EMI TEST REPORT

FCC PART 15 SUBPART B

RICOH COMPANY, LTD.

CD-Recordable/ReWritable and DVD-ROM Drive

FCC ID: BBP9120

MODEL NAME: MP9120A

Report No.: Z01C-00120

Report Issue Date: May 19, 2000

ZACTA TECHNOLOGY CORPORATION
YONEZAWA TESTING CENTER

4149-7 Hachimanpara 5-chome
Yonezawa-shi Yamagata
992-1128 Japan

NVLAP®
Lab code : 200306-0

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1.CERTIFICATE OF COMPLIANCE

ZACTA TECHNOLOGY CORPORATION
YONEZAWA TESTING CENTER
4149-7 Hachimanpara 5-chome
Yonezawa-shi Yamagata 992-1128 Japan

This device, as described herewith, was tested pursuant to test procedure ANSI C63.4-1992, by Zacta Technology Corporation. The test results are traceable to international or national standard.

COMPANY	: RICOH COMPANY, LTD. 3-2-3, Shin-yokohama, Kohoku-ku, Yokohama-shi, Kanagawa 222-8530 Japan Phone: +81-45-477-1663 Fax: +81-45-477-1649
EUT	: CD-Recordable/ReWritable and DVD-ROM Drive
FCC ID	: BBP9120A
MODEL NAME	: MP9120A
SERIAL NO.	: ES3

EUT CONDITION	: Pre-production
EUT CLASS	: B
DATE FOR TEST	: May 15, 2000
TEST SITE	: Site 1
FCC RULE	: FCC Part15 Subpart B, Class B Docket 87-389
REPORT NO.	: Z01C-00120
REMARKS	: Shielded cables are used in system
TEST RESULTS	: Complied

Tested by: Yuki Shindo / EMC Engineer

Authorized by: H. Suzuki
Hiroaki Suzuki / Chief Engineer

The results in this report are applicable only to the samples tested.
This report shall not be re-produced except in full without the written approval of Zacta Technology Corporation.

2.EQUIPMENT DESCRIPTION

EUT	: CD-Recordable/ReWritable and DVD-ROM Drive
FCC ID	: BBP9120A
MODEL NAME	: MP9120A
MAX FREQUENCY	: 350MHz
POWER	: DC +5V, +12V
I/F PORT(S)	: ATAPI Headphone
EUT SIZE	: (D) 198 X (W) 146 X (H) 41.3 mm
OPERATING MODE	: CD-ROM READ mode CD-R/RW WRITE mode DVD-ROM READ mode

3.RESULT OF THE MEASUREMENTS

3.-1 RESULTS OF THE MEASUREMENTS

The minimum margin to the limits are as follows:

	Margin	FREQ.	POL.[H/V]	Operating mode
Conduction	16.2dB	29.902MHz	N/A	DVD-ROM READ mode
Radiation	5.1dB	200.49MHz	V	DVD-ROM READ mode

3.-2 DEVIATION FROM THE STANDARD

Not applicable.

4.CONFIGURATION INFORMATION

4.-1 DEVICE INFORMATION

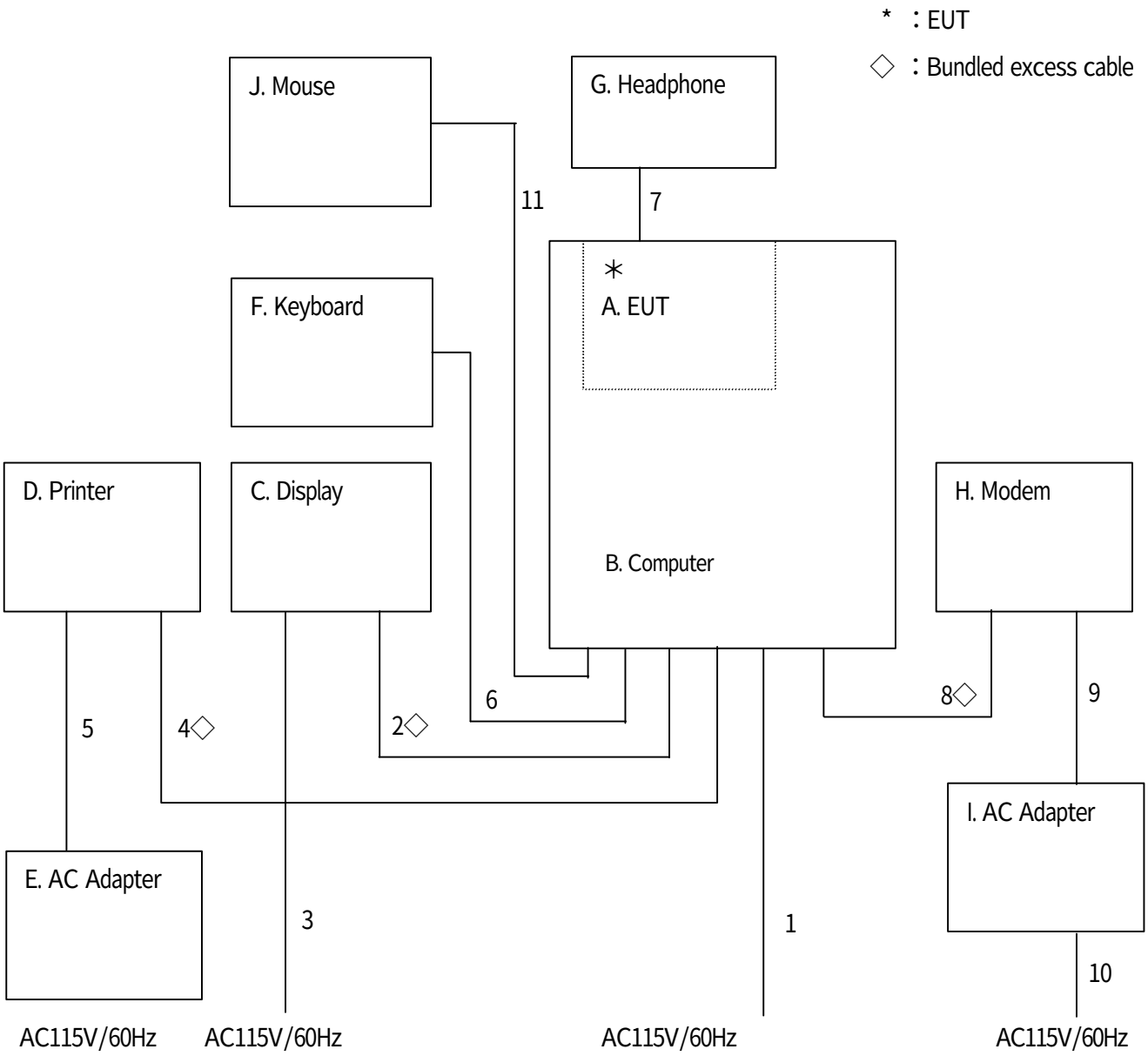
NO.	EQUIPMENT	COMPANY	MODEL NAME	SERIAL NO.	DoC / FCC ID	COMMENT
A	CD-Recordable/ ReWritable and DVD-ROM Drive	RICOH	MP9120A	ES3	BBP9120A	EUT
B	Computer	COMPAQ	DESKPRO 5133	7617HXF30138	CNT75MDCZ5	
C	Display	IBM	8512-001	72-1480571	ANO7NF8512	
D	Printer	HP	2225C+	2950S64811	DSI6XU2225	
E	AC adapter	HP	82241AJ	N/A	N/A	For Printer
F	Keyboard	COMPAQ	RT6674TJP	22361433	AQ6-MTN4C15	
G	Headphone	SONY	MDR-Z900	N/A	N/A	
H	Modem	Hayes	5240AM	A0125240K346	BFJ5201AM	
I	AC adapter	Hayes	T41-090800-A01	N/A	N/A	For Modem
J	Mouse	COMPAQ	M-S34	N/A	DZL210472	

4.-2 CABLES INFORMATION

NO.	CABLE	LENGTH	SHIELD		Connected Situation		COMMENT
		[m]	Cable	Connector	From	To	
1	AC Power cord	2.3	Unshielded	Plastic	PC	AC outlet	
2	CRT cable	1.5	Shielded	Metal	PC(VIDEO)	Display	*
3	AC Power cord	2.5	Unshielded	Plastic	Display	AC outlet	
4	Parallel cable	1.5	Shielded	Metal	PC(Parallel)	Printer	*
5	DC cable	2.0	Unshielded	Plastic	Printer	AC Adapter	
6	Keyboard cable	1.9	Shielded	Metal	PC(Keyboard)	Keyboard	
7	Headphone cable	1.3	Shielded	Metal	EUT (Headphone)	Headphone	Coiled
8	Serial cable	1.5	Shielded	Metal	PC(Serial)	Modem	*
9	DC cable	1.7	Unshielded	Plastic	Modem	AC adapter	
10	AC Power cord	0.8	Unshielded	Plastic	AC Adapter	AC outlet	
11	Mouse cable	1.7	Shielded	Metal	PC(Mouse)	Mouse	

* : Bundled excess cable

4.-3 SYSTEM CONFIGURATION



Symbols or numbers assigned to equipment or cables on this diagram are corresponded to the symbols or numbers assigned to equipment or cables on tables in Configuration/Cable Information.

5.TEST SITE CONDITION & INSTRUMENTATION

5.-1 TEST SITE CONDITION

Test date	May 15, 2000
Site #	Site 1
Weather	Weather: Cloudy Temp.: 23°C Humidity: 35%

5.-2 TEST EQUIPMENT FOR CONDUCTION

Equipment	Company	Model name / Serial No.	Calibration date	Period
Spectrum analyzer	Hewlett Packard	8568B / 2643A02803	Jun. 1999	1 year
Test Receiver	Kyoritsu Electrical Works, Ltd.	KNM-2402 / 4N-192-1	Nov. 1999	1 year
Line Impedance Stabilization Network	COMPLIANCE DESIGN Inc	8012-50-R-24-BNC / 887121 (for EUT)	Feb. 2000	1 year
Line Impedance Stabilization Network	COMPLIANCE DESIGN Inc	8012-50-R-24-BNC / 887113 (for Peripheral)	Mar. 2000	1 year
Coaxial cable	FUJIKURA	8D-2W / H110601#1/15C	Jun. 1999	1 year

※Calibration is traceable to NIST or an equivalent standards reference organization.

SETTING INFORMATION		
FREQUENCY RANGE	CLASS A	450kHz-30MHz
	CLASS B	
ARRANGEMENT OF EUT	TABLE TOP	Placed on Non-conductive turn table Height: 80cm Dimension: 1mx1.5m
	FLOOR-STANDING	Placed on the Electrical insulting material
TEST RECEIVER		IF Bandwidth : 10kHz Detector : QUASI PEAK, AVERAGE
VERTICAL METAL GROUND PLANE		Distance from Table end : 40cm Size : 2m x 2m
LINE IMPEDANCE STABILIZATION NETWORK		Specification : 50Ω/50μH Distance from EUT : 80cm (Min.)

6.-3 TEST EQUIPMENT FOR RADIATION

Equipment	Company	Model name / Serial No.	Calibration date	Period
Spectrum analyzer	Hewlett Packard	8568B / 2634A02803	Jun. 1999	1 year
RF Preamplifier	Anritsu	MH648A / M96057	Oct. 1999	1 year
Test Receiver	Kyoritsu Electrical Works, Ltd.	KNM-5002 / 4N-200-5 KCV-6002 / 4-288-2	Jun. 1999	1 year
Biconical Antenna	Schwarzbeck	BBA9106/VHA9103LE / 13130919	Jun. 1999	1 year
Log Periodic Antenna	EMCO	3146 / 2336	Jun. 1999	1 year
Coaxial cable	FUJIKURA	8D-2W / H110601#1/15R	Jun. 1999	1 year
Coaxial cable	FUJIKURA	10D-SFA / H110601#1/10D-SFA	Jun. 1999	1 year
Site attenuation	Zacta Technology Corp.	Site 1	Dec. 1999	1 year

***** Measurement above 1GHz *****

Equipment	Company	Model name / Serial No.	Calibration date	Period
Spectrum Analyzer	ADVANTEST	R3271A / 65050042	May. 1999	1 year
RF Preamplifier	HEWLETT-PACKARD Co.	8449B / 3008A00589	May. 1999	2 year
Double Ridged Guide Antenna	EMCO	3115 / 4327	Sep. 1999	2 year
Coaxial cable	SUHNER	SUCOFLEX 104 108014/4 & 108015/4	May. 1999	2 year

※Calibration is traceable to NIST or an equivalent standards reference organization.

SETTING INFORMATION		
FREQUENCY RANGE	CLASS A	30MHz-2GHz
	CLASS B	
ARRANGEMENT OF EUT	TABLE TOP	Placed on Non-conductive turn table Height: 80cm Dimension: 1mx1.5m Azimuth: 0-360 °
	FLOOR-STANDING	Placed on the Electrical insulting material Azimuth: 0-360 °
TEST RECEIVER		IF Bandwidth : 120kHz Detector : QUASI PEAK
ANTENNA		Distance from EUT : 3m Height : 1m - 4m Polarization : Horizontal/Vertical

6.LABORATORY DESCRIPTION

6.-1 DESCRIPTION FOR TEST SITE

1. LOCATION:

ZACTA TECHNOLOGY CORPORATION YONEZAWA TESTING CENTER
4149-7 Hachimanpara 5-chome, Yonezawa-shi Yamagata 992-1128 Japan
Phone: +81-238-28-2880 Fax: +81-238-28-2888

2. THE NUMBER OF SITE:

Site name : Site 1, Site 2, Site 3 and Site 4 - Total 4 sites.

3. THE TYPE OF SITE:

Whether protected site

4. TEST TYPE:

All sites could perform as follows tests:
1) 3/10m Radiation test
2) Conduction test

5. FACILITY FILING INFORMATION

1) FCC FINAL SITE FILING: 2.948 Pursuant to ANSI C63.4-1992

Site name	Final filing date
Site 1, Site 2, Site 3 and Site 4	March 6, 2000

*3m/10m Radiation & Conduction testing could be performed on each site

2) VCCI FINAL SITE FILING: V–5/97.04 Pursuant to VCCI Regulations for Registration of measurement facilities

Site name	Radiation Registration No.	Conduction Registration No.	Duration of Registration
Site 1	R-136	C-132	Sep 30, 2003
Site 2	R-137	C-133	Sep 30, 2003
Site 3	R-138	C-134	Sep 30, 2003
Site 4	R-752	C-775	June 30, 2001

3) NVLAP ACCREDITION:

NVLAP CODE: **200306-0**

NVLAP INFORMATION: NVLAP accreditation does not constitute any product endorsement by NVLAP or any agent of the U.S. Government

6.-2 DESCRIPTION OF CONDUCTED EMISSION TESTING

The line-conducted emissions testing facility is located inside of the site which used for radiated emissions testing.
A 1 meter x 1.5 meter surface, 0.8 meter height from conducting ground plane wooden table is placed 40 cm away from the vertical conducting surface.
Two 50Ω/50μH Line Impedance Stabilization Network (LISN) are placed on the conducting ground plane.
The EUT was powered from the CDI LISN and the support equipment were another CDI LISN.
50ΩBNC connector of the CDI LISN for support equipment is terminated in 50Ω.
An isolation transformer has 50A which is large enough to not affect the peak consumption current by the EUT.
All interconnecting cables more than 1 meter were bundled to 1 meter length.
Sufficient time for the EUT, support equipment, and test equipment were allowed in order for them to warm up to their normal operating condition.
The frequency range was scanned from 450kHz to 30 MHz. The detector function of the test receiver was set to CISPR quasi-peak mode and the bandwidth was set to 10kHz.

The EUT, support equipment and interconnecting cables were arranged and manipulated to maximize worst emissions for each emission in this test report.

6.-3 DESCRIPTION OF RADIATED EMISSION TESTING

Measurements: were made at 3 meter using broadband antenna (Biconical Antenna and log-periodic antenna) & Test receiver. Frequency Range : 30MHz – 1GHz was scanned and investigated using receiver. Six highest emissions(Min.) was reported. The test results represents the worst case emissions for each emission with manipulating the EUT, support equipment and interconnecting cables maximize the worst emissions in this test report.

Condition:
The detector function of the test receiver was set to CISPR Quasi-peak mode and the bandwidth was set to 120kHz. Sufficient time for the EUT, support equipment, and test equipment were allowed in order for them to warm up to their normal operating condition.
The EUT and support equipment were placed on a top of a 0.8 meter height wooden table.
For Floor-Standing devices, the EUT and all cables were installed on electrical insulating material.
The antenna height was varied 1 to 4 meters and stopped at height producing the maximum emission. The turntable was rotated by 360 degrees and stopped at azimuth of producing the maximum emission.
Interconnecting cables, which are connected to a peripheral, was bundled in center, and its length was not exceeding 1 meter. Each emission was maximized by varying the mode of operation.

As specified in CFR section 15.33, in case of the highest frequency used in the device is from 108MHz to 500MHz, the frequency range was investigated from 30MHz up to the frequency 2GHz, when the highest frequency is from 500MHz to 1GHz, up to 5GHz.
For measurements above 1GHz, double-ridged guide antenna was used as specified in ANSI C63.4-1992 section 4.1.5.4.
Pursuant to CFR section 15.35(b) and ANSI C63.4-1992 section 4.2., peak and average detectors were used for measurements above 1GHz.The bandwidth of spectrum analyzer was set to 1MHz.
When measuring emissions above 1GHz, the frequencies of maximum emissions were determined by manually positioning the antenna close to the EUT and by moving the antenna over all sides of the EUT while observing a spectral display. The beam width of the antenna at that time was larger than EUT.

6.-4 UNCERTAINTY

CONDUCTION

Total Uncertainty @95%min.Confidence probability	**±1.78dB**

RADIATION

Total Uncertainty @95%min.Confidence probability	**3m**	**10m**
	±2.66dB	**±2.01dB**

6.-5 SAMPLE OF FIELD STRENGTH CALCULATION

$$dB\mu V = 20\log_{10} (\mu V)$$

$$dB\mu V/m = 20\log_{10} (\mu V/m)$$

[Sample Calculation]

*CONDUCTION

@ 3.332MHz : Class B limit = 250 μV = 48.0dB μV

Reading = 41.6dB μV
Cable Loss + LISN Factor = 0.2 + 0.5 = 0.7dB
Total = 41.6 + 0.7 = 42.3dB μV

Margin = 48.0 - 42.3 = 5.7dB

5.7 dB below the limit

*RADIATION

@ 147.6MHz : Class B limit = 150 μV/m = 43.5dB μV/m

Reading = 42.8dB μV
Ant. Factor + Cable Loss - Amp. Gain = 14.2 + 3.0 - 30.0 = -12.8dB
Total = 42.8 - 12.8 = 30.0dB μV/m

Margin = 43.5 - 30.0 = 13.5dB

13.5 dB below the limit

***** CONDUCTION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B

SHEET NO. : 1
CHART NO. :

DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : CD-ROM READ
NOTE :

[QUASI-PEAK] FREQUENCY [MHz]	READING LINE A [dBμV]	READING LINE B [dBμV]	FACTOR [dB]	EMISSION LEVEL LINE A [dBμV]	EMISSION LEVEL LINE B [dBμV]	LIMIT [dBμV]	MARGIN [dB]	*	NOTE
2.175	26.8	25.2	0.2	27.0	25.4	48.0	21.0		
4.856	30.9	29.7	0.2	31.1	29.9	48.0	16.9		
5.110	29.8	29.2	0.3	30.1	29.5	48.0	17.9		
13.861	26.3	21.1	0.6	26.9	21.7	48.0	21.1		
29.850	29.5	29.5	1.2	30.7	30.7	48.0	17.3		
29.951	30.0	30.0	1.2	31.2	31.2	48.0	16.8	*	

∗ :The worst emission. FACTOR :LISN+CableFactor Ver.1.00 F1#003

***** CONDUCTION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B

SHEET NO. : 2
CHART NO. :

DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : DVD-ROM READ
NOTE :

[QUASI-PEAK] FREQUENCY [MHz]	READING LINE A [dBμV]	READING LINE B [dBμV]	FACTOR [dB]	EMISSION LEVEL LINE A [dBμV]	EMISSION LEVEL LINE B [dBμV]	LIMIT [dBμV]	MARGIN [dB]	*	NOTE
2.226	25.1	24.2	0.2	25.3	24.4	48.0	22.7		
4.907	30.5	29.2	0.2	30.7	29.4	48.0	17.3		
8.247	16.4	20.0	0.5	16.9	20.5	48.0	27.5		
11.180	13.9	22.8	0.5	14.4	23.3	48.0	24.7		
13.255	24.4	20.3	0.6	25.0	20.9	48.0	23.0		
29.902	30.6	30.6	1.2	31.8	31.8	48.0	16.2	*	

* :The worst emission. FACTOR :LISN+CableFactor Ver.1.00 F1#003

***** CONDUCTION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B

SHEET NO. : 3
CHART NO. :

DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : CD-R/RW WRITE
NOTE :

[QUASI-PEAK] FREQUENCY [MHz]	READING LINE A [dBμV]	READING LINE B [dBμV]	FACTOR [dB]	EMISSION LEVEL LINE A [dBμV]	EMISSION LEVEL LINE B [dBμV]	LIMIT [dBμV]	MARGIN [dB]	*	NOTE
1.922	26.7	25.7	0.3	27.0	26.0	48.0	21.0		
2.933	25.5	22.2	0.2	25.7	22.4	48.0	22.3		
4.957	31.4	30.4	0.2	31.6	30.6	48.0	16.4	*	
6.375	22.2	20.3	0.3	22.5	20.6	48.0	25.5		
13.660	25.1	20.1	0.6	25.7	20.7	48.0	22.3		
29.902	30.0	29.8	1.2	31.2	31.0	48.0	16.8		

* :The worst emission. FACTOR :LISN+CableFactor Ver.1.00 F1#003

***** RADIATION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B
DISTANCE [m] : 3
DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : CD-ROM READ
NOTE :

SHEET NO. : 4
CHART NO. :

ANTENNA POL. HOR/VER	HEIGHT [m]	TABLE RADIAN [Deg.]	READING FREQUENCY [MHz]	READING LEVEL [dBμV]	FACTOR [dBμV/m]	EMISSION LEVEL [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	*	NOTE
VER			69.89	53.4	-21.9	31.5	40.0	8.5		
HOR			167.08	41.7	-11.8	29.9	43.5	13.6		
VER			200.48	47.9	-11.2	36.7	43.5	6.8	*	
HOR			250.67	48.5	-10.1	38.4	46.0	7.6		
VER			338.55	41.8	-13.0	28.8	46.0	17.2		
HOR			339.41	52.0	-13.0	39.0	46.0	7.0		
HOR			651.68	43.2	-5.7	37.5	46.0	8.5		
VER			651.68	44.3	-5.7	38.6	46.0	7.4		
VER			935.00	36.5	-0.1	36.4	46.0	9.6		
VER			1011.80	49.7	-8.0	41.7	54.0	12.3		PEAK
VER			1011.80	38.3	-8.0	30.3	54.0	23.7		AVE
VER			1039.88	47.8	-8.0	39.8	54.0	14.2		PEAK
VER			1039.88	46.0	-8.0	38.0	54.0	16.0		AVE
VER			1303.31	49.1	-6.2	42.9	54.0	11.1		PEAK
VER			1303.31	47.1	-6.2	40.9	54.0	13.1		AVE
HOR			1303.31	51.9	-6.2	45.7	54.0	8.3		PEAK
HOR			1303.31	50.3	-6.2	44.1	54.0	9.9		AVE

＊：The worst emission. FACTOR：Antenna Factor + Cable Loss - Amp Gain Ver.1.00 F1#003

***** RADIATION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B
DISTANCE [m] : 3
DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : DVD-ROM READ
NOTE :

SHEET NO. : 5
CHART NO. :

ANTENNA POL. HOR/VER	HEIGHT [m]	TABLE RADIAN [Deg.]	FREQUENCY [MHz]	READING LEVEL [dBμV]	FACTOR [dBμV/m]	EMISSION LEVEL [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	*	NOTE
VER			41.70	43.1	-13.5	29.6	40.0	10.4		
VER			167.08	44.4	-11.8	32.6	43.5	10.9		
VER			200.49	49.6	-11.2	38.4	43.5	5.1	*	
HOR			250.65	49.6	-10.1	39.5	46.0	6.5		
HOR			350.90	45.7	-12.8	32.9	46.0	13.1		
VER			440.00	42.2	-10.8	31.4	46.0	14.6		
VER			551.43	39.5	-7.6	31.9	46.0	14.1		
HOR			651.68	46.4	-5.7	40.7	46.0	5.3		
VER			651.68	42.8	-5.7	37.1	46.0	8.9		
VER			759.93	38.7	-4.0	34.7	46.0	11.3		
VER			1039.88	55.1	-8.0	47.1	54.0	6.9		PEAK
VER			1039.88	48.7	-8.0	40.7	54.0	13.3		AVE
VER			1203.06	50.8	-6.8	44.0	54.0	10.0		PEAK
VER			1203.06	48.4	-6.8	41.6	54.0	12.4		AVE

＊：The worst emission. FACTOR：Antenna Factor + Cable Loss - Amp Gain Ver.1.00 F1#003

***** RADIATION MEASUREMENTS *****

STANDARD : FCC Part15 SubpartB
CLASS : B
DISTANCE [m] : 3
DATE OF TEST : 2000/5/15
TEST SITE : 1
TEMP. [°C] : 23.0
HUMIDITY [%] : 35.0
OPERATOR : Y.SHINDO
COMPANY NAME: RICOH
EUT : CD-Recordable/ReWritable and DVD-ROM Drive
MODEL NO. : MP9120A
SERIAL NO. : ES3
TEST MODE : CD-R/RW WRITE
NOTE :

SHEET NO. : 6
CHART NO. :

ANTENNA POL. HOR/VER	HEIGHT [m]	TABLE RADIAN [Deg.]	READING FREQUENCY [MHz]	READING LEVEL [dBμV]	FACTOR [dBμV/m]	EMISSION LEVEL [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	*	NOTE
VER			167.05	45.1	-11.8	33.3	43.5	10.2		
HOR			200.48	47.7	-11.2	36.5	43.5	7.0		
VER			200.48	49.3	-11.2	38.1	43.5	5.4	*	
HOR			250.66	48.9	-10.1	38.8	46.0	7.2		
VER			250.66	48.2	-10.1	38.1	46.0	7.9		
HOR			325.85	43.1	-13.4	29.7	46.0	16.3		
VER			336.66	33.8	-13.0	20.8	46.0	25.2		
HOR			339.96	31.6	-13.0	18.6	46.0	27.4		
HOR			440.00	40.5	-10.8	29.7	46.0	16.3		
HOR			651.67	43.4	-5.7	37.7	46.0	8.3		
VER			651.67	40.7	-5.7	35.0	46.0	11.0		
VER			759.60	37.5	-4.0	33.5	46.0	12.5		
VER			1059.86	50.8	-8.0	42.8	54.0	11.2		PEAK
VER			1059.86	49.9	-8.0	41.9	54.0	12.1		AVE
VER			1203.05	51.5	-6.8	44.7	54.0	9.3		PEAK
VER			1203.05	49.5	-6.8	42.7	54.0	11.3		AVE

＊：The worst emission. FACTOR：Antenna Factor + Cable Loss - Amp Gain Ver.1.00 F1#003