EXPERIENȚE ÎMPREUNĂ.

HUAWEI HG 8247H
Architecture

High level overview

Hardware Specifications

ONT Details	
CPE manufacturer/model	Huawei / HG8247H
Chipset	Hisilicon SD5115T

Product Overview	
WAN	PON port with SC/APC Optical module connector
LAN	4xGb Ethernet
POTS	2xPOTS ports RJ11

RF	1 port CATV
Wireless Wi-Fi	WLAN 802.11 b/g/n
USB	1 port USB 2.0

CPE hardware Major Components	Description
CPU	Hisilicon SD5115T
Switch Chipset	Hisilicon SD5115T
WiFi Chipset	BCM43217
SLIC	PEF3201
NAND Flash	128MB
DDR2	128MB

Table 1. Description of ports and buttons on the rear panel of the HG8247H

Port/Button	Function
ON/OFF	Indicates the power button. It is used to power on or power off the device.
POWER	Indicates the power port, used to connect to the power adapter or backup battery unit.
USB	Indicates USB host port, used to connect to

	USB storage devices.
TEL1–TEL2	Indicates VoIP telephone ports (RJ-11), used to connecting to the ports on telephone sets.
LAN1–LAN4	Indicates auto-sensing 10/100/1000M Base-T Ethernet ports (RJ-45), used to connect to PCs or IP set-top boxes (STBs).
CATV	Indicates an RF port, used to connect to a TV set.
Reset	Indicates the reset button. Press the button for a short time to reset the device; press the button for a long time (longer than 10s) to restore the device to the default settings and reset the device.
WLAN	Indicates the WLAN button, used to enable or disable the

	WLAN function.
WPS	Indicates the WLAN protected setup.

Table 2. LED Definition

LED	Description	Status	Description
CATV	CATV port LED	Steady on	The CATV function is enabled and CATV signals are received.
		Off	The CATV function is disabled or CATV signals are not received.
WPS	WPS LED	Steady on	The WPS function is enabled.
		Blinking	A Wi-Fi terminal is accessing the system.
		Off	The WPS function is disabled.
WLAN	WLAN LED	Steady on	The WLAN function is enabled.
		Blinking	Data is being transmitted on the WLAN port.
		Off	The WLAN function is disabled.
USB	USB port LED	Steady on	The USB port is connected and is working in the host mode, but no data is transmitted.
		Blinks quickly (twice per second)	Data is being transmitted on the USB port.
		Off	The system is not powered on or the USB port is not connected.
TEL1-TEL2	Voice telephone port LED	Steady on	The HG8247H is registered with the softswitch but no service flows are transmitted.
		Blinking	Service flows are transmitted.
		Off	The HG8247H is not powered on or fails to be registered to the softswitch.
LAN1-LAN4	Ethernet port LED	Steady on	The Ethernet connection is in the normal state.
		Blinking	Data is being transmitted on the Ethernet port.

		Off	The Ethernet connection is not set up.
LOS	Connection LED	See **Table 3**.	
PON	Authentication LED	See **Table 3**.	
POWER	Power supply LED	Steady on	The device is powered on.
		Off	The power supply is cut off.

Table 3. Indications of the PON and LOS LEDs

No. LED Status Description

No.	LED Status		Description
	PON	LOS	
1	Off	Off	The ONT is disabled by the OLT.
2	Blinks quickly (twice per second)	Off	The ONT is attempting to set up a connection to the OLT.
3	Always on	Off	The connection between the ONT and the OLT is set up.
4	Off	Blinks slowly (once two seconds)	The Rx optical power of the ONT is lower than the optical receiver sensitivity. The ONT is not connected to optical fibers or does not receive optical signals.
5	Blinks quickly (twice per second)	Blinks quickly (twice per second)	The OLT detects that the device is a rogue ONT.
6	Blinks quickly (twice per second)	Blinks slowly (once two seconds)	The Rx optical power of the ONT does not within the range (–27 dBm to –8 dBm) of the Rx sensitivity.
7	Blinks slowly (once two seconds)	Blinks slowly (once two seconds)	The hardware is faulty.

TECHNICAL SPECIFICATIONS

Section	Item	Description
GPON Uplink		The GPON system is a single-fiber bidirectional system. It uses wavelengths 1310 nm in TDMA mode in the upstream direction and wavelengths 1490 nm in broadcast mode in the downstream direction.
		The maximum downstream rate at the GPON physical layer is 2.488 Gbit/s.
		The maximum upstream rate at the GPON physical layer is 1.244 Gbit/s.
		Supports a maximum logical distance of 60 km and a physical distance of 20 km between the remotest ONT and nearest ONT, which are defined in ITU-T G.984.1.
		Supports a maximum of eight T-CONTs. Supports T-CONT types Type1 to Type5. One T-CONT supports multiple GEM ports (maximum of 32 GEM ports are supported).
		Supports three authentication modes: by SN, by password, and by SN+password.
		Upstream throughput: the throughput is 1G for 64-byte packets or other types of packets in V300R013C00 version.
		Downstream throughput: The throughput of any packets is 1 Gbit/s.
		If the traffic does not exceed 90% of the system throughput, the transmission delay in the upstream direction (from UNI to SNI) is less than 1.5 ms (for Ethernet packets of 64 to 1518 bytes), and that in the downstream direction (from SNI to UNI) is less than 1 ms (for Ethernet packets of any length).
LAN	4xGb Ethernet	Four auto-sensing 10/100/1000 Base-T Ethernet ports (RJ-45): LAN1-LAN4
	Ethernet Features	Auto-negotiation of rate and duplex mode MDI/MDI-X auto-sensing Ethernet frame of up to 2000 bytes Up to 1024 local switch MAC entries MAC forwarding
	Route Features	Static route, NAT, NAPT, and extended ALG DHCP server/client

		PPPoE client
	CONFIGURATION	The LAN1 and LAN2 ports are mapped to the Internet WAN Connection.
		The LAN3 and LAN4 ports are mapped to the IPTV WAN Connection.
		VLAN #1 mapped to LAN1, LAN2 and WiFi are in Routed for Internet with default IP 192.168.100.1 and DHCP class 192.168.100.0/24
		VLAN #2 mapped to LAN2 and LAN4 are in Bridged for IPTV
Multicast Specification	IGMP version	v1,v2,v3
	IGMP snooping	Yes
	IGMP proxy	no
	Multicast groups	Up to 255 multicast groups at the same time
POTS	Two VoIP telephone ports (RJ-11): TEL1, TEL2	G.711A/u, G.729 and T.38
		Real-time Transport Protocol (RTP)/RTP Control Protocol (RTCP) (RFC 3550)
		Session Initiation Protocol (SIP)
		Dual-tone multi-frequency (DTMF) detection
		Frequency shift keying (FSK) sending
		Two phone users to call at the same time
	Client Parameter example to be supported	The device MUST use a SIP URI structured: <SIP-ID>@<SIP-Proxy FQDN> = +CC_AC_SNB@as1.romtelecom.net Authentication REGISTER example: <Info>REGISTER sip:as1.romtelecom.net SIP/2.0 From: <sip/tel:+40214999730@as1.romtelecom.net>;tag=as0c395baa To: <sip:+40214999730@as1.romtelecom.net> Authorization:Digestusername="+40214999730@as1.romtelecom.net",realm="as1.romtelecom.net",nonce="4b0F+BpSoE4SX827prYWCQ==",uri="sip:as1.romtelecom.net",response="a9a1fe821a3224749fa2a4e745751b7c" (1 TR 114, RFC2616, RFC3261, RFC3325, RFC 3966 support TEL-URI, ETSI TS 183 007)

	CONFIGURATION	The FXS ports is mapped to the VoIP WAN Connection
Wireless LAN	WLAN	IEEE 802.11b/802.11g/802.11n
	Authentication	WiFi protected access (WPA) andWPA2
	SSIDs	Multiple service set identifiers (SSIDs)
	Enable by default	Yes
	SSID 1 Private	SSID: Huawei-XXXX (XXXX = per device unique value with at least 4 randomly chosen characters)
		Encryption: WPA2 and the CCMP protocol (the key must have a length of 8 characters, consisting of uppercase and lowercase letters, numbers).
		Auto-channel selection
	CONFIGURATION	The SSIDs is mapped to the Internet WAN Connection
RF port	Operating Wavelength	1550 nm .. 1560 nm, typ. 1555nm
	Receiving Optical Power (Avg.)	-8 dBm .. +2 dBm
	RF Output Level	min. 17 dBmV/ch, tested at 450MHz, OMI=4.4% per channel, RF_Setting=0
	RF Output Impedance	typ. 75 Ohm
	Carrier-to-Noise Ratio	min. 45 dB, tested at -8dBm, 78 channels in 54-870Mz, OMI=3.5% per channel
	Carrier to Composite Dual Beat Ratio	min. 55 dB, test at +2dBm, 78channels in 54-870Mz
	Carrier to Composite Triple Beat Ratio	min. 55 dB
	Frequency range	54-870MHz
USB		Complying with the USB 2.0
Phisical Dimension	ONT dimension	220mm*160mm*32mm
	Weight	<500g

Power Supply		Power adapter input: 100 V AC to 240 V AC, 50 Hz to 60 Hz
		System power supply: 11 V DC to 13 V DC, 2 A
		Static Power Consumption:7.5W
		Average Power Consumption:10W
		Maximum Power Consumption:18W
Ambient	Operation Temperature	0~45 C degrees
	Storage Temperature	-10~60℃