

The logo for GigaSpire BLASTu4g, featuring a white Wi-Fi symbol above the text 'GigaSpire' in white and orange, with 'BLASTu4g' in white below it.

The Calix GigaSpire BLAST u4g (GS2128G) is a new generation smart home system that integrates GPON ONT and residential gateway functionality into a single system. It supports GPON WAN, while providing the ultimate Wi-Fi experience. Besides supporting broadband connectivity of data and video services, this intelligent, high-performance system offers the latest 802.11ax 'Wi-Fi 6' technology. The GigaSpire BLAST u4g provides switching and routing functions that support multi-Gigabit throughput for IPTV video and data services.

## **MULTI-GIGABIT SUBSCRIBER EXPERIENCE**

The GigaSpire BLAST u4g is a premium smart home integrated system that delivers the latest Wi-Fi 6 certified technology (802.11ax). The GigaSpire BLAST u4g integrates a GPON ONT to provide carrier-class WAN. On the LAN side, Wi-Fi and two (2) Gigabit Ethernet interfaces are available for customer multi-media devices. The GigaSpire BLAST u4g enables residential subscribers to receive broadband data, Internet Protocol (IP) video, and voice (POTS) services. Using the latest 802.11ax technology in both the 2.4 and 5 GHz radios, the GigaSpire BLAST u4g incorporates 4x4 streams of Wi-Fi delivery (2x2 @ 2.4 GHz and 2x2 @ 5 GHz). In addition, with multi-user multiple-input and multiple-output (MU-MIMO) and beamforming, the GigaSpire BLAST u4g allows service providers to extend the access network inside the home and establish a strategic location for the delivery and control of broadband services.

With Wi-Fi being the de facto wireless data communication technology of choice for consumers, Calix engineered the GigaSpire BLAST u4g for optimal whole-home coverage with simultaneous dual-band 2.4 GHz and 5 GHz operation and dynamic beamforming in both spectrums. Leveraging the latest Wi-Fi 6 features, the GigaSpire BLAST u4g provides longer range, higher efficiency, and less interference compared to earlier generations of Wi-Fi technology. The GigaSpire BLAST u4g also supports the entire 5 GHz band, including Dynamic Frequency Selection (DFS) channels. The GigaSpire BLAST u4g easily delivers HD and UHD (ultra-HD) video and data throughout a subscriber's home in an increasingly video-rich and mobile broadband environment.

Ensuring consumers can have ultra-fast Wi-Fi throughout their premises, the GigaSpire BLAST u4g provides the latest generation of redundant Wi-Fi 6 mesh via the Calix GigaSpire BLAST u4m (GM1028 – please see the GM1028 data sheet for more information). With the GigaSpire BLAST u4g as the hub, and the GigaSpire BLAST u4m as the satellite extenders, consumers can truly gain the whole home/smart home experience.

## **EASY TO INSTALL, ACTIVATE, AND MAINTAIN**

With the GigaSpire BLAST u4g integrated system, Calix has redefined how to install and activate residential services at a subscriber's premises. Using the Calix CommandIQ® app, and a phone or laptop, a field technician can install and apply the subscriber's service profile without special equipment or assistance from the central office. Calix also provides the innovative Calix Support Cloud, which allows the service provider to configure, activate and upgrade the GigaSpire BLAST u4g quickly from a remote location using in-band management or TR-069.

Extensive troubleshooting capabilities, remote software downloads, and easy-to-use service activation features ensure that services are delivered and maintained without needless truck rolls and hardware upgrades. Deploying GigaSpire BLAST u4g systems allows service providers to reduce their operational expenses while effectively delivering the Gigabit experience to their subscribers. GPON configuration and management is done via the OMCI protocol.

## **CALIX EXPERIENCE INNOVATION PLATFORM**

All GigaSpire BLAST systems are powered by the Calix Innovation Experience Platform. This container-based platform allows service providers to quickly change and adapt their services to embrace new technologies and offer new, value-added services. This approach can generate recurring revenue and increase subscriber satisfaction.

## KEY ATTRIBUTES

### Home Gateway

- Layer 2 bridge and Layer 3 routing for High Speed Internet (HSI) data and IPTV video services
- DHCP server options
- DHCP (IPoE) and PPPoE network connections
- Network Access Translation (NAT), public to private IP addressing
- Configurable IP address schemes, subnets, static-IP addresses
- DNS server
- Bridge port assignment and data traffic mappings
- Port forwarding
- Firewall and security
- Application and website filtering
- Selectable forwarding and blocking policies
- DMZ hosting
- Parental controls, time of day usage
- Denial of service (DoS) protection
- MAC filtering
- Time/Zone support
- Universal Plug-and-Play (UPnP)

### Wi-Fi

- 2.4 GHz and 5 GHz, simultaneous dual-band
- 5 GHz 802.11ax (Wi-Fi 6) certified, 802.11a/b/g/n/ac compatible
- 4x4 streams (2x2 @ 2.4 GHz and 2x2 @ 5 GHz)
- 2.4 GHz 802.11ax (Wi-Fi 6) certified, 802.11b/g/ac compatible
- WPA/WPA2/WPA3; WEP 64/128 bit encryption

- PuF (Physical Unclonable Functions)
- WPS push-button
- 2x2 DL/UL MU-MIMO, implicit/explicit high-power, dynamic beamforming
- 1024 QAM; OFDMA; BSS Coloring
- DCM (Dual Carrier Modulation)
- TWT (Target Wake Time) for IoT clients

### Wi-Fi Redundant Mesh

- Self Managed: self configuration, Air time fairness
- Dynamic Mesh: load balancing, band/node steering; interference management
- Self Healing: backhaul failover; diagnostics; events

### GPON WAN interface

- Optical SC/APC connector

### Gigabit Ethernet (GE) LAN interfaces

- Two (2) ports of multi-rate 10/100/1000 BASE-T Ethernet, auto-negotiating for residential IPTV and data services

### One voice line

- Carrier grade SIP, H.248 (aka Megaco)

### USB port

- USB 2.0 - Type A host interface

### Supports multiple data service profiles

### Traffic Management and Quality of service (QoS)

- 802.1Q VLANs
- 802.1p service prioritization
- Q-in-Q tagging
- Multiple VLANs
- DiffServ
- Pre-defined QoS on service type
- LAG of GE ports
- MAP-T

### IPTV, IGMPv2, future support of IGMPv3

- IGMP Snooping and Proxy
- IGMP Fast Leaves

### Gateway Management

- Calix Support Cloud
- TR-069
- Local Home Gateway GUI, access provisionable
- Remote WAN side GUI access
- Default username/password

### AC to 12 V DC power adapter

### UPS power unit

## SPECIFICATIONS

### Dimensions

- Width: 8.3 inches (210 mm)
- Height: 3.3 inches (83 mm)
- Depth: 7.5 inches (191 mm)
- Weight: 1.6 pounds (0.73kg )

### WAN Interface

- Interface: GPON SC/APC

### Interfaces

- Wireless: 2.4 GHz 2x2 and 5 GHz 2x2 internal antennas
- LAN Data/IPTV: Two (2) 10/100/1000 BASE-T Ethernet ports, RJ 45 connectors
- WAN: GPON SC/APC
- USB: USB 2.0 Type A
- Voice: One port supporting C15; C20 SIP; H.248
- Power: Single-pin barrel connector
- WPS Switch: Push-button actuator
- Reset button for factory default

### Data

- Drop length: 328 feet (100 m) maximum using CAT5/6 cable for GigE
- Auto MDI/MDIX crossover for 1000BASE-TX, 100BASE-TX
- Traffic Management and QoS: 802.11Q VLAN; 802.11p voice, video, data and management priorities; Q-in-Q tagging

### Wireless

- 2.4 GHz 802.11 b/g/n/ac/ax 2x2 UL/DL MU-MIMO
- 5 GHz 802.11 a/n/ac/ax 2x2 UL/DL MU-MIMO, Explicit high-power, dynamic beamforming
- 2.4 GHz and 5 GHz simultaneous DCM, TWT, extended GI
- Auto channel selecting and interference detection
- WPS, WPS push button
- Wi-Fi multimedia (WMM)
- 802.11k, 802.11v, 802.11r
- Supports up to 200 wireless clients
- US Wi-Fi Output Power: 30 dBm  
EU: ETSI Wi-Fi Output Power compliant

### Remote Management

- TR-069 remote management
- TR-098 Internet Gateway Device Data Model

### Environmental

- Operating temperature: Indoor ambient temperature, 0° to 40°C (32° to 104° F)
- Operating and storage relative humidity: 10 to 90 % and 5 to 95% non-condensing respectively

### Certification and Compliance

- Emissions: FCC Part 15 Class B, IC ICES-003 Class B, CISPR-22
- Safety: UL 62368 and UL 1697 approved
- IEEE: 802.3, 802.3AB, 802.3U, 802.11p, 802.11Q
- Wi-Fi Alliance Certified 802.11ax (Wi-Fi 6)



- USB-IF Compliance USB 2.0



### Powering and Alarms

- Single pin
- Input voltage: 12 V DC (nominal)
- External Power Adapter: 12 V DC, 3A

### Ookla-based Performance Testing

- Subscribers can run an Ookla-based performance test from within the Calix CommandIQ® mobile app
- Symmetrical speed test results of 2.5 Gbps are possible with the GigaSpire BLAST u4g system (owing to the integrated GPON WAN)

## ORDERING INFORMATION

### Calix GigaSpire BLAST u4g (GS2128G)

**100-05782**..... GS2128G GigaSpire BLAST u4g , GPON, 2 GE LAN, 1 POTS,  
Dual Wi-Fi – AM Power Adapter

**100-05842**..... Spare Power Adapter for GS2128G GigaSpire BLAST u4g

**Note:** Calix believes the information in this publication to be accurate as of publication date, and is not responsible for error. Product Specifications are subject to change without notice.