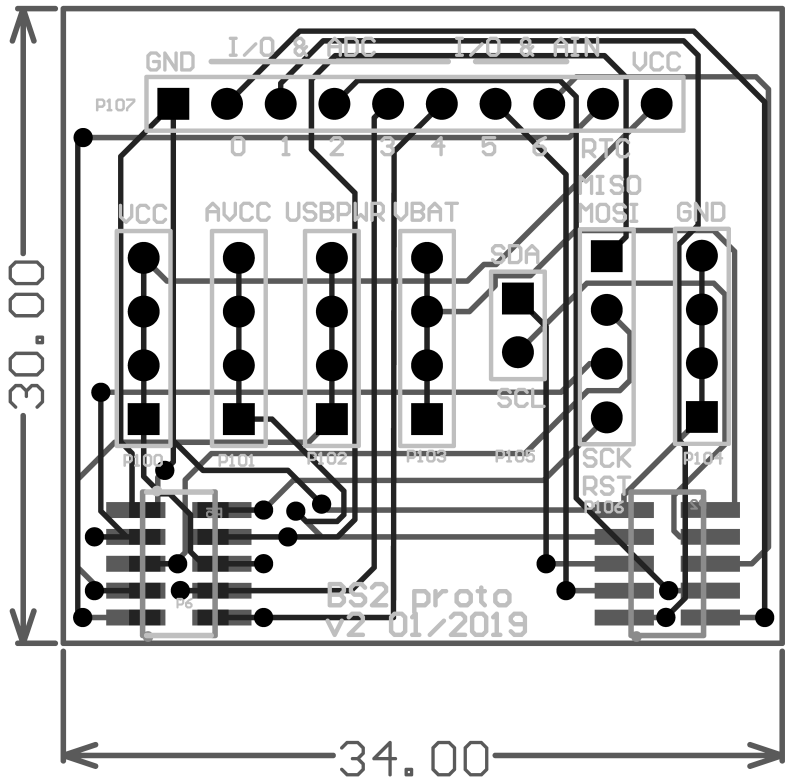
BlueSense: Prototyping extension

1. Extension

The BS2 extension board brings out the most important signals for prototyping add-ons to BlueSense.



Note that the extension board is generic: the actual signals available on the extension board differ between the BlueSense hardware versions.

2. Signals available for BlueSense 7

Signal name on extension	Signal name on AVR microcontroller or BlueSense base board	Comments
VCC	VCC	3V power supply, available when BlueSense turned on
AVCC	AVCC	3V filtered power supply for analog circuits, available when BlueSense turned on
USBPWR	USBPWR	5V from USB connector
VBAT	Not available in v7	Leave unconnected
GND	GND	Power supply ground
SDA	PC1/S_SDA	Data line of the I2C interface
SCL	PC0/S_SCL	Clock line of the I2C interface

MISO	PB6/ATMISO	SPI Master In Serial Out. Used for BlueSense programming and SD card interface.
MOSI	PB5/ATMOSI	SPI Master Out Serial In. Used for BlueSense programming and SD card interface.
SCK	PB7/ATSCK	SPI clock. Used for BlueSense programming and SD card interface.
RST	ATRESET	CPU reset, active low.
0	PA0/X_ADC0	Configurable I/O pin: digtal I/O or ADC analog input. Pin PA0 of the microcontroller.
1	PA1/X_ADC1	Configurable I/O pin: digtal I/O or ADC analog input. Pin PA1 of the microcontroller.
2	PA2/X_ADC2	Configurable I/O pin: digtal I/O or ADC analog input. Pin PA2 of the microcontroller.
3	PA3/X_ADC3	Configurable I/O pin: digtal I/O or ADC analog input. Pin PA3 of the microcontroller.
4	PA7/X_ADC7	Configurable I/O pin: digtal I/O or ADC analog input. Pin PA7 of the microcontroller.
5	PB2/X_AIN0	Configurable I/O pin: digtal I/O or Analog comparator input. Pin PB2 of the microcontroller.
6	PB3/X_AIN1	Configurable I/O pin: digtal I/O or Analog comparator input. Pin PB3 of the microcontroller.
RTC	RTC_INT	Open-drain RTC interrupt pin oscillating at 1Hz, pulled-up to VBAT. Also can be used to turn on BlueSense by pulling to ground.

For most common digital I/O applications or analog input applications the signals 0, 1, 2, 3 would be used.