

**MATSUSHITA-KOTOBUKI
ELECTRONICS INDUSTRIES LTD.**

SAIJO DIVISION
ADDRESS: 〒793 247 FUKUTAKE, SAIJO, EHIME, JAPAN
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Exhibit #3
FCC ID: ACJ9TCTV083
Test Data

Date: May 13, 1999

Report of Measurements (Part I)

REQUIRED IN () SUBPART B (TV INTERFACE DEVICE)
(X) SUBPART B (DIGITAL DEVICE)

EXHIBIT # : 3-1
FCC ID : ACJ9TCTV083
OUR REF. : VED-99-F001
MODEL NO. : PV-PD2100
Sheet 1 of 16 Sheets

Name of Manufacturer: Matsushita Electric Ind. Co., Ltd. AVC Co.,
Video Equipment Division

Address of Manufacturer: 1-15, Matsuo-cho, Kadoma-city, Osaka, 571-8504, Japan

Device Under Measurement

FCC ID : ACJ9TCTV083
Model No. : PV-PD2100
Trade Name : Panasonic
Applicant : Matsushita Electric Ind. Co., Ltd.
This device is a representative model of VP340 chassis group.

Certification

On the basis of the measurement data contained in Part II, all devices bearing the aforementioned FCC ID (model No.. chassis No.. and trade names) are stated by the undersigned to be capable of complying with the applicable sections of Part 15 of the FCC rules governing restricted radiation devices at the time of manufacture and may be expected to continue to comply under normal conditions and with usual maintenance. The undersigned also states that the device measured was an engineering prototype, pre-production, or production unit. If changes are applied to future units and such changes adversely alter spurious radiation, an amended report of measurements will be supplied to the FCC.


K. Ishikawa
Sr. Engineer

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Parallel Mode

Part 15 Subpart B. (Digital Device) - Part II

Sheet 2 of 16 Sheets

1) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Limits (dBuV)	Interference (dBuV)	
		1-end & Grounded	The other- End & Gro.
0.47	48.0	39.0	36.2
0.66	48.0	36.8	32.1
3.23	48.0	31.9	30.8
3.80	48.0	34.7	34.2
5.59	48.0	33.5	33.1
24.0	48.0	33.4	33.2

(Refer to Sheet 4, 8, 14 of 16 Sheets)

2) 15.109 Radiated Emission

Freq. (MHz)	Limits (dBuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
147.27	43.5	37.6	31.1
245.46	46.0	43.7	32.0
270.00	46.0	42.5	36.0
294.55	46.0	40.1	33.7
711.82	46.0	37.0	39.8
760.91	46.0	35.0	42.3

(Refer to Sheet 6, 9, 10, 15, 16 of 16 Sheets)

MEASUREMENT SITE : MKS SITE

MEASUREMENT PROCEDURE : ANSI C63.4-1992

Note:

(1) Detailed report: Refer to attached sheets.

I HEREBY STATE THAT: The measurements shown in Part II of this form were made in accordance with The procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

I FURTHER STATE THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.


T. Watanabe
Engineer

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Serial Mode

Part 15 Subpart B. (Digital Device) - Part II

Sheet 3 of 16 Sheets

1) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Limits (dBuV)	Interference (dBuV)	
		1-end & Grounded	The other- End & Gro.
0.48	48.0	38.3	36.2
0.67	48.0	34.3	32.2
0.86	48.0	33.9	31.6
4.42	48.0	35.7	33.6
4.69	48.0	36.2	34.0
27.0	48.0	29.4	28.2

(Refer to Sheet 5, 11, 14 of 16 Sheets)

2) 15.109 Radiated Emission

Freq. (MHz)	Limits (dBuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
147.27	43.5	37.7	32.6
245.56	46.0	40.9	34.0
270.00	46.0	41.9	33.6
687.28	46.0	39.6	37.7
711.82	46.0	38.6	39.4
760.91	46.0	35.4	40.5

(Refer to Sheet 7, 12, 13, 15, 16 of 16 Sheets)

MEASUREMENT SITE : MKS SITE

MEASUREMENT PROCEDURE : ANSI C63.4-1992

Note:

(1) Detailed report: Refer to attached sheets.

I HEREBY STATE THAT: The measurements shown in Part II of this form were made in Accordance with The procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements and vouch for the Qualifications of all persons taking them.

I FURTHER STATE THAT: On the basis of the measurements made, the device tested is capable of operation in compliance with the requirements of Part 15 of the FCC Rules under normal use and maintenance.


T. Watanabe
Engineer

Parallel Mode

Sheet 4 of 16 Sheets

1) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Meter Reading (dBuV)		LISN Factor (dB)	Matching Pad Loss (dB)	Interference (dBuV)	
	1-end & Grounded	The other- End & Gro.			1-end & Grounded	The other- End & Gro
0.47	32.7	29.9	0.1	6.2	39.0	36.2
0.66	30.5	25.8	0.1	6.2	36.8	32.1
3.23	25.5	24.4	0.2	6.2	31.9	30.8
3.80	28.2	27.7	0.3	6.2	34.7	34.2
5.59	26.9	26.5	0.4	6.2	33.5	33.1
24.0	26.3	26.1	0.9	6.2	33.4	33.2

Note:

1. Sample calculation at

$$\text{1-end \& Gro., 0.47 MHz ; } 32.7 + 0.1 + 6.2 = 39.0 \text{ (dBuV)}$$

2. Measuring Instruments:

a) Field strength meter – Kyoritsu Electric Work Co., Ltd.

Model : KNM-402C

(1) Detector function : CISPR Q-PEAK

(2) IF band width : 9 kHz

(3) Input impedance : 75 ohms

b) Line impedance stabilized network (LISN)

– Kyoritsu Electric Work Co., Ltd.

Model : KNW-406, KNW-407

50 ohms / 50 uh network

c) Matching pad

– Kyoritsu Electric Work Co., Ltd.

Model : KPD-401

3. The spectrum was checked from 0.45 MHz to 30 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

2) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Meter Reading (dBuV)		LISN Factor (dB)	Matching Pad Loss (dB)	Interference (dBuV)	
	1-end & Grounded	The other- End & Gro.			1-end & Grounded	The other- End & Gro
0.48	32.0	29.9	0.1	6.2	38.3	36.2
0.67	28.0	25.9	0.1	6.2	34.3	32.2
0.86	27.6	25.3	0.1	6.2	33.9	31.6
4.42	29.2	27.1	0.3	6.2	35.7	33.6
4.69	29.7	27.5	0.3	6.2	36.2	34.0
27.0	22.3	21.1	0.9	6.2	29.4	28.2

Note:

1. Sample calculation at

$$\text{1-end \& Gro., 0.48 MHz ; } 32.0 + 0.1 + 6.2 = 38.3 \text{ (dBuV)}$$

2. Measuring Instruments:

a) Field strength meter - Kyoritsu Electric Work Co., Ltd.

Model : KNM-402C

(1) Detector function : CISPR Q-PEAK

(2) IF band width : 9 kHz

(3) Input impedance : 75 ohms

b) Line impedance stabilized network (LISN)

- Kyoritsu Electric Work Co., Ltd.

Model : KNW-406, KNW-407

50 ohms / 50 uh network

c) Matching pad

- Kyoritsu Electric Work Co., Ltd.

Model : KPD-401

3. The spectrum was checked from 0.45 MHz to 30 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

Parallel Mode

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3) 15.109 Radiated Emission

Freq. (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB) Open Vol.	Emission at 3 meters (dBuV)	
	Horiz.	Vert.		Horiz.	Vert.
147.27	20.1	13.6	17.5	37.6	31.1
245.46	23.0	11.3	20.7	43.7	32.0
270.00	20.8	14.3	21.7	42.5	36.0
294.55	16.6	10.2	23.5	40.1	33.7
711.82	8.6	11.4	28.4	37.0	39.8
760.91	5.7	13.0	29.3	35.0	42.3

Note:

1. Sample calculation at

Horiz., 147.27 MHz ; 20.1 + 17.5 = 37.6 (dBuV/m)

2. Measuring Instruments:

a) Field strength meter - Rohde & Schwarz

(for 30 MHz to 1 G Hz) Model : ESVP

(1) Frequency range : 20 MHz to 1300 MHz

(2) RF Input : 50 ohms

(3) IF band width : 7.5 kHz / 12 kHz/
120 kHz / 1 MHz

(4) Detector function : Average/
CISPR Q-PERK/PERK

c) Receiving antenna - Schwarzbeck

Model : VHA9103 30 - 300 MHz

Model : UHALP9107 300 - 1000 MHz

- The Electro-Machanics Company

Model : 3115 1 - 18G Hz

3. The Spectrum was checked from 30 MHz to 1000 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

4) 15.109 Radiated Emission

Freq. (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB) Open Vol.	Emission at 3 meters (dBuV)	
	Horiz.	Vert.		Horiz.	Vert.
147.27	20.2	15.1	17.5	37.7	32.6
245.56	20.2	13.3	20.7	40.9	34.0
270.00	20.2	11.9	21.7	41.9	33.6
687.28	11.5	9.6	28.1	39.6	37.7
711.82	10.2	11.0	28.4	38.6	39.4
760.91	6.1	11.2	29.3	35.4	40.5

Note:

1. Sample calculation at

Horiz., 147.27 MHz ; 20.2 + 17.5 = 37.7 (dBuV/m)

2. Measuring Instruments:

a) Field strength meter - Rohde & Schwarz

(for 30 MHz to 1 G Hz) Model : ESVP

(1) Frequency range : 20 MHz to 1300 MHz

(2) RF Input : 50 ohms

(3) IF band width : 7.5 kHz / 12 kHz/
120 kHz / 1 MHz

(4) Detector function : Average/ -
CISPR Q-PERK/PERK

c) Receiving antenna - Schwarzbeck

Model : VHA9103 30 - 300 MHz

Model : UHALP9107 300 - 1000 MHz

- The Electro-Mechanics Company

Model : 3115 1 - 18G Hz

3. "—" This means that Emission of is less than 25 dBuV/m.

4. The Spectrum was checked from 30 MHz to 1000 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

3 SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion (as an EUT used on one table top normally). The EUT has 1 serial interface, 1 parallel interface, 1 Video OUT terminals, 1 Video IN terminals, 1 S-Video IN terminals, 1 system socket(edit 5p) and 1 PC card slot.

3.2 EUT Exercise Software

The radiated and conducted emission test were designed the following programed contents to exercise in a manner to typical use.

<Case of Windows PC>

- (1) Picture data(digital signal) was transmitting via parallel terminal from the Windows Personal Computer to the EUT(Digital Photo Printer).
- (2) The EUT received Picture data.
- (3) The EUT was printed Picture data.
- (4) The EUT sent digital signal of own condition via parallel terminal to the PC.

Condition of other peripherals:

Peripheral	Connected to	Condition
TV monitor	Video out of the EUT	"Now printing" was displayed.
Modem	Serial terminal of the PC	Standby mode
DV Camcorder	AV in of the EUT	Playback mode
CF card -- --(with CF card adaptor)	PC card slot ot the EUT	Standby mode

<Case of Macintosh PC> --- Bacicaly quite the same as Windows PC

- (1) Picture data(digital signal) was transmitting via serial terminal from the Macintosh Personal Computer to the EUT(Digital Photo Printer).
- (2) The EUT received Picture data.
- (3) The EUT was printed Picture data.
- (4) The EUT sent digital signal of own condition via serial terminal to the PC.

Condition of other peripherals:

Peripheral	Connected to	Condition
TV monitor	Video out of the EUT	"Now printing" was displayed.
Modem	Serial terminal of the PC	Standby mode
DV Camcorder	AV in terminal of the EUT	Playback mode
CF card -- --(with CF card adaptor)	PC card slot ot the EUT	Standby mode
CD-ROM Driver	SCSI terminal of the PC	Standby mode

3.3 Special Accessories N/A

3.4 Equipment Modifications N/A

3.5 Configuration of Tested System Please see attached EXHIBIT #3-2A and #3-2B.

4 BLOCK DIAGRAM Please see EXHIBIT # 5.

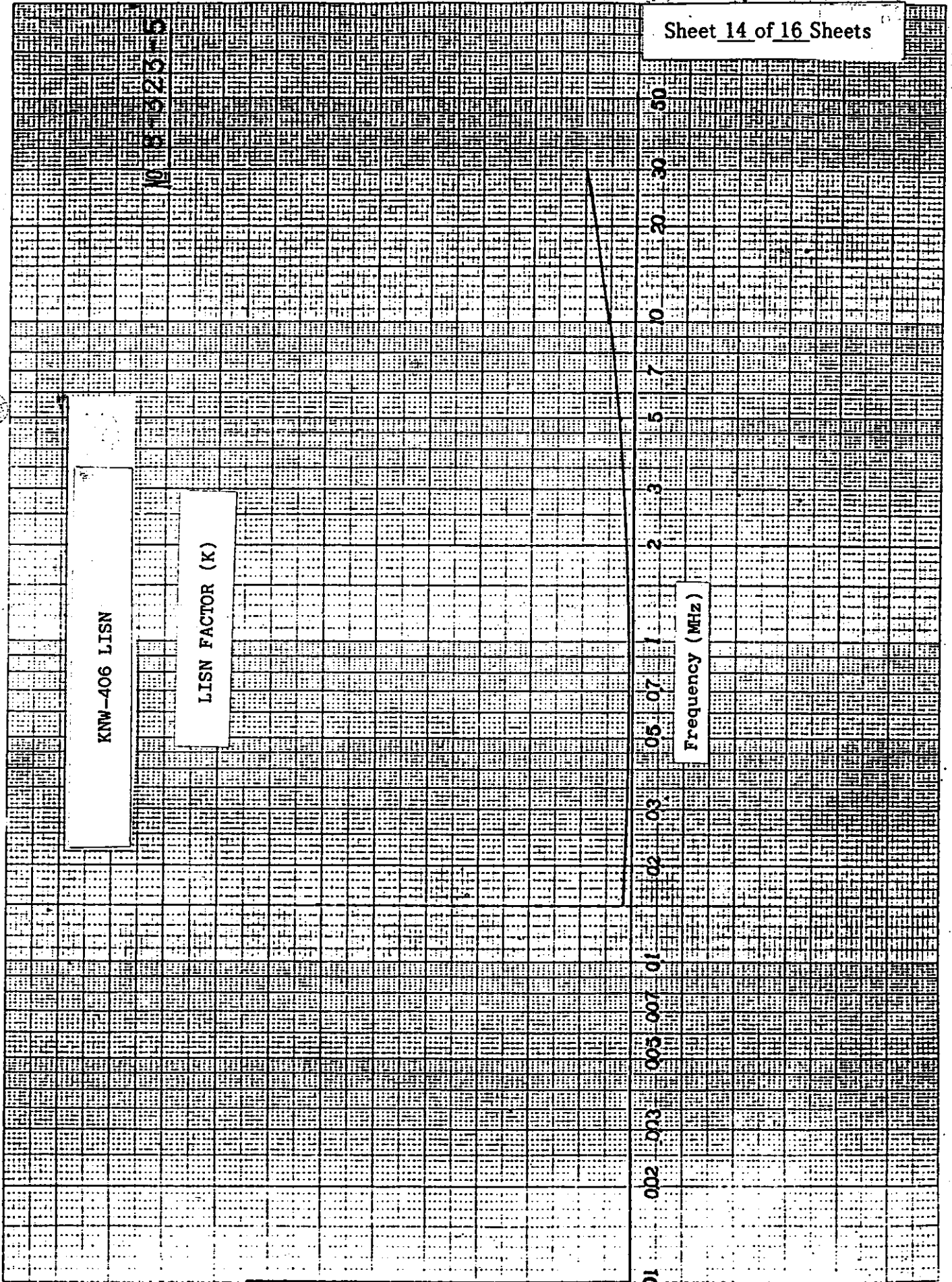
5 TEST DATA Please see EXHIBIT # 2, 1

Sheet 14 of 16 Sheets

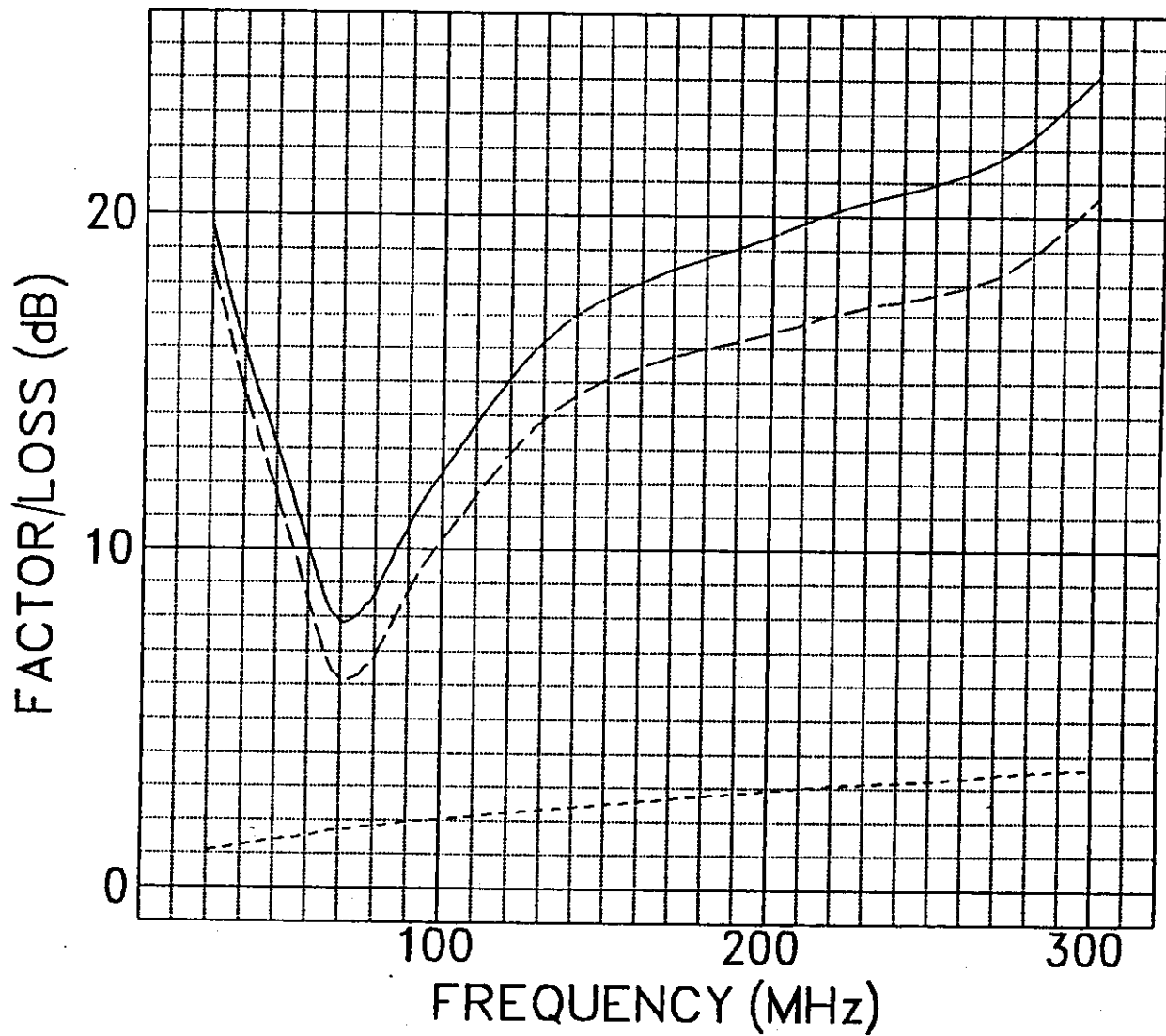
KNW-406 LISN

LISN FACTOR (K)

Frequency (MHz)



CORRECTION FACTOR OF BBA9106



$$E = V + K$$

E : Field Strength

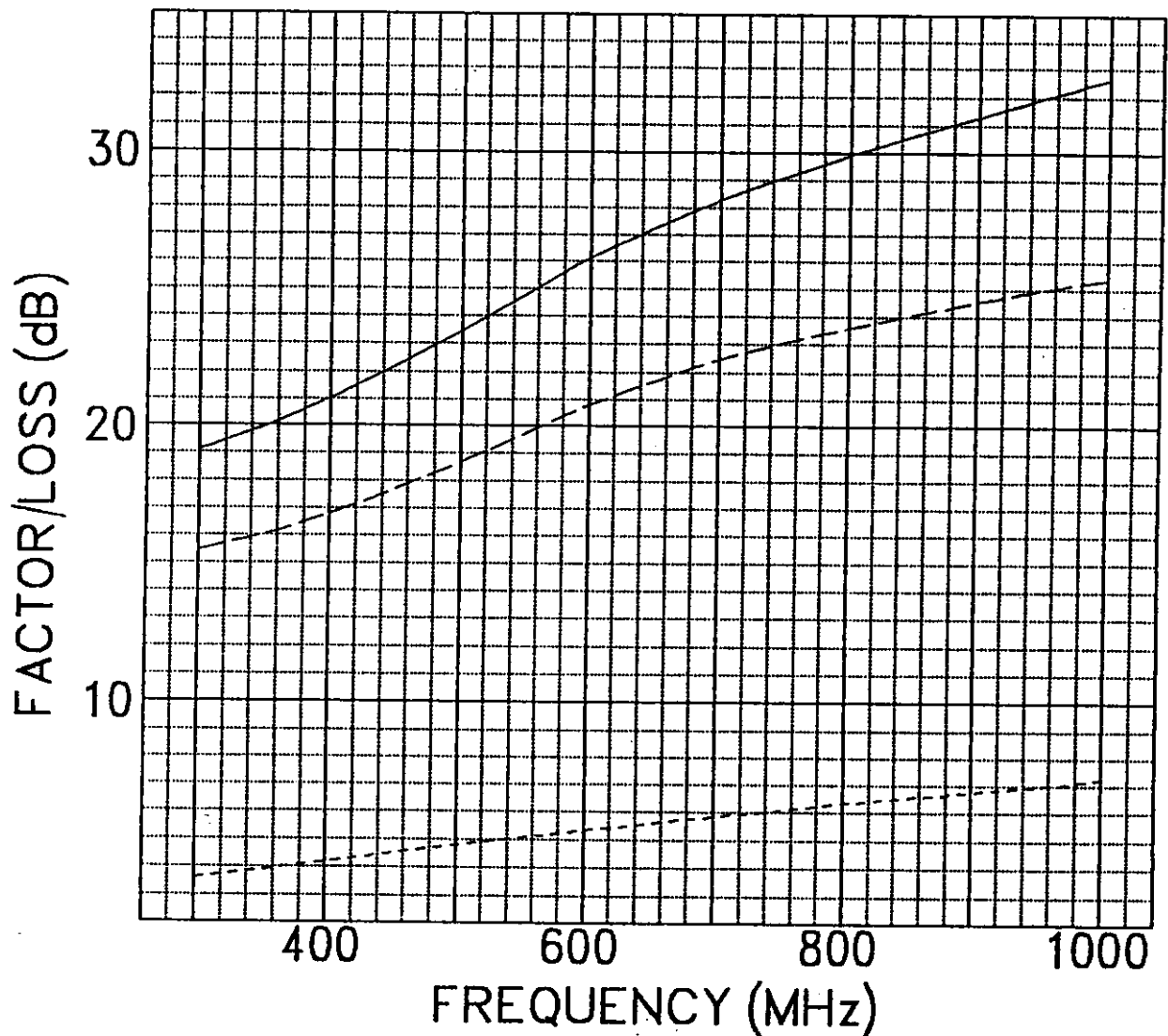
V : Correction Factor (dB)

———— : Correction Factor

----- : Antenna Factor

..... : Cable Loss

CORRECTION FACTOR OF UHALP9107



$$E = V + K$$

E : Field Strength

V : Correction Factor (dB)

— : Correction Factor

- - - : Antenna Factor

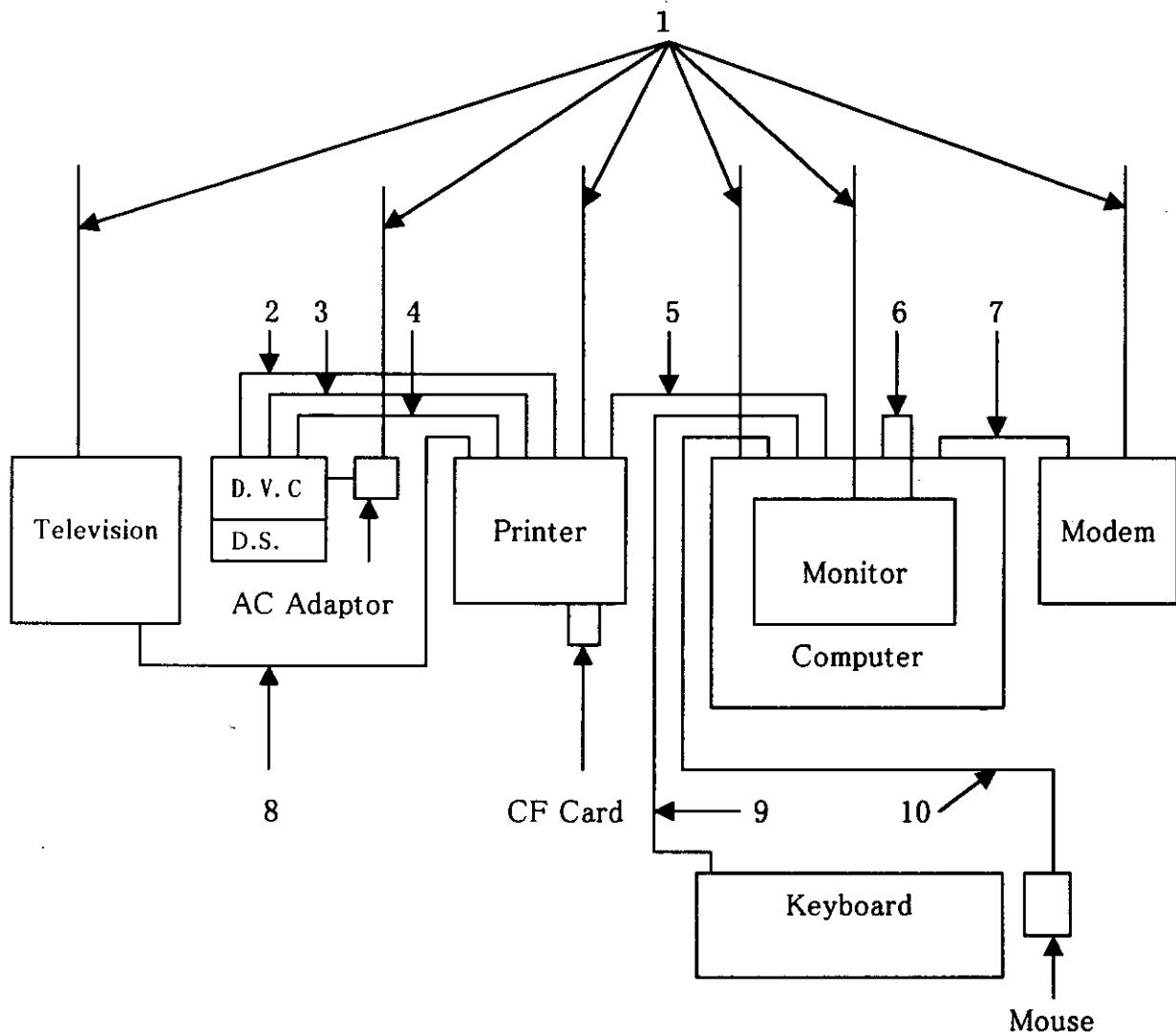
..... : Cable Loss

Block Diagram of System for Measurements

EXHIBIT # : 3-2
FCC ID : ACJ9TCTV083
OUR REF. : VED-99-F001
MODEL NO. : PV-PD2100

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Parallel Mode



Parallel Mode

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Description

Television	Model No. : T13080BC Trade Name : RCA
Printer (Application Device)	Model No. : PV-PD2100 Trade Name : Panasonic FCC ID : ACJ9TCTV083
CF Card	Model No. : LSFS0005 Trade Name : Panasonic
CF Adaptor	Model No. : LSFA0006 Trade Name : Panasonic
Computer (DoC Device)	Model No. : 2294 Trade Name : COMPAQ
Monitor (Certified Device)	Model No. : 324U Trade Name : COMPAQ FCC ID : BJMC7T
Modem (Certified Device)	Model No. : 14.4 Fax modem Trade Name : Sportster FCC ID : CJE-0318
Keyboard (Certified Device)	Model No. : SK-2700 Trade Name : COMPAQ FCC ID : GYUR55SK
Mouse (Certified Device)	Model No. : M-S48 Trade Name : COMPAQ FCC ID : DL211153
Digital Video Camera(D.V.C.) (Certified Device)	Model No. : PV-DV710D Trade Name : Panasonic FCC ID : ACJ927110L/ACJ927111L
Docking Station(D.S.)	Model No. : VSQS1511 Trade Name : Panasonic

Parallel Mode

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Type of Interface Cable

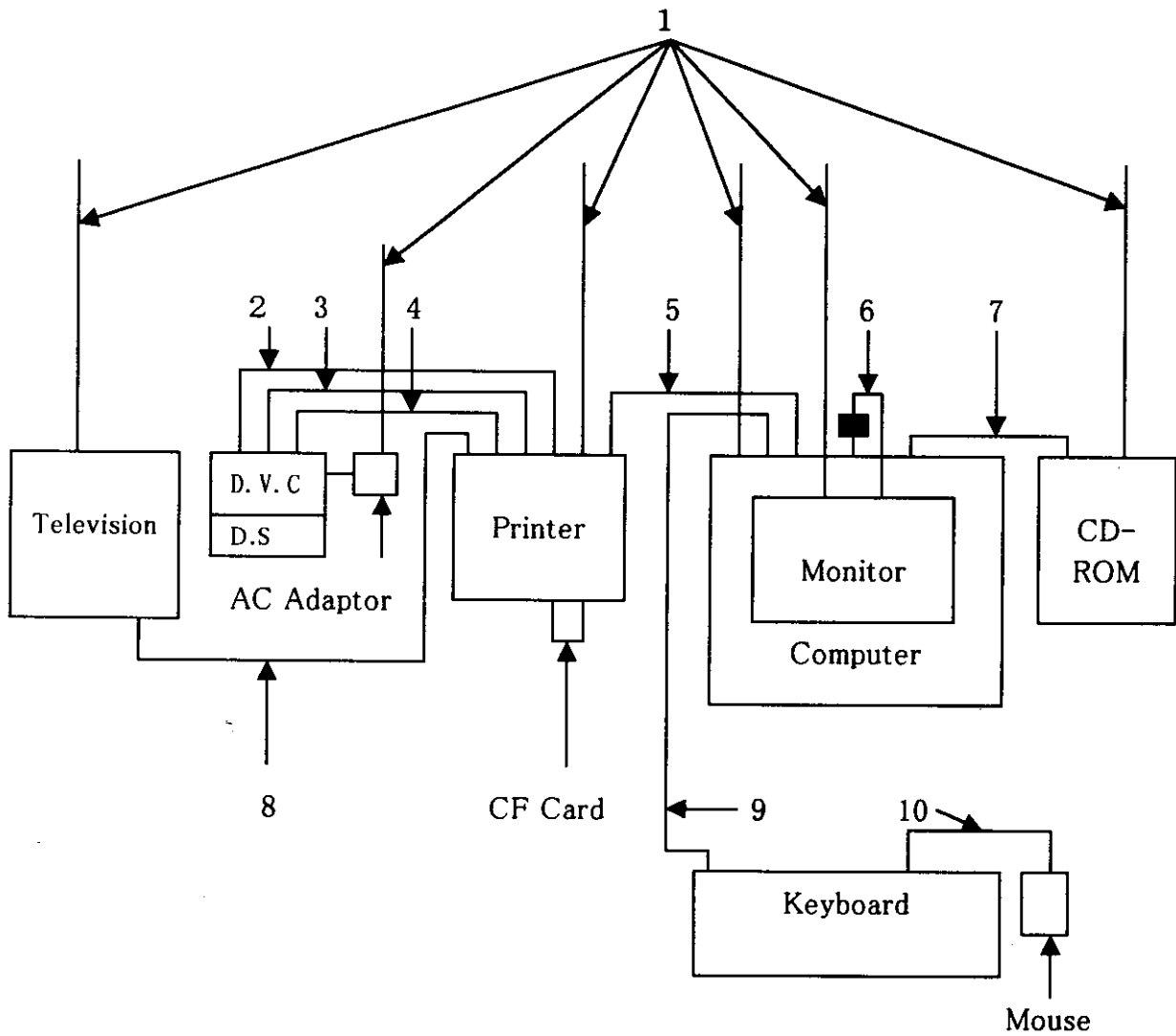
1. Power Cord
2. RCA Video Cable (1.5 m) : Shielded Cable ; Circular Cable
3. Editing Control Cable (1.3 m) : Shielded Cable ; Circular Cable
4. S-Video Cable (1.5 m) : Shielded Cable ; Circular Cable
5. Printer Cable (2.0 m) : Shielded Cable ; Circular Cable
6. Monitor Cable (1.5 m) : Shielded Cable ; Circular Cable
(Permanently attached to the Monitor)
7. RS-232 Serial Cable (0.75 m) : Shielded Cable ; Circular Cable
8. RCA Video Cable (1.5 m) : Shielded Cable ; Circular Cable
9. Keyboard Cable (1.75 m) : Shielded Cable ; Circular Cable
(Permanently attached to the Keyboard)
10. Mouse Cable (1.75 m) : Shielded Cable ; Circular Cable
(Permanently attached to the Mouse)

Block Diagram of System for Measurements

EXHIBIT # : 3-2
FCC ID : ACJ9TCTV083
OUR REF. : VED-99-F001
MODEL NO. : PV-PD2100

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Serial Mode



Type of Interface Cable

1. Power Cord
2. RCA Video Cable (1.5 m) : Shielded Cable ; Circular Cable
3. Editing Control Cable (1.3 m) : Shielded Cable ; Circular Cable
4. S-Video Cable (1.5 m) : Shielded Cable ; Circular Cable
5. Printer Cable (2.0 m) : Shielded Cable ; Circular Cable
6. Monitor Cable (1.0 m) : Shielded Cable with a Ferrite Core ; Circular Cable
(Permanently attached to the Monitor)
7. CD-ROM Cable (1.0 m) : Shielded Cable ; Circular Cable
8. RCA Video Cable (1.5 m) : Shielded Cable ; Circular Cable
9. Keyboard Cable (1.9 m) : Shielded Cable ; Curl Cord
10. Mouse Cable (1.9 m) : Shielded Cable ; Circular Cable
(Permanently attached to the Mouse)

Serial Mode

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Description

Television	Model No. : T13080BC Trade Name : RCA
Printer (Application Device)	Model No. : PV-PD2100 Trade Name : Panasonic FCC ID : ACJ9TCTV083
CF Card	Model No. : LSFS0005 Trade Name : Panasonic
CF Adaptor	Model No. : LSFA0006 Trade Name : Panasonic
Computer (Certified Device)	Model No. : M1205 Trade Name : Apple Computer, inc. FCC ID : BCGM1205
Monitor (Certified Device)	Model No. : M1212 Trade Name : Apple Computer, inc. FCC ID : BCGM1212
CD-ROM (Certified Device)	Model No. : M3021 Trade Name : Apple Computer, inc. FCC ID : BCGM3021
Keyboard (Certified Device)	Model No. : M0487 Trade Name : Apple Computer, inc. FCC ID : BCGM0487
Mouse (Certified Device)	Model No. : M2706 Trade Name : Apple Computer, inc. FCC ID : BCGM2706
Digital Video Camera(D.V.C.) (Certified Device)	Model No. : PV-DV710D Trade Name : Panasonic FCC ID : ACJ927110L/ACJ927111L
Docking Station(D.S.)	Model No. : VSQS1511 Trade Name : Panasonic