



## HIGH PERFORMANCE SDR DESIGN BENCH SPECIFICATION

### Hardware

- SDR Transmitter
- SDR Receiver
- USB to JTAG programming cable - 2 Nos
- Patch Antenna - 2 Nos, Cables.

### Software

- VHDL files for ASK, FSK, QPSK, BPSK & QAM modulation.
- VHDL files for FSK demodulation.
- Bit files for QPSK demodulation.
- Software control interface for RF frequency and power selection.(VHDL Files).
- PC Interface for RS232 data communication. (OS -Windows only).
- SysGen for Matlab interface

### Add On Modules

- Audio codec.\*
- Video codec.\*

### Features

- FPGA + DSP based board.
- High speed Analog I/O Module (ADC & DAC)
- RF Transceiver with 2.4 Ghz to 2.5 GHz RF output
- Variable RF channel and power selection
- Zero IF down conversion
- Built in Multi output Power supply for FPGA, RF and Analog I/O Module.
- USB to JTAG cable for downloading the VHDL codes to the Virtex-4 board.
- PHY & MAC layer programmability.

## Technical Specifications for High Performance SDR Transmitter and Receiver

### Virtex-4 (Platform: LX) + TIDSP

- LX - High performance logic.
- TIDSP - TMS320C6414T.

### Analog Module

- 165 Msps, dual channel 12 bits DACs.
- Single ended 50 ohm inputs.
- 53 Msps, dual channel 12 bits ADCs.
- Transformer coupled 50 ohm outputs.

### RF Transceiver

- 2.4GHz to 2.5GHz.
- 802.11a/b/g PHY compatible.
- Integrated Transmit/Receive Switch.
- Complete RF to Baseband Transceiver
  - Direct up/down conversion
  - Monolithic low phase noise VCO
  - Integrated Baseband LPF
  - Integrated PLL with 3 wire serial interface
  - Digital bias control for power Amplifier
  - Transmit power control
  - Complete Baseband interface
- 75 dbm receiver sensitivity at 54 MBPS (802.11g).
- Single +2.7V to +3.6V power supply.

### Note:

The institution should provide Original Xilinx ISE foundation and Chipscope pro for compiling all VHDL library files and viewing all FPGA signals like ADC input.

\* Ask for Separate Quotation. Audio and video Codec with accessories are also available as Add-on for High Performance SDR.

Basic unit cost:

### Contact

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