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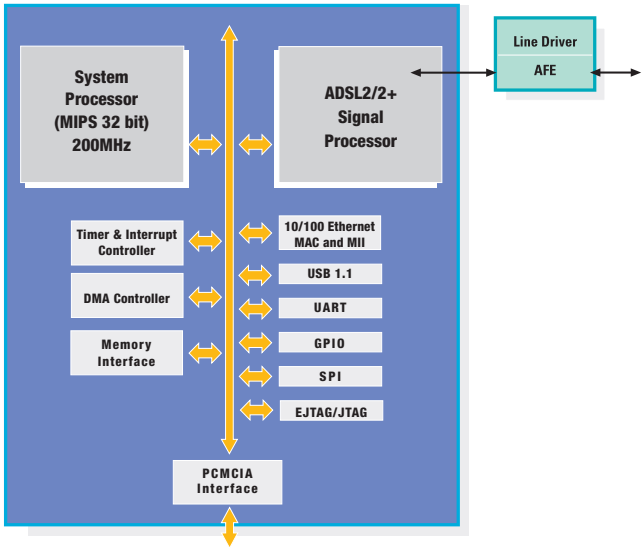
StreetFighter 100 Chipset for ADSL CPE Applications Worldwide



Key Features and Benefits

- ADSL performance up to 24Mbps downstream data rates: ADSL2 & ADSL2+
- MII and USB 1.1 interfaces for easy LAN connectivity
- Integrated RISC processor supports routing features and other value-added residential and SOHO applications
- Bundled with complete router application software suite for fast Time to Market
- Complete Turnkey Reference Design available for fast Time to Market
- Precision AFE enables ADSL physical layer performance and reduced external circuit complexity and cost
- Integrated line driver reduces bill of materials cost
- Annex A & B interoperability

StreetFighter 100 is the first of a new generation of ADSL CPE chipsets from Centillium Communications and builds upon the foundational success of the widely deployed Palladia 220 family. The StreetFighter 100 brings together the right combination of price/performance for emerging and high growth ADSL markets worldwide. StreetFighter 100 is an integrated solution that provides all the key functional blocks required to implement an ADSL bridge, router, or home gateway product.

Designed to perform up to the latest ADSL2/2+ standards, the StreetFighter 100 contains an ADSL2+ physical layer engine capable of achieving data rates of up to 24Mbps downstream, three times the speed of commonly deployed ADSL modems. This is achieved by doubling the frequency spectrum compared to traditional ADSL solutions and makes the StreetFighter 100 one of the fastest ADSL CPE chipsets specifically targeted at the feature sets and economic requirements of the high growth markets around the world. The StreetFighter 100 supports the G.dmt Annexes A & B, as well as G.lite and T1.413i2 ADSL standards.

An integrated RISC processor provides the engine for running router software stacks, transforming the StreetFighter 100 system into an effective CPE product supporting standard and medium value-added applications.

The StreetFighter 100 is designed for easy connectivity. By integrating a 10/100 Ethernet MAC with a standard MII interface, the StreetFighter 100 can be connected to a local area network and to numerous peripheral devices. As well, a USB 1.1 interface is included for plug and play capability.

The StreetFighter 100 comes bundled with a complete RTEMS router stack including application software and operating system. Centillium offers a comprehensive suite of application software that includes bridging and routing capabilities, along with advanced firewall features such as stateful packet filtering, NAT, and protection from cyber attacks. This solution offers a significant time-to-market advantage for vendors who do not wish to develop their own software stack.

The analog chip integrates a high-precision analog front end with a 16-bit digital-to-analog converter. This simplifies the external circuitry reducing cost, and is instrumental in achieving high levels of ADSL physical layer performance. Additionally, the analog chip integrates an ADSL line driver, thereby reducing the external component count and providing a further reduction in bill of material cost of the StreetFighter 100 ADSL modem solution.

The StreetFighter 100 chipset comes with a complete reference design kit consisting of reference schematics, bill of materials and reference boards that allow customers to shorten design times and minimize time to market. Application notes and other technical documents are also available along with expert technical support to ease the design process.

Product Specifications

ADSL
- Data rates of up to 24Mbps downstream and 1Mbps upstream
- Supports ITU-T G.992.1 (G.dmt) G.992.3 and G.992.5 Annexes A & B, ANSI T1.413 Issue 2 ADSL standards
- Meets TR-048 performance specifications
- Meets UR-2 performance specifications
- TC-layer hardware acceleration

System Processor
- Integrated 32-bit, 200MHz MIPS® 4Kc™ RISC processor core with 16 Kbytes instruction cache, 16 Kbytes data cache, and 16 Kbytes boot RAM

ATM
- Hardware traffic shaping for 2 VCCs
- Hardware support for VCC demultiplexing
- Additional virtual channels (up to 8) supported by means of software demux
- CBR, UBR, and VBR
- I.610 OAM F4/F5 loopback
- ILMI and support for TR037

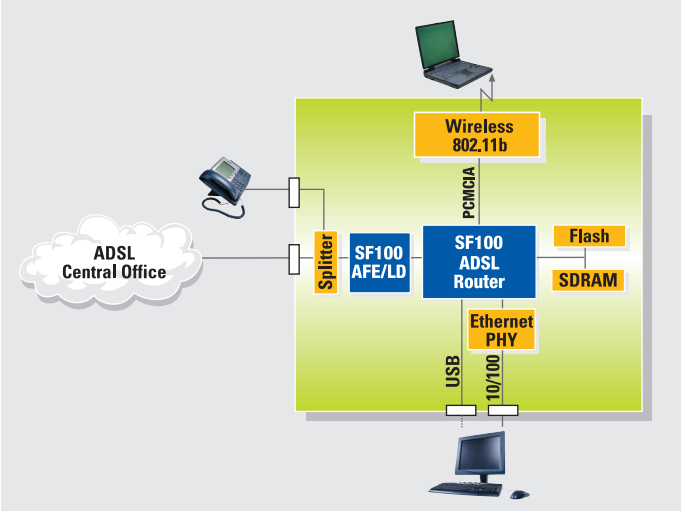
AFE
- High-precision AFE with 16-bit DAC
- Integrated receive circuit with programmable gain
- Integrated ADSL line driver

Interfaces
- 10/100 Ethernet MAC with standard MII interface
- USB 1.1 slave interface
- Generic 50MHz, 16-bit host interface
- UART
- 8 GPIO pins
- EJTAG/JTAG

Other Hardware Blocks
- Two general timers and one watchdog timer
- 100MHz memory controller supports 8 to 16Mbytes of SDRAM
- DMA controller

General
- Two chip solution consisting of one digital chip and one analog front end chip with integrated line driver
- Part numbers and packages
  - Digital chip: CT-S20DR20-PJ (Annex A and B) in 256-pin LBGA
  - Analog chip: CT-S10AX00-LA in 48-pin LQFP
- Supply voltages
  - Digital chip: 3.3V and 1.8V +/-5%
  - Analog chip: 5V and 3.3V +/-5%
- Commercial temperature range (0 to 70°C)

Application Diagram



Part Ordering Information

Product	Function	Part Number	Package
StreetFighter 100 CT-S20SR20 (Annex A and B)	Digital chip	CT-S20DR20-PJ	256-pin LBGA
	Analog chip	CT-S10AX00-LA	64-pin LQFP

Note: The chipset must be ordered in sets. Orders of individual components are filled as chipset orders.

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