Title: NETWORK DEVICES WITH SOLID STATE TRANSFORMER THAT PROVIDES TERMINATION OF OPEN-DRAIN TRANSMIT DRIVERS OF A PHYSICAL LAYER MODULE

Abstract: Embodiments disclosed herein provide a network device including an electronic load circuit coupled in parallel between a non-magnetic transformer and a physical layer (PHY) module. Data signals are received via a network connector, and the electronic load circuit is operable to provide DC termination of open-drain (DC common-mode control and current sourcing to) transmit drivers of a physical (PHY) layer module. A common-mode suppression (CMS) circuit can be coupled to positive and negative input signals to the PHY layer module. The CMS circuit is operable to block common-mode noise currents while passing differential mode data signal currents bi-directionally between the network connector and the PHY layer module. Further embodiments disclosed herein describe a network device including a class AB common mode suppression (CMS) circuit coupled in parallel between a line voltage source and a physical layer (PHY) device that provides active EM1 suppression and phy device termination.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(8) - H03F 3/45 (2008.04)
   USPC - 330/252
   According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
   Minimum documentation searched (classification system followed by classification symbols)
   IPC(8) - H03F 3/45 (2008.04)
   USPC - 330/252

   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

   Electronic database consulted during the international search (name of database and, where practicable, search terms used)
   Database: MicroPatent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
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☐ Further documents are listed in the continuation of Box C.

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Date of the actual completion of the international search
01 April 2008

Date of mailing of the international search report
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