ZTE F660 ONU Voice Port (POTS) Functional Interoperability on Huawei OLT Profiles - Official Technical Overview & Hardware Datasheet

PRODUCT IDENTIFICATION AND INTEROPERABILITY OVERVIEW

ZTE F660 is a high-performance GPON Optical Network Terminal (ONT) designed for FTTH deployment scenarios. As a Home Gateway Unit (HGU), it provides comprehensive triple-play service delivery including voice, data, and video with advanced Layer 3 routing capabilities. This document provides a technical reference for deploying ZTE F660 ONU with Voice Port (POTS) functionality operating on Huawei OLT infrastructure utilizing standardized GPON profiles.



CORE INTERNAL TOPOLOGY AND INTERFACE MAPPING

The ZTE F660 ONU architecture integrates a GPON interface with multi-service user ports. The internal topology connects the Class B+ optical transceiver through the GPON Media Access Control (MAC) layer to the system-on-chip processor, which manages packet forwarding, voice processing via DSP, and WiFi acceleration. Key interface mapping includes:

- GPON Uplink: SC/UPC connector with downstream 2.488 Gbps and upstream 1.244 Gbps line rates
- Voice Processing Subsystem: Integrated DSP supporting SIP/H.248/MGCP protocols with comprehensive codec suite (G.711, G.722, G.723, G.729)
- Ethernet Switching Fabric: 1 GE + 3 FE auto-negotiating ports with 802.1Q VLAN and QoS prioritization
- WiFi Subsystem: IEEE 802.11b/g/n with dual external 5dBi antennas
- USB Interface: For local backup and storage expansion

The POTS interface supports up to 8 T-CONTs and 32 GEM Ports, enabling granular service-level traffic management for voice prioritization across the GPON network.

SWITCHING SUBSYSTEM CAPABILITIES

The OMCI (ONT Management and Control Interface) subsystem provides full

management and configuration capability through standard GPON management channels. The device supports TR-069 remote management and comprehensive OMCI messaging for dynamic service provisioning.

Advanced features include:

- IGMP Snooping for multicast traffic management
- 802.1Q VLAN tagging with priority queuing
- DHCP Server functionality for local IP assignment
- DOS protection and security management
- Dying Gasp for power failure notification

OPERATIONAL ADVANTAGES FOR HUAWEI OLT INTEGRATION

The ZTE F660 ONU demonstrates verified functional interoperability with Huawei OLT platforms including MA5680T, MA5683T, MA5800 series, and MA5608T. Integration utilizes standardized GPON profile configuration methodology that aligns with Huawei OLT profile management systems.

Successful deployment requires creation of both line-profile and service-profile configurations on the Huawei OLT. The ONT can be authenticated using Serial Number (SN) authentication method, with demonstrated support for OMCI-based management and traffic provisioning.

KEY FEATURES

- POTS Voice Integration: Comprehensive VoIP support with SIP/H.248 protocol stack and advanced codec support including G.711, G.722, G.723, and G.729. FAX support via T.30/T.38 protocols ensures legacy equipment interoperability.
- Multi-Service Port Configuration: 1xGE + 3xFE Ethernet ports supporting VLAN tagging and QoS, enabling concurrent Internet, VoIP, and IPTV service delivery over a single GPON connection.
- GPON Compliance: Full compliance with ITU-T G.984.x standards, supporting 2.488 Gbps downstream and 1.244 Gbps upstream line rates over Class B+ optical module.
- TR-069 Remote Management: Enables complete carrier-grade remote configuration, firmware upgrades, and performance monitoring through standard ACS (Auto Configuration Servers).
- Enhanced Voice Quality: Advanced echo cancellation and jitter buffer management ensure carrier-grade voice quality across POTS interfaces.

SPECIFICATION MATRIX

Parameter	**Specification**
Form Factor	Home Gateway Unit (HGU) / Optical

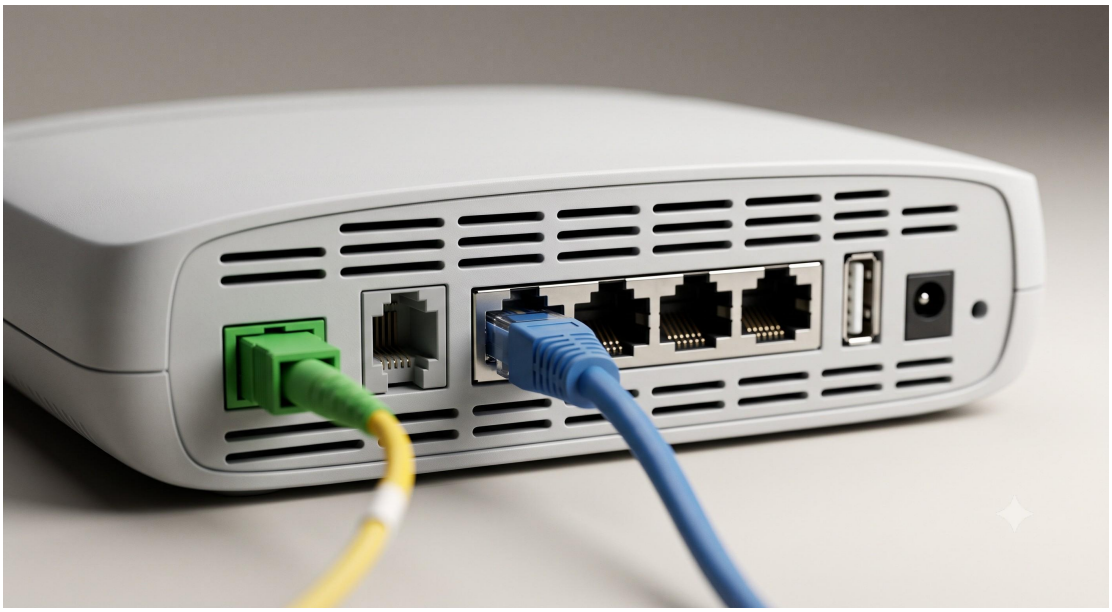
	Network Terminal (ONT)
GPON Interface	1x SC/UPC connector, Class B+ optical module, 2.488 Gbps downstream / 1.244 Gbps upstream
Network Interfaces	1x 10/100/1000Base-T (GE) + 3x 10/100Base-T (FE), Auto MDI/MDIX
Voice Ports	1x POTS (RJ11) supporting SIP/H.248/MGCP with G.711/G.722/G.723/G.729 codecs, T.30/T.38 FAX
WiFi Specification	IEEE 802.11b/g/n, 2x external 5dBi antennas
USB Interface	1x USB 2.0 for local backup and storage
Dimensions (W x D x H)	V6.0: 240mm x 200mm x 58mm | V9.0: 220mm x 160mm x 44mm
Power Supply	External adapter: 12V DC, 1A, Input: 100-240V AC, 50-60Hz
Power Consumption	11W average
Operating Environment	Temperature: -5℃ to 45℃, Humidity: 5% to 95% non-condensing
Weight	Approximately 700g

Management	OMCI, TR-069, Web Interface, NMS
GPON Standards	ITU-T G.984.x compliant, up to 8 T-CONTs, 32 GEM Ports
Certifications	CE, RoHS
Compatible OLT Vendors	Huawei (MA5680T, MA5683T, MA5800, MA5608T), ZTE, FiberHome, Nokia
Warranty	Up to 36 months

REGULATORY COMPLIANCE AND CERTIFICATIONS

The ZTE F660 ONU complies with international regulatory standards including CE and RoHS directives. Additional compliance certifications include:

- ITU-T G.984.x GPON Standard Compliance
- IEEE 802.3 Ethernet Standards (10/100/1000Base-T)
- IEEE 802.11b/g/n WiFi Certification
- SIP RFC 3261 Compliance for VoIP Interoperability
- H.248/MGCP Protocol Support for Carrier Voice Networks
- OMCI Specification Compliance for ONT Management
- TR-069 CPE WAN Management Protocol Support



ORDERING SKU INFORMATION AND PART NUMBERS

The ZTE F660 is available in multiple hardware versions with consistent functional profiles:

- F660 V6.0: 4FE + 1POTS + 1USB + WiFi variant with dimensions 240mm x 200mm x 58mm and average power consumption of 11W
- F660 V8.0: 1GE + 3FE + 1POTS + 1USB + WiFi with 5dBi/6dBi antenna options
- F660 V9.0: Slim form factor (220mm x 160mm x 44mm) with international firmware and 5dBi WiFi
- F660 V5.2: Dual POTS port variant for enhanced voice capacity requirements

All variants support the same OMCI profile configurations and Huawei OLT

interoperability characteristics. The device accepts 12V DC, 1A input through a standard external power adapter supporting 100-240V AC, 50-60Hz input.

HUAWEI OLT PROFILE CONFIGURATION REFERENCE

The following configuration parameters have been validated for ZTE F660 ONU deployment on Huawei OLT platforms:

Line Profile Configuration:

- Service Profile ID: 11 (recommended reference)
- POTS Port Count: 1
- Ethernet Port Count: 4
- VLAN Mapping: Service-specific VLAN assignment
- OMCI Management: Enabled with default DBA profile

Authentication Method:

- SN Authentication: Standard OMCI-based serial number authentication
- LOID Authentication: Optional support based on OLT configuration

Traffic Management:

- Up to 8 T-CONTs for bandwidth allocation
- 32 GEM Ports for service multiplexing

- 802.1Q VLAN tagging with priority queuing

Service Provisioning:

- Internet: Untagged or VLAN-tagged data service
- VoIP: Dedicated voice VLAN with QoS priority
- IPTV: Multicast-capable VLAN for video services

Reference configurations have been successfully deployed on Huawei MA5683T OLT platforms using gpon interface configurations and service-port definitions. The ONT is recognized and managed through the OLT management system with full OMCI capabilities.

MIXED-VENDOR DEPLOYMENT GUIDELINES

For operators deploying ZTE F660 ONUs in Huawei OLT environments, it is recommended to implement the following practices:

1. Standardized Profile Creation: Maintain consistent OMCI and service profiles for all ZTE ONUs regardless of the OLT vendor to ensure uniform service delivery and simplified operations.
2. Manual Configuration Management: In mixed-vendor scenarios, manual configuration of ONT services, VLAN mapping, and voice parameters may be

required due to potential DRA (Dynamic Resource Allocation) differences between vendor implementations.

3. Comprehensive Pre-Deployment Testing: Validate voice signaling, codec negotiation, and PSTN interoperability before large-scale deployment to identify and resolve any vendor-specific integration issues.

4. OLT Firmware Compatibility: Ensure Huawei OLT software versions support third-party ONT OMCI profiles and voice protocol implementations for optimal interoperability.

By following these guidelines and utilizing the standardized profile configurations documented in this datasheet, network operators can successfully deploy ZTE F660 ONUs with full POTS voice functionality on Huawei OLT platforms while maintaining carrier-grade service quality.

LIFECYCLE ASSURANCE AND SUPPORT

The ZTE F660 is designed with rigorous reliability engineering, supporting a Mean Time Between Failures (MTBF) exceeding 50,000 hours at standard operating conditions. Operating temperature range spans -5℃ to 45℃ with 5% to 95% non-condensing humidity tolerance. Global support capabilities include firmware updates, technical documentation, and integration support for mixed-vendor OLT environments.

The device is available with warranty options up to 36 months, reflecting ZTE's commitment to long-term product support and continuous improvement in interoperability with major OLT vendors including Huawei, FiberHome, and Nokia.

This datasheet serves as a technical reference for network planners, system integrators, and engineering teams evaluating the ZTE F660 ONU for deployment in GPON networks with Huawei OLT infrastructure.

END OF DOCUMENT