



RADIO TEST REPORT

Test Report No. : 14027963S-H

Applicant : JVCKENWOOD Corporation
Type of EUT : Monitor with Receiver
Model Number of EUT : DMX958XR
FCC ID : IOMJ5268
Test regulation : FCC Part 15 Subpart C: 2021
* Bluetooth BR/EDR part
Test item : Radiated Spurious Emission test
Test Result : Complied (Refer to SECTION 3)

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7. The all test items in this test report are conducted by UL Japan, Inc. Kashima 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: October 4 to 22, 2021

Representative test engineer:

Kazuhiro Ando
Engineer

Approved by:

Kenichi Suda
Manager



CERTIFICATE 1266.01

- ☐ 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.
Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan
Telephone : +81 478 88 6500
Facsimile : +81 478 82 3373

REVISION HISTORY

Original Test Report No.: 14027963S-H

Revision	Test report No.	Date	Page revised	Contents
- (Original)	14027963S-H	November 25, 2021	-	-

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Reference: Abbreviations (Including words undescribed in this report)

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

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

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SECTION 1: Customer information

Company Name : JVCKENWOOD Corporation
Address : 2967-3, Ishikawa-machi, Hachioji, Tokyo 192-8525 Japan
Telephone Number : +81-42-646-5525
Contact Person : Seigo Tsutsumi

The information provided from the customer is as follows;

- Applicant, Type of EUT, Model Number of EUT, FCC ID on the cover and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: Customer information
- SECTION 2: Equipment under test (EUT) other than the Receipt Date
- SECTION 4: Operation of EUT during testing

* The laboratory is exempted from liability of any test results affected from the above information in SECTION 2 and 4.

SECTION 2: Equipment under test (EUT)

2.1 Identification of EUT

Type : Monitor with Receiver
Model Number : DMX958XR
Serial Number : Refer to SECTION 4.2
Condition : Production model
Receipt Date : October 4, 2021
Modification : No Modification by the test lab.

2.2 Product Description

Model: DMX958XR (referred to as the EUT in this report) is a Monitor with Receiver.
There are three variant models DMX908S, DMX9708S, KW-M875BW
These models are identical except for presence of Panel, Dashboard Camera control terminal,
HD Radio, HD Camera Ready, Display and these difference do not affect the radio.

General Specification

Rating : DC 12 V

Radio Specification

Type of radio	Bluetooth (BR/EDR)	IEEE802.11b	IEEE802.11g	IEEE802.11a	IEEE802.11n (20 MHz BW)	IEEE802.11n (40 MHz BW)	IEEE802.11ac
Frequency of operation	2402 MHz - 2480 MHz	2412 MHz - 2462 MHz	2412 MHz - 2462 MHz	5745 MHz - 5805 MHz	2412 MHz - 2462 MHz 5745 MHz - 5805 MHz	5755 MHz - 5795 MHz	5745 MHz-5805 MHz (20 MHz BW) 5755 MHz-5795 MHz (40 MHz BW) 5775 MHz (80 MHz BW)
Type of modulation	FHSS	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)			OFDM (256QAM, 16QAM, QPSK, BPSK)
Channel spacing	1 MHz	5 MHz		20 MHz	2.4 GHz band 5 MHz 5 GHz band 20 MHz	40 MHz	20 MHz (20 MHz BW) 40 MHz (40 MHz BW) 80 MHz (80 MHz BW)

Antenna type	Internal Antenna (Chip Antenna)
Antenna Gain	Antenna 0 (ANT-0) : -7.7 dBi (2.4 GHz Wireless LAN only), -4.7 dBi (5 GHz) Antenna 1 (ANT-1) : -9.9 dBi (2.4 GHz Bluetooth only), -4.6 dBi (5 GHz)
Power Supply (radio art input)	DC 3.6 V/ 3.3 V/1.8 V
Clock frequency (Maximum)	37.4 MHz
Clock frequency in the system (Maximum)	6.2208 GHz

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Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart C
FCC Part 15 final revised on May 3, 2021 and effective July 2, 2021

Title : FCC 47 CFR Part 15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits
Section 15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz,
and 5725-5850 MHz

* Also the EUT complies with FCC Part 15 Subpart B.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst Margin	Results	Remarks
Spurious Emission & Band Edge Compliance	FCC: KDB 558074 D01 15.247 Meas Guidance v05r02 ISED: RSS-Gen 6.13	FCC: Section 15.247(d) ----- ISED: RSS-247 5.5 RSS-Gen 8.9 RSS-Gen 8.10	3.1 dB 777.757 MHz, QP Hori.	Complied# a)	Radiated (above 30 MHz) *1)
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422. *1) Radiated test was selected over 30 MHz based on section 15.247(d). a) Refer to APPENDIX 1 (data of Radiated Spurious Emission)					
Symbols: Complied The data of this test item has enough margin, more than the measurement uncertainty. Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration.					

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

FCC Part 15.31 (e)

The EUT provides stable voltage constantly to the wireless transmitter regardless of input voltage.
Instead of a new battery, DC power supply was used for the test. That does not affect the test result, therefore the EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

3.3 Addition to standard

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

3.4 Uncertainty

There is no applicable rule of uncertainty in this applied standard. Therefore, the results are derived depending on whether laboratory uncertainty is applied.

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

Radiated emission

Measurement distance	Frequency range	Required Uncertainty (+/-)	Uncertainty (+/-)
3 m	9 kHz to 30 MHz	Not Defined	2.9 dB
	30 MHz to 200 MHz	6.3 dB	6.1 dB
	200 MHz to 1000 MHz		6.2 dB
	1 GHz to 6 GHz	5.2 dB	5.0 dB
	6 GHz to 18 GHz	5.5 dB	5.4 dB
	18 GHz to 40 GHz	Not Defined	5.5 dB
1 m	1 GHz to 18 GHz	Not Defined	5.4 dB
	18 GHz to 40 GHz		5.6 dB
0.5 m	26.5 GHz to 40 GHz	Not Defined	5.9 dB

3.5 Test Location

UL Japan, Inc. Kashima EMC Lab.
1614 Mushiata, Katori-shi, Chiba-ken, 289-0341 JAPAN
Telephone: +81 478 88 6500, Facsimile: +81 478 82 3373
A2LA Certificate Number: 1266.01 / FCC Test Firm Registration Number: 910230
ISED Lab Company Number: 4659A / CAB identifier: JP0006

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Open site	6.0 x 5.5 x 2.5	20 x 40	10 m
No.5 Open site	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	5.4 x 4.5 x 2.3	-	-
No.5 Shielded Room	4.2 x 3.1 x 2.5	-	-
No.9 Shielded Room	6.1 x 3.6 x 2.8	-	-
No.6 Semi-anechoic Chamber	8.5 x 5.5 x 5.2	-	3 m
No.10 Semi-anechoic Chamber	18.4 x 9.9 x 7.7	-	10 m
No.11 Semi-anechoic Chamber	9.0 x 6.5 x 5.2	-	3 m
No.1 Measurement room	5.0 x 3.7 x 2.6	-	-
No.2 Measurement room	4.3 x 4.4 x 2.7	-	-
No.3 Measurement room	4.5 x 5.3 x 2.7	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

SECTION 4: Operation of EUT during testing

4.1 Operating Mode(s)

Bluetooth (BT): Transmitting (Tx), Payload: PRBS9

Details of Operating Mode(s)

Test Item	Mode	Tested frequency
Spurious Emission (Radiated)	Tx (Hopping Off) DH5, 3DH5	2402 MHz 2441 MHz 2480 MHz
	Tx (Hopping Off) DH5, 3DH5 with 11ac-20 MIMO 5745 MHz	2402 MHz 2480 MHz
*As a result of preliminary test, the formal test was performed with the above modes, which had the maximum payload length (except Dwell time test) *2DH mode (2 Mb/s EDR: pi/4DQPSK) was excluded for other tests than power measurement by using 3DH mode (3 Mb/s EDR: 8DPSK) as a representative. * It is considered that the non-tested packet type (e.g. inquiry) can be omitted as it is complied with above all the test items based on Bluetooth Core specification. *EUT has the power settings by the software as follows; Power settings: Fixed Software: SoC: 0.0.0805.4600 Syscom: 1.0.0479.3100 Panel: 1.0.0209.3700 (Date: 2021.10.4, Storage location: EUT memory) *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.		

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Monitor with Receiver	DMX958XR	PK-X0013	JVCKENWOOD Corporation	EUT
B	Speaker	KFC-RS101	-	JVCKENWOOD	-
C	Speaker	KFC-RS101	-	JVCKENWOOD	-
D	Speaker	KFC-RS101	-	JVCKENWOOD	-
E	Speaker	KFC-RS101	-	JVCKENWOOD	-
F	USB Memory	-	-	Apacer	-
G	iPhone 5	MD297J/A	C39KWKE6DTWD	Apple Inc.	-
H	GPS ANTENNA	GPA-GS204	-	JVCKENWOOD	-
I	Microphone	GD-VHM4214C	-	JVCKENWOOD	-
J	DC Power Supply	GSV3000	1708192899	DIAMOND ANTENNA	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC (ACC, B+)	0.15 + 1.6	Unshielded	Unshielded	-
2	DC (GND, PRK SW)	0.15 + 1.6	Unshielded	Unshielded	-
3	Speaker (Front-L) +/-	0.15 + 1.0 +	Unshielded	Unshielded	-
4	Speaker (Front-R) +/-	0.15 + 1.0 +	Unshielded	Unshielded	-
5	Speaker (Rear-L) +/-	0.15 + 1.0 +	Unshielded	Unshielded	-
6	Speaker (Rear-R) +/-	0.15 + 1.0 +	Unshielded	Unshielded	-
7	P-Cont	0.15 + 1.0	Unshielded	Unshielded	-
8	Ant,Cont	0.15 + 1.0	Unshielded	Unshielded	-
9	S.Pluse	0.15 + 1.0	Unshielded	Unshielded	-
10	UPDATE	0.15 + 1.0	Unshielded	Unshielded	-
11	ILLUMI	0.15 + 1.0	Unshielded	Unshielded	-
12	L.Mute	0.15 + 1.0	Unshielded	Unshielded	-
13	Reverse	0.15 + 1.0	Unshielded	Unshielded	-
14	CAM I/O	0.15 + 1.0	Unshielded	Unshielded	-
15	USB	1.0	Shielded	Shielded	-
16	HDMI + Lightning Adapter	1.5 + 0.1	Shielded	Shielded	-
17	GPS Ant	3.5	Shielded	Shielded	-
18	Audio in	2.0	Shielded	Shielded	-
19	SXM I/F	1.0	Shielded	Shielded	-
20	Mic	3.0	Shielded	Shielded	-
21	Rear Preout	1.2	Shielded	Shielded	-
22	Front Preout	1.2	Shielded	Shielded	-
23	Subwoofer Preout	1.0	Shielded	Shielded	-
24	AV IN(Audio)	1.0	Shielded	Shielded	-
25	3-CAM	1.0	Shielded	Shielded	-
26	VIDEO OUT	1.0	Shielded	Shielded	-
27	R-CAM	1.0	Shielded	Shielded	-
28	V-IN	1.0	Shielded	Shielded	-
29	F-CAM	1.0	Shielded	Shielded	-
30	FM/AM ANT	0.15 + 1.0	Shielded	Shielded	-
31	AC	1.7	Unshielded	Unshielded	-

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

SECTION 5: Radiated Spurious Emission

Test Procedure

[For below 1 GHz]

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

[For above 1 GHz]

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane.

The height of the measuring antenna varied between 1 m and 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.

Test antenna was aimed at the EUT for receiving the maximum signal and always kept within the illumination area of the 3 dB beamwidth of the antenna.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Test Antennas are used as below;

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

In any 100 kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

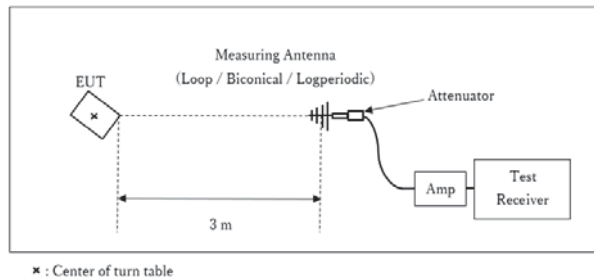
20 dBc was applied to the frequency over the limit of FCC 15.209 / Table 4 of RSS-Gen 8.9 (ISED) and outside the restricted band of FCC15.205 / Table 6 of RSS-Gen 8.10 (ISED).

Frequency	Below 1 GHz	Above 1 GHz		20 dBc
Instrument used	Test Receiver	Spectrum Analyzer		Spectrum Analyzer
Detector	QP	PK	AV *1)	PK
IF Bandwidth	BW 120 kHz	RBW: 1 MHz VBW: 3 MHz	RBW: 1 MHz VBW: 1/T (T: burst length, refer to Burst rate confirmation sheet) Detector: Peak	RBW: 100 kHz VBW: 300 kHz

*1) Average Power Measurement was performed based on KDB 558074 D01 15.247 Meas Guidance v05r02.

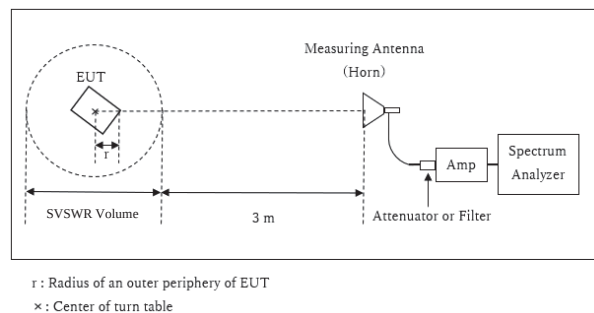
Figure 1 Test Setup

Below 1 GHz



Test Distance: 3 m

1 GHz - 10 GHz



Distance Factor: $20 \times \log (4.40 \text{ m} / 3 \text{ m}) = 3.33 \text{ dB}$

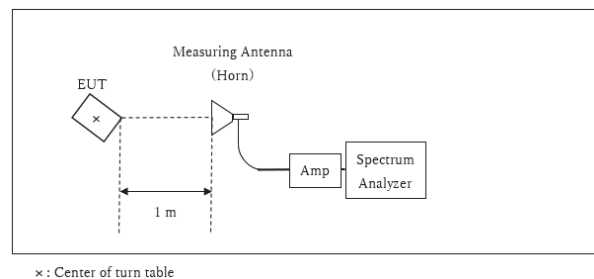
*Test Distance: $(3 + \text{SVSWR Volume} / 2) - r = 4.4 \text{ m}$

SVSWR Volume: 3 m

(SVSWR Volume has been calibrated based on CISPR 16-1-4.)

$r = 0.1 \text{ m}$

10 GHz - 26.5 GHz



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

*Test Distance: 1 m

- The carrier level and noise levels were confirmed at each position of 0 deg. and 30 deg. of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Antenna polarization	Carrier	Spurious (30 MHz - 1 GHz)	Spurious (1 GHz - 2.8 GHz)	Spurious (2.8 GHz - 10 GHz)	Spurious (10 GHz - 18 GHz)	Spurious (18 GHz - 26.5 GHz)
Horizontal	0 deg.	0 deg.	0 deg.	0 deg.	0 deg.	0 deg.
Vertical	30 deg.	0 deg.	30 deg.	30 deg.	0 deg.	0 deg.

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

Measurement range : 30 MHz - 26.5 GHz

Test data : APPENDIX

Test result : Pass

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1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

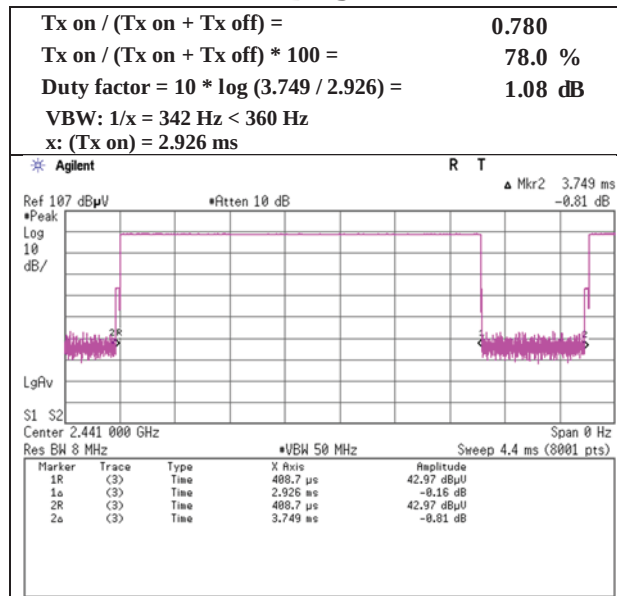
Facsimile : +81 478 82 3373

APPENDIX 1: Test data

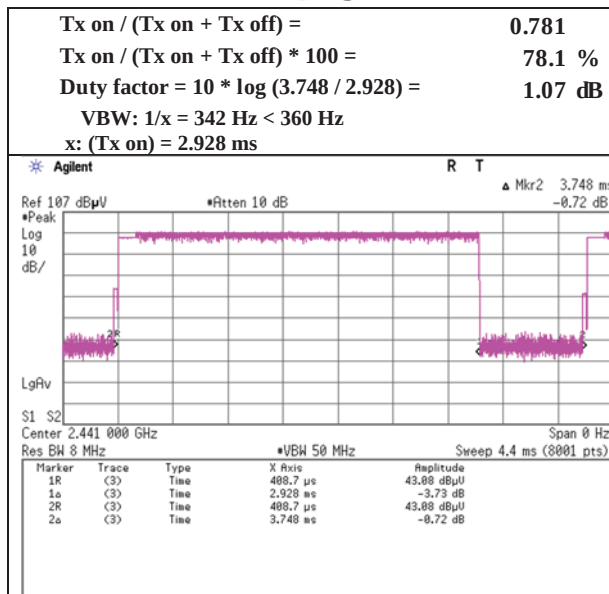
Burst Rate Confirmation

Report No. 14027963S-H
Test place Shonan EMC Lab No.5 Shielded Room
Date October 4, 2021
Temperature / Humidity 23 deg. C / 55 % RH
Engineer Takahiro Kawakami
Mode Tx, Hopping Off

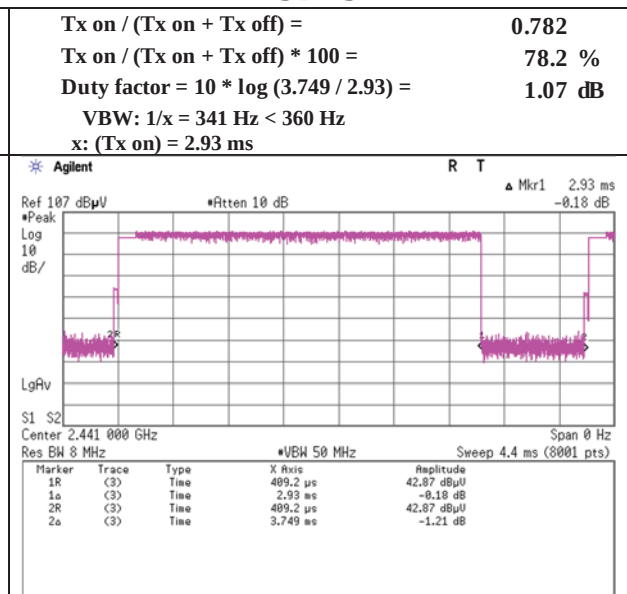
DH5



2DH5



3DH5



UL Japan, Inc.

Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

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Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 21, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 49 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, DH5 2402 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	204.917	QP	48.30	9.83	7.04	32.08	0.00	33.09	43.5	10.4	182	310	
Hori.	300.020	QP	53.60	13.50	7.55	32.01	0.00	42.64	46.0	3.3	114	63	
Hori.	600.000	QP	45.70	20.03	8.80	32.03	0.00	42.50	46.0	3.5	161	61	
Hori.	759.501	QP	43.10	22.20	9.32	31.96	0.00	42.66	46.0	3.3	100	323	
Hori.	840.000	QP	41.80	22.86	9.57	31.71	0.00	42.52	46.0	3.4	100	251	
Hori.	933.000	QP	39.00	24.12	9.86	31.15	0.00	41.83	46.0	4.1	100	209	
Hori.	1679.998	PK	49.60	25.37	12.76	41.59	3.33	49.47	73.9	24.4	163	177	
Hori.	2390.000	PK	47.40	27.61	13.30	41.42	3.33	50.22	73.9	23.6	334	256	
Hori.	3849.107	PK	50.74	31.29	4.87	41.26	3.33	48.97	73.9	24.9	150	143	
Hori.	4804.000	PK	45.40	32.69	5.26	41.17	3.33	45.51	73.9	28.3	150	0	
Hori.	7206.000	PK	44.30	37.26	6.49	39.72	3.33	51.66	73.9	22.2	150	0	
Hori.	9608.000	PK	44.20	38.09	7.27	38.54	3.33	54.35	73.9	19.5	150	0	
Hori.	1679.998	AV	37.80	25.37	12.76	41.59	3.33	37.67	53.9	16.2	163	177	VBW: 10 Hz
Hori.	2390.000	AV	35.20	27.61	13.30	41.42	3.33	38.02	53.9	15.8	334	256	VBW: 360 Hz
Hori.	3849.107	AV	44.20	31.29	4.87	41.26	3.33	42.43	53.9	11.4	150	143	VBW: 10 Hz
Hori.	4804.000	AV	33.30	32.69	5.26	41.17	3.33	33.41	53.9	20.4	150	0	Floor noise
Hori.	7206.000	AV	32.40	37.26	6.49	39.72	3.33	39.76	53.9	14.1	150	0	Floor noise
Hori.	9608.000	AV	31.60	38.09	7.27	38.54	3.33	41.75	53.9	12.1	150	0	Floor noise
Vert.	300.000	QP	48.50	13.50	7.55	32.01	0.00	37.54	46.0	8.4	148	219	
Vert.	600.000	QP	42.10	20.03	8.80	32.03	0.00	38.90	46.0	7.1	217	325	
Vert.	753.473	QP	41.00	22.13	9.30	31.97	0.00	40.46	46.0	5.5	160	209	
Vert.	933.000	QP	35.00	24.12	9.86	31.15	0.00	37.83	46.0	8.1	100	65	
Vert.	1679.997	PK	51.20	25.37	12.76	41.59	3.33	51.07	73.9	22.8	249	320	
Vert.	2390.000	PK	46.50	27.61	13.30	41.42	3.33	49.32	73.9	24.5	146	185	
Vert.	3849.229	PK	50.90	31.29	4.87	41.26	3.33	49.13	73.9	24.7	302	194	
Vert.	4804.000	PK	45.40	32.69	5.26	41.17	3.33	45.51	73.9	28.3	150	0	
Vert.	7206.000	PK	44.50	37.26	6.49	39.72	3.33	51.86	73.9	22.0	150	0	
Vert.	9608.000	PK	44.00	38.09	7.27	38.54	3.33	54.15	73.9	19.7	150	0	
Vert.	1679.997	AV	40.00	25.37	12.76	41.59	3.33	39.87	53.9	14.0	249	320	VBW: 10 Hz
Vert.	2390.000	AV	35.00	27.61	13.30	41.42	3.33	37.82	53.9	16.0	146	185	VBW: 360 Hz
Vert.	3849.229	AV	44.50	31.29	4.87	41.26	3.33	42.73	53.9	11.1	302	194	VBW: 10 Hz
Vert.	4804.000	AV	33.20	32.69	5.26	41.17	3.33	33.31	53.9	20.5	150	0	Floor noise
Vert.	7206.000	AV	32.30	37.26	6.49	39.72	3.33	39.66	53.9	14.2	150	0	Floor noise
Vert.	9608.000	AV	31.70	38.09	7.27	38.54	3.33	41.85	53.9	12.0	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	79.50	27.61	13.31	41.42	3.33	82.33	-	-	Carrier
Hori.	2400.000	PK	37.30	27.60	13.31	41.42	3.33	40.12	62.33	22.2	
Vert.	2402.000	PK	81.80	27.61	13.31	41.42	3.33	84.63	-	-	Carrier
Vert.	2400.000	PK	38.20	27.60	13.31	41.42	3.33	41.02	64.63	23.6	

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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Kashima EMC Lab.

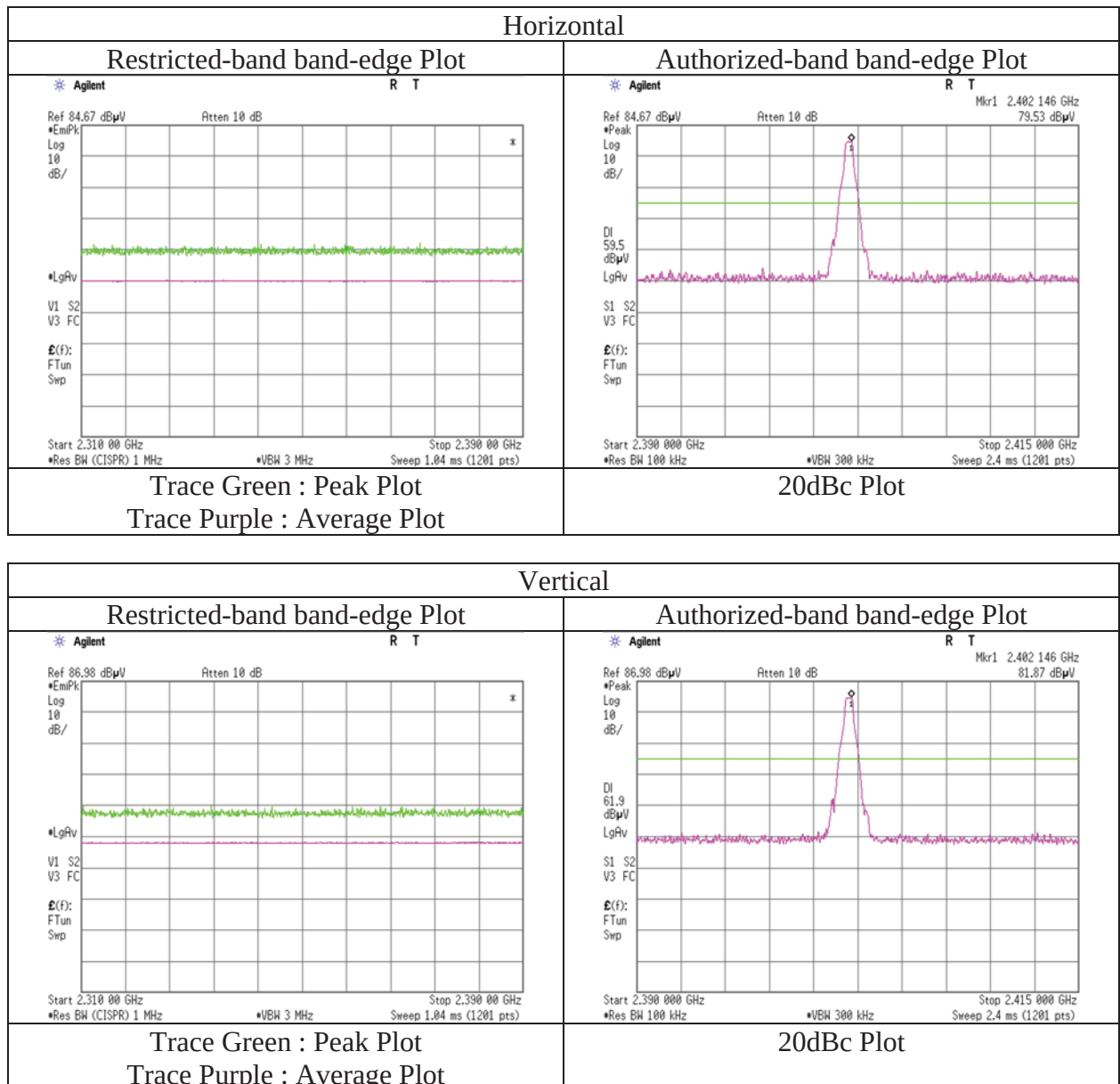
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 4, 2021
Temperature / Humidity	24 deg. C / 55 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, DH5 2402 MHz



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

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1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 21, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 49 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, DH5 2441 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	176.847	QP	47.20	11.99	6.88	32.10	0.00	33.97	43.5	9.5	149	283	
Hori.	300.020	QP	53.30	13.50	7.55	32.01	0.00	42.34	46.0	3.6	114	58	
Hori.	600.000	QP	46.00	20.03	8.80	32.03	0.00	42.80	46.0	3.2	180	61	
Hori.	765.409	QP	42.60	22.22	9.34	31.95	0.00	42.21	46.0	3.7	127	327	
Hori.	840.000	QP	41.70	22.86	9.57	31.71	0.00	42.42	46.0	3.5	100	251	
Hori.	933.000	QP	38.50	24.12	9.86	31.15	0.00	41.33	46.0	4.6	100	42	
Hori.	1679.951	PK	49.30	25.37	12.76	41.59	3.33	49.17	73.9	24.7	165	176	
Hori.	3849.679	PK	50.00	31.29	4.87	41.26	3.33	48.23	73.9	25.6	150	144	
Hori.	4882.000	PK	46.20	32.62	5.31	41.18	3.33	46.28	73.9	27.6	150	0	
Hori.	7323.000	PK	45.00	37.54	6.50	39.66	3.33	52.71	73.9	21.1	150	0	
Hori.	9764.000	PK	43.70	38.09	7.31	38.41	3.33	54.02	73.9	19.8	150	0	
Hori.	1679.951	AV	37.60	25.37	12.76	41.59	3.33	37.47	53.9	16.4	165	176	VBW: 10 Hz
Hori.	3849.679	AV	43.20	31.29	4.87	41.26	3.33	41.43	53.9	12.4	150	144	VBW: 10 Hz
Hori.	4882.000	AV	33.20	32.62	5.31	41.18	3.33	33.28	53.9	20.6	150	0	Floor noise
Hori.	7323.000	AV	33.20	37.54	6.50	39.66	3.33	40.91	53.9	12.9	150	0	Floor noise
Hori.	9764.000	AV	31.00	38.09	7.31	38.41	3.33	41.32	53.9	12.5	150	0	Floor noise
Vert.	300.000	QP	48.30	13.50	7.55	32.01	0.00	37.34	46.0	8.6	100	310	
Vert.	600.000	QP	45.10	20.03	8.80	32.03	0.00	41.90	46.0	4.1	224	326	
Vert.	759.432	QP	40.70	22.20	9.32	31.96	0.00	40.26	46.0	5.7	173	211	
Vert.	933.000	QP	34.70	24.12	9.86	31.15	0.00	37.53	46.0	8.4	112	153	
Vert.	1680.010	PK	51.80	25.37	12.76	41.59	3.33	51.67	73.9	22.2	250	317	
Vert.	3849.666	PK	50.10	31.29	4.87	41.26	3.33	48.33	73.9	25.5	304	192	
Vert.	4882.000	PK	45.90	32.62	5.31	41.18	3.33	45.98	73.9	27.9	150	0	
Vert.	7323.000	PK	44.70	37.54	6.50	39.66	3.33	52.41	73.9	21.4	150	0	
Vert.	9764.000	PK	42.90	38.09	7.31	38.41	3.33	53.22	73.9	20.6	150	0	
Vert.	1680.010	AV	39.90	25.37	12.76	41.59	3.33	39.77	53.9	14.1	250	317	VBW: 10 Hz
Vert.	3849.666	AV	43.60	31.29	4.87	41.26	3.33	41.83	53.9	12.0	304	192	VBW: 10 Hz
Vert.	4882.000	AV	33.30	32.62	5.31	41.18	3.33	33.38	53.9	20.5	150	0	Floor noise
Vert.	7323.000	AV	32.40	37.54	6.50	39.66	3.33	40.11	53.9	13.7	150	0	Floor noise
Vert.	9764.000	AV	31.30	38.09	7.31	38.41	3.33	41.62	53.9	12.2	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

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Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 21, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 49 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, DH5 2480 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	186.826	QP	47.20	10.83	6.94	32.09	0.00	32.88	43.5	10.6	172	292	
Hori.	300.020	QP	53.30	13.50	7.55	32.01	0.00	42.34	46.0	3.6	103	55	
Hori.	600.000	QP	45.90	20.03	8.80	32.03	0.00	42.70	46.0	3.3	180	97	
Hori.	765.409	QP	41.70	22.22	9.34	31.95	0.00	41.31	46.0	4.6	133	321	
Hori.	840.000	QP	41.40	22.86	9.57	31.71	0.00	42.12	46.0	3.8	128	5	
Hori.	933.000	QP	38.50	24.12	9.86	31.15	0.00	41.33	46.0	4.6	100	38	
Hori.	1679.992	PK	50.50	25.37	12.76	41.59	3.33	50.37	73.9	23.5	165	174	
Hori.	2483.500	PK	47.20	28.01	13.36	41.40	3.33	50.50	73.9	23.4	360	255	
Hori.	3853.428	PK	50.40	31.31	4.87	41.26	3.33	48.65	73.9	25.2	150	144	
Hori.	4960.000	PK	46.50	32.69	5.35	41.18	3.33	46.69	73.9	27.2	150	0	
Hori.	7440.000	PK	44.10	37.51	6.55	39.58	3.33	51.91	73.9	21.9	150	0	
Hori.	9920.000	PK	42.40	38.26	7.37	38.27	3.33	53.09	73.9	20.8	150	0	
Hori.	1679.992	AV	37.50	25.37	12.76	41.59	3.33	37.37	53.9	16.5	165	174	VBW: 10 Hz
Hori.	2483.500	AV	35.30	28.01	13.36	41.40	3.33	38.60	53.9	15.3	360	255	VBW: 360 Hz
Hori.	3853.428	AV	43.70	31.31	4.87	41.26	3.33	41.95	53.9	11.9	150	144	VBW: 10 Hz
Hori.	4960.000	AV	33.60	32.69	5.35	41.18	3.33	33.79	53.9	20.1	150	0	Floor noise
Hori.	7440.000	AV	33.20	37.51	6.55	39.58	3.33	41.01	53.9	12.8	150	0	Floor noise
Hori.	9920.000	AV	30.70	38.26	7.37	38.27	3.33	41.39	53.9	12.5	150	0	Floor noise
Vert.	300.000	QP	48.20	13.50	7.55	32.01	0.00	37.24	46.0	8.7	100	310	
Vert.	600.000	QP	45.00	20.03	8.80	32.03	0.00	41.80	46.0	4.2	234	327	
Vert.	759.285	QP	40.00	22.20	9.32	31.96	0.00	39.56	46.0	6.4	180	209	
Vert.	933.000	QP	34.50	24.12	9.86	31.15	0.00	37.33	46.0	8.6	116	149	
Vert.	1679.998	PK	50.90	25.37	12.76	41.59	3.33	50.77	73.9	23.1	250	315	
Vert.	2483.500	PK	46.80	28.01	13.36	41.40	3.33	50.10	73.9	23.8	136	188	
Vert.	3852.588	PK	50.30	31.30	4.87	41.26	3.33	48.54	73.9	25.3	302	193	
Vert.	4960.000	PK	46.50	32.69	5.35	41.18	3.33	46.69	73.9	27.2	150	0	
Vert.	7440.000	PK	44.50	37.51	6.55	39.58	3.33	52.31	73.9	21.5	150	0	
Vert.	9920.000	PK	42.40	38.26	7.37	38.27	3.33	53.09	73.9	20.8	150	0	
Vert.	1679.998	AV	40.00	25.37	12.76	41.59	3.33	39.87	53.9	14.0	250	315	VBW: 10 Hz
Vert.	2483.500	AV	35.30	28.01	13.36	41.40	3.33	38.60	53.9	15.3	136	188	VBW: 360 Hz
Vert.	3852.588	AV	43.80	31.30	4.87	41.26	3.33	42.04	53.9	11.8	302	193	VBW: 10 Hz
Vert.	4960.000	AV	33.50	32.69	5.35	41.18	3.33	33.69	53.9	20.2	150	0	Floor noise
Vert.	7440.000	AV	32.70	37.51	6.55	39.58	3.33	40.51	53.9	13.3	150	0	Floor noise
Vert.	9920.000	AV	30.60	38.26	7.37	38.27	3.33	41.29	53.9	12.6	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : 20log (4.4 m / 3.0 m) = 3.33 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

* These results have sufficient margin without taking account Duty cycle correction factor.

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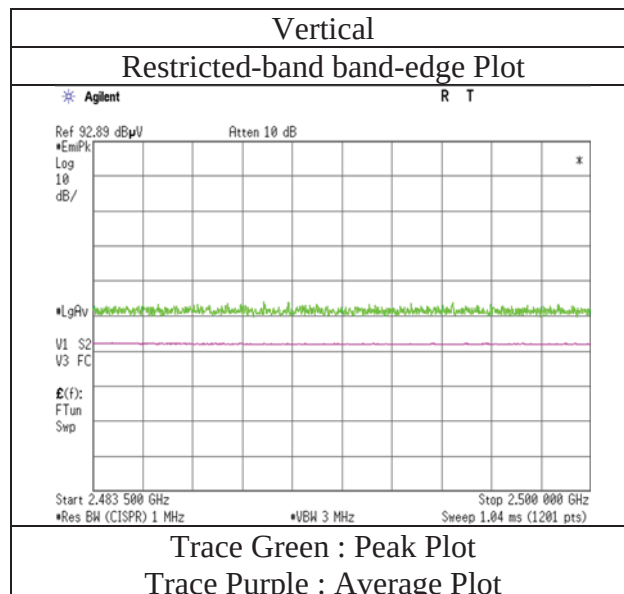
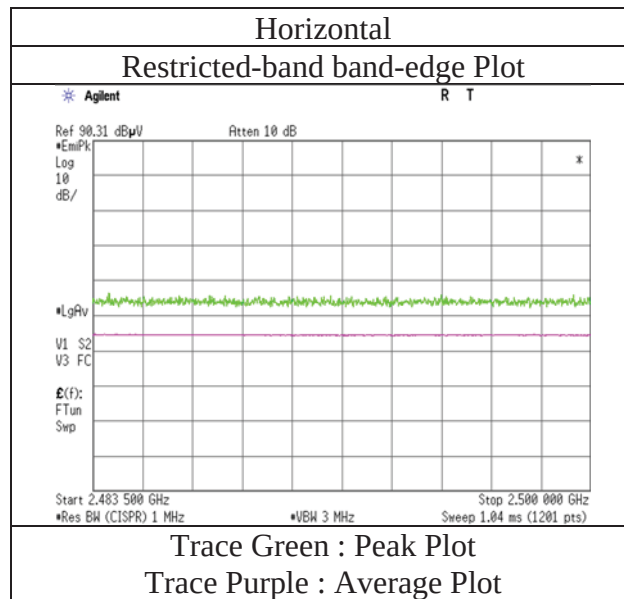
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 4, 2021
Temperature / Humidity	24 deg. C / 55 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, DH5 2480 MHz



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

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 50 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2402 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	186.826	QP	47.70	10.83	6.94	32.09	0.00	33.38	43.5	10.1	199	287	
Hori.	300.020	QP	53.30	13.50	7.55	32.01	0.00	42.34	46.0	3.6	103	64	
Hori.	600.000	QP	45.90	20.03	8.80	32.03	0.00	42.70	46.0	3.3	174	65	
Hori.	765.319	QP	41.90	22.22	9.34	31.95	0.00	41.51	46.0	4.4	111	326	
Hori.	840.000	QP	41.80	22.86	9.57	31.71	0.00	42.52	46.0	3.4	100	248	
Hori.	933.000	QP	39.50	24.12	9.86	31.15	0.00	42.33	46.0	3.6	131	15	
Hori.	1680.014	PK	49.60	25.37	12.76	41.59	3.33	49.47	73.9	24.4	167	177	
Hori.	2390.000	PK	46.50	27.61	13.30	41.42	3.33	49.32	73.9	24.5	379	278	
Hori.	3854.020	PK	50.40	31.31	4.87	41.26	3.33	48.65	73.9	25.2	150	143	
Hori.	4804.000	PK	46.40	32.69	5.26	41.17	3.33	46.51	73.9	27.3	150	0	
Hori.	7206.000	PK	44.60	37.26	6.49	39.72	3.33	51.96	73.9	21.9	150	0	
Hori.	9608.000	PK	43.70	38.09	7.27	38.54	3.33	53.85	73.9	20.0	150	0	
Hori.	1680.014	AV	37.30	25.37	12.76	41.59	3.33	37.17	53.9	16.7	167	177	VBW: 10 Hz
Hori.	2390.000	AV	35.20	27.61	13.30	41.42	3.33	38.02	53.9	15.8	379	278	VBW: 360 Hz
Hori.	3854.020	AV	43.70	31.31	4.87	41.26	3.33	41.95	53.9	11.9	150	143	VBW: 10 Hz
Hori.	4804.000	AV	32.90	32.69	5.26	41.17	3.33	33.01	53.9	20.8	150	0	Floor noise
Hori.	7206.000	AV	32.50	37.26	6.49	39.72	3.33	39.86	53.9	14.0	150	0	Floor noise
Hori.	9608.000	AV	31.70	38.09	7.27	38.54	3.33	41.85	53.9	12.0	150	0	Floor noise
Vert.	300.000	QP	48.00	13.50	7.55	32.01	0.00	37.04	46.0	8.9	153	219	
Vert.	600.000	QP	43.30	20.03	8.80	32.03	0.00	40.10	46.0	5.9	194	327	
Vert.	759.285	QP	39.00	22.20	9.32	31.96	0.00	38.56	46.0	7.4	167	204	
Vert.	933.000	QP	35.30	24.12	9.86	31.15	0.00	38.13	46.0	7.8	110	178	
Vert.	1679.995	PK	51.60	25.37	12.76	41.59	3.33	51.47	73.9	22.4	252	320	
Vert.	2390.000	PK	47.00	27.61	13.30	41.42	3.33	49.82	73.9	24.0	148	184	
Vert.	3854.430	PK	50.40	31.31	4.86	41.26	3.33	48.64	73.9	25.2	301	192	
Vert.	4804.000	PK	44.60	32.69	5.26	41.17	3.33	44.71	73.9	29.1	150	0	
Vert.	7206.000	PK	44.80	37.26	6.49	39.72	3.33	52.16	73.9	21.7	150	0	
Vert.	9608.000	PK	44.30	38.09	7.27	38.54	3.33	54.45	73.9	19.4	150	0	
Vert.	1679.995	AV	39.80	25.37	12.76	41.59	3.33	39.67	53.9	14.2	252	320	VBW: 10 Hz
Vert.	2390.000	AV	35.20	27.61	13.30	41.42	3.33	38.02	53.9	15.8	148	184	VBW: 360 Hz
Vert.	3854.430	AV	43.90	31.31	4.86	41.26	3.33	42.14	53.9	11.7	301	192	VBW: 10 Hz
Vert.	4804.000	AV	33.60	32.69	5.26	41.17	3.33	33.71	53.9	20.1	150	0	Floor noise
Vert.	7206.000	AV	32.50	37.26	6.49	39.72	3.33	39.86	53.9	14.0	150	0	Floor noise
Vert.	9608.000	AV	31.50	38.09	7.27	38.54	3.33	41.65	53.9	12.2	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	77.30	27.61	13.31	41.42	3.33	80.13	-	-	Carrier
Hori.	2400.000	PK	38.20	27.60	13.31	41.42	3.33	41.02	60.13	19.1	
Vert.	2402.000	PK	79.90	27.61	13.31	41.42	3.33	82.73	-	-	Carrier
Vert.	2400.000	PK	37.20	27.60	13.31	41.42	3.33	40.02	62.73	22.7	

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

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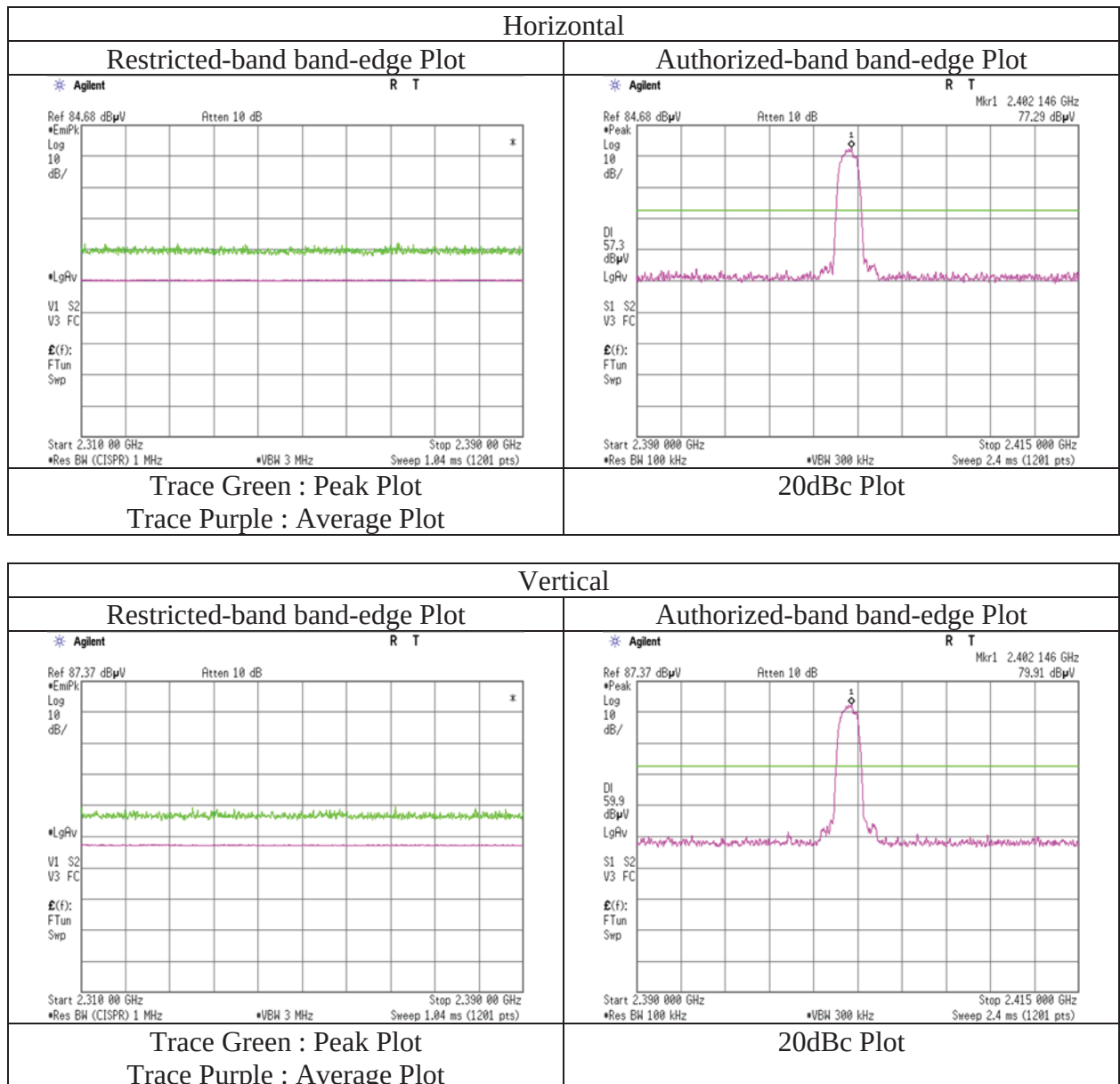
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 4, 2021
Temperature / Humidity	24 deg. C / 55 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, 3DH5 2402 MHz



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

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Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 50 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2441 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	186.826	QP	47.70	10.83	6.94	32.09	0.00	33.38	43.5	10.1	194	282	
Hori.	300.020	QP	53.40	13.50	7.55	32.01	0.00	42.44	46.0	3.5	104	57	
Hori.	600.000	QP	45.00	20.03	8.80	32.03	0.00	41.80	46.0	4.2	168	65	
Hori.	777.757	QP	42.80	22.34	9.38	31.92	0.00	42.60	46.0	3.4	114	16	
Hori.	840.000	QP	41.90	22.86	9.57	31.71	0.00	42.62	46.0	3.3	121	5	
Hori.	933.000	QP	39.70	24.12	9.86	31.15	0.00	42.53	46.0	3.4	110	10	
Hori.	1680.083	PK	49.50	25.37	12.76	41.59	3.33	49.37	73.9	24.5	167	177	
Hori.	3854.934	PK	50.20	31.31	4.86	41.26	3.33	48.44	73.9	25.4	150	145	
Hori.	4882.000	PK	45.70	32.62	5.31	41.18	3.33	45.78	73.9	28.1	150	0	
Hori.	7323.000	PK	45.10	37.54	6.50	39.66	3.33	52.81	73.9	21.0	150	0	
Hori.	9764.000	PK	43.60	38.09	7.31	38.41	3.33	53.92	73.9	19.9	150	0	
Hori.	1680.083	AV	37.50	25.37	12.76	41.59	3.33	37.37	53.9	16.5	167	177	VBW: 10 Hz
Hori.	3854.934	AV	43.70	31.31	4.86	41.26	3.33	41.94	53.9	11.9	150	145	VBW: 10 Hz
Hori.	4882.000	AV	33.40	32.62	5.31	41.18	3.33	33.48	53.9	20.4	150	0	Floor noise
Hori.	7323.000	AV	32.50	37.54	6.50	39.66	3.33	40.21	53.9	13.6	150	0	Floor noise
Hori.	9764.000	AV	31.00	38.09	7.31	38.41	3.33	41.32	53.9	12.5	150	0	Floor noise
Vert.	300.000	QP	48.00	13.50	7.55	32.01	0.00	37.04	46.0	8.9	162	220	
Vert.	600.000	QP	43.00	20.03	8.80	32.03	0.00	39.80	46.0	6.2	211	327	
Vert.	777.508	QP	39.00	22.34	9.38	31.92	0.00	38.80	46.0	7.2	170	217	
Vert.	933.000	QP	35.30	24.12	9.86	31.15	0.00	38.13	46.0	7.8	110	175	
Vert.	1679.985	PK	51.10	25.37	12.76	41.59	3.33	50.97	73.9	22.9	251	316	
Vert.	3854.833	PK	50.90	31.31	4.86	41.26	3.33	49.14	73.9	24.7	301	194	
Vert.	4882.000	PK	45.70	32.62	5.31	41.18	3.33	45.78	73.9	28.1	150	0	
Vert.	7323.000	PK	44.60	37.54	6.50	39.66	3.33	52.31	73.9	21.5	150	0	
Vert.	9764.000	PK	46.50	38.09	7.31	38.41	3.33	56.82	73.9	17.0	150	0	
Vert.	1679.985	AV	40.10	25.37	12.76	41.59	3.33	39.97	53.9	13.9	251	316	VBW: 10 Hz
Vert.	3854.833	AV	44.70	31.31	4.86	41.26	3.33	42.94	53.9	10.9	301	194	VBW: 10 Hz
Vert.	4882.000	AV	33.50	32.62	5.31	41.18	3.33	33.58	53.9	20.3	150	0	Floor noise
Vert.	7323.000	AV	32.40	37.54	6.50	39.66	3.33	40.11	53.9	13.7	150	0	Floor noise
Vert.	9764.000	AV	31.10	38.09	7.31	38.41	3.33	41.42	53.9	12.4	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

10 GHz - 26.5 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.54\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 50 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2480 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	186.815	QP	47.60	10.83	6.94	32.09	0.00	33.28	43.5	10.2	170	294	
Hori.	300.020	QP	53.70	13.50	7.55	32.01	0.00	42.74	46.0	3.2	109	107	
Hori.	600.000	QP	44.00	20.03	8.80	32.03	0.00	40.80	46.0	5.2	178	98	
Hori.	777.757	QP	43.10	22.34	9.38	31.92	0.00	42.90	46.0	3.1	129	11	
Hori.	840.000	QP	42.00	22.86	9.57	31.71	0.00	42.72	46.0	3.2	128	8	
Hori.	933.000	QP	39.80	24.12	9.86	31.15	0.00	42.63	46.0	3.3	110	7	
Hori.	1680.133	PK	49.40	25.37	12.76	41.59	3.33	49.27	73.9	24.6	167	177	
Hori.	2483.500	PK	47.20	28.01	13.36	41.40	3.33	50.50	73.9	23.4	356	255	
Hori.	3855.167	PK	50.60	31.32	4.86	41.26	3.33	48.85	73.9	25.0	150	144	
Hori.	4960.000	PK	45.80	32.69	5.35	41.18	3.33	45.99	73.9	27.9	150	0	
Hori.	7440.000	PK	44.50	37.51	6.55	39.58	3.33	52.31	73.9	21.5	150	0	
Hori.	9920.000	PK	42.90	38.26	7.37	38.27	3.33	53.59	73.9	20.3	150	0	
Hori.	1680.133	AV	37.60	25.37	12.76	41.59	3.33	37.47	53.9	16.4	167	177	VBW: 10 Hz
Hori.	2483.500	AV	35.80	28.01	13.36	41.40	3.33	39.10	53.9	14.8	356	255	VBW: 360 Hz
Hori.	3855.167	AV	43.60	31.32	4.86	41.26	3.33	41.85	53.9	12.0	150	144	VBW: 10 Hz
Hori.	4960.000	AV	33.80	32.69	5.35	41.18	3.33	33.99	53.9	19.9	150	0	Floor noise
Hori.	7440.000	AV	32.60	37.51	6.55	39.58	3.33	40.41	53.9	13.4	150	0	Floor noise
Hori.	9920.000	AV	30.70	38.26	7.37	38.27	3.33	41.39	53.9	12.5	150	0	Floor noise
Vert.	300.000	QP	47.50	13.50	7.55	32.01	0.00	36.54	46.0	9.4	156	208	
Vert.	600.000	QP	42.70	20.03	8.80	32.03	0.00	39.50	46.0	6.5	211	325	
Vert.	777.380	QP	40.50	22.34	9.38	31.92	0.00	40.30	46.0	5.7	151	213	
Vert.	933.000	QP	35.50	24.12	9.86	31.15	0.00	38.33	46.0	7.6	110	180	
Vert.	1680.020	PK	50.70	25.37	12.76	41.59	3.33	50.57	73.9	23.3	251	308	
Vert.	2483.500	PK	47.00	28.01	13.36	41.40	3.33	50.30	73.9	23.6	140	190	
Vert.	3855.395	PK	50.80	31.32	4.86	41.26	3.33	49.05	73.9	24.8	301	194	
Vert.	4960.000	PK	45.00	32.69	5.35	41.18	3.33	45.19	73.9	28.7	150	0	
Vert.	7440.000	PK	45.30	37.51	6.55	39.58	3.33	53.11	73.9	20.7	150	0	
Vert.	9920.000	PK	44.30	38.26	7.37	38.27	3.33	54.99	73.9	18.9	150	0	
Vert.	1680.020	AV	39.10	25.37	12.76	41.59	3.33	38.97	53.9	14.9	251	308	VBW: 10 Hz
Vert.	2483.500	AV	35.20	28.01	13.36	41.40	3.33	38.50	53.9	15.4	140	190	VBW: 360 Hz
Vert.	3855.395	AV	44.90	31.32	4.86	41.26	3.33	43.15	53.9	10.7	301	194	VBW: 10 Hz
Vert.	4960.000	AV	33.80	32.69	5.35	41.18	3.33	33.99	53.9	19.9	150	0	Floor noise
Vert.	7440.000	AV	32.50	37.51	6.55	39.58	3.33	40.31	53.9	13.5	150	0	Floor noise
Vert.	9920.000	AV	30.60	38.26	7.37	38.27	3.33	41.29	53.9	12.6	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : 20log (4.4 m / 3.0 m) = 3.33 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

* These results have sufficient margin without taking account Duty cycle correction factor.

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Kashima EMC Lab.

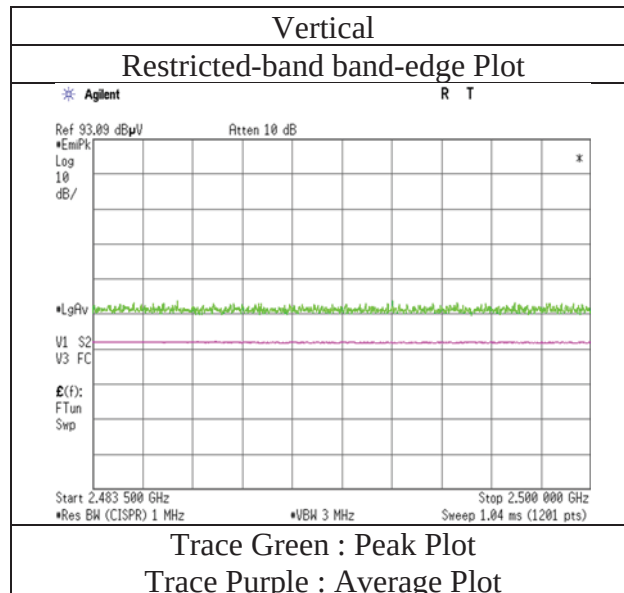
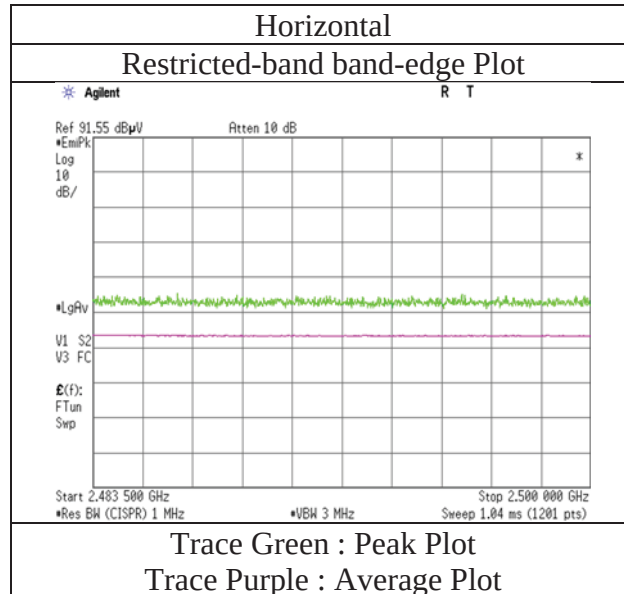
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

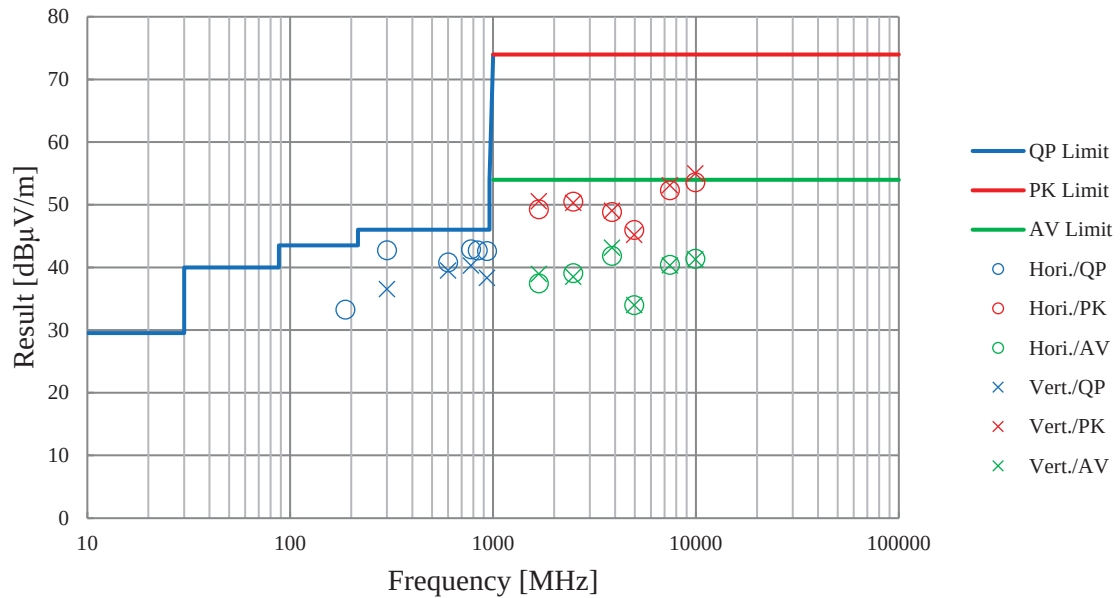
Report No. 14027963S-H
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.10
Date October 4, 2021
Temperature / Humidity 24 deg. C / 55 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 10 GHz)
Mode Tx, Hopping Off, 3DH5 2480 MHz



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

Radiated Spurious Emission (Plot data, Worst case)

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 4, 2021	October 7, 2021	October 7, 2021
Temperature / Humidity	19 deg. C / 50 % RH	24 deg. C / 55 % RH	24 deg. C / 56 % RH	24 deg. C / 56 % RH
Engineer	Hiromitsu Tanabe (30 MHz - 1000 MHz)	Hiromitsu Tanabe (1 GHz - 10 GHz)	Kazuhiro Ando (10 GHz - 18 GHz)	Kazuhiro Ando (18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2480 MHz			



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

Radiated Spurious Emission

Report No. 14027963S-H
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.10
Date October 27, 2021
Temperature / Humidity 20 deg. C / 51 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 10 GHz)
Mode Tx, Hopping Off, DH5 2402 MHz with 11ac-20 MIMO 5745 MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	46.70	27.61	13.30	41.42	3.33	49.52	73.9	24.3	340	87	
Hori.	2390.000	AV	35.10	27.61	13.30	41.42	3.33	37.92	53.9	15.9	340	87	VBW: 360 Hz
Vert.	2390.000	PK	46.70	27.61	13.30	41.42	3.33	49.52	73.9	24.3	148	209	
Vert.	2390.000	AV	35.10	27.61	13.30	41.42	3.33	37.92	53.9	15.9	148	209	VBW: 360 Hz

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	77.80	27.61	13.31	41.42	3.33	80.63	-	-	Carrier
Hori.	2400.000	PK	38.40	27.60	13.31	41.42	3.33	41.22	60.63	19.4	
Vert.	2402.000	PK	80.40	27.61	13.31	41.42	3.33	83.23	-	-	Carrier
Vert.	2400.000	PK	37.50	27.60	13.31	41.42	3.33	40.32	63.23	22.9	

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

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Kashima EMC Lab.

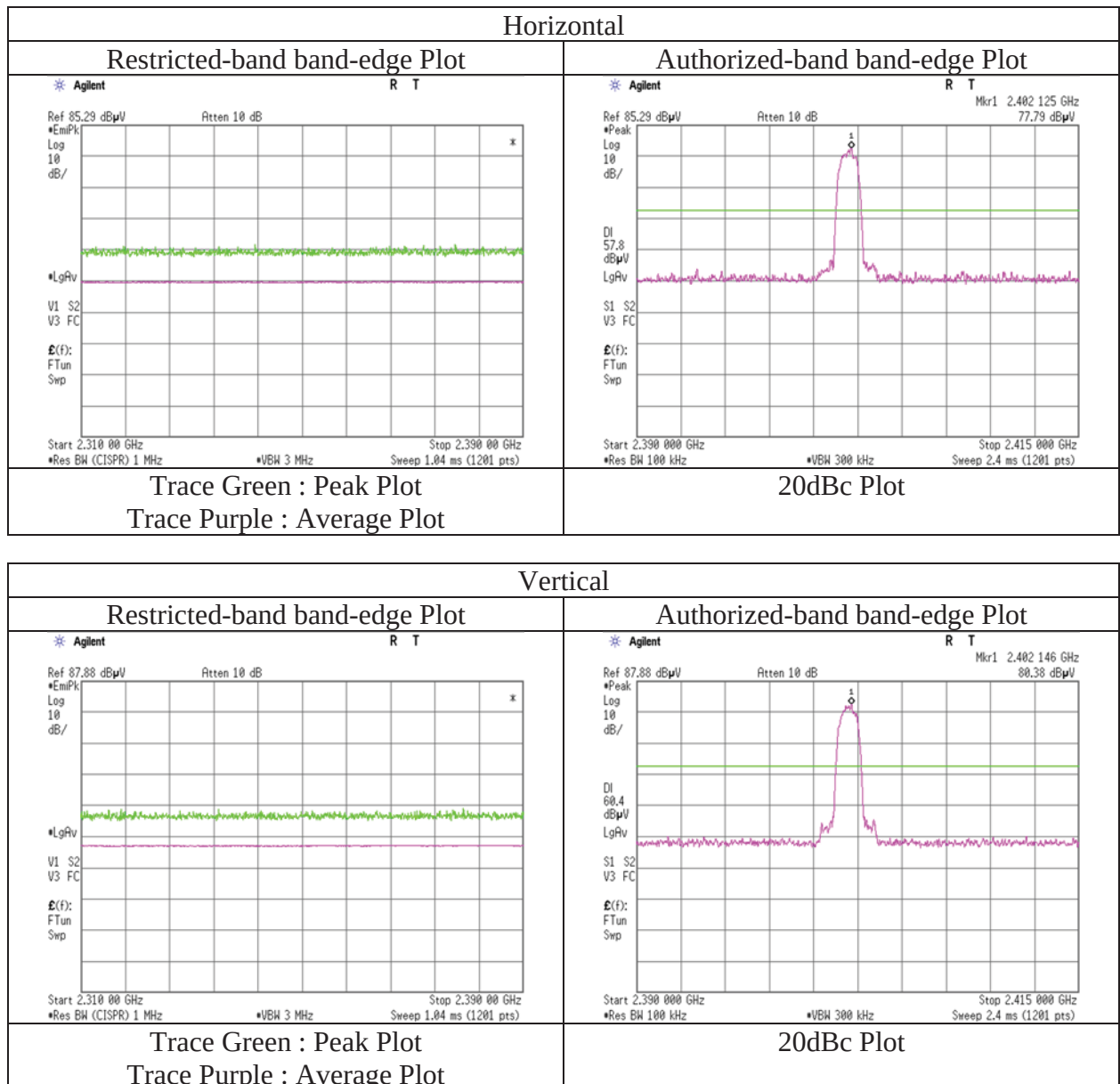
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 27, 2021
Temperature / Humidity	20 deg. C / 51 % RH
Engineer	Hiromitsu Tanabe (1 GHz - 10 GHz)
Mode	Tx, Hopping Off, DH5 2402 MHz with 11ac-20 MIMO 5745 MHz



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

Radiated Spurious Emission

Report No. 14027963S-H
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.10
Date November 2, 2021
Temperature / Humidity 22 deg. C / 55 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 10 GHz)
Mode Tx, Hopping Off, DH5 2480 MHz with 11ac-20 MIMO 5745 MHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	47.30	28.01	13.36	41.40	3.33	50.60	73.9	23.3	152	218	VBW: 360 Hz
Hori.	2483.500	AV	35.20	28.01	13.36	41.40	3.33	38.50	53.9	15.4	152	218	
Vert.	2483.500	PK	46.90	28.01	13.36	41.40	3.33	50.20	73.9	23.7	145	235	VBW: 360 Hz
Vert.	2483.500	AV	35.20	28.01	13.36	41.40	3.33	38.50	53.9	15.4	145	235	

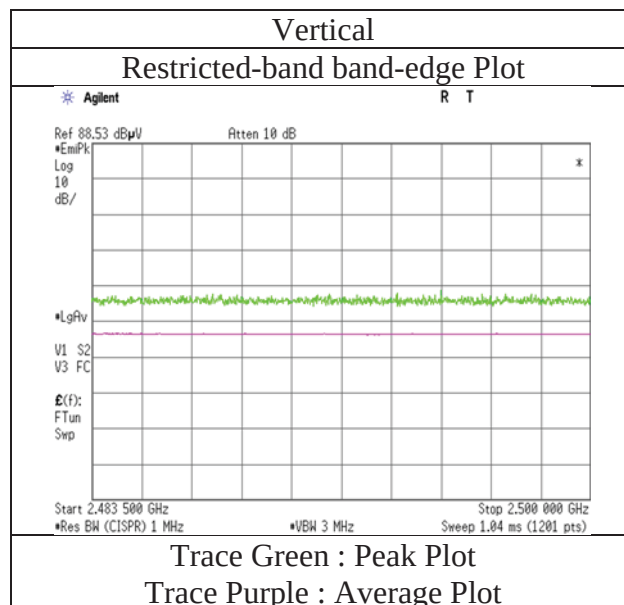
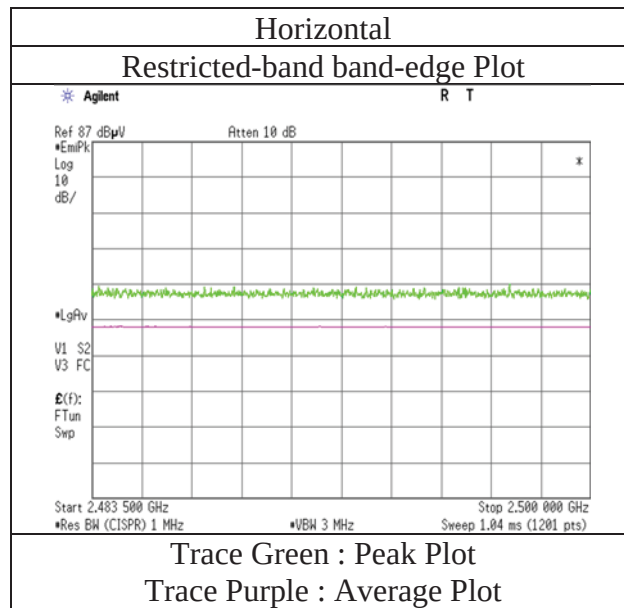
Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	November 2, 2021
Temperature / Humidity	22 deg. C / 55 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, DH5 2480 MHz with 11ac-20 MIMO 5745 MHz



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

Radiated Spurious Emission

Report No. 14027963S-H
Test place Kashima EMC Lab.
Semi Anechoic Chamber No.10
Date October 27, 2021
Temperature / Humidity 20 deg. C / 51 % RH
Engineer Hiromitsu Tanabe
(1 GHz - 10 GHz)
Mode Tx, Hopping Off, 3DH5 2402 MHz with 11ac-20 MIMO 5745 MHz

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	47.40	27.61	13.30	41.42	3.33	50.22	73.9	23.6	323	272	VBW: 360 Hz
Hori.	2390.000	AV	35.10	27.61	13.30	41.42	3.33	37.92	53.9	15.9	323	272	
Vert.	2390.000	PK	46.70	27.61	13.30	41.42	3.33	49.52	73.9	24.3	268	138	VBW: 360 Hz
Vert.	2390.000	AV	35.00	27.61	13.30	41.42	3.33	37.82	53.9	16.0	268	138	

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

* These results have sufficient margin without taking account Duty cycle correction factor.

20 dBc Data Sheet (RBW 100 kHz, VBW 300 kHz)

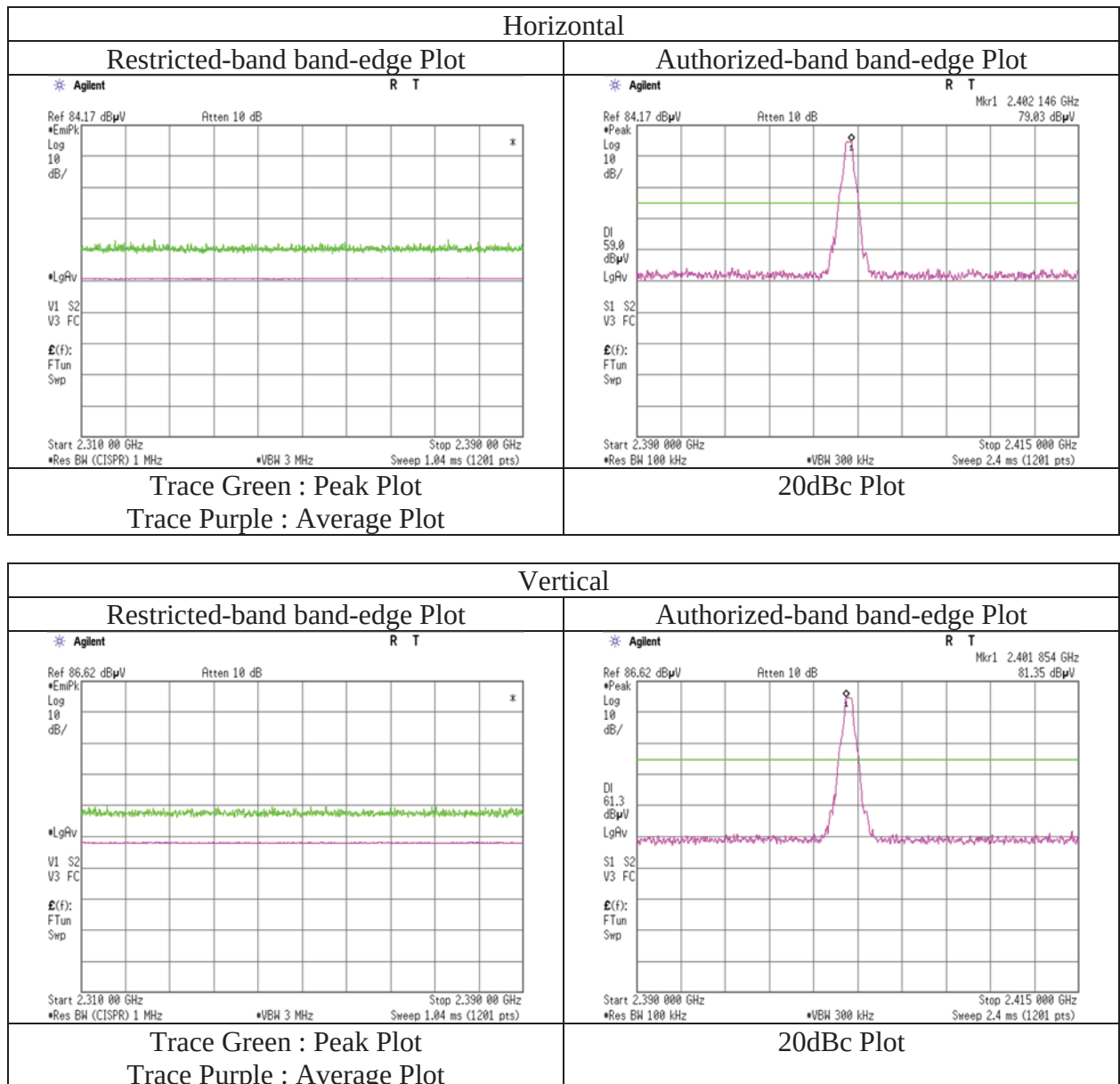
Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	79.00	27.61	13.31	41.42	3.33	81.83	-	-	Carrier
Hori.	2400.000	PK	37.40	27.60	13.31	41.42	3.33	40.22	61.83	21.6	Carrier
Vert.	2402.000	PK	81.30	27.61	13.31	41.42	3.33	84.13	-	-	
Vert.	2400.000	PK	38.40	27.60	13.31	41.42	3.33	41.22	64.13	22.9	

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.4\text{ m} / 3.0\text{ m}) = 3.33\text{ dB}$

Radiated Spurious Emission (Reference Plot for band-edge)

Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 27, 2021
Temperature / Humidity	20 deg. C / 51 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, 3DH5 2402 MHz with 11ac-20 MIMO 5745 MHz



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

Radiated Spurious Emission

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 27, 2021	November 2, 2021	October 26, 2021
Temperature / Humidity	19 deg. C / 50 % RH	20 deg. C / 51 % RH	22 deg. C / 55 % RH	20 deg. C / 54 % RH
Engineer	Hiromitsu Tanabe	Hiromitsu Tanabe	Hiromitsu Tanabe	Kazuhiro Ando
	(30 MHz - 1000 MHz)	(1 GHz - 10 GHz)	(10 GHz - 18 GHz)	(18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2480 MHz with 11ac-20 MIMO 5745 MHz			

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	186.880	QP	47.50	10.82	6.94	32.09	0.00	33.17	43.5	10.3	158	286	
Hori.	300.020	QP	53.30	13.50	7.55	32.01	0.00	42.34	46.0	3.6	104	56	
Hori.	600.000	QP	44.50	20.03	8.80	32.03	0.00	41.30	46.0	4.7	168	320	
Hori.	777.740	QP	41.50	22.34	9.38	31.92	0.00	41.30	46.0	4.7	129	11	
Hori.	840.000	QP	42.00	22.86	9.57	31.71	0.00	42.72	46.0	3.2	100	252	
Hori.	933.000	QP	39.60	24.12	9.86	31.15	0.00	42.43	46.0	3.5	110	5	
Hori.	1680.133	PK	49.50	25.37	12.76	41.59	3.33	49.37	73.9	24.5	154	181	
Hori.	2483.500	PK	46.40	28.01	13.36	41.40	3.33	49.70	73.9	24.2	100	216	
Hori.	3857.145	PK	50.50	31.33	4.86	41.26	3.33	48.76	73.9	25.1	100	5	
Hori.	4960.000	PK	45.80	32.69	5.35	41.18	3.33	45.99	73.9	27.9	150	0	
Hori.	7440.000	PK	44.90	37.51	6.55	39.58	3.33	52.71	73.9	21.1	150	0	
Hori.	9920.000	PK	43.40	38.26	7.37	38.27	3.33	54.09	73.9	19.8	150	0	
Hori.	1680.133	AV	37.00	25.37	12.76	41.59	3.33	36.87	53.9	17.0	154	181	VBW: 10 Hz
Hori.	2483.500	AV	34.90	28.01	13.36	41.40	3.33	38.20	53.9	15.7	100	216	VBW: 360 Hz
Hori.	3857.145	AV	43.00	31.33	4.86	41.26	3.33	41.26	53.9	12.6	100	5	VBW: 10 Hz
Hori.	4960.000	AV	34.20	32.69	5.35	41.18	3.33	34.39	53.9	19.5	150	0	Floor noise
Hori.	7440.000	AV	33.20	37.51	6.55	39.58	3.33	41.01	53.9	12.8	150	0	Floor noise
Hori.	9920.000	AV	31.30	38.26	7.37	38.27	3.33	41.99	53.9	11.9	150	0	Floor noise
Vert.	300.000	QP	46.10	13.50	7.55	32.01	0.00	35.14	46.0	10.8	135	223	
Vert.	600.000	QP	43.30	20.03	8.80	32.03	0.00	40.10	46.0	5.9	194	323	
Vert.	777.455	QP	38.00	22.34	9.38	31.92	0.00	37.80	46.0	8.2	142	158	
Vert.	933.000	QP	38.40	24.12	9.86	31.15	0.00	41.23	46.0	4.7	148	0	
Vert.	1680.020	PK	51.40	25.37	12.76	41.59	3.33	51.27	73.9	22.6	206	324	
Vert.	2483.500	PK	46.30	28.01	13.36	41.40	3.33	49.60	73.9	24.3	100	238	
Vert.	3857.145	PK	52.00	31.33	4.86	41.26	3.33	50.26	73.9	23.6	176	247	
Vert.	4960.000	PK	45.50	32.69	5.35	41.18	3.33	45.69	73.9	28.2	150	0	
Vert.	7440.000	PK	44.70	37.51	6.55	39.58	3.33	52.51	73.9	21.3	150	0	
Vert.	9920.000	PK	42.50	38.26	7.37	38.27	3.33	53.19	73.9	20.7	150	0	
Vert.	1680.020	AV	38.50	25.37	12.76	41.59	3.33	38.37	53.9	15.5	206	324	VBW: 10 Hz
Vert.	2483.500	AV	35.00	28.01	13.36	41.40	3.33	38.30	53.9	15.6	100	238	VBW: 360 Hz
Vert.	3857.145	AV	46.00	31.33	4.86	41.26	3.33	44.26	53.9	9.6	176	247	VBW: 10 Hz
Vert.	4960.000	AV	34.20	32.69	5.35	41.18	3.33	34.39	53.9	19.5	150	0	Floor noise
Vert.	7440.000	AV	32.80	37.51	6.55	39.58	3.33	40.61	53.9	13.2	150	0	Floor noise
Vert.	9920.000	AV	31.40	38.26	7.37	38.27	3.33	42.09	53.9	11.8	150	0	Floor noise

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

Distance factor : 1 GHz - 10 GHz : 20log (4.4 m / 3.0 m) = 3.33 dB

10 GHz - 26.5 GHz : 20log (1.0 m / 3.0 m) = -9.54 dB

* These results have sufficient margin without taking account Duty cycle correction factor.

UL Japan, Inc.

Kashima EMC Lab.

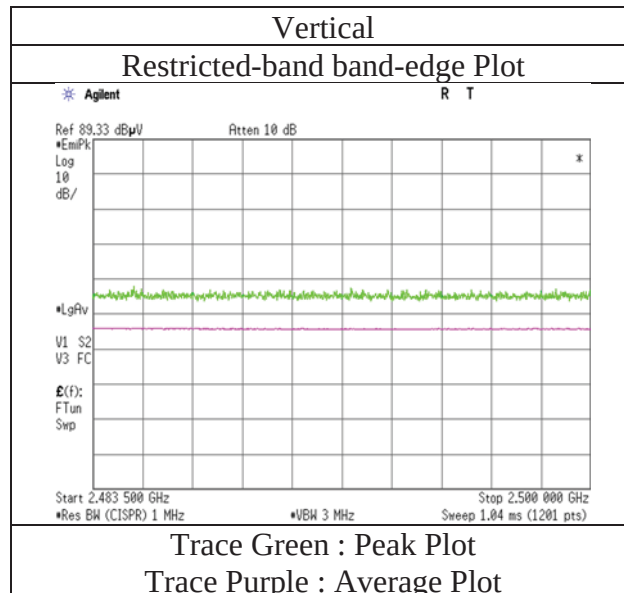
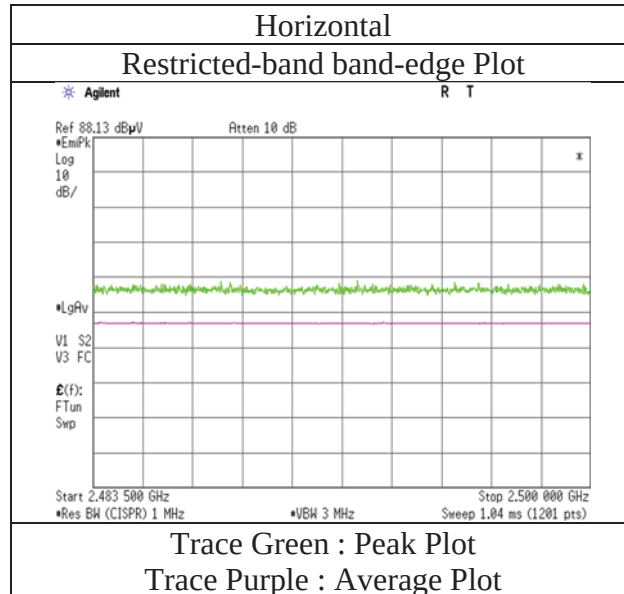
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission (Reference Plot for band-edge)

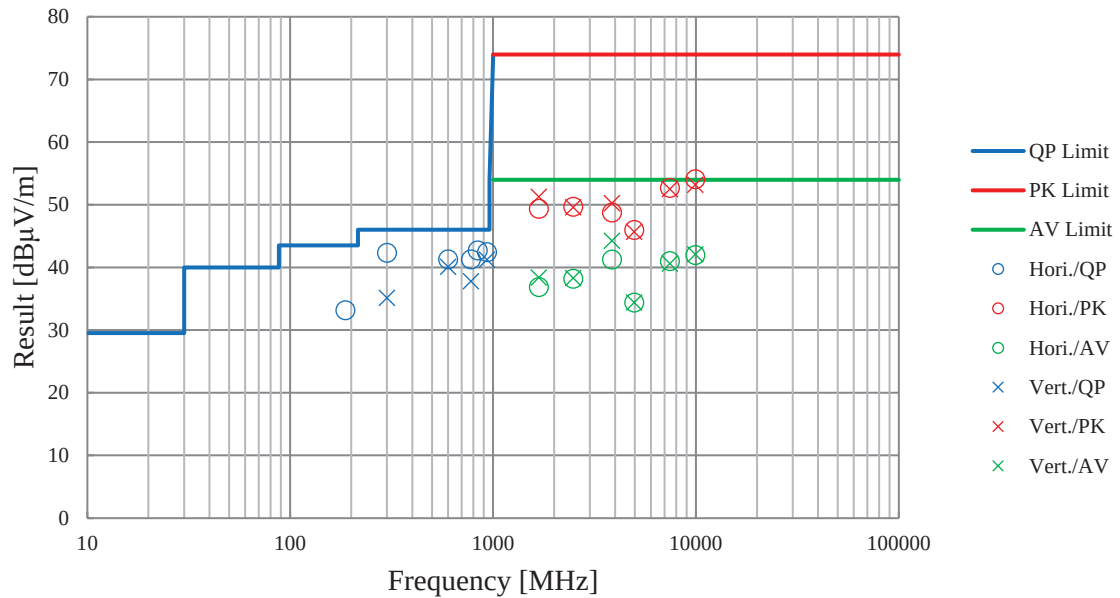
Report No.	14027963S-H
Test place	Kashima EMC Lab.
Semi Anechoic Chamber	No.10
Date	October 27, 2021
Temperature / Humidity	20 deg. C / 51 % RH
Engineer	Hiromitsu Tanabe
	(1 GHz - 10 GHz)
Mode	Tx, Hopping Off, 3DH5 2480 MHz with 11ac-20 MIMO 5745 MHz



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

Radiated Spurious Emission (Plot data, Worst case)

Report No.	14027963S-H			
Test place	Kashima EMC Lab.			
Semi Anechoic Chamber	No.11	No.10	No.10	No.10
Date	October 22, 2021	October 27, 2021	November 2, 2021	October 26, 2021
Temperature / Humidity	19 deg. C / 50 % RH	20 deg. C / 51 % RH	22 deg. C / 55 % RH	20 deg. C / 54 % RH
Engineer	Hiromitsu Tanabe (30 MHz - 1000 MHz)	Hiromitsu Tanabe (1 GHz - 10 GHz)	Hiromitsu Tanabe (10 GHz - 18 GHz)	Kazuhiro Ando (18 GHz - 26.5 GHz)
Mode	Tx, Hopping Off, 3DH5 2480 MHz with 11ac-20 MIMO 5745 MHz			



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

APPENDIX 2: Test instruments

Test equipment

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE(GHz)	CTR-09	144199	Test Receiver	Keysight Technologies Inc	N9038A	MY53290016	2021/07/16	12
RE(GHz)	CHA-24	143455	Double Ridged Wave Guide	ETS-Lindgren (Cedar Park, Texas)	3115	00204569	2021/02/06	12
RE(GHz)	CAF-18	142908	Pre-Amplifier	TOYO	TPA0118-36	A-1001	2021/02/08	12
RE(GHz)	CCC-G09	143140	Micro Wave Cable	Junkosha	MWX221	1407S222	2020/11/16	12
RE(GHz)	CCC-G16	192243	Microwave Cable	Huber+Suhner	SF104/11N/11PC35/8000MM	808995/4	2021/01/19	12
RE(GHz)	CAT10-17	143023	10dB Fixed Atten.	Weinschel - API Technologies Corp	54A-10	56251	2021/05/14	12
RE(GHz)	CHF-04	143442	HPF	MICRO-TRONICS	HPM50111-02	009	2021/05/14	12
RE(GHz)	CSA-07	143643	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY52490024	2021/06/08	12
RE(GHz)	CHF-03	143459	HPF	MICRO-TRONICS	HPM50111-02	008	2021/05/14	12
RE(GHz)	CHA-07	143438	Double Ridged Horn	ETS-Lindgren (Cedar Park, Texas)	3160-09	00166043	2021/06/05	12
RE(GHz)	CAF-19	142937	Pre-Amplifier	TOYO	HAP18-26W	00000035	2021/06/23	12
RE(GHz)	CCC-W09	143113	Micro Wave Cable	Suhner	SUCOFLEX104	MY588/4	2021/08/03	12
RE(GHz)	TSA-01	143642	Spectrum Analyzer	Keysight Technologies Inc	N9030A	MY53310670 Version A.13.12	2021/05/24	12
RE	CCC-S11-R	143169	11Site RE 3m System	None	none(No.11 RE)	none	2020/11/10	12
RE	CBL-09	143122	LOGBICON	Schwarzbeck Mess-Elektronik OHG	VULB 9168	508	2021/04/19	12
RE	CAT5-04	178807	5dB Fixed Atten.	Pasternack Enterprises	PE7047-5	none	2021/04/21	12
RE	CAF-16	142936	Pre-Amplifier	SONOMA INSTRUMENT	310N	325015	2021/05/27	12
RE	CTR-01	144193	Test Receiver	Rohde & Schwarz	ESU40	100426	2021/04/23	12
RE	CSCL-12	143653	Ruler	TAJIMA	L19-55	none	-	-
RE	COS-10	143542	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	090999895/090905406	2021/06/24	12
RE	CBM-10	143133	Barometer	Sunoh	SBR-151	001439	2018/11/26	36
RE	CTS-14	144216	Digital Multimeter	Fluke Corporation	115	994460954	2021/10/20	12
RE	COTS-CE MI-03	178804	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE, ME,PE)	Ver 3.1.0484	-	-

*Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.

The expiration date of the calibration is the end of the expired month.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item: RE: Radiated Emission

UL Japan, Inc.

Kashima EMC Lab.

1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

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Facsimile : +81 478 82 3373