

December 8, 2020



Marvell and Analog Devices Announce 5G Massive MIMO Radio Unit Solutions

Combines Marvell's baseband solutions with Analog Devices' RF transceiver platform for cost-effective multi-antenna radio units

SANTA CLARA, Calif. and WILMINGTON, Mass., Dec. 8, 2020 /PRNewswire/ -- Marvell (Nasdaq: MRVL) and [Analog Devices, Inc.](#) (Nasdaq: ADI) today announced an advanced 4G/5G radio unit (RU) design that supports high antenna counts and multi-gigabit per second throughput for both integrated RAN and Open RAN deployments. Leveraging the companies' complementary radio silicon and RU software suite, the next-generation massive MIMO RU design that results from this collaboration will deliver power, weight and performance improvements inherent with ASIC solutions for both integrated RAN and Open RAN deployments.



As 5G deployments continue to ramp, network operators are increasingly seeking higher capacity RU systems to deliver the performance expected by their customers. The ADI-Marvell solution will enable a growing number of OEMs to bring competitive solutions to the market, enabling additional capacity for existing radio sites. With an ongoing shift toward Open RAN, the newly launched solutions will provide native support for O-RAN split 7.2x functionality.

"Our goal in joining with ADI in this effort was to provide a complete, open standards-based RU platform, one that leverages what each company does best," said Raj Singh, Executive Vice President and General Manager of Marvell's Processor Business Group. "We wanted to minimize the amount of silicon required to deliver massive MIMO RU solutions capable of supporting 32T32R performance, along with beamforming and DFE functions. ADI's transceiver solutions align perfectly with our RU and digital unit baseband offerings – it's exactly what the industry has been seeking in next generation RU designs."

"The demand for much higher capacity radio units is exploding," said Joe Barry, Vice President of the Wireless Communications Business Unit at ADI. "Together with Marvell, we are able to get ahead of the curve and help the industry transition to 32T32R – or even higher capacity – radio units. At the same time, by providing differentiated radio architectures and algorithms we are allowing the operators to effectively manage both their capital and operating expenses."

The 5G massive MIMO RU solutions will incorporate ADI's next-generation transceiver technology, including an advanced, programmable digital front-end. Marvell is providing its baseband silicon, which offers beamforming and a lower L1 software supporting O-RAN split 7.2. The solutions provide complete system-level hardware reference designs developed in collaboration with Benetel, a leading innovator in RU solutions. Initial prototypes are expected in latter half of 2021.

About Analog Devices

Analog Devices is a leading global high-performance analog technology company dedicated to solving the toughest engineering challenges. We enable our customers to interpret the world around us by intelligently bridging the physical and digital with unmatched technologies that sense, measure, power, connect and interpret.

Visit <http://www.analog.com>.

About Marvell

To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.

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Forward Looking Statements

This release may contain forward-looking statements intended to qualify for the safe harbor from liability established by the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, among other things, statements by Raj Singh and Joe Barry and other statements regarding the expected opportunities, utilization, benefits,

product and service offerings and developments associated with the collaboration between Analog Devices, Inc. and Marvell, as well as the expected timing for initial prototypes of the massive MIMO solution, that are based on current expectations, beliefs, assumptions, estimates, forecasts, and projections about the industry and markets in which the companies operate. The statements contained in this release are not guarantees of future performance, are inherently uncertain, involve certain risks, uncertainties, and assumptions that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed in such forward-looking statements, and such statements should not be relied upon as representing Analog Devices' or Marvell's expectations or beliefs as of any date subsequent to the date of this press release. Important factors that could cause actual results to differ materially from the results described, implied or projected in any forward-looking statements include difficulty or delay in our design, development, production and marketing of products, technologies and solutions, including those associated with the collaboration between Analog Devices and Marvell, the course, impacts and uncertainty of the COVID-19 global pandemic, and other risk factors described in the most recent filings of Analog Devices and Marvell with the Securities and Exchange Commission. Analog Devices and Marvell do not undertake any obligation to update forward-looking statements made by us.

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