

FTTR Master Gateway

RH841GWV-AX3BF

Specification

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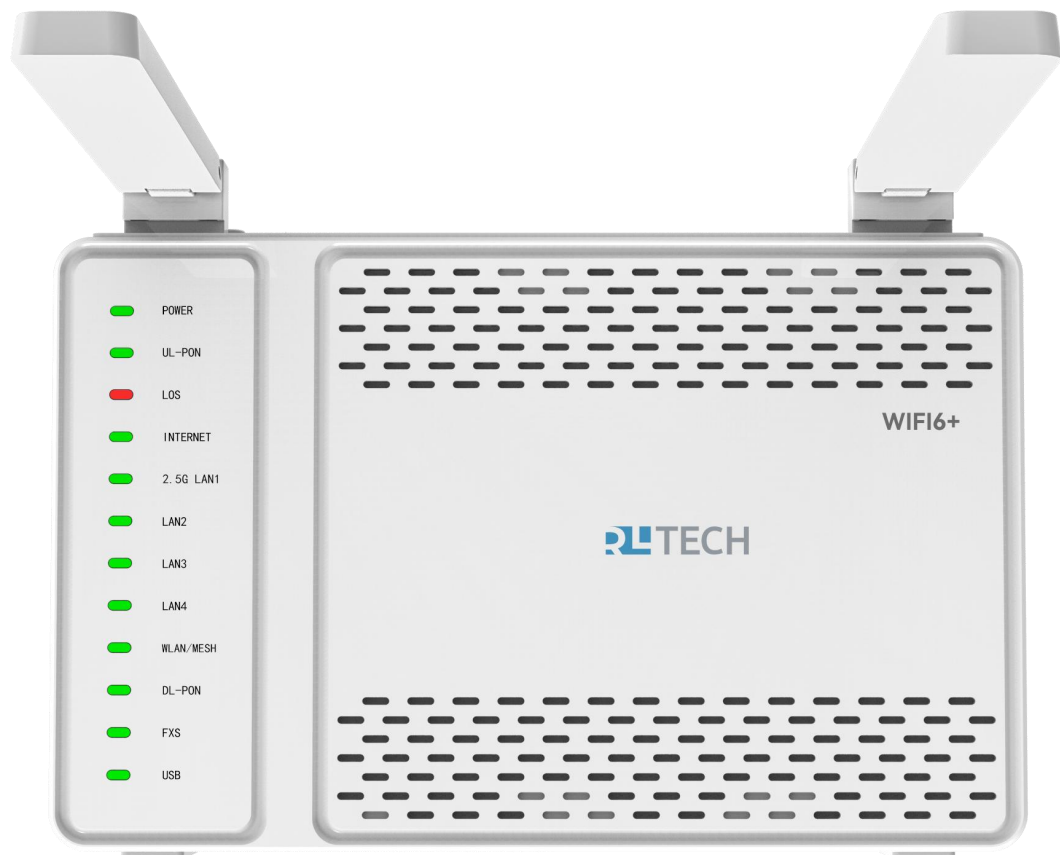
1. Summary

1.1 Product Introduction

RH841GWV-AX3BF is an optical gateway launched by TLTECH company for the needs of FTTR and POL application. The functions and performances meet IEEE802.3ah,CTC2.1 and ITU-TG.984.x international standards. It supports main stream OLT such as HUAWEI/ZTE/Nokia etc. And also, it can fully satisfy the user's need of high speed broadband with the features of high reliability, good QoS, manageable, flexible networking, easily capacity expansion.

Uplink optical port is 2.5G/1.25G asymmetric GPON interface, , LAN4 is also can be used for WAN port.Downlink optical port is 2.5G/1.25G asymmetric GPON interface.

It has advanced Wi-Fi6 function with supporting IEEE 802.11a/b/g/n/ac/ax.



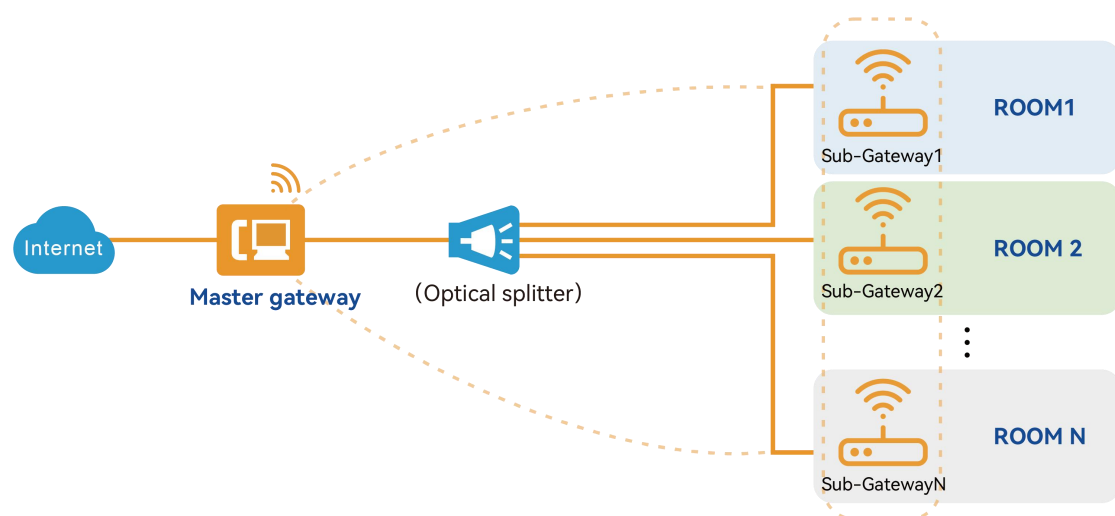
RH841GWV-AX3BF Front Side



RH841GWV-AX3BF Rear Side

1.2 Typical application

RH841GWV-AX3BF is an FTTR and POL master gateway designed for indoor application refer to the below diagram.



RH841GWV-AX3BF typical application

2. Hardware specification

2.1 Hardware parameters

CPU	AN7581CT
BOSA Driver Chip	EN7572AN
Wi-Fi Base band	MT7916AN
Wi-Fi RF	MT7976DN
Voice Chip	PEF32001
RAM	512MB DDR3
ROM	256MB Flash

2.2 Interface

Interface	Description
ON/OFF	Power ON/OFF
DC 12V	DC adaptor interface / DC12V
RST	Press reset key and keep 5 seconds to make the device restart and recover from the factory default Settings.
MESH	Easy mesh button, press $\geq 3s$, enable the easy mesh function.
2.5G LAN1, LAN2, LAN3, WAN/LAN4	RJ-45 LAN port LAN1 (2.5Gbps) , LAN2~4 (10/100/1000Mbps)
UL-PON	SC/UPC or SC/APC type optical interface, GPON(2.5G/1.25G) Optical Interface, uplink to OLT.
DL-PON	SC/UPC or SC/APC type optical interface, GPON(2.5G/1.25G) Optical Interface, downlink to ONU, Plug and Play
FXS	One RJ11 interface for voice service
USB	One USB 2.0

2.3 Indicators of device

Indicators	Status	Description
POWER	On	Power supply normally
	Off	ONU no power supply
UL-PON	On	ONU link active
	Flash	ONU linking
	Off	ONU receiving power rate lower than optical receive sensitivity
DL-PON	On	Downlink ONU is active
	Flash	Downlink ONU is linking

	Off	No downlink ONU is connected
LOS	On	No optical signal
	Flash	Receiving power lower than optical receiver sensitivity
	Off	Received optical signal normal
Internet	Off	Uplink internet but no data
	On	Uplink internet is normal
LAN1~LAN4	On	Linked, but no data transmitting
	Flash	Linked, but no data transmitting
	Off	no power supply or disconnected
WLAN(2.4G and 5G)	Green Off	Wi-Fi off
	Green On	Wi-Fi on, but no data transmitting
	Green Flash	Wi-Fi on and with data transmission
MESH	Blue Off	Mesh function is disabled or Mesh networking is successful for more than 10 seconds.
	Blue Flash	Mesh networking is in progress.
	Blue On	Mesh networking is successful, the blue indicator will turn off after 10s.
USB	On	USB storage is connected
	Off	USB storage is disconnected

3. Software Specification

Network Services	Ethernet Uplink Easy mesh Networking Parental Control SIP/H.248
Layer 3 Features	ipv4,ipv6,ipv4/ipv6 Dual Stack Port Mapping ALG, UPnP, DDNS, DMZ NAT/NAPT Static Route/Default Route Multi-Services Integration
multicast	IPV4/IPV6 multicast
QOS	Ethernet port speed limit
Security	Firewall Anti-DOS attack MAC/IP/URL Address Filtering
OAM	OAM/OMCI/Web UI/TR069/AVASA (optional)

Home Network	As the master FTTR Gateway, it realizes full-optical networking at home. No electromagnetic interference and low latency. Home Network Visual Management Wi-Fi Channel Optimization for home network Wi-Fi Seamless Roaming (802.11k/802.11v) *
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Remark*: User terminal devices need to support 802.11k/802.11v.

4. Technical specifications

4.1 Physical structure, Environment and Electrical parameter

Parameter	Nominal Value
Dimension	217mm×157mm×53mm (L*W*H)
Net weight	0.78kg
Typical power consumption	<24W
Power supply	12V DC (external AC/DC adapter)
Installation style	Support Desk, wall mount or put inside of information box.
Operating Temperature	0℃~45℃
Operating Humidity	10%RH~95%RH (non-condensing)

4.2 Interface parameter

4.2.1 GPON Uplink interface parameter

Parameter	Nominal Value
Fiber Connector	SC/UPC or SC/APC
PON Quantity	1
Fiber Mode	Single-mode Fiber
Wavelength	TX: 1310±20nm Rx: 1490±10nm
PON Interface Standard	ITU-TG.984.x
PON interface receiving rate	2.488Gbps
PON interface transmitting rate	1.244Gbps
TX Optical Power	+0.5dBm~+5dBm
RX receiving sensitivity	-8dBm~-28dBm
The length of the optical link	Max 20km

4.2.2 GPON Interface Specification

Parameter	Nominal Value
Connector style	SC/UPC or SC/APC
Splitting ratio	1:16
PON quantity	1
Fiber style	Single Mode Fiber
Wavelength	TX: $1490 \pm 10\text{nm}$ Rx: $1310 \pm 20\text{nm}$
PON interface standard	ITU-TG.984.x
PON interface receiving rate	2.488Gbps
PON interface transmitting rate	1.244Gbps
TX Optical Power	-4~0dBm
RX receiving sensitivity	-22~0dBm

4.2.3 User Interface

Quantity	Type	remark
1	RJ45 10/100/100/2.5G BASE-T Ethernet Self negotiation	IEEE802.3bz Standard, Support direct network cable connection and automatic verification of connection network cable
3	RJ45 100/1000 Base-T Ethernet Self negotiation	IEEE802.3ab Standard, Support direct network cable connection and automatic verification of connection network cable
1	RJ11	Voice
1	USB2.0	Storage/USB Power supply

4.3 Wi-Fi specification

Wireless Standard		5G 802.11 ax/a/n 2*2 and 2.4G 802.11 b/g/n/ax 2*2
Parameters	Frequency	2.4G: 2.4~2.4835GHz 5G: 5.15~5.825GHz
	Transmission speed	2.4G: IEEE 802.11ax: 2x2, Max 574Mbps 5G: IEEE 802.11ax: 2x2, Max 2400Mbps
	Channels	2.4GHz: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 5GHz: 36, 40, 44, 48, 52, 56, 60, 64, 149, 153, 157, 161, 165

	Data Modulation	11b: DSSS: DBPSK(1Mbps), DQPSK(2Mbps), CCK(5.5/11Mbps) 11a/g: OFDM: BPSK(6/9Mbps), QPSK(12/18Mbps), 16QAM(24/36Mbps), 64QAM(48/ 54Mbps) 11n: MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, : MCS0-MCS15 11ac: MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM Rate Set: MCS0-MCS9 11ax: MIMO-OFDMA: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM. Rate Set: MCS0-MCS11
	EIRP	2.4GHz:20dBm, 5GHz:23dBm
	Antenna	4*External omnidirectional antenna of 5dBi (2 of 2.4G, 2 of 5G) ,1*Internal omnidirectional antenna of 5dBi