

P391-A00 Base Design

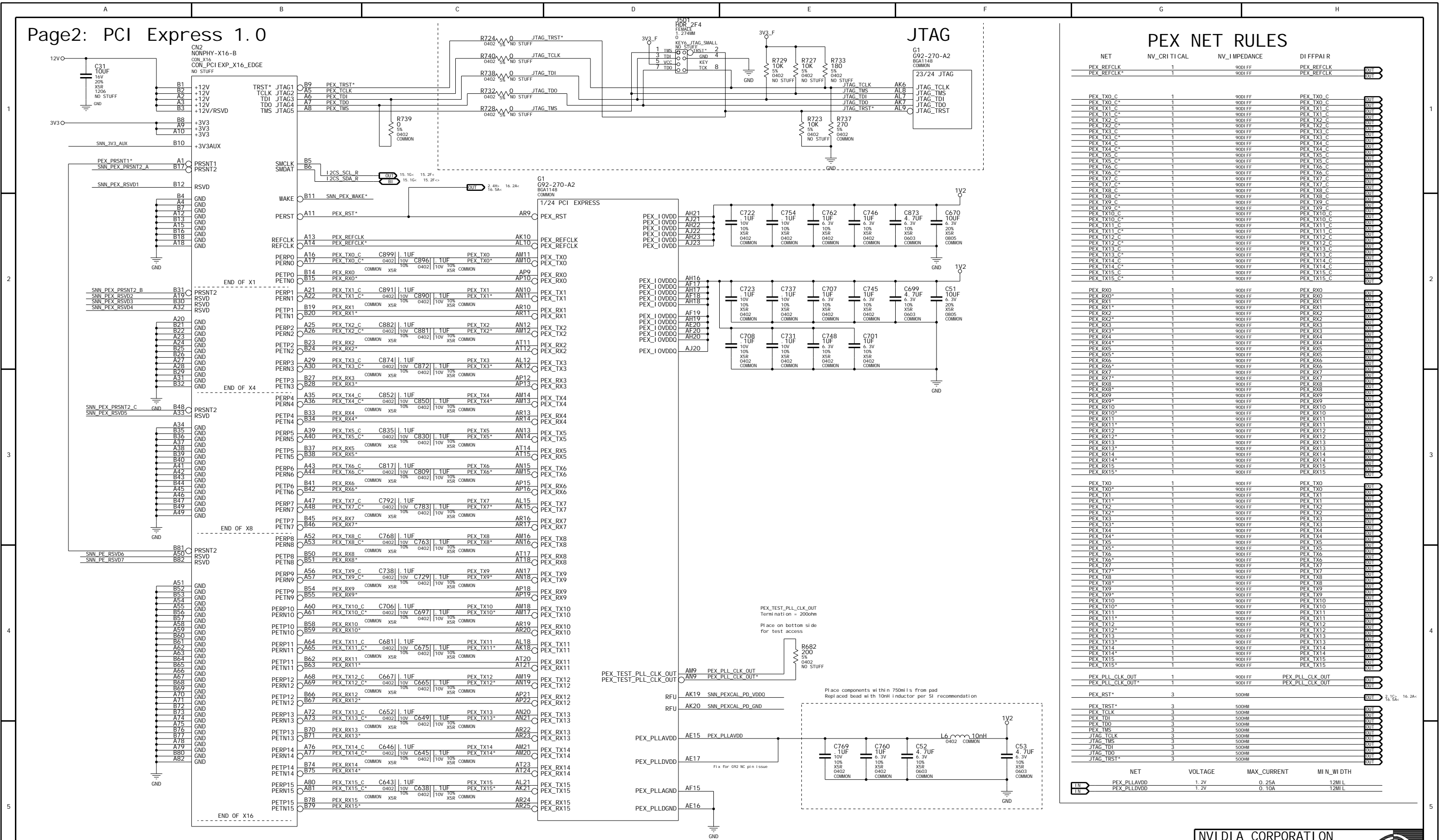
P391-A00, G92, 8Mx32/16Mx32 GDDR3
DVI -I -DL, DVI -I -DL, HDTVout

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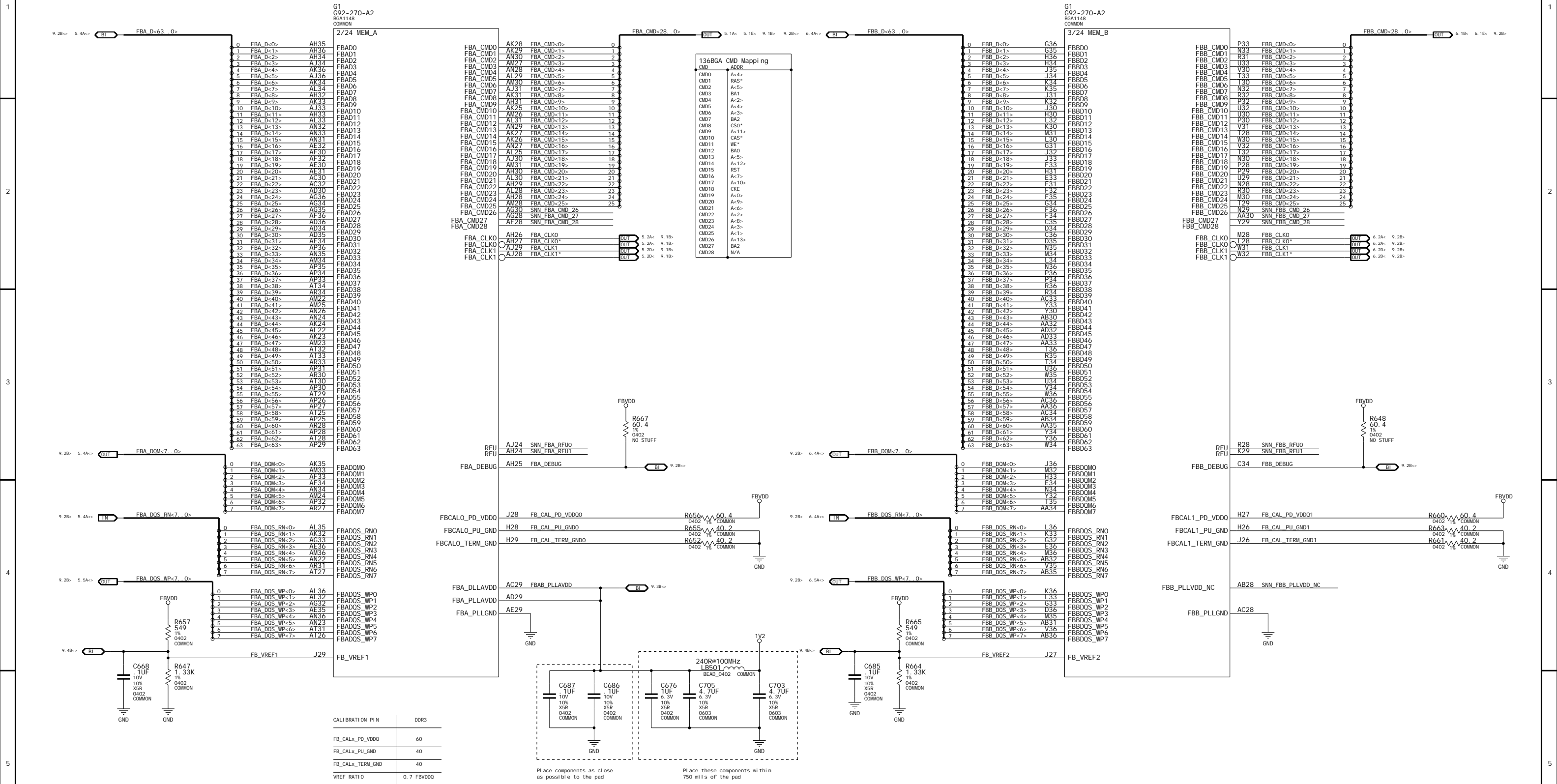
SKU	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10391-base-000	P391 - BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO-STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0050	600-10391-0050-000	P391 G92 512MB GDDR3 16Mx32 DVI -I +DVI -I
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Page2: PCI Express 1.0

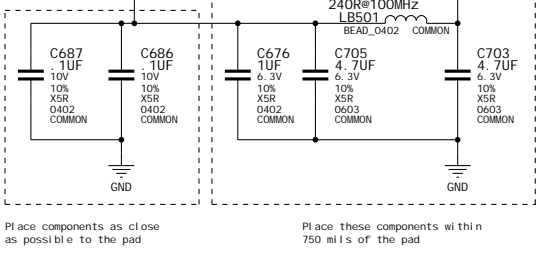


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NET	NV_CRI TI CAL	NV_I MPEDANCE	DI FFP AI R	
PEX_REFCLK	1	90DI FF	PEX_REFCLK	001
PEX_REFCLK*	1	90DI FF	PEX_REFCLK	001
PEX_TX0_C	1	90DI FF	PEX_TX0_C	001
PEX_TX0_C*	1	90DI FF	PEX_TX0_C	001
PEX_TX1_C	1	90DI FF	PEX_TX1_C	001
PEX_TX1_C*	1	90DI FF	PEX_TX1_C	001
PEX_TX2_C	1	90DI FF	PEX_TX2_C	001
PEX_TX2_C*	1	90DI FF	PEX_TX2_C	001
PEX_TX3_C	1	90DI FF	PEX_TX3_C	001
PEX_TX3_C*	1	90DI FF	PEX_TX3_C	001
PEX_TX4_C	1	90DI FF	PEX_TX4_C	001
PEX_TX4_C*	1	90DI FF	PEX_TX4_C	001
PEX_TX5_C	1	90DI FF	PEX_TX5_C	001
PEX_TX5_C*	1	90DI FF	PEX_TX5_C	001
PEX_TX6_C	1	90DI FF	PEX_TX6_C	001
PEX_TX6_C*	1	90DI FF	PEX_TX6_C	001
PEX_TX7_C	1	90DI FF	PEX_TX7_C	001
PEX_TX7_C*	1	90DI FF	PEX_TX7_C	001
PEX_TX8_C	1	90DI FF	PEX_TX8_C	001
PEX_TX8_C*	1	90DI FF	PEX_TX8_C	001
PEX_TX9_C	1	90DI FF	PEX_TX9_C	001
PEX_TX9_C*	1	90DI FF	PEX_TX9_C	001
PEX_TX10_C	1	90DI FF	PEX_TX10_C	001
PEX_TX10_C*	1	90DI FF	PEX_TX10_C	001
PEX_TX11_C	1	90DI FF	PEX_TX11_C	001
PEX_TX11_C*	1	90DI FF	PEX_TX11_C	001
PEX_TX12_C	1	90DI FF	PEX_TX12_C	001
PEX_TX12_C*	1	90DI FF	PEX_TX12_C	001
PEX_TX13_C	1	90DI FF	PEX_TX13_C	001
PEX_TX13_C*	1	90DI FF	PEX_TX13_C	001
PEX_TX14_C	1	90DI FF	PEX_TX14_C	001
PEX_TX14_C*	1	90DI FF	PEX_TX14_C	001
PEX_TX15_C	1	90DI FF	PEX_TX15_C	001
PEX_TX15_C*	1	90DI FF	PEX_TX15_C	001
PEX_RX0	1	90DI FF	PEX_RX0	001
PEX_RX0*	1	90DI FF	PEX_RX0	001
PEX_RX1	1	90DI FF	PEX_RX1	001
PEX_RX1*	1	90DI FF	PEX_RX1	001
PEX_RX2	1	90DI FF	PEX_RX2	001
PEX_RX2*	1	90DI FF	PEX_RX2	001
PEX_RX3	1	90DI FF	PEX_RX3	001
PEX_RX3*	1	90DI FF	PEX_RX3	001
PEX_RX4	1	90DI FF	PEX_RX4	001
PEX_RX4*	1	90DI FF	PEX_RX4	001
PEX_RX5	1	90DI FF	PEX_RX5	001
PEX_RX5*	1	90DI FF	PEX_RX5	001
PEX_RX6	1	90DI FF	PEX_RX6	001
PEX_RX6*	1	90DI FF	PEX_RX6	001
PEX_RX7	1	90DI FF	PEX_RX7	001
PEX_RX7*	1	90DI FF	PEX_RX7	001
PEX_RX8	1	90DI FF	PEX_RX8	001
PEX_RX8*	1	90DI FF	PEX_RX8	001
PEX_RX9	1	90DI FF	PEX_RX9	001
PEX_RX9*	1	90DI FF	PEX_RX9	001
PEX_RX10	1	90DI FF	PEX_RX10	001
PEX_RX10*	1	90DI FF	PEX_RX10	001
PEX_RX11	1	90DI FF	PEX_RX11	001
PEX_RX11*	1	90DI FF	PEX_RX11	001
PEX_RX12	1	90DI FF	PEX_RX12	001
PEX_RX12*	1	90DI FF	PEX_RX12	001
PEX_RX13	1	90DI FF	PEX_RX13	001
PEX_RX13*	1	90DI FF	PEX_RX13	001
PEX_RX14	1	90DI FF	PEX_RX14	001
PEX_RX14*	1	90DI FF	PEX_RX14	001
PEX_RX15	1	90DI FF	PEX_RX15	001
PEX_RX15*	1	90DI FF	PEX_RX15	001
PEX_TX0	1	90DI FF	PEX_TX0	001
PEX_TX0*	1	90DI FF	PEX_TX0	001
PEX_TX1	1	90DI FF	PEX_TX1	001
PEX_TX1*	1	90DI FF	PEX_TX1	001
PEX_TX2	1	90DI FF	PEX_TX2	001
PEX_TX2*	1	90DI FF	PEX_TX2	001
PEX_TX3	1	90DI FF	PEX_TX3	001
PEX_TX3*	1	90DI FF	PEX_TX3	001
PEX_TX4	1	90DI FF	PEX_TX4	001
PEX_TX4*	1	90DI FF	PEX_TX4	001
PEX_TX5	1	90DI FF	PEX_TX5	001
PEX_TX5*	1	90DI FF	PEX_TX5	001
PEX_TX6	1	90DI FF	PEX_TX6	001
PEX_TX6*	1	90DI FF	PEX_TX6	001
PEX_TX7	1	90DI FF	PEX_TX7	001
PEX_TX7*	1	90DI FF	PEX_TX7	001
PEX_TX8	1	90DI FF	PEX_TX8	001
PEX_TX8*	1	90DI FF	PEX_TX8	001
PEX_TX9	1	90DI FF	PEX_TX9	001
PEX_TX9*	1	90DI FF	PEX_TX9	001
PEX_TX10	1	90DI FF	PEX_TX10	001
PEX_TX10*	1	90DI FF	PEX_TX10	001
PEX_TX11	1	90DI FF	PEX_TX11	001
PEX_TX11*	1	90DI FF	PEX_TX11	001
PEX_TX12	1	90DI FF	PEX_TX12	001
PEX_TX12*	1	90DI FF	PEX_TX12	001
PEX_TX13	1	90DI FF	PEX_TX13	001
PEX_TX13*	1	90DI FF	PEX_TX13	001
PEX_TX14	1	90DI FF	PEX_TX14	001
PEX_TX14*	1	90DI FF	PEX_TX14	001
PEX_TX15	1	90DI FF	PEX_TX15	001
PEX_TX15*	1	90DI FF	PEX_TX15	001
PEX_PLL_CLK_OUT	1	90DI FF	PEX_PLL_CLK_OUT	001
PEX_PLL_CLK_OUT*	1	90DI FF	PEX_PLL_CLK_OUT	001
PEX_RST*	3	50OHM		001
PEX_TRST*	3	50OHM		001
PEX_TCLK	3	50OHM		001
PEX_TDI	3	50OHM		001
PEX_TDO	3	50OHM		001
PEX_TMS	3	50OHM		001
JTAG_TCLK	3	50OHM		001
JTAG_TDS	3	50OHM		001
JTAG_TDI	3	50OHM		001
JTAG_TDO	3	50OHM		001
JTAG_TRST*	3	50OHM		001
NET	VOLTAGE	MAX_CURRENT	MI N_WI DTH	
PEX_PL LAVDD	1.2V	0.25A	12MI L	
PEX_PL LDVDD	1.2V	0.10A	12MI L	

1.2V, 16.2A, 16.5A



CALIBRATION PIN	DDR3
FB_CALX_PD_VDDQ	60
FB_CALX_PU_GND	40
FB_CALX_TERM_GND	40
VREF_RATIO	0.7 FBVDDQ



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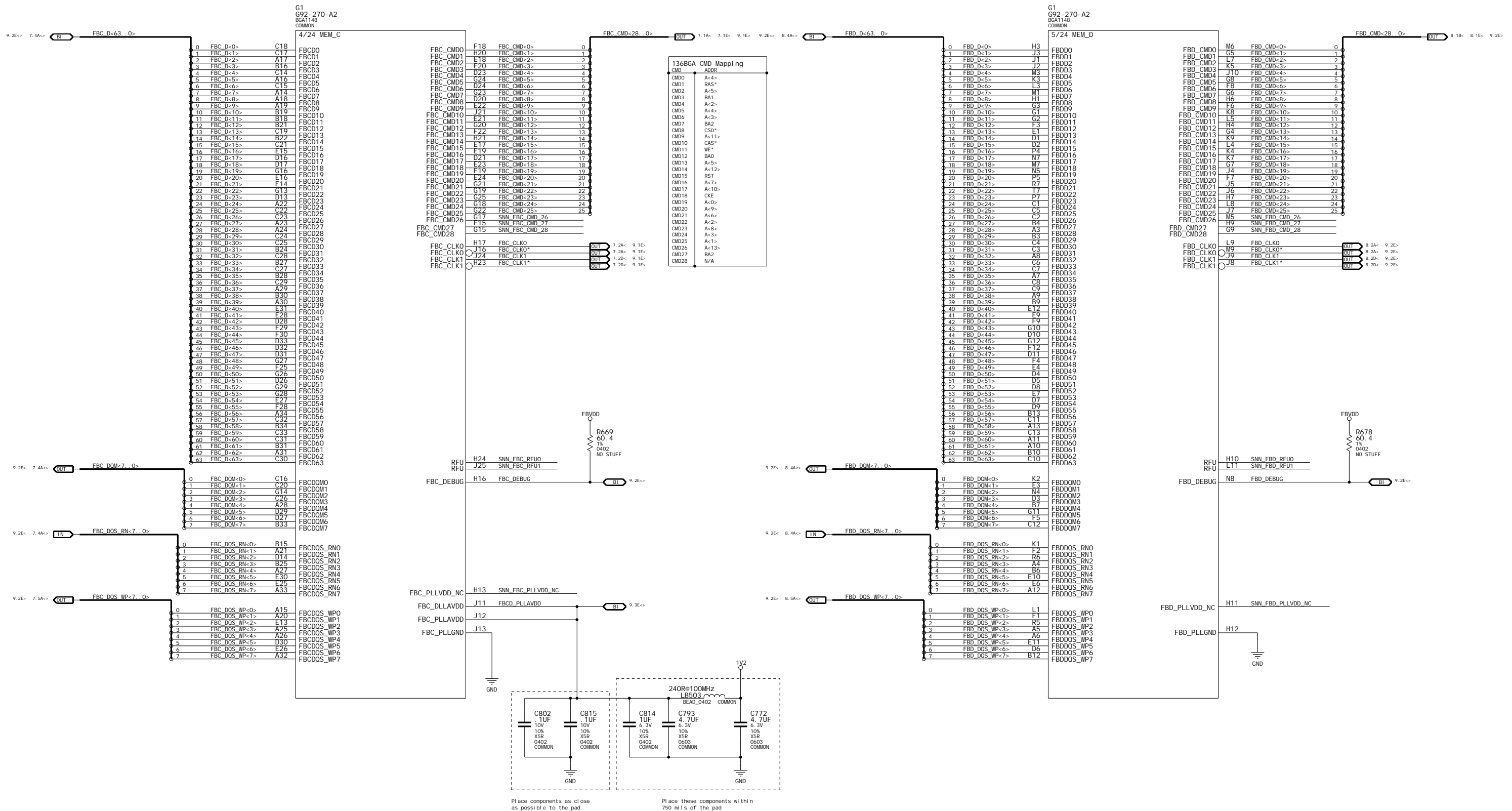
gachen

DATE

08-AUG-2008

ASSEMBLY	P391 G92 512MB GDDR3 16Mx32 DVI-I+DVI-I
PAGE DETAIL	MEMORY: GPU Partition A/B

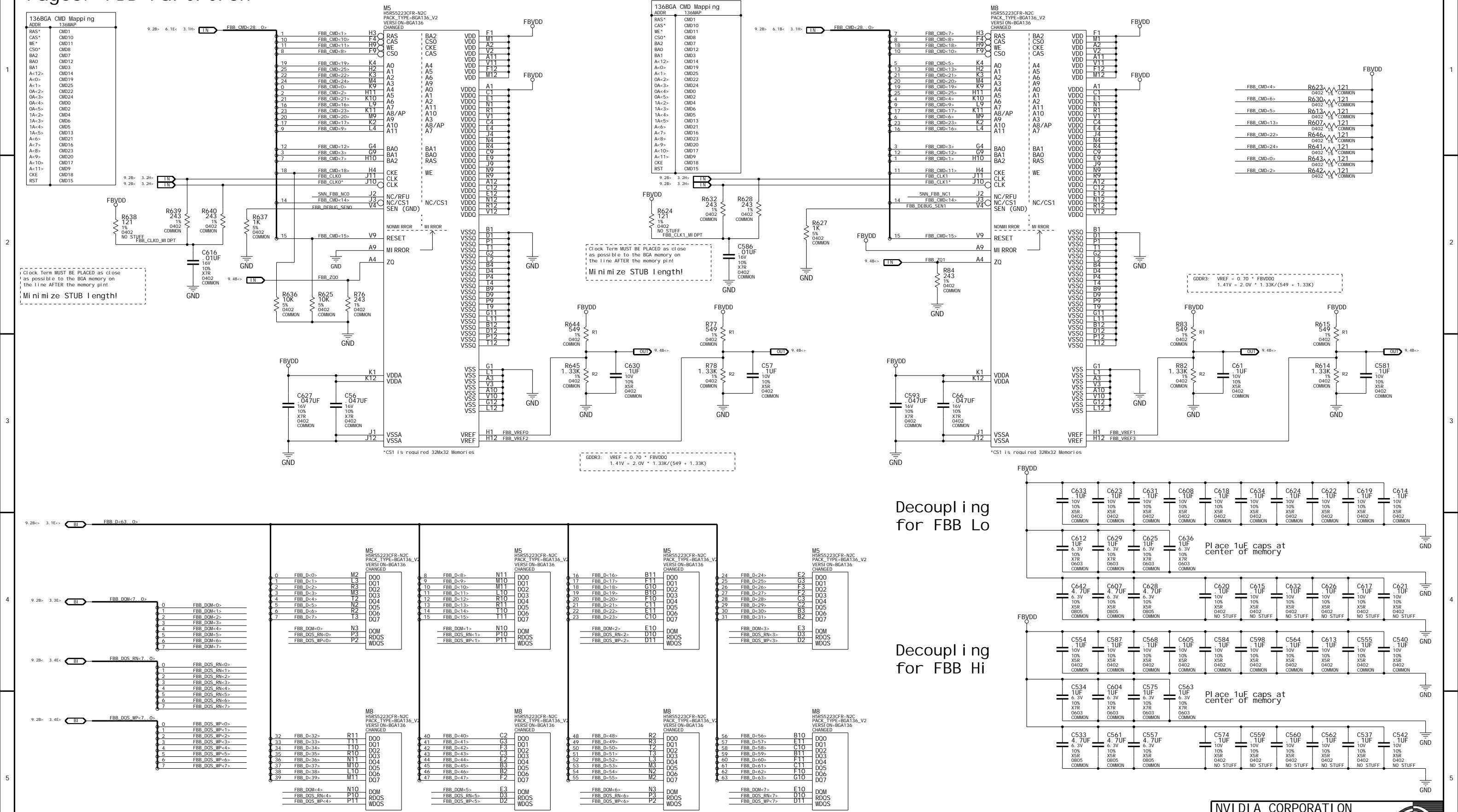
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Decoupling for FBA Hi

ASSEMBLY	
PAGE DETAIL L	FBA Parti ti on

Page6: FBB Parti ti on

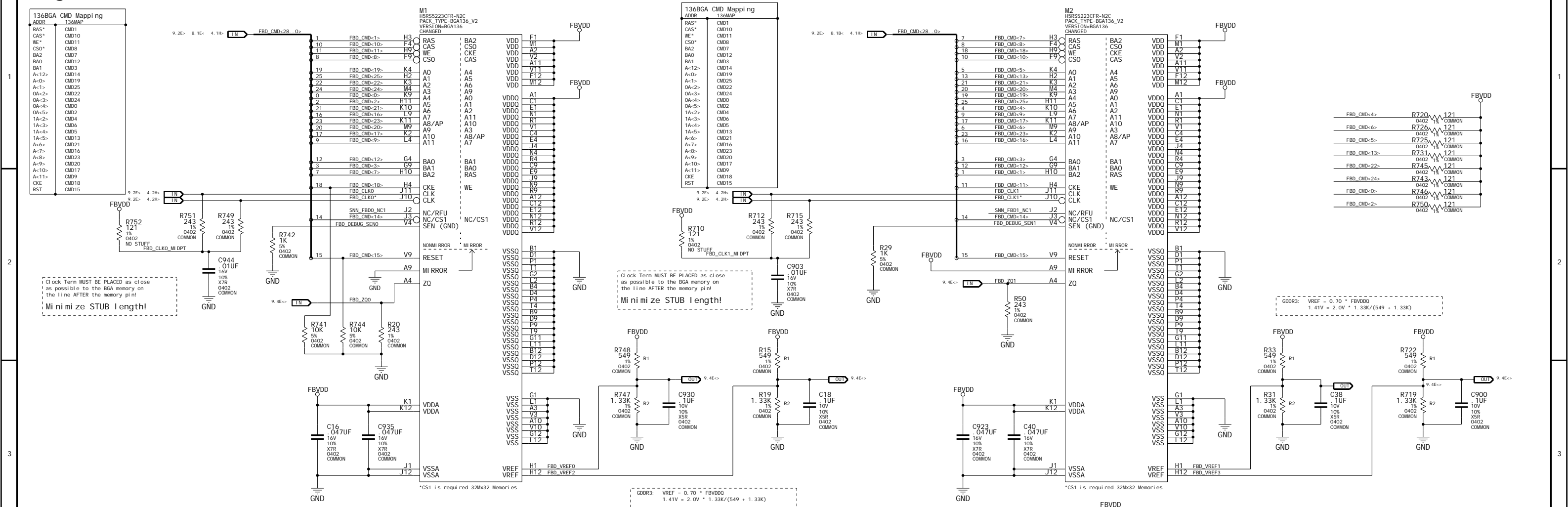


Decoupling for FBC Hi

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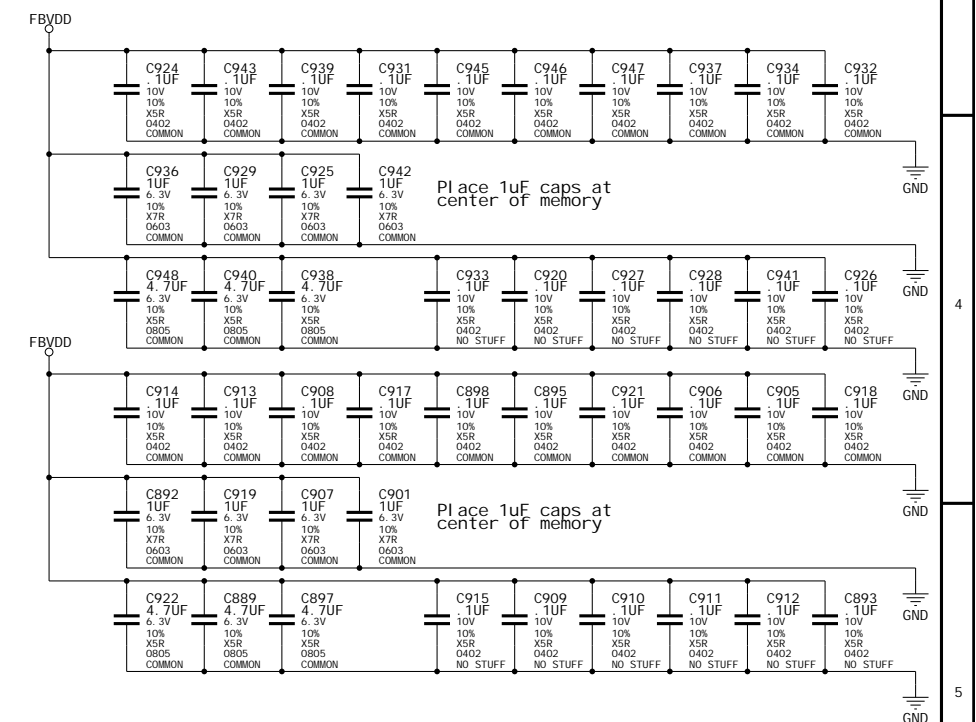
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Page8: FBD Parti ti on



Decoupling for FBD Lo

Decoupling for FBD Hi



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ASSEMBLY	
PAGE DETAIL	FBD Partition

NET RULES for FrameBuffer A/B

NET		NV_CRI TI CAL	NV_I MPEDANCE	DI FFPAI R
5. 2A< 3. 2D>	OUT FBA_CLK0	1	80DI FF	FBA_CLK0
5. 2A< 3. 2D>	OUT FBA_CLK0*	1	80DI FF	FBA_CLK0
5. 2D< 3. 2D>	OUT FBA_CLK1	1	80DI FF	FBA_CLK1
5. 2D< 3. 2D>	OUT FBA_CLK1*	1	80DI FF	FBA_CLK1

5. 1E< 5. 1A< 3. 1D>	OUT FBA_CMD<28..0>	1	54OHM	
5. 5A<> 3. 4A>	OUT FBA_DQS_WP<7..0>	1	45OHM	
5. 4A<> 3. 4A>	OUT FBA_DQS_RN<7..0>	1	45OHM	
5. 4A<> 3. 3A>	OUT FBA_DQM<7..0>	1	45OHM	
5. 4A<> 3. 1A<>	BI FBA_D<63..0>	1	45OHM	

NET		NV_CRI TI CAL	NV_I MPEDANCE	DI FFPAI R
6. 2A< 3. 2H>	OUT FBB_CLK0	1	80DI FF	FBB_CLK0
6. 2A< 3. 2H>	OUT FBB_CLK0*	1	80DI FF	FBB_CLK0
6. 2D< 3. 2H>	OUT FBB_CLK1	1	80DI FF	FBB_CLK1
6. 2D< 3. 2H>	OUT FBB_CLK1*	1	80DI FF	FBB_CLK1

6. 1E< 6. 1B< 3. 1H>	OUT FBB_CMD<28..0>	1	54OHM	
6. 5A<> 3. 4E>	OUT FBB_DQS_WP<7..0>	1	45OHM	
6. 4A<> 3. 4E>	OUT FBB_DQS_RN<7..0>	1	45OHM	
6. 4A<> 3. 3E>	OUT FBB_DQM<7..0>	1	45OHM	
6. 4A<> 3. 1E<>	BI FBB_D<63..0>	1	45OHM	

3. 3D<>	BI FBA_DEBUG	1	45OHM	
3. 3H<>	BI FBB_DEBUG	1	45OHM	

NET		VOLTAGE	MAX_CURRENT	MI N_WI DTH
3. 4D<>	BI FBAB_PL LavDD	1. 2V	0. 02A	12MI L

5. 3D>	BI FBA_VREF0	1. 40V	0. 02A	12MI L
5. 3H>	BI FBA_VREF1	1. 40V	0. 02A	12MI L
5. 3E>	BI FBA_VREF2	1. 40V	0. 02A	12MI L
5. 3H>	BI FBA_VREF3	1. 40V	0. 02A	12MI L
5. 2B>	BI FBA_Z00	2. 0V	0. 02A	12MI L
5. 2E<	BI FBA_Z01	2. 0V	0. 02A	12MI L

6. 3D>	BI FBB_VREF0	1. 40V	0. 02A	12MI L
6. 3G>	BI FBB_VREF1	1. 40V	0. 02A	12MI L
6. 3E>	BI FBB_VREF2	1. 40V	0. 02A	12MI L
6. 3H>	BI FBB_VREF3	1. 40V	0. 02A	12MI L
6. 2B>	BI FBB_Z00	2. 0V	0. 02A	12MI L
6. 2E<	BI FBB_Z01	2. 0V	0. 02A	12MI L

3. 4A<>	BI FB_VREF1	1. 40V	0. 02A	12MI L
3. 4E<>	BI FB_VREF2	1. 40V	0. 02A	12MI L

NET RULES for FrameBuffer C/D

NET		NV_CRI TI CAL	NV_I MPEDANCE	DI FFPAI R
7. 2A< 4. 2D>	OUT FBC_CLK0	1	80DI FF	FBC_CLK0
7. 2A< 4. 2D>	OUT FBC_CLK0*	1	80DI FF	FBC_CLK0
7. 2D< 4. 2D>	OUT FBC_CLK1	1	80DI FF	FBC_CLK1
7. 2D< 4. 2D>	OUT FBC_CLK1*	1	80DI FF	FBC_CLK1

7. 1E< 7. 1A< 4. 1D>	OUT FBC_CMD<28..0>	1	54OHM	
7. 5A<> 4. 4A>	OUT FBC_DQS_WP<7..0>	1	45OHM	
7. 4A<> 4. 4A>	OUT FBC_DQS_RN<7..0>	1	45OHM	
7. 4A<> 4. 3A>	OUT FBC_DQM<7..0>	1	45OHM	
7. 4A<> 4. 1A<>	BI FBC_D<63..0>	1	45OHM	

NET		NV_CRI TI CAL	NV_I MPEDANCE	DI FFPAI R
8. 2A< 4. 2H>	OUT FBD_CLK0	1	80DI FF	FBD_CLK0
8. 2A< 4. 2H>	OUT FBD_CLK0*	1	80DI FF	FBD_CLK0
8. 2D< 4. 2H>	OUT FBD_CLK1	1	80DI FF	FBD_CLK1
8. 2D< 4. 2H>	OUT FBD_CLK1*	1	80DI FF	FBD_CLK1

8. 1B< 4. 1H>	OUT FBD_CMD<28..0>	1	54OHM	
4. 4E< 8. 5A<> 8. 1E<	OUT FBD_DQS_WP<7..0>	1	45OHM	
4. 4E< 8. 5A<> 8. 1E<	OUT FBD_DQS_RN<7..0>	1	45OHM	
8. 4A<> 4. 3E>	OUT FBD_DQM<7..0>	1	45OHM	
8. 4A<> 4. 1E<>	BI FBD_D<63..0>	1	45OHM	

4. 3D<>	BI FBC_DEBUG	1	45OHM	
4. 3H<>	BI FBD_DEBUG	1	45OHM	

NET		VOLTAGE	MAX_CURRENT	MI N_WI DTH
4. 4D<>	BI FBDC_PL LavDD	1. 2V	0. 02A	12MI L

7. 3D>	BI FBC_VREF0	1. 40V	0. 02A	12MI L
7. 3G>	BI FBC_VREF1	1. 40V	0. 02A	12MI L
7. 3E>	BI FBC_VREF2	1. 40V	0. 02A	12MI L
7. 3H>	BI FBC_VREF3	1. 40V	0. 02A	12MI L
7. 2B>	BI FBC_Z00	2. 0V	0. 02A	12MI L
7. 2E<	BI FBC_Z01	2. 0V	0. 02A	12MI L

8. 3D>	BI FBD_VREF0	1. 40V	0. 02A	12MI L
8. 3G>	BI FBD_VREF1	1. 40V	0. 02A	12MI L
8. 3E>	BI FBD_VREF2	1. 40V	0. 02A	12MI L
8. 3H>	BI FBD_VREF3	1. 40V	0. 02A	12MI L
8. 2B>	BI FBD_Z00	2. 0V	0. 02A	12MI L
8. 2E<	BI FBD_Z01	2. 0V	0. 02A	12MI L

Page10: DACA Interface

DACA NET RULES

NET	NV_CRI TI CAL	NV_I MPEDANCE	DI FFPAI R
DACA_RED	1	75OHM	
DACA_GREEN	1	75OHM	
DACA_BLUE	1	75OHM	

DACA_RED_DVI	1	75OHM	
DACA_GREEN_DVI	1	75OHM	
DACA_BLUE_DVI	1	75OHM	

DACA_HS	2	50OHM	
DACA_VS	2	50OHM	
DACA_HS_BUF	2	50OHM	
DACA_VS_BUF	2	50OHM	
DACA_HS_BUF_R	2	50OHM	
DACA_VS_BUF_R	2	50OHM	
DACA_HS_DVI	2	50OHM	
DACA_VS_DVI	2	50OHM	

I2CA_SCL	3	50OHM	
I2CA_SDA	3	50OHM	
I2CA_SCL_R	3	50OHM	
I2CA_SDA_R	3	50OHM	
I2CA_SCL_DVI	3	50OHM	
I2CA_SDA_DVI	3	50OHM	

NET	VOLTAGE	MAX_CURRENT	MI N_WI DTH
DACA_VREF			12MI L
DACA_RSET			12MI L
DACA_VDD	3.3V	0.100A	16MI L
DACA_GND	0.0V		16MI L

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ASSEMBLY	P391 G92 512MB GDDR3 16Mx32 DVI -I +DVI -I
PAGE DETAIL	DACA Interface

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NV_PN	600-10391-0050-000 A		
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NAME	gachen	DATE	08-AUG-2008

Page11: DACC Interface

DACC NET RULES

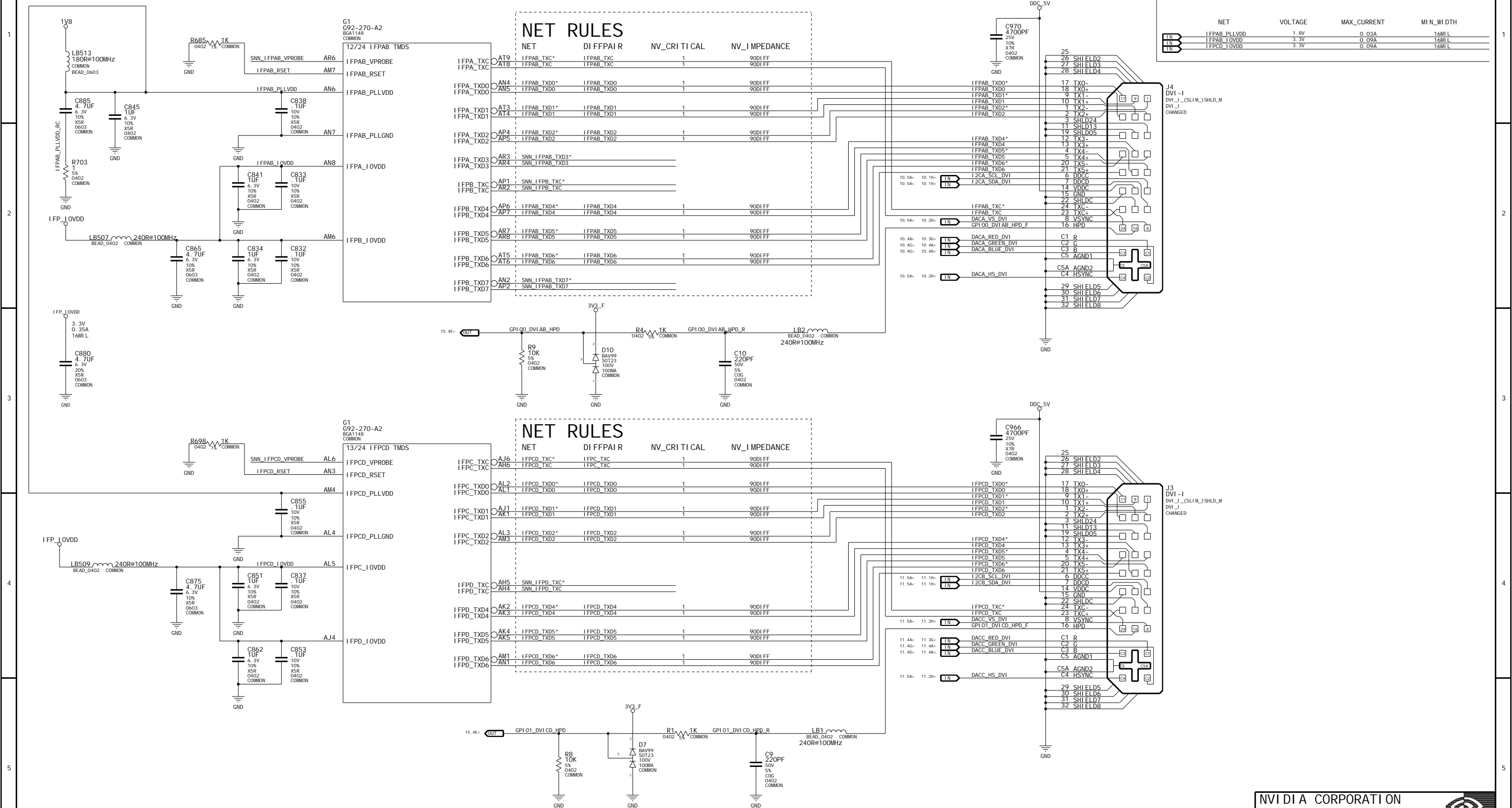
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		<div><div>1N</div><div></div></div>	DACC_RED	1	75OHM		
		<div><div>1N</div><div></div></div>	DACC_GREEN	1	75OHM		
		<div><div>1N</div><div></div></div>	DACC_BLUE	1	75OHM		
12_4E<	11_3G>	<div><div>1N</div><div></div></div>	DACC_RED_DVI	1	75OHM		
12_4E<	11_4G>	<div><div>1N</div><div></div></div>	DACC_GREEN_DVI	1	75OHM		
12_4E<	11_4G>	<div><div>1N</div><div></div></div>	DACC_BLUE_DVI	1	75OHM		
		<div><div>1N</div><div></div></div>	DACC_HS	2	50OHM		
		<div><div>1N</div><div></div></div>	DACC_VS	2	50OHM		
		<div><div>1N</div><div></div></div>	DACC_HS_BUF	2	50OHM		
		<div><div>1N</div><div></div></div>	DACC_VS_BUF	2	50OHM		
		<div><div>1N</div><div></div></div>	DACC_HS_BUF_R	2	50OHM		
		<div><div>1N</div><div></div></div>	DACC_VS_BUF_R	2	50OHM		
12_5E<	11_2H>	<div><div>1N</div><div></div></div>	DACC_HS_DVI	2	50OHM		
12_4E<	11_2H>	<div><div>1N</div><div></div></div>	DACC_VS_DVI	2	50OHM		
		<div><div>1N</div><div></div></div>	I2CB_SCL	3	50OHM		
		<div><div>1N</div><div></div></div>	I2CB_SDA	3	50OHM		
		<div><div>1N</div><div></div></div>	I2CB_SCL_R	3	50OHM		
		<div><div>1N</div><div></div></div>	I2CB_SDA_R	3	50OHM		
12_4E<	11_1H>	<div><div>1N</div><div></div></div>	I2CB_SCL_DVI	3	50OHM		
12_4E<	11_1H>	<div><div>1N</div><div></div></div>	I2CB_SDA_DVI	3	50OHM		
NET		VOLTAGE		MAX_CURRENT		MI N_WI DTH	
		<div><div>1N</div><div></div></div>	DACC_VREF				12MI L
		<div><div>1N</div><div></div></div>	DACC_RSET				12MI L
		<div><div>BI</div><div></div></div>	DACC_VDD	3.3V	0.100A		16MI L

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ASSEMBLY	P391 G92 512MB GDDR3 16Mx32 DVI -I +DVI -I
PAGE DETAIL	DACC Interface

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Page12: I FP A/B and C/D Interface



IFPABCD NET RULES

NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
IFPAB_RSET			12MI L
IFPCD_RSET			12MI L

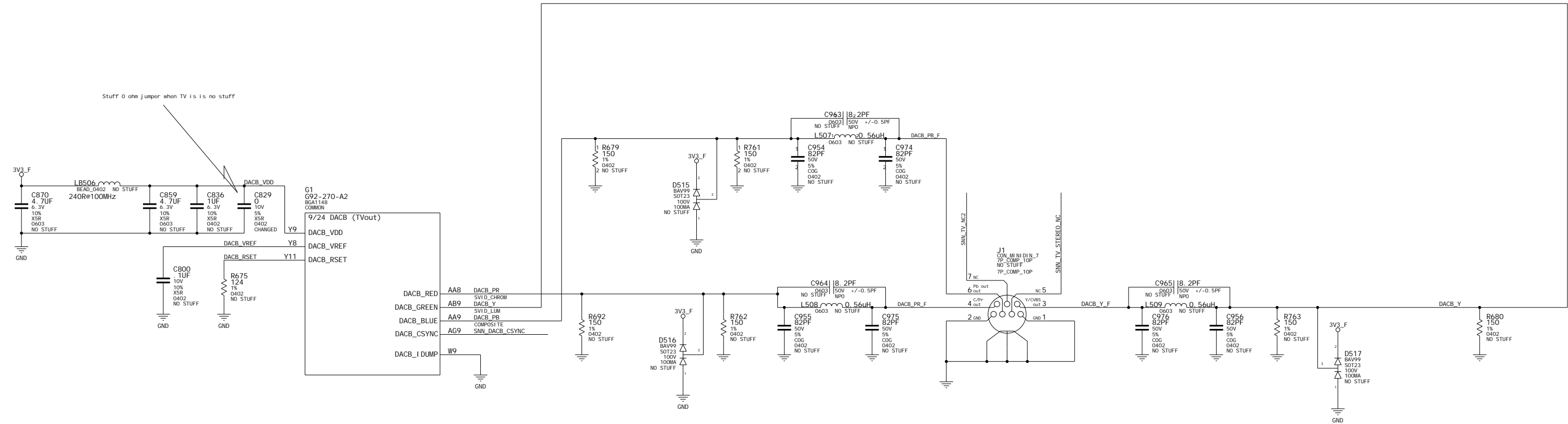
NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
IFPAB_PLLVDD	1.8V	0.03A	16MI L
IFPAB_I0VDD	3.3V	0.09A	16MI L
IFPCD_I0VDD	3.3V	0.09A	16MI L

	NET	VOLTAGE	MAX_CURRENT	MIN_WI DTH
1N	I FPAB_PLLVDD	1.8V	0.03A	16MIL
1N	I FPAB_I OVDD	3.3V	0.09A	16MIL
1N	I FPCD_I OVDD	3.3V	0.09A	16MIL

DACB NET RULES

NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
DACB_PR	1	75OHM	
DACB_Y	1	75OHM	
DACB_PB	1	75OHM	
DACB_PR_F	1	75OHM	
DACB_Y_F	1	75OHM	
DACB_PB_F	1	75OHM	

NET	VOLTAGE	MAX_CURRENT	MIN_WIDTH
DACB_VDD	3.3V	0.2A	12MIL
DACB_VREF			12MIL
DACB_RSET			12MIL



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NAME

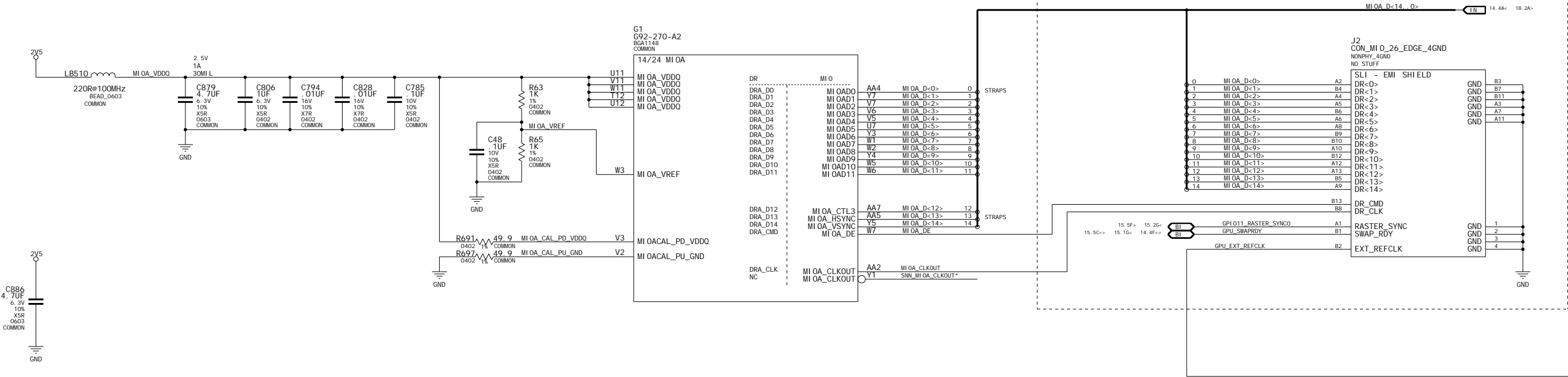
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MI O Feature Connector



MI O NET RULES

NET	NV_CRIT I CAL	NV_I MPEDANCE	DI FFPAI R
1B 2A< 14. 1H< MI OA D<14_ 0>	1	50OHM	
1B 2A< 14. 1H< MI OA_CLKOUT	1	50OHM	
1B 2A< 14. 1H< MI OA_DE	1	50OHM	
1B 2A< 14. 3G< MI OB D<14_ 0>	1	50OHM	
1B 2A< 14. 3G< MI OB_CLKOUT	1	50OHM	
1B 2A< 14. 3G< MI OB_DE	1	50OHM	
1B GPU_EXT_REFCLK	1	50OHM	
NET	VOLTAGE	MAX_CURRENT	MI N_WI DTH
1B MI OA_VREF	1. 25V		12MI L
1B MI OACAL_PD_VDDQ			12MI L
1B MI OACAL_PU_GND			12MI L
1B MI OB_VREF	1. 25V		12MI L
1B MI OBCAL_PD_VDDQ			12MI L
1B MI OBCAL_PU_GND			12MI L

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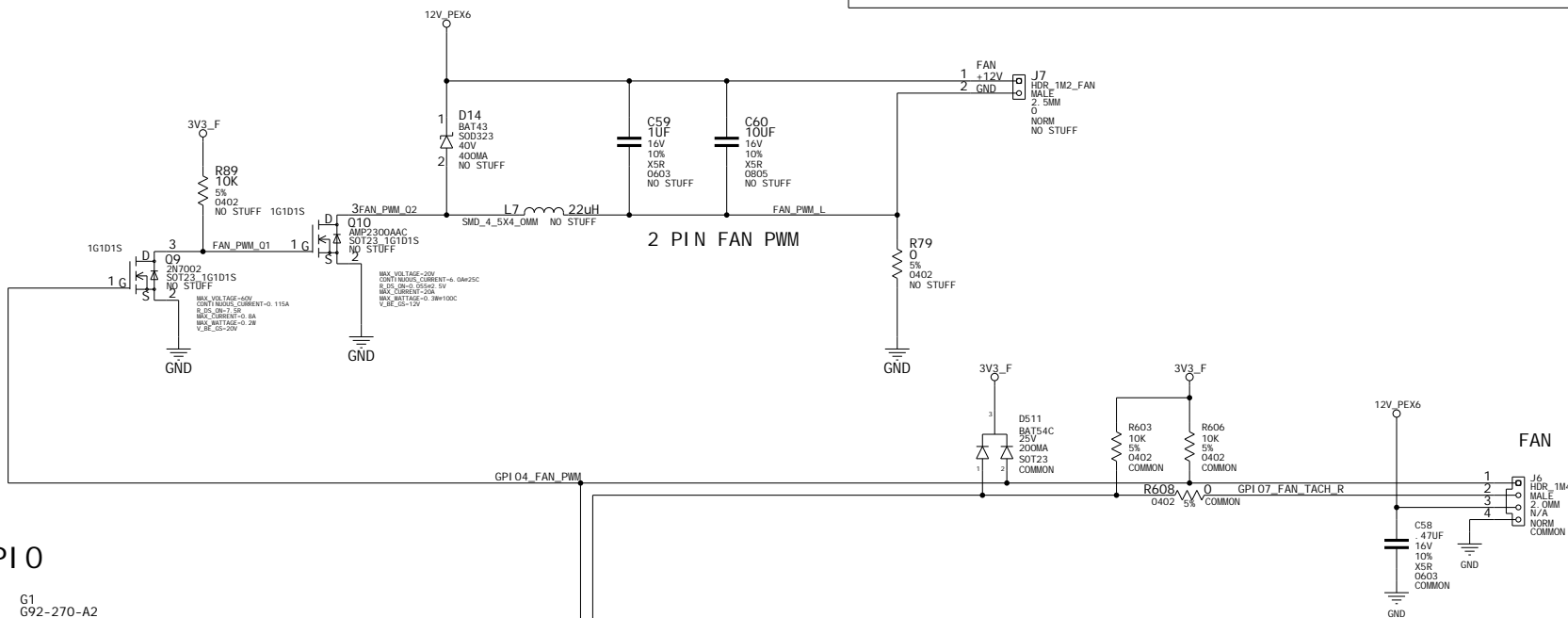
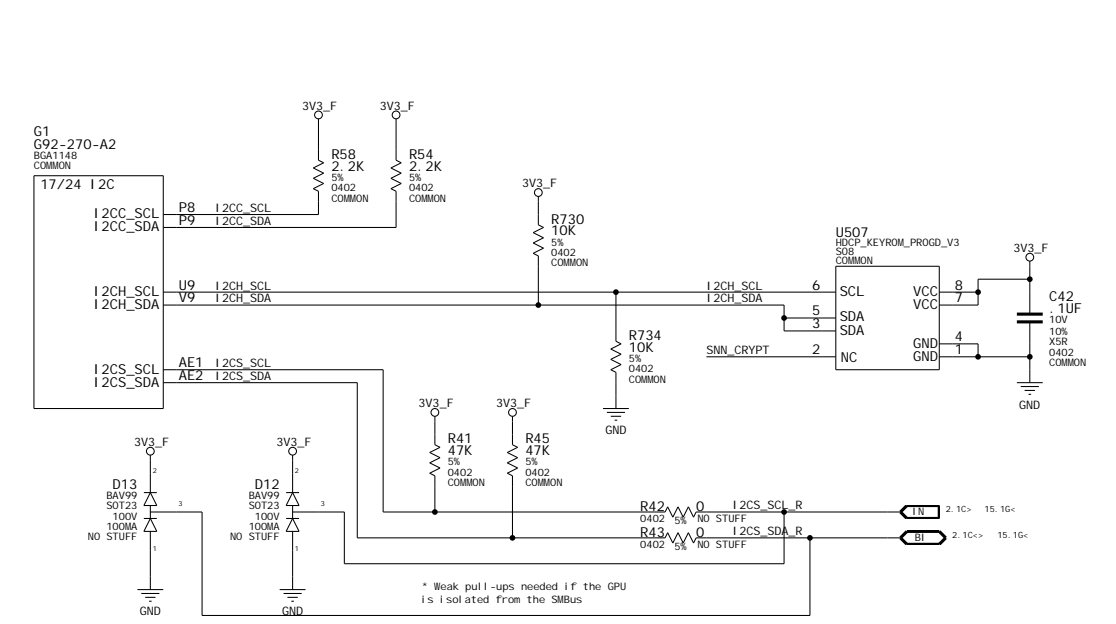
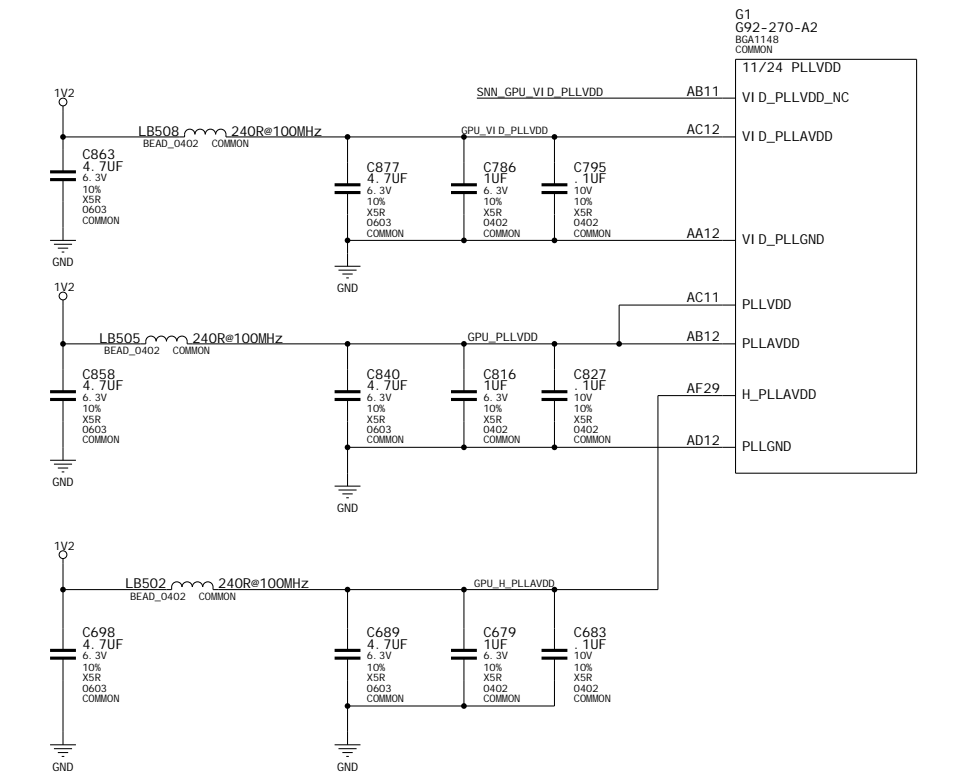
ASSEMBLY	P391 G92 512MB GDDR3 16Mx32 DVI-I+DVI-I
PAGE DETAIL	Multi-use IO(MIO) Interface

Page15: MI SC: GPIO, I2C, BIOS, and PLL
PLLVDV/VID_PLLVDV

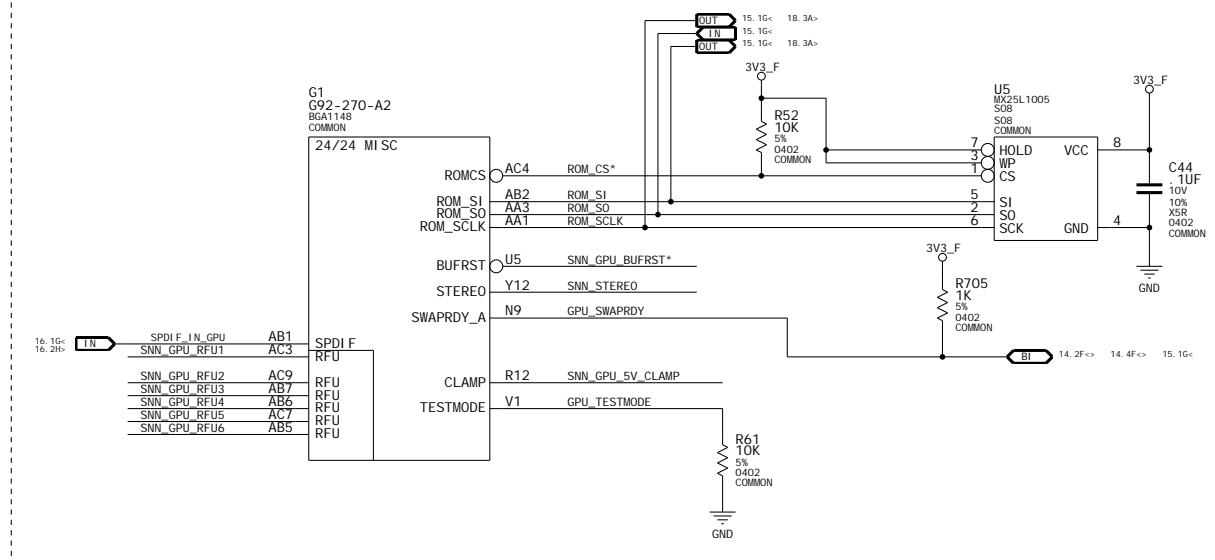
I2CC / I2CH(+ HDCP ROM) / I2CS

MISC NET RULES

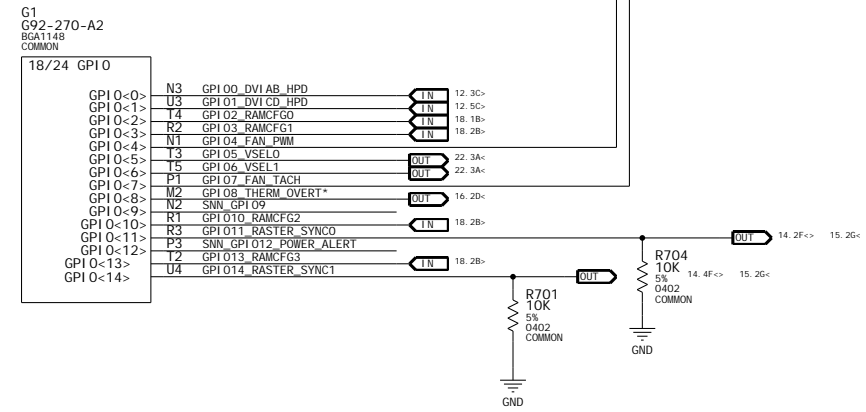
NET	NV_CRI TICAL	NV_I MPEDANCE	DIFFPAIR
I2CC_SCL	3	50OHM	
I2CC_SDA	3	50OHM	
I2CH_SCL	3	50OHM	
I2CH_SDA	3	50OHM	
I2CS_SCL	3	50OHM	
I2CS_SDA	3	50OHM	
I2CS_SCL_R	3	50OHM	
I2CS_SDA_R	3	50OHM	
ROM_CS*	3	50OHM	
ROM_SI	3	50OHM	
ROM_SO	3	50OHM	
ROM_SCLK	3	50OHM	
GPU_SWAPRDY	3	50OHM	
GPI014_RASTER_SYNC1	3	50OHM	
GPI011_RASTER_SYNC0	3	50OHM	
NET	VOLTAGE	MAX_CURRENT	MIN_WI DTH
GPU_PLLVDV	1.2V	0.05A	12MIL
GPU_VID_PLLVDV	1.2V	0.05A	12MIL
GPU_H_PLLVDV	1.2V	0.05A	12MIL



ROM / MI SC (BUFRST/STEREO/SWAPRDY/CLAMP/TESTMODE)



GPIO



GPIO	I/O	Function
0	IN	DVI Hotplug Detect South
1	IN	DVI Hotplug Detect MID
2	IN	FB CFG0
3	IN	FB CFG1
4	OUT	Fan PWM Output
5	OUT	Vol tage Select 0
6	OUT	Vol tage Select 1
7	IN	Fan Tach Input
8	OUT	THERM_OVERT*
9	N/A	NOT USED
10	IN	FB CFG2
11	OUT	RASTER (SLI) SYNC0
12	N/A	NOT USED
13	IN	FB CFG3
14	IN	RASTER (SLI) SYNC1

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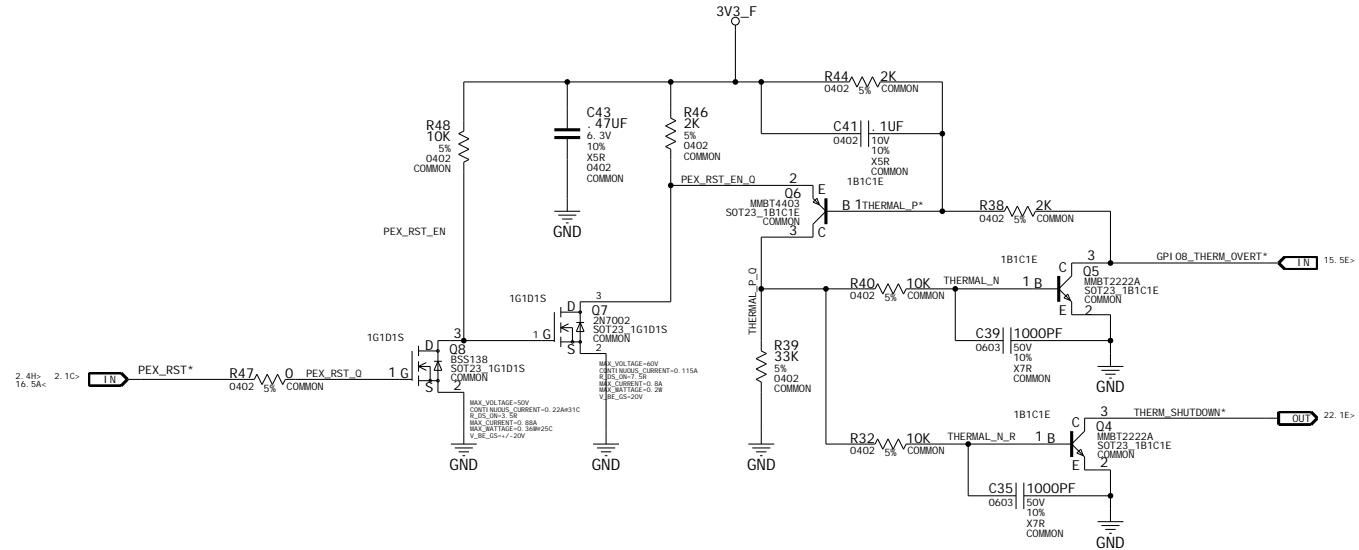
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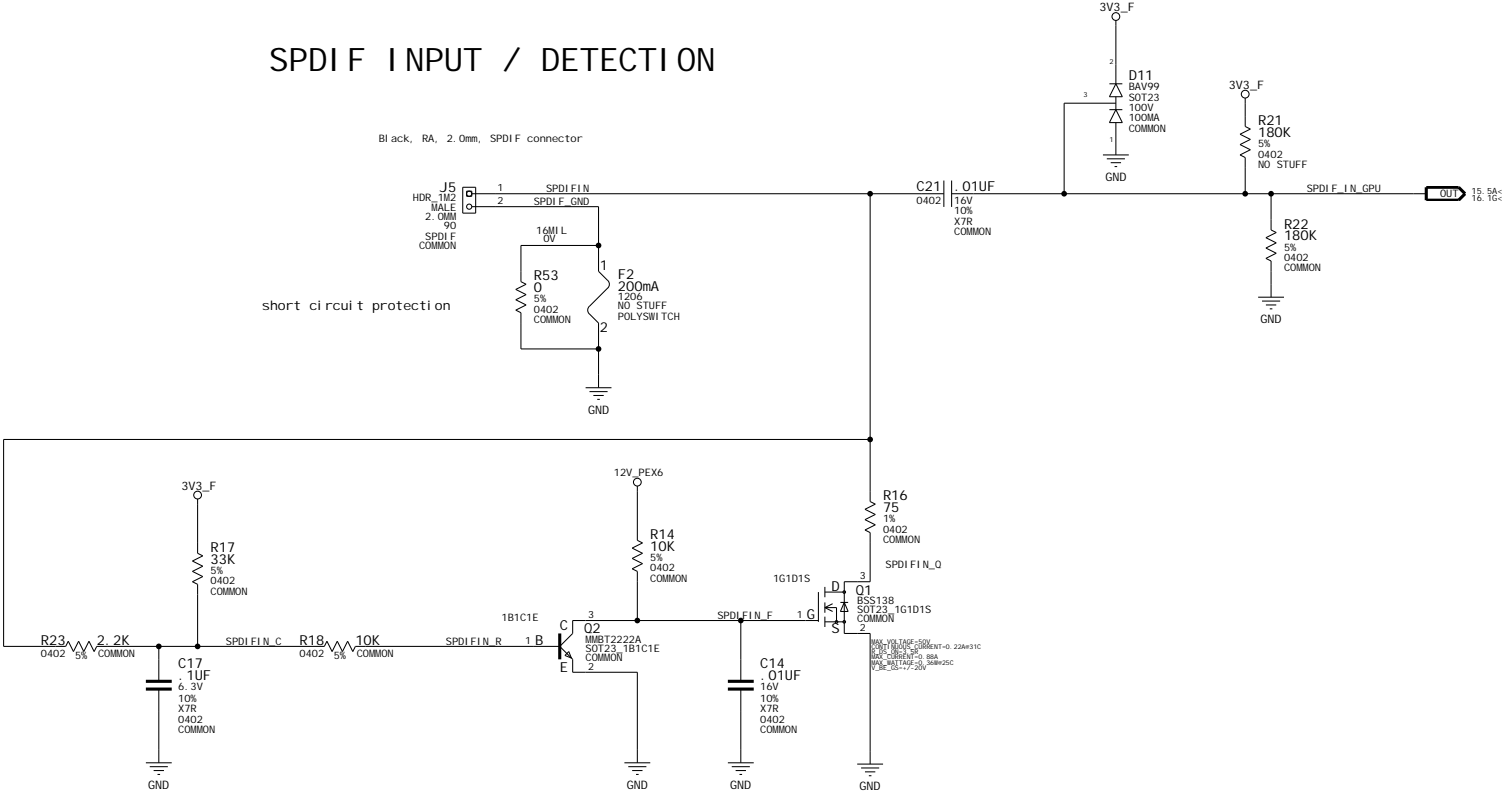
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NET	IMPEDANCE	NV_CRITICAL_NET	MIN_LINE_WIDTH
SPDIFIN_Q	54OHM	1	
SPDIFIN_GPU	54OHM	1	
XTAL_SSIN		1	500HM
XTAL_IN		1	500HM
XTAL_OUT		1	500HM
XTAL_OUTBUFF		1	500HM

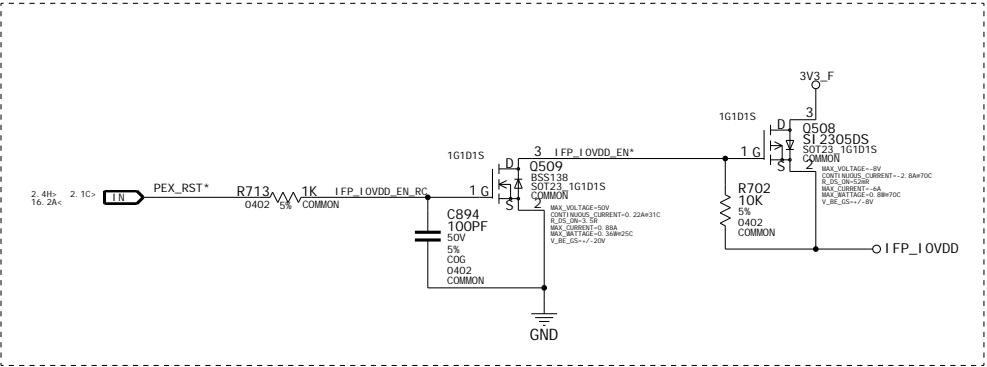
Thermal Protection



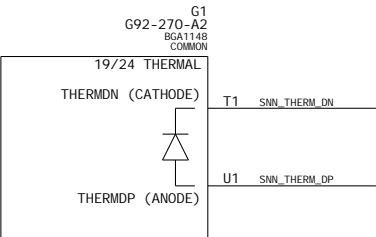
SPDIF INPUT / DETECTION



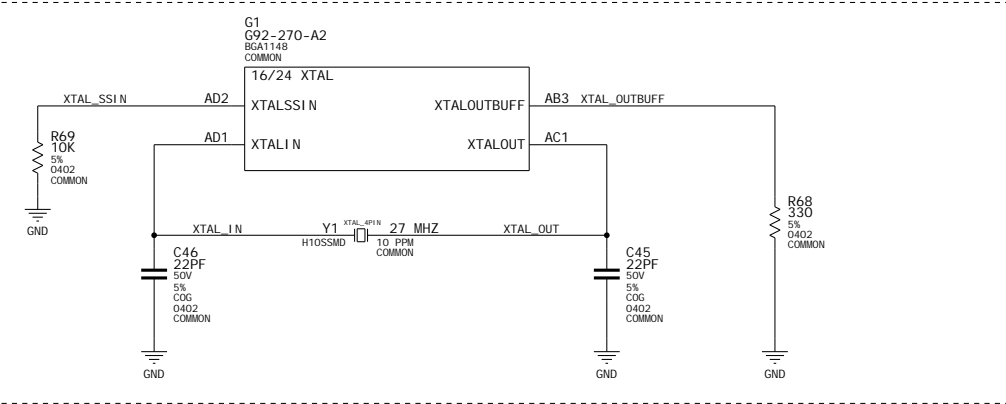
TMD5 BACKDRIVE



THERMAL CONTROL



XTAL



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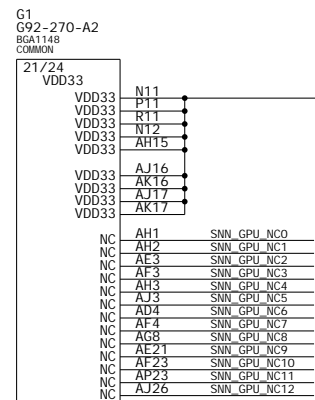
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NAME gachen DATE 08-AUG-2008

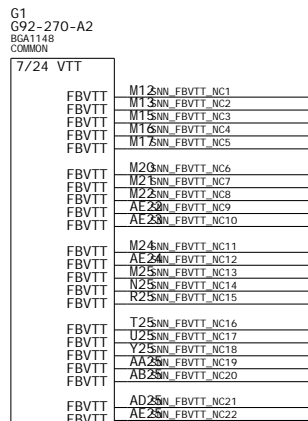
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Page17: Power/GND and Decoupling

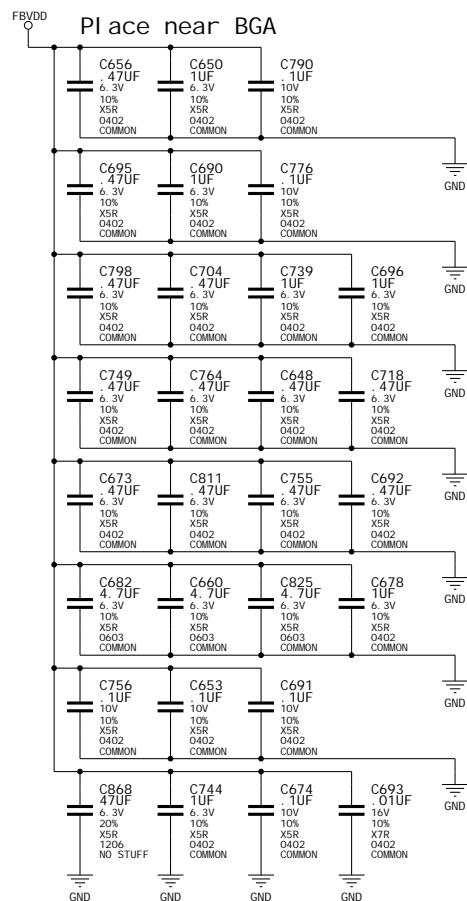
VDD33



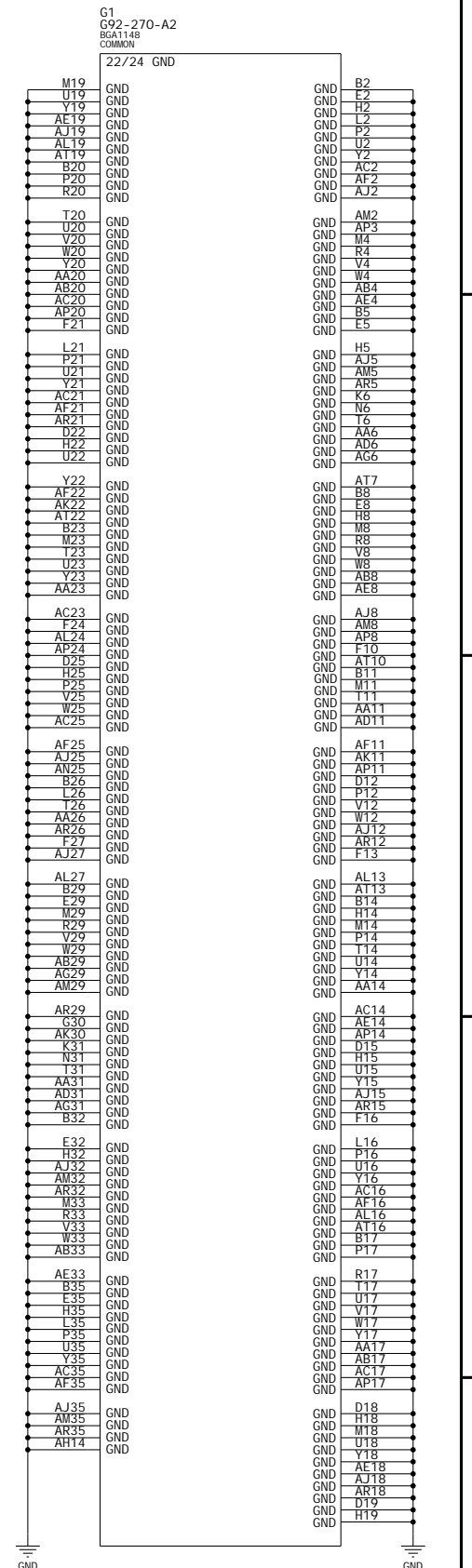
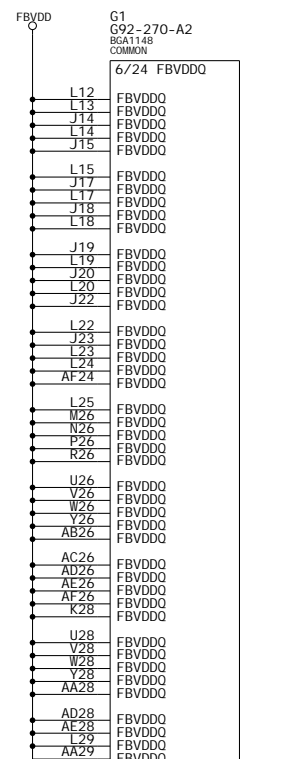
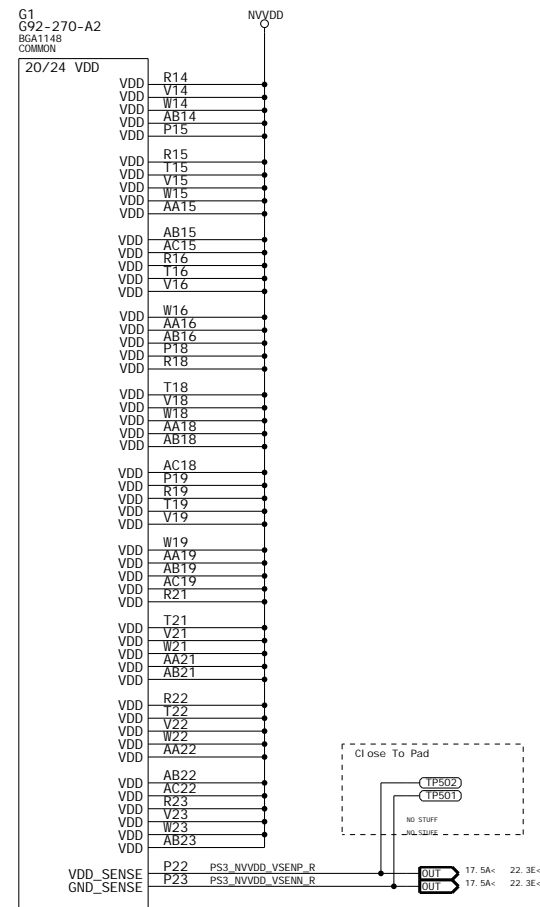
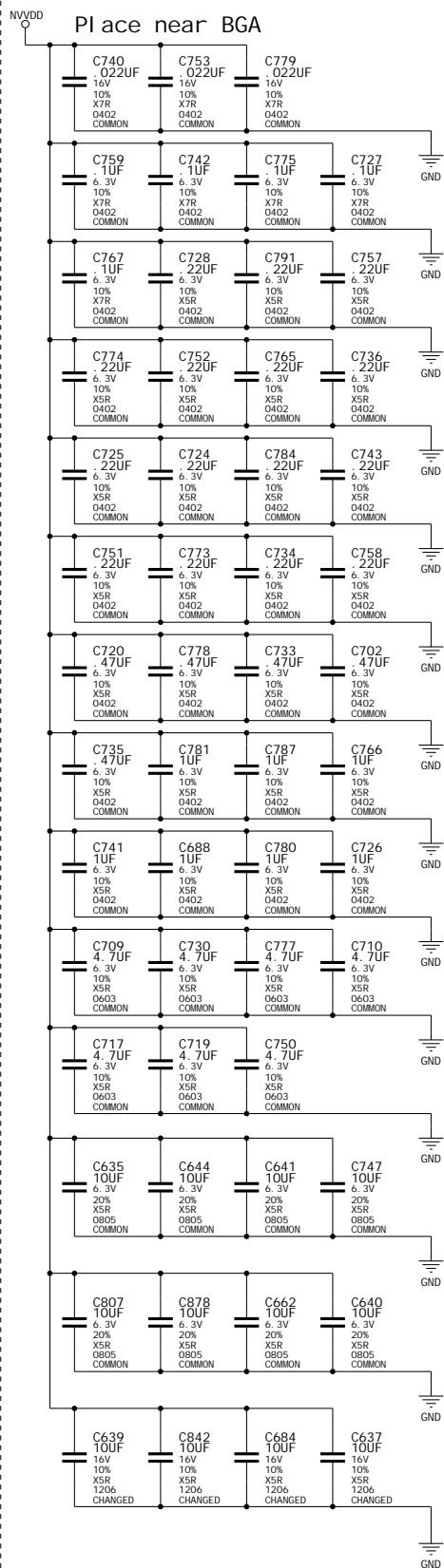
FBVTT



FBVDDQ



NVVDD



ASSEMBLY	
PAGE DETAIL	Power/GND and Decoupling

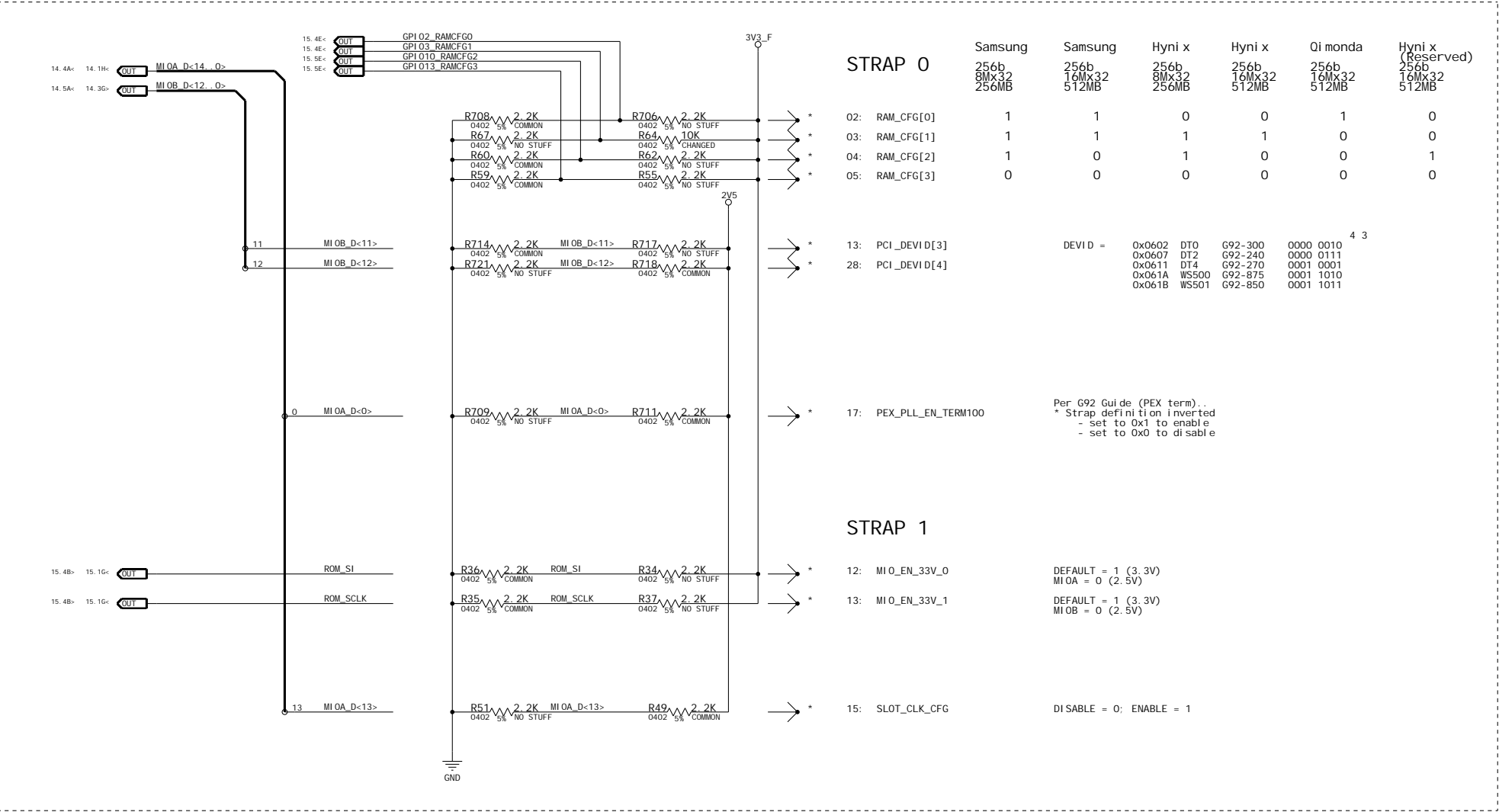
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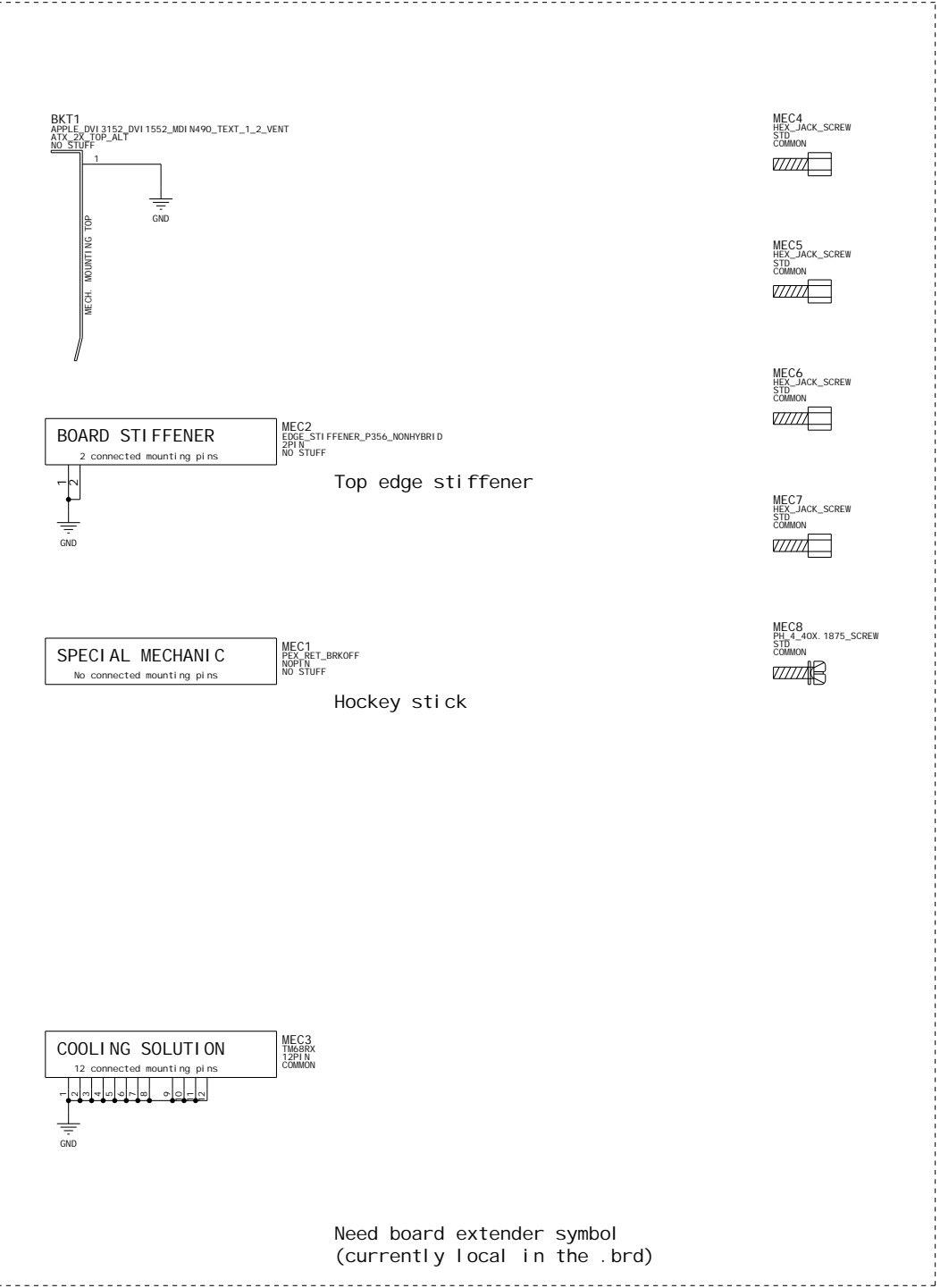
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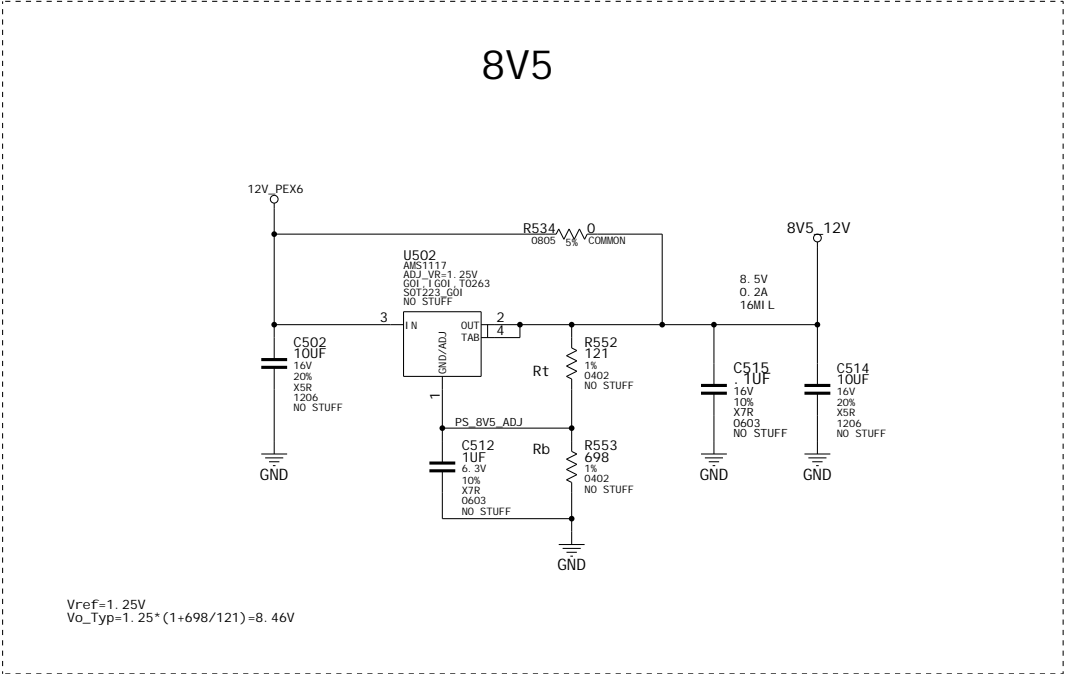
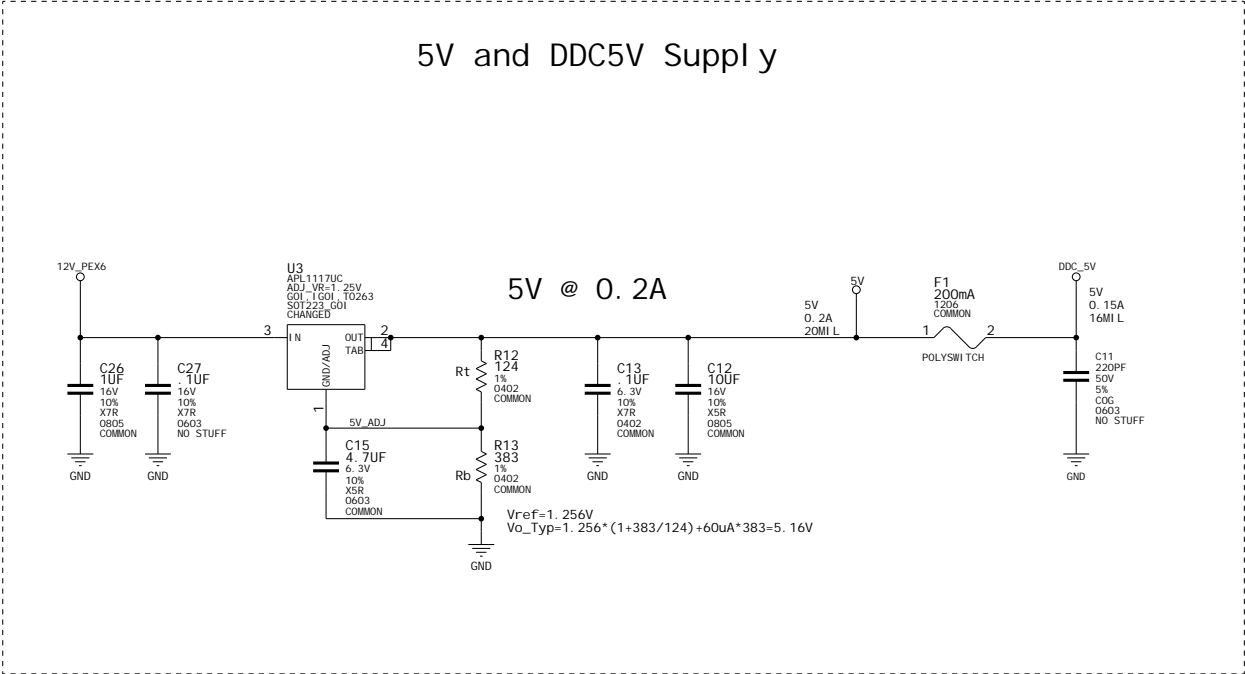
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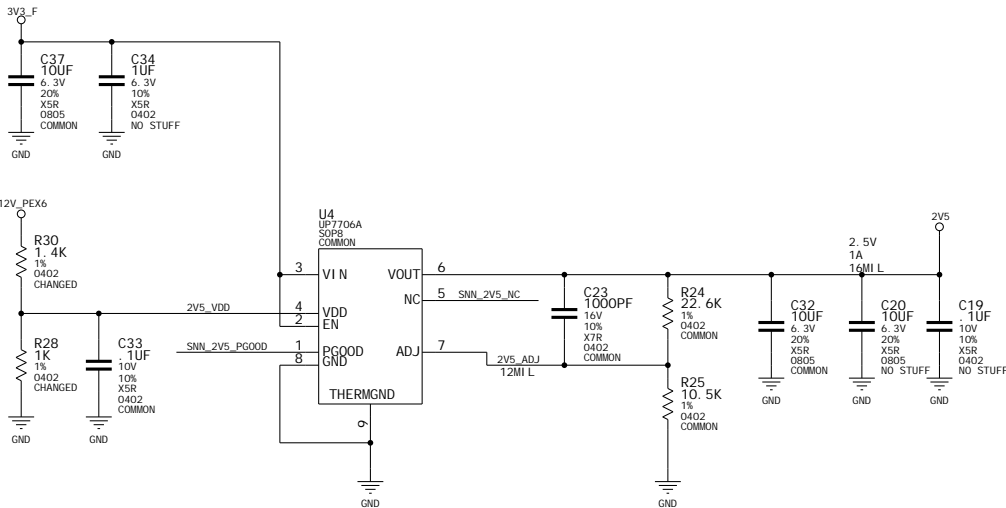
STRAPS



MECHANICAL

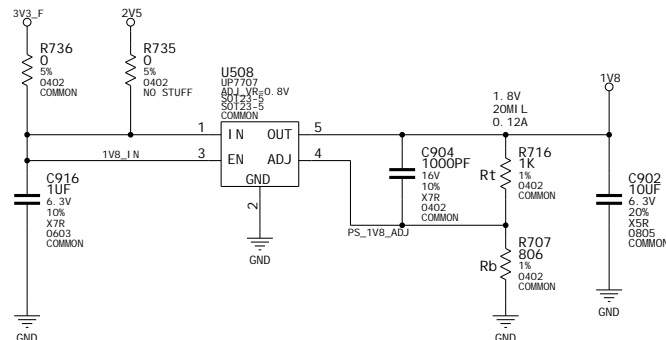




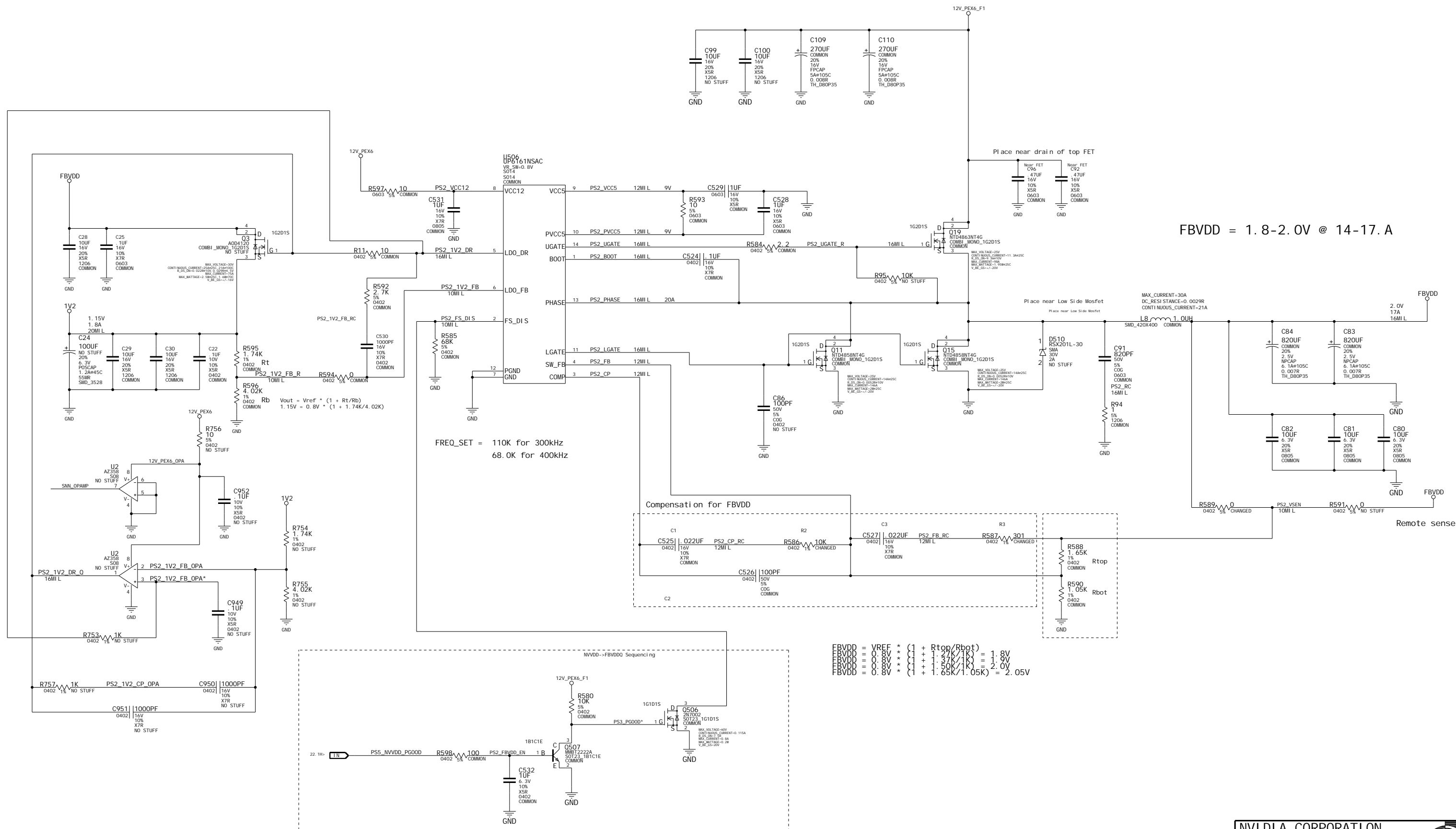


$$V_{out} = V_{ref} * (1 + R_t/R_b)$$

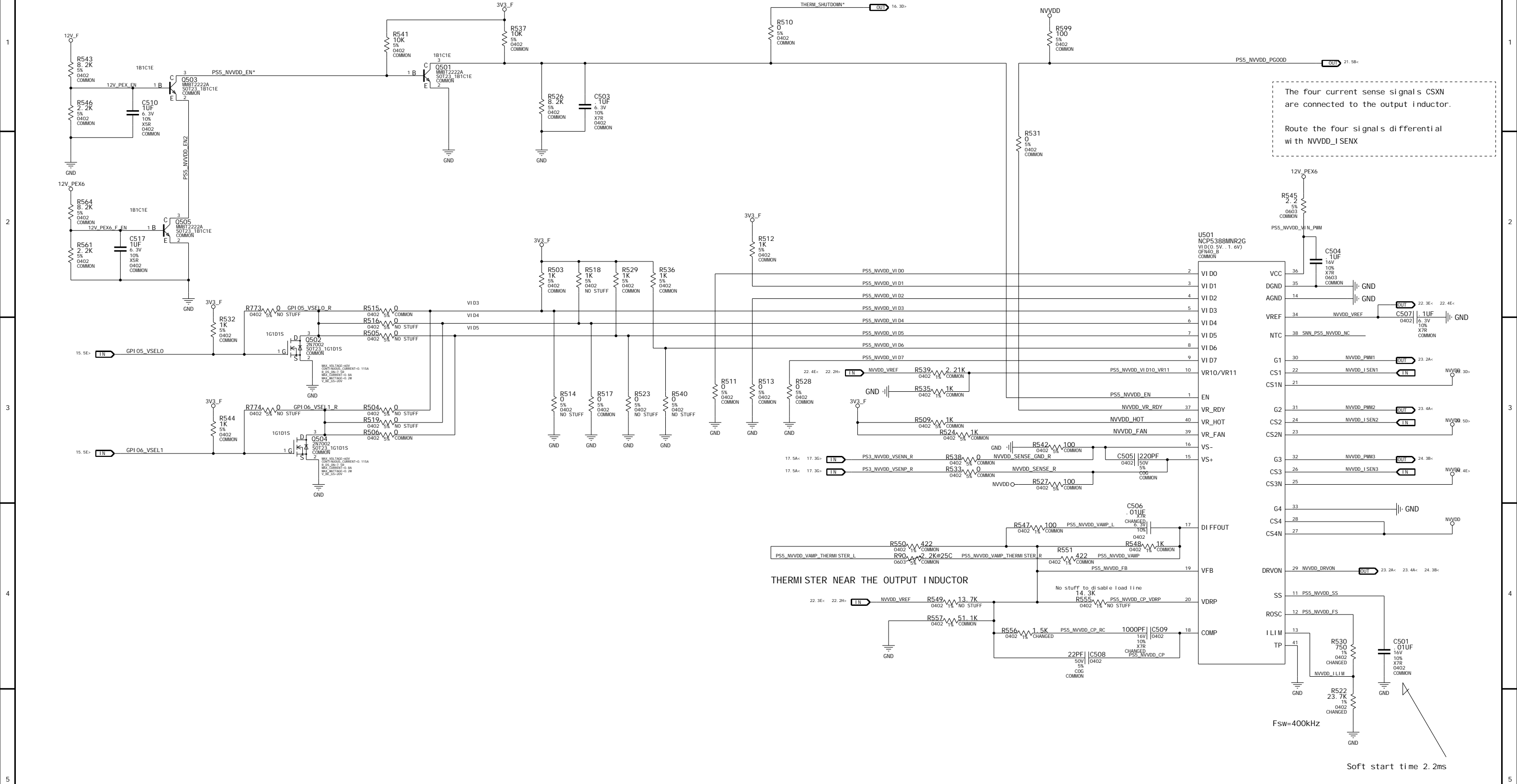
$$2.52 = 0.8 * (1 + 22.6/10.5)$$



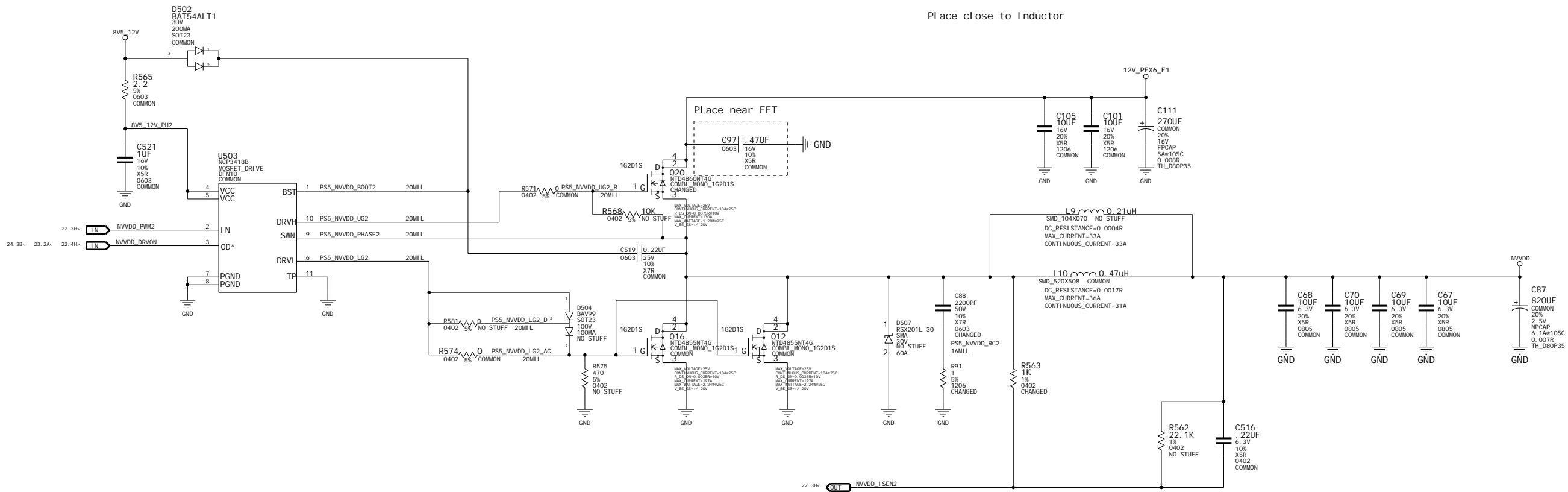
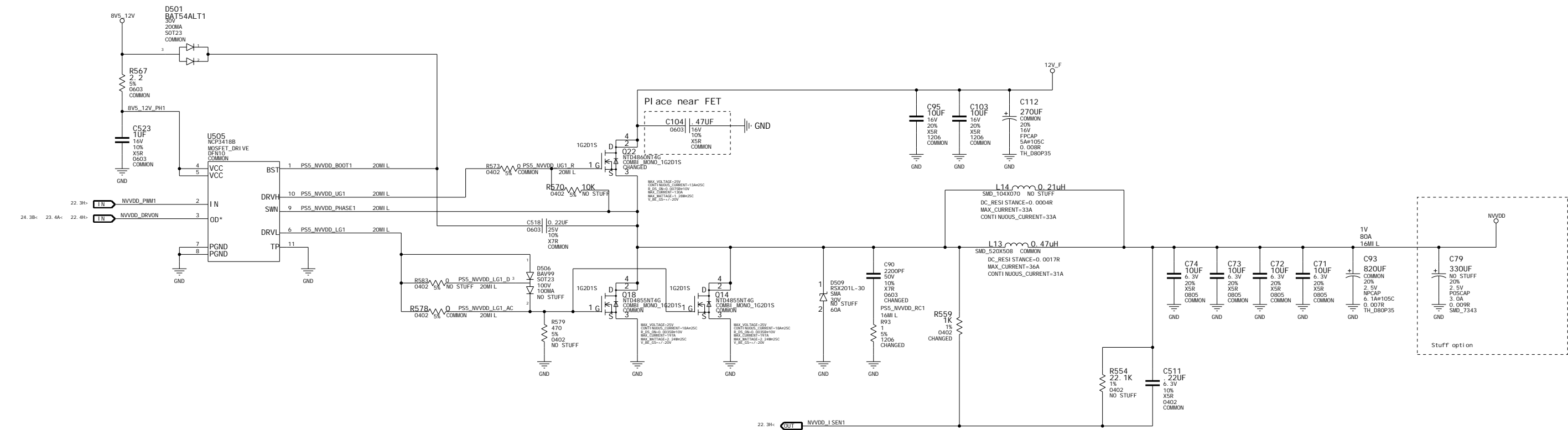
$$V_{o_Typ} = 0.8 \cdot (1 + 1/0.806) = 1.793V$$



Page22: Power Supply: NVVDD Regulator



Page23: Power Supply: NVVDD Phase 1, 2



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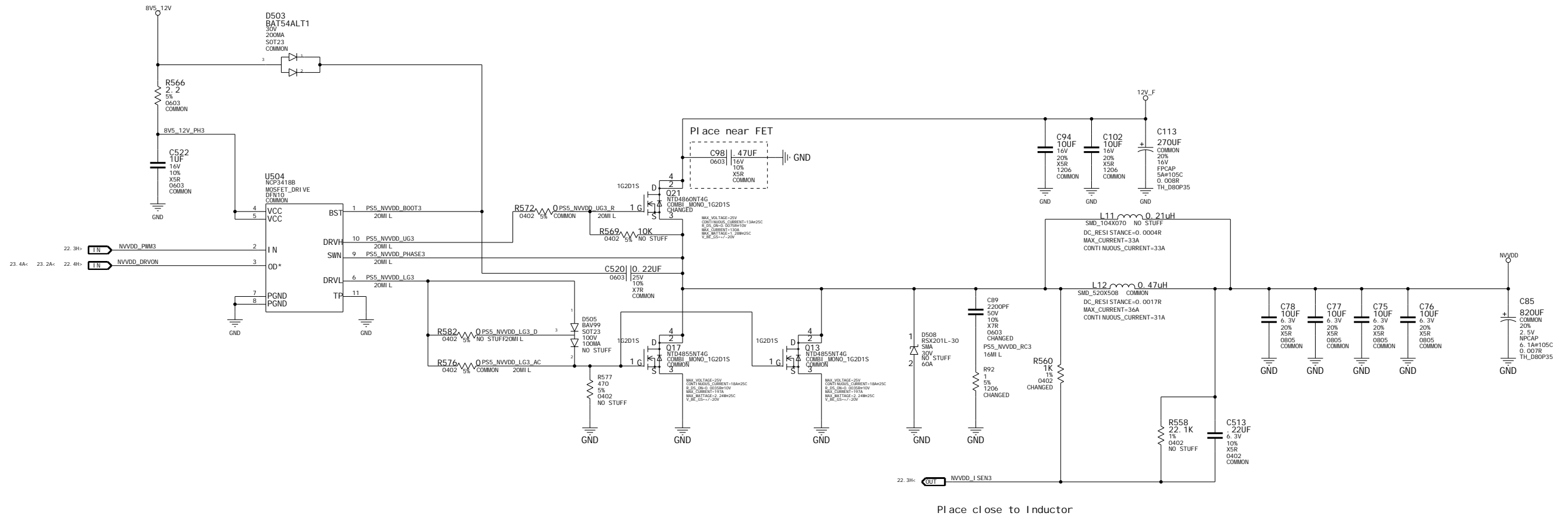


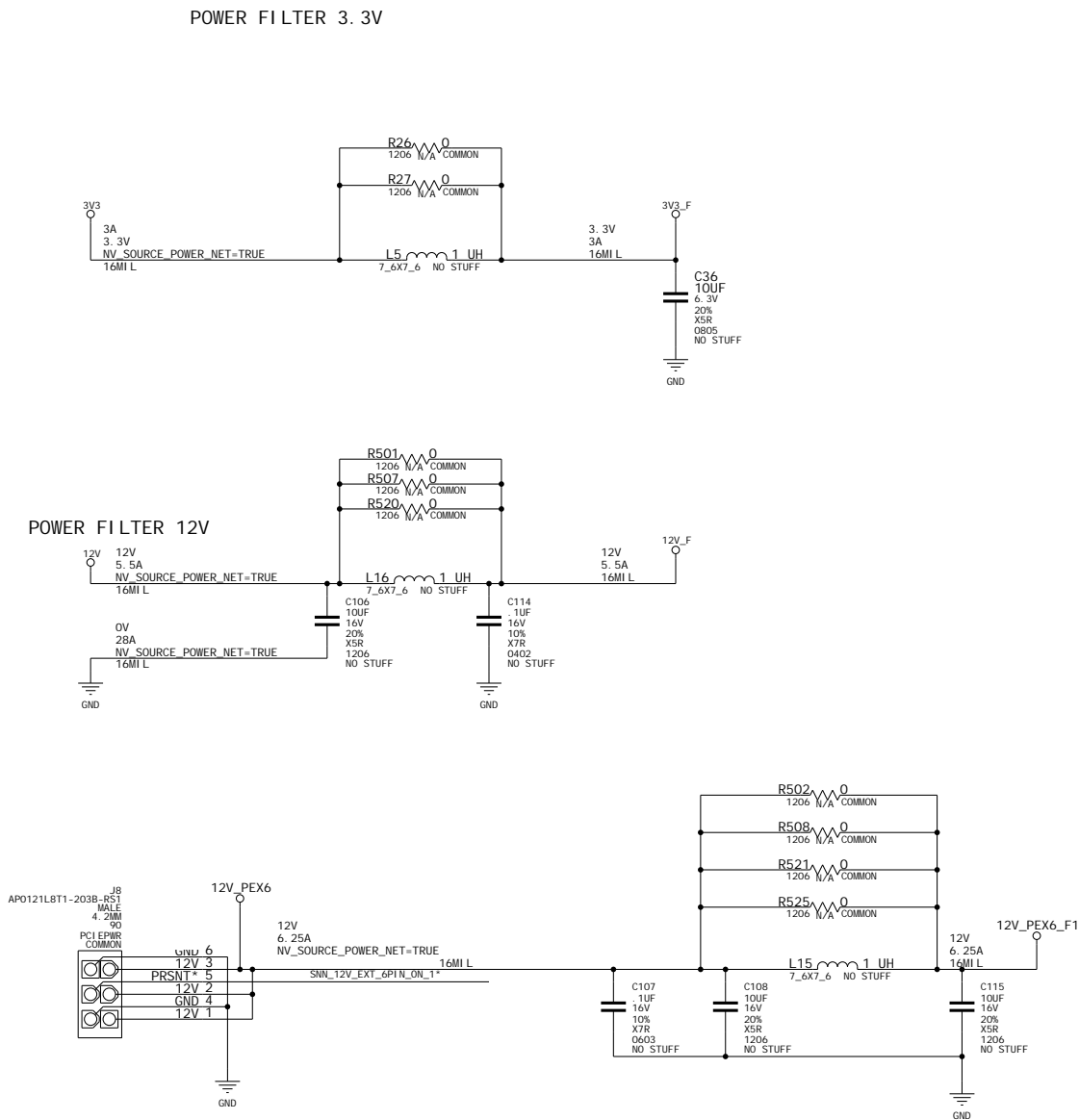
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A			B			C			D			E			F			G			H		
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A		B		C		D		E		F		G		H	
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	R608	[15. 4G]	R704	[15. 5F]											
	R609	[5. 2E]	R705	[15. 5C]											
	R610	[5. 1H]	R706	[18. 2C]											
	R611	[5. 2B]	R707	[20. 3F]											
	R612	[5. 1H]	R708	[18. 2B]											
	R613	[6. 1H]	R709	[18. 3B]											
	R614	[6. 3H]	R710	[8. 2D]											
	R615	[6. 3H]	R711	[18. 3C]											
	R616	[5. 1H]	R712	[8. 2D]											
	R617	[5. 2B]	R713	[16. 5A]											
	R618	[5. 3D]	R714	[18. 2B]											
	R619	[5. 3H]	R715	[8. 2E]											
	R620	[5. 3H]	R716	[20. 3F]											
	R621	[5. 1H]	R717	[18. 2C]											
	R622	[5. 1H]	R718	[18. 2C]											
	R623	[6. 1H]	R719	[8. 3H]											
	R624	[6. 2D]	R720	[8. 1H]											
	R625	[6. 2B]	R721	[18. 2B]											
	R626	[5. 3D]	R722	[8. 3H]											
2	R627	[6. 2E]	R723	[2. 1E]											
	R628	[6. 2E]	R724	[2. 1C]											
	R629	[5. 1H]	R725	[8. 1H]											
	R630	[6. 1H]	R726	[8. 1H]											
	R631	[5. 1H]	R727	[2. 1E]											
	R632	[6. 2D]	R728	[2. 1C]											
	R633	[5. 2D]	R729	[2. 1E]											
	R634	[5. 2E]	R730	[15. 1E]											
	R635	[5. 2E]	R731	[8. 1H]											
	R636	[6. 2B]	R732	[2. 1C]											
	R637	[6. 2B]	R733	[2. 1E]											
	R638	[6. 2A]	R734	[15. 2E]											
	R639	[6. 2A]	R735	[20. 3E]											
	R640	[6. 2B]	R736	[20. 3E]											
	R641	[6. 1H]	R737	[2. 1E]											
	R642	[6. 2H]	R738	[2. 1C]											
	R643	[6. 2H]	R739	[2. 1C]											
	R644	[6. 3D]	R740	[2. 1C]											
	R645	[6. 3D]	R741	[8. 2B]											
	3	R646	[6. 1H]	R742	[8. 2B]										
R647		[3. 5A]	R743	[8. 2H]											
R648		[3. 3H]	R744	[8. 2B]											
R649		[7. 2D]	R745	[8. 2H]											
R650		[7. 3H]	R746	[8. 2H]											
R651		[7. 1H]	R747	[8. 3D]											
R652		[3. 4D]	R748	[8. 3D]											
R653		[7. 3H]	R749	[8. 2B]											
R654		[7. 2E]	R750	[8. 2H]											
R655		[3. 4D]	R751	[8. 2A]											
R656		[3. 4D]	R752	[8. 2A]											
R657		[3. 4A]	R753	[21. 4A]											
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R659		[7. 1H]	R755	[21. 4B]											
R660		[3. 4H]	R756	[21. 3B]											
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R662		[7. 1H]	R758	[11. 5E]											
R663		[3. 4H]	R759	[11. 3E]											
R664		[3. 5E]	R760	[11. 4E]											
4		R665	[3. 4E]	R761	[13. 3D]										
	R666	[7. 1H]	R762	[13. 4D]											
	R667	[3. 3D]	R763	[13. 4G]											
	R668	[7. 2B]	R764	[10. 5E]											
	R669	[4. 3D]	R765	[10. 3E]											
	R670	[7. 2B]	R766	[10. 4E]											
	R671	[10. 4D]	R767	[11. 2E]											
	R672	[10. 3D]	R768	[11. 1F]											
	R673	[10. 5D]	R769	[11. 1F]											
	R674	[11. 5D]	R770	[10. 1D]											
	R675	[13. 4B]	R771	[10. 1D]											
	R676	[7. 2B]	R772	[11. 2E]											
	R677	[10. 3B]	R773	[22. 2B]											
	R678	[4. 3H]	R774	[22. 3B]											
	R679	[13. 3D]	TP501	[17. 3G]											
	R680	[13. 4H]	TP502	[17. 3G]											
	R681	[11. 3D]	U1	[10. 2D 10. 2D]											
	R682	[2. 4E]	U1	[11. 2D 11. 2D]											
	R683	[11. 4D]	U2	[21. 3A 21. 4A]											
	5	R684	[7. 2H]	U3	[19. 3B]										
R685		[12. 1B]	U4	[20. 3C]											
R686		[7. 2A]	U5	[15. 4C]											
R687		[11. 3B]	U501	[22. 3G]											
R688		[7. 1H]	U502	[19. 3F]											
R689		[7. 2A]	U503	[23. 4B]											
R690		[7. 2A]	U504	[24. 3C]											
R691		[14. 2C]	U505	[23. 2B]											
R692		[13. 4C]	U506	[21. 2C]											
R693		[7. 2H]	U507	[15. 2E]											
R694		[7. 3D]	U508	[20. 3F]											
R695		[7. 3D]	Y1	[16. 5G]											
R696		[7. 2H]													
R697		[14. 2C]													
R698		[12. 3B]													
R699		[14. 4C]													
R700		[14. 4C]													
R701		[15. 5E]													
R702		[16. 5C]													
ASSEMBLY P391 G92 512MB GDDR3 16Mx32 DVI -I +DVI -I														NVIDIA CORPORATION	
PAGE DETAIL Cref 4														2701 SAN TOMAS EXPRESSWAY	
														SANTA CLARA, CA 95050, USA	
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A		B		C		D		E		F		G		H	