

Fiber Gateway Wi-Fi 7

XSG-PON CPE Solution

Description

Targeted to PON FTTH termination scenarios, this compact multi-play Fiber Gateway Wi-Fi 7 features services such as High-Speed Internet, VoIP, and IPTV from a single box, being the right choice for Operators and Service Providers that want to deliver multiple and advanced services to residential customers and SMEs.

The architecture of this FGW is based on the ITU G.9807.1 recommendations, supporting full in-house multi-play services, enabling Data, Voice, and Video services through Ethernet, Wi-Fi, FXS, and USB standard interfaces. Built-in RJ-45 Copper Ethernet interfaces are available for the LAN side, while Wi-Fi 802.11a/b/g/n/ac/ax/be is available for the WLAN side. FXS ports allow the connection of voice or fax devices featuring the SIP protocol. A valuable set of built-in LEDs provides fast and pertinent information to the user or the installer.

This equipment includes a high-performance Wi-Fi technology that supports dual-band concurrent operation, complying with 802.11a/b/g/n/ac/ax/be standards, operating simultaneously on the 2.4GHz, and 5GHz frequency bands. Advanced MU-MIMO and Dynamic Frequency Selection (DFS) techniques allow an increase in the air interface throughput and range by mitigating the multi-user interference and the utilization of frequency bands allocated to weather radars.

This FGW is fully interoperable with 3rd party OLTs. The device can be remotely managed and configured, allowing operators to optimize OPEX and scale-up deployments by featuring auto-provisioning mechanisms (e.g., TR-069, OMCI, and DHCP).

Business Benefits

- Compact, high-speed, and low-power consumption device for residential customers and SMEs;
- Multi-play services including Data, High-Speed Internet, VoIP and IPTV;
- Powerful dual-band concurrent WLAN interface, Wi-Fi 7 compliant;
- EasyMesh™ Wi-Fi compliance;
- Home Network Security (HNS);
- Mass remote management through OMCI (G.988), TR-069 and Matter standards, thus offering full remote control without user intervention.

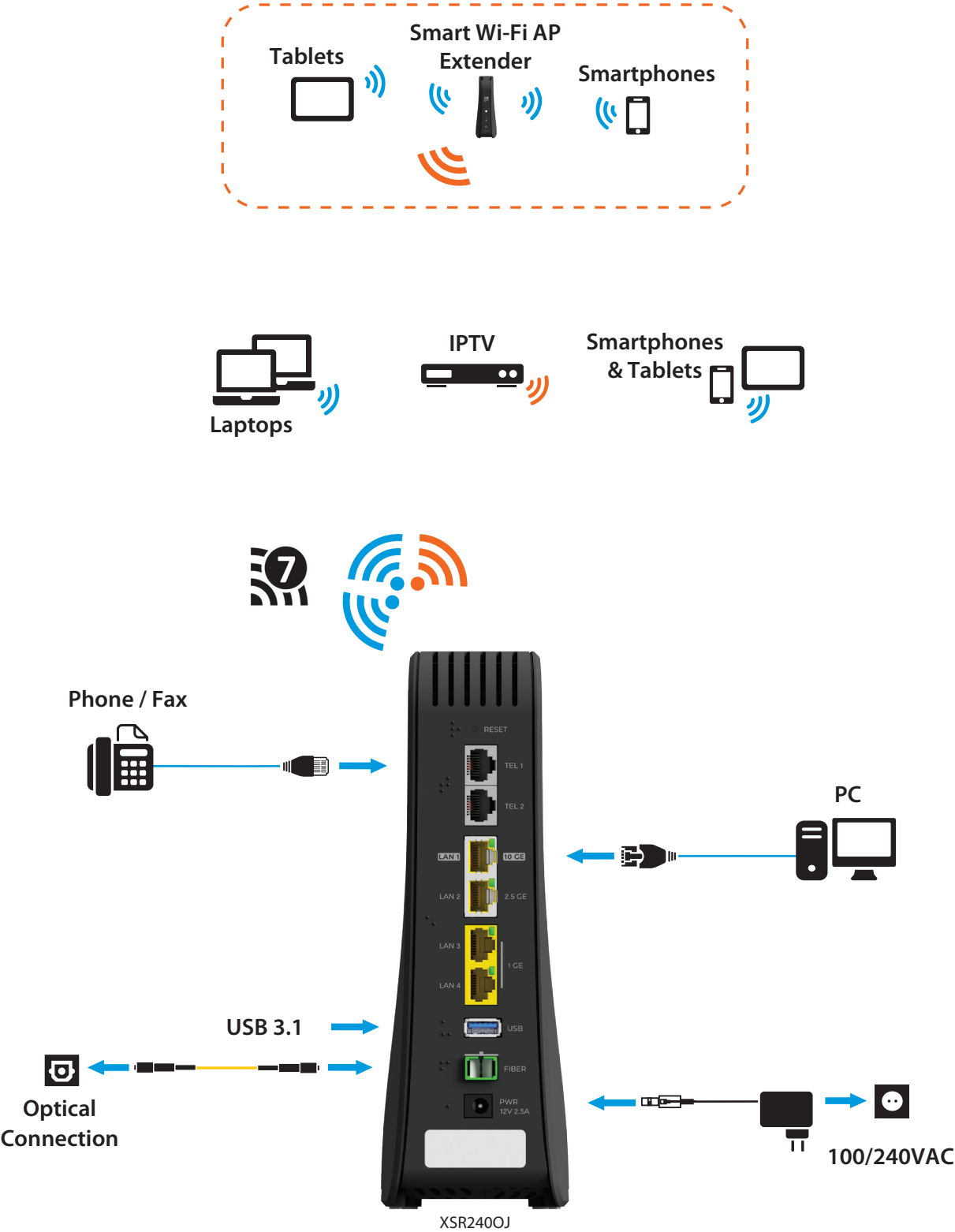


CONNECTIVITY

MODEL	PORTS					WIRELESS		
	FXS	Ethernet			USB	Wi-Fi 7		
		1GE	2.5GE	10GE		Band	2.4GHz	5GHz
XSR2400J	2	2	1	1	1 (Type A)	Antennas	3x3	4x4
						EIRP (dBm)(ETSI)	≤+20	≤+30

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Scenario



Specifications

WAN Uplink Interfaces	ITU.T G.9807.1 (XGS-PON) and G.988 compliant.					
XGS-PON layer per G.9807.x	Compliant with standards: ITU-T G.9807.1 (XGS-PON) / ITU-T G.988 (OMCI); Configurable AES (Downstream); In the downstream direction, FEC is statically configurable as ON for all ONUs; in the upstream direction, the use of FEC is under dynamic control by the OLT; Bitrates: 9.95328 Gbps (Downstream) / 9.95328 Gbps (Upstream); Optics Classes: N1; N2; E1; DD20.					
L2/L3 layer	VLAN-ID to GEM port-ID mapping (per TR-156i3): 1:1, N:1 VLAN; Transparent VLAN; Classification: DSCP/TOS, 802.1p TCI, VLAN-ID, MAC address; Traffic Management: up to 8 queues per T-CONT in priority-controlled mode or up to 16 queues per T-CONT in rate-controlled scheduling mode; 802.1q VLAN processing: Q-in-Q, tagging, removing tag, replacing tag or transparent forwarding; IPv4; IPv6; Routing: Network Access Translation (NAT) and Network Access Port Translation (NAPT); Firewall; VPN; DHCP Client and Server; PPPoE Client; Performance: 1 Gbps bidirectional; Quality of Service (QoS) prioritization using 802.1p.					
IPTV	IGMP v2/v3, and MLD (IPv6) snooping and proxy; IGMP processing per VLAN ID to support group of channels; Interactive services (Video On Demand); Simultaneous IPTV streams: 128.					
VoIP specifications	Call control: SIPv1/v2; T.38 Fax relay; Fax/Data bypass; Echo canceller; Echo canceller length; Jitter buffer; Caller ID generation; G.711 PCMU; G.711 PCMA; G.723.1; G.726; G.729; VAD and CNG; Caller ID and call waiting; RTP/RTCP packet encapsulation; RFC 2833 Support; In-band signaling detection and generation (DTMF, call progress tones); Automatic Tone generation (dial, busy, ring back, stutter, distinctive ring); 3-Way conferencing.					
Services	Content sharing: - UPnP Media Server; - DLNA DMS; - Metadata Support; OSGI (Open Service Gateway Interface); Internet of Thing (IoT); Home Network Security (HNS).					
Wi-Fi 7	Functionalities: - 802.11be compliance; - 802.1x authentication; External RADIUS authentication; - WPA/WPA2/WPA3; - AES and TKIP Encryption; - Wi-Fi multimedia support: WMM and WMM-PS; - Multi Link Operation (MLO); Interfaces: - Concurrent Mode 2.4GHz + 5GHz via internal antennas <table><tr><td>- 2.4GHz: Compliant with IEEE 802.11b/g/n/ax/be with 3x3 MIMO</td><td>up to +20dBm EIRP(ETSI)</td></tr><tr><td>- 5GHz: Compliant with IEEE 802.11a/n/ac/ax/be and with 4x4 MIMO</td><td>up to +30dBm EIRP (ETSI)</td></tr></table> - Channel Bandwidth: 20MHz, 40MHz, 80MHz, 80MHz+80MHz, 160MHz - Support of zero wait Dynamic Frequency Selection (DFS): 4x4 with weather radar detection - Multi-User MIMO for better performance per user Data rates: 802.11a : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b : 1, 2, 5.5, 11 Mbps 802.11g : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n : up to 600 Mbps 802.11ac : up to 3400 Mbps 802.11ax (2.4 GHz): up to 900 Mbps 802.11ax (5 GHz): up to 4800 Mbps 802.11be (2.4 GHz): up to 1375 Mbps 802.11be (5 GHz): up to 5760 Mbps		- 2.4GHz: Compliant with IEEE 802.11b/g/n/ax/be with 3x3 MIMO	up to +20dBm EIRP(ETSI)	- 5GHz: Compliant with IEEE 802.11a/n/ac/ax/be and with 4x4 MIMO	up to +30dBm EIRP (ETSI)
- 2.4GHz: Compliant with IEEE 802.11b/g/n/ax/be with 3x3 MIMO	up to +20dBm EIRP(ETSI)					
- 5GHz: Compliant with IEEE 802.11a/n/ac/ax/be and with 4x4 MIMO	up to +30dBm EIRP (ETSI)					

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Wi-Fi 7 (cont.)	Frequency range	2400-2483.5MHz in 2.4 GHz; 5150-5350MHz & 5470-5725MHz in 5 GHz
	Transmitting power	Max 20dBm EIRP (100mW) in 2400-2483.5MHz; Max 23dBm EIRP (200mW) in 5150-5350MHz; Max 30dBm EIRP (1000mW) in 5470MHz-5725MHz
	Bandwidth	2.4GHz - 20, 40 / 5GHz - 20, 40, 80, 160
	Modulation	DSSS/OFDMA; OFDMA-BPSK
POTS	RJ-11 FXS Port	
USB	USB Type A 3.1	
Management	Web-based with GUI; Remote management through OMCI, PLOAM, OAM and Connected Home: TR-069/098/104/111/140/142/143/181 Secure software download upgrade via OMCI or TR-069; Embedded Telnet server for remote management; SNMP V3; Zero-touch configuration; CLI.	
LAN Ethernet interfaces	RJ-45 10/100/1000Base-T; Auto-negotiation support; Auto MDI/MDIX support; RJ-45 1/2.5GBase-T; Auto-negotiation support; Auto MDI/MDIX support; RJ-45 1/2.5/5/10GBase-T; Auto-negotiation support; Auto MDI/MDIX support.	
Energy Efficiency	EU CoC V9, EN 50563, EN 50564, EN 50581	
Environment	Temperature Range: 5°C to +40°C Relative Humidity: 5% to 95%	
EMC	EN 300 386, IEC CISPR32, EN 55032 (Class B); IEC/EN 61000-3-2, IEC/EN 61000-3-3, IEC/EN 61000-4-2, IEC/EN 61000-4-3; IEC/EN 61000-4-4, IEC/EN 61000-4-5, IEC/EN 61000-4-6, IEC/EN 61000-4-11; FCC CFR 47 Part 15 Subpart B Section 15.107 – Conducted Emissions (Class B); FCC CFR 47 Part 15 Subpart B Section 15.109 – Radiated Emissions (Class B).	
Safety	IEC/EN 62368-1 / UL 62368-1; IEC/EN 60825-1.	
Radio	EN 300 328, EN 301 893 and EN 62311	
Equipment Size (HxWxD)	233x178x80mm / 9.17x7.01x3.15"	
Net Weight	0.8kg / 1.76lb	
Power Supply ⁽¹⁾	Primary: 240VAC, 50Hz or 100VAC, 60Hz Secondary: 12VDC/2.5A ± 15%	

(1) An LPS power source is used to power the ONT equipment:

- The ONT must be powered by an External CB approved Limited Power Source (LPS).

