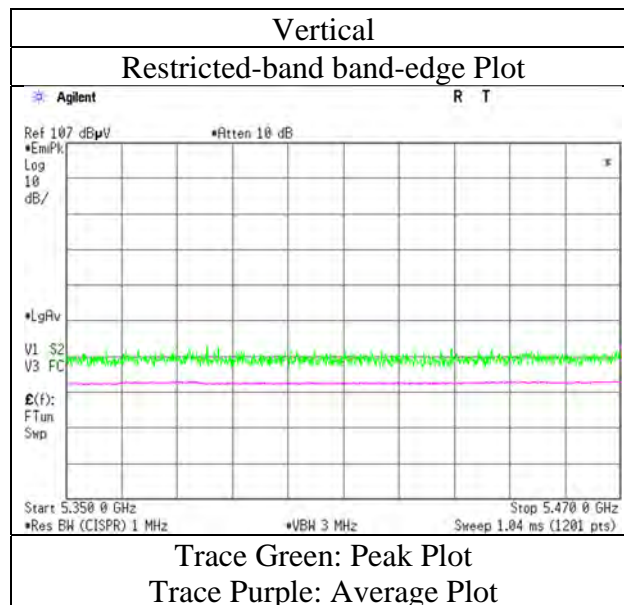
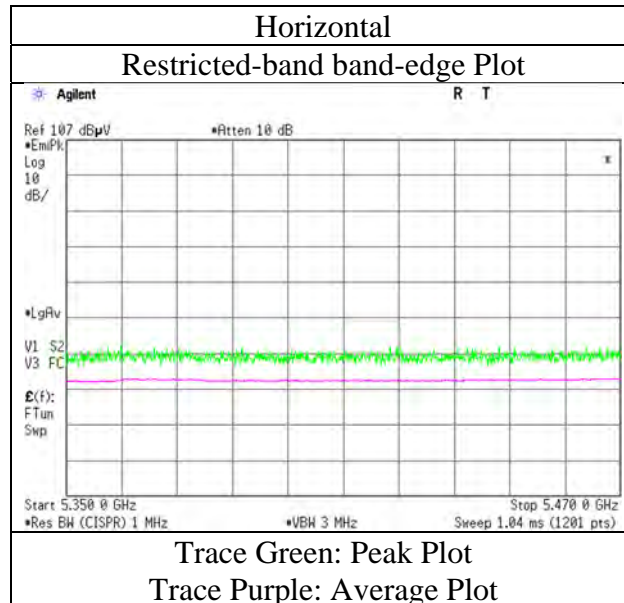
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401



## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11n-20 5520 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5680 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.07	31.98	16.89	43.42	2.46	59.98	-35.25	-27.0	8.2	201	122	-
Vert.	5725.000	PK	51.34	31.98	16.89	43.42	2.46	59.25	-35.98	-27.0	8.9	100	94	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

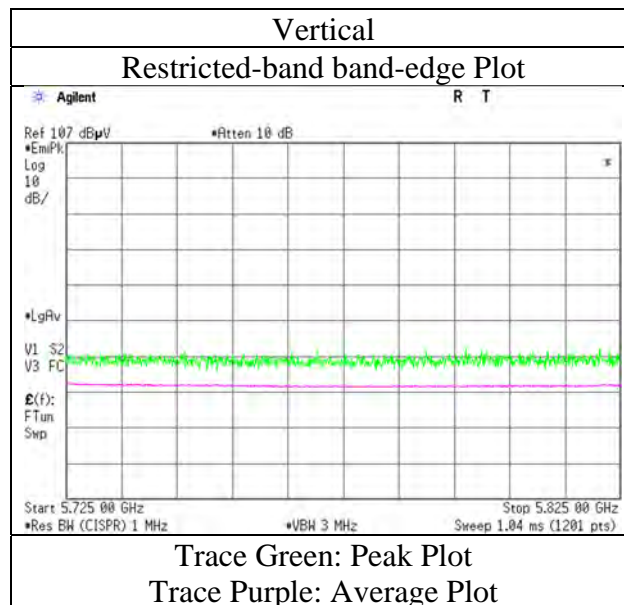
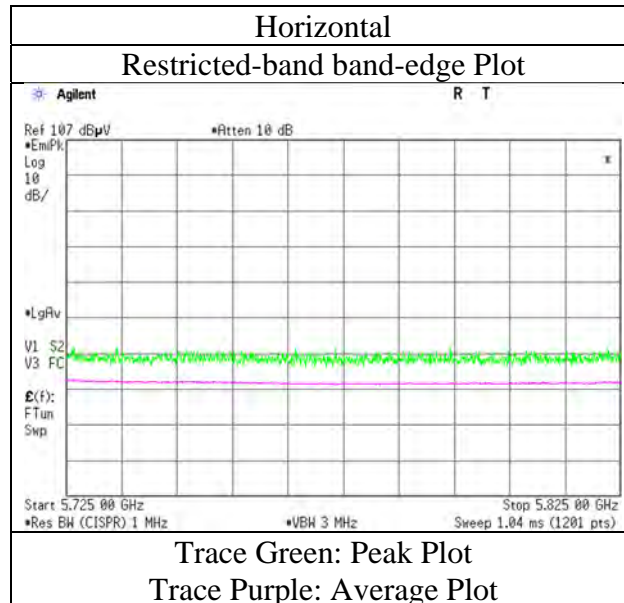
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-20 5680 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5700 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	56.90	31.98	16.89	43.42	2.46	64.81	-30.42	-27.0	3.4	218	116	-
Vert.	5725.000	PK	55.12	31.98	16.89	43.42	2.46	63.03	-32.20	-27.0	5.2	128	97	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

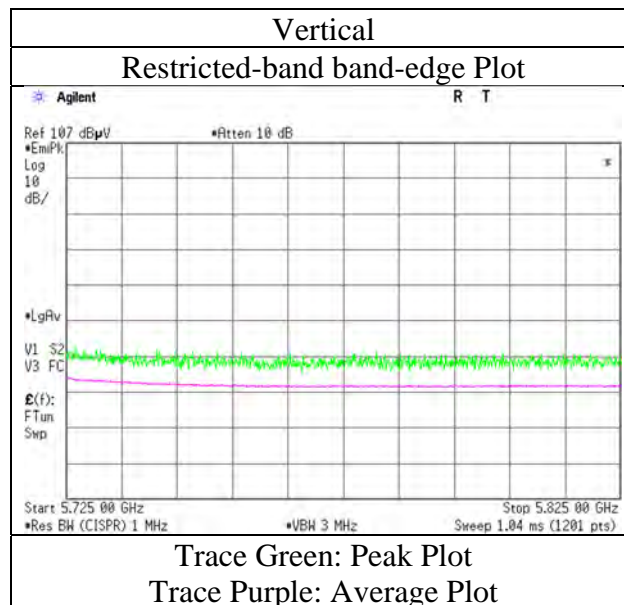
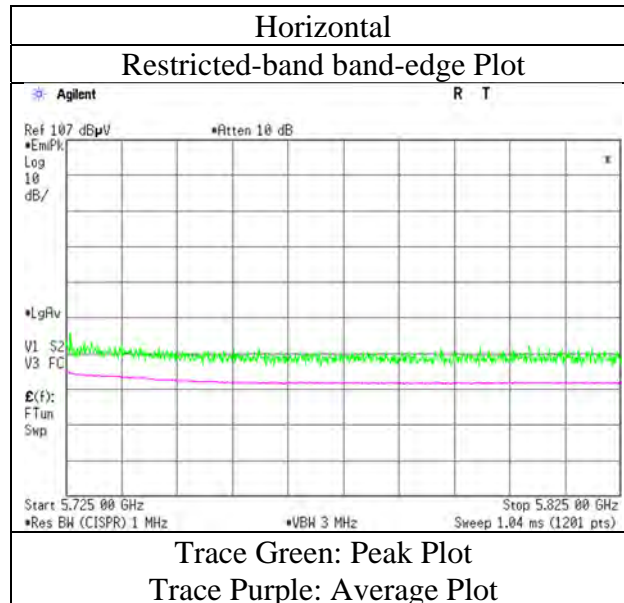
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5745 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	50.22	31.83	16.86	43.42	2.46	57.95	-37.28	-27.0	10.2	203	116	-
Hori.	5700.000	PK	51.82	31.92	16.88	43.42	2.46	59.66	-35.57	10.0	45.5	203	116	-
Hori.	5720.000	PK	59.53	31.96	16.89	43.42	2.46	67.42	-27.81	15.6	43.4	203	116	-
Hori.	5725.000	PK	67.12	31.98	16.89	43.42	2.46	75.03	-20.20	27.0	47.2	203	116	-
Vert.	5650.000	PK	50.89	31.83	16.86	43.42	2.46	58.62	-36.61	-27.0	<b>9.6</b>	301	135	-
Vert.	5700.000	PK	50.44	31.92	16.88	43.42	2.46	58.28	-36.95	10.0	46.9	301	135	-
Vert.	5720.000	PK	53.86	31.96	16.89	43.42	2.46	61.75	-33.48	15.6	49.0	301	135	-
Vert.	5725.000	PK	59.86	31.98	16.89	43.42	2.46	67.77	-27.46	27.0	54.4	301	135	-

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 )

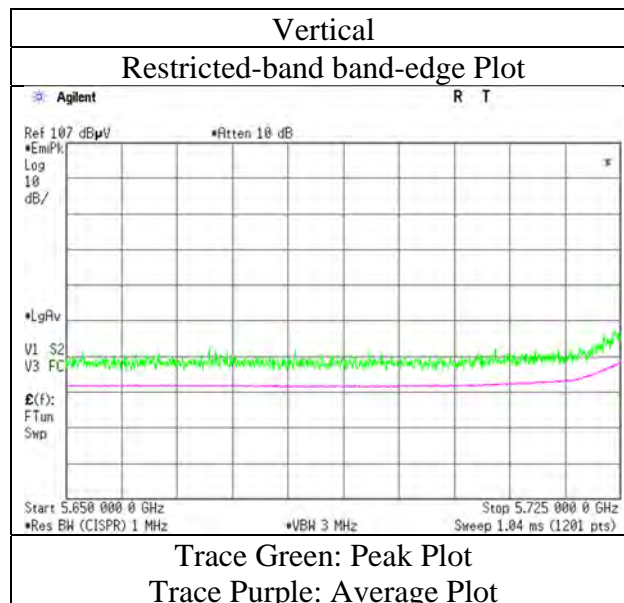
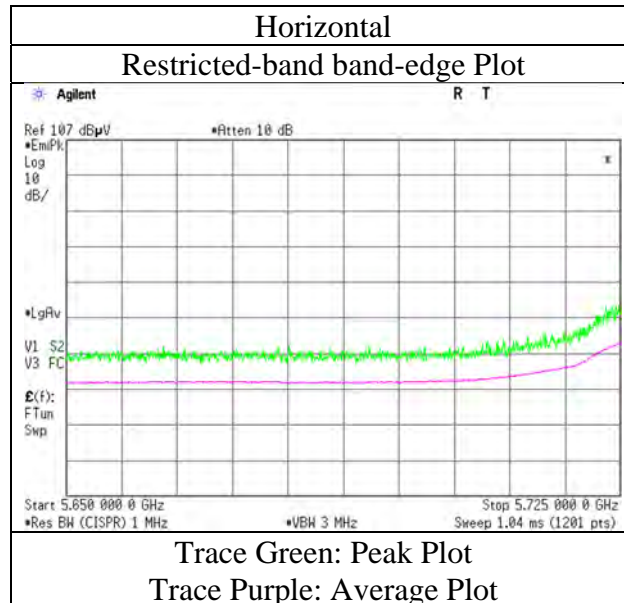
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5765 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	50.99	31.83	16.86	43.42	2.46	58.72	-36.51	-27.0	9.5	174	115	-
Hori.	5700.000	PK	51.16	31.92	16.88	43.42	2.46	59.00	-36.23	10.0	46.2	174	115	-
Hori.	5720.000	PK	52.18	31.96	16.89	43.42	2.46	60.07	-35.16	15.6	50.7	174	115	-
Hori.	5725.000	PK	54.22	31.98	16.89	43.42	2.46	62.13	-33.10	27.0	60.1	174	115	-
Vert.	5650.000	PK	50.83	31.83	16.86	43.42	2.46	58.56	-36.67	-27.0	9.6	107	94	-
Vert.	5700.000	PK	51.36	31.92	16.88	43.42	2.46	59.20	-36.03	10.0	46.0	107	94	-
Vert.	5720.000	PK	52.24	31.96	16.89	43.42	2.46	60.13	-35.10	15.6	50.7	107	94	-
Vert.	5725.000	PK	52.97	31.98	16.89	43.42	2.46	60.88	-34.35	27.0	61.3	107	94	-

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).

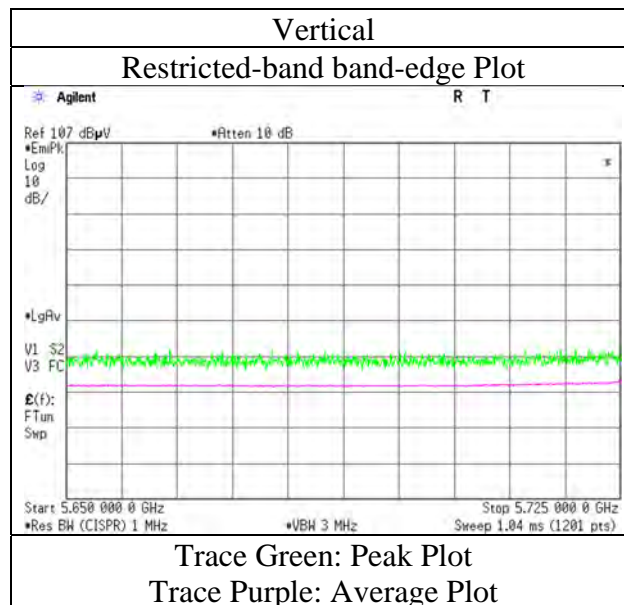
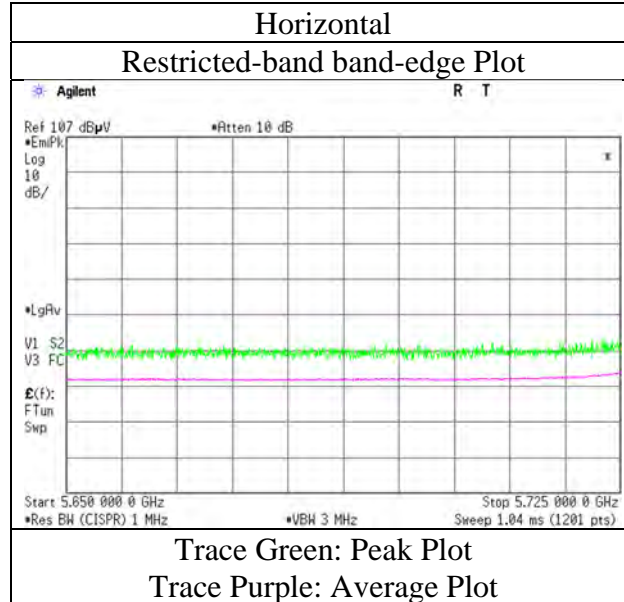
Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-20 5765 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5805 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	51.37	32.27	16.97	43.43	2.46	59.64	-35.59	27.0	62.5	205	124	-
Hori.	5855.000	PK	50.27	32.28	16.97	43.43	2.46	58.55	-36.68	15.6	52.2	205	124	-
Hori.	5875.000	PK	50.64	32.31	17.00	43.43	2.46	58.98	-36.25	10.0	46.2	205	124	-
Hori.	5925.000	PK	51.13	32.36	17.02	43.43	2.46	59.54	-35.69	-27.0	<b>8.6</b>	205	124	-
Vert.	5850.000	PK	51.22	32.27	16.97	43.43	2.46	59.49	-35.74	27.0	62.7	100	138	-
Vert.	5855.000	PK	50.61	32.28	16.97	43.43	2.46	58.89	-36.34	15.6	51.9	100	138	-
Vert.	5875.000	PK	50.88	32.31	17.00	43.43	2.46	59.22	-36.01	10.0	46.0	100	138	-
Vert.	5925.000	PK	50.38	32.36	17.02	43.43	2.46	58.79	-36.44	-27.0	9.4	100	138	-

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 )

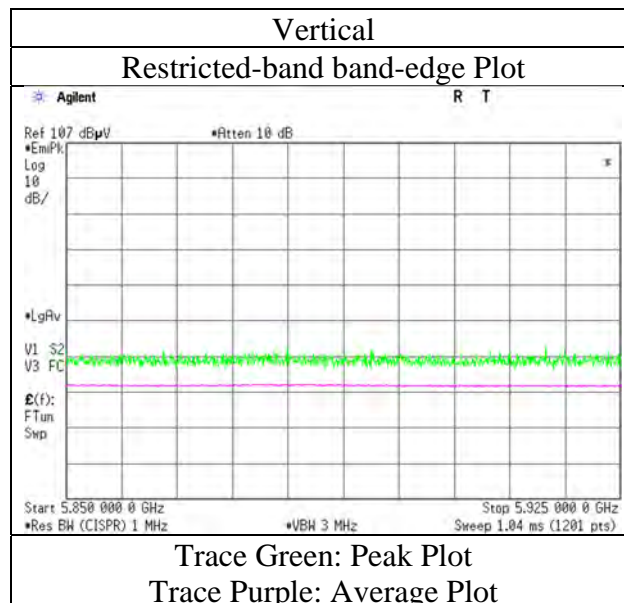
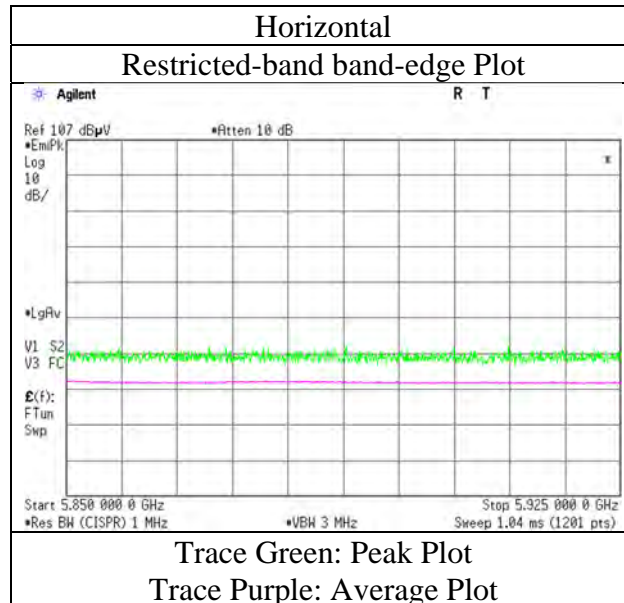
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 16, 2021
Temperature / Humidity	23 deg.C, 56 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-20 5805 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-20 5825 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	58.87	32.27	16.97	43.43	2.46	67.14	-28.09	27.0	55.0	235	116	-
Hori.	5855.000	PK	56.23	32.28	16.97	43.43	2.46	64.51	-30.72	15.6	46.3	235	116	-
Hori.	5875.000	PK	50.25	32.31	17.00	43.43	2.46	58.59	-36.64	10.0	46.6	235	116	-
Hori.	5925.000	PK	50.44	32.36	17.02	43.43	2.46	58.85	-36.38	-27.0	9.3	235	116	-
Vert.	5850.000	PK	58.55	32.27	16.97	43.43	2.46	66.82	-28.41	27.0	55.4	105	94	-
Vert.	5855.000	PK	52.51	32.28	16.97	43.43	2.46	60.79	-34.44	15.6	50.0	105	94	-
Vert.	5875.000	PK	51.28	32.31	17.00	43.43	2.46	59.62	-35.61	10.0	45.6	105	94	-
Vert.	5925.000	PK	51.34	32.36	17.02	43.43	2.46	59.75	-35.48	-27.0	<b>8.4</b>	105	94	-

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 )

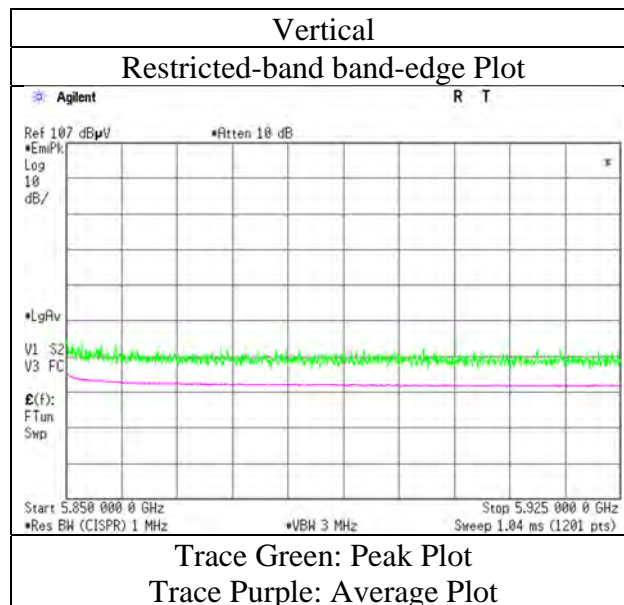
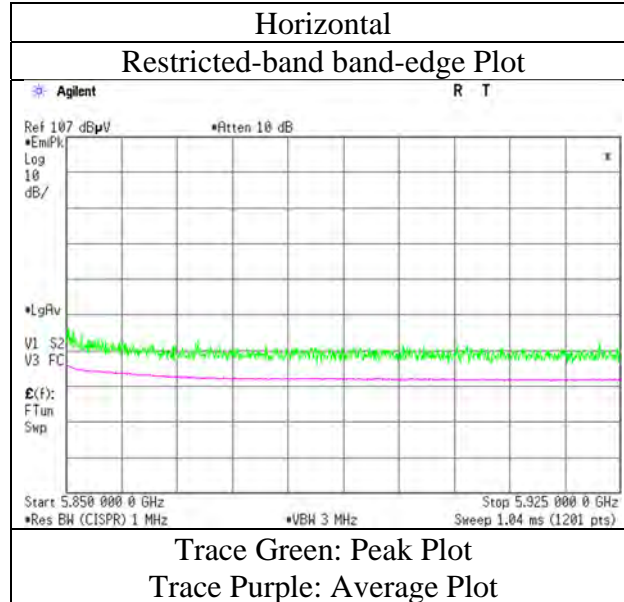
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 16, 2021  
Temperature / Humidity 23 deg.C, 56 %RH  
Engineer Takahiro Suzuki  
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.

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5180 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	55.71	32.12	16.54	43.05	2.46	63.78	73.9	10.1	237	110	-
Hori.	5150.000	AV	41.23	32.12	16.54	43.05	2.46	49.30	53.9	4.6	237	110	VBW:240 Hz
Vert.	5150.000	PK	53.05	32.12	16.54	43.05	2.46	61.12	73.9	12.7	100	80	-
Vert.	5150.000	AV	40.27	32.12	16.54	43.05	2.46	48.34	53.9	5.5	100	80	VBW:240 Hz

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

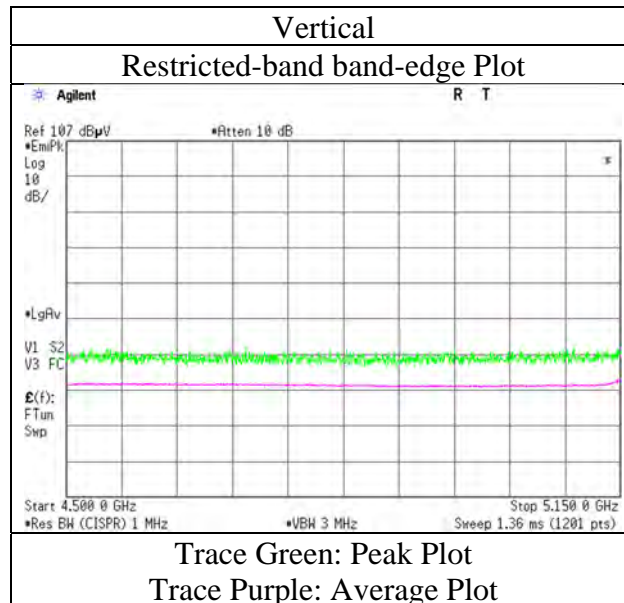
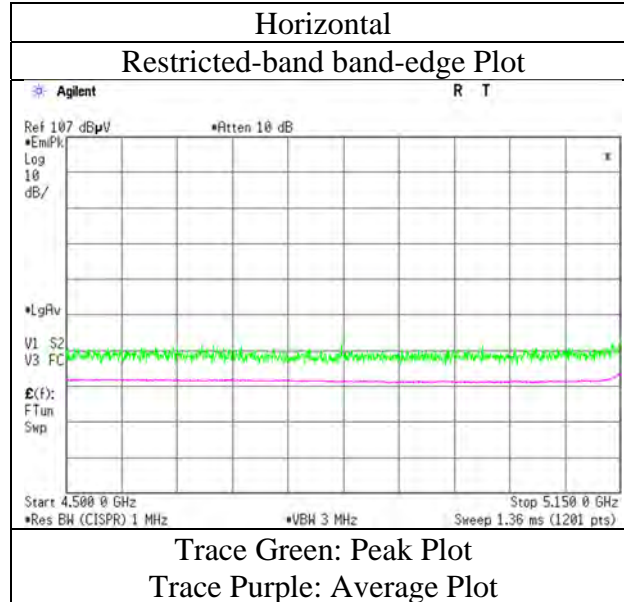
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11ac-20 5180 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5200 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.	5134.833	PK	49.92	32.15	16.53	43.03	2.46	58.03	73.9	15.8	168	109	-
Hori.	5150.000	PK	51.25	32.12	16.54	43.05	2.46	59.32	73.9	14.5	168	109	-
Hori.	5134.833	AV	36.71	32.15	16.53	43.03	2.46	44.82	53.9	9.0	168	109	VBW:240 Hz
Hori.	5150.000	AV	39.22	32.12	16.54	43.05	2.46	47.29	53.9	<b>6.6</b>	168	109	VBW:240 Hz
Vert.	5113.708	PK	48.71	32.18	16.52	43.01	2.46	56.86	73.9	17.0	111	84	-
Vert.	5150.000	PK	52.15	32.12	16.54	43.05	2.46	60.22	73.9	13.6	111	84	-
Vert.	5113.708	AV	37.11	32.18	16.52	43.01	2.46	45.26	53.9	8.6	111	84	VBW:240 Hz
Vert.	5150.000	AV	39.01	32.12	16.54	43.05	2.46	47.08	53.9	6.8	111	84	VBW:240 Hz

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).

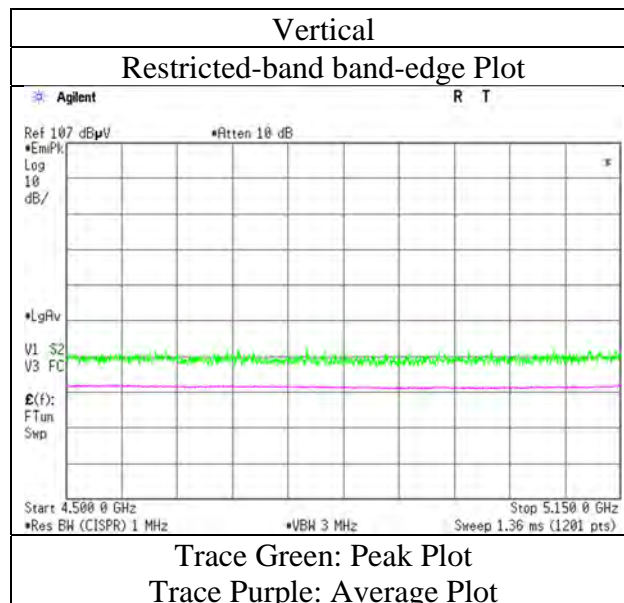
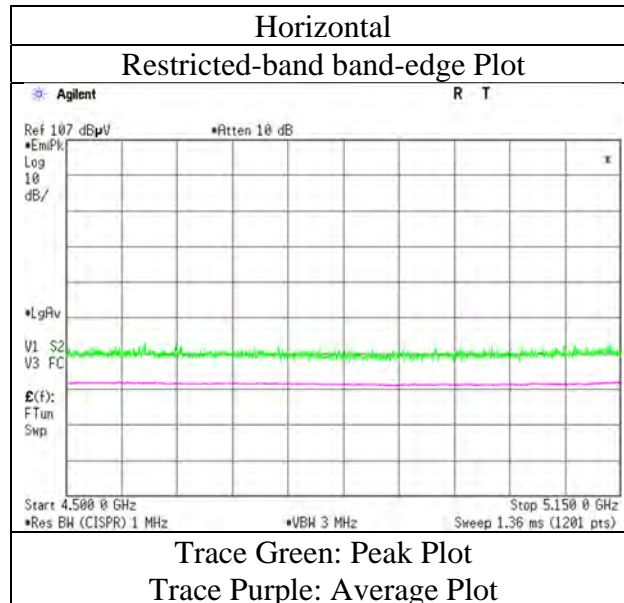
Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5200 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5300 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	52.08	31.83	16.68	43.26	2.46	59.79	73.9	14.1	177	113	-
Hori.	5350.000	AV	39.87	31.83	16.68	43.26	2.46	47.58	53.9	<b>6.3</b>	177	113	VBW:240 Hz
Vert.	5350.000	PK	51.99	31.83	16.68	43.26	2.46	59.70	73.9	14.2	108	83	-
Vert.	5350.000	AV	39.71	31.83	16.68	43.26	2.46	47.42	53.9	6.4	108	83	VBW:240 Hz

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

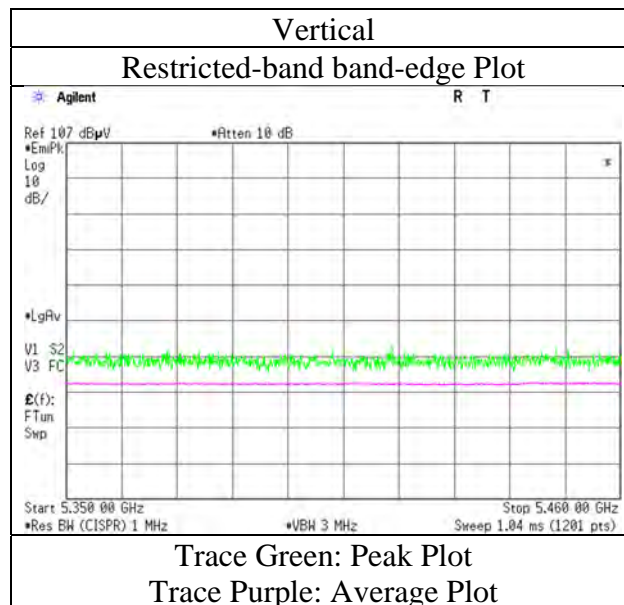
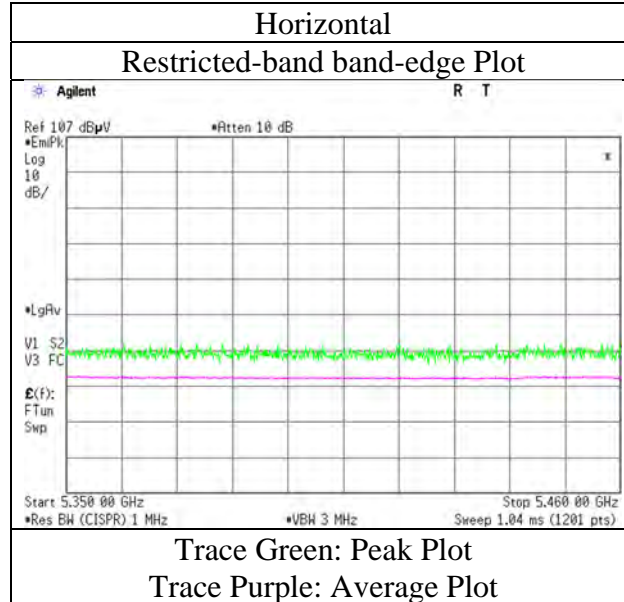
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5300 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5320 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	54.27	31.83	16.68	43.26	2.46	61.98	73.9	11.9	234	111	-
Hori.	5353.575	PK	52.08	31.85	16.68	43.26	2.46	59.81	73.9	14.0	234	111	-
Hori.	5350.000	AV	41.82	31.83	16.68	43.26	2.46	49.53	53.9	<b>4.3</b>	234	111	VBW:240 Hz
Hori.	5353.575	AV	39.92	31.85	16.68	43.26	2.46	47.65	53.9	6.2	234	111	VBW:240 Hz
Vert.	5350.000	PK	52.92	31.83	16.68	43.26	2.46	60.63	73.9	13.2	130	130	-
Vert.	5353.758	PK	51.98	31.85	16.68	43.26	2.46	59.71	73.9	14.1	130	130	-
Vert.	5350.000	AV	40.99	31.83	16.68	43.26	2.46	48.70	53.9	5.2	130	130	VBW:240 Hz
Vert.	5353.758	AV	39.03	31.85	16.68	43.26	2.46	46.76	53.9	7.1	130	130	VBW:240 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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**Shonan EMC Lab.**

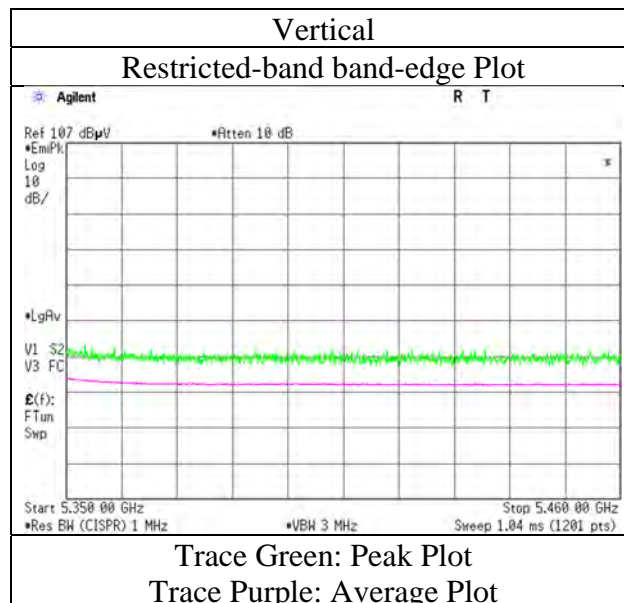
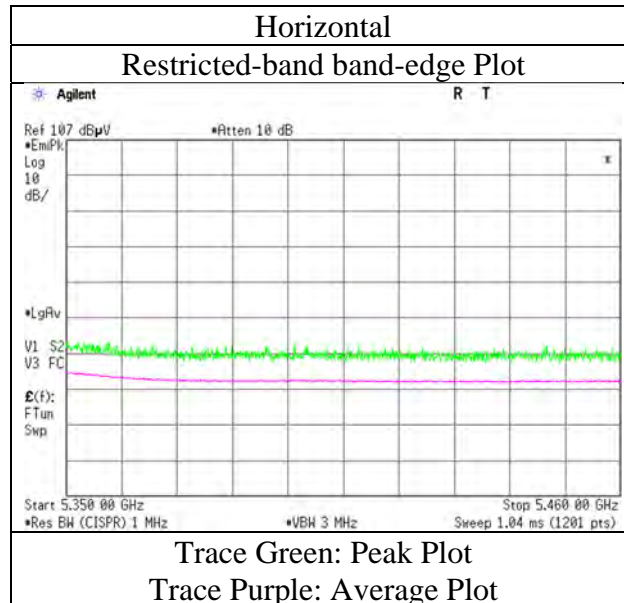
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5320 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5500 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	51.90	32.30	16.74	43.38	2.46	60.02	73.9	13.8	100	234	-
Hori.	5460.000	AV	40.76	32.30	16.74	43.38	2.46	48.88	53.9	5.0	100	234	VBW:240 Hz
Vert.	5460.000	PK	52.68	32.30	16.74	43.38	2.46	60.80	73.9	13.1	100	130	-
Vert.	5460.000	AV	40.29	32.30	16.74	43.38	2.46	48.41	53.9	5.4	100	130	VBW:240 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	56.65	32.33	16.75	43.39	2.46	64.80	-30.43	-27.0	3.4	100	234	-
Vert.	5470.000	PK	55.83	32.33	16.75	43.39	2.46	63.98	-31.25	-27.0	4.2	100	130	-

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

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

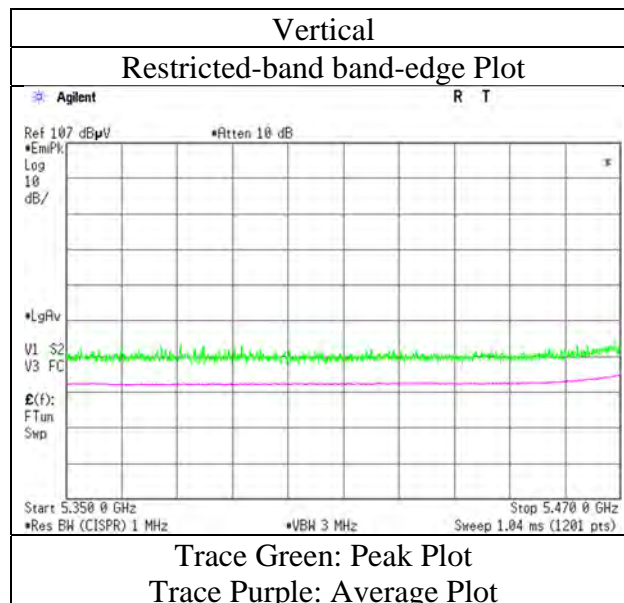
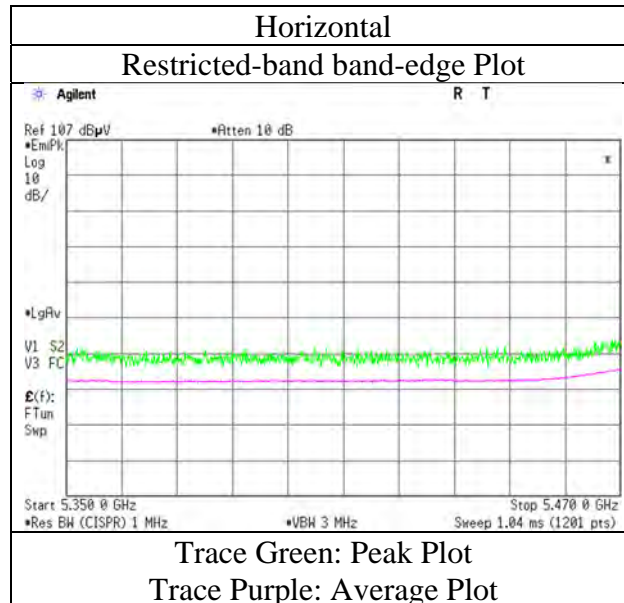
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11ac-20 5500 MHz



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

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

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**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5520 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.	5351.500	PK	50.91	31.84	16.68	43.26	2.46	58.63	73.9	15.2	100	118	-
Hori.	5460.000	PK	51.09	32.30	16.74	43.38	2.46	59.21	73.9	14.6	100	118	-
Hori.	5351.500	AV	37.65	31.84	16.68	43.26	2.46	45.37	53.9	8.5	100	118	VBW:240 Hz
Hori.	5460.000	AV	39.47	32.30	16.74	43.38	2.46	47.59	53.9	6.3	100	118	VBW:240 Hz
Vert.	5356.100	PK	50.12	31.86	16.68	43.27	2.46	57.85	73.9	16.0	100	86	-
Vert.	5460.000	PK	51.78	32.30	16.74	43.38	2.46	59.90	73.9	14.0	100	86	-
Vert.	5356.100	AV	37.62	31.86	16.68	43.27	2.46	45.35	53.9	8.5	100	86	VBW:240 Hz
Vert.	5460.000	AV	39.53	32.30	16.74	43.38	2.46	47.65	53.9	6.2	100	86	VBW:240 Hz

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 (3.98 m / 3.0 m) = 2.46 dB

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	51.37	32.33	16.75	43.39	2.46	59.52	-35.71	-27.0	8.7	100	118	-
Vert.	5470.000	PK	50.88	32.33	16.75	43.39	2.46	59.03	-36.20	-27.0	9.2	100	86	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

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

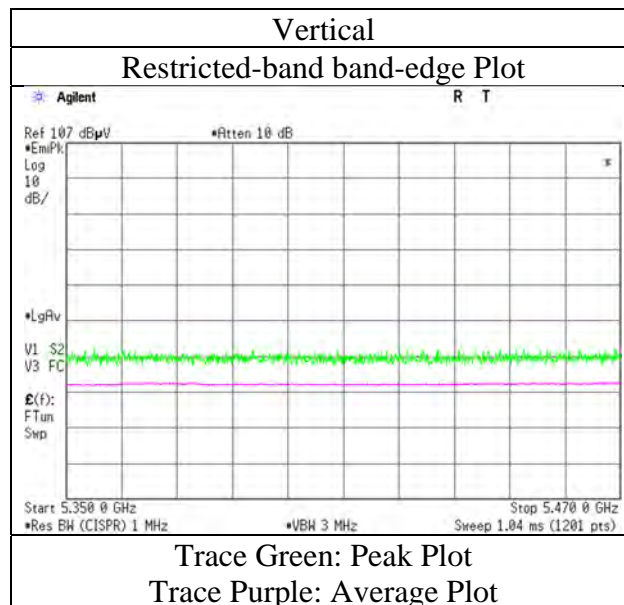
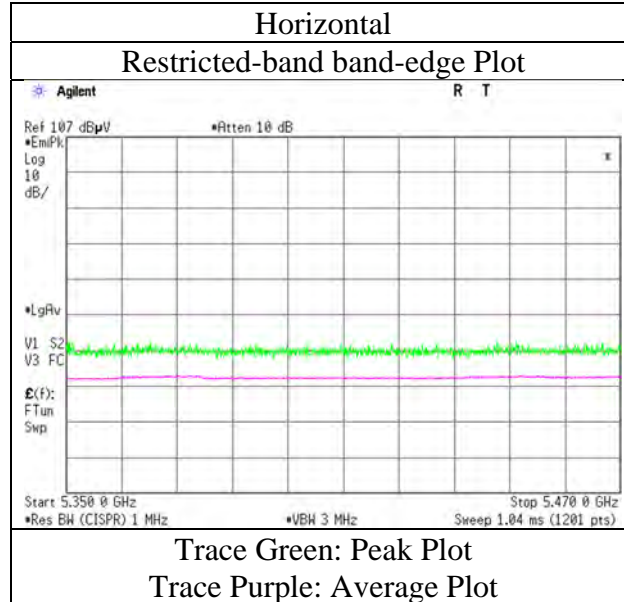
Telephone : +81 463 50 6400

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5520 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.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5680 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	51.53	32.68	16.89	43.42	2.46	60.14	-35.09	-27.0	8.0	203	114	-
Vert.	5725.000	PK	51.50	32.68	16.89	43.42	2.46	60.11	-35.12	-27.0	8.1	246	231	-

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)

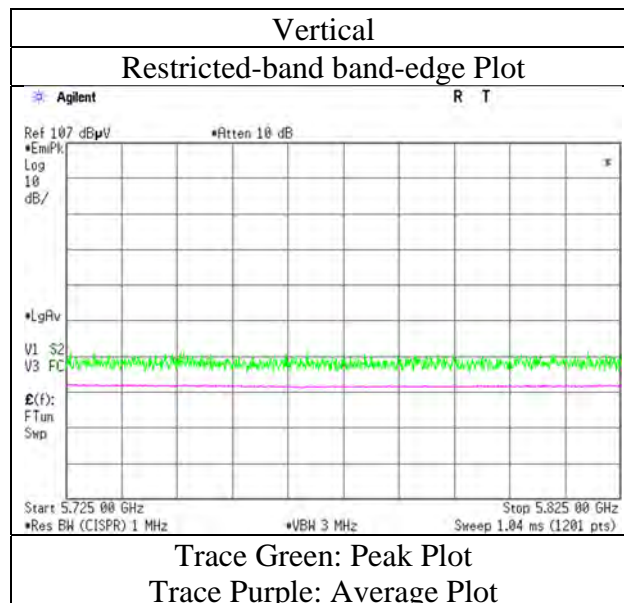
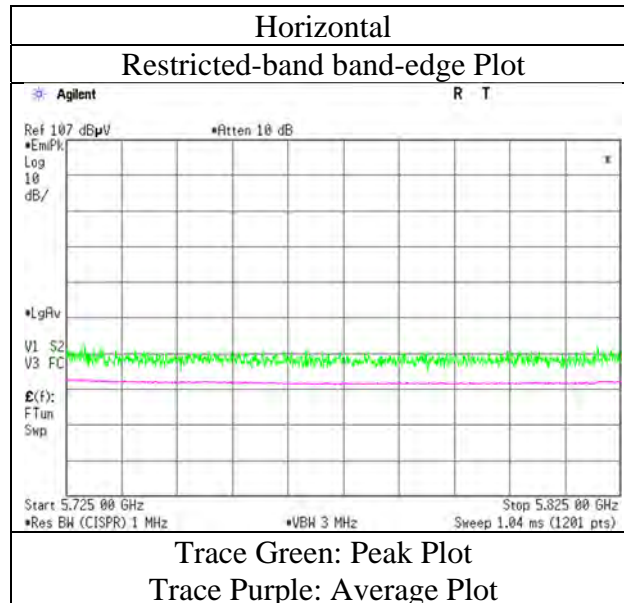
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5680 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.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5700 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	56.26	32.68	16.89	43.42	2.46	64.87	-30.36	-27.0	3.3	180	112	-
Vert.	5725.000	PK	53.69	32.68	16.89	43.42	2.46	62.30	-32.93	-27.0	5.9	270	242	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

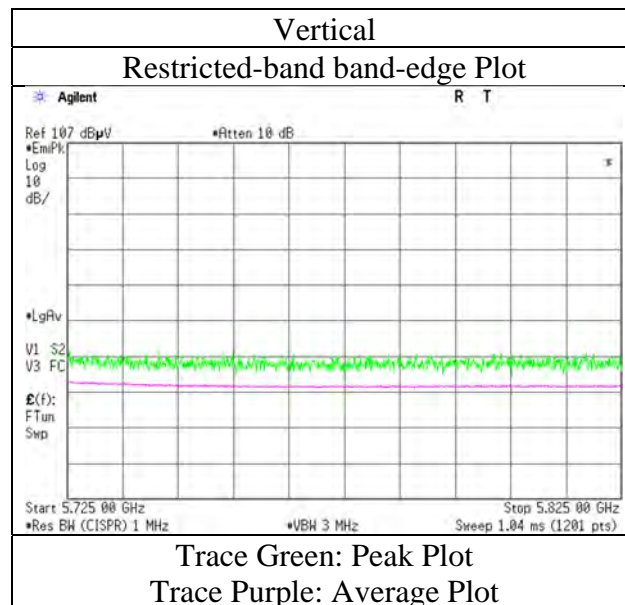
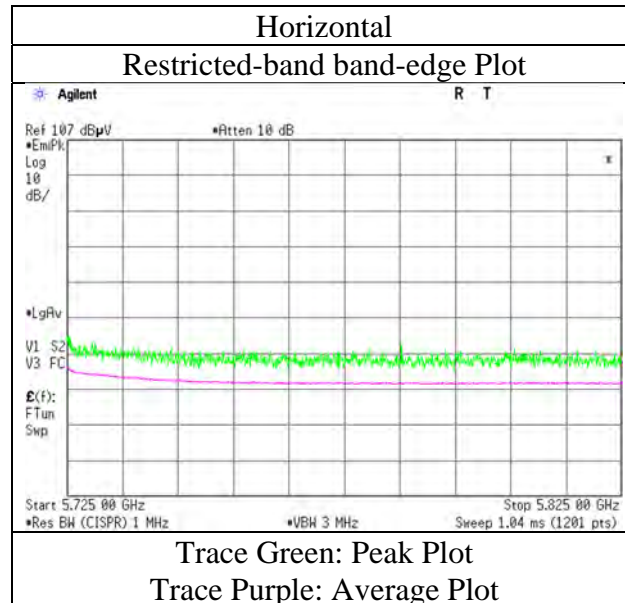
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11ac-20 5700 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5745 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	50.61	32.49	16.86	43.42	2.46	59.00	-36.23	-27.0	9.2	208	115	-
Hori.	5700.000	PK	51.26	32.60	16.88	43.42	2.46	59.78	-35.45	10.0	45.4	208	115	-
Hori.	5720.000	PK	59.57	32.66	16.89	43.42	2.46	68.16	-27.07	15.6	42.6	208	115	-
Hori.	5725.000	PK	66.64	32.68	16.89	43.42	2.46	75.25	-19.98	27.0	46.9	208	115	-
Vert.	5650.000	PK	51.01	32.49	16.86	43.42	2.46	59.40	-35.83	-27.0	<b>8.8</b>	105	132	-
Vert.	5700.000	PK	50.13	32.60	16.88	43.42	2.46	58.65	-36.58	10.0	46.5	105	132	-
Vert.	5720.000	PK	56.02	32.66	16.89	43.42	2.46	64.61	-30.62	15.6	46.2	105	132	-
Vert.	5725.000	PK	63.40	32.68	16.89	43.42	2.46	72.01	-23.22	27.0	50.2	105	132	-

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 )

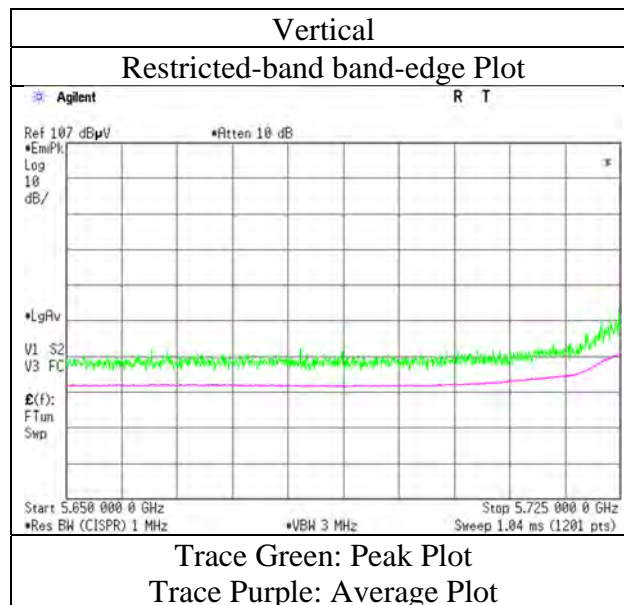
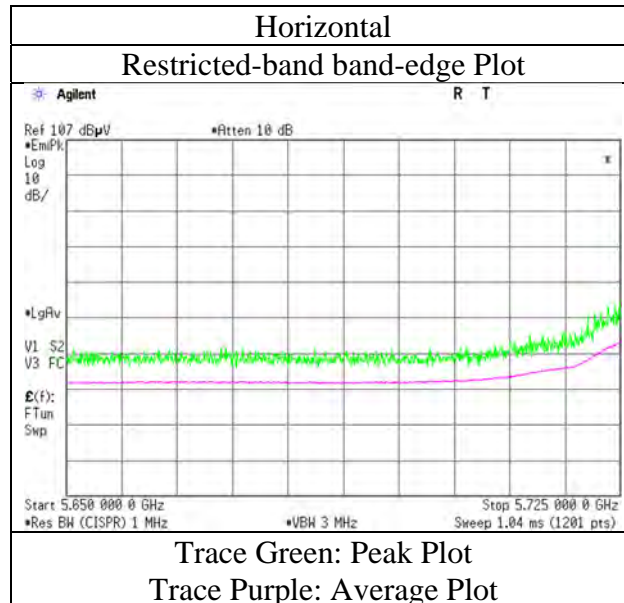
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5745 MHz



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

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

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5765 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	51.13	32.49	16.86	43.42	2.46	59.52	-35.71	-27.0	8.7	143	113	-
Hori.	5700.000	PK	50.57	32.60	16.88	43.42	2.46	59.09	-36.14	10.0	46.1	143	113	-
Hori.	5720.000	PK	53.76	32.66	16.89	43.42	2.46	62.35	-32.88	15.6	48.4	143	113	-
Hori.	5725.000	PK	54.05	32.68	16.89	43.42	2.46	62.66	-32.57	27.0	59.5	143	113	-
Vert.	5650.000	PK	51.15	32.49	16.86	43.42	2.46	59.54	-35.69	-27.0	<b>8.6</b>	100	93	-
Vert.	5700.000	PK	49.93	32.60	16.88	43.42	2.46	58.45	-36.78	10.0	46.7	100	93	-
Vert.	5720.000	PK	52.44	32.66	16.89	43.42	2.46	61.03	-34.20	15.6	49.8	100	93	-
Vert.	5725.000	PK	55.05	32.68	16.89	43.42	2.46	63.66	-31.57	27.0	58.5	100	93	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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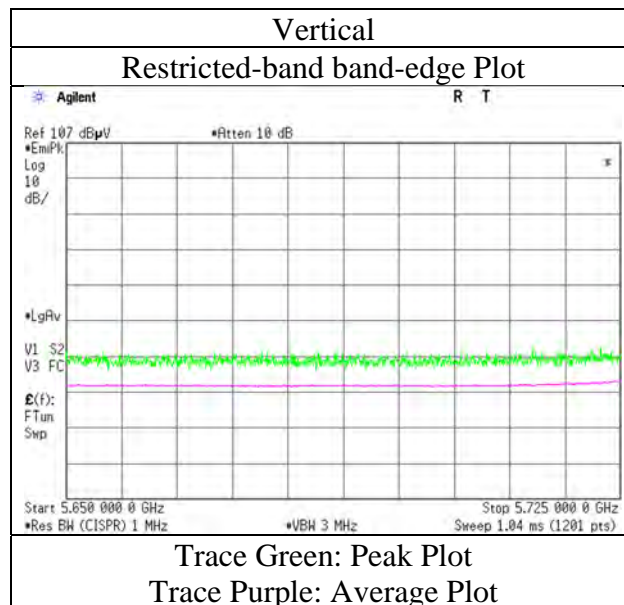
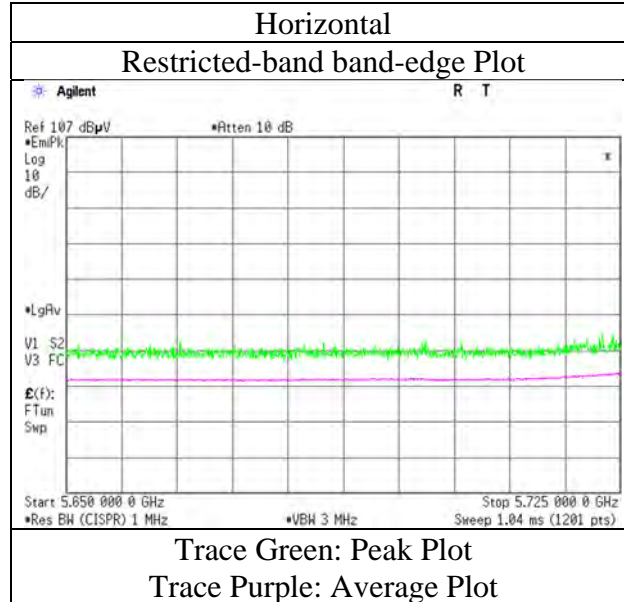
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5765 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 17, 2021  
Temperature / Humidity 21 deg.C, 53 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5805 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	51.58	33.07	16.97	43.43	2.46	60.65	-34.58	27.0	61.5	100	120	-
Hori.	5855.000	PK	50.98	33.08	16.97	43.43	2.46	60.06	-35.17	15.6	50.7	100	120	-
Hori.	5875.000	PK	50.46	33.12	17.00	43.43	2.46	59.61	-35.62	10.0	45.6	100	120	-
Hori.	5925.000	PK	50.72	33.21	17.02	43.43	2.46	59.98	-35.25	-27.0	8.2	100	120	-
Vert.	5850.000	PK	51.21	33.07	16.97	43.43	2.46	60.28	-34.95	27.0	61.9	100	134	-
Vert.	5855.000	PK	50.55	33.08	16.97	43.43	2.46	59.63	-35.60	15.6	51.2	100	134	-
Vert.	5875.000	PK	50.93	33.12	17.00	43.43	2.46	60.08	-35.15	10.0	45.1	100	134	-
Vert.	5925.000	PK	51.08	33.21	17.02	43.43	2.46	60.34	-34.89	-27.0	7.8	100	134	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

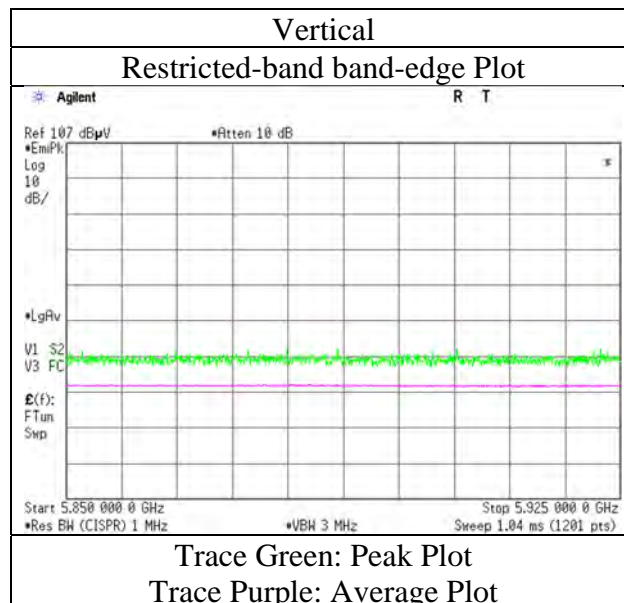
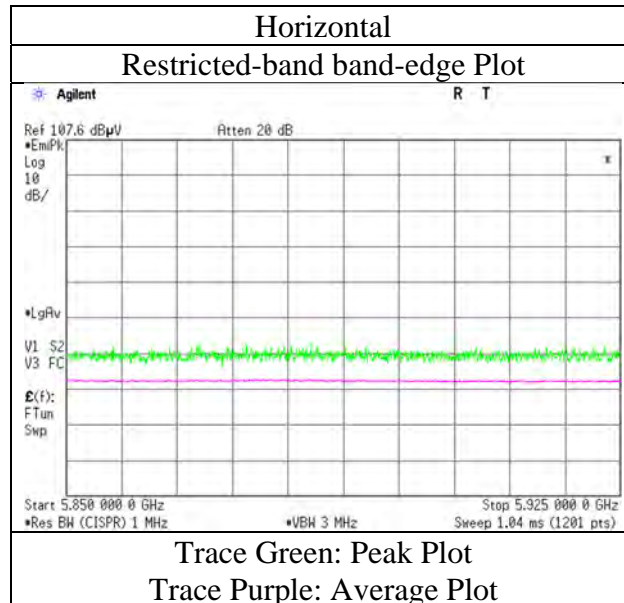
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 17, 2021
Temperature / Humidity	21 deg.C, 53 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5805 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. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 18, 2021  
Temperature / Humidity 21 deg.C, 51 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-20 5825 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	57.09	33.07	16.97	43.43	2.46	66.16	-29.07	27.0	56.0	193	122	-
Hori.	5855.000	PK	52.33	33.08	16.97	43.43	2.46	61.41	-33.82	15.6	49.4	193	122	-
Hori.	5875.000	PK	59.49	33.12	17.00	43.43	2.46	68.64	-26.59	10.0	36.5	193	122	-
Hori.	5925.000	PK	50.40	33.21	17.02	43.43	2.46	59.66	-35.57	-27.0	8.5	193	122	-
Vert.	5850.000	PK	55.66	33.07	16.97	43.43	2.46	64.73	-30.50	27.0	57.5	119	92	-
Vert.	5855.000	PK	51.66	33.08	16.97	43.43	2.46	60.74	-34.49	15.6	50.0	119	92	-
Vert.	5875.000	PK	50.27	33.12	17.00	43.43	2.46	59.42	-35.81	10.0	45.8	119	92	-
Vert.	5925.000	PK	50.52	33.21	17.02	43.43	2.46	59.78	-35.45	-27.0	8.4	119	92	-

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)

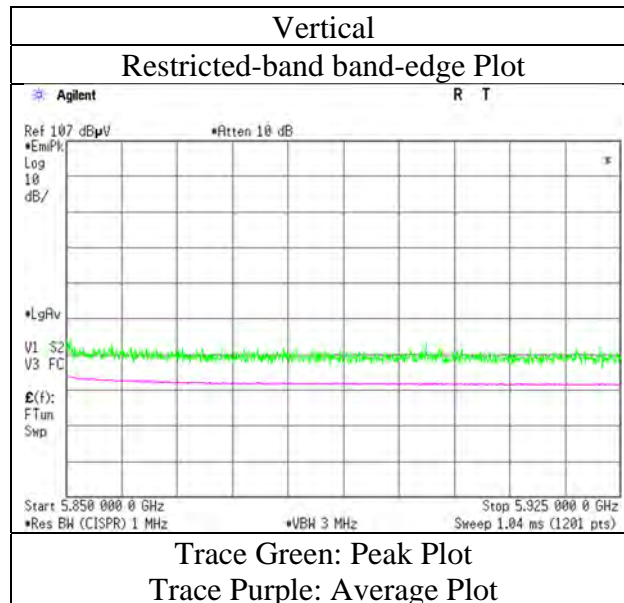
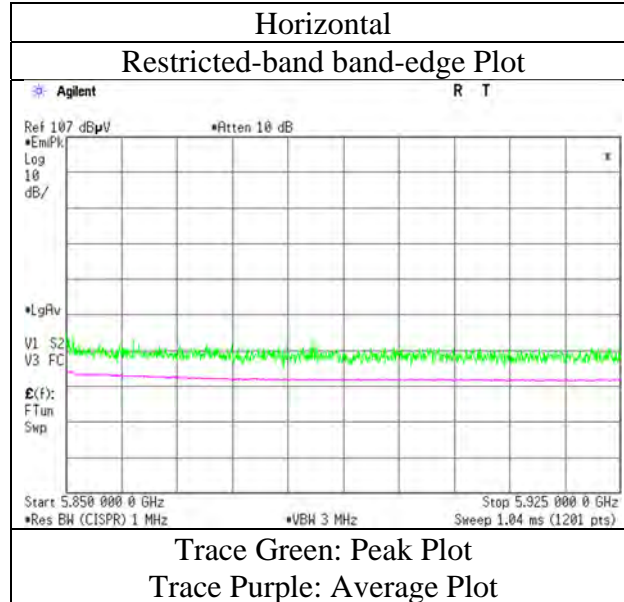
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 18, 2021
Temperature / Humidity	21 deg.C, 51 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11ac-20 5825 MHz



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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasu Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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	53.85	32.12	16.54	43.05	2.46	61.92	73.9	11.9	157	110	-
Hori.	15570.000	PK	47.04	39.58	11.62	40.44	-9.54	48.26	73.9	25.6	150	0	-
Hori.	20760.000	PK	47.15	40.25	14.37	45.08	-9.54	47.15	73.9	26.7	148	59	-
Hori.	5150.000	AV	40.04	32.12	16.54	43.05	2.46	48.11	53.9	5.7	157	110	VBW:330 Hz
Hori.	15570.000	AV	33.91	39.58	11.62	40.44	-9.54	35.13	53.9	18.7	150	0	VBW:330 Hz,Floor noise
Hori.	20760.000	AV	41.57	40.25	14.37	45.08	-9.54	41.57	53.9	12.3	148	59	VBW:330 Hz
Vert.	5150.000	PK	53.07	32.12	16.54	43.05	2.46	61.14	73.9	12.7	117	130	-
Vert.	15570.000	PK	46.82	39.58	11.62	40.44	-9.54	48.04	73.9	25.8	150	0	-
Vert.	20760.000	PK	49.71	40.25	14.37	45.08	-9.54	49.71	73.9	24.1	138	327	-
Vert.	5150.000	AV	39.52	32.12	16.54	43.05	2.46	47.59	53.9	6.3	117	130	VBW:330 Hz
Vert.	15570.000	AV	33.96	39.58	11.62	40.44	-9.54	35.18	53.9	18.7	150	0	VBW:330 Hz,Floor noise
Vert.	20760.000	AV	45.24	40.25	14.37	45.08	-9.54	45.24	53.9	8.6	138	327	VBW:330 Hz

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 (3.98 m/ 3.0 m) = 2.46 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.	3460.021	PK	51.25	28.94	15.32	42.12	2.46	55.85	-39.38	-27.0	12.3	145	83	-
Hori.	10380.000	PK	49.78	36.21	9.29	42.74	-9.54	43.00	-52.23	-27.0	25.2	146	240	-
Vert.	3460.021	PK	52.30	28.94	15.32	42.12	2.46	56.90	-38.33	-27.0	11.3	153	236	-
Vert.	10380.000	PK	49.13	36.21	9.29	42.74	-9.54	42.35	-52.88	-27.0	25.8	154	257	-

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 (3.98 m/ 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

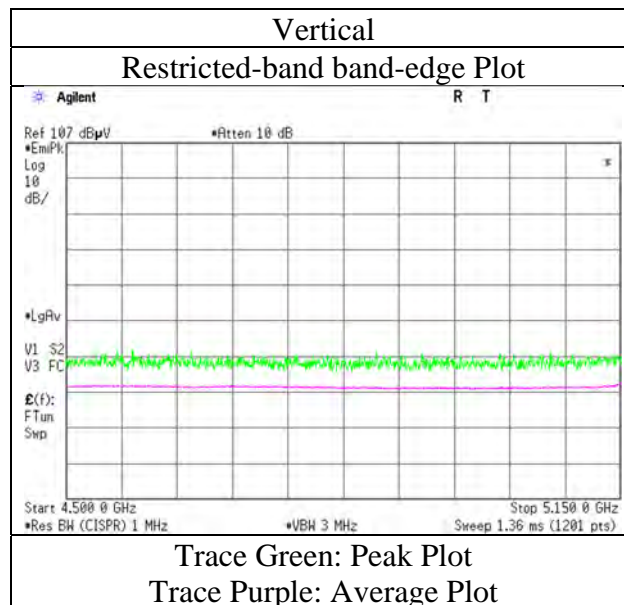
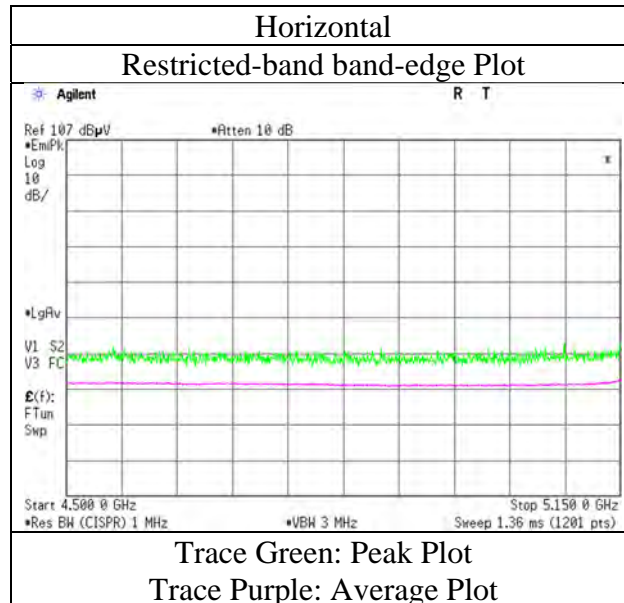
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-40 5190 MHz



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

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasu Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	5150.000	PK	52.83	32.12	16.54	43.05	2.46	60.90	73.9	13.0	152	108	-
Hori.	15690.000	PK	46.20	39.76	11.60	40.34	-9.54	47.68	73.9	26.2	150	0	-
Hori.	20920.000	PK	47.43	40.23	14.45	45.15	-9.54	47.42	73.9	26.4	149	61	-
Hori.	5150.000	AV	39.98	32.12	16.54	43.05	2.46	48.05	53.9	5.8	152	108	VBW:330 Hz
Hori.	15690.000	AV	33.83	39.76	11.60	40.34	-9.54	35.31	53.9	18.5	150	0	VBW:330 Hz,Floor noise
Hori.	20920.000	AV	41.86	40.23	14.45	45.15	-9.54	41.85	53.9	12.0	149	61	VBW:330 Hz
Vert.	5150.000	PK	53.00	32.12	16.54	43.05	2.46	61.07	73.9	12.8	180	130	-
Vert.	15690.000	PK	45.61	39.76	11.60	40.34	-9.54	47.09	73.9	26.8	150	0	-
Vert.	20920.000	PK	50.35	40.23	14.45	45.15	-9.54	50.34	73.9	23.5	139	329	-
Vert.	5150.000	AV	39.26	32.12	16.54	43.05	2.46	47.33	53.9	6.5	180	130	VBW:330 Hz
Vert.	15690.000	AV	33.51	39.76	11.60	40.34	-9.54	34.99	53.9	18.9	150	0	VBW:330 Hz,Floor noise
Vert.	20920.000	AV	46.44	40.23	14.45	45.15	-9.54	46.43	53.9	7.4	139	329	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3486.750	PK	51.68	29.07	15.33	42.14	2.46	56.40	-38.83	-27.0	11.8	142	91	-
Hori.	10460.000	PK	50.78	36.27	9.31	42.75	-9.54	44.07	-51.16	-27.0	24.1	143	249	-
Vert.	3486.750	PK	52.77	29.07	15.33	42.14	2.46	57.49	-37.74	-27.0	10.7	139	251	-
Vert.	10460.000	PK	49.88	36.27	9.31	42.75	-9.54	43.17	-52.06	-27.0	25.0	157	164	-

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

Result (EIRP [dBm]) = 10 \* LOG( (10<sup>^</sup>(Electric Field Strength [dBuV/m] / 20) \* 10<sup>^</sup>(-6) \* Distance : 3 [m] )<sup>2</sup> / 30 \* 10<sup>^</sup>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 (3.98 m / 3.0 m) = 2.46 dB

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

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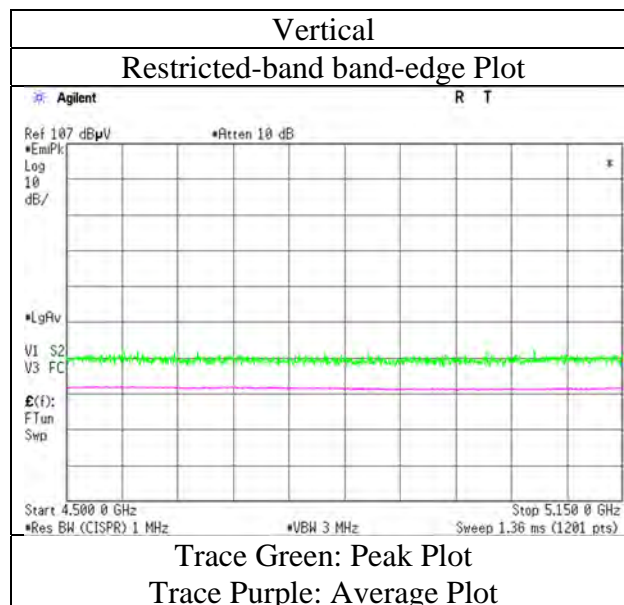
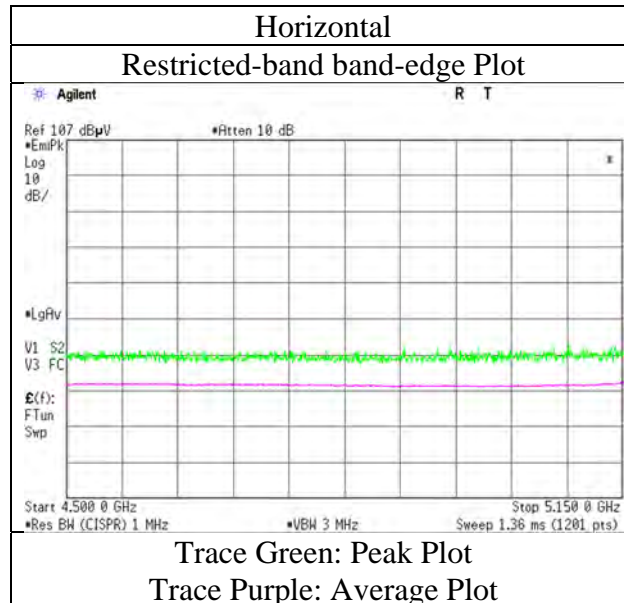
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-40 5230 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
(1 GHz -6.4 GHz)  
Mode Tx 11n-40 5270 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	53.11	31.83	16.68	43.26	2.46	60.82	73.9	13.0	205	88	-
Hori.	5350.000	AV	40.06	31.83	16.68	43.26	2.46	47.77	53.9	<b>6.1</b>	205	88	VBW:330 Hz
Vert.	5350.000	PK	50.74	31.83	16.68	43.26	2.46	58.45	73.9	15.4	109	250	-
Vert.	5350.000	AV	39.21	31.83	16.68	43.26	2.46	46.92	53.9	6.9	109	250	VBW:330 Hz

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

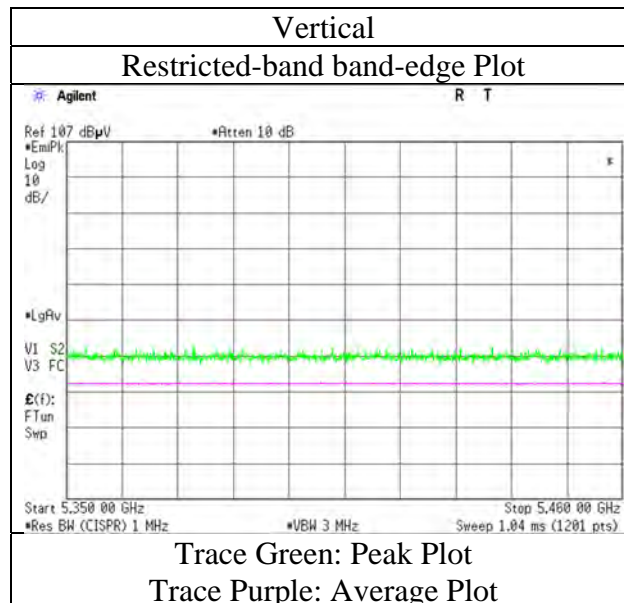
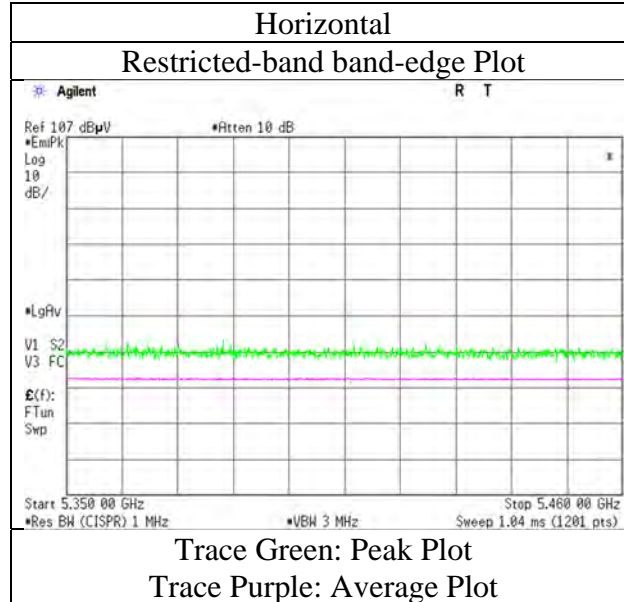
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-40 5270 MHz



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

## Radiated Spurious Emission

Report No.	14026147S-B-R1				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	3	3	3	1	3
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH
Engineer	Takahiro Suzuki	Takahiro Suzuki	Hiromasa Sato	Shunsaku Yumi	Yosuke Murakami
Mode	(1 GHz -6.4 GHz) Tx 11n-40 5310 MHz	(6.4 GHz -10 GHz)	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)

### (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	53.29	31.83	16.68	43.26	2.46	61.00	73.9	12.9	206	109	-
Hori.	10620.000	PK	49.10	36.75	9.36	42.82	-9.54	42.85	73.9	31.0	139	243	-
Hori.	15930.000	PK	46.80	40.20	11.54	40.15	-9.54	48.85	73.9	25.0	150	0	-
Hori.	21240.000	PK	46.90	40.22	14.59	45.59	-9.54	46.58	73.9	27.3	148	61	-
Hori.	5350.000	AV	40.08	31.83	16.68	43.26	2.46	47.79	53.9	6.1	206	109	VBW:330 Hz
Hori.	10620.000	AV	37.83	36.75	9.36	42.82	-9.54	31.58	53.9	22.3	139	243	VBW:330 Hz
Hori.	15930.000	AV	34.34	40.20	11.54	40.15	-9.54	36.39	53.9	17.5	150	0	VBW:330 Hz,Floor noise
Hori.	21240.000	AV	41.26	40.22	14.59	45.59	-9.54	40.94	53.9	12.9	148	61	VBW:330 Hz
Vert.	5350.000	PK	51.33	31.83	16.68	43.26	2.46	59.04	73.9	14.8	112	130	-
Vert.	10620.000	PK	48.85	36.75	9.36	42.82	-9.54	42.60	73.9	31.3	147	237	-
Vert.	15930.000	PK	46.03	40.20	11.54	40.15	-9.54	48.08	73.9	25.8	150	0	-
Vert.	21240.000	PK	50.29	40.22	14.59	45.59	-9.54	49.97	73.9	23.9	135	331	-
Vert.	5350.000	AV	39.63	31.83	16.68	43.26	2.46	47.34	53.9	6.5	112	130	VBW:330 Hz
Vert.	10620.000	AV	37.44	36.75	9.36	42.82	-9.54	31.19	53.9	22.7	147	237	VBW:330 Hz
Vert.	15930.000	AV	34.02	40.20	11.54	40.15	-9.54	36.07	53.9	17.8	150	0	VBW:330 Hz,Floor noise
Vert.	21240.000	AV	47.35	40.22	14.59	45.59	-9.54	47.03	53.9	6.8	135	331	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3540.000	PK	51.81	29.33	15.36	42.16	2.46	56.80	-38.43	-27.0	11.4	130	89	-
Vert.	3540.000	PK	52.53	29.33	15.36	42.16	2.46	57.52	-37.71	-27.0	10.7	115	250	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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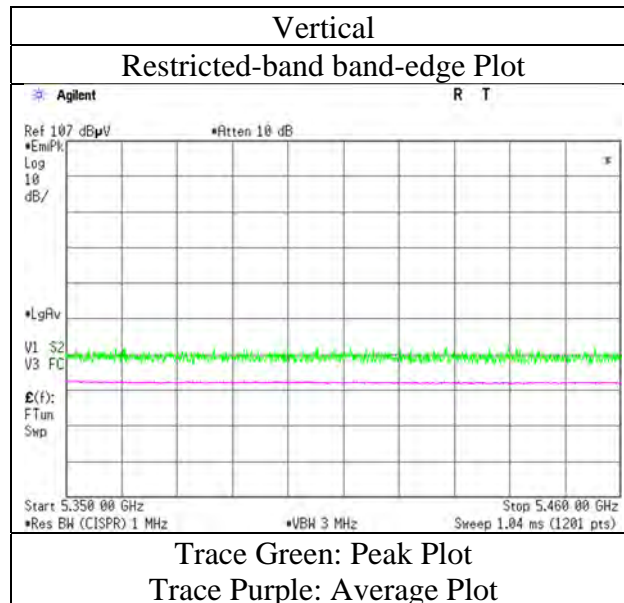
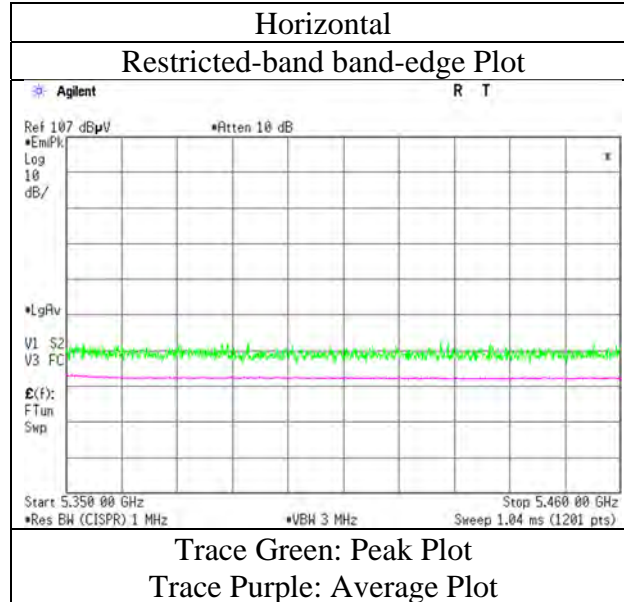
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
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.

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3673.374	PK	51.36	29.72	15.47	42.19	2.46	56.82	73.9	17.0	190	244	-
Hori.	5460.000	PK	52.06	32.30	16.74	43.38	2.46	60.18	73.9	13.7	201	116	-
Hori.	11020.000	PK	50.36	37.21	9.51	42.97	-9.54	44.57	73.9	29.3	140	242	-
Hori.	18366.660	PK	45.73	40.09	13.44	44.69	-9.54	45.03	73.9	28.8	146	88	-
Hori.	22040.000	PK	44.37	40.44	14.93	46.12	-9.54	44.08	73.9	29.8	144	283	-
Hori.	3673.374	AV	40.99	29.72	15.47	42.19	2.46	46.45	53.9	7.4	190	244	VBW:330 Hz
Hori.	5460.000	AV	39.91	32.30	16.74	43.38	2.46	48.03	53.9	5.8	201	116	VBW:330 Hz
Hori.	11020.000	AV	38.77	37.21	9.51	42.97	-9.54	32.98	53.9	20.9	140	242	VBW:330 Hz
Hori.	18366.660	AV	38.14	40.09	13.44	44.69	-9.54	37.44	53.9	16.4	146	88	VBW:330 Hz
Hori.	22040.000	AV	35.11	40.44	14.93	46.12	-9.54	34.82	53.9	19.0	144	283	VBW:330 Hz
Vert.	3673.374	PK	51.14	29.72	15.47	42.19	2.46	56.60	73.9	17.3	163	86	-
Vert.	5460.000	PK	51.34	32.30	16.74	43.38	2.46	59.46	73.9	14.4	106	87	-
Vert.	11020.000	PK	49.91	37.21	9.51	42.97	-9.54	44.12	73.9	29.7	155	260	-
Vert.	18366.660	PK	45.28	40.09	13.44	44.69	-9.54	44.58	73.9	29.3	136	308	-
Vert.	22040.000	PK	47.38	40.44	14.93	46.12	-9.54	47.09	73.9	26.8	136	333	-
Vert.	3673.374	AV	42.51	29.72	15.47	42.19	2.46	47.97	53.9	5.9	163	86	VBW:330 Hz
Vert.	5460.000	AV	40.48	32.30	16.74	43.38	2.46	48.60	53.9	5.3	106	87	VBW:330 Hz
Vert.	11020.000	AV	38.24	37.21	9.51	42.97	-9.54	32.45	53.9	21.4	155	260	VBW:330 Hz
Vert.	18366.660	AV	36.29	40.09	13.44	44.69	-9.54	35.59	53.9	18.3	136	308	VBW:330 Hz
Vert.	22040.000	AV	41.61	40.44	14.93	46.12	-9.54	41.32	53.9	12.5	136	333	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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	53.93	32.33	16.75	43.39	2.46	62.08	-33.15	-27.0	6.1	201	116	-
Hori.	16530.000	PK	46.09	39.86	12.25	40.32	-9.54	48.34	-46.89	-27.0	19.8	150	0	-
Vert.	5470.000	PK	53.02	32.33	16.75	43.39	2.46	61.17	-34.06	-27.0	7.0	106	87	-
Vert.	16530.000	PK	46.13	39.86	12.25	40.32	-9.54	48.38	-46.85	-27.0	19.8	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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

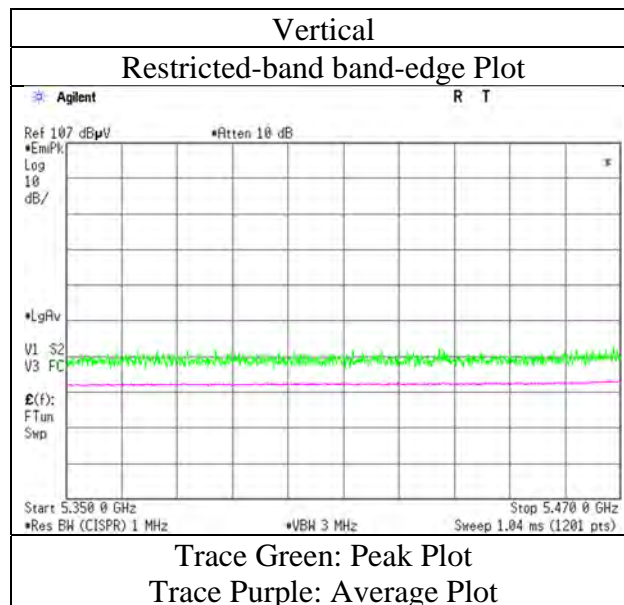
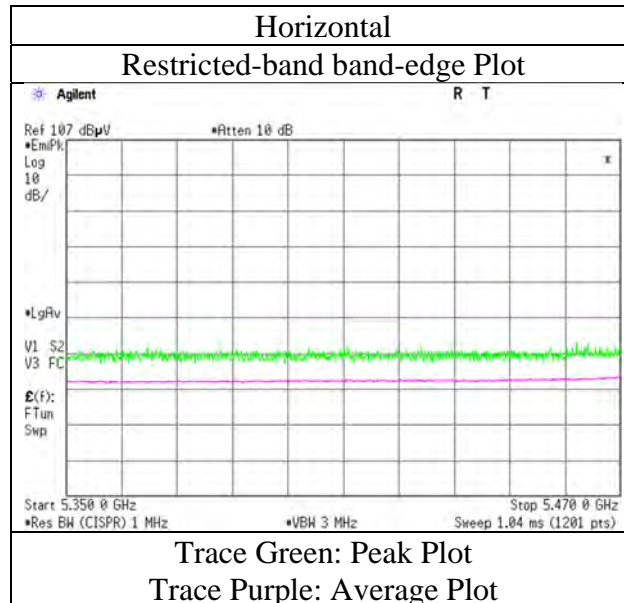
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11n-40 5510 MHz



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

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3700.000	PK	52.26	29.76	15.48	42.20	2.46	57.76	73.9	16.1	138	87	-
Hori.	5460.000	PK	51.82	32.30	16.74	43.38	2.46	59.94	73.9	13.9	203	108	-
Hori.	11100.000	PK	52.03	37.19	9.57	42.90	-9.54	46.35	73.9	27.5	138	255	-
Hori.	18500.000	PK	46.25	40.10	13.49	44.60	-9.54	45.70	73.9	28.2	140	89	-
Hori.	22200.000	PK	44.64	40.44	14.95	46.30	-9.54	44.19	73.9	29.7	144	334	-
Hori.	3700.000	AV	42.99	29.76	15.48	42.20	2.46	48.49	53.9	5.4	138	87	VBW:330 Hz
Hori.	5460.000	AV	39.84	32.30	16.74	43.38	2.46	47.96	53.9	5.9	203	108	VBW:330 Hz
Hori.	11100.000	AV	41.05	37.19	9.57	42.90	-9.54	35.37	53.9	18.5	138	255	VBW:330 Hz
Hori.	18500.000	AV	38.38	40.10	13.49	44.60	-9.54	37.83	53.9	16.0	140	89	VBW:330 Hz
Hori.	22200.000	AV	37.28	40.44	14.95	46.30	-9.54	36.83	53.9	17.0	144	334	VBW:330 Hz
Vert.	3700.000	PK	51.47	29.76	15.48	42.20	2.46	56.97	73.9	16.9	100	244	-
Vert.	5460.000	PK	51.29	32.30	16.74	43.38	2.46	59.41	73.9	14.4	100	135	-
Vert.	11100.000	PK	51.96	37.19	9.57	42.90	-9.54	46.28	73.9	27.6	155	261	-
Vert.	18500.000	PK	43.61	40.10	13.49	44.60	-9.54	43.06	73.9	30.8	137	306	-
Vert.	22200.000	PK	47.05	40.44	14.95	46.30	-9.54	46.60	73.9	27.3	134	336	-
Vert.	3700.000	AV	41.92	29.76	15.48	42.20	2.46	47.42	53.9	6.4	100	244	VBW:330 Hz
Vert.	5460.000	AV	40.06	32.30	16.74	43.38	2.46	48.18	53.9	5.7	100	135	VBW:330 Hz
Vert.	11100.000	AV	40.90	37.19	9.57	42.90	-9.54	35.22	53.9	18.6	155	261	VBW:330 Hz
Vert.	18500.000	AV	36.61	40.10	13.49	44.60	-9.54	36.06	53.9	17.8	137	306	VBW:330 Hz
Vert.	22200.000	AV	41.64	40.44	14.95	46.30	-9.54	41.19	53.9	12.7	134	336	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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	53.64	32.33	16.75	43.39	2.46	61.79	-33.44	-27.0	6.4	203	108	-
Hori.	16650.000	PK	46.60	39.57	12.31	40.33	-9.54	48.61	-46.62	-27.0	19.6	150	0	-
Vert.	5470.000	PK	53.17	32.33	16.75	43.39	2.46	61.32	-33.91	-27.0	6.9	100	135	-
Vert.	16650.000	PK	46.43	39.57	12.31	40.33	-9.54	48.44	-46.79	-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 (3.98 m / 3.0 m) = 2.46 dB

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

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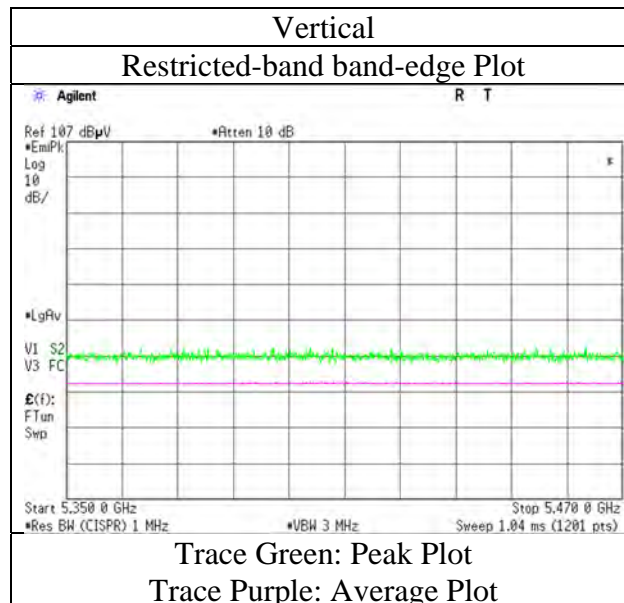
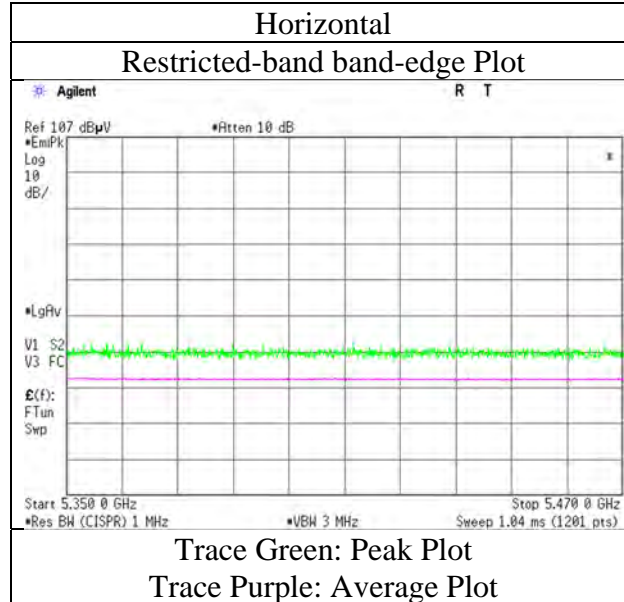
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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
Mode Tx 11n-40 5550MHz



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

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

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki	Takahiro Suzuki	Hiromasa Sato	Shunsaku Yumi	Yosuke Murakami	
	(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.	3780.033	PK	52.53	29.94	15.56	42.22	2.46	58.27	73.9	15.6	219	86	-
Hori.	11340.000	PK	52.21	37.62	9.70	42.70	-9.54	47.29	73.9	26.6	141	248	-
Hori.	18900.000	PK	45.78	40.22	13.63	44.84	-9.54	45.25	73.9	28.6	142	89	-
Hori.	22680.000	PK	44.29	40.34	15.06	46.72	-9.54	43.43	73.9	30.4	144	335	-
Hori.	3780.033	AV	43.23	29.94	15.56	42.22	2.46	48.97	53.9	4.9	219	86	VBW:330 Hz
Hori.	11340.000	AV	40.39	37.62	9.70	42.70	-9.54	35.47	53.9	18.4	141	248	VBW:330 Hz
Hori.	18900.000	AV	39.23	40.22	13.63	44.84	-9.54	38.70	53.9	15.2	142	89	VBW:330 Hz
Hori.	22680.000	AV	33.97	40.34	15.06	46.72	-9.54	33.11	53.9	20.7	144	335	VBW:330 Hz
Vert.	3780.033	PK	51.75	29.94	15.56	42.22	2.46	57.49	73.9	16.4	116	243	-
Vert.	11340.000	PK	51.57	37.62	9.70	42.70	-9.54	46.65	73.9	27.2	152	259	-
Vert.	18900.000	PK	45.59	40.22	13.63	44.84	-9.54	45.06	73.9	28.8	139	303	-
Vert.	22680.000	PK	46.42	40.34	15.06	46.72	-9.54	45.56	73.9	28.3	140	120	-
Vert.	3780.033	AV	41.28	29.94	15.56	42.22	2.46	47.02	53.9	6.8	116	243	VBW:330 Hz
Vert.	11340.000	AV	39.81	37.62	9.70	42.70	-9.54	34.89	53.9	19.0	152	259	VBW:330 Hz
Vert.	18900.000	AV	37.83	40.22	13.63	44.84	-9.54	37.30	53.9	16.6	139	303	VBW:330 Hz
Vert.	22680.000	AV	40.19	40.34	15.06	46.72	-9.54	39.33	53.9	14.5	140	120	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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	52.15	32.68	16.89	43.42	2.46	60.76	-34.47	-27.0	7.4	217	115	-
Hori.	17010.000	PK	47.12	39.65	12.46	40.34	-9.54	49.35	-45.88	-27.0	18.8	150	0	-
Vert.	5725.000	PK	51.39	32.68	16.89	43.42	2.46	60.00	-35.23	-27.0	8.2	110	91	-
Vert.	17010.000	PK	47.00	39.65	12.46	40.34	-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 : 20log (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

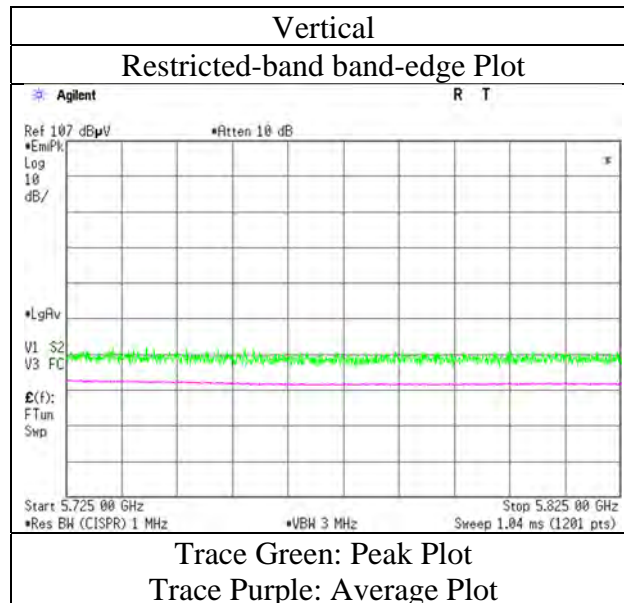
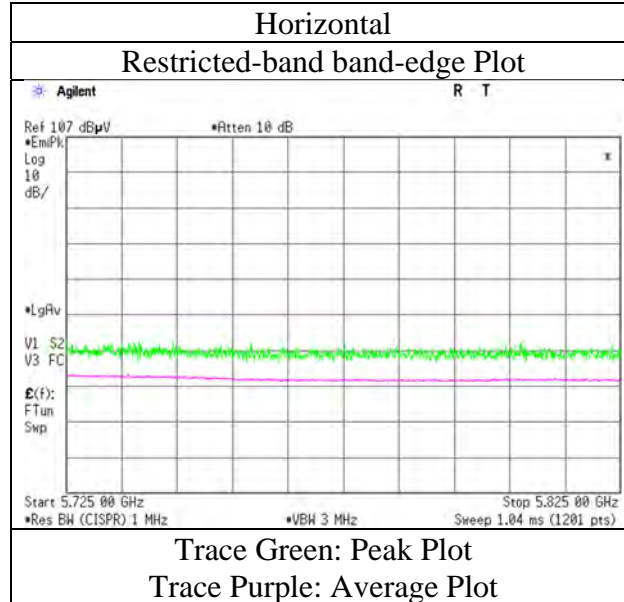
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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 22, 2021  
Temperature / Humidity 22 deg.C, 55 %RH  
Engineer Takahiro Suzuki  
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.

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasu Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3836.694	PK	52.43	30.03	15.60	42.23	2.46	58.29	73.9	15.6	176	266	-
Hori.	11510.000	PK	49.50	37.93	9.79	42.56	-9.54	45.12	73.9	28.7	132	216	-
Hori.	19183.330	PK	46.41	40.31	13.75	44.77	-9.54	46.16	73.9	27.7	147	87	-
Hori.	23020.000	PK	45.61	40.23	15.20	46.90	-9.54	44.60	73.9	29.3	144	333	-
Hori.	3836.694	AV	43.18	30.03	15.60	42.23	2.46	49.04	53.9	4.8	176	266	VBW:330 Hz
Hori.	11510.000	AV	38.31	37.93	9.79	42.56	-9.54	33.93	53.9	19.9	132	216	VBW:330 Hz
Hori.	19183.330	AV	39.06	40.31	13.75	44.77	-9.54	38.81	53.9	15.0	147	87	VBW:330 Hz
Hori.	23020.000	AV	36.37	40.23	15.20	46.90	-9.54	35.36	53.9	18.5	144	333	VBW:330 Hz
Vert.	3836.694	PK	50.66	30.03	15.60	42.23	2.46	56.52	73.9	17.3	176	109	-
Vert.	11510.000	PK	48.61	37.93	9.79	42.56	-9.54	44.23	73.9	29.6	155	267	-
Vert.	19183.330	PK	45.13	40.31	13.75	44.77	-9.54	44.88	73.9	29.0	140	306	-
Vert.	23020.000	PK	46.47	40.23	15.20	46.90	-9.54	45.46	73.9	28.4	143	120	-
Vert.	3836.694	AV	40.43	30.03	15.60	42.23	2.46	46.29	53.9	7.6	176	109	VBW:330 Hz
Vert.	11510.000	AV	38.04	37.93	9.79	42.56	-9.54	33.66	53.9	20.2	155	267	VBW:330 Hz
Vert.	19183.330	AV	38.40	40.31	13.75	44.77	-9.54	38.15	53.9	15.7	140	306	VBW:330 Hz
Vert.	23020.000	AV	40.20	40.23	15.20	46.90	-9.54	39.19	53.9	14.7	143	120	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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	50.84	32.49	16.86	43.42	2.46	59.23	-36.00	-27.0	8.9	187	117	-
Hori.	5700.000	PK	50.60	32.60	16.88	43.42	2.46	59.12	-36.11	10.0	46.1	187	117	-
Hori.	5720.000	PK	55.37	32.66	16.89	43.42	2.46	63.96	-31.27	15.6	46.8	187	117	-
Hori.	5725.000	PK	56.79	32.68	16.89	43.42	2.46	65.40	-29.83	27.0	56.8	187	117	-
Hori.	17265.000	PK	47.95	40.08	12.55	40.32	-9.54	50.72	-44.51	-27.0	17.5	150	0	-
Vert.	5650.000	PK	50.91	32.49	16.86	43.42	2.46	59.30	-35.93	-27.0	8.9	100	92	-
Vert.	5700.000	PK	51.57	32.60	16.88	43.42	2.46	60.09	-35.14	10.0	45.1	100	92	-
Vert.	5720.000	PK	54.56	32.66	16.89	43.42	2.46	63.15	-32.08	15.6	47.6	100	92	-
Vert.	5725.000	PK	55.41	32.68	16.89	43.42	2.46	64.02	-31.21	27.0	58.2	100	92	-
Vert.	17265.000	PK	47.63	40.08	12.55	40.32	-9.54	50.40	-44.83	-27.0	17.8	150	0	-

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

Result (EIRP [dBm]) = 10 \* LOG ( (10 ^ (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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

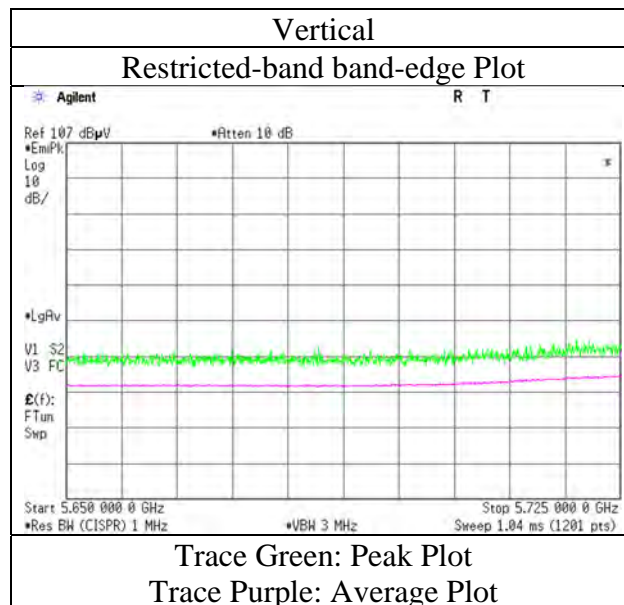
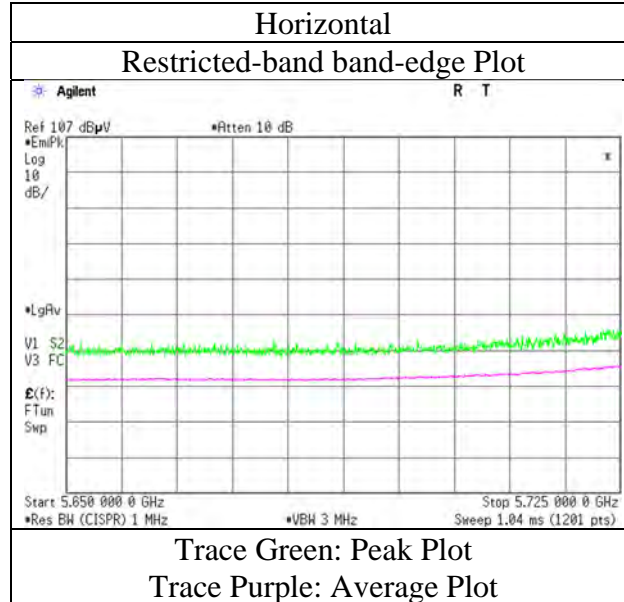
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-40 5755 MHz



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

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1					
Test place	Shonan EMC Lab.					
Semi Anechoic Chamber	3	3	3	1	3	
Date	June 22, 2021	June 18, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	22 deg.C, 55 %RH	21 deg.C, 51 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH	
Engineer	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasu Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (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.	3863.358	PK	52.41	30.08	15.61	42.24	2.46	58.32	73.9	15.5	258	269	-
Hori.	11590.000	PK	48.95	37.98	9.84	42.57	-9.54	44.66	73.9	29.2	143	272	-
Hori.	19316.660	PK	46.62	40.34	13.82	44.67	-9.54	46.57	73.9	27.3	149	87	-
Hori.	3863.358	AV	43.19	30.08	15.61	42.24	2.46	49.10	53.9	4.8	258	269	VBW:330 Hz
Hori.	11590.000	AV	38.62	37.98	9.84	42.57	-9.54	34.33	53.9	19.5	143	272	VBW:330 Hz
Hori.	19316.660	AV	39.92	40.34	13.82	44.67	-9.54	39.87	53.9	14.0	149	87	VBW:330 Hz
Vert.	3863.358	PK	51.04	30.08	15.61	42.24	2.46	56.95	73.9	16.9	174	111	-
Vert.	11590.000	PK	48.04	37.98	9.84	42.57	-9.54	43.75	73.9	30.1	152	247	-
Vert.	19316.660	PK	46.78	40.34	13.82	44.67	-9.54	46.73	73.9	27.1	139	315	-
Vert.	3863.358	AV	40.90	30.08	15.61	42.24	2.46	46.81	53.9	7.0	174	111	VBW:330 Hz
Vert.	11590.000	AV	38.59	37.98	9.84	42.57	-9.54	34.30	53.9	19.6	152	247	VBW:330 Hz
Vert.	19316.660	AV	40.23	40.34	13.82	44.67	-9.54	40.18	53.9	13.7	139	315	VBW:330 Hz

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 (3.98 m / 3.0 m) = 2.46 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	51.78	33.07	16.97	43.43	2.46	60.85	-34.38	27.0	61.3	100	122	-
Hori.	5855.000	PK	51.54	33.08	16.97	43.43	2.46	60.62	-34.61	15.6	50.2	100	122	-
Hori.	5875.000	PK	50.94	33.12	17.00	43.43	2.46	60.09	-35.14	10.0	45.1	100	122	-
Hori.	5925.000	PK	50.66	33.21	17.02	43.43	2.46	59.92	-35.31	-27.0	8.3	100	122	-
Hori.	17385.000	PK	47.00	40.24	12.60	40.31	-9.54	49.99	-45.24	-27.0	18.2	150	0	-
Hori.	23180.000	PK	44.24	40.19	15.26	46.98	-9.54	43.17	-52.06	-27.0	25.0	142	332	-
Vert.	5850.000	PK	51.16	33.07	16.97	43.43	2.46	60.23	-35.00	27.0	62.0	100	93	-
Vert.	5855.000	PK	51.25	33.08	16.97	43.43	2.46	60.33	-34.90	15.6	50.5	100	93	-
Vert.	5875.000	PK	51.54	33.12	17.00	43.43	2.46	60.69	-34.54	10.0	44.5	100	93	-
Vert.	5925.000	PK	50.66	33.21	17.02	43.43	2.46	59.92	-35.31	-27.0	8.3	100	93	-
Vert.	17385.000	PK	46.82	40.24	12.60	40.31	-9.54	49.81	-45.42	-27.0	18.4	150	0	-
Vert.	23180.000	PK	45.59	40.19	15.26	46.98	-9.54	44.52	-50.71	-27.0	23.7	141	118	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

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**Shonan EMC Lab.**

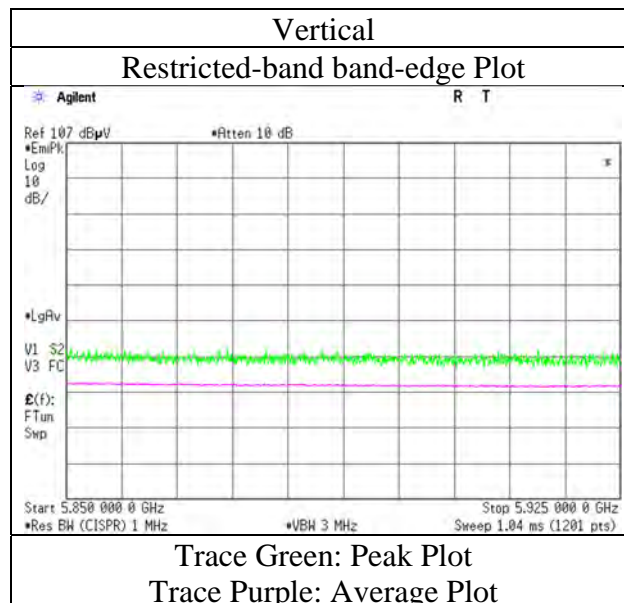
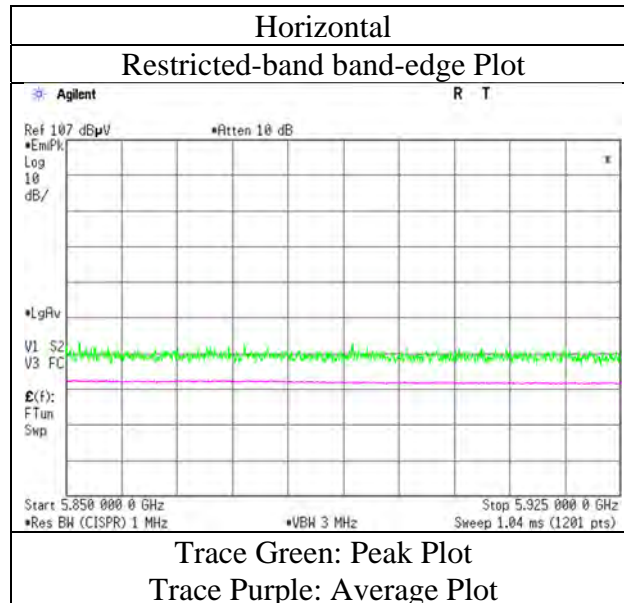
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 22, 2021
Temperature / Humidity	22 deg.C, 55 %RH
Engineer	Takahiro Suzuki
Mode	Tx 11n-40 5795 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5190 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	50.22	32.12	16.54	43.05	2.46	58.29	73.9	15.6	181	115	-
Hori.	5150.000	AV	40.33	32.12	16.54	43.05	2.46	48.40	53.9	<b>5.5</b>	181	115	VBW:330 Hz
Vert.	5150.000	PK	50.09	32.12	16.54	43.05	2.46	58.16	73.9	15.7	106	131	-
Vert.	5150.000	AV	39.68	32.12	16.54	43.05	2.46	47.75	53.9	6.1	106	131	VBW:330 Hz

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).

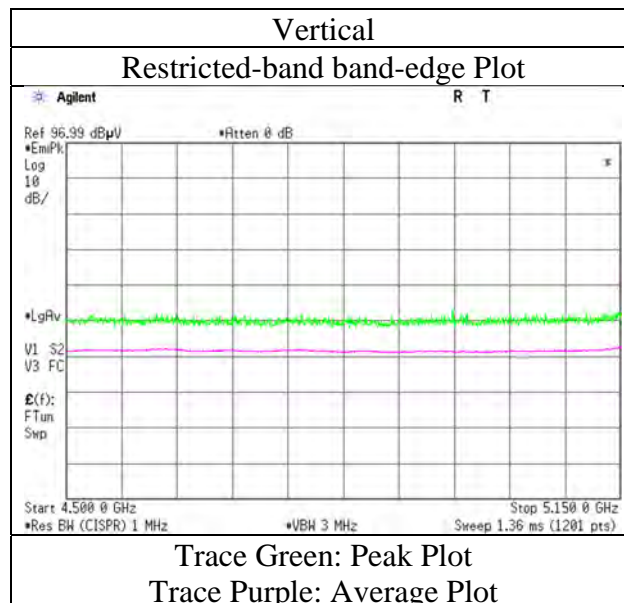
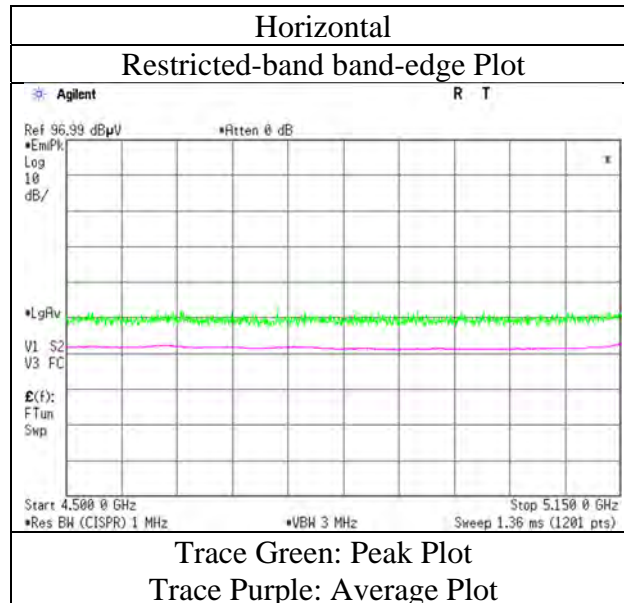
Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5190 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-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.	5150.000	PK	49.48	32.12	16.54	43.05	2.46	57.55	73.9	16.3	180	113	-
Hori.	5150.000	AV	39.22	32.12	16.54	43.05	2.46	47.29	53.9	<b>6.6</b>	180	113	VBW:330 Hz
Vert.	5150.000	PK	49.27	32.12	16.54	43.05	2.46	57.34	73.9	16.5	103	89	-
Vert.	5150.000	AV	38.96	32.12	16.54	43.05	2.46	47.03	53.9	6.8	103	89	VBW:330 Hz

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

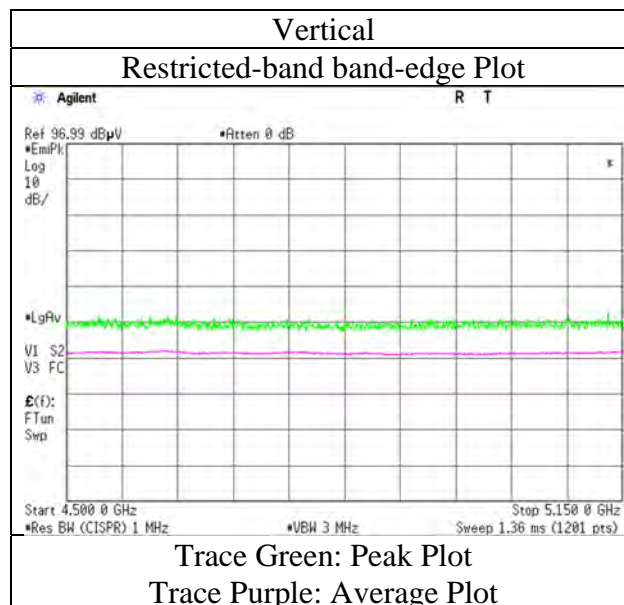
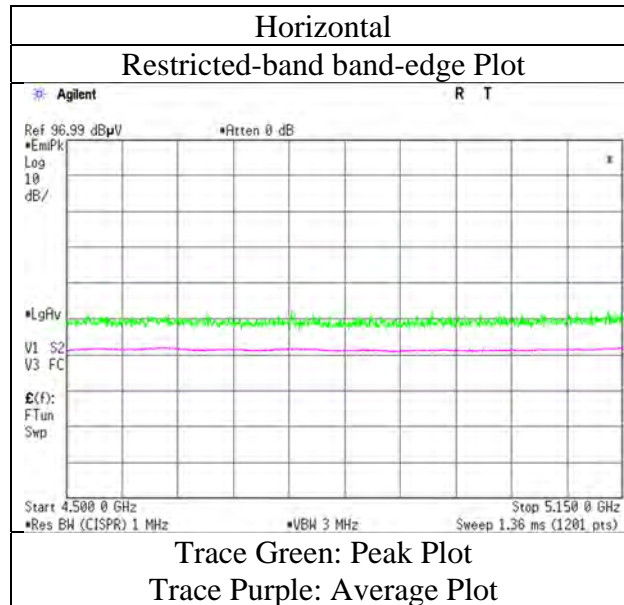
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5230 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5270 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	50.14	31.83	16.68	43.26	2.46	57.85	73.9	16.0	181	114	-
Hori.	5350.000	AV	39.85	31.83	16.68	43.26	2.46	47.56	53.9	<b>6.3</b>	181	114	VBW:330 Hz
Vert.	5350.000	PK	49.46	31.83	16.68	43.26	2.46	57.17	73.9	16.7	107	134	-
Vert.	5350.000	AV	39.68	31.83	16.68	43.26	2.46	47.39	53.9	6.5	107	134	VBW:330 Hz

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

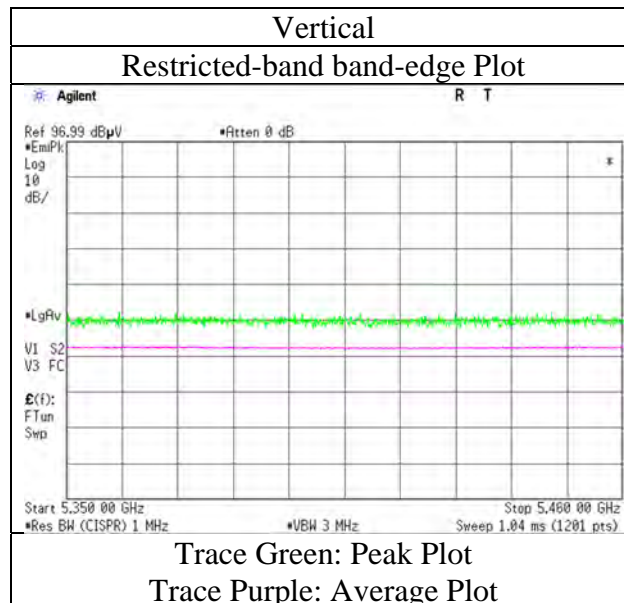
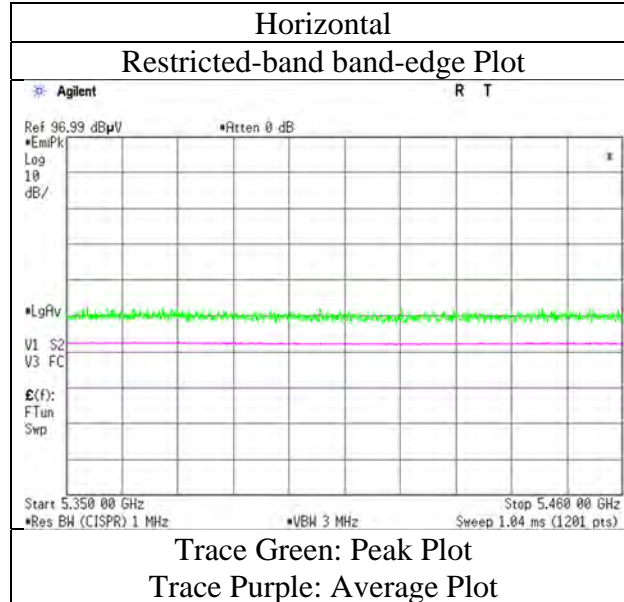
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
Mode Tx 11ac-40 5270 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5310 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	50.28	31.83	16.68	43.26	2.46	57.99	73.9	15.9	187	109	-
Hori.	5350.000	AV	39.16	31.83	16.68	43.26	2.46	46.87	53.9	<b>7.0</b>	187	109	VBW:330 Hz
Vert.	5350.000	PK	49.98	31.83	16.68	43.26	2.46	57.69	73.9	16.2	106	132	-
Vert.	5350.000	AV	39.02	31.83	16.68	43.26	2.46	46.73	53.9	7.1	106	132	VBW:330 Hz

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

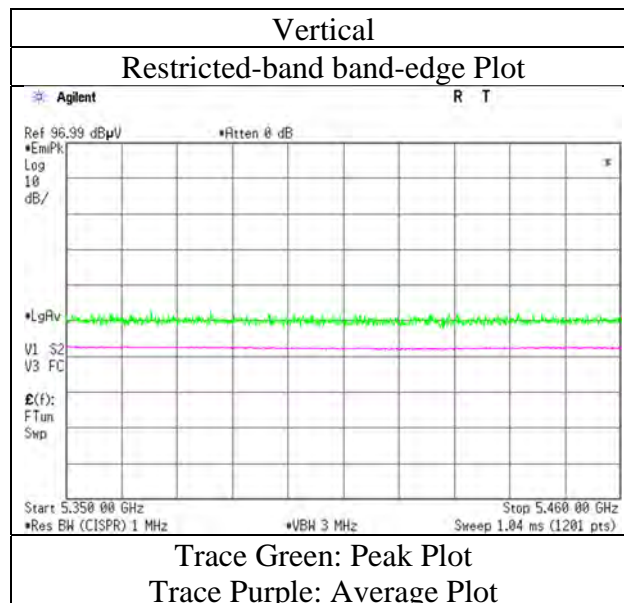
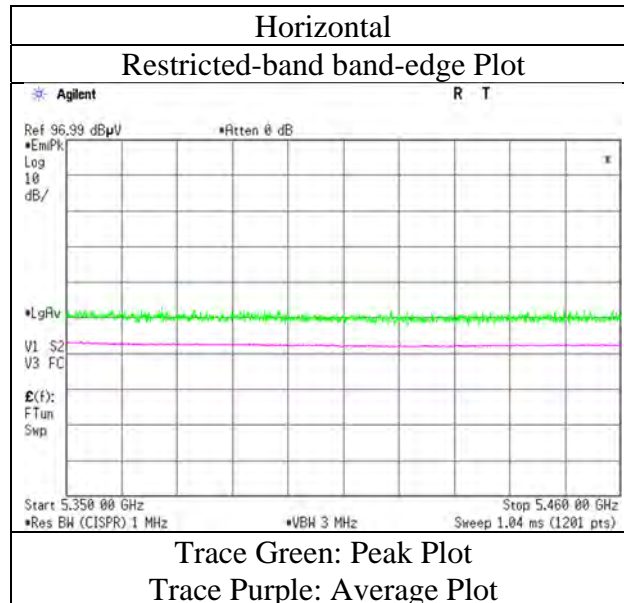
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5310 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5510 MHz

### (above 1 GHz Inside of the restricted band)

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	50.48	32.30	16.74	43.38	2.46	58.60	73.9	15.3	192	115	-
Hori.	5460.000	AV	39.46	32.30	16.74	43.38	2.46	47.58	53.9	<b>6.3</b>	192	115	VBW:330 Hz
Vert.	5460.000	PK	50.42	32.30	16.74	43.38	2.46	58.54	73.9	15.3	104	134	-
Vert.	5460.000	AV	39.24	32.30	16.74	43.38	2.46	47.36	53.9	6.5	104	134	VBW:330 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	50.62	32.33	16.75	43.39	2.46	58.77	-36.46	-27.0	9.4	192	115	-
Vert.	5470.000	PK	50.49	32.33	16.75	43.39	2.46	58.64	-36.59	-27.0	9.5	104	134	-

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).

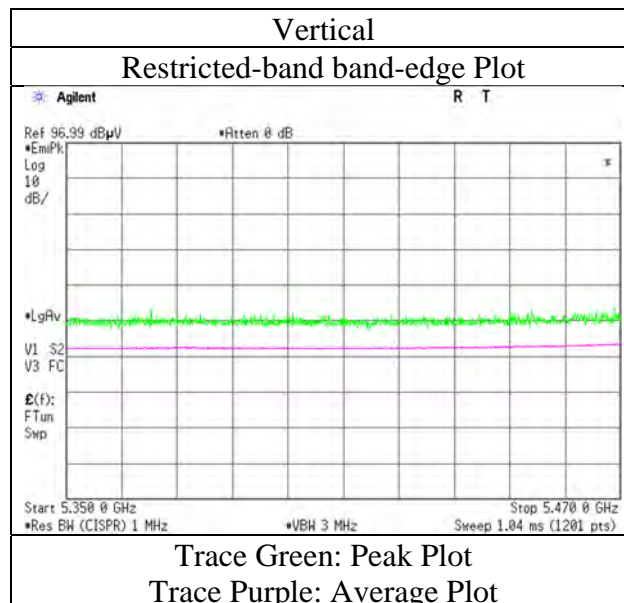
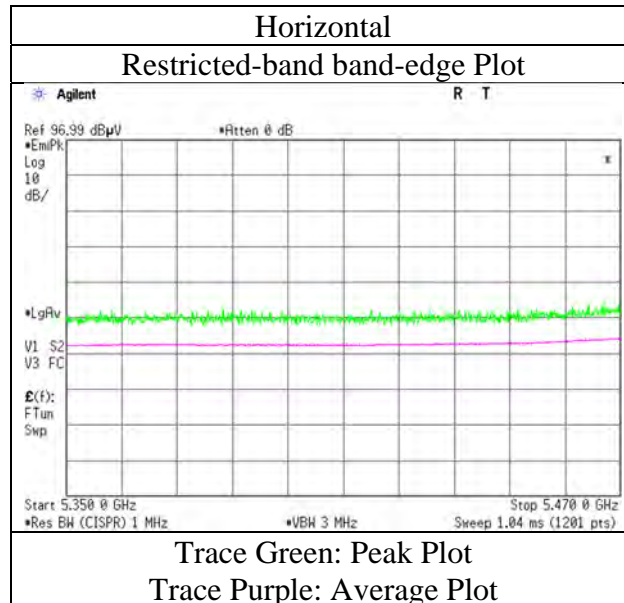
Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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



## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5510 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-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.	5460.000	PK	50.22	32.30	16.74	43.38	2.46	58.34	73.9	15.5	198	111	-
Hori.	5460.000	AV	39.14	32.30	16.74	43.38	2.46	47.26	53.9	6.6	198	111	VBW:330 Hz
Vert.	5460.000	PK	50.18	32.30	16.74	43.38	2.46	58.30	73.9	15.6	105	132	-
Vert.	5460.000	AV	38.98	32.30	16.74	43.38	2.46	47.10	53.9	6.8	105	132	VBW:330 Hz

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 :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	50.34	32.33	16.75	43.39	2.46	58.49	-36.74	-27.0	9.7	198	111	-
Vert.	5470.000	PK	50.22	32.33	16.75	43.39	2.46	58.37	-36.86	-27.0	9.8	105	132	-

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

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

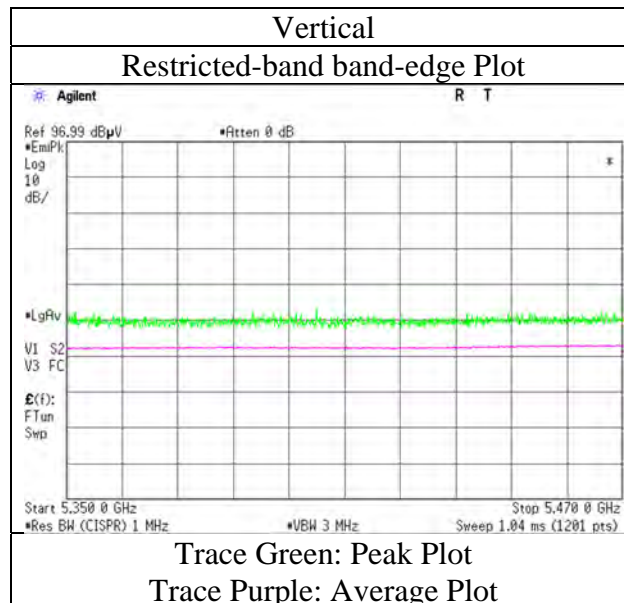
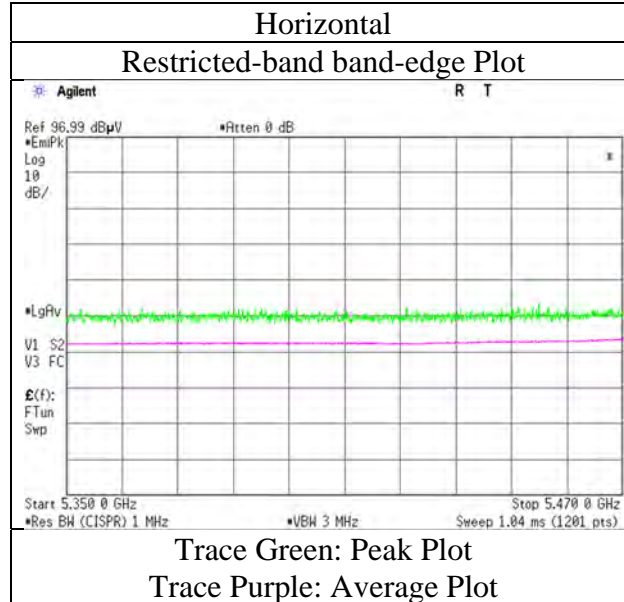
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz :  $20\log(3.98\text{ m} / 3.0\text{ m}) = 2.46\text{ dB}$

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5550 MHz



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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5670 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	50.06	32.68	16.89	43.42	2.46	58.67	-36.56	-27.0	9.5	202	113	-
Vert.	5725.000	PK	49.36	32.68	16.89	43.42	2.46	57.97	-37.26	-27.0	10.2	111	136	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

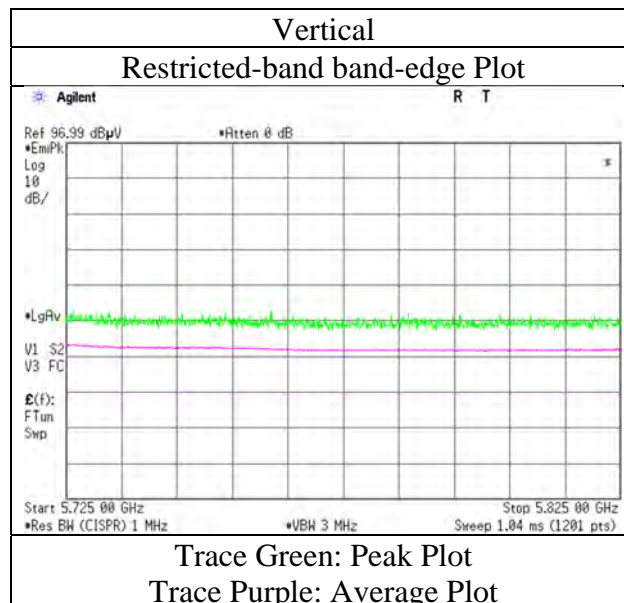
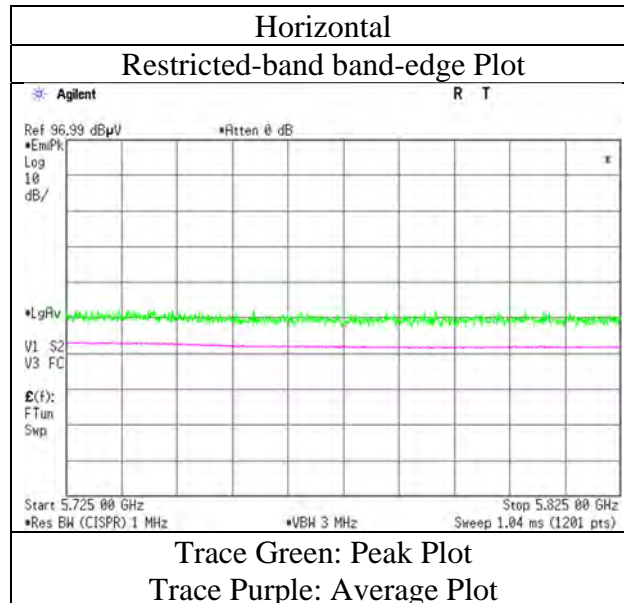
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
Mode Tx 11ac-40 5670 MHz



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

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5755 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.000	PK	49.34	32.49	16.86	43.42	2.46	57.73	-37.50	-27.0	<b>10.5</b>	195	118	-
Hori.	5700.000	PK	49.68	32.60	16.88	43.42	2.46	58.20	-37.03	10.0	47.0	195	118	-
Hori.	5720.000	PK	53.78	32.66	16.89	43.42	2.46	62.37	-32.86	15.6	48.4	195	118	-
Hori.	5725.000	PK	55.68	32.68	16.89	43.42	2.46	64.29	-30.94	27.0	57.9	195	118	-
Vert.	5650.000	PK	49.28	32.49	16.86	43.42	2.46	57.67	-37.56	-27.0	<b>10.5</b>	110	93	-
Vert.	5700.000	PK	49.42	32.60	16.88	43.42	2.46	57.94	-37.29	10.0	47.2	110	93	-
Vert.	5720.000	PK	51.48	32.66	16.89	43.42	2.46	60.07	-35.16	15.6	50.7	110	93	-
Vert.	5725.000	PK	53.96	32.68	16.89	43.42	2.46	62.57	-32.66	27.0	59.6	110	93	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

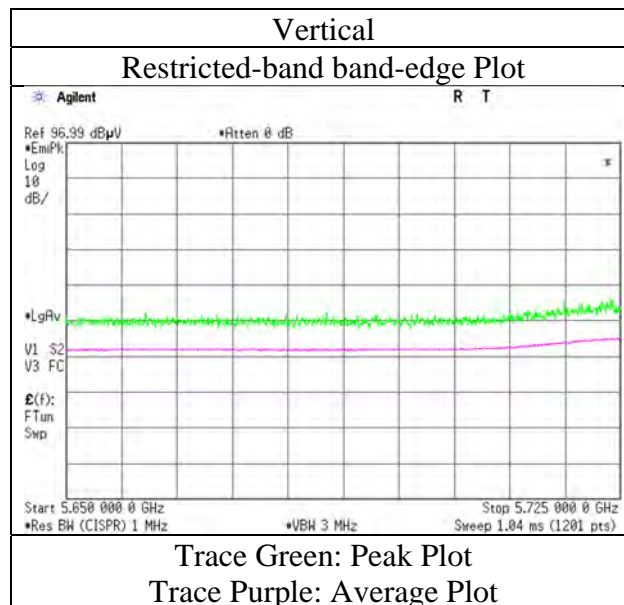
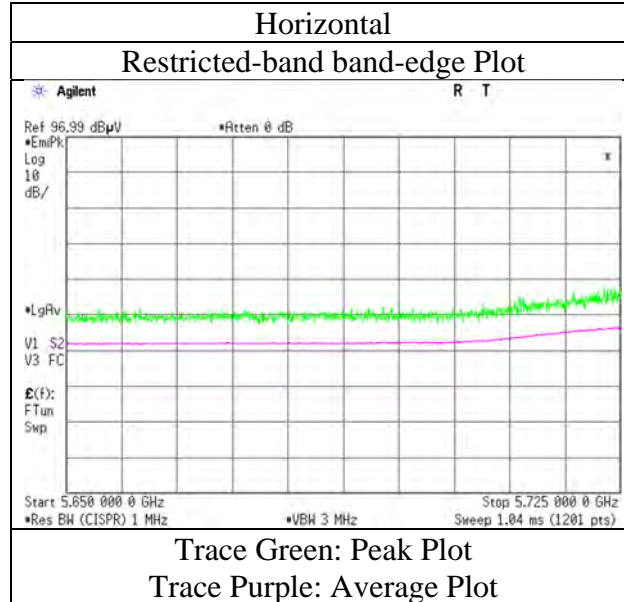
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5755 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
(1 GHz -6.4 GHz)  
Mode Tx 11ac-40 5795 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	49.32	33.07	16.97	43.43	2.46	58.39	-36.84	27.0	63.8	198	117	-
Hori.	5855.000	PK	49.08	33.08	16.97	43.43	2.46	58.16	-37.07	15.6	52.6	198	117	-
Hori.	5875.000	PK	48.72	33.12	17.00	43.43	2.46	57.87	-37.36	10.0	47.3	198	117	-
Hori.	5925.000	PK	48.62	33.21	17.02	43.43	2.46	57.88	-37.35	-27.0	<b>10.3</b>	198	117	-
Vert.	5850.000	PK	49.12	33.07	16.97	43.43	2.46	58.19	-37.04	27.0	64.0	115	98	-
Vert.	5855.000	PK	49.06	33.08	16.97	43.43	2.46	58.14	-37.09	15.6	52.6	115	98	-
Vert.	5875.000	PK	48.78	33.12	17.00	43.43	2.46	57.93	-37.30	10.0	47.3	115	98	-
Vert.	5925.000	PK	48.66	33.21	17.02	43.43	2.46	57.92	-37.31	-27.0	<b>10.3</b>	115	98	-

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 (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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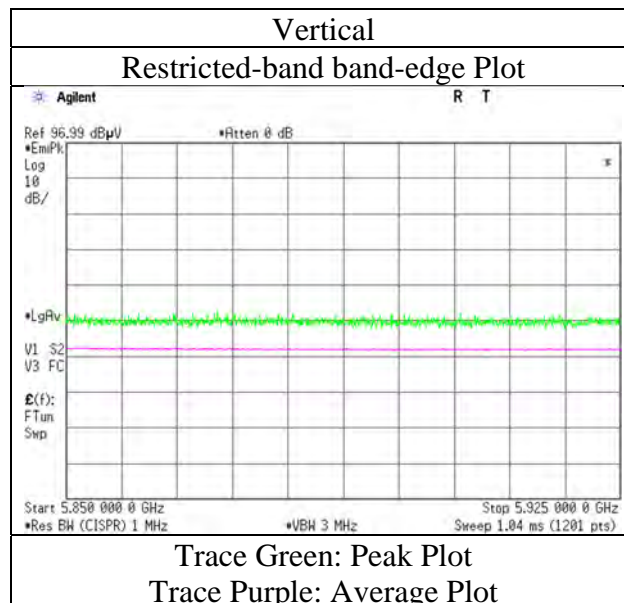
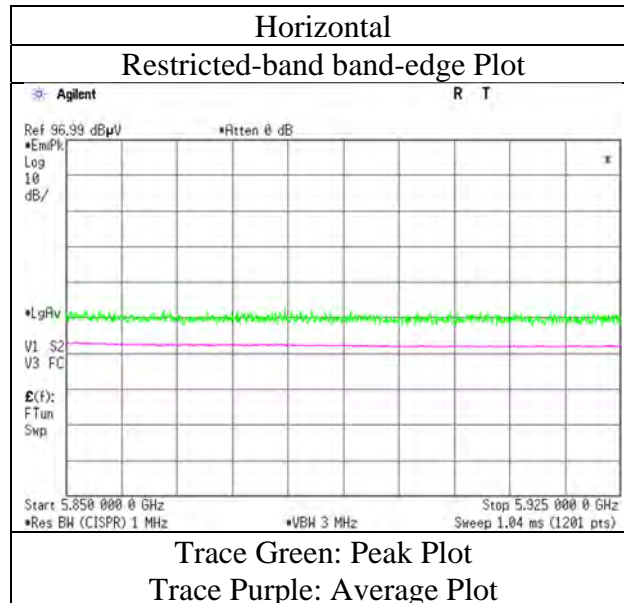
Telephone : +81 463 50 6400

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-40 5795 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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## Radiated Spurious Emission

Report No.	14026147S-B-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	3	3	1
Date	June 19, 2021	June 23, 2021	June 25, 2021
Temperature / Humidity	24 deg.C, 53 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH
Engineer	Kenichi Adachi	Hiromasa Sato	Shunsaku Yumi
	( 1 GHz -10 GHz )	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11ac-80 5210 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	50.86	32.12	16.54	43.05	2.46	58.93	73.9	14.9	184	114	-
Hori.	15630.000	PK	46.09	39.77	11.62	40.39	-9.54	47.55	73.9	26.3	150	0	-
Hori.	20840.000	PK	48.02	40.24	14.40	45.12	-9.54	48.00	73.9	25.9	144	59	-
Hori.	5150.000	AV	40.56	32.12	16.54	43.05	2.46	48.63	53.9	5.2	184	114	VBW:680 Hz
Hori.	15630.000	AV	34.20	39.77	11.62	40.39	-9.54	35.66	53.9	18.2	150	0	VBW:680 Hz,Floor noise
Hori.	20840.000	AV	43.05	40.24	14.40	45.12	-9.54	43.03	53.9	10.8	144	59	VBW:680 Hz
Vert.	5150.000	PK	49.38	32.12	16.54	43.05	2.46	57.45	73.9	16.4	115	81	-
Vert.	15630.000	PK	45.83	39.77	11.62	40.39	-9.54	47.29	73.9	26.6	150	0	-
Vert.	20840.000	PK	50.16	40.24	14.40	45.12	-9.54	50.14	73.9	23.7	139	330	-
Vert.	5150.000	AV	38.76	32.12	16.54	43.05	2.46	46.83	53.9	7.0	115	81	VBW:680 Hz
Vert.	15630.000	AV	34.12	39.77	11.62	40.39	-9.54	35.58	53.9	18.3	150	0	VBW:680 Hz,Floor noise
Vert.	20840.000	AV	46.06	40.24	14.40	45.12	-9.54	46.04	53.9	7.8	139	330	VBW:680 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3473.337	PK	50.24	29.01	15.32	42.13	2.46	54.90	-40.33	-27.0	13.3	235	284	-
Hori.	10420.000	PK	50.59	36.24	9.30	42.74	-9.54	43.85	-51.38	-27.0	24.3	146	231	-
Vert.	3473.337	PK	49.98	29.01	15.32	42.13	2.46	54.64	-40.59	-27.0	13.5	106	237	-
Vert.	10420.000	PK	50.61	36.24	9.30	42.74	-9.54	43.87	-51.36	-27.0	24.3	152	233	-

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)

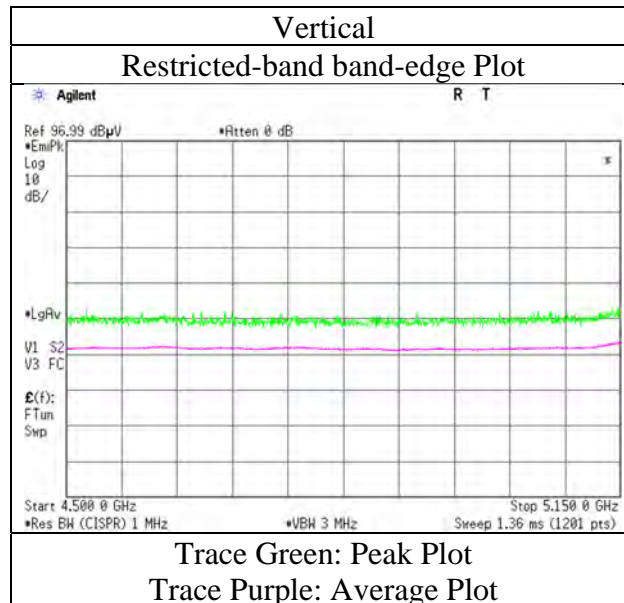
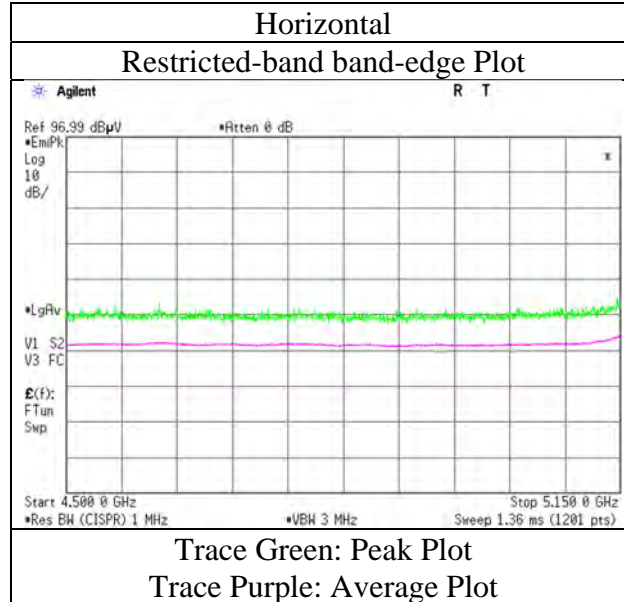
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab.  
Semi Anechoic Chamber 3  
Date June 19, 2021  
Temperature / Humidity 24 deg.C, 53 %RH  
Engineer Kenichi Adachi  
Mode Tx 11ac-80 5210 MHz



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

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1			
Test place	Shonan EMC Lab.			
Semi Anechoic Chamber	3	3	1	3
Date	June 19, 2021	June 23, 2021	June 25, 2021	July 1, 2021
Temperature / Humidity	24 deg.C, 53 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH	25 deg.C, 51 %RH
Engineer	Kenichi Adachi	Hiromasa Sato	Shunsaku Yumi	Yosuke Murakami
	( 1 GHz -10 GHz )	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)	(26.5 GHz -40 GHz)
Mode	Tx 11ac-80 5290 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.	15870.000	PK	46.13	40.18	11.54	40.20	-9.54	48.11	73.9	25.7	150	0	-
Hori.	21160.000	PK	48.18	40.21	14.56	45.46	-9.54	47.95	73.9	25.9	118	60	-
Hori.	15870.000	AV	33.89	40.18	11.54	40.20	-9.54	35.87	53.9	18.0	150	0	VBW:680 Hz,Floor noise
Hori.	21160.000	AV	43.61	40.21	14.56	45.46	-9.54	43.38	53.9	10.5	118	60	VBW:680 Hz
Vert.	15870.000	PK	46.08	40.18	11.54	40.20	-9.54	48.06	73.9	25.8	150	0	-
Vert.	21160.000	PK	51.05	40.21	14.56	45.46	-9.54	50.82	73.9	23.0	134	332	-
Vert.	15870.000	AV	33.71	40.18	11.54	40.20	-9.54	35.69	53.9	18.2	150	0	VBW:680 Hz,Floor noise
Vert.	21160.000	AV	47.16	40.21	14.56	45.46	-9.54	46.93	53.9	6.9	134	332	VBW:680 Hz

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 (3.98 m / 3.0 m) = 2.46 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.	3526.672	PK	53.16	29.27	15.35	42.16	2.46	58.08	-37.15	-27.0	10.1	233	278	-
Hori.	10580.000	PK	49.24	36.60	9.34	42.80	-9.54	42.84	-52.39	-27.0	25.3	134	241	-
Vert.	3526.672	PK	52.82	29.27	15.35	42.16	2.46	57.74	-37.49	-27.0	10.4	111	241	-
Vert.	10580.000	PK	49.11	36.60	9.34	42.80	-9.54	42.71	-52.52	-27.0	25.5	155	258	-

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 )

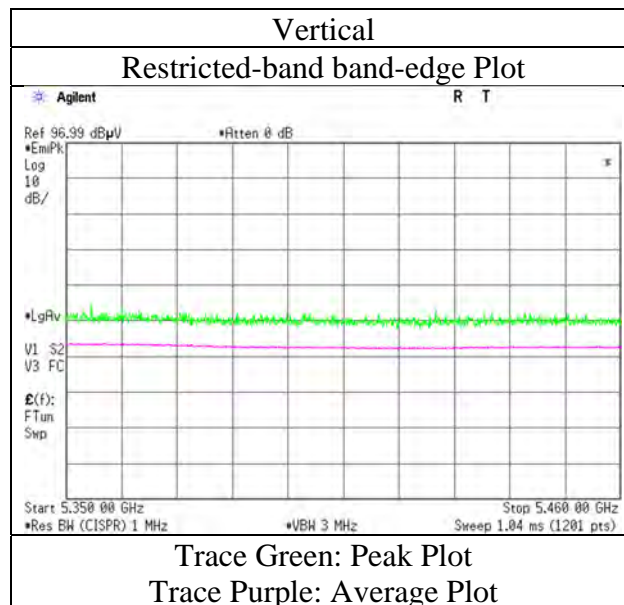
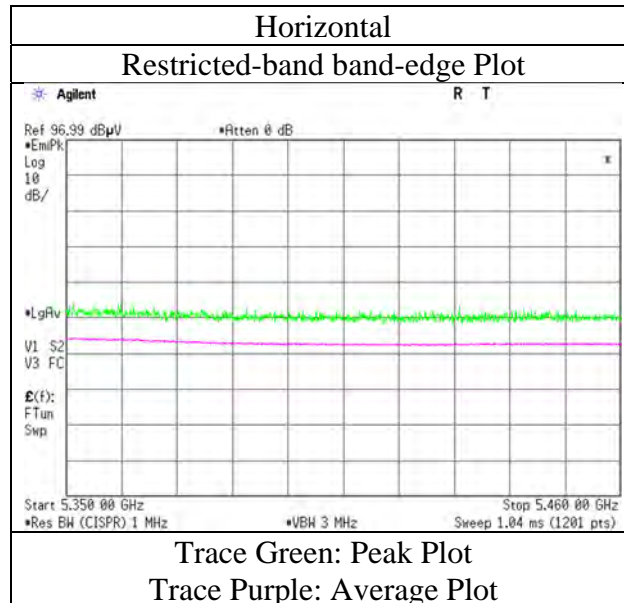
\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20 dB).

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 19, 2021
Temperature / Humidity	24 deg.C, 53 %RH
Engineer	Kenichi Adachi
Mode	Tx 11ac-80 5290 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	3	3	1
Date	June 20, 2021	June 23, 2021	June 25, 2021
Temperature / Humidity	24 deg.C, 58 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH
Engineer	Toshinori Yamada	Hiromasa Sato	Shunsaku Yumi
	( 1 GHz -10 GHz )	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11ac-80 5530 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.	3686.667	PK	51.84	29.74	15.47	42.19	2.46	57.32	73.9	16.5	227	286	-
Hori.	5460.000	PK	54.69	32.30	16.74	43.38	2.46	62.81	73.9	11.0	201	118	-
Hori.	11060.000	PK	49.97	37.20	9.52	42.94	-9.54	44.21	73.9	29.6	148	260	-
Hori.	18433.330	PK	46.40	40.11	13.47	44.65	-9.54	45.79	73.9	28.1	140	86	-
Hori.	22120.000	PK	44.45	40.45	14.94	46.21	-9.54	44.09	73.9	29.8	148	284	-
Hori.	3686.667	AV	42.71	29.74	15.47	42.19	2.46	48.19	53.9	5.7	227	286	VBW:680 Hz
Hori.	5460.000	AV	40.68	32.30	16.74	43.38	2.46	48.80	53.9	5.1	201	118	VBW:680 Hz
Hori.	11060.000	AV	38.50	37.20	9.52	42.94	-9.54	32.74	53.9	21.1	148	260	VBW:680 Hz
Hori.	18433.330	AV	40.09	40.11	13.47	44.65	-9.54	39.48	53.9	14.4	140	86	VBW:680 Hz
Hori.	22120.000	AV	35.56	40.45	14.94	46.21	-9.54	35.20	53.9	18.7	148	284	VBW:680 Hz
Vert.	3686.667	PK	50.39	29.74	15.47	42.19	2.46	55.87	73.9	18.0	143	251	-
Vert.	5460.000	PK	53.24	32.30	16.74	43.38	2.46	61.36	73.9	12.5	100	93	-
Vert.	11060.000	PK	49.53	37.20	9.52	42.94	-9.54	43.77	73.9	30.1	156	263	-
Vert.	18433.330	PK	46.05	40.11	13.47	44.65	-9.54	45.44	73.9	28.4	132	306	-
Vert.	22120.000	PK	46.90	40.45	14.94	46.21	-9.54	46.54	73.9	27.3	135	319	-
Vert.	3686.667	AV	40.23	29.74	15.47	42.19	2.46	45.71	53.9	8.1	143	251	VBW:680 Hz
Vert.	5460.000	AV	39.98	32.30	16.74	43.38	2.46	48.10	53.9	5.8	100	93	VBW:680 Hz
Vert.	11060.000	AV	38.26	37.20	9.52	42.94	-9.54	32.50	53.9	21.4	156	263	VBW:680 Hz
Vert.	18433.330	AV	38.88	40.11	13.47	44.65	-9.54	38.27	53.9	15.6	132	306	VBW:680 Hz
Vert.	22120.000	AV	41.05	40.45	14.94	46.21	-9.54	40.69	53.9	13.2	135	319	VBW:680 Hz

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 (3.98 m / 3.0 m) = 2.46 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	55.07	32.33	16.75	43.39	2.46	63.22	-32.01	-27.0	5.0	201	118	-
Hori.	16590.000	PK	46.62	39.71	12.28	40.32	-9.54	48.75	-46.48	-27.0	19.4	150	0	-
Vert.	5470.000	PK	53.54	32.33	16.75	43.39	2.46	61.69	-33.54	-27.0	6.5	100	93	-
Vert.	16590.000	PK	46.15	39.71	12.28	40.32	-9.54	48.28	-46.95	-27.0	19.9	150	0	-

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log (3.98 m / 3.0 m) = 2.46 dB

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

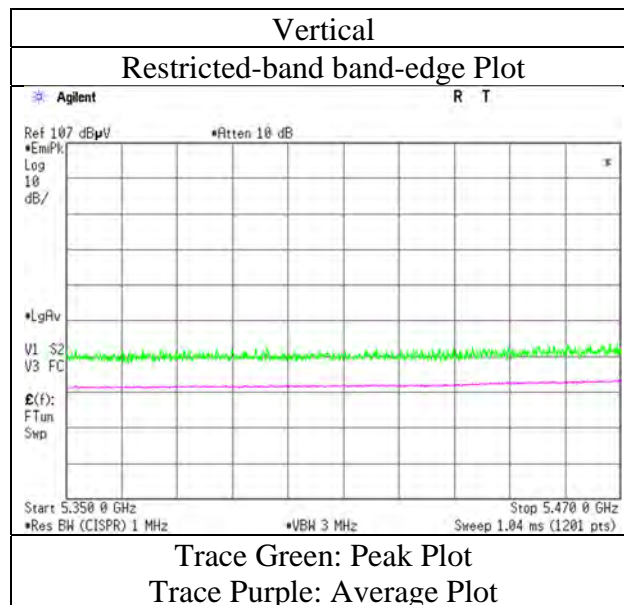
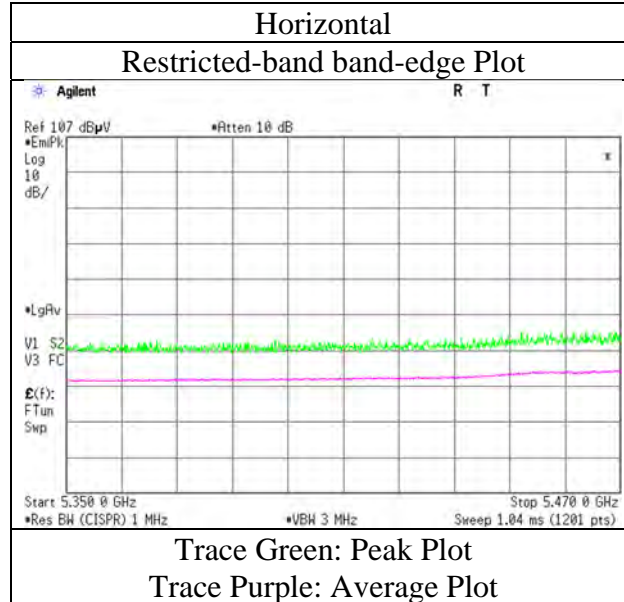
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 20, 2021
Temperature / Humidity	24 deg.C, 58 %RH
Engineer	Toshinori Yamada
Mode	Tx 11ac-80 5530 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	3	3	1
Date	June 20, 2021	June 23, 2021	June 25, 2021
Temperature / Humidity	24 deg.C, 58 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH
Engineer	Toshinori Yamada	Hiromasa Sato	Shunsaku Yumi
	( 1 GHz -10 GHz )	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11ac-80 5610 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.	3740.000	PK	50.59	29.85	15.51	42.21	2.46	56.20	73.9	17.7	223	84	-
Hori.	11220.000	PK	51.15	37.30	9.62	42.80	-9.54	45.73	73.9	28.1	137	280	-
Hori.	18700.000	PK	47.41	40.16	13.56	44.72	-9.54	46.87	73.9	27.0	148	90	-
Hori.	22440.000	PK	40.05	40.43	14.98	46.56	-9.54	39.36	73.9	34.5	140	331	-
Hori.	3740.000	AV	40.93	29.85	15.51	42.21	2.46	46.54	53.9	7.3	223	84	VBW:680 Hz
Hori.	11220.000	AV	38.99	37.30	9.62	42.80	-9.54	33.57	53.9	20.3	137	280	VBW:680 Hz
Hori.	18700.000	AV	41.22	40.16	13.56	44.72	-9.54	40.68	53.9	13.2	148	90	VBW:680 Hz
Hori.	22440.000	AV	35.34	40.43	14.98	46.56	-9.54	34.65	53.9	19.2	140	331	VBW:680 Hz
Vert.	3740.000	PK	50.07	29.85	15.51	42.21	2.46	55.68	73.9	18.2	147	50	-
Vert.	11220.000	PK	50.89	37.30	9.62	42.80	-9.54	45.47	73.9	28.4	156	248	-
Vert.	18700.000	PK	46.40	40.16	13.56	44.72	-9.54	45.86	73.9	28.0	137	307	-
Vert.	22440.000	PK	46.27	40.43	14.98	46.56	-9.54	45.58	73.9	28.3	145	119	-
Vert.	3740.000	AV	39.35	29.85	15.51	42.21	2.46	44.96	53.9	8.9	147	50	VBW:680 Hz
Vert.	11220.000	AV	38.24	37.30	9.62	42.80	-9.54	32.82	53.9	21.0	156	248	VBW:680 Hz
Vert.	18700.000	AV	40.11	40.16	13.56	44.72	-9.54	39.57	53.9	14.3	137	307	VBW:680 Hz
Vert.	22440.000	AV	40.67	40.43	14.98	46.56	-9.54	39.98	53.9	13.9	145	119	VBW:680 Hz

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 (3.98 m / 3.0 m) = 2.46 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	50.88	32.68	16.89	43.42	2.46	59.49	-35.74	-27.0	8.7	220	118	-
Hori.	16830.000	PK	47.34	39.45	12.38	40.33	-9.54	49.30	-45.93	-27.0	18.9	150	0	-
Vert.	5725.000	PK	50.25	32.68	16.89	43.42	2.46	58.86	-36.37	-27.0	9.3	100	95	-
Vert.	16830.000	PK	47.03	39.45	12.38	40.33	-9.54	48.99	-46.24	-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 ^ (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 (3.98 m / 3.0 m) = 2.46 dB

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

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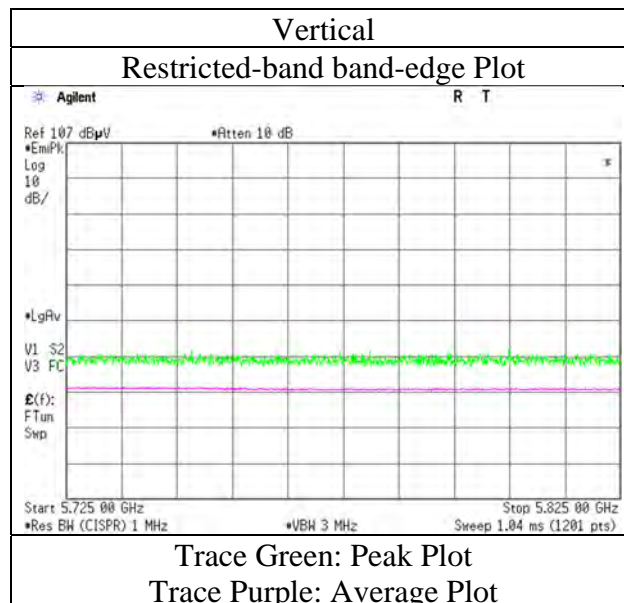
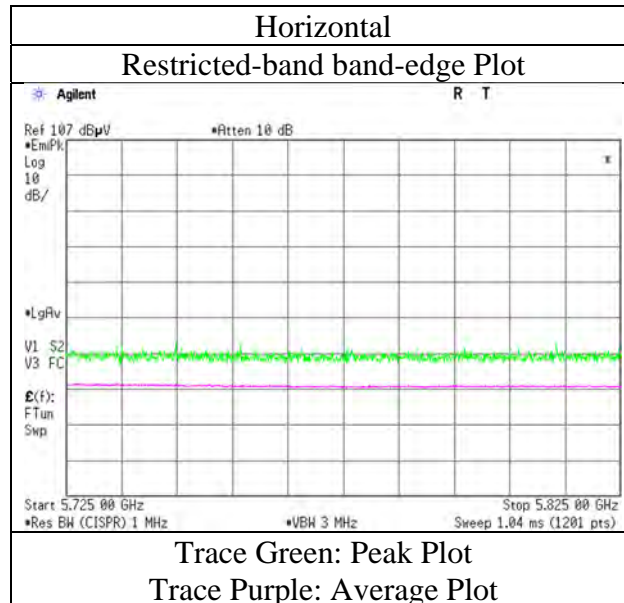
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 20, 2021
Temperature / Humidity	24 deg.C, 58 %RH
Engineer	Toshinori Yamada
Mode	Tx 11ac-80 5610 MHz



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

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

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## Radiated Spurious Emission

Report No.	14026147S-B-R1		
Test place	Shonan EMC Lab.		
Semi Anechoic Chamber	3	3	1
Date	June 20, 2021	June 23, 2021	June 25, 2021
Temperature / Humidity	24 deg.C, 58 %RH	23 deg.C, 58 %RH	20 deg.C, 63 %RH
Engineer	Toshinori Yamada	Hiromasa Sato	Shunsaku Yumi
	( 1 GHz -10 GHz )	(10 GHz -18 GHz)	(18 GHz -26.5 GHz)
Mode	Tx 11ac-80 5775 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.	3850.000	PK	50.49	30.06	15.61	42.23	2.46	56.39	73.9	17.5	115	90	-
Hori.	11550.000	PK	47.74	37.97	9.82	42.56	-9.54	43.43	73.9	30.4	141	273	-
Hori.	19250.000	PK	46.12	40.35	13.79	44.72	-9.54	46.00	73.9	27.9	148	86	-
Hori.	23100.000	PK	46.78	40.21	15.24	46.94	-9.54	45.75	73.9	28.1	143	335	-
Hori.	3850.000	AV	40.82	30.06	15.61	42.23	2.46	46.72	53.9	7.1	115	90	VBW:680 Hz
Hori.	11550.000	AV	36.18	37.97	9.82	42.56	-9.54	31.87	53.9	22.0	141	273	VBW:680 Hz
Hori.	19250.000	AV	39.93	40.35	13.79	44.72	-9.54	39.81	53.9	14.0	148	86	VBW:680 Hz
Hori.	23100.000	AV	41.61	40.21	15.24	46.94	-9.54	40.58	53.9	13.3	143	335	VBW:680 Hz
Vert.	3850.000	PK	50.01	30.06	15.61	42.23	2.46	55.91	73.9	17.9	146	54	-
Vert.	11550.000	PK	47.37	37.97	9.82	42.56	-9.54	43.06	73.9	30.8	155	257	-
Vert.	19250.000	PK	45.91	40.35	13.79	44.72	-9.54	45.79	73.9	28.1	144	305	-
Vert.	23100.000	PK	47.17	40.21	15.24	46.94	-9.54	46.14	73.9	27.7	133	347	-
Vert.	3850.000	AV	39.62	30.06	15.61	42.23	2.46	45.52	53.9	8.3	146	54	VBW:680 Hz
Vert.	11550.000	AV	36.01	37.97	9.82	42.56	-9.54	31.70	53.9	22.2	155	257	VBW:680 Hz
Vert.	19250.000	AV	39.04	40.35	13.79	44.72	-9.54	38.92	53.9	14.9	144	305	VBW:680 Hz
Vert.	23100.000	AV	41.88	40.21	15.24	46.94	-9.54	40.85	53.9	13.0	133	347	VBW:680 Hz

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 (3.98 m / 3.0 m) = 2.46 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	50.05	32.49	16.86	43.42	2.46	58.44	-36.79	-27.0	9.7	215	120	-
Hori.	5700.000	PK	54.11	32.60	16.88	43.42	2.46	62.63	-32.60	10.0	42.6	215	120	-
Hori.	5720.000	PK	55.24	32.66	16.89	43.42	2.46	63.83	-31.40	15.6	47.0	215	120	-
Hori.	5725.000	PK	55.83	32.68	16.89	43.42	2.46	64.44	-30.79	27.0	57.7	215	120	-
Hori.	5850.000	PK	51.13	33.07	16.97	43.43	2.46	60.20	-35.03	27.0	62.0	215	120	-
Hori.	5855.000	PK	50.57	33.08	16.97	43.43	2.46	59.65	-35.58	15.6	51.1	215	120	-
Hori.	5875.000	PK	50.26	33.12	17.00	43.43	2.46	59.41	-35.82	10.0	45.8	215	120	-
Hori.	5925.000	PK	49.98	33.21	17.02	43.43	2.46	59.24	-35.99	-27.0	8.9	215	120	-
Hori.	17325.000	PK	45.87	40.10	12.56	40.31	-9.54	48.68	-46.55	-27.0	19.5	150	0	-
Vert.	5650.000	PK	49.87	32.49	16.86	43.42	2.46	58.26	-36.97	-27.0	9.9	120	97	-
Vert.	5700.000	PK	51.97	32.60	16.88	43.42	2.46	60.49	-34.74	10.0	44.7	120	97	-
Vert.	5720.000	PK	53.53	32.66	16.89	43.42	2.46	62.12	-33.11	15.6	48.7	120	97	-
Vert.	5725.000	PK	53.61	32.68	16.89	43.42	2.46	62.22	-33.01	27.0	60.0	120	97	-
Vert.	5850.000	PK	51.11	33.07	16.97	43.43	2.46	60.18	-35.05	27.0	62.0	120	97	-
Vert.	5855.000	PK	50.27	33.08	16.97	43.43	2.46	59.35	-35.88	15.6	51.4	120	97	-
Vert.	5875.000	PK	50.08	33.12	17.00	43.43	2.46	59.23	-36.00	10.0	46.0	120	97	-
Vert.	5925.000	PK	49.25	33.21	17.02	43.43	2.46	58.51	-36.72	-27.0	9.7	120	97	-
Vert.	17325.000	PK	45.26	40.10	12.56	40.31	-9.54	48.07	-47.16	-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 (3.98 m / 3.0 m) = 2.46 dB

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

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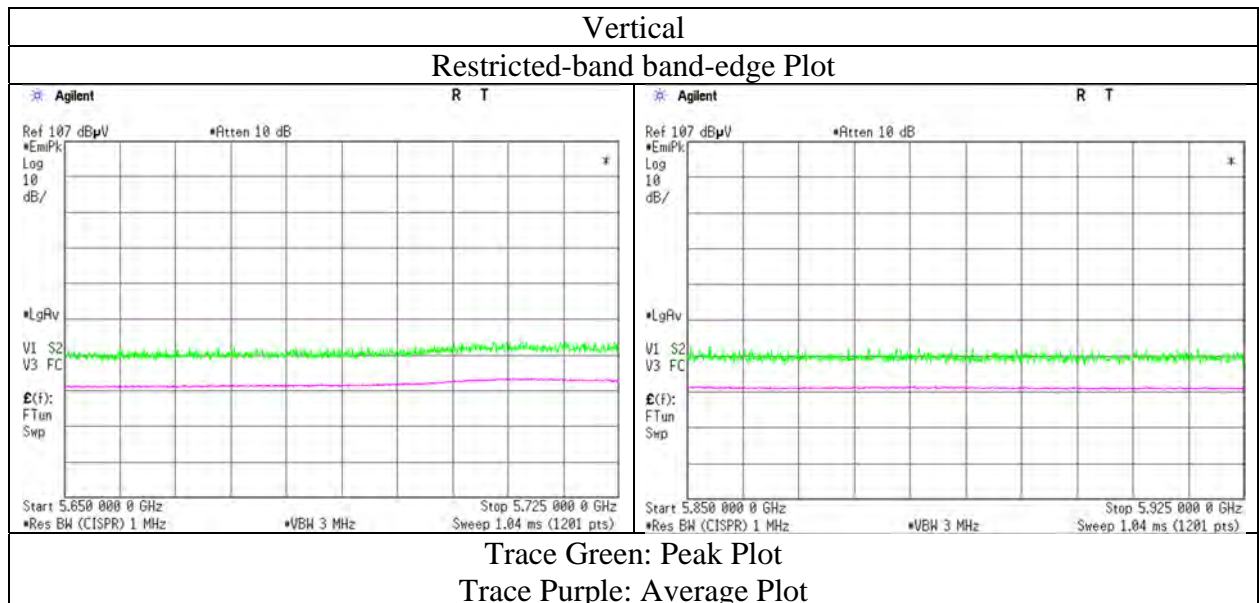
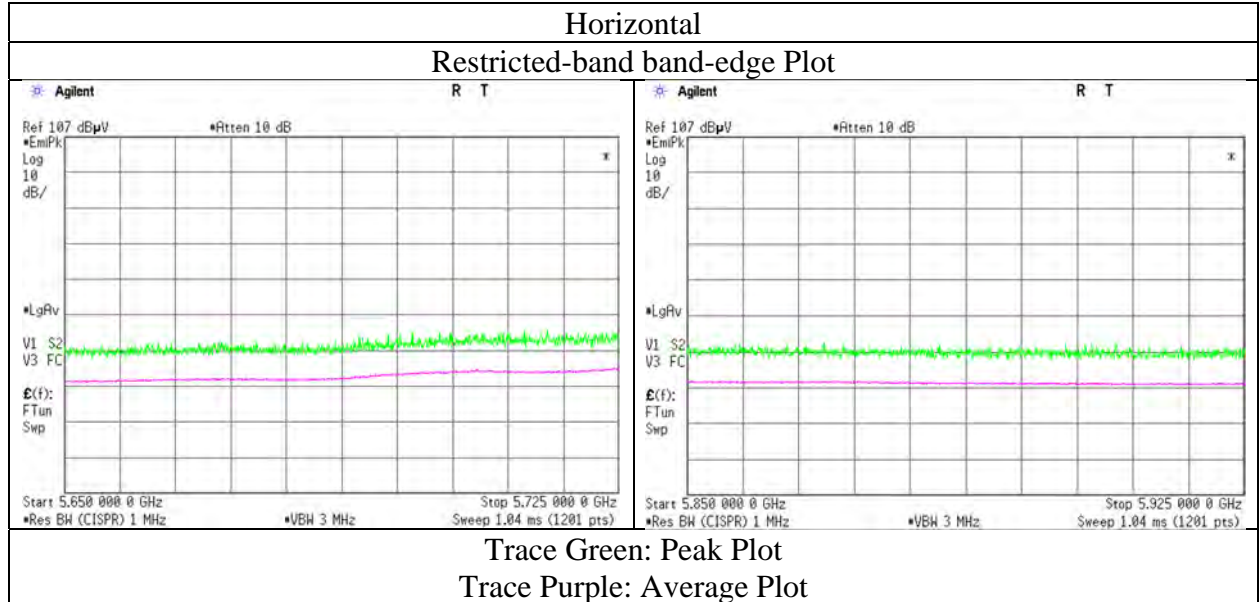
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## Radiated Spurious Emission

Report No.	14026147S-B-R1
Test place	Shonan EMC Lab.
Semi Anechoic Chamber	3
Date	June 20, 2021
Temperature / Humidity	24 deg.C, 58 %RH
Engineer	Toshinori Yamada
Mode	Tx 11ac-80 5775 MHz



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

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

**UL Japan, Inc.**

**Shonan EMC Lab.**

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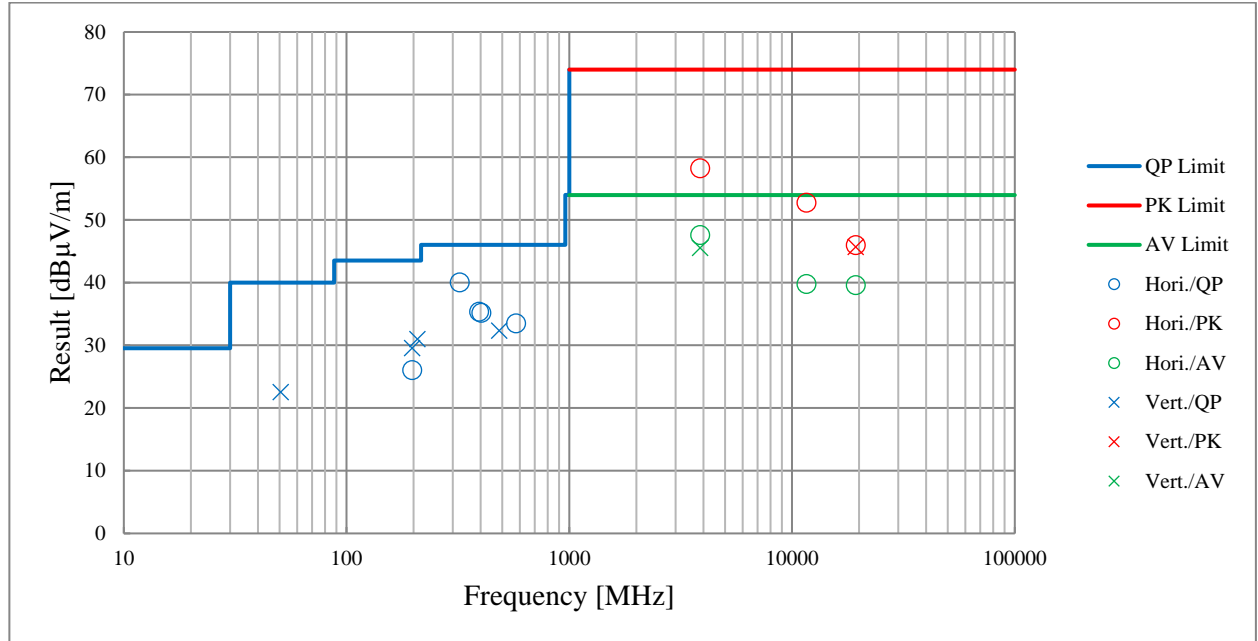
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## Radiated Spurious Emission

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

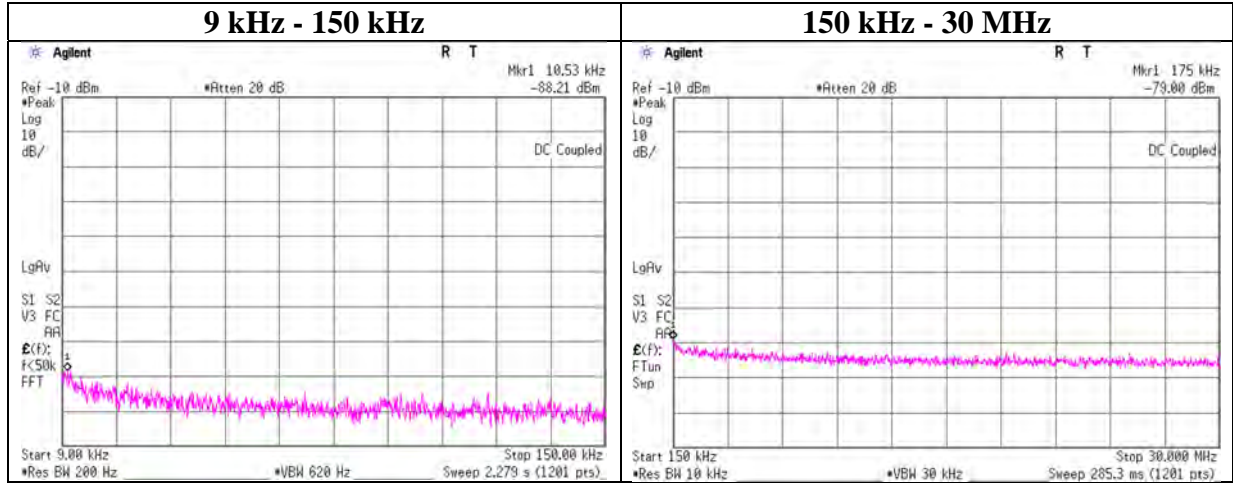
Report No.	14026147S-B-R1						
Test place	Shonan EMC Lab.						
Semi Anechoic Chamber	3						
Date	June 26, 2021	June 22, 2021	June 15, 2021	June 23, 2021	June 25, 2021	July 1, 2021	
Temperature / Humidity	24 deg. C, 50 %RH	22 deg. C, 55 %RH	23 deg. C, 51 %RH	23 deg. C, 58 %RH	20 deg. C, 63 %RH	25 deg. C, 51 %RH	
Engineer	Yusuke Tanikawara (30 MHz -1 GHz)	Takahiro Suzuki (1 GHz -6.4 GHz)	Takahiro Suzuki (6.4 GHz -10 GHz)	Hiromasa Sato (10 GHz -18 GHz)	Shunsaku Yumi (18 GHz -26.5 GHz)	Yosuke Murakami (26.5 GHz -40 GHz)	
Mode	Tx 11a 5785 MHz						



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

## Conducted Spurious Emission

Report No. 14026147S-B-R1  
Test place Shonan EMC Lab. No.5 Shielded Room  
Date June 11, 2021  
Temperature / Humidity 23 deg. C / 55 % RH  
Engineer Shiro Kobayashi  
Mode Tx 11a 5785 MHz



Frequency [kHz]	Reading [dBm]	Cable Loss [dB]	Attenuator [dB]	Antenna Gain [dBi]	N (Number of Output)	EIRP [dBm]	Distance [m]	Ground bounce [dB]	E (field strength) [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
10.530	-88.21	0.01	9.91	2.10	1	-76.2	300	6.0	-14.9	47.1	62.0	-
175.000	-79.00	0.02	9.91	2.10	1	-67.0	300	6.0	-5.7	22.7	28.4	-

$$E \text{ [dBuV/m]} = \text{EIRP [dBm]} - 20 \log(\text{Distance [m]}) + \text{Ground bounce [dB]} + 104.8 \text{ [dBuV/m]}$$

$$\text{EIRP [dBm]} = \text{Reading [dBm]} + \text{Cable loss [dB]} + \text{Attenuator Loss [dB]} + \text{Antenna gain [dBi]} + 10 * \log(N)$$

N: Number of output

## APPENDIX 2: Test instruments

### Test equipment (1/2)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
AT	KTS-07	145111	Digital Tester	SANWA	PC500	7019232	2020/10/21	12
AT	SAT10-23	204927	Attenuator	Weinschel Corp.	54A-10	-	2021/02/09	12
AT	SCC-G67	196949	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803480/2	2021/03/01	12
AT	SPM-13	169910	Power Meter	Keysight Technologies Inc	8990B	MY51000448	2021/01/25	12
AT	SPSS-06	169911	Power sensor	Keysight Technologies Inc	N1923A	MY57270004	2021/01/25	12
AT	SRENT-15	160899	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46185516	2021/01/26	12
AT,RE	SOS-23	191840	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/28	12
CE	SAT3-10	144960	Attenuator	JFW	50HF-003N	-	2020/08/18	12
CE	SCC-C9/C10/SRSE-03	145036	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271(RF Selector)	2021/04/12	12
CE	SLS-05	145542	LISN	Rohde & Schwarz	ENV216	100516	2021/02/12	12
CE	SOS-24	191841	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/10/01	12
CE,RE	COTS-SEMI-5	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	-	-	-
CE,RE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
CE,RE	STR-08	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2020/12/02	12
CE,RE	STS-03	146210	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997823	2020/10/19	12
RE	KHA-02	144941	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	230	2021/05/10	12
RE	KHA-04	146351	Horn Antenna	EMCO	3160-09	1278	2021/05/20	12
RE	KJM-09	145929	Measure	KOMELON	KMC-36	-	-	-
RE	KSA-08	145089	Spectrum Analyzer	Keysight Technologies Inc	E4446A	MY46180525	2020/11/24	12
RE	SAEC-01(SVSWR)	145561	Semi-Anechoic Chamber	TDK	SAEC-01(SVSWR)	1	2021/05/09	12
RE	SAEC-03(NSA)	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2021/04/27	12
RE	SAEC-03(SVSWR)	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2021/05/21	12
RE	SAF-03	145126	Pre Amplifier	SONOMA	310N	290213	2021/02/10	12
RE	SAF-06	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	1440491	2021/02/08	12
RE	SAF-08	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2021/03/01	12
RE	SAF-10	145129	Pre Amplifier	Toyo Corporation	HAP26-40W	10	2021/03/01	12
RE	SAT10-06	145137	Attenuator	Keysight Technologies Inc	8493C-010	74865	2020/10/05	12
RE	SAT6-13	167094	Attenuator	JFW	50HF-006N	-	2021/02/10	12
RE	SBA-03	145023	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	BBA9106	91032666	2021/05/15	12
RE	SCC-C1/C2/C3/C4/C5/C10/SRSE-03	145171	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	2021/04/12	12

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**Test equipment (2/2)**

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	SCC-G15	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2021/03/01	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-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	2020/10/05	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	SLA-07	145529	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	196	2021/05/15	12
RE	SOS-20	191837	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/28	12
RE	SSA-02	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2021/04/13	12
RE	STS-01	145792	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997812	2020/10/19	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:

CE: Conducted Emission

RE: Radiated Emission

AT: Antenna Terminal Conducted test

**UL Japan, Inc.**

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