

## SPECIFIC TECHNICAL CRITERIA

<b>UL 60950-1, First Edition Information technology equipment - Safety- Part 1: General Requirements</b>	
Report Reference No .....	: E186249-A84-UL-1
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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
<b>Test item</b> description .....	: Switching Power Supply
Trademark .....	: EMERSON NETWORK POWER OR ASTEC
Model and/or type reference .....	: NTS503, NTS505, NTS508
Rating(s) .....	: NTS503: Input: AC 100-250 V, 7.1 A, 50/60/440 Hz DC 120 Vmin-300 Vmax., 7.1 A Output: DC +12 V, 41.67 A; DC +5Vstby, 2 A; DC +12 V(Fan_out), 1 A  NTS505 Input: AC 100-250 V, 7.1 A, 50/60/440 Hz DC 120 Vmin-300 Vmax., 7.1 A Output: DC +24 V, 20.84 A; DC +5Vstby, 2 A; DC +12V(Fan_out), 1 A  NTS508 Input: AC 100-250 V, 7.1 A, 50/60/440 Hz DC 120 Vmin-300 Vmax., 7.1 A Output: DC +48 V, 10.42 A; DC +5Vstby, 2 A; DC +12V(Fan_out), 1 A  Maximum continuous output power: 500W with 30CFM Forced Air Cooling or with Cover fan 200W with Natural Convection Cooling

**Particulars: test item vs. test requirements**

Equipment mobility .....: for building-in  
Operating condition .....: continuous  
Mains supply tolerance (%) .....: +10%, -10%  
Tested for IT power systems .....: No  
IT testing, phase-phase voltage (V) .....: N/A  
Class of equipment .....: Class I (earthed)  
Mass of equipment (kg) .....: 1.0  
Protection against ingress of water .....: IP X0

**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

<b>GENERAL PRODUCT INFORMATION:</b>	
CA1.0	<b>Report Summary</b>
CA1.1	N/A
CB1.0	<b>Product Description</b>
CB1.1	Class I equipment for building in. Maximum recommended ambient (Tmra): 50 deg C
CC1.0	<b>Model Differences</b>
CC1.1	Model NTS503 is identical to Models NTS505 and NTS508 except for the 1.Output Rating 2.P/N of Power Transformer (T102) 3.P/N of Auxiliary Transformer (T106) 4.P/N of Common Mode Choke (L9) 5.P/N of Common Mode Choke (L10) 6.Component Reference name of Y-Capacitor (C2, C122) 7.Rating of Bridge Rectifier (DB1) 8.Rating of PFC Transistors (Q3, Q19) 9.Rating of Power Transistors (Q6,Q15,Q17,Q18,Q20,Q23,Q24,Q40) 10.Rating of Power Transistors (Q43) 11.Rating of Power Transistors (Q44) 12. Types of Fan used
CD1.0	<b>Additional Information</b>
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.
CE1.0	<b>Technical Considerations</b>
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
CE1.3	The means of connection to the mains supply is: Pluggable A, AC/DC Input terminals.
CE1.4	The product is intended for use on the following power systems: TT, TN
CE1.14	The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual
CE2.0	The clearance and creepage distance have additionally been assessed for suitable up to 4000 m elevation. Clearance distances were calculated using IEC 60664-1, Table A.2, correction factor 1.29.
CF1.0	<b>Engineering Conditions of Acceptability</b>

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: Electric Strength, Earthing Continuity
CF1.3	The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 400.4 Vrms, 716 Vpk, Primary-Earthed Dead Metal: 401.4 Vrms, 707 Vpk
CF1.5	The following secondary output circuits are SELV: All outputs
CF1.6	The following secondary output circuits are at hazardous energy levels: +12V output for Model NTS503, +24V output for Model NTS505, +48V output for Model NTS508
CF1.11	The power supply terminals and/or connectors are: Not investigated for field wiring
CF1.12	The maximum investigated branch circuit rating is: 20 A
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): T102, T106 (Class F)
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: 500W fan at 30 cfm applied for all models
CF1.23	The equipment is suitable for direct connection to: AC and/or DC mains supply
CF2.0	This power supply is not equipped with a power cord. A safety agency approved power cord and plug with appropriate wire gauge for the rated input current must be provided by the end system manufacturer.
CF2.1	This equipment was not evaluated for end system mounting. When installed in the end system, the proper evaluation should be considered in end system.
CF2.2	All outputs
CF2.3	Additional UL Recognized Fuse, rated 300 Vdc suitable for DC application must be provided in the end-system for DC Input.