

Avnet Accelerates Wireless Design with New RFSoc Development Kit

Integrated kit harnesses the Xilinx Zynq UltraScale+ RFSoc and MATLAB to provide a seamless, easy-to-use platform for developing best-in-class wireless solutions

PHOENIX – September 4, 2019 -- Leading global technology solutions provider [Avnet](#) (Nasdaq: [AVT](#)) today announced the availability of the Avnet RFSoc Development Kit using the Zynq UltraScale+ from Xilinx, Inc., enabling system architects to explore the entire signal chain from antenna to digital. Using MATLAB® and Simulink® from MathWorks, and RF components from Qorvo, the kit enables users to quickly deploy systems for 5G wireless communication, including for aerospace and defense uses, by harnessing the integration of Xilinx Zynq UltraScale+ RFSocs for direct-RF sampling.

Designers can now accelerate the path to production by characterizing data converters before SoC software is developed and perform over-the-air testing in MATLAB with live RF signals. The platform was designed in collaboration with MathWorks to work with their [Free MATLAB Trial Package for Wireless Communications](#).

“Avnet has always aimed to bring development solutions to market for our customers that will enable them to capitalize on the most cutting-edge technology,” said Jim Beneke, vice president, products and emerging technologies, Avnet. “Working in collaboration with Xilinx, Qorvo, and MathWorks, the Avnet RFSoc Development Kit offers a seamless, easy-to-use platform to develop best-in-class wireless solutions with 5G capabilities. What used to take multiple chips now only takes one, which means you don’t have to be an RFSoc expert to take advantage of this revolutionary technology.”

Specifically, the kit extends the functionality of the Zynq UltraScale+ RFSoc ZCU111 Evaluation Kit by adding a Qorvo 2x2 Small Cell RF Front-end 1.8GHz Card for over-the-air transmission, plus a native connection to MATLAB and Simulink with Avnet’s RFSoc Explorer® application.

“The Zynq UltraScale+ RFSoc solves system-level challenges by integrating more of the RF signal chain, providing lower power, smaller footprint, and better performance than discrete solutions. Avnet’s kit continues that strategy by solving system-level challenges for prototype and deployment. Their addition of an LTE front-end card to the Xilinx ZCU111 allows designers to test our RF-class analog in real world scenarios. By providing a direct connection to MATLAB and Simulink, Avnet has made it even easier for engineers to develop applications for Zynq UltraScale+ RFSocs right out of the box,” said David Brubaker, Zynq UltraScale+ RFSoc Product Line Manager, Xilinx.

Qorvo, a leading supplier of RF solutions, provides next-generation 5G system architectures with the latest RF devices, enabling superior performance of Avnet’s RFSoc Development Kit. Adding technology from Samtec expands the kit’s capability to connect, prototype, and deploy high performance RFSoc solutions on a single platform.

“Working together with Avnet, Qorvo developed a 2x2 Small Cell RF Front-end Card allowing for fast prototyping of software-defined radio for small cell applications. With the ability to shift the analog signal processing into the digital domain, the Xilinx Zynq UltraScale+ RFSoc is an ideal match for Qorvo’s RF portfolio for wireless communications. Advanced features allow fast prototyping of software-defined radio for small cell applications,” said Roger Hall, general manager of Qorvo’s High Performance Solutions business.

Avnet will showcase the Xilinx Zynq UltraScale+ RFSoc Development Kit during the [Xilinx Developer Forum](#), Oct. 1-2, 2019, in San Jose, Calif. as a Diamond-level sponsor of the event.

Technical Specifications:

Zynq UltraScale+ RFSoc ZCU111 Evaluation Kit

- Rapid prototyping platform using the XCZU28DR-2EFFVG1517 device

- Supports 8x 4.096GSPS 12-bit ADCs, 8x 6.554GSPS 14-bit DACs, and 8 soft-decision forward error correction (SD-FECs)
- 4GB DDR4 memory for large sample buffer storage- On-board reference PLL (LMK04208) and RF PLLs (LMX2594) generate RF-ADC and RF-DAC sample clocks

Qorvo 2x2 Small Cell RF Front-end 1.8GHz Card

- Two channels, each with Tx, Rx, and DPD (Digital Pre Distortion) Observation path
- Features the new Qorvo QPA9903 0.5 Watt High-Efficiency Linearizable Power Amplifier
- Default tuning to LTE 1800 MHz FDD System
- Fast Rx Digital Step Attenuator and receiver protection circuit

Avnet RFSoc Explorer for MATLAB and Simulink

- Signal Capture & Analysis with MATLAB and Simulink
- Radio-in-the-loop co-simulation over gigabit Ethernet

The Avnet RFSoc Development Kit is available as of today for \$9495. More details about the kit can be found online at: www.avnet.com/rsocket.

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Media Contacts

Maureen O'Leary
 Director, Media Relations, Avnet
maureen.oleary@avnet.com
 480-643-7499

Jamie Ernst
 Brodeur Partners, for Avnet
jernst@brodeur.com
 480-308-0286