10Pin XPRO Adapter

Atmel MCU Wireless

Features

- Enables Atmel Legacy platforms to use newer ZigBit® Extensions.
- Supports RF-only ZigBits, SoC ZigBits and RF Extensions.
- On board current measurement header.
- Minimal jumper configuration.
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1. Introduction

1.1 Summary
ATXPRO-10PIN is a 10- to 20-pin adaptor that facilitates to connect new 20-pin Zigbits extensions and RF extensions to legacy 10-pin headers on SAM-EKs, STK®600, Xplained kits. The 10-pin header on legacy kits refers to the RF header where RZ600 fits. The supported 20-pin extensions includes RF only ZigBit extension, SoC ZigBit extension and REB233-XPRO.

1.2 Supported Kits Containing 10 Pin Headers
1. SAM4E-EK  4. SAM4L-EK  7. XMEGA® A3BU Xplained  10. SAM4S-XPLD
2. SAM3X-EK  5. SAM4S-EK2  8. XMEGA B1 Xplained  11. Mega1284P Xplained

2. Specifications

2.1 Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>20-pin Connector (J3)</th>
<th>10-pin Connector (J1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ID_DATA</td>
<td>RST</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>MISC IO</td>
</tr>
<tr>
<td>3</td>
<td>ADC(+)</td>
<td>IRQ</td>
</tr>
<tr>
<td>4</td>
<td>ADC(-)</td>
<td>SLP_TR</td>
</tr>
<tr>
<td>5</td>
<td>GPIO</td>
<td>SEL/SPI_CS</td>
</tr>
<tr>
<td>6</td>
<td>GPIO</td>
<td>MOSI</td>
</tr>
<tr>
<td>7</td>
<td>PWM(+)</td>
<td>MISO</td>
</tr>
<tr>
<td>8</td>
<td>PWM(-)</td>
<td>SCLK/SPCK</td>
</tr>
<tr>
<td>9</td>
<td>IRQ/GPIO</td>
<td>GND</td>
</tr>
<tr>
<td>10</td>
<td>SPI_SS_B/GPIO</td>
<td>VCC</td>
</tr>
<tr>
<td>11</td>
<td>TWI_SDA</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>TWI_SCL</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>UART_RX</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>UART_TX</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>SPI_SS_A</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>SPI_MOSI</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>SPI_MISO</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>SPI_SCK</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>GND</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>VCC_TARGET</td>
<td></td>
</tr>
</tbody>
</table>

Note: Refer datasheets of the selected evaluation board or XPRO extension for details on the signal names mentioned in above tables.
2.2 Jumper Settings

For REB233-XPRO and RF only Zigbits, jumper settings for J4 and J2 are as shown in Figure 2-1.

Figure 2-1. ATXPRO-10PIN for REB233-XPRO and RF only ZigBits

For SoC Zigbits, jumper settings for J4 and J2 are as shown in Figure 2-2.
2.3 Current Measurement

Header J5 is the current measurement header which enables user to measure current consumed by the extension modules. When ‘J5’ is not used for current measurement, the jumper should be placed on it.

2.4 Schematics

The schematic of the 10-pin to 20-pin Adaptor is shown below.
Supported Zigbits
1. RF212B RF-only Zigbits
2. RF233 RF-only Zigbits
3. mega256RFR2 SoC Zigbits (Optional - only listed kits will be supported)

Note:
- For some of these kits pin3 and pin4 of 10-pin Connector has UART interface connected.
- for those kits SoC Zigbits can be directly interfaced.
  1. Xmega A3BU Xplained
  2. Xmega B1 Xplained
  3. Xmega A1 Xplained
  4. SAM4S-XPLD
  5. Mega1284P Xplained
  6. STK600 (mapping)

Note:
- As this is an adapto doesn't require Rubber Feet

Note:
- 1. ID_DATA has no connection to 10-pin Connector
- 2. ADC+/NC/DIG1, ADC-/NC/DIG2, TWI_SDA, TWI_SCL, UART_RX and UART_TX have no connection to 10-pin connector, except UART_RX and UART_TX were used for some kits
- 3. CSD has Pull down on RF-only Zigbits.

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- 1. ID_DATA has no connection to 10-pin Connector
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3. Revision History

<table>
<thead>
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<th>Doc. Rev.</th>
<th>Date</th>
<th>Comments</th>
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<td>42207A</td>
<td>10/2013</td>
<td>Initial document release</td>
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