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Virtex-4-SX35 Board (Rev. 1.0)

The Virtex-4-SX35 add-on-board is designed for use with the FPGA-Mainboard FFP-Basic and the A/D- and D/A-Converter-boards 1GSPS-ADC and 1GSPS-DAC respectively.

The Virtex-4-SX35-Board can also operate standalone.

The 1 GSPS DAC-board or the 1 GSPS ADC-board can be plugged on the top of the Virtex-4-SX35-board.

These “sandwich”-modules are designed for A/D-Conversion or D/A-Conversion with sample rates up to 1GHz. In this application the Virtex-4-SX 35-Board is used for pre- and post-processing of DAC and ADC data streams.

This datasheet describes the functions of the Virtex-4-SX35-Board.

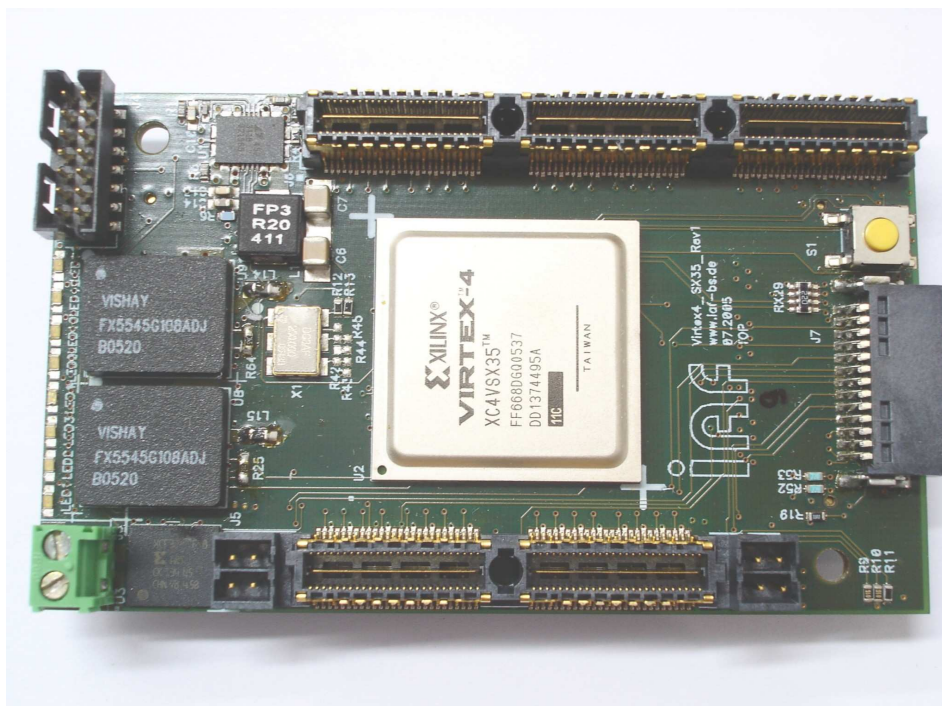


Figure 1: Virtex-4-SX35 Board

- External +5 V Power-Supply
- On-board Oscillator (200 MHz)
- PROM for boot-code
- JTAG-Connector for Virtex and PROM programming (JTAG-Chain)
- 4 free usable LEDs
- Level-Conversion LVTTTL - LVDS
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- Possible Applications:
 - 2:1 Data Multiplexing (250 MHz : 500 MHz)
 - 1:2 Data Multiplexing (500 MHz : 250 MHz)
 - Communication between FPGA-Mainboard and A/D- or D/A-Conversion-Module works with reduced clock (1/4 of the sample rate). The data is divided into four parallel 12 bit (D/A-Conversion) or 8 bit (A/D-Conversion) wide data streams.
 - FIR Oversamplingfilter: In this case either the data rate between FPGA-Mainboard and A/D-Conversion-Module or the number of parallel data busses can be bisected (only two of the four parallel data busses are used).
 - FIR-Decimationfilter: In this case either the data rate between FPGA-Mainboard and A/D-Conversion-Module or the number of parallel data busses can be bisected (only two of the four parallel data busses are used).

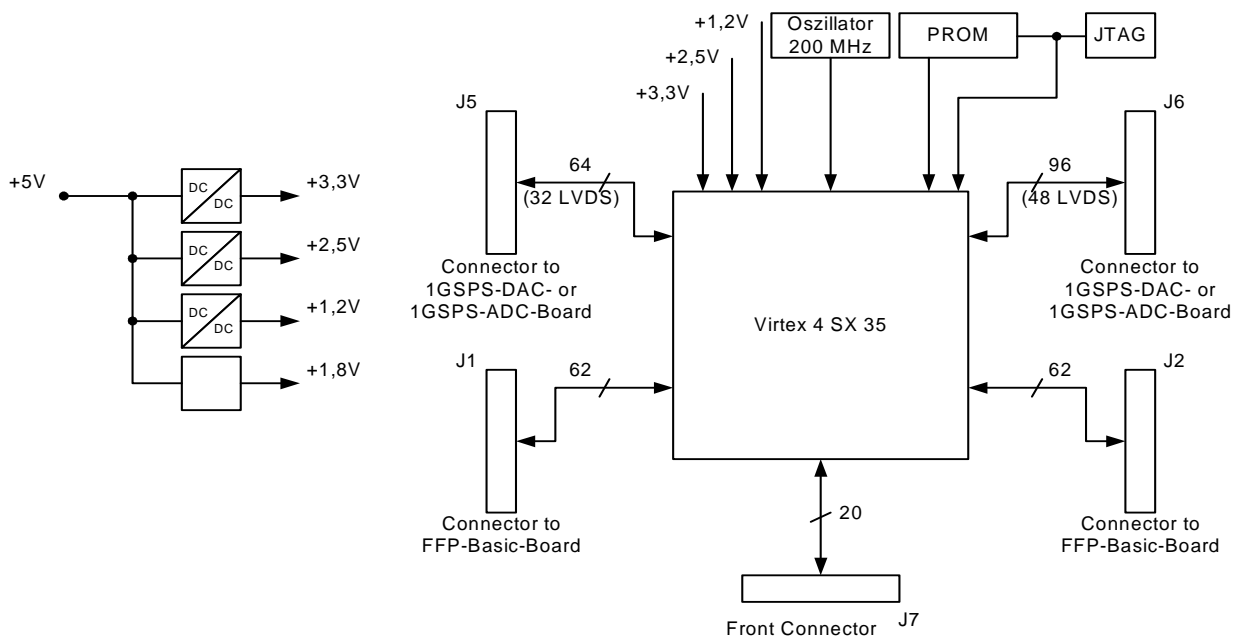


Figure 2: Block diagram of the Virtex-4-SX35-Board