

DMMC-STAMP System on a Module

VERSION 2.0

Highlights

- Drop-in solution to operate the targeted AMC in a MicroTCA® based ecosystem
- Ready-to-use solder-in component based on ARM Cortex®-M4 processor
- Flexible CPLD for FPGA/SoC update and control (variable IO voltage)
- 2kBit EEPROM with unique ID and 12-bit temperature sensor
- Pre-programmed with default firmware

Features

Full IPMI stack (MCH communication, LEDs, AMC/RTM power, FRU read/write)

Event handling (e.g. over-temperature)

Custom FRU read/write (AMC/RTM)

Serial over IPMB (remote access of MMC console)

USB virtual COM port for MMC and FPGAs/SoCs

Control of up to two FPGAs/SoC (PROG, INIT, DONE, RESET)

Re-configurable JTAG chain management

RTM control (power, over-current)

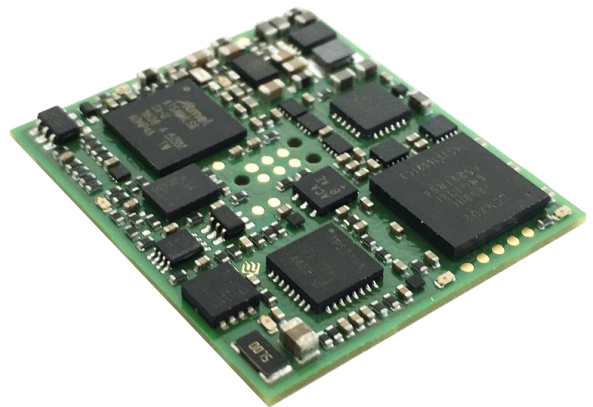
Basic sensors (temperature, voltages, FPGA done)

DMMC-STAMP SoM in-system-update via HPM.1

AMC design template in Altium® Designer available

Software Development Kit (DMMC-SDK) for custom modification available

Evaluation Board (DMMC-STAMP-BoB) available



The DESY Module Management Controller System on Module (DMMC-STAMP SoM) provides a full management solution to operate a targeted Advanced Mezzanine Card® (AMC) in a MicroTCA® based ecosystem. The module itself is a small stamp-sized (25.5 x 29.5 x 2.3 mm) component which can be mounted on the top or bottom side of any AMC PCB.

All management features required by the MicroTCA® specification are covered by the pre-programmed default firmware. The SoM itself is already capable to control up to two FPGAs/SoCs and one Rear Transition Module (RTM) in MicroTCA.4. Additional hardware specific features like the control of up to two FMC slots, the support of additional sensors or AMC power management via PMBUS™ can be added by using an appropriate Software Development Kit (SDK).

As an entry point for a custom hardware development based on the DMMC-STAMP SoM an AMC design template can be provided on request. If you are interested in custom adaptations of the DMMC-STAMP firmware please reach out to the DESY MicroTCA Technology Lab.

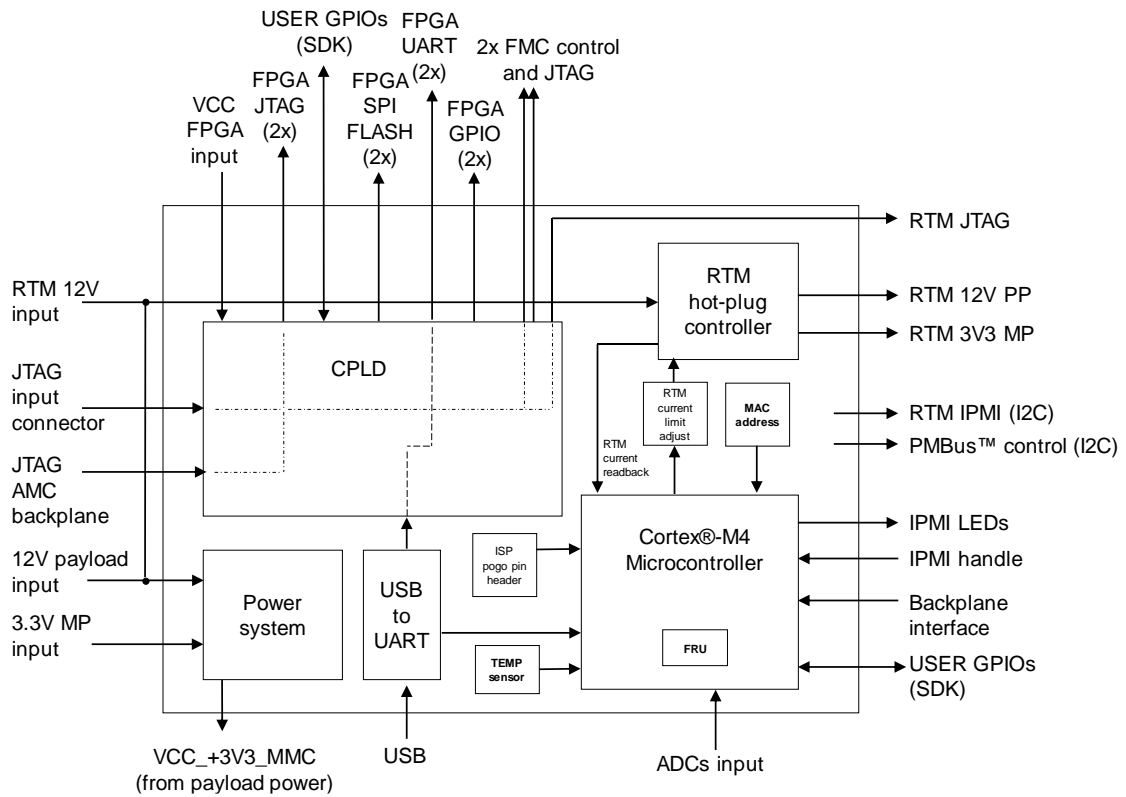


Figure 1: DMMC-STAMP SoM Block Diagram

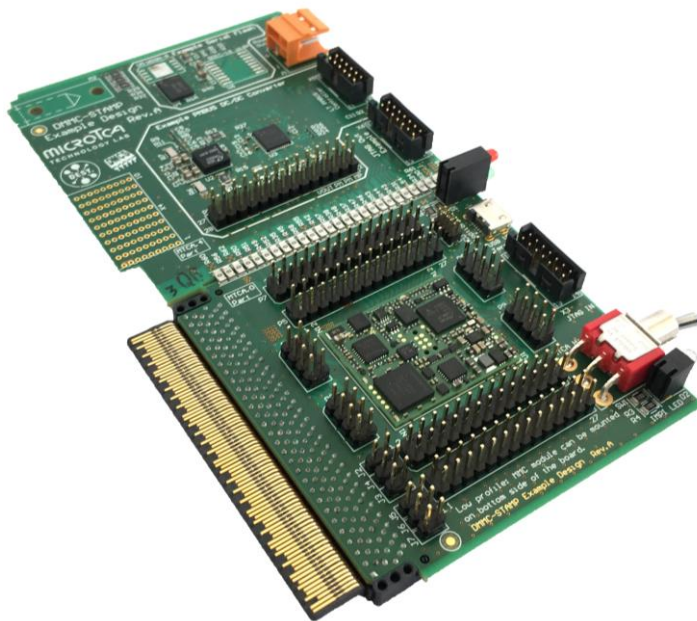


Figure 2: DMMC-STAMP SoM Breakout Board

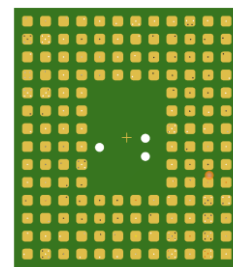


Figure 3: LGA bottom view (2 mm pitch)

