# ZXHN F688 Product Description

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| Version | Date | Author | Reviewer | Notes |
|---------|------|--------|----------|-------|
| V1.0 | 2018/12/24 | ZTE | | Process Version draft, not open to the third party |
| | | | | |

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# TABLES

# 1 Overview

## 1.1 Product Positioning

The ZXHN F688 is an ITU-T G.984 and ITU-T G.988 compliant optical network terminal (ONT) that is designed for high-end home users. It is well suited to fiber to the home (FTTH) scenarios and supports desktop mounting. At the network side, it supports 2.488 Gbps downlink and 1.244 Gbps uplink. At the user side, it provides four GE ports, two POTS ports, one USB 2.0 port, one CATV port,and 2x2 802.11n@2.4GHz & 4x4 802.11ac@5GHz concurrent. Figure 1-1 shows the housing design of the ZXHN F688:

Figure 1-1    ZXHN F688 Housing Design
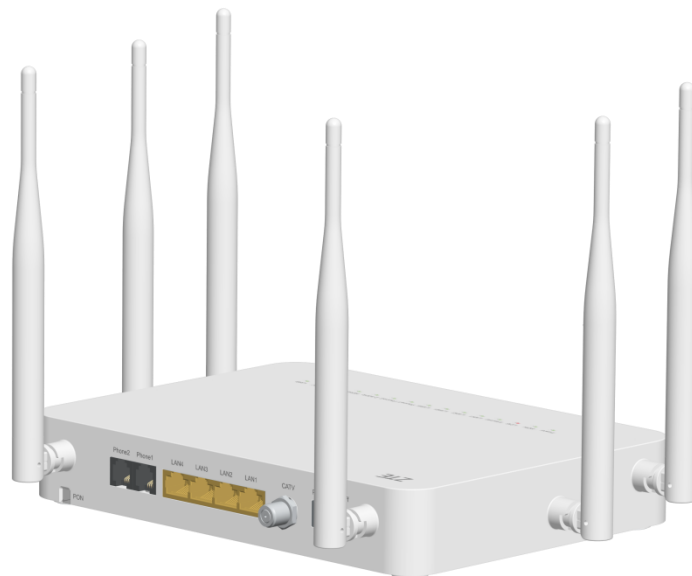
## 1.2　Network Applications

The ZXHN F688 is an ONT designed for FTTH application scenarios. By using the ZXHN F688, the home users can access data, video and voice services, and enjoy high-speed Internet access. Figure 1-2 illustrates the application scenarios of the ZXHN F688:

Figure 1-2　Network Topology of the ZXHN F688
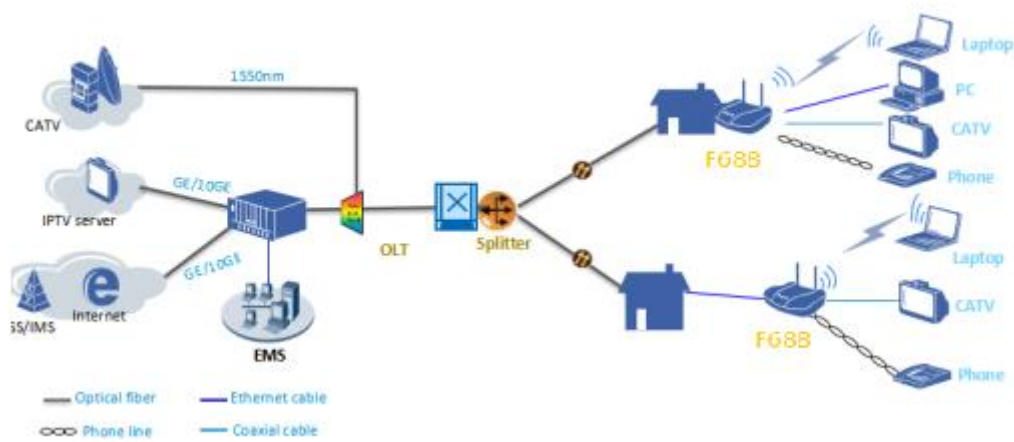
# 2 Product Highlights

## 2.1 High Reliability

- The full-service access capability featuring high bandwidth, high performance, high reliability, and easy operation, administration and maintenance (OMCI/TR-069) meets the ever changing customer requirements, protects legacy investments, and enhances the value of operators' networks.

- The highly reliable heat dissipation design guarantees stable operation.

- The dual image ensures uninterrupted services during software downloads or upgrades, thereby enhancing software reliability.

- The highly reliable lightning protection design provides lightning and surge protection of 6 kV for the adapter, 1.5 kV for the POTS port, and 1.5 kV for the Ethernet ports.

## 2.2 Enriched User-Side Interfaces

- Provides four GE ports for HSI or HD VoD services.

- Provides two FXS ports for traditional telephone services.

- Provides one USB 2.0 port for file storage and sharing, print sharing and user configuration file fast recovery.

- Supports 802.11b/g/n@2.4GHz & 802.11a/n/ac@5GHz dual-band concurrent Wi-Fi with up to gigabit speeds and excellent indoor coverage.

- Users can connect PCs, IPTV STBs, CATV,tablet PC, smartphones, phones, faxes, and other terminals to the ZXHN F688 to enjoy all kinds of Internet services.

## 2.3    Gigabit Wi-Fi Access and USB

- Users can build a convenient and secure wireless LAN, and access the Internet flexibly and reliably.

- Complies with the IEEE 802.11b/g/n@2.4GHz (MIMO 2*2) standard.

- Complies with the IEEE 802.11a/n/ac@5GHz (MIMO 4*4) standard, with the 11ac technology bringing enormous benefits including increased coverage, throughput and up to gigabit speeds.

- Supports WPA-PSK, WPA2-PSK, and WPA-PSK/WPA2-PSK authentication to ensure safe and reliable home Wi-Fi access.

- Provides the file storage and sharing function so that users can enjoy photos, music and videos through connecting storage devices to the USB port.

- Supports USB host ports that comply with USB 2.0 specifications, and supports FAT, FAT32, NTFS partition format and mainstream storage devices on the market.

## 2.4    Eco-Friendly Design

- Automatically switches to energy-saving mode according to traffic status and busy/idle status of the port.

## 2.5    Convenient Installation and Management

- Remote batch upgrade, fault diagnosis, port loopback, and link detection via the OMCI/TR-069.

- Software upgrade and management via the EMS/ACS/OLT.

- Local Web management.

- Offline & batch configuration.

# 3 Hardware Features

## 3.1 Physical Interfaces and buttons

The ZXHN F688 includes one GPON optical port, four 10/100/1000M Ethernet ports, two POTS ports, one USB port, one CATV port, and 2x2 802.11n@2.4GHz & 4x4 802.11ac@5GHz concurrent.

The ZXHN F688 provides one Wi-Fi button, one WPS button, one On/Off button and one Reset button.

Figure 3-1    Rear Panel of the ZXHN F688
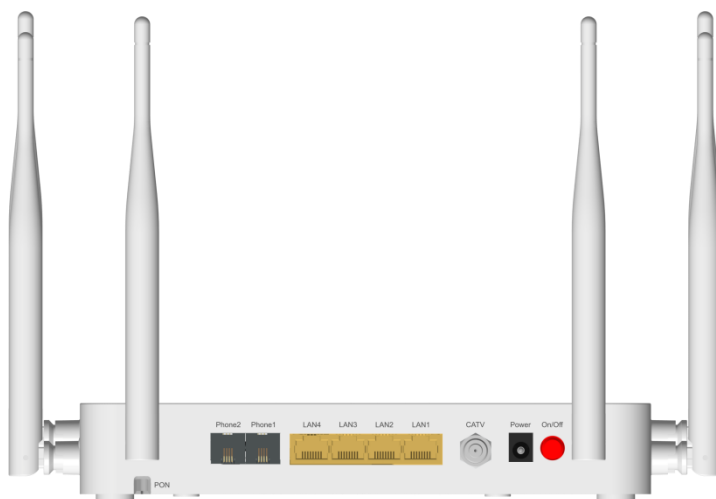


Table 3-1    Specifications for the Interfaces and buttons on the rear panel

| Interface | Description |
| --- | --- |

| Interface | Description |
|---|---|
| PON | SC/APC GPON optical interface. |
| Phone1, Phone2 | Supports two POTS ports with RJ-11 connector. |
| LAN1-LAN4 | Supports four 10/100/1000Base-T Ethernet ports with RJ-45 connector.<br>Supports half/full duplex and flow control, auto negotiation or manual configuration.<br>Supports MDI/MDIX auto-sensing. |
| CATV | supports one CATV interface |
| Power | 12 V Power Input Interface.<br>+12 V DC (via external AC/DC adapter: 90–264 V, 50/60 Hz AC input, 12 V DC output ). |
| On/Off | Power switch. |
| Reset | When the ZXHN F688 is powered on, press and hold the Reset button for one second to restart the ZXHN F688. The user's settings information will not be lost.<br>When the ZXHN F688 is powered on, press and hold the Reset button for more than five seconds to restore the ZXHN F688 to the factory settings. |
| USB | Supports one USB host interface.<br>Complies with USB 2.0 specifications. |

Figure 3-2　Right Panel of the ZXHN F688
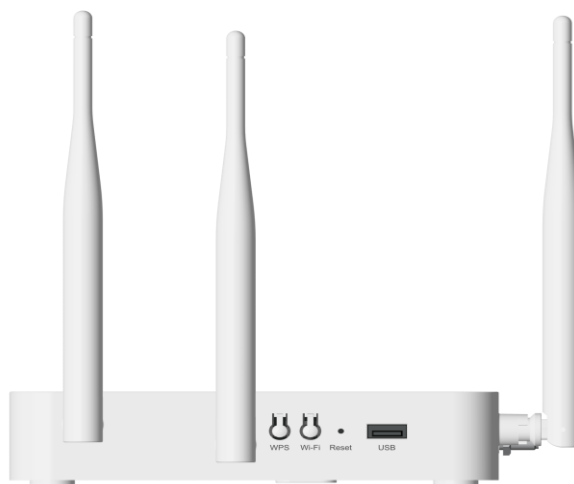


Table 3-2　Specifications for the Buttons on the right panel

| Button | Introduction |
|---|---|
| WPS | After pushing the WPS button for longer than 0.4s, the WPS function will be enabled. |
| Wi-Fi | After pushing the Wi-Fi button for longer than 0.4s, the WLAN function will be enabled or disabled. |
| USB | Supports one USB host interfaces, complies with USB 2.0 specifications |

## 3.2 LED Indicators

Figure 3-2    LED Indicators of the ZXHN F688
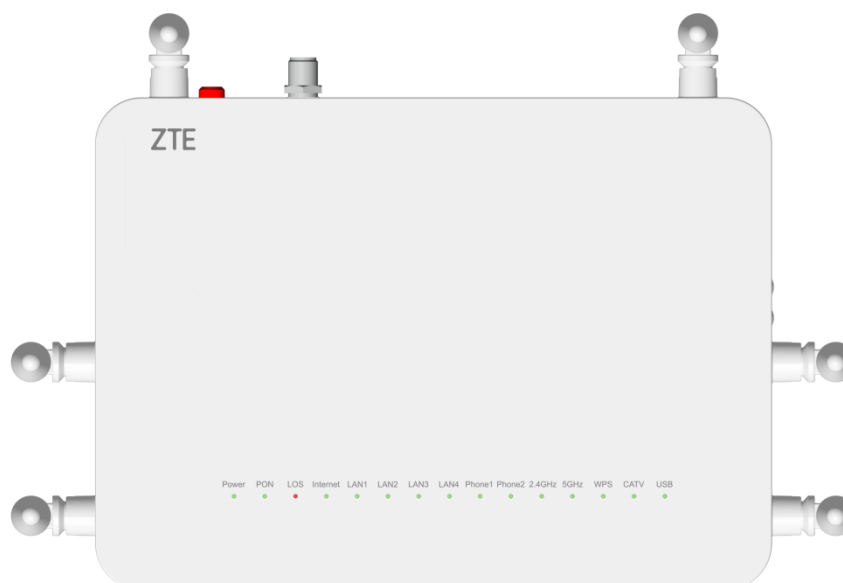


Table 3-3    Specification for the LED Indicators of the ZXHN F688

| LED | Color | Status Description |
|---|---|---|
| Power | Off | The ONT is powered off |
| | Solid Green | The ONT is powered on |
| PON | Off | 1. The ONT is powered off<br>2. The ONT has not started the registration process. |

| LED | Color | Status Description |
|---|---|---|
| | Solid Green | The ONT registration is successfully. |
| | Blinking (2 Hz) Green | The ONT is registering. |
| | Flashing (1 Hz) Green | The ONT is upgrading. |
| LOS | Off | 1. The ONT is powered off<br>2. The ONT received optical power is normal. |
| | Solid Red | The optical transmitter of the PON interface is powered off. |
| | Blinking Red | The received optical power is less than the optical receiver sensitivity. |
| Internet | Off | 1. The ONT is powered off.<br>2. There is no WAN connection with Internet properties configured.<br>3. The session is disconnected on user request or remote peer request (PPP disconnected, DHCP address released or no static IP address available on the Internet WAN connection). |
| | Solid Green | IP connected (the ONT has a Internet WAN IP address from IPCP, DHCP or statically configured). |
| | Blinking Green | IP traffic is passing through the Internet WAN connection (either direction) |
| LAN1-LAN4 | Off | 1. The ONT is powered off.<br>2. The Ethernet port is not connected to any terminal device. |
| | Solid Green | The Ethernet port is connected but no data is transmitted via the Ethernet port. |
| | Blinking Green | Data is being transmitted or received via the Ethernet port. |
| | Blinking Green | Data is being transmitted or received on the wireless interface. |
| Phone1, Phone2 | Off | 1. The ONT is powered off.<br>2. The ONT is unable to register on the soft switch/IMS |
| | Solid Green | The ONT has registered on the soft switch/IMS but no traffic is being transmitted. |

| LED | Color | Status Description |
|---|---|---|
| | Blinking Green | Voice service traffic is being transmitted or received. |
| 2.4GHz | Green | Off indicates that the ZXHN F688 is powered off or the WI-FI interface is disabled.<br>Solid on indicates that the WI-FI interface is enabled.<br>Blinking indicates data transmission. |
| 5GHz | Green | Off indicates that the ZXHN F688 is powered off or the WI-FI interface is disabled.<br>Solid on indicates that the WI-FI interface is enabled.<br>Blinking indicates data transmission. |
| WPS | Off | 1. The ONT is powered off.<br>2. The WPS function is disabled. |
| | Solid Green | Some device has connected the ONT Wi-Fi using WPS. |
| | Blinking Green | Some device is trying to connect to the ONT Wi-Fi using WPS. |
| CATV | Green | OFF: The CATV function is disabled.<br>Constantly ON: The CATV function is enabled. |
| USB | Off | 1. The ONT is powered off.<br>2. There is no USB device connect to the USB port. |
| | Solid Green | There is some USB device connect to the USB port and works in host mode, but no data is transmitted via the USB interface |
| | Blinking Green | Data is being transmitted or received via the USB interface |

# 4  System Features

## 4.1  GPON Features

- ITU-T G.984 and ITU-T G.988 compatible

- Flexible mapping between GEM port and T-CONT

- Priority queuing and scheduling for upstream traffic

- AES-128 encryption

- FEC

- Five types of T-CONT

- Upstream traffic classification based on VLAN ID and 802.1p

- Multicast GEM port

- SN, password, and SN+password authentication

- Auto-restart and recovery after power failure

### 4.1.1  Bandwidth Allocation

- Static bandwidth allocation

  − ITU-T G.983.1 compliant static bandwidth allocation

- Dynamic bandwidth allocation (DBA)

  − Adopts fair DBA policy for the same CoS services during traffic congestion

  − Dynamic bandwidth status report mode complies with ITU-T G.984.3

### 4.1.2  GEM Adaptation

- GEM mode

- GEM frame mapping to GTC payload

- Ethernet data frame mapping to GEM frame; Ethernet frame mapping into GEM ports based on VLAN, CoS, or VLAN+CoS

### 4.1.3  T-CONT

- Five types of T-CONT

- T-CONT as the basic unit of the upstream service

- T-CONT allocation based on the user and CoS; mapping to T-CONT queue based on the CoS value or GEM port

- WRR, SP, or WRR+SP T-CONT queue scheduling mode

### 4.1.4  Operation and Maintenance

- Physical layer operations and maintenance (PLOAM) defined in ITU-T G.984.3

- OMCI and OMCI extension defined in ITU-T G.984.4 and ITU-T G.988

### 4.1.5  Optical Link Analysis and Diagnosis

- The optical module diagnostic interface analyses the parameters including operating temperature of the optical module, supply voltage, bias current, transmission power, and receiving power.

- Detection and auto shutdown of rogue ONTs.

## 4.2    Ethernet Features

### 4.2.1   MAC Address Features

- MAC address learning

- MAC address aging

- MAC address learning enable/disable

- MAC address learning limit

- MAC address binding to a user port. Only controls the input side of the port.

- Anti-MAC transferring (spoofing)

  − Forbids the MAC addresses learned from a user port to be transferred to other user port before aging.

  − Forbids the MAC addresses learned from an uplink port to be transferred to the user port.

- MAC filtering

  − Both the source and destination MAC addresses support the blacklist and the white list function.

### 4.2.2   VLAN Features

- IEEE 802.1q VLAN with the VLAN ID from 1 to 4094

- VLAN tagging/untagging on the user port

- VLAN overwrite function on the user port

- 1:1 mapping between the user port (physical port or logical port) and VLAN

- VLAN-based data forwarding

- VLAN-based packet filtering

- VLAN untagged mode, tagged mode and double tagged mode

- VLAN tag

  - Adds S-Tag to the untagged or priority tagged frames from the user port as per the needs.

  - Adds C-Tag and S-Tag to the untagged or priority tagged frames from the user port as needed.

## 4.3 Wi-Fi Features

The Wi-Fi function provides an easy, convenient, flexible, and cost-efficient method for users to access the Internet via a wireless LAN network.

- Supports 2.4GHz (2* 2 MIMO), IEEE802.11b/g/n compliant

- Supports 5GHz (4* 4 MIMO), IEEE802.11a/n/ac compliant

- Auto and manual channel selection

- Auto and manual rate control

- Transmission power control

- Four SSIDs per frequency band

- Maximum 32 users per frequency band

- SSID broadcast enabling/disabling

- Access control based on MAC address

- WPA-PSK, WPA2-PSK, and WPA-PSK + WPA2-PSK security authentication

- WPS

- WMM

- Beamforming

- MU-MIMO

# 4.4   VoIP Features

## 4.4.1   SIP Protocol

- RFC 2617: HTTP Authentication: Basic and Digest Access Authentication.

- RFC 2833: RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals

- RFC 3261: SIP: Session Initiation Protocol

- RFC 3262: Reliability of Provisional Responses in the Session Initiation Protocol (SIP)

- RFC 3263: Session Initiation Protocol (SIP): Locating SIP Servers

- RFC 3264: Offer/Answer Model with Session Description Protocol (SDP)

- RFC 3265: SIP Specific Event Notification

- RFC 3311: The Session Initiation Protocol UPDATE Method

- RFC 3323: A Privacy Mechanism for the Session Initiation Protocol SIP), For further information see the CLIP/CLIR/CNIP/CNIR document.

- RFC 3325: Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks

- RFC 3515: The Session Initiation Protocol (SIP) - Refer Method

- RFC 3581: An Extension to the Session Initiation Protocol (SIP) for Symmetric Response Routing.

- RFC 3842: A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)

- SDP: draft-ietf-mmusic-sdp-new-24.txt

- RFC 3891: The Session Initiation Protocol (SIP) "Replaces" Header

- RFC 3960: Early Media and Ringing Tone Generation in the Session Initiation Protocol(SIP)

- RFC 3966: The Tel URI for Telephone Numbers

- RFC 4028: Session Timers in the Session Initiation Protocol (SIP)

### 4.4.2 Voice Codec

- G.711a/u law

- G.729

- G.722

### 4.4.3 Supplementary Services

- Call Forwarding Unconditional (CFU)

- Call Forwarding No Answer/On no Reply (CFNA)

- Call Forwarding on Busy (CFB)

- Calling Line Identity Presentation (CLIP)

- Calling Line Identity Restriction (CLIR)

- Internal call between FXS

### 4.4.4 Advanced Features

- Digit Map and Call Routing Management

- Voice Activity Detection (VAD)/ Silence Suppression

- Comfort Noise Generation (CNG)

- DTMF tone detection and generation

- Fax / Modem detection and pass-through

- Support in-band DTMF tone sending/receiving and out-band DTMF signaling with RTP

- Packet Loss Concealment

- Echo Cancellation

- Fixed and adaptive jitter buffer

- Fax over IP

    - T.30 Fax Pass-through

    - T.38 Fax Relay

# 4.5   USB Features

- One USB 2.0 host port

- Supports file storage and sharing

- Supports print sharing

- Supports user configuration file fast recovery

- Supports USB LTE dongle backup in case of primary Internet connection failure

# 4.6   CATV Features

- Standard F5-Type connector

- Analog RF video over dedicated 1550nm wavelength

- RF output level of +17 dBmV

- RF Passband: 46 MHz–1 GHz

- Switched on/off by remote control

- RF Output level AGC Adjustment

- Receiving sensitivity: - 8 to 2 dBm

## 4.7   QoS Features

- Traffic rate limiting based on the user port, traffic, and GEM port

- Upstream traffic classification based on VLAN ID, VLAN priority level (IEEE802.1D), and Ethernet type (such as IP, PPPoE and ARP/RARP)

- Ethernet priority level tagging of the upstream services based on the DSCP value

- Ingress rate limiting

- Egress shaping

## 4.8   Multicast Features

- IGMP v1/v2/v3 and MLD Snooping

- IGMP PROXY

- 256 multicast groups per LAN port

- Fast leave time-the interval, from when a user sends an IGMP leaving message to when the ONU stops the multicast data packet, is less than 20ms.

- Supports MVLAN

## 4.9   L3 Features

- Data forwarding and routing

  – Bridging, routing, or hybrid mode (bridging and routing)

  – Static routing

- Address management

    - DHCP server/client, Option 60

    - DHCP client, options 6, 15, 42, 50, 60, and 120

- PPPoE client

- DNS client/relay

- SNTP client

- NAT

- ALG function: implements H.323, SIP, FTP, TFTP, PPTP, L2TP, IPSec, and RTSP private network traversal function; provides separate switches for each ALG function.

## 4.10  IPv6 Features

- Transparent transmission of IPv6 protocol packets

- IPv4/IPv6 dual stack

- MLD v1 and MLD snooping

- IPv6 address management

    - SLAAC allocation mode on LAN side

    - DHCPv6 on LAN side

    - SLAAC on WAN side

    - DHCPv6 on WAN side

    - DHCPv6-PD on WAN side

    - PPPoE+DHCPv6 on WAN side

&minus; PPPoE+SLAAC on WAN side

## 4.11 Management Features

- OMCI management

- Web management

- TR-069 management

- Management via the OLT on the EMS

- Built-in capability for remote management with standards compliance, including the full range of FCAPS functions like supervision, analysis, and maintenance

- UNI loopback detection

- Remote software download, activation, and reboot via the OMCI

- Dual image, version download, update detection, and auto rollback

## 4.12 Security Features

- Traffic filtering based on UNI, VLAN ID, 802.1p, UNI + 802.1p, and VLAN + 802.1p

- Multicast , unicast and broadcast flow attack protection

- MAC address limiting based on each UNI or a single ONT

- Broadcast packet rate limiting

- Anti-DoS attack

- MAC filtering

### 4.12.1 Data Security of the GPON Interface

Because the GPON system works in broadcast mode in the downstream direction, malicious users can easily intercept and attack other users' messages. To enhance data security of the user, the GPON downstream provides AES-128 encryption.

### 4.12.2 Traffic Suppression

- Broadcast storm suppression

  - When the broadcast traffic including the unknown unicast and multicast traffic exceeds the threshold that the user sets, the broadcast traffic will be discarded till the traffic is reduced to an allowable range, thereby avoiding network congestion and ensuring normal operation of the network services.

## 4.13 Alarm Features

- Dying gasp

- Receiving optical power too high

- Receiving optical power too low

- Transmission optical power too high

- Transmission optical power too low

- Port loopback alarm

- Loss of signal

- Loss of frame

- Signal degradation alarm

- Loss of GEM channel delineation

# 4.14 Performance Statistic Features

## 4.14.1 Ethernet Port Performance Parameters

- Frames transmitted

- Bytes transmitted

- Unicast frames

- Multicast frames

- Broadcast frames

- Frames received

- Bytes received

- Unicast frames received

- Multicast frames received

- Broadcast frames received

# 5  Technical Indices and Parameters

## 5.1  Physical Structure, Environmental and Electrical Indices

Table 5-1    Specifications and Environmental Indices of the ZXHN F688

| Parameter | Nominal Value |
| --- | --- |
| Net dimensions | 220mm (W) x 160mm (D) x 35mm (H) (Not including antenna) |
| Net weight | 0.5KG |
| Typical power consumption | < 12 W |
| Noise | Null |
| Heat dissipation mode | Natural heat dissipation |
| Power supply | Rated 12 V DC (through the external AC/DC adapter) |
| Mounting | Desktop- or wall-mount |
| Operating environment | 0°C－40°C |
| Relative humidity | 5%－95% |
| Atmospheric pressure | 70－106 kPa |

## 5.2  GPON Interface Indices and Parameters

## 5.3  Table 5-2    GPON Interface Indices of the ZXHN F688

| Parameter | Nominal Value |
| --- | --- |
| Connector type | SC/APC |
| Number of PON | 1 |
| Fiber type | Single-mode fiber |
| Wavelength | Transmitting : 1310 nm (PON) Receiving : 1490 nm (PON) |

| Parameter | Nominal Value |
|---|---|
|  | RF:1550 nm (CATV) |
| Compliance standard of the PON interface | ITU-T 984.x |
| Receiving rate of the optical interface | 2.488 Gbps |
| Transmitting rate of the optical interface | 1.244 Gbps |
| Transmission wavelength range | 1290 nm – 1330 nm |
| Root-mean-square spectral width of the transmitting end | Less than 1 nm (-20 dB spectral width) |
| Output optical power | Minimum 0.5 dBm, maximum 5 dBm |
| Optical power of the transmitter in output OFF status | Less than -45 dBm |
| Extinction ratio | More than 10 dB |
| Receive range | 1480 nm – 1500 nm |
| Receive sensitivity | -28 dBm |
| Saturation optical power of the receiver | -8 dBm |
| Splitting ratio | 1:64 |
| Length of the optical link | 20 km |

# 5.4    Key Technical Indices

Table 5-3    Key Technical Indices of the ZXHN F688

| Parameter | Nominal Value |
|---|---|
| Configurable VLAN ID range | 1 – 4094 |
| Capacity of the MAC address table | 1K |
| Capacity of the multicast table | 1K |
| IGMP join delay | < 10 ms (single channel) |
| IGMP leave delay | < 10 ms (single channel) |
| Startup time | 80s (default) |
| T-CONTs | 8 |
| GEM ports | 256 |

# 6 Standards Compliance

Table 6-1 Standards Compliance

| Standard | Description |
|---|---|
| ITU-T G.984.1 | General characteristics for Gigabit-capable Passive Optical Networks (GPON) |
| ITU-T G.984.2 | Gigabit-capable passive optical networks (GPON): Physical media dependent (PMD) layer specification |
| ITU-T G.984.3 | Gigabit-capable Passive Optical Networks (G-PON): Transmission convergence layer specification |
| ITU-T G.984.4 | Gigabit-capable Passive Optical Networks (G-PON): ONT management and control interface specification |
| ITU-T G.984.5 | Gigabit-capable Passive Optical Networks (G-PON): Enhancement band |
| Broadband Forum TR-101 | Migration to Ethernet-Based DSL Aggregation, April 2006 |
| Broadband Forum TR-156 | Using GPON Access in the context of TR-101, December 2008 |
| IEEE Std 802.1D-2004 | Media Access Control (MAC) Bridges |
| IEEE Std 802.1Q-2005 | Virtual Bridged Local Area Networks |
| IEEE Std 802.1ad-2005 | IEEE Standards for Local and Metropolitan Area Networks —Virtual Bridged Local Area Networks—Revision—Amendment 4: Provider Bridges |
| IEEE 802.3-2005 | IEEE Standard for Information technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications (Includes: IEEE Std 802.3ae-2002, IEEE Std 802.3af-2003, IEEE Std 802.3ah-2004, IEEE Std 802.3aj-2003, IEEE Std 802.3ak-2004)(Revision of IEEE 802.3-2002) |

| Standard | Description |
|---|---|
| IEEE 802.1X-2004 | IEEE Standards for Local and Metropolitan Area Networks: Port-Based Network Access Control |
| ITU-T Y.1291 | An architectural framework for support of Quality of Service in packet networks |
| ITU-T H.248.1 V2 | Gateway control protocol: Version 2 |
| ITU-T H.248.1 v3 | Gateway control protocol: Version 3 |
| YD/T 1292-2003 | Technical specification for media gateway control protocol based on H.248 |
| IETF RFC3261 | SIP: Session Initiation Protocol |
| IETF RFC1112 | Host extensions for IP multicasting |
| IETF RFC2236 | Internet Group Management Protocol, Version 2 |
| IETF RFC 3376 | Internet Group Management Protocol, Version 3 |
| ITU_T K.21 | Resistibility of Telecommunication Equipment Installed in Customer Premises to Overvoltages and Overcurrents |
| EN60950 | Information technology equipment. Safety, General requirements |

# 7 Glossary

Table 7-1    Glossary

| Acronym | Full Term |
|---|---|
| OMCI | ONU Management and Control Interface |
| AES | Advanced Encryption Standard |
| HSI | High Speed Internet |
| FXS | Foreign Exchange Station |
| ARP | Address Resolution Protocol |
| MIMO | Multiple-Input Multiple-Output |
| FAT | File Allocation Table |
| NTFS | New Technology File System |
| PPP | Point to Point Protocol |
| IPCP | IP Control Protocol |
| PPPoE | Point to Point Protocol over Ethernet |
| DHCP | Dynamic Host Configuration Protocol |
| CDR | Call Detail Record |
| CATV | Community Antenna Television |
| CoS | Class of Service |
| GEM | G-PON Encapsulation Mode |
| DBA | Dynamic Bandwidth Allocation |
| EMS | Element Management System |
| ACS | Auto-Configuration Server |
| LED | Light Emitting Diode |
| FEC | Forward Error Correction |
| FTP | File Transfer Protocol |
| TFTP | Trivial File Transfer Protocol |
| WMM | Wi-Fi Multi-Media |
| IGMP | Internet Group Management Protocol |
| MLD | Multicast Listener Discover |

| Acronym | Full Term |
|---------|-----------|
| DNS | Domain Name System |
| FTTH | Fiber to the Home |
| GE | Gigabits Ethernet |
| GFP | Generic Framing Procedure |
| GPON | Gigabit-capable Passive Optical Networks |
| IMS | IP Multimedia Subsystem |
| IP | Internet Protocol |
| IPTV | Internet Protocol Television |
| ITU | International Telecommunication Union |
| LTE | Long Term Evolution |
| L3 | Layer 3 |
| WAN | Wide Area Network |
| LAN | Local Area Network |
| MAC | Media Access Control |
| SNTP | Simple Network Time Protocol |
| NAT | Network Address Translation |
| L2TP | Layer Two Tunneling Protocol |
| PPTP | Point to Point Tunneling Protocol |
| RTSP | Real Time Streaming Protocol |
| ALG | Application Layer Gateway |
| SLAAC | |
| OLT | Optical Line Termination |
| ONT | Optical Network Terminal |
| ONU | Optical Network Unit |
| PON | Passive Optical Network |
| POTS | Plain Old Telephone Service |
| SN | Serial Number |
| QoS | Quality of Service |
| RARP | Reverse Address Resolution Protocol |
| SP | Service Priority |
| SP | Strict Priority |

| Acronym | Full Term |
| --- | --- |
| STB | Set Top Box |
| UNI | User Network Interface |
| VLAN | Virtual Local Area Network |
| VoD | Video on Demand |
| VoIP | Voice over Internet Protocol |
| WPS | Wi-Fi Protected Setup |
| WRR | Weight Round Robin |