P162, NV34V, 8Mx16DDR, 128MB, Video OUT, VGA

Page Overview

P160 HISTORY:

X00	INITIAL VERSION
X01	Cleaned up schematics - changes from initial design review meeting
X02	Imported board file #65 and synchronized with latest version of schematics.
X03	Nov 18/02 - Replaced LB502 with an 805 bead, changed PLLVDD rail to 3V3 instead of A3V3, and removed AGPVDDQ deoupling caps C130, C257, and C570.
X04	Nov 21/02 - C75 is changed to decouple 3V3 to GND.
X05	Nov 22/02 - VIP interface rail changed to 3V3 instead of A3V3 due to short between VIPVDDQ and VDD33.
X06	Nov 25/02 - FRWR_VAUXP rail changed to 3V3.
X07	Nov 26/02 - Changed DACB_LOAD_TEST GPIO assignment for NV34.
X08	Dec 02/02 - AGP_PLL_VDD and FB_DLLVDD are supplied from A3V3 rail.

P162-A00 History:

1-Added P162 specific features:

- SW PS,TMDS LinkA, Backdrive, new slim VGA, Fan Cntl.
- Added Current sharing, TMDS IO and PLL linear regulators.

2-Added TH parts in PS section as ALT.
3-Added SST serial support.
4-Changed AGP_PLL_VDD, FB_PLLVDD, DAC_A/B_VDD and PLL_VDD to A3V3.
5-Added 10 caps as part of P160 sync up.
6-Added PU resitors on Jtag TMS and TDI
7-Incorporated recommendations from PS Vendor.
8-Added extra X elements near connectors to bridge CGND and GND cut.
9-Added an option to use a single dual FET for low end bd.
10-Fixed error on 6529 power good and current supplement.
11-Changed C302 to 0603 (too big pkg for .1uf in 0805)
12-Deleted C296 and C293 (shared them with C313, C324)
13-Changed C329 and C324 to 0603 pkg.
14-Removed alternate Semtech SW (could not route).

Changes after the design review:

1-Remove C301 and R137-left over from Semtech PS circuit.
2-Remove sync buffer bypass resistors.
3-Remove R122 and R123 from Intersil power rails.
4-Add snubber circuit for NVVDD PS.
5-Add PD res on TP_XTALOUTBUF to terminate the signal.
6-Fan controler PU to 3V3 from A3V3.
7-Cleaned up Unnamed nets.

==========

8-Split CGND into 2 nets (added CGND1 to J6.25 and J2. 16).
9-Added PD resistor on FAN_ON.
10-Added 8 caps for DQS/DQM routings that break plane reference.

X-RELEASE.

P162-A01 History:

Merged net IFPBIOVDD with IFPAIOVDD.
Merged Q4 and Q5 into one package.
Implemented TV signal return scheme thru zero Ohm resistors.

P162-A02 History:

The main changes for this revision is to improve routing for DAC B and
add 100ps inter-pair skew to pass EMC as modeled on A01 board. See 149- document for detail.

600-10162-0000-002

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DETAIL	DRAWING DETAIL CONTINUED...		
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NV34 AGP SECTION AND AGP CONNECTOR

AGP BUS NET_SPACING_TYPE

NV_VREF	12MIL_TRACE	10MIL
AGP_VREFGC	12MIL_TRACE	10MIL
AGP_VREFCG	12MIL_TRACE	10MIL
AGPSTOP		10MIL
AGPMBDET		10MIL
SBA<7..0>		20MIL
SBSTB		25MIL
SBSTB*		25MIL
AGPSTB0		25MIL
AGPSTB0*		25MIL
AGPSTB1		25MIL
AGPSTB1*		25MIL

AGPST0		15MIL
AGPST1		15MIL
AGPST2		15MIL
PCIDEVSEL*		10MIL
PCIPAR		10MIL
PCIINTA*		10MIL
PCIINTB*		10MIL
AGPRBF*		10MIL
AGPWBF*		10MIL
AGPDBI_HI		20MIL
AGPDBI_LO		20MIL

PCIAD<31..0>		20MIL
PCICBE<3..0>		20MIL
PCICLK		20MIL
PCIRST*		10MIL
PCIREQ*		10MIL
PCIGNT*		10MIL
PCIFRAME*		10MIL
PCIIRDY*		10MIL
PCITRDY*		10MIL
PCISTOP*		10MIL

NO STUFF

CN501
CON_AGP

U8
NV34_DKTP_V_A1
BGA701
COMMONCHNG

1/11 PCI/AGP

AGP 2x,4x | AGP 8x

AGP2x4x | AGP8x | AGP2x4x

PCIAD<31..0>

Split plane decoupling
place top, near AGP connector

Split plane decoupling
place bottom, near PCICLK

PCICBE<3..0>

AGP univ

PLACE NEAR GPU

PLACE NEAR AGP

AGPVDDQ Decoupling

NVVDD Decoupling

3V3 Decoupling

NOT USED ON NV18

For NV18B A02 and lower R92 = 56.2

For NV18B rev A02 and lower R101= 121K
For NV18B rev A03 and higher and NV31/34r R101= 158K

if easier to connect
use A3V3 instead of 3V3

[..] = NOT USED ON NV18
[...] = NOT USED ON NV31/34

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DETAIL	NVxx AGP Section and AGP connector		
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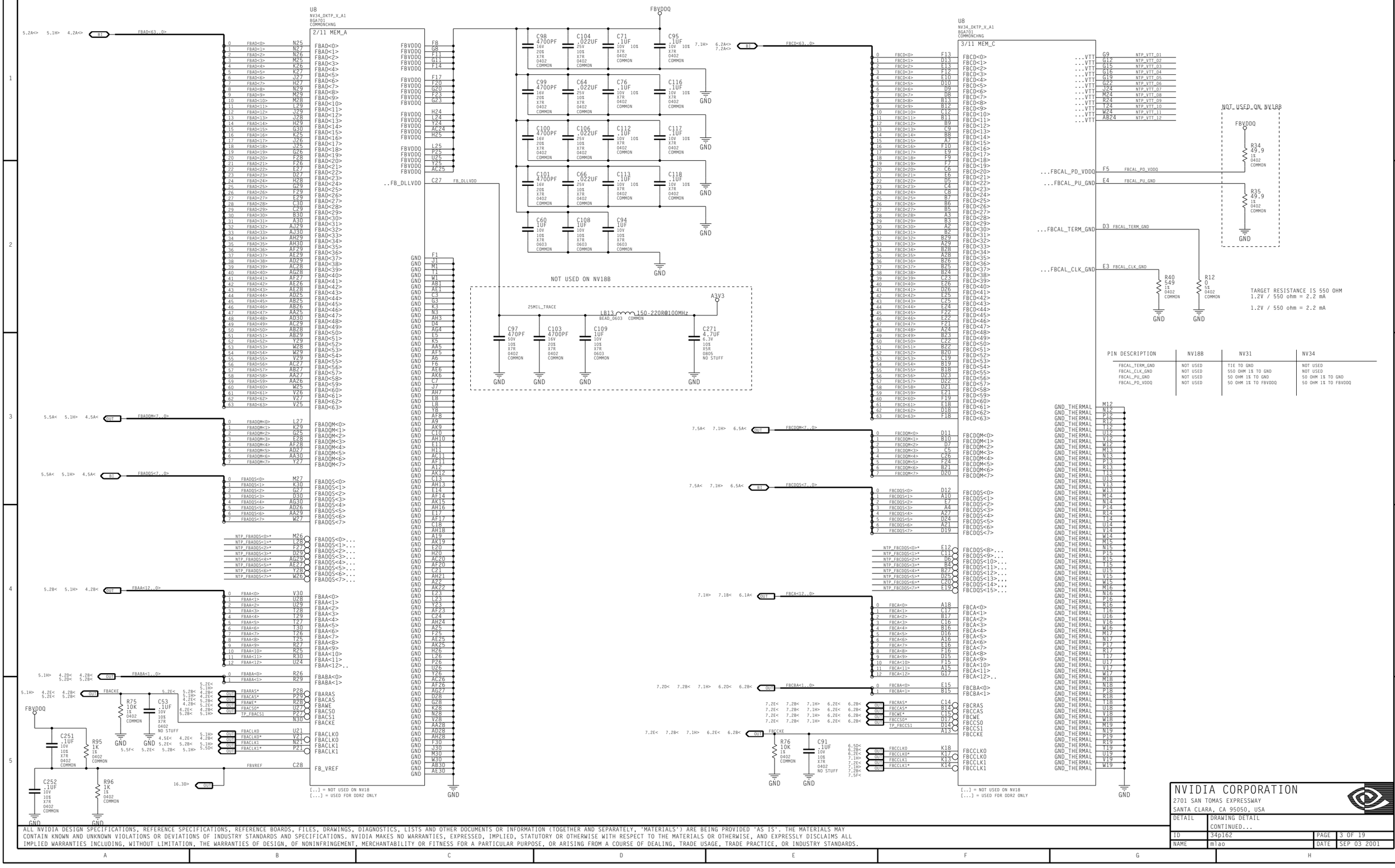

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DETAIL	DRAWING DETAIL CONTINUED...		
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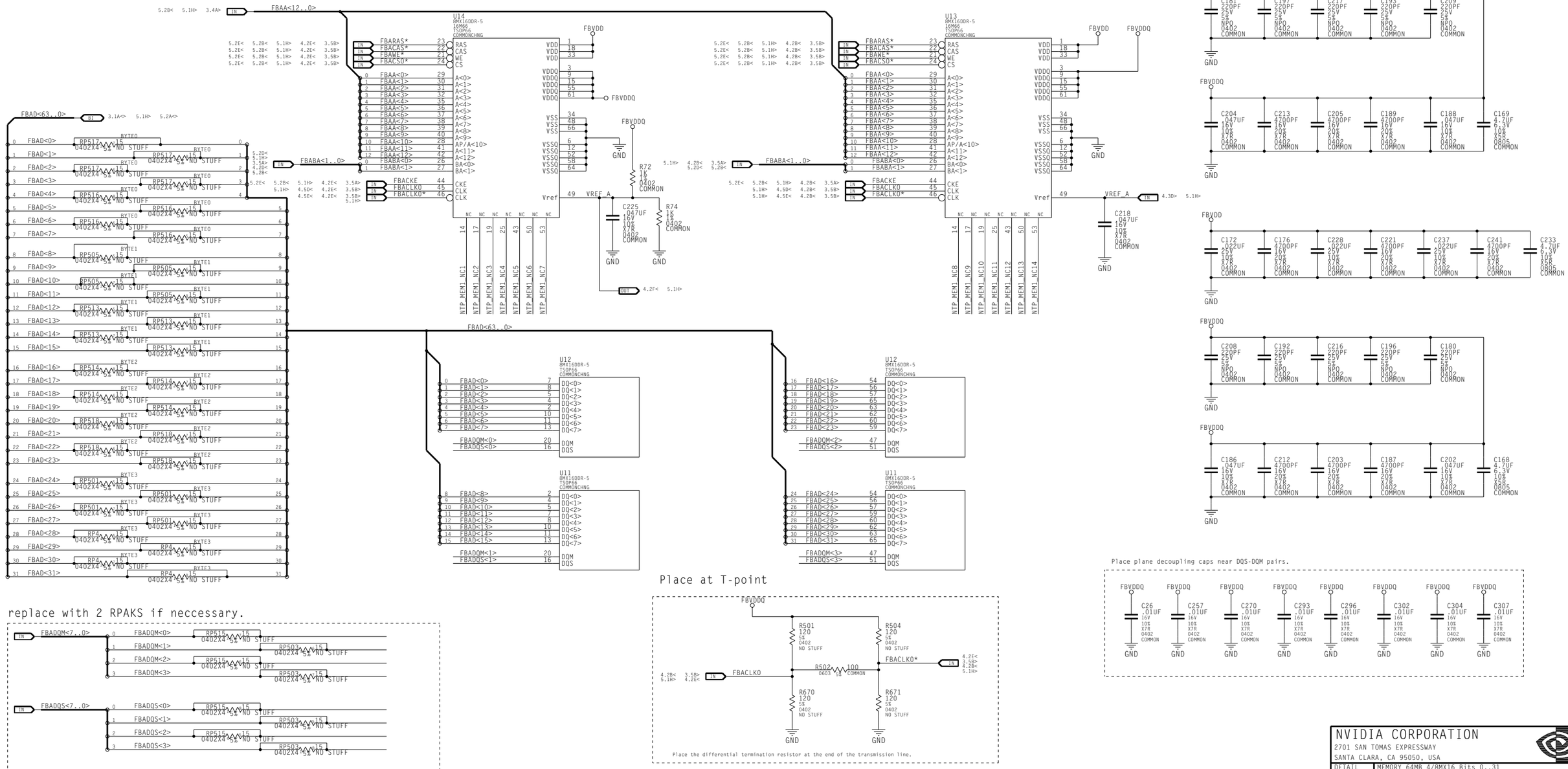
MEMORY 1st bank 0..31
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

NV31 FB i/f can be configured in two ways:
2x64 bits or 2x32 bits

THIS REQUIRES THAT BOTH PARTITIONS

TO BE CONNECTED TO BE FUNCTIONAL



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DETAIL	MEMORY 64MB 4/8MX16 Bits 0..31		
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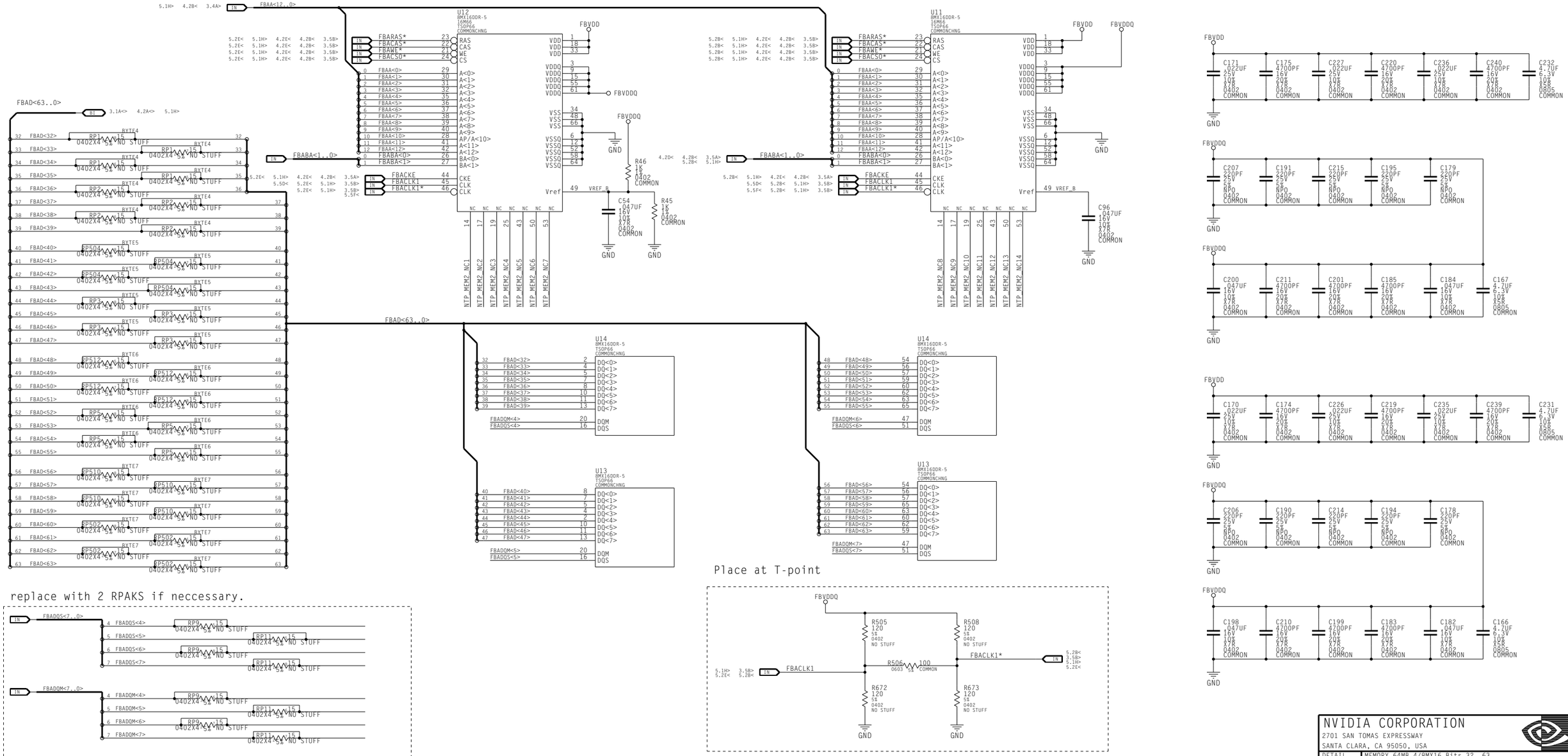
NAME	mlao	DATE	SEP 03 2001

MEMORY 1st bank 32..63
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY

NET_PHYSICAL_TYPE	NET_SPACING_TYPE	Diffpair
FBACLK0	20MIL_G2G_30MIL	FBACLK0
FBACLK0*	20MIL_G2G_30MIL	FBACLK0
FBACLK1	20MIL_G2G_30MIL	FBACLK1
FBACLK1*	20MIL_G2G_30MIL	FBACLK1
FBAD<63..0>	10MIL	
FBADQM<7..0>	10MIL	
FBADQS<7..0>	15MIL	
FBAA<12..0>	10MIL	
FBARAS*	10MIL	
FBACAS*	10MIL	
FBAWE*	10MIL	
FBACS0*	10MIL	
FBABA<1..0>	10MIL	
FBACKE	10MIL	
VREF_A	12MIL_TRACE	10MIL
VREF_B	12MIL_TRACE	10MIL



replace with 2 RPAKS if neccessary.

Place at T-point

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DETAIL	MEMORY 64MB 4/8MX16 Bits 32..63		
ID	34p162	PAGE	5 OF 19
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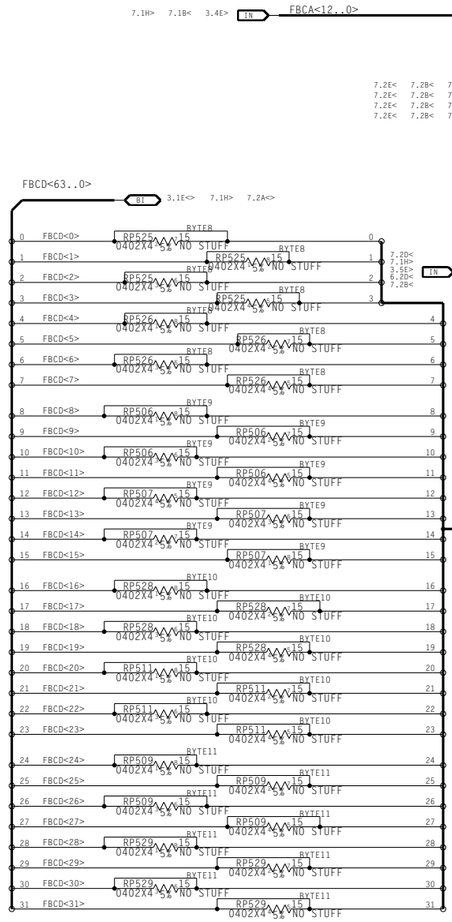
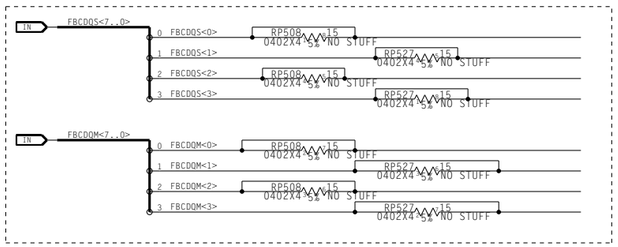
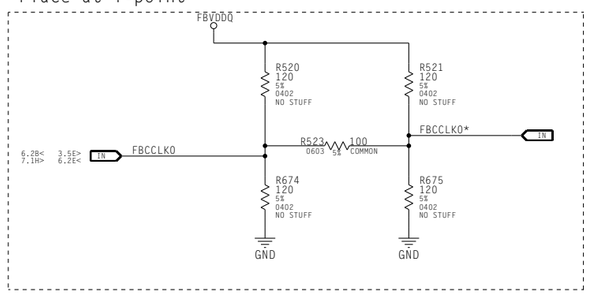
MEMORY 2nd bank 0..31
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY



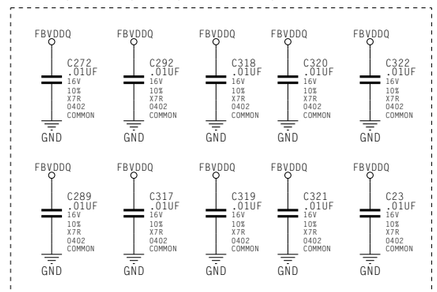
replace with 2 RPAKS if neccessary.

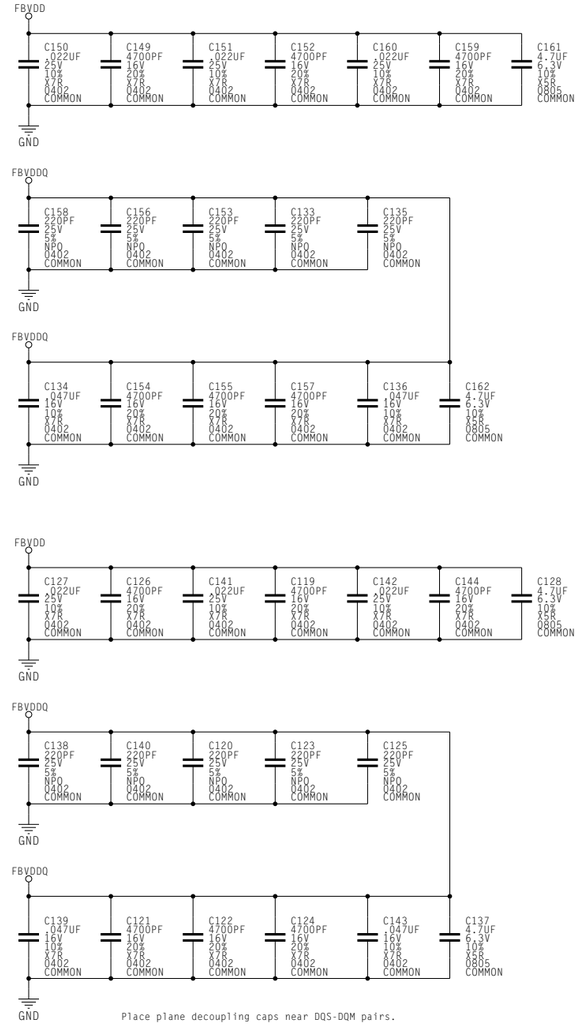


Place at T-point



Place plane decoupling caps near DQS-DQM pairs.





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DETAIL	MEMORY 64MB 4/8MX16 Bits 64..95		
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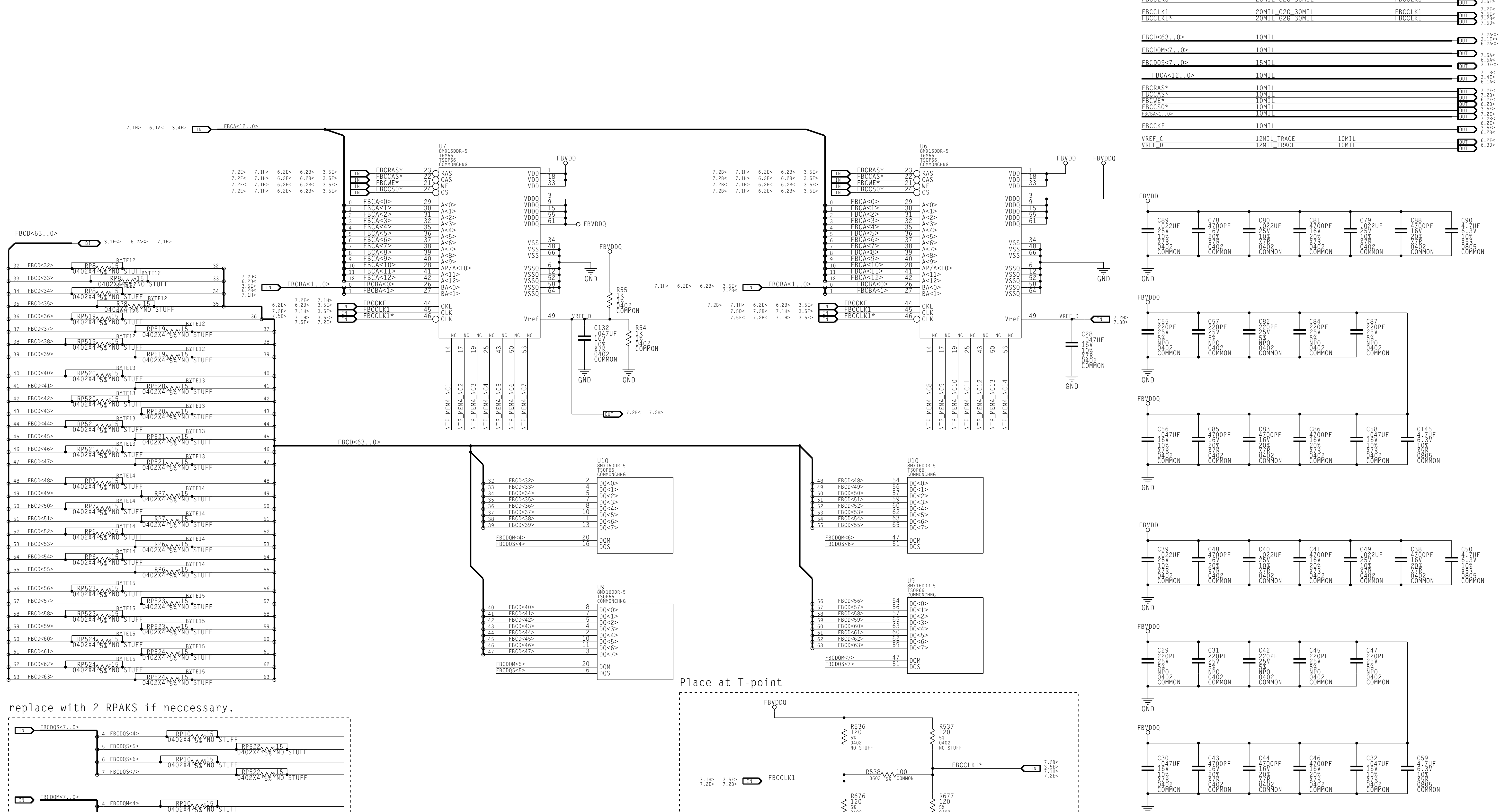
MEMORY 2nd bank 32..63
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY



replace with 2 RPAKS if neccessary.

Place at T-point

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DETAIL	MEMORY 64MB 4/8MX16 Bits 96..127		
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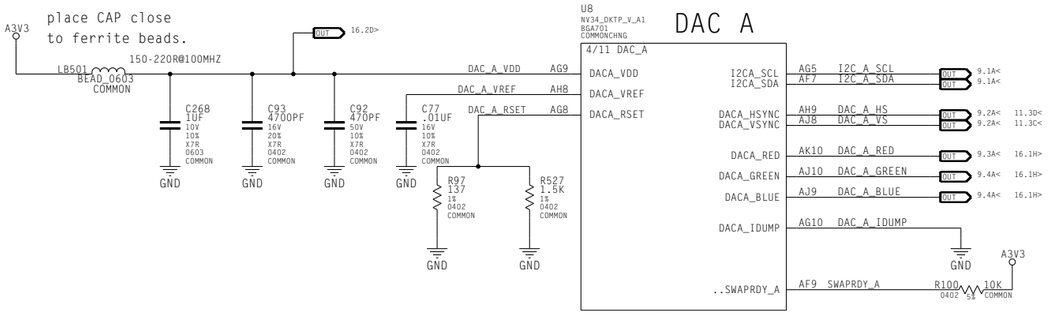
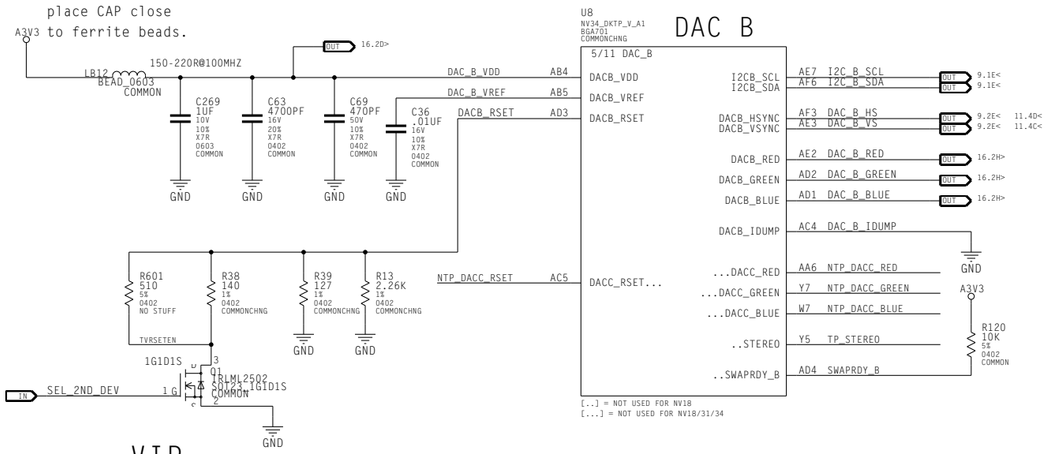
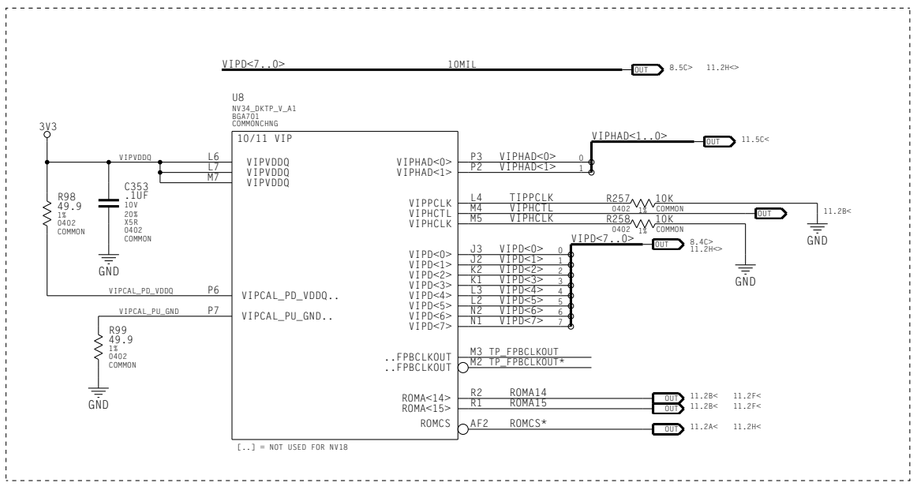
DAC A



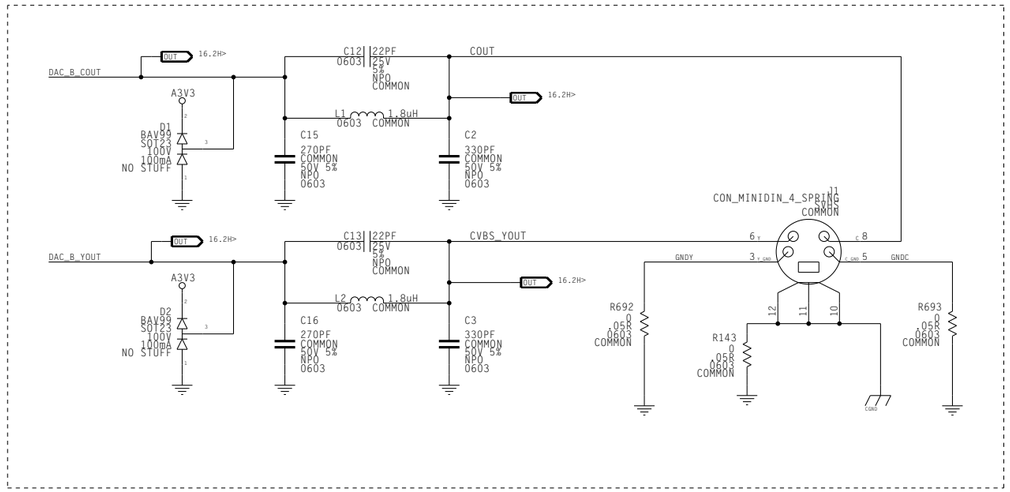
DAC B



VIP

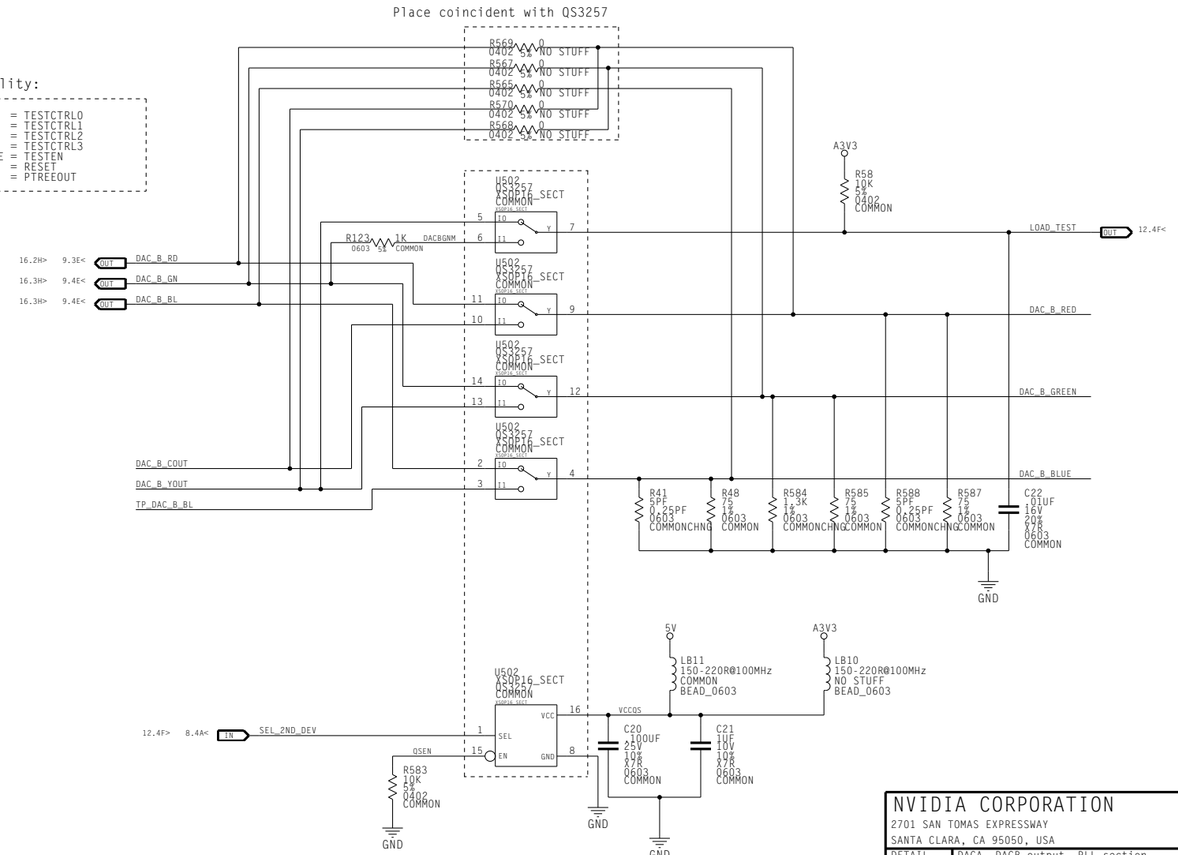


VIDEO OUT , internal DAC



DACB SWITCH BETWEEN VGA OUT AND TV OUT

Place coincident with QS3257



Testability:

```
DVOD8    = TESTCTRL0
DVOD9    = TESTCTRL1
DVOD10   = TESTCTRL2
DVOD11   = TESTCTRL3
TESTMODE = TESTEN
PCIRST_  = RESET
FBACAS_  = PTREEOUT
```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DETAIL	DACA, DACB output, PLL section DACB MUX, DACB TV-out		
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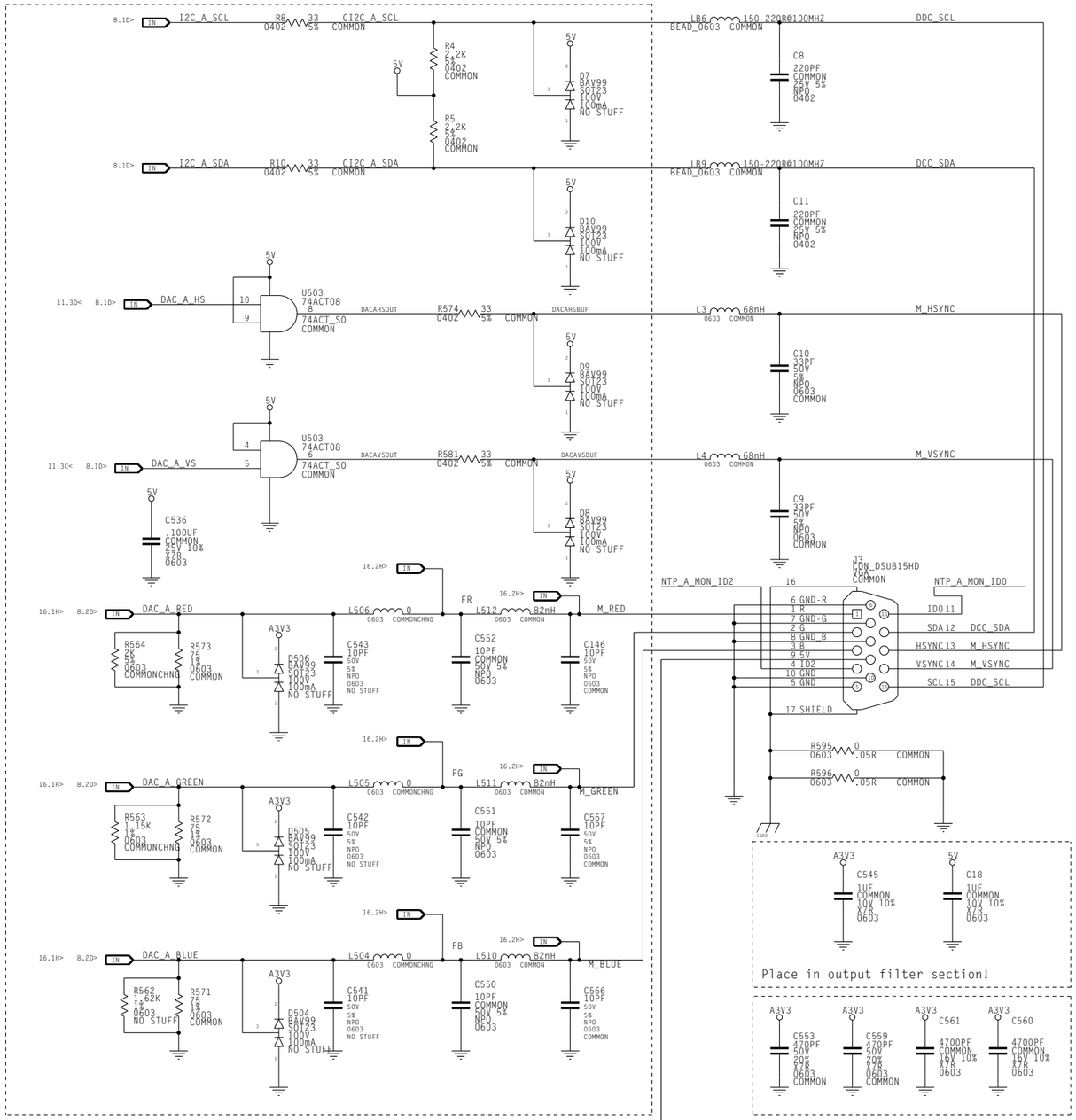
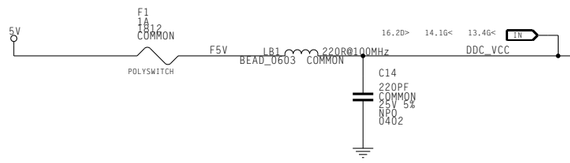
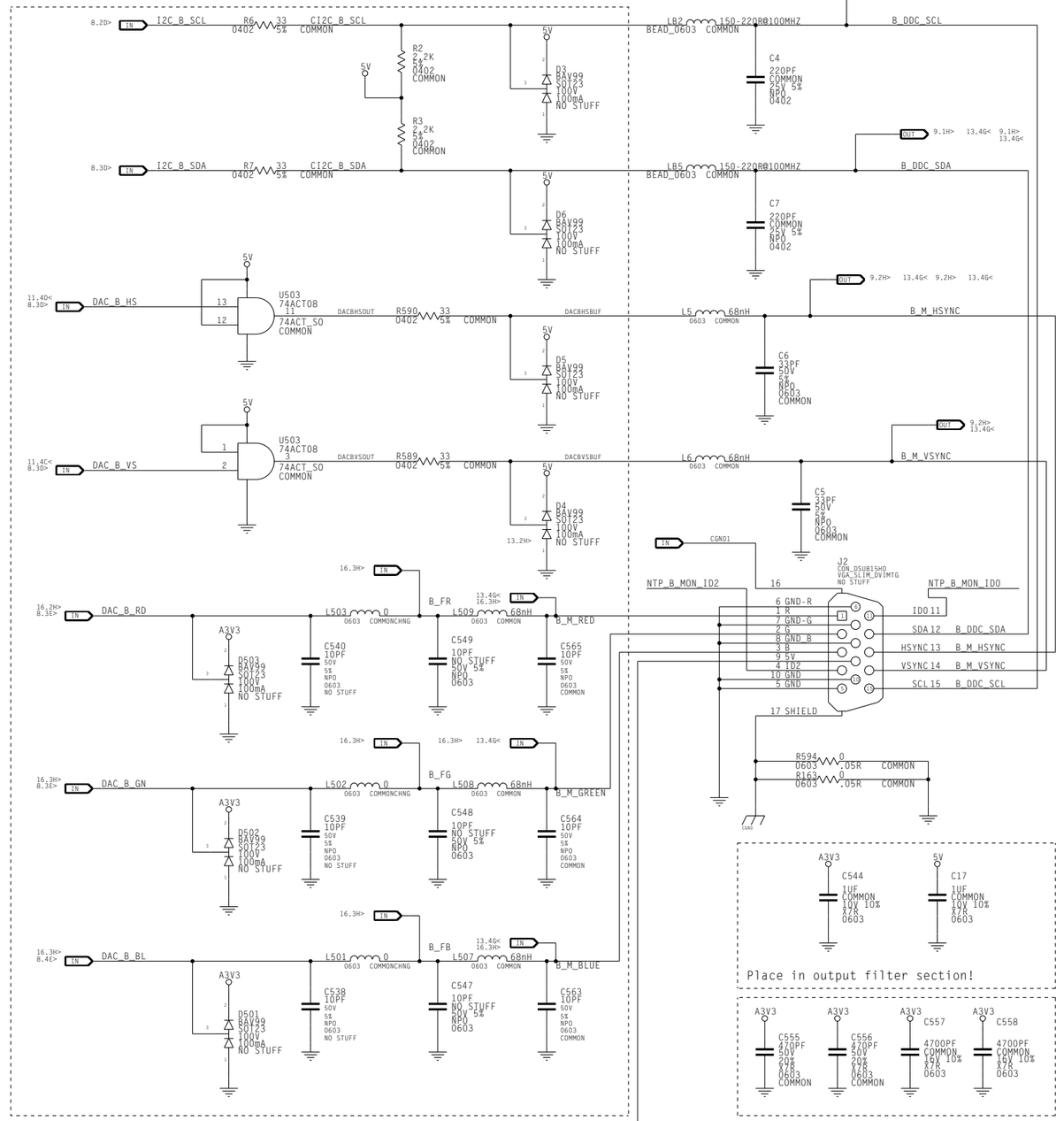
DAC A RGB-FILTER





DAC B RGB-FILTER



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DETAIL	DACA, DACB display filter and connector SYNC amplifier		
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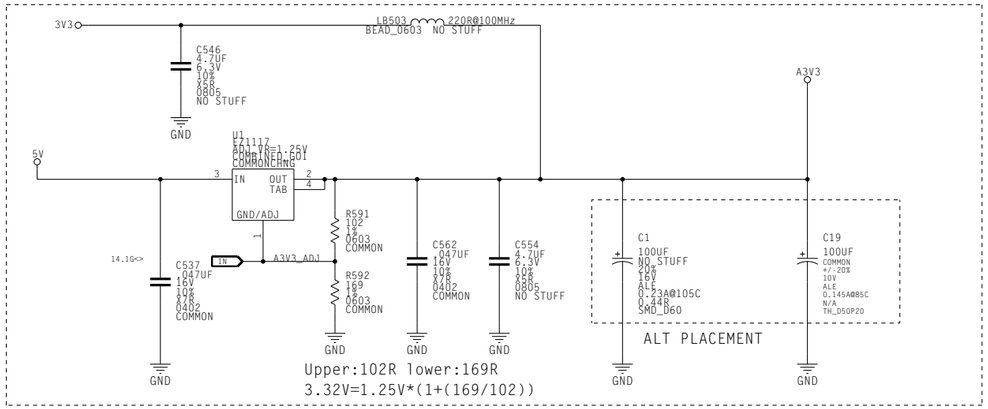
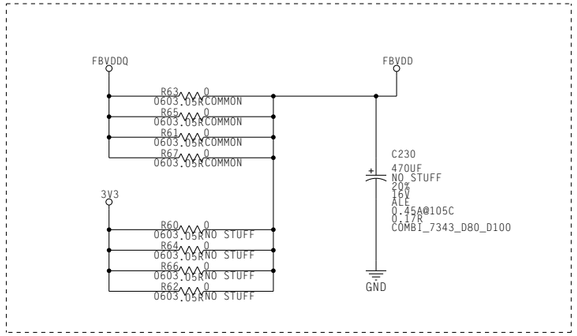
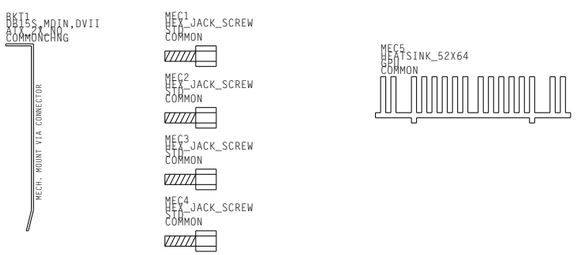
Analog Power Supply



FBVDD 3.3/2.5V





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DETAIL	POWER supply: A3V3,FBVDD,FBVDDQ,NVVDD MECHANICS		
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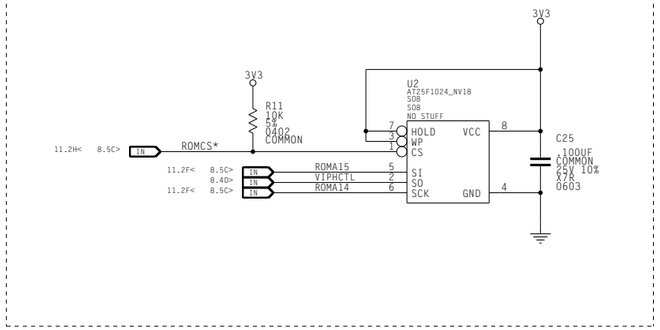
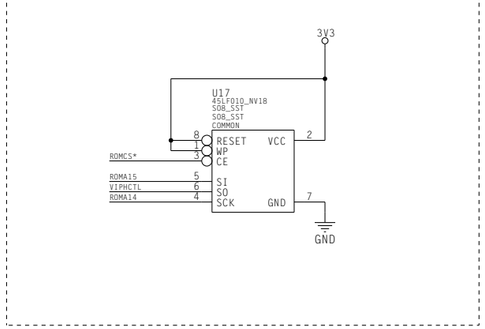
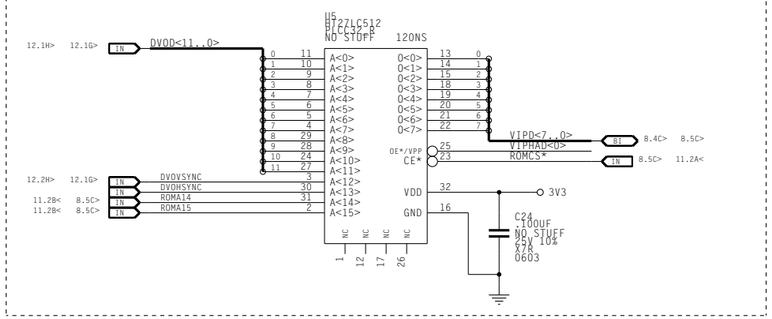
ATL BIOS (ATMEL Serial ROM)



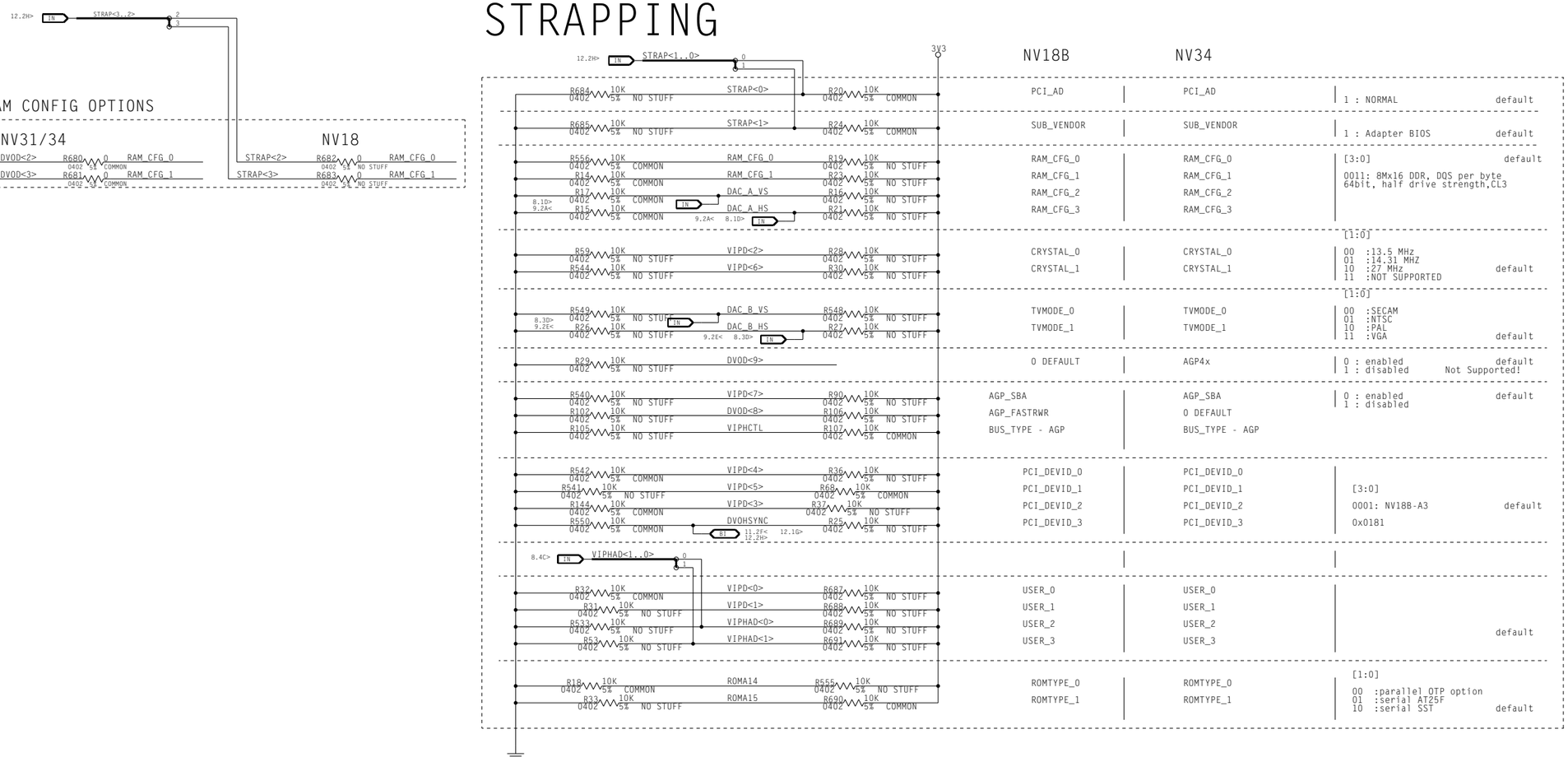
BIOS (SST Serial ROM)



PARALLEL EPROM



STRAPPING



	NV18B	NV34		
STRAP<0>	PCI_AD	PCI_AD	1 : NORMAL	default
STRAP<1>	SUB_VENDOR	SUB_VENDOR	1 : Adapter BIOS	default
RAM_CFG_0	RAM_CFG_0	RAM_CFG_0	[3:0]	default
RAM_CFG_1	RAM_CFG_1	RAM_CFG_1	0011: 8Mx16 DDR, DQS per byte 64bit, half drive strength,CL3	
DAC_A_VS	RAM_CFG_2	RAM_CFG_2		
DAC_A_HS	RAM_CFG_3	RAM_CFG_3		
			[1:0]	
VIPD<2>	CRYSTAL_0	CRYSTAL_0	00 :13.5 MHz 01 :14.31 MHZ 10 :27 MHz 11 :NOT SUPPORTED	default
VIPD<6>	CRYSTAL_1	CRYSTAL_1		
			[1:0]	
DAC_B_VS	TVMODE_0	TVMODE_0	00 :SECAM 01 :NTSC 10 :PAL 11 :VGA	default
DAC_B_HS	TVMODE_1	TVMODE_1		
DVOD<9>	0 DEFAULT	AGP4x	0 : enabled 1 : disabled Not Supported!	default
VIPD<7>	AGP_SBA	AGP_SBA	0 : enabled 1 : disabled	default
DVOD<8>	AGP_FASTRWR	0 DEFAULT		
VIPHCTL	BUS_TYPE - AGP	BUS_TYPE - AGP		
VIPD<4>	PCI_DEVID_0	PCI_DEVID_0		
VIPD<5>	PCI_DEVID_1	PCI_DEVID_1	[3:0]	
VIPD<3>	PCI_DEVID_2	PCI_DEVID_2	0001: NV18B-A3	default
DVOHSYNC	PCI_DEVID_3	PCI_DEVID_3	0x0181	
VIPD<0>	USER_0	USER_0		
VIPD<1>	USER_1	USER_1		
VIPHAD<0>	USER_2	USER_2		default
VIPHAD<1>	USER_3	USER_3		
			[1:0]	
ROMA14	ROMTYPE_0	ROMTYPE_0	00 :parallel OTP option 01 :serial AT25F 10 :serial SST	default
ROMA15	ROMTYPE_1	ROMTYPE_1		

RAM CONFIG OPTIONS

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DETAIL	NV17 STRAPPING, BIOS TMDS section		
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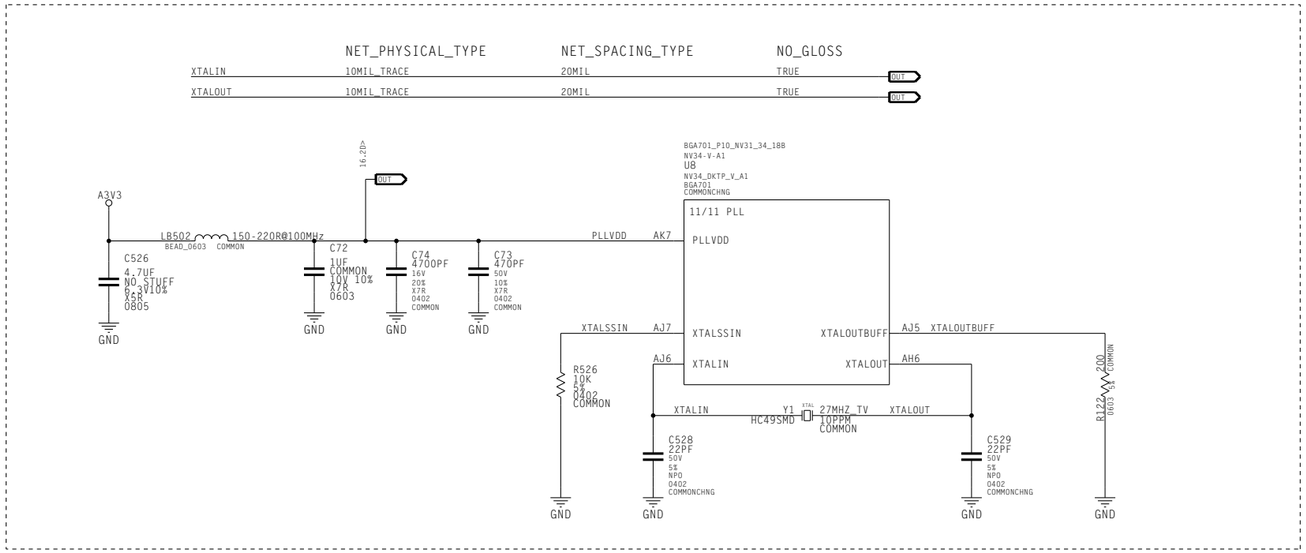
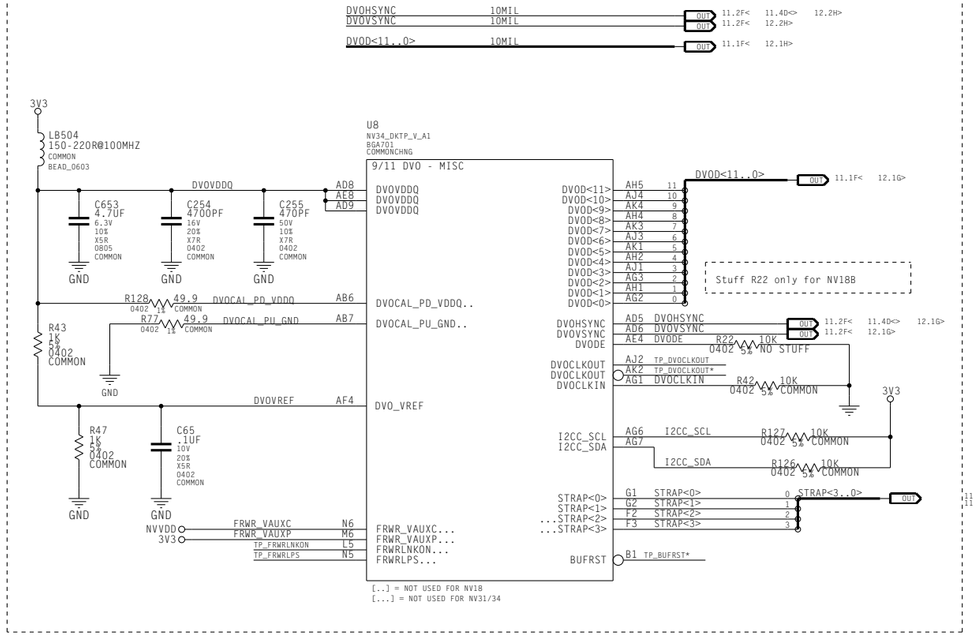
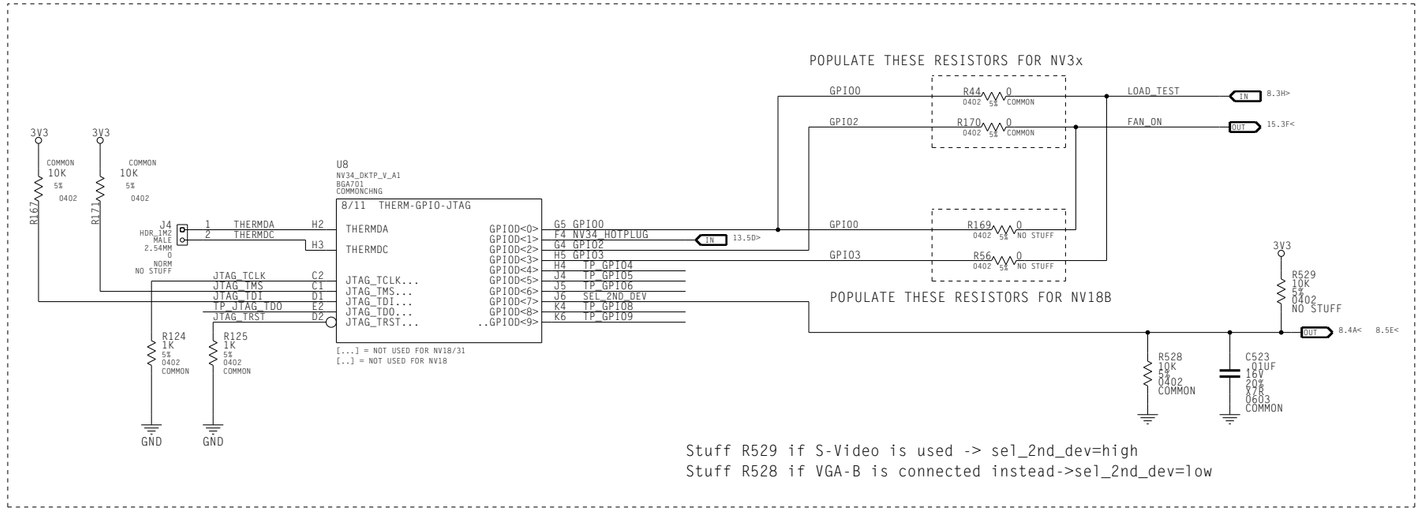
CLOCK

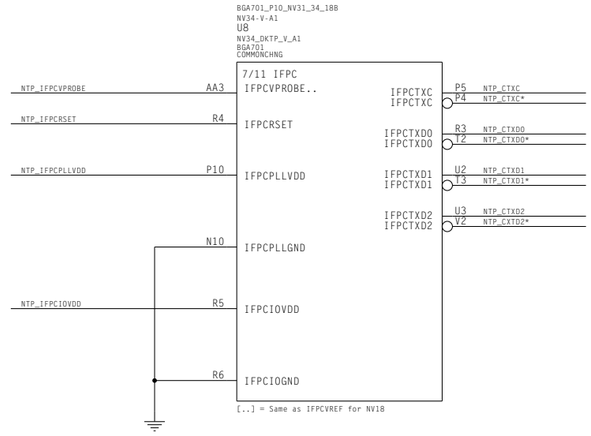


DVO



NV34 THERMAL





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DETAIL	DRAWING DETAIL CONTINUED...		
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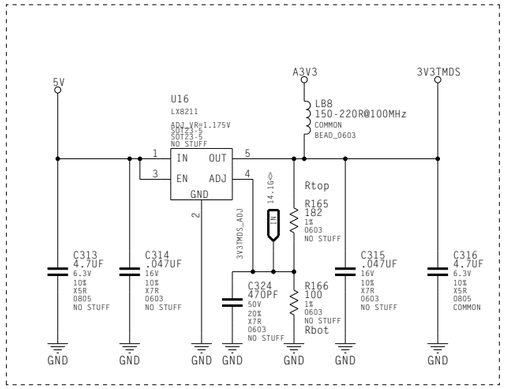
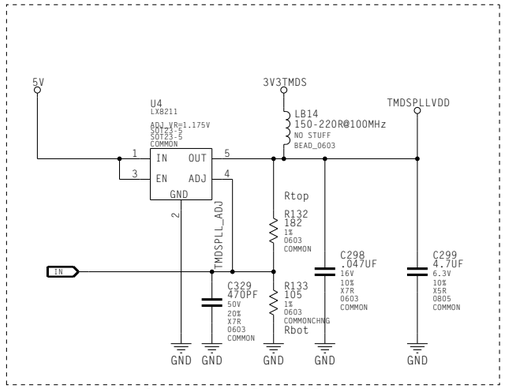
TMDS IO Supply



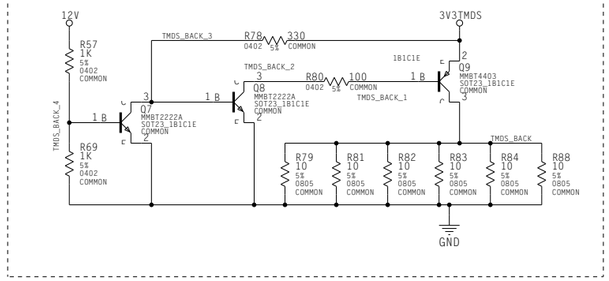
Vout = VRef * (1+Rtop/Rbot)
3.31V = 1.175V * (1+(100/182))

TMDS PLL Supply



Vout = VRef * (1+Rtop/Rbot)
3.2V = 1.175V * (1+(182/105))

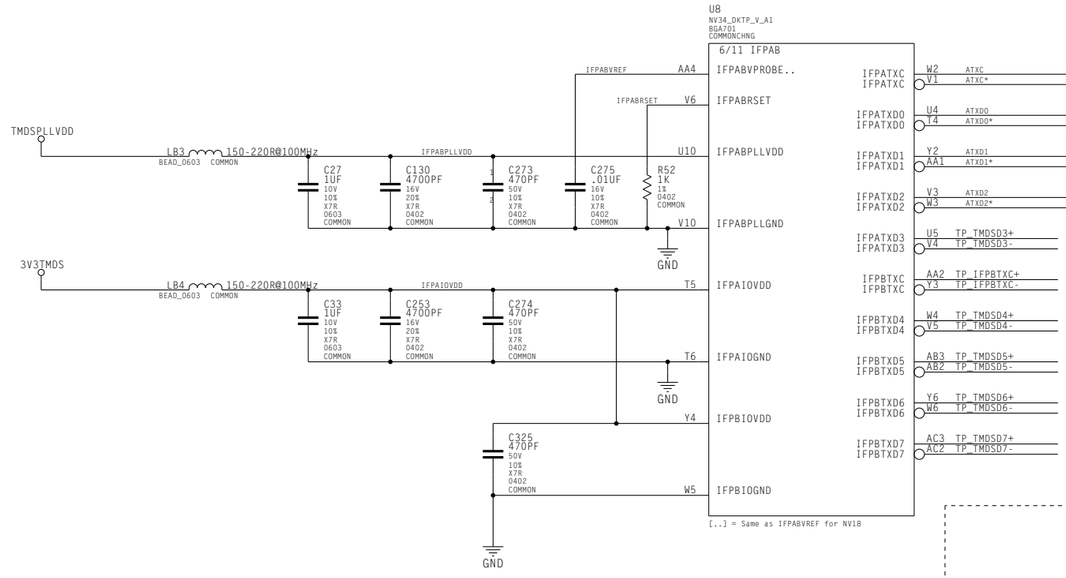
TMDS backdrive prevention



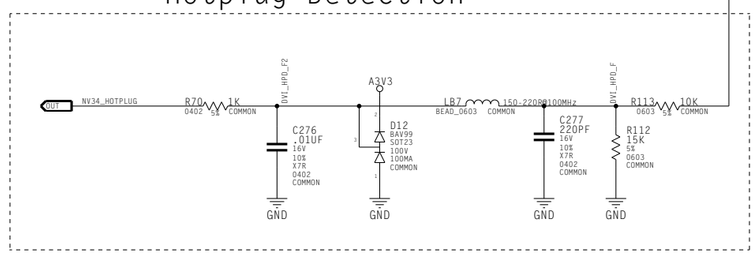
	NET	NET_PHYSICAL_TYPE	VOLTAGE
	IFPABVREF	12MIL_TRACE	3.3V
	IFPABPLLVDD	12MIL_TRACE	3.3V
	IFPAIOVDD	12MIL_TRACE	3.3V
	IFPBIOVDD	12MIL_TRACE	3.3V
	IFPCVREF	12MIL_TRACE	3.3V
	IFPCPLLVDD	12MIL_TRACE	3.3V
	IFPCIOVDD	12MIL_TRACE	3.3V
	FAN_RETURN	12MIL_TRACE	3.3V
15.3G<	TMDS_BACK	12MIL_TRACE	3.3V

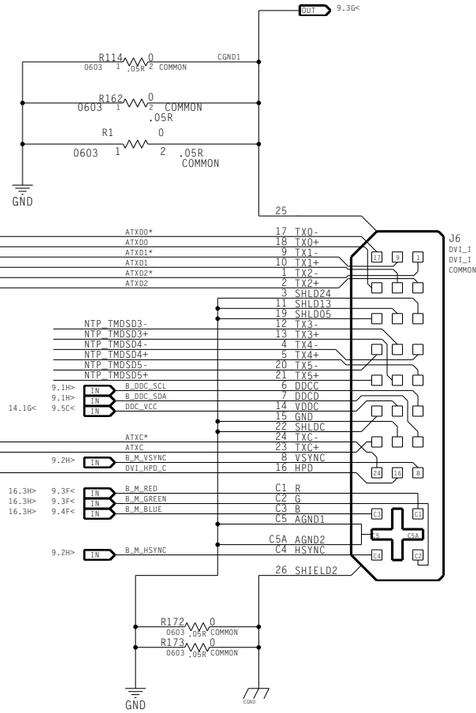
	NET	Diffpair	NET_SPACING_RULE
	ATXD0	ATX0	20MIL_G2G_30MIL
	ATXD0*	ATX0	20MIL_G2G_30MIL
	ATXD1	ATX1	20MIL_G2G_30MIL
	ATXD1*	ATX1	20MIL_G2G_30MIL
	ATXD2	ATX2	20MIL_G2G_30MIL
	ATXD2*	ATX2	20MIL_G2G_30MIL
	ATXC	ATXC	20MIL_G2G_30MIL
	ATXC*	ATXC	20MIL_G2G_30MIL
	BTXD4	BTX4	20MIL_G2G_30MIL
	BTXD4*	BTX4	20MIL_G2G_30MIL
	BTXD5	BTX5	20MIL_G2G_30MIL
	BTXD5*	BTX5	20MIL_G2G_30MIL
	BTXD6	BTX6	20MIL_G2G_30MIL
	BTXD6*	BTX6	20MIL_G2G_30MIL

Single LinkA Transmitter



Hotplug Detection





NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

DETAIL	Nv 31 Internal TMDS Trasmitter DVI-Connector and Backdrive Prevention		
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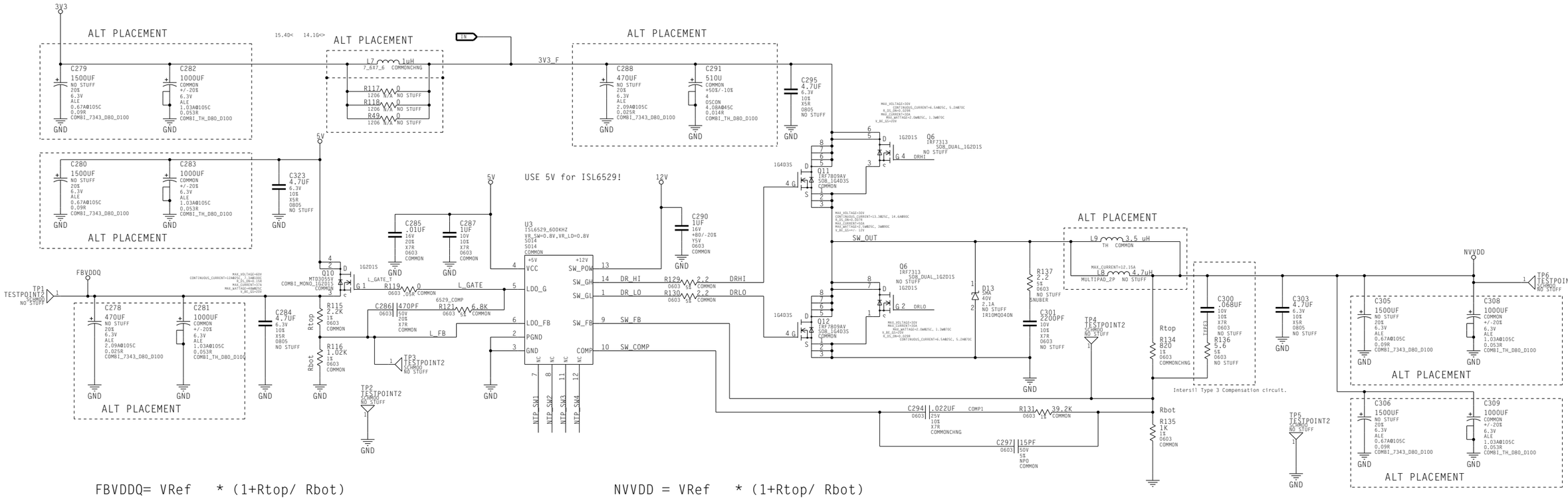
NVVDD-SWITCHER / FBVDDQ-LDO CONTROLER ISL6529

NET	NET_PHYSICAL_TYPE	VOLTAGE
3V3	12MIL_TRACE	3.3V
A3V3	12MIL_TRACE	3.3V
3V3TMDS	12MIL_TRACE	3.3V
FBVDD	12MIL_TRACE	2.5V
NVVDD	12MIL_TRACE	1.65V
5V	12MIL_TRACE	5V
12V	12MIL_TRACE	12V
3V3_F	12MIL_TRACE	3.3V
12V_F	12MIL_TRACE	12V
DDC_VCC	12MIL_TRACE	5V
SW_12V	10MIL_TRACE	12V
SW_5V	10MIL_TRACE	5V
DR_HI	10MIL_TRACE	
DR_LO	10MIL_TRACE	
DRHI	10MIL_TRACE	
DRLO	10MIL_TRACE	
SW_FB	10MIL_TRACE	
SW_COMP	10MIL_TRACE	
A3V3_ADJ	10MIL_TRACE	
3V3TMDS_ADJ	10MIL_TRACE	
TMDSPLL_ADJ	10MIL_TRACE	
TMDSPLLVDD	12MIL_TRACE	3.3V



FBVDDQ= VRef * (1+Rtop/ Rbot)

ISL6529 2.52V = 0.800V * (1+2.2k/1.02k)

NVVDD = VRef * (1+Rtop/ Rbot)

NV18B 1.60V = 0.800V * (1+1000/1000)

NV31 1.107V = 0.800V * (1+392/1020)

NV34 1.45V = 0.800V * (1+820/1000)

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

DETAIL	Power Supplies: A3V3,TMDS3V3, TMDSPLLVDD, FBVDDQ, NVVDD		
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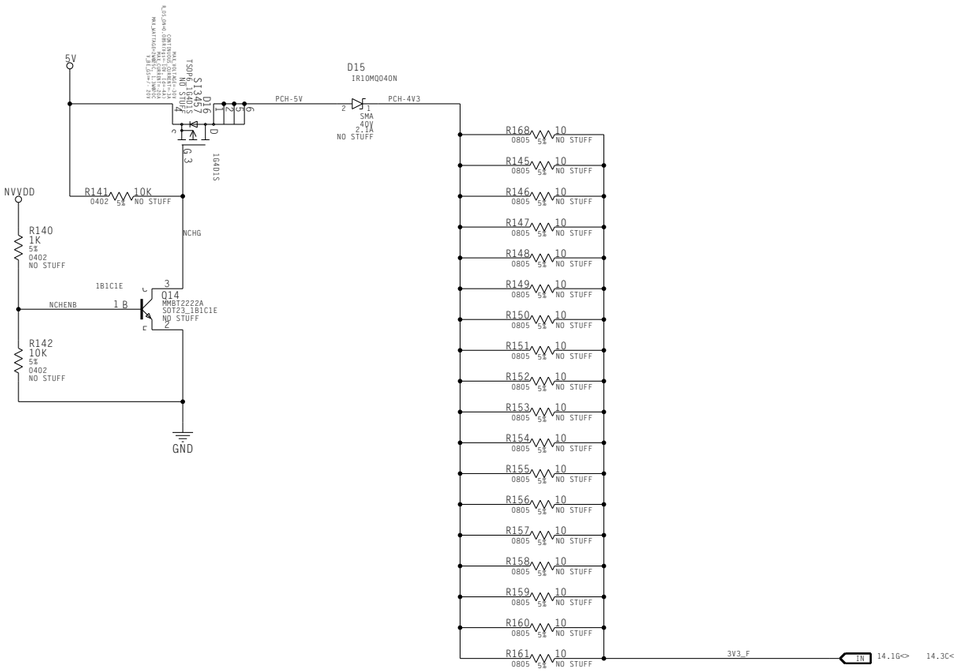
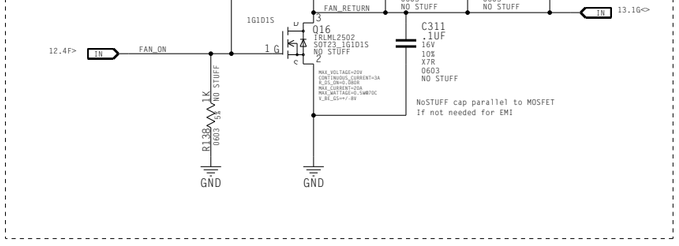
NVVDD Current Supplement.



Approx 1A (TBD after Qualification)

FAN Control



NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

DETAIL	DRAWING DETAIL CONTINUED...		
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NET RULES

Power Nets:

	NET_PHYSICAL_TYPE	NET_SPACING_TYPE	
GND	GND	12MIL_TRACE	
5V	5V	12MIL_TRACE	
A3V3	A3V3	12MIL_TRACE	
3V3	3V3	12MIL_TRACE	
	CGND	12MIL_TRACE	
AGPVDDQ	AGPVDDQ	12MIL_TRACE	
FBVDDQ	FBVDDQ	12MIL_TRACE	
FBVDD	FBVDD	12MIL_TRACE	
NVVDD	NVVDD	12MIL_TRACE	
	DAC_A_VDD	12MIL_TRACE	OUT 8.1B>
	DAC_B_VDD	12MIL_TRACE	OUT 8.2B>
	PLLVDD	12MIL_TRACE	OUT 12.1B>
	DDC_VCC	12MIL_TRACE	OUT 9.5C< 13.4G< 14.1G<
	FBVREF	12MIL_TRACE	OUT 3.5B>

RAM_DAC : impedance controlled by constraint manager

	NET_PHYSICAL_TYPE	NET_SPACING_TYPE	NO_GLOSS	
DAC_A_RED		20MIL	TRUE	OUT 8.2D> 9.3A<
DAC_A_GREEN		20MIL	TRUE	OUT 8.2D> 9.4A<
DAC_A_BLUE		20MIL	TRUE	OUT 8.2D> 9.4A<
FR		20MIL	TRUE	OUT 9.3B<
FG		20MIL	TRUE	OUT 9.3B<
FB		20MIL	TRUE	OUT 9.4B<
M_RED		20MIL	TRUE	OUT 9.3B<
M_GREEN		20MIL	TRUE	OUT 9.3B<
M_BLUE		20MIL	TRUE	OUT 9.4B<
DAC_B_RED		20MIL	TRUE	OUT 8.3D>
DAC_B_GREEN		20MIL	TRUE	OUT 8.3D>
DAC_B_BLUE		20MIL	TRUE	OUT 8.3D>
DAC_B_YOUT		20MIL	TRUE	OUT 8.2E>
DAC_B_COUT		20MIL	TRUE	OUT 8.1E>
CVBS_YOUT		20MIL	TRUE	OUT 8.2G>
COUT		20MIL	TRUE	OUT 8.1F>
DAC_B_RD		20MIL	TRUE	OUT 8.3E> 9.3E<
DAC_B_GN		20MIL	TRUE	OUT 8.3E> 9.4E<
DAC_B_BL		20MIL	TRUE	OUT 8.4E> 9.4E<
B_FR		20MIL	TRUE	OUT 9.3F<
B_FG		20MIL	TRUE	OUT 9.3F<
B_FB		20MIL	TRUE	OUT 9.4F<
B_M_RED		20MIL	TRUE	OUT 9.3F< 13.4G<
B_M_GREEN		20MIL	TRUE	OUT 9.3F< 13.4G<
B_M_BLUE		20MIL	TRUE	OUT 9.4F< 13.4G<

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

DETAIL	DESIGN NET RULES		
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*** Signal Cross-Reference for the entire design ***

3V3TMDS_ADJ	13.1B< 14.1G<>
3V3_F	14.1G<> 14.3C< 15.4D<
12V_F	14.1G<>
A3V3_ADJ	10.2D< 14.1G<>
AGPDBI_HI	2.1G>
AGPDBI_LO	2.1G>
AGPMBDET	2.1F>
AGPRBF*	2.1G>
AGPSTO	2.1G>
AGPST1	2.1G>
AGPST2	2.1G>
AGPSTBO	2.1F>
AGPSTBO*	2.1F>
AGPSTB1	2.1F>
AGPSTB1*	2.1F>
AGPSTOP	2.1F>
AGPWBF*	2.1G>
AGP_VREFCG	2.1F>
AGP_VREFGC	2.1F>
ATXC	13.1G<>
ATXC*	13.1G<>
ATXDO	13.1G<>
ATXDO*	13.1G<>
ATXD1	13.1G<>
ATXD1*	13.1G<>
ATXD2	13.1G<>
ATXD2*	13.1G<>
BTXD4	13.2G<>
BTXD4*	13.2G<>
BTXD5	13.2G<>
BTXD5*	13.2G<>
BTXD6	13.2G<>
BTXD6*	13.2G<>
B_DDC_SCL	9.1H> 13.4G<
B_DDC_SDA	9.1H> 13.4G<
B_FB	9.4F< 16.3H>
B_FG	9.3F< 16.3H>
B_FR	9.3F< 16.3H>
B_M_BLUE	9.4F< 13.4G< 16.3H>
B_M_GREEN	9.3F< 13.4G< 16.3H>
B_M_HSYNC	9.2H> 13.4G<
B_M_RED	9.3F< 13.4G< 16.3H>
B_M_VSYNC	9.2H> 13.4G<
CGND1	9.3G< 13.2H>
COUT	8.1F> 16.2H>
CVBS_YOUT	8.2G> 16.2H>
DAC_A_BLUE	8.2D> 9.4A< 16.1H>
DAC_A_GREEN	8.2D> 9.4A< 16.1H>
DAC_A_HS	8.1D> 9.2A< 11.3D<
DAC_A_RED	8.2D> 9.3A< 16.1H>
DAC_A_VDD	8.1B> 16.2D>
DAC_A_VS	8.1D> 9.2A< 11.3C<
DAC_B_BL	8.4E> 9.4E< 16.3H>
DAC_B_BLUE	8.3D> 16.2H>
DAC_B_COUT	8.1E> 16.2H>
DAC_B_GN	8.3E> 9.4E< 16.3H>
DAC_B_GREEN	8.3D> 16.2H>
DAC_B_HS	8.3D> 9.2E< 11.4D<
DAC_B_RD	8.3E> 9.3E< 16.2H>
DAC_B_RED	8.3D> 16.2H>
DAC_B_VDD	8.2B> 16.2D>
DAC_B_VS	8.3D> 9.2E< 11.4C<
DAC_B_YOUT	8.2E> 16.2H>
DDC_VCC	9.5C< 13.4G< 14.1G< 16.2D>
DRHI	14.1G<>
DRLO	14.1G<>
DR_HI	14.1G<>
DR_LO	14.1G<>
DVDO<11..0>	11.1F< 12.1G> 12.1H>
DVDO<2>	11.1F< 12.1G> 12.1H>
DVDO<3>	11.1F< 12.1G> 12.1H>
DVDO<8>	11.1F< 12.1G> 12.1H>
DVDO<9>	11.1F< 12.1G> 12.1H>
DVOHSYNC	11.2F< 11.4D> 12.1G> 12.2H>
DVOVSYNC	11.2F< 12.1G> 12.2H>
FAN_ON	12.4F> 15.3F<
FAN_RETURN	13.1G<> 15.3G<
FB	9.4B< 16.2H>
FBAA<0>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<12..0>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<1>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<2>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<3>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<4>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<5>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<6>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<7>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<8>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<9>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<10>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<11>	3.4A> 4.2B< 5.1H> 5.2B<
FBAA<12>	3.4A> 4.2B< 5.1H> 5.2B<
FBABA<0>	3.5A> 4.2B< 4.2D< 5.1H> 5.2B< 5.2D<
FBABA<1..0>	3.5A> 4.2B< 4.2D< 5.1H> 5.2B< 5.2D<
FBABA<1>	3.5A> 4.2B< 4.2D< 5.1H> 5.2B< 5.2D<
FBACAS*	3.5B> 4.2B< 4.2E< 5.1H> 5.2B< 5.2E<
FBACKE	3.5A> 4.2B< 4.2E< 5.1H> 5.2B< 5.2E<
FBACLKO	3.5B> 4.2B< 4.2E< 4.5D< 5.1H>
FBACLKO*	3.5B> 4.2B< 4.2E< 4.5E< 5.1H>
FBACLK1	3.5B> 5.1H> 5.2B< 5.2E< 5.5D<
FBACLK1*	3.5B> 5.1H> 5.2B< 5.2E< 5.5F<
FBACSO*	3.5B> 4.2B< 4.2E< 5.1H> 5.2B< 5.2E<
FBAD<0>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<63..0>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<1>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<2>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<3>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<4>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<5>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<6>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<7>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<8>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<9>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<10>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<11>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<12>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<13>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<14>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<15>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<16>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<17>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<18>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<19>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<20>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<21>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<22>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<23>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<24>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<25>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<26>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<27>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<28>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<29>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<30>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<31>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<32>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<33>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<34>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<35>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<36>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<37>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<38>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<39>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<40>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<41>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<42>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<43>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<44>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<45>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<46>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<47>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<48>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<49>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<50>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<51>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<52>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<53>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<54>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<55>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<56>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<57>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<58>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<59>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<60>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<61>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<62>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBAD<63>	3.1A<> 4.2A<> 5.1H> 5.2A<>
FBADQM<0>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<7..0>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<1>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<2>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<3>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<4>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<5>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<6>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQM<7>	3.3A> 4.5A< 5.1H> 5.5A<
FBADQS<0>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<7..0>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<1>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<2>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<3>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<4>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<5>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<6>	3.3A<> 4.5A< 5.1H> 5.5A<
FBADQS<7>	3.3A<> 4.5A< 5.1H> 5.5A<
FBARAS*	3.5B> 4.2B< 4.2E< 5.1H> 5.2B< 5.2E<
FBAWE*	3.5B> 4.2B< 4.2E< 5.1H> 5.2B< 5.2E<
FBCA<0>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<12..0>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<1>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<2>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<3>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<4>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<5>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<6>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<7>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<8>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<9>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<10>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<11>	3.4E> 6.1A< 7.1B< 7.1H>
FBCA<12>	3.4E> 6.1A< 7.1B< 7.1H>
FBCBA<0>	3.5E> 6.2B< 6.2D< 7.1H> 7.2B< 7.2D<
FBCBA<1..0>	3.5E> 6.2B< 6.2D< 7.1H> 7.2B< 7.2D<
FBCBA<1>	3.5E> 6.2B< 6.2D< 7.1H> 7.2B< 7.2D<
FBCCAS*	3.5E> 6.2B< 6.2E< 7.1H> 7.2B< 7.2E<
FBCCKE	3.5E> 6.2B< 6.2E< 7.1H> 7.2B< 7.2E<
FBCCLKO	3.5E> 6.2B< 6.2E< 6.5D< 7.1H>
FBCCLKO*	3.5E> 6.2B< 6.2E< 6.5F< 7.1H>
FBCCLK1	3.5E> 7.1H> 7.2B< 7.2E< 7.5D<
FBCCLK1*	3.5E> 7.1H> 7.2B< 7.2E< 7.5F<
FBCCSO*	3.5E> 6.2B< 6.2E< 7.1H> 7.2B< 7.2E<
FBCD<0>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<63..0>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<1>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<2>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<3>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<4>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<7>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<8>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<9>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<10>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<11>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<12>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<13>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<14>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<15>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<18>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<19>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<20>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<21>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<22>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<37>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<39>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<41>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<45>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<46>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<47>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<48>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<49>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<50>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<52>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<57>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCD<59>	3.1E<> 6.2A<> 7.1H> 7.2A<>
FBCD<60>	3.1E<> 6.2A<> 7.1H> 7.2A<>
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FBCDQM<7>	3.3E> 6.5A< 7.1H> 7.5A<
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FBCDQS<2>	3.3E<> 6.5A< 7.1H> 7.5A<
FBCDQS<3>	3.3E<> 6.5A< 7.1H> 7.5A<
FBCDQS<4>	3.3E<> 6.5A< 7.1H> 7.5A<
FBCDQS<5>	3.3E<> 6.5A< 7.1H> 7.5A<
FBCDQS<6>	3.3E<> 6.5A< 7.1H> 7.5A<
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FBCWE*	3.5E> 6.2B< 6.2E< 7.1H> 7.2B< 7.2E<
FBVREF	3.5B> 16.3D>
FG	9.3B< 16.2H>
FR	9.3B< 16.2H>
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I2C_A_SDA	8.1D> 9.1A<
I2C_B_SCL	8.2D> 9.1E<
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M_GREEN	9.3B< 16.2H>
M_RED	9.3B< 16.2H>
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NV_VREF	2.1F>
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PCICBE<0>	2.1H>
PCICBE<3..0>	2.1H>
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PCICBE<2>	2.1H>
PCICBE<3>	2.1H>
PCICLK	2.1H>
PCIDEVSEL*	2.1G>
PCIFRAME*	2.1H>
PCIGNT*	2.1H>
PCIINTA*	2.1G>
PCIINTB*	2.1G>
PCIIRDY*	2.1H>
PCIPAR	2.1G>
PCIREQ*	2.1H>
PCIRST*	2.1H>
PCISTOP*	2.1H>
PCITRDY*	2.1H>
PLLVDD	12.1B> 16.2D>
ROMA14	8.5C> 11.2B< 11.2F<
ROMA15	8.5C> 11.2B< 11.2F<
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SBA<1>	2.1F<>
SBA<2>	2.1F<>
SBA<3>	2.1F<>
SBA<4>	2.1F<>
SBA<5>	2.1F<>
SBA<6>	2.1F<>
SBA<7>	2.1F<>
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SBSTB*	2.1F>
SEL_2ND_DEV	8.4A< 8.5E< 12.4F>
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STRAP<3..0>	11.2A< 11.3C< 12.2H>
STRAP<1>	11.3C< 12.2H>
STRAP<2>	11.2A< 12.2H>
STRAP<3..2>	11.2A< 12.2H>
STRAP<3>	11.2A< 12.2H>
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SW_12V	14.1G<>
SW_COMP	14.1G<>
SW_FB	14.1G<>
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TMDS_BACK	13.1G<>
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VIPD<1>	8.4C> 8.5C> 11.2H<>
VIPD<2>	8.4C> 8.5C> 11.2H<>
VIPD<3>	8.4C> 8.5C> 11.2H<>
VIPD<4>	8.4C> 8.5C> 11.2H<>
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VIPD<7>	8.4C> 8.5C> 11.2H<>
VIPHAD<0>	8.4C> 11.5C<
VIPHAD<1..0>	8.4C> 11.5C<
VIPHAD<1>	8.4C> 11.5C<
VIPHCTL	8.4D> 11.2B<
VREF_A	4.2F< 4.3D> 5.1H>
VREF_B	5.1H>
VREF_C	6.2F< 6.3D> 7.2H>
VREF_D	7.2F< 7.2H> 7.3D>
XTALIN	12.1D>
XTALOUT	12.1D>

NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

DETAIL	DRAWING DETAIL CONTINUED...		
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*** Part Cross-Reference for the entire design ***

BKT1	BRACKET	10.4C
C1	C_POL	10.2E
C2	C	8.1F
C3	C	8.2F
C4	C	9.1G
C5	C	9.2H
C6	C	9.2G
C7	C	9.1G
C8	C	9.1C
C9	C	9.2C
C10	C	9.2C
C11	C	9.1C
C12	C	8.1F
C13	C	8.2F
C14	C	9.5B
C15	C	8.1F
C16	C	8.2F
C17	C	9.4H
C18	C	9.4D
C19	C_POL	10.2F
C20	C	8.5F
C21	C	8.5G
C22	C	8.4H
C23	C	6.5H
C24	C	11.2G
C25	C	11.1C
C26	C	4.5F
C27	C	13.3B
C28	C	7.3F
C29	C	7.4G
C30	C	7.5G
C31	C	7.4G
C32	C	7.5H
C33	C	13.4B
C34	C	2.2B
C35	C	2.2B
C36	C	8.3B
C37	C	2.3H
C38	C	7.4H
C39	C	7.4G
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C50	C	7.4H
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C52	C	2.4H
C53	C	3.5A
C54	C	5.3D
C55	C	7.2G
C56	C	7.3G
C57	C	7.2G
C58	C	7.3H
C59	C	7.5H
C60	C	3.2D
C61	C	2.4G
C62	C	2.3G
C63	C	8.3A
C64	C	3.1D
C65	C	12.2F
C66	C	3.2D
C67	C	2.4G
C68	C	2.3G
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C70	C	2.2A
C71	C	3.1D
C72	C	12.2B
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C74	C	12.2B
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C76	C	3.1D
C77	C	8.1B
C78	C	7.2G
C79	C	7.2H
C80	C	7.2G
C81	C	7.2G
C82	C	7.2G
C83	C	7.3G
C84	C	7.2G
C85	C	7.3G
C86	C	7.3G
C87	C	7.2H
C88	C	7.2H
C89	C	7.2G
C90	C	7.2H
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C96	C	5.3F
C97	C	3.2C
C98	C	3.1D
C99	C	3.1D
C100	C	3.1D
C101	C	3.2D
C102	C	2.2D
C103	C	3.2D
C104	C	3.1D
C105	C	2.3A
C106	C	3.1D
C107	C	2.3A
C108	C	3.2D
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C112	C	3.1D
C113	C	3.2D
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C115	C	2.3A
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C117	C	3.1D
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C120	C	6.3G
C121	C	6.4G
C122	C	6.4G
C123	C	6.3G
C124	C	6.4G
C125	C	6.3H
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C127	C	6.3G
C128	C	6.3H
C129	C	2.3B
C130	C	13.3B
C131	C	2.4H
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C250	C	2.4G
C251	C	3.5A
C252	C	3.5A
C253	C	13.4B
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C267	C	2.1H
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C269	C	8.3A
C270	C	4.5G
C271	C	3.2D
C272	C	6.4G
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C281	C_POL	14.4B
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C525	C	2.2B
C526	C	12.2A
C528	C	12.2C
C529	C	12.2D
C536	C	9.3A
C537	C	10.2D
C538	C	9.4F
C539	C	9.4F
C540	C	9.3F
C541	C	9.4B
C542	C	9.4B
C543	C	9.3B
C544	C	9.4H
C545	C	9.4D
C546	C	10.1D
C547	C	9.4F
C548	C	9.4F
C549	C	9.3F
C550	C	9.4B
C551	C	9.4B
C552	C	9.3B
C553	C	9.4C
C554	C	10.2E
C555	C	9.4G
C556	C	9.4H
C557	C	9.4H
C558	C	9.4H
C559	C	9.4D
C560	C	9.4D
C561	C	9.4D
C562	C	10.2D
C563	C	9.4G
C564	C	9.4G
C565	C	9.3G
C566	C	9.4C
C567	C	9.4C
C568	C	2.4A
C569	C	2.3F
C653	C	12.2E
CN501	CON_AGP	2.1B
D1	D_3PIN_AC	8.1E
D2	D_3PIN_AC	8.2E
D3	D_3PIN_AC	9.1G
D4	D_3PIN_AC	9.3G
D5	D_3PIN_AC	9.2G
D6	D_3PIN_AC	9.1G
D7	D_3PIN_AC	9.1C
D8	D_3PIN_AC	9.3C
D9	D_3PIN_AC	9.2C
D10	D_3PIN_AC	9.1C
D12	D_3PIN_AC	13.5E
D13	D_SCHOTTKY	14.4E
D14	D	15.3F
D15	D_SCHOTTKY	15.2B
D16	Q_FET_P_ENH	15.3B
D501	D_3PIN_AC	9.4E
D502	D_3PIN_AC	9.4E
D503	D_3PIN_AC	9.3E
D504	D_3PIN_AC	9.4B
D505	D_3PIN_AC	9.4B
D506	D_3PIN_AC	9.3B
F1	F_POLYSW	9.5A
J1	CON_MINIDIN_4	8.1G
J2	CON_DSUB15HD	9.3H
J3	CON_DSUB15HD	9.3D
J4	HDR_1X2	12.4B
J6	CON_DVI_I	13.3H
J7	HDR_1X2	15.3G
L1	L	8.1F
L2	L	8.2F
L3	L	9.2C
L4	L	9.2C
L5	L	9.2G
L6	L	9.2G
L7	L	14.3C
L8	L	14.4F
L9	L	14.4F
L501	L	9.4F
L502	L	9.4F
L503	L	9.3F
L504	L	9.4B
L505	L	9.4B
L506	L	9.3B
L507	L	9.4F
L508	L	9.4F
L509	L	9.3F
L510	L	9.4B
L511	L	9.4B
L512	L	9.3B
LB1	L	9.5B
LB2	L	9.1G
LB3	L	13.3B
LB4	L	13.4B
LB5	L	9.1G
LB6	L	9.1C
LB7	L	13.5F
LB8	L	13.1B
LB9	L	9.1C
LB10	L	8.5G
LB11	L	8.5G
LB12	L	8.2A
LB13	L	3.2D
LB14	L	13.1D
LB501	L	8.1A
LB502	L	12.2A
LB503	L	10.1D
LB504	L	12.1E
LB604	L	2.5H
MEC1	MEC_SCREW	10.4D
MEC2	MEC_SCREW	10.4D
MEC3	MEC_SCREW	10.5D
MEC4	MEC_SCREW	10.5D
MEC5	HEATSINK	10.4D
Q1	Q_FET_N_ENH	8.3A
Q2	Q_FET_N_ENH	2.5A
Q3	Q_PNP	2.5B
Q4	Q_FET_N_ENH	2.5B 2.5D
Q6	Q_FET_N_ENH	14.3E 14.4E
Q7	Q_NPN	13.1E
Q8	Q_NPN	13.1E
Q9	Q_PNP	13.1F
Q10	Q_FET_N_ENH	14.4B
Q11	Q_FET_N_ENH	14.3E
Q12	Q_FET_N_ENH	14.4E
Q14	Q_NPN	15.3B
Q16	Q_FET_N_ENH	15.3F
R1	R	13.3G
R2	R	9.1F
R3	R	9.1F
R4	R	9.1B
R5	R	9.1B
R6	R	9.1E
R7	R	9.1E
R8	R	9.1B
R9	R	2.4G
R10	R	9.1B
R11	R	11.1B
R12	R	3.2G
R13	R	8.3B
R14	R	11.3C
R15	R	11.3C
R16	R	11.3D
R17	R	11.3C
R18	R	11.5C
R19	R	11.3D
R20	R	11.3D
R21	R	11.3D
R22	R	12.2H
R23	R	11.3D
R24	R	11.3D
R25	R	11.4D
R26	R	11.4C
R27	R	11.4D
R28	R	11.3D
R29	R	11.4C
R30	R	11.3D
R31	R	11.5C
R32	R	11.5C
R33	R	11.5C
R34	R	3.1H
R35	R	3.2H
R36	R	11.4D
R37	R	11.4D
R38	R	8.3A
R39	R	8.3B
R40	R	3.2G
R41	R	8.4F
R42	R	12.2H
R43	R	12.2E
R44	R	12.4E
R45	R	5.3D
R46	R	5.2D
R47	R	12.2E
R48	R	8.4G
R49	R	14.3C
R50	R	13.4C
R51	R	13.5C
R52	R	13.3C
R53	R	11.5C
R54	R	7.3D
R55	R	7.2D
R56	R	12.4E
R57	R	13.1E
R58	R	8.3G
R59	R	11.3C
R60	R	10.3D
R61	R	10.3D
R62	R	10.4D
R63	R	10.3D
R64	R	10.4D
R65	R	10.3D
R66	R	10.4D
R67	R	10.3D
R68	R	11.4D
R69	R	13.2E
R70	R	13.5E
R71	R	6.2D
R72	R	4.2D
R73	R	6.3D
R74	R	4.3D
R75	R	3.5A
R76	R	3.5E
R77	R	12.2F
R78	R	13.1E
R79	R	13.2E
R80	R	13.1F
R81	R	13.2F
R82	R	13.2F
R83	R	13.2F
R84	R	13.2F
R85	R	2.4A
R86	R	2.5B
R87	R	2.5C
R88	R	13.2F
R89	R	2.4F
R90	R	11.4D

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R91	R	2.4F
R92	R	2.4F
R93	R	2.5C
R94	R	2.5C
R95	R	3.5A
R96	R	3.5A
R97	R	8.2B
R98	R	8.4A
R99	R	8.5A
R100	R	8.2D
R101	R	2.5D
R102	R	11.4C
R103	R	2.4D
R104	R	2.5C
R105	R	11.4C
R106	R	11.4D
R107	R	11.4D
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R110	R	13.3F
R111	R	13.4F
R112	R	13.5F
R113	R	13.5F
R114	R	13.3G
R115	R	14.4B
R116	R	14.4B
R117	R	14.3C
R118	R	14.3C
R119	R	14.4C
R120	R	8.3D
R121	R	14.4C
R122	R	12.2D
R124	R	12.4B
R125	R	12.4B
R126	R	12.2H
R127	R	12.2H
R128	R	12.2F
R129	R	14.4D
R130	R	14.4D
R131	R	14.5F
R132	R	13.1D
R133	R	13.2D
R134	R	14.4F
R135	R	14.5F
R136	R	14.4G
R137	R	14.4F
R138	R	15.3F
R140	R	15.3A
R141	R	15.3B
R142	R	15.3A
R143	R	8.2G
R144	R	11.4C
R145	R	15.3C
R146	R	15.3C
R147	R	15.3C
R148	R	15.3C
R149	R	15.3C
R150	R	15.3C
R151	R	15.3C
R152	R	15.3C
R153	R	15.3C
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R157	R	15.4C
R158	R	15.4C
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R160	R	15.4C
R161	R	15.4C
R162	R	13.3G
R163	R	9.3H
R164	R	15.3F
R165	R	13.1B
R166	R	13.2B
R167	R	12.4B
R168	R	15.3C
R169	R	12.4E
R170	R	12.4E
R171	R	12.4B
R172	R	13.4G
R173	R	13.5G
R253	R	2.4B
R257	R	8.4C
R258	R	8.4C
R501	R	4.5E
R502	R	4.5E
R504	R	4.5E
R505	R	5.5E
R506	R	5.5E
R508	R	5.5E
R517	R	2.4D
R520	R	6.5E
R521	R	6.5E
R523	R	6.5E
R524	R	2.4D
R525	R	2.4E
R526	R	12.2C
R527	R	8.2B
R528	R	12.4E
R529	R	12.4F
R533	R	11.5C
R534	R	2.4B
R536	R	7.5E
R537	R	7.5E
R538	R	7.5E
R540	R	11.4C
R541	R	11.4C
R542	R	11.4C
R544	R	11.3C
R547	R	2.4A
R548	R	11.4D
R549	R	11.4C
R550	R	11.4C

R551	R	2.5D
R552	R	2.5D
R555	R	11.5D
R556	R	11.3C
R562	R	9.4A
R563	R	9.4A
R564	R	9.3A
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R567	R	8.3F
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R571	R	9.4A
R572	R	9.4A
R573	R	9.3A
R574	R	9.2B
R581	R	9.2B
R583	R	8.5F
R584	R	8.4G
R585	R	8.4G
R587	R	8.4G
R588	R	8.4G
R589	R	9.2F
R590	R	9.2F
R591	R	10.2D
R592	R	10.2D
R593	R	9.3H
R594	R	9.3H
R595	R	9.3D
R596	R	9.3D
R601	R	8.3A
R645	R	2.4A
R646	R	2.4A
R670	R	4.5E
R671	R	4.5E
R672	R	5.5E
R673	R	5.5E
R674	R	6.5E
R675	R	6.5E
R676	R	7.5E
R677	R	7.5E
R680	R	11.3A
R681	R	11.3A
R682	R	11.3B
R683	R	11.3B
R684	R	11.3C
R685	R	11.3C
R687	R	11.5D
R688	R	11.5D
R689	R	11.5D
R690	R	11.5D
R691	R	11.5D
R692	R	8.2G
R693	R	8.2H
RP1	R_PAK	5.2A
RP2	R_PAK	5.2A 5.3A 5.3A
RP3	R_PAK	5.3A
RP4	R_PAK	4.4A
RP5	R_PAK	5.4A
RP6	R_PAK	7.4A
RP7	R_PAK	7.3A 7.3A 7.4A
RP8	R_PAK	7.2A
RP9	R_PAK	5.5B
RP10	R_PAK	7.5B
RP11	R_PAK	5.5B
RP501	R_PAK	4.4A
RP502	R_PAK	5.4A
RP503	R_PAK	4.5B
RP504	R_PAK	5.3A
RP505	R_PAK	4.3A
RP506	R_PAK	6.3A
RP507	R_PAK	6.3A
RP508	R_PAK	6.5B
RP509	R_PAK	6.4A
RP510	R_PAK	5.4A
RP511	R_PAK	6.4A
RP512	R_PAK	5.3A 5.3A 5.4A
RP513	R_PAK	4.3A
RP514	R_PAK	4.3A 4.4A
RP515	R_PAK	4.5B
RP516	R_PAK	4.2A 4.3A
RP517	R_PAK	4.2A
RP518	R_PAK	4.4A
RP519	R_PAK	7.2A 7.3A 7.3A
RP520	R_PAK	7.3A
RP521	R_PAK	7.3A
RP522	R_PAK	7.5B
RP523	R_PAK	7.4A
RP524	R_PAK	7.4A
RP525	R_PAK	6.2A
RP526	R_PAK	6.2A 6.3A 6.3A
RP527	R_PAK	6.5B
RP528	R_PAK	6.3A 6.3A 6.4A
RP529	R_PAK	6.4A
TP1	TESTPOINT	14.4A
TP2	TESTPOINT	14.4B
TP3	TESTPOINT	14.4C
TP4	TESTPOINT	14.4F
TP5	TESTPOINT	14.5G
TP6	TESTPOINT	14.4H
U1	U_VREG_3PIN	10.2D
U2	U_MEM_FL_SER_128KX8	11.1B
U3	U_SWREG_ISL6529	14.4C
U4	U_VREG_5PIN	13.1C
U5	U_MEM_EP_OTP_64KX8	11.1G
U6	U_MEM_SD_DDR_4_8MX16	6.4C 6.4E 7.2E
U7	U_MEM_SD_DDR_4_8MX16	6.3C 6.3E 7.2C
U8	U_GPU_DDR2M64X2_V1	2.1E 3.1B 3.1F 8.1B 8.2B 8.4B 12.1C 12.1F 12.4C 13.3C
U9	U_MEM_SD_DDR_4_8MX16	6.2E 7.4D 7.4E
U10	U_MEM_SD_DDR_4_8MX16	6.2C 7.3D 7.3E
U11	U_MEM_SD_DDR_4_8MX16	4.4C 4.4E 5.2E
U12	U_MEM_SD_DDR_4_8MX16	4.3C 4.3E 5.2C

U13	U_MEM_SD_DDR_4_8MX16	4.2E 5.4D 5.4E
U14	U_MEM_SD_DDR_4_8MX16	4.2C 5.3D 5.3E
U16	U_VREG_5PIN	13.1A
U17	U_MEM_FL_SER_128KX8	11.1D
U502	U_SW_ANA_3257	8.3F 8.4F 8.5F
U503	U_AND_2IN	9.2B 9.2F 9.2F
Y1	XTAL	12.2C

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