

## PRODUCT BRIEF

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# Pigeon Point BMR-STM32-ATCA Starter Kit

## Board Management for IPMCs

Within AdvancedTCA® and Custom Derivative Architectures

October 11, 2019

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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 the STM32F407 32-bit microcontroller from STMicroelectronics.

**The kit includes:**

- An STM32F407 microcontroller design that implements the core of an IPMC, working with the ARM Cortex-M4 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 your requirements
- 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 SCHROFF experts for schematics, firmware and software used in developing and delivering your Pigeon Point BMR-based IPMC



**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

**Software, 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-stm32-atca-rn.pdf](#)
- [bmr-stm32-atca-ug.pdf](#)
- [bmr-stm32-atca-sa-ts.pdf](#)
- [bmr-stm32-ipmc-ha-ts.pdf](#)

- Release Notes
- User Guide
- Software Architecture
- Specification
- Hardware Architecture
- Specification

**Hardware Design Materials**

- [bmr-stm32-ipmc-hwdesign.zip](#)

- BMR-STM32-ATCA hardware reference design (schematics and BOM)

**Sources**

- [bmr-stm32-acta-firmware.tar.gz](#)
- [ipmitool-pps.tgz](#)

- BMR-STM32-ATCA firmware sources
- The IPMI communication utility (ipmitool) source code (HPM.1)

### Technical specifications and User Guide

- Pigeon Point BMR-STM32-IPMC Hardware Architecture Technical Specification
- Pigeon Point BMR-STM32-ATCA Software Architecture Technical Specification
- Pigeon Point Board Management Starter Kit User Guide: BMR-STM32-ATCA Edition

### BMR-STM32 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

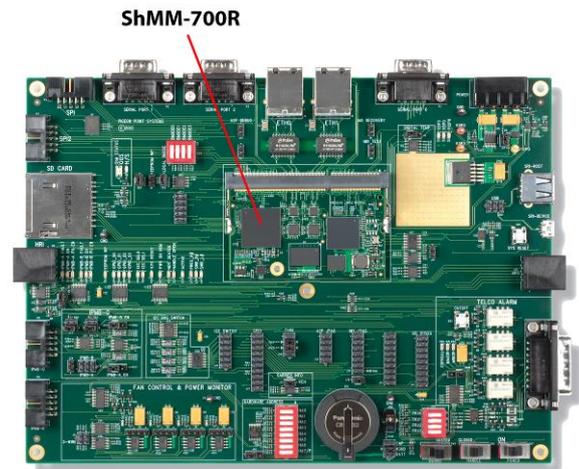
- All mandatory and many optional IPMI/ATCA commands supported over IPMB-0
- Numerous extension commands, primarily used over the payload and debug serial interfaces
- Sophisticated support for firmware upgrades in the field
- Simple—but highly flexible—configuration of firmware features

### Comprehensive Cortex-M4 development environment

- Linux- or Windows-based cross GNU C compiler and binary utilities for Cortex-M4 processor (available for download from a third-party web site)
- GNU MCU Eclipse support
- JTAG-based firmware download using ST-LINK JTAG programmer from STMicroelectronics

### 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; Shelf Manager application is based on Linux 2.6.x kernel port

### Ordering Information:

BMR-STM32-ATCA-SK Part #: 21991-167	Stand-alone Board Management Starter Kit for ATCA boards and intelligent FRUs
BMR-STM32-IPMC-BTR-ATCA Part #: 21991-164	Bench top implementation of BMR-STM32-ATCA reference design