



Test Report issued under
the responsibility of:



TEST REPORT
IEC 60950-1
Information technology equipment - Safety -
Part 1: General requirements

Report Reference No: E238623-A133-CB-1

Date of issue: 2013-02-05

Total number of pages: 11

CB Testing Laboratory: Underwriters Laboratories Taiwan Co., Ltd.

Address: 260 Da-Yeh Road, 112 Peitou Taipei City, Chinese Taipei

Applicant's name: INVENTEC CORP

Address: 349 JEN-HO RD SEC 2, TACHI, TAOYUAN HSIEN 335, TAIWAN

Test specification:

Standard: IEC 60950-1:2005 (2nd Edition); Am 1:2009

Test procedure: CB Scheme

Non-standard test method: N/A

Test Report Form No.: IEC60950_1C

Test Report Form originator: SGS Fimko Ltd

Master TRF: 2012-08

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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.

Test item description	Accessory, PCI Express RAID Adapter
Trade Mark	LSI
Manufacturer	INVENTEC CORP 349 JEN-HO RD SEC 2, TACHI, TAOYUAN HSIEN 335, TAIWAN
Model/Type reference	25420
Ratings	N/A

Testing procedure and testing location:	
<input type="checkbox"/> CB Testing Laboratory	Testing location / address..... :
<input type="checkbox"/> Associated CB Test Laboratory	Testing location / address..... :
	Tested by (name + signature) :
	Approved by (name + signature) ... :
<input type="checkbox"/> Testing Procedure: TMP	Testing location / address..... :
	Tested by (name + signature) :
	Approved by (+ signature) :
<input checked="" type="checkbox"/> Testing Procedure: WMT	Testing location / address..... :
Tested by (name + signature) :	Judy Tsou
Witnessed by (+ signature)..... :	Fred Hu
Approved by (+ signature) :	Stephen Huang
Testing location / address..... :	INVENTEC CORP/ 349 JEN-HO RD SEC 2 TACHI TAOYUAN HSIEN 335, TAIWAN
<input type="checkbox"/> Testing Procedure: SMT	Testing location / address..... :
	Tested by (name + signature) :
	Approved by (+ signature) :
	Supervised by (+ signature) :
	Testing location / address..... :
<input type="checkbox"/> Testing Procedure: RMT	Testing location / address..... :
	Tested by (name + signature) :
	Approved by (+ signature) :
	Supervised by (+ signature) :
	Testing location / address..... :

List of Attachments

National Differences (0 pages)

Enclosures (2 pages)

Summary Of Testing

Unless otherwise indicated, all tests were conducted at INVENTEC CORP/ 349 JEN-HO RD SEC 2 TACHI TAOYUAN HSIEN 335, TAIWAN.

Tests performed (name of test and test clause)	Testing location / Comments
General Guidelines	All tests were conducted at INVENTEC

CORP/ 349 JEN-HO RD SEC 2 TACHI
TAOYUAN HSIEN 335, TAIWAN

Component Failure (5.3.1, 5.3.4, 5.3.7)

Summary of Compliance with National Differences:

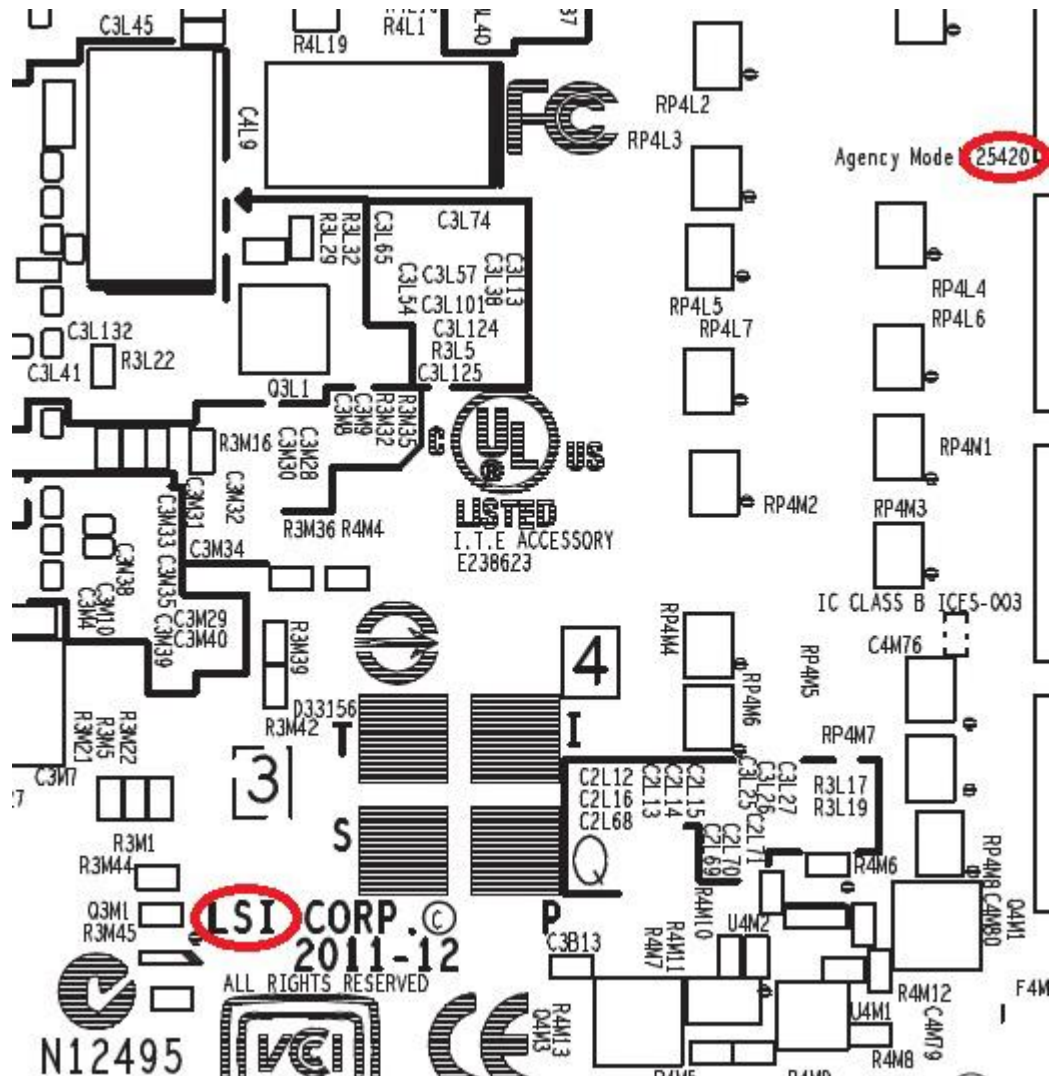
Countries outside the CB Scheme membership may also accept this report.

List of countries addressed: AT, BE, BG, BY, CA, CH, CN, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IL, IT, JP, KR, NL, NO, PL, RO, SE, SG, SI, SK, UA, US

The product fulfills the requirements of: EN 60950-1:2006 + A1:2010 + A11:2009 + 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.



Test item particulars :

Equipment mobility: for building-in
 Connection to the mains: N/A
 Operating condition: continuous
 Access location: N/A
 Over voltage category (OVC): N/A
 Mains supply tolerance (%) or absolute mains supply values: No direct connection
 Tested for IT power systems: No
 IT testing, phase-phase voltage (V): N/A
 Class of equipment: Class III (supplied by SELV)
 Considered current rating of protective device as part of the building installation (A): N/A
 Pollution degree (PD): PD 2
 IP protection class: IP X0
 Altitude of operation (m): Up to 2000m
 Altitude of test laboratory (m): Up to 2000m
 Mass of equipment (kg): 0.18 kg max.

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(s) of receipt of test item: 2013-06-20
 Date(s) of Performance of tests: 2013-08-28

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 testing laboratory.

"(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 point is used as the decimal separator.

Manufacturer's Declaration per Sub Clause 6.2.5 of IEC 60950-1:

Yes

The application for obtaining a CB Test Certificate includes more than one factory 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

When differences exist, they shall be identified in the General Product Information section.

Name and address of Factory(ies): (1) INVENTEC (PUDONG) TECHNOLOGY CORPORATION
 CAOHEJING EXPORT PROCESSING ZONE, 789 PUXING RD,
 SHANGHAI 201114, CHINA

(2) INVENTEC CORP
255 JEN-HO RD, SEC 2, NAN-HSIN LI, TACHI TAOYUAN 335,
TAIWAN

GENERAL PRODUCT INFORMATION:

Report Summary

The original report was modified on 2013-09-09 to include the following changes/additions:

- This Test Report shall be read in conjunction with the original report, number:

- 1) CB Test Report Ref. No. E238623-A133-CB-1 issue date 2013-02-05 with CB Test Certificate Ref. No. DK-30892-UL issue date 2013-02-06.
- 2) CB Test Report Ref. No. E238623-A133-CB-1 with Amendment 1 issue date 2013-07-04 with CB Test Certificate Ref. No. DK-30892-A1-UL issue date 2013-07-04.

- This report is deemed to be amended, due to

- 1) Add alternate source of super capacitor, model 17-0017-4483 by Tecate Industries Inc.

- Only the following test was deemed necessary

- 1) COMPONENT FAILURE TEST

Product Description

Electronic components were mounted on PWB and supplied by SELV via the end-use Server's main board.

Model Differences

N/A

Additional Information

SuperCap module (Tecate Industries Inc., type:17-0005-4483) rating: 2F, 13.5V.

According to clause 2.1.1.5,

$$E = 0.5 * CU^2 * 10^{(-6)}$$

$$E = 182.25 \text{ J} > 20 \text{ J}$$

Technical Considerations

- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 55°C
- The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 (which includes all European national differences, including those specified in this test report).
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- Ultracapacitor Module w/ future effective requirements: The product contains an ultracapacitor module that complies with the Standard for Electrochemical Capacitors, UL810A.
- Fire enclosure, electrical enclosure and mechanical enclosure shall be provided in the final system. --
- Heating test need be evaluated in the final system. --

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

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

1.5.1	TABLE: list of critical components					Pass
object/part or Description	manufacturer/ trademark	type/model	technical data	standard (Edition or year)	mark(s) of conformity ¹⁾	
01. PWB	interchangeable	interchangeable	Rated V-1 minimum, 105 degree C minimum	UL796	UL, --	
02. Heat Sink (On U5B4)	--	--	Aluminum. (Please see Enclosure 4-06 for details)	--	--, --	
02a. Heat Sink (On U5B4) (Alternate)	--	--	Aluminum. (Please see Enclosure 4-07 for details)	--	--, --	
03. Internal Plastic Part/Materials	interchangeable	interchangeable	Rated V-2 minimum	UL94, UL746C	UL, --	
04. Connectors and Receptacles (secondary ELV/SELV circuits)	interchangeable	interchangeable	Metal/plastics, Copper alloy pins housed in bodies of plastic rated V-2 min.	UL1863, UL498, UL1977, UL94, UL746C	UL, --	
05. Wiring (Secondary ELV/SELV) (Optional)	interchangeable	interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; 60 V min., 60 degree C min.	UL758	UL, --	
06. Battery Pack (Optional)	Palladium Energy Co Ltd /LSI	BAT1S1P-A	3.7Vdc, 1.59Ah, 5.9Wh or 3.7Vdc, 1.5Ah, 5.6W	UL60950-1 UL2054	UL, --	
07. SuperCap Module (Optional)	Tecate Industries Inc	17-0007-4483	13.5Vdc, 2F	UL810A	UL, --	
07a. SuperCap Module (Alternate) (Optional)	Tecate Industries Inc	17-0017-4483	13.5Vdc, 2F	UL810A	UL, --	
08. Label (Marking on PWB)	--	--	Printed by ink	--	--, --	
09. Insulating Tubing/Sleeving (Optional)	interchangeable	interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or	UL 224	UL, --	

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

			marked VW-1; 105 degree C, 300 V.		
10. Cover of daughter board (for SuperCap Module) (Optional)	interchangeable	interchangeable	V-2 min., dimension see Enclosure 4-03 detail.	UL94	UL, --
11. Glue/Epoxy on daughter board (for Super Cap module) (for daughter board without cover)	interchangeable	interchangeable	V-2 min. covered on conductive parts of U6-pin1, pin2; U15-pin11; C25-pin1; C1-pin1; J1-pin1, pin2; Q3-pin4; Q1-pin5, pin6 (See Enclosure 3-26 for details)	UL94	UL, --
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

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

5.3	TABLE: fault condition tests					N/A
	ambient temperature (° C)				See below	—
	Power source for EUT: Manufacturer, model/type, output rating				See test sample Identification for detail	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
For alternate SupCap model 17-0017-4483 by Tecate Industries Inc.	--	--	--	--	--	--
U6	Short, Pin 3, 4 – 5, 6	240V/50Hz	5 min.	--	--	DC Output shutdown after 5 sec. NC、NT, No Damage
U9	Short, Pin 7 – 8	240V/50Hz	5 min.	--	--	DC Output shutdown after 5 sec. NC、NT, No Damage
U15	Short, Pin 10 – 11	240V/50Hz	5 min.	--	--	DC Output shutdown after 5 sec. NC、NT, No Damage
supplementary information:						

Enclosures

<u>Type</u>	<u>Supplement Id</u>	<u>Description</u>
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Photographs	3-02	Overall View - 2
Photographs	3-03	Overall View - 3
Photographs	3-15	Overall View - 3 (alternate)
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Photographs	3-20	Bottom View of daughter board for SuperCap Module
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Photographs	3-22	Overall view – FH openings (Alternate)
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Diagrams	4-06	Heatsink
Diagrams	4-07	Heatsink (Alternate)
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Issue Date: 2013-02-05
Amendment 2 2013-09-09

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Enclosures

Report Reference #

E238623-A133-CB-1

Misc ID 7-11

File E238623

Project 13CA47640

File Date --

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PRODUCT SAFETY LAB EQUIPMENT LIST

ITEM	DESCRIPTION	MANUFACTURER /MODEL /SN	SPECIFICATION: POWER RATING	CALIBRATION STATUS		
				LAST CAL DATE	DUE DATE	CONTROL NO.
1	WT210 POWER METER	YOKOGAWA / MODEL760401 / 91K209547	300V, 19A, 50/60HZ	2013-01-22	2014-01-22	153100004894
7	FREQUENCY CONVERTER	EXTECH / 6530 / 1400231	30KVA, 0-300VAC, 50 / 60Hz	2013-04-12	2014-04-11	153100004892
16	ELECTRICAL SAFETY COMPLIANCE ANALYZER	EXTECH/MODEL 7742 / E 1350810	5Kvac @ 40mA, 40A, 1000Vac, 1000Vdc	2013-06-18	2014-06-18	153100005653
17	TIMER	CASIO / HS-5	STOPWATCH / 0.01 second~4 hr	2013-06-28	2014-06-28	EW-236-008
24	CHEESE CLOTH	--	40 g/m2	N/A	N/A	N/A
25	WRAPPING TISSUE	--	12 g/m2~30 g/m2	N/A	N/A	N/A

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