

MATSUSHITA-KOTOBUKI ELECTRONICS INDUSTRIES LTD.

SAIJO DIVISION

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Date: Oct. 16, 1999

Report of Measurements (Part I)

REQUIRED IN () SUBPART B (TV INTERFACE DEVICE)

(X) SUBPART B (CLASS B PERIPHERALS)

EXHIBIT # : 3-1
FCC ID : ACJ927129K
OUR REF. : MKES99-F021
MODEL NO. : PV-DV600D
Sheet 1 of 16 Sheets

Name of Manufacturer: Matsushita-Kotobuki Electronics Industries Ltd.

Address of Manufacturer: 247 Fukutake, Saijo, Ehime, Japan.

Device Under Measurement

FCC ID : ACJ927129K
Model No. : PV-DV600D
Trade Name : Panasonic
Applicant : Matsushita Electric Ind. Co., Ltd.

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

MATSUSHITA-KOTOBUKI ELECTRONICS INDUSTRIES LTD.

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3" LCD Type

Part 15 Subpart B. (Class B Peripherals) - Part II

EXHIBIT # : 3-1

FCC ID : ACJ927129K

OUR REF. : MKES99-F021

MODEL NO. : PV-DV600D

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.
0.56	48.0	37.9	36.3
0.64	48.0	39.1	38.7
0.89	48.0	38.2	38.8
2.09	48.0	39.6	40.4
5.14	48.0	40.5	40.8
6.11	48.0	40.2	41.0

(Refer to Sheet 4, 8, 9, 14 of 16 Sheets)

2) 15.109 Radiated Emission

Freq. (MHz)	Limits (dBuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
108.00	43.5	37.7	21.1
121.50	43.5	37.3	21.6
256.50	46.0	37.3	26.6
337.50	46.0	41.0	34.8
351.00	46.0	40.5	35.4
391.50	46.0	36.9	36.7

(Refer to Sheet 6, 10, 11, 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

MATSUSHITA-KOTOBUKI ELECTRONICS INDUSTRIES LTD.

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4" LCD Type

Part 15 Subpart B. (Class B Peripherals) - Part II

EXHIBIT # : 3-1

FCC ID : ACJ927129K

OUR REF. : MKES99-F021

MODEL NO. : PV-DV600D

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.
0.56	48.0	38.2	37.1
0.64	48.0	39.4	38.5
0.89	48.0	37.6	38.3
2.09	48.0	39.1	40.0
5.14	48.0	40.4	40.6
6.11	48.0	40.0	40.5

(Refer to Sheet 5, 14 of 16 Sheets)

2) 15.109 Radiated Emission

Freq. (MHz)	Limits (DbuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
108.00	43.5	37.4	21.7
121.50	43.5	37.6	22.3
256.50	46.0	36.2	27.2
337.50	46.0	40.5	35.1
351.00	46.0	40.0	34.8
391.50	46.0	36.2	36.0

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

MEASUERMENT SITE : MKS SITE

MEASUERMENT 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 Pules under normal use and maintenance.



T. Watanabe
Engineer

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.

EXHIBIT # : 3-1

FCC ID : ACJ927129K

OUR REF. : MKES99-F021

MODEL NO. : PV-DV600D

Sheet 5 of 16 Sheets

4" LCD Type

2) 15.107 Power Line Conducted Voltage

Mode	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
DV	0.56	31.9	30.8	0.1	6.2	38.2	37.1
	0.64	33.1	32.2	0.1	6.2	39.4	38.5
	0.89	31.3	32.0	0.1	6.2	37.6	38.3
	2.09	32.7	33.6	0.2	6.2	39.1	40.0
	5.14	33.8	34.0	0.4	6.2	40.4	40.6
	6.11	33.4	33.9	0.4	6.2	40.0	40.5
Serial	0.64	30.6	31.6	0.1	6.2	36.9	37.9
	1.13	32.5	33.1	0.1	6.2	38.8	39.4
	1.93	33.7	33.5	0.2	6.2	40.1	39.9
	4.42	33.2	33.5	0.3	6.2	39.7	40.0
	4.83	32.4	33.6	0.3	6.2	38.9	40.1
	5.79	31.8	33.2	0.4	6.2	38.4	39.8

Note:

1. Sample calculation at

DV Mode 1-end & Gro., 0.56 MHz ; $31.9 + 0.1 + 6.2 = 38.2$ (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.

EXHIBIT # : 3-1
 FCC ID : ACJ927129K
 OUR REF. : MKES99-F021
 MODEL NO. : PV-DV600D

3" LCD Type

Sheet 6 of 16 Sheets

3) 15.109 Radiated Emission

Mode	Freq. (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB) Open Vol.	Emission at 3 meters (DbuV)	
		Horiz.	Vert.		Horiz.	Vert.
DV	108.00	24.1	7.5	13.6	37.7	21.1
	121.50	21.9	6.2	15.4	37.3	21.6
	256.50	16.2	5.5	21.1	37.3	26.6
	337.50	21.3	15.1	19.7	41.0	34.8
	351.00	20.5	15.4	20.0	40.5	35.4
	391.50	16.0	15.8	20.9	36.9	36.7
Serial	108.00	21.8	8.5	13.6	35.4	22.1
	121.50	20.4	6.4	15.4	35.8	21.8
	256.50	15.1	4.7	21.1	36.2	25.8
	337.50	18.6	13.2	19.7	38.3	32.9
	351.00	17.6	14.1	20.0	37.6	34.1
	391.50	17.5	16.3	20.9	38.4	37.2

Note:

1. Sample calculation at

DV Mode Horiz., 108.00 MHz ; 24.1 + 13.6 = 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 - 18 GHz

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.

EXHIBIT # : 3-1
 FCC ID : ACJ927129K
 OUR REF. : MKES99-F021
 MODEL NO. : PV-DV600D

4" LCD Type

Sheet 7 of 16 Sheets

4) 15.109 Radiated Emission

Mode	Freq. (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB) Open Vol.	Emission at 3 meters (DbuV)	
		Horiz.	Vert.		Horiz.	Vert.
DV	108.00	23.8	8.1	13.6	37.4	21.7
	121.50	22.2	6.9	15.4	37.6	22.3
	256.50	15.1	6.1	21.1	36.2	27.2
	337.50	20.8	15.4	19.7	40.5	35.1
	351.00	20.0	14.8	20.0	40.0	34.8
	391.50	15.3	15.1	20.9	36.2	36.0
Serial	108.00	21.6	9.8	13.6	35.2	23.4
	121.50	20.4	6.2	15.4	35.8	21.6
	256.50	15.1	5.1	21.1	36.2	26.2
	337.50	18.2	13.3	19.7	37.9	33.0
	351.00	18.1	14.6	20.0	38.1	34.6
	391.50	17.2	16.5	20.9	38.1	37.4

Note:

1. Sample calculation at

DV Mode Horiz., 108.00 MHz ; $23.8 + 13.6 = 37.4$ (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 - 18 GHz

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.