

# Product Specifications

## 802.11n Wireless Internet Fiber Router

**FRT-415N**

Version 1.1

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Change History:

Revision	Date	Author	Change List
Version 1.1	2019/08/27	Reyo	Add receive sensitivity info. (dbm)
Version 1.0	2015/10/07	Solo	Initial release

Author	Reyo	Editor:	Reyo
Approved by:	Kent	Project Leader:	Kent

## 1. PRODUCT DESCRIPTION



### **Delivering Highly-demanding Service Connectivity for ISP/Triple Play Devices**

With built-in 100BASE-FX fiber interface, PLANET FRT-415N 802.11n Wireless Internet Fiber Router supports different optic types for WAN and the distance can be up to 15~60 km through the fiber connection. The FRT-415N is an ideal solution for FTTH (Fiber-to-the-home) applications with the IPv6 network. It can handle multiple high-throughput services such as **IPTV**, **on-line gaming**, **VoIP**, and **Internet** access, and keep the bandwidth usage smoothly. The FRT-415N also incorporates a 4-port 10/100BASE-TX switching hub, which makes it easily creates or extends your LAN, and prevents the attacks from Internet.

### **High-speed 802.11n Wireless**

With built-in IEEE 802.11b/g and 802.11n wireless network capability, the FRT-415N allows any computer and wireless-enabled network device to connect to it without additional cabling. 802.11n wireless capability brings users the highest speed of wireless experience ever; the data transmission rate can be as high as **300Mbps**. The radio coverage is also doubled to offer high-speed wireless connection even in widely spacious offices or houses.

### **Secure Wireless Access Control**

To secure wireless communication, the FRT-415N supports most up-to-date encryptions including WEP, WPA-PSK and WPA2-PSK. Moreover, the FRT-415N supports WPS configuration with PBC/PIN type for users to easily connect to a secure wireless network.

### **Providing Superior Function**

The FRT-415N provides user-friendly management interface to be managed easily through standard web browsers. For networking management features, the FRT-415N not only provides basic router functions such as DHCP server, virtual server, DMZ, QoS, and UPnP, but also provides full firewall functions including Network Address Translation (NAT), IP/Port/MAC filtering and content filtering. Furthermore, the FRT-415N serves as an Internet firewall to protect your network from being accessed by unauthorized users.

## 2. Product Features

### > **Internet Access Features**

- **Shared Internet Access:** All users on the LAN can access the Internet through the FRT-415N using only one single external IP address. The local (invalid) IP addresses are hidden from external sources. This process is called NAT (Network Address Translation).
- **IEEE 802.3u 100BASE-FX standard:** The FRT-415N provides long-distance connection based on optical fiber transceiver which supports **FTTH** and **IPTV** applications.
- **Multiple WAN Connections:** Upon the Internet (WAN port) connection, the FRT-415N supports dynamic IP address (IP address is allocated upon connection), fixed IP address, PPPoE and bridge. SFP or RJ45 can be selected to be the default WAN interface.

### > **Advanced Internet Functions**

- **Virtual Servers:** This feature allows Internet users to access Internet servers on your LAN. The setup is quick and easy.
- **Firewall:** The FRT-415N supports simple firewall with NAT technology.
- **Universal Plug and Play (UPnP):** UPnP allows automatic discovery and configuration of the broadband router. UPnP is supported by Windows XP, or later.
- **User-friendly Interface:** The FRT-415N can be managed and controlled through Web UI.
- **DMZ Support:** The FRT-415N can translate public IP addresses into private IP address to allow unlimited 2-way communication with the servers or individual users on the Internet. It provides the most flexibility to run programs smoothly for programs that might be restricted in NAT environment.
- **RIP1/2 Routing:** It supports RIPv1/2 routing protocol for routing capability.
- **IPv6 Support:** The FRT-415N supports IPv6 for new services and higher security.

### > **LAN Features**

- **4-port Switch:** The FRT-415N incorporates a 4-port 10/100BASE-TX switching hub, making it easy to create or extend your LAN.
- **DHCP Server Support:** Dynamic Host Configuration Protocol provides a dynamic IP address to PCs and other devices upon request. The FRT-415N can act as a DHCP Server for devices on your local LAN.

### > **Wireless Features**

- **Supports IEEE 802.11b, g and n Wireless Stations:** The 802.11n standard provides backward compatibility with the 802.11b and 802.11g standard, so 802.11b, 802.11g, and 802.11n can be used simultaneously. IEEE 802.11n wireless technology is capable of having a data rate of up to 300Mbps.
- **Two External Antennas with MIMO Technology:** The FRT-415N provides farther coverage, less dead spaces and higher throughput with 2T2R MIMO technology.
- **WPS Push Button Control:** The FRT-415N supports WPS (Wi-Fi Protected Setup) for users to easily connect to wireless network without configuring the security.

- **WEP Support:** WEP (Wired Equivalent Privacy) is included. Key sizes of 64 bits and 128 bits are supported.
- **WPA-PSK Support:** WPA-PSK\_TKIP and WAP-PSK\_AES encryption are supported.
- **Wireless MAC Access Control:** The Wireless Access Control feature can check the MAC address (hardware address) of wireless stations to ensure that only trusted wireless stations can access your LAN.

## 3. PRODUCT SPECIFICATIONS

### 3.1 MAIN COMPONENTS

CPU chipset	RTL8676S+ RTL8192ER
RAM	32MB
Flash	4MB

### 3.2 FUNCTIONAL SPECIFICATIONS

Model		FRT-415N
<b>Product Description</b>		300Mbps 802.11n Wireless Internet Fiber Router
<b>Hardware Specifications</b>		
<b>Interface</b>	<b>LAN</b>	4 x 10/100BASE-TX, auto-negotiation, auto MDI/MDI-X RJ45 port
	<b>WAN</b>	1 x 100BASE-FX SFP slot
	<b>Wireless</b>	2x 5dBi fixed antenna
<b>Optic Interface</b>	<b>Connector</b>	SFP (Small form-factor Pluggable)
	<b>Mode</b>	Vary on module
	<b>Distance</b>	Vary on module
<b>LED Indicators</b>		PWR, WAN, Internet, LAN1-4, WLAN, WPS, Security
<b>Button</b>		1 x Reset button 1 x WPS button 1 x Power button
<b>Material</b>		Plastic
<b>Dimensions (W x D x H)</b>		132 x 93 x 25 mm
<b>Power</b>		12V DC, 0.5A
<b>Router Features</b>		
<b>Internet Connection Type</b>		Shares data and Internet access with users, supporting the following internet accesses: <ul style="list-style-type: none"> <li>■ PPPoE</li> <li>■ Dynamic IP</li> <li>■ Static IP</li> <li>■ Bridge</li> </ul>

<b>Max. Session</b>	45659
<b>Fiber-optic cable</b>	<ul style="list-style-type: none"> <li>■ 50/125µm or 62.5/125µm multi-mode fiber cable, up to 2km.</li> <li>■ 9/125µm single-mode cable, providing long distance of 15/20/35/50km or longer (vary on SFP module)</li> </ul>
<b>Routing Protocol</b>	Static routing RIPv1/2
<b>Security</b>	Built-in NAT firewall MAC/IP/Port filtering Content filtering SPI firewall
<b>Protocol/Feature</b>	WPS DMZ and virtual server 802.1D QoS DHCP server/relay IGMP snooping IGMP proxy and MLD proxy UPnP and DDNS
<b>System Management</b>	Web-based (HTTP) configuration SNTP time synchronization System log supports remote log Password protection for system management TR-069
<b>Wireless Interface Specifications</b>	
<b>Wireless Standard</b>	IEEE 802.11b, g and n
<b>Frequency Band</b>	2.4 to 2.4835GHz (Industrial Scientific Medical Band)
<b>Modulation Type</b>	DBPSK, DQPSK, CCK and OFDM (BPSK/QPSK/16-QAM/64-QAM)
<b>Data Transmission Rates</b>	<b>802.11n (40MHz):</b> 270/243/216/162/108/81/54/27Mbps 135/121.5/108/81/54/40.5/27/13.5Mbps (dynamic)
	<b>802.11n (20MHz):</b> 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (dynamic)
	<b>802.11g:</b> 54/48/36/24/18/12/9/6Mbps (dynamic)
	<b>802.11b:</b> 11/5.5/2/1Mbps (dynamic)
<b>Receive Sensitivity (dBm)</b>	<b>270M:</b> -68dBm@10% PER <b>130M:</b> -68dBm@10% PER <b>108M:</b> -68dBm@10% PER <b>54M:</b> -68dBm@10% PER <b>11M:</b> -85dBm@8% PER <b>6M:</b> -88dBm@10% PER <b>1M:</b> -90dBm@8% PER

<b>Channel</b>	Maximum 13 Channels, depending on regulatory authorities
<b>Antenna Connector</b>	2 x 5dBi fixed antenna
<b>Wireless Data Encryption</b>	64-/128-bit WEP, WPA-PSK, WPA2-PSK, 802.1x encryption, and WPS PBC
<b>Standards Conformance</b>	
<b>Standard</b>	Fiber Interface Compliant with IEEE802.3/802.3u 10/100 BASE-TX, 100BASE-FX standard U0 band support (25KHz to 276KHz) Packet Transfer Mode Ethernet in the first mile (PTM-EFM)
<b>Environment Specifications</b>	
<b>Temperature/Humidity</b>	Operating: 0~40 degrees C, 10%~ 90% (non-condensing), Storage: -10~70 degrees C, 0~95% (non-condensing)
<b>Certification</b>	CE

### 3.3 PHYSICAL SPECIFICATIONS

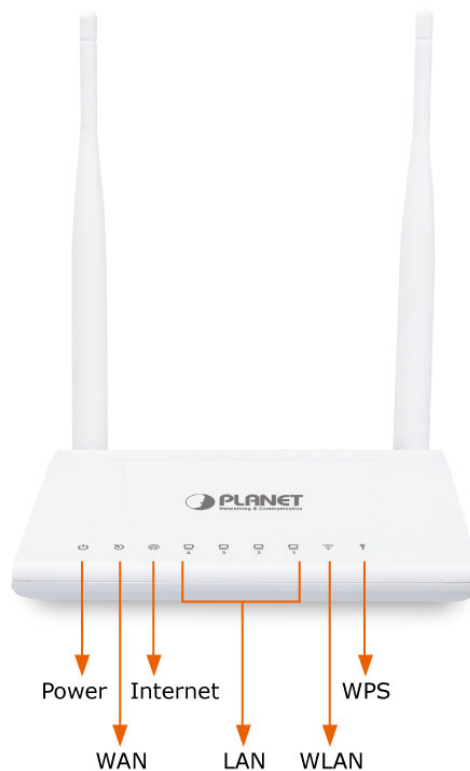
#### Dimensions

132 x 93 x 25mm (W x D x H)







#### Weight

161g

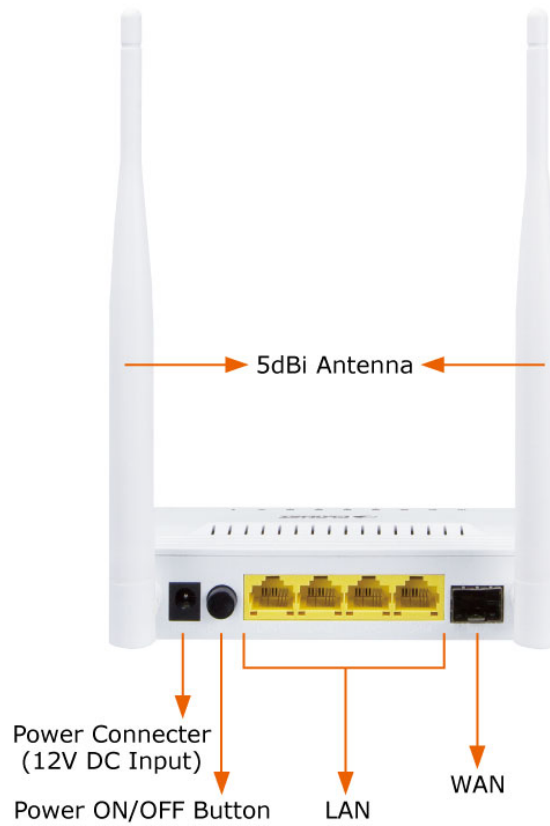
#### Front Panel



### Front Panel LED Definition

LED	State	Description
 <b>Power</b>	On	When the router is powered on, and in ready state.
	Off	When the router is powered off.
 <b>WAN</b>	Flashing	Router is trying to establish a WAN connection to device.
	On	The WAN is connected successfully.
 <b>Internet</b>	Flashing	Router is trying to establish an Internet connection to device.
	On	The Internet is connected successfully.
 <b>LAN1-4</b>	Flashing	Data is being transmitted or received via the corresponding LAN port.
	On	The port is up.
 <b>WLAN</b>	On	WLAN radio is on.
	Flashing	Data is being transmitted through WLAN.
	Of	WLAN radio is off.
 <b>WPS</b>	On	WPS client registration is successful.
	Flashing	WPS client registration window is currently open.
	Of	WPS is not available, or WPS is not enabled or initialized.

**Rear Panel**



**Rear Panel Port and Button Definition**

Connector	Description
<b>Power</b>	Power connector with 12V DC, 0.5 A
<b>Power Button</b>	Power on/off button
<b>LAN (1-4)</b>	Router is successfully connected to a device through the corresponding port (1, 2, 3, or 4). If the LED light of LNK/ACT is flashing, the router is actively sending or receiving data over that port.
<b>WAN</b>	The SFP connector allows data communication between the router and the fiber network through an optical fiber cable



### 3.4 ENVIRONMENTAL SPECIFICATIONS

#### Operating

Temperature: 0~40 degrees C  
Relative Humidity: 10~90 % (non-condensing)

#### Storage

Temperature: -10~70 degrees C  
Relative Humidity: 0~95 % (non-condensing)

#### Electrical Specification

Input Voltage: 12V DC, 0.5A.

#### Regulatory Compliance

CE Class B

### 3.5 BASIC PACKAGING

- FRT-415N Unit x 1
- Power Adapter x 1
- Quick Installation Guide x 1
- RJ45 x 1

## APPENDIX A: Default Setting

Default IP Address	192.168.1.1
Default Login User Name	admin
Default Login Password	admin
Default WLAN Mode	2.4GHz (B+G+N)
Default SSID	PLANET_XXXX ("X" means the last 4 digits of the MAC Address)
Default Multiple SSIDs	PLANET_XXXX ("X" means the last 4 digits of the MAC Address)
Default Country Code	FCC (1-11)
Default Channel Width	40MHz
Default Channel Number	Auto
Default DHCP Server	Enable
Default DHCP Range	192.168.1.2~192.168.1.254