

## UL TEST REPORT AND PROCEDURE

|                                    |  |
|------------------------------------|--|
| <b>Standard:</b>                   | UL 60950-1, 2nd Edition, 2007-03-27 (Information Technology Equipment - Safety - Part 1: General Requirements)<br>CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03 (Information Technology Equipment - Safety - Part 1: General Requirements)  |
| <b>Certification Type:</b>         | Listing  |
| <b>CCN:</b>                        | QQGQ, QQGQ7 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)  |
| <b>Product:</b>                    | Switching Power Adapter  |
| <b>Model:</b>                      | GT-81085-WWVV-X.X-W2 series:<br>WW is the standard rated output wattage, with a maximum "15" ;<br>VV is the standard rated output voltage designation, VV can be 07.5,13.5,16.6,24;<br>-X.X is optional or blank and denotes the output voltage differentiator, subtracting or adding X.X volts from standard output voltage VV in 0.1V increments, blank is to indicate the no voltage different. |
| <b>Rating:</b>                     | I/P: 100-240 Vac, 50/60 Hz, 0.5 A<br><br>O/P: 5-7.5Vdc, Max.2.5A, Max.13W<br>or 9-13.5Vdc, Max.1.67A, Max.15W<br>or 13.6-16.6Vdc, 1.1A-0.91A, Max.15W<br>or 16.7-24Vdc, Max.0.72A, Max.12W   |
| <b>Applicant Name and Address:</b> | GLOBTEK (SUZHOU) CO LTD<br>BLDG 4, #76<br>JINLING EAST RD<br>SUZHOU PARK<br>SUZHOU<br>JIANGSU 215021 CHINA   |

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

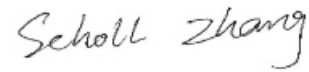
Issue Date: 2011-04-01 Page 2 of 20  
2011-05-27

Report Reference # E336418-A48-UL

Prepared by: Michelle Xu  
Underwriters Laboratories Inc.

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Reviewed by: Scholl Zhang  
Underwriters Laboratories Inc.

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### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
  - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
  - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
  - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

### Product Description

These units covered by this Test Report are Class II switching mode direct plug-in adapters employed with isolating step down transformer. All components are mounted on PWB and housed in a thermoplastic enclosure.

### Model Differences

See enclosure 7-07 for model differences.

### Technical Considerations

- Equipment mobility : direct plug-in
- Connection to the mains : pluggable A
- Operating condition : continuous
- Access location : operator accessible
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : +10%, -10%
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class II (double insulated)
- Considered current rating (A) : 20


- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Less than 2000
- Altitude of test laboratory (m) : Less than 2000
- Mass of equipment (kg) : 0.13
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°for GT-81085-WW16.6-X.X-W2 , 45°for GT-81085-WW07.5-X.X-W2 GT-81085-WW13.5-X.X-W2 GT-81085-WW24-X.X-W2
- The means of connection to the mains supply is: Pluggable A
- The product is intended for use on the following power systems: TN
- The equipment disconnect device is considered to be: Input Blades
- The product was investigated to the following additional standards: The product was investigated to the following additional standards: Direct Plug-in Equipment comply with UL1310 mechanical assembly requirements. The blade configuration had been evaluated and found compliant with Standard for Wiring Devices-Dimensional Specifications, ANSI/NEMA WD6.
- The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): Output

**Additional Information**

N/A

**Markings and instructions**

| Clause Title                             | Marking or Instruction Details  |
|--|---|
| Power rating - Ratings                   | Ratings (voltage, frequency/dc, current)                                    |
| Power rating -<br>Company identification | Listee's or Recognized company's name, Trade Name, Trademark or File Number |
| Power rating -<br>Model                  | Model Number  |

|                                   |   |
|-----------------------------------|---|
| Power rating -<br>Class II symbol | Symbol for Class II construction<br><br>(60417-2-IEC-5172) |
| Fuses - Rating                    | Rated current and voltage and type located on or adjacent to fuse or fuseholder.  |
| Limited Power Source Marking      | L.P.S or Limited Power Source (Optional)  |

#### Special Instructions to UL Representative

Inspect the transformer(s) listed in BD1.1 per AA1.1- (C). When the tests are conducted at other location, inspect test record and specification sheet provided by the component manufacturer. Verify the specification sheet indicates 100% routine test specified in BD1.1 is conducted at the component manufacturer. The test record noted above shall be submitted to the manufacturer from transformer manufacturer. The test record can be in the form of a actual test record. A stamp or sticker on the transformer or other method verifying the routine test is being completed on 100% production is also acceptable.

#### Production-Line Testing Requirements

##### Electric Strength Test Special Constructions - Refer to Generic Inspection Instructions, Part AC for further information.

| Model      | Component        | Removable Parts | Test probe location | V rms    | V dc | Test Time, s |
|------------|------------------|-----------------|---------------------|----------|------|--------------|
| All Models | Transformer (T1) | --              | PRI to SEC          | 300<br>0 | 4242 | 1            |

##### Earthing Continuity Test Exemptions - This test is not required for the following models:

All Models covered in this report.

##### Electric Strength Test Exemptions - This test is not required for the following models:

N/A

##### Electric Strength Test Component Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:

N/A

##### Sample and Test Specifics for Follow-Up Tests at UL

| Model | Component | Material | Test | Sample(s) | Test Specifics |
|-------|-----------|----------|------|-----------|----------------|
| N/A   | -         | -        | -    | -         | -              |

**TABLE: List of Critical Components**

| Object/part or Description                | Manufacturer/ trademark                       | type/model | technical data  | CCN   | Marks of Conformity |
|---|---|------------|---|-------|---------------------|
| 01. Top and Bottom Enclosure              | Sabic Innovative Plastics China Co Ltd        | SE1X       | V-1, 105 degree C. 2.0 mm thick. See Enclosure Id. 7-04 for details.  | QMFZ2 | UL                  |
| 01a. Top and Bottom Enclosure (Alternate) | Asahi Kasei Chemicals Corp<br>Xyron Polymer   | 540V       | V-1, 105 degree C. 2.0 mm thick. See Enclosure Id. 7-04 for details.  | QMFZ2 | UL                  |
| 02. Blade Holder                          | Sabic Innovative Plastics China Co Ltd        | SE1X       | V-1, 105 degree C. 2.0 mm thick.  | QMFZ2 | UL                  |
| 02a. Blade Holder (Alternate)             | Asahi Kasei Chemicals Corp<br>Xyron Polymer   | 540V       | V-1, 105 degree C. 2.0 mm thick.  | QMFZ2 | UL                  |
| 03. Input Blades                          | --  | --         | Folded over or solid, copper, brass or bronze. Located minimum 7.9 mm from edge of enclosure. See Enclosure Id. 4-02 for details.   | --    | --                  |
| 04. Primary Lead Wire                     | Various                                       | Various    | FEP, PTFE, PVC, TFE, Neoprene, Polyimide and marked with VW-1 or FT-1, 24 AWG, 300V, 80 degree C. Wire mechanically secured to blade terminal and wrapped with heatshrinkable tubing (YDPU2), 100°C, 300V or wire is crimped to the blade terminal and held in place by glue. | AVLV2 | UL                  |
| 05. Adhesive glue                         | Bostik Trl Sa                                 | 870        | 65 degree C, min. 0.75 mm thick, V-0  | QMFZ2 | UL                  |
| 05a. Adhesive glue (Alternate)            | Taiwan First Li-Bond Co., Ltd.                | 3177B/H    | 90 degree C, min. 0.80 mm thick, V-0  | QMFZ2 | UL                  |
| 05b. Adhesive glue (Alternate)            | Taiwan First Li-Bond Co., Ltd.                | 3188B/H    | 90 degree C, min. 0.85 mm thick, V-1  | QMFZ2 | UL                  |
| 05c. Adhesive glue (Alternate)            | U-Bond Material Technology Co., Ltd.          | UB-680     | 65 degree C, min. 1.0 mm thick, V-0   | QMFZ2 | UL                  |
| 05d. Adhesive glue (Alternate)            | U-Bond Material Technology Co., Ltd.          | UB-618     | 50 degree C, min. 1.0 mm thick, V-0   | QMFZ2 | UL                  |
| 06. Fuse (F1)                             | Conquer Electronics Co., Ltd.                 | MST        | 1A or T2A, 250Vac.  | JDYX2 | UL                  |
| 06a. Fuse (F1) (Alternate)                | Ever Island Electric Co Ltd & Walter Electric | 2010       | 1A or T2A, 250Vac.  | JDYX2 | UL                  |
| 06b. Fuse (F1)                            | Shenzhen Lanson                               | SMT        | 1A or T2A, 250Vac.  | JDYX2 | UL                  |

| Object/part or Description   | Manufacturer/ trademark     | type/model  | technical data   | CCN   | Marks of Conformity |
|--|-----------------------------|---|--|-------|---------------------|
| (Alternate)  | Electronics Co., Ltd.       |   |  |       |                     |
| 06c. Fuse (F1)<br>(Alternate)  | Littelfuse Wickmann Werke   | 392   | 1A or T2A, 250Vac.   | JDYX2 | UL                  |
| 06d. Fuse (F1)<br>(Alternate)  | Save Fusetech Inc.          | SS-5  | 1A or T2A, 250Vac.   | JDYX2 | UL                  |
| 07. Printed Wiring Board   | Various                     | Various   | Minimum V-1, 130°C.  | ZPMV2 | UL                  |
| 08. Transformer (T1) for Models GT-81085-1307.5-X.X-W2                                       | .                           | 90E201505-XXX (5V-7.5V) Where XXX can be any alphanumeric character or blank. Or 90E201505-XXH. | Class B Insulation System. Designation HIS-8A. See Enclosure Id. 4-01 and ID 4- 07 for details.  | OBJY2 | UL                  |
| 08-1. Transformer (T1) Core  | --                          | --  | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130 degree C.  | --    | --                  |
| 08-2. Transformer (T1) Bobbin  | Hitachi Chemical Co., Ltd.  | CP-J-8800   | Phenolic. Two-flange. V-0, 150°C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 08-3. Transformer (T1) Tape  | Symbio Inc.                 | MY130   | 130 degree C.  | OANZ2 | UL                  |
| 08-3a. Transformer (T1) Tape (Alternate)   | 3M Company                  | 1350F-1, 1350F-2  | 130 degree C, 0.05 mm thick  | OANZ2 | UL                  |
| 08-4. Transformer (T1) Winding   | Various                     | Various   | Primary. Rated minimum 130 degree C. Part of indicated insulation system.  | OBMW2 | UL                  |
| 08-5. Transformer (T1) Triple Insulated Winding Wire for GT-81085-1307.5-X.X-W2              | Furukawa Electric Co., Ltd. | TEX-E   | Secondary. 130 degree C.   | OBJT2 | UL                  |
| 08-5a. Transformer (T1) Triple Insulated Winding Wire for GT-81085-1307.5-X.X-W2 (Alternate) | Totoku Electric Co Ltd      | TIW-E   | Secondary. 130 degree C.   | OBJT2 | UL                  |
| 08-6. Transformer (T1)   | Zeus Industrial             | TFE-TW-300  | 200 degree C, 300V.  | YDPU2 | UL                  |

| Object/part or Description   | Manufacturer/ trademark     | type/model  | technical data  | CCN   | Marks of Conformity |
|--|-----------------------------|---|---|-------|---------------------|
| Tube (Optional)  | Products Inc.               |   |   |       |                     |
| 08-7. Transformer (T1) Varnish   | Hitachi Chemical Co., Ltd.  | WA-238A, WP-2952F-2G, WF-285  | Rated min. 130 degree C.  | OBOR2 | UL                  |
| 08-7a. Varnish (T1) (Alternate)  | Meiden Chemical Co Ltd      | #880, #754XL  | Rated minimum 130C.   | OBOR2 | UL                  |
| 08a. Transformer (T1) for GT-81085-1307.5-X.X-W2 (Alternate)                     |                             | 90E201505-XXX (5V-7.5V) Where XXX can be any alphanumeric character or blank. Or 90E201505-XXH. | Class B Insulation System. Designation YCI-130. See Enclosure Id. 4-04 and 4-07 for details.  | OBJY2 | UL                  |
| 08a-1. Transformer (T1) Core   | --                          | --  | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130 degree C.   | --    | --                  |
| 08a-2. Transformer (T1) Bobbin   | Hitachi Chemical Co., Ltd.  | CP-J-8800   | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 08a-2a. Transformer (T1) Bobbin (Alternate)                                      | Sumitomo Bakelite Co Ltd    | PM-9820   | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 08a-3. Transformer (T1) Tape   | Symbio Inc.                 | 35660, 35661  | 130 degree C.   | OANZ2 | UL                  |
| 08a-3a. Transformer (T1) Tape (Alternate)  | 3M Company                  | 1350F-1, 1350F-2  | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 08a-4. Transformer (T1) Winding  | Various                     | Various   | Primary. Rated minimum 130 degree C. Part of indicated insulation system  | OBMW2 | UL                  |
| 08a-5. Transformer (T1) Triple Insulated Winding Wire for GT-81085-1307.5-X.X-W2 | Young Chang Silicone Co Ltd | STW-B   | Secondary. 130 degree C.  | OBJT2 | UL                  |
| 08a-6. Transformer (T1)  | Zeus Industrial             | TFE-TW-300,   | 200 degree C, 300V.   | YDPU2 | UL                  |



| Object/part or Description   | Manufacturer/ trademark         | type/model   | technical data  | CCN   | Marks of Conformity |
|--|---------------------------------|--|---|-------|---------------------|
| Tube (Optional)  | Products Inc.                   | TFE-SW-600   |   |       |                     |
| 08a -6a. Transformer (T1)<br>Tube (Optional)<br>(Alternate)                        | Great Holding Industrial Co Ltd | TFS, TFT   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 08a-7. Transformer (T1)<br>Varnish   | Hitachi Chemical Co., Ltd.      | WP-2952F-2G  | 130 degree C.   | OBOR2 | UL                  |
| 08a-7a. Varnish (T1)<br>(Alternate)  | Pd George Co/Ripley Resin       | 468-2(+)   | 130 degree C.   | OBOR2 | UL                  |
| 09. Transformer (T1) for Models GT-81085-1513.5-X.X-W2                             |                                 | 90E201512-XXX (9V-13.5V) or 90E15P12F-XXX. Where XXX can be any alphanumeric character or blank. | Class B Insulation System. Designation HIS-8A. See Enclosure Id. 4-01 and ID 4- 08 for details.   | OBJY2 | UL                  |
| 09-1. Transformer (T1)<br>Core   | --                              | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130 degree C.   | --    | --                  |
| 09-2. Transformer (T1)<br>Bobbin   | Hitachi Chemical Co., Ltd.      | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 09-3. Transformer (T1)<br>Tape   | Symbio Inc.                     | MY130  | 130 degree C.   | OANZ2 | UL                  |
| 09-3a. Transformer (T1)<br>Tape (Alternate)  | 3M Company                      | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 09-4. Transformer (T1)<br>Winding  | Various                         | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                  |
| 09-5. Transformer (T1)<br>Triple Insulated Winding Wire for GT-81085-1513.5-X.X-W2 | Furukawa Electric Co., Ltd.     | TEX-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |
| 09-5a. Transformer (T1)<br>Triple Insulated Winding                                | Totoku Electric Co Ltd          | TIW-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |

| Object/part or Description                                   | Manufacturer/ trademark       | type/model   | technical data  | CCN   | Marks of Conformity |
|--|-------------------------------|--|---|-------|---------------------|
| Wire for GT-81085-1513.5-X.X-W2                              |                               |  |   |       |                     |
| 09-6. Transformer (T1) Tube (Optional)                       | Zeus Industrial Products Inc. | TFE-TW-300   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 09-7. Transformer (T1) Varnish                               | Hitachi Chemical Co., Ltd.    | WA-238A, WP-2952F-2G, WF-285   | 130 degree C. Suitable for ANSI MW28 (OBMW2) magnetic wire.   | OBOR2 | UL                  |
| 09-7a. Varnish (T1) (Alternate)                              | Meiden Chemical Co Ltd        | #880, #754XL   | Rated minimum 130 degree C.   | OBOR2 | UL                  |
| 09a. Transformer (T1) for GT-81085-1513.5-X.X-W2 (Alternate) |                               | 90E201512-XXX (9V-13.5V) or 90E15P12F-XXX. Where XXX can be any alphanumeric character or blank. | Class B Insulation System. Designation YCI-130. See Enclosure Id. 4-01 and ID 4- 08 for details.  | OBJY2 | UL                  |
| 09a-1. Transformer (T1) Core                                 | --                            | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130°C.  | --    | --                  |
| 09a-2. Transformer (T1) Bobbin                               | Hitachi Chemical Co., Ltd.    | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 09a-2a. Transformer (T1) Bobbin (Alternate)                  | Sumitomo Bakelite Co Ltd      | PM-9820  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 09a-3. Transformer (T1) Tape                                 | Symbio Inc.                   | 35660, 35661   | 130 degree C.   | OANZ2 | UL                  |
| 09a-3a. Transformer (T1) Tape (Alternate)                    | 3M Company                    | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 09a-4. Transformer (T1) Winding                              | Various                       | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                  |
| 09a-5. Transformer (T1) Triple Insulated Winding             | Young Chang Silicone Co Ltd   | STW-B  | Secondary. 130°C.   | OBJT2 | UL                  |

| Object/part or Description                             | Manufacturer/ trademark         | type/model   | technical data  | CCN   | Marks of Conformity |
|--|---------------------------------|--|---|-------|---------------------|
| Wire for GT-81085-1513.5-X.X-W2                        |                                 |  |   |       |                     |
| 09a-6. Transformer (T1) Tube (Optional)                | Zeus Industrial Products Inc.   | TFE-TW-300, TFE-SW-600   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 09a -6a. Transformer (T1) Tube (Optional) (Alternate)  | Great Holding Industrial Co Ltd | TFS, TFT   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 09a-7. Transformer (T1) Varnish                        | Hitachi Chemical Co., Ltd.      | WP-2952F-2G  | 130 degree C.   | OBOR2 | UL                  |
| 09a-7a. Transformer (T1) Varnish (Alternate)           | Pd George Co/Ripley Resin       | 468-2(+)   | 130 degree C.   | OBOR2 | UL                  |
| 10. Transformer (T1) for Models GT-81085-1516.6-X.X-W2 |                                 | 90E201515-XXX (where X can be any alphanumeric character or blank) | See Enclosure Id. 4-03 and 4-04 for details. Consists of the following:   | --    | --                  |
| 10-1. Insulation Class System                          |                                 | HIS-8A   | 600 V, 130 degree C (Class B)   | OBJY2 | UL                  |
| 10-2. Transformer (T1) Core                            | --                              | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130 degree C.   | --    | --                  |
| 10-3. Transformer (T1) Bobbin                          | Hitachi Chemical Co., Ltd.      | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 10-4. Transformer (T1) Tape                            | Symbio Inc.                     | MY130  | 130 degree C.   | OANZ2 | UL                  |
| 10-4a. Transformer (T1) Tape (Alternate)               | 3M Company                      | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 10-5. Transformer (T1) Winding                         | Various                         | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                  |
| 10-6. Transformer (T1) Triple Insulated Winding Wire   | Furukawa Electric Co., Ltd.     | TEX-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |
| 10-6a. Transformer (T1)                                | Totoku Electric Co              | TIW-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |

| Object/part or Description  | Manufacturer/<br>trademark    | type/model   | technical data  | CCN   | Marks of<br>Conformity |
|---|-------------------------------|--|---|-------|------------------------|
| Triple Insulated Winding Wire                                       | Ltd                           |  |   |       |                        |
| 10-7. Transformer (T1) Tube (Optional)                              | Zeus Industrial Products Inc. | TFE-TW-300   | 200 degree C, 300V.   | YDPU2 | UL                     |
| 10-8. Transformer (T1) Varnish                                      | Hitachi Chemical Co., Ltd.    | WA-238A, WF-285, WP-2952F-2G                                       | 130 degree C. Suitable for ANSI MW28 (OBMW2) magnetic wire.   | OBOR2 | UL                     |
| 10-8a. Varnish (T1) (Alternate)                                     | Meiden Chemical Co Ltd        | #880, #754XL   | Rated minimum 130C.   | OBOR2 | UL                     |
| 10a. Transformer (T1) for Models GT-81085-1516.6-X.X-W2 (Alternate) |                               | 90E201515-XXX (where X can be any alphanumeric character or blank) | See Enclosure Id. 4-03 and 4-04 for details. Consists of the following:   | --    | --                     |
| 10a-1. Insulation Class System                                      |                               | YCI-130  | 600 V, 130(C (Class B)  | OBJY2 | UL                     |
| 10a-2. Transformer (T1) Core  | --                            | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130°C.  | --    | --                     |
| 10a-3. Transformer (T1) Bobbin                                      | Hitachi Chemical Co., Ltd.    | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                     |
| 10a-3a. Transformer (T1) Bobbin (Alternate)                         | Sumitomo Bakelite Co Ltd      | PM-9820  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                     |
| 10a-4. Transformer (T1) Tape  | Symbio Inc.                   | 35660, 35661   | 130 degree C.   | OANZ2 | UL                     |
| 10a-4a. Transformer (T1) Tape (Alternate)                           | 3M Company                    | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                     |
| 10a-5. Transformer (T1) Winding                                     | Various                       | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                     |
| 10a-6. Transformer (T1) Triple Insulated Winding Wire for GT-81085- | Young Chang Silicone Co Ltd   | STW-B  | Secondary. 130 degree C.  | OBJT2 | UL                     |

| Object/part or Description                            | Manufacturer/ trademark         | type/model   | technical data  | CCN   | Marks of Conformity |
|---|---------------------------------|--|---|-------|---------------------|
| 1516.6-X.X-W2   |                                 |  |   |       |                     |
| 10a-7. Transformer (T1) Tube (Optional)               | Zeus Industrial Products Inc.   | TFE-TW-300, TFE-SW-600   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 10a -7a. Transformer (T1) Tube (Optional) (Alternate) | Great Holding Industrial Co Ltd | TFS, TFT   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 10a-8. Transformer (T1) Varnish                       | Hitachi Chemical Co., Ltd.      | WP-2952F-2G  | 130 degree C.   | OBOR2 | UL                  |
| 10a-8a. Varnish (T1) (Alternate)                      | Pd George Co/Ripley Resin       | 468-2(+)   | 130 degree C.   | OBOR2 | UL                  |
| 11. Transformer (T1) for Models GT-81085-1224-W2      |                                 | 90E201524-XXX (where X can be any alphanumeric character or blank) | See Enclosure Id. 4-05 for details. Consists of the following:  | --    | --                  |
| 11-1. Insulation Class System                         |                                 | HIS-8A   | 600 V, 130 degree C (Class B)   | OBJY2 | UL                  |
| 11-2. Transformer (T1) Core                           | --                              | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130 degree C.   | --    | --                  |
| 11-3. Transformer (T1) Bobbin                         | Hitachi Chemical Co., Ltd.      | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 11-4. Transformer (T1) Tape                           | Symbio Inc.                     | MY130  | 130 degree C.   | OANZ2 | UL                  |
| 11-4a. Transformer (T1) Tape (Alternate)              | 3M Company                      | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 11-5. Transformer (T1) Winding                        | Various                         | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                  |
| 11-6. Transformer (T1) Triple Insulated Winding Wire  | Furukawa Electric Co., Ltd.     | TEX-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |
| 11-6a. Transformer (T1) Triple Insulated Winding      | Totoku Electric Co Ltd          | TIW-E  | Secondary. 130 degree C.  | OBJT2 | UL                  |

| Object/part or Description                                    | Manufacturer/ trademark       | type/model   | technical data  | CCN   | Marks of Conformity |
|---|-------------------------------|--|---|-------|---------------------|
| Wire  |                               |  |   |       |                     |
| 11-7. Transformer (T1) Tube (Optional)                        | Zeus Industrial Products Inc. | TFE-TW-300   | 200 degree C, 300V.   | YDPU2 | UL                  |
| 11-8. Transformer (T1) Varnish                                | Hitachi Chemical Co., Ltd.    | WA-238A, WF-285, WP-2952F-2G                                       | 130 degree C. Suitable for ANSI MW28 (OBMW2) magnetic wire.   | OBOR2 | UL                  |
| 11-8a. Varnish (T1) (Alternate)                               | Meiden Chemical Co Ltd        | #880, #754XL   | Rated minimum 130C.   | OBOR2 | UL                  |
| 11a. Transformer (T1) for Models GT-81085-1224-W2 (alternate) |                               | 90E201524-XXX (where X can be any alphanumeric character or blank) | See Enclosure Id. 4-05 for details. Consists of the following:  | --    | --                  |
| 11a-1. Insulation Class System                                |                               | YCI-130  | 600 V, 130(C (Class B)  | OBJY2 | UL                  |
| 11a-2. Transformer (T1) Core                                  | --                            | --   | Ferrite. Overall 20 by 20 by 5.7mm. Wrapped with minimum two layer of polyester tape (OANZ2), minimum 130°C.  | --    | --                  |
| 11a-3. Transformer (T1) Bobbin                                | Hitachi Chemical Co., Ltd.    | CP-J-8800  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 11a-3a. Transformer (T1) Bobbin (Alternate)                   | Sumitomo Bakelite Co Ltd      | PM-9820  | Phenolic. Two-flange. V-0, 150 degree C, minimum 0.39 mm thick. Leads exit directly through integral flanges in bobbin and are mechanically secured and soldered to pins that are molded into bobbin. | QMFZ2 | UL                  |
| 11a-4. Transformer (T1) Tape                                  | Symbio Inc.                   | 35660, 35661   | 130 degree C.   | OANZ2 | UL                  |
| 11a-4a. Transformer (T1) Tape (Alternate)                     | 3M Company                    | 1350F-1, 1350F-2   | 130 degree C, 0.05 mm thick   | OANZ2 | UL                  |
| 11a-5. Transformer (T1) Winding                               | Various                       | Various  | Primary. Rated minimum 130 degree C. Part of indicated insulation system.   | OBMW2 | UL                  |
| 11a-6. Transformer (T1) Triple Insulated Winding Wire         | Young Chang Silicone Co Ltd   | STW-B  | Secondary. 130 degree C.  | OBJT2 | UL                  |
| 11a-7. Transformer (T1)                                       | Zeus Industrial               | TFE-TW-300,  | 200 degree C, 300V.   | YDPU2 | UL                  |

| Object/part or Description                               | Manufacturer/ trademark                | type/model        | technical data  | CCN   | Marks of Conformity |
|--|--|-------------------|---|-------|---------------------|
| Tube (Optional)  | Products Inc.                          | TFE-SW-600        |   |       |                     |
| 11a -7a. Transformer (T1)<br>Tube (Optional) (Alternate) | Great Holding Industrial Co Ltd        | TFS, TFT          | 200 degree C, 300V.   | YDPU2 | UL                  |
| 11a-8. Transformer (T1) Varnish                          | Hitachi Chemical Co., Ltd.             | WP-2952F-2G       | 130 degree C.   | OBOR2 | UL                  |
| 11a-8a. Varnish (T1) (Alternate)                         | Pd George Co/Ripley Resin              | 468-2(+)          | 130 degree C.   | OBOR2 | UL                  |
| 12. Diodes (D1-D4)                                       | Various                                | 1N4007            | Four provided. Min. 1A, 1000V.  | --    | --                  |
| 13. Capacitors (C1, C2)                                  | --                                     | --                | Two provided. Integral pressure relief. Minimum 4.7uF, 400V, 105 degree C.                      | --    | --                  |
| 14. NTC (NTC1) (Optional)                                | --                                     | --                | Minimum 5ohm, 3A.   | --    | --                  |
| 15. Line Choke (L3) (Optional)                           | --                                     | --                | UU9.8 construction style.   | --    | --                  |
| 15-1. Line Choke (L3) Core                               | --                                     | --                | Ferrite. Overall 14.5 by 10 mm, 2.74 mm thick.  | --    | --                  |
| 15-2. Line Choke (L3) Windings                           | Various                                | Various           | 130 degree C. Copper magnet wire wound concentrically on Bobbin.                                | OBMW2 | UL                  |
| 15-3. Line Choke (L3) Bobbin                             | Chang Chun Plastics Co., Ltd.          | T375J             | Three-flange. V-0, 150 degree C, minimum 0.75 mm thick.   | QMFZ2 | UL                  |
| 16. MOSFET (Q1)  | --                                     | --                | Minimum 1A, 600V  | --    | --                  |
| 17. Photo Coupler (U1)                                   | Cosmo Electronics Corp.                | K1010X or KP1010X | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 100 degree C. | FPQU2 | UL                  |
| 17a. Photo Coupler (U1) (Alternate)                      | Lite-On Technology Corp.               | LTV-817           | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 105 degree C. | FPQU2 | UL                  |
| 17b. Photo Coupler (U1) (Alternate)                      | Sharp Corp Electronic Components Group | PC123 or PC817    | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 100 degree C. | FPQU2 | UL                  |
| 17c. Photo Coupler (U1) (Alternate)                      | Everlight Electronics Co., Ltd.        | EL817             | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 100 degree C. | FPQU2 | UL                  |
| 17d. Photo Coupler (U1) (Alternate)                      | NEC Electronics Corp Compound          | PS2561            | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 100 degree C. | FPQU2 | UL                  |

| Object/part or Description   | Manufacturer/ trademark                   | type/model                 | technical data   | CCN   | Marks of Conformity |
|--|---|----------------------------|--|-------|---------------------|
|  | Semiconductor Device Div.                 |                            |  |       |                     |
| 17e. Photo Coupler (U1) (Alternate)  | Fairchild Semiconductor Corp.             | H11A817                    | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 110 degree C.  | FPQU2 | UL                  |
| 17f. Photo Coupler (U1) (Alternate)  | Bright Led Electronics Corp.              | BPC817B or BPC817C         | 5000Vac isolation voltage. Provided with double insulation. Operation temperature 100 degree C.  | FPQU2 | UL                  |
| 18. Heat Sink A (PRI for Q1) (Optional)  | --  | --                         | Aluminum. Located in PRI. U-shaped. Overall 32.6 by 16 by 4.45, minimum 1.5 mm thick.  | --    | --                  |
| 18a. Heat Sink A (PRI for Q1) (Optional) (Alternate)   | --  | --                         | Aluminum. Located in PRI. U-shaped. Overall 32.6 by 16.5 by 11.3, minimum 1.5 mm thick.  | --    | --                  |
| 19. Heat Sink B (SEC for D9) for Models GT-81085-1513.5-3.5-W2 and GT-81085-1307.5-2.3-W2 only. (Optional) | --  | --                         | Aluminum. Located in SEC. L-shaped. Overall 23.5 by 12.4 by 16.5 mm, minimum 1.5 mm thick. Wrapped with minimum two layers of polyester tape (OANZ2), minimum 100 degree C from end near Heat Sink A extended beyond T1 Core for minimum 5 mm. | --    | --                  |
| 20. Insulation Sheet   | General Electric Co.                      | FR700                      | Shape as shown. V-1, 125 degree C. Minimum 0.4mm thick. Located between T1 Core and SEC components, U2, C11 and C13.   | QMFZ2 | UL                  |
| 20a. Insulation Sheet Alternate Construction   | Various                                   | Various                    | Tubing, 200 degree C, 300V. Minimum 0.4 mm thick. Located on C3.   | YDPU2 | UL                  |
| 21. Output Cord  | Various                                   | Style 2468                 | Minimum 80 degree C, 30V, 22 AWG. Marked with VW-1 or FT-1.  | AVLV2 | UL                  |
| 22. Label  | Various                                   | Various                    | Minimum 80 degree C.   | PGDQ2 | UL                  |
| 23. Choke (L1)   | --  | --                         | Toroidal type construction. Core: Ferrite. Maximum 5.0 mm OD by 10.8 mm high including winding. Coil: Copper magnet wire wound on toroidal core.   | --    | --                  |
| 24. Varistor (MOV1) (Optional)   | Centra Science Corp.                      | CNR07D431K or CNR10D431K   | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24a. Varistor (MOV1) (Optional) (Alternate)  | Centra Science Corp.                      | CNR07D471K or CNR10D471K   | 300Vac, 385Vdc   | VZCA2 | UL                  |
| 24b. Varistor (MOV1) (Optional) (Alternate)  | Uppermost Electronic Industrial Co., Ltd. | V07K275 or V10K275         | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24c. Varistor (MOV1) (Optional) (Alternate)  | Joyin Co., Ltd.                           | JVR 07N471K or JVR 10N471K | 300Vac, 385Vdc   | VZCA2 | UL                  |



| Object/part or Description   | Manufacturer/ trademark                                       | type/model   | technical data   | CCN   | Marks of Conformity |
|--|---|--|--|-------|---------------------|
| 24d. Varistor (MOV1) (Optional) (Alternate)  | Joyin Co., Ltd.   | JVR 07N431K or JVR 10N431K,                          | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24e. Varistor (MOV1) (Optional) (Alternate)  | Walsin Technology Corp.                                       | VZ7D431KBS   | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24f. Varistor (MOV1) (Optional) (Alternate)  | Uppermost Electronic Industrial Co., Ltd.                     | V07K300  | 300Vac, 385Vdc   | VZCA2 | UL                  |
| 24g. Varistor (MOV1) (Optional) (Alternate)  | Dongguan Littelfuse Electronics Co Ltd                        | SAS-431KD10, SAS-431KD07, MOV-431KD10 or MOV-431KD10 | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24h. Varistor (MOV1) (Optional) (Alternate)  | Panasonic Corporation, Panasonic Corporation Of North America | 10K431U or 07K431U                                   | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 24i. Varistor (MOV1) (Optional) (Alternate)  | Thinking Electronic Industrial Co., Ltd.                      | TVR07471 or TVR10471                                 | 300Vac, 385Vdc   | VZCA2 | UL                  |
| 24j. Varistor (MOV1) (Optional) (Alternate)  | Thinking Electronic Industrial Co., Ltd.                      | TVR07431 or TVR10431                                 | 275Vac, 350Vdc   | VZCA2 | UL                  |
| 25. Bridge Capacitor CY1, CY2 (For Models GT-81085-WWVV-X.X-W2 only) (Optional)              | Success Electronics Co Ltd                                    | SE, SB   | (PRI to SEC). One provided. Minimum 125 degree C, rated maximum 1000 pF (CY1) or 2200 pF (CY2), minimum 250 V. Marked with a 'Y1' Certified by VDE, DEMKO or SEV. (Meets IEC60384 - 14.) | FOWX2 | UL                  |
| 25a. Bridge Capacitor CY1, CY2 (For Models GT-81085-WWVV-X.X-W2 only) (Optional) (Alternate) | TDK-EPC Corp  | CD   | (PRI to SEC). One provided. Minimum 125 degree C, rated maximum 1000 pF (CY1) or 2200 pF (CY2), minimum 250 V. Marked with a 'Y1' Certified by VDE, DEMKO or SEV. (Meets IEC60384 - 14.) | FOWX2 | UL                  |
| 25b. Bridge Capacitor CY1, CY2 (For Models GT-81085-WWVV-X.X-W2 only) (Optional) (Alternate) | Murata Mfg Co Ltd   | KX   | (PRI to SEC). One provided. Minimum 125 degree C, rated maximum 1000 pF (CY1) or 2200 pF (CY2), minimum 250 V. Marked with a 'Y1' Certified by VDE, DEMKO or SEV. (Meets IEC60384 - 14.) | FOWX2 | UL                  |
| 25c. Bridge Capacitor CY1, CY2 (For Models   | JYA-NAY Co Ltd  | JN   | (PRI to SEC). One provided. Minimum 125 degree C, rated maximum 1000 pF (CY1) or 2200 pF   | FOWX2 | UL                  |

| Object/part or Description  | Manufacturer/<br>trademark      | type/model | technical data   | CCN   | Marks of<br>Conformity |
|---|---------------------------------|------------|--|-------|------------------------|
| GT-81085-WWVV-X.X-W2 only) (Optional)<br>(Alternate)  |                                 |            | (CY2), minimum 250 V. Marked with a 'Y1'<br>Certified by VDE, DEMKO or SEV. (Meets<br>IEC60384 - 14.)  |       |                        |
| 25d. Bridge Capacitor<br>CY1, CY2 (For Models<br>GT-81085-WWVV-X.X-W2 only) (Optional)<br>(Alternate) | Jyh Chung<br>Electronics Co Ltd | JD         | (PRI to SEC). One provided. Minimum 125 degree<br>C, rated maximum 1000 pF (CY1) or 2200 pF<br>(CY2), minimum 250 V. Marked with a 'Y1'<br>Certified by VDE, DEMKO or SEV. (Meets<br>IEC60384 - 14.) | FOWX2 | UL                     |
| 25e. Bridge Capacitor<br>CY1, CY2 (For Models<br>GT-81085-WWVV-X.X-W2 only) (Optional)<br>(Alternate) | Welson Industrial<br>Co., Ltd.  | WD         | (PRI to SEC). One provided. Minimum 125 degree<br>C, rated maximum 1000 pF (CY1) or 2200 pF<br>(CY2), minimum 250 V. Marked with a 'Y1'<br>Certified by VDE, DEMKO or SEV. (Meets<br>IEC60384 - 14.) | FOWX2 | UL                     |

## Enclosures

| <u>Type</u>      | <u>Supplement Id</u> | <u>Description</u>  |
|------------------|----------------------|---|
| Photographs      | 3-01                 | Side View   |
| Photographs      | 3-02                 | Top View  |
| Photographs      | 3-04                 | Internal View   |
| Photographs      | 3-05                 | Trace View  |
| Photographs      | 3-06                 | Internal View with optional Varistor (MOV1)   |
| Photographs      | 3-07                 | Internal view with primary lead wire secured to blade by crimp connection and glue                            |
| Photographs      | 3-08                 | Internal View (alternate)   |
| Photographs      | 3-09                 | Internal View for Model DSA-15P-24  |
| Diagrams         | 4-01                 | Transformer (T1) Specifications   |
| Diagrams         | 4-02                 | Input Blades  |
| Diagrams         | 4-03                 | Transformer (T1) Specification for Model DSA-15P 15 US yz   |
| Diagrams         | 4-04                 | Alternate - Transformer (T1) Specifications for model DSA-15P 05 US yz and DSA-15P 12 US yz, DSA-15P 15 US yz |
| Diagrams         | 4-05                 | Transformer (T1) Specification for Model DSA-15P 24 US yz   |
| Diagrams         | 4-06                 | Add bridging resistor in circuit diagram for models DSA-15PR-a US yz and DSA-15PR-a UJ yz                     |
| Diagrams         | 4-07                 | Alternate - Transformer (T1) Specification for Model DSA-15P-05 US yz   |
| Diagrams         | 4-08                 | Alternate - Transformer (T1) Specification for Model DSA-15P-12 US yz   |
| Diagrams         | 4-09                 | Alternate - Heat Sink A (primary)   |
| Schematics + PWB | 5-01                 | Schematic   |
| Schematics + PWB | 5-02                 | Component Layout and Trace Layout   |
| Schematics + PWB | 5-03                 | Schematic (Alternate)   |
| Schematics + PWB | 5-04                 | Component Layout (Alternate)  |
| Schematics + PWB | 5-05                 | Trace Layout (Alternate)  |
| Schematics + PWB | 5-06                 | Schematic (Alternate)   |
| Schematics + PWB | 5-07                 | Component Layout (Alternate)  |
| Schematics + PWB | 5-08                 | Trace Layout (Alternate)  |
| Schematics + PWB | 5-09                 | Schematic (Alternate)   |
| Schematics + PWB | 5-10                 | Component Layout (Alternate)  |
| Manuals          |                      |   |
| Miscellaneous    | 7-04                 | Enclosure   |
| Miscellaneous    | 7-05                 | Input Blades  |

Issue Date: 2011-04-01  
2011-05-27

Page 20 of 20

Report Reference #

E336418-A48-UL

|               |      |                  |
|---------------|------|------------------|
| Miscellaneous | 7-07 | Model difference |
|---------------|------|------------------|

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict |
| 1           | <b>GENERAL</b>   |  | Pass    |
| 1.5         | Components   |  | Pass    |
| 1.5.1       | General  |  | Pass    |
|             | Comply with IEC 60950-1 or relevant component standard   | (see appended table 1.5.1)   | Pass    |
| 1.5.2       | Evaluation and testing of components   | Components certified to IEC harmonized standard and checked for correct application. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC60950. Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC60950 and the relevant component Standard. | Pass    |
| 1.5.3       | Thermal controls   |  | N/A     |
| 1.5.4       | Transformers   | See Annex C for details.   | Pass    |
| 1.5.5       | Interconnecting cables   | Interconnecting cables comply with the relevant requirements of this standard.   | Pass    |
| 1.5.6       | Capacitors bridging insulation   | No capacitors between line-neutral or line-ground provided.  | Pass    |
| 1.5.7       | Resistors bridging insulation  |  | N/A     |
| 1.5.7.1     | Resistors bridging functional, basic or supplementary insulation                                   |  | N/A     |
| 1.5.7.2     | Resistors bridging double or reinforced insulation between a.c. mains and other circuits           |  | N/A     |
| 1.5.7.3     | Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable |  | N/A     |
| 1.5.8       | Components in equipment for IT power systems   |  | N/A     |
| 1.5.9       | Surge suppressors  |  | Pass    |
| 1.5.9.1     | General  | See Table 1.5.1.   | Pass    |
| 1.5.9.2     | Protection of VDRs   | A fuse connected in the line phase and in series with the VDR.   | Pass    |

| IEC 60950-1 |   |  |         |
|-------------|---|--|---------|
| Clause      | Requirement + Test  | Result - Remark  | Verdict |
| 1.5.9.3     | Bridging of functional insulation by a VDR                          | A VDR provided and connected in L-N.   | Pass    |
| 1.5.9.4     | Bridging of basic insulation by a VDR                               |  | N/A     |
| 1.5.9.5     | Bridging of supplementary, double or reinforced insulation by a VDR |  | N/A     |
| 1.6         | Power interface   |  | Pass    |
| 1.6.1       | AC power distribution systems                                       | TN power system.   | Pass    |
| 1.6.2       | Input current   | Steady state input current of the unit did not exceed the rated current by more than 10% under normal load. (see appended table 1.6.2) | Pass    |
| 1.6.3       | Voltage limit of hand-held equipment                                | Not hand-held equipment.   | N/A     |
| 1.6.4       | Neutral conductor   | Class II equipment.  | N/A     |
| 1.7         | Marking and instructions  |  | Pass    |
| 1.7.1       | Power rating  | Rating marking readily visible to operator.  | Pass    |
|             | Rated voltage(s) or voltage range(s) (V) .....                      | 100-240 Vac  | Pass    |
|             | Symbol for nature of supply, for d.c. only .....                    |  | N/A     |
|             | Rated frequency or rated frequency range (Hz)....                   | 50/60 Hz   | Pass    |
|             | Rated current (mA or A) .....                                       | 0.5 A  | Pass    |
|             | Manufacturer's name or trademark or identification mark.....        | GLOBTEK (SUZHOU) CO LTD or E336418.  | Pass    |
|             | Model identification or type reference .....                        | Refer to the model information at the beginning of this Test Report.   | Pass    |
|             | Symbol for Class II equipment only .....                            | 60417-1-IEC-5172 symbol marked.  | Pass    |
|             | Other markings and symbols.....                                     |  | N/A     |
| 1.7.2       | Safety instructions and marking                                     |  | N/A     |
| 1.7.2.1     | General   |  | N/A     |
| 1.7.2.2     | Disconnect devices  |  | N/A     |
| 1.7.2.3     | Overcurrent protective device                                       |  | N/A     |
| 1.7.2.4     | IT Power distribution systems                                       |  | N/A     |
| 1.7.2.5     | Operator access with a tool   |  | N/A     |
| 1.7.2.6     | Ozone   |  | N/A     |
| 1.7.3       | Short duty cycles   | Continues operation.   | N/A     |
| 1.7.4       | Supply voltage adjustment .....                                     | Unit is auto-ranging.  | N/A     |

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict |
|             | Method and means of adjustment; reference to installation instructions .....         |  | N/A     |
| 1.7.5       | Power outlets on the equipment.....  | No standard power outlets provided.  | N/A     |
| 1.7.6       | Fuse identification (marking, special fusing characteristics, cross-reference) ..... | Fuse marking provided as follows: F1 T1AL/250V or T2AL/250V  | Pass    |
| 1.7.7       | Wiring terminals   | Class II equipment.  | N/A     |
| 1.7.7.1     | Protective earthing and bonding terminals.....                                       |  | N/A     |
| 1.7.7.2     | Terminals for a.c. mains supply conductors   |  | N/A     |
| 1.7.7.3     | Terminals for d.c. mains supply conductors   |  | N/A     |
| 1.7.8       | Controls and indicators  | No indicators provided.  | N/A     |
| 1.7.8.1     | Identification, location and marking.....  |  | N/A     |
| 1.7.8.2     | Colours .....  |  | N/A     |
| 1.7.8.3     | Symbols according to IEC 60417 .....   | No switches provided.  | N/A     |
| 1.7.8.4     | Markings using figures.....  |  | N/A     |
| 1.7.9       | Isolation of multiple power sources .....  | There is only one connection to hazardous voltages.  | N/A     |
| 1.7.10      | Thermostats and other regulating devices .....                                       | No thermostats or similar regulating devices provided.   | N/A     |
| 1.7.11      | Durability   | All markings provided on Approved labels suitable for surface they are applied upon and meet the requirement. (see appended table 1.5.1) | Pass    |
| 1.7.12      | Removable parts  | No removable parts.  | N/A     |
| 1.7.13      | Replaceable batteries.....   | No batteries provided.   | N/A     |
|             | Language(s) .....  |  | -       |
| 1.7.14      | Equipment for restricted access locations.....                                       | Unit not intended for installation in a restricted access location.  | N/A     |

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict |
| 2           | <b>PROTECTION FROM HAZARDS</b>   |  | Pass    |
| 2.1         | Protection from electric shock and energy hazards  |  | Pass    |
| 2.1.1       | Protection in operator access areas  |  | Pass    |
| 2.1.1.1     | Access to energized parts  | No operator access to energized parts.   | Pass    |
|             | Test by inspection..... :  | See below for details.   | Pass    |
|             | Test with test finger (Figure 2A) ..... :  | Test finger was unable to contact bare hazardous parts or basic insulation circuits. | Pass    |
|             | Test with test pin (Figure 2B) ..... :   | Test pin was unable to contact bare hazardous parts.                                 | Pass    |
|             | Test with test probe (Figure 2C) ..... :   | No TNV present.  | N/A     |
| 2.1.1.2     | Battery compartments   | No battery provided.   | N/A     |
| 2.1.1.3     | Access to ELV wiring   | No internal wiring at ELV provided.  | N/A     |
|             | Working voltage (V <sub>peak</sub> or V <sub>rms</sub> ); minimum distance through insulation (mm) ..... : |  | -       |
| 2.1.1.4     | Access to hazardous voltage circuit wiring   | No internal wiring accessible to the user.   | N/A     |
| 2.1.1.5     | Energy hazards ..... :   | Output is not an energy hazard.  | Pass    |
| 2.1.1.6     | Manual controls  | Unit does not contain any knobs, handles, levers, or the like.                       | N/A     |
| 2.1.1.7     | Discharge of capacitors in equipment   | No capacitor employed before rectifier.  | N/A     |
|             | Measured voltage (V); time-constant (s) ..... :  |  | -       |
| 2.1.1.8     | Energy hazards - d.c. mains supply   |  | N/A     |
|             | a) Capacitor connected to the d.c. mains supply .. :   |  | N/A     |
|             | b) Internal battery connected to the mains supply :  |  | N/A     |
| 2.1.1.9     | Audio amplifiers ..... :   |  | N/A     |
| 2.1.2       | Protection in service access areas   | No maintenance work in operation mode necessary                                      | N/A     |
| 2.1.3       | Protection in restricted access locations  | Unit not intended for installation in a restricted access location.                  | N/A     |
| 2.2         | SELV circuits  |  | Pass    |
| 2.2.1       | General requirements   | SELV levels are maintained after single fault condition.                             | Pass    |



| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test                                       | Result - Remark  | Verdict |
| 2.2.2       | Voltages under normal conditions (V) .....               | All accessible voltages are less than 42.4 Vpk or 60 Vdc and are classified as SELV.   | Pass    |
| 2.2.3       | Voltages under fault conditions (V) .....                | Under fault conditions voltages never exceed 71 Vpk and 120 Vdc and do not exceed 42.4 Vpk or 60 Vdc for more than 0.2 second.   | Pass    |
| 2.2.4       | Connection of SELV circuits to other circuits .....      | SELV circuits are only connected to other secondary circuits. SELV circuit and all interconnected circuits separated from primary by double or reinforce insulation. SELV circuit does not exceed the SELV limits under normal and fault conditions. | Pass    |
| 2.3         | TNV circuits   |  | N/A     |
| 2.3.1       | Limits   |  | N/A     |
|             | Type of TNV circuits .....                               |  | -       |
| 2.3.2       | Separation from other circuits and from accessible parts |  | N/A     |
| 2.3.2.1     | General requirements                                     |  | N/A     |
| 2.3.2.2     | Protection by basic insulation                           |  | N/A     |
| 2.3.2.3     | Protection by earthing                                   |  | N/A     |
| 2.3.2.4     | Protection by other constructions .....                  |  | N/A     |
| 2.3.3       | Separation from hazardous voltages                       |  | N/A     |
|             | Insulation employed.....                                 |  | -       |
| 2.3.4       | Connection of TNV circuits to other circuits             |  | N/A     |
|             | Insulation employed.....                                 |  | -       |
| 2.3.5       | Test for operating voltages generated externally         |  | N/A     |
| 2.4         | Limited current circuits                                 |  | Pass    |
| 2.4.1       | General requirements                                     | For Alternate Circuit containing CY1 and CY2 (for model DSA-15P-24 US yz).   | Pass    |
| 2.4.2       | Limit values   |  | Pass    |
|             | Frequency (Hz) .....                                     | For Alternate Circuit containing CY1 and CY2 (for model DSA-15P-24 US yz): 0.06 kHz.   | -       |
|             | Measured current (mA).....                               | For Alternate Circuit containing   | -       |

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

|       |  |   |      |
|-------|--|---|------|
|       |  | CY1 and CY2 (for model DSA-15P-24 US yz): 0.5mA.  |      |
|       | Measured voltage (V) .....   | For Alternate Circuit containing CY1 and CY2 (for model DSA-15P-24 US yz): 1.0Vpk   | -    |
|       | Measured circuit capacitance (nF or uF) .....  | For Alternate Circuit containing CY1 and CY2 (for model DSA-15P-24 US yz): 1000pF(CY1), 2200pF(CY2).  | -    |
| 2.4.3 | Connection of limited current circuits to other circuits                               | The LIMITED CURRENT CIRCUIT connected to other circuits complies with the requirements of Sub-clause 2.4.1.   | Pass |
| 2.5   | Limited power sources  |   | Pass |
|       | a) Inherently limited output   |   | N/A  |
|       | b) Impedance limited output  |   | N/A  |
|       | c) Regulating network limited output under normal operating and single fault condition |   | Pass |
|       | d) Overcurrent protective device limited output  |   | N/A  |
|       | Max. output voltage (V), max. output current (A), max. apparent power (VA) .....       | See UL Only/Test Reference for details.<br><br>Test for model DSA-15P-15US 166150:<br>Normal: 16.56V (Uoc), 1.706A (Isc), 27.108VA (60S), limited 82.8VA.<br>L2 short : 16.514V (Uoc), 1.723A (Isc), 27.81VA (60S), limited 82.8VA.<br>R12 short: 16.52V (Uoc), 1.936A (Isc), 31.23VA (60S), limited 82.8VA.<br>Unit shut down after U1 (1-2) short, U1 (3-4) short, U1 pin 1 open, U1 pin 3 open and R31 short.<br>Test for model DSA-15P-15US 136150:<br>Normal: 13.57V (Uoc), 1.707A (Isc), 22.52VA (60S), limited 67.85VA.<br>L2 short : 13.70V (Uoc), 1.707A (Isc), 22.76VA (60S), | -    |

| IEC 60950-1 |   |   |         |
|-------------|---|---|---------|
| Clause      | Requirement + Test  | Result - Remark   | Verdict |
|             |   | <p>limited 67.85VA.<br/>R12 short: 13.683V (Uoc),<br/>1.907A (Isc), 25.30VA (60S),<br/>limited 67.85VA.<br/>Unit shut down after U1 (1-2)<br/>short, U1 (3-4) short, U1 pin 1<br/>open, U1 pin 3 open and R31<br/>short.</p> <p>Test for model DSA-15P-24<br/>US yz:<br/>Normal: 23.89V (Uoc), 0.65A<br/>(Isc), 15.41VA (60S), limited<br/>100VA.<br/>L4 short : 23.9V (Uoc), 0.65A<br/>(Isc), 15.41VA (60S), limited<br/>100VA.<br/>Unit shut down after U1 (A)<br/>short, U1 (B) Open, R33 short<br/>and R12 short.</p> |         |
|             | Current rating of overcurrent protective device (A) :   |   | -       |
| 2.6         | Provisions for earthing and bonding   |   | N/A     |
| 2.6.1       | Protective earthing   |   | N/A     |
| 2.6.2       | Functional earthing   |   | N/A     |
| 2.6.3       | Protective earthing and protective bonding conductors   |   | N/A     |
| 2.6.3.1     | General   |   | N/A     |
| 2.6.3.2     | Size of protective earthing conductors  |   | N/A     |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ),<br>AWG ..... :  |   | -       |
| 2.6.3.3     | Size of protective bonding conductors   |   | N/A     |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ),<br>AWG ..... :  |   | -       |
|             | Protective current rating (A), cross-sectional area<br>(mm <sup>2</sup> ), AWG ..... :  |   | -       |
| 2.6.3.4     | Resistance of earthing conductors and their<br>terminations; resistance (ohm), voltage drop (V),<br>test current (A), duration (min)..... : |   | N/A     |
| 2.6.3.5     | Colour of insulation..... :   |   | N/A     |
| 2.6.4       | Terminals   |   | N/A     |
| 2.6.4.1     | General   |   | N/A     |
| 2.6.4.2     | Protective earthing and bonding terminals   |   | N/A     |

| IEC 60950-1 |  |   |         |
|-------------|--|---|---------|
| Clause      | Requirement + Test   | Result - Remark   | Verdict |
|             | Rated current (A), type, nominal thread diameter (mm) ..... :                      |   | -       |
| 2.6.4.3     | Separation of the protective earthing conductor from protective bonding conductors |   | N/A     |
| 2.6.5       | Integrity of protective earthing   |   | N/A     |
| 2.6.5.1     | Interconnection of equipment   |   | N/A     |
| 2.6.5.2     | Components in protective earthing conductors and protective bonding conductors     |   | N/A     |
| 2.6.5.3     | Disconnection of protective earth  |   | N/A     |
| 2.6.5.4     | Parts that can be removed by an operator   |   | N/A     |
| 2.6.5.5     | Parts removed during servicing   |   | N/A     |
| 2.6.5.6     | Corrosion resistance   |   | N/A     |
| 2.6.5.7     | Screws for protective bonding  |   | N/A     |
| 2.6.5.8     | Reliance on telecommunication network or cable distribution system                 |   | N/A     |
| 2.7         | Overcurrent and earth fault protection in primary circuits                         |   | Pass    |
| 2.7.1       | Basic requirements   | Protective devices are integrated in the unit.  | Pass    |
|             | Instructions when protection relies on building installation                       |   | N/A     |
| 2.7.2       | Faults not covered in 5.3.7  | Protective device is properly sized and mounted.  | Pass    |
| 2.7.3       | Short-circuit backup protection  | Unit is pluggable Type A. Building installation is considered as providing short-circuit backup protection. | Pass    |
| 2.7.4       | Number and location of protective devices ..... :                                  | One protective device in the live phase.  | Pass    |
| 2.7.5       | Protection by several devices  | Only one protective device is provided.   | N/A     |
| 2.7.6       | Warning to service personnel ..... :   | No protective device is provided in the neutral conductor.  | N/A     |
| 2.8         | Safety interlocks  |   | N/A     |
| 2.8.1       | General principles   |   | N/A     |
| 2.8.2       | Protection requirements  |   | N/A     |
| 2.8.3       | Inadvertent reactivation   |   | N/A     |
| 2.8.4       | Fail-safe operation  |   | N/A     |
| 2.8.5       | Moving parts   |   | N/A     |

| IEC 60950-1 |   |  |         |
|-------------|---|--|---------|
| Clause      | Requirement + Test  | Result - Remark  | Verdict |
| 2.8.6       | Overriding  |  | N/A     |
| 2.8.7       | Switches and relays   |  | N/A     |
| 2.8.7.1     | Contact gaps (mm) ..... :                                       |  | N/A     |
| 2.8.7.2     | Overload test   |  | N/A     |
| 2.8.7.3     | Endurance test  |  | N/A     |
| 2.8.7.4     | Electric strength test  |  | N/A     |
| 2.8.8       | Mechanical actuators  |  | N/A     |
| 2.9         | Electrical insulation   |  | Pass    |
| 2.9.1       | Properties of insulating materials                              | Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.              | Pass    |
| 2.9.2       | Humidity conditioning   | Electric Strength Test was conducted after the Humidity Test.<br>Alternate circuit/transformer tested 48 hours.  | Pass    |
|             | Relative humidity (%), temperature (°C)..... :                  | Alternate circuit design tested at 93% RH.   | -       |
| 2.9.3       | Grade of insulation   | Adequate levels of safety insulation is provided and maintained to comply with the requirement of this standard. | Pass    |
| 2.9.4       | Separation from hazardous voltages                              |  | Pass    |
|             | Method(s) used..... :   | Method 1.  | -       |
| 2.10        | Clearances, creepage distances and distances through insulation |  | Pass    |
| 2.10.1      | General   | Pollution degree 2 applicable.   | Pass    |
| 2.10.1.1    | Frequency..... :  | Less than 30 kHz   | Pass    |
| 2.10.1.2    | Pollution degrees..... :  | 2  | Pass    |
| 2.10.1.3    | Reduced values for functional insulation                        |  | N/A     |
| 2.10.1.4    | Intervening unconnected conductive parts                        |  | Pass    |
| 2.10.1.5    | Insulation with varying dimensions                              |  | N/A     |
| 2.10.1.6    | Special separation requirements                                 |  | N/A     |
| 2.10.1.7    | Insulation in circuits generating starting pulses               |  | N/A     |
| 2.10.2      | Determination of working voltage                                |  | Pass    |
| 2.10.2.1    | General   |  | Pass    |
| 2.10.2.2    | RMS working voltage   |  | Pass    |
| 2.10.2.3    | Peak working voltage  |  | Pass    |

| IEC 60950-1 |   |  |         |
|-------------|---|--|---------|
| Clause      | Requirement + Test  | Result - Remark  | Verdict |
| 2.10.3      | Clearances  | No change in critical dimensions on PWB for alternate circuit with Varistor (MOV1). (see appended table 2.10.3 and 2.10.4) | Pass    |
| 2.10.3.1    | General   |  | Pass    |
| 2.10.3.2    | Mains transient voltages  | Overvoltage Category II; Mains transient voltage is 2500 V   | Pass    |
|             | a) AC mains supply .....  | Less than 300 Vrms.  | Pass    |
|             | b) Earthed d.c. mains supplies .....  |  | N/A     |
|             | c) Unearthed d.c. mains supplies .....  |  | N/A     |
|             | d) Battery operation .....  |  | N/A     |
| 2.10.3.3    | Clearances in primary circuits  | (see appended table 2.10.3 and 2.10.4)   | Pass    |
| 2.10.3.4    | Clearances in secondary circuits  | See 5.3.4 for details.   | N/A     |
| 2.10.3.5    | Clearances in circuits having starting pulses                                   |  | N/A     |
| 2.10.3.6    | Transients from a.c. mains supply.....  |  | N/A     |
| 2.10.3.7    | Transients from d.c. mains supply.....  |  | N/A     |
| 2.10.3.8    | Transients from telecommunication networks and cable distribution systems ..... |  | N/A     |
| 2.10.3.9    | Measurement of transient voltage levels   |  | N/A     |
|             | a) Transients from a mains supply   |  | N/A     |
|             | For an a.c. mains supply .....  |  | N/A     |
|             | For a d.c. mains supply .....   |  | N/A     |
|             | b) Transients from a telecommunication network                                  |  | N/A     |
| 2.10.4      | Creepage distances  | (see appended table 2.10.3 and 2.10.4)   | Pass    |
| 2.10.4.1    | General   |  | Pass    |
| 2.10.4.2    | Material group and comparative tracking index                                   |  | Pass    |
|             | CTI tests .....   | Material group IIIb; $100 \leq \text{CTI} < 175$ .   | -       |
| 2.10.4.3    | Minimum creepage distances  | (see appended table 2.10.3 and 2.10.4)   | Pass    |
| 2.10.5      | Solid insulation  |  | Pass    |
| 2.10.5.1    | General   |  | Pass    |
| 2.10.5.2    | Distances through insulation  | Min. thickness of alternate enclosure material, Asahi Kasei Chemicals Corp Xyron   | Pass    |

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark  | Verdict |
|             |  | Polymer, Type 540V, is 2.0 mm which comply.  |         |
| 2.10.5.3    | Insulating compound as solid insulation  | Certified optical insulators used. See Table 1.5.1 for details.  | Pass    |
| 2.10.5.4    | Semiconductor devices  | Certified optical insulators used. See Table 1.5.1 for details.  | Pass    |
| 2.10.5.5    | Cemented joints  |  | N/A     |
| 2.10.5.6    | Thin sheet material - General  | Minimum two layers used, each of which complies with the required Electric Strength Test.                            | Pass    |
| 2.10.5.7    | Separable thin sheet material  |  | Pass    |
|             | Number of layers (pcs) ..... : 2   |  | -       |
| 2.10.5.8    | Non-separable thin sheet material  |  | N/A     |
| 2.10.5.9    | Thin sheet material - standard test procedure                                  |  | N/A     |
|             | Electric strength test ..... :   |  | -       |
| 2.10.5.10   | Thin sheet material - alternative test procedure                               |  | N/A     |
|             | Electric strength test ..... :   |  | -       |
| 2.10.5.11   | Insulation in wound components   |  | Pass    |
| 2.10.5.12   | Wire in wound components   | Approved triple insulated winding wire meets the requirements of 2.10.5.4 and Annex U. (see appended table 1.5.1)    | Pass    |
|             | Working voltage ..... :  | See Table 2.10.3 and 2.10.4  | Pass    |
|             | a) Basic insulation not under stress ..... :                                   |  | N/A     |
|             | b) Basic, supplementary, reinforced insulation..... :                          | Certified tripled insulated wired. See Table 1.5.1.  | Pass    |
|             | c) Compliance with Annex U ..... :   |  | N/A     |
|             | Two wires in contact inside wound component; angle between 45° and 90° ..... : | Physical separation in the form of insulating sleeving provided to relieve mechanical stress at the crossover point. | Pass    |
| 2.10.5.13   | Wire with solvent-based enamel in wound components                             |  | N/A     |
|             | Electric strength test ..... :   |  | -       |
|             | Routine test   |  | N/A     |

| IEC 60950-1 |  |                 |         |
|-------------|--|-----------------|---------|
| Clause      | Requirement + Test   | Result - Remark | Verdict |
| 2.10.5.14   | Additional insulation in wound components                                  |                 | N/A     |
|             | Working voltage ..... :  |                 | N/A     |
|             | - Basic insulation not under stress ..... :                                |                 | N/A     |
|             | - Supplementary, reinforced insulation..... :                              |                 | N/A     |
| 2.10.6      | Construction of printed boards   |                 | Pass    |
| 2.10.6.1    | Uncoated printed boards  |                 | Pass    |
| 2.10.6.2    | Coated printed boards  |                 | N/A     |
| 2.10.6.3    | Insulation between conductors on the same inner surface of a printed board |                 | N/A     |
| 2.10.6.4    | Insulation between conductors on different layers of a printed board       |                 | N/A     |
|             | Distance through insulation  |                 | N/A     |
|             | Number of insulation layers (pcs) ..... :                                  |                 | N/A     |
| 2.10.7      | Component external terminations  |                 | N/A     |
| 2.10.8      | Tests on coated printed boards and coated components                       |                 | N/A     |
| 2.10.8.1    | Sample preparation and preliminary inspection                              |                 | N/A     |
| 2.10.8.2    | Thermal conditioning   |                 | N/A     |
| 2.10.8.3    | Electric strength test   |                 | N/A     |
| 2.10.8.4    | Abrasion resistance test   |                 | N/A     |
| 2.10.9      | Thermal cycling  |                 | N/A     |
| 2.10.10     | Test for Pollution Degree 1 environment and insulating compound            |                 | N/A     |
| 2.10.11     | Tests for semiconductor devices and cemented joints                        |                 | N/A     |
| 2.10.12     | Enclosed and sealed parts  |                 | N/A     |



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

|         |  |   |      |
|---------|--|---|------|
| 3       | <b>WIRING, CONNECTIONS AND SUPPLY</b>                            |   | Pass |
| 3.1     | General  |   | Pass |
| 3.1.1   | Current rating and overcurrent protection                        | All internal wiring used in the distribution of primary power protected against overcurrent and short circuit by suitably rated protective devices.             | Pass |
| 3.1.2   | Protection against mechanical damage                             | Wires are routed away from sharp edges and parts which could damage insulation.   | Pass |
| 3.1.3   | Securing of internal wiring                                      |   | Pass |
| 3.1.4   | Insulation of conductors   | Uninsulated conductors have been adequately fixed to prevent, in normal use, any reduction of creepage or clearance distances below those prescribed by in 2.9. | Pass |
| 3.1.5   | Beads and ceramic insulators                                     |   | N/A  |
| 3.1.6   | Screws for electrical contact pressure                           | Unit does not have any screw-type connections.  | N/A  |
| 3.1.7   | Insulating materials in electrical connections                   | No contact pressure through insulating material.  | N/A  |
| 3.1.8   | Self-tapping and spaced thread screws                            | Thread-cutting or space thread screws are not used for electrical connections.  | N/A  |
| 3.1.9   | Termination of conductors  |   | Pass |
|         | 10 N pull test   |   | Pass |
| 3.1.10  | Sleeving on wiring   | Sleeving is not used as supplementary insulation.   | N/A  |
| 3.2     | Connection to mains supply                                       |   | Pass |
| 3.2.1   | Means of connection  | Unit is provided with a means for direct plug-in.   | Pass |
| 3.2.1.1 | Connection to an a.c. mains supply                               |   | Pass |
| 3.2.1.2 | Connection to a d.c. mains supply                                |   | N/A  |
| 3.2.2   | Multiple supply connections                                      | Only one main connection.   | N/A  |
| 3.2.3   | Permanently connected equipment                                  | Unit is not permanently connected.  | N/A  |
|         | Number of conductors, diameter of cable and conduits (mm)..... : |   | -    |
| 3.2.4   | Appliance inlets   | Unit does not use an appliance  | N/A  |

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark                                    | Verdict |
|             |  | inlet.   |         |
| 3.2.5       | Power supply cords   | No power supply cord provided.                     | N/A     |
| 3.2.5.1     | AC power supply cords  |  | N/A     |
|             | Type..... :  |  | -       |
|             | Rated current (A), cross-sectional area (mm <sup>2</sup> ),<br>AWG ..... :             |  | -       |
| 3.2.5.2     | DC power supply cords  |  | N/A     |
| 3.2.6       | Cord anchorages and strain relief  |  | N/A     |
|             | Mass of equipment (kg), pull (N) ..... :   |  | -       |
|             | Longitudinal displacement (mm) ..... :   |  | -       |
| 3.2.7       | Protection against mechanical damage   |  | N/A     |
| 3.2.8       | Cord guards  |  | N/A     |
|             | Diameter of minor dimension D (mm); test mass (g)<br>..... :                           |  | -       |
|             | Radius of curvature of cord (mm) ..... :   |  | -       |
| 3.2.9       | Supply wiring space  |  | N/A     |
| 3.3         | Wiring terminals for connection of external conductors                                 |  | N/A     |
| 3.3.1       | Wiring terminals   |  | N/A     |
| 3.3.2       | Connection of non-detachable power supply cords  |  | N/A     |
| 3.3.3       | Screw terminals  |  | N/A     |
| 3.3.4       | Conductor sizes to be connected  |  | N/A     |
|             | Rated current (A), cord/cable type, cross-sectional<br>area (mm <sup>2</sup> ) ..... : |  | -       |
| 3.3.5       | Wiring terminal sizes  |  | N/A     |
|             | Rated current (A), type and nominal thread<br>diameter (mm) ..... :                    |  | -       |
| 3.3.6       | Wiring terminals design  |  | N/A     |
| 3.3.7       | Grouping of wiring terminals   |  | N/A     |
| 3.3.8       | Stranded wire  |  | N/A     |
| 3.4         | Disconnection from the mains supply  |  | Pass    |
| 3.4.1       | General requirement  |  | Pass    |
| 3.4.2       | Disconnect devices   | Mains plug that is part of direct<br>plug-in unit. | Pass    |
| 3.4.3       | Permanently connected equipment  |  | N/A     |
| 3.4.4       | Parts which remain energized   | No accessible parts on the                         | N/A     |

| IEC 60950-1 |   |   |         |
|-------------|---|---|---------|
| Clause      | Requirement + Test                                | Result - Remark   | Verdict |
|             |   | supply side of the disconnect device.                   |         |
| 3.4.5       | Switches in flexible cords                        | No isolating switch in the cord set.                    | N/A     |
| 3.4.6       | Number of poles - single-phase and d.c. equipment | Disconnect device disconnects all poles simultaneously. | Pass    |
| 3.4.7       | Number of poles - three-phase equipment           | Unit is single-phase equipment.                         | N/A     |
| 3.4.8       | Switches as disconnect devices                    | No switch provided.                                     | N/A     |
| 3.4.9       | Plugs as disconnect devices                       |   | N/A     |
| 3.4.10      | Interconnected equipment                          |   | N/A     |
| 3.4.11      | Multiple power sources                            |   | N/A     |
| 3.5         | Interconnection of equipment                      |   | Pass    |
| 3.5.1       | General requirements                              | See below for details.                                  | Pass    |
| 3.5.2       | Types of interconnection circuits ..... :         | Interconnection circuits are SELV circuits.             | Pass    |
| 3.5.3       | ELV circuits as interconnection circuits          |   | N/A     |
| 3.5.4       | Data ports for additional equipment               |   | N/A     |

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

|        |  |  |      |
|--------|--|--|------|
| 4      | <b>PHYSICAL REQUIREMENTS</b>                       |  | Pass |
| 4.1    | Stability  |  | Pass |
|        | Angle of 10°                                       |  | N/A  |
|        | Test force (N)..... :                              |  | N/A  |
| 4.2    | Mechanical strength                                |  | Pass |
| 4.2.1  | General  | After the test, the supplementary or reinforced insulation was subjected to the Electric Strength Test. No breakdown was recorded.   | Pass |
| 4.2.2  | Steady force test, 10 N                            |  | Pass |
| 4.2.3  | Steady force test, 30 N                            |  | N/A  |
| 4.2.4  | Steady force test, 250 N                           | No hazards as a result of the 250 N test. See UL only/Test Reference for details.  | Pass |
| 4.2.5  | Impact test  | Direct plug-in unit.   | N/A  |
|        | Fall test  |  | N/A  |
|        | Swing test   |  | N/A  |
| 4.2.6  | Drop test; height (mm)..... :                      | No hazards as a result of the Drop Test.   | Pass |
| 4.2.7  | Stress relief test                                 | No indication of shrinkage or distortion on enclosures due to the stress relief test (99 degree C/7 hours). See UL Only/Test Reference for details.<br><br>For alternate enclosure material, Asahi Kasei Chemicals Corp Xyron Polymer, Type 540V: No indication of shrinkage or distortion on enclosures due to the stress relief test (100 degree C/7 hours). See UL Only/Test Reference for details. | Pass |
| 4.2.8  | Cathode ray tubes                                  |  | N/A  |
|        | Picture tube separately certified .....            |  | N/A  |
| 4.2.9  | High pressure lamps                                |  | N/A  |
| 4.2.10 | Wall or ceiling mounted equipment; force (N) ..... |  | N/A  |
| 4.3    | Design and construction                            |  | Pass |

| IEC 60950-1 |  |   |         |
|-------------|--|---|---------|
| Clause      | Requirement + Test                                     | Result - Remark   | Verdict |
| 4.3.1       | Edges and corners                                      | All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.  | Pass    |
| 4.3.2       | Handles and manual controls; force (N)..... :          | No handle provided.   | N/A     |
| 4.3.3       | Adjustable controls                                    |   | N/A     |
| 4.3.4       | Securing of parts                                      | No loosening of parts impairing creepage distances or clearances over supplementary or reinforced insulation is likely to occur.                              | Pass    |
| 4.3.5       | Connection by plugs and sockets                        | IEC60083 or IEC60320 type connectors not used for SELV circuits.  | Pass    |
| 4.3.6       | Direct plug-in equipment                               | See below.  | Pass    |
|             | Torque .....   | See UL Only/Test Reference, CB report No. 11006716 001, issue date March 13, 2006 and presented by TUV Rheinland Taiwan Ltd. Taichung Laboratory for details. | Pass    |
|             | Compliance with the relevant mains plug standard:      | The blade configuration had been evaluated and found compliant with Standard for Wiring Devices-Dimensional Specifications, ANSI/NEMA WD6.                    | Pass    |
| 4.3.7       | Heating elements in earthed equipment                  |   | N/A     |
| 4.3.8       | Batteries  | No batteries provided.  | N/A     |
|             | - Overcharging of a rechargeable battery               |   | N/A     |
|             | - Unintentional charging of a non-rechargeable battery |   | N/A     |
|             | - Reverse charging of a rechargeable battery           |   | N/A     |
|             | - Excessive discharging rate for any battery           |   | N/A     |
| 4.3.9       | Oil and grease   | Insulation of the internal wiring is not exposed to oil, grease, etc.   | N/A     |
| 4.3.10      | Dust, powders, liquids and gases                       | No hazard presented by dust, powders, liquids or gases.   | N/A     |
| 4.3.11      | Containers for liquids or gases                        | Unit does not contain liquids.  | N/A     |
| 4.3.12      | Flammable liquids..... :                               | Unit does not use any flammable liquids.  | N/A     |

| IEC 60950-1 |   |                                     |         |
|-------------|---|-------------------------------------|---------|
| Clause      | Requirement + Test  | Result - Remark                     | Verdict |
|             | Quantity of liquid (l)..... :   |                                     | N/A     |
|             | Flash point (°C)..... :   |                                     | N/A     |
| 4.3.13      | Radiation   |                                     | N/A     |
| 4.3.13.1    | General   |                                     | N/A     |
| 4.3.13.2    | Ionizing radiation  |                                     | N/A     |
|             | Measured radiation (pA/kg) ..... :  |                                     | -       |
|             | Measured high-voltage (kV) ..... :  |                                     | -       |
|             | Measured focus voltage (kV)..... :  |                                     | -       |
|             | CRT markings..... :   |                                     | -       |
| 4.3.13.3    | Effect of ultraviolet (UV) radiation on materials                         |                                     | N/A     |
|             | Part, property, retention after test, flammability classification ..... : |                                     | N/A     |
| 4.3.13.4    | Human exposure to ultraviolet (UV) radiation ..... :                      |                                     | N/A     |
| 4.3.13.5    | Laser (including LEDs)  |                                     | N/A     |
|             | Laser class ..... :   |                                     | -       |
| 4.3.13.6    | Other types ..... :   |                                     | N/A     |
| 4.4         | Protection against hazardous moving parts                                 |                                     | N/A     |
| 4.4.1       | General   |                                     | N/A     |
| 4.4.2       | Protection in operator access areas..... :                                |                                     | N/A     |
| 4.4.3       | Protection in restricted access locations ..... :                         |                                     | N/A     |
| 4.4.4       | Protection in service access areas  |                                     | N/A     |
| 4.5         | Thermal requirements  |                                     | Pass    |
| 4.5.1       | General   |                                     | Pass    |
| 4.5.2       | Temperature tests   | (see appended table 4.5)            | Pass    |
|             | Normal load condition per Annex L ..... :                                 | Sealing compounds did not flow out. | -       |
| 4.5.3       | Temperature limits for materials  |                                     | Pass    |
| 4.5.4       | Touch temperature limits  |                                     | Pass    |
| 4.5.5       | Resistance to abnormal heat..... :  | (see appended table 4.5.5)          | Pass    |
| 4.6         | Openings in enclosures  |                                     | Pass    |
| 4.6.1       | Top and side openings   | No openings provided.               | N/A     |
|             | Dimensions (mm) ..... :   |                                     | -       |
| 4.6.2       | Bottoms of fire enclosures  | No openings provided.               | Pass    |
|             | Construction of the bottom, dimensions (mm)..... :                        | No openings provided.               | -       |
| 4.6.3       | Doors or covers in fire enclosures  | Unit does not have any doors        | N/A     |

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

|         |  |   |      |
|---------|--|---|------|
|         |  | or covers.  |      |
| 4.6.4   | Openings in transportable equipment                                    |   | N/A  |
| 4.6.4.1 | Constructional design measures   |   | N/A  |
|         | Dimensions (mm) ..... :  |   | -    |
| 4.6.4.2 | Evaluation measures for larger openings                                |   | N/A  |
| 4.6.4.3 | Use of metallized parts  |   | N/A  |
| 4.6.5   | Adhesives for constructional purposes                                  |   | N/A  |
|         | Conditioning temperature (°C), time (weeks) ..... :                    |   | -    |
| 4.7     | Resistance to fire   |   | Pass |
| 4.7.1   | Reducing the risk of ignition and spread of flame                      | See below for details.  | Pass |
|         | Method 1, selection and application of components wiring and materials | (see appended table 4.7)  | Pass |
|         | Method 2, application of all of simulated fault condition tests        |   | N/A  |
| 4.7.2   | Conditions for a fire enclosure  |   | Pass |
| 4.7.2.1 | Parts requiring a fire enclosure                                       | Fire enclosure covers all parts.  | Pass |
| 4.7.2.2 | Parts not requiring a fire enclosure                                   |   | N/A  |
| 4.7.3   | Materials  |   | Pass |
| 4.7.3.1 | General  | Propagation of fire is minimized through the fire enclosure construction.               | Pass |
| 4.7.3.2 | Materials for fire enclosures  | Fire enclosure material is minimum V-1.   | Pass |
| 4.7.3.3 | Materials for components and other parts outside fire enclosures       |   | N/A  |
| 4.7.3.4 | Materials for components and other parts inside fire enclosures        | All internal materials are rated minimum V-2 or are mounted on a PWB rated minimum V-1. | Pass |
| 4.7.3.5 | Materials for air filter assemblies                                    |   | N/A  |
| 4.7.3.6 | Materials used in high-voltage components                              |   | N/A  |

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

|         |  |  |      |
|---------|--|--|------|
| 5       | <b>ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS</b> |  | Pass |
| 5.1     | Touch current and protective conductor current                   |  | Pass |
| 5.1.1   | General  |  | Pass |
| 5.1.2   | Configuration of equipment under test (EUT)                      |  | Pass |
| 5.1.2.1 | Single connection to an a.c. mains supply                        |  | Pass |
| 5.1.2.2 | Redundant multiple connections to an a.c. mains supply           |  | N/A  |
| 5.1.2.3 | Simultaneous multiple connections to an a.c. mains supply        |  | N/A  |
| 5.1.3   | Test circuit   | Single phase equipment intended for connection to TN system.   | Pass |
| 5.1.4   | Application of measuring instrument                              | Tested using D.1 measuring instrument.   | Pass |
| 5.1.5   | Test procedure   |  | Pass |
| 5.1.6   | Test measurements  | See UL Only/Test Reference for details.  | Pass |
|         | Supply voltage (V) .....   | --<br>For Alternate -- 264 Vac   | -    |
|         | Measured touch current (mA).....                                 | --<br>For Alternate --<br>(1) Output (fuse in), normal polarity switch on result 0.112 mA; Reverse polarity switch on result 0.112 mA<br>(2) Output (fuse out), normal polarity switch on result 0.235 mA; Reverse polarity switch on result 0.002 mA<br>(3) Enclosure (covered with foil) (fuse in), normal polarity switch on result 0.003 mA; Reverse polarity switch on result 0.002 mA,<br>(4) Enclosure (covered with foil) (fuse out), normal polarity switch on result 0.003 mA; Reverse polarity switch on result 0.001 mA<br><br>Alternate 1).Add bridging resistor in circuit diagram.2).Add two models DSA-15PR-a US yz and DSA- | -    |



| IEC 60950-1 |   |  |         |
|-------------|---|--|---------|
| Clause      | Requirement + Test  | Result - Remark  | Verdict |
|             |   | 15PR-a UJ yz for adding bridging resistor construction.<br><br>Output terminal: Measure result maximum 0.005 mA.<br><br>Enclosure with metal foil: Measure result maximum 0.005 mA |         |
|             | Max. allowed touch current (mA)..... :  | --<br>For Alternate -- 0.25 mA (Class II equipment)  | -       |
|             | Measured protective conductor current (mA)..... :   |  | -       |
|             | Max. allowed protective conductor current (mA) ... :  |  | -       |
| 5.1.7       | Equipment with touch current exceeding 3,5 mA   |  | N/A     |
| 5.1.7.1     | General .....   |  | N/A     |
| 5.1.7.2     | Simultaneous multiple connections to the supply   |  | N/A     |
| 5.1.8       | Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks |  | N/A     |
| 5.1.8.1     | Limitation of the touch current to a telecommunication network or to a cable distribution system                |  | N/A     |
|             | Supply voltage (V) .....  |  | -       |
|             | Measured touch current (mA)..... :  |  | -       |
|             | Max. allowed touch current (mA)..... :  |  | -       |
| 5.1.8.2     | Summation of touch currents from telecommunication networks   |  | N/A     |
|             | a) EUT with earthed telecommunication ports .....   |  | N/A     |
|             | b) EUT whose telecommunication ports have no reference to protective earth                                      |  | N/A     |
| 5.2         | Electric strength   |  | Pass    |
| 5.2.1       | General   | Based on the Electric Strength Test the use of the insulating materials within the unit is satisfactory. (see appended table 5.2)  | Pass    |
| 5.2.2       | Test procedure  | No insulation breakdown detected during the test. (see appended table 5.2)   | Pass    |
| 5.3         | Abnormal operating and fault conditions   |  | Pass    |

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

|         |   |  |      |
|---------|---|--|------|
| 5.3.1   | Protection against overload and abnormal operation              | (see appended table 5.3)   | Pass |
| 5.3.2   | Motors  |  | N/A  |
| 5.3.3   | Transformers  | See Annex C for details.   | Pass |
| 5.3.4   | Functional insulation..... :                                    | Functional insulation complies with the requirements.                        | Pass |
| 5.3.5   | Electromechanical components                                    | Unit does not have any electromechanical components in the secondary.        | N/A  |
| 5.3.6   | Audio amplifiers in ITE..... :                                  |  | N/A  |
| 5.3.7   | Simulation of faults  | Transformer temperatures measured for compliance with Annex C during test.   | Pass |
| 5.3.8   | Unattended equipment  | Unit is not intended for unattended use.                                     | N/A  |
| 5.3.9   | Compliance criteria for abnormal operating and fault conditions | See Table 5.3 for details.   | Pass |
| 5.3.9.1 | During the tests  | No fire, emission of molten metal or deformation was noted during the tests. | Pass |
| 5.3.9.2 | After the tests   | Electric Strength tests performed after abnormal and fault tests.            | Pass |

|   |   |     |
|---|---|-----|
| 6 | <b>CONNECTION TO TELECOMMUNICATION NETWORKS</b> | N/A |
|---|---|-----|

|   |   |     |
|---|---|-----|
| 7 | <b>CONNECTION TO CABLE DISTRIBUTION SYSTEMS</b> | N/A |
|---|---|-----|

|   |   |     |
|---|---|-----|
| A | <b>ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE</b> | N/A |
|---|---|-----|

|   |   |     |
|---|---|-----|
| B | <b>ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)</b> | N/A |
|---|---|-----|

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

|     |  |   |      |
|-----|--|---|------|
| C   | <b>ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)</b> |   | Pass |
|     | Position .....                                     | (see appended table 1.5.1)              | -    |
|     | Manufacturer .....                                 | (see appended table 1.5.1)              | -    |
|     | Type .....   | (see appended table 1.5.1)              | -    |
|     | Rated values .....                                 | (see appended table 1.5.1)              | -    |
|     | Method of protection .....                         | Inherently Protection.                  | -    |
| C.1 | Overload test                                      |   | Pass |
| C.2 | Insulation   | See UL Only/Test Reference for details. | Pass |
|     | Protection from displacement of windings .....     | Triple insulated winding wire used.     | Pass |

|     |   |  |      |
|-----|---|--|------|
| D   | <b>ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)</b> |  | Pass |
| D.1 | Measuring instrument  |  | Pass |
| D.2 | Alternative measuring instrument  |  | N/A  |

|   |  |  |     |
|---|--|--|-----|
| E | <b>ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)</b> |  | N/A |
|---|--|--|-----|

|   |   |  |      |
|---|---|--|------|
| F | <b>ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)</b> |  | Pass |
|---|---|--|------|

|   |   |  |     |
|---|---|--|-----|
| G | <b>ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES</b> |  | N/A |
|---|---|--|-----|

|   |   |  |     |
|---|---|--|-----|
| H | <b>ANNEX H, IONIZING RADIATION (see 4.3.13)</b> |  | N/A |
|---|---|--|-----|

|   |   |  |     |
|---|---|--|-----|
| J | <b>ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)</b> |  | N/A |
|---|---|--|-----|

|   |  |  |     |
|---|--|--|-----|
| K | <b>ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)</b> |  | N/A |
|---|--|--|-----|

| IEC 60950-1 |  |  |         |
|-------------|--|--|---------|
| Clause      | Requirement + Test   | Result - Remark                              | Verdict |
| L           | <b>ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)</b> |  | Pass    |
| L.1         | Typewriters  |  | N/A     |
| L.2         | Adding machines and cash registers   |  | N/A     |
| L.3         | Erasers  |  | N/A     |
| L.4         | Pencil sharpeners  |  | N/A     |
| L.5         | Duplicators and copy machines  |  | N/A     |
| L.6         | Motor-operated files   |  | N/A     |
| L.7         | Other business equipment   |  | Pass    |
| M           | <b>ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)</b>   |  | N/A     |
| N           | <b>ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)</b> |  | N/A     |
| P           | <b>ANNEX P, NORMATIVE REFERENCES</b>   |  | Pass    |
| Q           | <b>ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)</b>   |  | N/A     |
| R           | <b>ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES</b>  |  | N/A     |
| S           | <b>ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)</b>  |  | N/A     |
| T           | <b>ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)</b>                                    |  | N/A     |
| U           | <b>ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)</b>                  |  | Pass    |
|             | ..... :  | Approved triple insulated winding wire used. | -       |

| IEC 60950-1 |  |                 |         |
|-------------|--|-----------------|---------|
| Clause      | Requirement + Test   | Result - Remark | Verdict |
| V           | <b>ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)</b>                    |                 | Pass    |
| V.1         | Introduction   |                 | Pass    |
| V.2         | TN power distribution systems  |                 | Pass    |
| W           | <b>ANNEX W, SUMMATION OF TOUCH CURRENTS</b>                                  |                 | N/A     |
| X           | <b>ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)</b> |                 | N/A     |
| Y           | <b>ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)</b>           |                 | N/A     |
| Z           | <b>ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)</b>         |                 | Pass    |
| AA          | <b>ANNEX AA, MANDREL TEST (see 2.10.5.8)</b>                                 |                 | N/A     |

Issue Date: 2011-04-01  
2011-05-27

Page 1 of 10

Report Reference #

E336418-A48-UL

## **Enclosure**

### **National Differences**

USA / Canada

| IEC 60950-1 |                   |                 |         |
|-------------|-------------------|-----------------|---------|
| SubClause   | Difference + Test | Result - Remark | Verdict |

| USA / Canada - Differences to IEC 60950-1:2005 (Second Edition) |   |  |      |
|---|---|--|------|
| 1.1   | Equipment able to be installed in accordance with the National Electrical Code ANSI/NFPA 70 and the Canadian Electrical Code, Part1, and when applicable, the National Electrical Safety Code, IEEE C2. |  | Pass |
| 1.1.1   | Equipment able to be installed in accordance with ANSI/NFPA 75 and NEC Art. 645 unless intended for use outside of computer room and provided with such instructions.                                   |  | Pass |
| 1.1.2   | Equipment in wire-line communication facilities serving high-voltage electric power stations operating at greater than 1kV are excluded.  |  | N/A  |
| 1.1.2   | Special requirements apply to equipment intended for use outdoors.  |  | N/A  |
| 1.4.14  | For Pluggable Equipment Type A, the protection in the installation is assumed to be 20 A.   |  | Pass |
| 1.5.1   | All IEC standards for components identified in Annex P.1 replaced by the relevant requirements of CSA and UL component standards in Annex P.1.  |  | Pass |
| 1.5.1   | All IEC standards for components identified in Annex P.2 alternatively satisfied by the relevant requirements of CSA and UL component standards in Annex P.2.   |  | Pass |
| 1.5.5   | Interconnecting cables acceptable for the application regarding voltage, current, temperature, flammability, mechanical serviceability and the like.  |  | Pass |
| 1.5.5   | For other than limited power and TNV circuits, the type of output circuit identified for output connector.  |  | N/A  |
| 1.5.5   | External cable assemblies that exceed 3.05 m in length to be types specified in the NEC and CEC.  |  | N/A  |
| 1.5.5   | Detachable external interconnecting cables 3.05 m or less in length and provided with equipment marked to identify the responsible organization and the designation for the cable.                      |  | N/A  |
| 1.5.5   | Building wiring and cable for use in ducts, plenums and other air handling space subject to special requirements and excluded from scope.   |  | N/A  |
| 1.5.5   | Telephone line and extension cords and the like comply with UL 1863 and CSA C22.2 No. 233.  |  | N/A  |
| 1.6.1.2   | Equipment intended for connection to a d.c. power (mains) distribution system is subject to special   |  | N/A  |

| IEC 60950-1 |                   |                 |         |
|-------------|-------------------|-----------------|---------|
| SubClause   | Difference + Test | Result - Remark | Verdict |

|         |   |  |     |
|---------|---|--|-----|
|         | circuit classification requirements (e.g., TNV-2)   |  |     |
| 1.6.1.2 | Earthing of d.c. powered equipment provided.  |  | N/A |
| 1.7     | Lamp replacement information indicated on lampholder in operator access area.   |  | N/A |
| 1.7.1   | Special marking format for equipment intended for use on a supply system with an earthed neutral and more than one phase conductor.   |  | N/A |
| 1.7.1   | Equipment voltage rating not higher than rating of the plug except under special conditions.  |  | N/A |
| 1.7.6   | Special fuse replacement marking for operator accessible fuses.   |  | N/A |
| 1.7.7   | Identification of terminal connection of the equipment earthing conductor.  |  | N/A |
| 1.7.7   | Connectors and field wiring terminals for external Class 2 or Class 3 circuits provided with marking indicating minimum Class of wiring to be used.   |  | N/A |
| 1.7.7   | Marking located adjacent to terminals and visible during wiring.  |  | N/A |
| 2.1.1.1 | Bare TNV conductive parts in the interior of equipment normally protected against contact by a cover intended for occasional removal are exempt provided instructions include directions for disconnection of TNV prior to removal of the cover.              |  | N/A |
| 2.3.1.b | Other telecommunication signaling systems (e.g., message waiting) than described in 2.3.1(b) are subject to M.4.  |  | N/A |
| 2.3.1.b | For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vp or 60 V d.c., the maximum current limit through a 2000 Ohm or greater resistor with loads disconnected is 7.1 mA peak or 30 mA d.c. under normal conditions. |  | N/A |
| 2.3.1.b | Limits for measurements across 5000 ohm resistor in the event of a single fault are replaced after 200 ms with the limits of M.3.1.4.   |  | N/A |
| 2.3.2.1 | In the event of a single fault, the limits of 2.2.3 apply to SELV circuits and accessible conductive parts.   |  | N/A |
| 2.3.2.4 | Enamel coating on signal transformer winding wire allowed as an alternative to Basic insulation in specific telecommunication applications when subjected to special construction requirements and  |  | N/A |



| IEC 60950-1 |  |                          |         |
|-------------|--|--------------------------|---------|
| SubClause   | Difference + Test  | Result - Remark          | Verdict |
|             | routine testing.   |                          |         |
| 2.5         | Overcurrent protection device required for Class 2 and Class 3 limiting in accordance with the NEC, or for a Limited Power Source, not interchangeable with devices of higher ratings if operator replaceable. |                          | N/A     |
| 2.6         | Equipment having receptacles for output a.c. power connectors generated from an internal separately derived source have the earthed (grounded) circuit conductor suitably bonded to earth.                     |                          | N/A     |
| 2.6.3.3     | For Pluggable Equipment Type A, if a) b) or c) are not applicable, the current rating of the circuit is taken as 20 A  |                          | N/A     |
| 2.6.3.4     | Capacity of connection between earthing terminal and parts required to be earthed subject to special conditions based on the current rating of the circuit.  |                          | N/A     |
| 2.6.3.4     | Protective bonding conductors and their terminals of non-standard constructions (e.g. PWB traces) evaluated to limited short-circuit test of CSA C22.2 No.0.4.   |                          | N/A     |
| 2.6.4.1     | Field wiring terminals for earthing conductors suitable for wire sizes (gauge) used in US and Canada.  |                          | N/A     |
| 2.7.1       | Data for selection of special external branch circuit overcurrent devices marked on the equipment.   |                          | N/A     |
| 2.7.1       | Standard supply outlets protected by overcurrent device in accordance with the NEC, and CEC, Part 1.   |                          | N/A     |
| 2.7.1       | Overcurrent protection for individual transformers that distribute power to other units over branch circuit wiring.  |                          | N/A     |
| 2.7.1       | Additional requirements for overcurrent protection apply to equipment provided with panelboards.   |                          | N/A     |
| 2.7.1       | Non-motor-operated equipment requiring special overcurrent protective device marked with device rating.  |                          | N/A     |
| 2.10.5.12   | Multi-layer winding wire subject to UL component wire requirements in addition to 2.10.5.12 and Annex U.   | See Annex U for details. | Pass    |
| 3.1.1       | Permissible combinations of internal wiring/external cable sizes for overcurrent and short circuit protection.   |                          | N/A     |

| IEC 60950-1 |   |                 |         |
|-------------|---|-----------------|---------|
| SubClause   | Difference + Test   | Result - Remark | Verdict |
| 3.1.1       | All interconnecting cables protected against overcurrent and short circuit.   |                 | Pass    |
| 3.2         | Wiring methods permit connection of equipment to primary power supply in accordance with the NEC and CEC, Part 1.   |                 | Pass    |
| 3.2.1       | Permitted use for flexible cords and plugs.   |                 | N/A     |
| 3.2.1       | Flexible cords provided with attachment plug rated 125% of equipment current rating.  |                 | N/A     |
| 3.2.1       | Any Class II equipment provided with 15 or 20 A standard supply outlets, Edison-base lampholders or single pole disconnect device provided with a polarized type attachment plug.   |                 | N/A     |
| 3.2.1.2     | Equipment intended for connection to DC mains supply power systems complies with special wiring requirements (e.g., no permanent connection to supply by flexible cord).  |                 | N/A     |
| 3.2.1.2     | Equipment with one pole of the DC mains supply connected to both the equipment mains input terminal and the main protective earthing terminal provided with special instructions and construction provisions for earthing |                 | N/A     |
| 3.2.1.2     | Equipment with means for connecting supply to earthing electrode conductor has no switches or protective devices between supply connection and earthing electrode connection.   |                 | N/A     |
| 3.2.1.2     | Special markings and instructions for equipment with provisions to connect earthed conductor of a DC supply circuit to earthing conductor at the equipment.   |                 | N/A     |
| 3.2.1.2     | Special markings and instructions for equipment with earthed conductor of a DC supply circuit connected to the earthing conductor at the equipment.   |                 | N/A     |
| 3.2.1.2     | Terminals and leads provided for permanent connection of DC powered equipment to supply marked to indicate polarity if reverse polarity may result in a hazard.   |                 | N/A     |
| 3.2.3       | Permanently connected equipment has provision for connecting and securing a field wiring system (i.e. conduit, or leads etc.) per the NEC and CEC, Part 1.  |                 | N/A     |
| 3.2.3       | Permanently connected equipment may have terminals or leads not smaller than No. 18 AWG   |                 | N/A     |

| IEC 60950-1 |   |                 |         |
|-------------|---|-----------------|---------|
| SubClause   | Difference + Test   | Result - Remark | Verdict |
|             | (0.82 mm <sup>2</sup> ) and not less than 150 mm in length for connection of field installed wiring.  |                 |         |
| 3.2.3       | If supply wires exceed 60 °C, marking indicates use of 75 °C or 90 °C wiring for supply connection as appropriate.  |                 | N/A     |
| 3.2.3       | Equipment compatible with suitable trade sizes of conduits and cables.  |                 | N/A     |
| 3.2.5       | Length of power supply cord limited to between 1.5 and 4.5 m unless shorter length used when intended for a special installation.   |                 | N/A     |
| 3.2.5       | Conductors in power supply cords sized according to NEC and CEC, Part I.  |                 | N/A     |
| 3.2.5       | Power supply cords and cord sets incorporate flexible cords suitable for the particular application.  |                 | N/A     |
| 3.2.6       | Strain relief provided for non-detachable interconnecting cables not supplied by a limited power source.  |                 | N/A     |
| 3.2.9       | Adequate wire bending space and volume of field wiring compartment required to properly make the field connections.   |                 | N/A     |
| 3.2.9       | Equipment intended solely for installation in Restricted Access Locations using low voltage d.c. systems may not need provision for connecting and securing a field wiring system. A method of securing wiring or instructions provided to ensure the wiring is protected from abuse. |                 | N/A     |
| 3.3         | Field wiring terminals provided for interconnection of units for other than LPS or Class 2 circuits also comply with 3.3.   |                 | N/A     |
| 3.3         | Interconnection of units by LPS or Class 2 conductors may have field wiring connectors other than those specified in 3.3 if wiring is reliably separated.   |                 | N/A     |
| 3.3.1       | Terminals for the connection of neutral conductor identified by a distinctive white marking or other equally effective means.   |                 | N/A     |
| 3.3.3       | Wire binding screw terminal permitted for connection of No. 10 AWG (5.3 mm <sup>2</sup> ) or smaller conductor if provided with upturned lugs, cupped washer or equivalent retention.   |                 | N/A     |
| 3.3.4       | Terminals accept wire sizes (gauge) used in the U.S. and Canada.  |                 | N/A     |

| IEC 60950-1 |   |   |         |
|-------------|---|---|---------|
| SubClause   | Difference + Test   | Result - Remark   | Verdict |
| 3.3.4       | Terminals accept current-carrying conductors rated 125% of the equipment current rating.  |   | N/A     |
| 3.3.6       | Field wiring terminals marked to indicate the material(s) of the conductor appropriate for the terminals used.  |   | N/A     |
| 3.3.6       | Connection of an aluminum conductor not permitted to terminal for equipment earthing conductor.   |   | N/A     |
| 3.3.6       | Field wiring connections made through the use of suitable pressure connectors (including set screw type), solder lugs or splices to flexible leads.   |   | N/A     |
| 3.4.2       | Separate motor control device(s) required for cord-connected equipment rated more than 12 A, or with motor rated more than 1/3 hp or more than 120 V.   |   | N/A     |
| 3.4.8       | Vertically mounted disconnect devices oriented so up position of handle is "on".  |   | N/A     |
| 3.4.11      | For computer-room applications, equipment with battery systems capable of supplying 750 VA for 5 min require battery disconnect means.  |   | N/A     |
| 4.2.8.1     | Special opening restrictions for enclosures around CRTs with face dimension of 160 mm or more.  |   | N/A     |
| 4.2.9       | Compartment housing high-pressure lamp marked to indicate risk of explosion.  |   | N/A     |
| 4.2.11      | For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails. |   | N/A     |
| 4.3.2       | Loading test for equipment with handle(s) used to support more than 9 kg tested at four times the weight of the unit.   |   | N/A     |
| 4.3.6       | In addition to the IEC requirements, Direct Plug-in Equipment complies with UL 1310 or CSA 223 mechanical assembly requirements.  | See UL Only/Test Reference, CB report No. 11006716 001, issue date March 13, 2006 and presented by TUV Rheinland Taiwan Ltd. Taichung Laboratory for details.<br><br>Complies with Direct Plug-In Equipment-Moment Test, Direct Plug-In Blade | Pass    |

| IEC 60950-1 |                   |                 |         |
|-------------|-------------------|-----------------|---------|
| SubClause   | Difference + Test | Result - Remark | Verdict |

|          |   |   |      |
|----------|---|---|------|
|          |   | Securement Test, Direct Plug-In Security of Input Contacts, Direct Plug-In Resistance to Crushing Test, Direct Plug-In Rod Pressure Test. |      |
| 4.3.12   | The maximum quantity of flammable liquid stored in equipment complies with ANSI/NFPA 30(Table NAE.6).   |   | N/A  |
| 4.3.12   | Equipment using replenishable liquids marked to indicate type of liquid to be used.   |   | N/A  |
| 4.3.13.2 | Equipment that produces x-radiation and does not comply with 4.3.12 under all conditions of servicing marked to indicate the presence of radiation where readily visible.   |   | N/A  |
| 4.3.13.5 | Requirements contained in the applicable national codes and regulations apply to lasers (21 CFR 1040 and REDR C1370).   |   | N/A  |
| 4.7      | Automated information storage equipment intended to contain more than 0.76 m <sup>3</sup> of combustible media requires provision for automatic sprinklers or a gaseous agent extinguishing system.   |   | N/A  |
| 4.7.3.1  | Equipment for use in environmental air space other than ducts or plenums provided with metal enclosure or with non-metallic enclosure having adequate fire-resistance and low smoke producing characteristics. Low smoke-producing characteristics evaluated according to UL 2043. Equipment for installation in space used for environmental air as described in Sec. 300-22(c) of the NEC provided with instructions indicating suitability for installation in such locations. |   | N/A  |
| 4.7.3.1  | Flame spread rating for external surface of combustible material with exposed area greater than 0.93 m <sup>2</sup> or a single dimension greater than 1.8 m; 50 or less for computer room applications or 200 or less for other applications.  |   | N/A  |
| 4.7.3.4  | Wire marked "VW-1" or "FT-1" considered equivalent.   |   | Pass |
| 5.1.8.2  | Special earthing provisions and instructions for equipment with high touch current due to telecommunication network connections.  |   | N/A  |
| 5.1.8.3  | Touch current due to ringing voltage for equipment containing telecommunication network leads.  |   | N/A  |

| IEC 60950-1 |  |                 |         |
|-------------|--|-----------------|---------|
| SubClause   | Difference + Test  | Result - Remark | Verdict |
| 5.3.7       | Overloading of SELV connectors and printed wiring board receptacles accessible to the operator.  |                 | N/A     |
| 5.3.7       | Tests interrupted by opening of a component repeated two additional times.   |                 | N/A     |
| 5.3.9.1     | Test interrupted by opening of wire or trace subject to certain conditions.  |                 | N/A     |
| 6           | Specialized instructions provided for telephones that may be connected to a telecommunications network.  |                 | N/A     |
| 6           | Marking identifying function of telecommunication type connectors not used for connection to a telecommunication network.  |                 | N/A     |
| 6.3         | Equipment remotely powered over telecommunication wiring systems provided with specialized markings adjacent to the connection.  |                 | N/A     |
| 6.3         | Overcurrent protection incorporated into equipment to provide power over telecommunication wiring system not interchangeable with devices of higher ratings if operator replaceable.                               |                 | N/A     |
| 6.4         | Additional requirements for equipment intended for connection to a telecommunication network using cable subject to overvoltage from power line failures (Fig. 6C).  |                 | N/A     |
| 6.4         | Where 26 AWG line cord required by Fig. 6C, either the cord is provided with the equipment or described in the safety instructions.  |                 | N/A     |
| 7           | Equipment associated with the cable distribution system may need to be subjected to applicable parts of Chapter 8 of the NEC.  |                 | N/A     |
| H           | Ionizing radiation measurements made under single fault conditions in accordance with the requirements of the Code of Federal Regulations 21 CFR 1020 and the Canadian Radiation Emitting Devices Act, REDR C1370. |                 | N/A     |
| M.2         | Continuous ringing signals evaluated to Method A subjected to special accessibility considerations.  |                 | N/A     |
| M.4         | Special requirements for message waiting and similar telecommunications signals.   |                 | N/A     |
| NAC         | Equipment intended for use with a generic secondary protector marked with suitable instructions.   |                 | N/A     |
| NAC         | Equipment intended for use with a specific primary   |                 | N/A     |

| IEC 60950-1 |  |                 |         |
|-------------|--|-----------------|---------|
| SubClause   | Difference + Test  | Result - Remark | Verdict |
|             | or secondary protector marked with suitable instructions.  |                 |         |
| NAD         | Acoustic pressure from an ear piece less than 136 dBA for short duration disturbances, and less than 125 dBA for handsets, 118 dBA for headsets, and 121 dBA for insert earphones, for long duration disturbances.                                       |                 | N/A     |
| NAD         | Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.                                   |                 | N/A     |
| NAF         | Household/Home Office Document Shredders   |                 | N/A     |
| NAF.1.7     | Markings and instructions alert the user to key safety considerations related to use of shredders, including not intended to be used by children, avoid touching document feed opening, avoid clothes and hair entanglement, and avoid aerosol products. |                 | N/A     |
| NAF.2.8.3   | Safety interlock cannot be inadvertently activated by the articulated accessibility probe (figure NAF.1).  |                 | N/A     |
| NAF.3.4     | Provided with an isolating switch complying with 3.4.2, including 3 mm contact gap, with appropriate markings associated with the switch.  |                 | N/A     |
| NAF.4.4     | Hazardous moving parts are not accessible, as determined using the articulated accessibility probe (figure NAF.1) and the accessibility probe/wedge (figures NAF.2/NAF.3).   |                 | N/A     |

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

| 1.6.2      | TABLE: electrical data (in normal conditions) |             |       |        |            |   | Pass |
|------------|---|-------------|-------|--------|------------|---|------|
| U (V)      | I (A)   | I rated (A) | P (W) | Fuse # | I fuse (A) | condition/status                                      |      |
| --         | --  | --          | --    | --     | --         | Test on Model : GT-81085-1516.6-3.0-W2                |      |
| 90V/50 Hz  | 0.344   | --          | 19.6  | F1     | 0.344      | Maximum Normal Load - Output loaded to 13.6 V, 1.1 A  |      |
| 90V/60 Hz  | 0.342   | --          | 19.5  | F1     | 0.342      | Maximum Normal Load.                                  |      |
| 100V/50 Hz | 0.307   | 0.5         | 19.1  | F1     | 0.307      | Maximum Normal Load.                                  |      |
| 100V/60 Hz | 0.309   | 0.5         | 19.2  | F1     | 0.309      | Maximum Normal Load.                                  |      |
| 240V/50 Hz | 0.175   | 0.5         | 18.6  | F1     | 0.175      | Maximum Normal Load.                                  |      |
| 240V/60 Hz | 0.174   | 0.5         | 18.6  | F1     | 0.174      | Maximum Normal Load.                                  |      |
| 264V/50 Hz | 0.162   | --          | 18.5  | F1     | 0.162      | Maximum Normal Load.                                  |      |
| 264V/60 Hz | 0.162   | --          | 18.6  | F1     | 0.162      | Maximum Normal Load.                                  |      |
| --         | --  | --          | --    | --     | --         | Test on Model : GT-81085-1516.6-W2                    |      |
| 90V/50 Hz  | 0.342   | --          | 19.3  | F1     | 0.342      | Maximum Normal Load - Output loaded to 16.6 V, 0.91 A |      |
| 90V/60 Hz  | 0.338   | --          | 19.2  | F1     | 0.338      | Maximum Normal Load.                                  |      |
| 100V/50 Hz | 0.301   | 0.5         | 19.0  | F1     | 0.301      | Maximum Normal Load.                                  |      |
| 100V/60 Hz | 0.303   | 0.5         | 19.0  | F1     | 0.303      | Maximum Normal Load.                                  |      |
| 240V/50 Hz | 0.161   | 0.5         | 18.2  | F1     | 0.161      | Maximum Normal Load.                                  |      |
| 240V/60 Hz | 0.162   | 0.5         | 18.3  | F1     | 0.162      | Maximum Normal Load.                                  |      |
| 264V/50 Hz | 0.150   | --          | 18.5  | F1     | 0.150      | Maximum Normal Load.                                  |      |
| 264V/60 Hz | 0.152   | --          | 18.6  | F1     | 0.152      | Maximum Normal Load.                                  |      |
| --         | --  | --          | --    | --     | --         | Test on Model: GT-81085-1224-W2                       |      |
| 90V/50 Hz  | 0.264   | --          | 14.3  | F1     | 0.264      | Maximum Normal Load.                                  |      |
| 90V/60 Hz  | 0.267   | --          | 14.3  | F1     | 0.267      | Maximum Normal Load.                                  |      |
| 100V/50 Hz | 0.242   | 0.5         | 14.1  | F1     | 0.242      | Maximum Normal Load.                                  |      |
| 100V/60 Hz | 0.246   | 0.5         | 14.2  | F1     | 0.246      | Maximum Normal Load.                                  |      |



| IEC 60950-1 |                    |  |         |
|-------------|--------------------|--|---------|
| Clause      | Requirement + Test |  | Verdict |

|            |       |     |      |    |       |  |
|------------|-------|-----|------|----|-------|--|
| Hz         |       |     |      |    |       |  |
| 240V/50 Hz | 0.146 | 0.5 | 13.0 | F1 | 0.146 | Maximum Normal Load.                               |
| 240V/60 Hz | 0.150 | 0.5 | 14.1 | F1 | 0.150 | Maximum Normal Load.                               |
| 264V/50 Hz | 0.136 | --  | 13.0 | F1 | 0.136 | Maximum Normal Load.                               |
| 264V/60 Hz | 0.139 | --  | 14.0 | F1 | 0.139 | Maximum Normal Load.                               |
| --         | --    | --  | --   | -- | --    | Reissue to E135856-A36-UL-4:                       |
| --         | --    | --  | --   | -- | --    | Test on Model: GT-81085-1513.5-3.5-W2              |
| 90V/50 Hz  | 0.357 | --  | 19.6 | F1 | 0.357 | Maximum Normal Load. - Output loaded to 10V/1.5A   |
| 90V/60 Hz  | 0.354 | --  | 19.5 | F1 | 0.354 | Maximum Normal Load.                               |
| 100V/50 Hz | 0.315 | 0.5 | 19.1 | F1 | 0.315 | Maximum Normal Load.                               |
| 100V/60 Hz | 0.319 | 0.5 | 19.1 | F1 | 0.319 | Maximum Normal Load.                               |
| 240V/50 Hz | 0.189 | 0.5 | 18.5 | F1 | 0.189 | Maximum Normal Load.                               |
| 240V/60 Hz | 0.190 | 0.5 | 18.5 | F1 | 0.190 | Maximum Normal Load.                               |
| 264V/50 Hz | 0.180 | --  | 18.8 | F1 | 0.180 | Maximum Normal Load.                               |
| 264V/60 Hz | 0.177 | --  | 18.7 | F1 | 0.177 | Maximum Normal Load.                               |
| --         | --    | --  | --   | -- | --    | Test on Model:GT-81085-1513.5-1.0-W2               |
| 90V/50 Hz  | 0.349 | --  | 19.2 | F1 | 0.349 | Maximum Normal Load. - Output loaded to 12.5V/1.2A |
| 90V/60 Hz  | 0.348 | --  | 19.1 | F1 | 0.348 | Maximum Normal Load.                               |
| 100V/50 Hz | 0.310 | 0.5 | 18.8 | F1 | 0.310 | Maximum Normal Load.                               |
| 100V/60 Hz | 0.315 | 0.5 | 18.8 | F1 | 0.315 | Maximum Normal Load.                               |
| 240V/50 Hz | 0.188 | 0.5 | 18.3 | F1 | 0.188 | Maximum Normal Load.                               |
| 240V/60 Hz | 0187  | 0.5 | 18.2 | F1 | 0187  | Maximum Normal Load.                               |
| 264V/50 Hz | 0.177 | --  | 18.5 | F1 | 0.177 | Maximum Normal Load.                               |
| 264V/60 Hz | 0.175 | --  | 18.4 | F1 | 0.175 | Maximum Normal Load.                               |
| --         | --    | --  | --   | -- | --    | Test on Model:GT-81085-1513.5-W2                   |

| IEC 60950-1  |                    |     |      |    |                 |   |
|--|--------------------|-----|------|----|-----------------|---|
| Clause   | Requirement + Test |     |      |    | Result - Remark |   |
| 90V/50 Hz  | 0.351              | --  | 19.3 | F1 | 0.351           | Maximum Normal Load. - Output loaded to 13.5V/1.11A |
| 90V/60 Hz  | 0.350              | --  | 19.2 | F1 | 0.350           | Maximum Normal Load.                                |
| 100V/50 Hz   | 0.312              | 0.5 | 18.9 | F1 | 0.312           | Maximum Normal Load.                                |
| 100V/60 Hz   | 0.316              | 0.5 | 18.9 | F1 | 0.316           | Maximum Normal Load.                                |
| 240V/50 Hz   | 0.192              | 0.5 | 18.6 | F1 | 0.192           | Maximum Normal Load.                                |
| 240V/60 Hz   | 0.191              | 0.5 | 18.5 | F1 | 0.191           | Maximum Normal Load.                                |
| 264V/50 Hz   | 0.179              | --  | 18.6 | F1 | 0.179           | Maximum Normal Load.                                |
| 264V/60 Hz   | 0.177              | --  | 18.6 | F1 | 0.177           | Maximum Normal Load.                                |
| --   | --                 | --  | --   | -- | --              | Test on Model: GT-81085-1307.5-2.5-W2               |
| 90V/50 Hz  | 0.322              | --  | 17.1 | F1 | 0.322           | Maximum Normal Load. - Output loaded to 5V/2.5A     |
| 90V/60 Hz  | 0.321              | --  | 17.1 | F1 | 0.321           | Maximum Normal Load.                                |
| 100V/50 Hz   | 0.287              | 0.5 | 16.1 | F1 | 0.287           | Maximum Normal Load.                                |
| 100V/60 Hz   | 0.291              | 0.5 | 16.1 | F1 | 0.291           | Maximum Normal Load.                                |
| 240V/50 Hz   | 0.166              | 0.5 | 16.1 | F1 | 0.166           | Maximum Normal Load.                                |
| 240V/60 Hz   | 0.174              | 0.5 | 16.1 | F1 | 0.174           | Maximum Normal Load.                                |
| 264V/50 Hz   | 0.160              | --  | 16.1 | F1 | 0.160           | Maximum Normal Load.                                |
| 264V/60 Hz   | 0.168              | --  | 16.2 | F1 | 0.168           | Maximum Normal Load.                                |
| supplementary information:   |                    |     |      |    |                 |   |
| See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. For Models DSA-15P-15 US yz series, see table above. |                    |     |      |    |                 |   |

|  |  |              |                  |         |                  |         |
|--|--|--------------|------------------|---------|------------------|---------|
| 2.10.3 and 2.10.4  | <b>TABLE: clearance and creepage distance measurements</b> |              |                  |         |                  | Pass    |
| Clearance (cl) and creepage distance (cr) at/of/between: | U peak (V)   | U r.m.s. (V) | Required cl (mm) | cl (mm) | Required cr (mm) | cr (mm) |
| Primary trace to secondary trace (point 1)               | 348  | 174          | 4.0              | 5.7     | 5.0              | 5.7     |

| IEC 60950-1  |                    |     |     |                 |     |         |
|--|--------------------|-----|-----|-----------------|-----|---------|
| Clause   | Requirement + Test |     |     | Result - Remark |     | Verdict |
| Primary trace to secondary trace (point 2)   | 348                | 173 | 4.0 | 5.7             | 5.0 | 5.7     |
| Primary trace to secondary trace (point 3)   | 332                | 164 | 4.0 | 5.9             | 5.0 | 5.9     |
| Primary trace to secondary trace (point 4)   | 336                | 166 | 4.0 | 5.7             | 5.0 | 5.7     |
| Primary trace to secondary trace (point 5)   | 336                | 166 | 4.0 | 6.8             | 5.0 | 6.8     |
| Primary trace to secondary trace (point 6)   | 16                 | 2   | 4.0 | 9.8             | 5.0 | 9.8     |
| Primary trace to secondary trace (point 7)   | 340                | 168 | 4.0 | 6.4             | 5.0 | 6.4     |
| The following distance measured on Enclosure Id. 5-08 PWB layout. Note: Points 1 to 8 relate to test data sheet. | --                 | --  | --  | --              | --  | --      |
| Primary trace to secondary trace (point 1)   | 416                | 241 | 4.0 | 8.9             | 5.0 | 8.9     |
| Primary trace to secondary trace (point 2)   | 384                | 228 | 4.0 | 5.0             | 5.0 | 6.5     |
| Primary trace to secondary trace (point 3)   | 352                | 207 | 4.0 | 7.3             | 5.0 | 7.3     |
| Primary trace to secondary trace (point 4)   | 352                | 206 | 4.0 | 6.6             | 5.0 | 6.6     |
| Primary trace to secondary trace (point 5)   | 352                | 207 | 4.0 | 6.7             | 5.0 | 6.7     |
| Primary trace to secondary trace (point 6)   | 352                | 207 | 4.0 | 5.8             | 5.0 | 5.8     |
| Primary trace to secondary trace (point 7)   | 360                | 211 | 4.0 | 5.9             | 5.0 | 5.9     |
| Primary trace to secondary trace (point 8)   | 360                | 215 | 4.0 | 5.8             | 5.0 | 8.7     |
| Measured on Model DSA-15P-24 US yz for Amendment 2 as following:   | --                 | --  | --  | --              | --  | --      |
| Following measured on PCB trace layout.  | --                 | --  | --  | --              | --  | --      |
| Primary trace to Secondary trace, under U1.  | 376                | 233 | 4.0 | 6.0             | 5.0 | 6.0     |
| Primary trace to Secondary trace, under CY2.   | 360                | 234 | 4.0 | 5.0             | 5.0 | 6.7     |
| Following measured on T1 transformer, the core is considered as Primary.   | --                 | --  | --  | --              | --  | --      |
| Transformer T1 pin 1 to pin 5.   | 440                | 269 | 4.2 | 6.8             | 5.6 | 6.8     |
| Primary winding to Secondary pin.  | 440                | 269 | 4.2 | 12.4            | 5.6 | 12.4    |
| Core to Secondary pin.   | 440                | 269 | 4.2 | 7.0             | 5.6 | 7.0     |

| IEC 60950-1   |                    |              |                  |                 |                  |                 |
|---|--------------------|--------------|------------------|-----------------|------------------|-----------------|
| Clause  | Requirement + Test |              |                  | Result - Remark |                  | Verdict         |
| The following distance measured on Enclosure Id. 5-08 PWB layout. Note: Points 1 to 8 relate to test data sheet.  | --                 | --           | --               | --              | --               | --              |
| Primary trace to secondary trace (point 1).   | 384                | 242          | 4.0              | 6.8             | 5.0              | 6.8             |
| Primary trace to secondary trace (point 2). Note: Provided with slot minimum 1.0 mm wide by minimum 3.6 mm in length.   | 384                | 254          | 4.0              | 4.7             | 5.2              | 6.0             |
| Primary trace to secondary trace (point 3).   | 360                | 227          | 4.0              | 7.4             | 5.0              | 7.4             |
| Primary trace to secondary trace (point 4).   | 360                | 235          | 4.0              | 6.5             | 5.0              | 6.5             |
| Primary trace to secondary trace (point 5).   | 360                | 234          | 4.0              | 6.8             | 5.0              | 6.8             |
| Primary trace to secondary trace (point 6).   | 336                | 212          | 4.0              | 5.9             | 5.0              | 5.9             |
| Primary trace to secondary trace (point 7).   | 336                | 206          | 4.0              | 6.0             | 5.0              | 6.0             |
| Primary trace to secondary trace (point 8). Note: Provided with slot minimum 1.0 mm wide by minimum 5.7 mm in length.   | 360                | 230          | 4.0              | 5.8             | 5.0              | 6.1             |
| Reissue to E135856-A36-UL-3:<br>1.Add bridging resistor in circuit diagram.<br>2.Add two models DSA-15PR-a US yz and DSA-15PR-a UJ yz for adding bridging resistor(RA and RB) construction. | --                 | --           | --               | --              | --               | --              |
| Primary trace to Secondary trace through RA/RB  | 420                | 250          | 4.0              | 3.6(RA)+2.7(RB) | 5.0              | 3.6(RA)+2.7(RB) |
| Reissue to E135856-A36-UL-4:<br>Following measured on T1 transformer, the core is considered as Primary.  | --                 | --           | --               | --              | --               | --              |
| Transformer T1 pin 2 to pin 5.  | 512                | 275          | 4.4              | 6.8             | 5.6              | 6.8             |
| Primary winding to Secondary pin.   | 512                | 275          | 4.4              | 12.4            | 5.6              | 12.4            |
| Core to Secondary pin.  | 512                | 275          | 4.4              | 7.0             | 5.6              | 7.0             |
| Functional:   |                    |              |                  |                 |                  |                 |
| Clearance (cl) and creepage distance (cr) at/of/between:  | U peak (V)         | U r.m.s. (V) | Required cl (mm) | cl (mm)         | Required cr (mm) | cr (mm)         |
|   |                    |              |                  |                 |                  |                 |

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

|   |            |              |                  |         |                  |         |
|---|------------|--------------|------------------|---------|------------------|---------|
| Basic/supplementary:  |            |              |                  |         |                  |         |
| Clearance (cl) and creepage distance (cr) at/of/between:  | U peak (V) | U r.m.s. (V) | Required cl (mm) | cl (mm) | Required cr (mm) | cr (mm) |
|   |            |              |                  |         |                  |         |
| Reinforced:   |            |              |                  |         |                  |         |
| Clearance (cl) and creepage distance (cr) at/of/between:  | U peak (V) | U r.m.s. (V) | Required cl (mm) | cl (mm) | Required cr (mm) | cr (mm) |
|   |            |              |                  |         |                  |         |
| supplementary information:  |            |              |                  |         |                  |         |
| See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. The highest working voltage between primary to secondary parts of transformer T1 and optical isolator U1 of Models DSA-15P-15 US yz series is less than the highest working measured on the models previously investigated. The following additional locations were measured. See test datasheets for location of points. |            |              |                  |         |                  |         |

|   |  |            |          |                  |                   |          |
|---|--|------------|----------|------------------|-------------------|----------|
| 2.10.5  | <b>TABLE: distance through insulation measurements</b> |            |          |                  |                   | Pass     |
| Distance through insulation (DTI) at/of:  |  | U peak (V) | Urms (V) | Test voltage (V) | Required DTI (mm) | DTI (mm) |
| Enclosure (Reinforced Insulation for alt. material Asahi Kasei Chemicals Corp Xyron Polymer, Type 540V)   |  | 512        | 275      | 3000             | 0.4               | 2.0      |
| supplementary information:  |  |            |          |                  |                   |          |
| See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. |  |            |          |                  |                   |          |

|  |                            |               |                         |                        |               |               |               |                   |               |
|--|----------------------------|---------------|-------------------------|------------------------|---------------|---------------|---------------|-------------------|---------------|
| 4.3.8  | TABLE: Batteries           |               |                         |                        |               |               |               |                   | N/A           |
| The tests of 4.3.8 are applicable only when appropriate battery data is not available. |                            |               |                         |                        |               |               |               |                   |               |
| Is it possible to install the battery in a reverse polarity position?                  |                            |               |                         |                        |               |               |               |                   |               |
|  | Non-rechargeable batteries |               |                         | Rechargeable batteries |               |               |               |                   |               |
|  | Discharging                |               | Un-intentional charging | Charging               |               | Discharging   |               | Reversed charging |               |
|  | Meas. current              | Manuf. specs. |                         | Meas. current          | Manuf. specs. | Meas. current | Manuf. specs. | Meas. current     | Manuf. specs. |

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

|  |  |  |  |  |  |  |  |  |         |
|--|--|--|--|--|--|--|--|--|---------|
| Max. current during normal operation                             |  |  |  |  |  |  |  |  |         |
| Max. current during fault operation                              |  |  |  |  |  |  |  |  |         |
|  |  |  |  |  |  |  |  |  |         |
|  |  |  |  |  |  |  |  |  |         |
| Test results:  |  |  |  |  |  |  |  |  | Verdict |
| - Chemical leaks   |  |  |  |  |  |  |  |  |         |
| - Explosion of the battery                                       |  |  |  |  |  |  |  |  |         |
| - Emission of flame or expulsion of molten metal                 |  |  |  |  |  |  |  |  |         |
| - Electric strength tests of equipment after completion of tests |  |  |  |  |  |  |  |  |         |
| supplementary information:                                       |  |  |  |  |  |  |  |  |         |
|  |  |  |  |  |  |  |  |  |         |

|  |                                    |   |   |   |   |    |                   |
|--|------------------------------------|---|---|---|---|----|-------------------|
| 4.5  | <b>TABLE: Thermal requirements</b> |   |   |   |   |    | Pass              |
|  | Supply voltage (V)..... :          | 90 V @ 60 Hz - vertical                   | 90 V @ 60 Hz - horizontal                 | 264 V @ 50 Hz - vertical                  | 264 V @ 50 Hz - horizontal                | -- | —                 |
|  | Ambient Tmin (°C) .....            | --  | ---                                       | --  | --  | -- | —                 |
|  | Ambient Tmax (°C) .....            | --  | --  | --  | --  | -- | —                 |
| Maximum measured temperature T of part/at: |                                    | T (°C)                                    |   |   |   |    | allowed Tmax (°C) |
| Test on model: GT-81085-1516.6-3.0-W2      |                                    | --  | --  | --  | --  | -- | --                |
| --   |                                    | Measured under ambient/ Computed per T ma | Measured under ambient/ Computed per T ma | Measured under ambient/ Computed per T ma | Measured under ambient/ Computed per T ma | -- | --                |
| L4 coil                                    |                                    | 47/66                                     | 46/65                                     | 46/65                                     | 47/65                                     | -- | 105               |
| C2 body                                    |                                    | 77/96                                     | 77/96                                     | 62/81                                     | 65/83                                     | -- | 105               |

| IEC 60950-1                                    |  |  |  |  |    |         |
|--|--|--|--|--|----|---------|
| Clause   | Requirement + Test   |  |  | Result - Remark  |    | Verdict |
| L3 coil  | 78/97  | 79/98  | 58/86  | 62/80  | -- | 105     |
| L1 coil  | 62/81  | 64/83  | 44/63  | 48/66  | -- | 105     |
| T1 coil (class B)                              | 74/93  | 72/92  | 75/94  | 74/92  | -- | 110     |
| T1 core (class B)                              | 77/96  | 75/94  | 77/96  | 77/95  | -- | 110     |
| U1 body  | 50/69  | 50/69  | 48/67  | 49/67  | -- | 100     |
| PCB near Q1                                    | 83/102   | 83/102   | 75/94  | 78/96  | -- | 130     |
| PCB near D9                                    | 65/84  | 64/83  | 66/85  | 65/83  | -- | 130     |
| Inside enclosure                               | 65/84  | 63/82  | 65/84  | 65/83  | -- | 105     |
| Outside enclosure                              | 48/67  | 45/64  | 47/66  | 45/63  | -- | 95      |
| Ambient/<br>T ma                               | 21/40  | 21/40  | 21/40  | 22/40  | -- | --      |
| Test duration (Times) (hr: min)                | 2:15   | 1:54   | 2:05   | 2:05   | -- | --      |
| Test on model:GT-81085-1516.6-W2               | --   | --   | --   | --   | -- | --      |
| --   | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>T ma            | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>T ma          | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>T ma          | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>T ma        | -- | --      |
| L4 coil  | 47/66  | 46/65  | 44/64  | 45/63  | -- | 105     |
| C2 body  | 83/102   | 83/102   | 61/81  | 62/80  | -- | 105     |
| L3 coil  | 76/95  | 75/94  | 51/71  | 52/70  | -- | 105     |
| L1 coil  | 72/91  | 71/90  | 47/67  | 47/65  | -- | 105     |
| T1 coil (class B)                              | 73/92  | 73/92  | 70/90  | 71/89  | -- | 110     |
| T1 core (class B)                              | 78/97  | 77/96  | 74/94  | 75/93  | -- | 110     |
| U1 body  | 53/72  | 52/71  | 48/68  | 48/66  | -- | 100     |
| PCB near Q1                                    | 88/107   | 88/107   | 72/92  | 73/91  | -- | 130     |
| PCB near D9                                    | 68/87  | 68/87  | 66/86  | 70/88  | -- | 130     |
| Inside enclosure                               | 70/89  | 70/89  | 66/86  | 68/86  | -- | 105     |
| outside enclosure                              | 46/65  | 46/65  | 41/61  | 39/57  | -- | 95      |
| Ambient/<br>T ma                               | 21/40  | 21/40  | 20/40  | 22/40  | -- | --      |
| Test duration (Times) (hr: min)                | 1:33   | 2:56   | 1:35   | 1:56   | -- | --      |
| --   | --   | --   | --   | --   | -- | --      |
| Test on Model GT-81085-1516.6-W2 (+16.6V/0.9A) | I/P: 90<br>V / 60<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | I/P: 264 V /<br>60 Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | I/P: 90<br>V / 50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | I/P: 264 V /<br>50 Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | -- | --      |
| --   | Measu<br>red<br>under  | Measu<br>red<br>under  | Measu<br>red<br>under  | Measu<br>red<br>under  | -- | --      |

| IEC 60950-1   |                    |   |   |  |  |         |
|---|--------------------|---|---|--|--|---------|
| Clause  | Requirement + Test |   |   | Result - Remark  |  | Verdict |
|   |                    | ambien<br>t /<br>Compu<br>ted per<br>Tma                                    | ambien<br>t /<br>Compu<br>ted per<br>Tma                                  | ambien<br>t /<br>Compu<br>ted per<br>Tma                                     | ambien<br>t /<br>Compu<br>ted per<br>Tma                                   |         |
| T1 coil (Class B)                                     |                    | 71/90   | 72/91   | 73/92  | 72/91  | 110     |
| T1 core (Class B)                                     |                    | 73/92   | 73/92   | 73/92  | 72/91  | 110     |
| Ambient / Tma   |                    | 21/40   | 21/40   | 21/40  | 21/40  | --      |
| Test Duration: (hr; min) (Time is for reference only) |                    | 1:42  | 1:33  | 0:48   | 2:00   | --      |
| Test on Model: GT-81085-1224-W2                       |                    | I/P:<br>90V/60<br>Hz<br>Maxim<br>um<br>Normal<br>Load,<br>Vertical          | I/P:<br>90V/60<br>Hz<br>Maxim<br>um<br>Normal<br>Load,<br>Horizo<br>ntal  | I/P:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load,<br>Vertical          | I/P:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load,<br>Horizo<br>ntal  | --      |
| --  |                    | Measu<br>red<br>under<br>ambien<br>t /<br>Compu<br>ted per<br>Tma           | Measu<br>red<br>under<br>ambien<br>t /<br>Compu<br>ted per<br>Tma         | Measu<br>red<br>under<br>ambien<br>t /<br>Compu<br>ted per<br>Tma            | Measu<br>red<br>under<br>ambien<br>t /<br>Compu<br>ted per<br>Tma          | --      |
| Blade holder  |                    | 47/52   | 47/51   | 48/53  | 47/52  | 95      |
| C1 Body (bulk - cap)                                  |                    | 60/65   | 59/63   | 58/63  | 57/62  | 105     |
| L3 coil   |                    | 66/71   | 66/70   | 65/70  | 64/69  | 105     |
| T1 Coil   |                    | 74/79   | 74/78   | 88/93  | 87/92  | 110     |
| T1 Core   |                    | 72/77   | 71/75   | 84/89  | 83/88  | 110     |
| PCB near D2   |                    | 65/70   | 65/69   | 64/69  | 63/68  | 105     |
| PCB near Q1   |                    | 72/77   | 73/77   | 79/84  | 78/83  | 105     |
| Enclosure Inside near T1                              |                    | 67/72   | 67/71   | 77/82  | 77/82  | 105     |
| Enclosure Outside near T1                             |                    | 54/59   | 54/58   | 59/64  | 59/64  | 95      |
| Output wires  |                    | 48/53   | 49/53   | 51/56  | 51/56  | 80      |
| Ambient/<br>Tma                                       |                    | 40/45   | 41/45   | 40/45  | 40/45  | --      |
| Test duration (Times) (Time is for reference only)    |                    | 1 : 59  | 1:53  | 1:26   | 2: 16  | --      |
| Reissue to E135856-A36-UL-4:                          |                    | --  | --  | --   | --   | --      |
| Test on Model GT-81085-1513.5-3.5-W2 (10V/1.5A)       |                    | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | --      |



| IEC 60950-1                                    |                    |  |  |   |   |         |
|--|--------------------|--|--|---|---|---------|
| Clause   | Requirement + Test |  |  | Result - Remark   |   | Verdict |
| --   |                    | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma   | Measu<br>red<br>under<br>ambien<br>t                               | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma    | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma    | --      |
| PCB near D3                                    |                    | 87.2/8<br>7.4  | 86.7   | 68.3/6<br>8.4   | 69.7/7<br>0.1   | 130     |
| C1 body (Bulk cap)                             |                    | 88.9/8<br>9.1  | 88.3   | 68.7/6<br>8.8   | 69.2/6<br>9.6   | 105     |
| L3 coil  |                    | 97.1/9<br>7.3  | 95.9   | 73.0/7<br>3.1   | 72.8/7<br>3.2   | 105     |
| L1 coil  |                    | 91.5/9<br>1.7  | 90.0   | 68.5/6<br>8.6   | 67.5/6<br>7.9   | 105     |
| PCB near Q1                                    |                    | 106.6/<br>106.8  | 105.1  | 86.2/8<br>6.3   | 86.5/8<br>6.9   | 130     |
| U1 body  |                    | 66.3/6<br>6.5  | 65.6   | 62.9/6<br>3.0   | 62.0/6<br>2.4   | 100     |
| T1 coil  |                    | 97.1/9<br>7.3  | 93.5   | 93.0/9<br>3.1   | 90.5/9<br>0.9   | 110     |
| T1 core  |                    | 95.8/9<br>6.0  | 92.0   | 91.0/9<br>1.1   | 88.3/8<br>8.7   | 110     |
| CY2 body (Bridging cap)                        |                    | 88.3/8<br>8.5  | 85.7   | 86.3/8<br>6.4   | 84.1/8<br>4.5   | 125     |
| L4 coil  |                    | 63.0/6<br>3.2  | 61.7   | 60.9/6<br>1.0   | 59.5/5<br>9.9   | 105     |
| L2 coil  |                    | 66.8/6<br>7.0  | 64.1   | 64.7/6<br>4.8   | 62.5/6<br>2.9   | 105     |
| Enclosure inside near T1                       |                    | 72.6/7<br>2.8  | 67.5   | 71.1/7<br>1.2   | 66.4/6<br>6.8   | 105     |
| Enclosure outside near T1                      |                    | 63.2/6<br>3.4  | 57.4   | 62.6/6<br>2.7   | 56.5/5<br>6.9   | 95      |
| Blade holder                                   |                    | 63.3/6<br>3.5  | 61.9   | 57.2/5<br>7.3   | 56.6/5<br>7.0   | 105     |
| PCB near D9                                    |                    | 76.5/7<br>6.7  | 73.6   | 74.7/7<br>4.8   | 72.2/7<br>2.6   | 130     |
| Ambient  |                    | 44.8/4<br>5.0  | 45.0   | 44.9/4<br>5.0   | 44.6/4<br>5.0   | --      |
| Test duration (Times) (hour: minute)           |                    | 3:15   | 1:21   | 3:33  | 1:40  | --      |
| Test on Model GT-81085-1513.5-W2 (13.5V/1.11A) |                    | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic | --      |

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

|  |   |   |  |  |    |     |
|--|---|---|--|--|----|-----|
| --   | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma            | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma          | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma             | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma           | -- | --  |
| PCB near D3                                    | 84.4/8<br>4.7   | 83.5/8<br>3.7   | 68.0/6<br>8.2  | 69.4/6<br>9.8  | -- | 130 |
| C1 body (Bulk cap)                             | 84.0/8<br>4.3   | 83.6/8<br>3.8   | 67.3/6<br>7.5  | 67.8/6<br>8.2  | -- | 105 |
| L3 coil  | 92.0/9<br>2.3   | 91.4/9<br>1.6   | 71.0/7<br>1.2  | 71.5/7<br>1.9  | -- | 105 |
| L1 coil  | 87.5/8<br>7.8   | 86.7/8<br>6.9   | 67.4/6<br>7.6  | 66.8/6<br>7.2  | -- | 105 |
| PCB near Q1                                    | 97.8/9<br>8.1   | 97.2/9<br>7.4   | 81.9/8<br>2.1  | 83.6/8<br>4.0  | -- | 130 |
| U1 body  | 64.4/6<br>4.7   | 65.4/6<br>5.6   | 63.0/6<br>3.2  | 66.4/6<br>6.8  | -- | 100 |
| T1 coil  | 92.8/9<br>3.1   | 90.4/9<br>0.6   | 88.6/8<br>8.8  | 91.5/9<br>1.9  | -- | 110 |
| T1 core  | 93.6/9<br>3.9   | 91.4/9<br>1.6   | 89.3/8<br>9.5  | 91.8/9<br>2.2  | -- | 110 |
| CY2 body (Bridging cap)                        | 86.6/8<br>6.9   | 85.1/8<br>5.3   | 84.2/8<br>4.4  | 87.1/8<br>7.5  | -- | 125 |
| L4 coil  | 63.7/6<br>4.0   | 63.6/6<br>3.8   | 61.9/6<br>2.1  | 63.8/6<br>4.2  | -- | 105 |
| L2 coil  | 60.8/6<br>1.1   | 61.6/6<br>1.8   | 60.5/6<br>0.7  | 63.2/6<br>3.6  | -- | 105 |
| Enclosure inside near T1                       | 78.6/7<br>8.9   | 73.9/7<br>4.1   | 73.2/7<br>3.4  | 77.4/7<br>7.8  | -- | 105 |
| Enclosure outside near T1                      | 64.2/6<br>4.5   | 57.3/5<br>7.5   | 56.6/5<br>6.8  | 59.6/6<br>0.0  | -- | 95  |
| Blade holder                                   | 65.5/6<br>5.8   | 65.9/6<br>6.1   | 58.9/5<br>9.1  | 61.2/6<br>1.6  | -- | 105 |
| Ambient  | 44.7/4<br>5.0   | 44.8/4<br>5.0   | 44.8/4<br>5.0  | 44.6/4<br>5.0  | -- | 130 |
| Test duration (Times) (hour: minute)           | 2:22  | 1:13  | 1:19   | 1:44   | -- | --  |
| Test on Model GT-81085-1307.5-2.5-W2 (5V/2.5A) | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | Input:<br>90V/50<br>Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Horizo<br>ntal) | Input:<br>264V/5<br>0Hz<br>Maxim<br>um<br>Normal<br>Load<br>(Vertic<br>al) | -- | --  |

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

|                                      |                     |  |  |                                      |  |                                     |                     |
|--------------------------------------|---------------------|--|--|--------------------------------------|--|-------------------------------------|---------------------|
| --                                   |                     | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma | Measu<br>red<br>under<br>ambien<br>t | Measu<br>red<br>under<br>ambien<br>t/<br>Compu<br>ted per<br>Tma | --                                  | --                  |
| PCB near D3                          |                     | 89.9/9<br>0.2  | 90.1/9<br>0.5  | 70.8                                 | 70.3/7<br>0.7  | --                                  | 130                 |
| C1 body (Bulk cap)                   |                     | 85.6/8<br>5.9  | 86.3/8<br>6.7  | 67.2                                 | 66.9/6<br>7.3  | --                                  | 105                 |
| L3 coil                              |                     | 93.9/9<br>4.2  | 94.7/9<br>5.1  | 70.2                                 | 70.4/7<br>0.8  | --                                  | 105                 |
| L1 coil                              |                     | 87.7/8<br>8.0  | 90.3/9<br>0.7  | 65.5                                 | 67.2/6<br>7.6  | --                                  | 105                 |
| PCB near Q1                          |                     | 107.4/<br>107.7  | 107.3/<br>107.7  | 88.3                                 | 87.3/8<br>7.7  | --                                  | 130                 |
| U1 body                              |                     | 72.1/7<br>2.4  | 70.6/7<br>1.0  | 67.8                                 | 65.3/6<br>5.7  | --                                  | 100                 |
| T1 coil                              |                     | 107.3/<br>107.6  | 105.5/<br>105.9  | 98.9                                 | 96.5/9<br>6.9  | --                                  | 110                 |
| T1 core                              |                     | 100.1/<br>100.4  | 97.9/9<br>8.3  | 91.7                                 | 89.1/8<br>9.5  | --                                  | 110                 |
| CY2 body (Bridging cap)              |                     | 106.7/<br>107.0  | 104.9/<br>105.3  | 99.8                                 | 97.1/9<br>7.5  | --                                  | 125                 |
| L4 coil                              |                     | 72.9/7<br>3.2  | 70.1/7<br>0.5  | 70.1                                 | 66.4/6<br>6.8  | --                                  | 105                 |
| L2 coil                              |                     | 81.5/8<br>1.8  | 78.1/7<br>8.5  | 78.2                                 | 74.1/7<br>4.5  | --                                  | 105                 |
| Enclosure inside near T1             |                     | 88.9/8<br>9.2  | 88.6/8<br>9.0  | 82.0                                 | 80.6/8<br>1.0  | --                                  | 105                 |
| Enclosure outside near T1            |                     | 69.1/6<br>9.4  | 68.8/6<br>9.2  | 65.4                                 | 64.3/6<br>4.7  | --                                  | 95                  |
| Blade holder                         |                     | 55.3/5<br>5.6  | 55.3/5<br>5.7  | 51.2                                 | 50.4/5<br>0.8  | --                                  | 105                 |
| PCB near D9                          |                     | 109.3/<br>109.6  | 106.6/<br>107.0  | 104.6                                | 101.2/<br>101.6  | --                                  | 130                 |
| Ambient                              |                     | 44.7/4<br>5.0  | 44.6/4<br>5.0  | 45.0                                 | 44.6/4<br>5.0  | --                                  | --                  |
| Test duration (Times) (hour: minute) |                     | 4:07   | 1:41   | 2:13                                 | 1:18   | --                                  | --                  |
| temperature T of winding:            | t <sub>1</sub> (°C) | R <sub>1</sub> (Ω)   | t <sub>2</sub> (°C)  | R <sub>2</sub> (Ω)                   | T (°C)   | allowed<br>T <sub>max</sub><br>(°C) | insulation<br>class |
| --                                   | --                  | --   | --   | --                                   | --   | --                                  | --                  |

supplementary information:

See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV

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

Rheinland Taiwan Ltd., Taichung Laboratory for details.

|  |   |                           |                          |
|--|---|---------------------------|--------------------------|
| 4.5.5  | <b>TABLE: Ball pressure test of thermoplastic parts</b> |                           | Pass                     |
|  | allowed impression diameter (mm) .....                  | less than or equal to 2.0 | —                        |
| part   |   | test temperature (°C)     | impression diameter (mm) |
| Blade Holder, Asahi Kasei Chemicals Corp Xyron Polymer, Type 540V, 2.0 mm thick.   |   | 125                       | 1.44                     |
| supplementary information:   |   |                           |                          |
| Others see UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. |   |                           |                          |

|  |                           |                          |                  |                |                    |          |
|--|---------------------------|--------------------------|------------------|----------------|--------------------|----------|
| 4.7  | TABLE: resistance to fire |                          |                  |                |                    | Pass     |
| part   |                           | manufacturer of material | type of material | thickness (mm) | flammability class | Evidence |
| --   |                           | --                       | --               | --             | --                 |          |
| supplementary information:   |                           |                          |                  |                |                    |          |
| All internal materials are rated minimum V-2 or are mounted on a PWB rated minimum V-1. See Table 1.5.1 for details. |                           |                          |                  |                |                    |          |

|  |  |  |                  |                    |
|--|--|--|------------------|--------------------|
| 5.2                                    | <b>TABLE: electric strength tests, impulse tests and voltage surge tests</b> |  |                  | Pass               |
| Test voltage applied between:          |  | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
| Alternate PWB                          |  | --                                     | --               | --                 |
| Primary to Secondary                   |  | DC                                     | 4242             | No                 |
| Primary to Enclosure covered with Foil |  | DC                                     | 4242             | No                 |
| Test Record No. 4                      |  | --                                     | --               | --                 |
| Primary to SELV                        |  | DC                                     | 4242             | No                 |
| Primary to Enclosure with Foil         |  | DC                                     | 4242             | No                 |
| Alternate PWB                          |  | --                                     | --               | --                 |
| Primary to Secondary                   |  | DC                                     | 4242             | No                 |
| Primary to Enclosure covered with Foil |  | DC                                     | 4242             | No                 |
| Test Record No. 4                      |  | --                                     | --               | --                 |
| Primary to SELV                        |  | DC                                     | 4242             | No                 |
| Primary to Enclosure with Foil         |  | DC                                     | 4242             | No                 |
| Test on Model GT-81085-1224-W2:        |  | --                                     | --               | --                 |
| Alternate PWB                          |  | --                                     | --               | --                 |
| Primary to Secondary                   |  | DC                                     | 4242             | No                 |

| IEC 60950-1   |  |                  |                    |
|---|--|------------------|--------------------|
| Clause  | Requirement + Test                     | Result - Remark  | Verdict            |
| Primary to Enclosure covered with Foil  | DC                                     | 4242             | No                 |
| Test Record No. 4   | --                                     | --               | --                 |
| Primary to SELV   | DC                                     | 4242             | No                 |
| Alternate 1).Add bridging resistor in circuit diagram.2).Add models GT-81085R-WWVV-X.X-W2 for adding bridging resistor construction.                      | --                                     | --               | --                 |
| Primary to Secondary  | DC                                     | 4242             | No                 |
| Primary to Plastic Enclosure with metal foil  | DC                                     | 4242             | No                 |
| Reissue to E336418-A48-UL-1: Test on Models: GT-81085-1513.5-3.5-W2, GT-81085-1513.5-W2, GT-81085-1307.5-2.5-W2   | --                                     | --               | --                 |
| Primary to Secondary  | DC                                     | 4242             | No                 |
| Primary to Enclosure (covered with foil)  | DC                                     | 4242             | No                 |
| Functional:   |  |                  |                    |
| Test voltage applied between:   | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
|   |  |                  |                    |
| Basic/supplementary:  |  |                  |                    |
| Test voltage applied between:   | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
|   |  |                  |                    |
| Reinforced:   |  |                  |                    |
| Test voltage applied between:   | Voltage shape (AC, DC, impulse, surge) | Test voltage (V) | Breakdown Yes / No |
|   |  |                  |                    |
| supplementary information:  |  |                  |                    |
| See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. |  |                  |                    |

| 5.3                | <b>TABLE: fault condition tests</b>                                 |                    |           |        |                  | Pass        |
|--------------------|---|--------------------|-----------|--------|------------------|-------------|
|                    | ambient temperature (°C) .....                                      | --                 |           |        |                  | —           |
|                    | Power source for EUT: Manufacturer, model/type, output rating ..... | --                 |           |        |                  | —           |
| Component No.      | Fault   | Supply voltage (V) | Test time | Fuse # | Fuse current (A) | Observation |
| Alternate PWB with | --  | --                 | --        | --     | --               | --          |

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

|  |       |     |          |    |    |  |
|--|-------|-----|----------|----|----|--|
| Alternate Fuse   |       |     |          |    |    |  |
| Ambient:<br>23 degree<br>C. F1 rated<br>T2A.<br>Wickmann-<br>Werke<br>GmbH,<br>Type 392.                     | --    | --  | --       | -- | -- | --                                     |
| Q1 Pin D-G   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| Ambient:<br>23 degree<br>C. F1 rated<br>T2A.<br>Conquer<br>Electronics<br>Co., Ltd.,<br>Type MST.            | --    | --  | --       | -- | -- | --                                     |
| Q1 Pin D-G   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| Ambient:<br>23 degree<br>C. F1 rated<br>T2A.<br>Shenzhen<br>Lanson<br>Electronics<br>Co., Ltd.,<br>Type SMT. | --    | --  | --       | -- | -- | --                                     |
| Q1 Pin D-G   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short | 240 | 1 second | F1 | 0  | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short | 240 | 1 second | F1 | 0  | IP (F1), NC, NT, NB.                   |
| Ambient:   | --    | --  | --       | -- | -- | --                                     |

| IEC 60950-1  |                    |     |          |    |                 |  |
|--|--------------------|-----|----------|----|-----------------|--|
| Clause   | Requirement + Test |     |          |    | Result - Remark |  |
| 23 degree C. F1 rated T2A. Walter Electronic Co Ltd., Type 2010.   |                    |     |          |    |                 |  |
| Q1 Pin D-G   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| Ambient: 23 degree C. F1 rated T1A. Save FuseTech Inc., Type SS-5. | --                 | --  | --       | -- | --              | --                                     |
| Q1 Pin D-G   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| Ambient: 23 degree C. F1 rated T2A. Save FuseTech Inc., Type SS-5. | --                 | --  | --       | -- | --              | --                                     |
| Q1 Pin D-G   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R19), NC, NT, NB.     |
| Q1 Pin D-S   | Short              | 240 | 1 second | F1 | 0               | IP (F1), CD (Q1, R20, R12), NC, NT, NB |
| C2   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| D1 (AC to +)   | Short              | 240 | 1 second | F1 | 0               | IP (F1), NC, NT, NB.                   |
| Ambient: 22 degree C, Test on model GT-81085-1224-W2Fuse           | --                 | --  | --       | -- | --              | --                                     |

| IEC 60950-1  |                    |     |                 |    |       |  |
|--|--------------------|-----|-----------------|----|-------|--|
| Clause   | Requirement + Test |     | Result - Remark |    |       | Verdict  |
| (F1) Rating<br>250 V / T 1<br>A,<br>Manufactur<br>e Walter<br>Electronic<br>Co., Ltd.,<br>Type 2010. |                    |     |                 |    |       |  |
| T1 (5 - 6)   | s - c              | 240 | 1 hr            | F1 | 0.02  | Unit shut down immediately,<br>T1 coil = 43 degree C, NC,<br>NT, NB, CT.   |
| T1 (3- 4)  | s - c              | 240 | 1 hr            | F1 | 0.02  | Unit shut down immediately,<br>T1 coil = 42 degree C,<br>NC, NT, NB, CT.   |
| T1 (5 - 6)<br>after D9   | o - l              | 240 | 3 hrs           | F1 | 0.138 | Temperature was stable at<br>0.65 A, T1 coil = 75 degree<br>C, unit shut down at load<br>0.67 A NC, NT, NB.  |
| 24 V output  | s - c              | 240 | 1.5 hrs         | F1 | 0.02  | Unit shut down immediately,<br>T1 coil = 43 degree C, NC,<br>NT, NB, CT.   |
| 24 Output  | o - l              | 240 | 1.5 hrs         | F1 | 0.134 | Temperature was stable at<br>0.64 A, T1 coil = 70 degree<br>C, unit shut down at 0.67 A,<br>NC, NT, NB.  |
| --   | --                 | --  | --              | -- | --    | Reissue to E135856-A36-<br>UL-4:   |
| --   | --                 | --  | --              | -- | --    | Test ambient = 20.5 degree<br>C, Test on Model GT-<br>81085-1513.5-3.5-W2,<br>Note: Fuse (F1) Rating:<br>250V, T1A, Manufacture<br>Ever Island Electric Co Ltd<br>& Walter Electric, Type<br>2010. |
| T1 (5-6)   | Short              | 240 | 0.5hr           | F1 | 0.003 | SD, NC, NT, NB   |
| T1 (3-4)   | Short              | 240 | 0.5hr           | F1 | 0.002 | SD, NC, NT, NB   |
| --   | --                 | --  | --              | -- | --    | Test ambient = 20.5 degree<br>C, Test on Model GT-<br>81085-1307.5-2.5-W2,<br>Note: Fuse (F1) Rating:<br>250V, T1A, Manufacture<br>Ever Island Electric Co Ltd<br>& Walter Electric, Type<br>2010. |
| T1 (5-6)   | Short              | 240 | 0.5hr           | F1 | 0.003 | SD, NC, NT, NB   |
| T1 (3-4)   | Short              | 240 | 0.5hr           | F1 | 0.002 | SD, NC, NT, NB   |
| --   | --                 | --  | --              | -- | --    | Test ambient = 22.3 degree<br>C, Test on Model GT-   |



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

|              |       |     |       |    |    |   |
|--------------|-------|-----|-------|----|----|---|
|              |       |     |       |    |    | 81085-1513.5-W2, Note: Fuse (F1) Rating: 250V, T1A, Manufacture Littelfuse Wickmann Werke, Type 392.  |
| C2           | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| D1 (AC to +) | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| Q1 Pin D-G   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R19), NC, NT, NB.   |
| Q1 Pin D-S   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R20), NC, NT, NB.   |
| --           | --    | --  | --    | -- | -- | Test ambient = 22.3 degree C, Test on Model GT-81085-1513.5-W2,, Note: Fuse (F1) Rating: 250V, T1A, Manufacture Save Fusetech Inc, Type SS-5.                             |
| C2           | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| D1 (AC to +) | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| Q1 Pin D-G   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R19), NC, NT, NB.   |
| Q1 Pin D-S   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R20), NC, NT, NB.   |
| --           | --    | --  | --    | -- | -- | Test ambient = 22.3 degree C, Test on Model GT-81085-1513.5-W2,, Note: Fuse (F1) Rating: 250V, T2A, Manufacture Ever Island Electric Co Ltd & Walter Electric, Type 2010. |
| C2           | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| D1 (AC to +) | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| Q1 Pin D-G   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R19), NC, NT, NB.   |
| Q1 Pin D-S   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R20), NC, NT, NB.   |
| --           | --    | --  | --    | -- | -- | Test ambient = 22.3 degree C, Test on Model GT-81085-1513.5-W2,, Note: Fuse (F1) Rating: 250V, T2A, Manufacture Save Fusetech Inc, Type SS-5.                             |
| C2           | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| D1 (AC to +) | Short | 240 | 1 sec | F1 | 0  | CD (F1), NC, NT, NB.  |
| Q1 Pin D-G   | Short | 240 | 1 sec | F1 | 0  | CD (F1, Q1, R19), NC, NT, NB.   |

| IEC 60950-1   |                    |                 |        |    |                         |   |
|---|--------------------|-----------------|--------|----|-------------------------|---|
| Clause  | Requirement + Test | Result - Remark |        |    |                         | Verdict   |
|   |                    |                 |        |    |                         | NB.   |
| Q1 Pin D-S  | Short              | 240             | 1 sec  | F1 | 0                       | CD (F1, Q1, R20), NC, NT, NB  |
| --  | --                 | --              | --     | -- | --                      | Test ambient = 20.1 degree C, Test on Model: GT-81085-1513.5-3.5-W2.  |
| T1(5-6) after D9 for 10V  | overload           | 240             | 9.5hrs | F1 | 0.154 to 0.232 to 0.005 | Temperature was stable at load 2.3A, unit shut down at load 2.4A, maximum temperature was T1 coil =100.3 degree C, U1 =60.5 degree C, NC, NT, NB. |
| --  | --                 | --              | --     | -- | --                      | Test on Model: GT-81085-1307.5-2.5-W2   |
| T1(5-6) after D9 for 5V   | overload           | 240             | 6.1hrs | F1 | 0.161 to 0.176 to 0.003 | Temperature was stable at load 3.0A, unit shut down at load 3.1A, maximum temperature was T1 coil =97.0 degree C, U1 =60.6 degree C, NC, NT, NB.  |
| --  | --                 | --              | --     | -- | --                      | Test ambient = 21.2 degree C, Test on Model: GT-81085-1513.5-3.5-W2.  |
| 10V/1.5A  | Short              | 240             | 0.5hr  | F1 | 0.003                   | SD, NC, NT, NB.   |
| 10V/1.5A  | overload           | 240             | 7hrs   | F1 | 0.154 to 0.216 to 0.003 | Temperature was stable at load 2.1A, unit shut down at load 2.3A, maximum temperature was T1 coil =82.0 degree C, U1 =53.1 degree C, NC, NT, NB.  |
| --  | --                 | --              | --     | -- | --                      | Test on Model: GT-81085-1307.5-2.5-W2   |
| 5V/2.5A   | Short              | 240             | 0.5hr  | F1 | 0.002                   | SD, NC, NT, NB.   |
| 5V/2.5A   | overload           | 240             | 6hrs   | F1 | 0.149 to 0.172 to 0.002 | Temperature was stable at load 2.9A, unit shut down at load 3.0A, maximum temperature was T1 coil =92.5 degree C, U1 =56.5 degree C, NC, NT, NB.  |
| supplementary information:  |                    |                 |        |    |                         |   |
| See UL Only/Test Reference, CB Report No.: 11006695 001, issue date 3/3/2006 and presented by TUV Rheinland Taiwan Ltd., Taichung Laboratory for details. |                    |                 |        |    |                         |   |