


| Table of Contents |                                  |
|-------------------|----------------------------------|
| 2                 | Notes                            |
| 3                 | Power                            |
| 4                 | Mother Board connector           |
| 5                 | CAN Interface                    |
| 6                 | SPI/RS232 & LIN interface        |
| 7                 | FlexRay                          |
| 8                 | Fast Ethernet Controller         |
| 9                 | User I/O                         |
| 10                | User Peripherals Inc Prototyping |

MPC57xx EVB MOTHER BOARD

| Revisions |  |             |               |
|-----------|--|-------------|---------------|
| Rev       | Description  | Date        | Approved      |
| X1        | Original release to Agile BRA070 ECO32585  | 4-AUG-2011  | Martin Vaupel |
| X2        | Rotated J6 to ensure unique fitting of daughter cards<br>Release to Agile BRA070 ECO33096  | 2-SEP-2011  | Martin Vaupel |
| A         | Release to Agile BRA085 ECO33358   | 20-SEP-2011 | Martin Vaupel |
| AX1       | Update componets to match FIL stock<br>Updated some jumper symbols to be jumper not fitted<br>Modified the 1.25v power LED circuit<br>Added decoupling cap to RS232 circuit<br>Added Jumpers to Ethernet page<br>Changed value of RN55 | 12-APR-2012 | Martin Vaupel |
| B         | Release to FIL for Assembly  | 19-APR-2012 | Martin Vaupel |
| EX1       | MODS for Production revision<br>Changed some Through Hole connectors to Surface Mount  | 14-SEP-2012 | Martin Vaupel |
| C         | Release to FIL for Assembly  | 11-OCT-2012 | Martin Vaupel |



**Automotive, Industrial & Multi-market Solutions Group**  
6501 William Cannon Drive West  
Austin, TX 78735-8598

This document contains information proprietary to Freescale and shall not be used for engineering design, procurement or manufacture in whole or in part without the express written permission of Freescale.

ICAP Classification: FCP: FUC: X PUB:

|  |   |       |
|--|---|-------|
| Designer:<br>Martin Vaupel                     | Drawing Title:<br><b>MPC57xx MOTHER BOARD</b>   |       |
| Drawn by:<br>Martin Vaupel                     | Page Title:<br><b>Title</b>                     |       |
| Approved:<br>David McMenamin                   | Size C Document Number SCH-27237 PDF: SPF-27237 | Rev C |
| Date: Thursday, October 11, 2012 Sheet 1 of 10 |   |       |



- All Jumpers are 2mm spaced
- All port headers are 2.54mm spaced
- All caps are 10% accurate
- All res are 1% accurate



ICAP Classification: FCP: FIUO: X PUBI:

Drawing Title: **MPC57xx MOTHER BOARD**Page Title: **Notes**

|           |   |          |
|-----------|---|----------|
| Size<br>C | Document Number<br>SCH-27237 PDF: SPF-27237 | Rev<br>C |
|-----------|---|----------|

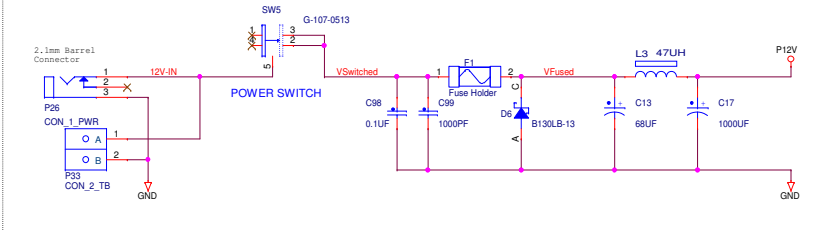
|                                  |               |
|----------------------------------|---------------|
| Date: Thursday, October 11, 2012 | Sheet 2 of 10 |
|----------------------------------|---------------|



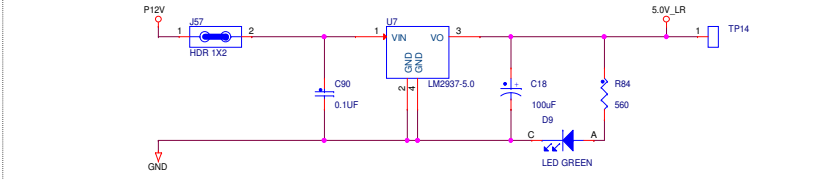
Regulators were designed to supply provide up to lamp. -> That might not be enough to suit Matterhorn and will be checked.

Regulators were designed using design tool on national semiconductors web site.

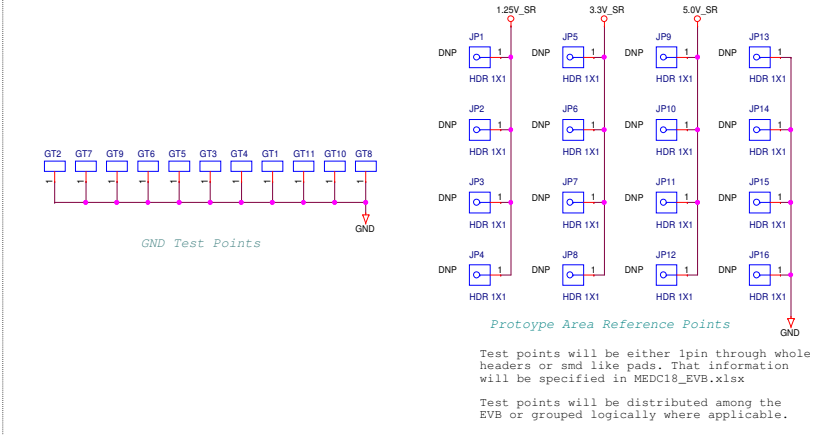
#### Power supply input and filter



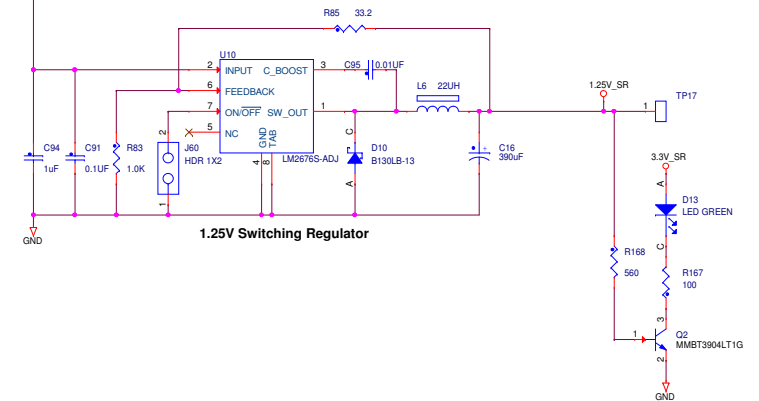
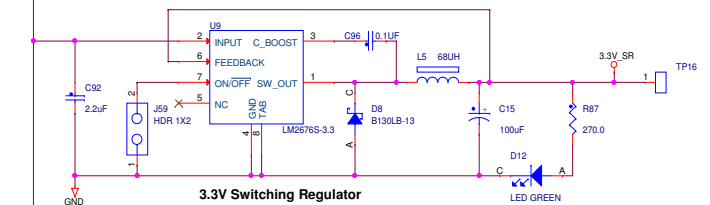
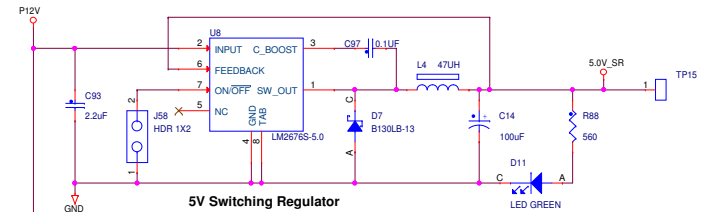
#### 5V Linear Regulator



#### Test and reference points

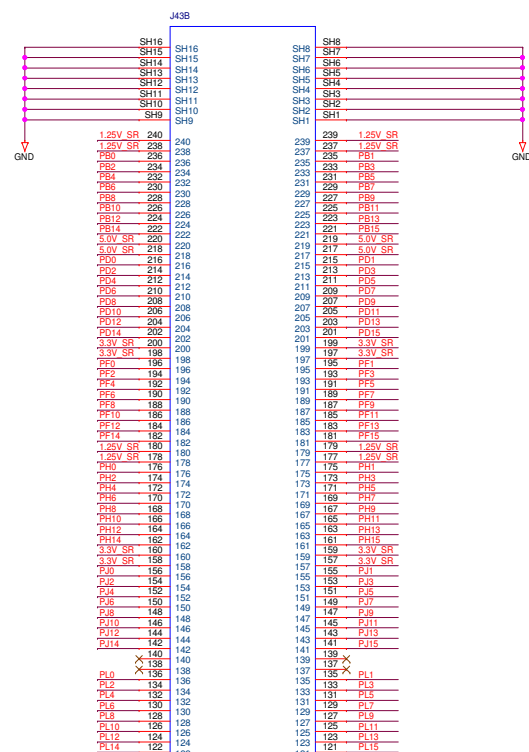
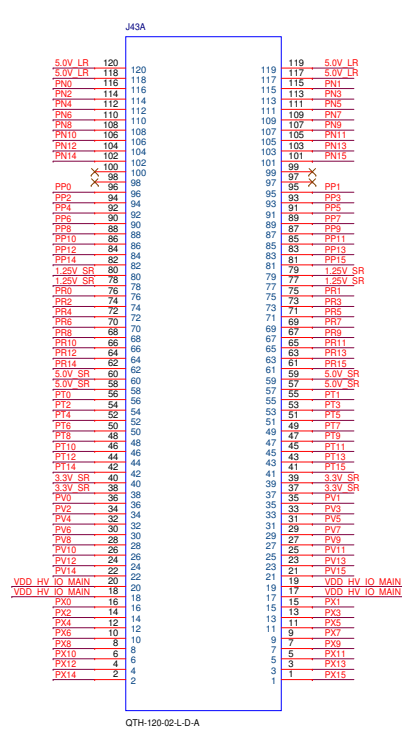
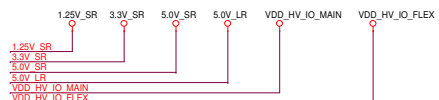


#### Switching Regulators





RST-SW is the signal coming from the reset switch (on daughter card).  
RST-MCU is connected to ESR0 and PORST via jumper (on daughter card).



ICAP Classification: FCP: FIUO: X PUBL:

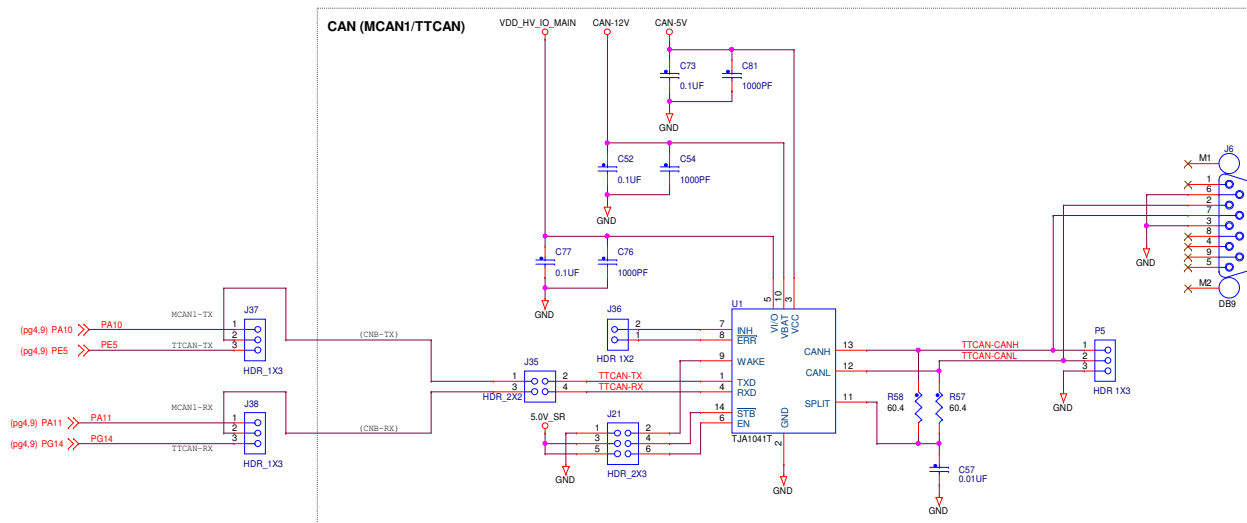
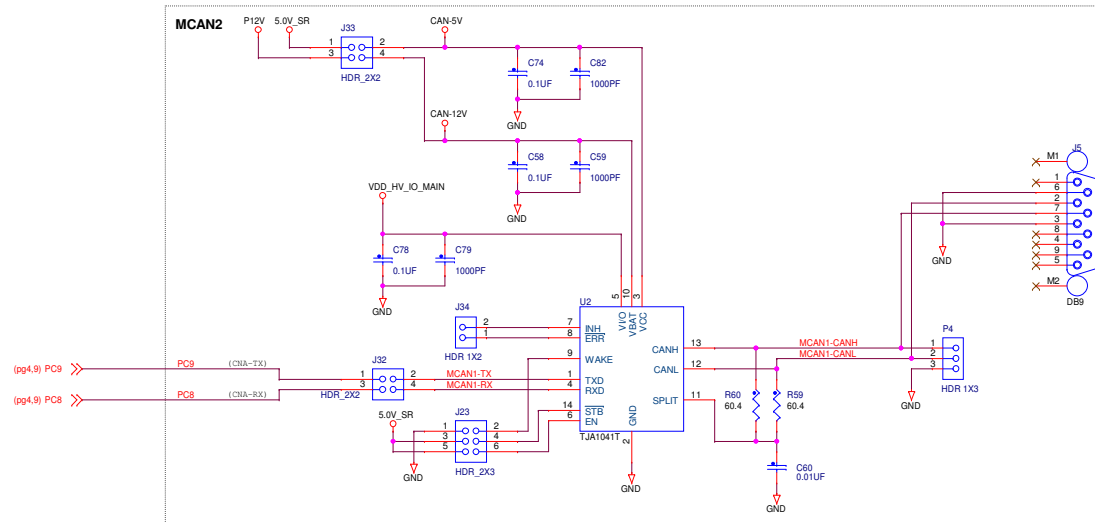
Drawing Title: **MPC57xx MOTHER BOARD**

Page Title:

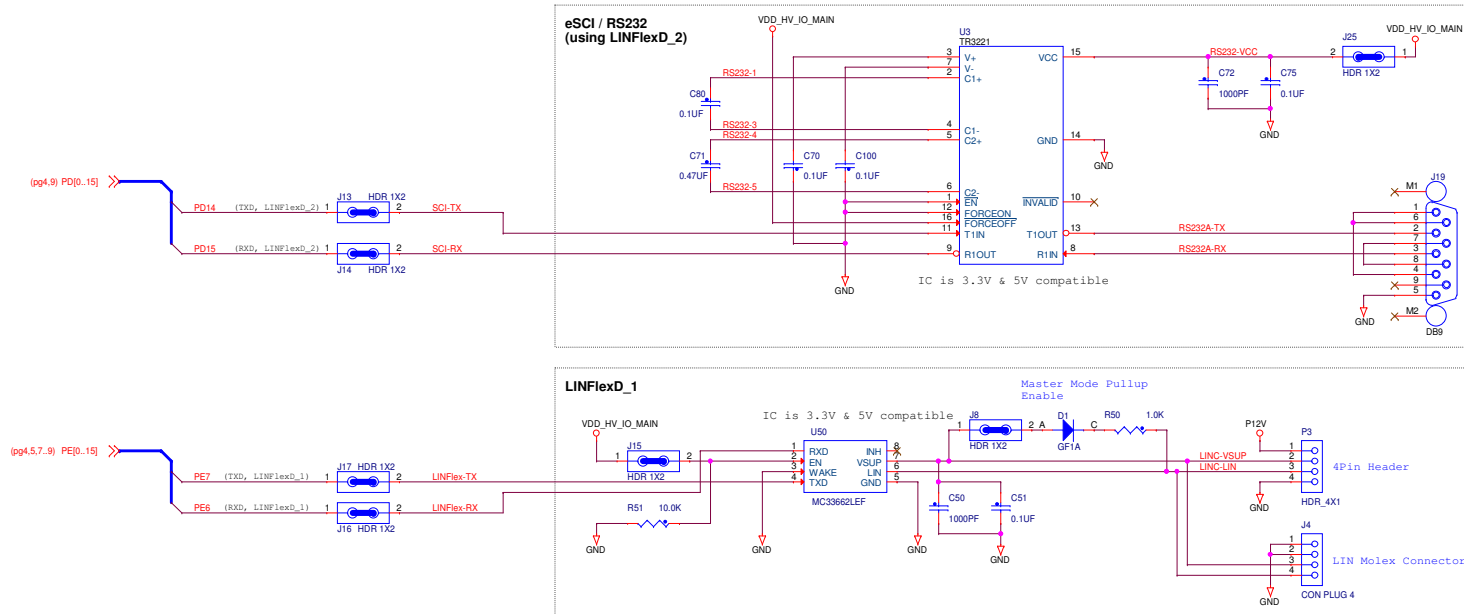
| Mother Board connector |                   |
|------------------------|-------------------|
| Class                  | Assignment Number |
|                        |                   |

|           |   |               |
|-----------|---|---------------|
| Size<br>C | Document Number<br>SCH-27237 PDF: SPF-27237 | REV<br>C      |
| Date:     | Thursday, October 11, 2012                  | Sheet 4 of 10 |

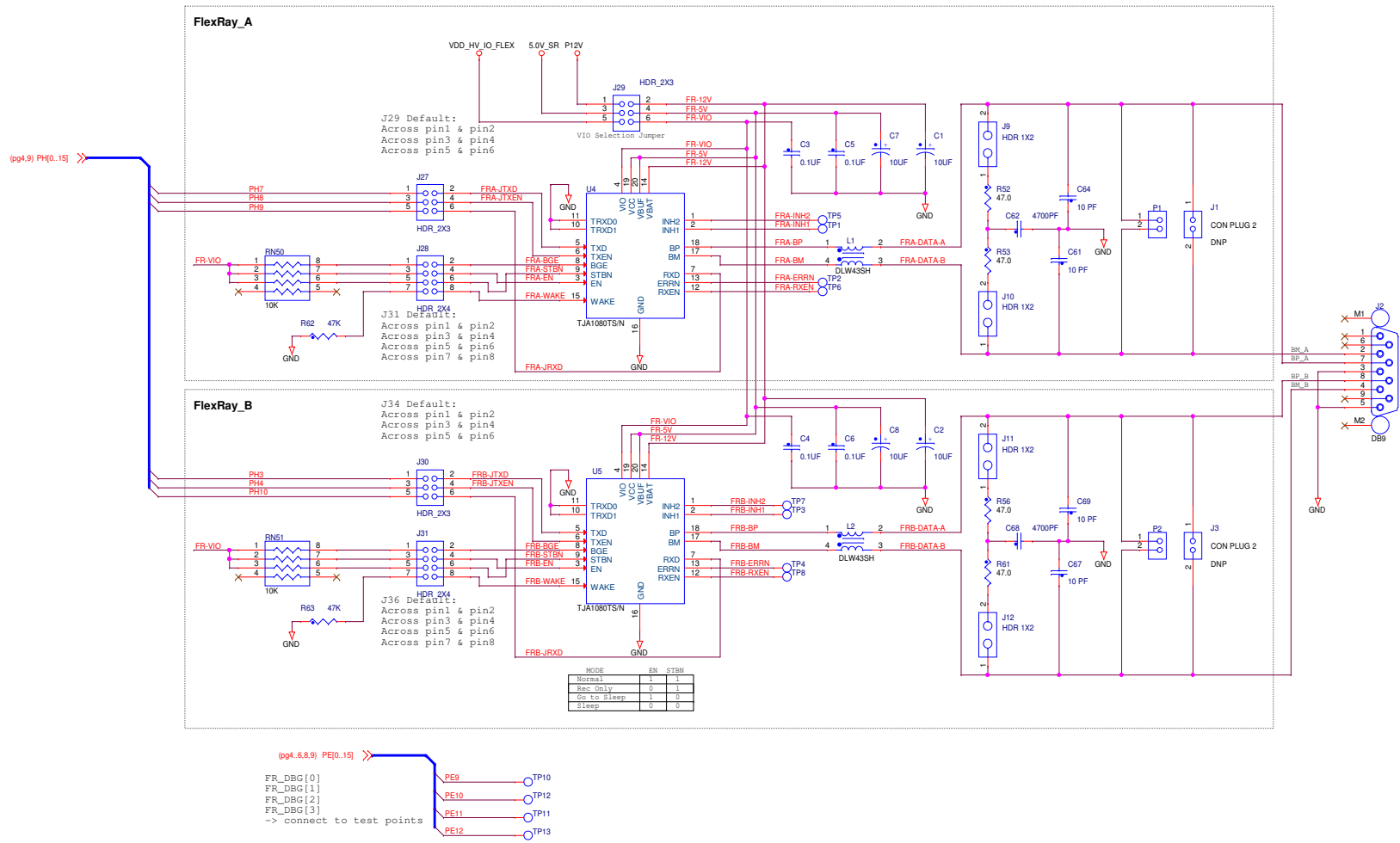








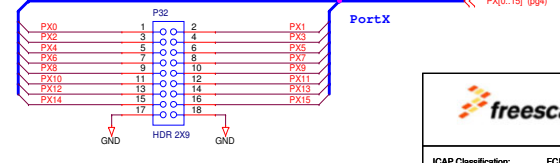
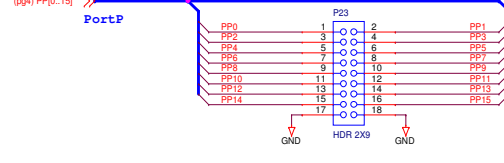
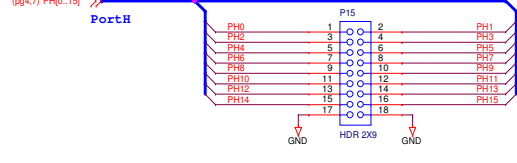
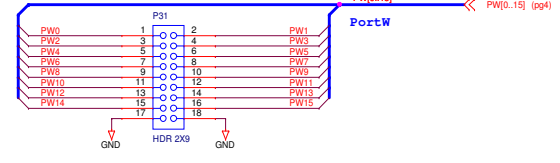
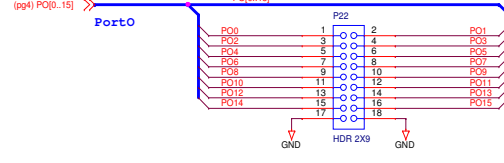
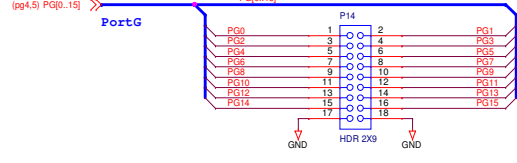
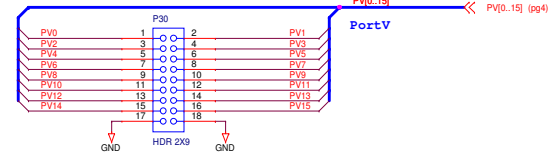
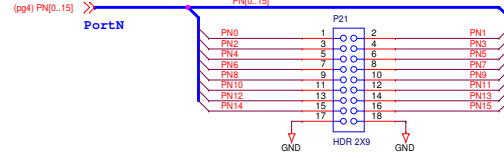
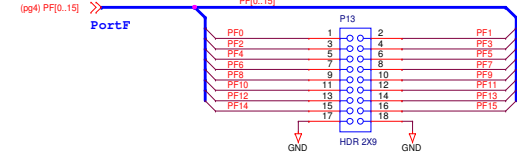
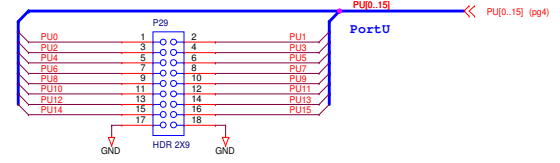
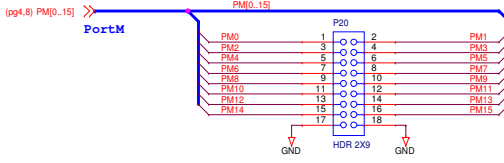
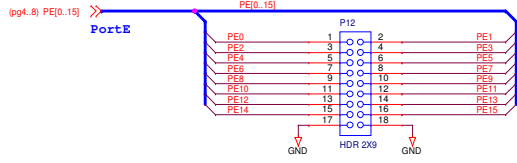
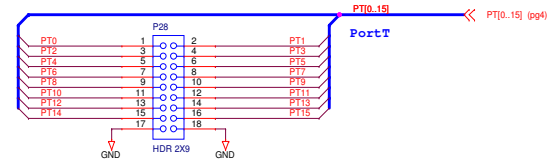
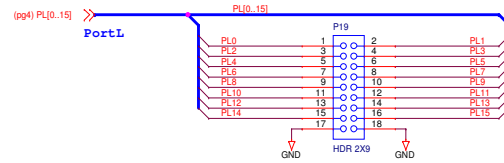
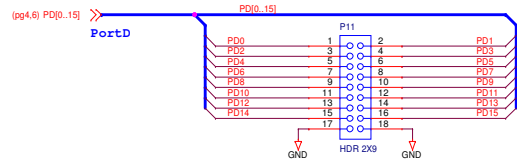
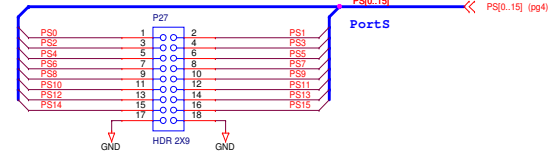
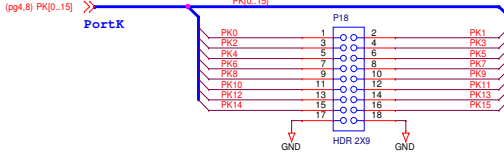
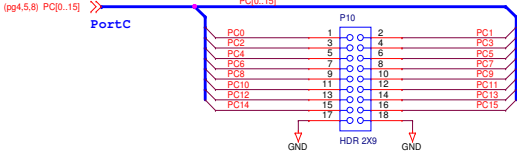
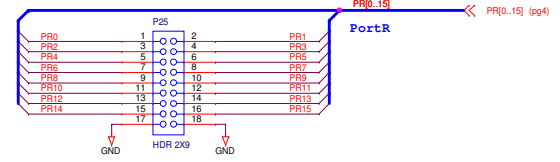
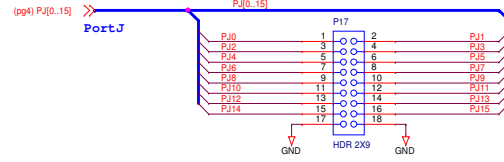
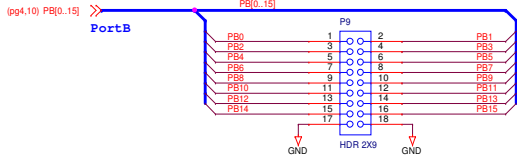
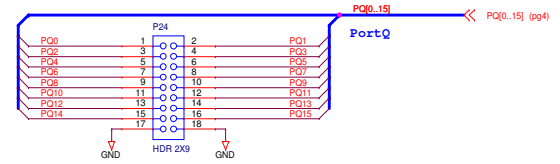
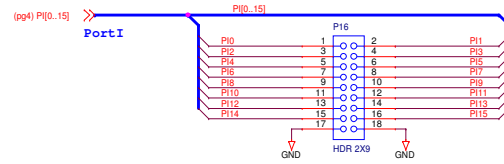
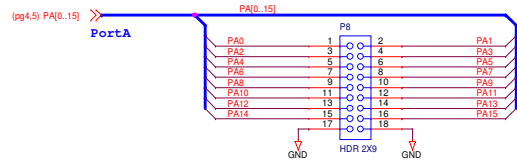










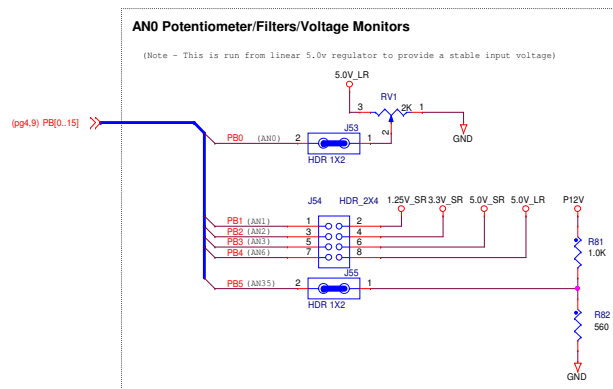


NOTE: All Connectors are 0.1" through-hole headers



|                      |  |                            |  |         |  |         |     |
|----------------------|--|----------------------------|--|---------|--|---------|-----|
| ICAP Classification: |  | FCP:                       |  | FIUC: X |  | PUBI:   |     |
| Drawing Title:       |  |                            |  |         |  |         |     |
| MPC57xx MOTHER BOARD |  |                            |  |         |  |         |     |
| Page Title:          |  |                            |  |         |  |         |     |
| User I/O             |  |                            |  |         |  |         |     |
| Size                 |  | Document Number            |  |         |  |         | Rev |
| C                    |  | SCH-27237 PDF: SPF-27237   |  |         |  |         | C   |
| Date:                |  | Thursday, October 11, 2012 |  | Sheet   |  | 9 of 10 |     |





Prototyping Area Still missing.  
To be added later.

