PRODUCT BRIEF

Pigeon Point BMR-STM32-VPX Starter Kit

Board Management Starter Kit
Board Management Starter Kit Add-on

For VPX and ANSI/VITA 46.11-2022

June 2, 2022

nVent
Schroff GmbH
hardware.management@nVent.com

www.pigeonpoint.com
schroff.nVent.com

This Pigeon Point Board Management Starter Kit provides everything you need to quickly and cost-effectively develop compliant and interoperable ANSI/VITA 46.11-2022 Tier-2 or Tier-1 IPM Controllers (IPMCs) for VPX based on the STM32F407 32-bit microcontroller from STMicroelectronics.

The Board Management Starter Kit includes:

- An STM32 F407 microcontroller design that implements the core of a VITA 46.11-2022 Tier-2 or Tier-1 IPMC, working with the ARM Cortex-M4 processor and supporting peripherals. This design is ready to be adapted for your VPX plug-in module or other intelligent Field Replaceable Unit (FRU), such as a fan tray.
- Schematics for a corresponding IPMC subsystem, ready for integration/adaptation into the schematic for your module or FRU
- 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 Chassis Manager and IPMC hardware so that you can immediately begin the ramp up process on VITA 46.11's IPMI-based management framework, without waiting for your custom hardware
- One-stop support from nVent SCHROFF for schematics, firmware and software used in developing and delivering your Pigeon Point BMR-based IPMC
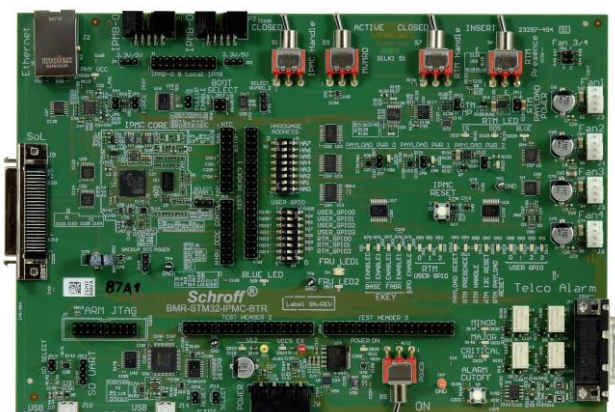
Bench top IPMC

- Can be cabled together with the bench top Pigeon Point Chassis Manager to form a two-node bench top VITA 46.11 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

Bench top board is also used for ATCA-focused BMR solutions and includes some features that are not relevant to the VPX context.

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

Board Management Starter Kit Add-on

The BMR-STM32-T3VPX-SKA Starter Kit Add-on is available for customers that need to develop compliant and interoperable VITA 46.11-2022 Tier-3 IPMCs. This kit is an add-on to the Board Management Starter Kit for Tier-2 or Tier-1 IPMCs and additionally includes access to the Tier-3 firmware source code, refer to the below example BMR Release Page.

World-Class Management Components
FOCUSED. DEPENDABLE. PROVEN.

PARTNER PAGE

Pigeon Point BMR-STM32-VPX Release Page

Documentation

bmr-stm32-vpx-rn.pdf	Release Notes
bmr-stm32-vpx-ug.pdf	User Guide
bmr-stm32-vpx-sa-ts.pdf	Software Architecture Specification
bmr-stm32-ipmc-ha-ts.pdf	Hardware Architecture Specification

Hardware Design Materials

bmr-stm32-ipmc-hwdesign.zip	BMR-STM32-VPX hardware reference design (schematics and BOM)

Sources

bmr-stm32-vpx-firmware.tar.gz	BMR-STM32-VPX firmware sources
bmr-stm32-t3vpx-firmware.tar.gz	(restricted) BMR-STM32-VPX Tier-3 firmware sources
ipmitool-pps.tgz	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-VPX Software Architecture Technical Specification
- Pigeon Point Board Management Starter Kit User Guide: BMR-STM32-VPX 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/VSO commands supported over System IPMB
- Numerous Pigeon Point 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 Chassis Manager

- Includes Pigeon Point ChMM-700R Chassis Management Mezzanine with Pigeon Point Chassis 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 VITA 46.11 IPMI network
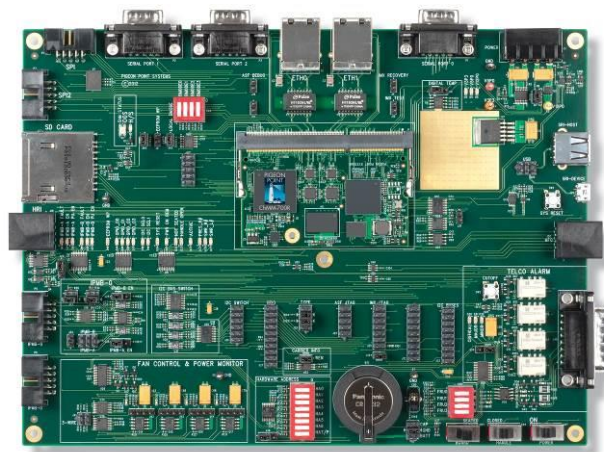
Pigeon Point Linux for ChMM-700R

- i.MX287 edition of Pigeon Point Linux; Chassis Manager application is based on Linux 2.6.x kernel port

Ordering Information:

BMR-STM32-VPX-SK Part #: 21991-168	Stand-alone Board Management Starter Kit for VPX modules and other intelligent FRUs
BMR-STM32-T3VPX-SKA Part #: 21991-862	Board Management Starter Kit Add-on for supporting Tier-3 IPMCs on VPX Modules and other intelligent FRUs
BMR-STM32-IPMC-BTR-VPX Part #: 21991-165	Bench top implementation of BMR-STM32-VPX reference design