Test guide for Lightware UCX and Full-Featured Type-C cables
### Test Result Summary Table

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Please record the host computer brand, type, chipset, operational system and video card type e.g. **Apple Macbook Air M1 16GB macOS Big Sur 11.5.2**

Result: ✔ / ✗
Connect the BYOD’s USB-C connector directly (no HUB or docking station) to UCX

For BYOD on Windows, install the USB Device Tree Viewer utility:

https://www.uwe-sieber.de/files/UsbTreeView_x64.zip

For BYOD on macOS, it is not necessary to install a utility

Connect to UCX with Lightware Device Controller. Use the latest version.
(1) By clicking on the USB-C HOST 1 icon in USB crosspoint tab results that USB Upstream Port 1 properties window opens

(2) Set the DisplayPort Alternate Mode to Prefer USB 3.1
Testing USB2.0 Enumeration on Windows BYOD

- Open on Windows BYOD the USB Device Tree Viewer utility
- (1) Locate the UCX USB2.0 HUB
  Name: Generic USB 2.1 HUB
  Vendor ID: 0x04B4 (Cypress Semiconductor)
- (2) If the hub is visible and the Device Connection Speed is High-Speed, USB 2.0 enumeration works

The USB2.0 HUB of UCX
Testing USB3.x Enumeration on Windows BYOD

- Open on Windows BYOD the USB Device Tree Viewer utility
- (1) Locate the UCX USB3.x HUB
  
  Name: Generic SuperSpeed USB HUB
  
  Vendor ID: 0x04B4
  
  (Cypress Semiconductor)
- (2) If the hub is visible and the Device Connection Speed is SuperSpeed, USB3.x enumeration works

![USB Device Tree Viewer](image)

- Vendor ID: 0x04B4 (Cypress Semiconductor)
- Connection Status: 0x01 (Device is connected)
- Port Chain: 0x00 (Port 0)
- Port: 0x00
  - Port ID: 1
  - Port Name: Generic SuperSpeed USB Hub
  - Port Status: 0x00 (Available)
  - Port Speed: SuperSpeed

The USB3.x HUB of UCX
Testing USB2.0 Enumeration on macOS BYOD

- Open on macOS BYOD the USB Device Tree utility (Apple logo/About this Mac/System Report/Hardware/USB)
- **1)** Locate the UCX USB2.0 HUB Name: CY-HX3 HUB Vendor ID: 0x04B4 (Cypress Semiconductor)
- **2)** If the hub is visible and the Speed is Up to 480 Mb/s, **USB2.0 enumeration works**
Testing USB3.x Enumeration on macOS BYOD

- Open on macOS BYOD the USB Device Tree utility (Apple logo/About this Mac/System Report/Hardware/USB)
- (1) Locate the UCX USB 3.x HUB Name: CY-HX3 HUB Vendor ID: 0x04B4 (Cypress Semiconductor)
- (2) If the hub is visible and the Speed is Up to 5 Gb/s, USB3.x enumeration works ✅
Testing Power Delivery

(1) Clicking on the USB-C HOST 1 icon in USB crosspoint tab results that USB Upstream Port 1 properties window opens

(2) Set the USB-C Power Limit to Port 1 maximum, Port 2 minimum

(3) If the Charging states shows Charging, **Power Delivery works**
(1) Clicking on the USB-C IN 1 icon in Video crosspoint tab results that Input 1 port properties window opens

(2) Set the DP Alternate Mode Policy to Prefer Video

(3) Check the status of the Host Supports DP Alt Mode

If the status is ☑ BYOD is suitable for testing DP Alt mode

If the status is ❌ BYOD is non-suitable for testing the DP Alt mode
Set the F137 factory EDID to E1 (USB-C in 1) in EDID management tab.

In case BYOD does not support the 3840x2160p60Hz,
use F119 EDID (3840x2160p30Hz) or F47 EDID (1920x1080p60Hz)
(1) Clicking on the USB-C IN 1 icon in Video crosspoint tab results that Input 1 port properties window opens

(2) Check the Link status and the Lane Count

If the Link status is HBR2 5.4 Gbps and the Lane Count is 4, 4 Lane DisplayPort Alt mode works
Testing USB - Ethernet Bridge

✔ In case the USB2.0 enumeration works then USB – Ethernet Bridge test is available
✔ Turn off the Wi-Fi connection on BYOD
✔ Launch a browser, open a website (eg. lightware.com), and refresh the website by clearing the cache

Chrome and Firefox

Safari

✔ If the web page is loaded, Ethernet works ✔