



# EK-RA4L1

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Rubber Foot, Black, 6.4mm dia, 2.1mm high
Rubber Foot, Black, 6.4mm dia, 2.1mm high
Rubber Foot, Black, 6.4mm dia, 2.1mm high
Rubber Foot, Black, 6.4mm dia, 2.1mm high

Rev	Comment	Date	Drawn By
1.0	MP Release	15 Jan 2025	SDD/KSS
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	
0.0	Release notes	dd m..m yyyy	

ERC Supression Markers

×

 Suppress all ERC violation

×

 General No Connect

⚠

 Power Net with Power and Input ports or pins

⚠

 Net with multiple input ports

⚠

 Net with Output Pins and Bidirectional Ports

▼

 Floating input pin

⚠

 Net with No Driving Source

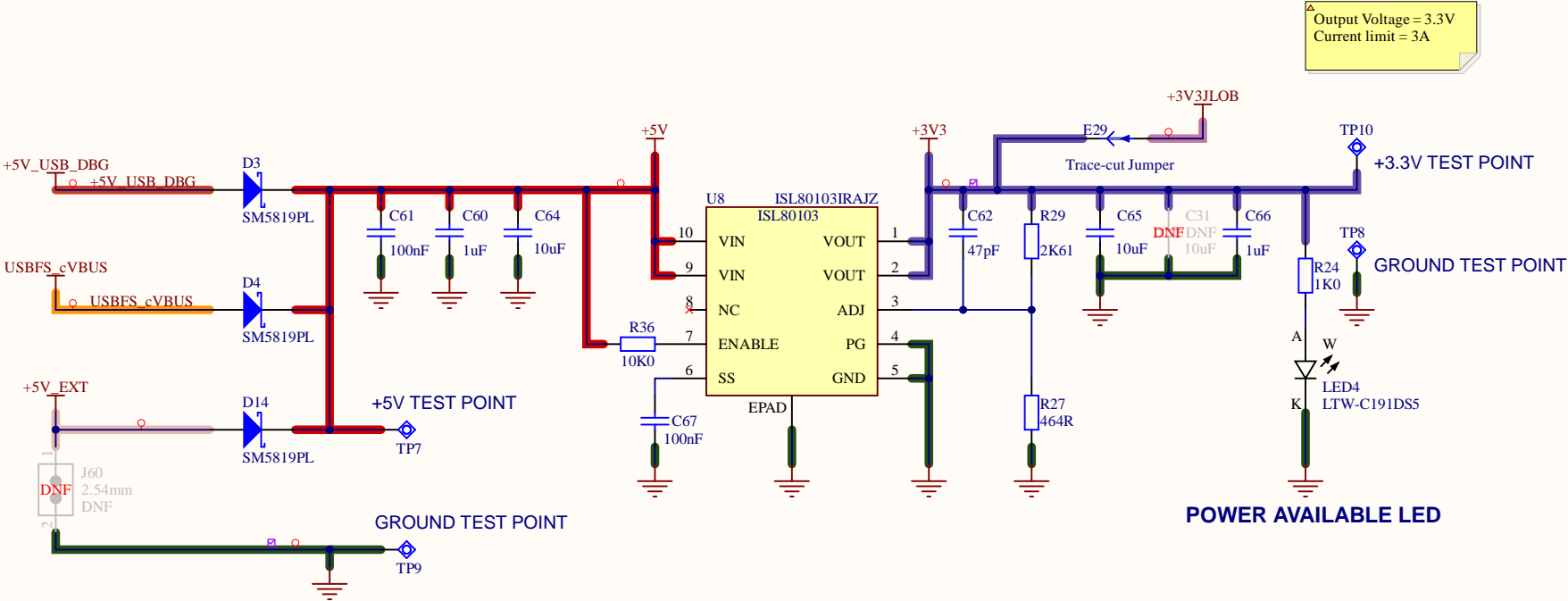
Note:

Labels shown inside parentheses:

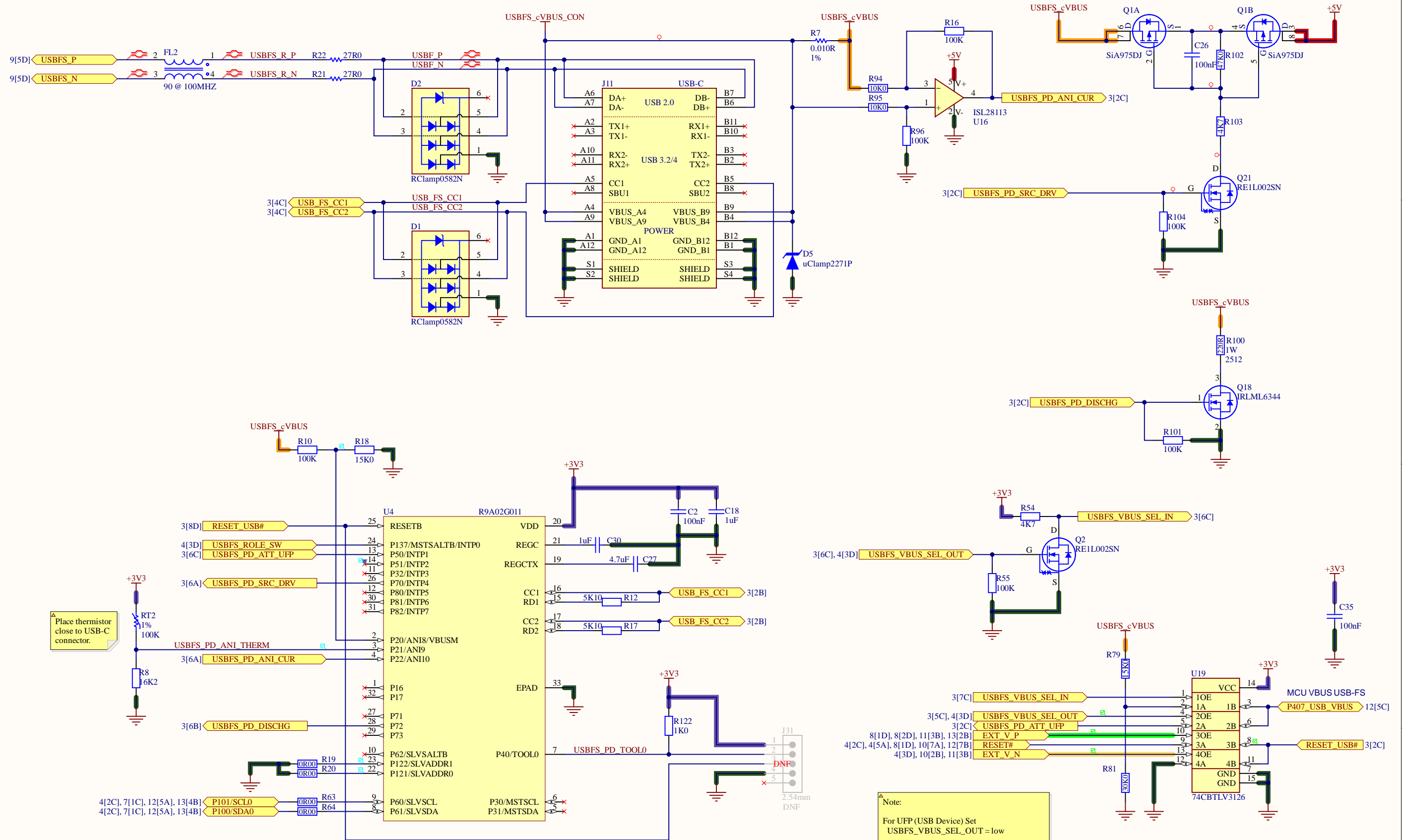
(note)

are NOT net names. They are text notes added to clarify signal usage.

3.3V LINEAR REGULATOR



## USB FS INTERFACE



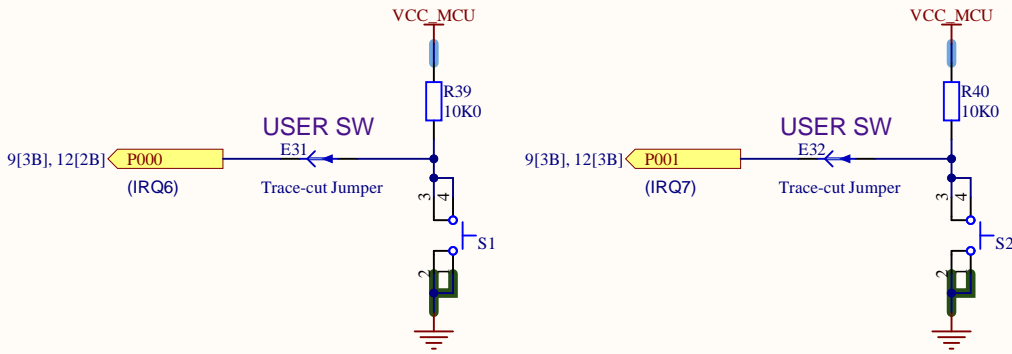
△ Note:

For UFP (USB Device) Set  
USBFS\_VBUS\_SEL\_OUT = low

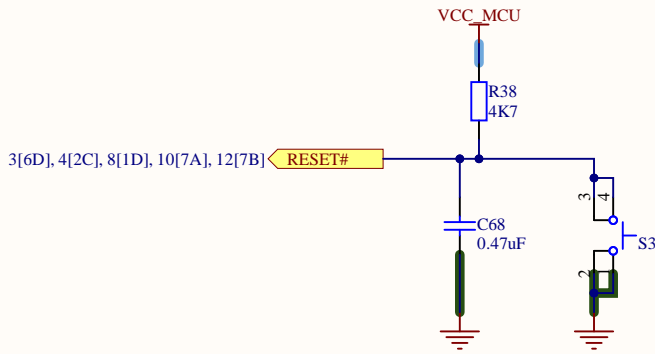
For DFP (USB Host) Set  
USBFS\_VBUS\_SEL\_OUT = high

Default startup setting for  
USBFS\_VBUS\_SEL\_OUT is set using S4-4.

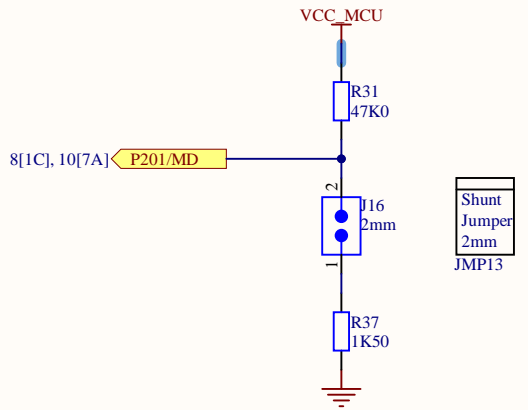
## USER PUSH-BUTTONS



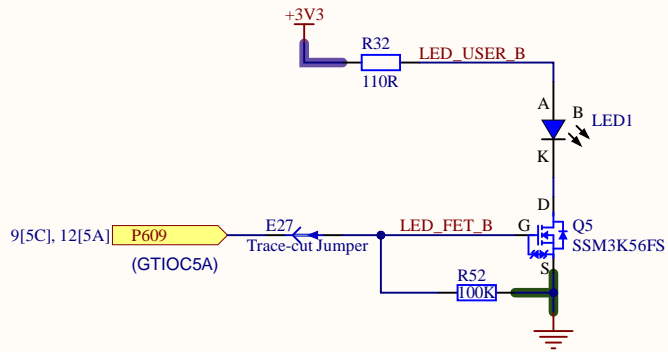
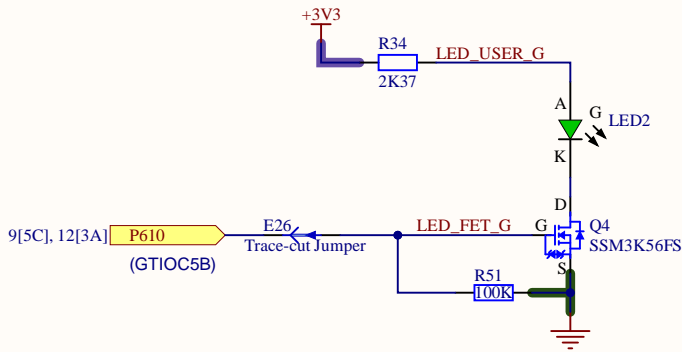
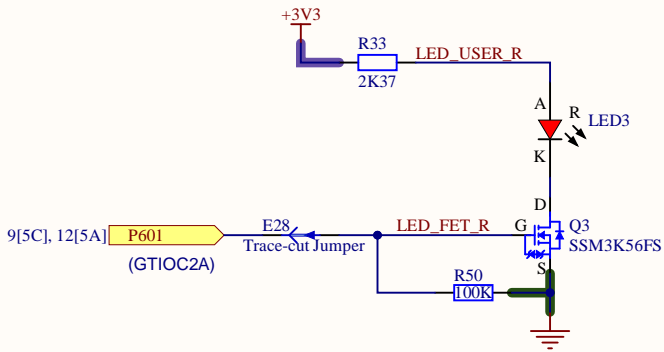
## RESET PUSH-BUTTON



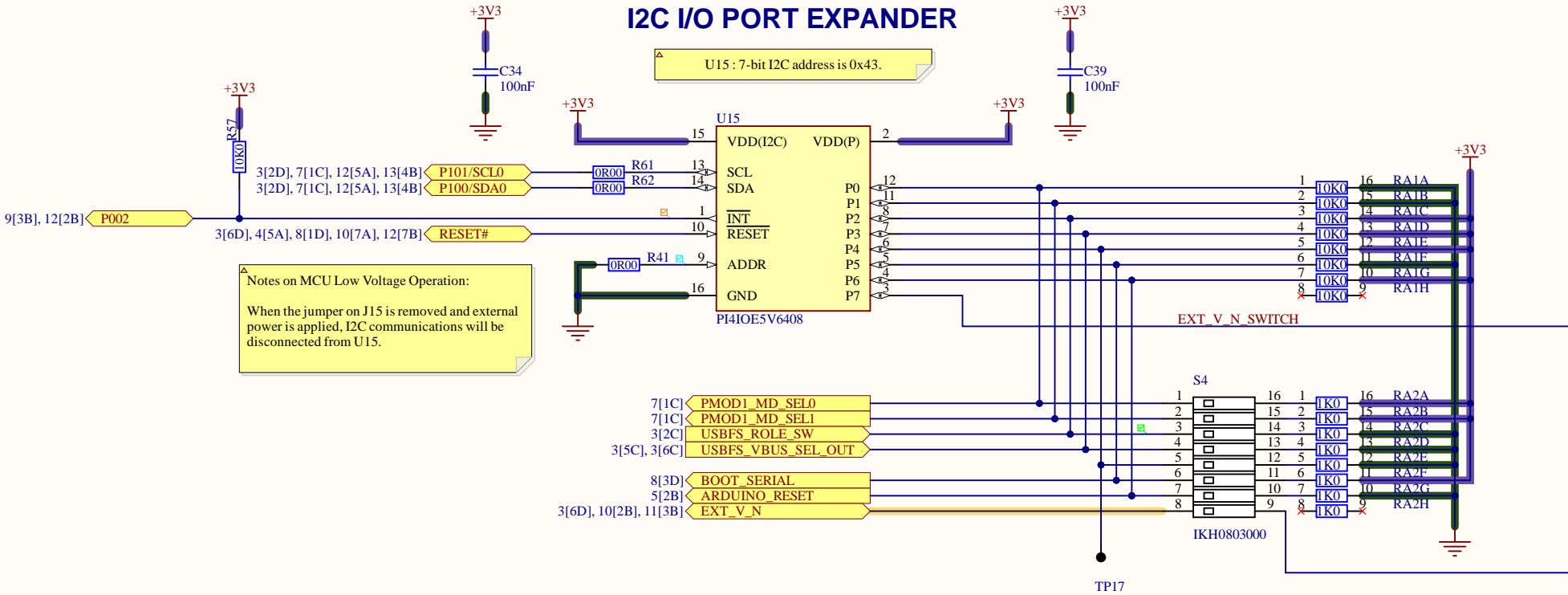
## MCU BOOT MODE



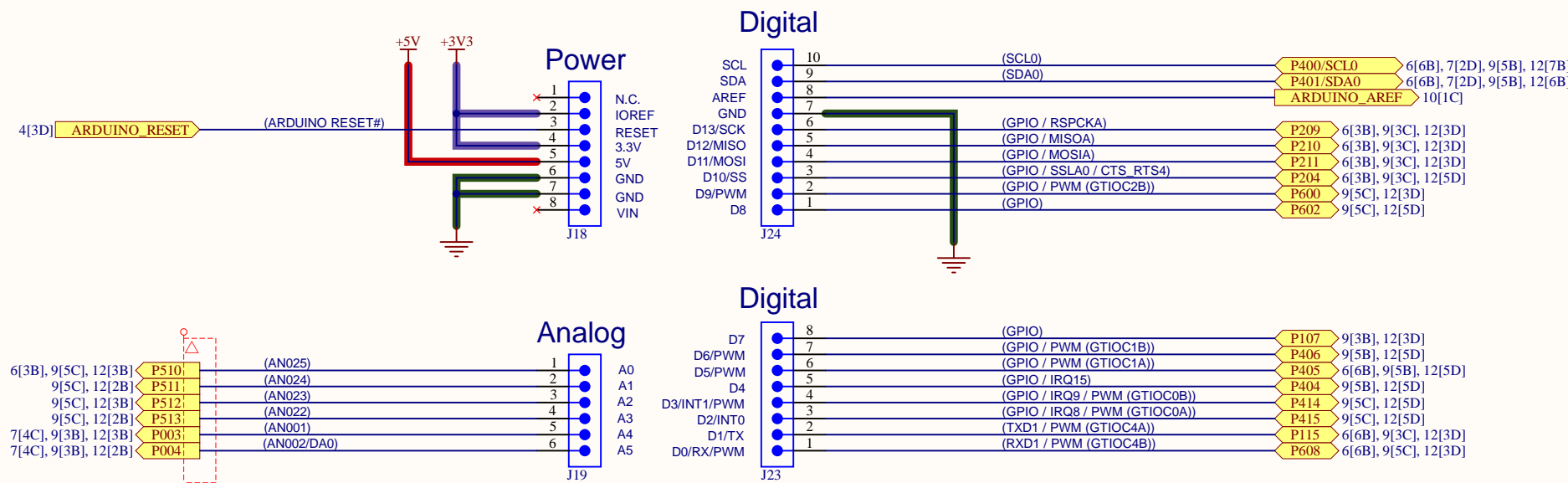
## USER LEDS

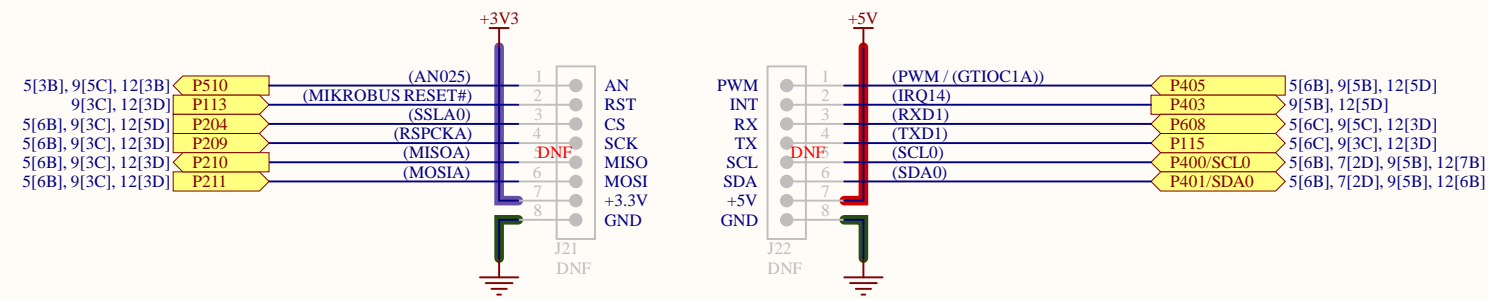
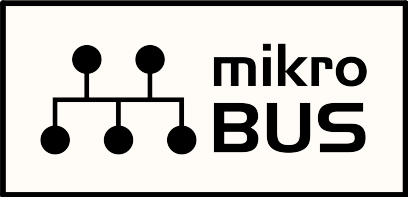


## I2C I/O PORT EXPANDER



Arduino Uno





Functions: (SPI/SCI SPI/SCI UART /GPIO)

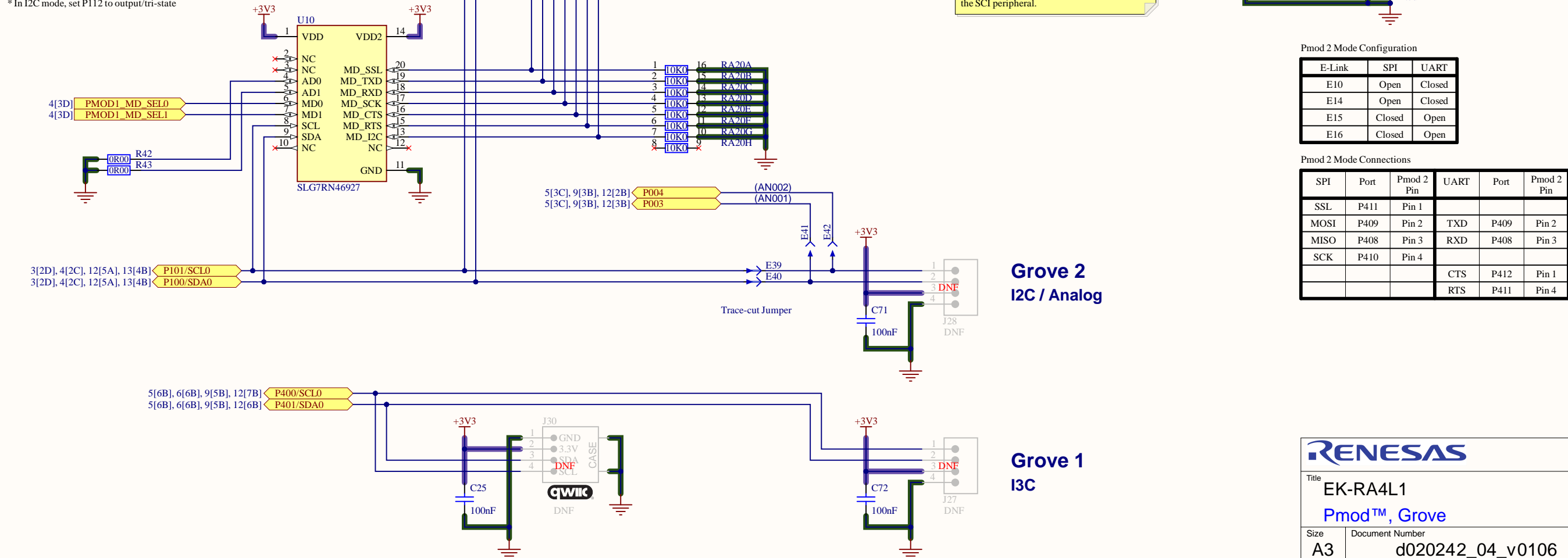
### Pmod 1 Mode Control

Pmod 1 operating mode can be selected using the I2C Port expander, or directly using SW4-1 (MD\_SEL0) and SW4-2 (MD\_SEL1). The multiplexed pin functions and selection settings are shown below. Choose either Manual switch setting OR configuration by Software.

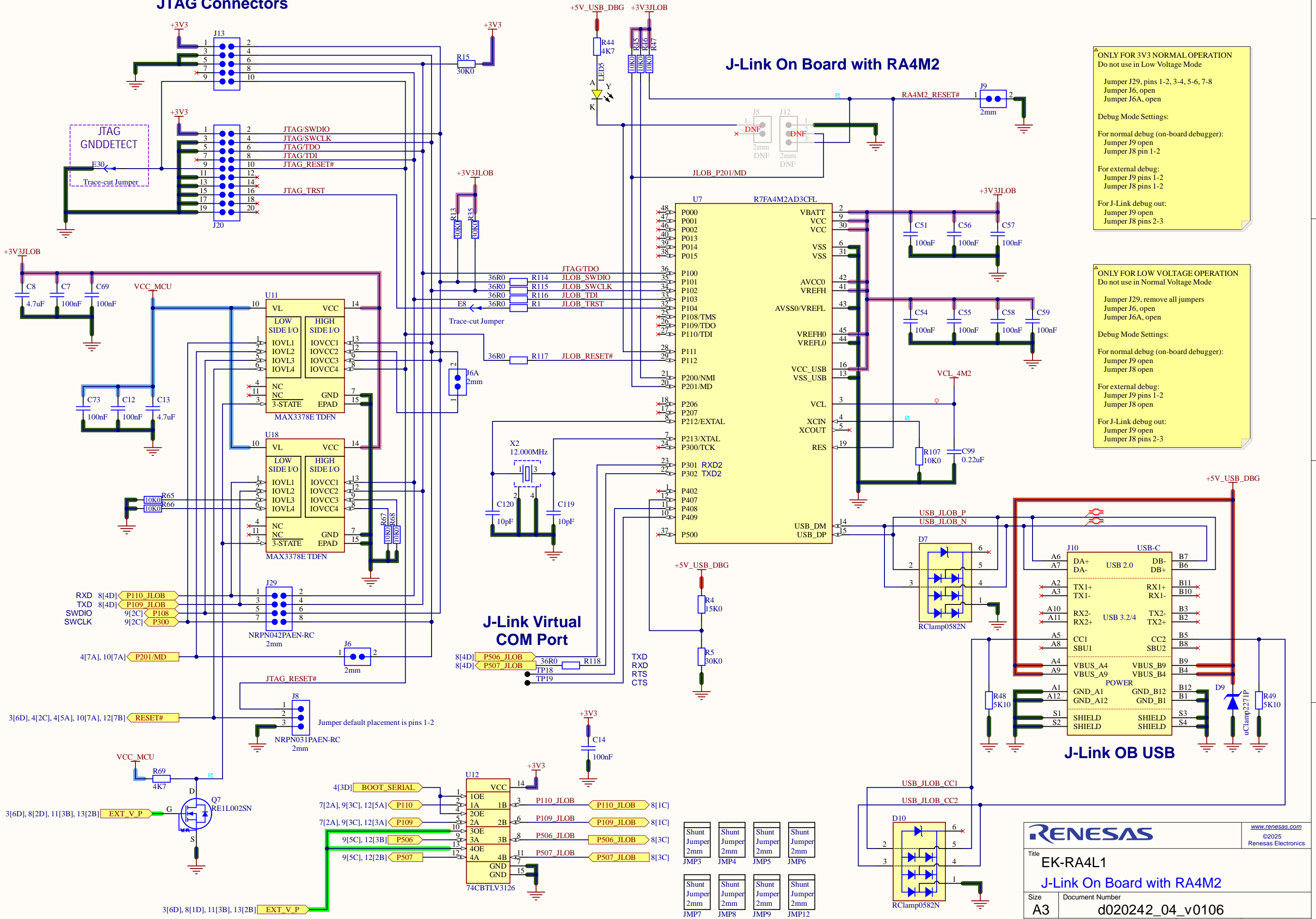
Mode Inputs:	Disabled	I2C	UART	SPI
MD_SEL1	1	1	0	0
MD_SEL0	1	0	1	0

Control Outputs:	SPI	Pmod 1 Pin	UART	Pmod 1 Pin	I2C	Pmod 1 Pin
Pin 20: MD_SSL	P112	Pin 1			P112*	Pin 1
Pin 19: MD_TXD	P109	Pin 2	P109	Pin 2	P109	Pin 2
Pin 18: MD_RXD	P110	Pin 3	P110	Pin 3		
Pin 17: MD_SCK	P111	Pin 4				
Pin 16: MD_CTS			P114	Pin 1		
Pin 15: MD_RTS			P112	Pin 4		
Pin 13: MD_I2C					SCL SDA P110	Pin 3 Pin 4 Pin 1

\* In I2C mode, set P112 to output/tri-state

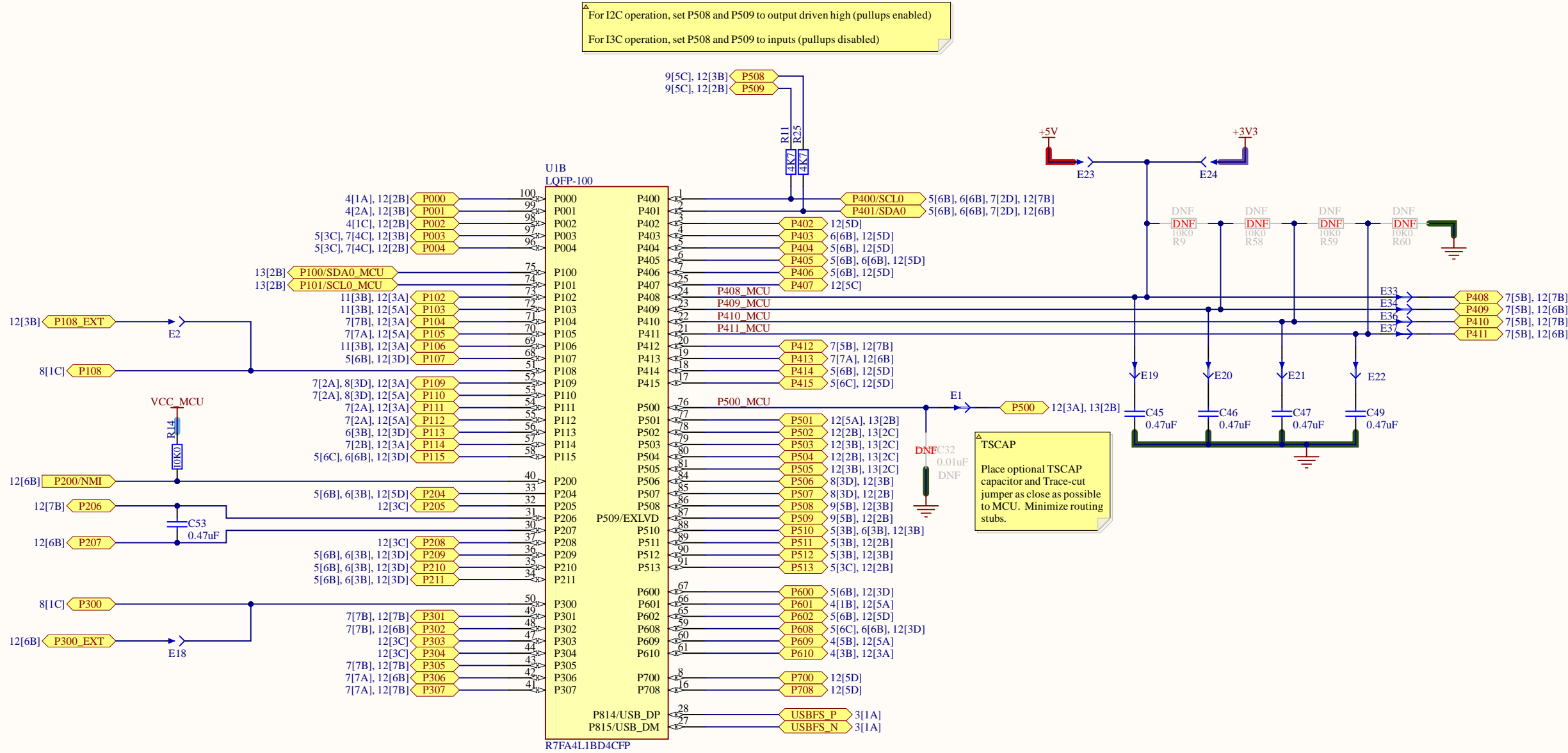


## JTAG Connectors

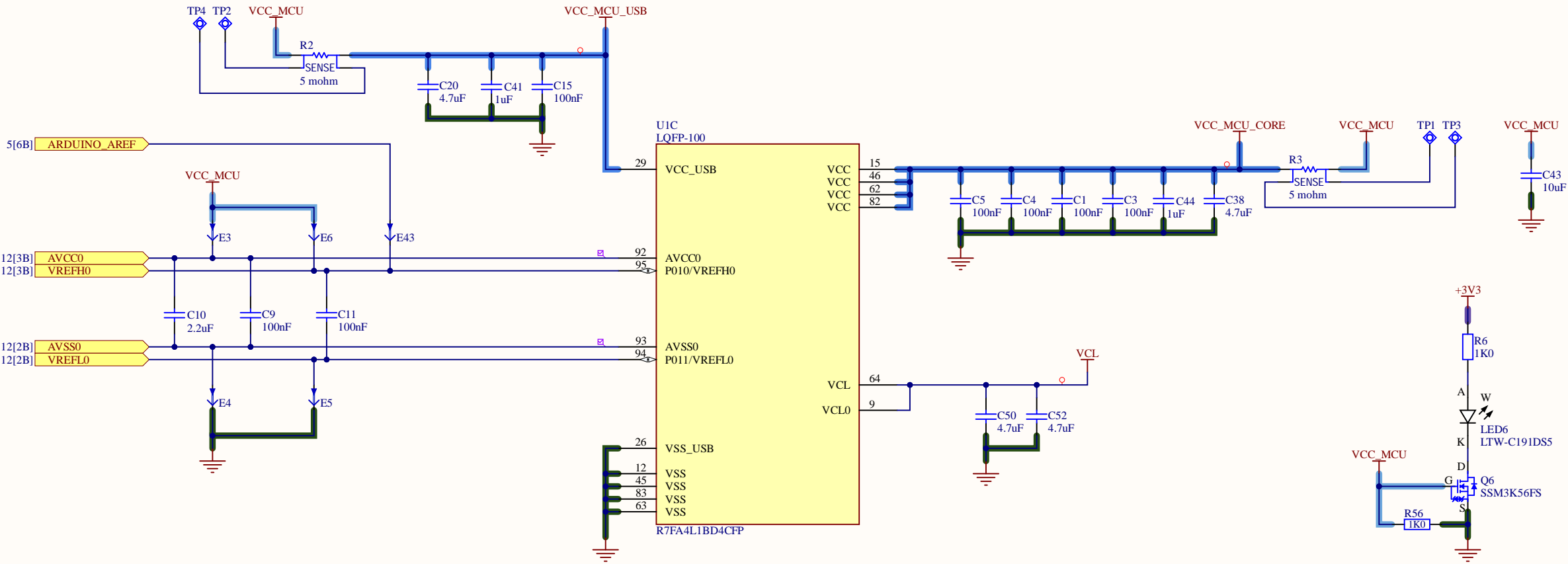
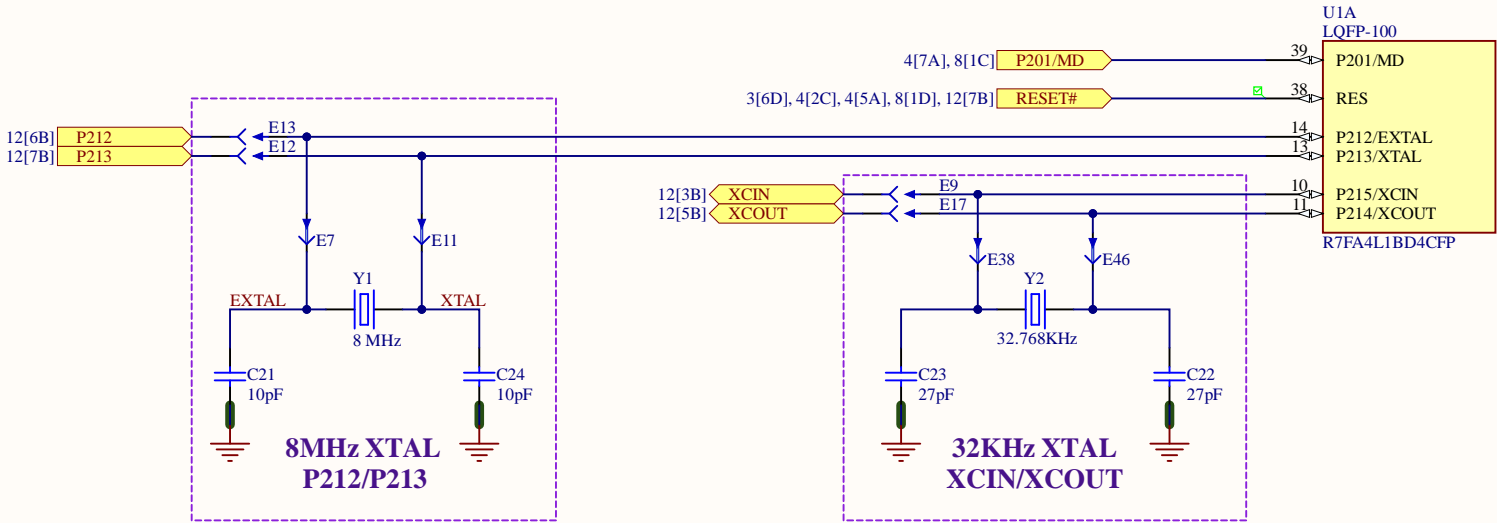
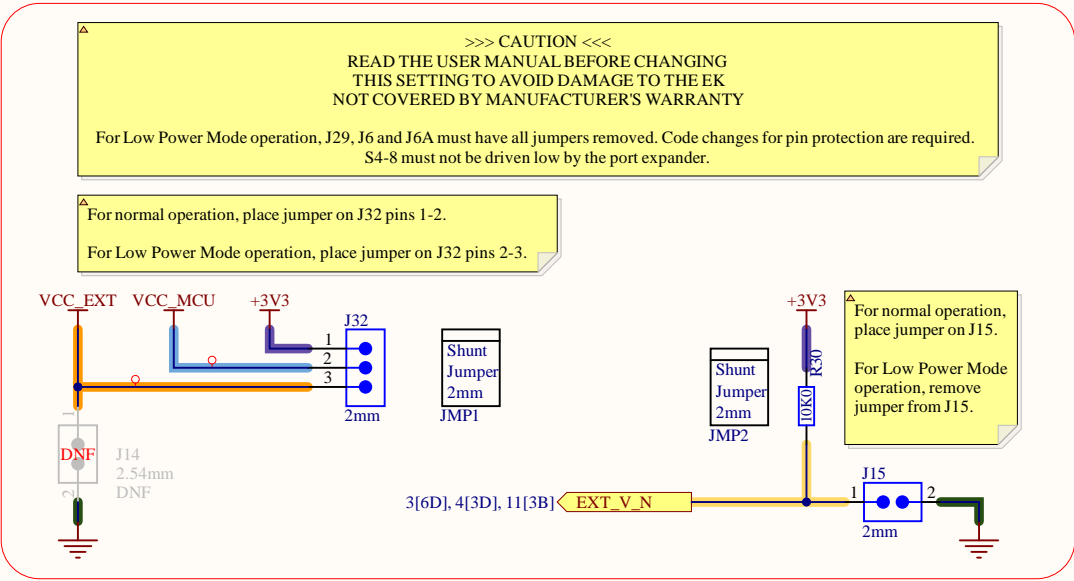




RA4L1 Microcontroller

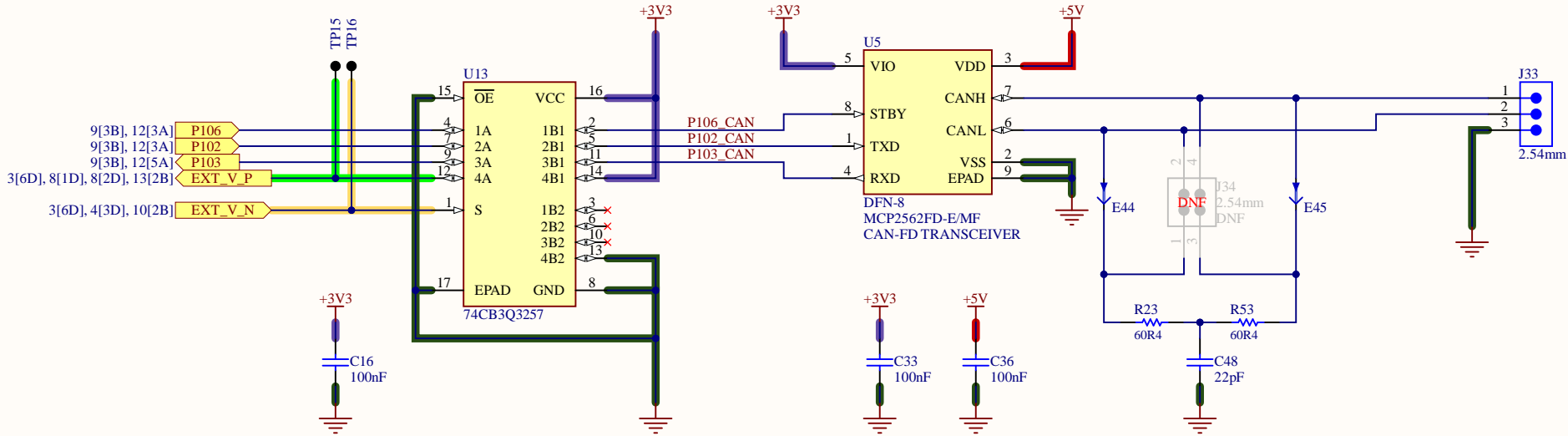


RA4L1 Microcontroller



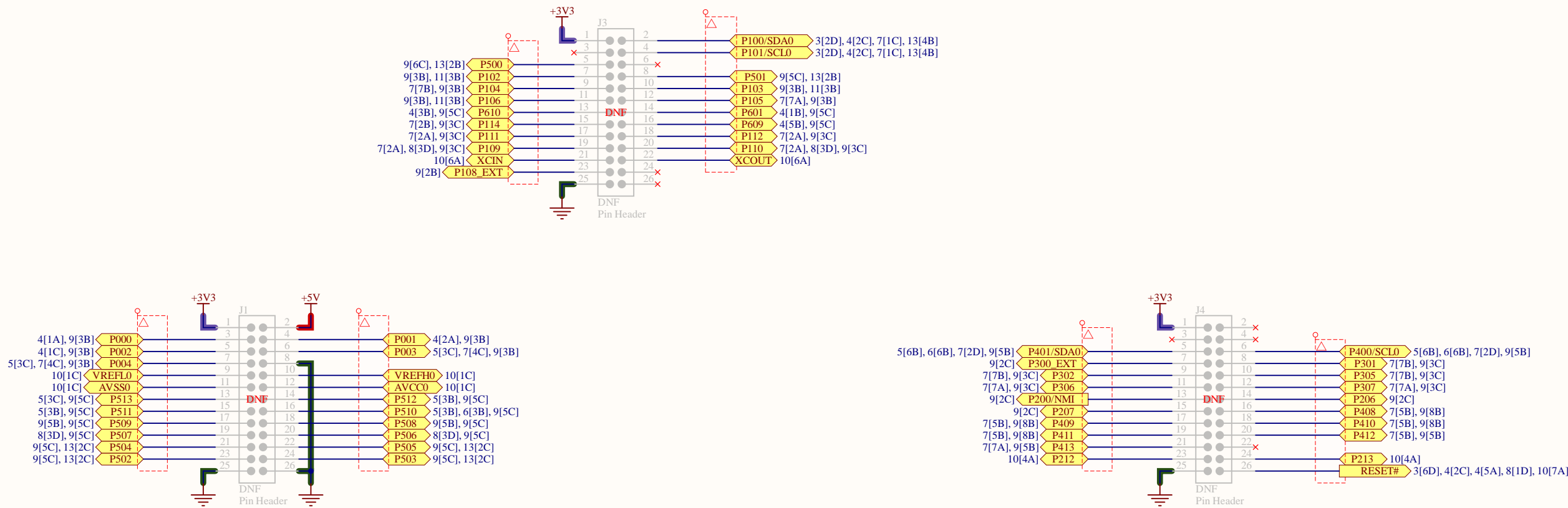
MCU POWER AVAILABLE LED

CAN FD

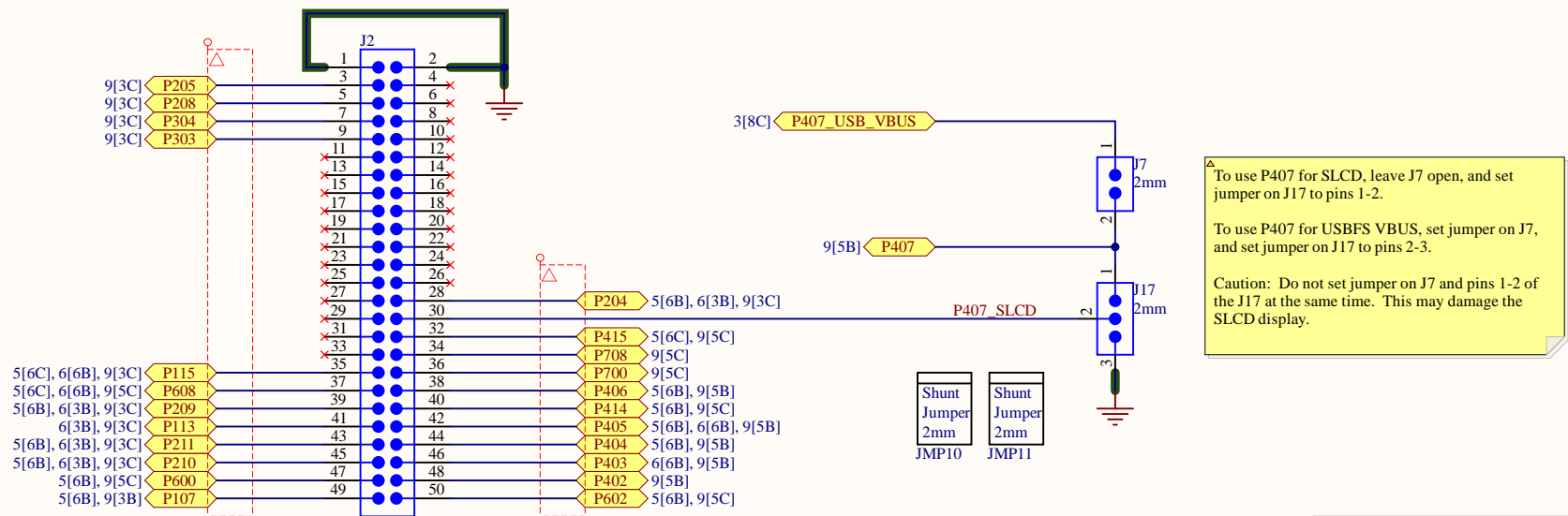


When EXT\_V\_N is high (low voltage mode) Port A will be connected to Port B2.  
When EXT\_V\_N is low (default) Port A will be connected to Port B1.

PIN HEADERS



Segment LCD Board Interface



## QUAD SPI FLASH

