

CB TEST REPORT

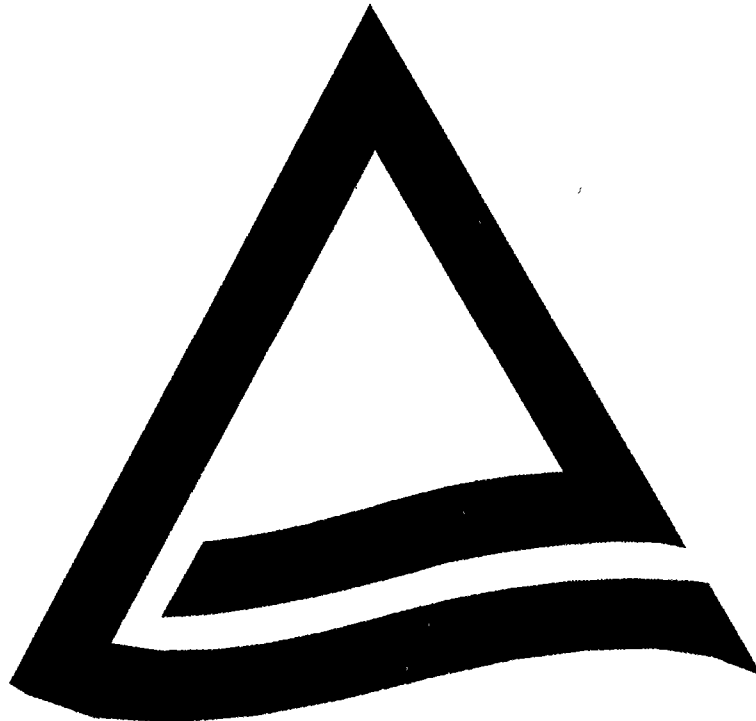
12701352 006

for

Blu-ray Disc Drive

UJ-110, UJ-120, UJ-210, UJ-220, UJ130A, UJ130E,  
UJ230A, UJ230E, UJ140A, UJ240, UJ141, UJ230,  
UJ150, UJ160, UJ260, UJ141AF

Panasonic System Networks Co., Ltd.



This documentation consists of 11 pages (excluding this cover page).

**TEST REPORT****IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006  
Information technology equipment – Safety –****Part 1: General requirements**

Report Reference No.....: 12701352 006

Date of issue.....: 2011-11-14

Total number of pages..... 11

**CB/CCA Testing Laboratory** .....: TÜV Rheinland Japan Ltd., Osaka LaboratoryAddress .....: Wakasugi Center Bldg., Honkan 16F, 2-9-1, Higashi Tenma,  
Kita-ku, 530-0044 Osaka, JAPAN**Applicant's name** .....: Panasonic System Networks Co., Ltd.Address .....: 1080 Takano Nagomi-machi, Tamana-gun, Kumamoto 865-0193,  
Japan**Manufacturer's name** .....: (same as Applicant)

Address .....: (same as Applicant)

**Factory's name** .....: 1. (same as Applicant)

Address .....: (same as Applicant)

2. Panasonic System Networks Philippines Corporation  
Santa Rosa Factory102 Laguna Boulevard Bo. Don Jose, Laguna Technopark  
Santa Rosa, Laguna 4026, Philippines

3. Integrated Microelectronics, Inc.

North Science Avenue, Laguna Techno Park Inc. Binan,  
Laguna, Philippines.**Test specification:**Standard .....:  IEC 60950-1:2005 (2nd Edition) and/or  
 EN 60950-1:2006

Test procedure .....: CB-scheme

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

**Test Report Form No.**.....: IECEN60950\_1C

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

Master TRF.....: Dated 2007-06

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

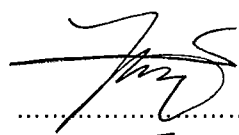
IEC/EN 60950-1

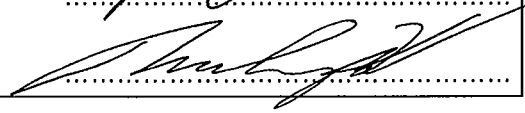
**Test item description** .....: Blu-ray Disc Drive  
**Trade Mark** .....: (not provided)  
**Manufacturer** .....: (same as applicant )  
**Model/Type reference**.....: UJ-110, UJ-120, UJ-210, UJ-220, UJ130A, UJ130E, UJ230A, UJ230E, UJ140A, UJ240, UJ141, UJ230, UJ150, UJ160, UJ260, UJ141AF  
**Ratings**.....: DC 5V (Specified 1.6A max.)

**Testing procedure and testing location:**

**CB/CCA Testing Laboratory:** TÜV Rheinland Japan Ltd., Osaka Laboratory  
**Testing location/ address**.....: Wakasugi Center Bldg., Honkan 16F, 9-1, Higashi Tenma 2-chome, Kita-ku, Osaka-shi, 530-0044, Japan

**Associated CB Laboratory:** N/A  
**Testing location/ address**.....: N/A

**Tested by (name + signature)**.....: M. Teng 

**Approved by (+ signature)**.....: M. Kera 

IEC/EN 60950-1

**Summary of testing:**
**Serial No.:** Production sample without serial number

Modifications:

1. Addition of alternative motor as follows:
  - Spindle motor type 24C075G012 of Nidec Corp.
  - Feed motor type SPS-08RG-5 of Moatech Co., Ltd.
2. Addition of common use laser diode (DVD/CD) type ML2037xxx for model UJ160.

Additional tests conducted.

Tests performed (name of test and test clause): (see below)		Testing location: (see Testing Location above)	
Testing		Applicable (Yes/No)	Comments
clause	Test description		
Annex B	Locked-rotor overload test	Yes	

Additionally evaluated Test specifications.

EN 60950-1:2006 + A11:2009  
 IEC 60825-1: 2007  
 EN 60825-1: 2007

**Summary of compliance with National Differences:**

 EU Group Differences, EU Special National Conditions, EU A-Deviations, and National Differences  
 AT, CH, DE, DK, FI, GB, NO, SE

AT=Austria, AU=Australia, CA=Canada, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland,  
 FR=France, GB=United Kingdom, IT=Italy, JP=Japan, KR=Korea, NL=The Netherlands, NO=Norway,  
 PL=Poland, SE=Sweden, SI=Slovenia, US=U.S.A.

For National Differences see the original test report.

**Copy of marking plate:**

(not changed)

**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: class III equipment

Mains supply tolerance (%) or absolute mains supply values .....: DC supply

Tested for IT power systems .....:  Yes  No

IT testing, phase-phase voltage (V).....: --

Class of equipment.....:  Class I  Class II  Class III  
 Not classified

Considered current rating (A) .....: Class III equipment

Pollution degree (PD) .....:  PD 1  PD 2  PD 3

IP protection class .....: Not rated, indoor use only

Altitude during operation (m) .....: Up to 2000

Altitude of test laboratory (m) .....: < 1000

Mass of equipment (kg).....: < 1.0

**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 .....: 2011.11.01

Date(s) of performance of tests.....: 2011.11.11

**General remarks:**

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 testing laboratory.  
"(See Enclosure #)" refers to additional information appended to the report.  
"(See appended table)" refers to a table appended to the report.

**Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.**

Throughout this report a point is used as the decimal separator.

IEC/EN 60950-1

**Changes of Manufacturer:**

(not changed)

**Changes of Factory(ies):**

(not changed)

**History of amendments and modifications:**

Ref. No. 12701352 001, dated 2010.08.26 (original test report)  
 Ref. No. 12701352 002, dated 2010.09.16 (modification)  
 Ref. No. 12701352 003, dated 2011.05.09 (modification)  
 Ref. No. 12701352 004, dated 2011.05.17 (amendment)  
 Ref. No. 12701352 005, dated 2011.07.04 (amendment)

**General product information:****Description of change(s):**

1. Addition of alternative motor as follows:
  - Spindle motor type 24C075G012 of Nidec Corp.
  - Feed motor type SPS-08RG-5 of Moatech Co., Ltd.
2. Addition of common use laser diode (DVD/CD) type ML2037xxx for model UJ160.

For the details of components as mentioned above, see **bold** text on appended table 1.5.1.

For the above described change(s) the following was considered to be necessary:

Change	Testing (Please use test data sheet)		Comments
	Clause	Test description	
1.	Annex B	Locked-rotor overload test	(see appended table 5.3)
2.	--	--	No additional test is necessary, which is already certified by model.

Other tests were considered not necessary.

IEC/EN 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	Mark(s) of conformity <sup>1)</sup>	
Main enclosure	(Various)	(Various)	Metal Plate	--	--	
Front Panel (Bezel)	(Various)	(Various)	Min. V-2  Except for dummy bezel marked "DUMMY BEZEL" and "FOR TRANSPORTATION ONLY" on the bezel.	UL94	UL	
I/O Bus and Power Connector	(Various)	(Various)	Min. V-2	UL94	UL	
Tray	(Various)	(Various)	Min. HB	UL94	UL	
Spindle Motor (Brushless motor, for model UJ-110/-210, UJ-120/-220)	Nidec Corp.	24C075A09x (x = any character or blank)	5Vdc, 750mA Class A	--	Tested inside unit	
Alternate (Brushless motor)	Panasonic System Networks	JSA210xx (x = any character or blank)	5Vdc, 750mA Class A	--	Tested inside unit	
Spindle Motor (Brushless motor, for model UJ130A/130E, UJ230A/230E)	Nidec Corp.	24C075D50xx (x = any character or blank)	5Vdc, 750mA Class A	--	Tested inside unit	
Spindle Motor (Brushless motor, for model UJ140A)	Nidec Corp.	24C075E06x (x = any character or blank)	5Vdc, 750mA Class A	--	Tested inside unit	
Spindle Motor (Brushless motor, for model UJ240/230/141)	Nidec Corp.	24C075E10xx (x = any character or blank)	5Vdc, 750mA Class B	--	Tested inside unit	
Alternate (Brushless motor, for model UJ240/230/141/ 160/260)	Nidec Corp.	24C075G01x (x = any character or blank)	5Vdc, 750mA Class B	--	Tested inside unit	
Alternate (Brushless motor, for model UJ150)	Nidec Corp.	24C075E11xxx (x = any character or blank)	5Vdc, 750mA Class B	--	Tested inside unit	

IEC/EN 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	Mark(s) of conformity <sup>1)</sup>	
Alternate (Brushless motor, for model UJ160/260)	Nidec Corp.	24C075G011xx (x = any character or blank)	5Vdc, 750mA Class B	--	Tested inside unit	
Alternate (Brushless motor, for model UJ160/260)	Nidec Corp.	24C075G012xx (x = any character or blank)	5Vdc, 750mA Class B	--	Tested inside unit	
Feed Motor (stepping motor)	Nidec Sankyo Corp.	MSAW016Bxx (x = any character or blank)	4Vdc Class A	--	Tested inside unit	
Alternative (for model UJ160)	MOATECH Co., Ltd.	SPS-08RG-5xxx (x = any character or blank)	4Vdc Class A	--	Tested inside unit	
Eject Solenoide (for model UJ-110/-210, UJ-120/-220)	Shinmei Denki	DL0916S2-030- xxx (x = any character or blank)	Rated 5.5VDC (max.) Class A	--	Tested inside unit	
Alternate	Mitsumi	R-51 60xx (x = any character or blank)	Rated 6.5VDC (max.) Class A	--	Tested inside unit	
Eject Solenoide (for model UJ130A/130E, UJ230A/230E)	Shinmei Denki	DL0916S2-020- xxx (x = any character or blank)	Rated 5.5VDC (max.) Class A	--	Tested inside unit	
Pick Up Module (for model UJ-110/-210)	Panasonic System Networks Co., Ltd.	JMA210xx or JMA110xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ-120)	Panasonic System Networks Co., Ltd.	JMA120xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ-220)	Panasonic System Networks Co., Ltd.	JMA220xx or JMA210xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ130)	Panasonic System Networks Co., Ltd.	JMA130xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ230)	Panasonic System Networks Co., Ltd.	JMA230xx (x = any character or blank)	--	--	Tested inside unit	



IEC/EN 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	Mark(s) of conformity <sup>1)</sup>	
Pick Up Module (for model UJ240/230/141)	Panasonic System Networks Co., Ltd.	JMA240xx or JMA141xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ140A)	Panasonic System Networks Co., Ltd. (include pick up type RD- DKP025x by Panasonic AVC Networks Company Device Business Unit) (x = any character or blank)	JMA140xx (x = any character or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ150)	Panasonic System Networks Co., Ltd. (include pick up type SF-BC621x by Sanyo Electric Co., Ltd.) (x = any character or blank)	JMA150x (x = any characters or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ160)	Panasonic System Networks Co., Ltd.	JMA160xx (x = any characters or blank)	--	--	Tested inside unit	
Pick Up Module (for model UJ160/260)	Panasonic System Networks Co., Ltd.	JMA260xxx (x = any characters or blank)	--	--	Tested inside unit	
Blue Diode (for model UJ-110/-120 /UJ130A/130E)	Nichia	NDV1122-xx (x = any character or blank)	405nm, Laser output power: 25mW (CW)	--	Tested inside unit	
Blue Diode (for model UJ-210/-220)	Nichia	NDHV210DFA- S01	405nm Laser output power: 80mW (CW) 160mW (pulse)	--	Tested inside unit	
Blue Diode (for model UJ130A/130E UJ141)	Nichia	NDV1322-xx (x = any character or blank)	405nm, Laser output power: 55mW (CW)	--	Tested inside unit	
Blue Diode (for model UJ230A/230E)	Nichia	NDV43xx-xx (x = any character or blank)	405nm, Laser output power: 280mW (CW)	--	Tested inside unit	

IEC/EN 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	Mark(s) of conformity <sup>1)</sup>	
Blue Diode (for model UJ140A)	Nichia	NDV1342x (x = any character or blank)	405nm Laser output power: 20mW (CW)	--	Tested inside unit	
Blue Diode (for model UJ240/230/141)	Nichia	NDV4322x (x = any character or blank)	405nm Laser output power: 140mW (CW) 280mW (pulse)	--	Tested inside unit	
Alternate (for model UJ240/230/141)	Nichia	NDV4522xx (x = any character or blank)	405nm Laser output power: 200mW (CW) 400mW (pulse)	--	Tested inside unit	
Alternate (for model UJ150)	Sanyo	DL-4366-101x (x = any character or blank)	405nm Laser output power: 20mW (CW)	--	Tested inside unit	
Alternate (for model UJ160)	Nichia	NDV1733x (x = any character or blank)	405nm Laser output power: 20mW (CW)	--	Tested inside unit	
Alternate (for model UJ160/260)	Nichia	NDV4632x (x = any character or blank)	405nm Laser output power: 250mW (CW) 500mW (pulse)	--	Tested inside unit	
DVD/CD Laser Diode (for model UJ-110/-210, UJ-120/-220)	Sanyo	DL-1195-251B	For DVD: 662nm Laser output power: 70mW (CW) 160mW (pulse)  For CD: 784nm Laser output power: 80mW (CW) 240mW (pulse)	--	Tested inside unit	
DVD/CD Laser Diode (for model UJ130A/130E, UJ230A/230E)	Sanyo	DL-1195-261A	For DVD: 662nm Laser output power: 90mW (CW) 300mW (pulse)  For CD: 784nm Laser output power: 160mW (CW) 340mW (pulse)	--	Tested inside unit	
DVD/CD Laser Diode (for model UJ140A)	Panasonic	LNCT16PFx (x = any character or blank)	For DVD: 661nm Laser output power: 90mW (CW) 300mW (pulse)  For CD: 783nm Laser output power: 160mW (CW) 350mW (pulse)	--	Tested inside unit	

IEC/EN 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	Mark(s) of conformity <sup>1)</sup>	
DVD/CD Laser Diode (for model UJ240/230/141/ <b>UJ160</b> )	Mitsubishi	ML203A7xxx (x = any character or blank)	For DVD: 660nm Laser output power: 200mW (CW) 300mW (pulse)  For CD: 786nm Laser output power: 200mW (CW) 350mW (pulse)	--	Tested inside unit	
Alternate	Panasonic	LNCT26PFxx (x = any character or blank)	For DVD: 661.5nm Laser output power: 90mW (CW) 300mW (pulse)  For CD: 783nm Laser output power: 200mW (CW) 350mW (pulse)	--	Tested inside unit	
Alternate (for model UJ150)	Panasonic	LNCT22PKx (x = any character or blank)	For DVD: 661nm Laser output power: 100mW (CW) 300mW (pulse)  For CD: 784nm Laser output power: 200mW (CW) 365mW (pulse)	--	Tested inside unit	
Note(s):						
<sup>1)</sup> An asterisk indicates a mark that assures the agreed level of surveillance.						
Supplementary information:						
The suffix "x" in the type designation above can be any character or blank are used with no difference in specification and electrical characteristics not influence to safety.						

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C) .....					—
	Power source for EUT: Manufacturer, model/type, output rating .....					—
Component No.	Fault	Supply voltage (V)	Test time	Fuse no.	Fuse current (A)	Observation
Spindle motor	L	DC 5	7 hrs.	--	--	Max. measured temp. at surface of motor: 31°C, ambient: 25°C No hazards. (tested inside equipment, type 24C075G012)
Feed motor	L	DC 7	7 hrs.	--	--	Max. measured temp. at surface of motor: 33°C, ambient: 25°C No hazards. (tested inside equipment, type SPS-08RG-511H)
Supplementary information:						
During the tests no fire or other hazards occurred.						
L = locked						