RADIO TEST REPORT

Test Report No.: 10656952S-B

(Original test report: 10315698S-F)

Applicant	:	**FUJIFILM Corporation**
Type of Equipment	:	**Flat Panel Sensor**
Model No.	:	**DR-ID 1200 FLAT PANEL SENSOR DR-ID 1213SE**
FCC ID	:	**W2Z-01000006**
Test regulation	:	**FCC Part 15 Subpart E: 2015**
Test item	:	**Radiated Spurious emission**
Test result	:	**Complied**

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3. This sample tested is in compliance with the limits of the above regulation.
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6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.

Date of test: January 25 to 30, 2015

Representative test engineer:

S. Takano

Shinichi Takano
Engineer
Consumer Technology Division

Approved by :

T. Imamura

Toyokazu Imamura
Leader
Consumer Technology Division

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☒ There is no testing item of "Non-accreditation".

RTL02610

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REVISION HISTORY

Original Test Report No.: 10656952S-B

Revision	Test report No.	Date	Page revised	Contents
- (Original)	10656952S-B	February 26, 2015	-	-

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SECTION 1: Customer information

Company Name	:	FUJIFILM Corporation
Address	:	2-26-30 Nishiazabu Minatoku Tokyo 106-8620, Japan
Telephone Number	:	81-3-6271-1975
Facsimile Number	:	81-3-6271-1189
Contact Person	:	Mitsuyuki Komiya

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

2.1 Identification of E.U.T.

Type of equipment	:	Flat Panel Sensor
Model No.	:	DR-ID 1200 FLAT PANEL SENSOR DR-ID 1213SE
Serial No.	:	Refer to Clause 4.2
Rating	:	DC 8V (Battery)
Country of Mass-production	:	Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No modification by the test lab.
Receipt Date of Sample	:	January 23, 2015

2.2 Product description

Model: DR-ID 1200 FLAT PANEL SENSOR DR-ID 1213SE (referred to as the EUT in this report) is Flat Panel Sensor.

General specification:
Clock frequency(ies) in the system : 40MHz

Radio specification:

Radio Type	:	Transceiver
Method of Frequency Generation	:	Synthesizer
Power Supply (inner)	:	DC3.3V

	IEEE802.11b	**IEEE802.11g**	**IEEE802.11a**	**IEEE802.11n (20M band)**	**IEEE802.11n (40M band)**
Frequency of operation *1)	2412-2462MHz	2412-2462MHz	5180-5320MHz 5500-5700MHz 5745-5825MHz	2412-2462MHz 5180-5320MHz 5500-5700MHz 5745-5825MHz	2422-2452MHz 5190-5310MHz 5510-5670MHz 5755-5795MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)		
Channel spacing	5MHz		20MHz	2.4GHz band 5MHz 5GHz band 20MHz	2.4GHz band 5MHz 5GHz band 40MHz

Antenna	**antenna #0 (Bottom, short edge side)**	**antenna #1 (Left, long edge side)**
Antenna quantity	2 pcs. (*. Separation distance between the antenna 1 and the antenna 0: 315mm) 11b,g,a: One selected Tx antenna operation. 11n(20HT),n(40HT): One selected Tx antenna operation (MCS0~7) 11n(20HT),n(40HT): Two Tx antenna operation (MCS8~13)	
Antenna model	113Y120216 (cable length: 300mm)	
Antenna type / connector type	λ/2 dipole antenna / Connector; PCB side: U.FL, Antenna side: soldered	
Antenna gain (max.peak) (excluding cable loss)	-7.3(2.4GHz), -7.7(2.5GHz), -2.3(5.2GHz), -2.7(5.3GHz), -4.3(5.6GHz), -5.0(5.8GHz)	-7.1(2.4GHz), -6.5(2.5GHz), -0.3(5.2GHz), -1.1(5.3GHz), -4.4(5.6GHz), -4.5(5.8GHz)
	(*.including cable loss, It has built-in in a frame of EUT.)	

*1) Refer to the test reports: 10656952S-A for FCC 15.407.
* The EUT do not use the special transmitting technique such as “beam-forming” and “time-space code diversity.”

FCC 15.31 (e)
The EUT is a battery-operated device and test was performed with the full-charged battery.
Therefore, the EUT complies with the requirement.

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

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart E: 2015, final revised on January 21, 2015
Title : FCC 47CFR Part15 Radio Frequency Device Subpart E Unlicensed National Information Infrastructure Devices
Section 15.207 Conducted limits
Section 15.209 Radiated emission limits, general requirements
Section 15.407 General technical requirements

3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.4:2009 7. AC powerline conducted emission measurements	FCC 15.407 (b)(6) & 15.207	-	N/A *2)	-	-
6dB, 26dB & 20dB emission bandwidth	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3) FCC 15.215 (c)	Conducted	*3)	-	-
Maximum conducted output power	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	*3)		-
Peak power spectral density	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.407 (a)(1)(2)(3)	Conducted	*3)		-
Spurious emission & Restricted band edges	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.109, 15.407 (b), 15.205 & 15.209	Radiated	N/A	6.9dB Freq.: 5725.000MHz Detector: Peak Polarization: Horizontal Mode: Tx 5700MHz, IEEE 802.11n (HT20), MIMO	Complied
Dynamic frequency selection	FCC 06-96 APPENDIX	FCC 15.407 (h)	Conducted	*3)	-	-

*1) These tests were also referred to KDB 789033 (FCC), "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E".
*2) The test is not applicable since the radio function does not operate during charging.
*3) Refer to the test report: 10315698S-E, 10315698S-G (Tested model: DR-ID1201SE)
Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

3.3 Addition to standard

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

3.4 Uncertainty

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

Item	Frequency range	No.1 SAC*1/SR*2 (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.7 dB	3.5 dB	3.5 dB
	30MHz-300MHz	4.9 dB	4.9 dB	4.7 dB
	300MHz-1GHz	5.0 dB	5.0 dB	4.8 dB
	1GHz-15GHz	4.9 dB	4.9 dB	4.9 dB
Radiated emission (Measurement distance: 1m)	15GHz-18GHz	5.7 dB	5.7 dB	5.7 dB
	18GHz-40GHz	4.5 dB	4.3 dB	4.3 dB

*1: SAC=Semi-Anechoic Chamber
*2: SR= Shielded Room is applied besides radiated emission

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

3.5 Test location

UL Japan, Inc. Shonan EMC Lab.
1-22-3, Megumigaoka, Hiratsuka-shi, Kanagawa-ken 259-1220 JAPAN
Telephone number : +81 463 50 6400
Facsimile number : +81 463 50 6401
JAB Accreditation No. : RTL02610

	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
☒ No.1 semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☒ No.2 semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
☐ No.3 semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
☐ No.4 semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
☐ No.1 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.2 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
☐ No.3 shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
☐ No.4 shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
☐ No.5 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.6 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
☐ No.1 measurement room	-	2.55 x 4.1 x 2.5	-	-

3.6 Test setup, Test data & Test instruments

Refer to APPENDIX 1 to 3.

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

4.1 Operating mode

Test item	Mode	Tested frequency	Worst data rate *1)	Antenna *1)
Radiated emission (below 1GHz) *2)	Transmitting IEEE 802.11n (HT20), MIMO	5580MHz	MCS8, PN9	Side & Bottom
Radiated emission (above 1GHz) *3)	Transmitting IEEE 802.11n (HT20), MIMO	5180MHz, 5240MHz, 5320MHz	MCS8, PN9	Side & Bottom
		5500MHz, 5580MHz, 5700MHz	MCS8, PN9	Side & Bottom
		5745MHz, 5785MHz, 5825MHz	MCS8, PN9	Side & Bottom
	Transmitting IEEE 802.11n (HT40), MIMO	5190MHz, 5230MHz, 5310MHz	MCS8, PN9	Side & Bottom
		5510MHz, 5550MHz, 5670MHz	MCS8, PN9	Side & Bottom
		5755MHz, 5795MHz	MCS8, PN9	Side & Bottom

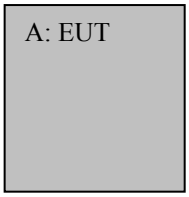
*1) The worst condition was determined based on the original test report.
*2) Test operating mode was determined as follows according to "Section 1 of 6 802.11 a/b/g/n testing- Managing Complex Regulatory Approvals - "of TCB Council Workshop October 2009.
*3) Since 11a and 11n-20 have the same modulation method and no differences in transmitting specification, test was performed on the representative mode that had the highest peak output power.

EUT has the power settings by the software as follows;

Power settings	IEEE 802.11a: 12.5dBm (5180-5320MHz), 15.0dBm (5500-5700MHz) IEEE 802.11n (HT20): 11.0dBm (5180-5320MHz), 13.5dBm (5500-5700MHz) IEEE 802.11n (HT40): 10.0dBm (5190, 5310MHz), 11.0dBm (5230, 5270, 5510-5670MHz)
Software	Atheros Radio Test (ART) - Revision 0.9 BUILD #27 ART_11n - Customer Version (ANWI BUILD)

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

4.2 Configuration and peripherals



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Flat Panel Sensor	DR-ID 1200 FLAT PANEL SENSOR DR-ID 1213SE	#107	FUJIFILM	EUT

SECTION 5: Radiated emission

5.1 Operating environment

Test place : See test data (APPENDIX 1)
Temperature : See test data (APPENDIX 1)
Humidity : See test data (APPENDIX 1)

5.2 Test configuration

EUT was placed on a polystyrene platform of nominal size, 0.5m by 0.5m, raised 0.8m above the conducting ground plane. Photographs of the set up are shown in APPENDIX 3.

5.3 Test conditions

Frequency range : 30MHz to 40GHz *
EUT position : Table top
* Measurement in 9kHz to 30MHz was not performed since the EUT does not use the clock frequency below 30MHz.

5.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on a semi-anechoic chamber with a ground plane and at a distance of 3m (below 15GHz) / 1m (above 15GHz). Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization. Drawing of the antenna direction is shown in Figure 1.
The radiated emission measurements were made with the following detection.

Frequency	30-1000MHz	1-40GHz	
Detection type	Quasi-Peak	Peak	Average *1)
IF Bandwidth	120kHz	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: *2)

*1) The test method was referred to Section H) 6) d) Method VB (Averaging using reduced video bandwidth) of FCC KDB 789033 D01 "Guidelines for Compliance Testing of unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E"
*2) When duty cycle > 98 percent, VBW was set at 10Hz.
When duty cycle < 98 percent, VBW (Average) calculation sheet in APPENDIX 1.

Detector and averaging type set for linear voltage averaging.

Below 1GHz
The result also satisfied with the general limits specified in FCC 15.209 (a).

Above 1GHz
Inside of restricted bands (FCC 15.205): Limit in FCC 15.209 (a)
Outside of the restricted bands:
Limit 68.2dBuV/m(–27dBm e.i.r.p.*) or 78.2dBuV/m(-17dBm e.i.r.p.*) in the Section 15.407(b).

Restricted band edge: Limit in FCC 15.209(a)
Since this limit is severer than the limit of the inside of restricted bands.

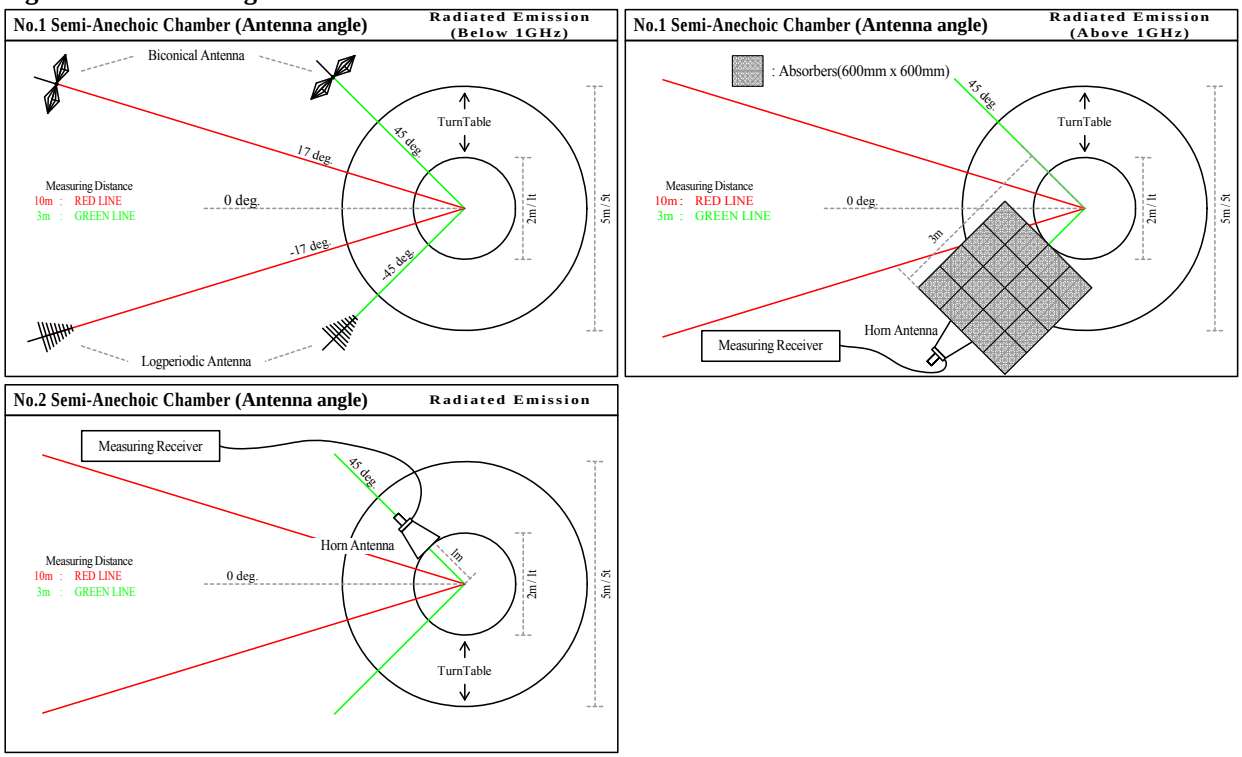
*Electric Field Strength to e.i.r.p. conversion
P [dBm] = E [dBuV/m] -95.2 [dB]
P [dBm] = 10 x LOG (({ (10 ^ (E [dBuV/m] / 20) * 10 ^ (-6) * (Distance = 3[m])) ^ 2 } / 30) x 10^3) (uV/m):
P is the e.i.r.p. (Watts)

* Distance Factor for the measurement at 1m: 20 x log (3.0m/1.0m) = 9.5dB

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

Antenna polarization	Carrier	Spurious (30M-1GHz)	Spurious (1-6.4GHz)	Spurious (6.4-15GHz)	Spurious (15-18GHz)	Spurious (18-26.5GHz)	Spurious (26.5-40GHz)
Horizontal	Y	Y	Y	Y	Y	Y	Y
Vertical	Y	Y	Y	Y	Y	Y	Y

Figure 1. Antenna angle



5.5 Band edge

Band edge level at 5150MHz, 5350MHz, 5460MHz and 5725MHz is below the limits of FCC 15.209.
Band edge level at 5470MHz, 5725MHz and 5850MHz is below the limits of FCC 15.407(b).

5.6 Results

Summary of the test results : Pass
* No noise was detected other than listed points.

Refer to APPENDIX 1

Contents of APPENDIXES

APPENDIX 1: Data of Radio tests

Radiated emission

APPENDIX 2: Test instruments

Test instruments

APPENDIX 3: Photographs of test setup

Radiated emission
Pre-check of the worst position

APPENDIX 1: Data of Radio tests

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5180 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	48.2	31.4	16.7	41.2	55.1	73.9	18.8	100	149	
Hori.	15540.000	PK	47.4	39.7	2.0	37.6	51.5	73.9	22.4	100	0	
Hori.	5150.000	AV	34.6	31.4	16.7	41.2	41.5	53.9	12.4	100	149	VBW:10Hz
Hori.	15540.000	AV	34.6	39.7	2.0	37.6	38.7	53.9	15.2	100	0	VBW:10Hz
Vert.	5150.000	PK	47.7	31.4	16.7	41.2	54.6	73.9	19.3	100	112	
Vert.	15540.000	PK	46.7	39.7	2.0	37.6	50.8	73.9	23.1	100	0	
Vert.	5150.000	AV	34.4	31.4	16.7	41.2	41.3	53.9	12.6	100	112	VBW:10Hz
Vert.	15540.000	AV	33.8	39.7	2.0	37.6	37.9	53.9	16.0	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10360.000	PK	47.0	39.1	9.2	40.5	54.8	-40.43	-27.00	13.4	100	0	
Vert.	10360.000	PK	46.6	39.1	9.2	40.5	54.4	-40.83	-27.00	13.8	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5240 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15720.000	PK	44.3	39.1	2.2	37.7	47.9	73.9	26.0	100	0	
Hori.	15720.000	AV	32.7	39.1	2.2	37.7	36.3	53.9	17.6	100	0	VBW:10Hz
Vert.	15720.000	PK	43.9	39.1	2.2	37.7	47.5	73.9	26.4	100	0	
Vert.	15720.000	AV	32.1	39.1	2.2	37.7	35.7	53.9	18.2	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10480.000	PK	47.2	39.4	9.3	40.6	55.3	-39.93	-27.00	12.9	100	0	
Vert.	10480.000	PK	46.6	39.4	9.3	40.6	54.7	-40.53	-27.00	13.5	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5320 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	49.4	31.5	16.8	40.9	56.8	73.9	17.1	100	140	
Hori.	10640.000	PK	46.7	39.6	9.3	40.6	55.0	73.9	18.9	100	0	
Hori.	15960.000	PK	45.2	38.3	2.7	37.8	48.4	73.9	25.5	100	0	
Hori.	5350.000	AV	34.7	31.5	16.8	40.9	42.1	53.9	11.8	100	140	VBW:10Hz
Hori.	10640.000	AV	34.9	39.6	9.3	40.6	43.2	53.9	10.7	100	0	VBW:10Hz
Hori.	15960.000	AV	34.0	38.3	2.7	37.8	37.2	53.9	16.7	100	0	VBW:10Hz
Vert.	5350.000	PK	47.6	31.5	16.8	40.9	55.0	73.9	18.9	100	165	
Vert.	10640.000	PK	46.4	39.6	9.3	40.6	54.7	73.9	19.2	100	0	
Vert.	15960.000	PK	46.0	38.3	2.7	37.8	49.2	73.9	24.7	100	0	
Vert.	5350.000	AV	34.6	31.5	16.8	40.9	42.0	53.9	11.9	100	165	VBW:10Hz
Vert.	10640.000	AV	34.8	39.6	9.3	40.6	43.1	53.9	10.8	100	0	VBW:10Hz
Vert.	15960.000	AV	33.0	38.3	2.7	37.8	36.2	53.9	17.7	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
-	-	-	-	-	-	-	-	-	-	-	-	-	-

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5500 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	47.2	31.6	16.9	40.7	55.0	73.9	18.9	100	168	
Hori.	11000.000	PK	45.9	40.0	9.7	40.7	54.9	73.9	19.0	100	0	
Hori.	5460.000	AV	34.9	31.6	16.9	40.7	42.7	53.9	11.2	100	168	VBW:10Hz
Hori.	11000.000	AV	34.2	40.0	9.7	40.7	43.2	53.9	10.7	100	0	VBW:10Hz
Vert.	5460.000	PK	49.0	31.6	16.9	40.7	56.8	73.9	17.1	100	78	
Vert.	11000.000	PK	46.6	40.0	9.7	40.7	55.6	73.9	18.3	100	0	
Vert.	5460.000	AV	34.6	31.6	16.9	40.7	42.4	53.9	11.5	100	78	VBW:10Hz
Vert.	11000.000	AV	34.2	40.0	9.7	40.7	43.2	53.9	10.7	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	51.4	31.6	16.9	40.7	59.2	-36.03	-27.00	9.0	100	118	
Hori.	16500.000	PK	50.3	39.3	3.1	37.8	54.9	-40.33	-27.00	13.3	100	285	
Vert.	5470.000	PK	49.0	31.6	16.9	40.7	56.8	-38.43	-27.00	11.4	100	101	
Vert.	16500.000	PK	47.0	39.3	3.1	37.8	51.6	-43.63	-27.00	16.6	100	272	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber	
Date	January 25, 2015	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	20 deg.C , 31 %RH	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Tatsuya Arai	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5580 MHz			
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8			

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	32.183	QP	23.8	16.8	7.0	31.8	15.8	40.0	24.2	150	0	
Hori.	366.664	QP	31.0	15.6	6.8	31.8	21.6	46.0	24.4	100	157	
Hori.	799.995	QP	29.7	21.2	9.0	31.9	28.0	46.0	18.0	158	176	
Hori.	939.188	QP	22.5	22.4	9.6	31.1	23.4	46.0	22.6	150	13	
Hori.	11160.000	PK	46.1	40.1	9.7	40.5	55.4	73.9	18.5	100	0	
Hori.	11160.000	AV	34.4	40.1	9.7	40.5	43.7	53.9	10.2	100	0	VBW:10Hz
Vert.	32.976	QP	23.9	16.6	7.1	31.8	15.8	40.0	24.2	100	0	
Vert.	366.667	QP	30.0	15.6	6.8	31.8	20.6	46.0	25.4	100	133	
Vert.	11160.000	PK	45.8	40.1	9.7	40.5	55.1	73.9	18.8	100	0	
Vert.	11160.000	AV	34.4	40.1	9.7	40.5	43.7	53.9	10.2	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16740.000	PK	51.8	39.8	2.9	37.8	56.7	-38.53	-27.00	11.5	100	292	
Vert.	16740.000	PK	50.2	39.8	2.9	37.8	55.1	-40.13	-27.00	13.1	100	287	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5700 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11400.000	PK	46.8	40.2	9.7	40.3	56.4	73.9	17.5	100	0	
Hori.	11400.000	AV	34.2	40.2	9.7	40.3	43.8	53.9	10.1	100	0	VBW:10Hz
Vert.	11400.000	PK	45.9	40.2	9.7	40.3	55.5	73.9	18.4	100	0	
Vert.	11400.000	AV	34.3	40.2	9.7	40.3	43.9	53.9	10.0	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	52.9	32.2	17.1	40.9	61.3	-33.93	-27.00	6.9	100	130	
Hori.	17100.000	PK	46.6	40.9	2.9	37.8	52.6	-42.63	-27.00	15.6	100	270	
Vert.	5725.000	PK	51.9	32.2	17.1	40.9	60.3	-34.93	-27.00	7.9	100	108	
Vert.	17100.000	PK	43.2	40.9	2.9	37.8	49.2	-46.03	-27.00	19.0	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5745 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11490.000	PK	45.2	40.3	9.6	40.2	54.9	73.9	19.0	100	0	
Hori.	11490.000	AV	33.7	40.3	9.6	40.2	43.4	53.9	10.5	100	0	VBW:10Hz
Vert.	11490.000	PK	45.4	40.3	9.6	40.2	55.1	73.9	18.8	100	0	
Vert.	11490.000	AV	33.7	40.3	9.6	40.2	43.4	53.9	10.5	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	50.0	32.2	17.1	40.8	58.5	-36.73	-27.00	9.7	100	131	
Hori.	5725.000	PK	56.0	32.2	17.1	40.9	64.4	-30.83	-17.00	13.8	100	135	
Vert.	5715.000	PK	48.1	32.2	17.1	40.8	56.6	-38.63	-27.00	11.6	100	97	
Vert.	5725.000	PK	52.7	32.2	17.1	40.9	61.1	-34.13	-17.00	17.1	100	79	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5785 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11570.000	PK	45.3	40.2	9.8	40.1	55.2	73.9	18.7	100	0	
Hori.	11570.000	AV	33.5	40.2	9.8	40.1	43.4	53.9	10.5	100	0	VBW:10Hz
Vert.	11570.000	PK	45.1	40.2	9.8	40.1	55.0	73.9	18.9	100	0	
Vert.	11570.000	AV	33.6	40.2	9.8	40.1	43.5	53.9	10.4	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	17355.000	PK	47.6	42.2	3.2	38.0	55.0	-40.23	-27.00	13.2	100	273	
Vert.	17355.000	PK	45.6	42.2	3.2	38.0	53.0	-42.23	-27.00	15.2	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 26, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 31 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5825 MHz		
	Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11650.000	PK	46.0	40.0	9.8	40.1	55.7	73.9	18.2	103	165	
Hori.	11650.000	AV	34.4	40.0	9.8	40.1	44.1	53.9	9.8	103	165	VBW:10Hz
Vert.	11650.000	PK	46.7	40.0	9.8	40.1	56.4	73.9	17.5	100	91	
Vert.	11650.000	AV	33.6	40.0	9.8	40.1	43.3	53.9	10.6	100	91	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	55.4	32.6	17.1	41.0	64.1	-31.13	-17.00	14.1	100	137	
Hori.	5860.000	PK	49.4	32.6	17.1	41.0	58.1	-37.13	-27.00	10.1	100	134	
Vert.	5850.000	PK	51.7	32.6	17.1	41.0	60.4	-34.83	-17.00	17.8	100	112	
Vert.	5860.000	PK	48.7	32.6	17.1	41.0	57.4	-37.83	-27.00	10.8	100	95	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5190 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5150.000	PK	48.8	31.4	16.7	41.2	55.7	73.9	18.2	100	137	
Hori.	15570.000	PK	44.7	39.6	2.0	37.6	48.7	73.9	25.2	100	0	
Hori.	5150.000	AV	36.1	31.4	16.7	41.2	43.0	53.9	10.9	100	137	VBW:10Hz
Hori.	15570.000	AV	32.7	39.6	2.0	37.6	36.7	53.9	17.2	100	0	VBW:10Hz
Vert.	5150.000	PK	50.7	31.4	16.7	41.2	57.6	73.9	16.3	100	128	
Vert.	15570.000	PK	44.9	39.6	2.0	37.6	48.9	73.9	25.0	100	0	
Vert.	5150.000	AV	37.3	31.4	16.7	41.2	44.2	53.9	9.7	100	128	VBW:10Hz
Vert.	15570.000	AV	32.8	39.6	2.0	37.6	36.8	53.9	17.1	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10380.000	PK	46.3	39.1	9.2	40.5	54.1	-41.13	-27.00	14.1	100	0	
Vert.	10380.000	PK	46.2	39.1	9.2	40.5	54.0	-41.23	-27.00	14.2	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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

Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5230 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	15690.000	PK	43.2	39.2	2.2	37.7	46.9	73.9	27.0	100	0	
Hori.	15690.000	AV	31.5	39.2	2.2	37.7	35.2	53.9	18.7	100	0	VBW:10Hz
Vert.	15690.000	PK	43.8	39.2	2.2	37.7	47.5	73.9	26.4	100	0	
Vert.	15690.000	AV	31.7	39.2	2.2	37.7	35.4	53.9	18.5	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	10460.000	PK	47.3	39.3	9.3	40.6	55.3	-39.93	-27.00	12.9	100	0	
Vert.	10460.000	PK	46.5	39.3	9.3	40.6	54.5	-40.73	-27.00	13.7	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5310 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5350.000	PK	49.4	31.5	16.8	40.9	56.8	73.9	17.1	100	158	
Hori.	10620.000	PK	46.4	39.5	9.3	40.6	54.6	73.9	19.3	100	0	
Hori.	15930.000	PK	45.6	38.4	2.6	37.8	48.8	73.9	25.1	100	0	
Hori.	5350.000	AV	36.3	31.5	16.8	40.9	43.7	53.9	10.2	100	158	VBW:10Hz
Hori.	10620.000	AV	34.9	39.5	9.3	40.6	43.1	53.9	10.8	100	0	VBW:10Hz
Hori.	15930.000	AV	33.4	38.4	2.6	37.8	36.6	53.9	17.3	100	0	VBW:10Hz
Vert.	5350.000	PK	49.2	31.5	16.8	40.9	56.6	73.9	17.3	100	97	
Vert.	10620.000	PK	46.7	39.5	9.3	40.6	54.9	73.9	19.0	100	0	
Vert.	15930.000	PK	45.7	38.4	2.6	37.8	48.9	73.9	25.0	100	0	
Vert.	5350.000	AV	36.0	31.5	16.8	40.9	43.4	53.9	10.5	100	97	VBW:10Hz
Vert.	10620.000	AV	34.9	39.5	9.3	40.6	43.1	53.9	10.8	100	0	VBW:10Hz
Vert.	15930.000	AV	32.6	38.4	2.6	37.8	35.8	53.9	18.1	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
-	-	-	-	-	-	-	-	-	-	-	-	-	-

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5510 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5460.000	PK	49.2	31.6	16.9	40.7	57.0	73.9	16.9	100	147	
Hori.	11020.000	PK	46.0	40.0	9.8	40.7	55.1	73.9	18.8	100	0	
Hori.	5460.000	AV	35.5	31.6	16.9	40.7	43.3	53.9	10.6	100	147	VBW:10Hz
Hori.	11020.000	AV	34.3	40.0	9.8	40.7	43.4	53.9	10.5	100	0	VBW:10Hz
Vert.	5460.000	PK	48.5	31.6	16.9	40.7	56.3	73.9	17.6	100	78	
Vert.	11020.000	PK	45.3	40.0	9.8	40.7	54.4	73.9	19.5	100	0	
Vert.	5460.000	AV	35.2	31.6	16.9	40.7	43.0	53.9	10.9	100	78	VBW:10Hz
Vert.	11020.000	AV	34.2	40.0	9.8	40.7	43.3	53.9	10.6	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5470.000	PK	51.2	31.6	16.9	40.7	59.0	-36.23	-27.00	9.2	100	152	
Hori.	16530.000	PK	44.3	39.3	3.0	37.8	48.8	-46.43	-27.00	19.4	100	0	
Vert.	5470.000	PK	49.4	31.6	16.9	40.7	57.2	-38.03	-27.00	11.0	100	102	
Vert.	16530.000	PK	44.5	39.3	3.0	37.8	49.0	-46.23	-27.00	19.2	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5550 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11100.000	PK	46.3	40.0	9.7	40.6	55.4	73.9	18.5	100	0	
Hori.	11100.000	AV	34.5	40.0	9.7	40.6	43.6	53.9	10.3	100	0	VBW:10Hz
Vert.	11100.000	PK	45.7	40.0	9.7	40.6	54.8	73.9	19.1	100	0	
Vert.	11100.000	AV	34.3	40.0	9.7	40.6	43.4	53.9	10.5	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	16650.000	PK	48.0	39.6	2.9	37.8	52.7	-42.53	-27.00	15.5	100	295	
Vert.	16650.000	PK	47.6	39.6	2.9	37.8	52.3	-42.93	-27.00	15.9	100	289	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5670 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11340.000	PK	46.1	40.2	9.7	40.4	55.6	73.9	18.3	100	0	
Hori.	11340.000	AV	34.1	40.2	9.7	40.4	43.6	53.9	10.3	100	0	VBW:10Hz
Vert.	11340.000	PK	46.0	40.2	9.7	40.4	55.5	73.9	18.4	100	0	
Vert.	11340.000	AV	34.2	40.2	9.7	40.4	43.7	53.9	10.2	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5725.000	PK	48.9	32.2	17.1	40.9	57.3	-37.93	-27.00	10.9	100	121	
Hori.	17010.000	PK	46.5	40.4	2.9	37.7	52.1	-43.13	-27.00	16.1	100	258	
Vert.	5725.000	PK	47.9	32.2	17.1	40.9	56.3	-38.93	-27.00	11.9	100	88	
Vert.	17010.000	PK	45.8	40.4	2.9	37.7	51.4	-43.83	-27.00	16.8	100	254	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5755 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11510.000	PK	46.0	40.3	9.7	40.2	55.8	73.9	18.1	100	0	
Hori.	11510.000	AV	34.0	40.3	9.7	40.2	43.8	53.9	10.1	100	0	VBW:10Hz
Vert.	11510.000	PK	45.7	40.3	9.7	40.2	55.5	73.9	18.4	100	0	
Vert.	11510.000	AV	33.9	40.3	9.7	40.2	43.7	53.9	10.2	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5715.000	PK	49.2	32.2	17.1	40.8	57.7	-37.53	-27.00	10.5	100	126	
Hori.	5725.000	PK	54.2	32.2	17.1	40.9	62.6	-32.63	-17.00	15.6	100	126	
Hori.	17265.000	PK	44.8	41.7	3.1	37.9	51.7	-43.53	-27.00	16.5	100	0	
Vert.	5715.000	PK	49.5	32.2	17.1	40.8	58.0	-37.23	-27.00	10.2	100	112	
Vert.	5725.000	PK	52.4	32.2	17.1	40.9	60.8	-34.43	-17.00	17.4	100	105	
Vert.	17265.000	PK	44.9	41.7	3.1	37.9	51.8	-43.43	-27.00	16.4	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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Radiated Emission

Test place	UL Japan, Inc. Shonan EMC Lab.		No.1 and 2 Semi Anechoic Chamber
Date	January 27, 2015	January 28, 2015	January 30, 2015
Temperature / Humidity	23 deg.C , 37 %RH	24 deg.C , 35 %RH	22 deg.C , 34 %RH
Engineer	Akira Sato	Shinichi Takano	Akio Hayashi
	(No.1 SAC)	(No.1 SAC)	(No.2 SAC)
Mode	Tx, 5795 MHz		
	Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8		

(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]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	11590.000	PK	44.8	40.1	9.8	40.1	54.6	73.9	19.3	100	0	
Hori.	11590.000	AV	33.7	40.1	9.8	40.1	43.5	53.9	10.4	100	0	VBW:10Hz
Vert.	11590.000	PK	45.6	40.1	9.8	40.1	55.4	73.9	18.5	100	0	
Vert.	11590.000	AV	33.7	40.1	9.8	40.1	43.5	53.9	10.4	100	0	VBW:10Hz

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

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

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

(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]	Result [dBuV/m]	Result (EIRP) [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	5850.000	PK	48.7	32.6	17.1	41.0	57.4	-37.83	-17.00	20.8	100	135	
Hori.	5860.000	PK	48.0	32.6	17.1	41.0	56.7	-38.53	-27.00	11.5	100	135	
Hori.	17385.000	PK	45.7	42.3	3.1	38.0	53.1	-42.13	-27.00	15.1	100	0	
Vert.	5850.000	PK	48.5	32.6	17.1	41.0	57.2	-38.03	-17.00	21.0	100	76	
Vert.	5860.000	PK	47.8	32.6	17.1	41.0	56.5	-38.73	-27.00	11.7	100	82	
Vert.	17385.000	PK	46.2	42.3	3.1	38.0	53.6	-41.63	-27.00	14.6	100	0	

Result[dBuV/m] = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 15GHz)) - Gain(Amprifier)

Resrult(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).

*The 4th harmonic was not seen so the result was its base noise level.

Distance factor: 15GHz-40GHz 20log(3.0m/1.0m)= 9.5dB

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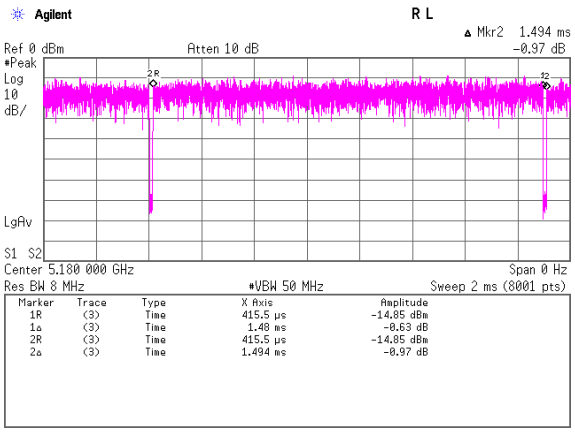
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Semi Anechoic Chamber
Date	January 26, 2015	
Temperature / Humidity	23 deg.C , 31 %RH	
Engineer	Akira Sato	

Burst rate confirmation

Tx, IEEE802.11n(HT20), PN9, antenna port 0+1, worst data mode MCS8

duty cycle = 1.48 / 1.494 = 0.991 (99.1%)	
Tx2_BurstRate1  	Tx2_BurstRate2

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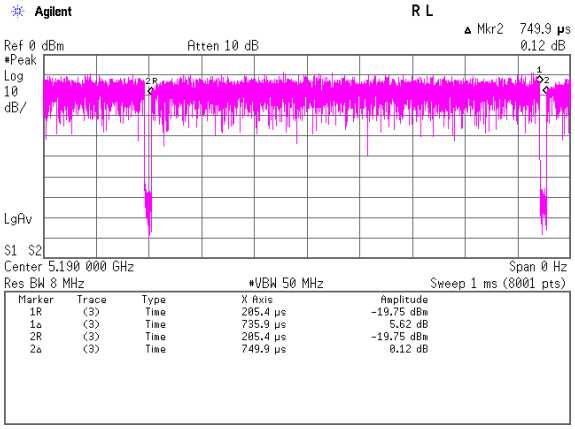
Test place	UL Japan, Inc. Shonan EMC Lab.	No.1 Semi Anechoic Chamber
Date	January 27, 2015	
Temperature / Humidity	23 deg.C , 37 %RH	
Engineer	Akira Sato	

Burst rate confirmation

Tx, IEEE802.11n(HT40), PN9, antenna port 0+1, worst data mode MCS8

duty cycle = 0.7359 / 0.7499 = 0.981 (98.1%)	
Tx2_BurstRate1  	Tx2_BurstRate2

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APPENDIX 2
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAEC-01(NSA)	Semi-Anechoic Chamber	TDK	SAEC-01(NSA)	1	RE	2014/07/09 * 12
SAF-04	Pre Amplifier	TOYO Corporation	TPA0118-36	1440489	RE	2014/03/14 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2014/04/22 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2014/05/15 * 12
SHA-01	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-725	RE	2014/08/12 * 12
SOS-01	Humidity Indicator	A&D	AD-5681	4062555	RE	2014/10/30 * 12
STR-01	Test Receiver	Rohde & Schwarz	ESU40	100093	RE	2014/11/11 * 12
SJM-13	Measure	ASKUL	-	-	RE	-
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFI,MF)	-	RE	-
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2014/11/21 * 12
SFL-03	Highpass Filter	MICRO-TRONICS	HPM50112	028	RE	2014/11/21 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2014/03/17 * 12
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2014/07/08 * 12
SAF-05	Pre Amplifier	TOYO Corporation	TPA0118-36	1440490	RE	2014/11/21 * 12
SCC-G02	Coaxial Cable	Suhner	SUCOFLEX 104A	46498/4A	RE	2014/04/22 * 12
SCC-G22	Coaxial Cable	Suhner	SUCOFLEX 104	296199/4	RE	2014/05/15 * 12
SHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-726	RE	2014/08/12 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2014/10/30 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2014/09/03 * 12
SJM-14	Measure	ASKUL	-	-	RE	-
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2014/03/04 * 12
SHA-05	Horn Antenna	ETS LINDGREN	3160-09	LM4210	RE	2014/03/15 * 12
SCC-G18	Coaxial Cable	Suhner	SUCOFLEX 104A	46292/4A	RE	2014/03/14 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE	2014/03/15 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE	2014/03/14 * 12
SCC-G19	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	RE	2014/03/14 * 12
SAF-01	Pre Amplifier	SONOMA	310N	290211	RE	2014/02/17 * 12
KAT6-04	Attenuator	INMET	18N-6dB	-	RE	2014/12/19 * 12
KAT3-09	Attenuator	JFW IND. INC.	50HF-003N	-	RE	2014/08/27 * 12
SBA-01	Biconical Antenna	Schwarzbeck	BBA9106	91032664	RE	2014/10/18 * 12
SCC-A1/A3/A5 /A7/A8/A13/S RSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2014/04/25 * 12
SCC-A2/A4/A6 /A7/A8/A13/S RSE-01	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-269(RF Selector)	RE	2014/04/25 * 12
SLA-01	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0888	RE	2014/10/18 * 12

The expiration date of the calibration is the end of the expired month .
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .
Test Item :
RE: Radiated emission