EMI TEST REPORT

Test Report No. : 11022049H-C

Applicant	:	**NIKON CORPORATION**
Type of Equipment	:	**Wireless Transmitter**
Model No.	:	**N1534**
FCC ID	:	**CGJ1252EA**
Test regulation	:	**FCC Part 15 Subpart B: 2015 Class B** **ICES-003 Issue 5 Class B**
Test Result	:	**Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.
6. This test report covers EMC technical requirements. It does not cover administrative issues such as Manual or non-EMC test related Requirements. (if applicable)

Date of test: November 9 to 12, 2015

Representative test engineer: Koji Yamamoto
Koji Yamamoto
Engineer
Consumer Technology Division

Approved by: T. Hatakeda
Takahiro Hatakeda
Leader
Consumer Technology Division

NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address,
http://japan.ul.com/resources/emc_accredited/

UL Japan, Inc.
Ise EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8999
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REVISION HISTORY

Original Test Report No.: 11022049H-C

Revision	Test report No.	Date	Page revised	Contents
- (Original)	11022049H-C	January 6, 2016	-	-

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CONTENTS **PAGE**

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SECTION 1: Customer information

Company Name	:	NEC Platforms, Ltd.
Address	:	800, Shimomata, Kakegawa-shi, Shizuoka 436-8501,Japan
Telephone Number	:	+81-537-22-8276
Facsimile Number	:	+81-537-22-8236
Contact Person	:	Masamitsu Kawamura

*Remarks:
NIKON CORPORATION designates NEC Platforms, Ltd. as manufacturer of the product (Wireless Transmitter).

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

2.1 Identification of E.U.T.

Type of Equipment	:	Wireless Transmitter
Model No.	:	N1534
Serial No.	:	Refer to Section 4, Clause 4.2
Receipt Date of Sample	:	October 28, 2015
Country of Manufacture	:	Japan
Condition of EUT	:	Engineering prototype (Not for Sale: This sample is not mass-produced items.)
Modification of EUT	:	No Modification by the test lab

2.2 Product Description

Model No: N1534 (referred to as the EUT in this report) is the Wireless Transmitter.

Feature of EUT:

Clock frequency(ies) in the system	:	800 MHz Radio part: 32.7 kHz (OSC), 40 MHz (Crystal)

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart B: 2015, final revised on November 23, 2015
*Some parts are effective on and after December 17, 2015 or December 23, 2015.
The revision does not affect the test specification applied to the EUT.

Title : FCC 47CFR Part15 Radio Frequency Device
Subpart B Unintentional Radiators

Test specification : ICES-003 Issue 5: 2012
Title : Spectrum Management and Telecommunications
Interference-Causing Equipment Standard
Information Technology Equipment (ITE) – Limits and methods of measurement

3.2 Procedures and results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	**FCC:** ANSI C63.4: 2003 7. AC powerline conducted emission measurements **IC:** ICES-003 Issue 5: 2012	Class B	N/A	**[QP]** 7.0 dB 0.36010 MHz, N **[AV]** 5.3 dB 0.36010 MHz, N	Complied
Radiated emission	**FCC:** ANSI C63.4: 2003 8. Radiated emission measurements **IC:** ICES-003 Issue 5: 2012	Class B	N/A	11.6 dB 177.656 MHz, Vertical	Complied
*Note: UL Japan, Inc's EMI Work Procedure 13-EM-W0420.					

3.3 Addition to standard

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.

Test room (semi-anechoic chamber)	**Conducted emission (±dB)**
	150 kHz - 30 MHz
No.1	3.5 dB
No.2	3.5 dB
No.3	3.4 dB
No.4	3.5 dB

Test room (semi-anechoic chamber)	**Radiated emission**						
	(3 m*)(±dB)				**(1 m*)(±dB)**		**(0.5 m*)(±dB)**
	9 kHz - 30 MHz	30 MHz - 300 MHz	300 MHz - 1 GHz	1 GHz - 10 GHz	10 GHz - 18 GHz	18 GHz - 26.5 GHz	26.5 GHz - 40 GHz
No.1	4.3 dB	5.1 dB	6.2 dB	5.5 dB	5.8 dB	5.8 dB	4.3 dB
No.2	4.2 dB	5.1 dB	6.2 dB	5.4 dB	5.7 dB	5.9 dB	5.6 dB
No.3	4.4 dB	5.1 dB	6.3 dB	5.2 dB	5.5 dB	5.8 dB	5.5 dB
No.4	4.7 dB	5.3 dB	6.3 dB	5.3 dB	5.7 dB	5.9 dB	5.5 dB

*3 m / 1 m / 0.5 m = Measurement distance

Conducted Emission test

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

Radiated emission test(3 m)

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

3.5 Test Location

UL Japan, Inc. Ise EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8999 Facsimile : +81 596 24 8124

	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	2973C-1	19.2 x 11.2 x 7.7m	7.0 x 6.0m	No.1 Power source room
No.2 semi-anechoic chamber	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	2973C-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.3 Preparation room
No.3 shielded room	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	2973C-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.4 Preparation room
No.4 shielded room	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	6.0 x 6.0 x 3.9m	6.0 x 6.0m	-
No.6 shielded room	-	4.0 x 4.5 x 2.7m	4.0 x 4.5 m	-
No.6 measurement room	-	4.75 x 5.4 x 3.0m	4.75 x 4.15 m	-
No.7 shielded room	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 measurement room	-	3.1 x 5.0 x 2.7m	N/A	-
No.9 measurement room	-	8.8 x 4.6 x 2.8m	2.4 x 2.4m	-
No.11 measurement room	-	6.2 x 4.7 x 3.0m	4.8 x 4.6m	-

* Size of vertical conducting plane (for Conducted Emission test): 2.0 x 2.0 m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.6 Test data, Test instruments, and Test set up

Refer to APPENDIX.

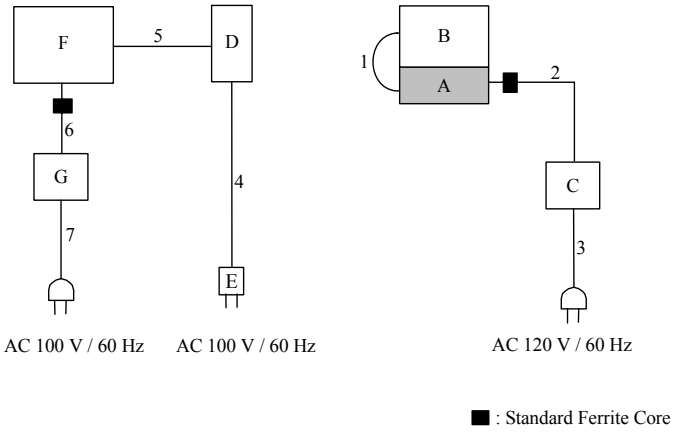
SECTION 4: Operation of E.U.T. during testing

4.1 Operating modes

The mode 1. WLAN 2.4GHz Communication + USB Communication mode
2. WLAN 5GHz Communication + USB Communication mode
3. WLAN Standby / LAN Communication + USB Communication mode

4.2 Configuration and peripherals

1. WLAN 2.4GHz Communication + USB Communication mode
2. WLAN 5GHz Communication + USB Communication mode



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

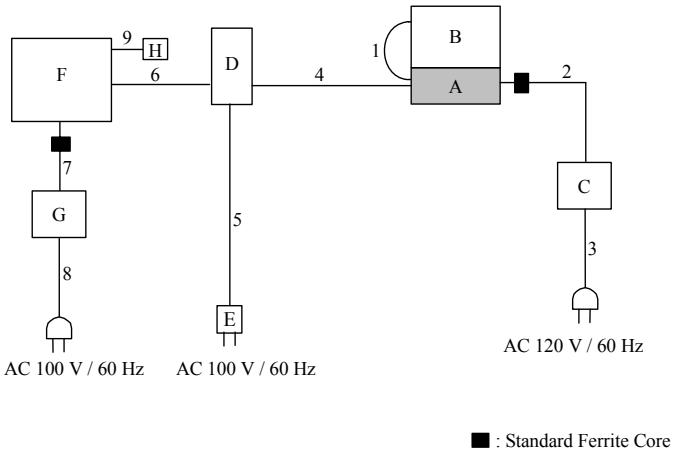
Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Wireless Transmitter	N1534	PT2-69	Nikon	EUT
B	DIGITAL CAMERA	-	PT2-0018	Nikon	-
C	AC Adapter	EH-5b	02	Nikon	-
D	ACCESS POINT	WH450NGPE	08D3F3	Logitec	-
E	AC Adapter	LA-15W12S	-	Logitec	-
F	Laptop PC	PC-DY25AFZ77	99023031A	NEC	-
G	AC Adapter	PA-1750-07	9518834LB	NEC	-

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	USB Cable	0.2	Shielded	Shielded	-
2	DC Cable	1.6	Unshielded	Unshielded	-
3	AC Cable	1.7	Unshielded	Unshielded	-
4	DC Cable	1.5	Unshielded	Unshielded	-
5	LAN Cable	1.0	Unshielded	Unshielded	-
6	DC Cable	1.7	Unshielded	Unshielded	-
7	AC Cable	1.8	Unshielded	Unshielded	-

3. Standby/ LAN Communication + USB Communication mode



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No.	Item	Model number	Serial number	Manufacturer	Remark
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C	AC Adapter	EH-5b	02	Nikon	-
D	ACCESS POINT	WH450NGPE	08D3F3	Logitec	-
E	AC Adapter	LA-15W12S	-	Logitec	-
F	Laptop PC	PC-DY25AFZ77	99023031A	NEC	-
G	AC Adapter	PA-1750-07	9518834LB	NEC	-
H	Mouse	M-LY2UL	0X000841	ELECOM	-

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	USB Cable	0.2	Shielded	Shielded	-
2	DC Cable	1.6	Unshielded	Unshielded	-
3	AC Cable	1.7	Unshielded	Unshielded	-
4	LAN Cable	5.0	Unshielded	Unshielded	-
5	DC Cable	1.5	Unshielded	Unshielded	-
6	LAN Cable	1.0	Unshielded	Unshielded	-
7	DC Cable	1.7	Unshielded	Unshielded	-
8	AC Cable	1.8	Unshielded	Unshielded	-
9	USB Cable	1.5	Shielded	Shielded	-

SECTION 5: Conducted Emission

5.1 Operating environment

Test place : No.1 semi anechoic chamber.
Temperature : See data
Humidity : See data

5.2 Test configuration

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.
The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT and its peripherals was 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 the LISN/AMN and excess AC cable was bundled in center. I/O cables that were connected to the other peripherals were bundled in center. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN/AMN to the input power source. All unused 50 ohm connectors of the LISN/AMN were resistivity terminated in 50 ohm when not connected to the measuring equipment.
Photographs of the set up are shown in Appendix 3.

Frequency range : 0.15 MHz - 30 MHz
EUT position : Table top
EUT operation mode : See Clause 4.1

5.3 Test procedure

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT within a semi anechoic chamber. The EUT was connected to a Line Impedance Stabilization Network (LISN)/ Artificial Mains network (AMN). An overview sweep with peak detection has been performed. The measurements have been performed with a quasi-peak detector and if required, with an average detector.
The conducted emission measurements were made with the following detector function of the test receiver.
Detector Type : Quasi-Peak and CISPR AV
IF Bandwidth : 9 kHz

5.4 Test result

Summary of the test results: Pass

Date: November 11 and 12, 2015 Test engineer: Koji Yamamoto

SECTION 6: Radiated Emission

6.1 Operating environment

Test place : No.1 semi anechoic chamber
Temperature : See data
Humidity : See data

6.2 Test configuration

EUT was placed on a urethane platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.
The EUT was set on the center the tabletop.
Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.
Photographs of the set up are shown in Appendix 3.

6.3 Test conditions

Frequency range : 30 MHz - 300 MHz (Biconical antenna) / 300 MHz - 1000 MHz (Logperiodic antenna)
1000 MHz - 10000 MHz (Horn antenna)
Test distance : 3 m
EUT position : Table top
EUT operation mode : See Clause 4.1

6.4 Test procedure

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 intensity.
The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver.
The radiated emission measurements were made with the following detector function of the test receiver.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Test Receiver
IF Bandwidth	QP: BW 120 kHz	PK: BW 1 MHz, CISPR AV: BW 1 MHz

The test was made on EUT at the normal use position.

6.5 Test result

Summary of the test results: Pass

Date: November 9, 2015 Test engineer: Shinya Watanabe and Koji Yamamoto

APPENDIX 1: Test data

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

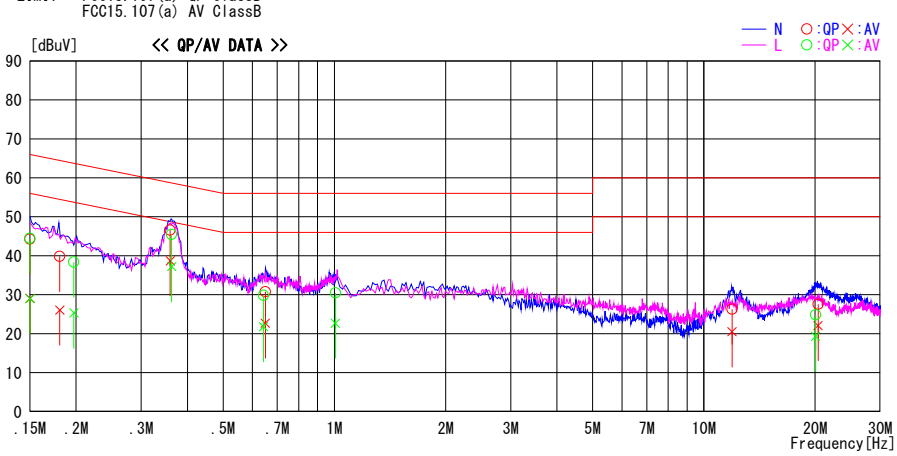
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/11

Report No. : 11022049H

Temp./Humi. : 22deg. C / 55% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN 2.4GHz Communication + USB Communication

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	31.1	15.9	13.2	44.3	29.1	66.0	56.0	21.7	26.9	N	
0.18057	26.6	12.9	13.2	39.8	26.1	64.5	54.5	24.7	28.4	N	
0.35970	33.3	25.4	13.3	46.6	38.7	58.7	48.7	12.1	10.0	N	
0.65038	17.3	9.3	13.4	30.7	22.7	56.0	46.0	25.3	23.3	N	
11.91787	11.7	5.9	14.6	26.3	20.5	60.0	50.0	33.7	29.5	N	
20.36538	12.5	7.0	15.1	27.6	22.1	60.0	50.0	32.4	27.9	N	
0.15000	31.3	15.8	13.2	44.5	29.0	66.0	56.0	21.5	27.0	L	
0.19716	25.2	12.1	13.2	38.4	25.3	63.7	53.7	25.3	28.4	L	
0.36288	32.2	23.9	13.3	45.5	37.2	58.7	48.7	13.2	11.5	L	
0.64320	16.5	8.5	13.3	29.8	21.8	56.0	46.0	26.2	24.2	L	
1.00686	17.1	9.3	13.4	30.5	22.7	56.0	46.0	25.5	23.3	L	
20.05610	9.7	4.2	15.1	24.8	19.3	60.0	50.0	35.2	30.7	L	

CHART : WITH FACTOR, Peak hold data. CALCULATION : RESULT = READING + C.F (LISN + ATTEN + CABLE)
Except for the above table : adequate margin data below the limits.

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

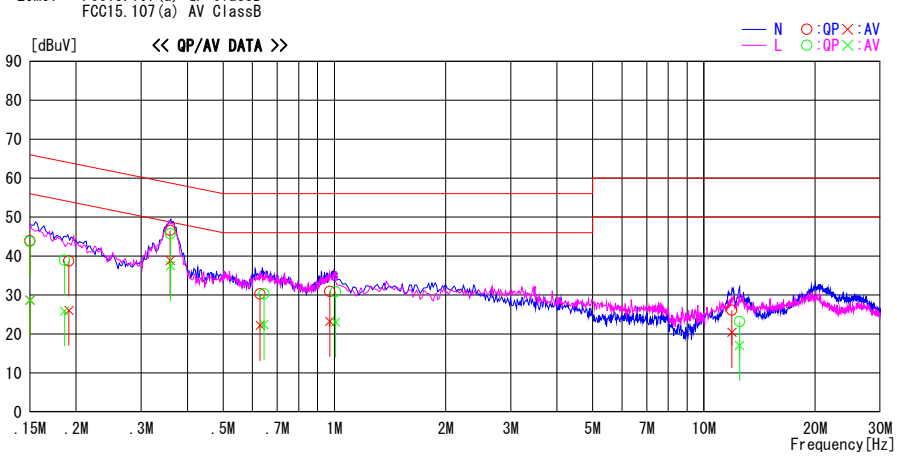
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/11

Report No. : 11022049H

Temp./Humi. : 22deg. C / 55% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN 5GHz Communication + USB Communication

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	30.7	15.5	13.2	43.9	28.7	66.0	56.0	22.1	27.3	N	
0.19130	25.5	12.9	13.2	38.7	26.1	64.0	54.0	25.3	27.9	N	
0.35959	33.3	25.6	13.3	46.6	38.9	58.7	48.7	12.1	9.8	N	
0.62945	17.0	8.9	13.3	30.3	22.2	56.0	46.0	25.7	23.8	N	
0.97119	17.5	9.8	13.4	30.9	23.2	56.0	46.0	25.1	22.8	N	
11.90256	11.5	5.8	14.6	26.1	20.4	60.0	50.0	33.9	29.6	N	
0.15000	30.5	15.5	13.2	43.7	28.7	66.0	56.0	22.3	27.3	L	
0.18603	25.7	12.7	13.2	38.9	25.9	64.2	54.2	25.3	28.3	L	
0.36028	32.4	24.2	13.3	45.7	37.5	58.7	48.7	13.0	11.2	L	
0.64445	17.0	9.1	13.3	30.3	22.4	56.0	46.0	25.7	23.6	L	
1.00774	17.4	9.7	13.4	30.8	23.1	56.0	46.0	25.2	22.9	L	
12.48135	8.6	2.5	14.6	23.2	17.1	60.0	50.0	36.8	32.9	L	

CHART : WITH FACTOR, Peak hold data. CALCULATION : RESULT = READING + C.F (LISN + ATTEN + CABLE)
Except for the above table : adequate margin data below the limits.

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

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

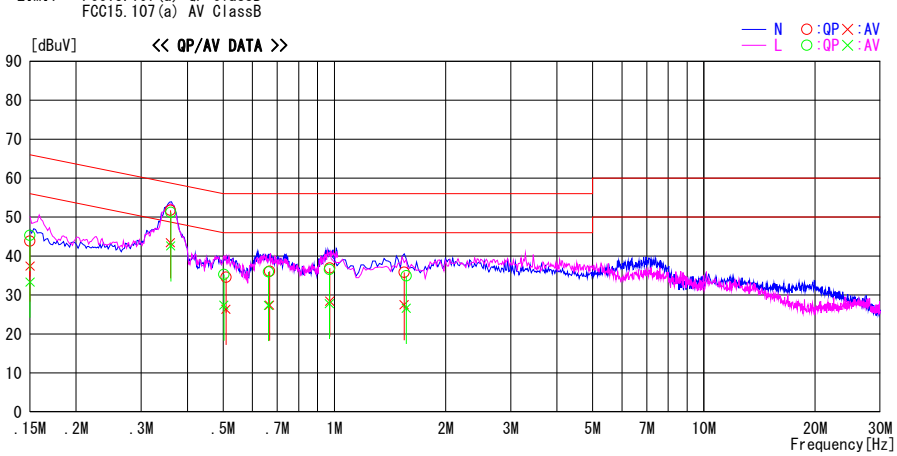
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/12

Report No. : 11022049H

Temp./Humi. : 22deg. C / 55% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN Standby / LAN Communication + USB Communication

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	30.6	24.2	13.2	43.8	37.4	66.0	56.0	22.2	18.6	N	
0.36010	38.4	30.1	13.3	51.7	43.4	58.7	48.7	7.0	5.3	N	
0.50916	21.3	13.0	13.3	34.6	26.3	56.0	46.0	21.4	19.7	N	
0.66782	22.7	14.0	13.4	36.1	27.4	56.0	46.0	19.9	18.6	N	
0.97119	23.5	15.0	13.4	36.9	28.4	56.0	46.0	19.1	17.6	N	
1.54347	22.3	14.0	13.5	35.8	27.5	56.0	46.0	20.2	18.5	N	
0.15000	32.1	20.1	13.2	45.3	33.3	66.0	56.0	20.7	22.7	L	
0.36056	37.9	29.3	13.3	51.2	42.6	58.7	48.7	7.5	6.1	L	
0.50205	22.0	14.1	13.3	35.3	27.4	56.0	46.0	20.7	18.6	L	
0.66337	22.5	13.9	13.4	35.9	27.3	56.0	46.0	20.1	18.7	L	
0.96948	23.2	14.4	13.4	36.6	27.8	56.0	46.0	19.4	18.2	L	
1.56474	21.4	13.1	13.5	34.9	26.6	56.0	46.0	21.1	19.4	L	

CHART : WITH FACTOR, Peak hold data. CALCULATION : RESULT = READING + C.F (LISN + ATTEN + CABLE)
Except for the above table : adequate margin data below the limits.

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

Radiated Emission
(Below 1 GHz)

DATA OF RADIATED EMISSION TEST

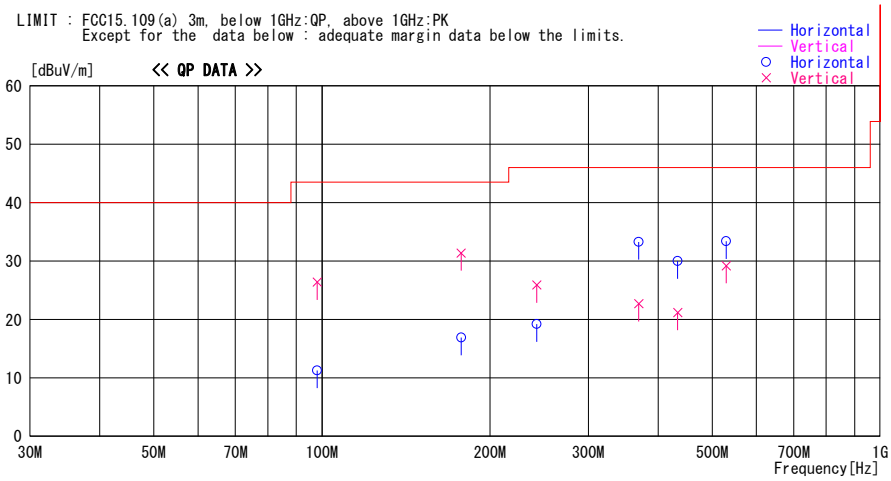
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 22deg. C / 66% RH
Engineer : Shinya Watanabe

Mode / Remarks : WLAN 2.4GHz Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
98.090	32.0	QP	9.7	-30.4	11.3	0	400	Hori.	43.5	32.2	
98.090	47.1	QP	9.7	-30.4	26.4	0	100	Vert.	43.5	17.1	
177.656	30.6	QP	15.9	-29.6	16.9	217	284	Hori.	43.5	26.6	
177.656	45.1	QP	15.9	-29.6	31.4	149	100	Vert.	43.5	12.1	
242.603	31.2	QP	17.0	-29.0	19.2	0	250	Hori.	46.0	26.8	
242.603	37.9	QP	17.0	-29.0	25.9	0	100	Vert.	46.0	20.1	
369.415	44.4	QP	16.6	-27.7	33.3	58	279	Hori.	46.0	12.7	
369.415	33.8	QP	16.6	-27.7	22.7	105	116	Vert.	46.0	23.3	
433.661	39.4	QP	17.7	-27.1	30.0	220	104	Hori.	46.0	16.0	
433.661	30.6	QP	17.7	-27.1	21.2	133	100	Vert.	46.0	24.8	
530.037	40.8	QP	18.5	-25.9	33.4	303	340	Hori.	46.0	12.6	
530.037	36.6	QP	18.5	-25.9	29.2	8	100	Vert.	46.0	16.8	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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

UL Japan, Inc.
Ise EMC Lab.
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Radiated Emission
(Below 1 GHz)

DATA OF RADIATED EMISSION TEST

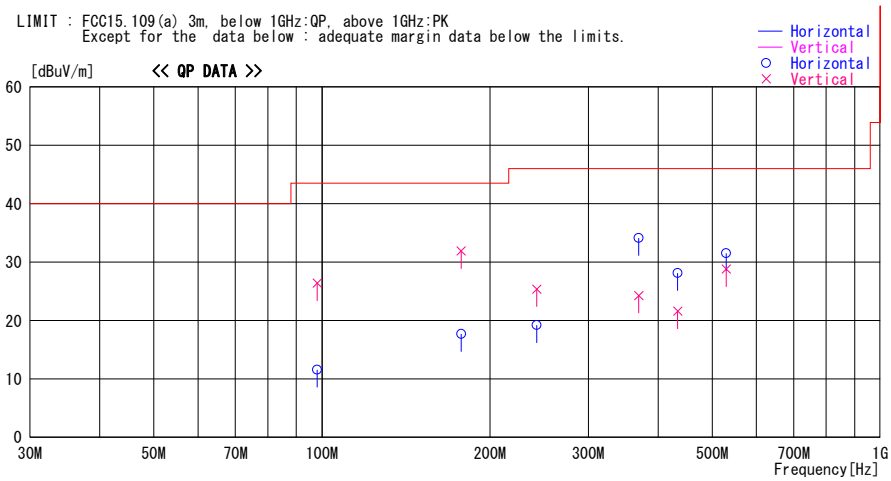
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 22deg. C / 66% RH
Engineer : Shinya Watanabe

Mode / Remarks : WLAN 5GHz Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
98.090	32.3	QP	9.7	-30.4	11.6	359	400	Hori.	43.5	31.9	
98.090	47.1	QP	9.7	-30.4	26.4	0	100	Vert.	43.5	17.1	
177.656	31.4	QP	15.9	-29.6	17.7	191	269	Hori.	43.5	25.8	
177.656	45.6	QP	15.9	-29.6	31.9	304	108	Vert.	43.5	11.6	
242.603	31.2	QP	17.0	-29.0	19.2	0	246	Hori.	46.0	26.8	
242.603	37.4	QP	17.0	-29.0	25.4	0	100	Vert.	46.0	20.6	
369.415	45.2	QP	16.6	-27.7	34.1	56	282	Hori.	46.0	11.9	
369.415	35.4	QP	16.6	-27.7	24.3	109	114	Vert.	46.0	21.7	
433.661	37.5	QP	17.7	-27.1	28.1	221	107	Hori.	46.0	17.9	
433.661	31.0	QP	17.7	-27.1	21.6	136	100	Vert.	46.0	24.4	
530.037	38.9	QP	18.5	-25.9	31.5	289	349	Hori.	46.0	14.5	
530.037	36.2	QP	18.5	-25.9	28.8	0	100	Vert.	46.0	17.2	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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

Radiated Emission
(Below 1 GHz)

DATA OF RADIATED EMISSION TEST

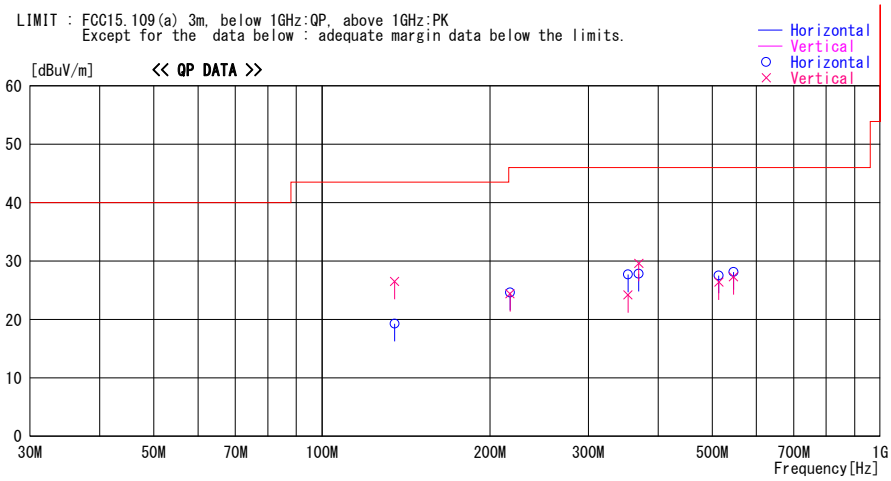
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 22deg. C / 66% RH
Engineer : Shinya Watanabe

Mode / Remarks : WLAN Standby / LAN Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
134.970	35.3	QP	13.9	-29.9	19.3	0	400	Hori.	43.5	24.2	
134.970	42.5	QP	13.9	-29.9	26.5	266	100	Vert.	43.5	17.0	
217.214	37.2	QP	16.6	-29.2	24.6	280	192	Hori.	46.0	21.4	
217.214	37.0	QP	16.6	-29.2	24.4	127	100	Vert.	46.0	21.6	
353.357	39.5	QP	16.1	-27.9	27.7	252	330	Hori.	46.0	18.3	
353.357	36.0	QP	16.1	-27.9	24.2	161	100	Vert.	46.0	21.8	
369.415	38.9	QP	16.6	-27.7	27.8	73	274	Hori.	46.0	18.2	
369.415	40.7	QP	16.6	-27.7	29.6	0	113	Vert.	46.0	16.4	
513.969	35.4	QP	18.2	-26.1	27.5	159	170	Hori.	46.0	18.5	
513.969	34.3	QP	18.2	-26.1	26.4	0	100	Vert.	46.0	19.6	
546.094	35.2	QP	18.7	-25.8	28.1	314	327	Hori.	46.0	17.9	
546.094	34.4	QP	18.7	-25.8	27.3	0	100	Vert.	46.0	18.7	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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

Radiated Emission
(Above 1 GHz)

DATA OF RADIATED EMISSION TEST

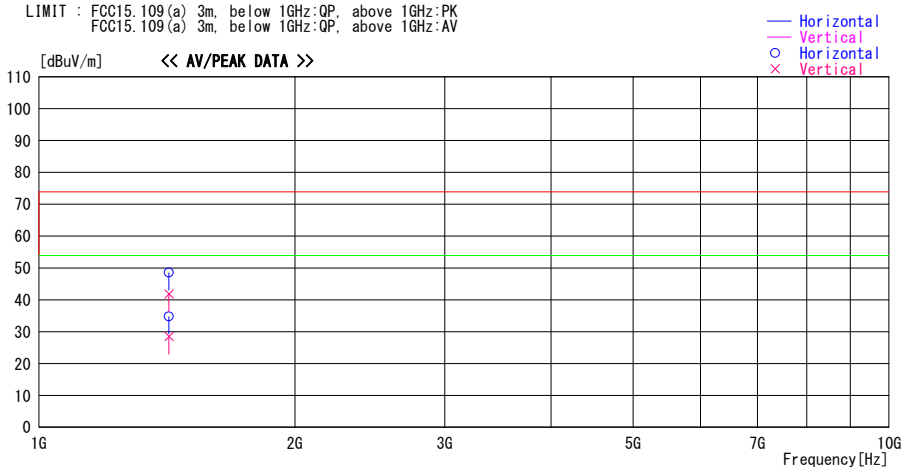
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 23deg. C / 58% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN 2.4GHz Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
1422.211	57.8	PK	25.1	-34.3	48.6	145	105	Hori.	73.9	25.3	
1422.211	51.0	PK	25.1	-34.3	41.8	161	100	Vert.	73.9	32.1	
1422.211	44.0	AV	25.1	-34.3	34.8	145	105	Hori.	53.9	19.1	
1422.211	37.7	AV	25.1	-34.3	28.5	161	100	Vert.	53.9	25.4	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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

Radiated Emission
(Above 1 GHz)

DATA OF RADIATED EMISSION TEST

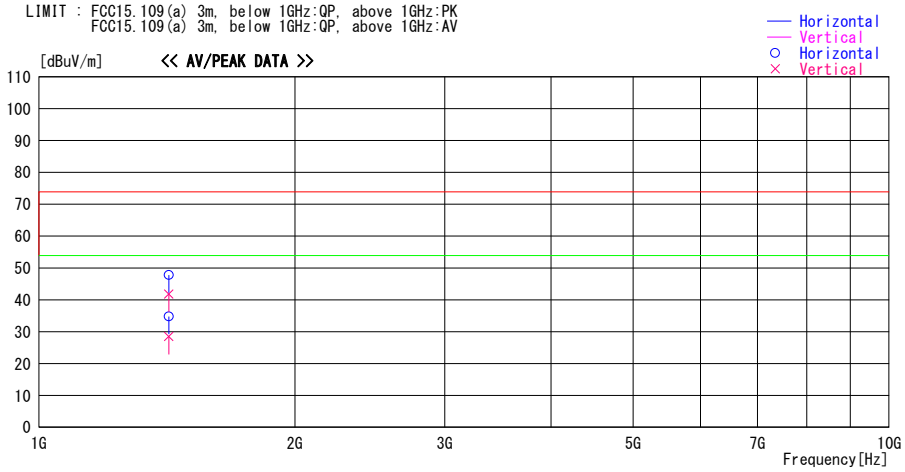
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 23deg. C / 58% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN 5GHz Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
1421.535	57.0	PK	25.1	-34.3	47.8	157	100	Hori.	73.9	26.1	
1421.535	51.0	PK	25.1	-34.3	41.8	141	100	Vert.	73.9	32.1	
1421.535	44.0	AV	25.1	-34.3	34.8	157	100	Hori.	53.9	19.1	
1421.535	37.7	AV	25.1	-34.3	28.5	141	100	Vert.	53.9	25.4	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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

Radiated Emission
(Above 1 GHz)

DATA OF RADIATED EMISSION TEST

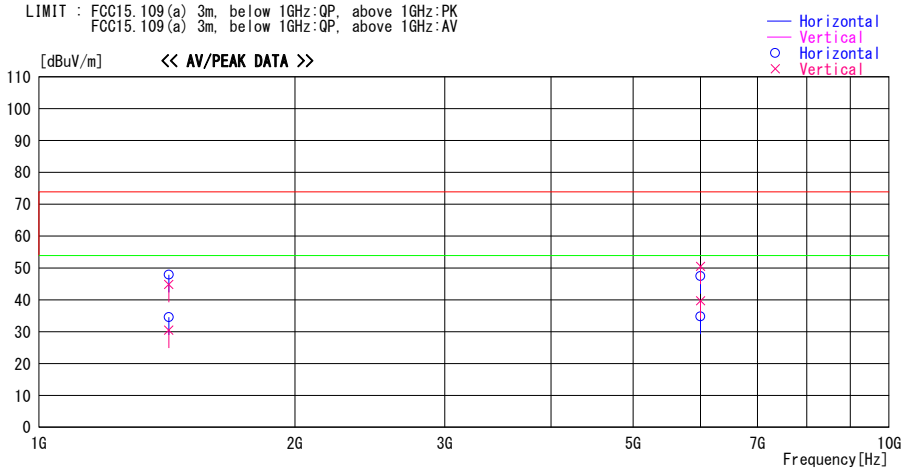
UL Japan, Inc. Ise EMC Lab. No.1 Semi Anechoic Chamber
Date : 2015/11/09

Report No. : 11022049H

Temp./Humi. : 23deg. C / 58% RH
Engineer : Koji Yamamoto

Mode / Remarks : WLAN Standby / LAN Communication + USB Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
1421.256	57.1	PK	25.1	-34.3	47.9	147	100	Hori.	73.9	26.0	
1421.256	54.0	PK	25.1	-34.3	44.8	193	100	Vert.	73.9	29.1	
1421.256	43.8	AV	25.1	-34.3	34.6	147	100	Hori.	53.9	19.3	
1421.256	39.7	AV	25.1	-34.3	30.5	193	100	Vert.	53.9	23.4	
6000.000	45.8	PK	33.1	-31.4	47.5	0	100	Hori.	73.9	26.4	
6000.000	48.8	PK	33.1	-31.4	50.5	54	100	Vert.	73.9	23.4	
6000.000	33.1	AV	33.1	-31.4	34.8	0	100	Hori.	53.9	19.1	
6000.000	38.0	AV	33.1	-31.4	39.7	54	100	Vert.	53.9	14.2	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION : RESULT = READING + ANT FACTOR + LOSS & GAIN(CABLE - GAIN(AMP))

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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)
MAEC-01	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE/CE	2015/09/19 * 12
MOS-27	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q26	RE/CE	2015/01/13 * 12
MJM-21	Measure	KOMELON	KMC-36	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MTR-09	EMI Test Receiver	Rohde & Schwarz	ESU26	100412	RE/CE	2015/06/08 * 12
KBA-05	Biconical Antenna	Schwarzbeck	BBA9106	2513	RE	2015/11/02 * 12
KLA-04	Logperiodic Antenna	Schwarzbeck	USLP9143	361	RE	2015/11/03 * 12
MAT-08	Attenuator(6dB)	Weinschel Corp	2	BK7971	RE	2015/11/10 * 12
MCC-02	Coaxial Cable	Suhner/storm/Agilent/TSJ	-	-	RE	2015/09/29 * 12
MPA-19	Pre Amplifier	MITEQ	MLA-10K01-B01-35	1237616	RE	2015/02/03 * 12
MMM-03	Digital Tester	Fluke	FLUKE 26-3	78030621	RE/CE	2015/08/19 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2015/05/18 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	2015/02/04 * 12
MCC-165	Microwave Cable	Junkosha	MWX221	1203S213(1m) / 1311S166(5m)	RE	2015/11/10 * 12
MLS-25	LISN(AMN)	Schwarzbeck	NSLK8127	8127-731	CE(EUT)	2015/07/17 * 12
MLS-26	LISN(AMN)	Schwarzbeck	NSLK8127	8127-732	CE(AE)	2015/07/17 * 12
MTA-30	Terminator	TME	CT-01	-	CE	2015/01/19 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/TSJ	5D-2W(20m)/3D-2W(7.5m)/RG400u(1.5m)/RFM-E421(Switcher)	- /01068(Switcher)	CE	2015/09/29 * 12
MAT-64	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2015/01/29 * 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