Cypress USB-C Controller Qualified for AMD "Raven Ridge" Reference Design for Notebook and Desktop PCs

June 5, 2018

Accelerates the Proliferation of USB-C Universal Connectivity and Power Delivery in AMD "Raven Ridge" Platforms

TAIPEI, Taiwan--(BUSINESS WIRE)--Jun. 5, 2018-- Cypress Semiconductor Corp. (NASDAQ: CY), the embedded solutions leader, today announced that its programmable EZ-PD™ CCG4 two-port USB-C controller with Power Delivery (PD) has been qualified by AMD for use with its "Raven Ridge" processors for notebook and desktop PCs. The controller delivers robust USB and DisplayPort connectivity and fast charging to AMD's "Raven Ridge" reference designs, simplifying integration of plug-and-play USB-C for PC makers and accelerating time-to-market.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20180605005693/en/

Pictured is the evaluation kit for Cypress' programmable EZ-PD™ CCG4 two-port USB-C controller with Power Delivery. (Photo: Business Wire)

The EZ-PD CCG4 controller offers a highly reliable and integrated solution for desktops, notebooks and other systems with two USB-C ports. The controller includes 128KB flash memory that can store dual-firmware images for a fail-safe boot, increasing the reliability of the system, and it enables firmware updates in the field. It offers the EZ-PD family's trademark programmability to keep up with evolving industry standards. More information on the CCG4 controller is available at http://www.cypress.com/ccg4.

"Qualification of our EZ-PD controllers by AMD has put Cypress in a prime position to drive the ramp of USB-C connectivity in the PC market," said Ajay Srikrishna, vice president of Cypress' Wired Connectivity Business Unit. "Our leading USB-C solutions such as EZ-PD CCG4, the industry's first two-port USB-C controller, make it easy for our customers to bring the benefits of reliable, USB-IF-certified USB-C connectivity and fast charging to the market."

"Enabling a plug-and-play user experience is critical in the PC market, so we put a premium on selecting a market-proven, USB-IF-certified USB-C controller to pair with our 'Raven Ridge' processors," said Stephanie Smith, director, client program management and technology enablement, AMD. "Cypress' EZ-PD CCG4 controller brings programmability, interoperability and USB-IF certification to our platform and reference design."

In the "Raven Ridge" reference design, the EZ-PD CCG4 controller interfaces with the embedded controller to enable the use of USB Type-C Connector System Software Interface (UCSI), which is a standardized mechanism for operating systems to monitor and control power delivery and the multiple protocols on a USB-C port in a PC. The programmable CCG4 solution enables UCSI and custom firmware development using the EZ-PD software development kit (SDK) and the Cypress Host Processor Interface (HPI). The CCG4 controller also controls the "Raven Ridge" processor's built-in USB-DisplayPort mux over I^2C, controlling the switching of the USB 3.1 Generation 2 signals and DisplayPort signals on the USB-C port.

The one-chip controller integrates an ARM® Cortex®-M0 processor, 128KB flash, two 1W V_{conn} Field-Effect Transistors (FETs) that provide power to USB-C cables, and four analog-to-digital converters (ADCs) that protect the system against overvoltage and overcurrent conditions. Integrated electrostatic discharge (ESD) protection circuits provide system-level protection up to 15kV. CCG4 also contains 4 serial communication blocks, each of which can be configured to I^2C, SPI or UART serial protocols.

The USB Type-C and Power Delivery standards are gaining rapid support with top-tier electronics manufacturers by enabling slim industrial designs, easy-to-use connectors and cables, and the ability to transmit multiple protocols and deliver up to 100 Watts of power. The USB Type-C standard's 2.4-mm-high connector plug is significantly smaller than the current 4.5-mm USB Standard-A connector. More info on Cypress' USB-C and USB-PD solutions is available at www.cypress.com/Type-C.

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[1] "Raven Ridge" is the AMD codename for AMD Ryzen™ with Radeon™ Vega Graphics processors for notebook and desktop.

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Source: Cypress Semiconductor Corp.

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