

EMC TEST REPORT*for***WACOM Co., Ltd.**

2-510-1 Toyonodai, Otone-machi, Kitasaitama-gun, Saitama 349-1148, Japan

Equipment Under Test: Digitizer
Model Name: PTZ-1230 / PTZ-1231W
Category: FCC Part 15 Sub.part B Class B Digital Device
FCC Part 15 Sub.part C
FCC ID: HV4PTZL
Token Report No.: T6E05X245
Date of Issue: December 15, 2005

Corrected Test Report for Report No. T6E05X242.*Approved by*


Mickey Fukuda
Manager, Tsukuba Testing Lab.
Tokin EMC Engineering Co., Ltd.

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1 DESCRIPTION OF DEVICE

- A) Kind of Equipment : Digitizer
- B) FCC ID : HV4PTZL
- C) Model Name : (1) PTZ-1230
(2) PTZ-1231W

* The differences between 2 models are as follows.

Model Name	PTZ-1230	PTZ-1231W
	Intuos3 12×12 / A4 Oversize tablet	Intuos3 12×19 / A3 Side tablet
Active area	W 304.8 mm × D 304.8 mm (12.0 × 12.0 in)	W 508.0 mm × D 317.5 mm (20.0 × 12.5 in)
Physical size	W 439.5 mm × D 429.3 mm × H 37.0 mm (17.3 × 16.9 × 1.5 in)	W 622.5 mm × D 429.3 mm × H 37.0 mm (24.5 × 16.9 × 1.5 in)
Weight	2.1 kg (4.62 lb), approximately	3.0 kg (6.60 lb), approximately

- D) Serial No. : None
- E) Type of Sample Tested : Pre-production
- F) Dimension: PTZ-1230:
Width 439.5 mm × Depth 429.3 mm × Height 37.0 mm
PTZ-1231W:
Width 622.5 mm × Depth 429.3 mm × Height 37.0 mm
- G) High Frequency Used : 667kHz (Communication between a device and a tablet)
16MHz (CPU clock)
16MHz (Gatearray clock)
8MHz (Touch Pad ×2)
- H) Rating Power Supply : DC5V, 0.3A
- I) Tested Power Supply : DC5V (EUT)
1phase AC120V, 60Hz (PC Power Supply)
- J) Date of Manufacture : October 2005
- K) Manufacturer : WACOM Co., Ltd.
2-510-1 Toyonodai, Otone-machi, Kitasaitama-gun,
Saitama 349-1148, Japan

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L) Options :

Using Devices: ZP-130 (Ink Pen)
ZP-300E (Classic Pen)
ZP-400E (Airbrush)
ZP-501E (Grip Pen)
ZP-600 (Marker Pen)
ZC-100 (2D Mouse)
ZC-210 (Lens Cursor)

- Digitizer has an USB I/F cable and is connected by PC and USB.
- As a device which can be used on digitizer, there are Ink pen, Classic pen, Airbrush, Grip pen, Marker pen, 2D mouse, and Lens cursor.
- The device of these cannot be simultaneously used on two or more and the same digitizer.

M) Description of Operating :

Device detection state

* Test system (EUT + option):

1. PTZ-1230 + ZP-130
2. PTZ-1230 + ZP-300E
3. PTZ-1230 + ZP-400E
4. PTZ-1230 + ZP-501E
5. PTZ-1230 + ZP-600
6. PTZ-1230 + ZC-100
7. PTZ-1230 + ZC-210
8. PTZ-1231W + ZP-130
9. PTZ-1231W + ZP-300E
10. PTZ-1231W + ZP-400E
11. PTZ-1231W + ZP-501E
12. PTZ-1231W + ZP-600
13. PTZ-1231W + ZC-100
14. PTZ-1231W + ZC-210

** It was tested each test system (EUT + option) separately, and, all results of 1 to 14 are issued in this test report. The worst results of each model were as follows.*

RFI Voltage Measurement: PTZ-1230 + ZC-210
PTZ-1231W + ZC-210

RFI Field Strength Measurement: PTZ-1230 + ZC-100
PTZ-1231W + ZC-100

N) Date of Sample Received :

October 18, 2005

O) Tested Engineer :


Kazunori Maeshima

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2 TEST FACILITY

The open field test site and conducted measurement facility are used for these testing, where are located following address. This site's FCC Test firm registration number: 91021. This laboratory is accredited by NVLAP for NVLAP Lab. Code: 200221-0.

Tokin EMC Engineering Co., Ltd.

Tsukuba Testing Laboratory, Open Field Test Site No.6 and Shielded Room No.2

Address ; 28-1, Kitahara, Hanashimashinden, Tsukuba-city, Ibaraki 305-0875, Japan

3 SUMMARY OF RESULTS

3.1 Electromagnetic Emission

RFI Voltage Measurement **PASS**

RFI Field Strength Measurement **PASS**

Although the measured emissions indicate that the EUT complies with the required limits, some measurements are close to these limits. When the uncertainty of measurement is considered, there is some possibility that the EUT may not be compliant.

Test results are traceable to PTB, NMI and NPL.

3.2 Modifications to The EUT

This EUT was taken countermeasures.

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4 TESTED SYSTEM DETAILS

4.1 Peripherals and Others :

Description	Model Name	Serial No.	Manufacturer	FCC ID
Personal Computer	Compaq Presario SR1000	CNN5250F4B	Compaq	DoC
PS/2 Keyboard	RTH00	N250801506	Compaq	DoC
PS/2 Mouse	M-S69	---	Logitech	DoC
Modem	1414	9068681	ACEEX	IFAXDM1414
AC Adapter for Modem	AA-121A	---	OEM	---
LCD Monitor	570STFT	CN15H1ER813690A	SAMSUNG	DoC
AC Adapter for LCD Monitor	PSCV360104A	C010801969	SAMSUNG	---
Printer	S520	FATH02024	Canon	DoC

4.2 Type of Used Cables :

Description	Length	Type of shield	Model name	Manufacturer
PC AC Power Cable	2.0m	Non-shielded	---	---
Monitor DC Power Cable	1.8m	Non-shielded	---	---
Monitor AC Power Cable	3.0m	Non-shielded	---	---
Monitor I/F Cable (Monitor ~ PC)	2.0m	Shielded	KCV-2	Sanwa Supply
Printer AC Power Cable	1.8m	Non-shielded	---	---
Printer I/F Cable (Printer ~ PC)	2.0m	Shielded	---	inmac
Modem DC Power Cable	1.8m	Non-shielded	---	---
Modem I/F Cable (Modem ~ PC)	1.8m	Shielded	C232N-J331	ELECOM
Keyboard Cable (Keyboard ~ PC)	1.8m	Shielded	---	---
Mouse Cable (Mouse ~ PC)	1.8m	Shielded	---	---
USB Cable (EUT ~ PC)	2.5m	Shielded	---	---

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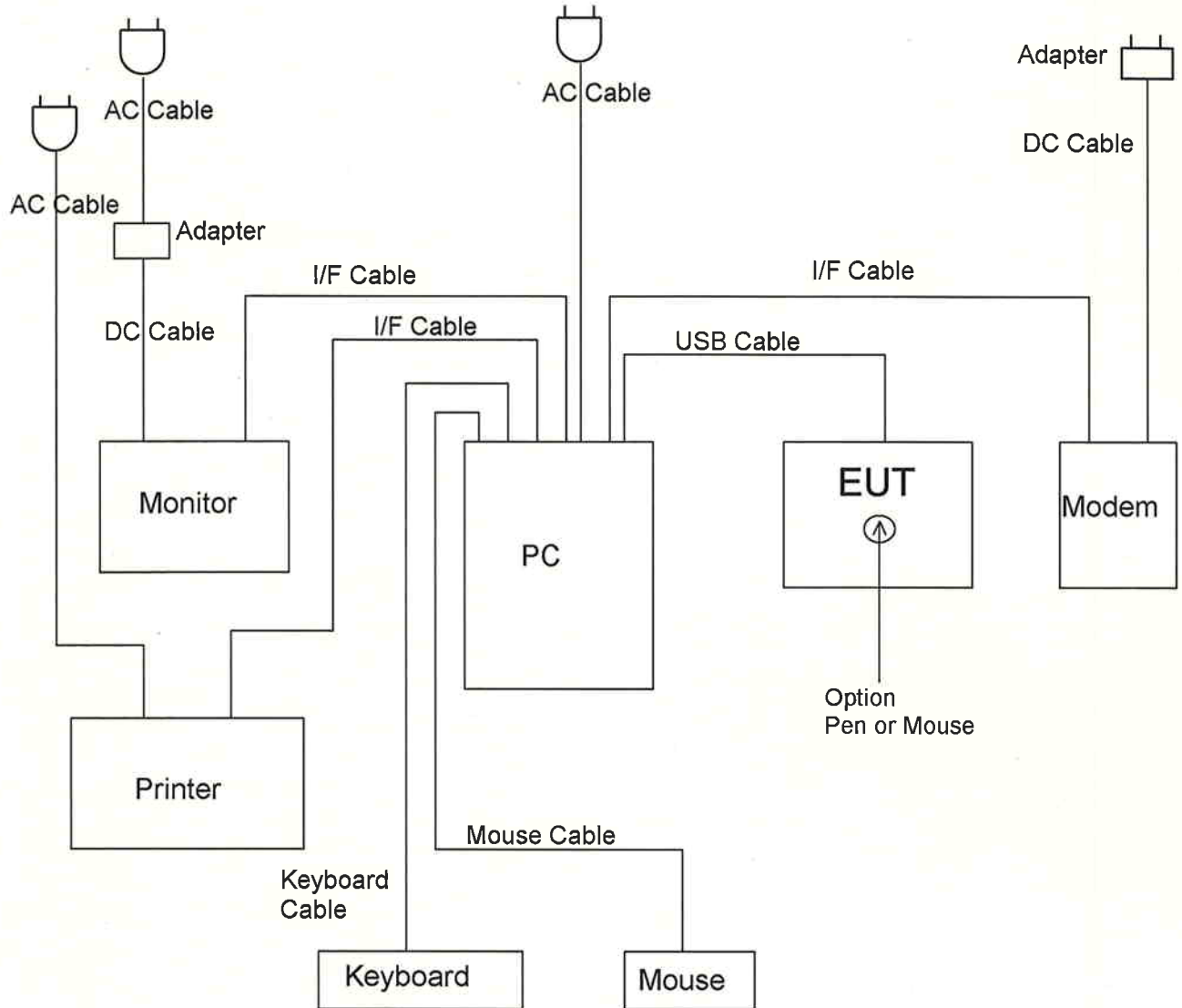


Figure 4-1 System Configuration Diagram

5 TECHNICAL COUNTERMEASURE

- 5-1 Metal shielded sheet was put under PCBA. PCBA and metal shielded sheet were connected with the copper spring.
- 5-2 Added two ferrite cores to the I/F cable (USB).
 - “F6RH6.4 × 10 × 3.2” made by FERRICO ELECTRONICS (PAN YU) CO., LTD. in China
 - “E04SR130525A” made by SEIWA ELECTRIC MFG. CO., LTD. in Japan
- 5-3 Control PCBA was covered with the aluminum film.

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6 TEST RESULTS**6.1 RFI Voltage Measurement****6.1.1 Measurement Instrumentation Used***(model/serial no./manufacturer/Tokin control no./last calibration/next calibration)*

Field strength meter (FCKL1528/1528124/Schwarzbeck/RE039/01 Jul.'05/Jun.'06)

L.I.S.N. (KNW-407/8-578-14/Kyoritsu/LI012/25 Oct.'05/Oct.'06)

2nd L.I.S.N. (PN-T22/9406/Tokin/LI046/25 Oct.'05/Oct.'06)

Spectrum analyzer (E4401B/MY41440237/Agilent technologies/SP051/30 Jun.'05/Jun.'06)

Coaxial cable..... (RG-55U/---/---/DK194/27 May'05/May'06)

Software (Software Data Calculation Software TEPTO 2.00/---/AES/---/---/---)

Shielded room (Tsukuba No.2-S/---/Tokin/SA017/---/---)

The measurement instrumentation used, are calibrated according to Quality Manual.

6.1.2 Measurement Procedure

The power line conducted interference measurements were performed according to ANSI C63.4-2003 in a shielded enclosure No.2 with peripherals placed on a table, 0.8m high over a metal floor. It was located distance 0.4m away from the shielded enclosure wall. There were no deviations from the standard. The standard limit was adopted CISPR Pub.22:1997 Class B.

The EUT was plugged into the LISN and the frequency range of interest scanned.

Reported are maximized emission levels.

These tests were performed at 9kHz of 6dB bandwidth.

Test results were obtained from following equation.

$$\text{Result (dB}\mu\text{V)} = \text{Level (dB}\mu\text{V)} + \text{Total Factor (dB)}$$

<Decision to Pass or Fail>

To judge pass or fail of the test result, it was added "Uncertainty" to the obtained data and then subtracted it from the limit value. If test result will be judged that Uncertainty is considered, there will be possibility of Fail.

6.1.3 Deviation from the specification: None

6.1.4 Measurement Uncertainty

Measurement uncertainty is $\pm 2.18\text{dB}(k=2)$ and it had estimated for decision to PASS or FAIL.

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6.1.5 Test Data

Table 6.1-1a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name:	PTZ-1230 + ZP-130	Date of measurement:	November 2, 2005
Operating mode:	Device detection state	Temperature:	23 degree C
Test procedure:	ANSI C63.4-2003	Humidity:	57 %
Test condition:	Power input 1phase AC120V DC5V		

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	41.0	0.3	41.3	60.0	18.7
	8.668	40.5	0.4	40.9	60.0	19.1
	15.337	51.5	0.4	51.9	60.0	8.1
	16.669	52.0	0.5	52.5	60.0	7.5
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.0	0.5	41.5	60.0	18.5
	8.668	41.0	0.6	41.6	60.0	18.4
	15.337	51.0	0.7	51.7	60.0	8.3
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-1b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZP-130
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

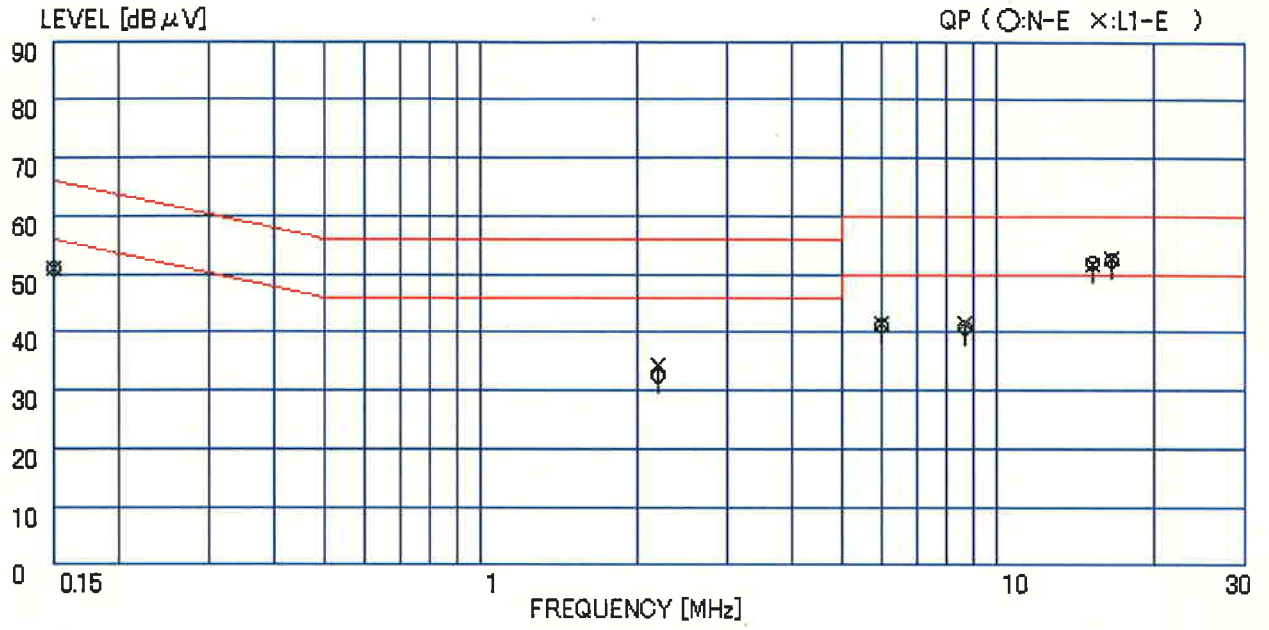
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	35.0	0.3	35.3	50.0	14.7
	8.668	35.0	0.4	35.4	50.0	14.6
	15.337	45.0	0.4	45.4	50.0	4.6
	16.669	46.0	0.5	46.5	50.0	3.5
	<hr/>					
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	35.0	0.5	35.5	50.0	14.5
	8.668	35.0	0.6	35.6	50.0	14.4
	15.337	46.0	0.7	46.7	50.0	3.3
	16.669	47.0	0.7	47.7	50.0	2.3

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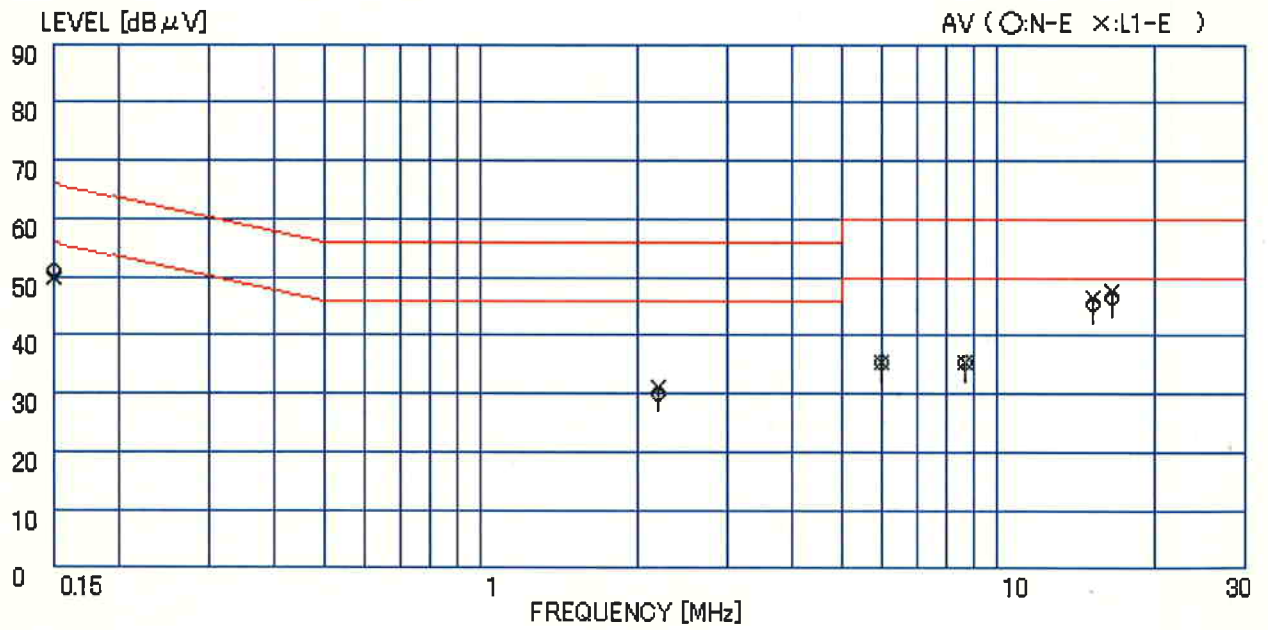
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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-1 RFI Voltage Measurement Results

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Table 6.1-2a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZP-300E

Operating mode: Device detection state

Test procedure: ANSI C63.4-2003

Test condition: Power input 1phase AC120V
DC5V

Date of measurement: November 2, 2005

Temperature: 23 degree C

Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	34.0	0.1	34.1	56.0	21.9
	6.000	41.0	0.3	41.3	60.0	18.7
	8.668	40.5	0.4	40.9	60.0	19.1
	15.337	52.0	0.4	52.4	60.0	7.6
	16.669	53.0	0.5	53.5	60.0	6.5

L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.0	0.5	41.5	60.0	18.5
	8.668	41.0	0.6	41.6	60.0	18.4
	15.337	51.5	0.7	52.2	60.0	7.8
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-2b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZP-300E
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

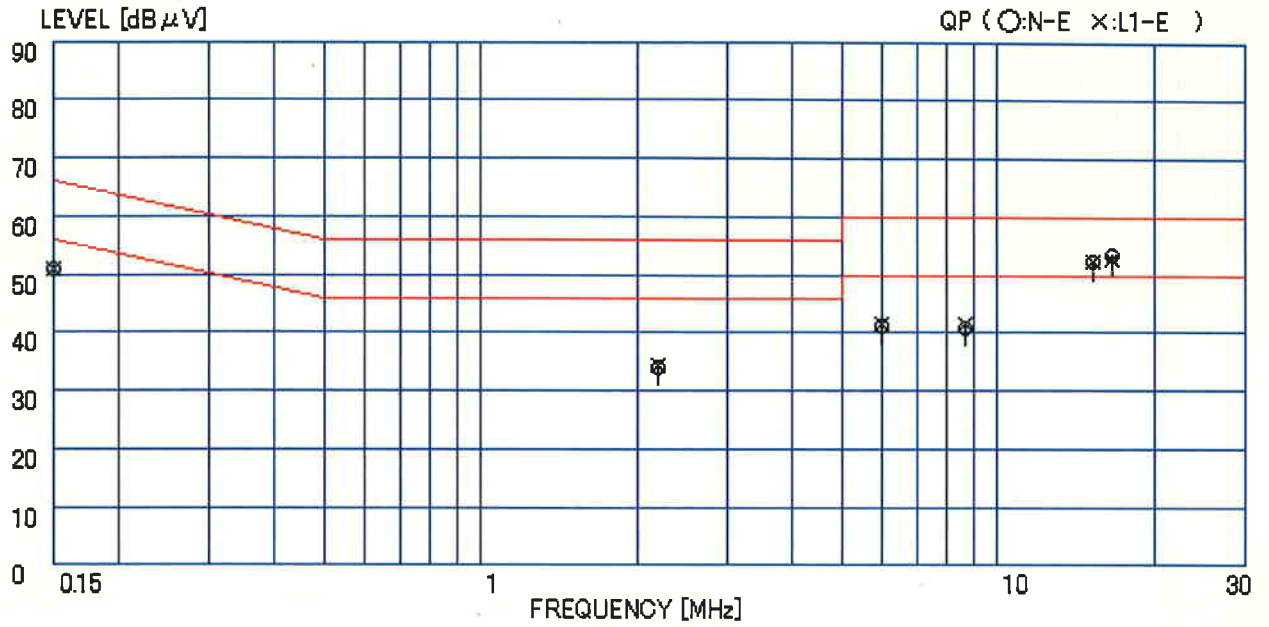
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	2.205	31.0	0.1	31.1	46.0	14.9
	6.000	35.0	0.3	35.3	50.0	14.7
	8.668	35.0	0.4	35.4	50.0	14.6
	15.337	45.0	0.4	45.4	50.0	4.6
	16.669	47.0	0.5	47.5	50.0	2.5
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	35.0	0.5	35.5	50.0	14.5
	8.668	35.0	0.6	35.6	50.0	14.4
	15.337	46.0	0.7	46.7	50.0	3.3
	16.669	47.5	0.7	48.2	50.0	1.8

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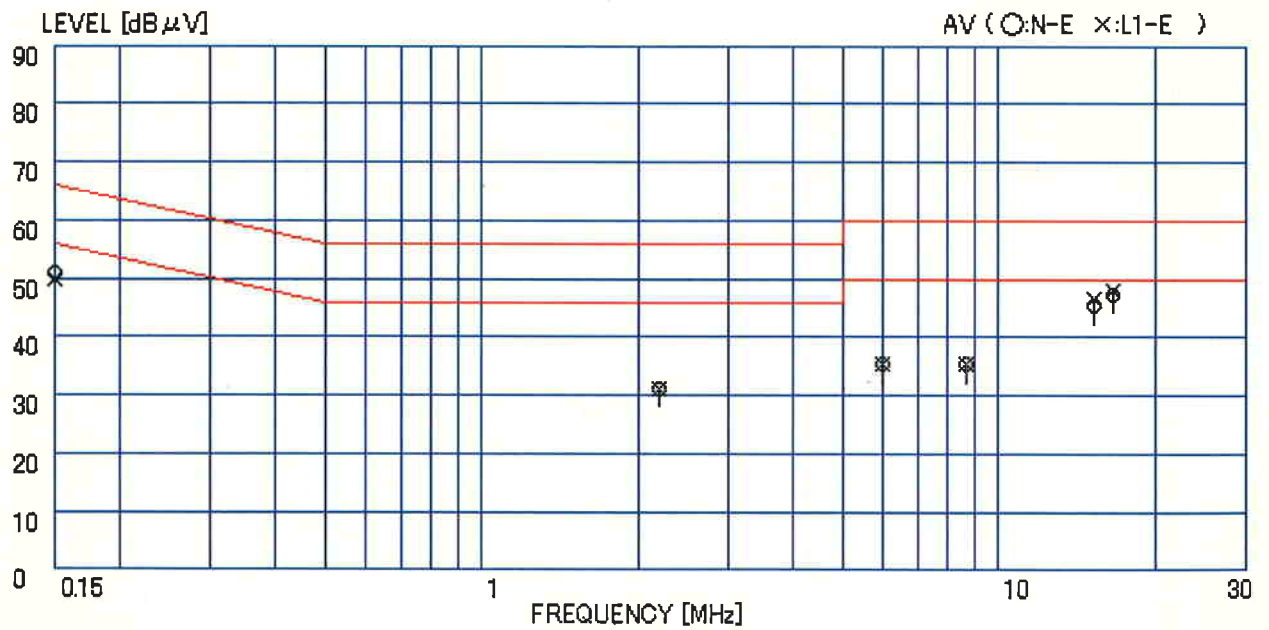

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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-2 RFI Voltage Measurement Results

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Table 6.1-3a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZP-400E
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	41.0	0.3	41.3	60.0	18.7
	8.668	40.5	0.4	40.9	60.0	19.1
	15.337	52.0	0.4	52.4	60.0	7.6
	16.669	53.0	0.5	53.5	60.0	6.5
<hr/>						
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.0	0.5	41.5	60.0	18.5
	8.668	41.0	0.6	41.6	60.0	18.4
	15.337	51.5	0.7	52.2	60.0	7.8
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-3b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZP-400E
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

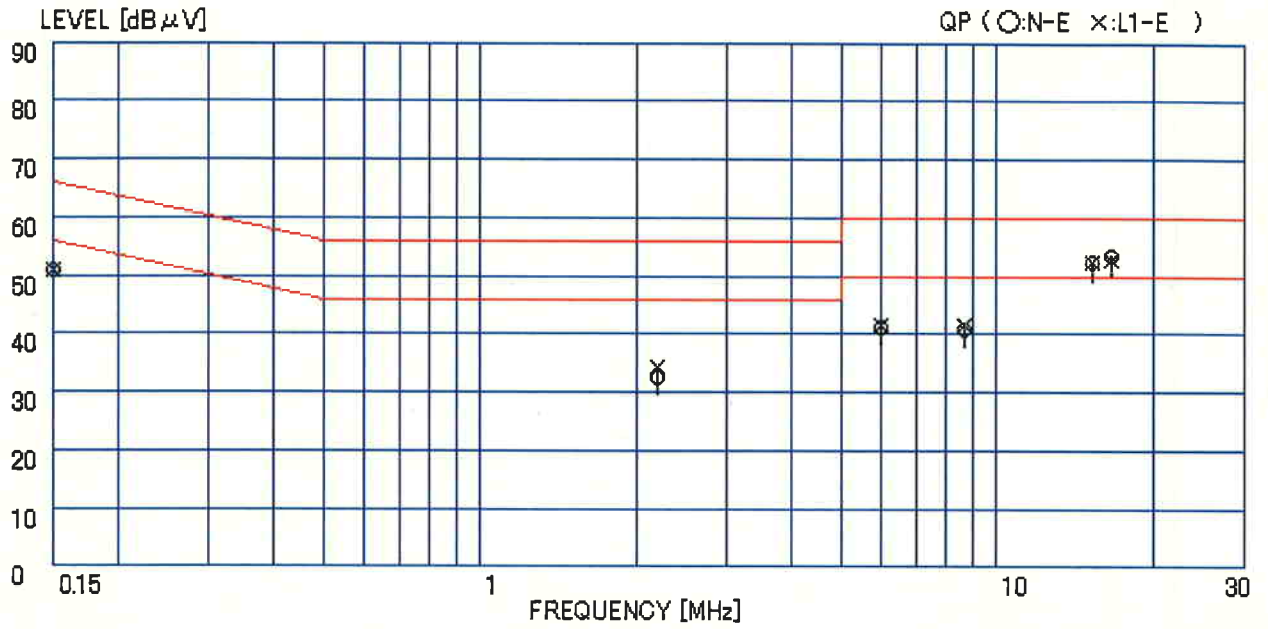
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	36.0	0.3	36.3	50.0	13.7
	8.668	35.0	0.4	35.4	50.0	14.6
	15.337	45.0	0.4	45.4	50.0	4.6
	16.669	47.0	0.5	47.5	50.0	2.5
<hr/>						
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	36.0	0.5	36.5	50.0	13.5
	8.668	35.0	0.6	35.6	50.0	14.4
	15.337	46.0	0.7	46.7	50.0	3.3
	16.669	47.5	0.7	48.2	50.0	1.8

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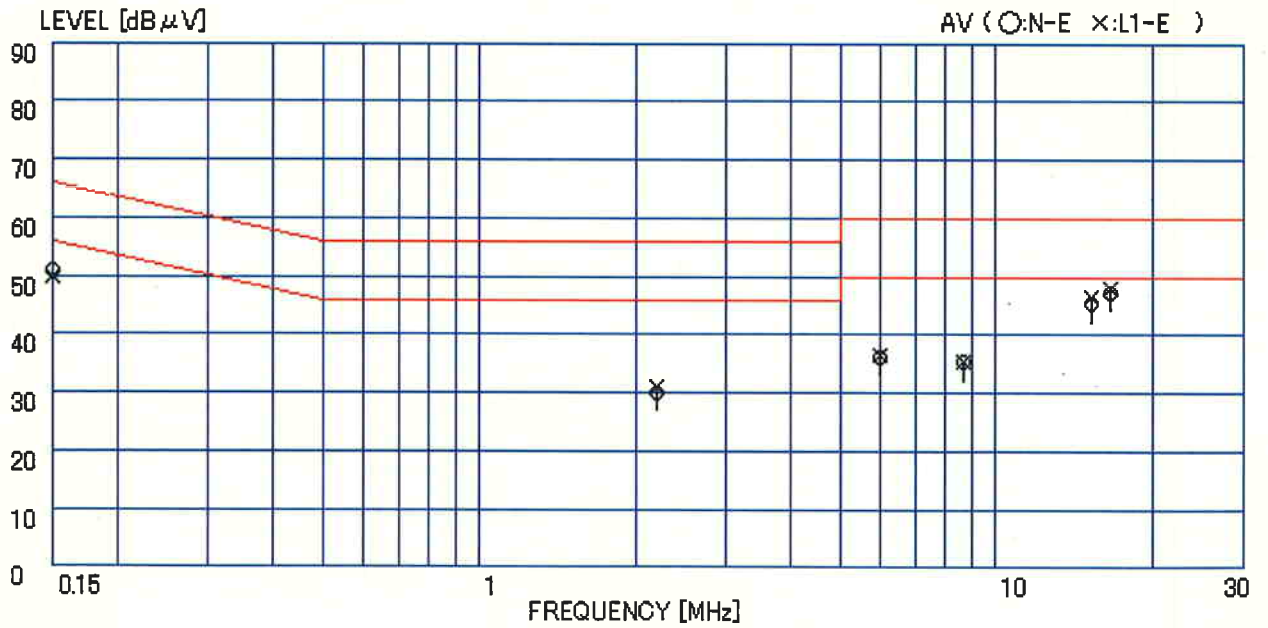

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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-3 RFI Voltage Measurement Results

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Table 6.1-4a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZP-501E
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.440	31.0	0.0	31.0	57.1	26.1
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	41.5	0.3	41.8	60.0	18.2
	15.337	51.5	0.4	51.9	60.0	8.1
	16.669	53.0	0.5	53.5	60.0	6.5
<hr/>						
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.440	35.0	0.1	35.1	57.1	22.0
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.5	0.5	42.0	60.0	18.0
	15.337	52.0	0.7	52.7	60.0	7.3
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-4b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZP-501E
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

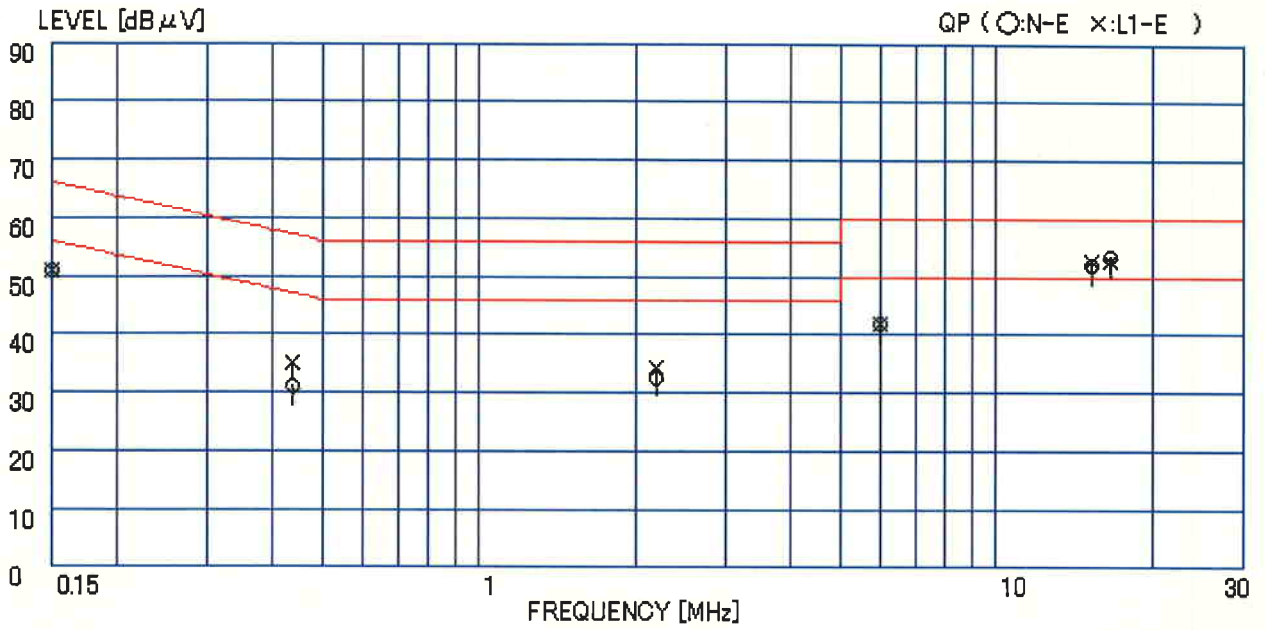
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	0.440	30.0	0.0	30.0	47.1	17.1
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	36.0	0.3	36.3	50.0	13.7
	15.337	45.0	0.4	45.4	50.0	4.6
	16.669	47.0	0.5	47.5	50.0	2.5
<hr/>						
L1-E	0.150	51.0	0.0	51.0	56.0	5.0
	0.440	35.0	0.1	35.1	47.1	12.0
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	36.0	0.5	36.5	50.0	13.5
	15.337	46.0	0.7	46.7	50.0	3.3
	16.669	47.0	0.7	47.7	50.0	2.3

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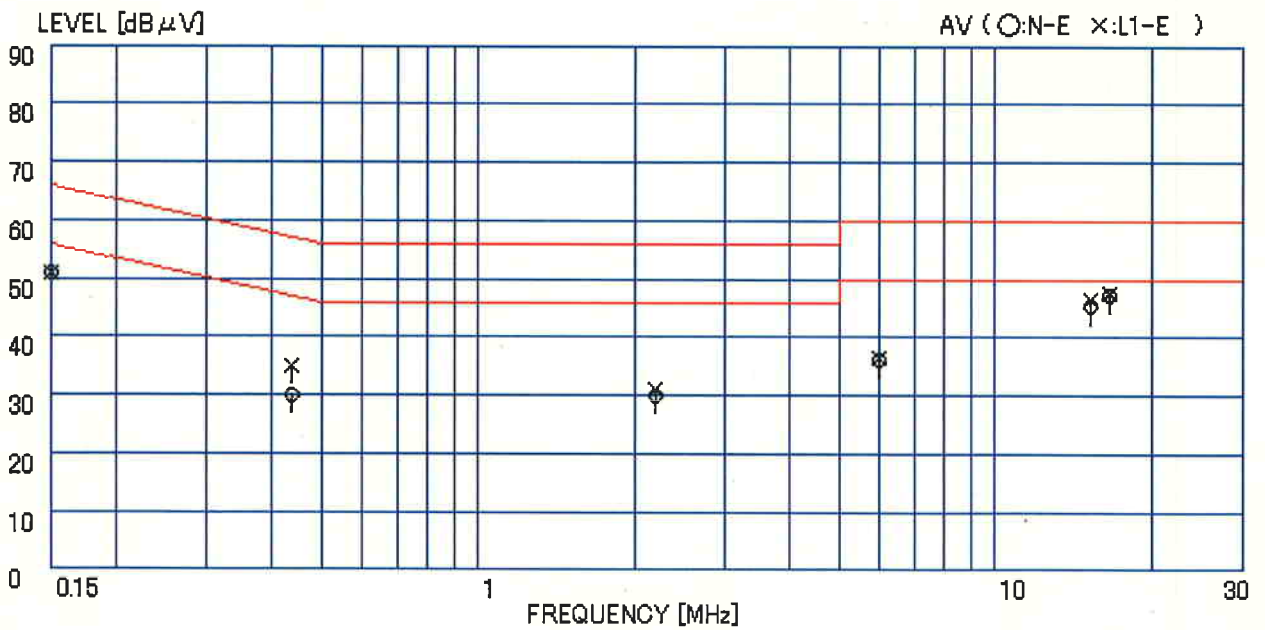

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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-4 RFI Voltage Measurement Results

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Table 6.1-5a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZP-600
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	41.0	0.3	41.3	60.0	18.7
	8.668	40.0	0.4	40.4	60.0	19.6
	15.337	51.5	0.4	51.9	60.0	8.1
	16.669	52.0	0.5	52.5	60.0	7.5
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.0	0.5	41.5	60.0	18.5
	8.668	40.0	0.6	40.6	60.0	19.4
	15.337	51.0	0.7	51.7	60.0	8.3
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-5b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZP-600
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	35.0	0.3	35.3	50.0	14.7
	8.668	34.0	0.4	34.4	50.0	15.6
	15.337	45.0	0.4	45.4	50.0	4.6
	16.669	46.0	0.5	46.5	50.0	3.5
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	35.0	0.5	35.5	50.0	14.5
	8.668	34.5	0.6	35.1	50.0	14.9
	15.337	46.0	0.7	46.7	50.0	3.3
	16.669	47.0	0.7	47.7	50.0	2.3

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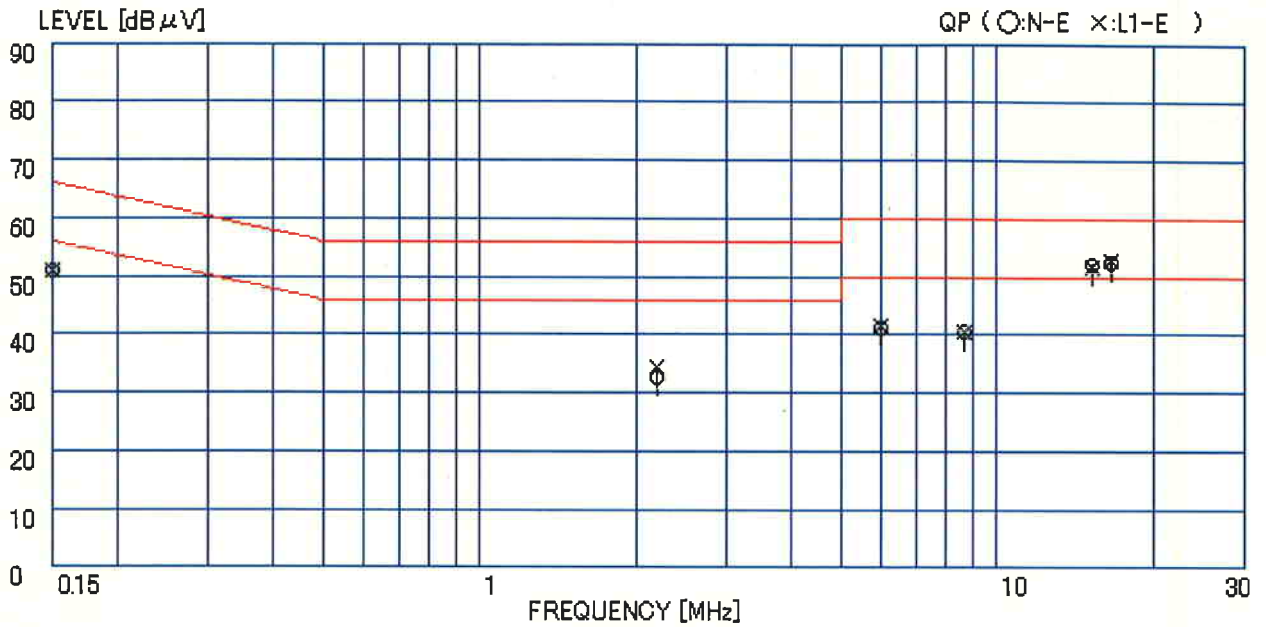


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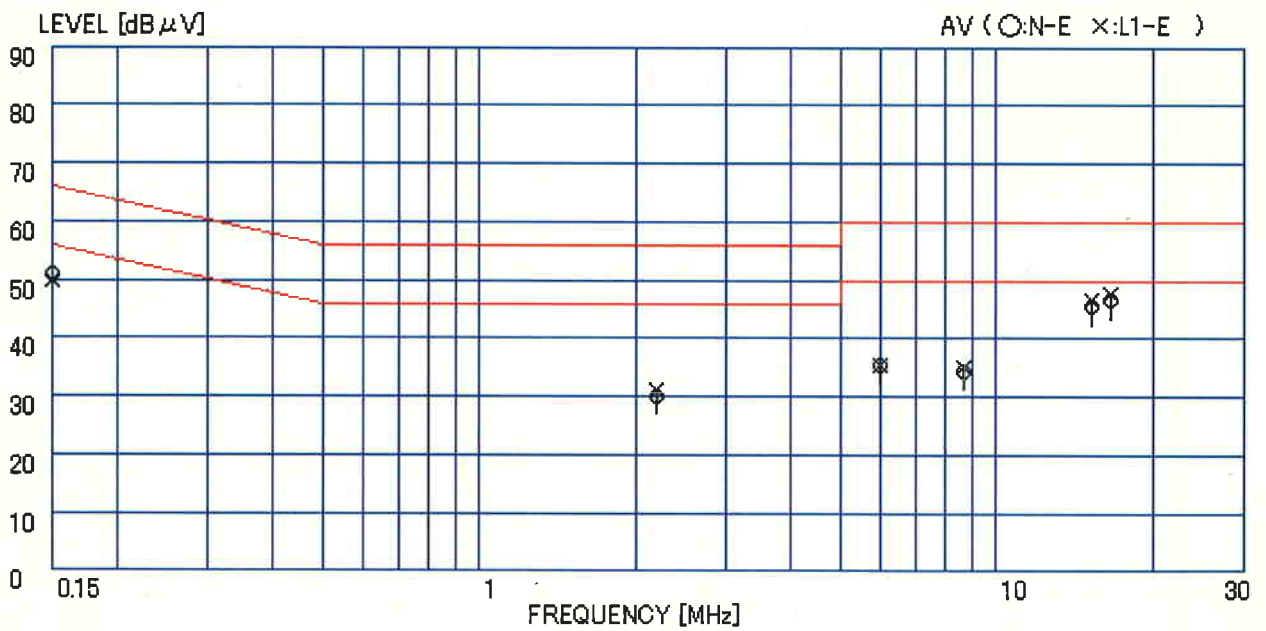
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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-5 RFI Voltage Measurement Results

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Table 6.1-6a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZC-100
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dB μ V)	Total Factor(dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.658	27.0	0.0	27.0	56.0	29.0
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	40.0	0.3	40.3	60.0	19.7
	15.337	45.0	0.4	45.4	60.0	14.6
	16.669	52.0	0.5	52.5	60.0	7.5
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.658	31.0	0.1	31.1	56.0	24.9
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	40.0	0.5	40.5	60.0	19.5
	15.337	45.0	0.7	45.7	60.0	14.3
	16.669	52.0	0.7	52.7	60.0	7.3

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Table 6.1-6b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZC-100
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

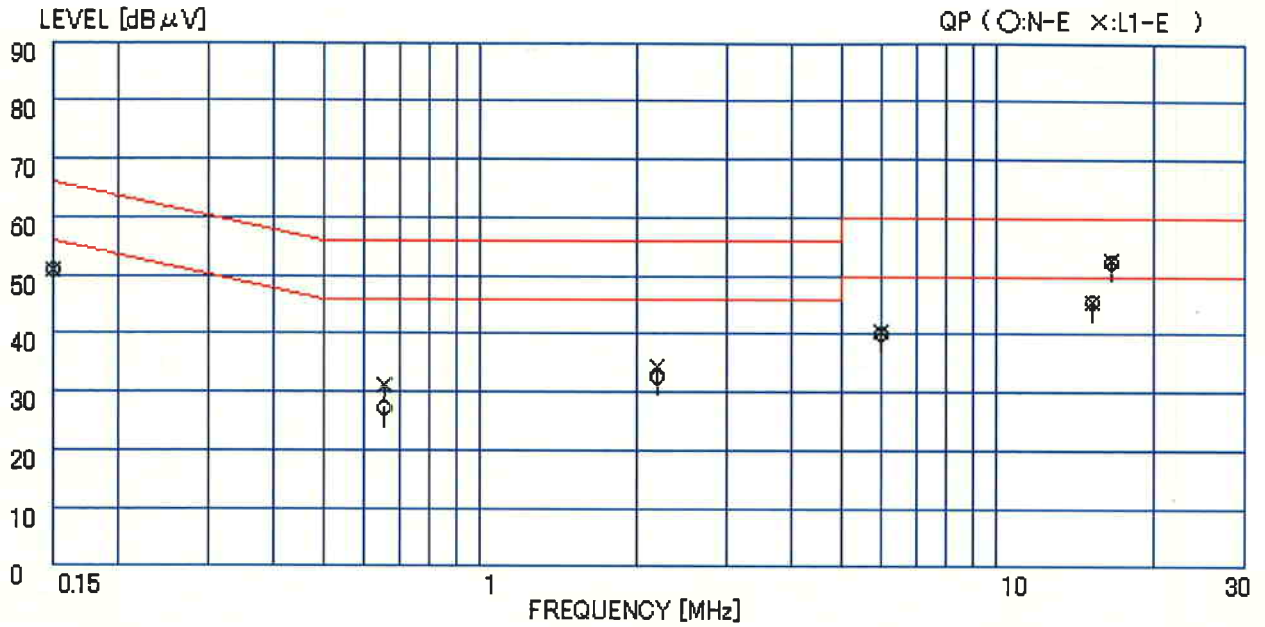
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	50.0	0.0	50.0	56.0	6.0
	0.658	26.0	0.0	26.0	46.0	20.0
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	34.5	0.3	34.8	50.0	15.2
	15.337	39.0	0.4	39.4	50.0	10.6
	16.669	47.0	0.5	47.5	50.0	2.5
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	0.658	30.5	0.1	30.6	46.0	15.4
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	34.0	0.5	34.5	50.0	15.5
	15.337	39.0	0.7	39.7	50.0	10.3
	16.669	47.0	0.7	47.7	50.0	2.3

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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-6 RFI Voltage Measurement Results

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Table 6.1-7a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1230 + ZC-210
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.800	27.0	0.0	27.0	56.0	29.0
	2.205	32.5	0.1	32.6	56.0	23.4
	6.000	40.5	0.3	40.8	60.0	19.2
	14.000	40.0	0.4	40.4	60.0	19.6
	16.669	52.0	0.5	52.5	60.0	7.5
<hr/>						
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	0.800	28.5	0.1	28.6	56.0	27.4
	2.205	34.0	0.3	34.3	56.0	21.7
	6.000	41.0	0.5	41.5	60.0	18.5
	14.000	40.0	0.7	40.7	60.0	19.3
	16.669	53.0	0.7	53.7	60.0	6.3

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Table 6.1-7b RFI Voltage Measurement Results (Average Measurement)

Model Name: PTZ-1230 + ZC-210
 Operating mode: Device detection state
 Test procedure: ANSI C63.4-2003
 Test condition: Power input 1phase AC120V
 DC5V

Date of measurement: November 2, 2005
 Temperature: 23 degree C
 Humidity: 57 %

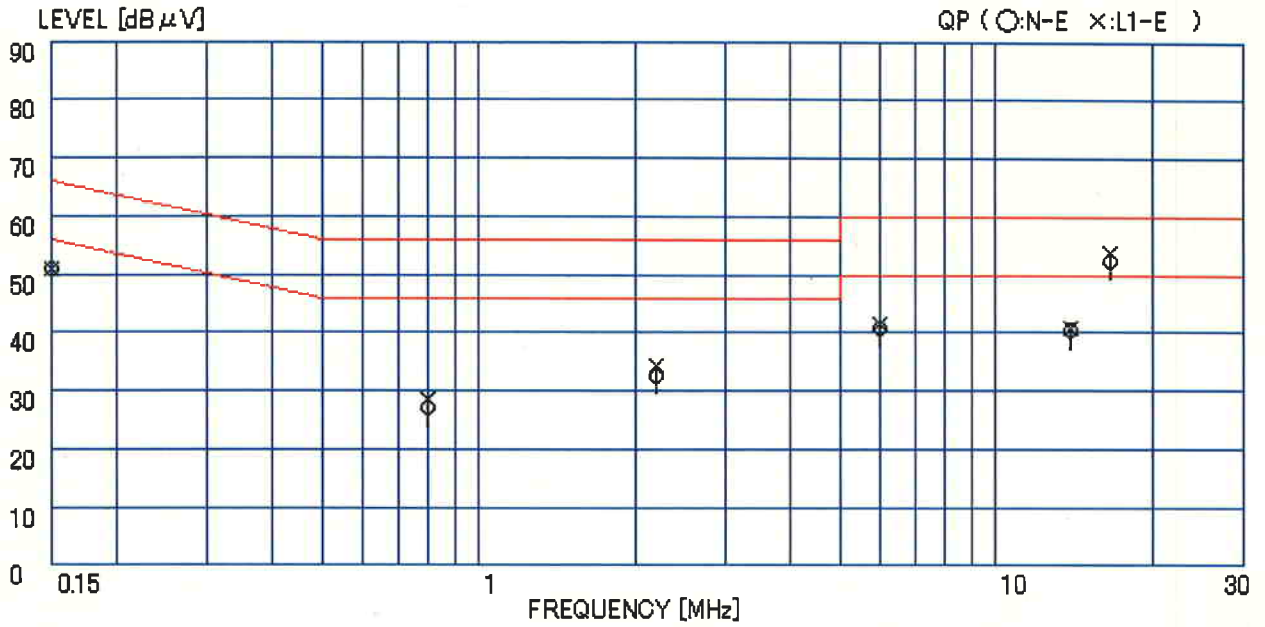
	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	56.0	5.0
	0.800	26.0	0.0	26.0	46.0	20.0
	2.205	30.0	0.1	30.1	46.0	15.9
	6.000	35.5	0.3	35.8	50.0	14.2
	14.000	34.0	0.4	34.4	50.0	15.6
	16.669	47.0	0.5	47.5	50.0	2.5
<hr/>						
L1-E	0.150	50.0	0.0	50.0	56.0	6.0
	0.800	28.0	0.1	28.1	46.0	17.9
	2.205	31.0	0.3	31.3	46.0	14.7
	6.000	35.5	0.5	36.0	50.0	14.0
	14.000	34.0	0.7	34.7	50.0	15.3
	16.669	48.0	0.7	48.7	50.0	1.3

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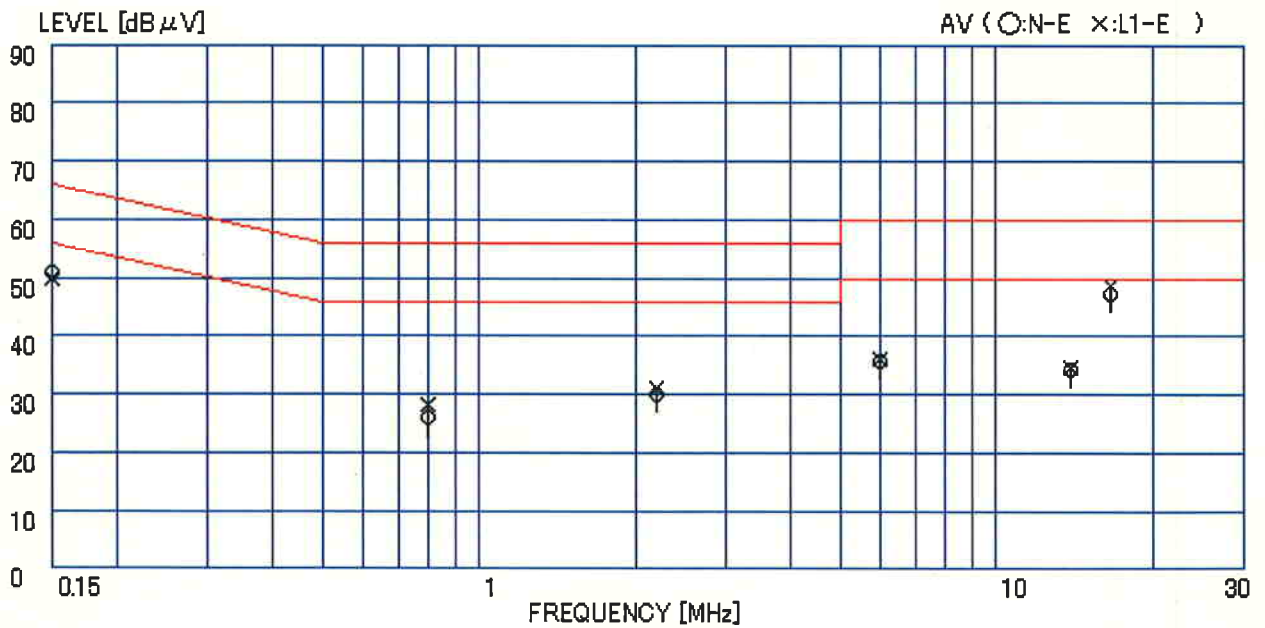

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<Q-Peak Measurement>



<Average Measurement>

Figure 6.1-7 RFI Voltage Measurement Results

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Table 6.1-8a RFI Voltage Measurement Results (Q-Peak Measurement)

Model Name: PTZ-1231W + ZP-130

Operating mode: Device detection state

Test procedure: ANSI C63.4-2003

Test condition: Power input 1phase AC120V
DC5V

Date of measurement: November 2, 2005

Temperature: 23 degree C

Humidity: 57 %

	Frequency (MHz)	Level (dBμV)	Total Factor(dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
N-E	0.150	51.0	0.0	51.0	66.0	15.0
	4.668	43.0	0.3	43.3	56.0	12.7
	7.334	45.0	0.3	45.3	60.0	14.7
	8.667	48.0	0.4	48.4	60.0	11.6
	14.000	48.0	0.4	48.4	60.0	11.6
	15.335	46.0	0.4	46.4	60.0	13.6
L1-E	0.150	51.0	0.0	51.0	66.0	15.0
	4.668	43.0	0.5	43.5	56.0	12.5
	7.334	45.0	0.5	45.5	60.0	14.5
	8.667	48.0	0.6	48.6	60.0	11.4
	14.000	49.0	0.7	49.7	60.0	10.3
	15.335	46.0	0.7	46.7	60.0	13.3

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