CONEXANT™

AccessRunner™ Central Office ADSL Modem

CN9001

Low-Power, High-Density, Full-Rate G.lite Solution

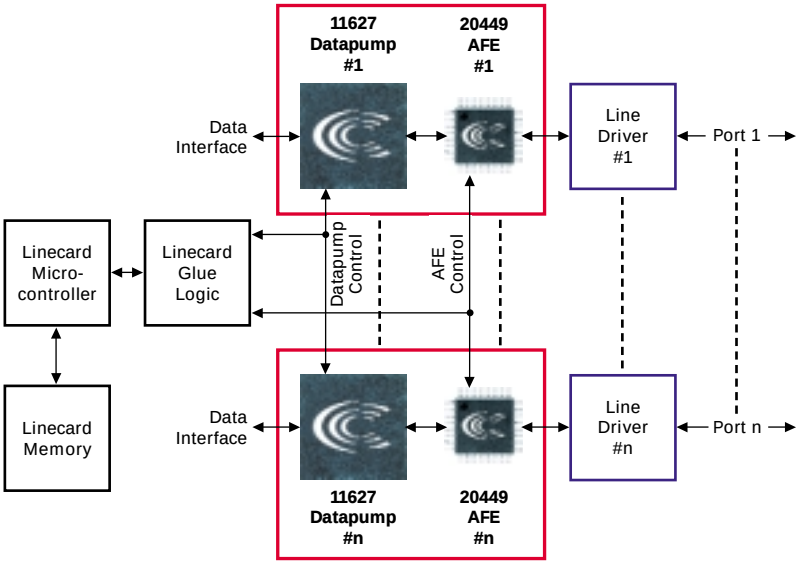
The Conexant AccessRunner™ Central Office ADSL modem device set offers standards compliant, full-rate and G.lite functionality with extended reach as a high-density, low-power solution. The device set is fully compliant with ANSI T1.413 Issue 2, ITU G.992.1 (G.DMT), and ITU G.992.2 (G.lite) standards. It supports a downstream data rate of up to 8 Mbps (full rate)/1.5 Mbps (G.lite) and an upstream data rate of 1 Mbps (full rate)/512 Kbps (G.lite). AccessRunner is designed for multiport solutions and works in conjunction with the existing microprocessor on a linecard. Power consumption is only 790mW per port (excluding the line driver). Each port occupies less than two square inches of board space, including the datapump, AFE, line driver, hybrid, transformer, and line protection circuitry.

AccessRunner combines the flexibility of a programmable solution with the low power, high performance, and low cost of a customized DMT transceiver. The AFE is optimized for the datapump, with integrated receiver op-amp and receive filters to reduce board space and bill of materials.

Distinguishing Features

- Compliant with ANSI T1.413 Issue 2, ITU G.992.1 (G.DMT), and ITU G.992.2 (G.lite) ADSL Standards
- Two-chip solution, including ATM TC, ADSL DSP, analog front-end, receive op-amp, and receive filters
- Only 790mW per port (excluding line driver)
- Less than two square inches per port for fully implemented solution
- Trellis coding and digital echo cancellation for extended reach
- Interoperable G.lite and full-rate operation
- Industrial operating temperature range (-40º to +85º C)

Actual Size



Product Features

ADSL DMT Datapump

- **Fixed function, parameter programmable DSP, specifically designed for DMT ADSL**
- **Low power consumption (790mW per port)**
- **Supports ANSI T1.413 Issue 2, ITU G.dmt (G.992.1 Annex A) and ITU G.lite (G.992.2 Annex A) standards**
- **No external interleave RAM required – 16K bytes built in**
- **Central office or remote terminal configurable**
- **Reed-Solomon Forward Error Correction (FEC)**
- **Echo cancellation**
- **Rate adaptation**
- **Packaging: 13mm x 13mm 176-pin CABGA or 176-pin TQFP**
- **Device Number: 11627**

Analog Front End

- **Low power consumption (200mW)**
- **Low-power tone detection mode for G.lite**
- **Independent daisy chained digital serial data and control interfaces help reduce package size and board routing complexity**
- **Received signal path includes:**
  - Integrated hybrid receiver circuit with programmable gain to help reduce discrete component count and board space
  - Low pass filtering and 27 dB of Automatic Gain Control (AGC) to improve signal to echo ratio
  - 14-bit ADC
- **Transmitted signal path includes:**
  - 30 dB of AGC for transmit power control
  - High pass filtering to suppress noise
  - 14-bit DAC
- **Packaging: 32-pin TQFP**
- **Device Number: 20449**

Software Features

- **Common API commands allow simple migration among Conexant xDSL products**
- **Control Code, in C, can be ported to linecard's own processor. The Control Code (256 KB common among all ports with additional 16 KB for each port) includes DMT API, AFE API, and Controller API**
- **Single host interface API allows control of all ports**
- **Upgradeable code**

The chipset has been tested and verified with several line drivers for optimum performance.

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