

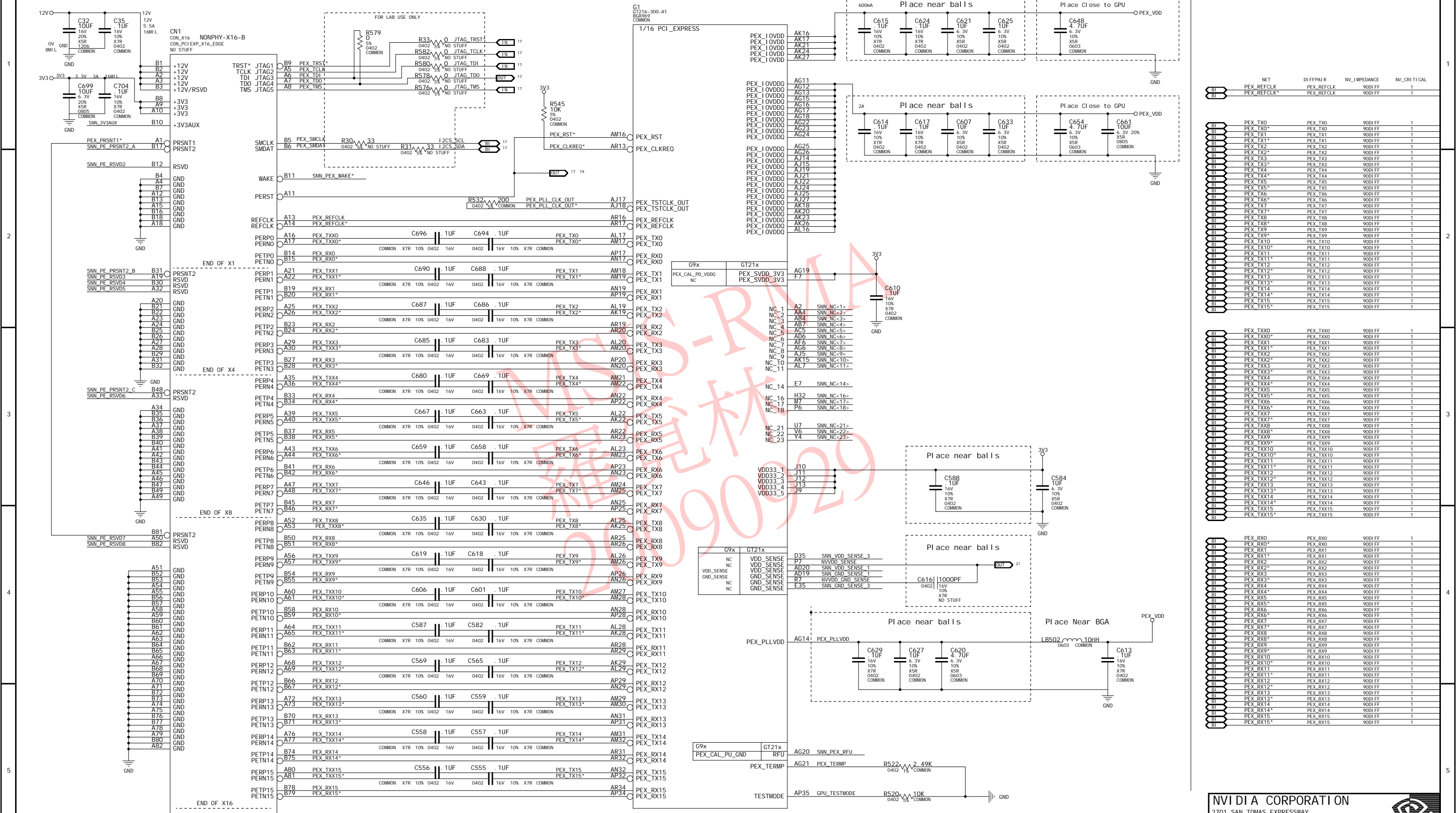
P684-A01 GT216 DESKTOP Low Profile  
PCI -EXPRESSx16 DL-DVI HDMI VGA DDR3


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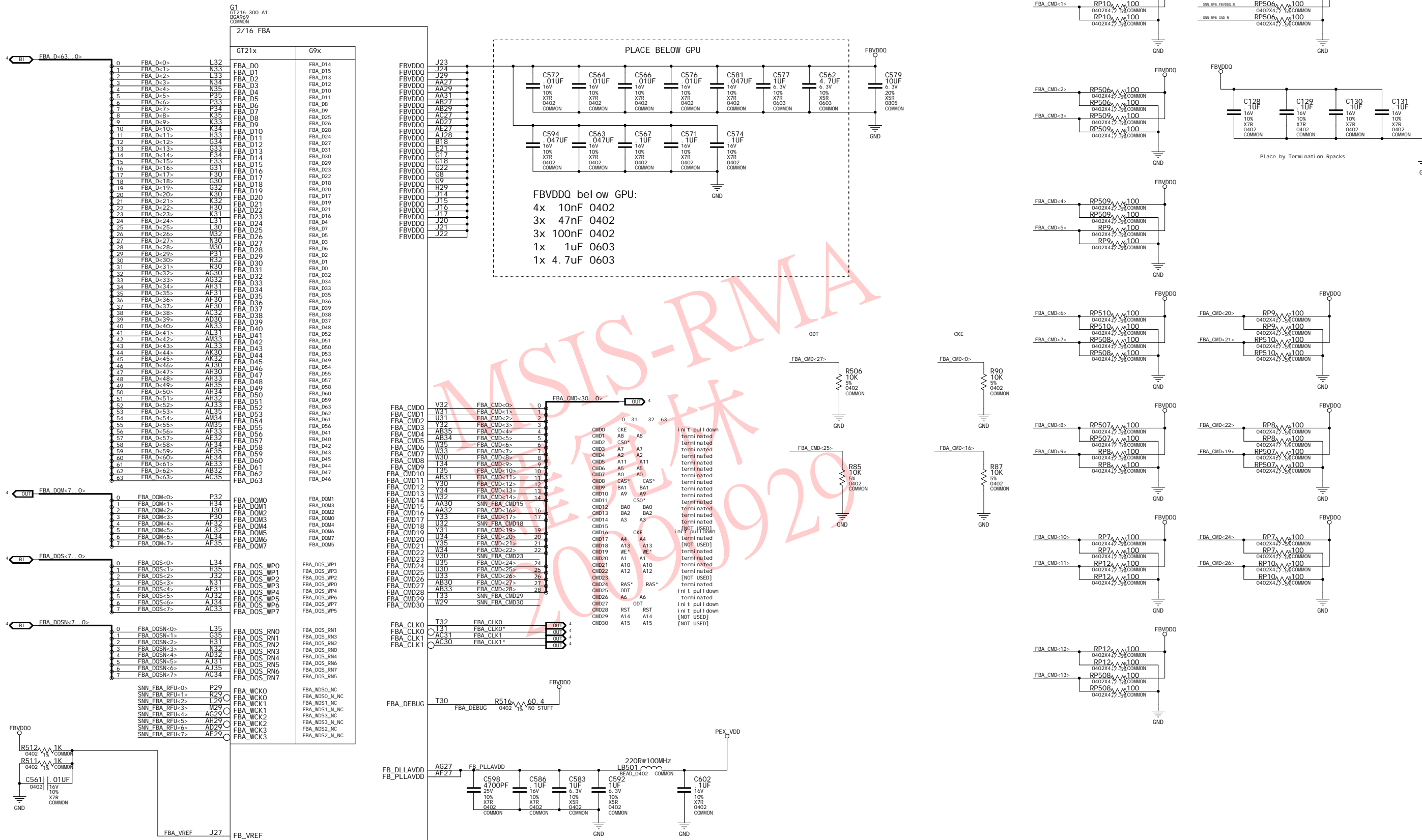
SKU	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10684-base-100	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0000	600-10684-0000-100	GT216-350 600/1500MHz 1024MB 64Mx16 BGA100 800MHz DDR3 DVI -I /DP/HDMI /VGA
2	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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## PCI -EXPRESS I NTERFACE



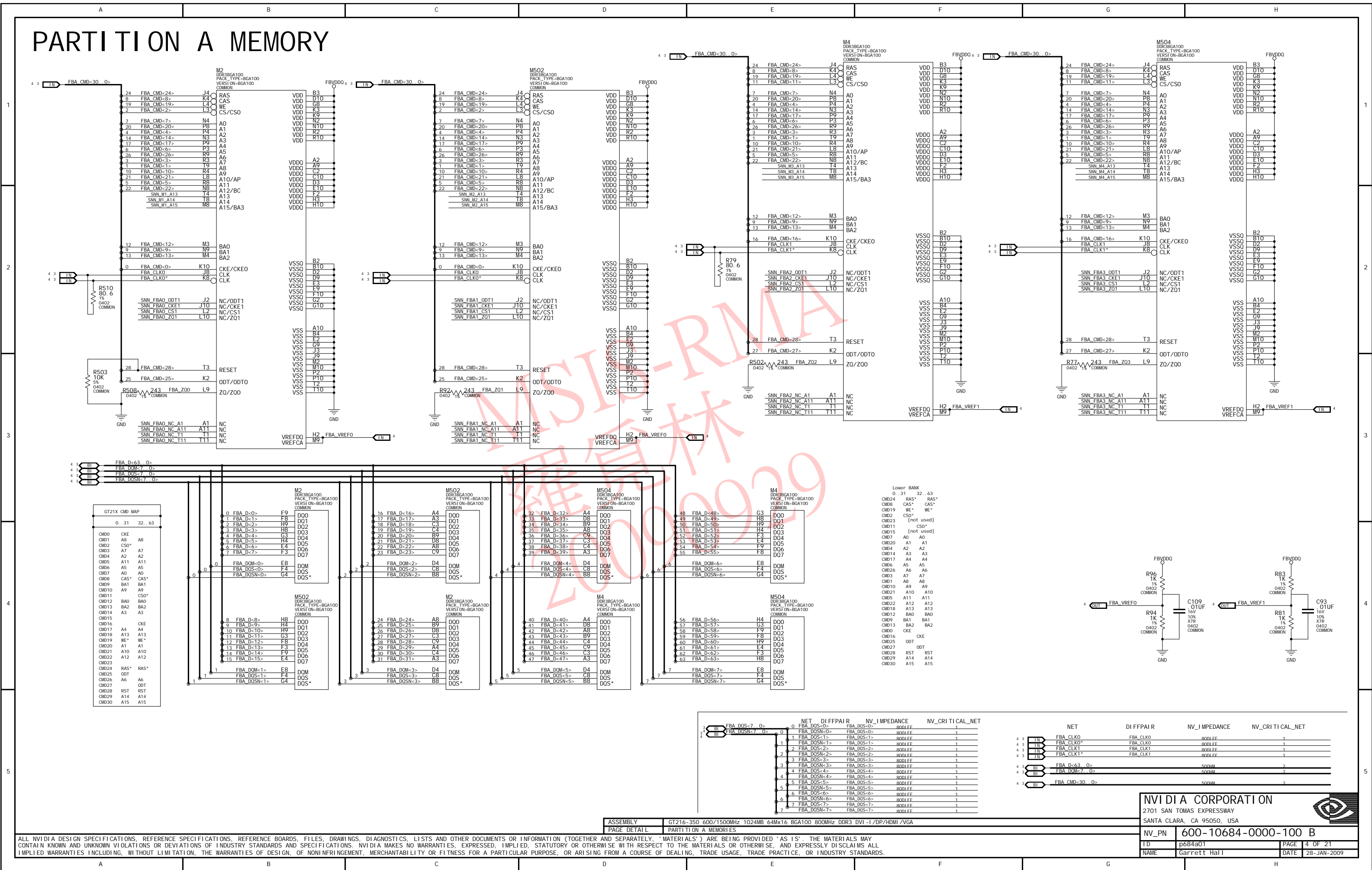
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## PARTITION A FRAME BUFFER INTERFACE



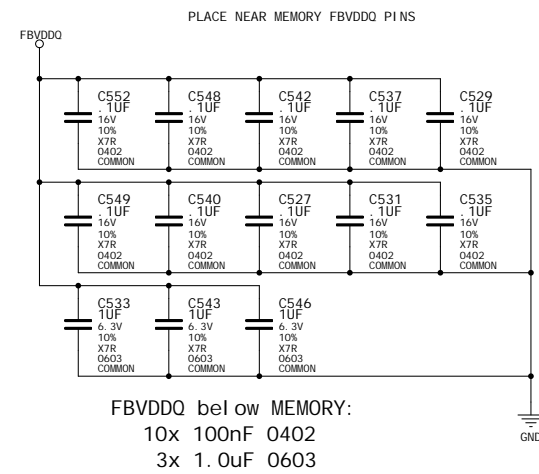


# PARTITION A MEMORY

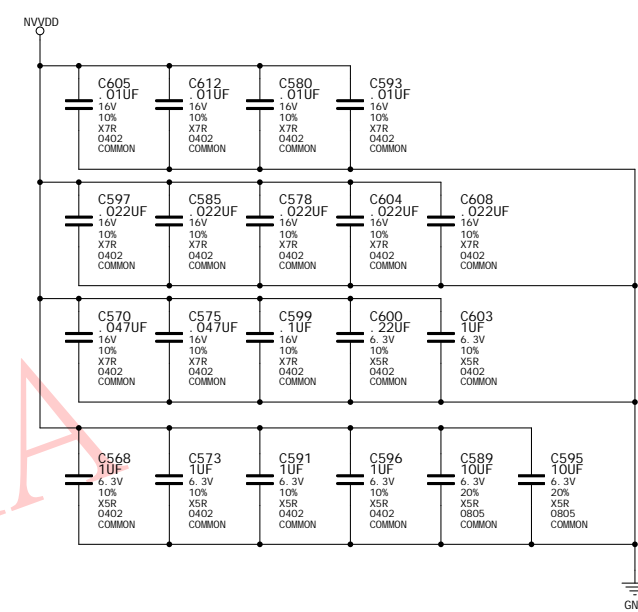
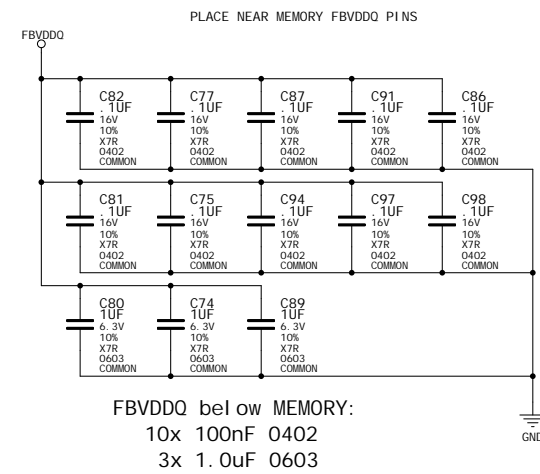


# FBA DECOUPLING CAPS & NVVDD DECOUPLING CAPS

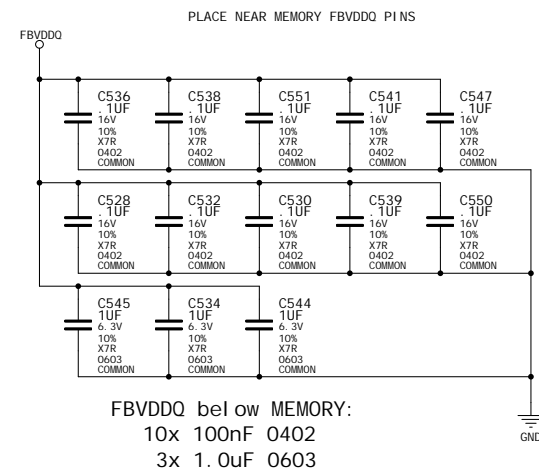
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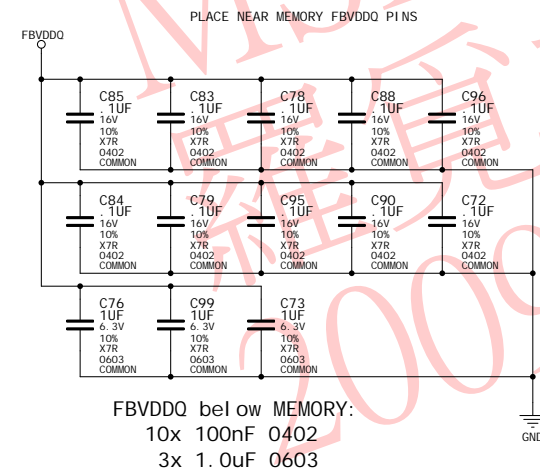
Decoupling for FBA 16..31



Decoupling for FBA 32..47

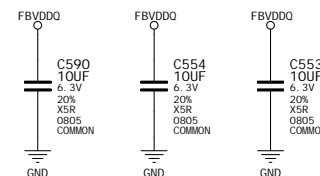
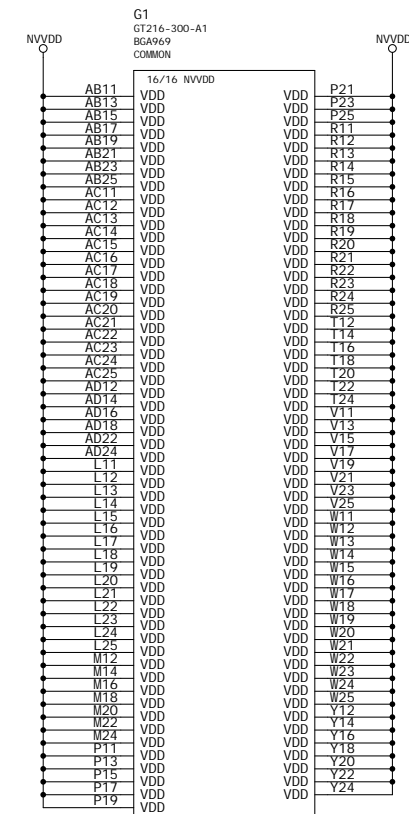


## Decoupling for FBA 48..63

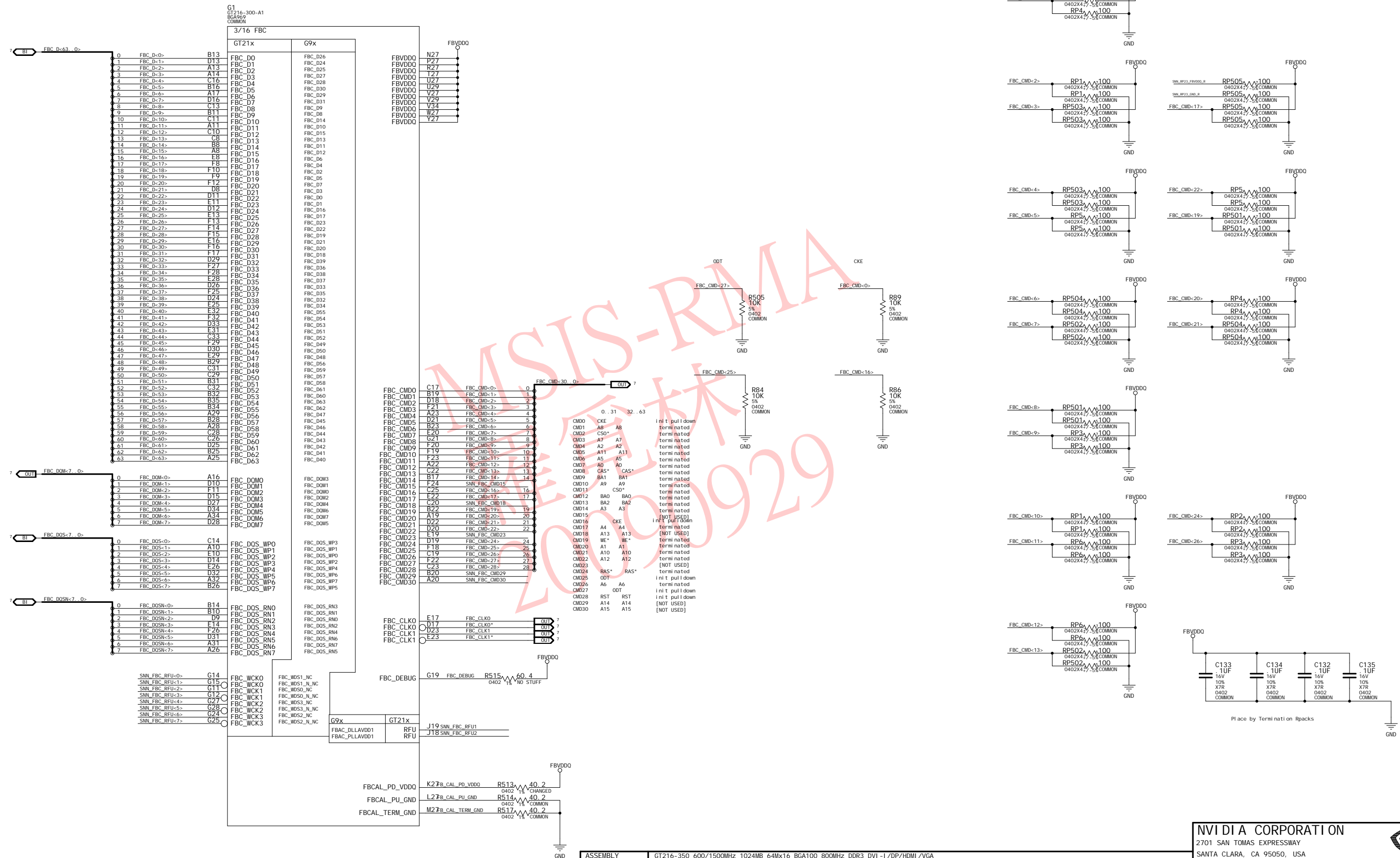


NVVDD under GPU:

4x	0. 01uF	0402	X7R
5x	0. 022uF	0402	X7R
2x	0. 047uF	0402	X7R
1x	0. 1uF	0402	X7R
1x	0. 22uF	0402	X7R
4x	1. 0uF	0402	X5R
1x	2. 2uF	0402	X5R
2x	10uF	0805	X5R

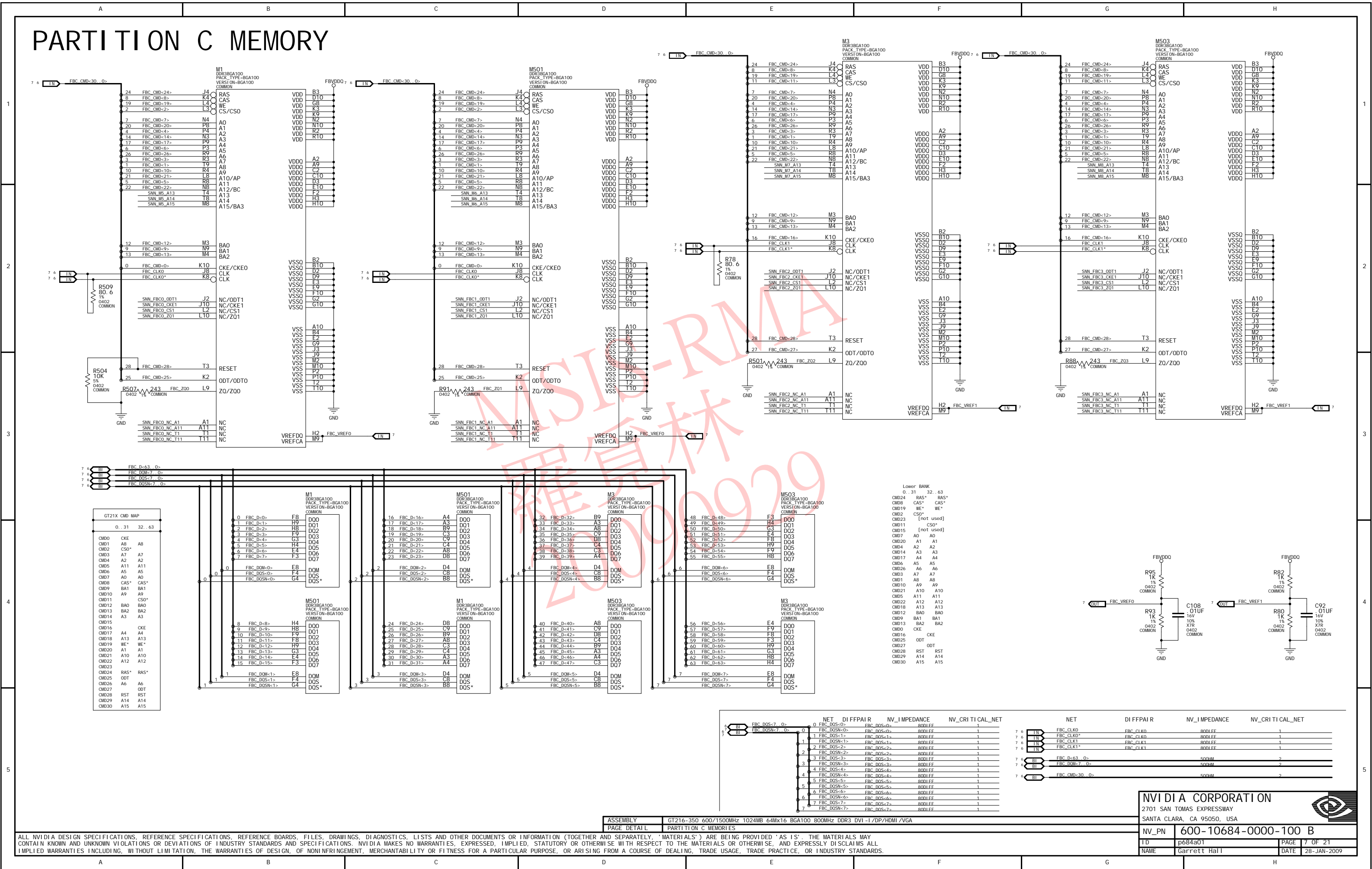


# PARTITION C FRAME BUFFER INTERFACE



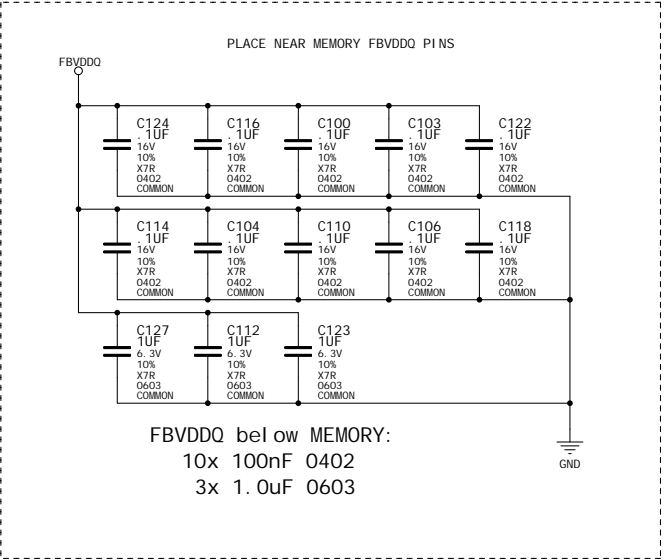


## PARTITION C MEMORY

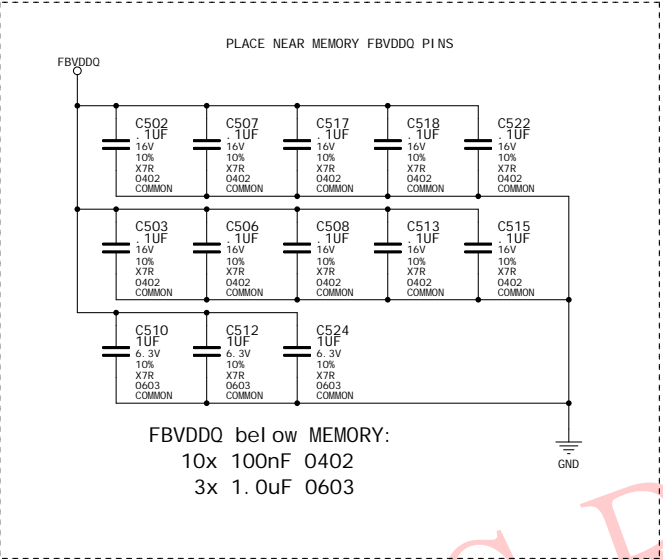


FBC DECOUPLING CAPS & NVVDD DECOUPLING CAPS

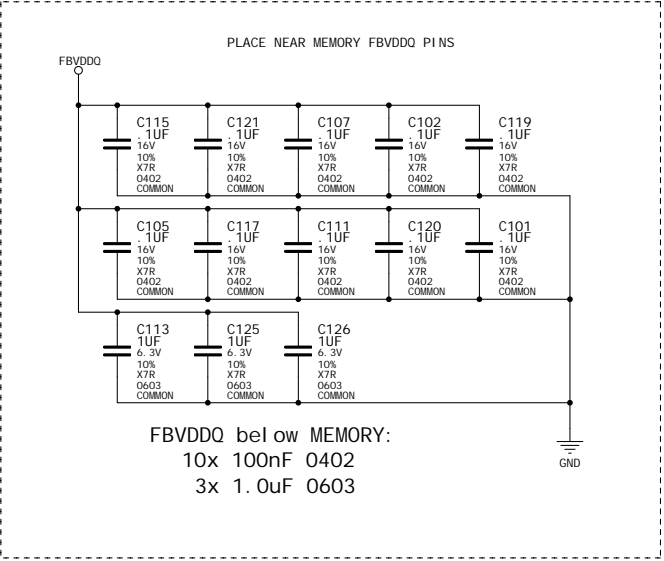
Decoupling for FBC 0..15



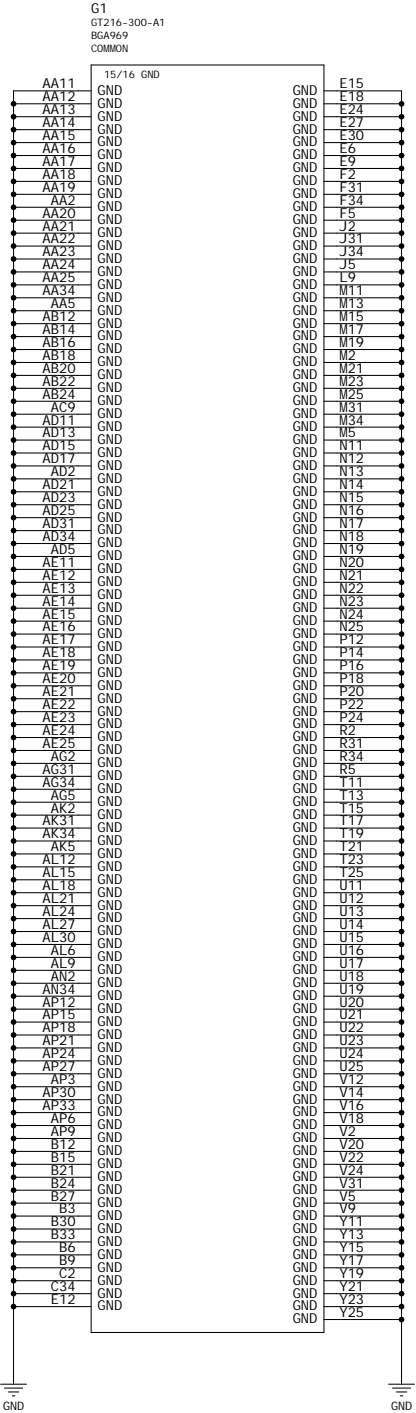
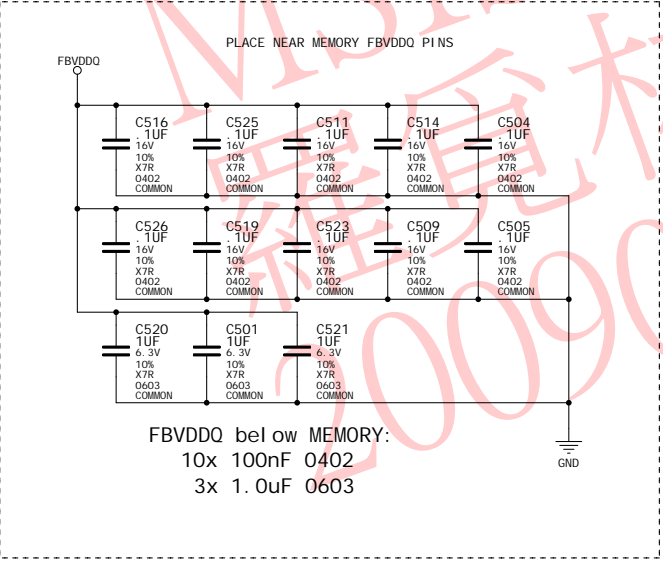
Decoupling for FBC 16..31



Decoupling for FBC 32..47

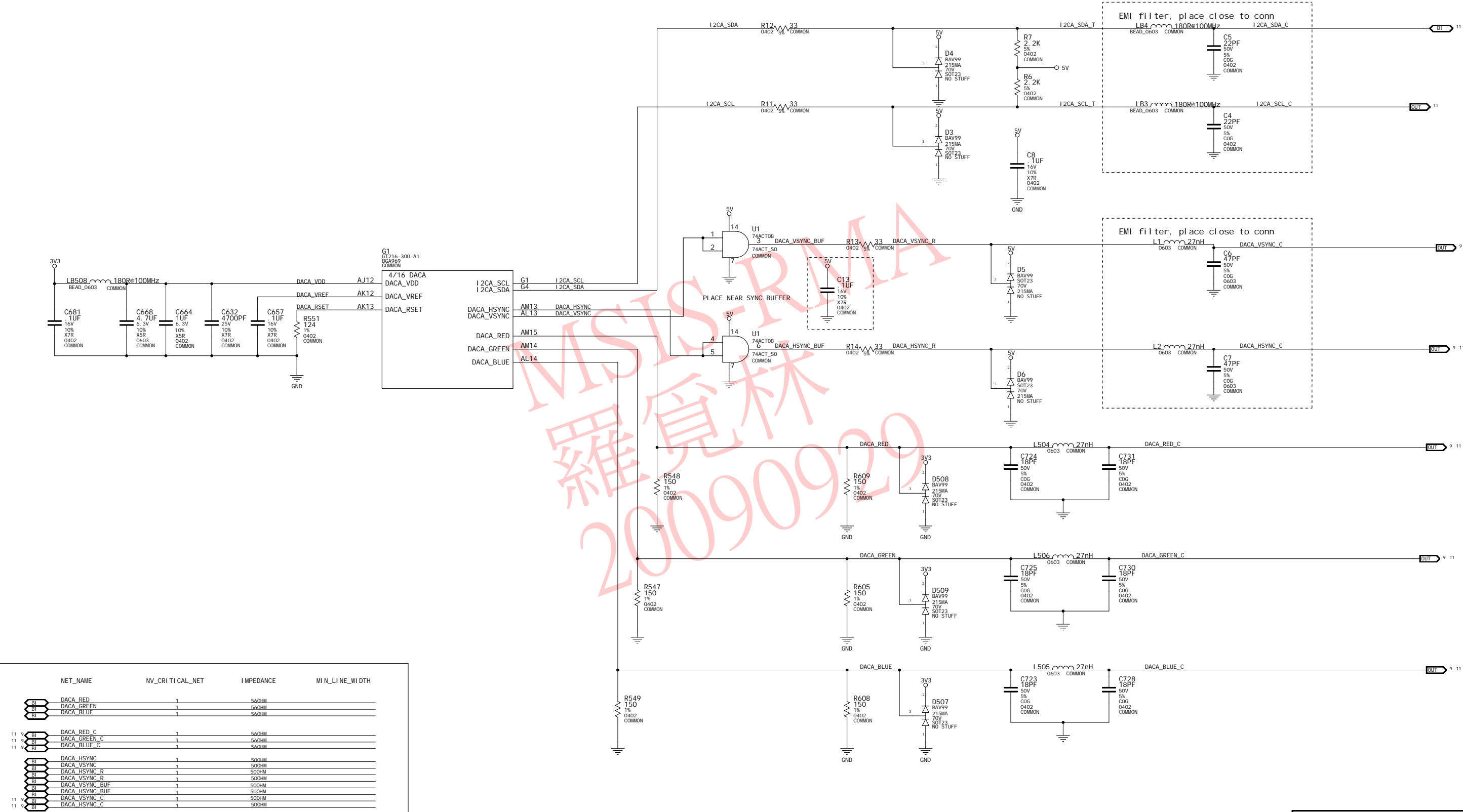


Decoupling for FBC 48..63





DACA (SOUTH DVI -I)



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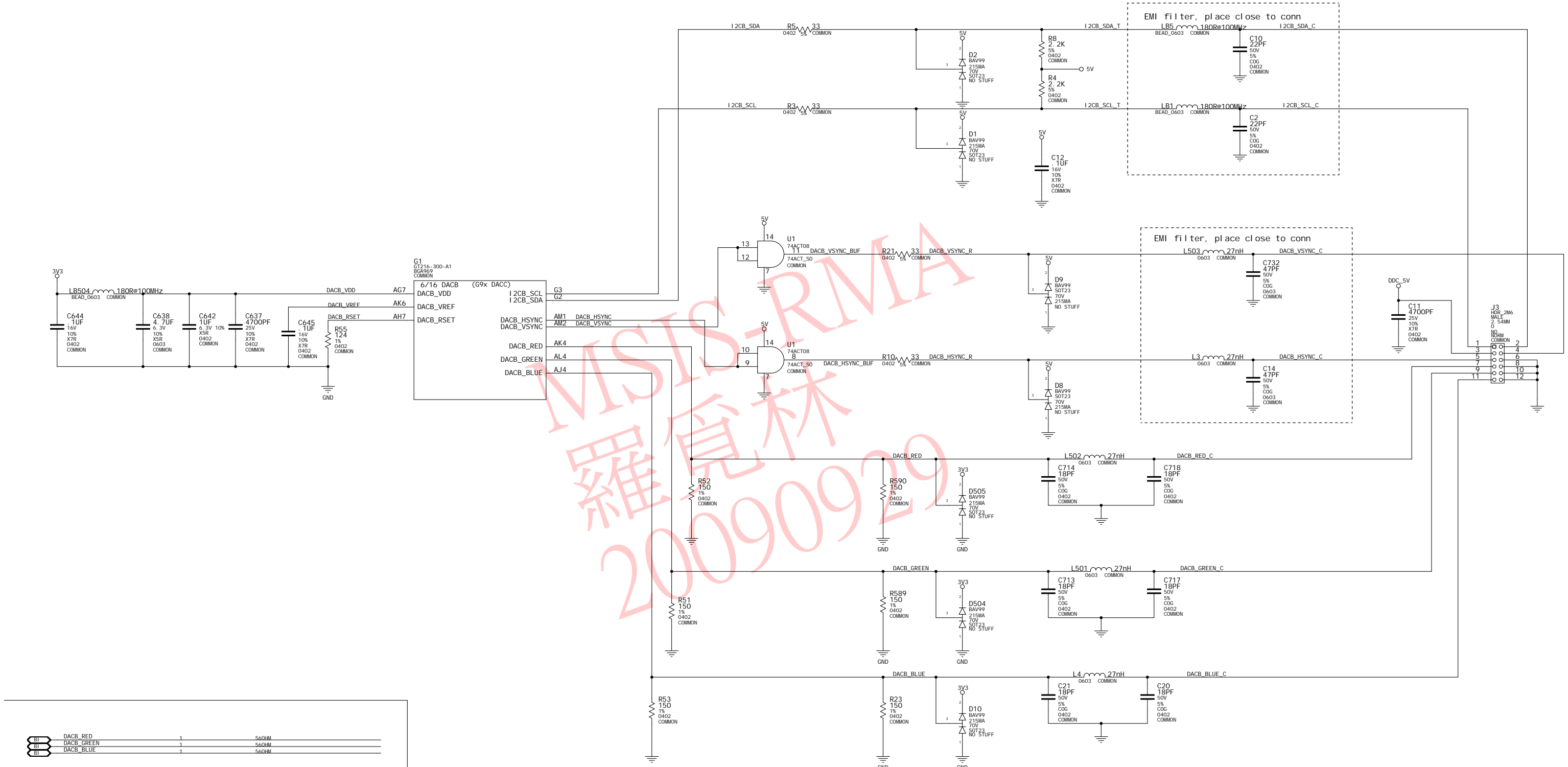
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NAME Garrett Hall DATE 28-JAN-2009

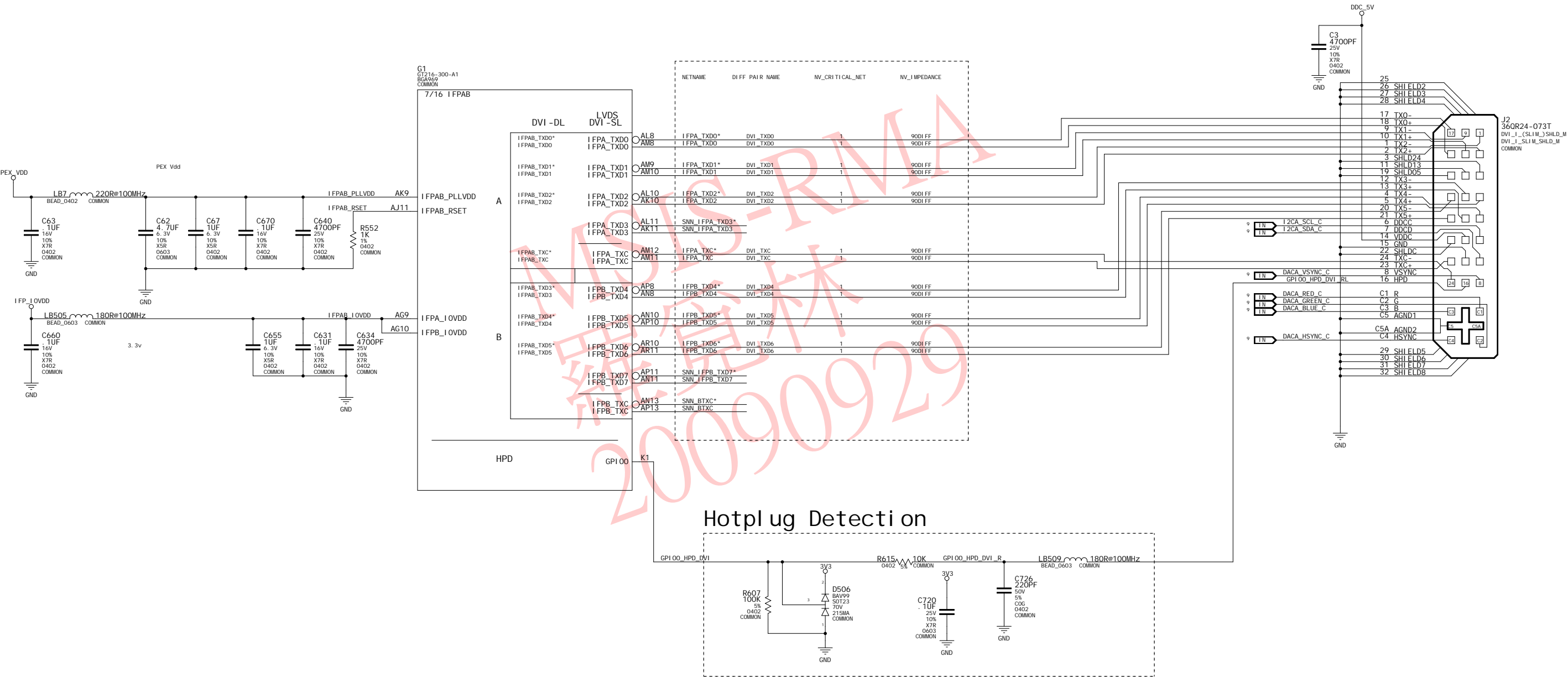
DACB (cable-up VGA)



BI	DACB_RED	1	560HM
BI	DACB_GREEN	1	560HM
BI	DACB_BLUE	1	560HM
BI	DACB_RED_C	1	560HM
BI	DACB_GREEN_C	1	560HM
BI	DACB_BLUE_C	1	560HM
BI	DACB_HSYNC	1	500HM
BI	DACB_VSYNC	1	500HM
BI	DACB_HSYNC_R	1	500HM
BI	DACB_VSYNC_R	1	500HM
BI	DACB_HSYNC_BUF	1	500HM
BI	DACB_VSYNC_BUF	1	500HM
BI	DACB_HSYNC_C	1	500HM
BI	DACB_VSYNC_C	1	500HM

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I FP AB (SOUTH DVI -I)



Hotplug Detection

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PAGE DETAIL	I FP AB (SOUTH DVI -I)

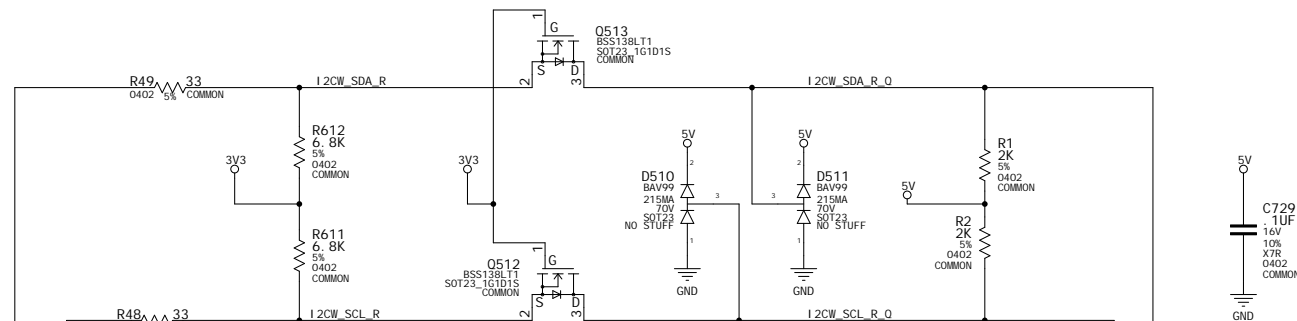
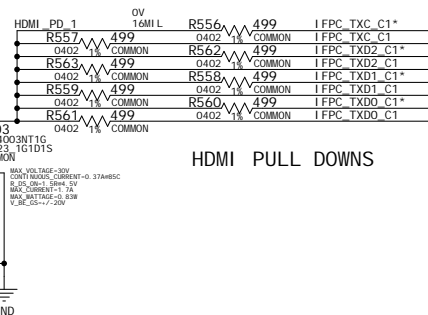
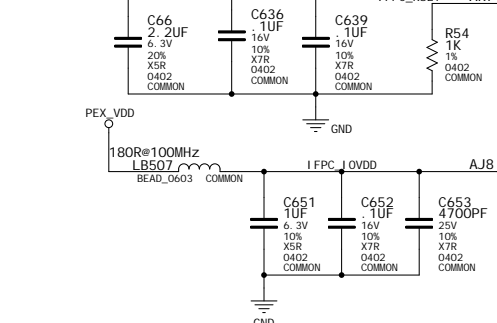
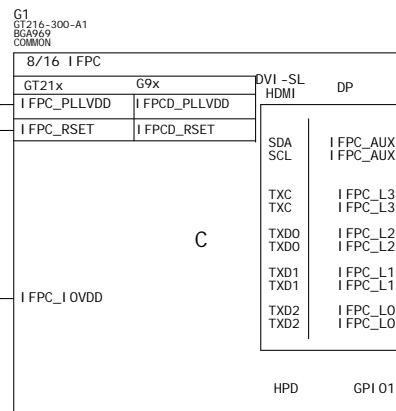
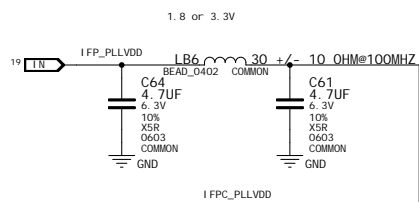
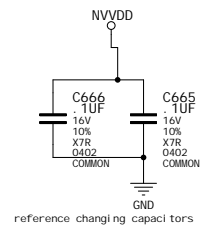
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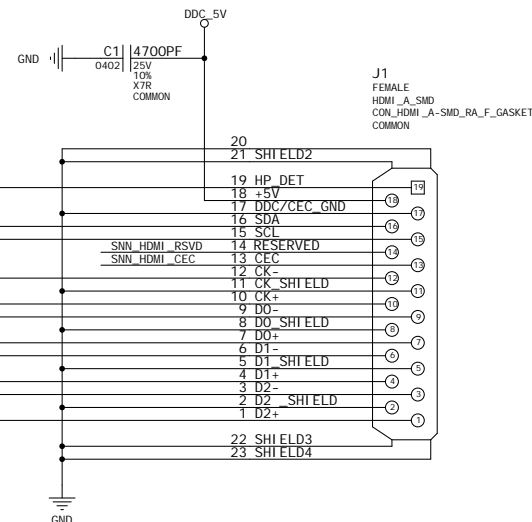
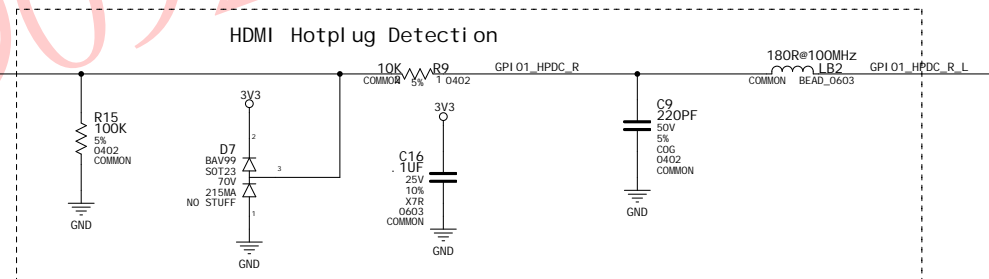
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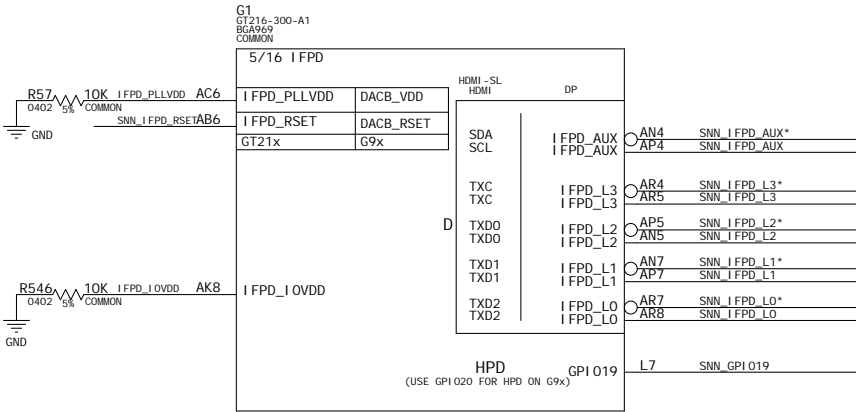
IFP C (NORTH HDMI)



NETNAME	DIFF PAIR NAME	NV_CRITICAL_NET	NV_IMPEDANCE								
I FPC_TXC*	I FPC_TXC	1	90DI FF	C672	1UF COMMON	C673	1UF COMMON	I FPC_TXC_C1*	I FPC_TXC_C1	1	90DI FF
I FPC_TXC	I FPC_TXC	1	90DI FF					I FPC_TXC_C1	I FPC_TXC_C1	1	90DI FF
I FPC_TXD0*	I FPC_TXD0	1	90DI FF	C674	1UF COMMON	C675	1UF COMMON	I FPC_TXD0_C1*	I FPC_TXD0_C1	1	90DI FF
I FPC_TXD0	I FPC_TXD0	1	90DI FF					I FPC_TXD0_C1	I FPC_TXD0_C1	1	90DI FF
I FPC_TXD1*	I FPC_TXD1	1	90DI FF	C676	1UF COMMON	C677	1UF COMMON	I FPC_TXD1_C1*	I FPC_TXD1_C1	1	90DI FF
I FPC_TXD1	I FPC_TXD1	1	90DI FF					I FPC_TXD1_C1	I FPC_TXD1_C1	1	90DI FF
I FPC_TXD2*	I FPC_TXD2	1	90DI FF	C678	1UF COMMON	C679	1UF COMMON	I FPC_TXD2_C1*	I FPC_TXD2_C1	1	90DI FF
I FPC_TXD2	I FPC_TXD2	1	90DI FF					I FPC_TXD2_C1	I FPC_TXD2_C1	1	90DI FF



I F P D (UNUSED)



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20090929

NET	PAIR	NV_CRIT I CAL	I MPEDANCE
I F P E_AUX_BYP	I F P E_AUX_BYP	1	90DI FF
I F P E_AUX_BYP*	I F P E_AUX_BYP	1	90DI FF

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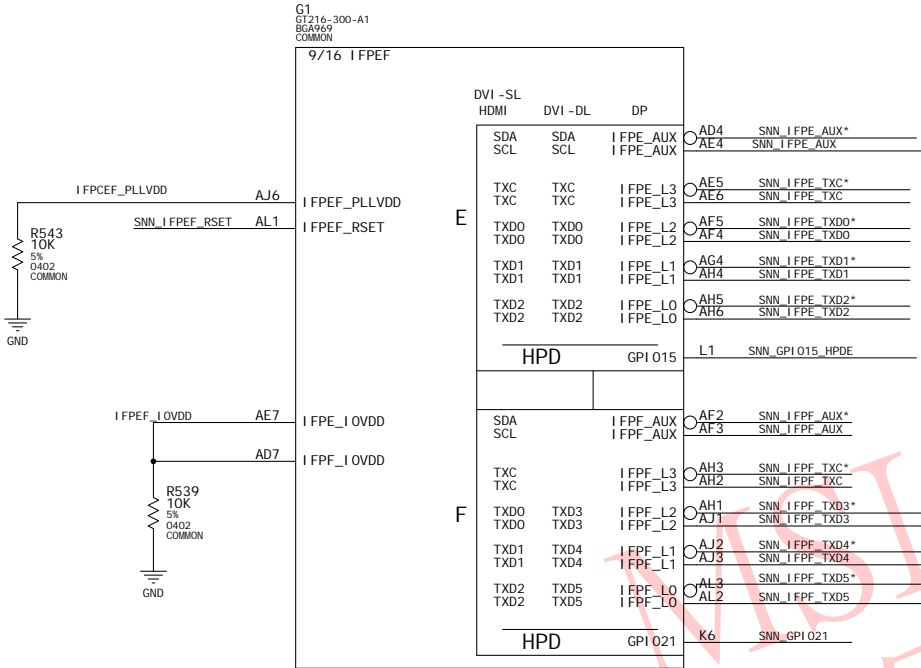
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ID	p684a01	PAGE	13 OF 21
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I FP EF (unused)



NET	PAI R	NV_CRI TI CAL	I MPEDANCE
I FPEF_TXC*	I FPEF_TXC	1	900I FF
I FPEF_TXC	I FPEF_TXC	1	900I FF
I FPE_TXC*	I FPE_TXC	1	900I FF
I FPE_TXC	I FPE_TXC	1	900I FF
I FPE_TXD0*	I FPE_TXD0	1	900I FF
I FPE_TXD0	I FPE_TXD0	1	900I FF
I FPE_TXD1*	I FPE_TXD1	1	900I FF
I FPE_TXD1	I FPE_TXD1	1	900I FF
I FPE_TXD2*	I FPE_TXD2	1	900I FF
I FPE_TXD2	I FPE_TXD2	1	900I FF
I FPF_TXD3*	I FPF_TXD3	1	900I FF
I FPF_TXD3	I FPF_TXD3	1	900I FF
I FPF_TXD4*	I FPF_TXD4	1	900I FF
I FPF_TXD4	I FPF_TXD4	1	900I FF
I FPF_TXD5*	I FPF_TXD5	1	900I FF
I FPF_TXD5	I FPF_TXD5	1	900I FF
I FPEF_TXD3*	I FPEF_TXD3	1	900I FF
I FPEF_TXD3	I FPEF_TXD3	1	900I FF
I FPEF_TXD4*	I FPEF_TXD4	1	900I FF
I FPEF_TXD4	I FPEF_TXD4	1	900I FF
I FPEF_TXD5*	I FPEF_TXD5	1	900I FF
I FPEF_TXD5	I FPEF_TXD5	1	900I FF
I FPEF_TXD0*	I FPEF_TXD0	1	900I FF
I FPEF_TXD0	I FPEF_TXD0	1	900I FF
I FPEF_TXD1*	I FPEF_TXD1	1	900I FF
I FPEF_TXD1	I FPEF_TXD1	1	900I FF
I FPEF_TXD2*	I FPEF_TXD2	1	900I FF
I FPEF_TXD2	I FPEF_TXD2	1	900I FF
I FPE_AUX*	I FPE_AUX	1	900I FF
I FPE_AUX	I FPE_AUX	1	900I FF

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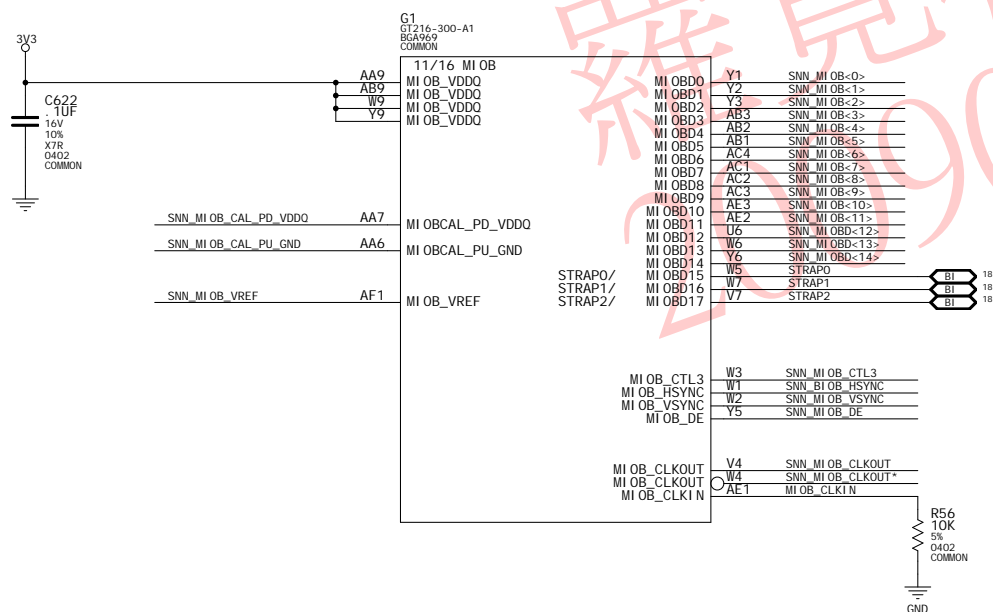
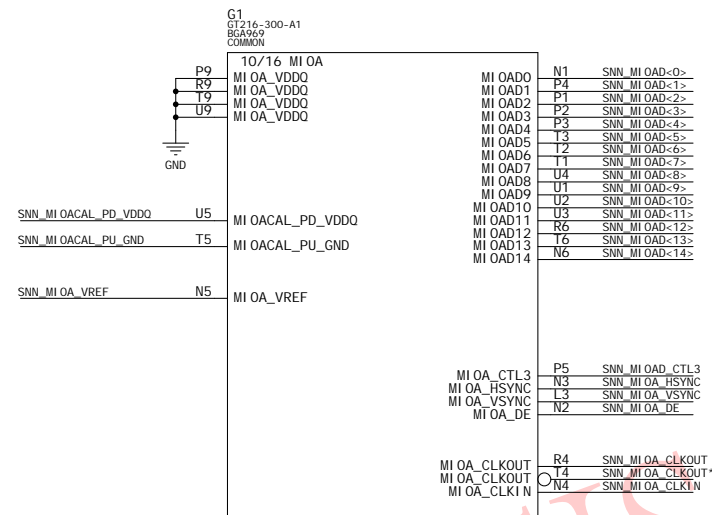
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ASSEMBLY	GT216-350 600/1500MHz 1024MB 64Mx16 BGA100 800MHz DDR3 DVI -I /DP/HDMI /VGA
PAGE DETAIL	I FP EF (MID DVI -I)



## MI OA &amp; MI OB

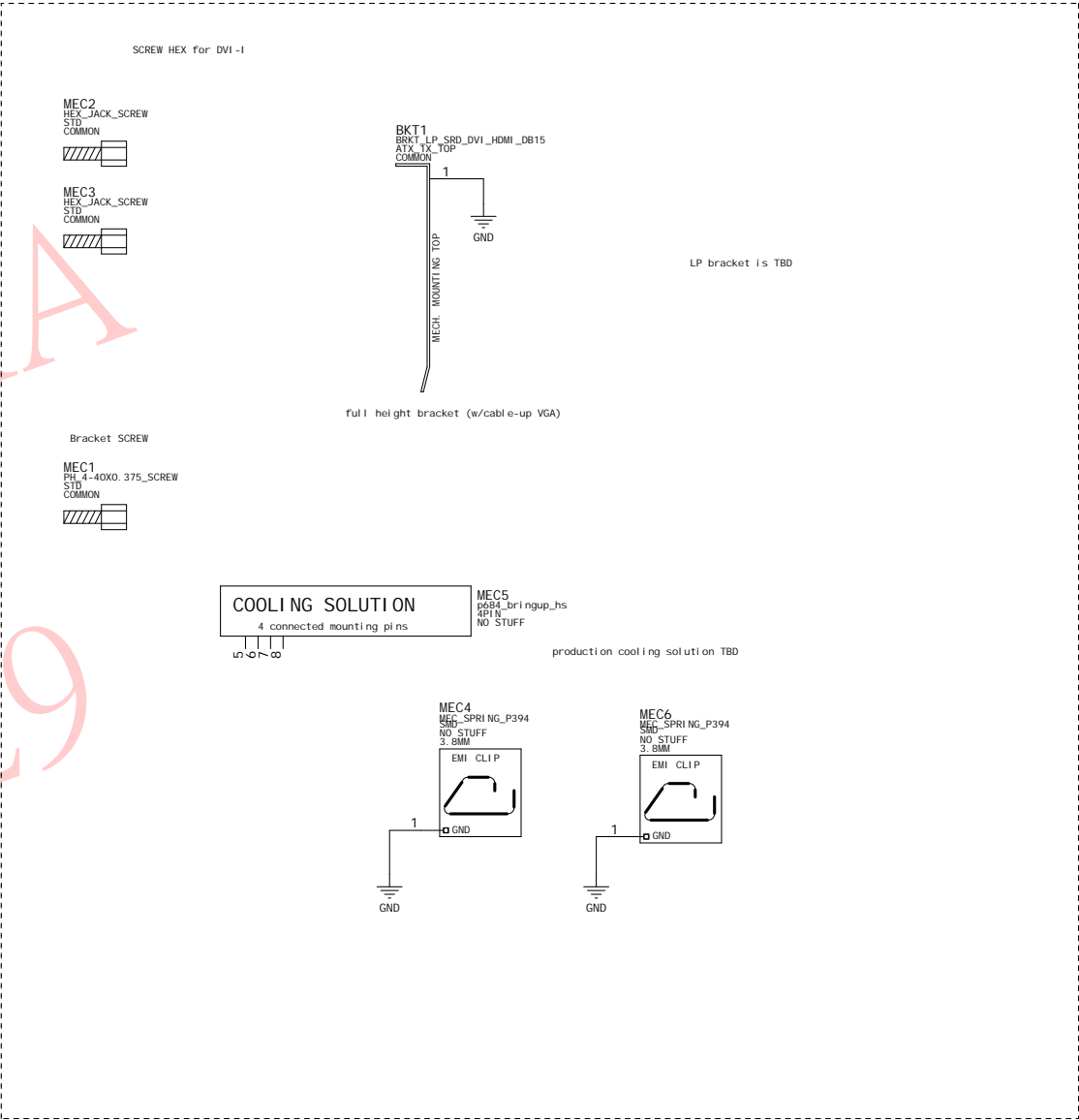
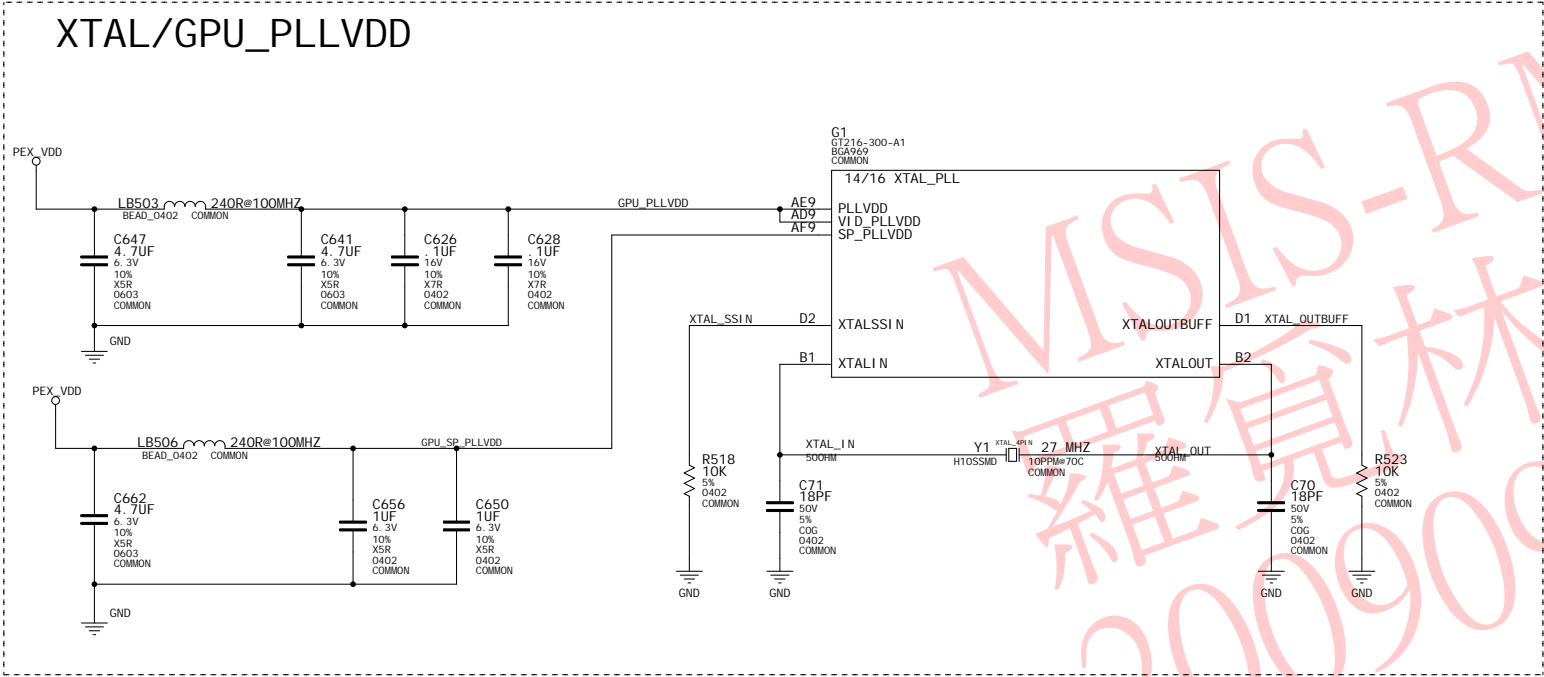


ASSEMBLY	GT216-350 600/1500MHz 1024MB 64Mx16 BGA100 800MHz DDR3 DVI-I /DP/HDMI /VGA
PAGE DETAIL	MI OA & MI OB

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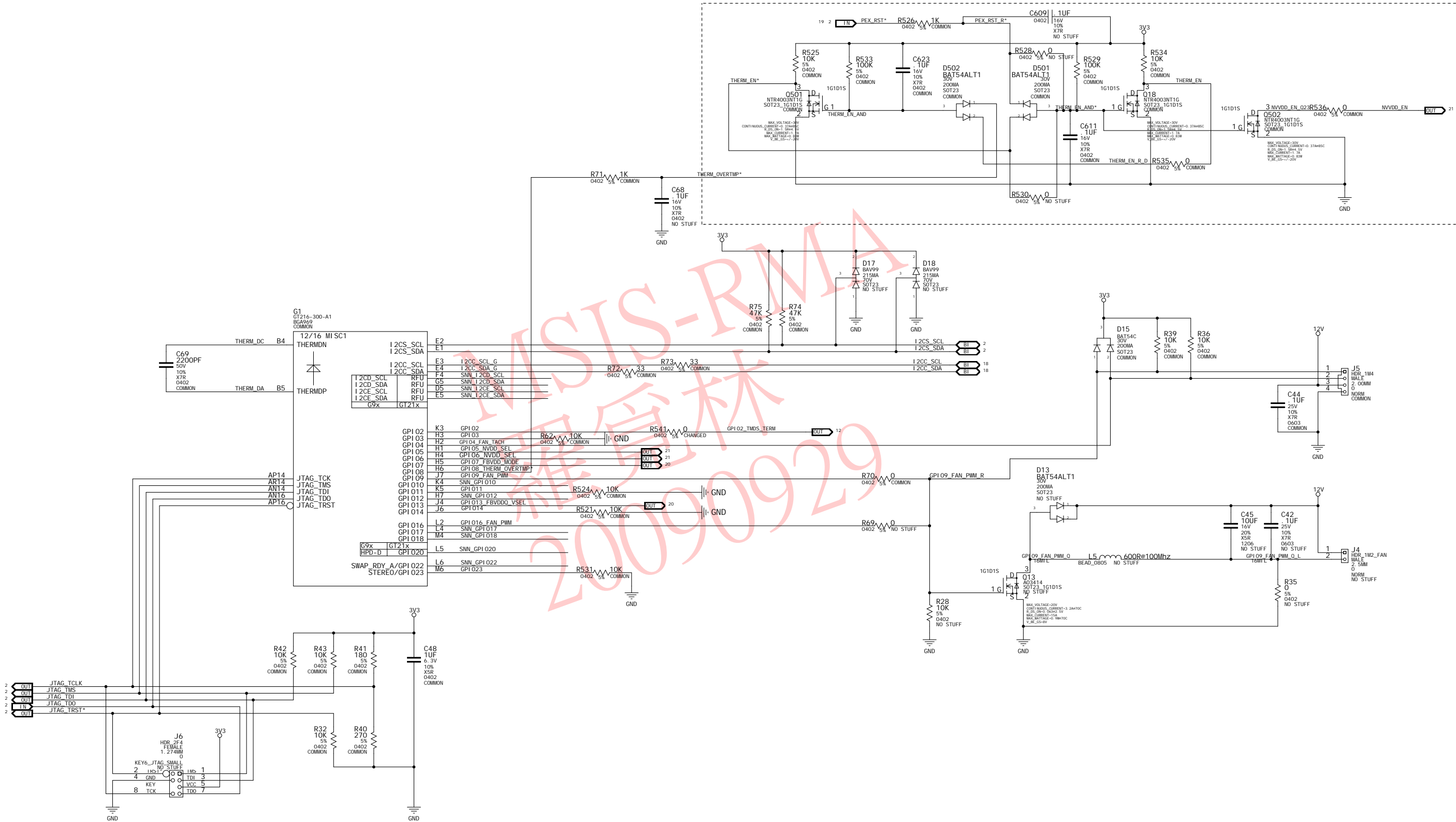
XTAL, MECHANICALS, THERMALS



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FAN CONTROL, GPIO, JTAG

OVERTEMP LATCH



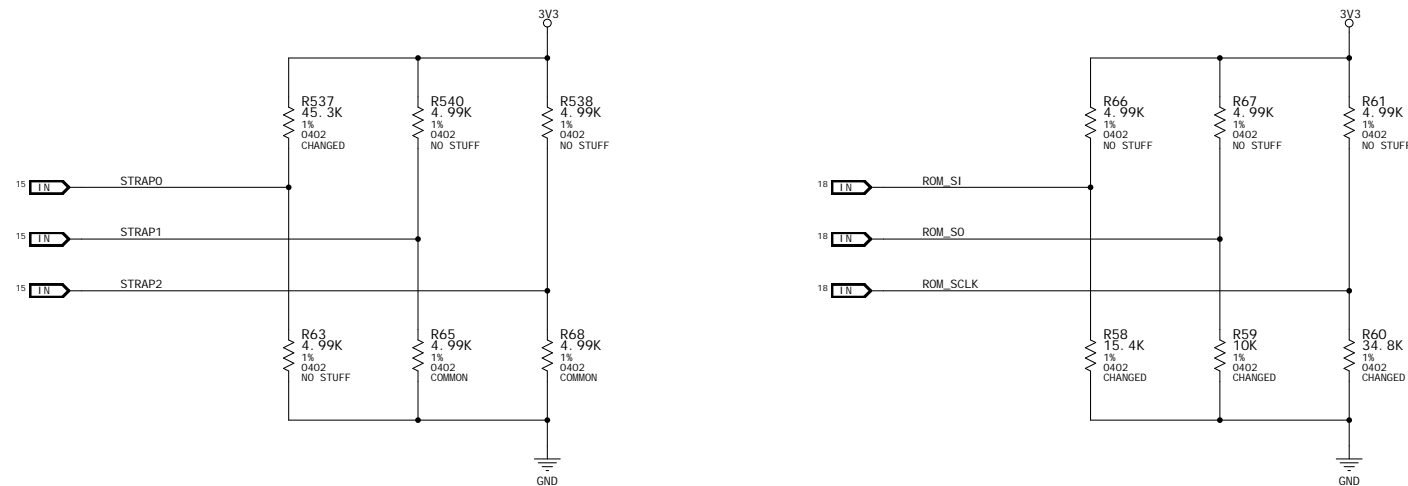
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NAME	Garrett Hall	DATE	28-JAN-2009

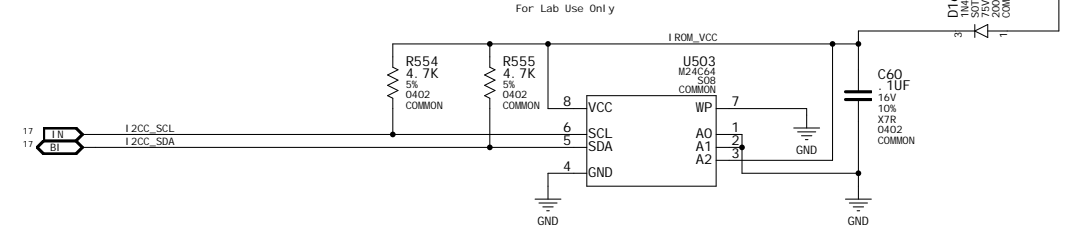
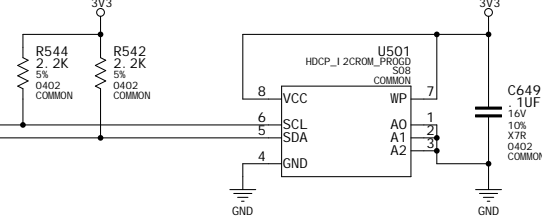
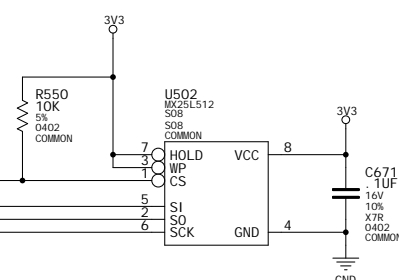
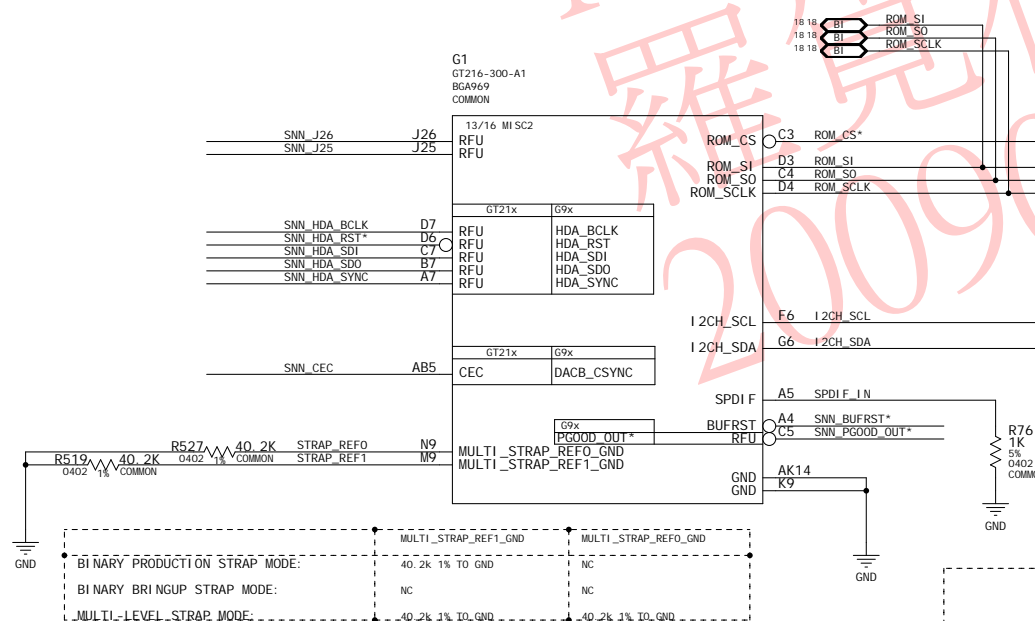


## BIOS ROM, HDCP ROM, STRAPPING OPTIONS

## STRAPPING OPTIONS



Strap0	USER[3:0]	EDID: 1111	45k pul l up	0 5k PD	8 5k PU
Strap1	3GI0PADCFG[3:0]	Desktop: 0000	5k pul l down	1 10k PD	9 10k PU
Strap2	PCI_DEVID[3:0]	GT216-350: 0A20	5k pul l down	2 15k PD	10 15k PU
				3 20k PD	11 20k PU
				4 25k PD	12 25k PU
ROM_S1	RAMCFG[3:0]	64Mx16 DDR3 Hynl x: 0010	15k pul l down	5 30k PD	13 30k PU
		64Mx16 DDR3 Samsung: 0011	20k pul l down	6 35k PD	14 35k PU
				7 45k PD	15 45k PU
ROM_S0	3: XCLK_417				
	2: FB[0]	0010	10k PD		
	1: SMB_ALT_ADDR				
	0: VGA_DEVICE				
ROM_SCLK	3: PCI_DEV_EXT		35k PD		
	2: SUB_VENDOR	0110			
	1: SLOT_CLK_CFG				
	0: PEX_PLL_EN_TERM100				



ASSEMBLY	GT216-350 600/1500MHz 1024MB 64Mx16 BGA100 800MHz DDR3 DVI -I /DP/HDMI /VGA
PAGE DETAIL	BIOS ROM, HDCP ROM, STRAPPING OPTIONS

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NVIDIA CORPORATION

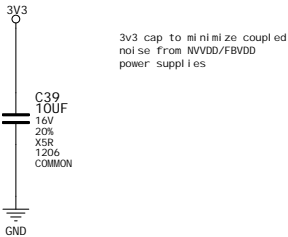
2701 SAN TOMAS EXPRESSWAY  
SANTA CLARA, CA 95050, USA



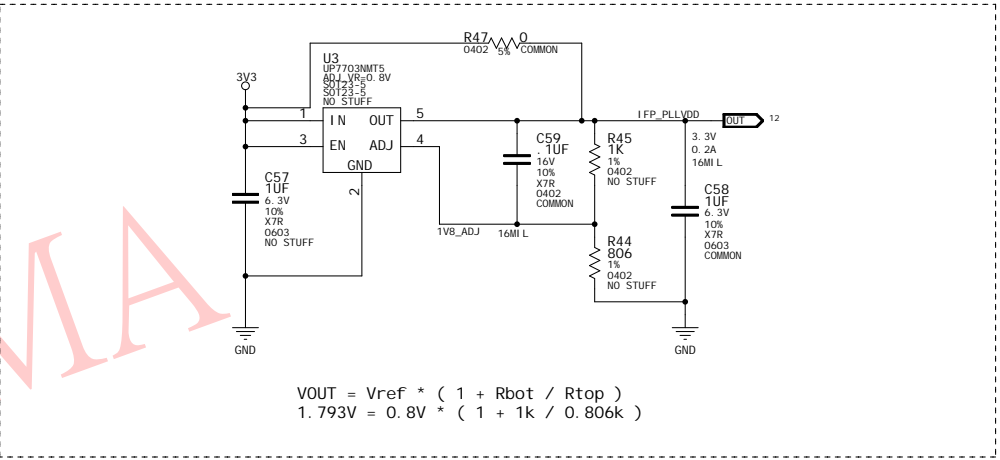
NV_PN	600-10684-0000-100 B
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ID	p684a01	PAGE	18 OF 21
NAME	Garrett Hall	DATE	28-JAN-2009

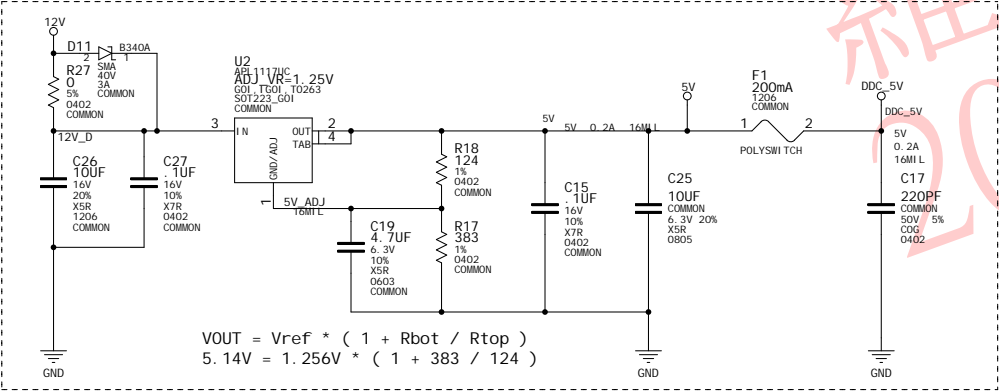
LINEAR POWER SUPPLIES



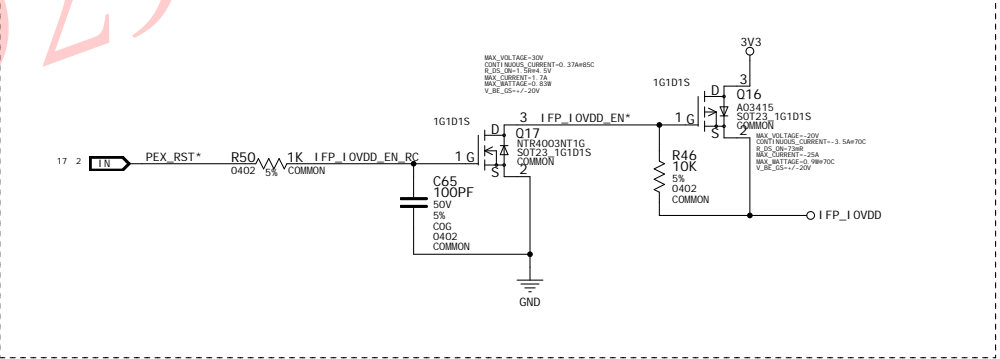
IFP\_PLLVDD SUPPLY



5V & DDC\_5V REGULATOR

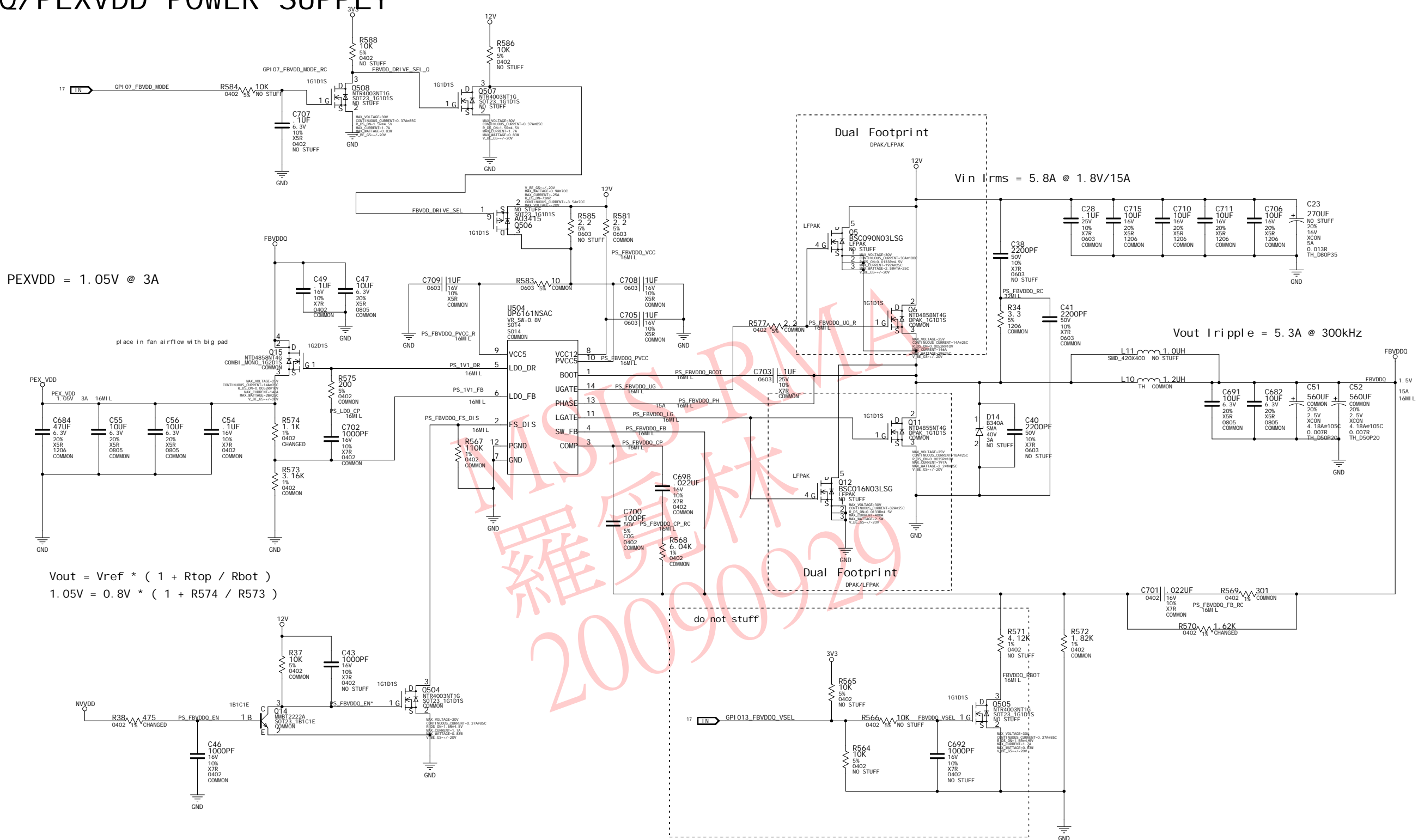


IFP\_IOVDD BACKDRIVE PREVENTION



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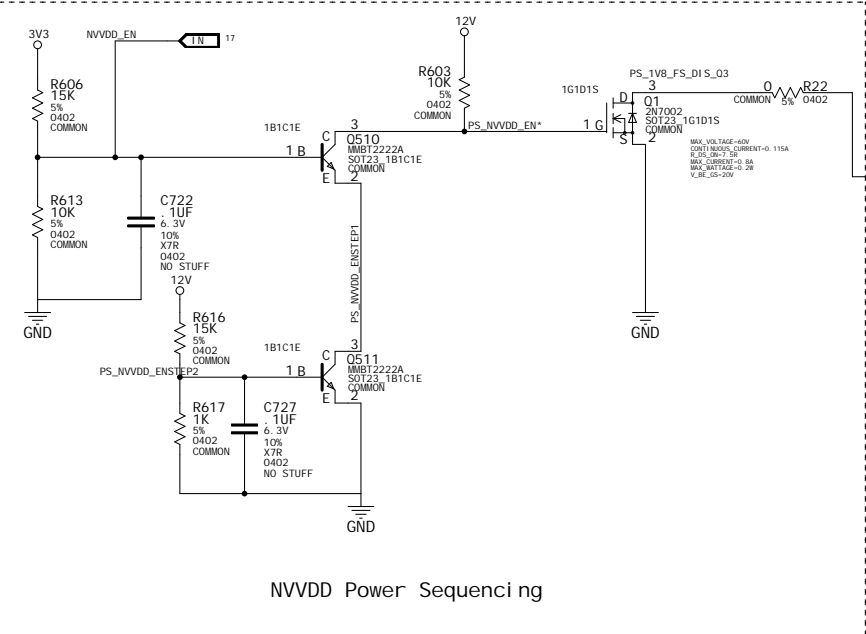
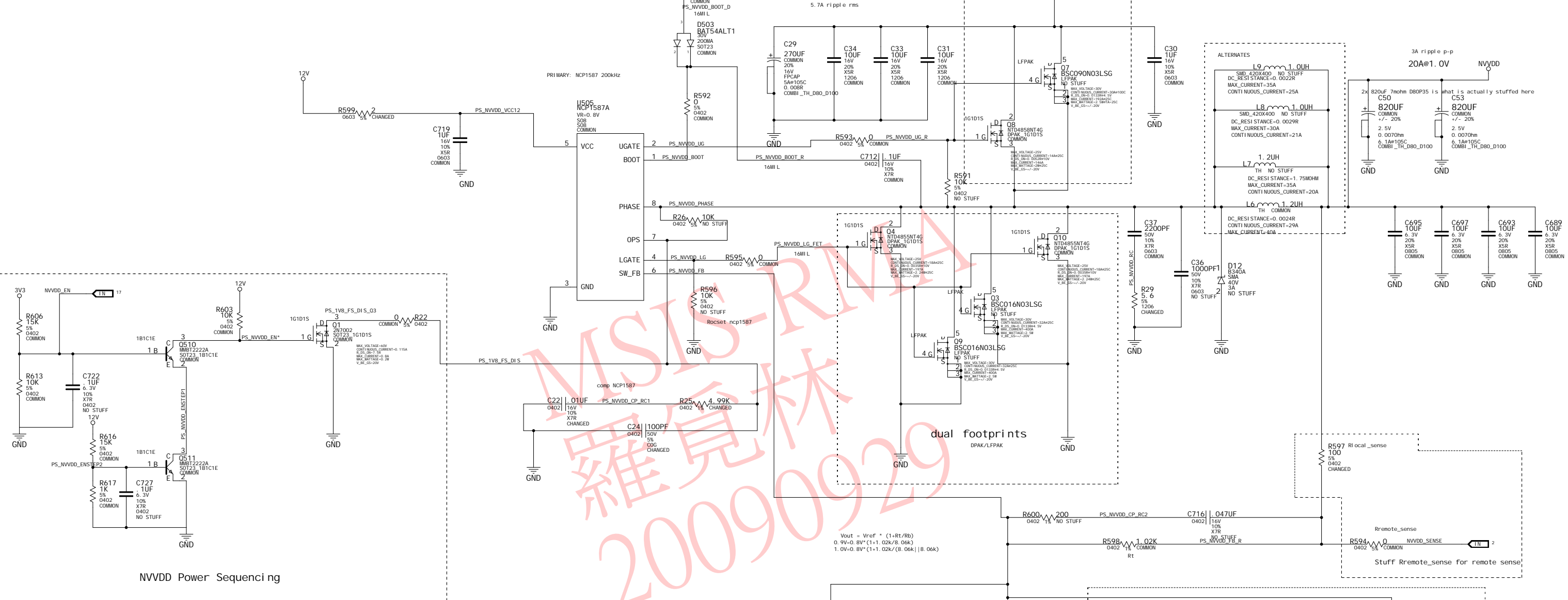
## FBVDDQ/PEXVDD POWER SUPPLY



$$1.50V = 0.8V * ( 1 + R570 / R572 ) @ GPI013 = 0 \text{ [DEFAULT]}$$



NVVDD POWER SUPPLY



Net Name	MIN LINE WIDTH	VOLTAGE	NV_NET_MAX_CURRENT
NVVDD	16MIL	1V	20A
PS_NVVDD_VCC5	16MIL		
PS_NVVDD_VCC12	16MIL		
PS_NVVDD_BOOT	16MIL		
PS_NVVDD_UG	16MIL		
PS_NVVDD_PHASE	16MIL		
PS_NVVDD_LG	16MIL		
PS_NVVDD_FB	12MIL		
PS_NVVDD_CP	12MIL		
PS_NVVDD_UG_R	16MIL		
PS_NVVDD_CP_RC1	12MIL		
PS_NVVDD_CP_RC2	12MIL		
PS_NVVDD_FB_R	12MIL		
PS_NVVDD_RC	12MIL		