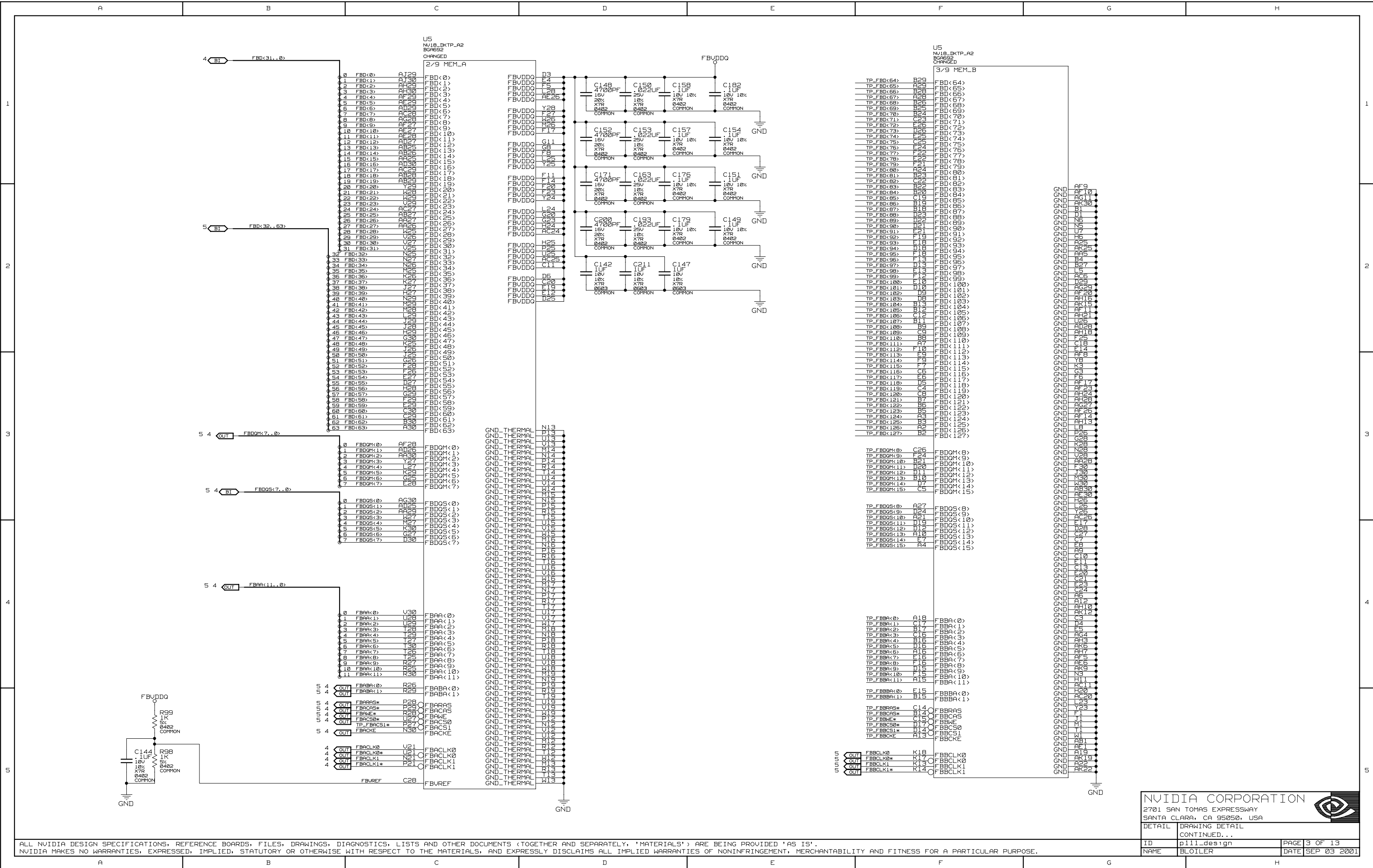


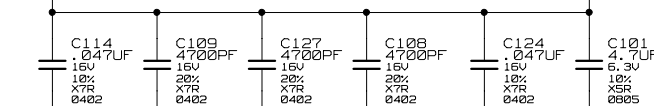
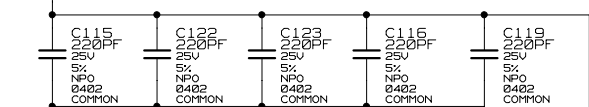
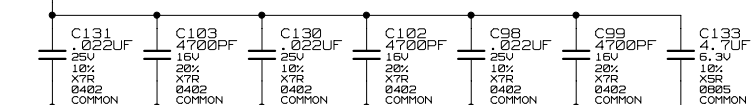
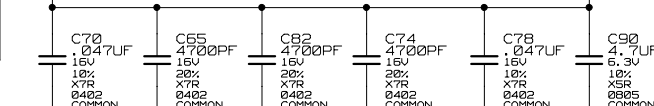
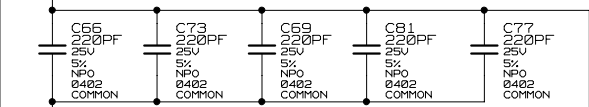
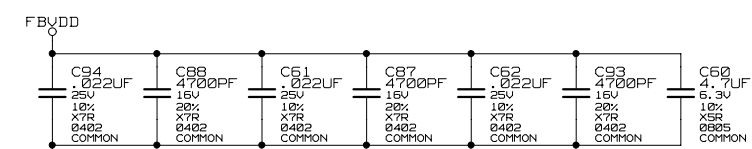
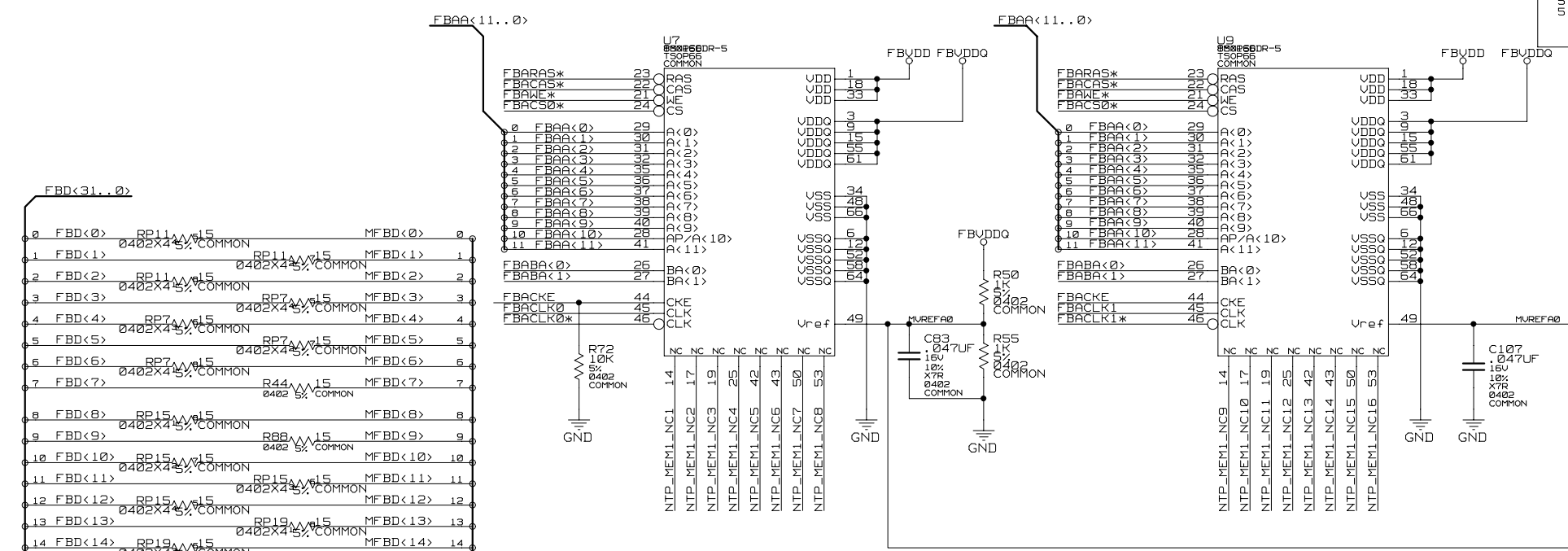
A	B	C	D	E	F	G	H
18P111, NV18, 4M/8Mx16DDR, 64/32MB - 64BIT, Video OUT (INT), LFH, VGA (THIN)							
Page Overview				HISTORY:			
1 18P111 OVERVIEW				A01 600-X0111-000X-005 - FIRST 'P' RELEASE			
2 NV18 AGP Section and Connector							
3 NV18 FRAMEBUFFER Interface							
4 MEMORY 64MB, 4M/8Mx16DDR Bit 0..31							
5 MEMORY 64MB, 4M/8Mx16DDR Bit 32..63							
6 NV18 STRAPPING, I/O Interface							
BIOS, Thermal Sensor connector							
7 NV18 DVO, SII164 output, TMDS output, LFH							
8 DACA RGB Filter - VGA Interface, PLL							
9 DACB RGB Filter - 4-pin SVIDEO out, SYNC buff							
10 POWER SUPPLY, A3V3, TMDSPLLVD, NVVD, FBVD/Q							
TMDS BACKDRIVE CIRCUIT							
11..13 NET CONNECTION REPORT							



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



	NET Name	Diffpair	NET_SPACING_RULE
u	IN FBACLK0	FBACLK0	18MIL_G2G_25MIL
u	IN FBACLK0*	FBACLK0	18MIL_G2G_25MIL
u	IN FBACLK1	FBACLK1	18MIL_G2G_25MIL
u	IN FBACLK1*	FBACLK1	18MIL_G2G_25MIL
u	IN FBD<31..0>		10MIL
u	IN FBDM<3..0>		10MIL
u	IN FBDS<3..0>		20MIL
u	IN MFBD<31..0>		10MIL
u	IN MFBDM<3..0>		10MIL
u	IN MFBDS<3..0>		20MIL
u	IN FBAA<11..0>		10MIL
u	IN FBARAS*		10MIL
u	IN FBARAS*		10MIL
u	IN FBANE*		10MIL
u	IN FBAS0*		10MIL
u	IN FBABA<0>		10MIL
u	IN FBABA<1>		10MIL
u	IN FBACKE		10MIL



FBDQM<0>	R64 V15 0402 5% COMMON	MFBDQM<0>
FBDQM<1>	R84 V15 0402 5% COMMON	MFBDQM<1>
FBDQM<2>	R56 V15 0402 5% COMMON	MFBDQM<2>
FBDQM<3>	R73 V15 0402 5% COMMON	MFBDQM<3>

FBDQS<0>	853 $\Delta 15$ 0402 5% COMMON	MFBDQS<0>
FBDQS<1>	886 $\Delta 15$ 0402 5% COMMON	MFBDQS<1>
FBDQS<2>	849 $\Delta 15$ 0402 5% COMMON	MFBDQS<2>
FBDQS<3>	881 $\Delta 15$ 0402 5% COMMON	MFBDQS<3>

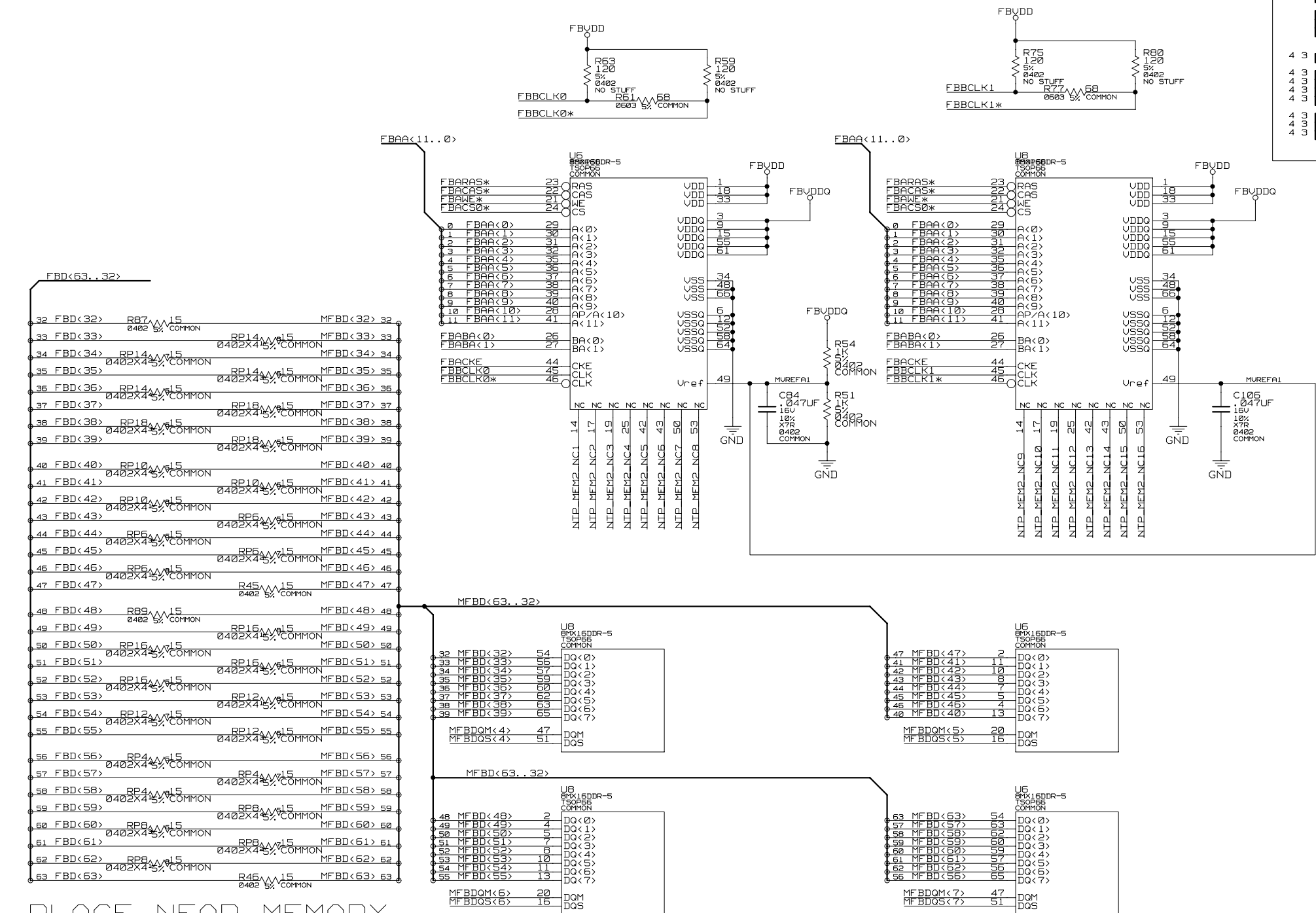
MFBID<31..0>			L77 BIO16DDR-5 TSOP66 COMMON	
7	MFBID<7>	2	DO<0>	
1	MFBID<1>	11	DO<1>	
2	MFBID<2>	10	DO<2>	
3	MFBID<3>	8	DO<3>	
4	MFBID<4>	7	DO<4>	
5	MFBID<5>	6	DO<5>	
6	MFBID<6>	4	DO<6>	
0	MFBID<0>	13	DO<7>	

	MFBD<31..0>		
			L7
			BMK1EDDR-5
			TSORE
			COMMON
23	MFBD<23>	54	DQ<0>
17	MFBD<17>	53	DQ<1>
16	MFBD<16>	52	DQ<2>
19	MFBD<19>	50	DQ<3>
20	MFBD<20>	59	DQ<4>
21	MFBD<21>	57	DQ<5>
22	MFBD<22>	55	DQ<6>
15	MFBD<16>	55	DQ<7>

	U9	
	60456DR-5	
	TS0456	
	COMMON	
9	MFBID<9>	54
10	MFBID<8>	56
10	MFBID<10>	57
11	MFBID<11>	59
12	MFBID<12>	60
13	MFBID<13>	62
14	MFBID<14>	63
15	MFBID<15>	64
		DO:0
		DO:1
		DO:2
		DO:3
		DO:4
		DO:5
		DO:6
		DO:7

		U9	
		5M116DDR-5	
		750P555	
		COMMON	
24	MFBD(24)	2	DQ(0)
25	MFBD(25)	4	DQ(1)
26	MFBD(26)	5	DQ(2)
27	MFBD(27)	7	DQ(3)
28	MFBD(28)	8	DQ(4)
29	MFBD(29)	10	DQ(5)
30	MFBD(30)	11	DQ(6)
31	MFBD(31)	13	DQ(7)

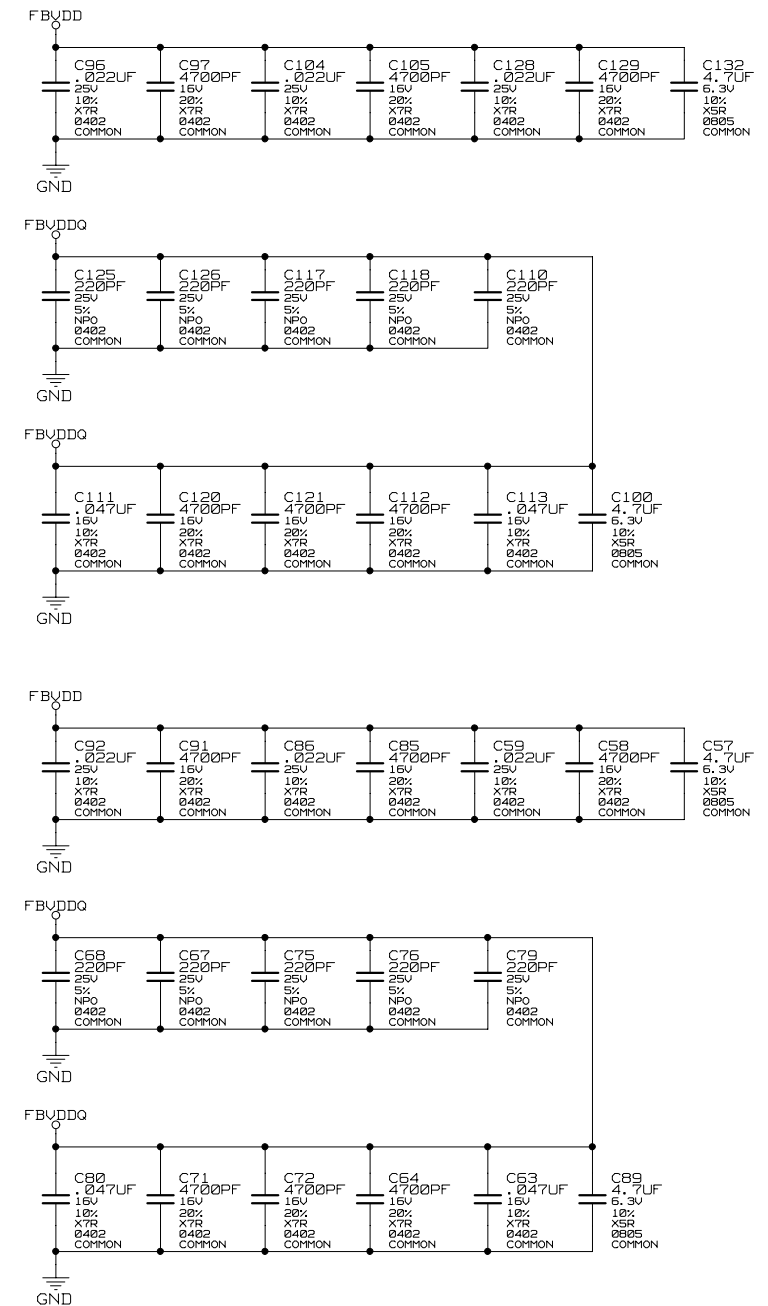
```
MEMORY 1st bank 32..64
PLACE ALL DISCRETE COMPONENTS AS NEAR AS POSSIBLE TO MEMORY
```

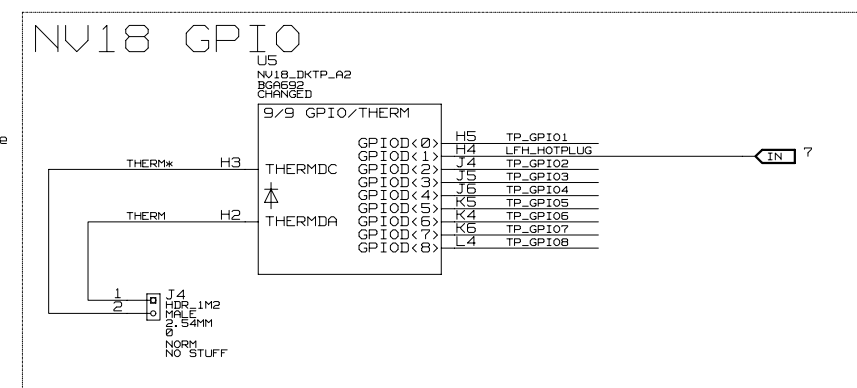
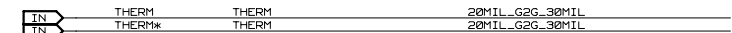


PLACE NEAR MEMORY

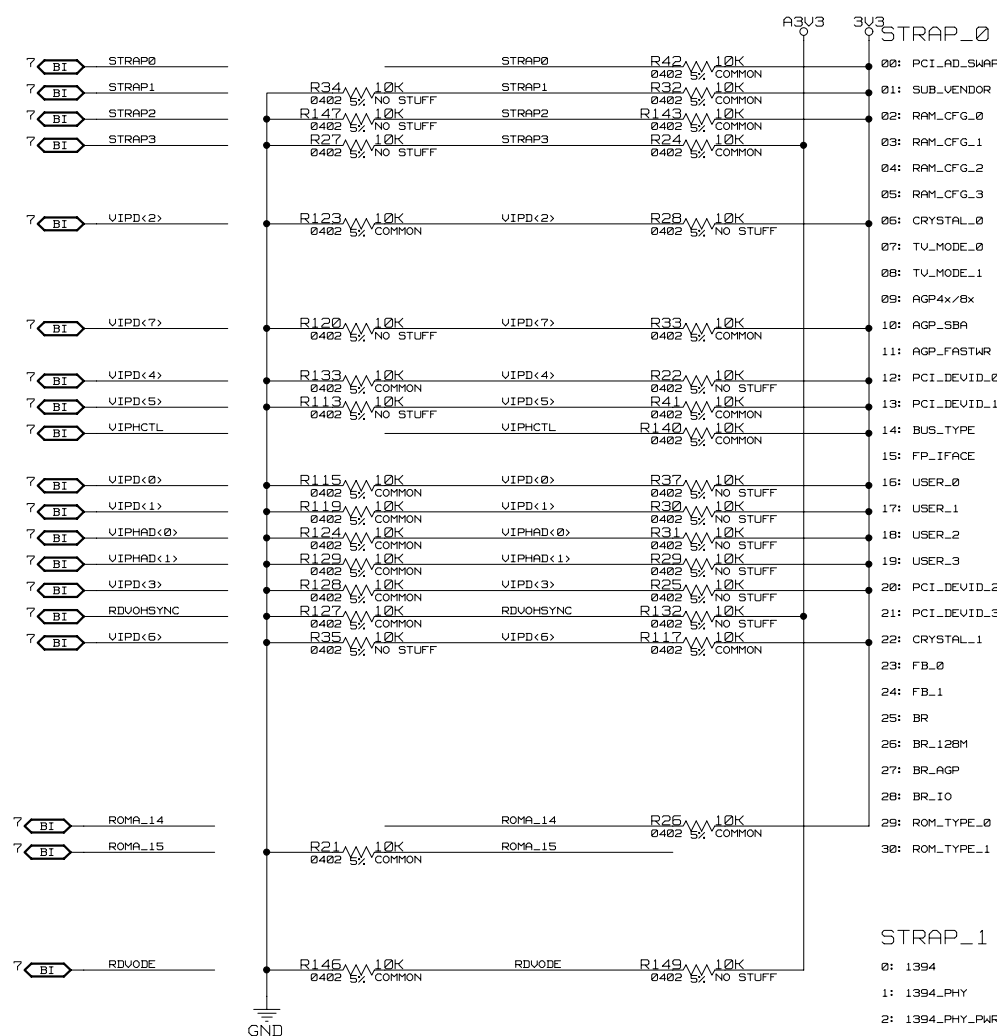
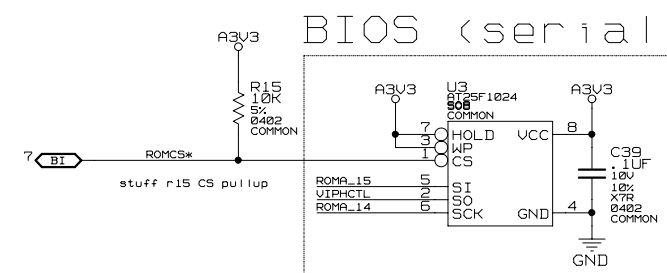
FBDQM<4>	R83 0402 5% COMMON		MFBDQM<4>
FBDQM<5>		R65 0402 5% COMMON	MFBDQM<5>
FBDQM<6>	R74 0402 5% COMMON		MFBDQM<6>
FBDQM<7>		R57 0402 5% COMMON	MFBDQM<7>
FBDQS<4>	R85 0402 5% COMMON		MFBDQS<4>
FBDQS<5>		R52 0402 5% COMMON	MFBDQS<5>
FBDQS<6>	R82 0402 5% COMMON		MFBDQS<6>
FBDQS<7>		R48 0402 5% COMMON	MFBDQS<7>

	NET Name	Difference	NET_SPACING_RULE
3	IN FBCLK0	FBCLK0	10MIL-G2G-25MIL
3	IN FBCLK0*	FBCLK0	10MIL-G2G-25MIL
3	IN FBCLK1	FBCLK1	10MIL-G2G-25MIL
3	IN FBCLK1*	FBCLK1	10MIL-G2G-25MIL
3	IN FBD<63..32>		10MIL
3	IN FBDQS<7..4>		10MIL
3	IN FBDQS<7..4>		20MIL
	IN MFBD<63..32>		10MIL
	IN MFBDQS<7..4>		10MIL
	IN MFBDQS<7..4>		20MIL
4	3 IN FBAR<11..0>		
4	3 IN FBARAS*		
4	3 IN FBACAS*		
4	3 IN FBACE*		
4	3 IN FBAC50*		
4	3 IN FBABA<0>		
4	3 IN FBABA<1>		
4	3 IN FBACKE		





10mil spacing with 10 mil thick traces



BIT	DEFINITION
0	(1): PCI AD NORMAL
1	0: NO BIOS / (1): BIOS
5:2	RAM CONFIG
1011	8Mx16 DDR SDRAM, QOS PER 8 Bit, DLL-on, Low Drive

```
6      (0): 27 MHZ / 1: 14.318 MHZ
8:7    0: SECAM / 1: NTSC
        (2): PAL - VGA SKU / (3): CRT - LFH SKU
```

```

9      0: ENABLE / 1: DISABLE
10     <0>: ENABLE / 1: DISABLE
11     0: ENABLE / 1: DISABLE
13:12  DEVICE ID (PCI ID[3..0] = 8)

```

```

14      0: PCI / (1): AGP
15      0: 24 BIT / 1: 12 BIT
19:16  USER DEFINED
      0000: PC

```

21:20 DEVICE ID (SEE ABOVE)

```

22      0: 13.5 MHZ / (1): 27.0 MHZ
24:23  0: 64 MB / 1: 128MB
        2: 256 MB / 3: 512 MB
25      0: DISABLE / 1: ENABLE
26      0: DISABLE / 1: ENABLE
27      0: DISABLE / 1: ENABLE
28      0: DISABLE / 1: ENABLE

```

```

30:29 0: PARALLEL / (1): SERIAL AT25F
      2: SERIAL SST45VF / 3: SERIAL (FUTURE)
0      (0): ENABLE DVO A / 1: ENABLE FIRE WIR

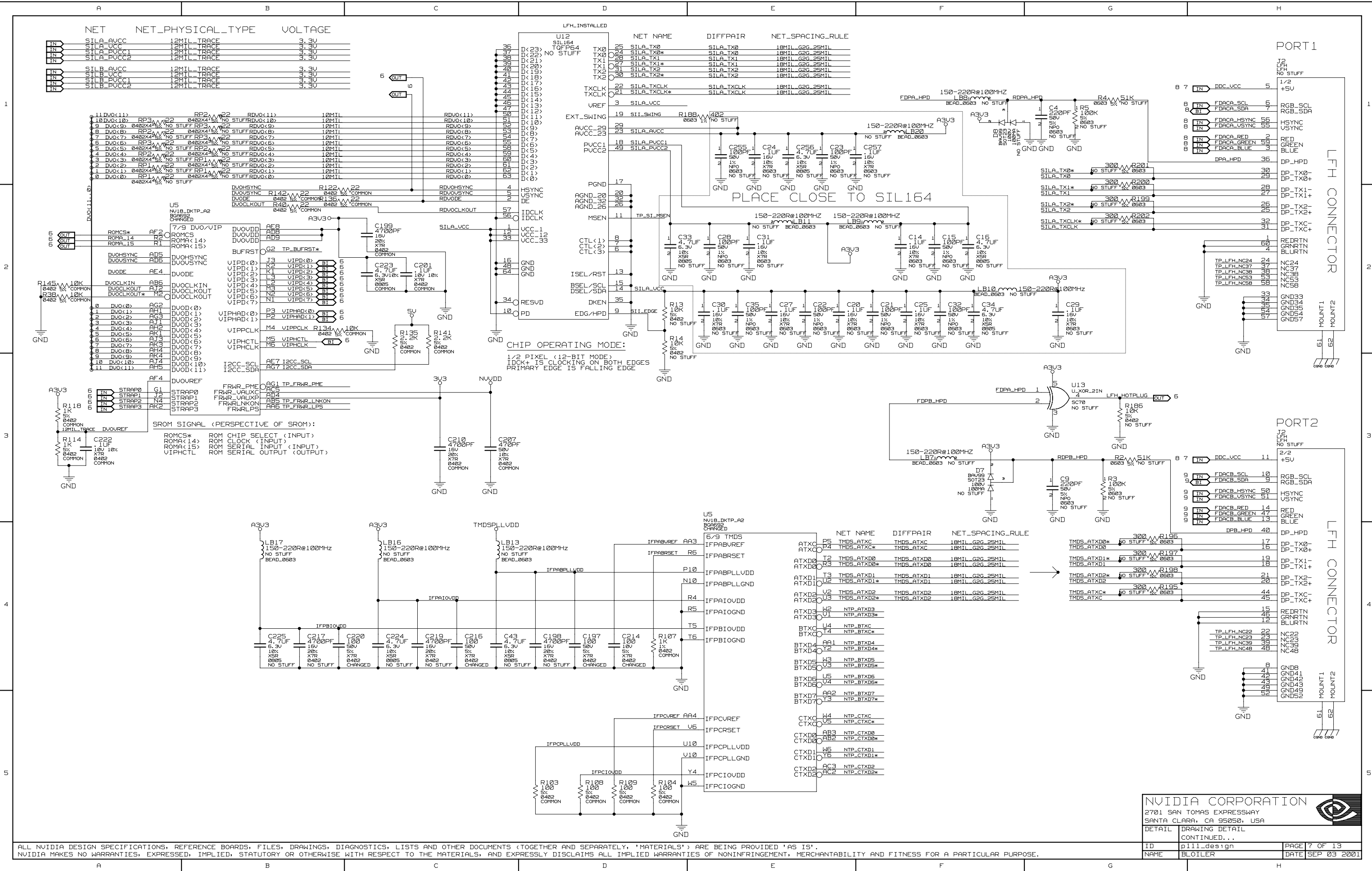
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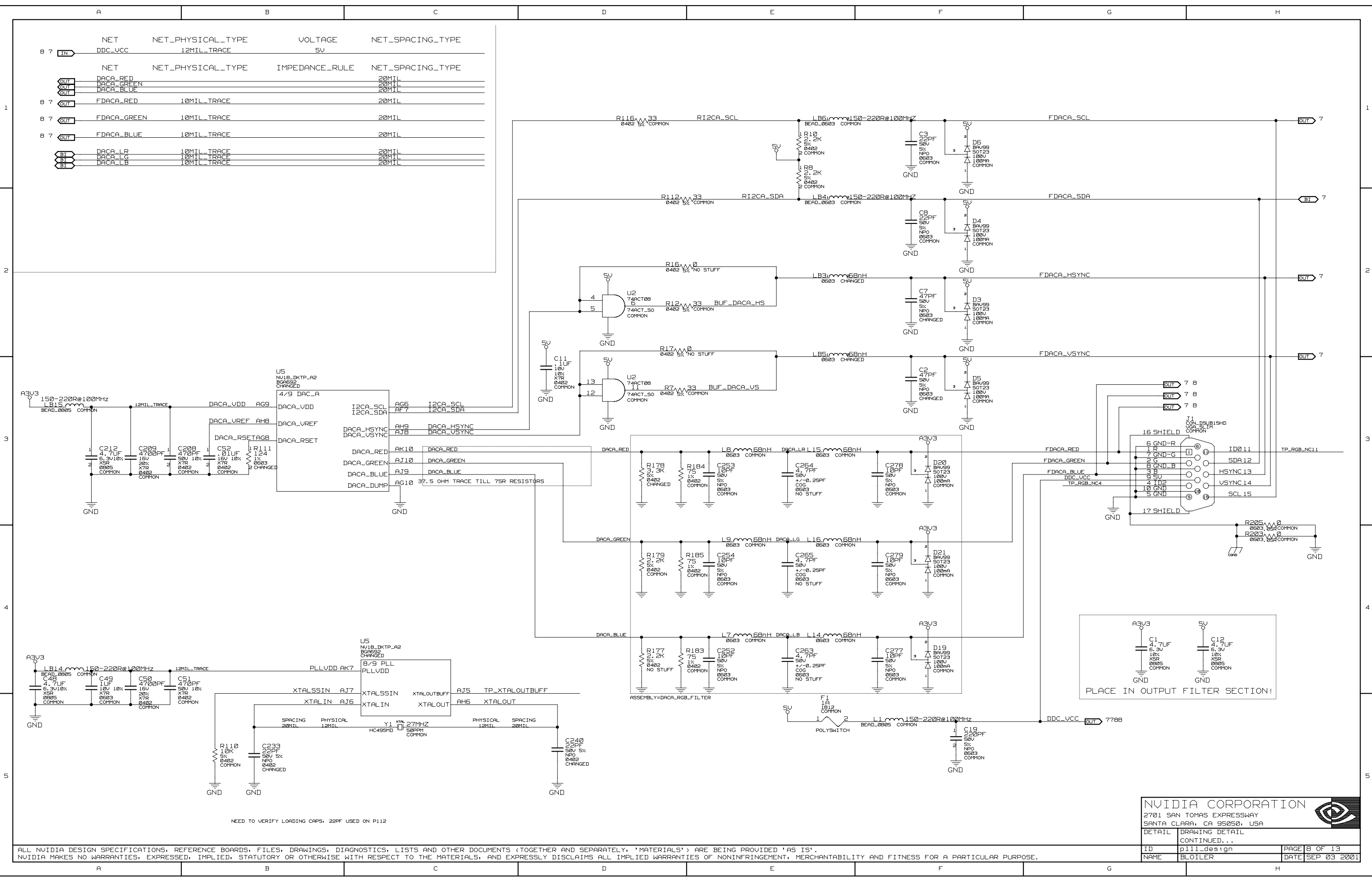
0: DISABLE / 1: ENABLE

PCI DevID Chart

[illegible]

NV18 = 0x18?





1

2

3

4

5

1


2

3


4

5

5

NVIDIA CORPORATION			
2701 SAN TOMAS EXPRESSWAY			
SANTA CLARA, CA 95050, USA			
DETAIL	DRAWING DETAIL CONTINUED...		
ID	p111_design	PAGE	9 OF 13
NAME	BLOILER	DATE	SEP 03 2001

A		B		C		D		E		F		G		H	
1	*** Signal Cross-Reference for the entire design ***														
	3V3TMD5_ADJ	10	FBD<12>	3 4	IFPAIOVDD	10	MFBQ5<7>	5							
	3V3_F	10	FBD<13>	3 4	IFPBIOVDD	10	PCIAD<0>	2							
	5V_FUSED	10	FBD<14>	3 4	IFPCIOVDD	10	PCIAD<31..0>	2							
	12V_F	10	FBD<15>	3 4	IFPCPLLVD	10	PCIAD<1>	2							
	A3V3_ADJ	10	FBD<16>	3 4	IFPCVREF	10	PCIAD<2>	2							
	A3V3_REGIN	10	FBD<17>	3 4	LFHLHOTPLUG	6 7	PCIAD<3>	2							
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	AGPADSTB0S	2	FBD<19>	3 4	MFBDO<31..0>	4	PCIAD<5>	2							
	AGPADSTB1F	2	FBD<20>	3 4	MFBDO<1>	4	PCIAD<6>	2							
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	AGPDBI_LO	2	FBD<23>	3 4	MFBDO<4>	4	PCIAD<9>	2							
	AGPMBDET	2	FBD<24>	3 4	MFBDO<5>	4	PCIAD<10>	2							
	AGPRBF	2	FBD<25>	3 4	MFBDO<6>	4	PCIAD<11>	2							
	AGPSBA<0>	2	FBD<26>	3 4	MFBDO<7>	4	PCIAD<12>	2							
	AGPSBA<7..0>	2	FBD<27>	3 4	MFBDO<8>	4	PCIAD<13>	2							
	AGPSBA<1>	2	FBD<28>	3 4	MFBDO<9>	4	PCIAD<14>	2							
	AGPSBA<2>	2	FBD<29>	3 4	MFBDO<10>	4	PCIAD<15>	2							
	AGPSBA<3>	2	FBD<30>	3 4	MFBDO<11>	4	PCIAD<16>	2							
3	AGPSBA<4>	2	FBD<31>	3 4	MFBDO<12>	4	PCIAD<17>	2							
	AGPSBA<5>	2	FBD<32>	3 5	MFBDO<13>	4	PCIAD<18>	2							
	AGPSBA<6>	2	FBD<32..63>	3 5	MFBDO<14>	4	PCIAD<19>	2							
	AGPSBA<7>	2	FBD<33>	3 5	MFBDO<15>	4	PCIAD<20>	2							
	AGPSBSTBF	2	FBD<34>	3 5	MFBDO<16>	4	PCIAD<21>	2							
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	AGPST0	2	FBD<36>	3 5	MFBDO<18>	4	PCIAD<23>	2							
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	DACA_GREEN	8	FBD<44>	3 5	MFBDO<26>	4	PCIAD<31>	2							
	DACA_LLB	8	FBD<45>	3 5	MFBDO<27>	4	PCICBE<0>	2							
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	DACA_LLR	8	FBD<47>	3 5	MFBDO<29>	4	PCICBE<1>	2							
	DACA_RED	8	FBD<48>	3 5	MFBDO<30>	4	PCICBE<2>	2							
	DACB_BLUE	9	FBD<49>	3 5	MFBDO<31>	4	PCICBE<3>	2							
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FBA<3>	3 4 5	FBD<63>	3 5	MFBDO<44>	5	RDV0HSYNC	6 7								
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FBA<26>	3 5	FDACA_BLUE	7 8	MFBQM<2>	4	TMDSPLLVDD_REGIN	10								
FBA<27>	3 5	FDACA_GREEN	7 8	MFBQM<3>	4	TMDSPLL_ADJ	10								
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FBA<30>	3 4	FDACA_SCL	7 8	MFBQM<5>	5	TV_YOUT	9								
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FBA<33>	3 4	FDACB_BLUE	7 9	MFBQ5<0>	4	VIPD<2>	6 7								
FBA<34>	3 4	FDACB_GREEN	7 9	MFBQ5<3..0>	4	VIPD<3>	6 7								
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FBA<40>	3 4	IFPABPLLVDD	10	MFBQ5<5>	5	VIPHAD<1>	6 7								
FBA<41>	3 4	IFPABVREF	10	MFBQ5<6>	5	VIPHCTL	6 7								
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NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA															
DRAWING DETAIL															
CONTINUED...															
ID p111_design PAGE 11 OF 13															
NAME BLOILER DATE SEP 03 2001															

A			B			C			D			E			F			G			H		
*** Part Cross-Reference for the entire design ***																							
C1	C	8	C90	C	4	C181	C	2	C272	C	9												
C2	C	8	C91	C	5	C182	C	3	C273	C	9												
C3	C	8	C92	C	5	C183	C	2	C274	C	9												
C4	C	7	C93	C	4	C184	C	2	C275	C	9												
C5	C	9	C94	C	4	C185	C	2	C276	C	9												
C6	C	9	C95	C_POL	10	C186	C	2	C277	C	8												
C7	C	8	C96	C	5	C187	C	2	C278	C	8												
C8	C	8	C97	C	5	C188	C	2	C279	C	8												
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C12	C	8	C101	C	4	C192	C	2	D2	D_3PIN_AC	9												
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C14	C	7	C103	C	4	C194	C	2	D4	D_3PIN_AC	8												
C15	C	7	C104	C	5	C195	C	2	D5	D_3PIN_AC	8												
C16	C	7	C105	C	5	C196	C	2	D6	D_3PIN_AC	8												
C17	C_POL	10	C106	C	5	C197	C	7	D7	D_3PIN_AC	7												
C18	C_POL	10	C107	C	4	C198	C	7	D8	D_3PIN_AC	7												
C19	C	8	C108	C	4	C199	C	7	D9	D_SCHOTTKY	10												
C20	C	7	C109	C	4	C200	C	3	D10	D	10												
C21	C	7	C110	C	5	C201	C	7	D11	D_SCHOTTKY	10												
C22	C	7	C111	C	5	C202	C	2	D12	D_3PIN_AC	9												
C23	C	7	C112	C	5	C203	C	2	D13	D_3PIN_AC	9												
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C26	C_POL	10	C115	C	4	C206	C	2	D16	D_3PIN_AC	9												
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C28	C	7	C117	C	5	C208	C	8	D18	D_3PIN_AC	9												
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C35	C	7	C124	C	4	C215	C	9	J3	CON_MINIDIN_4	9												
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C60	C	4	C149	C	3	C240	C	8	LB7	L	7												
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C71	C	5	C160	C	2	C251	C	9	LB18	L	9												
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C74	C	4	C163	C	3	C254	C	8	LB21	L	9												
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C76	C	5	C165	C	2	C256	C	7	MEC1	HEATSINK	6												
C77	C	4	C166	C	2	C257	C	7	Q1	Q_FET_N_ENH	10												
C78	C	4	C167	C	2	C258	C	9	Q2	Q_FET_N_ENH	2												
C79	C	5	C168	C	2	C259	C	9	Q3	Q_PNP	2												
C80	C	5	C169	C	2	C260	C	9	Q4	Q_NPN	10												
C81	C	4	C170	C	2	C261	C	9	Q5	Q_NPN	10												
C82	C	4	C171	C	3	C262	C	9	Q6	Q_PNP	10												
C83	C	4	C172	C	2	C263	C	8	Q7	Q_FET_N_ENH	10												
C84	C	5	C173	C	2	C264	C	8	Q8	Q_FET_N_ENH	2												
C85	C	5	C174	C	2	C265	C	8	R1	R	9												
C86	C	5	C175	C	2	C266	C	10	R2	R	7												
C87	C	4	C176	C	3	C267	C	10	R3	R	7												
C88	C	4	C177	C	2	C268	C	9	R4	R	7												
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												SANTA CLARA, CA 95050, USA											
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U2	U_AND_2IN	8 9
U3	U_MEM_FL_SER_128KX8	6
U4	U_VREG_5PIN	10
U5	U_GPU_NV18	2 3 6 7 8 9
U6	U_MEM_SD_DDR_4_BMX16	5
U7	U_MEM_SD_DDR_4_BMX16	4
U8	U_MEM_SD_DDR_4_BMX16	5
U9	U_MEM_SD_DDR_4_BMX16	4
U10	U_SWREG_ISL6529	10
U11	U_SWREG_SC2610	10
U12	U_PNLNK_SIL164	7
U13	U_XOR_2IN	7
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