



BL2000 Family Product Brief

GPON/BPON Optical Network Terminal (ONT) System on Chip (SoC)

BroadLight's BL2000 ONT SoC family offers highly integrated, low-cost solutions for the single family unit (SFU) ONT and the performance and features needed to address the multi-dwelling unit (MDU) and multi-tenant unit (MTU) ONT applications. Together with *PONmaker-G* software, designers can develop low-cost GPON ONTs complying with ITU-T G.984.3 quickly and with low-risk. The embedded MIPS32 CPU provides a powerful and widely used platform for high-volume CPE development. The key to the BL2000's performance is its PON application focused cell/packet processor – 'Runner'. This microcode based engine provides the cell/packet service classification, filtering, reassembly and bridging speed necessary for VoIP and IPTV.

Main Features

- Single chip solution for SFU ONT applications with scalability for MxU ONTs.
- Glueless interfacing for VoIP DSP
- GbE wire-speed performance
- Microcode programmable cell/packet engine for Ethernet bridging and L2/3/4 QoS
- 2 Ethernet MAC interfaces
- Native GEM support for TDM or ATM
- Embedded CDR and SerDes for glueless connection to MSA compliant transceivers

ITU-T MAC

- GPON ITU-T G.984.3 MAC
 - 2488 Mbps DS, 1244/622 Mbps US
 - Configurable AES DS and FEC DS/US
 - 8 T-CONTs each with priority queues
- BPON ITU-T G.983 MAC
 - 1244/622 Mbps DS, 155 Mbps US
 - Based on field proven XN230

CPU

- MIPS32 4KEc RISC core with MMU
- 16 GPIO, UART, SPI, I²C
- Low-power mode for lifeline POTS

BL2000 Physical

- 27x27 mm 354 PBGA lead-free with 1mm ball pitch
- 1.2V, 1.8V 2.5V <1.9W -40°C to +85°C

Cell/Packet Engine

- Classification engine supporting queuing, scheduling, policing and traffic shaping
- AAL1, 2 & 5 SARing
- IEEE 802.1p with 8 priority queues
- IEEE 802.1q VLAN tag and stacking
- IP DiffServ Code Point (DSCP)

Ethernet Interfaces

- 2x 10/100 IEEE 802.3/802.3u
 - MII, RMII, MII & RMII, dual RMII
- 10/100/1000 IEEE 802.3ab/802.3x
 - GMII MAC
- Configurable IEEE 802.3x flow control
- Configurable MDIO interface
- Programmable watermarks
- Statistic counters for OMCI and RMON

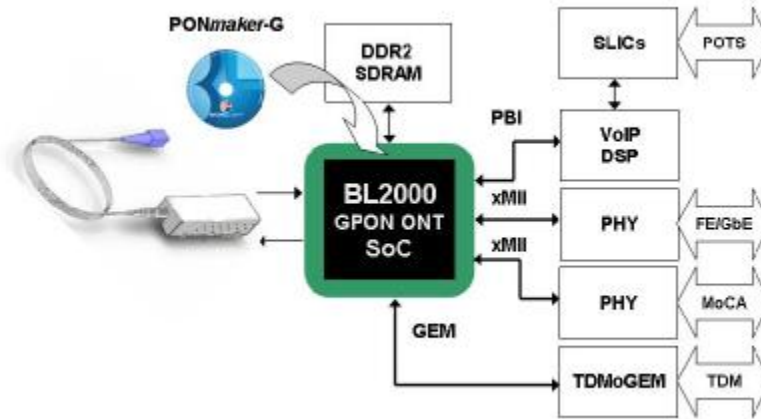
GEM Interface

- Supports 20 Mbps of clear channel GEM for TDM, cell or packet data

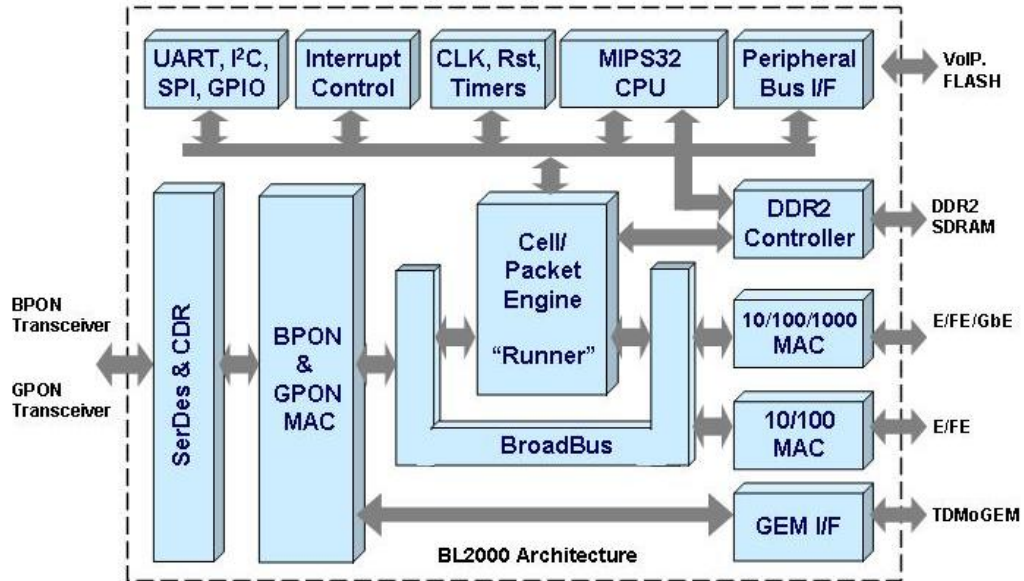
Peripheral Bus Interface

- 8 CS for memory mapped peripherals
- Connectivity for VoIP DSP, FLASH, etc.

BroadLight provides reference designs and application notes for industry leading Voice DSP and PHY devices.



The BL2000 architecture addresses the low-cost, data only SFU ONT application and yet scales to the high performance, feature rich MDU/MTU ONT providing wire-speed GbE and native TDM or CES service.



GPON ONT Solution ordering information:

- BL2230 BPON ONT SoC - 622 Mbps DS, 155 Mbps US
- BL2338 GPON ONT SoC – 2488 Mbps DS, 1244/622 Mbps US
- BL2340 GPON ONT SoC – 2488 Mbps DS, 1244 Mbps US for MDU/MTU Applications
- BL2630 B/GPON ONT SoC – 1244/622 Mbps DS, 1244/622/155 Mbps US
- BL2000 PONmaker-G ONT Software – BL4297
- BL2000 Evaluation System – BL1050

BroadLight Inc. 1300 Crittenden Lane, Suite 203
 Mountain View, California U.S.A. 94943-1359
 Tel: +1-650-937-1130 Fax: +1-650-937-1125
www.broadlight.com sales@broadlight.com