

## UL TEST REPORT AND PROCEDURE

<b>Standard:</b>	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)
<b>Certification Type:</b>	Information Technology Equipment Including Electrical Business Equipment
<b>CCN:</b>	NWGQ2, NWGQ8
<b>Product:</b>	STM1e Copper SFP Transceiver
<b>Model:</b>	STM1E-SFP12, STM1E-SFP15, STM1E-SFP16, STM1E-SFP22, STM1E-SFP23, STM1E-SFP35
<b>Rating:</b>	Ratings are not required. For reference purposes only.  Supply: 4 Vdc, 170 mA Input: 2.0 Vdc, 1uA Output: 0.4 Vdc, 8 mA
<b>Applicant Name and Address:</b>	MAXIM INTEGRATED PRODUCTS 120 SAN GABRIEL DR SUNNYVALE CA 94086 UNITED STATES

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.

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Reviewed by: Scott Varner  
Underwriters Laboratories Inc.

*Kara Bostad*  
*Scott Varner*

**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 equipments described by this report are Small Form-factor Pluggable (SFP) copper transceivers. The SFP modules are STM1e with Multi Source agreement for SFPs, 155 Mbit/s electrical synchronous digital hierarchy (SDH) interface.

The products are to be powered by an LPS source.

**Model Differences**

Models STM1E-SFP12, STM1E-SFP15, STM1E-SFP22, STM1E-SFP23 are identical except for the programming of the EPROM.

Model STM1E-SFP16 is identical to models STM1E-SFP12, STM1E-SFP15, STM1E-SFP22, STM1E-SFP23 except for the programming of the EPROM and the center to center spacing on the connectors on the STM1E-SFP16 is 7mm versus 8mm for the other units.

Model STM1E-SFP35 is identical to models STM1E-SFP12, STM1E-SFP15, STM1E-SFP16, STM1E-SFP22, STM1E-SFP23 except for the programming of the EEPROM, and EEPROM type.

**Technical Considerations**

- Equipment mobility : for building-in
- Operating condition : continuous
- Mains supply tolerance (%) : No direct connection
- Tested for IT power systems : N/A
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class III (supplied by LPS)

- Mass of equipment (kg) : 0.02
- Protection against ingress of water : IP X0
- The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of: 55°C
- The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

**Engineering Conditions of Acceptability**

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:

- The following secondary output circuits are SELV: All
- The following secondary output circuits are at non-hazardous energy levels: All
- The investigated Pollution Degree is: 2
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No heating test was required based on construction. The product may require special consideration during end-product Thermal (Heating) test if used outside of its intended use, powered by LPS.

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The SFP Modules have not been evaluated for connection to outside plant (TNV).

**Additional Information**

N/A

**Markings and instructions**

Clause Title	Marking or Instruction Details
Power rating - Company identification	Listee's or Recognized company's name, Trade Name, Trademark or File Number
Power rating - Model	Model Number

**Special Instructions to UL Representative**

N/A