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:	DC-DC Converter
Model:	LGA20C-01SADJJ
Rating:	(Optional) Input: 5Vdc - 14Vdc, 20A max Output: 0.9Vdc - 5.1Vdc, 20A max
Applicant Name and Address:	ASTEC INTERNATIONAL LTD 16TH FL LU PLAZA 2 WING YIP ST 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: Paul Wan 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 a DC-DC non-isolated converter designed to deliver 100W total output power, intended for building-in as a component used in information technology equipment.

Input and Output is considered SELV.
Functional insulation provided between the input circuit and output circuit.

Testing condition:
Loading 1 at +5Vdc and +14Vdc input; +0.9Vdc, 20A output at ambient temperature of 30 deg C and 40 deg C.
Loading 2 at +9Vdc and +14Vdc input; +5.1Vdc, 20A output at ambient temperature of 30 deg C and 40 deg C.

The unit has no in-line fuse. For safe operation a maximum 40A, minimum 32Vdc current fuse with UL-Listed (JDYX) or equivalent must be fitted in-line by the user prior to use.

Model Differences

N/A

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : not directly connected to the mains
- Operating condition : continuous
- Access location : to be considered in the end system
- Over voltage category (OVC) : --
- Mains supply tolerance (%) or absolute mains supply values : N/A
- Tested for IT power systems : No
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Not classified
- Considered current rating of protective device as part of the building installation (A) : Considered in the end system
- Pollution degree (PD) : PD 2

- IP protection class : IPX0
- Altitude of operation (m) : up to 2000
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 0.003
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 40°C at 400LFM and 30°C at 300LFM
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
- The product is intended for use on the following power systems: Built-in unit, shall be evaluated in end system.
- Protection against electric shock relies upon the supply from SELV circuits and in which hazardous voltages are not generated.

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:

- Maximum recommended case temperature is 100°C
- The following secondary output circuits are SELV: +0.9V - +5.1V Output are SELV
- The following secondary output circuits are at non-hazardous energy levels: +0.9V - +5.1V Output have non-hazardous energy level
- The investigated Pollution Degree is: 2
- Heating test conducted with airflow of 300 LFM in 30 deg C and 400 LFM at 40 deg C. Heating test may be considered if airflow condition is different in end system.
- The unit has no in-line fuse. For safe operation a maximum 40A, minimum 32Vdc current fuse with UL-Listed (JDYX)or equivalent must be fitted in-line by the user prior to use.