

# digiBackBoard

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## Generic Broadband SDR FPGA Platform



### Overview

The digiBackBoard is a universal platform for high-data rate communication systems based on a high-performance FPGA-ARM-SoC, GSps data converters and Gigabit Ethernet transceivers. It is especially suited for demonstration and evaluation of (mmWave) signal processing algorithms and for small-footprint prototypes. Nearly all kinds of analog frontend modules can be connected to the universal analog IQ signal interface. A MATLAB-based software framework supports a fast start with a hardware-in-the-loop setup.

### Applications

Software-Defined Radio (SDR), high-speed signal processing, ultra-high data rate communication systems, rapid prototyping

### Contact

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## Features

- High-performance Xilinx Zynq-7045 SoC (2x ARM + FPGA)
- Dual 2.16 GSps 10 bit ADC, dual 2.16 GSps 14 bit DAC
- Differential IQ-Interface for AFE connection
- Auxillary 180 MSps 8-bit ADC (for RSSI)
- 1 GB DDR3-RAM
- 4 Gigabit-Ethernet-Ports
- 76 digital GPIOs + 5 GTX transceivers externally available
- Serial (RS232) interface through USB
- JTAG interface with SoC software debug support
- Prepared for support of SyncE and IEEE 1588v2
- AFE output power supply with configurable voltage
- Single 12 V power supply
- Boot from Micro-SD card or on-board SPI-Flash
- Matlab framework, GUI and firmware example design for SDR application available
- Ready-for-Linux (e.g. Peta-Linux)
- 100 x 160 mm footprint

## Ordering Information

Prototypes available soon upon request

Optional adapter board with SMA connectors for AFE available

