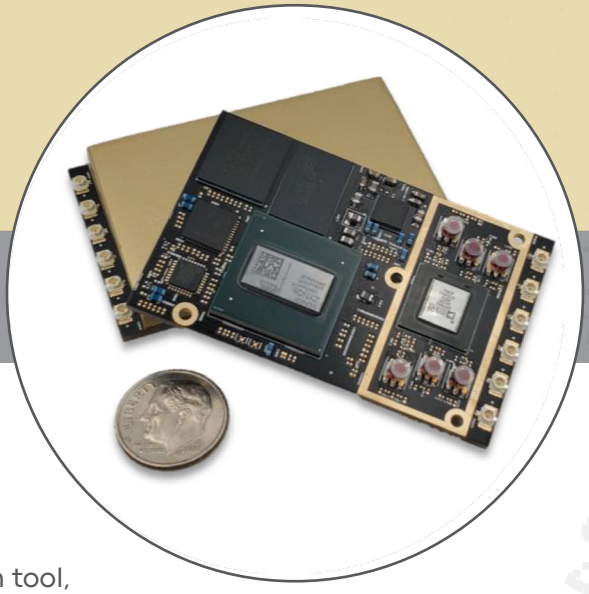
BytePipe x9002

System on Module (SOM)



The BytePipe x9002 SOM is a Software Defined Radio (SDR) System on Module (SOM) based on Analog Devices Inc's ADRV9002 Agile Transceiver™ with the Xilinx/AMD Zynq™ UltraScale+™ MPSoC. The SOM can be used as an evaluation tool, prototyping platform, or integrated into a full-scale product.

A 2x2 MIMO transceiver with integrated Digital Pre-Distortion (DPD) engine operates from 30MHz to 6000MHz and supports both narrowband and wideband channel bandwidths from 12.5KHz to 40MHz. The narrowband support makes it suitable for applications including Land Mobile Radio while supporting higher bandwidth applications like satellite communications, IoT, cellular, LTE, or Wi-Fi.

NextGen RF—through our design services lab—can also support customized versions optimized for application specific requirements.

HIGHLIGHTS

FEATURES

- Two Tx and two Rx ports, configurable between two independent LO's
- Operates from 30MHz to 6000MHz
- 12.5KHz to 40MHz radio signal bandwidth
- 150 dBc/Hz dynamic range
- FDD and TDD capable
- Supports narrowband or wideband up to 40MHz channel bandwidth
- Each transceiver subsystem includes DC offset correction, quadrature errorcorrection, and 128-tap Rx/Txprogrammable FIR filters
- Board support package (BSP) for Linux, RTOS, and Bare Metal OS
- Support for third party tools including MATLAB, Simulink, and GNU Radio
- Integrated Digital Pre-Distortion (DPD) (NB/WB)
- Fast frequency hopping

APPLICATIONS

- Mission Critical RF Communications
- Rapid Prototyping Platform
- Industrial IoT
- Product Integration
- ADRV9002 Evaluation Tool
- Land Mobile Radio / Narrowband
- Video Streaming
- MIMO
- UAS Command and Control
- Spectrum Monitoring

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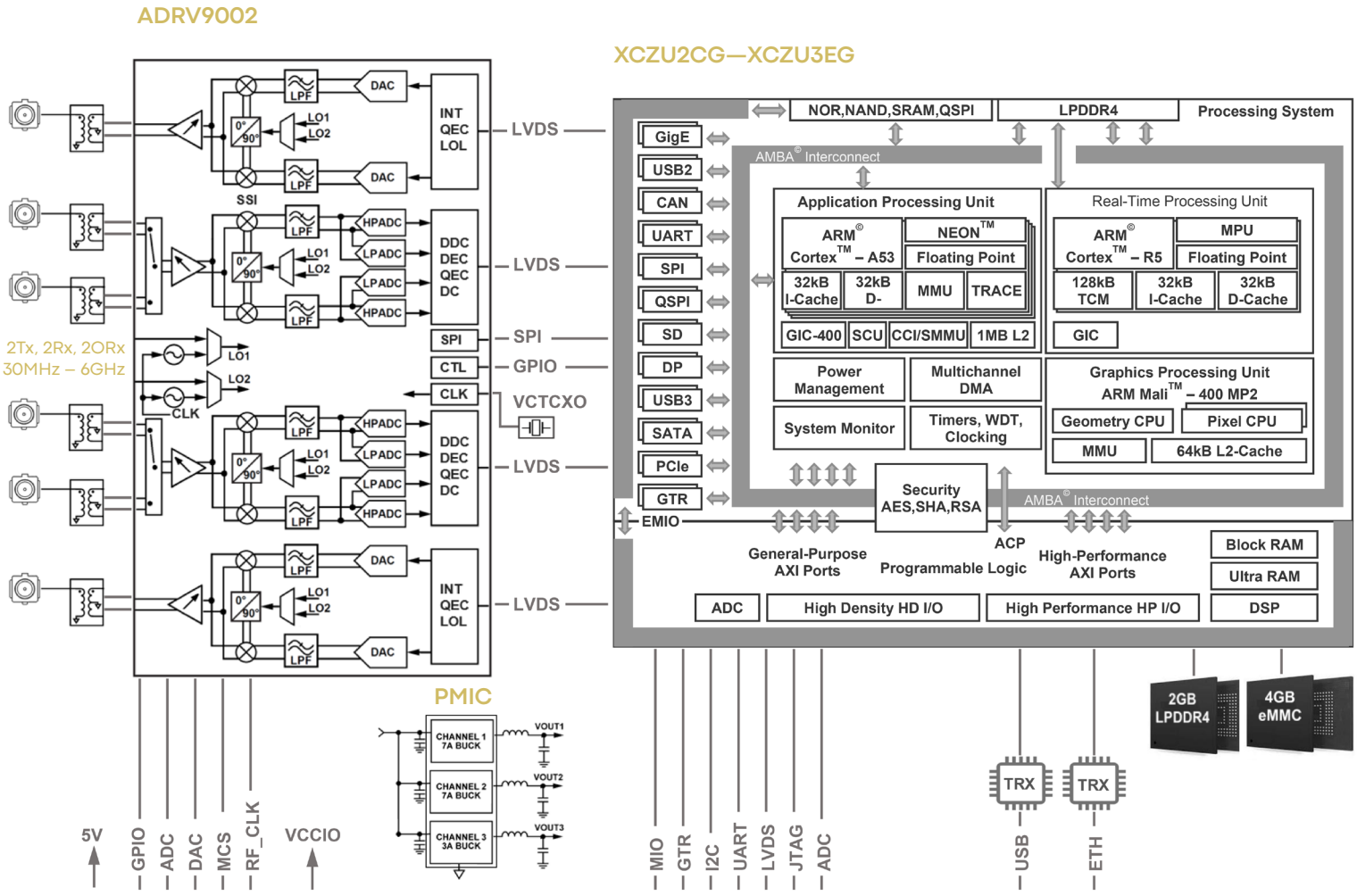
Hardware Block Diagram



Analog/Power Interconnect - J601

Digital Interconnect - J600

NextGen RF DESIGN

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