

## 400GbE to 400GbE (QSFP112 to QSFP112) Active copper Cable

### P/N: GQS-AC401-XXXC

#### Features

- ✓ Hot-plug QSFP112 form factor with 8 pair cables
- ✓ Support up to 4x 100Gb/s PAM4 and 10~50Gbps NRZ
- ✓ Support up to 5m length with 26AWG cable
- ✓ 100Ohm differential impedance system
- ✓ 3.3V power supply & typical power consumption 1.3W
- ✓ Commercial case temperature range of 0°C to 70°C
- ✓ Latency less than 30ns with 5m length
- ✓ I2C management

#### Applications

- ✓ Infiniband NDR/HDR/EDR
- ✓ Switch / router / HBA
- ✓ Enterprise network
- ✓ Data Center Network
- ✓ Data storage and communication industry



#### STANDARDS COMPLIANCE

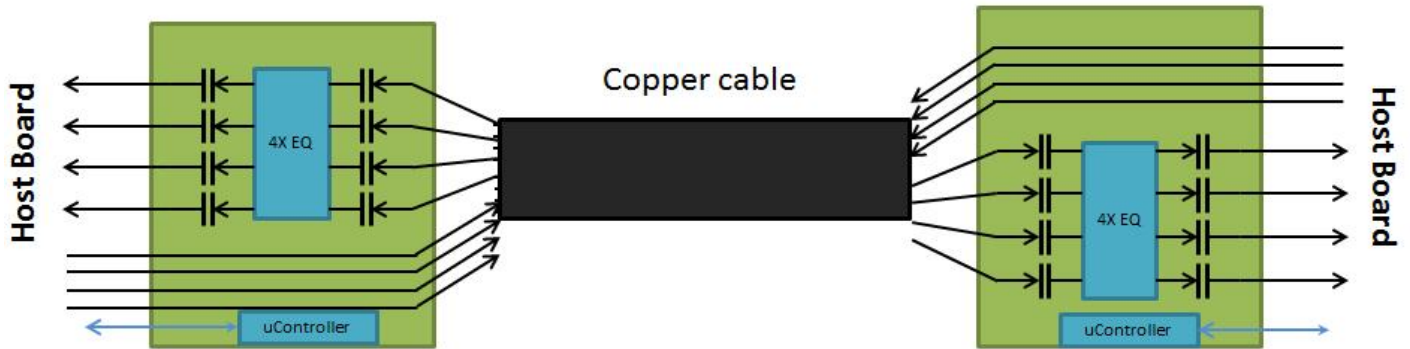
- ✓ IEEE P802.3ck D3.0
- ✓ QSFP-DD MSA HW Rev 6.01
- ✓ CMIS 4.0
- ✓ ROHS

#### Description

Gigalight's QSFP112 ACC(Active Copper Cable) assembly series product provide superior signal integrity performance and reliability, comparing to PCC and AOC, ACC is a re-drive solution which built-in linear equalizer to compensate transmission loss, it is an effective solution with low power, low latency, low cost to help high-speed data centers even AI high-computational applications.

- Gigalight's GQS-AC401-XXXC cable connects data signals from each of the 8 pairs on the single QSFP112 end to the other QSFP112 end, each pair operates at data rates of up to 100Gb/s and can be adaptive downward compatibility. The product operates 3.3V power supply and comply with QSFP112 MSA and IEEE802.3ck ,it's high performance & cost effective I/O solutions for LAN, HPC and SAN. The high speed cable assemblies meet and exceed 800Gigabit Ethernet, Infiniband EDR /HDR and temperature requirements for performance and reliability.

## Block Diagram



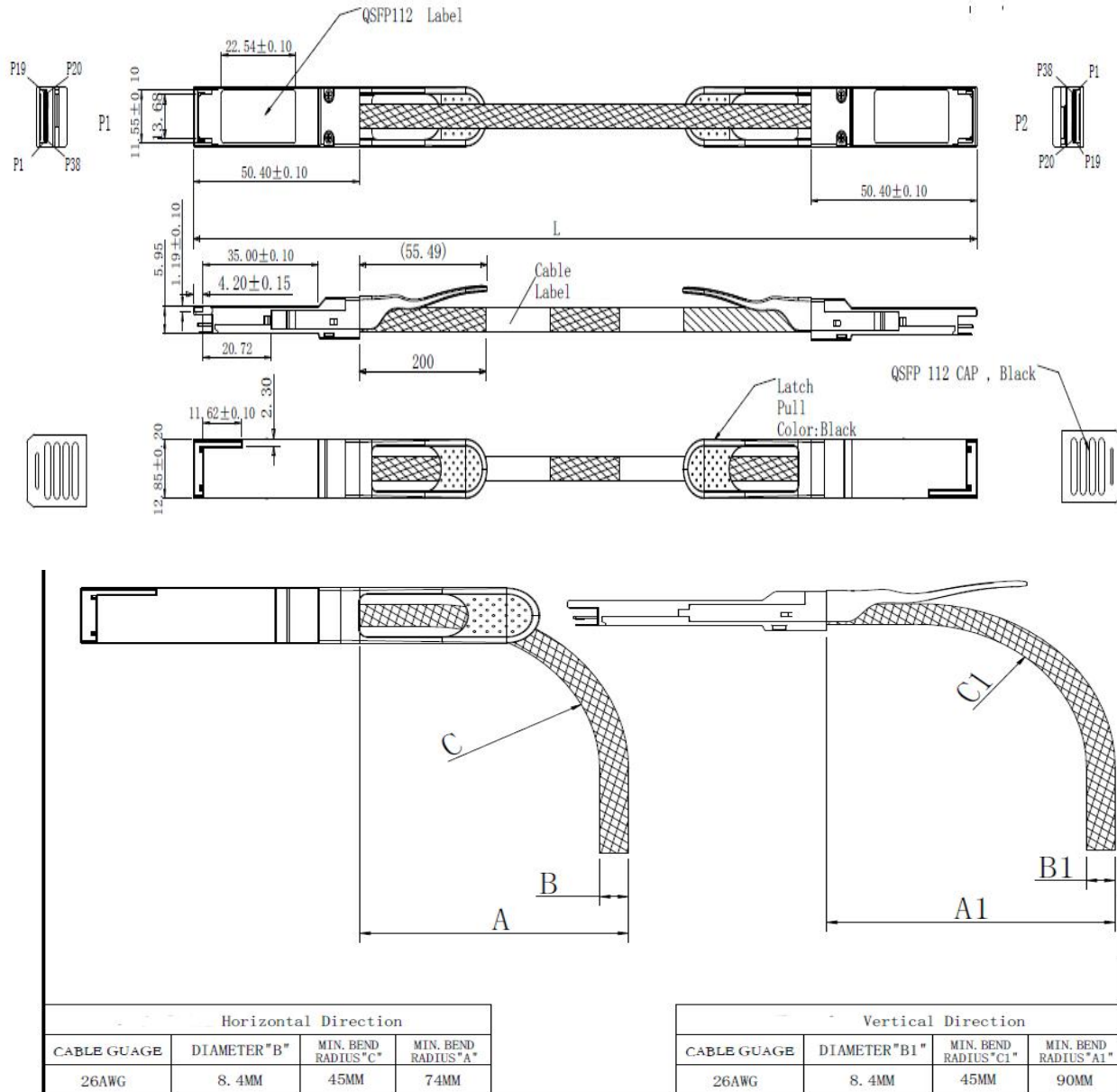
## Absolute Maximum Ratings

| Parameter                 | Symbol | Min  | Max | Unit |
|---------------------------|--------|------|-----|------|
| Storage Temperature       | $T_s$  | -20  | 85  | °C   |
| Humidity (non-condensing) | Rh     | 5    | 95  | %    |
| Supply Voltage            | Vcc    | -0.3 | 3.6 | V    |
| Latency(5m)               | DL     |      | 30  | ns   |
| Weight(5m)                | W      |      | 500 | g    |

## Recommended Operating Conditions

| Parameter                  | Symbol | Min     | Typical | Max    | Unit    |
|----------------------------|--------|---------|---------|--------|---------|
| Operating Case Temperature | $T_c$  | 0       |         | 70     | °C      |
| Supply Voltage             | Vcc    | 3.13    | 3.3     | 3.47   | V       |
| Power Consumption          | PD     |         | 1.3     |        | W       |
| Data Rate per Lane (PAM4)  | Fd1    |         |         | 53.125 | GBaud/s |
| Data Rate per Lane (NRZ)   | Fd2    | 10.3125 |         | 53.125 | Gbps    |
| Humidity                   | Rh     | 5       |         | 85     | %       |

## Mechanical Dimensions



## Ordering information

| Part Number      | GQS-AC401-XXXX |
|------------------|----------------|
| Length (meter)   | 3~5            |
| Wire gauge (AWG) | 30/26          |

If length(meter) is decimal, PN should be as GQS-AC401-XXXX, the recommended wire gauge is 26AWG cable for 3~5m. It's recommended to choose Gigalight's QSFP112 DAC for less than 2m reach.

## Important Notice

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## Revision History

| Revision    | Date        | Description      |
|-------------|-------------|------------------|
| Preliminary | Aug-20-2024 | Advance Release. |