

V141-20

P729: G96, DDR2 MEMORY 32MX16/16MX16

- Page 1: P729 Overview
- Page 2: PCI Express Interface
- Page 3: Partition A Frame Buffer Interface
- Page 4: Partition C Frame Buffer Interface
- Page 5: Partition A Memories
- Page 6: Partition C Memories
- Page 7: Decoupling Caps
- Page 8: DACA
- Page 9: DACC, Slim DB15 Connector
- Page 10: Internal TMD5 ... Link A & B
- Page 11: Internal TMD5 ... Link C & D
- Page 12: DACB, MINIDIN Connector
- Page 13: MIOA, MIOB Interface
- Page 14: Thermal Sensors, GPIOs, XTAL, JTAG, Fan
- Page 15: BIOS, HDCP, SPDIF, HDA, Mechanical
- Page 16: Straps
- Page 17: Hybrid Power
- Page 18: Power Supply I: 2V5, 3V3, 5V, IFP\_IOVDD
- Page 19: Power Supply II: FBVDDQ
- Page 20: Power Supply III: NVVDD, PEX\_VDD

REV	VARIANT	W/P/N	ASSEMBLY
0	BASE	600-10729-xxxx-000	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0000	600-10729-0000-000	G96-300-A1, 550/500MHz, 512MB 32Mx16 DDR2 BGAB4 DVI-DL+VGA+HDTV
2	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
3	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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REV HISTORY

0A

- Modify Power Sequencing
- 02/25
- PAGE 14.EDIT NET
- R562 : I2CD\_SCL\_R to I2CC\_SCL\_R
- R563 : I2CD\_SDA\_R to I2CC\_SDA\_R
- R172,R173 Pull high 5V
- PAGE 19.EDIT footprint
- C87 footprint 0805 to 1206
- PAGE 11.Remove R130
- HDMI gate pull down
- 02/26
- PAGE 2.Change 3V3\_PEX to 3V3\_AUX

10

- 05/19 Change PCB Version 1.0 Modify
- PAGE 14. Revise J3 HDMI issue
- I2CD\_SCL\_R and I2CD\_SDA\_R net
- PAGE 13. Remove FBVDDQ feedback connect from M6
- change L12 footprint to colay CHK\_D2\_P3\_5 and
- CHK\_D2\_11\_5X10\_8
- PAGE 14. Change C49 and L11 footprint

- 05/20
- PAGE 15. Remove BKT1 footprint for HDMI Jammed issue

- 05/22
- PAGE 11. Add HDMI EMI solution bridge R and Common choke

- 05/26
- PAGE 12. Add HDA RST\*/BCLK/SDI pull down Resistor

20

- 09/08 Change PCB Version 2.0 Modify
- PAGE 09. Remove J1 2x6 Header connector
- PAGE 10. remove J4 DVI footprint,
- Aadd J18A DMS59 connector
- PAGE 11. remove J3 HDMI footprint and circuit,
- Aadd J18B DMS59 connector
- PAGE 14. turn off GPIO14 pin W/O HDMI
- Remove I2CD pull-up circuit
- 09/11 Add EMI spring and BKT for DMS59
- PAGE 15. Add EM5 EM6 and BKT1

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PAGE DETAIL	P729 Overview

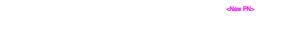
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IV	PEK TERAP	1,00%
IV		1,00%

A number line with a vertical line at 0. To the left of 0 is a point labeled A, and to the right of 0 is a point labeled B.

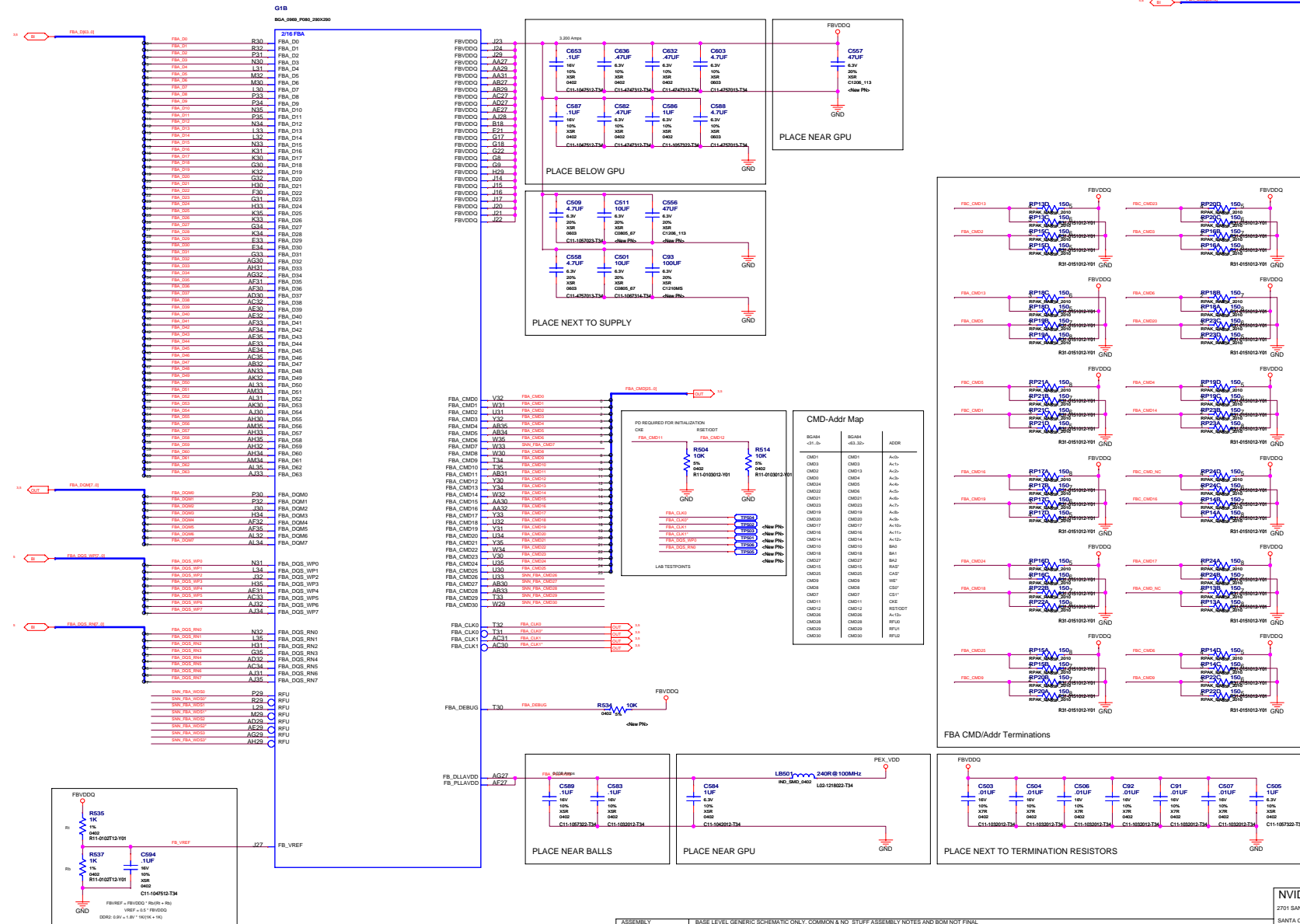


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## Partition A Frame Buffer Interface



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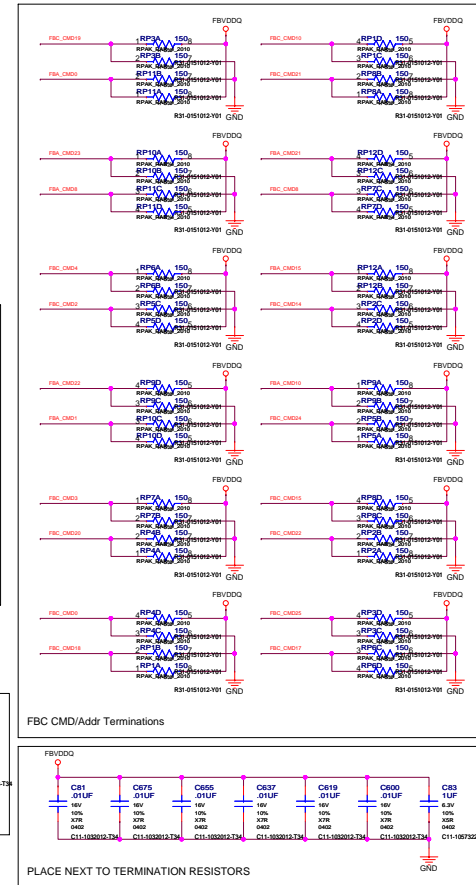
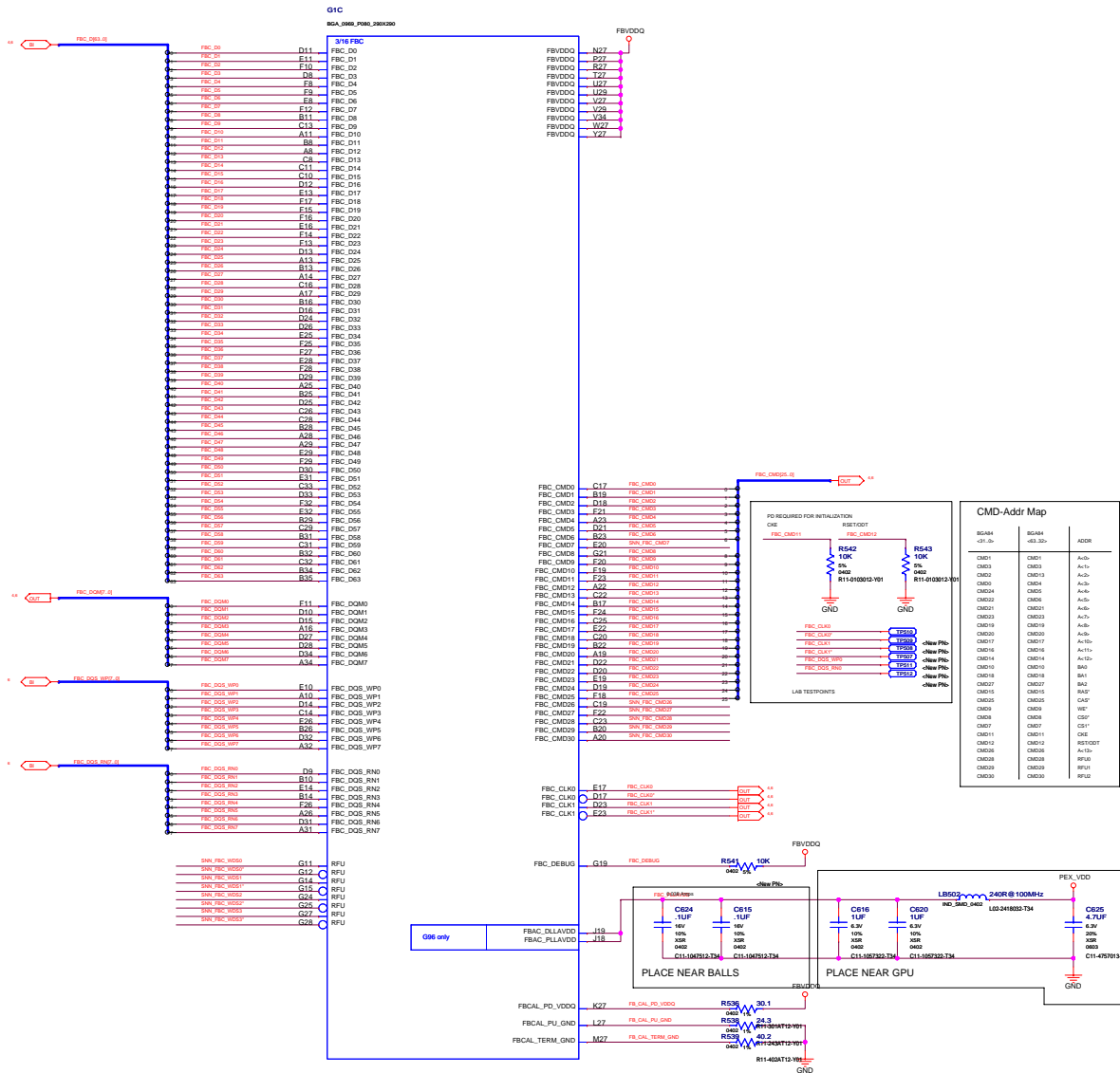
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## Partition C Frame Buffer Interface



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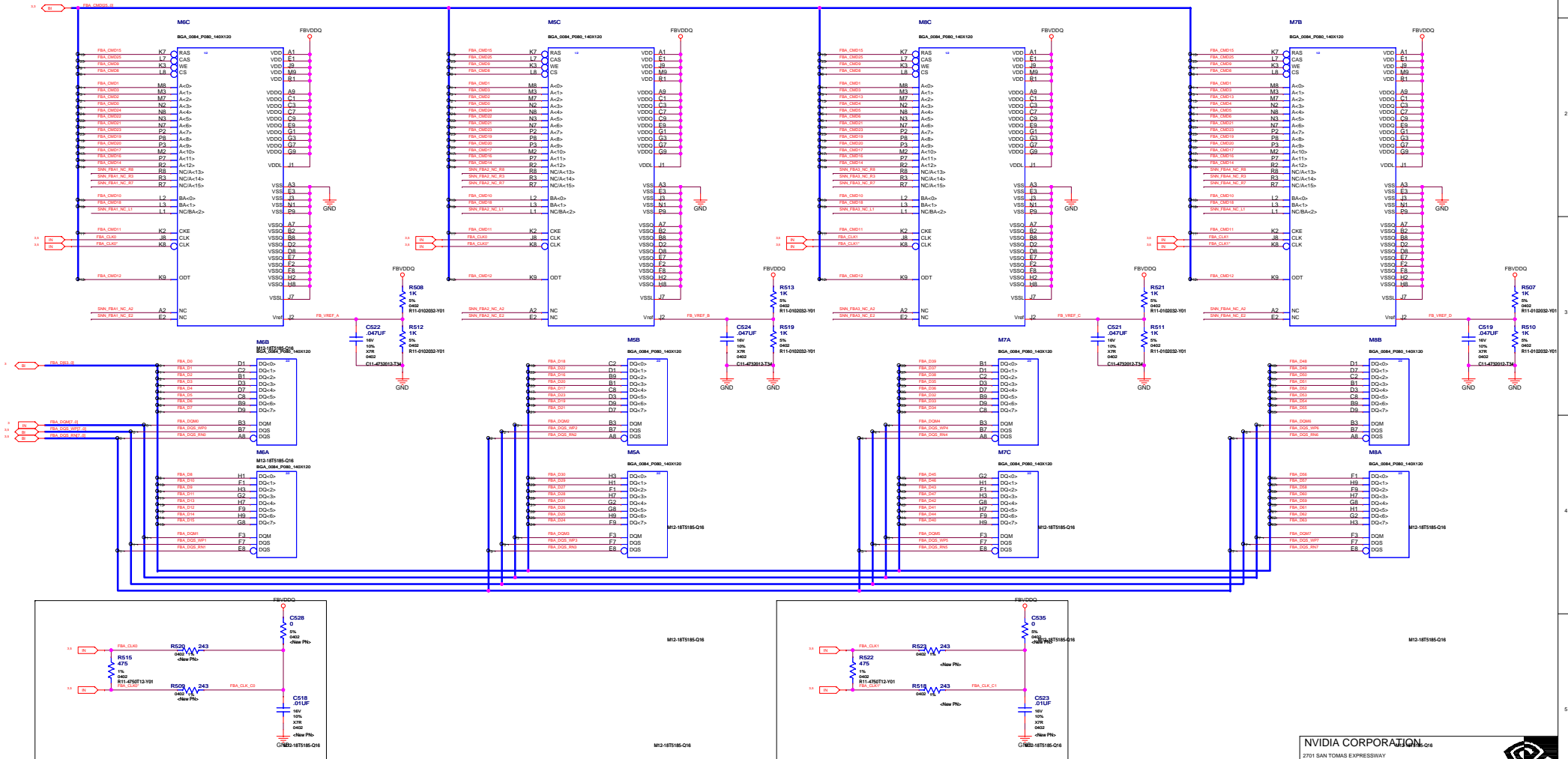


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PAGE DETAIL	Partition C Frame Buffer Interface

# Partition A Memories

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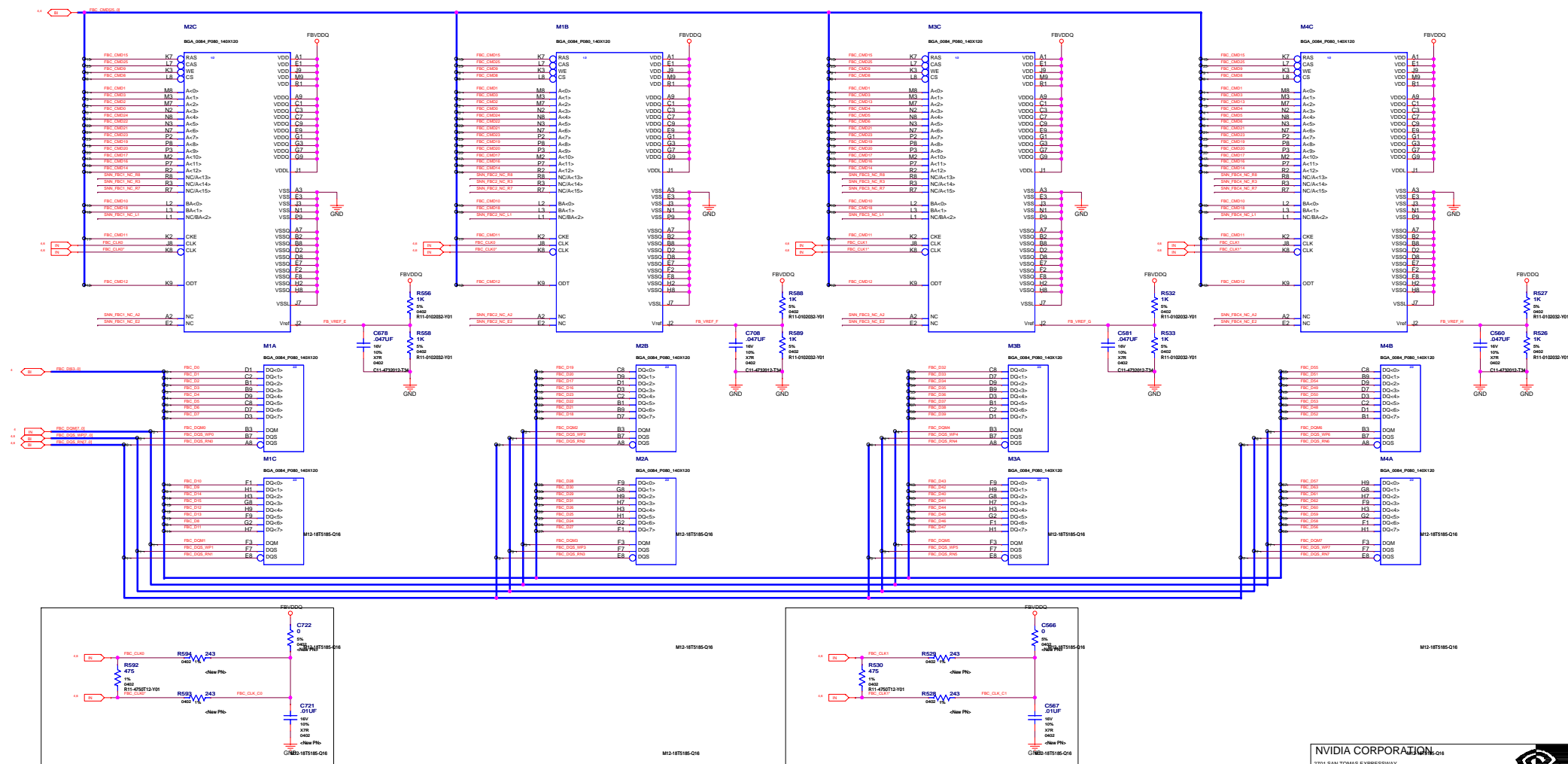
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## Partition C Memories



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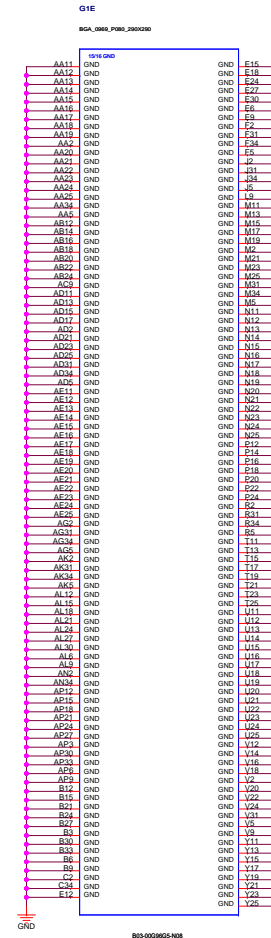
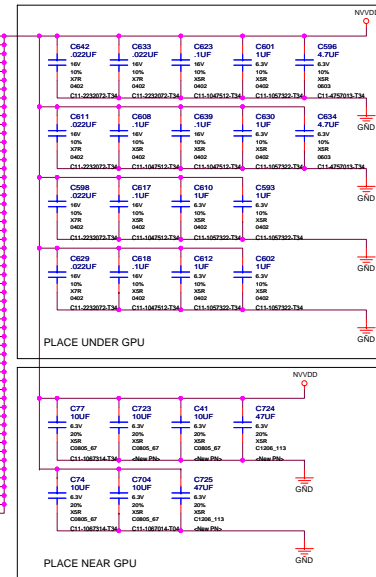
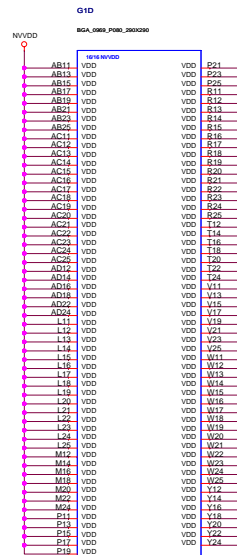
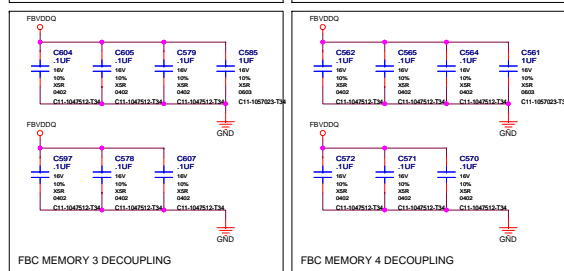
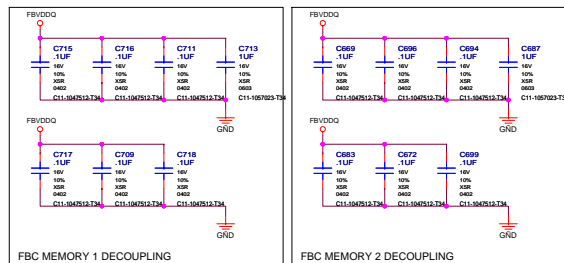
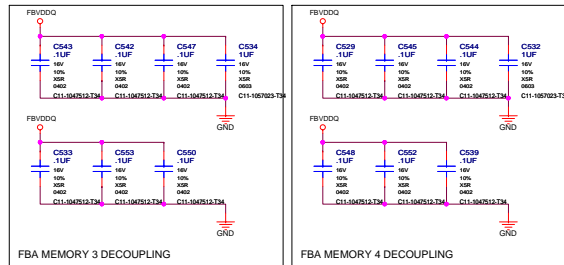
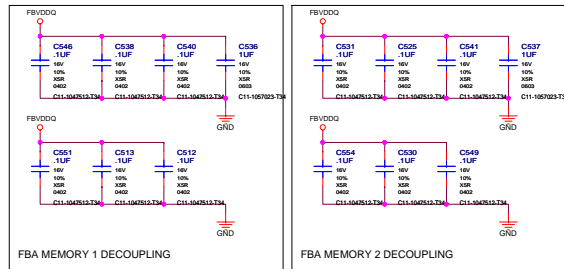
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PAGE DETAIL	Partition C Memories

## Decoupling Caps



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PAGE DETAIL	Decoupling Caps

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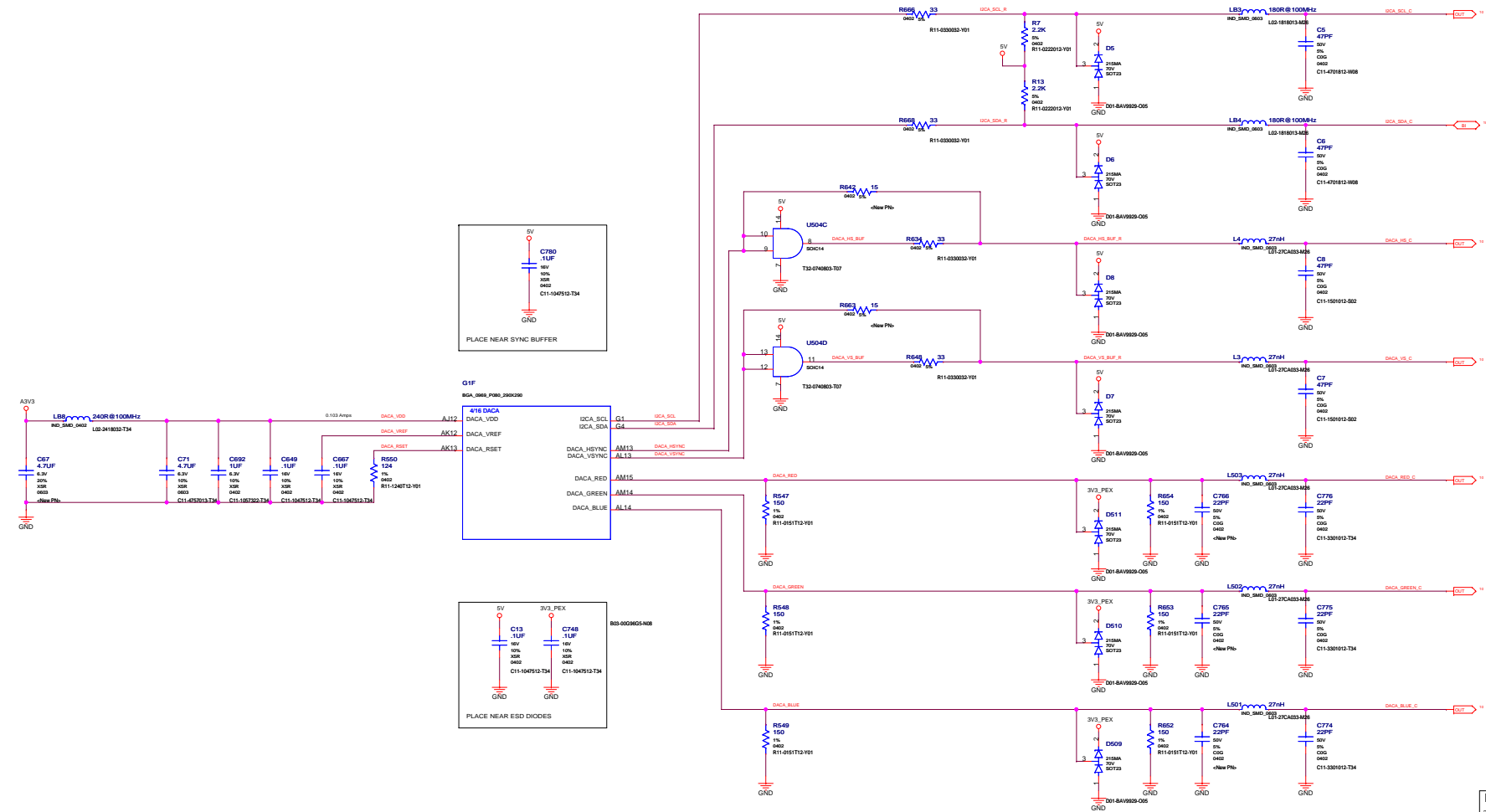
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ID	NAME	AGE	SEX	RELIGION	EDUCATION	PROFESSION	INCOME	RESIDENCE	VEHICLE	PROPERTY	LIABILITY	INSURANCE	STATUS
1	John Doe	35	Male	Catholic	High School	Teacher	\$45,000	Single	None	None	None	None	Single
2	Jane Smith	28	Female	Protestant	College	Nurse	\$55,000	Married	Car	House	Life	Health	Married
3	Robert Johnson	42	Male	Jewish	University	Engineer	\$75,000	Married	Car	House	Life	Health	Married
4	Emily White	31	Female	Muslim	College	Software Engineer	\$85,000	Single	Car	None	None	Health	Single
5	Michael Brown	25	Male	Buddhist	High School	Student	\$15,000	Single	None	None	None	None	Single
6	Sarah Davis	48	Female	Hindu	College	Manager	\$65,000	Married	Car	House	Life	Health	Married
7	David Wilson	38	Male	Sikh	University	Doctor	\$95,000	Married	Car	House	Life	Health	Married
8	Olivia Taylor	22	Female	Christian	College	Intern	\$25,000	Single	None	None	None	Health	Single
9	James Miller	55	Male	Orthodox	High School	Retired	\$35,000	Married	None	House	Life	Health	Married
10	Ava Garcia	33	Female	Islam	College	Analyst	\$50,000	Single	Car	None	None	Health	Single

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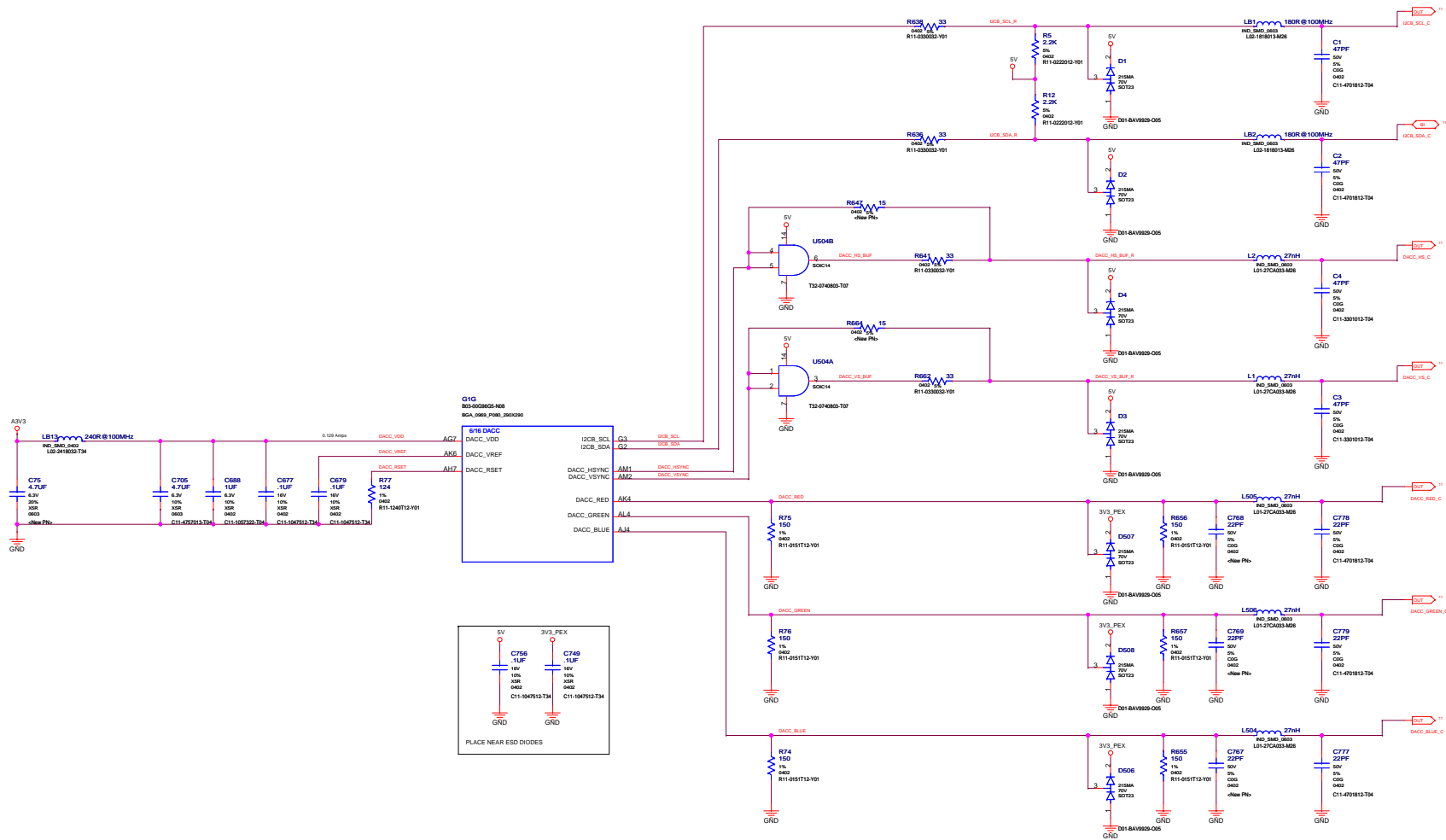
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## DACC, Slim DB15 Connector



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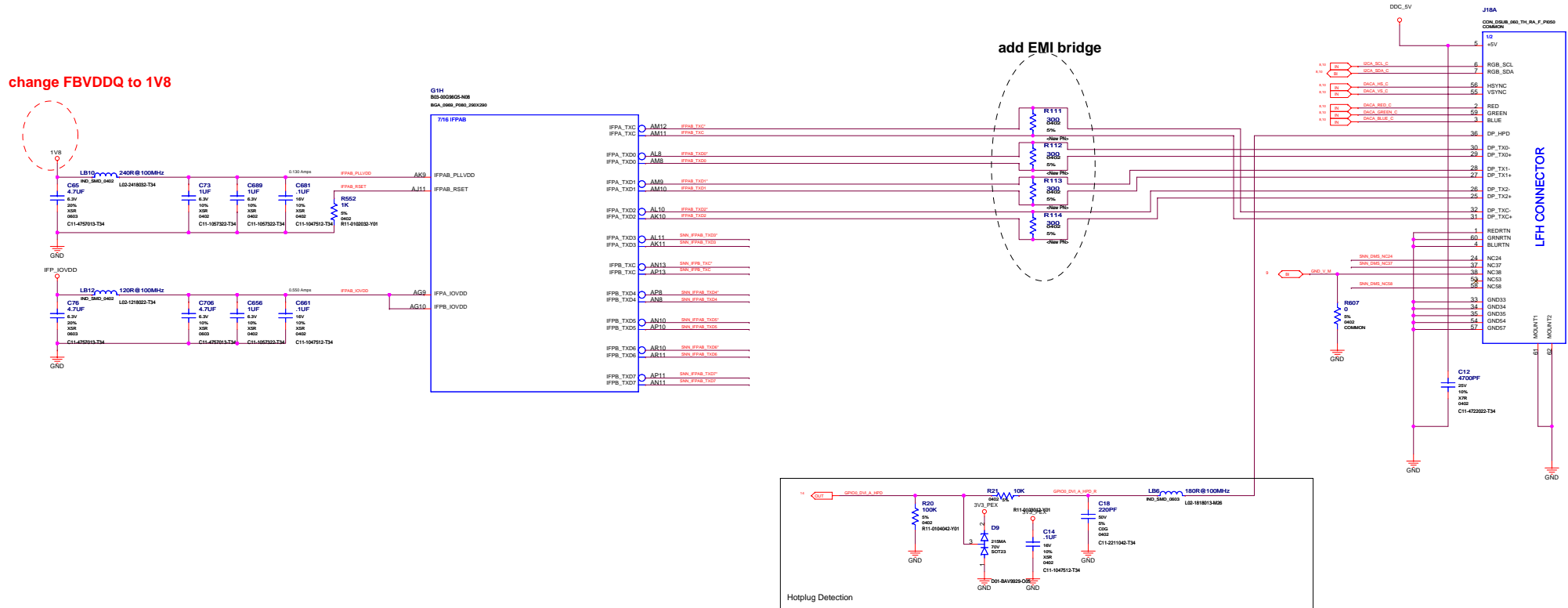



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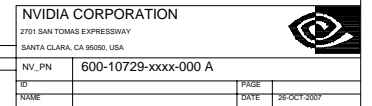
## Internal TMDS .. Link A & B



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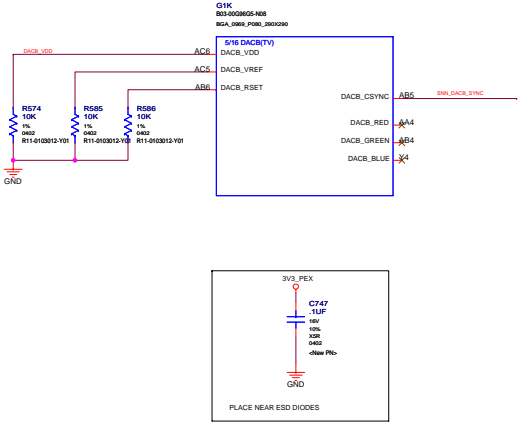
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### change FBVDDQ to 1V8



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DACB, MINIDIN Connector

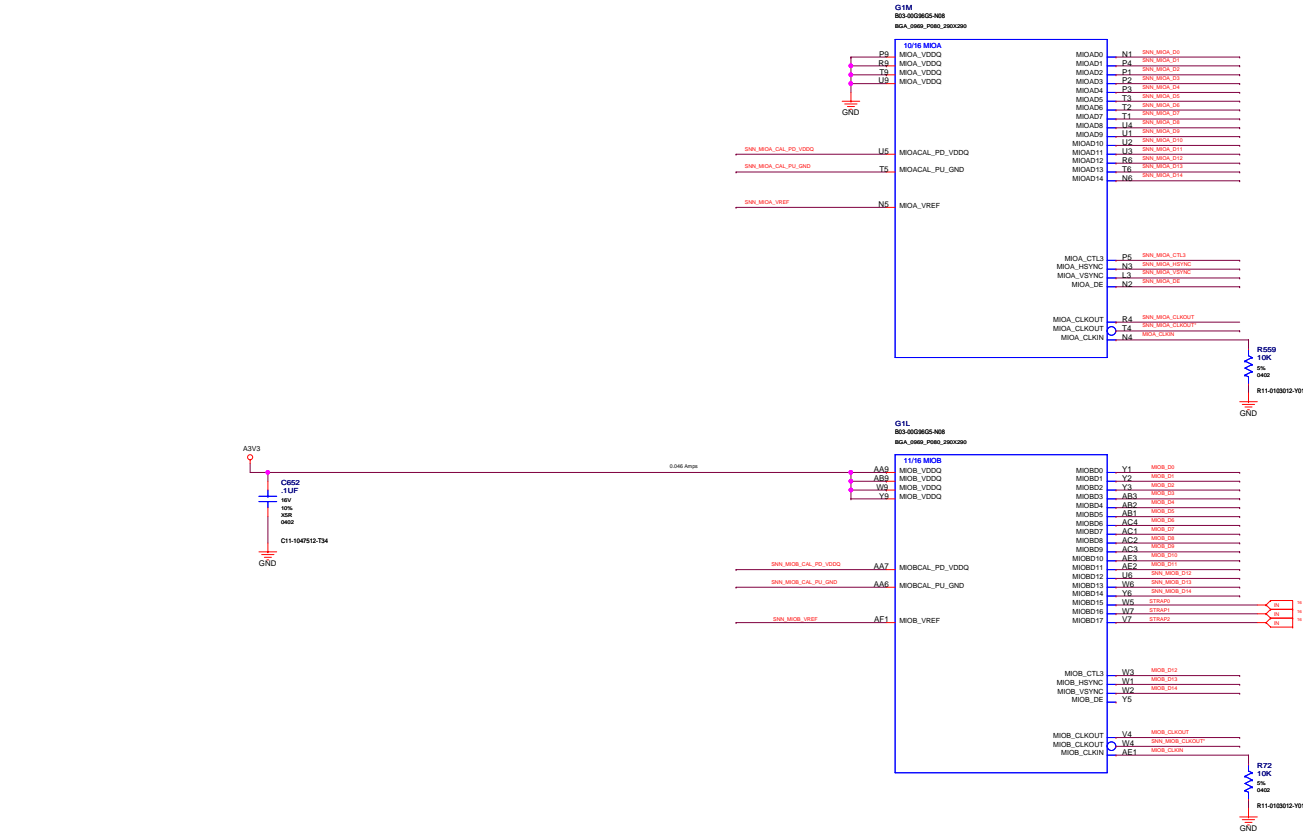


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PAGE DETAIL DACB, MINIDIN Connector

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MIOA, MIOB Interface

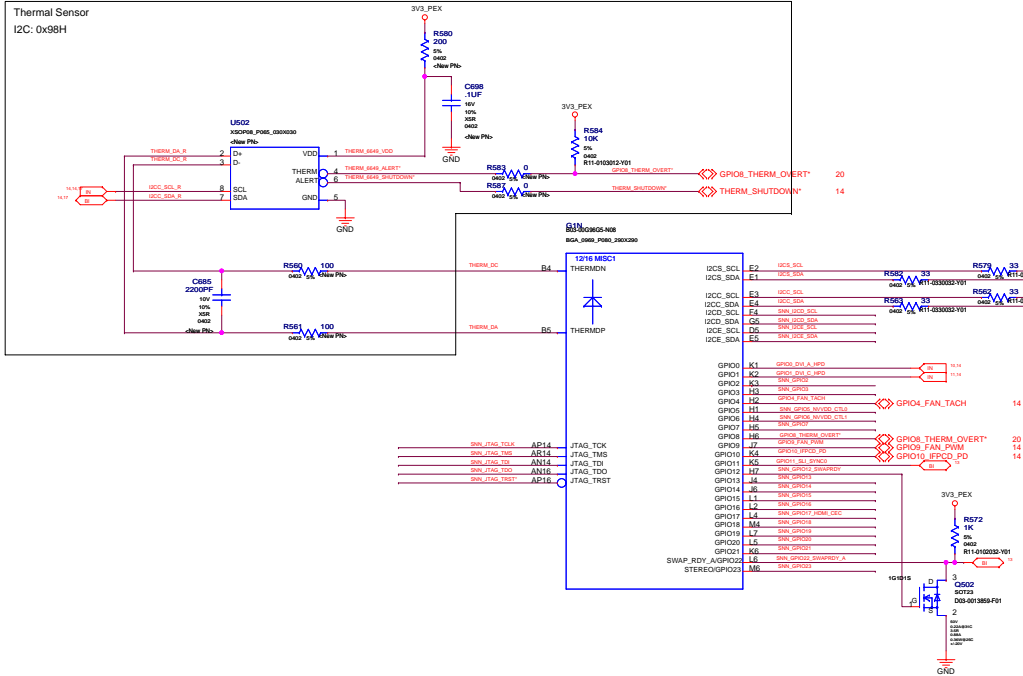


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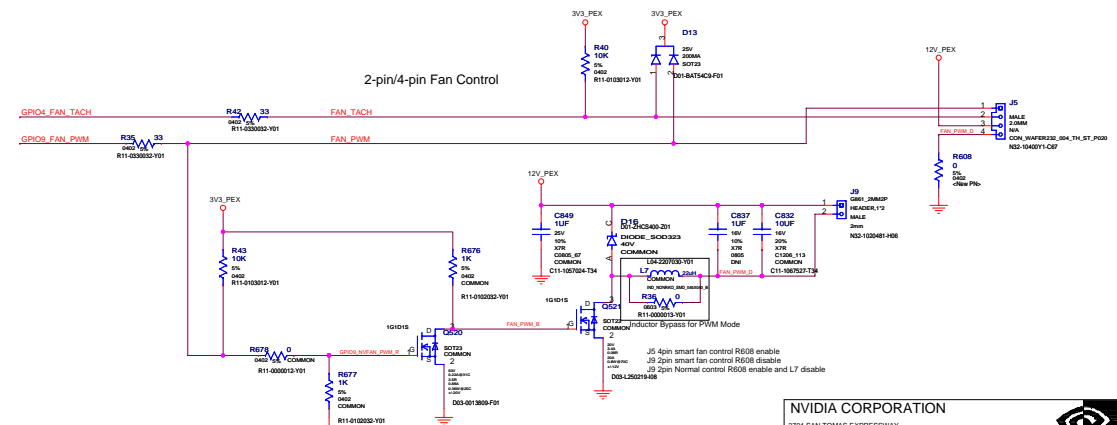
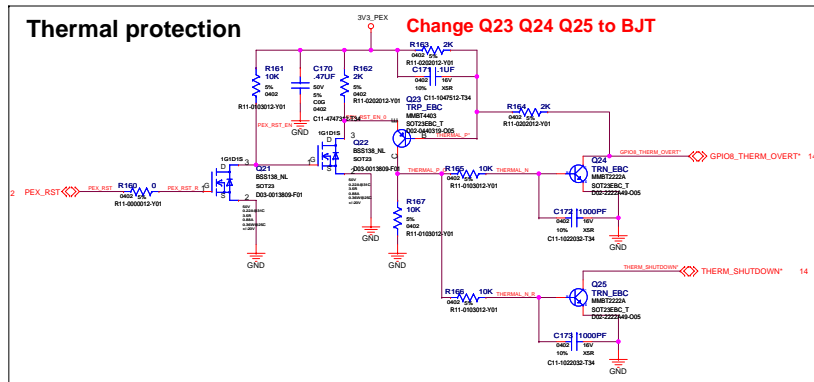
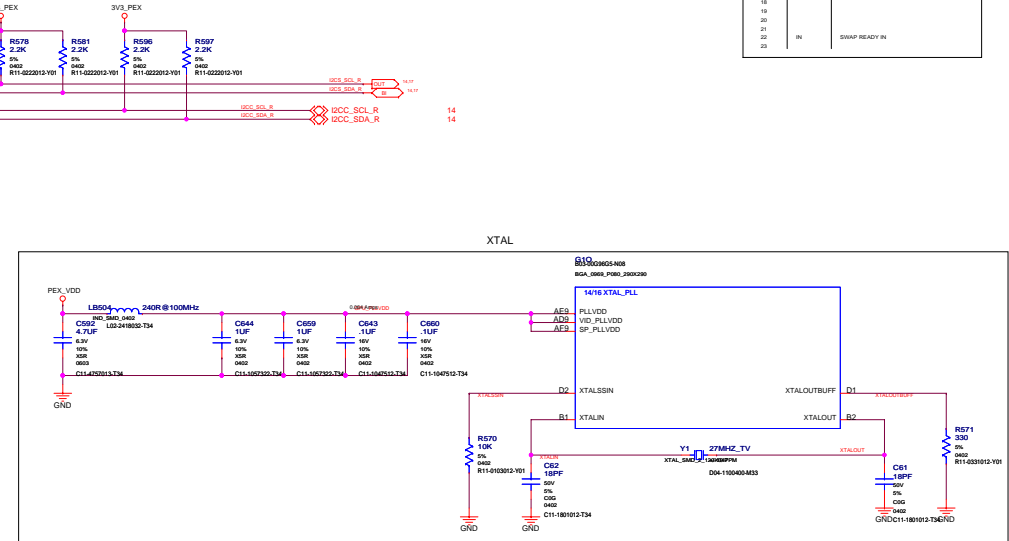
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## Thermal Sensors, GPIOs, XTAL, JTAG, Fan



GPIO Table		
GPIO	IO	Function
0	IN	DVI SOUTH HOTPLUG DETECT
1	IN	DVI MID HOTPLUG DETECT
2		
3	OUT	PWM FAN
5	OUT	INVID VOLTAGE SELECT 0
6	OUT	INVID VOLTAGE SELECT 1
7		
8	IN	THERMAL SLOWDOWN
9	IN	FRANTXN
10		
11	IN/OUT	HASSTO SENSE
12	OUT	SWAP READY OUT
13		
14		
15		
16		
17		
18		
19		
20		
21		
22	IN	SWAP READY IN
23		



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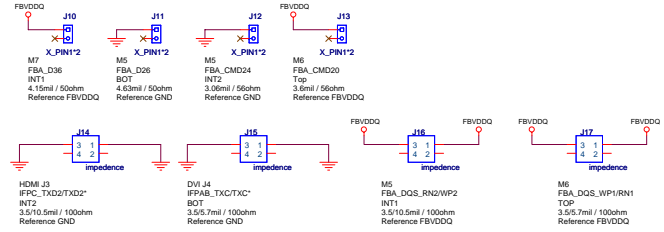
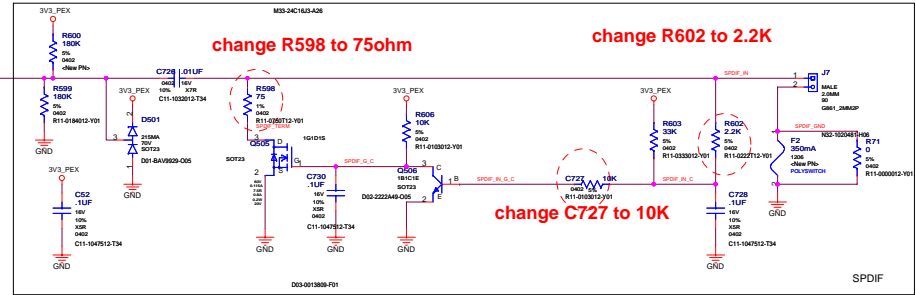
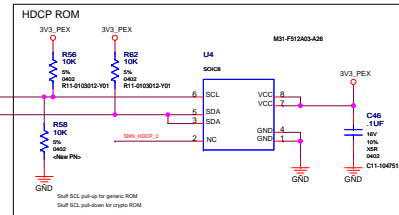
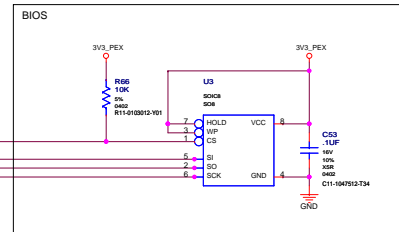
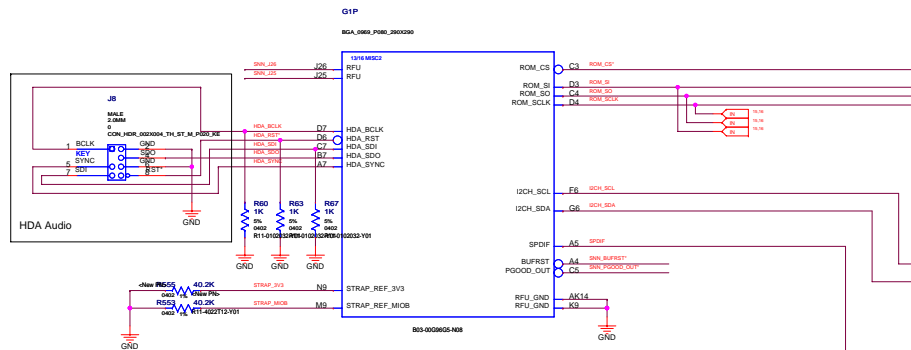
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PAGE DETAIL	Thermal Sensors, GPIOs, XTAL, JTAG, Fan

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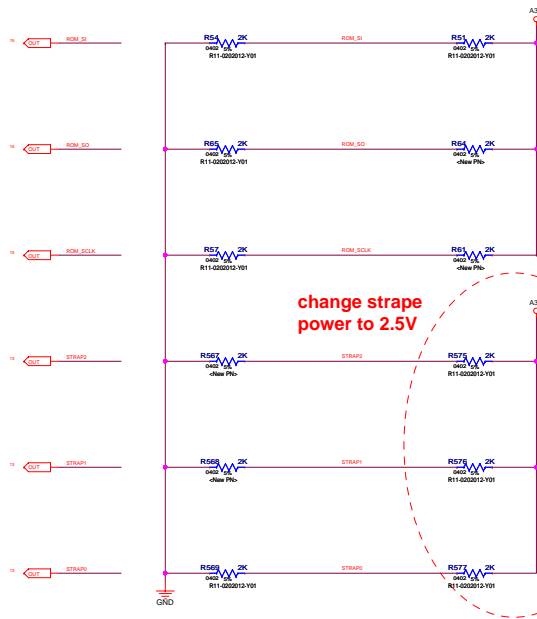
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ID		PAGE	
NAME		DATE	26-OCT-2007

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## Straps



G94 Straps  
Multilevel Mode  
Bit Signal

Bit Signal		Values
00	XCLK_27T	0:DISABLED 1:ENABLED
01	TMMODE0	000:NTSC_M 001:NTSC_J 010:PAL_M 011:PAL_N 100:PAL_CK 101:PAL_BDRM 110:SEI3SERI3DECI 111:SEI3SERI3DECI
02	PC1_DEVICE_EXT	1:GEM300-A1
03	SUB_VENDOR	0:NO BIOS 1:BIOS
04	SLOT_CLK_CFG	0:ENABLE 1:DISABLE
05	DEV_B1_72k_TERRAIN0	0:0V5

Multilevel  
Straps

5K to GND	00
10K to GND	00
15K to GND	00
20K to GND	00
25K to GND	01
30K to GND	01
35K to GND	01
45K to GND	01
5K to VCC	10
10K to VCC	10
15K to VCC	10
20K to VCC	10
25K to VCC	11
30K to VCC	11
35K to VCC	11
45K to VCC	11

G94 Straps  
Binary-Bringup Mode  
Bit Signal

Bit Signal	Values
SUB_VENDOR	0 NO BIOS 1 BIOS
SLQT_CLK_CFG	0 DISABLE 1 ENABLE

G94 Straps  
Binary-Production Mode  
Bit Signal                      Value

Bit Signal	Values
SLOT_CLK_GPI	0 DISABLE 1 ENABLE
PCI_DEVSEL_EXT	10 G50-300-A1

POI_DEV[002]	
<hr/>	
RANCF[02]	000 32MA1610MA16 DOR2 Equile 001 16MA16 DOR2 Samwang Mafum 010 16MA16 DOR2 Omenda 011 16MA16 DOR2 Niyin 100 32MA1610MA16 DOR2 Nanyu 101 32MA16 DOR2 Samwang 110 32MA16 DOR2 Omenda 111 32MA16 DOR2 Niyin
RANCF[03]	
RANCF[04]	

change strape  
power to 2.5V

0111 32Mx16 DDR2 128-bit Hynix

[illegible]

```

350_PACCFG_LUT_ADR[0]
                                0000 DOKTOP_DEFAULT
                                0001 MOBILE_DEFAULT
                                0010 MOBILE_ITWHS_L1AMP
                                0011 MOBILE_ITWHS_L2AMP
                                0100 MOBILE_ITWHS_LAMP
                                0101 MOBILE_ITWHS_LAMP
                                0110 MOBILE_ITWHS_WHSAMP
                                0111 MOBILE_ITWHS_WHSAMP
                                1000 DOKTOP_ITWHS
                                1001 MOBILE_ITWHS_WHSAMP
                                1010 MOBILE_ITWHS_L1AMP
                                1011 MOBILE_ITWHS_L2AMP
                                1100 MOBILE_ITWHS_LAMP
                                1101 MOBILE_ITWHS_LAMP
                                1110 MOBILE_ITWHS_WHSAMP
                                1111 MOBILE_ITWHS_WHSAMP

350_PACCFG_LUT_ADR[1]

350_PACCFG_LUT_ADR[2]

```

POI_DEV[002]	
<hr/>	
RANCF[02]	000 32MA1610MA16 DOR2 Equile 001 16MA16 DOR2 Samwang Mafum 010 16MA16 DOR2 Omenda 011 16MA16 DOR2 Niyin 100 32MA1610MA16 DOR2 Nanyu 101 32MA16 DOR2 Samwang 110 32MA16 DOR2 Omenda 111 32MA16 DOR2 Niyin
RANCF[03]	
RANCF[04]	

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2701 SAN TOMAS EXPRESSWAY



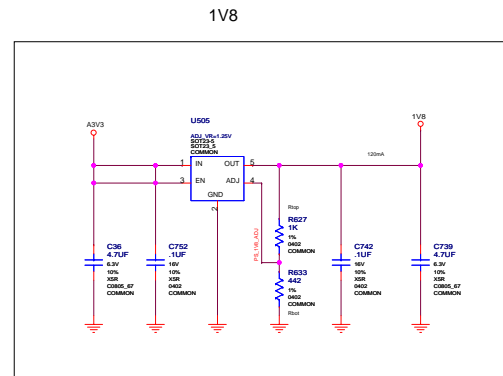
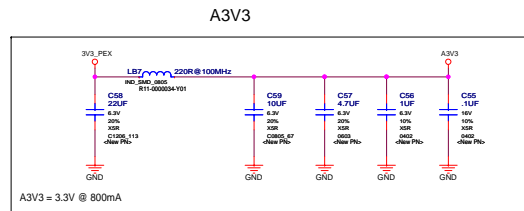
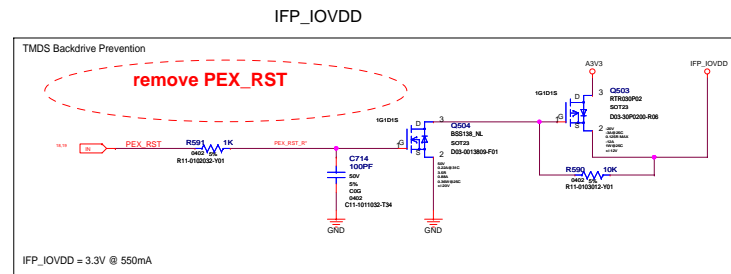
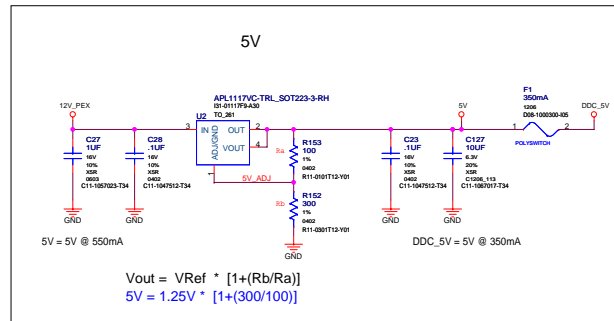
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ID		PAGE	
NAME		DATE	28-OCT-2007

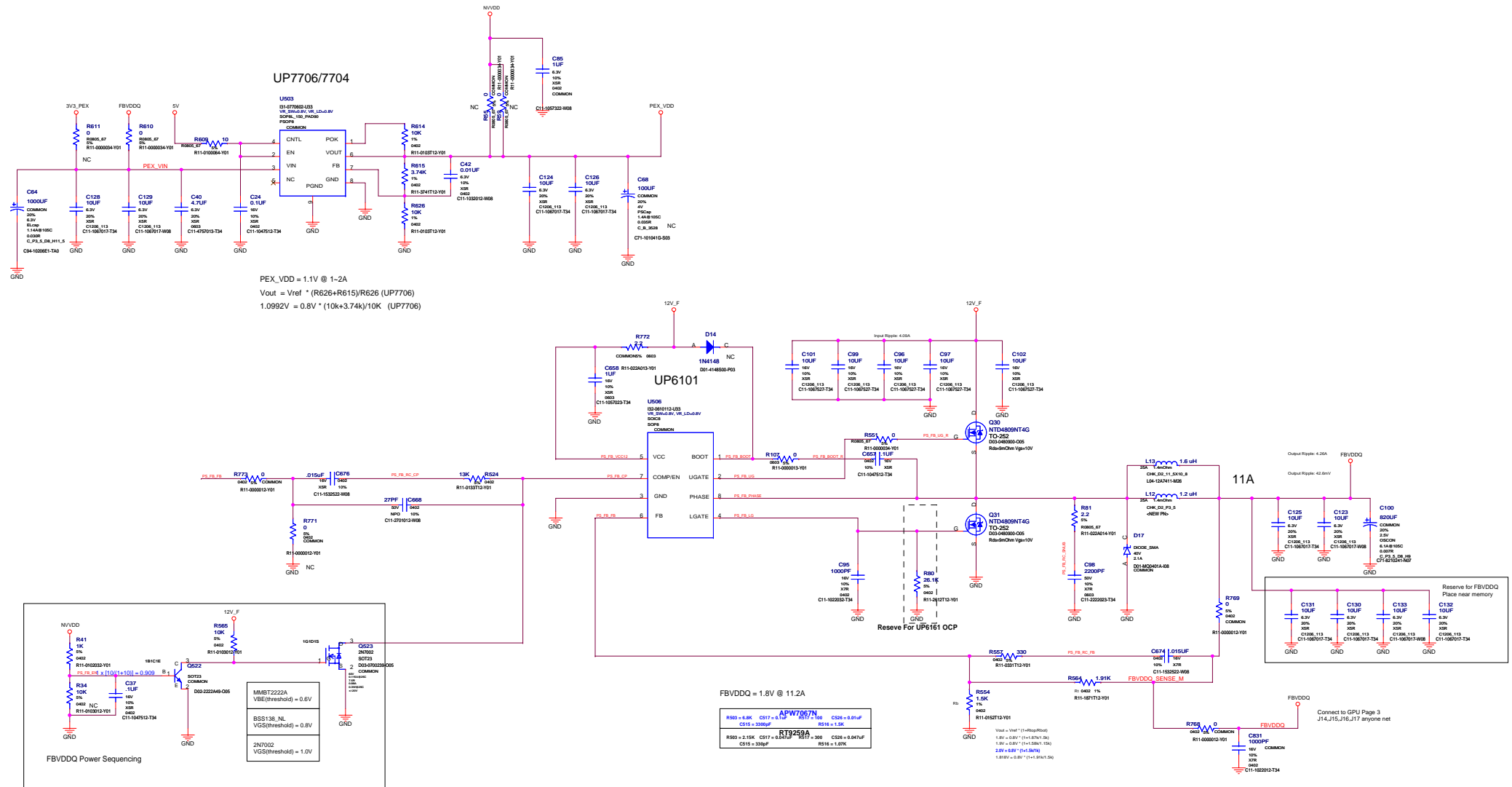
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Power Supply I: 1V8, A3V3, 5V, IFP\_IOVDD



## Power Supply II: FBVDDQ, PEX\_VDD



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SANTA CLARA, CA 95050, USA

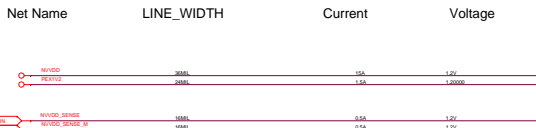
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ID	PAGE
NAME	DATE 26-OCT-2007

[illegible]

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Power Supply II: FBVDDQ

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30A

$$V_{out} = V_{Ref} * (1 + R_{top}/R_{bot})$$

$$1.1V = 0.8V * (1 + (1.54k/4.02k)) \quad (ISL6549)$$

$$1.2V = 0.8V * (1 + (1.54k/3.09k)) \quad (ISL6549)$$

$$1.0V = 0.8V * (1 + (1.24k/4.87k)) \quad (ISL6549)$$

$$1.0526V = 0.8V * (1 + (1.5k/4.75k)) \quad (ISL6549)$$

5x 10uf 0805 X5R  
2x 47uf 1206 X5R  
3x 470uf ALE/OSCON

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