MEASUREMENT/TECHNICAL REPORT

MODEL No. : KX-DP603

FCC ID : ACJKMSCKX-DP603

November 6, 1998

This report concerns : Original grant ___X___ Class change _____ Equipment type : Camera Unit for Video Teleconference System
Request issue of grant : _X_ Immediately upon completion of review. ____ Defer grant per 47 CFR 0.457(d)(1)(ii) until ____ date _____.
Measurement procedure used : ANSI C63.4-1992 _X_ FCC/OETMP-4(1987) ____ Other _____ If other, describe _____
Application for Certification : FCC Rules and Regulations Part 15 subpart B Prepared by : Name : Michihito Miyazaki Company : Kyushu Matsushita Electric Co., Ltd. Address : 1-62, 4-chome, Minoshima, Hakata-ku, Fukuoka 812, Japan Phone Number : +81-92-477-1286 FAX Number : +81-92-477-1487 E-mail address : PAN44784@pios.kme.mei.co.jp

Table of Contents

1. GENERAL INFORMATION

1.1 Product Description

The model KX-DP603 (referred to as the EUT in this report) is a Camera Unit is used for Video Teleconference System. There are 3 type of the camera unit in accordance with customer requirement. The differences between basic model KX-DP603 & KX-DP602 and similar model KX-DP601 are as follows.

Items	Basic Model KX-DP603	Similar Model KX-DP602	Similar Model KX-DP601
I/F Terminal	• AC Adapter plug • 1033Camera control (with 12 DC IN) • Video • S-Video	• AC Adapter plug • 1033Camera control (with 12 DC IN) • Video • S-Video	• 1033Camera control (with 12 DC IN) • S-Video
Mian/Aux SW	exist	exist	none
AC Adapter	provided	none	none

The subject models have Power Switch, Main/Aux Switch(KX-DP602 and KX-DP603 only), AC Adapter plug terminal(KX-DP602 and KX-DP603 only), Camera control terminal with 12 DC IN (KX-DP602 and KX-DP603 only), Video out terminal (KX-DP602 and KX-DP603 only), S-Video out terminal and also contain 2 CPU, CCD, Camera DSP, Video AMP, DC/DC converter circuit, PAM Motor Driver, Tilt Motor Driver, Auto Focus Lens Drive circuit, 3 IR Receive IC.
Provided with AC adapter with 1.8m DC cable with 1 bonded ferrite core.

1.2 Tested System Details

The FCC IDs for all equipment, plus descriptions of all cables used in the tested system are:

Model No./ Serial No.	FCC ID	Description	Cable Description
KX-DP603	ACJKMSCKX-DP603	Camera Unit (EUT)	
OptiolexGXL5100/ SONH8	E2KSTNGRD	Personal Computer	Unshielded AC cord
SK-D100M/ M9601-002312	GYUR93SK	Keyboard	----------
Mouse Port Compatible Mouse 2.0A/00860413	C3KSMP1	Mouse	Shielded mouse cable
PCVD1000/ CUU18	EJMAM750AT2	Video Capture Board	----------
D1526TX-HS/ 09843B00PJ16	AK8CPD15SF1	Monitor	Unshielded AC cord, Shielded cable with 1 ferrite core,
KX-P2135/ 4HMCNB85276	ACJ5Z6KX-P2130	Printer	Unshielded AC cord, Shielded cable with 1 ferrite core,
AG-W1P/ F6TC00317	N/A	VCR	Unshielded AC cord, shielded AV cable
PBALA0001XA	N/A	AC adapter for Camera Unit (EUT)	shielded DC cord With Ferrite Core

3. SYSTEM TEST CONFIGURATION

3.1 Justification

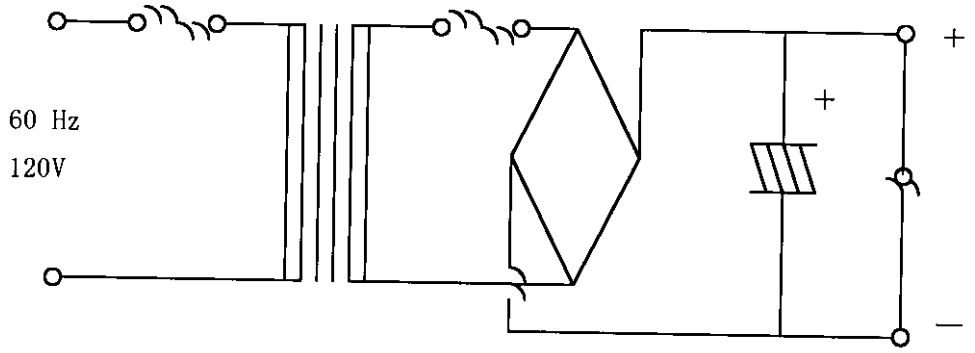
The system was configured for testing in a typical fashion (as a customer would normally used it).
The only inserted I/O card is the video capture board to personal computer.
The testing of Camera was done under standby and PAN/TILT modes and reported worst mode.

3.2 Configuration of Tested System

Configuration of tested system is shown in figure 3.1

4.2 AC Adapter Circuit Description

Figure 4.3 AC Adapter Circuit Description of Model No. PBALA0001XA



5. CONDUCTED AND RADIATED MEASUREMENT PHOTOS

Refer to Attachment A.

6. CONDUCTED EMISSION DATA

Refer to Attachment A.

7. RADIATED EMISSION DATA

Refer to Attachment A.

8. PHOTOS OF TESTED EUT

Fig. 8.1 Front View
Fig. 8.2 Rear View of Basic Model KX-DP603 and KX-DP602
Fig. 8.3 Rear View of Similar Model KX-DP601
Fig. 8.4 Top Cover Removed
Fig. 8.5 Top Cover Removed
Fig. 8.6 Top Cover Removed
Fig. 8.7 Top Cover Removed
Fig. 8.8 Top Cover Removed
Fig. 8.9 Top Cover Removed
Fig. 8.10 Top Cover Removed
Fig. 8.11 CCD Board, Component and Foil Side
Fig. 8.12 Video Board, Component and Foil Side
Fig. 8.13 CPU Board, Component and Foil Side
Fig. 8.14 AF Board, Component and Foil Side
Fig. 8.15 Base Board, Component Side
Fig. 8.16 Base Board, Foil Side
Fig. 8.17 Top View of AC Adapter

Attachment A. Measurement Report of Class B Digital Device
Attachment B. Draft of Operating Instruction Book for User Information

Attachment A. Measurement Report of Class B Digital Device

Issue Date : October 26, 1998

EMI Test Report No.: TR98-0515I

EMI TEST REPORT

CLASS B

INFORMATION TECHNOLOGY EQUIPMENT (ITE)

Model No. : **KX-DP603**

FCC I/D : **ACJKMSCKX-DP603**

KME

KME EMC TESTING LABORATORY

Issue Date : October 26, 1998

Kyushu Matsushita Electric Co., Ltd. (K M E)
Corporate Quality Assurance Division (C Q A D)

1471 , Murata-cho, Tosu-shi,
Saga-ken 841-8501, Japan TEL 0942-83-3131

Table of Contents

Kyushu Matsushita Electric Co., Ltd.
KME EMC TESTING LABORATORY
1471, Murata-cho, Tosu-shi,
Saga-ken, 841-8501 JAPAN
TEL 0942-83-3131
FAX 0942-81-2794

EMI TEST REPORT ON ITE

1. Applicant : Kyushu Matsushita Electric Co., Ltd.
   1-62, 4-Chome, Minoshima
   Hakata-Ku, Fukuoka, 812-8531 Japan

   Manufactuer : Kyushu Matsushita Electric Co., Ltd.
   System Communication Division
   1-62, 4-Chome, Minoshima
   Hakata-ku, Fukuoka, 812-8531 Japan

2. Description of Device : CAMERA UNIT
   a) Type of EUT : Desk-top Type
   b) Category : **CLASS B**
   c) FCC I/D : **ACJKMSCKX-DP603**
   d) Trade Name : ---
   e) Model No. : **KX-DP603 With PBALA0001XA**
   f) Serial No. : None.
   g) Date of Manufacture : September 1998
   h) Power Supply : DC12V, 1100mA (AC Adapter)

3. Date of Receipt and Measurement : **October** 20, **1998**
4. Regulations Applied : FCC Rules and Regulations Part 15 Subpart B-Unitentional Radiators.
5. Measurement Procedure : ANSI C63.4-1992
6. Place of Measurement : Kyushu Matsushita Electric Co., Ltd.
   KME EMC SAGA SITE
7. Facility Number : (FCC) 31040/SIT/KYUSHU
8. Measurement Results
   The results obtained from the measuring of the above-mentioned device are as shown in the attached sheets.
   This results in this report apply only to the sample(s) tested.

October 26, 1998

Chikito Kuwano C. Kuwano
Quality Manager

KME

[1] TEST RESULT

* TEST CONDITION OF EQUIPMENT UNDER TEST (EUT)

1) Configuration of EUT : Refer to the sheet No.6,7,8,9,10
2) Operating Condition : Stand by mode,Pan/Tilt mode
3) EUT Grounding : Grounded at the plugged of the line cord
4) Power Rating : 120VAC 60Hz

1-1 RADIATED EMISSION MEASUREMENTS [30M-1GHz][FCC Part 15](CLASS B)

[Test Site : Open Area Test Site]

* TEST CONDITION OF INSTRUMENT EUT Warm-up Time : 30 minutes

1) Resolution Bandwidth : 120kHz DATA : October 20, 1998
2) Detector Function : QP(30-1000MHz) Temp.: 23 ℃ Humi.: 75 %

Stand by mode

EMISSION FREQUENCY (MHz)	ANTENNA POLARITY (H,V)	METER READING at 3 m (dBμV)	ANTENNA FACTOR AND PREAMPGAIN (dB)	EMISSION LEVEL at 3m (dBμV/m)	FCC CLASS B LIMIT (dBμV/m)
47.421	V	50.1	-20.3	**29.8**	40
59.942	V	53.2	-18.7	**34.5**	40
70.138	H	51.5	-17.7	**33.8**	40.0
99.662	H	55.3	-15.9	**39.4**	43.5
132.928	H	49.9	-10.6	**39.3**	43.5
166.191	V	45.6	-10.5	**35.1**	43.5
199.427	H	48.9	-8.5	**40.4**	43.5
232.546	H	37.8	-7.3	**30.5**	46
264.021	H	45.4	-5.3	**40.1**	46
274.992	H	47.6	-4.6	**43.0**	46
321.164	H	28.4	-5.2	**23.2**	46
400.013	V	39.2	-1.6	**37.6**	46
528.064	H	28.6	1.2	**29.8**	46
731.260	V	33.1	6.5	**39.6**	46
924.996	V	24.5	9.9	**34.4**	46

Tested by : S. Mori

NOTES:1) The cable loss is included into the antenna factor and pre-amp gain.

2) Sample of calculation at 47.421 MHz

50.1 (dBμV) -20.3 (dB) =29.8 (dBμV/m)

Reviewed by : M. Horie M. Horie

1-2 AC POWERLINE CONDUCTED MEASUREMENTS(0.45M-30MHz)[FCC Part15](CLASS B)

[Test Site : Shielded Room]

* TEST CONDITION OF INSTRUMENT
1) Resolution Bandwidth : 9 kHz
2) Detector Function : QP

EUT Warm-up Time : 30 minutes
DATE : October 20, 1998
Temp.: 24 ℃ Humi.: 45 %

Pan/Tilt mode

	EMISSION FREQUENCY (MHz)	METER READING (dBμV)	LISN FACTOR (dB)	EMISSION LEVEL (dBμV)	FCC CLASS B LIMIT (dBμV)
Va	0.4500	30.9	-0.1	**30.8**	47.9
	0.6296	22.3	0.0	**22.3**	47.9
	1.8790	8.2	0.0	**8.2**	47.9
	3.5800	30.3	0.1	**30.4**	47.9
	5.0410	20.1	0.1	**20.2**	47.9
	7.2960	19.2	0.2	**19.4**	47.9
	16.0040	21.3	0.6	**21.9**	47.9
	23.8990	22.8	0.9	**23.7**	47.9
Vb	0.4500	30.9	-0.1	**30.8**	47.9
	0.6296	21.8	0.0	**21.8**	47.9
	1.8790	7.2	0.0	**7.2**	47.9
	3.5800	34.6	0.1	**34.7**	47.9
	5.0410	20.0	0.1	**20.1**	47.9
	7.2960	18.1	0.2	**18.3**	47.9
	16.0040	18.6	0.6	**19.2**	47.9
	23.8990	25.4	0.9	**26.3**	47.9

Tested by : S. Mori

NOTES:1) LISN factor includes the cable loss for 5 meter.

2) **Sample of calculation at 0.4500 MHz**
30.9 (dBμV) -0.1 (dB)= 30.8 (dBμV)

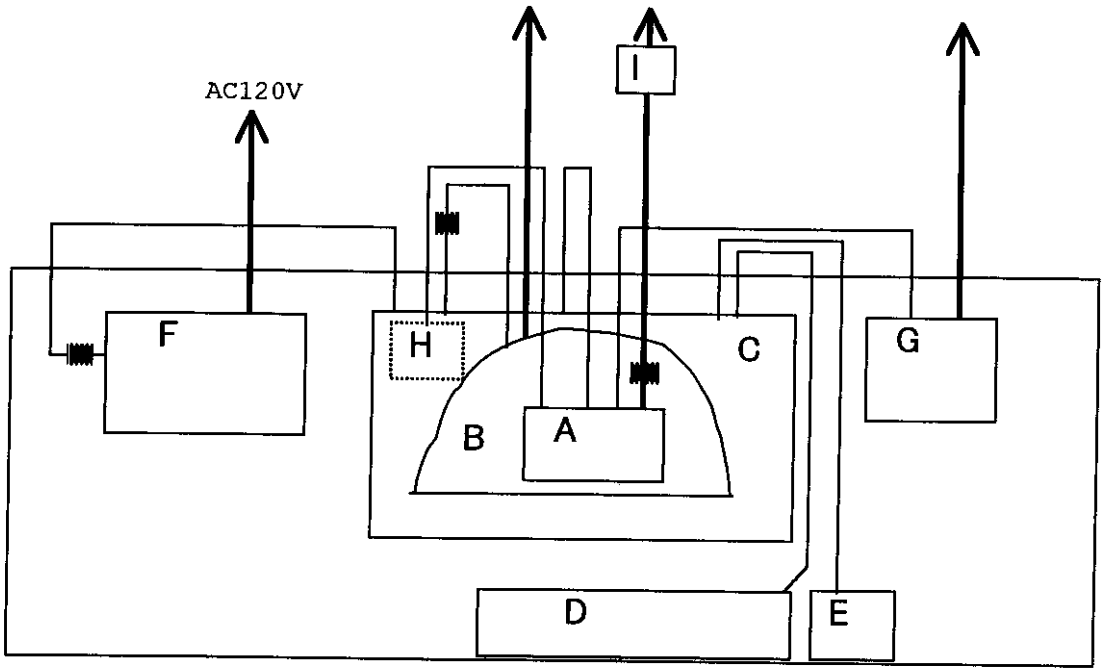
Reviewed by : M. Horie M. Horie

[2]DESCRIPTION OF THE TEST EQUIPMENT

2-1 The equipment under test (EUT)

Configuration of EUT

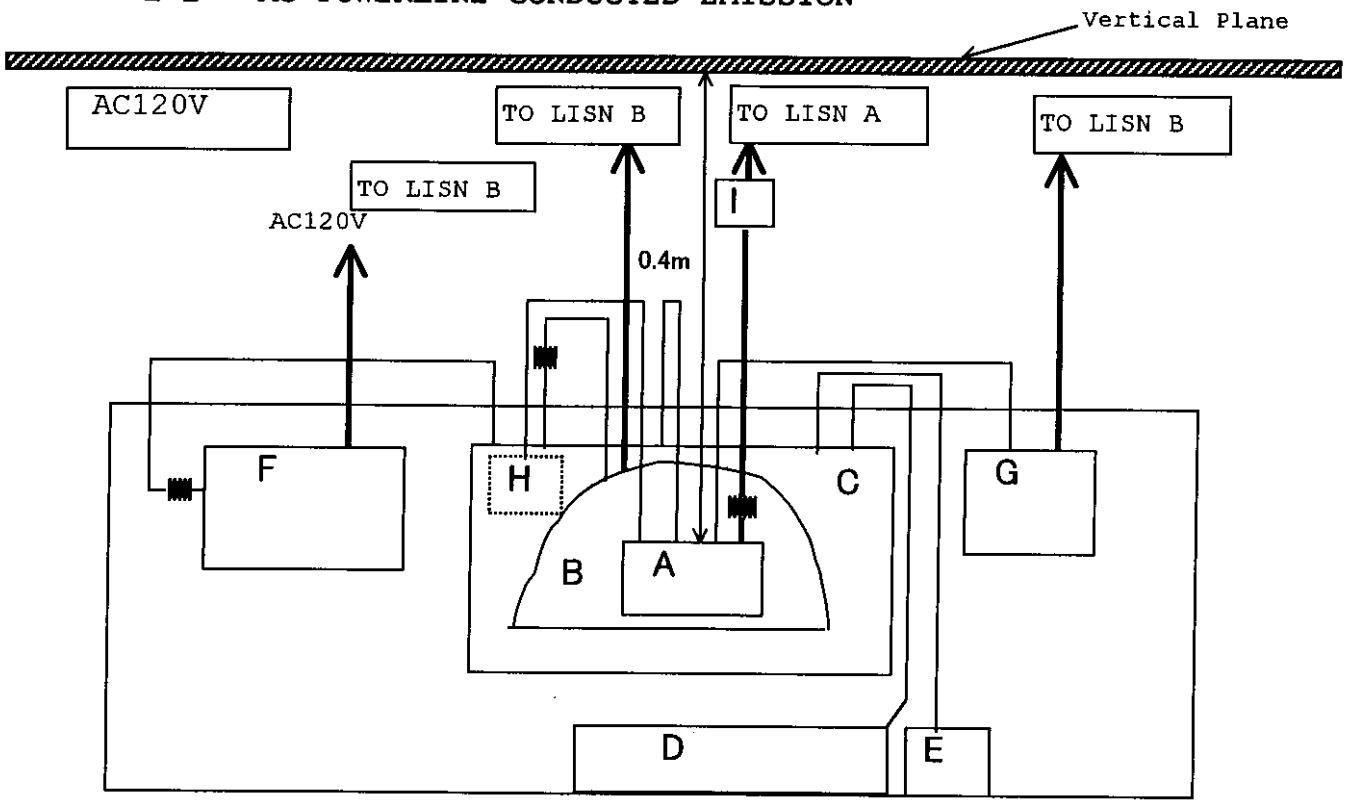
RADIATED EMISSION



■:Ferrite core

		Model No.[Manufacture]	Serial No.	FCC ID
A	Camera Unit [EUT]	KX-DP603	---	ACJKMSCKX-DP603
I	AC Adaptor	PBALA0001XA[Tamura]	---	---
B	CRT Display	D1526TX-HS[DELL]	2003000	AK8CPD15SF1
C	Personal Computor	Optiplex GXL5100 [DELL]	SONH8	E2KSTNGRD
D	Key Board	SK-D100M[DELL]	M9601-002312	GYUR93SK
E	Mouse	Mouse Port Compatible Mouse 2.0A[DELL]	00860413	C3KSMP1
F	Dot Printer	KX-P2135[Panasonic]	4HMCNB85276	ACJ5Z6KX-P2130
G	VCR	AG-W1-P[Panasonic]	F6TC00317	EJMAM750AT2
H	Video Capture Board	PCVD1000[Intel]	CUU18	EJMAM750AT2

2-2 AC POWERLINE CONDUCTED EMISSION



■:Ferrite core

		Model No.[Manufacture]	Serial No.	FCC ID
A	Camera Unit [EUT]	KX-DP603	---	ACJKMSCKX-DP603
I	AC Adaptor	PBALA0001XA[Tamura]	---	---
B	CRT Display	D1526TX-HS[DELL]	2003000	AK8CPD15SF1
C	Personal Computor	Optiplex GXL5100 [DELL]	SONH8	E2KSTNGRD
D	Key Board	SK-D100M[DELL]	M9601-002312	GYUR93SK
E	Mouse	Mouse Port Compatible Mouse 2.0A[DELL]	00860413	C3KSMP1
F	Dot Printer	KX-P2135[Panasonic]	4HMCNB85276	ACJ5Z6KX-P2130
G	VCR	AG-W1-P[Panasonic]	F6TC00317	EJMAM750AT2
H	Video Capture Board	PCVD1000[Intel]	CUU18	EJMAM750AT2

2-3 Type of Interface Cables

[Main Frame]	[Peripheral]		[Length]	Number
Camera Unit (EUT)(A) ----	Personal Conputor(C)	Metalic Hoods, Shielded Circular Cable	1.5 m	1
Camera Unit (EUT)(A) ----	AC Adaptor(I)	Plastic Hoods, Shielded Circular Cable (Ferrite core at the end of the cable)	1.8 m	1
Camera Unit (EUT)(A) ----	Personal Conputor(C)	Metalic Hoods, Shielded Circular Cable	1.5 m	1
Camera Unit (EUT)(A) ----	VCR(G)	Metalic Hoods, Shielded Circular Cable	1.5 m	1
Personal Computor(C) ----	Dot Printer (F)	Metalic Hoods, Shielded Circular Cable (Ferrite core at the end of the cable)	2.4 m	1
Personal Computor(C) ----	CRT Display (B)	Metalic Hoods, Shielded Circular Cable (Ferrite core at the end of the cable)	1.45 m	1
Personal Computor(C) ----	Key Board(D)	Metalic Hoods, Shielded Circular Cable	1.2 m	1
Personal Computor(C) ----	Mouse(E)	Metalic Hoods, Shielded Circular Cable	1.9 m	1

2.3-1 Type of AC Powerline Cables

[Main Frame]	[Peripheral]	[Length]	Number
CRT Display(B) ----	Plastic Hoods, Unshielded Circular Cable	1.9 m	1
Personal Computor(C) ---------	Plastic Hoods, Unshielded Circular Cable	1.8 m	1
Dot Printer(F) ----	Plastic Hoods, Unshielded Circular Cable	1.3 m	1
VCR(G) ----------	Plastic Hoods, Unshielded Circular Cable	1.8 m	1

2.3-2 TEST OPERATION CONDITION OF KX-DP603

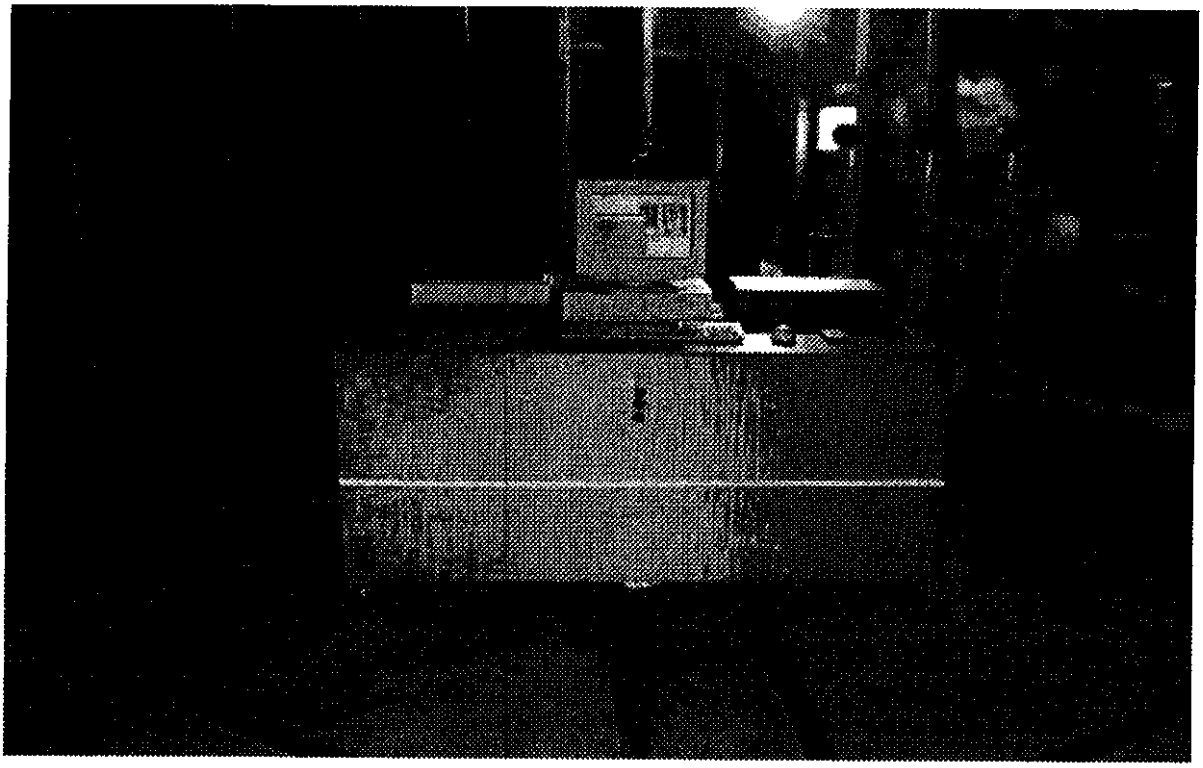
PAN/TILT Mode comand data are transferred from Computer to EUT (Camera Unit)

↓

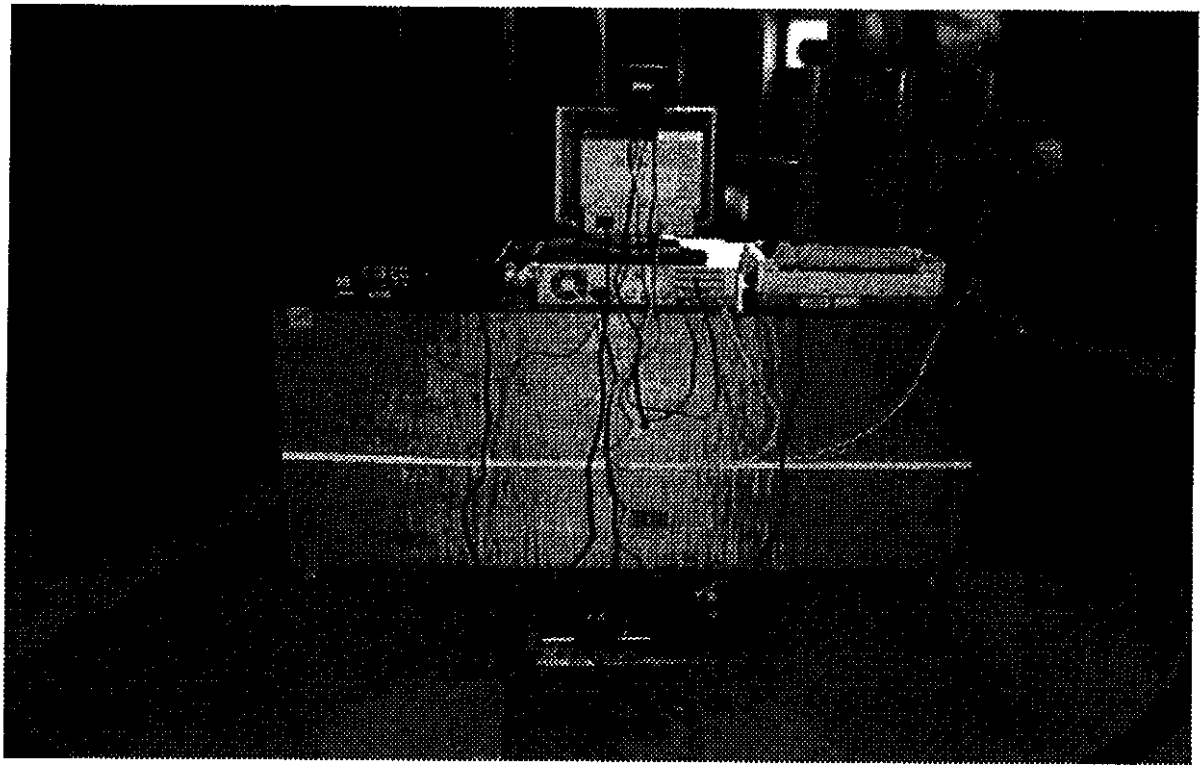
Panning, Tilying and Zooming of Camera Unit are driven Cotinuously.

[3] PHOTOGRAPHS OF THE TEST SET-UP

3-1 RADIATED EMISSION MEASUREMENTS [Open Area Test Site]

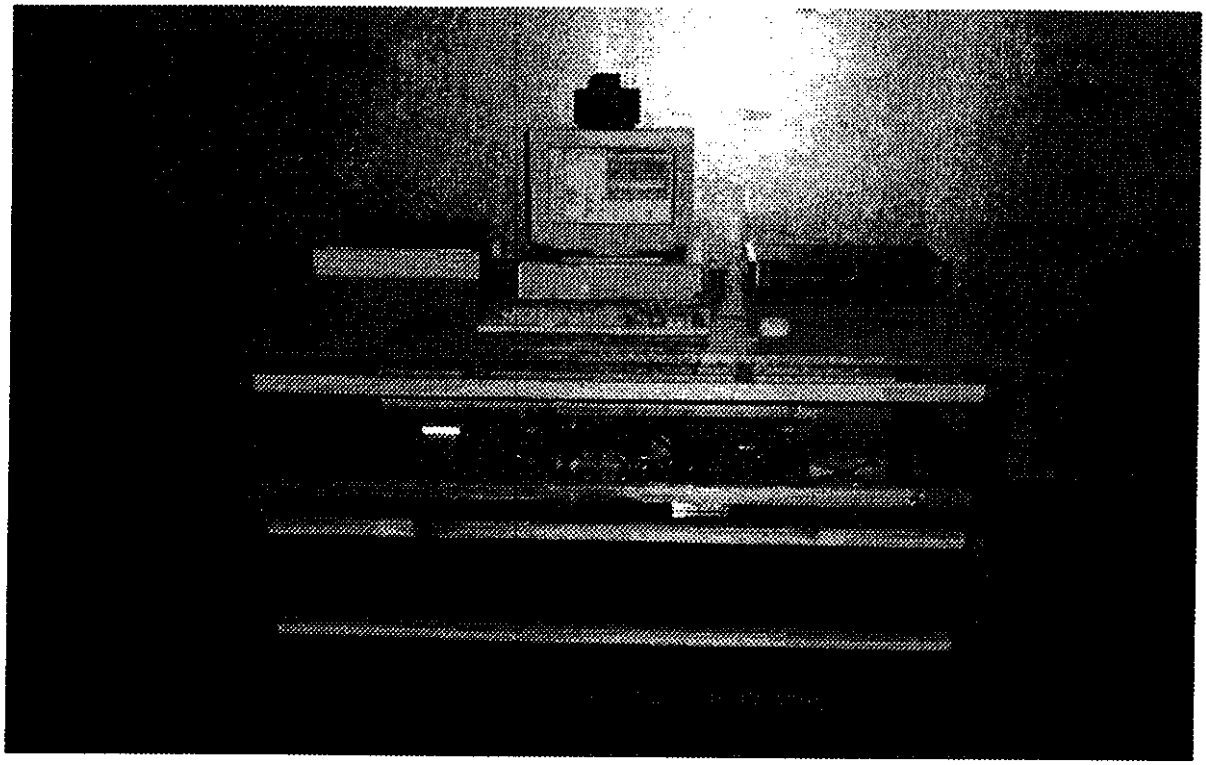


(Front)

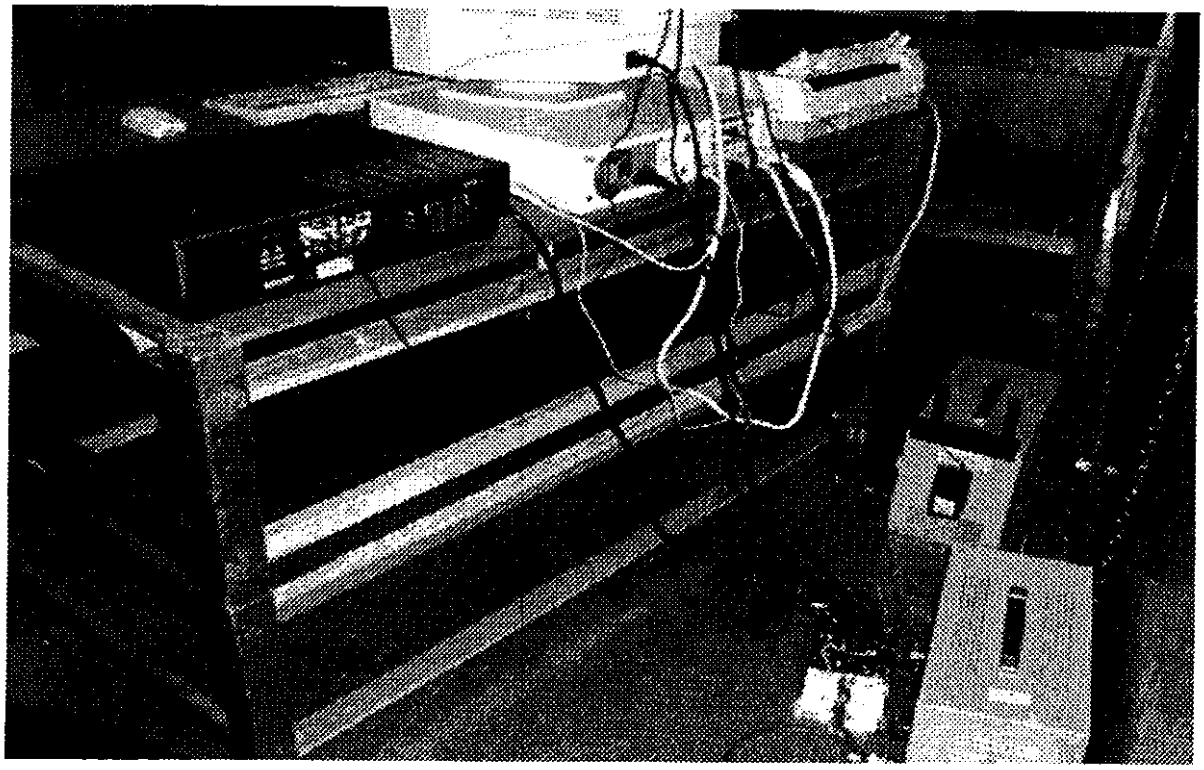


(Rear)

3-2 AC POWERLINE CONDUCTED MEASUREMENTS [Shielded room]



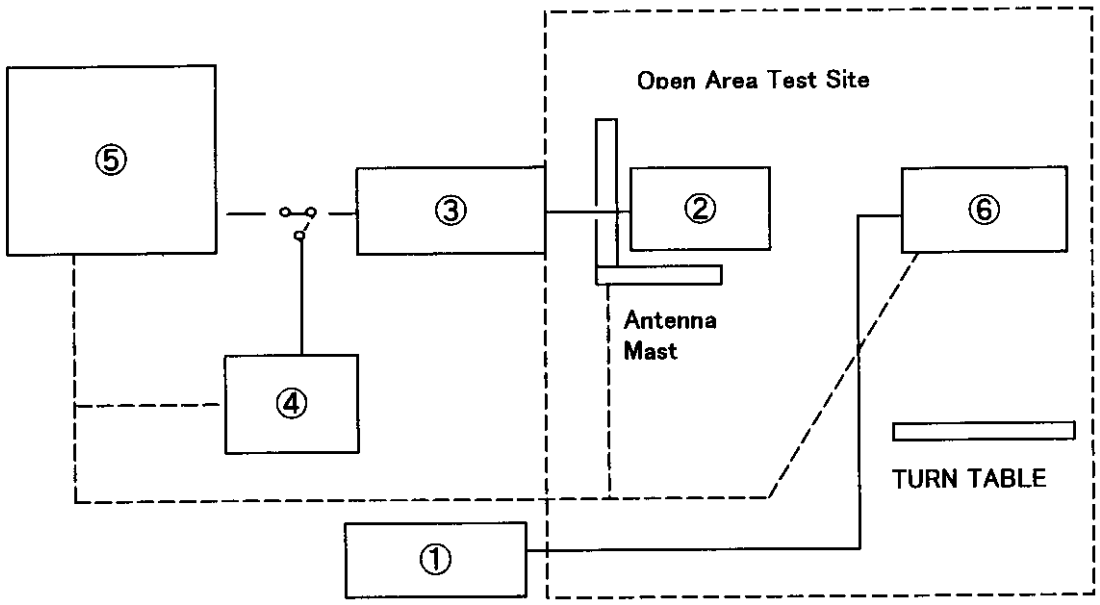
(Front)



(Side View)

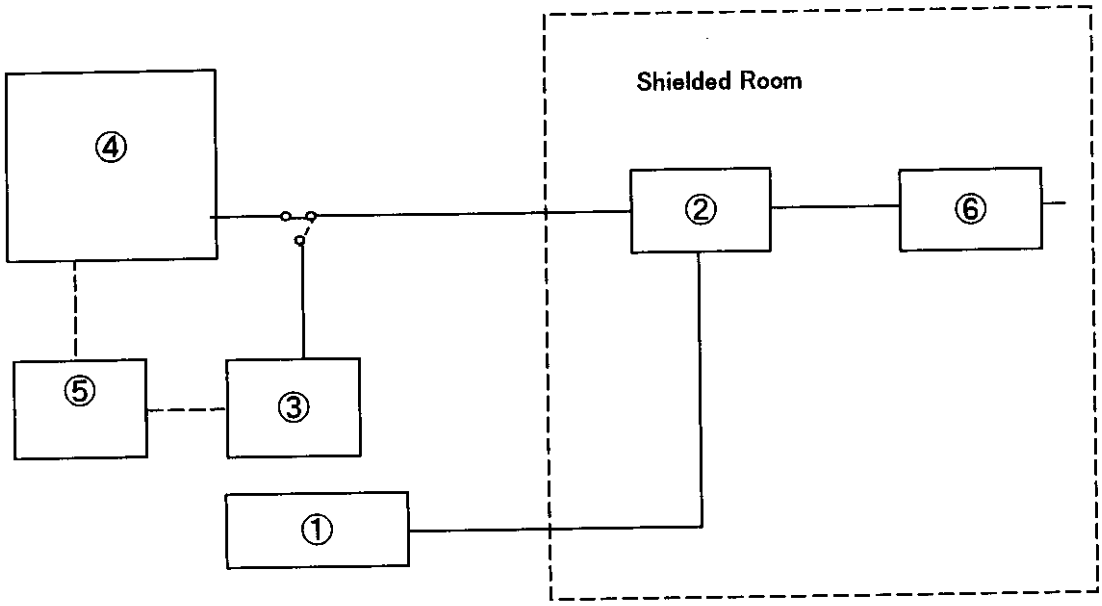
[4] TEST ARANGEMENT AND LIST OF INSTRUMENTS

4.1 TEST EQUIPMENTS OF RADIATED EMISSION MEASUREMENTS



	Apparatus	Model No. (Manufacture)	Spec.	Calibrated Untill	Serial No.
①	3 or 1 phase AC SUPPLY	ACF-N F-Class (YAHATA DENKI)	50Hz/60Hz MAX 1Φ 264V	—	—
②	Antenna	KBA−511A (KYORITSU)	30 - 500MHz(Dipole)	Jan.1999	---
		KBA−611 (KYORITSU)	500 - 1000MHz(Dipole)	Jan.1999	---
		KBA522 (KYORITSU)	25 - 80MHz(Dipole)	Oct.1999	---
③	Pre-Amplifier	8447D (hp)	0.1-1300MHz	Feb.1999	---
④	Spectrum Analyzer	TR4135 (Advantest)	0.01～3600MHz	Feb.1999	---
⑤	EMI Peceiver	ESVS10 (R & S)	20-1300MHz	Nov, 1998	---
⑥	Main Unit EUT	KX-DP603 (PBALA0001XA)	---	---	None

4.2 TEST EQUIPMENTS OF CONDUCTED MEASUREMENTS



	Apparatus	Model No. (Manufacture)	Spec.	Calibrated Untill	Serial No.
①	3 or 1 phase AC SUPPLY	FUK-23749-2 (NF)	50Hz/60Hz MAX 1Φ 264 V	---	---
②	LISN	KNW-407		Feb.1999	---
③	Spectrum Analyzer	R3361C (Advantest)	9kHz~2.6GHz	Dec.1998	---
④	EMI Peceiver	ESH3 (R&S)	9KHz~30MHz	Nov, 1998	---
⑤	Personal Computer	340 (IBM)	20-1000MHz	Nov, 1998	---
⑥	Main Unit EUT	KX-DP603 (PBALA0001XA)	---	---	None

[5] ATTACHMENT

5.1 RADIATED EMISSION MEASUREMENTS

[Attachment Sheet No.]

* QP Data ---------- Sheet 1 of 2 Sheets
Stand by mode
(Horizontal/Vertical, 30-300MHz)

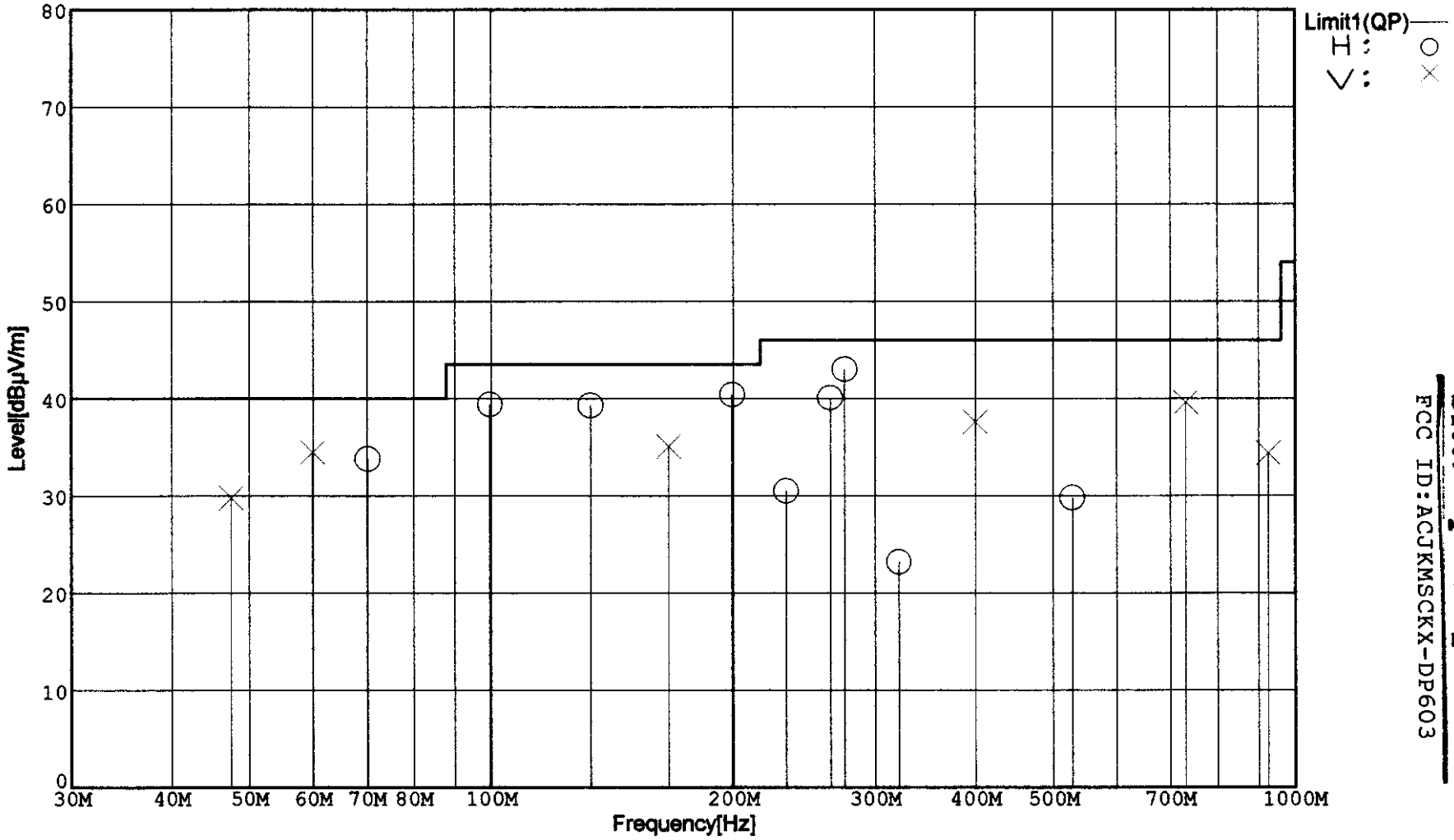
5.2 AC POWERLINE CONDUCTED MEASUREMENTS

* QP Data ---------- Sheet 2 of 2 Sheets
Pan/Tilt mode
(Va/Vb, 0.45-30MHz)

RADIATED EMISSION

Model Name	: CAMERA UNIT	Temp.	: 23
Parts No.	: KX-DP603	Humi.%	: 75%
Serial No.	: None.	Comment	: Stand by mode
Detector	: QP	Date	: 1998.10.20
Points	: 15	EMI Receiver(s)	:

Limit1: [FCC Part 15] Class B<3m>



LINE CONDUCTION

Model Name	: CAMERA UNIT	Temp.	: 24
Parts No.	: KX-DP603	Humi.%	: 45%
Serial No.	: None.	Comment	: Pan/Tilt mode
Detector	: QP	Date	: 1998.10.20
Points	: 16	EMI Receiver(s)	:

Limit1: [FCC Part15] Class B