Broadcom Debuts Industry's First 5nm ASIC for Data Center and Cloud Infrastructure

November 30, 2020

5nm technology platform accelerates silicon innovation across artificial intelligence, high performance computing and 5G wireless infrastructure markets

SAN JOSE, Calif., Nov. 30, 2020 (GLOBE NEWSWIRE) -- Broadcom Inc. (NASDAQ: AVGO) today announced sampling of its 5nm ASIC device for data center and cloud infrastructure. Built on TSMC's N5 process and measuring 625 mm ^{2}, this device incorporates PCIe Gen5 protocol, 112-Gbps SerDes, HBM2e memory operating at 3.6 Gbps, and 3.6-Tbps Die2Die PHY IP utilizing TSMC CoWoS® interposer technology. In addition, Broadcom has multiple ASIC devices in development targeting artificial intelligence (AI), high performance computing (HPC) and 5G wireless infrastructure applications.

5nm Technology Portfolio Highlights

- High speed multi-protocol 112-Gbps, 64-Gbps and 32-Gbps SerDes cores
- HBM2e and HBM3 protocol solution
- High bandwidth Die2Die PHY for multi-die SoC and silicon disaggregation
- High performance and high-density standard cell libraries and memory compilers
- Advanced packaging solutions including multi-chip-modules and 2.5D stacking

Benefits of 5nm ASIC Platform vs. Previous Generation

- 2x increase in on-die computation for training and inference applications
- 2x to 4x increase in memory bandwidth with HBM2e and HBM3 PHY
- 2x higher bandwidth serial links with 112-Gbps SerDes
- Up to 30% reduction in power per given work function
- System size and cost reduction with advanced packaging solutions

"Broadcom's pioneering ASIC leverages both N5, the industry's most advanced silicon technology, and our high-performance CoWoS integration solution to address the demanding requirements of next-generation cloud and data center applications," said Dr. Kevin Zhang, senior vice president of business development at TSMC. "We're excited to see the new applications Broadcom's ASIC platform will enable, and look forward to continued partnership to empower end customers and their innovations."

"This first-to-market 5nm ASIC extends Broadcom's embedded SoC leadership and paves the way for new innovations across AI, HPC, 5G and hyperscale infrastructure applications," said Frank Ostojic, senior vice president and general manager of the ASIC Product Division at Broadcom. "Our innovative IP, proven design methodology and partnership with TSMC continue to provide leadership solutions with power, performance and time to market advantage for our customers."

About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom's category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to www.broadcom.com.

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