

PRODUCT BRIEF

Pigeon Point BMR-A2F-ATCA Starter Kit

Board Management for IPMCs

Within AdvancedTCA[®] and Custom Derivative Architectures

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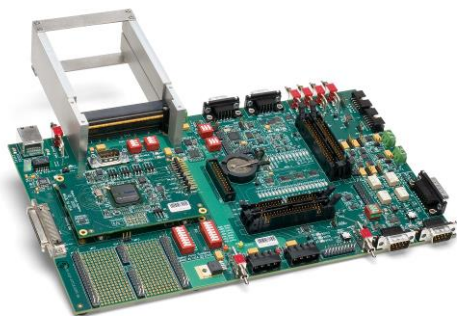


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This Pigeon Point Board Management Starter Kit provides everything you need to quickly and cost-effectively develop compliant and interoperable IPM Controllers (IPMCs) for AdvancedTCA and custom derivative architectures, based on Microsemi SmartFusion intelligent mixed-signal FPGAs.

The kit includes:

- A SmartFusion FPGA design that implements the core of an IPMC, working with the Cortex-M3 ARM processor and supporting peripherals. This design is ready to be adapted for your board or other intelligent Field Replaceable Unit (FRU).
- Schematics for a corresponding IPMC subsystem, ready for integration/adaptation into the schematic for your board
- 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
- Bench top Shelf Manager and IPMC hardware so that you can immediately begin the ramp up process on the IPMI-based management framework, without waiting for your custom hardware
- One-stop support from nVent experts for schematics, firmware and software used in developing and delivering your Pigeon Point BMR-based IPMC, with complementary support from Microsemi for the FPGA design



Supported SmartFusion intelligent mixed-signal FPGAs include the A2F200 and A2F500, with CS288, FG256 and FG484 packages. Please refer to Microsemi documentation for details of the differences in capabilities among these devices and see the separate *Pigeon Point BMR-A2F IPMC Product Brief* for more details on the reference design.

Bench top IPMC

- Can be cabled together with the bench top Pigeon Point Shelf Manager to form a two-node bench top IPMI management network
- Bench top boards provide rich collection of headers, switches and connectors for experimentation in the lab with IPMC hardware and firmware operation
- FPGA prototyping area on bench top board facilitates experimentation with custom extensions to the FPGA design
- Bench top board includes Carrier IPMC-related facilities (such as a physical AMC/module slot) to support add-on Starter Kit that addresses that controller variant

Software, FPGA designs, schematics and documentation delivered via secure partner page

- Provides specific materials for your company
- Allows instant access to any updated materials that become available
- Example hardware design materials section of release page (below) shows just one of provided variants for those materials



World-Class Management Components
FOCUSED. DEPENDABLE. PROVEN.

PARTNER PAGE

Documentation

[bmr-a2f-atca-rn.pdf](#)
[bmr-a2f-atca-ug.pdf](#)
[bmr-a2f-atca-sa-ts.pdf](#)

[bmr-a2f-ipmc-ha-ts.pdf](#)

[bmr-a2f-atca-atcater-report.html](#)

Hardware Design Materials

[bmr-a2f-ipmc-cm484r-hwdesign.zip](#)

[bmr-a2f200-atca-cm484r-fpga.pdb](#)

[bmr-a2f200-ipmc-cm484r-fpga.zip](#)

Sources

[bmr-a2f-acta-firmware.tar.gz](#)

[ipmitool-pps-tar.gz](#)

Release Notes
User Guide
Software Architecture
Specification
Hardware Architecture
Specification
Polaris Networks ATCA Tester results

BMR-A2F-ATCA hardware reference design (schematics and BOM)
Pre-Built Image: Combined FPGA and firmware image suitable for programming into the Microsemi A2F200-FG484 FPGA on the supplied bench top board
FPGA design for the A2F200-FG484 FPGA (Microsemi Libero Project)

BMR-A2F-ATCA firmware sources

The IPMI communication utility (ipmitool) source code (HPM.1)

Technical specifications and User Guide

- Pigeon Point BMR-A2F-IPMC Hardware Architecture Technical Specification
- Pigeon Point BMR-A2F-ATCA Software Architecture Technical Specification
- Pigeon Point Board Management Starter Kit User Guide: BMR-A2F-ATCA Edition

BMR-A2F IPMC FPGA design

- FPGA design provided as a Libero SoC project (for use with Microsemi's Libero SoC FPGA development software, acquired separately)
- FPGA programming database file (PDB) provided for loading the default FPGA design into a SmartFusion device using the Microsemi FlashPro3/4

BMR-A2F IPMC 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/ATCA commands supported over IPMB-0
- Numerous 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

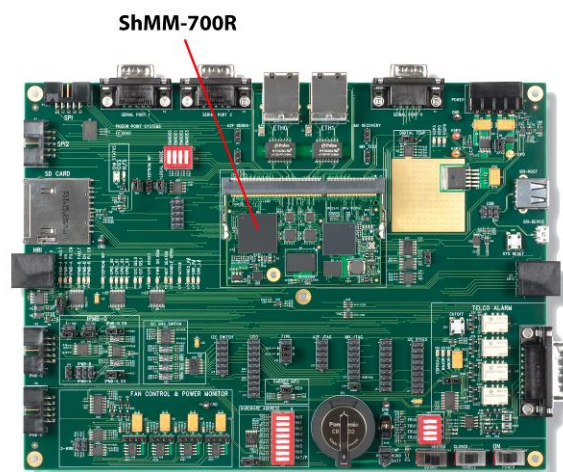
Comprehensive Cortex-M3 development environment

- Uses cross GNU C compiler and binary utilities for Cortex-M3 processor
- x86-based Linux-based development environment included with BMR-A2F-ATCA Starter Kit (based on Mentor Graphics Sourcery Code Bench G++ Lite toolchain)
- Windows-based development environment (the Microsemi SoftConsole Integrated Development Environment) available for download from Microsemi

- JTAG-based firmware download using Microsemi FlashPro3/4 JTAG programmer (FlashPro4 included with Starter Kit)

Bench top Shelf Manager

- Includes Pigeon Point ShMM-700R Shelf Management Mezzanine with Pigeon Point Shelf Manager pre-installed in Flash (see separate product brief for details)
- BTC-700R can be cabled together with the included bench top IPMC to form a 2-node bench top IPMI network



Pigeon Point Linux for ShMM-700

- i.MX287 edition of Pigeon Point Linux; key features for Shelf Manager application include:
 - Based on Linux 2.6.x kernel port

Ordering Information:

BMR-A2F-ATCA-SK Part #: 21991-132	Stand-alone Board Management Starter Kit for ATCA boards and intelligent FRUs
BMR-A2F-IPMC-BTR-AMC Part #: 21991-158	Bench top implementation of BMR-A2F-ATCA reference design