

OPTICAL LINE TERMINAL (OLT)

GT5116-06B

CARRIER GRADE OPTICAL ACCESS PLATFORM

COMPACT GIGABIT-CAPABLE PASIVE OPTICAL NETWORK (GPON) PLATFORM DELIVERS HIGH-SPEED VOICE, DATA AND VIDEO SERVICES TO RESIDENTIAL AND BUSINESS SUBSCRIBERS



Market Requirement

FTTx (Fiber to the Node) solution helps operators to provide broader bandwidth and more services to the customers. By deploying FTTx, access network is no more bottle-neck and triple play may be integrated from several different networks.

A saving and reliable way of deploying FTTx is applying for PON (Passive Optical Network) technology which has the features of P2MP (Point-to-Multipoint) topology.

Solution/Product Overview

GT5116-06B is one of the most flexible and scalable broadband platform, supporting up to 8192 GPON subscribers at 64 split ratio. High subscriber density combined with the operational cost savings of GPON technology makes GT5116-06B the most cost effective last-mile access solutions. It's up to 44Gbps uplink interface provide a rich bandwidth for customers. 1+1 uplink interface and power modules redundancy provide carrier class robust service.

NEC also brings direct experience of operating networks in highly competitive markets. Operational streamlining is achieved by simple point - and - click functions within NEC's fully - featured subscriber and network management system.

Key Features

- **Comply to the Latest International ITU-T G.984 Standards and Related Recommendations.**
- **Support Flexible FTTH/FTTB/FTTC Deployments.**
- **Highly Integrated System Supports Triple-Play.**
- **IP Core switch with 500G Capacity.**
- **10G Backplane & Bus.**
- **Support Encryption Techniques in Downstream Data Transmission with AES-128.**
- **Advanced L2 Functions.**
- **Optional Partial L3 Functions.**
- **Support STM-1/E1 TDM service.**
- **Well Protection by Redundancy Design.**
- **Support Type B PON port protection**
- **Support max 4x10GE +4xGE uplink. Capacity**
- **Support max 8192 GPON user per Subrack.**
- **Support External Environment Monitoring.**
- **Full Front Access Facility**

Technical Summary

HARDWARE

PHYSICAL DIMENSION

- Chassis: 485 mm (W) x 270.2mm (D) x 621.5 mm (H)

ARCHITECTURE

- 19" rack chassis, Total 20 slots
- 2 slots for 1:1 Redundant Core Switching Module
- 16 universal slots for PON line card
- Two Half size Slots for uplink card
- Two power modules for 1+1 power redundancy
- Three field replaceable Fan tray
- 10Gbps full duplex backplane

PHYSICAL INTERFACE

- 1 RJ45 RS232 of Console port
- 1 RJ45 10/100Base-T Fast Ethernet of LAN management
- GE Uplink interface: SFP 1000Base-SX/LX/ZX
- 10GE Uplink interface: XFP: 10GBase-SR/LR/ZR
- GPON interface SFP type of OLT port
- GPON optical interface comply with ITU G.984.2 Class B+
- Splits ratio : 64
- Maximum OLT port up to 128 ports
- E1/STM-1 physical interface

GPON Optical Characteristic

- Optical Fiber: G.652/G.657 Single Mode Fiber
- Connector: SC/UPC
- Upstream / Downstream data rate: 1.244/ 2.488 Gbps
- Maximum Reach: 20 km
- Wavelength: TX 1490nm / RX 1310nm (RF 1550nm)
- Average mean launch power (maximum): +5 dBm
- Average mean launch power (minimum): +1.5 dBm
- Minimum receiver sensitivity: -28 dBm
- Support Uplink and downlink FEC

POWER CONSUMPTION

- Full load power consumption: 600 Watts

POWER SUPPLY

- DC -48V input (-40~-57V), 2 power modules redundancy

ENVIRONMENTAL SPECIFICATIONS

OPERATING TEMPERATURE

- 0°C to +50° C

RELATIVE HUMIDITY

- 5% to 90% non condensing

STORAGE TEMPERATURE

- -30 to +60° C

ADVANCED FEATURES

LAYER 2 SWITCHING FUNCTIONS

- 500 Gbps Non-blocking wire speed switching
- STP/RSTP/MSTP
- IEEE802.1Q with 4K VLANs handling
- IEEE 802.3ad link aggregation
- VLAN Q in Q
- 16K MAC addresses

QUALITY OF SERVICE (QoS)

- IEEE 802.1 p compliant 8 CoS queuing
- SP, WRR and SP + WRR congestion management
- Classification based Traffic Metering, Shaping and Marking
- Dynamic Bandwidth Allocation (DBA)

MULTICAST

- 4K Multicast Groups Support
- IGMPv2/v3 Proxy and Snooping
- Support Fast Leave

SECURITY

- ACL and Packet filtering
- AES 128 bit Encryption for downstream
- Anti MAC spoofing
- Anti DoS Attack Features

SYSTEM MANAGEMENT

- GUI and CLI via in-band and out-band management mode
- Support SNMP v1/2
- ONU Remote Upgrade and Management
- ITU-T G.984.4 OMCI management

Standard Compliance

- ITU-T G.983.1/G.983.4/G.983.5 Standard
- ITU-T G.984 Series Standard
- IEEE 802.3ah
- IEEE 802.3u 100M Fast Ethernet Standard
- IEEE 802.3z Gigabit Ethernet Standard
- IEEE 802.3x Port Stream Control Standard
- IEEE 802.3ae 10G Ethernet Standard
- IEEE 802.1w RSTP
- IEEE 802.3ad Ethernet Link Aggregation
- IEEE 802.1p Priority Standard
- IEEE 802.1q VLAN Protocol
- IEEE 802.1ad Q-in-Q
- IETF SIP/ H.248
- ITU-T G.723 Voice Standard
- ITU-T G.729 Arithmetic
- IETF RFC 2236 Internet Group Management Protocol v2

Key Applications

- Support FTTH Solution for Triple Play Service
- Support Economical FTTB Solution for Triple Play service
- Support Economical FTTC Solution for Remote Access



Safety Precautions

★ Before installing, connection or using this product, be sure to carefully read and observe the cautionary and prohibited matters provided in the instruction manual.

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