

COVER PAGE FOR TEST REPORT

Product Category:	Medical Electrical Equipment
Product Category CCN:	PIDF, PIDF7
Test Procedure:	Classification
Product:	Panel PC
Model/Type Reference:	POC-174xxxxxxxxxx and POC-154xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank, for marketing purposes). POC-175xxxxxxxxxx and POC-155xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes). POC-195xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes).
Rating(s):	100-240 Vac, 50-60 Hz, 4-2 A Max
Standards:	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Applicant Name and Address:	ADVANTECH CO LTD 1 ALLEY 20 LANE 26 RUEIGUANG RD NEIHU DISTRICT TAIPEI 114 TAIWAN
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none">1. Specific Technical Criteria2. Critical Components3. Enclosures	

Issue Date: 2006-12-14
Amendment 1 2007-05-29

Page 2 of 2

Report Reference #

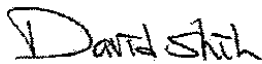
E214164-A4-UL-2

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. (UL) in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

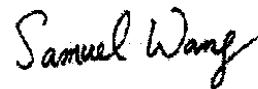
Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Test Report By:



David Shih
Project Engineer
Underwriters Laboratories Taiwan Co., Ltd.

Reviewed By:



Samuel Wang
Section Manager
Underwriters Laboratories Taiwan Co., Ltd.

SPECIFIC TECHNICAL CRITERIA

TEST REPORT UL 60601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No	E214164-A4-UL-2
Compiled by	David Shih
Reviewed by	Samuel Wang
Date of issue	2006-12-14
Standards	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Test procedure	Classification
Non-standard test method	N/A
Test item description	Panel PC
Trademark	None
Model and/or type reference	POC-174xxxxxxxxxx and POC-154xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank, for marketing purposes). POC-175xxxxxxxxxx and POC-155xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes). POC-195xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes).
Rating(s)	100-240 Vac, 50-60 Hz, 4-2 A Max

GENERAL INFORMATION			
Test item particulars (see also clause 5):			
Classification of installation and use	Stationary		
Supply connection	Appliance coupler		
Accessories and detachable parts included in the evaluation	None		
Options included	None		
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) (acceptable only if a corresponding, less stringent national requirement is "Pass")		
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
General remarks:			
- "(see Enclosure #)" refers to additional information appended to the Test Report			
- "(see appended table)" refers to a table appended to the Test Report			
- Throughout the Test Report a point is used as the decimal separator			

General Product Information:	
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	Panel PC intended for use in medical electrical equipment.
CC1.0	Model Differences
CC1.1	<p>In the model name "x" and be any alphanumeric character of blank and is used for marketing purposes only. Model POC-174xxxxxxxxx is identical to POC-154xxxxxxxxx , except panel, inverter and model designation.</p> <p>Models POC-155xxxxxxxxx and POC-175xxxxxxxxx are the same as POC-154xxxxxxxxx and POC-174xxxxxxxxx, respectively, with an additional 1394 connector and two USB ports. Mother board is the same iust extended for 1394 port and USB port from mother board to rear</p>

	side of chassis. Model POC-195xxxxxxxxxx is identical to models POC-155xxxxxxxxxx and POC-175xxxxxxxxxx except inverter, panel and enclosure shape difference.	
CD1.0	Additional Information	
CD1.1	This report is based on a CB Report from TUV, CB Certificate DE 2-006872, Report reference 21110540 001. The equipment was not evaluated as a suspended mass.	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	UL 60601-1, EN 60601-1: 1990 + A1:1993 + A2:1995 + A13:1996, CAN/CSA C22.2 No. 601.1-M90 (R1997), CAN/CSA C22.2 No. 601.1S1-94, and CAN/CSA C22.2 No. 601.1B-98 (National Differences for Canada), (except EMC limitations, EN 60601-1-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4)
CE1.2	The product was not investigated to the following standards or clauses:	Clause 36, Electromagnetic Compatibility (IEC 601-1-2), Clause 48, Biocompatibility (ISO 10993-1), Clause 52.1, Programmable Electronic Systems (IEC 601-1-4)
CE1.3	The product is Classified only to the following hazards:	Shock, Fire, Casualty
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
CE1.6	The mode of operation is:	Continuous
CE1.7	Software is relied upon for meeting safety requirements related to mechanical, fire and shock:	No
CE1.8	The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:	No

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

TABLE: list of critical components							Pass
56.1	Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Photo ID, Item # or other sorting identifier
	POC-174xxxxxxxxxxx	See Below	--	--	--	See Below	3-01
	Printed Wiring Board	Various	Various	V-1 or better 105C	ZPMV2	UL R/C	3-04
	Enclosure Material	GE Plastics	C2800	V-1 or better, 80C, min 3.0 mm thick. Overall approx. 16 x 14 inches.	QMFZ2	UL R/C	3-02
	LCD Panel	AU Optonics Corporation	M170EN07	TFT type, SVGA 17 inch., 12 Vdc, 3.75A	NWGGQ2, 8	UL R/C, CN	3-01
	Alternate LCD Panel	AU Optonics Corporation	M170EG01	TFT type, SXGA 17 inch., 5 Vdc, 6W	NWGGQ2, 8	UL R/C, CN	3-01
	HDD Drive (optional)	Fujitsu	MHT2020AT	5 Vdc, 0.55A max.	NWGGQ2, 8	UL R/C, CN	3-02
	FDD Drive (optional)	NEC	FD3238T	5 Vdc, 1.5A max.	NWGGQ2, 8	UL R/C, CN	3-02
	CD/DVD-Rom/CD-RW Drive (optional)	Quanta Storage Inc.	SCR-242	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02
	Alternate	Toshiba Corp.	XM-7004Bxx, XM-1902Bxx	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02
	Alternate	Quanta Storage Inc.	SDR-XXXX	5Vdc, 1.5A, Class 1 Laser product	NWGGQ, 8	UL R/C, CN	3-02
	Alternate	Matsushita	SR-8175-C, SR- 8176-C	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02
	Lithium Battery	Toshiba	CR2032	3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
	Alternate	Rayovac	CR2032	3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
	Alternate	Sony	CR2032	3V, max abnormal charging current 10 mA, protected by	BBCV2	UL R/C	3-04

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

				R421, 1kohm resistor and diode D7 in series			
Alternate	Vic-Dawn Enterprise Co. Ltd	CR2032		3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
Alternate	Mitsubishi Electric Corp	CR2032		3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
Alternate	Matsushita	CR2032		3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
Alternate	Panasonic	CR2032		3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
System Fan	Various (ADDA)	Various (AD0612MB-G76)		12 Vdc, 0.13A max, min 11.7 CFM	GPWV2, 8	UL R/C, CN	3-04
Inverter Board for use with M170EN07 LCD Panel	Lecerf Technology Co., Ltd.	LV-1701LC-A		Input: 12V, 1.8A.	N/A	None	3-04
Transformer (T1, T2 fore use with LV-1701LC-A Inverter Board)	Lecerf Technology Co., Ltd.	X08-C-1		Output: 680Vrms, 13 mA	N/A	None	3-04
Inverter Board for use with M170EG01 LCD Panel	Lecerf Technology Co., Ltd.	LV-1801-CA		Input: 12V, 1.8A.	N/A	None	3-04
Transformer (T1, T2 fore use with LV-1801-CA Inverter Board)	Lecerf Technology Co., Ltd.	1-X09A		Output: 700 Vrms, 6.5 mA. See Enclosure Miscellaneous, 7-02, for transformer construction	N/A	Evaluated to the requirements of IEC 60601-1	3-04

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

Inverter Board for use with CLAA150XE01 LCD Panel	Lecerf Technology Co., Ltd	LV-1401-K	Input: 12V, 1.4A	N/A	None	3-04
Transformer (T1, T2 LV-1401-K Inverter Board)	Lecerf Technology Co., Ltd	X08	Output: 600Vrms, 13 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	N/A	Evaluated to the requirements of IEC 60601-1 during this evaluation.	3-04
POC-175xxxxxxxxxx and POC-155xxxxxxxxxx	Same as POC-174xxxxxxxxxx and POC-154xxxxxxxxxx above except:	--	--	--	--	3-01
USB Port	Various	Various	Two provided	N/A	None	3-02
Connector	Various	1394 Type	One provided	N/A	None	3-02
POC-195xxxxxxxxxx	Same as POC-175xxxxxxxxxx and POC-155xxxxxxxxxx above except:	--	--	--	See Below	3-05
Enclosure Material	GE Plastics	C2800	V-1 or better, 80°C, min 3.0 mm thick. Overall approx. 470 x 415 x 129 mm.	QMFZ2	UL R/C	3-05
LCD Panel	AU Optonics Corporation	M190EG01	TFT type, SXGA 19 inch, 5Vdc, 1.5 A	NWQGQ2, 8	UL R/C, CN	3-05
Transformer (T1, T2)	Lecerf Technology Co., Ltd	X09-A	Output: 740Vrms, 6.8 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	N/A	Evaluated to the requirements of IEC 60601-1	3-08

IEC 60601		
Clause	Requirement + Test	Verdict

						during this evaluation.	
Fuse	Various	Various	Input: 125V, 2A	N/A		None	3-08
System Fan	Various (ADDA)	Various (AD5012LX-D76)	12 Vdc, 0.08A max, min 10.4 CFM	GPWV2, 8		UL R/C, CN	3-04
Metallized Coating	Basictak Co., Ltd.	Process Designation 599-B3730 and 599-B4540	Applied on inside of enclosure substrate - GE Plastics model C2800, maximum operating temperature 80 °C.	QMRX2		UL	

Issue Date: 2006-12-14
Amendment 1 2007-05-29

Page 1 of 2

Report Reference #

E214164-A4-UL-2

Enclosure

Test Record

Description
Test Record 1
POC-195xxxxxxxxxxx Data
Test Record 2

Test Record No. 2

The manufacturer submitted a sample representing production of Panel PC, Model POC-154xxxxxxxxxx employing the alternate Metallized Coating on inside of plastic enclosure. No tests were performed on Model POC-154xxxxxxxxxx employing process designation 599-B3730 and 599-B4540 Metallized Coating applied on inside of plastic enclosure, due to the Metallized Coating applied to nonmetallic surfaces complied with the requirements in the Standard for Polymeric Materials - Use in Electrical Equipment Evaluations, UL 746C, and Unit was intended assembled with medical system, not accessible by patient nor use in patient vicinity, only operated by qualify person. Clause 16.e exclusion item 1 applied. The results of this investigation, including construction review, indicate that the products evaluated comply with the applicable requirements in the standard for Medical Electrical Equipment, Part 1: General Requirements for Safety, UL 60601-1, First Edition, including revisions through revision date April 26, 2006, which includes the Second Amendment of IEC60601-1, and Canadian Standard for Medical Electrical Equipment, CAN/CSA C22.2, No. 60601.1-M90, including Update No. 2 through revision date November, 2003. Construction review performed on Model POC-154xxxxxxxxxx were considered to be representative of Models POC-174xxxxxxxxxx, POC-175xxxxxxxxxx, POC-155xxxxxxxxxx and POC-195xxxxxxxxxx.