Enabling SWaP-optimized EW solutions through accurate FPGA power modeling

MARIO LAMARCHE, MERCURY SYSTEMS

Modern electronic warfare (EW) systems, especially those for use in harsh SWaP-constrained environments, must not only include high-performance processing elements, but also the technology to cool these high-power devices. These challenges are particularly relevant in the design of compact FPGA [field-programmable gate array] modules that are at the core of next-generation systems. Each generation of new FPGA devices comes with higher processing density, which brings more thermal-management challenges.

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Naval radar to be supplied to German corvettes by HENSOLDT

EMMA HELFRICH, ASSOCIATE EDITOR

GERMANY. The sensor solutions provider HENSOLDT is equipping the second batch of the German Navy’s K130 corvettes with its TRS-4D Rotator naval radar and its MSSR 2000 ID friend-or-foe identification system (IFF). Only six months after the order was placed, the company has now passed the factory acceptance test by the German procurement authority BAAINBw for the second system.

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AEGIS weapons system contract
addition for FFGX frigates won by Lockheed Martin

WASHINGTON. Lockheed Martin Rotary and Mission Systems has been awarded a $15.7 million modification to a previously awarded U.S. Navy contract for AEGIS weapons system design requirements in support of Guided Missile Frigate (FFG(X)) class ships.

E-2D Hawkeye radars to be produced by Lockheed Martin

BETHESDA, Md. Lockheed Martin has been contracted to produce APY-9 radars for the U.S. Navy’s E-2D Advanced Hawkeye airborne early warning surveillance aircraft.

EW system will contain SBC from Abaco

HUNTSVILLE, Ala. Abaco Systems announced that its rugged 3U VPX SBC347D single-board computer has been chosen by an international defense electronics company to be the core of a new electronic warfare (EW) system that will be deployed in manned and unmanned aerial vehicles and in fixed and mobile ground platforms.
Navy's AN/SPY-6 radar variants to be produced by Raytheon
EMMA HELFRICH, ASSOCIATE EDITOR
MARLBOROUGH, Mass. Raytheon was awarded a $40.2 million contract modification to produce variants of AN/SPY-6 radar system for the U.S. Navy.

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Cool world: A tour of thermal-management approaches for rugged computer systems
JASON SHIELDS, CURTISS-WRIGHT DEFENSE SOLUTIONS
What happens when a CPU gets too hot? Circuitry within the device runs slower, which can lead to poor system performance. The design of rugged mission-critical computer systems must consider thermal management as a system-level issue.

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Missile defense sensor proposal submitted by Raytheon
EMMA HELFRICH, ASSOCIATE EDITOR
TEWSKBURY, Mass. Raytheon Company announced the submission of its Lower Tier Air and Missile Defense Sensor (LTAMDS) proposal to the U.S. Army as part of the competition for a new air and missile defense radar.

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AESA radar on B-52 bombers will get upgrade from Raytheon
LISA DAIGLE, ASSISTANT MANAGING EDITOR
EL SEGUNDO, Calif. Raytheon will design, develop, produce, and sustain active electronically scanned array (AESA) radar systems for the entire U.S. Air Force B-52 fleet.

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Machine learning to be integrated into signals intelligence efforts by BAE
Systems, DARPA
EMMA HELFRICH, ASSOCIATE EDITOR

UNITED KINGDOM. The Defense Advanced Research Projects Agency (DARPA) awarded BAE Systems a contract worth as much as $4.7 million to integrate machine learning into intelligence gathering involving radio frequency signals.

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Counter UAS contract awarded to Ascent Vision Technologies
EMMA HELFRICH, ASSOCIATE EDITOR

BOZEMAN, Mont. Ascent Vision Technologies (AVT) was recently awarded a contract to deliver a full suite of counter drone vehicles to the U.S. Air Force. The total contract value exceeds $23 million and deliveries will begin later this year.

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Radar and the kill web
EMMA HELFRICH, ASSOCIATE EDITOR

This is a complex topic, broad in applications and deep in technical details. Radar can be studied from several different angles. Each of these approaches spill over into the next, creating a convoluted mess if you’re not careful. So, the safest way to eliminate the confusion in a short article like this is oversimplification. Therefore, we will look at what radar does in the kill web, and a little about how it works.

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WHITE PAPER
Key Considerations for Radar Test
NATIONAL INSTRUMENTS

Radar is a rapidly growing area for all vehicle platforms in aerospace and defense. The increasing complexity of design is influencing the test requirements for prototyping, characterizing, and validating new radar systems quickly to ensure their quality and reliability. Use the resources in this guide to help you address this challenge.

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