

4GE Ports
1 FXS Port

EasyMesh
HOMEFIBER



WiFi Mesh
Controller

2.5G Download
1.25G Upload

Dual Core
900MHz CPU

Multi-WAN
Route/Bridge

G/EPON
Hybrid

Datasheet V1.2.0

HF4AV4001-4 EasyMesh WiFi XPON ONU

The HF4AV4001-4 is an HOMEFIBER AC EasyMesh supported WiFi 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 Syrotech, Netlink, Genexis, Nokia GEPON and GPON OLTs
- IEEE802.11ac 867Mbps + IEEE802.11n 300Mbps Wi-Fi Router
- EasyMesh controller, support a 1500 square meters of WiFi coverage with multiple Mesh agents
- 1* SC/APC or SC/UPC GPON / GEPON WAN port, 2.5G download and 1.25G upload
- 4 * Gigabit Ethernet LAN ports max, wire-speed data transmission

- Max 1*FXS port for high quality Voice over IP deployments.
- 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 GPON, 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.
- Support 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 -28dBm 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: -28dBm
 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 GEMport IDs
 Support NSR/SR Dynamic Bandwidth Allocation (DBA)
 Support Forward Error Correction (FEC), Support Dying Gasp
 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/VoIP/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

GEAPON Parameters

IEEE802.3ah GEAPON standard, support standard OAM
CTC 2.1, 3.0 Telecom GEAPON standard
GEAPON BOSA built on board,
SC/APCor SC/UPC connector optional
1310nm wavelength at upstream
1490nm wavelength at downstream
GEAPON 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

VoIP Parameters

Offers 1* FXS port for Phone connections
1 Calls can be made/received simultaneously
SIP V1, V2 (RFC3261, RFC3262, RFC3264, RFC3265)
SIP & H.248, support registering 2 SIP accounts
G.711, G.723.1, G.729A-8kbps, G.726, G.722, ILBC voice codes
DTMF Tone Detection, DTMF Tone Relay,
Multiple Calling Tone, FSK Caller ID
Calling line Identification Presentation
Calling line Identification Restriction
Call forwarding, call transfer, call hold, three-way conference, etc
QoS and TOS to ensure voice packets pass through in priority
Support RFC62 Echo protocol
Support Digital Map configuration

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

Hardware Parameters

Realtek RTL9607C
Dure Core 900Mhz processor for PON
Single Core 500Mhz processor for VoIP
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
4* 10/100/1000Base-Tx Gigabit Ethernet ports
1*300Mbps Wi-Fi Router,
1*867Mbps Wi-Fi Router
4*5dBidirectional external antennas
1* FXS port, support analog phones
IEEE802.3x flow control Full duplex and half duplex,
LED Lights: PWR,PON,Los,Internet,VoIP1-2,GE1-4, 2.4G
Wi-Fi, 5G Wi-Fi, WPS
External power supply, DC 12V,1A-1.5A.

HOMEFIBER 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*5dBidirectional 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 Mbps Wi-Fi throughputSupport
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

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

Mesh Kits/Capacity:

a. 1*SWRHOMEFIBERAC Mesh Controller+ max 8*SWRHOMEFIBERACS mesh Agents

b. 1*HOMEFIBER775x-V3 xPON ONT Mesh Controller + max

8*SWRHOMEFIBERACS mesh agentsSupport Automatic Mesh pairing through WiFi

beacon

Support management with HTTP Web and mobile phone Apps

Maximum WiFi throughput on controller: 700Mbps

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

Hardware Interfaces

1*GPON SC/APC or SC/UPC port	4*5dBi directional external antennas
4*10/100/1000Base-Tx GE port	1*Reset button
1*PWR On/Off Switch button	1*USB port
1*FXS VoIP port	1*Wi-Fi on/off button
1*Power Supply Jack	1*WPS button
13 LEDs Indicators	Power, PON, LOS, Internet, VoIP, GE1-GE4, 2.4G/5GWi-Fi,WPS, USB

Order Information

Product Pictures	Model No. Product Description &Power Consumption
	HF4AV4001-4: 4GE+1FXS+HOMEFIBER Mesh Wi-Fi GE PON ONU
	HF4AV4001-4: 4GE+1FXS+HOMEFIBER Mesh Wi-Fi GPON ONT
	HF4AV4001-4: 4GE+1FXS+HOMEFIBER Mesh Wi-Fi XPON HYBRID ONU
	SC/APC or SC UPC connector optional
	Power Consumption: 11.9w for GE PON ONU
	Power Consumption: 12.1w for GPON ONU