Evolving In-Vehicle Storage Solutions for Personal Mobility

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Agenda

• Evolving NVM Storage Solutions
• Automotive SSD vs. HDD
• Automotive-Grade SSD Definition
• Choosing Automotive-Grade SSD
• Key Automotive SSD Benefits
• Selecting an Automotive SSD Supplier
• Summary – ”Good Enough” Is Not Enough
Evolving NVM Storage Solutions
SSD vs. HDD for Automotive

SSD:
- Ease of encryption
- Higher MTTF
- Robustness against shock & vibration
- Low power consumption
- Higher IOPS and lower latencies

HDD:
- High energy usage
- Higher latencies and lower IOPS
- Shock susceptible mechanical design
- Lower ROI
Automotive-Grade SSD Definition

Extended Temperature
-40°C to +85°C for rugged environments
- AEC-Q100 Grade 3

Automotive-Grade Components
- AEC-Q100 compliant, zero defect memory devices
- ISO/TS-certified fab and assembly sites

Longer MTTF and Low DPM
- Better MTTF results and lower service costs

Automotive Industry-Standard Service and Support
- PPAP
- Product family longevity
Why Choose Automotive Grade?

- Value-add of automotive vs. industrial SSD
- Firmware optimizes extreme and cross-temperature functionality
  - Onboard temperature sensor
- Qualified for longer lifetime, data retention, shock and vibration
Key Benefits

1. Defense against data breach and power loss
2. Robust performance across automotive temperature extremes and shock and vibration
3. Optimized endurance and reliability throughout device lifetime
4. Compliant with automotive industry standards
5. Extended product life cycle
Criteria for Selecting an Automotive SSD Supplier

Worldwide NAND Flash Leadership
- Micron SSD customers have the assurance of working with the world’s leader in NAND Flash design. Our expertise in NAND technology sets us apart as a vertically integrated supplier with the unique ability to ensure end-to-end quality.

Extensive Testing
- Micron’s rigorous product testing translates to predictably reliable, high-quality drives.

Data Security
- Industry-leading encryption
- IEEE 1667, TCG Opal 2.0, Microsoft® eDrive

Proven Start-to-Finish Quality
- From component design to fabrication to the finished package device, stringent quality requirements, significant investments in SSD test equipment, and advanced NAND management algorithms mean that reliability is literally built into every drive.
Summary – Automotive-Grade SSDs Matter to the Industry

- Connected mobility and vehicle autonomy demand more than “good enough” storage
  - Extended temperature range
  - Robust data security
  - Data path protection
  - Power-loss protection
  - Responsive performance
  - Low power consumption