

Innodisk Case Study

Title: InnoRobust™ Data Security and Conformal Coating Ensure the Data Integrity and Lifespan of Devices



SATA 3SR-P

Situation

Embedded systems for aerospace and defense require system integrity with reliable and secure erase functions to strengthen cyberspace protection. The Russia-based contractor, which is well known for providing systems to the submarine fleet, took part in a project aimed at upgrading the onboard navigation system. The in-dash embedded navigational system is critical for homeland security when it comes to surveillance and monitoring.

When upgrading the navigation system there were a few challenges that needed to be addressed, such as electronic devices operating in a highly corrosive environment, surges and spikes caused by an unstable power supply – and the most crucial aspect, the data integrity of the system with regards to secure and erase functions.

Solution

Innodisk's team worked together with the customer to reach a solution that met all the requirements for data integrity. First off, we recommended the SATA 3SR-P equipped with a customized DOS tool which ensures that the system is backward compatible with SATA II and SATA I. Our InnoRobust™ Data Security feature set offers different levels of Secure and Erase functions with solid field tests and proven records. The ultimate data gatekeeper – Physical Data Destroy – is a self-destruct design initiated through high current run through the SSD to destroy the control and flash IC, thus eliminating all data within 2 seconds. However, considering this project demanded an even more cautious approach, the circuit design was re-layered to ensure that the IC controller and NAND flash would be destroyed simultaneously in less than 5 milliseconds (MS).

To mitigate problems arising from a high saline and acidic environment, the Innodisk team also recommended conformal coating on the surface of the storage devices. With this coating shield, not only do the storage devices have increased lifespan and product reliability, but the cost of system maintenance is also significantly reduced.

Result

Amongst the embedded storage device suppliers in the market, Innodisk provides additional value to enhance system performance, reliability and usability. Through the InnoRobust™ Data Security feature set, the data integrity of the system is ensured. The added layer of our conformal coating service on the operating devices offers increased longevity against harsh environmental conditions. Innodisk is committed to working with customers from the design stage to system completion, as we believe we can expand business together through partnership and solid cooperation.