



**FUJI PHOTO FILM CO.,LTD.**

26-30, NISHIAZABU 2-CHOME,

MINATO-KU, TOKYO 106, JAPAN

Telephone: (03) 3406-2934

Facsimile : (03) 3406-9967

**FCC ID : F5GSM-R1**

**Part 15 Sub.part B Class B Digital Device**

**Exhibit C**

**TEST RESULTS**



**FUJI PHOTO FILM CO.,LTD.**

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**Part 15 Sub.part B Class B Digital Device**

## **7. TEST RESULTS**

### **7.1 Conducted Radio Noise Measurement**

#### **7.1.1 Measurement Instrumentation Used:**

(Model / Serial No. / Manufacturer)  
Test Receiver ----- (ESH2 / 880370-011 / Rohde & Schwarz)  
L. I. S. N ----- (ESH2-Z5 / 881493-017 / Rohde & Schwarz)  
L. I. S. N ----- (KNW-242 / 8-579-23 / Kyoritsu Electrical)

#### **7.1.2 Measurement Procedure:**

The power line conducted interference measurements were performed in a shield enclosure with peripherals placed on a table, 80cm high over a metal floor.  
It was located more than required distance away from the shielded enclosure wall.  
The EUT was plugged into the L.I.S.N. and the frequency range of interest scanned.

FCC ID : F5GSM-R1  
Part 15 Sub.part B Class B Digital Device

### .1.3 Test Data

**Table 7.1-1 Conducted Radio Noise Measurement Results:**

Operating mode: Read/Write

Date of measurement: January 22, 1999

Test Procedure: ANSI C63.4-1992

Temperature: 15 degree C

Humidity: 33%

Frequency  (MHz)	Results Meter Reading.		Results Emission Level	Limit	Margin
	VA.	VB.	(dBuV/m)	(dBuV/m)	(dBuV/m)
	(dBuV/m)				
0.4580	34.8	35.8	35.8	48.0	12.2
0.6093	36.5	36.4	36.5	48.0	11.5
0.7624	36.0	35.8	36.0	48.0	12.0
1.0684	32.9	29.4	32.9	48.0	15.1
1.8187	25.7	31.1	31.1	48.0	16.9
20.1889	38.9	38.4	38.9	48.0	9.1

Note:

- 1) Emission Levels are higher levels of VA or VB of Meter Readings + Correction Factor.
- 2) VA: Between one end of the power cable and the grounded.  
VB: Between the other end of power cable and the grounded.

### 7.1.4 Conducted Radio Noise Calculation

The conducted radio noise is calculated by adding the calibration factor to the measured reading. The basic equation and a sample calculation are as follows:

$$\text{CRN} = \text{TRM} + \text{CF}$$

$$\text{Margin} = \text{Limit} - \text{CRN}$$

where CRN = Conducted Radio Noise (dBuV)

TRM = Test Receiver Reading (dBuV)

CF : Correction Factor (dB/m)

The Correction factor includes cable loss and LISN factor.



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**Part 15 Sub.part B Class B Digital Device**

## **7.2 Radiated Radio Noise Measurement**

### **7.2.1 Measurement Instrumentation Used :**

*(Model / Serial No. / Manufacturer)*

Test Receiver ----- (ESV / 881484-012 / Rohde & Schwarz)

Amplifier----- (8447D / 2727A85325 / Hewlett Packard)

Broad Band Antenna ----- (LPB-2513-A / 1110 / A.R.A.)

### **7.2.2 Measurement Procedure:**

The EUT was placed in a 80cm high table along with the peripherals.  
The turn table was separated from the antenna at a distance of 3 meter. Cables were placed in a position to produce maximum emission as determined by experimentation, and operation mode was selected for maximum.  
The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities.



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Part 15 Sub.part B Class B Digital Device

## 7.2.3 Test Data

**Table 7.2-1 Radiated Radio Noise Measurement Results:**

Operating mode: Read/Writer  
Test Procedure: ANSI C63.4-1992

Date of measurement: January 22, 1999  
Temperature: 15 degree C  
Humidity: 35 %

Frequency  (Mhz)	Correction Factor (dB)	Results		Results	Limit	Margin
		Meter Reading.		Emission Level		
		(dBuV/m)		(dBuV/m)	(dBuV/m)	(dBuV/m)
		Hori.	Vert.			
44.63	5.1	-	27.9	27.9	40.0	12.1
60.00	7.8	-	27.8	27.8	40.0	12.2
72.02	10.6	-	27.9	27.9	40.0	12.1
149.55	8.8	32.0	26.2	32.0	43.5	11.5
165.46	8.5	27.5	21.1	27.5	43.5	16.0
185.74	6.9	-	29.9	29.9	43.5	13.6
335.01	0.6	27.0	-	27.0	46.0	19.0

Note: 1) Meter Readings are corrected by all Correction Factors.

2) Emission Levels are higher levels of Hori. or Vert. of Meter Readings.

3) Margin = Limit - Emission Level.

## 7.2.4 Radiated Radio Noise Calculation

The radiated radio noise is calculated by adding the correction factor to the measured reading. The basic equation and a sample of calculation are as follows;

$$RRN = TRM + CF$$

$$\text{Margin} = \text{Limit} - RRN$$

where RRN = Radiated Radio Noise (dBuV)

TRM = Test Receiver Reading (dBuV)

CF : Correction Factor (dB/m), The correction factor includes pre-amplifier gain, cable loss and antenna factor.

# TEST REPORT

REPORT NUMBER : AKL-299012  
APPLICANT : FUJI PHOTO FILM CO., LTD.  
MODEL NUMBER : SM-R1  
FCC ID : F5GSM-R1  
REGULATION : FCC Part15B Class B  
Canada ICES-003 Class B

Conducted Emission Test  
Radiated Emission Test



NVLAP accreditation is valid only  
FCC Part15(Digital Devices),  
CISPR22, and AS/NZS 3548  
test reports.

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## TABLE OF CONTENTS

	Page
SECTION 1. TEST CERTIFICATION.....	3
SECTION 2. CONCLUSION.....	4
SECTION 3. EQUIPMENT UNDER TEST.....	5
SECTION 4. SUPPORT EQUIPMENT USED.....	6
SECTION 5. CABLE (S) USED .....	7
SECTION 6. CONSTRUCTION OF EQUIPMENT .....	8
SECTION 7. OPERATING CONDITIONS.....	9
SECTION 8. TEST PROCEDURE(S) .....	10
SECTION 9. EVALUATION OF TEST RESULTS .....	15
SECTION 10. PHOTOGRAPHS OF MAXIMUM EMISSION SET-UP .....	18
SECTION 11. INSTRUMENTS USED FOR FINAL TEST .....	19
SECTION 12. UNCERTAINTY OF MEASUREMENT .....	20
SECTION 13. VALIDITY OF TEST REPORT .....	21
SECTION 14. DESCRIPTION OF TEST LABORATORY.....	22

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## SECTION 1. TEST CERTIFICATION

### APPLICANT INFORMATION

Company : FUJI PHOTO FILM CO., LTD.  
Address : 13-45, Senzui 3-Chome, Asaka-shi, Saitama, 351-8585 Japan  
Telephone number : +81 48 462 6908  
Fax number : +81 48 462 6996

### DESCRIPTION OF TEST ITEM

Kind of equipment : SmartMedia Reader/Writer  
Condition of equipment : Pre-Production  
Type : Table-Top type  
Trademark : FUJIFILM  
FCC ID : F5GSM-R1  
Model number : SM-R1  
Serial number : 001

### TEST PERFORMED

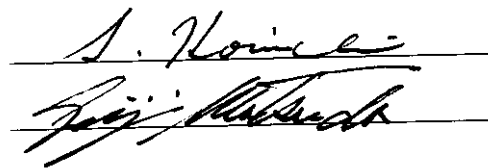
Location : Kakegawa No. 2 Test Site (FCC File No. : 31040/SIT)  
Test started : January 22, 1999  
Test completed : January 22, 1999  
Purpose of test : FCC Docket 87-389  
and Canadian Interference-Causing Equipment Regulations  
Regulation : FCC Part 15B Class B and Canada ICES-003 Class B  
Unintentional Radiators  
Test setup : ANSI C63.4-1992

Report file number : AKL-299012

Report issue date : January 29, 1999

Test engineer : Sachiya Horiuchi

Report approved by : Seiji Matsuda  
[Site Manager]



Two handwritten signatures are present. The first signature, 'S. Horiuchi', is written in cursive above a horizontal line. The second signature, 'Seiji Matsuda', is also in cursive and written below the first signature, also above a horizontal line.

This equipment complies with above standard or regulation under the test condition or test configuration shown on this test report.



## SECTION 2. CONCLUSION

This test report clearly shows that the EUT is in compliance with the FCC Part 15B Class B specification and the Canada ICES-003 Class B specification.

Traceability to national standards of test result is achieved by means of calibration traceability to national standards.

The minimum margins to the limits are as follows:

Conduction measurement			
Read/Write mode	9.1 dB	at	20.1889 MHz
Radiation measurement			
Read/Write mode	11.6 dB	at	149.55 MHz

Note : See Section 9 for details.

### SECTION 3. EQUIPMENT UNDER TEST

The equipment under test (EUT) consisted of the following equipment.  
Indication in the following left side column corresponds to Section 6.

Symbol	Item	Model No.	Serial No.	FCC ID / DoC	Manufacturer	Remarks
A)	SmartMedia Reader/Writer	SM-R1	001	F5GSM-R1	HAGIWARA SYS-COM	EUT

Power ratings of EUT : DC 5V, 50mA

DoC : Device for Declaration of Conformity

#### 3.1 Port(s)/Connector(s) :

Port name	Connector type	Connector pin	Remarks
USB	USB B type	4 pin	

#### 3.2 Oscillator(s)/Crystal(s) :

Oscillator	Operating frequency	Board name	Remarks
12 MHz	48 MHz	HSC-USB101	

#### SECTION 4. SUPPORT EQUIPMENT USED

The EUT was supported by the following equipment during the test.  
Indication in the following left side column corresponds to Section 6.

Symbol Item	Model No.	Serial No.	FCC ID / DoC	Manufacturer	Remarks
B) Computer	D6612A	SG84601229	DoC	Hewlett Packard	HOST
C) CRT Display	8512-001	72-0024028	ANO7NF8512	IBM	
D) Keyboard	SK25-02	M9810100728	GYUR41SK	Hewlett Packard	
E) Mouse	M-S34	LZAB84118164	DZL210029	Hewlett Packard	
F) Printer	C3941A	JPCL014342	B94C3941A	Hewlett Packard	

DoC : Device was tested and authorized under a Declaration of Conformity to the applicable FCC rules.

## SECTION 5. CABLE (S) USED

The following cable(s) was used for the test.

Indication number in the following left side column corresponds to Section 6.

Number	Name	Length	Shield	Connector
1)	USB cable	1.00 m	Yes	Metal
2)	Parallel cable	1.50 m	Yes	Metal
3)	Video cable	1.50 m	Yes	Metal
4)	Keyboard cable	1.70 m	Yes	Metal
5)	Mouse cable	1.80 m	Yes	Metal
6)	Power cord for Computer	2.20 m	None	
7)	Power cord for CRT Display	1.90 m	None	
8)	Power cord for Printer	1.90 m	None	

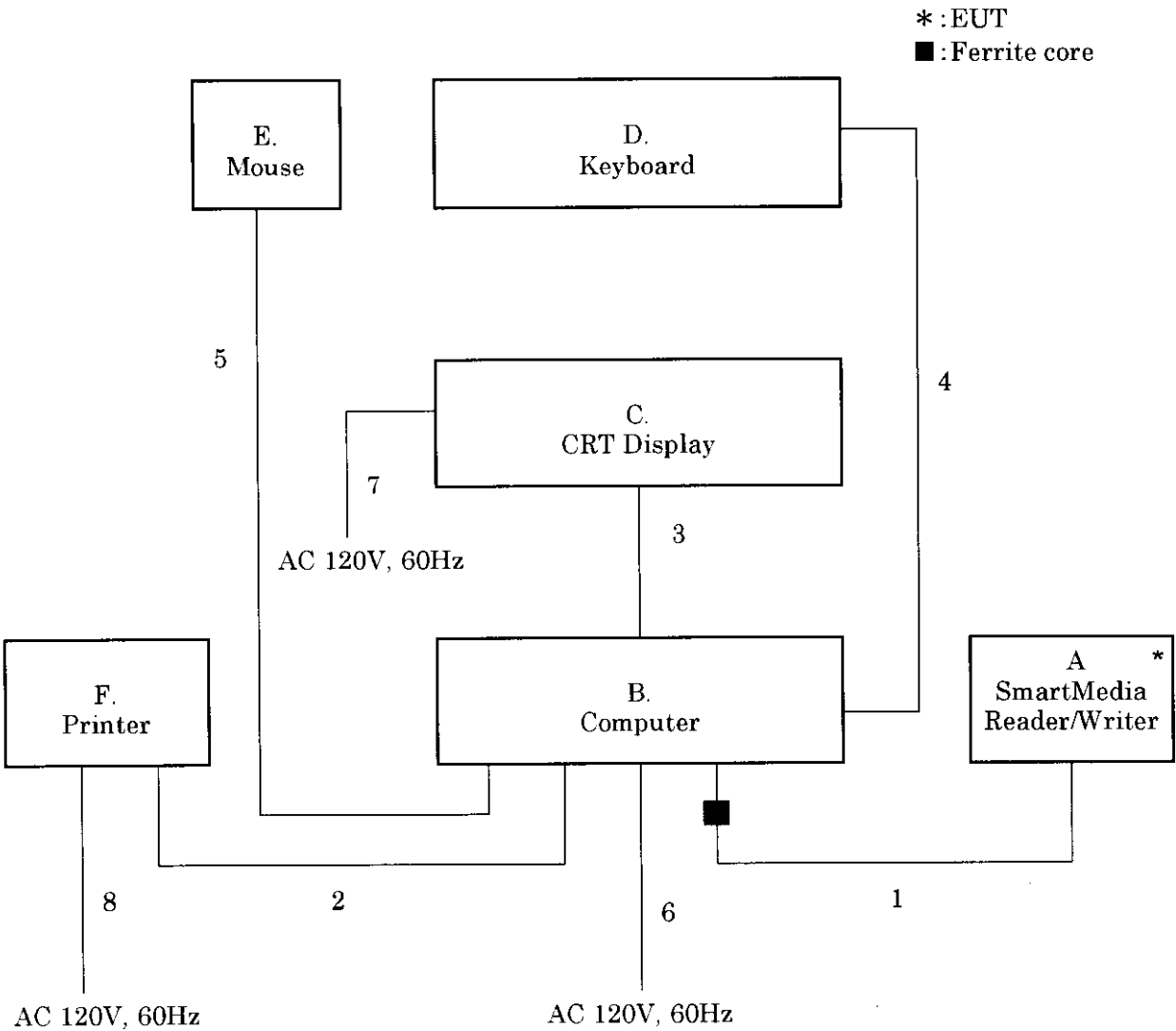
Note :

- a. One ferrite core is permanently attached to USB cable.  
The applicant supplies this cable with EUT.

SECTION 6. CONSTRUCTION OF EQUIPMENT

The construction of EUT during the test was as follows.

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 Sections 3 to 5.

## SECTION 7. OPERATING CONDITIONS

The EUT was operated under the following conditions during the test.

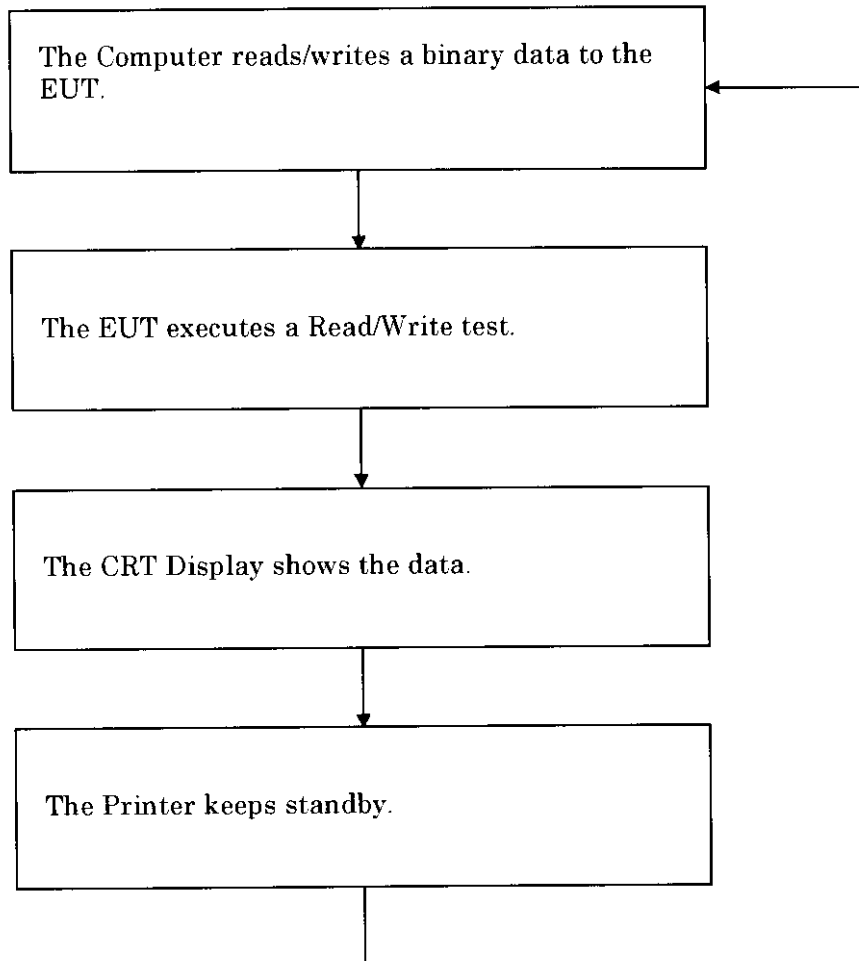
### 7.1 Operating condition

The tests was carried out under Read/Write mode.

EUT was examined in the operating conditions that had maximum emissions.

### 7.2 Operating flow [Read/Write mode]

Performed following operations continuously



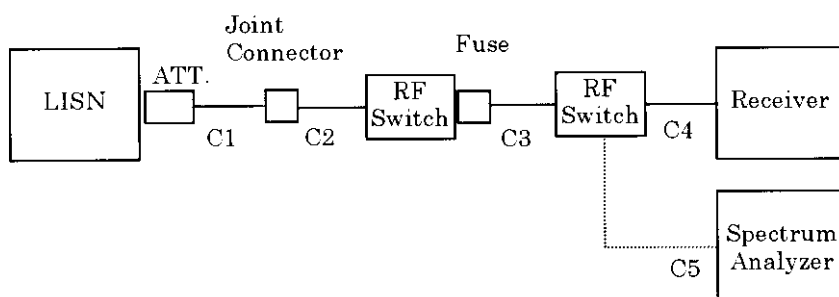
## SECTION 8. TEST PROCEDURE(S)

Tests were carried out under the following conditions.

Tests were carried out with no deviations from standards and test methods.

Subject	Test procedure	Measurement Software	Scan frequency
Conducted Emission	Akzo Kashima Document number : 03-10-004	emiT 1.3.5.0	0.45 - 30 MHz
Radiated Emission	Akzo Kashima Document number : 03-10-003	emiT 1.3.5.0	30 - 1000 MHz

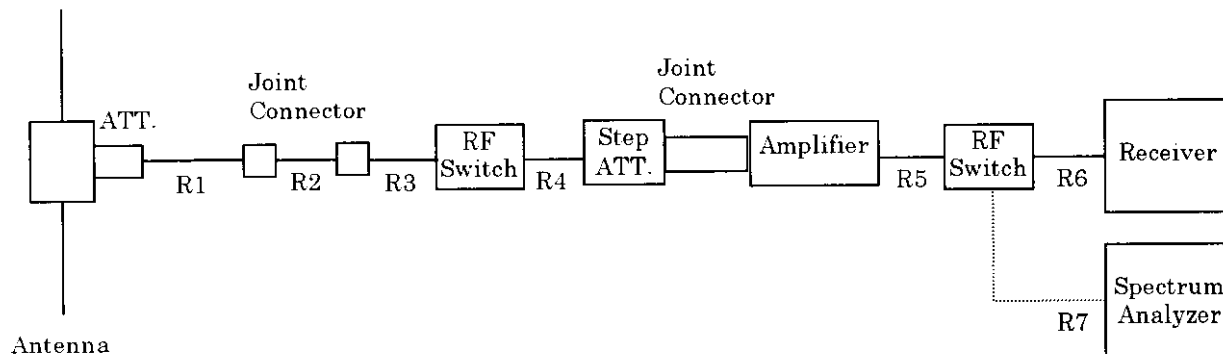
### Schema for the conducted measurement



Abbreviations : LISN = Line Impedance Stabilization Network

Line Impedance Stabilization Network(LISN) = Artificial Mains Network(A.M.N.)

### Schema for the radiated measurement



Abbreviations : ATT. = Attenuator

## Summary ;

### 8.1 Conducted Emission Test

#### 8.1.1 Equipment Setup

System configuration and Equipment setup are shown on Section 6 and Section 10.

##### 8.1.1.1 Table-Top Equipment

EUT is placed on the wooden table raised 0.8meter above the metal ground plane.

##### 8.1.1.2 Interconnecting Cables

Excess part of the interconnecting cables longer than 1 meter are bundled in the center. Cables that hang closer than 40 cm to the ground plane is folded back and forth forming bundle 30 to 40 cm long, hanging approx, in the middle between ground plane and table.

##### 8.1.1.3 AC Power Cord

AC power cord for EUT is connected to one LISN which is placed on top of ground plane. The LISN is placed in 80 cm from the nearest part of EUT chassis.  
The excess power cable is bundled in the center, or shortened to appropriate length.  
AC cables except from the EUT are connected second LISN.

#### 8.1.2 Measuring Instruments

Measuring instruments list and calibration schedule are shown on Section 11, and brief description are as follows;

##### 8.1.2.1 Spectrum Analyzer

The Spectrum analyzer is used for preliminary measurement.

##### 8.1.2.2 EMI Test Receiver

The Quasi-peak detector(Resolution bandwidth : 10 kHz) and average detector (Resolution bandwidth : 10 kHz) built in test receiver is used for final measurement.  
The test receiver is complied with the specification of the CISPR publication 16.

##### 8.1.2.3 LISN

The 50  $\mu$  H/50  $\Omega$  LISN is used. The chassis of the LISN is bonded to the ground plane by the copper blade.  
The lead to be tested is selectable by switch, and the terminals which are not connected to the EUT are terminated in 50  $\Omega$  resistor termination.



### 8.1.3 Test Procedure

#### 8.1.3.1 Preliminary Measurement

EUT is tested on all operating conditions.

The spectrum analyzer is controlled by the computer program to sweep regulation frequency, then spectrum chart are plotted out to detect the worst conditions in operating mode and/or configuration for the final test.

All leads other than safety ground are tested.

#### 8.1.3.2 Final Measurement

The EUT is operated in the worst condition where maximum emission is detected by the preliminary test. The equipment and cables are arranged or manipulated within the range of the test standard in the above condition.

The each spectrum to be tested are measured in quasi-peak using the test receiver. When the value in the quasi-peak mode is higher than the limit in the standard, the measurement in the average mode is done to compare to the value in the quasi-peak mode. If the value in the quasi-peak mode exceeds the value in the average mode by more than 6 dB, the value reducing 13 dB from the value in the quasi mode is used to compare to the limit.

## 8.2 Radiated Emission Test

### 8.2.1 Equipment Setup

System configuration and Equipment setup are shown on Section 6 and Section 10.

#### 8.2.1.1 Table-Top Equipment

EUT is placed on the wooden table raised 0.8meter above the metal ground plane(turntable).

#### 8.2.1.2 Interconnecting Cables

Excess part of the interconnecting cables longer than 1 meter are bundled in the center. Cables that hang closer than 40 cm to the ground plane is folded back and forth forming bundle 30 to 40 cm long, hanging approx, in the middle between ground plane and table.

### 8.2.2 Measuring Instruments

Measuring instruments list and calibration schedule are shown on Section 11, and brief description are as follows;

#### 8.2.2.1 Antennas

The broadband Bi-cog antenna is used for measurement on the frequency range 30 – 1000 MHz.

If uncertain result was obtained, the broadband antenna is replaced by the half wave length dipole, then measurement is carried out over again.

#### 8.2.2.2 Pre-amplifier

The broadband pre-amplifier is used for radiated emission measurement.

The signal to noise ratio is improved by using pre-amplifier.

#### 8.2.2.3 Spectrum Analyzer

The spectrum analyzer is used for preliminary measurement of frequency range 30 – 1000 MHz.

#### 8.2.2.4 EMI Test Receiver

The Quasi-peak detector(Resolution bandwidth : 120 kHz) built in test receiver is used for final measurement of the frequency 30 – 1000 MHz.

The test receiver is complied with the specification of the CISPR publication 16.

#### 8.2.2.5 Turntable

The turntable is capable for EUT weight and rotatable 0 to 360 degree horizontally by remote control in the test room.

#### 8.2.2.6 Antenna Mast

The antenna mast is attachable to all antennas described on clause 8.2.2.1 and antenna height is adjustable 1 to 4 meters continuously by remote control at the test room, and antenna polarization is also changed by the remote control.

### 8.2.3 Test Procedure

#### 8.2.3.1 Preliminary Measurement

EUT is tested on all operating conditions.

The spectrum analyzer is set max-hold mode and swept during turntable was rotated 0 to 360 degree. Then spectrum chart are plotted out to detect the worst conditions in configuration, operating mode, or ambient noise notation.

#### 8.2.3.2 Final Measurement

The EUT operated in the condition where maximum emission is detected in the preliminary test.

The turntable azimuth(EUT direction) and antenna height are adjusted the position so that maximum field strength is obtained for each frequency spectrum to be measured. The equipment and cables are arranged or manipulated within the range of the test standard in the above condition.

When the uncertain result was obtained, the measurement is retried by using the half wave dipole antenna instead of the broadband antenna.

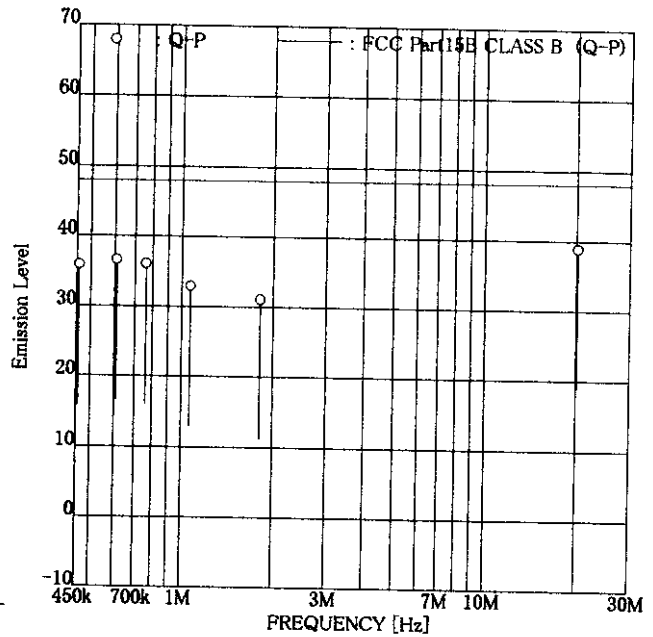
# SECTION 9. EVALUATION OF TEST RESULTS

## 9.1 Conducted Emission Test

Read/Write mode

### Akzo Kashima Limited Kakegawa No.2 Test Site INTERFERENCE CONDUCTION TEST

APPLICANT : FUJI PHOTO FILM CO., LTD.  
EUT NAME : SmartMedia Reader/Writer  
MODEL NO. : SM-R1  
SERIAL NO. : 001  
TEST MODE : Read/Write  
POWER SOURCE : AC120V/60Hz  
DATE TESTED : Jan 22 1999  
FILE NO. : AKL-299012  
REGULATION : FCC Part15B CLASS B  
TEST METHOD : ANSI 63.4:1992



ENGINEER :

Sachiya Horiuchi

	FREQUENCY [MHz]	READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
		Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.4580	28.0	<u>29.0</u>	6.8	6.8	34.8	<u>35.8</u>	48.0	13.2	<u>12.2</u>
2	0.6093	<u>29.9</u>	29.8	6.6	6.6	<u>36.5</u>	36.4	48.0	<u>11.5</u>	11.6
3	0.7624	<u>29.4</u>	29.2	6.6	6.6	<u>36.0</u>	35.8	48.0	<u>12.0</u>	12.2
4	1.0684	<u>26.3</u>	22.8	6.6	6.6	<u>32.9</u>	29.4	48.0	<u>15.1</u>	18.6
5	1.8187	19.1	<u>24.5</u>	6.6	6.6	25.7	<u>31.1</u>	48.0	22.3	<u>16.9</u>
6	20.1889	<u>31.4</u>	30.9	7.5	7.5	<u>38.9</u>	38.4	48.0	<u>9.1</u>	9.6

Higher six points are underlined.  
Other frequencies : Below the FCC Part15B CLASS B limit  
Emission Level = Read + Factor(LISN, Pad, Cable)

emiT 1, 3, 5, 0

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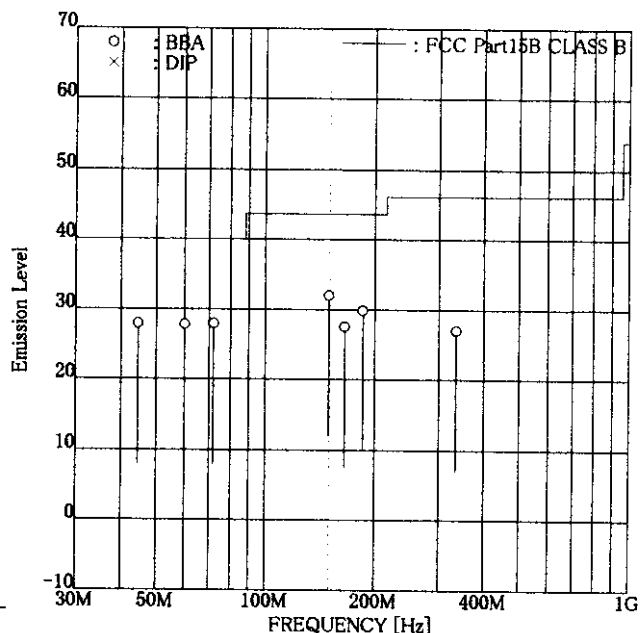
(Version 3.2)

## 9.2 Radiated Emission Test

Read/Write mode

### Akzo Kashima Limited Kakegawa No.2 Test Site INTERFERENCE RADIATION TEST

APPLICANT : FUJI PHOTO FILM CO., LTD.  
EUT NAME : SmartMedia Reader/Writer  
MODEL NO. : SM-R1  
SERIAL NO. : 001  
TEST MODE : Read/Write  
POWER SOURCE : AC120V/60Hz  
DATE TESTED : Jan 22 1999  
FILE NO. : AKL-299012  
REGULATION : FCC Part15B CLASS B  
TEST METHOD : ANSI 63.4:1992  
DISTANCE : 3.0 [m]  
TEMPERATURE : 15.0 [°C]  
HUMIDITY : 35.0 [%]



ENGINEER : Sachiya Horiuchi

FREQUENCY [MHz]	ANT.	READING [dBuV]		FACTOR [dB]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]		
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert	
1	44.63	BBA	-	<u>33.0</u>	-5.1	-5.1	-	<u>27.9</u>	40.0	-	<u>12.1</u>
2	60.00	BBA	-	<u>35.6</u>	-7.8	-7.8	-	<u>27.8</u>	40.0	-	<u>12.2</u>
3	72.02	BBA	-	<u>38.5</u>	-10.6	-10.6	-	<u>27.9</u>	40.0	-	<u>12.1</u>
4	149.55	BBA	<u>40.8</u>	35.0	-8.8	-8.8	<u>32.0</u>	26.2	43.5	<u>11.5</u>	17.3
5	165.46	BBA	<u>36.0</u>	29.6	-8.5	-8.5	<u>27.5</u>	21.1	43.5	<u>16.0</u>	22.4
6	185.74	BBA	-	<u>36.8</u>	-6.9	-6.9	-	<u>29.9</u>	43.5	-	<u>13.6</u>
7	335.01	BBA	27.6	-	-0.6	-0.6	27.0	-	46.0	19.0	-

Higher six points are underlined.  
Other frequencies : Below the FCC Part15B CLASS B limit  
Emission Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)  
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 1, 3, 5, 0

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### 9.3 Sample Calculations

#### 9.3.1 Conducted Emission

---

Example @ 20.1889 MHz

$$\begin{array}{rcl} \text{Emission Level} & = & \text{Meter Reading} \quad 31.4 \text{ dBuV} \\ & + & \text{Factor} \quad \underline{+ 7.5 \text{ dB}} \\ & & = 38.9 \text{ dBuV} \end{array}$$

$$\begin{array}{rcl} \text{Margin} & = & \text{Limit} \quad 48.0 \text{ dBuV} \\ & - & \text{Emission Level} \quad \underline{- 38.9 \text{ dBuV}} \\ & & = 9.1 \text{ dB} \end{array}$$

---

$$\text{Factor} = \text{LISN Factor} + \text{Cable Loss} + \text{Pad Loss}$$

#### 9.3.2 Radiated Emission

---

Example @ 149.55 MHz

$$\begin{array}{rcl} \text{Emission Level} & = & \text{Meter Reading} \quad 40.8 \text{ dBuV} \\ & + & \text{Factor} \quad \underline{- 8.8 \text{ dB}} \\ & & = 31.9 \text{ dBuV/m} \end{array}$$

$$\begin{array}{rcl} \text{Margin} & = & \text{Limit} \quad 43.5 \text{ dBuV/m} \\ & - & \text{Emission Level} \quad \underline{- 31.9 \text{ dBuV/m}} \\ & & = 11.6 \text{ dB} \end{array}$$

---

$$\begin{aligned} \text{Factor} = & \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain} + \text{Pad Loss} \\ & - \text{Distance Conversion Factor} \end{aligned}$$

# SECTION 11. INSTRUMENTS USED FOR FINAL TEST

Instrument	Model No.	Serial No.	Manufacturer	Last cal. date	Period
Amplifier	8447D	2727A85325	HEWLETT PACKARD	Sep.28, 98	1 Year
Test receiver	ESH2	880370/011	ROHDE & SCHWARZ	Nov.25, 98	1 Year
Test receiver	ESV	881484/012	ROHDE & SCHWARZ	Mar.10, 98	1 Year
Broad Band antenna	LPB-2513/A	1110	A.R.A.	Jan. 18, 99	1 Year
LISN	ESH2-Z5	881493/017	ROHDE & SCHWARZ	Mar.27, 98	1 Year
LISN	KNW-242	8-579-23	Kyoritsu	Mar.24, 98	1 Year
Step Attenuator	8494A	1510A08521	HEWLETT PACKARD	Sep.28, 98	1 Year
6dB Attenuator	CFA-01	None	TAMAGAWA	Jul.14, 98	1 Year
6dB Attenuator	MP721B	M97532	ANRITSU	Feb.26, 98	1 Year
RF Switch	MP59B	M7575	ANRITSU	Jan.07, 99	1 Year
RF Switch	MP59B	M7736	ANRITSU	Jan.07, 99	1 Year
RF Switch	ACX-150-1	None	ANZO	Jan.07, 99	1 Year
Fuse	MP612A	None	ANRITSU	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (7.1m)	C1	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (4.2 m)	C2	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.4m)	C3	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.6m)	C4	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (16.5m)	R1	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (13.3 m)	R2	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.8m)	R3	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.2 m)	R4	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.4 m)	R5	AKZO	Jan.07, 99	1 Year
Coaxial cable	RG-5A/U (1.6 m)	R6	AKZO	Jan.07, 99	1 Year
Site Attenuation				May.21, 98	1 Year

Note : Test instruments are calibrated according to Quality Manual and Calibration Rules of EMC division.

## SECTION 12. UNCERTAINTY OF MEASUREMENT

### Uncertainty of measurement

The uncertainty of the measurements performed for this report lies:

Radiated emission at 3m  
30 MHz – 1000 MHz .....  $\pm 3.6$  dB

Conducted emission  
9 kHz – 30 MHz .....  $\pm 1.8$  dB

These figures indicate the uncertainty of the measurements when the same staff performs the test with the same testing equipment and facility.  
The uncertainty of the measurements when a different staff with different equipment and facility are under study.

Please note that these uncertainty are not reflected to the compliance judgement of the test results in this report.



## SECTION 13. VALIDITY OF TEST REPORT

- 13.1 The test result of this report is effective for equipment under test itself and under the test configuration described on the report.
- 13.2 This test report does not assure that whether the test result taken in other testing laboratory is compatible or reproducible to the test result on this report or not.
- 13.3 Copying of this report without permission is prohibited.

## SECTION 14. DESCRIPTION OF TEST LABORATORY

### 14.1 Outline of Akzo Kashima Limited, EMC Division

Akzo Kashima Ltd. was established in 1975 for manufacturing specialty chemicals. The shares are owned by Akzo Nobel KK (70%), the country organization in Japan for Akzo Novel nv., and TOSOH Corporation (30%), one of the leading petrochemical manufacturers in Japan. Akzo Nobel, headquartered in the Netherlands, is one of the world's leading companies in selected areas of chemicals, coatings, healthcare products and fibers with work force of approximately 70,000 people in over 50 countries.

In 1984, in order to respond to the growing testing demand, in particular, for FCC filing, Akzo Kashima started EMI testing business, installing the first open air test site in Kashima, Ibaraki prefecture. Further the business has been expanded by installing additional testing facilities not only in Kashima but also in other areas such as Shizuoka, Nagano, Kanagawa and Tochigi. As results, Akzo Kashima has now 16 open air test sites and 4 anechoic chambers for EMI/EMC testing. As the largest EMC testing laboratory in number of testing facilities and staffs, EMC Division has been organized separately in the company and independently operated in conformity with the requirements of ISO Guide 25 (EN 45000) for its competency as a testing laboratory.

Akzo Kashima EMC Division is the first foreign private laboratory accredited by NVLAP, National Voluntary Laboratory Accreditation Program-NIST, USA. The division has been certified, authorized and/or filed as a competent testing laboratory by various testing organizations/authorities as described below.

### 14.2 Filing, certification, authorization and accreditation list

<u>EMI/EMC testing</u>		<u>Telecommunications terminal testing</u>	
FCC	(USA)	FCC	(USA)
NVLAP	(USA)	NVLAP	(USA)
NEMKO	(Norway)	NATA	(Australia)
VCCI	(Japan)	IC	(Canada)
NMi	(The Netherlands)		
TÜV PRODUCT SERVICE	(Germany)		

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