

P872: GT218, DDR3 MEMORY 64MX16/128MX16

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REV	VARIANT	NVPN	ASSEMBLY
B	BASE	600-10872-BASE-100	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
1	SKU0000	600-10872-0000-100	GT218-300-B, Dual-Rank, 589/1402/790, 1024MB/64b, 64Mb/16 DDR3, DVI-DL+HDMI, DT
2	SKU0001	600-10872-0001-100	GT218-300-B, 589/1402/790, 512MB/64b, 64Mb/16 DDR3, DVI-I+HDMI, DT
3	SKU0002	600-10872-0002-100	GT218-300-B, 589/1402/790, 1024MB/64b, 128MB/16 DDR3, DVI-I+HDMI, DT
4	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
5	<UNDEFINED>	<UNDEFINED>	<UNDEFINED>
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	P872 Overview

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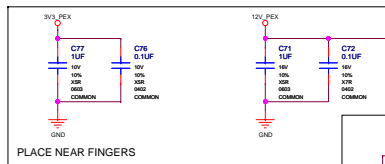
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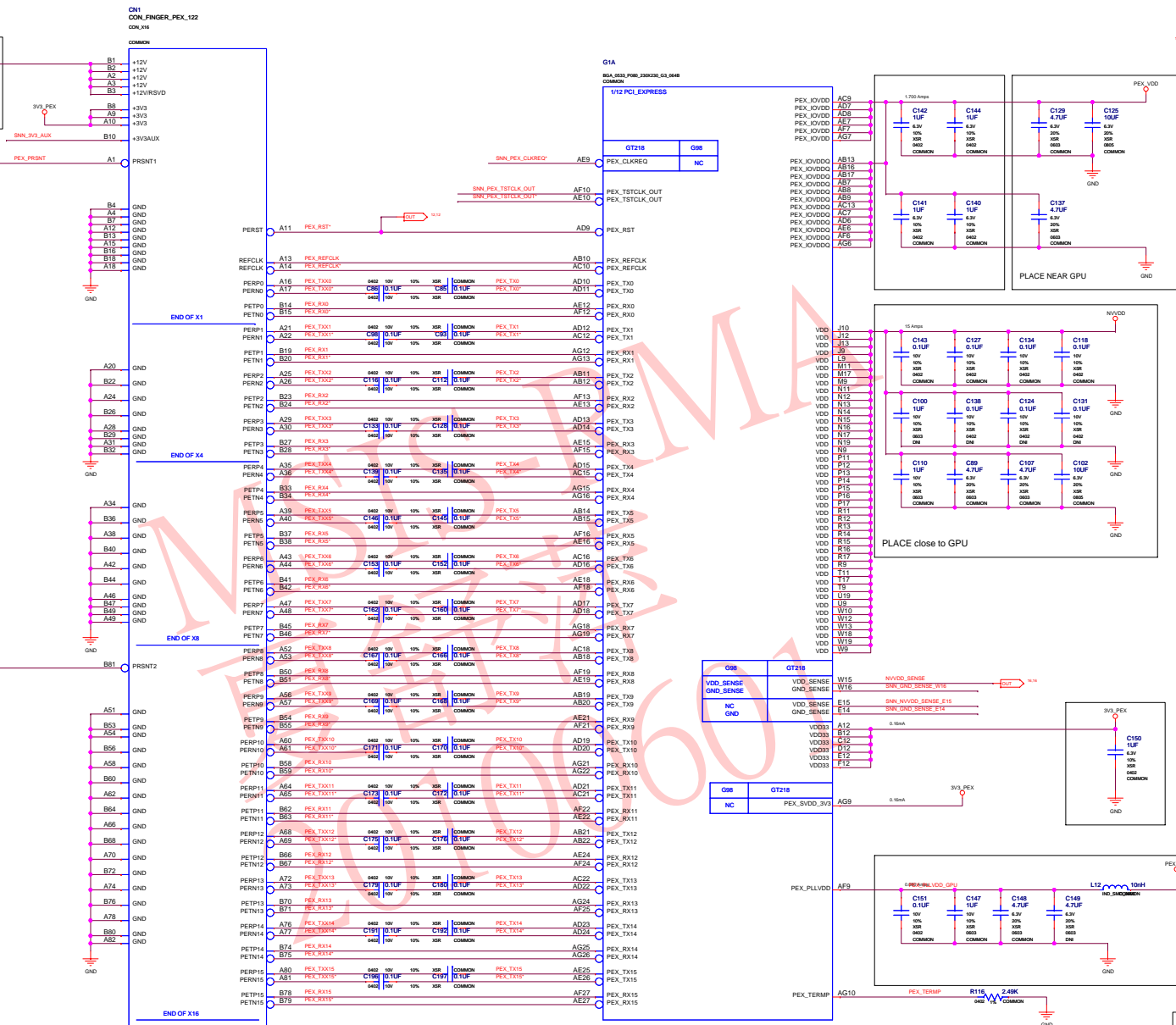


NV_PN	600-10872-BASE-100		
PCB REV	P872-701	PAGE	
BOM REV	A	DATE	22-DEC-2009

PCI Express Interface



	Net Name	DIFF_PAIR	CRITICAL	IMPEDANCE	
PEX	PEX_T10	PEX_T20	+	0000F	
	PEX_T10P	PEX_T20P	+	0000F	
	PEX_T11	PEX_T21	+	0000F	
	PEX_T12	PEX_T22	+	0000F	
	PEX_T12P	PEX_T22P	+	0000F	
	PEX_T13	PEX_T23	+	0000F	
	PEX_T13P	PEX_T23P	+	0000F	
	PEX_T14	PEX_T24	+	0000F	
	PEX_T14P	PEX_T24P	+	0000F	
	PEX_T15	PEX_T25	+	0000F	
	PEX_T15P	PEX_T25P	+	0000F	
	PEX_T16	PEX_T26	+	0000F	
	PEX_T16P	PEX_T26P	+	0000F	
	PEX_T17	PEX_T27	+	0000F	
	PEX_T17P	PEX_T27P	+	0000F	
	PEX_T18	PEX_T28	+	0000F	
	PEX_T18P	PEX_T28P	+	0000F	
	PEX_T19	PEX_T29	+	0000F	
	PEX_T19P	PEX_T29P	+	0000F	
	PEX	PEX_T19B	PEX_T29B	+	0000F
PEX_T19BP		PEX_T29BP	+	0000F	
PEX_T20		PEX_T30	+	0000F	
PEX_T20P		PEX_T30P	+	0000F	
PEX_T21		PEX_T31	+	0000F	
PEX_T21P		PEX_T31P	+	0000F	
PEX_T22		PEX_T32	+	0000F	
PEX_T22P		PEX_T32P	+	0000F	
PEX_T23		PEX_T33	+	0000F	
PEX_T23P		PEX_T33P	+	0000F	
PEX_T24		PEX_T34	+	0000F	
PEX_T24P		PEX_T34P	+	0000F	
PEX_T25		PEX_T35	+	0000F	
PEX_T25P		PEX_T35P	+	0000F	
PEX_T26		PEX_T36	+	0000F	
PEX_T26P		PEX_T36P	+	0000F	
PEX		PEX_T27	PEX_T37	+	0000F
		PEX_T27P	PEX_T37P	+	0000F
		PEX_T28	PEX_T38	+	0000F
		PEX_T28P	PEX_T38P	+	0000F
	PEX_T29	PEX_T39	+	0000F	
	PEX_T29P	PEX_T39P	+	0000F	
	PEX_T30	PEX_T40	+	0000F	
	PEX_T30P	PEX_T40P	+	0000F	
	PEX_T31	PEX_T41	+	0000F	
	PEX_T31P	PEX_T41P	+	0000F	
	PEX_T32	PEX_T42	+	0000F	
	PEX_T32P	PEX_T42P	+	0000F	
	PEX_T33	PEX_T43	+	0000F	
	PEX_T33P	PEX_T43P	+	0000F	
	PEX_T34	PEX_T44	+	0000F	
	PEX_T34P	PEX_T44P	+	0000F	
	PEX_T35	PEX_T45	+	0000F	
	PEX_T35P	PEX_T45P	+	0000F	
	PEX	PEX_T36	PEX_T46	+	0000F
		PEX_T36P	PEX_T46P	+	0000F
PEX_T37		PEX_T47	+	0000F	
PEX_T37P		PEX_T47P	+	0000F	
PEX_T38		PEX_T48	+	0000F	
PEX_T38P		PEX_T48P	+	0000F	
PEX_T39		PEX_T49	+	0000F	
PEX_T39P		PEX_T49P	+	0000F	
PEX_T40		PEX_T50	+	0000F	
PEX_T40P		PEX_T50P	+	0000F	
PEX_T41		PEX_T51	+	0000F	
PEX_T41P		PEX_T51P	+	0000F	
PEX_T42		PEX_T52	+	0000F	
PEX_T42P		PEX_T52P	+	0000F	
PEX_T43		PEX_T53	+	0000F	
PEX_T43P		PEX_T53P	+	0000F	
PEX_T44		PEX_T54	+	0000F	
PEX_T44P		PEX_T54P	+	0000F	
PEX		PEX_T45	PEX_T55	+	0000F
		PEX_T45P	PEX_T55P	+	0000F
	PEX_T46	PEX_T56	+	0000F	
	PEX_T46P	PEX_T56P	+	0000F	
	PEX_T47	PEX_T57	+	0000F	
	PEX_T47P	PEX_T57P	+	0000F	
	PEX_T48	PEX_T58	+	0000F	
	PEX_T48P	PEX_T58P	+	0000F	
	PEX_T49	PEX_T59	+	0000F	
	PEX_T49P	PEX_T59P	+	0000F	
	PEX_T50	PEX_T60	+	0000F	
	PEX_T50P	PEX_T60P	+	0000F	
	PEX_T51	PEX_T61	+	0000F	
	PEX_T51P	PEX_T61P	+	0000F	
	PEX_T52	PEX_T62	+	0000F	
	PEX_T52P	PEX_T62P	+	0000F	
	PEX_T53	PEX_T63	+	0000F	
	PEX_T53P	PEX_T63P	+	0000F	
	PEX	PEX_T54	PEX_T64	+	0000F
		PEX_T54P	PEX_T64P	+	0000F
PEX_T55		PEX_T65	+	0000F	
PEX_T55P		PEX_T65P	+	0000F	
PEX_T56		PEX_T66	+	0000F	
PEX_T56P		PEX_T66P	+	0000F	
PEX_T57		PEX_T67	+	0000F	
PEX_T57P		PEX_T67P	+	0000F	
PEX_T58		PEX_T68	+	0000F	
PEX_T58P		PEX_T68P	+	0000F	
PEX_T59		PEX_T69			
PEX_REFCLK		PEX_REFCLKA	+	0000F	
PEX_REFCLKB		PEX_REFCLKB/A	+	0000F	



Net Name	MIN_WIDTH	MAX_WIDTH
PEX_PSRST	12000	
PEX_TERM0	12000	

Net Name	VOLTAGE	MAX_CURRENT
PEX_PLVDD_GPU	1.00V	0.120A 120mA

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NV_PN	600-10872-BASE-100
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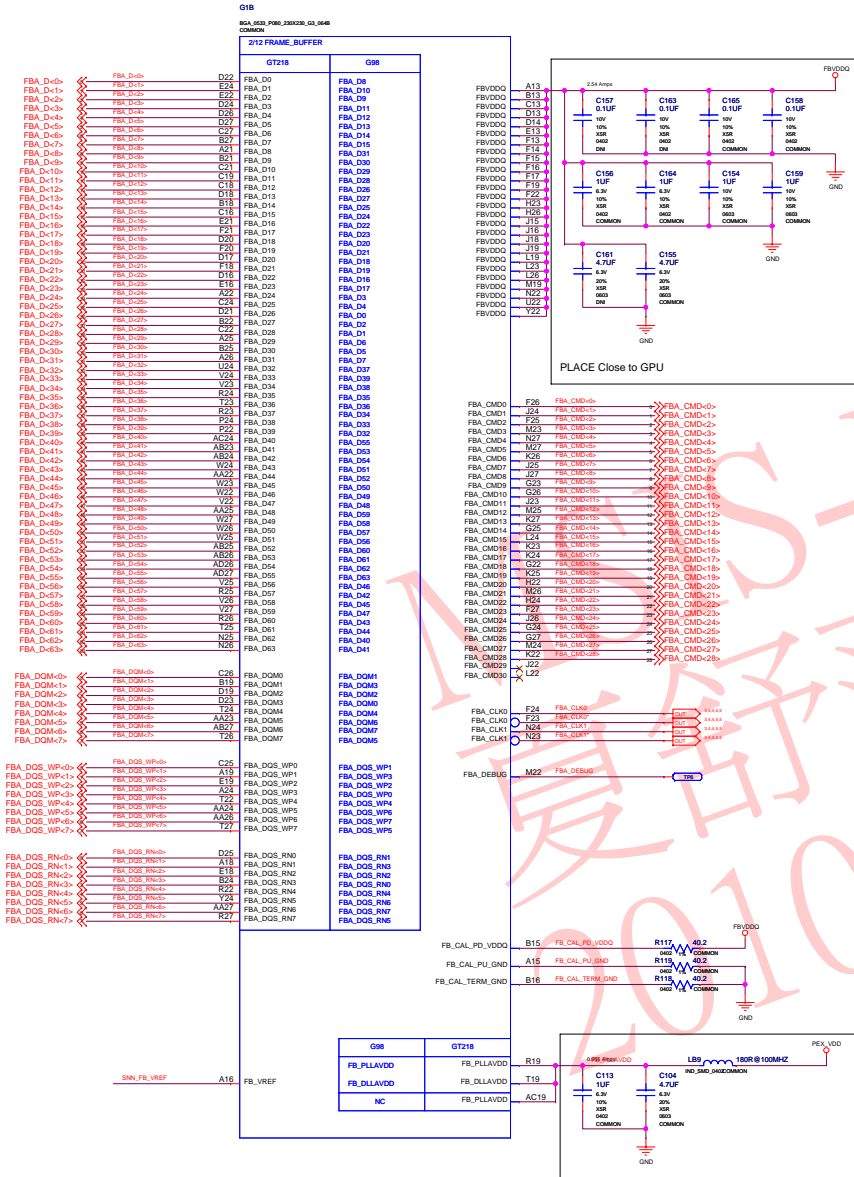
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	PCI Express Interface

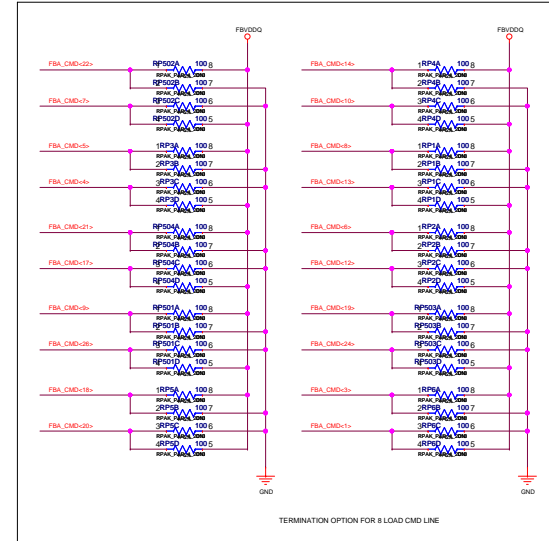
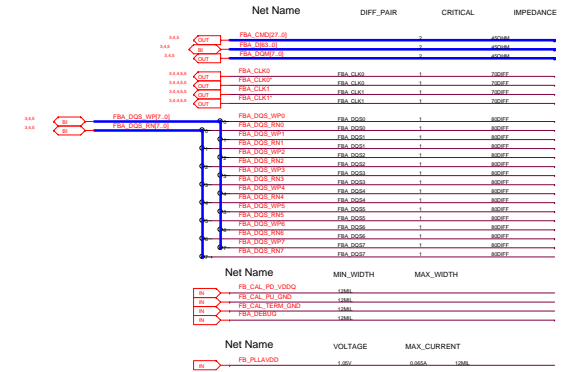
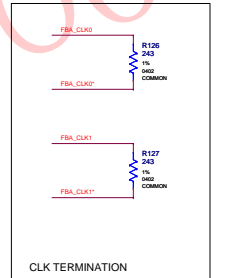
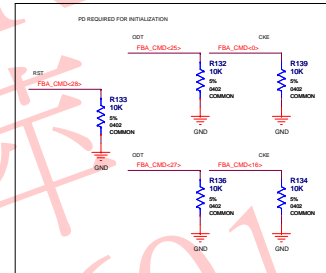
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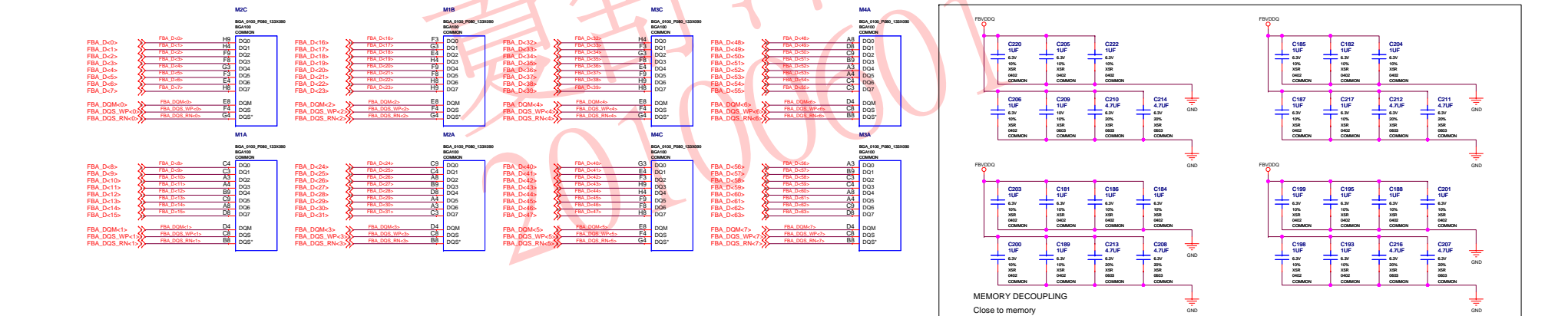
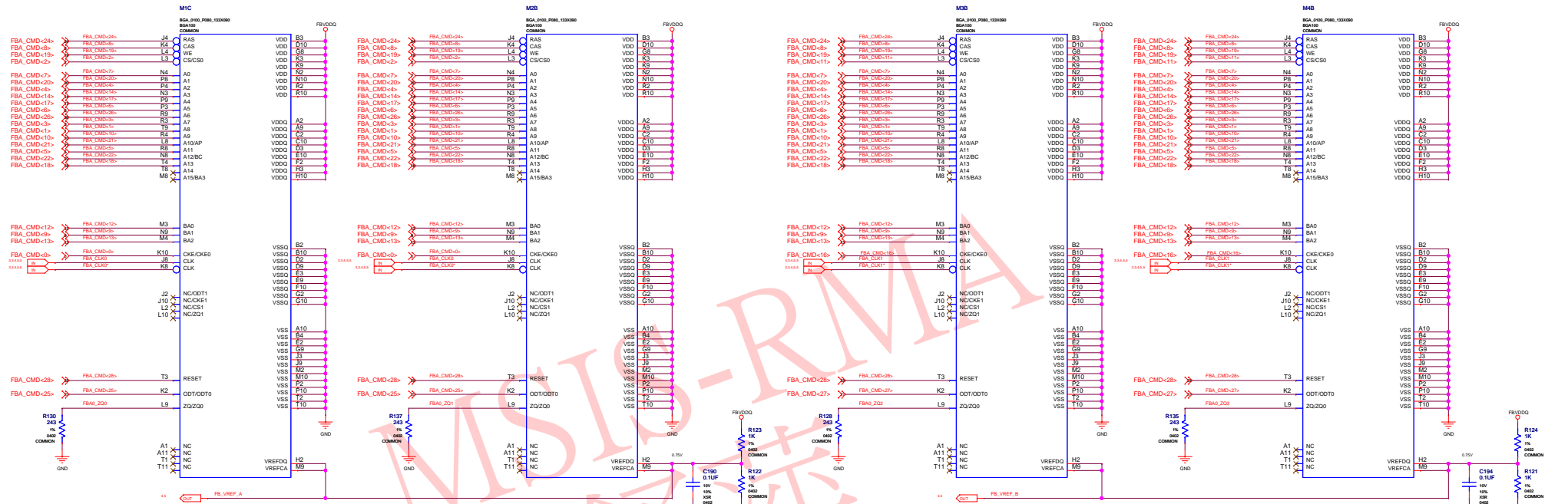
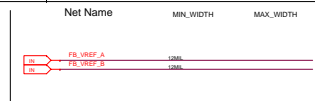
Frame Buffer Interface




CMD-Add Map		BANK 0		BANK 1	
CMD	GT216 ctrl-20	GT218 ctrl-20	GT216 ctrl-20	GT218 ctrl-20	
CMD00	CHE_1	NOT USED	CHE_1	NOT USED	
CMD01	ADD	ADD	ADD	ADD	
CMD02	CHE_1 ¹	NOT USED	CHE_1 ¹	NOT USED	
CMD03	ADD ₂	ADD ₂	ADD ₂	ADD ₂	
CMD04	ADD ₃	ADD ₃	ADD ₃	ADD ₃	
CMD05	ADD ₄	ADD ₄	ADD ₄	ADD ₄	
CMD06	ADD ₅	ADD ₅	ADD ₅	ADD ₅	
CMD07	ADD ₆	ADD ₆	ADD ₆	ADD ₆	
CMD08	CHE_2	CHE_2	CHE_2	CHE_2	
CMD09	BAB	BAB	BAB	BAB	
CMD10	ADD ₇	ADD ₇	ADD ₇	ADD ₇	
CMD11	NOT USED	CHE_3	NOT USED	CHE_3	
CMD12	BAB	BAB	BAB	BAB	
CMD13	BAB	BAB	BAB	BAB	
CMD14	ADD ₈	ADD ₈	ADD ₈	ADD ₈	
CMD15	CHE_3	NOT USED	CHE_3	NOT USED	
CMD16	NOT USED	CHE_3	NOT USED	CHE_3	
CMD17	ADD ₉	ADD ₉	ADD ₉	ADD ₉	
CMD18	ADD ₁₀	ADD ₁₀	ADD ₁₀	ADD ₁₀	
CMD19	WE ¹	WE ¹	WE ¹	WE ¹	
CMD20	ADD ₁₁	ADD ₁₁	ADD ₁₁	ADD ₁₁	
CMD21	ADD ₁₂	ADD ₁₂	ADD ₁₂	ADD ₁₂	
CMD22	ADD ₁₃	ADD ₁₃	ADD ₁₃	ADD ₁₃	
CMD23	CHE_3 ¹	NOT USED	CHE_3 ¹	NOT USED	
CMD24	REST	REST	REST	REST	
CMD25	NOT USED	ADD ₁₄	NOT USED	ADD ₁₄	
CMD26	ADD ₁₅	ADD ₁₅	ADD ₁₅	ADD ₁₅	
CMD27	NOT USED	ADD ₁₆	NOT USED	ADD ₁₆	
CMD28	REST	REST	REST	REST	
CMD29					
CMD30					
CMD31					



DDR3 Memories Rank 0

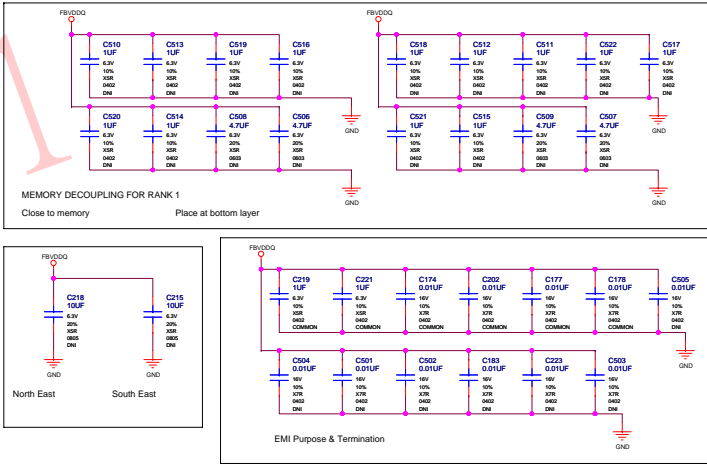
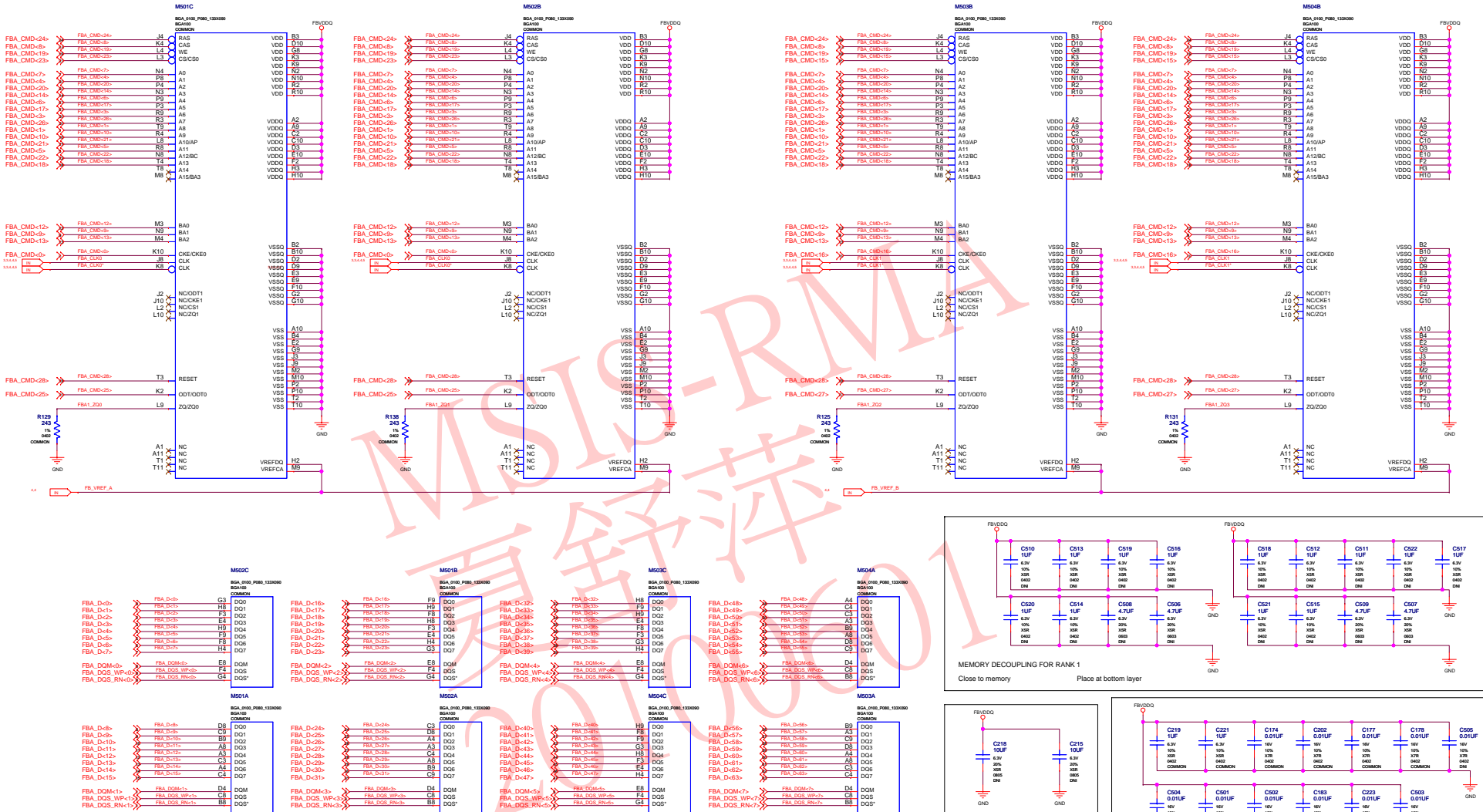
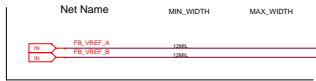


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PCB REV	P872-001	PAGE	
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PAGE DETAIL	DDR3 Memories Rank 0

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DDR3 Memories Rank 1



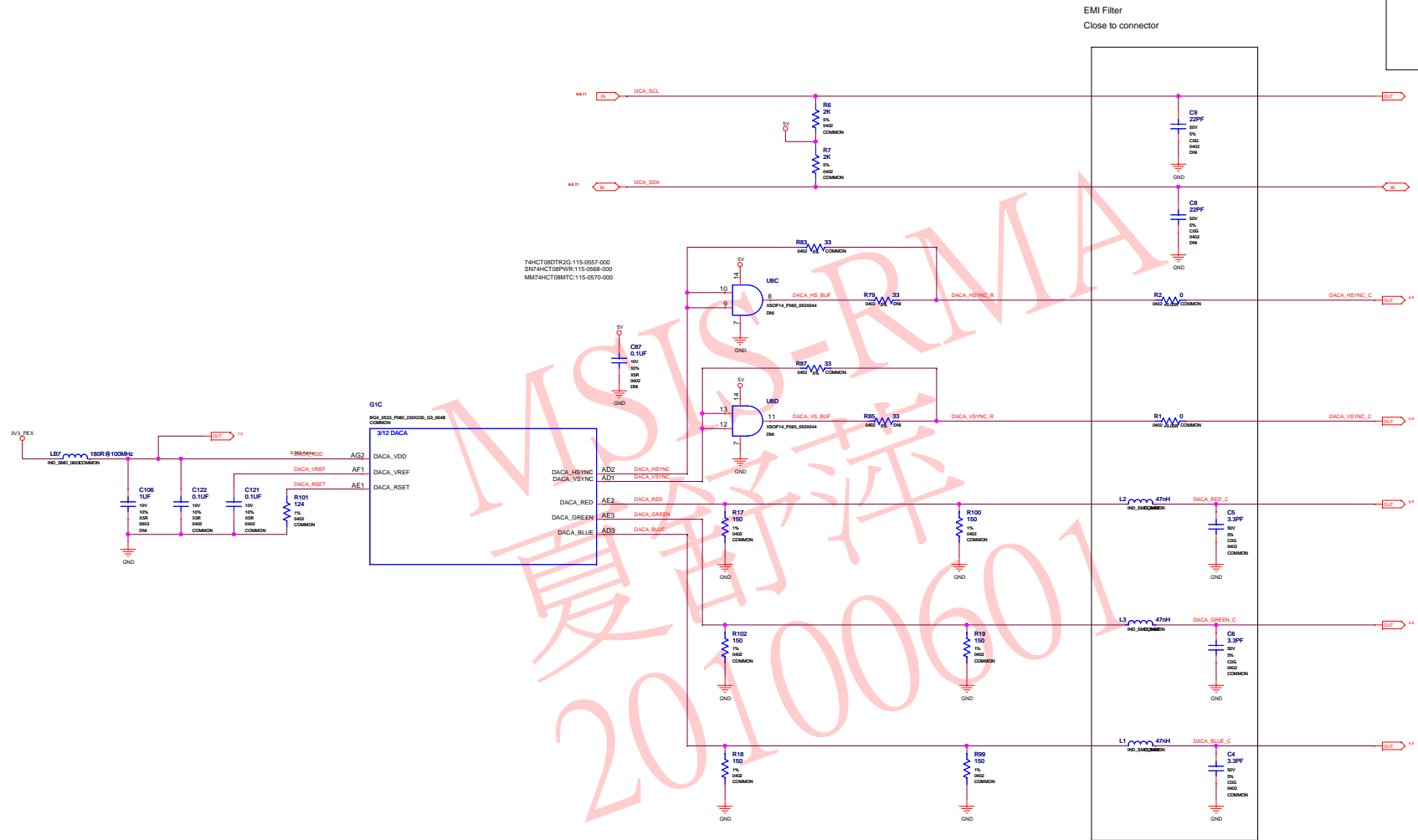
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PAGE DETAIL	DDR3 Memories Rank 1

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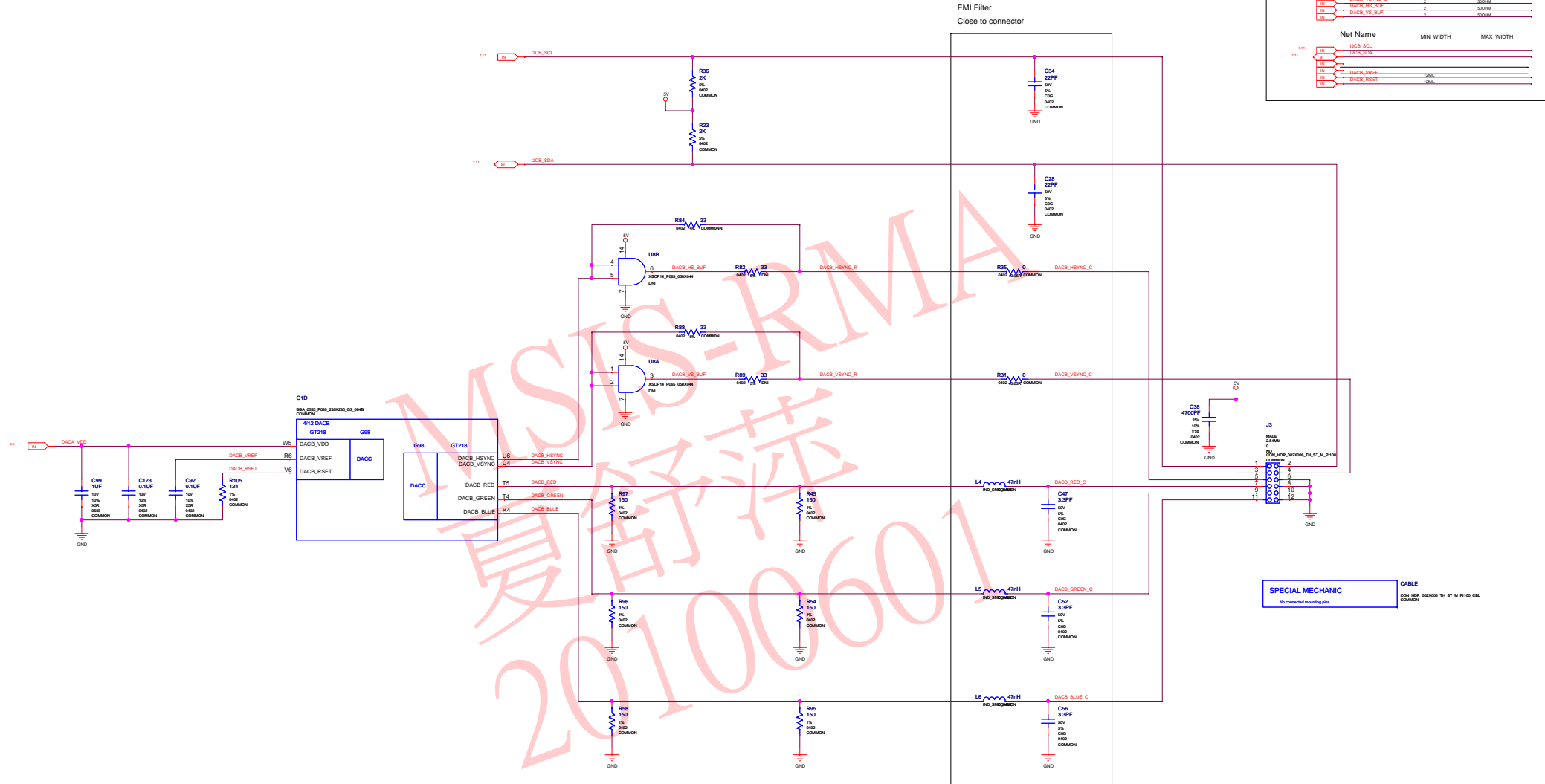
DAC A VGA



Net Name		CRITICAL	IMPEDANCE
	DACA_RED	1	50OHM
	DACA_GREEN	1	50OHM
	DACA_BLUE	1	50OHM
6.0	DACA_RED_C	1	50OHM
	DACA_GREEN_C	1	50OHM
6.0	DACA_BLUE_C	1	50OHM
	DACA_YELLOW	1	50OHM
	DACA_YELLOW_C	1	50OHM
6.0	DACA_PIE_BUF	1	50OHM
	DACA_PIE_BUF_C	1	50OHM
6.0	DACA_PIE_BUF_C	1	50OHM
	DACA_YELLOW_C	1	50OHM


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DAC B VGA Header



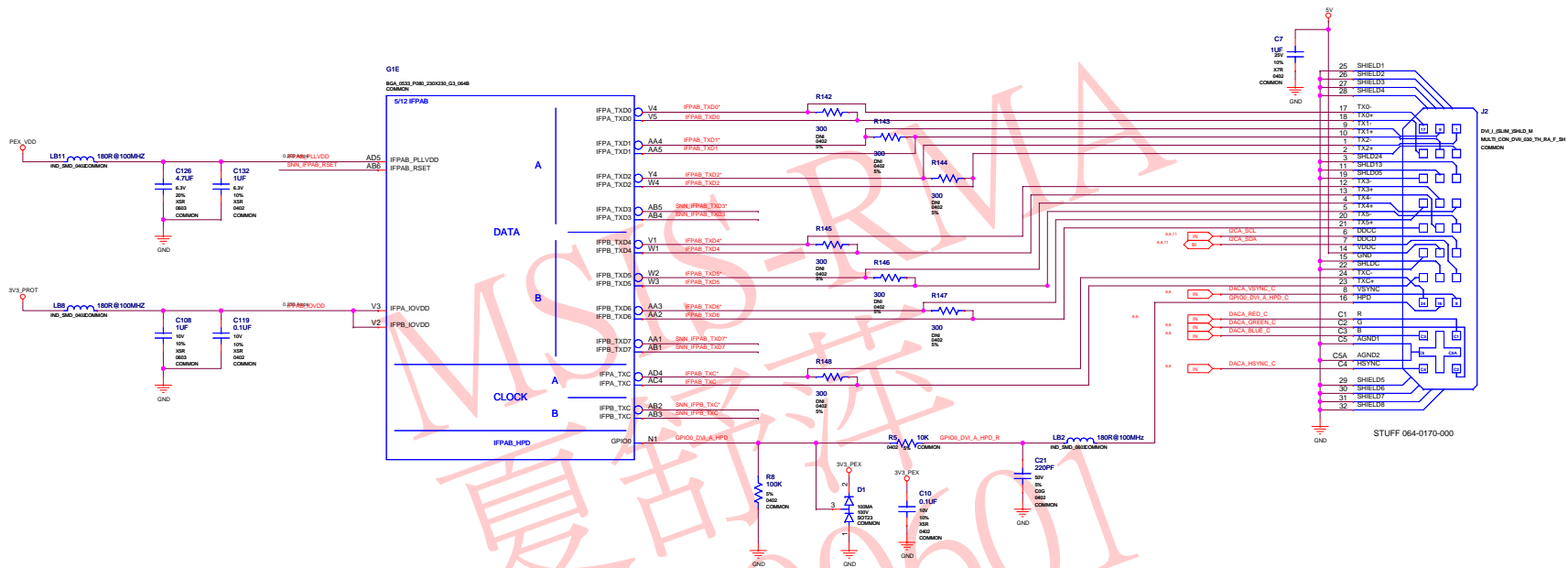
Net Name		CRITICAL	IMPEDANCE
IN	DACR_RED	1	50OHM
IN	DACR_GREEN	1	50OHM
IN	DACR_BLUE	1	50OHM
IN	DACR_WHITE	1	50OHM
IN	DACR_PINK	1	50OHM
IN	DACR_ORANGE	1	50OHM
IN	DACR_GREEN_C	1	50OHM
IN	DACR_BLUE_C	1	50OHM
IN	DACR_YELLOW	2	50OHM
IN	DACR_YELLOW_C	2	50OHM
IN	DACR_PINK_C	2	50OHM
IN	DACR_ORANGE_C	2	50OHM
IN	DACR_VIO_RED	2	50OHM
IN	DACR_VIO_BLUE	2	50OHM

Net Name		MIN_WIDTH	MAX_WIDTH
IN	DACR_SCL	10MIL	10MIL
IN	DACR_STCK	10MIL	10MIL
IN			
IN	DACR_USB00	12MIL	12MIL
IN	DACR_USB01	12MIL	12MIL
IN	DACR_RESET	12MIL	12MIL

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IFPAB TMDS Interface



	Net Name	DIFF_PAIR	CRITICAL	IMPEDANCE
IN	PP4B_T2D01	PP4B_T2D0	1	50OHM
IN	PP4B_T2D02	PP4B_T2D0	1	50OHM
IN	PP4B_T2D03	PP4B_T2D0	1	50OHM
IN	PP4B_T2D04	PP4B_T2D0	1	50OHM
IN	PP4B_T2D05	PP4B_T2D0	1	50OHM
IN	PP4B_T2D06	PP4B_T2D0	1	50OHM
IN	PP4B_T2D07	PP4B_T2D0	1	50OHM
IN	PP4B_T2D08	PP4B_T2D0	1	50OHM
IN	PP4B_T2D09	PP4B_T2D0	1	50OHM
IN	PP4B_T2D10	PP4B_T2D0	1	50OHM
IN	PP4B_T2C0	PP4B_T2C	1	50OHM
IN	PP4B_T2C	PP4B_T2C	1	50OHM

Net Name	MIN_WIDTH	MAX_WIDTH
IN	GPIOS_DVI_A_HPD	
IN	GPIOS_DVI_A_HPD_R	
IN	GPIOS_DVI_A_HPD_C	

Net Name	VOLTAGE	MAX_CURRENT
IPFAB_PLLVDD	1.05V	0.200A 500K
IPFAB_IQOVDD	3.3V	0.200A 500K
IPFAB_RSET		500K

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	IFPAB TMD5 Interface

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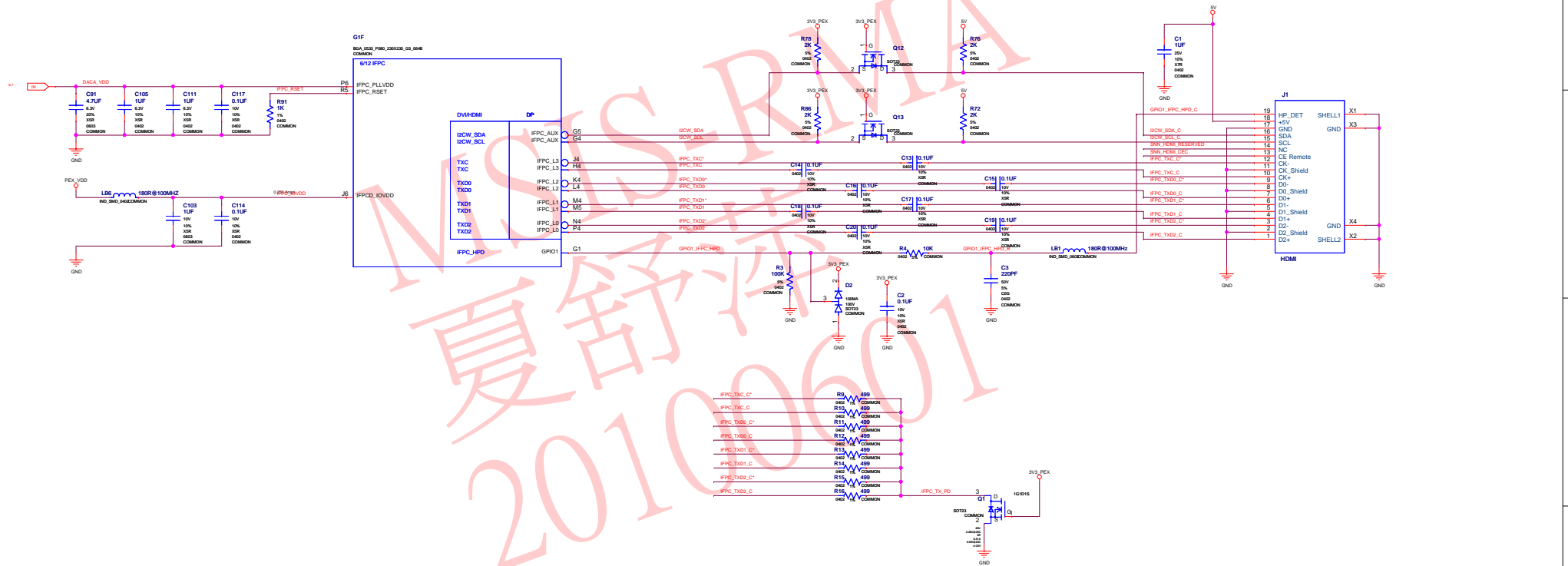
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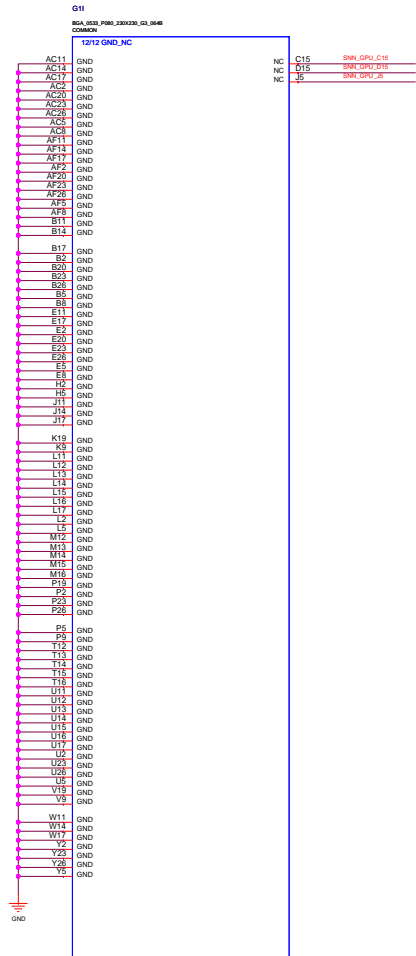
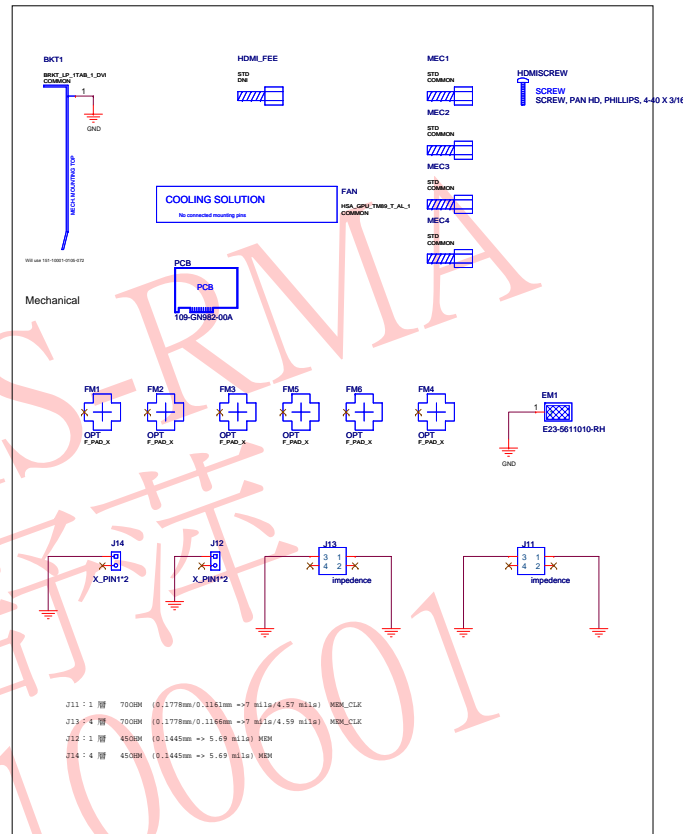
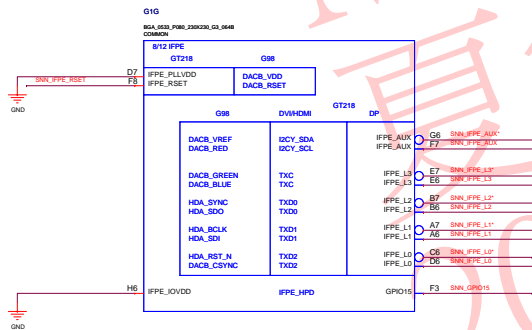
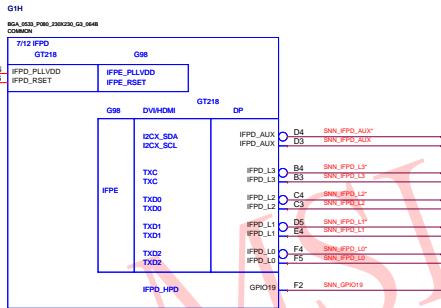
IFPC HDMI Connector


[illegible]

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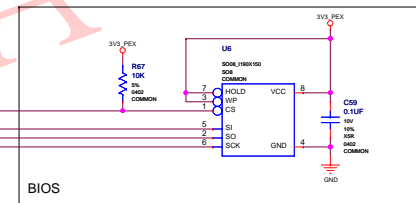
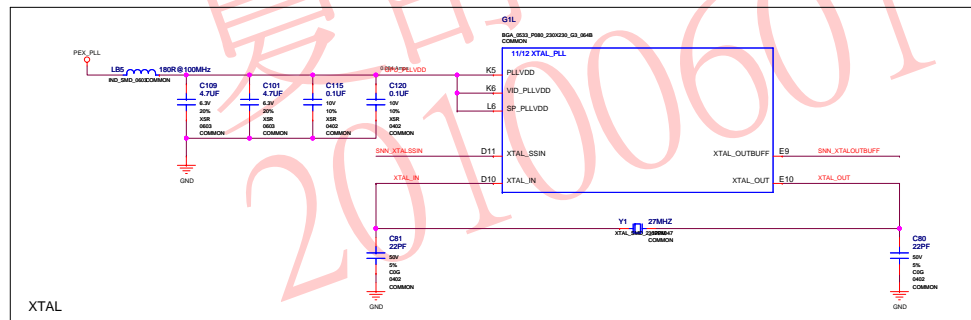
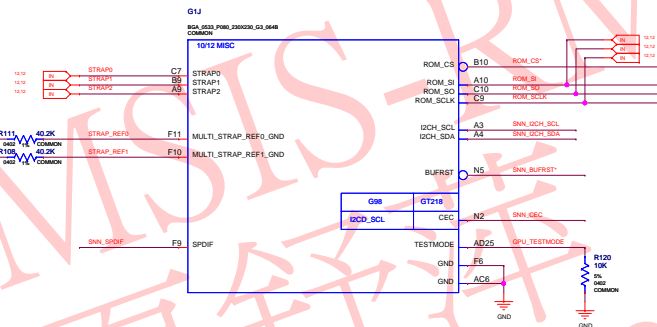
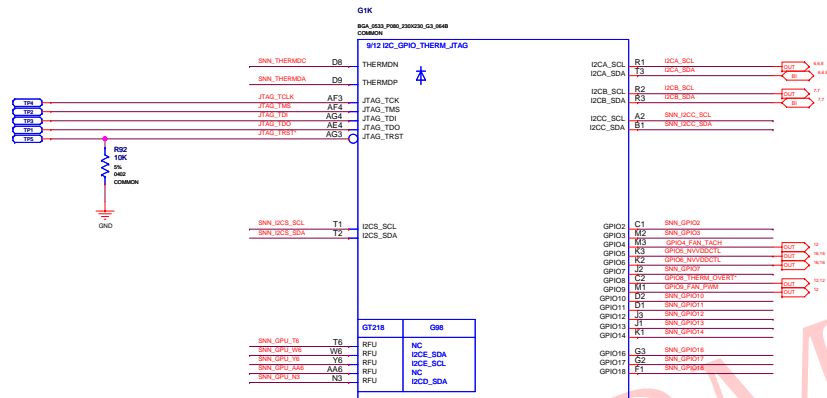
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XTAL, ROM, JTAG



Net Name **CRITICAL** **IMPEDANCE**

IN **XTAL_OUT** 1 1

IN **XTAL_IN** 1 1

Net Name **VOLTAGE** **MAX_CURRENT**

IN **GPU_PLLVDD** 1.0V 0.05A 100ns

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	XTAL, ROM, JTAG

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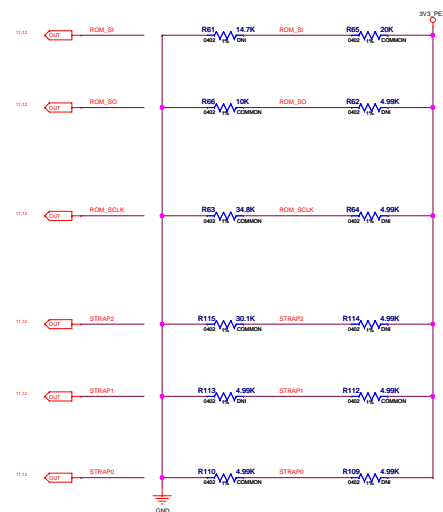
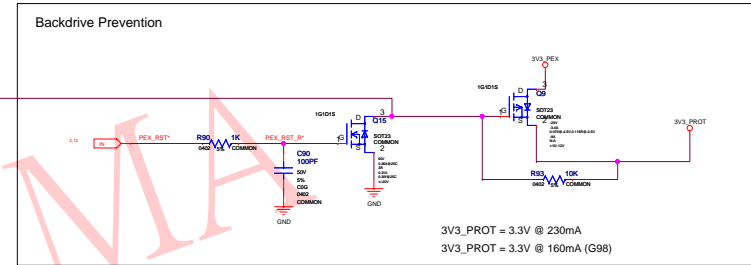
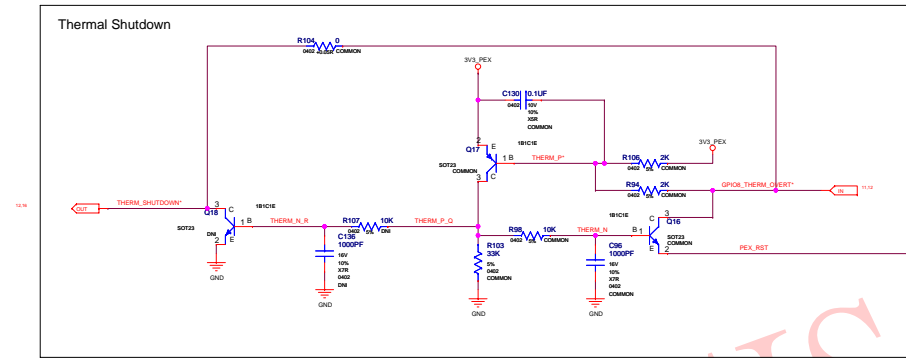
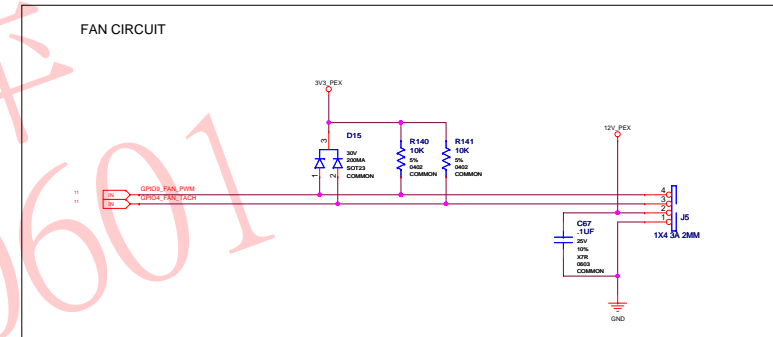
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Thermal Protection, Protected 3V3, Straps


[illegible]

Timing diagram for Net Name. The diagram shows the relationship between several signals and a 3.3V supply over time. The signals are:

- PEX_RST* (Signal 10)
- GPIOB_THERM_OVRY* (Signal 11)
- THERM_SHUTDOWN* (Signal 12)
- ROM_CS (Signal 13)
- ROM_STB (Signal 14)
- ROM_WAIT* (Signal 15)
- STRAP0 (Signal 16)
- STRAP1 (Signal 17)
- STRAP2 (Signal 18)

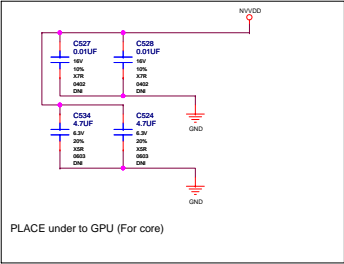
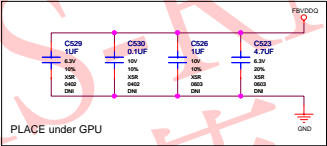
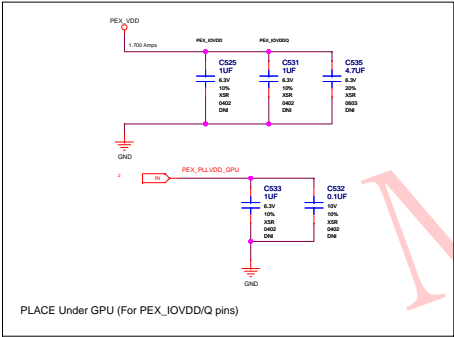
The diagram includes a 3.3V supply line and a 100nS scale bar. The signals are shown as digital waveforms over time.

ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY, COMMON & NO_STUFF ASSEMBLY NOTES AND BOM NOT FINAL
PAGE DETAIL	Thermal Protection, Protected 3V3, Straps

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GPU/Memory decaps on Bottom (Test Option)



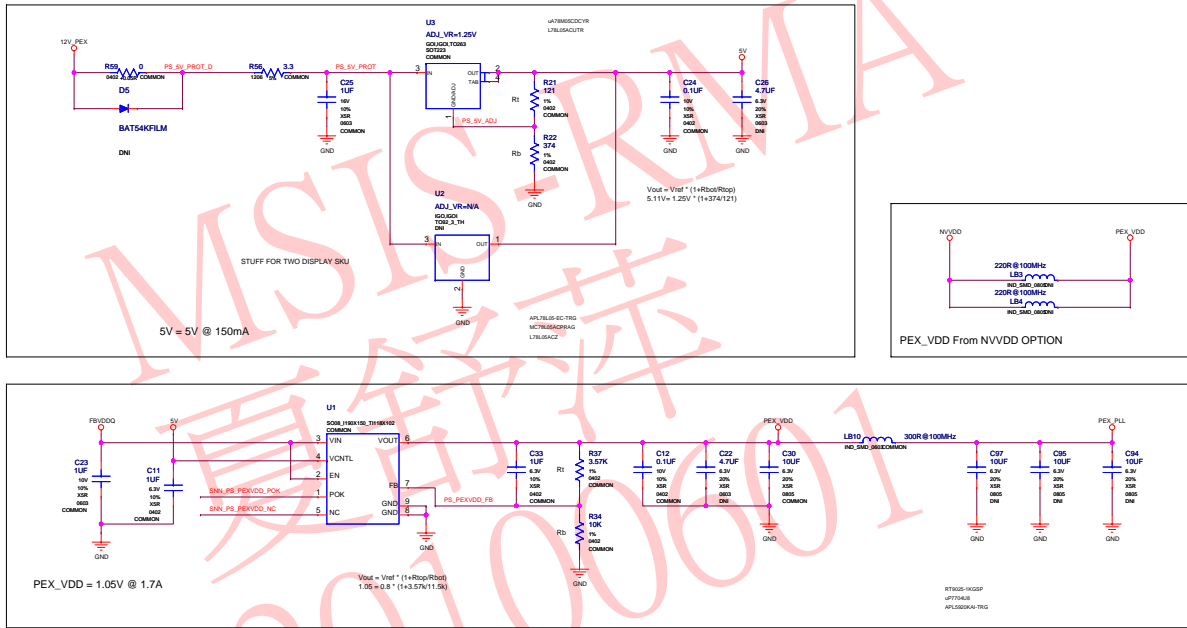
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Power Supply I: 5V, PEXVDD

Net Name	MIN_WIDTH	MAX_WIDTH
IN PS_PEXINL_ADJ	10000	
IN PS_SV_PROT	10000	
IN PS_PEXVDD_IN	10000	
IN PS_PEXVDD_FB	10000	

Net Name	VOLTAGE	MAX_CURRENT
SV	5V	0.365A 10000
PEX_VDD	1.8V	1.7A 20000
SVS_PEX	3.3V	1.5A 10000



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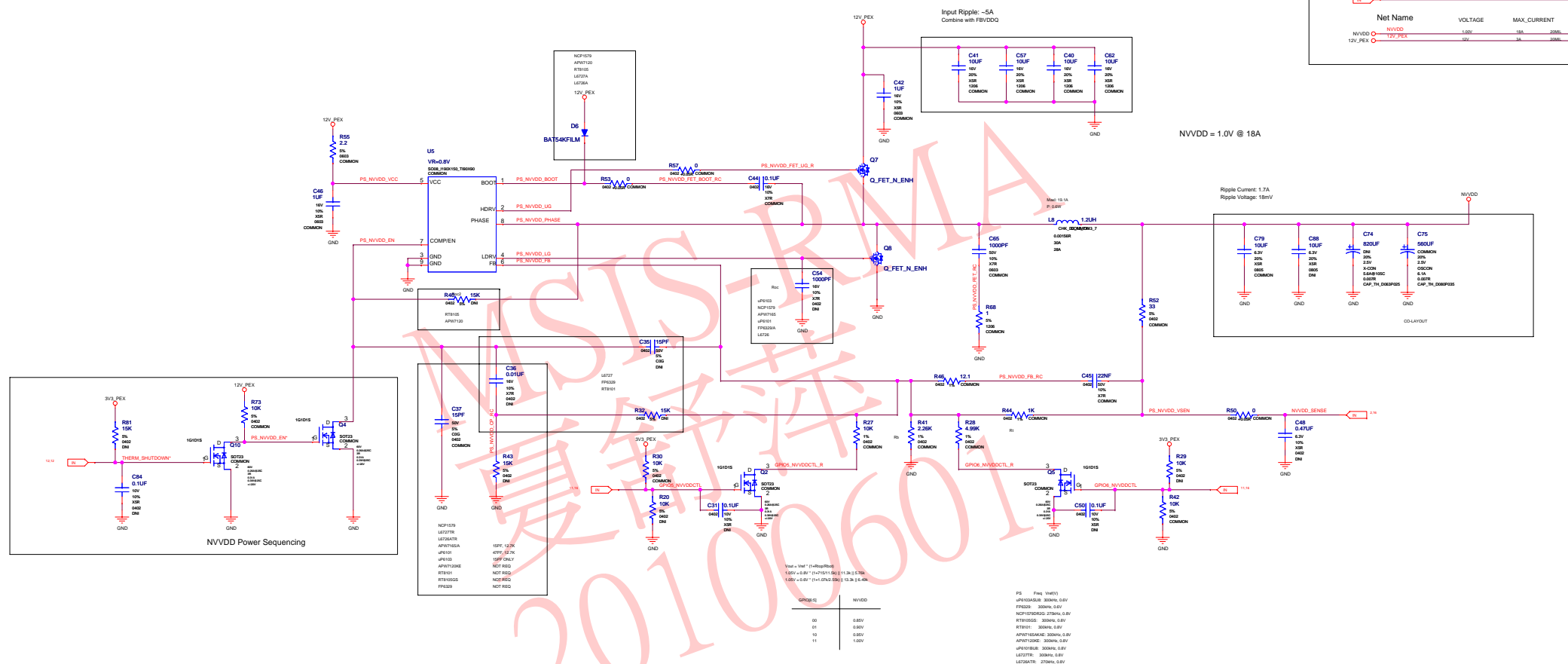
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Power Supply III: NVVDD



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