

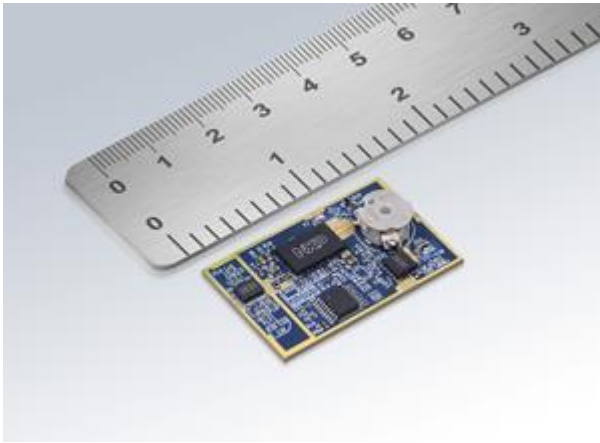


## NXP Front-End Solutions Change the Game for 5G

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### New Portfolio of RF Solutions Offers Industry's Highest Levels of Integration and Performance for Enabling Cost-effective massive MIMO Active Antenna Systems

PHILADELPHIA, June 12, 2018 (GLOBE NEWSWIRE) -- [IMS2018](#) —NXP Semiconductors N.V. (NASDAQ:NXPI) today announced the immediate availability of its new RF Front-End Solutions for 5G infrastructure enablement. [NXP's portfolio](#) addresses several of the thorniest issues -- power amplifier integration, shrinking board space, and true footprint and pin-compatibility between variants -- involved in creating the cellular infrastructure for massive multiple-input, multiple output (mMIMO) and, by extension, 5G.



New High efficiency power amplifier module from NXP Semiconductors with ruler for size reference.



NXP RF Front-end Solutions reference circuit boards with shield also

mMIMO is an essential foundation for 5G, as it answers the network's need for a radio frequency (RF) technology capable of handling the huge increase in data usage that 5G is expected to bring. mMIMO meets that challenge by enabling the transmission of far more data over a given frequency spectrum than any current, traditional radio technologies allow.

NXP's new Front-End Solutions for 5G, unveiled at this week's International Microwave Symposium (IMS2018), address the significant, critical challenge of creating cost-effective, high performance solutions in the smallest form factor to enable the next generation of active antenna systems (AAS) for cellular infrastructure. Or, to put it more simply: so that everything needed for mMIMO can fit into the smallest box possible.

NXP answers that challenge with a portfolio of highly integrated solutions that feature much smaller form-factors— making them easy and more cost-effective for customers to plug-and-play between all frequency bands and power levels. "These devices have been developed to enable our

customers to design their systems at the lowest cost possible," says Mario Bokatius, product line director for NXP's front-end solutions.

The NXP front-end solutions cover the frequency range most critical for early 5G cellular network development, from 2.3 GHz to 5 GHz.

NXP Front-End Solutions for 5G Enablement consist of three different functions critical to creating an RF front-end for mMIMO:

- **High efficiency power amplifier modules (PAMs)** that are fully matched to 50 Ohm at their inputs and outputs, and footprint and pin-compatible to cover a wide range of power levels and frequency bands with the same board design;
- **Pre-driver amplifier modules** with ultralow power consumption address the whole frequency range from 2.3 GHz to 5 GHz, and feature full footprint and pin-compatibility within the family of devices;
- **Receiver front-end modules** that feature integrated time division duplex (TDD) switching and low noise amplification (LNA) for signal reception.

"We offer the highest levels of integration without compromising high performance requirements – but this is just the beginning," says Bokatius.

"Moving forward, you can look to NXP for even more integration as we continue our commitment to providing the industry's smallest footprint and lowest cost solutions."

NXP leveraged its silicon LDMOS technology to enable the most favorable cost structure for its RF customers. LDMOS has undergone continuous innovation since its introduction decades ago. The ability of LDMOS to consistently deliver ever-increasing levels of high power, with high gain and efficiency, along with its remarkable ruggedness and low heat characteristics, has made it the dominant device technology in RF power amplifier applications from below 1 GHz to 3 GHz. NXP's LDMOS technology is now extending that leadership into the frequency range up to 5 GHz. LDMOS allows these solutions to deliver high performance, comparable to the performance of non-silicon RF power transistors but with greater reliability and at lower cost.

"Our leadership and deep wireless communication industry knowledge positions us well to be an instrumental partner to continue delivering 5G solutions for our customers," says Paul Hart, senior vice president and general manager of NXP's RF Power business.

#### **Availability**

The majority of NXP Front-end Solutions for 5G Enablement are available now, with more products coming to market soon. Contact NXP sales for purchasing information.

To learn more, visit NXP at IMS2018, booth #739 or at [www.nxp.com/RF](http://www.nxp.com/RF).

#### **About NXP Semiconductors**

NXP Semiconductors N.V. (NASDAQ:NXPI) enables secure connections and infrastructure 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 secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has over 30,000 employees in more than 30 countries and posted revenue of \$9.26 billion in 2017. Find out more at [www.nxp.com](http://www.nxp.com).

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