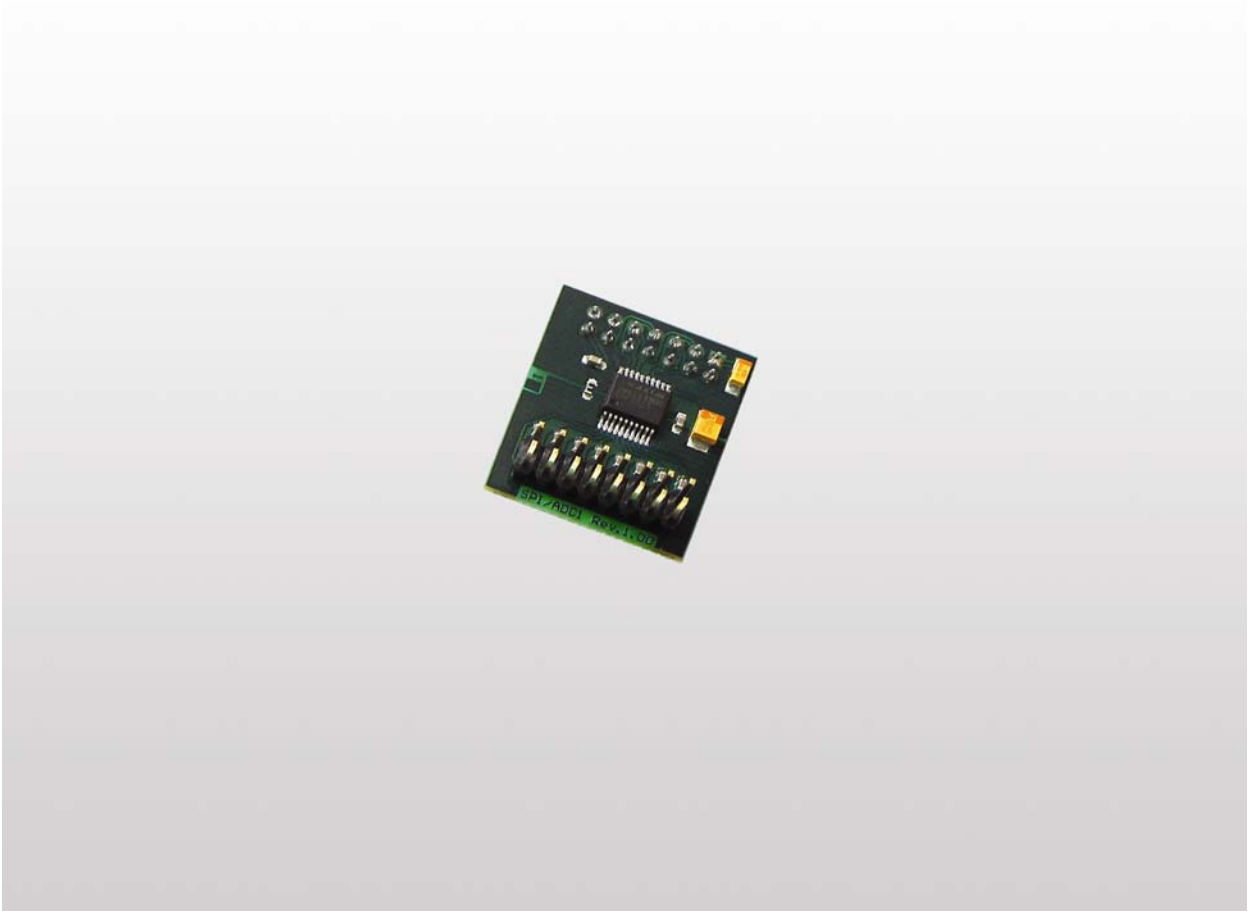
SPI/ADC1

Board Revision 1.0

Hardware Reference



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For further information regarding our products please visit us at www.dilnetpc.com

CONTENT

1 INTRODUCTION

This document describes the hardware components of the SPI/ADC1. For further information about the individual components of this product you may follow the links from our website at http://www.dilnetpc.com. Our website contains a lot of technical information, which will be updated in regular periods. Figure 1 shows the block diagram of the SPI/ADC1.

Figure 1: Block diagram of SPI/ADC1

The SPI/ADC1 is a 10-bit ADC module with 8-channel single-ended or 4-channel differential inputs in a ultra compact form factor (25 x 35 mm).

1.1 Features SPI/ADC1

- 8 channel single-ended or 4-channel differential inputs
- Software configurable for single-ended or differential mode
- 10-bit resolution
- Max. 133 ksps (K sample per second)
- 2.5 VDC reference voltage (ADC-internal)
- Analog input range in single-ended mode up to 2.5 V
- Analog input range in differential mode up to up to max. ±1.25 V
- One SPI connector with power supply pins
- One analog input connector
- Compact form factor (25 x 35 mm)

2 BOARD LAYOUT

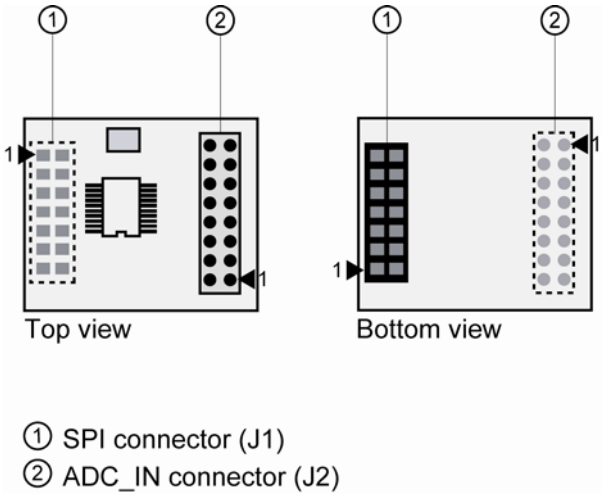

Figure 2: Board layout SPI/ADC1

3 INSTALLATION ON EVA BOARD

3.1 SPI/ADC1 on DNP/EVA6

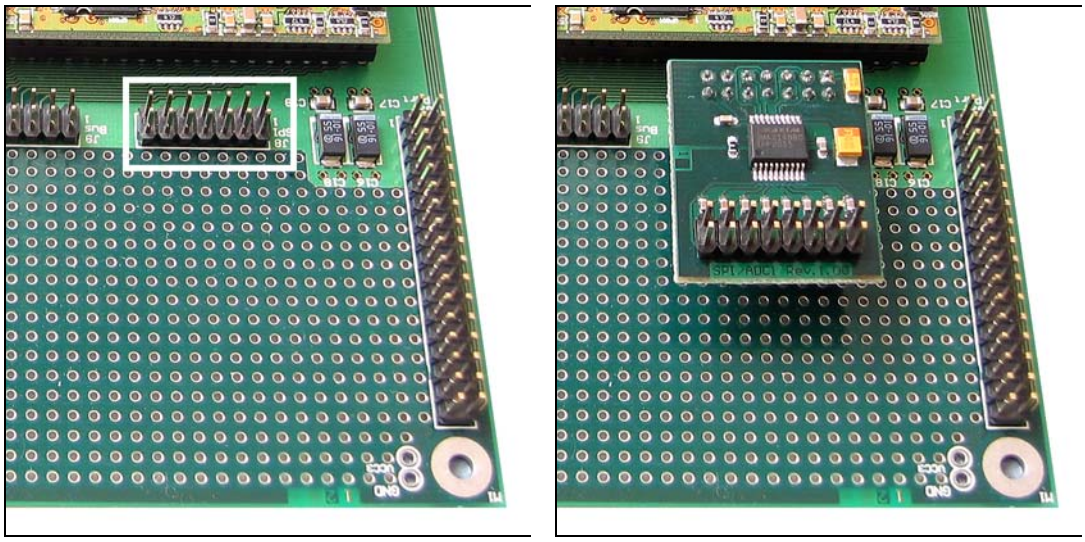

Figure 3: Position of the SPI/ADC1 on the DNP/EVA6

3.2 SPI/ADC1 on DNP/EVA9

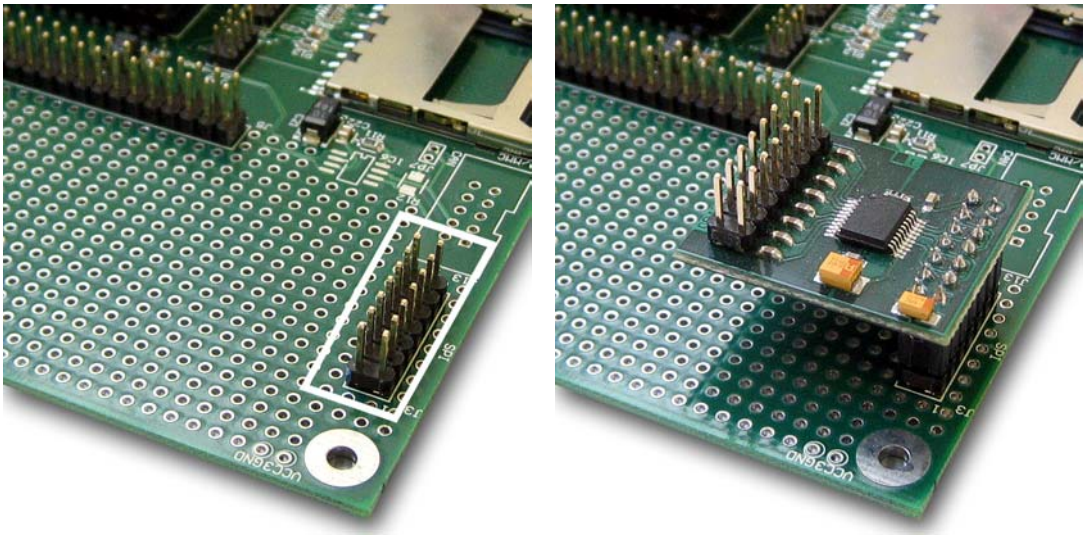

Figure 4: Position of the SPI/ADC1 on the DNP/EVA9

4 PINOUTS

4.1 SPI Connector – J1

Pin	Name	Direction	Function
1	Vcc3	---	3.3 V Power Input
2	GND	---	Ground
3	MOSI	Input	Master Out Slave In (Port C0)
4	GND	---	Ground
5	MISO	Output	Master In Slave Out (Port C1)
6	GND	---	Ground
7	SCK	Input	Serial Clock (Port C2)
8	GND	---	Ground
9	SSEL	Input	Slave Select (Port C3)
10	GND	---	Ground
11	Not connected	---	---
12	GND	---	Ground
13	Not connected	---	---
14	Vcc3	---	3.3 V Power Input

Table 1: Pinout SPI Connector

4.2 ADC_IN Connector – J2

Pin	Name	Function
1	ADC_CH0	Analog Input Channel 0*
2	GND	Ground
3	ADC_CH1	Analog Input Channel 1*
4	GND	Ground
5	ADC_CH2	Analog Input Channel 2*
6	GND	Ground
7	ADC_CH3	Analog Input Channel 3*
8	GND	Ground
9	ADC_CH4	Analog Input Channel 4*
10	GND	Ground
11	ADC_CH5	Analog Input Channel 5*
12	GND	Ground
13	ADC_CH6	Analog Input Channel 6*
14	GND	Ground
15	ADC_CH7	Analog Input Channel 7*
16	GND	Ground

Table 2: Pinout ADC_IN Connector

*** Please Note:** All analog inputs can be used for unipolar voltages (ADC mode = UNI) up to max. 2.5 V or bipolar voltages (ADC mode = BIP) up to max. ±1.25 V.

5 TEST ENVIRONMENT

To test the SPI/ADC1 please connect pin 1 (ADC_CH0) with a trimmer and pin 2 (GND) to earth.

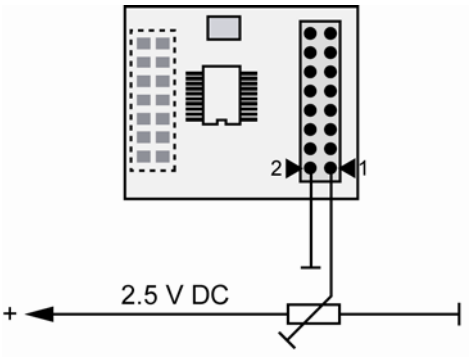

Figure 5: Test environment for SPI/ADC1

6 MECHANICAL DIMENSIONS

All length dimensions have a tolerance of 0.5 mm.

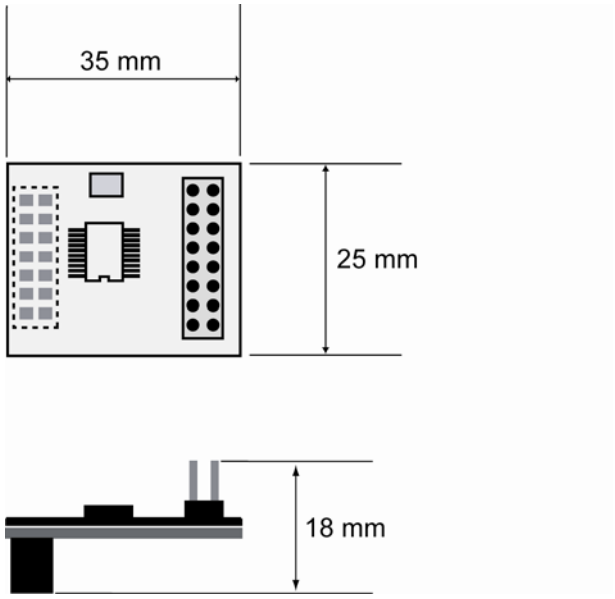

Figure 6: Mechanical dimensions of SPI/ADC1

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DOCUMENT HISTORY

Revision	Date	Remarks	Name
1.0	2005-12-21	first version	WBU
1.1	2006-01-03	features and block diagram	KDW
1.2	2006-01-23	chapter 3 added	WBU

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