# System Management

Microsemi's system management solution significantly reduces the cost and complexity of board-level power management by integrating power converter functions including sequencing, trimming, margining, monitoring, and control as well as system management functions such as reset generation, event logging and green power algorithm support. Targeted to the Microsemi SmartFusion® customizable system-on-chip (cSoC), there is an abundance of uncommitted analog and FPGA resources available to the user, allowing the creation of a true custom solution.
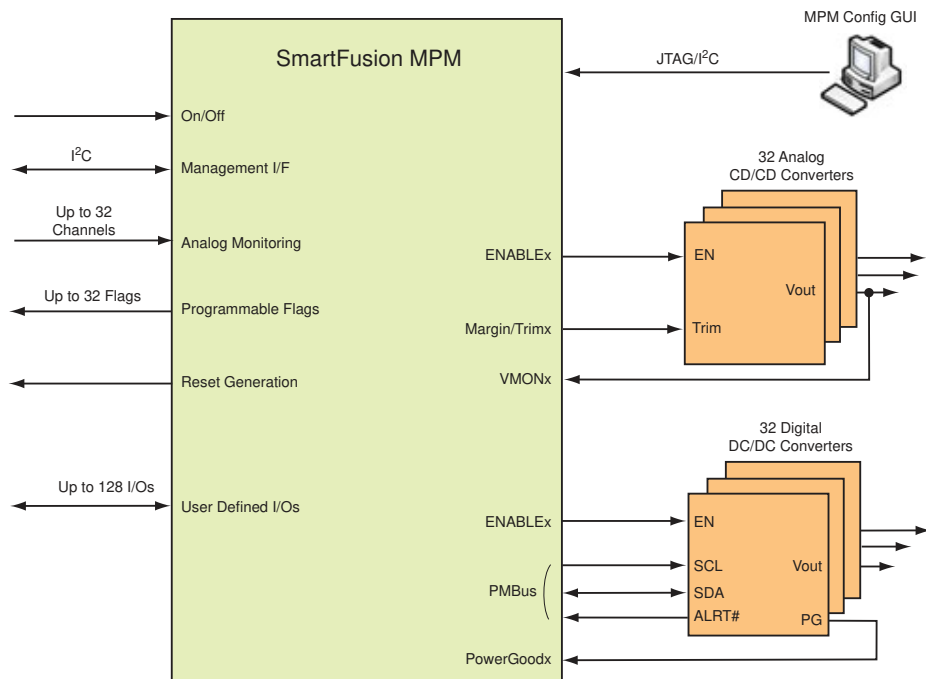

Microsemi's Mixed Signal Power Manager (MPM) reference design version 4.0 further distances itself from the competition by now including support for PMBus based POL converters. No other power management solution seamlessly supports a mix of analog and PMBus based power converters. Now you can sequence, monitor, and manage a mixed set of DC/DC converters, including LDOs, analog style, and the highly efficient PMBus based converters, from a single management device.

Key Features

- Manage up to 64 DC/DC converters
- Full support for analog and digital POL converters
- Sequence, monitor, margin, trim converters
- Event logging with timestamp
- Configurable flag generation
- On-chip analog hardware to support trimming/margining
- GUI based configuration tool
- I^2C based management/control interface
- On-chip nonvolatile NVRAM for configuration and logging storage
- User-available analog channels for current/voltage/temperature monitoring
- User-available FPGA gates and I/O pins for custom logic
- All design files available for customization
- SEU immune SmartFusion cSoC for reliable operation
- FG256, FG484, CS288, PQ208, TQ144 packages
- Military temperature available
- Full reference design hardware available

Simple MPM Configuration GUI

The MPM 4.0 reference design comes bundled with a GUI to simplify power configuration. The GUI allows designers to configure the power sequence, trimming/margining values, critical threshold voltages, programmable output flags, and event logging. The completed configuration can be downloaded to a SmartFusion device through I^{2}C or JTAG via the PC's USB port. No FPGA design or tool experience required.
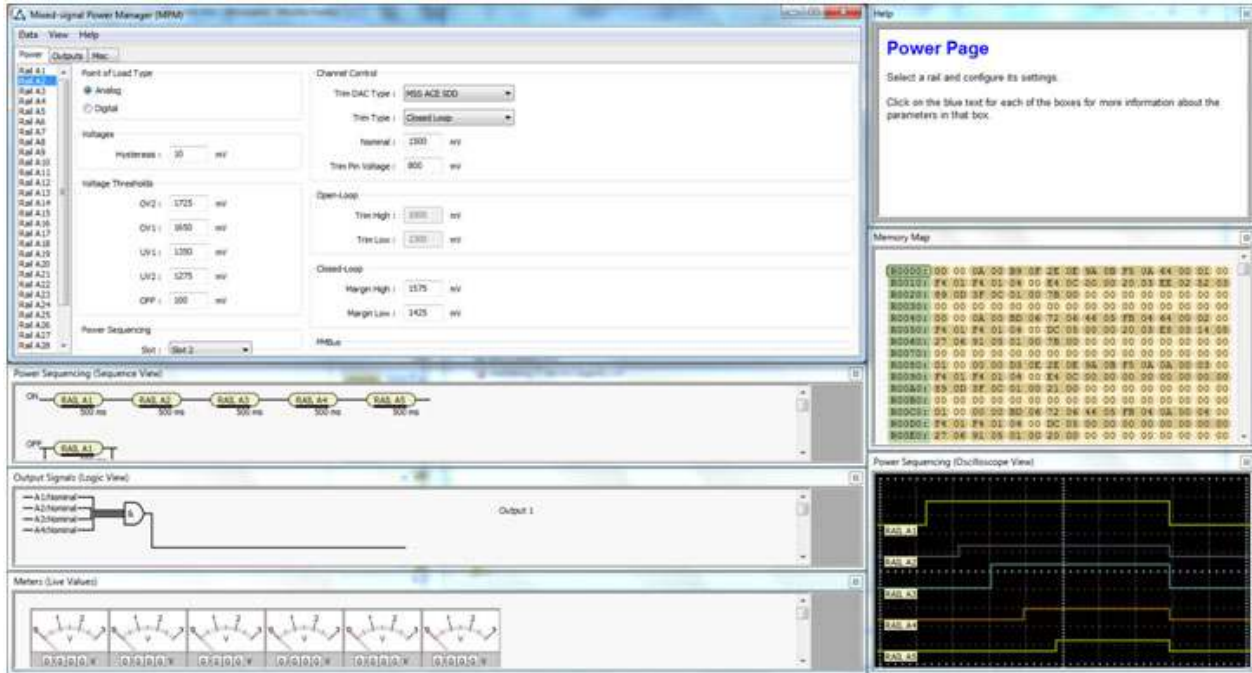
DMPM Daughtercard Kit

Microsemi's MPM 4.0 reference design empowers designers to create their perfect power/system management solution. For more information, visit www.microsemi.com/soc/products/hardware/devkits_boards/mpm_dc.aspx or contact your local FAE.