

## **Sivers IMA demonstrates world class E-band SiGe PA and LNA in DOTSEVEN EU project**

Sivers IMA AB has participated in DOTSEVEN project supported by the European Union through the FP7 program. Within the framework of this project, Sivers IMA has contributed with an E-band mm-wave design on new Silicon Germanium (SiGe) technology. One of the new technologies developed in the project demonstrated an  $f_{max}$  of 700 GHz, which is 2 times higher than what is currently available. The project began in 2012 and was completed with great results in June 2016. A final review of the project was held in Munich in September 2016, thereby finishing the project.

Within this DOTSEVEN project Sivers IMA has developed a power amplifier (PA) and a low noise amplifier (LNA) for E-band point-to-point links in SiGe. The developed PA offers much higher output power compared to today's technologies. High output power is very important for E-band links to be able to offer as long distances as possible or a higher modulation schemes, which would provide higher link speed at the same distance. The PA and LNA are designed for E-band mm-wave point to point links, i.e. 71-76 and 81-86 GHz.

"This project demonstrates that Sivers IMA is in the forefront in the mm-wave technology on silicon germanium, which is an excellent technology to challenge more expensive technologies such as GaAs (Gallium Arsenide). GaAs has until today been the technology that has been dominant for high output power PAs for E-band. Using the new DOTSEVEN technology Sivers IMA will be able to develop high output power SiGe E-band products for point-to-point links, at a unique price performance level," says Anders Storm, CEO of Sivers IMA.

The LNA noise figure is 3-4 dB across the band 71-86 GHz, which is equivalent to an improvement of about 50% compared with today's SiGe technology. The PA has a PSAT output power of +25 dBm in the low E-band 71-76 GHz and the +23.5 dBm in the high E-band 81-86 GHz, which corresponds to 2-3 times higher output power compared with today's SiGe technology. The circuits are produced in the same factory that Sivers IMA use for its existing SiGe development and a new technology profiting from the DOTSEVEN achievements will be available for development in 2017 and we expect to use it in our products for serial production in the 2018.

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*Sivers IMA is a leading manufacturer of micro- and millimeter wave products for connecting and quantifying a networked world. Sivers IMA has a long history and is internationally renowned as a reliable supplier of high quality components used in telecommunications links, Radar sensors and test & measurement equipment. Headquarters is located north of Stockholm in Kista, Sweden. Learn more at [www.siversima.com](http://www.siversima.com)*

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