



RADIO TEST REPORT

Test Report No. : 11306372M-C-R2

Applicant : Sony Corporation
Type of Equipment : Digital Paper
Model No. : DPT-RP1
FCC ID : AK8DPTRP1
Test regulation : FCC Part 15 Subpart E: 2016
(5 GHz Wireless LAN part)
Test item : Conducted Emission
Radiated Spurious Emission
Test Result : Complied

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
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. This report is a revised version of 11306372M-C-R1. 11306372M-C-R1 is replaced with this report.

Date of test: June 15-21, 23, 24, 29,
July, 7, 10, 11, 2016

Representative test engineer: 
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Consumer Technology Division

Approved by: 
Masanori Nishiyama
Manager
Consumer Technology Division



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".

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Kashima EMC Lab.

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SECTION 1: Customer information

Company Name : Sony Corporation
Brand Name : SONY
Address : 1-7-1 Konan, Minato-ku, Tokyo 108-0075, Japan

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : Digital Paper
Model No. : DPT-RP1
Serial No. : Refer to Section 4, Clause 4.2
Rating : DC 3.7 V
Receipt Date of Sample : May 30, 2016
Country of Mass-production : Japan
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No Modification by the test lab.

2.2 Product Description

Model: DPT-RP1 (referred to as the EUT in this report) is a Digital Paper.

Clock frequency : 156 MHz (CPLD), 667 MHz (LPDDR3), 200 MHz (eMMC),
40 MHz (WLAN/BT), 208 MHz (WLAN/BT), 32.768 kHz (clock),
26 MHz (CPU), 27 MHz (NFC)

Radio Specification

Equipment name	IEEE 802.11 2x2 MIMO a/b/g/n/ac Wireless LAN + Bluetooth + NFC			
Frequency of operation	Bluetooth	2.4GHz band: 2402-2480 MHz (BDR (Basic Data Rate), EDR (Enhanced Data Rate), LE (Low Energy mode))		
	WLAN	2.4GHz band: 2412-2462 MHz (b,g,n(HT20)); W52 (U-NII-1): 5180-5240 MHz (a,n(HT20),ac(VHT20)) / 5190-5230 MHz (n(HT40),ac(VHT40)) / 5210 MHz (ac(VHT80)); W53 (U-NII-2A): 5260-5320 MHz (a,n(HT20),ac(VHT20)) / 5270-5310 MHz (n(HT40),ac(VHT40)) / 5290 MHz (ac(VHT80)); W56 (U-NII-2C): 5500-5720 MHz (a,n(HT20),ac(VHT20)) / 5510-5710 MHz (n(HT40),ac(VHT40)) / 5530-5690 MHz (ac(VHT80)); W58 (U-NII-3): 5745-5825 MHz (a,n(HT20),ac(VHT20)) / 5755-5795 MHz (n(HT40),ac(VHT40)) / 5775 MHz (ac(VHT80))		
		NFC	13.56 MHz	
Operation mode	Wi-Fi	Bluetooth	NFC	
Channel spacing	5 MHz (2.4 GHz band), 20 MHz (W52, W53, W56, W58)	1 MHz (BDR, EDR), 2 MHz (LE)	-	
Bandwidth	20 MHz (b,g,a,n(HT20),ac(VHT20)), 40 MHz (n(HT40),ac(VHT40)), 80 MHz (ac(VHT80))	79 MHz	-	
Type of modulation	DSSS: DBPSK, DQPSK, CCK OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM(*1) (*1. 256QAM is only supported by 11ac mode.)	FHSS: GFSK (* EDR: GFSK+ $\pi/4$ -DQPSK, GFSK+ 8DPSK)	ASK	
Antenna	antenna #A (Wi-Fi)	antenna #B (Wi-Fi+Bluetooth)		
Antenna type	Loop			
Antenna gain (Peak)	3.75 dBi (2.4 GHz), 2.81 dBi (5 GHz) (*.including cable loss)	1.38 dBi (2.4 GHz), 4.29 dBi (5 GHz) (*.including cable loss)		
Antenna	NFC antenna			
Antenna type	Loop			
Card type	type A, type F			

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart E
FCC part 15 final revised on April 6, 2016.

Title : FCC 47CFR Part15 Radio Frequency Device Subpart E
Unlicensed National Information Infrastructure Devices
Section 15.407 General technical requirements

The EUT has been tested for compliance with FCC Part 15 Subpart B. Refer to the test report 11306371S-F.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks	
Conducted Emission	FCC: ANSI C63.10-2013	FCC: 15.407 (b) (6) / 15.207	QP 14.8 dB, 0.65501 MHz, N AV 14.0 dB, 0.62335 MHz, N	Complied	-	
	IC: RSS-Gen 8.8	IC: RSS-Gen 8.8				
26 dB Emission Bandwidth	FCC: KDB Publication Number 789033	FCC: 15.407 (a) (1) (2) (3)	N/A	N/A*1)	Conducted	
	IC: -	IC: -				
Maximum Conducted Output Power	FCC: KDB Publication Number 789033	FCC: 15.407 (a) (1) (2) (3)		N/A	N/A*1)	Conducted
	IC: -	IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)				
Maximum Power Spectral Density	FCC: KDB Publication Number 789033	FCC : 15.407 (a) (1) (2) (3)		N/A	N/A*1)	Conducted
	IC: -	IC: RSS-247 6.2.1 (1) 6.2.2 (1) 6.2.3 (1) 6.2.4 (1)				
Spurious Emission Restricted Band Edge	FCC: ANSI C63.10-2013 KDB Publication Number 789033	FCC: 15.407 (b), 15.205 and 15.209	2.1 dB 5150.0 MHz, AV, Hori.	Complied	Conducted (< 30 MHz) *1) /Radiated (> 30 MHz) *2)	
	IC: -	IC: RSS-247 6.2.1 (2) 6.2.2 (2) 6.2.3 (2) 6.2.4 (2)				
6 dB Emission Bandwidth	FCC: ANSI C63.10-2013	FCC: 15.407 (e)	See data	N/A *1)	Conducted	
	IC: -	IC: RSS-247 6.2.4 (1)				
Dynamic Frequency Selection	FCC: KDB 905462 D02	FCC: 15.407(h)	N/A	N/A *3)	Conducted	
	IC: FCC KDB 905462 D02	IC: RSS-247 6.3				

Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.

*1) Refer to the report: 11306372S-C.

*2) Radiated test was selected over 30 MHz based on section FCC 15.407 (b) and KDB 789033 D02 G.3.b).

*3) For DFS tests, please see the test report number 11306372S-D.

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

FCC Part 15.31 (e)

This EUT provides stable voltage (DC 3.3 V and 1.8 V) constantly to RF transmitter regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

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

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3.3 Addition to standard

Item	Test Procedure	Specification	Worst margin	Results	Remarks
99 % Occupied Bandwidth	IC: RSS-Gen 6.6	IC: -	N/A	-	Conducted

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

3.4 Uncertainty

EMI

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

Item	Frequency range	Uncertainty (+/-)
Conducted emission	0.15 MHz-30 MHz	2.8 dB
Radiated emission	30MHz - 300MHz	5.1dB
	300MHz - 1GHz	6.3dB
	1GHz - 6GHz	4.5dB
	6GHz - 18GHz	4.8dB
	18GHz - 26.5GHz	4.9dB
	above 26.5GHz	4.9dB

Conducted Emission test

The data listed in this test report has enough margin, more than the site margin.

Radiated emission test

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

3.5 Test Location

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A2LA Accreditation No. 1266.01

Test site	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Open site	4659A-1	6.0 x 5.5 x 2.5	20 x 40	10 m
No.2 Open site	4659A-2	4.4 x 4.4 x 2.15	18 x 20	10 m
No.5 Open site	4659A-5	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	4659A-1	5.4 x 4.5 x 2.3	-	-
No.2 Shielded room	4659A-2	3.6 x 2.7 x 2.3	-	-
No.3 Shielded room	-	5.4 x 3.6 x 2.3	-	-
No.4 Shielded Room	-	6.1 x 6.1 x 3.1	-	-
No.5 Shielded Room	4659A-5	4.2 x 3.1 x 2.5	-	-
No.3 Fully Anechoic Chamber	-	7.0 x 3.5 x 3.5	-	-
No.6 Semi-anechoic Chamber	4659A-6	8.5 x 5.5 x 5.2	-	3 m
No.10 Semi-anechoic Chamber	4659A-10	18.4 x 9.9 x 7.7	-	10 m
No.11 Semi-anechoic Chamber	4659A-7	9.0 x 6.5 x 5.2	-	3 m
No.1 Measurement room	-	5.0 x 3.7 x 2.6	-	-
No.6 Measurement room	-	4.3 x 4.4 x 2.7	-	-

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Mode(s)

Test operating mode was determined as follows according to “Section 1 of 6 802.11 a/b/g/n testing - Managing Complex Regulatory Approvals -” of TCB Council Workshop October 2009.

Mode	Remarks*	Power setting
IEEE 802.11a	6 Mbps, PN9	11
IEEE 802.11n MIMO 20 MHz BW	MCS 8, PN9	11
IEEE 802.11n MIMO 40 MHz BW	MCS 8, PN9	10
IEEE 802.11ac MIMO 80 MHz BW	MCS 0, PN9	7 *1)
<p>*Transmitting duty was refer to APEENDIX. *The worst condition was determined based on the test result of Maximum Conducted Output Power. *Power of the EUT was set by the software: DutApiMimoBtFmBridgeEth.exe Version 2.0.0.75 *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 test was performed with the representative antenna cable that was work measured value by test report No. 11306371S-C. *1) The actual output power differs from the setting value.</p>		

*The details of Operation mode(s)

Test Item	Operating Mode	Tested Antenna	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Conducted emission	11n-20 (MIMO) Tx *1,*2)	A & B	-	-	5720 MHz	-
Radiated Spurious Emission (Below 1 GHz)	11n-20 (MIMO) Tx *1,*2)	A & B	-	-	5720 MHz	-
Radiated Spurious Emission (Above 1 GHz)	11n-20 (MIMO) Tx *2)	A & B	5180 MHz	5260 MHz 5320 MHz	5500 MHz 5580 MHz 5700 MHz 5720 MHz	5745 MHz 5785 MHz 5825 MHz
	11n-40 (MIMO) Tx *3)	A & B	5190 MHz	5270 MHz 5310 MHz	5510 MHz 5550 MHz 5670 MHz 5710 MHz	5755 MHz 5795 MHz
	11ac-80 (MIMO) Tx	A & B	5210 MHz	5290 MHz	5530 MHz 5610 MHz 5690 MHz	5775 MHz
<p>*1) The mode was tested as a representative, because it had the highest power at antenna terminal test. *2) The 11n-20 mode was tested as a representative. Because 11n-20 and 11a modes were not only the same modulation and band width but also the 11n-20 mode has higher power than 11a mode. *3) The 11n-40 mode was tested as a representative. Because 11n-40 and 11ac-40 modes were not only the same modulation and band width but also the 11n-40 mode has higher power than 11ac-40 mode. (Refer to the report: 11306371S-C)</p>						

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*Simultaneously transmission

Test Item	Operating Mode *1)	Tested Antenna	Tested Frequency			
			Lower Band	Middle Band	Additional Band	Upper Band
Conducted emission	11n-40 (MIMO) Tx (with BT LE 2480MHz)	A & B	5190 MHz	-	-	-
Radiated Spurious Emission (Below 1 GHz)	11n-40 (MIMO) Tx (with BT LE 2480MHz)	A & B	5190 MHz	-	-	-
Radiated Spurious Emission (Above 1 GHz)	11n-40 (MIMO) Tx (with BT LE 2480MHz)	A & B	5190 MHz	5310 MHz	5510 MHz 5670 MHz	5755 MHz 5795 MHz

*1) The test was performed on the mode as a representative, because it had highest power of 5GHz band at antenna terminal test.

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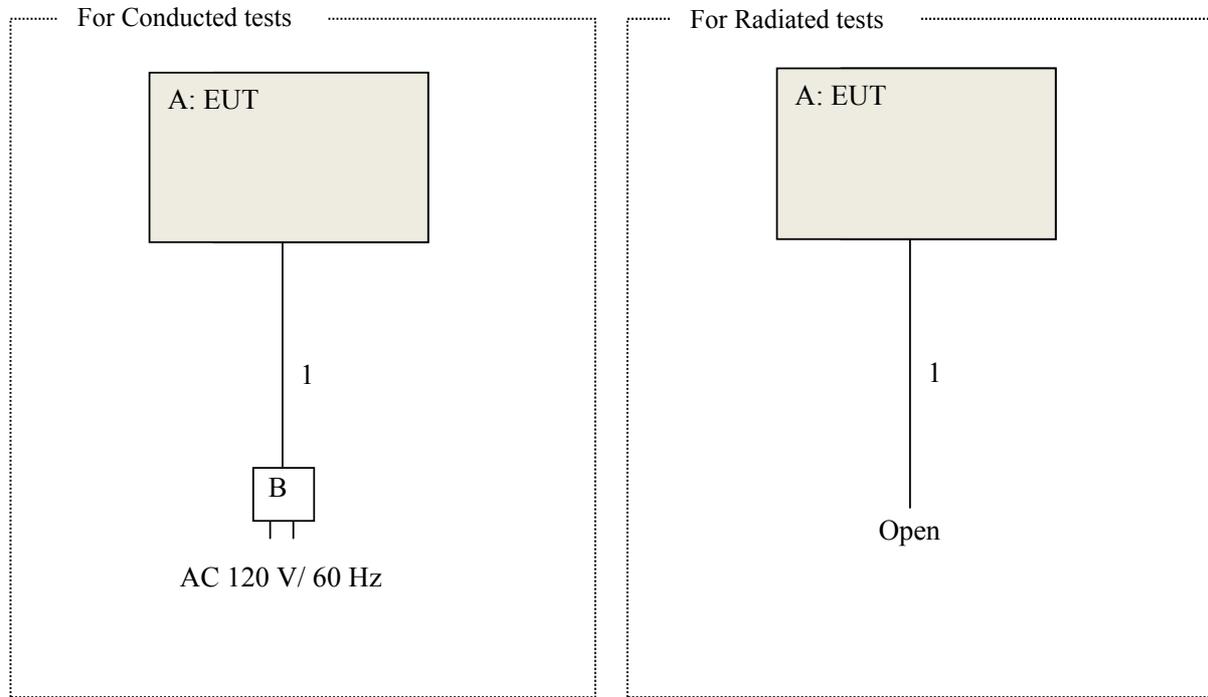
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4.2 Configuration and peripherals



* Test data was taken under worse case conditions.

Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Digital Paper	DPT-RP1	504	Sony Corporation	EUT
B	AC Adaptor	AC-UUD12	15091AR1000145	Sony Corporation	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	USB Cable	1.5	Shielded	Shielded	-

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SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a wooden table of nominal size, 1.0 m by 2.0 m, raised 0.8m above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. EUT was located 80 cm from a Line Impedance Stabilization Network (LISN) / Artificial mains Network (AMN) and excess AC cable was bundled in center.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT via AC adaptor in a Shielded room.

The EUT via AC adaptor was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

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

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

SECTION 6: Radiated Spurious Emission and Band Edge Compliance

Test Procedure

< Below 1GHz >

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 0.8 m above the conducting ground plane. The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

< Above 1GHz >

EUT was placed on a urethane platform of nominal size, 0.5 m by 0.5 m, raised 1.5 m above the conducting ground plane.

The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with absorbent materials lined on a ground plane.

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

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

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

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

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

< Below 1GHz >

The result also satisfied with the general limits specified in section 15.209 (a).

< Above 1GHz >

Inside of restricted bands (Section 15.205):

Apply to limit in the Section 15.209 (a).

Outside of the restricted bands:

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p. *) in the Section 15.407 (b) (1) (2) (3).

Apply to limit 68.2 dBuV/m, 3 m (-27 dBm e.i.r.p. *) or

78.2 dBuV/m, 3 m (-17 dBm e.i.r.p. *) in the Section 15.407 (b).

Restricted band edge:

Apply to limit in the Section 15.209 (a).

Since this limit is severer than the limit of the inside of restricted bands.

*Electric field strength to e.i.r.p. conversion:

$$E = \frac{1000000\sqrt{30P}}{3} \text{ (uV/m)} \quad ; P \text{ is the e.i.r.p. (Watts)}$$

Test Antennas are used as below;

Frequency	Below 1 GHz	Above 1 GHz
Antenna Type	Hybrid	Horn

Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector	QP	Peak	Average
IF Bandwidth	BW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	Method VB *1) RBW: 1 MHz VBW: 1/T (*T = transmission duration)
Test Distance	3 m	4 m*2) (1 GHz – 10GHz), 1 m*3) (10 GHz – 40 GHz)	

*1) The test method was also referred to KDB 789033 D02 General UNII Test Procedures New Rules v01r02 "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E (Issued on April 8, 2016)".

*2) Distance Factor: $20 \times \log(4.0 \text{ m}/3.0 \text{ m}) = 2.5 \text{ dB}$

*3) Distance Factor: $20 \times \log(1.0 \text{ m}/3.0 \text{ m}) = -9.5 \text{ dB}$

- 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.

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

Measurement range : 30 MHz-40 GHz

Test data : APPENDIX

Test result : Pass

APPENDIX 1: Test data

Conducted Emission

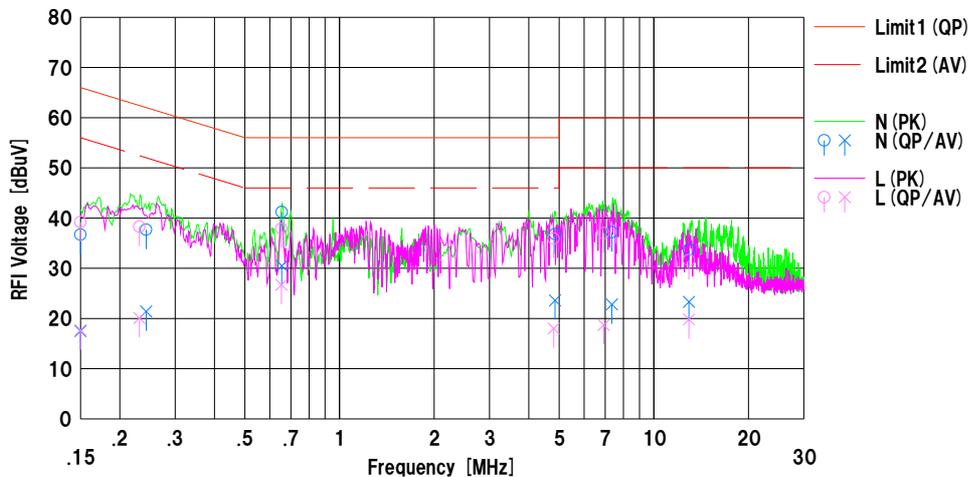
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.5 Shielded Room
Date : 2016/06/29

Mode : 11n-20 MCS8 5720MHz
Report No. : 11306372M
Power : AC 120V / 60Hz
Temp./Humi. : 24deg.C / 52%RH

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Tested by : Kazuhiro Ando



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	27.0	7.8	9.7	36.7	17.5	66.0	56.0	29.3	38.5	N	
2	0.24268	28.0	11.7	9.7	37.7	21.4	62.0	52.0	24.3	30.6	N	
3	0.65501	31.5	20.8	9.7	41.2	30.5	56.0	46.0	14.8	15.5	N	
4	4.84778	26.8	13.6	10.0	36.8	23.6	56.0	46.0	19.2	22.4	N	
5	7.35322	27.0	12.6	10.2	37.2	22.8	60.0	50.0	22.8	27.2	N	
6	12.93656	23.4	13.0	10.3	33.7	23.3	60.0	50.0	26.3	26.7	N	
7	0.15000	29.5	8.0	9.7	39.2	17.7	66.0	56.0	26.8	38.3	L	
8	0.23102	28.6	10.4	9.7	38.3	20.1	62.4	52.4	24.1	32.3	L	
9	0.65398	28.2	17.0	9.7	37.9	26.7	56.0	46.0	18.1	19.3	L	
10	4.80028	25.9	8.0	10.0	35.9	18.0	56.0	46.0	20.1	28.0	L	
11	6.92550	26.8	8.5	10.2	37.0	18.7	60.0	50.0	23.0	31.3	L	
12	12.93329	21.3	9.5	10.3	31.6	19.8	60.0	50.0	28.4	30.2	L	

Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable) [dB]
LISN:CLS-25

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Conducted Emission

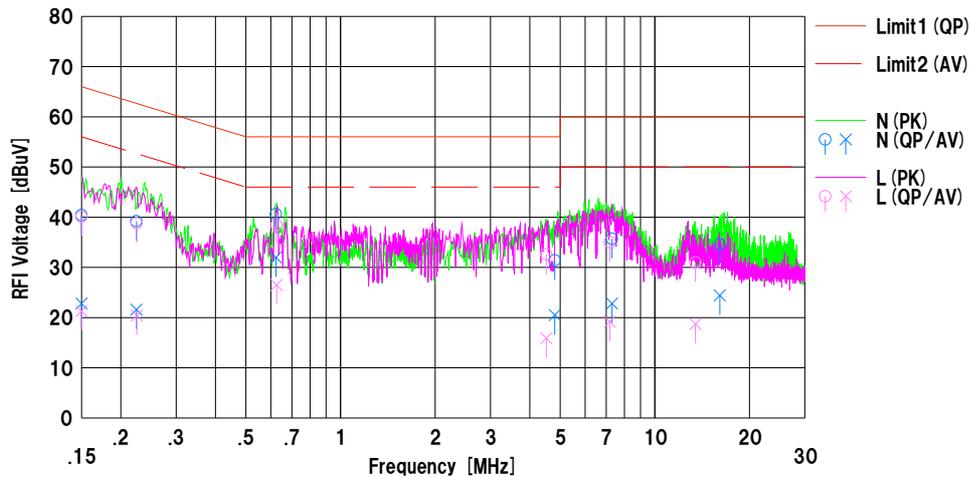
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Shielded Room
Date : 2016/07/11

Mode : BLE 2480M, 11n-40 (mimo) 5190M
Order No. : 11306372M
Power : AC 120V / 60Hz
Temp./Humi. : 24deg.C / 44%RH

Limit1 : FCC 15C (15.207) QP
Limit2 : FCC 15C (15.207) AV

Tested by : Kazuhiro Ando

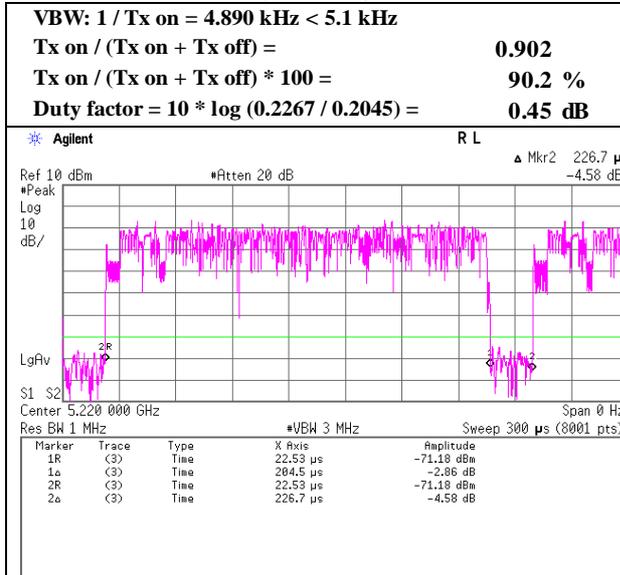


No.	Freq. [MHz]	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.15000	30.7	13.1	9.7	40.4	22.8	66.0	56.0	25.6	33.2	N	
2	0.22420	29.5	11.9	9.7	39.2	21.6	62.7	52.7	23.5	31.1	N	
3	0.62335	30.9	22.3	9.7	40.6	32.0	56.0	46.0	15.4	14.0	N	
4	4.80642	21.5	10.6	9.9	31.4	20.5	56.0	46.0	24.6	25.5	N	
5	7.30494	25.6	12.7	10.1	35.7	22.8	60.0	50.0	24.3	27.2	N	
6	16.09521	24.3	14.1	10.3	34.6	24.4	60.0	50.0	25.4	25.6	N	
7	0.15000	30.4	11.6	9.7	40.1	21.3	66.0	56.0	25.9	34.7	L	
8	0.22477	29.1	10.7	9.7	38.8	20.4	62.6	52.6	23.8	32.2	L	
9	0.62605	28.7	16.8	9.7	38.4	26.5	56.0	46.0	17.6	19.5	L	
10	4.51703	22.7	6.0	9.9	32.6	15.9	56.0	46.0	23.4	30.1	L	
11	7.19441	24.9	9.1	10.1	35.0	19.2	60.0	50.0	25.0	30.8	L	
12	13.45950	20.7	8.4	10.3	31.0	18.7	60.0	50.0	29.0	31.3	L	

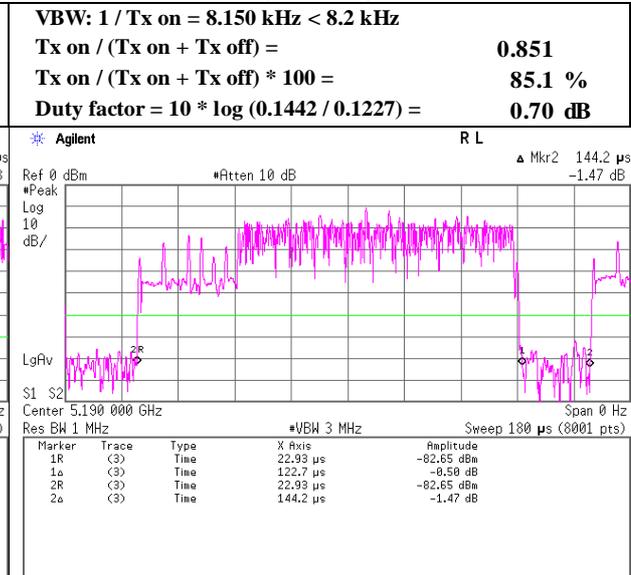
Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable) [dB]
LISN:CLS-25

Burst rate confirmation

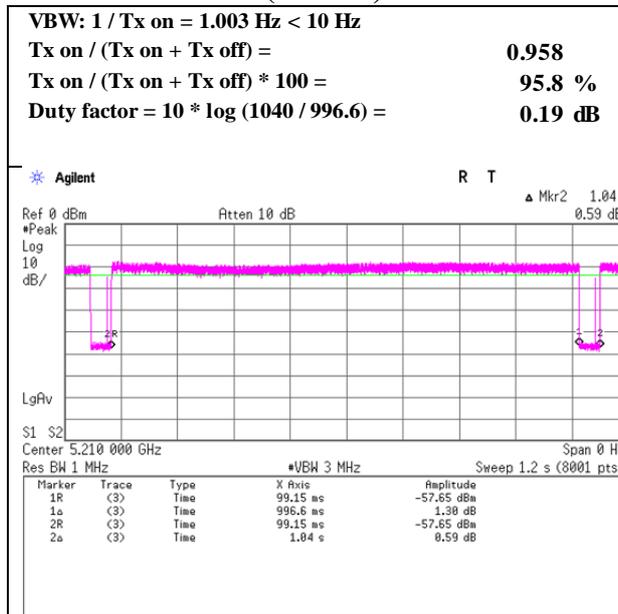
11n-20(MIMO) MCS8



11n-40(MIMO) MCS8



11ac-80(MIMO) MCS0



Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 15, 2016 June 21, 2016 June 15, 2016 June 17, 2016
Temperature / Humidity : 23deg. C / 50 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5180 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.0	PK	53.4	31.9	16.1	46.2	2.5	57.7	73.9	16.2	152.0	59.0	
Hori.	15540.0	PK	49.8	38.2	11.1	45.4	-9.5	44.2	73.9	29.7	100.0	0.0	
Hori.	20720.0	PK	52.5	40.3	6.5	46.4	-9.5	43.4	73.9	30.5	194.0	223.0	
Hori.	5150.0	AV	44.2	31.9	16.1	46.2	2.5	48.5	53.9	5.4	152.0	59.0	
Hori.	15540.0	AV	40.0	38.2	11.1	45.4	-9.5	34.4	53.9	19.5	100.0	0.0	
Hori.	20720.0	AV	49.4	40.3	6.5	46.4	-9.5	40.3	53.9	13.6	194.0	223.0	
Vert.	5150.0	PK	53.2	31.9	16.1	46.2	2.5	57.5	73.9	16.4	215.0	87.0	
Vert.	15540.0	PK	49.8	38.2	11.1	45.4	-9.5	44.2	73.9	29.7	100.0	0.0	
Vert.	20720.0	PK	55.3	40.3	6.5	46.4	-9.5	46.2	73.9	27.7	165.0	133.0	
Vert.	5150.0	AV	44.0	31.9	16.1	46.2	2.5	48.3	53.9	5.6	215.0	87.0	
Vert.	15540.0	AV	40.0	38.2	11.1	45.4	-9.5	34.4	53.9	19.5	100.0	0.0	
Vert.	20720.0	AV	53.2	40.3	6.5	46.4	-9.5	44.1	53.9	9.8	165.0	133.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10360.0	PK	52.4	39.9	8.6	42.7	-9.5	48.7	-46.5	-27.0	19.5	169.0	208.0	
Vert.	10360.0	PK	55.1	39.9	8.6	42.7	-9.5	51.4	-43.8	-27.0	16.8	184.0	164.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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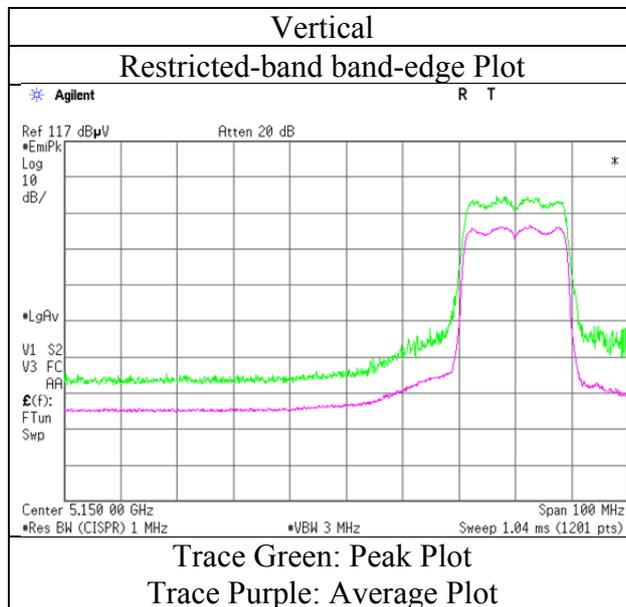
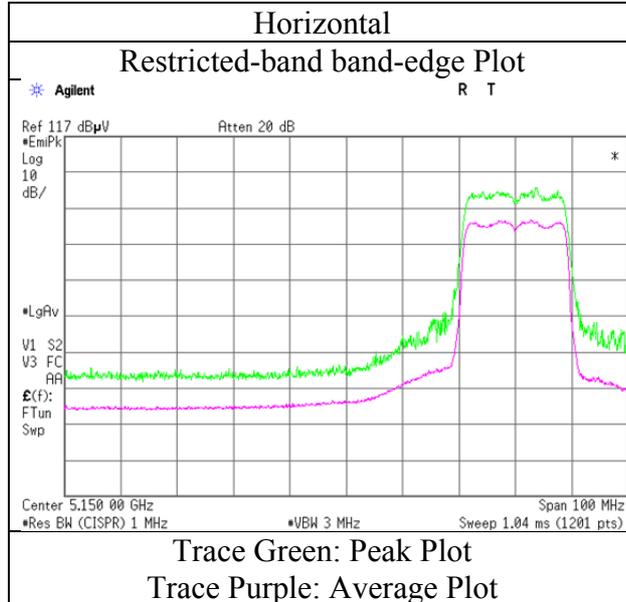
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 15, 2016
Temperature / Humidity	23deg. C / 50 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-20 (MIMO) 5180 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 15, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5260 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15780.0	PK	50.3	37.6	11.2	45.4	-9.5	44.2	73.9	29.7	100.0	0.0	
Hori.	21040.0	PK	51.1	40.3	6.6	46.5	-9.5	42.0	73.9	31.9	197.0	223.0	
Hori.	15780.0	AV	40.1	37.6	11.2	45.4	-9.5	34.0	53.9	19.9	100.0	0.0	
Hori.	21040.0	AV	47.7	40.3	6.6	46.5	-9.5	38.6	53.9	15.3	197.0	223.0	
Vert.	15780.0	PK	51.0	37.6	11.2	45.4	-9.5	44.9	73.9	29.0	100.0	0.0	
Vert.	21040.0	PK	56.3	40.3	6.6	46.5	-9.5	47.2	73.9	26.7	167.0	121.0	
Vert.	15780.0	AV	41.6	37.6	11.2	45.4	-9.5	35.5	53.9	18.4	100.0	0.0	
Vert.	21040.0	AV	54.4	40.3	6.6	46.5	-9.5	45.3	53.9	8.6	167.0	121.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10520.0	PK	53.2	40.1	8.7	42.6	-9.5	49.9	-45.3	-27.0	18.3	171.0	208.0	
Vert.	10520.0	PK	56.2	40.1	8.7	42.6	-9.5	52.9	-42.3	-27.0	15.3	189.0	230.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 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

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5320 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.0	PK	53.7	31.5	16.2	46.3	2.5	57.6	73.9	16.3	165.0	125.0	
Hori.	10640.0	PK	53.8	40.2	8.7	42.7	-9.5	50.5	73.9	23.4	200.0	230.0	
Hori.	15960.0	PK	50.3	37.5	11.3	45.6	-9.5	44.0	73.9	29.9	100.0	0.0	
Hori.	21280.0	PK	52.9	40.3	6.6	46.8	-9.5	43.5	73.9	30.4	192.0	137.0	
Hori.	5350.0	AV	42.7	31.5	16.2	46.3	2.5	46.6	53.9	7.3	165.0	125.0	
Hori.	10640.0	AV	49.8	40.2	8.7	42.7	-9.5	46.5	53.9	7.4	200.0	230.0	
Hori.	15960.0	AV	40.1	37.5	11.3	45.6	-9.5	33.8	53.9	20.1	100.0	0.0	
Hori.	21280.0	AV	50.1	40.3	6.6	46.8	-9.5	40.7	53.9	13.2	192.0	137.0	
Vert.	5350.0	PK	54.7	31.5	16.2	46.3	2.5	58.6	73.9	15.3	213.0	78.0	
Vert.	10640.0	PK	57.0	40.2	8.7	42.7	-9.5	53.7	73.9	20.2	190.0	230.0	
Vert.	15960.0	PK	50.6	37.5	11.3	45.6	-9.5	44.3	73.9	29.6	100.0	0.0	
Vert.	21280.0	PK	56.1	40.3	6.6	46.8	-9.5	46.7	73.9	27.2	171.0	220.0	
Vert.	5350.0	AV	42.1	31.5	16.2	46.3	2.5	46.0	53.9	7.9	213.0	78.0	
Vert.	10640.0	AV	53.0	40.2	8.7	42.7	-9.5	49.7	53.9	4.2	190.0	230.0	
Vert.	15960.0	AV	41.5	37.5	11.3	45.6	-9.5	35.2	53.9	18.7	100.0	0.0	
Vert.	21280.0	AV	54.0	40.3	6.6	46.8	-9.5	44.6	53.9	9.3	171.0	220.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log (4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log (1.0 m / 3.0 m) = -9.5 dB

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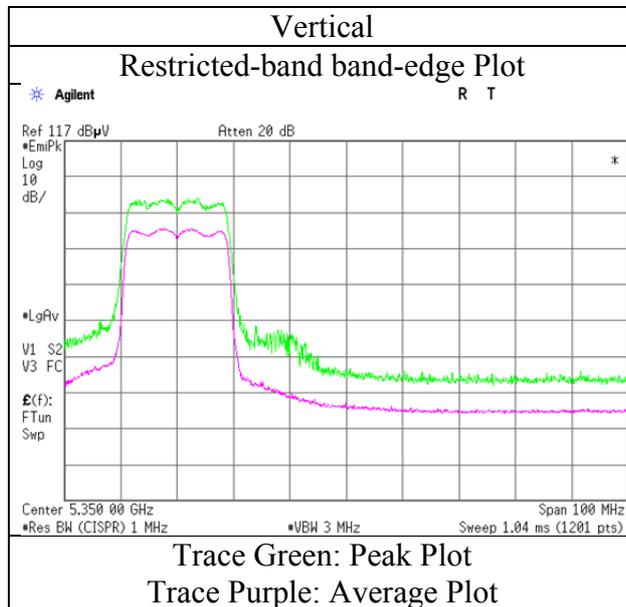
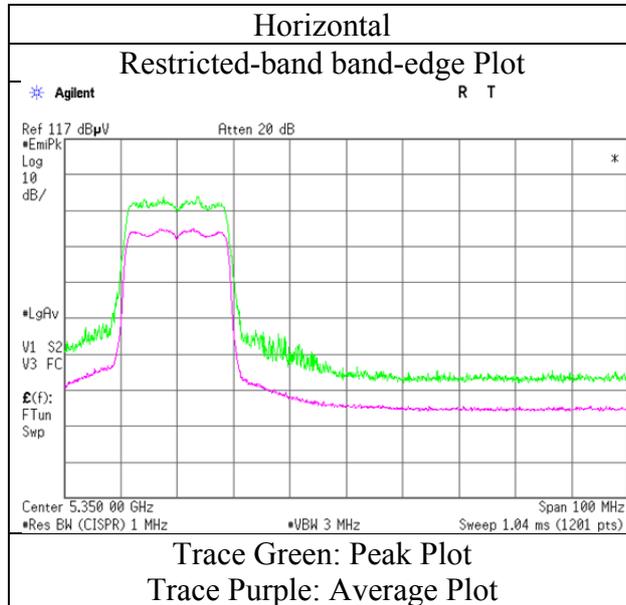
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016
Temperature / Humidity : 21deg. C / 58 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-20 (MIMO) 5320 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5500 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	51.0	31.7	16.2	46.3	2.5	55.1	73.9	18.8	200.0	84.0	
Hori.	11000.0	PK	54.3	40.2	8.9	43.4	-9.5	50.5	73.9	23.4	200.0	228.0	
Hori.	5460.0	AV	41.4	31.7	16.2	46.3	2.5	45.5	53.9	8.4	200.0	84.0	
Hori.	11000.0	AV	49.8	40.2	8.9	43.4	-9.5	46.0	53.9	7.9	200.0	228.0	
Vert.	5460.0	PK	53.7	31.7	16.2	46.3	2.5	57.8	73.9	16.1	185.0	80.0	
Vert.	11000.0	PK	57.0	40.2	8.9	43.4	-9.5	53.2	73.9	20.7	197.0	228.0	
Vert.	5460.0	AV	43.7	31.7	16.2	46.3	2.5	47.8	53.9	6.1	185.0	80.0	
Vert.	11000.0	AV	53.0	40.2	8.9	43.4	-9.5	49.2	53.9	4.7	197.0	228.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.0	PK	52.7	31.8	16.3	46.3	2.5	57.0	-38.2	-27.0	11.2	200.0	84.0	
Hori.	16500.0	PK	50.0	38.4	11.5	45.1	-9.5	45.3	-49.9	-27.0	22.9	100.0	0.0	
Hori.	22000.0	PK	53.2	40.2	6.7	47.4	-9.5	43.2	-52.0	-27.0	25.0	191.0	137.0	
Vert.	5470.0	PK	54.3	31.8	16.3	46.3	2.5	58.6	-36.6	-27.0	9.6	185.0	80.0	
Vert.	16500.0	PK	50.5	38.4	11.5	45.1	-9.5	45.8	-49.4	-27.0	22.4	100.0	0.0	
Vert.	22000.0	PK	58.3	40.2	6.7	47.4	-9.5	48.3	-46.9	-27.0	19.9	172.0	140.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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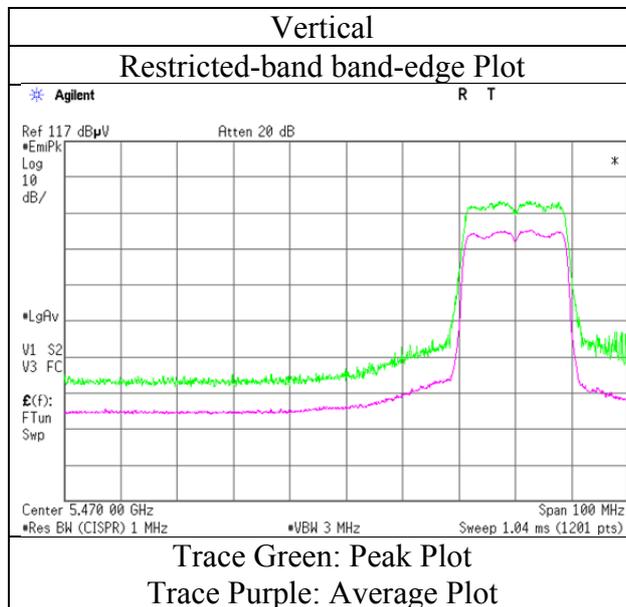
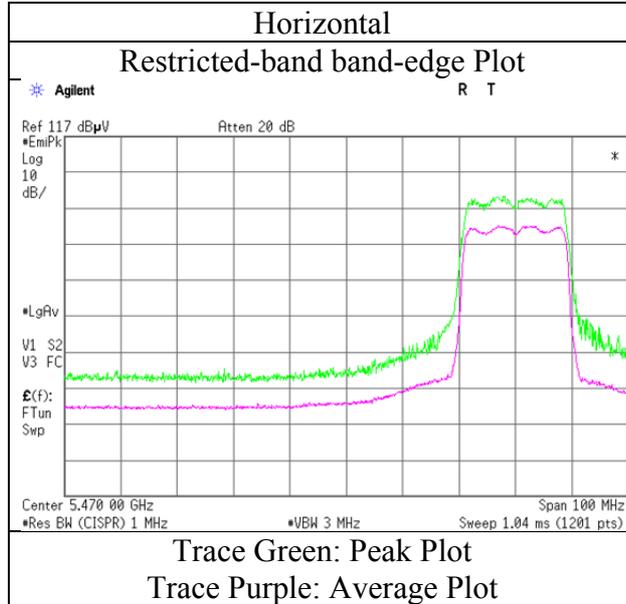
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 20, 2016
Temperature / Humidity	21deg. C / 58 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-20 (MIMO) 5500 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5580 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11160.0	PK	55.1	39.8	8.9	43.3	-9.5	51.0	73.9	22.9	200.0	257.0	
Hori.	22320.0	PK	53.6	40.4	6.8	46.9	-9.5	44.4	73.9	29.5	195.0	145.0	
Hori.	11160.0	AV	51.9	39.8	8.9	43.3	-9.5	47.8	53.9	6.1	200.0	257.0	
Hori.	22320.0	AV	51.2	40.4	6.8	46.9	-9.5	42.0	53.9	11.9	195.0	145.0	
Vert.	11160.0	PK	56.8	39.8	8.9	43.3	-9.5	52.7	73.9	21.2	196.0	230.0	
Vert.	22320.0	PK	56.6	40.4	6.8	46.9	-9.5	47.4	73.9	26.5	168.0	169.0	
Vert.	11160.0	AV	52.8	39.8	8.9	43.3	-9.5	48.7	53.9	5.2	196.0	230.0	
Vert.	22320.0	AV	54.9	40.4	6.8	46.9	-9.5	45.7	53.9	8.2	168.0	169.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.0	PK	50.3	39.4	11.5	45.0	-9.5	46.7	-48.5	-27.0	21.5	100.0	0.0	
Vert.	16740.0	PK	49.5	39.4	11.5	45.0	-9.5	45.9	-49.3	-27.0	22.3	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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Telephone : +81 478 88 6500

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Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5700 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11400.0	PK	52.0	40.0	9.2	43.2	-9.5	48.5	73.9	25.4	200.0	229.0	
Hori.	22800.0	PK	51.4	40.4	6.8	46.4	-9.5	42.7	73.9	31.2	200.0	237.0	
Hori.	11400.0	AV	47.3	40.0	9.2	43.2	-9.5	43.8	53.9	10.1	200.0	229.0	
Hori.	22800.0	AV	47.8	40.4	6.8	46.4	-9.5	39.1	53.9	14.8	200.0	237.0	
Vert.	11400.0	PK	56.3	40.0	9.2	43.2	-9.5	52.8	73.9	21.1	166.0	170.0	
Vert.	22800.0	PK	56.6	40.4	6.8	46.4	-9.5	47.9	73.9	26.0	194.0	222.0	
Vert.	11400.0	AV	53.8	40.0	9.2	43.2	-9.5	50.3	53.9	3.6	166.0	170.0	
Vert.	22800.0	AV	55.0	40.4	6.8	46.4	-9.5	46.3	53.9	7.6	194.0	222.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	56.7	32.0	16.5	46.2	2.5	61.5	-33.7	-27.0	6.7	176.0	123.0	
Hori.	17100.0	PK	49.0	40.6	11.6	44.5	-9.5	47.2	-48.0	-27.0	21.0	100.0	0.0	
Vert.	5725.0	PK	54.7	32.0	16.5	46.2	2.5	59.5	-35.7	-27.0	8.7	188.0	94.0	
Vert.	17100.0	PK	49.0	40.6	11.6	44.5	-9.5	47.2	-48.0	-27.0	21.0	100.0	0.0	

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

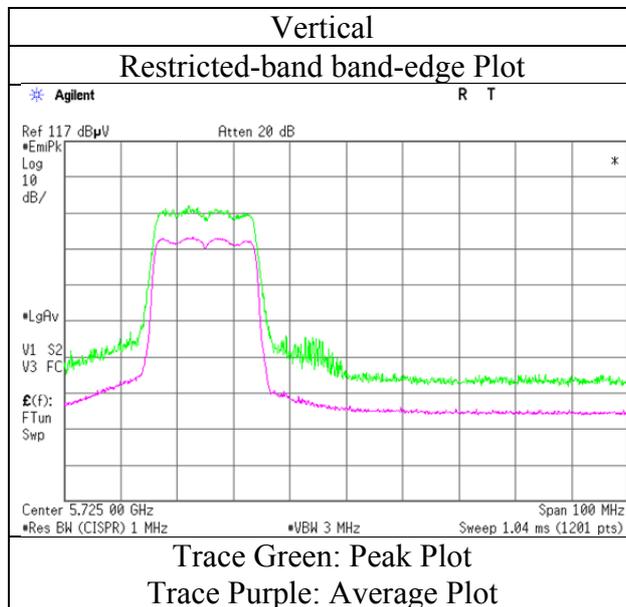
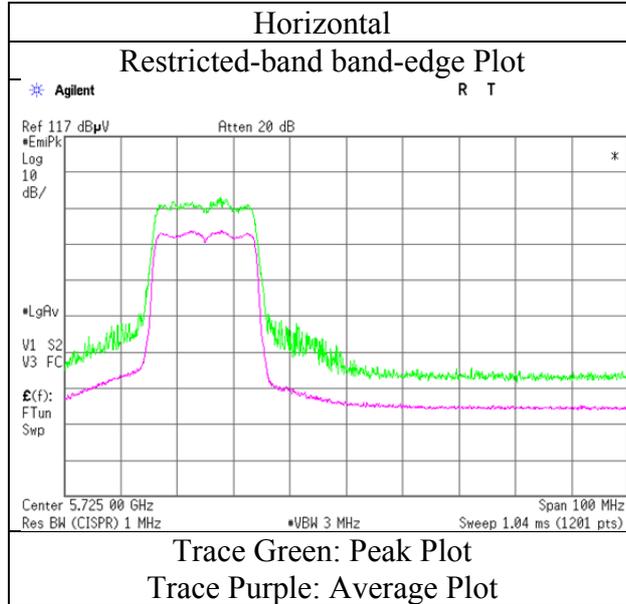
Result(EIRP[dBm])=10*LOG (((10^(Electric Field Strength [dBuV/m] / 20) * 10^(-6) * Distance:3[m])^2) / 30) * 10^3)

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 20, 2016
Temperature / Humidity	21deg. C / 58 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-20 (MIMO) 5700 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 17, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5745 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.0	PK	51.0	40.0	9.2	43.4	-9.5	47.3	73.9	26.6	180.0	127.0	
Hori.	22980.0	PK	51.1	40.4	6.8	46.5	-9.5	42.3	73.9	31.6	170.0	237.0	
Hori.	11490.0	AV	45.5	40.0	9.2	43.4	-9.5	41.8	53.9	12.1	180.0	127.0	
Hori.	22980.0	AV	48.0	40.4	6.8	46.5	-9.5	39.2	53.9	14.7	170.0	237.0	
Vert.	11490.0	PK	54.8	40.0	9.2	43.4	-9.5	51.1	73.9	22.8	190.0	183.0	
Vert.	22980.0	PK	56.3	40.4	6.8	46.5	-9.5	47.5	73.9	26.4	175.0	192.0	
Vert.	11490.0	AV	50.9	40.0	9.2	43.4	-9.5	47.2	53.9	6.7	190.0	183.0	
Vert.	22980.0	AV	53.8	40.4	6.8	46.5	-9.5	45.0	53.9	8.9	175.0	192.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.0	PK	51.0	31.8	16.5	46.3	2.5	55.5	-39.7	-27.0	12.7	164.0	63.0	
Hori.	5700.0	PK	51.8	31.9	16.5	46.2	2.5	56.5	-38.7	10.0	48.7	164.0	63.0	
Hori.	5720.0	PK	53.5	32.0	16.5	46.2	2.5	58.3	-36.9	15.6	52.5	164.0	63.0	
Hori.	5725.0	PK	58.7	32.0	16.5	46.2	2.5	63.5	-31.7	27.0	58.7	164.0	63.0	
Hori.	17235.0	PK	49.0	41.3	11.8	44.5	-9.5	48.1	-47.1	-27.0	20.1	100.0	0.0	
Vert.	5650.0	PK	51.5	31.8	16.5	46.3	2.5	56.0	-39.2	-27.0	12.2	218.0	96.0	
Vert.	5700.0	PK	51.6	31.9	16.5	46.2	2.5	56.3	-38.9	10.0	48.9	218.0	96.0	
Vert.	5720.0	PK	54.7	32.0	16.5	46.2	2.5	59.5	-35.7	15.6	51.3	218.0	96.0	
Vert.	5725.0	PK	57.7	32.0	16.5	46.2	2.5	62.5	-32.7	27.0	59.7	218.0	96.0	
Vert.	17235.0	PK	49.4	41.3	11.8	44.5	-9.5	48.5	-46.7	-27.0	19.7	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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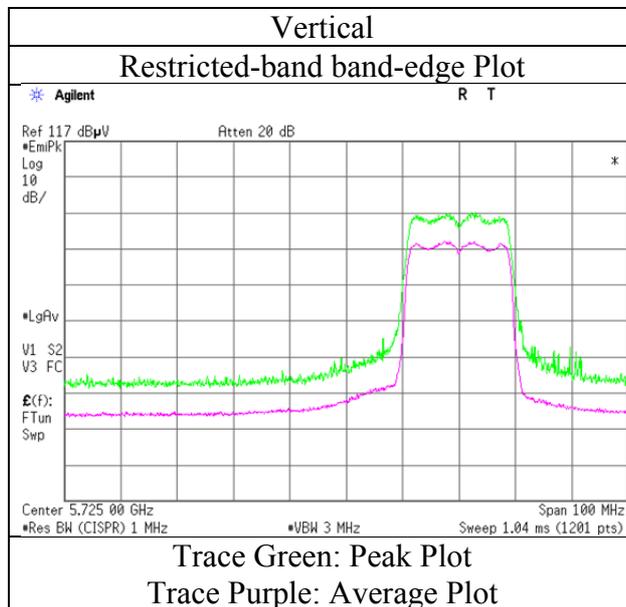
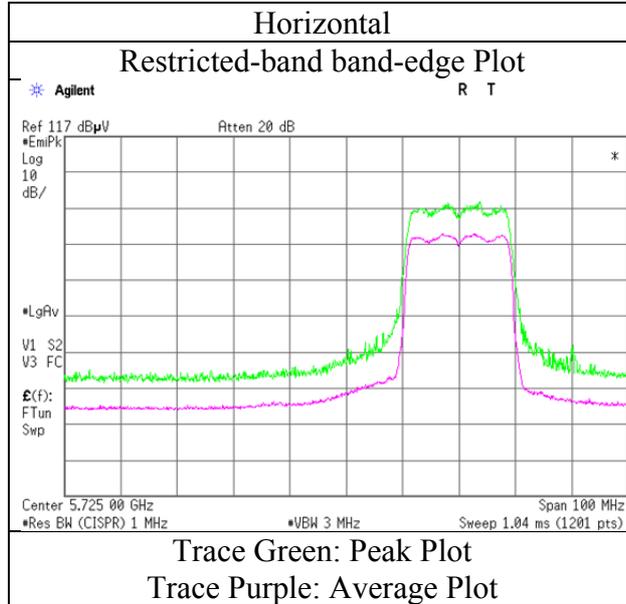
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 20, 2016
Temperature / Humidity	21deg. C / 58 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-20 (MIMO) 5745 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 20, 2016 June 21, 2016 June 16, 2016 June 18, 2016
Temperature / Humidity : 21deg. C / 58 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5785 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.0	PK	53.9	39.7	9.3	43.6	-9.5	49.8	73.9	24.1	179.0	128.0	
Hori.	11570.0	AV	50.1	39.7	9.3	43.6	-9.5	46.0	53.9	7.9	179.0	128.0	
Vert.	11570.0	PK	56.1	39.7	9.3	43.6	-9.5	52.0	73.9	21.9	172.0	180.0	
Vert.	11570.0	AV	53.4	39.7	9.3	43.6	-9.5	49.3	53.9	4.6	172.0	180.0	

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

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.0\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.0	PK	49.0	42.4	11.8	44.4	-9.5	49.3	-45.9	-27.0	18.9	100.0	0.0	
Hori.	23140.0	PK	51.2	40.4	6.9	46.8	-9.5	42.2	-53.0	-27.0	26.0	170.0	237.0	
Vert.	17355.0	PK	49.4	42.4	11.8	44.4	-9.5	49.7	-45.5	-27.0	18.5	100.0	0.0	
Vert.	23140.0	PK	56.3	40.4	6.9	46.8	-9.5	47.3	-47.9	-27.0	20.9	195.0	222.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.0\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 16, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 50 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-20 (MIMO) 5825 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11650.0	PK	52.7	39.3	9.3	43.8	-9.5	48.0	73.9	25.9	177.0	131.0	
Hori.	11650.0	AV	47.5	39.3	9.3	43.8	-9.5	42.8	53.9	11.1	177.0	131.0	
Vert.	11650.0	PK	54.9	39.3	9.3	43.8	-9.5	50.2	73.9	23.7	173.0	224.0	
Vert.	11650.0	AV	50.5	39.3	9.3	43.8	-9.5	45.8	53.9	8.1	173.0	224.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	52.5	32.3	16.6	46.2	2.5	57.7	-37.5	27.0	64.5	163.0	63.0	
Hori.	5855.0	PK	52.3	32.3	16.6	46.2	2.5	57.5	-37.7	15.6	53.3	163.0	63.0	
Hori.	5875.0	PK	51.2	32.3	16.6	46.2	2.5	56.4	-38.8	10.0	48.8	163.0	63.0	
Hori.	5925.0	PK	51.0	32.3	16.6	46.2	2.5	56.2	-39.0	-27.0	12.0	163.0	63.0	
Hori.	17475.0	PK	49.0	43.6	11.9	44.2	-9.5	50.8	-44.4	-27.0	17.4	100.0	0.0	
Hori.	23300.0	PK	51.5	40.4	6.9	47.0	-9.5	42.3	-52.9	-27.0	25.9	178.0	237.0	
Vert.	5850.0	PK	53.1	32.3	16.6	46.2	2.5	58.3	-36.9	27.0	63.9	215.0	88.0	
Vert.	5855.0	PK	52.2	32.3	16.6	46.2	2.5	57.4	-37.8	15.6	53.4	215.0	88.0	
Vert.	5875.0	PK	51.2	32.3	16.6	46.2	2.5	56.4	-38.8	10.0	48.8	215.0	88.0	
Vert.	5925.0	PK	51.0	32.3	16.6	46.2	2.5	56.2	-39.0	-27.0	12.0	215.0	88.0	
Vert.	17475.0	PK	49.1	43.6	11.9	44.2	-9.5	50.9	-44.3	-27.0	17.3	100.0	0.0	
Vert.	23300.0	PK	57.2	40.4	6.9	47.0	-9.5	48.0	-47.2	-27.0	20.2	175.0	223.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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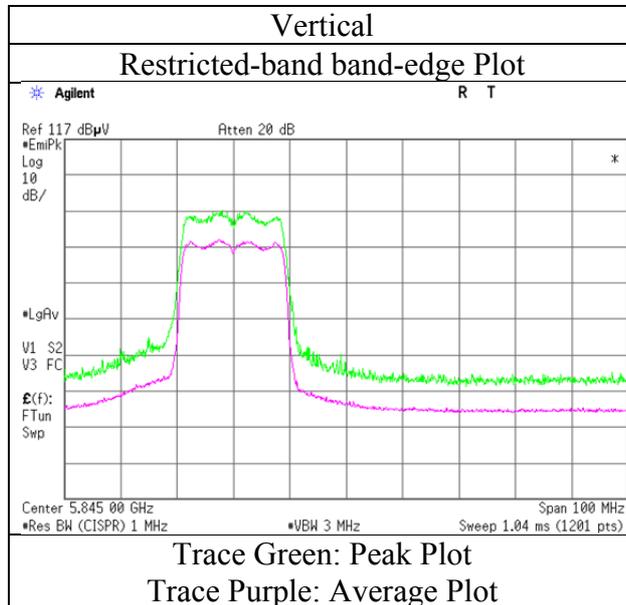
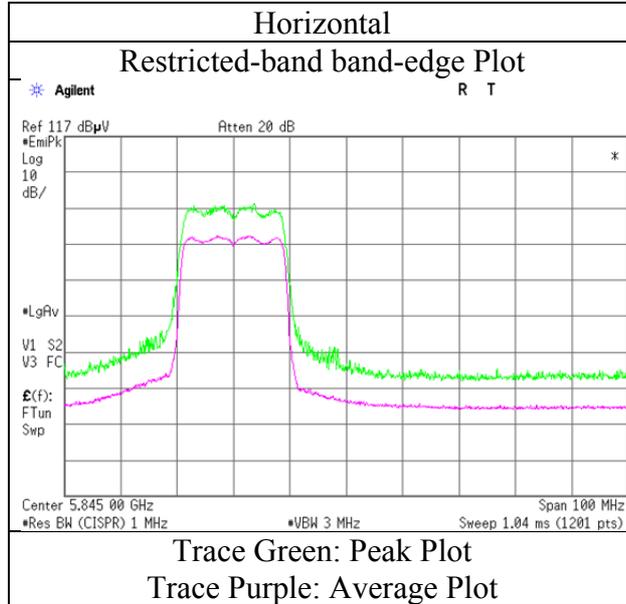
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-20 (MIMO) 5825 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5190 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.0	PK	58.5	31.9	16.1	46.2	2.5	62.8	73.9	11.1	167.0	124.0	
Hori.	15570.0	PK	49.8	38.1	11.1	45.3	-9.5	44.2	73.9	29.7	100.0	0.0	
Hori.	20760.0	PK	53.1	40.3	6.5	46.4	-9.5	44.0	73.9	29.9	201.0	127.0	
Hori.	5150.0	AV	47.5	31.9	16.1	46.2	2.5	51.8	53.9	2.1	167.0	124.0	
Hori.	15570.0	AV	41.2	38.1	11.1	45.3	-9.5	35.6	53.9	18.3	100.0	0.0	
Hori.	20760.0	AV	49.7	40.3	6.5	46.4	-9.5	40.6	53.9	13.3	201.0	127.0	
Vert.	5150.0	PK	59.1	31.9	16.1	46.2	2.5	63.4	73.9	10.5	220.0	92.0	
Vert.	15570.0	PK	50.3	38.1	11.1	45.3	-9.5	44.7	73.9	29.2	100.0	0.0	
Vert.	20760.0	PK	56.6	40.3	6.5	46.4	-9.5	47.5	73.9	26.4	172.0	121.0	
Vert.	5150.0	AV	47.4	31.9	16.1	46.2	2.5	51.7	53.9	2.2	220.0	92.0	
Vert.	15570.0	AV	41.3	38.1	11.1	45.3	-9.5	35.7	53.9	18.2	100.0	0.0	
Vert.	20760.0	AV	53.9	40.3	6.5	46.4	-9.5	44.8	53.9	9.1	172.0	121.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10380.0	PK	52.1	40.0	8.6	42.7	-9.5	48.5	-46.7	-27.0	19.7	171.0	210.0	
Vert.	10380.0	PK	56.0	40.0	8.6	42.7	-9.5	52.4	-42.8	-27.0	15.8	192.0	233.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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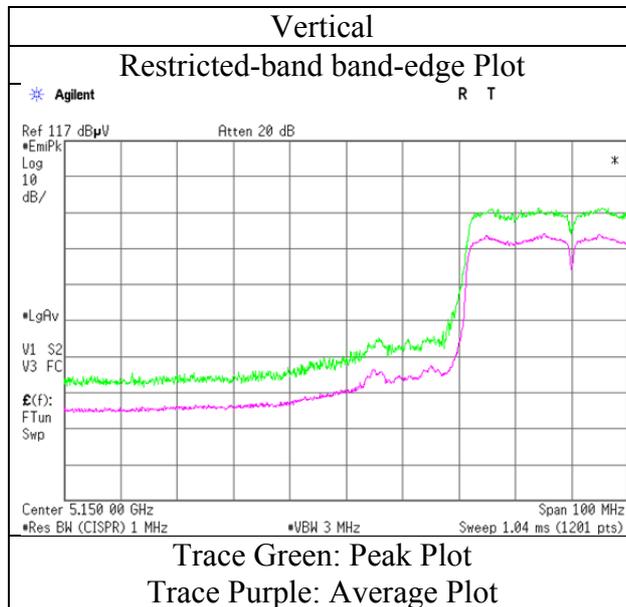
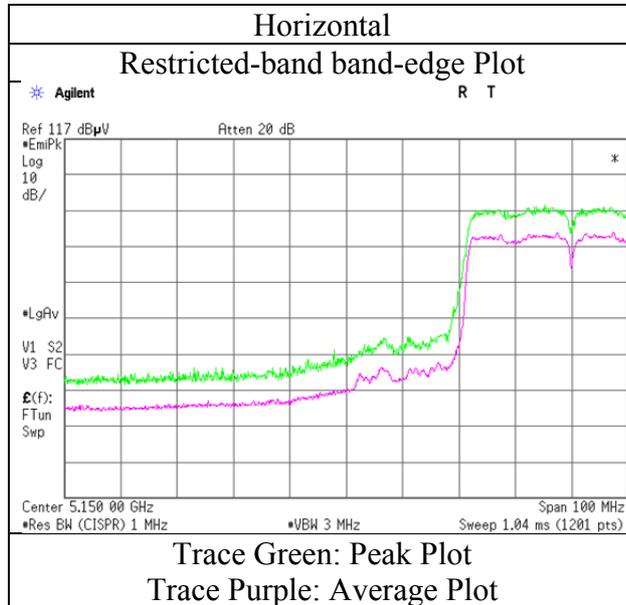
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Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016
Temperature / Humidity : 24deg. C / 51 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5190 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5270 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15810.0	PK	50.5	37.6	11.3	45.5	-9.5	44.4	73.9	29.5	100.0	0.0	
Hori.	21080.0	PK	50.2	40.3	6.6	46.6	-9.5	41.0	73.9	32.9	195.0	220.0	
Hori.	15810.0	AV	41.4	37.6	11.3	45.5	-9.5	35.3	53.9	18.6	100.0	0.0	
Hori.	21080.0	AV	47.0	40.3	6.6	46.6	-9.5	37.8	53.9	16.1	195.0	220.0	
Vert.	15810.0	PK	50.3	37.6	11.3	45.5	-9.5	44.2	73.9	29.7	100.0	0.0	
Vert.	21080.0	PK	55.6	40.3	6.6	46.6	-9.5	46.4	73.9	27.5	171.0	220.0	
Vert.	15810.0	AV	41.5	37.6	11.3	45.5	-9.5	35.4	53.9	18.5	100.0	0.0	
Vert.	21080.0	AV	53.8	40.3	6.6	46.6	-9.5	44.6	53.9	9.3	171.0	220.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10540.0	PK	53.1	40.1	8.7	42.6	-9.5	49.8	-45.4	-27.0	18.4	196.0	134.0	
Vert.	10540.0	PK	56.6	40.1	8.7	42.6	-9.5	53.3	-41.9	-27.0	14.9	191.0	234.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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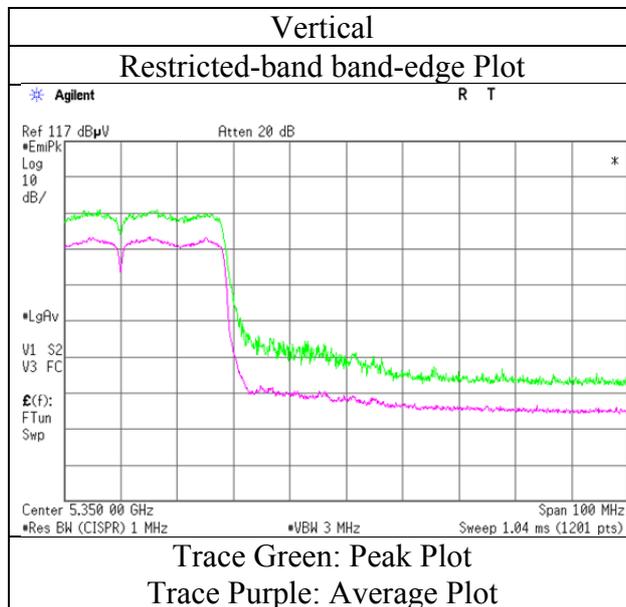
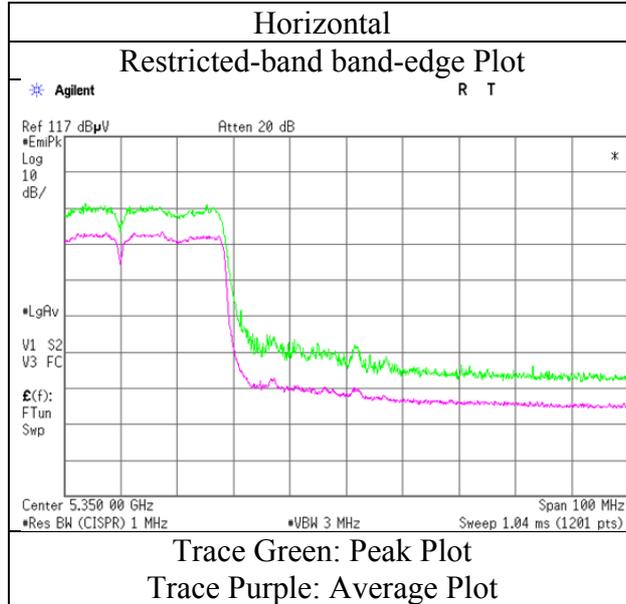
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Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5310 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5510 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	54.3	31.7	16.2	46.3	2.5	58.4	73.9	15.5	183.0	121.0	
Hori.	11020.0	PK	53.7	40.2	8.9	43.4	-9.5	49.9	73.9	24.0	200.0	258.0	
Hori.	22040.0	PK	50.4	40.2	6.7	47.1	-9.5	40.7	73.9	33.2	195.0	162.0	
Hori.	5460.0	AV	45.0	31.7	16.2	46.3	2.5	49.1	53.9	4.8	183.0	121.0	
Hori.	11020.0	AV	49.3	40.2	8.9	43.4	-9.5	45.5	53.9	8.4	200.0	258.0	
Hori.	22040.0	AV	46.7	40.2	6.7	47.1	-9.5	37.0	53.9	16.9	195.0	162.0	
Vert.	5460.0	PK	55.4	31.7	16.2	46.3	2.5	59.5	73.9	14.4	212.0	96.0	
Vert.	11020.0	PK	56.7	40.2	8.9	43.4	-9.5	52.9	73.9	21.0	197.0	170.0	
Vert.	22040.0	PK	56.3	40.2	6.7	47.1	-9.5	46.6	73.9	27.3	161.0	163.0	
Vert.	5460.0	AV	45.1	31.7	16.2	46.3	2.5	49.2	53.9	4.7	212.0	96.0	
Vert.	11020.0	AV	53.7	40.2	8.9	43.4	-9.5	49.9	53.9	4.0	197.0	170.0	
Vert.	22040.0	AV	54.8	40.2	6.7	47.1	-9.5	45.1	53.9	8.8	161.0	163.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.0	PK	58.5	31.8	16.3	46.3	2.5	62.8	-32.4	-27.0	5.4	183.0	121.0	
Hori.	16530.0	PK	49.0	38.5	11.5	45.1	-9.5	44.4	-50.8	-27.0	23.8	100.0	0.0	
Vert.	5470.0	PK	59.0	31.8	16.3	46.3	2.5	63.3	-31.9	-27.0	4.9	212.0	96.0	
Vert.	16530.0	PK	49.3	38.5	11.5	45.1	-9.5	44.7	-50.5	-27.0	23.5	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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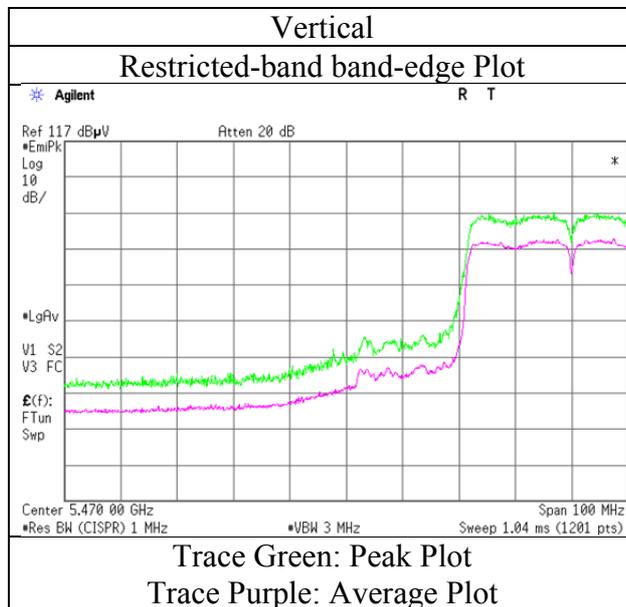
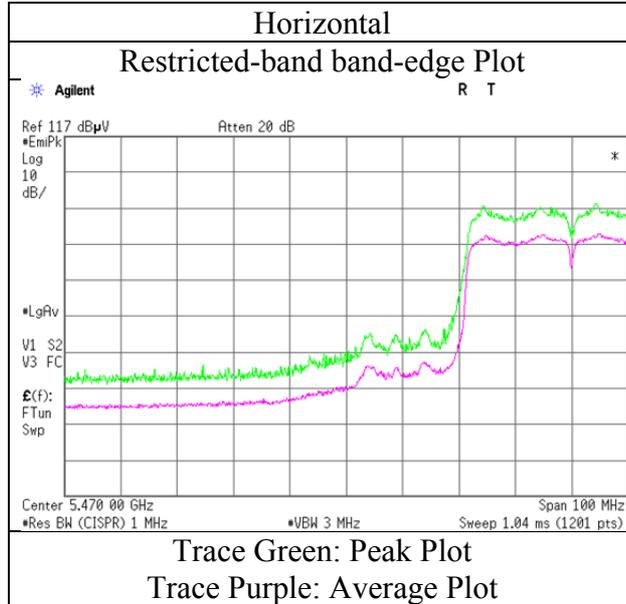
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5510 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5550 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11100.0	PK	52.8	40.0	8.9	43.3	-9.5	48.9	73.9	25.0	198.0	230.0	
Hori.	22200.0	PK	51.9	40.3	6.7	47.3	-9.5	42.1	73.9	31.8	178.0	208.0	
Hori.	11100.0	AV	48.6	40.0	8.9	43.3	-9.5	44.7	53.9	9.2	198.0	230.0	
Hori.	22200.0	AV	49.2	40.3	6.7	47.3	-9.5	39.4	53.9	14.5	178.0	208.0	
Vert.	11100.0	PK	56.7	40.0	8.9	43.3	-9.5	52.8	73.9	21.1	194.0	166.0	
Vert.	22200.0	PK	57.7	40.3	6.7	47.3	-9.5	47.9	73.9	26.0	173.0	170.0	
Vert.	11100.0	AV	53.6	40.0	8.9	43.3	-9.5	49.7	53.9	4.2	194.0	166.0	
Vert.	22200.0	AV	55.6	40.3	6.7	47.3	-9.5	45.8	53.9	8.1	173.0	170.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16650.0	PK	49.0	39.0	11.5	45.1	-9.5	44.9	-50.3	-27.0	23.3	100.0	0.0	
Vert.	16650.0	PK	49.3	39.0	11.5	45.1	-9.5	45.2	-50.0	-27.0	23.0	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5670 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11340.0	PK	53.0	39.8	9.1	43.2	-9.5	49.2	73.9	24.7	200.0	262.0	
Hori.	22680.0	PK	49.9	40.4	6.8	46.3	-9.5	41.3	73.9	32.6	174.0	238.0	
Hori.	11340.0	AV	48.7	39.8	9.1	43.2	-9.5	44.9	53.9	9.0	200.0	262.0	
Hori.	22680.0	AV	46.2	40.4	6.8	46.3	-9.5	37.6	53.9	16.3	174.0	238.0	
Vert.	11340.0	PK	53.7	39.8	9.1	43.2	-9.5	49.9	73.9	24.0	193.0	166.0	
Vert.	22680.0	PK	54.5	40.4	6.8	46.3	-9.5	45.9	73.9	28.0	166.0	214.0	
Vert.	11340.0	AV	50.2	39.8	9.1	43.2	-9.5	46.4	53.9	7.5	193.0	166.0	
Vert.	22680.0	AV	52.3	40.4	6.8	46.3	-9.5	43.7	53.9	10.2	166.0	214.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	51.7	32.0	16.5	46.2	2.5	56.5	-38.7	-27.0	11.7	178.0	125.0	
Hori.	17010.0	PK	49.0	40.4	11.6	44.4	-9.5	47.1	-48.1	-27.0	21.1	100.0	0.0	
Vert.	5725.0	PK	53.7	32.0	16.5	46.2	2.5	58.5	-36.7	-27.0	9.7	186.0	100.0	
Vert.	17010.0	PK	49.6	40.4	11.6	44.4	-9.5	47.7	-47.5	-27.0	20.5	100.0	0.0	

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

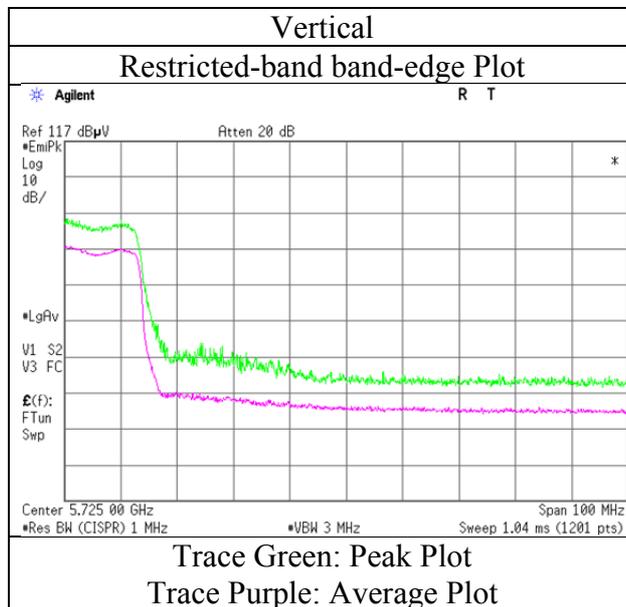
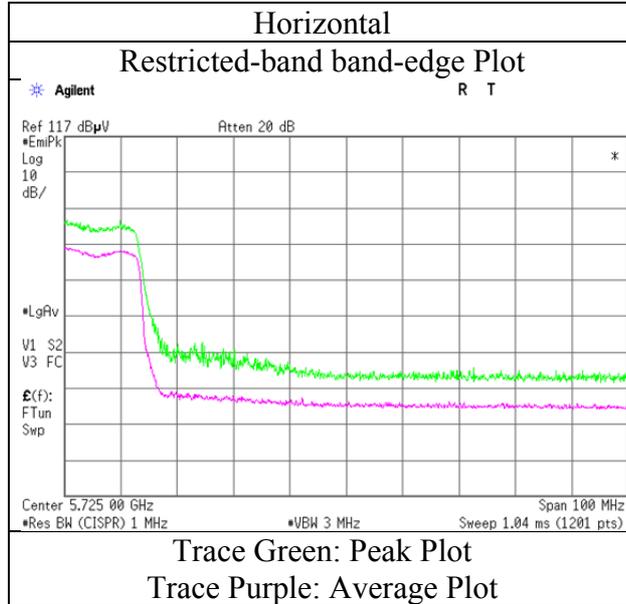
Result(EIRP[dBm])=10*LOG (((10^(Electric Field Strength [dBuV/m] / 20) * 10^(-6) * Distance:3[m]) ^ 2) / 30) * 10^3)

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5670 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5710 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11420.0	PK	50.5	40.0	9.2	43.3	-9.5	46.9	73.9	27.0	200.0	260.0	
Hori.	22840.0	PK	52.9	40.4	6.8	46.4	-9.5	44.2	73.9	29.7	193.0	228.0	
Hori.	11420.0	AV	44.4	40.0	9.2	43.3	-9.5	40.8	53.9	13.1	200.0	260.0	
Hori.	22840.0	AV	50.8	40.4	6.8	46.4	-9.5	42.1	53.9	11.8	193.0	228.0	
Vert.	11420.0	PK	53.0	40.0	9.2	43.3	-9.5	49.4	73.9	24.5	170.0	170.0	
Vert.	22840.0	PK	55.6	40.4	6.8	46.4	-9.5	46.9	73.9	27.0	165.0	230.0	
Vert.	11420.0	AV	49.0	40.0	9.2	43.3	-9.5	45.4	53.9	8.5	170.0	170.0	
Vert.	22840.0	AV	54.2	40.4	6.8	46.4	-9.5	45.5	53.9	8.4	165.0	230.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17130.0	PK	49.0	40.7	11.6	44.5	-9.5	47.3	-47.9	-27.0	20.9	100.0	0.0	
Vert.	17130.0	PK	50.0	40.7	11.6	44.5	-9.5	48.3	-46.9	-27.0	19.9	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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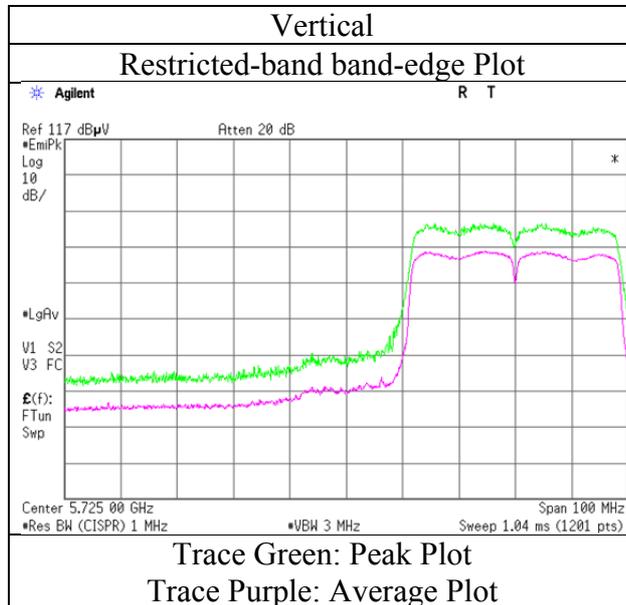
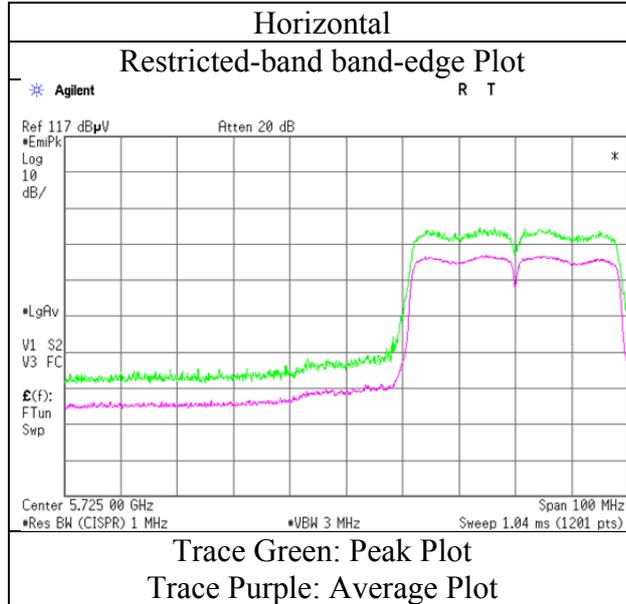
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

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Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 21, 2016 June 21, 2016 June 20, 2016 June 18, 2016
Temperature / Humidity : 24deg. C / 51 % RH 24deg. C / 51 % RH 23deg. C / 58 % RH 23deg. C / 53 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11n-40 (MIMO) 5795 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.0	PK	54.0	39.6	9.3	43.7	-9.5	49.7	73.9	24.2	180.0	128.0	
Hori.	11590.0	AV	49.4	39.6	9.3	43.7	-9.5	45.1	53.9	8.8	180.0	128.0	
Vert.	11590.0	PK	55.9	39.6	9.3	43.7	-9.5	51.6	73.9	22.3	190.0	150.0	
Vert.	11590.0	AV	53.3	39.6	9.3	43.7	-9.5	49.0	53.9	4.9	190.0	150.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	52.2	32.3	16.6	46.2	2.5	57.4	-37.8	27.0	64.8	178.0	70.0	
Hori.	5855.0	PK	52.0	32.3	16.6	46.2	2.5	57.2	-38.0	15.6	53.6	178.0	70.0	
Hori.	5875.0	PK	51.3	32.3	16.6	46.2	2.5	56.5	-38.7	10.0	48.7	178.0	70.0	
Hori.	5925.0	PK	51.3	32.3	16.6	46.2	2.5	56.5	-38.7	-27.0	11.7	178.0	70.0	
Hori.	17385.0	PK	49.3	42.8	11.8	44.4	-9.5	50.0	-45.2	-27.0	18.2	100.0	0.0	
Hori.	23180.0	PK	53.2	40.4	6.9	46.8	-9.5	44.2	-51.0	-27.0	24.0	177.0	205.0	
Vert.	5850.0	PK	52.7	32.3	16.6	46.2	2.5	57.9	-37.3	27.0	64.3	189.0	91.0	
Vert.	5855.0	PK	52.0	32.3	16.6	46.2	2.5	57.2	-38.0	15.6	53.6	189.0	91.0	
Vert.	5875.0	PK	51.3	32.3	16.6	46.2	2.5	56.5	-38.7	10.0	48.7	189.0	91.0	
Vert.	5925.0	PK	51.0	32.3	16.6	46.2	2.5	56.2	-39.0	-27.0	12.0	189.0	91.0	
Vert.	17385.0	PK	49.4	42.8	11.8	44.4	-9.5	50.1	-45.1	-27.0	18.1	100.0	0.0	
Vert.	23180.0	PK	58.3	40.4	6.9	46.8	-9.5	49.3	-45.9	-27.0	18.9	168.0	213.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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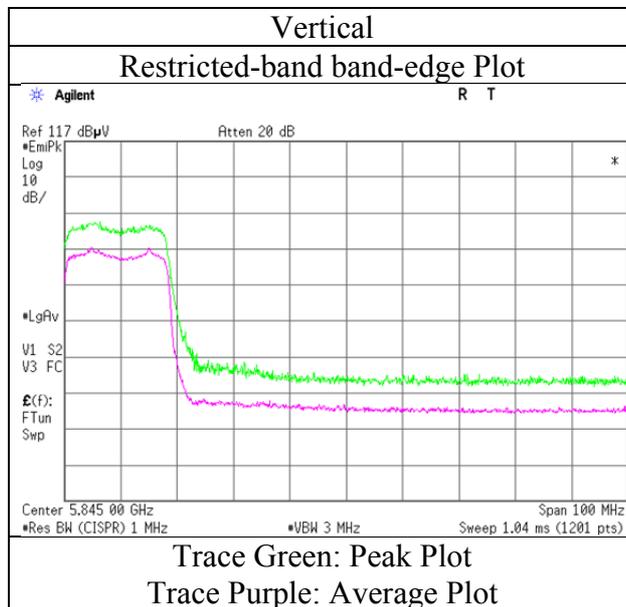
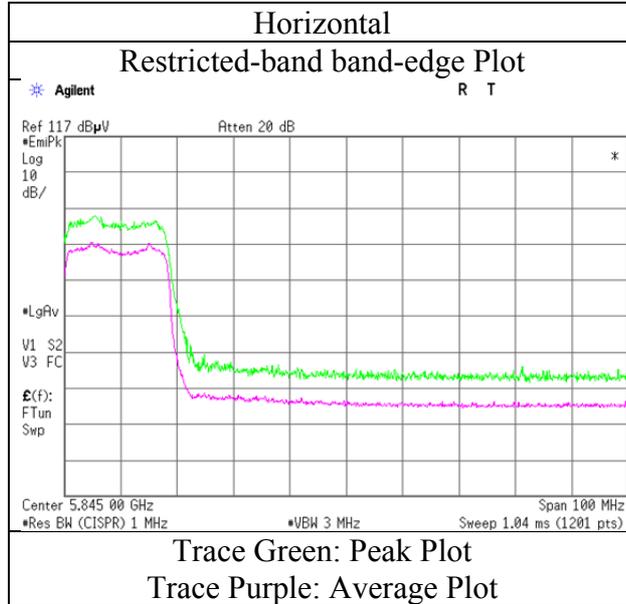
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission

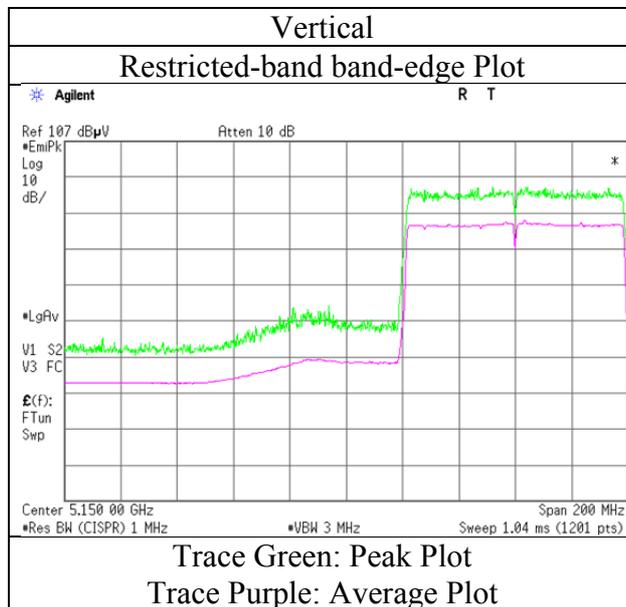
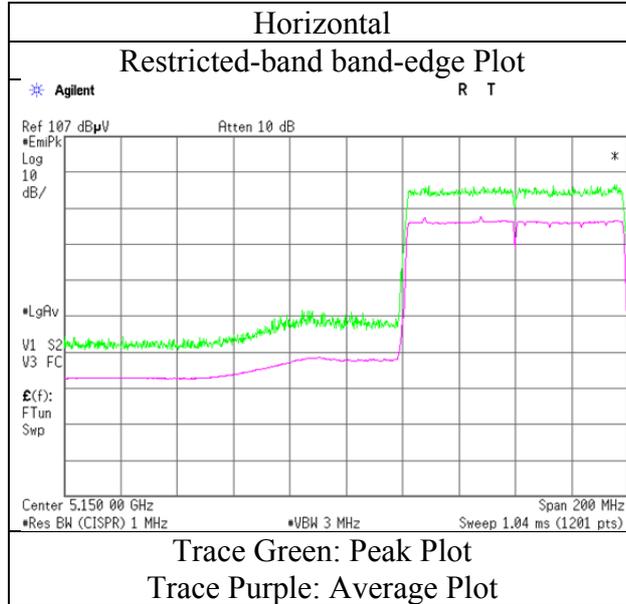
Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 21, 2016
Temperature / Humidity	24deg. C / 51 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz



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

Radiated Spurious Emission

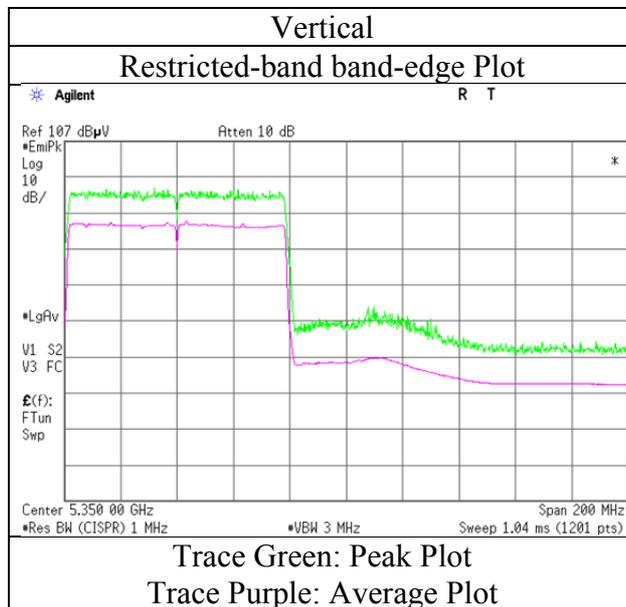
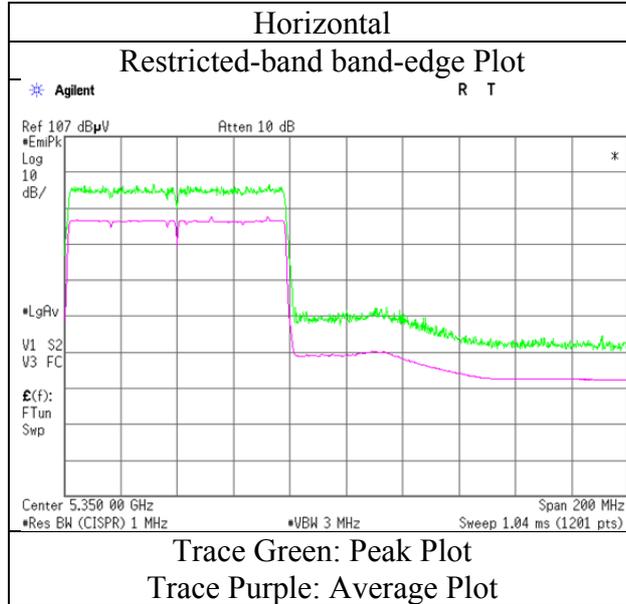
Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 23, 2016
Temperature / Humidity	23deg. C / 54 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11ac-80 (MIMO) 5210 MHz



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

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 23, 2016
Temperature / Humidity	23deg. C / 54 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11ac-80 (MIMO) 5290 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 23, 2016 June 24, 2016 June 19, 2016 June 19, 2016
Temperature / Humidity : 23deg. C / 54 % RH 23deg. C / 54 % RH 22deg. C / 59 % RH 22deg. C / 59 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11ac-80 (MIMO) 5530 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	62.5	31.7	16.2	46.3	2.5	66.6	73.9	7.3	165.0	120.0	
Hori.	5470.0	PK	60.7	31.8	16.3	46.3	2.5	65.0	73.9	8.9	165.0	120.0	
Hori.	11060.0	PK	52.8	40.1	8.9	43.3	-9.5	49.0	73.9	24.9	193.0	198.0	
Hori.	22120.0	PK	50.7	40.3	6.7	46.9	-9.5	41.3	73.9	32.6	165.0	238.0	
Hori.	5460.0	AV	47.1	31.7	16.2	46.3	2.5	51.2	53.9	2.7	165.0	120.0	
Hori.	5470.0	AV	45.6	31.8	16.3	46.3	2.5	49.9	53.9	4.0	165.0	120.0	
Hori.	11060.0	AV	47.3	40.1	8.9	43.3	-9.5	43.5	53.9	10.4	193.0	198.0	
Hori.	22120.0	AV	46.9	40.3	6.7	46.9	-9.5	37.5	53.9	16.4	165.0	238.0	
Vert.	5460.0	PK	64.6	31.7	16.2	46.3	2.5	68.7	73.9	5.2	190.0	88.0	
Vert.	5470.0	PK	62.5	31.8	16.3	46.3	2.5	66.8	73.9	7.1	190.0	88.0	
Vert.	11060.0	PK	55.3	40.1	8.9	43.3	-9.5	51.5	73.9	22.4	188.0	215.0	
Vert.	22120.0	PK	55.8	40.3	6.7	46.9	-9.5	46.4	73.9	27.5	172.0	171.0	
Vert.	5460.0	AV	47.6	31.7	16.2	46.3	2.5	51.7	53.9	2.2	190.0	88.0	
Vert.	5470.0	AV	46.3	31.8	16.3	46.3	2.5	50.6	53.9	3.3	190.0	88.0	
Vert.	11060.0	AV	51.8	40.1	8.9	43.3	-9.5	48.0	53.9	5.9	188.0	215.0	
Vert.	22120.0	AV	54.0	40.3	6.7	46.9	-9.5	44.6	53.9	9.3	172.0	171.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16590.0	PK	50.3	38.6	11.5	45.2	-9.5	45.7	-49.5	-27.0	22.5	150.0	0.0	
Vert.	16590.0	PK	50.0	38.6	11.5	45.2	-9.5	45.4	-49.8	-27.0	22.8	150.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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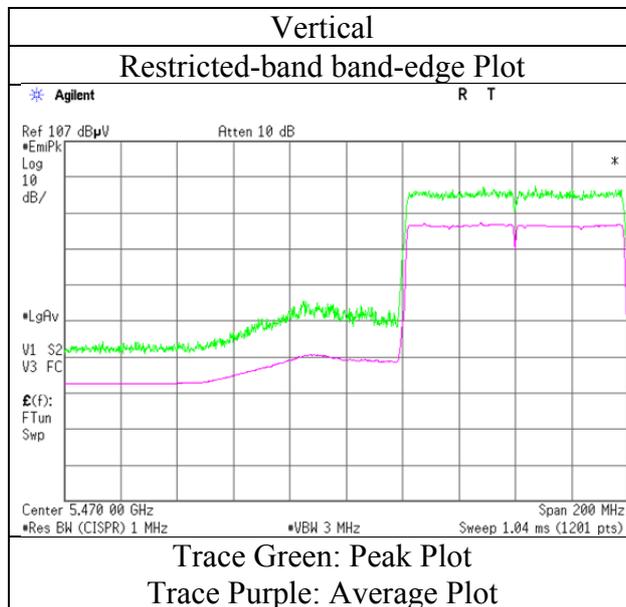
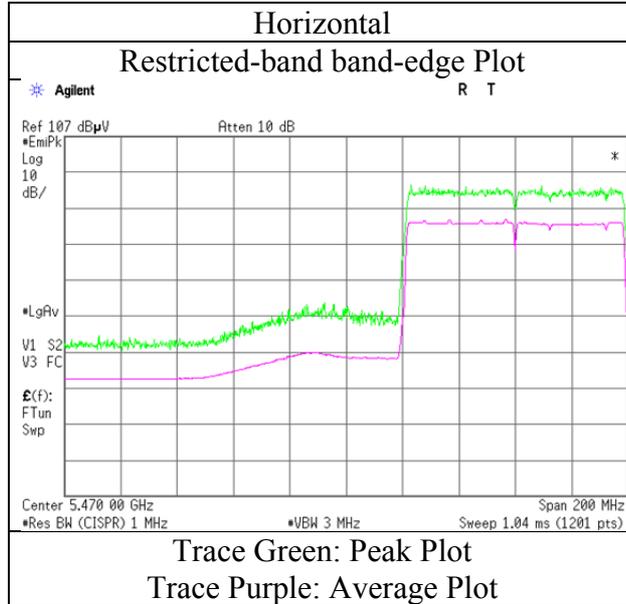
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 23, 2016
Temperature / Humidity	23deg. C / 54 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11ac-80 (MIMO) 5530 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 23, 2016 June 24, 2016 June 19, 2016 June 19, 2016
Temperature / Humidity : 23deg. C / 54 % RH 23deg. C / 54 % RH 22deg. C / 59 % RH 22deg. C / 59 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11ac-80 (MIMO) 5610 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11220.0	PK	52.0	39.6	9.0	43.2	-9.5	47.9	73.9	26.0	170.0	128.0	
Hori.	22440.0	PK	50.8	40.4	6.8	46.3	-9.5	42.2	73.9	31.7	177.0	233.0	
Hori.	11220.0	AV	45.1	39.6	9.0	43.2	-9.5	41.0	53.9	12.9	170.0	128.0	
Hori.	22440.0	AV	46.9	40.4	6.8	46.3	-9.5	38.3	53.9	15.6	177.0	233.0	
Vert.	11220.0	PK	54.7	39.6	9.0	43.2	-9.5	50.6	73.9	23.3	186.0	211.0	
Vert.	22440.0	PK	54.1	40.4	6.8	46.3	-9.5	45.5	73.9	28.4	169.0	192.0	
Vert.	11220.0	AV	50.1	39.6	9.0	43.2	-9.5	46.0	53.9	7.9	186.0	211.0	
Vert.	22440.0	AV	51.6	40.4	6.8	46.3	-9.5	43.0	53.9	10.9	169.0	192.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	52.0	32.0	16.5	46.2	2.5	56.8	-38.4	-17.0	21.4	178.0	119.0	
Hori.	16830.0	PK	50.3	39.6	11.6	44.8	-9.5	47.2	-48.0	-27.0	21.0	150.0	0.0	
Vert.	5725.0	PK	52.6	32.0	16.5	46.2	2.5	57.4	-37.8	-17.0	20.8	189.0	90.0	
Vert.	16830.0	PK	50.3	39.6	11.6	44.8	-9.5	47.2	-48.0	-27.0	21.0	150.0	0.0	

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

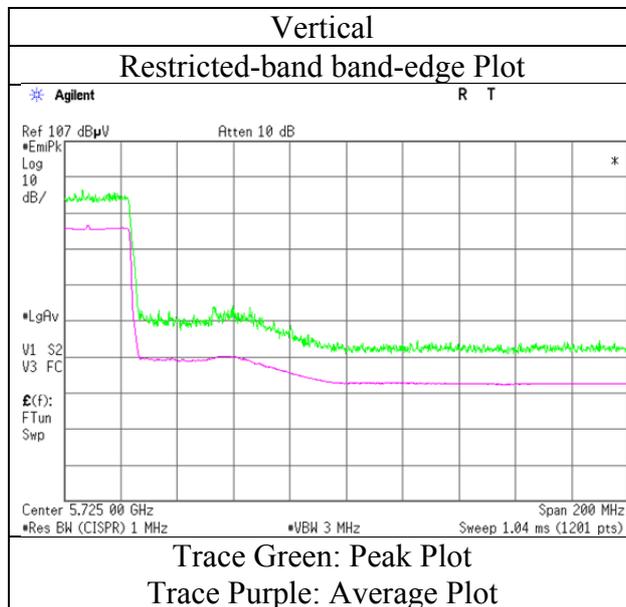
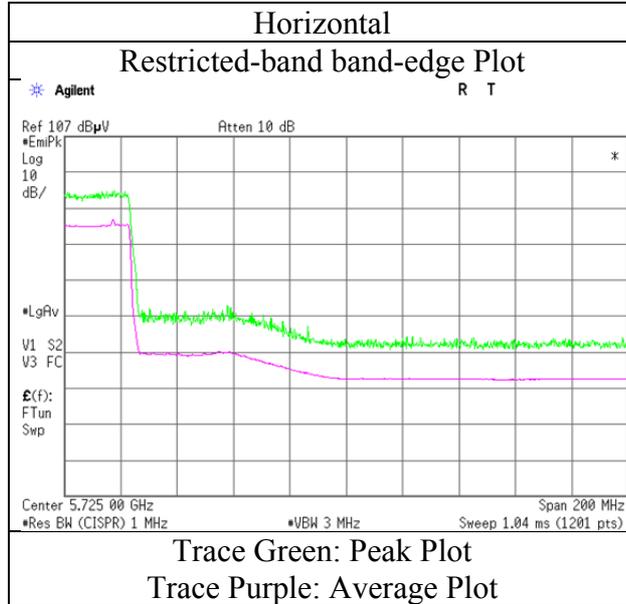
Result(EIRP[dBm])=10*LOG (((10^(Electric Field Strength [dBuV/m] / 20) * 10^(-6) * Distance:3[m])^2) / 30) * 10^3

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 23, 2016
Temperature / Humidity	23deg. C / 54 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11ac-80 (MIMO) 5610 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 23, 2016 June 24, 2016 June 19, 2016 June 19, 2016
Temperature / Humidity : 23deg. C / 54 % RH 23deg. C / 54 % RH 22deg. C / 59 % RH 22deg. C / 59 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11ac-80 (MIMO) 5690 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11380.0	PK	50.0	39.9	9.1	43.2	-9.5	46.3	73.9	27.6	154.0	167.0	
Hori.	22760.0	PK	51.0	40.4	6.8	46.3	-9.5	42.4	73.9	31.5	173.0	239.0	
Hori.	11380.0	AV	40.8	39.9	9.1	43.2	-9.5	37.1	53.9	16.8	154.0	167.0	
Hori.	22760.0	AV	47.2	40.4	6.8	46.3	-9.5	38.6	53.9	15.3	173.0	239.0	
Vert.	11380.0	PK	52.7	39.9	9.1	43.2	-9.5	49.0	73.9	24.9	154.0	211.0	
Vert.	22760.0	PK	54.2	40.4	6.8	46.3	-9.5	45.6	73.9	28.3	176.0	222.0	
Vert.	11380.0	AV	47.7	39.9	9.1	43.2	-9.5	44.0	53.9	9.9	154.0	211.0	
Vert.	22760.0	AV	52.2	40.4	6.8	46.3	-9.5	43.6	53.9	10.3	176.0	222.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17070.0	PK	49.7	40.5	11.6	44.5	-9.5	47.8	-47.4	-27.0	20.4	150.0	0.0	
Vert.	17070.0	PK	50.0	40.5	11.6	44.5	-9.5	48.1	-47.1	-27.0	20.1	150.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : June 23, 2016 June 24, 2016 June 19, 2016 June 19, 2016
Temperature / Humidity : 23deg. C / 54 % RH 23deg. C / 54 % RH 22deg. C / 59 % RH 22deg. C / 59 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
 (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
Mode : Tx 11ac-80 (MIMO) 5775 MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11550.0	PK	51.7	39.8	9.2	43.6	-9.5	47.6	73.9	26.3	180.0	127.0	
Hori.	23100.0	PK	51.4	40.4	6.9	46.9	-9.5	42.3	73.9	31.6	171.0	236.0	
Hori.	11550.0	AV	44.7	39.8	9.2	43.6	-9.5	40.6	53.9	13.3	180.0	127.0	
Hori.	23100.0	AV	47.8	40.4	6.9	46.9	-9.5	38.7	53.9	15.2	171.0	236.0	
Vert.	11550.0	PK	53.9	39.8	9.2	43.6	-9.5	49.8	73.9	24.1	180.0	211.0	
Vert.	23100.0	PK	55.2	40.4	6.9	46.9	-9.5	46.1	73.9	27.8	170.0	207.0	
Vert.	11550.0	AV	48.5	39.8	9.2	43.6	-9.5	44.4	53.9	9.5	180.0	211.0	
Vert.	23100.0	AV	53.0	40.4	6.9	46.9	-9.5	43.9	53.9	10.0	170.0	207.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.0	PK	51.3	31.8	16.5	46.3	2.5	55.8	-39.4	-27.0	12.4	161.0	116.0	
Hori.	5700.0	PK	61.1	31.9	16.5	46.2	2.5	65.8	-29.4	10.0	39.4	161.0	116.0	
Hori.	5720.0	PK	62.7	32.0	16.5	46.2	2.5	67.5	-27.7	15.6	43.3	161.0	116.0	
Hori.	5725.0	PK	60.8	32.0	16.5	46.2	2.5	65.6	-29.6	27.0	56.6	161.0	116.0	
Hori.	17325.0	PK	50.0	42.1	11.8	44.4	-9.5	50.0	-45.2	-27.0	18.2	150.0	0.0	
Vert.	5650.0	PK	51.7	31.8	16.5	46.3	2.5	56.2	-39.0	-27.0	12.0	193.0	90.0	
Vert.	5700.0	PK	63.8	31.9	16.5	46.2	2.5	68.5	-26.7	10.0	36.7	193.0	90.0	
Vert.	5720.0	PK	62.6	32.0	16.5	46.2	2.5	67.4	-27.8	15.6	43.4	193.0	90.0	
Vert.	5725.0	PK	62.7	32.0	16.5	46.2	2.5	67.5	-27.7	27.0	54.7	193.0	90.0	
Vert.	17325.0	PK	50.0	42.1	11.8	44.4	-9.5	50.0	-45.2	-27.0	18.2	150.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	58.4	32.3	16.6	46.2	2.5	63.6	-31.6	27.0	58.6	161.0	116.0	
Hori.	5855.0	PK	57.5	32.3	16.6	46.2	2.5	62.7	-32.5	15.6	48.1	161.0	116.0	
Hori.	5875.0	PK	53.2	32.3	16.6	46.2	2.5	58.4	-36.8	10.0	46.8	161.0	116.0	
Hori.	5925.0	PK	51.3	32.3	16.6	46.2	2.5	56.5	-38.7	-27.0	11.7	161.0	116.0	
Vert.	5850.0	PK	58.1	32.3	16.6	46.2	2.5	63.3	-31.9	27.0	58.9	193.0	90.0	
Vert.	5855.0	PK	57.0	32.3	16.6	46.2	2.5	62.2	-33.0	15.6	48.6	193.0	90.0	
Vert.	5875.0	PK	53.0	32.3	16.6	46.2	2.5	58.2	-37.0	10.0	47.0	193.0	90.0	
Vert.	5925.0	PK	51.7	32.3	16.6	46.2	2.5	56.9	-38.3	-27.0	11.3	193.0	90.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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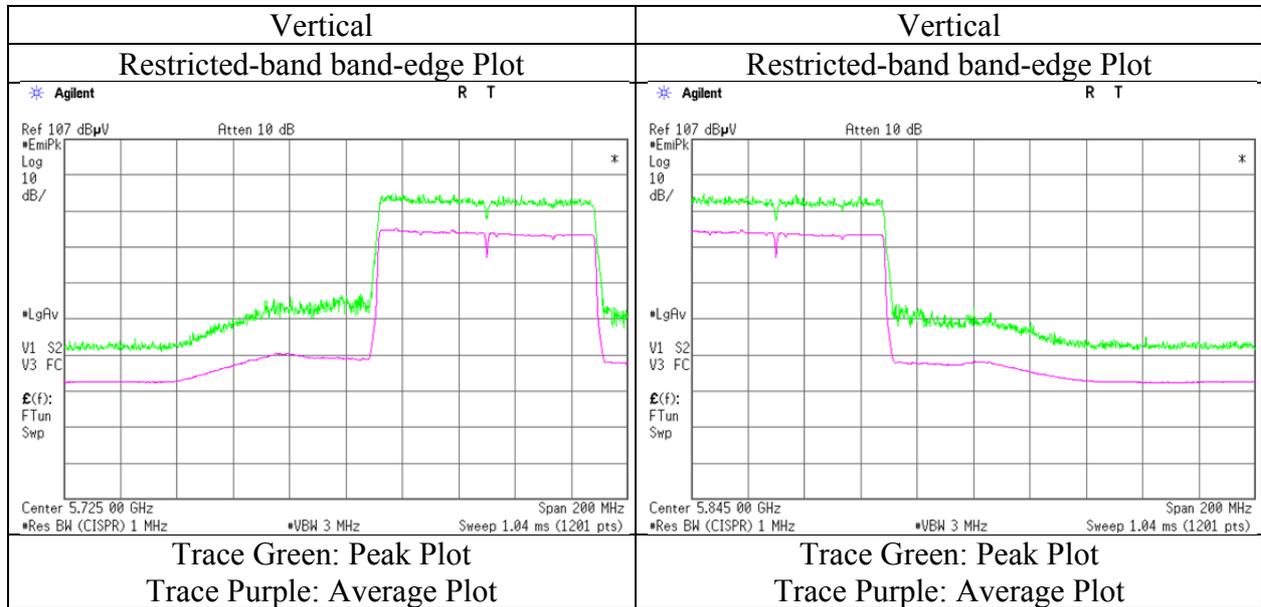
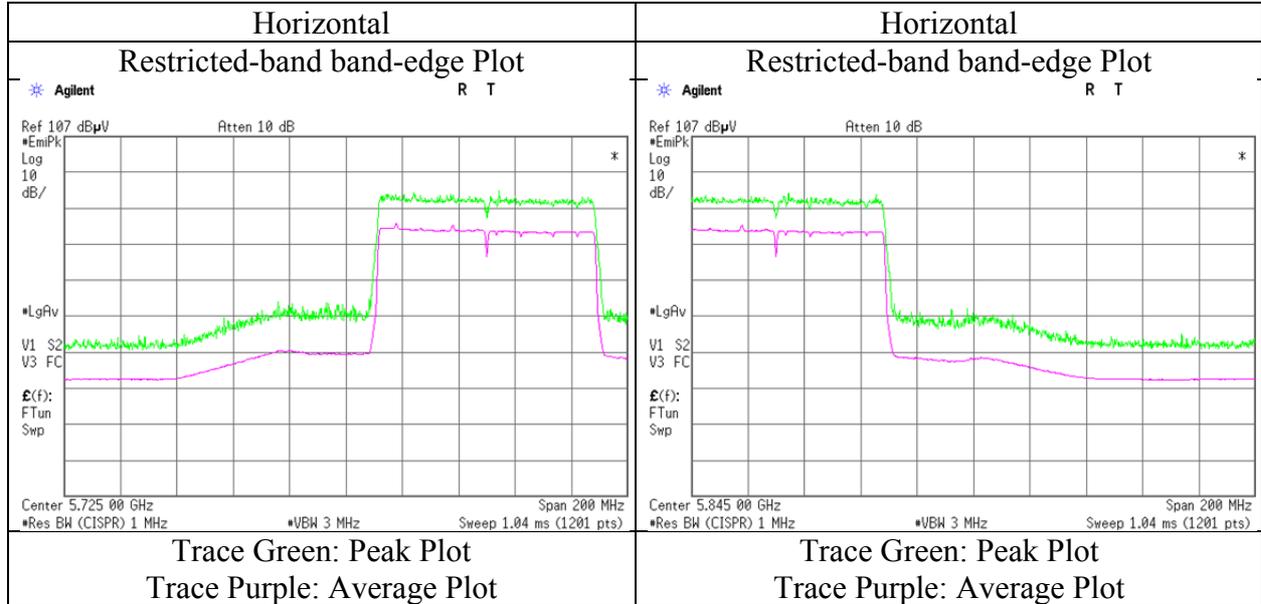
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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	June 23, 2016
Temperature / Humidity	23deg. C / 54 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11ac-80 (MIMO) 5775 MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.10, 11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 11, 2016 July 10, 2016 July 7, 2016 July 7, 2016 July 7, 2016
Temperature / Humidity : 22deg. C / 60 % RH 23deg. C / 60 % RH 24deg. C / 58 % RH 24deg. C / 58 % RH 24deg. C / 58 % RH
Engineer : Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando Kazuhiro Ando
(30 MHz-1000 MHz) (1 GHz-10 GHz) (10 GHz-18 GHz) (18 GHz-26.5 GHz) (26.5 GHz-40 GHz)
(AC10) (AC11) (AC10) (AC10) (AC10)
Mode : Tx 11n-40 (MIMO) 5190 MHz (with BT LE 2480MHz)

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	624.0	QP	31.2	20.2	9.4	27.6	0.0	33.2	46.0	12.8	110.0	186.0	
Hori.	667.3	QP	27.3	20.4	9.6	27.6	0.0	29.7	46.0	16.3	100.0	183.0	
Hori.	2710.0	PK	60.5	27.7	14.4	44.3	2.5	60.8	73.9	13.1	175.0	122.0	
Hori.	5150.0	PK	57.7	31.9	16.1	46.2	2.5	62.0	73.9	11.9	167.0	124.0	
Hori.	15570.0	PK	47.2	38.1	11.1	45.3	-9.5	41.6	73.9	32.3	100.0	0.0	
Hori.	20760.0	PK	50.7	40.3	6.5	46.4	-9.5	41.6	73.9	32.3	190.0	135.0	
Hori.	2710.0	AV	50.6	27.7	14.4	44.3	2.5	50.9	53.9	3.0	175.0	122.0	
Hori.	5150.0	AV	46.7	31.9	16.1	46.2	2.5	51.0	53.9	2.9	167.0	124.0	
Hori.	15570.0	AV	38.1	38.1	11.1	45.3	-9.5	32.5	53.9	21.4	100.0	0.0	
Hori.	20760.0	AV	47.3	40.3	6.5	46.4	-9.5	38.2	53.9	15.7	190.0	135.0	
Vert.	78.0	QP	29.5	9.5	5.0	26.7	0.0	17.3	40.0	22.7	100.0	350.0	
Vert.	624.0	QP	24.2	20.2	9.4	27.6	0.0	26.2	46.0	19.8	222.0	270.0	
Vert.	2710.0	PK	60.7	27.7	14.4	44.3	2.5	61.0	73.9	12.9	169.0	90.0	
Vert.	5150.0	PK	58.6	31.9	16.1	46.2	2.5	62.9	73.9	11.0	218.0	90.0	
Vert.	15570.0	PK	49.3	38.1	11.1	45.3	-9.5	43.7	73.9	30.2	100.0	0.0	
Vert.	20760.0	PK	53.7	40.3	6.5	46.4	-9.5	44.6	73.9	29.3	171.0	121.0	
Vert.	2710.0	AV	51.3	27.7	14.4	44.3	2.5	51.6	53.9	2.3	169.0	90.0	
Vert.	5150.0	AV	47.3	31.9	16.1	46.2	2.5	51.6	53.9	2.3	218.0	90.0	
Vert.	15570.0	AV	39.8	38.1	11.1	45.3	-9.5	34.2	53.9	19.7	100.0	0.0	
Vert.	20760.0	AV	51.5	40.3	6.5	46.4	-9.5	42.4	53.9	11.5	171.0	121.0	

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10380.0	PK	52.3	40.0	8.6	42.7	-9.5	48.7	-46.5	-27.0	19.5	165.0	207.0	
Vert.	10380.0	PK	55.0	40.0	8.6	42.7	-9.5	51.4	-43.8	-27.0	16.8	217.0	198.0	

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

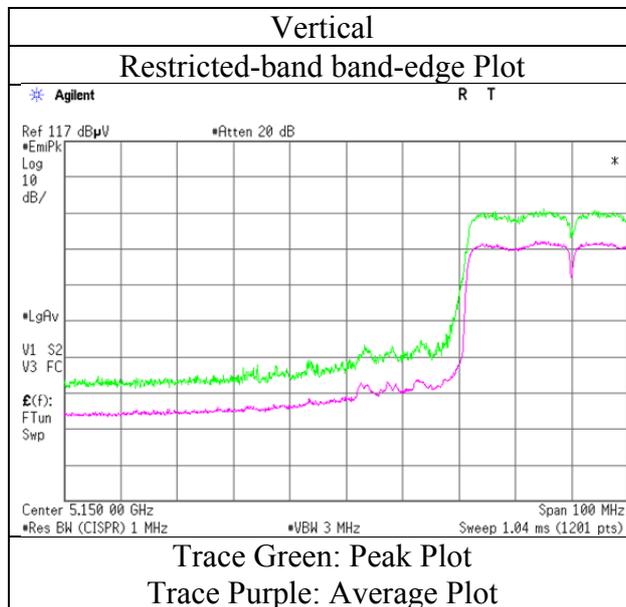
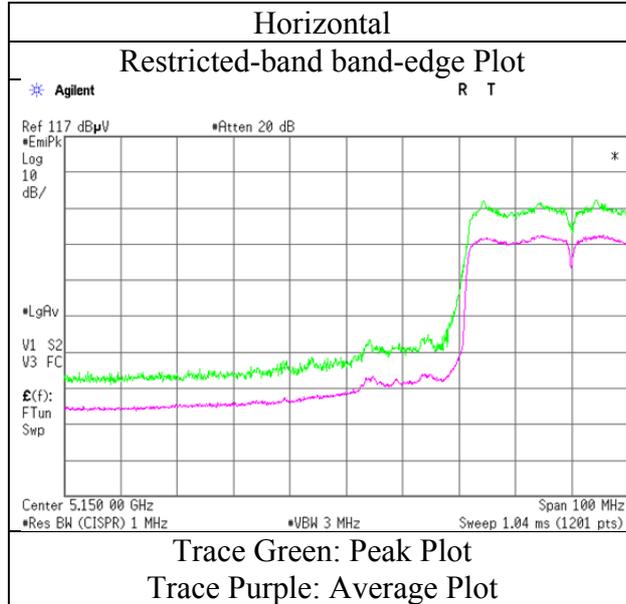
Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5190 MHz (with BT LE 2480MHz)



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 10, 2016
Temperature / Humidity : 23deg. C / 60 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5310 MHz (with BT LE 2480MHz)

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.0	PK	57.2	31.5	16.2	46.3	2.5	61.1	73.9	12.8	194.0	122.0	
Hori.	5350.0	AV	45.8	31.5	16.2	46.3	2.5	49.7	53.9	4.2	194.0	122.0	
Vert.	5350.0	PK	58.2	31.5	16.2	46.3	2.5	62.1	73.9	11.8	223.0	95.0	
Vert.	5350.0	AV	45.7	31.5	16.2	46.3	2.5	49.6	53.9	4.3	223.0	95.0	

Result [dBuV/m] = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18 GHz)) - Gain(Amplifier) + Distance factor
*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB).

Distance factor : 1 GHz - 10 GHz : $20\log(4.0\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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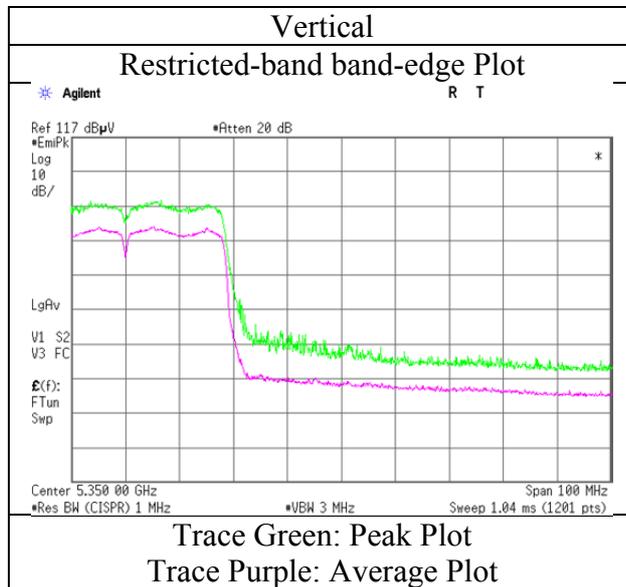
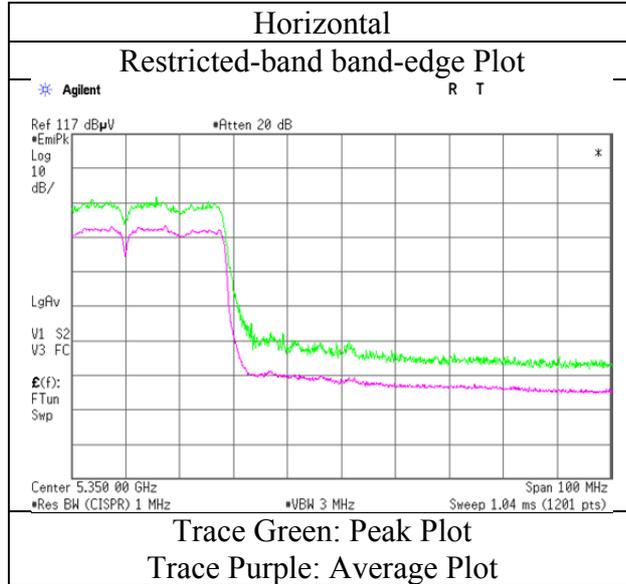
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando
	(1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5310 MHz (with BT LE 2480MHz)



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 10, 2016
Temperature / Humidity : 23deg. C / 60 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5510 MHz (with BT LE 2480MHz)

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.0	PK	53.7	31.7	16.2	46.3	2.5	57.8	73.9	16.1	178.0	123.0	
Hori.	5460.0	AV	44.6	31.7	16.2	46.3	2.5	48.7	53.9	5.2	178.0	123.0	
Vert.	5460.0	PK	55.1	31.7	16.2	46.3	2.5	59.2	73.9	14.7	203.0	91.0	
Vert.	5460.0	AV	44.7	31.7	16.2	46.3	2.5	48.8	53.9	5.1	203.0	91.0	

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

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.0\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.0	PK	58.0	31.8	16.3	46.3	2.5	62.3	-32.9	-27.0	5.9	178.0	123.0	
Vert.	5470.0	PK	58.3	31.8	16.3	46.3	2.5	62.6	-32.6	-27.0	5.6	203.0	91.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : $20\log(4.0\text{ m} / 3.0\text{ m}) = 2.5\text{ dB}$
10 GHz - 40 GHz : $20\log(1.0\text{ m} / 3.0\text{ m}) = -9.5\text{ dB}$

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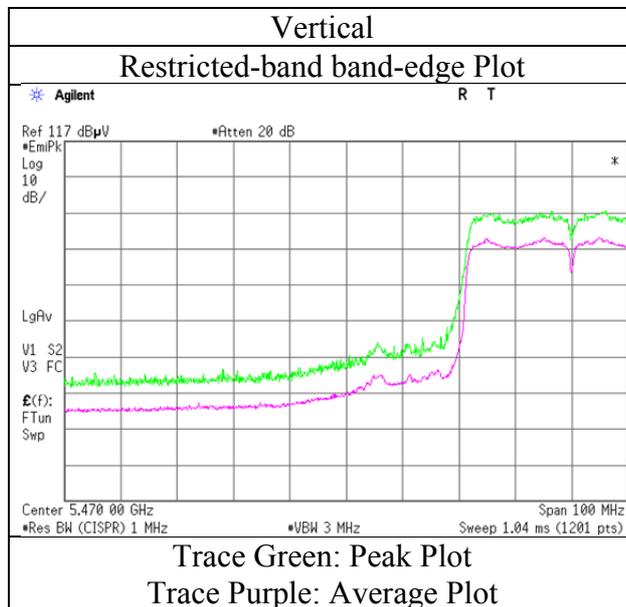
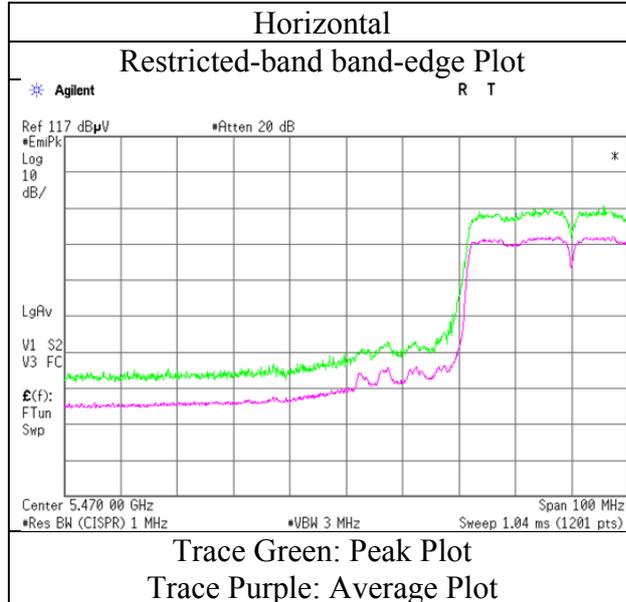
1614, Mushiata, Katori-shi, Chiba-ken, 289-0341 Japan

Telephone : +81 478 88 6500

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Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5510 MHz (with BT LE 2480MHz)



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 10, 2016
Temperature / Humidity : 23deg. C / 60 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5670 MHz + BLE 2480MHz

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.0	PK	52.6	32.0	16.5	46.2	2.5	57.4	-37.8	-27.0	10.8	175.0	111.0	
Vert.	5725.0	PK	53.4	32.0	16.5	46.2	2.5	58.2	-37.0	-27.0	10.0	189.0	95.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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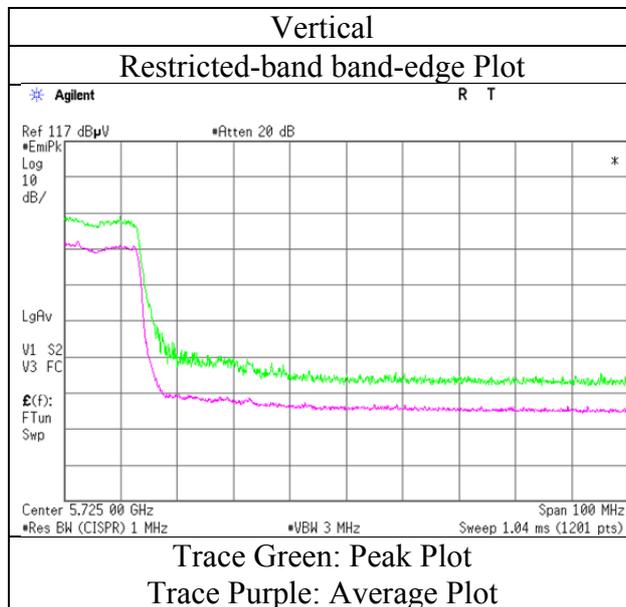
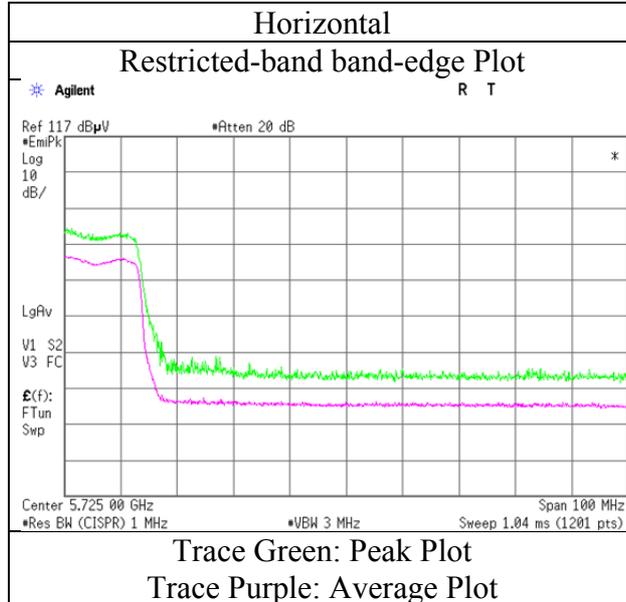
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan

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Facsimile : +81 478 82 3373

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5670 MHz + BLE 2480MHz



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 10, 2016
Temperature / Humidity : 23deg. C / 60 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5755 MHz (with BT LE 2480MHz)

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5650.0	PK	51.3	31.8	16.5	46.3	2.5	55.8	-39.4	-27.0	12.4	148.0	120.0	
Hori.	5700.0	PK	52.2	31.9	16.5	46.2	2.5	56.9	-38.3	10.0	48.3	148.0	120.0	
Hori.	5720.0	PK	55.7	32.0	16.5	46.2	2.5	60.5	-34.7	15.6	50.3	148.0	120.0	
Hori.	5725.0	PK	56.5	32.0	16.5	46.2	2.5	61.3	-33.9	27.0	60.9	148.0	120.0	
Vert.	5650.0	PK	51.9	31.8	16.5	46.3	2.5	56.4	-38.8	-27.0	11.8	177.0	90.0	
Vert.	5700.0	PK	53.2	31.9	16.5	46.2	2.5	57.9	-37.3	10.0	47.3	177.0	90.0	
Vert.	5720.0	PK	57.8	32.0	16.5	46.2	2.5	62.6	-32.6	15.6	48.2	177.0	90.0	
Vert.	5725.0	PK	58.2	32.0	16.5	46.2	2.5	63.0	-32.2	27.0	59.2	177.0	90.0	

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

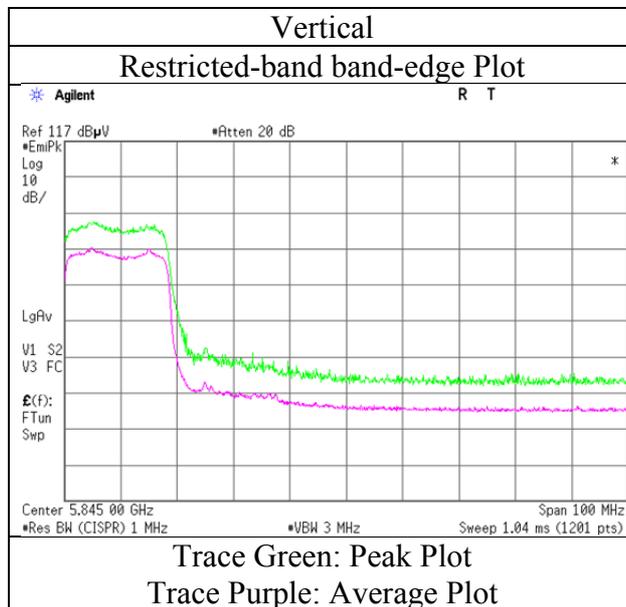
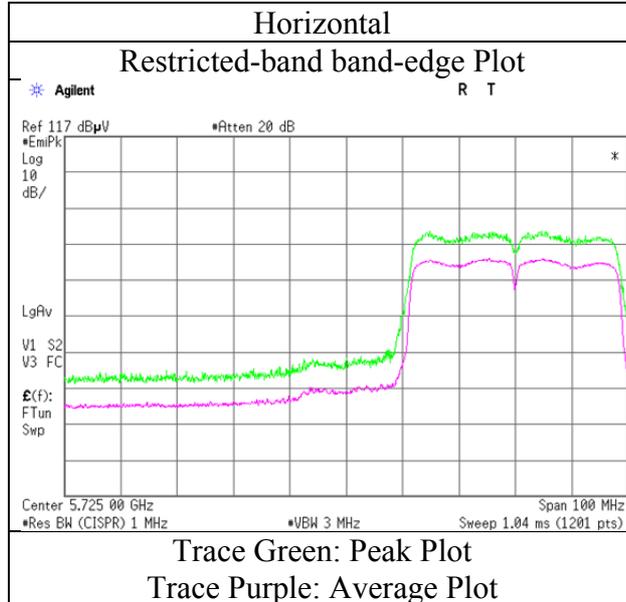
Result(EIRP[dBm])=10*LOG (((10 ^ (Electric Field Strength [dBuV/m] / 20) * 10 ^ (-6) * Distance:3[m]) ^ 2) / 30) * 10 ^ 3

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

Radiated Spurious Emission

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5755 MHz (with BT LE 2480MHz)



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

Radiated Spurious Emission

Test place : Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No. : 11306372M
Date : July 10, 2016
Temperature / Humidity : 23deg. C / 60 % RH
Engineer : Kazuhiro Ando
(1 GHz-10 GHz)
Mode : Tx 11n-40 (MIMO) 5795 MHz (with BT LE 2480MHz)

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

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

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Distance Factor [dB]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.0	PK	52.3	32.3	16.6	46.2	2.5	57.5	-37.7	27.0	64.7	100.0	0.0	
Hori.	5855.0	PK	52.1	32.3	16.6	46.2	2.5	57.3	-37.9	15.6	53.5	100.0	0.0	
Hori.	5875.0	PK	52.0	32.3	16.6	46.2	2.5	57.2	-38.0	10.0	48.0	100.0	0.0	
Hori.	5925.0	PK	52.1	32.3	16.6	46.2	2.5	57.3	-37.9	-27.0	10.9	100.0	0.0	
Vert.	5850.0	PK	52.9	32.3	16.6	46.2	2.5	58.1	-37.1	27.0	64.1	100.0	0.0	
Vert.	5855.0	PK	52.5	32.3	16.6	46.2	2.5	57.7	-37.5	15.6	53.1	100.0	0.0	
Vert.	5875.0	PK	52.0	32.3	16.6	46.2	2.5	57.2	-38.0	10.0	48.0	100.0	0.0	
Vert.	5925.0	PK	51.8	32.3	16.6	46.2	2.5	57.0	-38.2	-27.0	11.2	100.0	0.0	

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

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

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

Distance factor : 1 GHz - 10 GHz : 20log(4.0 m / 3.0 m) = 2.5 dB
10 GHz - 40 GHz : 20log(1.0 m / 3.0 m) = -9.5 dB

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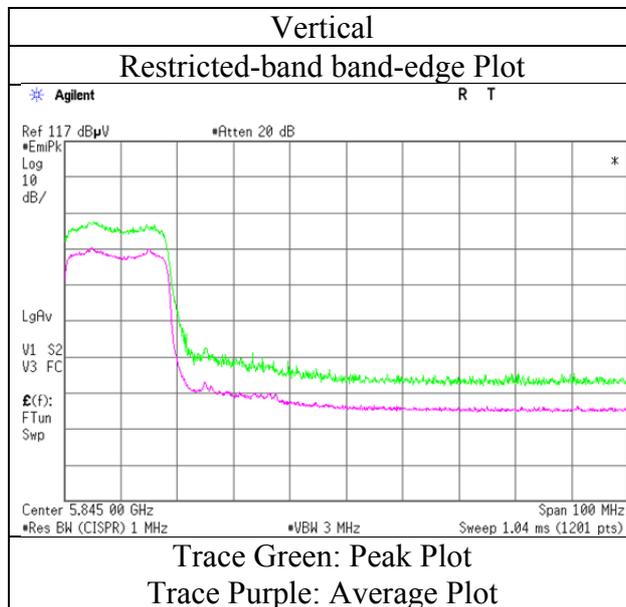
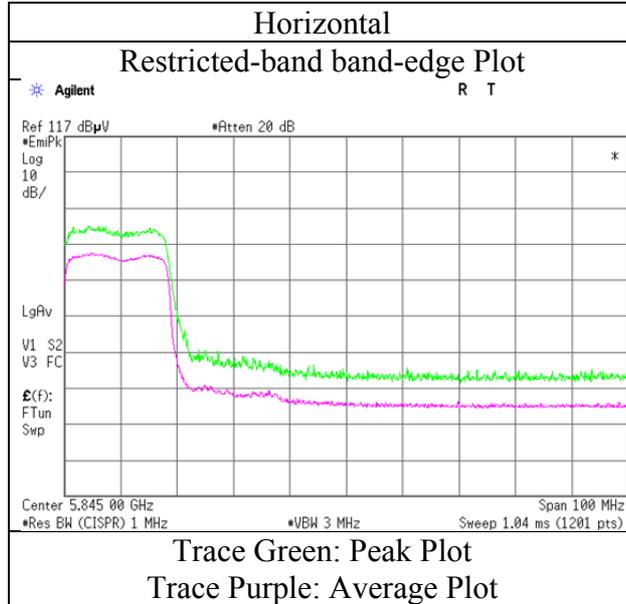
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Radiated Spurious Emission

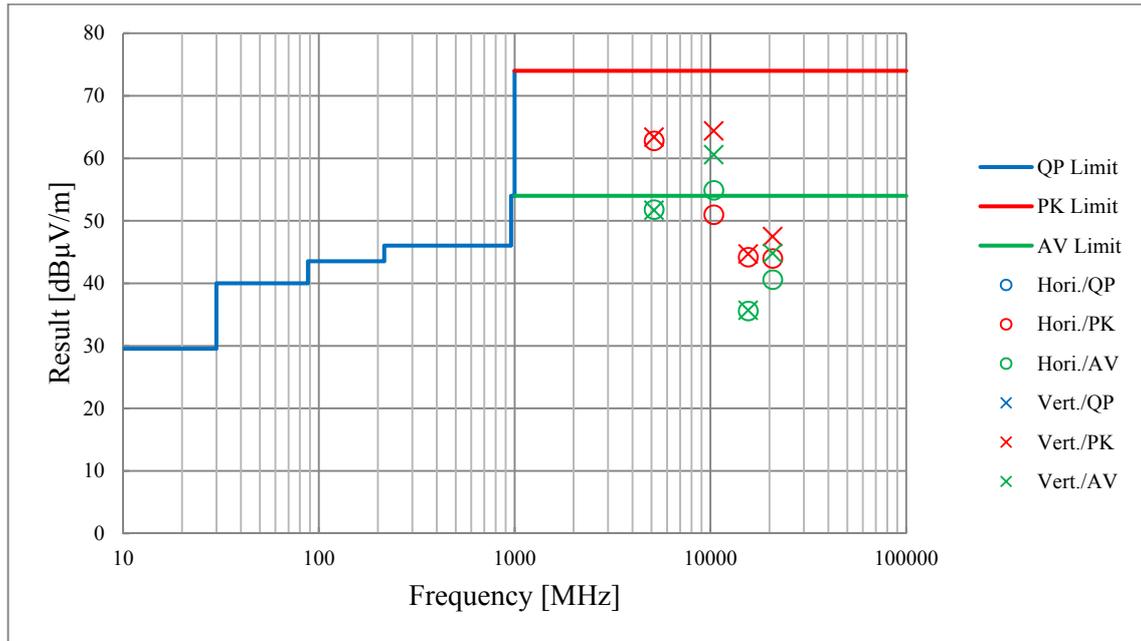
Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber
Report No.	11306372M
Date	July 10, 2016
Temperature / Humidity	23deg. C / 60 % RH
Engineer	Kazuhiro Ando (1 GHz-10 GHz)
Mode	Tx 11n-40 (MIMO) 5795 MHz (with BT LE 2480MHz)



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

Radiated Spurious Emission
(Plot data, Worst case)

Test place	Kashima EMC Lab. No.11 Semi Anechoic Chamber			
Report No.	11306372M			
Date	June 21, 2016	June 21, 2016	June 20, 2016	June 18, 2016
Temperature / Humidity	24deg. C / 51 % RH	24deg. C / 51 % RH	23deg. C / 58 % RH	23deg. C / 53 % RH
Engineer	Kazuhiro Ando	Kazuhiro Ando	Kazuhiro Ando	Kazuhiro Ando
	(1 GHz-10 GHz)	(10 GHz-18 GHz)	(18 GHz-26.5 GHz)	(26.5 GHz-40 GHz)
Mode	Tx 11n-40 (MIMO) 5190 MHz			



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

APPENDIX 2: Test instruments

Test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
CLS-25	A.M.N.	Rohde & Schwarz	ENV216	101042	CE	2015/08/06 * 12
CCC-S5-C(2/9 /10/11)	Coaxial Cable	Fujikura,Fujikura, Fujikura,Fujikura	5D-2W,5D-2W ,5D-2W,5D-2 W	-	CE	2015/07/14 * 12
CTR-07	Test Receiver	Rohde & Schwarz	ESCS30	100014 Ver,2.30	CE	2015/08/24 * 12
CSA-11(D)	Spectrum Analyzer	Hewlett Packard	8568B	3340A21567 Rev 7.4.87	CE	2015/11/30 * 12
CSA-19(R)	Spectrum Analyzer	Hewlett Packard	8568B	3340A05799 Rev 7.4.87	CE	2015/11/30 * 12
CSCL-06	Ruler	Tajima	L19-55S	none	CE	2016/02/18 * 12
COS-05	Temperature & Humidity Indicator	A&D	AD-5681	6975761	CE	2015/07/13 * 12
CTS-09	Digital Multimeter	FLUKE	112	89790194	CE	2015/10/01 * 12
COTS-CEMI-02	EMI Software	TSJ	TEPTO-DV(R E,CE,MF,PE)	Ver, RE: 2.5.0131, CE: 2.5.0131	CE/RE	-
CTR-06	Test Receiver	Rohde & Schwarz	ESCI	100107 Rev 4.32	CE/RE	2015/09/01 * 12
CCC-S11-R(1/4/5/CATS12-1 3/6/7/8/10)	Coaxial Cable	Fujikura,Suhner,S uhner,Agilent,Suh ner,-,Suhner	5D-2W,SF106, SF104,8496B+ 8494B,SF106,-, SF106	MY42143380, US00431042(Step Att)	RE	2015/11/24 * 12
CAT3-07	3dB Fixed Atten.	TAMAGAWA	UFA-01	none	RE	2016/05/12 * 12
CBL-09	LOGBICON	Schwarzbeck	VULB 9168	508	RE	2016/04/11 * 12
CAF-16	Pre-Amplifier	Sonoma Instrument	310N	325015	RE	2016/05/10 * 12
CSCL-16	Ruler	Tajima	G3 gold	none	RE	2016/02/18 * 12
COS-11	Temperature, Humidity & Atmospheric Logger	T&D	TR-73U	F8060468	RE	2016/05/24 * 12
CTS-13	Digital Multimeter	FLUKE	FLK-83- V	14610320	RE	2015/09/08 * 12
CSA-06	Spectrum Analyzer	Agilent	N9030A	MY53310670 Version A.13.12	RE	2016/05/26 * 12
CSA-07	Spectrum Analyzer	Agilent	E4448A	MY52490024 Version A.11.21	RE	2016/05/11 * 12
CHA-20	Broad Band Horn	Schwarzbeck	BBHA 9120D	9120D-1270	RE	2015/07/31 * 12
CHA-07	Double Ridged Horn	ETS-Lindgren	3160-09	00166043	RE	2016/06/24 * 12
CAF-21	Pre-Amplifier	Micro Wave Factory	MPR-1G26.5-3 5	161398	RE	2016/05/06 * 12
CAF-19	Pre-Amplifier	TOYO	HAP18-26W	00000035	RE	2016/06/30 * 12
CAT10-16	10dB Fixed Atten.	Weinschel	54A-10	56246	RE	2016/05/13 * 12
CHF-05	HPF	Micro-Tronics	HPM50112-02	006	RE	2016/05/13 * 12

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Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
CCC-W05	Micro Wave Cable	Junkosha	MWX241	MRA-12-14-1 45	RE	2016/05/13 * 12
CCC-W07	Micro Wave Cable	Junkosha	MWX221	MRA-12-14-1 48	RE	2016/05/13 * 12
CCC-W09	Micro Wave Cable	SUHNER	SUCOFLEX10 4	MY588/4	RE	2015/07/13 * 12
CCC-S2-C(2/6 /7/8)	Coaxial Cable	Fujikura,Fujikura, Fujikura,Fujikura	5D-2W,5D-2W ,5D-2W,5D-2 W	-	CE	2015/07/14 * 12
CTR-05	Test Receiver	Rohde & Schwarz	ESCI	100608 Rev 4.32	CE	2015/09/24 * 12
CSCL-02	Ruler	Tajima	L19-55	none	CE	2016/02/22 * 12
COS-02	Temperature & Humidity Indicator	A&D	AD-5681	6878345	CE	2015/07/13 * 12
CTS-06	Digital Multimeter	FLUKE	112	89790159	CE	2015/09/08 * 12
CTR-09	Test Receiver	Agilent	N9038A	MY53290016 Version A.14.03	RE	2016/06/19 * 12
CBL-08	LOGBICON	Schwarzbeck	VULB 9168	343	RE	2015/11/15 * 12
CAT3-04	3dB Fixed Atten.	TAMAGAWA	UFA-01	none	RE	2015/09/03 * 12
CCC-S10-R(2/ 4/CATS-11/5/ 6/7/8/11/12)	Coaxial Cable	Fujikura,Fujikura, Agilent,Fujikura,F ujikura,Fujikura,Fu hjikura,Fujikura,Fu jikura	5D-2W,5D-2W ,8494A,5D-2W ,5D-2W,5D-2 W,5D-2W,5D- 2W,5D-2W	MY41110200(Step Att)	RE	2015/08/11 * 12
CAF-08	Pre-Amplifier	Hewlett Packard	8447D	2944A09041	RE	2015/08/11 * 12
CSCL-13	Ruler	Tajima	L19-55	none	RE	2016/02/22 * 12
COS-10	Temperature & Humidity Indicator	HIOKI	3641/9680-50	090999895/09 0905406	RE	2016/05/24 * 12
CTS-14	Digital Multimeter	FLUKE	115	994460954	RE	2015/10/01 * 12
CCC-W10	Micro Wave Cable	Suhner	SUCOFLEX10 2	MY010/2A	RE	2015/07/13 * 12
KAF-06	Pre Amplifier	TSJ	MLA-1840B02 -35	-	RE	2016/02/29 * 12
KHA-06	Horn Antenna	ETS LINDGREN	3116	00046543	RE	2016/03/14 * 12

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

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

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

Test Item:
CE: Conducted Emission
RE: Radiated Emission
AT: Antenna Terminal Conducted test

UL Japan, Inc.

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