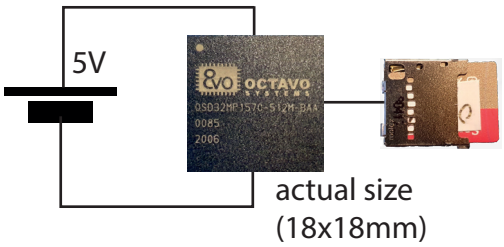
Embedded Design
Octavo OSD32MP1
Linux fast and secure

idastroem.de

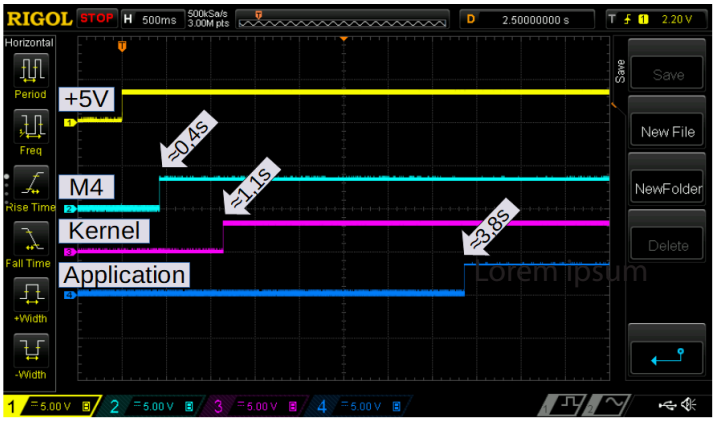
idastroem STM32MP1 ecosystem



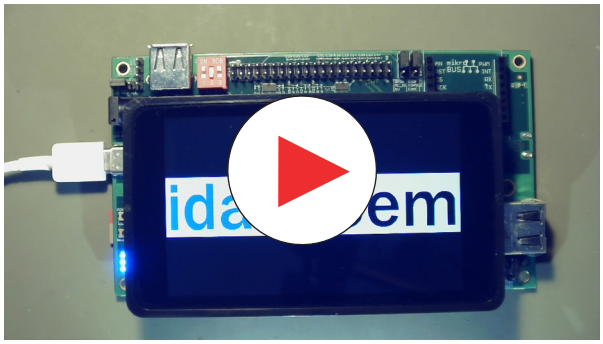
- Fast boot (MCU starts at ≈ 0.4s, Linux starts at ≈ 1.1 sec.)
- **Complete** secure boot solution (know-how protection, encrypted MCU code)
- Up-to-date, **unmodified mainline** Linux-Kernel
- **Small** package 18x18mm
- Single +5V supply
- Realtime capable 208Mhz MCU, can communicate at **high speeds** with Linux usermode application
- Secure firmware update, automated firmware build, update servers
- Robust against power failures (read-only root filesystem, desaster recovery mechanism)
- Ideally suited for upgrading from existing microcontroller solutions (ARM M0/M4, STM32 devices, ESP32, ...)
- Reduced time-to-market, **complete solution**

Fast Boot

Timing measured on OSD32MP1-RED evaluation board

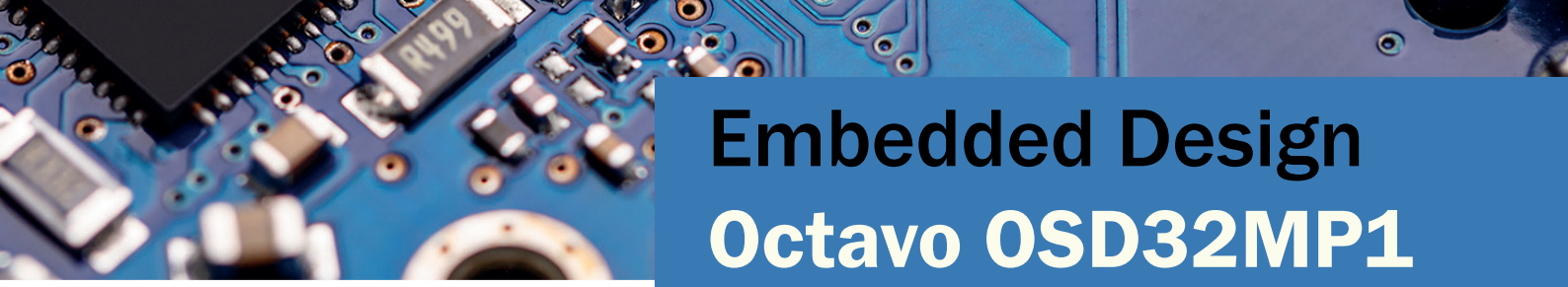


Boot-up video: https://www.idastroem.de/mp1-boot



Key advantages of STM32MP1 platform

- **Dual-Core** ARM A7 MPU with up to **800MHz** per core
- Vivante **3D-GPU**, running with **open-source** etnaviv device driver
- **Display** controller: LCD, MIPI-SPI, MIPI-DSI Displays up to **Full-HD** (1920x1080)
- up to **1GB RAM**
- Common bus interfaces (I2C, SPI, Camera-Interface, SD/MMC, etc.)
- **USB OTG**
- Integrated, programmable power regulator (STPMIC1)
- Easy wifi, bluetooth, USB with **Linux provided drivers**



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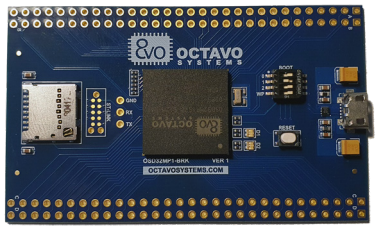
What idastroem does

- OSD32MP1 **design-in service**
- Ready-to-use **ecosystem** for both A7 and M4 cores
- **Automated** firmware and image build
- Software design
  - → Linux device driver/**device tree** development
  - → **Customized** boot loader (splash screen, boot menu, etc.)
  - → Widely used **communication** protocols (I²C, SPI, CAN, EtherCAT, OPC-UA, ...)
  - → Cloud-based web services for data collection and remote management (IoT)
- Hardware design
  - → **Power electronics** AC/DC, motor control, BLDC, sensorless
  - → Analog frontend circuits, like sensors, strain gauges, ...
  - → **EMC compliant** design and consulting
  - → RF transceiver (ISM 433/868 MHz, 2.4GHz)

Rapid prototyping kits

OSD32MP1-RED-DISPLAY



OSD32MP1-BRK

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