Nokia G-010G-A Single-Port GPON ONT - Official Technical Overview & Hardware Datasheet

PRODUCT IDENTIFICATION

The Nokia G-010G-A is a high-performance, single-port Gigabit Passive Optical Network (GPON) Optical Network Terminal (ONT) engineered for premium residential, enterprise, and hospitality service delivery. As a compact indoor unit, it terminates a full standard-compliant GPON fiber interface and provides a single Gigabit Ethernet (GigE) user port, delivering wire-speed data transfer and an exceptional quality of experience for data and video services .

Leveraging a Broadcom BCM6838 chipset, the device is designed for business offices, hospitals, hotels, and multi-tenant real estate developments that require high-capacity LAN infrastructure to support next-generation services, enhance productivity, and establish a competitive operational edge .



CORE INTERNAL TOPOLOGY & SILICON

At the heart of the Nokia G-010G-A lies the Broadcom BCM6838 system-on-chip (SoC), a highly integrated processor designed specifically for GPON customer-premises equipment. This chipset architecture ensures robust handling of GPON encapsulation and traffic management, enabling line-rate forwarding for all packet sizes without performance degradation .

The device acts as the termination point for the GPON fiber network, converting optical signals into electrical Ethernet frames. It utilizes a Class C+ optical module (or equivalent BOSA) supporting downstream line rates of 2.488 Gbps and upstream burst mode rates of 1.244 Gbps, ensuring sufficient bandwidth for symmetrical high-speed data applications .

SWITCHING & FORWARDING SUBSYSTEM CAPABILITIES

- Interface Standard: Provides a single 10/100/1000Base-T (GigE) RJ-45 user-side port with auto-negotiation and automatic MDI/MDIX crossover detection for plug-and-play simplicity .

- GPON Compliance: Fully compliant with ITU-T G.984.x standards for the physical and Transmission Convergence (TC) layers, ensuring interoperability with standard-compliant Optical Line Terminals (OLTs) such as the Nokia 7360 ISAM FX .

- Data Forwarding: Guarantees wire-speed data transfer for all packet sizes, minimizing latency and maximizing throughput for business-critical applications.

OPERATIONAL ADVANTAGES & MANAGEMENT

The G-010G-A is optimized for remote management and zero-touch provisioning, significantly reducing operational expenditures (OPEX). It supports the OMCI (ONT Management Control Interface) protocol as defined by G.984.4 and G.988, allowing for comprehensive remote configuration, software image download, activation, and performance monitoring via the Nokia 5571 Passive Optical LAN Command Center (PCC) .

Key operational features include:

- Received Signal Strength Indication (RSSI): Enables remote troubleshooting and lean operations by allowing the OLT to monitor the optical power levels received by the ONT, facilitating rapid fault diagnosis .

- Service Awareness: Per-subscriber and per-service bandwidth control mechanisms ensure deterministic quality of service (QoS) for concurrent data and IP video streams (IGMPv2/v3 support) .

- Security: Supports AES-128 encryption for GPON downstream traffic and MAC filtering for local access control .

SPECIFICATION MATRIX

Parameter	**Specification**
Model	Nokia G-010G-A
Chipset	Broadcom BCM6838
User-Side Interface	1x 10/100/1000Base-T (RJ-45)
Network-Side Interface	GPON (SC/APC Connector)
GPON Module Class	Class C+
GPON Line Rate	Upstream: 1.244 Gbps (Burst Mode) / Downstream: 2.488 Gbps
Switching Capacity	Wire-speed forwarding
Enclosure Dimensions (W x D x H)	90 mm x 82 mm x 27 mm

Weight	Approx. 0.5 kg
Power Supply Input	100 to 240 V AC, 50/60 Hz (Adapter)
System DC Power	11 to 14 VDC, 0.5 A (Typical 12V)
Static Power Consumption	2.0 W
Maximum Power Consumption	2.5 W
Operating Temperature	0°C to 40°C
Operating Humidity	5% to 95% (non-condensing)
Altitude	3000 m
Management	OMCI (G.984.4/G.988), RSSI
Mounting	Desktop / Wall / Ceiling

REGULATORY COMPLIANCE & STANDARDS

The Nokia G-010G-A is built to meet the rigorous environmental and safety standards required for global telecommunications equipment deployment. It complies with the following:

- GPON Standards: ITU-T G.984.1, G.984.2, G.984.3, and G.984.4 .
- Environmental Compliance: RoHS compliant, adhering to strict directives on hazardous substances.
- Safety & EMC: Certified to UL 60950-1 and CSA C22.2 No. 60950-1 safety

standards; meets FCC Part 15 Class B and ICES-003 Class B limits for electromagnetic interference, ensuring safe operation in residential and office environments .

- Laser Safety: Class I laser product compliant with FDA 21 CFR Part 1040.10 and 1040.11, ensuring eye-safe operation .



ORDERING SKU INFORMATION

Please contact your Nokia sales representative or authorized partner for specific SKU and pricing details. The G-010G-A is available as a standalone unit or as part of a broader optical LAN solution package (Nokia 5571 PCC).

For enterprise partners looking for sustainable procurement options, remanufactured units are often available through the TXO Green Market,

offering verified quality and warranty .