Open Hardware/Modding: Arduino UNO, ESP32, Raspberry Pi, RISC-V

By Roy Schestowitz

Ten million Arduino UNO boards have been shipped since its launch in 2010, and the Arduino team has designed the Arduino UNO Mini Limited Edition to celebrate the impressive milestone.

The Arduino UNO Mini has basically all the same features as the original Arduino UNO but uses a quarter of the area, and features a USB Type-C port for programming the board with the Arduino IDE.

Here's another ESP32 3D printer controller board with the Phi MainBoard 5LC powered by both an ESP32-S3-WROOM module and a Microchip SAME51 Cortex-M4F microcontroller, and providing Ethernet and WiFi connectivity.

Designed by Likha Labs from the Philippines, Phi MainBoard 5LC is pre-loaded with RepRapFirmware firmware running the Duet Web Control interface that allows users to upload G-code files, configure settings, start jobs, control the device, and monitor prints. Besides 3D printers, the developers explain the board can also be used to drive other digital-fabrication equipment, such as CNC machines.

Seaberry Mini-ITX carrier board for Raspberry Pi CM4 exposes 11 PCIe slots and sockets
The Raspberry Pi CM4 may only have a one PCIe x1 Gen 2 interface, but this has not stopped ALFTEL from designing Seaberry, a mini-ITX carrier board for the Raspberry Pi Compute Module 4 with eleven slots and sockets making use of the single 5 Gbps PCIe Gen 2 interface.

The board also offers two SATA ports, one Gigabit Ethernet port, one RJ45 console port, two HDMI ports, a micro SD card slot, two USB 2.0 ports, as well as the usual 40-pin GPIO expansion header, besides the PCIe x16 slot, a PCIe x1 side slot, and M.2 and mPCIe sockets.

- **Codasip Adopts Imperas for RISC-V Processor Verification** [5]

  Imperas Software Ltd., the leader in verification solutions for RISC-V, and Codasip, the leader in customizable RISC-V processor IP, today announced that Codasip has adopted Imperas reference designs and the Imperas DV solution for Codasip IP. Codasip has invested heavily into processor verification to deliver the industry’s highest quality RISC-V processors.

  Codasip has included Imperas golden reference models in its DV testbenches to ensure an efficient verification flow that accommodates a wide range of flexible features and options while scaling across the entire roadmap of future cores to enable rigorous confirmation of functional quality.

Hardware

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