Successful Story

Innodisk Enables Reliable Data Transmission for Smart Driving Technology

With the use of Innodisk's industrial MicroSD cards, a major European manufacturer of smart driving devices was able to resolve their reliability issues, improve efficiency and accuracy, as well as improve security of sensitive data.

Introduction

A European company well known for creating driving assistance hardware and software that informs users about nearby accidents, cameras, traffic jams, and police checks, as well as weather conditions, was facing reliability issues with the consumer-grade storage solution used in their smart device. Users of the company's device complained that speed limit and road condition data was not reliable enough, and would sometimes present inaccuracies.

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Our Roadmap to Success

Innodisk Industrial MicroSD Card 3IE2

- SD 3.0 interface
- Support Class 10 with UHS-I
- Adopt MLC NAND flash
- High performance
- Targeted for portable and stationary applications
- SMART function supported

Challenges

- Must be able to withstand excessive heat from prolonged exposure to sunlight
- Must be able to operate during vibrations from the engine, and bumpy roads
- Must be strong enough to withstand shock from sudden vehicle breaking
- Read and write speeds must be stable to process critical data on time
- Product materials should not change as they could impact functionality of the device
- Sudden power loss from vehicle motor shutdown should not cause data loss
- Keep failures to an absolute minimum to avoid damaging the user experience

Solution

- Operational temperature of -25° to 85°C
- Can withstand vibrations of 20G @ 7-2000Hz
- Can withstand shock of 1500G @ 0.5ms
- The latest firmware architecture and flash algorithms, including superior wear leveling, and read disturb management ensuring high reliability and endurance
- Fixed BOM guarantees product longevity and long-term supply
- Abnormal power loss protection
- MTBF (mean time between failures) of over 3 million hours

Conclusion

Innodisk was able to help the client overcome their storage challenges by providing an industrial MicroSD card that met their unique reliability requirements. In doing so, the client was able to achieve a more stable data transmission, which improved the efficiency and accuracy of speed limit and road condition data reporting, as well as reduced maintenance costs.

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