UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	Switching Power Supply
Model:	DS3000TE-3-XXX (where -XXX can be any alphanumeric character, symbol or blank that represents customer identity that does not affect safety).
Rating:	For reverse airflow: AC input: 16A, 200-240V 50/60Hz DC outputs: 220A max. +12.1V, 4.5A max +12Vsb, maximum output power is 2664W AC input: 16A, 208-240V 50/60Hz DC outputs: 244A max. +12.1V, 4.5A max +12Vsb, maximum output power is 2960W or For forward airflow: AC input: 16A, 200-240V 50/60Hz DC outputs: 223A max. +12.1V, 4.5A max +12Vsb, maximum output power is 2700W AC input: 16A, 208-240V 50/60Hz DC outputs: 248A max. +12.1V, 4.5A max +12Vsb, maximum output power is 3000W
Applicant Name and Address:	ASTEC INTERNATIONAL LIMITED 16TH FLOOR, LU PLAZA 2 WING YIP STREET, KWUN TONG, KOWLOON, HONG KONG

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 UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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

Prepared by: Tony Yeung Reviewed by: Henry Ho

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

The equipment is switching power supply, intended for building in as a component used in information technology equipment which employs with isolating transformers. Reinforced insulation is provided between primary and secondary. Basic insulation is provided between primary and PE (Protective Earth)

Model Differences

N/A

Technical Considerations

- Equipment mobility : for building-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 I (earthed)
- Considered current rating of protective device as part of the building installation (A) : 30A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : 5000
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : <18
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 40°C
- The means of connection to the mains supply is: Pluggable A with non-detachable input cord in end system.
- The product is intended for use on the following power systems: TN

- The equipment disconnect device is considered to be: Appliance inlet
- The class of laser product is: Class 1 (I) for indicating LED only.
- The power supply has reverse airflow where ambient air is entering the supply from the handle side towards the DC output connector, and Forward airflow where ambient air is entering the supply from the DC output connector side towards the handle.

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- Fan is not accessible by user when power supply is inserted in end system. And since this power supply is component type, warning is added in the operating instruction. Compliance of section 4.4.5 of UL60950-1 to be determined in end system.
- No energy hazard (below 240VA) exists at the PSU outputs in the removed condition.
- The following Production-Line tests are conducted for this product: Electric Strength, Earthing Continuity
- The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 322.3 Vrms, 769 Vpk, , Primary-Earthed Dead Metal: 331.9 Vrms, 769 Vpk
- The following secondary output circuits are SELV: : +12.1V, +12Vsb
- The following secondary output circuits are at hazardous energy levels: : +12.1V Must be considered in the , end system.
- The following secondary output circuits are at non-hazardous energy levels: : +12Vsb
- The power supply terminals and/or connectors are: Not investigated for field wiring except AC inlet,
- The maximum investigated branch circuit rating is: 30 A
- The investigated Pollution Degree is: 2
- Proper bonding to the end-product main protective earthing termination is: Required
- An investigation of the protective bonding terminals has: Been conducted
- The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): T801,T601 are (Class F) while T707, T714 are (Class A) or 90°C.
- The following end-product enclosures are required: Fire, Electrical, Mechanical
- The equipment is suitable for direct connection to: AC mains supply