USB-C CABLE TEST GUIDE
Test guide for Lightware UCX and Full-Featured Type-C cables
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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.
Preparation for Testing USB 2.0 and USB 3.x Enumeration

(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

![Diagram of USB Device Tree Viewer](image)

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
Testing USB2.0 Enumeration on macOS BYOD

1. Open on macOS BYOD the USB Device Tree utility (Apple logo/About this Mac/System Report/Hardware/USB)

2. (1) Locate the UCX USB2.0 HUB
   Name: CY-HX3 HUB
   Vendor ID: 0x04B4
   (Cypress Semiconductor)

3. (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

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

The USB3.x HUB of UCX

The USB3.x HUB of UCX
Clicking on the USB-C HOST 1 icon in USB crosspoint tab results that USB Upstream Port 1 properties window opens.

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

If the Charging states shows Charging, **Power Delivery works**.
Preparation for Testing 4 Lane DisplayPort Alternate mode

(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