

ADTRAN

# 414RG

## Wireless Residential Gateway ONT



### Benefits

- Single box integrated ONT, residential gateway, and Wi-Fi
- Rapid home installation from eliminated home wiring and ONT provisioning steps
- Remote service troubleshooting and home management via TR-069
- Provides CoS levels for prioritizing multi-user, multi-services
- Supports both GPON and Active Ethernet deployment models
- USB 2.0 interface device and storage support
- Supports both VoIP and TDM Voice
- Supports both IPTV and OTT video

### Overview

**Wi-Fi device access has become an absolute requirement in today's homes and businesses.** From smartphones, laptops and tablets, to gaming and streaming devices, to Wi-Fi-enabled smart-home devices, and now growing number of personal health and productivity devices, placing a tremendous strain on the home network. In addition, the emergence of Gigabit broadband offers paired with the migration to bandwidth intensive uni-cast Over-the-Top streaming video services and cloud-apps place a greater strain on the access network. All this requires service providers to rethink how they deliver residential connectivity over a wireless network as they look to minimise operational costs while ensuring higher customer satisfaction.

#### The Solution

The ADTRAN 414RG Wireless Residential Gateway, an integrated wireless router and gateway with 802.11 b/g/n 2x2 MIMO implementation, offering an economical option for service providers to control the the Quality of Experience (QoE) of the end-user.

#### Game-changing Operational Savings

The ADTRAN FTTH solution inclusive of the 414RG drastically reduces the time and labor

required to install, provision and set up billing for a new service. This comes from the eliminated home wiring due to the wireless feature set of the 414RG and from the simplified and automated back-office ONT service provisioning steps. A single technician will simply plug-in the Wireless Residential Gateway into the wall and their IP device to be taken directly to the auto-provisioning portal to choose their service options which then automatically provision the service as well as initiate the billing cycle.

#### SDN Enabled

ADTRAN is defining next generation service provider networks that revolve around programmability and virtualized network functions. Taking datacenter principles like SDN and NFV and applying them to the service providers network are going to be a necessity to compete against the competitive threat of cloud solution providers. ADTRAN is enabling this capability in current and next generation FTTH platforms so service providers are prepared when they need to take the next step in their network. ADTRAN ONTs are uniquely positioned to perform RG functions in the network element today but shift virtualized RG functions to the cloud as the service providers network evolves.



# 414RG

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## Product Specifications

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### Ethernet Interfaces

- 10/100/1000Base-T Interface with RJ-45 Connectors
- Ethernet Port Auto Negotiation or Manual Configuration
- MDI/MDIX Automatically Sense
- Hardware Priority Queues on the Downstream Direction in Support of CoS

### Ethernet Services

- Symmetric 1 Gbps Throughput
- 802.1D Bridging
- 802.1x Authentication
- Virtual Switch Based on 802.1q VLAN
- VLAN Tagging/Untagging Per Ethernet Port
- VLAN Stacking (Q-in-Q) and VLAN Translation
- IP ToS/DSCP to 802.1p Mapping
- Quality of Service (QoS)
  - VLAN-ID
  - 802.1p bit
  - DSCP to p Bit Translation
- Marking/Remark of 802.1p
- IGMP v2/v3 Snooping
- Broadcast/Multicast Rate Limiting

### Gateway Features

- Multiple WAN Interfaces Supporting
- WAN Connection
  - Point-to-Point Protocol over Ethernet (PPPoE)
  - Dynamic Host Configuration Protocol (DHCP)
  - Static
- DHCP Server for LAN Devices
- DNS Relay
- Network Address Translation (NAT)/Network Address Port Translation (NAPT)
- Port Forwarding
- Static Routing

- Access Control List (ACL)
- VPN Pass Thru for Point to Point Tunneling Protocol (PPTP), Layer 2 Tunneling Protocol (L2TP) and IP Security Protocol (IPSec)
- Firewall
- Application Layer Gateway (ALG)
- Demilitarised Zone (DMZ)
- Dynamic Domain Name Server (DDNS)
- Network Time Protocol (NTP)
- Universal Plug and Play (uPnP)
- IGMP Proxy
- IPv6
  - Stateless Address Autoconfiguration (SLAAC)
  - DHCPv6
  - PPPoEv6
  - DNSv6

### WLAN Interface

- Compliant with IEEE 802.11 b/g/n
- Dual Band Radios
  - 2.4 GHz 2x2
- Wi-Fi Frequency Band
  - 2.4GHz: 2.400-2.4835GHz
- Wi-Fi Maximum Tx Power (EIRP)
  - 2.4GHz: 20dBm (100mW)
- Wi-Fi Channel Bandwidth
  - 2.4GHz: 20MHz
- 4x SSIDs per Radio
- 64 and 128 Bit WPA/WPA2 PSK Support
- Push Button WPS

### USB Interface

- 1 USB Host Interface
- Compliant to USB 2.0
- Network Storage

# Wireless Residential Gateway ONT

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## POTS Interface

- RJ-11 Interface
- 3-REN, 50V RMS
- **VoIP Voice:** SIP
- **TDM Voice:** Both GR.303, GR-57 and TR-08
- Full CLASS Feature Set
- Both ANSI and ETSI POTS
- T.38 Facsimile
- Configurable Dial Plan
- Configurable Country Specific Ring-back Tones (Frequency and Cadence)
- DHCP Client or Static IP Configuration
- Optionally Metallic Loop Testing

## GPON Interface

- Compliant with ITU-T G.984 GPON Standards
- Compliant with ITU-T G.984.2 Amd1, Class C+
- Support G.984.5 Blocking Filter
- Multiple T-CONTs per Device
- Multiple GEM Ports per Device
- DBA Reporting by Piggyback Reports in the DBRu (Mode 0 and Mode 1)
- 802.1p Mapper Service Profile on U/S
- Mapping of GEM Ports into a T-CONT with Priority Queues Based Scheduling
- Support Multicast GEM Port and Incidental Broadcast GEM Port

## Dimensions

- 35 mm x 100 mm x 140 mm (1.4 in. x 3.9 in. x 5.5 in.) (H x W x D)

## Power Supply

- +12V (Feed via External AC/DC Adapter)
- Dying Gasp Support
- Power Switch
- **Power Consumption:** Less than 15W

## Working Environment

- **Temperature:** 0° C – 40° C (32° F – 104° F)
- **Humidity:** 5% – 95% Relative Humidity

## Safety and EMI

- CE Certificate
- FCC/UL Compliant

## Environmental Directive

- RoHS 6 of 6

## Installation

- Wall Mounting and Desktop Mounting

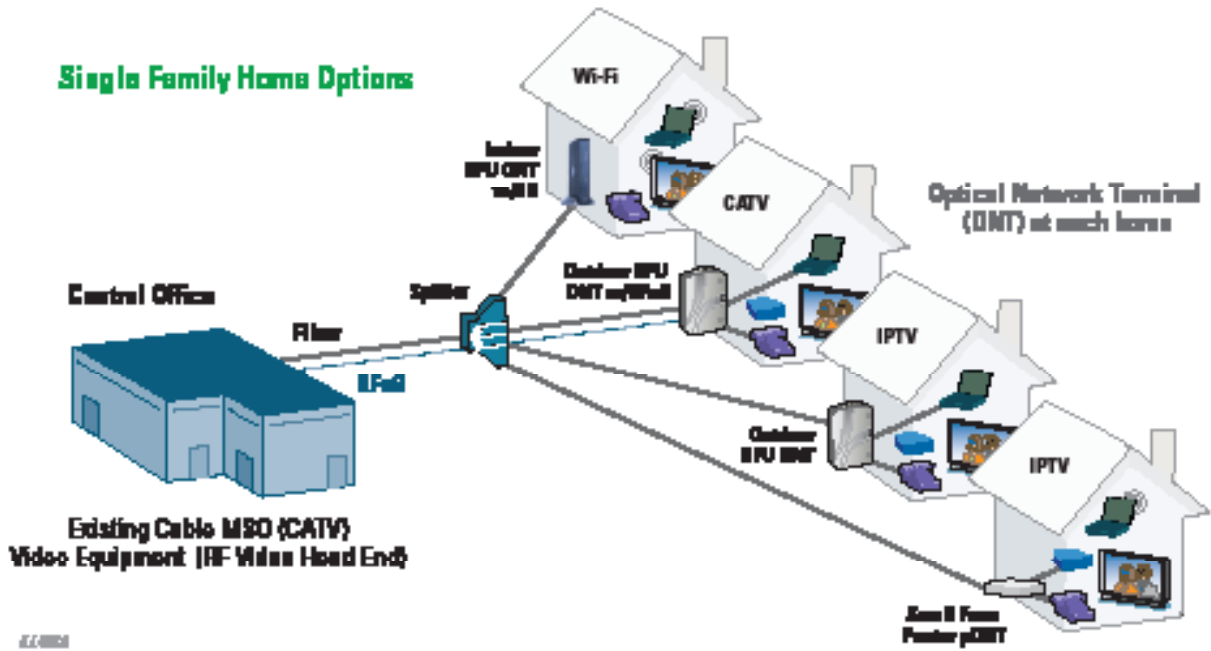
## LEDs

- Power
- GPON
- Optical
- LAN
- VoIP

## OAM

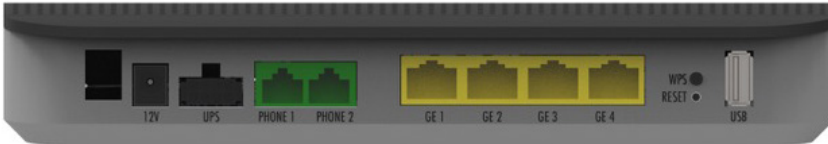
- Standard Compliant OMCI (the Embedded Operations Channel) Interface as Defined by ITU-T G.988
- Provisioning all kinds of Services including Ethernet, VoIP etc.
- Alarming and Performance Monitoring
- Remote Software Image Download over OMCI, as well as Activation and Rebooting
- Hold Two Software Sets with Software Image Integrity Checking and Automatic Rollback

## Single Family Home Options



## Ordering Information

Equipment	Part No.
ADTRAN 414RG, Wireless Residential Gateway ONT	1287790F3



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