

USB-UART 1-Channel Evaluation Board

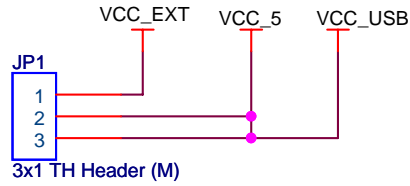
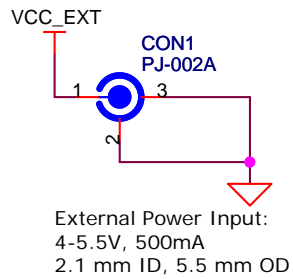
Exar XR21V1410 based 1-Channel USB-UART Evaluation Board with RS-232 and RS-485 interfaces

Index

- Sheet #01 - Cover Page
- Sheet #02 - Power Supply
- Sheet #03 - Exar 1-Channel USB-UART
- Sheet #04 - RS-232 Transceiver
- Sheet #05 - RS-485 Transceiver
- Sheet #06 - Manufacturing Points

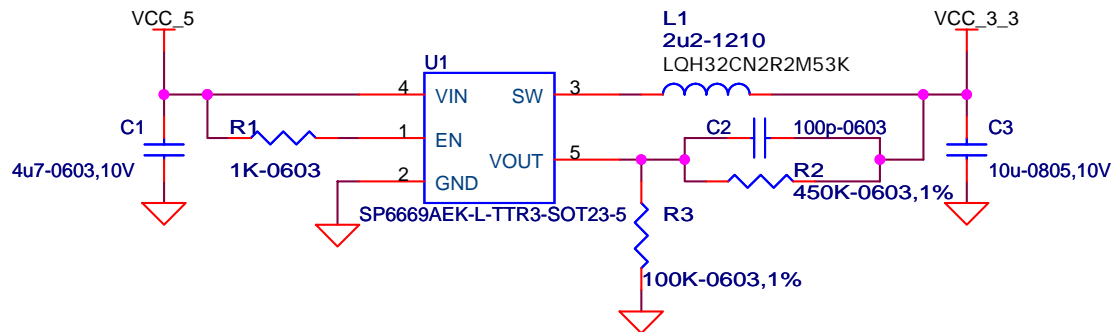
**EXAR
XR21V1410
Rev 1.1**

<i>Copyright ©2009 Exar Corporation. All rights reserved.</i>		
Schematic	sch_top	Cover Page
Title	USB-UART 1-Channel Evaluation Board	
Size A	Document Number SCH-UU1CHEVB-0910-B1B	Rev 1C
Date: Thursday, June 25, 2009	Sheet 1	of 6

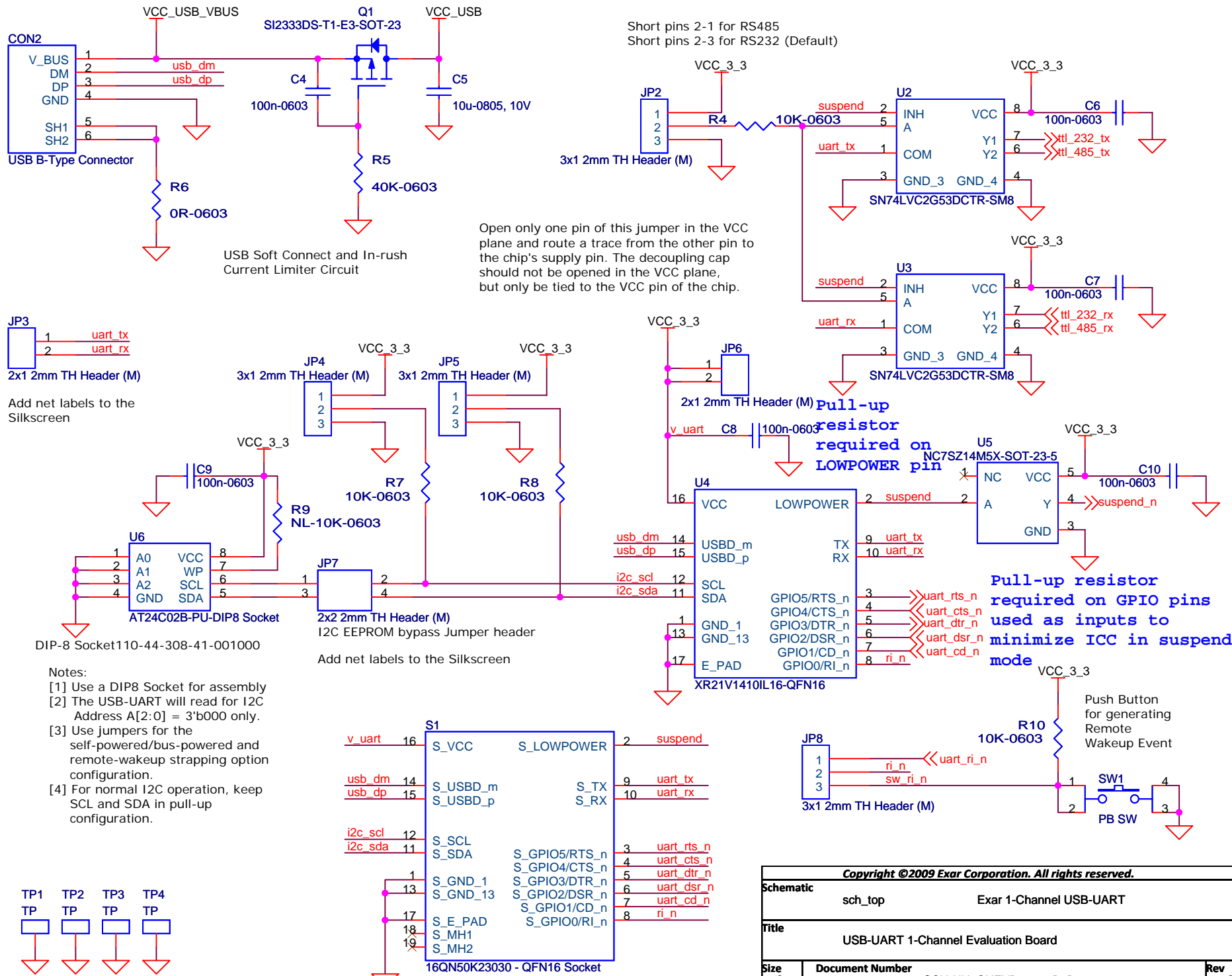


Power Select Header Jumper Options:
Short pins 2-1 => The board is powered from external power supply of 5V (self-powered)
Short pins 2-3 => The board is powered from USB VBUS power (bus-powered)

- Notes:
- [1] This jumper can also be used for current/power measurement of the board. Remove the jumper and connect probe instead of the jumper.
 - [2] The necessary strapping options must be selected for the USB-UART chip for the bus-powered or self-powered configurations.
 - [3] None of these pins should be opened in the power plane to support the isolation of the traces.



Copyright ©2009 Exar Corporation. All rights reserved.		
Schematic		sch_top Power Supply
Title USB-UART 1-Channel Evaluation Board		
Size A	Document Number SCH-UU1CHEVB-0910-B1B	Rev 1C
Date: Thursday, June 25, 2009	Sheet	2 of 6



Open only one pin of this jumper in the VCC plane and route a trace from the other pin to the chip's supply pin. The decoupling cap should not be opened in the VCC plane, but only be tied to the VCC pin of the chip.

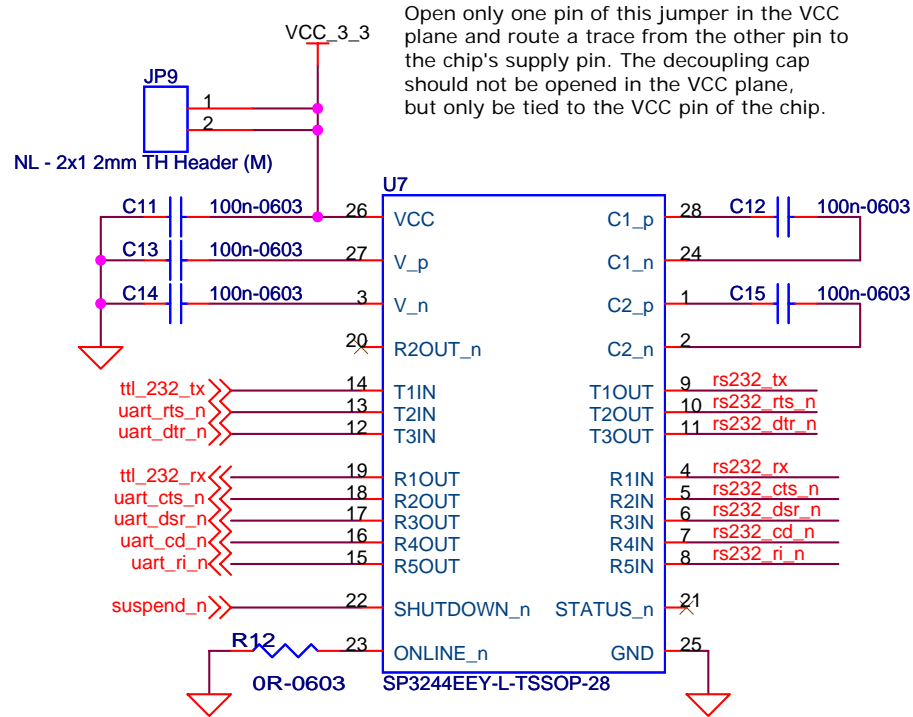
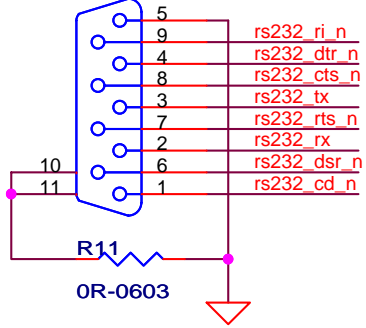
Pull-up resistor required on LOWPOWER pin

Pull-up resistor required on GPIO pins used as inputs to minimize ICC in suspend mode

- Notes:
- [1] Use a DIP8 Socket for assembly
 - [2] The USB-UART will read for I2C Address A[2:0] = 3'b000 only.
 - [3] Use jumpers for the self-powered/bus-powered and remote-wakeup strapping option configuration.
 - [4] For normal I2C operation, keep SCL and SDA in pull-up configuration.

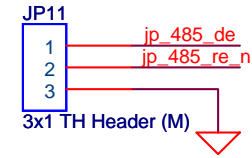
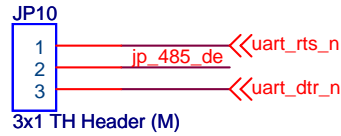
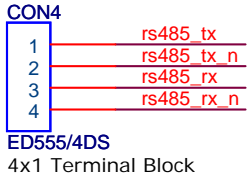
Copyright ©2009 Exar Corporation. All rights reserved.			
Schematic		sch_top	
Title		USB-UART 1-Channel Evaluation Board	
Size	Custom	Document Number	SCH-UU1CHEVB-0910-B1B
Date:	Thursday, June 25, 2009	Rev	1C
Sheet		3 of 6	

CON3
RA DB9 Male Connector
182-009-113R161



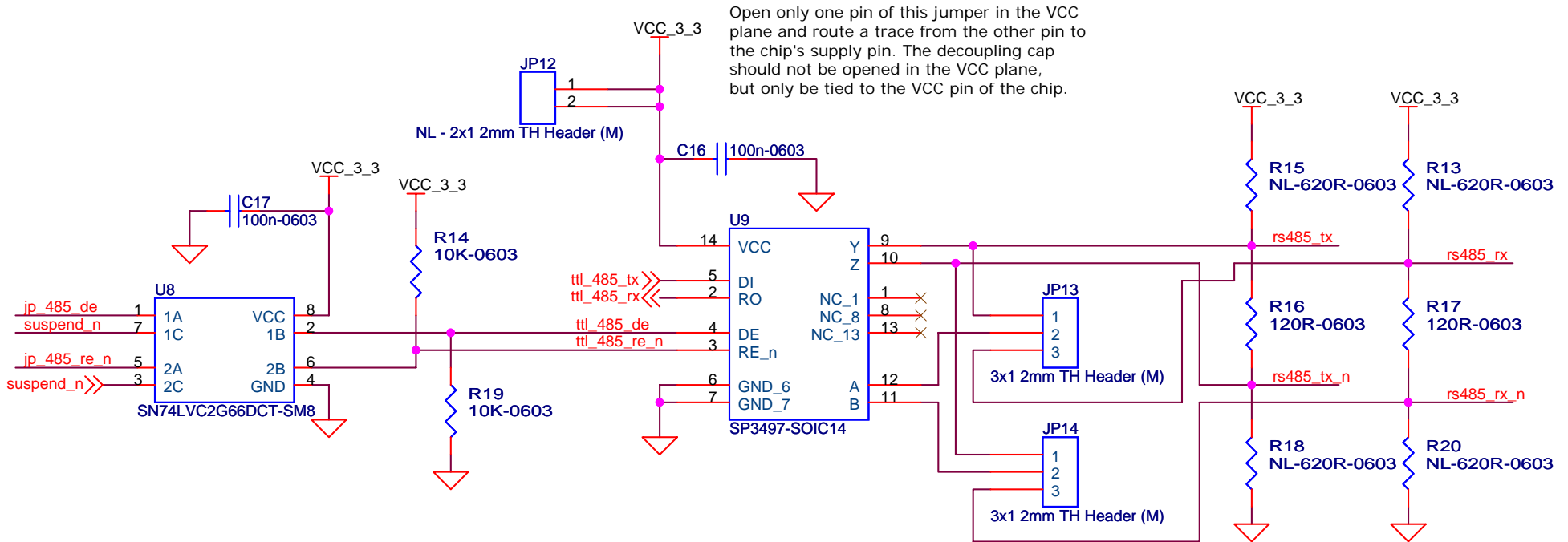
Open only one pin of this jumper in the VCC plane and route a trace from the other pin to the chip's supply pin. The decoupling cap should not be opened in the VCC plane, but only be tied to the VCC pin of the chip.

Schematic		sch_top		RS-232 Transceiver	
Title					
USB-UART 1-Channel Evaluation Board					
Size	Document Number				Rev
A	SCH-UU1CHEVB-0910-B1B				1C
Date: Thursday, June 25, 2009			Sheet 4 of 6		



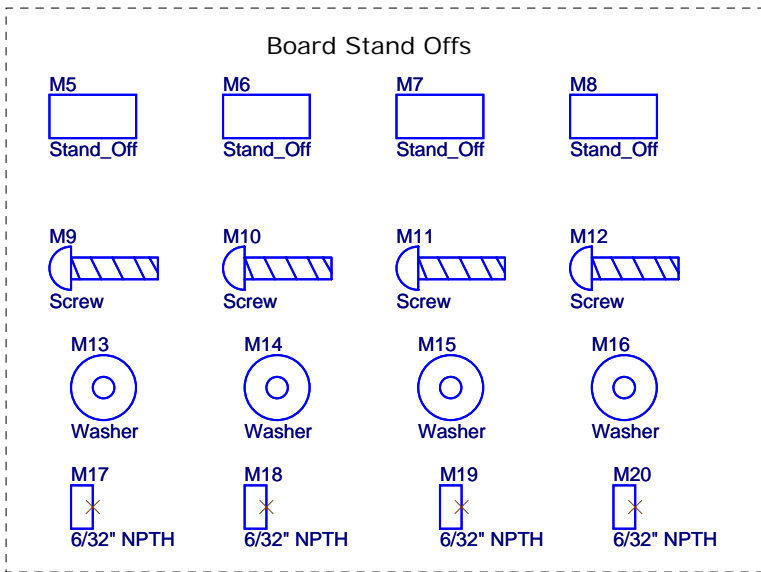
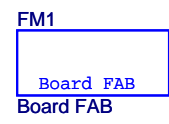
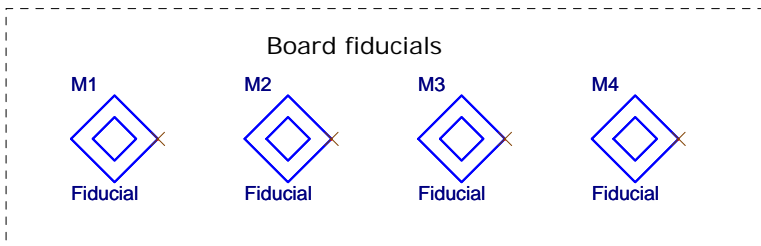
Notes:
 [1] Short pins 2-1 for RTS based direction control for TX
 [2] Short pins 2-3 for DTR based direction control for TX (Default)

Notes:
 [1] Short pins 2-1 for common direction control for RX and TX (Default)
 [2] Short pins 2-3 for always enabled RX (This will result in TX Echo mode in Half Duplex Mode)



Notes:
 [1] Short pins 2-1 for Half Duplex Mode
 [2] Short pins 2-3 for Full Duplex Mode (Default)
 [3] TX channel is used for TX and RX in Half Duplex Mode

Copyright ©2009 Exar Corporation. All rights reserved.		
Schematic		
sch_top	RS-485 Transceiver	
Title		
USB-UART 1-Channel Evaluation Board		
Size	Document Number	Rev
A	SCH-UU1CHEVB-0910-B1B	1C
Date: Thursday, June 25, 2009		Sheet 5 of 6



Copyright ©2009 Exar Corporation. All rights reserved.

Schematic		sch_top		Manufacturing Points	
Title					
USB-UART 1-Channel Evaluation Board					
Size	Document Number				Rev
A	SCH-UU1CHEVB-0910-B1B				1C
Date: Thursday, June 25, 2009			Sheet 6 of 6		