CASE STUDY

Naval Research Laboratory Utilizes Annapolis WILDSTAR Hardware and CoreFire Application Software for Rapid Prototyping

When the Electronic Warfare Support Measures (ESM) Branch of the U.S. Naval Research Laboratory (NRL) wanted an open and flexible ecosystem they could use to advance sophisticated Navy Electronic Warfare (EW) programs, they chose Annapolis Micro Systems’ FPGA-based WILDSTAR boards and CoreFire application development software.

NRL first trialed Annapolis Micro Systems’ hardware and software in 2001, and have since built more than 15 distinct systems using the CoreFire and CoreFire Next rapid implementation process. CoreFire is Annapolis’ dataflow-based development environment that brings new levels of ease and speed to FPGA programming of high-performance motherboards and I/O mezzanine cards.

In a 2016 public Statement of Work, NRL says that “Annapolis Micro Systems maintains and continually updates products and support for the CoreFire environment, permitting NRL immediate access to emerging and cutting-edge technologies. The coupling of software, hardware, and streamlined/dedicated support make CoreFire and Annapolis Micro Systems the development platform of choice for NRL rapid prototyping.”

Using CoreFire Next, NRL has been able to quickly prototype DSP algorithms for EW applications, developing functional code libraries that permit rapid reuse of tried and tested techniques within the CoreFire design environment.

NRL combines this application software with high-speed Annapolis ADC mezzanine cards and state-of-the-art FPGA boards, to allow for real-time extraction of RF emitter characteristics from a dense analog RF signal environment.

For more information, contact Annapolis Micro Systems.

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