

# Ranger Evaluation Board for USB5537B-A3

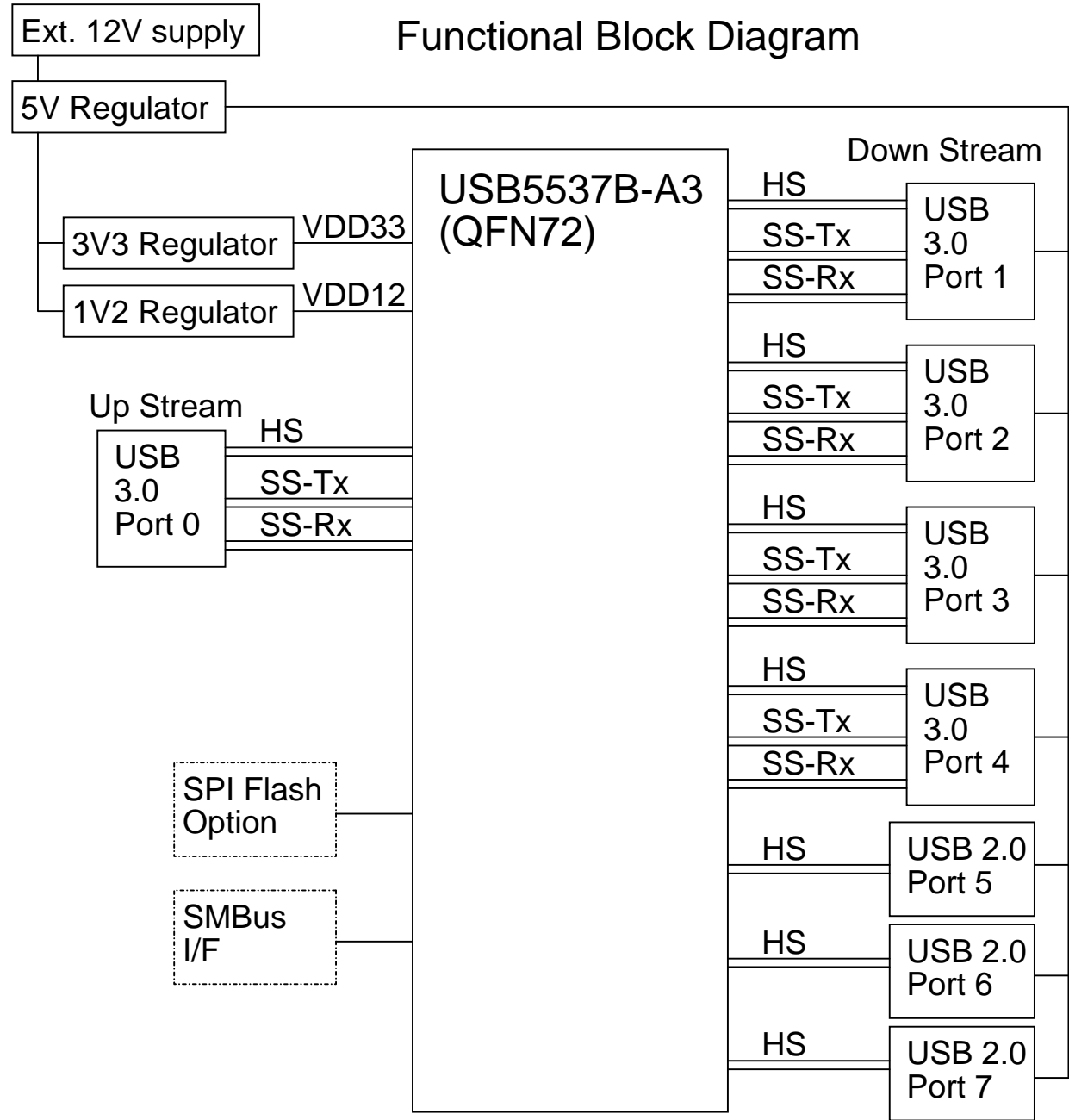
A USB5537 EVB that supports:

- Self-powered platform from 12 VDC
- Can supply maximum USB current to all ports simultaneously
- 4 Down Stream USB 3.0 ports + 3 USB 2.0 ports
- Crystal or Oscillator Inputs for clock generation
- Optional SPI programming and configuration
- Battery Charging on all ports
- Over 5 A (total) Port Power down stream at any one time!
- 2.5 A (max.) Port Power per any port.

## Revision History

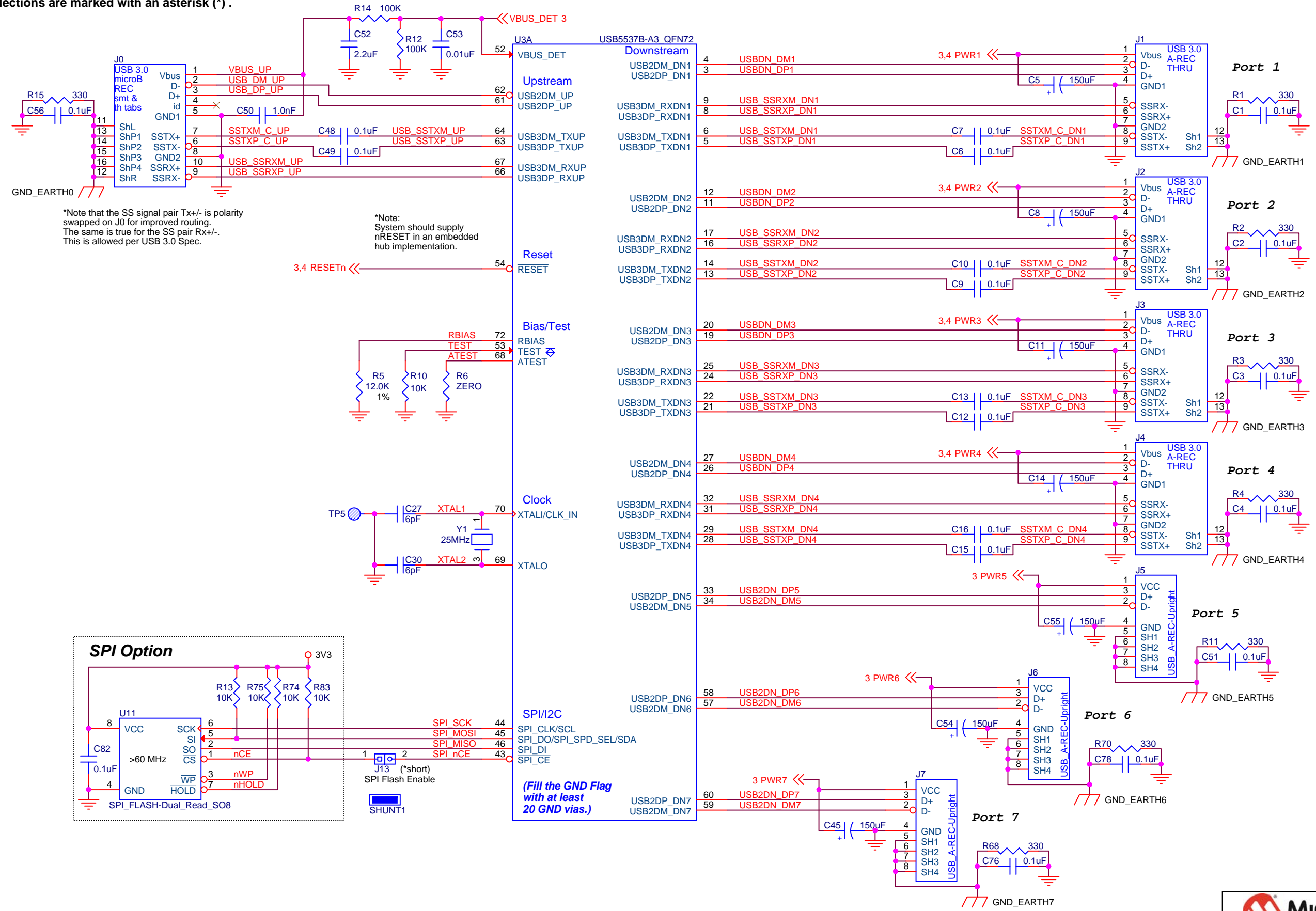
Revision	Date	Revision Summary	Author
00A	20110303	From Mountie and Flatfoot	C. Johnson
A	20110307	Renumber and release.	C. Johnson
B	20110311	Revise power supply and regulators.	C. Johnson
C	20110525	Release	C. Johnson
C1	20110928	Replaced ATEST with 0 Ohm, populated 6pF caps on XTAL1 and XTAL2, changed 1.3V regulator to 1.25V.	J. Hancock
C2	20111219	Added 220uF cap on 12V input to 5V regulator.	J. Hancock
C3	20120322	Added SMP header for SMBus. Added 0.1uF caps on OCS pins.	J. Hancock
D	20130301	Replaced Upstream connector with u-B, add BC support on all 7 ports.	C. Johnson
E	20140220	Added support for USB5537_A3-6080 including new strapping options.	C. Johnson

Functional Block Diagram



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Description: <b>Evaluation Board for USB5537B-A3, QFN72</b>			
Page Content: <b>Title Page</b>			
Project Name: <b>Ranger</b>	PN: <b>EVB-USB5537</b>		
Size: <b>B</b>	Date: <b>Thursday, March 13, 2014</b>	Sheet 1 of 4	Rev.: <b>E</b>

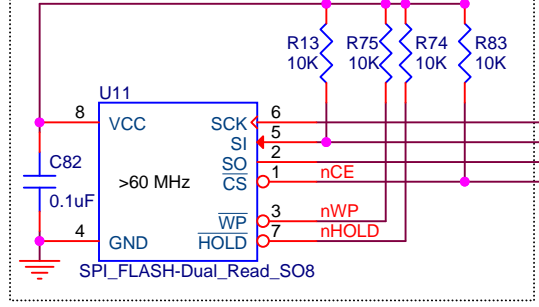
**Note:**  
Default selections are marked with an asterisk (\*).



\*Note that the SS signal pair Tx+/- is polarity swapped on J0 for improved routing. The same is true for the SS pair Rx+/- . This is allowed per USB 3.0 Spec.

\*Note: System should supply nRESET in an embedded hub implementation.

**SPI Option**

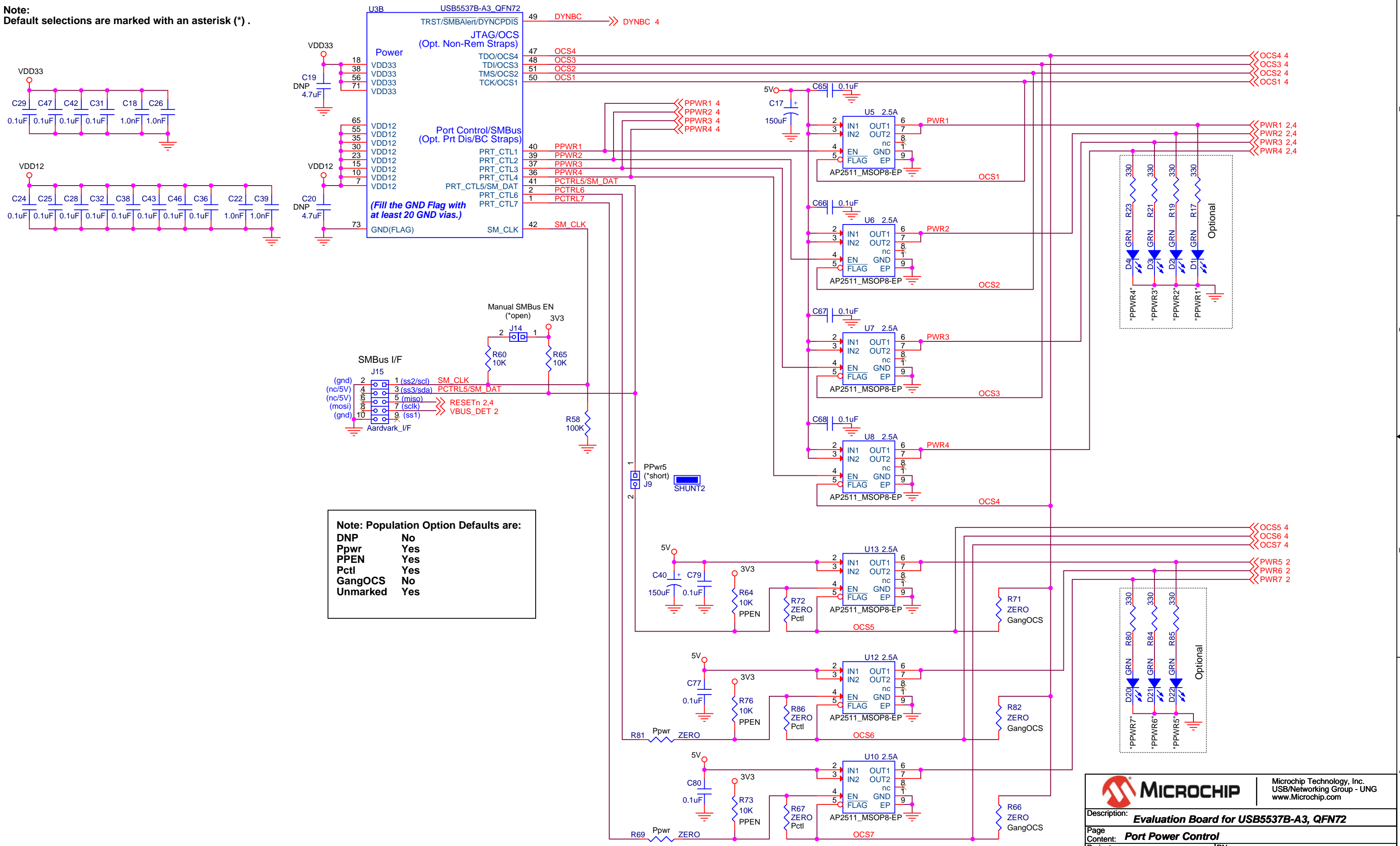


**SPI/I2C**  
SPI\_CLK/SCL  
SPI\_DO/SPI\_SPD\_SEL/SDA  
SPI\_DI  
SPI\_CE

(Fill the GND Flag with at least 20 GND vias.)

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Project Name: <b>Ranger</b>		PN: <b>EVB-USB5537</b>	
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**Note:**  
Default selections are marked with an asterisk (\*).



**Note: Population Option Defaults are:**

DNP	No
Ppwr	Yes
PPEN	Yes
Pctl	Yes
GangOCS	No
Unmarked	Yes

\*Note: AP5111 device has auto-discharge function

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Description: **Evaluation Board for USB5537B-A3, QFN72**

Page Content: **Port Power Control**

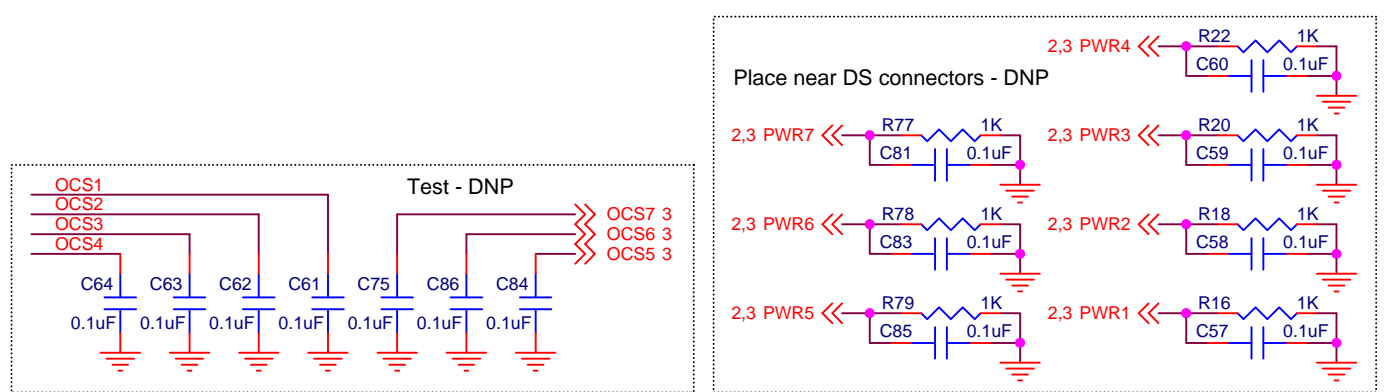
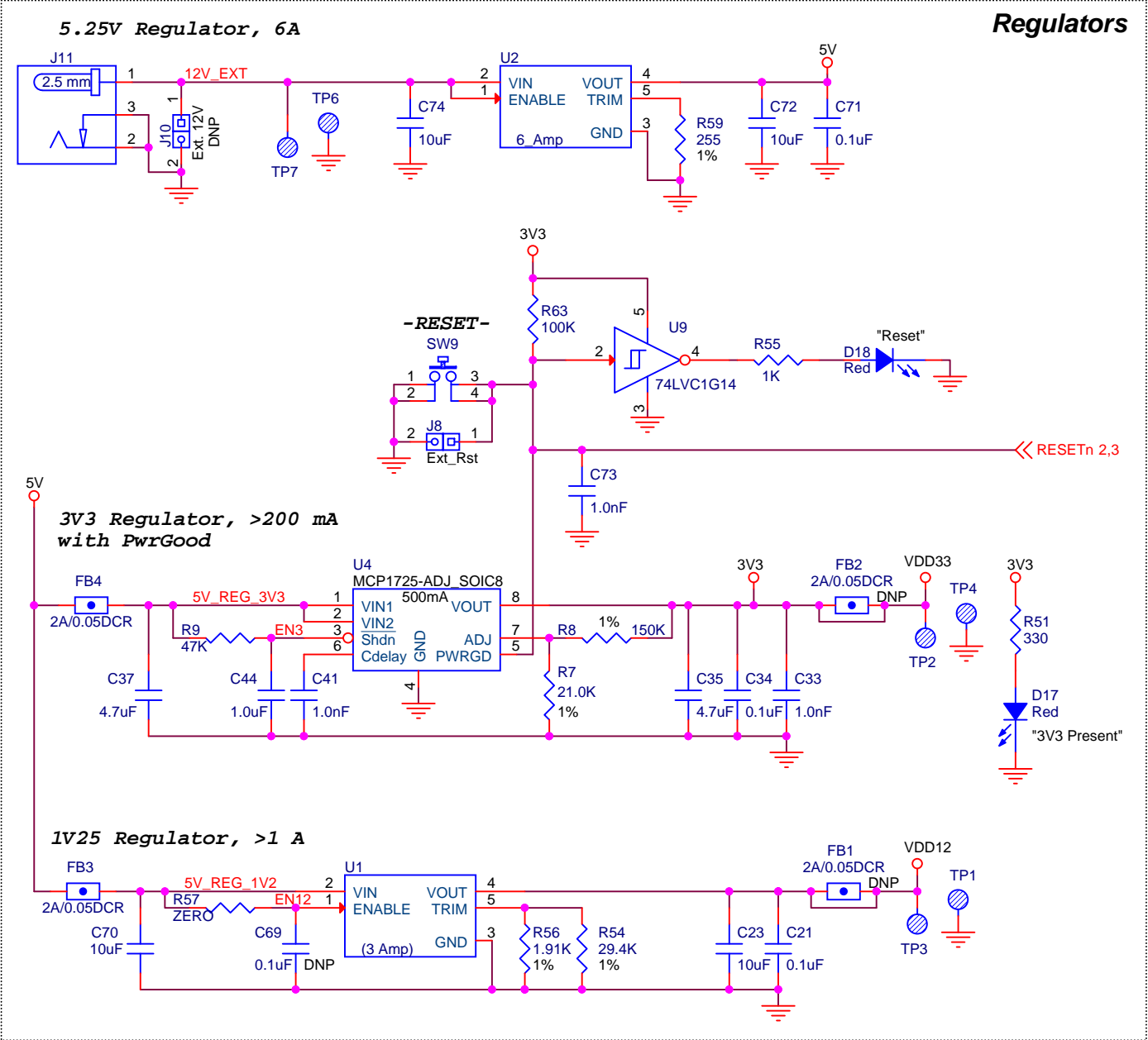
Project Name: **Ranger** PN: **EVB-USB5537**

Size: **B** Date: **Thursday, March 13, 2014** Sheet 3 of 4 Rev.: **E**

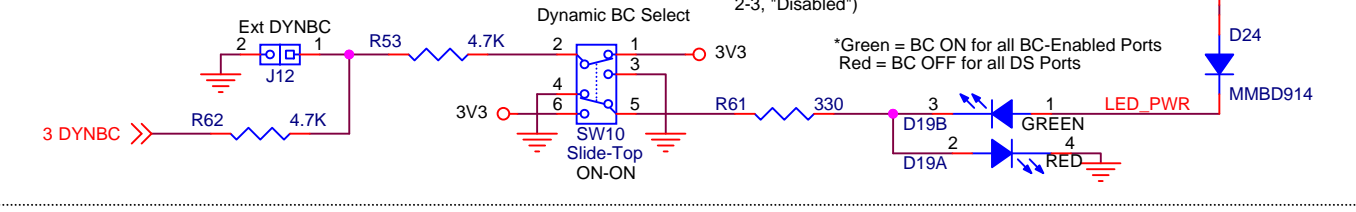
Note: Default selections are marked with an asterisk (\*).

Note: Population Option Defaults are:

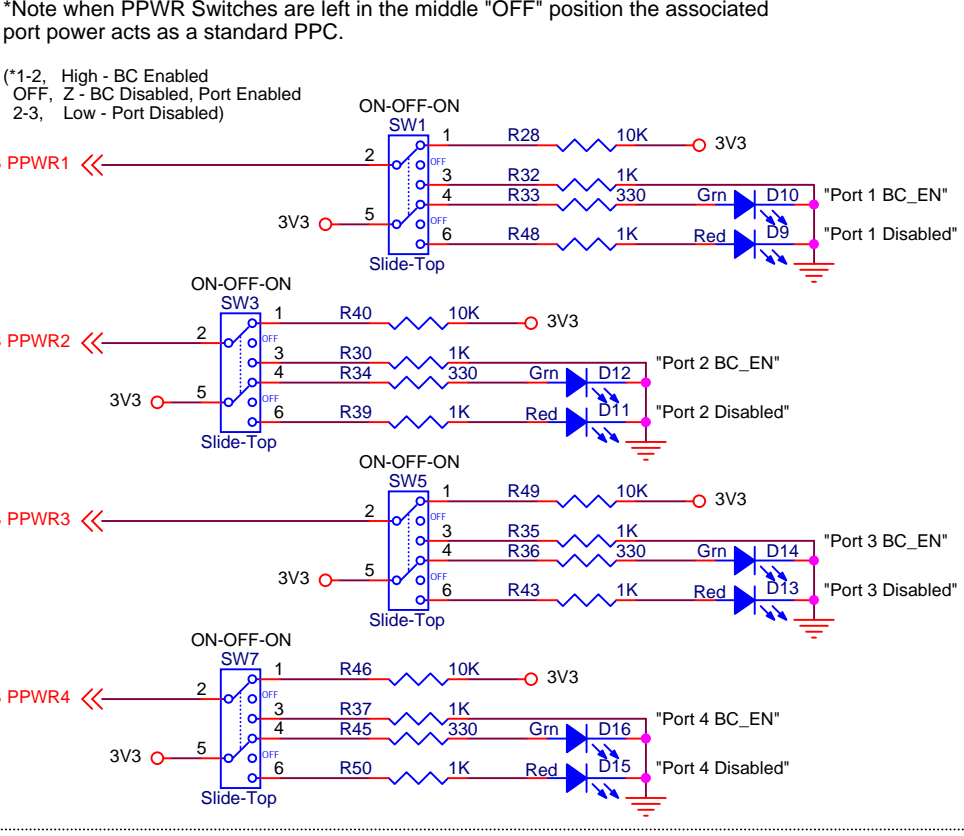
DNP No  
Unmarked Yes



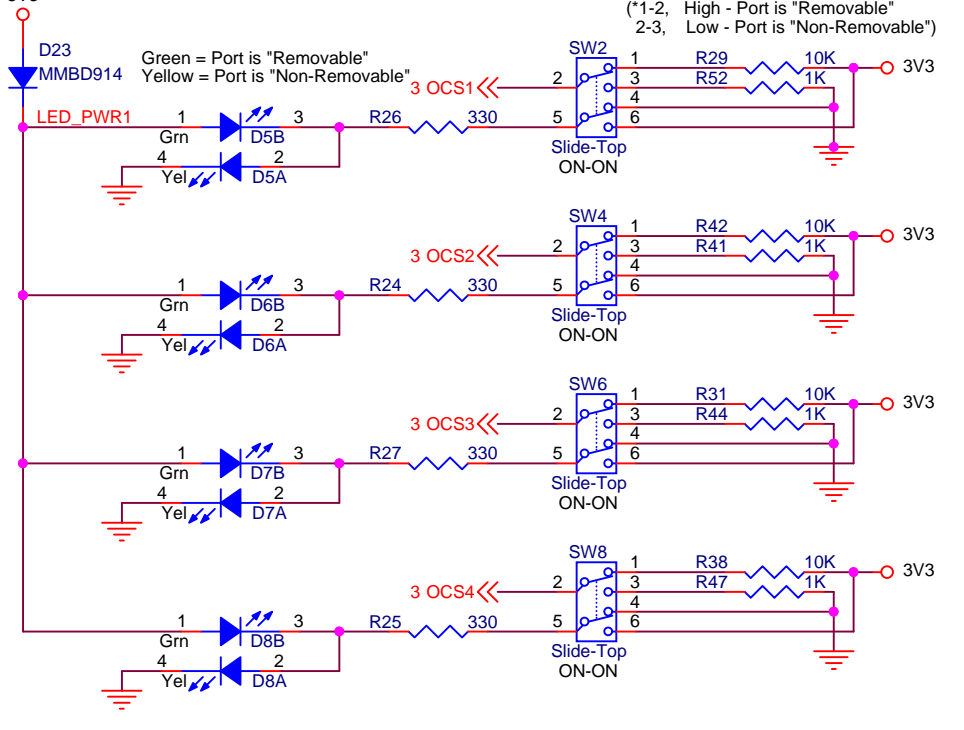
**Dynamic BC Strap Option**



**Port Power Strap Options: BC\_EN and Port Disable Select**



**OCS Strap Options: Non-Removable Select**



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Description: **Evaluation Board for USB5537B-A3, QFN72**

Page Content: **Regulators & Configuration**

Project Name: **Ranger** PN: **EVB-USB5537**

Size: **B** Date: **Thursday, March 13, 2014** Sheet 4 of 4 Rev.: **E**