



RADIO TEST REPORT

Test Report No. : 14026150S-D

Applicant : Canon Inc.
Type of EUT : Wireless LAN Module
Model Number of EUT : K30387
Test standard : ETSI EN 300 440 V2.1.1
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.

Date of test: June 5 to July 16, 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".

UL Japan, Inc.
Shonan EMC Lab.

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

REVISION HISTORY

Original Test Report No.: 14026150S-D

Revision	Test report No.	Date	Page revised	Contents
- (Original)	14026150S-D	December 15, 2021	-	-

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Reference: Abbreviations (Including words undescribed in this report)

A2LA	The American Association for Laboratory Accreditation	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		

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

CONTENTS	PAGE
SECTION 1: Customer information	5
SECTION 2: Equipment under test (EUT)	5
SECTION 3: Test specification, procedures & results	7
SECTION 4: Operation of EUT during testing	11
SECTION 5: Equivalent isotropically radiated power (eirp)	14
SECTION 6: Unwanted emissions in the spurious domain and Spurious emissions (Radiated)	15
APPENDIX 1: Test data	16
Equivalent isotropically radiated power (eirp)	16
Permitted Range of Operating frequencies	24
Unwanted emissions in the spurious domain (Radiated)	42
Unwanted emissions in the spurious domain (Conducted)	47
(Receiver) Spurious emissions (Radiated)	57
(Receiver) Spurious emissions (Conducted)	62
Adjacent channel selectivity	72
Blocking or desensitization	75
APPENDIX 2: Test instruments	81
APPENDIX 3: Photographs of test setup	83
Unwanted emissions in the spurious domain (Radiated)	83
Spurious emissions (Radiated)	83
Pre-check of Worst Case Position	84
Adjacent channel selectivity and Blocking or desensitization	86

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 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
Receipt Date : June 18, 2021
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 .

General Specification

Rating : DC 3.3 V
Clock frequency (ies) in the system : External Xtal; 37.4 MHz

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

Radio Specification

	IEEE802.11b	IEEE802.11g	IEEE802.11n (20 MHz band)	IEEE802.11n (40 MHz band)
Frequency of operation	2412 MHz - 2472 MHz	2412 MHz - 2472 MHz	2412 MHz - 2472 MHz, 5180 MHz - 5240 MHz, 5260 MHz - 5320 MHz, 5500 MHz - 5700 MHz, 5745 MHz - 5825 MHz	2422 MHz - 2462 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			

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Radio : ETSI EN 300 440 V2.1.1

Title : Short Range Devices (SRD);
Radio equipment to be used in
the 1 GHz to 40 GHz frequency range;
Harmonised Standard covering the essential requirements
of article 3.2 of Directive 2014/53/EU

3.2 Procedures and results

[Transmitter]

Item	Test Procedure	Limit	Test method	Worst margin	Results	Remarks
Equivalent isotropically radiated power (eirp)	ETSI EN 300 440 V2.1.1 Clause 4.2.2	Clause 4.2.2.4	Conducted	-	Complied a)	-
Permitted range of operating frequencies	ETSI EN 300 440 V2.1.1 Clause 4.2.3	Clause 4.2.3.5	Conducted	-	Complied b)	-
Unwanted emissions in the spurious domain	ETSI EN 300 440 V2.1.1 Clause 4.2.4	Clause 4.2.4.4	Radiated	9.7 dB 479.805 MHz, Horizontal, Mode: Tx 11ac-80 5775 MHz	Complied c)	-
Unwanted emissions in the spurious domain	ETSI EN 300 440 V2.1.1 Clause 4.2.4	Clause 4.2.4.4	Conducted	-	Complied d)	-
Duty cycle	ETSI EN 300 440 V2.1.1 Clause 4.2.5	Clause 4.2.5.4	Conducted	-	N/A	*1)
Additional requirements for FHSS equipment	ETSI EN 300 440 V2.1.1 Clause 4.2.6	Clause 4.2.6.4	Conducted	-	N/A	*2)
*Note: UL Japan, Inc.'s EMI Work Procedure 13-EM-W0420. *1) The test was not required since U-NII-3 band (5725 MHz to 5875 MHz) is no restriction. *2) The test was not required since the EUT does not have FHSS modulation. a) Refer to APPENDIX 1 (data of Equivalent isotropically radiated power (eirp)) b) Refer to APPENDIX 1 (data of Permitted Range of Operating frequencies) c) Refer to APPENDIX 1 (data of Unwanted emissions in the spurious domain (Radiated)) d) Refer to APPENDIX 1 (data of Unwanted emissions in the spurious domain (Conducted))						
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.						

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

[Receiver]

Receiver categories

	Receiver Category	Relevant receiver clauses	Risk assessment of receiver performance
☒	1	EN 300 440 V2.1.1 Clause 4.3.3, 4.3.4 and 4.3.5	Highly reliable SRD communication media; e.g. serving human life inherent systems (may result in a physical risk to a person).
☐	2	EN 300 440 V2.1.1 Clause 4.3.4 and 4.3.5	Medium reliable SRD communication media e.g. causing inconvenience to persons, which cannot simply be overcome by other means.
☐	3	EN 300 440 V2.1.1 Clause 4.3.5	Standard reliable SRD communication media e.g. Inconvenience to persons, which can simply be overcome by other means (e.g. manual).

[Receiver]

Item	Test Procedure	Limit	Test method	Worst margin	Results	Remarks
Adjacent channel selectivity	EN 300 440 V2.1.1 Clause 4.3.3	Clause 4.3.3.4	Conducted	-	Complied a)	*1)
Blocking or desensitization	EN 300 440 V2.1.1 Clause 4.3.4	Clause 4.3.4.4	Conducted	-	Complied b)	*1)
Spurious radiations	EN 300 440 V2.1.1 Clause 4.3.5	Clause 4.3.5.4	Radiated	4.7 dB 119.985 MHz, Vertical, Mode: Rx 20 MHz BW 5825 MHz	Complied# c)	-
Spurious radiations	EN 300 440 V2.1.1 Clause 4.3.5	Clause 4.3.5.4	Conducted	8.5 dB 3883.354 MHz, Mode: Rx 20 MHz BW 5825 MHz	Complied d)	-

*Note: UL Japan, Inc. 's EMI Work Procedure 13-EM-W0420.

*1) This test was used performance criteria was PER 10 % less than. This performance criteria were declared by the applicant.

a) Refer to APPENDIX 1 (data of Adjacent channel selectivity)

b) Refer to APPENDIX 1 (data of Blocking or desensitization)

c) Refer to APPENDIX 1 (data of Spurious emissions (Radiated))

c) Refer to APPENDIX 1 (data of Spurious emissions (Conducted))

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.

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

3.3 Additions or deviations to standards

No addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

Although this standard determines only the limit value of uncertainty, there is no applicable rule of uncertainty in this. Therefore, the results are derived depending on whether or not laboratory uncertainty is applied.

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

Shonan EMC Lab.

Substitution measurement (EUT height: 1.5 m, Distance: 3 m)	
Frequency range	Uncertainty (+/-)
30 MHz - 200 MHz	4.7 dB
200 MHz - 1000 MHz	3.6 dB
1 GHz - 13 GHz	4.2 dB
(EUT height: 1.5 m, Distance: 1 m)	
13 GHz - 18 GHz	5.5 dB
18 GHz - 26.5 GHz	4.0 dB
26.5 GHz - 40 GHz	4.0 dB

Antenna terminal test	Uncertainty (+/-)
Power Measurement above 1 GHz (Average Detector)_SPM-06	1.4 dB
Power Measurement above 1 GHz (Average Detector)_SPM-07	0.89 dB
Power Measurement above 1 GHz (Average Detector)_SPM-08, 09, 10, 11	1.5 dB
Power Measurement above 1 GHz (Average Detector)_SPM-13	0.91 dB
Conducted emissions Measurement (below 1 GHz)	0.87 dB
Conducted emissions Power Density Measurement (1 GHz-3 GHz)	0.96 dB
Conducted emissions Measurement (3 GHz-18 GHz)	3.0 dB
Conducted emissions Measurement (18 GHz-26.5 GHz)	2.6 dB
Frequency Measurement (Spectrum Analyzer)	1.2×10^{-8}
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 %
Receiver Blocking (Wanted RF Level)_SWT-02/SWT-03	2.8 dB
Receiver Blocking (Blocking Signal Level)_SWT-02/SWT-03	2.0 dB
Receiver Blocking (Wanted RF Level)_CMW270 (BT)	2.8 dB
Receiver Blocking (Blocking Signal Level)_CMW270 (BT)	1.9 dB
Receiver Blocking (Blocking Signal Level)_without tester	1.9 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

3.5 Test Location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone: +81 463 50 6400, Facsimile: +81 463 50 6401
A2LA Certificate Number: 1266.03

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.2 Semi-anechoic chamber	20.6 x 11.3 x 7.65	20.6 x 11.3	10 m
No.3 Semi-anechoic chamber	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 Modes

The mode :

Mode	Remarks*
IEEE 802.11a (11a)	18 Mbps, PN9
IEEE 802.11n 20 MHz BW (11n-20)	MCS 0, PN9
IEEE 802.11ac 20 MHz BW (11ac-20)	MCS 0, PN9
IEEE 802.11n 40 MHz BW (11n-40)	MCS 0, PN9
IEEE 802.11ac 40 MHz BW (11ac-40)	MCS 0, PN9
IEEE 802.11ac 80 MHz BW (11ac-80)	MCS 0, PN9
*The worst condition was determined based on the test result of RF output power. *EUT has the power settings by the software as follows; - Power Setting: · 11a(6 Mbps to 48 Mbps)/n-20(MCS 0 to MCS 5)/ac-20(MCS 0 to MCS 5): 10 dBm · 11a(54 Mbps)/n-20(MCS 6 to MCS 7)/ac-20(MCS 6 to MCS 8): 7 dBm · 11n-40: 7 dBm · 11ac-40 (MCS 0 to MCS 7): 7 dBm (MCS 8 to MCS 9): 5 dBm · 11ac-80: (MCS 0 to MCS 7): 6 dBm (MCS 8 to MCS 9): 4 dBm Software: Except Adjacent channel selectivity, and Blocking or desensitization: RF Testing Tool for CYW4373SUSB Version FW_13_10_246_225 Adjacent channel selectivity, and Blocking or desensitization: wl0 Version 13.10.246.225 * 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
Equivalent isotropically radiated power (e.i.r.p.)	Tx 11a/11n-20/11ac-20	5745 MHz, 5785 MHz, 5825 MHz
	Tx 11n-40/11ac-40	5755 MHz, 5795 MHz
	Tx 11ac-80	5775 MHz
Permitted range of operating frequencies	Tx 11a/11n-20/11ac-20	5745 MHz, 5825 MHz
	Tx 11n-40/11ac-40	5755 MHz, 5795 MHz
	Tx 11ac-80	5775 MHz
Transmitter unwanted emissions in the spurious domain	Tx 11a *1)	5745 MHz, 5825 MHz
	Tx 11ac-40 *1)	5755 MHz, 5795 MHz
	Tx 11ac-80	5775 MHz
(Receiver) Spurious radiations	Rx 20 MHz BW	5745 MHz, 5825 MHz
	Rx 40 MHz BW	5755 MHz, 5795 MHz
	Rx 80 MHz BW	5775 MHz
Adjacent channel selectivity, Blocking or desensitization	Communication 11a *2)	5745 MHz, 5825 MHz
	Communication 11n-40 *2)	5755 MHz, 5795 MHz
	Communication 11ac-80 *2)	5775 MHz

*1) The mode was tested as a representative, because it had the highest power at antenna terminal test

*2) This test was performed on the lowest data rate mode, since no difference between each mode.

Extreme test condition	
Temperature	0 deg. C to +45 deg. C
Voltage	Vmin: DC 2.97 V, Vmax: DC 3.63 V

UL Japan, Inc.

Shonan EMC Lab.

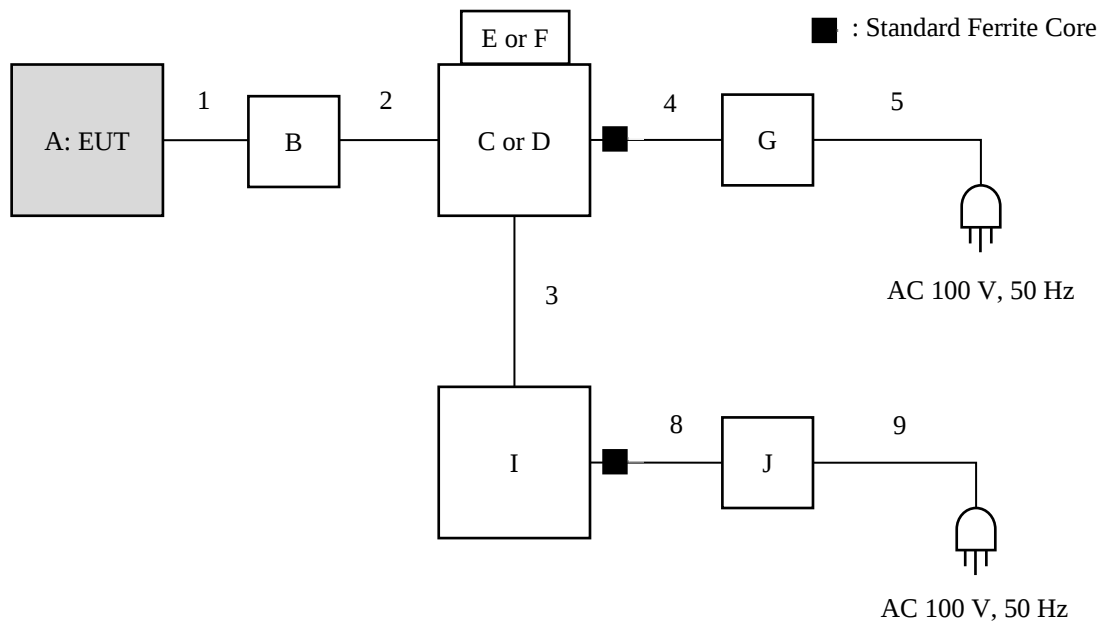
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

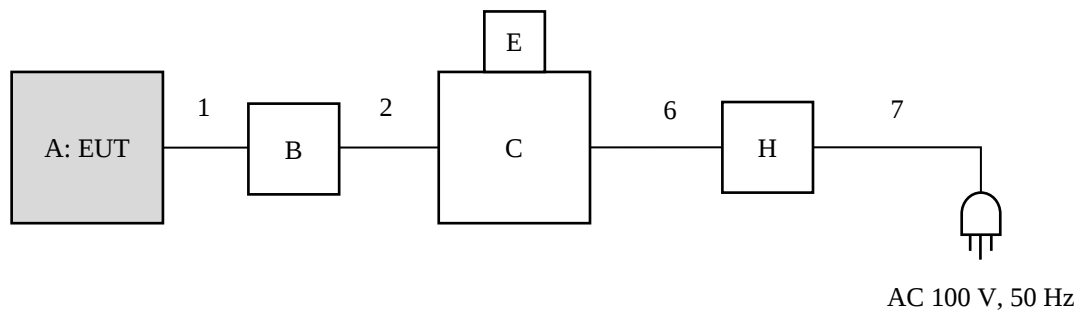
Facsimile : +81 463 50 6401

4.2 Configuration and peripherals

<For Antenna Terminal Conducted test>



<For Radiated Emission test>



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

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

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Wireless LAN Module	K30387	A18	Canon	EUT
B	WLAN JOINT PCB	-	-	Canon	-
C	Smart Devices Board	MCIMX6SX-SDB	TR19451175	NXP	*1)
D	Smart Devices Board	MCIMX6SX-SDB	TR19051204	NXP	*2)
E	SD Card	SDS/16GB	TR19451175	Kingston	*1)
F	SD Card	SDS/16GB	TR19051204	Kingston	*2)
G	AC Adaptor	GST40A05	EB93405832	MEAN WELL	-
H	AC Adaptor	ATS036T-A050	400-75956	SCEPTRE POWER	-
I	Laptop Computer	E1Q57PA#ABJ	5CB3310KHW	HP	-
J	AC Adapter	PPP009L-E	3453442403	HP	-

*1) Used for except Adjacent channel selectivity, and Blocking or desensitization test.

*2) Used for Adjacent channel selectivity, and Blocking or desensitization test.

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	AC	1.8	Unshielded	Unshielded	-
7	DC	1.7	Unshielded	Unshielded	-
8	DC	1.7	Unshielded	Unshielded	-
9	AC	1.7	Unshielded	Unshielded	-

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

SECTION 5: Antenna Terminal Conducted Tests

Test Procedure

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

Test	Instrument used	Remark
Equivalent isotropically radiated power (eirp)	Power Meter	Normal and Extreme test conditions
Permitted range of operating frequencies	Spectrum Analyzer	Normal and Extreme test conditions
Unwanted emissions in the spurious domain	Spectrum Analyzer	Normal test condition
Adjacent channel selectivity	WLAN Test Set	Normal test condition
Blocking or desensitization	WLAN Test Set	Normal test condition
Spurious radiations	Spectrum Analyzer	Normal test condition
99 % occupied bandwidth (for Adjacent channel selectivity and Blocking or desensitization)	Spectrum Analyzer	Normal test condition (refer to EN 301 893)

The test results are rounded off to two decimals place, so some differences might be observed.
The equipment and cables were not used for factor 0.0 dB of the data sheets.

Test data : **APPENDIX 1**
Test result : **Pass**

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

SECTION 6: Unwanted emissions in the spurious domain and Spurious emissions (Radiated)

Test Procedure

- 1) 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. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization.
The Radiated Electric Field Strength intensity has been measured in semi anechoic chamber at a distance of 3 m (below 13 GHz), or 1 m (above 13 GHz).
The measuring antenna height was varied between 1 to 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.
- 2) Exchanged the EUT to the Substitution Antenna, the measurement was set for the same height 1.5 m as the EUT. The frequency below 1 GHz of the Substitution Antenna was used as the Half wave dipole Antenna, which is harmonized with the measured frequency in 1).
The frequency above 1 GHz of the Substitution Antenna was used with Horn Antenna.
The Substitution Antenna was connected with the Signal Generator, and the polarized electromagnetic radiation of the Substitution Antenna was matched with the one of the measuring Antenna, which was set with the Signal Generator to the measured frequency in 1). Then, we set with the Output power (CW) of the Signal Generator where the measuring electromagnetic field is equal to the measured value in 1).
The measuring antenna height was varied between 1 to 4 m to obtain the maximum receiving level.
Its Output power of Signal Generator was recorded.
- 3) Effective radiated power was calculated by subtracting the cable loss and the attenuator loss connected between the Signal Generator and the Substitution Antenna from the Output power of the Signal Generator recorded in 2).
For the usage of the Antenna (Horn Antenna) except for the Half wave dipole Antenna (2.15 dBi) for the Substitution Antenna, the Effective radiated power was calculated by compensating the finite difference in the Antenna gain of the Half wave dipole Antenna, and Substitution Antenna.

Frequency	Below 1 GHz	Above 1 GHz
Instrument used	Test Receiver	Spectrum Analyzer
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz / VBW: 3 MHz
Detector	QP	Peak

- 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	Spurious (30 MHz - 1 GHz)	Spurious (1 GHz - 13 GHz)	Spurious (13 GHz - 18 GHz)	Spurious (18 GHz - 26.5 GHz)	Spurious (26.5 GHz - 40 GHz)
Horizontal	Z	Y	X	X	X
Vertical	Z	Z	X	X	X

Test data : APPENDIX 1
Test result : Pass

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

APPENDIX 1: Test data

Equivalent isotropically radiated power (eirp)

Report No. 14026150S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date June 22, 2021 July 8, 2021 July 9, 2021
Temperature / Humidity 23 deg. C / 59 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Takahiro Kawakami Yosuke Murakami Yosuke Murakami
Mode Tx 11a

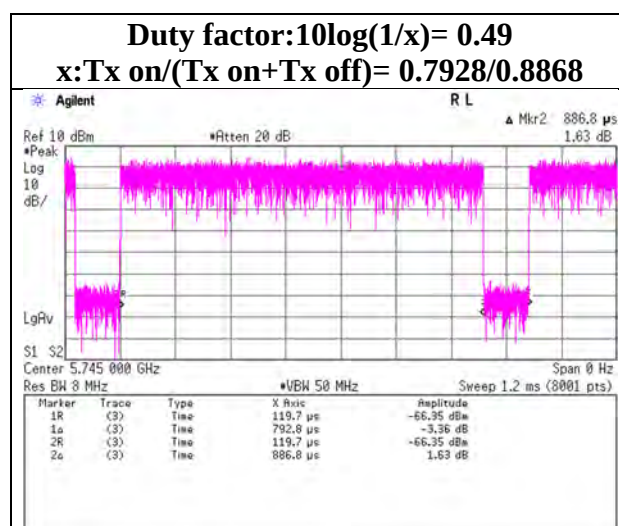
11a

Test Condition	Temp.	Volt.	Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
			[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom		5745.0	-1.74	1.95	10.02	2.10	0.49	12.82	13.97	1.15
			5785.0	-1.82	1.96	10.02	2.10	0.49	12.75	13.97	1.22
			5825.0	-2.02	1.96	10.02	2.10	0.49	12.55	13.97	1.42
min	min		5745.0	-1.70	1.95	10.02	2.10	0.49	12.86	13.97	1.11
			5785.0	-1.74	1.96	10.02	2.10	0.49	12.83	13.97	1.14
			5825.0	-1.85	1.96	10.02	2.10	0.49	12.72	13.97	1.25
	max		5745.0	-1.90	1.95	10.02	2.10	0.49	12.66	13.97	1.31
			5785.0	-1.91	1.96	10.02	2.10	0.49	12.66	13.97	1.31
			5825.0	-2.05	1.96	10.02	2.10	0.49	12.52	13.97	1.45
max	min		5745.0	-2.09	1.95	10.02	2.10	0.49	12.47	13.97	1.50
			5785.0	-2.11	1.96	10.02	2.10	0.49	12.46	13.97	1.51
			5825.0	-2.37	1.96	10.02	2.10	0.49	12.20	13.97	1.77
	max		5745.0	-2.20	1.95	10.02	2.10	0.49	12.36	13.97	1.61
			5785.0	-2.22	1.96	10.02	2.10	0.49	12.35	13.97	1.62
			5825.0	-2.58	1.96	10.02	2.10	0.49	11.99	13.97	1.98

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp)

Report No.	14026150S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 22, 2021	July 8, 2021	July 9, 2021
Temperature / Humidity	23 deg. C / 59 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11n-20		

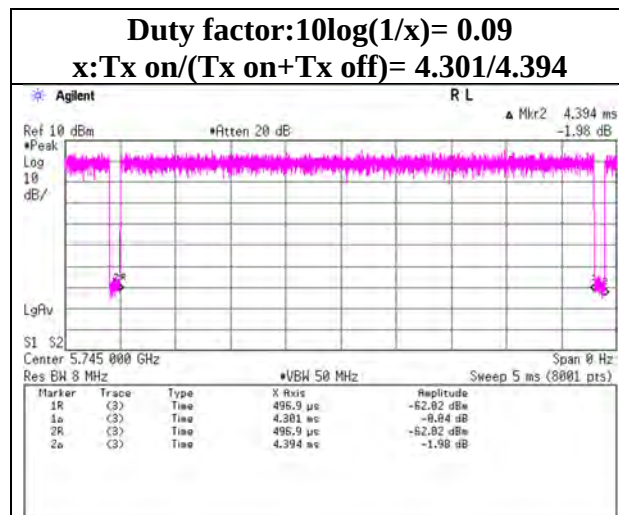
Tx 11n-20

Test Condition		Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
Temp.	Volt.	[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom	5745.0	-1.38	1.95	10.02	2.10	0.09	12.78	13.97	1.19
		5785.0	-1.50	1.96	10.02	2.10	0.09	12.67	13.97	1.30
		5825.0	-1.65	1.96	10.02	2.10	0.09	12.52	13.97	1.45
min	min	5745.0	-1.23	1.95	10.02	2.10	0.09	12.93	13.97	1.04
		5785.0	-1.27	1.96	10.02	2.10	0.09	12.90	13.97	1.07
		5825.0	-1.45	1.96	10.02	2.10	0.09	12.72	13.97	1.25
	max	5745.0	-1.48	1.95	10.02	2.10	0.09	12.68	13.97	1.29
		5785.0	-1.55	1.96	10.02	2.10	0.09	12.62	13.97	1.35
		5825.0	-1.66	1.96	10.02	2.10	0.09	12.51	13.97	1.46
max	min	5745.0	-1.64	1.95	10.02	2.10	0.09	12.52	13.97	1.45
		5785.0	-1.71	1.96	10.02	2.10	0.09	12.46	13.97	1.51
		5825.0	-1.94	1.96	10.02	2.10	0.09	12.23	13.97	1.74
	max	5745.0	-1.82	1.95	10.02	2.10	0.09	12.34	13.97	1.63
		5785.0	-1.89	1.96	10.02	2.10	0.09	12.28	13.97	1.69
		5825.0	-2.06	1.96	10.02	2.10	0.09	12.11	13.97	1.86

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp)

Report No.	14026150S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 22, 2021	July 8, 2021	July 9, 2021
Temperature / Humidity	23 deg. C / 59 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11ac-20		

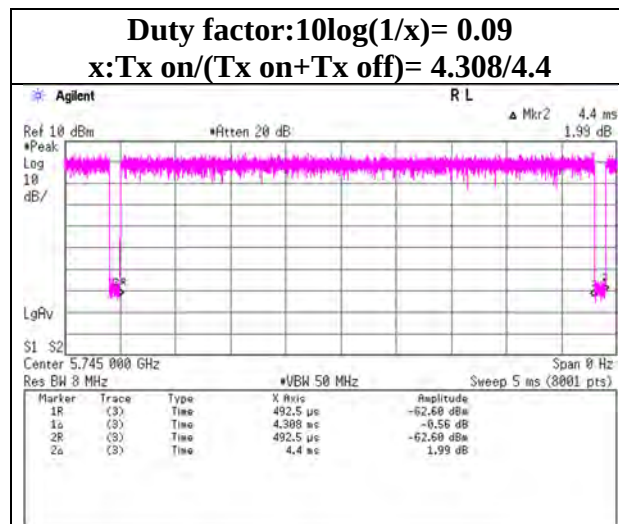
Tx 11ac-20

Test Condition		Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
Temp.	Volt.	[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom	5745.0	-1.36	1.95	10.02	2.10	0.09	12.80	13.97	1.17
		5785.0	-1.46	1.96	10.02	2.10	0.09	12.71	13.97	1.26
		5825.0	-1.67	1.96	10.02	2.10	0.09	12.50	13.97	1.47
min	min	5745.0	-1.24	1.95	10.02	2.10	0.09	12.92	13.97	1.05
		5785.0	-1.27	1.96	10.02	2.10	0.09	12.90	13.97	1.07
		5825.0	-1.52	1.96	10.02	2.10	0.09	12.65	13.97	1.32
	max	5745.0	-1.48	1.95	10.02	2.10	0.09	12.68	13.97	1.29
		5785.0	-1.54	1.96	10.02	2.10	0.09	12.63	13.97	1.34
		5825.0	-1.65	1.96	10.02	2.10	0.09	12.52	13.97	1.45
max	min	5745.0	-1.58	1.95	10.02	2.10	0.09	12.58	13.97	1.39
		5785.0	-1.68	1.96	10.02	2.10	0.09	12.49	13.97	1.48
		5825.0	-1.94	1.96	10.02	2.10	0.09	12.23	13.97	1.74
	max	5745.0	-1.81	1.95	10.02	2.10	0.09	12.35	13.97	1.62
		5785.0	-1.92	1.96	10.02	2.10	0.09	12.25	13.97	1.72
		5825.0	-2.10	1.96	10.02	2.10	0.09	12.07	13.97	1.90

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp)

Report No.	14026150S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 22, 2021	July 8, 2021	July 9, 2021
Temperature / Humidity	23 deg. C / 59 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11n-40		

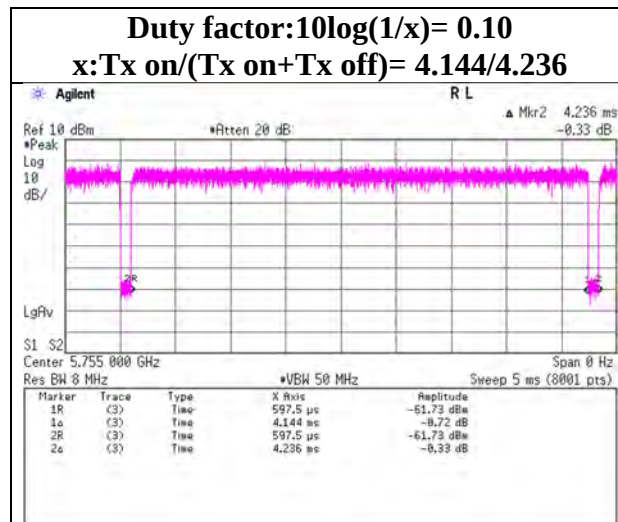
Tx 11n-40

Test Condition		Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
Temp.	Volt.	[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom	5755.0	-4.38	1.95	10.02	2.10	0.10	9.79	13.97	4.18
		5795.0	-4.42	1.96	10.02	2.10	0.10	9.76	13.97	4.21
min	min	5755.0	-4.26	1.95	10.02	2.10	0.10	9.91	13.97	4.06
		5795.0	-4.35	1.96	10.02	2.10	0.10	9.83	13.97	4.14
	max	5755.0	-4.55	1.95	10.02	2.10	0.10	9.62	13.97	4.35
		5795.0	-4.61	1.96	10.02	2.10	0.10	9.57	13.97	4.40
max	min	5755.0	-4.55	1.95	10.02	2.10	0.10	9.62	13.97	4.35
		5795.0	-4.69	1.96	10.02	2.10	0.10	9.49	13.97	4.48
	max	5755.0	-4.70	1.95	10.02	2.10	0.10	9.47	13.97	4.50
		5795.0	-4.75	1.96	10.02	2.10	0.10	9.43	13.97	4.54

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp)

Report No.	14026150S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 22, 2021	July 8, 2021	July 9, 2021
Temperature / Humidity	23 deg. C / 59 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11ac-40		

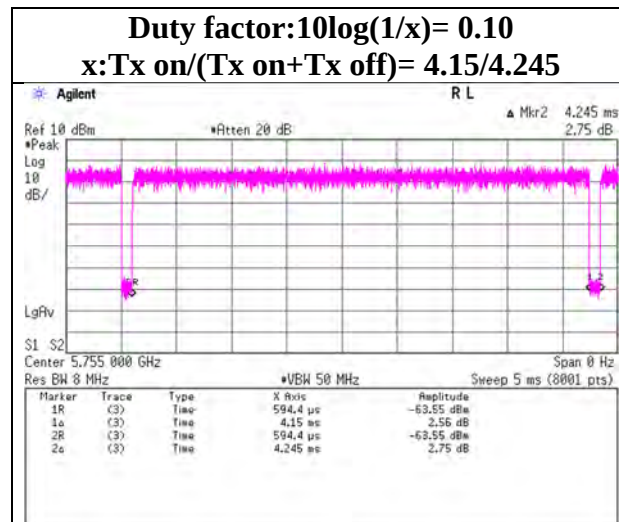
Tx 11ac-40

Test Condition		Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
Temp.	Volt.	[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom	5755.0	-4.31	1.95	10.02	2.10	0.10	9.86	13.97	4.11
		5795.0	-4.47	1.96	10.02	2.10	0.10	9.71	13.97	4.26
min	min	5755.0	-4.32	1.95	10.02	2.10	0.10	9.85	13.97	4.12
		5795.0	-4.35	1.96	10.02	2.10	0.10	9.83	13.97	4.14
	max	5755.0	-4.64	1.95	10.02	2.10	0.10	9.53	13.97	4.44
		5795.0	-4.60	1.96	10.02	2.10	0.10	9.58	13.97	4.39
max	min	5755.0	-4.62	1.95	10.02	2.10	0.10	9.55	13.97	4.42
		5795.0	-4.78	1.96	10.02	2.10	0.10	9.40	13.97	4.57
	max	5755.0	-4.69	1.95	10.02	2.10	0.10	9.48	13.97	4.49
		5795.0	-4.70	1.96	10.02	2.10	0.10	9.48	13.97	4.49

Sample Calculation:

Result = Reading + Cable Loss + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp)

Report No.	14026150S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	June 22, 2021	July 8, 2021	July 9, 2021
Temperature / Humidity	23 deg. C / 59 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Takahiro Kawakami	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11ac-80		

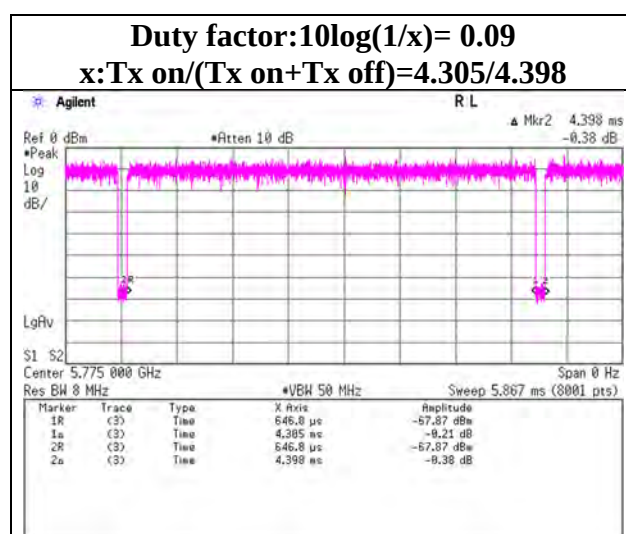
Tx 11ac-80

Test Condition	Temp.	Volt.	Freq.	P/M (AV)	Cable	Atten.	Antenna	Duty	Result	Limit	Margin
			[MHz]	Reading [dBm]	Loss [dB]	Loss [dB]	Gain [dBi]	factor [dB]	[dBm]	25 mW [dBm]	[dB]
nom	nom		5775.0	-5.30	1.96	10.02	2.10	0.09	8.87	13.97	5.10
min	min		5775.0	-5.40	1.96	10.02	2.10	0.09	8.77	13.97	5.20
	max		5775.0	-5.50	1.96	10.02	2.10	0.09	8.67	13.97	5.30
max	min		5775.0	-5.71	1.96	10.02	2.10	0.09	8.46	13.97	5.51
	max		5775.0	-5.62	1.96	10.02	2.10	0.09	8.55	13.97	5.42

Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator Loss + Antenna Gain + Duty factor

*The test result is rounded off to one or two decimal places, so some differences might be observed.



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

Equivalent isotropically radiated power (eirp) Worst data rate check

Report No. 14026150S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date June 22, 2021
Temperature / Humidity 23 deg. C / 59 % RH
Engineer Takahiro Kawakami
Mode Tx

11a, 5745 MHz

Data rate [Mbps]	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
6	-1.43	0.17	-1.26	-
9	-1.52	0.26	-1.26	-
12	-1.60	0.34	-1.26	-
18	-1.74	0.49	-1.25	*
24	-1.93	0.65	-1.28	-
36	-2.27	0.92	-1.35	-
48	-2.43	1.17	-1.26	-
54	-5.48	1.29	-4.19	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

11n-20, 5745 MHz

MCS number	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
0	-1.38	0.09	-1.29	*
1	-1.41	0.09	-1.32	-
2	-1.47	0.09	-1.38	-
3	-1.43	0.09	-1.34	-
4	-1.42	0.09	-1.33	-
5	-1.46	0.09	-1.37	-
6	-4.35	0.09	-4.26	-
7	-4.32	0.09	-4.23	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

11ac-20, 5745 MHz

MCS number	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
0	-1.36	0.09	-1.27	*
1	-1.42	0.09	-1.33	-
2	-1.40	0.10	-1.30	-
3	-1.39	0.10	-1.29	-
4	-1.42	0.10	-1.32	-
5	-1.41	0.09	-1.32	-
6	-4.35	0.09	-4.26	-
7	-4.34	0.09	-4.25	-
8	-4.34	0.09	-4.25	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

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

Equivalent isotropically radiated power (eirp) Worst data rate check

Report No. 14026150S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date June 22, 2021
Temperature / Humidity 23 deg. C / 59 % RH
Engineer Takahiro Kawakami
Mode Tx

11n-40, 5755 MHz

Data rate [Mbps]	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
0	-4.38	0.10	-4.28	*
1	-4.44	0.10	-4.34	-
2	-4.42	0.10	-4.32	-
3	-4.42	0.10	-4.32	-
4	-4.39	0.10	-4.29	-
5	-4.39	0.10	-4.29	-
6	-4.50	0.11	-4.39	-
7	-4.49	0.12	-4.37	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

11ac-40, 5755 MHz

MCS number	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
0	-4.31	0.10	-4.21	*
1	-4.44	0.10	-4.34	-
2	-4.37	0.10	-4.27	-
3	-4.44	0.10	-4.34	-
4	-4.42	0.10	-4.32	-
5	-4.43	0.10	-4.33	-
6	-4.42	0.10	-4.32	-
7	-4.47	0.12	-4.35	-
8	-6.41	0.15	-6.26	-
9	-6.29	0.16	-6.13	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

11ac-80, 5775 MHz

MCS number	Reading [dBm]	Duty factor [dB]	Result [dBm]	Remark
0	-5.30	0.09	-5.21	*
1	-5.43	0.09	-5.34	-
2	-5.36	0.10	-5.26	-
3	-5.41	0.10	-5.31	-
4	-5.44	0.16	-5.28	-
5	-5.60	0.21	-5.39	-
6	-5.60	0.23	-5.37	-
7	-5.74	0.26	-5.48	-
8	-7.57	0.31	-7.26	-
9	-7.55	0.33	-7.22	-

* Worst data rate

Result = Reading + Duty factor

All comparizon were carried out on same frequency and measurement factors.

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

Permitted Range of Operating frequencies

Report No.	13863359S-D		
Test place	Shonan EMC Lab. No.5 Shielded Room		
Date	July 5, 2021	July 8, 2021	July 9, 2021
Temperature/ Humidity	25 deg. C / 64 % RH	25 deg. C / 53 % RH	25 deg. C / 60 % RH
Engineer	Shiro Kobayashi	Yosuke Murakami	Yosuke Murakami
Mode	Tx 11a		

11a

Test Condition Temp.	Volt.	Freq.	Result	Limit	Margin
		[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5745.00	5736.18	5725.00	11.18
		5825.00	5833.78	5875.00	41.23
min	min	5745.00	5736.20	5725.00	11.20
		5825.00	5833.83	5875.00	41.18
min	max	5745.00	5736.20	5725.00	11.20
		5825.00	5833.83	5875.00	41.18
max	min	5745.00	5736.14	5725.00	11.14
		5825.00	5833.77	5875.00	41.23
max	nom	5745.00	5736.14	5725.00	11.14
		5825.00	5833.77	5875.00	41.23

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard) is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable loss	Atten. loss	Antenna Gain	Duty Factor	Limit line
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.95	10.02	2.10	0.49	-44.6
5875.0	-30.00	1.96	10.02	2.10	0.49	-44.6

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

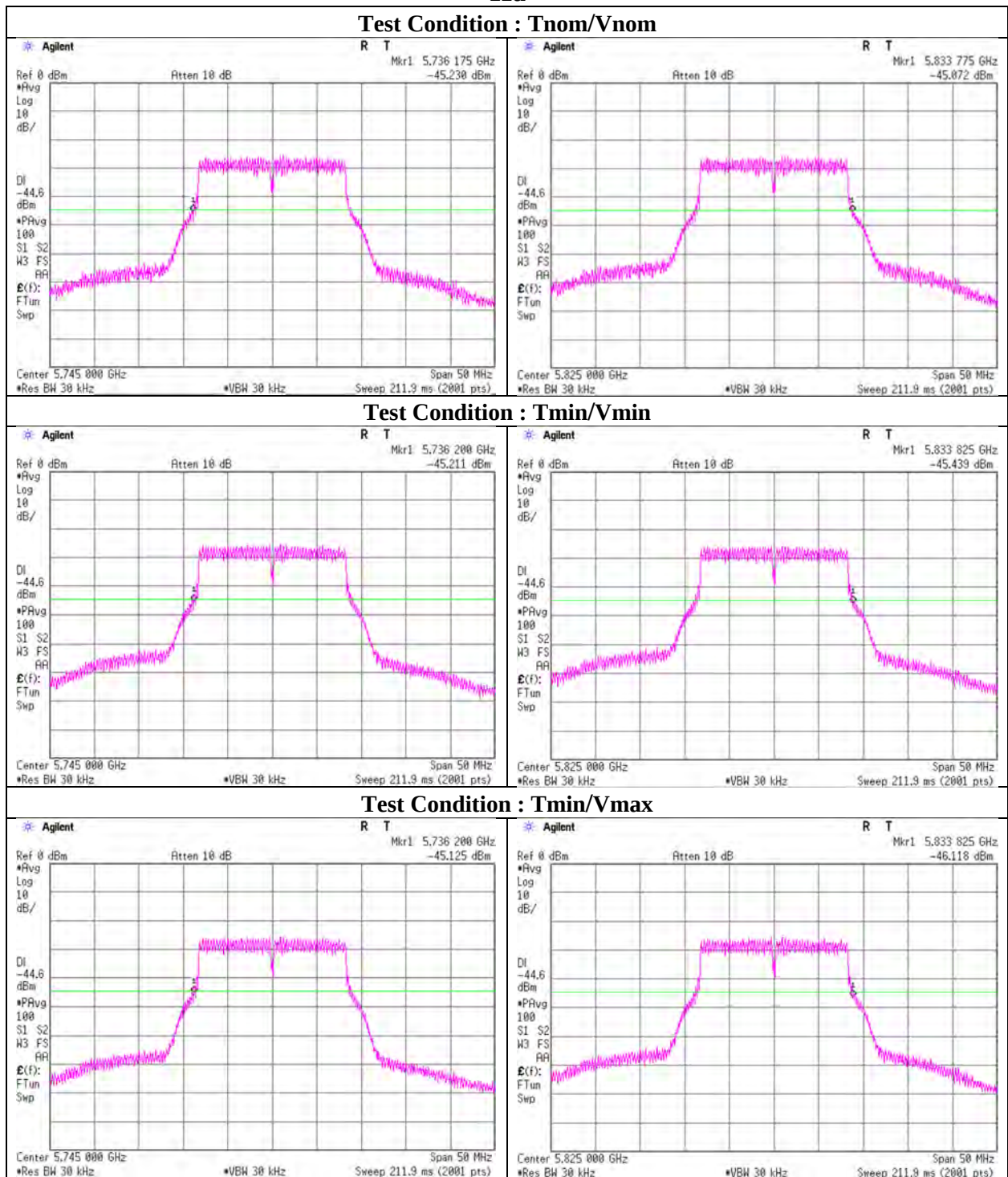
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11a



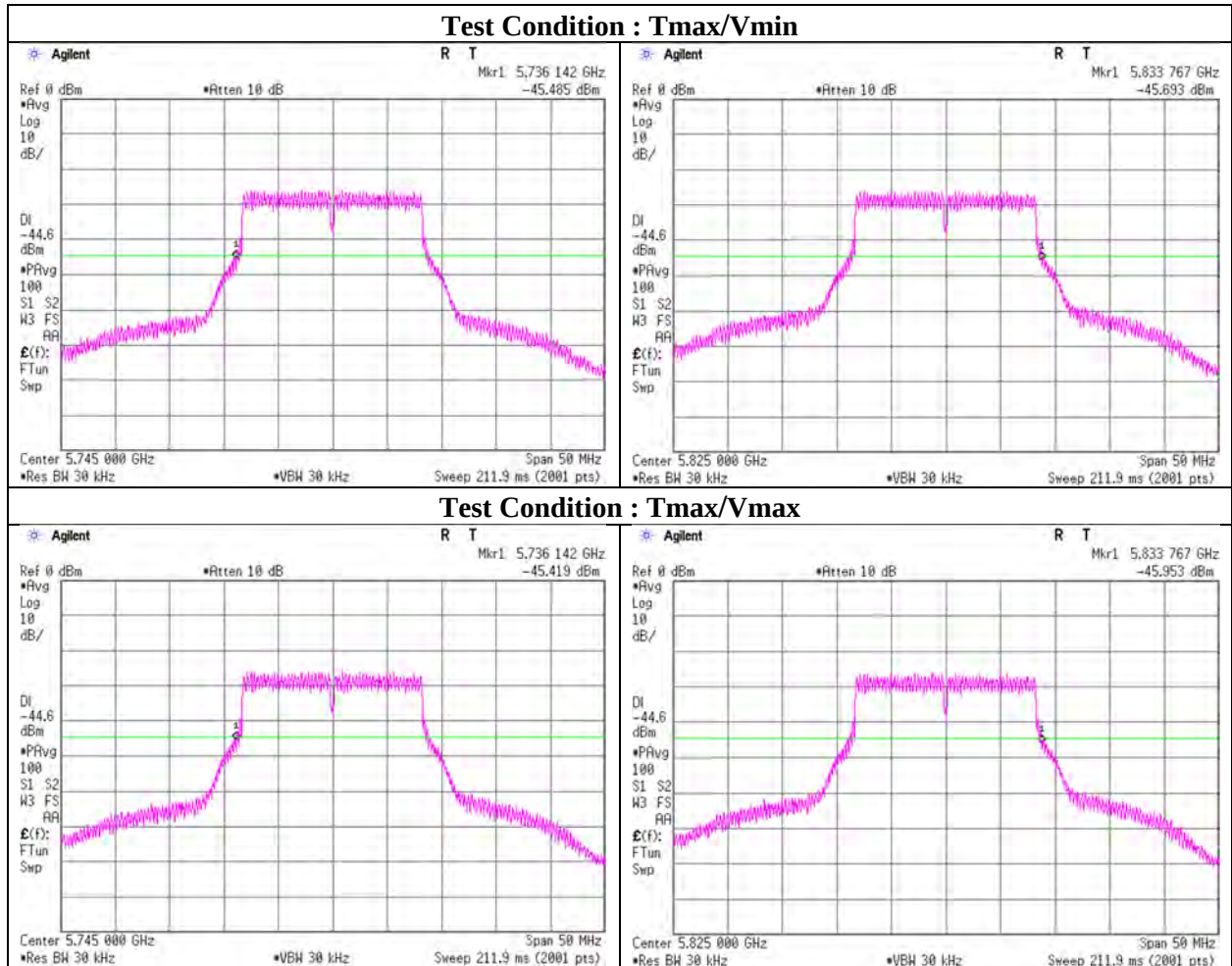
UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401



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

Permitted Range of Operating frequencies

Report No. 13863359S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 5, 2021 July 8, 2021 July 9, 2021
Temperature/ Humidity 25 deg. C / 64 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Shiro Kobayashi Yosuke Murakami Yosuke Murakami
Mode Tx 11n-20

11n-20

Test Condition		Freq.	Result	Limit	Margin
Temp.	Volt.	[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5745.00	5736.18	5725.00	11.18
		5825.00	5834.40	5875.00	40.60
min	min	5745.00	5735.58	5725.00	10.57
		5825.00	5834.45	5875.00	40.55
min	max	5745.00	5735.60	5725.00	10.60
		5825.00	5834.43	5875.00	40.57
max	min	5745.00	5735.52	5725.00	10.52
		5825.00	5834.37	5875.00	40.63
max	nom	5745.00	5735.54	5725.00	10.54
		5825.00	5834.37	5875.00	40.63

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard) is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable loss	Atten. loss	Antenna Gain	Duty Factor	Limit line
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.95	10.02	2.10	0.09	-44.2
5875.0	-30.00	1.96	10.02	2.10	0.09	-44.2

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

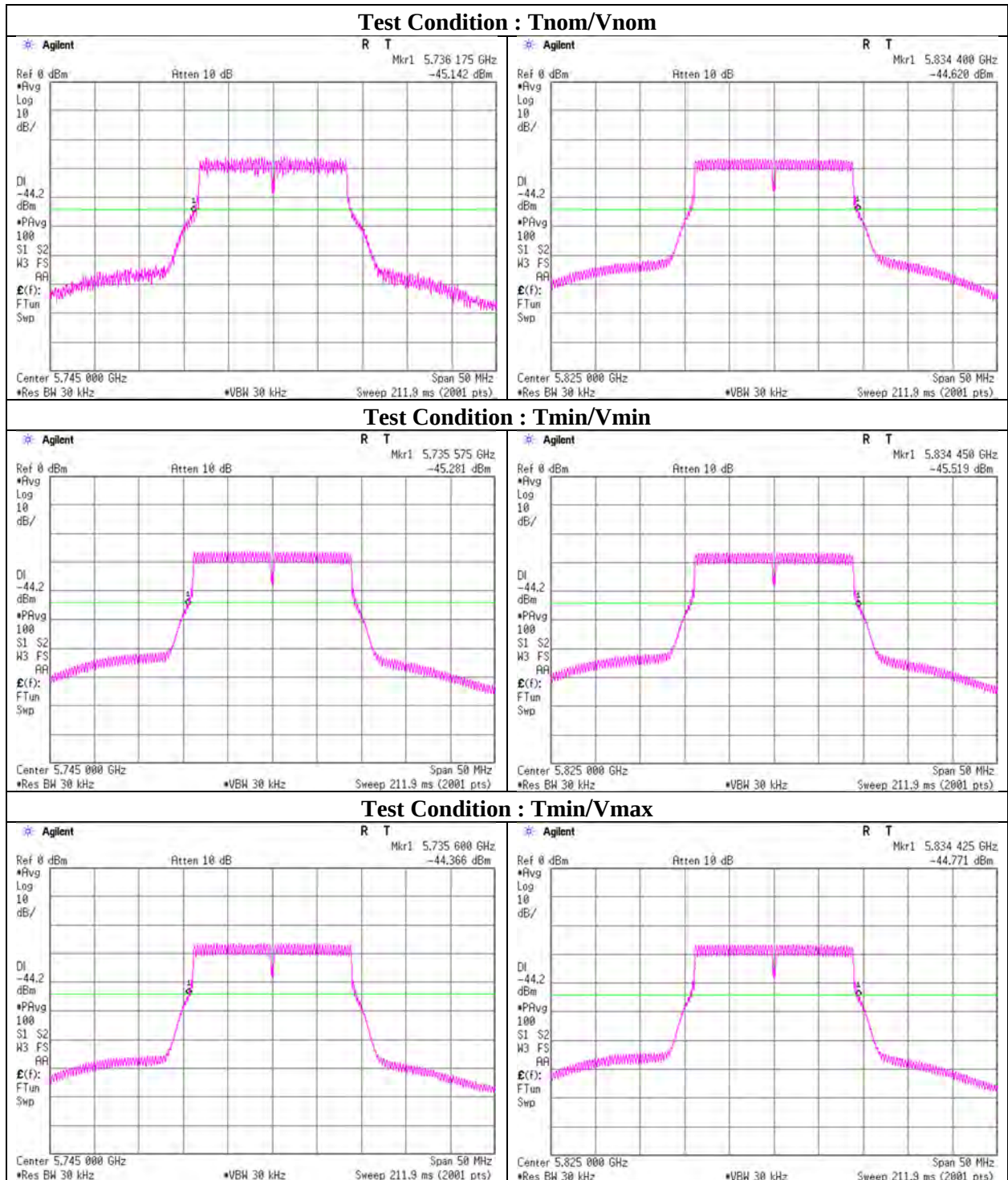
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11n-20



UL Japan, Inc.

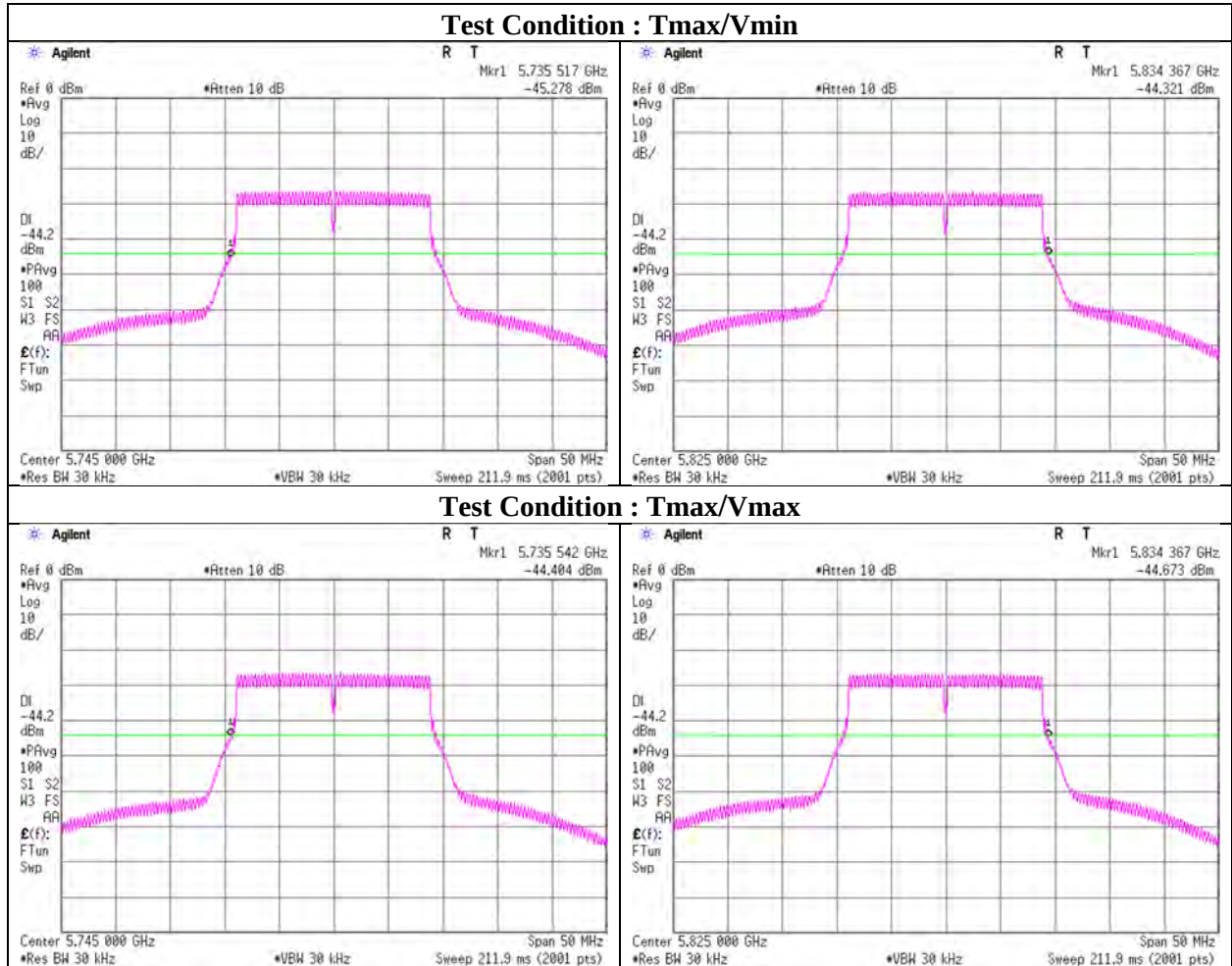
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

11n-20



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

Permitted Range of Operating frequencies

Report No. 13863359S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 5, 2021 July 8, 2021 July 9, 2021
Temperature/ Humidity 25 deg. C / 64 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Shiro Kobayashi Yosuke Murakami Yosuke Murakami
Mode Tx 11ac-20

11ac-20

Test Condition		Freq.	Result	Limit	Margin
Temp.	Volt.	[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5745.00	5735.58	5725.00	10.57
		5825.00	5834.40	5875.00	40.60
min	min	5745.00	5735.58	5725.00	10.57
		5825.00	5834.45	5875.00	40.55
min	max	5745.00	5735.60	5725.00	10.60
		5825.00	5834.43	5875.00	40.57
max	min	5745.00	5735.54	5725.00	10.54
		5825.00	5834.39	5875.00	40.61
max	nom	5745.00	5735.52	5725.00	10.52
		5825.00	5834.37	5875.00	40.63

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard)
is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable	Atten.	Antenna	Duty	Limit
[MHz]	[dBm]	loss	loss	Gain	Factor	line
		[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.95	10.02	2.10	0.10	-44.2
5875.0	-30.00	1.96	10.02	2.10	0.10	-44.2

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

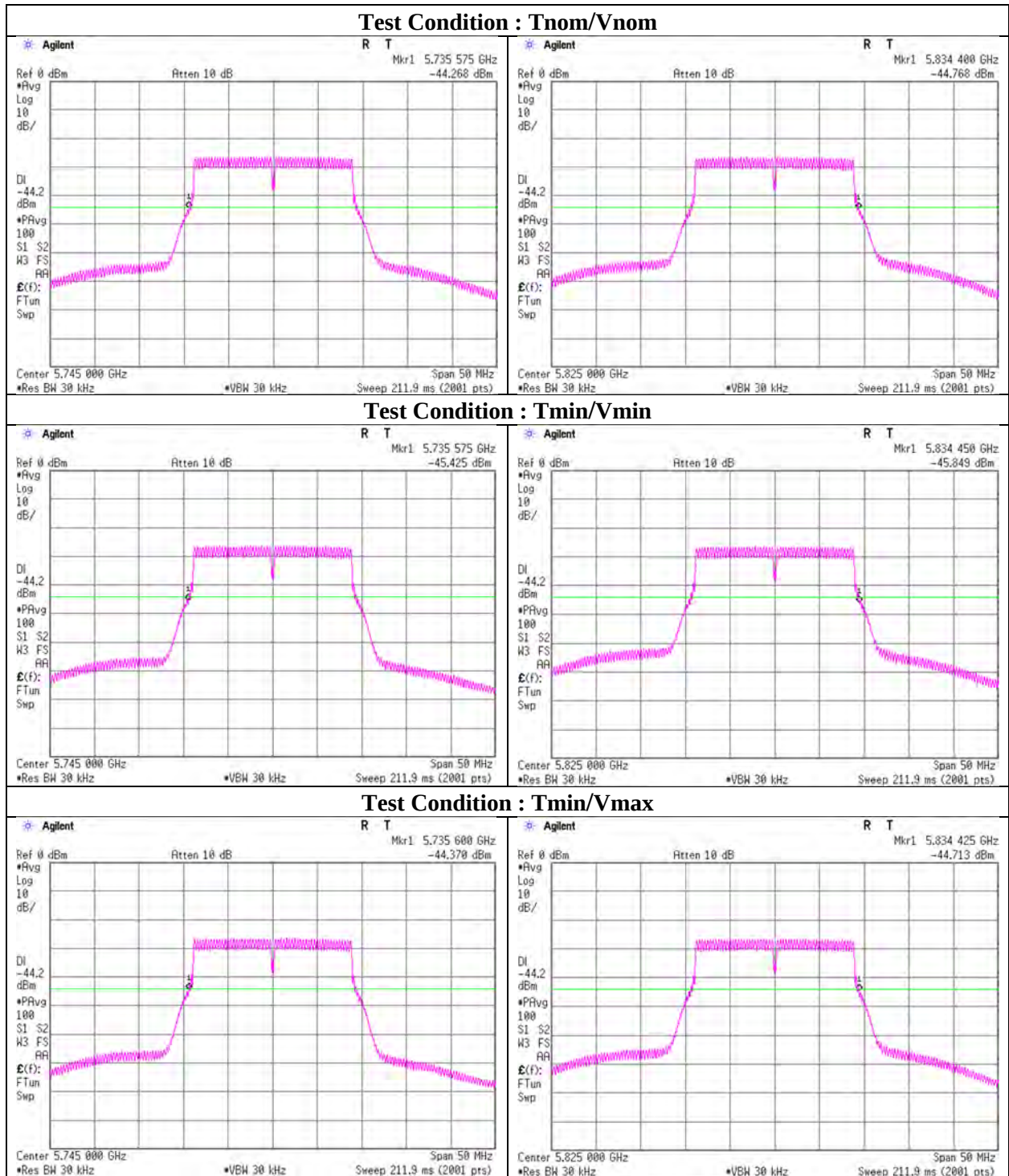
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11ac-20



UL Japan, Inc.

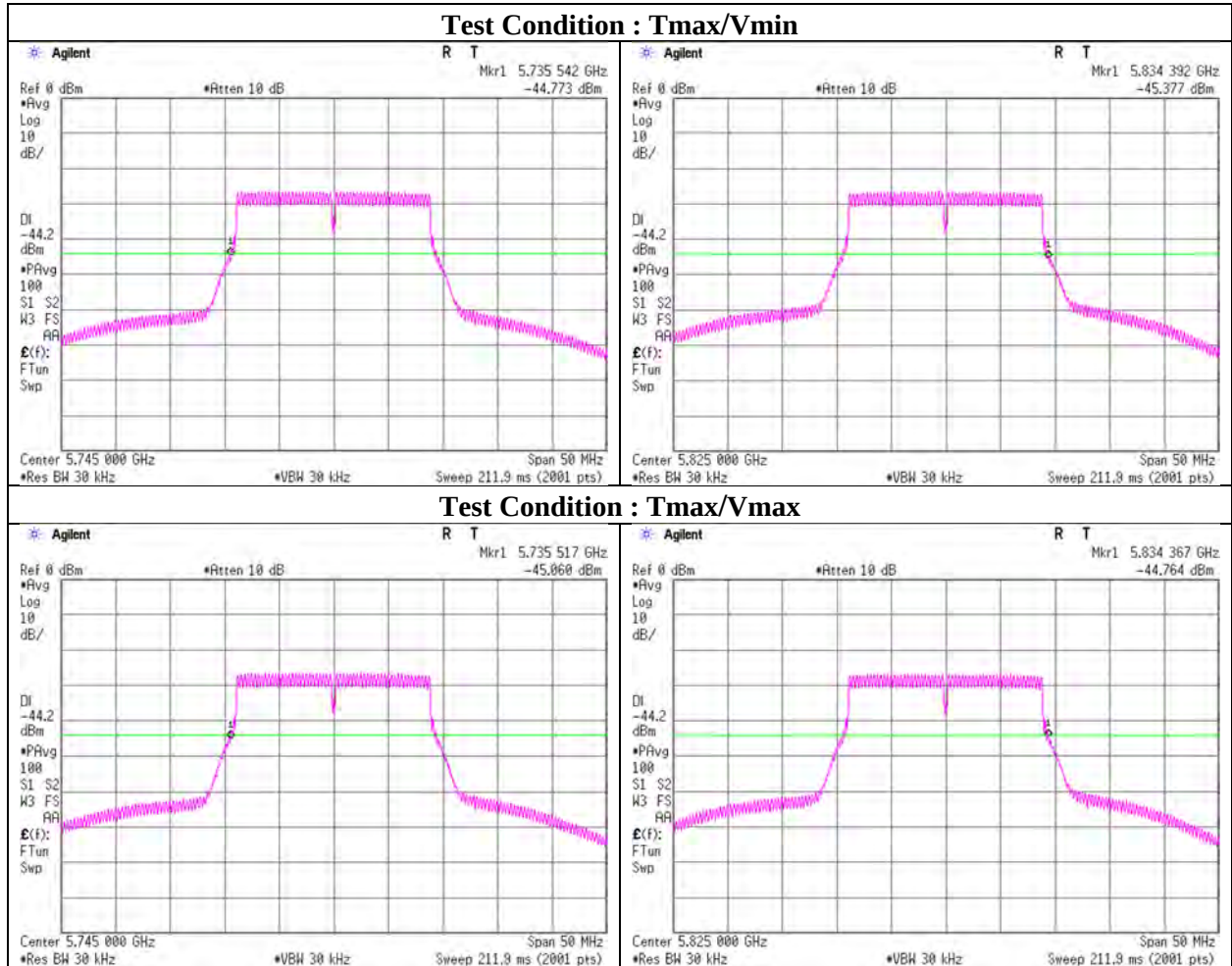
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

11ac-20



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

Permitted Range of Operating frequencies

Report No. 13863359S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 5, 2021 July 8, 2021 July 9, 2021
Temperature/ Humidity 25 deg. C / 64 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Shiro Kobayashi Yosuke Murakami Yosuke Murakami
Mode Tx 11n-40

11n-40

Test Condition		Freq.	Result	Limit	Margin
Temp.	Volt.	[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
min	min	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
min	max	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
max	min	5755.00	5736.58	5725.00	11.58
		5795.00	5813.28	5875.00	61.72
max	nom	5755.00	5736.58	5725.00	11.58
		5795.00	5813.28	5875.00	61.72

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard)
is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable loss	Atten. loss	Antenna Gain	Duty Factor	Limit line
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.95	10.02	2.10	0.10	-44.2
5875.0	-30.00	1.96	10.02	2.10	0.10	-44.2

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

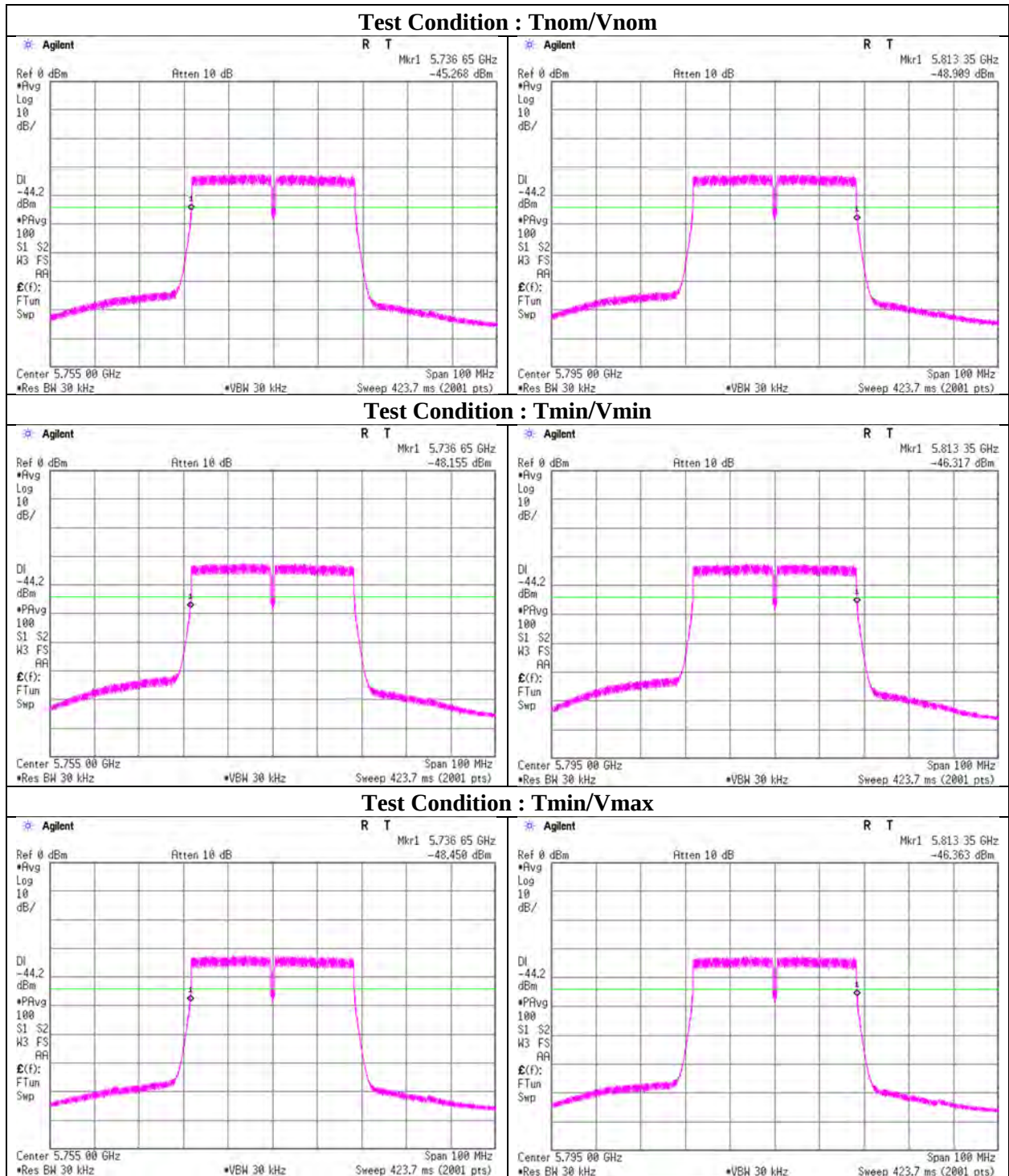
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11n-40



UL Japan, Inc.

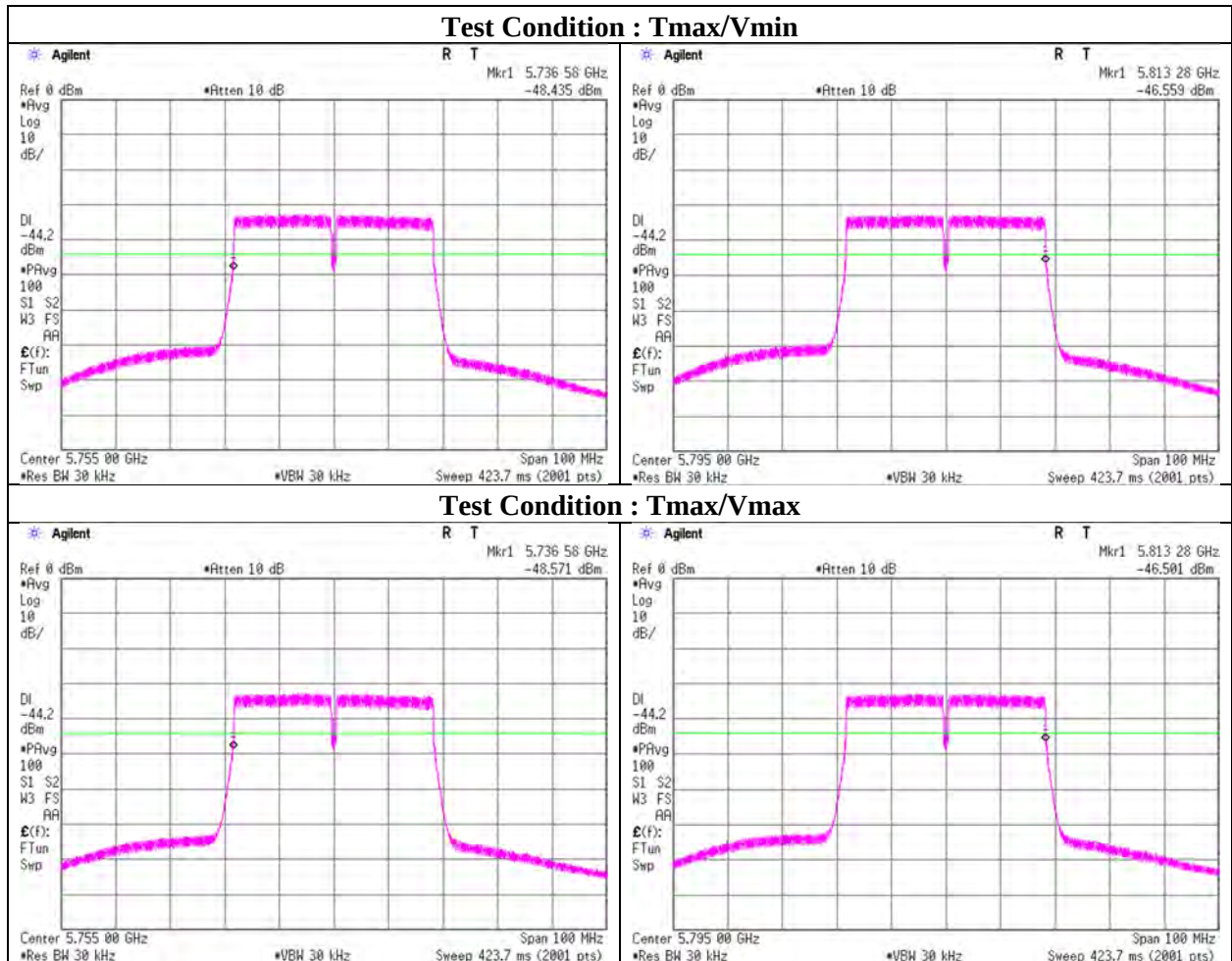
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

11n-40



Permitted Range of Operating frequencies

Report No. 13863359S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 5, 2021 July 8, 2021 July 9, 2021
Temperature/ Humidity 25 deg. C / 64 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Shiro Kobayashi Yosuke Murakami Yosuke Murakami
Mode Tx 11ac-40

11ac-40

Test Condition		Freq.	Result	Limit	Margin
Temp.	Volt.	[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
min	min	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
min	max	5755.00	5736.65	5725.00	11.65
		5795.00	5813.35	5875.00	61.65
max	min	5755.00	5736.60	5725.00	11.60
		5795.00	5813.28	5875.00	61.72
max	nom	5755.00	5736.60	5725.00	11.60
		5795.00	5813.28	5875.00	61.72

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard)
is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable	Atten.	Antenna	Duty	Limit
[MHz]	[dBm]	loss	loss	Gain	Factor	line
		[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.95	10.02	2.10	0.10	-44.2
5875.0	-30.00	1.96	10.02	2.10	0.10	-44.2

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

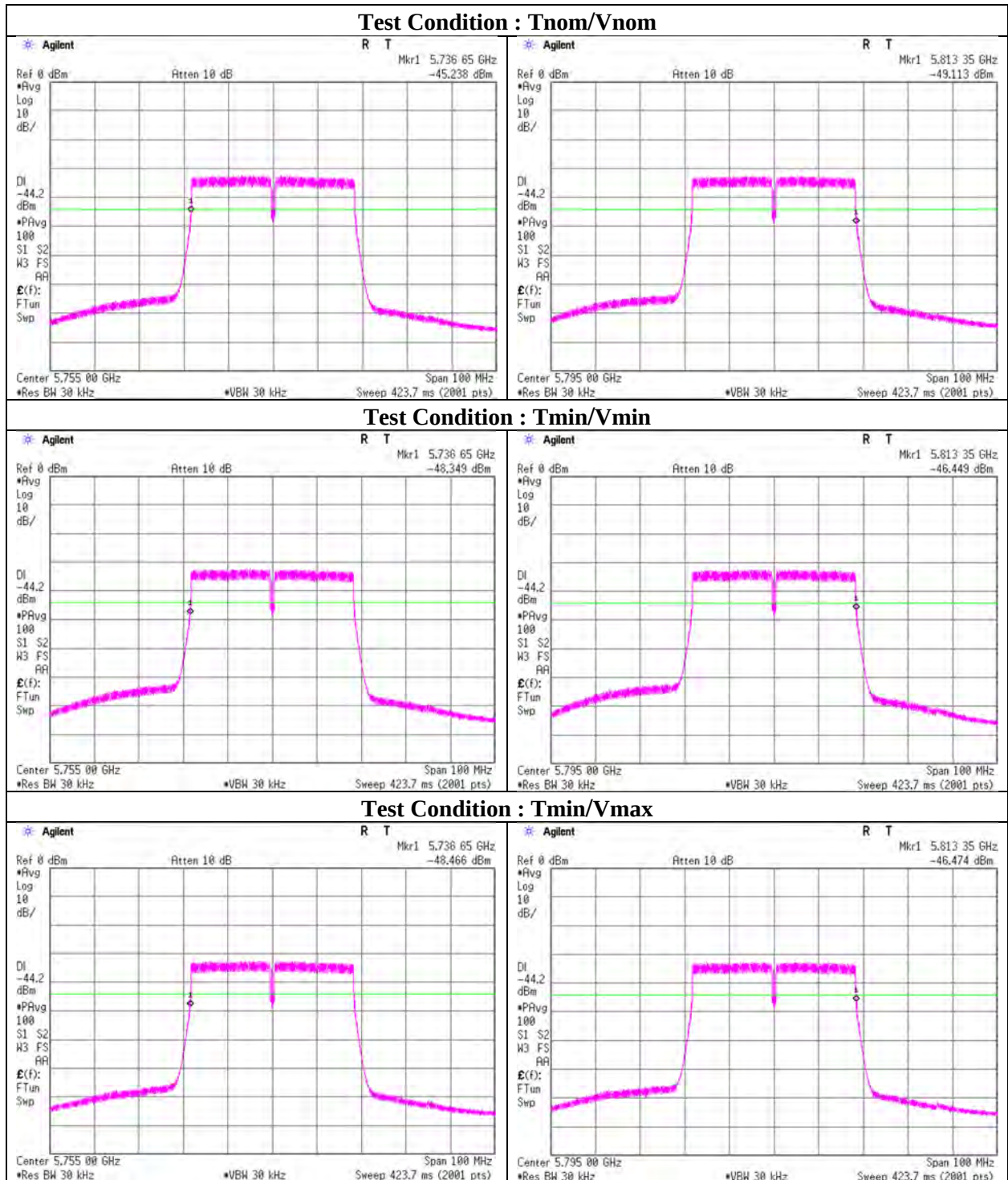
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

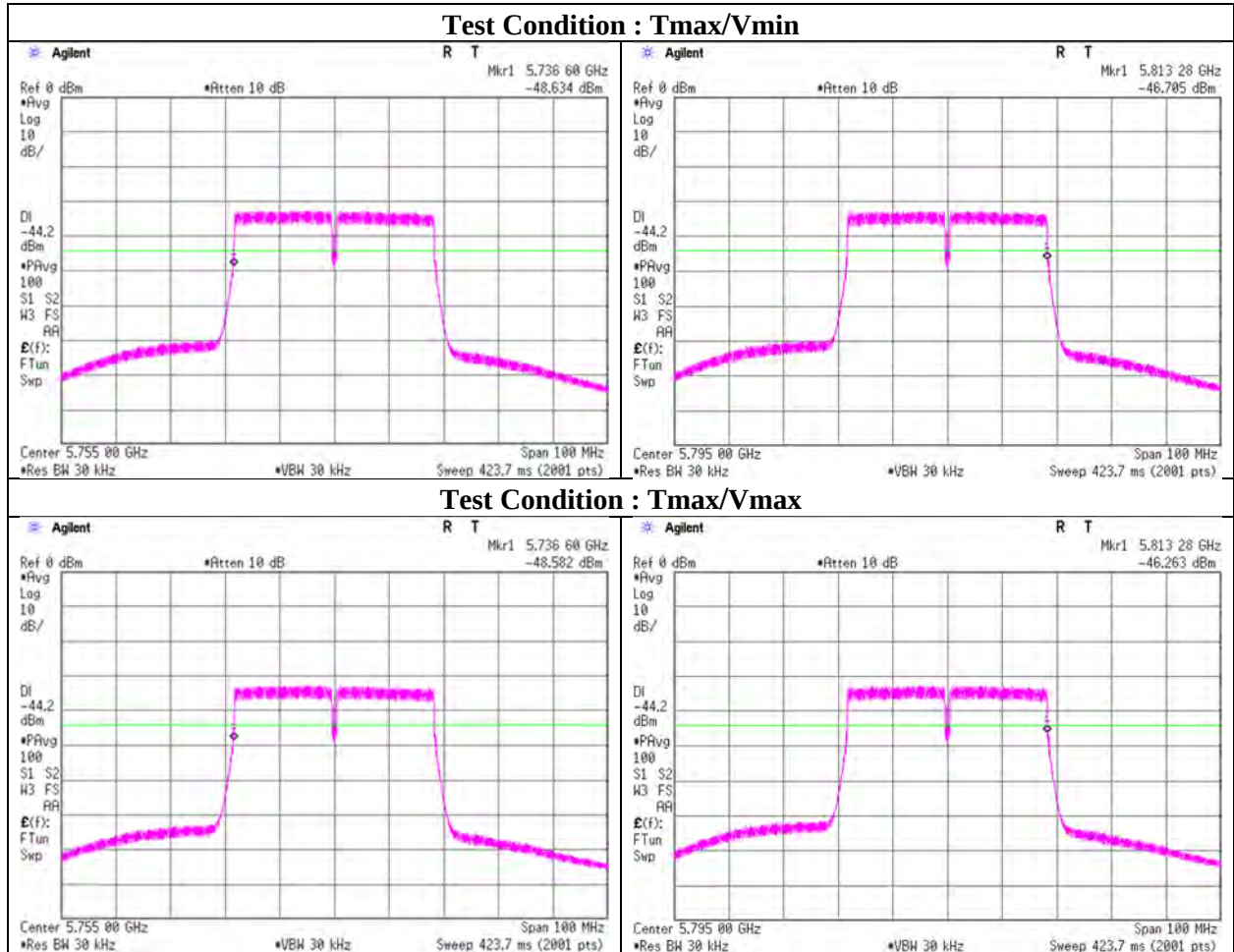
Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11ac-40



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

Permitted Range of Operating frequencies

Report No. 13863359S-D
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 5, 2021 July 8, 2021 July 9, 2021
Temperature/ Humidity 25 deg. C / 64 % RH 25 deg. C / 53 % RH 25 deg. C / 60 % RH
Engineer Shiro Kobayashi Yosuke Murakami Yosuke Murakami
Mode Tx 11ac-80

11ac-80

Test Condition Temp.	Volt.	Freq.	Result	Limit	Margin
		[MHz]	[MHz]	[MHz]	[MHz]
nom	nom	5775.00	5736.70	5725.00	11.70
		5775.00	5813.30	5875.00	61.70
min	min	5775.00	5736.70	5725.00	11.70
		5775.00	5813.30	5875.00	61.70
min	max	5775.00	5736.70	5725.00	11.70
		5775.00	5813.30	5875.00	61.70
max	min	5775.00	5736.60	5725.00	11.60
		5775.00	5813.30	5875.00	61.70
max	nom	5775.00	5736.60	5725.00	11.60
		5775.00	5813.30	5875.00	61.70

The value of limit line where the power drops to -30 dBm (30 kHz)(specified in the Standard)
is calculated and decided as follows :

Limit of the Standard - Cable Loss - Attenuator Loss - Antenna Gain - Duty Factor = Limit line

Freq.	Limit	Cable loss	Atten. loss	Antenna Gain	Duty Factor	Limit line
[MHz]	[dBm]	[dB]	[dB]	[dBi]	[dB]	[dBm]
5725.0	-30.00	1.96	10.02	2.10	0.09	-44.2
5875.0	-30.00	1.96	10.02	2.10	0.09	-44.2

* The above Limit lines are different from display lines (DI) in the waveform data, but is was confirmed the EUT complied with the requirement.

UL Japan, Inc.

Shonan EMC Lab.

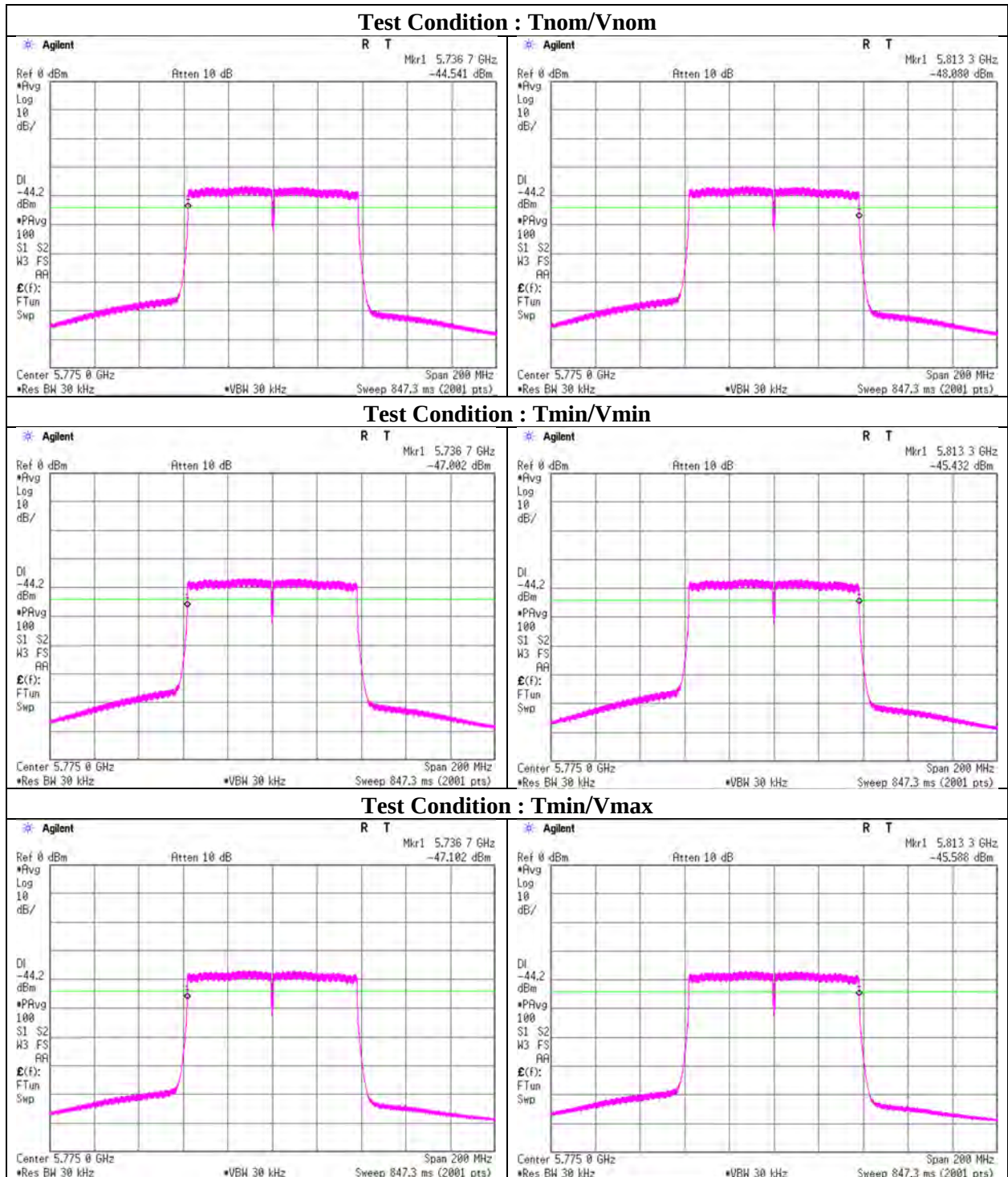
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Permitted Range of Operating frequencies

11ac-80



UL Japan, Inc.

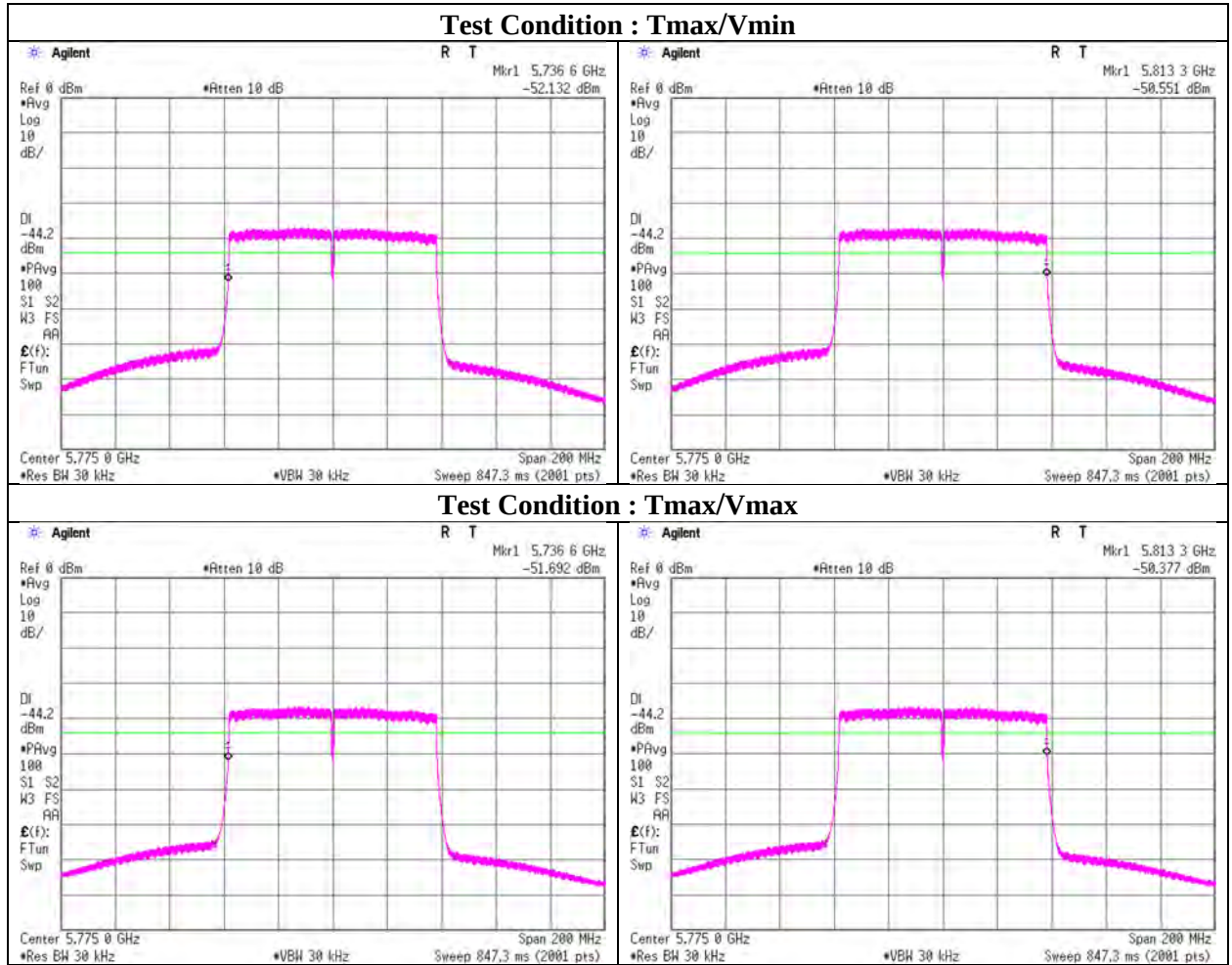
Shonan EMC Lab.

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

Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

11ac-80



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

Unwanted emissions in the spurious domain (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH No.3
Engineer Yosuke Murakami 23 deg. C / 61 % RH No.3
Mode Tx 11a 5745 MHz (Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz) (18-26.5 GHz) (26.5-40 GHz)

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	479.662	38.60	-54.92	-7.90	3.65	-68.62	-54.00	14.6	Hori.	179	111	Dipol	
2	580.123	30.80	-60.83	-7.97	4.06	-75.01	-54.00	21.0	Vert.	110	132	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3830.000	51.96	-58.38	12.41	7.60	-55.72	-30.00	25.7	Hori.	182	91	Horn	
2	11490.000	51.39	-51.59	11.62	13.63	-55.75	-30.00	25.7	Hori.	100	215	Horn	
3	3830.000	52.27	-57.81	12.41	7.60	-55.15	-30.00	25.1	Vert.	141	233	Horn	
4	11490.000	50.86	-54.21	11.62	13.63	-58.37	-30.00	28.3	Vert.	203	32	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

Unwanted emissions in the spurious domain (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 23 deg. C / 61 % RH
Engineer Yosuke Murakami Yasumasa Owaki
(Below 1 GHz) (1 GHz - 13 GHz)
Mode Tx 11a 5825 MHz (13 GHz - 18 GHz)
No.3
June 30, 2021
24 deg. C / 56 % RH
Yosuke Murakami
(18-26.5 GHz)
No.3
July 1, 2021
26 deg. C / 50 % RH
Yosuke Murakami
(26.5-40 GHz)
No.3
July 2, 2021
25 deg. C / 51 % RH
Yosuke Murakami

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	477.809	38.90	-54.62	-7.90	3.65	-68.32	-54.00	14.3	Hori.	186	139	Dipol	
2	572.940	32.20	-59.19	-7.97	4.04	-73.35	-54.00	19.3	Vert.	107	125	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3883.333	52.42	-56.02	12.44	7.65	-53.38	-30.00	23.3	Hori.	157	91	Horn	
2	11650.000	52.83	-52.18	12.25	13.74	-55.82	-30.00	25.8	Hori.	102	214	Horn	
3	3883.333	51.89	-58.79	12.44	7.65	-56.15	-30.00	26.1	Vert.	140	61	Horn	
4	11650.000	52.59	-52.70	12.25	13.74	-56.34	-30.00	26.3	Vert.	251	23	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

Unwanted emissions in the spurious domain (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 23 deg. C / 61 % RH No.3
Engineer Yosuke Murakami Yasumasa Owaki Yosuke Murakami No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz) July 1, 2021
Mode Tx 11ac-40 5755 MHz (18-26.5 GHz) (26.5-40 GHz) 25 deg. C / 51 % RH
Yosuke Murakami

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	478.073	41.70	-51.82	-7.90	3.65	-65.52	-54.00	11.5	Hori.	182	98	Dipol	
2	573.184	32.00	-59.39	-7.97	4.04	-73.55	-54.00	19.5	Vert.	117	117	Dipol	

Calculation:Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	3836.667	52.24	-58.49	12.42	7.60	-55.82	-30.00	25.8	Hori.	169	91	Horn	
2	11510.000	51.47	-53.87	11.67	13.65	-58.00	-30.00	28.0	Hori.	100	212	Horn	
3	3836.667	52.02	-58.44	12.42	7.60	-55.77	-30.00	25.7	Vert.	121	356	Horn	
4	11510.000	51.38	-53.68	11.67	13.65	-57.81	-30.00	27.8	Vert.	206	28	Horn	

Calculation:Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

Unwanted emissions in the spurious domain (Radiated)

Report No.	13863359S-D				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.3	No.3	No.3	No.3	No.3
Date	July 3, 2021	June 28, 2021	June 30, 2021	July 1, 2021	July 2, 2021
Temperature / Humidity	24 deg. C / 59 % RH	23 deg. C / 61 % RH	24 deg. C / 56 % RH	26 deg. C / 50 % RH	25 deg. C / 51 % RH
Engineer	Yosuke Murakami	Yasumasa Owaki	Yosuke Murakami	Yosuke Murakami	Yosuke Murakami
	(Below 1 GHz)	(1 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18-26.5 GHz)	(26.5-40 GHz)
Mode	Tx 11ac-40 5795 MHz				

(Below 1 GHz)

No.	Freq. [MHz]	Reading (GP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	477.248	42.10	-51.42	-7.90	3.64	-65.11	-54.00	11.1	Hori.	181	84	Dipol	
2	571.276	32.00	-59.39	-7.97	4.03	-73.54	-54.00	19.5	Vert.	119	88	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3863.333	52.00	-58.02	12.43	7.63	-55.37	-30.00	25.3	Hori.	180	90	Horn	
2	11590.000	51.41	-53.52	11.96	13.70	-57.41	-30.00	27.4	Hori.	100	209	Horn	
3	3863.333	51.97	-57.12	12.43	7.63	-54.47	-30.00	24.4	Vert.	140	233	Horn	
4	11590.000	51.29	-53.83	11.96	13.70	-57.72	-30.00	27.7	Vert.	243	21	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

Unwanted emissions in the spurious domain (Radiated)

Report No.	13863359S-D				
Test place	Shonan EMC Lab.				
Semi Anechoic Chamber	No.3	No.3	No.3	No.3	No.3
Date	July 3, 2021	June 28, 2021	June 30, 2021	July 1, 2021	July 2, 2021
Temperature / Humidity	24 deg. C / 59 % RH	23 deg. C / 61 % RH	24 deg. C / 56 % RH	26 deg. C / 50 % RH	25 deg. C / 51 % RH
Engineer	Yosuke Murakami	Yasumasa Owaki	Yosuke Murakami	Yosuke Murakami	Yosuke Murakami
	(Below 1 GHz)	(1 GHz - 13 GHz)	(13 GHz - 18 GHz)	(18-26.5 GHz)	(26.5-40 GHz)
Mode	Tx 11ac-80 5775 MHz				

(Below 1 GHz)

No.	Freq. [MHz]	Reading (GP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	479.805	43.50	-50.02	-7.90	3.66	-63.73	-54.00	9.7	Hori.	186	95	Dipol	
2	572.949	32.60	-58.79	-7.97	4.04	-72.95	-54.00	18.9	Vert.	117	121	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

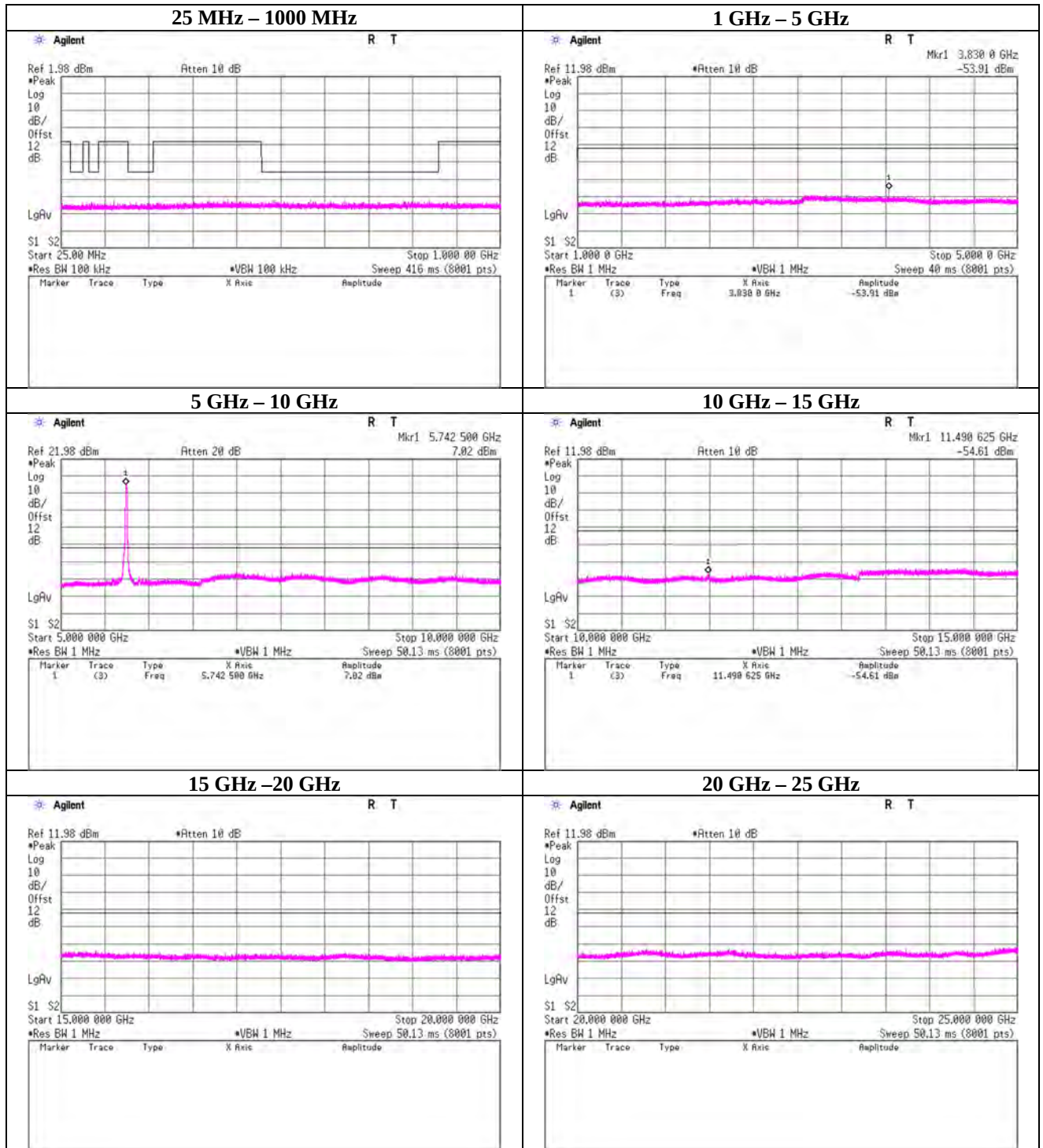
(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3850.000	52.30	-58.35	12.42	7.62	-55.70	-30.00	25.7	Hori.	158	91	Horn	
2	11550.000	51.59	-53.89	11.80	13.67	-57.91	-30.00	27.9	Hori.	100	224	Horn	
3	3850.000	52.11	-57.74	12.42	7.62	-55.09	-30.00	25.0	Vert.	141	56	Horn	
4	11550.000	51.28	-53.24	11.80	13.67	-57.26	-30.00	27.2	Vert.	244	24	Horn	

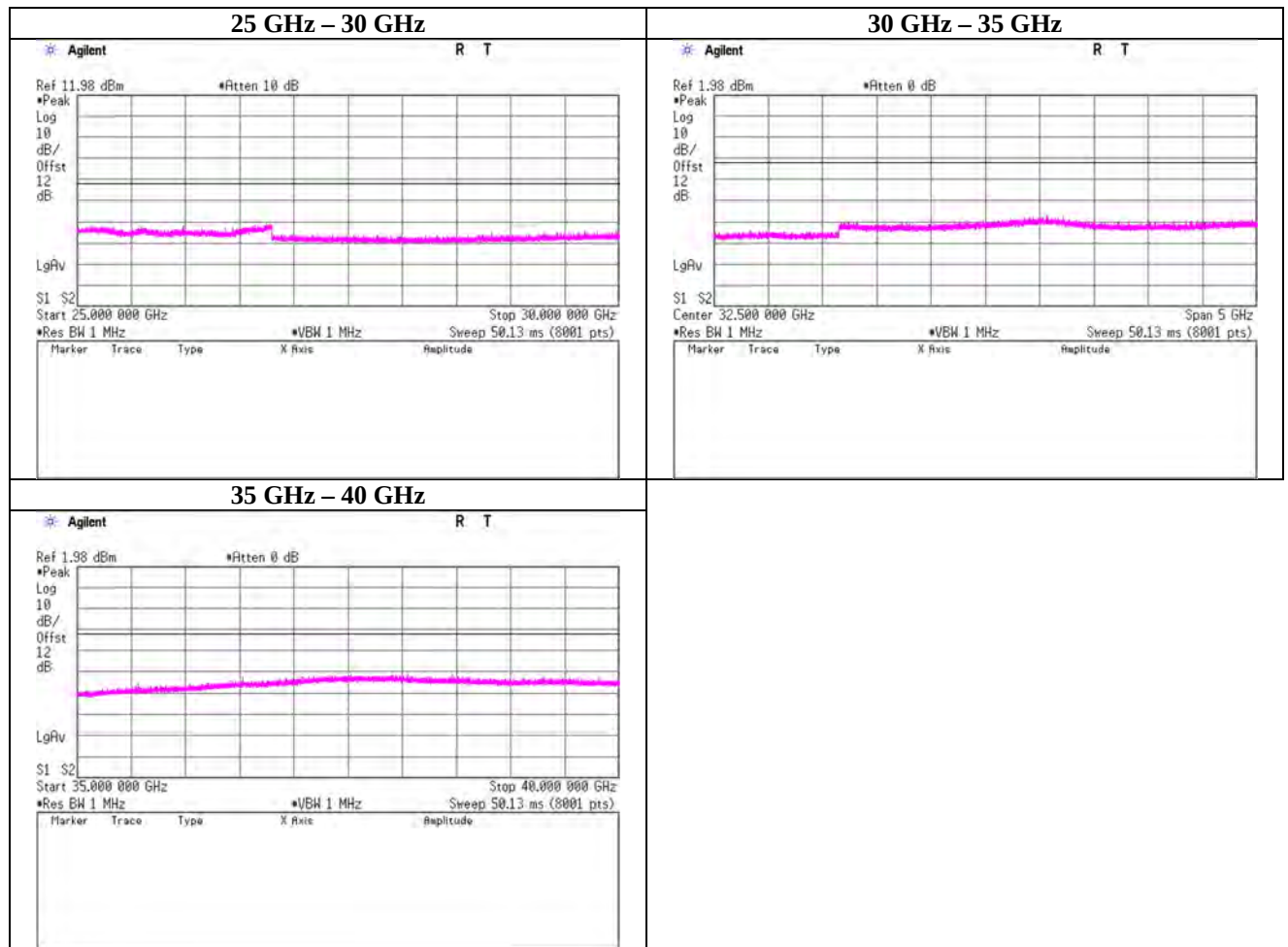
Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

Unwanted emissions in the spurious domain (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11a, 5745 MHz

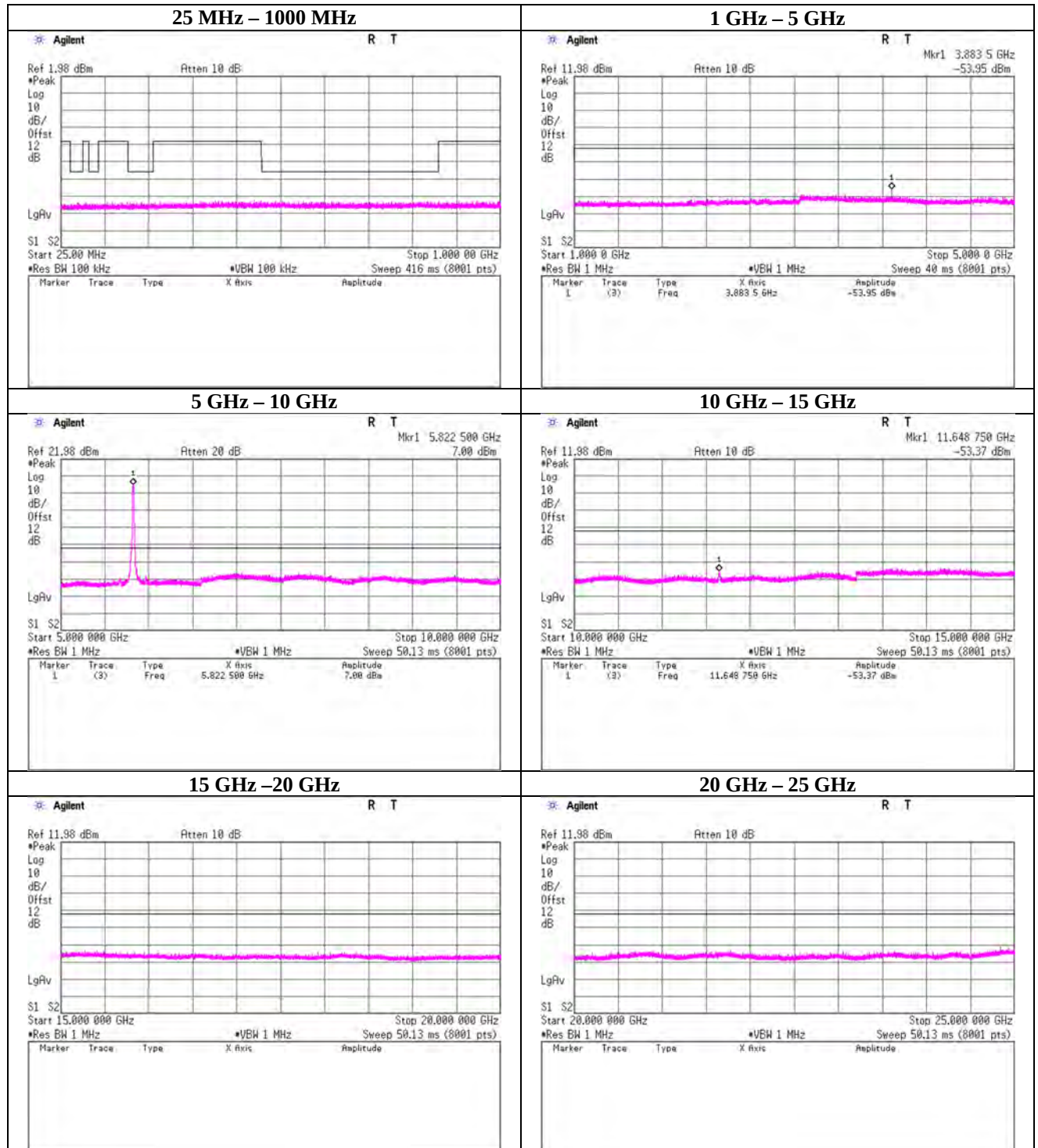


(continued)

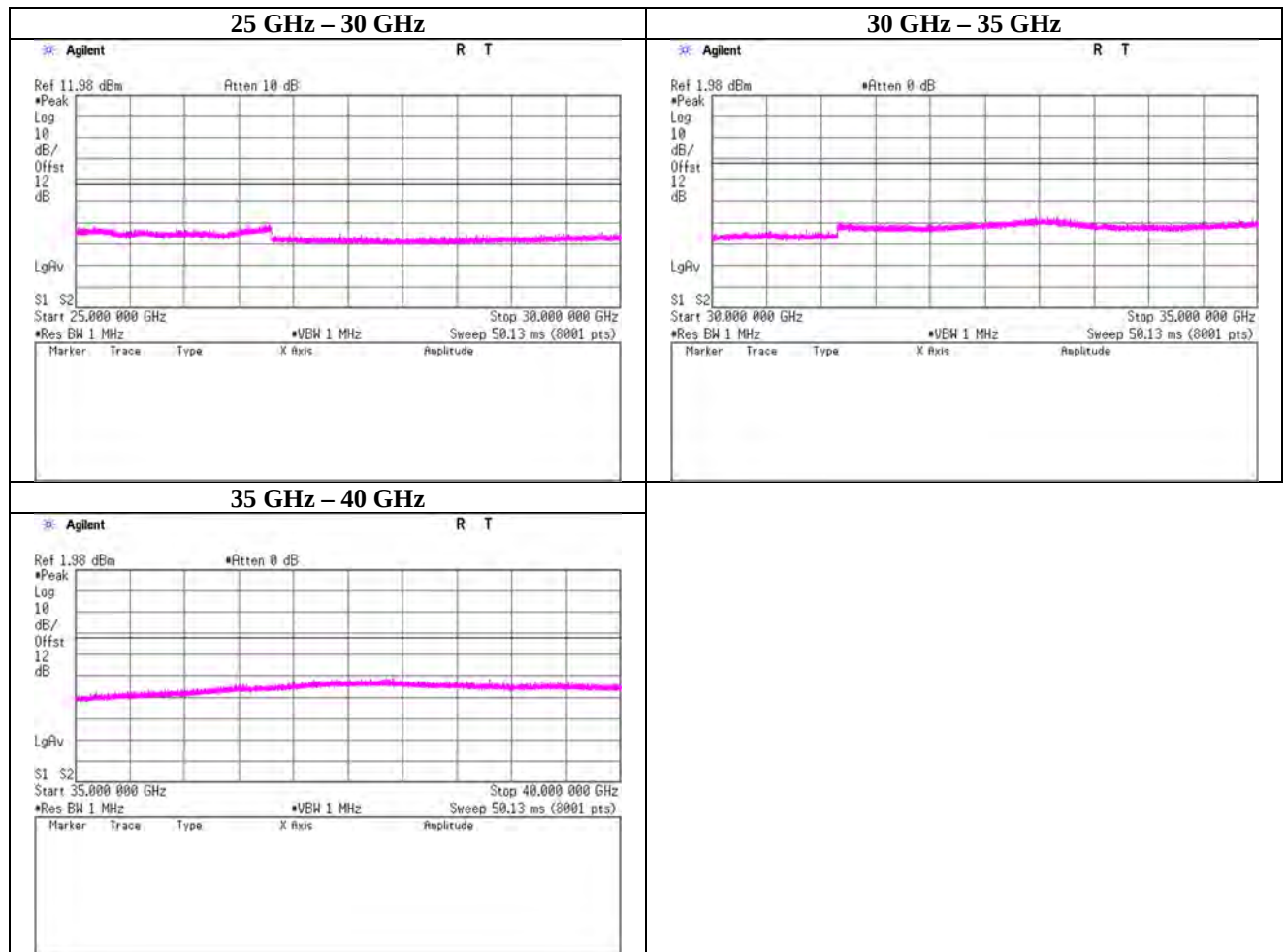


Unwanted emissions in the spurious domain (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11a, 5825 MHz



(continued)



UL Japan, Inc.

Shonan EMC Lab.

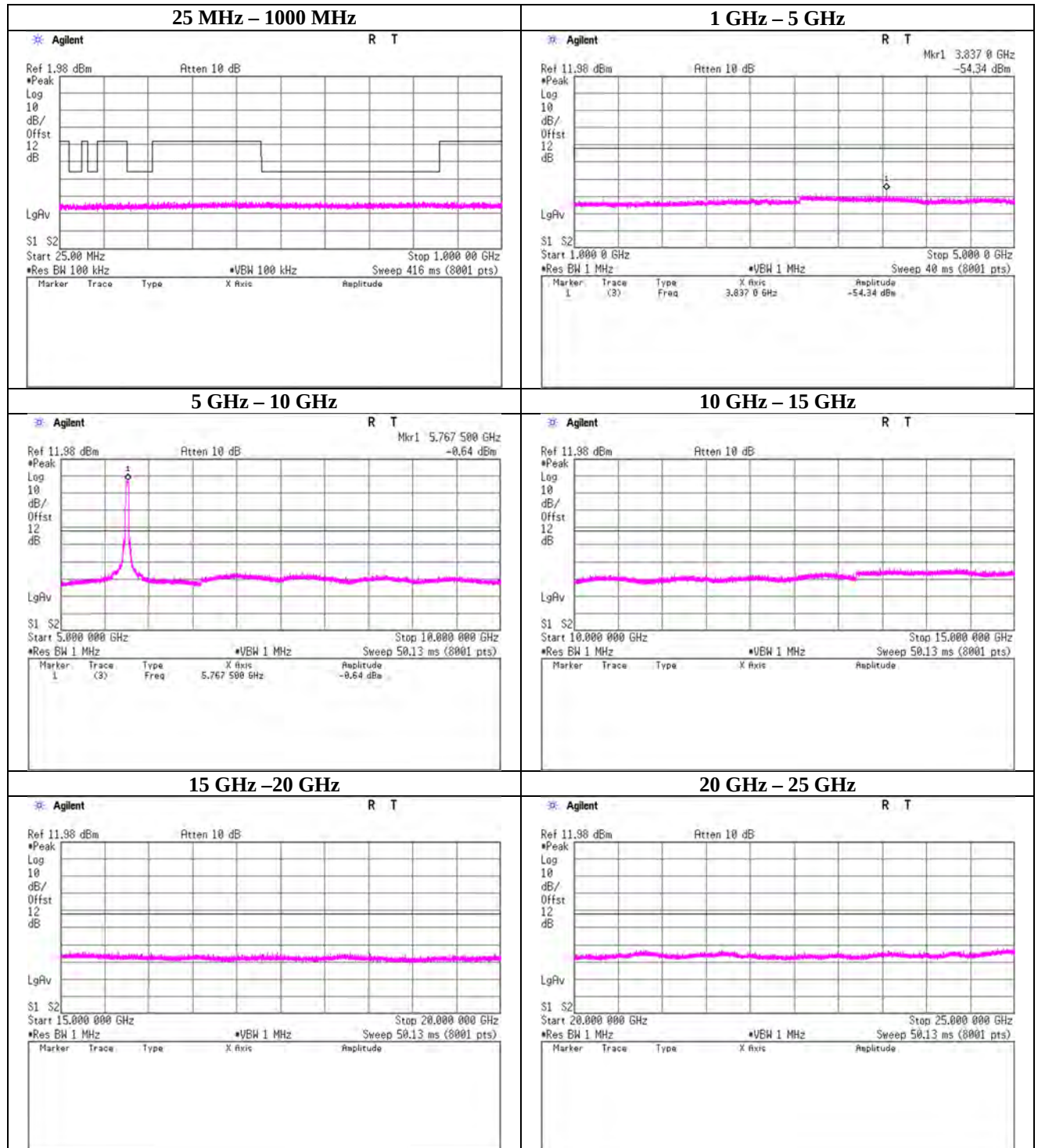
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

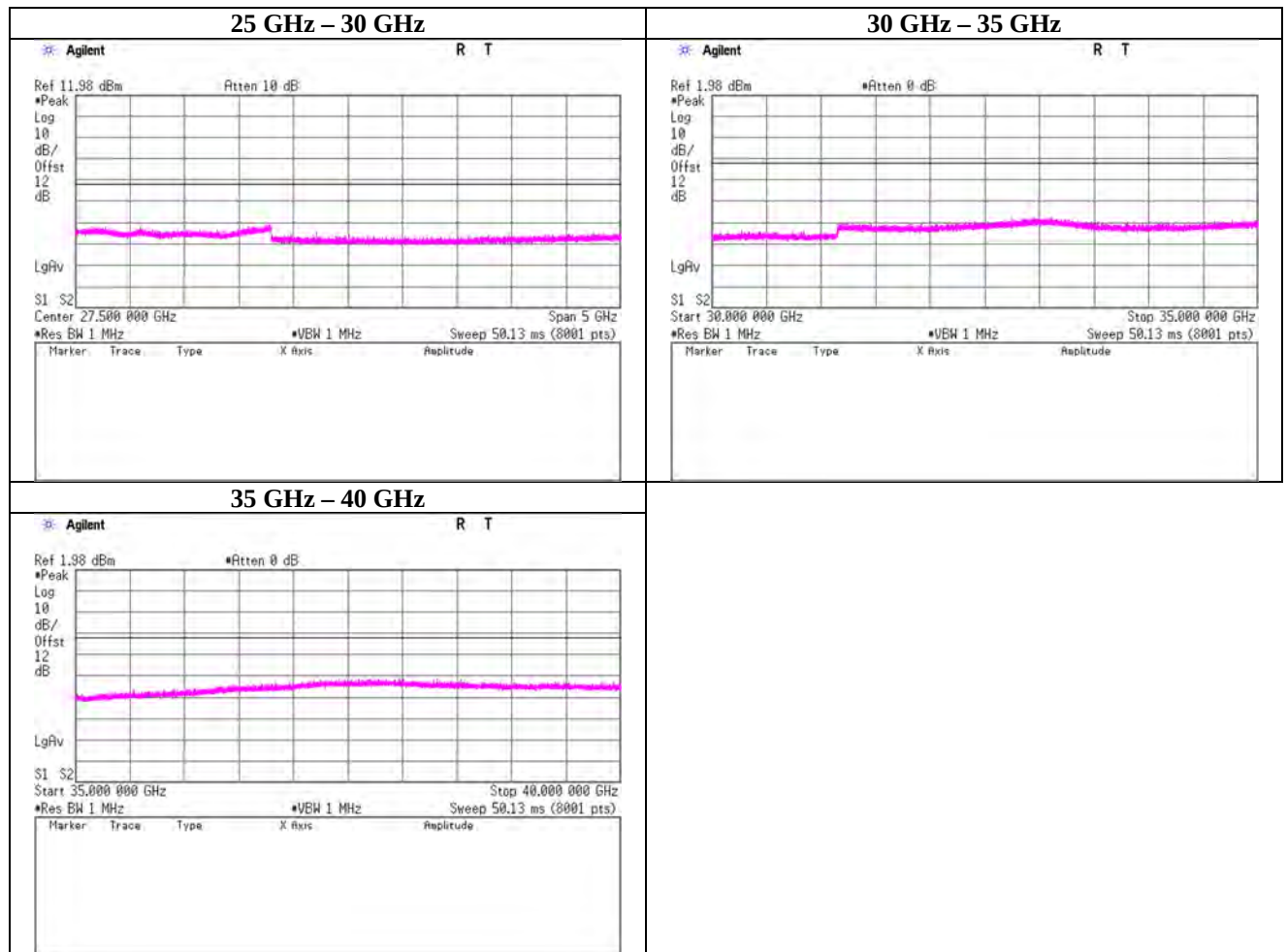
Facsimile : +81 463 50 6401

Unwanted emissions in the spurious domain (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40, 5755 MHz



(continued)



UL Japan, Inc.

Shonan EMC Lab.

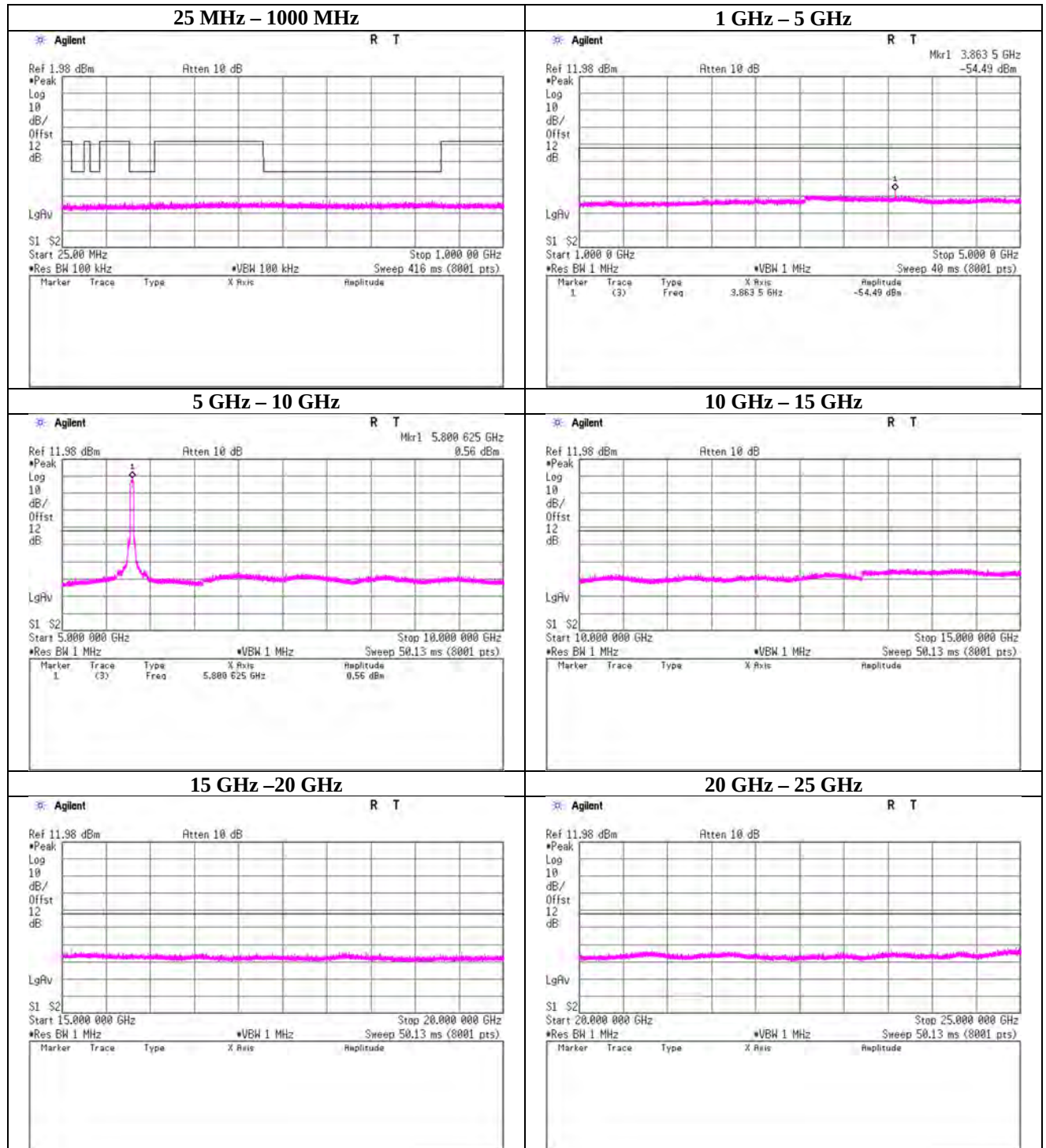
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

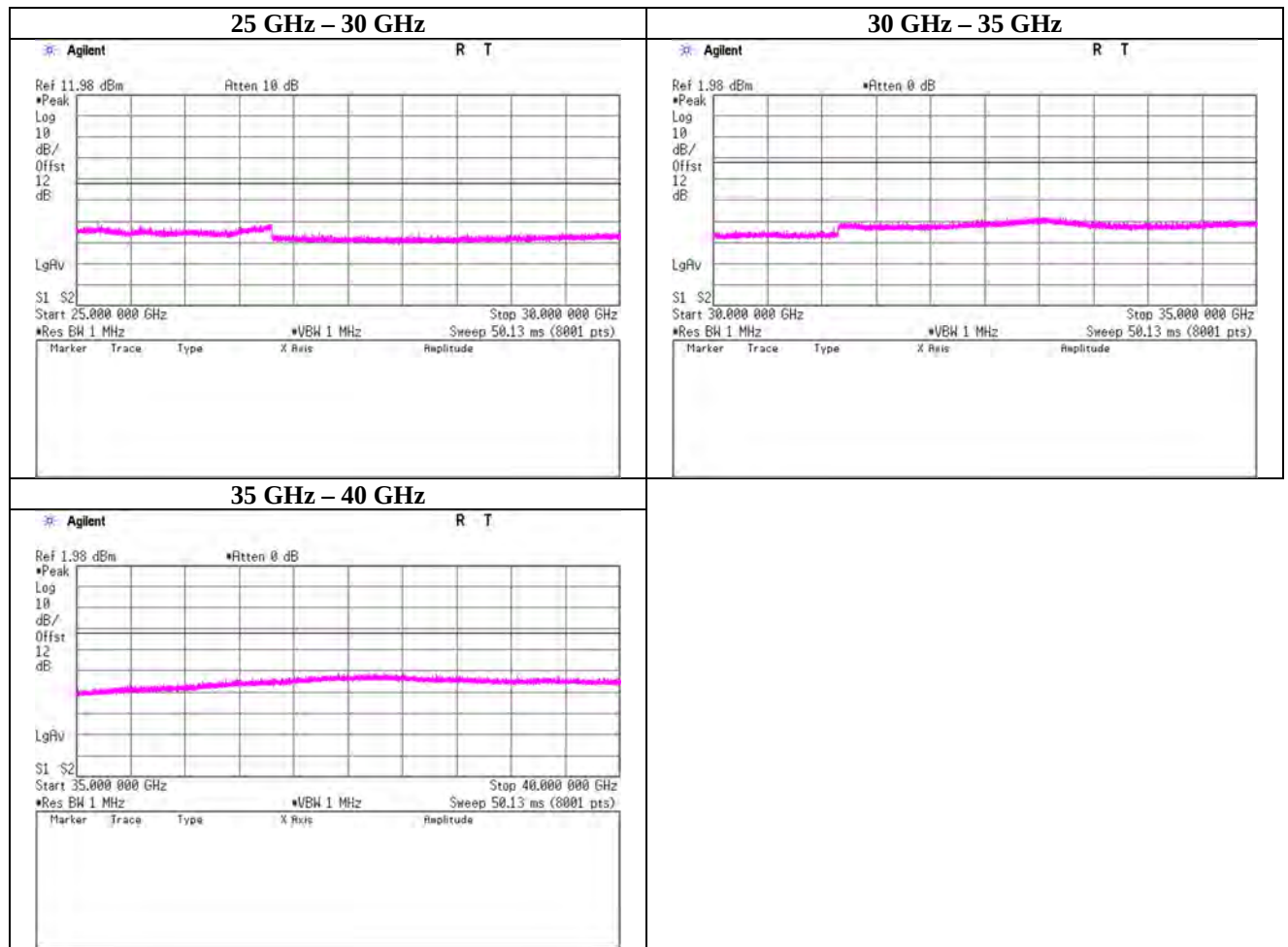
Facsimile : +81 463 50 6401

Unwanted emissions in the spurious domain (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11n-40, 5795 MHz

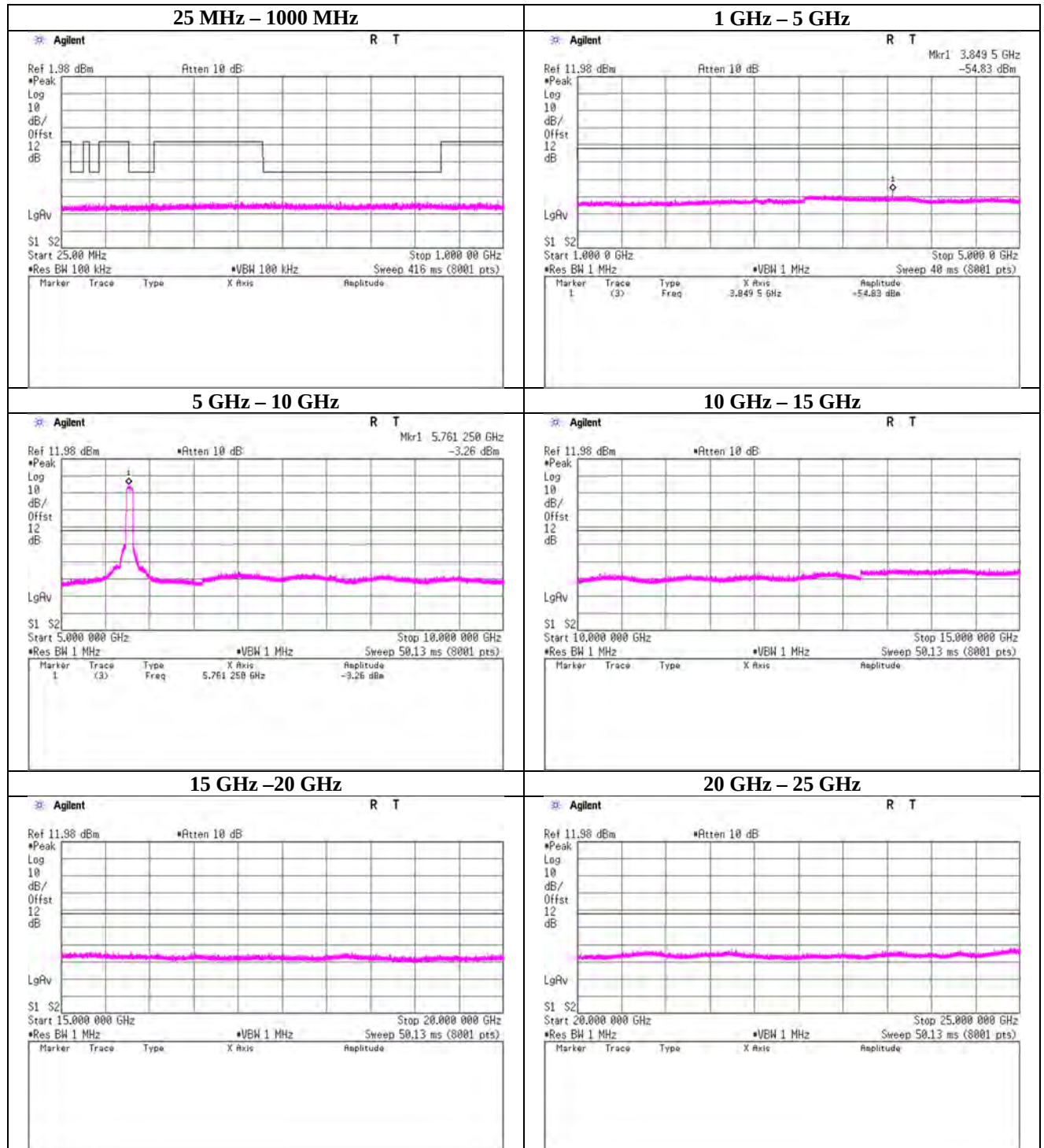


(continued)

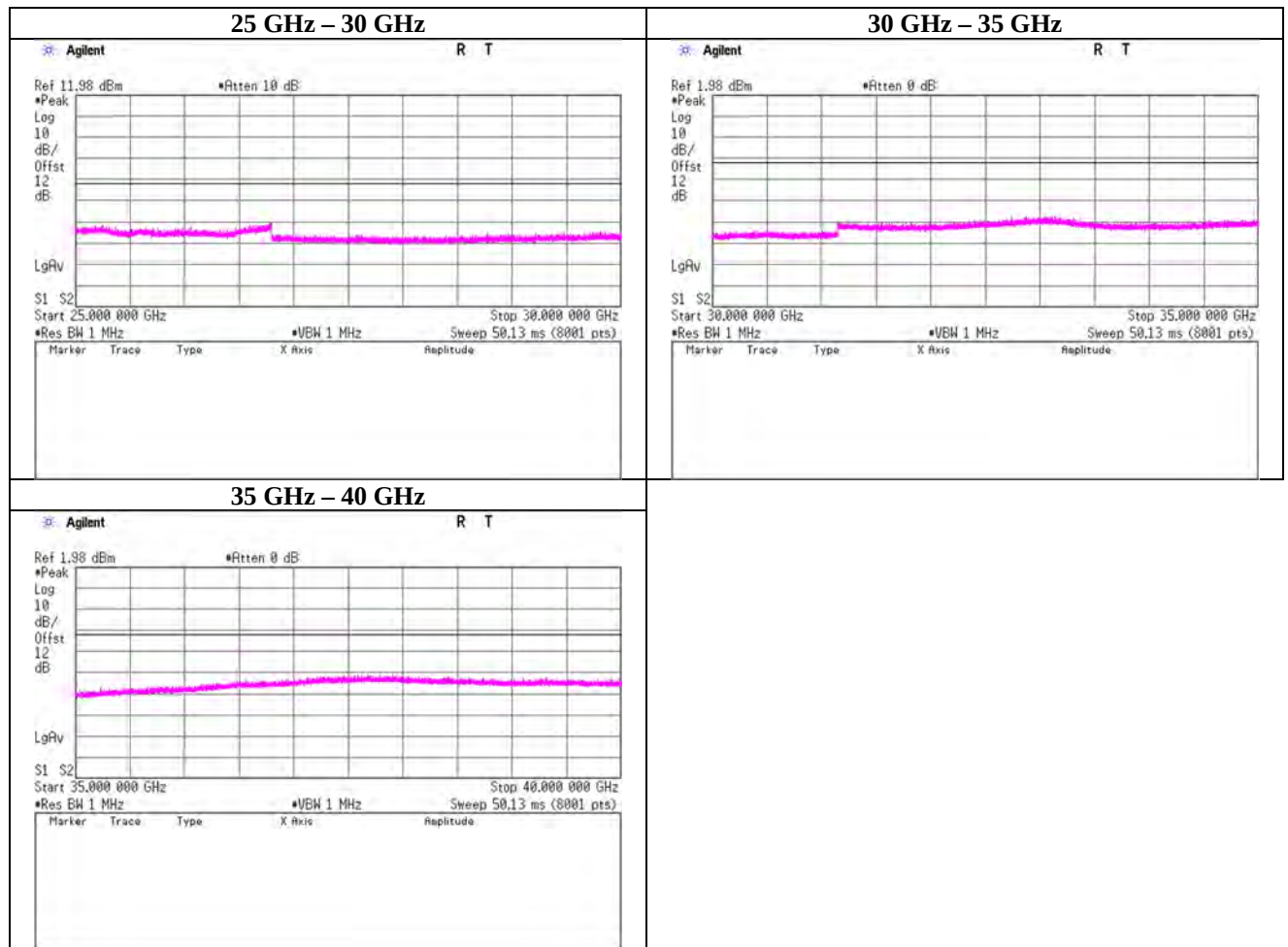


Unwanted emissions in the spurious domain (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Tx 11ac-80, 5775 MHz



(continued)



(Receiver) Spurious emissions (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 22 deg. C / 55 % RH No.3
Engineer Yosuke Murakami Takahiro Suzuki 24 deg. C / 56 % RH No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz) July 1, 2021
Mode Rx 20 MHz BW 5745 MHz (18-26.5 GHz) (26.5-40 GHz) July 2, 2021
Yosuke Murakami

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	317.429	40.60	-58.02	-7.49	2.92	-70.58	-57.00	13.5	Hori.	100	134	Dipol	
2	911.919	28.20	-59.46	-9.14	5.25	-76.00	-57.00	19.0	Hori.	100	76	Dipol	
3	959.918	30.00	-56.04	-9.32	5.41	-72.92	-57.00	15.9	Hori.	100	60	Dipol	
4	119.986	39.30	-51.11	-8.22	1.72	-63.20	-57.00	6.2	Vert.	100	150	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	3830.132	54.13	-56.31	12.41	7.60	-53.65	-47.00	6.6	Hori.	117	89	Horn	
2	5745.000	50.54	-57.88	13.37	9.41	-56.07	-47.00	9.0	Hori.	115	286	Horn	
3	3830.132	53.11	-57.56	12.41	7.60	-54.90	-47.00	7.9	Vert.	153	356	Horn	
4	5745.000	51.02	-57.40	13.37	9.41	-55.59	-47.00	8.5	Vert.	173	252	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

(Receiver) Spurious emissions (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 22 deg. C / 55 % RH No.3
Engineer Yosuke Murakami Takahiro Suzuki 24 deg. C / 56 % RH No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz) July 1, 2021 July 2, 2021
(18-26.5 GHz) (26.5-40 GHz)
Mode Rx 20 MHz BW 5825 MHz

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	119.983	39.90	-54.33	-8.22	1.72	-66.42	-57.00	9.4	Hori.	154	204	Dipol	
2	319.766	39.80	-58.82	-7.50	2.93	-71.40	-57.00	14.4	Hori.	100	154	Dipol	
3	911.927	28.10	-59.56	-9.14	5.25	-76.10	-57.00	19.1	Hori.	100	79	Dipol	
4	959.919	30.10	-55.94	-9.32	5.41	-72.82	-57.00	15.8	Hori.	100	59	Dipol	
5	119.985	40.60	-49.61	-8.22	1.72	-61.70	-57.00	4.7	Vert.	100	109	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3883.339	54.37	-55.21	12.44	7.65	-52.57	-47.00	5.5	Hori.	146	89	Horn	
2	5825.000	49.97	-58.56	13.30	9.48	-56.89	-47.00	9.8	Hori.	233	121	Horn	
3	3883.339	54.11	-55.86	12.44	7.65	-53.22	-47.00	6.2	Vert.	141	84	Horn	
4	5825.000	50.14	-57.46	13.30	9.48	-55.79	-47.00	8.7	Vert.	187	247	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

(Receiver) Spurious emissions (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 22 deg. C / 55 % RH No.3
Engineer Yosuke Murakami Takahiro Suzuki No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz)
Mode Rx 40 MHz BW 5755 MHz (18-26.5 GHz) (26.5-40 GHz)

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	119.981	39.60	-54.63	-8.22	1.72	-66.72	-57.00	9.7	Hori.	148	214	Dipol	
2	317.600	40.10	-58.52	-7.49	2.92	-71.08	-57.00	14.0	Hori.	100	143	Dipol	
3	911.920	28.60	-59.06	-9.14	5.25	-75.60	-57.00	18.6	Hori.	100	73	Dipol	
4	959.916	30.20	-54.94	-9.32	5.41	-71.82	-57.00	14.8	Hori.	100	59	Dipol	
5	119.989	40.00	-50.41	-8.22	1.72	-62.50	-57.00	5.5	Vert.	100	154	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result [dBm]	Limit [dBm]						
1	3836.679	53.44	-56.75	12.42	7.60	-54.08	-47.00	7.0	Hori.	170	92	Horn	
2	5755.000	50.28	-57.84	13.36	9.41	-56.04	-47.00	9.0	Hori.	233	120	Horn	
3	3836.679	52.93	-57.09	12.42	7.60	-54.42	-47.00	7.4	Vert.	151	229	Horn	
4	5755.000	50.27	-58.04	13.36	9.41	-56.24	-47.00	9.2	Vert.	172	245	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

(Receiver) Spurious emissions (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 22 deg. C / 55 % RH No.3
Engineer Yosuke Murakami Takahiro Suzuki No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz)
Mode Rx 40 MHz BW 5795 MHz

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	119.960	39.80	-54.43	-8.22	1.72	-66.52	-57.00	9.5	Hori.	155	195	Dipol	
2	317.131	40.80	-57.82	-7.49	2.92	-70.38	-57.00	13.3	Hori.	100	152	Dipol	
3	911.918	28.40	-59.26	-9.14	5.25	-75.80	-57.00	18.8	Hori.	100	80	Dipol	
4	959.919	29.90	-56.14	-9.32	5.41	-73.02	-57.00	16.0	Hori.	100	79	Dipol	
5	119.993	39.70	-50.71	-8.22	1.72	-62.80	-57.00	5.8	Vert.	100	146	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	3863.374	54.23	-55.36	12.43	7.63	-52.71	-47.00	5.7	Hori.	146	92	Horn	
2	5795.000	50.07	-57.50	13.32	9.45	-55.78	-47.00	8.7	Hori.	232	120	Horn	
3	3863.345	54.05	-55.72	12.43	7.63	-53.07	-47.00	6.0	Vert.	150	313	Horn	
4	5795.000	50.09	-57.79	13.32	9.45	-56.07	-47.00	9.0	Vert.	179	241	Horn	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

(Receiver) Spurious emissions (Radiated)

Report No. 13863359S-D
Test place Shonan EMC Lab.
Semi Anechoic Chamber No.3
Date July 3, 2021 No.3
Temperature / Humidity 24 deg. C / 59 % RH 22 deg. C / 55 % RH No.3
Engineer Yosuke Murakami Takahiro Suzuki June 30, 2021 No.3
(Below 1 GHz) (1 GHz - 13 GHz) (13 GHz - 18 GHz) July 1, 2021 No.3
Mode Rx 80 MHz BW 5775 MHz (18-26.5 GHz) (18-40 GHz) July 2, 2021 No.3
25 deg. C / 51 % RH
Yosuke Murakami
(18-40 GHz)

(Below 1 GHz)

No.	Freq. [MHz]	Reading (QP)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	119.982	39.30	-54.93	-8.22	1.72	-67.02	-57.00	10.0	Hori.	151	208	Dipol	
2	315.029	44.10	-54.52	-7.48	2.91	-67.06	-57.00	10.0	Hori.	100	143	Dipol	
3	911.915	28.40	-59.26	-9.14	5.25	-75.80	-57.00	18.8	Hori.	100	79	Dipol	
4	959.916	29.80	-56.24	-9.32	5.41	-73.12	-57.00	16.1	Hori.	100	59	Dipol	
5	119.995	39.80	-50.61	-8.22	1.72	-62.70	-57.00	5.7	Vert.	100	150	Dipol	
6	323.598	41.50	-54.49	-7.52	2.95	-67.11	-57.00	10.1	Vert.	100	140	Dipol	

Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain (antenna gain + ATT(ballan) loss) [dBi] - Tx Loss (Cable) [dB] - 2.15 [dB]
Tx Ant: 120MHz turned Dipole(30 MHz-120 MHz), Dipole(120 MHz-1 GHz) / Rx-Ant: Biconical(25 MHz-200 MHz), Logperiodic(200 MHz-1 GHz)

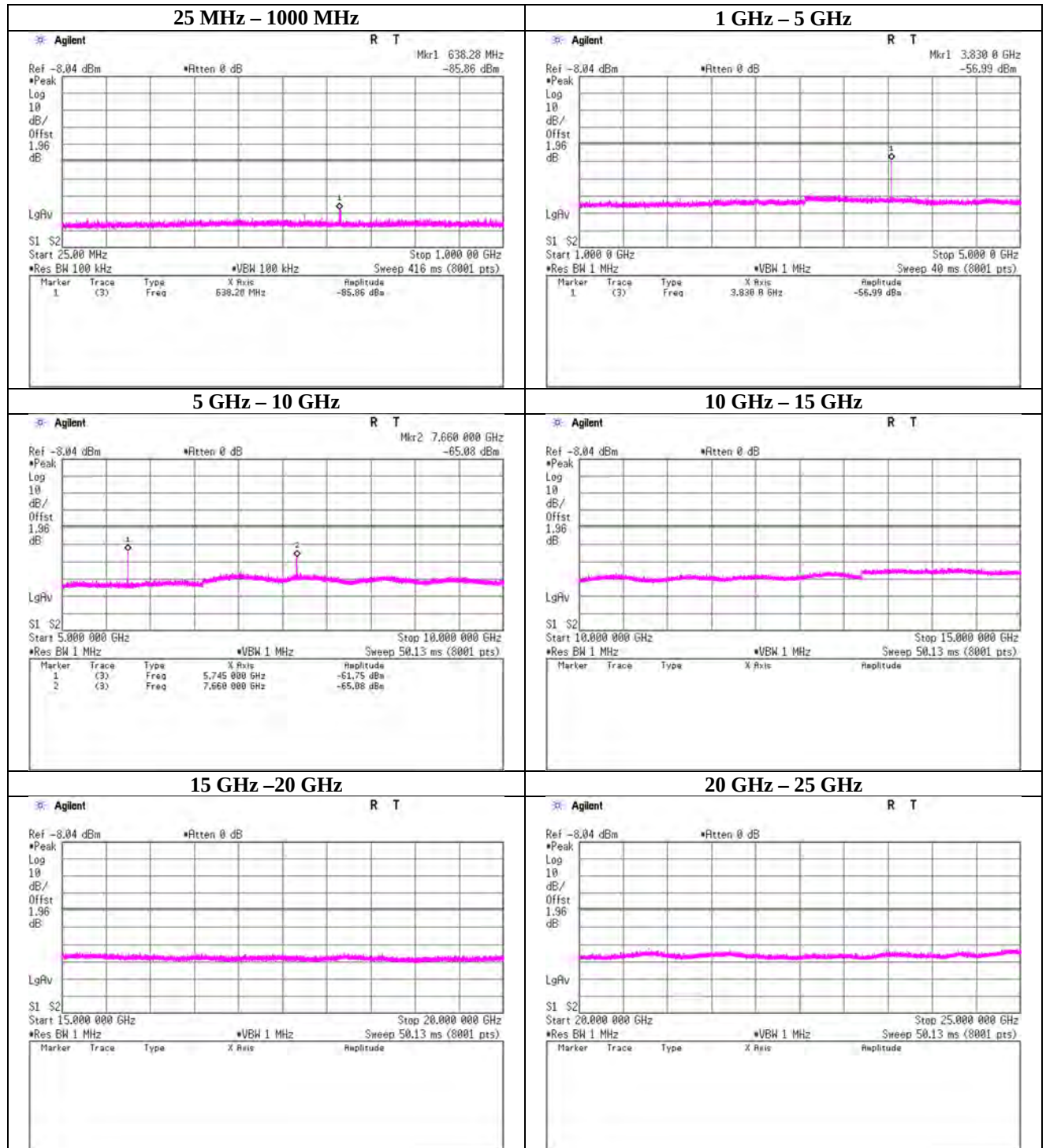
(Above 1 GHz)

No.	Freq. [MHz]	Reading (PK)	SG Level [dBm]	TX Ant.Gain [dBi]	TX Loss [dB]	ERP		Margin [dB]	Pola.	Height [cm]	Angle [deg]	TX Ant.Type	Comment
		[dBuV]				Result	Limit						
1	3850.023	54.43	-55.41	12.42	7.62	-52.76	-47.00	5.7	Hori.	147	89	Horn	
2	5775.000	50.17	-57.64	13.35	9.43	-55.87	-47.00	8.8	Hori.	220	120	Horn	
3	3850.023	52.76	-57.11	12.42	7.62	-54.46	-47.00	7.4	Vert.	144	106	Horn	
4	5775.000	50.25	-57.25	13.35	9.43	-55.48	-47.00	8.4	Vert.	173	243	Horn	

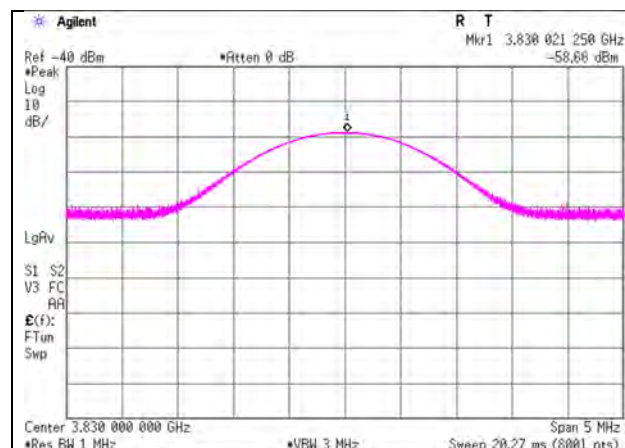
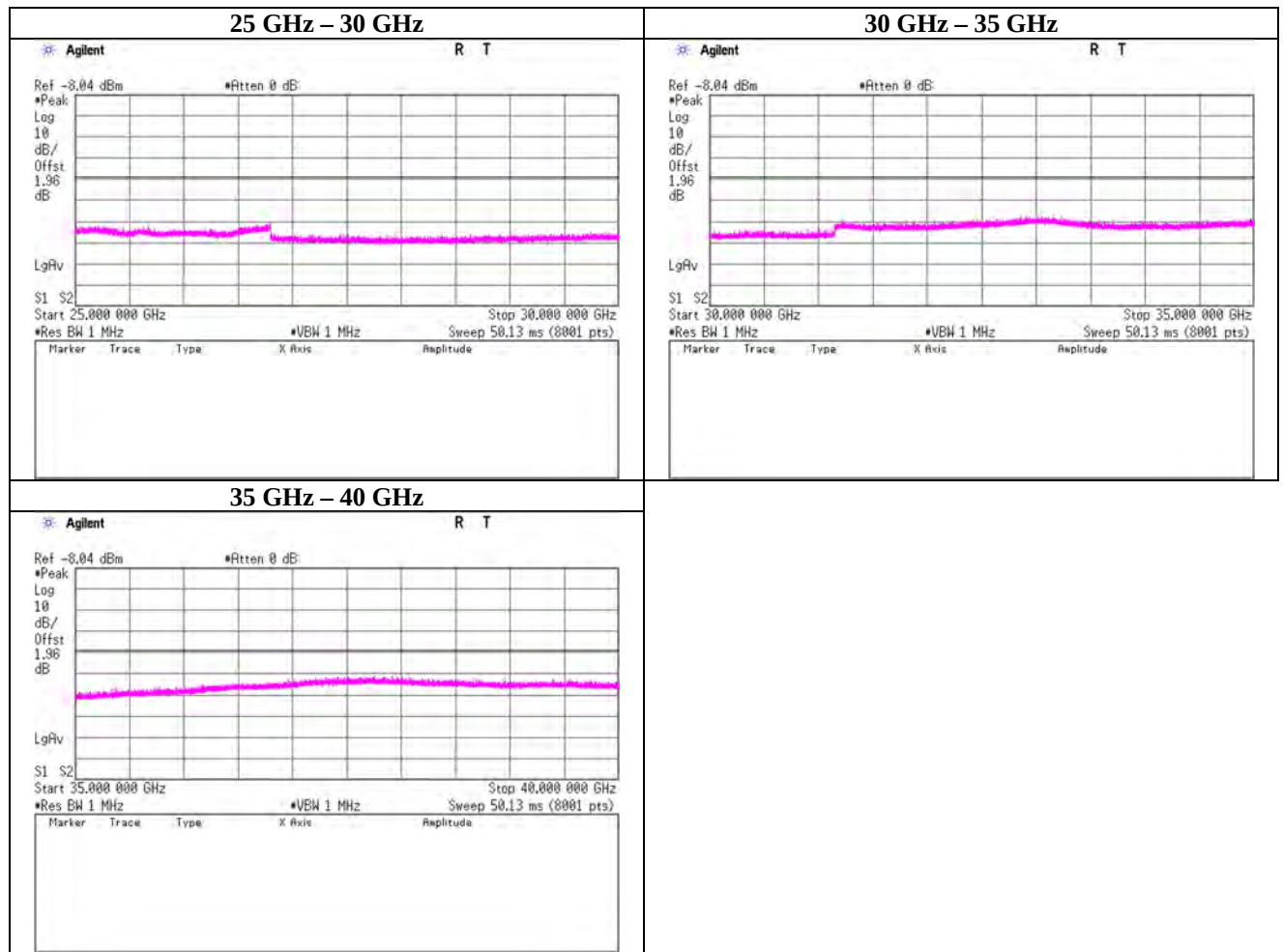
Calculation: Result [dBm] = SG level [dBm] + Tx Ant Gain [dBi] - Tx Loss (Cable)[dB] - 2.15 [dB]
Tx Antenna: Horn(1 GHz-40 GHz) / Rx-Antenna: Horn(1 GHz-40 GHz)

(Receiver) Spurious emissions (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Rx 20 MHz BW, 5745 MHz



(continued)



Frequency [MHz]	Reading [dBm]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
3830.021	-58.66	1.60	-57.06	-46.98	10.0

Sample Calculation:

Result = Reading + Cable Loss

Margin = Limit – Result

UL Japan, Inc.

Shonan EMC Lab.

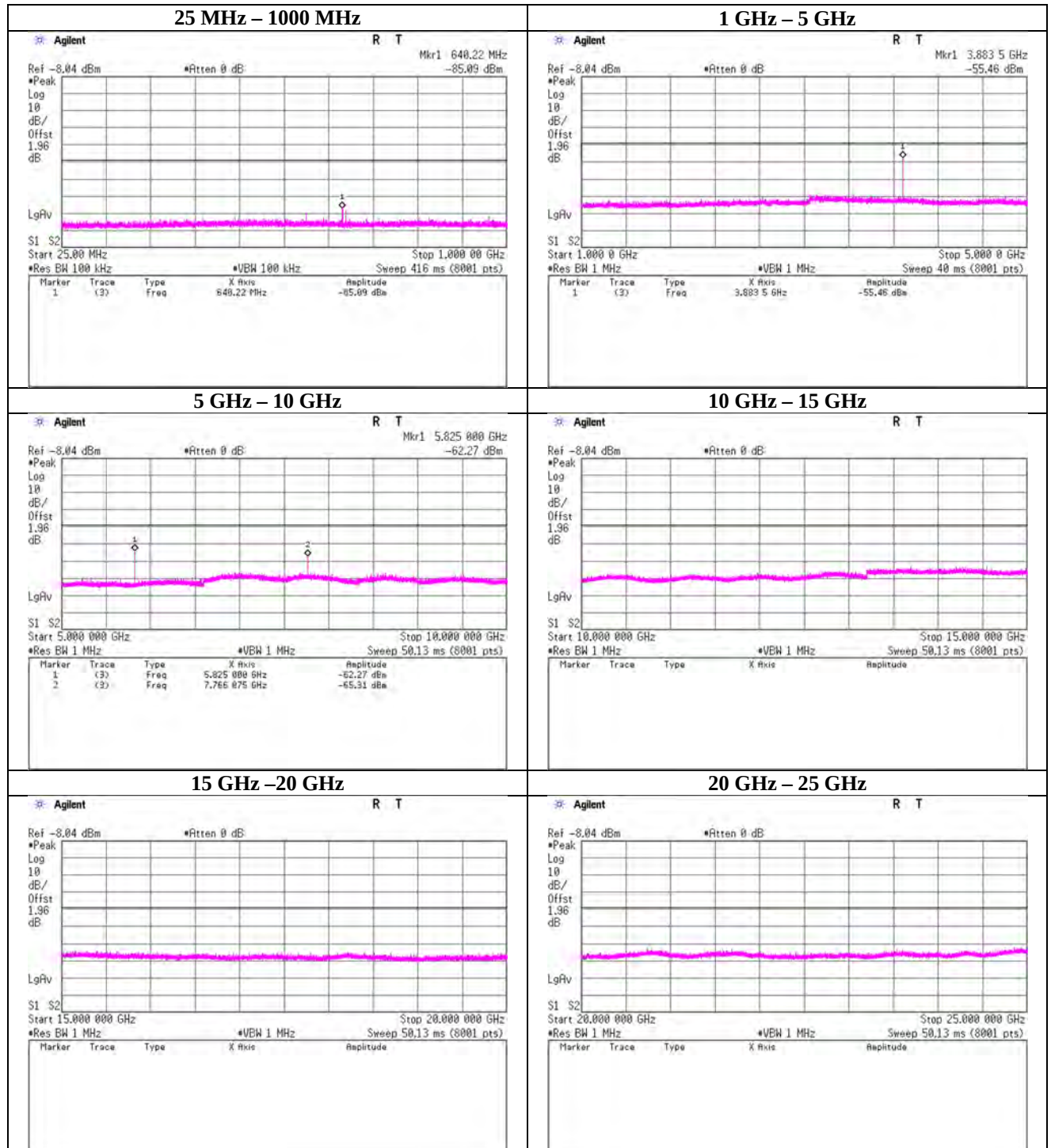
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

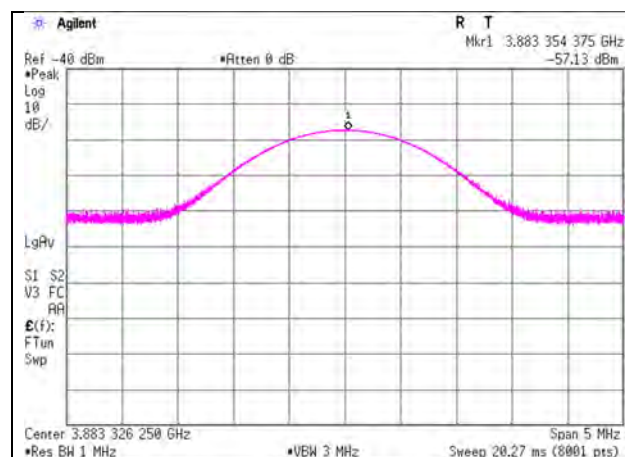
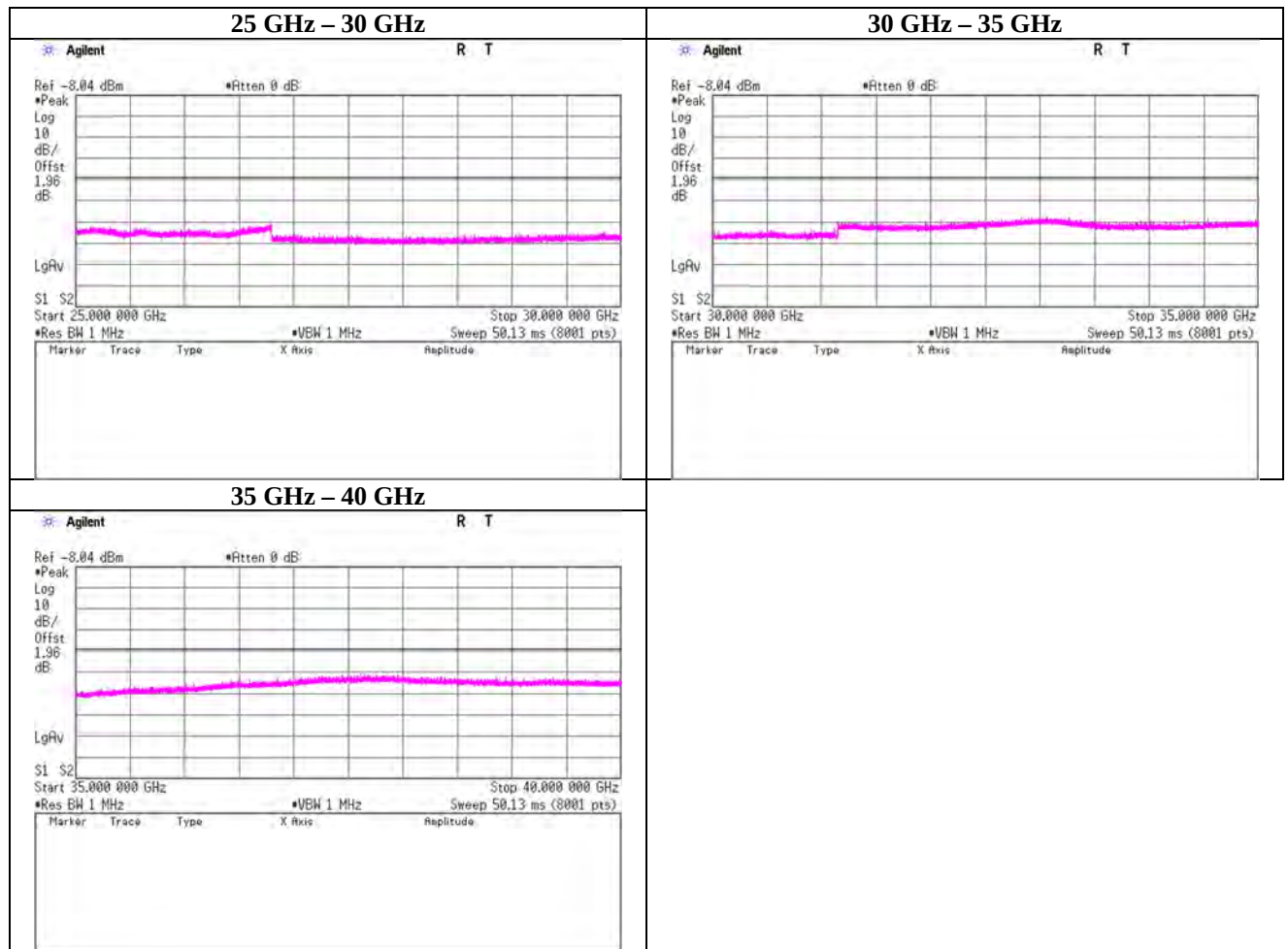
Facsimile : +81 463 50 6401

(Receiver) Spurious emissions (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Rx 20 MHz BW, 5825 MHz



(continued)



Frequency [MHz]	Reading [dBm]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
3883.354	-57.13	1.61	-55.52	-46.98	8.5

Sample Calculation:

Result = Reading + Cable Loss

Margin = Limit – Result

UL Japan, Inc.
Shonan EMC Lab.

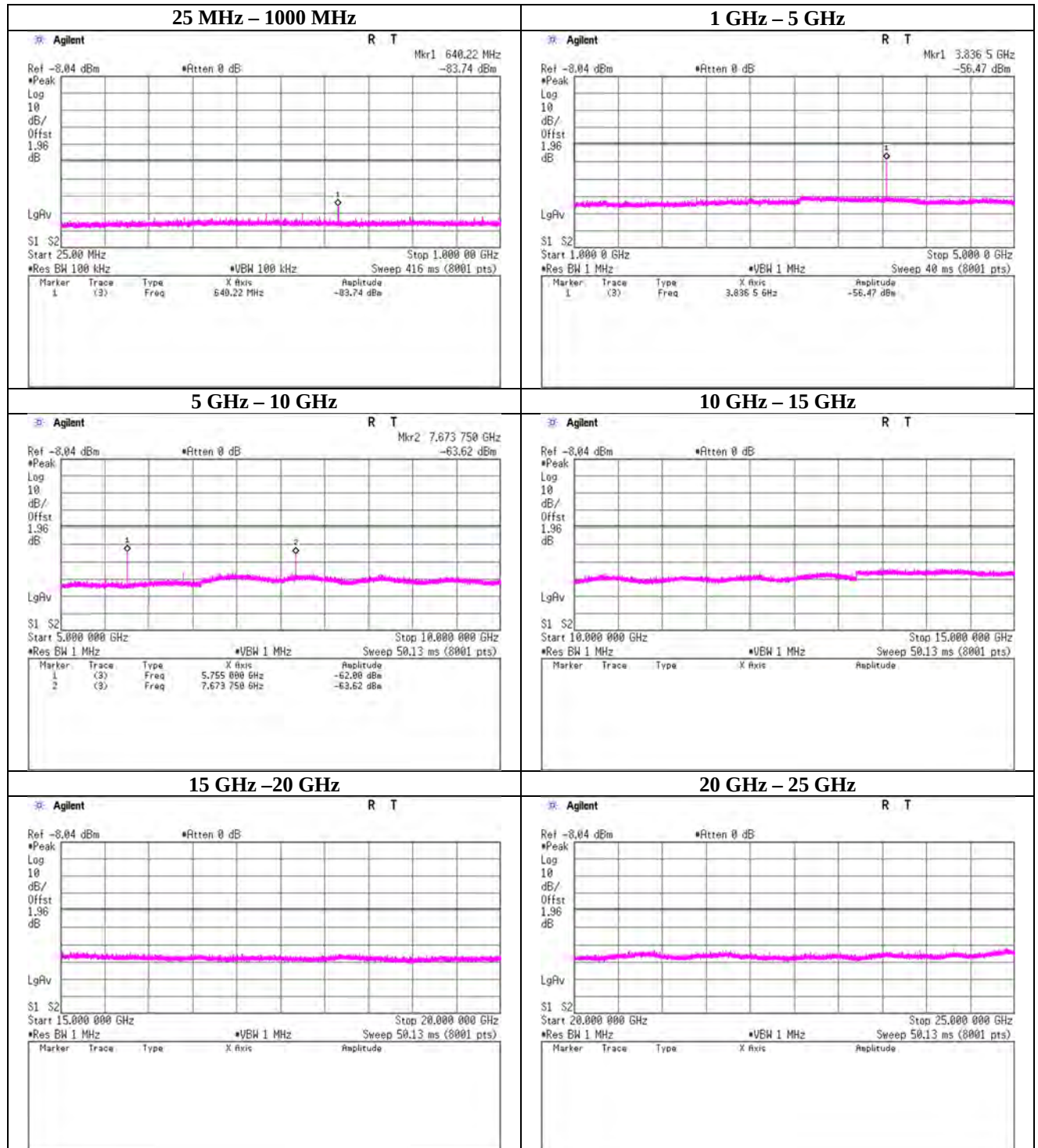
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

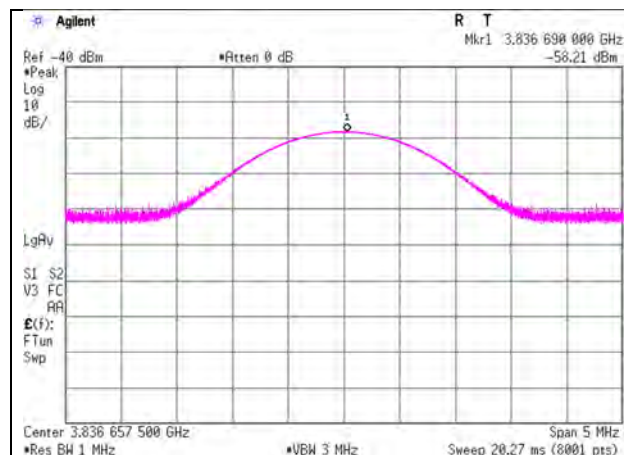
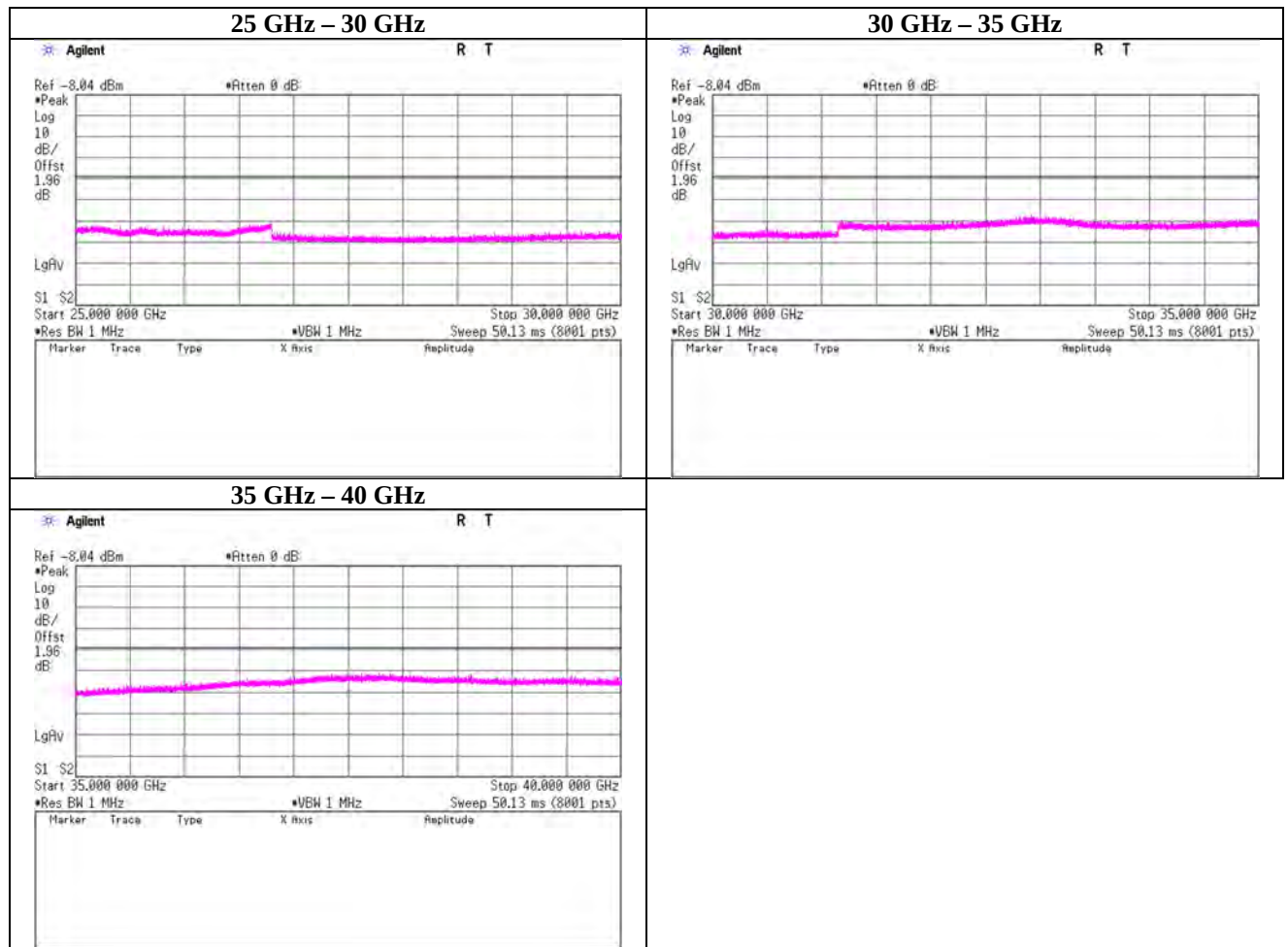
Facsimile : +81 463 50 6401

(Receiver) Spurious emissions (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Rx 40 MHz BW, 5755 MHz



(continued)



Frequency [MHz]	Reading [dBm]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
3836.690	-58.21	1.60	-56.61	-46.98	9.6

Sample Calculation:

Result = Reading + Cable Loss

Margin = Limit – Result

UL Japan, Inc.

Shonan EMC Lab.

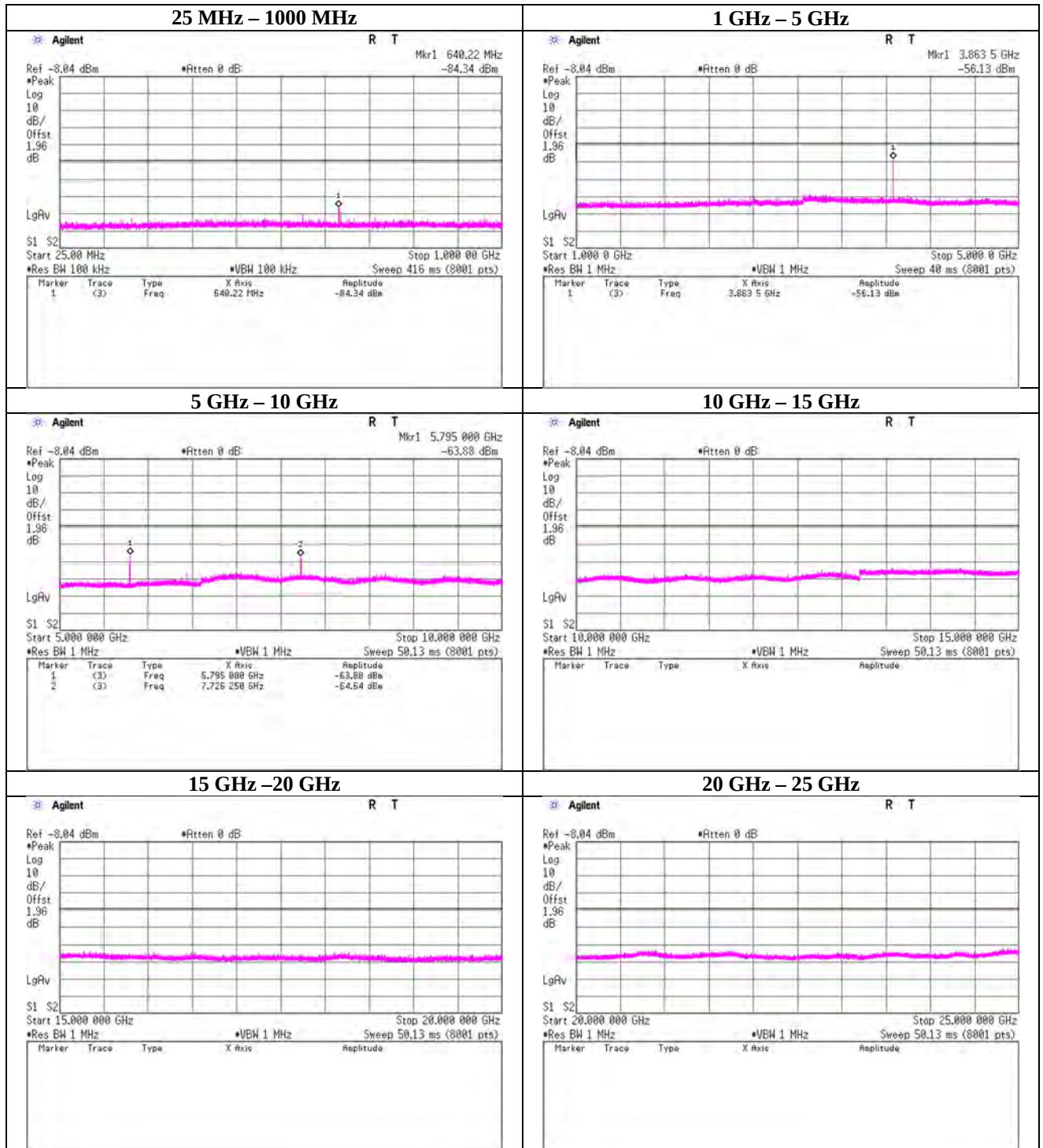
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

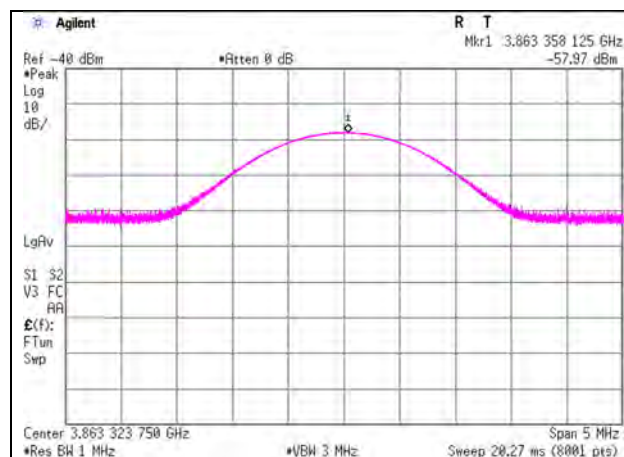
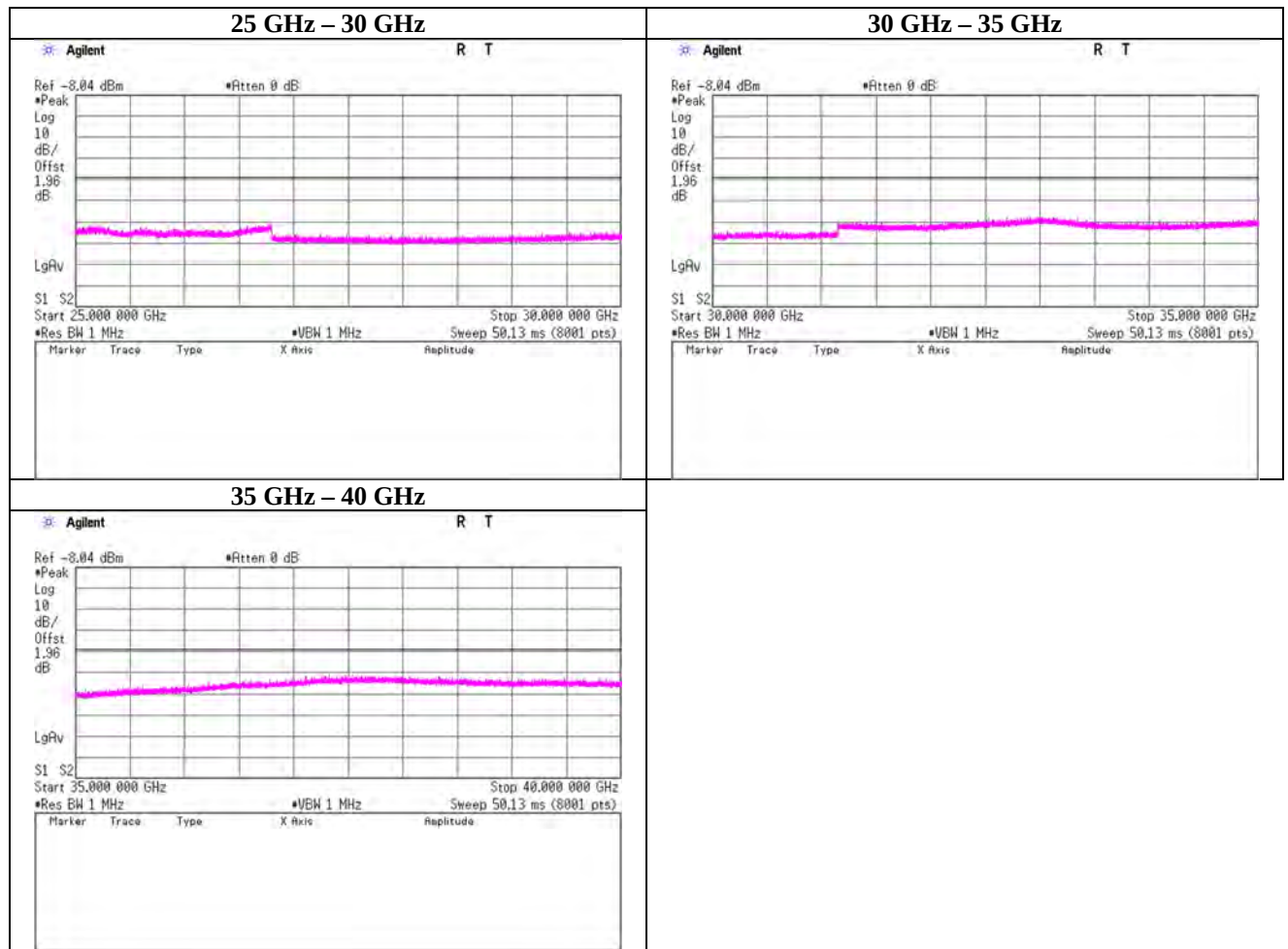
Facsimile : +81 463 50 6401

(Receiver) Spurious emissions (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Rx 40 MHz BW, 5795 MHz



(continued)



Frequency [MHz]	Reading [dBm]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
3863.358	-57.97	1.60	-56.37	-46.98	9.3

Sample Calculation:

Result = Reading + Cable Loss

Margin = Limit - Result

UL Japan, Inc.

Shonan EMC Lab.

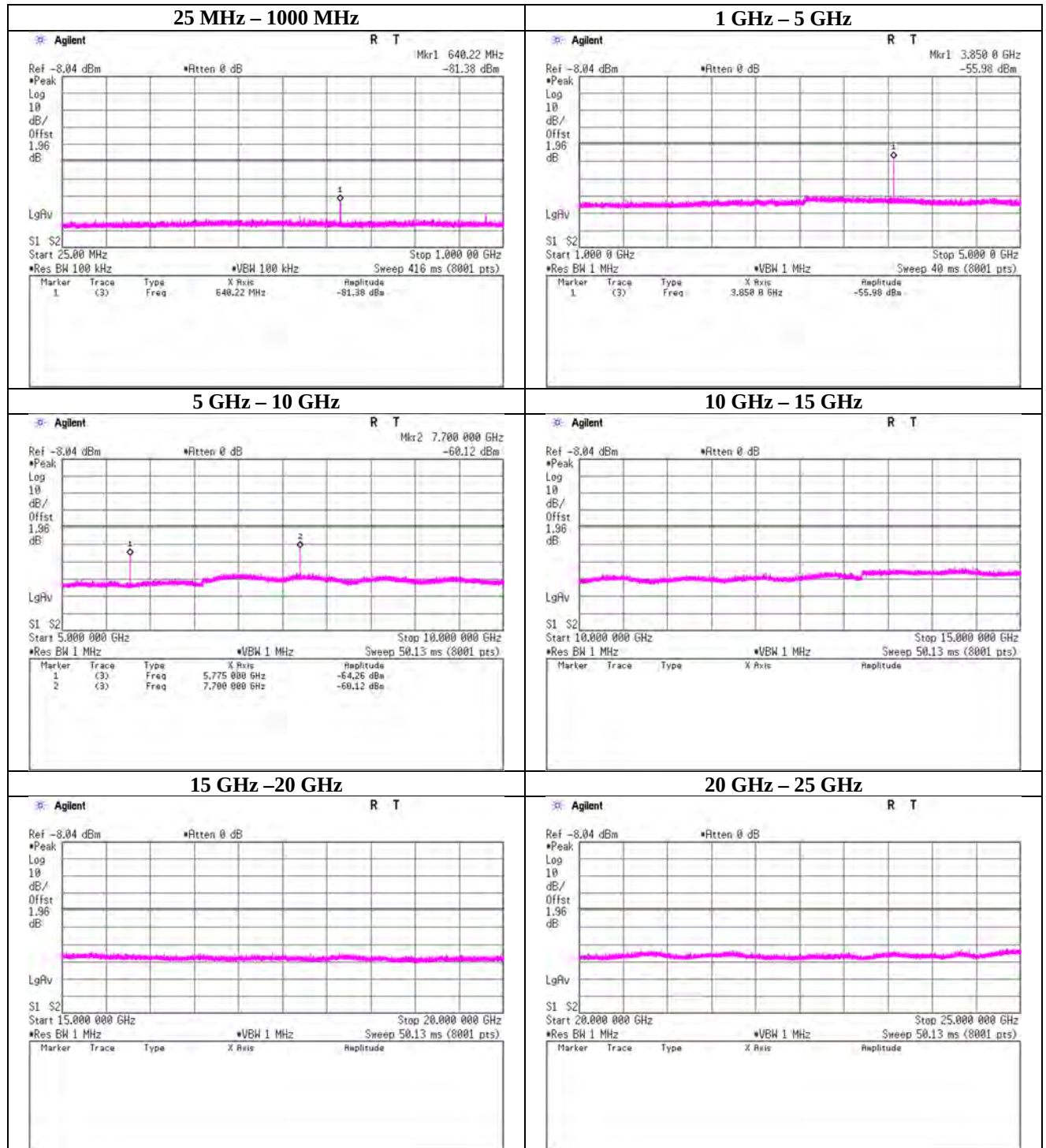
1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone : +81 463 50 6400

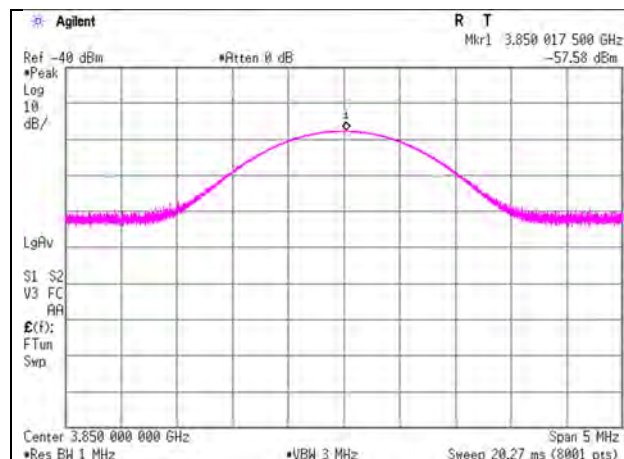
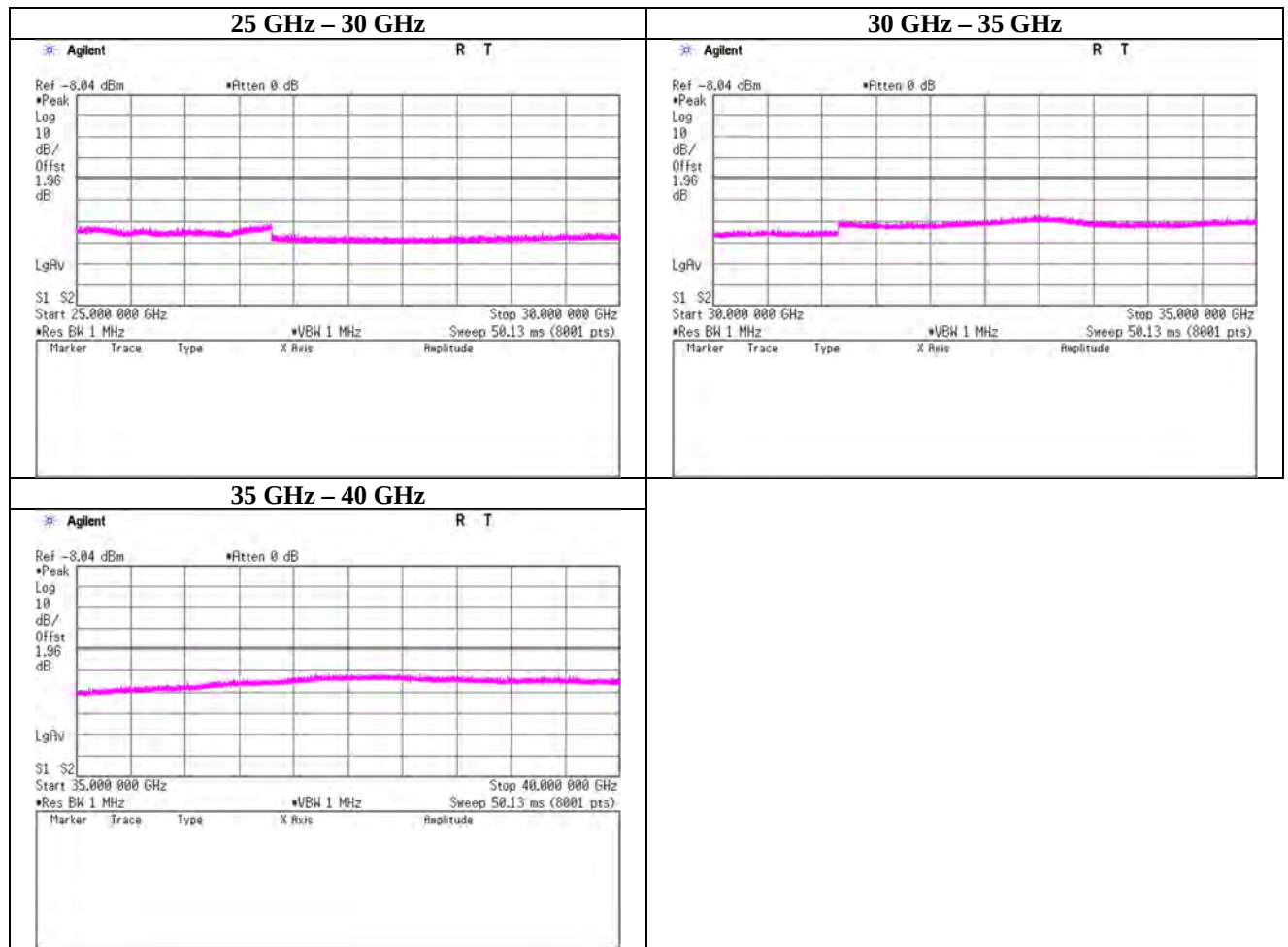
Facsimile : +81 463 50 6401

(Receiver) Spurious emissions (Conducted)

Report No.	14026150S-D
Test place	Shonan EMC Lab. No.5 Shielded Room
Date	July 13, 2021
Temperature / Humidity	25 deg. C / 57 % RH
Engineer	Shiro Kobayashi
Mode	Rx 80 MHz BW, 5775 MHz



(continued)



Frequency [MHz]	Reading [dBm]	Cable Loss [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
3850.018	-57.58	1.60	-55.98	-46.98	9.0

Sample Calculation:

Result = Reading + Cable Loss

Margin = Limit - Result

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

Adjacent channel selectivity

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11a

Tested Frequency : 5745 MHz

Unwanted Signal Frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
Lower Adjacent	5725.000	-88.60	-36.81	-57.36	20.55	9.48
Uppper Adjacent	5765.000		-36.80	-57.36	20.56	9.50

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -57.36 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -27.36 \text{ [dB]}$$

frequency : 5.745 [GHz]

99 % Occupied bandwidth : 16.5098 [MHz]

Tested Frequency : 5825 MHz

Blocking signal frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
Lower Adjacent	5805.0000	-88.21	-35.43	-57.47	22.04	9.35
Uppper Adjacent	5845.0000		-36.07	-57.47	21.40	9.76

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -57.47 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -27.47 \text{ [dB]}$$

frequency : 5.825 [GHz]

99 % Occupied bandwidth : 16.4856 [MHz]

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

Adjacent channel selectivity

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11n-40

Tested Frequency : 5755 MHz

Unwanted Signal Frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
Lower Adjacent	5715.000	-85.21	-30.21	-60.78	30.57	9.74
Uppper Adjacent	5795.000		-33.30	-60.78	27.48	0.61

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -60.78 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -30.78 \text{ [dB]}$$

frequency : 5.755 [GHz]

99 % Occupied bandwidth : 36.1502 [MHz]

Tested Frequency : 5795 MHz

Blocking signal frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
Lower Adjacent	5755.0000	-85.11	-28.69	-60.84	32.15	8.94
Uppper Adjacent	5835.0000		-29.79	-60.84	31.05	9.93

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -60.84 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -30.84 \text{ [dB]}$$

frequency : 5.795 [GHz]

99 % Occupied bandwidth : 36.1544 [MHz]

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

Adjacent channel selectivity

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11ac-80

Tested Frequency : 5775 MHz

Unwanted Signal Frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
Lower Adjacent	5695.000	-81.81	-25.65	-64.00	38.35	9.88
Uppper Adjacent	5855.000		-30.85	-64.00	33.15	4.25

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -64 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -34 \text{ [dB]}$$

$$\text{frequency : } 5.775 \text{ [GHz]}$$

$$99 \% \text{ Occupied bandwidth : } 75.4282 \text{ [MHz]}$$

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

Blocking or desensitization

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11a

Tested Frequency : 5745 MHz

Unwanted Signal Frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
(- (BW x 50 times))	4911.255	-88.60	-11.31	-57.36	46.05	9.21
(- (BW x 20 times))	5406.549		-20.15	-57.36	37.21	9.91
(- (BW x 10 times))	5571.647		-20.82	-57.36	36.54	9.66
(+ (BW x 10 times))	5918.353		-24.09	-57.36	33.27	9.71
(+ (BW x 20 times))	6083.451		-26.17	-57.36	31.19	9.85
(+ (BW x 50 times))	6578.745		-16.13	-57.36	41.23	9.31

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -57.36 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -27.36 \text{ [dB]}$$

$$\text{frequency : } 5.745 \text{ [GHz]}$$

$$99 \% \text{ Occupied bandwidth : } 16.5098 \text{ [MHz]}$$

Tested Frequency : 5825 MHz

Blocking signal frequency		Wanted Signal Level *1)	Unwanted Signal Level (Result)	Limit	Margin	PER (Reference)
(offset)	[MHz]	[dBm]	[dBm]	[dBm]	[dB]	[%]
(- (BW x 50 times))	4992.4770	-88.21	-10.72	-57.47	46.75	9.28
(- (BW x 20 times))	5487.0450		-19.35	-57.47	38.12	9.20
(- (BW x 10 times))	5651.9010		-20.46	-57.47	37.01	9.74
(+ (BW x 10 times))	5998.0990		-24.33	-57.47	33.14	9.83
(+ (BW x 20 times))	6162.9550		-26.59	-57.47	30.88	9.47
(+ (BW x 50 times))	6657.5230		-17.62	-57.47	39.85	9.92

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -57.47 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -27.47 \text{ [dB]}$$

$$\text{frequency : } 5.825 \text{ [GHz]}$$

$$99 \% \text{ Occupied bandwidth : } 16.4856 \text{ [MHz]}$$

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

Blocking or desensitization

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11n-40

Tested Frequency : 5755 MHz

Unwanted Signal Frequency		Wanted Signal	Unwanted Signal	Limit	Margin	PER
(offset)	[MHz]	Level *1)	Level (Result)			(Reference)
		[dBm]	[dBm]	[dBm]	[dB]	[%]
(- (BW x 50 times))	3929.415	-85.21	-8.26	-60.78	52.52	0.40
(- (BW x 20 times))	5013.921		-18.95	-60.78	41.83	0.42
(- (BW x 10 times))	5375.423		-26.68	-60.78	34.10	0.16
(+ (BW x 10 times))	6134.577		-30.28	-60.78	30.50	0.24
(+ (BW x 20 times))	6496.079		-23.86	-60.78	36.92	0.15
(+ (BW x 50 times))	7580.585		-12.01	-60.78	48.77	0.35

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -60.78 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -30.78 \text{ [dB]}$$

frequency : 5.755 [GHz]

99 % Occupied bandwidth : 36.1502 [MHz]

Tested Frequency : 5795 MHz

Blocking signal frequency		Wanted Signal	Unwanted Signal	Limit	Margin	PER
(offset)	[MHz]	Level *1)	Level (Result)			(Reference)
		[dBm]	[dBm]	[dBm]	[dB]	[%]
(- (BW x 50 times))	3969.2030	-85.11	-6.47	-60.84	54.37	1.54
(- (BW x 20 times))	5053.8350		-15.32	-60.84	45.52	0.19
(- (BW x 10 times))	5415.3790		-22.85	-60.84	37.99	0.64
(+ (BW x 10 times))	6174.6210		-30.51	-60.84	30.33	1.24
(+ (BW x 20 times))	6536.1650		-24.46	-60.84	36.38	0.53
(+ (BW x 50 times))	7620.7970		-10.53	-60.84	50.31	0.16

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -60.84 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -30.84 \text{ [dB]}$$

frequency : 5.795 [GHz]

99 % Occupied bandwidth : 36.1544 [MHz]

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

Blocking or desensitization

Report No. 13863359S
Test place Shonan EMC Lab. No.5 Shielded Room
Date July 16, 2021
Temperature / Humidity 25 deg. C / 47 % RH
Engineer Shiro Kobayashi
Mode Communication 11ac-80

Tested Frequency : 5775 MHz

Unwanted Signal Frequency		Wanted Signal	Unwanted Signal	Limit	Margin	PER
(offset)	[MHz]	Level *1)	Level			(Reference)
		[dBm]	(Result)	[dBm]	[dB]	[%]
(- (BW x 50 times))	1965.876	-81.81	-4.74	-64.00	59.26	0.11
(- (BW x 20 times))	4228.722		-7.63	-64.00	56.37	0.41
(- (BW x 10 times))	4983.004		-13.34	-64.00	50.66	0.30
(+ (BW x 10 times))	6566.996		-22.32	-64.00	41.68	0.29
(+ (BW x 20 times))	7321.278		-13.66	-64.00	50.34	0.26
(+ (BW x 50 times))	9584.124		-6.26	-64.00	57.74	0.11

*1) The minimum level (meet the performance criteria) + 3 dB.

Limit Calculation:

$$\text{Limit [dBm]} = -30 \text{ [dBm]} + k = -64 \text{ [dBm]}$$

$$k = -20 \log (\text{frequency [GHz]}) - 10 \log (99 \% \text{ Occupied bandwidth [MHz]}) = -34 \text{ [dB]}$$

$$\text{frequency : } 5.775 \text{ [GHz]}$$

$$99 \% \text{ Occupied bandwidth : } 75.4282 \text{ [MHz]}$$

UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

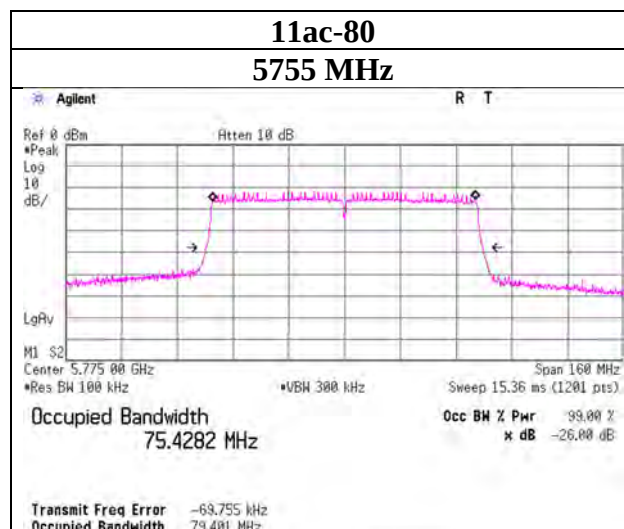
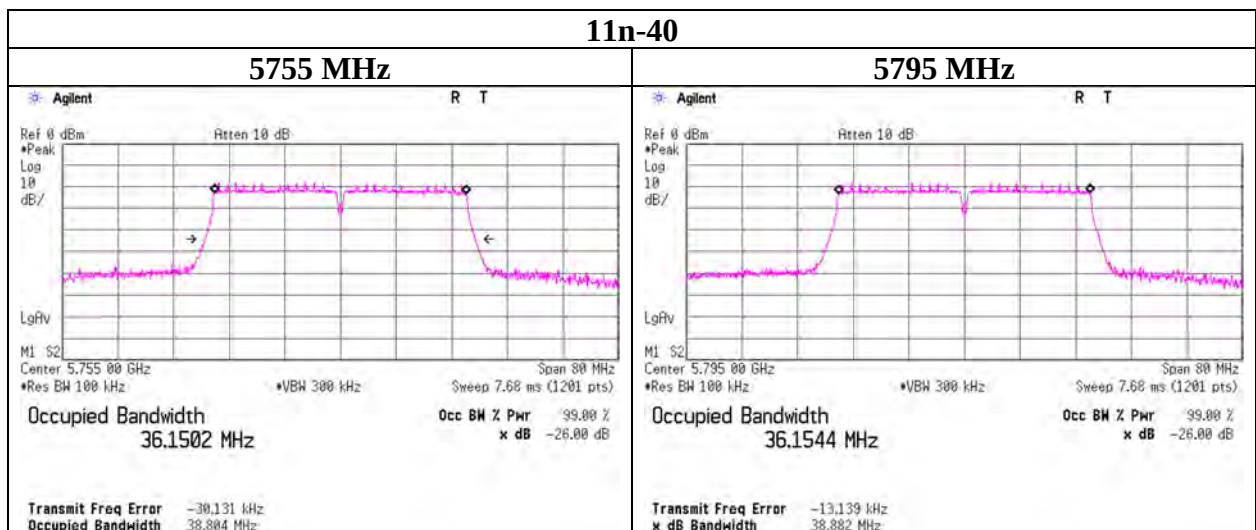
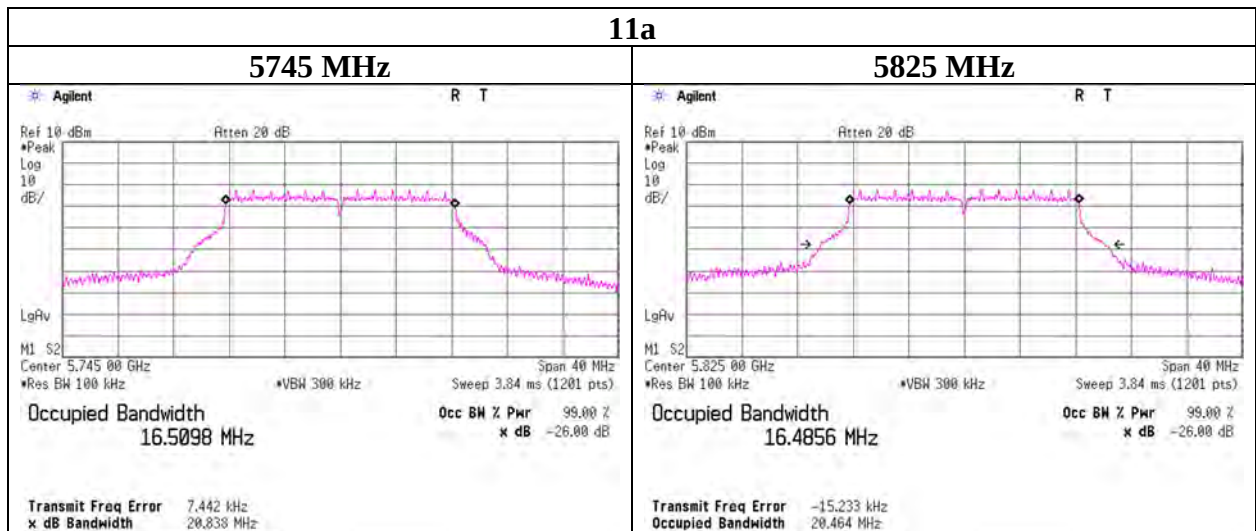
Facsimile : +81 463 50 6401

99 % Occupied Bandwidth (reference data)

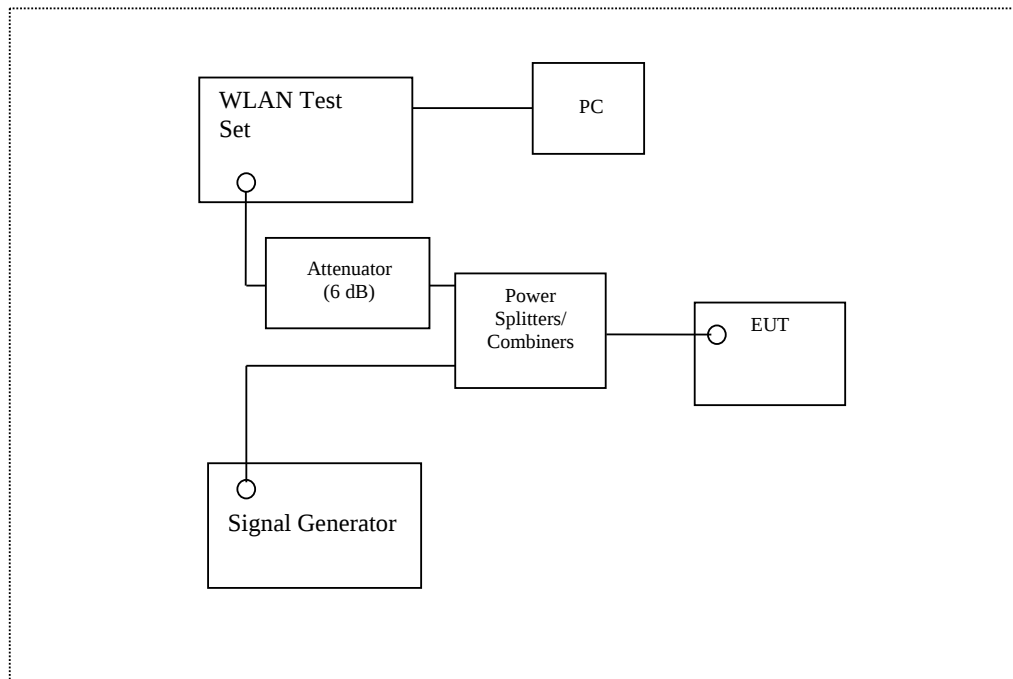
Report No. 13854935S
Test place Shonan EMC Lab. No.5 Shielded Room
Date June 5, 2021
Temperature / Humidity 25 deg. C / 64 % RH
Engineer Shiro Kobayashi
Mode Tx 11a, 11n-40, 11ac-80

Mode	Frequency [MHz]	99 % Occupied Bandwidth [MHz]
11a	5745.000	16.5098
	5825.000	16.4856
11n-40	5755.000	36.1502
	5795.000	36.1544
11ac-80	5775.000	75.4282

99 % Occupied Bandwidth (reference data)



**CONDUCTED METHODS SYSTEM BLOCK DIAGRAM of
Adjacent channel selectivity and Blocking or desensitization tests**



APPENDIX 2: Test instruments

Test equipment [1/2]

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
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	SCH-01	145200	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	2021/04/02	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-22	202830	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY48250036	2020/11/24	12
AT	SSA-02	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2021/04/13	12
AT	STS-05	146212	Digital Hitester	HIOKI CORPORATION E.E.	3805-50	80997828	2020/10/19	12
AT,RB	KTS-07	145111	Digital Tester	SANWA	PC500	7019232	2020/10/21	12
AT,RB	SOS-27	191845	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/29	12
RB	SAT10-14	154591	Attenuator	Weinschel Corp.	54A-10	81595	2021/04/08	12
RB	SCC-G37	151614	Coaxial Cable	Junkosha	MWX241-01000KMSKMS/B	1612Q035	2020/12/21	12
RB	SCC-G38	151615	Coaxial Cable	Junkosha	MWX241-01000KMSKMS/B	1612Q036	2020/12/21	12
RB	SCC-G39	151616	Coaxial Cable	Junkosha	MWX241-01000KMSKMS/B	1612Q037	2020/12/21	12
RB	SPSC-03	146253	Power Splitters/Combiners	Mini-Circuits	ZFSC-2-10G+	-	2020/11/19	12
RB	SWT-02	160830	WLAN Test Set	Anritsu Corporation	MT8862A	6261711746	2021/04/16	12
RB,RE	SSG-02	146226	Signal Generator	Keysight Technologies Inc	E8257D-540	MY48051404	2021/02/01	12
RE	COTS-SEMI-5	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3 (RE,CE,ME,PE)	-	-	-
RE	KHA-02	144941	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	230	2021/05/10	12
RE	KJM-02	146432	Measure	TAJIMA	GL19-55	-	-	-
RE	SAEC-03 (NSA)	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2021/04/27	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	SAT10-05	145136	Attenuator	Keysight Technologies Inc	8493C-010	74864	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-04	145032	Coaxial Cable	Fujikura,HP,Mini-Circuits,Fujikura	5D2W	-	2020/09/17	12
RE	SCC-C1/C2/C3/C4/C5/C10/SRSE-03	145171	Coaxial Cable & RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/NS4906	-/0901-271 (RF Selector)	2021/04/12	12

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

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-G42	151618	Coaxial Cable	Junkosha	J12J103275-00	FEB-28-17-017	2021/03/01	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	SDA-07	145463	Dipole Antenna	Schwarzbeck Mess-Elektronik OHG	VHAP	1177	2020/08/22	12
RE	SDA-08	145464	Dipole Antenna	Schwarzbeck Mess-Elektronik OHG	UHAP	1158	2020/08/22	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-07	145515	Horn Antenna	ETS-Lindgren (Cedar Park, Texas)	3116	108256	2021/05/10	12
RE	SLA-07	145529	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	196	2021/05/15	12
RE	SOS-23	191840	Humidity Indicator	CUSTOM. Inc	CTH-201	-	2020/09/28	12
RE	STR-08	150463	Test Receiver	Rohde & Schwarz	ESW44	101581	2020/12/02	12
RE	STS-03	146210	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997823	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:

AT: Antenna terminal conducted

RB: Adjacent channel selectivity and Blocking or desensitization tests

RE: Unwanted emissions in the spurious domain and Spurious emissions test

UL Japan, Inc.

Shonan EMC Lab.

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

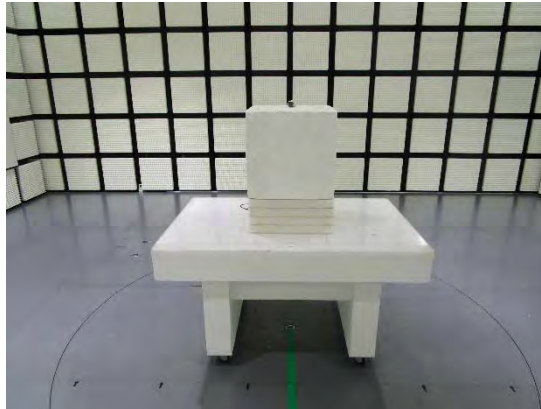
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

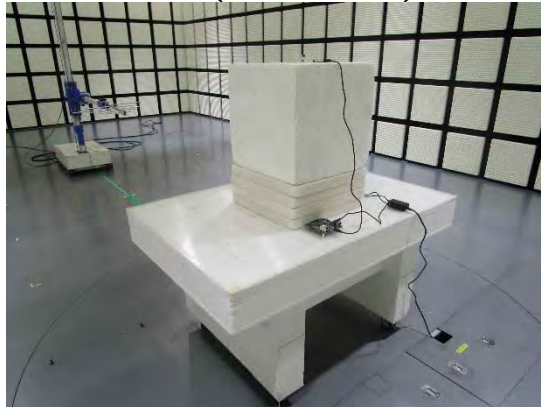
APPENDIX 3: Photographs of test setup

Unwanted emissions in the spurious domain (Radiated) **Spurious emissions (Radiated)**

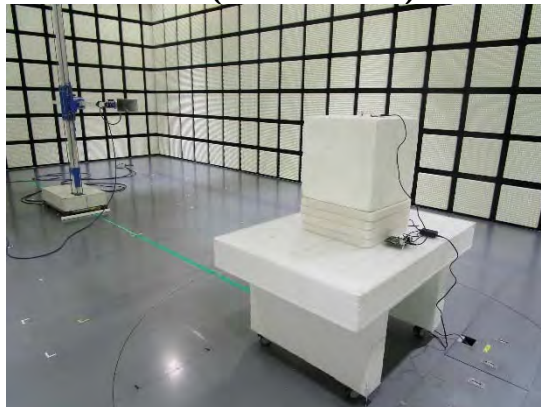
Front



Rear (Below 1 GHz)



Rear (Above 1 GHz)



UL Japan, Inc.

Shonan EMC Lab.

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

Telephone : +81 463 50 6400

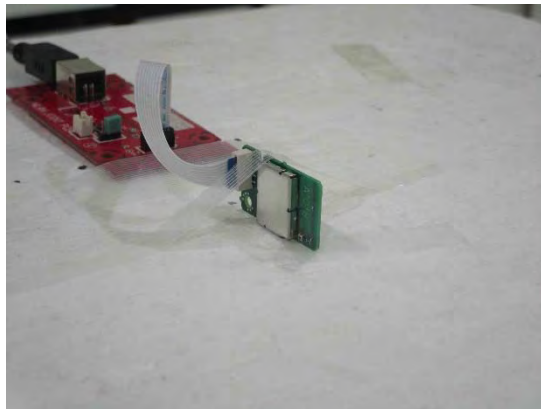
Facsimile : +81 463 50 6401

Pre-check of Worst Case Position

X-axis



Y-axis



Z-axis



Antenna Terminal Conducted test
(except for Adjacent channel selectivity and Blocking or desensitization)

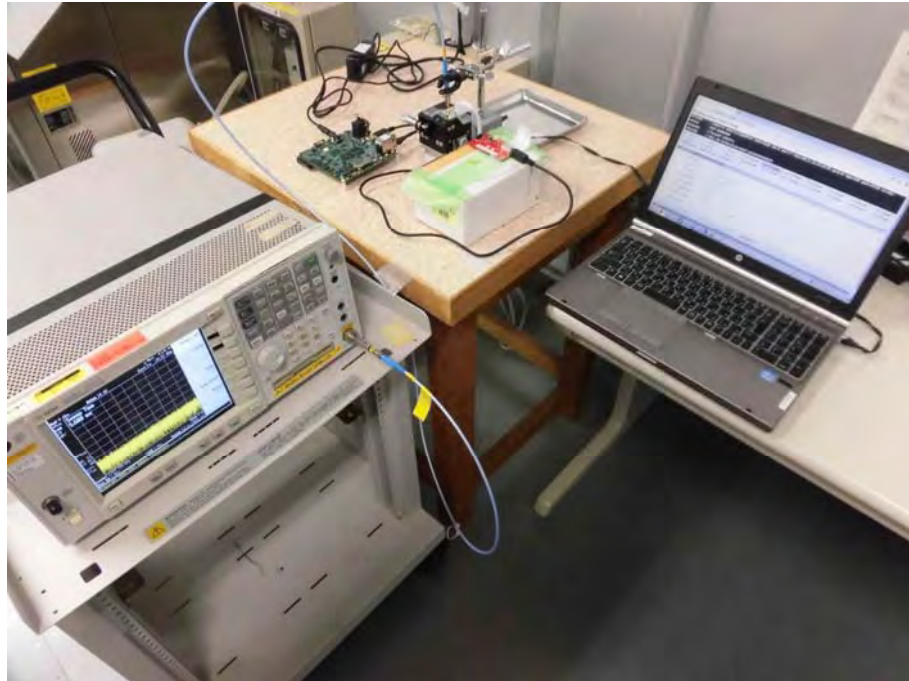


Photo 1



Photo 2

Adjacent channel selectivity and Blocking or desensitization



Photo 1

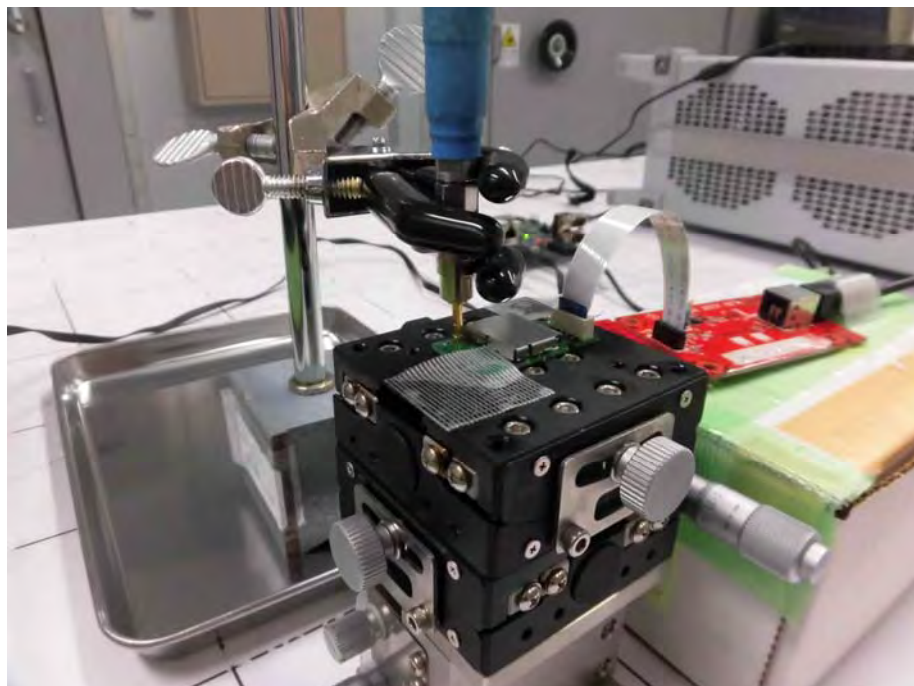


Photo 2

End of Report