

Merlin Device

Single VDSL2 DMT Chip “MT2301”



Introduction

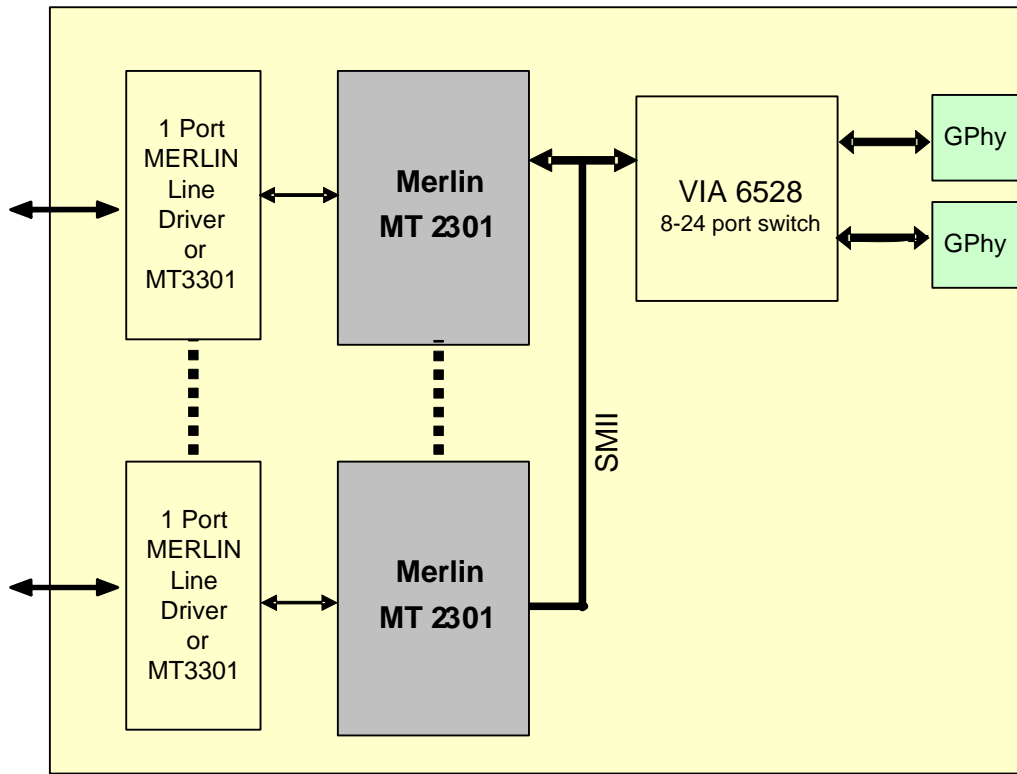
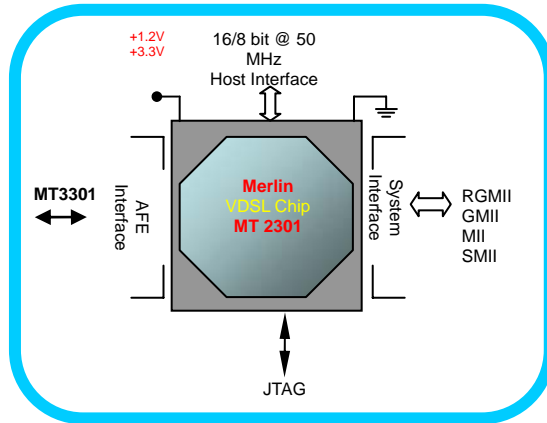
The MT2301 is part of the Metanoia VDSL2 chipset solution named Merlin. The Merlin is a single chip programmable Discrete Multi-Tone (DMT) Digital Subscriber Loop (DSL) digital modulator/ demodulator processor units for broadband access. The Device supports all committee T1E1.4 and ITU-T G.993.2 DSL discrete multi-tone based specifications, as well as IEEE 802.3 10PASS-TS.

Key Features

- ◆ Single chip configurable DMT data pump supporting 100Mbps/100Mbps DS/US payload data rate.
- ◆ Up to 3072 DMT carriers supported in the downstream and upstream directions.
- ◆ All 4096 DMT carriers can be used between U/DS, with four DMT pass-bands per direction
- ◆ Conformance to T1E1, ITU-T standards for VDSL2, and current IEEE 802.3ah draft for 10PASS-TS (EFM).
- ◆ Configurable band-plan, conforms to NA, EUR and Swedish Band-plans subject to the 3072/4096 and 8-band/4-passband constraints
- ◆ Trellis coding support for up to 3072 DMT carriers in any VDSL2 mode.
- ◆ Supports Seamless Rate Adaptation (SRA) and Dynamic Rate Repartitioning (DRR).
- ◆ Dual latency support with independent interleaver for each path and 128KB on-chip GCI memory.
- ◆ Flexible QoS classification and queueing supports hardware based latency path routing.
- ◆ Supports IEEE 802.3 MII/GMII single port and SMII dual port.
- ◆ No external RAM required. Internal RAM booted from EEPROM, Flash, or external uP.
- ◆ PHY software and management through IEEE 802.3 MDIO serial or a bi-directional octal interface.
- ◆ Optimized to support low latency applications as required for voice.
- ◆ 4 KHz and 8 KHz symbol rates allow variable bandwidth per bin.
- ◆ 128-lead thin quad flat package (LQFP).

Applications

- ◆ IP digital Subscriber Loop Access Multiplexer solution
- ◆ Multi-Service Access Platforms (MSAP)
- ◆ Customer Premise/Located Equipment for Internet Access and VoIP



MTU/MDU IP DSLAM/ORD