

MATSUSHITA-KOTOBUKI ELECTRONICS INDUSTRIES LTD.

SAIJO DIVISION

ADDRESS: 〒793-8510 247 FUKUTAKE, SAIJO, EHIME, JAPAN

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Date: Sept. 28, 2000

Report of Measurements (Part I)

REQUIRED IN () SUBPART B (TV INTERFACE DEVICE)

(X) SUBPART B (CLASS B PERIPHERALS)

EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
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 : ACJ927136K
Model No. : PV-DV401D
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

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FCC ID : ACJ927136K

OUR REF. : MKES00-F010

MODEL NO. : PV-DV401D

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

1) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Limits (dBuV)	Interference (dBuV)	
		1-end & Grounded	The other- End & Gro.
0.48	48.0	37.4	38.2
0.64	48.0	34.3	35.4
1.43	48.0	28.6	30.0
3.46	48.0	27.8	29.9
5.64	48.0	32.5	33.1
9.81	48.0	40.6	41.8

(Refer to Sheet 3, 5, 6, 7, 14 of 16 Sheets)

2) 15.109 Radiated Emission

Freq. (MHz)	Limits (dBuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
41.85	43.5	35.4	35.2
108.00	43.5	37.5	35.9
125.55	46.0	38.5	37.2
209.25	46.0	38.5	37.0
376.65	46.0	40.5	37.4
396.00	46.0	40.8	37.8

(Refer to Sheet 4, 8, 9, 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

EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D

Sheet 3 of 16 Sheets

1) 15.107 Power Line Conducted Voltage

Mode	Freq. (MHz)	Meter Reading (dBuV)		LISN Factor (dB)	Interference (dBuV)	
		1-end & Grounded	The other- End & Gro.		1-end & Grounded	The other- End & Gro
DV	0.48	36.9	37.6	0.1	37.0	37.7
	0.64	34.2	35.1	0.1	34.3	35.2
	1.43	29.5	31.5	0.1	29.6	31.6
	3.46	27.4	30.2	0.3	27.7	30.5
	5.64	29.9	31.2	0.4	30.3	31.6
	9.81	39.5	40.8	0.5	40.0	41.3
Serial	0.48	37.3	38.1	0.1	37.4	38.2
	0.64	34.2	35.3	0.1	34.3	35.4
	1.43	28.5	29.9	0.1	28.6	30.0
	3.46	27.5	29.6	0.3	27.8	29.9
	5.64	32.1	32.7	0.4	32.5	33.1
	9.81	40.1	41.3	0.5	40.6	41.8
USB	0.48	36.7	37.7	0.1	36.8	37.8
	0.64	33.8	34.8	0.1	33.9	34.9
	3.46	31.8	32.2	0.3	32.1	32.5
	5.64	31.6	32.5	0.4	32.0	32.9
	9.81	39.6	40.8	0.5	40.1	41.3
	18.00	36.2	36.7	0.7	36.9	37.4

Note:

1. Sample calculation at

DV Mode 1-end & Grounded, 41.85 MHz ; $36.9 + 0.1 = 37.0$ (dBuV/m)

2. Measuring Instruments:

a) Field strength meter

- Kyoritsu Electric Work Co., Ltd.

Model : KNM-2403

(1) Detector function : CISPR Q-Peak

(2) IF band width : 9 kHz

(3) Input impedance : 50 ohms

b) Line impedance stabilized network (LISN)

- Kyoritsu Electric Work CO., Ltd.

Model : KNW-406, KNW-407

50 ohms / 50 uH network

c) Test Signal Generator
(Multi Burst)

- Shibasoku Co., Ltd.

Model : 205

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
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 OUR REF. : MKES00-F010
 MODEL NO. : PV-DV401D

2) 15.109 Radiated Emission

Sheet 4 of 16 Sheets

Mode	Freq. (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB) Open Vol.	Emission at 3 meters (DbuV)	
		Horiz.	Vert.		Horiz.	Vert.
DV	41.85	19.9	19.7	15.5	35.4	35.2
	108.00	24.1	22.5	13.4	37.5	35.9
	125.55	22.9	21.6	15.6	38.5	37.2
	209.25	18.7	17.2	19.8	38.5	37.0
	376.65	21.4	18.3	19.1	40.5	37.4
	396.00	20.8	17.8	20.0	40.8	37.8
Serial	41.85	19.1	17.0	15.5	34.6	32.5
	108.00	23.4	20.4	13.4	36.8	33.8
	125.55	22.3	20.3	15.6	37.9	35.9
	209.25	18.4	17.4	19.8	38.2	37.2
	376.65	21.1	19.9	19.1	40.2	39.0
	396.00	20.0	18.6	20.0	40.0	38.6
USB	41.85	19.5	18.7	15.5	35.0	34.2
	108.00	24.4	23.1	13.4	37.8	36.5
	125.55	22.6	20.6	15.6	38.2	36.2
	209.25	18.5	16.0	19.8	38.3	35.8
	376.65	20.9	19.7	19.1	40.0	38.8
	396.00	20.2	19.2	20.0	40.2	39.2

Note:

1. Sample calculation at

DV Mode Horiz., 41.85 MHz ; $19.9 + 15.5 = 35.4$ (dBuV/m)

2. Measuring Instruments:

a) Field strength meter

- Hewlett Packard company

Model: HP 8546A

(1) Frequency range : 9 kHz to 6.5 GHz

(2) RF Input : 50 ohm

(3) IF band width : 200 Hz/ 9 kHz/ 120 kHz/ 1MHz

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

b) Receiving antenna

- Schwarzbeck

Model: VHA9103

30 - 300 MHz

Model: UHALP9108A

300 - 1000 MHz

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.
 emissions relative to the appropriate limit were measured and reported.

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OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D

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15.107 POWER LINE CONDUCTED VOLTAGE

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

DV Mode



EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
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15.107 POWER LINE CONDUCTED VOLTAGE

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -

(Arrangement of interface cable on the test table)

Serial Mode



EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
Sheet 7 of 16 Sheets

15.107 POWER LINE CONDUCTED VOLTAGE

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -

(Arrangement of interface cable on the test table)

USB Mode



EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
Sheet 8 of 16 Sheets

15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

DV Mode



EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
Sheet 9 of 16 Sheets

15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

DV Mode

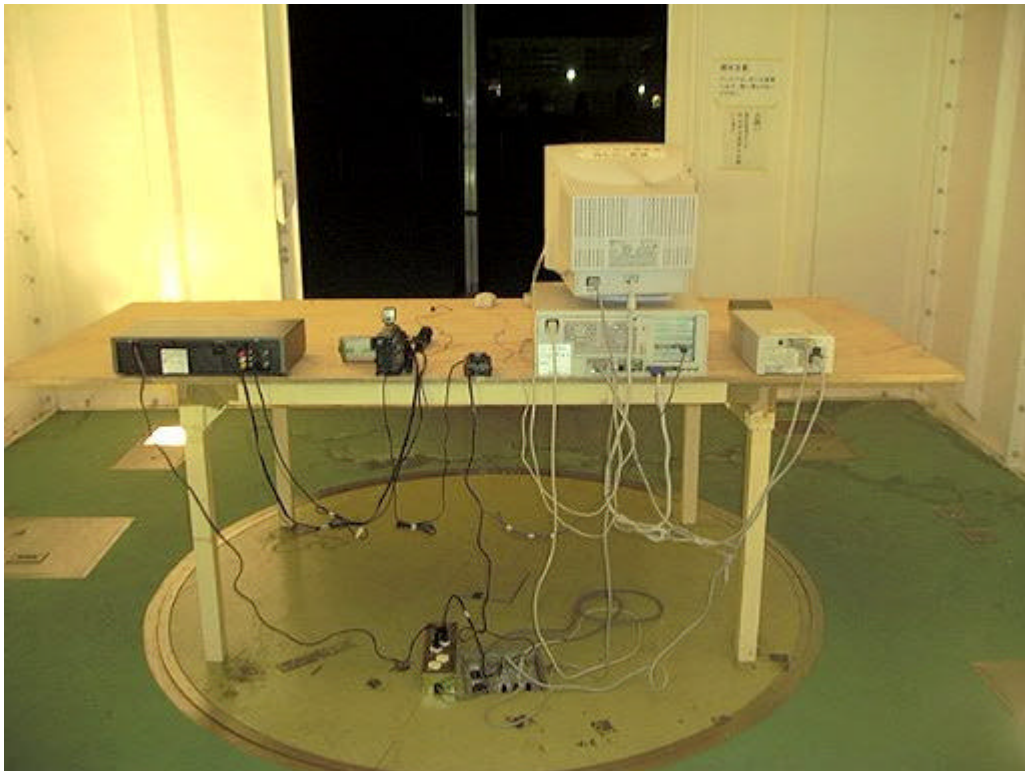


EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
Sheet 10 of 16 Sheets

15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

Serial Mode



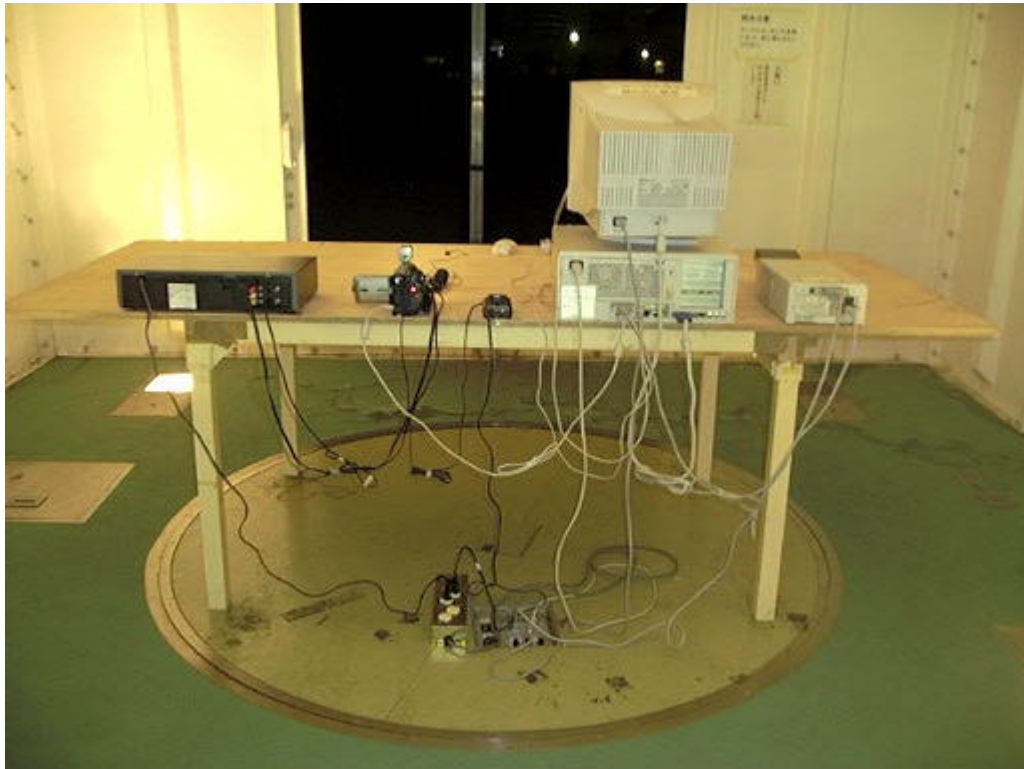
EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
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15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -

(Arrangement of interface cable on the test table)

Serial Mode



FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
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15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -
(Arrangement of interface cable on the test table)

USB Mode



EXHIBIT # : 3-1
FCC ID : ACJ927136K
OUR REF. : MKES00-F010
MODEL NO. : PV-DV401D
Sheet 13 of 16 Sheets

15.109 RADIATED EMISSION

- CONFIGURATION OF THE EQUIPMENT UNDER TEST -

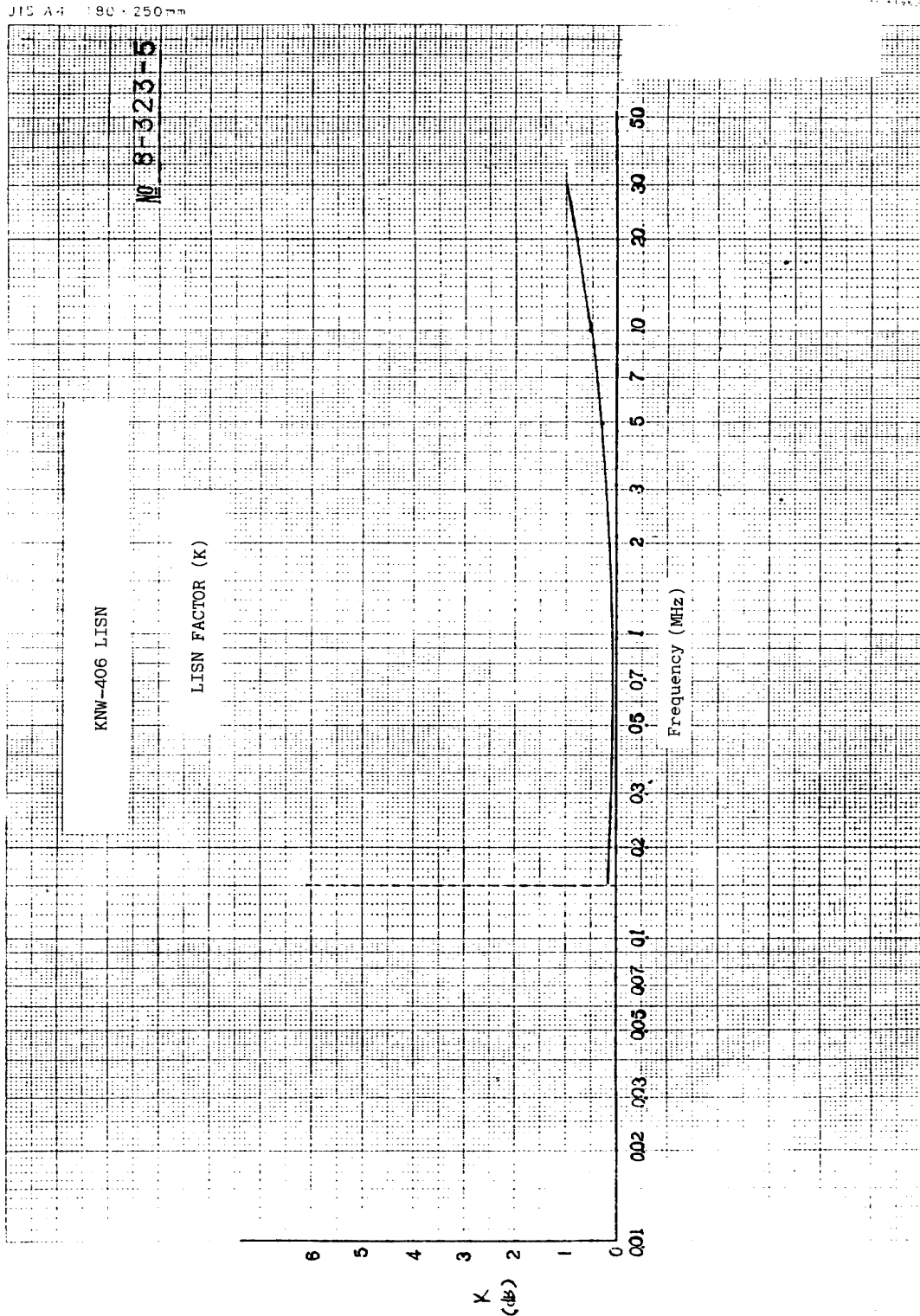
(Arrangement of interface cable on the test table)

USB Mode

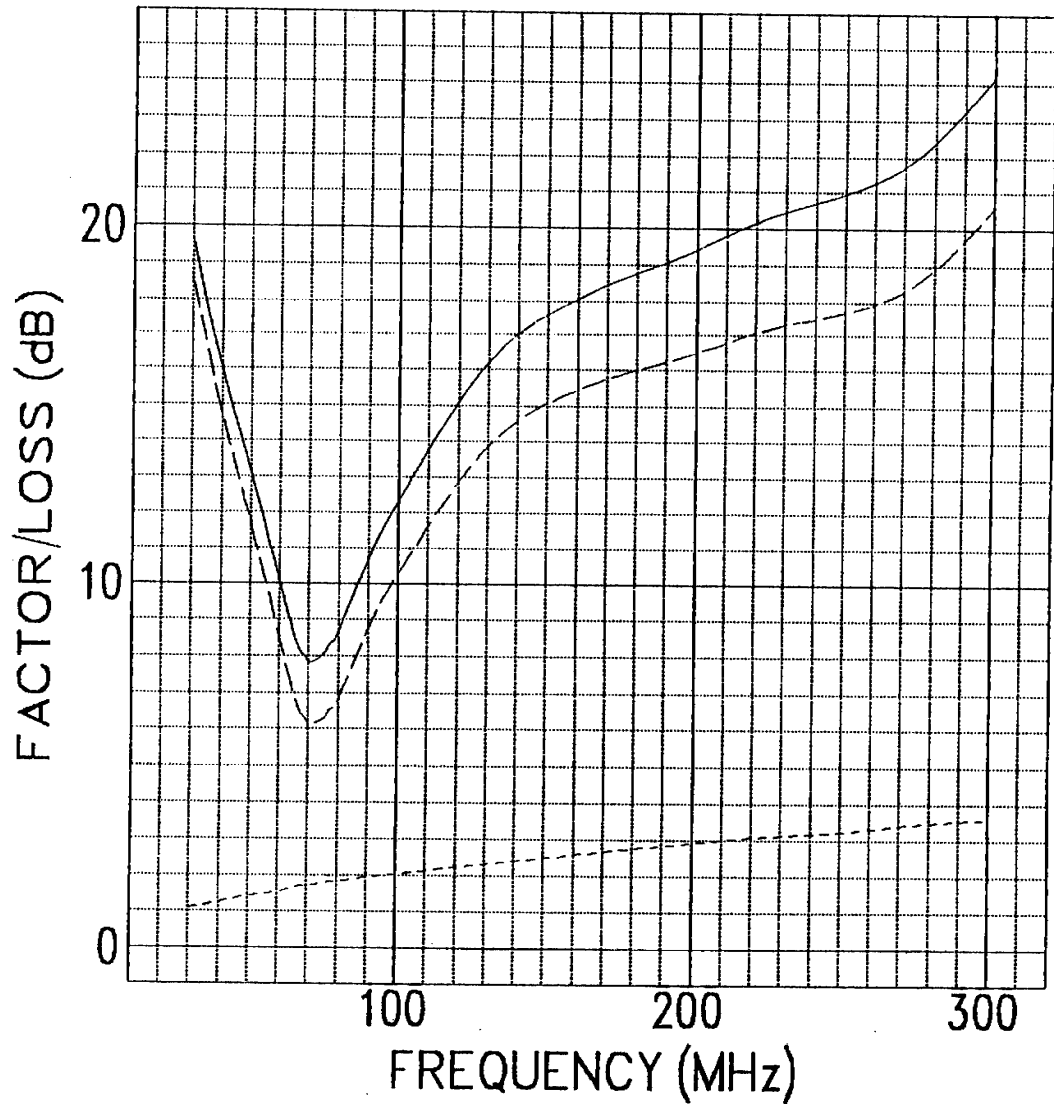


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CORRECTION FACTOR OF BBA9106



$$E = V + K$$

E : Field Strength

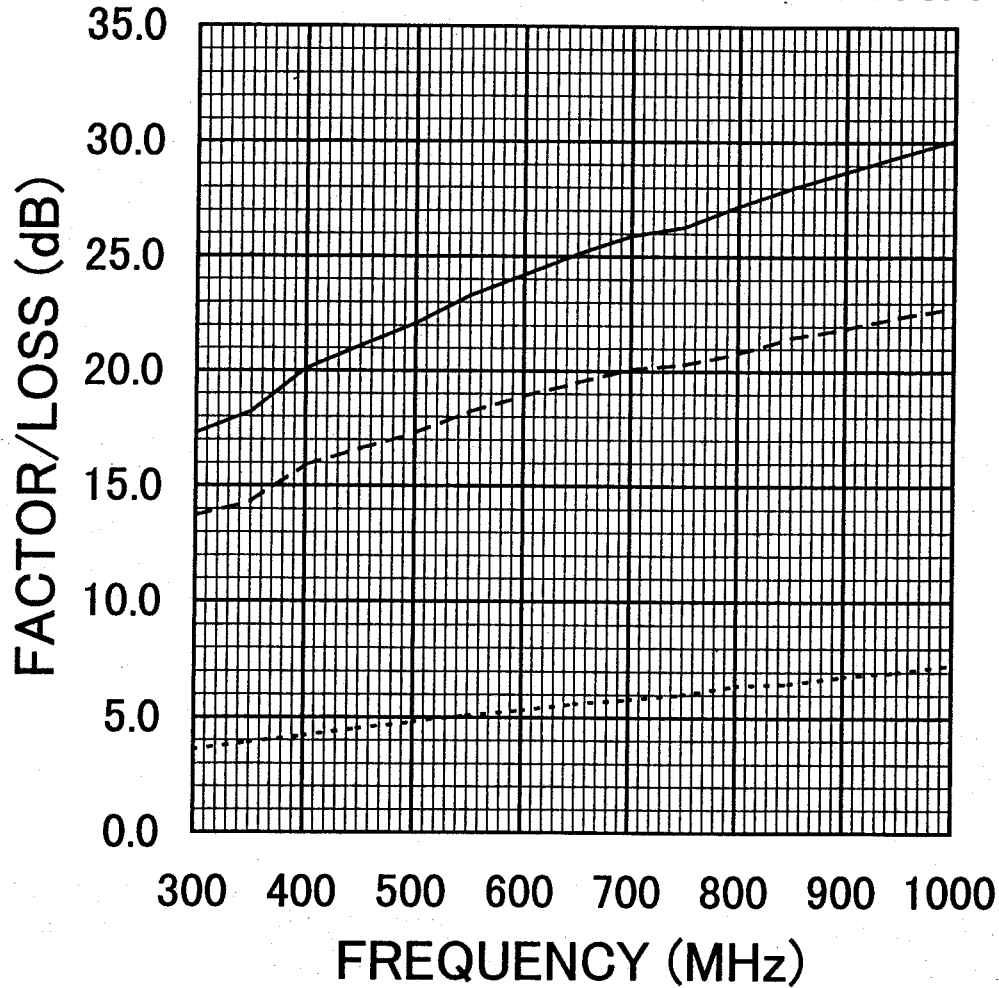
V : Correction Factor (dB)

———— : Correction Factor

----- : Antenna Factor

..... : Cable Loss

CORRECTION FACTOR OF UHALP9108A



$$E = V + K$$

E : Field Strength

V : Correction Factor (dB)

———— : Correction Factor

----- : Antenna Factor

..... : Cable Loss