



Ref. Certif. No.

JPTUV-067724-M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST
CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE
CERTIFICATS D'ESSAIS DES EQUIPEMENTS
ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE

CERTIFICAT D'ESSAI OC

Product
Produit

Projector

Name and address of the applicant
Nom et adresse du demandeur

NEC Display Solutions, Ltd.
686-1 Nishioi, Oi-machi
Ashigarakami-gun, Kanagawa, 258-8533 Japan

Name and address of the manufacturer
Nom et adresse du fabricant

NEC Display Solutions, Ltd.
686-1 Nishioi, Oi-machi
Ashigarakami-gun, Kanagawa, 258-8533 Japan

Name and address of the factory
Nom et adresse de l'usine

See additional page(s)

Ratings and principal characteristics
Valeurs nominales et caractéristiques principales

AC 100-240V; 50/60Hz; 1) 3.5-1.5A; 2) 3.9-1.7A; 3) 3.8-1.6A
4) 3.4-1.4A; AC 200-240V; 50/60Hz; 5) 1.7A; 6) 1.9A
Class I

Trademark (if any)
Marque de fabrique (si elle existe)

NEC

Type of Manufacturer's Testing Laboratories used
Type de programme du laboratoire d'essais constructeur

N/A

Model / Type Ref.
Ref. de type

1) NP-UM301X, NP-UM301W, 2) NP-UM352W, NP-UM352WTM
3) NP-UM361X, NP-UM351W, 4) NP-ME401W, NP-ME401X
5) NP-UM301X+, NP-UM301W+, 6) NP-UM361X+, NP-UM351W+

Additional information (if necessary may also be
reported on page 2)

Les informations complémentaires (si nécessaire,
peuvent être indiqués sur la 2^{ème} page)

For model details, refer to the test report.
For model differences, refer to the test report.
Re-issue of JPTUV-067724 dated 24.11.2015,
due to first modification.

A sample of the product was tested and found
to be in conformity with
Un échantillon de ce produit a été essayé et a été
considéré conforme à la

IEC 60950-1:2005+A1+A2
See Test Report for National Differences

As shown in the Test Report Ref. No. which forms part
of this Certificate
Comme indiqué dans le Rapport d'essais numéro de
référence qui constitue partie de ce Certificat

11042897 002

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification



TÜVRheinland®

TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku
Yokohama 224-0021 Japan
Phone + 81 45 914-3888
Fax + 81 45 914-3354
Mail: info@jpn.tuv.com
Web: www.tuv.com

Date: 18.10.2016

Signature:

Dipl.-Ing. F. Stoezel

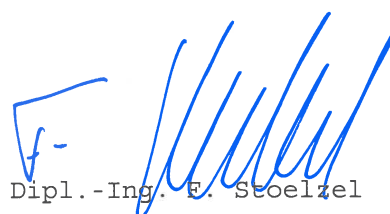
1. SUZHOU SHIN-EI SANGYO CO., LTD.
No. 158-106, 108,
Huashan Road, New District Suzhou,
Jiangsu, China 215011
P.R. China
2. NEC Platforms Thai Co., Ltd.
60/81 Moo 19 Nava Nakorn Industrial
Zone, Paholyothin Road, Tambol Klong
Nueng, Amphur Klong Luang,
Pathumthani Province 12120, Thailand

Additional information (if necessary)
Information complémentaire (si nécessaire)

Report Ref. No.: 11042897 002

Date: 18.10.2016

Signature:


Dipl.-Ing. F. Stoelzel



Test Report issued under the responsibility of:



TEST REPORT

IEC 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report Number.: 11042897 002

Date of issue: October 12, 2016

Total number of pages.....: 34

Applicant's name: NEC Display Solutions, Ltd.

Address: 686-1 Nishioi, Oi-machi, Ashigarakami-gun, Kanagawa, 258-8533
Japan

Test specification:

Standard: IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

Test procedure.....: CB Scheme

Non-standard test method.....: N/A

Test Report Form No.....: IEC60950_1F

Test Report Form(s) Originator.....: SGS Fimko Ltd

Master TRF: Dated 2014-02

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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	Projector
Trade Mark	NEC
Manufacturer.....	Same as applicant
Model/Type reference	Refer to pages 8 and 9
Ratings	Refer to pages 8 and 9

Testing procedure and testing location:		
☒	CB Testing Laboratory:	TÜV Rheinland Taiwan Ltd., Taichung Laboratory
Testing location/ address		No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya District, Taichung City 428, Taiwan
☐	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name + signature)		Duck Lee 
Approved by (name + signature)		Nai-Shuan 
☐	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address		
Tested by (name + signature)		
Approved by (name + signature)		
☐	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
☐	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address		
Tested by (name + signature)		
Witnessed by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature)		

List of Attachments (including a total number of pages in each attachment):

- Photo documentation

Total number of pages in each attachment is indicated in each individual attachment.

Summary of testing:**Tests performed (name of test and test clause):**

All applicable tests as described in Test Case and Measurement Sections were performed.

- The load conditions used during testing as below:
 - video signal provided
 - full raster
 - maximum brightness and contrast
 - continuous operation
 - maximum volume for speaker
 - Each USB 2.0 port with 2.5 W dummy load.
- As client's request, this equipment operating up to altitudes 5000 m was considered, the required clearance multiplied by altitude correction factor, 1.48 according to the Table A.2 of IEC 60664-1:1992 +A1:2000 +A2:2002 standard, see table 2.10.3 and 2.10.4.
- The equipment provided ceiling mounting function and complied with loading test according to sub-clause 4.2.10.
- Unless special specified, all tests were performed on model NP-ME401X to represent other similar models.

Testing location:

All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 3.

Summary of compliance with National Differences**List of countries addressed:**

EU Group Differences, EU Special National Conditions, CA, US,

Explanation of used codes: US = United States of America, CA = Canada

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013

For IEC 60950-1:2005 / EN 60950-1:2006+A11:2009+A1:2010+A12:2011 (per client request):

EU Group Differences, EU Special National Conditions, CN*, DE, FI, IL, KR,

Explanation of used codes: CN = China, DE = Germany, FI = Finland, IL = Israel, KR = Republic of Korea

* National difference to IEC 60950-1:2005 evaluated.

☒ The product fulfils the requirements of EN 60950-1:2006/A11:2009/A1:2010/A12:2011

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

NEC MODEL No.NP-ME401W 100-240V~ 50/60Hz 3.4-1.4A



The lamp(s) in this product contains mercury.
Please dispose according to your local authority law.

La/les lampe(s) dans ce produit contient/contiennent du mercure.
Veuillez procéder à l'élimination selon la législation de votre autorité locale.

Tegangan dan Frekuensi: 100-240V~ 50/60Hz
Produksi **THAILAND**

THIS CABINET IS CONSTRUCTED OF PLASTIC (PC).
MADE IN THAILAND

NEC Display Solutions, Ltd.
4-28, Mita 1-chome, Minato-ku, Tokyo, Japan

Contact address for EMEA
NEC Display Solutions Europe GmbH
Landshuter Allee 12-14
80637 Munich, Germany



CAN ICES-3(B)/NMB-3(B)

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

**CAUTION
ATTENTION**

HINWEIS

ВНИМАНИЕ

주의

注意

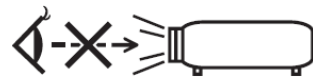
**CAUTION
ATTENTION
HINWEIS**

ВНИМАНИЕ

주의

注意

- : TO PREVENT ELECTRIC SHOCK, DO NOT OPEN TOP COVER. NO USER-SERVICEABLE PARTS INSIDE.
- : AFIN DE PREVENIR UN CHOC ELECTRIQUE NE PAS ENLEVER LE COUVERCLE S'ADRESSER A UN REPARATEUR COMPETENT.
- : ZUR VERMEIDUNG EINES ELEKTRISCHEN SCHLAGES, ÖFFNEN SIE DAS GEHÄUSE NICHT SELBST. IN DIESEM GERÄT SIND KEINE TEILE ENTHALTEN, DIE VOM NUTZER GEWARTET WERDEN KÖNNEN.
- : ВО ИЗБЕЖАНИЕ УДАРА ЭЛЕКТРИЧЕСКИМ ТОКОМ НЕ ОТКРЫВАЙТЕ ВЕРХНЮЮ КРЫШКУ. ВНУТРИ НЕТ ДЕТАЛЕЙ, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.
- : 전기충격 방지를 위해 캐비닛을 열지 마십시오. 내부에는 사용자를 위한 서비스가능 부품이 들어있지 않습니다.
- : 請勿打開頂蓋。小心高壓電擊，機內並無用戶配件。
- : SEE INSTRUCTION MANUAL FOR LAMP REPLACEMENT.
- : VOIR MANUEL D'INSTRUCTION POUR LE CHANGEMENT DE LAMP.
- : ZUM AUSWECHSELN DER LAMPE BEDIENUNGSANLEITUNG BEACHTEN.
- : ZUR TRENNUNG VOM NETZ IST DER NETZSTECKER AUS DER STECKDOSE ZU ZIEHEN!
- : ПРИ ЗАМЕНЕ ЛАМПЫ СМОТРИТЕ ИНСТРУКЦИЮ ПО ЭКСПЛУАТАЦИИ.
- : 램프 교환 시 안내책자를 살펴 보십시오.
- : 請依照操作說明書來更換燈泡。



RG2

Note: 1) The model name of above representative label can be NP-ME401W, NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W and NP-ME301X NP-ME401W, NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W and NP-ME301X with input current rating 3.4-1.4 A.

Test item particulars.....:	
Equipment mobility.....:	☒ movable ☐ hand-held ☐ transportable ☒ stationary ☐ for building-in ☐ direct plug-in
Connection to the mains.....:	☒ pluggable equipment ☒ type A ☐ type B ☐ permanent connection ☒ detachable power supply cord ☐ non-detachable power supply cord ☐ not directly connected to the mains
Operating condition.....:	☒ continuous ☐ rated operating / resting time:
Access location	☒ operator accessible ☐ restricted access location
Over voltage category (OVC)	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other:
Mains supply tolerance (%) or absolute mains supply values +10 and -10	
Tested for IT power systems	☒ Yes ☐ No
IT testing, phase-phase voltage (V)	230 V
Class of equipment	☒ Class I ☐ Class II ☐ Class III ☐ Not classified
Considered current rating of protective device as part of the building installation (A) 20	
Pollution degree (PD)	☐ PD 1 ☒ PD 2 ☐ PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 5000
Altitude of test laboratory (m)	Less than 2000
Mass of equipment (kg)	Approx. 6.0
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing.....:	
Date of receipt of test item.....:	2016-09-29
Date(s) of performance of tests	2016-09-29 to 2016-10-12
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a ☐ comma / ☒ point is used as the decimal separator.	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC60950-1:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:

- ☒ **Yes**
☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) :

1. SUZHOU SHIN-EI SANGYO CO., LTD.

No. 158-106, 108, Huashan Road, New District Suzhou, Jiangsu, China 215011, P.R. China

2. **NEC Platforms Thai Co., Ltd.**

60/81 Moo 19 Nava Nakorn Industrial Zone, Paholyothin Road, Tambol Klong Nueng, Amphur Klong Luang, Pathumthani Province 12120, Thailand

General product information:

Description of change(s):

1. Add new models: NP-ME401W, NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W, NP-ME301X
2. Add new cabinet for new models
3. Add lamp for new models
4. Add new main board for new models
5. Add four DC fan source for new models
6. Add new ballast power supply for new models
7. Add new switching power supply for new models
8. Add a new factory
9. Delete one factory "Toshin Technology (Shenzhen) Co., Ltd."

Change	Testing	Comments
1.	• N/A	See page 9 and Copy of marking plate with bold type for details

2, 3, 4, 5	• Input Test • Limited power source • Protective bonding test • Electric strength tests for circuits with starting pulses • Steady force tests • Impact test • Stress relief test • Loading tests • Protection against moving fan blades • Heating Test • Electric strength test • Abnormal operation tests	For test results, see appended sub-clauses and appended tables. For sources, see appended table 1.5.1 for details. See appended photos and part comparison table with modifications marked in bold as below for details.
6, 7	• N/A	The new ballast and switch power supply are similar original ballast and switch power supply except for model designation. No further tests considered to be necessary, see table 1.5.1 for details.
8, 9	• N/A	See page 7 with bold type for details.

All models are similar to model NP-UM352W+ except for model designation, input rating, without MM board and details see below comparison list and photos as illustration.

Model NP-UM361XiK is similar to model NP-UM361X except for model designation and accompany with approval interactive white board kit type NP03Wi.

Model NP-UM351XiK is similar to model NP-UM351W except for model designation and accompany with approval interactive white board kit type NP03Wi.

Model NP-UM361XTMK is similar to model NP-UM361X except for model designation and accompany with approval interactive white board kit type NP03Wi and approval touch module type NP01TM.

Model NP-UM351WTMK is similar to model NP-UM351W except for model designation and accompany with approval interactive white board kit type NP03Wi and approval touch module type NP01TM.

Model NP-UM352WTMK is similar to model NP-UM352W except for model designation and accompany with approval touch module type NP01TM.

Model NP-UM361XiK2 is similar to model NP-UM361X except for model designation and accompany with approval interactive white board kit type NP04Wi.

Model NP-UM351WiK2 is similar to model NP-UM351W except for model designation and accompany with approval interactive white board kit type NP04Wi.

Model NP-UM361XTMK2 is similar to model NP-UM361X except for model designation and accompany with approval interactive white board kit type NP04Wi and approval touch module type NP01TM.

Model NP-UM351WTMK2 is similar to model NP-UM351W except for model designation and accompany with approval interactive white board kit type NP04Wi and approval touch module type NP01TM.

Model NP-ME401W is similar to model NP-UM361X except for model designation, input rating, enclosure sharp, main board, DC fan, ballast power supply and switching power supply and lamp.

Models NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W NP-ME301X is similar to model NP-ME401W except for model designation, Brightness, Lamp Wattage and Resolutions.

Model name	Input Rating	Lamp Wattage	Ballast	Brightne ss	Resolution s	PSU
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NP-UM301X	100-240 Vac, 50/60 Hz, 3.5-1.5 A	235 W	PHG231A1 0WD	3000lm	XGA 1024 x 768	ZSNED06 I
NP-UM301X+	200-240 Vac, 50/60 Hz, 1.7 A					
NP-UM301W	100-240 Vac, 50/60 Hz, 3.5-1.5 A				WXGA 1280 x 800	
NP-UM301W+	200-240 Vac, 50/60 Hz, 1.7 A					
NP-UM361X, NP-UM361XiK, NP-UM361XTMK, NP-UM361XiK2, NP-UM361XTMK2	100-240 Vac, 50/60 Hz, 3.8-1.6 A	255 W	PHG251A1 XD	3600lm	XGA 1024 x 768	
NP-UM361X+	200-240 Vac, 50/60 Hz, 1.9 A					
NP-UM351W, NP-UM351WiK, NP-UM351WTMK, NP-UM351WiK2, NP-UM351WTMK2	100-240 Vac, 50/60 Hz, 3.8-1.6 A			3500lm	WXGA 1280 x 800	
NP-UM351W+	200-240 Vac, 50/60 Hz, 1.9 A					
NP-UM352W, NP-UM352WTMK	100-240 Vac, 50/60 Hz, 3.9-1.7 A					
NP-UM352W+	200-240 Vac, 50/60 Hz, 1.9 A					
NP-ME401W	100-240 Vac, 50/60 Hz, 3.4-1.4 A	240 W	USHIO / PHG231A1 0CD	4000lm	WXGA 1280 x 800	Nichicon / ZSNEF16 IA
NP-ME401X					XGA 1024 x 768	
NP-ME361W		235 W		3600lm	WXGA 1280 x 800	
NP-ME361X					XGA 1024 x 768	
NP-ME331W				3300lm	WXGA 1280 x 800	
NP-ME331X					XGA 1024 x 768	
NP-ME301W		214 W		3000lm	WXGA 1280 x 800	
NP-ME301X					XGA 1024 x 768	

History of amendments and modifications:

Ref. No. 11042897 001, dated 22. 09. 2015 (original test report)

Ref. No. 11042897 002, dated 12. 10. 2016 (modification)

Abbreviations used in the report:

- normal conditions	N.C.	- single fault conditions	S.F.C
- functional insulation	OP	- basic insulation	BI
- double insulation	DI	- supplementary insulation	SI
- between parts of opposite polarity	BOP	- reinforced insulation	RI

Indicate used abbreviations (if any)

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.2	Mechanical strength		P
4.2.1	General	After following tests, the sample continues to complied relevant requirements.	P
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N	Applied to parts other than in 4.2.3 and 4.2.4.	P
4.2.3	Steady force test, 30 N	Applied to internal enclosure or barrier.	P
4.2.4	Steady force test, 250 N	Applied to all sources of plastic enclosure. .	P
4.2.5	Impact test	Applied to all source of external surfaces of plastic enclosure except following parts: Lens.	P
	Fall test	See above.	P
	Swing test	See above.	P
4.2.6	Drop test; height (mm) :		N/A
4.2.7	Stress relief test	At 74.4 °C for 7 hr	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified :		N/A
4.2.9	High pressure lamps	The mechanical enclosure provides adequate strength.	P
4.2.10	Wall or ceiling mounted equipment; force (N) :	The unit was subjected to the load test. An additional force of 8.7 kg (3 times the mass of the unit) was applied to the unit plus the ceiling-mounting accessory and sustained for 1 min. The unit withstood the load test without damages or breaks.	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.5.2	Light emitting diodes (LEDs)	The following parts are considered complied without tests: Indicating lights Opto-couplers According to CTL Decision sheet No. PDSH 1061, lamp should evaluated IEC 62471-5, and this lamp tested by TÜV Rheinland, the test result as below: For NP-ME401X $L_B=93622.05 \text{ w/m}^2\text{sr}$ $L_R=510286.19 \text{ w/m}^2\text{sr}$ $E_{IR}=0.01604 \text{ w/m}^2$ RG2 limits $L_B=4000000 \text{ w/m}^2\text{sr}$ $L_R=2.14\text{E}+06 \text{ w/m}^2\text{sr}$ $E_{IR}=3200 \text{ w/m}^2$ This lamp complied with Low Risk (Risk Group 2).	P
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		P
4.4.1	General	The rotating part of the build-in DC fans and iris motor are protected by the enclosure, which considered no accessible to the user.	P
4.4.2	Protection in operator access areas	See below.	P
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations	Not limited for restricted access locations.	N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades	See below.	P
4.4.5.1	General	Moving fan blades are unlikely to cause pain or injury. Other DC Fans not located in operator access areas.	P
	Not considered to cause pain or injury. a)	The above mention fan blade classified as 4.4.5.1 a).	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Is considered to cause pain, not injury. b) :		N/A
	Considered to cause injury. c) :		N/A
4.4.5.2	Protection for users	See above.	P
	Use of symbol or warning :		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning :		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		P
B.1	General requirements	See below.	P
	Position :	(see appended table 1.5.1)	—
	Manufacturer :	(see appended table 1.5.1)	—
	Type :	(see appended table 1.5.1)	—
	Rated values :	(see appended table 1.5.1)	—
B.2	Test conditions	Considered, on the bench.	P
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) :		—
	Electric strength test: test voltage (V) :		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		P
B.7.1	General	See below.	P
B.7.2	Test procedure	B.7.3 alternative test procedure used.	N/A
B.7.3	Alternative test procedure	See appended table 5.3 for test result.	P
B.7.4	Electric strength test; test voltage (V) :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Operating voltage (V)		—

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
1.5.1	TABLE: List of critical components				P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾
For models: NP-ME401W, NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W, NP-ME301X					
For projector					
Plastic Enclosure (Top cover, Bottom cover, Lamp cover, Panel(I/O))	TEIJIN LIMITED RESIN AND PLASTIC	MN-3606B(#)	5VB, 1.8 mm thickness min., 95 °C min.	UL 94	UL (E98529)
Plastic Enclosure (Air Filter Case)	TEIJIN LIMITED RESIN AND PLASTIC	MN-3606B(#)	5VB, 1.8 mm thickness min., 95 °C min.	UL 94	UL (E98529)
Air Filter Holder	TEIJIN LIMITED RESIN AND PLASTIC	MN-3606B(#)	5VB, 1.5 mm thickness min., 95 °C min.	UL 94	UL (E98529)
Plastic Bottom Case (For Ballast Board)	TEIJIN LIMITED RESIN AND PLASTIC	LN-2950(#)	V-0 min., 1.3 mm thickness min.	UL 94	UL (E50075)
Plastic Case (For Power Board)	TEIJIN LIMITED RESIN AND PLASTIC	LN-2950(#)	V-0 min., 1.3 mm thickness min.	UL 94	UL (E50075)
Current plate (For Ballast Board)	TEIJIN LIMITED RESIN AND PLASTIC	LN-2950(#)	V-0 min., 1.4 mm thickness min.	UL 94	UL (E50075)
Insulation Sheet (Under Power Board)	SUN DELTA CORP	VS(f)	V-0 min., 0.4 mm thickness min.	UL 94	UL (E301813)
Appliance Inlet	SOLTEAM ELECTRONICS CO., LTD.	ST71	10 A, 250 V	IEC/EN 60320-1, UL 498	Fimko, ENEC 16, UL (E200241)
Lead Wires (Connecting between Appliance Inlet and power board)	LTK ELECTRIC WIRE (HUIZHOU) LTD	UL Style No. 1015	600V, 105°C, VW-1, 0.4 mm thickness min at any point	UL 758	UL (E148000)
	SHENZHEN LINOYA ELECTRONIC CO LTD	UL Style No. 1015	600V, 105°C, VW-1, 0.4 mm thickness min at any point	UL 758	UL (E315618)

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Primary housing connector of AC inlet (Connecting to wafer connector CN001 of power board)	JAPAN SOLDERLESS TERMINAL MFG CO LTD	VH Series	7 A, 250 V, 85 °C	IEC/EN 61984 UL 1977	TÜV, UL(E60389)
Ballast Power Supply (For Lamp: NSHA235NE)	MURATA MFG CO LTD POWER DEVICE PRODUCTS DIVISION	PHG231A10CD	I/P: 250-420 Vdc. O/P: 180 Vac max., 3.6A max., 250 W max.	IEC 60950-1:2005+A1:2009, EN 60950-1:2006+A1:2010+A12:2011 UL 60950-1	CB (issued by UL/Japan), UL (E190503)
Lamp Compartment	DIC CORP	FZ-3600-L4	V-0 min., 1.5 mm thickness min., 200 °C min.	UL 94, UL 746C	UL (E53829)
Lamp Assembly	Interchangeable	NP43LP	--	--	--
- Lamp	USHIO INC.	NSHA235NE	240W max.	--	--
- Lamp Cable	Interchangeable	Interchangeable	3KVac(20KVdc) min., 20 AWG min., 200 °C min., Rated FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1	UL 758	UL
- Lamp Holder	POLYPLASTICS CO LTD	E130i	V-0 min., 0.75mm thick min., 220 °C min.	UL 94, UL 746C	UL (E106764)
- Wafer Connector (Connecting to Housing Connector of Lamp)	POLYPLASTICS CO LTD	E130i	V-0 min., 0.75mm thick min., 220 °C min.	UL 94, UL 746C	UL (E106764)
Housing Connector (Connecting to Wafer Connector CN3 of Ballast)	JAPAN SOLDERLESS TERMINAL MFG CO., LTD.	VH Series	7 A, 250 V, 85 °C	IEC/EN 61984 UL 1977	TÜV, UL(E60389)
Housing Connector (Connecting to Wafer Connector of Lamp)	POLYPLASTICS CO LTD	E130i	V-0 min., 0.75mm thick min., 220 °C min.	UL 94, UL 746C	UL (E106764)

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Temperature Sensing (For Lamp Sensing)	UCHIYA THERMOSTAT CO LTD	UP62G	125/250 Vac, 0.5 A or 1.6 A or 2.5 A, max. temp. is 150 °C (Operating Temp. 120 °C)	IEC/EN 60730-1, IEC/EN 60730-2-9, UL 873	VDE, UL(E50124)
DC Fan (LCD Fan)	DELTA ELECTRONICS, INC.	BSB0812HN (marked BSB0812HN-BC29)	12 Vdc, 0.6 A, 0.378m ³ /min min. (13.37 CFM min.)	IEC 60950-1:2005+A1, EN 60950-1:2006+A11+A1+A12 UL 507	TUV/RH, UL(E132003)
DC Fan (LCD Fan)	TOSHIBA HOME TECHNOLOGY CORP.	SF6023CLH12-51E	12 Vdc, 230 mA max., 0.17m ³ /min min.	--	--
- Magnet Wire	Interchangeable	Interchangeable	105 °C min.	UL 1446	UL
- Enclosure	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Fan Blades	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Lead Wire	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min. 30 V, 60 °C min.	UL 758	UL
- PCB	Interchangeable	Interchangeable	V-1 min., 105 °C min.	UL 796	UL
DC Fan (Lamp Fan)	TOSHIBA HOME TECHNOLOGY CORP.	SF6023CLH12-52E	12 Vdc, 170 mA max., 0.14m ³ /min min.	--	--
- Magnet Wire	Interchangeable	Interchangeable	105 °C min.	UL 1446	UL
- Enclosure	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Fan Blades	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Lead Wire	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min. 30 V, 60 °C min.	UL 758	UL
- PCB	Interchangeable	Interchangeable	V-1 min., 105 °C min.	UL 796	UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
DC Fan (Exhaust Fan)	MINEBEA MOTOR MANUFACTURING CORPORATION	3110EL-04W- M49-F51 (marked 3110EL-04W- M49)	12 Vdc, 0.26 A max., 0.85m ³ /min min.	--	--
- Magnet Wire	Interchangeable	Interchangeable	105 °C min.	UL 1446	UL
- Enclosure	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Fan Blades	Interchangeable	Interchangeable	V-2 min.	UL 94	UL
- Lead Wire	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min. 30 V, 60 °C min.	UL 758	UL
- PCB	Interchangeable	Interchangeable	V-1 min., 105 °C min.	UL 796	UL
Iris Motor (Stepping Motor)	SHANGHAI TOKYO MICRO MOTOR CO.,LTD.	8S-303X75-G	5 Vdc, min. 105 °C	--	--
Secondary Fuses (On main board) (F1001, F1002 for +4.2 V) (F1003, F1004 for +15.0 V)	KAMAYA ELECTRIC CO LTD	FHC32502AD	32 Vdc, 5.0 A	UL 248-1, UL 248-14	UL (E176847)
	SKYGATE CO LTD	1206FT5A	32 Vdc, 5.0 A	UL 248-1, UL 248-14	UL (E195833)
Secondary Fuses (On main board) (F1005 for +17.5 V)	KAMAYA ELECTRIC CO LTD	FCC16252AD	32 Vdc, 2.5 A	UL 248-1, UL 248-14	UL (E176847)
	SKYGATE CO LTD	0603FT2.5A	50 Vdc, 2.5 A	UL 248-1, UL 248-14	UL (E195833)
USB Protector (IC4003 for USB port: M4001)	TEXAS INSTRUMENTS, INC.	TPS2553 series	1.5 A, 2.5 to 6.5 Vdc, SELV, ClassIII	IEC 60950- 1:2005+A1:2009+ A2:2013, UL Subject 2367	CB (issued by UL), UL
Air Filter Material	Interchangeable	Interchangeable	HF-2 or V-2 min.	UL 94	UL
Speaker (One provided)	--	--	4 ohm, 20 W max.	--	--
PCB	Interchangeable	Interchangeable	V-1 min., 105 °C min.	UL 796	UL

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
Battery for remote-controller used (Two provided) (Optional)	--	--	AAA type consumer grade, non-rechargeable, carbon-zinc or alkaline batteries	--	--
Ceiling Mount Kit (Optional)	Interchangeable	Interchangeable	Steel	--	--
For Power supply board, mfr: Nichicon , type: ZSNEF16IA					
Switching Power Supply	Nichicon Corporation	ZSNEF16IA (marked ZSNEF16I)	I/P: 100-240 Vac, 50/60 Hz O/P: DC 4.2 V / 2.5 A (Secondary); DC 15.5 V / 3.2 A (Secondary); DC 17.5 V / 0.21 A (Secondary); 19.5 V / 0.08 A (Primary); 375 V / 311 W (Primary)	--	--
- Primary wafer connector (CN001)	JAPAN SOLDERLESS TERMINAL MFG CO LTD	VH Series	7 A, 250 V, 85 °C	IEC/EN 61984, UL 1977	TÜV, UL
- Primary housing connector of power board (Connecting to wafer connector CN1 of ballast power supply)	JAPAN SOLDERLESS TERMINAL MFG CO LTD	VH Series	7 A, 250 V, 85 °C	IEC/EN 61984, UL 1977	TÜV, UL
- Fuse (F001)	Suzhou Littelfuse OVS Ltd. (UL: Littelfuse Inc)	215 series	T8AH, 250 V	IEC/EN 60127-1, IEC/EN 60127-2, UL 248-1, UL 248-14	VDE, UL
- Varistor (X001) (Optional)	EPCOS OHG (UL: EPCOS (ZHUHAI FTZ) CO LTD)	S(NF)14K385E2 K1	385 Vac, 505 Vdc , 6kV/3kA pulse test passed V-0 coating	IEC/EN 61051-1, IEC/EN 61051-2, IEC/EN 61051-2-2, UL 1449	VDE, UL

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- X-Caps. (C005, C004) (Optional)	OKAYA ELECTRIC INDUSTRIES CO., LTD.	LE(-*)	0.47 μ F max., 250 V min., 100 °C min., X1 or X2 Type	IEC/EN 60384- 14:2005, UL1414	ENEC 14, UL
	PILKOR ELECTRONICS LTD. (UL: PILKOR ELECTRONICS CO LTD)	PCX2 339	0.47 μ F max., 305 V min., 100 °C min., X1 or X2 Type	IEC/EN 60384- 14:2005, UL 60384-14 or UL1414	ENEC 14, UL
- Y-Caps. (C006, C007) (Optional)	MURATA MFG. CO.,LTD.	KY	3300 pF max., 250 V min., 125 °C, Y2 Type	IEC/EN 60384- 14:2005, UL 60384-14 or UL1414	VDE, UL
	TDK CORPORATION	CS	3300 pF max., 250 V min., 125 °C, Y2 Type	IEC/EN 60384- 14:2005, UL 60384-14 or UL1414	VDE, UL
- Optocouplers (PC101, PC104, PC103)	LITE-ON TECHNOLOGY CORPORATION	LTV816	Dti=0.6 mm, Ext. dcr=8.0 mm, Thermal Cycling Test, max temp 115 °C, Isolation 5000V	IEC/EN 60747-5- 2, IEC/EN 60950-1, UL 1577	VDE, Semko, UL
	TOSHIBA CORPORATION	TLP785 (TLP785 Option D4 for VDE)	Dti=0.6 mm, Ext. dcr=7.8 mm, Thermal Cycling Test, max temp 115 °C, Isolation 5000V	IEC/EN 60747-5- 2, IEC/EN 60950-1, UL 1577	VDE, Semko, UL
- Bridge-Cap. (C130) (Optional)	MURATA MFG. CO.,LTD.	KX	1000 pF max., 250 V min., 125 °C, Y1 Type	IEC/EN 60384- 14:2005, UL 60384-14 or UL1414	VDE, UL
	TDK CORPORATION	CD	1000 pF max., 250 V min., 125 °C, Y1 Type	IEC/EN 60384- 14:2005 UL 60384-14 or UL1414	VDE, UL
- Line Chokes (L005, L004) (Optional)	UENO CO., LTD.	ADR18SH- 04032T	105 °C min. (Cover: MITSUBISHI ENGINEERING- PLASTICS CORP / 5010N6)	--	--

IEC 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
- PFC Choke (L103)	TOKYO PARTS INDUSTRIAL CO., LTD.	C-L00-456	105 °C min. (Bobbin: Sumitomo Bakelite Co., Ltd./ PM-9820)	--	--
- Transformer (T101)	GANZHOU CITY CHAO YUE PRECISION ELECTRONICS CO.,LTD	N-T02-032	Class 130 material (B)	Applicable part according to IEC 60950-1 and IEC 60085	Accepted by TÜV Rheinland
- Thermal Fuse (F101)	TAMURA THERMAL DEVICE CORPORATION	N3F	115 °C	IEC/EN 60691, UL 60691	VDE, UL
- Bleeder resistor (R001)	Interchangeable	Interchangeable	1/2 W min., 1 M ohm max.	--	--
- Thermistor (TH001) (Optional)	Interchangeable	Interchangeable	8 ohm max. at 25 °C	--	--
- Bridge Diode (D001)	Interchangeable	Interchangeable	600 V min., 10 A min.	--	--
- Electrolytic Capacitors (C123, C124)	Interchangeable	Interchangeable	150 µF, 420 V min., 105 °C min.	--	--
- Transistor (Q102, Q103)	Interchangeable	Interchangeable	500 V min., 16 A min.	--	--
- Transistor (Q104)	Interchangeable	Interchangeable	900 V min., 7 A min.	--	--
- PCB	Interchangeable	Interchangeable	V-1 min., 105°C min.	UL 796	
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) In the technical data column of optocouplers, where "Dti." Means distance through insulation, and "Ext. dcr" means external creepage distance.					
3) All sources of optocoupler were certified according to DIN EN 60747-5-2 which complies with the requirements and provisions of IEC 60747-5-5.					

1.5.1	TABLE: Opto Electronic Devices	P
Manufacturer : See supplementary information		
Type..... : See supplementary information		
Separately tested..... : See supplementary information		

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Bridging insulation : Reinforced insulation			
External creepage distance : See supplementary information			
Internal creepage distance : See supplementary information			
Distance through insulation : See supplementary information			
Tested under the following conditions : See supplementary information			
Input..... : See supplementary information			
Output..... : See supplementary information			
Supplementary information:			
1. See table 1.5.1 shown for source details.			

1.6.2	TABLE: Electrical data (in normal conditions)						P
U (V/Hz)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status	
For models NP-ME401W, NP-ME401X, NP-ME361W, NP-ME361X, NP-ME331W, NP-ME331X, NP-ME301W, NP-ME301X							
COMPUTER IN with ECO OFF mode							
90/50	3.60	--	313.3	F001	3.60	Maximum normal load.	
90/60	3.60	--	313.4	F001	3.60	Maximum normal load.	
100/50	3.24	3.4	309.7	F001	3.24	Maximum normal load.	
100/60	3.24	3.4	309.8	F001	3.24	Maximum normal load.	
240/50	1.32	1.4	295.6	F001	1.32	Maximum normal load.	
240/60	1.32	1.4	295.7	F001	1.32	Maximum normal load.	
254.4/50	1.24	--	294.5	F001	1.24	Maximum normal load.	
254.4/60	1.24	--	294.6	F001	1.24	Maximum normal load.	
264/50	1.19	--	294.0	F001	1.19	Maximum normal load.	
264/60	1.19	--	294.1	F001	1.19	Maximum normal load.	
HDMI IN with ECO OFF mode							
90/50	3.58	--	311.3	F001	3.58	Maximum normal load.	
90/60	3.58	--	311.4	F001	3.58	Maximum normal load.	
100/50	3.22	3.4	308.6	F001	3.22	Maximum normal load.	
100/60	3.22	3.4	308.7	F001	3.22	Maximum normal load.	
240/50	1.31	1.4	294.1	F001	1.31	Maximum normal load.	
240/60	1.31	1.4	294.2	F001	1.31	Maximum normal load.	

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
254.4/50	1.24	--	293.7	F001	1.24	Maximum normal load.
254.4/60	1.24	--	293.8	F001	1.24	Maximum normal load.
264/50	1.19	--	293.3	F001	1.19	Maximum normal load.
264/60	1.19	--	293.4	F001	1.19	Maximum normal load.
HDMI 2 IN with ECO OFF mode						
90/50	3.62	--	316.7	F001	3.62	Maximum normal load.
90/60	3.62	--	316.8	F001	3.62	Maximum normal load.
100/50	3.25	3.4	311.5	F001	3.25	Maximum normal load.
100/60	3.25	3.4	311.6	F001	3.25	Maximum normal load.
240/50	1.33	1.4	297.5	F001	1.33	Maximum normal load.
240/60	1.33	1.4	297.6	F001	1.33	Maximum normal load.
254.4/50	1.26	--	297.1	F001	1.26	Maximum normal load.
254.4/60	1.26	--	297.1	F001	1.26	Maximum normal load.
264/50	1.20	--	296.5	F001	1.20	Maximum normal load.
264/60	1.20	--	296.6	F001	1.20	Maximum normal load.
VIDEO IN with ECO OFF mode						
90/50	3.57	--	311.8	F001	3.57	Maximum normal load.
90/60	3.57	--	311.9	F001	3.57	Maximum normal load.
100/50	3.22	3.4	308.4	F001	3.22	Maximum normal load.
100/60	3.22	3.4	308.5	F001	3.22	Maximum normal load.
240/50	1.31	1.4	293.6	F001	1.31	Maximum normal load.
240/60	1.31	1.4	293.7	F001	1.31	Maximum normal load.
254.4/50	1.24	--	294.4	F001	1.24	Maximum normal load.
254.4/60	1.24	--	294.5	F001	1.24	Maximum normal load.
264/50	1.19	--	293.5	F001	1.19	Maximum normal load.
264/60	1.19	--	293.6	F001	1.19	Maximum normal load.
Supplementary information:						
1. The measured input current at rated voltage shall be $\leq 110\%$ of rated current.						
2. See summary of testing in the test report for the detail max. normal condition.						

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
2.5	TABLE: limited power sources					P
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (Vdc)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
For table 2B						
HDMI 1 IN (M1501) / HDMI 2 IN (M1502) port Pin1, 3, 4, 6, 7, 9, 10, 12 to GND						
Normal condition	1.	3.28	Can't loading	8	Can't loading	100
HDMI 1 IN (M1501) / HDMI 2 IN (M1502) port Pin15, 16 to GND						
Normal condition	1.	3.56	Can't loading	8	Can't loading	100
HDMI 1 IN (M1501) / HDMI 2 IN (M1502) port Pin2, 5, 8, 11, 13, 14, 17-19 to GND						
Normal condition	1.	0	0	8	0	100
USB PC (M3501) Pin 1-4 to GND						
Normal condition	1.	0	0	8	0	100
USB port (M4001) Pin1 to GND						
Normal condition	1.	5.01	0.5	8	2.47	100
USB port (M4001) Pin2-4 to GND						
Normal condition	1.	0	0	8	0	100
LAN (M4001) Pin 1-8 to GND						
Normal condition	1.	0	0	8	0	100
COMPUTER IN (M2501) port Pin12 to GND						
Normal condition	1.	3.98	Can't loading	8	Can't loading	100
COMPUTER IN (M2501) port Pin15 to GND						
Normal condition	1.	1.48	Can't loading	8	Can't loading	100
COMPUTER IN (M2501) port Pin1-11, 13, 14 to GND						
Normal condition	1.	0	0	8	0	100
MONITOR OUT (COMP.) (M2501) port Pin1-15 to GND						
Normal condition	1.	0	0	8	0	100
AUDIO IN (M2502) L/MONO port Pin3,4 to GND						
Normal condition	1.	0	0	8	0	100
AUDIO IN (M2502) R port Pin5,6,7 to GND						
Normal condition	1.	0	0	8	0	100
VIDEO IN (M2502) port pins 1, 2 to GND						
Normal condition	1.	0	0	8	0	100

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
AUDIO IN (M2001) Pin1,2,3 to GND						
Normal condition	1.	0	0	8	0	100
AUDIO OUT (M2001) port Pin1,2,3,4,5 to GND						
Normal condition	1.	0	0	8	0	100
PC CONTROL (M7001) port Pin1-9 to GND						
Normal condition	1.	0	0	8	0	100
supplementary information:						
1) Input voltage: 240 V, 60 Hz						

2.6.3.4	TABLE: Resistance of earthing measurement		P
Location		Resistance measured (mΩ)	Comments
Earthing pin of appliance inlet to Metallic part of LCD board		7	40 A/2 mins. (voltage drop = 0.28 V)
Earthing pin of appliance inlet to Metallic part of LCD board		4	32 A/2 mins. (voltage drop = 0.13 V)
Supplementary information:			

2.10.5	TABLE: Distance through insulation measurements					P
Distance through insulation (DTI) at/of:		U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Plastic enclosure		420	250	3000	0.4	1.
Plastic Bottom Case (For Ballast Board)		420	250	3000	0.4	1.
Plastic Cover (For Ballast Board)		420	250	3000	0.4	1.
Plastic Cover (For Power Board)		420	250	3000	0.4	1.
Lead Wires (Connecting between Appliance Inlet and power board)		420	250	3000	0.4	1.
Insulation sheet		420	250	3000	0.4	1.
Supplementary information:						
1. See table 1.5.1						

IEC 60950-1						
Clause	Requirement + Test			Result - Remark		Verdict
4.5	TABLE: Thermal requirements					P
	Supply voltage (V):	See below	See below	See below	See below	—
	Ambient T _{min} (°C):	--	--	--	--	—
	Ambient T _{max} (°C):	--	--	--	--	—
Maximum measured temperature T of part/at::		T (°C)				Allowed T _{max} (°C)
Supply voltage (V)		A)	B)	C)	--	--
Power board (ZSNEF16IA)						
AC inlet near line		51.8	48.0	49.6	--	70
Primary wire near line		51.6	50.4	51.1	--	105
Housing connector of AC inlet (Connecting to wafer connector CN001 of power board)		54.7	53.7	54.7	--	85
Wafer connector (CN001) of power board (Connecting to wafer connector of AC inlet)		56.7	54.9	57.1	--	85
PCB near X001		46.4	45.0	46.3	--	105
C005 body		45.2	44.5	44.7	--	100
L005 coil		49.4	42.7	49.5	--	105
L004 coil		50.6	45.6	50.9	--	105
C004 body		47.2	43.1	47.2	--	100
C006 and C007 body		43.1	42.8	42.8	--	125
PCB near TH001		71.1	54.3	72.2	--	105
PCB near Q102 and Q103		76.4	58.3	77.9	--	105
L103 coil		68.3	49.8	68.7	--	105
Connector (CN101) of power board		63.9	63.2	63.2	--	85
C124 and C123 body		62.3	60.9	61.6	--	105
PCB near Q104 and D107		69.3	60.6	70.3	--	105
C130 body		69.4	62.8	70.3	--	125
PC101 body		69.6	63.0	70.7	--	100
PC104 body		69.1	63.2	70.0	--	100
PC103 body		67.9	61.5	68.4	--	100
T101 coil		66.4	64.6	66.3	--	110
T101 core		71.1	68.4	71.8	--	110
Housing connector of power board (Connecting to wafer connector CN1 of ballast)		52.3	51.8	51.1	--	85
Ballast board (MURATA MFG CO LTD POWER DEVICE PRODUCTS DIVISION / PHG231A10CD)						
CN1 body		53.6	53.1	52.4	--	85

IEC 60950-1					
Clause	Requirement + Test		Result - Remark		Verdict
B2 coil	54.2	53.2	53.7	--	150
L2 coil	79.2	78.8	79.1	--	150
L5 coil	82.6	82.4	82.1	--	130
CN3 body	69.7	69.5	68.8	--	85
Main board (P2-2220A)					
PCB near IC5004	53.9	53.4	53.8	--	105
PCB near IC3002	56.2	55.9	55.9	--	105
PCB near IC5701	61.5	60.9	60.6	--	105
Other					
Iris motor case	76.2	76.2	75.3	--	105
Housing connector (Connecting to wafer connector CN3 of ballast)	70.7	70.5	69.6	--	85
Housing connector of lamp compartment (Connecting to wafer connector of lamp)	98.4	98.8	94.6	--	220
Wafer connector of lamp holder (Connecting to housing connector of lamp)	96.8	97.3	91.9	--	220
Lamp holder	56.6	56.2	55.9	--	220
Lamp compartment	71.2	71.6	71.1	--	200
Top lamp cover inside near lamp	58.4	58.7	55.0	--	--
Top lamp cover outside near lamp	53.1	53.0	52.2	--	95
Bottom plastic enclosure inside near power board	43.0	42.3	42.7	--	--
Bottom plastic enclosure outside near power board	53.5	52.1	55.9	--	95
Front plastic enclosure inside near lamp	41.6	41.1	41.5	--	--
Front plastic enclosure outside near lamp	40.9	40.7	41.1	--	95
Left plastic enclosure inside near lamp	64.1	64.4	61.4	--	--
Left plastic enclosure outside near lamp	57.3	57.5	55.9	--	95
Right plastic enclosure inside near air filter	43.0	42.3	42.5	--	--
Right plastic enclosure outside near air filter	40.7	40.0	40.2	--	95
Rear plastic enclosure inside near I/O panel	46.9	47.2	44.7	--	--
Rear plastic enclosure outside near I/O panel	46.9	47.8	46.0	--	95
Metal enclosure outside (For COMPUTER IN)	46.8	46.9	45.4	--	70
Glass enclosure outside near Lens	40.6	40.3	40.4	--	80
Max. ambient temperature Tma (°C):	40.0	40.0	40.0	--	--
Tamb (°C):	23.9	23.8	23.8	--	--
For DC Fan					
Supply voltage (V)	D)	E)	F)	--	--

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Clause	Requirement + Test		Result - Remark		Verdict		
Windings	49.4	64.8	58.3	--	105		
PCB near IC	45.1	44.9	54.3	--	105		
Enclosure	41.5	45.9	46.0	--	95		
Tma	40.0	40.0	40.0	--	--		
Tamb	25.4	25.1	25.1	--	--		
Supplementary information:							
1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as described in above.							
2. Unit specified with maximum of 40 °C ambient temperature and above test data was calculated by original test result of 25 °C ambient temperature.							
Winding components (providing safety isolation):							
- Class 130 material (B) Tmax = 120 °C – 10 °C = 110 °C							
3. Thermocouple method used for measuring the temperatures.							
4. Supply voltage information see below for details							
A) ECO OFF mode: 90 Vac for models NP-ME401X with ballast type PHG231A10CD, lamp type NSHA235NE (Desktop)							
B) ECO OFF mode: 264Vac for models NP-ME401X with ballast type PHG231A10CD, lamp type NSHA235NE (Desktop)							
C) ECO OFF mode: 90 Vac for models NP-ME401X with ballast type PHG231A10CD, lamp type NSHA235NE (180 degree)							
D) For DC fan with 12Vdc (MINEBEA MOTOR MANUFACTURING CORPORATION / 3110EL-04W-M49-F51)							
E) For DC fan with 12Vdc (TOSHIBA HOME TECHNOLOGY CORP / SF6023CLH12-51E)							
F) For DC fan with 12Vdc (TOSHIBA HOME TECHNOLOGY CORP / SF6023CLH12-52E)							
5. PTC1 located on ballast was opened during tests.							
Temperature T of winding:	t1 (°C)	R1 (Ω)	t2 (°C)	R2 (Ω)	T (°C)	Allowed Tmax (°C)	Insulation class
Supplementary information:							

4.6.1, 4.6.2	Table: Enclosure opening measurements		P
Location	Size (mm)	Comments	
Top also consider as bottom when EUT with ceiling mounted function	--	No any openings.	
Bottom also consider as Top when EUT with ceiling mounted function	--	No any openings.	
Right side	26.4 by 3.5 maximum	Numerous rectangular openings provide. There's no any hazardous voltage or energy hazards present within 5° projections.	

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Clause	Requirement + Test	Result - Remark	Verdict
Left side	23.7 by 3.6 maximum	Numerous rectangular openings provide. There's no any hazardous voltage or energy hazards present within 5° projections.	
Front side	19.0 by 3.6 maximum	Numerous rectangular openings provide. There's no any hazardous voltage or energy hazards present within 5° projections when front side consider.	
Rear side	12.1 by 2.2 maximum	Numerous rectangular openings provide. There's no any hazardous voltage or energy hazards present within 5° projections when front side consider.	
Others	--	No any openings.	
Supplementary information:			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Basic/supplementary:				
Unit: Primary to earth		DC	2652	No
Reinforced:				
Unit: Primary to secondary		DC	4242	No
Unit: Primary to Plastic enclosure with metal foil		DC	4242	No
Ballast HV connector to Plastic enclosure with metal foil		DC	4242	No
Plastic bottom case for ballast board ²⁾		AC	3000	No
Plastic cover for power board ³⁾		AC	3000	No
Insulation sheet under power board ⁴⁾		AC	3000	No
Pins of housing connector of lamp compartment to housing connector of lamp compartment ⁵⁾		AC	4350	No
Supplementary information:				
1) Electric strength tests were also conducted before and after clause 2.9.2.				
2) Source of plastic bottom case for ballast board: TEIJIN LIMITED RESIN AND PLASTIC / LN-2950(#)				
3) Source of plastic cover for ballast board: TEIJIN LIMITED RESIN AND PLASTIC / LN-2950(#)				
4) Source of insulation sheet under power board: SUN DELTA CORP / VS(f)				
5) 2900 Vpeak was evaluated on CB report of ballast during no load condition.				
920 Vpeak was measured in the end-product Projector with lamp.				
Test was conducted in accordance with higher peak working voltage 2900 Vpeak.				

5.3	TABLE: Fault condition tests		P
	Ambient temperature (°C)	25°C, if no else specified	—

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Clause	Requirement + Test				Result - Remark	Verdict
	Power source for EUT: Manufacturer, model/type, output rating				See table 1.5.1.	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
Ventilation openings	Blocked	240	5 hrs	F001	1.33 to 0.14	Unit shut down immediately. except for USB output. temp. of T101 coil = 73.7°C, T101 core = 69.9°C, Tamb = 25.1°C. No damage, no hazard.
DC fan 1 (near Air Filter)	Stalled	240	2 hrs	F001	1.33 to 0.14	Unit shut down immediately. except for USB output. temp. of T101 coil = 61.4°C, T101 core = 57.7°C, Tamb = 25.9°C. No damage, no hazard.
DC fan 2 (near Air Filter)	Stalled	240	5 hrs	F001	1.33 to 0.11	Unit shut down immediately. Max. temp. of T101 coil = 58.9°C, T101 core = 56.1°C, Tamb = 24.2°C. No damage, no hazard.
DC fan 3 (near LAMP)	Stalled	240	2.5 hrs	F001	1.33 to 0.14	Unit shut down immediately. except for USB output. temp. of T101 coil = 60.1°C, T101 core = 56.7°C, Tamb = 24.5°C. No damage, no hazard.
DC fan 4 (Ex(PS/BS)) (near Power and Ballast Board)	Stalled	240	3.0 hrs	F001	1.33 to 0.14	Unit shut down immediately. except for USB output. temp. of T101 coil = 65.4°C, T101 core = 65.0°C, Tamb = 23.9°C. No damage, no hazard.
For DC Fan (MINEBEA MOTOR MANUFACTURING CORPORATION / 3110EL-04W-M49-F51)	Locked	12Vdc	7 hr	--	--	Unit operated normally. The maximum temperature of Windings = 34.3°C. Ambient = 26.6°C.
For DC Fan (TOSHIBA HOME TECHNOLOGY CORP / SF6023CLH 12-51E)	Locked	12Vdc	7 hr	--	--	Unit operated normally. The maximum temperature of Windings = 73.8°C. Ambient = 26.6°C.

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Clause	Requirement + Test				Result - Remark	
For DC Fan (TOSHIBA HOME TECHNOLOGY CORP / SF6023CLH 12-52E)	Locked	12Vdc	7 hr	--	--	Unit operated normally. The maximum temperature of Windings = 58.4°C. Ambient = 26.6°C.
Lamp	Rupture	240 V	10 min.	F001	--	No glass particles other than dust were emitted from the apparatus.
For output connectors						
HDMI 1 in (M1501); Pin1, 3, 4, 6, 7, 9, 10, 12 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 3.28V, maximum available current measured 0mA.
HDMI 1 in (M1501); Pin15, 16 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 3.56V, maximum available current measured 0mA.
HDMI 1 in (M1501); Pin2, 5, 8, 11, 13, 14, 17-19 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V
HDMI 2 in (M1502); Pin1, 3, 4, 6, 7, 9, 10, 12 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 3.28V, maximum available current measured 0mA.
HDMI 2 in (M1502); Pin15, 16 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 3.56V, maximum available current measured 0mA.
HDMI 2 in (M1502); Pin2, 5, 8, 11, 13, 14, 17-19 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V
COMPUTER IN (M2501); Pin12 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 3.98V, maximum available current measured 0mA

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Clause	Requirement + Test				Result - Remark	Verdict
COMPUTE R IN (M2501); Pin15 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 1.48V, maximum available current measured 0mA
COMPUTE R IN (M2501); Pin1-11, 13, 14 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V
MONITOR OUT (COMP.) (M2501); Pin1-15 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V
USB PC (M3501); Pin 1-4 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V
USB (M4001); Pin1 to GND	Overload	240	1 hr.	F001	--	Open circuit voltage measured 5.01Vdc, maximum available current measured 500mA. No damage, no hazard.
USB (M4001); Pin2-4 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
LAN (M4001); Pin 1-8 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
AUDIO IN (M2001); Pin1,2,3 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
AUDIO OUT (M2001); Pin1,2,3,4,5 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
VIDEO IN (M2502); Pin1,2 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.

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Clause	Requirement + Test				Result - Remark	Verdict
AUDIO IN (M2502) L/MONO; Pin3,4 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
AUDIO IN (M2502) R; Pin5,6,7 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
PC CONTROL (M7001); Pin1-9 to GND	Overload	240	10 min.	F001	--	Open circuit voltage measured 0V.
Supplementary information: 1). For component damaged without fuse opened condition have been repeat 2 times with same result. 2). Temp. limited of transformer (class 130 material (B)) according to table C.1 is 175 °C -(40 °C -25 °C)=160 °C. 3). Lamp rupture test was conducted on lamp NSHA235NE. 4). PTC1 located on ballast was opened during tests.						

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Clause	Requirement + Test	Result - Remark	Verdict

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date

Information:

"No listing of test equipment used necessary for chosen test procedure"