

## GEPON Wi-Fi ONU



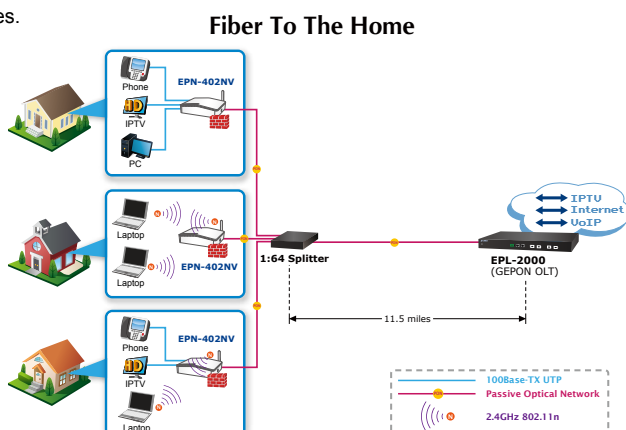
### Delivering High-Demand Service Connectivity for ISP / Triple Play Devices

PLANET EPN-402NV is a **GEPON Wi-Fi ONU** (Optical Network Unit) equipped with one GEPON port, four 10/100Mbps RJ-45 LAN ports and two FXS RJ-11 interfaces. It is also a high-end line with IEEE 802.11b/g/n standard multi-terminal product. It provides residential and office users with the ideal solution for sharing an ultra high-speed fiber optical broadband connection. When functioning with PLANET GEPON Optical Network Terminal (OLT) EPL-2000, the EPN-402NV provides highly-effective GEPON solutions for FTTH network. With friendly-centralized GUI management, it is easy for installation and maintenance of GEPON deployment.



### Perfectly Designed for Fiber to the Home Applications

PLANET EPN-402NV is a fiber to the home (FTTH) broadband access equipment type. With built-in 1.25Gbps GEPON fiber interface, the EPN-402NV supports different optic types for WAN and the distance can be up to 20km through the fiber connection. It can handle multiple high-throughput services such as IPTV, on-line gaming, VoIP and Internet access, and keep the bandwidth usage smoothly via its QoS features. Thus, with advantages of high reliability and scalability, the EPN-402NV can further be applied in the network of SOHO (small office or home office) or small businesses that provide high-performance access services.



### GEPON

- Supports 802.3ah CTC external OAM
- 1 x SC type GEPON port
- Up to 1.25Gbps upstream and downstream
- Up to 20km
- Supports 128-bit triple churning algorithm
- Supports dying gasp

### Ethernet

- Supports 802.1Q VLAN, QoS
- Supports broadcast storm protection
- Supports bandwidth control
- Supports IGMP snooping/proxy
- Supports IPv4/IPv6

### VoIP

- Supports G.711 a/u law, G.712, G.729a code/decode
- Supports VAD, CNG
- Supports G.711/T.38 fax
- Supports SIP/H.248/MGCP

### Wireless

- Up to 300Mbps bandwidth
- Compatible with 802.11b/g/n
- Compatible to equipment working on 2.4G Hz
- Supports WPS

### Physical Hardware

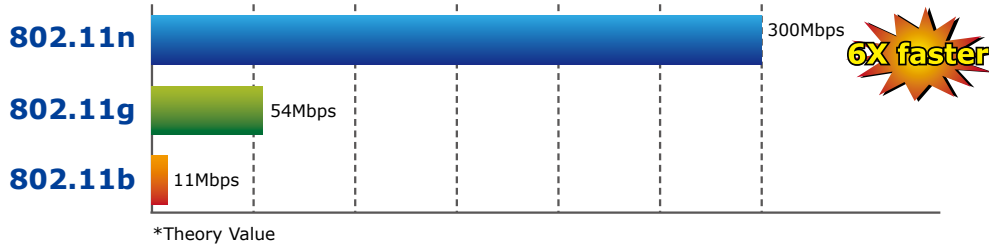
- 4 x 10/100Mbps Fast Ethernet port
- 2 x FXS port
- 1 x Reset Button
- 1 x Power Connector

### Features

- Dynamic Bandwidth Allocation (DBA) support
- IEEE 802.3ah compliant Forward Error Correction (FEC)
- Enhanced IGMP feature
- 1.5MB of integrated packet buffering
- Supports Layer-2/3/4 classification rules
- Supports IEEE 802.3x flow control
- Internal Management Information Base (MIB) counters for network statistics

**High-Speed 802.11n Wireless**

With built-in IEEE 802.11b/g and 802.11n wireless network capabilities, the EPN-402NV allows any computer and wireless-enabled network device to connect to it without additional cabling. 802.11n wireless capability brings users the speed of wireless data transmission rate to as high as **300Mbps**. The radio coverage is also doubled to offer strong wireless connection even in widely spacious offices or houses.



**Standard Compliance with FXS Port**

The EPN-402NV provides two FXS ports that can easily integrate with general voice over IP system. The EPN-402NV makes it simple for the enterprise featuring voice and data system or expanding voice system to new locations. It helps you to save money on long-distance calls; for example, the remote users can dial in through a Unified VoIP Communication System just like an extension call but no long-distance call charge would occur.

**IPv6/IPv4 Dual Stack Capability**

With fully supporting both IPv4 and IPv6 protocols, the EPN-402NV can work with the original IPv4 network structure and also support the new IPv6 network structure now and in the future. As more network devices are growing and the need for larger addressing and higher security becomes critical, the EPN-402NV is the best choice for ISPs to build the IPv6 FTTx edge service to connect with the IPv6 network.

**Superior Management Functions**

The EPN-402NV provides user-friendly management interface to be managed easily through standard web browsers. For networking management features, the EPN-402NV not only provides basic router functions such as DHCP server, virtual server, DMZ, QoS, and UPnP, but also firewall functions including Network Address Translation (NAT), URL/Port/MAC filtering and DoS protection. Furthermore, the EPN-402NV serves as an Internet firewall to protect your network from being accessed by unauthorized users.

**Robust ONU Management**

The EPN-402NV is designed to work with PLANET OLT EPL-2000 to provide robust FTTx applications. With the Element Management System (EMS) built in the EPL-2000, the administrators can manage and configure the facilities such as adding or removing PLANET OLTs and ONUs to or from the network architecture easily and economically. The EMS also supports many operating and monitoring functions for efficient ONU management including ONU auto-detection, auto-registration, testing link connection, binding MAC address, loopback test and filtration, bandwidth control, flow control, and multicast stream control.



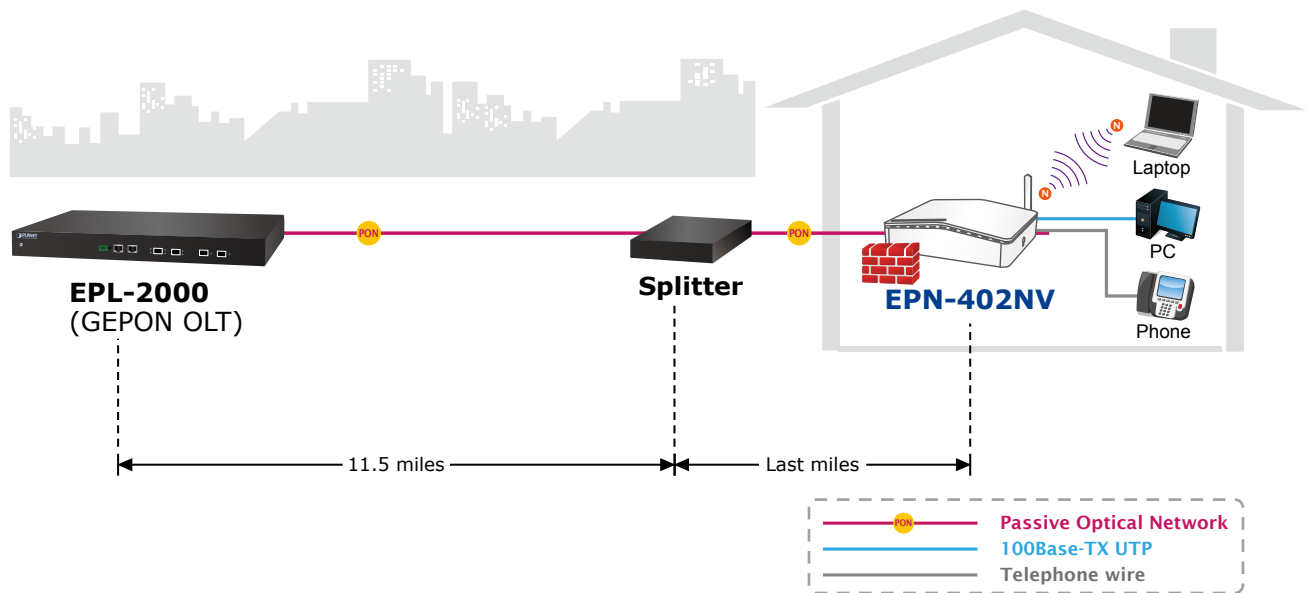
**TR-069 Remote Management**

To reduce the service provider’s manpower needed for on-site maintenance, the EPN-402NV supports TR-069 (WAN Management Protocol) standard that allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device remotely.

## Applications

### High Scalability and Flexibility in Multiple Applications

PLANET EPN-402NV provides ultra high-speed Internet connection with PLANET OLT (EPL-2000) via new GEAPON technology. The upstream and downstream transmission speed provided is up to 1.25Gbps and its maximum distance can be 20km. Through the PON technology, the EPN-402NV can receive and deliver high-speed voice, data and video services. It offers competitive advantages including a long-term life expectancy of the fiber infrastructure, lower operating costs from the reduction of “active” components, easy Installation and maintenance, and most importantly, offering a much greater and more stable bandwidth. The EPN-402NV is the perfect solution working with PLANET OLT EPL-2000 to offer benefits of cost-effectiveness, scalability and flexibility to network deployment.



## Specifications

Product	EPN-402NV	
<b>Hardware Specifications</b>		
Transmission Speed	Downstream: 1.25 Gbps Upstream: 1.25 Gbps	
Port	PON Port	1 x PON Port
	Ethernet Port	4 x RJ45 (10/100Base-TX)
	FXS Port	2 x RJ-11 Port
	USB Port	1 x USB 2.0 Port Type A, 5V 500mA
Optic Wavelength	TX: 1310nm RX: 1490nm	
Optical Receive Sensitivity	-25 dBm	
Dimensions (W x D x H)	190 x 137 x 48 mm	
Weight	350g	
Power Input	12V DC, 1A	
Power Consumption	13W	
<b>EMS Utility Specifications</b>		
ONU Feature	Supports IGMP Snooping Supports MLD Snooping Supports 802.3ah CTC external OAM Supports DBA algorithm Supports 128-bit triple churning algorithm Supports dying gasp IEEE 802.3ah compliant forward error Correction (FEC) Supports TR-069	
<b>Wireless Interface Specifications</b>		
Standard	Compliant with IEEE 802.11b/g/n	
Frequency Band	2.4~2.4835GHz	
Antenna	Gain: 3 dBi internal antennas	
Extended Frequency	DSSS	
Modulation Type	DBPSK, DQPSK, QPSK, CCK and OFDM (BPSK/QPSK/16-QAM/ 64-QAM)	

Data Transmission Rates	802.11n (40MHz):270/243/216/162/108/81/54/27Mbps 135/121.5/108/81/54/40.5/27/13.5Mbps (Dynamic) 802.11n (20MHz):130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (Dynamic) 802.11g:54/48/36/24/18/12/9/6Mbps (Dynamic) 802.11b:11/5.5/2/1Mbps (Dynamic)
Channel	Europe/ ETSI: 2.412~2.472GHz (13 Channels)
Max. RF Power	16 dBm max. (EIRP)
Encryption Security	<ul style="list-style-type: none"> <li>▪ WEP (64/128-bit) encryption security</li> <li>▪ WPA-Personal / WPA2-Personal (TKIP/AES)</li> <li>▪ Mixed WPA / WPA2-PSK</li> </ul>
Wireless Security	Provides wireless LAN ACL (Access Control List) filtering Wireless URL filtering Supports WPS (Wi-Fi Protected Setup) Enables/Disables SSID broadcast
Wireless Advanced	WMM (Wi-Fi multimedia): 802.11e wireless QoS Provides wireless statistics
Max. Supported Clients	128
Firewall	NAT firewall with SPI (Stateful Packet Inspection) Built-in NAT server supporting DMZ Built-in firewall with IMAC address/ port/ URL filtering Supports DoS protection
<b>VoIP Protocols and Standard</b>	
Standard	SIP/H.248/MGCP T.38 (G.711 Fax pass-through)
Voice Codec	G.711 a/u law, G.712, G.729a code/decode
Voice Standard	VAD (Voice Activity Detection) CNG (Comfort Noise Generation)
<b>Environment Specifications</b>	
Temperature	Operating temperature: -5 ~ 55 degrees C Storage temperature: -30 ~ 60 degrees C
Humidity	Operating Humidity: 10 ~ 90% non-condensing Storage Humidity: 5 ~ 95% non-condensing
<b>Standards Conformance</b>	
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3x flow control and back pressure IEEE 802.11n
Regulatory	CE, RoHS, WEEE

## Ordering Information

EPN-402NV	GEPON ONU (1-PON Interface, 4-Port FE, 2-Port FXS, 1 x USB, 802.11n Wireless)
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## Related Products

EPN-103	GEPON SFU ONU with one GE + one FE Port
EPL-2000	2-PON-Port GEPON OLT with Uplink 2 1000Base-X SFP Slots
EPL-SPT-8	GEPON Splitter (1 x 8 PLC Splitter, Wavelength 1260 ~ 1650 nm)
EPL-SPT-32	GEPON Splitter (1 x 32 PLC Splitter, Wavelength 1260 ~ 1650 nm)
EPL-SPT-64	GEPON Splitter (1 x 64 PLC Splitter, Wavelength 1260 ~ 1650 nm)
WDL-U600AC	433Mbps 802.11ac Dual Band Wireless USB Adapter

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