

P1070-A01

GF108, 512MB 32Mx32 GDDR5
Desktop, 75W TGP, DL-DVI/VGA/HDMI

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08	GPU Power and GND, NVVDD Decoupling, THERMAL/MECHANICAL
09	Display: DACA (South DVI-I)
10	Display: DACB (Middle DSUB)
11	Display: LFPAB (South DVI-I)
12	Display: LFPD (North HDMI)
13	Unused: LFPD/EF, MIOA/B
14	MISC: VBIOS, XTAL, STRAPS
15	MISC:GPIO, JTAG, INFO ROM, THERMAL LATCH, FAN CONTROL
16	Power Supply: 12V INPUT, DDC_5V, PEXVDD
17	Power Supply: FBVDDQ
18	Power Supply: NVVDD

2010/11/30 MS-V258-1.0 changed list

Page	Description
08	add a SP-CAP near GPU bottom add screw & HDMI fee & PCB & cross point & Fan changed BKT1 PCB footprint to shorter name
15	deleted 12V BOOST circuit & removed net 12V_FAN & 12V_F contact FAN 12V input directly & add R688 & modified fan control circuit & Fan housing changed to 4 pin & delete INFO ROM circuit & I2CC link to VDD adjust circuit & delete JTAG circuit & delete D501
16	removed net 12V_FAN & delete LDO Option & delete Switcher Option changed 12V Input choke footprint & delete co-layer resistor
17	changed FBVDDQ Output choke footprint & delete co-layer choke
18	changed NVVDD Output choke footprint & delete co-layer choke
17,18	changed Q2 Q3 Q4 Q5 Q6 Q8 Q9 Q10 PCB footprint to shorter name & remove co-layer SMD OS-CON CAP
19	add a new page for VDD adjust circuit

REV	VARIANT	NVPIN	ASSEMBLY
B	BASE	600-11070-BASE-sch	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
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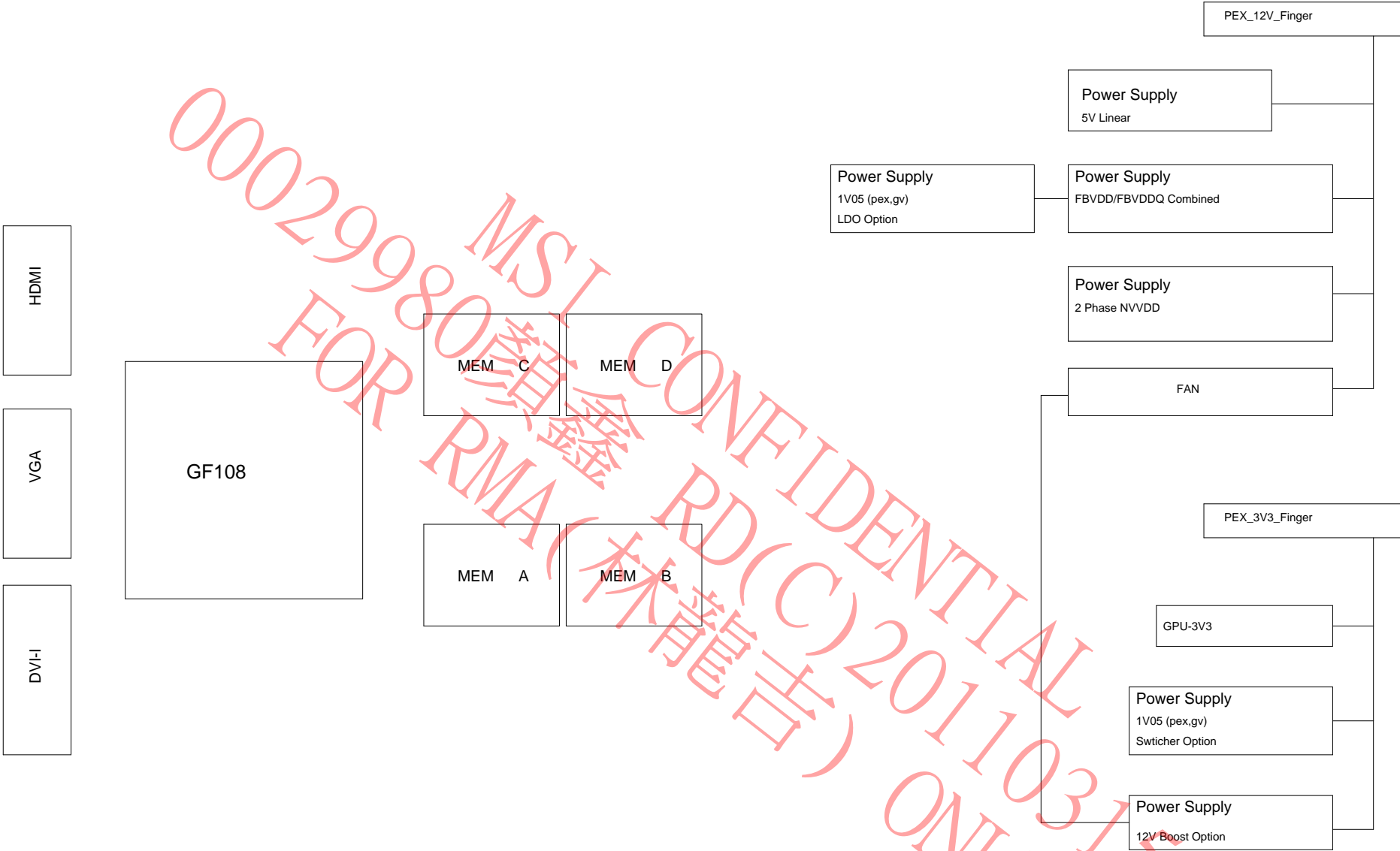
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Table of Contents

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NV_PIN	600-11070-BASE-sch	PAGE	
PCB REV	P1070-A01	DATE	29-APR-2010
BOM REV	A		



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Block Diagram



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ASSEMBLY	BASIC LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO. STORY ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Block Diagram

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PCI Express



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Framebuffer A/B: GPU Section

G1B

BGA 0273, F00B_2000260
COMMON

216 FBA

FBA_D0

FBA_D1

FBA_D2

FBA_D3

FBA_D4

FBA_D5

FBA_D6

FBA_D7

FBA_D8

FBA_D9

FBA_D10

FBA_D11

FBA_D12

FBA_D13

FBA_D14

FBA_D15

FBA_D16

FBA_D17

FBA_D18

FBA_D19

FBA_D20

FBA_D21

FBA_D22

FBA_D23

FBA_D24

FBA_D25

FBA_D26

FBA_D27

FBA_D28

FBA_D29

FBA_D30

FBA_D31

FBA_D32

FBA_D33

FBA_D34

FBA_D35

FBA_D36

FBA_D37

FBA_D38

FBA_D39

FBA_D40

FBA_D41

FBA_D42

FBA_D43

FBA_D44

FBA_D45

FBA_D46

FBA_D47

FBA_D48

FBA_D49

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FBA_D51

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FBA_D279

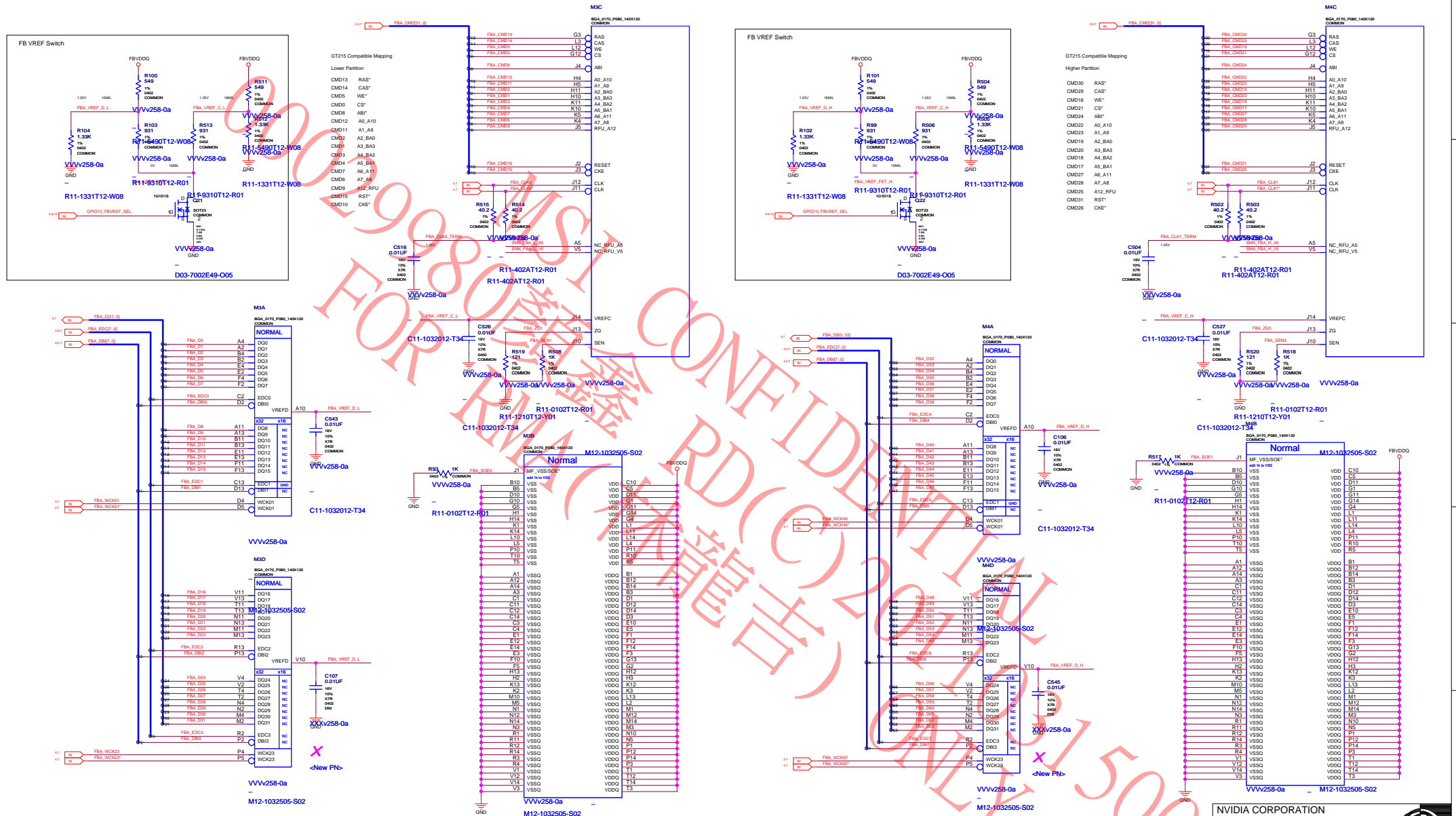
FBA_D280

FBA_D281

FBA_D282

FBA_D283

Framebuffer A: Memory Section



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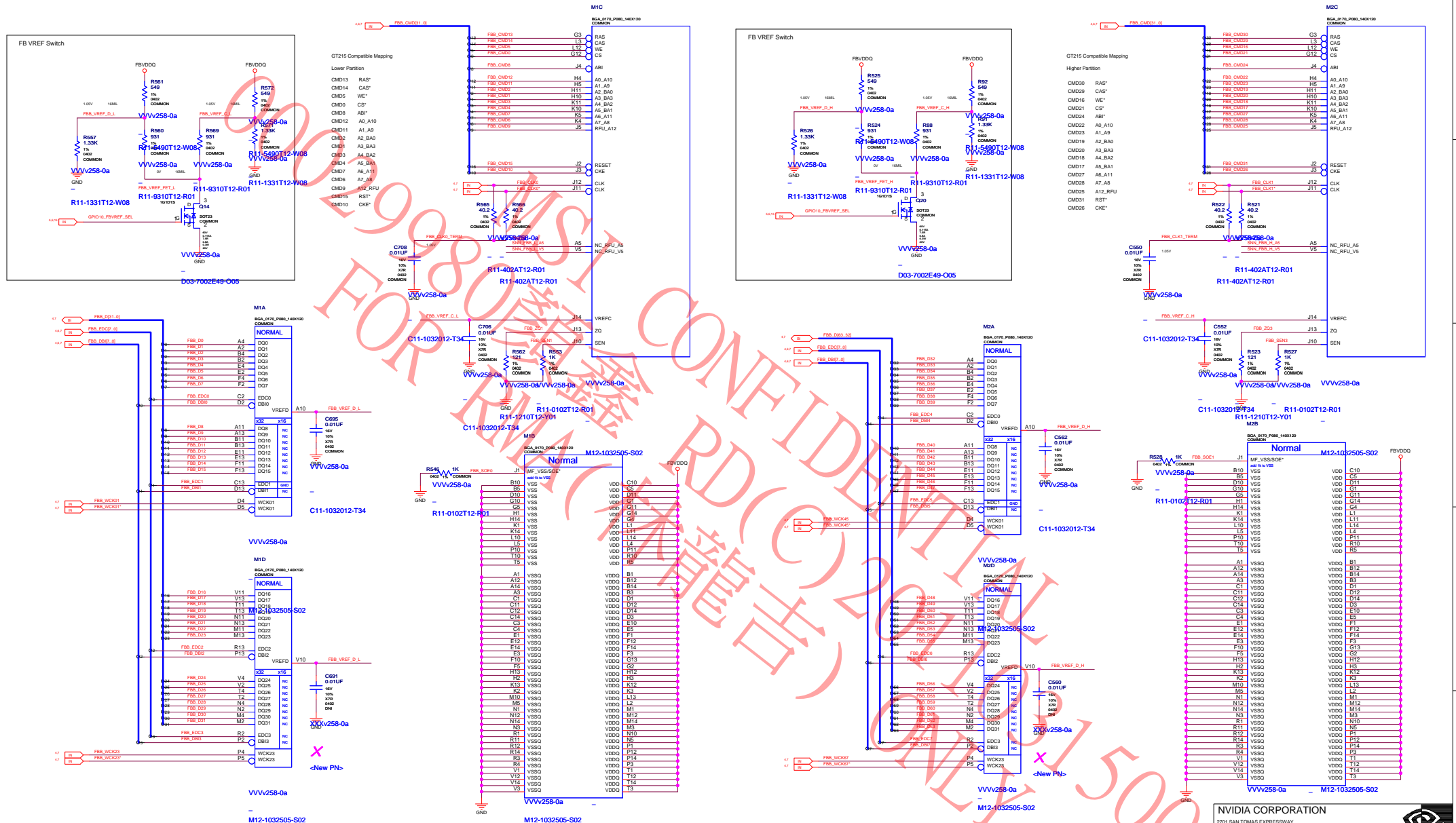
NV_PN	600-11070-BASE-sch
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Framebuffer B: Memory Section



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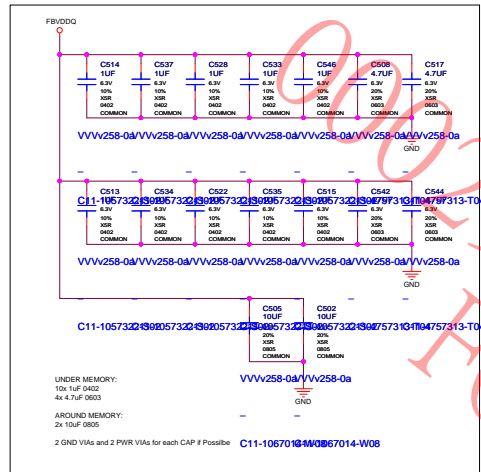
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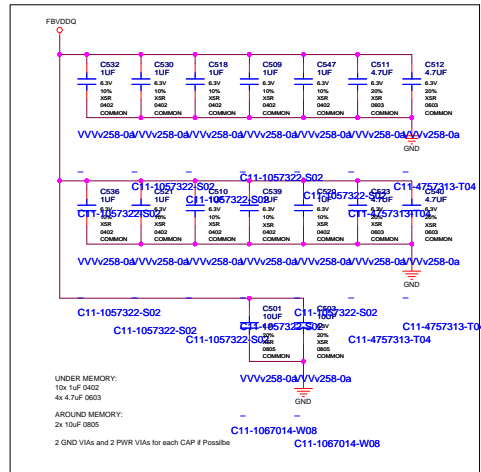
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Memory Decoupling, Net Rules

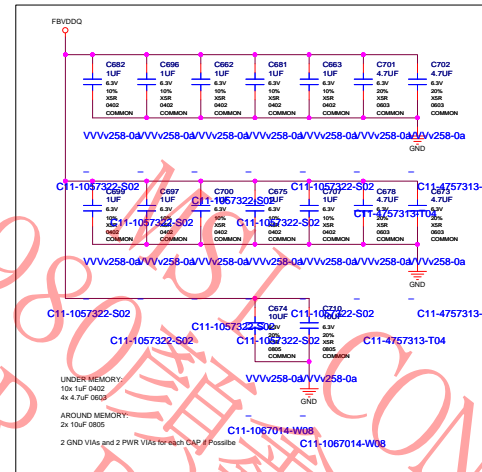
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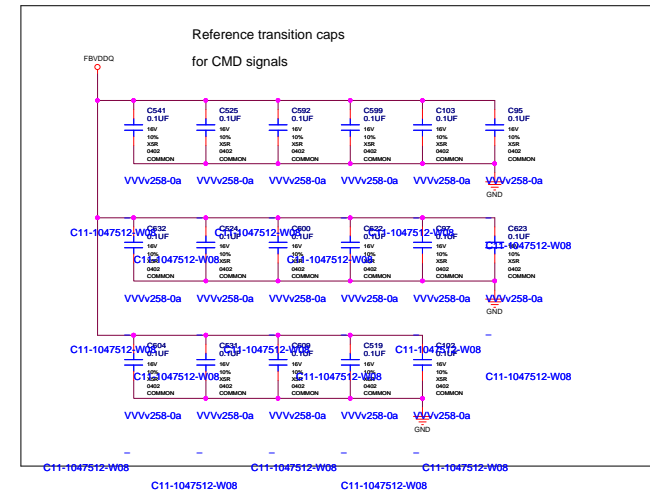
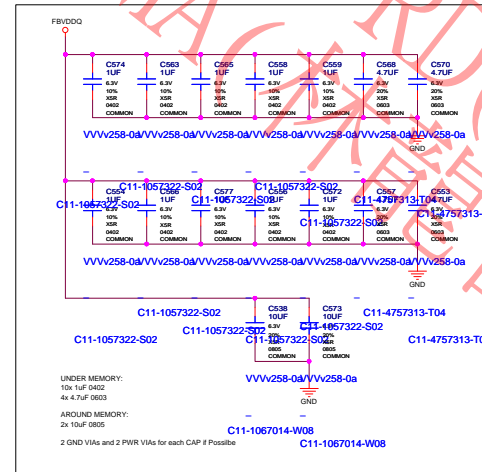
DECOUPLING: FBA<32..63>



DECOUPLING: FBB<31..0>



DECOUPLING: FBB<32..63>



DATA, DBI, EDC, WCK, CMD/ADDR, CLK

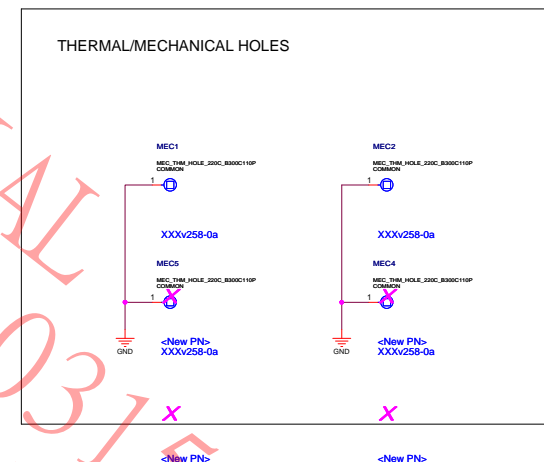
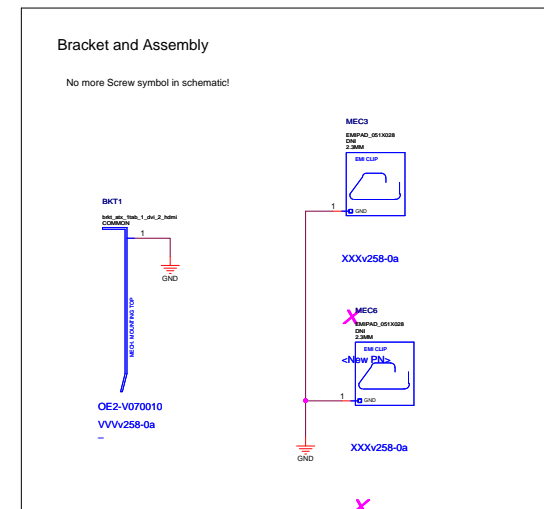
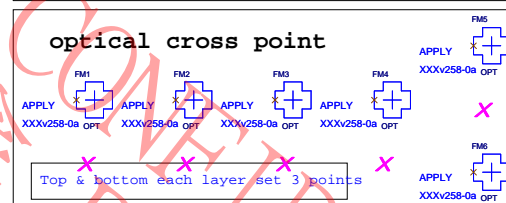
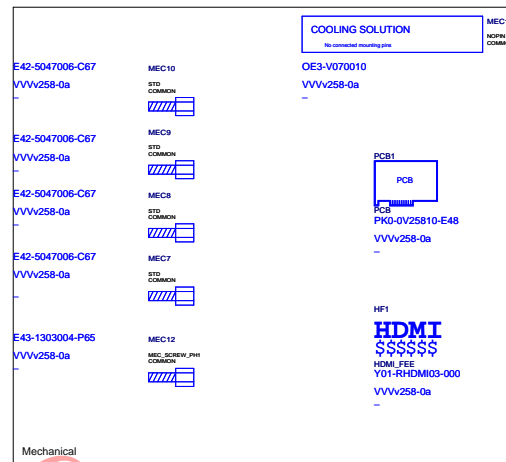
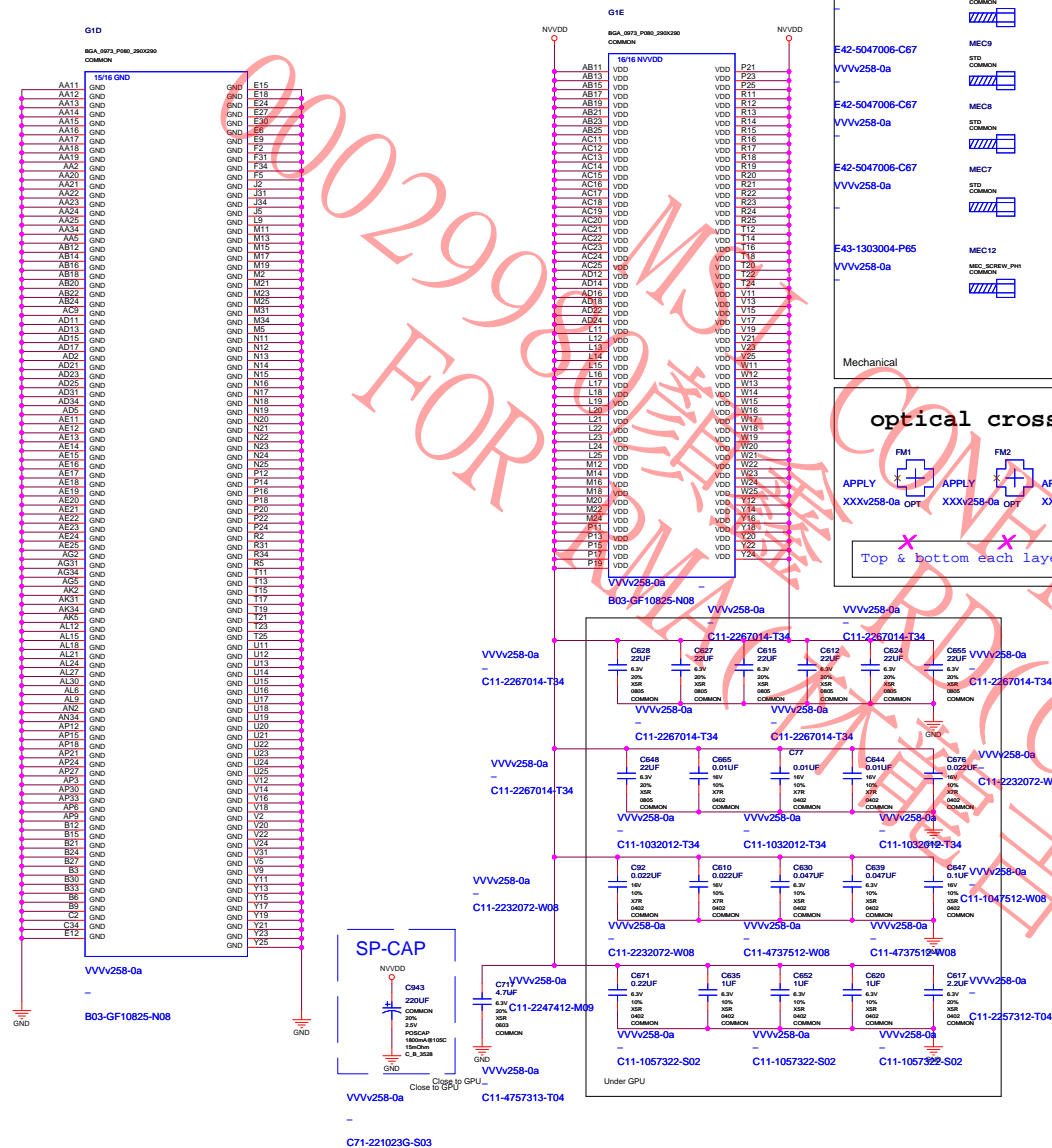
NET RULES FOR PARTITION A


	NET	NV_CRITICAL	NV_IMPEDANCE	DIFFRAI
1	FBA DMS-05	+	4700M	
2	FBA DMS-07	+	4700M	
3	FBA DMS-08	+	4700M	
4				
5	FBA W0001	+	3000T	FBA W0001
6	FBA W0001*	+	3000T	FBA W0001
7	FBA W0002	+	3000T	FBA W0002
8	FBA W0002*	+	3000T	FBA W0002
9	FBA W0003	+	3000T	FBA W0003
10	FBA W0003*	+	3000T	FBA W0003
11	FBA W0004	+	3000T	FBA W0004
12	FBA W0004*	+	3000T	FBA W0004
13	FBA W0005	+	3000T	FBA W0005
14	FBA W0005*	+	3000T	FBA W0005
15	FBA W0006	+	3000T	FBA W0006
16	FBA W0006*	+	3000T	FBA W0006
17	FBA W0007	+	3000T	FBA W0007
18	FBA W0007*	+	3000T	FBA W0007
19				
20	FBA CMO01-01	+	4700M	
21				
22	FBA CLK0	+	3000T	FBA CLK0
23	FBA CLK0*	+	3000T	FBA CLK0
24	FBA CLK1	+	3000T	FBA CLK1
25	FBA CLK1*	+	3000T	FBA CLK1

NET RULES FOR PARTITION B

	NET	NV_CRITICAL	NV_IMPEDANCE	DIFFPAIR
1	FBI_0001	1	ICQNM	
2	FBI_0002	1	ICQNM	
3	FBI_0003	1	ICQNM	
4	FBI_0004	1	ICQNM	
5	FBI_0005	1	ICQNM	
6	FBI_0006	1	ICQNM	
7	FBI_0007	1	ICQNM	
8	FBI_0008	1	ICQNM	
9	FBI_0009	1	ICQNM	
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25	FBI_0025	1	ICQNM	
26	FBI_0026	1	ICQNM	
27	FBI_0027	1	ICQNM	
28	FBI_0028	1	ICQNM	
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39	FBI_0039	1	ICQNM	
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41	FBI_0041	1	ICQNM	
42	FBI_0042	1	ICQNM	
43	FBI_0043	1	ICQNM	
44	FBI_0044	1	ICQNM	
45	FBI_0045	1	ICQNM	
46	FBI_0046	1	ICQNM	
47	FBI_0047	1	ICQNM	
48	FBI_0048	1	ICQNM	
49	FBI_0049	1	ICQNM	
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53	FBI_0053	1	ICQNM	
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97	FBI_0097	1	ICQNM	
98	FBI_0098	1	ICQNM	
99	FBI_0099	1	ICQNM	
100	FBI_0100	1	ICQNM	
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102	FBI_0102	1	ICQNM	
103	FBI_0103	1	ICQNM	
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105	FBI_0105	1	ICQNM	
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115	FBI_0115	1	ICQNM	
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121	FBI_0121	1	ICQNM	
122	FBI_0122	1	ICQNM	
123	FBI_0123	1	ICQNM	
124	FBI_0124	1	ICQNM	
125	FBI_0125	1	ICQNM	
126	FBI_0126	1	ICQNM	
127	FBI_0127	1	ICQNM	
128	FBI_0128	1	ICQNM	
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131	FBI_0131	1	ICQNM	
132	FBI_0132	1	ICQNM	
133	FBI_0133	1	ICQNM	
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135	FBI_0135	1	ICQNM	
136	FBI_0136	1	ICQNM	
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153	FBI_0153	1	ICQNM	
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GPU Power and GND, NVVDD Decoupling, THERMAL/MECHANICAL

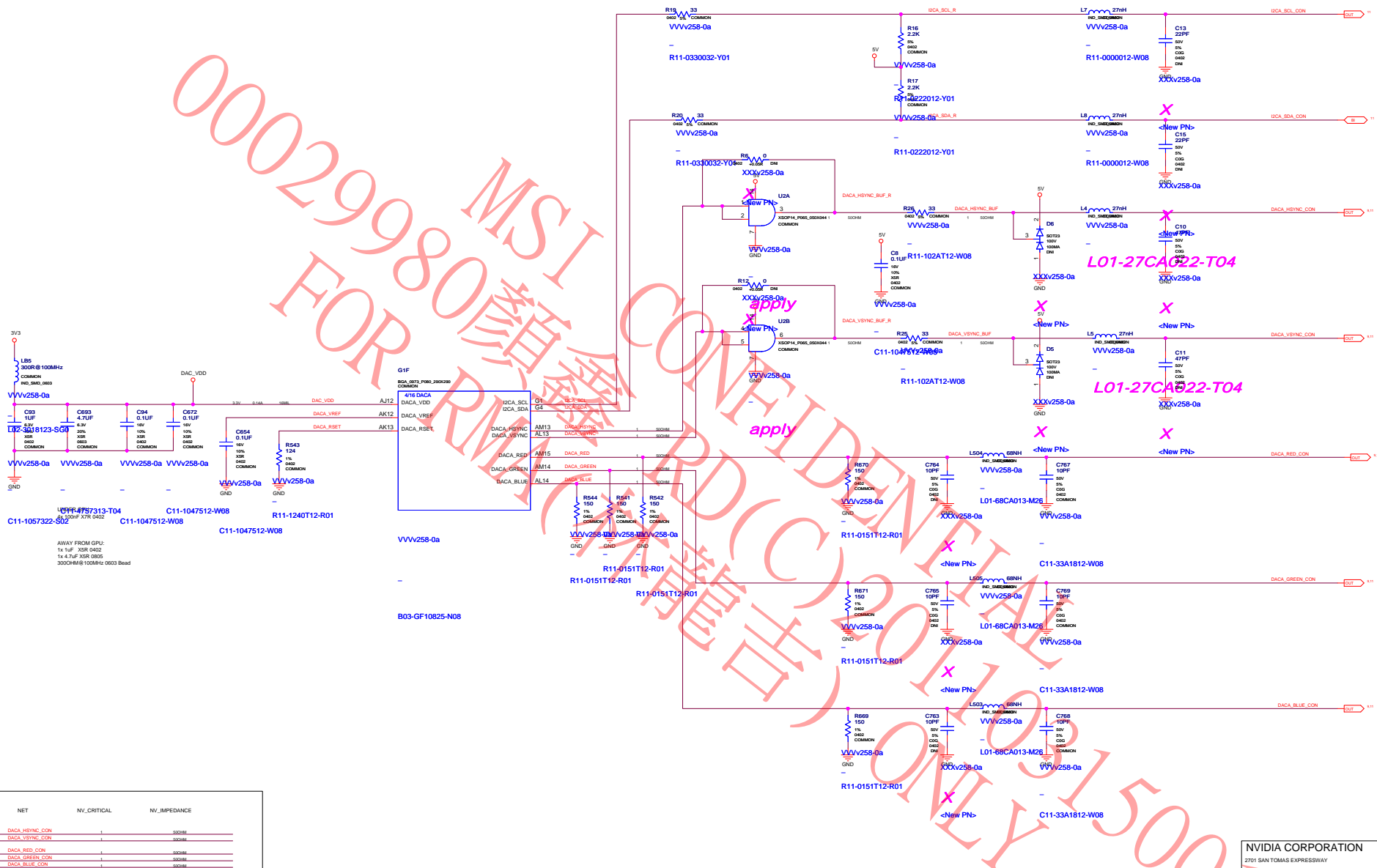


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A	B	C	D	E	F	G	H
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Display: DACA (South DVI-I)



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ASSEMBLY BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL Display: DACA (South DVI-I)

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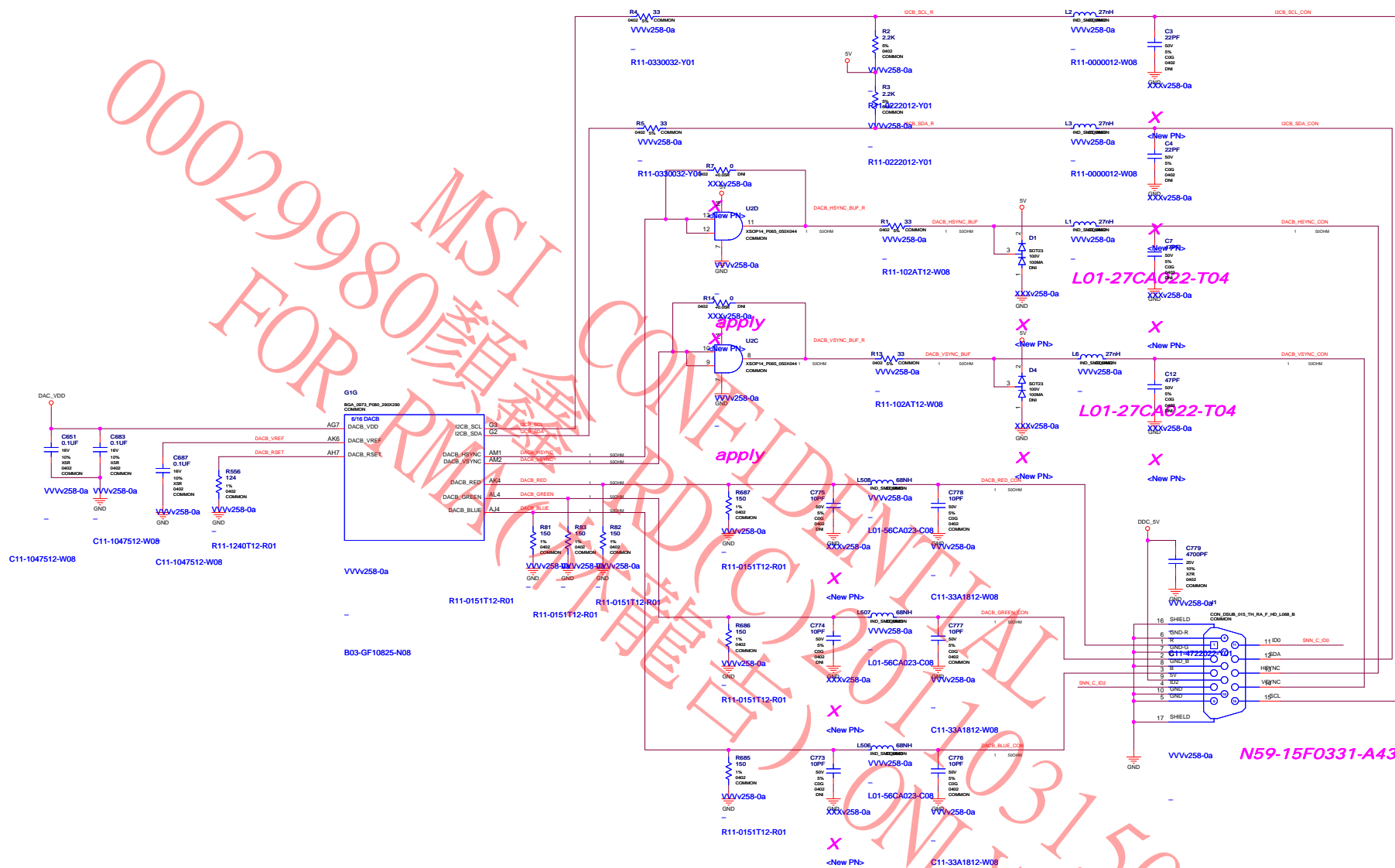
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PCB REV P1070-R01

BOM REV A

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DATE 29-APR-2010

Display: DACB (Middle DSUB)



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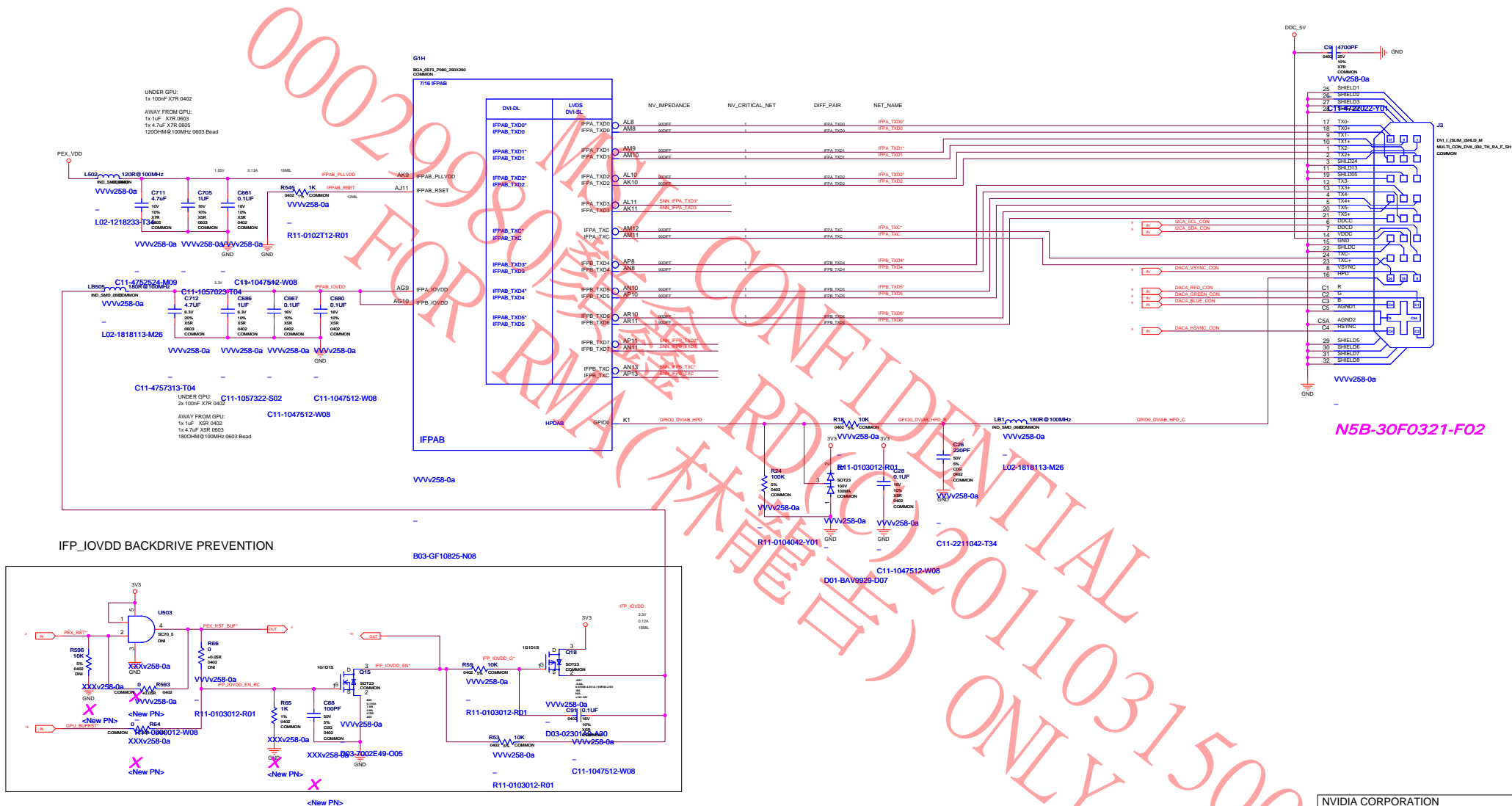
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Display: LFPAB (South DVI-I)



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Display: LFPAB (South DVI-I)

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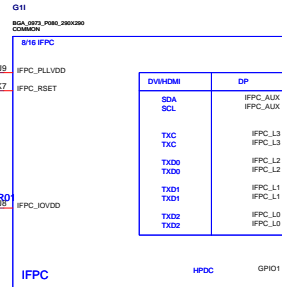
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UNDER GPU:
3x 100nF X7R 0402 (for IFPC/DVE)

AWAY FROM GPU:
1x 1uF X7R 0603
1x 4.7uF X7R 0805
300OHM@100MHz 0603 Bead

AWAY FROM GPU:
1x 1uF X7R 0603
1x 4.7uF X7R 0805
300OHM@100MHz 0603 Bead



UNDER GPU:
2x 100nF X7R 0402 (for IFPC/D)


AWAY FROM GPU:

1x 1uF X5R 0402
1x 4.7uF X5R 0603
220OHM@100MHz 0603 Bead
C11-475731

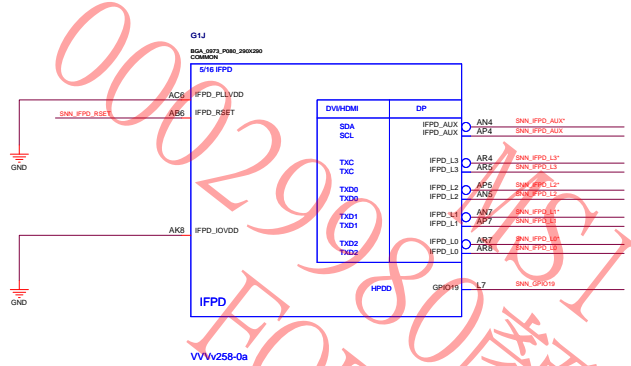
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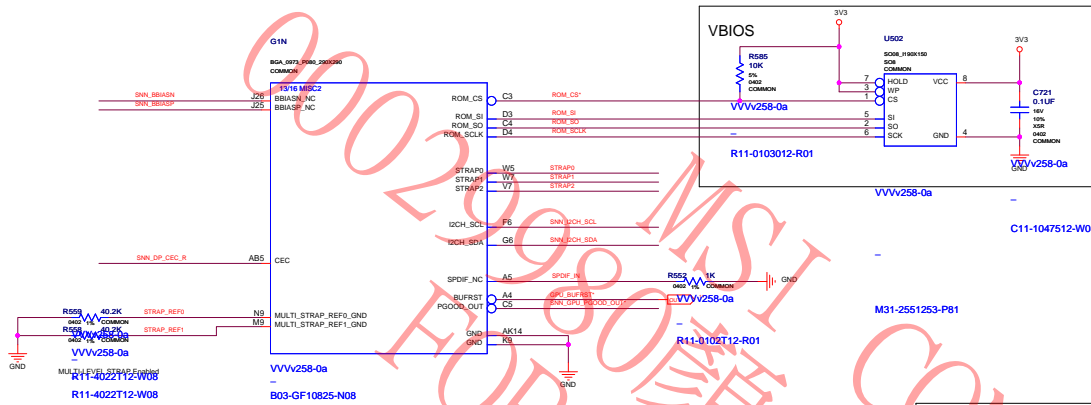


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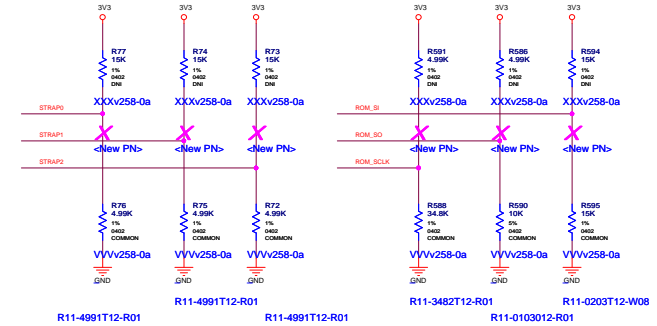
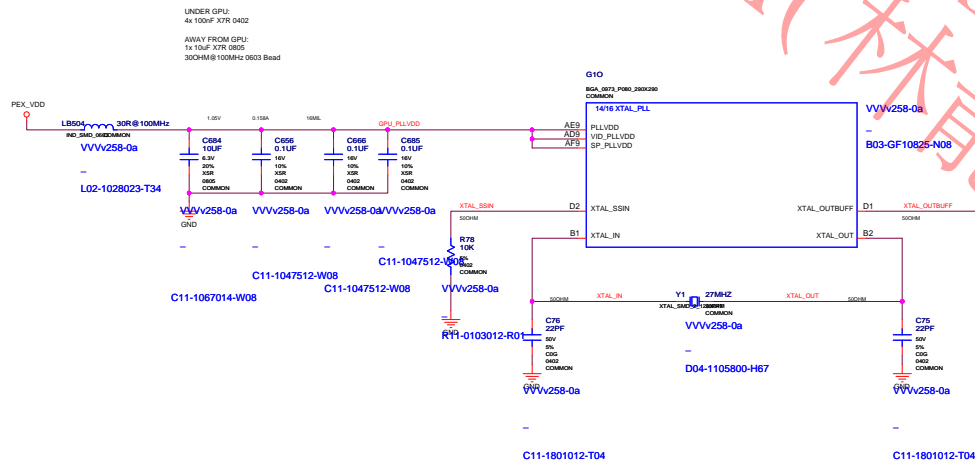
Unused: LFPD/EF, MIOA/B



MISC: VBIOS, XTAL, STRAPS

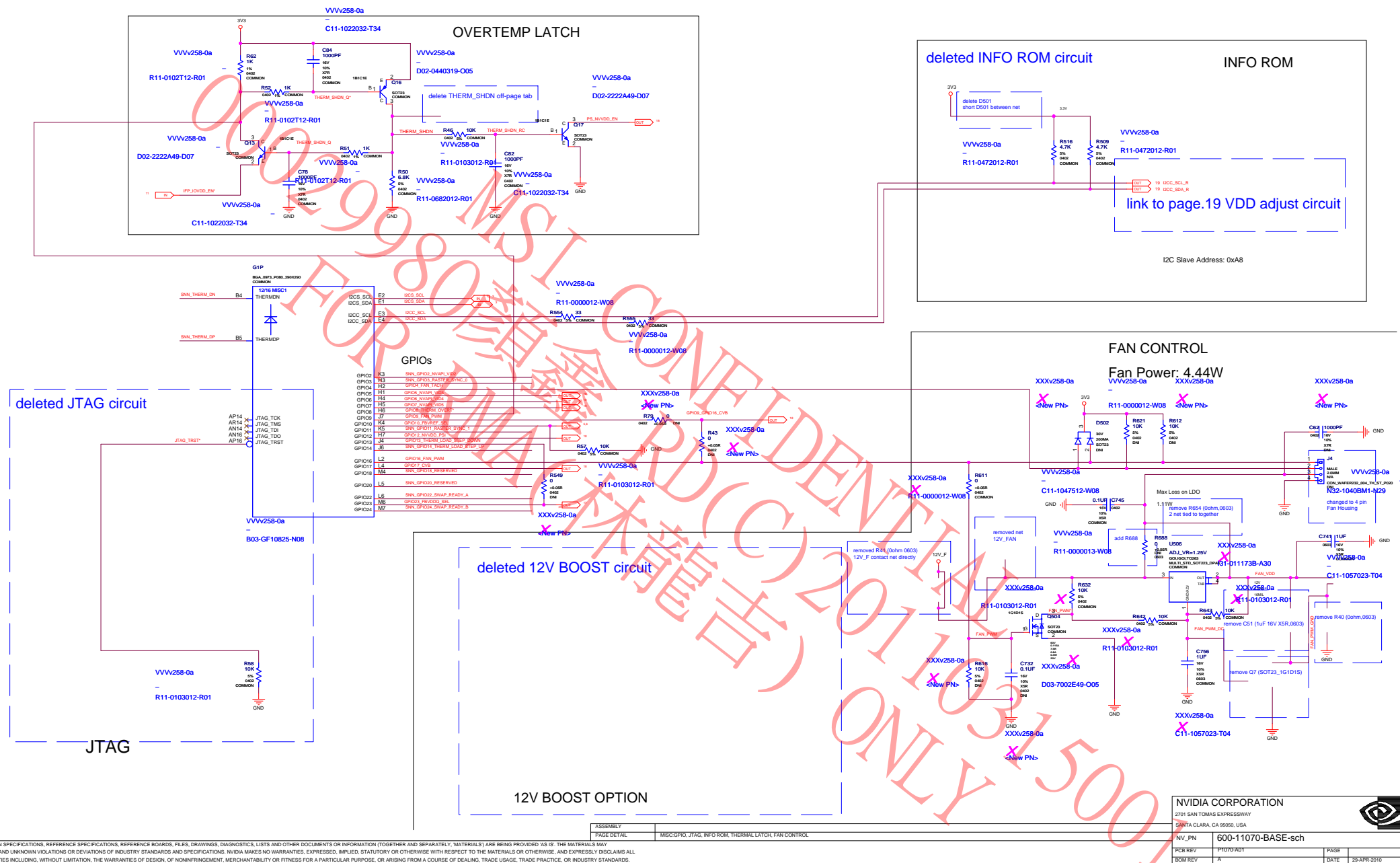


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5k	0000	1000
10k	0001	1001
15k	0010	1010
20k	0011	1011
25k	0100	1100
30k	0101	1101
35k	0110	1110
45k	0111	1111

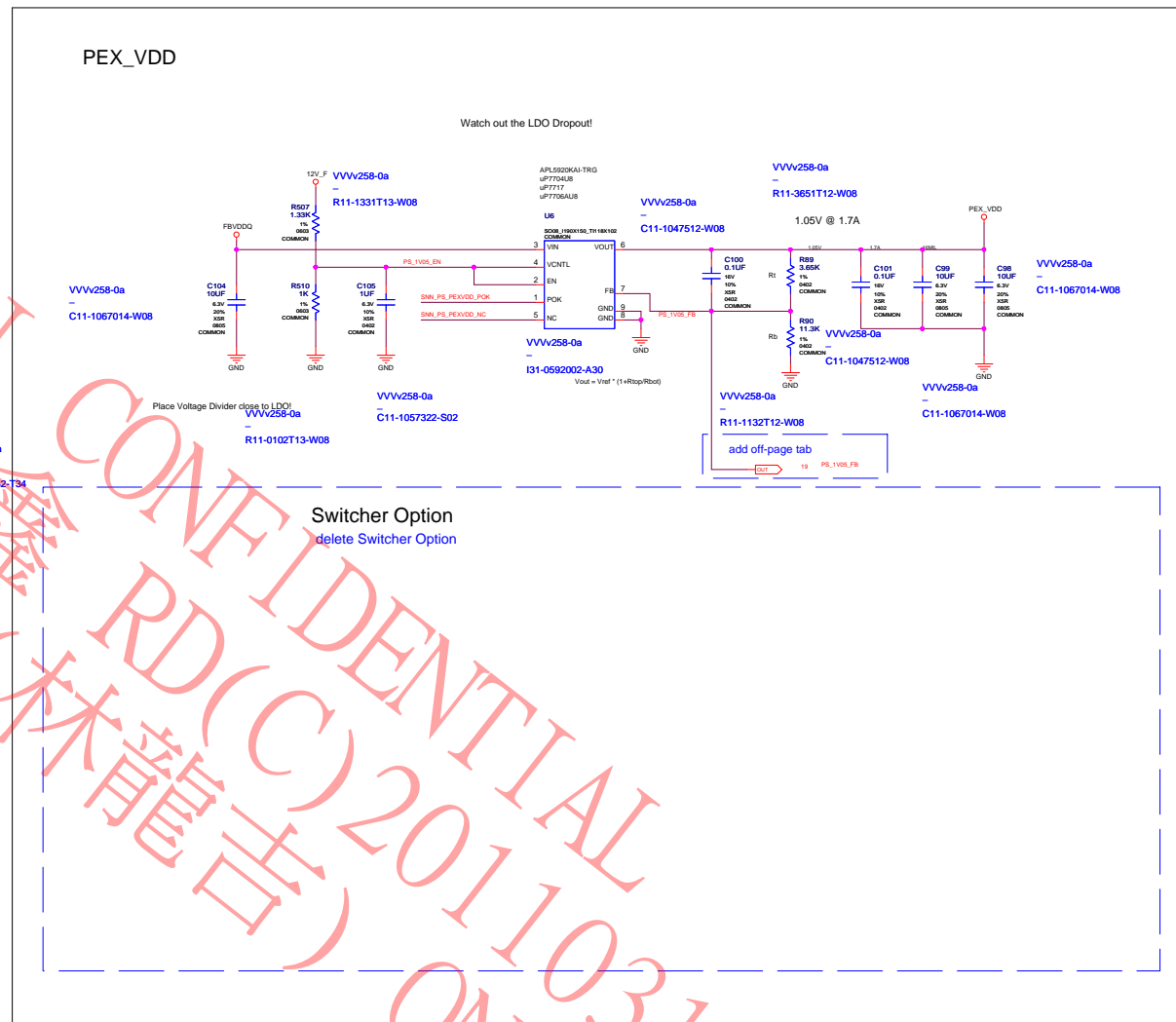
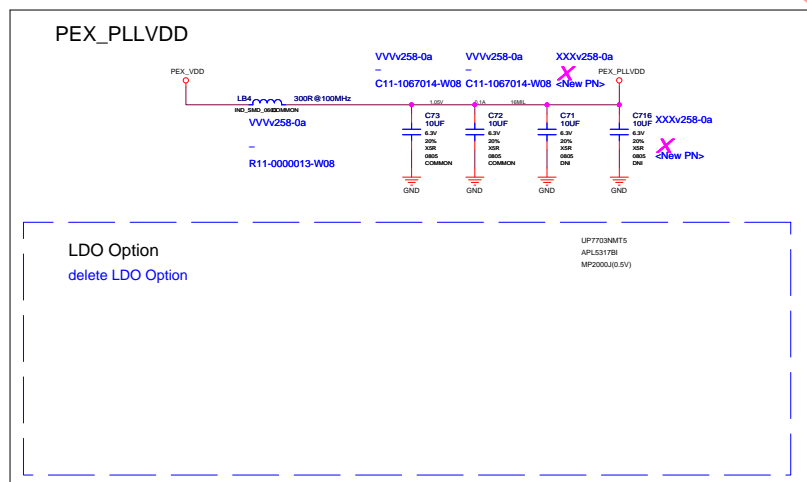
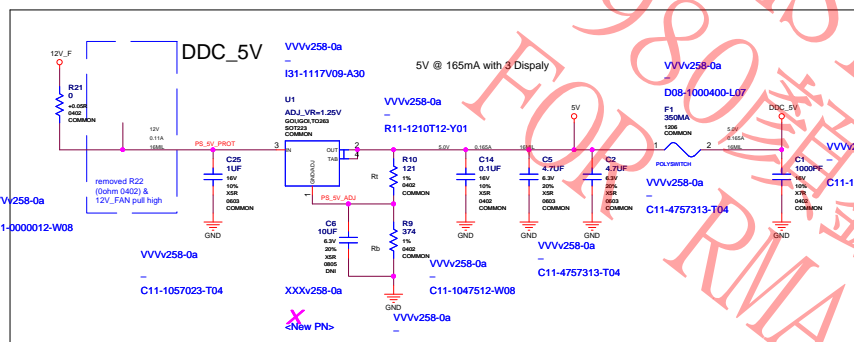
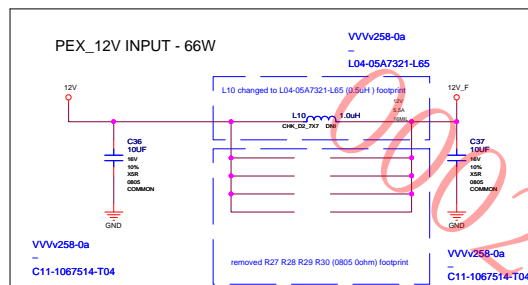


ROM_SI	RAMCFG[3]	0001 32Mx32 128-bit Qimonda 0010 32Mx32 128-bit Hynix 0011 32Mx32 128-bit Samsung	=> 15K PD => 20K PD
	RAMCFG[2]		
	RAMCFG[1]	0101 64Mx32 128-bit Qimonda 0110 64Mx32 128-bit Hynix 0111 64Mx32 128-bit Samsung	
	RAMCFG[0]		
ROM_SO	XCLK_417	0 277MHz (Default)	
	FB[0]_BAR_SIZE	0 256MB (Default)	10K PD
	SMB_ALT_ADDR	0 0x9E (Default)	
	VGA_DEVICE	1 VGA Device (Default)	
ROM_SCLK	PCI_DEVID_EXT	0 DID<4>=0	
	SUB_VENDOR	1 BIOS ROM Present	
	SLOT_CLK_CFG	1 Share Ref CLK	45K PD
	PEX_PLL_EN_TERM100	1 Enable	
STRAP0	USER_BIT [3..0]	0000 Default	5K PD
STRAP1	GPIO_PADCFG_LUT_ADR [3..0]	0000 Desktop	5K PD
STRAP2	PCI_DEVID [3..0]	0000 DID: 0x0DE0	5K PD

MISC:GPIO, JTAG, INFO ROM, THERMAL LATCH, FAN CONTROL



Power Supply: 12V INPUT, DDC_5V, PEXVDD



ASSEMBLY	
PAGE DETAIL	Power Supply: 12V INPUT, DDC_5V, PEXVDD

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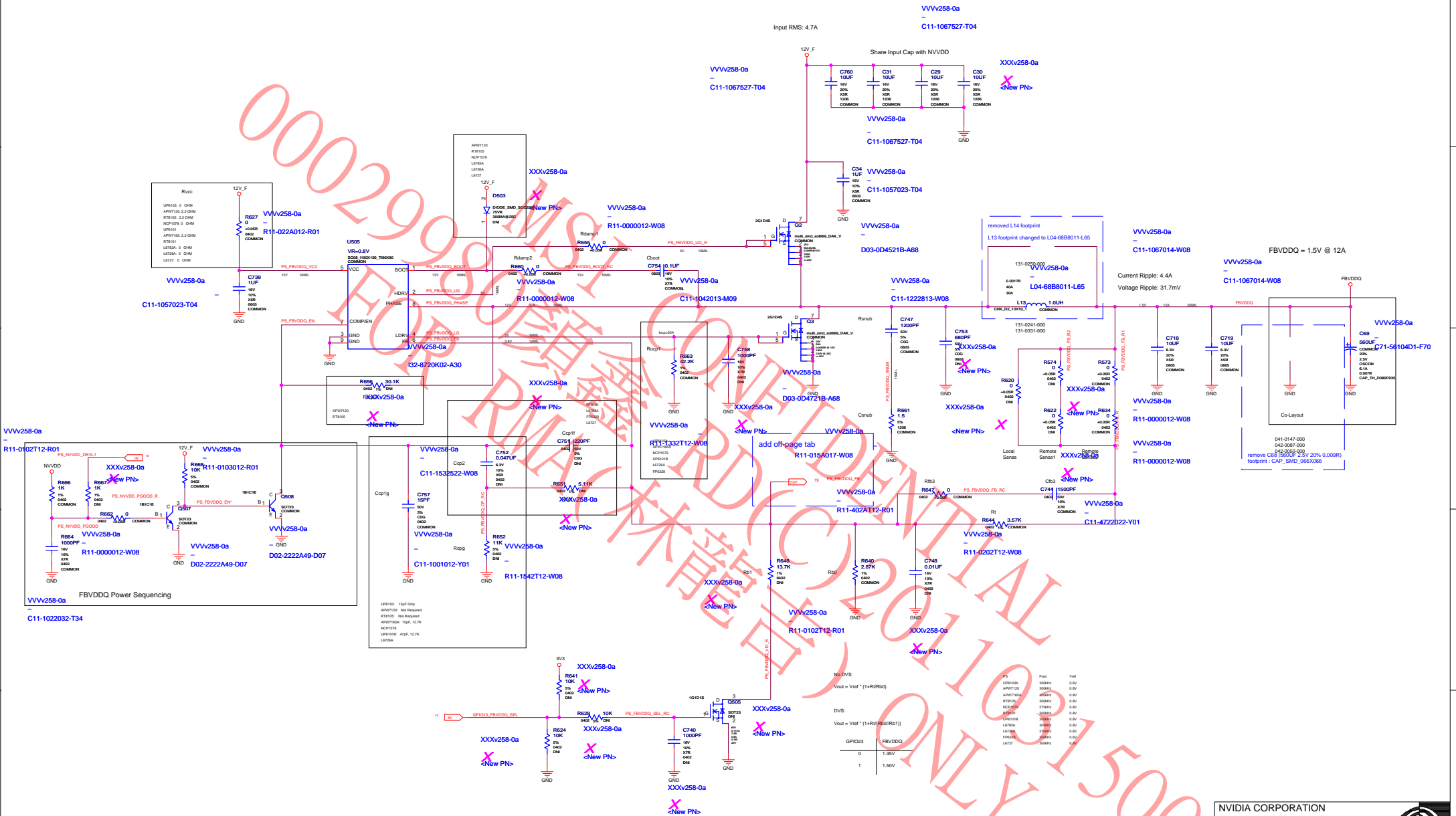
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Power Supply: FBVDDQ



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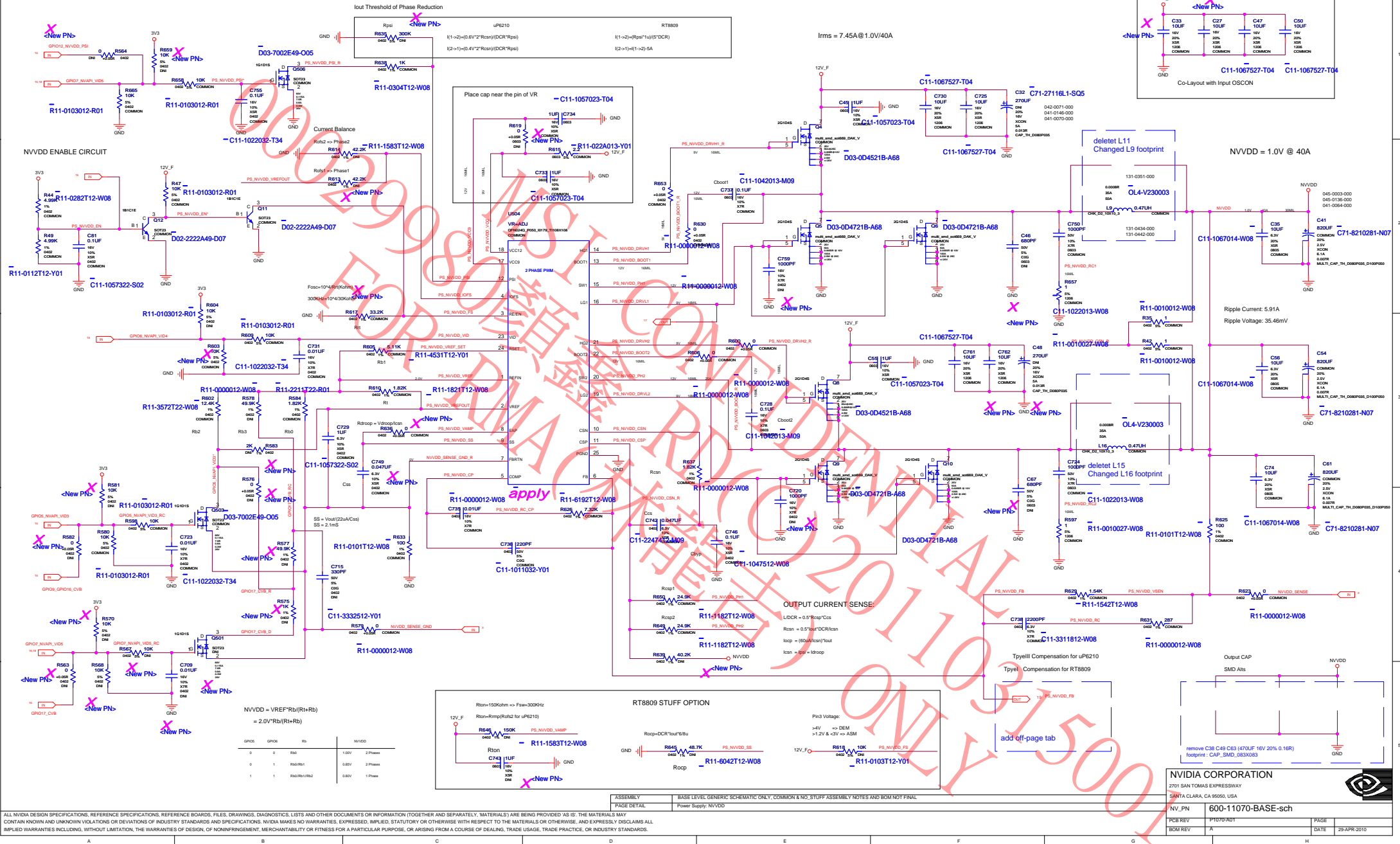
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Power Supply: NVVDD



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