GLOBALFOUNDRIES Broadens SiGe Power Amplifier Portfolio, Enhancing RF Performance and Efficiency for Wireless Devices

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New PAx offerings enable customers to exploit optimized balance of performance, integration, and cost to meet the demands of evolving mobile standards

Santa Clara, Calif., March 15, 2016 – GLOBALFOUNDRIES today announced new advanced radio-frequency (RF) silicon solutions, further expanding the portfolio of Silicon Germanium (SiGe) power amplifier (PA) technologies designed to enable performance-optimized cellular and Wi-Fi solutions in increasingly sophisticated mobile devices and hardware.

GF's 5PAx and 1K5PAx, together called PAx, are the latest extensions to its broad family of SiGe-based PA technologies. The advanced offerings deliver optimized PA, LNA and switch technology with improved power efficiency, noise figure and insertion loss enabling more power efficient next-generation Wi-Fi and cellular solutions for faster data access and uninterrupted connections.

“Mobile suppliers are facing mounting pressure to expand network capacity as wireless data consumption continues to increase rapidly,” said Dr. Bami Bastani, senior vice president of GF RF business unit. “Our broad portfolio of high-performance SiGe power amplifier technologies provides a distinct design, performance and cost advantage that enables our mobility customers to deliver cost-effective solutions with faster data throughput, support wider coverage areas, and consume less power.”

Skyworks, a leader in high-performance analog semiconductor solutions, plans to use the technology to enhance both the power capability and efficiency for the next generation of mobile WLAN products and high-performance WLAN products, including access points, routers and IoT applications.

“The advances that are part of GF's SiGe PAx technologies enable RF front-end solutions for all levels of performance and complexity,” said Bill Vaillancourt, vice president and general manager of Mobile Connectivity at Skyworks Solutions. “With these advanced features and the ability to minimize form factor by implementing multiple RF functions on a chip, GF's latest PAx offerings enhance the capabilities of integrated semiconductor solutions that support customers' needs for high performance, cost effective technologies addressing portable wireless communication devices."

There are four technologies in GF's SiGe PA family, SiGe 5PAe, 1KW5PAe, and now 5PAx and 1K5PAx. All four offerings feature GF's proven through-silicon via technology and provide significant performance, integration functionality and cost advantages for customers who are currently using gallium arsenide (GaAs)-based alternatives. Today, there are more than three billion SiGe power amplifiers shipped worldwide using this family of technologies, and GF has recently invested in additional manufacturing capacity to address the anticipated growth in the mobile sector. The newest offerings, 5PAx and 1K5PAx, are optimized to meet the rigorous demands of evolving mobile standards like 802.11ac, which demands three times faster data throughput than the previous generation of standards.

For 5GHz applications, SiGe 5PAx, the follow-on to SiGe 5PAe, supports 2dB gain along with a 5 percent PAE and 0.2dB low noise amplifier (LNA) improvements relative to the previous generation. SiGe 1K5PAx, like its predecessor 1KW5PAe, is built on a high-resistivity substrate, and is tuned for integration and higher performance. It features RF switches with approximately 15 percent better Ron-Coff compared to 1KW5PAe, and like 1KW5PAe, enables designers to minimize form factor by implementing multiple functions, such as power amplifiers, RF switches and LNAs, on a single chip.

For more information on GF’s SiGe Technologies solutions, contact your GF sales representative or go to globalfoundries.com/SiGe.

About GF

GF is the world’s first full-service semiconductor foundry with a truly global footprint. Launched in March 2009, the company has quickly achieved scale as one of the largest foundries in the world, providing a unique combination of advanced technology and manufacturing to more than 250 customers. With operations in Singapore, Germany and the United States, GF is the only foundry that offers the flexibility and security of manufacturing centers spanning three continents. The company’s 300mm fabs and 200mm fabs provide the full range of process technologies from mainstream to the leading edge. This global manufacturing footprint is supported by major facilities for research, development and design enablement located near hubs of semiconductor activity in the United States, Europe and Asia. GF is owned by Mubadala Development Company. For more information, visit http://www.globalfoundries.com.

Contacts:

Erica McGill

GF
(518) 305-5978
erica.mcgill@globalfoundries.com