

## ES5654BQ-168ZZ Cover Page

Number	Name
01	- Cover Page
02	- Revision History-1
03	- Revision History-2
04	- Revision History-3
05	- Function Block-1
06	- Function Block-2
07	- Function Block-3
08	- BCM88370_Interface
09	- BCM88370_I_SFP
10	- BCM88370_H_QSFP28
11	- BCM88370_DDR4_ABCD
12	- BCM88370_DDR4_EFGH
13	- DDRA
14	- DDRB
15	- DDRC
16	- DDRD
17	- DDRE
18	- DDRF
19	- DDRG
20	- DDRH
21	- BCM88370_PWR_FAB_NIF
22	- BCM88370_PWR_VDDC
23	- BCM88370_DDR4_VDDO_VDDC
24	- BCM88370_FAB_AGND
25	- BCM88370_NIF_AGND
26	- BCM88370_DDR4_DGND/HSINK
27	- BCM88370_PUC
28	- BCM88370_MISC
29	- P29_SFP+_PORT(01-08)
30	- P30_SFP+_PORT(09-16)
31	- P31_SFP+_PORT(17-24)
32	- P32_SFP+_PORT(25-32)
33	- P33_SFP+_PORT(33-40)
34	- P34_SFP+_PORT(41-48)
35	- P35_ZQSFP28_PORT(01-02)
36	- P36_ZQSFP28_PORT(03-06)
37	- P37_LED_P1-P48
38	- P38_LED_P49-54
39	- P39_PWR_ROV / VDD1P0
40	- P40_PWR_ROV/ VDD1P0 MOS
41	- P41_PWR_5V/ Vstb_3.3V/1.8V
42	- P42_PWR_VDD3P3/ VDD1P25
43	- P43_PWR_VDD1P2/ VDD0P6/VDD2P5
44	- P44_Power Monitor/Mounting Hole
45	- P45_PHY_BCM54616S
46	- P46_CONN to CPU Board
47	- P47_CONN to Power Module/Fan
48	- P48_Console/MGMT CONN
49	- P49_Thermal Sensor/SYS LED
50	- P50_USB
51	- P51_CPLD1
52	- P52_CPLD2
53	- P53_I2C0_PCA9548
54	- P54_I2C1_PCA9548
55	- P55_WAN PLL/Jitter Attenuator
56	- P56_Clock GEN/Buffer
57	- P57_CLK_PCIE
58	- P58_BCM52311_1
59	- P59_BCM52311_2
60	- P60_BCM52311_3/HSINK
61	- P61_BCM52311_4
62	- P62_PWM_OPB_OPBF

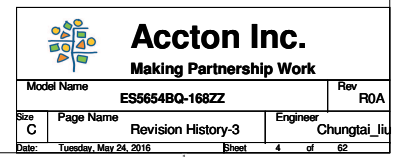
@ For AO project  
\* Un-mount  
Extension Board only for P2041


## ES5654BQ-FLF-168ZZ Revision History


[illegible]


## ES5654BQ-FLF-168ZZ Revision History


[illegible]


[illegible][illegible]

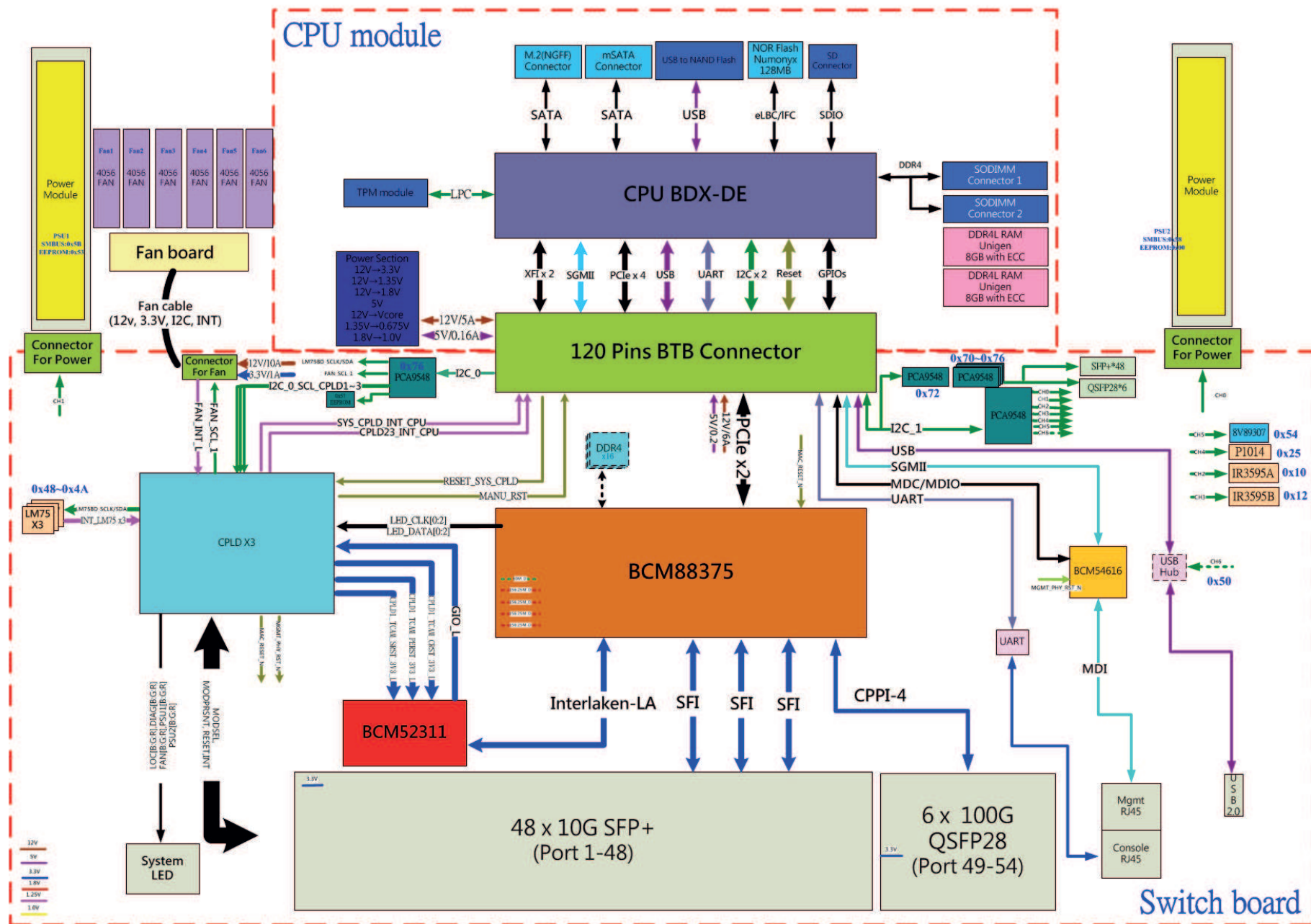
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Model Name	<b>ES5654BQ-168ZZ</b> <div style="float: right;">Rev R0A</div>
Size C	<div>Page Name</div> <div>Revision History-3</div> <div>Engineer Chungtai_liu</div>
Date: Tuesday, May 24, 2016      Sheet 4 of 62	

 <h1 style="margin: 0;">Accton Inc.</h1> <h2 style="margin: 0;">Making Partnership Work</h2>	
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Size C	<div>Page Name</div> <div>Revision History-3</div> <div>Engineer Chungtai_liu</div>
Date: Tuesday, May 24, 2016      Sheet 4 of 62	

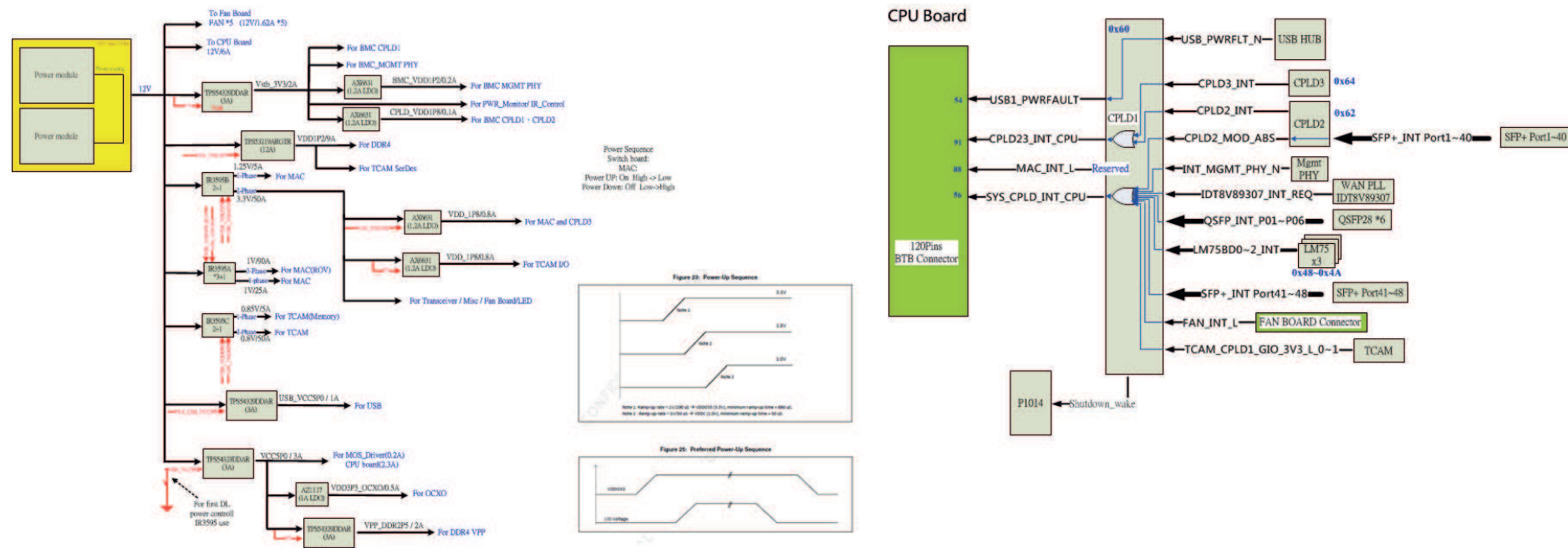
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Model Name	<b>ES5654BQ-168ZZ</b> <div style="float: right;">Rev R0A</div>
Size C	<div>Page Name</div> <div>Revision History-3</div> <div>Engineer Chungtai_liu</div>
Date: Tuesday, May 24, 2016      Sheet 4 of 62	

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Size C	<div>Page Name</div> <div>Revision History-3</div> <div>Engineer Chungtai_liu</div>
Date: Tuesday, May 24, 2016      Sheet 4 of 62	

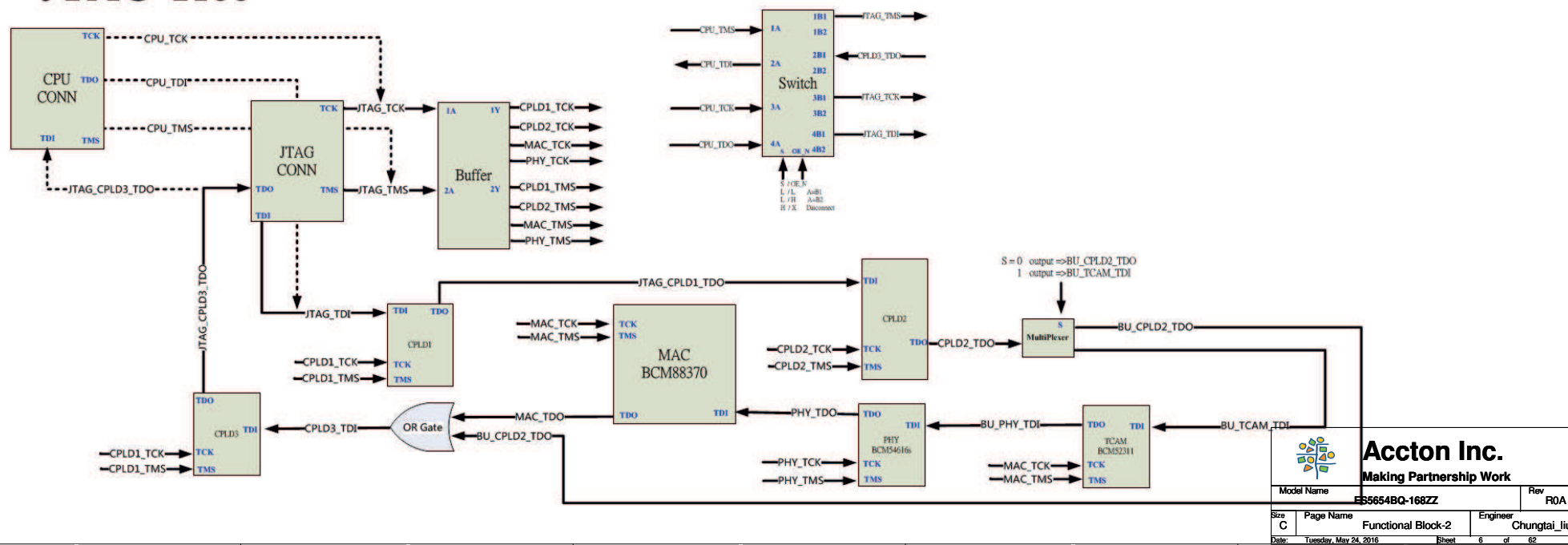
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Size C	<div>Page Name</div> <div>Revision History-3</div> <div>Engineer Chungtai_liu</div>
Date: Tuesday, May 24, 2016      Sheet 4 of 62	



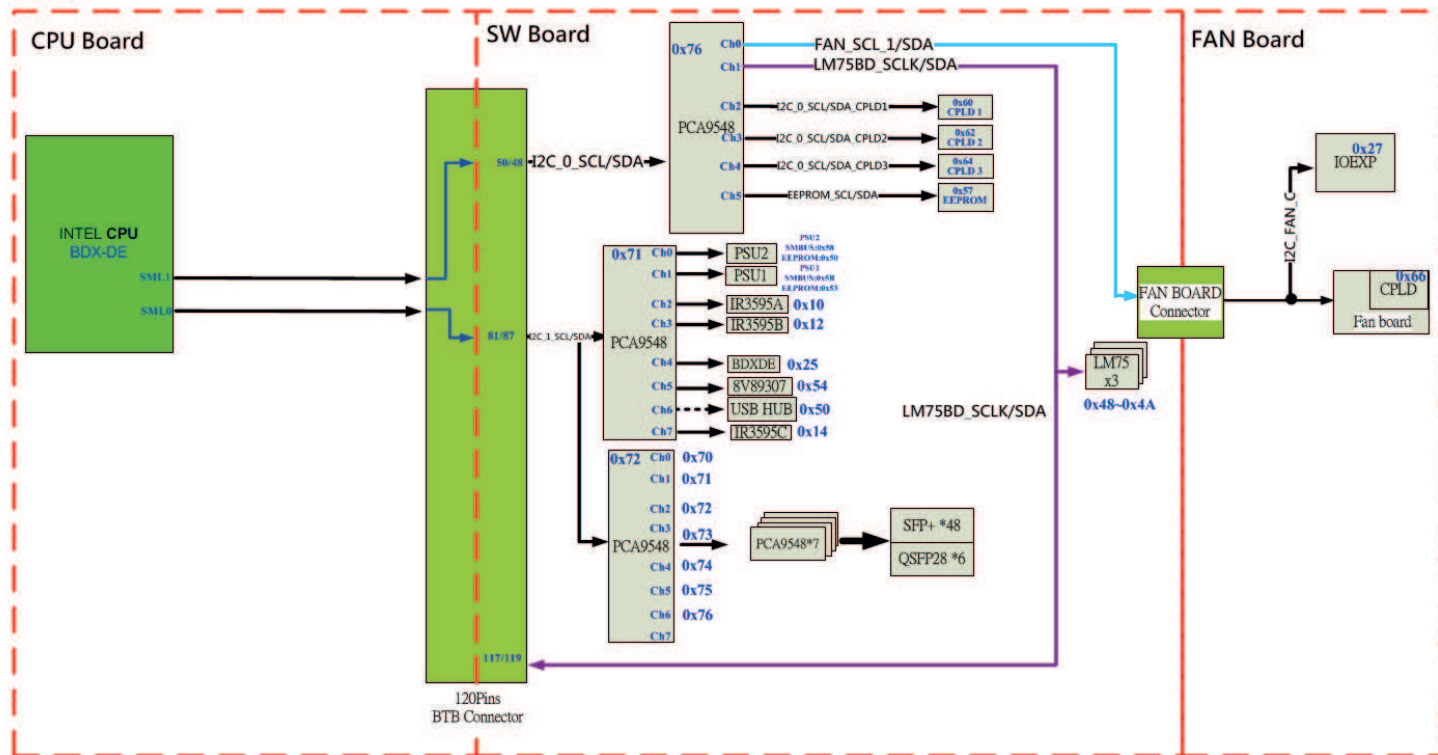
Switch board



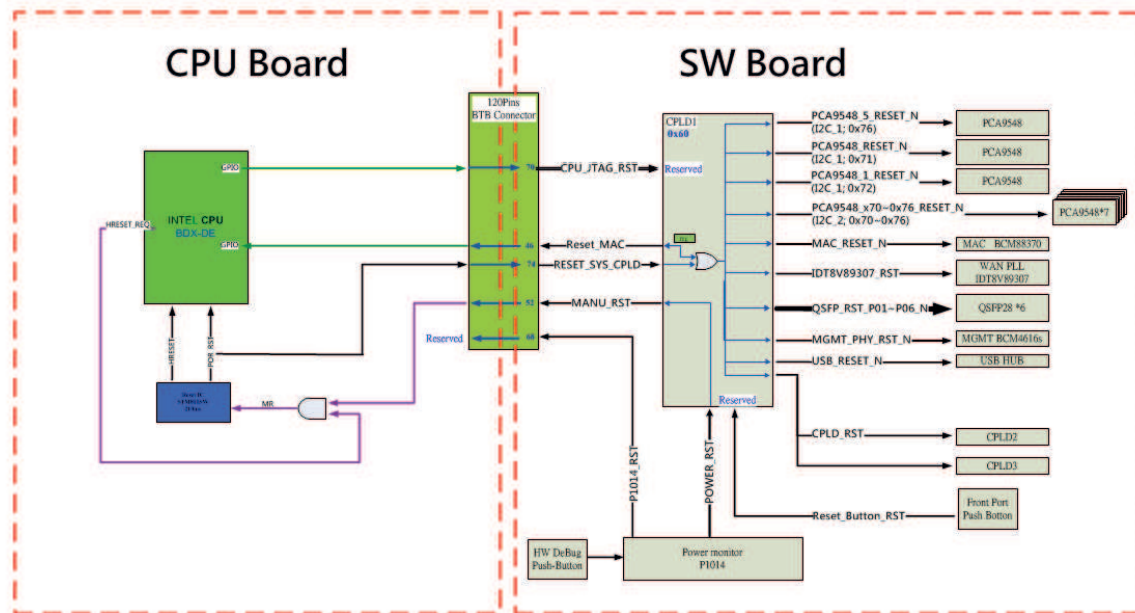
## JTAG Tree



# I2C

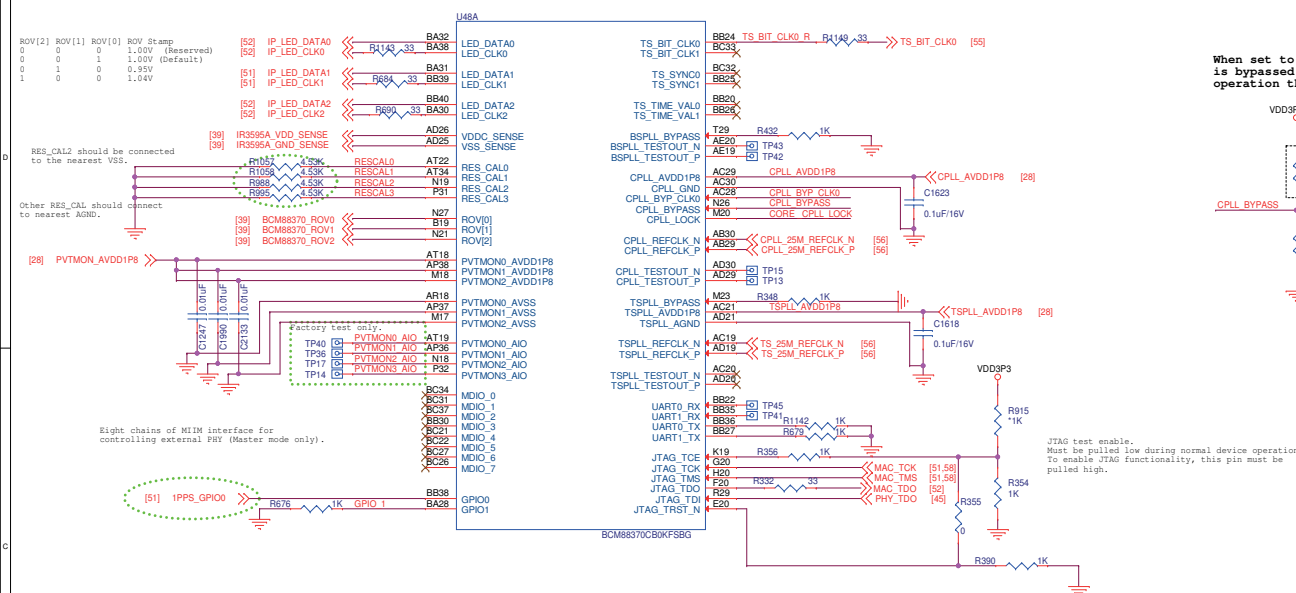


Reset





## Interface

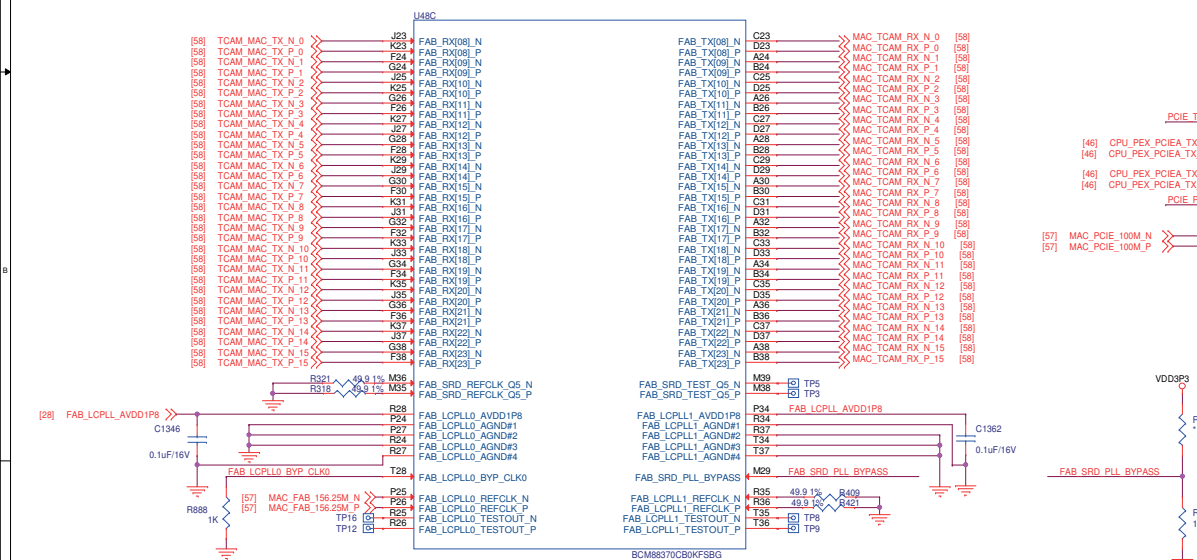


When set to 1, Core PLL is bypassed. For normal operation this pin must be 0.

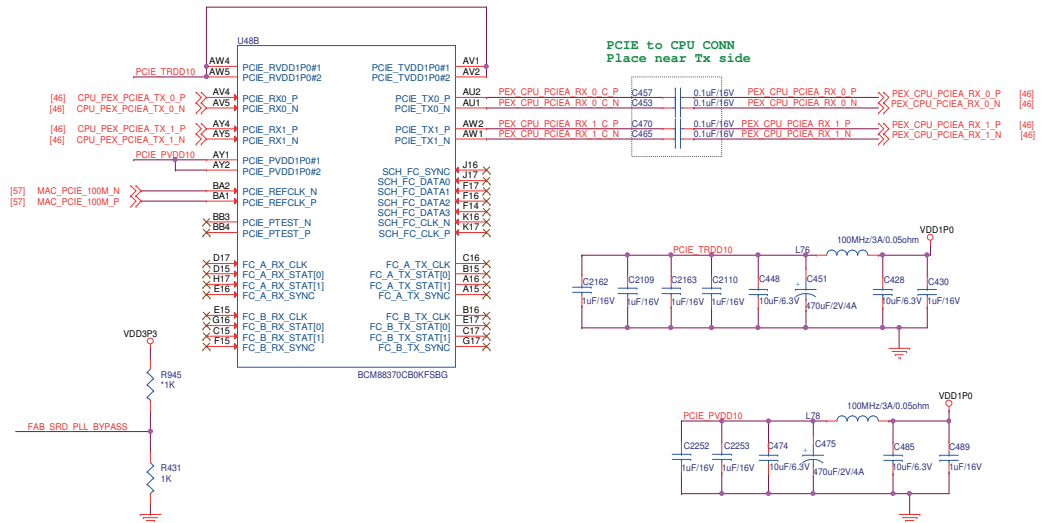
Core PLL Bypass clock 0  
for test purposes only.  
0. Must be pulled down to  
GND.

CPLL locked indication,  
when 1, UC\_PLL is locked  
to the CPLL\_REFCLKP/N,  
When 0, PLL is unlocked

# Fabric SerDes



## PCIE



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**Accton Inc.**

## Making Partnership Work

Model Name		ES5654BQ-168ZZ		Rev	R0A
Size	Page Name	BCM88370_Interface		Engineer	
C				Chungtai_liu	
Date:	Tuesday, May 24, 2016	Sheet	8	of 62	



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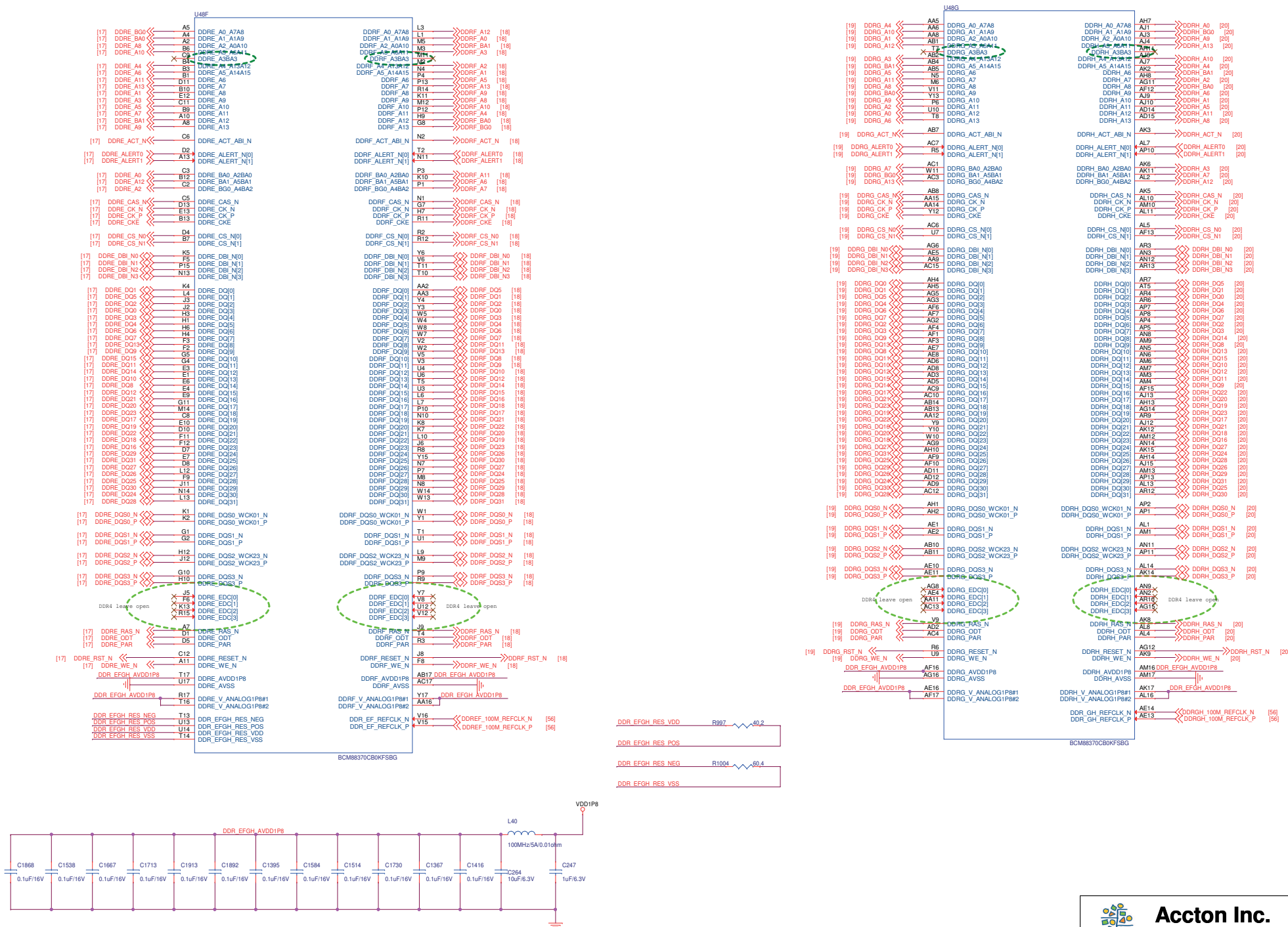


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Making Partnership Work

Model Name		ES5654BQ-168ZZ	Rev	R0A
Size	Page Name	Engineer		
C	BCM88370_I_SFP	Chungtai Jiu		
Date:	Tuesday, May 24, 2016	Sheet	9	of 62

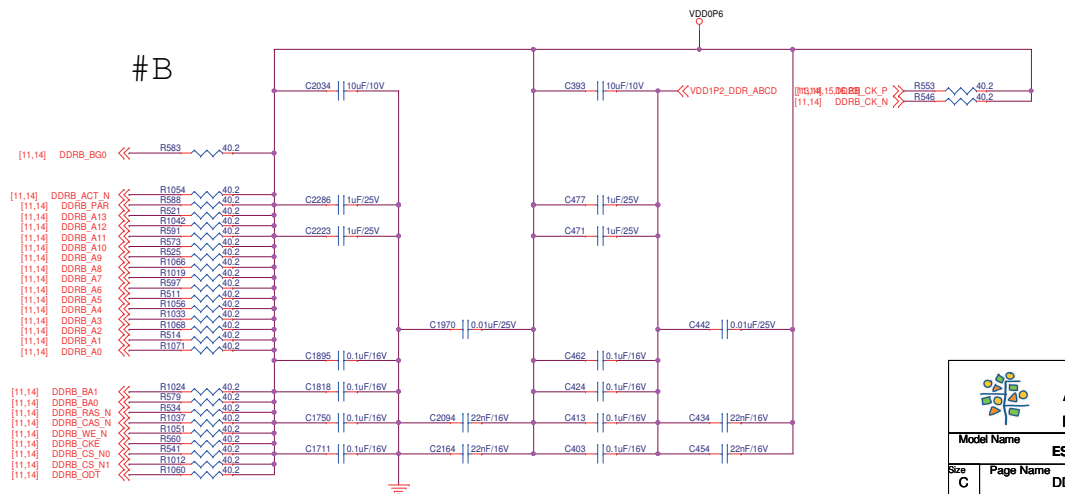
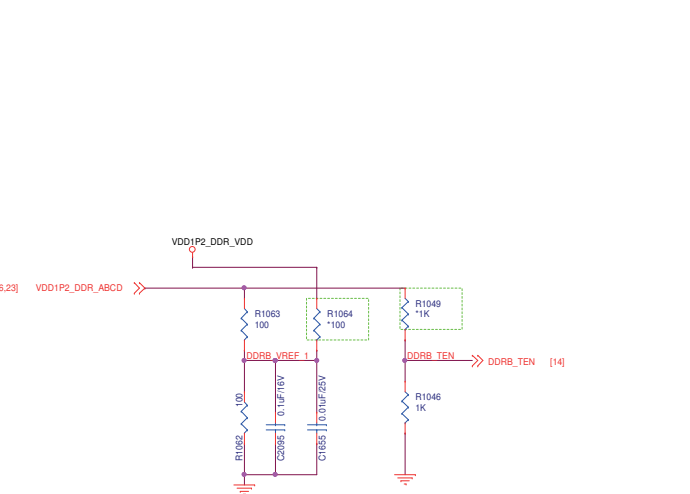
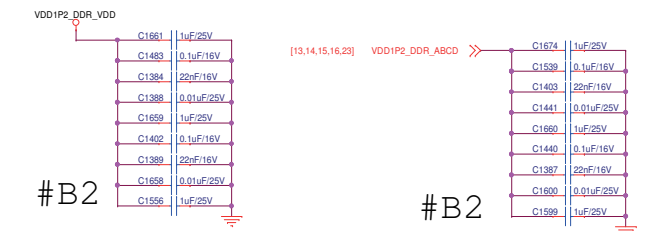
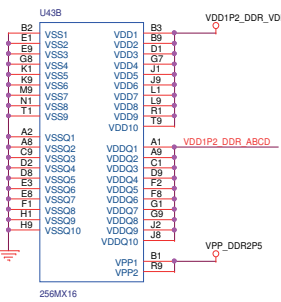
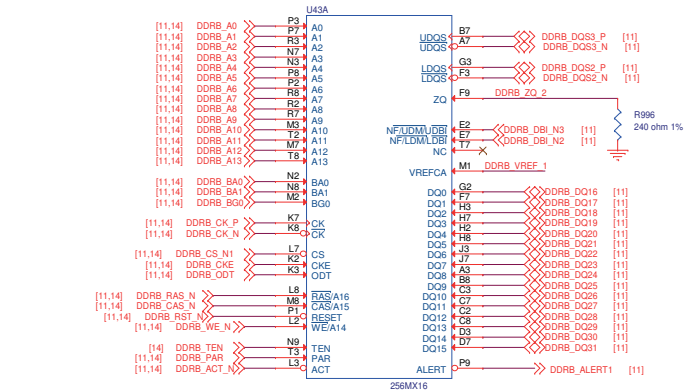
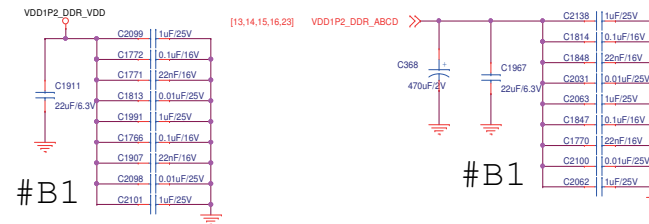
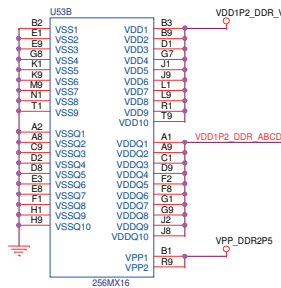
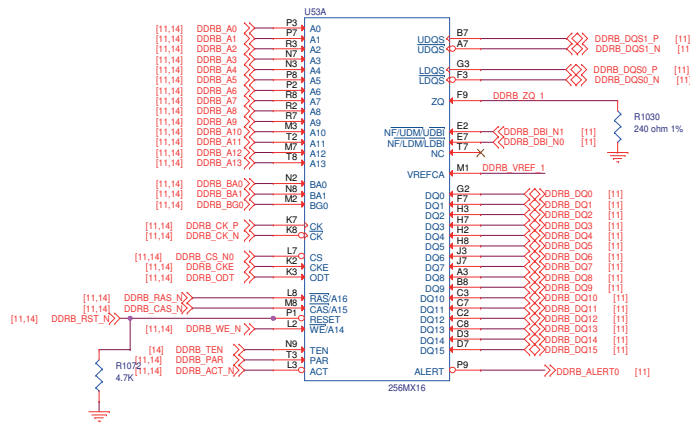
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Size	Page Name		Engineer				
C	BMC88370_H_QSFP28		Chungtai_liu				
Date:	Tuesday, May 24, 2016		Sheet	10 of 62			

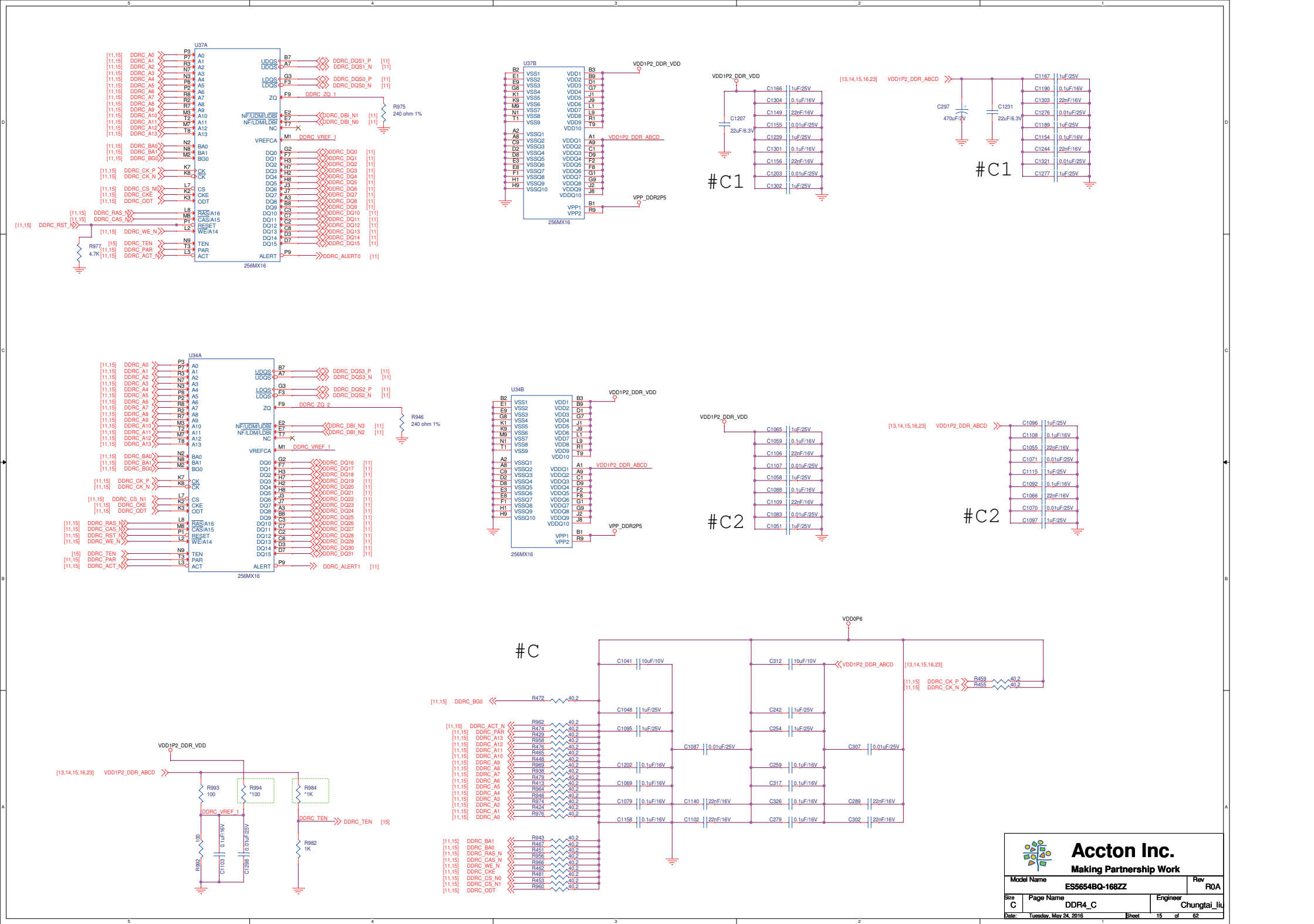




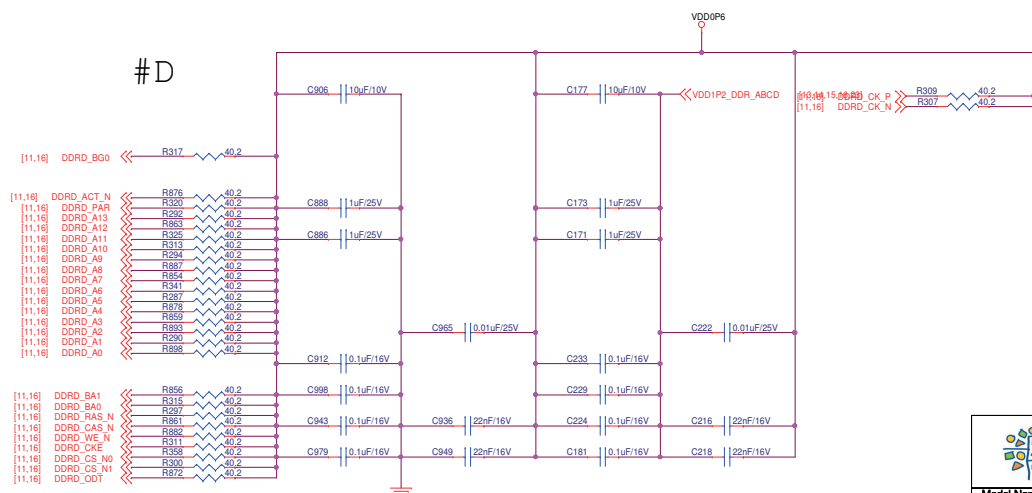
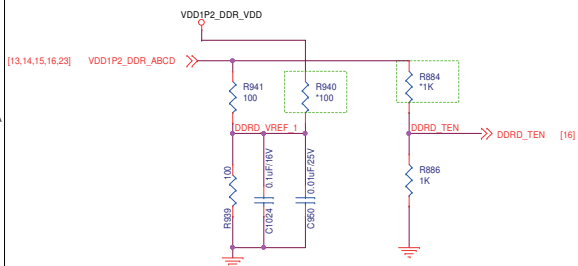
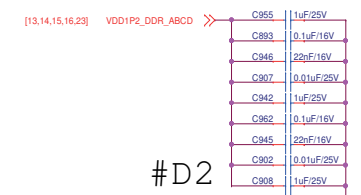
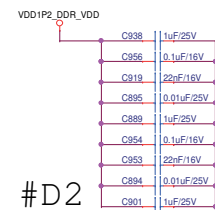
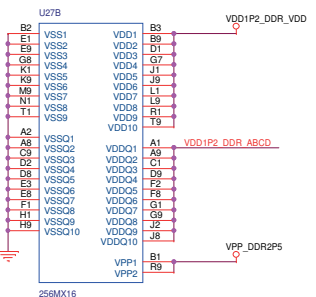
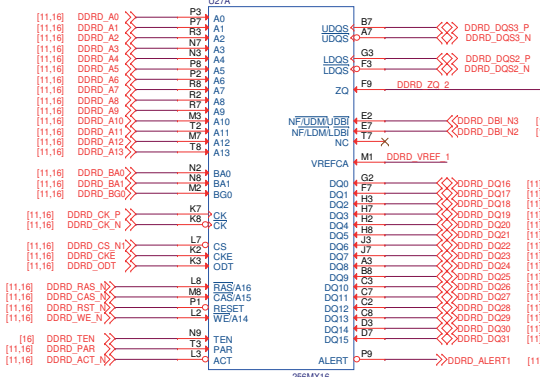
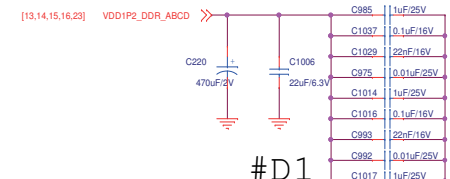
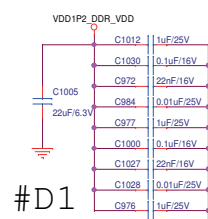
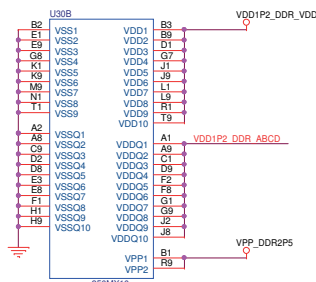
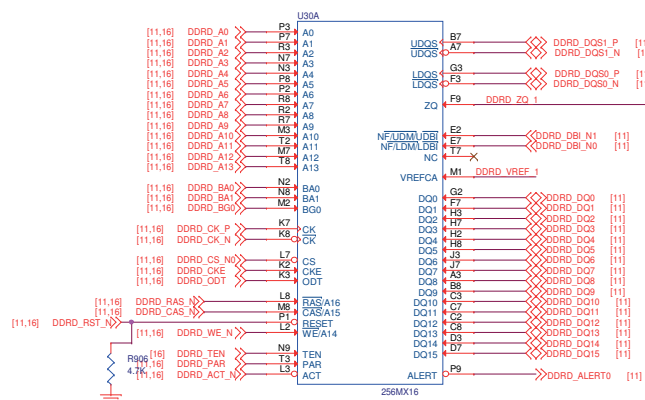


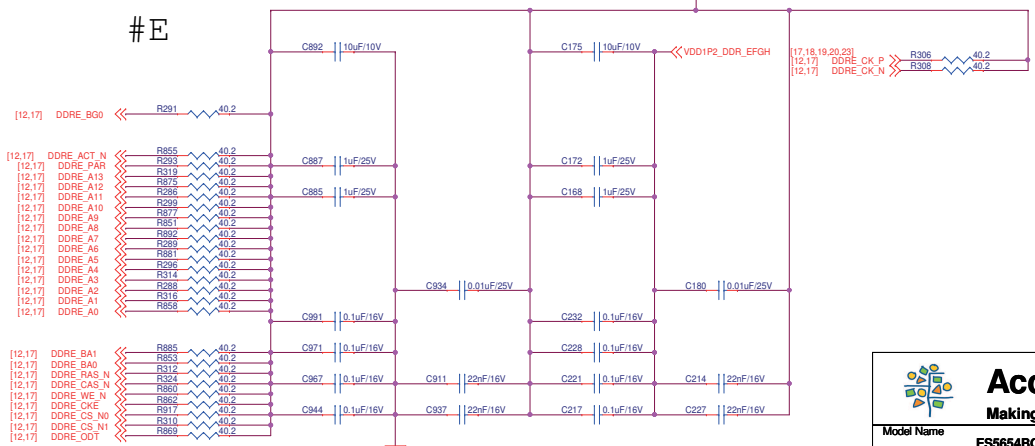
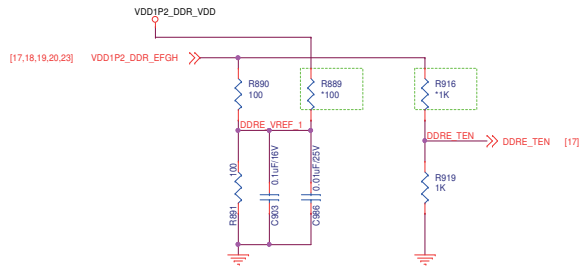
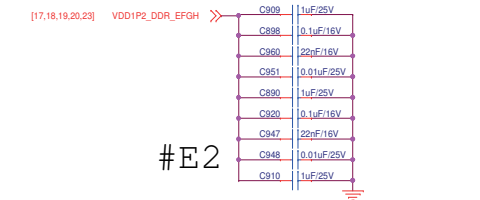
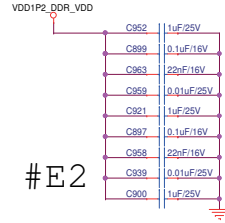
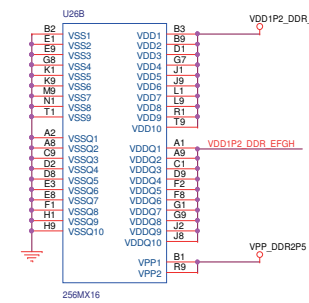
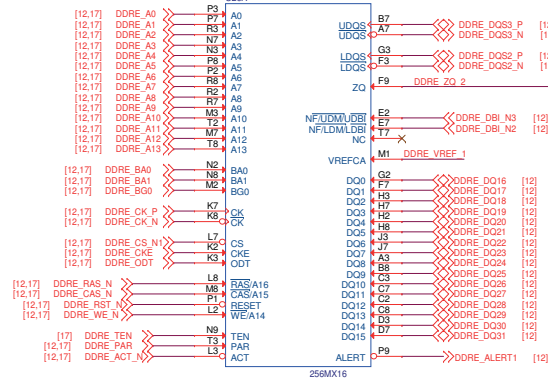
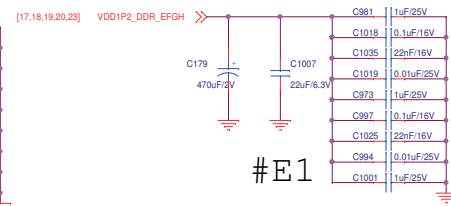
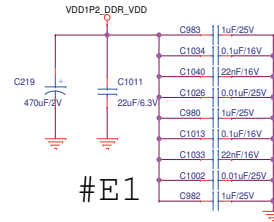
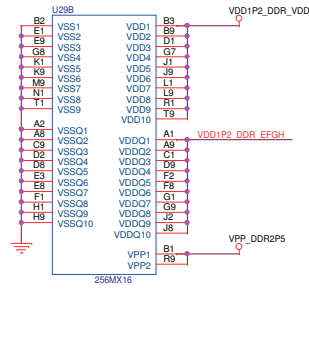
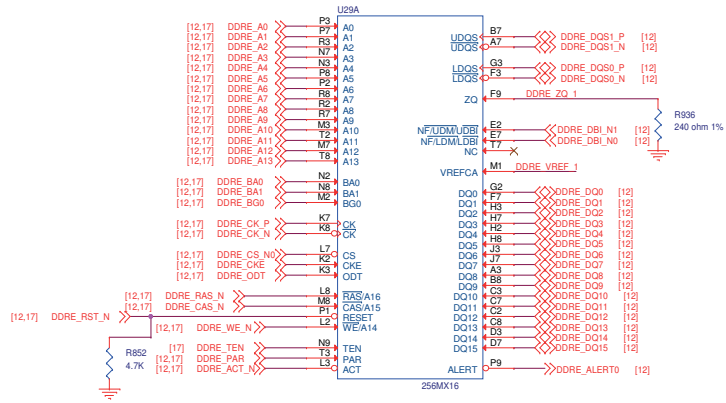


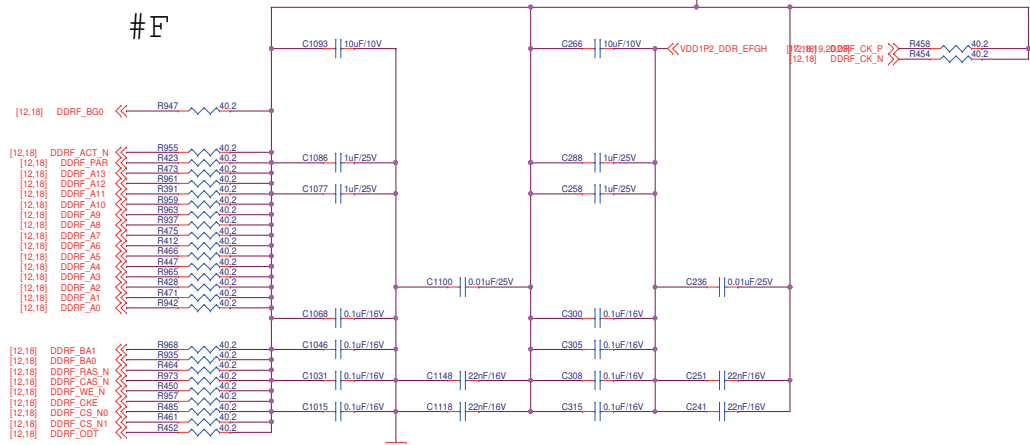
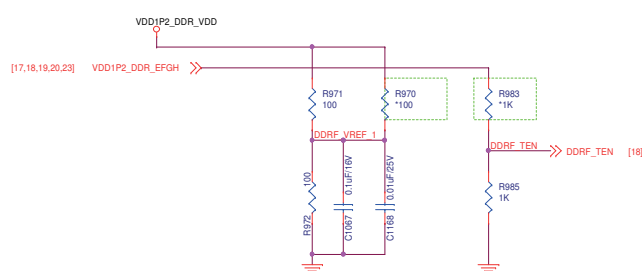
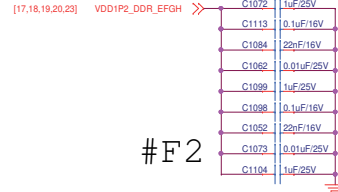
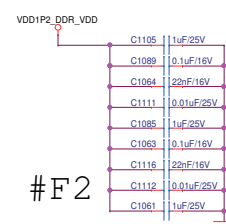
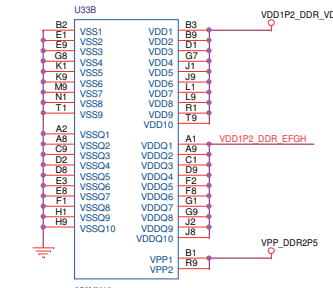
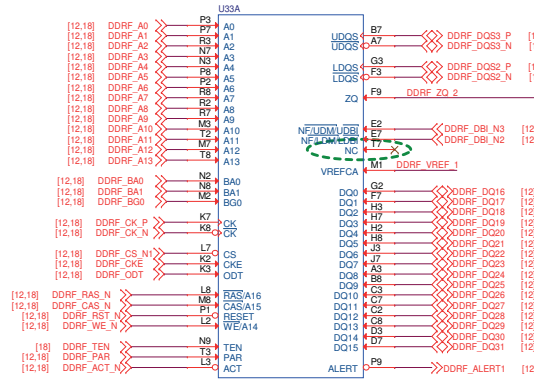
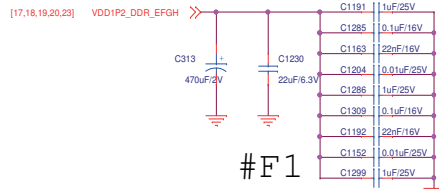
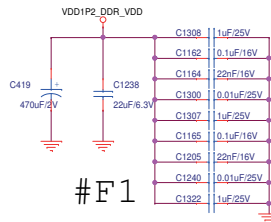
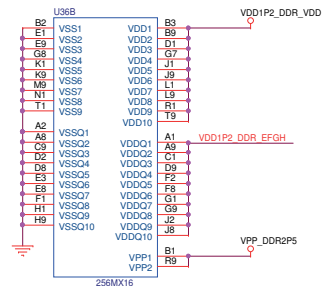
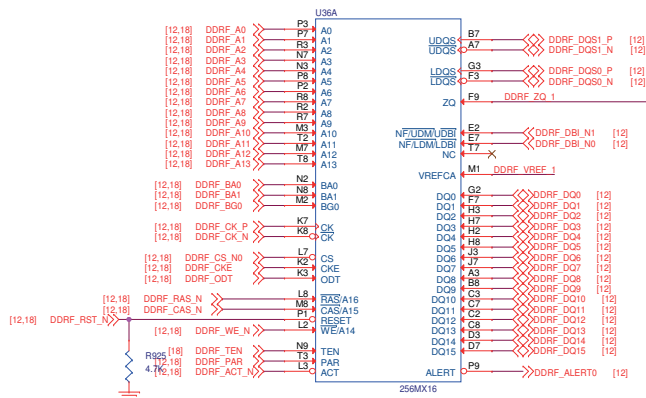


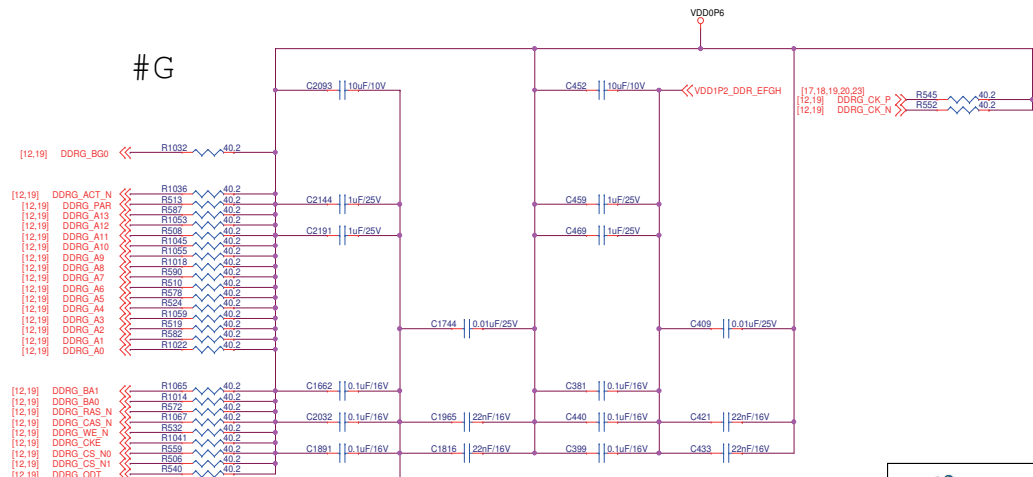
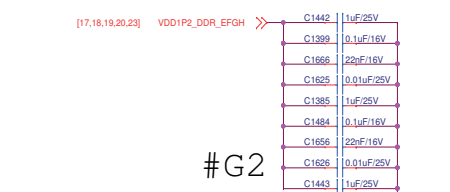
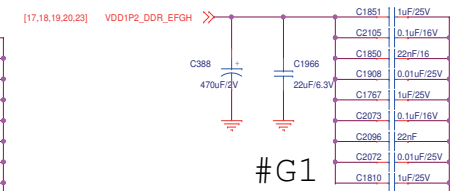


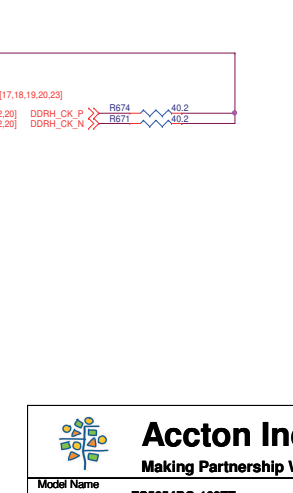
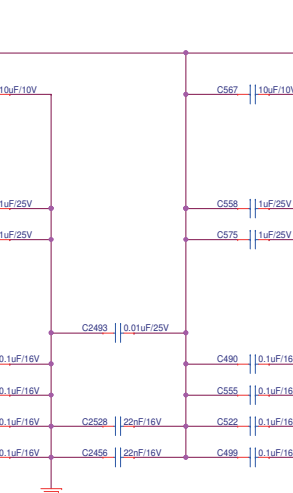
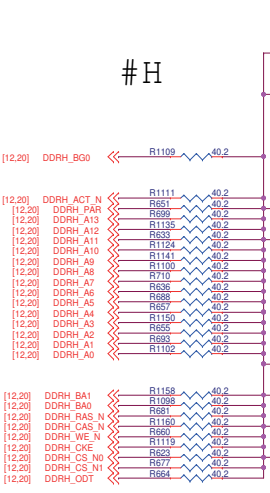
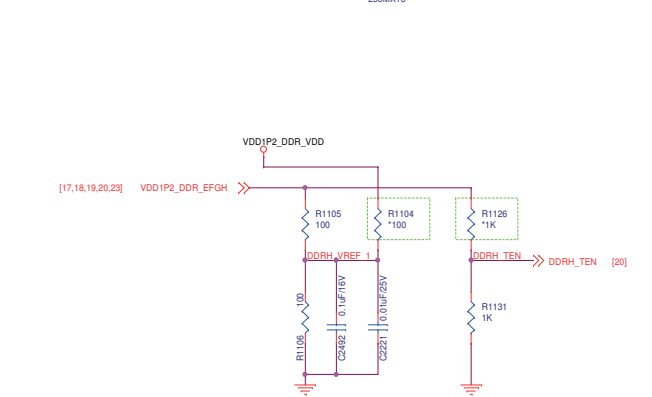
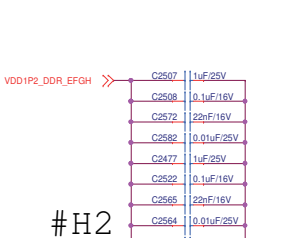
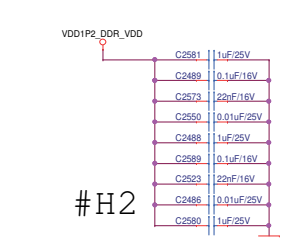
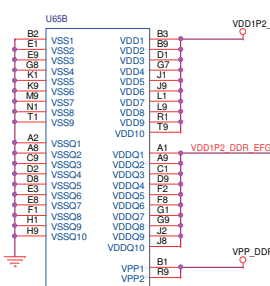
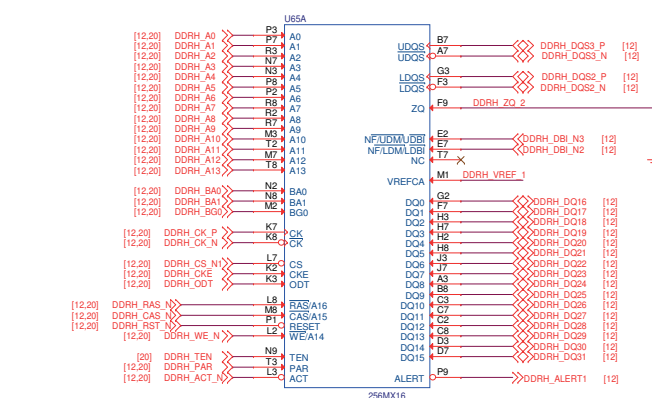
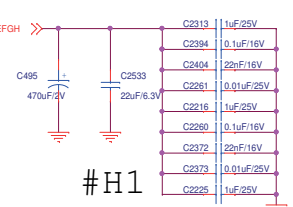
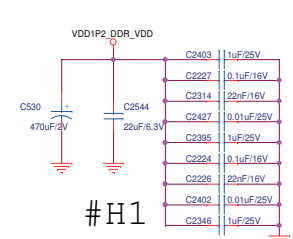
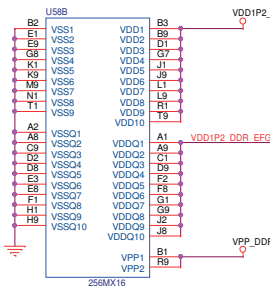
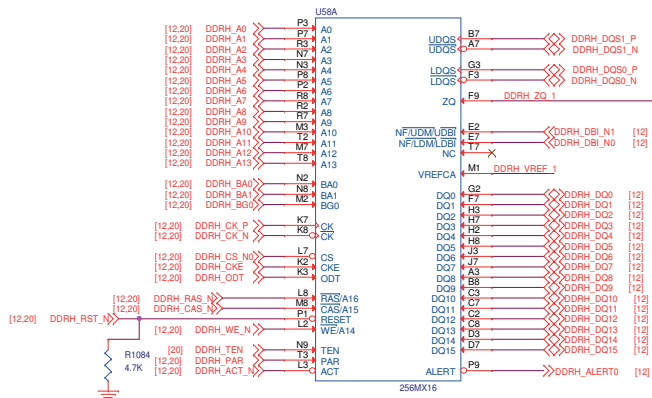




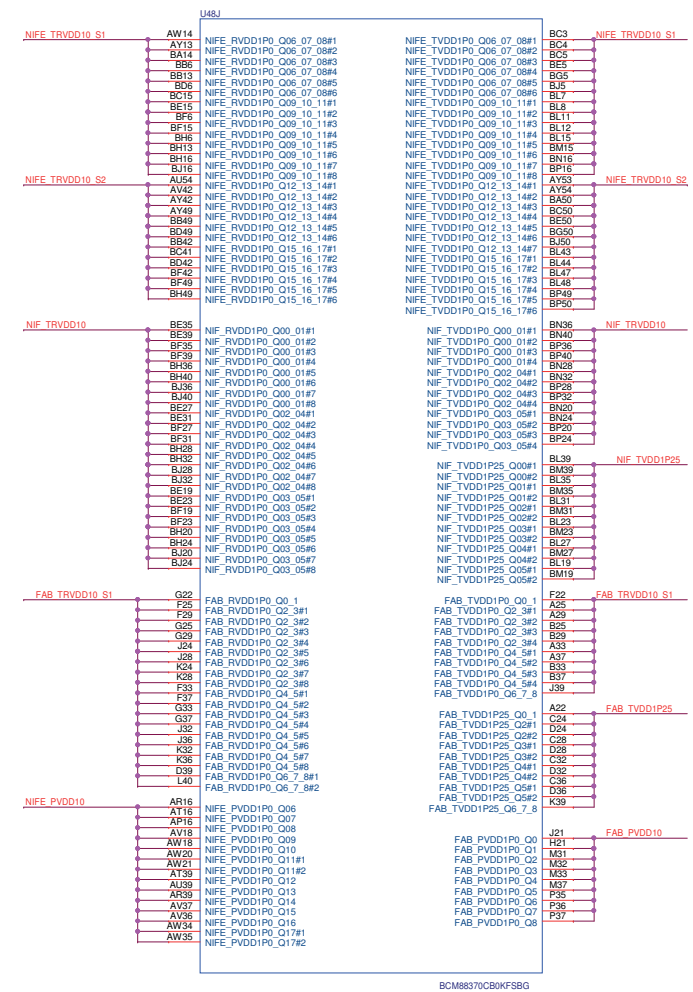
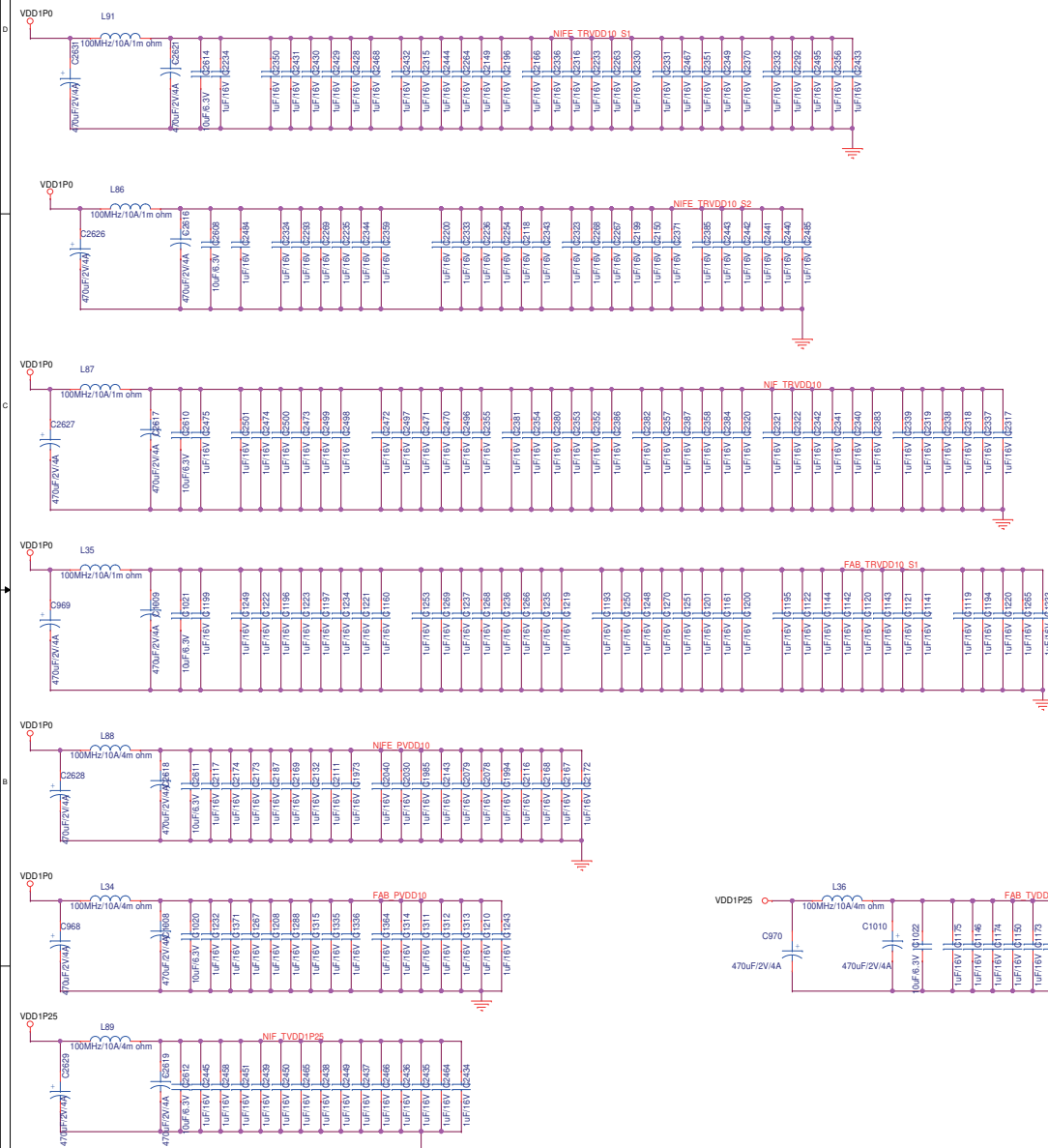








# SerDes Power Supply

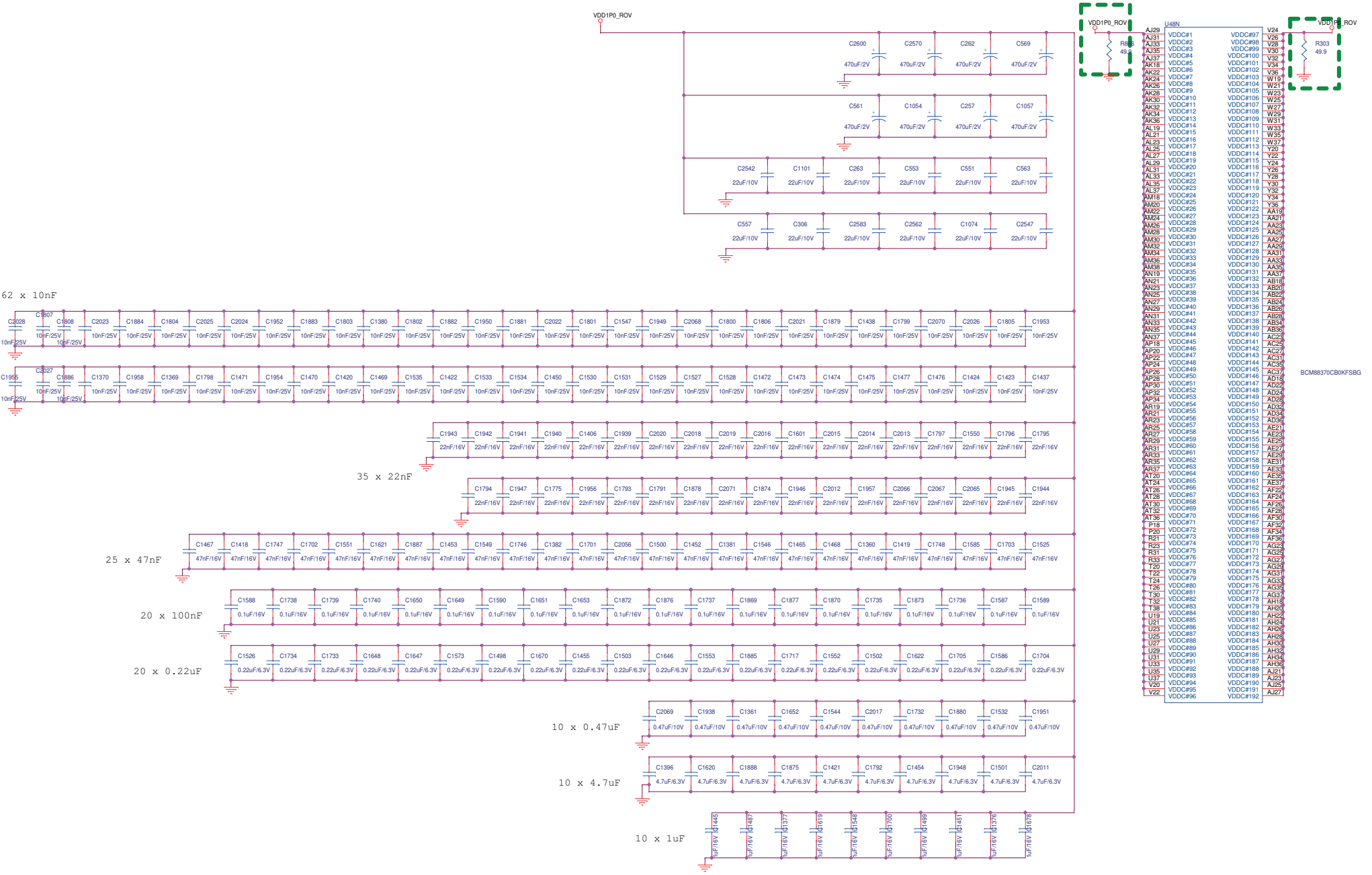


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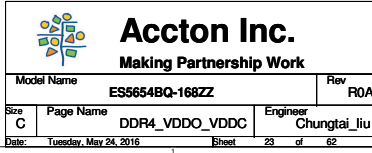
## Making Partnership Work

Model Name		ES5654BQ-168ZZ		Rev	R0A
Size	Page Name	Engineer			
C	BCM88370_PWR_FAB_NIF	Chungtai.liu			
Date:	Tuesday, May 24, 2016	Sheet	21	of	62







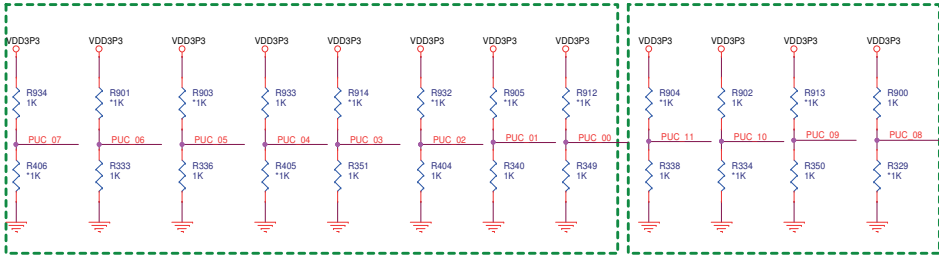




Pr4.7	Pr4.6	Pr4.5	Pr4.4	Pr4.3	Pr4.2	Pr4.1	Pr4.0	Pr3.9	Pr3.8	Pr3.7	Pr3.6	Pr3.5	Pr3.4	Pr3.3	Pr3.2	Pr3.1	Pr3.0	Pr2.9	Pr2.8	Pr2.7	Pr2.6	Pr2.5	Pr2.4	Pr2.3	Pr2.2	Pr2.1	Pr2.0	Pr1.9	Pr1.8	Pr1.7	Pr1.6	Pr1.5	Pr1.4	Pr1.3	Pr1.2	Pr1.1	Pr1.0	Pr0.9	Pr0.8	Pr0.7	Pr0.6	Pr0.5	Pr0.4	Pr0.3	Pr0.2	Pr0.1	Pr0.0	Pr-0.1	Pr-0.2	Pr-0.3	Pr-0.4	Pr-0.5	Pr-0.6	Pr-0.7	Pr-0.8	Pr-0.9	Pr-1.0	Pr-1.1	Pr-1.2	Pr-1.3	Pr-1.4	Pr-1.5	Pr-1.6	Pr-1.7	Pr-1.8	Pr-1.9	Pr-2.0	Pr-2.1	Pr-2.2	Pr-2.3	Pr-2.4	Pr-2.5	Pr-2.6	Pr-2.7	Pr-2.8	Pr-2.9	Pr-3.0	Pr-3.1	Pr-3.2	Pr-3.3	Pr-3.4	Pr-3.5	Pr-3.6	Pr-3.7	Pr-3.8	Pr-3.9	Pr-4.0	Pr-4.1	Pr-4.2	Pr-4.3	Pr-4.4	Pr-4.5	Pr-4.6	Pr-4.7	Pr-4.8	Pr-4.9	Pr-5.0	Pr-5.1	Pr-5.2	Pr-5.3	Pr-5.4	Pr-5.5	Pr-5.6	Pr-5.7	Pr-5.8	Pr-5.9	Pr-6.0	Pr-6.1	Pr-6.2	Pr-6.3	Pr-6.4	Pr-6.5	Pr-6.6	Pr-6.7	Pr-6.8	Pr-6.9	Pr-7.0	Pr-7.1	Pr-7.2	Pr-7.3	Pr-7.4	Pr-7.5	Pr-7.6	Pr-7.7	Pr-7.8	Pr-7.9	Pr-8.0	Pr-8.1	Pr-8.2	Pr-8.3	Pr-8.4	Pr-8.5	Pr-8.6	Pr-8.7	Pr-8.8	Pr-8.9	Pr-9.0	Pr-9.1	Pr-9.2	Pr-9.3	Pr-9.4	Pr-9.5	Pr-9.6	Pr-9.7	Pr-9.8	Pr-9.9	Pr-10.0	Pr-10.1	Pr-10.2	Pr-10.3	Pr-10.4	Pr-10.5	Pr-10.6	Pr-10.7	Pr-10.8	Pr-10.9	Pr-11.0	Pr-11.1	Pr-11.2	Pr-11.3	Pr-11.4	Pr-11.5	Pr-11.6	Pr-11.7	Pr-11.8	Pr-11.9	Pr-12.0	Pr-12.1	Pr-12.2	Pr-12.3	Pr-12.4	Pr-12.5	Pr-12.6	Pr-12.7	Pr-12.8	Pr-12.9	Pr-13.0	Pr-13.1	Pr-13.2	Pr-13.3	Pr-13.4	Pr-13.5	Pr-13.6	Pr-13.7	Pr-13.8	Pr-13.9	Pr-14.0	Pr-14.1	Pr-14.2	Pr-14.3	Pr-14.4	Pr-14.5	Pr-14.6	Pr-14.7	Pr-14.8	Pr-14.9	Pr-15.0	Pr-15.1	Pr-15.2	Pr-15.3	Pr-15.4	Pr-15.5	Pr-15.6	Pr-15.7	Pr-15.8	Pr-15.9	Pr-16.0	Pr-16.1	Pr-16.2	Pr-16.3	Pr-16.4	Pr-16.5	Pr-16.6	Pr-16.7	Pr-16.8	Pr-16.9	Pr-17.0	Pr-17.1	Pr-17.2	Pr-17.3	Pr-17.4	Pr-17.5	Pr-17.6	Pr-17.7	Pr-17.8	Pr-17.9	Pr-18.0	Pr-18.1	Pr-18.2	Pr-18.3	Pr-18.4	Pr-18.5	Pr-18.6	Pr-18.7	Pr-18.8	Pr-18.9	Pr-19.0	Pr-19.1	Pr-19.2	Pr-19.3	Pr-19.4	Pr-19.5	Pr-19.6	Pr-19.7	Pr-19.8	Pr-19.9	Pr-20.0	Pr-20.1	Pr-20.2	Pr-20.3	Pr-20.4	Pr-20.5	Pr-20.6	Pr-20.7	Pr-20.8	Pr-20.9	Pr-21.0	Pr-21.1	Pr-21.2	Pr-21.3	Pr-21.4	Pr-21.5	Pr-21.6	Pr-21.7	Pr-21.8	Pr-21.9	Pr-22.0	Pr-22.1	Pr-22.2	Pr-22.3	Pr-22.4	Pr-22.5	Pr-22.6	Pr-22.7	Pr-22.8	Pr-22.9	Pr-23.0	Pr-23.1	Pr-23.2	Pr-23.3	Pr-23.4	Pr-23.5	Pr-23.6	Pr-23.7	Pr-23.8	Pr-23.9	Pr-24.0	Pr-24.1	Pr-24.2	Pr-24.3	Pr-24.4	Pr-24.5	Pr-24.6	Pr-24.7	Pr-24.8	Pr-24.9	Pr-25.0	Pr-25.1	Pr-25.2	Pr-25.3	Pr-25.4	Pr-25.5	Pr-25.6	Pr-25.7	Pr-25.8	Pr-25.9	Pr-26.0	Pr-26.1	Pr-26.2	Pr-26.3	Pr-26.4	Pr-26.5	Pr-26.6	Pr-26.7	Pr-26.8	Pr-26.9	Pr-27.0	Pr-27.1	Pr-27.2	Pr-27.3	Pr-27.4	Pr-27.5	Pr-27.6	Pr-27.7	Pr-27.8	Pr-27.9	Pr-28.0	Pr-28.1	Pr-28.2	Pr-28.3	Pr-28.4	Pr-28.5	Pr-28.6	Pr-28.7	Pr-28.8	Pr-28.9	Pr-29.0	Pr-29.1	Pr-29.2	Pr-29.3	Pr-29.4	Pr-29.5	Pr-29.6	Pr-29.7	Pr-29.8	Pr-29.9	Pr-30.0	Pr-30.1	Pr-30.2	Pr-30.3	Pr-30.4	Pr-30.5	Pr-30.6	Pr-30.7	Pr-30.8	Pr-30.9	Pr-31.0	Pr-31.1	Pr-31.2	Pr-31.3	Pr-31.4	Pr-31.5	Pr-31.6	Pr-31.7	Pr-31.8	Pr-31.9	Pr-32.0	Pr-32.1	Pr-32.2	Pr-32.3	Pr-32.4	Pr-32.5	Pr-32.6	Pr-32.7	Pr-32.8	Pr-32.9	Pr-33.0	Pr-33.1	Pr-33.2	Pr-33.3	Pr-33.4	Pr-33.5	Pr-33.6	Pr-33.7	Pr-33.8	Pr-33.9	Pr-34.0	Pr-34.1	Pr-34.2	Pr-34.3	Pr-34.4	Pr-34.5	Pr-34.6	Pr-34.7	Pr-34.8	Pr-34.9	Pr-35.0	Pr-35.1	Pr-35.2	Pr-35.3	Pr-35.4	Pr-35.5	Pr-35.6	Pr-35.7	Pr-35.8	Pr-35.9	Pr-36.0	Pr-36.1	Pr-36.2	Pr-36.3	Pr-36.4	Pr-36.5	Pr-36.6	Pr-36.7	Pr-36.8	Pr-36.9	Pr-37.0	Pr-37.1	Pr-37.2	Pr-37.3	Pr-37.4	Pr-37.5	Pr-37.6	Pr-37.7	Pr-37.8	Pr-37.9	Pr-38.0	Pr-38.1	Pr-38.2	Pr-38.3	Pr-38.4	Pr-38.5	Pr-38.6	Pr-38.7	Pr-38.8	Pr-38.9	Pr-39.0	Pr-39.1	Pr-39.2	Pr-39.3	Pr-39.4	Pr-39.5	Pr-39.6	Pr-39.7	Pr-39.8	Pr-39.9	Pr-40.0	Pr-40.1	Pr-40.2	Pr-40.3	Pr-40.4	Pr-40.5	Pr-40.6	Pr-40.7	Pr-40.8	Pr-40.9	Pr-41.0	Pr-41.1	Pr-41.2	Pr-41.3	Pr-41.4	Pr-41.5	Pr-41.6	Pr-41.7	Pr-41.8	Pr-41.9	Pr-42.0	Pr-42.1	Pr-42.2	Pr-42.3	Pr-42.4	Pr-42.5	Pr-42.6	Pr-42.7	Pr-42.8	Pr-42.9	Pr-43.0	Pr-43.1	Pr-43.2	Pr-43.3	Pr-43.4	Pr-43.5	Pr-43.6	Pr-43.7	Pr-43.8	Pr-43.9	Pr-44.0	Pr-44.1	Pr-44.2	Pr-44.3	Pr-44.4	Pr-44.5	Pr-44.6	Pr-44.7	Pr-44.8	Pr-44.9	Pr-45.0	Pr-45.1	Pr-45.2	Pr-45.3	Pr-45.4	Pr-45.5	Pr-45.6	Pr-45.7	Pr-45.8	Pr-45.9	Pr-46.0	Pr-46.1	Pr-46.2	Pr-46.3	Pr-46.4	Pr-46.5	Pr-46.6	Pr-46.7	Pr-46.8	Pr-46.9	Pr-47.0	Pr-47.1	Pr-47.2	Pr-47.3	Pr-47.4	Pr-47.5	Pr-47.6	Pr-47.7	Pr-47.8	Pr-47.9	Pr-48.0	Pr-48.1	Pr-48.2	Pr-48.3	Pr-48.4	Pr-48.5	Pr-48.6	Pr-48.7	Pr-48.8	Pr-48.9	Pr-49.0	Pr-49.1	Pr-49.2	Pr-49.3	Pr-49.4	Pr-49.5	Pr-49.6	Pr-49.7	Pr-49.8	Pr-49.9	Pr-50.0	Pr-50.1	Pr-50.2	Pr-50.3	Pr-50.4	Pr-50.5	Pr-50.6	Pr-50.7	Pr-50.8	Pr-50.9	Pr-51.0	Pr-51.1	Pr-51.2	Pr-51.3	Pr-51.4	Pr-51.5	Pr-51.6	Pr-51.7	Pr-51.8	Pr-51.9	Pr-52.0	Pr-52.1	Pr-52.2	Pr-52.3	Pr-52.4	Pr-52.5	Pr-52.6	Pr-52.7	Pr-52.8	Pr-52.9	Pr-53.0	Pr-53.1	Pr-53.2	Pr-53.3	Pr-53.4	Pr-53.5	Pr-53.6	Pr-53.7	Pr-53.8	Pr-53.9	Pr-54.0	Pr-54.1	Pr-54.2	Pr-54.3	Pr-54.4	Pr-54.5	Pr-54.6	Pr-54.7	Pr-54.8	Pr-54.9	Pr-55.0	Pr-55.1	Pr-55.2	Pr-55.3	Pr-55.4	Pr-55.5	Pr-55.6	Pr-55.7	Pr-55.8	Pr-55.9	Pr-56.0	Pr-56.1	Pr-56.2	Pr-56.3	Pr-56.4	Pr-56.5	Pr-56.6	Pr-56.7	Pr-56.8	Pr-56.9	Pr-57.0	Pr-57.1	Pr-57.2	Pr-57.3	Pr-57.4	Pr-57.5	Pr-57.6	Pr-57.7	Pr-57.8	Pr-57.9	Pr-58.0	Pr-58.1	Pr-58.2	Pr-58.3	Pr-58.4	Pr-58.5	Pr-58.6	Pr-58.7	Pr-58.8	Pr-58.9	Pr-59.0	Pr-59.1	Pr-59.2	Pr-59.3	Pr-59.4	Pr-59.5	Pr-59.6	Pr-59.7	Pr-59.8	Pr-59.9	Pr-60.0	Pr-60.1	Pr-60.2	Pr-60.3	Pr-60.4	Pr-60.5	Pr-60.6	Pr-60.7	Pr-60.8	Pr-60.9	Pr-61.0	Pr-61.1	Pr-61.2	Pr-61.3	Pr-61.4	Pr-61.5	Pr-61.6	Pr-61.7	Pr-61.8	Pr-61.9	Pr-62.0	Pr-62.1	Pr-62.2	Pr-62.3	Pr-62.4	Pr-62.5	Pr-62.6	Pr-62.7	Pr-62.8	Pr-62.9	Pr-63.0	Pr-63.1	Pr-63.2	Pr-63.3	Pr-63.4	Pr-63.5	Pr-63.6	Pr-63.7	Pr-63.8	Pr-63.9	Pr-64.0	Pr-64.1	Pr-64.2	Pr-64.3	Pr-64.4	Pr-64.5	Pr-64.6	Pr-64.7	Pr-64.8	Pr-64.9	Pr-65.0	Pr-65.1	Pr-65.2	Pr-65.3	Pr-65.4	Pr-65.5	Pr-65.6	Pr-65.7	Pr-65.8	Pr-65.9	Pr-66.0	Pr-66.1	Pr-66.2	Pr-66.3	Pr-66.4	Pr-66.5	Pr-66.6	Pr-66.7	Pr-66.8	Pr-66.9	Pr-67.0	Pr-67.1	Pr-67.2	Pr-67.3	Pr-67.4	Pr-67.5	Pr-67.6	Pr-67.7	Pr-67.8	Pr-67.9	Pr-68.0	Pr-68.1	Pr-68.2	Pr-68.3	Pr-68.4	Pr-68.5	Pr-68.6	Pr-68.7	Pr-68.8	Pr-68.9	Pr-69.0	Pr-69.1	Pr-69.2	Pr-69.3	Pr-69.4	Pr-69.5	Pr-69.6	Pr-69.7	Pr-69.8	Pr-69.9	Pr-70.0	Pr-70.1	Pr-70.2	Pr-70.3	Pr-70.4	Pr-70.5	Pr-70.6	Pr-70.7	Pr-70.8	Pr-70.9	Pr-71.0	Pr-71.1	Pr-71.2	Pr-71.3	Pr-71.4	Pr-71.5	Pr-71.6	Pr-71.7	Pr-71.8	Pr-71.9	Pr-72.0	Pr-72.1	Pr-72.2	Pr-72.3	Pr-72.4	Pr-72.5	Pr-72.6	Pr-72.7	Pr-72.8	Pr-72.9	Pr-73.0	Pr-73.1	Pr-73.2	Pr-73.3	Pr-73.4	Pr-73.5	Pr-73.6	Pr-73.7	Pr-73.8	Pr-73.9	Pr-74.0	Pr-74.1	Pr-74.2	Pr-74.3	Pr-74.4	Pr-74.5	Pr-74.6	Pr-74.7	Pr-74.8	Pr-74.9	Pr-75.0	Pr-75.1	Pr-75.2	Pr-75.3	Pr-75.4	Pr-75.5	Pr-75.6	Pr-75.7	Pr-75.8	Pr-75.9	Pr-76.0	Pr-76.1	Pr-76.2	Pr-76.3	Pr-76.4	Pr-76.5	Pr-76.6	Pr-76.7	Pr-76.8	Pr-76.9	Pr-77.0	Pr-77.1	Pr-77.2	Pr-77.3	Pr-77.4	Pr-77.5	Pr-77.6	Pr-77.7	Pr-77.8	Pr-77.9	Pr-78.0	Pr-78.1	Pr-78.2	Pr-78.3	Pr-78.4	Pr-78.5	Pr-78.6	Pr-78.7	Pr-78.8	Pr-78.9	Pr-79.0	Pr-79.1	Pr-79.2	Pr-79.3	Pr-79.4	Pr-79.5	Pr-79.6	Pr-79.7	Pr-79.8	Pr-79.9	Pr-80.0	Pr-80.1	Pr-80.2	Pr-80.3	Pr-80.4	Pr-80.5	Pr-80.6	Pr-80.7	Pr-80.8	Pr-80.9	Pr-81.0	Pr-81.1	Pr-81.2	Pr-81.3	Pr-81.4	Pr-81.5	Pr-81.6	Pr-81.7	Pr-81.8	Pr-81.9	Pr-82.0	Pr-82.1	Pr-82.2	Pr-82.3	Pr-82.4	Pr-82.5	Pr-82.6	Pr-82.7	Pr-82.8	Pr-82.9	Pr-83.0	Pr-83.1	Pr-83.2	Pr-83.3	Pr-83.4	Pr-83.5	Pr-83.6	Pr-83.7	Pr-83.8	Pr-83.9	Pr-84.0	Pr-84.1	Pr-84.2	Pr-84.3	Pr-84.4	Pr-84.5	Pr-84.6	Pr-84.7	Pr-84.8	Pr-84.9	Pr-85.0	Pr-85.1	Pr-85.2	Pr-85.3	Pr-85.4	Pr-85.5	Pr-85.6	Pr-85.7	Pr-85.8	Pr-85.9	Pr-86.0	Pr-86.1	Pr-86.2	Pr-86.3	Pr-86.4	Pr-86.5	Pr-86.6	Pr-86.7	Pr-86.8	Pr-86.9	Pr-87.0	Pr-87.1	Pr-87.2	Pr-87.3	Pr-87.4	Pr-87.5	Pr-87.6	Pr-87.7	Pr-87.8	Pr-87.9	Pr-88.0	Pr-88.1	Pr-88.2	Pr-88.3	Pr-88.4	Pr-88.5	Pr-88.6	Pr-88.7	Pr-88.8	Pr-88.9	Pr-89.0	Pr-89.1	Pr-89.2	Pr-89.3	Pr-89.4	Pr-89.5	Pr-89.6	Pr-89.7	Pr-89.8	Pr-89.9	Pr-90.0	Pr-90.1	Pr-90.2	Pr-90.3	Pr-90.4	Pr-90.5	Pr-90.6	Pr-90.7	Pr-90.8	Pr-90.9	Pr-91.0	Pr-91.1	Pr-91.2	Pr-91.3	Pr-91.4	Pr-91.5	Pr-91.6	Pr-91.7	Pr-91.8	Pr-91.9	Pr-92.0	Pr-92.1	Pr-92.2	Pr-92.3	Pr-92.4	Pr-92.5	Pr-92.6	Pr-92.7	Pr-92.8	Pr-92.9	Pr-93.0	Pr-93.1	Pr-93.2	Pr-93.3	Pr-93.4	Pr-93.5	Pr-93.6	Pr-93.7	Pr-93.8	Pr-93.9	Pr-94.0	Pr-94.1	Pr-94.2	Pr-94.3	Pr-94.4	Pr-94.5	Pr-94.6	Pr-94.7	Pr-94.8	Pr-94.9	Pr-95.0	Pr-95.1	Pr-95.2	Pr-95.3	Pr-95.4	Pr-95.5	Pr-95.6	Pr-95.7	Pr-95.8	Pr-95.9	Pr-96.0	Pr-96.1	Pr-96.2	Pr-96.3	Pr-96.4	Pr-96.5	Pr-96.6	Pr-96.7	Pr-96.8	Pr-96.9	Pr-97.0	Pr-97.1	Pr-97.2	Pr-97.3	Pr-97.4	Pr-97.5	Pr-97.6	Pr-97.7	Pr-97.8	Pr-97.9	Pr-98.0	Pr-98.1	Pr-98.2	Pr-98.3	Pr-98.4	Pr-98.5	Pr-98.6	Pr-98.7	Pr-98.8	Pr-98.9	Pr-99.0	Pr-99.1	Pr-99.2	Pr-99.3	Pr-99.4	Pr-99.5	Pr-99.6	Pr-99.7	Pr-99.8	Pr-99.9	Pr-100.0	Pr-100.1	Pr-100.2	Pr-100.3	Pr-100.4	Pr-100.5	Pr-100.6	Pr-100.7	Pr-100.8	Pr-100.9	Pr-101.0	Pr-101.1	Pr-101.2	Pr-101.3	Pr-101.4	Pr-101.5	Pr-101.6	Pr-101.7	Pr-101.8	Pr-101.9	Pr-102.0	Pr-102.1	Pr-102.2	Pr-102.3	Pr-102.4	Pr-102.5	Pr-102.6	Pr-102.7	Pr-102.8	Pr-102.9	Pr-103.0	Pr-103.1	Pr-103.2	Pr-103.3	Pr-103.4	Pr-103.5	Pr-103.6	Pr-103.7	Pr-103.8	Pr-103.9	Pr-104.0	Pr-104.1	Pr-104.2	Pr-104.3	Pr-104.4	Pr-104.5	Pr-104.6	Pr-104.7	Pr-104.8	Pr-104.9	Pr-105.0	Pr-105.1	Pr-105.2	Pr-105.3	Pr-105.4	Pr-105.5	Pr-105.6	Pr-105.7	Pr-105.8	Pr-105.9	Pr-106.0	Pr-106.1	Pr-106.2	Pr-106.3	Pr-106.4	Pr-106.5	Pr-106.6	Pr-106.7	Pr-106.8	Pr-106.9	Pr-107.0	Pr-107.1	Pr-107.2	Pr-107.3	Pr-107.4	Pr-107.5	Pr-107.6	Pr-107.7	Pr-107.8	Pr-107.9	Pr-108.0	Pr-108.1	Pr-108.2	Pr-108.3	Pr-108.4	Pr-108.5	Pr-108.6	Pr-108.7	
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PUC[11:8] = 5 decimal (4b' 0101)  
For Core clock of 720 MHz.



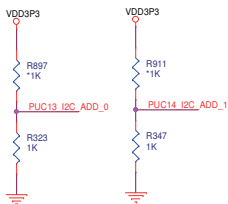
Core PLL source select should be 1 for normal operation. When set to 1, the Core PLL is driven by the CPLL_REF_CLK_P/N. When set to 0, the Core PLL is driven by the CLOCK25, for test purposes only	UC PLL source select should be 1 for normal operation. When set to 1, the UC PLL is driven by the UC_PLL_REF_CLK_P/N. When set to 0, the UC PLL is driven by the CLOCK25, for test purposes only
--	--



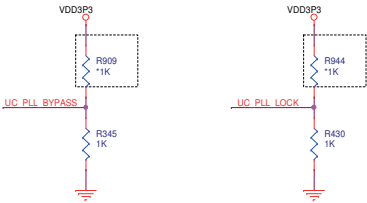
```

BSC slave address bits of the device
A6  A5  A4  A3  A2  A1  A0
1   0   0   0   1   P14 P13
Available addresses are 0x44, 0x45, 0x46, and 0x47.

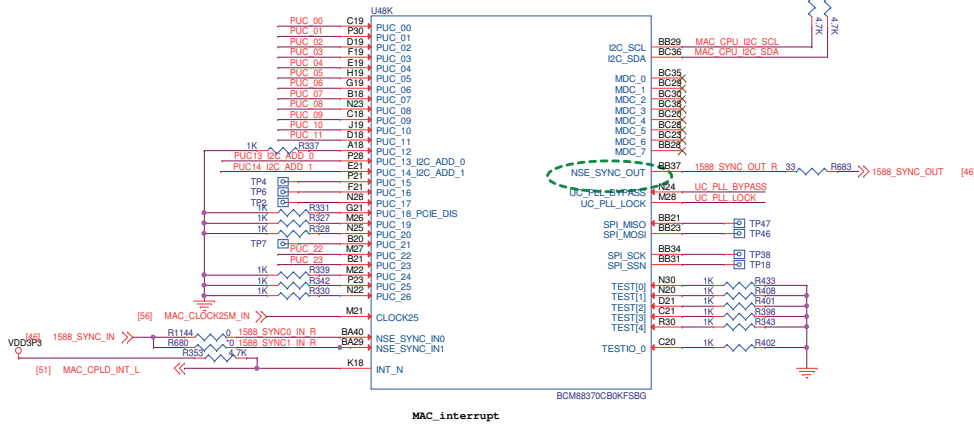
```



UC PLL Bypass Control. When set to 1, UC PLL is bypassed. For normal operation this pin must be 0.	UC PLL locked indication, when 1, UC_PLL is locked to the UC_PLL_REFCLKP/N, When 0, PLL is unlocked
--	--

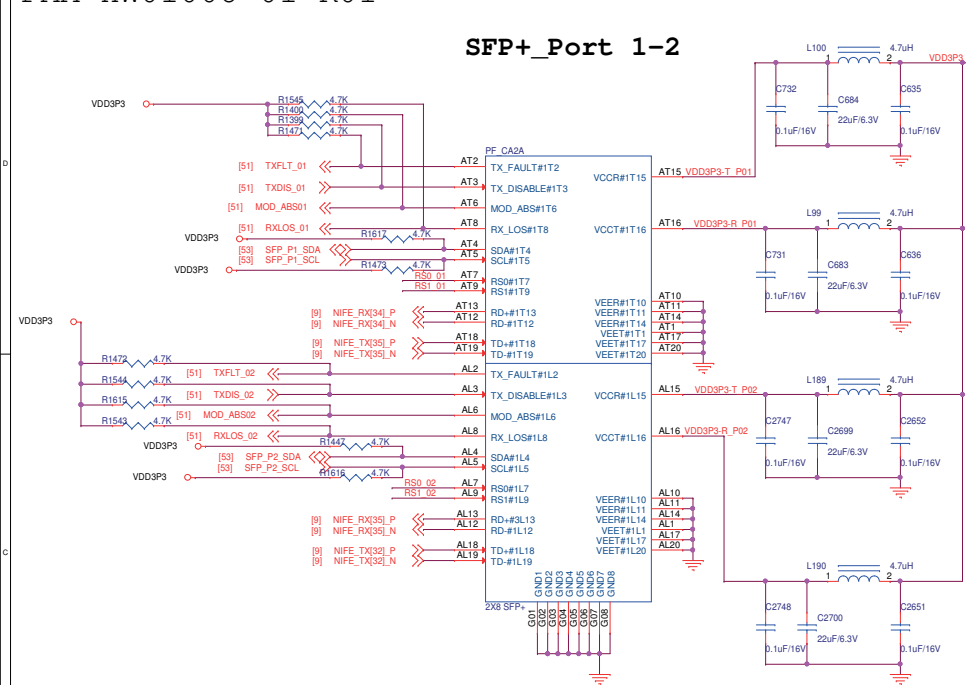


## Power-Up Configuration

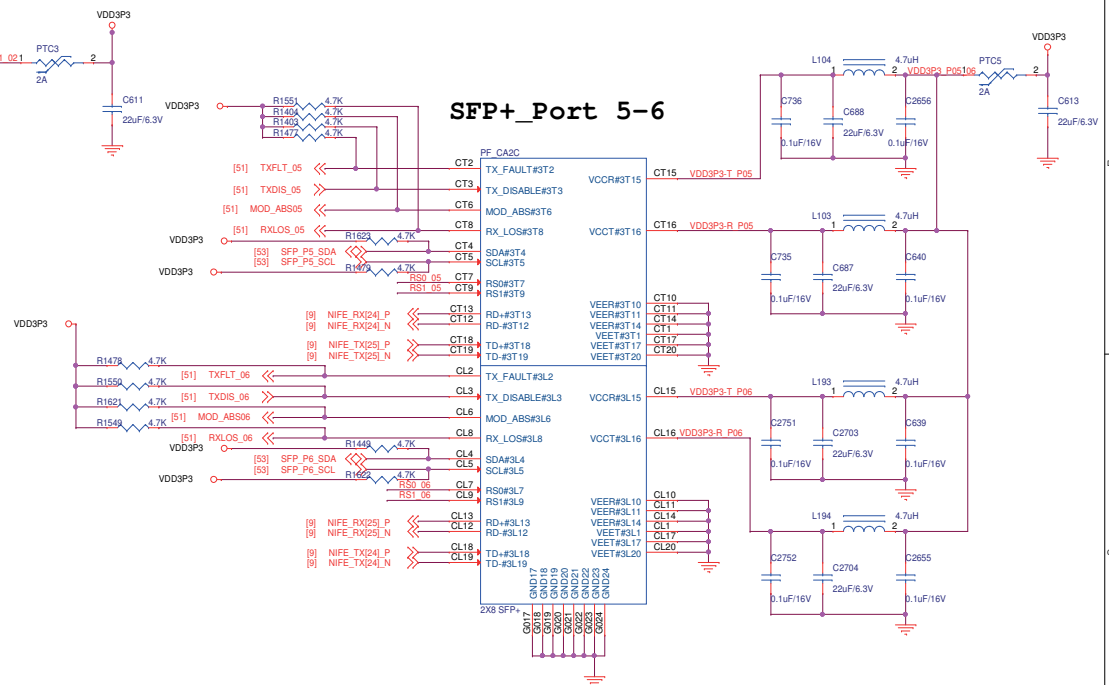




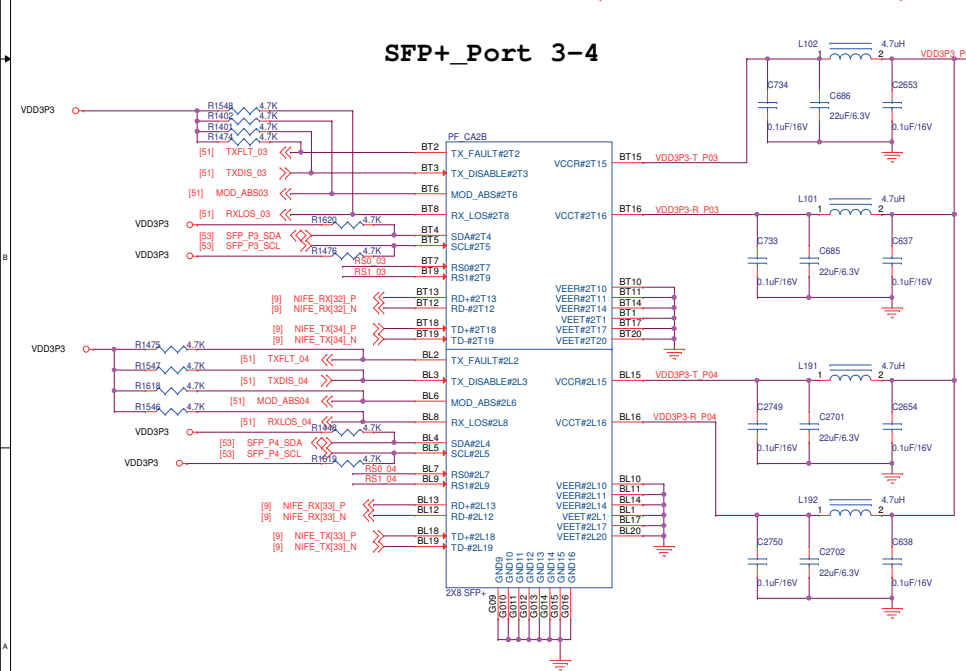
SFP+\_Port 1-2



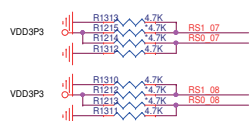
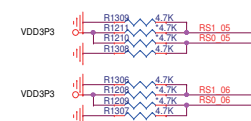
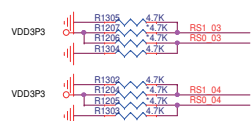
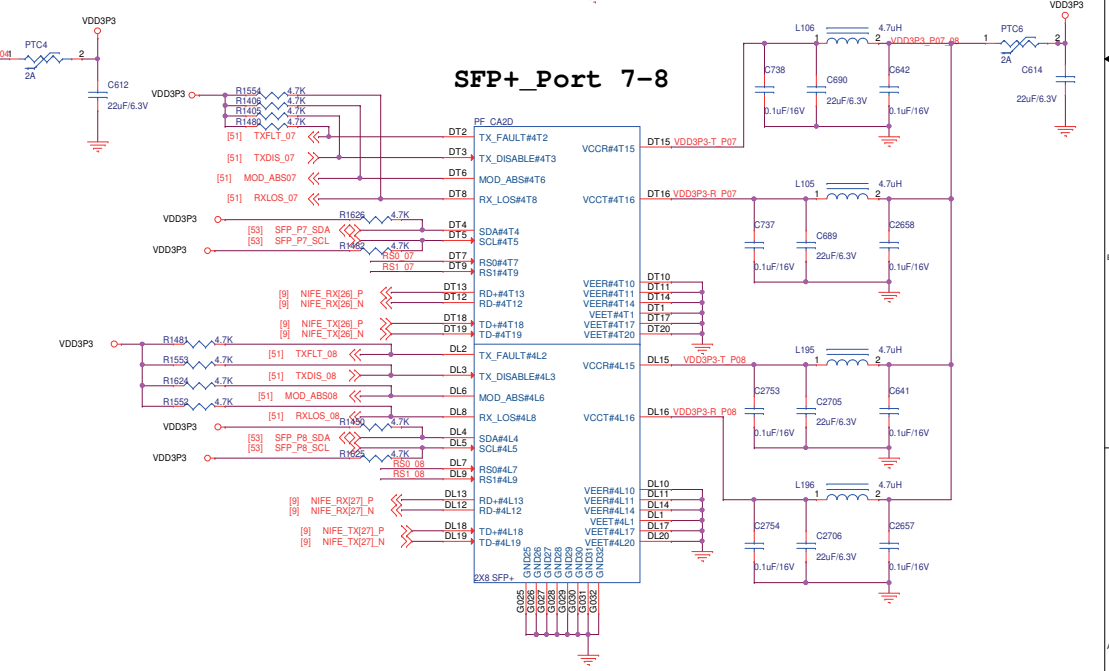
SFP+\_Port 5-6



SFP+\_Port 3-4



SFP+\_Port 7-8




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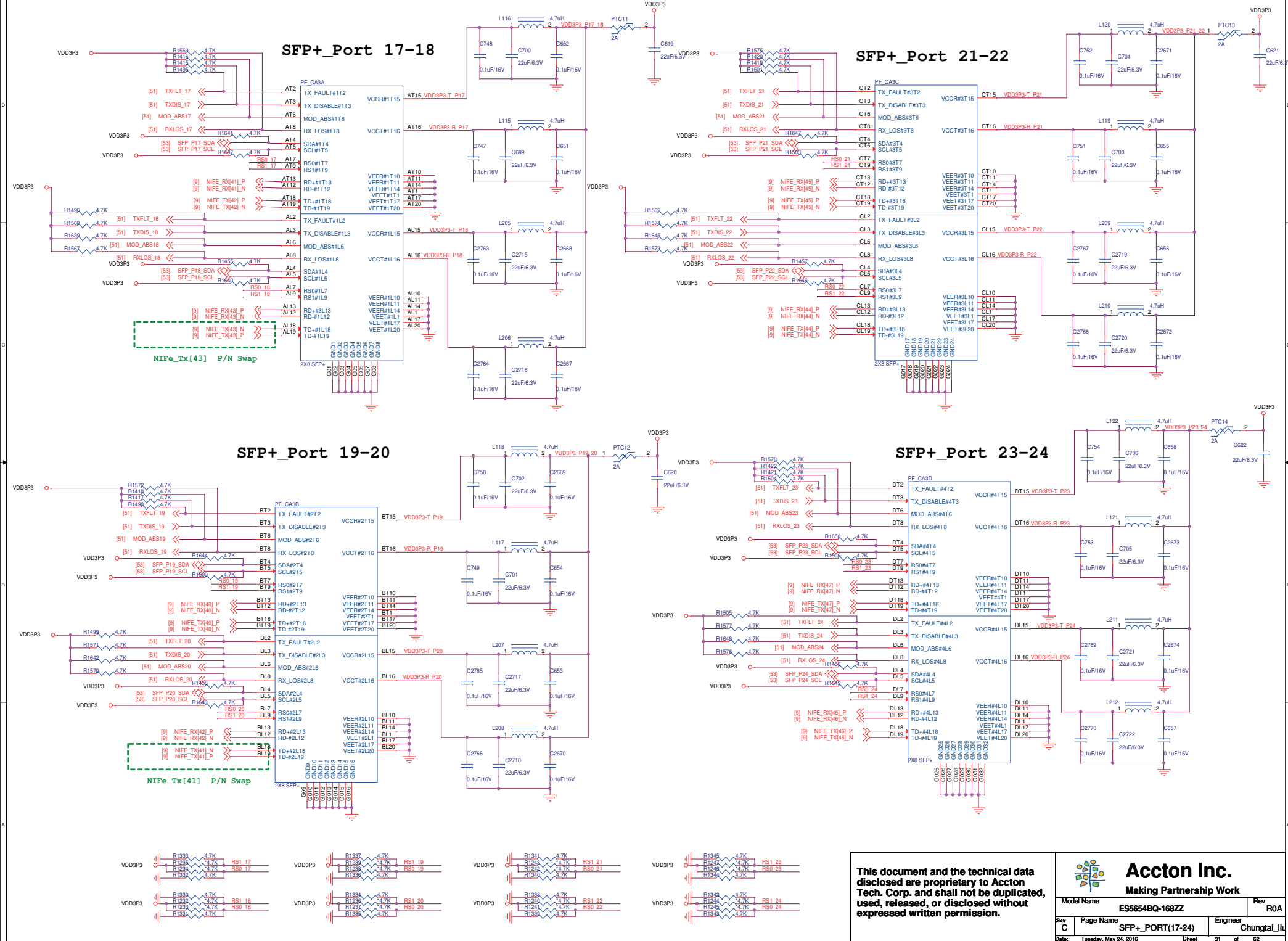


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Model Name		ES5654BQ-168ZZ		Rev R0A	
Size C	Page Name SFP+_PORT(01-08)		Engineer Chungtai liu		
Date:	Tuesday, May 24, 2016	Sheet	29 of 62		

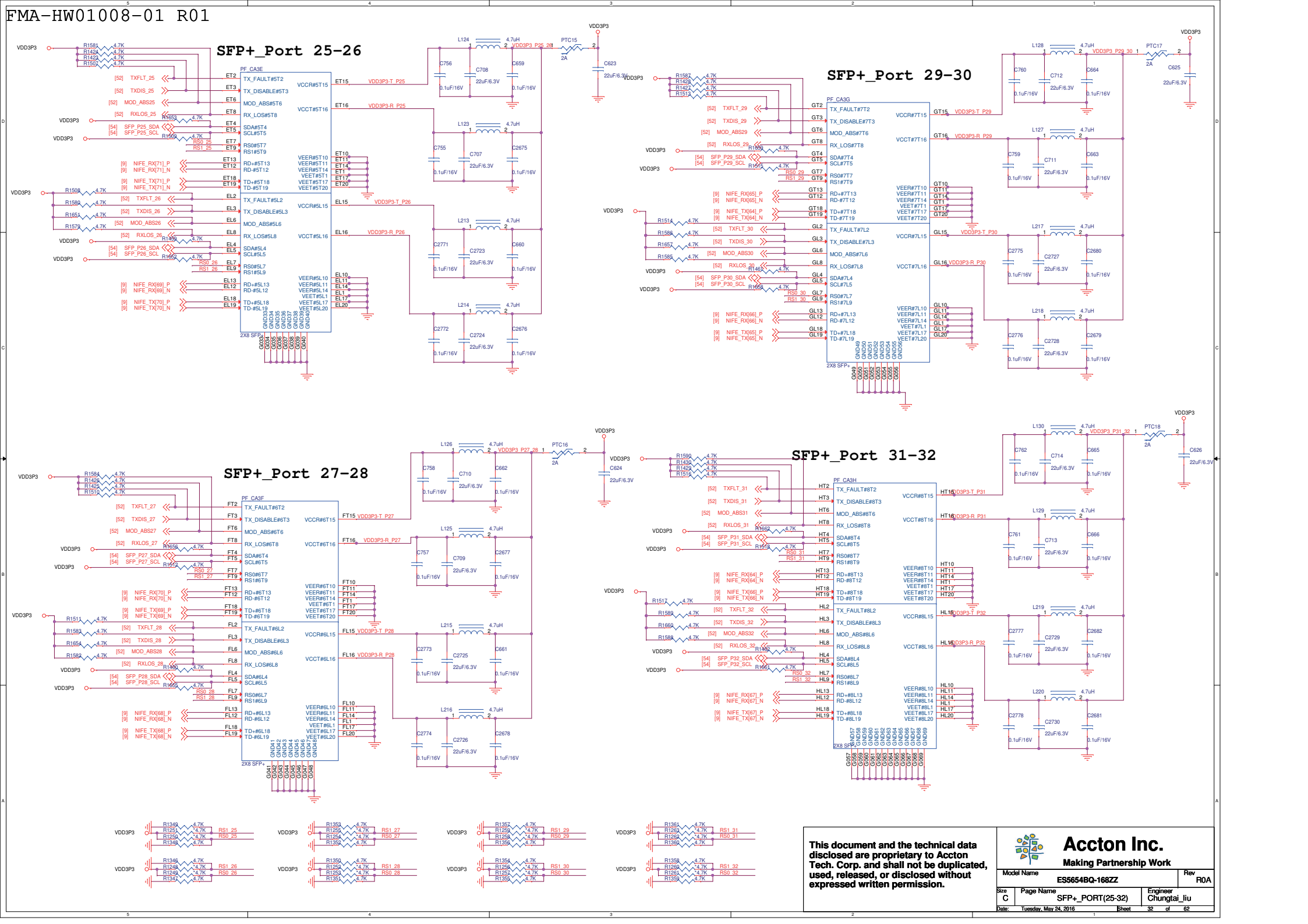



 <h1>Accton Inc.</h1> <h2>Making Partnership Work</h2>		Rev
Model Name		R0A
ES5654BQ-168ZZ		
Size	Page Name	Engineer
C	SFP+_PORT(09-16)	Chungtai_liu
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		Making Partnership Work	
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Size C	Page Name	SFP+_PORT(17-24)	Engineer Chungtai Jiu
Date: Tuesday, May 24, 2016	Sheet	31	of 62



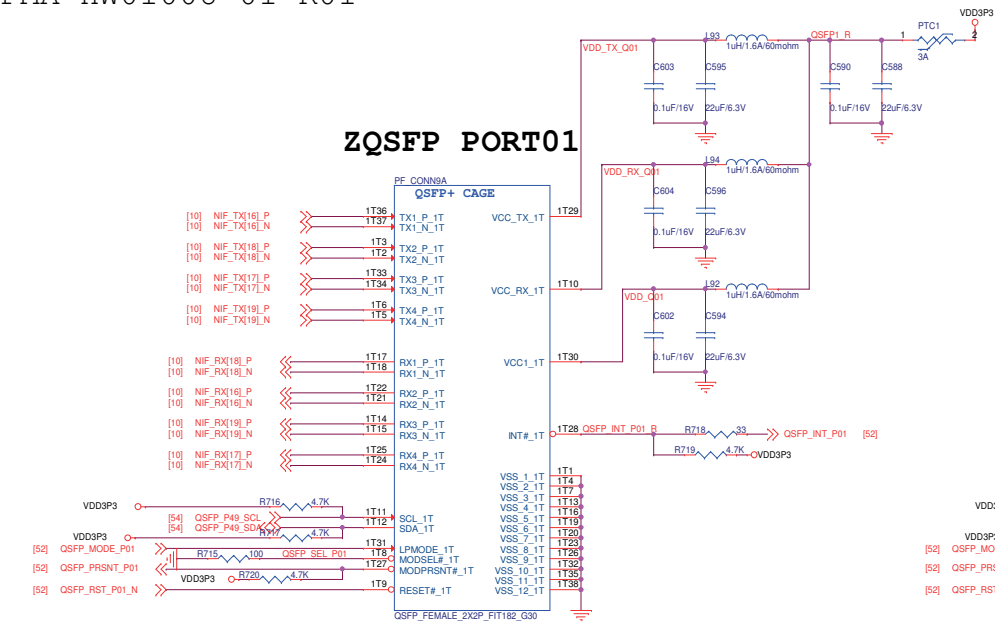
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ES5654BQ-168ZZ		R0A	
Size	Page Name	Engineer	
	SFP+_PORT(25-32)	Chungtai_liu	
Date:	Tuesday, May 24, 2016	Sheet	32 of 62

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Model Name		R0A
ES5654BQ-168ZZ		
Size	Page Name	Engineer
C	SFP+_PORT(33-40)	Chungtai_liu
Date:	Tuesday, May 24, 2016	Sheet 33 of 62

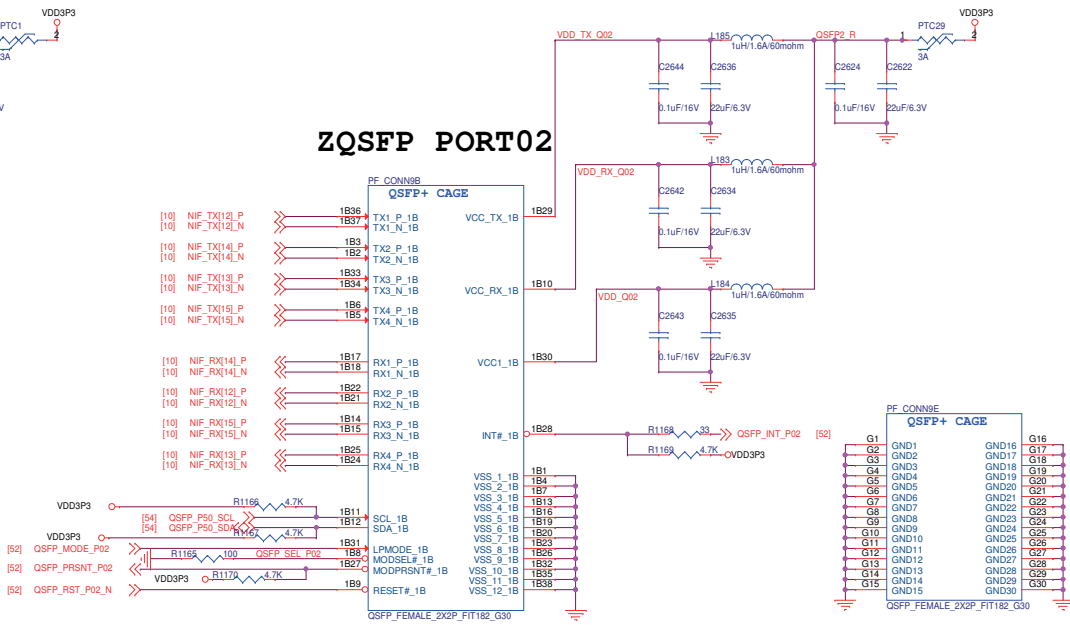
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Model Name			Rev
ES5654BQ-168ZZ			R0A
Size	Page Name	Engineer	
C	SFP+ _PORT(40-48)	Chungtai_liu	
Date:	Tuesday, May 24, 2016	Sheet	34 of 62



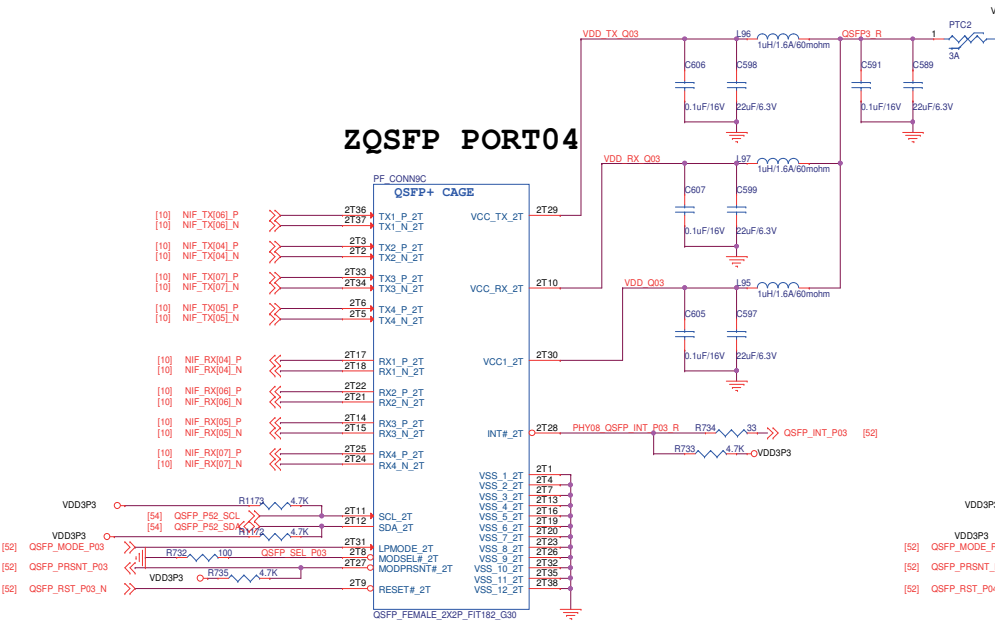
ZQSFP PORT01



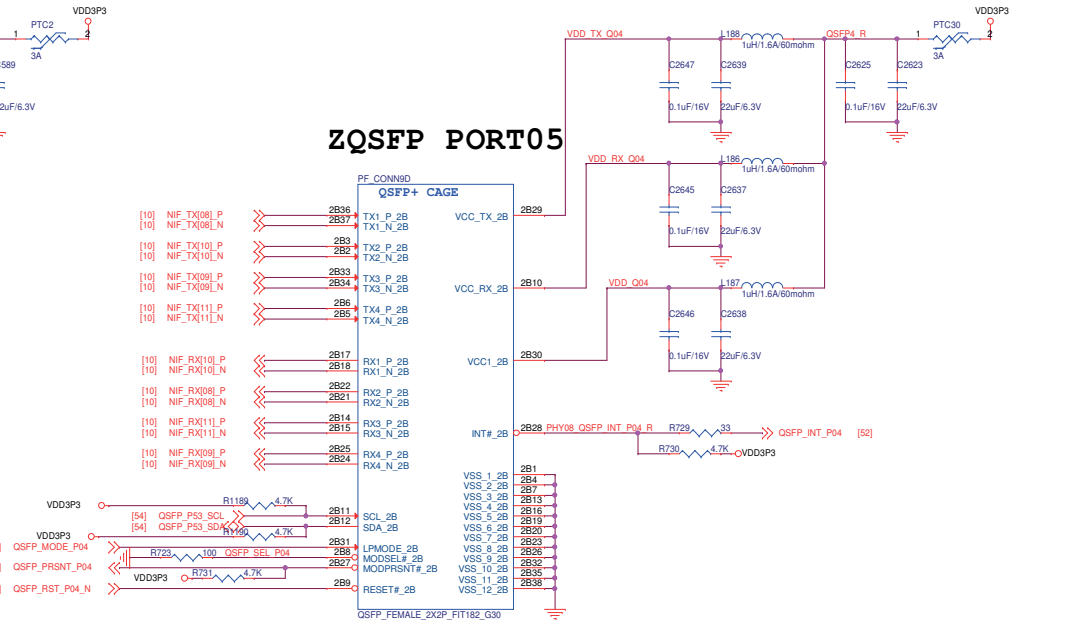
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ZQSFP PORT04



ZQSFP PORT05



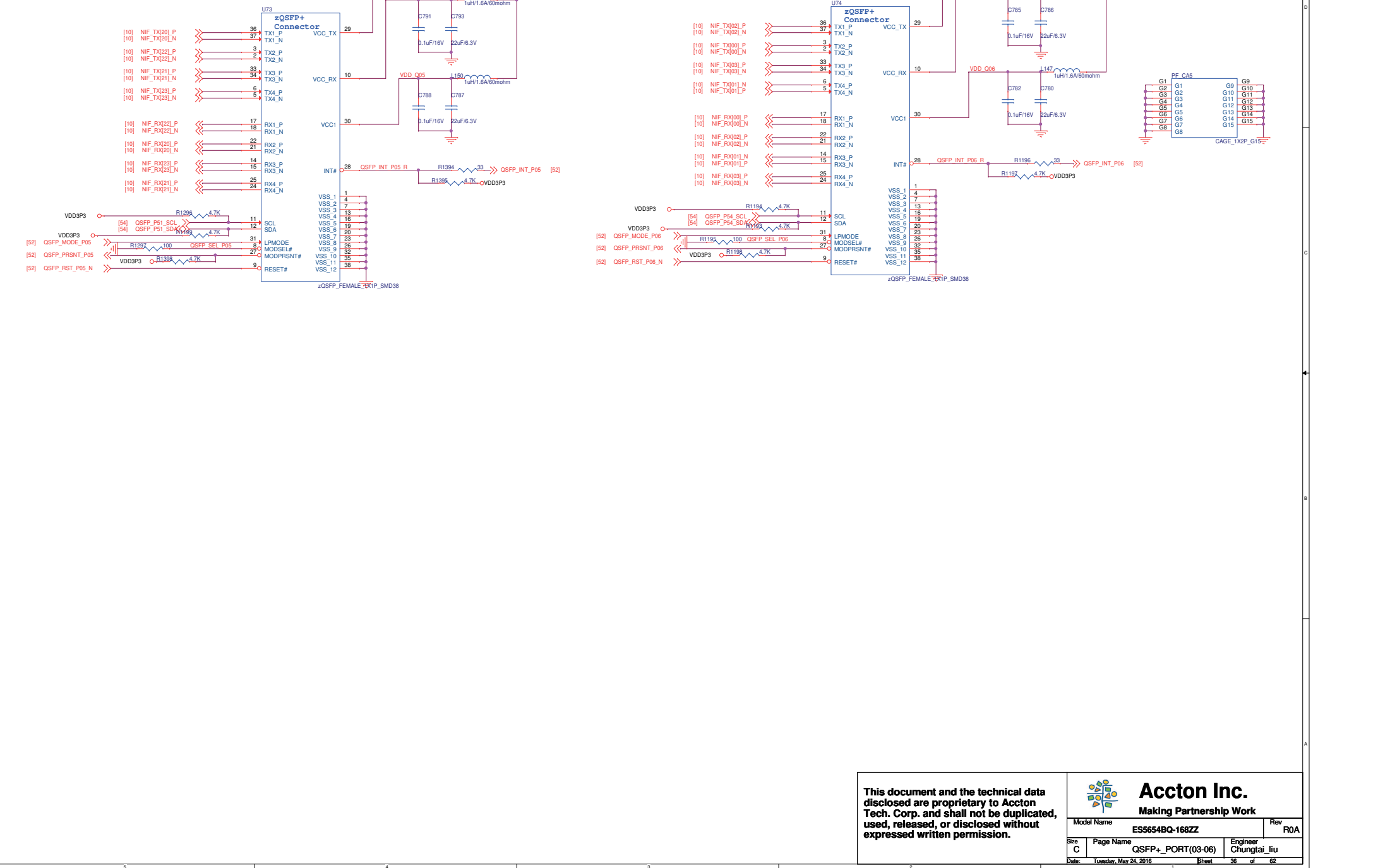
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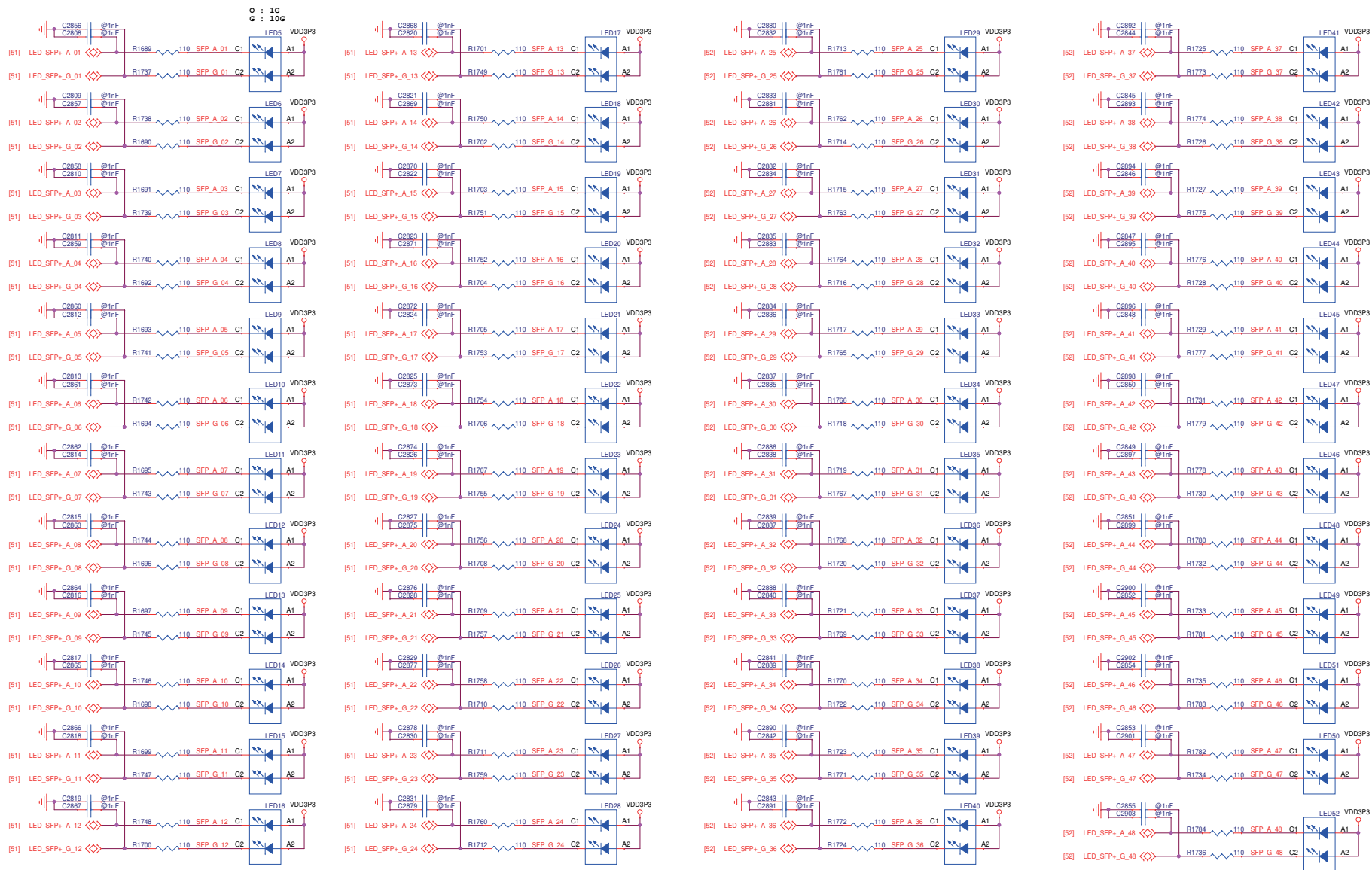
Accton Inc.

Making Partnership Work

Model Name		ES5654BQ-168ZZ	Rev	R0A
Size	Page Name	Engineer		
C	ZQSFP28_PORT(01-02)	Chungtai_luu		
Date:	Tuesday, May 24, 2016	Sheet	35	of 62





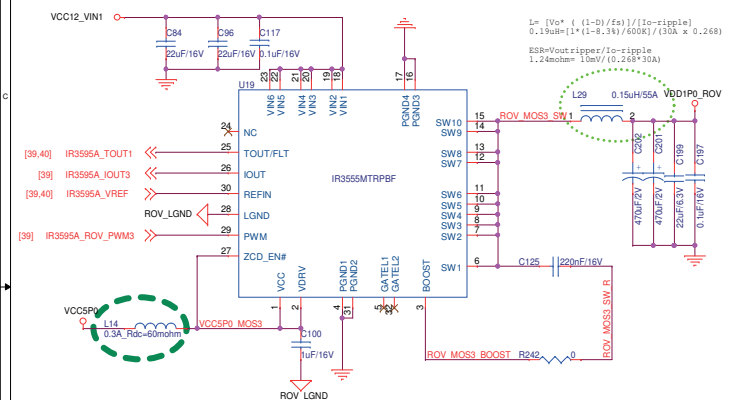
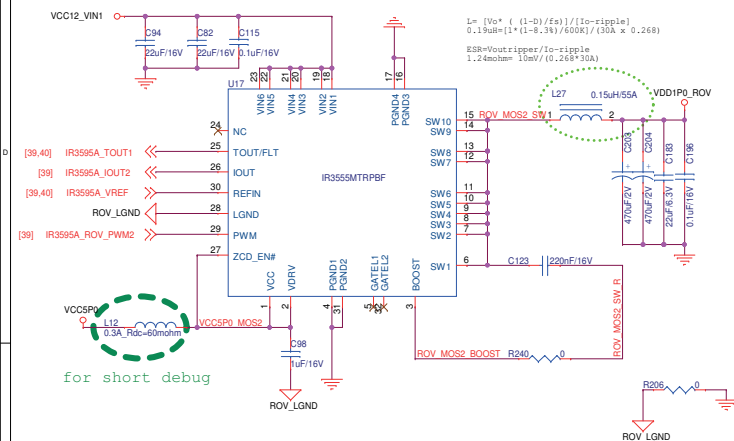


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Model Name		ES5654BQ-168ZZ	Rev	R0A
Size	Page Name	LED_P1-P48	Engineer	Chungtai Jiu
C	Date: Tuesday, May 24, 2016		Sheet	37 of 62

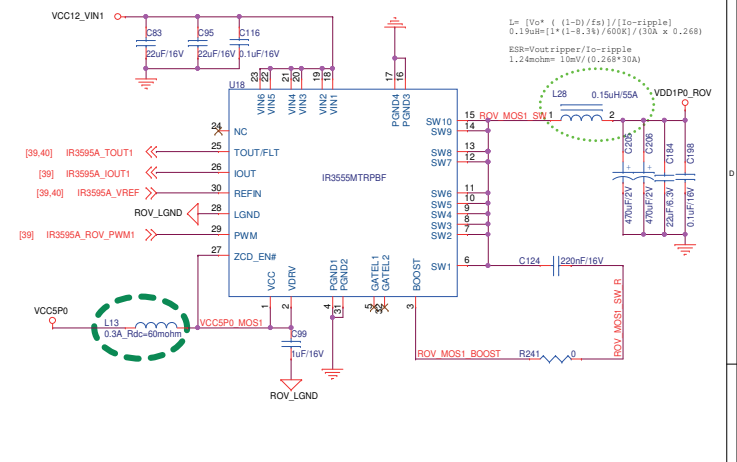
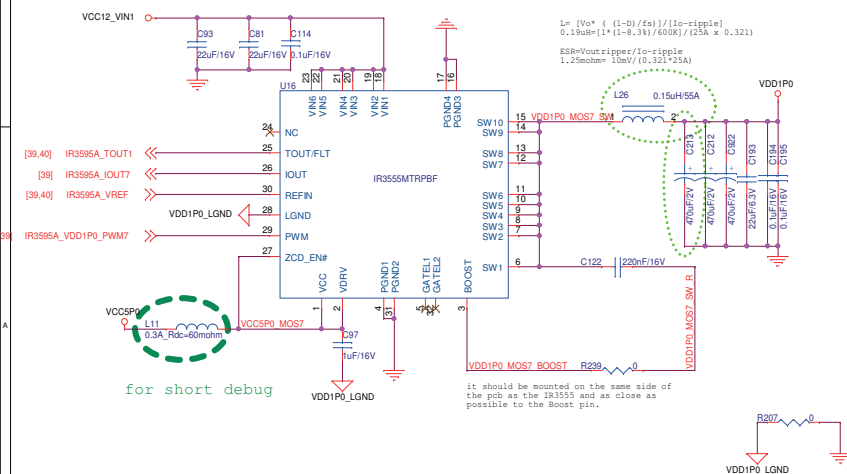






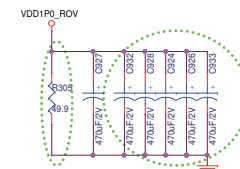
For VDD1P0\_ROV @100A 3 Phase MOSFET

**For VDD1P0 @25A 1 Phase MOSFET**



VDD1P0\_ROV Output Cap  
For VDD1P0\_ROV:  $470\mu\text{F} * (11+5) + 22\mu\text{F} * 5 + 0.1\mu\text{F} * 5$

Each ESR = 3 mohm  
Total ESR = 0.2mohm

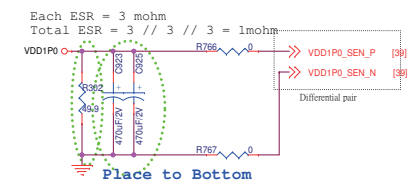


Place to Bottom


```
Cout=(Vout/(8*F*F*L*Voutripple))*(1-D)
167.52uF=[1/(8 x 600K x 600K x 0.19uH x 10mV)] x (1- 8.3%)
5 phase = 167.52 x 5 = 837.6uF
```

### VDD1P0 Output Cap

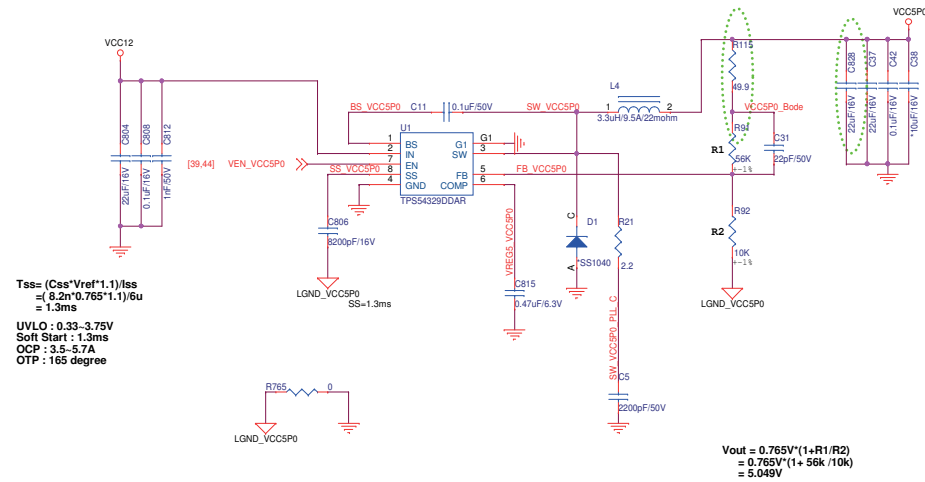
For VDD1P0:  $470\mu\text{F} * (4+2) + 22\mu\text{F} * 4 + 0.1\mu\text{F} * 4$



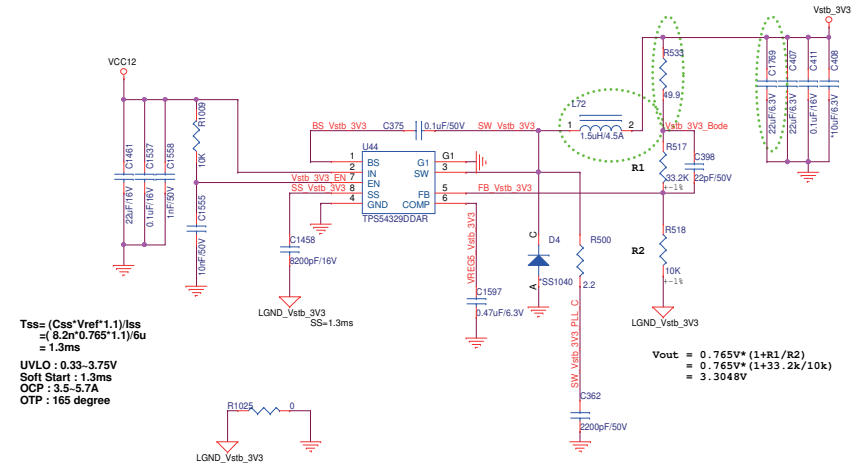
```
Cout=(Vout/(8*F*F*L*Voutripple))*(1-D)
167.52uF=[1/(8 x 600K x 600K x 0.19uH x 10mV)] x (1- 8.3%)
2 phase = 167.52 x 5 = 335.04uF
```

 <div> <h1>Accton Inc.</h1> <h2>Making Partnership Work</h2> </div>		Rev	01
Model Name		ES7632BT-0614-168ZZ	
Size	Page Name	Engineer	
C	PWR_RCV/ VDD1P0 MOS	Chungtai_jia	
Date:	Tuesday, May 24, 2016	Sheet	40 of 62

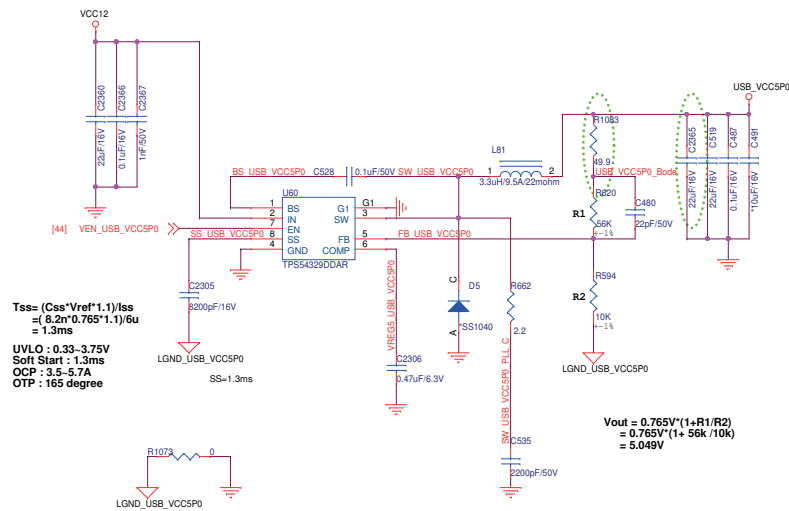
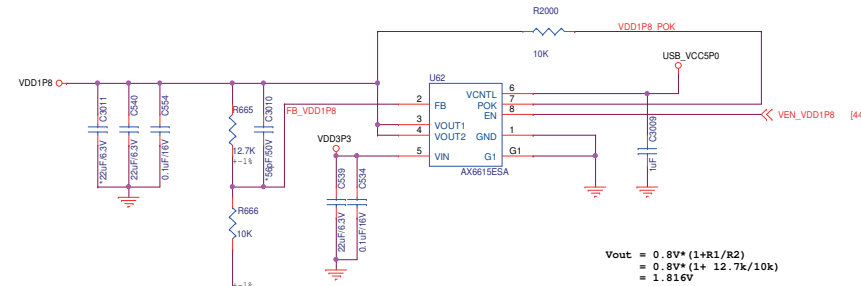
## 12V convert to 5V @3A For MOS Driver and CPU Board



## 12V convert to 3.3V @0.5A For Standby Voltage (IR Control/Power Monitor)



## 12V convert to 5V @1A For USB

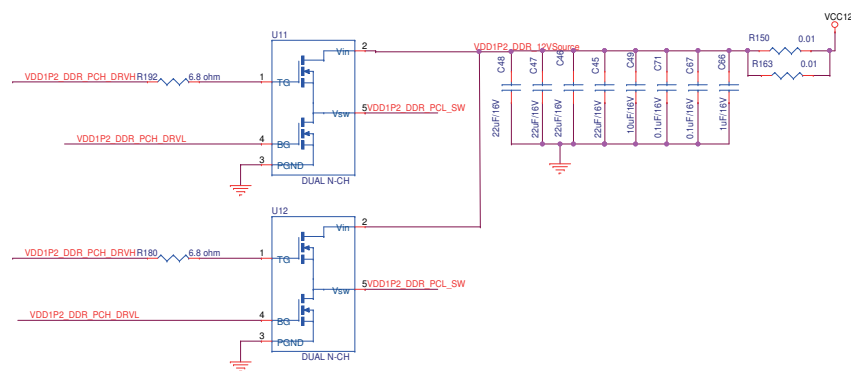
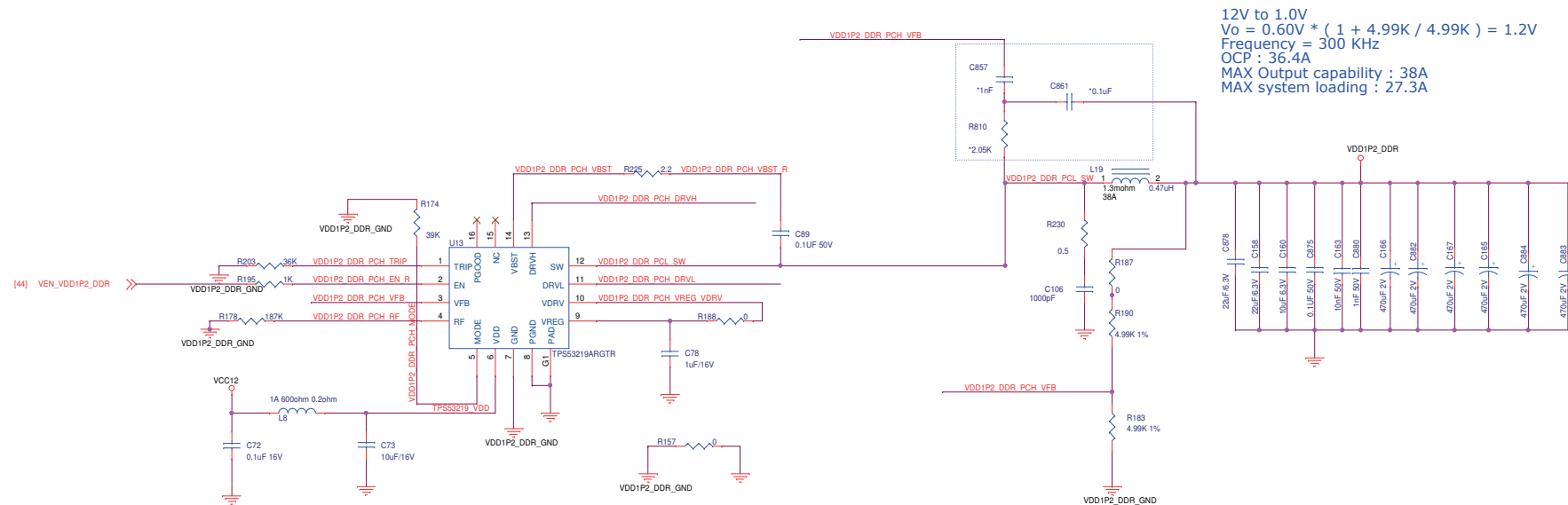
3.3V convert to 1.8V @2.8A For BCM88370 · CPLD  
(For DDR4 interface power up 350mA per interface)

**Accton Inc.**  
 Making Partnership Work

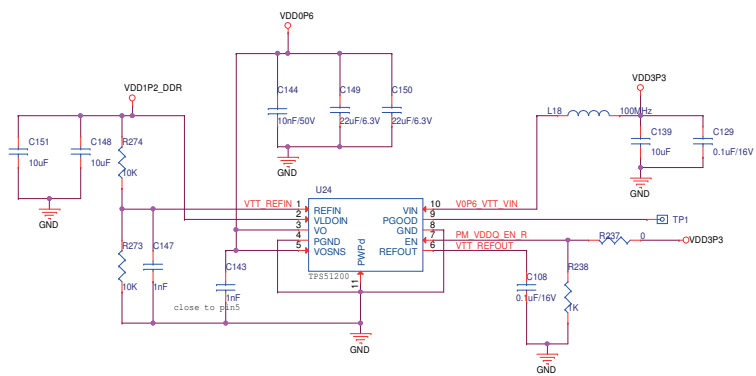
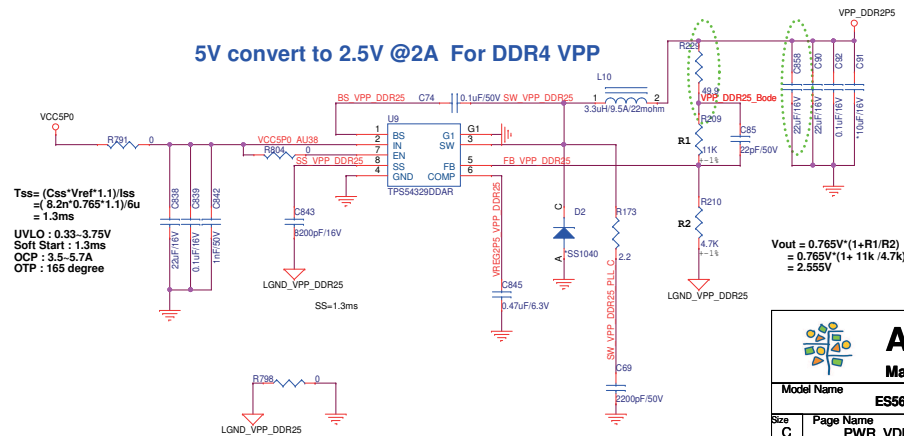
Model Name		ES7632BT-0614-168ZZ	Rev	01
Size	Page Name	PWR_5V/ Vstb_3.3V/1.8V	Engineer	Chungtai_liu
C	Date:	Tuesday, May 24, 2016	Sheet	41 of 62

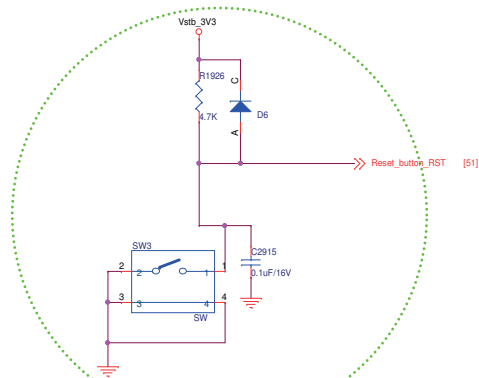






### 5V convert to 2.5V @2A For DDR4 VPP

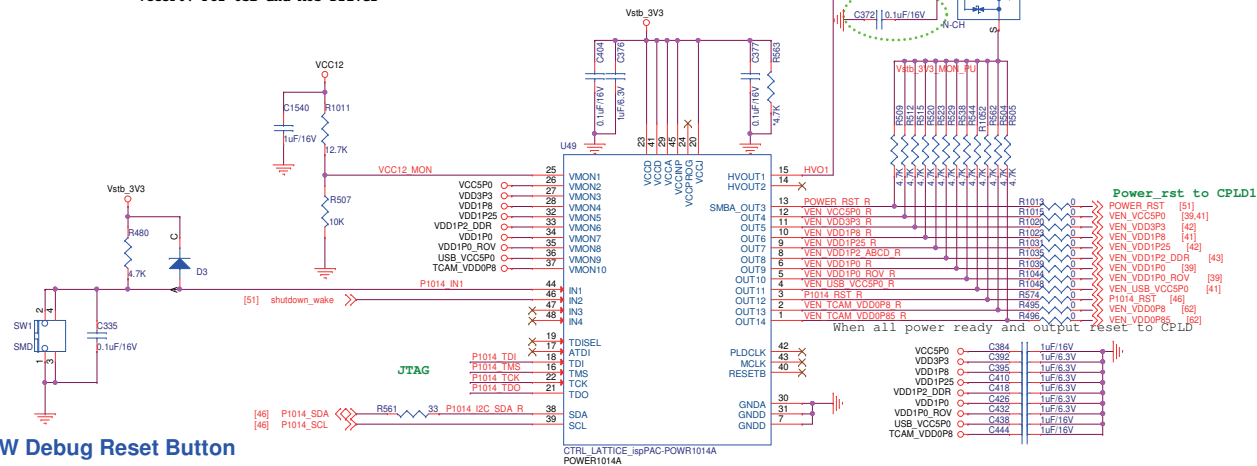




For Front port Reset Button(ZZ)

VDD1P8: For MAC  
 VDD1P25: For MAC  
 VDD1P2: For MAC and MGMT  
 VDD1P0: For MAC  
 VDD1P0\_ROV: For MAC (ROV)

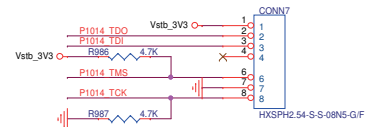
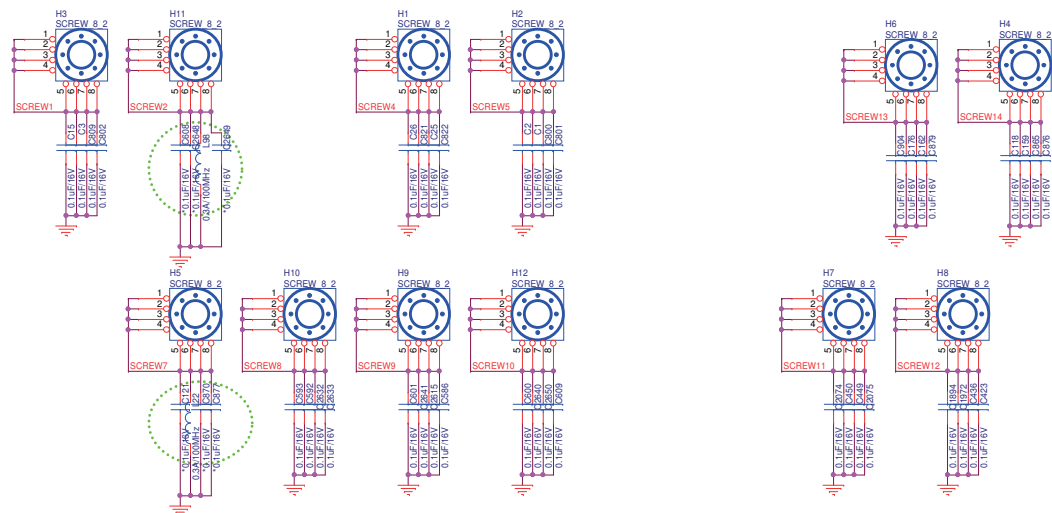
VDD3P3: For Transceiver QSPF28, MAC and other  
 VCC5P0: For USB and MOS Driver



For HW Debug Reset Button

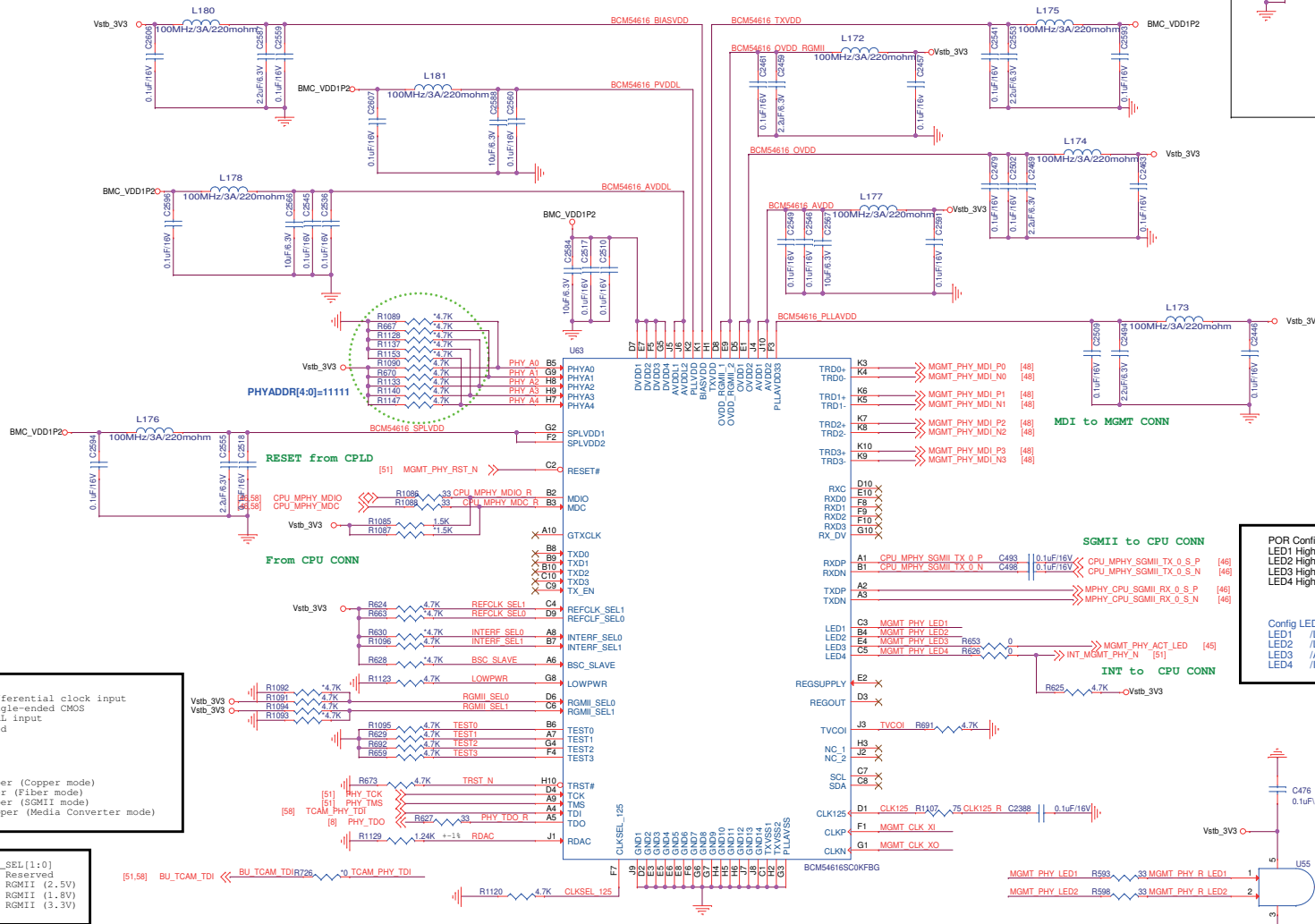
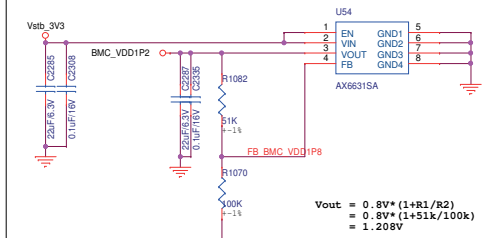
7bit I2C address : 0x25

## Mounting Hole



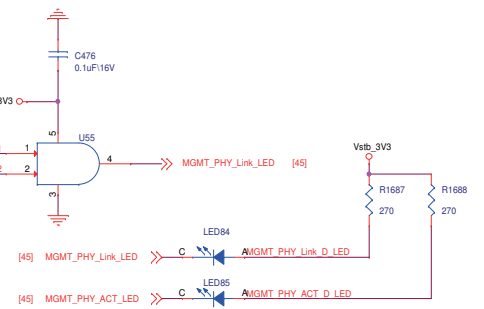
For BMC ID Button(ZZ)

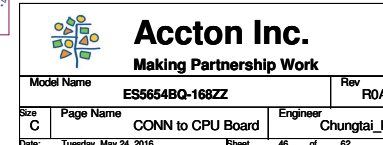
## 3V3 convert to 1.2V @1.2A For BMC MGMT PHY

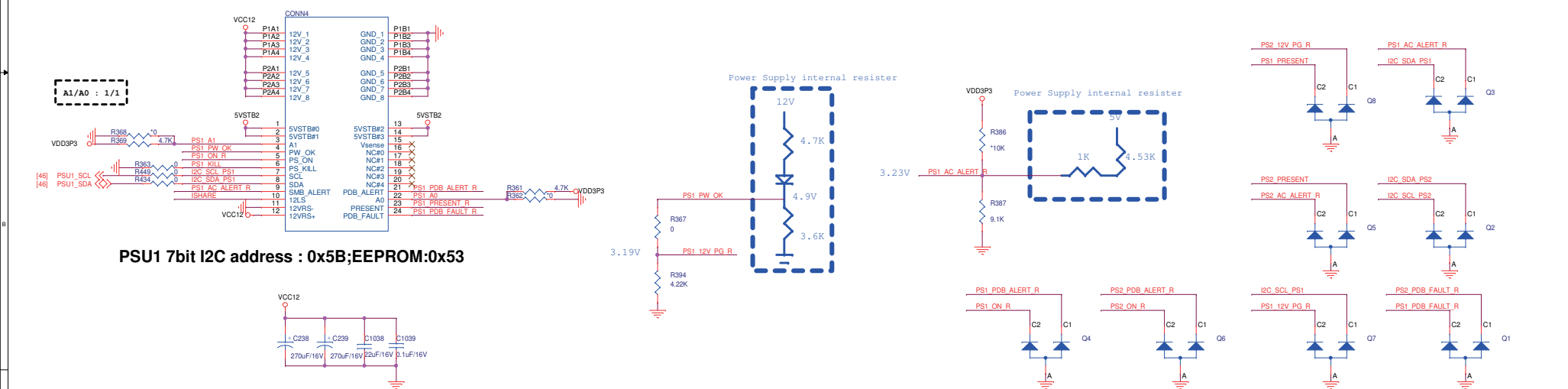
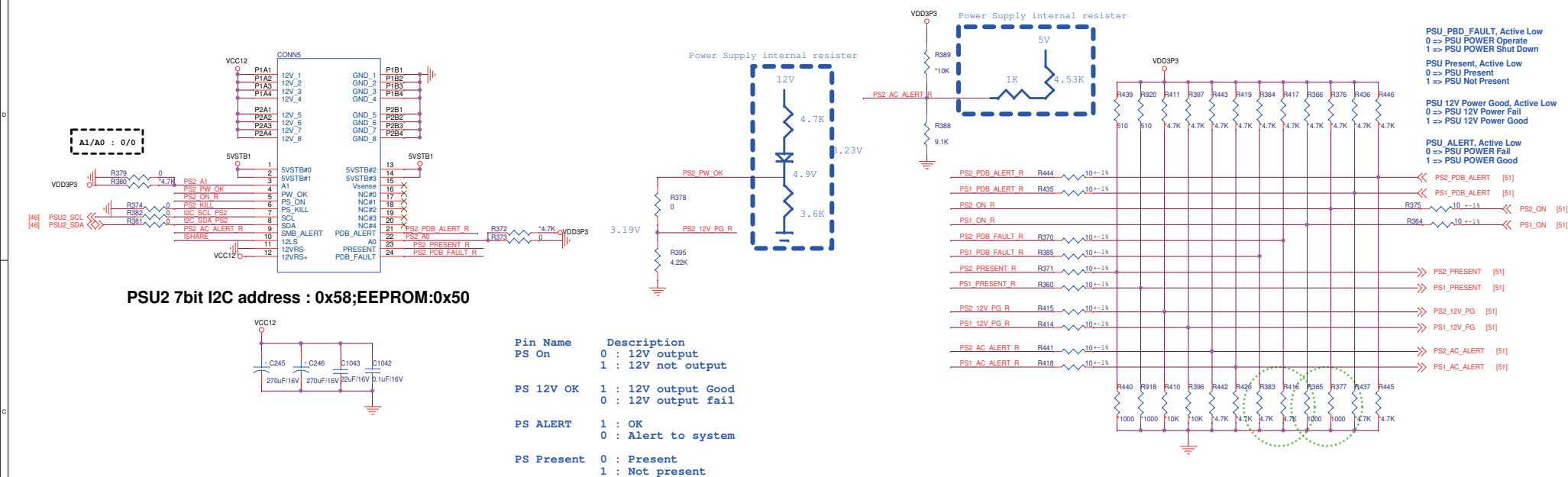


**POR Config (LED lup)**  
 LED1 High >> Copper AN enable  
 LED2 High >> Full-duplex  
 LED3 High >> AN at 10/100/1000BASE-T  
 LED4 High >> AN at 10/100/1000BASE-T

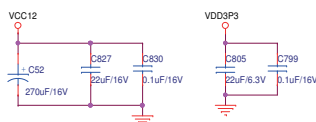
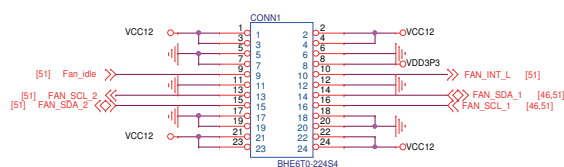
**Config LED Pin as below**  
 LED1 /LINKSP1  
 LED2 /LINKSP2  
 LED3 /ACTIVITY  
 LED4 /INTR

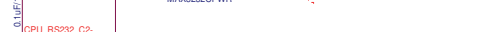






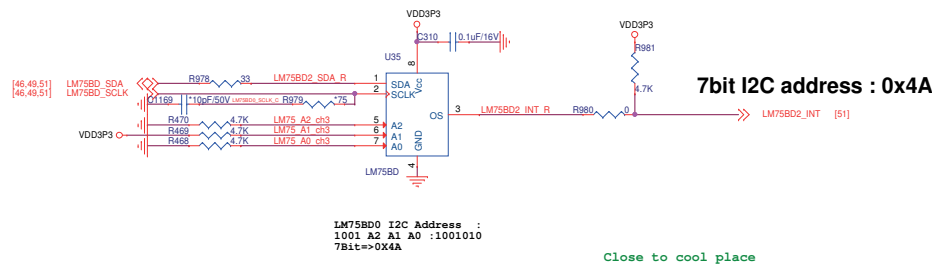
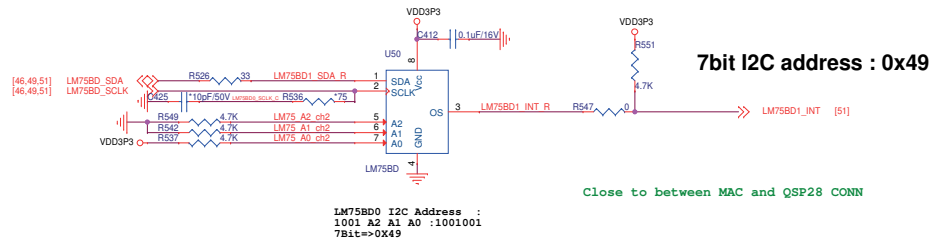
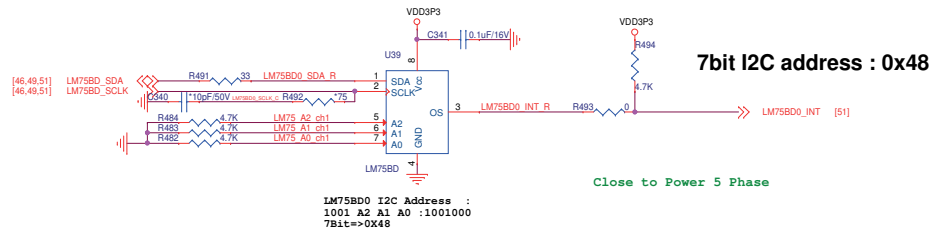
## Fan Board CONN



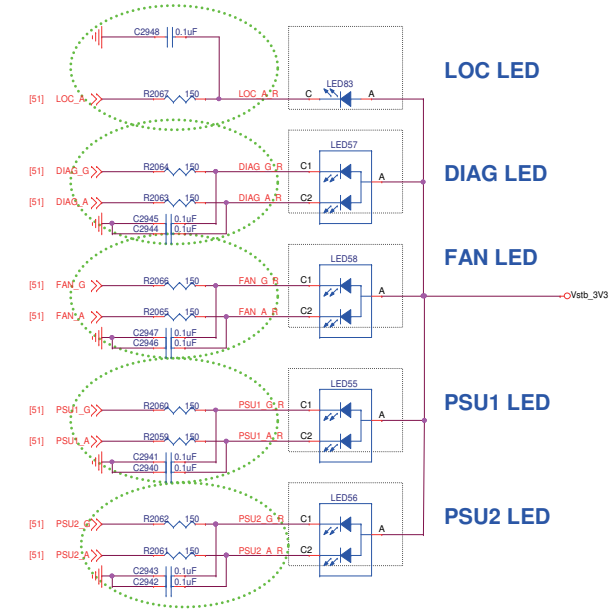




## Thermal sensor



## System LED

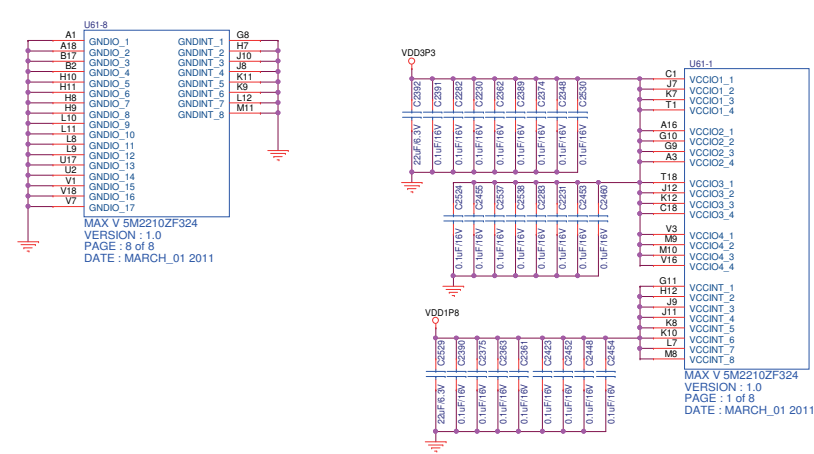
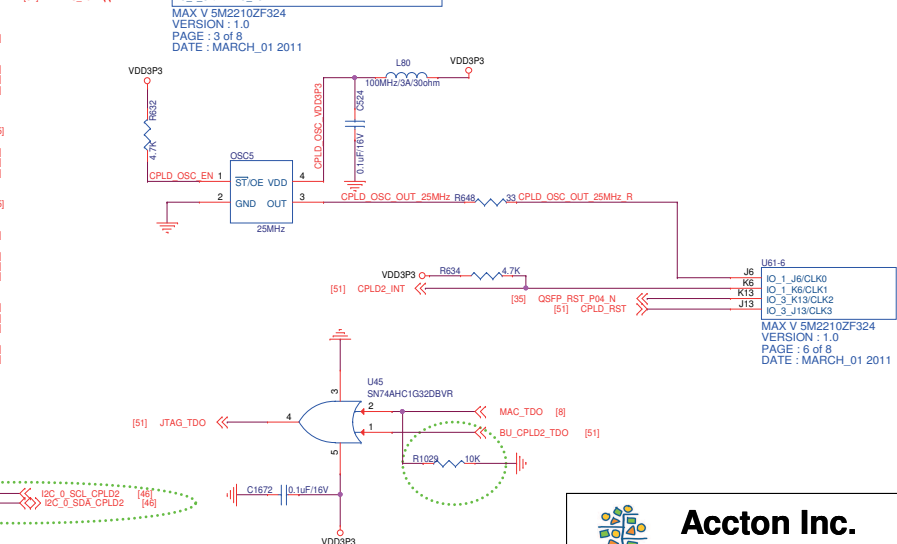
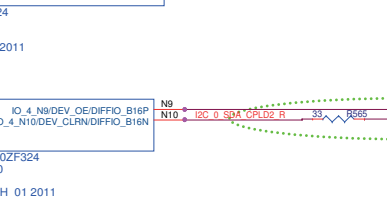
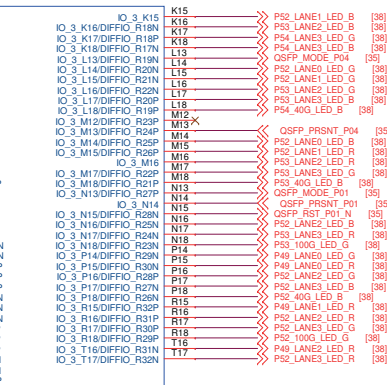
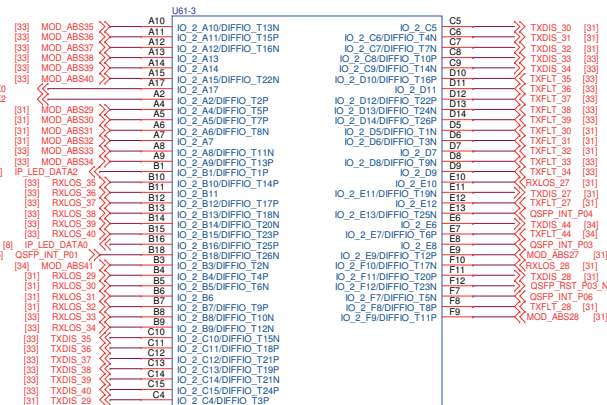


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Making Partnership Work

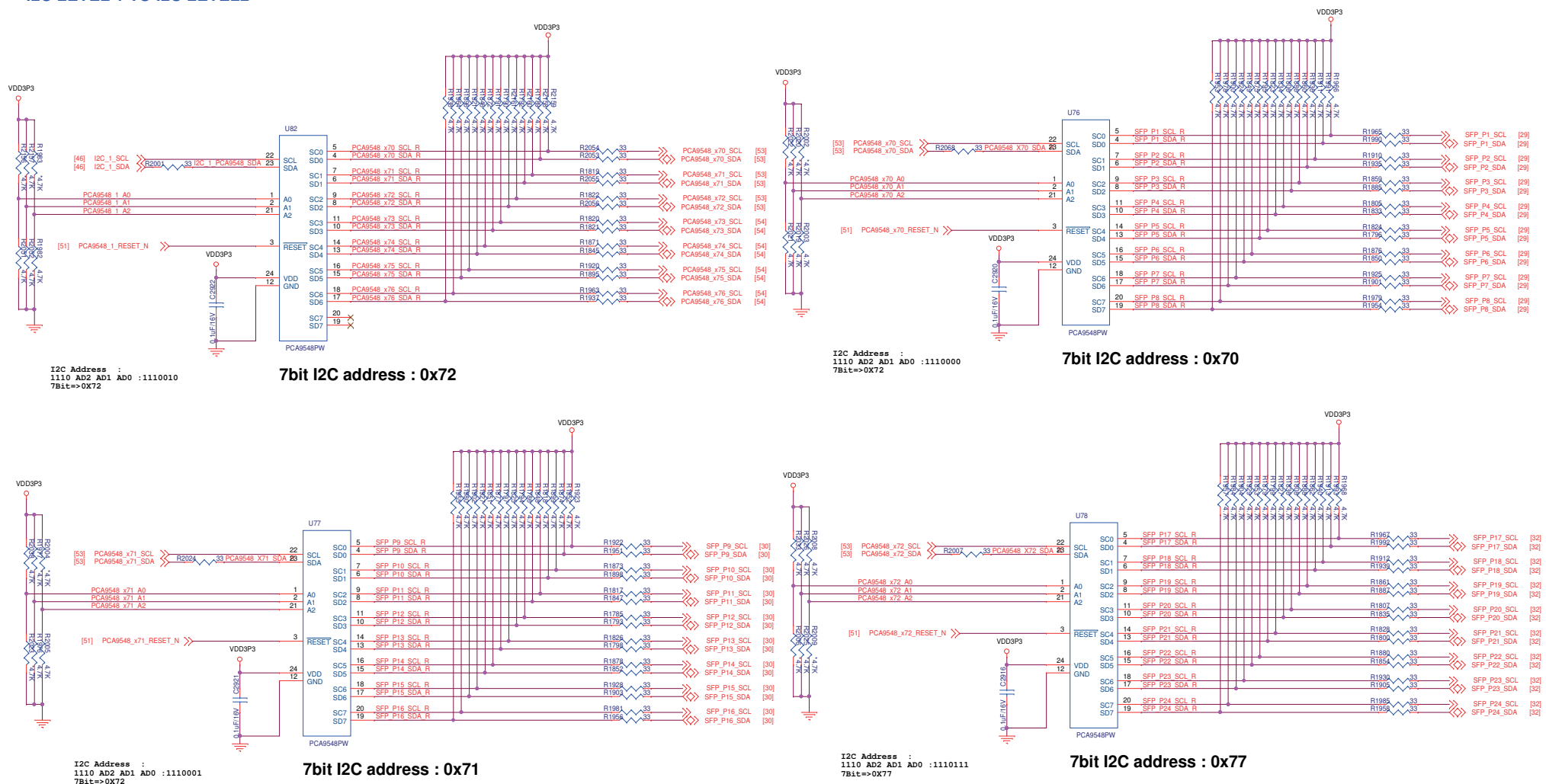
Model Name		ES5654BQ-168ZZ	Rev	R0A
Size	Page Name	Engineer		
C	Thermal Sensor/SYS LED	Chungtai Jiu		
Date:	Tuesday, May 24, 2016	Sheet	49	of 62



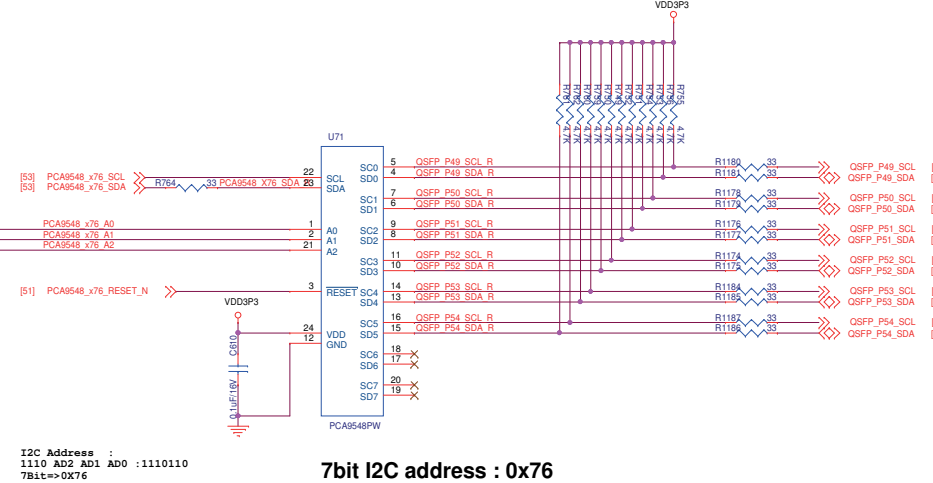
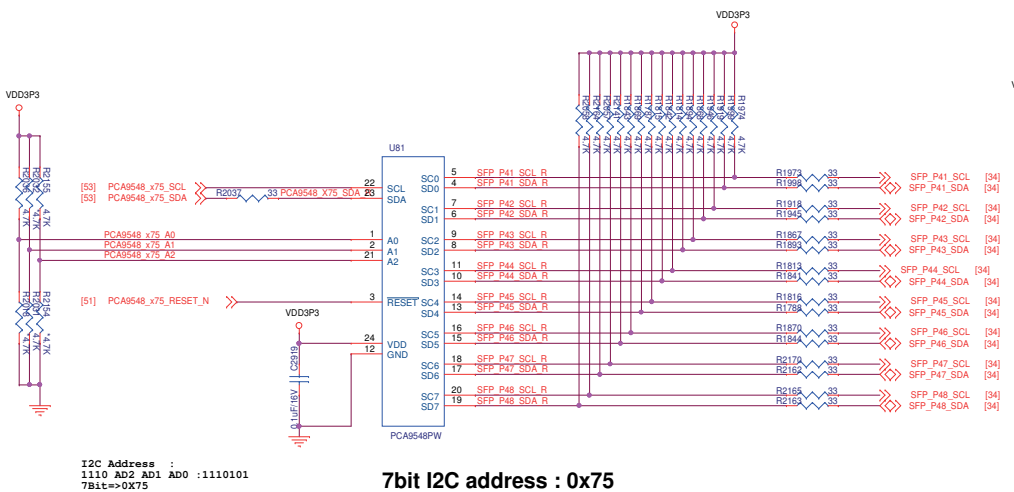
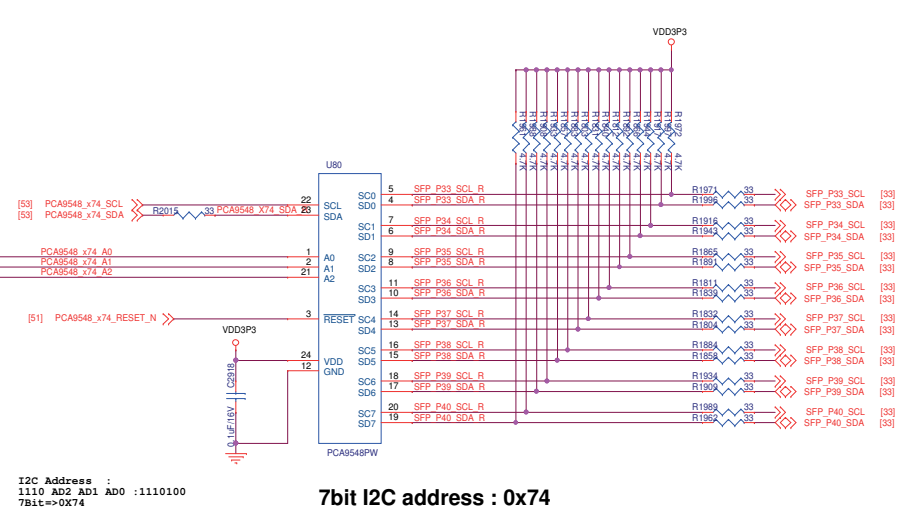
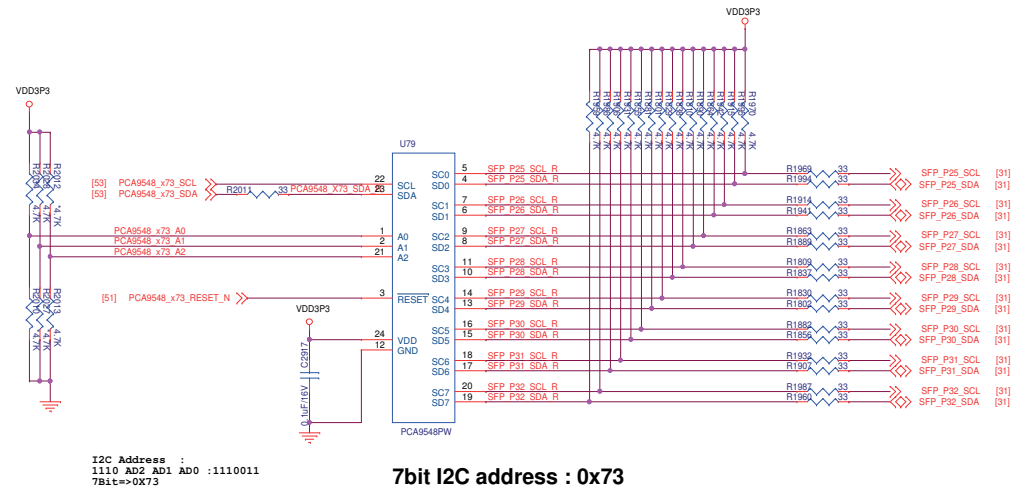


[illegible]

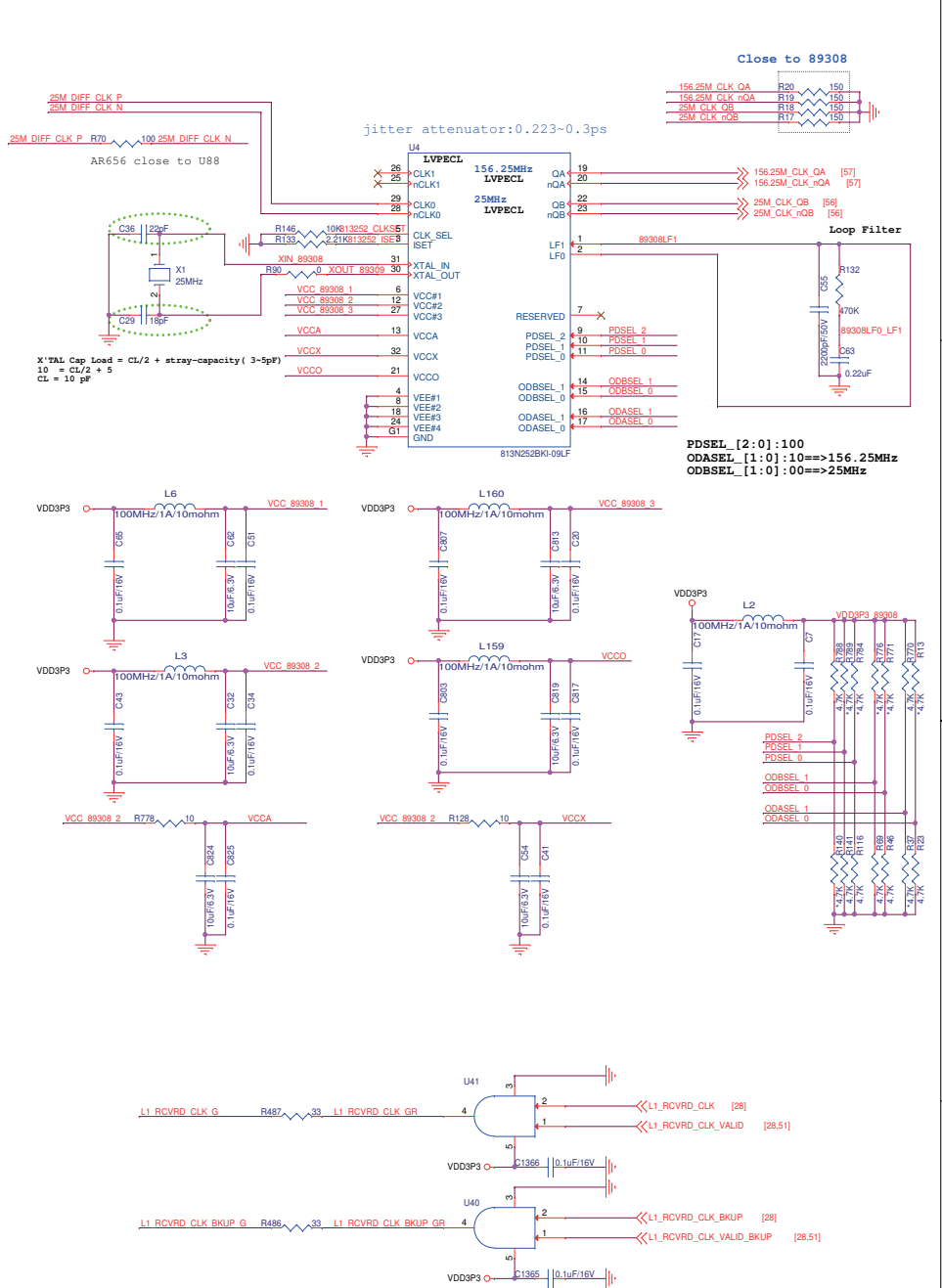
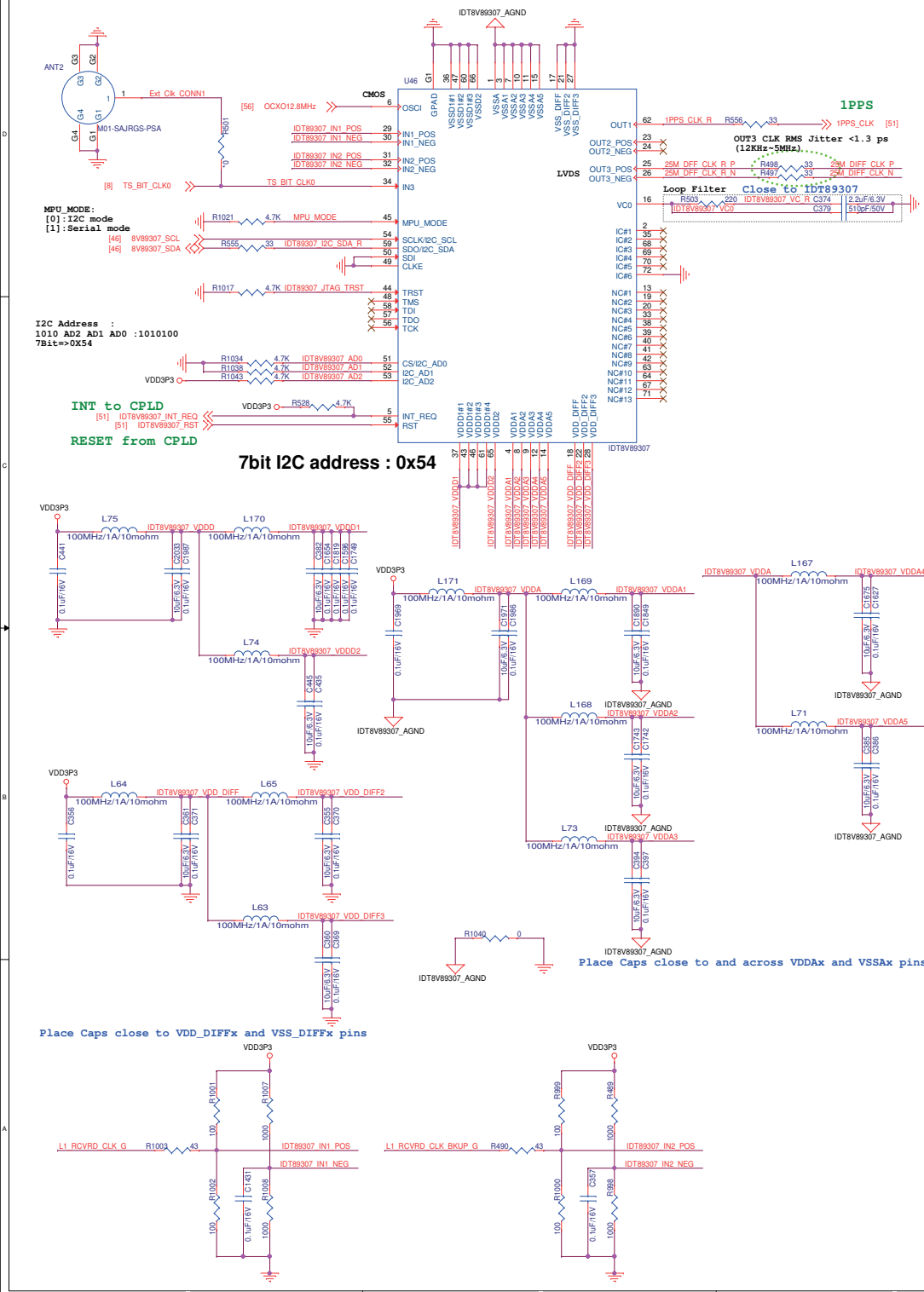
## I2C LEVEL 1 TO I2C LEVEL2



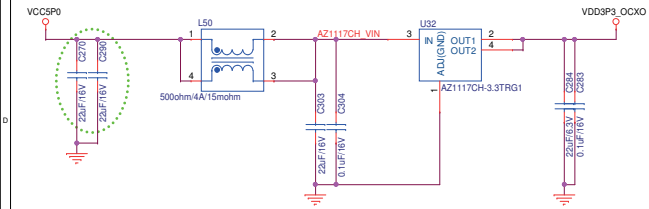




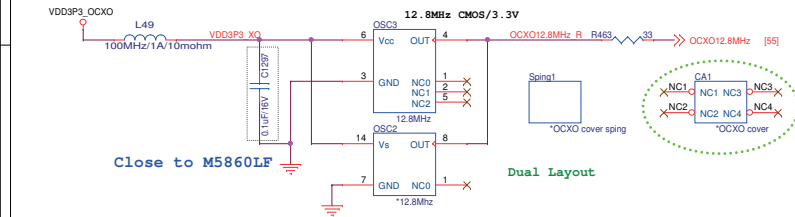




## 5V convert to 3.3V/0.5A For OCOXO



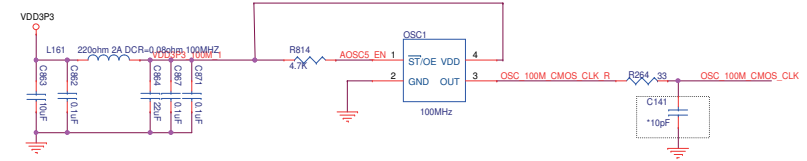
## OCXO 12.8MHz 116100000341A For IDT8V89307



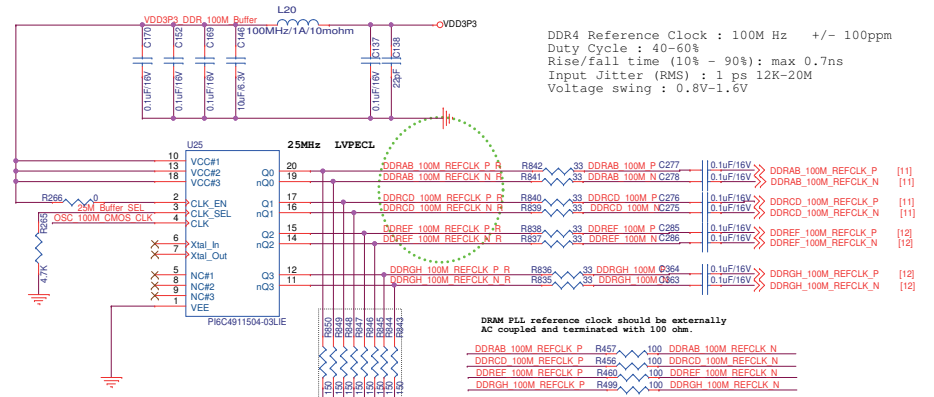
Close to M5860LF

Dual Layout

## OSC 100MHz CMOS For PI6C4911503-04



## 100MHz Buffer(1 to 4) For BCM88370 DDR4



DDR4 REFCLK P N

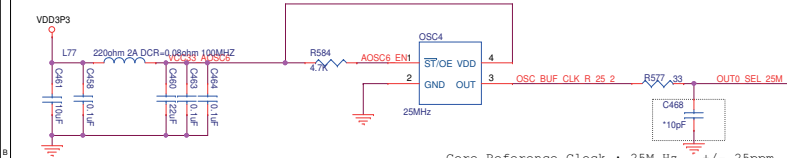
DDRAB 100M REFCLK P N

DDRCDC 100M REFCLK P N

DDREF 100M REFCLK P N

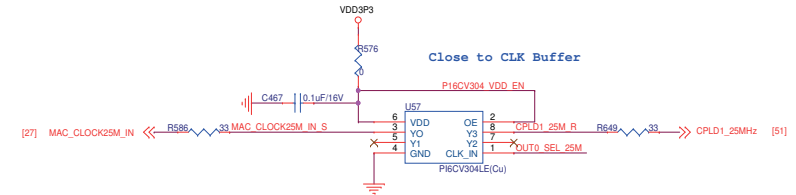
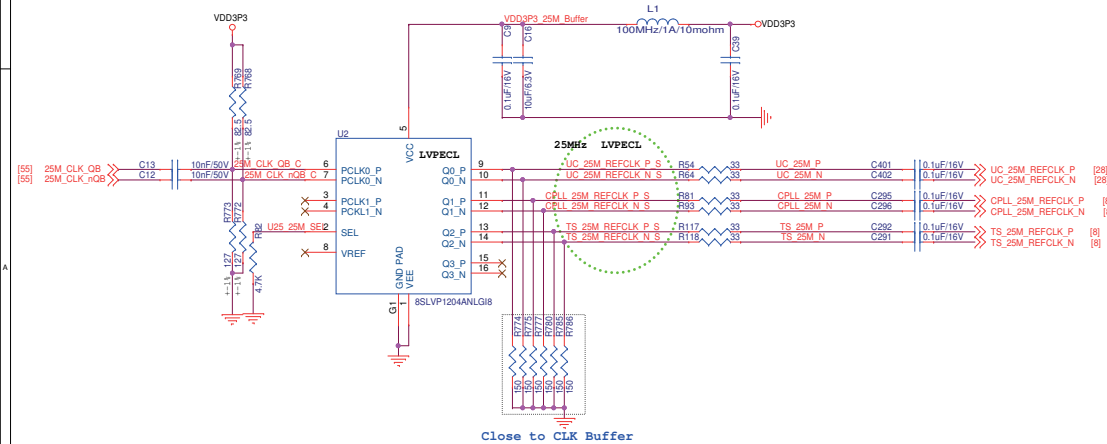
DDRGH 100M REFCLK P N

## OSC 25MHz CMOS For 553MILFT

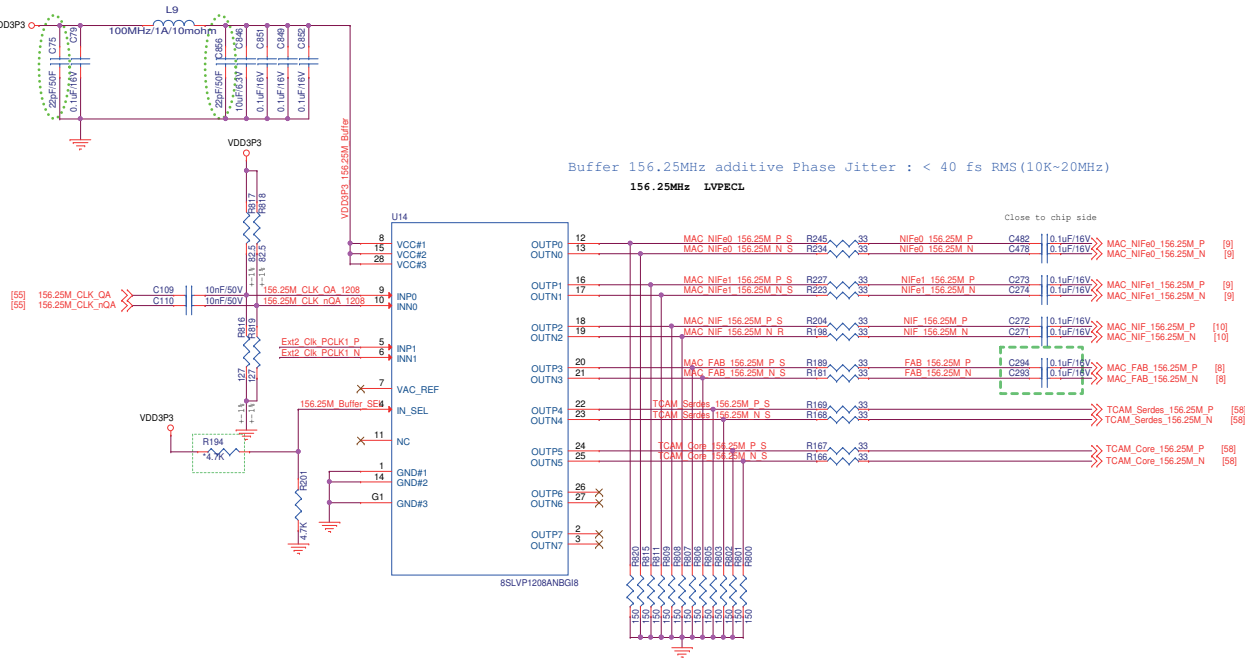


Core Reference Clock : 25M Hz +/- 25ppm  
Total Stability should not exceed  $\pm 32$  PPM.  
UC PLL can have relaxed accuracy of  $\pm 100$  PPM.  
Duty Cycle : 40-60%  
Rise/fall time (10% - 90%) : max 1ns  
Input Jitter (RMS) : 1 ps 10K-5M  
Voltage swing : 0.5V-2V  
VIN-DIFF is 500 mVppd, the max TR/TF is 0.5 ns.  
When VIN-DIFF is 2000 mVppd, the max TR/TF is 2 ns.

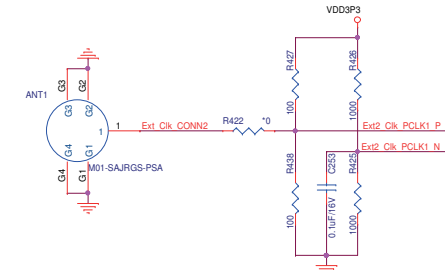
## 25MHz Buffer(1 to 3) For BCM88370



## 156.25MHz Buffer(1 to 4) For BCM56960



NUT/E Reference Clock : 156.25M Hz +/- 25ppm  
Duty Cycle : 40-60%  
Rise/fall time (10% - 90%): max 1ns  
Input jitter (RMS): 0.3 ps 12K-20M  
Voltage swing : 0.5V-2V  
When VIN-DIFF is 500 mVppd, the max TR/TF is 0.5 ns.  
When VIN-DIFF is 2000 mVppd, the max TR/TF is 2 ns.



## CLK GEN 100MHz HCSL For BCM88370 PCIE

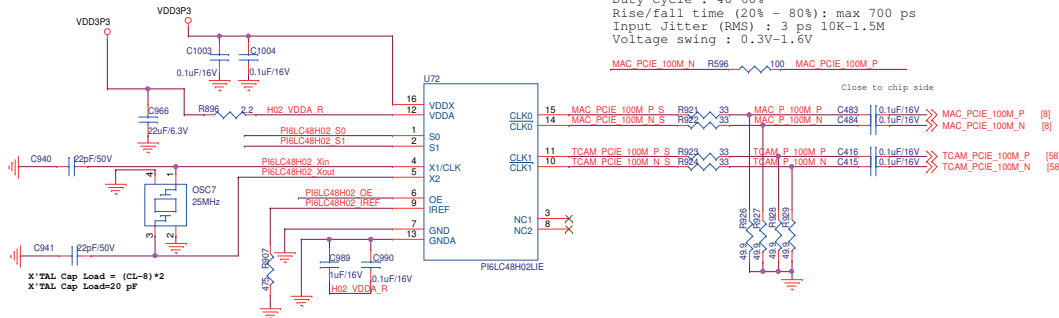
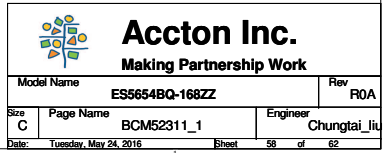
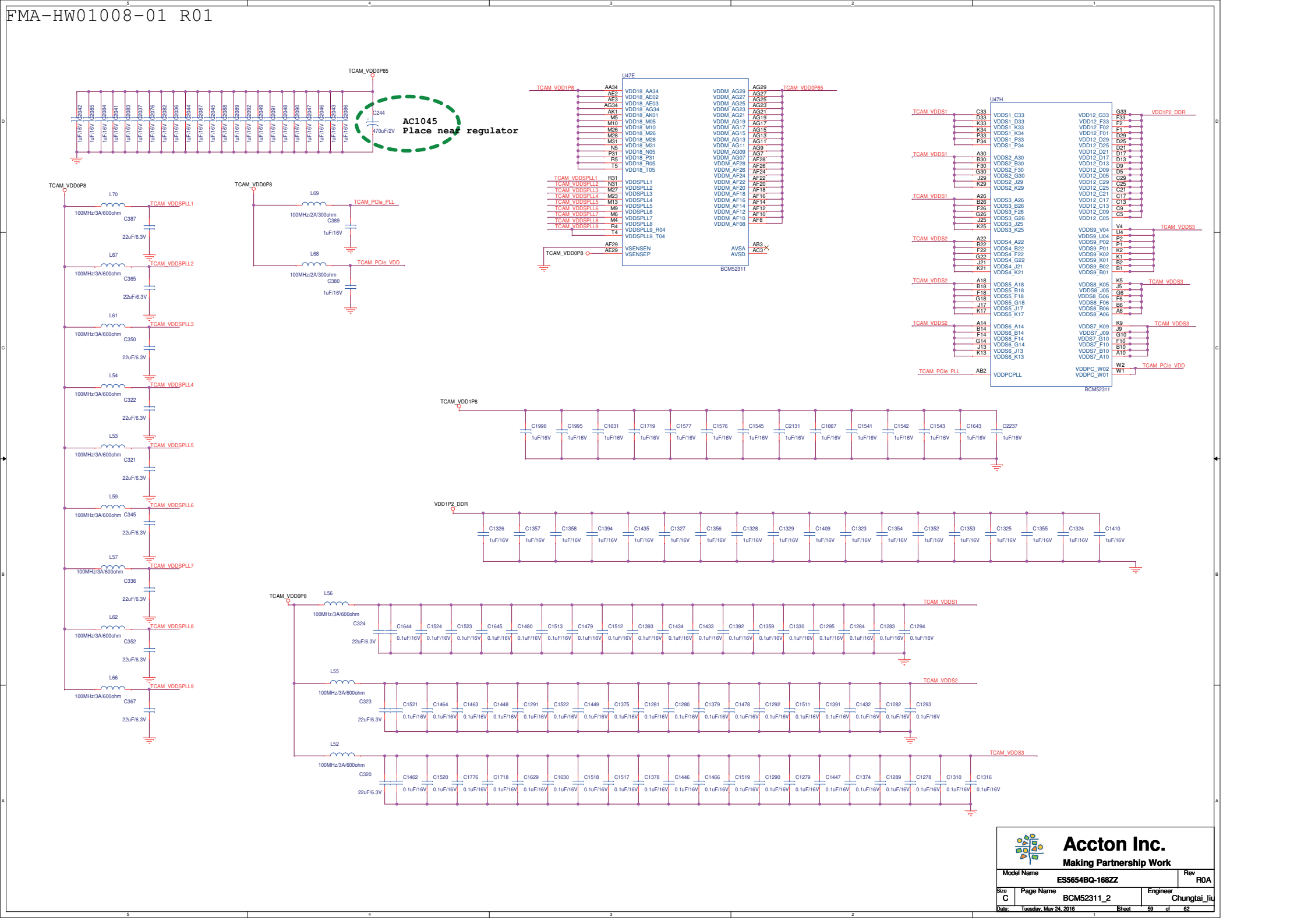


Table 1: Output Select Table

S1	S0	CLK(MHz)
0	0	25
0	1	100
1	0	125
1	1	200

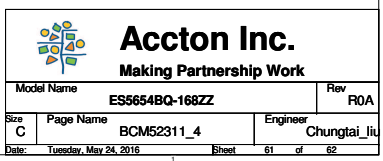








1

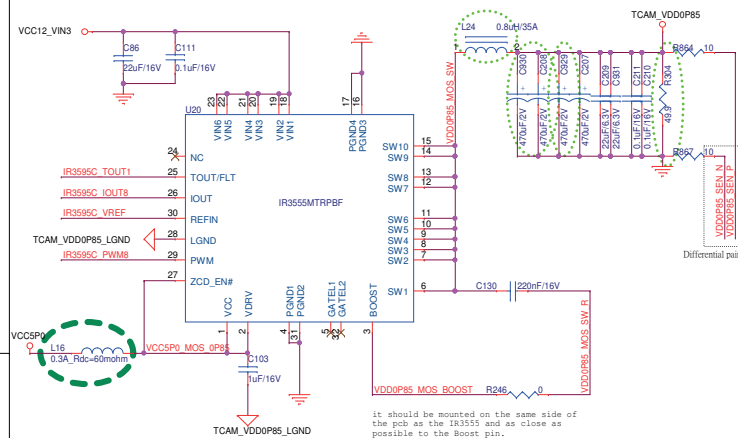
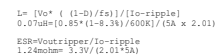




For VDD0P85:  $470\mu\text{F} * 1 + 22\mu\text{F} * 2 + 0.1\mu\text{F} * 2$

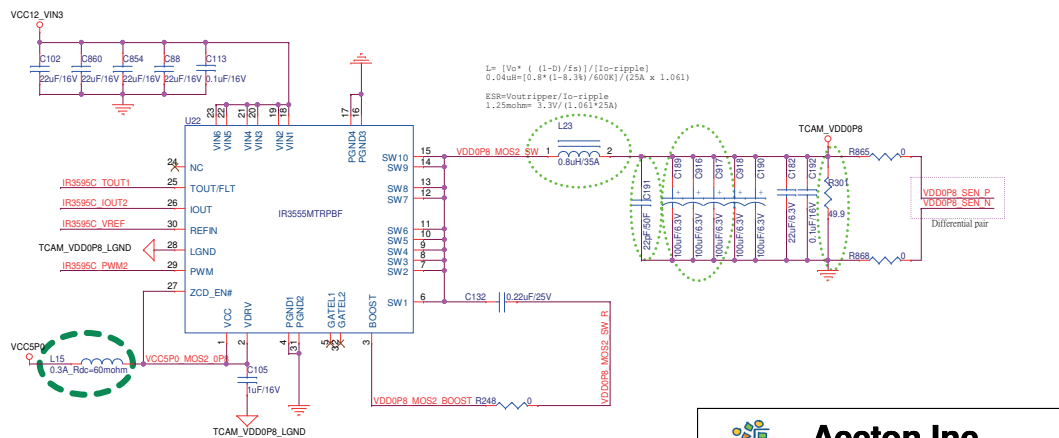
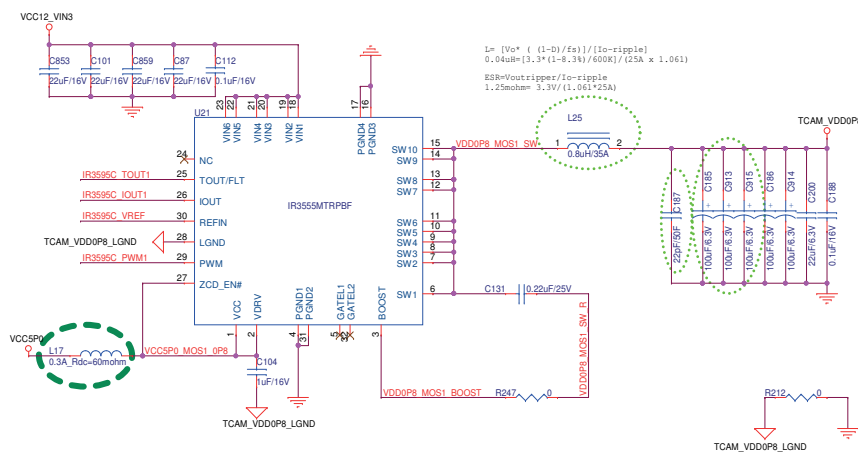
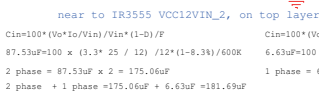
Each ESR = 3 mohm  
Total ESR = 3 // 3 // 3 = 1mohm

```
Cout=(Vout/(8*F*L*Voutripple))*(1-D)
167.52uF=[1.25/(8 x 600K x 600K x 0.19uH x 12.5mV)] x (1- 8.3%)
1 phase = 167.52uF
```



VDD0P8 Output Cap  
For VDD0P8:  $100\mu\text{F} * 4 + 22\mu\text{F} * 2 + 0.1\mu\text{F} * 2$

$$C_{out} = (V_{out} / (8 * F * F * L * V_{out\_ripple})) * (1 - D)$$
$$167.52 \mu F = (3.3 / (8 * 600K * 600K * 0.19 \mu H * 33mV)) * (1 - 0.33)$$
$$2 \text{ phase} = 167.52 * 2 = 335.04 \mu F$$



Model Name		ES5654BQ-168ZZ		Rev		R0A	
Size	Page Name		Engineer				
C	PWM_0P8_0P85		Chungtai_lit				
Date:	Tuesday, May 24, 2016		Sheet	62	of	62	