MATSUSHITA－KOTOBUKI ELECTRONICS INDUSTRIES LTD.
VIDEO DEVELLOPMENT CENTER
ADDRESS: 〒793 247 FUKUTAKE, SAIJO, EHIME, JAPAN
TELEPHONE 0897-56-1111 FAX 0897-56-8142

REPORT OF MEASUREMENTS-(Part I) Date: Nov. 5, 1999
REQUIRED IN (X) SUBPART C (Intentional Radiators : FM Transmitter)
( ) ( )

EXHIBIT # : 3
FCC ID : ACJ927130TX
Our Ref. : MKES99-F023
Model No. : PV-C2080
Sheet 1 of 14 Sheets

Name of Manufacturer: Matsushita-Kotobuki Electronics Industries Ltd.

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

Device Under Measurement
FCC ID : ACJ927130TX
Model No. : PV-C2080
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 afore mentioned 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

K. Ishikawa
Sr. Engineer

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

Part 15 Subpart C. (Intentional Radiators : FM Transmitter)

1) 15.239 (a) Band wide

Output Freq. (MHz)	Limits (kHz)	Band wide (kHz)
88.1	200	119.9
98.1	200	126.5
107.9	200	142.6

(Refer to Sheet 3 of 14 Sheets)

2) 15.107 Power Line Conducted Voltage

Freq. (MHz)	Limits (dBuV)	Interference (dBuV)	
		1-end & Grounded	The other-End & Gro.
0.45	48.0	41.8	34.4
0.60	48.0	38.8	35.5
0.76	48.0	38.2	34.6
0.99	48.0	38.1	34.0
1.05	48.0	38.3	33.8
1.82	48.0	37.2	35.4

(Refer to Sheet 4, 5, 8, 11 of 14 Sheets)

3) 15.209 & 15.239 (b) (c) Radiated Emission

Freq. (MHz)	Limits (dBuV/m)	Emission (dBuV/m)	
		Horiz.	Vert.
107.90	48.0	43.1	44.6
215.80	43.5	15.8	<15.1
323.70	46.0	23.5	20.0
431.60	46.0	20.3	<16.7
539.50	46.0	24.2	20.0
647.40	46.0	33.2	29.9

(Refer to Sheet 6, 7, 9, 10, 12, 13, 14 of 14 Sheets)
MEASUERMENT SITE : MKS SITE
MEASUERMENT PROCEDURE : ANSI C63.4-1992

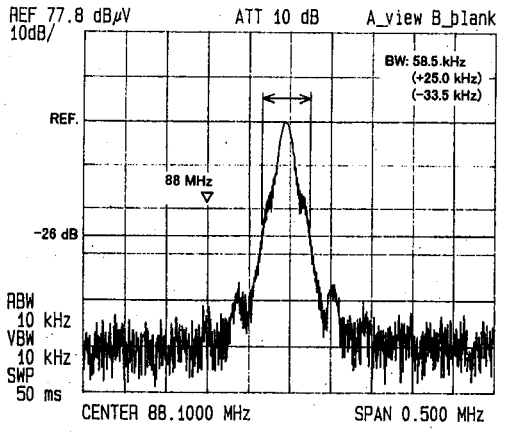
Note:
(1) Detailed report: Refer to attached sheets.
I HEREBY STATE THAT: The measurements shown in Part ll of this form were made in accordance with The procedures indicated and the energy emitted by this equipment was found to be within the limits applicable. I assume full responsibility for the accuracy 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

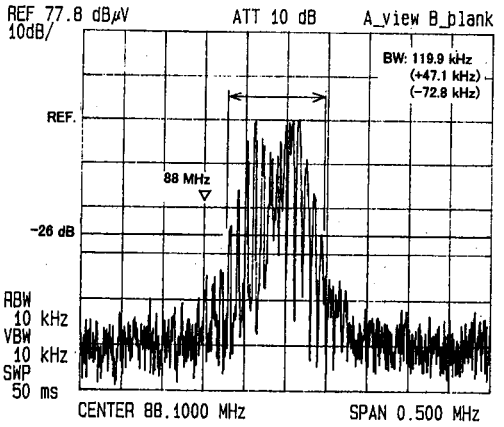
Part 15 Subpart C. (Intentional Radiators : FM Transmitter)
1) 15.239 (a) Band wide

88.1 MHz

No Audio signal

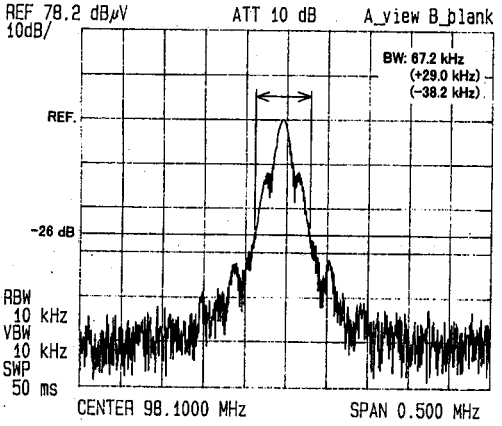


Audio input 1 kHz +8 dBV

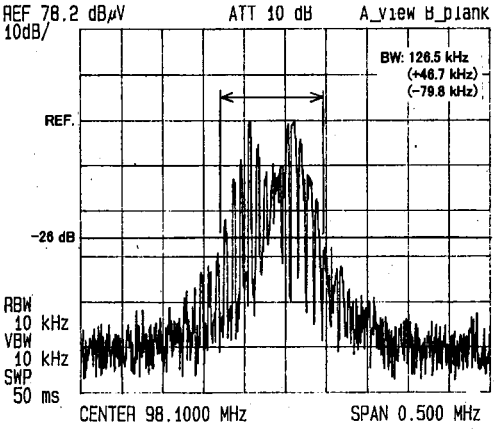


98.1 MHz

No Audio signal

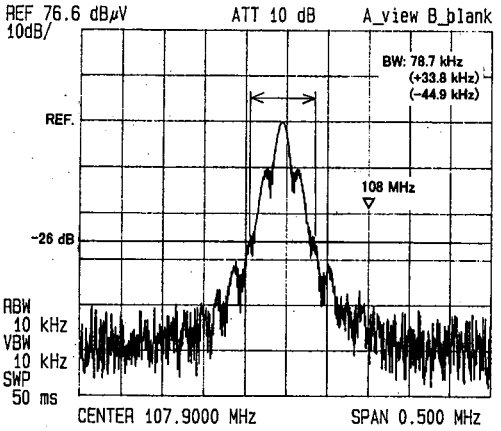


Audio input 1 kHz +8 dBV

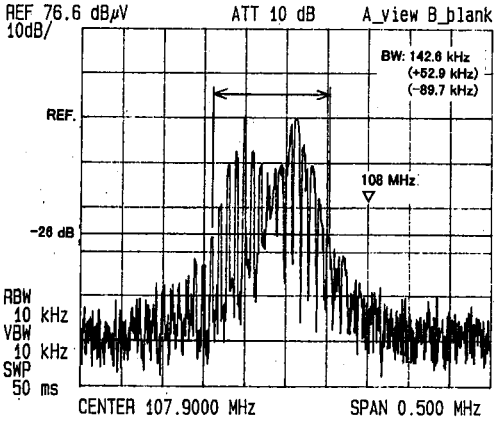


107.9 MHz

No Audio signal



Audio input 1 kHz +8 dBV



Note: Measuring Instruments:

a) Spectrum Analyzer - ADVANTEST Co., Ltd.
Model : R3261A
(1) Frequency range : 9 kHz to 2.6 GHz
(2) RF Input : 50 ohm
(3) IF band width : 30 Hz to 1 MHz
200 Hz/9 kHz/120 kHz
(4) Detector function : CISPR Q-Peak/Peak

b) RC Oscillator - National (Matsushita Communication Industrial Co. Ltd.)
Model : VP-7201A
(1) Output Frequency : 5 Hz to 500 kHz
(2) Output Level : -69.9 dBV to 10 dBV

2) 15.107 Power Line Conducted Voltage
No Audio signal

Output Freq. (MHz)	Freq. (MHz)	Meter Read. (dBuV)		LISN Factor (dB)	Matching Pad Loss (dB)	Interference (dBuV)	
		1-end & Gro.	The other-End&Gro.			1-end & Gro.	The other-End &Gro.
88.1	0.45	35.5	28.1	0.1	6.2	41.8	34.4
	0.60	32.5	29.2	0.1	6.2	38.8	35.5
	0.76	31.9	28.3	0.1	6.2	38.2	34.6
	0.99	31.8	27.7	0.1	6.2	38.1	34.0
	1.05	32.0	27.5	0.1	6.2	38.3	33.8
	1.82	30.8	29.0	0.2	6.2	37.2	35.4
98.1	0.45	35.3	28.0	0.1	6.2	41.6	34.3
	0.60	32.3	29.7	0.1	6.2	38.6	36.0
	0.76	31.9	28.4	0.1	6.2	38.2	34.7
	0.99	32.1	27.5	0.1	6.2	38.4	33.8
	1.05	32.2	27.9	0.1	6.2	38.5	34.2
	1.82	31.2	29.6	0.2	6.2	37.6	36.0
107.9	0.45	35.4	27.9	0.1	6.2	41.7	34.2
	0.60	32.3	30.5	0.1	6.2	38.6	36.8
	0.76	31.6	27.9	0.1	6.2	37.9	34.2
	0.99	31.4	28.9	0.1	6.2	37.7	35.2
	1.05	31.9	27.7	0.1	6.2	38.2	34.0
	1.82	30.7	29.7	0.2	6.2	37.1	36.1

Note:
1. Sample calculation at
Output 88.1 MHz 1-end & Gro. 0.45 MHz ; 35.5 + 0.1 + 6.2 = 41.8 (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
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
Audio Input 1 kHz +8 dBV

Output Freq. (MHz)	Freq. (MHz)	Meter Read. (dBuV)		LISN Factor (dB)	Matching Pad Loss (dB)	Interference (dBuV)	
		1-end & Gro.	The other-End&Gro.			1-end & Gro.	The other-End &Gro.
88.1	0.45	34.5	28.9	0.1	6.2	40.8	35.2
	0.60	31.1	29.8	0.1	6.2	37.4	36.1
	0.76	31.7	28.3	0.1	6.2	38.0	34.6
	0.99	32.2	28.9	0.1	6.2	38.5	35.2
	1.05	31.7	28.1	0.1	6.2	38.0	34.4
	1.82	30.5	26.5	0.2	6.2	36.9	32.9
98.1	0.45	34.8	28.8	0.1	6.2	41.1	35.1
	0.60	31.2	30.0	0.1	6.2	37.5	36.3
	0.76	32.0	28.6	0.1	6.2	38.3	34.9
	0.99	32.3	28.6	0.1	6.2	38.6	34.9
	1.05	32.4	29.3	0.1	6.2	38.7	35.6
	1.82	30.2	26.7	0.2	6.2	36.6	33.1
107.9	0.45	34.0	29.2	0.1	6.2	40.3	35.5
	0.60	31.1	30.1	0.1	6.2	37.4	36.4
	0.76	31.9	28.0	0.1	6.2	38.2	34.3
	0.99	31.7	29.3	0.1	6.2	38.0	35.6
	1.05	32.2	28.4	0.1	6.2	38.5	34.7
	1.82	30.1	27.4	0.2	6.2	36.5	33.8

Note:
1. Sample calculation at
Output 88.1 MHz 1-end & Gro. 0.45 MHz ; 34.5 + 0.1 + 6.2 = 40.8 (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
50 ohms / 50 uH network
c) Matching pad - Kyoritsu Electric Work Co., Ltd.
Model : KPD-401
d) RC Oscillator - National (Matsushita Communication Industrial Co. Ltd.)
Model : VP-7201A
(1) Output Frequency : 5 Hz to 500 kHz
(2) Output Level : -69.9 dBV to 10 dBV

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.

Part 15 Subpart C. (Intentional Radiators : FM Transmitter)

3) 15.209 & 15.239 (b) (c) Radiated Emission

No Audio signal

Output Freq. (MHz)	Frequency (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB)	Emission & 3 meters(dBuV)	
		Horiz.	Vert.	Open Vol.	Horiz.	Vert.
88.1	88.10	29.1	28.9	10.3	39.4	39.2
	176.20	4.4	-1.3	18.6	23.0	17.3
	352.40	8.0	5.7	20.0	28.0	25.7
	440.50	16.2	15.5	22.0	38.2	37.5
	528.60	15.8	16.7	24.2	40.0	40.9
	616.70	2.9	0.1	26.5	29.4	26.6
98.1	98.10	29.3	31.2	12.0	41.3	43.2
	196.20	5.7	-4.1	19.3	25.0	15.2
	392.40	4.4	2.4	20.9	25.3	23.3
	490.50	3.9	5.4	23.3	27.2	28.7
	588.60	-1.2	4.2	25.7	24.5	29.9
	784.80	0.0	<-5.0	29.6	29.6	<24.6
107.9	107.90	29.6	31.1	13.5	43.1	44.6
	215.80	-4.3	<-5.0	20.1	15.8	<15.1
	323.70	4.0	0.5	19.5	23.5	20.0
	431.60	-1.4	<-5.0	21.7	20.3	<16.7
	539.50	-0.3	-4.5	24.5	24.2	20.0
	647.40	6.0	2.7	27.2	33.2	29.9

Note: 1. Sample calculation at
Output 88.1 MHz Horiz. 88.10 MHz ; 29.1 + 10.3 = 39.4 (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 MHz to 300 MHz
Model : UHALP9107 300 MHz to 1000 MHz
- The Electro-Mechanics Company
Model : 3115 1 GHz to 18 GHz

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.

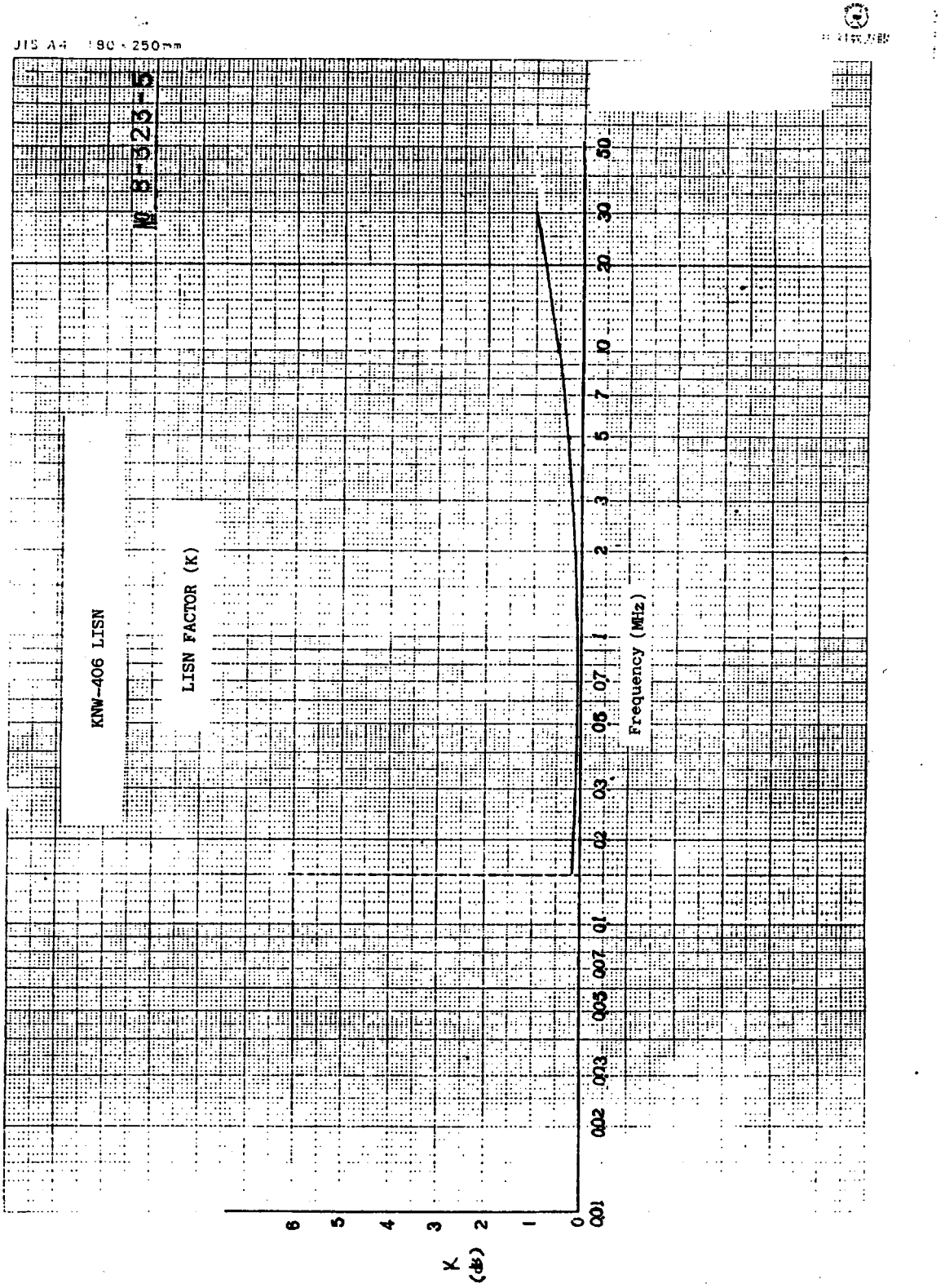
3) 15.209 & 15.239 (b) (c) Radiated Emission
Audio Input 1 kHz +8 dBV

Output Freq. (MHz)	Frequency (MHz)	Meter Reading Open Volt. (dBuV)		Correction Factor (dB)	Emission & 3 meters(dBuV)	
		Horiz.	Vert.	Open Vol.	Horiz.	Vert.
88.1	88.10	27.7	27.8	10.3	38.0	38.1
	176.20	3.5	-1.5	18.6	22.1	17.1
	352.40	7.6	6.0	20.0	27.6	26.0
	440.50	14.5	12.8	22.0	36.5	34.8
	528.60	13.9	14.6	24.2	38.1	38.8
	616.70	1.5	-0.5	26.5	28.0	26.0
98.1	98.10	28.7	30.5	12.0	40.7	42.5
	196.20	4.9	<-5.0	19.3	24.2	<14.3
	392.40	3.9	0.5	20.9	24.8	21.4
	490.50	3.3	3.9	23.3	26.6	27.2
	588.60	-1.4	2.6	25.7	24.3	28.3
	784.80	-1.2	<-5.0	29.6	28.4	<24.6
107.9	107.90	28.8	29.5	13.5	42.3	43.0
	215.80	<-5.0	<-5.0	20.1	<15.1	<15.1
	323.70	3.1	0.3	19.5	22.6	19.8
	431.60	-1.7	<-5.0	21.7	20.0	<16.7
	539.50	-1.3	<-5.0	24.5	23.2	<19.5
	647.40	3.4	0.8	27.2	30.6	28.0

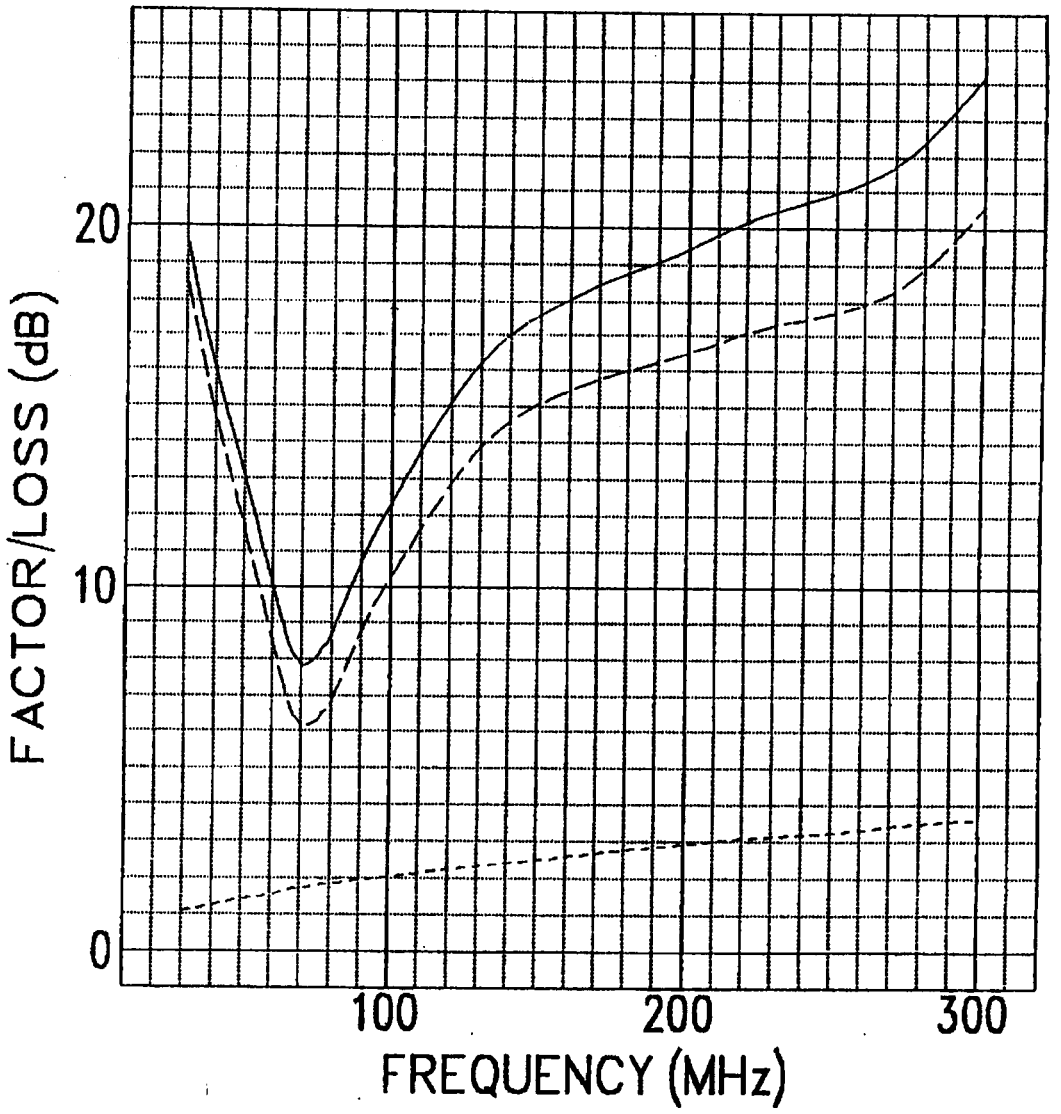
Note: 1. Sample calculation at
Output 88.1 MHz Horiz. 88.10 MHz ; 27.7 + 10.3 = 38.0 (dBuV/m)

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/ 120k Hz/ 1MHz
(4) Detector function : Average/CISPR Q-Peak/Peak
b) Receiving antenna - Schwarzbeck
Model : VHA9103 30 MHz to 300 MHz
Model : UHALP9107 300 MHz to 1000 MHz
- The Electro-Mechanics Company
Model : 3115 1 GHz to 18 GHz
c) RC Oscillator - National (Matsushita Communication Industrial Co. Ltd.)
Model : VP-7201A
(1) Output Frequency : 5 Hz to 500 kHz
(2) Output Level : -69.9 dBV to 10 dBV

3. The spectrum was checked from 30 MHz to 1694 MHz and the six highest emissions relative to the appropriate limit were measured and reported.


JIS A4 180×250mm
No 8-323-5
KNW-406 LISN
LISN FACTOR (K)
Frequency (MHz)
K (dB)

CORRECTION FACTOR OF BBA9106



E = V + K

E : Field Strength

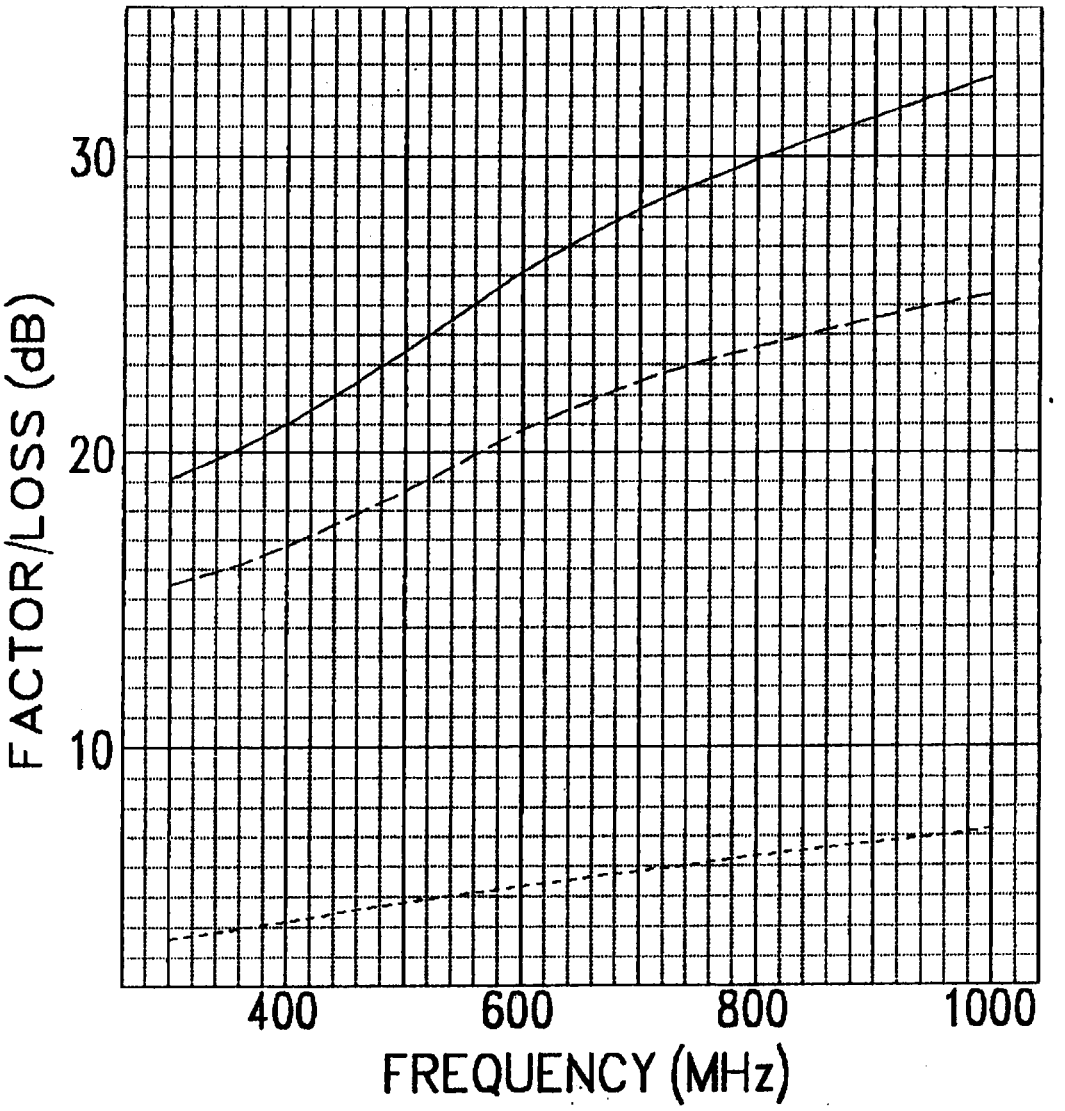
V : Correction Factor (dB)

——— : Correction Factor

– – – – : Antenna Factor

-------- : Cable Loss

CORRECTION FACTOR OF UHALP9107



E = V + K

E : Field Strength

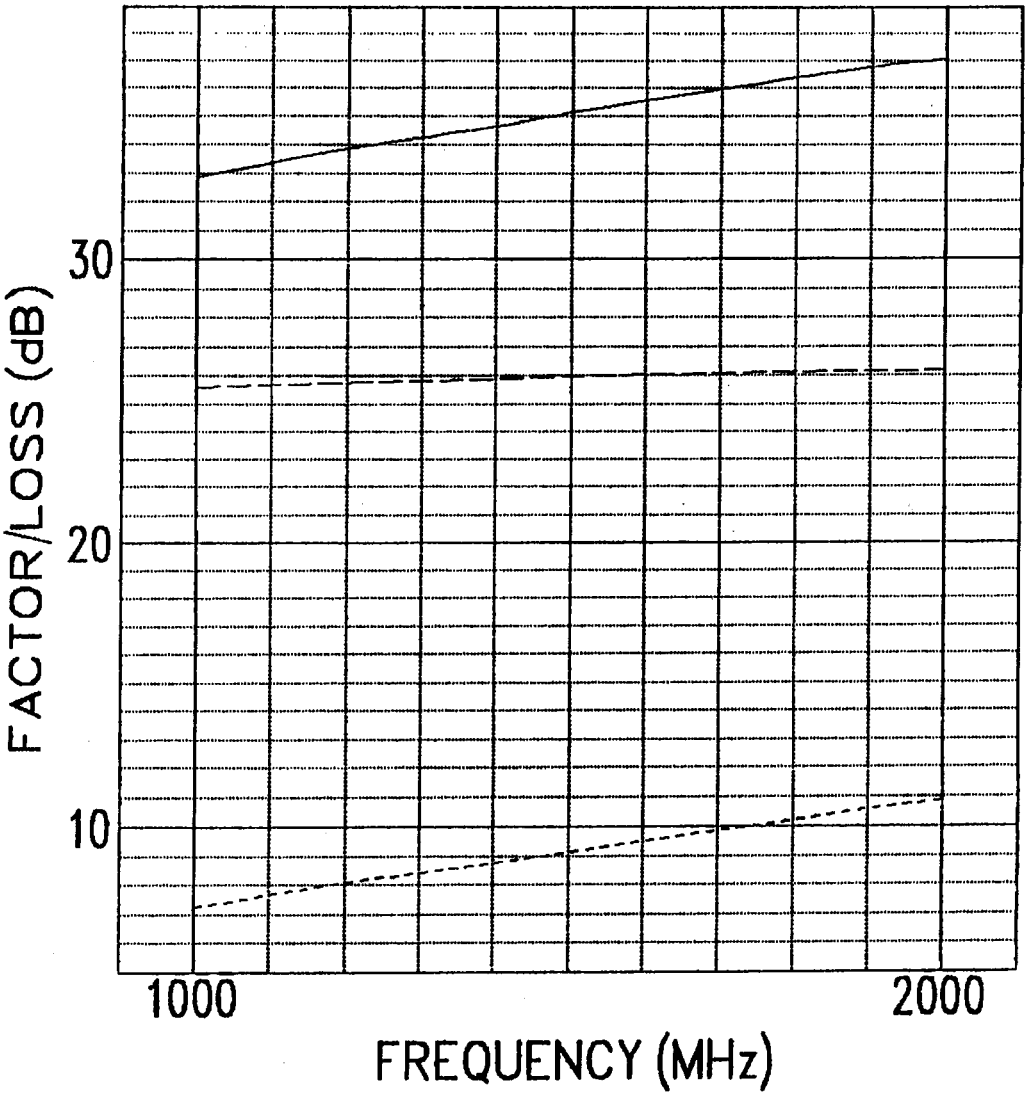
V : Correction Factor (dB)

——— : Correction Factor

– – – – : Antenna Factor

-------- : Cable Loss

CORRECTION FACTOR OF 3115



E = V + K

E : Field Strength

V : Correction Factor (dB)

——— : Correction Factor

– – – – : Antenna Factor

-------- : Cable Loss