Certification of Compliance

CFR 47 Part 15 Subpart B

Test Report File No.	: 01-IST-115	Date of Issue	:August 30, 2001
Model(s)	: PDC-101		
Kind of Product	: PC Camera with IEEE1394		
Applicant	: Pinetron Co., Ltd.		
Address	: Rm1413, Daewoo Center Bldg. 541, Namdaemunno 5-Ga, Chung-Gu Seoul, 100-714, Korea		
Manufacturer	: Pinetron Co., Ltd.		
Address	: Rm1413, Daewoo Center Bldg. 541, Namdaemunno 5-Ga, Chung-Gu Seoul, 100-714, Korea		

Test Result ☒ **Positive** ☐ Negative

Reviewed By

J.H. Lee / General Manager of EMC

Approved By

G. Chung / Chief

- The test report with appendix consists of 15 pages.
- The test result only responds to the tested sample.
- It is not allowed to copy this report even partly without the allowance of IST EMC Laboratory.
- This equipment as for has been shown to be capable of continued compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4 1992.

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INFORMATIONS OF TEST LABORATORY

EMC LABORATORY of IST Co., Ltd.

San 21-8, Goan-Ri, Baekam-Myun, Yongin-City

Kyonggi-Do, 449-860, Korea

TEL : +82 31 333 4093 FAX : +82 31 333 4094

ENVIRONMENTAL CONDITIONS

Temperature	32 degree
Humidity	40 percent
Atmospheric pressure	998 mbar

POWER SUPPLY SYSTEM USED

Power supply system	120Vac, 60Hz(For Desktop PC)

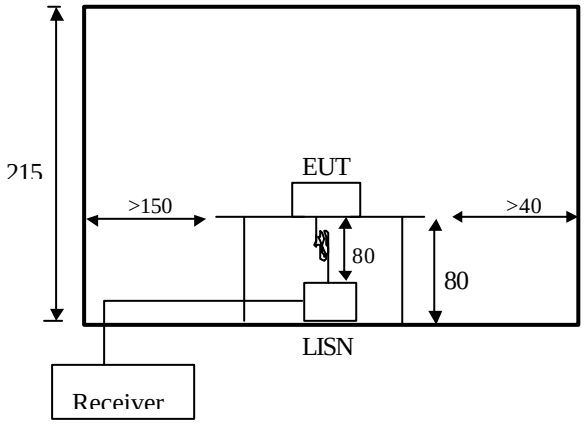
DESCRIPTIONS OF TEST

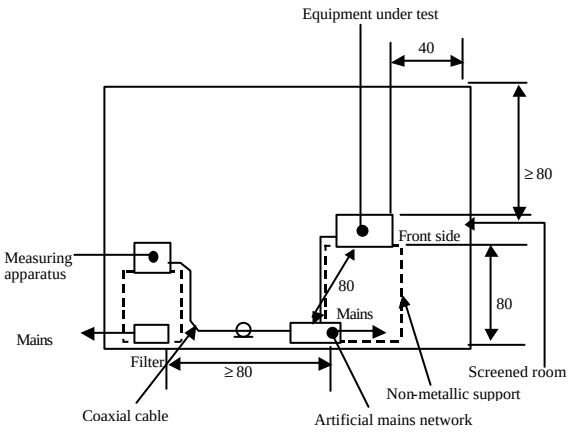
Conducted Emissions:

The measurement were performed over the frequency range of 0.45MHz to 30MHz using a 50Ω/50uH LISN as the input transducer to a Spectrum Analyzer or a Field Intensity Meter. The measurements were made with the detector set for "Peak" amplitude within a bandwidth of 10KHz or for "quasi-peak" within a bandwidth of 9KHz.

- Procedure of Test

The line-conducted facility is located inside a shielded room No.1. A 1m X 1.5m wooden table 80cm height is placed 40cm away from the vertical wall and 1.5m away from the other wall of the shielded room. The R/S ESH3-Z5 and EMCO 3825/2 LISN are bonded to bottom of the shielded room. The EUT is located on the wooden table with distance more than 80cm from the LISN and powered from the EMCO LISN .The peripheral equipment is powered from the other LISN. Power to the LISNs are filtered by a noise cut power line filters. All electrical cables are shielded by braided tinned steel tubing with inner ϕ 1.2cm. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply lines will be connected to the EMCO LISN. All interconnecting cables more than 1m were shortened by non-inductive bundling to a 1m length. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating conditions. The RF output of the LISN was connected to the R/S receiver to determine the frequency producing the maximum emission from the EUT. The frequency producing the maximum level was reexamined using Quasi-Peak mode by manual measurement, after scanned by automatic Peak mode for frequency range from 0.45 to 30MHz. The bandwidth of the receiver was set to 10kHz. The EUT, peripheral equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.





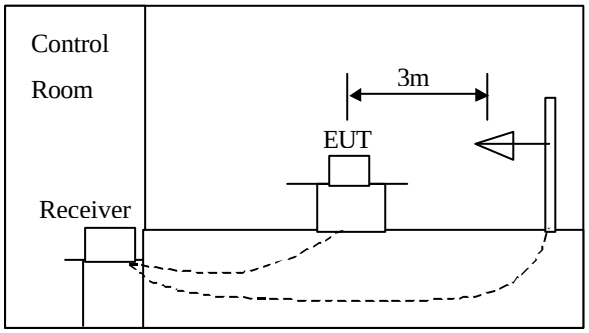
DESCRIPTION OF TEST

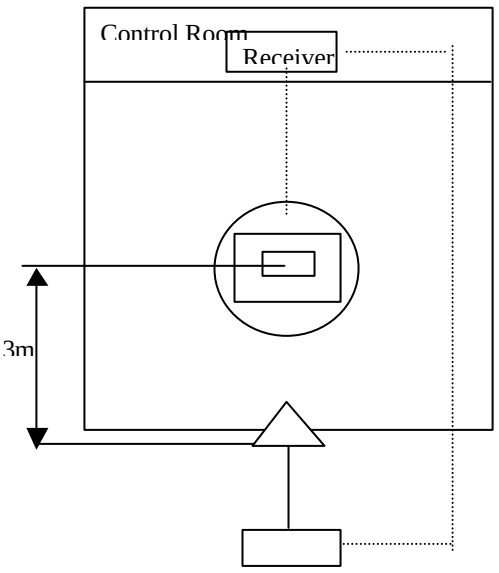
Radiated Emissions:

The measurement was performed over the frequency range of 30MHz to 1GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurement was made with the detector set for "quasi-peak" within a bandwidth of 120KHz.

- Procedure of Test

Preliminary measurements were made at 3 meter using bi-conical and log-periodic antennas, and spectrum analyzer to determine the frequency producing the max. emission in anechoic chamber. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turn-table azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 30MHz to 300MHz using S/B bi-conical antenna and 300 to 1000MHz using S/B log-periodic antenna. Above 1GHz, linearly polarized double ridge horn antennas were used. Final measurements were made at open site with 3-meters test distance using S/B bi-log antenna or horn antenna. The OATS have been verified in regular for its normalized site attenuation. The test equipment was placed on a wooden table. Sufficient time for the EUT, peripheral equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined by manual. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120kHz or 1MHz depending on the frequency of type of signal. The EUT, peripheral equipment and interconnecting cables were re-configured to the set-up producing the max. emission for the frequency and were placed on top of a 0.8-meter high nonmetallic 1 x 1.5 meter table. The EUT, peripheral equipment, and interconnecting cables were re-arranged and manipulated to maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or peripheral equipment and changing the polarity of the antenna, whichever determined the worst-case emission.





SUMMARY

☒ Conducted Emission

The requirements are	(*) MET	( ) Not MET
Minimum limit margin	7.2dB at	23.652MHz
Maximum limit exceeding		
Remarks :.		

☒ Radiated Emission

The requirements are	(*) MET	( ) Not MET
Minimum limit margin	3.3 dB at	786.5 MHz
Maximum limit exceeding		
Remarks :		

Reported By

H.C. Kim / EMC Engineer

Note :

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☒ means the test is applicable, ☐ is not applicable.

TEST CONDITIONS AND DATA

Conducted Emissions

[Applicable]

◆ Test Equipment Used

Model Name	Manufacture	Description	Serial Number	Next Cal. Date
ESH3	Rohde Schwarz	Receiver	861742/018	Jun. 16, 2002
ESH3-Z2	Rohde Schwarz	Pulse Limiter	357.8810.52	Jul. 13, 2002
EZM	Rohde Schwarz	Spectrum monitor	861192/018	-
3825/2	EMCO	LISN	9103-1788	Jul. 13, 2002
-	-	-		

The equipment used is calibrated in regular for every year.

◆ External Peripherals

Device Desc.	Model Name	Manufacture	FCC Compliance Information
Host Computer	Brio BA 600/550	Hewlett Packard	DoC
Monitor	719B	Daewoo Electronics	C5F7NFCMC719B
Printer	Northern Telecom	Hewlett Packard	BS46XU2225C-L
Mouse	M-S48a	Hewlett Packard	JNZ201213
Keyboard	SK-2502C	Hewlett Packard	DoC
Mouse(Serial)	M-MD14-2	Logitech Inc	DZLMMD142
Joystick	Side Winder Precision Pro	Microsoft Corporation	DoC

◆ Test Program Image Capture

◆ Test Date August 3, 2001

◆ Test Area Shielded Room #3

Note : The cable loss is negligible since its value is extremely small for frequency range tested.

Find the test data in following pages 8 to 9.

Conducted Emissions

(Mains Terminal Disturbance Voltages)

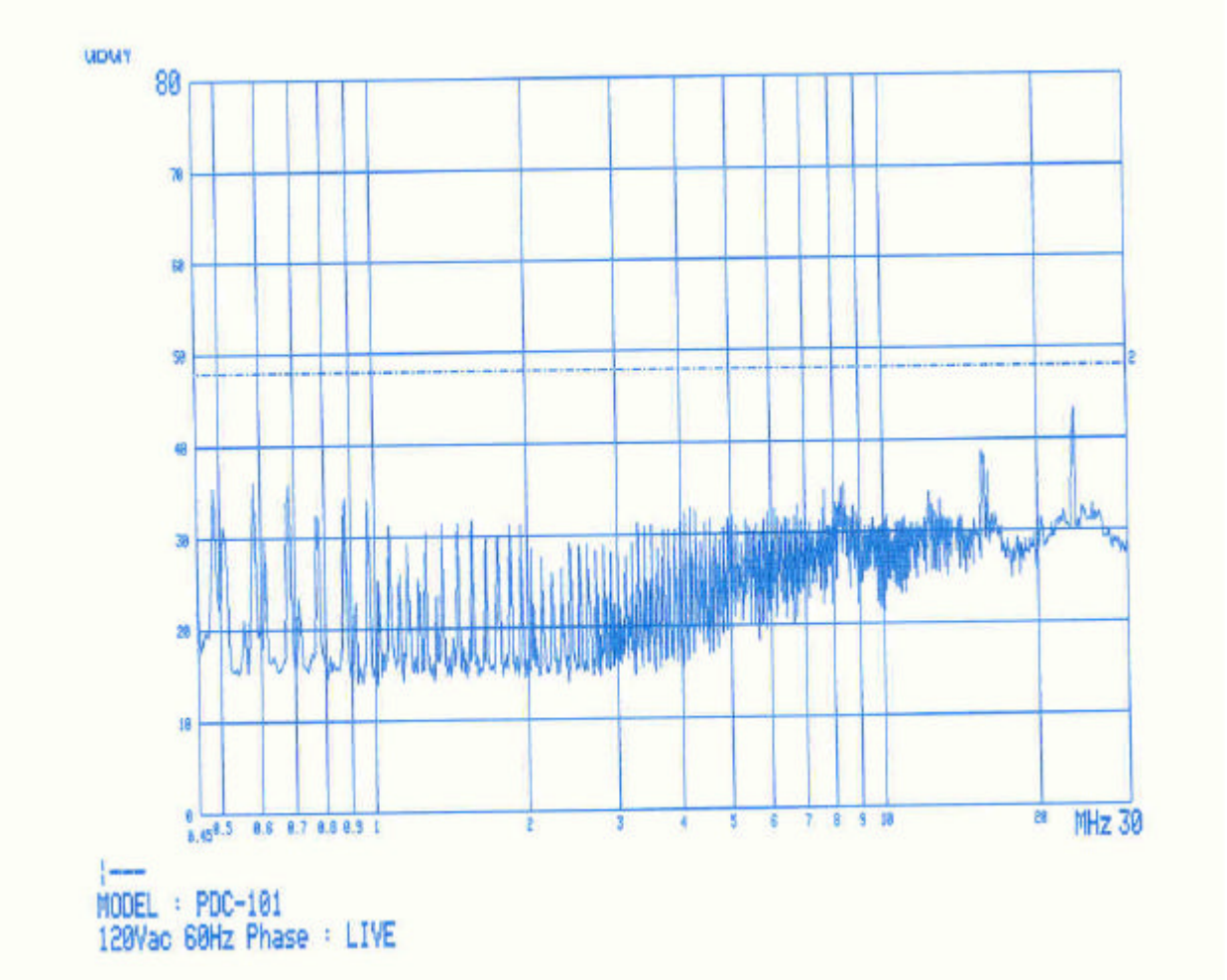

Image Capture

Quasi-Peak, [dBuV]

Frequency [MHz]	Measurement	Cable Loss	Insertion Loss	Result	Limit	Margin
0.485	33.0	-	0.8	33.8	48.0	14.2
0.583	34.0	-	0.8	34.8	48.0	13.2
0.680	33.7	-	0.8	34.5	48.0	13.5
15.625	33.2	-	0.8	34.0	48.0	14.0
23.652	40.0	-	0.8	40.8	48.0	7.2

Note :

Conducted Emissions

(Mains Terminal Disturbance Voltages)

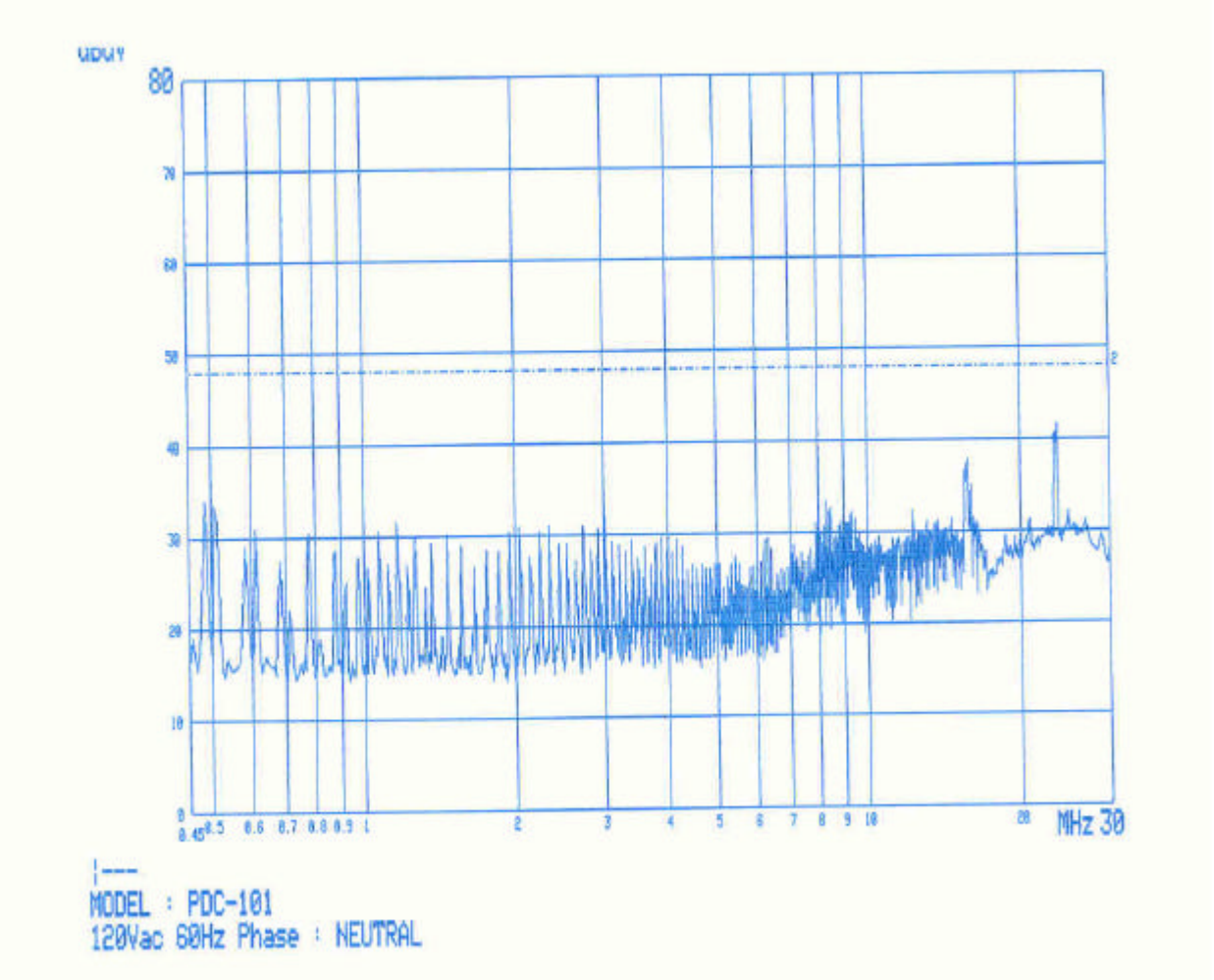

Image Capture

Quasi-Peak, [dBuV]

Frequency [MHz]	Measurement	Cable Loss	Insertion Loss	Result	Limit	Margin
0.485	32.3	-	0.8	33.1	48.0	14.9
0.510	32.4	-	0.8	33.2	48.0	14.8
1.166	29.6	-	0.8	30.4	48.0	17.6
15.774	34.9	-	0.8	35.7	48.0	12.3
23.669	38.0	-	0.8	38.8	48.0	9.2

Note :

TEST CONDITIONS AND DATA

Radiated Emission

[Applicable]

◆ Test Equipment Used

Model Name	Manufacture	Description	Serial Number	Next Cal. Date
ESVP	Rohde Schwarz	Receiver	861744/004	Jun. 12, 2002
VULB9160	Schwarzbeck	Antenna	3048	Jun 04, 2002
EZM	Rohde Schwarz	Spectrum monitor	863183/008	
-	-	-		
-	-	-		

The equipment used is calibrated in regular for every year.

◆ External Peripherals

Device Description	Model Name	Manufacture	FCC Compliance Information
Host Computer	Brio BA 600/550	Hewlett Packard	DoC
Monitor	719B	Daewoo Electronics	C5F7NFCMC719B
Printer	Northern Telecom	Hewlett Packard	BS46XU2225C-L
Mouse	M-S48a	Hewlett Packard	JNZ201213
Keyboard	SK-2502C	Hewlett Packard	DoC
Mouse(Serial)	M-MD14-2	Logitech Inc	DZLMMD142
Joystick	Side Winder Precision Pro	Microsoft Corporation	DoC

◆ Test Program Image Capture

◆ Test Date August 3, 2001

◆ Test Area Open Field Test Site #1

Note :

- Find the test data in following page.

Radiated Emissions

(Disturbance Radiation)

[Applicable]

Image Capture

Freq. [MHz]	Reading [dBuV]	Antenna Factor [dB]	Cable Loss [dB]	Azimuth [deg]	Height [cm]	Polar. [H/V]	Result [dBuV]	Limit [dBuV]	Margin [dB]
86.1	25.0	7.3	1.7	354	345	H	33.9	40.0	6.1
135.2	22.1	11.0	2.1	0	388	H	35.2	43.5	8.3
153.6	21.5	12.2	2.3	10	370	H	36.0	43.5	7.5
190.5	23.5	9.1	2.5	124	228	H	35.1	43.5	8.4
196.6	24.1	8.8	2.5	11	245	V	35.4	43.5	8.1
202.7	24.4	8.5	2.5	354	398	H	35.4	43.5	8.1
208.9	23.6	8.4	2.5	345	380	H	34.5	43.5	9.0
215.1	23.4	8.4	2.7	12	375	H	34.5	43.5	9.0
221.2	24.0	8.5	2.8	336	249	H	35.3	46.0	10.7
227.3	21.8	9.1	2.8	315	220	H	33.7	46.0	12.3
233.5	28.8	9.8	2.8	0	278	H	41.4	46.0	4.6
282.6	27.1	11.9	3.1	345	265	H	42.1	46.0	3.9
294.9	26.9	11.8	3.2	321	244	H	41.8	46.0	4.2
442.4	21.9	13.8	4.5	316	233	H	40.2	46.0	5.8
491.5	20.3	14.8	4.8	16	376	H	39.9	46.0	6.1
577.6	19.8	16.5	4.7	182	235	V	41.0	46.0	5.0
589.9	20.0	16.8	4.7	278	378	V	41.5	46.0	4.5
737.3	18.1	18.9	5.1	324	268	H	42.1	46.0	3.9
786.5	18.0	19.3	5.4	323	264	H	42.7	46.0	3.3