

## FD600-304 series EPON ONU(Includes Wi-Fi series)



### Brief Views

FD600-304 series is fiber to the home multi service access EPON ONU. It's based on the mature, stable, high cost performance EPON technology and has gigabit Ethernet switching, WDM and HFC technology. FD600-304 series has a higher bandwidth, higher reliability, easy management and good quality of service (QoS) guarantee with technical performance of equipment meet the IEEE802.3ah requirements and have good compatibility with third party manufacturers OLT.

EPON technology is a kind of emerging technology which takes advantage of PON technology and Ethernet technology also is a kind of point to multi-point network technology. OLT through the passive optical network to connect multiple ONU with single fiber bidirectional technical can rarely used fiber resources to meet the operators of the multi-user access requirements.

It adopts single fiber WDM technology with downlink wavelength 1550nm and 1490nm, uplink wavelength 1310nm . It only needs one-core fiber to transmit data and CATV service.

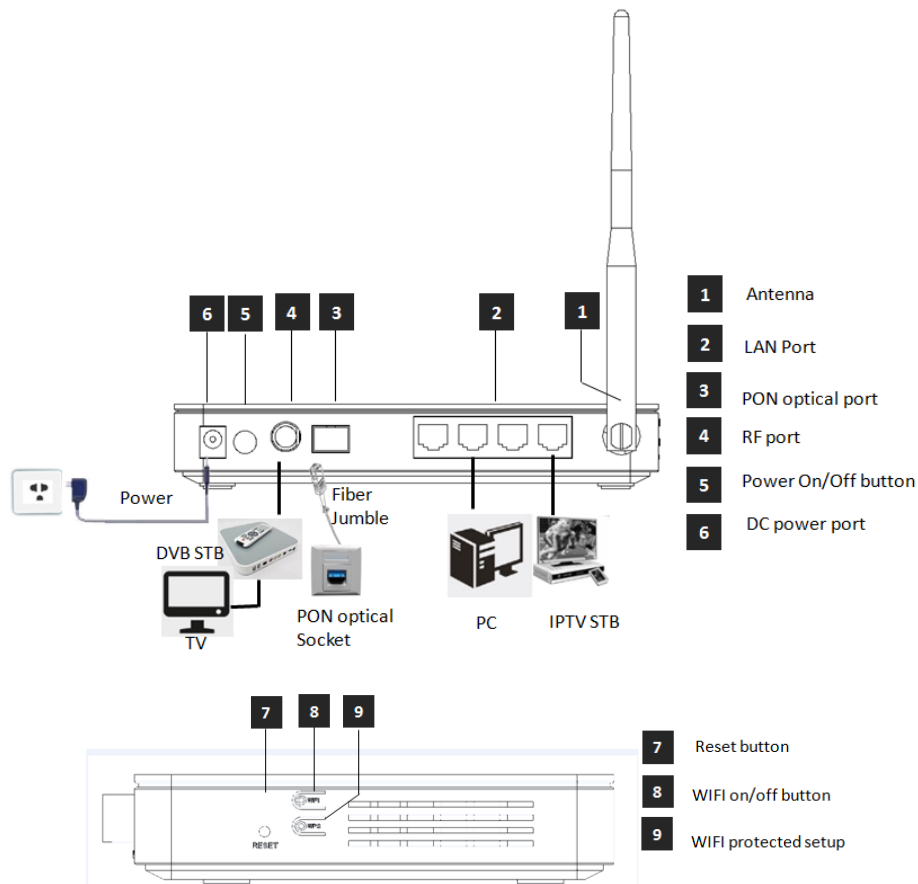
FD600-304 series can integration wireless function with meet 802.11 n/b/g technical standards, It has built-in high gain directional antenna, the wireless transmission rate up to 300Mbps. It has the characteristics of strong penetrating power and wide coverage. It can provide users with more efficient data transmission security.

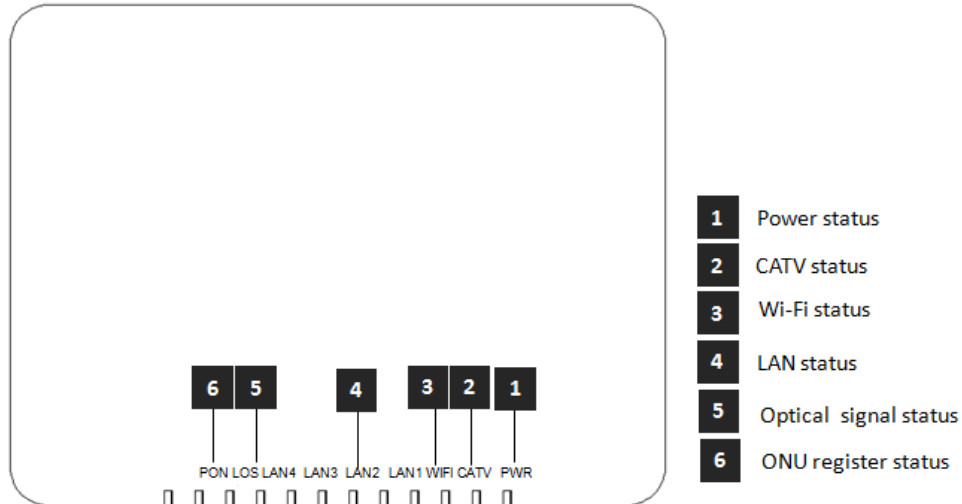
### Functional Feature

- Support port-based rate limitation and bandwidth control;

- In compliant with IEEE802.3ah Standard
- Wi-Fi series meet 802.11 n/b/g technical standards
- Up to 20KM transmission Distance
- Support data encryption, group broadcasting, port Vlan separation ,etc.
- Support Dynamic Bandwidth Allocation (DBA)
- Support ONU auto-discovery/Link detection/remote upgrade of software;
- Support port mode of VLAN configuration
- Support power-off alarm function ,easy for link problem detection
- Support broadcasting storm resistance function
- Support port isolation between different ports
- Support port flow control
- Support ACL and SNMP to configure data packet filter flexibly
- Specialized design for system breakdown prevention to maintain stable system
- Support software online upgrading
- EMS network management based on SNMP ,convenient for maintenance

 **Product interface and LED definitions ( Wi-Fi type example)**





Indicator			Description
1	PWR	Power status	On: The ONU is power on Off: The ONU is Power off
2	CATV	CATV status	On : CATV optical normal Off : The CATV signals are not received
3	WIFI	WIFI	Blinking : Data is being transmitted On : Wi-Fi function Opens
4	LAN1-4	LAN port status	On: Ethernet connection is normal Blinking: Data is being transmitted through the Ethernet port Off: Ethernet connection is not set up
5	LOS	EPON optical signals	On: Optical power lower than receiver sensitivity ; Off: Optical in normal
6	PON	ONU Register	On: Success to register to OLT Blinking: In process of registering to OLT Off: Failed to register to OLT;

## Specification

Item	Parameter
PON Interface	1 EPON optical interface Meet 1000BASE-PX20+ standard Symmetric 1.25Gbps upstream/downstream SC single-mode fiber split ratio: 1:64 Transmission distance 20KM
User Ethernet Interface	4*10/100M or 4*10/100/1000M auto-negotiation Full/half duplex mode RJ45 connector Auto MDI/MDI-X 100m distance 1 RF output Female F-Type Connector

Power Interface	12V DC Power supply
PON Optical Parameter	Wavelength: Tx 1310nm, Rx1490nm Tx Optical Power: 0~4dBm Rx Sensitivity: -27dBm Saturation Optical Power: -3dBm Connector Type: SC Optical Fiber: 9/125 $\mu$ m single-mode fiber
Data Transmission Parameter	PON Throughput: Downstream 950Mbps; Upstream 930Mbps Ethernet: 100Mbps or 1000Mbps Packet Loss Ratio: <1*10E-12 latency: <1.5ms
Business Capability	Layer 2 wire speed switching Support VLAN TAG/UNTAG, VLAN conversion Support Port-based speed limitation Support Priority classification Support storm control of broadcast Support loop detection
Network Management	Support IEEE802.3 QAM, ONU can be remotely managed by OLT Support Remote management through SNMP and Telnet Local management
Management Function	Status monitor, Configuration management, Alarm management, Log management
Shell	Plastic casing
Power	Power supply: 12V DC/1A Power consumption: 4FE+CATV: <6.6W 4FE+WIFI+CATV: <7.6W 4GE+CATV: <8.4W 4GE+WIFI+CATV:WIFI:<9.4W
Physical Specifications	Item Dimension: 170mm(L)*130mm(W)*30mm(H) Item weight: 0.3kg
Environmental Specifications	Operating temperature: 0 to 50°C Storage temperature: -40 to 85°C Operating humidity: 10% to 90%(Non-condensing) Storage humidity: 10% to 90%(Non-condensing)



Item	Parameter
Wavelength	1100-1600nm
Optical return loss	>45dB
Input optical power	-18dBm~0dBm
RF frequency	47MHz~1000MHz
RF output lever	78dBuV (@-12~-2dBm@85MHz)
CNR	>41dB (@-10dBm@DS22 Channel)
CSO	>60dBc (@-10dBm@DS22 Channel)
CTB	>60dBc (@-10dBm@DS22 Channel)
RF output return loss	>12dB
RF impedance	75Ohm
AGC function	Support


**WIFI Specification (Suitable for the WIFI devices)**

Item	Parameter	
<b>Performance parameters</b>	Operating Mode	Router or bridge
	Throughput	IEEE 802.11b: 11Mbps IEEE 802.11g: 54 Mbps IEEE 802.11n: 300Mbps
	Frequency	2.412 ~ 2.472 GHz
	Channel	13*Channel, configurable to meet the standard of USA, Canada, Japan and China
	Modulation	DSSS , CCK and OFDM
	Coding	BPSK, QPSK, 16QAM and 64QAM
	RF receive sensitivity	802.11b: -82dBm @ 1 Mbps; -80dBm @ 2 Mbps; -78dBm @ 5.5 Mbps; -76dBm @ 11 Mbps 802.11g: -82dBm @ 6 Mbps; -81dBm @ 9 Mbps; -79dBm @ 12 Mbps; -77dBm @ 18 Mbps; -74dBm @ 24 Mbps; -70dBm @ 36 Mbps; -66dBm @ 48 Mbps; -65dBm @ 54 Mbps
	RF output lever	802.11b: 16.5 ±1dBm 802.11g: 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48 Mbps; 15 ± 1dBm @ 6 ~ 36 Mbps 802.11n: 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48

		Mbps; 15 ± 1dBm @ 6 ~ 36 Mbps
	Encryption Mode	802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)

## Network application

Typical Solution: FTTH, FTTO

Typical Business: INTERNET, IPTV, VOD, IP Camera, WIFI

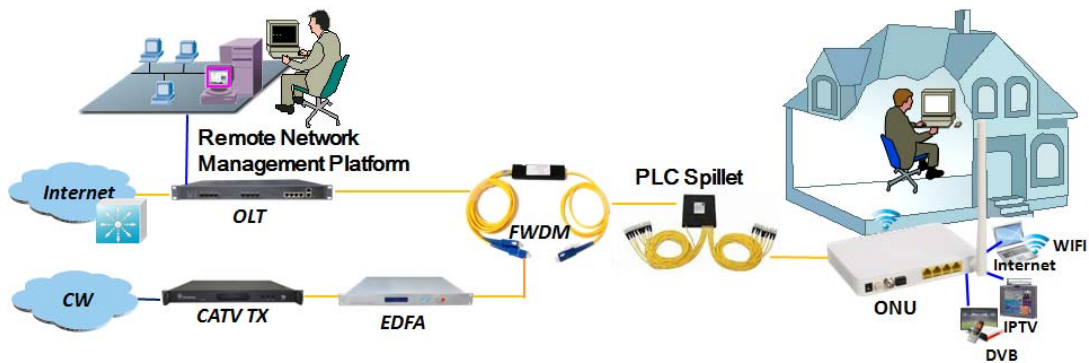


Figure: FD600-304 Application Diagram

## Ordering Information

Product Name	Product Model	Descriptions
4FE+CATV Single Fiber	FD600-304FA-HR500	4*10/100M Ethernet interface, 1 EPON interface, built-in FWDM, Input optical power -18dBm~0dBm, support AGC function, Plastic casing, external power supply adapter
4GE+CATV Single Fiber	FD600-304GA-HR500	4*10/100/1000M Ethernet interface, 1 EPON interface, built-in FWDM, Input optical power -18dBm ~ 0dBm, support AGC function, Plastic casing, external power supply adapter
4FE+CATV+WIFI Single Fiber	FD600-304FAW-HR500	4*10/100M Ethernet interface, 1 EPON interface, built-in FWDM, Input optical power -18dBm~0dBm, support Wi-Fi function and AGC function, Plastic casing, external power supply adapter
4GE+CATV+WIFI Single Fiber	FD600-304GAW-HR500	4*10/100/1000M Ethernet interface, 1 EPON interface, built-in FWDM, Input optical power -18dBm~0dBm, support Wi-Fi function and AGC function, Plastic casing, external power supply adapter