35P172- NV35 Short Form Production Board

35P172_A00 - NV35 Flipchip BGA, 4 x 64MB DDR1 (16 x 4Mx32 = 256MB)
External TMDS (SINGLE link), Internal TVout or External HDTVout (7108), TV Capture (7114 or 7108)

SKU	VARIANT	NVPN	ASSEMBLY
0	BASE	600-10172-xxxx-vvv	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	000	600-10172-0000-000	P172: NV35-U, 450/425, 256MB, DVI-I, VGA, VIVO, PCIID:0x330
2	001	600-10172-0001-000	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
3	002	600-10172-0002-000	P172: NV35-U, 450/425, 256MB, DVI-I, VGA, VIDEO IN, HDTV OUT, PCIID:0x330
4	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
5	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
6	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
7	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
8	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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12	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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14	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
15	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>

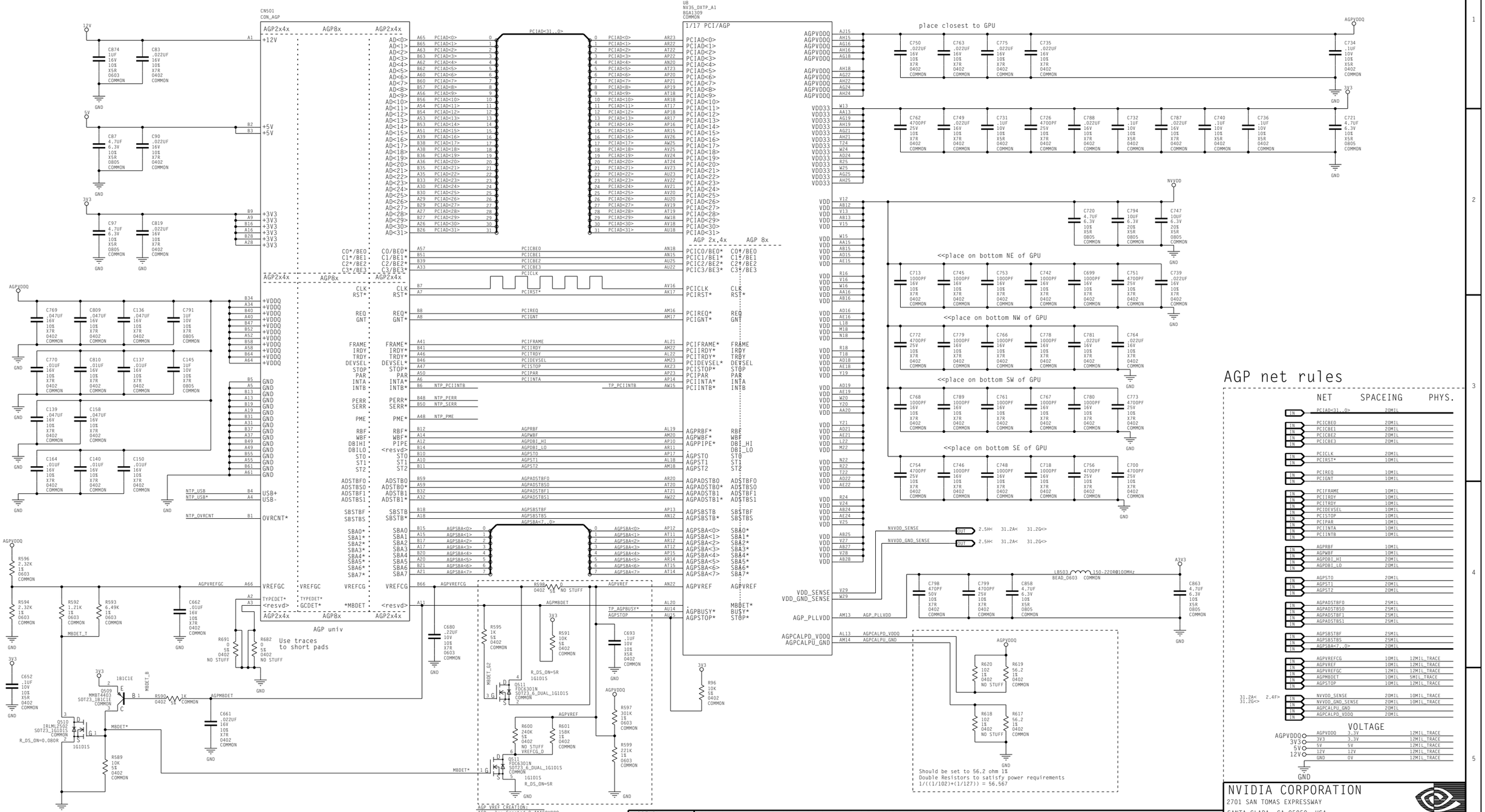
Table of Contents:

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Table of Contents

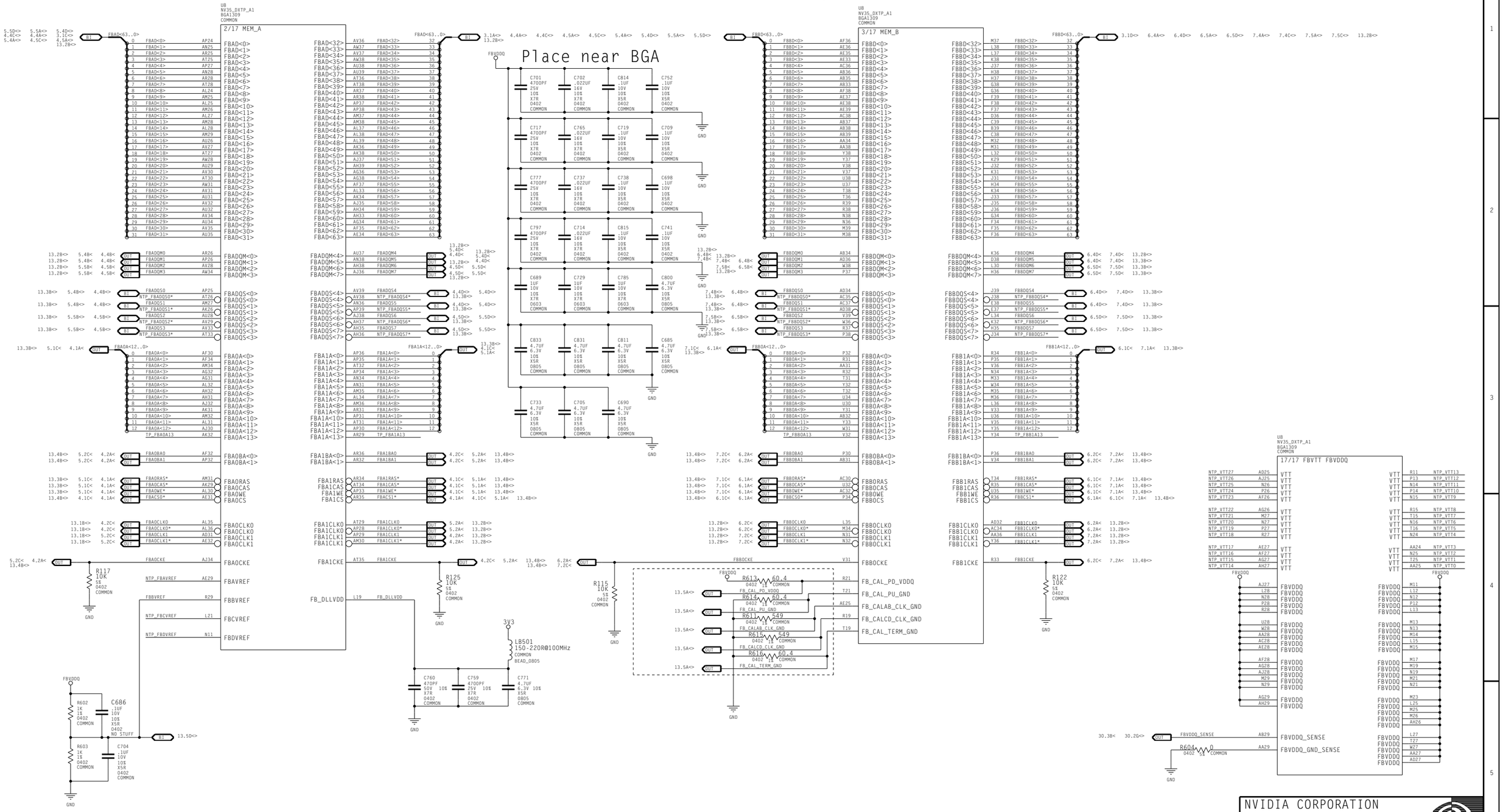
NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**1 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

2. AGP 8X Interface



3.Memory - FB_A & FB_B Partitions, FBVDD/Q decoupling



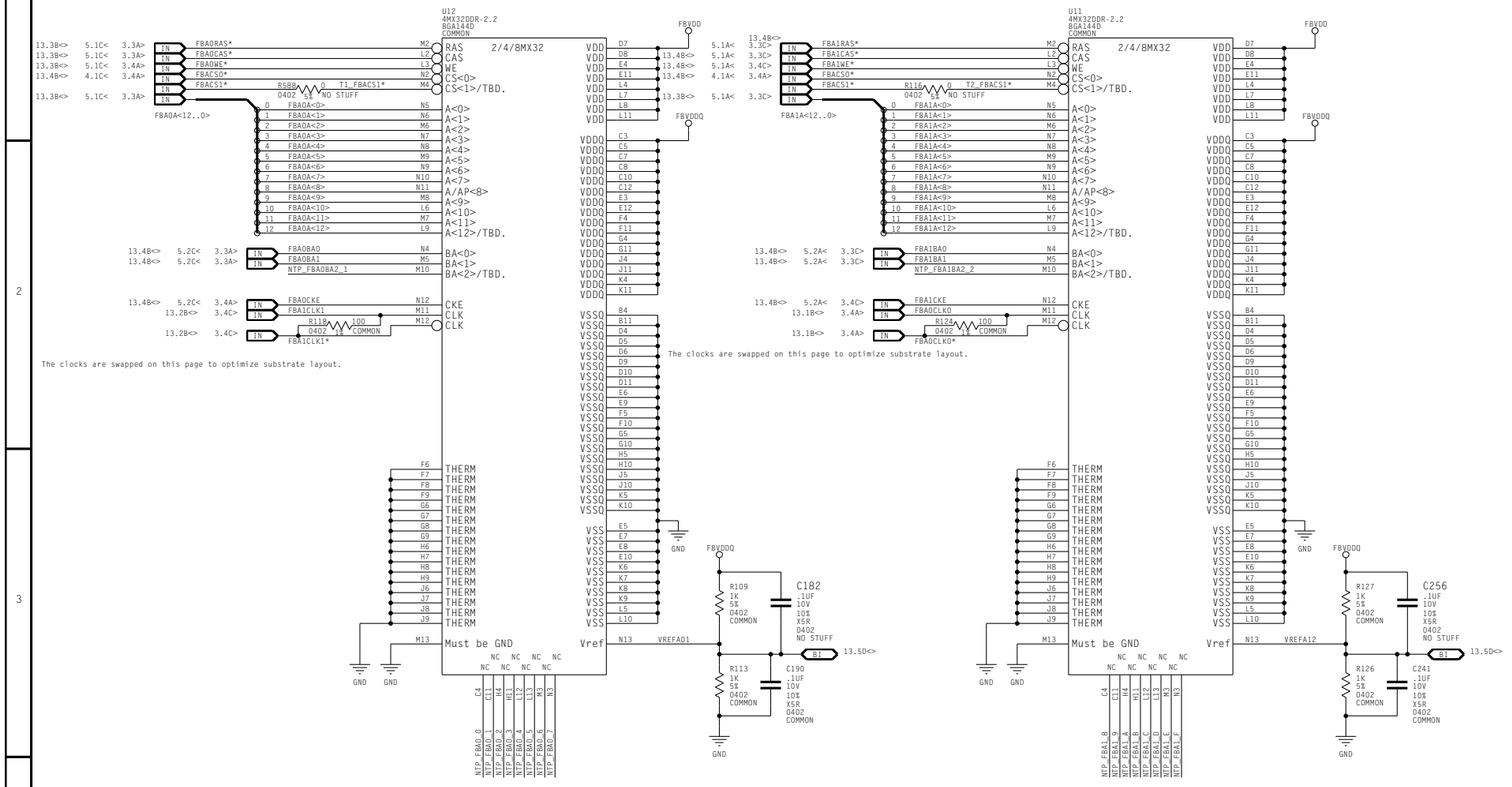
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_A & FB_B Partitions, FBVDD/Q & FBVTT decoupling

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	3 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

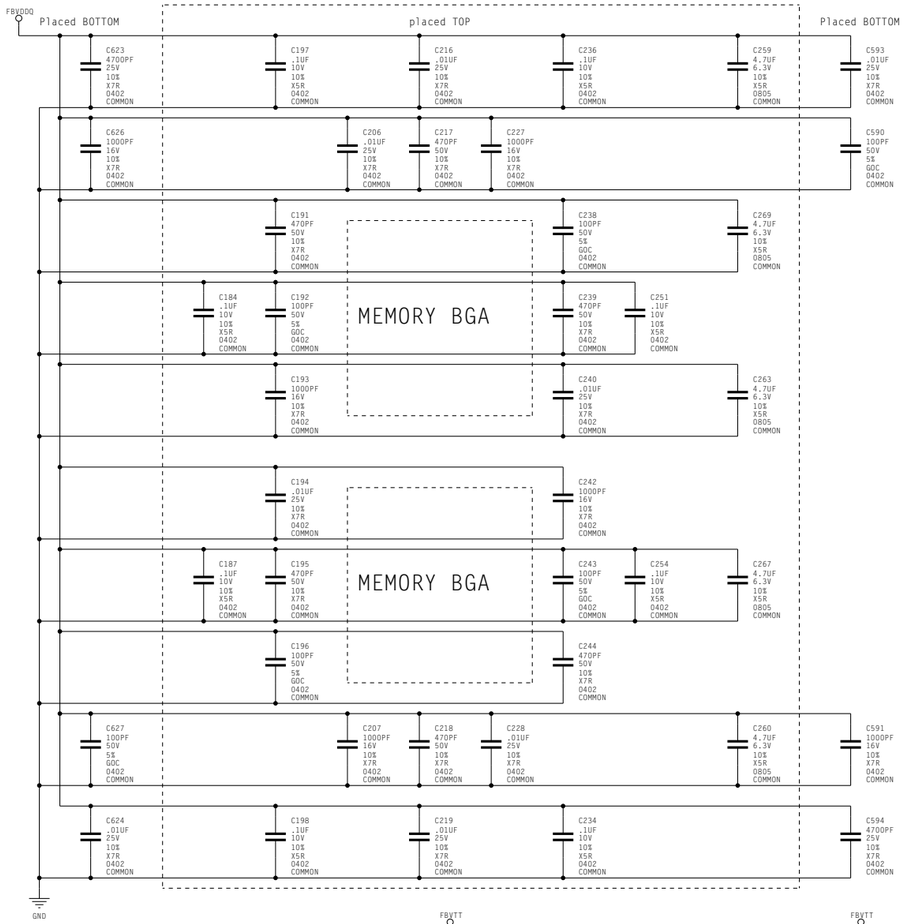
4. Memory Part. A - FBAD0..63 - Bank0

FBA0 0..31

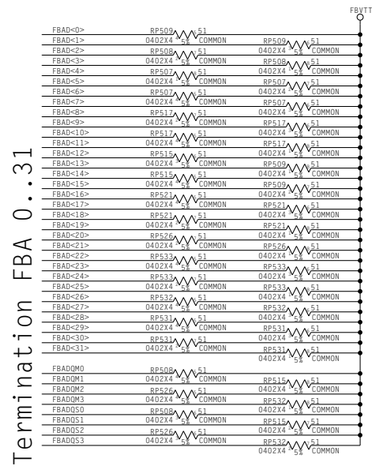


FBA1 32..63

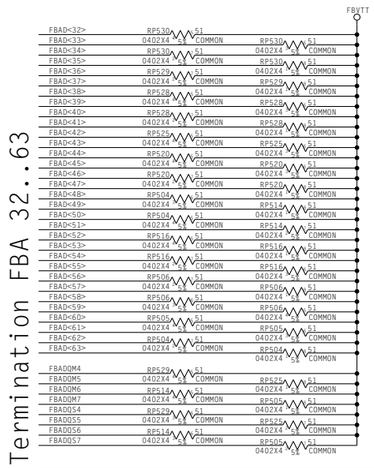
FBVDDQ Decoupling placement for whole Partition



Termination FBA 0..31



Termination FBA 32..63



ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_A - Bank0

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

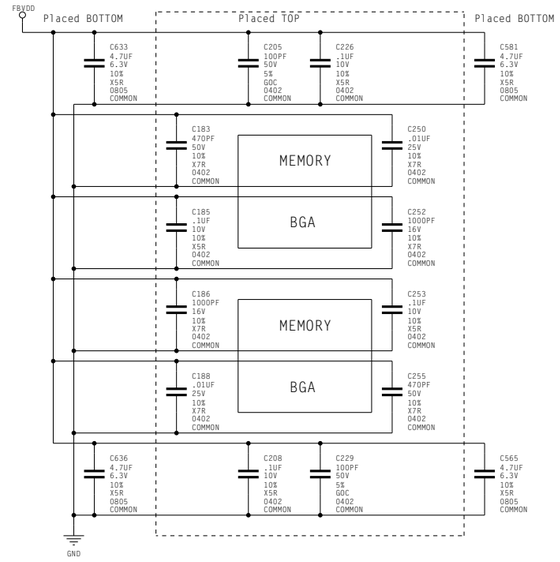
NV_PN	602-10172-0001-000		
ID	design	PAGE	4 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

5. Memory Part. A - FBAD0..63 - Bank1

FBA1 0..31

FBA0 32..63

FBVDD Decoupling placement for whole partition



FBVTT Decoupling placement for whole partition

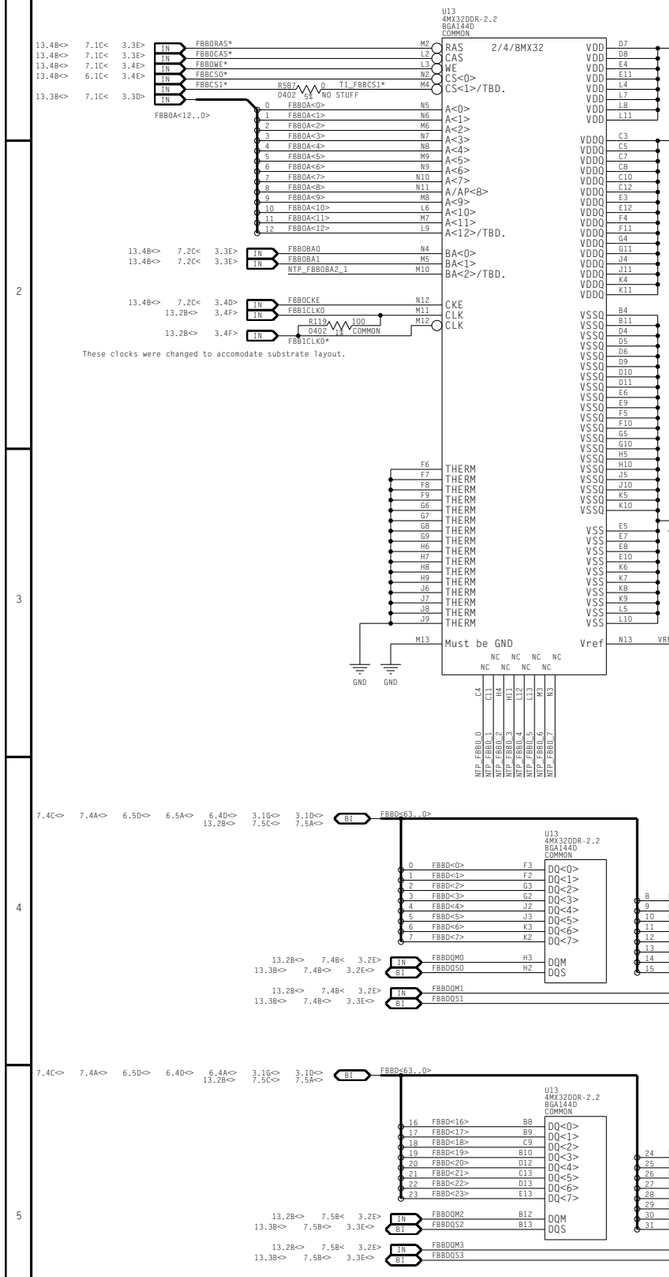
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_A Bank1

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

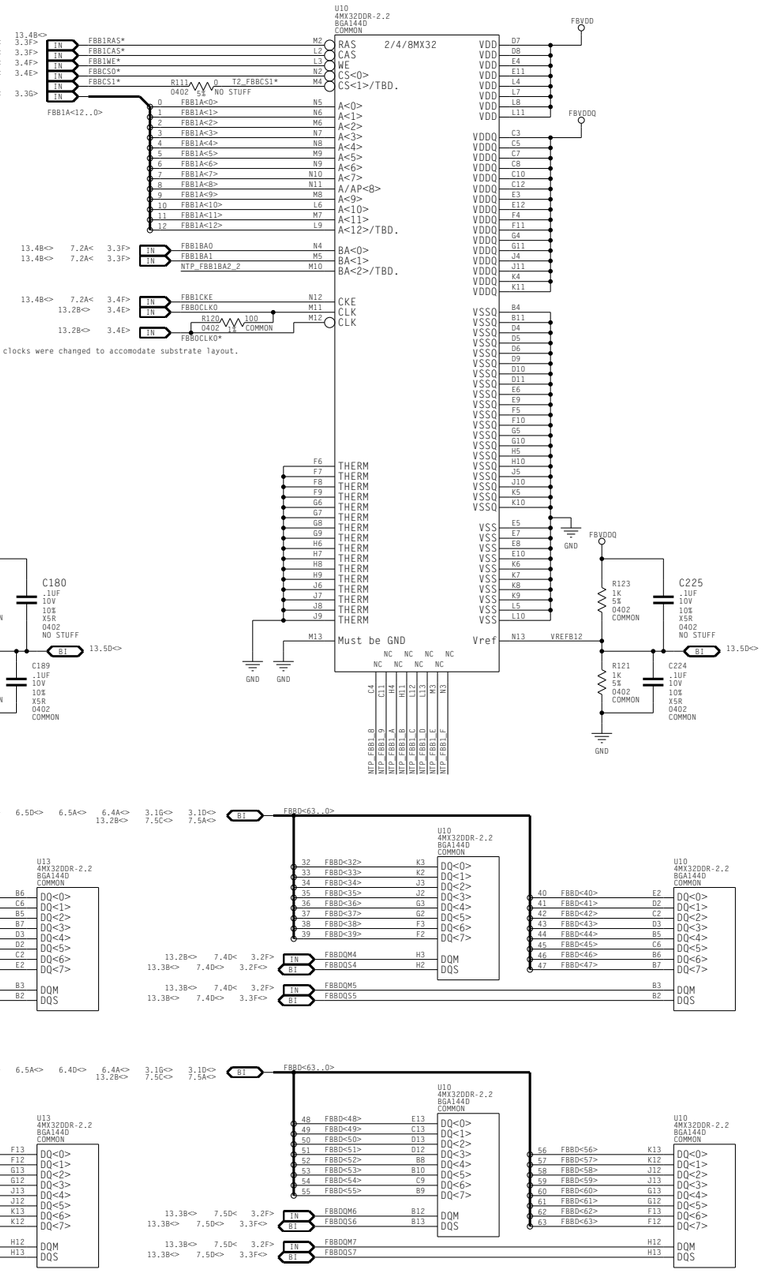
NV_PN	602-10172-0001-000		
ID	design	PAGE	5 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

6. Memory Part. B - FBBD0..63 - Bank0

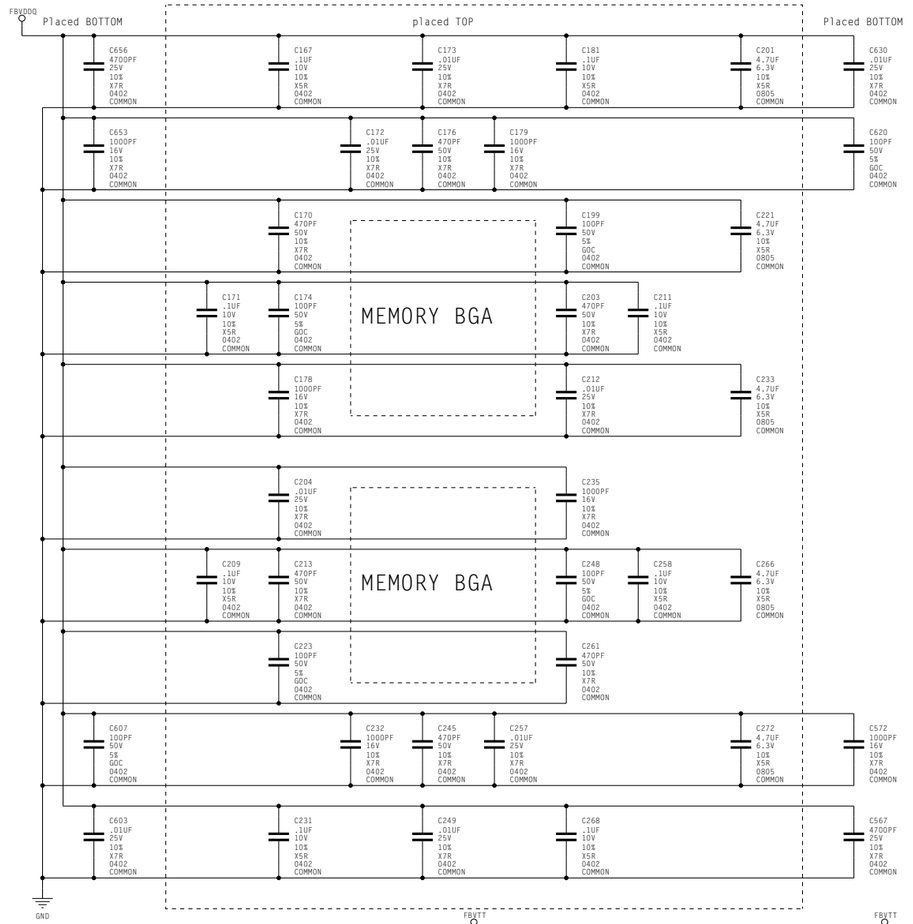
FBB0 0..31



FBB1 32..63



FBVDDQ Decoupling placement for whole Partition



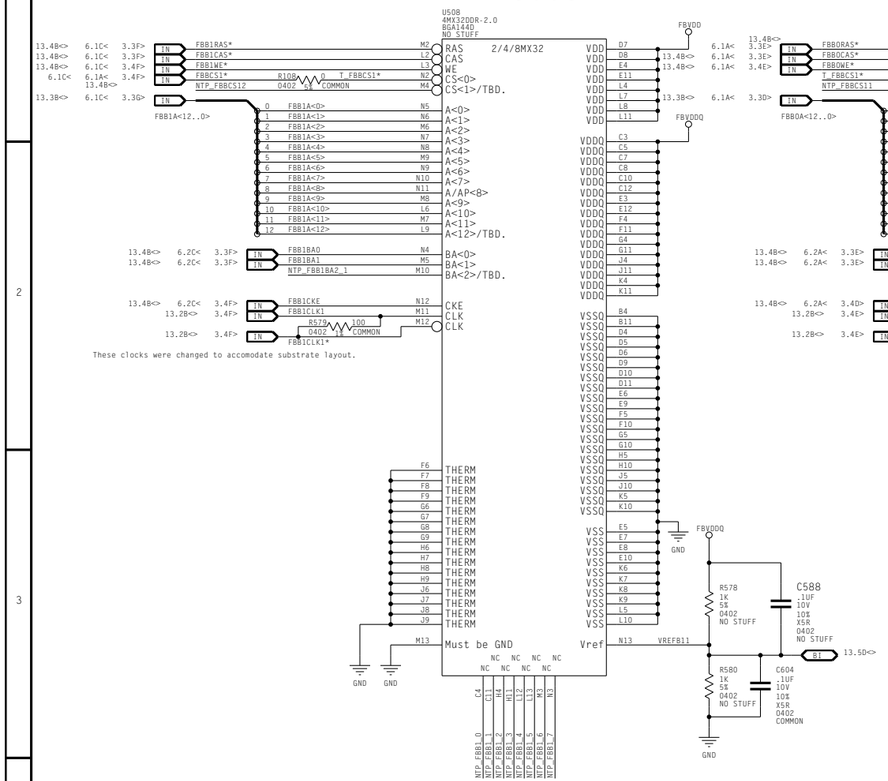
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_B - Bank0

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

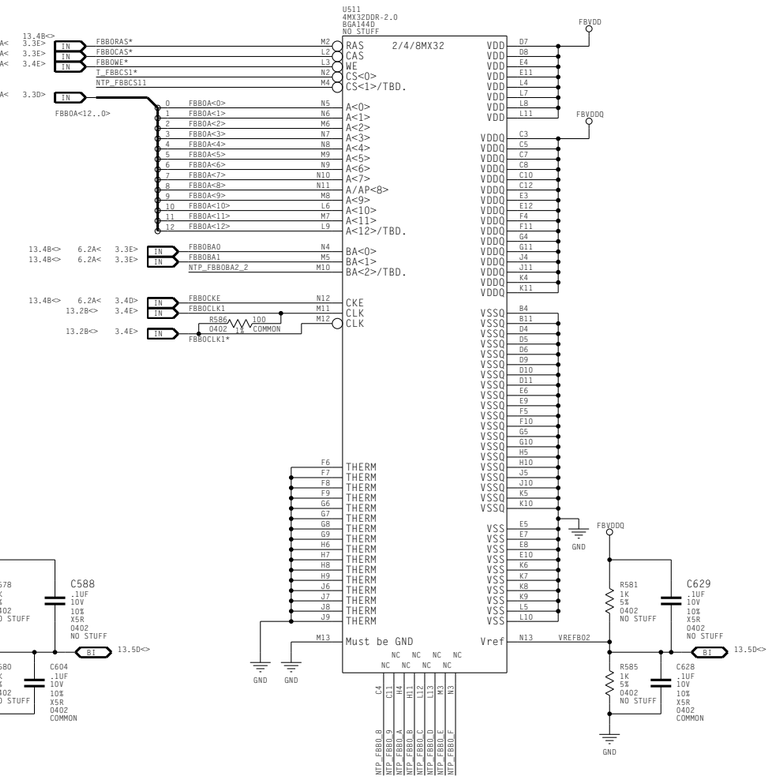
NV_PN	602-10172-0001-000		
ID	design	PAGE	6 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

7. Memory Part. B - FBBD0..63 - Bank1

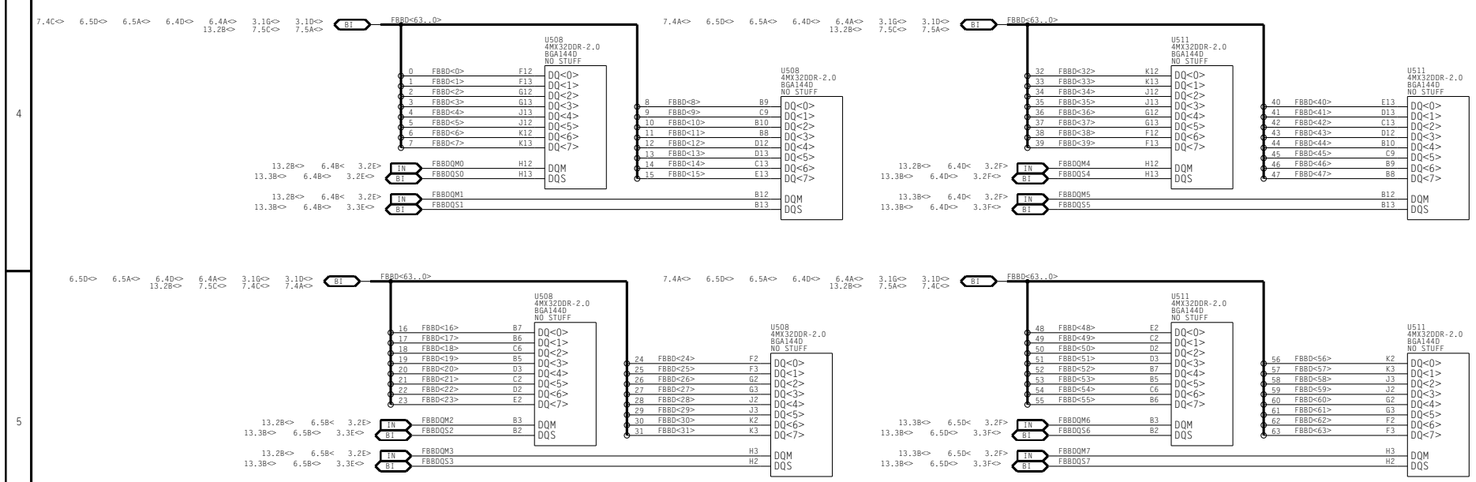
FBB1 0..31



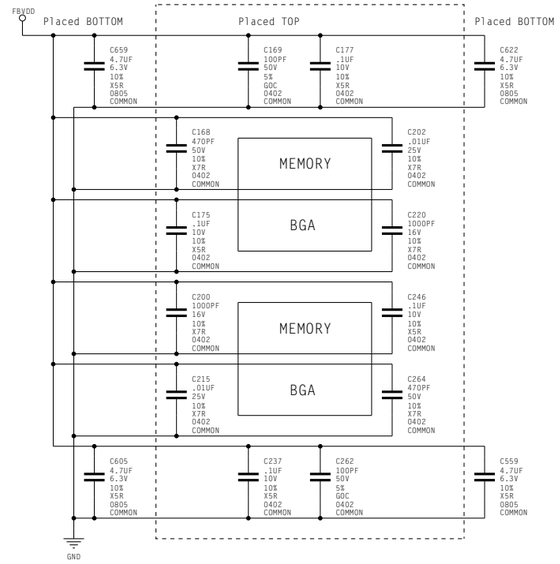
FBB0 32..63



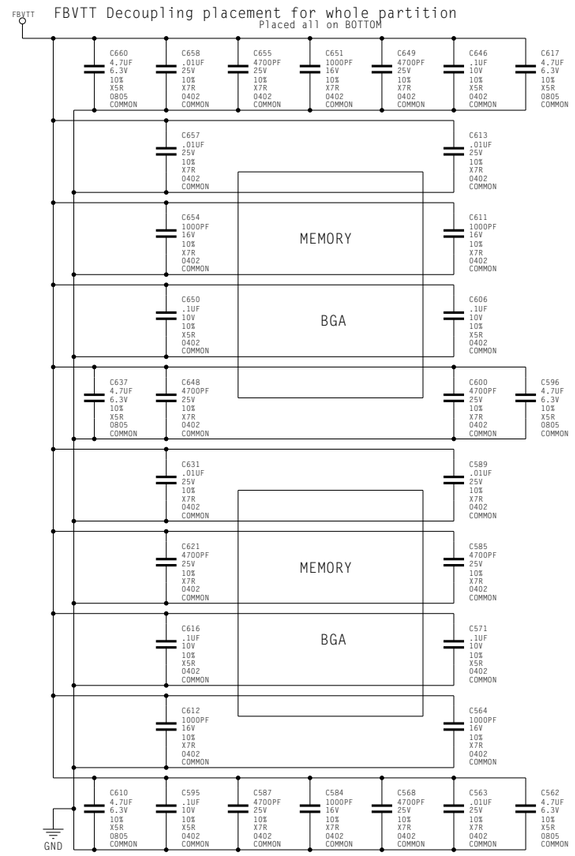
FBBD<63..0>



FBVDD Decoupling placement for whole partition



FBVTT Decoupling placement for whole partition

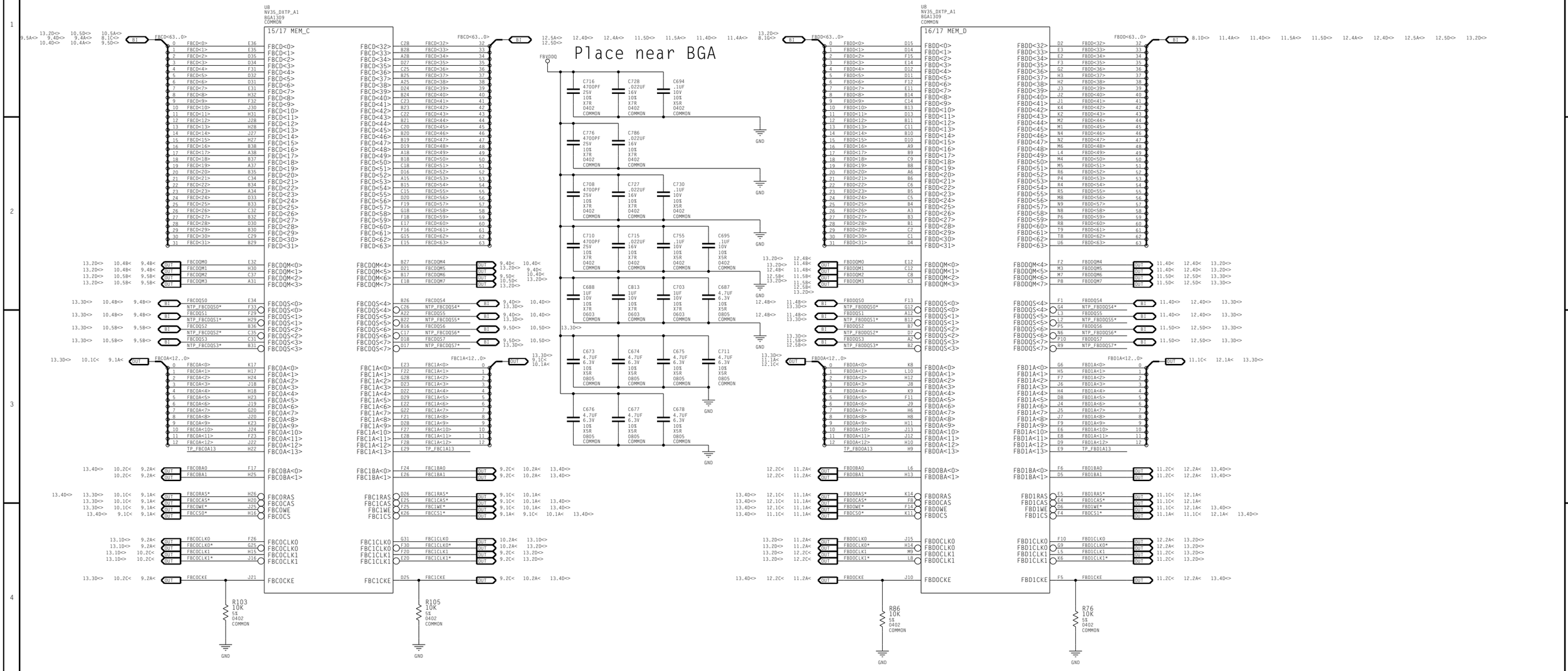


ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_B - Bank1

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

NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**7 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

8. Memory FBC & FBD, FBVDD/Q decoupling, FBVTT decoupling



TO DO: RENAME TP_FBCxA13 & TP_FBDxA13 TO ABOVE NAMES

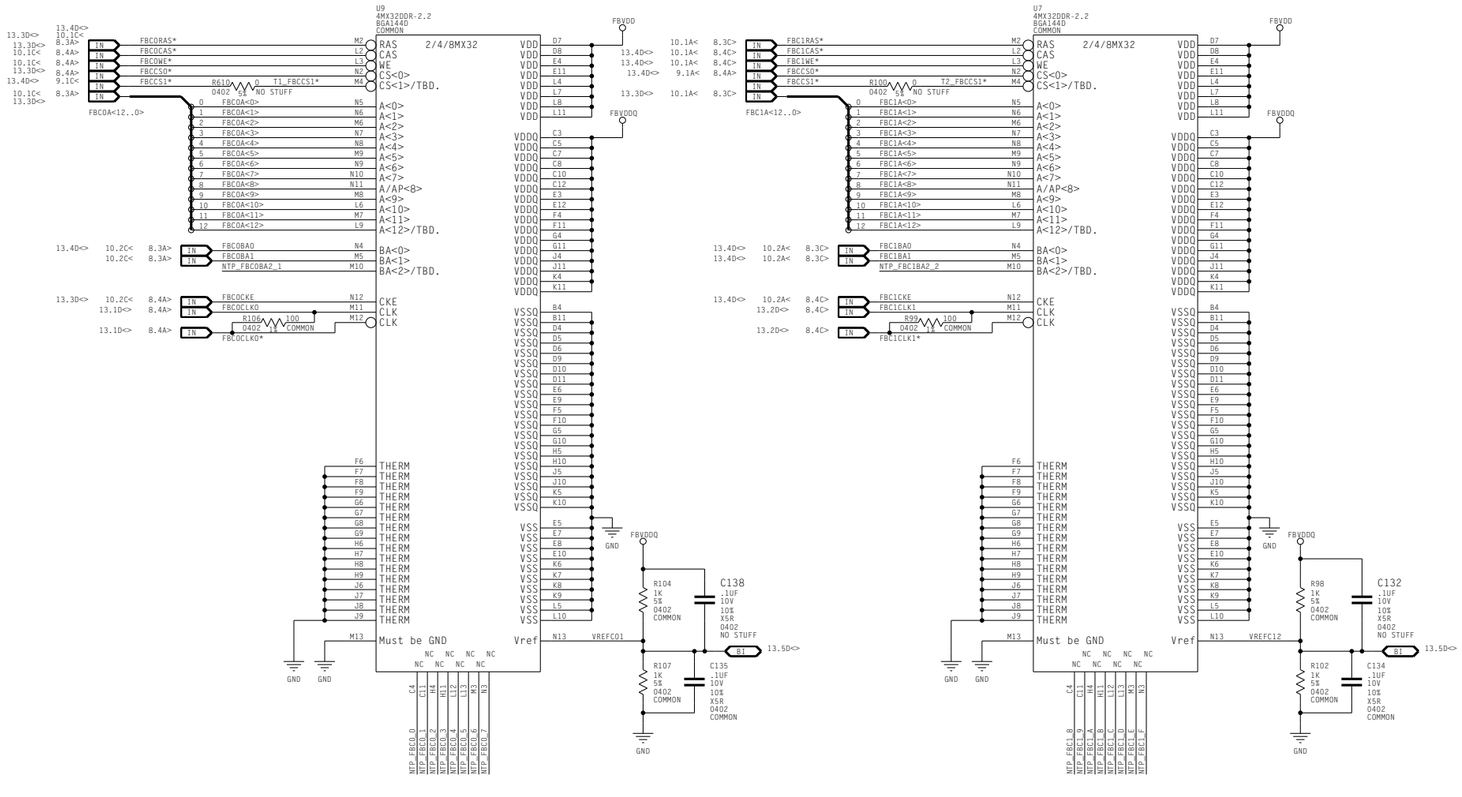
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_C & FB_D Partitions, FBVDD/Q & FBVTT decoupling

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	8 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

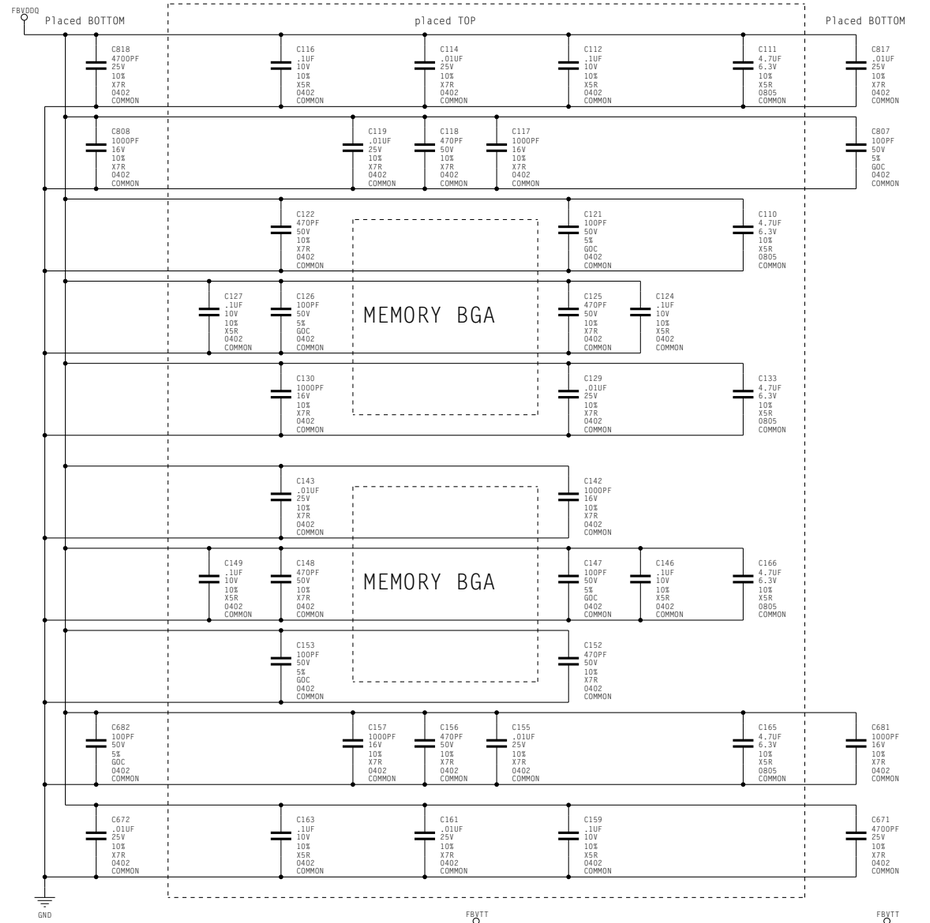
9. Memory Part. C - FBCD0..63 - Bank0

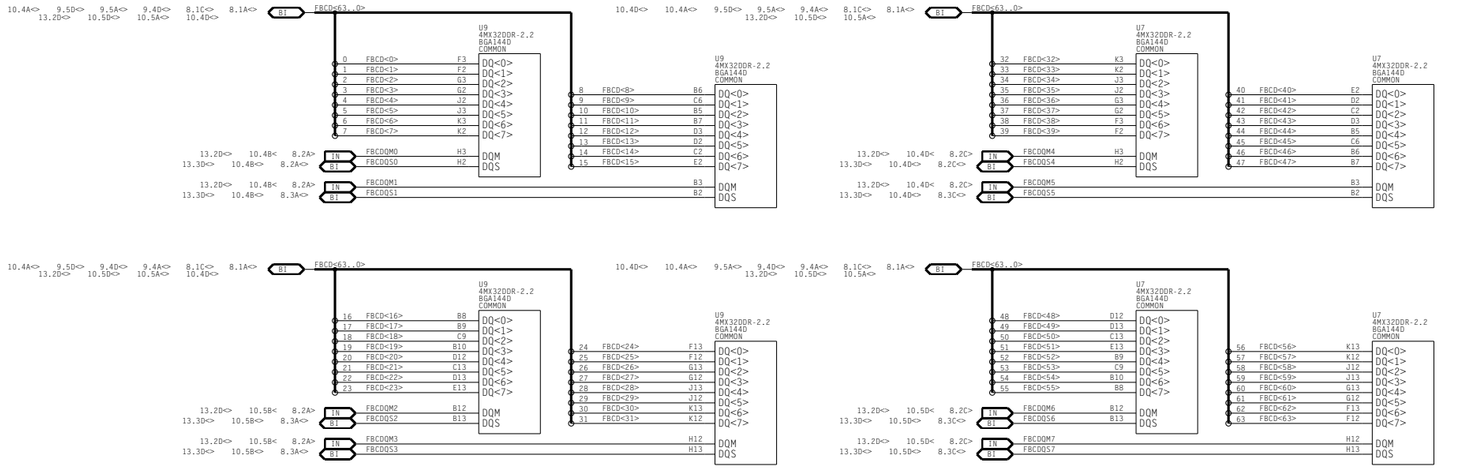
FBC0 0..31

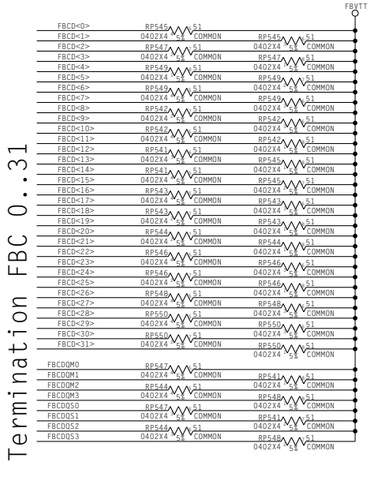


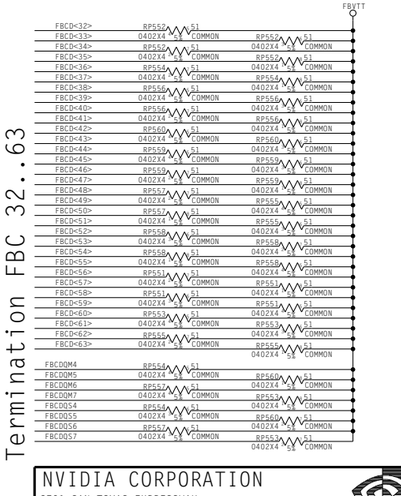
FBC1 32..63

FBVDDQ Decoupling placement for whole Partition









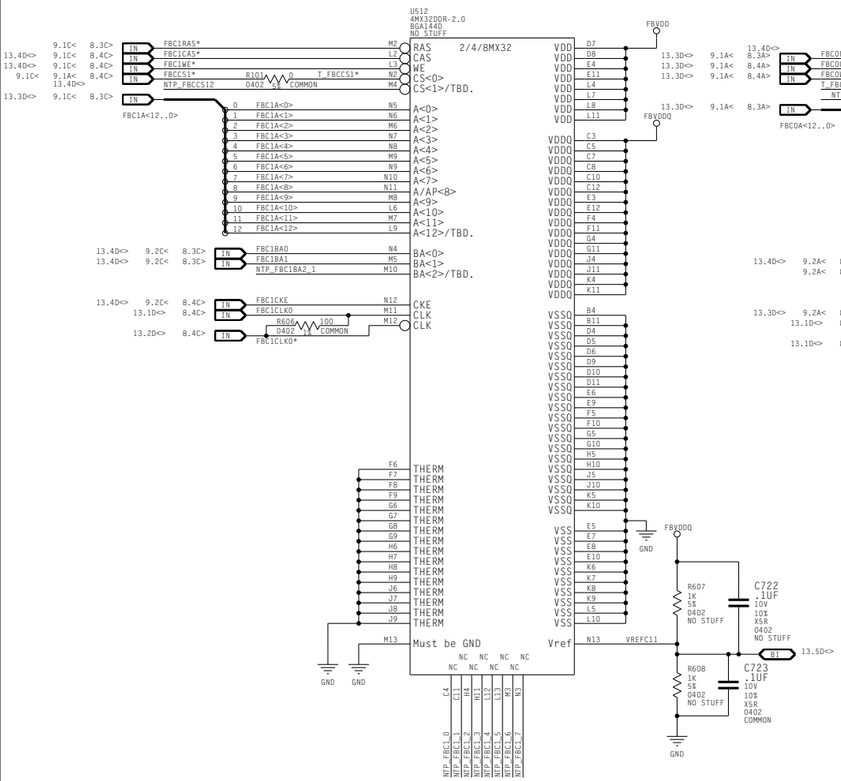
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_C - Bank0

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

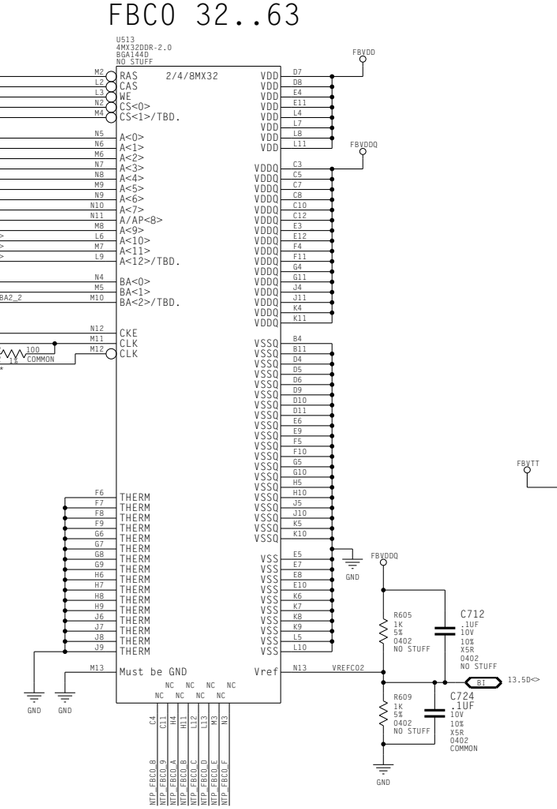
NV_PN	602-10172-0001-000		
ID	design	PAGE	9 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

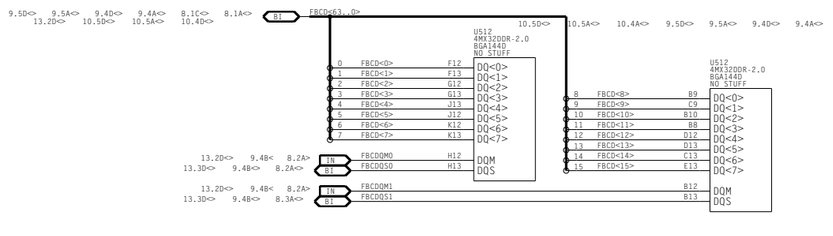
10. Memory Part. C - FBCD0..63 - Bank1

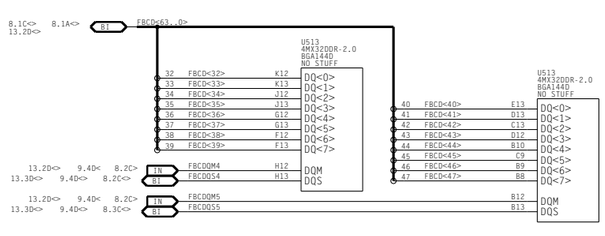
FBC1 0..31

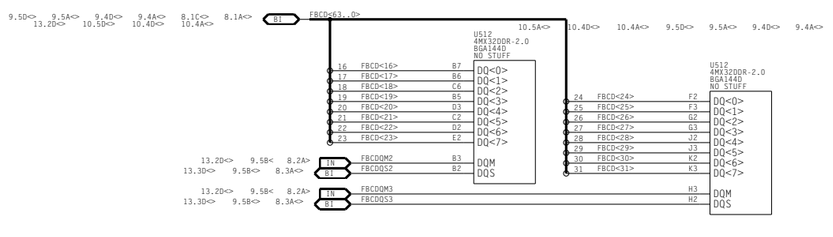


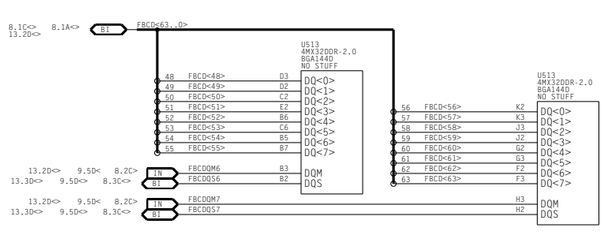
FBC0 32..63



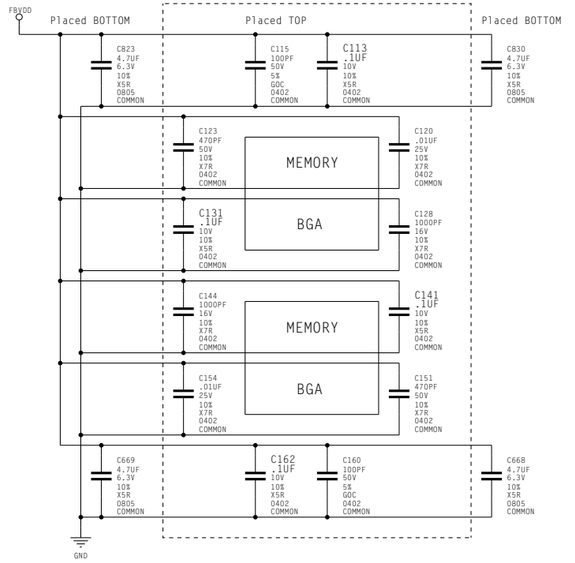




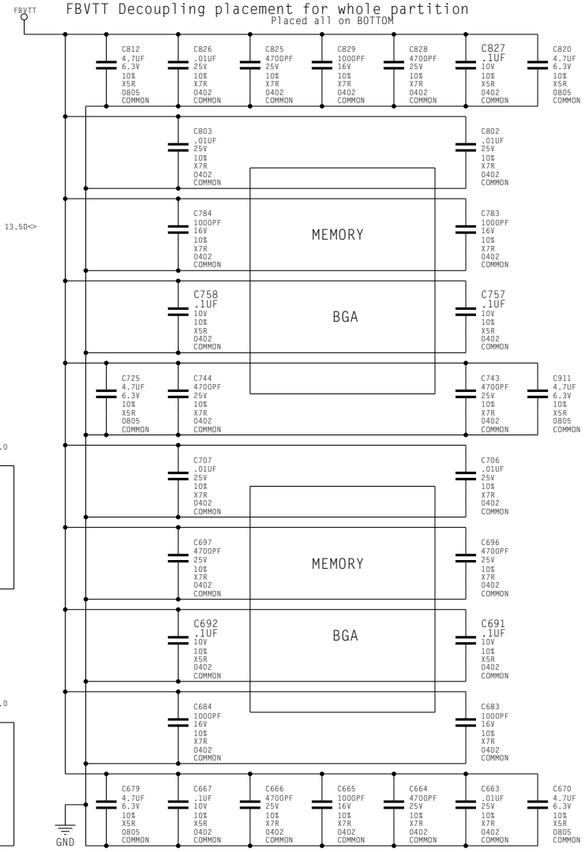




FBVDD Decoupling placement for whole partition



FBVTT Decoupling placement for whole partition



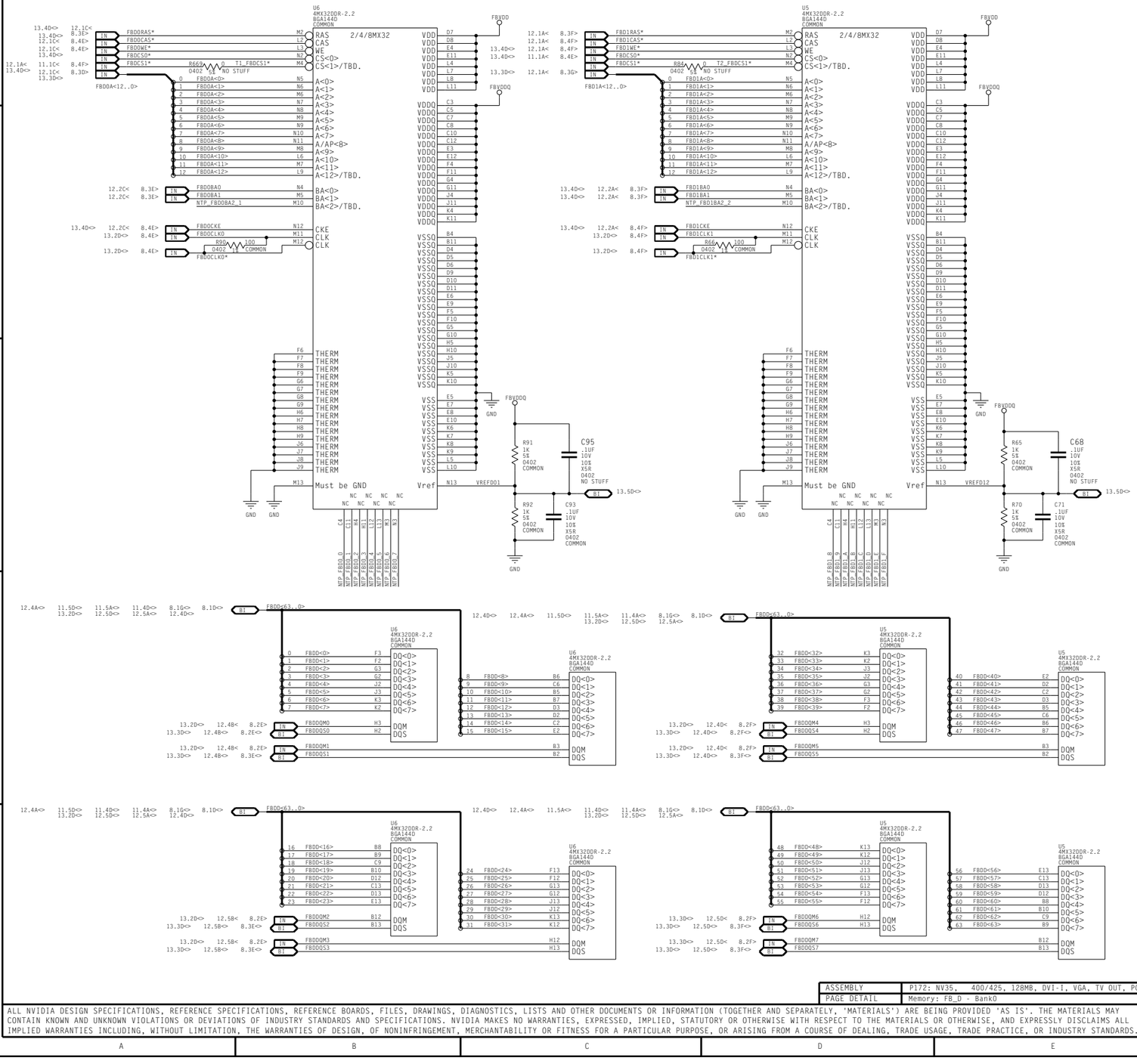
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_C - Bank1

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

NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**10 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

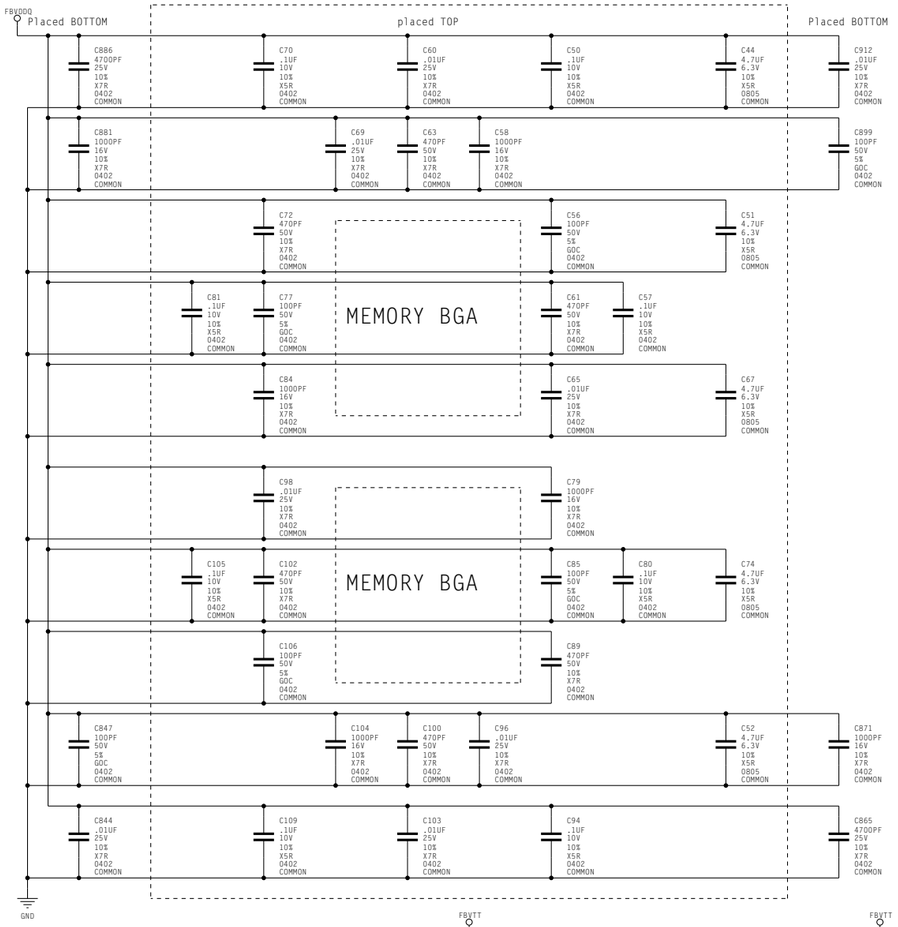
11. Memory Part. D - FBDD0..63 - Bank0

FBD0 0..31

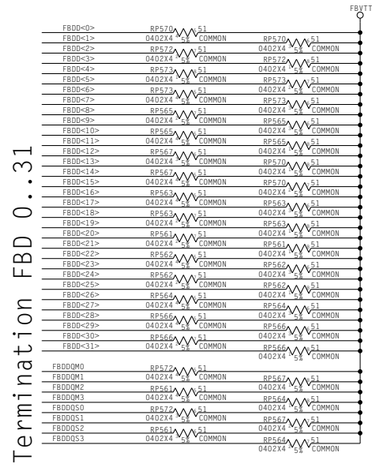


FBD1 32..63

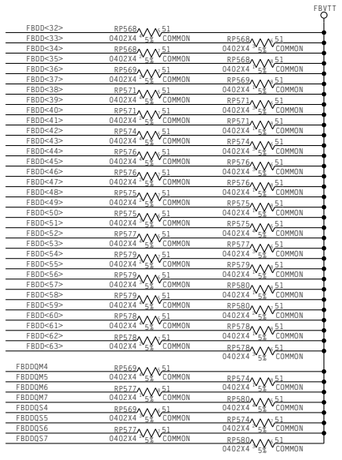
FBVDDQ Decoupling placement for whole Partition



Termination FBD 0..31



Termination FBD 32..63



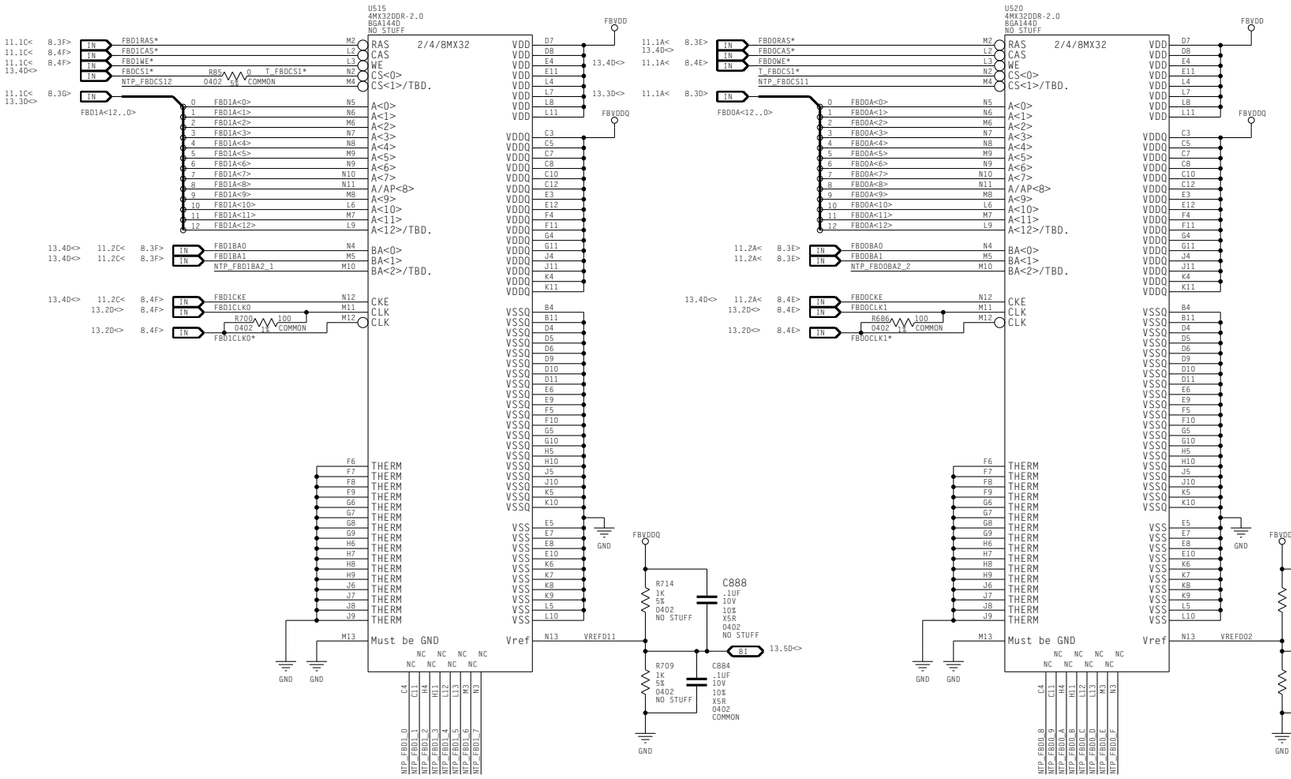
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_D - Bank0

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

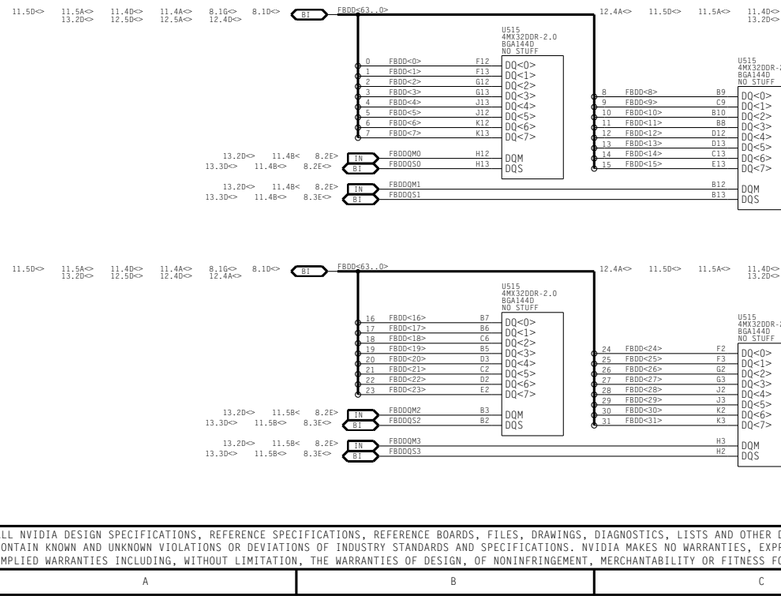
NV_PN	602-10172-0001-000		
ID	design	PAGE	11 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

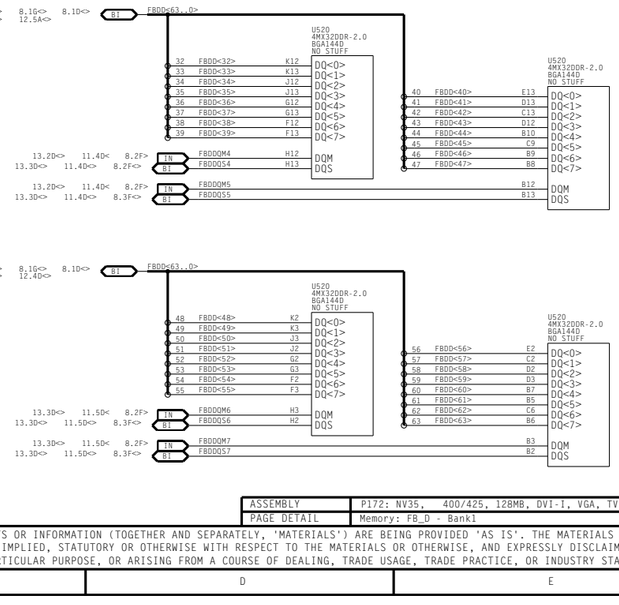
12. Memory Part. D - FBDD0..63 - Bank1

FBD1 0..31

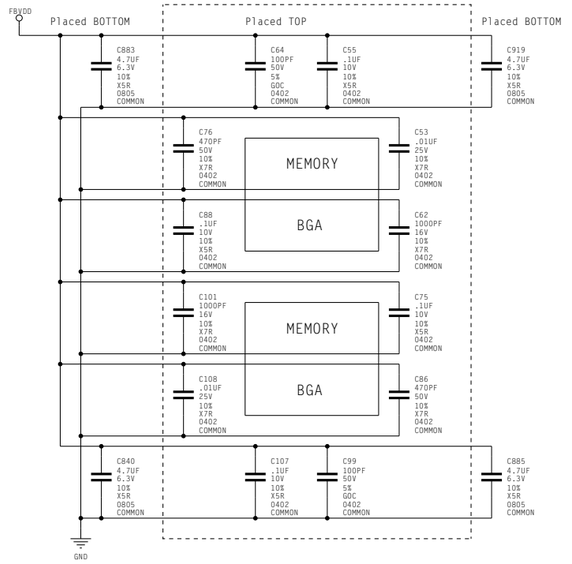


FBD0 32..63

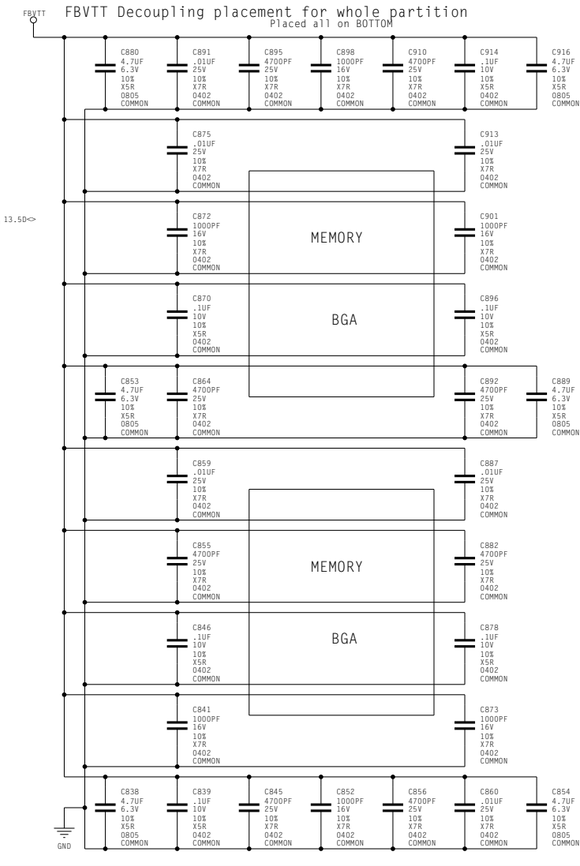




FBVDD Decoupling placement for whole partition



FBVTT Decoupling placement for whole partition



ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory: FB_D - Bank1

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	12 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

13. Memory NET SPACING RULES

Memory FBA FBB

		NET Name	Diffpair	Spacing
		FBA0CLK0	FBA0CLK0	18M1L_G2G_25M1L
		FBA0CLK0*	FBA0CLK0	18M1L_G2G_25M1L
		FBA0CLK1	FBA0CLK1	18M1L_G2G_25M1L
		FBA0CLK1*	FBA0CLK1	18M1L_G2G_25M1L
		FBA1CLK0	FBA1CLK0	18M1L_G2G_25M1L
		FBA1CLK0*	FBA1CLK0	18M1L_G2G_25M1L
		FBA1CLK1	FBA1CLK1	18M1L_G2G_25M1L
		FBA1CLK1*	FBA1CLK1	18M1L_G2G_25M1L
		FBB0CLK0	FBB0CLK0	18M1L_G2G_25M1L
		FBB0CLK0*	FBB0CLK0	18M1L_G2G_25M1L
		FBB0CLK1	FBB0CLK1	18M1L_G2G_25M1L
		FBB0CLK1*	FBB0CLK1	18M1L_G2G_25M1L
		FBB1CLK0	FBB1CLK0	18M1L_G2G_25M1L
		FBB1CLK0*	FBB1CLK0	18M1L_G2G_25M1L
		FBB1CLK1	FBB1CLK1	18M1L_G2G_25M1L
		FBB1CLK1*	FBB1CLK1	18M1L_G2G_25M1L
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		FBB0<63..0>		15M1L
		FBA0DQM0		15M1L
		FBA0DQM1		15M1L
		FBA0DQM2		15M1L
		FBA0DQM3		15M1L
		FBA0DQM4		15M1L
		FBA0DQM5		15M1L
		FBA0DQM6		15M1L
		FBA0DQM7		15M1L
		FBB0DQM0		15M1L
		FBB0DQM1		15M1L
		FBB0DQM2		15M1L
		FBB0DQM3		15M1L
		FBB0DQM4		15M1L
		FBB0DQM5		15M1L
		FBB0DQM6		15M1L
		FBB0DQM7		15M1L
		FBA0DQS0		20M1L
		FBA0DQS1		20M1L
		FBA0DQS2		20M1L
		FBA0DQS3		20M1L
		FBA0DQS4		20M1L
		FBA0DQS5		20M1L
		FBA0DQS6		20M1L
		FBA0DQS7		20M1L
		FBB0DQS0		20M1L
		FBB0DQS1		20M1L
		FBB0DQS2		20M1L
		FBB0DQS3		20M1L
		FBB0DQS4		20M1L
		FBB0DQS5		20M1L
		FBB0DQS6		20M1L
		FBB0DQS7		20M1L
		FBA0A<13..0>		10M1L
		FBA1A<13..0>		10M1L
		FBB0A<13..0>		10M1L
		FBB1A<13..0>		10M1L
		FBA0RAS*		10M1L
		FBA0CAS*		10M1L
		FBA0WE*		10M1L
		FBA0CKE		10M1L
		FBA0BA0		10M1L
		FBA0BA1		10M1L
		FBA1RAS*		10M1L
		FBA1CAS*		10M1L
		FBA1WE*		10M1L
		FBA1CKE		10M1L
		FBA1BA0		10M1L
		FBA1BA1		10M1L
		FBB0RAS*		10M1L
		FBB0CAS*		10M1L
		FBB0WE*		10M1L
		FBB0CKE		10M1L
		FBB0BA0		10M1L
		FBB0BA1		10M1L
		FBB1RAS*		10M1L
		FBB1CAS*		10M1L
		FBB1WE*		10M1L
		FBB1CKE		10M1L
		FBB1BA0		10M1L
		FBB1BA1		10M1L
		FBACS0*		10M1L
		FBACS1*		10M1L
		FBBCS0*		10M1L
		FBBCS1*		10M1L

FB_CAL...

3.4D>		FB_CAL_PD_VDDQ		20M1L_G2G_25M1L
3.4D>		FB_CAL_PU_GND		20M1L_G2G_25M1L
		FB_CAL_CLK_GND		20M1L_G2G_25M1L
3.4D>		FB_CAL_TERM_GND		20M1L_G2G_25M1L
3.4D>		FB_CALAB_CLK_GND		20M1L_G2G_25M1L
3.4D>		FB_CALCD_CLK_GND		20M1L_G2G_25M1L

Memory FBC FBD

		NET Name	Diffpair	Spacing
		FBC0CLK0	FBC0CLK0	18M1L_G2G_25M1L
		FBC0CLK0*	FBC0CLK0	18M1L_G2G_25M1L
		FBC0CLK1	FBC0CLK1	18M1L_G2G_25M1L
		FBC0CLK1*	FBC0CLK1	18M1L_G2G_25M1L
		FBC1CLK0	FBC1CLK0	18M1L_G2G_25M1L
		FBC1CLK0*	FBC1CLK0	18M1L_G2G_25M1L
		FBC1CLK1	FBC1CLK1	18M1L_G2G_25M1L
		FBC1CLK1*	FBC1CLK1	18M1L_G2G_25M1L
		FBD0CLK0	FBD0CLK0	18M1L_G2G_25M1L
		FBD0CLK0*	FBD0CLK0	18M1L_G2G_25M1L
		FBD0CLK1	FBD0CLK1	18M1L_G2G_25M1L
		FBD0CLK1*	FBD0CLK1	18M1L_G2G_25M1L
		FBD1CLK0	FBD1CLK0	18M1L_G2G_25M1L
		FBD1CLK0*	FBD1CLK0	18M1L_G2G_25M1L
		FBD1CLK1	FBD1CLK1	18M1L_G2G_25M1L
		FBD1CLK1*	FBD1CLK1	18M1L_G2G_25M1L
		FBC0<63..0>		15M1L
		FBD0<63..0>		15M1L
		FBC0DQM0		15M1L
		FBC0DQM1		15M1L
		FBC0DQM2		15M1L
		FBC0DQM3		15M1L
		FBC0DQM4		15M1L
		FBC0DQM5		15M1L
		FBC0DQM6		15M1L
		FBC0DQM7		15M1L
		FBD0DQM0		15M1L
		FBD0DQM1		15M1L
		FBD0DQM2		15M1L
		FBD0DQM3		15M1L
		FBD0DQM4		15M1L
		FBD0DQM5		15M1L
		FBD0DQM6		15M1L
		FBD0DQM7		15M1L
		FBC0QS0		20M1L
		FBC0QS1		20M1L
		FBC0QS2		20M1L
		FBC0QS3		20M1L
		FBC0QS4		20M1L
		FBC0QS5		20M1L
		FBC0QS6		20M1L
		FBC0QS7		20M1L
		FBD0QS0		20M1L
		FBD0QS1		20M1L
		FBD0QS2		20M1L
		FBD0QS3		20M1L
		FBD0QS4		20M1L
		FBD0QS5		20M1L
		FBD0QS6		20M1L
		FBD0QS7		20M1L
		FBC0A<13..0>		10M1L
		FBC1A<13..0>		10M1L
		FBD0A<13..0>		10M1L
		FBD1A<13..0>		10M1L
		FBC0RAS*		10M1L
		FBC0CAS*		10M1L
		FBC0WE*		10M1L
		FBC0CKE		10M1L
		FBC0BA0		10M1L
		FBC1BA1		10M1L
		FBC0RAS*		10M1L
		FBC1CAS*		10M1L
		FBC1WE*		10M1L
		FBC1CKE		10M1L
		FBC1BA0		10M1L
		FBC1BA1		10M1L
		FBD0RAS*		10M1L
		FBD0CAS*		10M1L
		FBD0WE*		10M1L
		FBD0CKE		10M1L
		FBD1BA0		10M1L
		FBD1BA1		10M1L
		FBD0RAS*		10M1L
		FBD0CAS*		10M1L
		FBD1WE*		10M1L
		FBD1CKE		10M1L
		FBD1BA0		10M1L
		FBD1BA1		10M1L
		FBCCS0*		10M1L
		FBCCS1*		10M1L
		FBDCS0*		10M1L
		FBDCS1*		10M1L

3.5B>		FBBVREF		12M1L_TRACE
4.3C>		VREFA01		12M1L_TRACE
5.3E>		VREFA02		12M1L_TRACE
5.3C>		VREFA11		12M1L_TRACE
4.3E>		VREFA12		12M1L_TRACE
6.3C>		VREFB01		12M1L_TRACE
7.3E>		VREFB02		12M1L_TRACE
7.3C>		VREFB11		12M1L_TRACE
6.3E>		VREFB12		12M1L_TRACE
9.3C>		VREFC01		12M1L_TRACE
10.3E>		VREFC02		12M1L_TRACE
10.3C>		VREFC11		12M1L_TRACE
9.3E>		VREFC12		12M1L_TRACE
11.3C>		VREFD01		12M1L_TRACE
12.3E>		VREFD02		12M1L_TRACE
12.3C>		VREFD11		12M1L_TRACE
11.3E>		VREFD12		12M1L_TRACE

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Memory Signal Constraints

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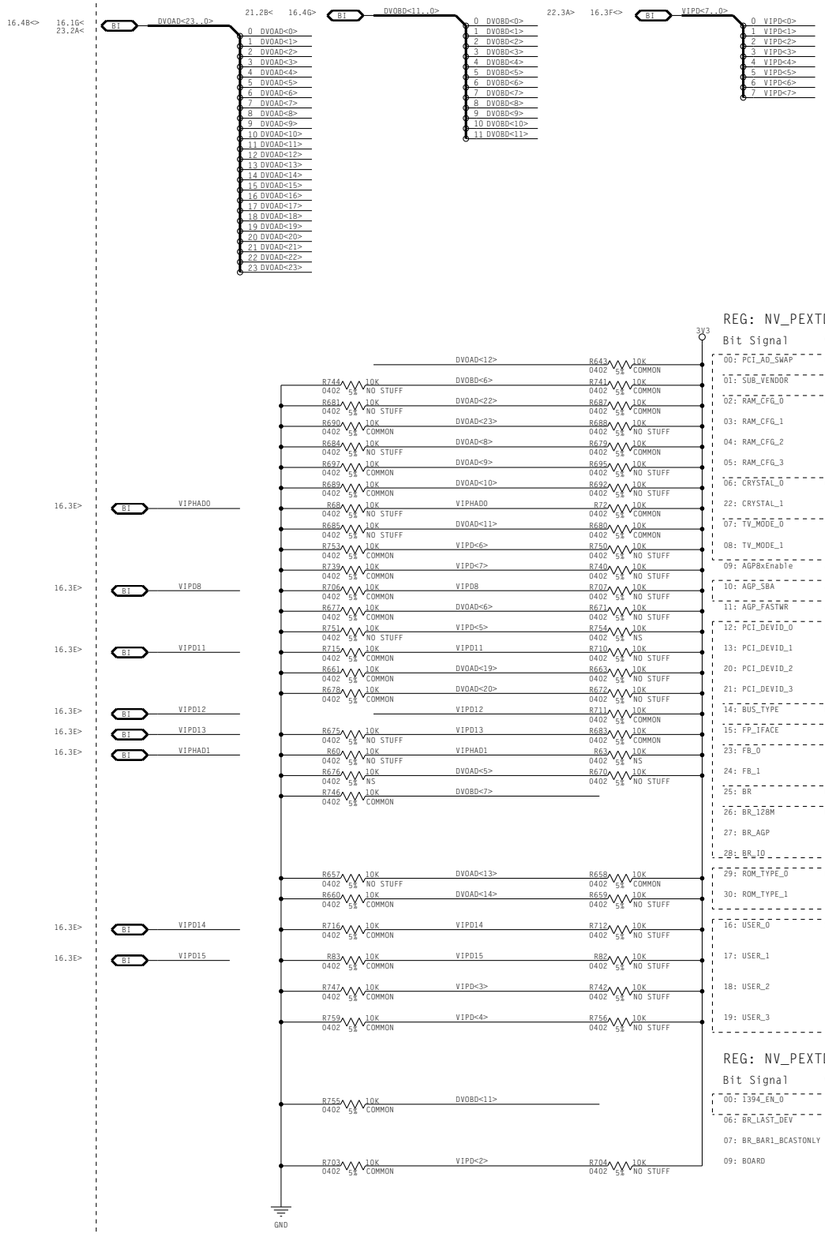
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	design	PAGE	13 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

14. BIOS, Straps, Misc

Straps

Assembly: BIOS



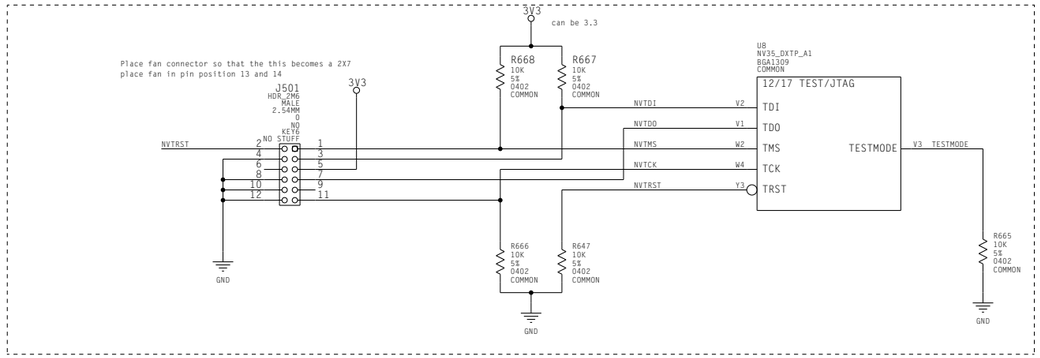
REG: NV_PEXTDEV_BOOT_0

Bit	Signal	VALUE_ID	VALUEs	
00:	PCI_AD_SWAP	PCI_AD_SWAP	0 REVERSED	
			1 NORMAL	
01:	SUB_VENDOR	SUB_VENDOR	0 NO_BIOS	
			1 read_from_BIOS	
02:	RAM_CFG_0	RAM_CFG[3:0]	0000 RFU	1000 RFU
03:	RAM_CFG_1		0001 RFU	1001 RFU
			0010 RFU	1010 RFU
04:	RAM_CFG_2		0011 RFU	1011 RFU
			0100 RFU	1100 RFU
05:	RAM_CFG_3		0101 4Mx32 DDR	1101 RFU
			0110 RFU	1110 RFU
			0111 RFU	1111 RFU
06:	CRYSTAL_0	CRYSTAL[1:0]	00 13.500 Mhz	
			01 14.31818 Mhz	
22:	CRYSTAL_1		10 27.000 Mhz	
			11 unknown	
07:	TV_MODE_0	TV_MODE[1:0]	00 SECAM	
			01 NTSC	
08:	TV_MODE_1		10 PAL	
			11 CRT	
09:	AGPBxEnable	AGP_3D_8x	0 AGPBx enabled	
			1 AGPBx disabled	
10:	AGP_SBA	AGP_SBA[0]	0 SBA enabled	
			1 SBA disabled	
11:	AGP_FASTWR	AGP_FASTWR[0]	0 enabled	
			1 disabled	
12:	PCI_DEVID_0	PCI_DEVID[3:0]	0000 0x330 ... 1111 0x033F	
13:	PCI_DEVID_1		0000 (default 0x330)	
20:	PCI_DEVID_2			
21:	PCI_DEVID_3			
14:	BUS_TYPE	BUS_TYPE[0]	0 PCI	
			1 AGP	
15:	FP_IFACE	FP_IFACE[0]	0 24Bit	
			1 12Bit	
23:	FB_0	FB[1:0]	00 64M	
24:	FB_1		01 128M	
			10 256M	
			11 512M	
25:	BR	BR[0]	0 BRIDGE disabled	
			1 BRIDGE enabled	
26:	BR_128M	BR bits are ignored if BRIDGE is disabled		
27:	BR_AGP			
28:	BR_ID			
29:	ROM_TYPE_0	ROM_TYPE[1:0]	00 Parallel	
30:	ROM_TYPE_1		01 Serial_AT25F	
			10 Serial_SST45VF	
			11 RFU	
16:	USER_0	STRAP_USER[3:0]	0000 (default)	
17:	USER_1			
18:	USER_2			
19:	USER_3			

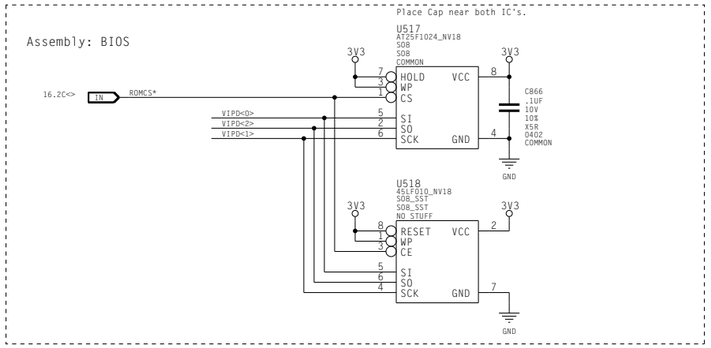
REG: NV_PEXTDEV_BOOT_3

Bit	Signal	VALUE_ID	VALUEs
00:	1394_EN_0	1394[0]	0 1394 disabled
			1 1394 enabled
06:	BR_BAR1_BCASTONLY		
07:	BR_BAR1_BCASTONLY		
09:	BOARD		

Test/JTAG



BIOS (serial)



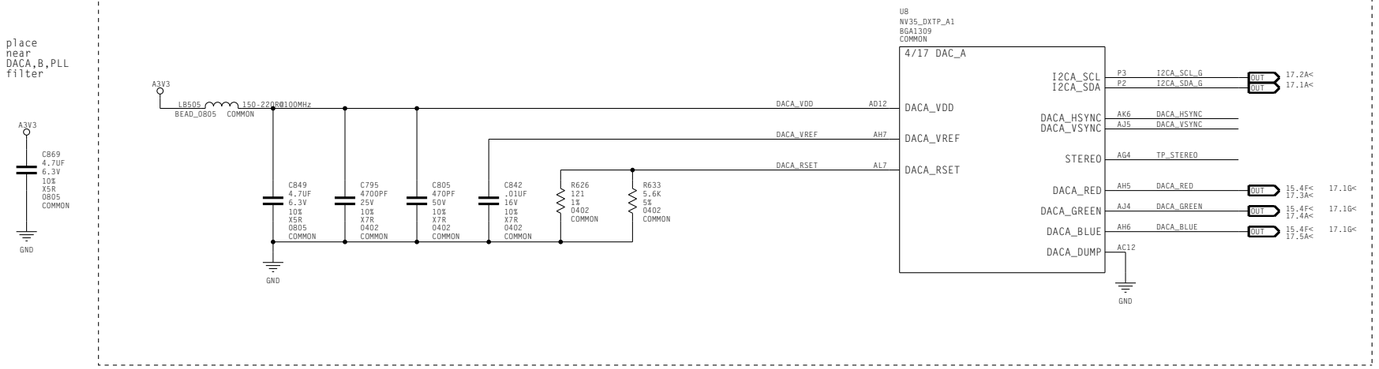
ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	BIOS, Strappings and Misc

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

NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**14 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

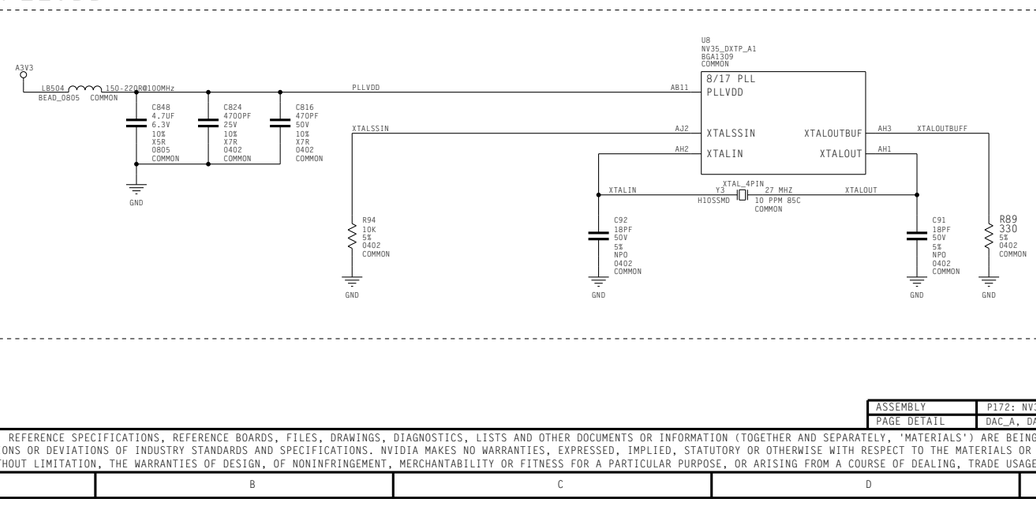
15. DAC_A, DAC_B, PLL, SyncBuffer

DACA

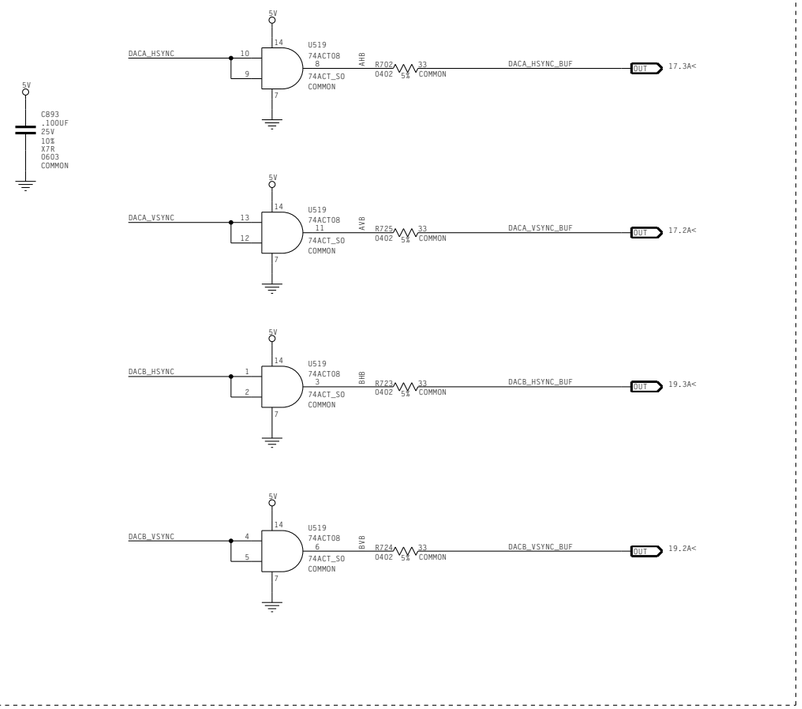


DACB

XTAL/PLLVDD



DAC Sync Buffer



NET RULES

		NET	SPACING	PHYSICAL
	IN	XTALIN	15MIL	5MIL_TRACE
	IN	XTALOUT	15MIL	5MIL_TRACE
17.3A< 17.1G< 15.2E>	IN	DACA_RED	20MIL_G2G_30MIL	
17.4A< 17.1G< 15.2E>	IN	DACA_GREEN	20MIL_G2G_30MIL	
17.5A< 17.1G< 15.2E>	IN	DACA_BLUE	20MIL_G2G_30MIL	
19.1G< 18.3A< 15.3E>	IN	DACB_RED	20MIL_G2G_30MIL	
19.1G< 18.4A< 15.3E>	IN	DACB_GREEN	20MIL_G2G_30MIL	
19.1G< 18.4A< 15.3E>	IN	DACB_BLUE	20MIL_G2G_30MIL	
	IN	DACB_VDD		16MIL_TRACE
	IN	DACB_RSET		16MIL_TRACE
	IN	DACB_VREF		16MIL_TRACE
	IN	DACA_VDD		16MIL_TRACE
	IN	DACA_RSET		16MIL_TRACE
	IN	DACA_VREF		16MIL_TRACE
	IN	PLLVDD		16MIL_TRACE

ASSEMBLY	P172: NV35. 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DAC_A, DAC_B, PLL and SYNCbuffer

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NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**15 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

16. DVO/VIP Interface

NET RULES

	NET	PHYSICAL	SPACING
IN	SAGPOCALPD_VDDQ	12MIL_TRACE	20MIL
IN	SAGP1CALPD_VDDQ	12MIL_TRACE	20MIL
IN	SAGPOCALPU_GND	12MIL_TRACE	20MIL
IN	SAGP1CALPU_GND	12MIL_TRACE	20MIL
DVOA_VDD	DVOA_VDD	16MIL_TRACE	
DVOB_VDD	DVOB_VDD	16MIL_TRACE	
IN	DVOAD<23..0>		10MIL
IN	DVOAD_R<23..0>		10MIL

23.2A< 16.4B<> 14.1A<>

Place near Power Filter

A3V3 — C857 4.7UF 6.3V 10% X5R 0805 COMMON — GND

SAGP1VDDQ is VDD DVOB

A3V3 — LB502 150-220R@100MHZ COMMON BEAD_0603

PLACE CLOSE TO NV35

C843 4.7UF 6.3V 10% X5R 0805 COMMON
C834 .1UF 10V 10% X5R 0402 COMMON
C774 100PF 50V 5% GOC 0402 COMMON
C793 1000PF 16V 10% X7R 0402 COMMON

GND

DVOB_VDD — 3V3 — R705 10K 5% 0402 COMMON

14.3F< BI ROMCS* — ROMCS

U8
NV35_DXTP_A1
BGA1309
COMMON

7/17 DVOA DVOB VIP

SAGP1VDDQ AJ12, AH13, AJ13, AG15
SAGP0VDDQ AG11, AH11, AG12, AF13
DVOA_VDD

SAGP0VDDQ is VDD for DVOA/VIP

PLACE CLOSE TO NV35

A3V3 — LS01 150-220R@100MHZ COMMON BEAD_0603

C801 100PF 50V 5% GOC 0402 COMMON
C792 1000PF 16V 10% X7R 0402 COMMON
C837 .1UF 10V 10% X5R 0402 COMMON
C851 4.7UF 6.3V 10% X5R 0805 COMMON

GND

Decoupling for VD50CLAMP1

5V — C804 .1UF 10V 10% X5R 0402 COMMON — GND

VD50CLAMP1 W11 — 5V

I2CC_SCL R1 I2CC_SCL_G — R786 33 5% 0402 COMMON — 5V — R762 2.2K 5% 0402 COMMON — I2CC_SCL OUT 21.2A< 22.3A< 23.2A< 24.2F< 24.3E< 26.2A< 26.4A<
I2CC_SDA T2 I2CC_SDA_G — R769 33 5% 0402 COMMON — R788 2.2K 5% 0402 COMMON — I2CC_SDA BI 21.2A<> 22.3A<> 23.2A<> 24.2F<> 24.3E<> 26.2A<> 26.4A<>

23.2A< OUT DVOAHSYNC — R93 15 5% 0402 COMMON — DVOAHSYNC_R — DVOHSYNC AV6
23.2A< OUT DVOAVSYNC — R88 15 5% 0402 COMMON — DVOAVSYNC_R — DVOVSYNC AU6

TP_DVOADE — DVODE AW6

23.2A> IN DVOACLKIN — DVOACLKIN AT13
23.2A< OUT DVOACLKOUT — R645 0 5% 0402 COMMON — DVOACLKOUT_R — DVOCLKOUT AW9
TP_DVOACLKOUT* — DVOCLKOUT AT10

3V3 — R95 10K 5% 0402 NO STUFF — R97 10K 5% 0402 COMMON — GND

MCHIP_RST U2 MCHIP_RST — 3V3 — 10K COMMON R664 5% 0402

BUFRST AB5 RESET_BUF* — 10K COMMON R735 5% 0402 — RESET_BUF* OUT 16.3F> 21.3A< 22.3A< 23.3A< 16.3F> 21.3A< 22.3A< 23.3A<
VIPD<7..0> BI 14.1C<> 22.3A>

VIPD<0> AL2 VIPD<0> 0
VIPD<1> AM2 VIPD<1> 1
VIPD<2> AN2 VIPD<2> 2
VIPD<3> AP1 VIPD<3> 3
VIPD<4> AL3 VIPD<4> 4
VIPD<5> AM3 VIPD<5> 5
VIPD<6> AN4 VIPD<6> 6
VIPD<7> AP2 VIPD<7> 7

srom_si: VIPD<0>
srom_sck:VIPD<1>
srom_so: VIPD<2>

VIPD8 AR2 — OUT 14.3A<>
SWAPREADY AR3 — 3V3 — R87 3.3K 5% 0402 COMMON — OUT

NOTE:
VIPD<9> HAS BEEN REDEFINED AS SWAP_READY1
VIPD<10> HAS BEEN REDEFINED AS SWAP_READY2

VIPD11 AT4 — OUT 14.3A<>
VIPD12 AU1 — OUT 14.4A<>
VIPD13 AU2 — OUT 14.4A<>
VIPD14 AV1 — OUT 14.4A<>
VIPD15 AV2 — OUT 14.4A<>

VIPHAD0 AK4 — OUT 14.3A<>
VIPHAD1 AK2 — OUT 14.4A<>

VIPPCLK AP3 VIPPCLK — OUT 22.4A<
VIPHCTL AL1 NTP_VIPHCTL
VIPHCLK AU3 NTP_VIPHCLK
BPICLKL AW2 NTP_BPICLK

DVOAD<0> RP4 15 5% 0402X4 COMMON — DVOAD_R<0> AT7
DVOAD<1> — DVOAD_R<1> AV7
DVOAD<2> RP4 15 5% 0402X4 COMMON — DVOAD_R<2> AU8
DVOAD<3> — DVOAD_R<3> AV8
DVOAD<4> RP5 15 5% 0402X4 COMMON — DVOAD_R<4> AU9
DVOAD<5> — DVOAD_R<5> AV9
DVOAD<6> RP5 15 5% 0402X4 COMMON — DVOAD_R<6> AV10
DVOAD<7> — DVOAD_R<7> AU11
DVOAD<8> RP6 15 5% 0402X4 COMMON — DVOAD_R<8> AV11
DVOAD<9> — DVOAD_R<9> AU12
DVOAD<10> RP6 15 5% 0402X4 COMMON — DVOAD_R<10> AV12
DVOAD<11> — DVOAD_R<11> AW12
DVOAD<12> RP7 15 5% 0402X4 COMMON — DVOAD_R<12> AR6
DVOAD<13> — DVOAD_R<13> AT6
DVOAD<14> — DVOAD_R<14> AR5
DVOAD<15> — DVOAD_R<15> AP7
DVOAD<16> — DVOAD_R<16> AP4
DVOAD<17> — DVOAD_R<17> AP5
DVOAD<18> — DVOAD_R<18> AP6
DVOAD<19> — DVOAD_R<19> AN6
DVOAD<20> — DVOAD_R<20> AM5
DVOAD<21> — DVOAD_R<21> AL6
DVOAD<22> — DVOAD_R<22> AL4
DVOAD<23> — DVOAD_R<23> AL5

23.2A< 16.1G< 14.1A<> BI DVOAD<23..0>

DVOBHSYNC AM10 DVOBHSYNC_R — R649 15 5% 0402 COMMON — DVOBHSYNC OUT 21.2A<
DVOBVSYNC AP11 DVOBVSYNC_R — R650 15 5% 0402 COMMON — DVOBVSYNC OUT 21.2A<
DVOBDE AM9 DVOBDE_R — R651 15 5% 0402 COMMON — DVOBDE OUT 21.2A<
DVOBCLKOUT ALB DVOBCLKOUT_R — R648 15 5% 0402 COMMON — DVOBCLKOUT OUT 21.2A<
DVOBCLKOUT AJJ10 DVOBCLKOUT_R* — R622 15 5% 0402 COMMON — DVOBCLKOUT* OUT 21.2A<

DVOBD<0> AP8 DVOBD0_R — RP1 15 5% 0402X4 COMMON — DVOBD<0> 0
DVOBD<1> AL10 DVOBD1_R — RP1 — DVOBD<1> 1
DVOBD<2> AM8 DVOBD2_R — RP1 — DVOBD<2> 2
DVOBD<3> AM6 DVOBD3_R — RP1 — DVOBD<3> 3
DVOBD<4> AL9 DVOBD4_R — RP2 — DVOBD<4> 4
DVOBD<5> AK9 DVOBD5_R — RP2 — DVOBD<5> 5
DVOBD<6> AK8 DVOBD6_R — RP2 — DVOBD<6> 6
DVOBD<7> AJ6 DVOBD7_R — RP2 — DVOBD<7> 7
DVOBD<8> AK11 DVOBD8_R — RP3 — DVOBD<8> 8
DVOBD<9> AJ8 DVOBD9_R — RP3 — DVOBD<9> 9
DVOBD<10> AH9 DVOBD10_R — RP3 — DVOBD<10> 10
DVOBD<11> AH8 DVOBD11_R — RP3 — DVOBD<11> 11

DVOBD<11..0> — OUT 14.1B<> 21.2B<

DVOB_VDD — R631 100 1% 0402 COMMON — R632 100 1% 0402 COMMON
DVOA_VDD — R638 100 1% 0402 COMMON — R636 100 1% 0402 COMMON

SAGPOCALPD_VDDQ AM4
SAGP1CALPD_VDDQ AT5
SAGPOCALPU_GND AH4
SAGP1CALPU_GND AT9
SAGPVREF AR4

R635 100 1% 0402 COMMON — R637 100 1% 0402 COMMON — R625 100 1% 0402 COMMON — R624 100 1% 0402 COMMON — GND

A3V3 — R642 1K 5% 0402 COMMON — R641 1K 5% 0402 COMMON — C832 .1UF 10V 10% X5R 0402 COMMON — GND

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DVO/VIP Interface

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NV_PN	602-10172-0001-000		
ID	design	PAGE	16 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

17. DACA RGB filters, VGA connector Output (south)

NET RULES

	NET	PHYSICAL	SPACING
IN	DACA_RED	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_GREEN	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_BLUE	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_R_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_G_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_B_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_RED_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_GREEN_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACA_BLUE_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL

17.3A< 15.4F< 15.2E>
17.4A< 15.4F< 15.2E>
17.5A< 15.4F< 15.2E>

DACA RGB-FILTER

15.1E> IN I2CA_SDA_G — R796 33 0402 5% COMMON — I2CA_SDA — LB527 BEAD_0603 150-220R@100MHZ COMMON — I2CA_SDA_C
R797 2.2K 5% 0402 COMMON; R798 2.2K 5% 0402 COMMON; 5V; D531 BAV99 SOT23 100V 100mA COMMON; C995 220PF 50V 5% NPO 0603 COMMON

15.1E> IN I2CA_SCL_G — R795 33 0402 5% COMMON — I2CA_SCL — LB524 BEAD_0603 150-220R@100MHZ COMMON — I2CA_SCL_C
D528 BAV99 SOT23 100V 100mA COMMON; C992 220PF 50V 5% NPO 0603 COMMON

15.2H> IN DACA_VSYNC_BUF — LB525 0603 68nH COMMON — DACA_VSYNC_C
D529 BAV99 SOT23 100V 100mA COMMON; C993 47PF 50V 5% NPO 0603 COMMON

15.1H> IN DACA_HSYNC_BUF — LB526 0603 68nH COMMON — DACA_HSYNC_C
D530 BAV99 SOT23 100V 100mA COMMON; C994 47PF 50V 5% NPO 0603 COMMON

Place 0ohm Resistor Incident with Common Mode Choke

15.4F< 15.2E> 17.1G< IN DACA_RED — L6 68nH 0603 COMMON — DACA_R_F — R6 0 0603 .05W NS — L3 cmf1tr4_2012_2 360R@100mhz NO_STUFF WIRE_WOUND — R5 0 0603 .05W NS — DACA_RED_C
A3V3; D3 BAV99 SOT23 100V 10MA COMMON; R21 1.5K 1% 0402 COMMON; R12 75 1% 0402 COMMON; C6 22PF 50V 5% NPO 0402 NO_STUFF; C3 22PF 50V 5% NPO 0402 NO_STUFF; GND

15.4F< 15.2E> 17.1G< IN DACA_GREEN — L5 68nH 0603 COMMON — DACA_G_F — R4 0 0603 .05W NS — L2 cmf1tr4_2012_2 360R@100mhz NO_STUFF WIRE_WOUND — R3 0 0603 .05W NS — DACA_GREEN_C
A3V3; D2 BAV99 SOT23 100V 10MA COMMON; R20 1K 1% 0402 COMMON; R11 75 1% 0402 COMMON; C5 22PF 50V 5% NPO 0402 NO_STUFF; C2 22PF 50V 5% NPO 0402 NO_STUFF; GND

15.4F< 15.2E> 17.1G< IN DACA_BLUE — L4 68nH 0603 COMMON — DACA_B_F — R2 0 0603 .05W NS — L1 cmf1tr4_2012_2 360R@100mhz NO_STUFF WIRE_WOUND — R1 0 0603 .05W NS — DACA_BLUE_C
A3V3; D1 BAV99 SOT23 100V 10MA COMMON; R19 1.30K 1% 0402 COMMON; R10 75 1% 0402 COMMON; C4 22PF 50V 5% NPO 0402 NO_STUFF; C1 22PF 50V 5% NPO 0402 NO_STUFF; GND

DACA_RGB_GND

DACA VGA connector

DB15_DAC_A

CGND_MID — R800 0 0603 .05W COMMON — GND

J1 CON_D5UB15HD VGA_SLIM COMMON

16			
6	GND-R	IDO 11	NTP_A_MON_IDO
1	R		
7	GND-G	SDA 12	
2	G		
8	GND_B	HSYNC 13	
3	B		
9	5V	VSYNC 14	
4	IDZ		
10	GND	SCL 15	
5	GND		
17	SHIELD		

DDC_5V — NTP_A_MONID2

CGND_SOUTH — R7 0 0603 .05W COMMON — GND

A3V3; C18 4.7UF 6.3V 10% X5R 0805 COMMON

A3V3; C9 470PF 16V 20% X7R 0402 COMMON

A3V3; C8 470PF 50V 10% X7R 0402 COMMON

Place in output filter section!

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DACA Filter and VGA connector

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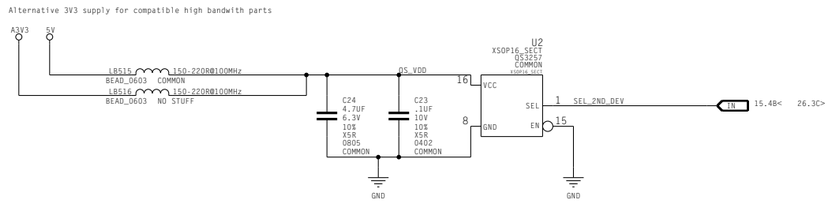
NV_PN	602-10172-0001-000		
ID	design	PAGE	17 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

18. DACB VGA/TV Switch

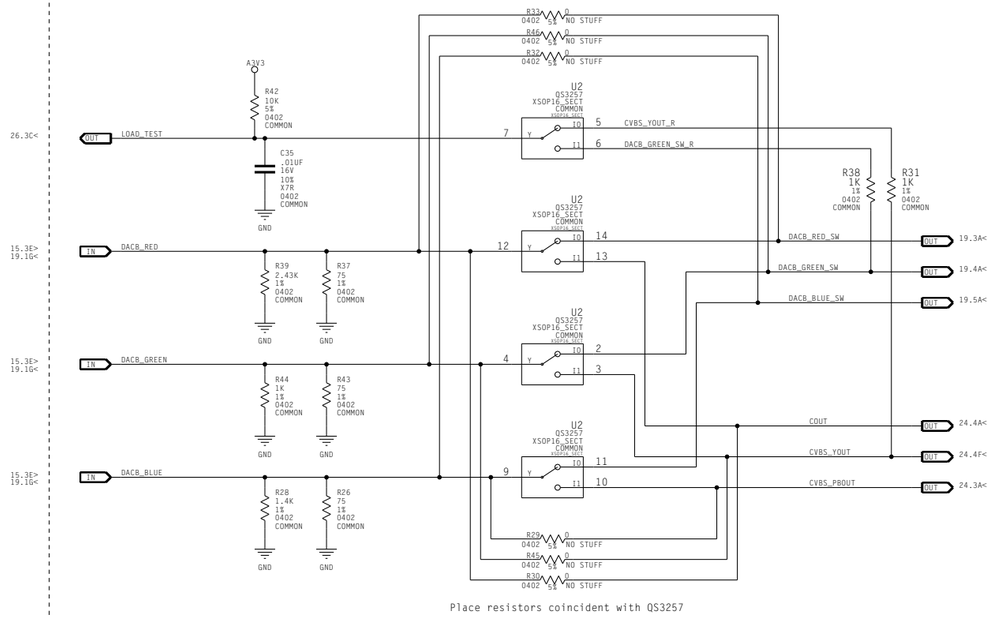
Quickswitch for DACB



Use alternative part IDTQS4A205 if bandwidth problems

Place near DACB filter

Place resistors coincident with QS3257



Place resistors coincident with QS3257

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DACB VGA/TV Switch

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SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	design	PAGE	18 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

19. DACB RGB filters, VGA connector (north)

DACB RGB-FILTER

15.3E> IN I2CB_SDA_G — R790 33 0402 5% COMMON — I2CB_SDA — LB519 150-220R@100MHZ BEAD_0603 COMMON — OUT 20.4B< I2CB_SDA_C

15.3E> IN I2CB_SCL_G — R789 33 0402 5% COMMON — I2CB_SCL — LB520 150-220R@100MHZ BEAD_0603 COMMON — OUT 20.4B< I2CB_SCL_C

15.3H> IN DACB_VSYNC_BUF — LB521 68nH 0603 COMMON — OUT 20.4B< DACB_VSYNC_C

15.3H> IN DACB_HSYNC_BUF — LB523 68nH 0603 COMMON — OUT 20.5B< DACB_HSYNC_C

Place 0ohm Resistor Incident with Common Mode Choke

18.3D> IN DACB_RED_SW — L11 68nH 0603 COMMON — DACB_R_F — R16 0 0603 .05W NS — L8 360R@100mhz cmf1tr4_2012_2 NO STUFF WIRE_WOUND — R15 0 0603 .05W NS — OUT 19.1G< 20.4B< DACB_RED_C

18.3D> IN DACB_GREEN_SW — L12 68nH 0603 COMMON — DACB_G_F — R18 0 0603 .05W NS — L9 360R@100mhz cmf1tr4_2012_2 NO STUFF WIRE_WOUND — R17 0 0603 .05W NS — OUT 19.1G< 20.4B< DACB_GREEN_C

18.3D> IN DACB_BLUE_SW — L10 68nH 0603 COMMON — DACB_B_F — R14 0 0603 .05W NS — L7 360R@100mhz cmf1tr4_2012_2 NO STUFF WIRE_WOUND — R13 0 0603 .05W NS — OUT 19.1G< 20.4B< DACB_BLUE_C

OUT 20.5B< DACB_RGB_GND

DACB VGA connector

18.3A< 15.4F< 15.3E>
18.4A< 15.4F< 15.3E>
18.4A< 15.4F< 15.3E>

20.4B< 19.3D>
20.4B< 19.4D>
20.4B< 19.5D>

assy: DB15_DAC_B

CGND_NORTH — RB01 0 0603 .05W COMMON — CGND — GND

J2 CON_DSUB15HD VGA_SLIM_DVIMTG VGA_SLIM_DVIMTG NO STUFF

6 GND-R — IDO 11 NTP_B_MON_IDO
7 GND-G — SDA 12
8 GND_B — HSYNC 13
3 B — VSYNC 14
9 5V — SCL 15
4 ID2
10 GND
5 GND

DDC_5V — NTP_B_MONID2

CGND_MID — RB02 0 0603 .05W COMMON — CGND — GND

A3V3 — C25 4.7UF 6.3V 10% X5R 0805 COMMON
A3V3 — C21 470DPF 16V 20% X7R 0402 COMMON
A3V3 — C20 470PF 50V 10% X7R 0402 COMMON

Place in output filter section!

NET RULES

	NET	PHYSICAL	SPACING
IN	DACB_RED	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_GREEN	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_BLUE	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_R_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_G_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_B_F	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_RED_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_GREEN_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL
IN	DACB_BLUE_C	NOTE:37.50hm Impedance	20MIL_G2G_30MIL

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DACB Filter and VGA connector

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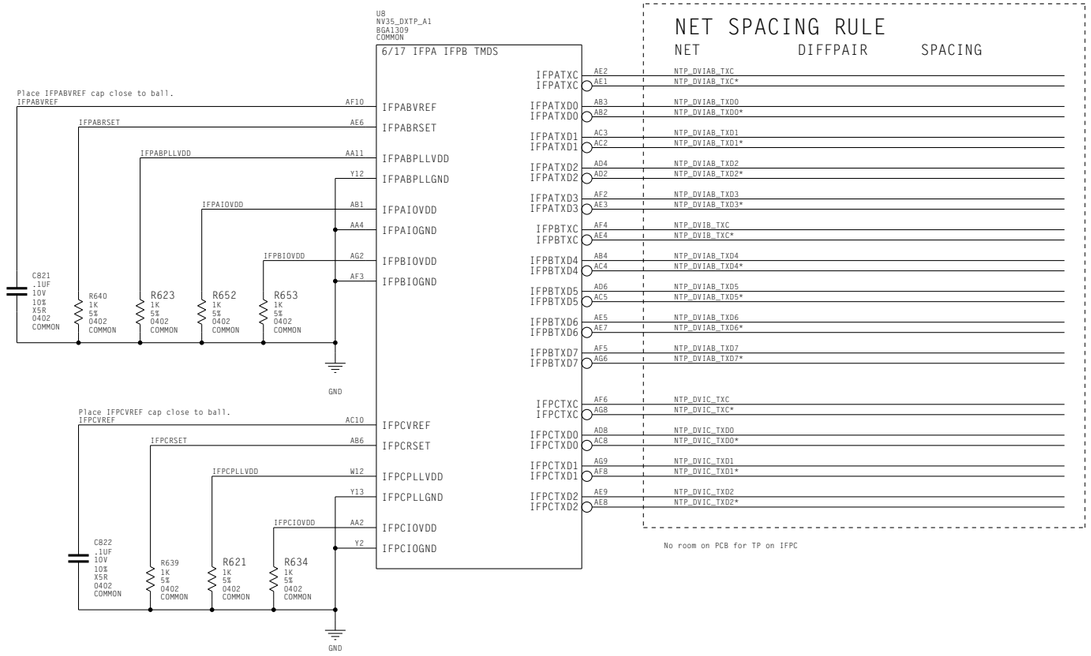
SANTA CLARA, CA 95050, USA

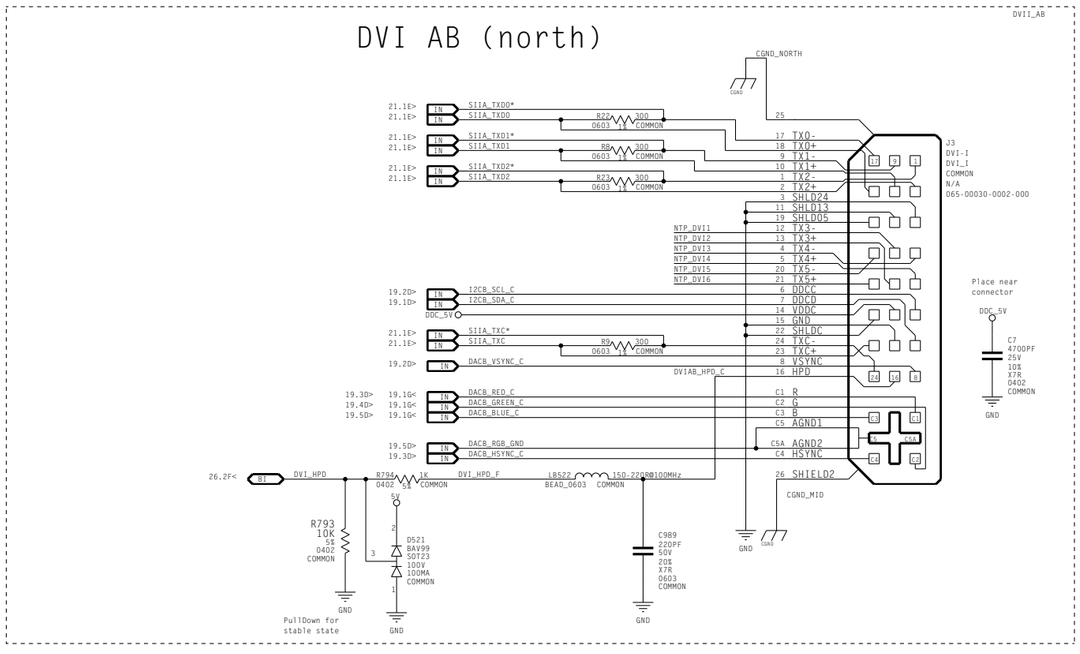
NV_PN	602-10172-0001-000		
ID	design	PAGE	19 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

20. Internal TMDS/LVDS .. Link A/B, Link C

NET RULES (OTHER)

NET	PHYSICAL	VOLTAGE
IFPABPLLVDD	10MIL_TRACE	3.3V
IFPAIOVDD	10MIL_TRACE	3.3V
IFPBIOVDD	10MIL_TRACE	3.3V
IFPABVREF	10MIL_TRACE	3.3V
IFPABRSET	10MIL_TRACE	3.3V
IFPCPLLVDD	10MIL_TRACE	3.3V
IFPCIOVDD	10MIL_TRACE	3.3V
IFPCVREF	10MIL_TRACE	3.3V
IFPCRSET	10MIL_TRACE	3.3V





ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	DVI Connector

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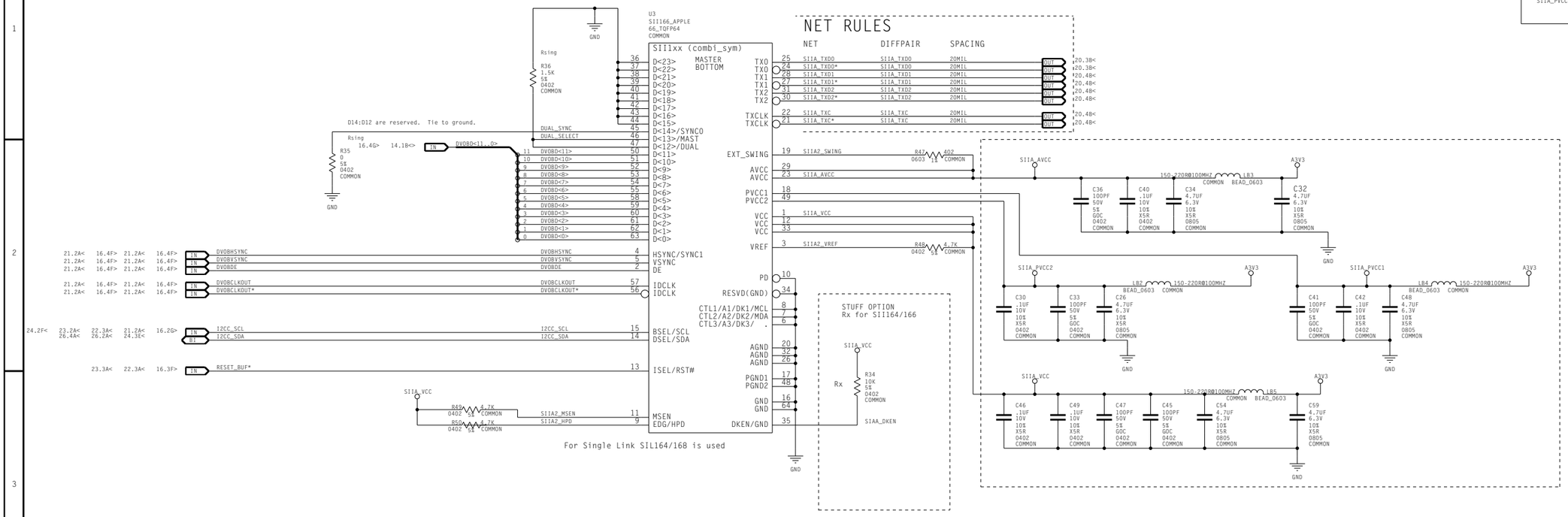
NV_PN	602-10172-0001-000		
ID	design	PAGE	20 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

21. External Single-Link Transmitter



NET RULES (OTHER)

NET	PHYSICAL
SII1A_VCC	12MIL_TRACE
SII1A_AVCC	12MIL_TRACE
SII1A_PVCC1	12MIL_TRACE
SII1A_PVCC2	12MIL_TRACE

ASSY: DVOA_SII178_DUAL

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	TMDS External with Silicon Image

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NV_PN	602-10172-0001-000		
ID	design	PAGE	21 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

22. Video Capture

NET RULES

NET		SPACING	PHYSICAL	VOLTAGE
7114_VDDA	7114_VDDA		12MIL_TRACE	3.3V
7114_VDDE	7114_VDDE		12MIL_TRACE	3.3V
7114_VDDX	7114_VDDX		12MIL_TRACE	3.3V
IN	7114_Xout	20MIL		
IN	7114_Xin	20MIL		

ASSY: 7114_COMMON

VIDEO CAPTURE

24.4A> IN CVBSYIN — C902 .047UF 16V 10% X7R 0402 NO STUFF

24.4F> IN SEC_LUMA2 (To Tuner/Video header) — C904 .047UF 16V 10% X7R 0402 NO STUFF

24.4E> IN CHROMAIN — C905 .047UF 16V 10% X7R 0402 NO STUFF

24.3F> IN SEC_CHROMA2 (To Tuner/Video header) — C906 .047UF 16V 10% X7R 0402 NO STUFF

24.3F> IN SEC_CYBS2 (To Tuner/Video header) — C908 .047UF 16V 10% X7R 0402 NO STUFF

24.4F> IN SEC_CYBS1 (To Tuner/Video header) — C909 .047UF 16V 10% X7R 0402 NO STUFF

U4
SAA7108AE
OB_BGA156
NO STUFF
7114E (BGA156)
Video In

NTP_7114_AOUT	M10	AOUT
7114_A11	P13	A11
7114_A12	P11	A12
7114_A1D	P12	A1D
7114_A21	P10	A21
7114_A22	P9	A22
7114_A23	P7	A23
7114_A24	P6	A24
7114_A2D	P8	A2D
NTP_7114_AMCLK	K12	AMCLK
NTP_7114_ALRCLK	J13	ALRCLK
NTP_7114_ASCLK	K14	ASCLK
	J12	AMXCLK
TP_7114_24576	P4	XTOUT
7114_Xout	P3	XTALO
7114_Xin	P2	XTALI

C903 .047UF 16V 10% X7R 0402 NO STUFF
C907 .047UF 16V 10% X7R 0402 NO STUFF

Y2 XTAL 24.576MHz HC49SMD +/-30ppm NO STUFF
C43 33PF 50V 1% NPO 0603 NO STUFF
C31 33PF 50V 1% NPO 0603 NO STUFF

26.2A<> 24.2F<> 21.2A<> 23.2A<> 23.2A< 26.2A< 23.3A< — 26.4A<> 24.3E<> 23.2A<> 16.2G<> — 26.4A< 21.2A< 21.3E< 16.2G> 24.2F< 16.3F<

BI I2CC_SDA — L12 SDA
IN I2CC_SCL — M11 SCL

IN RESET_BUF* — N14 RES (CE)
TP_RES_OUT — M12 RES_OUT

16.3F<> 14.1C<> OUT VIPD<7..0>

I-Port

0 VIPD<0>	B13	IPD0
1 VIPD<1>	C13	IPD1
2 VIPD<2>	D13	IPD2
3 VIPD<3>	E13	IPD3
4 VIPD<4>	B14	IPD4
5 VIPD<5>	C14	IPD5
6 VIPD<6>	D14	IPD6
7 VIPD<7>	E14	IPD7
NTP_7114_HPD0	A11	HPD0
NTP_7114_HPD1	B11	HPD1
NTP_7114_HPD2	C11	HPD2
NTP_7114_HPD3	A12	HPD3
NTP_7114_HPD4	B12	HPD4
NTP_7114_HPD5	C12	HPD5
NTP_7114_HPD6	D12	HPD6
NTP_7114_HPD7	A13	HPD7
	H12	ICLK
NTP_7114_IDQ	H14	IDQ
NTP_7114_IGPH	G12	IGPH
NTP_7114_IGPV	F13	IGPV
NTP_7114_ITRDY	J14	ITRDY
NTP_7114_ITRI	G14	ITRI
NTP_7114_IGPO	F14	IGPO
NTP_7114_IGP1	G13	IGP1

16.3E> IN VIPPCLK — H12 ICLK

X-Port

XPD0	N1	NTP_7114_XPD0
XPD1	M2	NTP_7114_XPD1
XPD2	M1	NTP_7114_XPD2
XPD3	L3	NTP_7114_XPD3
XPD4	L2	NTP_7114_XPD4
XPD5	L1	NTP_7114_XPD5
XPD6	K3	NTP_7114_XPD6
XPD7	K2	NTP_7114_XPD7
XCLK	M3	NTP_7114_XCLK
XDQ	M4	NTP_7114_XDQ
XRH	N2	NTP_7114_XRH
XRV	L5	NTP_7114_XRC
XRDY	N3	NTP_7114_XRDY
XTRI	K1	NTP_7114_XTRI

VDD

VDD_XTAL	L8
VDDDE1	L7
VDDDE2	L9
VDDDE3	G11
VDDDE4	D10
VDDDI1	L11
VDDDI2	J11
VDDDI3	F11
VDDDI4	D11
VDDDI5	J4
VDDDI6	L4

D-GND

	P5
VSS_XTAL	M13
VSSDE1	H11
VSSDE2	H4
VSSDE3	L6
VSSDE4	K11
VSSDI1	E11
VSSDI2	K4
VSSDI3	

VDDA0	N11
VDDA1	M9
VDDA2	M8
AGND	N10
VSSA0	N12
VSSA1	N8
VSSA2	M7
VSSA2	N13
VSSA2	N9
VSSA2	N7

7114_VDDA — LB512 600R@100MHZ BEAD_0603 NO STUFF — A3V3

C923 2200PF 16V 20% X7R 0402 NO STUFF
C921 2200PF 16V 20% X7R 0402 NO STUFF
C925 2200PF 16V 20% X7R 0402 NO STUFF
C924 .1UF 10V 10% X5R 0402 NO STUFF
C922 .1UF 10V 10% X5R 0402 NO STUFF
C920 .1UF 10V 10% X5R 0402 NO STUFF
C937 4.7UF 6.3V 10% X5R 0805 NO STUFF
C947 4.7UF 6.3V 10% X5R 0805 NO STUFF

TDO	N5
TMS	M5
TDI	N6
TRST	N4
TCK	M6

TP_7114_TDO
TP_7114_TMS
TP_7114_TDI
7114_TRST*
7114_TCK

disable JTAG port
R736 1K 5% 0402 NO STUFF
R737 1K 5% 0402 NO STUFF

TEST0	H13	NTP_7114_TEST0
TEST1	B10	NTP_7114_TEST1
TEST2	C10	NTP_7114_TEST2
TEST3	J3	NTP_7114_TEST3
TEST4	J1	NTP_7114_TEST4
TEST5	J2	NTP_7114_TEST5

RTCO	L13	7114_RTCO
RTSO	K13	NTP_7114_RTCO
RTS1	L10	NTP_7114_RTS1
LLC	M14	NTP_7114_LLC
LLC2	L14	NTP_7114_LLC2

R738 3.3K 5% 0402 NO STUFF

Select Chip Address
RTC0=0 -> 0x42

SAA 7114
I2C ADDRESS 0X42

7114_VDDX — LB507 600R@100MHZ BEAD_0603 NO STUFF — A3V3

C915 2200PF 16V 20% X7R 0402 NO STUFF
C918 .1UF 10V 10% X5R 0402 NO STUFF
C897 4.7UF 6.3V 10% X5R 0805 NO STUFF
C894 4.7UF 6.3V 10% X5R 0805 NO STUFF

7114_VDDE — LB508 600R@100MHZ BEAD_0603 NO STUFF

C939 2200PF 16V 20% X7R 0402 NO STUFF
C952 2200PF 16V 20% X7R 0402 NO STUFF
C941 2200PF 16V 20% X7R 0402 NO STUFF
C935 2200PF 16V 20% X7R 0402 NO STUFF
C932 2200PF 16V 20% X7R 0402 NO STUFF
C936 .1UF 10V 10% X5R 0402 NO STUFF
C933 .1UF 10V 10% X5R 0402 NO STUFF
C917 4.7UF 6.3V 10% X5R 0805 NO STUFF
C900 4.7UF 6.3V 10% X5R 0805 NO STUFF

C931 2200PF 16V 20% X7R 0402 NO STUFF
C949 2200PF 16V 20% X7R 0402 NO STUFF
C943 2200PF 16V 20% X7R 0402 NO STUFF
C934 2200PF 16V 20% X7R 0402 NO STUFF
C930 2200PF 16V 20% X7R 0402 NO STUFF
C938 .1UF 10V 10% X5R 0402 NO STUFF
C946 .1UF 10V 10% X5R 0402 NO STUFF
C926 .1UF 10V 10% X5R 0402 NO STUFF

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Video Capture (SAA7108AE)

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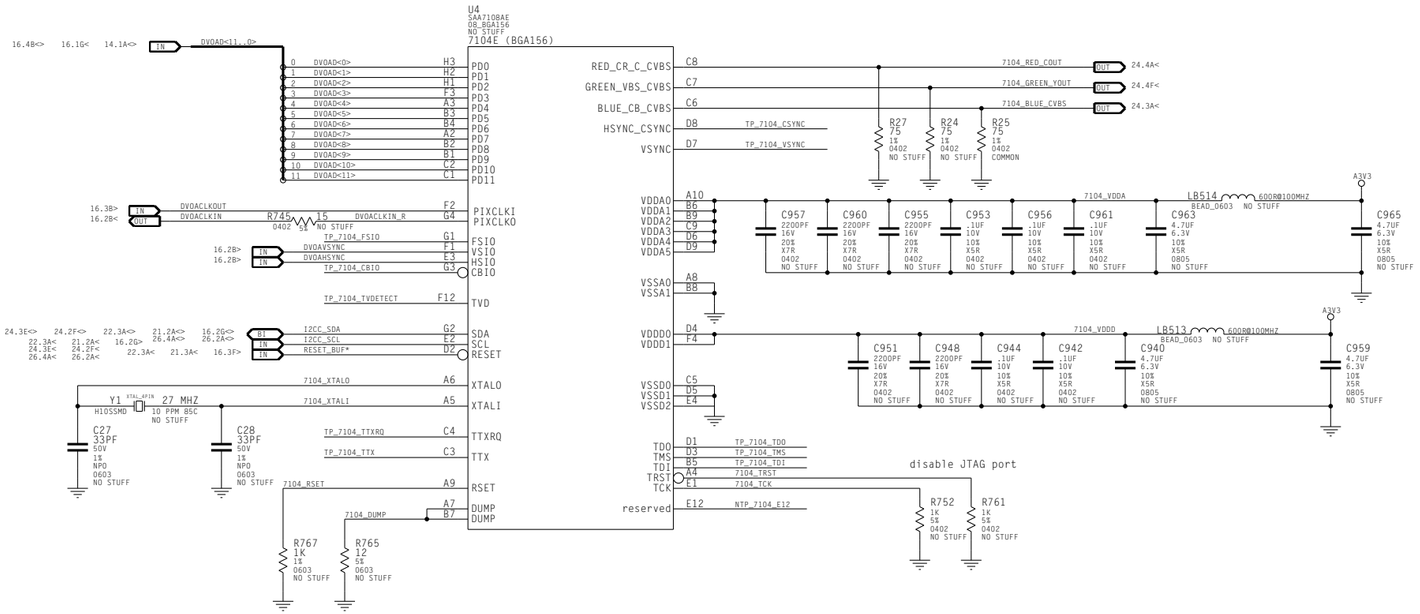
SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	design	PAGE	22 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

23. TV Encoder (Philips 7108AE)



ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	TV Encoder (Philips SAA7108AE)

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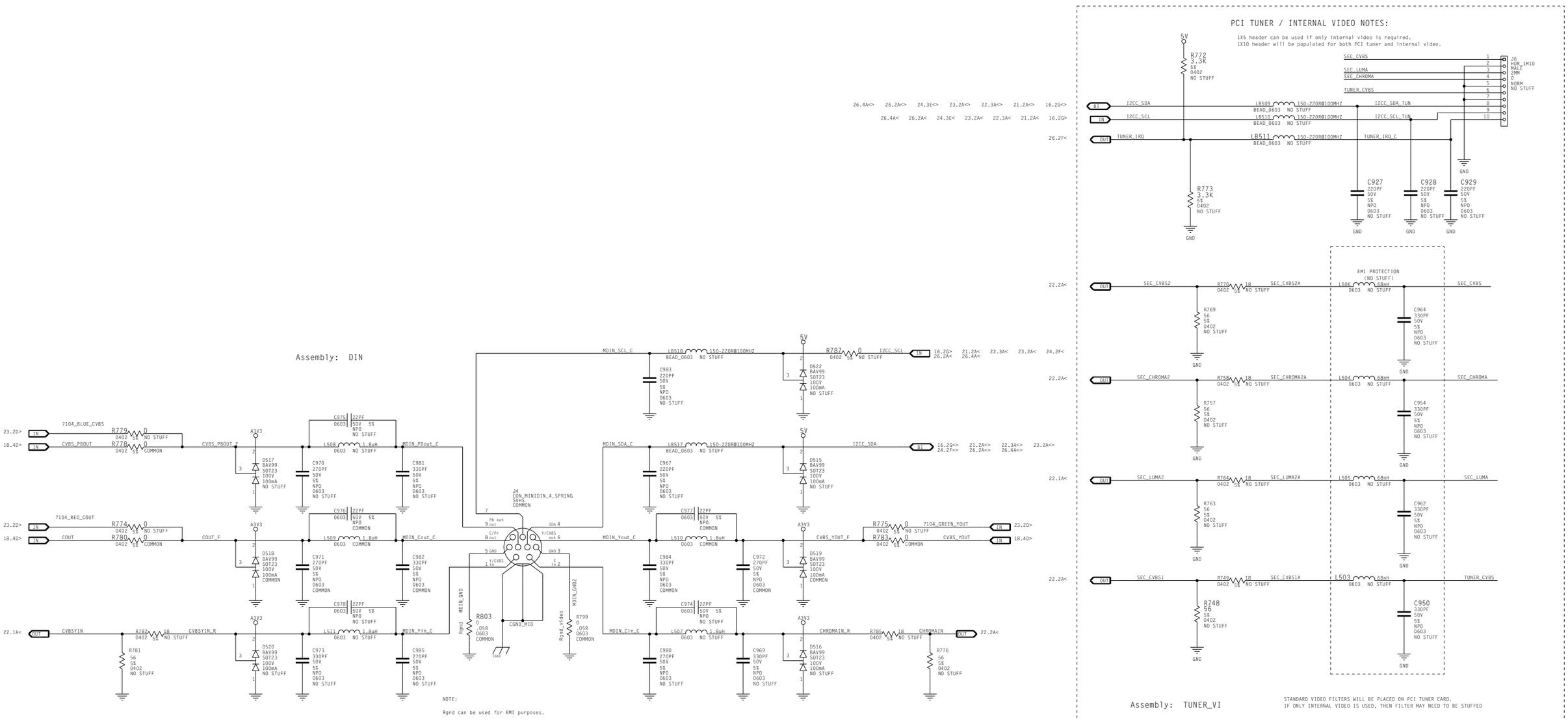
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**23 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

24. S-Video Out, CVBS Out, CVBS/S-Video in, Stereo Out, MINIDIN



ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Video In/Out Connector External with Stereo Out (MiniDin)

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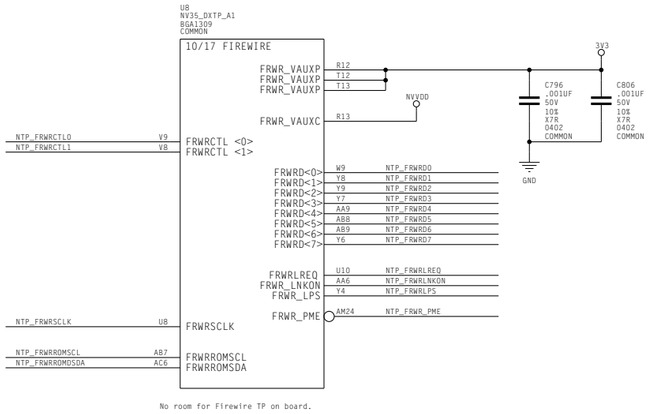
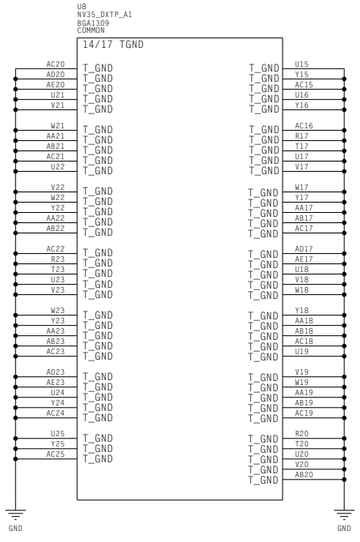
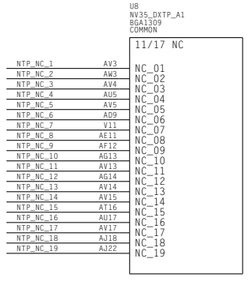
NV_PN	602-10172-0001-000		
ID	**design**	PAGE	**24 OF 38**
NAME	**Emler / Hunter**	DATE	14-APR-2003

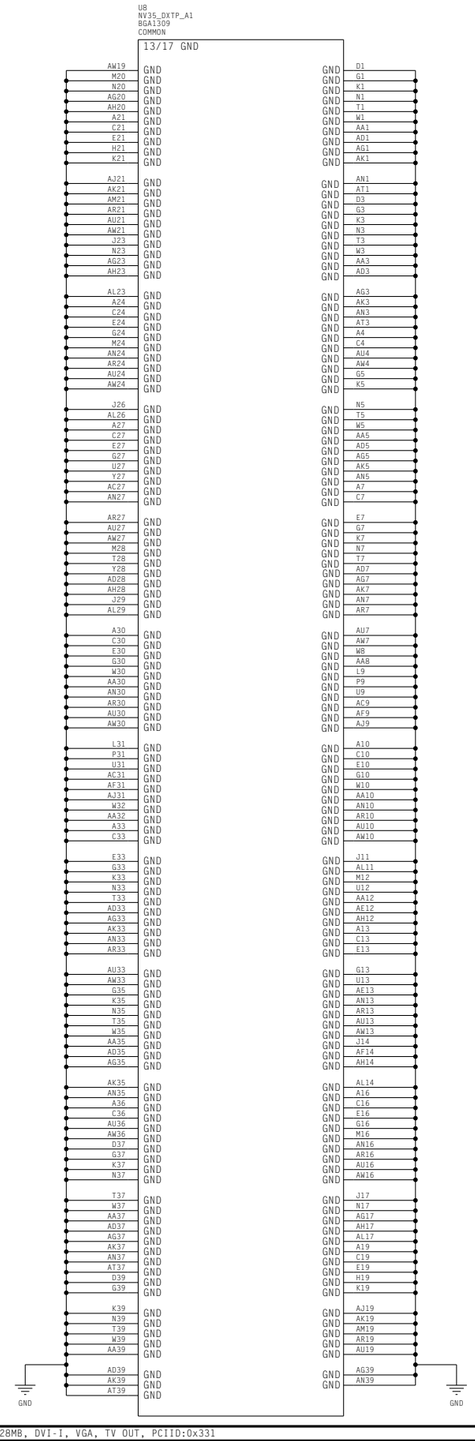
25. GND, Thermal GND and Misc...



No room for Firewire TP on board.







NET RULES

	NET	PHYSICAL	SPACING
IN	D1DZCALPD_VDDQ	12MIL_TRACE	20MIL
IN	D1DZCALPU_GND	12MIL_TRACE	20MIL

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	GNDs, Thermal GNDs, Misc

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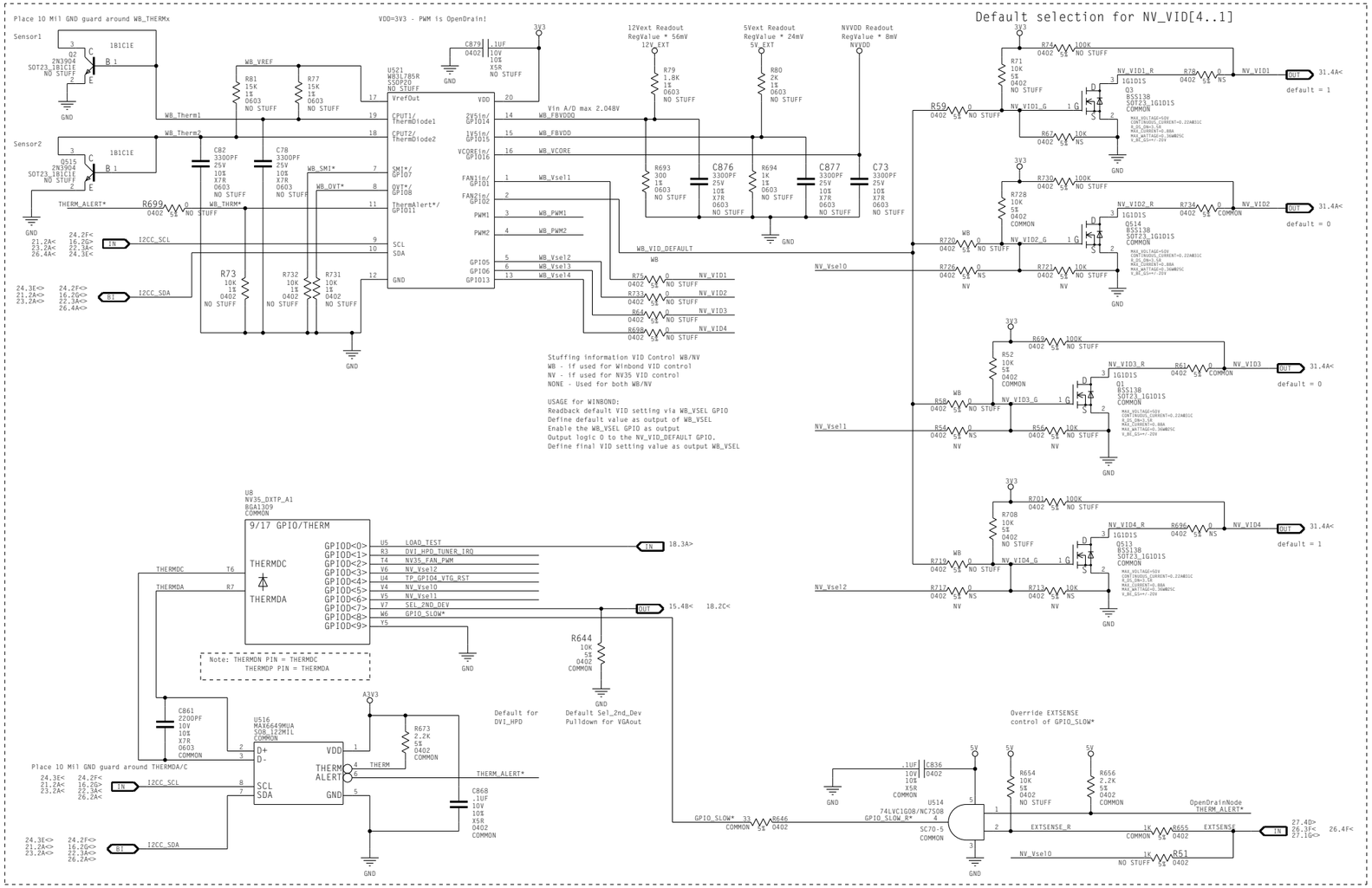
NV_PN	602-10172-0001-000		
ID	design	PAGE	25 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

26. GPIO's, NVVDD Control, Fan & Thermal Control

GPIO CONTROL

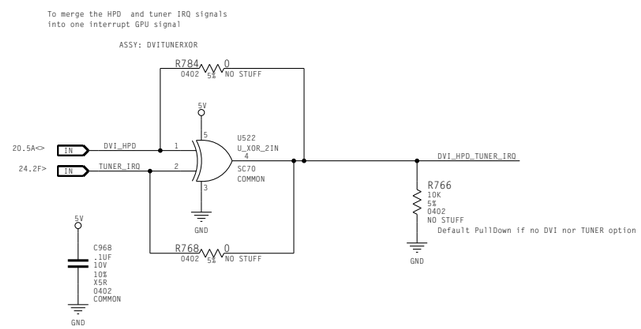


NET RULES

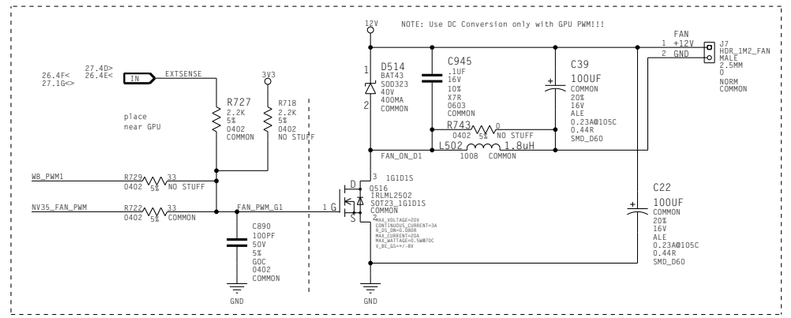
NET	SPACING	PHYSICAL
THERMDA		10MIL_TRACE
THERMDC		10MIL_TRACE
WB_Therm1		10MIL_TRACE
WB_Therm2		10MIL_TRACE
WB_PWM1	20MIL	
WB_PWM2	20MIL	
NV35_FAN_PWM	20MIL	
FAN_PWM_G1	20MIL	
FAN_PWM_G2	20MIL	

To merge the HPD and tuner IRQ signals into one interrupt GPU signal

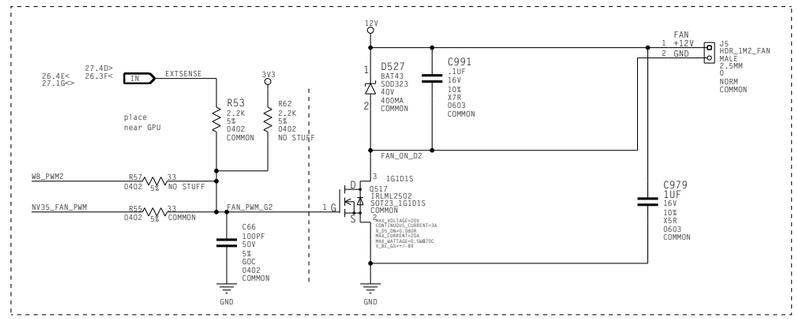
ASSY: DVITUNERXOR



FAN1 CONTROL (north left of board)



FAN2 CONTROL (Overlay with JTAG connector NW corner)



ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	GPIOs, NVVDD VID, TEMP and FAN Control

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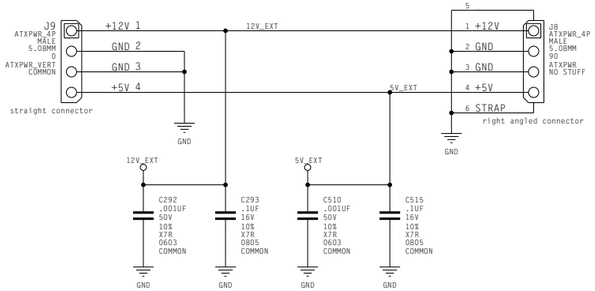
NV_PN	602-10172-0001-000		
ID	design	PAGE	26 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

27. EXT POWER CONNECTION AND DETECTION

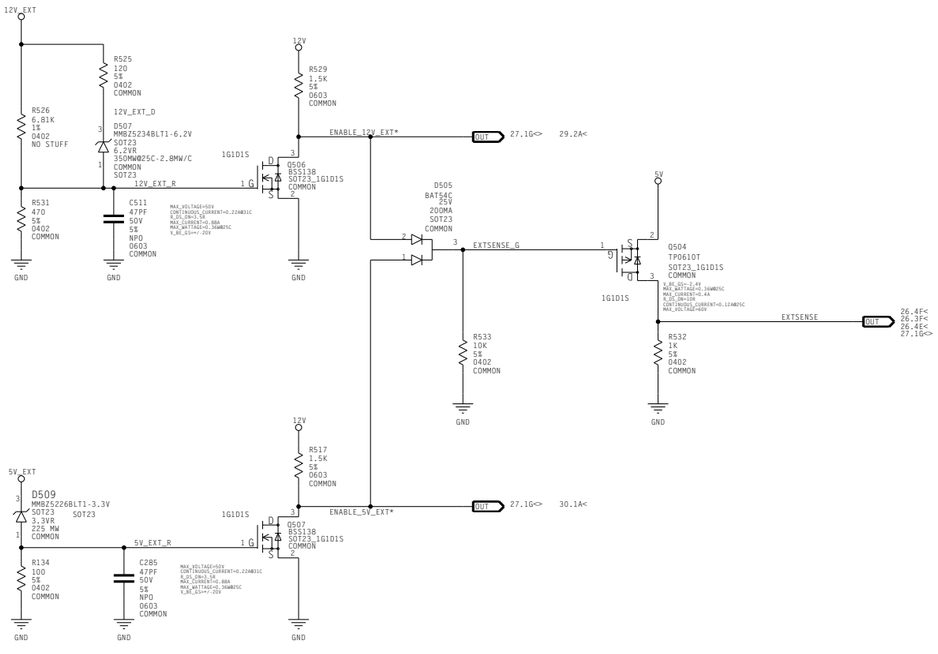
EXTERNAL 5.25 DEVICE CONNECTOR



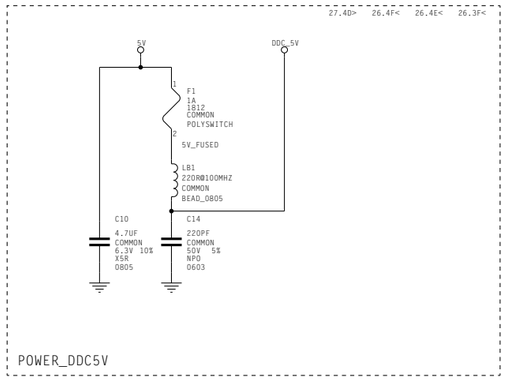
NOTE:
Shutdown power before (dis)connecting external!

EXTERNAL Power detection signals

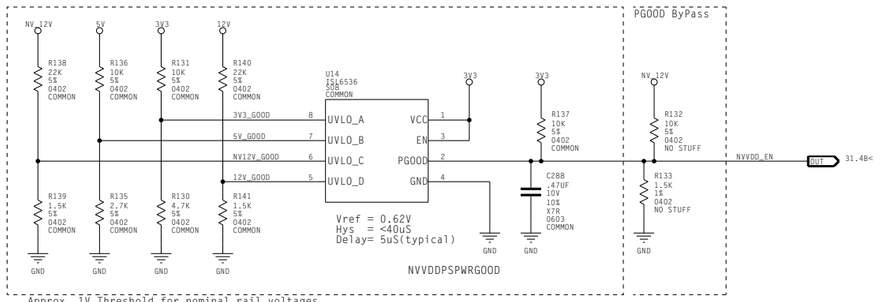
threshold BSS138= 0.8,1.3,1.6
1k5@12V -> 8mA -> 96mW -> >=0603 package



DDC 5V



Power Good



NET RULES

NET	PHYSICAL	VOLTAGE
5V_EXT	36MIL_TRACE	5V
12V_EXT	36MIL_TRACE	12V

5V_EXT and 12V_EXT need to be
220mil internal and 72 mil external

BJ	12V_EXT_D	12MIL_TRACE	
BJ	12V_EXT_R	12MIL_TRACE	
BJ	5V_EXT_R	12MIL_TRACE	
BJ	ENABLE_12V_EXT*	12MIL_TRACE	12V
BJ	ENABLE_5V_EXT*	12MIL_TRACE	5V
BJ	EXTSENSE	8MIL_TRACE	
BJ	DDC_5V	12MIL_TRACE	
BJ	5V_FUSED	12MIL_TRACE	5V

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	External Power Connection and Detection

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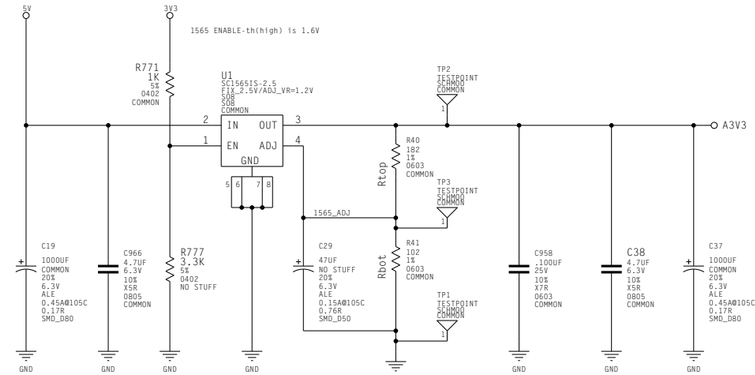
NV_PN	602-10172-0001-000		
ID	design	PAGE	27 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

28. Power Supply I: Analog 3V3

NET RULES

	NET	PHYSICAL	VOLTAGE
A3V3	A3V3	12MIL_TRACE	3.3V
BI	5V1085	12MIL_TRACE	5V
BI	1085_ADJ	10MIL_TRACE	3.3V

A3V3 Supply (1.5A)



Vout = VRef * (1+Rtop/Rbot)
3.34V = 1.200V * (1+(182/102))

POWER_A3V3_REG

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Power Supply I: A3V3

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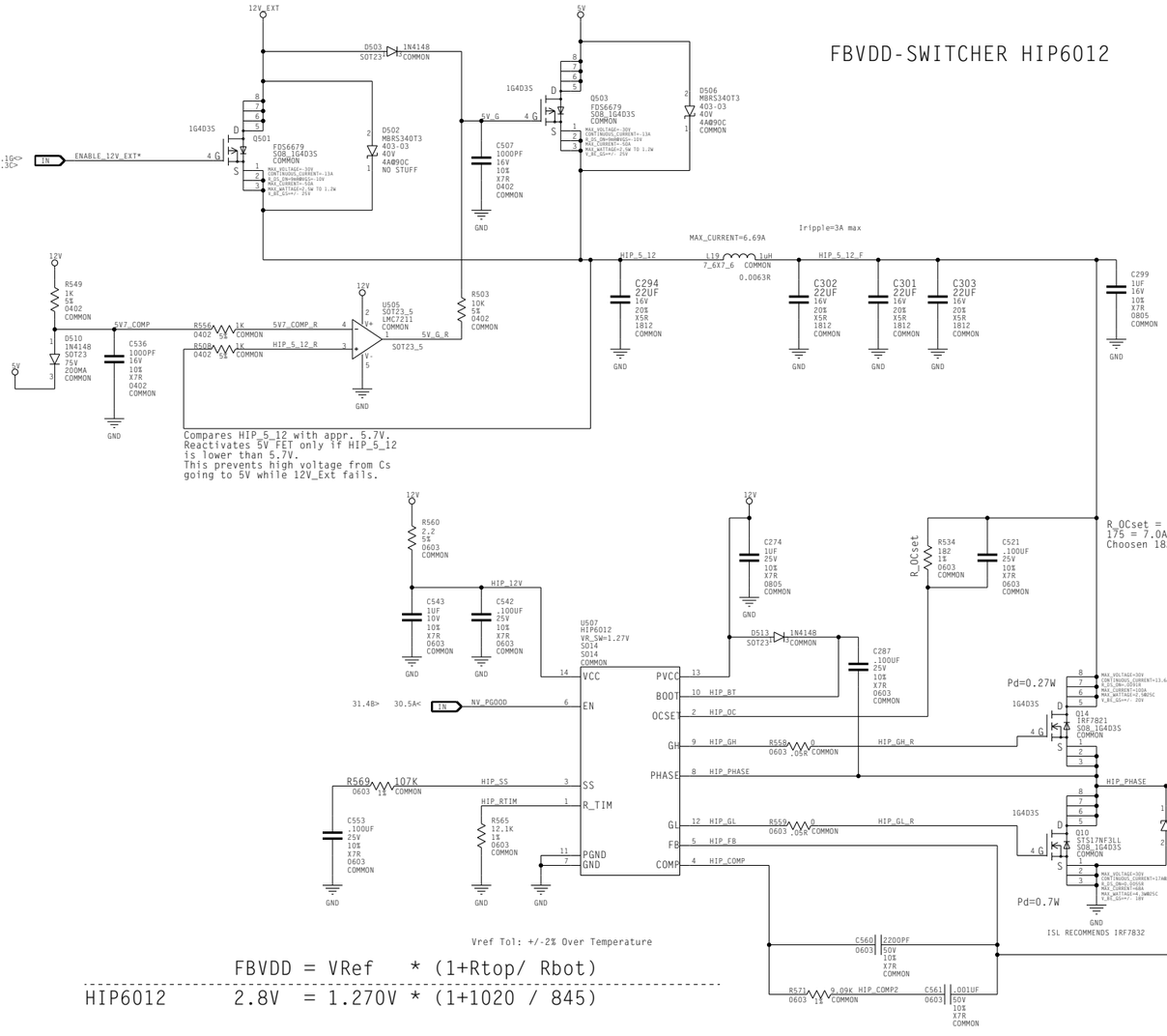
NV_PN	602-10172-0001-000		
ID	design	PAGE	28 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

29. Power Supply II: FBVDD

FBVDD-SWITCHER HIP6012



Vref Tol: +/-2% Over Temperature

FBVDD = VRef * (1+Rtop/ Rbot)

HIP6012 2.8V = 1.270V * (1+1020 / 845)

FBVDD = 2.8V@5A

NET RULES

	NET	PHYSICAL	VOLTAGE
FBVDD	FBVDD	12MIL_TRACE	2.5V
G1	5V_G	12MIL_TRACE	12V
G1	5V_G_R	12MIL_TRACE	12V
G1	HIP_5_12	36MIL_TRACE	3.3V
G1	HIP_5_12_F	36MIL_TRACE	3.3V
G1	HIP_OC	10MIL_TRACE	12V
G1	HIP_FB	10MIL_TRACE	2.8V
G1	HIP_COMP	10MIL_TRACE	2.8V
G1	HIP_COMP2	10MIL_TRACE	2.8V
G1	HIP_GH	16MIL_TRACE	12V
G1	HIP_GH_R	16MIL_TRACE	12V
G1	HIP_GL	16MIL_TRACE	12V
G1	HIP_GL_R	16MIL_TRACE	12V
G1	HIP_BT	16MIL_TRACE	20V
G1	HIP_PHASE	24MIL_TRACE	2.8V
G1	HIP_12V	16MIL_TRACE	12V

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Power Supply II FBVDD

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NV_PN	602-10172-0001-000		
ID	design	PAGE	29 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

30. Power Supply III: FBVDDQ/FBVTT

NET RULES

NET	NET_PHYSICAL_TYPE	VOLTAGE
6225_3V3_5	36MIL_TRACE	5V
6225_VCC	36MIL_TRACE	5V
6225_PHASE1	12MIL_TRACE	5V
6225_PHASE2	12MIL_TRACE	5V
6225_VSEN1	10MIL_TRACE	3.3V
6225_BOOT1	10MIL_TRACE	3.3V
6225_BOOT2	10MIL_TRACE	3.3V
6225_ISEN1	10MIL_TRACE	3.3V
6225_ISEN2	10MIL_TRACE	3.3V
6225_LGATE1	10MIL_TRACE	3.3V
6225_LGATE2	10MIL_TRACE	3.3V
6225_OCSET1	10MIL_TRACE	3.3V
6225_OCSET2	10MIL_TRACE	3.3V
6225_UGATE1	10MIL_TRACE	5V
6225_UGATE2	10MIL_TRACE	5V
3V3_G	10MIL_TRACE	5V
3V3_G_R	10MIL_TRACE	5V
FBVDDQ_SENSE	10MIL_TRACE	2.8V
FBVDDQ	36MIL_TRACE	2.8V
FBVTT	36MIL_TRACE	1.4V

30.38< 3.5G>

FBVDDQ
FBVTT

5V_EXT — D504 1N4148 SOT23 COMMON — 3V3

27.4C> 27.1G<> IN ENABLE_5V_EXT* 4 G — Q505 FDS6679 SO8_1G4D3S COMMON (1G4D3S) — D508 MBRS340T3 40V 4A@90C COMMON — C548 1000PF 16V 10% X7R 0402 COMMON — GND

3V3_G — Q508 FDS6679 SO8_1G4D3S COMMON (1G4D3S) — D512 MBRS340T3 40V 4A@90C COMMON

Iripple=3.5A max

6225_3V3_5 — L18 1uH 7_6X7_6 COMMON (MAX_CURRENT=6.69A) — C531 100UF 6.3V 20% X5R 1812 COMMON — C296 100UF 6.3V 20% X5R 1812 COMMON — C295 100UF 6.3V 20% X5R 1812 COMMON — C289 100UF 6.3V 20% X5R 1812 COMMON — C297 4.7UF 6.3V 10% X5R 0805 COMMON — GND

6225_VCC

5V — R502 1K 5% 0402 COMMON — 4V_COMP — D13 1N4148 SOT23 75V 200MA COMMON — 3V3

4V_COMP — C504 1000PF 16V 10% X7R 0402 COMMON — GND

R501 1K 0402 5% COMMON — 4V_COMP_R

R546 1K 0402 5% COMMON — 6225_3V3_5_R

12V — U501 LMC7211 SOT23_5 COMMON — 3V3_G_R — SOT23_5 — R518 10K 5% 0402 COMMON — GND FBVDDQ

FBVDDQ = 2.8V, 5A (incl VTT)

Vout1 = VRef * (1+(Rtop/Rbot))
2.8V = 0.9V * (1+(2340/1150))

30.2G<> 3.5G> IN FBVDDQ_SENSE — R572 2.43K 0603 1% NO STUFF — TP6 TESTPOINT SCHMOO COMMON

FBVDDQ — C247 100UF 6.3V X5R 1812 COMMON — C230 100UF 6.3V X5R 1812 COMMON — C599 100UF 6.3V X5R 1812 COMMON — C275 100UF 6.3V X5R 1812 COMMON — C586 100UF 6.3V X5R 1812 COMMON — GND

TP4 TESTPOINT SCHMOO COMMON — R574 2.43K 1% 0603 COMMON

TP10 TESTPOINT SCHMOO COMMON — R575 1.15K 1% 0603 COMMON — GND

C265 1500UF NO STUFF 20% 6.3V ALE 0.67A@105C 0.09R COMBI_7343_D80_D100 — GND

Place coincidental with other 1812 Caps

C222 10UF 6.3V 20% X5R 0805 COMMON — C210 .1UF 16V 10% X5R 0402 COMMON — C214 .01UF 10V 10% X7R 0603 COMMON — GND

TP12 TESTPOINT SCHMOO COMMON — R545 1.5K 1% 0603 COMMON — R551 1.5K 1% 0603 COMMON — C533 .01UF 16V 10% X7R 0402 COMMON — GND

FBVTT
Vout2 = Vout1/2
1.4V = 2.8V/2

31.4B> 29.38< IN NV_PGOOD — R570 0 0402 5% COMMON

MAX_CURRENT=6.69A — L13 1uH 7_6X7_6 COMMON

C532 .047UF 16V 10% X7R 0402 COMMON — R563 0 5% 0402 NO STUFF — HYS Mode — R564 0 5% 0402 COMMON — CCM Mode — GND

R12B 5.6 5% 0603 COMMON — 6225_PHASE1_R — C286 68OPF 50V 5% NPO 0603 COMMON — GND

D7 IR10MQ040N SMA 40V 2.1A COMMON — GND

Q6 STS17NF3LL SO8_1G4D3S COMMON (1G4D3S) — Pd=0.57W

Rcs R561 392 0603 1% COMMON

Q5 STS17NF3LL SO8_1G4D3S COMMON (1G4D3S) — Pd=0.45W — GND

VDDQ_MODE — 6225_VSEN1 — 6225_EN — NTP_6225_PG1 — 6225_SOFT1 — 6225_OCSET1

C525 .022UF 16V 10% X7R 0402 COMMON — Rocset R550 100K 1% 0603 COMMON — GND

Tie Vin with 100k to GND for OutOfPhase Mode

5V — R542 100K 5% 0402 NO STUFF — R538 100K 5% 0402 COMMON — GND

U506 ISL6225_300KHZ VR_SW=0.9V SSOP28L0 SSOP28 COMMON

6225_VIN — 6225_BOOT1 — VIN BOOT1 — UGATE1 — PHASE1 — ISEN1 — LGATE1 — PGND1 — VOUT1 — VSEN1 — EN1 — PG1 — SOFT1 — OCSET1 — GND

VCC DDR BOOT2 — UGATE2 — PHASE2 — ISEN2 — LGATE2 — PGND2 — VOUT2 — VSEN2 — EN2 — PG2/REF — SOFT2 — OCSET2

VTT_MODE — FBVTT — 6225_EN — 6225_PG2 — NTP_6225_SOFT2 — 6225_OCSET2

5V — C550 4.7UF 6.3V 10% X5R 0805 COMMON — GND

6225_BOOT2

Q4 STS17NF3LL SO8_1G4D3S COMMON (1G4D3S) — Pd=0.43W — D8 IR10MQ040N SMA 40V 2.1A COMMON

Q11 STS17NF3LL SO8_1G4D3S COMMON (1G4D3S) — Pd=0.43W — D11 IR10MQ040N SMA 40V 2.1A COMMON — GND

6225_UGATE2 — 6225_PHASE2 — 6225_ISEN2 — R557 6.2K 0402 5% COMMON — 6225_LGATE2

R548 0 0402 5% NO STUFF — Rref — C522 1UF 10V 10% X7R 0603 COMMON — GND

Rref chooses internal VTT reference

FBVDDQ — C569 10UF 10V 20% X7R 1210 COMMON — GND

C537 .1UF 10V 10% X5R 0402 COMMON

R567 5.6 5% 0603 NO STUFF — 6225_PHASE2_R — C551 68OPF 50V 5% NPO 0603 NO STUFF — GND

MAX_CURRENT=6.69A — L16 1uH 7_6X7_6 COMMON

CCM Mode — R539 0 5% 0402 NO STUFF — HYS Mode — R536 0 5% 0402 COMMON — GND

FBVTT

C282 100UF 6.3V X5R 1812 COMMON — C534 100UF 6.3V X5R 1812 COMMON — C546 100UF 6.3V X5R 1812 COMMON — GND

Place coincidental with other 1812 caps

C281 1500UF NO STUFF 20% 6.3V ALE 0.67A@105C 0.09R COMBI_7343_D80_D100 — GND

C277 10UF 6.3V 20% X5R 0805 COMMON — C557 .1UF 10V 10% X5R 0402 COMMON — C554 .01UF 10V 10% X7R 0603 COMMON — GND

FBVTT = 1.4V, 5A

Rcs = Imax * RDSon(low) / 75uA - 100R
390R = 6.69A * 0.0055R / 75uA - 100R
choosen 392R => Imax = 6.71A = (390R + 100R) / 0.0055R * 75uA
This is for optimising output drivers!

Rocset = 11.2V * (Rcs + 100) / Ioc / RDSon(low)
100189R = 11.2V * (392 + 100) / 10A / 0.0055R
choosen 100K => Ioc = 10.01A = 11.2V * (392 + 100) / 100k / 0.0055R

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Power Supply III: FBVDDQ/ FBVTT

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SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000		
ID	design	PAGE	30 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

31. Power Supply IV: NVVDD

NOTE For shmoo NVVDD
To fine adjust within 25mV, Replace Roff < 5K
To coarse adjust, Change VIDx Pull Down resistors as per table
Prefer removing ALL VSEL0 and VSEL1 control resistors

NET RULES

NET	PHYSICAL	VOLTAGE
NVVDD	36MIL_TRACE	1.4V
NV_12V	24MIL_TRACE	12V
NV_12V_IN	24MIL_TRACE	12V
AGP12VFUSE	24MIL_TRACE	12V
NV_PHASE1	12MIL_TRACE	1.2V
NV_PHASE2	12MIL_TRACE	1.2V
NV_VCC	12MIL_TRACE	5V
NV_BOOT1	10MIL_TRACE	3.3V
NV_BOOT2	10MIL_TRACE	3.3V
NV_COMP	10MIL_TRACE	3.3V
NV_COMP_FB	10MIL_TRACE	3.3V
NV_FB	10MIL_TRACE	3.3V
NV_PWM1	10MIL_TRACE	3.3V
NV_PWM2	10MIL_TRACE	3.3V
NV_VDIFF	10MIL_TRACE	3.3V
NV_OFS	10MIL_TRACE	3.3V
NV_ISEN1	10MIL_TRACE	3.3V
NV_ISEN2	10MIL_TRACE	3.3V
PH1_SNB	10MIL_TRACE	1.2V
PH2_SNB	10MIL_TRACE	1.2V
NV_UGATE1	24MIL_TRACE	12V
NV_UGATE2	24MIL_TRACE	12V
NV_UGATE1_R	24MIL_TRACE	12V
NV_UGATE2_R	24MIL_TRACE	12V
NV_LGATE1	24MIL_TRACE	12V
NV_LGATE2	24MIL_TRACE	12V
NV_LGATE1_R	24MIL_TRACE	12V
NV_LGATE2_R	24MIL_TRACE	12V

NET	DIFFPAIR	PHYSICAL
NVVDD_SENSE	NOTE:DIFFPAIR ROUTING	10MIL_TRACE
NVVDD_GND_SENSE	NOTE:DIFFPAIR ROUTING	10MIL_TRACE
NV_VSEN	NV_REM_SENSE2	10MIL_TRACE
NV_RGND	NV_REM_SENSE2	10MIL_TRACE

NVVDD Voltage Select

Regulator: ISL6569

Control via NV_GPIOs NV_VSEL[2..0] :

NV_VSEL VID	NVVDD (Vofs=0V)
2 1 0	4 3 2 1 0 Vout
1 1 1	0 0 0 1 0 1.50V
1 1 0	0 0 1 1 0 1.40V
1 0 1	0 0 1 0 0 1.30V
1 0 0	0 1 1 1 0 1.20V
0 1 1	0 0 1 1 0 1.10V (default)
0 1 0	0 0 1 0 1 1.00V
0 0 1	1 1 0 1 0 0.90V
0 0 0	1 1 1 1 0 0.80V

* GPIO's are inverted
Defaults are defined on Page 24
Rofs = OR

Voltage Offset Example

Vofs[V] = Rofs[Ohm] * 100uA / 10
Vofs[mV] = Rofs[kOhm] * 10
300[mV] = 30[kOhm] * 10

Control via WB_GPIOs WB_VSEL[3..0] :

WB_VSEL	VID	NVVDD (Vofs=0V)
3 2 1	4 3 2 1 0	Vout
0 0 0	0 0 0 0 0	1.55V
0 0 0	1 0 0 1 0	1.50V
0 0 1	0 0 1 0 0	1.45V
0 0 1	0 0 1 1 0	1.40V
0 1 0	0 1 0 0 0	1.35V
0 1 0	0 1 0 1 0	1.30V
0 1 1	0 1 1 0 0	1.25V
0 1 1	0 1 1 1 0	1.20V
1 0 0	1 0 0 0 0	1.15V
1 0 0	1 0 0 1 0	1.10V (default)
1 0 1	1 0 1 0 0	1.05V
1 0 1	1 0 1 1 0	1.00V
1 1 0	1 1 0 0 0	0.95V
1 1 0	1 1 0 1 0	0.90V
1 1 1	1 1 1 0 0	0.85V
1 1 1	1 1 1 1 0	0.80V

* GPIO's are Open drain if high logic
Defaults are defined on Page 24
Rofs = OR

NVVDD = 1.0V..1.45V (30A)

Load Sense

Comp Network

5-Bit VID Table

VID[4:0] VOLTAGE		VID[4:0] VOLTAGE	
00	1.550	10	1.150
01	1.525	11	1.125
02	1.500*	12	1.100
03	1.475	13	1.075
04	1.450	14	1.050
05	1.425	15	1.025
06	1.400*	16	1.000
07	1.375	17	0.975
08	1.350	18	0.950
09	1.325	19	0.925
0A	1.300*	1A	0.900
0B	1.275	1B	0.875
0C	1.250	1C	0.850
0D	1.225	1D	0.825
0E	1.200*	1E	0.800
0F	1.175	1F	SHDN

Table is with Rofs=OR

NVVDDPS

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Power Supply IV: NVVDD

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	31 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

MEC1
HEX_JACK_SCREW
STD
COMMON

MEC2
HEX_JACK_SCREW
STD
COMMON

MEC3
HEX_JACK_SCREW
STD
COMMON

MEC4
HEX_JACK_SCREW
STD
COMMON

BKT1
DB15S,DIN,DVI, NO NVTM12
AI3_2A_NO
COMMON

bkt - 151-10000-5011-000
cooler - 095-20000-0007-000

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	Mechanical

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	32 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

*** Signal Cross-Reference for the entire design ***

3V3_G	30.1G<>
3V3_G_R	30.1G<>
5V1085	28.1G<>
5V_EXT_R	27.1G<>
5V_FUSED	27.1G<>
5V_G	29.1G<>
5V_G_R	29.1G<>
12V_EXT_D	27.1G<>
12V_EXT_R	27.1G<>
1085_ADJ	28.1G<>
6225_3V3_5	30.1G<>
6225_BOOT1	30.1G<>
6225_BOOT2	30.1G<>
6225_ISEN1	30.1G<>
6225_ISEN2	30.1G<>
6225_LGATE1	30.1G<>
6225_LGATE2	30.1G<>
6225_OCSET1	30.1G<>
6225_OCSET2	30.1G<>
6225_PHASE1	30.1G<>
6225_PHASE2	30.1G<>
6225_UGATE1	30.1G<>
6225_UGATE2	30.1G<>
6225_VCC	30.1G<>
6225_VSEN1	30.1G<>
7104_BLUE_CVBS	23.2D> 24.3A<
7104_GREEN_YOUT	23.2D> 24.4F<
7104_RED_COUT	23.2D> 24.4A<
7114_XIN	22.1G<
7114_XOUT	22.1G<
AGP12VFUSE	31.1G<>
AGPADSTBF0	2.4H<
AGPADSTBF1	2.4H<
AGPADSTBS0	2.4H<
AGPADSTBS1	2.4H<
AGPCALPD_VDDQ	2.5H<
AGPCALPU_GND	2.5H<
AGPDBI_HI	2.4H<
AGPDBI_LO	2.4H<
AGPMBDET	2.5H<
AGPRBF	2.4H<
AGPSBA<0>	2.4H<
AGPSBA<7..0>	2.4H<
AGPSBA<1>	2.4H<
AGPSBA<2>	2.4H<
AGPSBA<3>	2.4H<
AGPSBA<4>	2.4H<
AGPSBA<5>	2.4H<
AGPSBA<6>	2.4H<
AGPSBA<7>	2.4H<
AGPSBSTBF	2.4H<
AGPSBSTBS	2.4H<
AGPST0	2.4H<
AGPST1	2.4H<
AGPST2	2.4H<
AGPSTOP	2.5H<
AGPVREF	2.5H<
AGPVREFCG	2.4H<
AGPVREFGC	2.5H<
AGPWBF	2.4H<
CHROMAIN	22.2A< 24.4E>
COUT	18.4D> 24.4A<
CVBSYIN	22.1A< 24.4A>
CVBS_PBOUT	18.4D> 24.3A<
CVBS_YOUT	18.4D> 24.4F<
D1D2CALPD_VDDQ	25.1G<
D1D2CALPU_GND	25.1G<
DACA_BLUE	15.2E> 15.4F< 17.1G< 17.5A<
DACA_BLUE_C	17.1G<
DACA_B_F	17.1G<
DACA_GREEN	15.2E> 15.4F< 17.1G< 17.4A<
DACA_GREEN_C	17.1G<
DACA_G_F	17.1G<
DACA_HSYNC_BUF	15.1H> 17.3A<
DACA_RED	15.2E> 15.4F< 17.1G< 17.3A<
DACA_RED_C	17.1G<
DACA_RSET	15.5F<
DACA_R_F	17.1G<
DACA_VDD	15.4F<
DACA_VREF	15.5F<
DACA_VSYNC_BUF	15.2H> 17.2A<
DACB_BLUE	15.3E> 15.4F< 18.4A< 19.1G<
DACB_BLUE_C	19.1G< 19.5D> 20.4B<
DACB_BLUE_SW	18.3D> 19.5A<
DACB_B_F	19.1G<
DACB_GREEN	15.3E> 15.4F< 18.4A< 19.1G<
DACB_GREEN_C	19.1G< 19.4D> 20.4B<
DACB_GREEN_SW	18.3D> 19.4A<
DACB_G_F	19.1G<
DACB_HSYNC_BUF	15.3H> 19.3A<
DACB_HSYNC_C	19.3D> 20.5B<
DACB_RED	15.3E> 15.4F< 18.3A< 19.1G<
DACB_RED_C	19.1G< 19.3D> 20.4B<
DACB_RED_SW	18.3D> 19.3A<
DACB_RGB_GND	19.5D> 20.5B<
DACB_RSET	15.4F<
DACB_R_F	19.1G<
DACB_VDD	15.4F<
DACB_VREF	15.4F<
DACB_VSYNC_BUF	15.3H> 19.2A<
DACB_VSYNC_C	19.2D> 20.4B<
DVI_HPD	20.5A<> 26.2F<
DVOACLKIN	16.2B< 23.2A>
DVOACLKOUT	16.3B> 23.2A<
DVOAD<0>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<11..0>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<23..0>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<1>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<2>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<3>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<4>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<5>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<6>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<7>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<8>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<9>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<10>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<11>	14.1A<> 16.1G< 16.4B<> 23.2A<
DVOAD<12>	14.1A<> 16.1G< 16.4B<>
DVOAD<13>	14.1A<> 16.1G< 16.4B<>
DVOAD<14>	14.1A<> 16.1G< 16.4B<>
DVOAD<15>	14.1A<> 16.1G< 16.4B<>
DVOAD<16>	14.1A<> 16.1G< 16.4B<>
DVOAD<17>	14.1A<> 16.1G< 16.4B<>
DVOAD<18>	14.1A<> 16.1G< 16.4B<>
DVOAD<19>	14.1A<> 16.1G< 16.4B<>
DVOAD<20>	14.1A<> 16.1G< 16.4B<>
DVOAD<21>	14.1A<> 16.1G< 16.4B<>
DVOAD<22>	14.1A<> 16.1G< 16.4B<>
DVOAD<23>	14.1A<> 16.1G< 16.4B<>
DVOAD_R<0>	16.1G<
DVOAD_R<23..0>	16.1G<
DVOAD_R<1>	16.1G<
DVOAD_R<2>	16.1G<
DVOAD_R<3>	16.1G<
DVOAD_R<4>	16.1G<
DVOAD_R<5>	16.1G<
DVOAD_R<6>	16.1G<
DVOAD_R<7>	16.1G<
DVOAD_R<8>	16.1G<
DVOAD_R<9>	16.1G<
DVOAD_R<10>	16.1G<
DVOAD_R<11>	16.1G<
DVOAHSYNC	16.2B> 23.2A<
DVOAVSYNC	16.2B> 23.2A<
DVOBCLKOUT	16.4F> 21.2A<
DVOBCLKOUT*	16.4F> 21.2A<
DVOBD<0>	14.1B<> 16.4G> 21.2B<
DVOBD<11..0>	14.1B<> 16.4G> 21.2B<
DVOBD<1>	14.1B<> 16.4G> 21.2B<
DVOBD<2>	14.1B<> 16.4G> 21.2B<
DVOBD<3>	14.1B<> 16.4G> 21.2B<
DVOBD<4>	14.1B<> 16.4G> 21.2B<
DVOBD<5>	14.1B<> 16.4G> 21.2B<
DVOBD<6>	14.1B<> 16.4G> 21.2B<
DVOBD<7>	14.1B<> 16.4G> 21.2B<
DVOBD<8>	14.1B<> 16.4G> 21.2B<
DVOBD<9>	14.1B<> 16.4G> 21.2B<
DVOBD<10>	14.1B<> 16.4G> 21.2B<
DVOBD<11>	14.1B<> 16.4G> 21.2B<
DVOBDE	16.4F> 21.2A<
DVOBHSYNC	16.4F> 21.2A<
DVOBVSYNC	16.4F> 21.2A<
ENABLE_5V_EXT*	27.1G<> 27.4C> 30.1A<
ENABLE_12V_EXT*	27.1G<> 27.3C> 29.2A<
EXTSENSE	26.3F< 26.4E< 26.4F< 27.1G<> 27.4D>
FAN_PWM_G1	26.1G<>
FAN_PWM_G2	26.1G<>
FBA0A<0>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<12..0>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<13..0>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<1>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<2>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<3>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<4>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<5>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<6>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<7>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<8>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<9>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<10>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<11>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0A<12>	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0BA0	3.3A> 4.2A< 5.2C< 13.4B<>
FBA0BA1	3.3A> 4.2A< 5.2C< 13.4B<>
FBA0CAS*	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0CKE	3.4A> 4.2A< 5.2C< 13.4B<>
FBA0CLK0	3.4A> 4.2C< 13.1B<>
FBA0CLK0*	3.4A> 4.2C< 13.1B<>
FBA0CLK1	3.4A> 5.2C< 13.1B<>
FBA0CLK1*	3.4A> 5.2C< 13.1B<>
FBA0RAS*	3.3A> 4.1A< 5.1C< 13.3B<>
FBA0WE*	3.4A> 4.1A< 5.1C< 13.3B<>
FBA1A<0>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<12..0>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<13..0>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<1>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<2>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<3>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<4>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<5>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<6>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<7>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<8>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<9>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<10>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<11>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1A<12>	3.3C> 4.1C< 5.1A< 13.3B<>
FBA1BA0	3.3C> 4.2C< 5.2A< 13.4B<>
FBA1BA1	3.3C> 4.2C< 5.2A< 13.4B<>
FBA1CAS*	3.3C> 4.1C< 5.1A< 13.4B<>
FBA1CKE	3.4C> 4.2C< 5.2A< 13.4B<>
FBA1CLK0	3.4C> 5.2A< 13.2B<>
FBA1CLK0*	3.4C> 5.2A< 13.2B<>
FBA1CLK1	3.4C> 4.2A< 13.2B<>
FBA1CLK1*	3.4C> 4.2A< 13.2B<>
FBA1RAS*	3.3C> 4.1C< 5.1A< 13.4B<>
FBA1WE*	3.4C> 4.1C< 5.1A< 13.4B<>
FBACS0*	3.4A> 4.1A< 4.1C< 13.4B<>
FBACS1*	3.4C> 4.1A< 4.1C< 5.1A< 13.4B<>
FBAD<0>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<63..0>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<1>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<2>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<3>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<4>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<5>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<6>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<7>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<8>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<9>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<10>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<11>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<12>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<13>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<14>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<15>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<16>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<17>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<18>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<19>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<20>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<21>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<22>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<23>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<24>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<25>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<26>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<27>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<28>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<29>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<30>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<31>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<32>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<33>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<34>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<35>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<36>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<37>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<38>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<39>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<40>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<41>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<42>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
FBAD<43>	3.1A<> 3.1C<> 4.4A<> 4.4C<> 4.5A<> 4.5C<> 5.4A<> 5.4D<> 5.5A<> 5.5D<> 13.2B<>
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NVIDIA CORPORATION
2701 SAN TOMAS EXPRESSWAY
SANTA CLARA, CA 95050, USA

NV_PN	602-10172-0001-000
ID	design
NAME	Emler / Hunter
PAGE	33 OF 38
DATE	14-APR-2003

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FBC0A<8>	8.3A> 9.1A< 10.1C< 13.3D<>
FBC0A<9>	8.3A> 9.1A< 10.1C< 13.3D<>
FBC0A<10>	8.3A> 9.1A< 10.1C< 13.3D<>
FBC0A<11>	8.3A> 9.1A< 10.1C< 13.3D<>
FBC0A<12>	8.3A> 9.1A< 10.1C< 13.3D<>
FBC0BA0	8.3A> 9.2A< 10.2C< 13.4D<>
FBC0BA1	8.3A> 9.2A< 10.2C<
FBC0CAS*	8.4A> 9.1A< 10.1C< 13.3D<>
FBC0CKE	8.4A> 9.2A< 10.2C< 13.3D<>
FBC0CLK0	8.4A> 9.2A< 13.1D<>
FBC0CLK0*	8.4A> 9.2A< 13.1D<>
FBC0CLK1	8.4A> 10.2C< 13.1D<>
FBC0CLK1*	8.4A> 10.2C< 13.1D<>
FBC0RAS*	8.3A> 9.1A< 10.1C< 13.3D<> 13.4D<>
FBC0WE*	8.4A> 9.1A< 10.1C< 13.3D<>
FBC1A<0>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<12..0>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<13..0>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<1>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<2>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<3>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<4>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<5>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<6>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<7>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<8>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<9>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<10>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<11>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1A<12>	8.3C> 9.1C< 10.1A< 13.3D<>
FBC1BA0	8.3C> 9.2C< 10.2A< 13.4D<>
FBC1BA1	8.3C> 9.2C< 10.2A< 13.4D<>
FBC1CAS*	8.4C> 9.1C< 10.1A< 13.4D<>
FBC1CKE	8.4C> 9.2C< 10.2A< 13.4D<>
FBC1CLK0	8.4C> 10.2A< 13.1D<>
FBC1CLK0*	8.4C> 10.2A< 13.2D<>
FBC1CLK1	8.4C> 9.2C< 13.2D<>
FBC1CLK1*	8.4C> 9.2C< 13.2D<>
FBC1RAS*	8.3C> 9.1C< 10.1A<
FBC1WE*	8.4C> 9.1C< 10.1A< 13.4D<>
FBCCS0*	8.4A> 9.1A< 9.1C< 13.4D<>
FBCCS1*	8.4C> 9.1A< 9.1C< 10.1A< 13.4D<>
FBCD<0>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<63..0>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<1>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<2>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<3>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<4>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<5>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<6>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<7>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<8>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<9>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<10>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<11>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<12>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<13>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<14>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<15>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<16>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<17>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<18>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<19>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<20>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<21>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<22>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<23>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<24>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<25>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<26>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<27>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<28>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<29>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<30>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<31>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<32>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<33>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<34>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<35>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<36>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<37>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<38>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<39>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<40>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<41>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<42>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<43>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<44>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<45>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<46>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<47>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<48>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<49>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<50>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<51>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<52>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<53>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<54>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<55>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<56>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<57>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<58>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<59>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<60>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<61>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<62>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCD<63>	8.1A<> 8.1C<> 9.4A<> 9.4D<> 9.5A<> 9.5D<> 10.4A<> 10.4D<> 10.5A<> 10.5D<> 13.2D<>
FBCDQM0	8.2A> 9.4B< 10.4B< 13.2D<>
FBCDQM1	8.2A> 9.4B< 10.4B< 13.2D<>
FBCDQM2	8.2A> 9.5B< 10.5B< 13.2D<>
FBCDQM3	8.2A> 9.5B< 10.5B< 13.2D<>
FBCDQM4	8.2C> 9.4D< 10.4D< 13.2D<>
FBCDQM5	8.2C> 9.4D< 10.4D< 13.2D<>
FBCDQM6	8.2C> 9.5D< 10.5D< 13.2D<>
FBCDQM7	8.2C> 9.5D< 10.5D< 13.2D<>
FBCDQS0	8.2A<> 9.4B<> 10.4B<> 13.3D<>
FBCDQS1	8.3A<> 9.4B<> 10.4B<> 13.3D<>
FBCDQS2	8.3A<> 9.5B<> 10.5B<> 13.3D<>
FBCDQS3	8.3A<> 9.5B<> 10.5B<> 13.3D<>
FBCDQS4	8.2C<> 9.4D<> 10.4D<> 13.3D<>
FBCDQS5	8.3C<> 9.4D<> 10.4D<> 13.3D<>
FBCDQS6	8.3C<> 9.5D<> 10.5D<> 13.3D<>
FBCDQS7	8.3C<> 9.5D<> 10.5D<> 13.3D<>
FBD0A<0>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<12..0>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<13..0>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<1>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<2>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<3>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<4>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<5>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<6>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<7>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<8>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<9>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<10>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<11>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0A<12>	8.3D> 11.1A< 12.1C< 13.3D<>
FBD0BA0	8.3E> 11.2A< 12.2C<
FBD0BA1	8.3E> 11.2A< 12.2C<
FBD0CAS*	8.4E> 11.1A< 12.1C< 13.4D<>
FBD0CKE	8.4E> 11.2A< 12.2C< 13.4D<>
FBD0CLK0	8.4E> 11.2A< 13.2D<>
FBD0CLK0*	8.4E> 11.2A< 13.2D<>
FBD0CLK1	8.4E> 12.2C< 13.2D<>
FBD0CLK1*	8.4E> 12.2C< 13.2D<>
FBD0RAS*	8.3E> 11.1A< 12.1C< 13.4D<>
FBD0WE*	8.4E> 11.1A< 12.1C< 13.4D<>
FBD1A<0>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<12..0>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<13..0>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<1>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<2>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<3>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<4>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<5>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<6>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<7>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<8>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<9>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<10>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<11>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1A<12>	8.3G> 11.1C< 12.1A< 13.3D<>
FBD1BA0	8.3F> 11.2C< 12.2A< 13.4D<>
FBD1BA1	8.3F> 11.2C< 12.2A< 13.4D<>
FBD1CAS*	8.4F> 11.1C< 12.1A<
FBD1CKE	8.4F> 11.2C< 12.2A< 13.4D<>
FBD1CLK0	8.4F> 12.2A< 13.2D<>
FBD1CLK0*	8.4F> 12.2A< 13.2D<>
FBD1CLK1	8.4F> 11.2C< 13.2D<>
FBD1CLK1*	8.4F> 11.2C< 13.2D<>
FBD1RAS*	8.3F> 11.1C< 12.1A<
FBD1WE*	8.4F> 11.1C< 12.1A< 13.4D<>
FBDCS0*	8.4E> 11.1A< 11.1C< 13.4D<>
FBDCS1*	8.4F> 11.1A< 11.1C< 12.1A< 13.4D<>
FBDD<0>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<63..0>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<1>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<2>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<3>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<4>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<5>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<6>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<7>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<8>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<9>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<10>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<11>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<12>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
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FBDD<14>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
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FBDD<19>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<20>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<21>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<22>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<23>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
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FBDD<27>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
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FBDD<29>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
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FBDD<31>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<32>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>
FBDD<33>	8.1D<> 8.1G<> 11.4A<> 11.4D<> 11.5A<> 11.5D<> 12.4A<> 12.4D<> 12.5A<> 12.5D<> 13.2D<>

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	<edit here to insert page detail>

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	34 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

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                12.5A<> 12.5D<> 13.2D<>
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                11.5A<> 11.5D<> 12.4A<> 12.4D<>
                12.5A<> 12.5D<> 13.2D<>
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FBDQM3          8.2E> 11.5B< 12.5B< 13.2D<>
FBDQM4          8.2F> 11.4D< 12.4D< 13.2D<>
FBDQM5          8.2F> 11.4D< 12.4D< 13.2D<>
FBDQM6          8.2F> 11.5D< 12.5D< 13.3D<>
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FBDQS1          8.3E<> 11.4B<> 12.4B<> 13.3D<>
FBDQS2          8.3E<> 11.5B<> 12.5B<> 13.3D<>
FBDQS3          8.3E<> 11.5B<> 12.5B<> 13.3D<>
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FBDQS5          8.3F<> 11.4D<> 12.4D<> 13.3D<>
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FB_CALCD_CLK_GND 3.4D> 13.5A<>
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FB_CAL_PD_VDDQ  3.4D> 13.5A<>
FB_CAL_PU_GND   3.4D> 13.5A<>
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HIP_COMP2       29.1G<>
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HIP_GH          29.1G<>
HIP_GH_R        29.1G<>
HIP_GL          29.1G<>
HIP_GL_R        29.1G<>
HIP_OC          29.1G<>
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I2CA_SDA_G      15.1E> 17.1A<
I2CB_SCL_C      19.2D> 20.4B<
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I2CB_SDA_C      19.1D> 20.4B<
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                    24.3E< 26.2A< 26.4A<
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IFPABVREF       20.1G<
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IFPCRSET        20.1G<
IFPCVREF        20.1G<
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NV_BOOT2        31.1G<>
NV_COMP         31.1G<>
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NV_FB           31.1G<>
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NV_ISEN2        31.1G<>
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NV_LGATE1_R     31.2G<>
NV_LGATE2       31.2G<>
NV_LGATE2_R     31.2G<>
NV_OFS          31.1G<>
NV_PGOOD        29.3B< 30.5A< 31.4B>
NV_PHASE1       31.1G<>
NV_PHASE2       31.1G<>
NV_PWM1         31.1G<>
NV_PWM2         31.1G<>
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NV_UGATE1       31.2G<>
NV_UGATE1_R     31.2G<>
NV_UGATE2       31.2G<>
NV_UGATE2_R     31.2G<>
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NV_VDIFF        31.1G<>
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NV_VID2         26.2F> 31.4A<
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NV_VID4         26.3F> 31.4A<
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PCIAD<24>       2.3H<
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PCIAD<26>       2.3H<
PCIAD<27>       2.3H<
PCIAD<28>       2.3H<
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PCIIRDY         2.4H<
PCIPAR          2.4H<
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SEC_CVBS1       22.2A< 24.4F>
SEC_CVBS2       22.2A< 24.3F>
SEC_LUMA2       22.1A< 24.4F>
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SIIA_TXC        20.4B< 21.1E>
SIIA_TXC*       20.4B< 21.1E>
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SIIA_TXD0*      20.3B< 21.1E>
SIIA_TXD1       20.4B< 21.1E>
SIIA_TXD1*      20.4B< 21.1E>
SIIA_TXD2       20.4B< 21.1E>
SIIA_TXD2*      20.4B< 21.1E>
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THERMDC         26.1G<>
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VIPD11          14.3A<> 16.3E>
VIPD12          14.4A<> 16.3E>
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WB_PWM2         26.1G<>
WB_THERM1       26.1G<>
WB_THERM2       26.1G<>
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XTALOUT         15.4F<
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ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	<edit here to insert page detail>

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

NV_PN	602-10172-0001-000		
ID	design	PAGE	35 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003

*** Part Cross-Reference for the entire design ***

BKT1	BRACKET	32.2D
C1	C	17.5C
C2	C	17.4C
C3	C	17.4C
C4	C	17.5B
C5	C	17.4B
C6	C	17.4B
C7	C	20.4D
C8	C	17.5E
C9	C	17.5E
C10	C	27.2E
C11	C	19.5B
C12	C	19.4B
C13	C	19.4B
C14	C	27.2E
C15	C	19.5B
C16	C	19.4B
C17	C	19.4B
C18	C	17.5D
C19	C_POL	28.3B
C20	C	19.5F
C21	C	19.5E
C22	C_POL	26.4H
C23	C	18.2B
C24	C	18.2B
C25	C	19.5E
C26	C	21.2E
C27	C	23.3A
C28	C	23.3A
C29	C_POL	28.3B
C30	C	21.2E
C31	C	22.3C
C32	C	21.2F
C33	C	21.2E
C34	C	21.2F
C35	C	18.3B
C36	C	21.2E
C37	C_POL	28.3D
C38	C	28.3C
C39	C_POL	26.3H
C40	C	21.2E
C41	C	21.2F
C42	C	21.2F
C43	C	22.3C
C44	C	11.1H
C45	C	21.3E
C46	C	21.3E
C47	C	21.3E
C48	C	21.2F
C49	C	21.3E
C50	C	11.1G
C51	C	11.1H
C52	C	11.3H
C53	C	12.1G
C54	C	21.3F
C55	C	12.1F
C56	C	11.1G
C57	C	11.2G
C58	C	11.1G
C59	C	21.3F
C60	C	11.1G
C61	C	11.2G
C62	C	12.1G
C63	C	11.1G
C64	C	12.1F
C65	C	11.2G
C66	C	26.5G
C67	C	11.2H
C68	C	11.3E
C69	C	11.1G
C70	C	11.1F
C71	C	11.3E
C72	C	11.1F
C73	C	26.2D
C74	C	11.2H
C75	C	12.2G
C76	C	12.1F
C77	C	11.2F
C78	C	26.2B
C79	C	11.2G
C80	C	11.2G
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NV_PN	602-10172-0001-000		
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D2	D_3PIN_AC	17.4B
D3	D_3PIN_AC	17.4B
D4	D_3PIN_AC	19.5B
D5	D_3PIN_AC	19.4B
D6	D_3PIN_AC	19.4B
D7	D_SCHOTTKY	30.3D
D8	D_SCHOTTKY	30.3F
D9	D_SCHOTTKY	29.4E
D10	D_SCHOTTKY	31.5F
D11	D_SCHOTTKY	30.3F
D12	D_SCHOTTKY	31.3F
D13	D	30.2A
D501	D_SCHOTTKY_3PIN_AA	31.2B
D502	D_SCHOTTKY	29.1B
D503	D	29.1B
D504	D	30.1B
D505	D_3PIN_CC	27.3B
D506	D_SCHOTTKY	29.1C
D507	D_ZENER	27.3A
D508	D_SCHOTTKY	30.1B
D509	D_ZENER	27.4A
D510	D	29.2A
D511	D_3PIN_AA	30.2E
D512	D_SCHOTTKY	30.1C
D513	D	29.3C
D514	D_SCHOTTKY	26.3G
D515	D_3PIN_AC	24.3E
D516	D_3PIN_AC	24.4E
D517	D_3PIN_AC	24.3B
D518	D_3PIN_AC	24.4B
D519	D_3PIN_AC	24.4E
D520	D_3PIN_AC	24.4B
D521	D_3PIN_AC	20.5B
D522	D_3PIN_AC	24.3E
D523	D_3PIN_AC	19.2B
D524	D_3PIN_AC	19.1B
D525	D_3PIN_AC	19.2B
D526	D_3PIN_AC	19.3B
D527	D_SCHOTTKY	26.4G
D528	D_3PIN_AC	17.2C
D529	D_3PIN_AC	17.2C
D530	D_3PIN_AC	17.3C
D531	D_3PIN_AC	17.1C
F1	F_POLYSW	27.1E
F501	F_POLYSW	31.1D
J1	CON_DSUB15HD	17.3E
J2	CON_DSUB15HD	19.3F
J3	CON_DVI_I	20.4D
J4	CON_MINIDIN_9	24.4C
J5	HDR_1X2	26.4H
J6	HDR_1X10	24.1H
J7	HDR_1X2	26.3H
J8	HDR_1X4	27.1C
J9	HDR_1X4	27.1A
J501	HDR_2X6	14.1F
L1	L_CMF_4P	17.5C
L2	L_CMF_4P	17.4C
L3	L_CMF_4P	17.3C
L4	L	17.5B
L5	L	17.4B
L6	L	17.3B
L7	L_CMF_4P	19.5C
L8	L_CMF_4P	19.4C
L9	L_CMF_4P	19.4C
L10	L	19.5B
L11	L	19.3B
L12	L	19.4B
L13	L	30.3C
L14	L	31.4F
L15	L	31.4F
L16	L	30.3G
L17	L	29.4E
L18	L	30.2C
L19	L	29.2C
L20	L	31.2E
L501	L	16.2F
L502	L	26.3G
L503	L	24.4G
L504	L	24.3G
L505	L	24.4G
L506	L	24.3G
L507	L	24.4D
L508	L	24.3B
L509	L	24.4B
L510	L	24.4D
L511	L	24.4B
LB1	L	27.2E
LB2	L	21.2E
LB3	L	21.2F
LB4	L	21.2G
LB5	L	21.3F
LB501	L	3.4C
LB502	L	16.2B

LB503	L	2.4F
LB504	L	15.4A
LB505	L	15.1A
LB506	L	15.3A
LB507	L	22.4G
LB508	L	22.4G
LB509	L	24.2G
LB510	L	24.2G
LB511	L	24.2G
LB512	L	22.2F
LB513	L	23.2D
LB514	L	23.2E
LB515	L	18.2A
LB516	L	18.2A
LB517	L	24.3D
LB518	L	24.3D
LB519	L	19.1C
LB520	L	19.2C
LB521	L	19.2C
LB522	L	20.5B
LB523	L	19.3C
LB524	L	17.2C
LB525	L	17.2C
LB526	L	17.3C
LB527	L	17.1C
MEC1	MEC_SCREW	32.2C
MEC2	MEC_SCREW	32.2C
MEC3	MEC_SCREW	32.2C
MEC4	MEC_SCREW	32.2C
Q1	Q_FET_N_ENH	26.3E
Q2	Q_NPN	26.1A
Q3	Q_FET_N_ENH	26.1E
Q4	Q_FET_N_ENH	30.3F
Q5	Q_FET_N_ENH	30.3D
Q6	Q_FET_N_ENH	30.3D
Q7	Q_FET_N_ENH	31.3E
Q8	Q_FET_N_ENH	31.4E
Q9	Q_FET_N_ENH	31.3E
Q10	Q_FET_N_ENH	29.4D
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Q502	Q_FET_P_ENH	31.1D
Q503	Q_FET_P_ENH	29.1C
Q504	Q_FET_P_ENH	27.4C
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Q506	Q_FET_N_ENH	27.3B
Q507	Q_FET_N_ENH	27.5B
Q508	Q_FET_P_ENH	30.1C
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RP3	R_PAK	16.4E
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RP5	R_PAK	16.3C
RP6	R_PAK	16.3C
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RP507	R_PAK	4.4F 4.4G
RP508	R_PAK	4.4F 4.4G 4.5F
RP509	R_PAK	4.4F 4.4G
RP510	R_PAK	6.4F 6.4G 6.5F 6.5H
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RP541	R_PAK	9.4F 9.5G
RP542	R_PAK	9.4F 9.4G
RP543	R_PAK	9.4F 9.4F 9.4G
RP544	R_PAK	9.4F 9.4G 9.5F
RP545	R_PAK	9.4F 9.4G
RP546	R_PAK	9.4F 9.4G 9.5G
RP547	R_PAK	9.4F 9.4G 9.5F
RP548	R_PAK	9.5F 9.5G
RP549	R_PAK	9.4F 9.4G
RP550	R_PAK	9.5F 9.5G
RP551	R_PAK	9.4H 9.5H 9.5H
RP552	R_PAK	9.4H
RP553	R_PAK	9.5H
RP554	R_PAK	9.4H 9.5H
RP555	R_PAK	9.4H 9.5H
RP556	R_PAK	9.4H
RP557	R_PAK	9.4H 9.5H
RP558	R_PAK	9.4H
RP559	R_PAK	9.4H
RP560	R_PAK	9.4H 9.5H
RP561	R_PAK	11.4F 11.4G 11.5F
RP562	R_PAK	11.4F 11.4G 11.5G
RP563	R_PAK	11.4F 11.4G
RP564	R_PAK	11.5F 11.5G
RP565	R_PAK	11.4F 11.4G
RP566	R_PAK	11.5F 11.5G
RP567	R_PAK	11.4F 11.5G
RP568	R_PAK	11.4H
RP569	R_PAK	11.4H 11.5H
RP570	R_PAK	11.4F 11.4G 11.4G
RP571	R_PAK	11.4H
RP572	R_PAK	11.4F 11.4G 11.5F
RP573	R_PAK	11.4F 11.4G
RP574	R_PAK	11.4H 11.5H
RP575	R_PAK	11.4H
RP576	R_PAK	11.4H
RP577	R_PAK	11.4H 11.5H
RP578	R_PAK	11.5H
RP579	R_PAK	11.4H 11.5H
RP580	R_PAK	11.5H
TP1	TESTPOINT	28.3C
TP2	TESTPOINT	28.2C
TP3	TESTPOINT	28.2C
TP4	TESTPOINT	30.3B
TP5	TESTPOINT	31.5A
TP6	TESTPOINT	30.3B
TP7	TESTPOINT	29.4F
TP8	TESTPOINT	29.4F
TP9	TESTPOINT	29.3F
TP10	TESTPOINT	30.4B
TP11	TESTPOINT	31.4A
TP12	TESTPOINT	30.4B
U1	U_VREG_5PIN	28.2B
U2	U_SW_ANA_3257	18.1C 18.3C 18.4C
U3	U_PNLNK_5111XX	21.1C
U4	U_VDEC_SAA71XX	22.1D 23.1B
U5	U_MEM_SD_DDR_X32	11.1D 11.4D 11.4E 11.5D 11.5E
U6	U_MEM_SD_DDR_X32	11.1B 11.4B 11.4C 11.5B 11.5C
U7	U_MEM_SD_DDR_X32	9.1D 9.4D 9.4E 9.5D 9.5E
U8	U_GPU_NV35	2.1D 3.1B 3.1E 3.3G 8.1B 8.1E 14.1G 15.1D 15.3D 15.4C 16.2D 20.1D 25.1A 25.1E 25.3A 25.4D 26.3B
U9	U_MEM_SD_DDR_X32	9.1B 9.4B 9.4C 9.5B 9.5C
U10	U_MEM_SD_DDR_X32	6.1D 6.4D 6.4E 6.5D 6.5E
U11	U_MEM_SD_DDR_X32	4.1D 4.4D 4.4E 4.5D 4.5E
U12	U_MEM_SD_DDR_X32	4.1B 4.4B 4.4C 4.5B 4.5C
U13	U_MEM_SD_DDR_X32	6.1B 6.4B 6.4C 6.5B 6.5C
U14	U_PGOOD_ISL6536	27.3F
U501	U_COMP	30.2B
U502	U_SWREG_HIP660X	31.4D
U503	U_SWREG_HIP660X	31.3D
U504	U_SWREG_ISL6569	31.3B
U505	U_COMP	29.2B
U506	U_SWREG_ISL6225	30.3E
U507	U_SWREG_HIP6012	29.3C
U508	U_MEM_SD_DDR_X32	7.1B 7.4B 7.4C 7.5B 7.5C
U509	U_MEM_SD_DDR_X32	5.1D 5.4D 5.4E 5.5D 5.5E
U510	U_MEM_SD_DDR_X32	5.1B 5.4B 5.4C 5.5B 5.5C
U511	U_MEM_SD_DDR_X32	7.1D 7.4D 7.4E 7.5D 7.5E
U512	U_MEM_SD_DDR_X32	10.1B 10.4B 10.4C 10.5B 10.5C
U513	U_MEM_SD_DDR_X32	10.1D 10.4D 10.4E 10.5D 10.5E
U514	U_AND_2IN	26.4D
U515	U_MEM_SD_DDR_X32	12.1B 12.4B 12.4C 12.5B 12.5C
U516	U_TEMP_ADI032	26.4B
U517	U_MEM_FL_SER_128KX8	14.3G
U518	U_MEM_FL_SER_128KX8	14.4G
U519	U_AND_2IN	15.1G 15.2G 15.3G
U520	U_MEM_SD_DDR_X32	12.1D 12.4D 12.4E 12.5D 12.5E
U521	U_I2C_W83L785R	26.1B
U522	U_XOR_2IN	26.2G
Y1	XTAL_4PIN	23.3A
Y2	XTAL	22.3C
Y3	XTAL_4PIN	15.5D

ASSEMBLY	P172: NV35, 400/425, 128MB, DVI-I, VGA, TV OUT, PCIID:0x331
PAGE DETAIL	<edit here to insert page detail>

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NV_PN	602-10172-0001-000		
ID	design	PAGE	38 OF 38
NAME	Emler / Hunter	DATE	14-APR-2003