

# AGIGARAM™

## DDR3 Non-Volatile DIMM

### AGIGARAM™ NVDIMM FEATURES

- Second generation DDR3 NVDIMM
- 1 GB/2 GB/4 GB densities (x8, single rank)
- Design support for 8GB and higher
- High-speed DDR3 SDRAM interface
- DDR3-1333 standard, DDR3-1600 supported
- Battery-free ultracapacitor power supply
- No maintenance or conditioning required
- Designed to work with industry standard MBs
- Unlimited read/write cycles, no wear issues
- Integrated flash management with ECC
- Variable partitioning support
- Power glitch immunity
- AGIGASAFE™ protocol for reliable operation
- Real-time in-system health monitoring/tracking
- Fatal fault detection and reporting
- AES encryption option for enhanced security
- Online firmware upgrade support
- JEDEC standard 240-pin RDIMM form factor
- 30 mm height (standard)
- 0 °C to 55 °C operating temperature (standard)
- Up to 5-year operating life (standard)

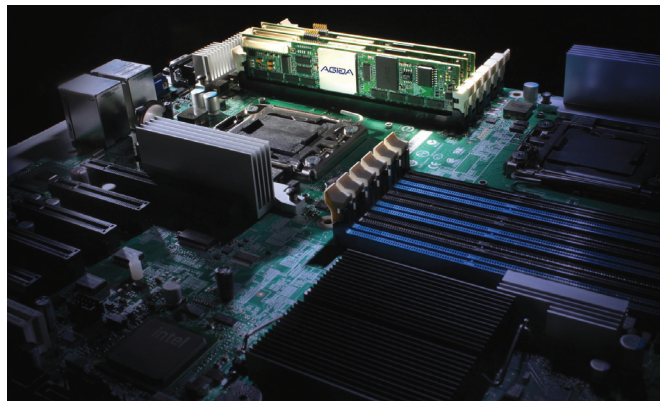
### PERFORMANCE + PERSISTENCE

AGIGARAM is a new storage class non-volatile memory developed to meet the need for higher-density, higher-performance memory for enterprise storage and server applications. By combining DRAM, Flash, an intelligent system controller, and an ultracapacitor power source, AGIGARAM provides a highly reliable memory subsystem that runs with the latency and endurance of the fastest DRAM, while also having the persistence of Flash.

Until recently, designers have reluctantly used batteries to maintain their data during power outages. Others have moved toward new flash-based technologies for memory persistence, but this option still falls well short of DRAM in terms of latency, speed, endurance, and reliability. AGIGARAM enables the fastest possible system performance while also eliminating the many headaches associated with batteries, such as hazardous material disposal, long charge times, limited operating life, extensive maintenance, and a high total cost of ownership.

### TARGET APPLICATIONS

- NV write cache for RAID
- Hash look-up and coherency
- Database management
- Flash translation layer
- Tiered storage
- Whole system persistence



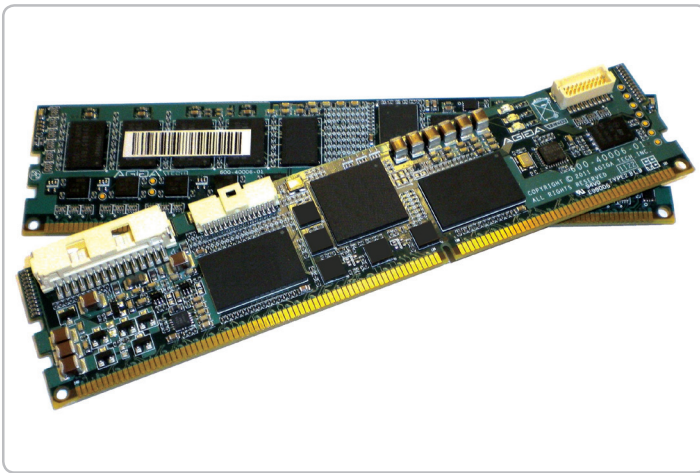
To know more visit [www.agigatech.com](http://www.agigatech.com)

## SIMPLE, SAFE, RELIABLE

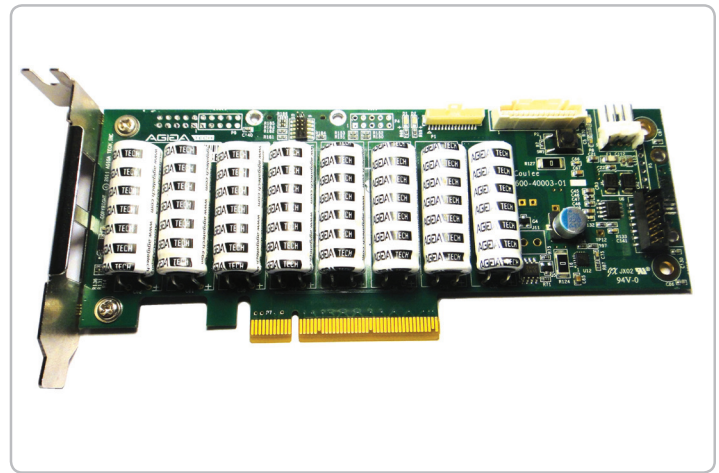
AGIGARAM has been designed to work in the standard DIMM sockets of industry-standard motherboard platforms. During normal operation, the AGIGARAM NVDIMM appears as a JEDEC standard DDR3 registered DIMM to the host system. In the event of a power loss, the host will trigger a save command (in newer systems using the ADR feature) at which time the AGIGARAM will take control of the bus and safely backup the contents residing in DRAM to flash memory using energy from the ultracapacitor power source. After power is restored, the AGIGARAM will then transfer the original contents back into DRAM and hand control back to the host.

The AGIGASAFE™ control protocol is a simple-to-use I<sup>2</sup>C programming interface that ensures safe, reliable, secure operation at the system level. This protocol allows fine control over system “internals” such as managing the NAND Flash while providing precise health monitoring and tracking. The complex system readiness has also been reduced to a single “Good To Go” (or GTG) status, allowing the host to know when all system safe parameters are valid.

AgigA Tech has pioneered the use of a battery-free power source based on ultracapacitor technology for this application. All AgigA Tech products utilize ultracapacitors that have gone through rigorous reliability and accelerated life testing at AgigA Tech’s reliability lab.



AGIGARAM DDR3 NVDIMM



PCI Express Card PowerGEM™

AgigA Tech Part Number	Description
AGIGA8501-100ACA	Second generation AGIGARAM DDR3 NVDIMM , 1 GB
AGIGA8501-200ACA	Second generation AGIGARAM DDR3 NVDIMM , 2 GB
AGIGA8501-400ACA	Second generation AGIGARAM DDR3 NVDIMM , 4 GB
AGIGA9004-000ACB	PCI Express Card Form Factor PowerGEM*
AGIGA0006-000AXX	AGIGARAM DDR3 NVDIMM evaluation platform

\* Additional standard and custom form factors available. Write to [info@agigatech.com](mailto:info@agigatech.com) for more information.

[www.agigatech.com](http://www.agigatech.com)

AgigA Tech, Inc.  
 12230 World Trade Drive, Suite 200  
 San Diego, CA 92128  
 Phone: +1 858.375.4530 Fax: +1 858.391.0025