

# SwitchX® Evaluation Board

Mellanox's SwitchX Evaluation Board (EVB), based on the fifth-generation switch silicon, accelerates time-to-market for switch and server OEMs designing high performance, cost-effective switching and bridging solutions for InfiniBand, Ethernet and Fibre Channel.

SwitchX silicon implements Virtual Protocol Interconnect (VPI) and the SwitchX EVB provides the flexibility to validate PHY, schematic and layout characteristics for all protocols supported. In addition, the SwitchX EVB offers a configurable platform for protocol stack and management software development. Paired with the Mellanox SwitchX Software Development Kit (SDK), the SwitchX EVB provides the materials needed to quickly introduce an InfiniBand or Ethernet switch system to the market.

The flexible combination of QSFP and SFP+ physical connectors, along with SwitchX's fully integrated PHY allows system designers the ability to develop and validate software for Layer 2 bridging across various protocols (SDR/DDR/QDR/FDR10/FDR InfiniBand to 1/10/40/56GbE and 2/4/8G FC as well as 1/10/40/56GbE to 2/4/8G FC) well before custom hardware is ready for testing.



## HIGHLIGHTS

### BENEFITS

- Integrated with SwitchX Software Development Kit (SDK) for fast time-to-market
- Full support for Virtual Protocol Interconnect (VPI)
- Flexible port configuration
- Integrated PPC CPU
- Management PCIe bus extender to connect to additional CPU architectures

### KEY FEATURES

- 4Tb/s Unified Switching/Routing
- SFP+, QSFP and SMA connectors independent of Layer 2 protocol

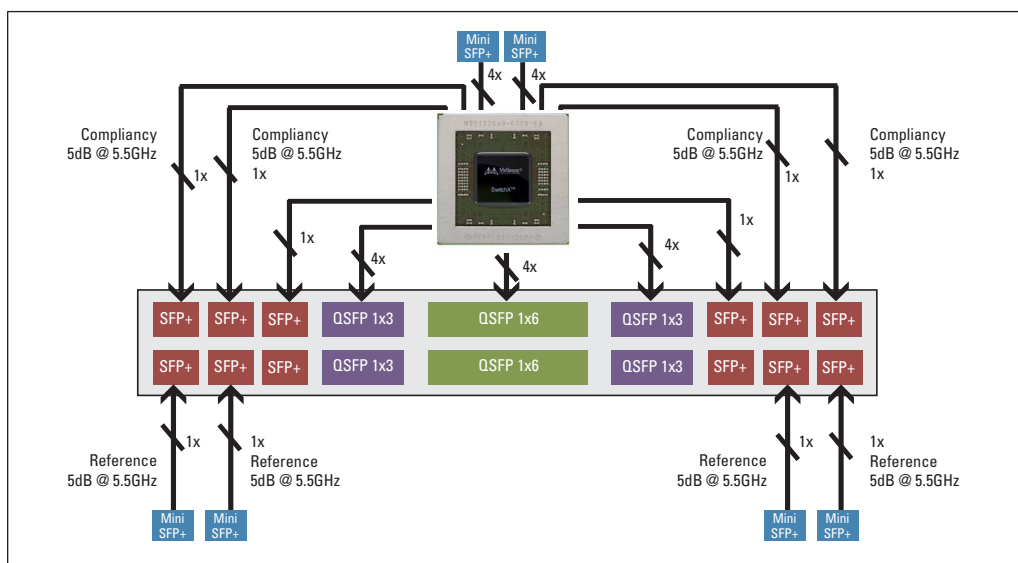


Figure 1. Mellanox Evaluation Board (EVB) Port Configuration

## SwitchX Silicon

The SwitchX silicon supports many advanced InfiniBand and Ethernet features such as DCB, virtualization, NPIV Fibre Channel and Ethernet gateways as well as flexible port and PHY configurations. SwitchX SDK running on SwitchX EVB provides developers the capability to validate these features while porting/developing protocol stack and management SW.

## Applications

SwitchX EVB is designed to accelerate development of managed single and multichip implementations for blade switches, top-of-rack (TOR) switches and large port count modular chassis aggregation switches providing Web 2.0 and Cloud scale-out, FCoIB and FCoE fabric convergence as well as Virtual I/O switching.

## Physical Layer Validation

SwitchX EVB implements industry standard compliance channels for 10/40/56GbE. This allows developers to connect directly to an oscilloscope and measure signal specification adherence.

Utilizing software tools provided with the EVB, developers can also tune the PHY transmit and receive parameters, generate PRBS and calculate BER.

## Port Configuration

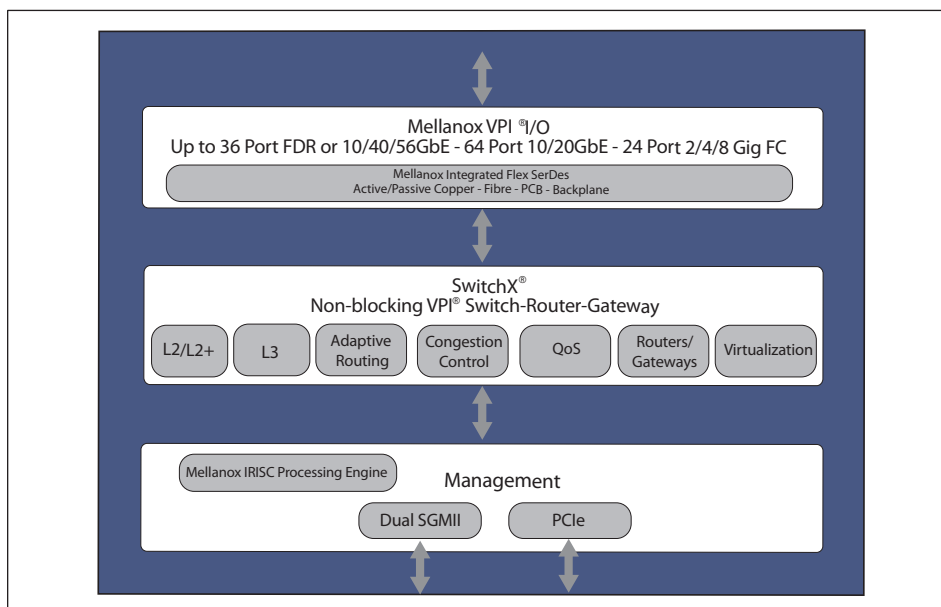
SwitchX EVB allows provisioning of the VPI ports for SDR/DDR/QDR/FDR10/FDR InfiniBand, 1/10/20/40/56Gb/s Ethernet and 2/4/8Gig FC. The ease of provisioning via VPI provides flexibility to validate multi-protocol switching as well as routing and bridging technologies prior to custom hardware being available.

## CONTENTS

- SwitchX SDK
- PCIe Extender Bundle
- 1 x QSA (QSFP to SFP+ Adapter)
- Cables
  - 2 QSFP DAC 2m
  - 2 SFP+ DAC 2m
- USB; Serial; Eth
- MTUSB
- USB to I2C debug device
- 4 x Standoff (for using the EVB on the Table)

## DOCUMENTATION

- Rail Kit
- Technical Support
- Quick Start Guide
- User Manual



**Figure 2.** Mellanox SwitchX Architecture

## Ordering Information

Ordering Part Number	InfiniBand 4X Port Speed
MT51336-EN-EVB	10/40/56 Gigabit Ethernet Evaluation Board
MT51336-VPI-EVB	FDR IB and 10/40/56 Gigabit Ethernet VPI Evaluation Board



350 Oakmead Parkway, Suite 100, Sunnyvale, CA 94085  
 Tel: 408-970-3400 • Fax: 408-970-3403  
[www.mellanox.com](http://www.mellanox.com)