5228XG

Reimagine Your Edge

5228XG Wi-Fi 6 XGS-PON ONT

The first generation of 802.11ax X-Series ONT enables subscribers to enjoy multimedia services over wireless with DZS leading-edge XGS-PON technology.

Features & Benefits

+ Supports 10Gbps/10Gbps (Downstream/Upstream) with integrated XGS-PON WAN interface

+ High-capacity multi-rate 1G/2.5G gigabit Ethernet interface

+ Four gigabit multi-rate 10/100/1000M Ethernet interfaces

+ Two POTS interfaces compliant to SIP and MGPC telephony standards

+ Dual-band 2.4GHz 3x3 802.11ax, 5GHz 4x4 802.11ax Carrier-grade Wi-Fi 6 interfaces

+ USB 3.0 with support of 3G and LTE wireless WAN backup

The DZS 5228XG is a high-performance, XGS-PON compliant Optical Network Terminal (ONT) with integrated Wi-Fi 6 802.11ax, able to support service provider requirements for high-speed data and video over wireless interfaces. The ONT is fully compliant with ITU-T G.9807.1 XGS-PON standard with integrated, on-board optics supporting 1270nm and 1577nm wavelengths. The 5222XG offers symmetrical data rates of 10Gbps downstream and 10Gbps upstream able to deliver access edge services and full range of residential wireless use cases, including whole-home wireless extensions using Wi-Fi Alliance EasyMesh standard. With unique DZS's software management features, subscribers can enjoy hyper-connected multimedia services much faster, easier, and more reliably.

The DZS 5228XG includes one SC/APC XGS-PON interface, one 1G/2.5GBase-T port, four 10/100/1000MBase-T ports, two FXS RJ11 voice ports, dual-band 2.4GHz and 5GHz 802.11ax wireless, and one USB3.0 port. The ONT supports wire-speed L2 bridging and L3 gateway features, with carrier grade voice services with option for DZS approved battery backup unit with battery status telemetry.

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Service Scenario

The XGS-PON network consists of an Optical Line Termination (OLT) located at the Central Office, and a set of residential Single-Family Unit (SFU) and Multi Dwelling Unit (MDU) locations with Optical Network Terminals (ONTs). Between them is the optical distribution network (ODN) comprised of fibers, passive optical splitters and couplers.

The 5228XG ONT supports 10 Gigabit symmetrical data using the XGS-PON standard. Services include High-Speed Internet (HIS), carrier-grade wireless, packet Voice, IPTV, OTT video, and cloud enabled services to multi-media devices.

Key Service Attributes

+ FSAN ITU-T G.9807.1 XGS-PON compliant
+ One 1G/2.5GBase-T Ethernet port, RJ45 supporting 2.5Gbps symmetrical services
+ Four 10/100/1000MBase-T Ethernet ports, RJ45 supporting 1Gbps symmetrical services
+ Two voice ports, FXS interfaces compliant to ANSI and ETSI standards, SIP and MGCP
+ 2.4GHz 3x3 802.11ax, 20MHz and 40MHz channels
+ 5GHz 4x4 802.11ax, 20MHz, 40MHz and 80MHz channels
+ Downstream and Upstream MU-MIMO
+ EasyMesh R2
+ USB 3.0 port, support of 3G and LTE wireless dongles
+ IPTV multicast, IGMPv2 and IGMPv3 services
+ Any-port, Any-service data model
+ Traffic management including Q-in-Q tagging, 802.1Q VLANs, multiple subscriber VLANs, per-port rate limiting
+ 802.1p priority bits, DiffServ and priority ques based on services types.
+ +12 VDC uninterruptable service power source, option for battery backup

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Product Specifications

Hardware
+ Dimensions
  Width: 10.3" (260mm)
  Depth: 6.1" (155mm)
  Height: 1.4" (35mm)
+ Weight 0.81 LB (0.37 kg)
+ 256MByte Flash Memory
+ 512MByte SDRAM (DDR3)
+ XGS-PON WAN Interface
+ Capacity:10Gbps Down/10Gbps Up

Interfaces
+ WAN: 1 SC/APC port, GPON
+ LAN:4 ports 10/100/1000MBase-T Ethernet (RJ45)
+ Telephone: 2 ports 2-wire RJ11
+ Power: 1 2-pin barrel connector, 1 2x4 8-pin battery connector
+ USB 3.0 Type A
+ WiFi push button setup (WPS)
+ Recessed RESET button

GPON
+ WAN: 1 SC/APC port, XGS-PON
+ LAN:1 port 1G/2.5GBase-T Ethernet (RJ45), 4 ports 10/100/1000MBase-T Ethernet (RJ45)
+ Telephone: 2 ports 2-wire RJ11
+ Power: 1 2-pin barrel connector, 1 2x4 8-pin battery connector
+ WiFi push button setup (WPS)
+ LED Indicators
+ Recessed RESET button

Wireless
+ SSIDs: 4x2.4GHz, 4x5GHz
+ Devices per radio: 64
+ Authentication WEP, WPA-PSK, WPA2, WPA2-PSK, 802.1x
+ Encryption: WEP (64-bit, 128-bit), AES, TKIP+AES
+ WPS modes: Push-button, API PIN, STA PIN
+ MU-MIMO transmit/receive
+ RADIUS Server support
+ MAC filtering
+ Wireless bridge mode
+ EasyMesh R1 and R2

XGS-PON
+ N1 Class, 20km (12.4 miles), reach max split 128
+ Maximum ODN Attenuation, +29 dB link budget
+ Transmitter, 1270nm, +2.0 to +7 dBm
+ Receiver, 1577nm, -28 dBm
+ Forward Error Correction (FEC) per G.989.3
+ Dying Gasp

Telephone
+ SIP (RFC 3261)
+ MGCP
+ Codec: G.711 (u-law and A-law), G.729B, G726
+ RENs per line: 5 maximum
+ Drop length: Residential short loop, 152.4 m (500 ft.)
+ Output max: 25mA
+ Ring voltage: 48Vrms @ 20/25 Hz

Quality of Service
+ HW-based internal IEEE 802.1p (CoS)
+ Strict Priority (SP)
+ 802.1Q(VLAN tag) QoS mapping ToS/CoS
+ 8 queues per port
+ Classified traffic can be tagged with VLAN ID and Ethernet Priority bit, and can be assigned to priority queues
+ Classify packets into different IEEE 802.1p priority queues according to DSCP values (RFC 2475)
+ The range of traffic shaping or rate-limit shall between 64 Kbps to the maximum port rate with 64kbps granularity. The accuracy error shall be less than ±10%.
+ DSCP IP CoS (RFC 2475)

Software Features
+ IEEE802.1D and IEEE802.1Q
+ Address learning with auto aging-L2/BPDU Filter
+ Support 2048 MAC learning addresses
+ Multiple T-CONTs/GEM ports per device
+ Flexible mapping between GEM port and T-CONT
+ Priority queues and scheduling on upstream
+ Activation with automatic discovered serial Number and password

IP Routing and Firewall
+ DHCP, Static-IP and PPPoE
+ NAT/NAPT
+ DNS Proxy
+ DHCP Server
+ UPnP, plug and play

IPv6
+ IPv4 and IPv6 Dual-Stack-Lite
+ Bridged Mode (transparent pass thru of IPv6 frames)
+ IPv6 support of BRouted and PPPoE Bridged VLANs
+ DHCPv6 client and server
+ Router Advertisement on LAN-side interfaces
+ SLAAC for automatic acquisition of WAN-side IPv6 addresses and G
+ CLI, HTTP and TR-069 management via IPv6

Environmental
+ Operating Temperature 32~104°F (0~+40°C) Commercial
+ Storage temperature -4~149°F (-20~65°C)
+ Operating humidity 5 to 90% (non-condensing)
+ Altitude: –200 to 10,000 feet (–61 to 3,048 m) above sea level

Powering
+ DC power, +12 VDC nominal, 2.5
+ Input power, 90-240VAC, 50/60Hz
+ Power consumption, ~16W maximum

Management
+ ITU-T 984.1/G988 compliant OMCI interface
+ CPE Manager Web UI
+ CLI over telnet
+ SNMP Client
+ TR-069, TR-104, TR-98
+ LED indications for status

Compliance
+ FCC Part 15 Class B
+ ICES-003 Class B
+ CE Mark
+ Safety ETL/Intertek
+ IEC 62368-1, UL 62368-1, EN 62368-1
+ FDA IEC 60825-1
+ RoHS 2015/863/EU

Ordering Information

Model	
5228XG	1x SC/APC port, XGS-PON (Class N1)
	2x POTS RJ11 ports, 4x 1G RJ45 ports, 1x USB3.0 2.4GHz 3x3 802.11ax, 5GHz 4x4 802.11ax
	1x barrel, 2-pin power
	1x 2x4 Molex Battery-Backup (BBU), 8-pin power 0 to +40°C
HX-5228XG-NA	North America
HX-5228XG-EU	EU
HX-5228XG-UK	UK
HX-5228XG-00	No power supply

DZS