

# **RECOGNIZED COMPONENT** **Constructional Data Report (CDR)**

1.0 Reference and Address			
Report Number	130100655SHA-001	Original Issued:	28-Feb-2013
		Revised:	None
Standard(s)	Medical Electrical Equipment, Part 1: General Requirements for Basic Safety and Essential Performance (ANSI/AAMI ES60601-1 Issued: 2006/03/09: 2005 Version (R2012); with AMD C1: 2009, AMD C2: 2010 & CAN/CSA-C22.2 No.60601-1 Issued: 2008/02/01; with COR 2: 2011/06/01)		
Applicant	GlobTek, Inc.	Manufacturer	<b>GlobTek (Suzhou) Co., Ltd.</b>
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2.0 Product Description	
Product	Medical Power Supply
Brand name	GlobTek
Description	<p>Product covered by this report is medical power supply module, which can be used as a part of medical equipment. The different models are corresponding to two structure types respectively. One is direct plug-in power adapter with interchangeable plug portion, which is Class II apparatus. It can be used with different plug types. The evaluation reports of the different plug types are also attached with this report. Two pieces of outer enclosure are enclosed with ultrasonic welding without screw.</p> <p>The other one is open frame power supply board which also provides a protective earth bonding terminal on the PCB board. The installation and use for the insulation construction shall be finally determined in the end product.</p> <p>Two transformer types are alternative, which are identical in same construction except different routing of secondary lead wires.</p> <p>All the types are designed for continuous operation and no applied part is defined.</p> <p>Insulation between mains part and secondary circuits is evaluated as 2MOPP.</p>
Models	GT*41080-**** (The 1st “*” part can be ‘M’ or ‘-’ or ‘H’; The 2nd “*” part can be “01” to “18”, with interval of 1; The 3rd “*” part can be “07”, “11”, “17.9”, “30”, “38” and “48”; The 4th “*” part is optional, which can be “-0.1” to “-12” with interval of 0.1 or blank; The 5th “*” part is optional, which can be “-F” or blank.)
Model Similarity	<p>GT*41080-****</p> <p>The 1st “*” part can be ‘M’ or ‘-’ or ‘H’ for market identification and not related to safety.</p> <p>The 2nd “*” part denotes the rated output wattage designation, which can be “01” to “18”, with interval of 1.</p> <p>The 3rd “*” part denotes the standard rated output voltage designation, which can be “07”, “11”, “17.9”, “30”, “38” and “48”. Each standard rated output voltage designation corresponds to a transformer model. Each transformer model is identical in insulation construction including clearance and creepage except number of turns per coil.</p> <p>The 4th “*” part is optional, which can be “-0.1” to “-12” with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different. The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 5 - 48 volts.</p> <p>The 5th “*” part is also optional, which can be “-F” to denote open frame power supply model series or blank to denote direct plug-in power adapter model.</p>
Ratings	<p>Input: 100-240V~, 50-60Hz, 0.6A;</p> <p>Output: Refer to illustration No.1 for details.</p>
Other Ratings	N/A

## 2.0 Product Description

Conditions of Acceptability	<p>The products covered in this Report are incomplete in construction features or limited in performance capabilities and are intended for use and evaluation in other products. Consideration should be given to the following when the component is used in or with another product.</p> <p>1. Scope of Power Supply evaluation defers the following clauses to be determined as part of the end product investigation:</p> <ul style="list-style-type: none"> <li>• Clause 7.5 (Safety Signs),</li> <li>• Clause 7.9 (Accompanying Documents are provided for some critical issue like technical data, safety warnings, necessary information to set up, but further evaluation is needed on end product level.),</li> <li>• Clause 8.11.5 (Mains Fuse with High Breaking Capacity),</li> <li>• Clause 9 (ME Hazard), except 9.1 and 9.3 are evaluated,</li> <li>• Clause 10 (Radiation),</li> <li>• Clause 11.7 (Biocompatibility),</li> <li>• Clause 14 (PEMS),</li> <li>• Clause 16 (ME Systems)</li> <li>• Clause 17 (EMC),</li> <li>• Risk Management was excluded from this investigation.</li> <li>• For Power Supplies with No RM: End product Risk Management Process to include consideration of requirements specific to the Power Supply.</li> <li>• For Power Supplies with No RM: End product Risk Management Process to consider the acceptability of risk for the following components that were identified as High-Integrity Component: i.e. Fuse (F1/F2).</li> <li>• For Power Supplies with No RM: End product Risk Management Process to consider the need for simultaneous fault condition testing.</li> <li>• For Power Supplies with No RM: End product Risk Management Process to consider the need for different orientations of installation during testing.</li> <li>• For Power Supplies with No RM and Insulating Materials: End product to determine the acceptability of risk in conjunction to insulation to resistance to heat, moisture, and dielectric strength.</li> <li>• For Power Supplies with No RM: End product to determine the acceptability of risk in conjunction to the movement of components as part of the power supply.</li> <li>• For Power Supplies with No RM: End product to determine the acceptability of risk in conjunction to the movement of conductors as part of the power supply.</li> <li>• For Power Supplies with No RM: End product to determine the acceptability of risk in conjunction to the routing of wires away from moving parts and sharp edges as part of the power supply.</li> <li>• For Power Supplies with No RM or Units without Cleaning/Disinfection Methods: End product to determine the acceptability of risk in conjunction to the Cleaning and Disinfection Methods as part of the power supply.</li> <li>• For Power Supplies with No RM or Units with Enclosures: End product to determine the acceptability of risk in conjunction to the results of Mechanical Testing conducted as part of the power supply.</li> <li>• For Power Supplies with No RM: End product to determine the acceptability of risk in conjunction to the selection of components as it pertains to the intended use, essential performance, transport, storage conditions as part of the power supply.</li> </ul> <p>Temperature Testing should be performed on this component when installed in the end product.</p>
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4.0 Critical Components						
Photo #	Item no. <sup>1</sup>	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity <sup>3</sup>
1	1	Plastic enclosure	SABIC INNOVATIVE PLASTICS B V	SE1X	Min. V-1 at 1.5 mm thickness, 105 °C	cURus
			SABIC INNOVATIVE PLASTICS B V	C2950	Min. V-0 at 1.5 mm thickness, 75° C	
			SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098	Min. V-1 at 1.25 mm thickness, 85 °C	
			TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	Min. V-0 at 1.5 mm thickness, 115 °C	
			CHI MEI Corporation	PA-765A	Min. V-1 at 1.5 mm thickness, 80° C	
			CHI MEI Corporation	PC-540	Min. V-0 at 1.5 mm thickness, 70° C	
1	2	Label	DONGGUAN XIANGQUAN PRINTING CO LTD	Type XQ03	Rated min 80°C Suitable for use on the plastic enclosure	cURus
			FAN JA PAPER PRINTING CO LTD	Type FJ-03-3		
			FAN JA PAPER PRINTING CO LTD	Type FJ07		
			DONGGUAN XIANGQUAN PRINTING CO LTD	Type XQ004-B		
			E-LIN ADHESIVE LABEL CO LTD	Type EL-15		
			SHENZHEN CORWIN PRINTING CO LTD	CW-01		
			YUEN CHANG SPECIAL PRINTING (SHENZHEN) CO LTD	JL-08		
			Various	Various		
			GlobTek, Inc.	Various	Engraving or Silkscreen (Optional)	NR
4	3	Output cord	Various	Various	Min.24AWG, min.300V, min.80°C	cURus

4.0 Critical Components						
Photo #	Item no. <sup>1</sup>	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity <sup>3</sup>
4	4	X capacitor (CX1) (optional)	Cheng Tung Industrial Co., Ltd.	CTX	0.22uF, 310V, 110°C, type X1 or X2	cURus
			Tenta Electric Industrial Co. Ltd.	MEX	Max. 0.22uF, 250V, 110°C, type X2	
			Ultra Tech Xiphi Enterprise Co. Ltd.	HQX	Max. 0.22uF, 275V, 100°C, type X2	
			Okaya Electric Industries	RE series	Max. 0.22uF, 250V, 110°C, type X2	
			VISHAY Capacitors Belgium NV	F1772	Max. 0.22uF, 310V, 110°C, type X1 or X2	
			Winday Electronic Industries Co., Ltd.	MPX	Max. 0.22uF, 310V, 110°C, type X2	
			Dain Electronics Co., Ltd.	MPX, MEX and NPX	Max. 0.22uF, 250V, 110°C, type X2	
			Sinhua Electronics (Huzhou) Co., Ltd.	MPX	Max. 0.22uF, 300V, 110°C, type X2	
			Shunde Da Hua Electric Co., Ltd.	HD-MKP	Max. 0.22uF, 250V, 105°C, type X2	
			Foshan Shunde Chuang Ge	MKP-X2	Max. 0.22uF, 275V, 105°C, type X2	
			Hongzhi Enterprises Ltd.	MPX	Max. 0.22uF, 250V, 100°C, type X2	
			Jiangsu Xinghua Huayu Co., Ltd.	MPX	Max. 0.22uF, 250V, 100°C, type X2	
4	5	Line choke	GlobTek, BOAM, ZhongTong, HEJIA	NF00001D	Class A	NR
4	6	Fuse (FS1, FS2)	Conquer Electronics Co., Ltd.	MST	T1.6A, 250V, Rated breaking capacity 100A	cURus
			Ever Island Electric Co., Ltd. and Walter Electric	2010	T1.6A, 250V, Rated breaking capacity 130A	
			Bel Fuse Ltd.	RST	T1.6A, 250V, Rated breaking capacity 100A	
			Cooper Bussmann LLC	SS-5	T1.6A, 250V, Rated breaking capacity 35A	
			Walter Electronic Co. Ltd.	ICP series	T1.6A, 250V, Rated breaking capacity 50A	
			Das & Sons International Ltd.	385T series	T1.6A, 250V, Rated breaking capacity 35A	
			Shenzhen Lanson Electronics Co. Ltd.	SMT T1,6A250V	T1.6A, 250V, Rated breaking capacity 35A	

4.0 Critical Components						
Photo #	Item no. <sup>1</sup>	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity
4	7	Varistor (MOV1) (optional)	JOYIN CO LTD	07N471K 10N471K 14N471K	Maximum continuous voltage: 300V	cURus
			CENTRA SCIENCE CORP	07D471K 10D471K 14D471K		
			THINKING ELECTRONIC INDUSTRIAL CO LTD	TVR07471K TVR10471K TVR14471K		
			SUCCESS ELECTRONICS CO LTD	SVR07D471K SVR10D471K SVR14D471K		
			CERAMATE TECHNICAL CO LTD	GNR07D471K GNR10D471K GND14D471K		
			BRIGHTKING (SHENZHEN) CO LTD	07D471K 10D471K 14D471K	Maximum continuous voltage: 300V	cURus
			LIEN SHUN ELECTRONICS CO LTD	07D471K 10D471K 14D471K		
			HONGZHI ENTERPRISES LTD	HEL-7D471K HEL-10D471K HEL-14D471K		
GUANGXI NEW FUTURE INFORMATION INDUSTRY CO LTD	07D471K 10D471K 14D471K					
4, 8-13	8	Transformer (T1)	GlobTek BOAM ZhongTong HEJIA	XF00514 XF00550 XF00579 XF00590 XF00682A XF00682	Class A	NR
4, 8-13	8a	Triple-insulated wire (Secondary)	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(B)	Min.130℃	cURus
			COSMOLINK CO LTD	TIW-M		
			FURUKAWA ELECTRIC CO LTD	TEX-E		
4, 8-13	8b	Bobbin	CHANG CHUN PLASTICS CO LTD	T375J T375HF	V-0, 150℃, thickness 0.45 mm min.	cURus
			SUMITOMO BAKELITE CO LTD	PM-9820		
			HITACHI CHEMICAL CO LTD	CP-J-8800		

4.0 Critical Components						
Photo #	Item no. <sup>1</sup>	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity <sup>3</sup>
4, 8-13	8c	Insulating tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1 1350T-1	Min.130°C	cURus
			BONDTEC PACIFIC CO LTD	370S		
			JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	PZ CT		
			JINGJIANG JINGYI ADHESIVE PRODUCT CO LTD	JY25-A		
			CHANG SHU LIANG YI TAPE INDUSTRY CO LTD	LY-XX		
4	9	Optocoupler (U1)	LITE-ON Technology Corporation	LTV-817C	2MOPP at working voltage 250Vrms, 100°C	CB
			Everlight Electronics Co., Ltd.	EL817		
4	10	Y-Capacitor (CY1, CY2) (optional)	TDK-EPC CORPORATION	CD	Type Y1, max. 2200pF, min. 250V, min. 125°C	cURus
			SUCCESS ELECTRONICS CO LTD	SE SB		
			MURATA MFG CO LTD	KX		
			WALSIN TECHNOLOGY CORP	AH		
			JYA-NAY CO LTD	JN		
			HAOHUA ELECTRONIC CO	CT7		
			HONGZHI ENTERPRISES LTD	Y		
			JERRO ELECTRONICS CORP	JX-series		

4.0 Critical Components						
Photo #	Item no. <sup>1</sup>	Name	Manufacturer/ trademark <sup>2</sup>	Type / model <sup>2</sup>	Technical data and securement means	Mark(s) of conformity <sup>3</sup>
5	11	PCB material	TECHNI TECHNOLOGY LTD	T2A T2B T4	Min 1.6 mm thickness, min. V-0, 130°C	cURus
			DONGGUAN HE TONG ELECTRONICS CO LTD	CEM1		
			CHEERFUL ELECTRONIC	03 03A		
			DONGGUAN DAYSUN ELECTRONIC CO LTD	DS2		
			SUZHOU CITY YILIHUA ELECTRONICS CO LTD	YLH-1		
			SHANGHAI AREX PRECISION ELECTRONIC CO LTD	02V0		
			BRITE PLUS ELECTRONICS (SUZHOU) CO LTD	DKV0-3A		
			Various	Various		
16	12	Plug portion	Various	Various	NEMA 5-15, referring to illustration No(s). 8-13 for details.	NR
16	13	Blade holder material	SABIC INNOVATIVE PLASTICS B V	SE1X	Min. V-1 at 1.5 mm thickness, 105 °C	cURus
			SABIC INNOVATIVE PLASTICS B V	C2950	Min. V-0 at 1.5 mm thickness, 75° C	
			SABIC INNOVATIVE PLASTICS B V	CX7211 EXCY0098	Min. V-1 at 1.25 mm thickness, 85 °C	
			TEIJIN CHEMICALS LTD	LN-1250P LN-1250G	Min. V-0 at 1.5 mm thickness, 115 °C	
			CHI MEI Corporation	PA-765A	Min. V-1 at 1.5 mm thickness, 80° C	
			CHI MEI Corporation	PC-540	Min. V-0 at 1.5 mm thickness, 70° C	

NOTES:

- 1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.
- 2) "Various" means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.
- 3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates Unlisted and only visual examination is necessary. "See 5.0" indicates Unlisted components or assemblies to be evaluated periodically refer to section 5.0 for details.



<b>5.0 Critical Unlisted CEC Components</b>
<b>No Unlisted CEC components are used in this report.</b>

## 6.0 Critical Features

Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability.

Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings.

Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.

Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the product standard.

Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.

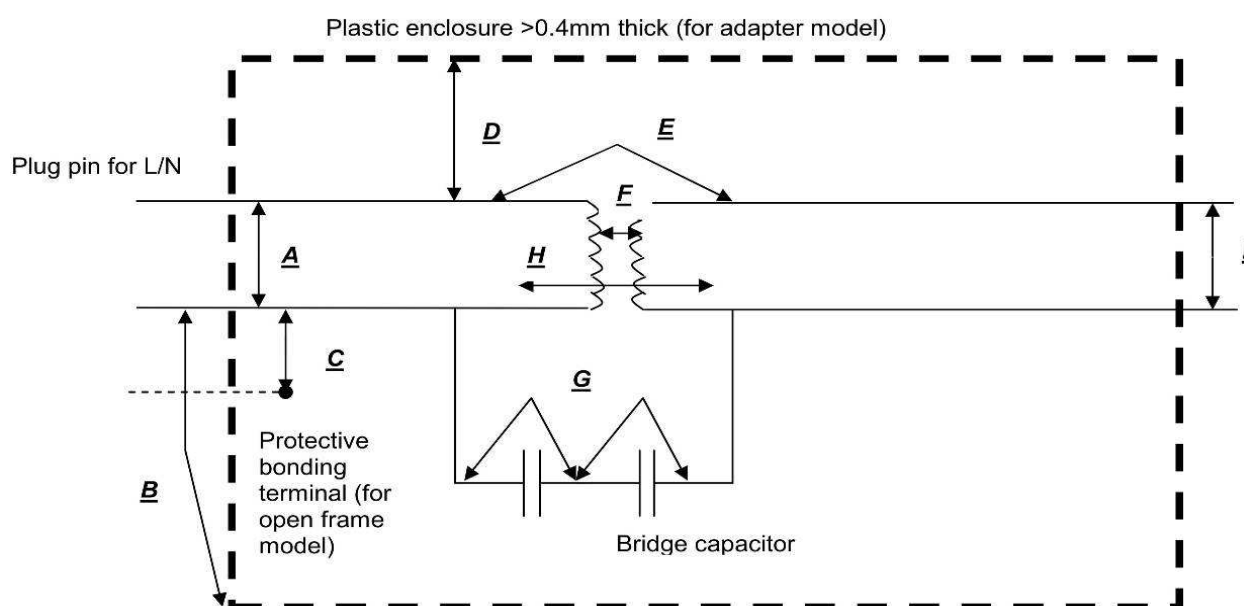
1. Spacing - Refer to illustration No(s) 2-3 for details.
2. Mechanical Assembly - Final determination in end-product evaluation for open frame model.
3. Corrosion Protection - Final determination in end-product evaluation for open frame model.
4. Accessibility of Live Parts - For adapter models, all uninsulated live parts in primary circuitry are housed within a non-metallic enclosure constructed with no openings and metal enclosure earthed with ventilation holes other than those specifically described in Sections 4 and 5. Final determination in end-product evaluation for open frame model.
5. Grounding - Final determination in end-product evaluation for open frame model.
6. Polarized Connection - This product is provided with a polarized power supply connection.
7. Internal Wiring - Final determination in end-product evaluation.
8. Schematics - Refer to Illustration No(s). 4-6 for schematics & PCB layout requiring verification during Field Representative Inspection Audits.
9. Markings - The product is marked as follows: brand name, model number, electrical ratings, manufacturer. Refer to Illustration No. 7 for details.
10. Cautionary Markings - Refer to illustrations No. 7 for details.
11. Safety Instructions - Accompanying Documents are provided for some critical issue like technical data, safety warnings, necessary information to set up, but further evaluation is needed on end product level.

## 7.0 Illustrations

### Illustration 1 - Model list

Model	Rated output voltage range	Max. rated output current	Max. rated output power	Transformer model	Structure type
GT*41080-*07*	5-7Vdc	3.6A	18W	XF00514	Power adapter with interchangeable plug portion, Class II
GT*41080-*11*	7.1-11Vdc	2.53A	18W	XF00550	
GT*41080-*17.9*	11.1-17.9Vdc	1.62A	18W	XF00579	
GT*41080-*30*	18-30Vdc	1.0A	18W	XF00590	
GT*41080-*38*	30.1-38Vdc	0.60A	18W	XF00682A	
GT*41080-*48*	38.1-48Vdc	0.47A	18W	XF00682	
GT*41080-*07*-F	5-7Vdc	3,6A	18W	XF00514	Open frame module without enclosure.
GT*41080-*11*-F	7.1-11Vdc	2,53A	18W	XF00550	
GT*41080-*17.9*-F	11.1-17.9Vdc	1,62A	18W	XF00579	
GT*41080-*30*-F	18-30Vdc	1,0A	18W	XF00590	
GT*41080-*38*-F	30.1-38dc	0,60A	18W	XF00682A	
GT*41080-*48*-F	38.1-48Vdc	0.47A	18W	XF00682	

### Illustration 2 - INSULATION DIAGRAM



## 7.0 Illustrations

Illustration 3 - TABLE: Insulation diagram (measured values)

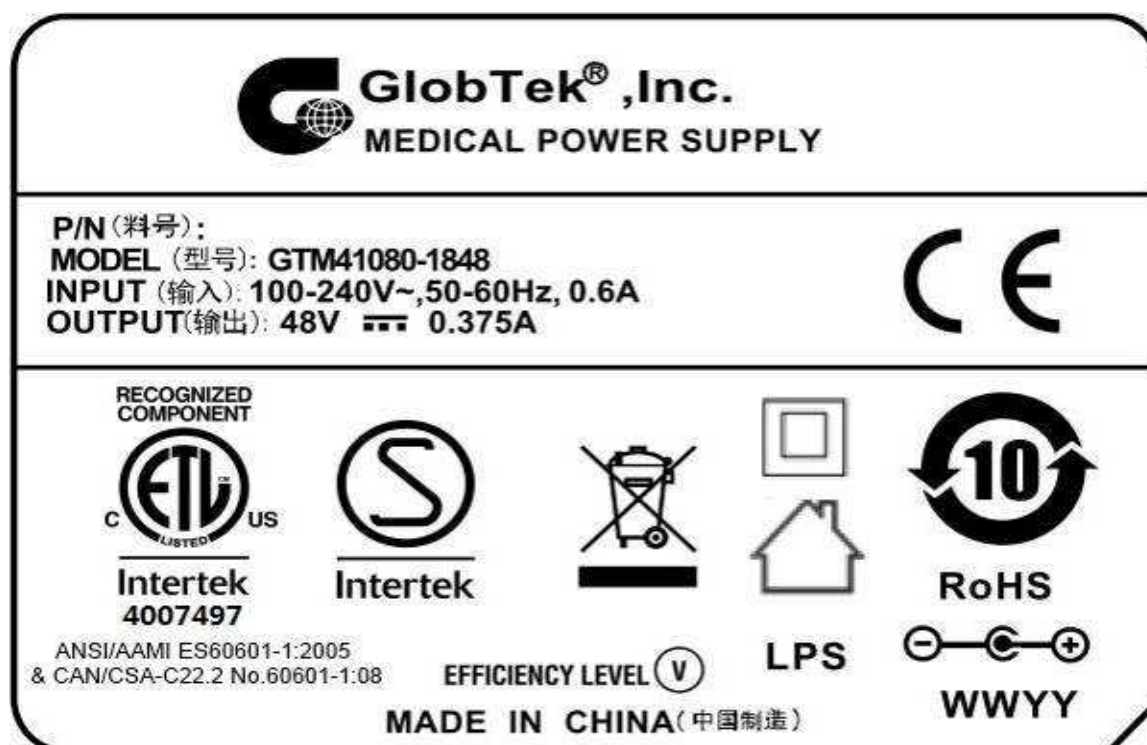
Pollution degree.....: 2									—
Overvoltage category.....: II									—
Altitude.....: 3000m									—
Additional details on parts considered as applied parts.....: <input checked="" type="checkbox"/> None <input type="checkbox"/> Areas _____ (See Clause 4.6 for details)									—
Area	Number and type of Means of Protection: MOOP, MOPP	CTI (IIIb, unless is known)	Working voltage		Required creepage (mm)	Required clearance (mm)	Measured creepage (mm)	Measured clearance (mm)	Remarks
			Vrms	Vpk					
A	BOP	IIIb	240	--	3	2.1 <sup>4</sup>	3.9	3.9	Opposite polarity of mains part
A*	2MOOP	IIIb	240	340	4.8	4.7 <sup>4</sup>	5.6	5.6	Accessible part to plug pin for plug portion without power supply unit.
B	2MOOP	IIIb	240	340	4.8	4.7 <sup>4</sup>	9.2	9.2	Mains part (plug portion) to outer enclosure (accessible position during normal use) (for adapter model only)
C	MOOP	IIIb	240	340	2.4	2.3 <sup>4</sup>	3.7	3.7	Mains part to PE bonding terminal (On PCB trace) (for open frame model only)
D	2MOOP	IIIb	240	340	4.8	4.7 <sup>4</sup>	5.2	5.2	Internal mains part to accessible outer enclosure (for adapter model only)
E	2MOPP	IIIb	240 <sup>1</sup>	--	7.9 <sup>2</sup>	5.0	8.0 <sup>3</sup>	8.0 <sup>3</sup>	Mains part to secondary circuits (Optocoupler)
F	2MOPP	IIIb	276 <sup>1</sup>	--	8.6 <sup>2</sup>	7.0	9.0	9.0	Mains part to secondary circuits (Transformer)
G	MOPP (Each) x 2	IIIb	240 <sup>1</sup>	--	4.0 <sup>2</sup>	2.5	4.1	4.1	Mains part to secondary circuits (Y capacitor x 2)
H	2MOPP	IIIb	240 <sup>1</sup>	--	7.9 <sup>2</sup>	5.0	8.6	8.6	Mains part to secondary circuits (On PCB trace)
I	2MOPP	IIIb	--	Max. 48	--	--	--	--	Accessible part per 8.4.2 c)
<b>Note:</b> 1) The working voltage is highest measured value which acquired by testing all the models listed in the report at the rated input voltage, but not less than the rated input voltage. 2) Linear interpolation is applied to the determination of required creepage. 3) The minimum creepage and clearance is selected from all the types of optocouplers. 4) Multiplication factor for MOOP: 1.14; Multiplication factor for MOPP: 1.00.									

## 7.0 Illustrations

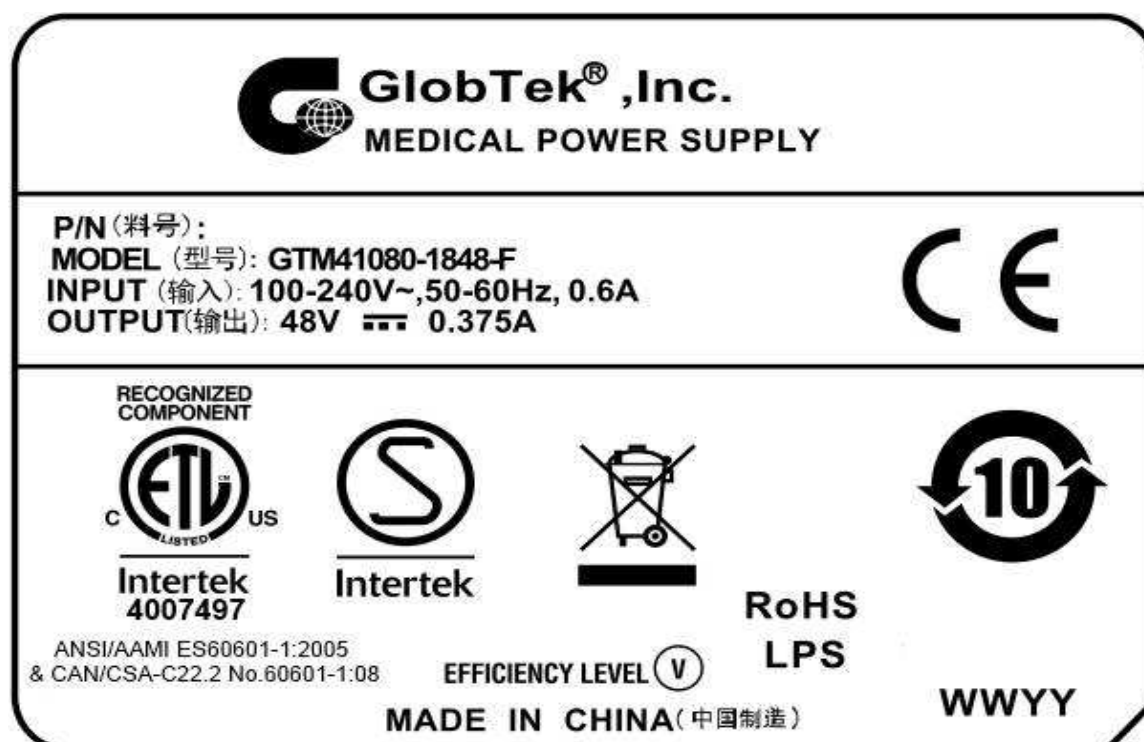
### Illustration 7 - Marking label

The marking plates of the other models listed in this report are identical with below except model name and output parameter.

*For power adapter model, serving as Class II product:*



*For open frame model*



## 7.0 Illustrations

### Illustration 8 - Appendix: Equipment's combined with NEMA 5-15 plug portion

Section	Key	Comment
<b>FORWARD</b>		
<b>Introduction</b>		
<b>1</b>		<b>Scope</b>
1.1-1.4	G	The device under evaluation is an integral plug for medical power supply GT*41080-**** whose input rated 100-240VAC, 50-60Hz, 0.6A. The plug is evaluated according to rated input.
<b>2</b>		<b>Glossary</b>
2.1-2.38	G	Noted.
<b>3</b>		<b>Components</b>
3.1-3.4	G	Noted
<b>4</b>		<b>Units of Measurement</b>
4.1	G	Noted
<b>5</b>		<b>Reference</b>
5.1	G	Noted
<b>CONSTRUCTION</b>		
		<b>ALL DEVICES</b>
<b>6</b>		<b>General</b>
6.1	√	According to declared reasonable condition, 100-240VAC, 50-60Hz, has been considered in all following test.
6.2	√	Plug for AC use only
<b>7</b>		<b>Configurations</b>
7.1	√	1-15P plug applied.
<b>8</b>		<b>Insulating Materials</b>
8.1		General
8.1.1	√	All parts that act as the electrical insulation or enclosure are made of plastic material. See 8.2.1
8.1.2	N/A	Vulcanized fiber is not provided
8.2		Flammability
8.2.1	√	The insulating material required HB or more. For detailed parts, see report of end product)
8.3		Electrical properties
8.3.1	√	Exception No. 1: No information according to above table info. The insulating material has a CTI 3 (Required 3), so it need NOT comply with Comparative Tracking Index Test, Section 55.
8.3.2	√	Exception No. 2: The insulating material has a HWI 3, (required HWI value is 4 when material class is V-0). According to 8.1.2 (UL746D) and reasonable usage, reasonable arcing occurs in normal use. We are of the opinion that it need NOT comply with Glow Wire Test, see Section 56. Exception No. 3: The insulating material has a HAI 2. (required HWI value is 4 when material class is V-0. or check if the thickness), since no arcing in normal use, so it need not comply with High-Current Arc Resistance to Ignition Test, Section 57.
8.4		Thermal properties
8.4.1	√	All the RTI rating of the insulating materials are higher than 80 degree (C)
8.5		Vulcanized fiber

## 7.0 Illustrations

### Illustration 9 - Appendix: Equipment's combined with NEMA 5-15 plug portion (cont.)

Section	Key	Comment
8.5.1	N/A	No Vulcanized fiber is provided
8.5.2	N/A	No Vulcanized fiber is provided
8.6		Sealing compounds
8.6.1-8.6.2	N/A	Sealing compound is not provided, no need to comply with relevant requirement involved in ASTM 28.
8.7		Fuse enclosures
8.7.1-8.7.2	N/A	Fuse is not provided
<b>9</b>		<b>Enclosure</b>
9.1		General
9.1.1	√	Live parts of plug parts are protected against exposure to contact by persons when fully assembled using all essential parts. Exception no. 2: for fixed wiring.
9.1.2-9.1.3	N/A	No accessible dead-metal parts
9.1.4	√	The probe shown in Figure 9.1 is used to judge the accessibility of a live or dead-metal part. The applied force is not more than 13.3N.
9.1.5-9.1.7	N/A	No such separable part
9.2		Male faces and wire terminations
9.2.1	N/A	Not a 15 or 20A attachment plug or current tap
9.2.2	N/A	There is no exposed live part.
9.2.3	N/A	No such parts
9.2.4-9.2.5	√	Probe not access to live parts. The cover is securely fixed for all acceptable wiring.
9.2.6	√	The face plate is secure with the back part.
<b>10</b>		<b>Current-carrying Parts</b>
10.1		General
10.1.1	√	Iron or steel is not used for current-carrying parts.
10.1.2	√	The current-carrying parts are not able to be turned by means of general tools due to the appliance shroud mounted on Evaluated appliance.
10.1.3	N/A	No such uninsulated live parts except for female contact of connector
10.2		Contacts (applying to the connector)
10.2.1	N/A	Female contacts of the connector cannot be touched by the probe. Others parts are covered by exception no. 3
<b>11</b>		<b>Grounding and Dead Metal Parts</b>
11.1-11.10	N/A	No grounding parts
<b>12</b>		<b>Terminals</b>
12.1-12.4		No terminals for end user
<b>13</b>		<b>Cord Entry and Strain Relief</b>
13.1-13.5	N/A	Flexible cord part are considered in the end appliances.
<b>14</b>		<b>Spacings</b>
14.1	√	The spacing through air between uninsulated live parts of opposite polarity and between uninsulated live parts and exposed external surface is measured more than 2mm (required 3/36 inch, 1,2mm) for a device rated 250V or less.
14.2	N/A	No such isolated dead-metal part
<b>15</b>		<b>Assembly</b>
15.1		General
15.1.1	√	Pre-wired in factory

## 7.0 Illustrations

### Illustration 10 - Appendix: Equipment's combined with NEMA 5-15 plug portion (cont.)

Section	Key	Comment
15.1.2	√	Electrical contact is reliably maintained at any point
15.1.3	√	Live parts is protected against exposure to persons
15.1.4	N/A	Not multiple outlet device
15.1.5	N/A	Female contacts of the connector can be mated with the inlet in right way without exposure of the blades
15.2		Grounding and polarization
15.2.1-15.2.4	N/A	No grounding
15.3		Mating and interchangeability
15.3.1	√	The electrical continuity is automatically established.
15.3.2-15.3.6	√	1-15P receptacles ensuring.
15.4		Fuseholders
15.4.1-15.4.8	N/A	Fuseholder is not provided
15.5		Switches
15.5.1	N/A	The switch is provided between coupler 1 and coupler 2. but it is a information
<b>ATTACHMENT PLUGS AND INLETS (for plug only)</b>		
<b>16</b>		<b>Insulating material</b>
16.1	√	The enclosure is measured min. 2.1 mm.
<b>17</b>		<b>Enclosure</b>
17.1		General
17.1.1	N/A	Not a general use plug.
17.1.2	√	Measured 44 mm.
17.1.3	N/A	Not a 50A plug
17.2		Grip
17.2.1	N/A	See section 69
17.3		Face size
17.3.1	√	Larger than figure 17.1
<b>18</b>		<b>Current carrying parts</b>
18.1	N/A	Not a folded-over plug.
18.2	√	Dimensional requirements fulfilled.
<b>19</b>		<b>Grounding and dead metal parts</b>
19.1-19.4	N/A	No grounding or dead metal parts.
<b>20</b>		<b>Terminals and leads</b>
20.1-20.5	N/A	All the assembly are pre-wired in factory
<b>21</b>		<b>Assembly</b>
21.1	√	The blades are held securely in place
21.2	N/A	Not a inlet
21.3-21.4	N/A	The device under evaluate is a plug part not inlet or surface mounting.
21.5	N/A	Not for radio antenna or ground.
<b>22</b>		<b>Weatherproof type</b>
22.1-22.2	N/A	Not weatherproof type
<b>23-26</b>	N/A	<b>CONNECTORS</b>
<b>27-37</b>	N/A	<b>RECEPTACLES</b>
		<b>SELF-CONTAINED RECEPTACLES FOR USE WITHOUT A SEPARATE OUTLET BOX</b>



## 7.0 Illustrations

### Illustration 11 - Appendix: Equipment's combined with NEMA 5-15 plug portion (cont.)

Section	Key	Comment
<b>38-44</b>	N/A	These sections are applicable for self-contained receptacles.
		<b>CURRENT TAPS</b>
<b>45</b>	N/A	The section is applicable for current taps only
		<b>FLATIRON AND APPLIANCE PLUGS</b>
<b>46-53</b>	N/A	These sections are applicable for flatiron and appliance plugs.
<b>PERFORMANCE</b>		
		<b>GENERAL</b>
<b>54</b>		<b>Representative Devices</b>
54.1-54.7	G	Noted.
		<b>ALL DEVICES</b>
<b>55</b>		<b>Comparative Tracking Index Test</b>
55.1	N/A	Refer to Exception No. 2 of 8.3.2. Not main tests but the test is considered
<b>56</b>		<b>Glow Wire Test</b>
56.1-56.2	N/A	Refer to Exception No. 2 of 8.3.2, Not main tests but the test is considered
<b>57</b>		<b>High-Current Arc Resistance to Ignition Test</b>
57.1-57.6	G	Refer to Exception No. 3 of 8.3.2
<b>58</b>		<b>Mold Stress Relief</b>
58.1-58.2	T	All devices are placed in air oven maintained at a 80oC for 7 hours. After 58.2, there is not any warpage, shrinkage or other distortion.
58.3	T	Refer to data sheet. Repeat dielectric voltage-withstand test as described in section 60. Not required to be subjected to the humidity conditioning described in 60.1.2.
<b>59</b>		<b>Moisture Absorption Resistance</b>
59.1-59.2	T	Refer to data sheet
<b>60</b>		<b>Dielectric Withstand Test</b>
60.1-60.2	T	Refer to data sheet
<b>61</b>		<b>Accelerated Aging Tests</b>
61.1		General
61.1.1	G	Exception to 8.4.1 for other material is not applicable for the devices under evaluation
61.2		Rubber, EPDM, and TEE compounds
61.2.1-61.2.4	N/A	Not a rubber , EPDM, and TEE compounds
61.3		PVC compounds and copolymers
61.3.1-61.3.2	G	See 61.1.1 shown as above
<b>62</b>		<b>Insulation Resistance Test</b>
62.1-62.6	T	Refer to data sheet
<b>63</b>		<b>Conductor Secureness Test</b>
63.1-63.2	N/A	No wire leads provided.
<b>64</b>		<b>Tightening Torque Test</b>
64.1-64.2	N/A	Not provide any wire-binding screw
	N/A	<b>ATTACHMENT PLUGS</b>
<b>65</b>		<b>General</b>
65.1	G	Noted.
<b>66</b>		<b>Security of blades test</b>

## 7.0 Illustrations

### Illustration 12 - Appendix: Equipment's combined with NEMA 5-15 plug portion (cont.)

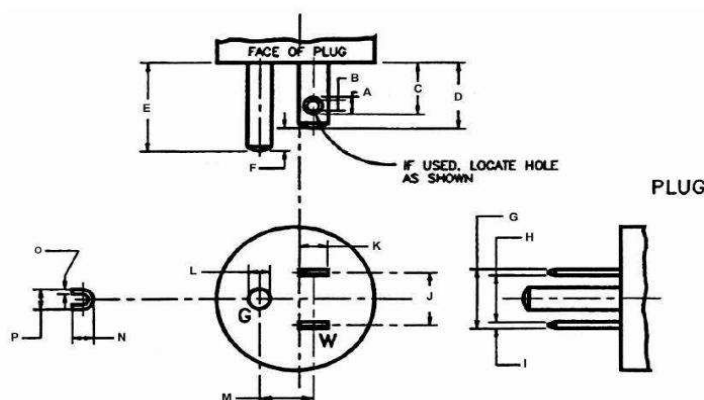
Section	Key	Comment
66.1-66.2	T	Refer to data sheet
<b>67</b>		<b>Secureness of cover test</b>
67.1-67.2	T	Refer to data sheet
<b>68</b>		<b>Crushing test</b>
68.1-68.2	T	Refer to data sheet
<b>69</b>		<b>Attachment plug grip test</b>
69.1-69.9	T	Refer to data sheet
<b>70</b>		<b>Integrity of assembly test</b>
70.1-70.2	N/A	Cord part shall be considered in the end appliance.
<b>71</b>		<b>Self-hinge Flexing test</b>
71.1-71.3	N/A	Not self-hinge type
<b>72</b>		<b>Terminal temperature test</b>
72.1-72.4	N/A	No terminal for end user.
<b>73</b>		<b>Fuse-holder temperature test</b>
73.1-73.8	N/A	No fuse-holder applied.
<b>74-79</b>	N/A	<b>Pin type terminal</b>
<b>80-85</b>	N/A	<b>INLET (applying for inlet)</b>
<b>86-103</b>	N/A	<b>CONNECTORS</b>
<b>104-150</b>	N/A	<b>RECEPTACLES</b>
		<b>CURRENT-TAPS</b>
		<b>All devices</b>
<b>151-152</b>	N/A	<b>These sections are for current-taps</b>
		<b>Flatiron and appliance plugs.</b>
<b>153-161</b>	N/A	<b>These sections are applicable for flatiron and appliance plugs.</b>
<b>RATINGS</b>		
<b>162</b>		<b>Details</b>
162.1	G	According to exception no. 2, rating is not required. The special-use device is not intended to ship out solely. (Note: plug is mounted in evaluated appliance).
162.2	√	Rating of 1A 120V~ is evaluated
162.3	√	0.5HP rated.
162.4-162.7	N/A	Not have the specified devices
<b>MARKINGS AND INSTRUCTIONS</b>		
<b>163</b>		<b>General</b>
163.1-163.2	G	The location of the catalog number is not prohibited from appearing according to exceptions of table 163.1 and 163.2
<b>164</b>		<b>Identification and marking of terminals</b>
164	G	No any grounding parts and terminals
<b>SUPPLEMENT SA</b>		<b>(reserved for future use)</b>
<b>SUPPLEMENT SB</b>		<b>ENCLOSURE TYPES FOR ENVIRONMENTAL PROTECTION</b>
SB1-SB7	N/A	The requirements of SB don't apply to the device under evaluation for it's intended for indoor use only (refer to SB1.1)
<b>SUPPLEMENT SC</b>		<b>MARINE SHORE POWER INLETS</b>

## 7.0 Illustrations

### Illustration 13 - Appendix: Equipment's combined with NEMA 5-15 plug portion (cont.)

Section	Key	Comment
SC1-SC12	N/A	These sections are for marine shore power inlets
<b>SUPPLEMENT SD</b>		<b>HOSPITAL GRADE DEVICES</b>
SD1-SD30	N/A	These sections are for hospital grade devices

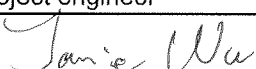
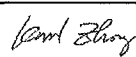
#### Appendix 7: Dimensions of NEMA 5-15 plug portion



Symbol	Requirement inch (mm)	Measured (mm)	Symbol	Requirement inch(mm)	Measured (mm)
A	0.125 (3.18)	3.17	I	$0.065 (1.65) \geq I \geq 0.055 (1.40)$	1.48
B	0.156 (3.96)	3.88	J	$0.505 (12.82) \geq J \geq 0.495 (12.57)$	12.76
C	$0.546 (13.76) \geq C \geq 0.537 (13.00)$	13.03	K	$0.260 (6.60) \geq K \geq 0.240 (6.10)$	6.28
D	$(18.24) \geq D \geq 0.625 (15.88)$	17.10	L	$0.190 (4.82) \geq L \geq 0.184 (4.67)$	N/A
E	$E \leq 0.843 (21.41)$	N/A	M	$0.473 (12.01) \geq M \geq 0.463 (11.76)$	N/A
F	$F \geq 0.125 (3.18)$	N/A	N	$0.190 (4.82) \geq N \geq 0.184 (4.67)$	N/A
G	$G \leq 0.575 (14.60)$	14.24	O	$O \geq 0.038^{(1)} (0.96)$	N/A
H	$H \geq 0.425 (10.80)$	11.23	P	$0.190 (4.82) \geq P \geq 0.184 (4.67)$	N/A
Perimeter faces to the plug blades shall not be less than 7.9 mm from any point of either blade					12.39

1)  $0.038^{(1)}$  (0.96) min is used on U shape, and  $0.027^{(1)}$  (0.68) is used on tubular shape.

8.0 Test Summary			
Evaluation Period	2013-01-09 ~ 2013-02-27		Project No. 130100655SHA
Sample Rec. Date	9-Jan-2013	Condition Prototype	Sample ID. 0130109-16-001
Test Location	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China		
Test Procedure	Testing Lab		
Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.			
The following tests were performed:			
Test Description	Medical Electrical Equipment, Part 1: General Requirements for Basic Safety and Essential Performance (ANSI/AAMI ES60601-1 Issued: 2006/03/09: 2005 Version (R2012); with AMD C1: 2009, AMD C2: 2010 & CAN/CSA-C22.2 No.60601-1 Issued: 2008/02/01; with COR 2: 2011/06/01)		
Power Input	Clause 4.11		
Humidity Preconditioning	5.7		
Accessible Parts	5.9.2		
Legibility of Markings	7.1.2		
Durability of Markings	7.1.3		
Plug Voltage and/or Energy	8.4.3		
Working Voltage Measurement	8.5.4		
Leakage Current Test terminations	8.7.4		
Dielectric Strength Means	8.8.3		
Ball Pressure Test	8.8.4.1		
Creepage & Clearance Measurements	8.9.4		
Excessive Temperature	11.1		
Single Fault Conditions	13.2		
Push Test	15.3.2		
Drop Test	15.3.4		
Moulding Stress Relief	15.3.6		
Transformer Short-Circuit	15.5.1.2		
Transformer Overload	15.5.1.3		
Transformer Dielectric Strength	15.5.2		

8.1 Signatures			
A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.			
Completed by:	Jamie Wu	Reviewed by:	Karl Zhong
Title:	Project engineer	Title:	Reviewer
Signature:		Signature:	

## 9.0 Correlation Page For Multiple Listings

The following products, which are identical to those identified in this report except for model number and Listee name, are authorized to bear the ETL label under provisions of the Intertek Multiple Listing Program.

BASIC LISTEE	GlobTek, Inc.
Address	186 Veterans Dr. Northvale, NJ 07647 USA
Country	USA
Product	Medical Power Supply

MULTIPLE LISTEE 1	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 1 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 2	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 2 MODELS	BASIC LISTEE MODELS

MULTIPLE LISTEE 3	None
Address	
Country	
Brand Name	
ASSOCIATED MANUFACTURER	
Address	
Country	
MULTIPLE LISTEE 3 MODELS	BASIC LISTEE MODELS

## 10.0 General Information

The Applicant and Manufacturer have agreed to produce, test and label ETL Listed products in accordance with the requirements of this Report. The Manufacturer has also agreed to notify Intertek and to request authorization prior to using alternate parts, components or materials.

### COMPONENTS

Components used shall be those itemized in this Intertek report covering the product, including any amendments

### LISTING MARK

The ETL Listing mark applied to the products shall either be separable in form, such as labels purchased from Intertek, or on a product nameplate or other media only as specifically authorized by Intertek. Use of the mark is subject to the control of Intertek.

The mark must include the following four items:

- 1) applicable country identifiers "US" and/or "C" or "US", "C" and "EU"
- 2) the word "Listed" or "Classified" or "Recognized Component" (whichever is appropriate)
- 3) a control number issued by Intertek
- 4) a product descriptor that identifies the standards used for certification. Example:

**For US standards**, the words, "Conforms to" shall appear with the standard number along with the word, "Standard" or "Std." Example: "Conforms to ANSI/UL Std. XX."

**For Canadian standards**, the words "Certified to CAN/CSA Standard CXX No. XX." shall be used, or abbreviated, "Cert. to CAN/CSA Std. CXX No. XX."

Can be used together when both standards are used.

**Note: A facsimile must be submitted to Intertek, Attn: Follow-up Services for approval prior to use.**

The facsimile need not have a control number. A control number will be issued **after signed Certification Agreements** have been received by the Follow-up Services office, approval of the facsimile of your proposed Listing Mark, satisfactory completion of the Listing Report, and scheduling of a factory assessment in your facility.

### MANUFACTURING AND PRODUCTION TESTS

Manufacturing and Production Tests shall be performed as required in this Report.

### FOLLOW-UP SERVICE

Periodic unannounced audits of the manufacturing facility (and any locations authorized to apply the mark) shall be scheduled by Intertek. An audit report shall be issued after each visit. Special attention will be given to the following:

1. Conformance of the manufactured product to the descriptions in this Report.
2. Conformance of the use of the ETL mark with the requirements of this Report and the Certification Agreement.
3. Manufacturing changes.
4. Performance of specified Manufacturing and Production Tests.

In the event that the Intertek representative identifies non-conformance(s) to any provision of this Report, the Applicant shall take one or more of the following actions:

1. Correct the non-conformance.
2. Remove the ETL Mark from non-conforming product.
3. Contact the issuing product safety evaluation center for instructions.

### 10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

**Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation**

Ship the samples to:  
Intertek Testing Services Shanghai Limited  
ETL Component Evaluation Center  
Building No. 86, 1198 Qinzhou Road (North)  
Shanghai 200233, China  
Attn: Ms. Dansy Xu

Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

## 11.0 Manufacturing and Production Tests

The manufacturer agrees to conduct the following Manufacturing and Production Tests as specified:

### Required Tests

Dielectric Voltage Withstand Test

## 11.1 Dielectric Voltage Withstand Test

### Method

One hundred percent of production of the products covered by this Report shall be subjected to a routine  
The test shall be conducted on products, which are fully assembled. Prior to applying the test potential, all  
The test voltage specified below shall be applied between primary circuits and accessible dead-metal parts. The

### Test Equipment

The test equipment shall incorporate a transformer with an essentially sinusoidal output, a means to indicate the  
The test equipment shall incorporate a voltmeter in the output circuit to indicate directly the applied test potential  
If the rated output of the test equipment is 500VA or more, the applied test potential may be indicated by either:

### **Products Requiring Dielectric Voltage Withstand Test:**

<u>Product</u>	<u>Test Voltage</u>	<u>Test Time</u>
Between mains part and secondary circuit output	4000V	1 s



The following changes are in compliance with the declaration of Section 8.1:

[illegible]