

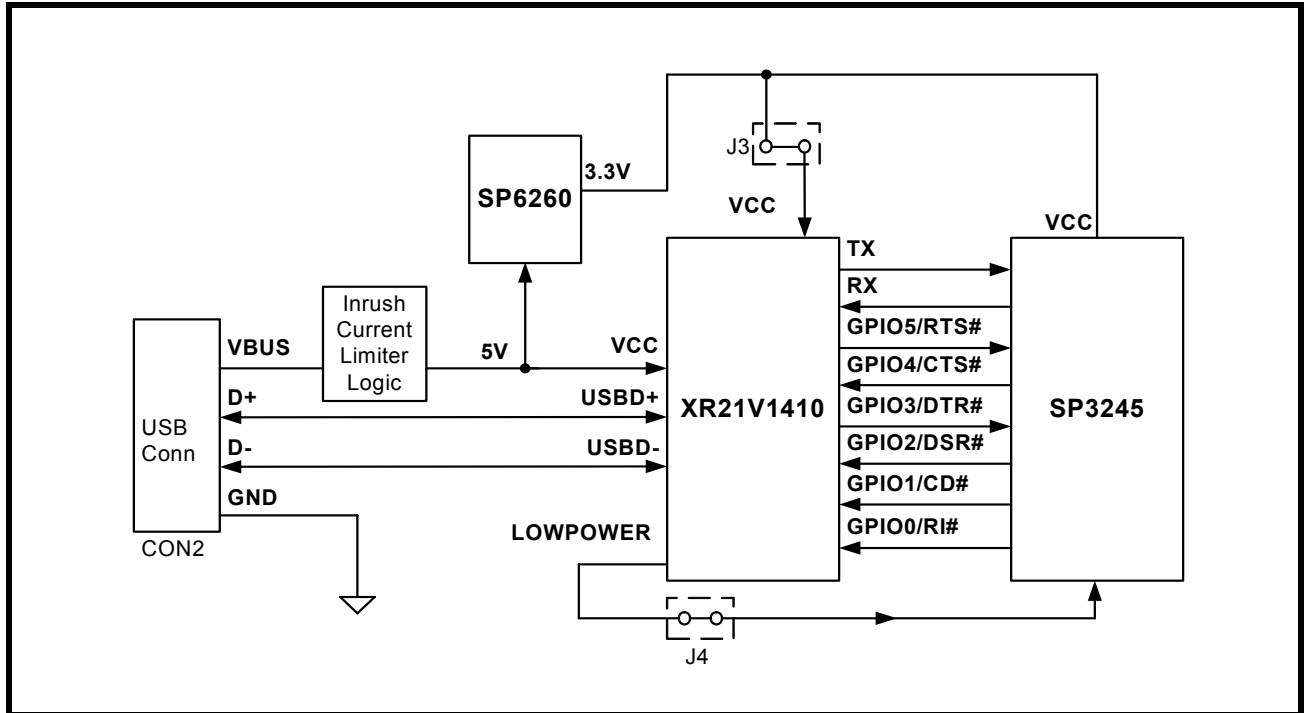
1.0 INTRODUCTION

This user's manual is for the low cost XR21V1410 RS-232 evaluation board. The XR21V1410 is in the RS-232 mode when it is shipped from the factory.

2.0 EVALUATION BOARD OVERVIEW

A block diagram of the evaluation board is shown in **Figure 1** below..

FIGURE 1. EVALUATION BOARD BLOCK DIAGRAM



The primary devices on the XR21V1410 evaluation board are all Exar devices.

- The XR21V1410 is an enhanced 1-ch USB UART.
- The SP6260 is an Exar LDO that regulates the 5V from VBUS to 3.3V that is used as the supply voltage of the SP3245 and for the VCC of the XR21V1410.
- The SP3245 is Exar's RS-232 serial transceiver.

2.1 Evaluation Board Components

Table 1 shows where the Exar components are located and provides a brief description of some of the other components on the board.

TABLE 1: COMPONENTS OF THE XR21V1410 EVALUATION BOARD

UNIT	PART	FUNCTION
U1	SP6260GEK-L	Exar's 150mA RF Ultra Low Dropout Regulator used for converting 5V from VBUS to 3.3V for the SP3245 and VCC of the XR21V1410.
U4	XR21V1410IL16-F	Exar's Enhanced 1-channel USB UART.
U6	AT24C02BN-SH-B-ND	I ² C Serial EEPROM. It is for storing Device ID and Vendor ID.
U8	AT24C02B-PU-DIP8	EEPROM socket (not installed).
U7	SP3245EEY-L	Exar's RS-232 transceiver.
CON1	DB9 male connector	Communicate with remote UART or device via RS-232.
SW1	Switch	Can be used to trigger remote wake-up event.

2.2 Description of Headers/Jumpers

This section describes the headers/jumpers on this evaluation board that are installed as well as the headers/jumpers that are not installed. Some headers/jumpers may not be installed because they are used for internal testing purposes only. The headers/jumpers that are installed are highlighted in **Table 2** below.

TABLE 2: DESCRIPTION OF HEADERS/JUMPERS (INSTALLED)

JUMPERS	FUNCTIONS	COMMENTS
J2	Header to easily connect to an external board/device	All of the UART I/O signals are available on this header.
JP4	Pull-up or pull down SCL signal	<ul style="list-style-type: none"> ■ 1&2 pulls up the SCL signal. ■ 2&3 pulls down the SCL signal. (default)
JP5	Pull-up or pull down SDA signal	<ul style="list-style-type: none"> ■ 1&2 pulls up the SDA signal. ■ 2&3 pulls down the SDA signal. (default)
JP8	Selects input to RI#	<ul style="list-style-type: none"> ■ 1&2 selects RI# input from SP3245 (trace is cut) ■ 2&3 selects push button switch (default, jumper installed on 2&3)

NOTE: Pin 1 of all jumpers is designate by a square pad.

The headers/jumpers that are not installed are highlighted in **Table 3** below.

TABLE 3: DESCRIPTION OF HEADERS/JUMPERS (NOT INSTALLED)

JUMPERS	FUNCTIONS	COMMENTS
J1	In house testing	Open.
J3	Power supply for XR21V1410	Trace between 1&2.
J4	Shut down/Enable SP3245	Trace between 1&2.
JP7	Connect SCL & SDA signals with EEPROM	<ul style="list-style-type: none"> ■ 1&2 connects the SCL signal to EEPROM. ■ 3&4 connects the SDA signal to EEPROM.

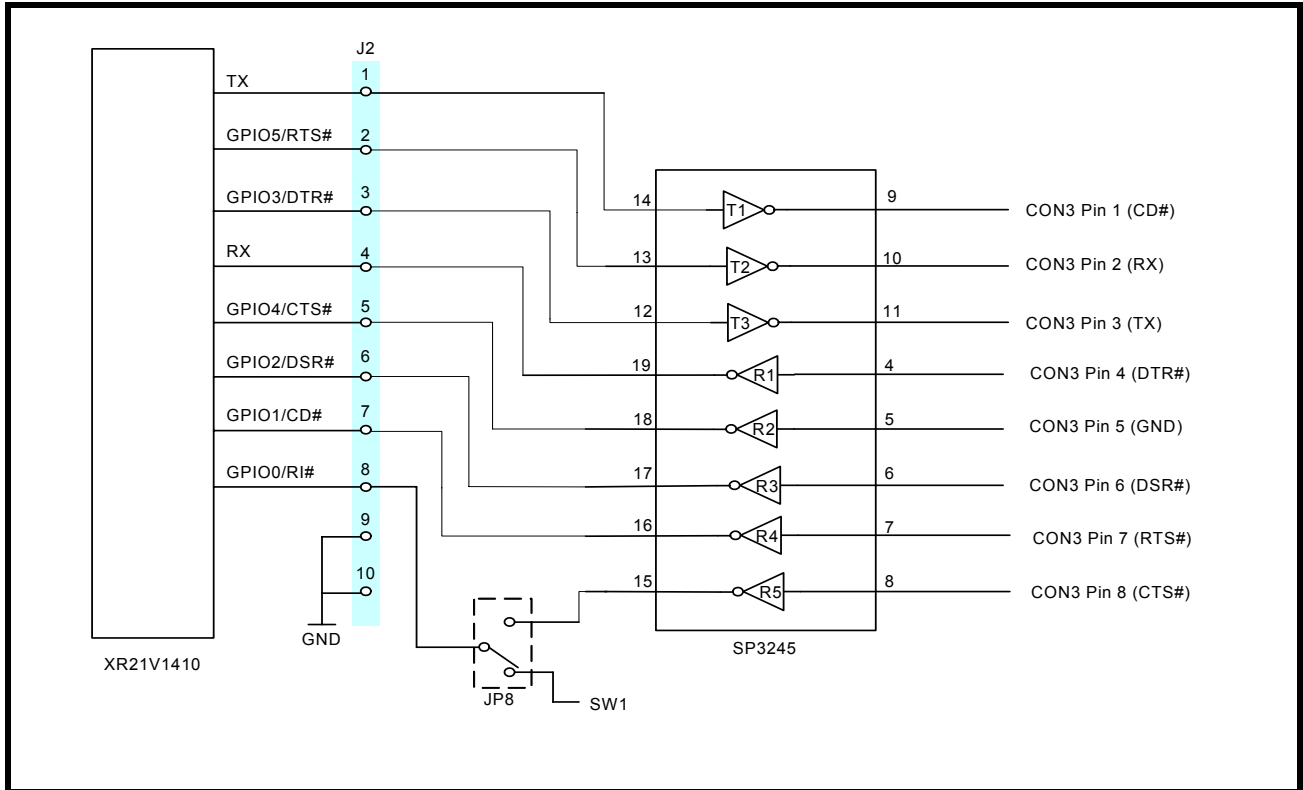
3.0 BOARD CONFIGURATION

The RS-232 mode is configured on the board by default.

3.1 RS-232 Mode (default)

RS-232 mode is the default setting for the evaluation board (Figure 2). In this mode, a null modem cable can be connected to the DB9 connector (CON3) to communicate with another serial port that has a DB9 connector.

FIGURE 2. RS-232 MODE



3.2 SP3245 in Shutdown Mode

The SP3245 enters shutdown mode when the XR21V1410 enters the suspend mode and the LOWPOWER pin is asserted.)

In this mode, the I/Os of the SP3245 are at high impedance. Therefore, the UART I/Os can connect directly with an external UART or serial transceiver. In addition, the LOWPOWER pin is also available at J4.

4.0 DRIVERS AND SUPPORT

For any questions about this evaluation board, software drivers or technical support, send an e-mail to uarttechsupport@exar.com.

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