



## **MEDIA RELEASE**

### **NXP SEMICONDUCTORS AND A\*STAR INSTITUTE OF MICROELECTRONICS TO DEVELOP NEXT GENERATION 8” GaN-ON-Si POWER DEVICES**

**SINGAPORE, 24 May 2012 —**

A\*STAR Institute of Microelectronics (IME) and NXP Semiconductors (NASDAQ: NXPI), a world-leading semiconductor company, have entered into research collaboration to develop a 200mm gallium nitride-on-silicon (GaN-on-Si) process and technology for high voltage power devices to deliver highly efficient energy solutions in end applications such as computing and communications, aerospace and automotive applications.

The IME and NXP team will collaborate on the development of process technologies for the manufacturing of GaN devices on 200mm wafer, which is expected to bring about considerable reduction in manufacturing cost compared to using smaller size wafers. The work will be carried out in IME's state-of-the art 200mm engineering fab which offers the best-in-class GaN metal organic chemical vapour deposition (MOCVD) capabilities for the production of GaN wafers.

“This collaboration is a win-win partnership between IME and NXP to innovate a new generation of power devices,” commented Professor Dim-Lee Kwong. “IME's GaN-on-Si research programme can play a vital role in helping our partners achieve commercial success in GaN power electronics.”

“This collaboration is an important step in our strategy to address the need for dramatically improved efficiency in power conversion through innovative engineering solutions to meet the needs of our customers,” said Dr. Michael Bolt, Director NXP Research Asia Lab.

Gallium nitride is one of the most important semiconductor materials since silicon and has been used as the key material for next generation high frequency, high power transistors capable of operating at high temperatures. GaN-on-Si offers the key advantages of combining high operation voltage, high switching speed, low loss, and high integration level, on large diameter Si wafers. The CMOS-compatible device process that leverages the economics of scale and compatibility with high throughput and high capacity 200mm Si based wafer process technology offers significant opportunity for cost-efficient volume production.

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### **About Institute of Microelectronics (IME)**

The Institute of Microelectronics (IME) is a research institute of the Science and Engineering Research Council of the Agency for Science, Technology and Research (A\*STAR). Positioned to bridge the R&D between academia and industry, IME's mission is to add value to Singapore's semiconductor industry by developing strategic competencies, innovative technologies and intellectual property; enabling enterprises to be technologically competitive; and cultivating a technology talent pool to inject new knowledge to the industry. Its key research areas are in integrated circuits design, advanced packaging, bioelectronics and medical devices, MEMS, nanoelectronics, and photonics. For more information, visit IME on the Internet: <http://www.ime.a-star.edu.sg>.

### **About Agency for Science, Technology and Research (A\*STAR)**

The Agency for Science, Technology and Research (A\*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A\*STAR oversees 14 biomedical sciences, and physical sciences and engineering research institutes, and seven consortia & centre, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity. A\*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry. It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

### **About NXP Semiconductors**

NXP Semiconductors N.V. (NASDAQ: NXPI) provides High Performance Mixed Signal and Standard Product solutions that leverage its leading RF, Analog, Power Management, Interface, Security and Digital Processing expertise. These innovations are used in a wide range of automotive, identification, wireless infrastructure, lighting, industrial, mobile, consumer and computing applications. A global semiconductor company with operations in more than 25 countries, NXP posted revenue of \$4.4 billion in 2010. Additional information can be found by visiting [www.nxp.com](http://www.nxp.com).

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