

USB testing

Automated hot-swap and fault-injection



Any test involving the insertion/removal of a USB device can be fully automated, speeding up testing and hugely expanding the range of tests you can carry out.

- ▶ Speeding up testing saves you time and money.
- ▶ Expanding your test coverage leads to better quality products.

Quarch USB cable modules



[USB 3.0 Cable Module](#), for hot-swap testing and fault injection on USB 2 and 3 cables.



[USB Type-C Cable Module](#), for hot-swap testing and fault injection on USB Type-C cables.

Tech tip: These modules can be used as single units, for easy bench testing, or installed within a rack as part of an automated test solution (4 units in 1U) using the [separate rack kit](#) (Part Number **QTL1284**).



Key benefits

- ▶ With individual switched control of every pin, Quarch's USB cable modules guarantee **fully repeatable test cases**.
- ▶ Hot-swap timings can be precisely set to **simulate fast and slow plugs** or to **test extreme corner cases**.
- ▶ Additional features allow you to **simulate pin-bounce, damaged connectors and intermittent failures**.
- ▶ Automated testing gives you **access to forms of testing that are impossible by any other means**. Even performing 1000 manual hot-swaps of a device is not certain to show up all the potential problems and, if you do find a failure, it will be hard to repeat.
- ▶ **Easy to integrate**—Quarch USB modules are very simple to automate from your favorite scripting language or automation tool. Modules can be controlled over USB, Serial and LAN, with simple examples and dedicated support from our engineers to get you started quickly.

Tech tip: The [1/8 Port USB 3.0 Switch](#) is a USB Physical Layer Switch capable of automatically routing signals between its host port and 8 device ports. Using this switch (Part Number **QTL1443**), you can automate connection between multiple test devices, simulating insertion, removal and swap without the need for manual intervention.



Ways to use your USB cable modules

- **Product qualification:** Run repeated test cycles with bounds testing of all possible hot-swap scenarios.
- **Regression testing:** Spot issues earlier in development—saving time and money—with automated regression tests.
- **Fault injection:** Simulate faulty cables, damaged connectors and power glitches.

Find out what users say about Quarch tools

Find out [why test labs, drive reviewers and test equipment manufacturers use Quarch tools](#).

Technical specifications

- [USB 3.0 Cable Module](#)
- [USB Type-C Cable Module](#)
- [1/8 Port USB 3.0 Switch](#)
- [Cable Module Rack Mount Panel](#).

Arrange a free evaluation or a quote

Depending on your requirements, we can normally supply you with free evaluation kit for a short period of time. To apply, or to arrange a quote, email sales@quarch.com or contact one of our skilled [regional resellers](#).

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