


**SK TECH CO., LTD.**

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## Certificate of Compliance

<b>Test Report No.:</b>	<b>SKTFCE-050601-044</b>		
<b>NVLAP CODE :</b>	<b>200220-0</b>		
<b>Applicant:</b>	<b>Woosung Nextier Corp.</b>		
<b>Applicant Address:</b>	#821-3, Byucksan Digit.Valley II 153-023, 481-10, Gasan, Geumcheon- Gu Seoul, Korea		
<b>Manufacturer :</b>	<b>Woosung Nextier Corp.</b>		
<b>Manufacturer Address:</b>	#821-3, Byucksan Digit.Valley II 153-023, 481-10, Gasan, Geumcheon- Gu Seoul, Korea.		
<b>Product:</b>	<b>PDP TV Monitor</b>		
<b>FCC ID:</b>	TDCNP-42S3B1	<b>Model No.:</b>	<b>NP-42S3B1</b>
<b>Receipt No.:</b>	SKTEU05-0147	<b>Date of receipt:</b>	Mar. 02, 2005
<b>Date of Issue:</b>	June. 01, 2005		
<b>Testing location:</b>	<b>SK TECH CO., LTD.</b> 820-2, Wolmoon-Ri, Wabu-Up, Namyangju-Si, Kyunggi-Do, Korea		
<b>Test Standards:</b>	<b>ANSI C63.4 / 2003</b>		
<b>Rule Parts:</b>	<b>FCC part 15 Subpart B</b>		
<b>Equipment Class :</b>	<b>Class B Digital Device Peripheral</b>		
<b>Test Result:</b>	The above mentioned product has been tested and passed.		
<div style="display: flex; justify-content: space-between;"> <div> <b>Prepared by: S.Y.Ye</b>              _____  <i>Signature</i>      <i>Date</i> </div> <div> <b>Tested by: S.B.Ko/Engineer</b>              _____  <i>Signature</i>      <i>Date</i> </div> <div> <b>Approved by: C.H.Jeong</b>  <b>/Manager&amp; Chief Engineer</b>              _____  <i>Signature</i>      <i>Date</i> </div> </div>			
<b>Other Aspects :</b>			
<b>Abbreviations :</b>	· OK, Pass = passed   · Fail = failed   · N/A = not applicable		
<p>☛ •This test report is not permitted to copy partly without our permission.</p> <p>•This test result is dependent on only equipment to be used.</p> <p>•This test result is based on a single evaluation of one sample of the above mentioned.</p> <p>•This test report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S Government.</p> <p>• We certify that this test report has been based on the measurement standards that is traceable to the national or International standards.</p>			
 <b>NVLAP Lab. Code: 200220-0</b>			



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## 1. General

This equipment has been shown to be capable of compliance with the applicable technical standards and was tested in accordance with the measurement procedures as indicated in this report.

We attest to the accuracy of data. All measurements reported herein were performed by SK Tech Co., Ltd. and were made under Chief Engineer's supervision.

We assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

## 2. Test Site

SK TECH Co., Ltd.

### 2.1 Location

820-2, Wolmoon Ri, Wabu-Up, Namyangju-Si, Kyunggi-Do, Korea

The test site is in compliance with ISO/IEC 17025 for general requirements for the competence of testing and calibration laboratories.

This laboratory is accredited by NVLAP for NVLAP Lab. Code : 200220-0 and DATech for DAR-Registration No.:DAT-P-076/97-01



## 2.2 List of Test and Measurement Instruments

**Table 1 : List of Test and Measurement Equipment**

- **Conducted Disturbance**

Kind of Equipment	Type	S/N	Calibrated until
EMI Receiver	ESHS10	862970/019	10.2005
Artificial Mains Network	ESH2-Z5	834549/011	08.2005
EMI Receiver	ESHS10	835871/002	11.2005
Artificial Mains Network	ESH3-Z5	836679/018	08.2005

- **Radiated Disturbance**

Kind of Equipment	Type	S/N	Calibrated until
EMI Receiver	ESVS 10	825120/013	10.2005
EMI Receiver	ESVS 10	834468/008	11.2005
Spectrum Analyzer	R3361A	11730187	10.2005
Amplifier	8447F	3113A05153	08.2005
Log Periodic Antenna	UHALP9107	1819	10.2005
Biconical Antenna	BBA9106	91031626	10.2005
Open Site Cable	N/A	N/A	N/A
Antenna Turntable Driver	5907	N/A	N/A
Antenna Turntable controller	5906	N/A	N/A
Amp & Receiver connection cable	N/A	N/A	N/A
Amp & Spectrum connection cable	N/A	N/A	N/A
50Ω Switcher	MP59B	6100214538	N/A

## 2.3 Test Date

Date of Application : Mar. 02, 2005

Date of Test : Apr. 09, 2005 ~ May. 02, 2005

## 2.4 Test Environment

See each test item's description.



### 3. Description of the tested samples

The EUT is the Plasma Display Panel Television.

(Model NP-42S3\*\* is basic model.- \*\* in the model designation can be number 1 to 9 or blank or letter A to Z denoting national market.)

### 3.1 Rating and Physical Characteristics

#### Technical Specifications

Item			Specifications
Display	Screen Size (Active Area)		42" (920.1 mm(H) x 518.4 mm(V) $\pm$ 5mm)
	Aspect ratio		16:9
	Number of Pixels		852 (H) x 480 (V)
	Pixel Pitch		1.080 mm (H) x 1.080mm (V)
	Displayable Colors		16.77 million colors
	Brightness		1000 cd/m <sup>2</sup>
	Contrast Ratio		3000:1
	Color Temperature		9500 K
	Viewing Angle		Over 160 degrees
In / Out Terminals	Speaker Output	Internal Speaker	10W(L) + 10W(R)[rms] / 8 $\Omega$ 2 Way 2 Speaker
		External Speaker	10W(L) + 10W(R)[rms] / 8 $\Omega$ 2 Way 6 Speaker System
	RS-232C	D-Sub 9-pin x 1	TXD/RXD
	DVI Input	DVI 24-pin x 1	Digital RGB : TMDS 1024 X 768 / 75 Hz (XGA)
		Ear Jack x 1	Audio : 0.5V[rms] (L+R)
	RGB Input	D-Sub 15-pin x 1	RGB : 0.7V[p-p](75 $\Omega$ ), H/CS/V : TTL (2.2 k $\Omega$ ), SOG : 1V[p-p](75 $\Omega$ ) 1024 X 768 / 75 Hz (XGA)
		Ear Jack x 1	Audio : 0.5V[rms] (L+R)
	Compone nt Input	RCA-pin x 1	Y: 1V[p-p](75 $\Omega$ ), Pb/Cb : 0.7V[p-p](75 $\Omega$ ), Pr/Cr : 0.7V[p-p](75 $\Omega$ ) EDTV : 525i(480i), 625i(576i) SDTV : 625p(576p), 525p(480p) HDTV : 750p(720p), 1125i(1035i,1080i)
		RCA-pin x 1	Audio : 0.5V[rms] (L+R)
	S-Video Input	Mini DIN 4-pin x 1	Y: 1V[p-p] (75 $\Omega$ ), C: 0.286V[p-p] (75 $\Omega$ ) [NTSC] Y: 1V[p-p] (75 $\Omega$ ), C: 0.3V[p-p] (75 $\Omega$ ) [PAL/SECAM]
	Video Input	RCA-pin x 1	Video : 1V[p-p] (75 $\Omega$ ) [NTSC/PAL/SECAM]
		RCA-pin x 1	Audio : 0.5V[rms] (L+R)
	Monitor Output	RCA-pin x 1	Video : 1V[p-p] (75 $\Omega$ )
		RCA-pin x 1	Audio : 0.5V[rms] (L+R)
	Scart	Scart 21-pin x 2 [Full x 1, Half x 1]	Video : 1V[p-p] (75 $\Omega$ ) Y: 1V[p-p] (75 $\Omega$ ), C : 0.3V[p-p] (75 $\Omega$ ) RGB : 0.7V[p-p] (75 $\Omega$ )
			Audio : 0.5V[rms] (L+R)
	Antenna Input	DIN - Type x 1	Analog Air/Cable (75 $\Omega$ ) [Unbalanced] PAL/SECAM - B/G, D/K, I, L/L'
General	Power Supply		AC 100-240 V~, 50/60 Hz
	Power Consumption (Typical)		310 W

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<b>Environment Condition</b>	Dimension s (W x H x D)	Without Stand	1028 mm x 625 mm x 89.8 mm
		With Stand	1028 mm x 692.5 mm x 270 mm
	Weight	Without Stand	30 kg
		With Stand	35kg
	Temperature	Operational	0 ~ 40 °C
		Storage	-20 ~ 60 °C
	Humidity	Operational	20 ~ 80% RH (No condensation)
		Storage	10 ~ 90% RH (No condensation)
	Pressure	Operational	800 ~ 1100 hPa (Altitude : 0 ~ 2,000 m)
		Storage	700 ~ 1100 hPa (Altitude : 0 ~ 3,000 m)

**External Speaker (Optional)**

Item	Specifications
Dimensions (W x H x D)	113 mm x 81.2 mm x 626.6 mm
Weight	4.6 kg ( L + R )
Type	2 Way 6 Speaker System
Input	10 W ( RMS)
Impedence	8 Ω
Output Sound Pressure	87 dB/W/M
Frequency Response	45 Hz ~ 20 KHz

**Internal Speaker (Optional)**

Item	Specifications
Type	2 Way 2 Speaker System
Input	10 W (RMS)
Impedence	8 Ω
Output Sound Pressure	88 dB/W/M
Frequency Response	140 Hz ~ 10 KHz

<b>Standard</b>	Owner's Instructions, Remote Control/AAA Batteries, Antenna Cable, Power Cord, Speaker Cables
<b>Optional</b>	Foot Stand, Table-Top Stand, Wall-Mount Bracket, Ceiling-Mount Bracket, Internal Speaker System, External Speaker System, DVI Cable, VGA(D-SUB) Cable, Audio Cable, Component Cable, RCA Video Cable, RCA Audio Cable, S-Video Cable, Scart Cable

**3.2 Submitted Documents**

N/A



## 4. Measurement Conditions

Operating voltage of the EUT is 120V, 60Hz

### 4.1 Modes of Operation

1)PC Mode: After we connected PC to EUT through the VGA Cable, we ran “H” pattern program that is stored to PC and the signal was displayed in EUT, during the all test.

2)TV Mode: After we connected Patten Generator to EUT through the Video Cable, we were Transmitted the color bar signal generated by the Pattern Generator to EUT.  
And the signal was displayed in EUT, during the all tests.

### 4.2 List of Peripherals

Description	Manufacturer	Model Name	Serial No.	FCC ID
Plasma Display Panel Television (EUT)	Nextier Inc.	NP-42S3**	N/A	-
Keyboard(PS2)	Jing Mold Enterprise Co., Ltd.	LKB-0107	20103462	-
Mouse(USB)	LG	LMULBGS01I	04CU000259	-
Printer(Parallel)	EPSON PRECISION (PHILIPPINES),INC.	EPSON STYLUS PHOTO 830	ELTK014619	-
Personal Computer	LG	W8S	203KI12463	-
Color Video Monitor	HITRON SYSTEMS INC.	CVM1054X	M0090004	-
PAL Pattern Generator	LEADER	LCG-399A	9010004	-

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### 4.3 Type of Used Cables

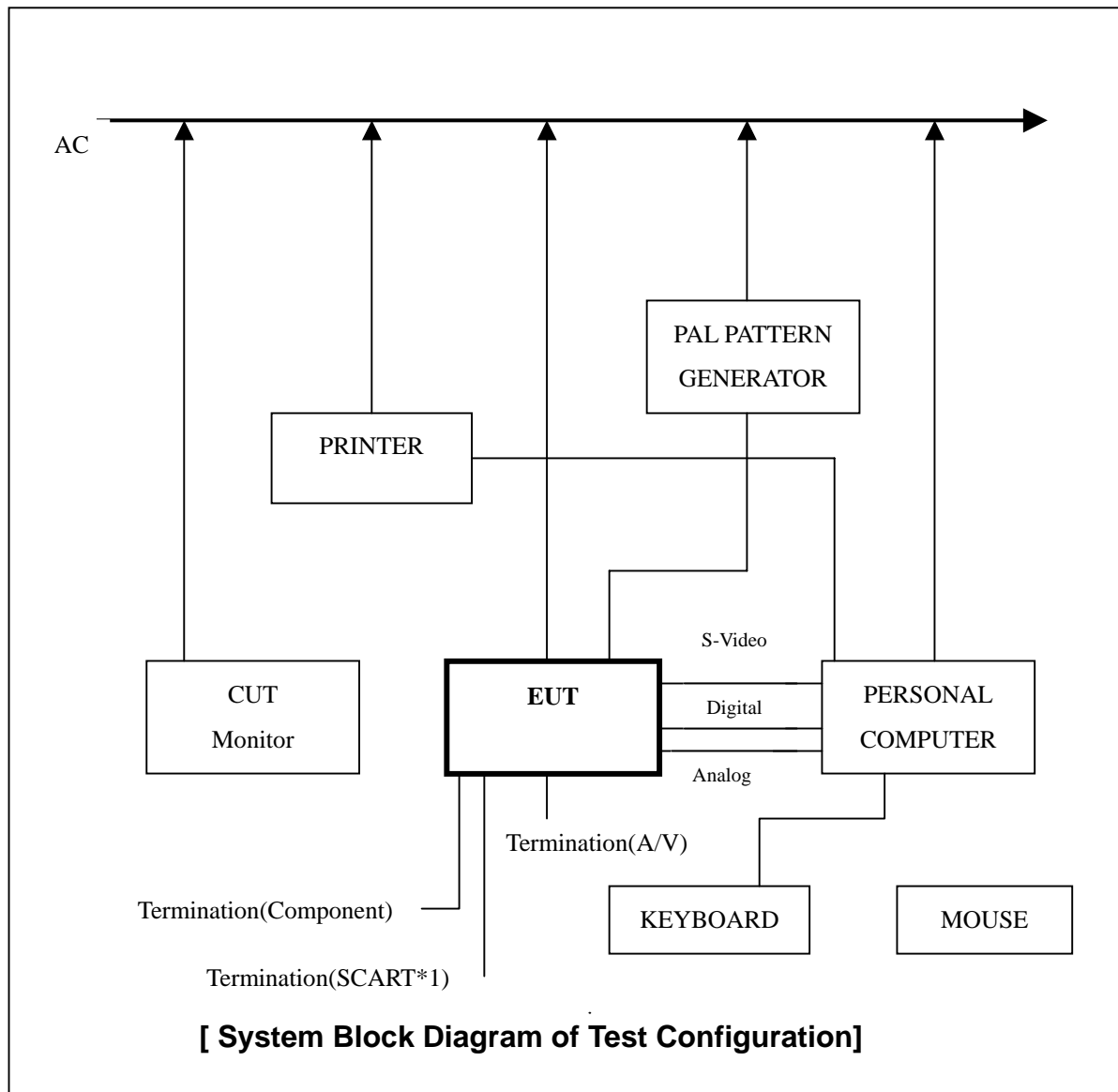
Description	Length	Type of shield	Manufacturer	Remark
VGA(Digital)	1.2	Shield	-	
VGA(Analog)	1.2	Shield	-	
Tuner Input	3.0	Shield	-	
SCART	1.0	Shield	-	
Power(x5	1.3	Non-Shield	-	
Parallel	1.3	Shield	-	





## 4.4 Test Setup

The test setup photographs showed the external supply connections and interfaces.





## 4.5 Uncertainty

### 1) Radiated disturbance

⊙ Horizontally polarized radiated disturbances from 30MHz to 1000MHz at a distance of 10m

Input quantity	Uncertainty of Xi		U(Xi) dB	Ci	Ciu(xi)	CISPR 16-4
	dB	Probability distribution function				
1) Receiver reading	±0.1	K=1	0.1	1	<b>0.1</b>	0.10
2) Attenuation: antenna-receiver	±0.18	K=2	0.09	1	<b>0.09</b>	0.05
3) Antenna factor	±1.5	K=2	0.75	1	<b>0.75</b>	1.00
RECEIVER CORRECTIONS:						
4) Sine wave voltage	±0.56	K=2	0.28	1	<b>0.50</b>	0.50
5) Pulse amplitude response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
6) Pulse repetition rate response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
7) Noise floor proximity	±0.5	K=2	0.25	1	<b>0.25</b>	0.25
8) AF frequency interpolation	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.17
9) Balance	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.53
10) AF height deviations	±0.5	Rectangular (√3)	0.29	1	<b>0.29</b>	0.29
11) Phase center location	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.17
12) Directive difference	+1.0	Rectangular (√3)	0.29	1	<b>0.29</b>	0.29
13) Cross polarization	±0.9	Rectangular (√3)	0.52	1	<b>0.52</b>	0.52
14) Site corrections	±2.6	Rectangular (√3)	1.5	1	<b>1.5</b>	1.63
15) Mismatch (ant-receiver)	±1.06	U-shaped (√2)	0.75	1	<b>0.75</b>	0.67

### Combined Uncertainty

$$Uc(xi) = \sqrt{(1)^2 + (2)^2 + (3)^2 + (4)^2 + (5)^2 + (6)^2 + (7)^2 + (8)^2 + (9)^2 + (10)^2 + (11)^2 + (12)^2 + (13)^2 + (14)^2 + (15)^2} = 2.37$$

### Expanded Uncertainty

$$U = k \cdot Uc(xi) = 2 \cdot 2.37 = 4.74 \text{ dB} \quad (\text{The coverage factor } k=2 \text{ yields approximately a 95\% level of confidence})$$



⊙ **Vertically polarized radiated disturbances from 30MHz to 1000MHz at a distance of 10m**

Input quantity	Uncertainty of Xi		U(Xi) dB	Ci	Ciu(xi)	CISPR 16-4
	dB	Probability distribution function				
1) Receiver reading	±0.1	K =1	0.1	1	<b>0.1</b>	0.10
2) Attenuation: antenna-receiver	±0.18	K=2	0.09	1	<b>0.09</b>	0.05
3) Antenna factor	±1.5	K=2	0.75	1	<b>0.75</b>	1.00
RECEIVER CORRECTIONS:						
4) Sine wave voltage	±0.56	K=2	0.28	1	<b>0.50</b>	0.50
5) Pulse amplitude response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
6) Pulse repetition rate response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
7) Noise floor proximity	±0.5	K=2	0.25	1	<b>0.25</b>	0.25
8) AF frequency interpolation	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.17
9) Balance	±0.9	Rectangular (√3)	0.52	1	<b>0.52</b>	0.52
10) AF height deviations	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.17
11) phase center location	±0.3	Rectangular (√3)	0.17	1	<b>0.17</b>	0.17
12) directive difference	+1.0	Rectangular (√3)	0.29	1	<b>0.29</b>	0.29
13) cross polarization	±0.9	Rectangular (√3)	0.52	1	<b>0.52</b>	0.52
14) site corrections	±2.6	Rectangular (√3)	1.5	1	<b>1.5</b>	1.63
15) Mismatch (ant-receiver)	±1.06	U-shaped (√2)	0.75	1	<b>0.75</b>	0.67

**Combined Uncertainty**

$$Uc(xi) = \sqrt{(1)^2 + (2)^2 + (3)^2 + (4)^2 + (5)^2 + (6)^2 + (7)^2 + (8)^2 + (9)^2 + (10)^2 + (11)^2 + (12)^2 + (13)^2 + (14)^2 + (15)^2} = \mathbf{2.43}$$

**Expanded Uncertainty**

$$U = k \cdot Uc(xi) = 2 \cdot 2.43 = \mathbf{4.86dB}$$

(The coverage factor k =2 yields approximately a 95% level of confidence)

**2) Conducted disturbance**

⊙ **Conducted disturbance from 150KHz to 30MHz using a 50Ω/50uH AMN**

input quantity	Uncertainty of Xi		U(Xi) dB	Ci	Ciu(xi)	CISPR 16-4
	dB	Probability distribution function				
1) Receiver Reading	±0.1	K=1	0.1	1	<b>0.1</b>	0.10
2) Attenuation:AMN-receiver	±0.36	Triangular (√6)	0.15	1	<b>0.15</b>	0.05
RECEIVER CORRECTIONS:						
3) Sine wave voltage	±0.5	K=2	0.25	1	<b>0.25</b>	0.50
4) Pulse amplitude response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
5) Pulse repetition rate response	±1.5	Rectangular (√3)	0.87	1	<b>0.87</b>	0.87
6) AMN voltage division factor	±0.07	K=2	0.04	1	<b>0.04</b>	0.1
7) Mismatch : AMN-receiver	±0.55	U-shaped (√2)	0.39	1	<b>0.39</b>	0.53
8) AMN impedance	±1.52	Triangular (√6)	0.62	1	<b>0.62</b>	1.08

- 1)~8) For numbered comments, refer to following articles

**Combined Uncertainty**

$$Uc(xi) = \sqrt{(1)^2 + (2)^2 + (3)^2 + (4)^2 + (5)^2 + (6)^2 + (7)^2 + (8)^2} = \mathbf{1.47}$$

**Expanded uncertainty**

$$U = k \cdot Uc(xi) = 2 \cdot 1.47 = \mathbf{2.94dB}$$

The coverage factor  $k=2$  yields approximately a 95% level of confidence

⊙ **Refer**

- 1) receiver's resolution capacity
- 2) refer to the sub clause 11. of a calibration report
- 3) quoted from CISPR 16-4
- 4) refer to a calibration report
- 5) refer to CISPR 16-4 article 5. 7)
- 6) refer to a calibration report and a measured AMN impedance data



## 5. EMISSION Test

### 5.1 Conducted Emissions

**Result:****PASS**

The line-conducted facility is located inside a 2.0M x 3.6M x 7.2M shielded enclosure.

The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 604-05.

A 1m x 1.5m wooden table 80cm high is placed 40cm. away from the vertical wall and 1.5m away from the side wall of the shielded room. ROHDE & SCHWARZ Model ESH3-Z5 (10kHz-30MHz) 50ohm/50 uH Line-Impedance Stabilization Networks(LISNs) are bonded to the shielded room.

The EUT is powered from the ROHDE & SCHWARZ LISN and the support equipment is powered from the ROHDE & SCHWARZ LISN. Power to the LISNs are filtered by a high-current high-insertion loss Lindgren enclosures power line filters (100dB 14kHz-10GHz).

The purpose of the filter is to attenuate ambient signal interference and this filter is also bonded to the shielded enclosure.

All electrical cables are shielded by braided tinned copper zipper tubing with inner diameter of 1/2".

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 ROHDE & SCHWARZ LISN.

All interconnecting cables more than 1 meter were shortened by non-inductive bundling (serpentine fashion) to a 1-meter length.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT.

The spectrum was scanned from 150kHz to 30MHz with 100msec. sweep time.

The frequency producing the maximum level was reexamined using EMI/field Intensity Meter (ESHS 10) and Quasi-Peak adapter. The detector function was set to CISPR quasi-peak mode.

The bandwidth of the receiver was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission.

Each emission was maximized by: switching power lines; varying the mode of operation or resolution; clock or data exchange speed; if applicable; whichever determined the worst-case emission.

Photographs of the worst-case emission can be seen in photograph of conducted test.

Each EME reported was calibrated using self-calibrating mode.

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**Figure 1 : Spectral Diagram, LINE – PE (QUASIPeAK)**

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**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
Manuf:  
Op Cond:  
Operator:  
Test Spec:  
Comment: LINE-PE  
QUASI  
Result File: saix-na.dat : PDP TV Monitor

Scan Settings			Receiver Settings					
(1 Range)								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamplifier	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X QP  
Meas Time: 1sec  
Peaks: 8  
Acc Margin: 35 dB

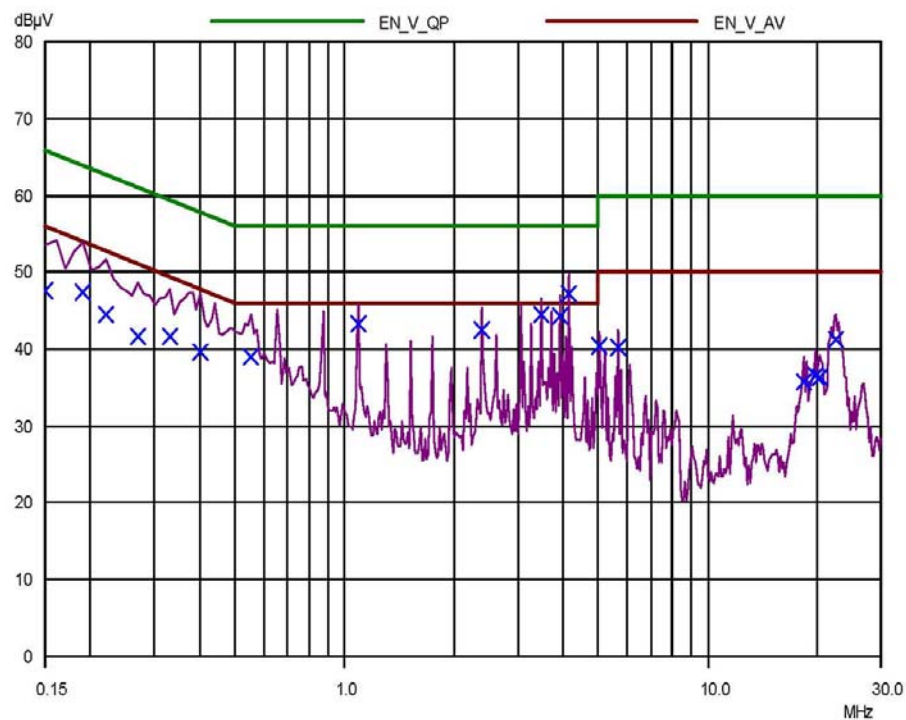




Figure 2: Test Data, LINE – PE (QUASIPeAK)

29 Apr 2005 02:51

## CONDUCTED DISTURBANCE

EUT: NP-42S3\*\*  
 Manuf:  
 Op Cond:  
 Operator:  
 Test Spec:  
 Comment: LINE-PE  
 QUASI  
 Result File: saix-na.dat : PDP TV Monitor

Scan Settings			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X QP  
 Meas Time: 1sec  
 Peaks: 8  
 Acc Margin: 35 dB

## Final Measurement Results

Frequency MHz	QP Level dBμV	QP Limit dBμV	QP Delta dB
0.15	47.55	66.00	18.45
0.19	47.43	64.04	16.61
0.22	44.63	62.82	18.19
0.27	41.68	61.12	19.44
0.33	41.60	59.45	17.85
0.4	39.52	57.85	18.33
0.55	38.89	56.00	17.11
1.09	43.36	56.00	12.64
2.39	42.46	56.00	13.54
3.48	44.58	56.00	11.42
3.91	44.42	56.00	11.58
4.13	47.23	56.00	8.77
5.0	40.49	60.00	19.51
5.65	40.16	60.00	19.84
18.32	35.65	60.00	24.35
19.72	36.52	60.00	23.48
20.37	36.22	60.00	23.78
22.45	41.24	60.00	18.76

\* limit exceeded

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**Figure 3 : Spectral Diagram, NEUTRAL – PE (QUASIPeAK)**

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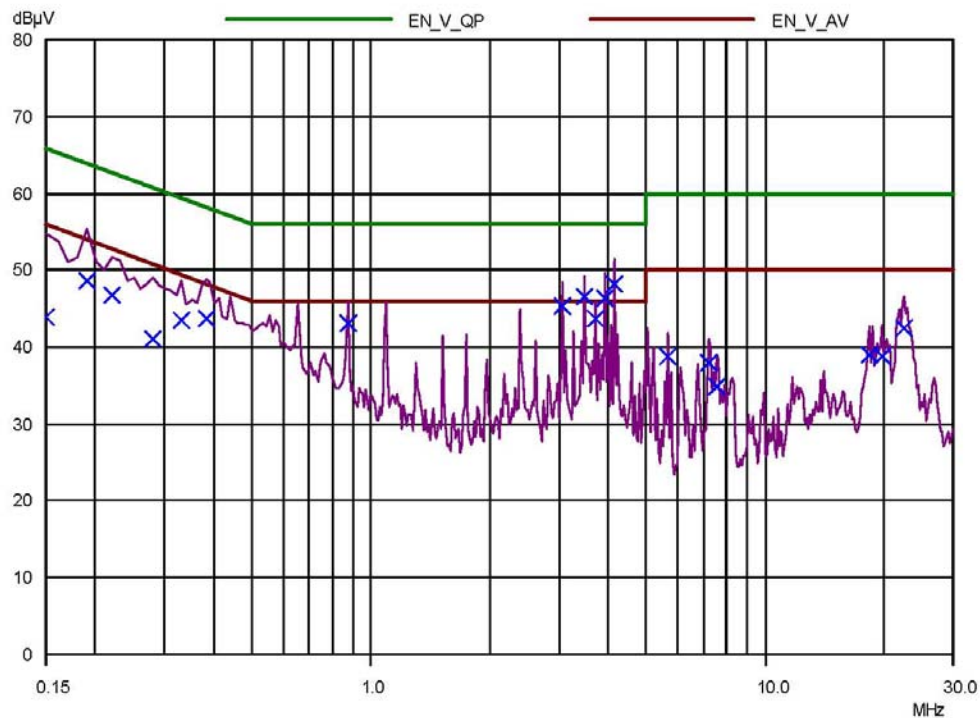
**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
Manuf:  
Op Cond:  
Operator:  
Test Spec:  
Comment: NEUTRAL-PE  
QUASI  
Result File: cea\_n.dat : PDP TV Monitor

**Scan Settings** (1 Range)

Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X QP  
Meas Time: 1sec  
Peaks: 8  
Acc Margin: 35 dB





**Figure 4 : Test Data, NEUTRAL – PE (QUASIPeAK)**

29 Apr 2005 02:31

**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
 Manuf:  
 Op Cond:  
 Operator:  
 Test Spec:  
 Comment: NEUTRAL-PE  
 QUASI  
 Result File: cea\_n.dat : PDP TV Monitor

Scan Settings				Receiver Settings				
(1 Range)								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X QP  
 Meas Time: 1sec  
 Peaks: 8  
 Acc Margin: 35 dB

**Final Measurement Results**

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.15	43.90	66.00	22.10
0.19	48.56	64.04	15.48
0.22	46.75	62.82	16.07
0.28	41.11	60.82	19.71
0.33	43.43	59.45	16.02
0.38	43.76	58.28	14.52
0.87	43.11	56.00	12.89
3.04	45.31	56.00	10.69
3.48	46.62	56.00	9.38
3.69	43.81	56.00	12.19
3.91	46.32	56.00	9.68
4.13	48.23	56.00	7.77
5.65	38.78	60.00	21.22
7.17	37.98	60.00	22.02
7.53	34.93	60.00	25.07
18.32	39.07	60.00	20.93
19.72	38.85	60.00	21.15
22.45	42.48	60.00	17.52

\* limit exceeded

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**Figure 5 : Spectral Diagram, LINE- PE (AVERAGE)**

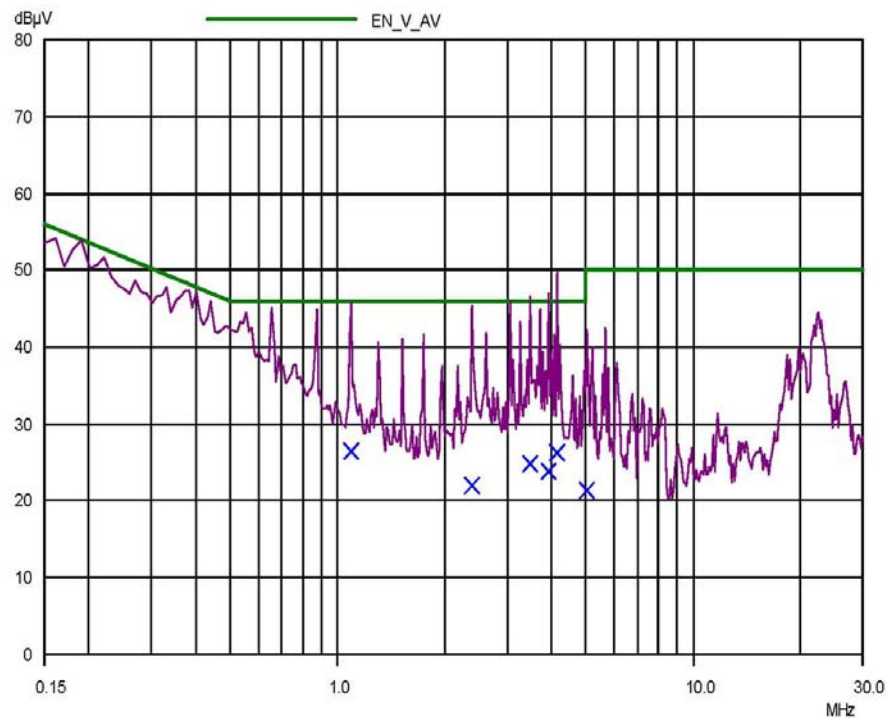
29 Apr 2005 02:54

**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
Manuf:  
Op Cond:  
Operator:  
Test Spec:  
Comment: LINE-PE  
AVERAGE  
Result File: saix-lq.dat : PDP TV Monitor

Scan Settings			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X AV  
Meas Time: 1sec  
Peaks: 8  
Acc Margin: 35 dB



**Figure 6 : Test Data, LINE – PE(AVERAGE)**

29 Apr 2005 02:54

**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
 Manuf:  
 Op Cond:  
 Operator:  
 Test Spec:  
 Comment: LINE-PE  
 AVERAGE  
 Result File: saix-lq.dat : PDP TV Monitor

Scan Settings				Receiver Settings				
(1 Range)								
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB

Final Measurement: Detector: X AV  
 Meas Time: 1sec  
 Peaks: 8  
 Acc Margin: 35 dB

**Final Measurement Results**

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
1.09	26.53	46.00	19.47
2.39	22.00	46.00	24.00
3.48	24.76	46.00	21.24
3.91	23.86	46.00	22.14
4.13	26.20	46.00	19.80
5.0	21.32	50.00	28.68

\* limit exceeded



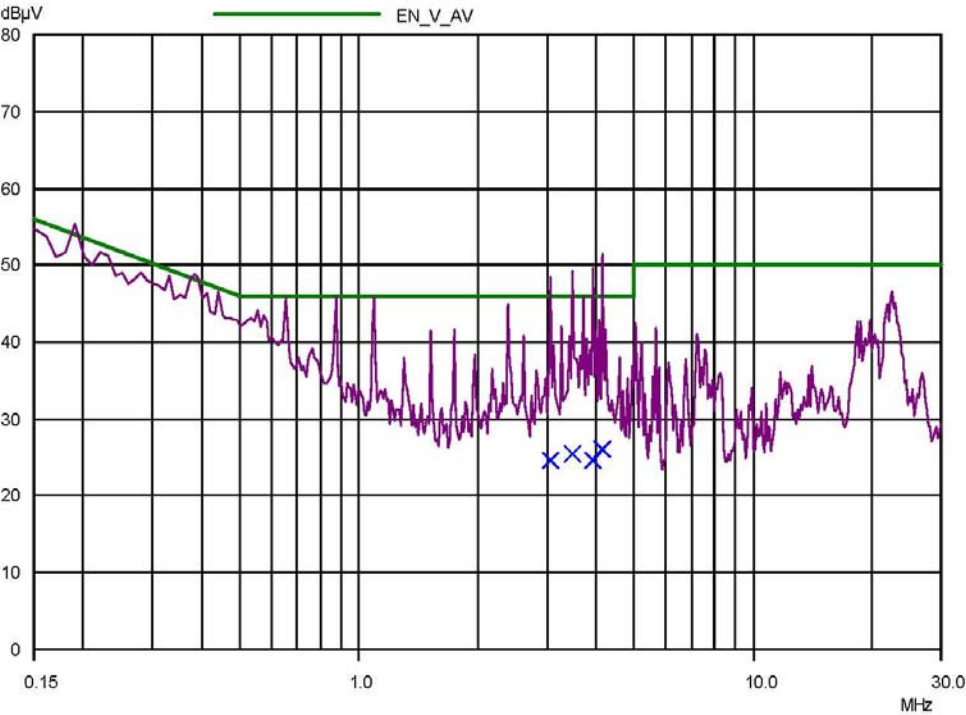
Figure 7 : Spectral Diagram, NEUTRAL– PE (AVERAGE)

CONDUCTED DISTURBANCE

29 Apr 2005 02:35

EUT: NP-42S3\*\*  
Manuf:  
Op Cond:  
Operator:  
Test Spec:  
Comment: NEUTRAL-PE  
AVERAGE  
Result File: SAIX-NQ.dat : PDP TV Monitor

Scan Settings				Receiver Settings				
		Frequencies						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB
Final Measurement:				Detector:	X AV			
				Meas Time:	1sec			
				Peaks:	8			
				Acc Margin:	35 dB			



**Figure 8 : Test Data, NEUTRAL – PE (AVERAGE)**

29 Apr 2005 02:35

**CONDUCTED DISTURBANCE**

EUT: NP-42S3\*\*  
 Manuf:  
 Op Cond:  
 Operator:  
 Test Spec:  
 Comment: NEUTRAL-PE  
 AVERAGE  
 Result File: SAIX-NQ.dat: PDP TV Monitor

**Scan Settings**

(1 Range)

Frequencies			Receiver Settings						
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preampl	OpRge	
150kHz	30MHz	10kHz	10kHz	PK	100msec	Auto	OFF	60dB	

Final Measurement: Detector: X AV  
 Meas Time: 1sec  
 Peaks: 8  
 Acc Margin: 35 dB

**Final Measurement Results**

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
3.04	24.61	46.00	21.39
3.48	25.40	46.00	20.60
3.91	24.51	46.00	21.49
4.13	26.03	46.00	19.97

\* limit exceeded



## 5.2 Radiated Emissions

**Result :****PASS**

Preliminary measurements were made indoors at 3 meter using broadband antennas, broadband amplifier, and spectrum analyzer to determine the frequency producing the maximum EME.

Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, turntable azimuth with respect to the antenna were noted for each frequency found.

The spectrum was scanned from 30 to 300 MHz using biconical antenna and from 300 to 1000 MHz using log-periodic antenna. Above 1GHz, linearly polarized double ridge horn antennas were used.

Final measurements were made outdoors at 3-meter test range using SCHWARZBECK dipole antennas.

The test equipment was placed on a wooden table situated on a 4x4 meter area adjacent to the measurement area. Turntable was to protect from weather in the dome that made with FRP.

Sufficient time for the EUT, support 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 and investigated using EMI/Field Intensity Meter(ESVS 10) and Quasi-Peak Adapter.

The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 100kHz or 1MHz depending on the frequency or type of signal.

The half-wave dipole antenna was tuned to the frequency found during preliminary radiated measurements. The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8-meter high non-metallic 1 x 1.5 meter table.

The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME 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 or resolution; clock or data exchange speed, and/or support equipment, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission.

Photographs of the worst-case emission can be seen in photograph of radiated emission test.

Each EME reported was calibrated using self-calibrating mode.

**Table 2 : Test Data, Radiated Emissions**

Frequency [MHz]	Pol.	Height [m]	Real Reading	Correction Factor		T-Fact [dB]	Data [dBuV/m]	Limits [dBuV/m]	Margin [dB]
				Antenna	Cable				
245.13	V	1.2	12.2	17.4	2.6	20.0	32.2	37.0	4.8
283.27	H	2.8	11.4	18.4	2.9	21.3	32.7	37.0	4.3
400.52	H	2.2	8.1	18.2	3.5	21.7	29.8	37.0	7.2
679.83	V	4.0	6.0	22.1	5.5	27.6	33.6	37.0	3.4
830.91	H	30.0	4.6	23.0	4.9	27.9	32.5	37.0	4.5
923.54	V	1.0	2.1	24.7	5.5	30.2	32.3	37.0	4.7

**NOTES:**

1. All modes of operation were investigated and the worst-case emission are reported.
2. All other emission are non-significant.
3. All readings are calibrated by self-mode in receiver.
4. Measurements using CISPR quasi-peak mode.
5. H = Horizontal, V = Vertical Polarization
6. DATA = Real Reading + T - FACTOR(=Antenna+Cable)
7. Margin = Limits - DATA