

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: 1. Specific Technical Criteria 2. Critical Components	

Issue Date: 2006-12-14
Correction 1 2007-09-11

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Report Reference #

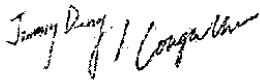
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This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category 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.

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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	Jimmy Deng/Conga Chen
Reviewed by	Thomas Huang
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-174xxxxxxxxxxx is identical to POC-154xxxxxxxxxxx , except panel, inverter and model designation.</p> <p>Models POC-155xxxxxxxxxxx and POC-175xxxxxxxxxxx are the same as POC-154xxxxxxxxxxx and POC-174xxxxxxxxxxx, 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.	
	<p>Amendment 3: Employing the alternate System Fan (Low CFM) and RTC Battery for Models POC-154xxxxxxxxxx, POC-155xxxxxxxxxx, POC-174xxxxxxxxxx and POC-175xxxxxxxxxx due to testing performed on the subject unit condition as below: For Model POC-155xxxxxxxxxx and provided with Panel, Au Optronics, type G150XG01 and Inverter, Lecerf, Type LV-1201-D For Model POC-175xxxxxxxxxx and provided with Panel, Au Optronics, type M170EG01 and Inverter, Lecerf, Type LV-1701LC-A</p> <p>No tests were performed on Model POC-195xxxxxxxxxx employing the alternate System Fan (High CFM) and RTC Battery due to testing previously performed on the subject unit.</p> <p>Correction 1: project 07CA32955 was employed to add label information into critical component table.</p>	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	UL 60601-1, 1st Edition, 2006-04-26 (includes National Differences for USA), 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

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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
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IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

TABLE: list of critical components							
56.1	Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Pass
	Printed Wiring Board	Various	Various	V-1 or better 105C	ZPMV2	UL R/C	3-04
	Enclosure Material (For Model POC-174xxxxxxxxxx, POC-154xxxxxxxxxx, POC-175xxxxxxxxxx, POC-155xxxxxxxxxx)	GE Plastics	C2800	V-1 or better, 80 degree C, min 3.0 mm thick. Overall approx. 16 x 14 inches.	QMFZ2	UL R/C	3-02
	Enclosure Material (For Model POC-195xxxxxxxxxx)	GE Plastics	C2800	V-1 or better, 80 degree C, min 3.0 mm thick. Overall approx. 470 x 415 x 129 mm.	QMFZ2	UL R/C	3-05
	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 degree C.	QMRX2	UL	
	LCD Panel (For Model POC-174xxxxxxxxxx, POC-175xxxxxxxxxx)	AU Optonics Corporation	M170EN07	TFT type, SVGA 17 inch., 12 Vdc, 3.75A	NWQG2, 8	UL R/C, CN	3-01
	Alternate LCD Panel (For Model POC-174xxxxxxxxxx, POC-175xxxxxxxxxx)	AU Optonics Corporation	M170EG01	TFT type, SXGA 17 inch., 5 Vdc, 6W	NWQG2, 8	UL R/C, CN	3-01
	LCD Panel (For Model POC-154xxxxxxxxxx, POC-155xxxxxxxxxx)	AU Optonics Corporation	G150XG01	TFT type, SVGA 15 inch, 3.6Vdc, 1.3 A	NWQG2, 8	UL R/C, CN	3-01
	Alternate LCD Panel (For Model POC-154xxxxxxxxxx, POC-155xxxxxxxxxx)	AU Optonics Corporation	M150XN07	TFT type, SVGA 15 inch, 3.6Vdc, 1.3A	NWQG2, 8	UL R/C, CN	3-01
	Alternate LCD Panel	Chunghwa Picture	CLAA150XE01	TFT type, SVGA 15 inch,	NWQG2, 8	UL R/C, CN	3-01

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

(For Model POC-154xxxxxxxxxx, POC-155xxxxxxxxxx)	Tubes, Ltd		5.5Vdc, 0.6A			
LCD Panel (For Model POC-195xxxxxxxxxx)	AU Optonics Corporation	M190EG01	TFT type, SXGA 19 inch, 5Vdc, 1.5 A	NWGGQ2, 8	UL R/C, CN	3-05
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 CD/DVD-Rom/CD-RW Drive (optional)	Toshiba Corp.	XM-7004Bxx, XM-1902Bxx	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02
Alternate CD/DVD-Rom/CD-RW Drive (optional)	Quanta Storage Inc.	SDR-XXXX	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02
Alternate CD/DVD-Rom/CD-RW Drive (optional)	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 Lithium Battery	Rayovac	CR2032, BR2032	3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
Alternate Lithium Battery	Sony	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 Lithium Battery	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

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

Alternate Lithium Battery	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 Lithium Battery	Matsushita	CR2032	3V, maximum abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
Alternate Lithium Battery	Panasonic	CR2032	3V, maximum abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04
System Fan (For all model)	Various (ADDA)	Various (AD0612MB-G76)	12 Vdc, 0.13A minimum, 12.0CFM	GPWV2, 8	UL R/C, CN	3-04
Alternate System Fan (For Model POC-195xxxxxxx)	Various (ADDA)	Various (AD5012LX-D76)	12 Vdc, 0.08A minimum 11.0 CFM	GPWV2, 8	UL R/C, CN	3-04
Alternate System Fan (For Model POC-154xxxxxxx and POC-155xxxxxxx provided with Panel, Au Optonics, type G150XG01 and Inverter, Lecerf, Type LV-1201-D) (For Model POC-174xxxxxxx and POC-175xxxxxxx provided with Panel, Au Optonics, type M170EG01 and Inverter, Lecerf, Type LV-1701LC-A (For Model POC-195xxxxxxx)	Various (ADDA)	Various (AD0612LB-G76)	12 Vdc, 0.11A minimum, 11.7 CFM	GPWV2, 8	UL R/C, CN	3-04

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Alternate System Fan (For Model POC-154xxxxxxxxxx and POC-155xxxxxxxxxx provided with Panel, Au Optronics, type G150XG01 and Inverter, Lecerf, Type LV-1201-D) (For Model POC-174xxxxxxxxxx and POC-175xxxxxxxxxx provided with Panel, Au Optronics, type M170EG01 and Inverter, Lecerf, Type LV-1701LC-A (For Model POC-195xxxxxxxxxx))	Various (ADDA)	Various (AD0512HB-G73)	12 Vdc, 0.11A maximum, 11.2 CFM	GPWV2, 8	UL R/C, CN	3-04
Alternate System Fan (For Model POC-154xxxxxxxxxx and POC-155xxxxxxxxxx provided with Panel, Au Optronics, type G150XG01 and Inverter, Lecerf, Type LV-1201-D) (For Model POC-174xxxxxxxxxx and POC-175xxxxxxxxxx provided with Panel, Au Optronics, type M170EG01 and Inverter, Lecerf, Type LV-1701LC-A (For Model POC-195xxxxxxxxxx))	Various (ADDA)	Various (AD0512HB-G76)	12 Vdc, 0.15A minimum, 11.2 CFM	GPWV2, 8	UL R/C, CN	3-04

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Inverter Board for use with M170EN07 LCD Panel	Lecerf Technology Co., Ltd.	LV-1701LC-A	Input: 12V, 1.8A.	--	--	3-04
-Transformer (T1, T2 fore use with LV-1701LC-A Inverter Board)	Lecerf Technology Co., Ltd.	X08-C-1	Output: 680Vrms, 13 mA	--	--	3-04
Inverter Board for use with M170EG01 LCD Panel	Lecerf Technology Co., Ltd.	LV-1801-CA	Input: 12V, 1.8A.	--	--	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	--	Evaluated to the requirements of IEC 60601-1 during this evaluation.	3-04
Inverter Board for use with G150XG01 and M150XN07 LCD Panels	Lecerf Technology Co., Ltd	LV-1201-D	Input: 12V, 1.1A	--	--	3-04
-Transformer (T1, T2 LV-1201-D Inverter Board)	Lecerf Technology Co., Ltd	X03	Output: 680Vrms, 8 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	--	Evaluated to the requirements of IEC 60601-1 during this evaluation.	3-04
Inverter Board for use with CLAA150XE01 LCD Panel	Lecerf Technology Co., Ltd	LV-1401-K	Input: 12V, 1.4A	--	--	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.	--	Evaluated to the requirements of IEC	3-04

IEC 60601				
Clause	Requirement + Test	Result - Remark	Verdict	
Inverter Board for use with M190EG01 LCD Panel	Lecerf Technology Co., Ltd	Input: 12V, 2A	--	60601-1 during this evaluation.
-Transformer (T1, T2 LV-1501-PLC)	Lecerf Technology Co., Ltd	Output: 740Vrms, 6.8 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	--	3-08
-Fuse (for LC-1501-PLC)	Various	Input: 125V, 2A	--	3-08
Poly switch (L6) (for VGA Connector)	Polytronics	9 Vdc, 0.2Ah, 0.5At	XGPU2 8	3-04
Poly switch (FS5) (for PS2 connector)	Tyco Corp (Raychem)	8 Vdc, 1.1A	XGPU2 8	3-04
Power Supply	FSP Group Inc.	Input: 100-240 Vac, 4A, 50-60 Hz. DC Output: +3.3V/16.8A, +5V/12A, +12V/12A, +5Vsb/2.0A, -12V/0.8A	QQHM2 8	3-04
Detachable Power Supply Cord U.S and Canada	Various	Type SJT, No.18 AWG, 3-conductor, terminating in Listed Hospital Grade Plug on one end and IEC 320 Plug on the other, rated min 125V, 10A	ELBZ	3-02
Detachable Power Supply Cord Europe	Any <HAR> cord	250 Vac, 0.75 mm2 min.	--	KAM
Label	Various	Rated minimum 60 °C.	PDGQ2 or PGJ12	UL