FiberHome AN5516 OLT Remote Provisioning Compatibility Matrix for Generic ONUs - Official Technical Overview & Hardware Datasheet

FIBERHOME AN5516 OLT REMOTE PROVISIONING COMPATIBILITY MATRIX FOR GENERIC ONUS

OFFICIAL TECHNICAL OVERVIEW & HARDWARE DATASHEET

EXECUTIVE SUMMARY

This document serves as the definitive technical reference for the FiberHome AN5516 Series Optical Line Terminal (OLT), with a specific focus on its remote provisioning capabilities and compatibility matrix for Generic (third-party) Optical Network Units (ONUs). As the industry pivots towards multi-vendor network architectures to mitigate supply chain risks and optimize total cost of ownership, the demand for robust interoperability between OLTs and ONUs from different manufacturers has intensified .

The FiberHome AN5516 platform is a carrier-class, high-density PON aggregation system designed to address these challenges. Supporting a unified architecture for GPON, EPON, 10G PON, XG-PON, and XGS-PON, it offers the flexibility required for modern FTTx, enterprise, and mobile backhaul deployments . This datasheet details the hardware specifications, core architecture, and the specific operational parameters required to enable

seamless provisioning of generic ONUs, thereby empowering network operators to leverage competitive pricing and innovation from the broader supply chain while maintaining service quality and operational stability.



HARDWARE ARCHITECTURE & SILICON

The AN5516 series is engineered around a modular, high-availability chassis architecture. The platform's core logic is distributed across dedicated switching and uplink cards, ensuring line-rate performance and service resilience.

Backplane and Switching Fabric: The system backplane provides a switching capacity of 320 Gbit/s. When operating in load-sharing mode, the core switch cards deliver an aggregated switching capacity of 488 Gbit/s, enabling non-blocking forwarding for all connected PON ports .

Chassis Variants: The AN5516 family caters to diverse deployment densities, sharing a common software and service card ecosystem.

AN5516-01 / AN5516-06B: Large-sized chassis equipped with 16 service slots, designed for high-density central office deployments.

AN5516-06: Medium-sized chassis with 6 service slots, suitable for moderate-density access scenarios .

AN5516-04: Compact 2-slot platform (2RU), designed for small-scale or distributed deployments in sparsely populated areas .

KEY FEATURES & ROUTING LOGIC

Unified PON Platform: The AN5516 supports a true unified platform capable of concurrently hosting GPON, EPON, 10G EPON, XG-PON, and XGS-PON service cards. This enables a seamless migration path from legacy PON technologies to next-generation 10G solutions within a single chassis .

Carrier-Grade Redundancy: The system is designed for high availability with 1+1 redundancy for core control and switching modules. Hardware-level failover is supported via redundant, hot-swappable power supplies (AC/DC) and fan units .

Protocol Support Matrix: The platform supports advanced Layer 3 routing and protection protocols essential for carrier networks, including OSPF, BGP, STP/RSTP/MSTP, and LACP for link aggregation .

Remote Provisioning of Generic ONUs: The AN5516 supports remote provisioning through standard OMCI (ONT Management and Control Interface) protocols . To facilitate interoperability with ONUs from other vendors, specific operational adjustments are required. The platform allows for the configuration of generic ONU profiles and the enabling of interconnectivity switches. For example, successful integration with standard-compliant generic ONUs often requires executing specific CLI commands to enable "union_interconnect_switch" . This feature allows the OLT to accept and manage ONUs that may not be present in the native FiberHome whitelist.

COMPLIANCE & STANDARDS

ITU-T G.984 (GPON): Full compliance with the GPON standard, including G.988 OMCI for management and control .

IEEE 802.3 (EPON): Full compliance with the EPON standard, supporting IEEE 802.3-2005 and extended OAM functions .

ITU-T G.987 (XG-PON) and G.9807 (XGS-PON): Compliance with 10G PON standards for next-generation high-bandwidth access.

IEEE 1588v2 / SyncE: Support for high-precision synchronization protocols, critical for mobile backhaul applications .

TECHNICAL SPECIFICATIONS

Platform Specifications

System Architecture: Modular Chassis-based

Service Slots (AN5516-06): 6

Switching Capacity: 488 Gbit/s (Load Sharing Mode)

MAC Address Table: 32K

IPv4 Routing Table: 8K

IPv6 Routing Table: 4K

Max ONUs per System: 4096

PON Port Specifications

Supported Types: EPON, GPON, 10G EPON, XG-PON, XGS-PON, Combo PON

Max PON Ports per Chassis (AN5516-06): 32 GPON/EPON ports (up to 16 10G PON ports)

Transmission Distance (PON Port): Up to 60 km

Splitting Ratio: Up to 1:128

Power and Physical Specifications

Power Supply: 1+1 Redundant, Hot-Swappable (AC/DC)

Typical Power Consumption: 150W - 228W (Configuration Dependent)

Dimensions (HxWxD): 88mm x 443mm x 239.5mm

Weight (Empty Chassis): 4.3 kg

Parameter	**Specification**
Switching Capacity	488 Gbit/s (Load Sharing Mode)
MAC Address Table Size	32K entries
IPv4 Routing Table	8K entries
IPv6 Routing Table	4K entries
Max PON Ports (AN5516-06)	32 (GPON/EPON) / 16 (10G PON)
Power Supply	Dual Hot-Swappable Redundant AC/DC (1+1)
Typical Power Consumption	150W - 228W
Dimensions (HxWxD)	88mm x 443mm x 239.5mm
Operating Humidity	10% to 90% (Non-condensing)

ORDERING SKU INFORMATION

Core Switch Cards: HSUB, HSUA, HSUC

Uplink Cards: 2x10GE+2xGE; 8xGE; 1xSTM-1

PON Service Cards: 8-port GPON, 8-port EPON, 8-port 10G PON

Power Supply Units: PWRD (DC), PWRA (AC)

