



SPZB260ADP

Adapter board

Features

- Adapter boards for the series of the SPZB260-PRO ZigBee® modules
- Single supply from 2.1 to 3.6 V
- Integrated two 6-pin connectors for use with the breakout board included in the EM260 development kits
- Integrated 10 pin InSight™ port connector for access to SIF and packet trace signals
- Access to SIF signals
- Integrated LEDs for link activity indication

Description

SPZB260ADP, SPZB260CADP, SPZB260PAADP, SPZB260PACADP is an adapter board for a simplified use of the series of SPZB260-PRO ZigBee modules.

It provides an easy way to interface an SPZB260-PRO module with the breakout boards included in the EM260 development kit of Ember. It contains two 6 pins connectors that simplify the access to the SPI, SIF signals and voltage supply provided by the ZigBee module. In addition a 10 pin connector allows the connectivity of the SIF and PFI signals with the InSight™ desktop also integrated in the Development kit of the EM260 chipset.

A LED indicator is also integrated for visualization of the radio activity of the module. As the adapter board is a passive interface of the integrated ZigBee module, for the electrical characteristics, please refer to the corresponding datasheet available at www.st.com.

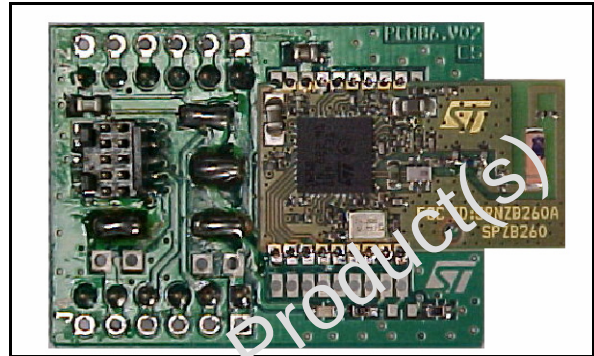


Table 1. Device summary

Order codes	ZigBee module
SPZB260ADP	SPZB260-PRO
SPZB260CADP	SPZB260C-PRO
SPZB260PAADP	SPZB260PA-PRO
SPZB260PACADP	SPZB260PAC-PRO

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1 Recommended operating conditions

Table 2. Recommended operating conditions

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VDD	Board supply voltage	- 40 °C < T < +85 °C	2.1	3	3.6	V
T _{STG}	Operating ambient temperature		- 40		+ 85	°C

2 Connections

2.1 J1 connector

J1 is the 10-pin, dual-row, 0.05-inch pitch InSight™ connector provided for programming and debug interface of the SPZB260 module. It contains the four SIF signals (SIF_MOSI, SIF_MISO, SIF_LOADB, SIF_CLK), two packet trace signals (PTI_EN and PTI_DATA), voltage and ground connections.

Through the InSight™ port cable, it connects directly to the InSight™ Adapter, which allows programming and debug access within InSight™ desktop.

The part used on the adapter is from Samtec (MFG P/N: FTSH-105-01-F-DV-K); it is keyed to guarantee the right connection with the InSight™ port cable.

Figure 1. InSight™ port pin out (J1)

V _{DD}	1	2	SIF_MISO
GND	3	4	SIF_MOSI
GND	5	6	SIF_CLK
SIF_LOADB	7	8	RSTB
PTI_EN	9	10	PTI_DATA

Figure 2. J1 connector

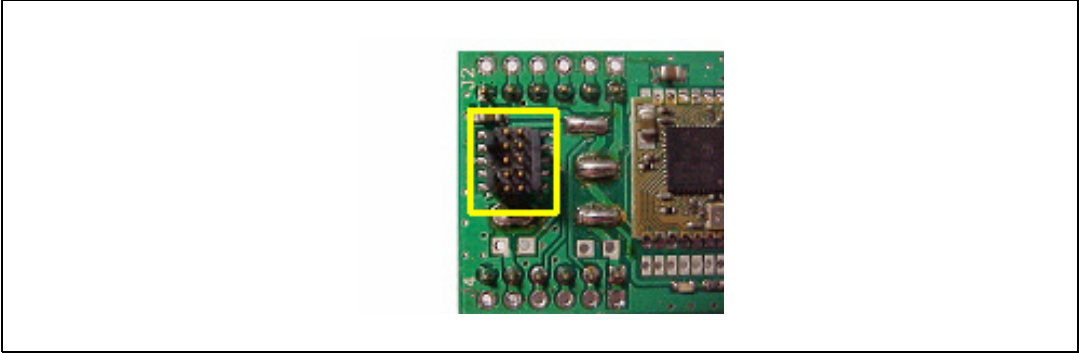


Table 3. InSight™ port pins (J1)

Pin number	Signal name	Direction	Description
1	Vdd	Power	2.1 to 3.6 V supply voltage
2	SIF_MISO	Output	Serial interface, master in / slave out
3	GND	Power	Ground connection
4	SIF_MOSI	Input	Serial interface, master out/ slave in
5	GND	Power	Ground connection
6	SIF_CLK	Input	Serial interface, clock signal
7	SIF_LOADB	I/O	Serial interface, load strobe
8	RSTB	Input	Active low reset
9	PTI_EN	Output	Packet trace frame signal
10	PTI_DATA	Output	Packet trace data signal

2.2 J2 and J4 connectors

Two 6 pin, single -row, 0.1-inch (2.54 mm) pitch connector on the bottom side of the adapter allows access to the SPZB260US module by means a synchronous (SPI) or asynchronous (UART) serial line.

This connector attaches directly to the breakout board and provides a robust and stable interface to the host microcontroller.

J2 and J4 are 2.54 mm pitch header (i.e Molex: 22-28-4063).

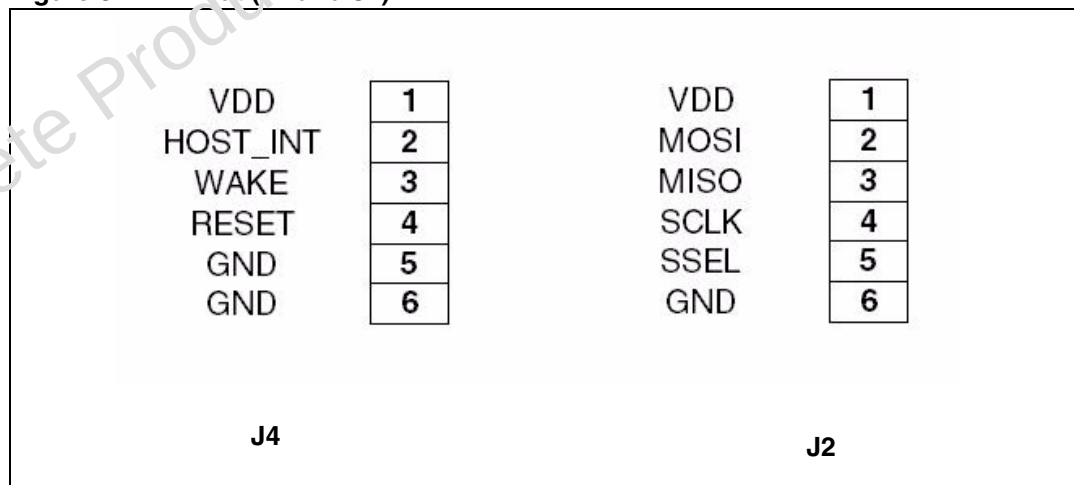
Figure 3. Pin out (J2 and J4)

Figure 4. J2 and J4 connector

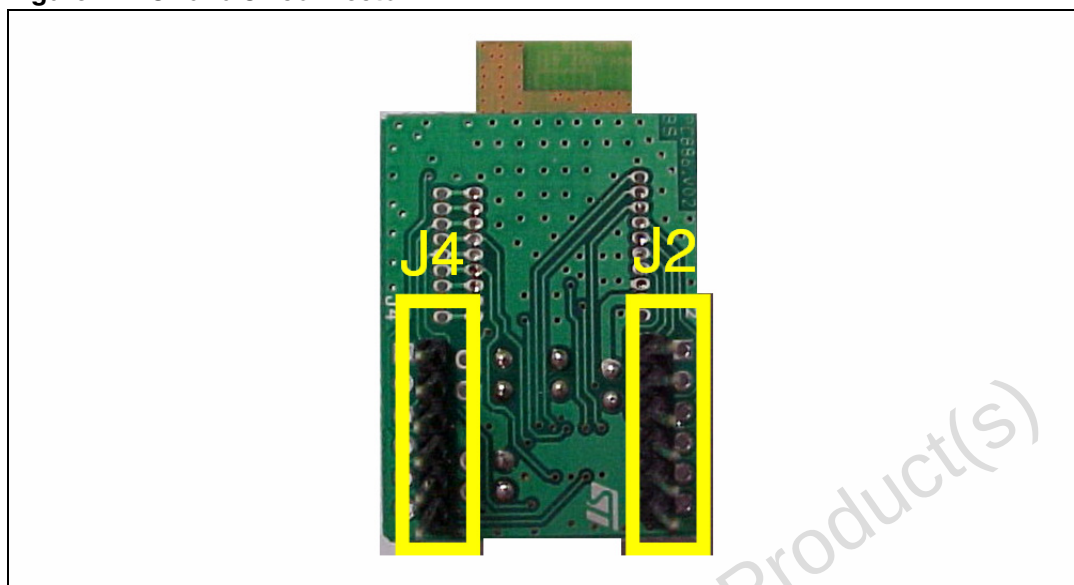


Table 4. J2 pins

Pin number	Signal name	Direction	Description
1	VDD	Power	2.1 to 3.6 V supply voltage
2	MOSI	Input	SPI data, master out/ slave in (from Host to SPZB260)
3	MISO	Output	SPI data, master in / slave out (from SPZB260 to Host)
4	SLCK	Input	SPI clock (Host to SPZB260)
5	SSEL	Input	Active low SPI slave select (Host to SPZB260)
6	GND	Power	Ground connection

Table 5. J4 pins

Pin number	Signal name	Direction	Description
1	VDD	Power	2.1 to 3.6 V supply voltage
2	HOST_INT	Output	Host interrupt (from SPZB260 to Host)
3	WAKE	Input	Wake interrupt (from Host to SPZB260)
4	RSTB	I/O	Active low chip reset
5	GND	Power	Ground connection
6	GND	Power	Ground connection

3 Device description

3.1 LED indicator

A LED indicator, L1, is provided on the adapter; this LED is connected to the SPZB260 module (pin 16) which make available the Activity signal giving a visual indication of the behavior of the module.

3.2 Jumpers

Six jumpers are provided on the adapter:

- JP1 - between pin 1 of J2 connector and SPZB260 power supply pin
- JP2 - between pin 1 of J4 connector and SPZB260 power supply pin
- JP3 - between pin 1 of J1 connector ("10 pin InSight™ connector") and SPZB260 power supply pin

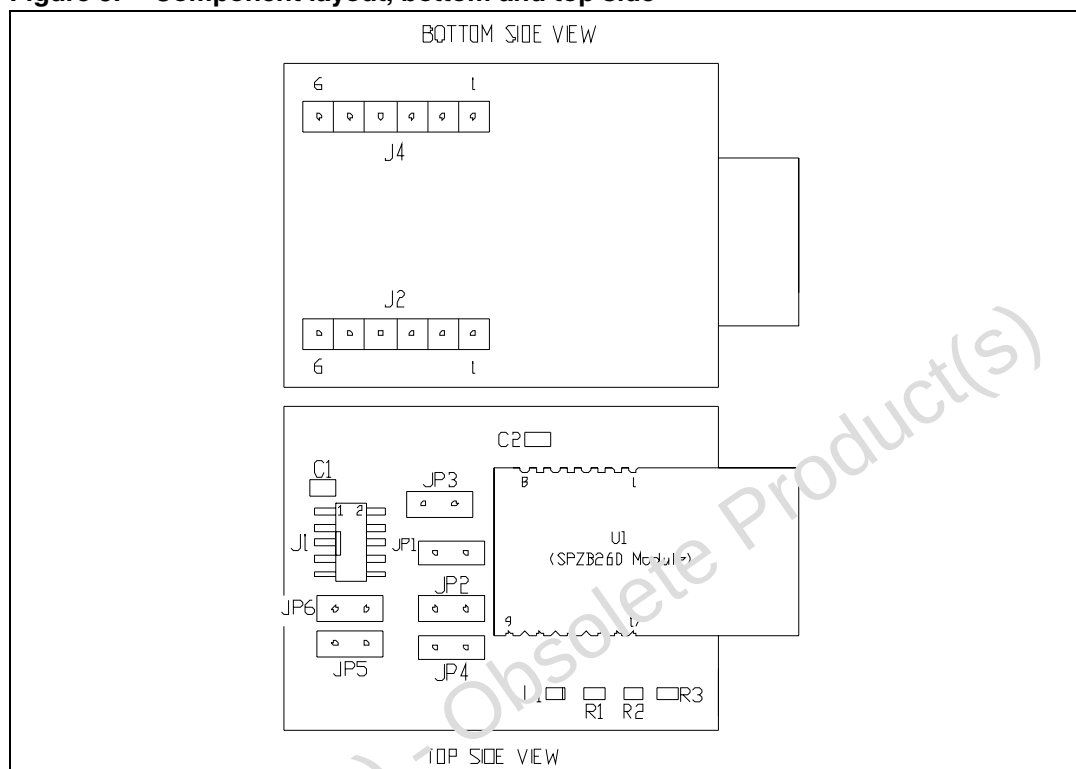
These jumpers can be used to separate the voltage supply source and to measure the current consumption; in normal operation they should be closed.

3.3 Configuration jumpers

- Module SPZB260
 - JP4 JP5: open
 - JP6: closed

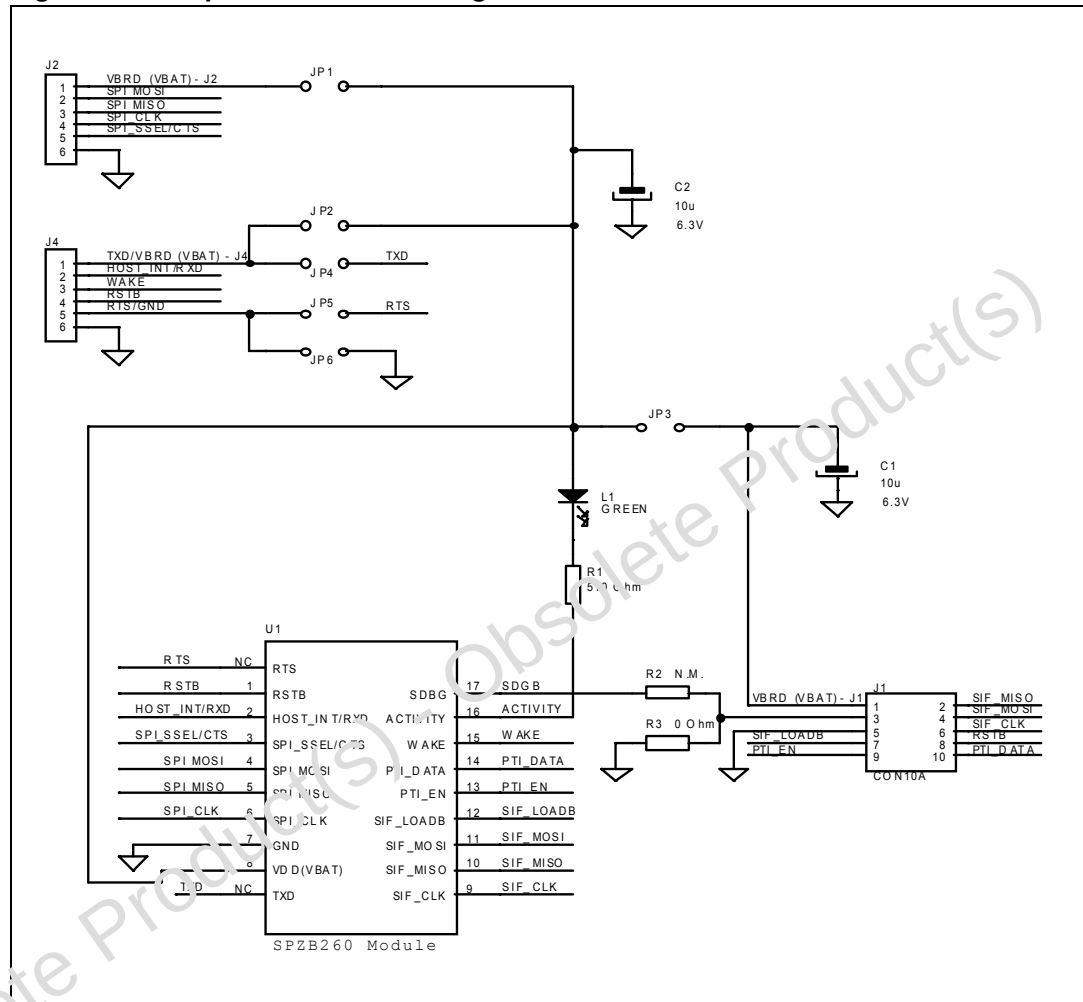
3.4 Adapter layout

Figure 5. Component layout, bottom and top side



4 Electrical drawing

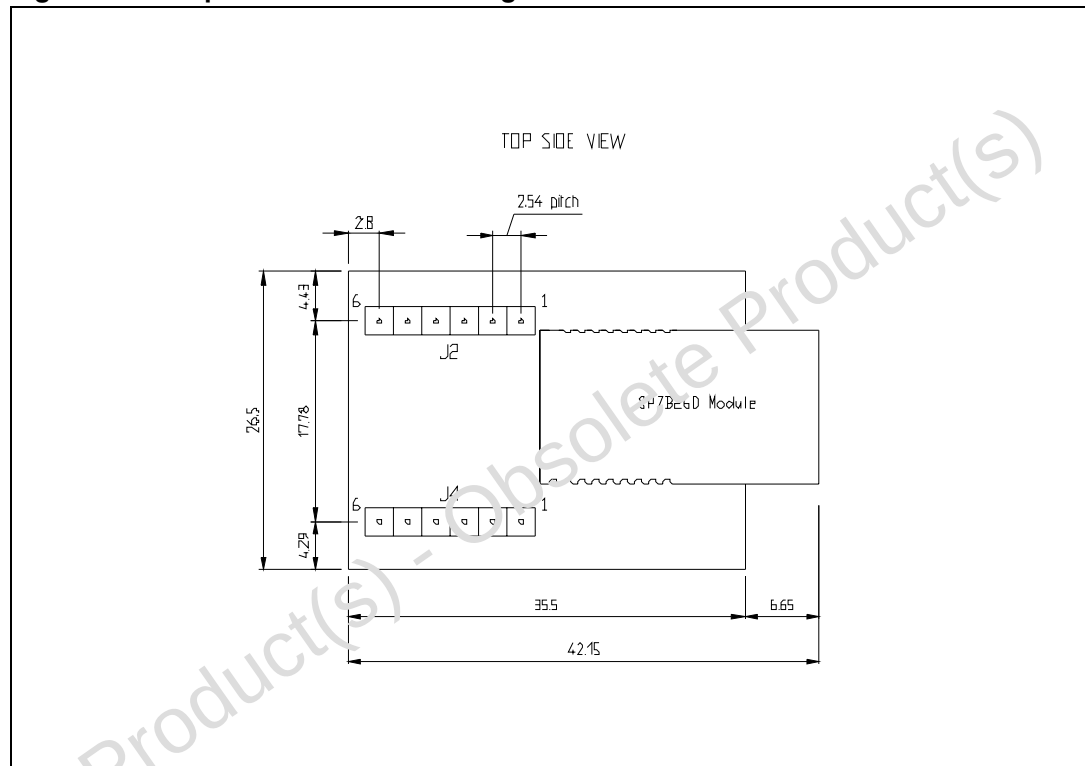
Figure 6. Adapter electrical drawing



5 Mechanical drawing

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

Figure 7. Adapter mechanical drawing



6 RoHS compliance

The adapter boards described in this datasheet are RoHS compliant.

Obsolete Product(s) - Obsolete Product(s)

7 Revision history

Table 6. Document revision history

Date	Revision	Changes
18-Apr-2008	1	First release
08-Apr-2010	2	Updated cover page

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