



32GB/64GB eMMC Managed NAND

More storage for more capable missions

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



WHY NOW | 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.

WHY FRONTGRADE | 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

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.

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.

WHY IT MATTERS | 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: <INSERT FRONTGRADE CONTACT>