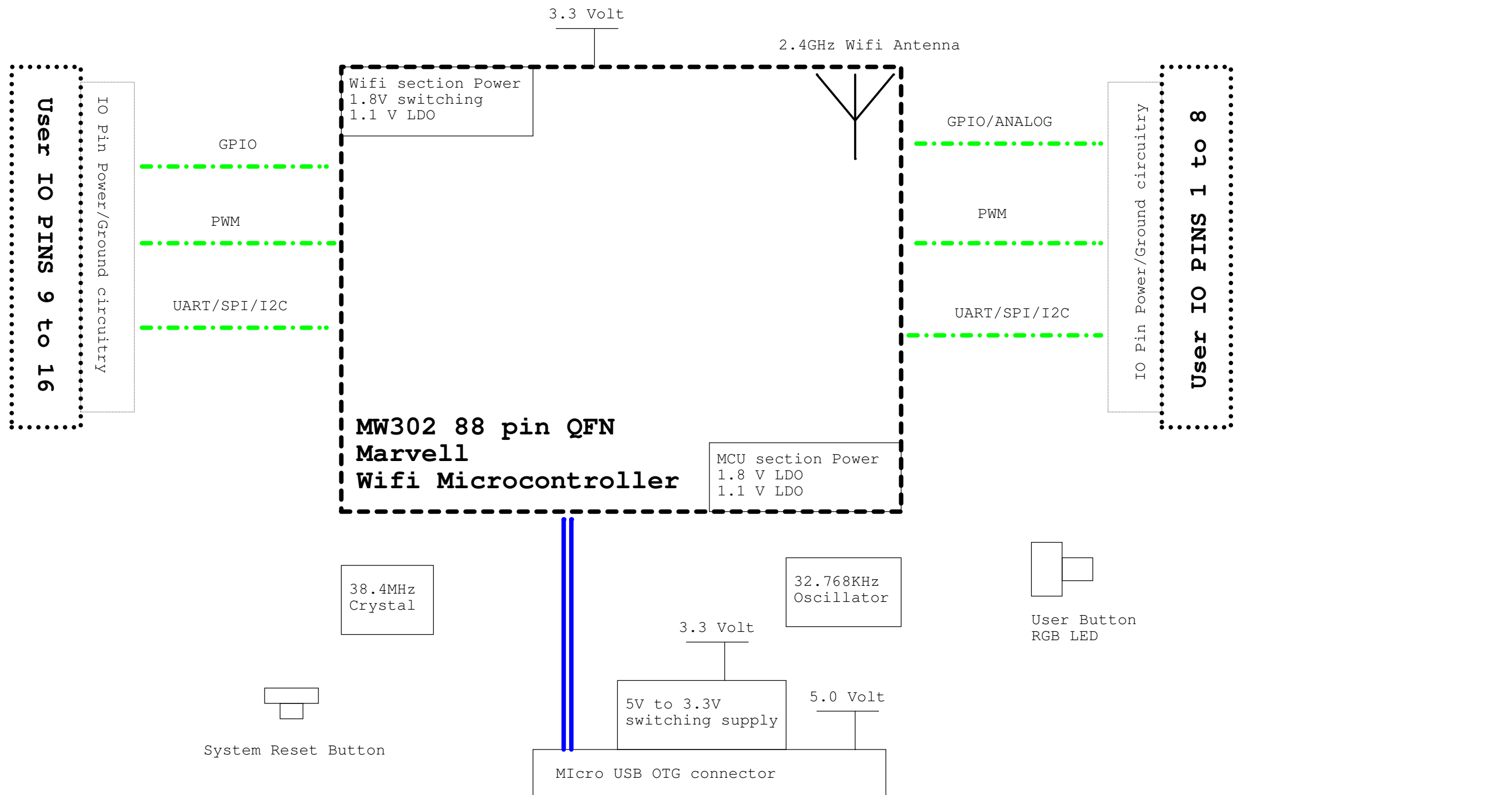


# Element DVT Schematics



## Optional Features

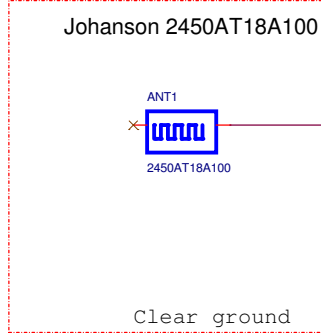
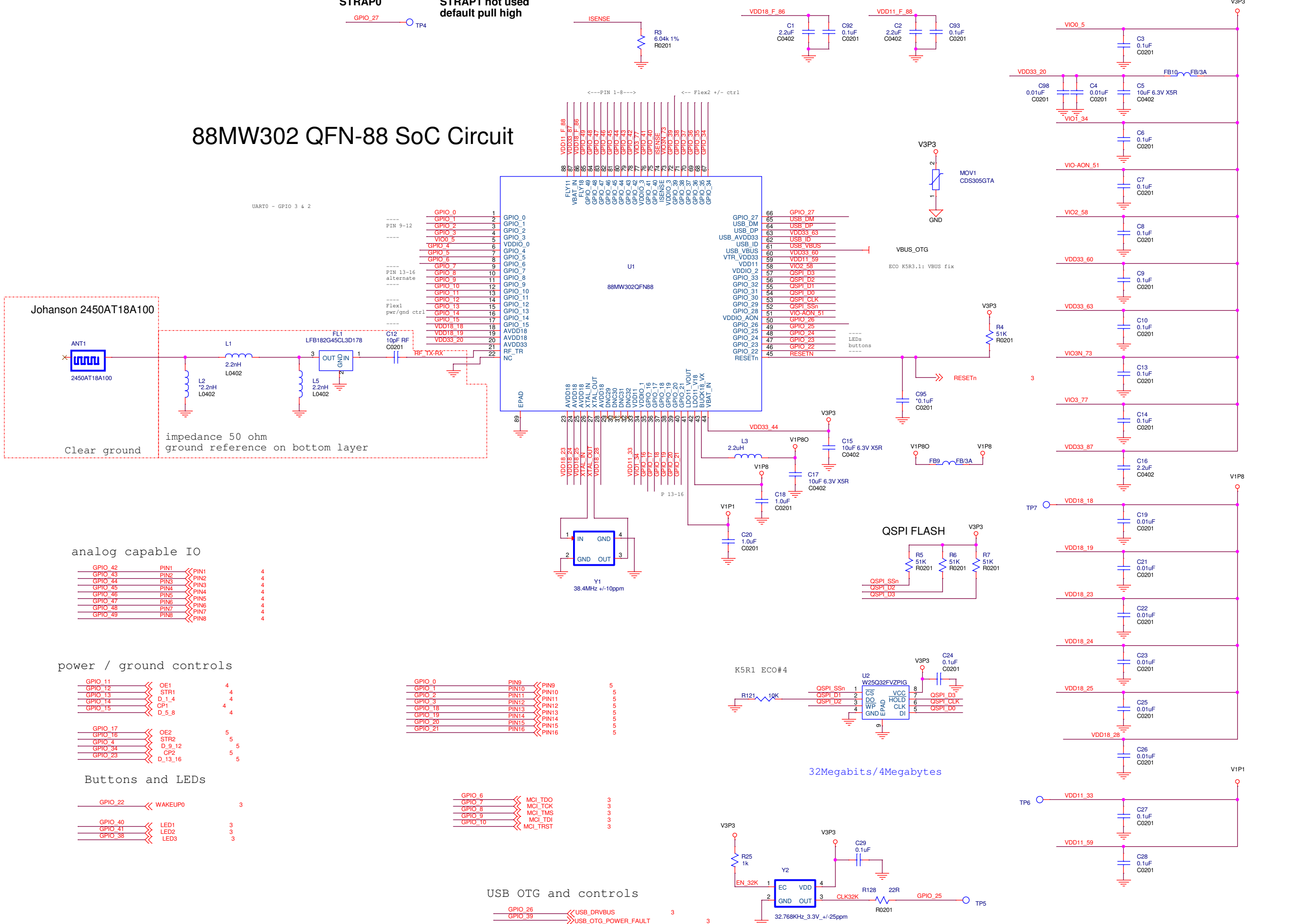
JTAG access is provided for Development use  
hookup points for battery power and USB power switch

## Table of Contents

- P1 - Block Diagram
- P2 - MW300 SOC, antenna, Flash, sleep clock
- P3 - system power, USB OTG, buttons, LED, connector to dongle
- P5 - Flex connector #1 analog capable port
- P6 - Flex connector #2 digital only
- P99 - Change History

Marvell Technology Ltd		Kinoma	
Title <b>Kinoma Element</b>		Rev p	
Size C	Document Number Kinoma Element DVT	Date Monday, November 23, 2015	
Sheet 1 of 6			

# 88MW302 QFN-88 SoC Circuit



## analog capable IO

GPIO 42	PIN1	4
GPIO 43	PIN2	4
GPIO 44	PIN3	4
GPIO 45	PIN4	4
GPIO 46	PIN5	4
GPIO 47	PIN6	4
GPIO 48	PIN7	4
GPIO 49	PIN8	4

## power / ground controls

GPIO 11	OE1	4
GPIO 12	STR1	4
GPIO 13	D_1_4	4
GPIO 14	CP1	4
GPIO 15	D_5_8	4
GPIO 17	OE2	5
GPIO 16	STR2	5
GPIO 4	D_9_12	5
GPIO 34	CP2	5
GPIO 23	D_13_16	5

## Buttons and LEDs

GPIO 22	WAKEUP0	3
GPIO 40	LED1	3
GPIO 41	LED2	3
GPIO 38	LED3	3

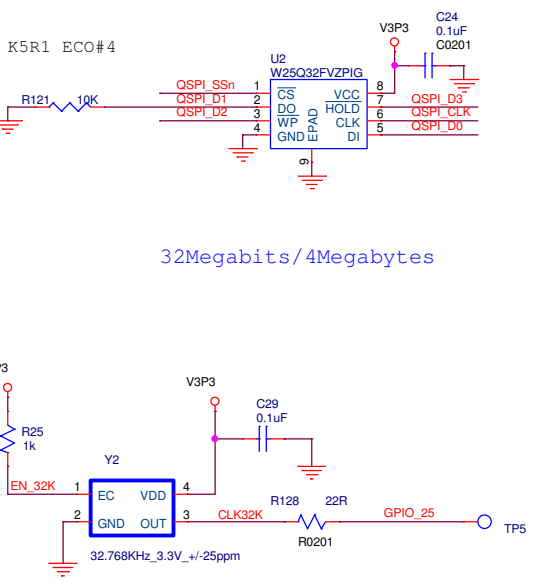
GPIO 0	PIN9	5
GPIO 1	PIN10	5
GPIO 2	PIN11	5
GPIO 3	PIN12	5
GPIO 18	PIN13	5
GPIO 19	PIN14	5
GPIO 20	PIN15	5
GPIO 21	PIN16	5

GPIO 6	MCI_TDO	3
GPIO 7	MCI_TCK	3
GPIO 8	MCI_TMS	3
GPIO 9	MCI_TDI	3
GPIO 10	MCI_TRST	3

## USB OTG and controls

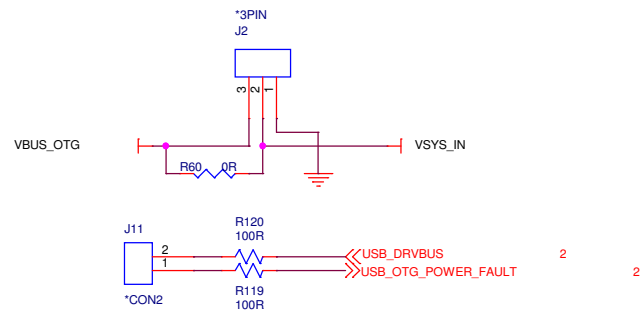
GPIO 26	USB_DRVBUS	3
GPIO 39	USB_OTG_POWER_FAULT	3
USB_DM	USB_DM	3
USB_DP	USB_DP	3
USB_ID	USB_ID	3

## SLEEP CLK

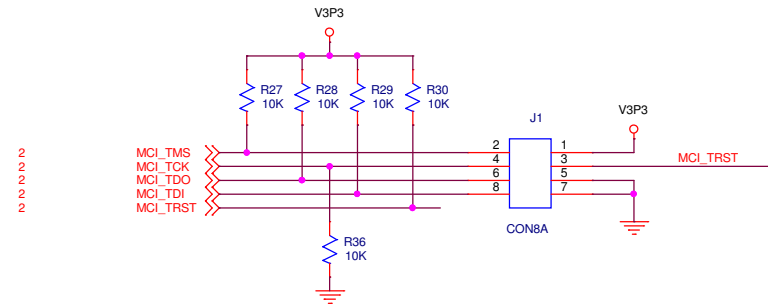


# FTDI, USB OTG JTAG on dongle for development

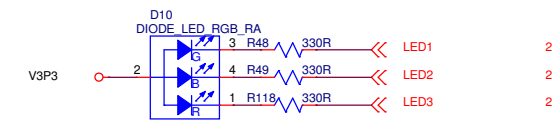
## Battery Hookup



ECO K5R3.4: depopulate two pin connector

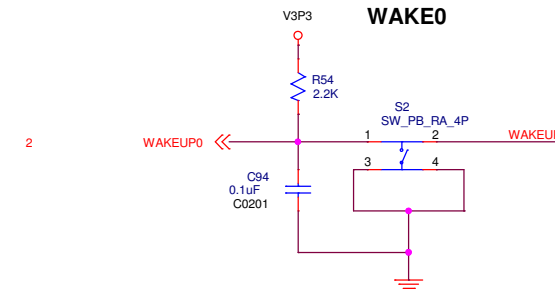


## APPLICATION RGB LED

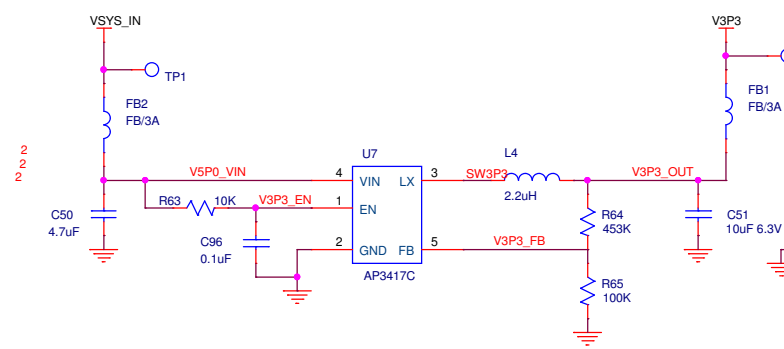
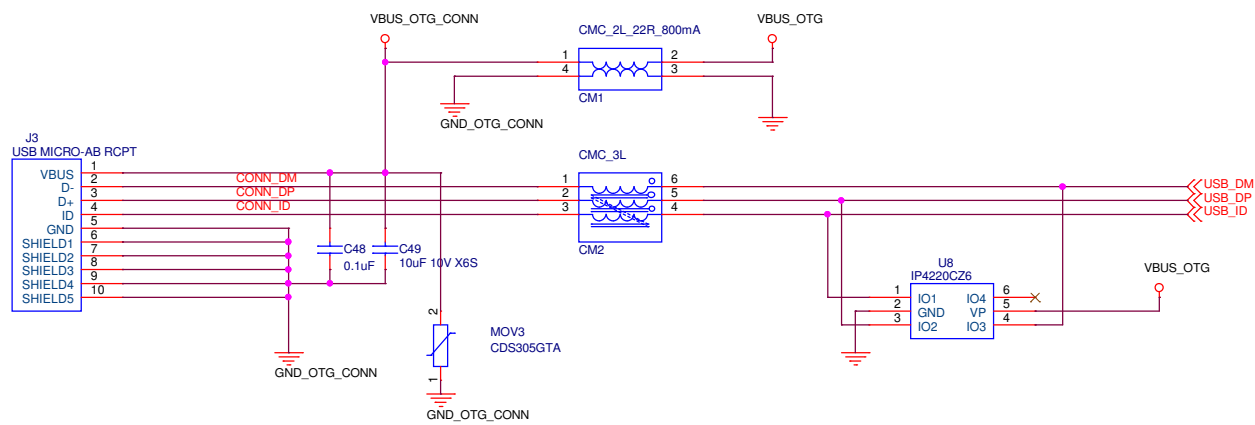
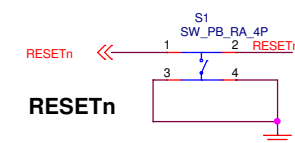


USB power switch moved to battery board

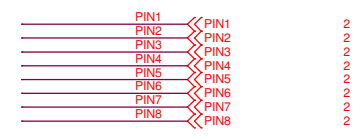
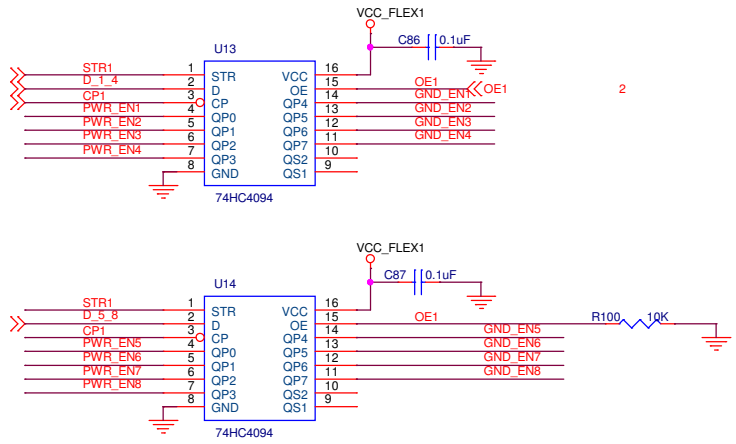
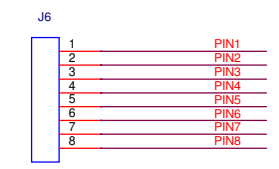
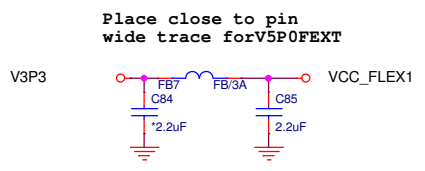
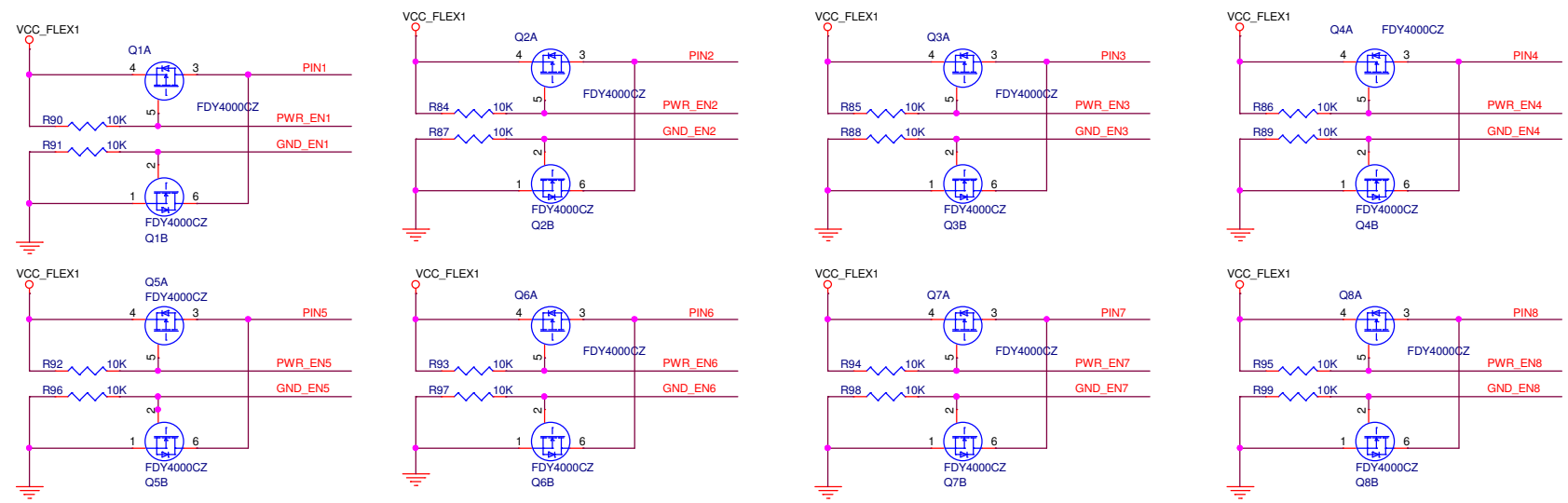
## WAKE0



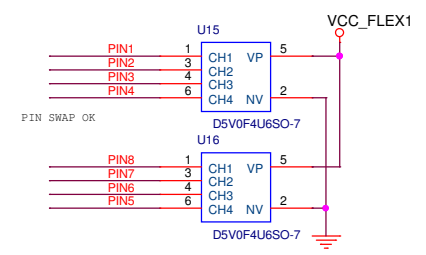
## PUSH BUTTONS

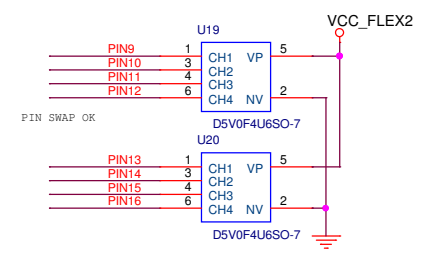
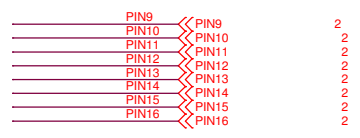
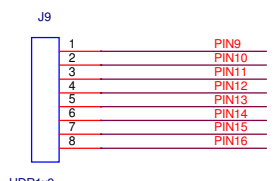
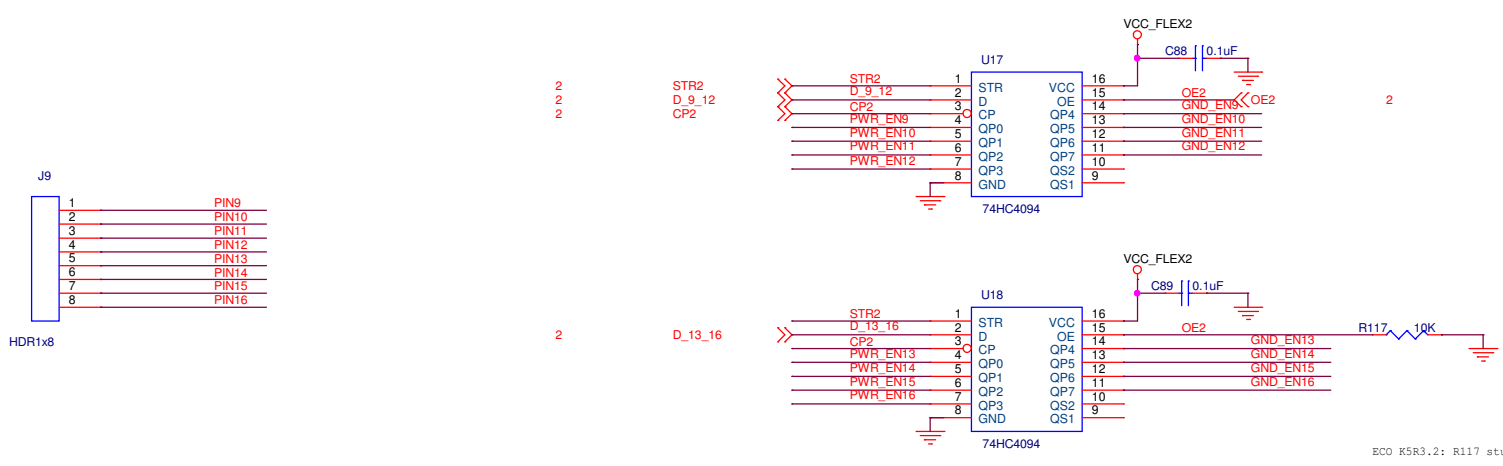
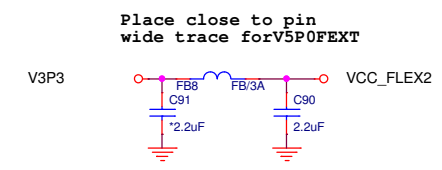
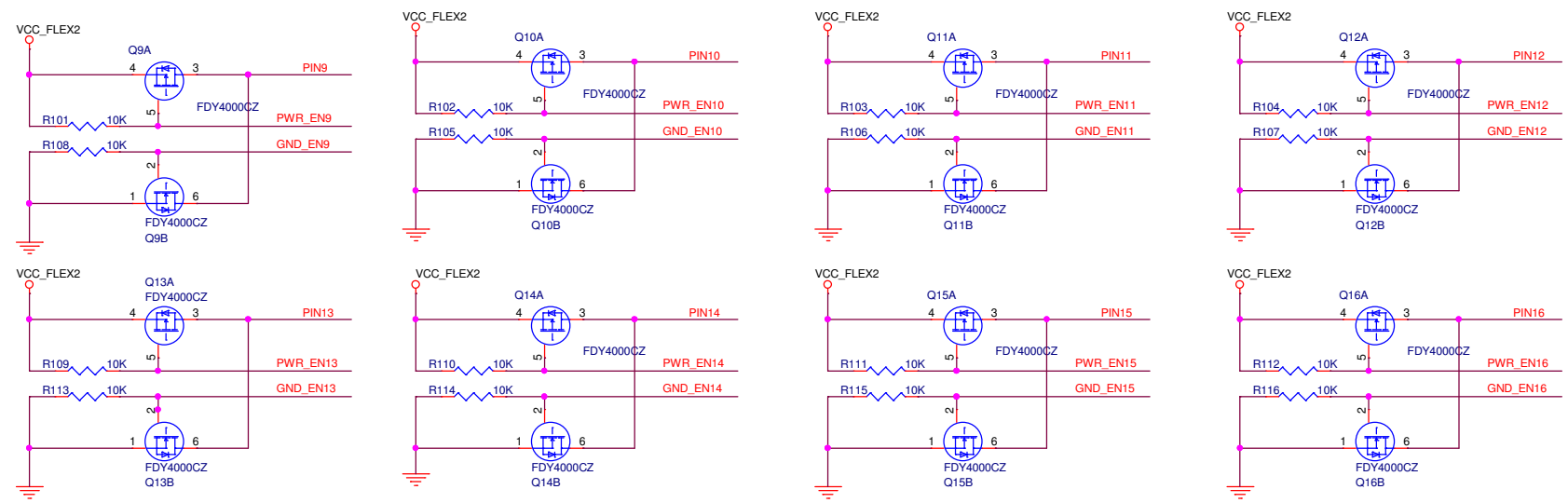


MOD: need for reset fix



Note: Need location from ID





ECO K5R3.2: R117 stuffing

## Revision History

### K5R0 First Prototype

- four layer with FPGA for crossbar

### K5R1 EVT1

- 2 layer design 2in x 2in for EMI prescan

### K5R3 EVT2

- 2 layer shrink to 1.6in x 1.6 in
- new push button
- new MOV
- replace strap0 resistor with TP
- remove strap1 resistor
- added ground TP
- use surface mount connectors
- removed USB power switch

### K5R4 EVT3 bug fix from K5R3

- USB\_VBUS fix
- new mosfets
- stuff R117
- murata band pass filter
- beefed up vias near tx pin and GND
- improve decoupling of V3Pv and GND near tx pin
- improve high current loop near switcher

### Element DVT1

- remove adaptor board