

- ITU-T G.993.2 standard compliant with support for 8.5/12/17.6/30MHz operation
- eXtremeVDSL2™ technology for long reach 100 Mbps symmetric datarates
- Multi-latency operation for triple play and IPTV applications
- Dynamically configurable ATM, PTM modes with on-chip AAL5 SAR
- On-chip interleaver memory for highest INP protection
- On-chip power management for lowest power
- Flexible external ATM and PTM bonding
- Dynamic crosstalk detection/adaptation for robust link operation
- Configurable one GMII port or two RMII/SMII/SS SMII ports
- Backwards compatible to ADSL/2/2+/2++

The Arion™ CPE family of chipsets, part of Centillium's VDSL2 end-to-end solution, is a high performance, standard based VDSL2 solution that addresses applications ranging from a simple bridge to a full featured set-top box.

Armed with many years of high-performance DSL technology deployment around the world, Arion CPE chipset offers the next generation of eXtremeVDSL2™ technology for the exploding triple-play, video, and IPTV markets. The Arion chipset supports multiple latency paths for voice and video traffic. The low latency path can be assigned to delay sensitive voice data while interleaved path can be assigned to video data with high level of impulse noise protection in a programmable way. The Arion chipset has a built-in QoS routing mechanism for VoIP and IPTV traffic.

In addition to advanced features, the Arion chipset offers on-chip AAL5 SAR for packet-based network interfaces. The Arion chipset can be connected gluelessly to Centillium's Atlanta family of chips to add powerful routing and VoIP functionalities. In addition, Atlanta's PCI interface can be used to connect to off-the-shelf WiFi chips for trio-modem applications. The Arion chipset enables off-chip ATM and PTM bonding by providing encapsulated partial packets over the Ethernet interfaces including flow control.

The Arion chipset incorporates multiple network interfaces that will support two RMII/SMII or one 10/100/1000 GMII interfaces for flexible network connectivity. In addition, the Arion chipset supports GPIO, SPI, and JTAG interfaces.

The digital processor provides full programmability and high-performance for future proof modem solutions. The AFE incorporates external discrete components resulting in a reduced system BOM (bill of materials).

Its high-resolution analog-to-digital (A/D) and digital-to-analog (D/A) converter circuits provide the performance required for high data rate applications.

The Arion CPE family of chipsets provides features, cost, and performance advantage. To accelerate time to market, complete reference designs and customer support are provided.



the edge in broadband™

Features

- Highly optimized multi-mode VDSL2, ADSL, ADSL2, ADSL2+, and ADSL2++ support
- Fully supports VDSL2, VDSL, ADSL2, and ADSL2+ training/framing (ADSL2 feature set is backwards compatible with ADSL)
- Compliance with the following ITU-T specifications:
 - G.993.2 VDSL2
 - G.993.1 VDSL
 - G.992.5 (ADSL2+) with associated annexes
 - G.992.3 (ADSL2)
 - G.992.1 (ADSL G.dmt) with associated annexes
 - ITU-T G.997.1 (G.ploam)
 - ITU-T G.994 (G.hs)
- High-performance VDSL2 engine supports the following loop profiles:
 - High symmetric and aggregate data rates for profiles ranging from 8.5 MHz to 30 MHz
 - GCI (generalized convolutional interleaver) with increased interleaver depth
 - Impulse noise protection up to 16 symbol length



CENTILLIUM COMMUNICATIONS

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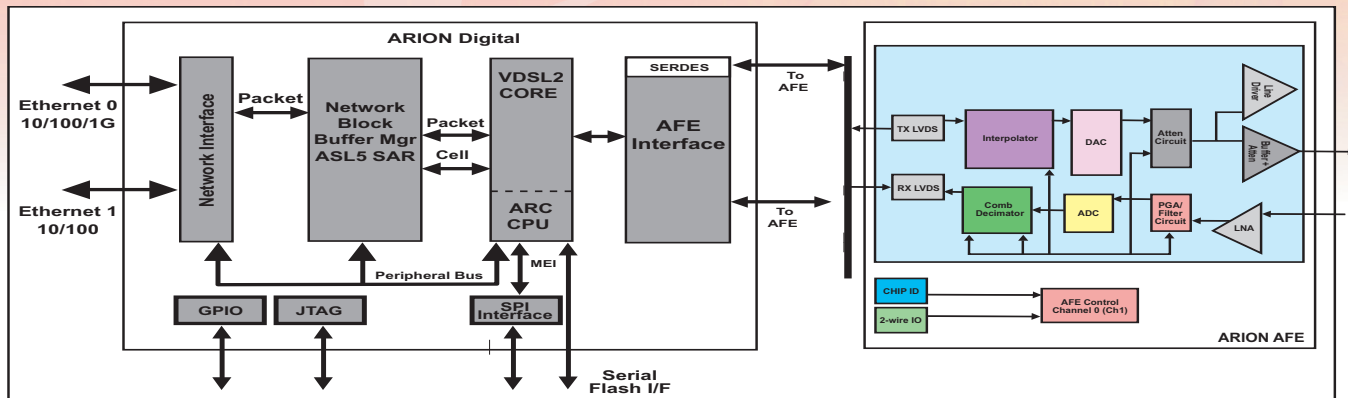
Digital Processor (DSP)

- Monolithic VDSL2 digital chip
- Single, low-cost external crystal operation
- Fully programmable band plans
- Multiple latency support
- External channel bonding capability
- Multiple latency per channel
- Configurable two RMII or one RMII and one 10/100/1000 GMII network interfaces
- Serial flash interface
- GPIO and SPI interfaces
- JTAG (IEEE 1149.1) boundary scan
- 128-pin MQFP (14 mm x 20 mm) package

Analog Front-End (AFE)

- Complete AFE for high-performance VDSL2
- Monolithic AFE chip
- Integrated line driver (up to 8.5 MHz)
- Compatible with ADSL2 and ADSL2plus
- On-chip crystal oscillator
- Low-power, cost effective, mixed-signal CMOS device
- Glueless interface to the digital processor
- Integrated gain control for transmit and receive paths
- High-resolution A/D and D/A converters for transmit and receive paths
- 144-pin LPGA (11 mm x 11mm) package

ARION-CPE Block Diagram



ARION-CPE Chipset Options

Product Family	Profiles Supported	Applications	Function	Part Number	Package
ARION 1020	UP to 17.6 MHz	High data rate applications	Digital Chip	CT-C37DB01-IM	128-pin MQFP (14 mm x 20 mm)
			Analog Chip	CT-C45AB01-PK	144-pin LPGA (11 mm x 11 mm)
ARION 1030	Up to 30 MHz	100 Mbps symmetric rates	Digital Chip	CT-C47DB01-IM	128-pin MQFP (14 mm x 20 mm)
			Analog Chip	CT-C45AB01-PK	144-pin LPGA (11 mm x 11 mm)



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