COVER PAGE FOR TEST REPORT

Product Category:	Power Supplies for Information Technology Equipment Including Electrical Business Equipment
Product Category CCN:	QQGQ2, QQGQ8
Test Procedure:	Component Recognition
Product:	Component Type Power Supply
Model/Type Reference:	iVS6-ABBC-XX (iVS6 Series) Where X denotes alphanumeric character or blank for specific model designation. See Enclosure, Miscellaneous ID 7-01 for details.
Rating(s):	AC input: 200-240 V 3~, 50/60 Hz, 3W+PE, 12 A DC outputs: XVdc @ YA (For X, Y rating, see Enclosure, Miscellaneous ID 7-02 for details) Other Output: +5VSB, 1.0A max. Maximum Output Power: 3210 W
Standards:	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Applicant Name and Address:	ASTEC INTERNATIONAL LTD 16TH & 17TH FL LU PLAZA KWUN TONG, 2 WING YIP ST KOWLOON HONG KONG

This Report includes the following parts, in addition to this cover page:

1. Specific Inspection Criteria
2. Specific Technical Criteria
3. Clause Verdicts
4. Critical Components
5. Test Results
6. National Differences
7. Enclosures

Copyright © 2009

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

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

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 Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

Test Report By:

Tommy Cheung
Engineer
UL International Limited

Reviewed By:

Calvin Tang
Project Engineer
UL International Limited

Copyright © 2009

SPECIFIC TECHNICAL CRITERIA

UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements	
Report Reference No	E132002-A86-UL-1
Compiled by	Tommy Cheung
Reviewed by	Calvin Tang
Date of issue	2009-01-21
Standards	UL 60950-1, 1st Edition, 2007-10-31 (Information Technology Equipment - Safety - Part 1: General Requirements) CSA C22.2 No. 60950-1-03, 1st Edition, 2006-07 (Information Technology Equipment - Safety - Part 1: General Requirements)
Test procedure	Component Recognition
Non-standard test method	N/A
Test item description	Component Type Power Supply
Trademark	Emerson Network Power
Model and/or type reference	iVS6-ABBC-XX (iVS6 Series) Where X denotes alphanumeric character or blank for specific model designation. See Enclosure, Miscellaneous ID 7-01 for details.
Rating(s)	AC input: 200-240 V 3~, 50/60 Hz, 3W+PE, 12 A DC outputs: XVdc @ YA (For X, Y rating, see Enclosure, Miscellaneous ID 7-02 for details) Other Output: +5VSB, 1.0A max. Maximum Output Power: 3210 W

Particulars: test item vs. test requirements	
Equipment mobility	for building-in
Operating condition	continuous
Mains supply tolerance (%)	+6%, -10% (+10% for China Deviation)
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	--
Class of equipment	Class I (earthed)
Mass of equipment (kg)	< 18
Protection against ingress of water	IPX0

Possible test case verdicts:	
- test case does not apply to the test object ..... :	N / A
- test object does meet the requirement ..... :	Pass
- test object does not meet the requirement ..... :	Fail (acceptable only if a corresponding, less stringent national requirement is "Pass")
General remarks:	
- "(see Enclosure #)" refers to additional information appended to the Test Report	
- "(see appended table)" refers to a table appended to the Test Report	
- Throughout the Test Report a point is used as the decimal separator	

GENERAL PRODUCT INFORMATION:	
CA1.0	**Report Summary**
CA1.1	N/A
CB1.0	**Product Description**
CB1.1	This power supply is considered as Class I equipment for building in. It consists of AC-DC Converter, Front end module, Model 73-650-0001I (case) and DC-DC modules, Models 73-550-0XXXi, 73-551-00XXi, 73-552-00XXi, 73-553-00XXi, 73-554-0XXXi or 73-558-00XXi (output). Maximum ambient is 50 degree C at full load and output reduce 2.5% per deg C from 50 degree C to 70 degree C ambient temperature This power supply contains DC-DC modules with outputs exceeding 240 VA. When installing into the end system, care shall be taken that the outputs and the appropriate wire may not be touched.
CC1.0	**Model Differences**
CC1.1	N/A
CD1.0	**Additional Information**
CD1.1	The label is a draft of an artwork for marking plate pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval. For AC-DC Converter, Front end module, Model 73-650-0001I, please see File E132002, Report Reference No. E132002-A83 for reference. For DC-DC modules, Models 73-550-0XXXi, 73-551-00XXi, 73-552-00XXi, 73-553-00XXi and 73-554-0XXXi, please see File E132002, Report dated August 15, 2008 for reference, for Model 73-558-00XXi, please see File E132002, Report dated August 12, 2008 for reference,
CE1.0	**Technical Considerations**
CE1.2	The product was submitted and tested for use at the maximum ambient temperature (Tma) permitted by the manufacturer’s specification of: 50°C and up to 70°C at derated power
CE1.3	The means of connection to the mains supply is: Input connector of modules.
CE1.4	The product is intended for use on the following power systems: TT, TN
CE1.5	The equipment disconnect device is considered to be: input connector
CE1.6	The class of laser product is: Class 1 (I)
CE1.7	The product was investigated to the following additional standards: EN 60950-1:2001 (which includes all European national differences, including those specified in this test report).
CE1.14	The following are available from the Applicant upon request: Installation (Safety) Instructions /

	Manual
CE2.0	Output power of 3210W decreases 2.5% per °C increased from 50°C to 70°C ambient temperatures.
CE2.1	The maximum ambient is considered as 40°C when air flow is reversed in direction at 100% output power (3210 W). Normal airflow direction is fan blowing air towards components.
CE2.2	This equipment is not an electromedical equipment intended to be physically connected to a patient.
CE2.3	This equipment is intended to operate in a normal environment or area which has an elevation of maximum 10,000ft (3048 meters). The Clearances and Creepage Distances have additionally been assessed for suitability up to 3048 m elevation.
CE2.4	This equipment has a three pole input connector and equipped with a fuse on each line.
CE2.5	Model iVS6 Series has up to 9 output modules, maximum of three outputs each module. Output voltage set at factory and marked adjacent to each connector.
CE2.6	Model 73-650-0001I is a sub-assembly of Model iVS6-ABBC-XX.
CF1.0	**Engineering Conditions of Acceptability**
CF1.1	For use only in or with complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc. When installed in an end-product, consideration must be given to the following:
CF1.2	The following Production-Line tests are conducted for this product: Earthing Continuity, Electric Strength
CF1.3	The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 284.4 Vrms, 442 Vpk, Primary-Earthed Dead Metal: 293.9 Vrms, 442 Vpk
CF1.5	The following secondary output circuits are SELV: +5VSB
CF1.6	The following secondary output circuits are at hazardous energy levels: All outputs of DC-DC modules.
CF1.11	The power supply terminals and/or connectors are: Not investigated for field wiring
CF1.12	The maximum investigated branch circuit rating is: 60A
CF1.13	The investigated Pollution Degree is: 2
CF1.15	Proper bonding to the end-product main protective earthing termination is: Required
CF1.16	An investigation of the protective bonding terminals has: Been conducted
CF1.18	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): T501 (Class F) of Front-end module (case)
CF1.19	The following end-product enclosures are required: Mechanical, Fire, Electrical
CF1.21	The maximum continuous power supply output (Watts) relied on forced air cooling from: 1 fan provided, blowing air towards components (normal airflow) and away from components (reversed airflow) at rate of min. 88.7 CMF.
CF1.23	The equipment is suitable for direct connection to: AC mains supply
CF2.0	This power supply has been evaluated for use in Class I equipment as defined in IEC60950-1, First Edition and shall be properly earthed or bonded to earth in the end use. An additional evaluation shall be made if the power supply is intended for use in other than Class I equipment.

CF2.1	Output power from DC-DC modules (3210W) decreases by 2.5% per °C increased from 50°C to 70°C.
CF2.2	Earthing terminal at input connector of AC-DC Converter, Front end module is not considered protective earth, but is considered bonding terminal. Power supply chassis is to be reliably bonded to protective earthing in the end use equipment before equipment is energized.
CF2.3	This power supply is not equipped with a power cord. A safety agency approved power cord (e.g. UL, CSA, VDE) and plug with appropriate wire gauge for the rated input current must be provided together by the end system manufacturer.
CF2.4	Total loading of dual output modules not to exceed 144W and total loading of triple output modules not to exceed 36W.
CF2.5	The secondary outputs of the DC-DC modules are considered SELV except for the outputs of the 48V DC-DC modules, which exceeds 60Vdc and is not suitable for SELV. The end system must provide at least basic insulation from the user or service personnel to the outputs of the power supply. There is also hazardous energy level that exceeds 240VA at the outputs of all power supplies.
CF2.6	A suitable power supply disconnection means is to be provided by the end use equipment.
CF2.7	The following cautionary marking shall be provided in the servicing instructions: The power supply has a three pole input connector and equipped with a fuse on each line.