
GPON ONT G-97D2

Platform Briefing

VERSION3

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Partnership for the Next Generation Broadband CPE

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■ Overview

To deliver triple-play services to the subscriber in Fiber-to-the-Home or Fiber-to-the-Premises application, the GPON ONT G-97D2 for SFU (Single Family Unit) incorporates interoperability, key customers' specific requirements and cost-efficiency.

Equipped with ITU-T G.984 compliant 2.5G Downstream and 1.25G Upstream GPON interface, the G-97D2 ONT supports the full Triple Play of services including voice, video, and high speed internet access.

Compliant with standard OMC1 definition, ONT G-97D2 is manageable at remote side and supports the full range FCAPS functions including supervision, monitoring and maintenance.

■ Service

Data

The G-97D2 ONT is delivered with two 10/100/1000 interfaces, supporting:

- Auto-negotiation and MDI/MDIX auto-sensing
- Data transferring at wire-speed for all packet size
- Built-in layer-2 switch

Advanced data features such as VLAN tag manipulation, classification, and filtering

Voice

The G-97D2 ONT can optionally be delivered with one POTS interface port for carrier-grade voice services, supporting:

- 3 REN, balanced Ring at 55V RMS, DTMF dialing
- Multiple voice codec
- Echo Cancelling, VAD, CNG
- Various CLASS services - Caller ID, Call Waiting, Call Forwarding, Call Transfer, etc.
- SIP (RFC3261)
- MEGACO v2 (H.248)
- Common architecture, drop-in replacement

To enable VoIP access, the G-97D2 ONT supports interfacing external IAD box or Home Router with voice capability through the Ethernet Interface.

Video

The G-97D2 ONT supports video contents delivered in the form of data (by multicast or unicast).

In case where multicast technology is used for delivering video contents through data channel, the ONT

supports the dedicated multicast GEM port on the Downstream. So the video contents are received and processed by all the ONTs through the unified channel and this greatly improves the bandwidth efficiency.

In addition, the ONT supports IGMP snooping function to be applied for further optimization. When IGMP snooping is enabled, the ONT monitors the member joining and leaving activities at the Ethernet service port, and then selectively delivers the multicast streams.

■ Interface

Product	10/100/1000 Base-T interface	POTS interface	Wi-Fi Interface
G-97D2	2	0/1	1

■ Specification

Dimensions

- 172mm x120mm x 35mm (Wx D x H)

Power Supply

- +12V (feed via external AC/DC adapter)
- 2-PIN power adaptor input
- Dying Gasp support
- Power switch
- Power Consumption: Less than 6W

Working Environment

- Temperature: 0°C ~ 40°C
- Humidity: 5% ~ 95% relative humidity

Safety & EMI

- CCC certificate
- CE certificate
- FCC and UL compliant

Installation

- Wall mounting & desktop mounting

GPON Interface

- Compliant with ITU-T G.984 GPON standards
- SFF type laser, SC/APC connector
- CIG patented BoSA on board optical solution

- 1.244 Gbps Burst Mode Upstream Transmitter
- 2.488 Gbps Downstream Receiver
- Compliant with ITU-T G.984.2 Amd1, Class B+
 - 0.5dBm ~+5dBm launch power, -27dBm sensitivity, and -8dBm overload
- Wavelengths:
 - US 1310nm, DS 1490nm
- Laser compliant with FCC 47 CFR Part 15, Class B, and FDA 21 CFR 1040.10 and 1040.11, Class I, ONT support Class C or Class C+ optics as an option
- Support G.984.5 Blocking Filter as an option

GPON QoS

- Multiple T-CONTs per device
- Multiple GEM Ports per device
- Flexible mapping between GEM Ports and T-CONT
- Activation with automatic discovered SN and password in conformance with ITU-T G.984.3
- AES-128 Decryption with key generation and switching
- FEC (Forward Error Correction) in both directions
- DBA reporting by piggyback reports in the

- DBRu (mode 0 and mode 1)
- 802.1p mapper service profile on U/S
- Mapping of GEM Ports into a T-CONT with priority queues based scheduling
- Support Multicast GEM port and incidental broadcast GEM port.

Ethernet Interface

- 10/100/1000 Base-T interface with RJ-45 connectors
- 10/100 Base-T interface with RJ-45 connectors
- Ethernet port auto negotiation or manual configuration
- MDI/MDIX automatically sense
- Hardware priority queues on the downstream direction in support of CoS
- 802.1D bridging
- Virtual switch based on 802.1q VLAN
- VLAN tagging/detagging per Ethernet port
- VLAN stacking (Q-in-Q) and VLAN Translation
- IP ToS/DSCP to 802.1p mapping
- Class of Service based on VLAN-ID, 802.1p bit, ToS/DSCP
- Marking/remarking of 802.1p
- IGMP v2/v3 snooping
- Broadcast/Multicast rate limiting

WLAN Interface

- Compliant with IEEE 802.11 b/g/n
- 2.4GHz
- MIMO:2x2
- Multiple SSIDs
- 64 and 128 bit Wireless Encryption Protocol (WEP) support
- Wireless Protected Access support including Pre Shared Key (WPA-PSK)

- Radio switched on/off function Support WPS

POTS Interface

- RJ-11 connector
- 3-REN
- Balanced Ring, 55V RMS
- DTMF Dialing
- Multiple Codecs:
 - G.711 (μ -law and A-law)
 - G.729 (A and B)
 - G.723.1
- Echo Cancellation
- Voice Activity Detection and Comfortable Noise Insertion
- SIP (RFC3261)
- IPv4, IPv6 Stack
- SDP (RFC2327)
- RTP (RFC3550/3551)
- DTMF encoding by RELAY or IN-BAND method
- Support various CLASS services - Caller ID, Call Waiting, Call Waiting control (OMCI + local), Direct Call, CLIP (onhook, offhook), Call Forwarding, Call Transfer, Call Toggle, Three Way Calling, Distinctive Ringing, etc.
- G.711 for FAX, modem connection and TTY devices
- T.38 FAX
- Configurable dial plan
- Country specific ring tone generation
- DHCP Client or static IP configuration
- Optionally Metallic Loop Testing

LED

- AUTH
- OPTICAL
- INTERNET

- PHONE
- POWER
- LAN1
- LAN2
- WLAN
- WPS

OAM

- Standard compliant OMCI (the embedded

operations channel) interface as defined by ITU-T G.988

- Provisioning all kinds of services including Ethernet, VoIP etc.
- Alarming and performance monitoring
- Remotely software image download over OMCI, as well as activation and rebooting
- Hold two software sets with software image integrity checking and automatic rollback

■ Enclosure



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CIG have the sole right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice, CIG has the final interpretation.

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