

2 GE ports

EasyMesh  
HomefiberWiFi Mesh  
Controller2.5G Download  
1.25G UploadDual Core  
900MHz CPUMulti-WAN  
Route/BridgeG/EPON  
Hybrid

Datasheet V1.1.8

## HF2AV2001 EasyMesh Wi-Fi XPON ONU

The HF2AV2001 is an HOMEFIBER AC EasyMesh supported Wi-Fi XPON ONUs designed for FTTx applications. The family of ONUs support both GPON and GEPON features on the same device. It supports 2.5G download speed and 1.25G upload speed. The family of ONUs also support the latest Mesh technology, a Mesh kit at its max capacity can cover an entire area of 1500 Square meters with high density Wi-Fi signals.

### Main Characters

- Support both ITU-T G.984.x GPON and IEEE802.3ah GEPON standard,
- Compatible with Huawei, ZTE, Fiberhome, Nokia, HOMEFIBER GPON OLTs.
- IEEE802.11ac 867Mbps + IEEE802.11n 300Mbps Wi-Fi Router for Excellent Wi-Fi experiences
- EasyMesh controller, support a 1500 square meters of Wi-Fi coverage with multiple Mesh agents
- 1\* SC/UPC GPON / GEPON WAN port, 2.5G download and 1.25G upload
- 2 \* Gigabit Ethernet LAN ports, wire-speed data transmission
- AES 128-bit encrypted and key switching, enhancing transmission security
- Layer 2 Switching, support 802.1Q VLAN, 802.1P QoS, Bandwidth Control, Spanning Tree, etc

- Layer 3 Home Gateway/CPE features with Hardware NAT, support Multiple WAN, Route/Bridge mode, etc
- Port Binding, different LAN ports can be assigned with different WAN services
- Max 1:128 Fiber ration, max transmission distance can reach 20km
- Max 1:64 Fiber ratio for GEPON, max transmission distance can reach 20km
- Support FEC (Forward Error Correction), ensures high reliable and precise data transmission
- Support Dynamic Bandwidth Allocation (DBA), Smarter bandwidth assignment and usage.
- Support OMCI and TR069 Management, manage subscribers remotely.
- Supports IPv4 and IPv6, highly applicable in both IP type based networks.
- Support Mesh IEEE802.11 k/v/r, IEEE802.11s protocols
- Support 253 on LAN cable ( DHCP Limit) but only 64 in each wifi ( 64 for 2.4G + 64 for 5G).

## Technical Parameters

### GPON Parameters

ITU-T G.984.x GPON, built-in with a -30dBm Optical BOSA ,  
 SC/UPC or SC/APC connector optional  
 1310nm upstream & 1490nm downstream  
 Support G.984.1 General Characteristics  
 Support G.984.2 Physical Media Dependent (PMD) layer Specification  
 Support G.984.3 Transmission convergence layer Specification  
 GPON transceiver transmitting power: 0.5-5dbm,  
 Optical receiving sensitivity: -30dBm  
 Transmission wavelength: Upstream: 1310nm / Downstream: 1490nm  
 Support 1:128 Fiber Ratio at 20km transmission distance.  
 Fiber Transmission cable: G.652 Single mode optical fiber cable  
 Configurable AES decryption on downstream payload.  
 Configurable FEC on both upstream and downstream payloads.  
 Multi-Application Processor queues for dedicated connections for in-band.  
 Enhanced GPON debug and diagnostic functions.  
 Support up to 40 Transmission Container (T-Cons)  
 Support 256 bidirectional GEM port IDs  
 Support NSR/SR Dynamic Bandwidth Allocation (DBA)  
 Support Forward Error Correction (FEC)  
 Maximum 2.5Gbps Downlink/1.25 Gbps Uplink  
 Support Dying Gasp

### QoS

IEEE802.1P QoS, DSCP, TOS:  
 SP, WRR, SP+WRR dispatching Algorithm  
 Source & DST-MAC based QoS  
 VLAN ID, VLAN Priority based QoS  
 Source DST-IP based QoS

### Home Gateway/CPE Features

Multi-WAN, support up to 8 WAN connections  
 Support Route and/or Bridged WAN  
 Port Binding, Data/IPTV services can be bound to different LAN ports  
 Configurable VLAN ID for each WAN  
 Configurable QoS queues for each WAN  
 Multi-services bound to the same WAN

### Networking Features

MAC Learning, 2K MAC address table  
 Bridged or Route network mode  
 Support RIP v1, v2 for routing  
 Static Route, Dynamic Route, DNS Proxy,  
 IPv4 & IPv6 TCP, UDP, RTP, SNTP, NAT, DHCP,  
 DNS IEEE802.1Q VLAN, port VLAN  
 IEEE802.1x, MAC, IP, or TCP/UDP based ACLs  
 Port Bandwidth Control, IEEE802.3x flow control  
 Storm Control: Broadcast/Multicast/unknown unicast, ARP  
 Port Isolation, port Mirror, Auto MDI/MDIX  
 IEEE802.1d STP, port Loop detection  
 IGMP v2, v3 & IGMP Snooping for IPv4  
 MLD v2, v3 & MLD Snooping for IPv6  
 Support DHCP, Static IP and PPPoE  
 DHCP Server, DHCP Relay, DHCP Client, Static IP assignment  
 Static Routing from source IP to destination IP  
 Firewall, NAT, NAPT, UPnP  
 DDNS, DMZ Host, port Forwarding

**GEPON Parameters**

IEEE802.3ah GEPON standard, support standard OAM  
 CTC 2.1, 3.0 China Telecom GEPON standard  
 GEPON BOSA built on board,  
 SC/APC or SC/UPC connector optional  
 1310nm wavelength at upstream  
 1490nm wavelength at downstream  
 GEPON transceiver sending power: 0-4dBm,  
 Optical receiving sensitivity: -28dBm  
 1:64 Fiber Ratio at 20km transmission distance.  
 Fiber Transmission cable: G.652 Single mode optical fiber cable  
 Support 1 LLID (Logical Link Identifier)  
 Support 1 LOID (Logical ONU Identifier)  
 Support Triple Churning Encryption algorithm  
 Support NSR/SR Dynamic Bandwidth Allocation (DBA)  
 Support Forward Error Correction (FEC)  
 4 QoS queues & SP Dispatching Algorithm over PON  
 Maximum 1.25Gbps Downlink / 1.25Gbps Uplink  
 Support Dying Gasp

**Hardware Parameters**

Realtek RTL9607C

Dual core, MIPS interAptiv™ 900MHz CPU  
 + RLX5281 500MHz CPU  
 CPU covered with cooling unit.  
 Support Hardware NAT.  
 come with a 1Gb 16-bit DDR3 SDRAM  
 come with a 1Gb Nand Flash  
 1\*GPON SC/APC or SC/UPC port,  
 2.5G downstream, 1.25G Upstream  
 2\* 10/100/1000Base-Tx Gigabit Ethernet ports  
 2\*5dBi dual-band directional external antennas for  
 802.11ac and 802.11n  
 IEEE802.3x flow control Full duplex and half duplex,  
 LED Lights: PWR,PON/Los ,GE1-2, 2.4G Wi-Fi, 5G Wi-Fi,  
 RESET  
 External power supply, DC 12V,1A.

**Management Features**

Serial interface maintenance using UART  
 Web UI Management  
 OAM & NMS Management  
 CLI command line management  
 FTP/TFTP/HTTP Auto Provision Management  
 TR069 ACS management

**1200M Mesh Wi-Fi Router Features**

IEEE802.11ac 867M Wi-Fi, 5Ghz  
 IEEE802.11n 300M Wi-Fi, 2.4Ghz  
 BandSteering and BeamForming  
 5GHz and 2.4GHz dual band connections  
 802.11ac and 802.11n Wi-Fi Clients  
 2\*5dBi directional External antennas for 802.11ac  
 2\*5dBi directional External antennas for 802.11n  
 4 Gigabit Ethernet ports, wired speed transmission  
 Support 4-IN-4-OUT, Max 1200Mbps Wi-Fi throughput  
 Support WDS Wi-Fi bridge  
 Wi-Fi Transmission Distance: 100m for indoors,  
 150m for outdoors  
 WPS one-key protection over your Wi-Fi network  
 64/128 bit WEP, IEEE802.1x, WPA and WPA2 authentications  
 Max 4 SSID broadcasting, Hidden SSID  
 Automatically choose the best signal channel  
 STA mutual isolation and ACL table based on MAC Accesses  
 Wi-Fi Multimedia (WMM), enhanced QoS for multimedia  
 packets

**Interoperable OLTs****GPON OLT Models**

Nokia GPON OLTs  
 Genexis GPON OLTs  
 Syrotech GPON OLTs  
 Netlink GPON OLTs

**GEPON OLT Models**

Genexis GEPON OLTs  
 Syrotech GEPON OLTs  
 Netlink GEPON OLTs  
 Nokia GEPON OLTs

## Mesh Parameters

Support IEEE802.11s, IEEE802.11k/v/r EasyMesh protocols  
 Support using as an EasyMesh Controller  
 Support EasyMesh pairing with HOMEFIBER EasyMesh WiFi Routers  
 Support EasyMesh pairing with 3rd party EasyMesh Routers [On demand]  
 Support a maximum of 8 mesh agents through Ethernet cable and WiFi  
 WiFi coverage up to 1500 square meters  
 Mesh Backhaul through WiFi or Ethernet cable  
 Maximum WiFi throughput on controller: 700Mbps


## Specification Table

Standards	IEEE 802.3, IEEE 802.3u, IEEE802.3ab, IEEE 802.3x, IEEE802.1Q, IEEE802.1P, IEEE802.1D, IEEE802.11b/g/n, IEEE802.11ac, ITU-T G.984.1, ITU-T G.984.2, ITU-T G.984.3, ITU-T G.984.4, IEEE802.11 k/v/r, IEEE802.11s		
Topology	Star Topology		
Uplink port	1*GEAPON / GPON WAN port, SC/UPC Connectors		
Transmission distance	Up to 20Km		
Downlink ports	2*10/100/1000Base-Tx Gigabit Ethernet ports		
Wi-Fi	IEEE802.11b/g/n 300Mbps + IEEE802.11ac 867Mbps Wi-Fi		
LED Indicators	Power, PON, LOS, Internet, GE1-GE2, Wi-Fi, WPS		
Ethernet Cable	10Base-Tx: UTP category 3, 4, 5, up to 100m 100Base-Tx: UTP category 5, up to 100m 1000Base-Tx: UTP category 5, 5E, 6, up to 100m		
Fiber Cable	8.3μm, 8.7μm, 9μm and 10μm single mode fiber cable		
Power Supply	AC110-240V Input, DC 12V, 1A output External Power Supply, 4KV Surge Protection		
Product Size	135mm*106mm		
Temperature & Humidity		Temperature	Humidity
	Working	0 to 45°C	10% - 90%
	Standby	-40 to 70°C	5% - 90% RH

Hardware Interfaces

1*GPON SC/UPC port	2*5dBi dual-band directional external antennas
2*10/100/1000Base-Tx GE port	1*Reset button
1*Power Supply Jack	1*Wi-Fi on/off button
6 LEDs Indicators	Power, PON/ LOS, GE1-GE2, 2.4G/5G

Order Information

Product Picture	Model No. Product Description & Chipset
	HF2AV2001: 2GE+Homefiber Mesh Wi-Fi GPON ONT
	HF2AV2001: 2GE+Homefiber Mesh Wi-Fi GPON ONT
	HF2AV2001: 2GE+Homefiber Mesh Wi-Fi XPON ONT
	Realtek RTL9607C Power Supply: DC12V,1A, 4KV Surge protection SC/UPC connector.