

SDR RADIO FRONT-END

MIMO – 8 TRX

AT A GLANCE

- Flexible Software Defined Radio platform consisting of stacked digital interface card and radio frequency front-end
- 2, 4 or 8 transceivers
- 4 x 10Gbps Optical baseband interface. QSFP Connector
- 1 Gb Ethernet interface
- AMC form factor

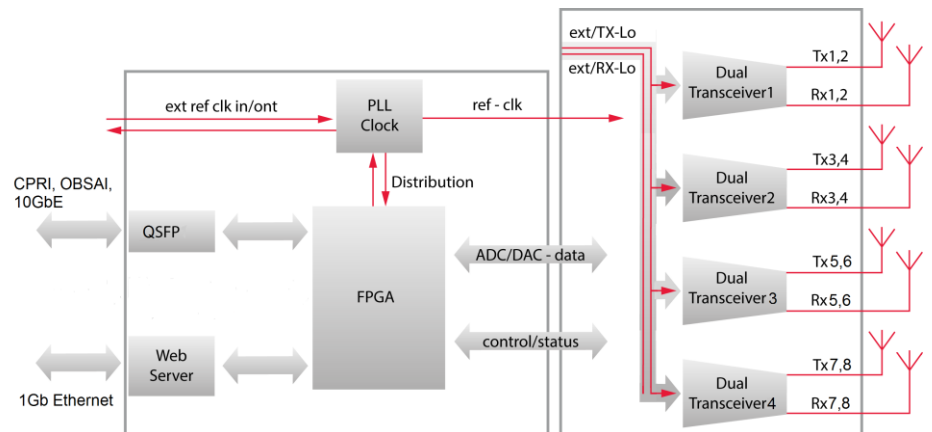


Features

- 2x2, 4x4 or 8x8 MIMO duplex operation
- Wide carrier frequency range from 70 MHz up to 6 GHz
- Supporting all LTE bands
- Different reference clock sources
- FDD and TDD operation
- Variable bandpass RF filter
- Supporting CPRI 4.1, OBSAI, 10GbE

Applications

- SDR platform supporting different communications standards with variable signal bandwidths, carrier frequencies and transmit power
- Multiband, MIMO and beam-forming operation using several radio units connected and synchronized via optical fiber
- 5G prototyping – arbitrary waveforms & Multi-MIMO



Block diagram of SDR transceivers

Specifications

- 2,4 or 8– antenna duplex operation with variable RF signal bandwidth
- Xilinx Zynq-7000 FPGA, Linux OS
- RX & TX LOs referenced on recovered optical interface CLK or external CLK reference. Fully synchronized RF- and BB oscillators
- Baseband optical data rate up to 4x 10 Gbit/s
- 1 GByte DDR3 SDRAM, 64MByte Flash
- Configurability via
 - optical C&M channel
 - usb or web interface
- Analog design with AD9361 RF Transceivers
 - Integrated ADCs / DACs
 - 70 MHz – 6 GHz carrier frequency
 - < 200 KHz .. 56 MHz analog bandwidth
 - Noise figure < 2.5dB
- Maximal output power (RMS, CW) of 0 dBm at 2.6 GHz
- External power amplifiers depending on carrier frequency
- External duplex components like SAW filters, diplexers and/or TDD switches available.

Heinrich Hertz Institute

One of the prime research and development focus of the Fraunhofer Heinrich Hertz Institute lies in the development of mobile and fixed broadband communication networks and multimedia systems.

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