Freescale
Semiconductor

COMEXPRESS CARRIER

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: <PageTitle>	Document Number SCH-26479 PDF: SPF-26479	Engineer Name	Size Custom	Date: Friday, October 22, 2010	Sheet 1 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

Version Rev	DATE	Change
A	5/28/2010	FIRST PROTOTYPE
B	10/13/2010	RESPIN FOR PROTOTYPE B PER ECN
XXX	NA	XXX

ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor

Drawing Title: **COMEXPRESS CARRIER**

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COMEXPRESS CARRIER (COMe1/2/3)

COMe2 only

COMe1/3 only

NOR flash — LBC

PMC conn to PQ-MDS-QOC3 card — UPC

Dual DB9 — RS232 — UART2/3

RS-485 Adapter

TDM riser card — TDM for SLIC

Line In/Out — I2S CODEC — SSI

PMC conn to PQ-MDS-16T1E1 — HDLC

Dual RJ45 — RMII/MII PHY — ENET

1588 HDR — 1588 SIGNALS

4 CAN CONN — CAN

1588 HDR — 1588 SIGNALS

VGA

CLOCKS

ATX CONN

FAN HDR

DVI-I — DVI

2 Single-link DFP CONN — LVDS A/B

Dual DEM9 — RS232 — UART0/1

FPGA & external muxes

QE/ UART/ Usr define/ gpio

FSL COMe Connector

GBE0-3 — MIDI — 3 x RJ-45

4 USB2.0 ports — 4 DUAL USB HDRS

4 USB2.0 ports

SECURITY — TBD — Tamper det hdr

I2C#1 — I2C expander — 5 GPIOs, 3 GPIOs — FPGA

IXXAT (IEM) CONN — SPIFlash

I2C#3 — DVI/VGA

I2C#2 — LVDS

TouchIF

SPI — SPIFlash

SDHC — SD/MMC conn

Lynx1 — Lanes 0-3, Lanes 4-7, Lanes 16-19

Lynx2 — Lanes 20-23, Lane 24

SATA x1 — sata3, sata2, sata1, sata0

PCIe slot1

PCIe slot2

PCIe Slot3

PCIe Slot4

PCIe slot5

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ICAP Classification: FCP:___ FIUO: X PUBI:___

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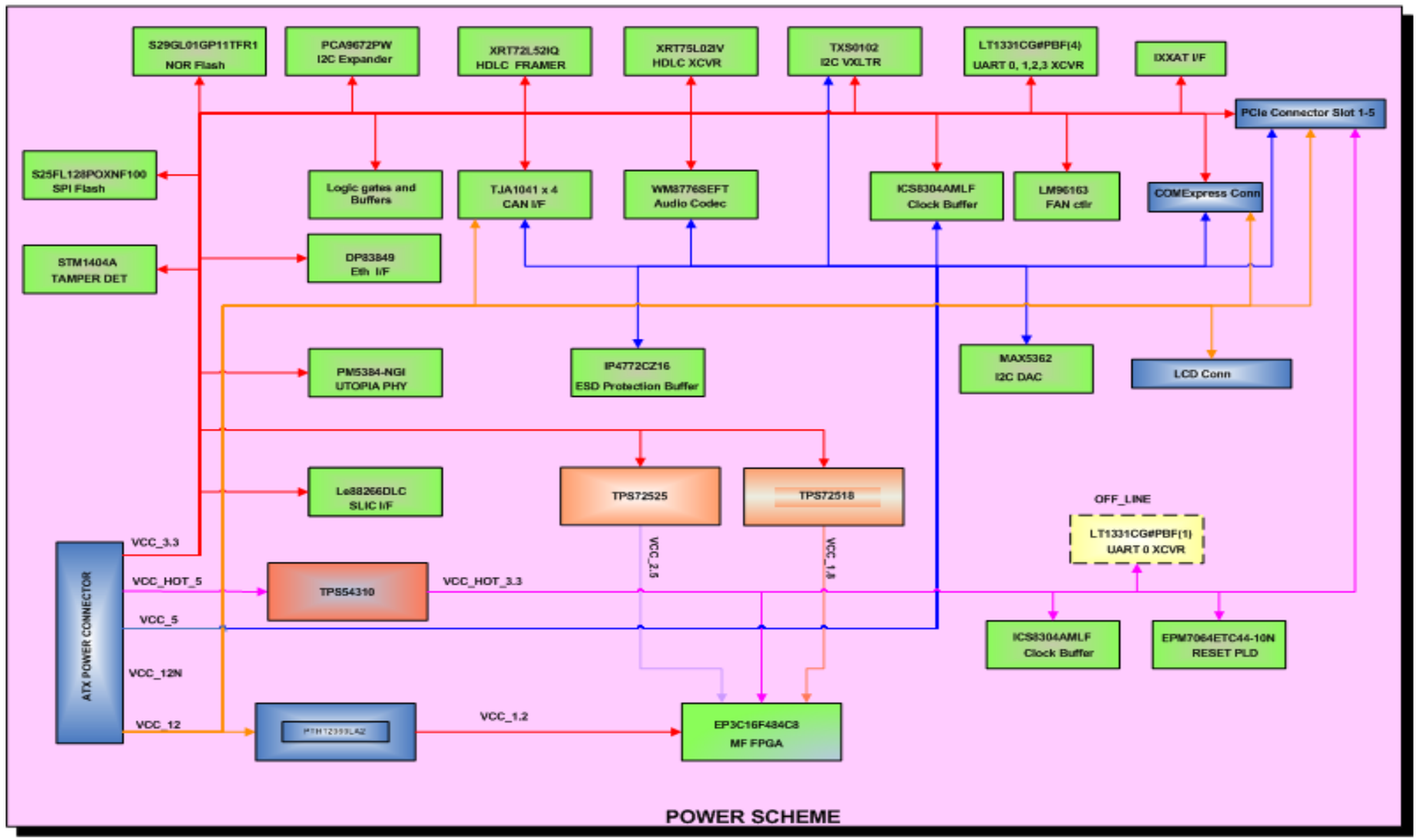

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Block DiagramPower_Reset	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 5 of 63 / Rev B

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Date: 4/22/10

VIASYSTEMS

Part Number: Freescale_170-24679_via

Contact: Martin Thompson Phone: 408-938-7231

Layer	Cu Thick. (mils)	Cu Foil wt (oz)	DK	Lam. Thick. (mils)	Description
1	2.00	0.5 oz			Foil, 0.5 oz
			3.86	3.68	Prepreg 370HR 3313(59) 18Gx24
2	1.20	1 oz			
			3.96	6.00	Core 370HR 6mils 1080/3313 0.5 oz / 1 oz 18.25Gx24.25
3	0.60	0.5 oz			
			3.68	5.59	Prepreg 370HR 1080(68)/1080(68) 18Gx24
4	1.20	1 oz			
			3.96	8.00	Core 370HR 8mils 2x3313 0.5 oz / 1 oz 18.25Gx24.25
5	0.60	0.5 oz			
			3.90	3.98	Prepreg 370HR 2116(57) 18Gx24
6	0.60	0.5 oz			
			3.96	8.00	Core 370HR 8mils 2x3313 0.5 oz / 1 oz 18.25Gx24.25
7	1.20	1 oz			
			3.98	8.25	Prepreg 370HR 2116(53)/2116(53) 18Gx24
8	1.20	1 oz			
			3.96	8.00	Core 370HR 8mils 2x3313 0.5 oz / 1 oz 18.25Gx24.25
9	0.60	0.5 oz			
			3.90	3.98	Prepreg 370HR 2116(57) 18Gx24
10	0.60	0.5 oz			
			3.96	8.00	Core 370HR 8mils 2x3313 0.5 oz / 1 oz 18.25Gx24.25
11	1.20	1 oz			
			3.68	5.59	Prepreg 370HR 1080(68)/1080(68) 18Gx24
12	0.60	0.5 oz			
			3.96	6.00	Core 370HR 6mils 1080/3313 0.5 oz / 1 oz 18.25Gx24.25
13	1.20	1 oz			
			3.86	3.68	Prepreg 370HR 3313(59) 18Gx24
14	2.00	0.5 oz			Foil, 0.5 oz

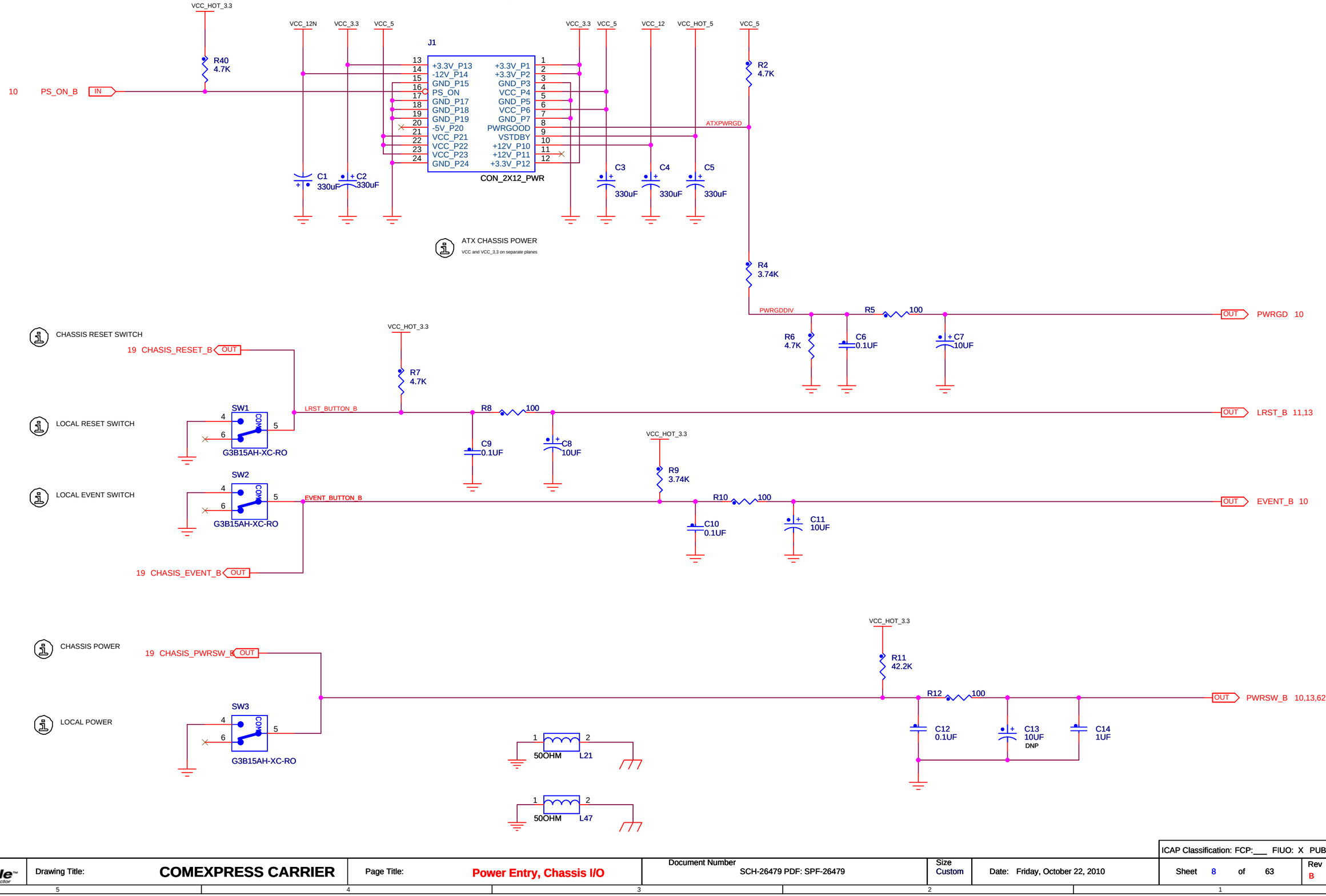
Layers	Drill Type	Via Fill		
1 - 14	PTH	--	89.53	Thickness over Laminate
			93.53	Thickness over Copper
			94.93	Thickness over Soldermask

Impedance Table

Layer	Structure Type	Coated Microstrip	Target Impedance (ohms)	Impedance Tolerance (ohms)	Target Linewidth (mils)	Edge Coupled Pitch * (mils)	Reference Layers	Modelled Linewidth (mils)	Modelled Impedance (ohms)	CoPlaner Space (mils)
1	Single Ended	Yes	50.00	+/-5	5.75	0.00	(2)	5.75	50.49	
1	Edge Coupled Differential	Yes	100.00	+/-10	4.50	12.00	(2)	4.50	100.13	
3	Edge Coupled Differential	---	100.00	+/-10	4.50	10.00	(2, 4)	4.50	98.45	
3	Edge Coupled Differential	---	90.00	+/-9	5.25	10.00	(2, 4)	5.25	89.70	
3	Edge Coupled Differential	---	92.00	+/-9.2	5.00	10.00	(2, 4)	5.00	92.48	
3	Single Ended	---	50.00	+/-5	5.50	0.00	(2, 4)	5.50	49.71	
3	Edge Coupled Differential	---	120.00	+/-12	3.50	14.00	(2, 4)	3.50	118.99	
5	Edge Coupled Differential	---	120.00	+/-12	4.25	12.00	(4, 7)	4.25	119.31	
5	Edge Coupled Differential	---	100.00	+/-10	5.00	10.00	(4, 7)	5.00	101.95	
5	Edge Coupled Differential	---	90.00	+/-9	6.00	10.00	(4, 7)	6.00	90.59	
5	Edge Coupled Differential	---	92.00	+/-9.2	5.75	10.00	(4, 7)	5.75	93.30	
5	Single Ended	---	50.00	+/-5	9.00	0.00	(4, 7)	9.00	50.16	
6	Edge Coupled Differential	---	120.00	+/-12	4.25	12.00	(4, 7)	4.25	119.31	
6	Edge Coupled Differential	---	100.00	+/-10	5.00	10.00	(4, 7)	5.00	101.95	
6	Edge Coupled Differential	---	90.00	+/-9	6.00	10.00	(4, 7)	6.00	90.59	
6	Edge Coupled Differential	---	92.00	+/-9.2	5.75	10.00	(4, 7)	5.75	93.30	
6	Single Ended	---	50.00	+/-5	9.00	0.00	(4, 7)	9.00	50.16	
9	Edge Coupled Differential	---	120.00	+/-12	4.25	12.00	(8, 11)	4.25	119.31	
9	Edge Coupled Differential	---	100.00	+/-10	5.00	10.00	(8, 11)	5.00	101.95	
9	Edge Coupled Differential	---	90.00	+/-9	6.00	10.00	(8, 11)	6.00	90.59	
9	Edge Coupled Differential	---	92.00	+/-9.2	5.75	10.00	(8, 11)	5.75	93.30	
9	Single Ended	---	50.00	+/-5	9.00	0.00	(8, 11)	9.00	50.16	
10	Edge Coupled Differential	---	120.00	+/-12	4.25	12.00	(8, 11)	4.25	119.31	
10	Edge Coupled Differential	---	100.00	+/-10	5.00	10.00	(8, 11)	5.00	101.95	
10	Edge Coupled Differential	---	90.00	+/-9	6.00	10.00	(8, 11)	6.00	90.59	
10	Edge Coupled Differential	---	92.00	+/-9.2	5.75	10.00	(8, 11)	5.75	93.30	
10	Single Ended	---	50.00	+/-5	9.00	0.00	(8, 11)	9.00	50.16	
12	Edge Coupled Differential	---	100.00	+/-10	4.50	10.00	(11, 13)	4.50	98.45	
12	Edge Coupled Differential	---	90.00	+/-9	5.25	10.00	(11, 13)	5.25	89.70	
12	Edge Coupled Differential	---	92.00	+/-9.2	5.00	10.00	(11, 13)	5.00	92.48	
12	Single Ended	---	50.00	+/-5	5.50	0.00	(11, 13)	5.50	49.71	
12	Edge Coupled Differential	---	120.00	+/-12	3.50	14.00	(11, 13)	3.50	118.99	
14	Single Ended	Yes	50.00	+/-5	5.75	0.00	(13)	5.75	50.49	
14	Edge Coupled Differential	Yes	100.00	+/-10	4.50	12.00	(13)	4.50	100.13	

* Edge Coupled Pitch is measured from the center line of one differential trace to the center line of the other.

POWER ENTRY CONNECTOR



ICAP Classification: FCP:___ FIUO: X PUBI:___

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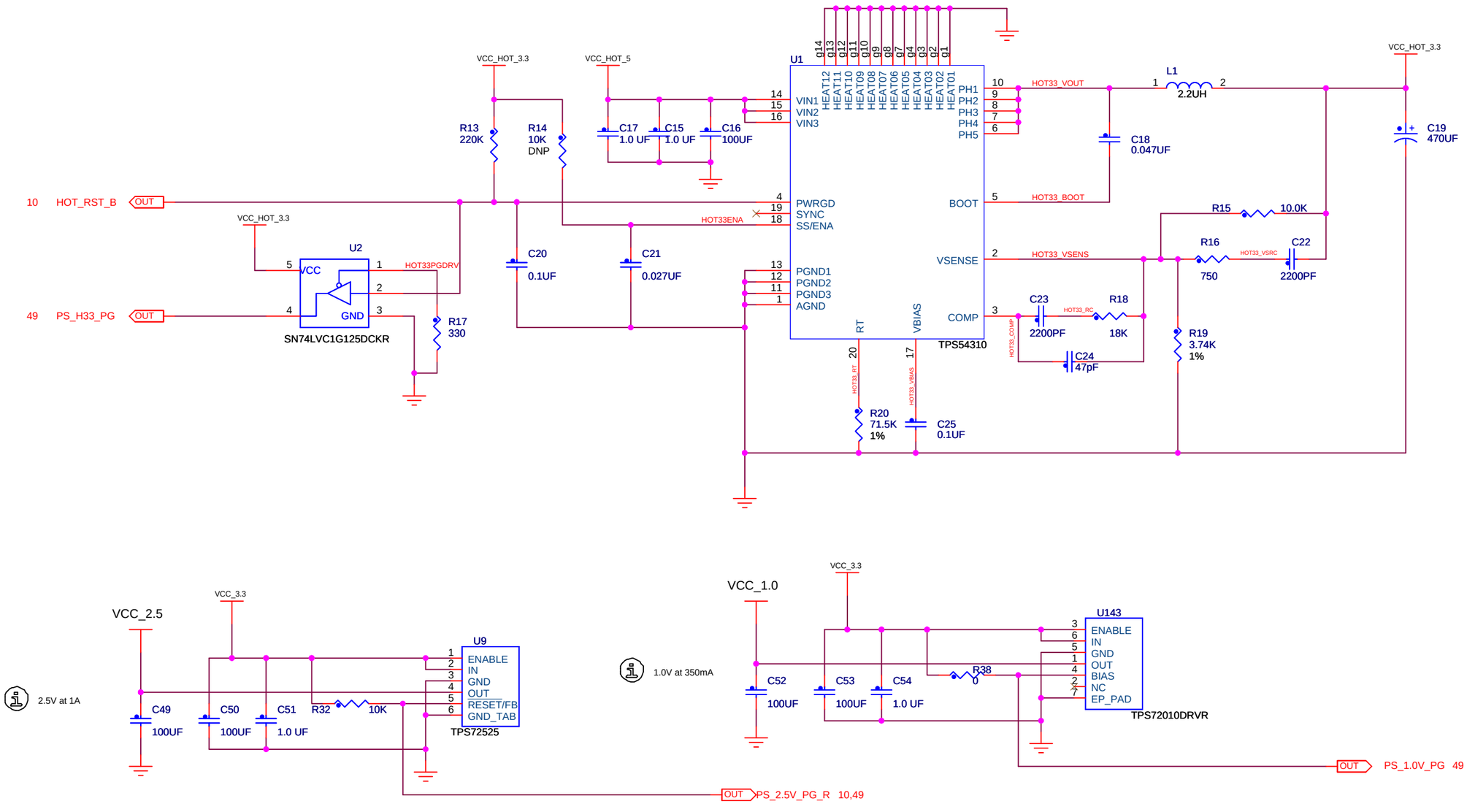
5V to 3.3V Step Down Regulator



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Standby (Hot) Power	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 9 of 63

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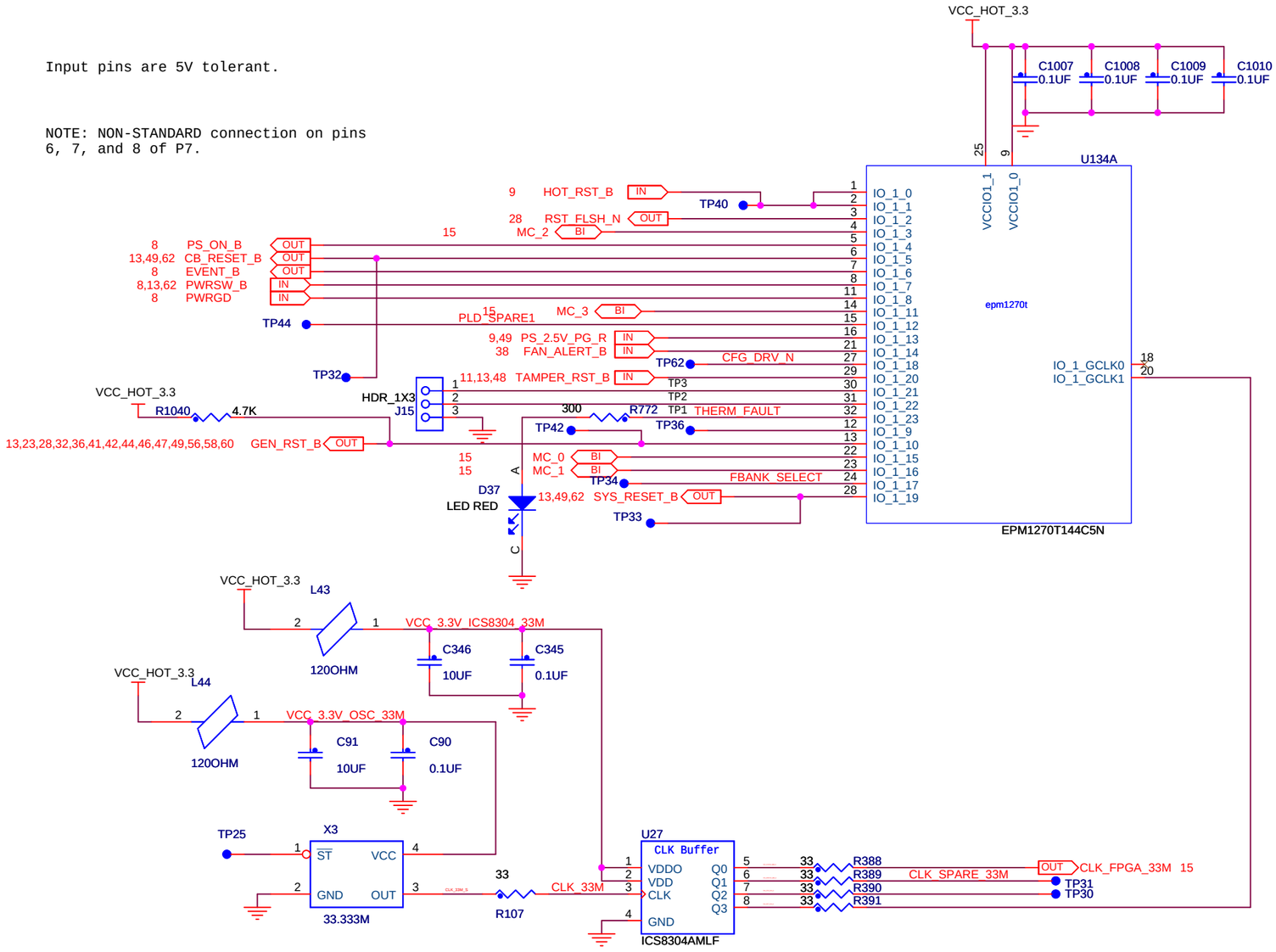
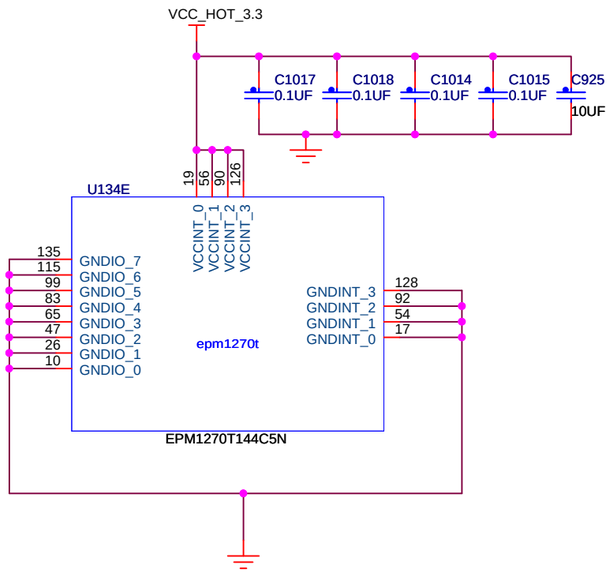
CPLD Interface

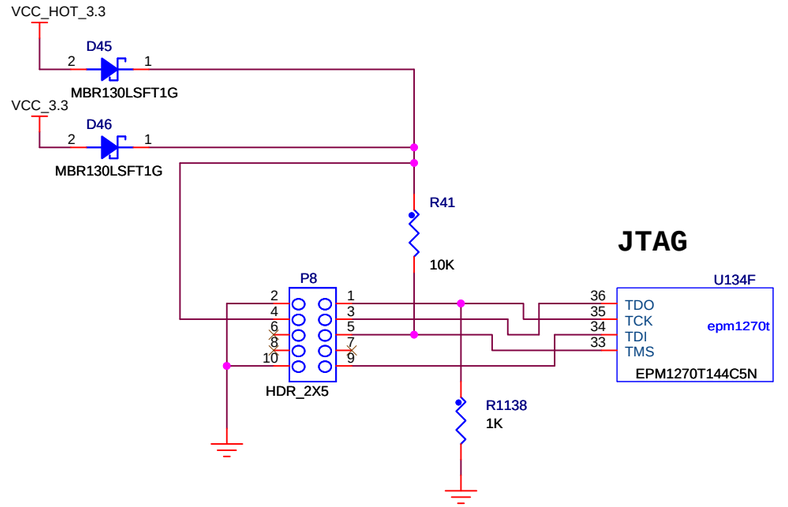
Input pins are 5V tolerant.

NOTE: NON-STANDARD connection on pins
6, 7, and 8 of P7.



CPLD POWER



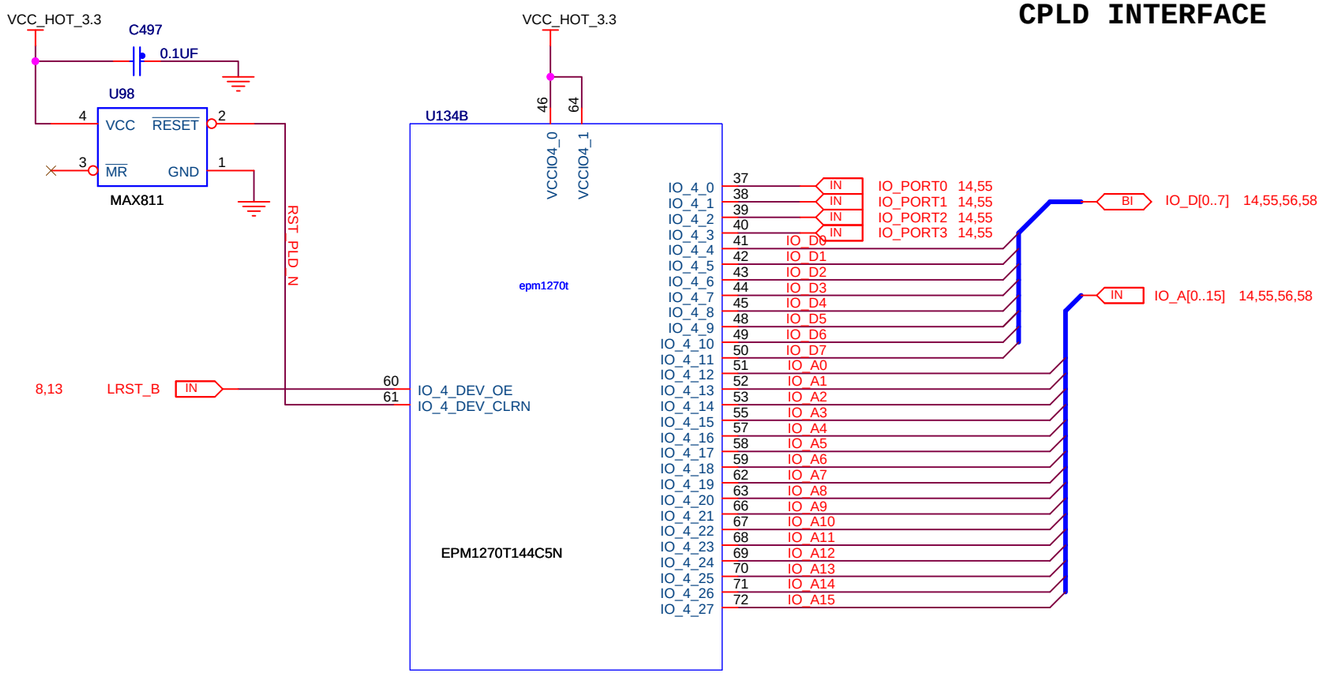


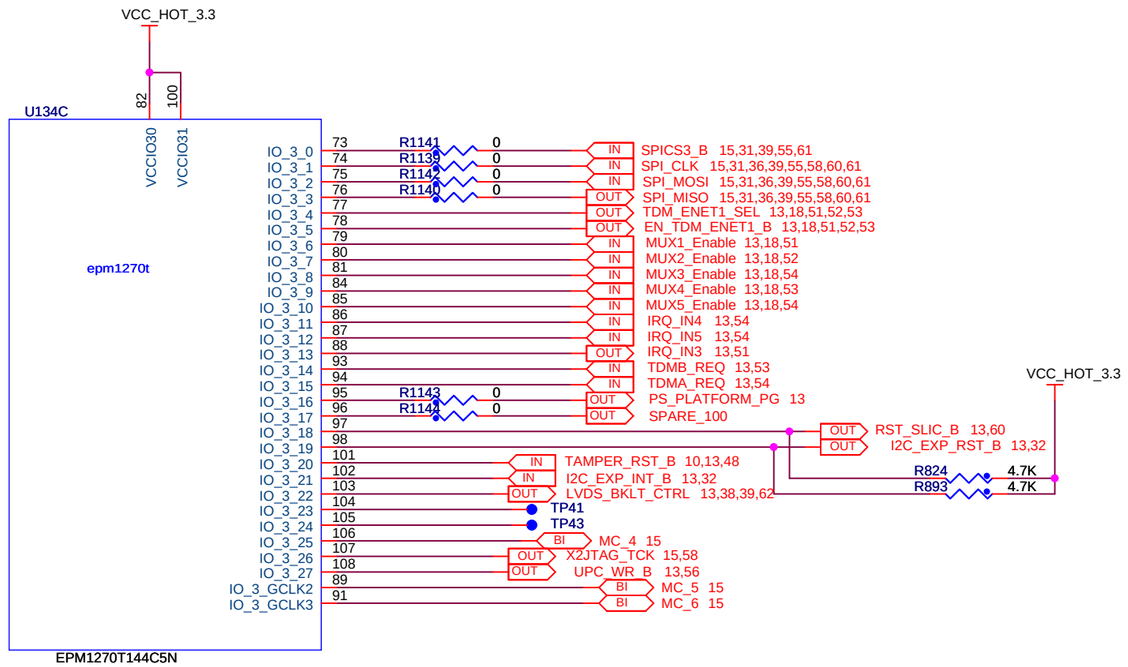
CLOCK Generation for CPLD

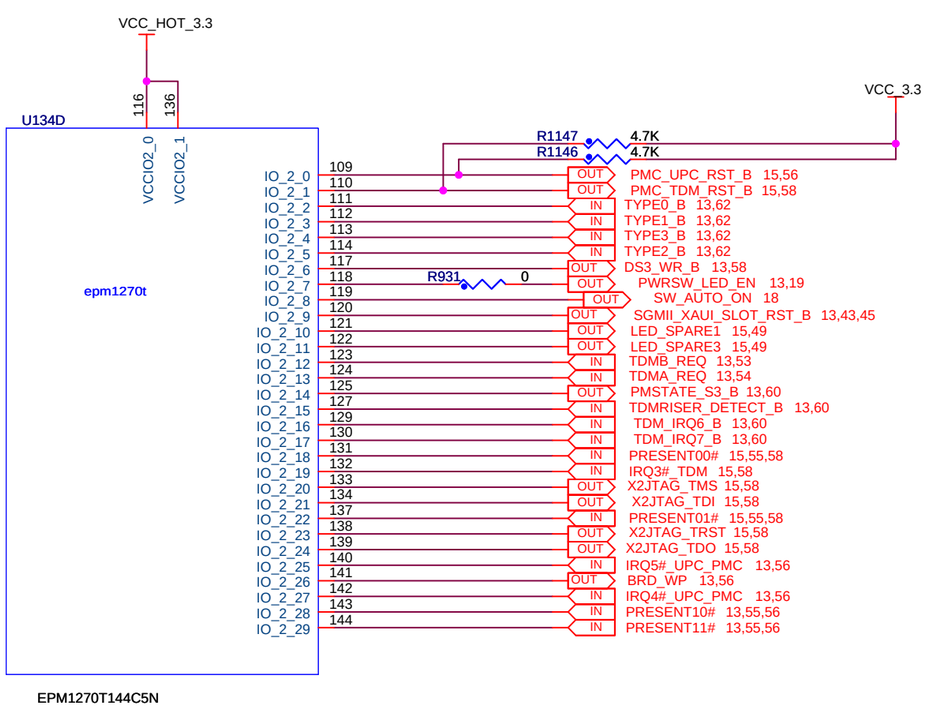
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: System FPGA, pt. 1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	ICAP Classification: FCP:___ FIUO: X PUBI:___ Sheet 10 of 63	Rev B

RESET for CPLD

CPLD INTERFACE







ICAP Classification: FCP:___ FIUO: X PUBI:___

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FPGA POWER

For bank 1 to 4

For bank 5 to 8

U102A

EP3C16F484C8

VCC_2.5 — F30 33 OHM — FPGA_VCCA

C761 2.2UF, C762 0.1UF, C763 0.01UF

C783 47UF, C759 4.7uF, C771 0.1UF, C760 0.022UF

C794 0.01UF, C795 4700 PF, C796 2200PF, C797 2200PF, C798 1000PF

VCC_1.2_FPGA — F31 33 OHM — FPGA_VCCD_PLL

C810 470uF, C809 4.7uF

C813 2200PF, C814 4700 PF, C815 0.01UF, C816 0.01UF

C821 0.1UF, C822 0.1UF, C823 0.1UF, C824 0.1UF, C825 0.1UF

VCC_3.3

C764 0.1UF, C765 0.1UF, C892 0.1UF, C893 10UF

C768 0.1UF, C769 0.1UF, C770 0.1UF, C894 10UF

C758 2200PF, C766 4700 PF, C767 100UF

C772 0.1UF, C773 0.1UF, C774 0.1UF, C775 0.1UF, C776 10UF

C782 2200PF, C784 4700 PF, C785 100UF

C777 0.1UF, C778 0.1UF, C779 0.1UF, C780 0.1UF, C781 10UF

C786 0.1UF, C787 0.1UF, C788 0.01UF, C789 10UF

C790 0.1UF, C791 0.1UF, C792 0.01UF, C793 10UF

C799 0.1UF, C800 0.1UF, C801 0.1UF, C802 0.01UF, C803 10UF

C804 0.1UF, C805 0.1UF, C806 0.1UF, C807 0.01UF, C808 10UF

VCC_1.2_FPGA — L46 6.8uH — FPGA_VCC_1.2

C826 0.1UF, C827 0.1UF, C828 0.1UF, C829 0.1UF, C830 0.1UF, C831 0.1UF, C832 0.1UF, C833 0.1UF, C834 0.1UF, C835 0.1UF, C836 0.1UF, C837 0.1UF, C838 0.1UF

VCC_12, VCC_1.2_FPGA

U103 PWR Module — PTH12060LAZ

TP172, R796 0 (TRACK), R797 0, FPGA_PWR_VO_SENSE

C811 0.1UF, C812 100UF

C817 0.01UF, C818 10UF, C819 100UF, C820 560uF, R798 12.1K, R799 66.5K, R800 66.5K

MARGINUPL, MARGINDNL

1.2V FPGA CORE Voltage Generation

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FPGA INTERFACE

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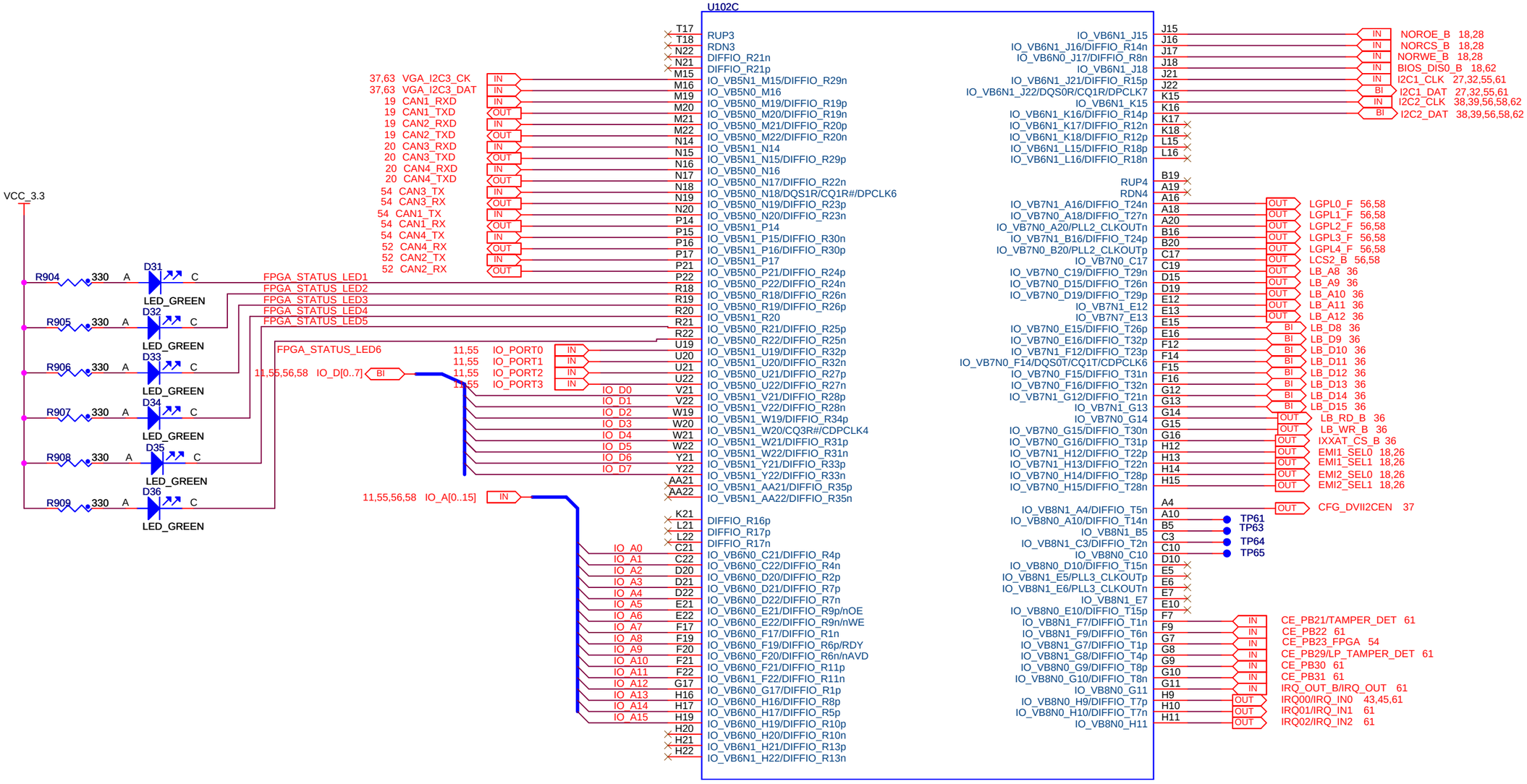
FPGA INTERFACE



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: FPGA_PART 3	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 14 of 63	Rev B

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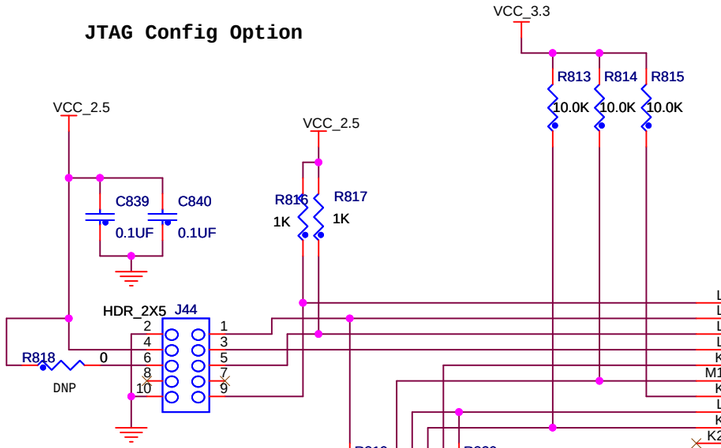
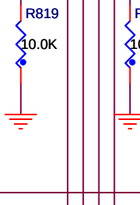
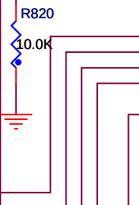
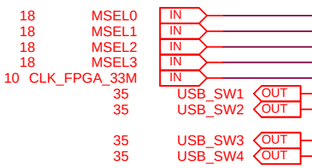
FPGA INTERFACE

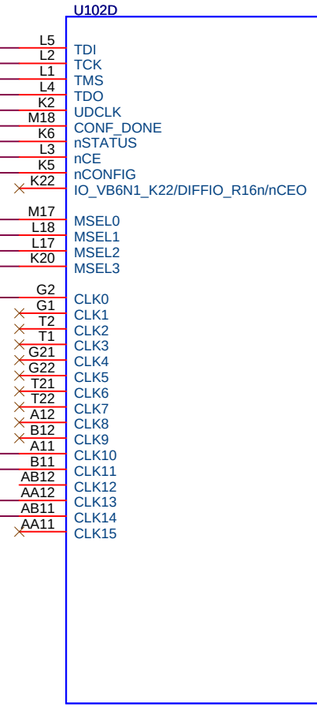
JTAG Config Option

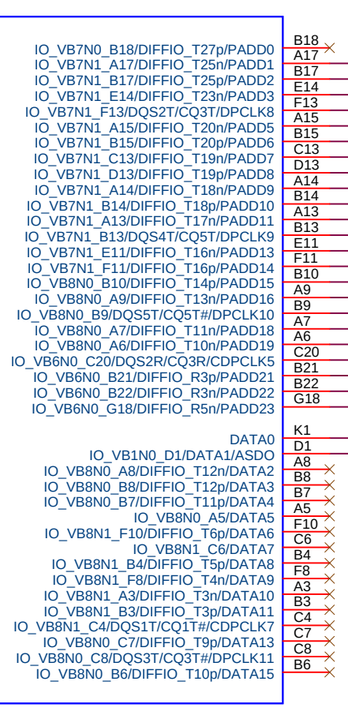


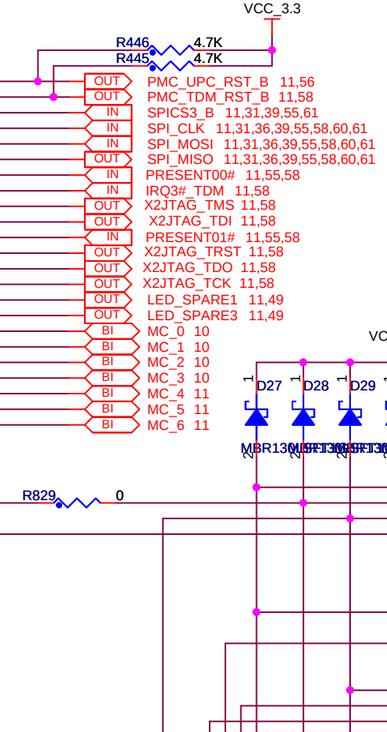












Note : This device needs to be changed

VCC_3.3

ICAP Classification: FCP:___ FIUO: X PUBI:___

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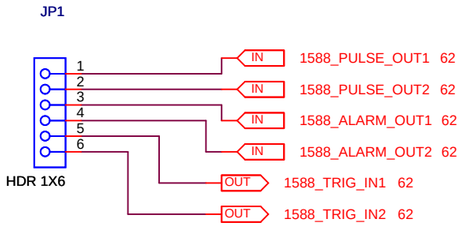
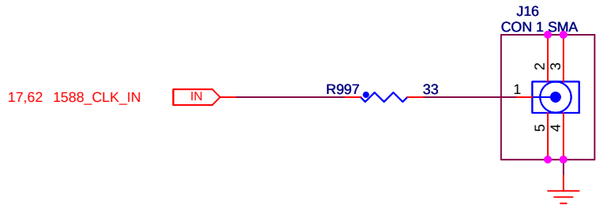
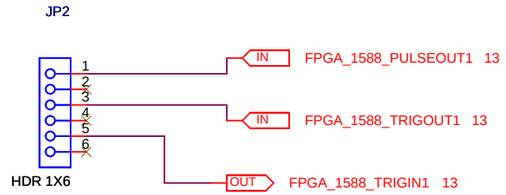
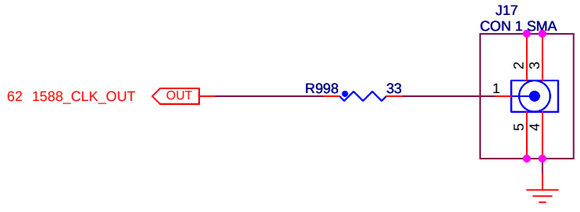
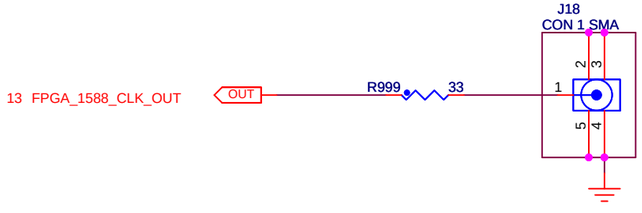
1588 INTERFACE











freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: COP, COP Mux and DBG headers	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 16 of 63 / Rev B

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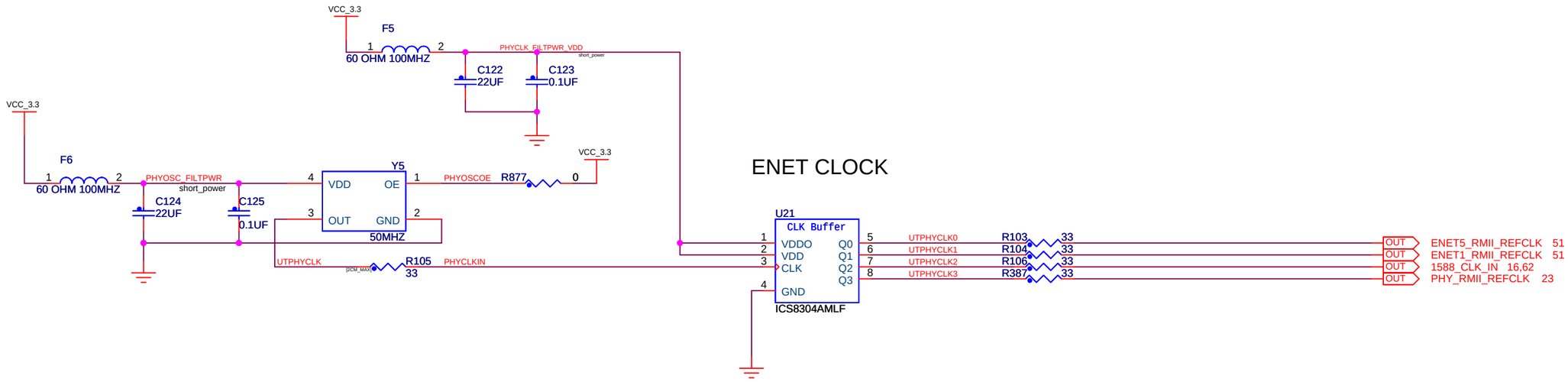

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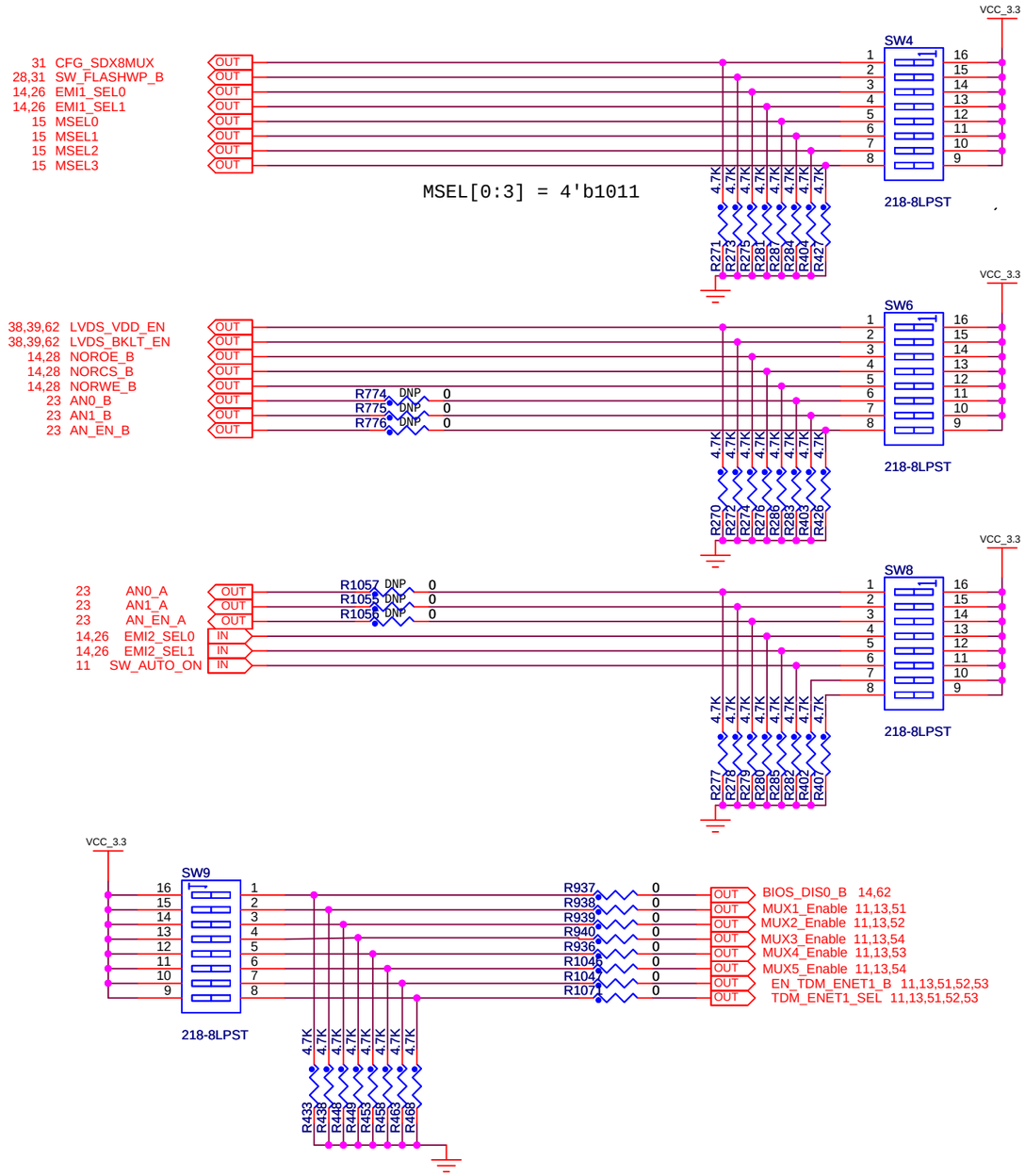
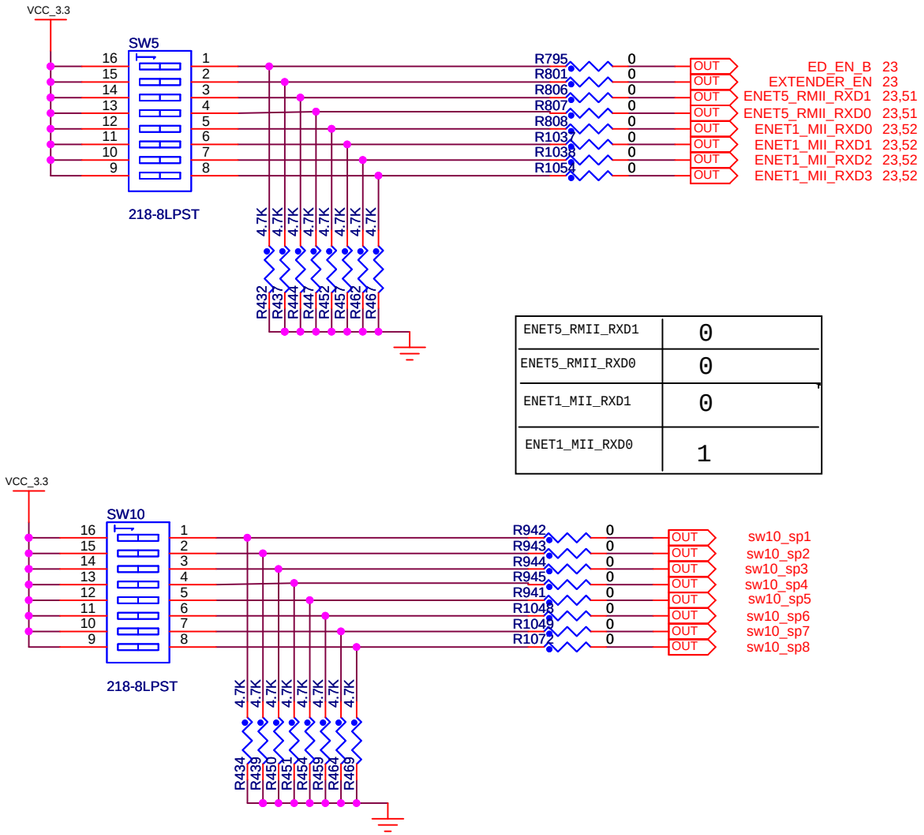
freescale semiconductor	Drawing Title: **COMEXPRESS CARRIER**	Page Title: **PHY and IEEE 1588 Clocks**	Document Number: SCH-26479 PDF: SPF-26479	Size: Custom	Date: Friday, October 22, 2010	Sheet 17 of 63	Rev: B

CONFIGURATION SWITCHES



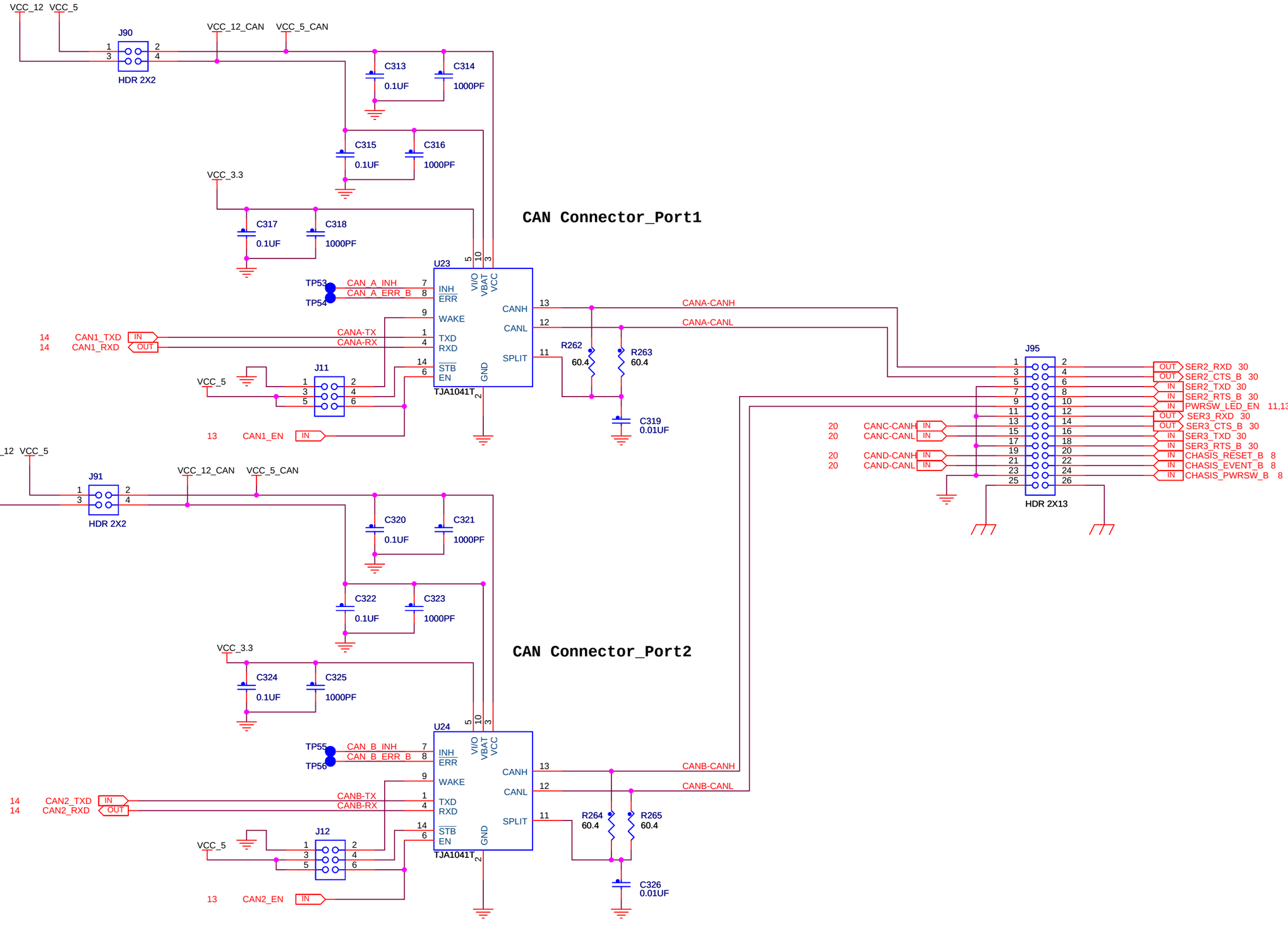


ENET5_RMII_RXD1	0
ENET5_RMII_RXD0	0
ENET1_MII_RXD1	0
ENET1_MII_RXD0	1

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Configuration Switches	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 18 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

CANA

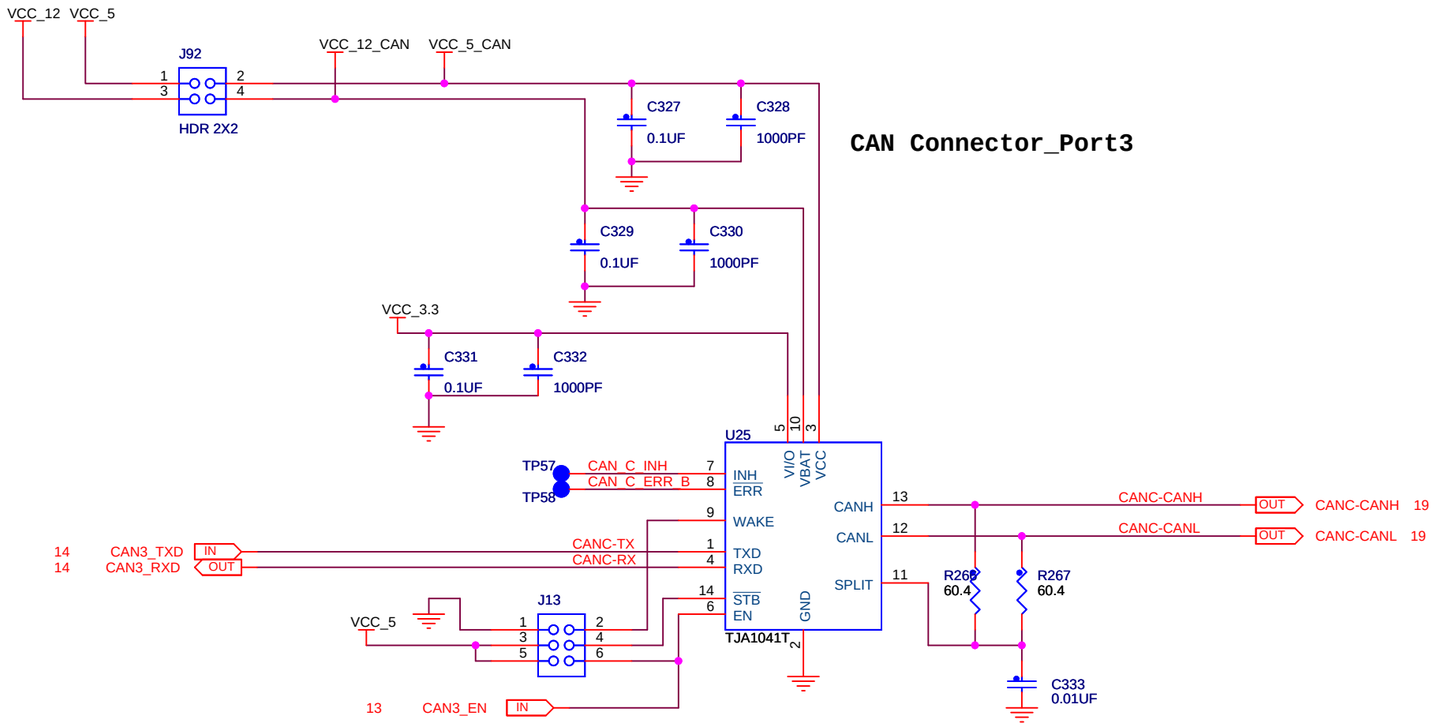


CANB

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: CAN INTERFACE #1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 19 of 63 / Rev B

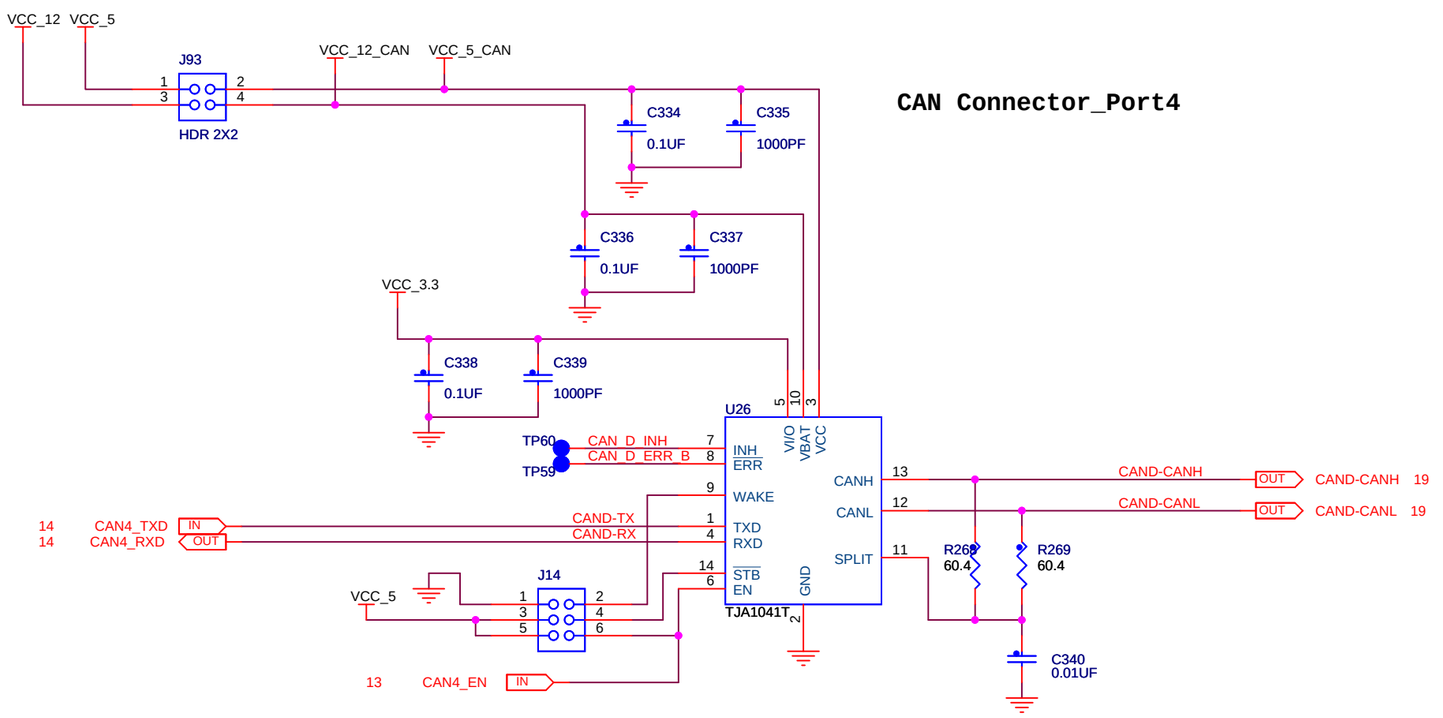
ICAP Classification: FCP:___ FIUO: X PUBI:___

CANC



CAN Connector_Port3

CAND

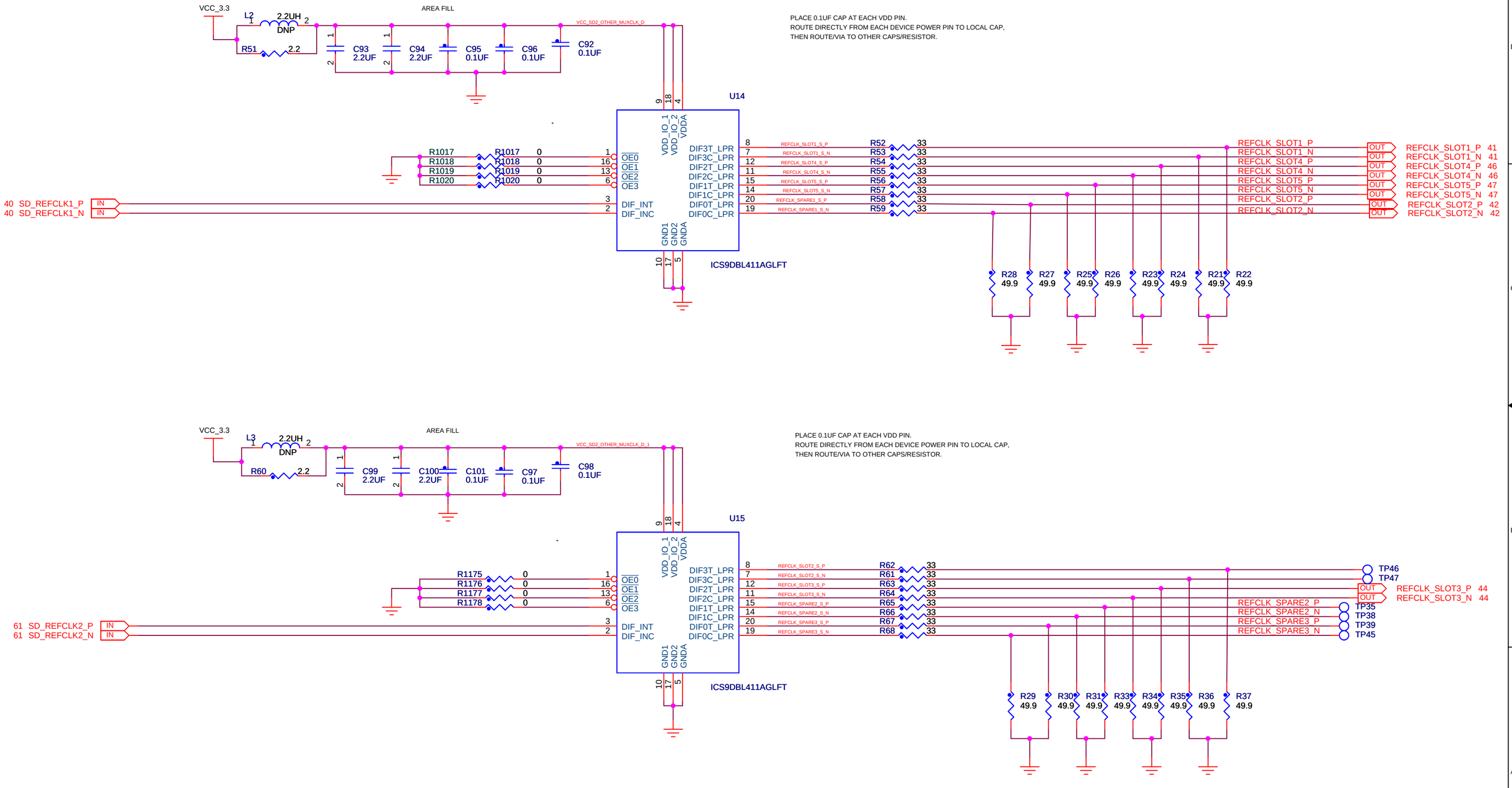


CAN Connector_Port4

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: CAN INTERFACE #2	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 20 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

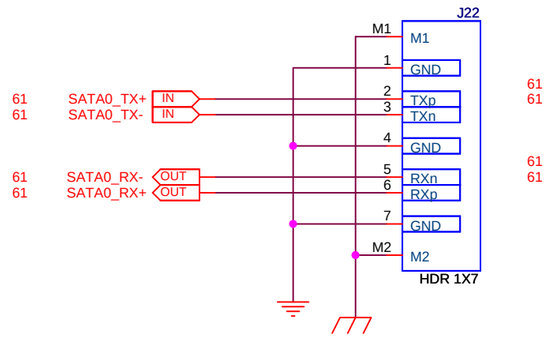
SERDES REFCLK BUFFER



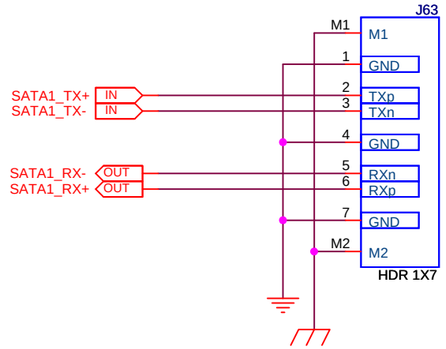
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: SERDES CLK BUFFER & MUX	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 21 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

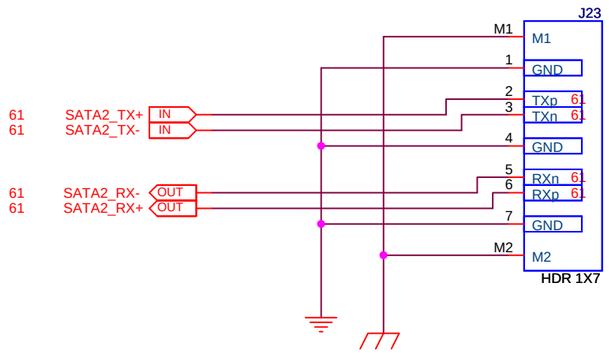
SATA Connector Port 0



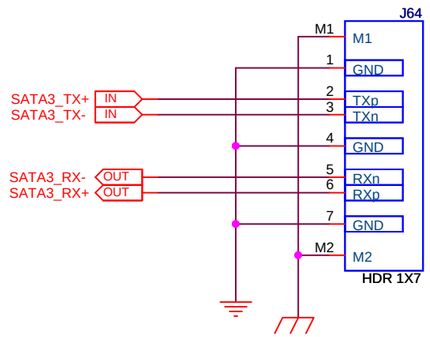
SATA Connector Port 1



SATA Connector Port 2



SATA Connector Port 3



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: SATA CONNECTOR	Document Number: SCH-26479 PDF: SPF-26479	Size: Custom	Date: Friday, October 22, 2010	Sheet 22 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

ETHERNET PHY

Ethernet Channel 1 RMII5

LED1 indicates a LINK and blinks for activity.

LED2 indicates Speed (10/100 Mbps) and Collision (when in 10 Mbps mode). LED2 is GREEN for 100Mbps mode, OFF for 10Mbps, and blinking ORANGE for Collisions.

Ethernet Channel 0 RMII1

LED1 indicates a LINK and blinks for activity.

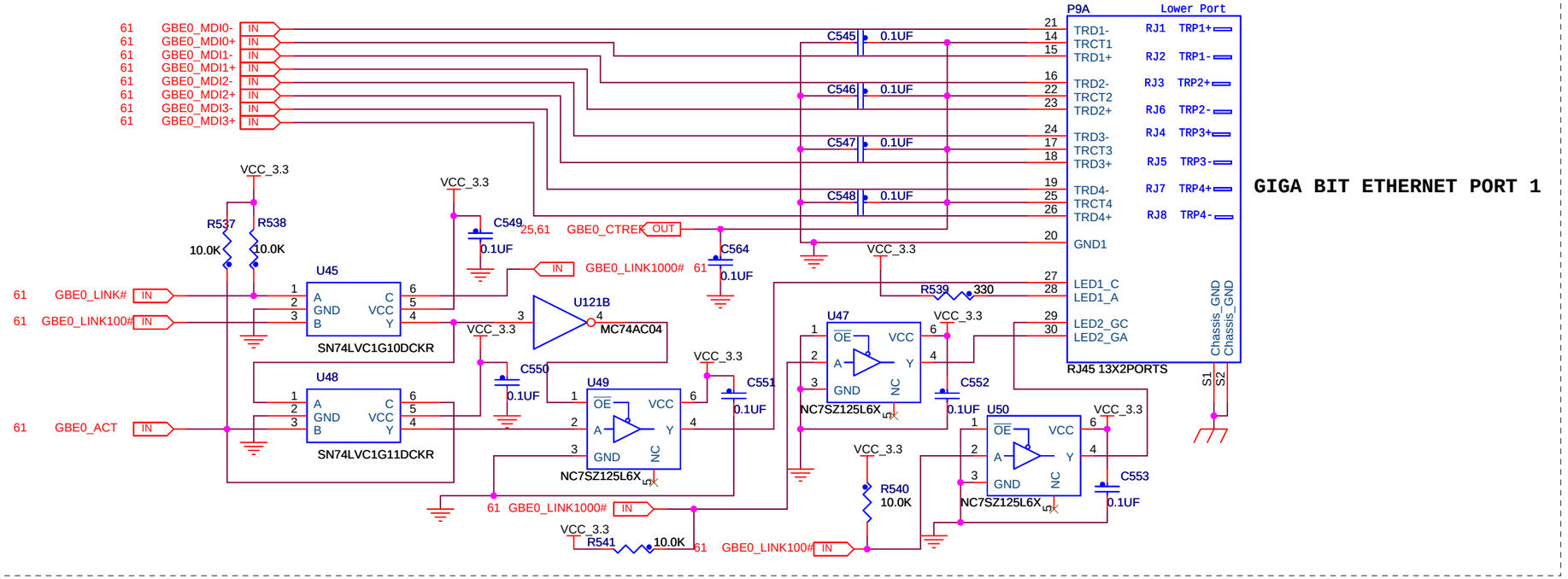
LED2 indicates Speed (10/100 Mbps) and Collision (when in 10 Mbps mode). LED2 is GREEN for 100Mbps mode, OFF for 10Mbps, and blinking ORANGE for Collisions.

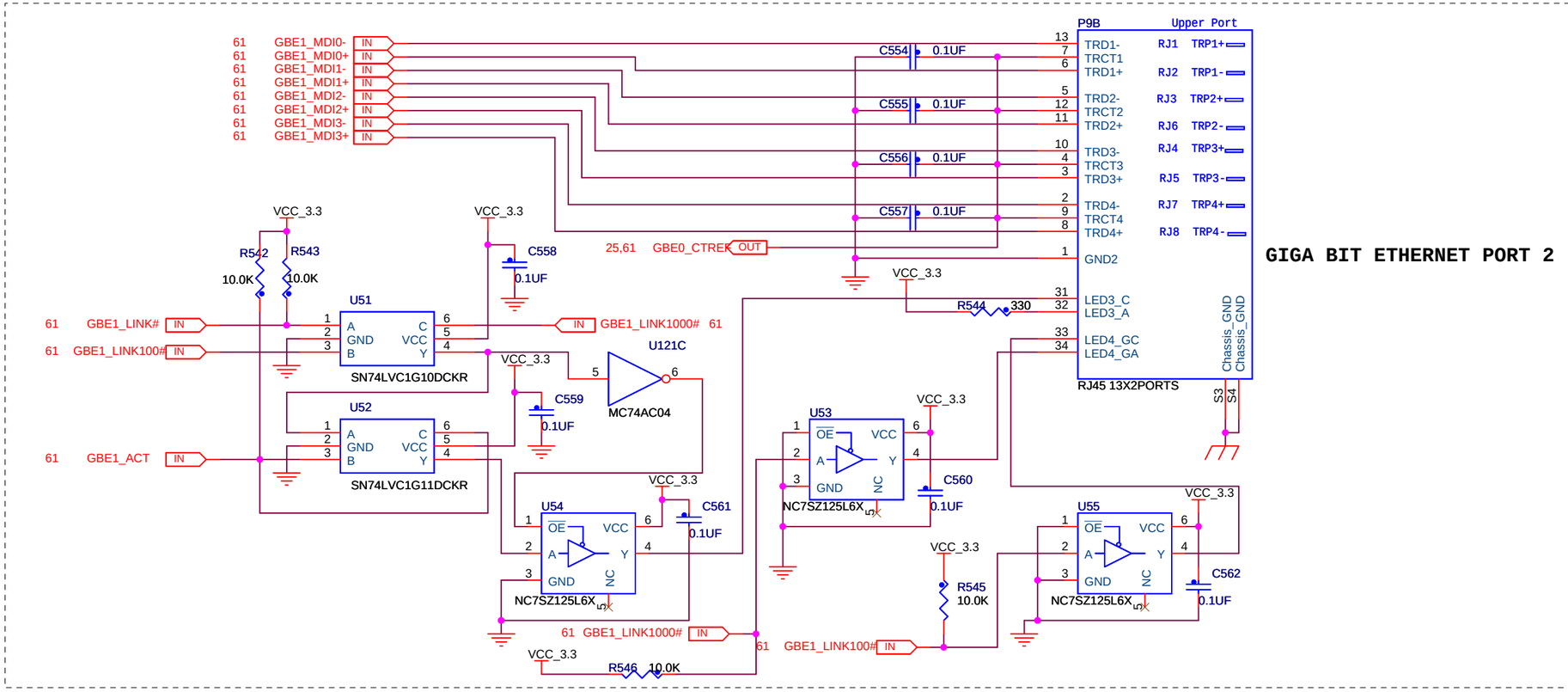
DP83849

RJ45 13X2PORTS

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PHY RMII Interfaces	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 23 of 63 / Rev B

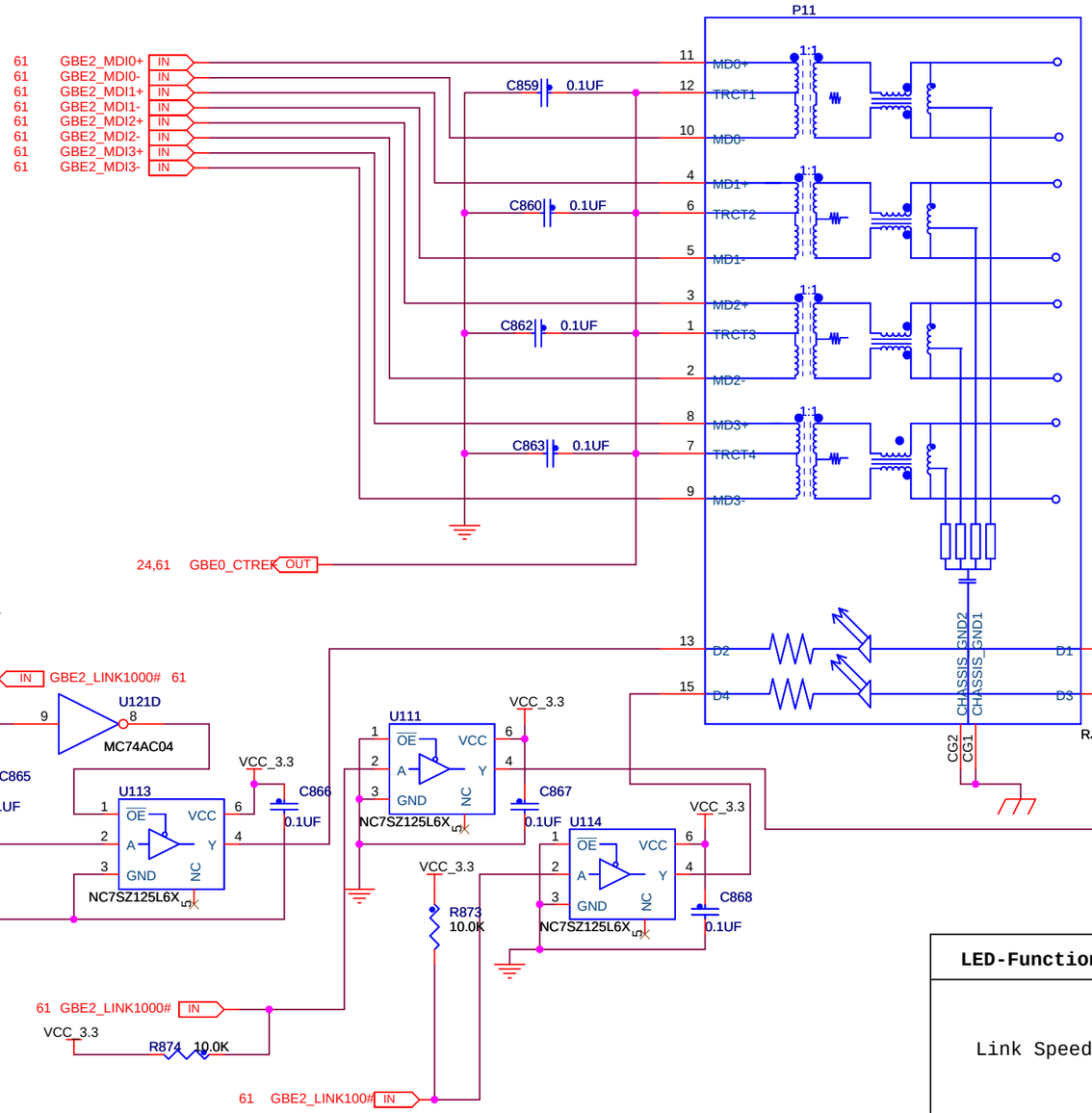
ICAP Classification: FCP:___ FIUO: X PUBI:___

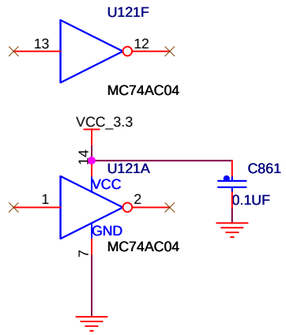




freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: GiGe Connectors Part 1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	ICAP Classification: FCP:___ FIUO: X PUBI:___ Sheet 24 of 63	Rev B

GIGA BIT ETHERNET PORT 3



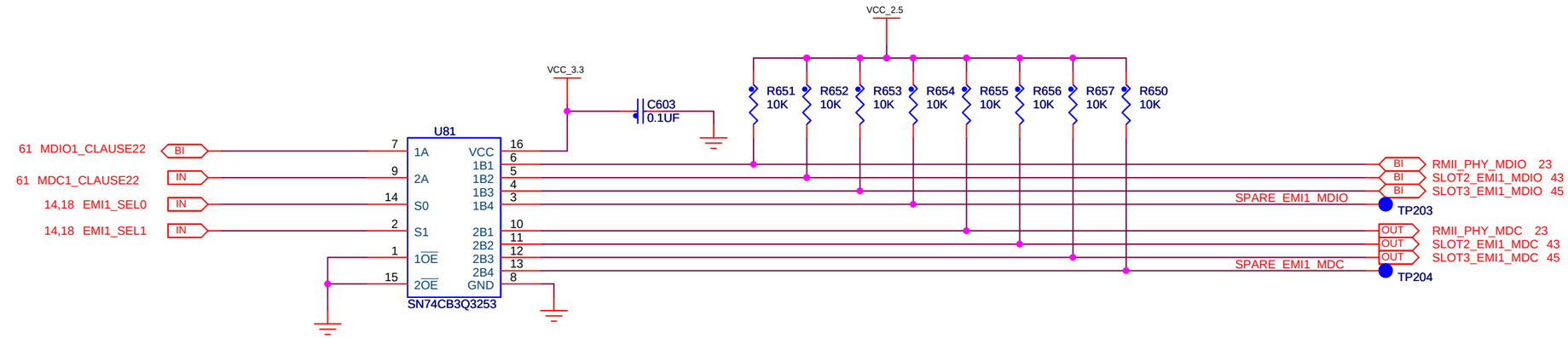


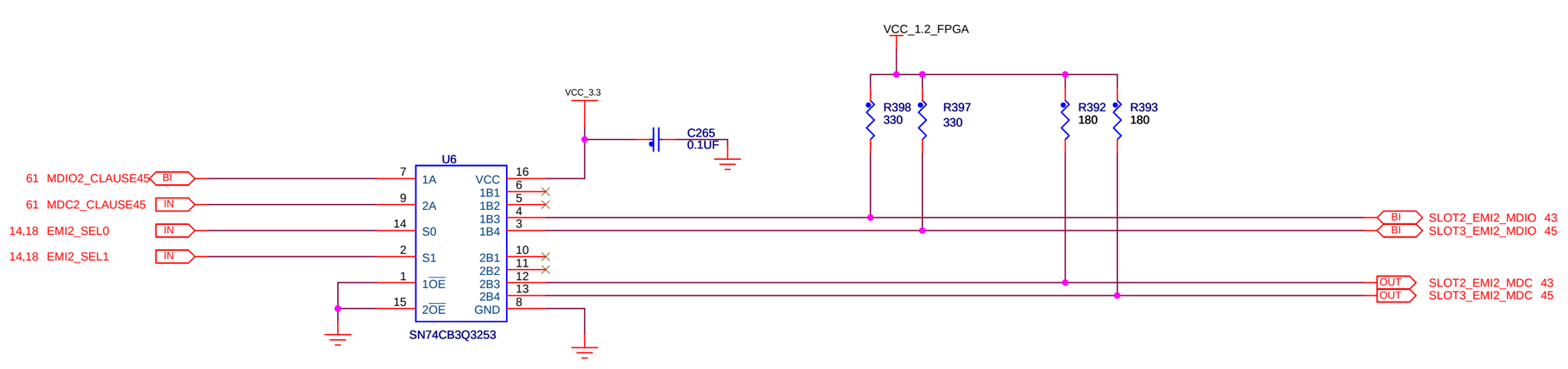
LED-Function	LED-Color#	LED-State	Description
Link Speed	Green / Orange	Off Green Orange	10 Mbps Link Speed
			100 Mbps Link speed
			1000 Mbps Link Speed
Link Status & Activity	Yellow	Off Steady On Blinking	No Link
			Link established, No Activity
			Link established, Activity

ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: GiGe Connectors Part 2	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 25 of 63 / Rev B

MANAGEMENT BUS MUXING





freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Management Bus Muxing	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 26 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

Mclk Clock Generation for CODEC(Selectable 11.2Mhz or 12.2Mhz

CODEC Interface

U131 CLK Buffer — ICS8304AMLF
CODEC_MCLK0 R442 33
CODEC_MCLK1 R443 33
Q0 Q1 Q2 Q3 VDDO VDD CLK GND
C462 0.1UF
Option for Clock input from FPGA
AUD_CLK_IN

U129 SN74CBTLV1G125DBVR
U130 SN74CBTLV1G125DBVR
VCC OE B A GND
C463 0.1UF
C464 0.1UF
R441 10.0K
IN MCLK_12M_EN_B 13
IN MCLK_11M_EN_B 13

F14 60 OHM 100MHZ
C461 0.1UF
Y6 VDD OE OUT GND
3V3_FB
12Mhz_OE
TP196
CODEC_MCLK_0 R440 33
12.288MHz

F7 60 OHM 100MHZ
C442 0.1UF DNP
DNP
Y1 OSC. VCC OUT EN/DIS DGND
43V3_FB
CODEC_MCLK_1 R409 33
11Mhz_OE
TP197
DNP
11.2896MHZ

U39 WM8776SEFT
VCC_3.3
C443 0.1UF
C444 10UF
DVDD DGND MODE CE DI CL
AVDD HPVDD HPGND AGND DACREFP DACREFN ADCREFP ADCREFGND VMIDADC VMIDDAC
C445 0.1UF
C446 0.1UF
C447 10UF
AUDGND
VCC_5_AUD
L8 600 OHM
VCC_5
C448 0.1UF
C449 10UF
C450 0.1UF
C451 10UF
C452 0.1UF
C453 10UF
C454 0.1UF
C455 10UF
VMIDADC
VMIDDAC

14,32,55,61 I2C1_DAT R411 0 I2C_SDA_CODEC
14,32,55,61 I2C1_CLK R412 0 I2C_SCL_CODEC
13 SSI_TCLK OUT
13 SSI_TFS OUT
13 SSI_TXDATA IN
R413 33
R414 33
DACMCLK DACBCLK DACLRC DIN
13 SSI_RCLK OUT
13 SSI_RFS OUT
13 SSI_RXDATA OUT
R415 33
R416 33
R417 33
ADCMCLK ADCBCLK ADCLRC DOUT
R418 5.1K AINOPL
AINVGL
R419 10.0K
R420 10.0K
AIN1L AIN1R AIN2L AIN2R AIN3L AIN3R AIN4L AIN4R AIN5L AIN5R AUXL AUXR AINOPR AINVGR
C456 10UF
C457 10UF
TP100 TP101
R423 10.0K
R424 10.0K
R425 5.1K AINOPR
AINVGR
VOUTL VOUTR
TP98 TP99
HPOUTL HPOUTR
C458 330uF HPOUT_L
C459 330uF HPOUT_R
L61 50OHM
L62 50OHM
R429 DNP 0
R428 DNP 0
TP102 TP103
R421 46.4K
R422 46.4K
ZFLAGL ZFLAGR
R430 10.0K
R431 10.0K
NC_24 NC_25

J97 SIG_TIE_100X200
AUDGND

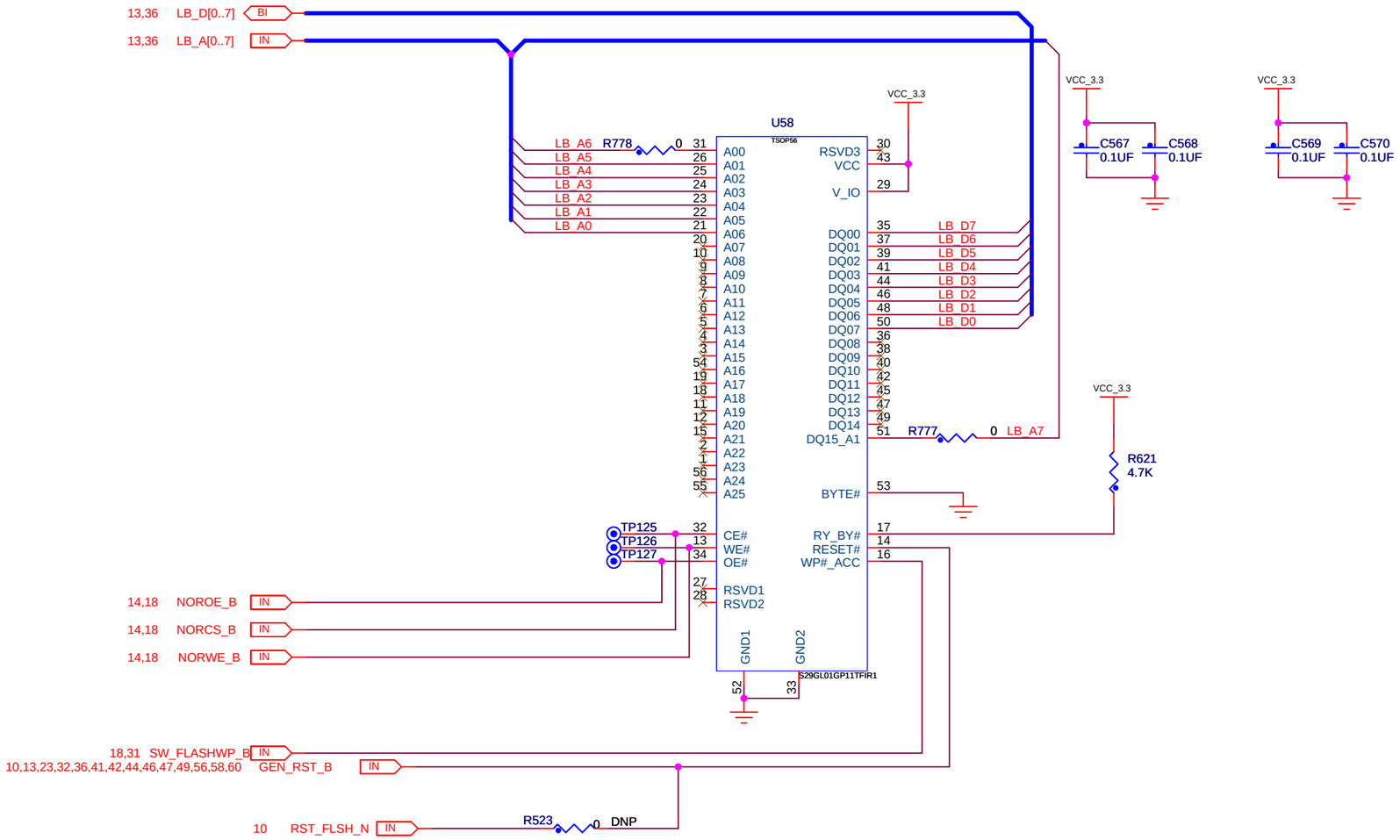
L64 600OHM
C1029 0.1UF
R1169 2.0K DNP
R1168 2.0K DNP
P23 HDR_2X5 KEY
FP_MIC
FP_MIC_BIAS
FP_OUT_R
FP_OUT_L
FP_RTN_R R1170 10K
FP_RTN_L R1171 10K
TP72

AUDIO HDR

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: SSI CODEC INTERFACE	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 27 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

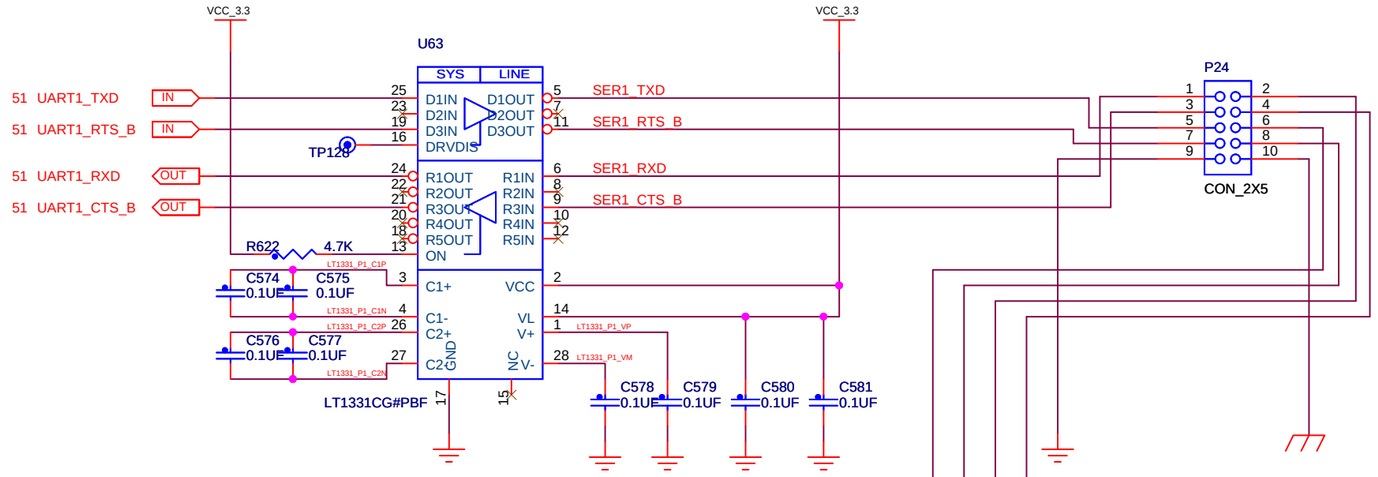
NOR FLASH



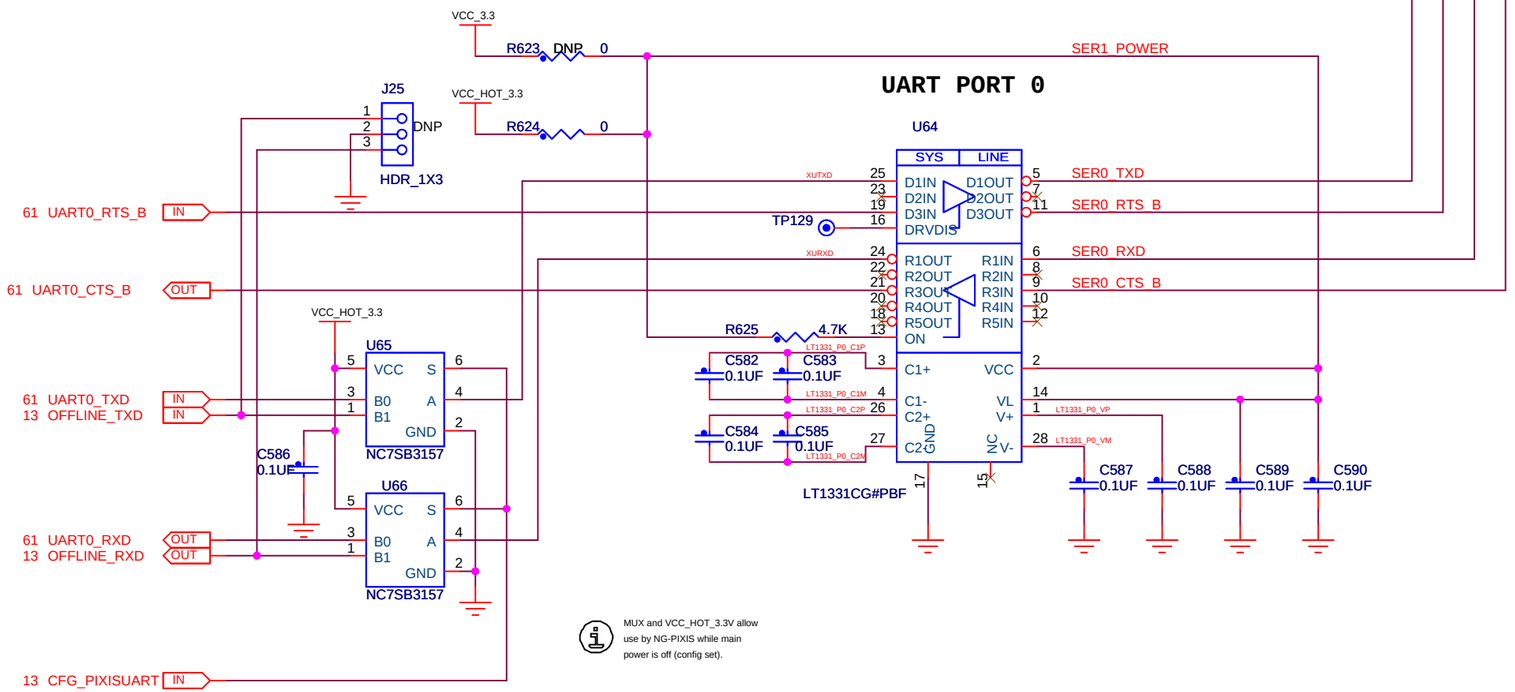
ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: NORFlash, NANDFlash, PromJet	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 28 of 63 / Rev B

UART PORT 1



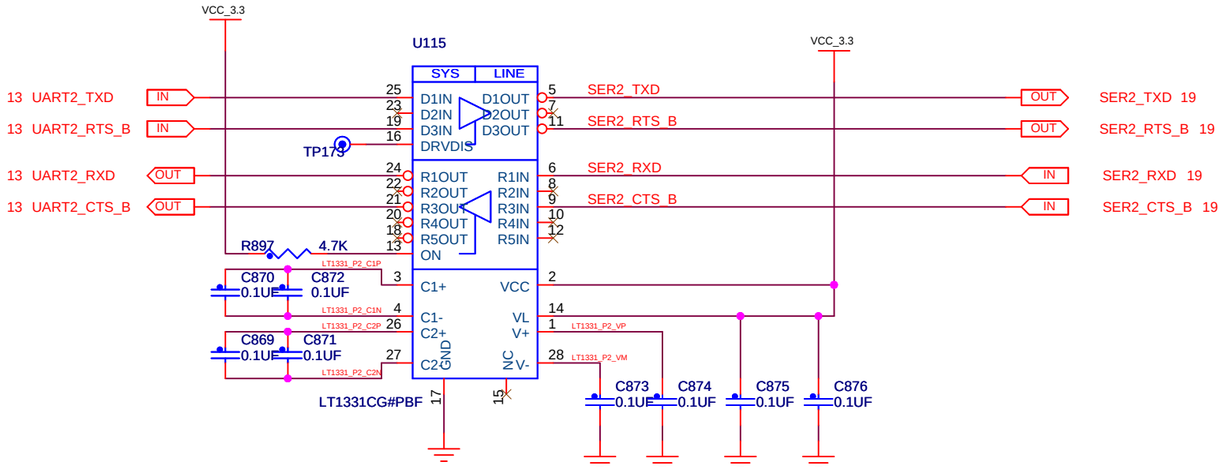
UART PORT 0



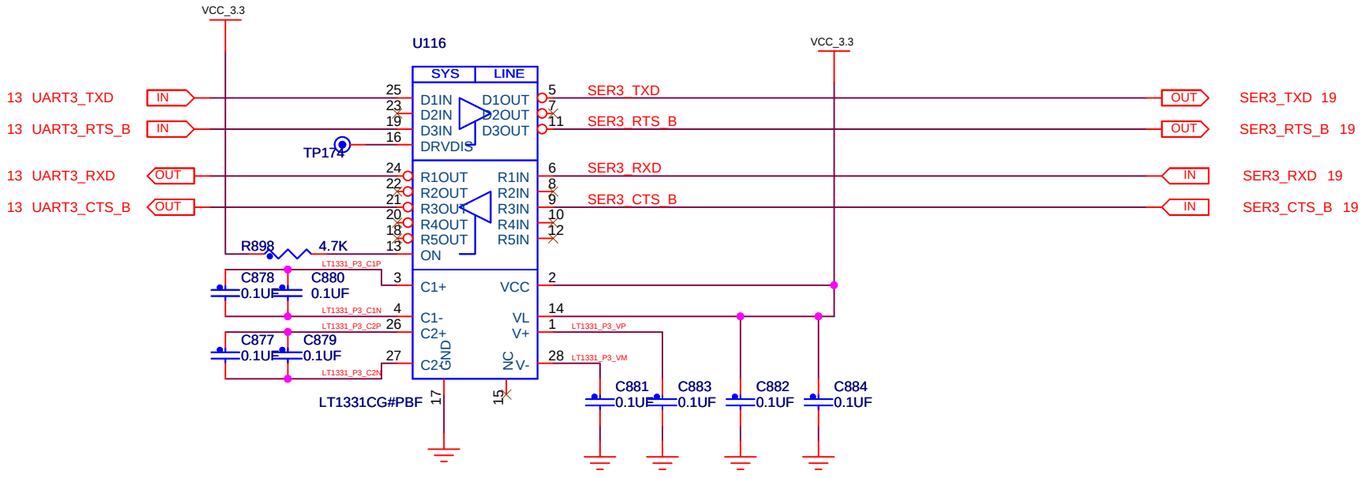
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Serial Port_Part 1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 29 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

UART Port 2

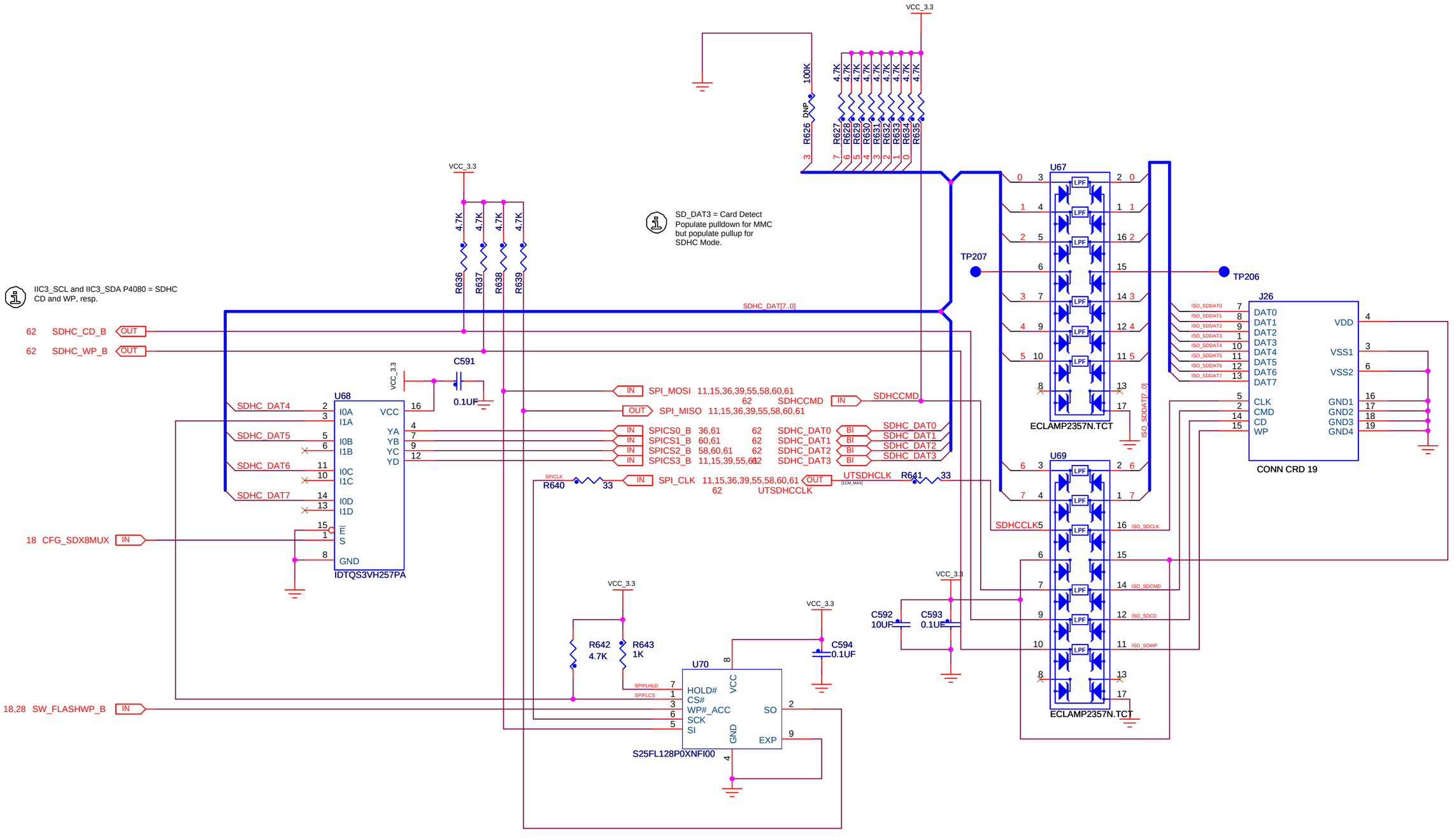


UART Port 3



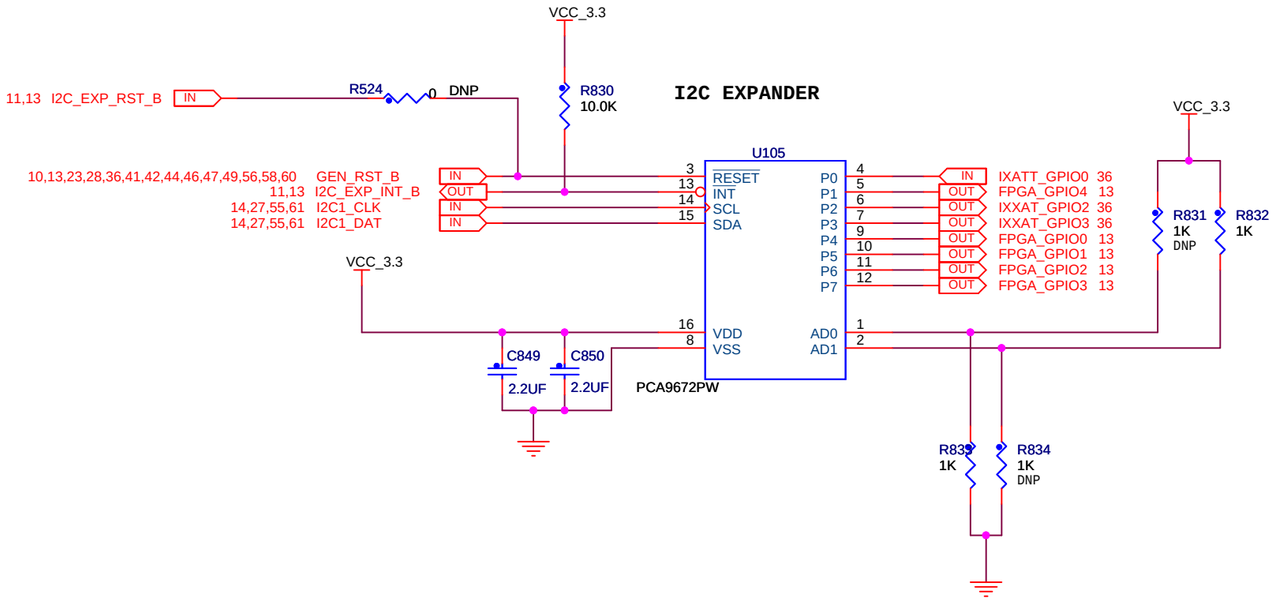
ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Serial Port_Part 2	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 30 of 63	Rev B



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: SDMedia, SPI Devices	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 31 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

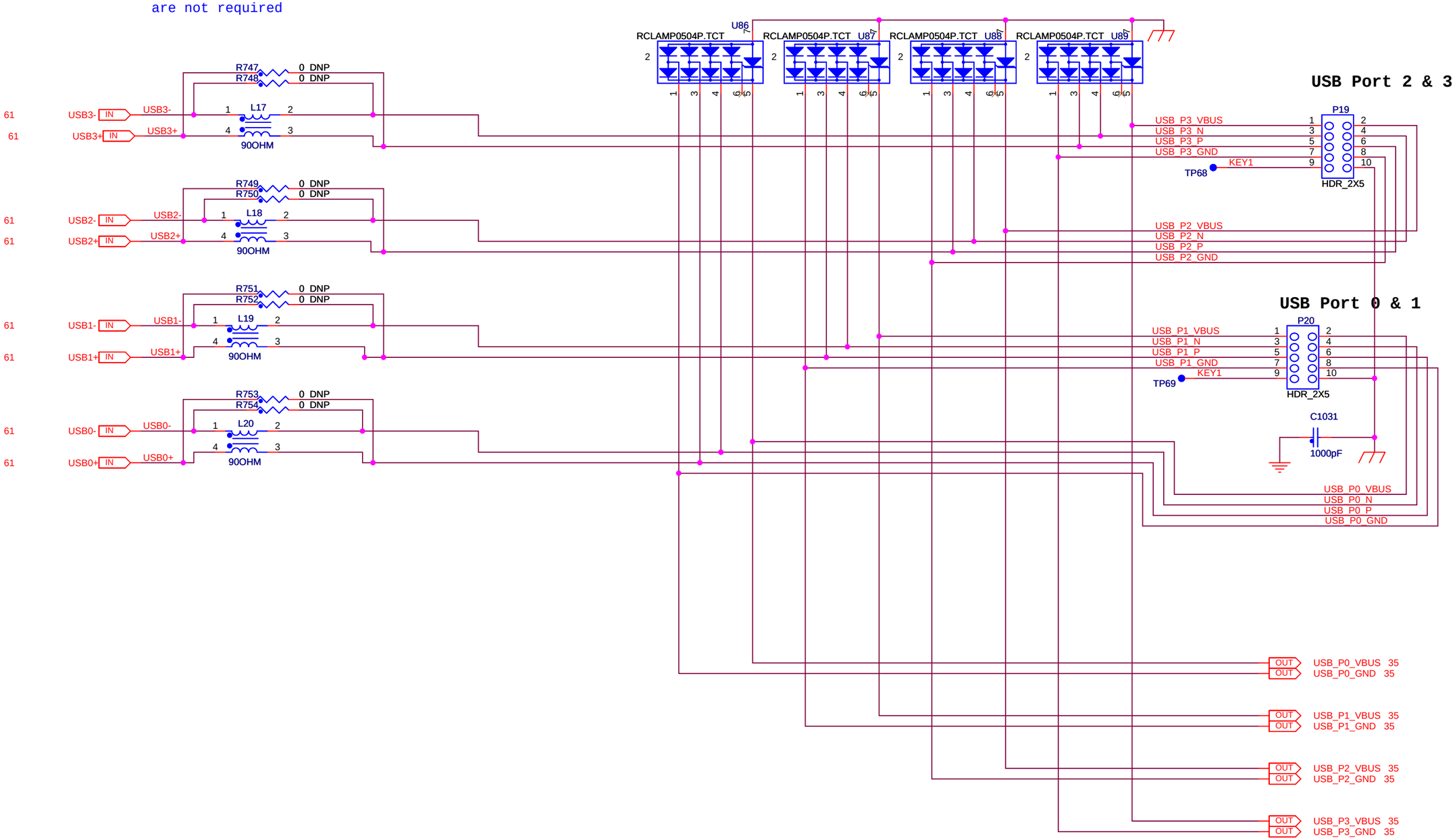


freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: I2C expander	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 32 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

USB PORTS 1 to 4

NOTE: ZERO OHM DNP resistors use the same foot print of CM CHoke and resistors are connected between 1-4 and 2-3 if chokes are not required



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: USB Connector #1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 33 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

USB Port 5 to 8

RCLAMP0504P.TCT U90
RCLAMP0504P.TCT U91
RCLAMP0504P.TCT U92
RCLAMP0504P.TCT U93

R755 0 DNP
R756 0 DNP

61 USB7- IN USB7-
61 USB7+ IN USB7+
L22 90OHM

61 USB6- IN USB6-
61 USB6+ IN USB6+
L23 90OHM
R757 0 DNP
R758 0 DNP

61 USB5- IN USB5-
61 USB5+ IN USB5+
L24 90OHM
R759 0 DNP
R760 0 DNP

61 USB4- IN USB4-
61 USB4+ IN USB4+
L25 90OHM
R761 0 DNP
R762 0 DNP

USB_P7_VBUS
USB_P7_N
USB_P7_P
USB_P7_GND
KEY3
TP70
P21 HDR_2X5

USB_P6_VBUS
USB_P6_N
USB_P6_P
USB_P6_GND

USB_P5_VBUS
USB_P5_N
USB_P5_P
USB_P5_GND
KEY4
TP71
P22 HDR_2X5

USB_P4_VBUS
USB_P4_N
USB_P4_P
USB_P4_GND

C1028 1000pF
L26 50OHM

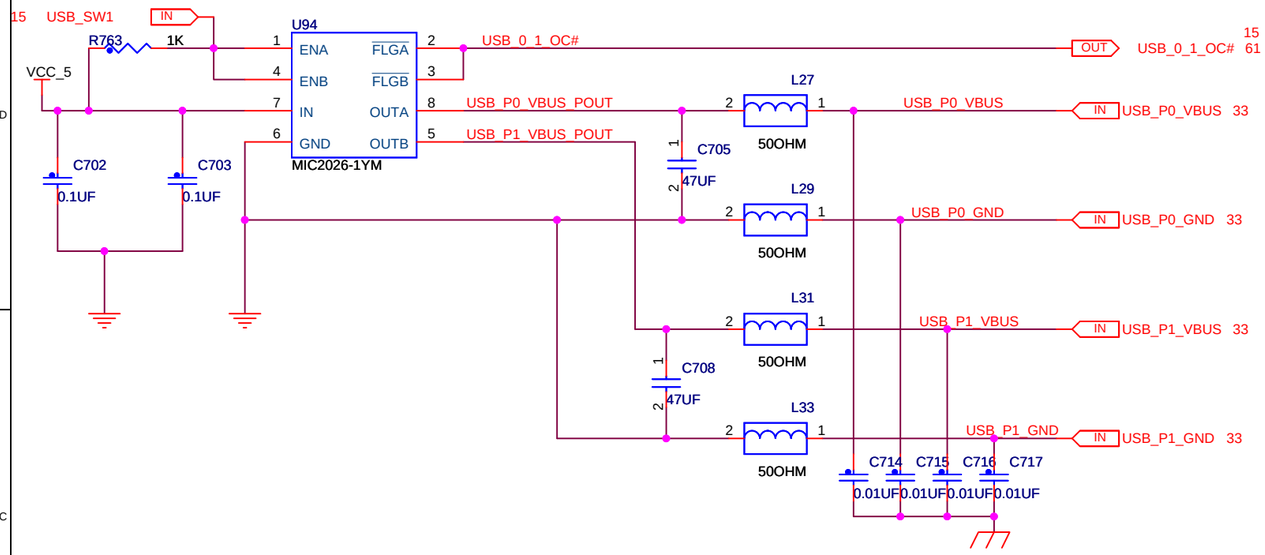
OUT USB_P4_VBUS 35
OUT USB_P4_GND 35
OUT USB_P5_VBUS 35
OUT USB_P5_GND 35
OUT USB_P6_VBUS 35
OUT USB_P6_GND 35
OUT USB_P7_VBUS 35
OUT USB_P7_GND 35

NOTE: ZERO OHM DNP resistors use the same foot print of CM CHoke and resistors are connected between 1-4 and 2-3 if chokes are not required

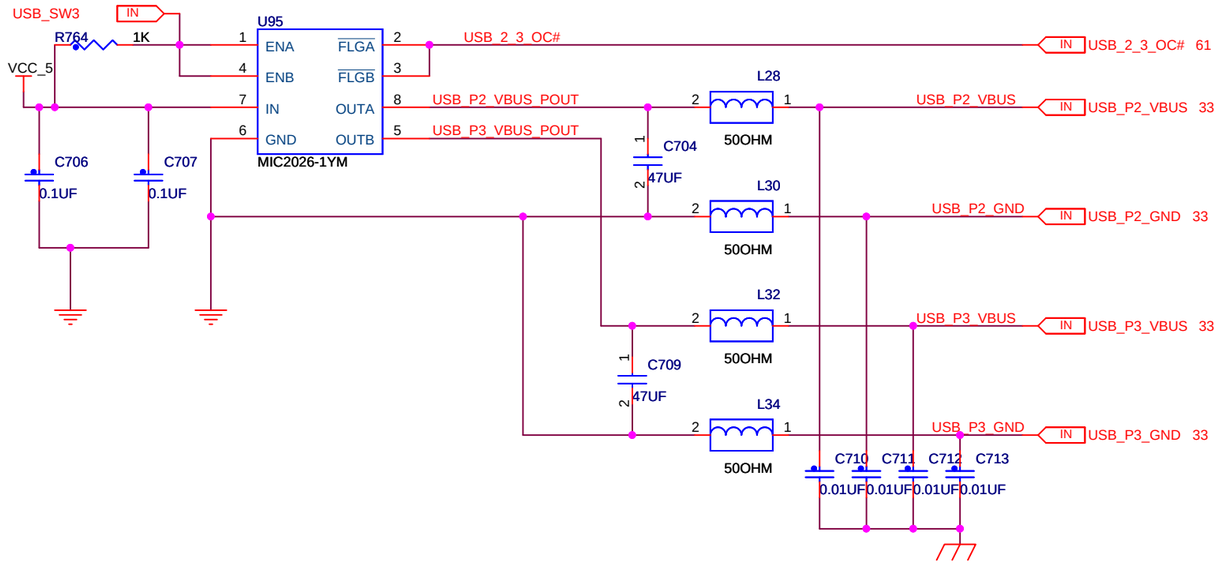
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Blank Page	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 34 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

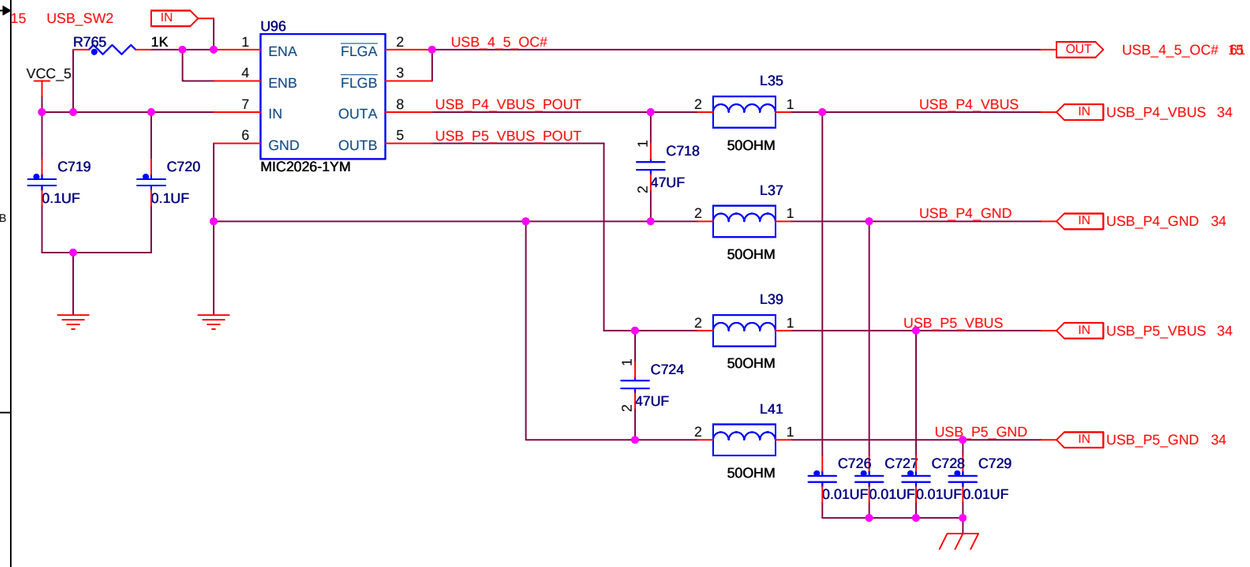
Power Switch for Port 0 & 1



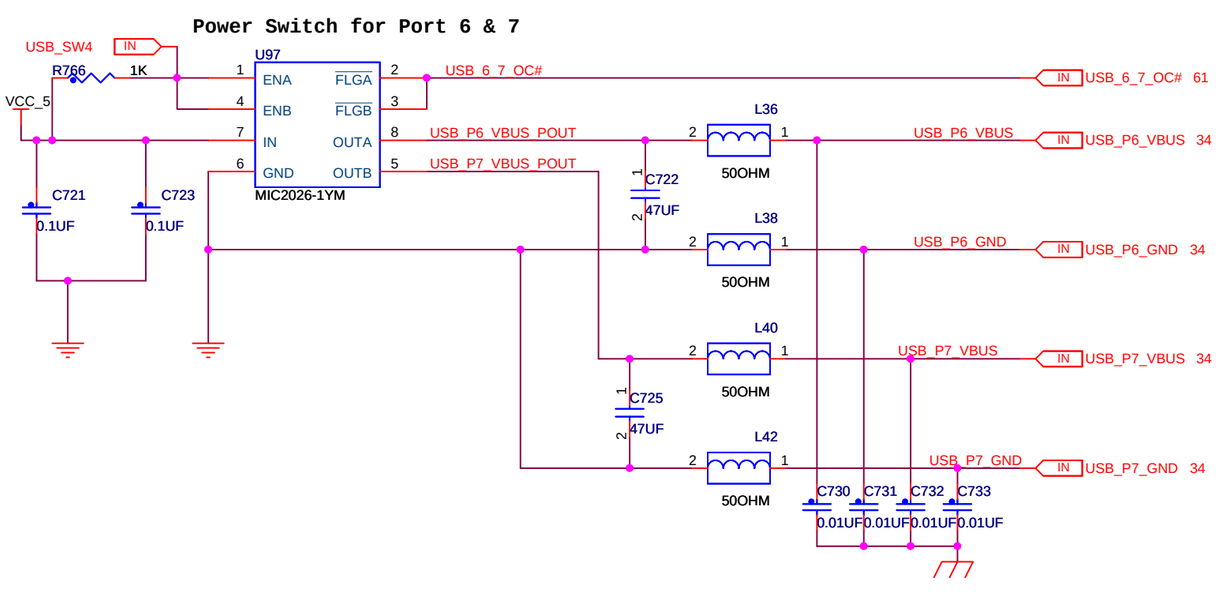
Power Switch for Port 2 & 3



Power Switch for Port 4 & 5



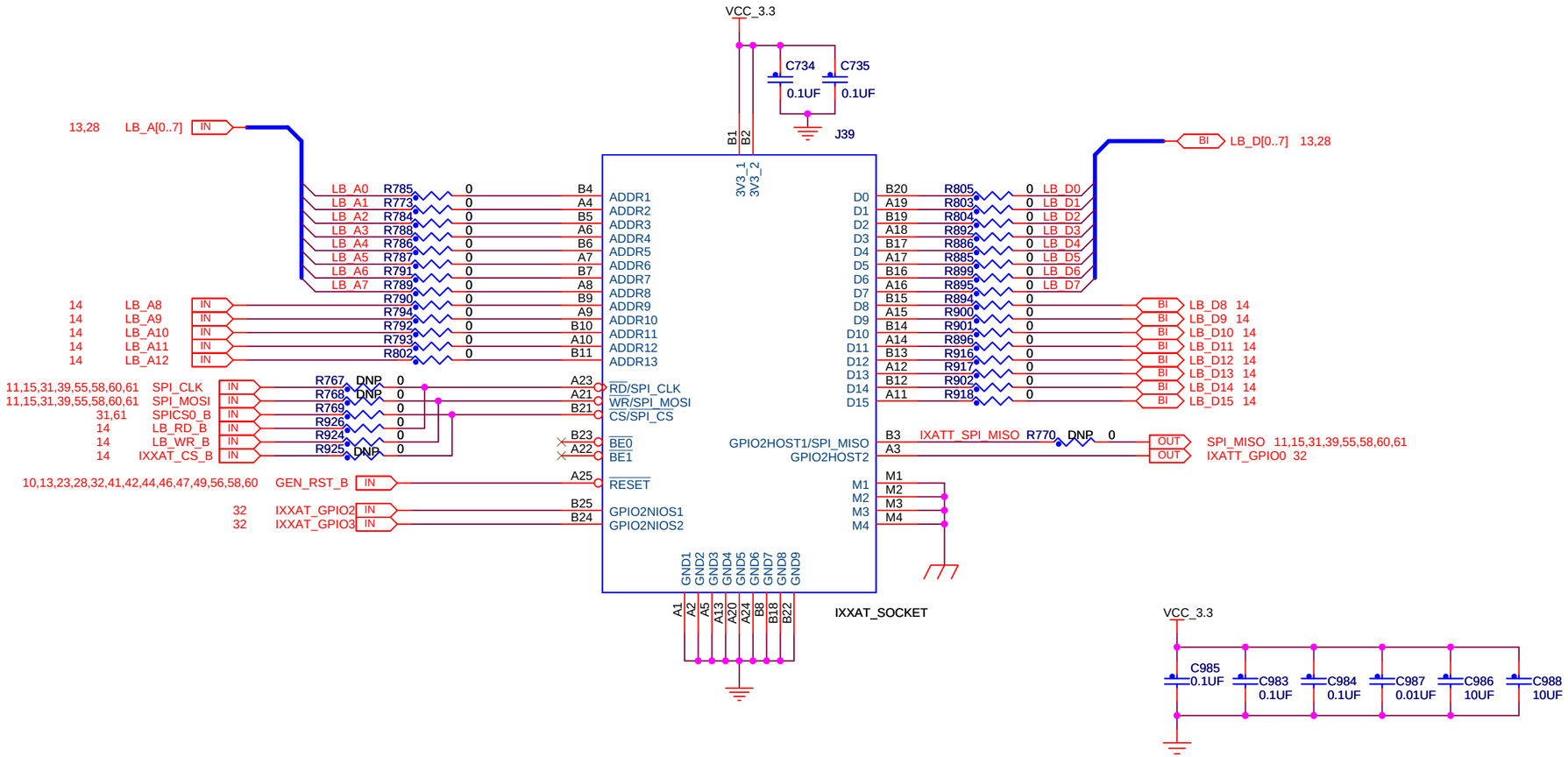
Power Switch for Port 6 & 7



ICAP Classification: FCP:___ FIUO: X PUBI:___

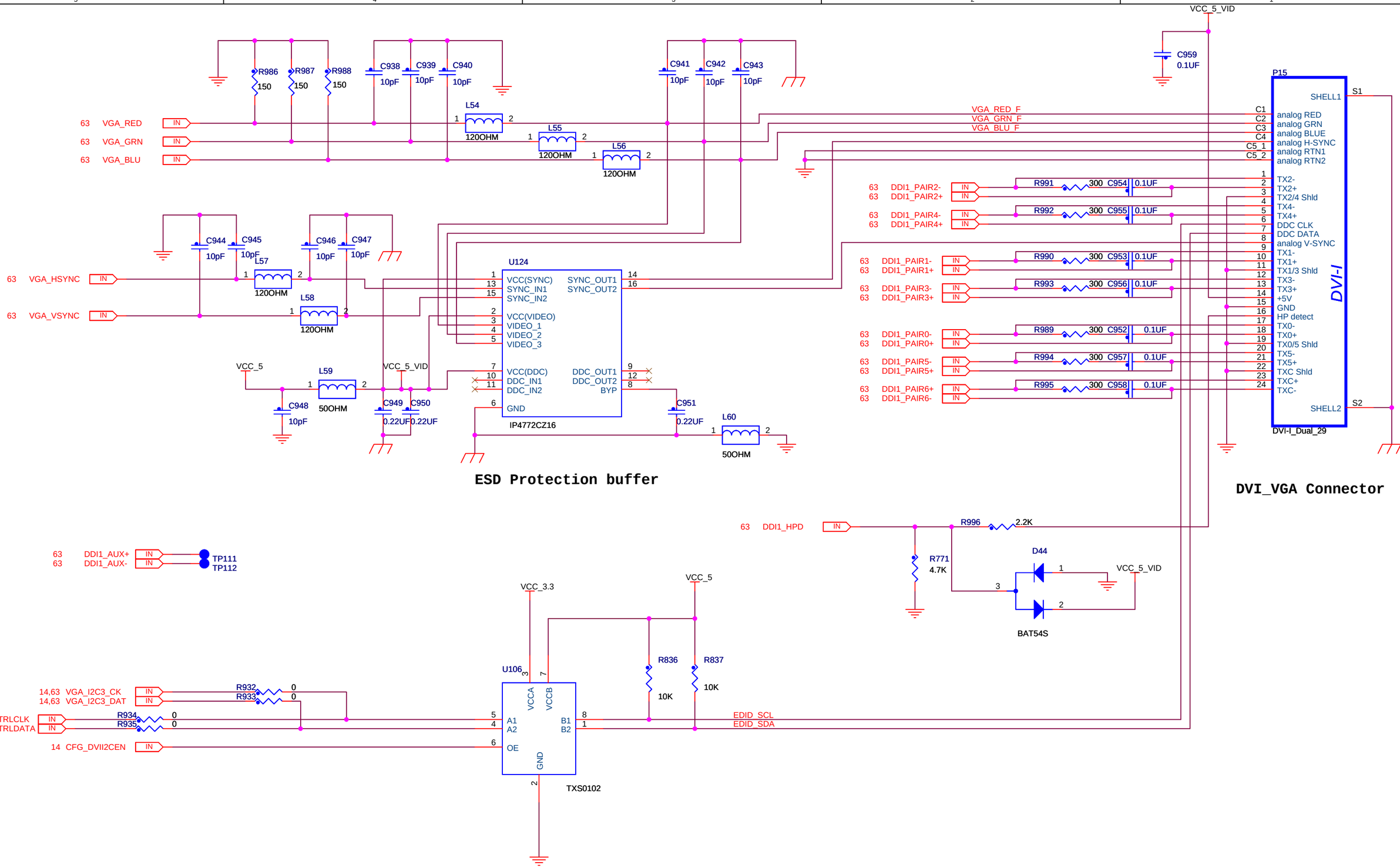
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: USB Power Switches	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 35 of 63 / Rev B

IEM Module



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: IXXAT_MODULE	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 36 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Blank Page	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 37 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

LCD CONNECTOR A

FAN Header

Q29A
Si9933BDY
VCC_3.3
VCC_5
J47
HDR 2X2
R838 10K
C851 10UF
C852 100uF
VCC_PANEL_LCD_A
18,39,62 LVDS_VDD_EN IN
R839 10K LVDS_EN_A
Q18
MMBT3904

C937 0.1UF
C936 22UF
U122
TCRIT
VDD
D+
D-
PWM
SMBCLK
SMBDAT
TACH
ALERT
GND
PAD
LM96163
R887 0 I2C2_CLK
R888 0 I2C2_DAT
R965 13.3K
R889 10.0K
R964 1.3K
R891 1K
C935 0.1UF
Q31
MMBT3904
TP205
10 FAN_ALERT_B OUT
Connect to Reset PLD
VCC_12
R890 1K
VCC_12
HDR_1X4
J101
CPU FAN
J99
HDR 1X2 WLOCK
CHASSIS FAN1
J98
HDR 1X2 WLOCK
CHASSIS FAN2

62 LVDS_A0- IN
62 LVDS_A0+ IN
62 LVDS_A1- IN
62 LVDS_A1+ IN
62 LVDS_A2- IN
62 LVDS_A2+ IN
62 LVDS_A_CK+ IN
62 LVDS_A_CK- IN
62 LVDS_A3- IN
62 LVDS_A3+ IN

J48
CON_20
VCC_3.3
R840 1K
R841 1K
LCD_MODE_2_A
LCD_REV_2_A
R842 1K DNP
R843 1K DNP

11,13,39,62 LVDS_BKLT_CTRL IN
R844 DNP 0
VCC_5
U107
14,39,56,58,62 I2C2_DAT IN
14,39,56,58,62 I2C2_CLK IN
SDA
SCL
VDD
GND
OUT
MAX5362
Analog voltage for brightness control
VCC_5
Q19
FDV301N
BACKBOOST_LCD_A
IRF7821PBF
VCC_12
Q20
DNP
R846 0
VCC_BCAKLT_A
R845 DNP 0
[HEAVY TRACE]
C853 10UF
C854 100uF
J49
53261-0871
R847 3.3K BLTEN3_A
MMBT2907A
Q21
R848 2.2K
BLTEN2_A
R849 DNP 1K LCDBRITE_A
R850 DNP 0 LCDBLOPT_A
LCDENA_A
R851 0 DNP
18,39,62 LVDS_BKLT_EN IN
R852 10K BLTEN1_A
Q22
MMBT3904
VCC_5
R853 1K DNP
PWM(?)

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: LCD Connector_A	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 38 of 63	Rev B

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LCD CONNECTOR B

Touch Screen Header

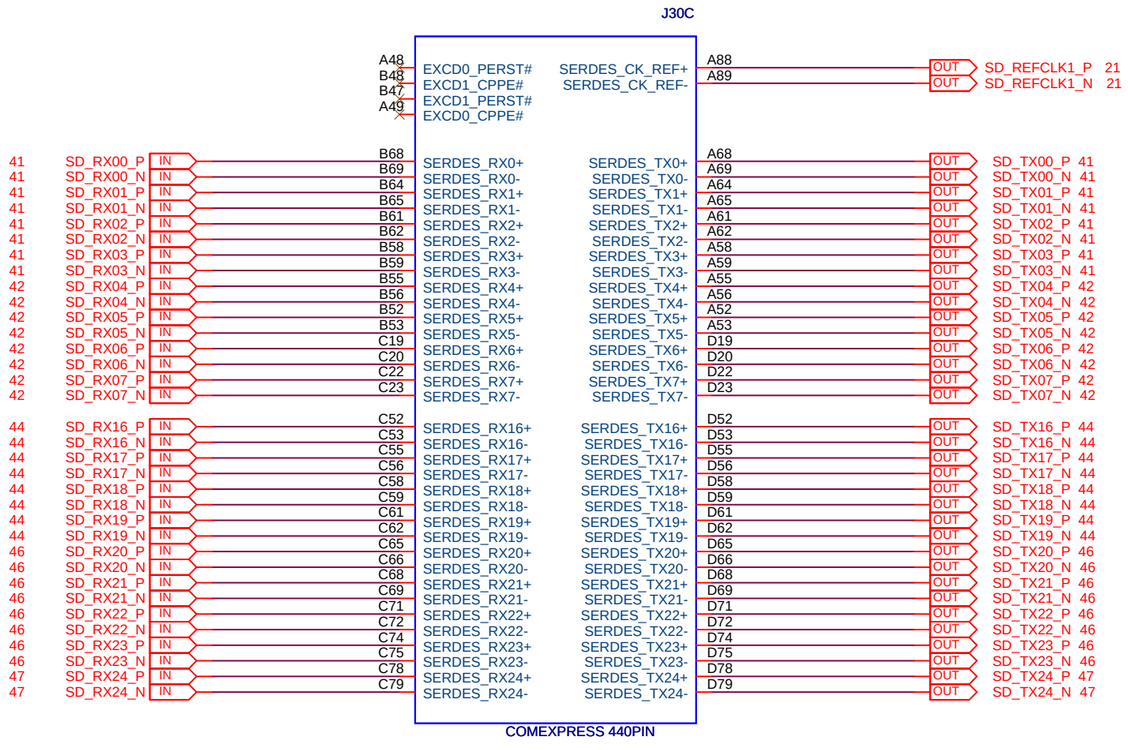
VCC_5
VCC_3.3
J50
HDR 2X2
Q30B
Si9933BDY
R854 10K
C855 10UF
C856 100uF
VCC_PANEL_LCD_B
18,38,62 LVDS_VDD_EN IN
R855 10K LVDS_EN_B
Q24
MMBT3904
J51
CON_20
62 LVDS_A4-
62 LVDS_A4+
62 LVDS_A5-
62 LVDS_A5+
62 LVDS_A6-
62 LVDS_A6+
62 LVDS_B_CK+
62 LVDS_B_CK-
62 LVDS_A7-
62 LVDS_A7+
R644 4.7K
J68
CON 8 PLUG
11,15,31,36,55,58,60,61 SPI_CLK
11,15,31,36,55,58,60,61 SPI_MOSI
11,15,31,55,61 SPICS3_B
11,15,31,36,55,58,60,61 SPI_MISO
R1174 0
I2C2_DAT
I2C2_CLK
R856 1K
R857 1K
R858 1K DNP
R859 1K DNP
LCD_MODE_2_B
LCD_REV_2_B

11,13,38,62 LVDS_BKLT_CTRL IN
R860 DNP 0
U108
MAX5362
14,38,56,58,62 I2C2_DAT
14,38,56,58,62 I2C2_CLK
Analog voltage for brightness control
Q25
FDV301N
DNP
BACKBOOST_LCD_B
IRF7821PBF
Q26 DNP
VCC_12
R862 0
R861 DNP 0
VCC_BCAKLT_B
[HEAVY TRACE]
J52
53261-0871
C857 10UF
C858 100uF
LCDENA_B
LCDBRITE_B
LCDBLOPT_B
DNP R865 1K
DNP R866 0
R863 3.3K BLTEN3_B
MMBT2907A
Q27
R864 2.2K
BLTEN2_B
R867 0 DNP
18,38,62 LVDS_BKLT_EN IN
R868 10K BLTEN1_B
Q28
MMBT3904
R869 1K DNP
PWM(?)

ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: LCD_ Connector_B	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 39 of 63 / Rev B

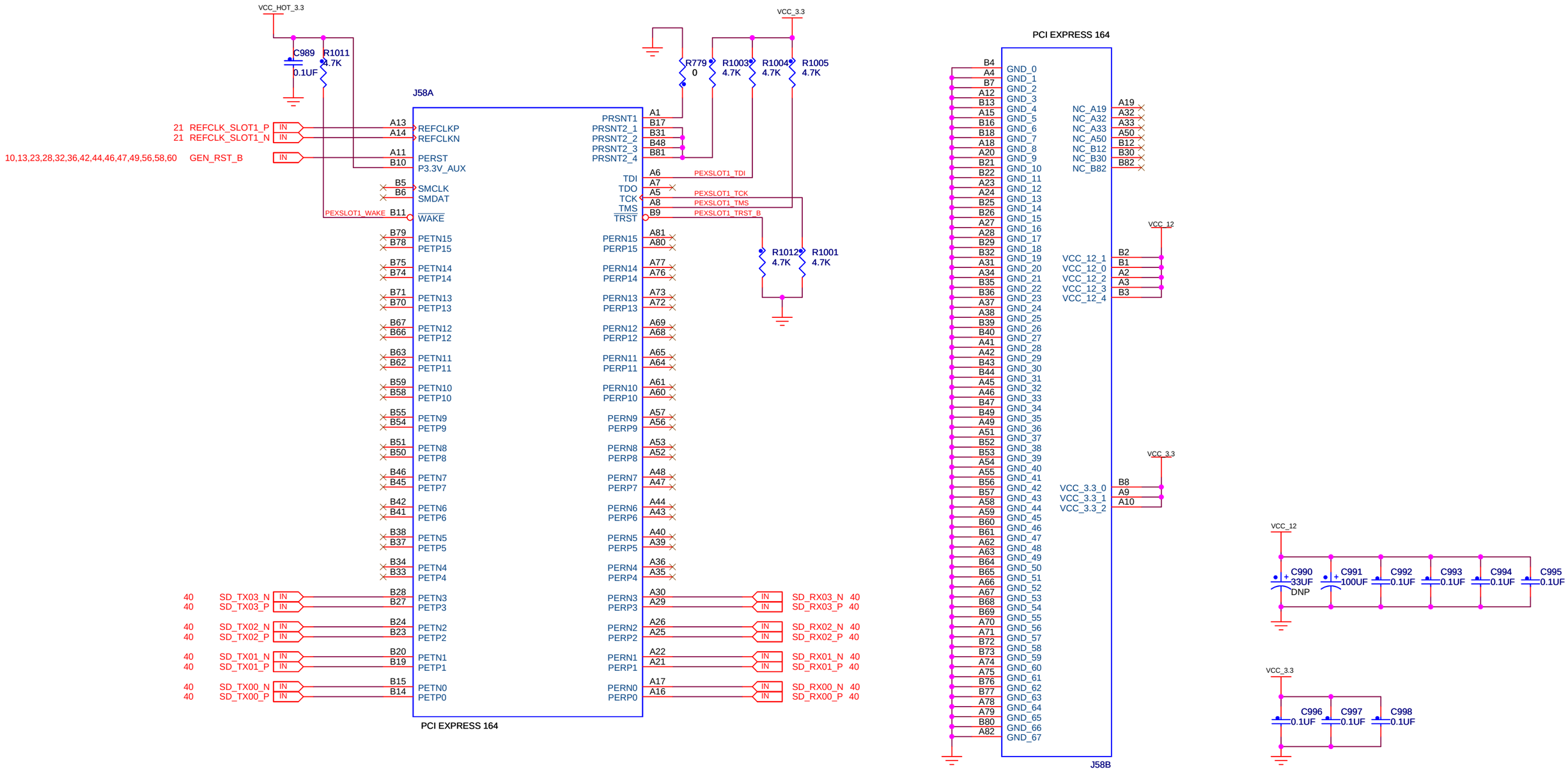
SERDES - COMe CONNECTOR



ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: **COMEXPRESS CARRIER**	Page Title: **P4080 SERDES**	Document Number: SCH-26479 PDF: SPF-26479	Size: Custom	Date: Friday, October 22, 2010	Sheet 40 of 63	Rev: B

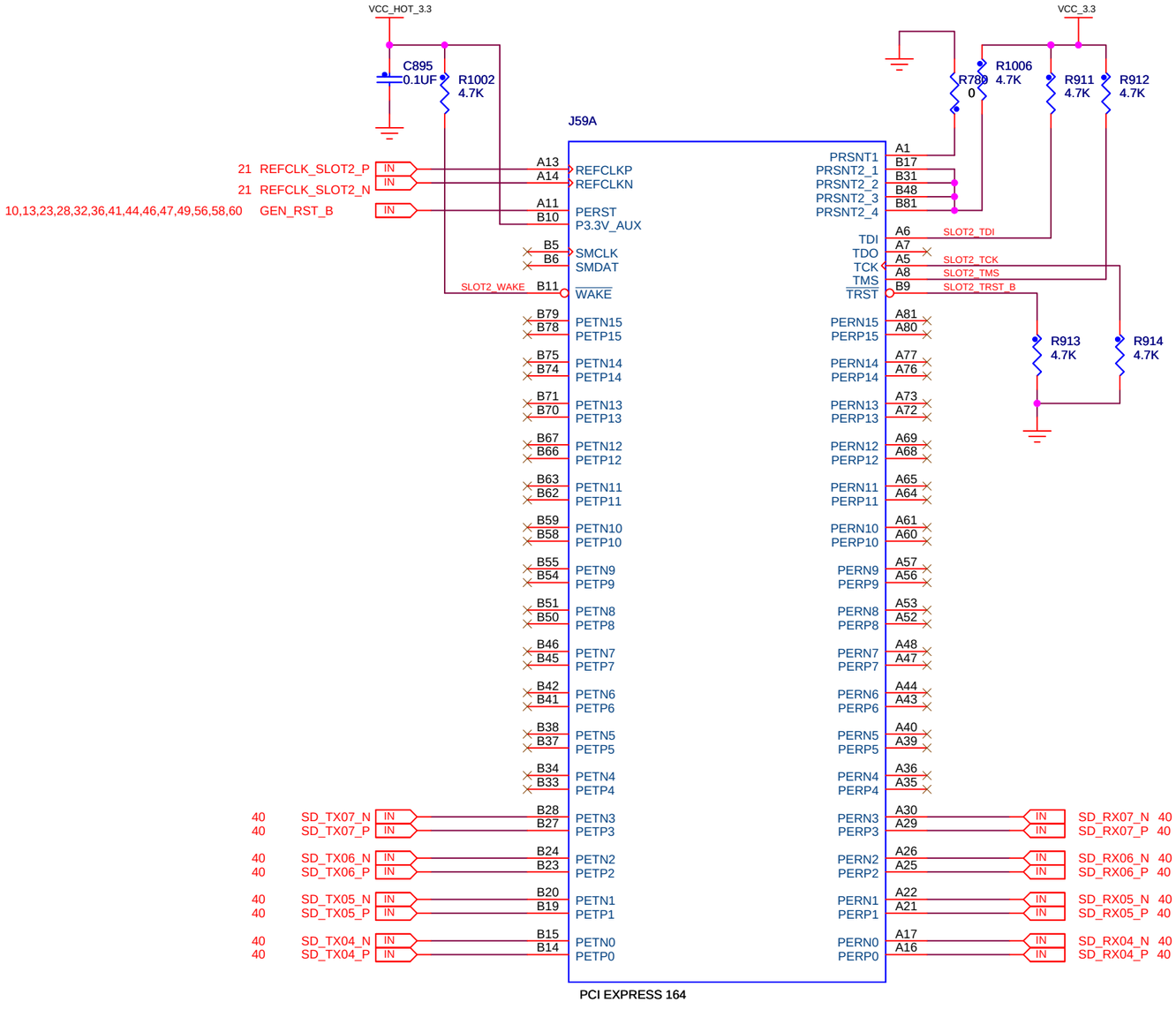
SLOT 1 (PEX/SRIO) CONNECTOR

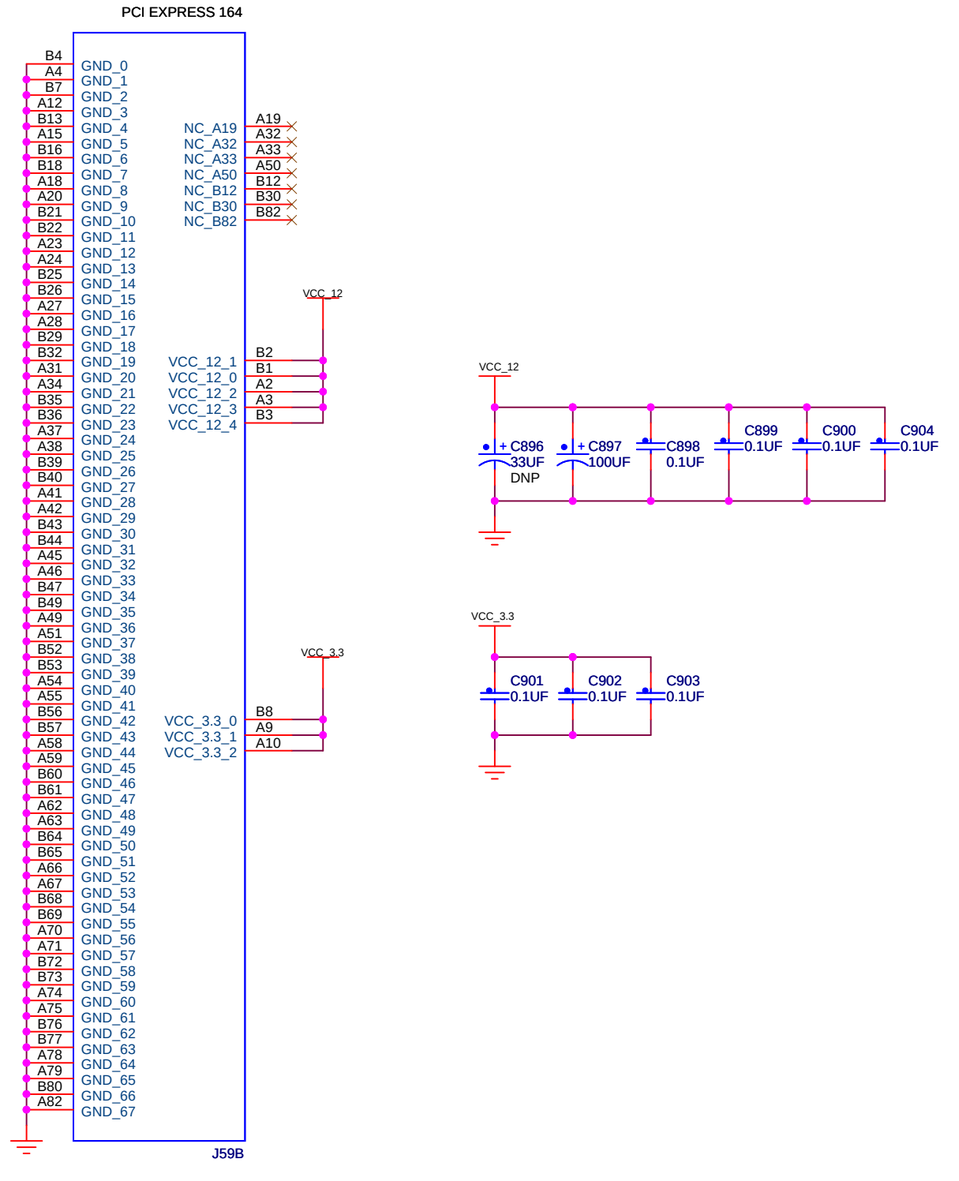


ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PEX x2 Slot #1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 41 of 63	Rev B

SLOT 2 (PEX/SRIO/SGMII) MAIN (PART 1 OF 2) CONNECTOR

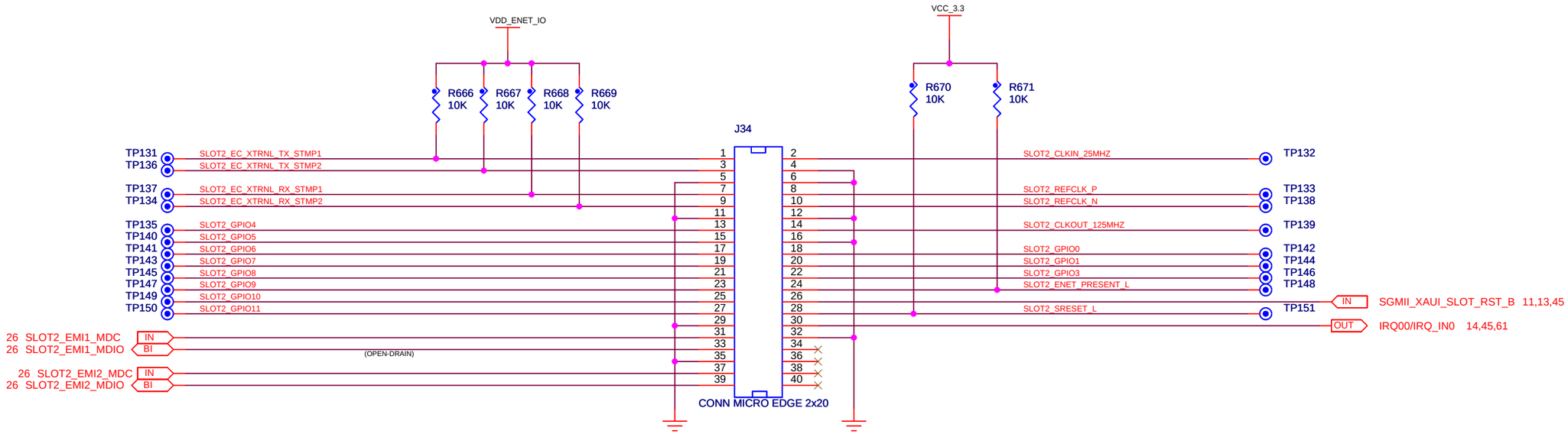




ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: **COMEXPRESS CARRIER**	Page Title: **PEX/SGMII x4 Slot #2**	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 42 of 63 / Rev B

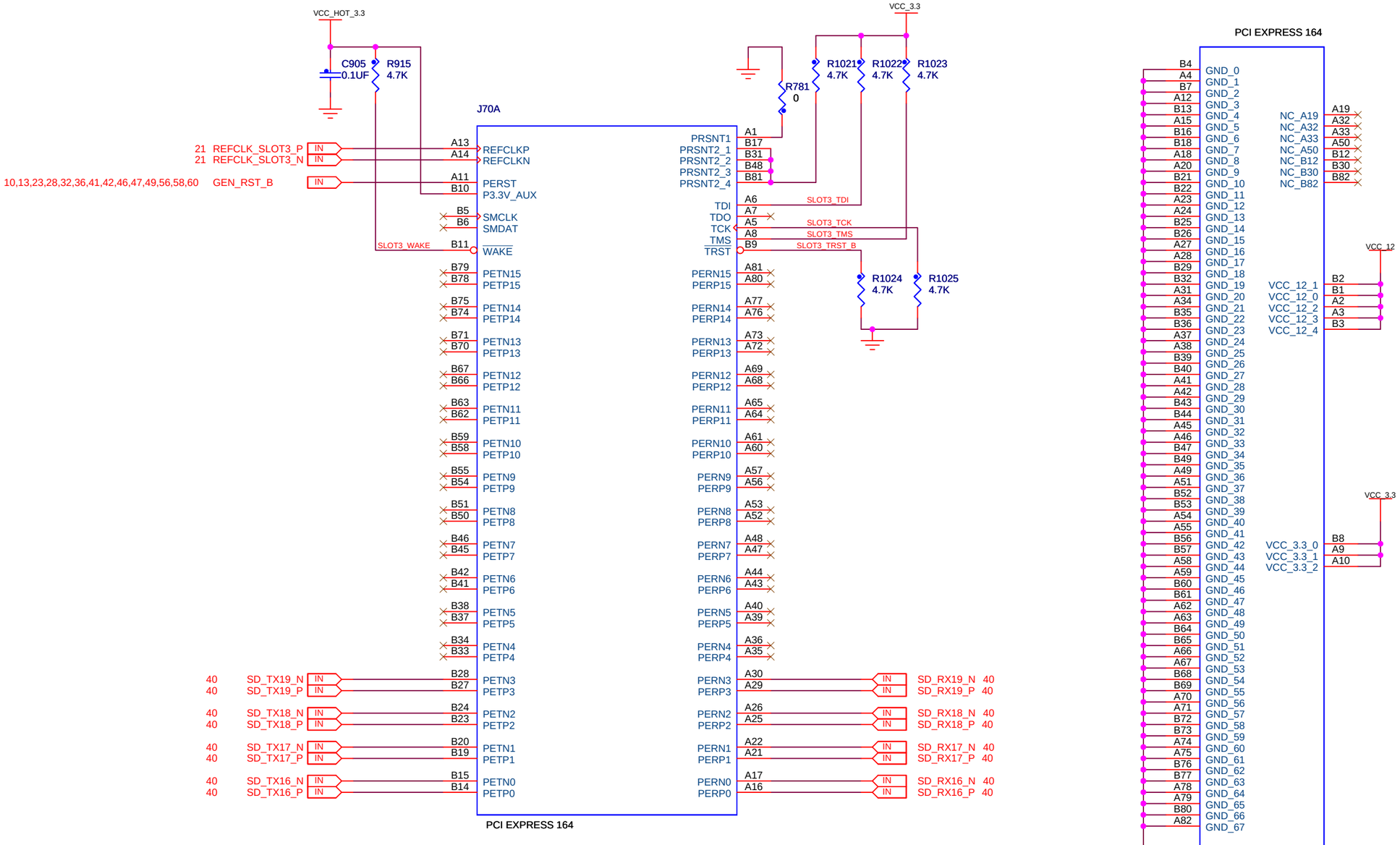
SLOT 2 (PEX/SGMII) SIDEBAND (PART 2 OF 2) CONNECTOR



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Slot #3 Sideband Connector	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 43 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

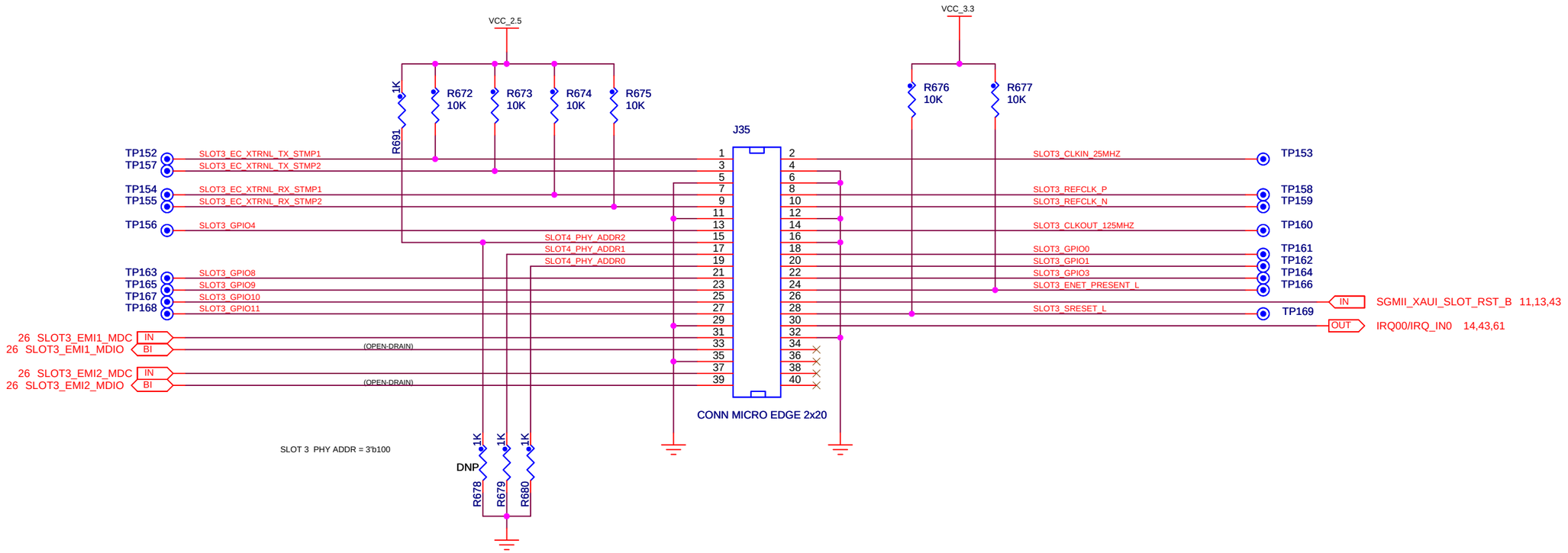
SLOT 3 (XAUI/SGMII) MAIN (PART 1 OF 2) CONNECTOR



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PEX/XAUI x4 Slot #4	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 44 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

SLOT 3 (XAUI/SGMII/SRIO) SIDEBAND (PART 2 OF 2) CONNECTOR



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Slot #4 Sideband Connector	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 45 of 63	Rev B

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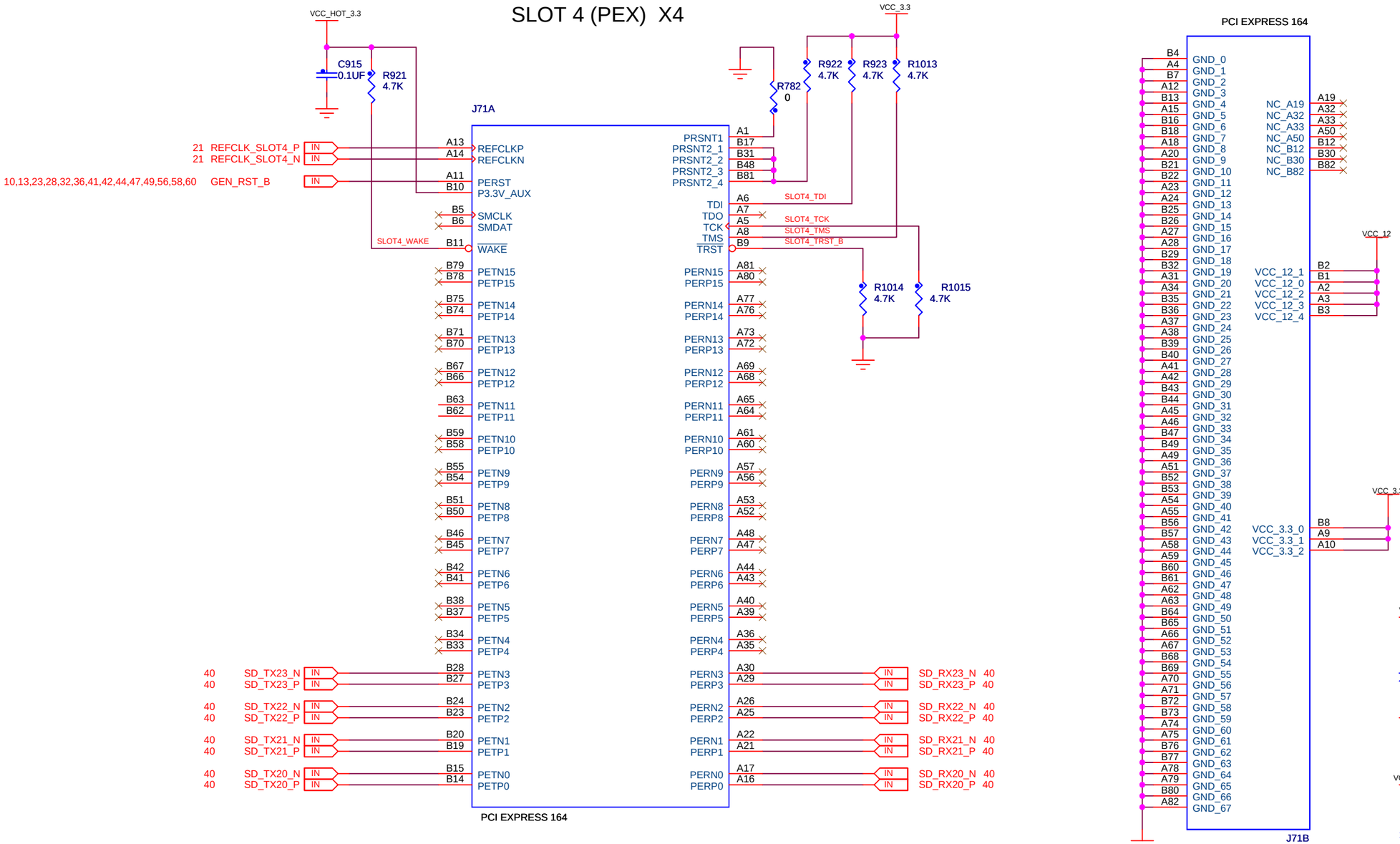
SLOT 4 (PEX) X4



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PEX/XAUI x4 Slot #5	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 46 of 63	Rev B

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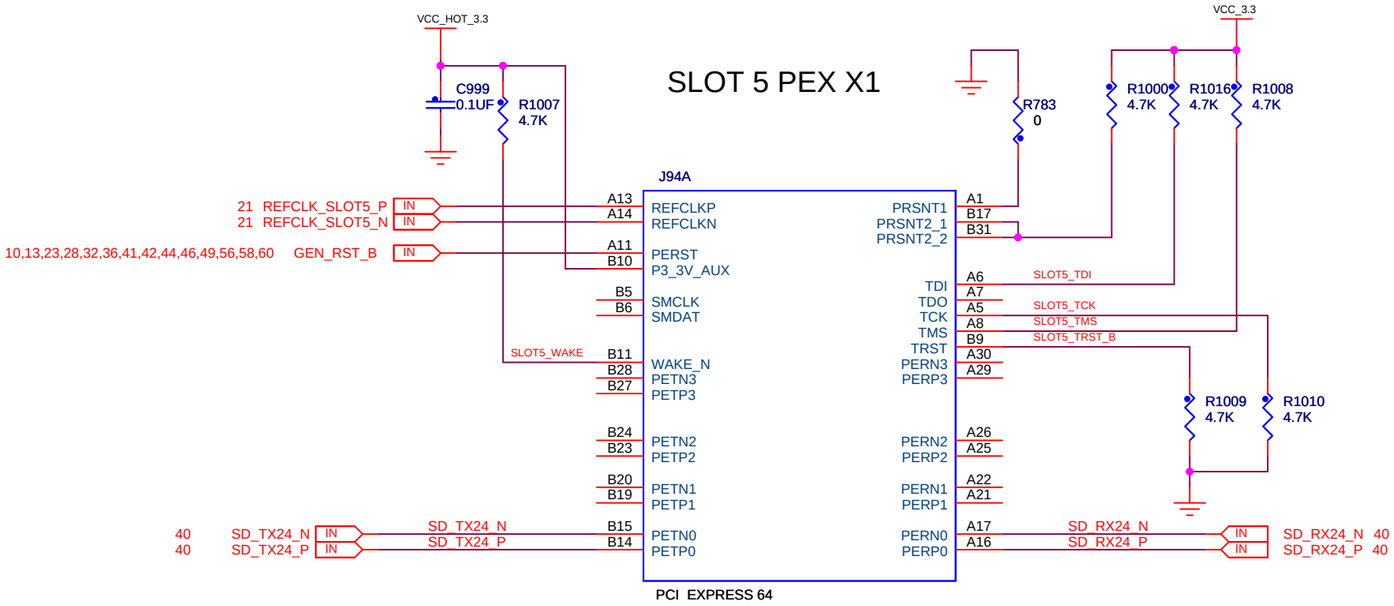
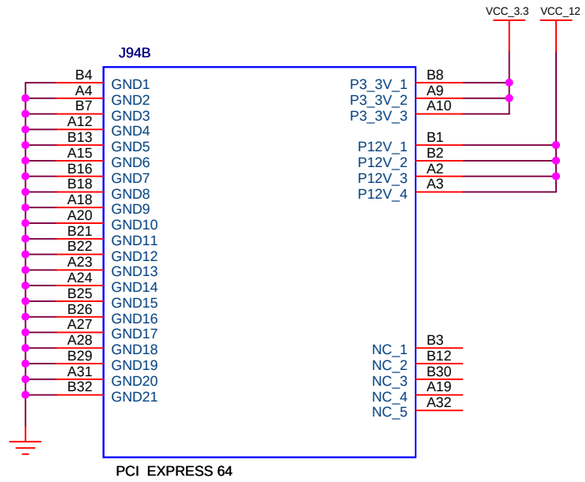
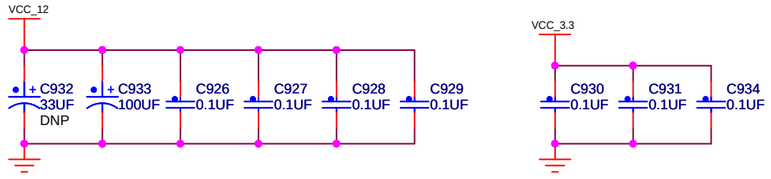
SLOT 5 PEX X1



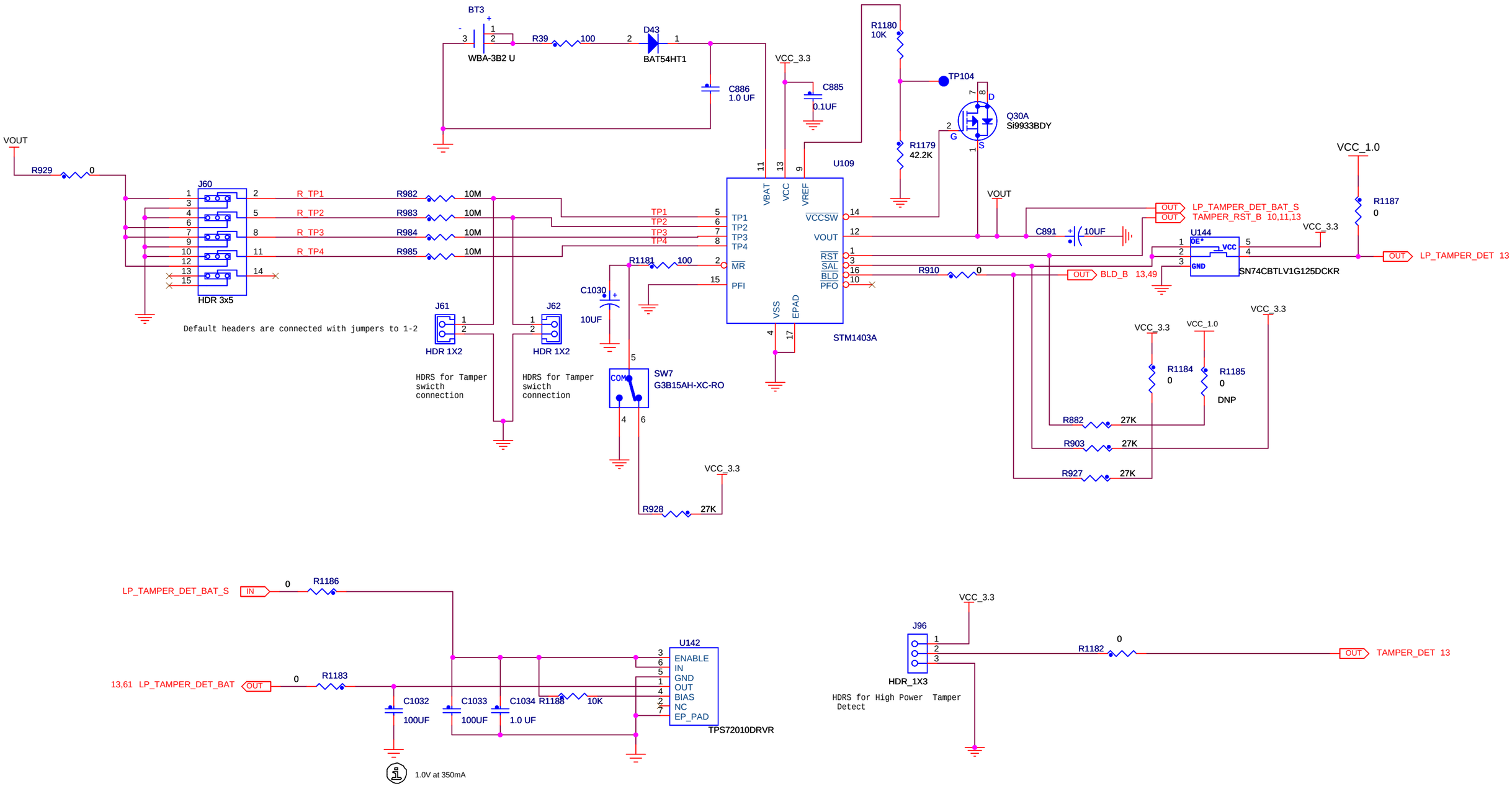




freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PEX/XAUI x4 Slot #5	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 47 of 63	Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

TAMPER DETECT INTERFACE



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: Blank Page	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 48 of 63	Rev B

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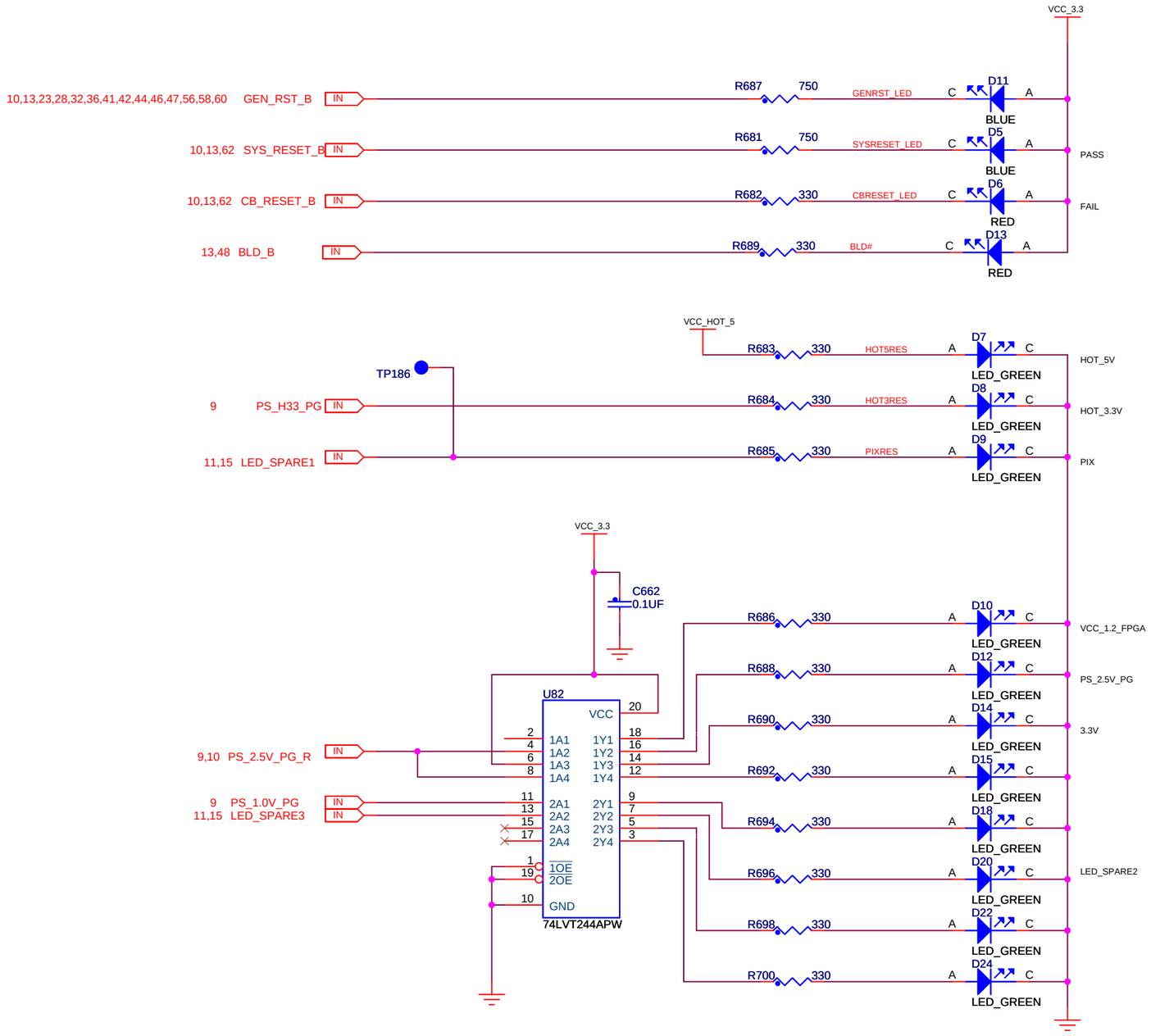
DEBUG LED INDICATION



freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: LEDs / Debug	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 49 of 63 / Rev B

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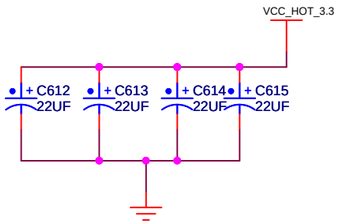
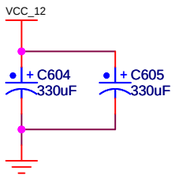
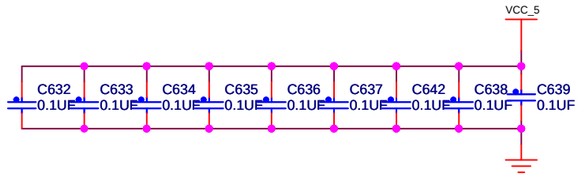
DECOUPLING CAPACITORS

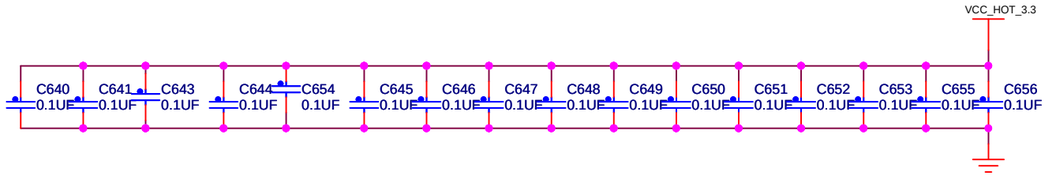




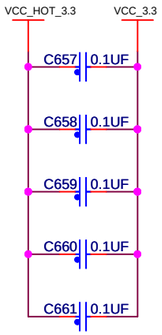
INTER POWER PLANE CAPACITANCE
Place ~2cm from each corner
and one in the center.



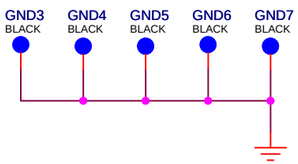
GLOBAL HF CAPACITANCE
Place in a grid ~5cm everywhere.



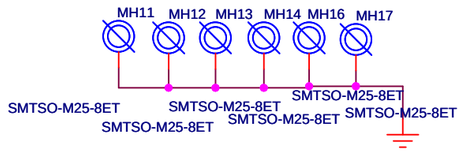
ATX Chassis: 11standoffs holes.



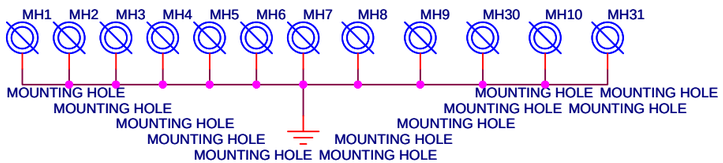
GROUND TEST POINTS
Place in each corner and center



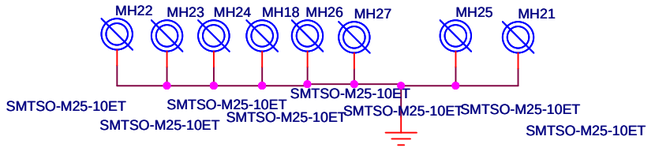
11 STANDOFFS MOUNTING HOLES FOR COMe MODULES



CHASSIS MOUNTING HOLES
ATX Chassis: 10 holes.



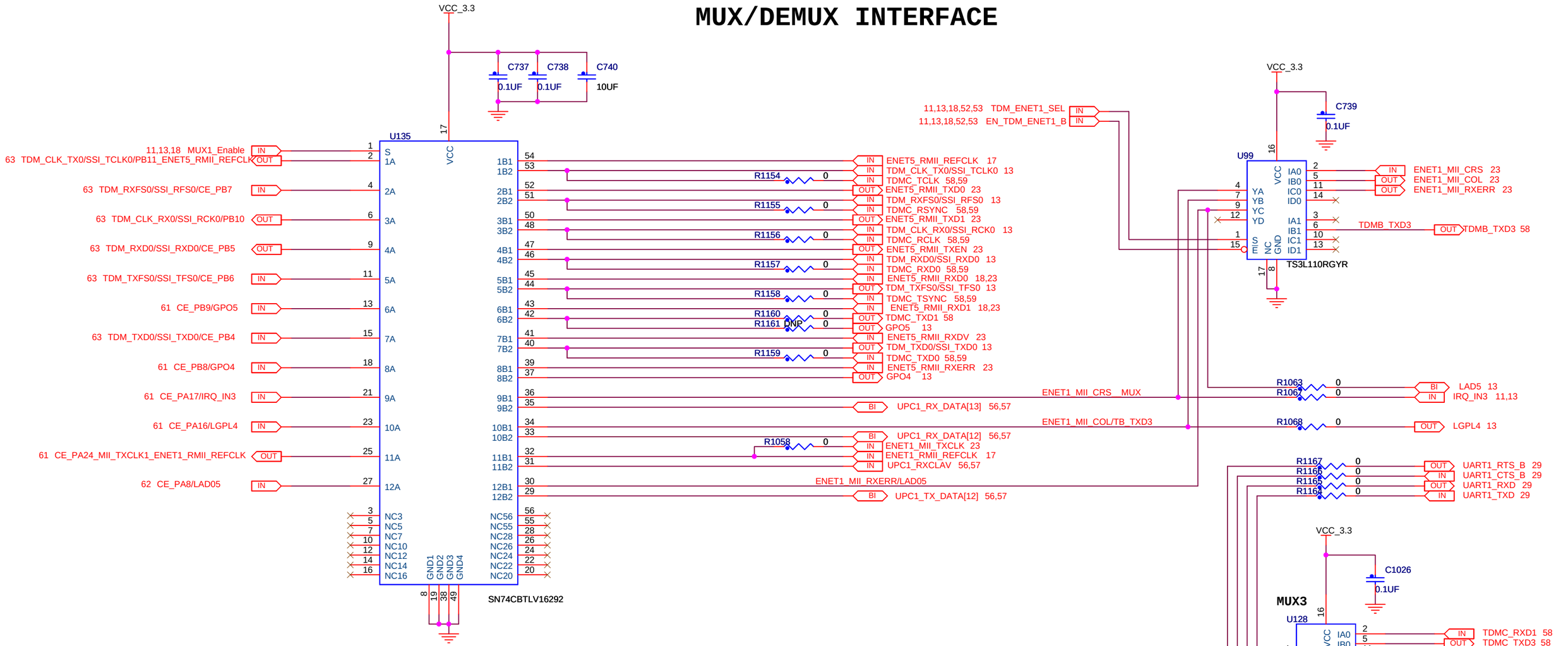
8 STANDOFFS MOUNTING HOLES FOR PMC CARDS 0 & 1



ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: **COMEXPRESS CARRIER**	Page Title: **Global Bypass Caps / Mech.**	Document Number: SCH-26479 PDF: SPF-26479	Size: Custom	Date: Friday, October 22, 2010	Sheet 50 of 63 / Rev B

MUX/DEMUX INTERFACE



	MUX1_Enable		TDM_ENET1_SEL		EN_TDM_ENET1_B	
	Low	High	Low	High	Low	High
ENET5_RMII	*					
ENET1_RMII	*		*		*	
TDMB(NIBBLE)	*			*	*	
TDMC(Nibble)		*	*		*	
TDMD(Serial)				*	*	
UTOPIA		*				
GPIO		*				
LBC	*					
INTR	*					

Note : After Demux

TDMB - Interfaced to PMC HDLC
TDMC - Interfaced to TDM RISER, PMC HDLC
TDMD - Interfaced to PMC HDLC
TDM/SSI - Interfaced to FPGA
Local bus, GPIO, INTR - Interfaced to FPGA
UART1 - Interfaced to Transceiver
UTOPIA - Interfaced to PMC connector
Ethernet1, 5 - Interfaced to PHY

After Mux

All Signals - Interfaced to COMe connector

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: MUX/DEMUX PART 1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010

ICAP Classification: FCP:___ FIUO: X PUBI:___

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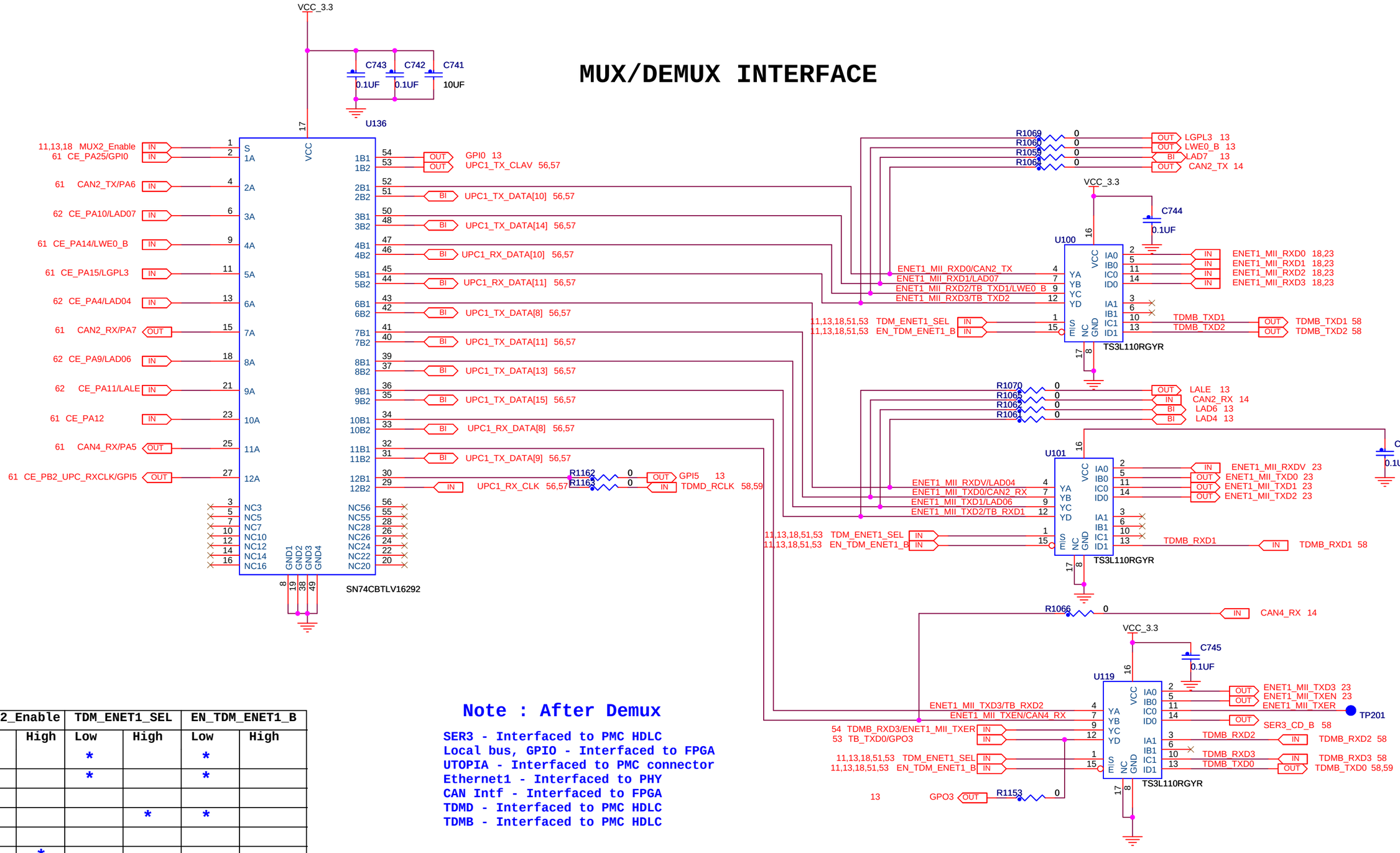
MUX/DEMUX INTERFACE



	MUX2_Enable		TDM_ENET1_SEL		EN_TDM_ENET1_B	
	Low	High	Low	High	Low	High
SER3	*		*		*	
ENET1_RMII	*		*		*	
CAN INTF	*					
TDMB(NIBBLE)	*			*	*	
TDMD(Serial)	*					
UTOPIA		*				
GPIO/INTR	*					
LBC	*					

Note : After Demux

SER3 - Interfaced to PMC HDLC
Local bus, GPIO - Interfaced to FPGA
UTOPIA - Interfaced to PMC connector
Ethernet1 - Interfaced to PHY
CAN Intf - Interfaced to FPGA
TDMD - Interfaced to PMC HDLC
TDMB - Interfaced to PMC HDLC

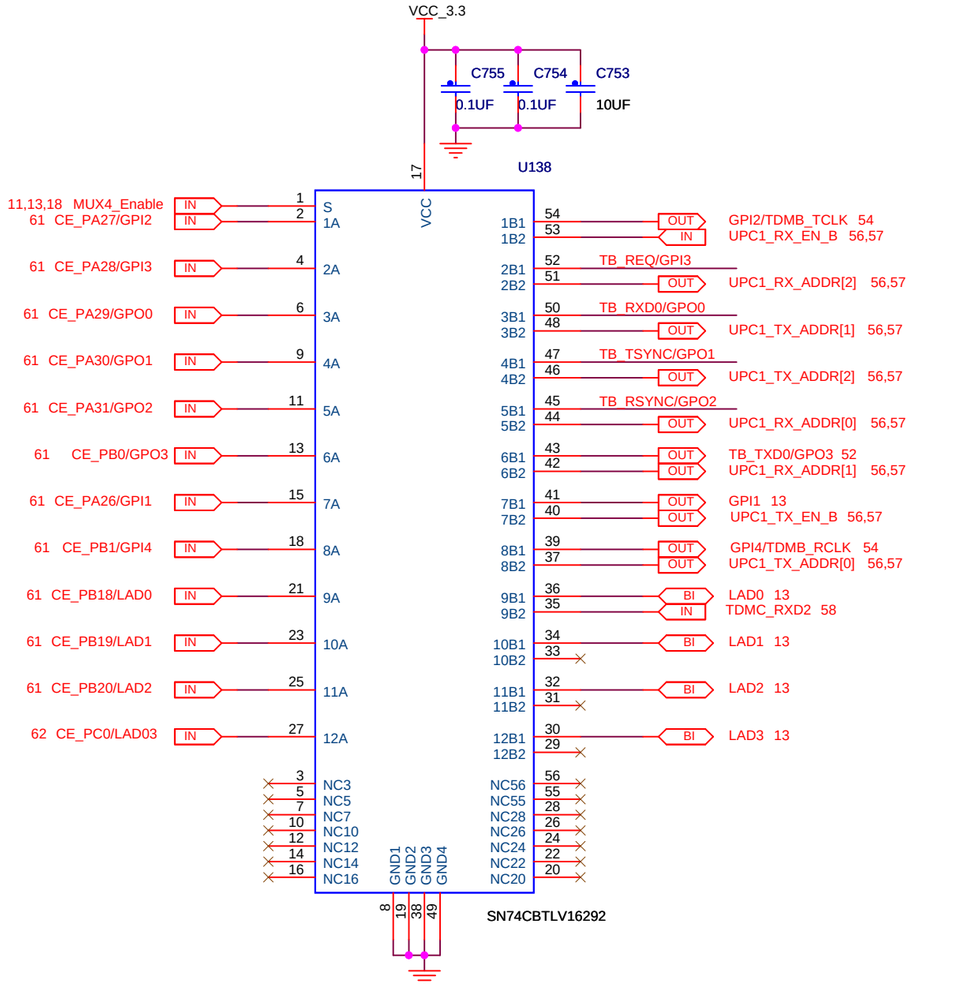
After Mux

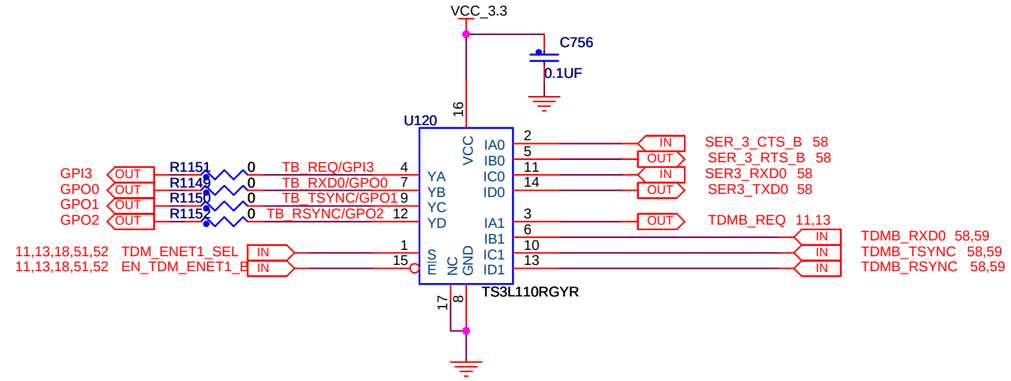
All Signals - Interfaced to COMe connector

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: MUX/DEMUX PART 2	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 52 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___

MUX/DEMUX INTERFACE





Note : After Demux

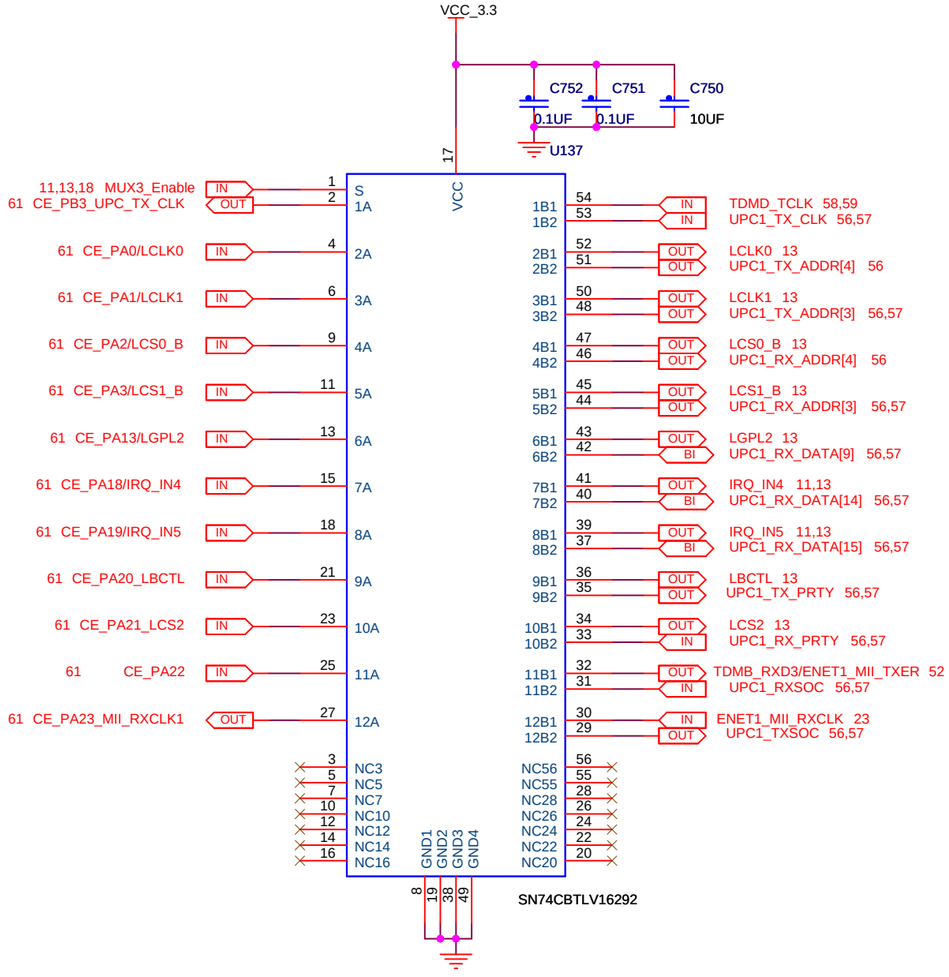
SER3 - Interfaced to PMC HDLC
Local bus, GPIO - Interfaced to FPGA
UTOPIA - Interfaced to PMC connector
TDMB - Interfaced to PMC HDLC
TDMC - Interfaced to PMC HDLC

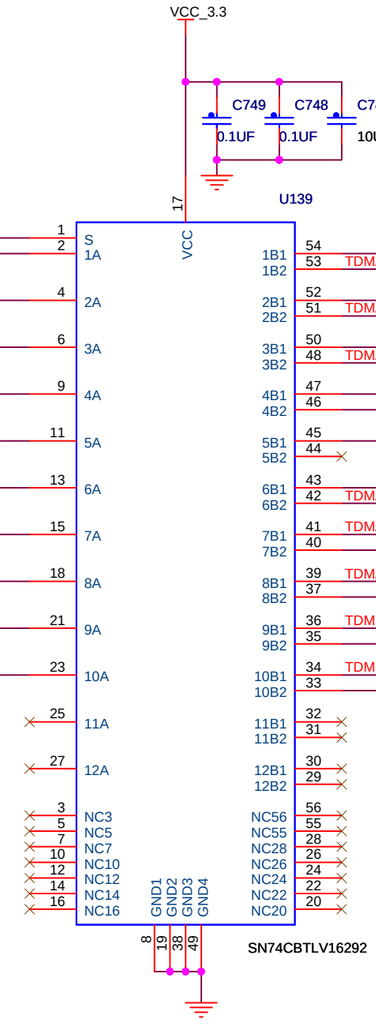
After Mux

All Signals - Interfaced to COMe connector

	MUX3_Enable		TDM_ENET1_SEL		EN_TDM_ENET1_B	
	Low	High	Low	High	Low	High
SER3	*		*		*	
TDMB(NIBBLE)	*			*	*	
UTOPIA		*				
GPIO/INTR	*			*	*	
LBC	*					
TDMC		*				

MUX/DEMUX INTERFACE





	MUX4_Enable		MUX5_Enable	
	Low	High	Low	High
TDMA				*
ENET1_RMII	*			
CAN INTF			*	
TDMB(NIBBLE)			*	
TDMD(Serial)	*			
UTOPIA		*		
GPIO/INTR	*			*
LBC	*			*

Note : After Demux

TDMA - Interfaced to PMC HDLC
Local bus, GPIO - Interfaced to FPGA
UTOPIA - Interfaced to PMC connector
Ethernet1 - Interfaced to PHY
CAN Intf - Interfaced to FPGA
TDMD - Interfaced to PMC HDLC
TDMB - Interfaced to PMC HDLC

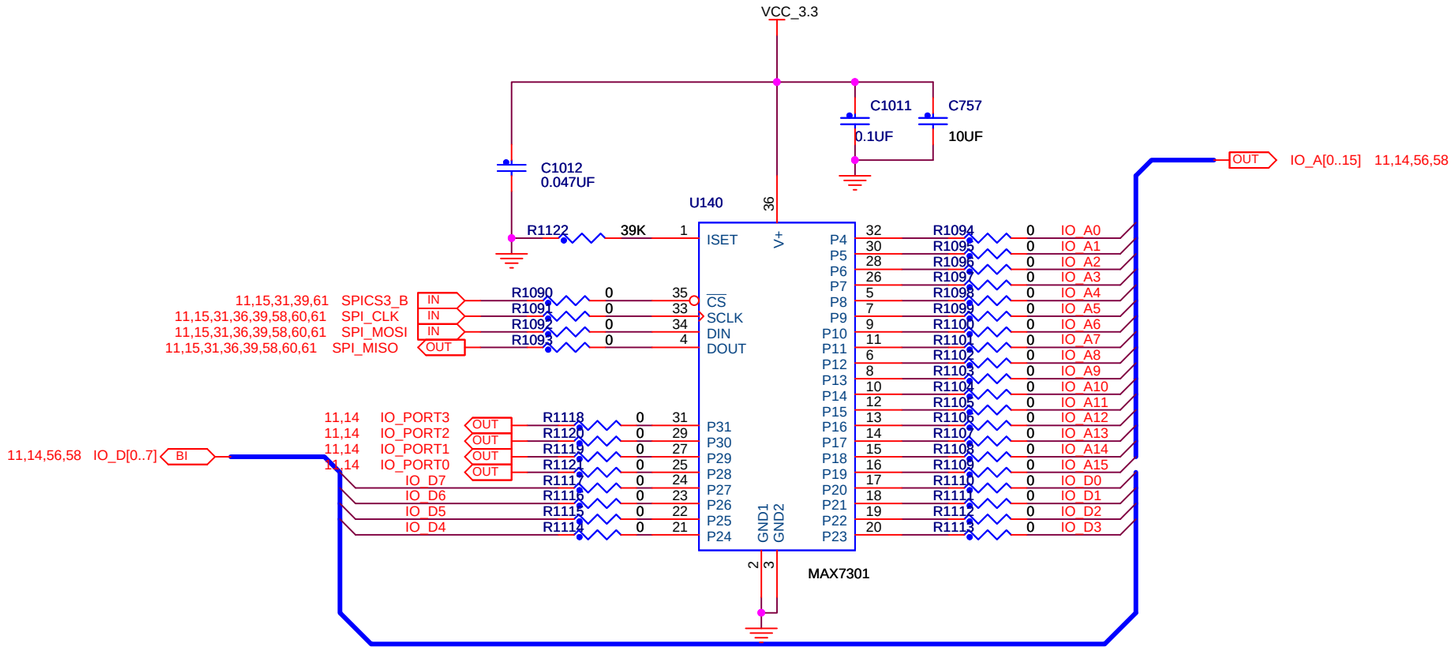
After Mux

All Signals - Interfaced to COMe connector

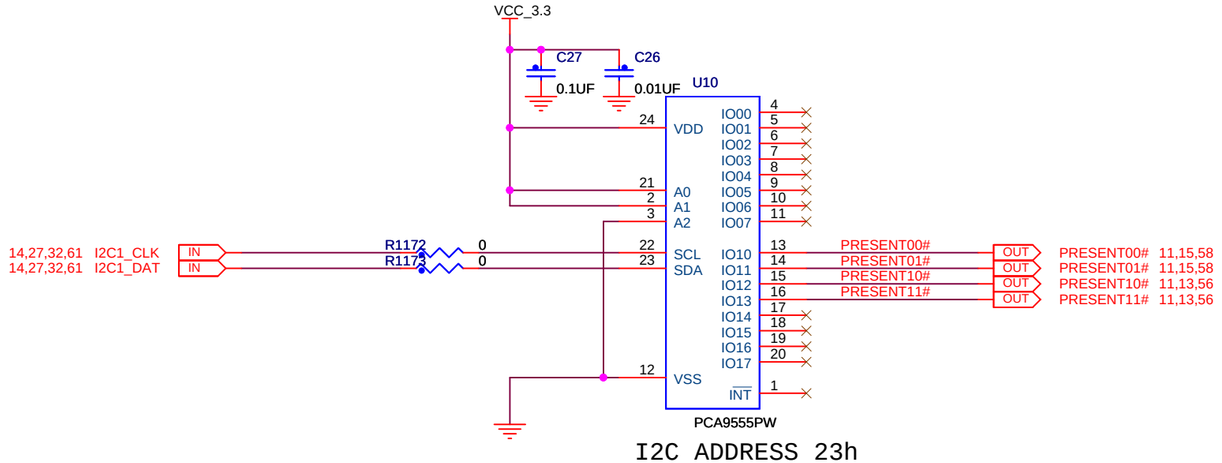
ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: MUX/DEMUX PART 4	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 54 of 63 / Rev B

IO EXPANDER



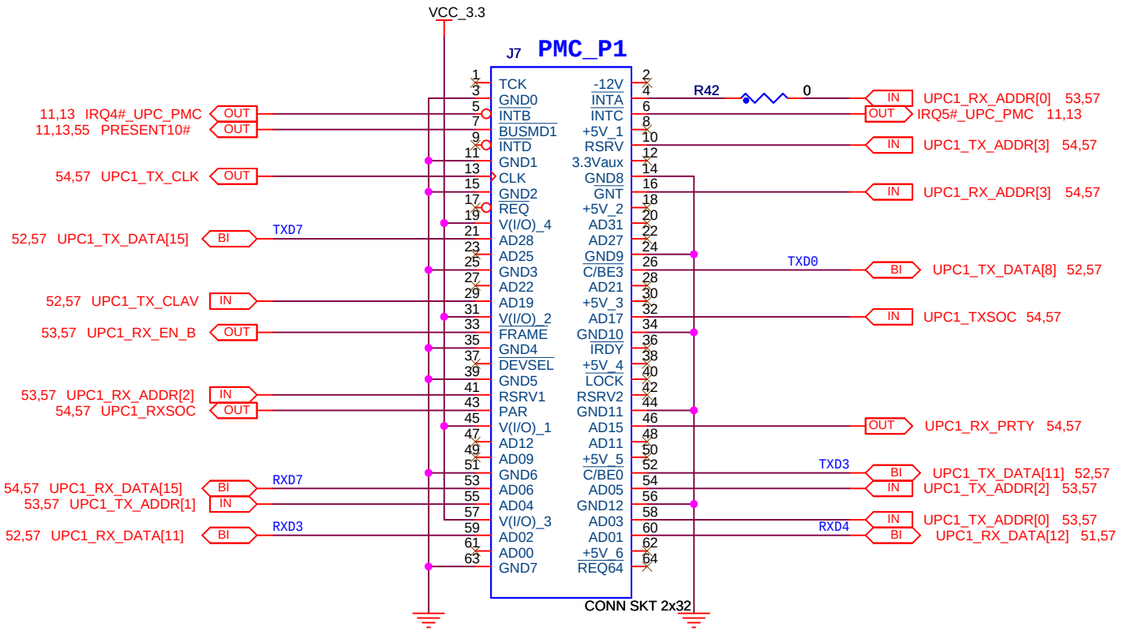
PMC0&1 PRESENCE DETECTION

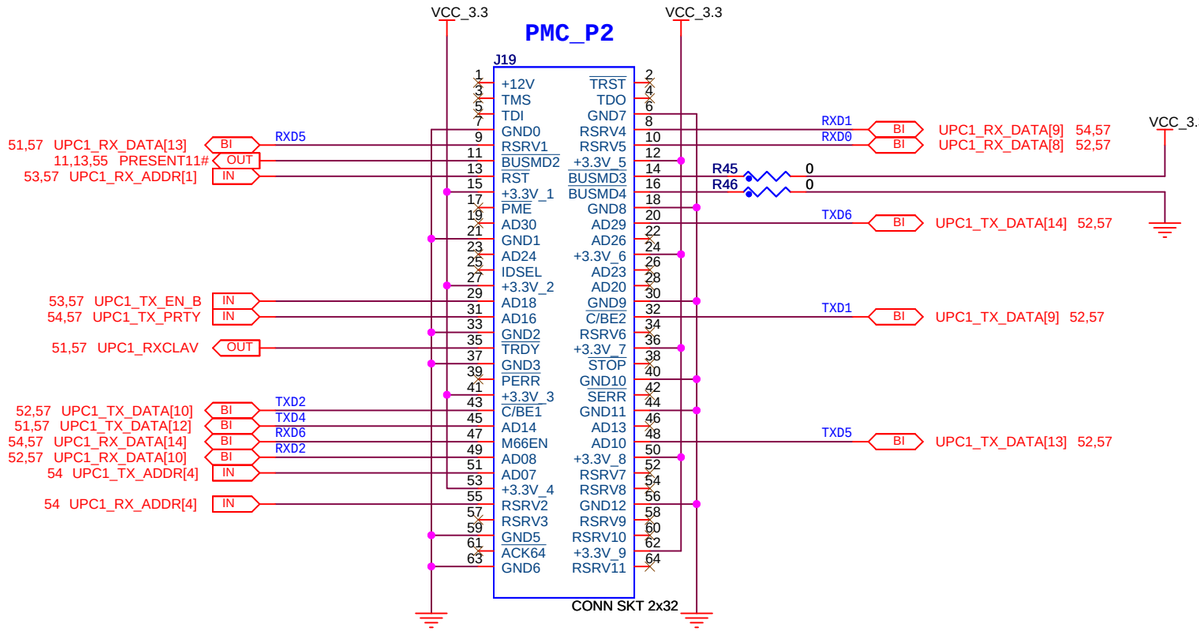


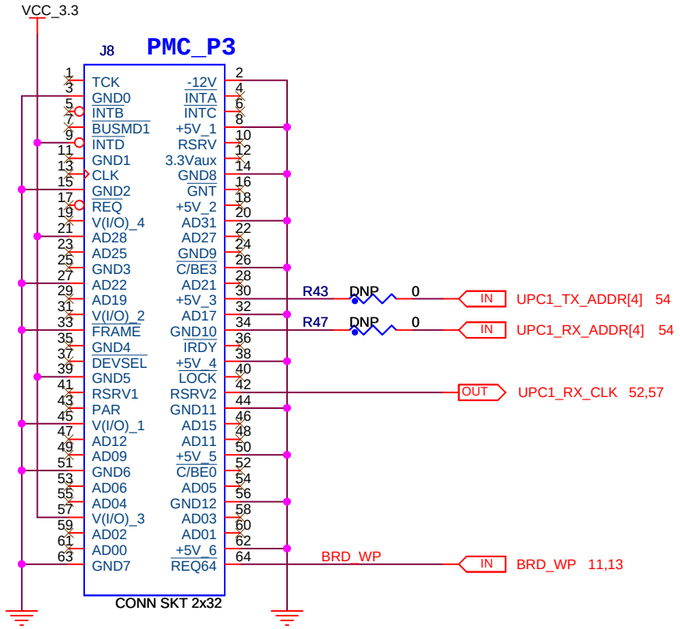
I2C ADDRESS 23h

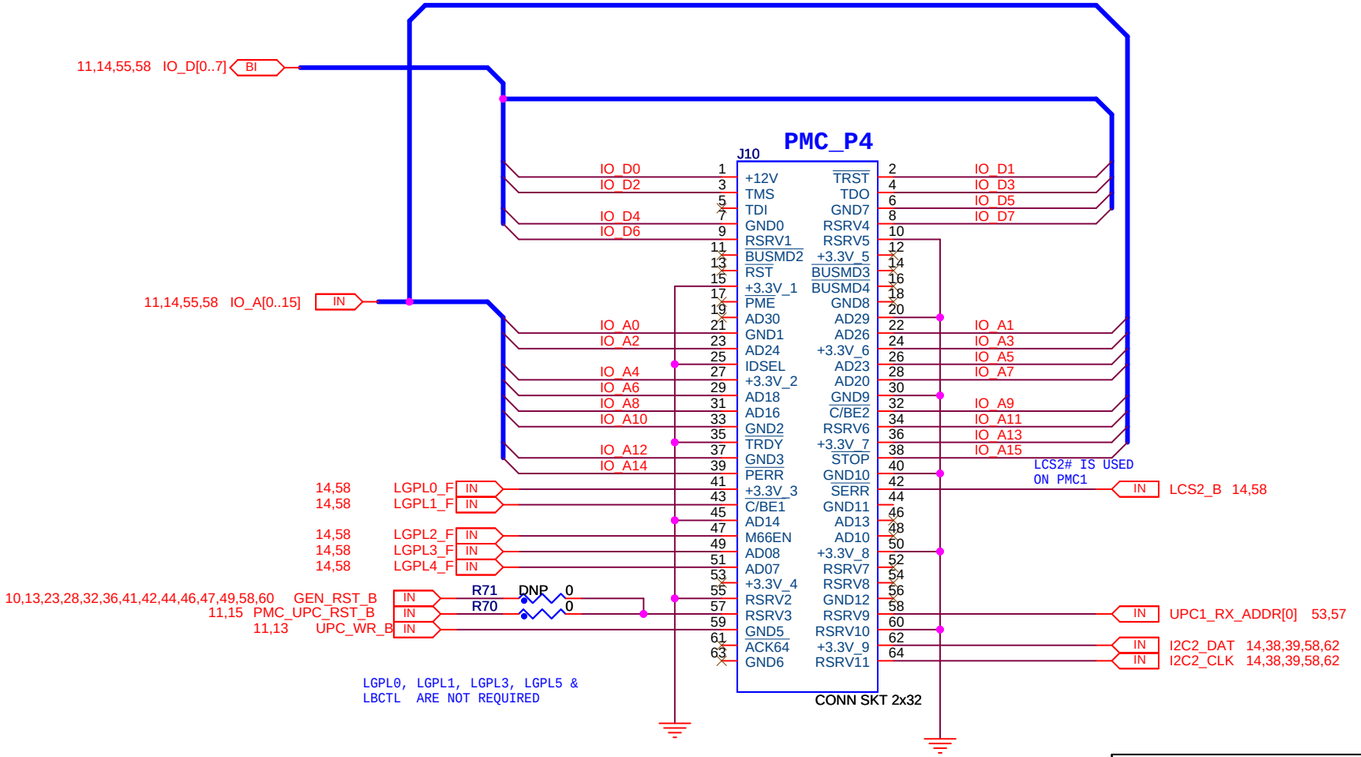
freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: IO_ EXPANDER	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 55 of 63 / Rev B

ICAP Classification: FCP:___ FIUO: X PUBI:___



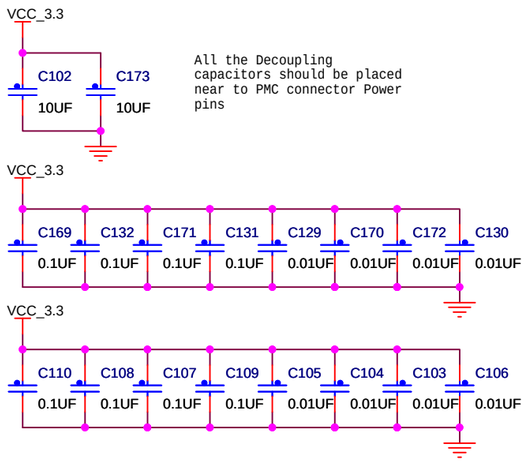


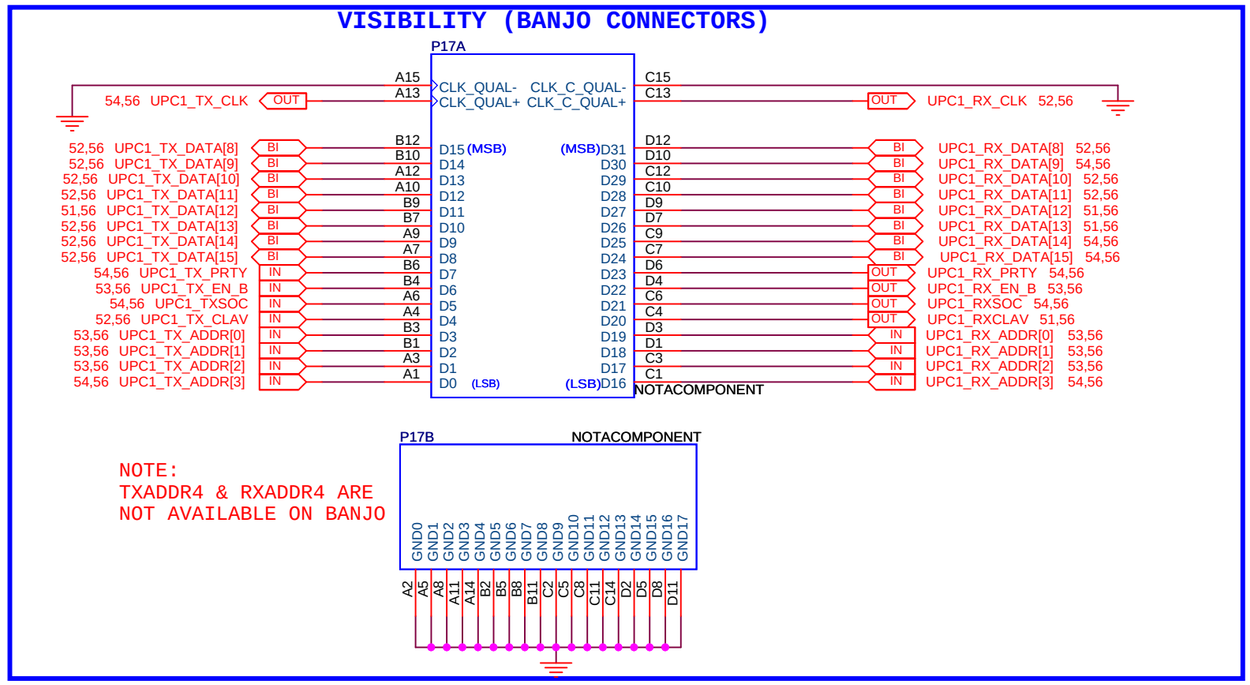




ICAP Classification: FCP:___ FIUO: X PUBI:___

freescale semiconductor	Drawing Title: COMEXPRESS CARRIER	Page Title: PMC_CONNECTOR_UTOPIA1	Document Number SCH-26479 PDF: SPF-26479	Size Custom	Date: Friday, October 22, 2010	Sheet 56 of 63 / Rev B





UPC1 CONNECTED TO PMC1

TDMA, TDMB*, TDMC*, TDMD *-Nibble mode

Note :TDMA, TDMB,TDMC,TDMD,SER3 ports brought from the Multiplexer

PMC_P1

J9 — CONN SKT 2x32

1	TCK	-12V	2
3	GND0	INTA	4
5	INTB	INTC	6
7	BUSMD1	+5V_1	8
9	INTD	RSRV	10
11	GND1	3.3Vaux	12
13	CLK	GND8	14
15	GND2	GNT	16
17	REQ	+5V_2	18
19	V(I/O)_4	AD31	20
21	AD28	AD27	22
23	AD25	GND9	24
25	GND3	C/BE3	26
27	AD22	AD21	28
29	AD19	+5V_3	30
31	V(I/O)_2	AD17	32
33	FRAME	GND10	34
35	GND4	IRDY	36
37	DEVSEL	+5V_4	38
39	GND5	LOCK	40
41	RSRV1	RSRV2	42
43	PAR	GND11	44
45	V(I/O)_1	AD15	46
47	AD12	AD11	48
49	AD09	+5V_5	50
51	GND6	C/BE0	52
53	AD06	AD05	54
55	AD04	GND12	56
57	V(I/O)_3	AD03	58
59	AD02	AD01	60
61	AD00	+5V_6	62
63	GND7	REQ64	64

- 11,15 X2JTAG_TCK (IN)
- 11,15,55 PRESENT00# (OUT)
- 11,15 IRQ3#_TDM (OUT)
- 52 SER3_CD_B (OUT)
- 51 TDMC_RXD1 (OUT) — TDMC_RXD1
- 51,59 TDMD_TSYNC (IN) — TDMD_TSYNC
- 53 SER_3_RTS_B (IN)
- 52 TDMB_RXD2 (OUT) — TDMB_RXD2
- OUT TDMD_RCLK 52,59
- IN TDMB_TXD1 52
- OUT TDMA_RXD0 54,59
- IN TDMC_TXD2 51
- OUT TDMD_RXD0 51,59
- IN SPI_MOSI 11,15,31,36,39,55,60,61

PMC_P2

J27 — CONN SKT 2x32

1	+12V	TRST	2
3	TMS	TDO	4
5	TDI	GND7	6
7	GND0	RSRV4	8
9	RSRV1	RSRV5	10
11	BUSMD2	+3.3V_5	12
13	RST	BUSMD3	14
15	+3.3V_1	BUSMD4	16
17	PME	GND8	18
19	AD30	AD29	20
21	GND1	AD26	22
23	AD24	+3.3V_6	24
25	IDSEL	AD23	26
27	+3.3V_2	AD20	28
29	AD18	GND9	30
31	AD16	C/BE2	32
33	GND2	RSRV6	34
35	TRDY	+3.3V_7	36
37	GND3	STOP	38
39	PERR	GND10	40
41	+3.3V_3	SERR	42
43	C/BE1	GND11	44
45	AD14	AD13	46
47	M66EN	AD10	48
49	AD08	+3.3V_8	50
51	AD07	RSRV7	52
53	+3.3V_4	RSRV8	54
55	RSRV2	GND12	56
57	RSRV3	RSRV9	58
59	GND5	RSRV10	60
61	ACK64	+3.3V_9	62
63	GND6	RSRV11	64

- 11,15 X2JTAG_TMS (IN)
- 11,15 X2JTAG_TDI (IN)
- 11,15,55 PRESENT01# (OUT)
- 54,59 TDMA_TSYNC (OUT)
- 53 SER_3_CTS_B (OUT)
- 52 TDMB_TXD2 (IN)
- 53 TDMC_RXD2 (OUT) — TDMC_RXD2
- 51 TDMC_RXD3 (OUT) — TDMC_RXD3
- 51 TDMC_TXD1 (IN) — TDMC_TXD1
- 54,59 TDMA_RSYNC (OUT) — TDMA_RSYNC
- R49 0, R48 0
- IN X2JTAG_TRST 11,15
- IN X2JTAG_TDO 11,15
- IN TDMB_TXD3 51
- OUT TDMB_RXD1 52
- OUT TDMB_RCLK 54,59
- IN TDMC_TXD3 51
- IN TDMA_TXD0 54,59
- IN TDMB_RXD3 52
- OUT TDMC_TCLK 51,59
- OUT SPI_MISO 11,15,31,36,39,55,60,61

PMC_P3

J29 — CONN SKT 2x32

1	TCK	-12V	2
3	GND0	INTA	4
5	INTB	INTC	6
7	BUSMD1	+5V_1	8
9	INTD	RSRV	10
11	GND1	3.3Vaux	12
13	CLK	GND8	14
15	GND2	GNT	16
17	REQ	+5V_2	18
19	V(I/O)_4	AD31	20
21	AD28	AD27	22
23	AD25	GND9	24
25	GND3	C/BE3	26
27	AD22	AD21	28
29	AD19	+5V_3	30
31	V(I/O)_2	AD17	32
33	FRAME	GND10	34
35	GND4	IRDY	36
37	DEVSEL	+5V_4	38
39	GND5	LOCK	40
41	RSRV1	RSRV2	42
43	PAR	GND11	44
45	V(I/O)_1	AD15	46
47	AD12	AD11	48
49	AD09	+5V_5	50
51	GND6	C/BE0	52
53	AD06	AD05	54
55	AD04	GND12	56
57	V(I/O)_3	AD03	58
59	AD02	AD01	60
61	AD00	+5V_6	62
63	GND7	REQ64	64

- 54,59 TDMD_TCLK (OUT)
- 51,59 TDMC_RCLK (OUT)
- 54,59 TDMA_RXCLK (OUT) — TDMA_RXCLK
- 54,59 TDMA_TXCLK (OUT) — TDMA_TXCLK
- 51,59 TDMC_RSYNC (OUT) — TDMC_RSYNC
- 51,59 TDMC_TSYNC (IN) — TDMC_TSYNC
- 51,59 TDMC_RXD0 (OUT) — TDMC_RXD0
- 51,59 TDMC_TXD0 (IN) — TDMC_TXD0
- 53,59 TDMB_TSYNC (OUT) — TDMB_TSYNC
- 52,59 TDMB_TXD0 (IN) — TDMB_TXD0
- 53,59 TDMB_RSYNC (OUT) — TDMB_RSYNC
- 53,59 TDMB_RXD0 (OUT) — TDMB_RXD0
- 54,59 TDMB_TCLK (OUT) — TDMB_TXCLK
- OUT SER3_RXD0 53
- OUT SER3_TXD0 53
- IN SPI_CLK 11,15,31,36,39,55,60,61
- TDMD_RSYNC — OUT TDMD_RSYNC 51,59
- TDMD_TXD0 — IN TDMD_TXD0 51,59
- QE_SPI_SEL_GPIO# — IN SPICS2_B 31,60,61

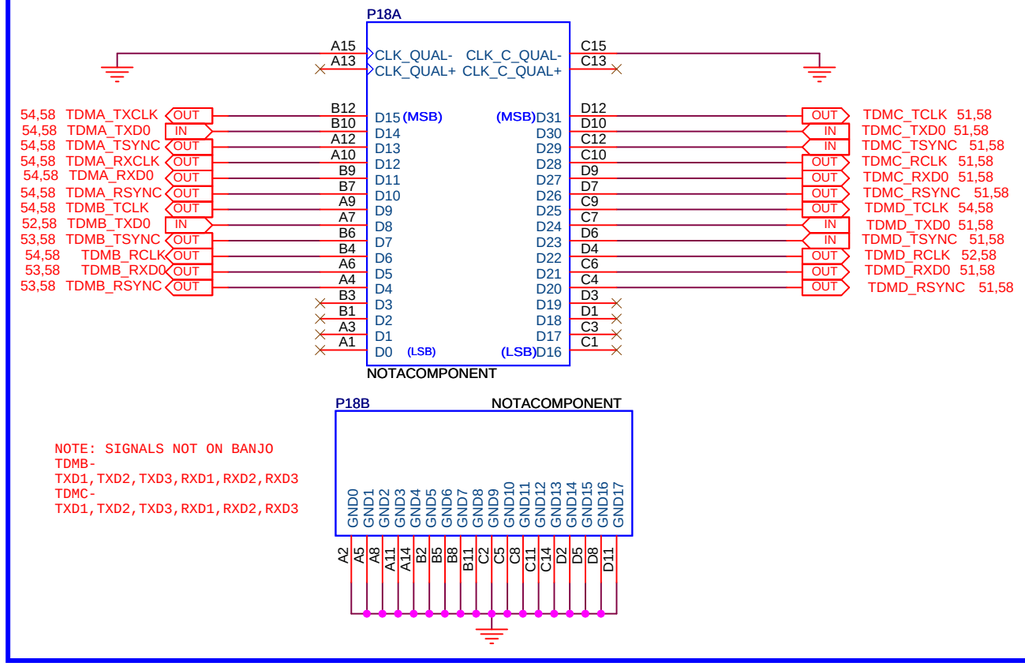
PMC_P4

J28 — CONN SKT 2x32

1	+12V	TRST	2
3	TMS	TDO	4
5	TDI	GND7	6
7	GND0	RSRV4	8
9	RSRV1	RSRV5	10
11	BUSMD2	+3.3V_5	12
13	RST	BUSMD3	14
15	+3.3V_1	BUSMD4	16
17	PME	GND8	18
19	AD30	AD29	20
21	GND1	AD26	22
23	AD24	+3.3V_6	24
25	IDSEL	AD23	26
27	+3.3V_2	AD20	28
29	AD18	GND9	30
31	AD16	C/BE2	32
33	GND2	RSRV6	34
35	TRDY	+3.3V_7	36
37	GND3	STOP	38
39	PERR	GND10	40
41	+3.3V_3	SERR	42
43	C/BE1	GND11	44
45	AD14	AD13	46
47	M66EN	AD10	48
49	AD08	+3.3V_8	50
51	AD07	RSRV7	52
53	+3.3V_4	RSRV8	54
55	RSRV2	GND12	56
57	RSRV3	RSRV9	58
59	GND5	RSRV10	60
61	ACK64	+3.3V_9	62
63	GND6	RSRV11	64

- 11,14,55,56 IO_D[0..7] (BI)
- 11,14,55,56 IO_A[0..15] (IN)
- IO_D0, IO_D1, IO_D2, IO_D3, IO_D4, IO_D5, IO_D6, IO_D7
- IO_A0, IO_A1, IO_A2, IO_A3, IO_A4, IO_A5, IO_A6, IO_A7, IO_A8, IO_A9, IO_A10, IO_A11, IO_A12, IO_A13, IO_A14, IO_A15
- XLD[8:15] ARE NOT REQUIRED
- LCS2# IS USED ON PMC1
- LGPL0, LGPL1, LGPL3, LGPL5 & LBCTL ARE NOT REQUIRED
- 14,56 LGPL0_F (IN)
- 14,56 LGPL1_F (IN)
- 14,56 LGPL2_F (IN)
- 14,56 LGPL3_F (IN)
- 14,56 LGPL4_F (IN)
- 10,13,23,28,32,36,41,42,44,46,47,49,56,60 GEN_RST_B (IN)
- 11,15 PMC_TDM_RST_B (IN)
- 11,13 DS3_WR_B (IN)
- R50 DNP 0, R69 0
- IN LCS2_B 14,56
- IN TDMA_TXD0 54,59
- IN TDMB_RXD3 52
- IN I2C2_DAT 14,38,39,56,62
- IN I2C2_CLK 14,38,39,56,62

VISIBILITY (BANJO CONNECTORS)



NOTE: SIGNALS NOT ON BANJO
TDMB-
TXD1,TXD2,TXD3,RXD1,RXD2,RXD3
TDMC-
TXD1,TXD2,TXD3,RXD1,RXD2,RXD3

ICAP Classification: FCP:___ FIUO: X PUBI:___

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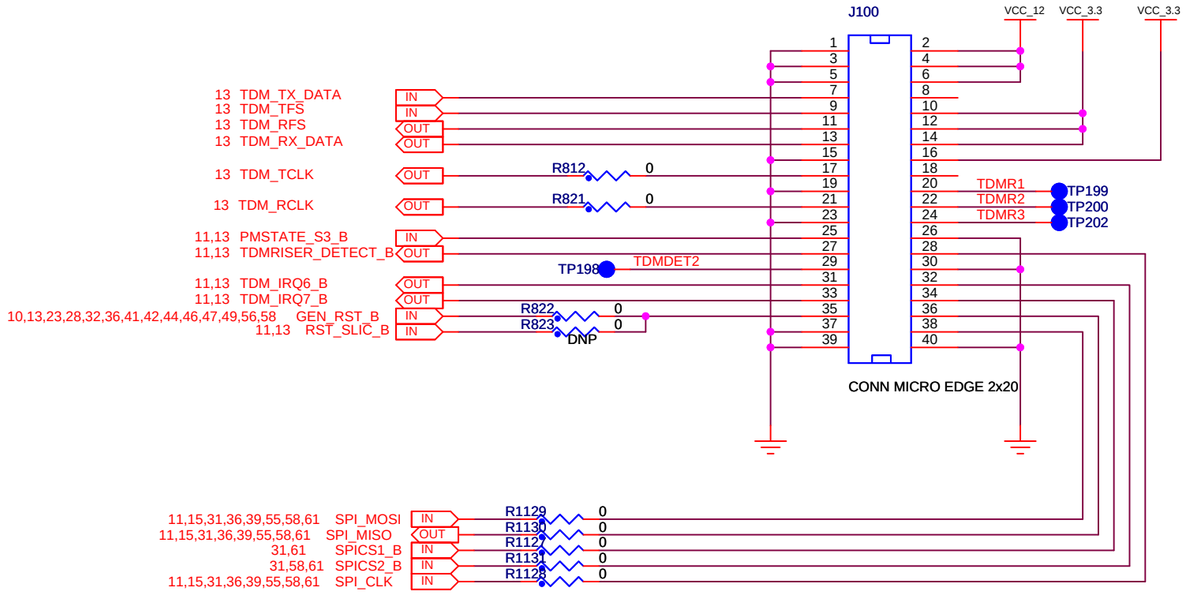
TDM RISER CARD CONNECTIVITY



ICAP Classification: FCP:___ FIUO: X PUBI:___

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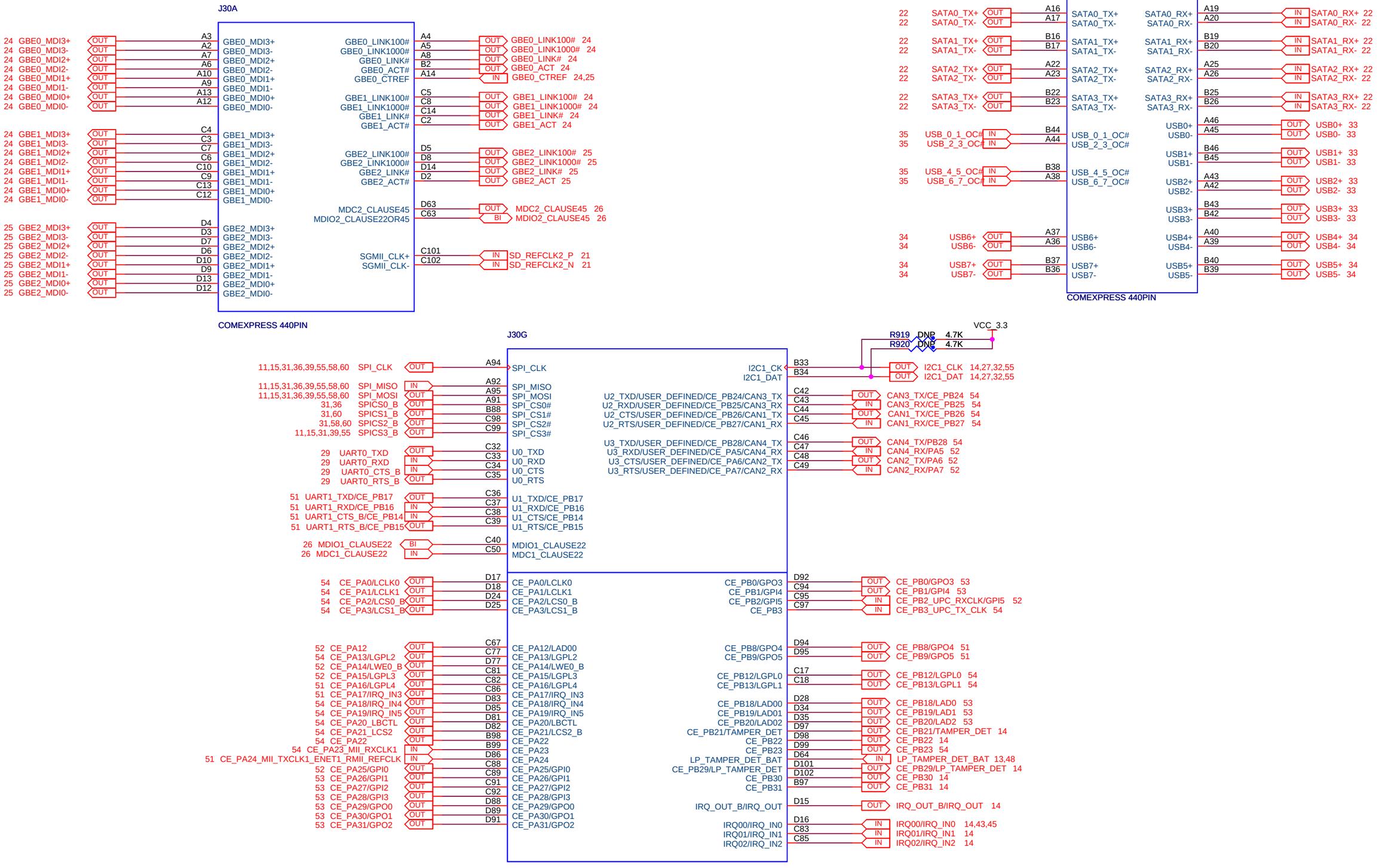
COM EXPRESS CONNECTOR



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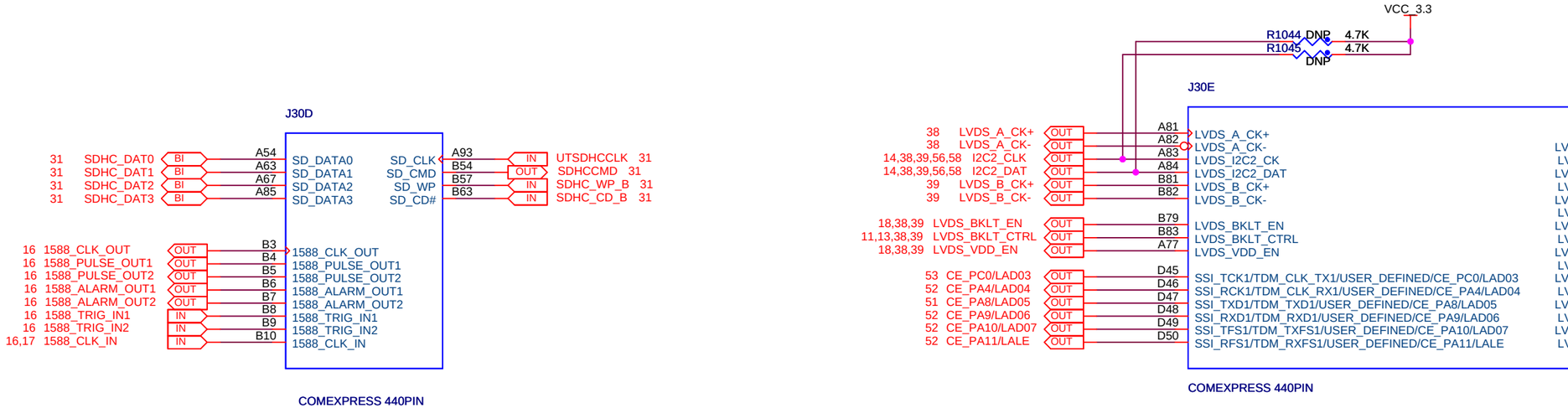
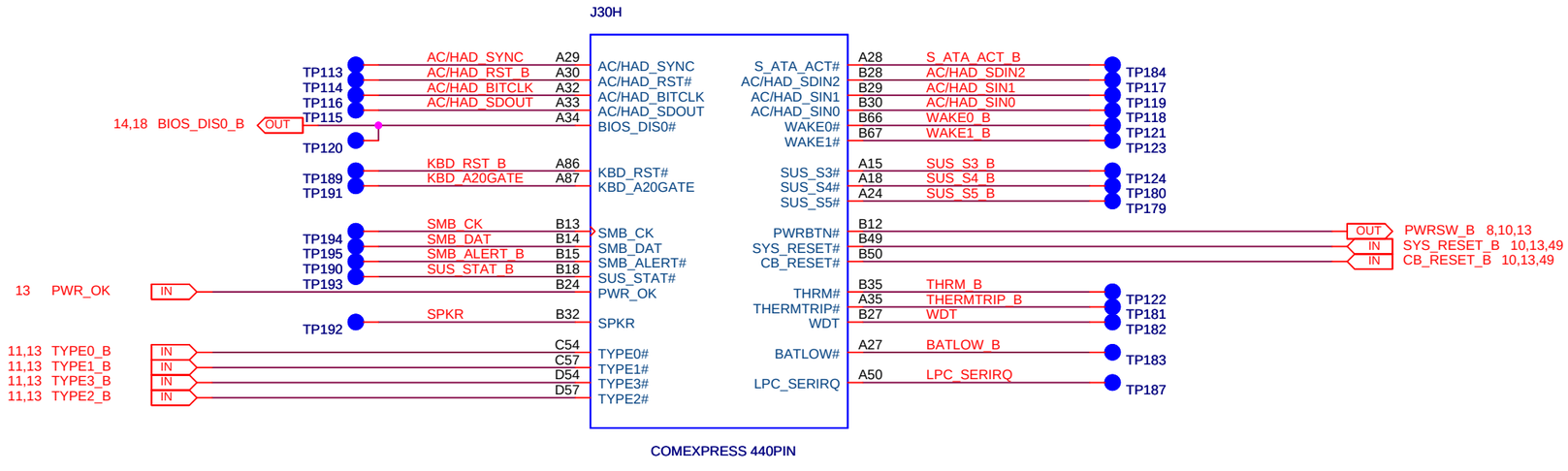
COM EXPRESS CONNECTOR





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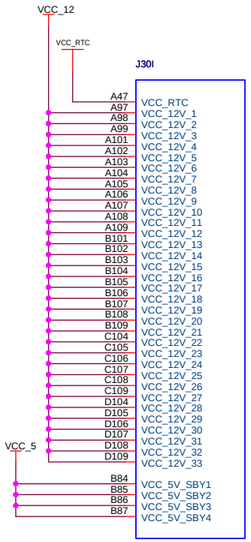
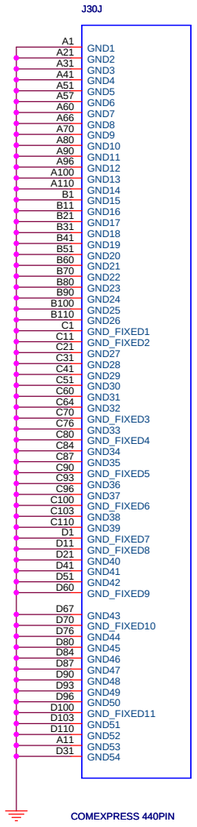
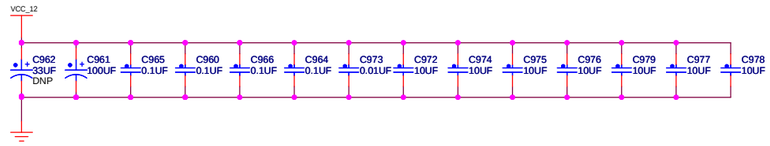
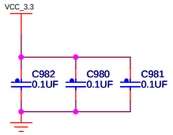
ICAP Classification: FCP:___ FIUO: X PUBI:___

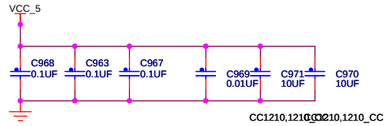
COM EXPRESS CONNECTOR

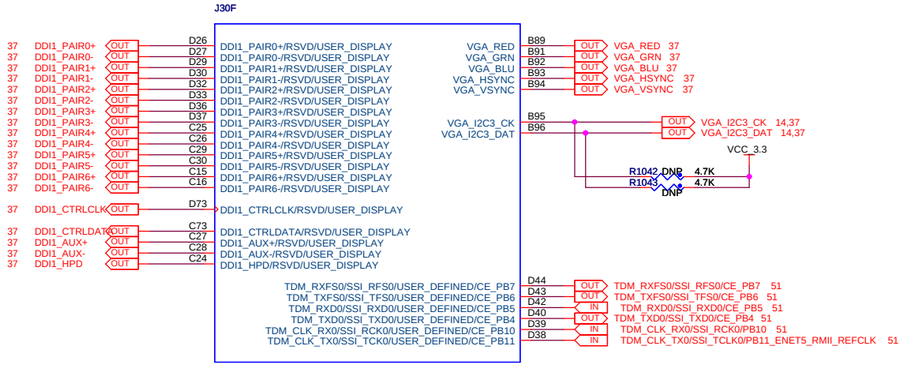


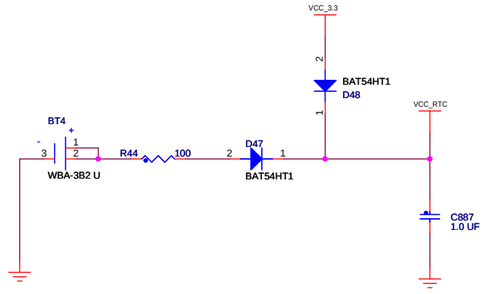












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