

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-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank
Rating(s):	POC-S175XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24V, 3.33 A PC: 24 VDC, 3 A POC-S155XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24 V, 3.33 A or 100-240 V~, 1.35-0.8 A, 47-63 Hz; Output: 24 V, 2.08 A PC: 24 VDC, 2 A Optional Battery Pack: 11.1 Vdc, 4000mAH
Standards:	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
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: 2005-02-04

Page 2 of 2

Report Reference #

E214164-A8-UL-1

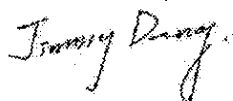
Correction 1 2006-08-17

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 provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

Test Report By:

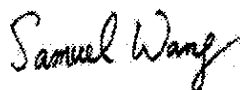


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Reviewed By:



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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-A8-UL-1
Compiled by	Jimmy deng
Reviewed by	Samuel Wang
Date of issue	2005-02-04
Standards	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Test procedure	Classification
Non-standard test method	N/A
Test item description	Panel PC
Trademark	None
Model and/or type reference	POC-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank
Rating(s)	POC-S175XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24V, 3.33 A PC: 24 VDC, 3 A POC-S155XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24 V, 3.33 A or 100-240 V~, 1.35-0.8 A, 47-63 Hz; Output: 24 V, 2.08 A PC: 24 VDC, 2 A Optional Battery Pack: 11.1 Vdc, 4000mAH

GENERAL INFORMATION

Test item particulars (see also clause 5):

Classification of installation and use	Portable or Fixed
Supply connection	Appliance coupler
Accessories and detachable parts included in the evaluation	None
Options included	Equipment may be mounted on wall or on stand.

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 LCD PC for Medical use.

CC1.0 Model Differences

CC1.1 Models POC-S175XXXXXXXXX and POC-S155XXXXXXXXX where X is any alphanumeric character or blank for marketing purposes are identical except for size and ratings. Either model may also include the optional battery pack.

CD1.0 Additional Information

CD1.1	<p>LCD PC may be mounted on an external arm.</p> <p>This report was modified with Amendment 1 to include an optional battery pack and alternate main board. Appended Tables 7, 19, 42, and 52 were modified to include supporting data. Enclosure Schematics was added for Battery Pack and Charger Circuit drawings.</p> <p>- correction 1: correct Label CCN from PGDU2 to PGDQ2</p>	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	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); UL 60601-1 (National Differences for USA) (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:	Casualty, Fire, Shock
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
CE1.5	The following accessories were investigated for use with the product:	Stand Mount and Arm Mount
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						
56.1	Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity
	External Power Supply (used with all models)	XPiQ Inc.	PCM80PS24	Input: 100-240 Vac, 11-0.45 A, 47-63 Hz. DC Output: 24 Vdc, 3.33 A max.	QQHM2	UL R/C
	Alternate (only used with model POC- S155XXXXXXXXXX)	Sinpro	MPU50-108	Input: 100-240 Vac, 1.35-0.8A, 47-63 Hz. DC Output: 24 Vdc, 2.08 A max.	QQHM2	UL R/C
	PWB	Various	Various	V-1 or better, 105°C min.	ZPMV2	UL R/C
	Enclosure material	GE Plastics	C2800	V-0, 80°C min. For model POC- S175, overall 436.5 x 376.5 x 83.6 mm, 3.1 mm thickness. For model POC-S155, overall 417.5 x 342.3 x 83.5 mm, 3.1 mm thickness. Secured to rear enclosure by screws.	QMFZ2	UL R/C
	LCD Panel	AU Optonics Couporation	G150XG01	TFT type, XGA 15 inch	NWQG2	UL R/C
	Alternate	AU Optonics Couporation	M150XN07	TFT type, XGA 15 inch	NWQG2	UL R/C
	Alternate	AU Optonics Couporation	M170EG01	TFT type, SXGA 17 inch	NWQG2	UL R/C
	HDD Drive (Optional)	Various	Various	5Vdc, 0.55A max.	NWQG2	UL R/C
	Lithium Battery (BT1)	Rayovac	BR2032	3?V, 195 mAh. Max. Abnormal Charging Current 5 mA. Reverse current protection by series circuit of Diode (DD1) and resistor (R184), rated 1kOhm. Not user	BBCV2	UL R/C, CSA 3-03
						3-01
						3-01
						3-02
						3-01
						3-02
						3-02
						3-02
						3-02
						3-03

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Alternate	Matsushita Electric Industrial Co Ltd. Panasonic Corp Of North America	BR2032	replacable.	Same as above	BBCV2	UL R/C, CSA	3-03
Inverter	Lecerf Technology Co., Ltd	LV-1701LC-A	I/P: 12V, 1.8A, Output: 680Vrms, 13mA.		--	Evaluated to the requirements of UL 60601-1 as part of this investigation	3-03
Transformer (T1, T2)	Lecerf Technology Co., Ltd	X08-C-1	105°C		-	Evaluated to the requirements of UL 60601-1 as part of this investigation	3-03
Inverter	Lecerf Technology Co., Ltd	LV-1201-D	13V, 1300mA, max. O/P volt: 750Vrms max. open Volt: 1400Vrms		--	Evaluated to the requirements of UL 60601-1 as part of this investigation	3-03
Transformer (T1, T2)	Lecerf Technology Co., Ltd	X03	105°C		--	Evaluated to the requirements of UL 60601-1 as part of this investigation	3-03
Polyswitch (F1, F2 for	Polytronics	SMD1812P110TT	6 Vdc max. , 1.1 A		XGPU2	UL R/C	3-03

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

USB connector, FS5 for PS2 connector)	Technology Corp.	S					
Alternate	Polytronics Technology Corp.	SMD1812P260TS	6 Vdc max. , 2.6 A	XGPU2	UL R/C	3-03	
Speaker	Various	Various	4 ohm, 1 W	--	--	3-01	
Label	LI YI Industrial Co. Ltd.	LY-101	Maximum temperature 80°C	PGDQ2	UL R/C. Evaluated to the requirements of UL 60601-1 as part of this investigation	3-01	
Alternate main board	Adventech	PCM-9686S	See Enclosure Schematics, 5-03, for drawing. For use with alternate battery pack as described below	ZPMV2	UL R/C (PWB)	3-07	
Optional Battery Pack - Includes the components below:	Advantech	POC-S155 or -S175	11.1Vdc, 4000 mAh. See Enclosure Schematics, 5-01 and 5-02, for more information	N/A	Evaluated to the requirements of UL 60601-1 as part of this investigation	3-05	
Battery Pack - PWB	Various	Various	V-1, 105 °C min.	ZPMV2	UL R/C	3-06	
Battery cells (Li-Ion type)	Samsung	ICR18650-22	DC 3.7V, typical 2200mAh. 2 in parallel, 3 in series.	BBCV2	UL R/C, CSA	3-06	
Battery Pack - Connector	Various	Various	30V min., 5A min.	ECBT	UL R/C, CSA	3-07	
Battery Pack - Thermostat (SCP1)	UCHIYA THERMOSTAT CO LTD	BPF2	100 °C, 10A	XAPX2, XAPX8	UL R/C, CSA	3-06	
Battery Pack - Thermal Cutoff (Connected to cell	NEC SCHOTT COMPONENTS	D6	139 °C, 10A min.	XCMQ2	UL R/C, CSA	3-06	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

by solder.)	CORP	D6X	139 °C, 12A	XCMQ2	UL R/C, CSA	3-06
Alternate - Battery Pack - Thermal Cutoff (Connected to cell by solder.)	NEC SCHOTT COMPONENTS CORP					
Transistor (Q1-Q4)	Various (Toshiba)	Various (TCP8111)	Min. 24V, min. 1W	N/A	N/A	3-06
Battery Pack Cover Tape/label	Various	Various	Min. V-0, 40°C	QMFZ2	UL R/C	3-06
General UL Requirements:	--	--	--	--	--	--
Corrosion Protection	-	-	All ferrous metal parts are protected against corrosion by painting, plating or equivalent means.	-	-	-
Internal Wiring	-	-	Except where noted, all internal wiring is R/C (AVLV2), and rated minimum 300V, 80°C. All wiring is routed away from sharp edges and/or moving parts and/or parts operating at elevated temperatures.	-	-	-
Electrical Connections	-	-	Except as noted, Internal wiring terminates in Listed or R/C (ZMVB2), crimped on closed loop or spade with upward or inward turned end type connectors for securing under screw terminals or Listed or R/C (ZMVB2), quick disconnect type connectors with positive detent.	-	-	-
Connectors	-	-	Except where noted, all connectors in primary circuits	-	-	-

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Insulating Tubing and Sleeving	-	-	are R/C (RTRT2). Unless otherwise noted all insulating tubing is R/C (YDPU2), or (YDQS2), or sleeving (UZCW2), rated minimum 300V, 80°C.	-	-	-
Solder Connections	-	-	All solder connections are made mechanically secure before soldering.	-	-	-
Wire Positioning Devices	-	-	Unless otherwise noted, all wire positioning devices are R/C (ZODZ2), rated minimum 60°C. (Examples: cable ties, wire positioning mounts and bundling straps.) Adhesive-backed types shall be suitable for application to the surface involved.	-	-	-
Accompanying Documents	-	-	Each unit is shipped with operating instructions, a technical description and an address to which the user can refer. Accompanying documents contain all applicable classifications of the product, all warning statements and explanation of warning symbols.	-	-	-
Markings	-	-	Except where noted, required markings on the product shall be located where visible after installation without the use of a tool. Good contrast is maintained between the	-	-	-

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
		lettering and the background material. The signal word such as "WARNING, "CAUTION" or "DANGER" must be in capital letters, minimum 2.8?mm (7/64?in.) high. The rest of the marking shall consist of upper and lower case letters not less than 1.6?mm (1/16?in.) high based on upper case letters.	