



RADIO TEST REPORT

Test Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
Type of Equipment : Full-color MFP
Model No. : Aficio MP C3000
Aficio MP C2500
FCC ID : BBP-RFAT001
Test Standard : FCC Part15 Subpart C: 2007
Test Result : Complied

1. This test report shall not be reproduced except in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.

Date of test: December 6, 11 and 13, 2007

Tested by:



Toyokazu Imamura

&



Fumiaki Matsuo

Approved by:



Osamu Watatani
Manager of Yamakita EMC Lab.

UL Japan, Inc.

YAMAKITA EMC LAB.

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MF060b (18.06.07)

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1 Applicant Information

Company Name : RICOH COMPANY, LTD.
Address : 810 Shimoimaizumi, Ebina-shi, Kanagawa-ken, 243-0460 Japan
Telephone Number : +81-46-292-6870
Facsimile Number : +81-46-231-9183
Contact Person : Shinji Okada

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

2.1 Identification of E.U.T.

Type of Equipment : Full-color MFP
Model No. : Aficio MP C3000
Aficio MP C2500
Serial No. : L3700000023
Rating : AC120±10%V, 50/60Hz
Country of Manufacture : China
Receipt Date of Sample : December 5, 2007
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model: Aficio MP C3000 / Aficio MP C2500 (referred to as the EUT in this report) is a Full-color MFP.
The difference between Model: Aficio MP C3000 and Model: Aficio MP C2500 is printing speed.

Aficio MP C3000: 30 pages per minute

Aficio MP C2500: 25 pages per minute

	RFID	Wireless LAN
Equipment type	Transceiver	Transceiver
Frequency of operation	13.56 MHz	2412-2462MHz
Clock frequency	798.8MHz	11MHz, 20MHz
Type of modulation	ASK 100%	DSSS (DBPSK, DQPSK, CCK)
Antenna type	Print pattern antenna	Chip
Antenna connector type	None	None
ITU code	A1D	D1D, G1D
Operation temperature range	+10 ~ +32 deg. C.	0 ~ +65 deg.C.

*FCC Part15.31 (e)

Host device (Full-color MFP) provides the Wireless LAN Module with stable power supply, and the power is not changed when voltage of the Full-color MFP is varied. Therefore, the equipment complies power supply regulation.

*FCC Part15.203

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

*FCC Part15.247 (i)

(i) Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307 (b)(1) of this chapter.

Please refer to the application documents of FCC ID: BBP-WLRW54G1.

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3 Test Specification, Procedures and Results

3.1 Test specification

Test specification : FCC Part15 Subpart C: 2007
 Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
 Section 15.207 Conducted limits
 Section 15.209 Radiated emission limits, general requirements
 Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz,
 and 5725-5850MHz

3.2 Procedures & Results

Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
Conducted Emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	FCC 15.107(a) & 207	-	N/A	12.0dB (0.1954MHz, Tx 2412MHz, AV)	Complied
6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC 15.247 (a)(2) & 15.209	Conducted	Excluded *1)	-	N/A
Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC 15.247 (b)(3) & 15.209	Conducted	Excluded *1)	-	N/A
Out of Band Emission & Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC 15.109, 15.247 (d) & 15.209	Conducted / Radiated	N/A	2.0dB (2400.00MHz, Horizontal, Tx 2412MHz)	Complied
Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	FCC 15.247 (e) & 15.209	Conducted	Excluded *1)	-	N/A

Note: UL Japan's EMI Work Procedures No.QPM05 and QPM15.

These tests were also referred to "Guidance on Measurement for Digital Transmission Systems Section15.247".

*1) These items were tested previously with Wireless LAN Module alone. The results were described in the test report 27IE0337-YK-D, published by UL Japan, Inc. The Wireless LAN Module has been certificated on September 5, 2007.

*2) Test results for RFID Module were described in the test report 25LE0014-YK-1, published by UL Apex Co., Ltd. (The company name was changed from "UL Apex Co., Ltd." to "UL Japan, Inc." on April 26, 2007.)

*3) This test has been performed for co-location operation.

3.3 Addition to standard

Other than mentioned in 3.2, no addition, exclusion nor deviation has been made from the standard.

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3.4 Uncertainty

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

	No.1 open site	No.2 open site	No.1 anechoic chamber
Conducted emission			
150kHz-30MHz	2.8 dB	2.8 dB	2.8 dB
Radiated emission (3m)			
30-300MHz	4.5 dB	4.4 dB	4.5 dB
300-1000MHz	4.3 dB	4.3 dB	4.3 dB
1GHz<	5.7 dB	5.7 dB	5.7 dB

Conducted Emission Test

The data listed in this test report has enough margin, more than 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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Telephone number : +81 465 77 1011

Facsimile number : +81 465 77 2112

NVLAP Lab. code : 200441-0

No. 1 test site has been fully described in a report submitted to FCC office, and accepted on August 26, 2005 (Registration No.: 95486).

IC Registration No. : 2973B-1

No. 2 test site has been fully described in a report submitted to FCC office, and accepted on April 4, 2005 (Registration No.: 466226).

IC Registration No. : 2973B-3

No. 1 anechoic chamber has been fully described in a report submitted to FCC office, and accepted on November 2, 2005 (Registration No.: 95967).

IC Registration No. : 2973B-2

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 shielded room	8.0 x 5.0 x 2.5	No.1 Semi-anechoic chamber	10.0 x 7.5 x 5.7
No.2 shielded room	5.0 x 4.0 x 2.5		
No.3 shielded room	4.0 x 5.0 x 2.7		

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4 System Test Configuration

4.1 Justification

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

Operation: Transmitting
- Low channel : 2412MHz
- Middle channel : 2437MHz
- High channel : 2462MHz

* RFID is also run into Transmitting (13.56MHz) mode.

Four RFID modules which have the same specification are mounted in the equipment and they don't have simultaneous transmitting function. They were previously checked and the one in which the maximum emission occurred was chosen. ID tag was mounted in the ribbon inside of the EUT to communicate with each module.

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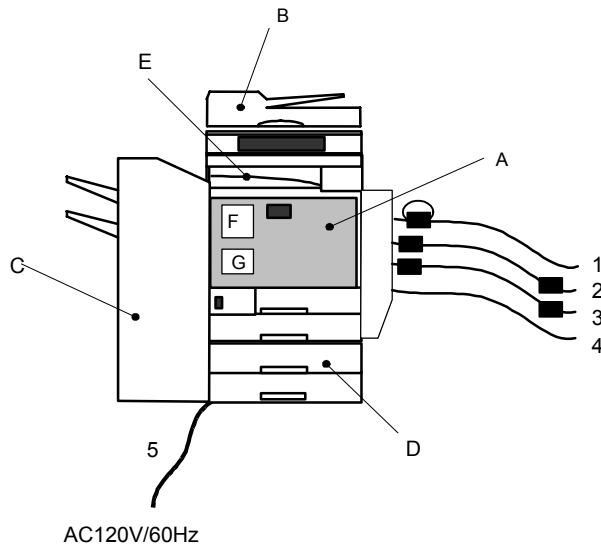
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4.2 Configuration of Tested System



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID (Remark)
A	Full-color MFP	Aficio MP C3000 (Aficio MP C2500)	L3700000023	RICOH	BBP-RFAT001 (EUT)
B	Document Feeder	DF 3000	11048	RICOH	-
C	Booklet Finisher	SR 3000	L4477700061	RICOH	-
D	Paper Bank	PB 3000	70103	RICOH	-
E	Bridge Unit	BU 3000	10126	RICOH	-
F	USB	USB Host Interface Unit Type A	50900059	RICOH	-
G	Wireless LAN Module	R-WL54CG	709S0098	RICOH	BBP-WLRW54G1

* RFID modules are installed in the Full-color MFP.

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	100BASE-Tx cable	5.0	Unshielded	Unshielded	-
2	USB cable	2.5	Shielded	Shielded	-
3	USB cable	2.5	Shielded	Shielded	-
4	USB cable	2.5	Shielded	Shielded	-
5	Power cable	2.0	Unshielded	Unshielded	-

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5 Conducted Emissions

5.1 Operating environment

The test was carried out in No.1 anechoic chamber.

Temperature : See test data
Humidity : See test data

5.2 Test configuration

EUT was placed on a carpet for insulation above the ground plane. EUT was located 80cm from LISN and excess AC cable was bundled in center.

A drawing of the set up is shown in the photos of Appendix 1.

5.3 Test conditions

Frequency range : 0.15 - 30MHz
EUT operation mode : Transmitting

5.4 Test procedure

The PSU was connected to a LISN (AMN). An overview sweep with peak detection has been performed. The Conducted emission measurements were made with the following detector function of the test receiver.

Detector: QP/AV
IF Bandwidth: 9kHz

5.5 Results

Summary of the test results : Pass

Date : December 13, 2007 Test engineer : Fumiaki Matsuo

6 Out of Band Emissions (Radiated)

6.1 Operating environment

The test was carried out in No.1 anechoic chamber.

Temperature : See test data
Humidity : See test data

6.2 Test configuration

EUT was placed on a wooden platform of nominal size, 1.0m by 1.0m, raised 10cm above the conducting ground plane. The module was set at a height of 1.0m from the reference ground plane. A drawing of the set up is shown in the photos of Appendix 1.

6.3 Test conditions

Frequency range : 30MHz - 26GHz
Test distance : 3m
EUT operation mode : Transmitting

6.4 Test procedure

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3m. 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.

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

Measurements were performed with QP, PK, and AV detector.

The radiated emission measurements were made with the following detector function of the test receiver.

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

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
Detector IF Bandwidth	QP: BW 120kHz	PK: RBW: 1MHz/VBW: 1MHz, AV: RBW: 1MHz/VBW: 10Hz
Measuring antenna	Biconical (30-300MHz) Logperiodic (300MHz-1GHz)	Horn

6.5 Band edge

Band edge level at 2400MHz, 2390MHz and 2483.5MHz is below the limits of FCC 15.209. Refer to the data.

6.6 Results

Summary of the test results : Pass
No noise was detected above the 5th order harmonics.

Date: December 6 and 11, 2007

Test engineer : Fumiaki Matsuo and Toyokazu Imamura

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APPENDIX 1: Photographs of test setup

Page 11 : Conducted emission

Page 12 : Radiated emission

APPENDIX 2: Test Data

Page 13 - 17 : Conducted emission

Page 18 - 26 : Radiated emission

18 - 20 : 30 - 1000MHz

21 - 26 : 1 - 26GHz

APPENDIX 3: Test instruments

Page 27 : Test instruments

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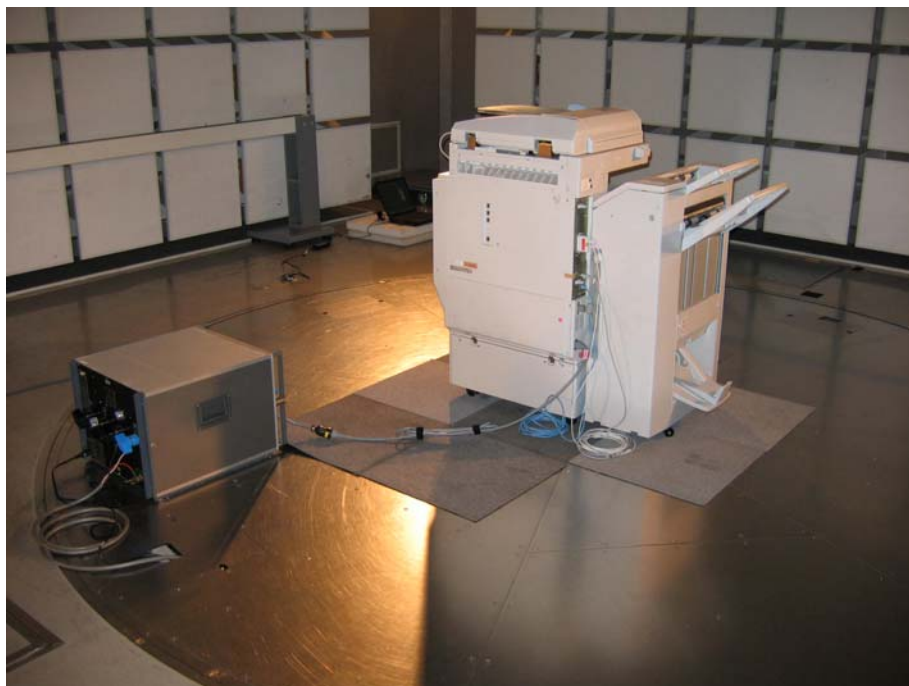
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Conducted emission



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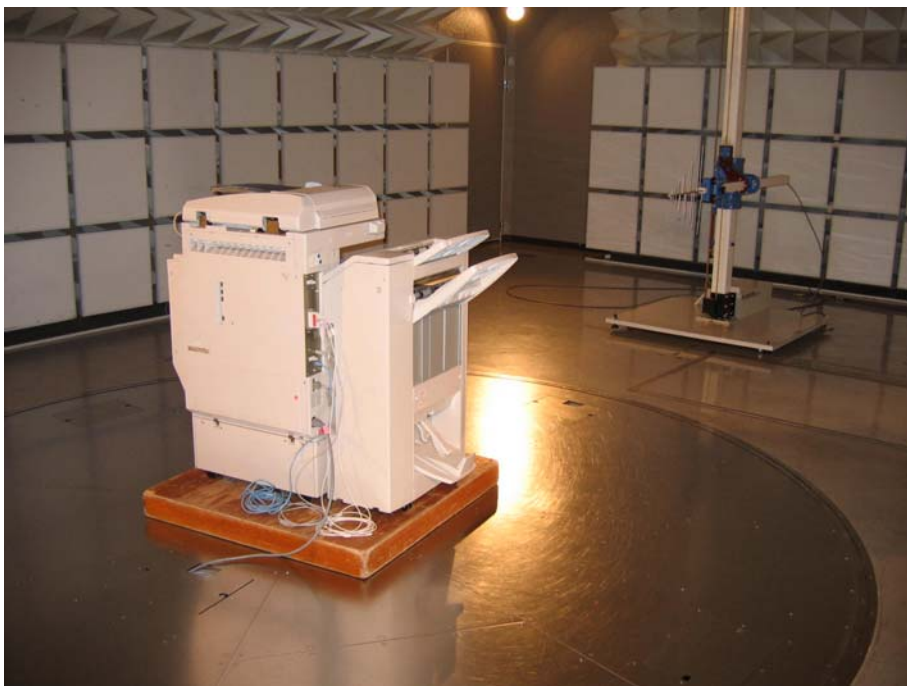
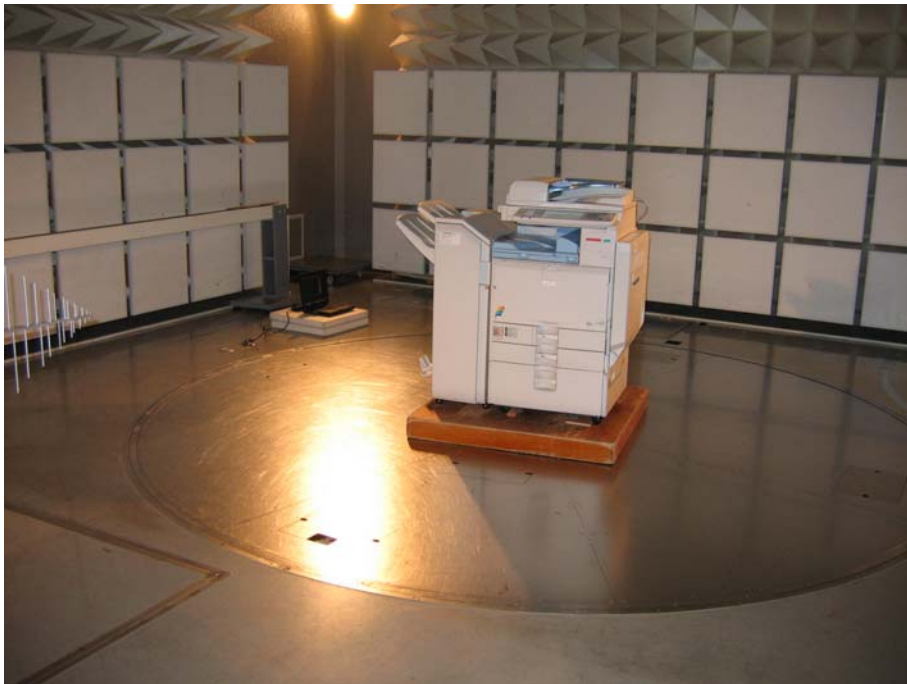
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Radiated emission



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DATA OF CONDUCTION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2412MHz)
 Remarks : W-LAN, With RF ID Transmitting
 Date : 12/13/2007
 Phase : Single Phase
 Temperature : 22 °C
 Humidity : 40 %
 Regulation : FCC Part15C § 15. 207. (CISPR Pub. 22)

Engineer : Fumiaki Matsuo

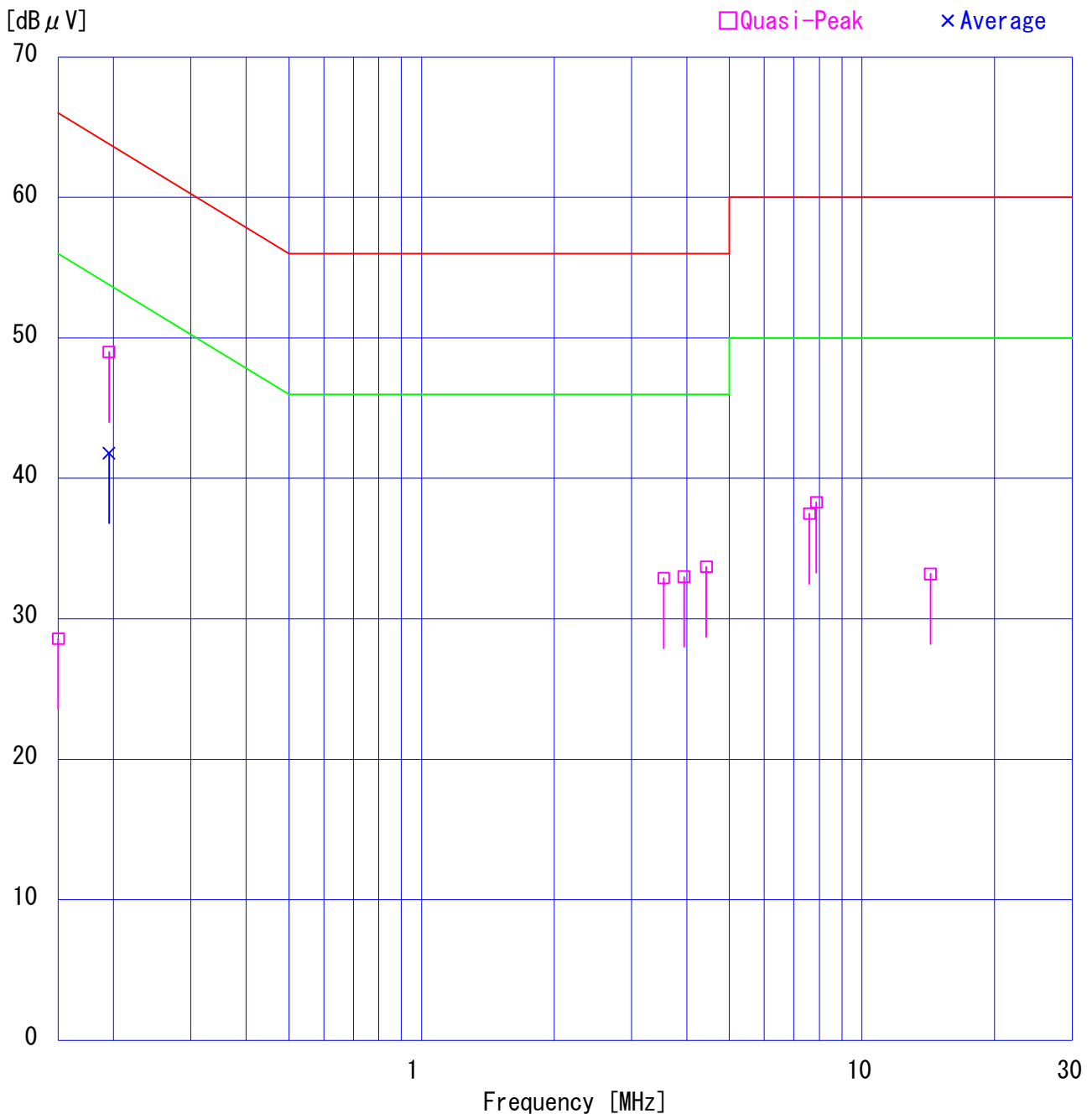
No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μ V]	AV	QP [dB μ V]	AV				QP [dB]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB]	AV [dB]
1.	0.1500	28.1	-	28.5	-	0.0	0.1	0.0	28.6	-	66.0	56.0	37.4	-
2.	0.1954	47.9	41.5	48.9	41.7	0.0	0.1	0.0	49.0	41.8	63.8	53.8	14.8	12.0
3.	3.5464	20.0	-	32.6	-	0.1	0.2	0.0	32.9	-	56.0	46.0	23.1	-
4.	3.9419	18.4	-	32.6	-	0.1	0.3	0.0	33.0	-	56.0	46.0	23.0	-
5.	4.4341	18.3	-	33.2	-	0.2	0.3	0.0	33.7	-	56.0	46.0	22.3	-
6.	7.5958	36.0	-	36.8	-	0.3	0.4	0.0	37.5	-	60.0	50.0	22.5	-
7.	7.8826	34.4	-	37.6	-	0.3	0.4	0.0	38.3	-	60.0	50.0	21.7	-
8.	14.2896	19.0	-	32.0	-	0.6	0.6	0.0	33.2	-	60.0	50.0	26.8	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

DATA OF CONDUCTION TEST

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Date : 12/13/2007
Phase : Single Phase
Temperature : 22 °C Engineer : Fumiaki Matsuo
Humidity : 40 %
Regulation : FCC Part15C § 15. 207. (CISPR Pub. 22)



DATA OF CONDUCTION TEST CHART

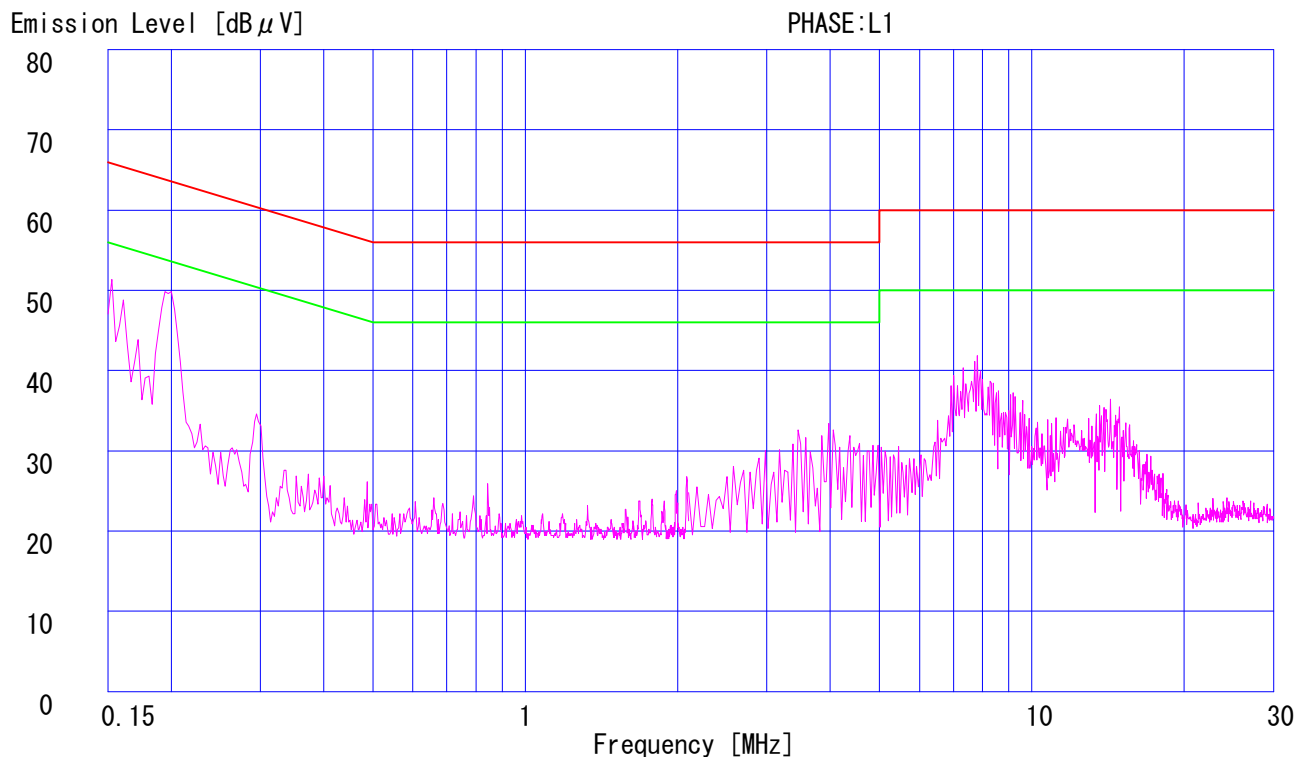
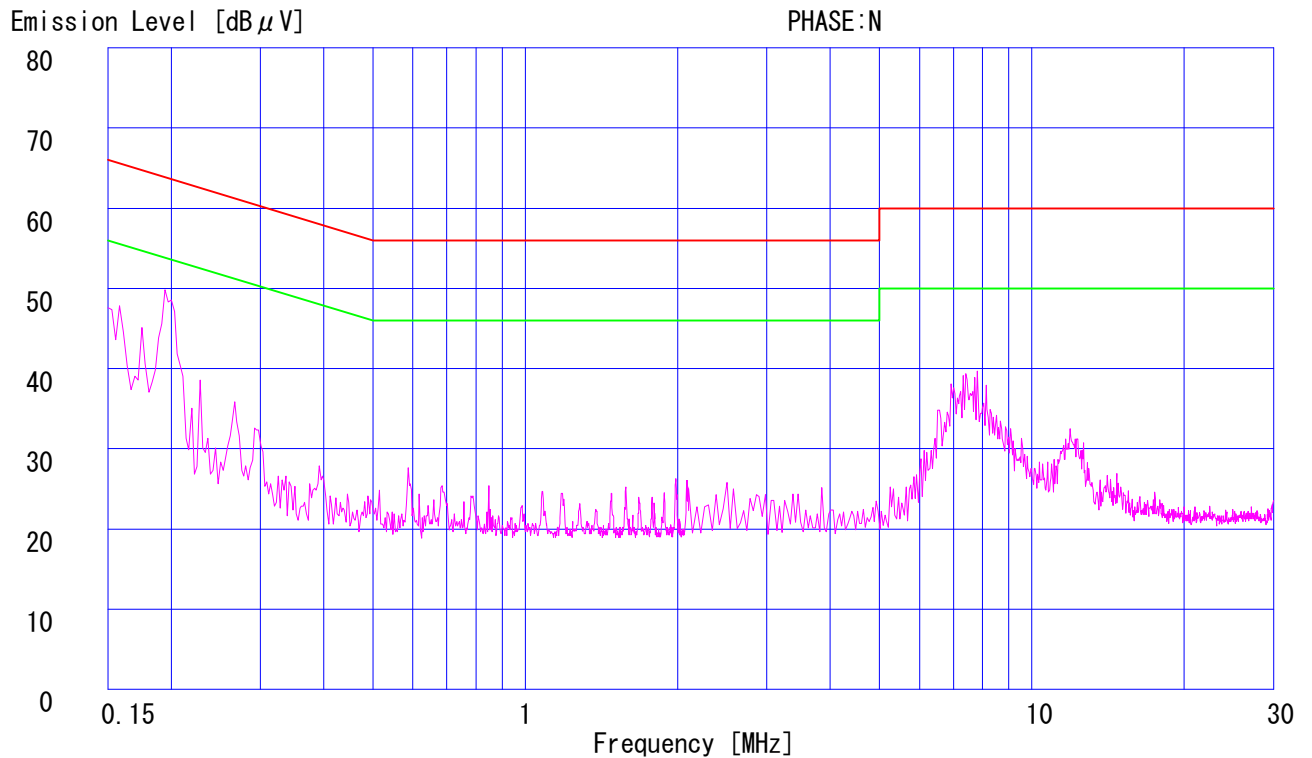
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Mode : Transmitting(2412MHz)
Remarks : W-LAN, With RF ID Transmitting
Date : 12/13/2007
Phase : Single Phase
Temperature : 22 °C
Humidity : 40 %
Regulation 1 : FCC Part15C § 15.207. (CISPR Pub.22)
Regulation 2 : None

Engineer : Fumiaki Matsuo



DATA OF CONDUCTION TEST CHART

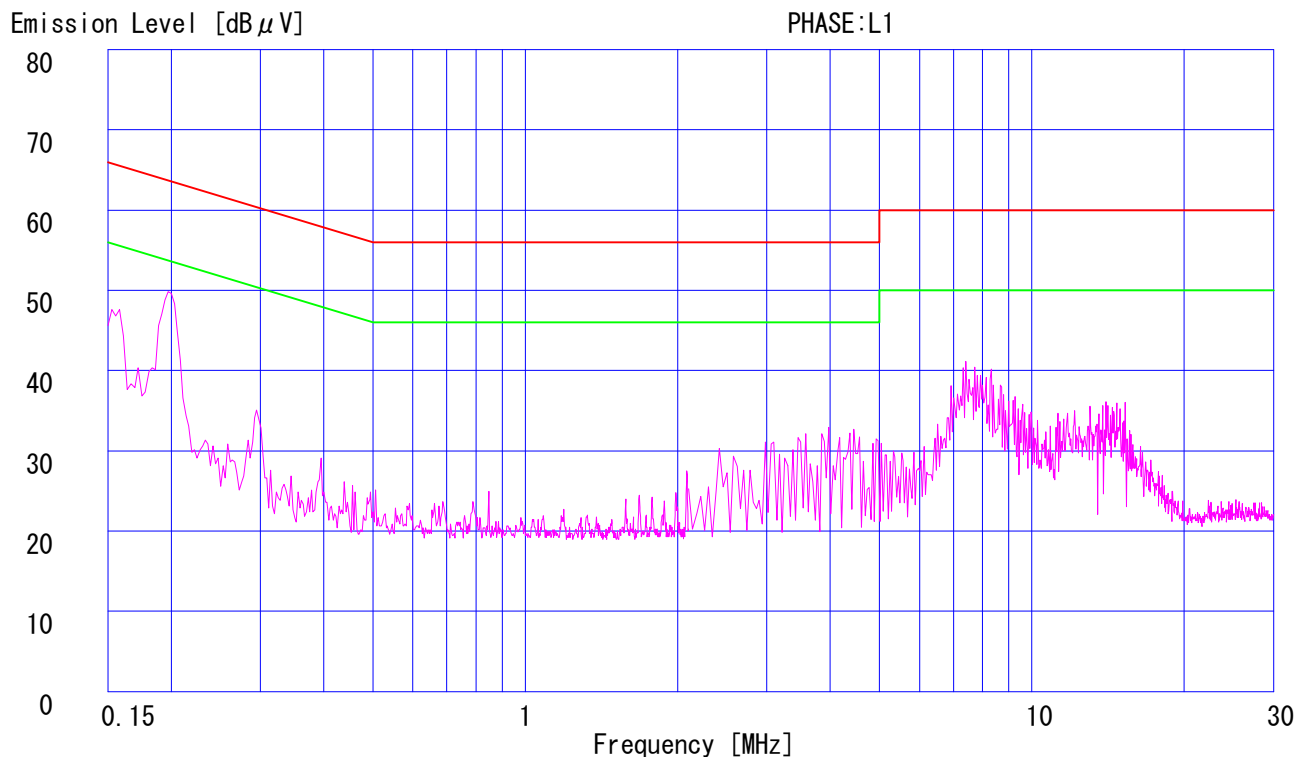
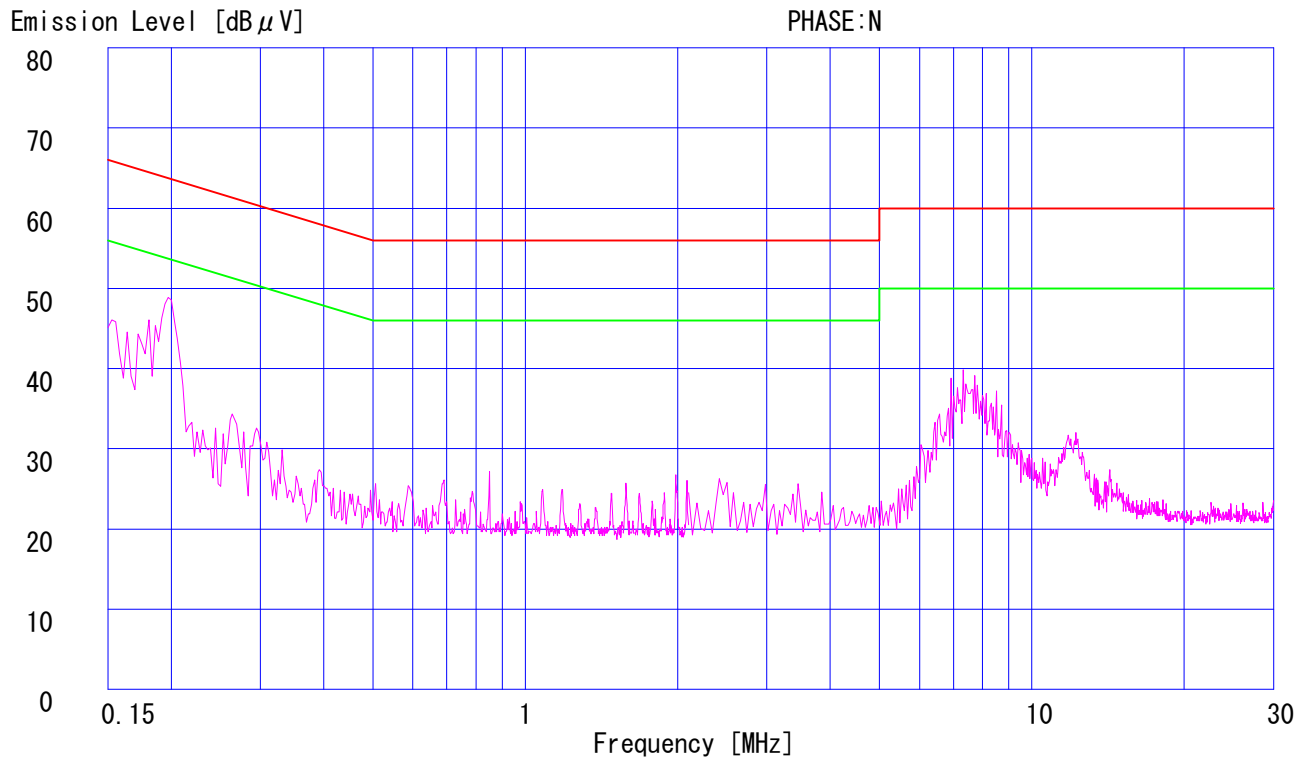
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Kind of Equipment : Full-color MFP
Model No. : Aficio MP C3000
Serial No. : L3700000023
Power : AC120V/60Hz
Mode : Transmitting(2437MHz)
Remarks : W-LAN, With RF ID Transmitting
Date : 12/13/2007
Phase : Single Phase
Temperature : 22 °C
Humidity : 40 %
Regulation 1 : FCC Part15C § 15.207. (CISPR Pub.22)
Regulation 2 : None

Engineer : Fumiaki Matsuo



DATA OF CONDUCTION TEST CHART

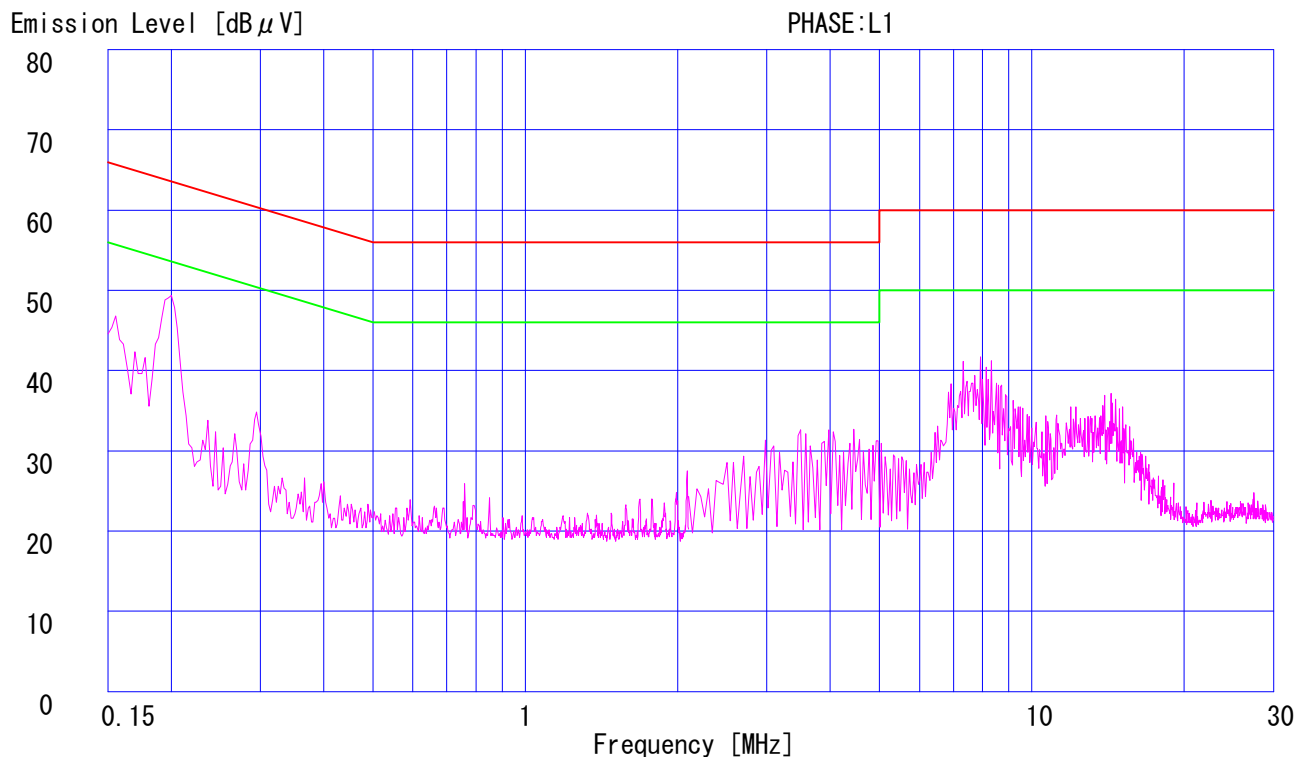
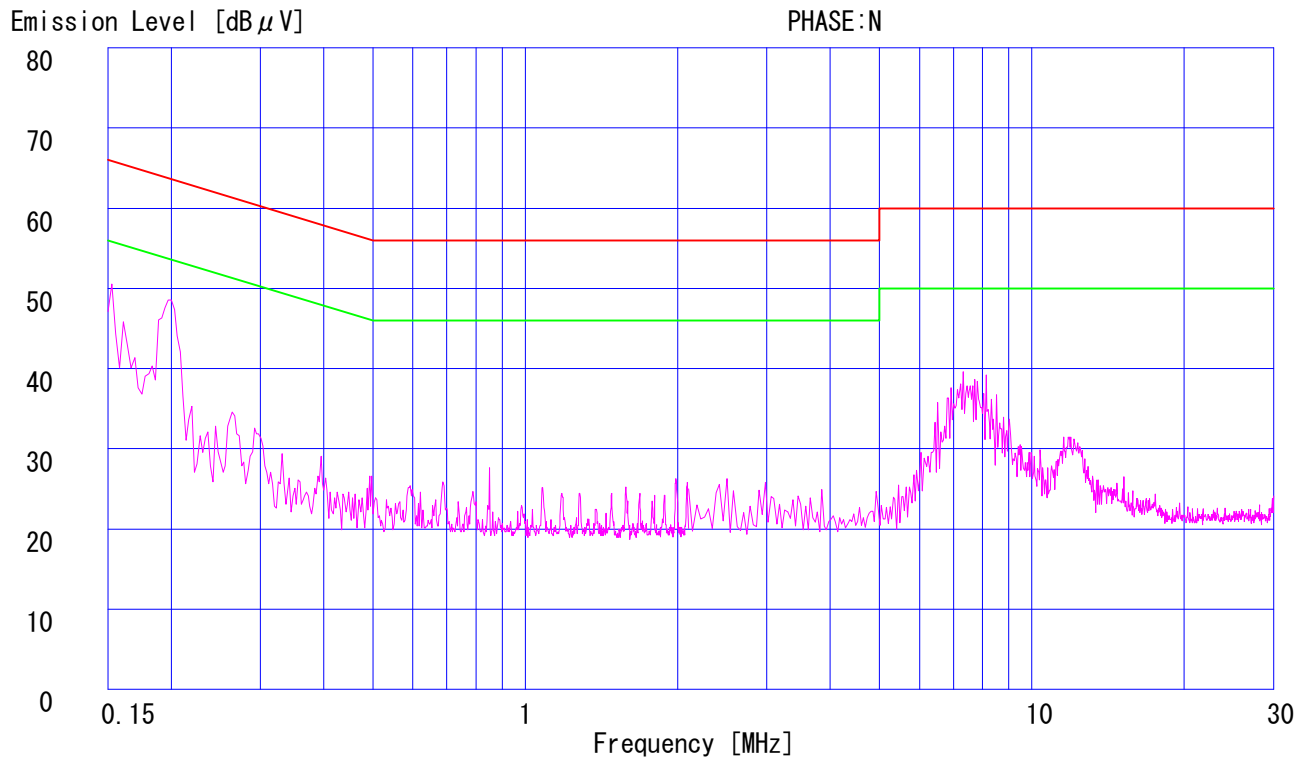
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Serial No. : L3700000023
Power : AC120V/60Hz
Mode : Transmitting(2462MHz)
Remarks : W-LAN, With RF ID Transmitting
Date : 12/13/2007
Phase : Single Phase
Temperature : 22 °C
Humidity : 40 %
Regulation 1 : FCC Part15C § 15.207. (CISPR Pub.22)
Regulation 2 : None

Engineer : Fumiaki Matsuo



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Model No. : Aficio MP C3000
Serial No. : L3700000023
Power : AC120V/60Hz
Mode : Transmitting(2412MHz)
Remarks : W-LAN, With RF ID Transmitting
Date : 12/6/2007
Test Distance : 3 m
Temperature : 21 °C Engineer : Fumiaki Matsuo
Humidity : 36 %
Regulation : FCC Part15C § 15.209

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	33.13	BB	28.3	35.0	17.8	28.7	1.1	5.8	24.3	31.0	40.0	15.7	9.0
2.	72.35	BB	34.6	40.6	6.6	28.5	1.7	5.8	20.2	26.2	40.0	19.8	13.8
3.	94.93	BB	35.5	37.7	9.5	28.6	2.0	5.8	24.2	26.4	43.5	19.3	17.1
4.	108.48	BB	37.4	37.6	11.7	28.4	2.1	5.8	28.6	28.8	43.5	14.9	14.7
5.	122.05	BB	38.0	33.4	13.4	28.4	2.3	5.8	31.1	26.5	43.5	12.4	17.0
6.	232.85	BB	32.1	32.2	17.3	27.8	3.3	5.8	30.7	30.8	46.0	15.3	15.2
7.	412.90	BB	32.8	36.4	17.2	28.5	5.2	5.9	32.6	36.2	46.0	13.4	9.8
8.	500.01	BB	37.2	35.7	18.0	29.1	5.6	5.9	37.6	36.1	46.0	8.4	9.9
9.	550.02	BB	32.8	31.5	18.9	29.2	5.7	5.9	34.1	32.8	46.0	11.9	13.2
10.	619.34	BB	32.2	33.0	19.9	29.3	6.0	5.9	34.7	35.5	46.0	11.3	10.5

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KBA-03 (BBA9106) 30-300MHz/KLA-03 (USLP9143) 300-1000MHz
■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Page:

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 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2437MHz)
 Remarks : W-LAN, With RF ID Transmitting
 Date : 12/6/2007
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 36 %
 Regulation : FCC Part15C § 15.209

Engineer : Fumiaki Matsuo

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	33.13	BB	28.3	35.4	17.8	28.7	1.1	5.8	24.3	31.4	40.0	15.7	8.6
2.	72.35	BB	34.6	41.2	6.6	28.5	1.7	5.8	20.2	26.8	40.0	19.8	13.2
3.	94.93	BB	35.3	37.5	9.5	28.6	2.0	5.8	24.0	26.2	43.5	19.5	17.3
4.	108.48	BB	36.0	37.6	11.7	28.4	2.1	5.8	27.2	28.8	43.5	16.3	14.7
5.	122.05	BB	38.5	33.4	13.4	28.4	2.3	5.8	31.6	26.5	43.5	11.9	17.0
6.	232.85	BB	32.1	33.0	17.3	27.8	3.3	5.8	30.7	31.6	46.0	15.3	14.4
7.	412.90	BB	33.4	36.6	17.2	28.5	5.2	5.9	33.2	36.4	46.0	12.8	9.6
8.	500.01	BB	37.3	35.9	18.0	29.1	5.6	5.9	37.7	36.3	46.0	8.3	9.7
9.	550.02	BB	32.8	31.1	18.9	29.2	5.7	5.9	34.1	32.4	46.0	11.9	13.6
10.	619.34	BB	33.0	33.2	19.9	29.3	6.0	5.9	35.5	35.7	46.0	10.5	10.3

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KBA-03 (BBA9106) 30-300MHz/KLA-03 (USLP9143) 300-1000MHz
 ■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2462MHz)
 Remarks : W-LAN, With RF ID Transmitting
 Date : 12/6/2007
 Test Distance : 3 m
 Temperature : 21 °C Engineer : Fumiaki Matsuo
 Humidity : 36 %
 Regulation : FCC Part15C § 15.209

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	33.15	BB	28.5	35.4	17.8	28.7	1.1	5.8	24.5	31.4	40.0	15.5	8.6
2.	72.36	BB	34.8	41.2	6.6	28.5	1.7	5.8	20.4	26.8	40.0	19.6	13.2
3.	94.93	BB	35.7	37.5	9.5	28.6	2.0	5.8	24.4	26.2	43.5	19.1	17.3
4.	108.48	BB	37.8	37.6	11.7	28.4	2.1	5.8	29.0	28.8	43.5	14.5	14.7
5.	122.05	BB	37.4	33.4	13.4	28.4	2.3	5.8	30.5	26.5	43.5	13.0	17.0
6.	232.85	BB	32.4	33.3	17.3	27.8	3.3	5.8	31.0	31.9	46.0	15.0	14.1
7.	412.90	BB	33.1	36.6	17.2	28.5	5.2	5.9	32.9	36.4	46.0	13.1	9.6
8.	500.01	BB	37.1	36.0	18.0	29.1	5.6	5.9	37.5	36.4	46.0	8.5	9.6
9.	550.02	BB	33.0	31.6	18.9	29.2	5.7	5.9	34.3	32.9	46.0	11.7	13.1
10.	619.35	BB	32.8	32.9	19.9	29.3	6.0	5.9	35.3	35.4	46.0	10.7	10.6

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KBA-03 (BBA9106) 30-300MHz/KLA-03 (USLP9143) 300-1000MHz
 ■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting (2412MHz)
 Remarks : W-LAN, With RF ID Transmitting, PK RBW/VBW:1MHz/1MHz
 Date : 12/11/2007
 Test Distance : 3 m
 Temperature : 18 °C
 Humidity : 38 %
 Regulation : FCC Part15C § 15.209 (PK Detection)
 Engineer : Toyokazu Imamura

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	2390.00	BB	49.9	48.9	28.5	37.5	5.0	9.9	55.8	54.8	74.0	18.2	19.2
2.	2400.00	BB	59.7	56.5	28.5	37.5	5.0	9.9	65.6	62.4	74.0	8.4	11.6
3.	3016.13	BB	59.0	44.9	29.9	38.8	5.0	10.1	65.2	51.1	74.0	8.8	22.9
4.	3617.66	BB	60.4	45.7	30.4	38.4	5.6	0.6	58.6	43.9	74.0	15.4	30.1
5.	4824.00	BB	48.0	51.7	32.9	37.8	5.7	0.7	49.5	53.2	74.0	24.5	20.8
6.	5428.50	BB	52.1	44.5	33.7	37.6	6.4	0.9	55.5	47.9	74.0	18.5	26.1
7.	7236.00	BB	46.7	46.6	36.6	37.3	7.6	0.1	53.7	53.6	74.0	20.3	20.4
8.	9648.00	BB	46.2	46.4	37.7	37.3	7.7	0.6	54.9	55.1	74.0	19.1	18.9
9.	12060.00	BB	46.4	47.8	40.1	36.5	8.9	0.5	59.4	60.8	74.0	14.6	13.2

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting (2412MHz)
 Remarks : W-LAN, With RF ID Transmitting, AV RBW/VBW:1MHz/10Hz
 Date : 12/11/2007
 Test Distance : 3 m
 Temperature : 18 °C Engineer : Toyokazu Imamura
 Humidity : 38 %
 Regulation : FCC Part15C § 15.209 (AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	2390.00	BB	37.5	34.1	28.5	37.5	5.0	9.9	43.4	40.0	54.0	10.6	14.0
2.	2400.00	BB	46.1	45.0	28.5	37.5	5.0	9.9	52.0	50.9	54.0	2.0	3.1
3.	3016.13	BB	38.9	33.3	29.9	38.8	5.0	10.1	45.1	39.5	54.0	8.9	14.5
4.	3617.66	BB	38.8	32.4	30.4	38.4	5.6	0.6	37.0	30.6	54.0	17.0	23.4
5.	4824.00	BB	34.6	36.2	32.9	37.8	5.7	0.7	36.1	37.7	54.0	17.9	16.3
6.	5428.50	BB	33.4	32.0	33.7	37.6	6.4	0.9	36.8	35.4	54.0	17.2	18.6
7.	7236.00	BB	34.3	33.2	36.6	37.3	7.6	0.1	41.3	40.2	54.0	12.7	13.8
8.	9648.00	BB	33.2	33.6	37.7	37.3	7.7	0.6	41.9	42.3	54.0	12.1	11.7
9.	12060.00	BB	33.0	33.2	40.1	36.5	8.9	0.5	46.0	46.2	54.0	8.0	7.8

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2437MHz)
 Remarks : W-LAN, With RF ID Transmitting, PK RBW/VBW:1MHz/1MHz
 Date : 12/11/2007
 Test Distance : 3 m
 Temperature : 18 °C Engineer : Toyokazu Imamura
 Humidity : 38 %
 Regulation : FCC Part15C § 15.209(PK Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	3019.97	BB	57.5	49.0	29.9	38.8	5.0	10.1	63.7	55.2	74.0	10.3	18.8
2.	3566.14	BB	55.3	53.3	30.3	38.5	5.6	0.7	53.4	51.4	74.0	20.6	22.6
3.	4874.00	BB	49.8	52.4	33.1	37.7	5.8	0.7	51.7	54.3	74.0	22.3	19.7
4.	5419.47	BB	52.8	45.6	33.7	37.6	6.4	0.9	56.2	49.0	74.0	17.8	25.0
5.	7311.00	BB	47.0	47.3	36.7	37.6	7.7	0.1	53.9	54.2	74.0	20.1	19.8
6.	9748.00	BB	47.4	47.2	37.7	37.1	7.7	0.6	56.3	56.1	74.0	17.7	17.9
7.	12185.00	BB	46.8	46.3	40.1	36.4	9.0	0.4	59.9	59.4	74.0	14.1	14.6

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

DATA OF RADIATION TEST

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
Kind of Equipment : Full-color MFP
Model No. : Aficio MP C3000
Serial No. : L3700000023
Power : AC120V/60Hz
Mode : Transmitting(2437MHz)
Remarks : W-LAN, With RF ID Transmitting, AV RBW/VBW:1MHz/10Hz
Date : 12/11/2007
Test Distance : 3 m
Temperature : 18 °C Engineer : Toyokazu Imamura
Humidity : 38 %
Regulation : FCC Part15C § 15.209(AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	3019.97	BB	34.6	33.3	29.9	38.8	5.0	10.1	40.8	39.5	54.0	13.2	14.5
2.	3566.14	BB	35.7	33.5	30.3	38.5	5.6	0.7	33.8	31.6	54.0	20.2	22.4
3.	4874.00	BB	33.9	35.7	33.1	37.7	5.8	0.7	35.8	37.6	54.0	18.2	16.4
4.	5419.47	BB	32.8	31.8	33.7	37.6	6.4	0.9	36.2	35.2	54.0	17.8	18.8
5.	7311.00	BB	33.3	33.2	36.7	37.6	7.7	0.1	40.2	40.1	54.0	13.8	13.9
6.	9748.00	BB	33.9	33.4	37.7	37.1	7.7	0.6	42.8	42.3	54.0	11.2	11.7
7.	12185.00	BB	32.8	32.7	40.1	36.4	9.0	0.4	45.9	45.8	54.0	8.1	8.2

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2462MHz)
 Remarks : W-LAN, With RF ID Transmitting, PK RBW/VBW:1MHz/1MHz
 Date : 12/11/2007
 Test Distance : 3 m
 Temperature : 18 °C Engineer : Toyokazu Imamura
 Humidity : 38 %
 Regulation : FCC Part15C § 15.209(PK Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	2483.50	BB	50.0	47.0	28.3	37.6	5.1	9.9	55.7	52.7	74.0	18.3	21.3
2.	2991.92	BB	55.1	50.1	29.9	38.8	4.9	10.1	61.2	56.2	74.0	12.8	17.8
3.	3502.75	BB	54.9	49.4	30.1	38.5	5.6	0.7	52.8	47.3	74.0	21.2	26.7
4.	4924.00	BB	51.3	53.0	33.3	37.6	5.8	0.7	53.5	55.2	74.0	20.5	18.8
5.	5419.39	BB	48.5	45.6	33.7	37.6	6.4	0.9	51.9	49.0	74.0	22.1	25.0
6.	7386.00	BB	50.5	47.1	36.7	37.8	7.8	0.1	57.3	53.9	74.0	16.7	20.1
7.	9848.00	BB	47.1	47.3	37.7	36.9	7.7	0.6	56.2	56.4	74.0	17.8	17.6
8.	12310.00	BB	46.2	46.3	40.2	36.3	9.0	0.4	59.5	59.6	74.0	14.5	14.4

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

DATA OF RADIATION TEST

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 28DE0207-YK-A

Applicant : RICOH COMPANY, LTD.
 Kind of Equipment : Full-color MFP
 Model No. : Aficio MP C3000
 Serial No. : L3700000023
 Power : AC120V/60Hz
 Mode : Transmitting(2462MHz)
 Remarks : W-LAN, With RF ID Transmitting, AV RBW/VBW:1MHz/10Hz
 Date : 12/11/2007
 Test Distance : 3 m
 Temperature : 18 °C Engineer : Toyokazu Imamura
 Humidity : 38 %
 Regulation : FCC Part15C § 15.209(AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	2483.50	BB	36.7	34.7	28.3	37.6	5.1	9.9	42.4	40.4	54.0	11.6	13.6
2.	2991.92	BB	37.3	37.3	29.9	38.8	4.9	10.1	43.4	43.4	54.0	10.6	10.6
3.	3502.75	BB	37.7	35.9	30.1	38.5	5.6	0.7	35.6	33.8	54.0	18.4	20.2
4.	4924.00	BB	36.2	35.9	33.3	37.6	5.8	0.7	38.4	38.1	54.0	15.6	15.9
5.	5419.39	BB	33.0	32.2	33.7	37.6	6.4	0.9	36.4	35.6	54.0	17.6	18.4
6.	7386.00	BB	37.3	34.7	36.7	37.8	7.8	0.1	44.1	41.5	54.0	9.9	12.5
7.	9848.00	BB	33.3	33.4	37.7	36.9	7.7	0.6	42.4	42.5	54.0	11.6	11.5
8.	12310.00	BB	33.2	33.2	40.2	36.3	9.0	0.4	46.5	46.5	54.0	7.5	7.5

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

APPENDIX 3
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
YA-CE	Conducted emission(software)	UL Japan	CE(Ver.1.6)	CE	-
YA-RE	Radiated emission(software)	UL Japan	RE(Ver.1.5)	RE	-
KAEC-01(NSA)	Anechoic Chamber	JSE	Semi 3m	CE/RE	2007/08/26 * 12
KAF-05	Pre Amplifier	Agilent	8447D	RE	2007/04/13 * 12
KAT6-01	Attenuator	INMET	18N-6dB	RE	2007/03/28 * 12
KCC-30/31/32 /34/KRM-03	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/RFM-E421	RE	2007/11/01 * 12
KCC-33/34/KRM-03	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/RFM-E421	CE	2007/11/01 * 12
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2007/01/06 * 12
KLS-03	LISN(AMN)	Schwarzbeck	NNLK8129	CE	2007/05/15 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	CE/RE	2007/09/25 * 12
KTR-04	Test Receiver	Rohde & Schwarz	ESVS10	RE	2007/10/30 * 12
KOS-02	Humidity Indicator	Custom	CTH-190	CE/RE	2006/07/10 * 24
KJM-01	Measure	TAJIMA	GL19-55	CE/RE	-
KTR-01	Test Receiver	Rohde & Schwarz	ESI40	CE/RE	2007/04/12 * 12
KAF-02	Pre Amplifier	Hewlett Packard	8449B	RE	2007/04/24 * 12
KCC-D3/D7	Coaxial Cable	Rosenberger/Advantest	2201/JUN-08-01-061	RE	2007/04/11 * 12
KFL-01	Highpass Filter	Hewlett Packard	84300 80038	RE	2007/04/11 * 12
KHA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2007/08/14 * 12
KHA-03	Horn Antenna	EMCO	3160-09	RE	2007/04/14 * 12
KAT10-S3	Attenuator	Agilent	8490D 010	RE	2007/07/03 * 12

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

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

- CE: Conducted emission,
- RE: Radiated emission