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2GSPlus-ADC-Board (Rev. 1.0)

(Data Sheet Rev. 1.0 October 2009)

1. Overview

The 2GSPlus-ADC-Board is designed for A/D conversion from 1GSamples up to 3GSamples. The board includes four National Semiconductor A/D converter chips ADC08300 and a Xilinx CPLD chip XC2C512 for configuration and control of the connected analog RF circuits.

The complete clock generation and power supply is integrated on board (see Figure 2). The 2GSPlus-ADC-Board is designed to work with FPGA board **FFP Basic+**, but it also can operate standalone.

The Xilinx CPLD chip can either be configured directly via JTAG-Interface.

This data sheet describes the hardware and function of the 2GSPlus-ADC-Board.

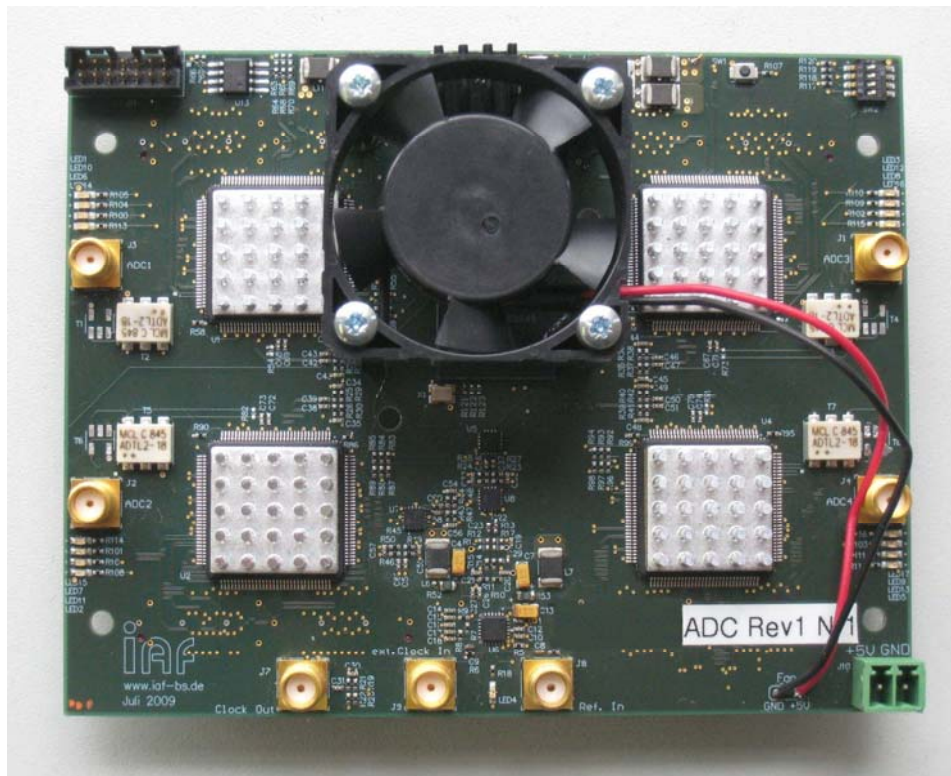


Figure 1. 2GSPlus-ADC-Board.

2GSPlus-ADC-Board Rev.1 Overview

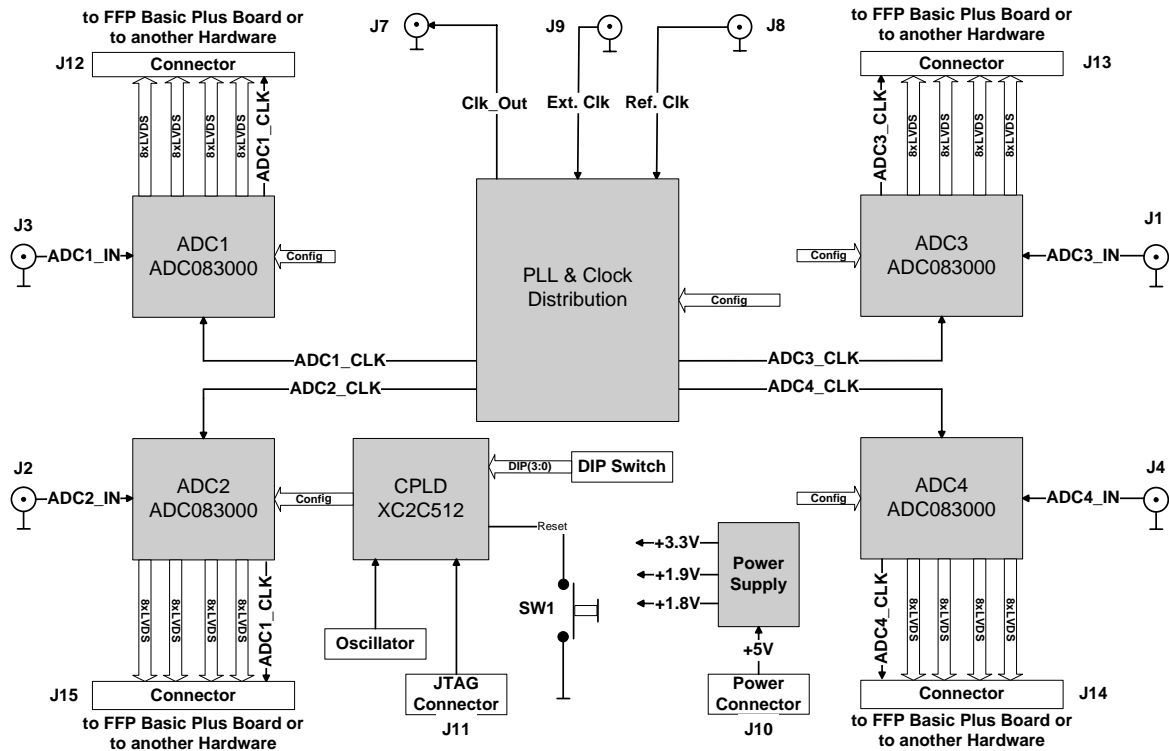


Figure 2: Overview

2. Power Section.

The 2GSPlus-ADC-Board includes the complete power generation on board and needs only +5V voltage input. The supply voltage is generated with linear voltage regulators (see Figure 2). The input voltage can be on two ways provided to board: from connector J10 or from power pins of connectors J12, J13, J14 and J15. The last case is recommended to use with FFP-Plus board.

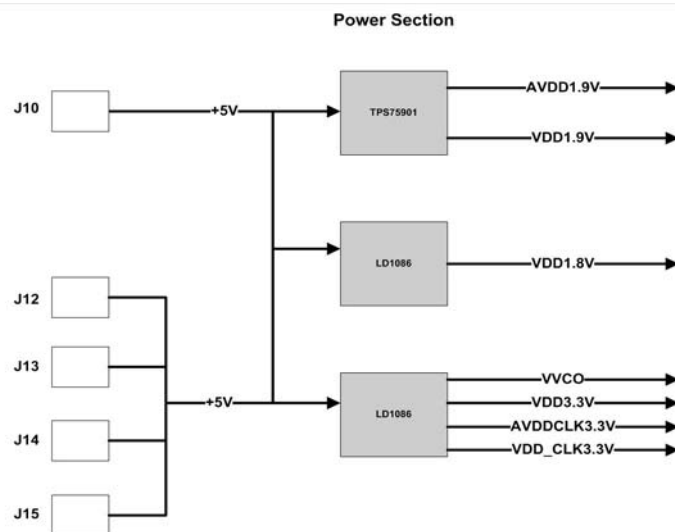


Figure 3: Power Section

3. PLL and clock distribution.

The board includes the complete clock generation and distribution. The PLL can generate clocks in range from 500MHz to 2.725GHz. The output frequency range depends on the onboard placed chip (see Table1 and ADF4360-x datasheet). The AD4360-x works with input reference clock from 10 to 250MHz. The LED4 indicated PLL is locked. The SY5802U works as clock distributor and SY8987 as clock divider for FPGA clock. The PLL is programmable from CPLD via SPI interface (see Table2).

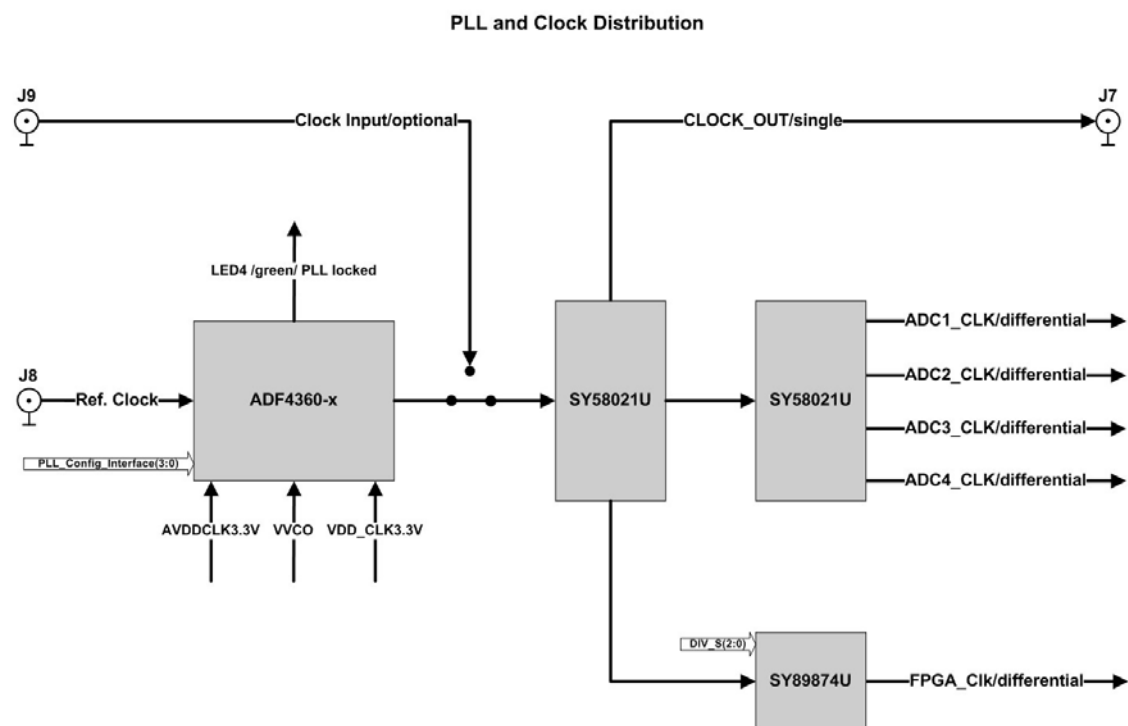


Figure 4: Clock generation and distribution.

Chip	Frequency range
ADF4360-0	2400-2725MHz
ADF4360-1	2050-2450MHz
ADF4360-2	1850-2150MHz
ADF4360-3	1600-1950MHz
ADF4360-4	1450-1750MHz
ADF4360-5	1200-1400MHz
ADF4360-6	1050-1250MHz

Table 1: Frequency range.

4. DC-Specification:

	Min	Typ	Max
Power Supply Voltage Range	+4,5 V	+5 V	+5,5 V
Power Supply Current		5.1A	

5. AC-Specification.

	Min	Typ	Max
Reference input frequency range	10 MHz	-	250MHz
Analog input range	-	-	870mVpp/50Ohm

6. Board Dimensions.

