



Silicon Labs USB Type-C Reference Design Gives Developers a Running Start

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Complete USB Type-C™ Solution Includes Software Stacks, Schematics and Tools and Features USB Power Delivery Silicon Certified by USB-IF

TAIPEI, Taiwan--(BUSINESS WIRE)-- (COMPUTEX 2016) - [Silicon Labs](#) (NASDAQ: SLAB) has introduced a comprehensive reference design that reduces the cost and complexity of developing cables and cable adapters based on the USB Type-C™ specification. Silicon Labs' new USB Type-C reference design features cost-effective, ultra-low-power [EFM8 microcontrollers](#) (MCUs), USB Power Delivery (PD) protocol stacks certified by the USB Implementation Forum (USB-IF), and USB Billboard Device source code.

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Silicon Labs USB Type-C Reference Design Simplifies USB Connectivity Development (Photo: Business Wire)

The rapid adoption of USB Type-C (USB-C™) in laptops and monitors is driving demand for dongles and adapters to connect with legacy and existing products. Silicon Labs' reference design provides a complete solution for a USB Type-C to DisplayPort (DP) adapter, making it easy to communicate with legacy products that do not support USB-C. Available to qualified developers at no charge, the reference design includes schematics, software libraries and stacks, source code, code examples and access to [Simplicity Studio](#)™ development tools, enabling developers to design USB-C cables and adapters quickly, easily and at minimal cost.

Get all the details about Silicon Labs' USB Type-C reference design including software stacks, schematics, documentation, tools and EFM8 MCU information at www.silabs.com/usb-type-c. Silicon Labs will demonstrate the USB Type-C solution at [COMPUTEX 2016](#) in the Taipei International Convention Center, 2nd Floor, Room 201F, May 31-June 3.

USB Type-C is the next leap forward in USB technology, capable of supporting higher data speeds (up to 10 Gbps), faster charging via USB Power Delivery (up to 100 W), greater flexibility and smaller form factors than previous generations of USB connectors. End users can charge device batteries, stream audio and video, and transfer data using a single "all-in-one" USB-C cable instead of a confusing array of legacy cables. The ultra-slim USB-C connector features reversible plug and cable orientation, enabling developers to design thinner and sleeker products. USB-C accommodates other interface specifications through USB Alternate Modes. For these reasons, USB-C is poised to become the connector standard of choice for mobile devices, PCs, docking stations, monitors and other consumer electronics products, with an estimated two billion USB-C-enabled devices deployed by 2019, according to IHS.

USB Type-C makes life easier for end users by reducing the number of cables and enabling device interoperability. USB-C also supports multiple protocols and is backwards-compatible with USB 3.0 and 2.0 protocols. However, the simplicity and versatility of USB-C technology can pose design challenges for developers because the once-simple inner workings of USB cables, ports, dongles and hubs must now be replaced with more complex embedded components. Silicon Labs addresses this design complexity with a straightforward, easy-to-implement solution that features USB-IF certified USB Power Delivery silicon and accelerates time to market for USB-C systems.

"The proliferation of USB Type-C technology requires a rich ecosystem of hardware and software suppliers providing solutions that enable the process of developing USB-C-compliant products," said Jeff Ravencraft, USB-IF president and chief operating officer. "We welcome Silicon Labs' new USB-C reference design featuring USB-IF certified USB PD silicon for this growing ecosystem of solutions. Compliance helps to ensure that end products will interoperate with other certified products, providing end users with a seamless connectivity experience."

"USB Type-C is the interface standard of the future, and Silicon Labs is helping to advance this USB revolution with our new reference design," said Tom Pannell, director of marketing for MCU products at Silicon Labs. "Smartphones, tablets and laptops with USB-C ports are already available, and these pioneering products are just the beginning. Our new reference design eases the complexity of adding USB-C to these applications by

providing developers with everything they need to get their new USB designs up and running."

Silicon Labs is a leading provider of [USB connectivity solutions and smart interface ICs](#) that enable developers to add USB to embedded designs without the cost and complexity of firmware development. Silicon Labs offers several single-chip connectivity bridge solutions to support USB to serial protocols as well as specialized bridges for human interface device (HID) class and capacitive touch applications. The company also supports USB connectivity through its EFM8 8-bit MCU portfolio and [EFM32 Gecko 32-bit MCU portfolio](#).

Silicon Labs USB Type-C Solution Highlights

- Comprehensive hardware and software reference design based on Silicon Labs' ultra-low-power EFM8 8-bit MCUs
- Complete software solution: USB PD stack library, billboard device source code and sample code for USB-C to DP applications, all available in Simplicity Studio library format
- USB-IF certified USB Power Delivery silicon
- Complete reference design solution for USB Type-C to DisplayPort adapters
- Support for USB-C video adapter dongle and USB PD controller functions including attach/detach detection, power contract negotiation, and Alternate Mode detection/selection
- Billboard device support communicating Alternate Mode failure to host

Pricing and Availability

Silicon Labs' USB Type-C reference design deliverables (schematics, PD stack library, billboard device source code and sample code) are available now to qualified developers at no charge. Contact your local Silicon Labs sales representative or authorized distributor for volume pricing of required [EFM8 MCU](#) products. For more information about Silicon Labs' USB Type-C reference design, visit www.silabs.com/usb-type-c.

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Silicon Labs

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