

News Release

25 September, 2017

Cobham Space Grade Products Launch Aboard the Flying Laptop

Arlington, Virginia – Cobham’s products and services contributed to the recent successful deployment on July 14, 2017, of the “Flying Laptop” Satellite developed at the Institute of Space Systems (IRS) at the University of Stuttgart in Germany. Cobham’s Standard Products, Single Board Computer and custom developed FPGA were critical contributors to the design of the “Flying Laptop.” The satellite program came to fruition through various German funding partners, in partnership with several industry leaders, including Cobham Gaisler and Cobham Semiconductor Solutions.

The objectives of the 110kg class “Flying Laptop” satellite, in addition to scientific earth surveillance, are the test and verification of new technologies, including a new on-board computer system, a new power management system designed by Airbus Defense & Space, and an innovative unfolding mechanism for the solar panels, as well as diverse new payload components.

Cobham Semiconductor Solutions provided an off- the-shelf UT699 LEON 3FT 3U Single Board Computer (SBC) which is the main processor function within the Onboard Computer (OBC) System. Cobham was the only supplier to offer a solution that was suitable for the program, not only due to its processing capability and interfaces, but in particular for its small size, low weight and low power. The LEON 3FT processor was ideal for this satellite's application based on its radiation performance and reliability. The built-in SpaceWire interfaces of the processor were uniquely suited for the intra-system communication and control of the satellite. Besides the LEON 3FT processor, other standard components from Cobham on the SBC were an 80Mbit SRAM memory, the Eclipse FPGA and various Clock products.

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"Cobham Semiconductor Solutions leveraged our capabilities across the entire business unit including our Integrated Circuits, Board Level Design and Circuit Card Assembly with our LEON Single Board Computer for the "Flying Laptop" program," said Michelle Mundie, Director-Standard Products. "We are very excited for the Institute of Space Systems (IRS) and the various staff and PhD students who contributed over the years to the success of the program."

"Cobham Gaisler delivered the Consultative Committee for Space Data Systems (CCSDS) Telemetry Encoder and Telecommand Decoder FPGA," said Sandi Habinc, General Manager. "The custom designed FPGA implements the complete CCSDS telemetry encoder and telecommand decoder functionality of the "Flying Laptop" and communicates with the Single Board Computer through multiple SpaceWire links using the RMAP protocol. The FPGA design has been based on our standard library of synthesizable Intellectual Property cores. Cobham Gaisler has a very unique set of pre-verified cores that can be configured to implement custom CCSDS solutions for FPGA and ASICs, saving both time and effort for the customer."

"The launch from Kazakhstan went smoothly and at the first opportunity, which was approximately 40 minutes after separation from the upper stage, the "Flying Laptop" connected to the ground station in Weilheim Germany and the team in Stuttgart downloaded the first telemetry to the satellite and was able to submit the first commands", said Jens Eickhoff, of both IRS and Airbus Defense & Space Friedrichshafen, a key Advisor and Professor to many of the students who have worked on the program. "Since then, the satellite has shown exemplary performance. In fact, because of the great support and excellent cooperation with Cobham, a second generation "Flying Laptop" satellite platform, called the "Flexible LEO Platform 2", is planned."

Please visit www.cobham.com/HiRel for information about Cobham's satellite offering.

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About Cobham Advanced Electronic Solutions

We provide critical solutions for communication on land, at sea, and in the air and space, by moving data through off-the-shelf and customized products and subsystems including RF, microwave, and high reliability microelectronics, antenna apertures and motion control solutions.

Cobham Advanced Electronic Solutions supplies defense, aerospace, security, medical, and industrial markets.

About Cobham Semiconductor Solutions

We are a global supplier of Standard HiRel ICs including memory, μ processor, interconnect & power and ASICs for space, commercial, medical and industrial markets, along with Electronic Manufacturing Services (Circuit Card Assembly, Radiation Testing, Component Up-screening and Packaging).

Our customers benefit from our complete design, manufacture and support capabilities, as well as the comprehensive inventory they depend on to enhance the quality and integrity of their products.

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Inquiries

Teresa Farris
MARCOM Manager
Cobham Semiconductor Solutions
719-594-8035
Teresa.farris@cobham.com