



PRODUCT BRIEF

Pigeon Point BMR-A2F-AMCc Starter Kit Add-on

Board Management Starter Kit Add-on

For AdvancedMC™ and Custom Module Carrier IPMCs

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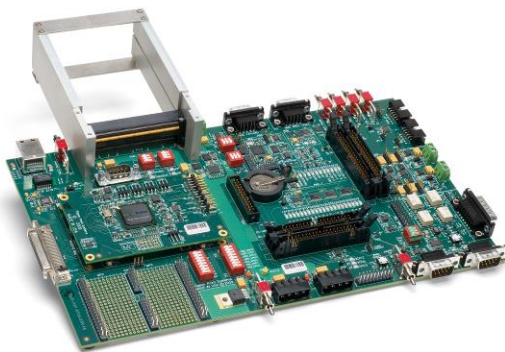
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This Pigeon Point Board Management Starter Kit Add-on provides everything you need to quickly and cost-effectively develop compliant and interoperable Carrier IPMC Controllers (IPMCs) for AdvancedMC (AMC) carriers based on Microsemi SmartFusion intelligent mixed-signal FPGAs. This kit is an add-on to the BMR-A2F-ATCA-SK Starter Kit for ATCA IPMCs and includes:

- An augmented FPGA design that provides the Carrier IPMC additions, ready to be adapted for your module carrier
- Augmented schematics covering Carrier IPMC hardware, ready for integration/adaptation into the schematics of your ATCA-based or custom module carrier board
- Corresponding Carrier IPMC firmware, delivered in source form—ready for simple and quick adaptation to the specific requirements of your product
- Bench top Shelf Manager and Carrier IPMC hardware (from the separately purchased BMR-A2F IPMC Starter Kit), which allows you to ramp up on IPMI-based management without waiting for your custom hardware
- One-stop support from Pentair for the schematics, firmware and software used in developing and delivering your Pigeon Point BMR-based Carrier IPMC, with complementary support from Microsemi for the FPGA design



Supported SmartFusion intelligent mixed-signal FPGAs include the A2F200 and A2F500 with the 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-AMCc Product Brief* for more details.

Bench Top Carrier IPMC with one MMC and one AMC slot for physical AMCs

- Cables together with a bench top Pigeon Point Shelf Manager to form a four-bench top IPMI management network (three nodes when no AMC is installed in the bench top board's AMC slot)
- Bench top boards provide a 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

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

Pigeon Point BMR-A2F-AMCc Release Page

Documentation

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

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

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

[bmr-a2f-amcc-amctester-report.html](#)

Hardware Design Materials

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

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

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

Sources

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

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

Release Notes

User Guide

Software Architecture

Specification

Hardware Architecture

Specification

Polaris Networks ATCA Tester

results

Polaris Networks AMC Tester

results

BMR-A2F-AMCc 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-AMCc firmware sources

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

Technical specifications and User Guide

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

BMR-A2F Carrier 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 A2F SmartFusion device using the Microsemi FlashPro4 JTAG programmer

BMR-A2F Carrier IPMC Schematics and Bill of Materials

- Schematics provided in PDF form
- Bill of materials includes materials 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/AMC commands supported over IPMB-0 and IPMB-L
- Numerous PPS extension commands, primarily used over the payload and debug serial interfaces
- Simple—but highly flexible—configuration of firmware features

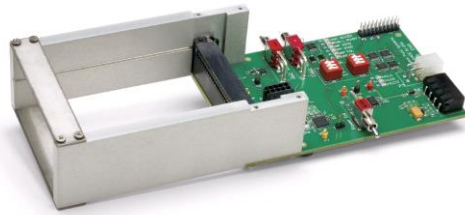
Comprehensive Cortex-M3 development environment

- Already provided in underlying BMR-A2F-ATCA Starter Kit, ready for use with the Carrier IPMC firmware

Complementary AMC Test Site Board

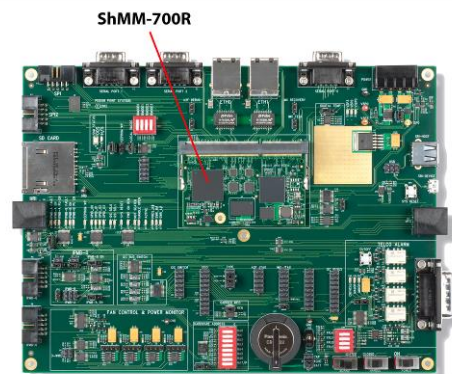
- Can be cabled to the BMR-A2F IPMC bench top board to allow connecting a second physical AMC
- Management and payload power for the attached AMC are drawn from an ATX +12V feed, not from the BMR-A2F IPMC bench top board

- Not included in Starter Kit; available for separate purchase



Bench top Shelf Manager

- Pigeon Point ShMM-700R Shelf Management Mezzanine with Pigeon Point Shelf Manager pre-installed in Flash (see separate product brief for details)
- BTC-700R Bench Top Carrier provides a socket for the ShMM-700 and on-carrier resources similar to an actual in-shelf ShMM-700R carrier
- BTC-700R can be cabled together with a bench top Carrier IPMC and two MMCs to form a four-node bench top ATCA/AMC IPMB-0 and IPMB-L 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

NOTE: No additional bench top hardware is needed or supplied with BMR-A2F-AMCc Starter Kit Add-on. This Starter Kit Add-on requires separate purchase of the BMR-A2F-ATCA Starter Kit, which includes a bench top Shelf Manager and a bench top A2F-based IPMC. That A2F bench top board already supports Carrier IPMC functionality, including two AMC sites, one logical and one physical.

Ordering Information:

BMR-A2F-AMC-SKA Part #: 21991-134	Board Management Starter Kit Add-on for ATCA-based AMC carriers (requires separately purchased BMR-A2F-ATCA-SK Board Management Starter Kit)
BMR-A2F-IPMC-BTR- AMC Part #: 21991-158	Bench top implementation of BMR-A2F-AMC and BMR-A2F- ATCA reference designs
AMC-TSBR Part #: 21991-122	AdvancedMC Test Site Board that can be cabled to a BMR Carrier IPMC bench top board so that an additional physical AMC can be attached