NXP Showcases High Performance RF Products for Higher Efficiency Base Stations

NXP Semiconductors introduces its latest high performance RF and mixed signal products for next-generation base stations. Featured products include NXP's new high-speed data converter portfolio – the world's first data converters supporting the JEDEC JESD204A serial interface – now available for volume shipment. The company will also demonstrate its broad portfolio of RF and IF amplifiers based on SiGe:C technology, including low-noise amplifiers (LNAs) and fixed and variable gain amplifiers, which enable a higher level of integration in wireless infrastructure TRx radio design. In addition, NXP will show its Gen7 LDMOS power transistors, as well as a comprehensive portfolio of Doherty power amplifiers including the industry's first three-way Doherty amplifier at 900 MHz, and a 600W single-package Doherty, a very compact device that maintains a high level of efficiency over a large power range. Featured products include: •High-speed data converters. NXP's new high-speed CGVTM ADCs and DACs are first in the industry to implement the JEDEC JESD204A serial interface, which dramatically reduces the number of interconnect signals between data converters and VLSI logic devices, and enables synchronous bonding of multiple data converter channels or lanes. The JEDEC JESD204A interface solves vexing system design challenges, increases system reliability, and reduces development time and bill of materials (BOM) costs. NXP's JESD204A interface CGV converters are interoperable with SERDES-based FPGAs from Altera, Lattice and Xilinx. NXP's ADCs offer excellent SFDR linearity performance of 85 dBc; 5 dB higher than typical high-speed data converters available today – at low power dissipation. The high input frequency range supported by NXP's ADCs – up to 16-bit with speeds up to 125 Msps – has led to industry recognition of a new product category: RF converters. State-of-the-art small signal RF components. NXP will showcase its extensive portfolio of small signal RF components including a breakthrough LNA product family based on SiGe:C process technology that addresses highly demanding wireless infrastructure requirements – less than 0.7dB of NF, 20dB gain and 33dBm IP3 – enabling higher levels of integration. Other highlights include NXP's fully RF-tested Si-based fixed and variable-gain high linearity amplifier portfolio for IF and RF frequency bands, which can achieve P1dB up to 33dBm, gain control range over 30dB analog, and digital SPI controlled and OIP3 ranges above 45 dBm. •Best-in-class RF power products. NXP will demonstrate its Gen7 LDMOS high power transistor portfolio, which excels in power and efficiency at 200W in a single-ended package, and 250W and 300W in a push-pull package. As with all LDMOS power transistors from NXP, the Gen7 LDMOS high power transistors deliver the ruggedness required for reliable base station operation. •In addition, NXP offers a comprehensive range of best-in-class Doherty power amplifiers covering the entire frequency range of wireless infrastructure – 400 to 3,500 MHz – the broadest in the industry. •With the industry's first three-way Doherty amplifier and the first single-package 600W Doherty PA based on NXP's 50V LDMOS process – both running at 900 MHz – NXP provides optimal choices for RF design engineers and enables very compact base stations. The 3-way Doherty circuit achieves 52.7dBm

peak power (44.1dBm average power) with very high efficiency of 49.2 percent. The 600W (57.8dbBm) single-package circuit achieves more than 43 percent efficiency at 49.2dBm output power across the band. Further, NXP will show its fully integrated Doherty amplifiers designed specifically for compact remote radio heads and antenna arrays – available only from NXP.