



Pigeon Point™ BMR-P1AFS-MCMC-SK Starter Kit Board Management Starter Kit for MicroTCA® Carrier Hub Modules

This Pigeon Point Board Management Starter Kit provides everything you need to quickly and cost-effectively develop a compliant and interoperable MicroTCA Carrier Management Controller (MCMC), Carrier Manager, and local Shelf Manager for MicroTCA based on Actel Fusion® mixed-signal FPGAs. The kit includes the following:

- An FPGA design for a Fusion mixed-signal FPGA, implementing the core of an IPM Controller, including a Cortex™-M1 ARM® processor and supporting peripherals. This design is ready to be adapted for your MicroTCA Carrier Hub (MCH).
- Schematics for a complete MCMC subsystem (including the Pigeon Point μCarrier Manager™ and Pigeon Point μShelf Manager™), ready for integration/adaptation into the design of your MCH
- Firmware for that subsystem, delivered in source form and with development tools—ready for simple and quick adaptation to the specific requirements of your product and configurable to execute on a single Cortex-M1 ARM processor in the Fusion FPGA
- Bench top MCMC and supporting hardware so that you can immediately begin the ramp-up process on MicroTCA's IPMI-based management framework, without waiting for your custom hardware
- One-stop support from Pigeon Point Systems for the hardware, firmware, and software used in developing and delivering your Pigeon Point BMR-based MCMC, with complementary support from Actel for the FPGA design

Please see the separate *Pigeon Point BMR-P1AFS-MCMC Product Brief* for more details on this reference design.

Bench Top MCMC and Complementary Management Controllers

- Implements the BMR-P1AFS-MCMC reference design and includes the μShelf Manager in binary form on the BMR-P1AFS-MCMC BTP.
- Includes an emulated AMC site with a Module Management Controller based on the Pigeon Point BMR-AVR-AMCm reference design to function in the management role of an AMC installed in the MicroTCA Carrier.
- Includes a minimal emulated Power Module Enhanced Module Management Controller (EMMC) for bench top use.

- Can be cabled together with an optional bench top Pigeon Point AMC Test Site Board to allow an arbitrary user-supplied AMC module to be included in the configuration.
- Includes rich collection of headers, switches, and connectors for experimentation in the lab with MicroTCA management controller hardware and firmware operation.



Technical Specifications and User Guide

- *Pigeon Point BMR-P1AFS-MCMC Hardware Architecture Technical Specification*
- *Pigeon Point BMR-P1AFS-MCMC Software Architecture Technical Specification*
- *Pigeon Point Board Management Starter Kit User Guide: BMR-P1AFS-MCMC Edition*

BMR-P1AFS-MCMC FPGA Design

- FPGA design provided as an Actel Libero® IDE project (for use with Libero IDE FPGA development software, acquired separately)
- FPGA programming database file (PDB) provided for loading the default FPGA design into a P1AFS Fusion device using the Actel FlashPro utility (acquired separately)

BMR-P1AFS-MCMC Schematics and Bill-of-Materials

- Schematics provided in PDF form
- Bill-of-materials includes components for both the core reference design and additional parts used on the bench top reference implementation.

Readily Adaptable Firmware in Source Code Form

- All mandatory and many optional IPMI/μTCA commands
- Numerous PPS extension commands, primarily used over the payload and debug serial interfaces
- Sophisticated support for firmware upgrades in the field
- Simple—but highly flexible—configuration of firmware features

Software, FPGA Design, Schematics, and Documentation Delivered via Secure Partner Page

- Provides specific materials for your company
- Allows instant access to any updated materials that become available



World-Class Management Components
FOCUSED. DEPENDABLE. PROVEN.

PARTNER PAGE

BMR-P1AFS-MCMC Release Page

Documentation

[bmr-p1afs-mcmc-rn.pdf](#)

[bmr-p1afs-mcmc-sa-ts.pdf](#)

[bmr-p1afs-mcmc-ha-ts.pdf](#)

[bmr-p1afs-mcmc-ug.pdf](#)

Release Notes

Software Architecture

Hardware Architecture

User Guide

Hardware Design Materials

[bmr-p1afs-mcmc-hwdesign.zip](#)

[bmr-p1afs-mcmc-fpga.pdb](#)

[bmr-p1afs-mcmc-fpga.zip](#)

Hardware Reference Design

Pre-built image: FPGA design and firmware

FPGA design (Actel Libero IDE project)

Utilities and Images

[SDR/FRU Compilers Page](#)

SDR and FRU compilers

Sources

[bmr-p1afs-mcmc-softconsole.zip](#)

[bmr-p1afs-mcmc-firmware.tgz](#)

BMR Firmware sources (for Actel SoftConsole)

BMR Firmware sources (for Linux)

Comprehensive Cortex-M1 Development Environment

- Cross GNU C compiler and binary utilities for H8S architecture
- Linux-based development environment included with BMR-P1AFS-ATCA Starter Kit and downloadable from CodeSourcery
- Windows-based development environment (the Actel SoftConsole Integrated Development Environment) available for downloading from Actel
- JTAG-based debugging and firmware download using Actel FlashPro3 JTAG programmer (purchased separately)

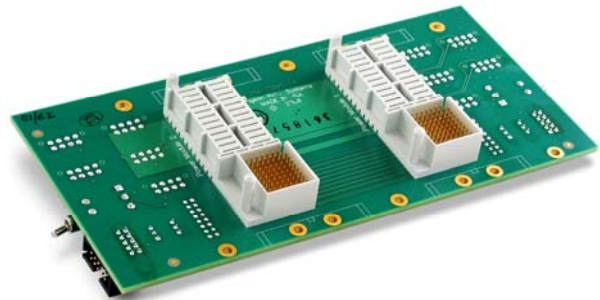
Complementary AMC Test Site Board (AMC-TSB)

- Can be cabled to the BMR-P1AFS-MCMC bench top board to allow connecting a physical AMC
- Alternatively, can be connected to other BMR bench top boards to attach a physical AMC; contact PPS for specific additional AMC-TSB compatible boards
- Management and payload power for the attached AMC are drawn from a separate ATX +12 V feed, not from the MCMC bench top board
- Not included in starter kit; available for separate purchase

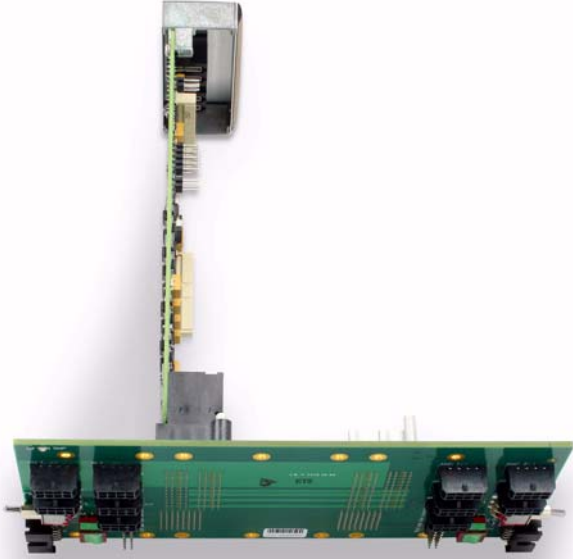


Complementary Power Module Test Site Board (PM-TSB)

- Can be cabled to the BMR-P1AFS-MCMC bench top board to allow connecting up to two physical Power Modules (PMs)
- Allows powering key parts of the bench top configuration (including the MCMC and the emulated and actual AMCs) from the PMs
- Conceptually, the PM-TSB implements the PM interconnects that are typically provided by a MicroTCA backplane
- Not included in starter kit; available for separate purchase



- Power channels for powered modules are cabled to connectors on the back side of the PM-TSB, with one or two power modules installed on the front (one pictured)



Ordering information

BMR-P1AFS-MCMC-SK	Standalone Board Management Starter Kit for MicroTCA MCHs
BMR-P1AFS-MCMC-SKA	Board Management Starter Kit Add-on for MicroTCA MCHs (purchased as an alternative to BMR-P1AFS-MCMC-SK if another standalone μ TCA Board Management Starter Kit has already been licensed)
BMR-P1AFS-MCMC-BT	Bench top implementation of BMR-P1AFS-MCMC reference design
AMC-TSBR	AdvancedMC Test Site Board that can be cabled to the P1AFS MCMC bench top board so that a physical AMC can be attached
PM-TSBR	Power Module Test Site Board that can be cabled to the P1AFS MCMC bench top board so that up to two physical Power Modules can be attached



For more information, visit our website at <http://www.pigeonpoint.com>

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