OLT LTE-2X
Turbo GEPON central office node terminal

Description:

The OLT LTE-2X central office node terminal is designed to provide broadband access over a Passive Optical Network (PON). Access to the transport network of the provider is realized through combo Gigabit uplink interfaces. Turbo GEPON interfaces are used to connect to Passive Optical distribution Networks (PON). Up to 64 subscriber optical terminals can be connected to each interface with one fiber. The Dynamic Bandwidth Allocation (DBA) enables to provide a downstream rate up to 2.5 Gbps.

The LTE-2X application enables the operator to build scalable fail-safe “last mile” networks, providing a high level of safety in urban as well as rural areas. The OLT LTE-2X provides subscriber devices control, packet traffic switching and connection to transport networks.

Uplink connection:

- 4 10/100/1000 Base-T /10/100/1000 Base-X SFP combo ports

2 Turbo GEPON ports (2.5 Gbps)
Up to 128 ONT to one node
RSSI support
Ideal solution for small residential area or village and for apartment building

Design:

The device has a 1U metal case available for 19” form-factor rack-mount shelf installation.

Features:

Support for standard device management interface through CLI, web, SNMP interfaces, console port RS232
Aggregate switch functions with the support of the following features:

- MAC address learning /aging
- MAC address quantity restriction
- Unknown MAC address processing
- Broadcasting traffic restriction
- Multiaddress traffic restriction
- Quantity of multicast groups up to 2000
- Q-in-Q support in accordance with IEEE802.1ad
- STP, RSTP, MSTP
- IGMP-proxy
- IGMP-snooping
- IGMP fast leave
- Static routing
- Port insulation, port insulation within one VLAN
- Received Signal Strength Indication (RSSI)

Interworking with internal monitoring and control devices by Telnet, SSH, SNMP protocols;

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Specifications:

Processor

- Processor: Marvell, ARMv5TE architecture, 800 MHz
- Core numbers: 1
- Main memory: DDR2 SDRAM 256 MB 320 MHz
- NVRAM: 32 MB SPI Flash

Switch

- Ethernet switch: Marvell Packet Processor
- Switch performance: 128 Gbps
- Table of MAC addresses: 16K
- VLAN support up to 4K in accordance with 802.1Q
- Quality of Services QoS

Network interfaces

Uplink:

- 4x 10/100/1000Base-T / 1000Base-X (SFP)

Downlink:

- 2 x 2.5 Gbps (Turbo GEPON)

Port modes

- Duplex/ half-duplex mode 10/100/1000 Mbps for electrical ports.
- Duplex mode 1 Gbps for optical ports.

SFP PON parameters

- Connector type: SC/UPC
- Standards: ITU-T G.984.2, FSAN Class B+, SFF-8472
- Transmission medium: fiber optical cable SMF- 9/125, G.652
- Transmitter: 1490 nm DFB laser
  - Data rate: 2488 Mbps
  - Average Launch Power: +1.5 to +5 dBm
  - Spectral Line Width -20 dBm 1.0 nm
- Receiver: 1310 nm APD/TIA Detector/Amplifier
  - Data rate: 1244 Mbps
  - Receiver Sensitivity:-28 dBm
  - Receiver Optical Overload: -8 dBm
- Splitting ratio: 1:4, 1:8, 1:16, 1:32, 1:64
- Max. transmission distance: up to 20 km

DDM support

- Digital RSSI
- Module Temperature
- Supply Voltage
- Laser Bias Current
- TX Optical Power Output

Supported standards:

- IEEE 802.3 ah EPON
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-T Fast Ethernet
- IEEE 802.3ab 1000BASE-T Gigabit Ethernet
- IEEE 802.3z Fiber Gigabit Ethernet
- ANSI/IEEE 802.3 NWay auto-negotiation
- IEEE 802.3x Flow control
- IEEE 802.3ad LACP
- IEEE 802.1p Traffic prioritization
- IEEE 802.1Q VLAN
- IEEE 802.1ad Provider Bridges (QinQ)
- IEEE 802.1v VLAN Classification by Protocol and Port
- IEEE 802.3 ac VLAN tagging
- IEEE 802.1d STP Spanning Tree Protocol
- IEEE 802.1w RSTP Rapid Spanning Tree Protocol
- IEEE 802.1s MSTP Multiple Spanning Tree Protocol
- IEEE 802.1x User authentication

Power consumption 30 W

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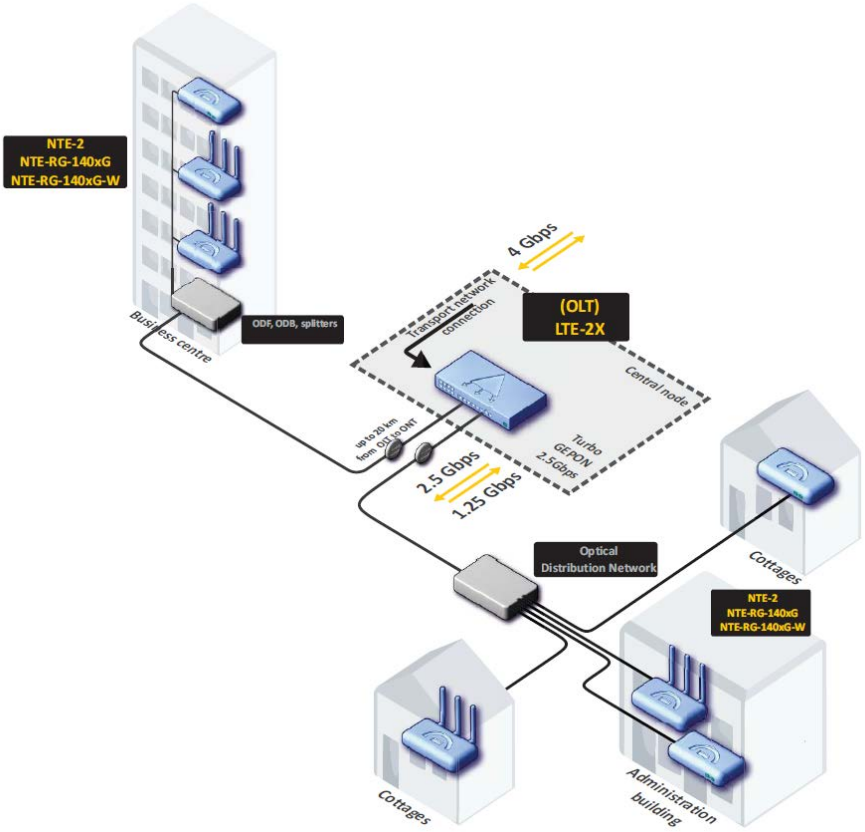
Typical application diagram

Turbo GEPON network

Broadband subscriber access via “Fiber to the Home” is the highest quality method of sending Triple Play as it provides a high data transmission rate at a long range.

The primary advantage of PON technology is the absence of active nodes which need a power supply on a section from OLT to ONT, that significantly reduces expenditures for network exploitation. In addition, PON technology enables to save on cable infrastructure because of the reduction in the total length of the optical fiber, as far as one fiber is used for the group of up to 64 subscribers from central node to splitter.

The Turbo GEPON LTE-2X equipment produced by OPTOKON* provides the best solution for network building in tenement houses and cottage settlements. It enables to connect both large and small corporate clients in business centers.



Ordering Code:

Description	Part number
OLT LTE-2X: 2x SFP-xPON ports 4x 10/100/1000 combo ports, L2+ switch, RSSI	LTE-2X-AC[1] LTE-2X-DC[2]
1) Power supply module 220 V AC, 150 W	PM150-220/12
2) Power supply module 48 V DC, 350 W	PM75-48/12
SFP xPON 2.5 GE 20 km, 1 fiber	GP-LP-LX-D
SFP+ 10 GE 10 km, 2 fibers, 1310 nm	S10-D31-SP-LR-D
SFP 1.25 GE 20 km, 2 fibers, 1310 nm,	S125-F31-LP-LX-D
SFP 1.25 GE 40 km, 2 fibers, 1550 nm,	S125-D55-LP-HX-D
SFP 1.25 GE 80 km, 2 fibers, 1550 nm	S125-D55-LP-ZX-D
SFP 1.25 GE 20 km, 1 fiber, TX/RX	S125-W31/55-LP-LX-D
SFP 1.25 GE 40 km, 1 fiber, TX/RX[3]	S125-W31/55-LP-HX-D

Note: 1-2) OLT is equipped with defined power supply module
1) More models on WWW.OPTOKON.COM

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