Dual-band WiFi7 XGSPON Gateway
with RF Overlay and Voice Option

NOVA2335VR

The Hitron NOVA2335VR is a feature-rich XGS-PON residential gateway that combines 10G fiber broadband, dual-band Wi-Fi 7, integrated voice, and RF overlay support in a single device. Purpose-built for European operators, it allows broadband, telephony, and TV distribution over the same fiber connection—simplifying deployments and delivering a complete home service solution.

Multi-Gig Fiber & Wi-Fi 7 Performance

With a dedicated XGS-PON SC/APC port, the NOVA2335VR delivers true 10G broadband speeds and includes one 10 GigE port plus three GigE ports for wired devices. Its dual-band Wi-Fi 7 implementation provides 4×4 radios on 2.4 GHz and 5 GHz with 4096 QAM, 160 MHz channels, Multi-Link Operation (MLO), MU-MIMO, and EasyMesh. Together, these features deliver fast, efficient, and reliable wireless performance—perfect for streaming, gaming, conferencing, and smart home applications.

RF Overlay & Operator Efficiency

The key differentiator of the NOVA2335VR is its RF overlay interface, which allows traditional TV signals to be carried over fiber and output to a coax connection—enabling subscribers to connect directly to TVs without additional set-top boxes. This is especially valuable for European operators seeking to maintain legacy TV services while expanding fiber broadband. Alongside one FXS voice port, full support for TR-069, TR-369, and USP, and seamless roaming protocols (802.11k, r, v), the NOVA2335VR gives operators the flexibility to deliver broadband, voice, and TV in one future-proof platform.

Key Features

- Simultaneous Dual-band Wi-Fi 7
  - 4x4 2.4GHz 802.11be
  - 4x4 5GHz 802.11be

- Radio Frequency (RF) Overlay

- 4096 QAM support on all bands (2.4GHz / 5GHz)

- Multi-Link Operation (Single radio / Dual radio)

- Seamless roaming using 802.11k, r, v

- Client steering & channel optimization

- MU-MIMO capable for simultaneous data streaming

- Supports EasyMesh

- One XGSPON SC/APC, one 10 GigE and three GigE

- One FXS Voice Port

- TR-069, TR-369, USP Support

Interfaces
- 1 x SC-APC 10G Optical Port
- 1 x RJ-45 100M/1G/2.5G/5G/10G BASE-T
- 3 x RJ-45 100M/1G BASE-T Ethernet Port
- 1 x RJ-11 HD Voice Ports
- 1 x USB 3.0
- 1x Coax RF Overlay

XGS-PON Uplink
- 1x SC-APC Connector, Single Mode Fiber
- TX Wavelength: 1270 nm
- TX Max. Output Power: 7 dBm
- RX Wavelength: 1577 nm
- Sensitivity Max.: -29 dBm
- Compliant with ITU-T G987.2 XG-PON
- Compliant with ITU-T G.9807.1 XGS-PON
- Data Rates: Upstream:10Gbps, Downstream:10Gbps

XG-PON/XGS-PON (Choice of Protocol)
- 128 GEM-Port-ID/XGEM-Port-ID
- 32-TCONT
- Layer 2 Switching, supporting up to 4K MAC addresses
- VLAN Tagging and Stripping with Priority Tag Support and QinQ Support for full 4K VLAN Range
- Jumbo Frame Support up to 12 Kbyte
- QoS Functions (DSCP/802.1p/TC Arbitrary Mapping to Queues and Flows)
- Per Flow Packet Policing and Per Queue Traffic Shaping
- Customizable QoS (with WRED) and powerful ACL support

RF Overlay
- Three wavelength tri-directional OSA
- Combining XGSPON with RF Overlay Receiver
- 9.95328Gbps 1270nm BM DFB transmitter
- 9.95328Gbps 1577nm CM APD-TIA receiver
- 1GHz 1550nm Analog PIN receiver
- Operate at -40° ~ 85°
- XGSPON N1, N2 and E1
- ITU-T G987.01 compliance

Wi-Fi
Wi-Fi Characteristics
- 802.11a/b/g/n/ac/ax/be
- 4T4R 5GHz 11be (5.7Gbps)
- 4T4R 2.4GHz 11be (1.3Gbps)
- 20/40/80/160MHz Channel Bandwidth
- Supports Standard 5GHz UNII Bands

Wi-Fi Features
- Up to 4 SSIDs per Radio
- Prioritized QoS: WMM/WMM-PS
- 4096 QAM support on band (5GHz)
- 4096 QAM support on band (2.4GHz)
- 160MHz channel support on 5GHz band
- Multi-Link Operation (Single radio / Dual radio)
- Transmit Power Control by Service Provider
- WPS (Wi-Fi Protected Setup) PBC, PIN
- Airtime Fairness (ATF)
- Band Steering (BS)
- Dynamic Frequency Selection (DFS)
- Wi-Fi Output Power Range: Max permitted by FCC/IC
- Roaming: 802.11r/k/v

Wi-Fi Security
- WPA2-PSK (TKIP/AES)
- WPA3-SAE
- WiFi Enhanced Open (OWE)

Routing Support
- Protocol Support: IGMP v3 for IPTV service capability
- MAC Address Filtering (IPv4/IPv6)
- IP Source/Destination Address Filtering (IPv4/IPv6)
- IP over Ethernet (IPoE)
- DHCP and TFTP clients (IPv4/IPv6)
- DHCP Server supports RFC 1541 (IPv4)
- DHCPv6 obtains Prefix from DHCPv6 Server through Prefix Delegation
- DNS Proxy
- Port Forwarding and DMZ
- UPnP
- DSLite Support for IPv4 In-home Support with IPv6 Backbone
- 6RD Support for Quick IPv6 Deployment over IPv4 Backbone
- RIPv2 for Static IP Support

Management
- App Configuration, Control and Management
- Cloud Managed Backend Support and Optimization
- Web-based GUI Configuration and Management
- TR-069, TR-104, TR-143, TR-181, TR-369
- IEEE 802.3ah OAM
- OMCI(G.988)

Voice

General Voice Features
- SIP v2 Call, SIP v2 Call Control
- DNS SRV
- Hook Flash Event Signaling
- RTP Audio Transport
- RFC2833 RTP Payload
- SIP INFO
- InBand DTMF Mode
- HD Voice Port with 16kHz sampling rate

Voice Audio Codecs
- G.711 (a-law and mu-law)
- G.722 (HD codec)
- G.723.1
- G.726
- G.728
- G.729
- AMR (narrowband)
- Adaptive Jitter Buffer
- G.167 Acoustic Echo Cancellation

FAX Relay Protocols Compliance
- T.38 Pass-through and over IP Fax/Modem Detection Control
- T.28 (IP) Compliant Group 3 and SG3 Fallback to Transport T.30
- V.34 Fax and Modem Bypass
- Automatic Fallback to G.711 support

CLASS Calling Features
- Call Waiting
- Call Hold
- Call Resume
- Call Forward Unconditional, Call Forward on Busy
- Caller ID
- 3-Way Conference
- Call Consultant
- Call Transfer and Network-initiated Class Services - MWI messaging, VMWI via FSK

Network Security
- Firewall with Stateful Inspection (IPv4/IPv6)
- Hacker Intrusion Prevention and Detection
- Application Content Filtering (IPv4/IPv6)
- Complete NAT Software Implemented as per RFC 1631 with Port and Address Mapping (IPv4)
- Port Blocking
- Keyword Filtering
- Device Filtering
- Instant Device Pause

Mechanical
- LEDs: Power, Alarm ,TEL,Link speed for 1*10G LAN & 3*Gig LAN, PON,2.4G ,5G
- Factory Default Reset Button
- Power Button
- Pair Button
- Dimension: 232mm(H)x210.5(W)x74mm(D)
- Net Weight: <1851g

Electrical
- Input Power: 12VDC
- Power Consumption: ~30 W
- Surge Protection: Ethernet RJ45 sustains at least 4KV
- ADP:6KV

Environmental
- Operating Temperature: 0°C (32°F) ~ 40°C (104°F)
- Operating Humidity: 10% ~ 90% (Non-condensing)
- Storage Temperature: -40°C (-40°F) ~ 60°C (140°F)

Regulatory Compliance
- RoHS Compliant
- FCC Part 15:2019, Subpart B, Class B
- FCC Part 15, Subpart C (Section 15.247)
- FCC Part 15, Subpart E (Section 15.407)
- FCC Part 2 (Section 2.1091) IEEE C95.3 -2002
- ANSI C63.4:2014
- ANSI C63.10:2013
- UL 62368-1
- UL 62368 with laser safety standard IEC-60825 Class 1
- Compliant with FDA 21, CFR 1040.10 and 1040.11
- cUL
- ICES-003
- CAN/CSA C22.2 No. 62368-1-14
- CE