

Schematic for Baseboard - Cortex FLYER

Currently Supported/Available Controllers (PH Board) for Flyer Base Board

PH ---> Pluggable Header

NXP Based Controllers

1. LPC1114 - Cortex M0 - 48 PIN LQFP Package.
2. LPC11C14 - Cortex M0 - 48 PIN LQFP Package.
3. LPC11U24 - Cortex M0 - 48 PIN LQFP Package.
4. LPC1343 - Cortex M3 - 48 PIN LQFP Package.

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REVISION: 1.1 dated 2nd JAN 2012

## BOARD Specifications

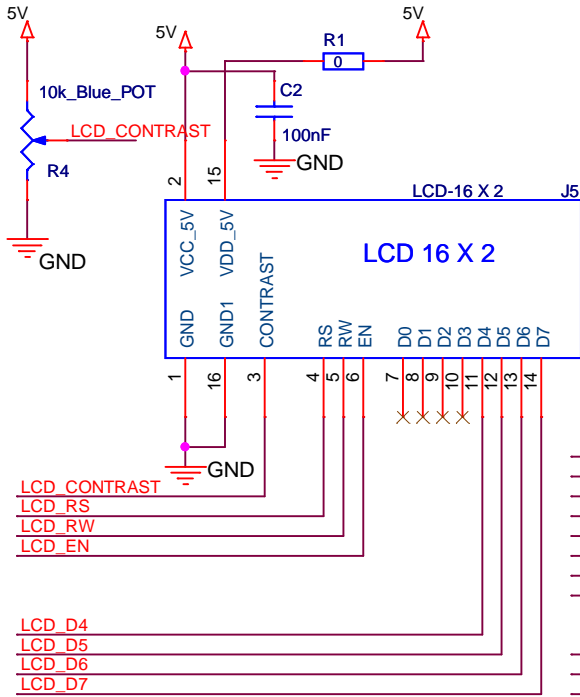
1. 2.54 mm 25x2 PIN Header for Controller Pluggable Header (PH) Board.
2. PINOUT for Analog and Digital IO (Number varies with controllers used.  
Check PIN connectivity Information file for details)
3. 16x2 (HD44780) LCD Connectivity Option.
4. Graphical LCD (128x64 - TM12864H6CCOWA) Connectivity Option.
5. IO Pin conneted to BUZZER and LED.
6. USB End Device Option.
7. Serial PORT (TTL and RS232 OUT).
8. Micro SD Card Option.
9. I2C Based Capacitive Touch cum IO Expander.
10. POT for ADC.
11. PS2 Connectivity Option.
12. USB End Device.
13. 2 Channel DAC (SPI Based with 10 bit Resolution)
14. Switches for RESET, ISP and WAKEUP.
15. ISP options via UART, CAN and USB (Depends on controller PH board used)
15. Power via DC JACK and USB (+5V and 3.3V PINOUT).

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# DISPLAY MODULES

## 16 x 2 HD44780 BASED ALPHANUMERIC DISPLAY



LCD_D4	GLCD_DB0	DISPLAY_DATA_0
LCD_D5	GLCD_DB1	DISPLAY_DATA_1
LCD_D6	GLCD_DB2	DISPLAY_DATA_2
LCD_D7	GLCD_DB3	DISPLAY_DATA_3
LCD_RS	GLCD_DB4	DISPLAY_DATA_4
LCD_RW	GLCD_DB5	DISPLAY_DATA_5
LCD_EN	GLCD_DB6	DISPLAY_DATA_6
LCD_D4	GLCD_DB7	DISPLAY_DATA_7
LCD_D5	GLCD_RS	DISPLAY_RS
LCD_D6	GLCD_CS1	DISPLAY_EN_CS
LCD_D7		

### PIN CONNECTIONS

#### Graphical LCD

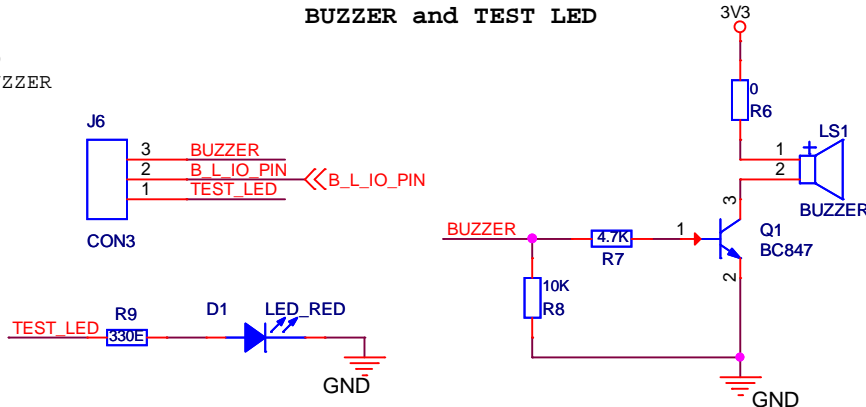
LPC1114/11C14/1343  
 DATA: P2.3 to P2.10  
 CS: P3.1  
 RS: P3.2  
 RW: P3.3

LPC11U14/11U24  
 DATA: D0 to D6 : P1.22 to P1.28  
 while D7 is P1.31  
 CS: P1.14  
 RS: P1.15  
 RW: P1.16

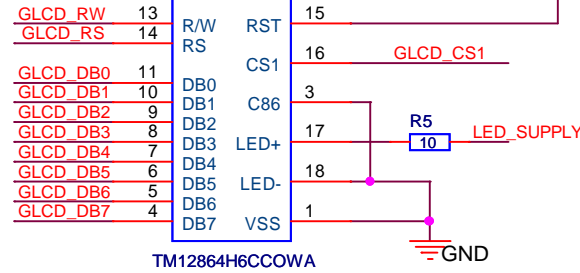
### BUZZER and TEST LED

#### JUMPER SELECTION

Between 1 & 2: LED  
 Between 2 & 3: BUZZER



## GRAPHICAL LCD

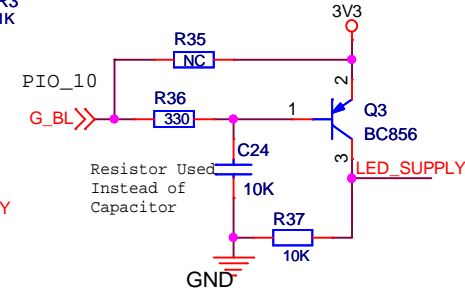


### PIN CONNECTIONS

#### Graphical LCD

LPC1114/11C14/1343  
 DATA: P2.3 to P2.10  
 CS: P3.1  
 RS: P3.2  
 RW: P3.3

LPC11U14/11U24  
 DATA: D0 to D6 : P1.22 to P1.28  
 while D7 is P1.31  
 CS: P1.14  
 RS: P1.15  
 RW: P1.16



### PIN CONNECTIONS

16x2 LCD (HD44780)  
 4-BIT MODE

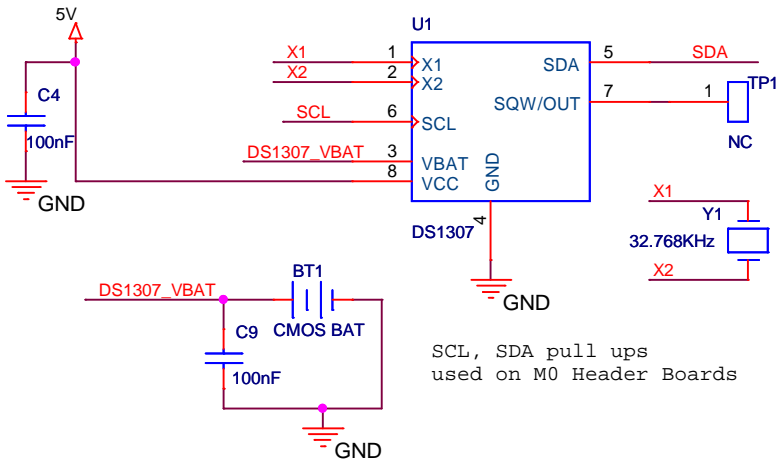
LPC1114/11C14/1343  
 DATA (D4 to D7): P2.3 to P2.6  
 RW: P3.1  
 RS: P3.2  
 EN: P3.3

LPC11U14/11U24  
 DATA: D4 to D7 : P1.22 to P1.25  
 RW: P1.14  
 RS: P1.15  
 EN: P1.16

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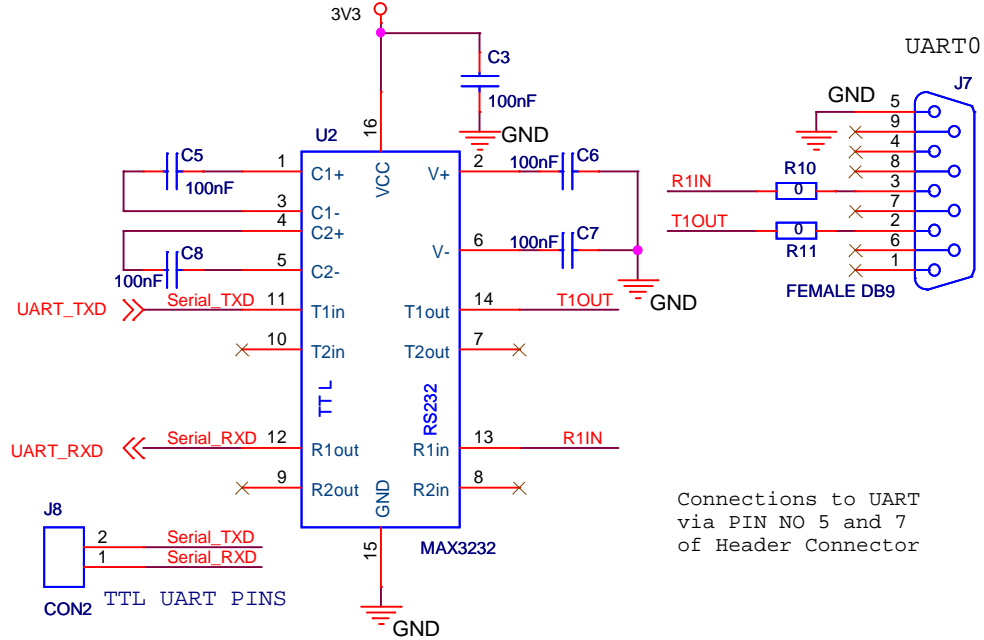
DISPLAY, Buzzer, Test LED	
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### Real Time Clock : DS1307 Interface



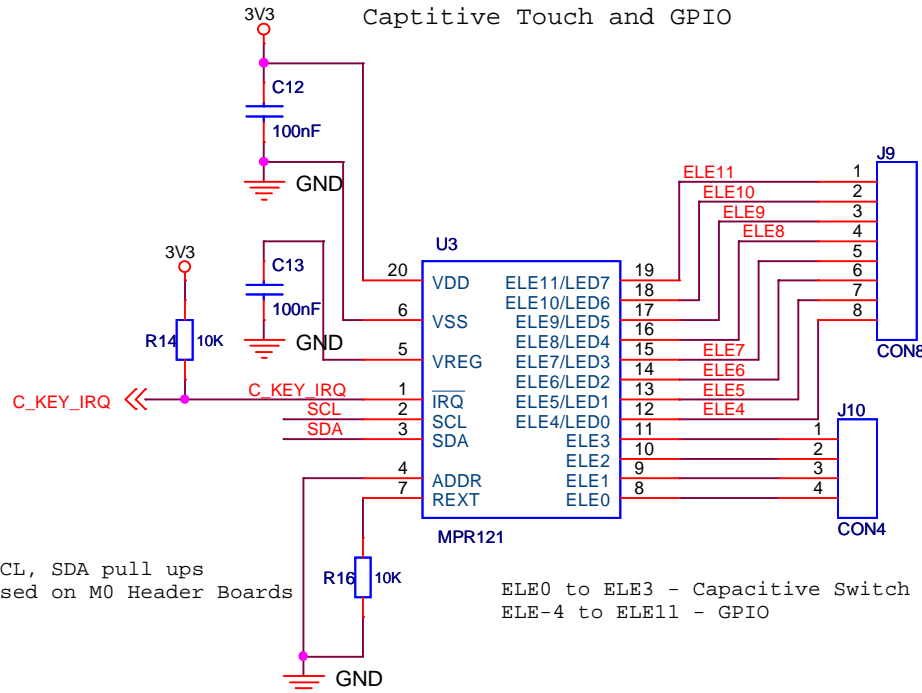
I2C\_SCL >> SCL  
I2C\_SDA >> SDA

### SERIAL PORT connections with TTL to RS232 Converter



Connections to UART via PIN NO 5 and 7 of Header Connector

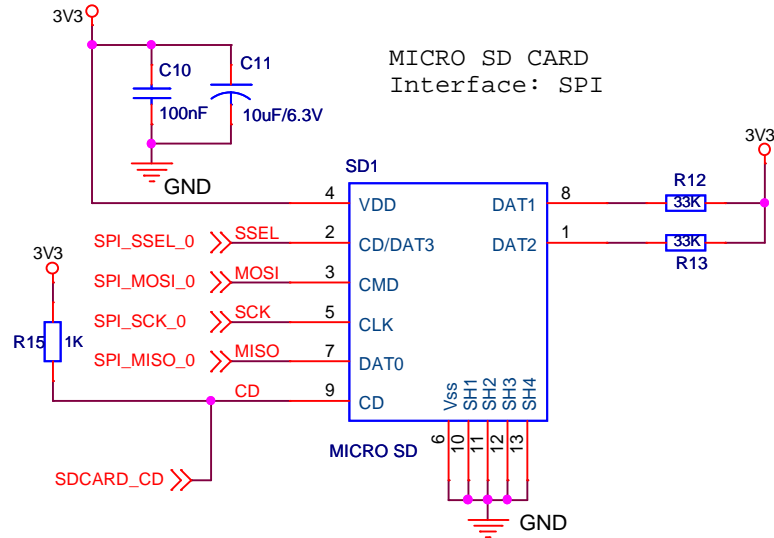
### Captitive Touch and GPIO



SCL, SDA pull ups used on M0 Header Boards

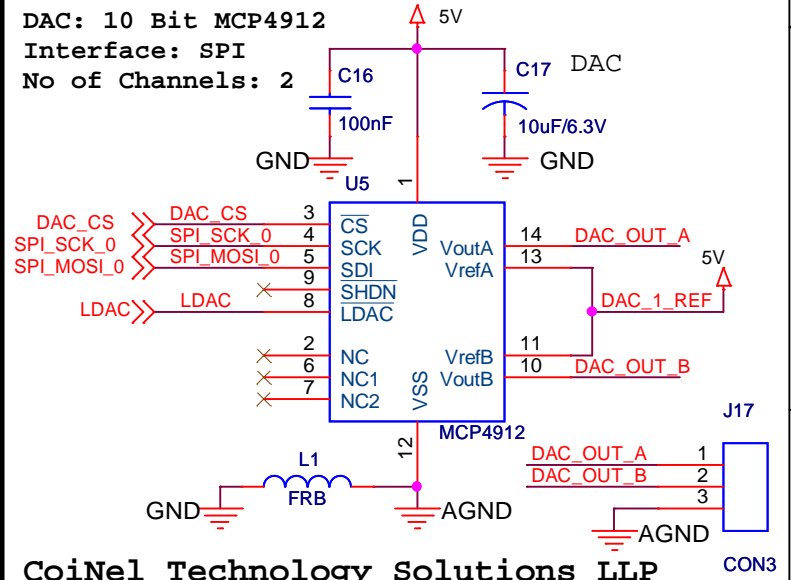
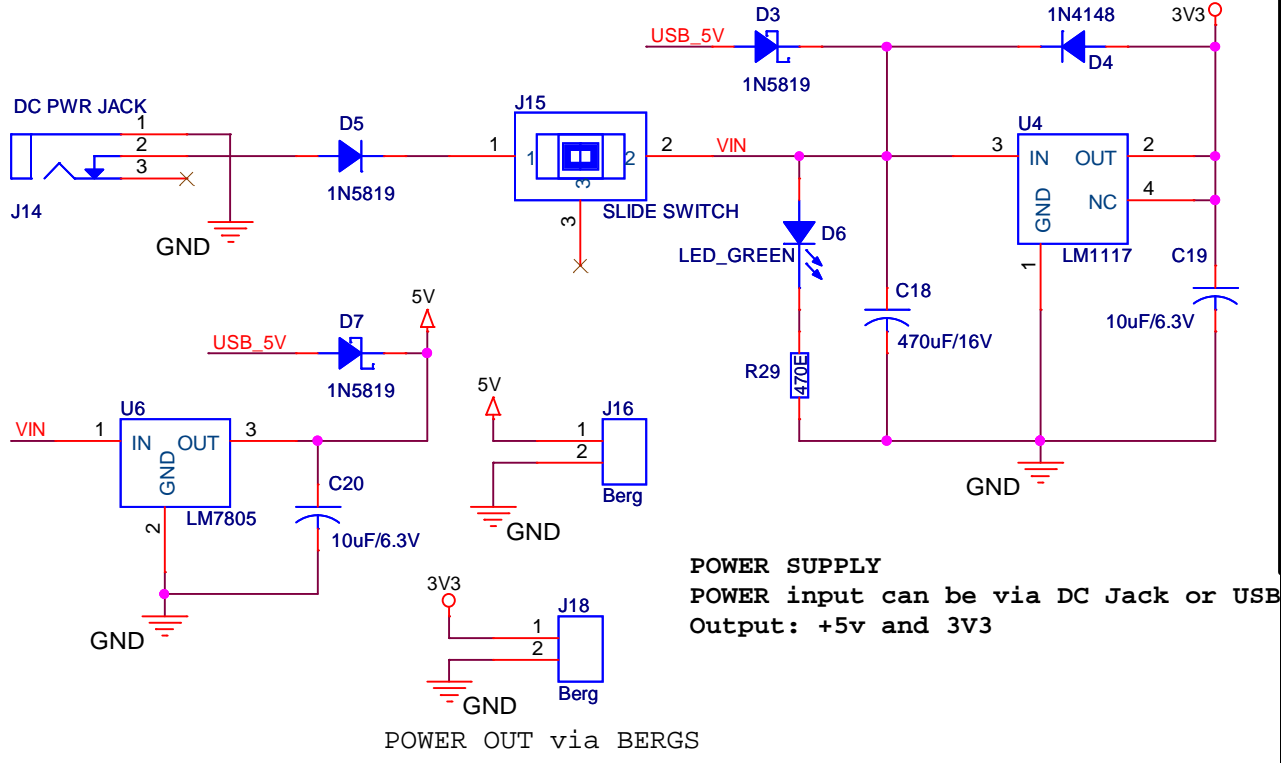
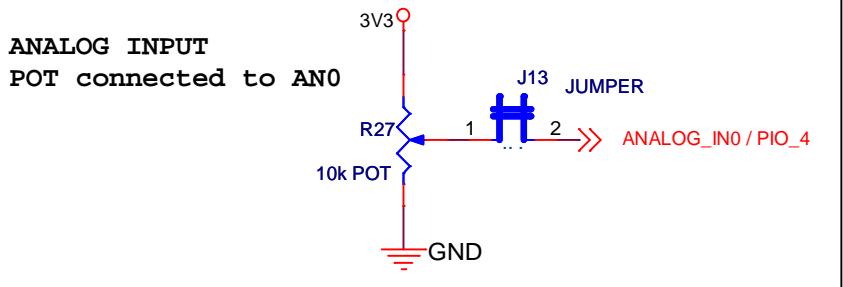
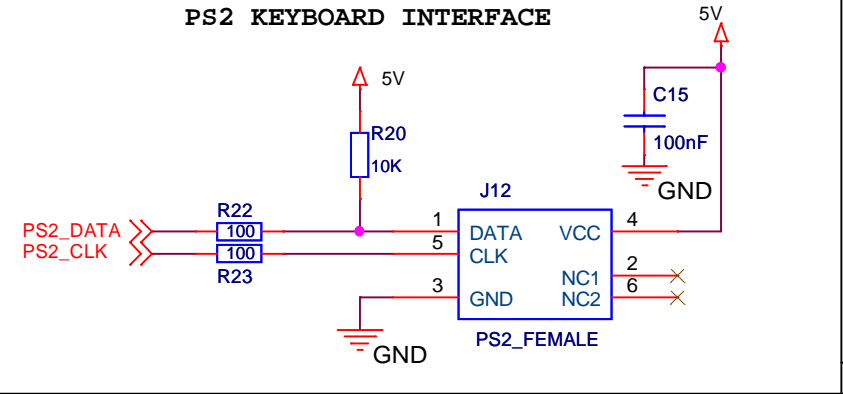
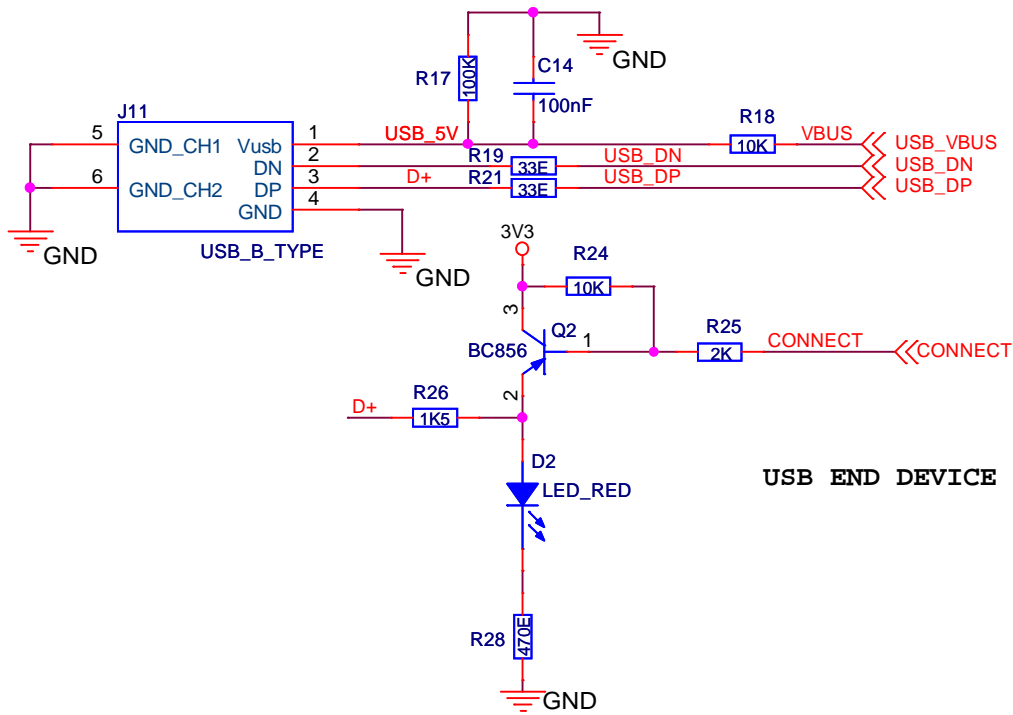
ELE0 to ELE3 - Capacitive Switch  
ELE4 to ELE11 - GPIO

### MICRO SD CARD Interface: SPI



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I2C Devices (Cap Touch, RTC), UART, SPI: SD Card	
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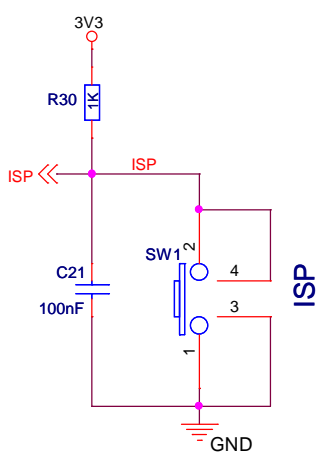
USB Device, power supply, PS2, Analog POT, DAC

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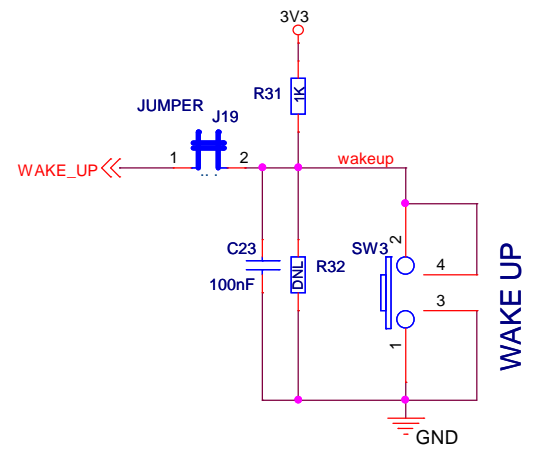
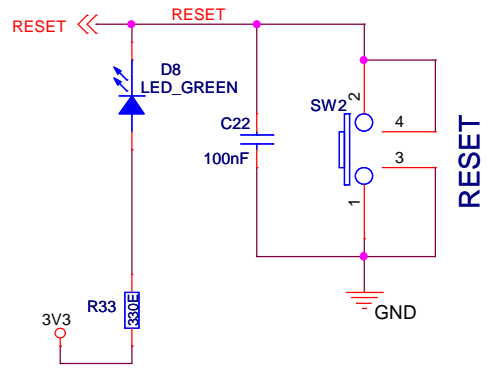
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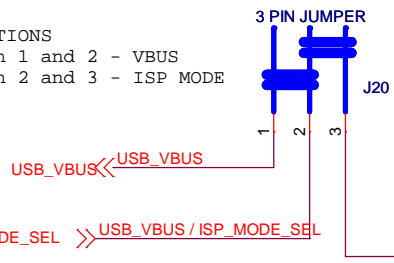
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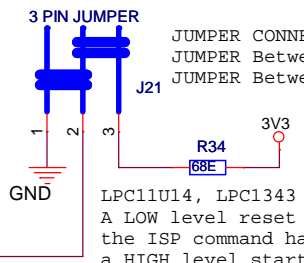
Reset Switch Pullup on Header/Daughter Board



JUMPER CONNECTIONS  
 JUMPER Between 1 and 2 - VBUS  
 JUMPER Between 2 and 3 - ISP MODE



JUMPER CONNECTIONS  
 JUMPER Between 1 and 2 - LOW  
 JUMPER Between 2 and 3 - HIGH



LPC11U14, LPC1343  
 A LOW level reset starts the ISP command handler, a HIGH level starts the USB device enumeration.

LPC11C14  
 This pin is monitored during reset:  
 Together with a LOW level on pin PIO0\_1, a LOW level starts the flash ISP handler via C\_CAN and a HIGH level starts the flash ISP handler via UART

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ISP, RESET, WAKEUP, ISP MODE SELECT JUMPER SETTING		
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