BROADCOM®

Product Brief

MegaRAID™ 9540-2M2 PCIe Gen 4.0 Boot Storage Adapter

12Gb/s NVMe and SATA RAID Boot Adapter

Key Features

- Storage interface
  - 6Gb/s SATA
  - Gen 4.0 PCIe (NVMe)
- x8 PCIe Gen 4.0 host interface
  - Supports x8, x4, x2, and x1 PCIe lanes
  - Up to 16.0GT/s per lane, full duplex
- RAID 0 and RAID 1
- M.2 drive types
  - PCIe Gen 4.0 NVMe
  - 6Gb/s SATA
- M.2 drive lengths
  - 22110
  - 2280
  - 2260
  - 2242
  - 2230
- Drive activity LED
- PCIe low-profile, half-length form factor

Note: M.2 drives are not included.

Overview

The MegaRAID™ 9540-2M2 adapter provides a reliable boot solution based on the Broadcom® second-generation PCIe Gen 4.0 Tri-Mode SAS3808 I/O controller. The 9540-2M2 adapter supports two M.2 NVMe or SATA drives, enabling users to separate their OS drives from their primary data drives. By taking advantage of the unified Broadcom tool suite, users familiar with the Broadcom standard RAID and HBA controllers can easily integrate the 9540-2M2 adapter into their existing management application suite.

The 9540-2M2 adapter is a low-profile, half-length adapter that fits into a standard PCIe slot with two on-board M.2 drives. Customers who trust hardware RAID for critical data can expand this trust to their OS drives. There is no need to sacrifice two drive bays that can be used for user data. The 9540-2M2 adapter enables RAID 0 and RAID 1 using the trusted Broadcom MegaRAID stack.
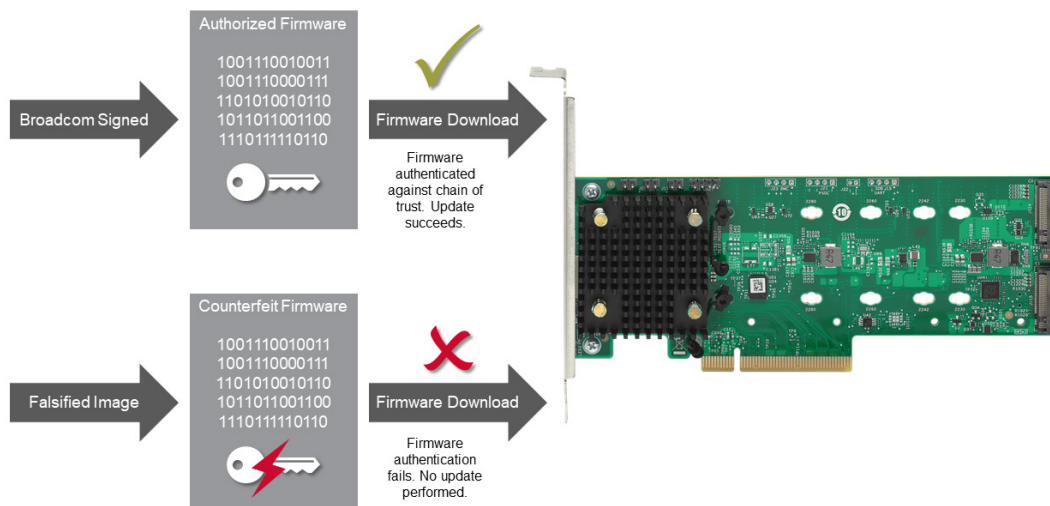
Tri-Mode SerDes Technology

The 9540-2M2 adapter takes advantage of the Broadcom Tri-Mode SerDes technology, enabling the most flexibility for customers by supporting NVMe or SATA M.2 drives for OS boot applications. The adapter detects the drive type and negotiates between speeds and protocols to automatically recognize and work with either NVMe or SATA M.2 drives.

Hardware Secure Boot

The onboard controller incorporates advanced security through hardware secure boot. The hardware secure boot feature permits only authenticated firmware to execute on the adapter. The internal Boot ROM on the controller establishes an initial Root of Trust (RoT). Hardware secure boot authenticates and builds a Chain of Trust (CoT) with succeeding firmware images using the RoT. This CoT means that only authorized firmware is executed on the adapter. Broadcom provides the signed firmware images, which make the use of hardware secure boot transparent to customers and also provide confidence in the security of the solution.

Hardware Secure Boot

MegaRAID 9540-2M2 Adapter

Feature	9540-2M2	
Connectors	Two M.2	
Host Interface	x8 PCIe Gen 4.0	
Storage Interface	6Gb/s SATA, Gen 4.0 NVMe (x1, x2, x4) See the *HBA and MegaRAID Adapter Compatibility Reports* for the latest drive interoperability information at techdocs.broadcom.com/us/en/storage-and-ethernet-connectivity/adapter.html.	
Controller (ROC/IOC)	SAS3808	
RAID Levels	0, 1	
Drives per Controller	Two M.2 NVMe drives or two M.2 SATA drives	
RAID Features	• Online capacity expansion (OCE) • Auto resume after loss of system power during array rebuild or OCE • Fast initialization for quick array setup • Check consistency for background data integrity • SSD support with SSD Guard™ technology	• Patrol read for media scanning and repairing • DDF-compliant Configuration on Disk (COD) • S.M.A.R.T. support • Shield state drive diagnostic technology • MegaRAID SafeStore software for SED key management
Management Utilities	• LSI Storage Authority (LSA) • StorCLI (command-line interface) • HII (UEFI Human Interface Infrastructure)	
OS Support	Microsoft Windows, VMware vSphere/ESXi, Red Hat Enterprise Linux, SuSE Linux, Ubuntu Linux, Citrix XenServer, CentOS Linux, Debian Linux, Oracle Enterprise Linux, Fedora, FreeBSD. See www.broadcom.com/support/download-search for details on versions.	
Dimensions	6.127 in. × 2.712 in. (155.65 mm × 68.90 mm)	
Operating Conditions	Operating: 0°C to 55°C, 5% to 90% non-condensing Storage: −45°C to 105°C, 5% to 95% non-condensing	
Typical Power	See the user guide for power requirements: https://docs.broadcom.com/doc/Broadcom-MegaRAID-9540-2M2-Boot-Adapter-UG	
Operating Voltage	12V ±8%; 3.3V ±9%	
MTBF (Calculated)	>5,000,000 hours at 40°C	
Hardware Warranty	3 years	
Regulatory Certifications	USA (FCC 47 CFR part 15 Subpart B, class B); Canada (ICES -003, Class B); Taiwan (CNS 13438); Japan (VCCI V-3); Australia/New Zealand (AS/NZS CISPR 22); Korea (RRA no 2013-24 & 25); Europe (EN55022/EN55024); Safety: EN/IEC/ UL 60950; RoHS; WEEE.	

Ordering Information	9540-2M2
Single Pack	05-50148-00