NXP Brings GaN to 5G Multi-Chip Modules for Energy-Efficient Mobile Networks

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- GaN performance in NXP's multi-chip modules for 5G infrastructure increases efficiency by 8 percentage points
- Reduces size and weight of radios; accelerates the design and deployment of 5G systems
- NXP combines multiple technologies to drive optimal performance

EINDHOVEN, Netherlands, June 28, 2021 (GLOBE NEWSWIRE) -- NXP Semiconductors N.V. (NASDAQ: NXPI) today announced a major industry milestone for 5G energy efficiency with the integration of Gallium Nitride (GaN) technology to its multi-chip module platform. Building on the company's investment in its GaN fab in Arizona, the most advanced fab dedicated to RF power amplifiers in the United States, NXP is the first to announce RF solutions for 5G massive MIMO that combine the high efficiency of GaN with the compactness of multi-chip modules.

Reducing energy consumption is a major goal for telecom infrastructure, where every point of efficiency counts. The use of GaN in multi-chip modules increases lineup efficiency to 52% at 2.6 GHz—8 percentage points higher than the company's previous module generation. And NXP has further improved performance with a proprietary combination of LDMOS and GaN in a single device, delivering 400 MHz of instantaneous bandwidth that makes it possible to design wideband radios with a single power amplifier.

This energy efficiency and wideband performance are now available in the small footprint of NXP's 5G multi-chip modules. The new portfolio will enable RF developers to reduce the size and weight of radio units, helping mobile network operators lower the cost of deploying 5G on cellular towers and rooftops. In a single package, the modules integrate a multi-stage transmit chain, 50-ohm in/out matching networks and a Doherty combiner—and NXP is now adding bias control using its latest SiGe technology. This new step in integration removes the need for a separate analog control IC and provides tighter monitoring and optimization of power amplifier performance.

"NXP has developed a unique technology toolbox dedicated to 5G infrastructure that includes proprietary LDMOS, GaN and SiGe, as well as advanced packaging and RF design IP," said Paul Hart, executive vice president and general manager of the Radio Power Business Line at NXP. "This enables us to leverage the benefits of each element and combine them in the most optimal way for each use case."

Like the previous module generation, the new devices are pin-to-pin compatible. RF engineers can rapidly scale a single power amplifier design across multiple frequency bands and power levels, reducing design cycle time and accelerating the roll-out of 5G around the globe.

Availability
NXP's new 5G multi-chip modules will sample in Q3, with production starting later this year. The devices will be supported by NXP's new RapidRF series of RF front-end board designs that helps accelerate the design of 5G systems.

NXP's 5G Access Edge Portfolio
From antenna-to-processor, NXP offers a robust portfolio of technologies for accelerating 5G deployments that delivers best-of-class performance and security for infrastructure, industrial, and automotive applications. This includes the company's Airfast family of RF power solutions and its Layerscape family of multicore processors for wireless data links, fixed wireless access, and small cell devices. To learn more, visit nxp.com/5G.

About NXP Semiconductors
NXP Semiconductors N.V. (NASDAQ: NXPI) enables secure connections for a smarter world, advancing solutions that make lives easier, better, and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the automotive, industrial & IoT, mobile, and communication infrastructure markets. Built on more than 60 years of combined experience and expertise, the company has approximately 29,000 employees in more than 30 countries and posted revenue of $8.61 billion in 2020. Find out more at www.nxp.com.

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A photo accompanying this announcement is available at https://www.globenewswire.com/NewsRoom/AttachmentNg/c7c045ea-b759-482b-a8f0-06b0c6aa1b17

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