Fiber Gateway Wi-Fi 6

GPON CPE Solution

Description

This compact multi-play Fiber Gateway Wi-Fi 6 equipment family models are targeted for xPON FTTH termination scenarios. High-Speed Internet, VoIP, and IPTV and RF Overlay services are delivered through this single box solution, being the right choice for Operators and Service Providers that need to deliver multiple fiber based advanced services to residential and SME customers.

The Fiber Gateway Wi-Fi 6 architecture is based on the Rec. ITU G.984.x and supports full in-house multi-play services enabling Data, Voice and Video services throughout Ethernet, Wi-Fi, FXS, USB and RF Overlay 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 is available for the WLAN side. Furthermore, a FXS RJ-11 port allows the connection of voice and fax devices throughout the SIP protocol. A useful group of built-in LEDs providing relevant frontend information for both the user and the setup team is also available at the front panel equipment side.

The Fiber Gateway Wi-Fi 6 equipment supports the next generation Wi-Fi standard, providing high performance 4x4 dual concurrent Wi-Fi antennas supporting 802.11a/b/g/n/ac/ax standards over 2.4GHz and 5GHz frequency bands. The Fiber Gateway Wi-Fi 6 also complies with Wi-Fi EasyMesh™ from Wi-Fi Alliance ™ allowing the connection for a 3rd party Wi-Fi Extender device to ensure all areas of the home have complete Wi-Fi coverage.

Advanced MU-MIMO and OFDMA techniques, increases air interface range and throughput, also mitigating multi-user interference.

Altice Labs Fiber Gateway Wi-Fi 6 also holds multi-vendor OLT interoperability and may be locally and/or remotely configured by the user/administrator. A user friendly web terminal is also provided, while, for a mass deployment scenario, TR-069 provisioning is available.
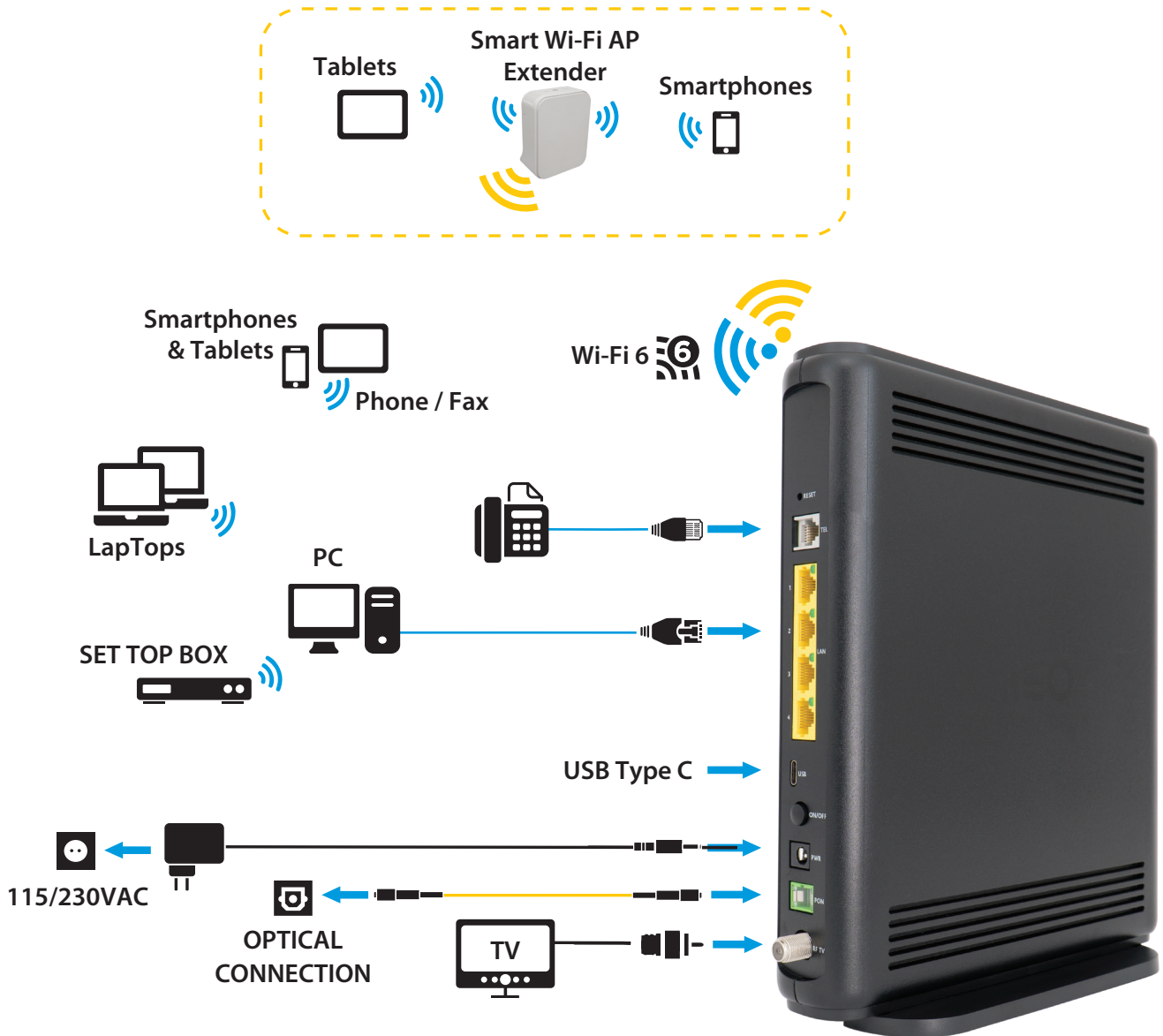
Business Benefits

- Compact size, high speed rates and low power consumption for the residential and SME subscribers;
- Multi-play services enabled from a single CPE, including High-Speed Internet (HSI), voice (VoIP) and TV (IPTV and RF Overlay);
- Powerful and enhanced WLAN interface based on MU-MIMO OFDMA 4x4 dual concurrent Wi-Fi antennas supporting 802.11a/b/g/n/ac/ax standards over 2.4GHz and 5GHz wireless frequency bands;
- Multi-vendor OLT interoperability;
- User friendly web terminal;
- OPEX optimization by auto-provisioning mechanisms (e.g. TR-069, OMCI and DHCP).

Wall Mount

Fiber Gateway Wi-Fi 6

Scenario

Tablets

Smart Wi-Fi AP Extender

Smartphones

Smartphones & Tablets

Phone / Fax

Wi-Fi 6

LapTops

PC

SET TOP BOX

USB Type C

115/230VAC

OPTICAL CONNECTION

TV

Model	Ports										
	FXS	Ethernet	RF	Wi-Fi 6 Dual Concurrent		USB	PON				
		1GE	Band: (47 … 870MHz)	Antennas	Power* (dBm EIRP)	Type C	Type	Class	Bit rate (Gbps)	Wavelength (nm)
GR141DG	1x	4x	1x	2.4GHz: 4x4 Mimo 5GHz: 4x4 MIMO	2.4Ghz: up to +20 (ETSI) or up to +34 (FCC) 5GHz : up to +30 (ETSI) or up to +34 (FCC)	1x	GPON	B+, C+,D	DS: 2.488 US: 1.244	DS:1480-1500 US:1260-1360
GR140DG	1x	4x	-	2.4GHz: 4x4 Mimo 5GHz :4x4 MIMO	2.4Ghz: up to +20 (ETSI) or up to +34 (FCC) 5GHz : up to +30 (ETSI) or up to +34 (FCC)	1x				

*Wi-Fi power upper limit value depends on the country

Specifications

WAN Uplink Interfaces	*G.984.2 GPON and Active Ethernet*
GPON layer per G984.x	*Comply with GPON standard: ITU-T G.984.1 /G.984.2 /G.984.3 /G.984.4 /G.984.5 /G.988;* *GPON Encapsulation Method (GEM) supports Ethernet;* *Configurable AES (Downstream) and FEC (Downstream and Upstream);* *Bitrates: 2.488Gbps (Downstream) /1.244Gbps (Upstream);* *Support ODN loss up to 32dB;* *T-CONTs: 32;* *GEM Port-IDs: 255.*
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).

Wi-Fi 6	*Functionalities:*
	  - 802.11ax compliance;
	  - 802.1x Authentication; External RADIUS Authentication;
	  - WPA/WPA2 Protected access; 64/128 Bits WEP;
	  - AES and TKIP Encryption;
	  - Wi-Fi multimedia support: WMM and WMM-PS;
	  - Multiple SSIDs Profiles;
	  - MAC Address filtering integrated;
	  - WPS (Pushbutton and PIN entry);
	  - Hotspot 2.0;
	  - Band steering.
	Interfaces:
	  - Concurrent Mode 2.4GHz + 5GHz via internal antennas

- 2.4GHz: Compliant with IEEE 802.11 a/b/g/n/ac/ax with 4x4 MIMO	*up to +20dBm EIRP(ETSI) or up to +34dBm EIRP (FCC)*
- 5GHz: Compliant with IEEE 802.11 a/n/ac/ax and with 4x4 MIMO	*up to +30dBm EIRP (ETSI) or up to +34dBm EIRP (FCC)*

- Channel Bandwidth: 20, 40, 80, 80+80, 160
- 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 1200 Mbps
  802.11ax (5 GHz): up to 4800 Mbps

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RF Overlay	1 port on a F Type Connector; 75 ohms impedance (nominal); Optical wavelength: 1550nm; Optical power: -8dBm < Pin < +2dBm; Analog bandwidth: minimum 47 MHz and maximum 870MHz (maximum can be extended up to 1002MHz on different variant).
POTS	RJ-11 FXS port
USB	USB Type C
Management	Web-based with GUI; Remote management over the 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 10/100/1000 M BASE-T; Support auto-negotiation; Support auto MDI/MDIX.
Energy Efficiency	EU CoC V8, EN 50563, EN 50564, EN 50581
Environment	+5ºC to +40ºC, 5 - 85% Relative Humidity.

EMC	EN 301 489-1, EN 301 489-17, EN 55032, EN 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
Safety	IEC/EN 60950-1/62368-1
Radio	EN 300 328, EN 301 893 and EN 62311

Equipment Size (HxWxD)	[245.8x44.8(80.6 including base)x210.0]mm / [9.7x1.8(3.2 including base)x8.3]
Package Size (HxWxD)	(253x228x109)mm / (10.0x9.0x4.3)"
Net Weight	0,8Kg / 1.76lb
Package Weight	1,0Kg / 2.20lb
Packaging	1x Power Adapter AC/DC
Power Supply [1]	Primary: 230VAC, 50Hz or 115VAC, 60Hz; Secondary: 12VDC/3A + 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).

ABOUT ALTICE LABS

Delivering key telecommunications technologies since 1950, shaping the future of technology, enabling Communications Service Providers and Enterprises to offer advanced and differentiated services to their customers and users.
Altice Labs is an innovation and transformation catalyst supported in a strong and dynamic Innovation Ecosystem. Through technology we work every day to improve people's lives and the ways in which companies do business.

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