FRONTGRADE

32GB/64GB eMMC Managed NAND

More storage for more capable missions



High-performance, radiation-tolerant eMMC 5.1 storage for data-intensive LEO applications

More capability on orbit means more data on orbit

Spacecraft are doing more processing closer to the mission. More autonomous operations, software-defined payloads, onboard data processing, and higher-rate sensors all increase the amount of data that must be stored, accessed, and managed in space. Frontgrade's 32GB and 64GB eMMC Managed NAND gives system designers a compact storage option for embedded space applications. The 64GB device provides **2X the capacity of the 32GB option**, creating additional headroom for mission software, image storage, data logging and other onboard workloads without requiring designers to immediately move to a more complex storage architecture.

Space storage is about more than capacity

Commercial memory specifications alone do not answer the questions space programs have to solve. Frontgrade combines managed NAND technology with **space-focused qualification, screening, and radiation assurance**, backed by decades of experience supplying electronics for demanding missions.

For engineering teams, that means a storage solution designed around the performance, endurance, and environmental requirements of embedded space systems. For supply chain and program teams, it means working with a supplier that understands the qualification, documentation and lifecycle demands that come with getting electronics onto a spacecraft.

BUILT FOR APPLICATIONS INCLUDING:

- **Onboard computing**
  - Boot and image storage for microprocessors, microcontrollers and FPGA's
- **Mission data**
  - High-density logging and storage for LEO spacecraft and payload electronics
- **Embedded avionics**
  - Managed memory for aerospace avionics and space electronics
- **Space-grade storage systems**
  - Storage building block for solid-state-drive architectures
- **64GB: More headroom without changing the storage model**
  - For programs moving more compute and data onboard, the 64GB option doubles storage capacity versus Frontgrade's 32GB device while retaining the benefits of a managed NAND architecture.

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Capacity, performance, and reliability in a compact package

Mission / Program Need	Frontgrade eMMC
More onboard data	32GB or 64GB managed NAND capacity
Fast access to mission data	Up to 300 MB/s sequential read and 150 MB/s sequential write
Data integrity and endurance	Integrated ECC, wear leveling and block management
Long-duration storage	Up to 10-year retention at 55°C at beginning of life
Compact embedded integration	13 mm × 11.5 mm, 153-ball FBGA
Harsh-environment operation	-25°C to +85°C operating range
Radiation environment	30 krad (Si) TID; destructive SEL characterized immune to ≤63 MeV-cm^2/mg
Space qualification	Frontgrade Space PEM QD

Talk with Frontgrade about your architecture, qualification requirements, and availability.

Request a Technical Briefing | Request a Quote: Frontgrade.com/request-a-quote

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