

Best Price/Performance/Watt Balance on FinFET

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Kintex UltraScale+ Product Advantage

Kintex® UltraScale+™ devices provide the best price/performance/watt balance in a FinFET node, delivering the most cost-effective solution for high-end capabilities including transceiver and memory interface line rates, as well as 100G connectivity cores. Our newest mid-range family is ideal for both packet processing and DSP-intensive functions, and is well suited for applications ranging from wireless MIMO technology to Nx100G networking and data center.

Applications

- 112 MHz Point-to-Point MWR Modem & Packet Processing
- 1 GHz eBand Modem & Packet Processing

Value	Deliverables
Programmable System Integration	<ul style="list-style-type: none"> • Up to 1.2M System Logic Cells • UltraRAM for on-chip memory integration • Integrated 100G Ethernet MAC with RS-FEC and 150G Interlaken cores
Increased System Performance	<ul style="list-style-type: none"> • 6.3 TeraMACs of DSP compute performance • Over 2X system-level performance per watt over Kintex-7 FPGAs • 16G and 28G backplane-capable transceivers • 2,666 Mb/s DDR4 in the mid-speed grade
BOM Cost Reduction	<ul style="list-style-type: none"> • 12.5 Gb/s transceivers in slowest speed grade • VCXO and fractional PLL integration reduces clocking component cost
Total Power Reduction	<ul style="list-style-type: none"> • Up to 60% lower power vs. 7 series FPGAs • Voltage scaling options for performance and power • Tighter logic cell packing reduces dynamic power
Accelerated Design Productivity	<ul style="list-style-type: none"> • Co-optimized with Vivado Design Suite for rapid design closure • SmartConnect technology for intelligent IP integration

All comparisons based upon 28nm Kintex-7 FPGAs

Kintex UltraScale+ Product Table

	XCKU3P	XCKU5P	XCKU9P	XCKU11P	XCKU13P	XCKU15P
COMPARE Reset	XCKU3P	XCKU5P	XCKU9P	XCKU11P	XCKU13P	XCKU15P
System Logic Cells (K)	356	475	600	653	747	
DSP Slices	1,368	1,824	2,520	2,928	3,528	
Memory (Mb)	26.2	34.9	32.1	43.6	57.7	
GTH 16.3 Gb/s Transceivers	0	0	28	32	28	
GTY 32.75 Gb/s Transceivers	16	16	0	20	0	
I/O Pins	304	304	304	512	304	

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Documentation

UltraScale Architecture and Product Overview

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UltraScale+ FPGA Product Selection Guide

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Kintex UltraScale+ FPGA Product Brief

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PCI Express for UltraScale Architecture-Based Devices






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Document Type	↑ Title	↑ Document Type	↑ Date
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Data Sheets (2) <input type="checkbox"/> Package Specifications (2) <input type="checkbox"/> User Guides (15) <input type="checkbox"/> Product Guides (8) <input type="checkbox"/> Application Notes (7) 	<p>DS890 - UltraScale Architecture and Product Data Sheet: Overview (ver3.3, 1345 KB) [PDF] (UPDATED)</p> <p>This overview outlines the features and product selection of the Xilinx® UltraScale™ devices.</p>	Data Sheets	03/12/2018

<ul style="list-style-type: none"> Customer Notices (1) White Papers (9) Product Briefs (1) Selection Guides (1) 	<p>DS922 - Kintex UltraScale+ FPGAs Data Sheet: DC and AC Switching Characteristics (ver1.10, 1509 KB) [PDF]</p> <p>Contains the Kintex® UltraScale+™ device specifications for DC and AC switching characteristics.</p>	Data Sheets	02/07/2018
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Developer Zone

For FPGA designers looking to shorten design time and ensure scalability and re-use, Xilinx provides a comprehensive suite of solutions ranging from C-based design abstractions to IP plug-and-play to address bottlenecks in hardware development, system-level integration, and implementation.

<p>Software Zone</p>  <p>Xilinx's software development environments and embedded platforms offer a comprehensive set of familiar and powerful tools, libraries and methodologies.</p>	<p>Hardware Zone</p>  <p>Xilinx All Programmable devices take conventional programmable logic to an era of integrated programmable systems to capitalize on the benefit of System Integration.</p>	<p>System Zone</p>  <p>Xilinx works closely with world class partners like The Mathworks™ and National Instruments™ to enable rapid system development with unrivaled levels of system performance.</p>
<p>Acceleration Zone</p>  <p>Xilinx UltraScale™ and UltraScale+ FPGAs are empowering hardware and application developers in many of the world's largest and most innovative cloud computing services.</p>	<p>reVISION Zone</p>  <p>Xilinx provides machine learning solutions including the development stacks and hardware platforms for deploying advanced and efficient neural networks, algorithms and applications.</p>	

Training and Support

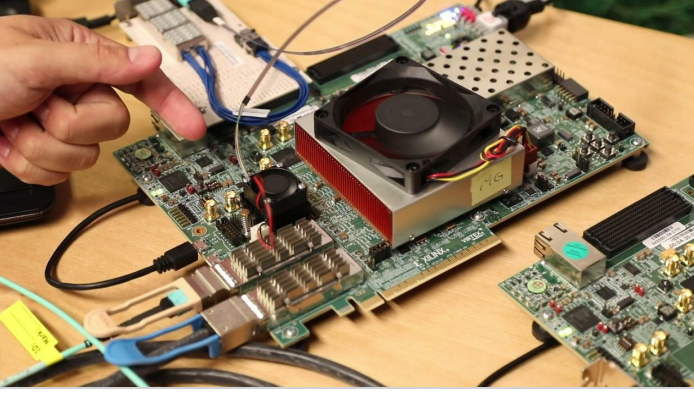
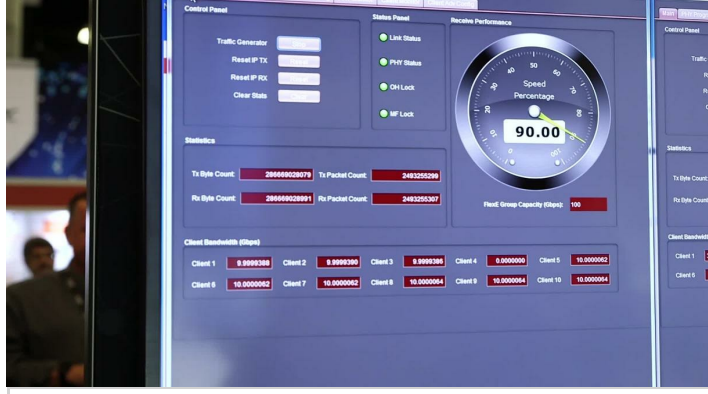
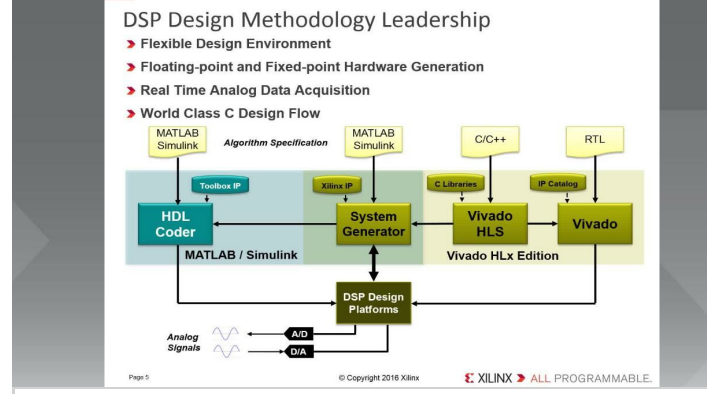
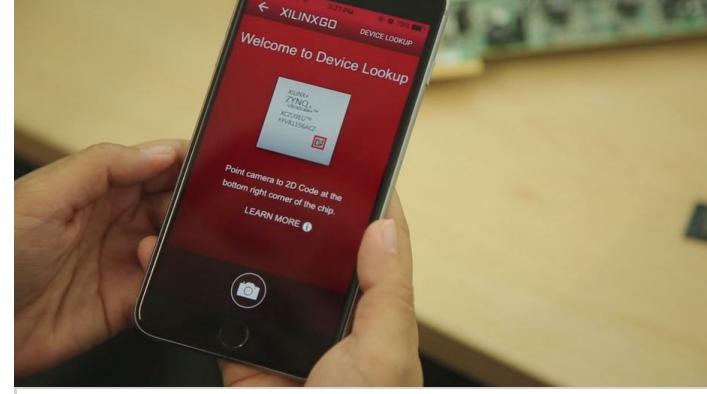
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- Vivado Design Suite Training Course
- Vivado Video Tutorials

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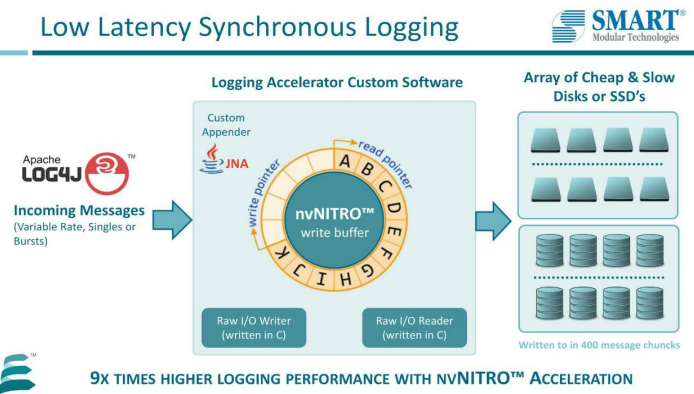





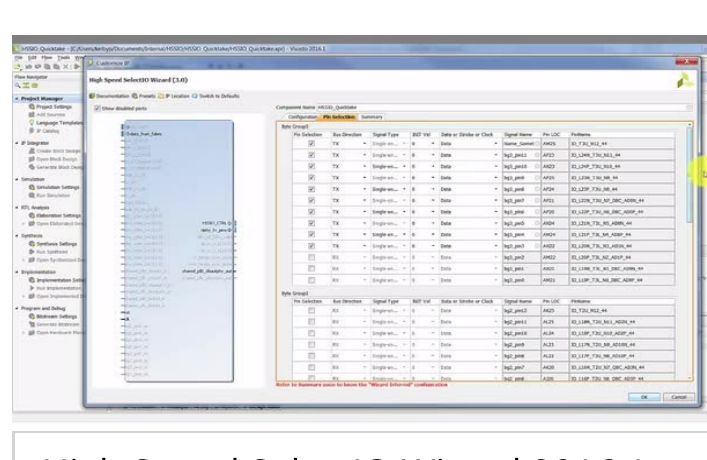
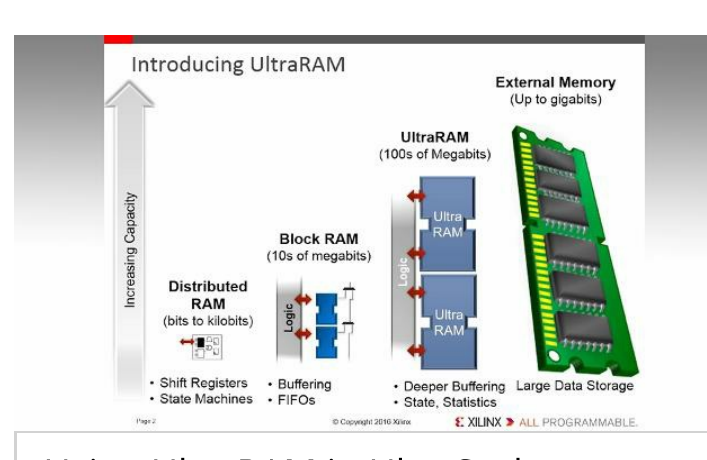
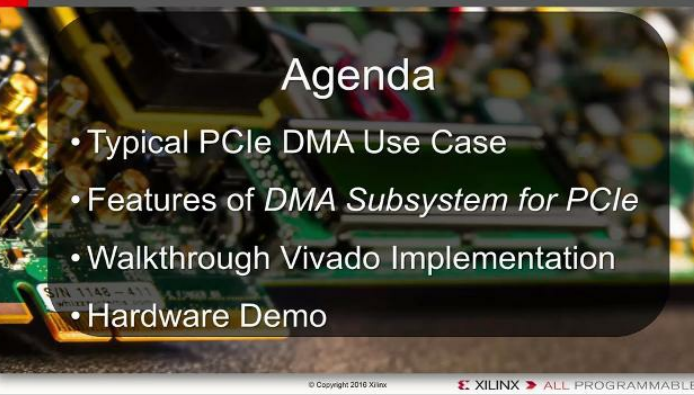
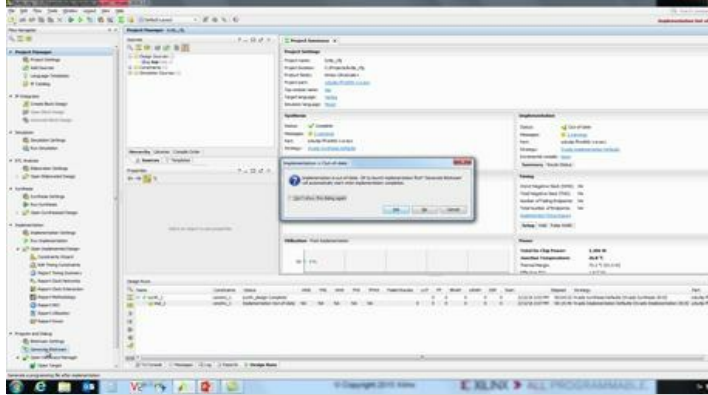
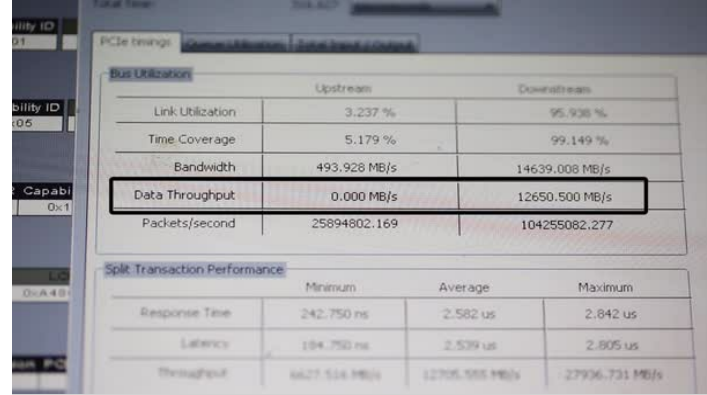
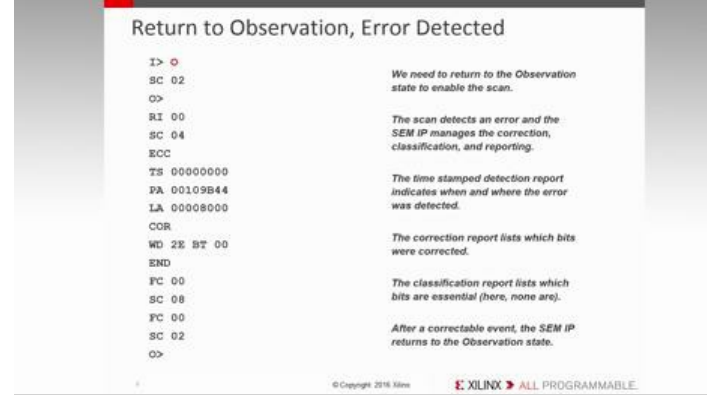
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- Partner Design Services

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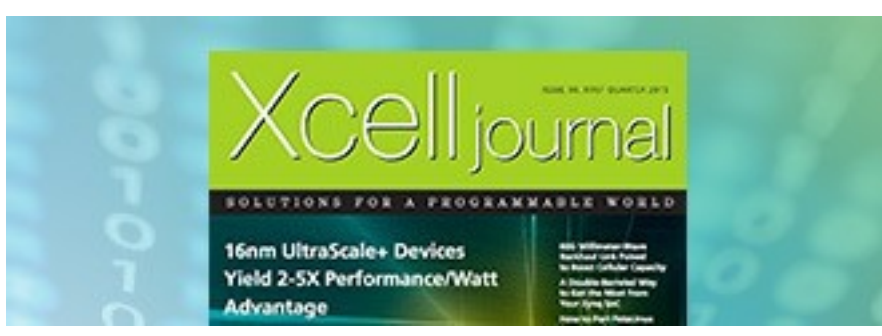
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