

PG301 A02

Comanche 192b GDDR5, <150W, 2-way SLI
Tall DVI-I + DP + DP + DP/HDMI + DP

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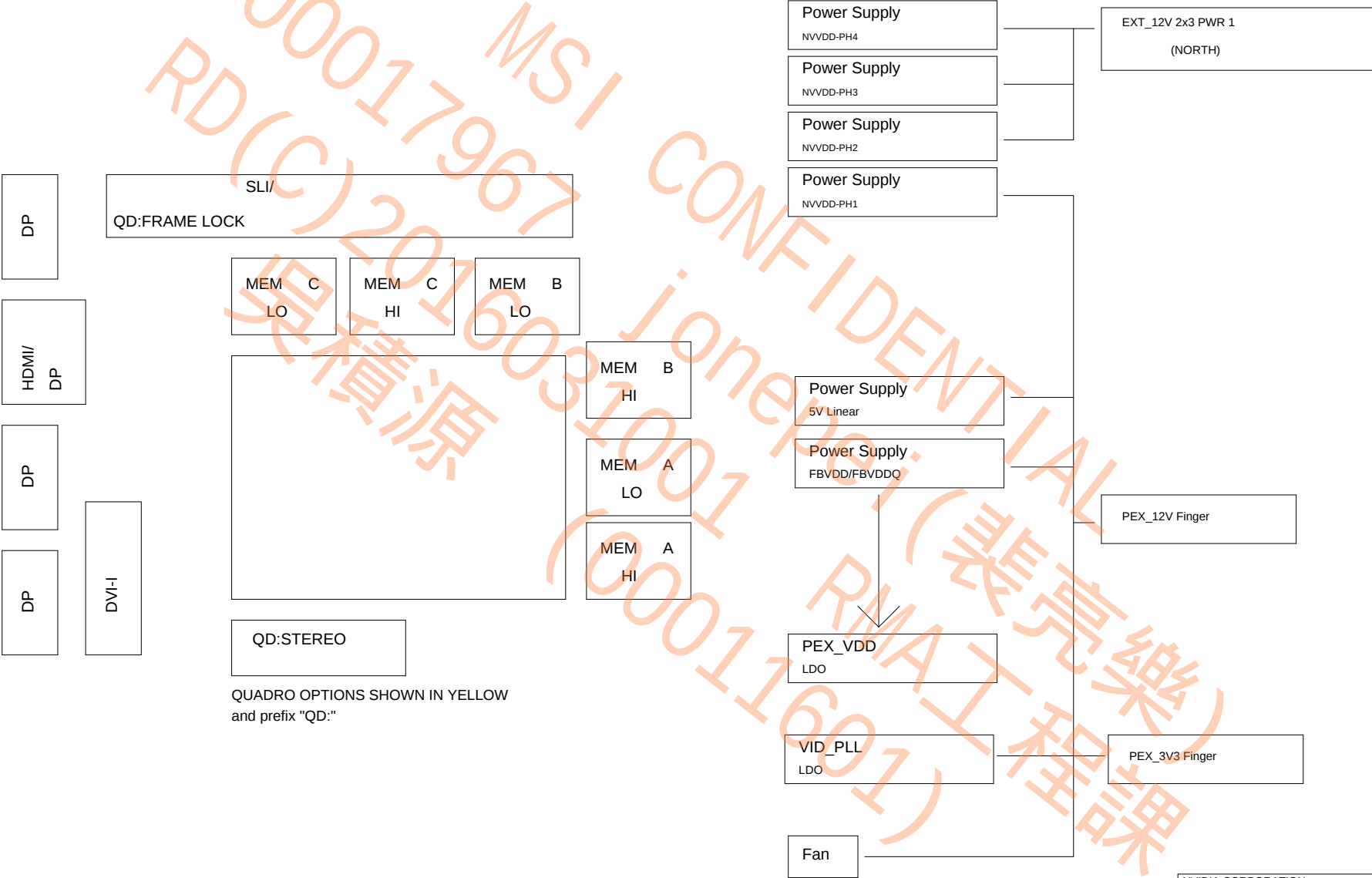
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Block Diagram



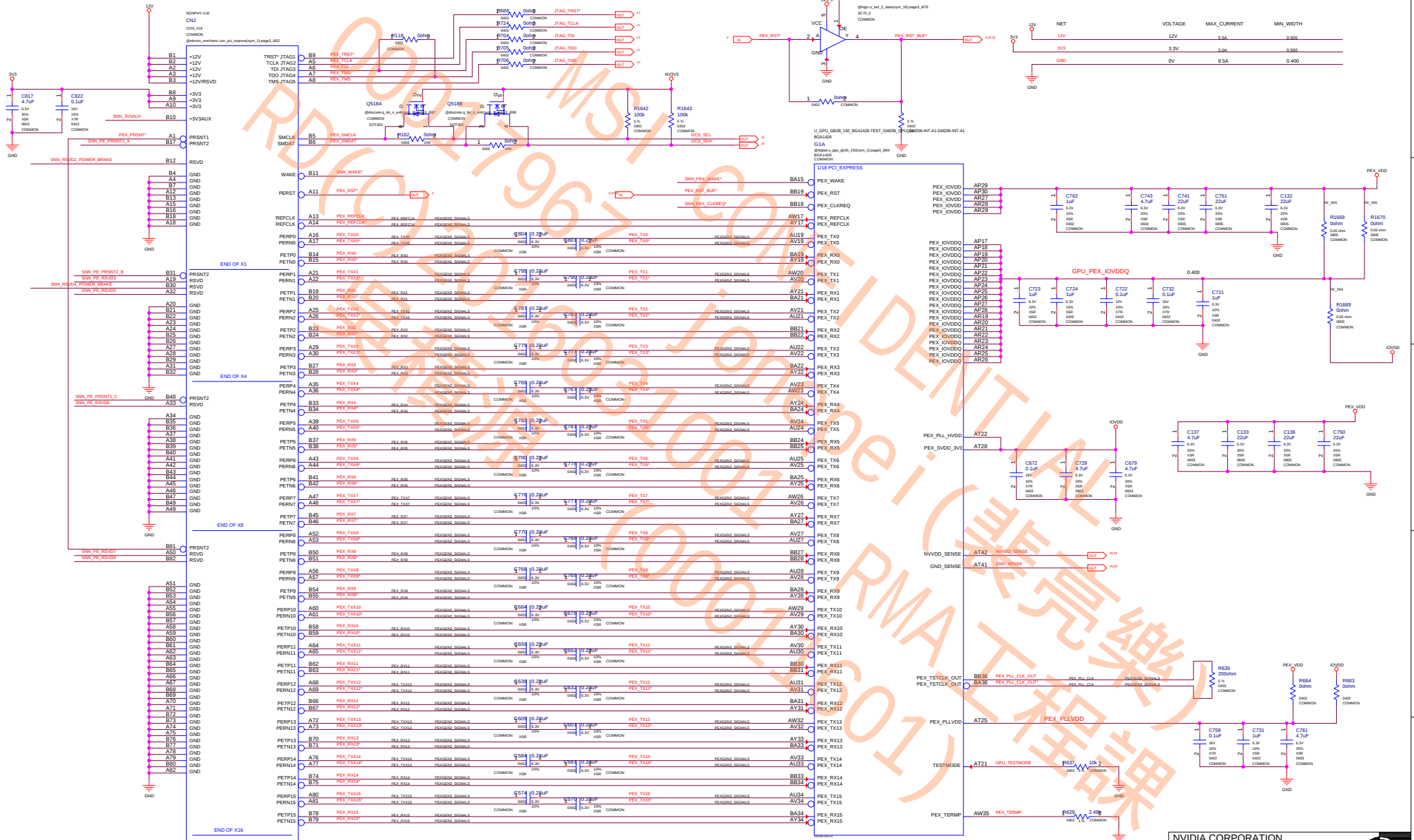
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and prefix "QD:"

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PAGE DETAIL	Block Diagram

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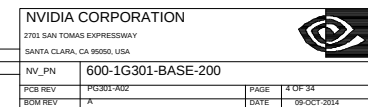
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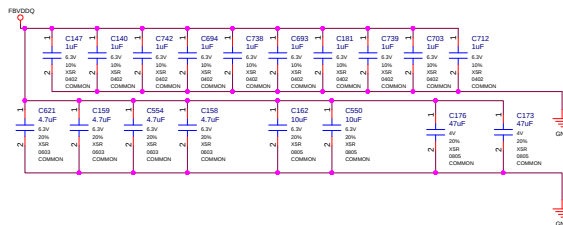
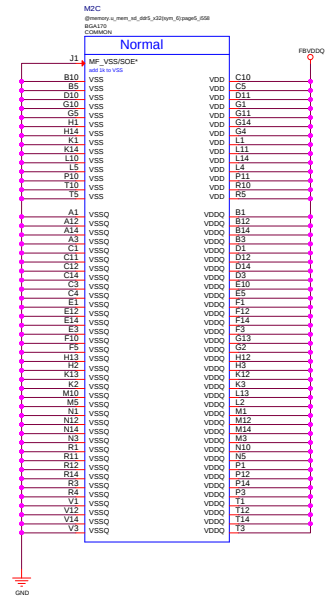
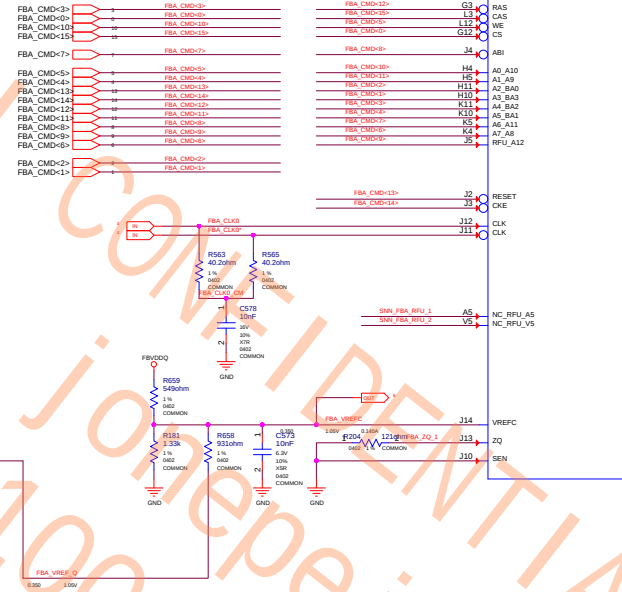
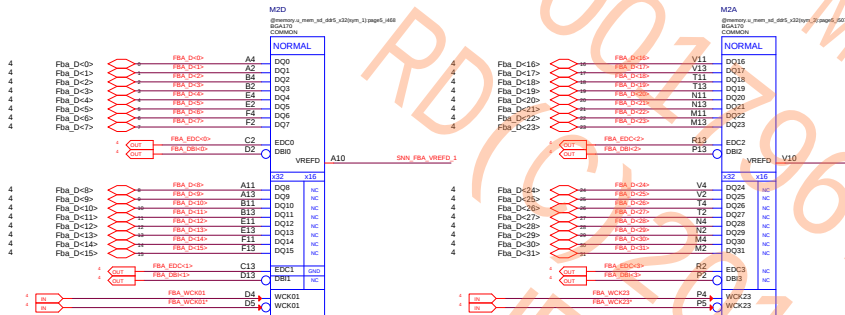
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ASSEMBLY
PAGE DETAIL
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PCI Express



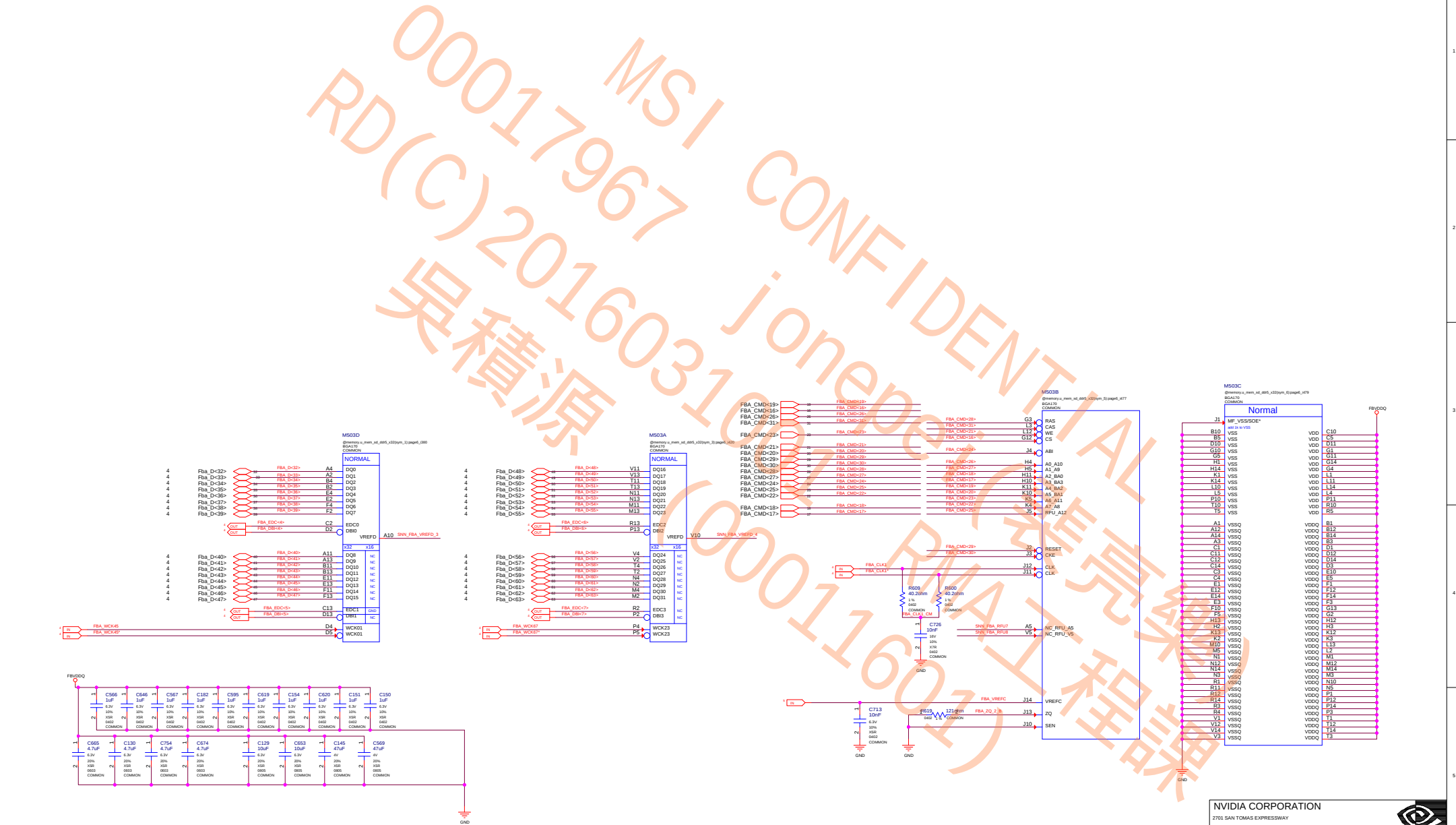
MEMORY: FBA Partition 31..0



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PAGE DETAIL	MEMORY FB<31>0



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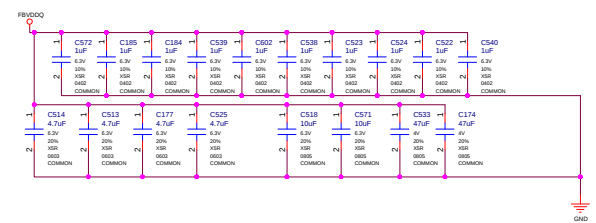
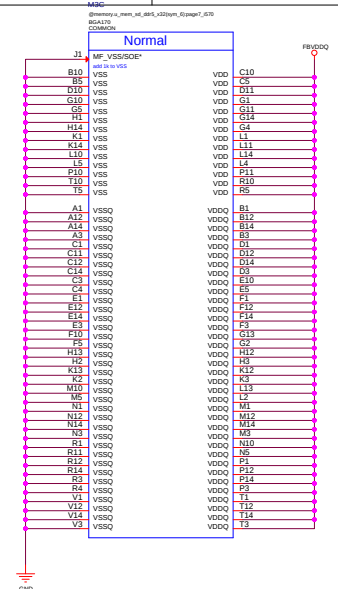
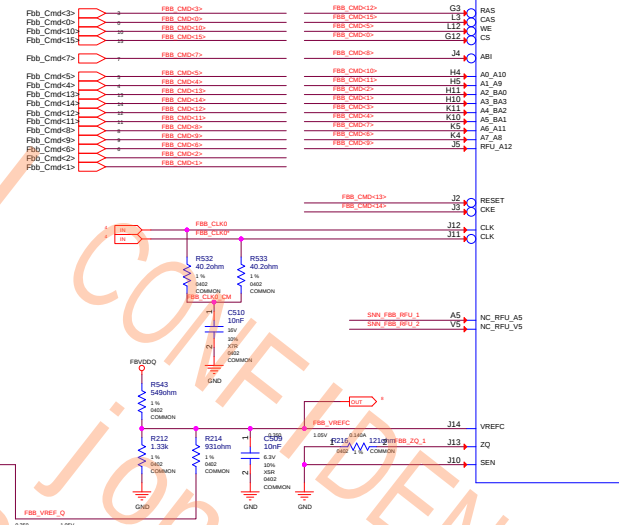
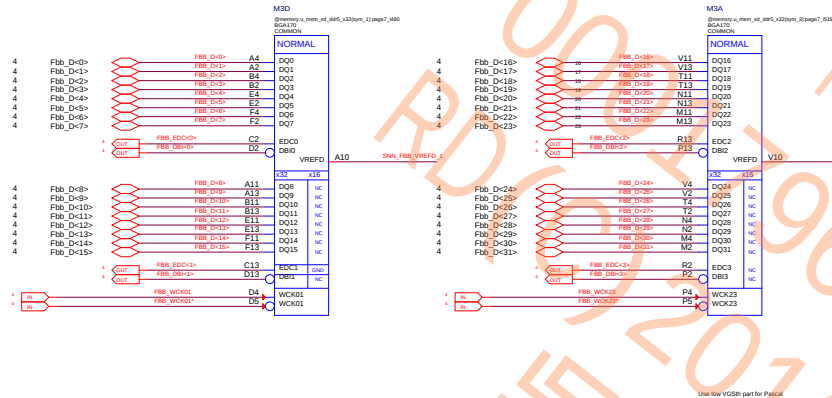
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MEMORY: FBB Partition 31..0

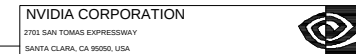


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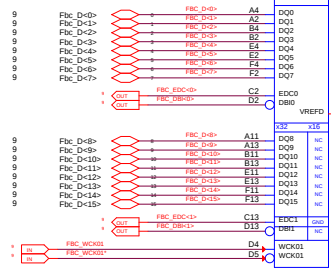


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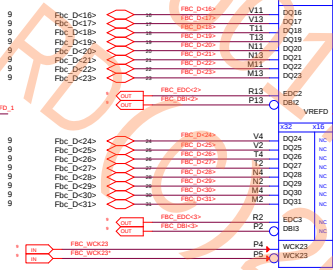
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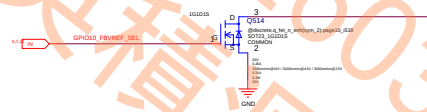
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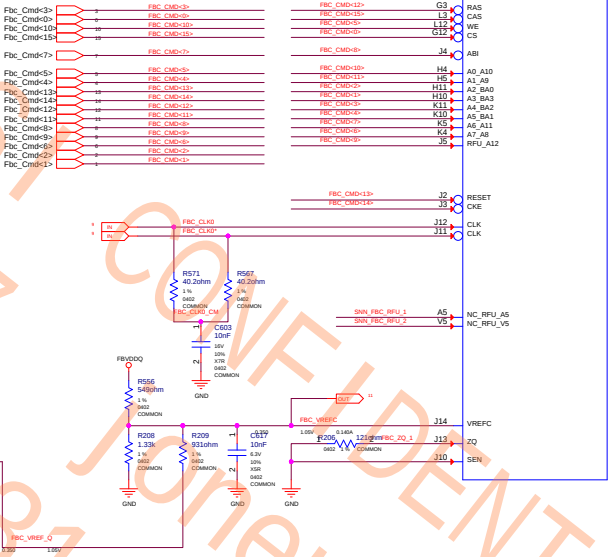
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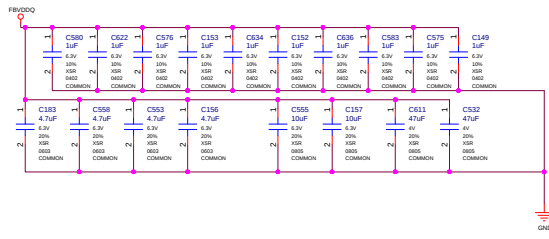
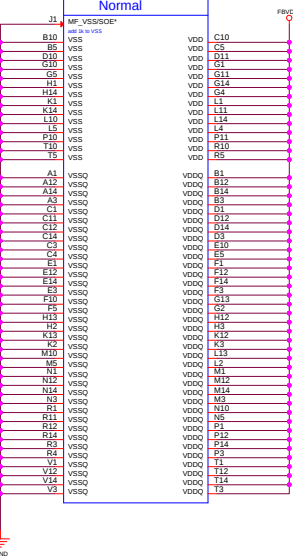
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GPU PWR and GND

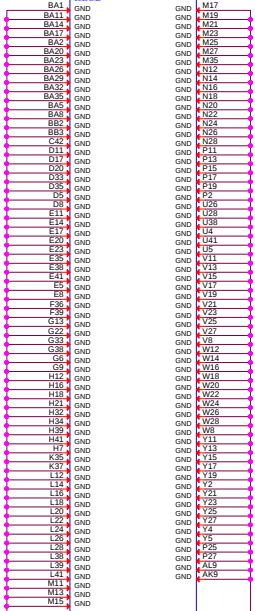
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BGA428

COMMON



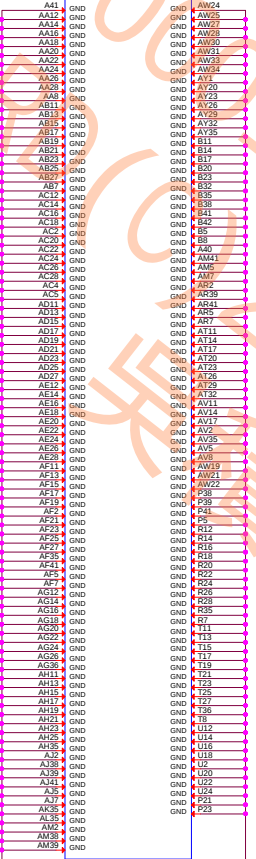
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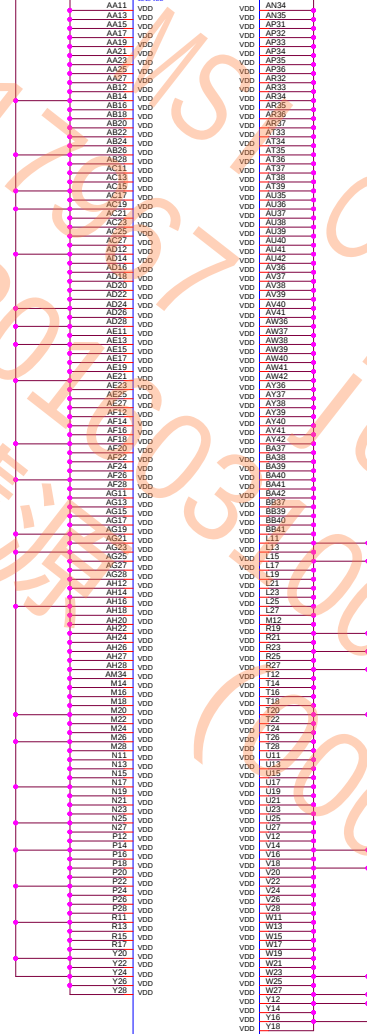
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COMMON



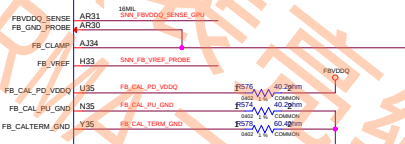
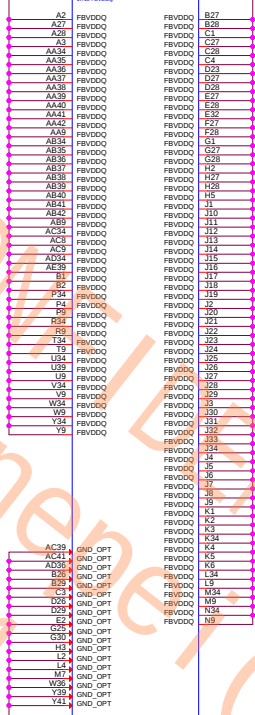
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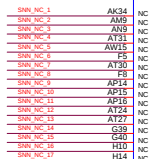
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BGA428

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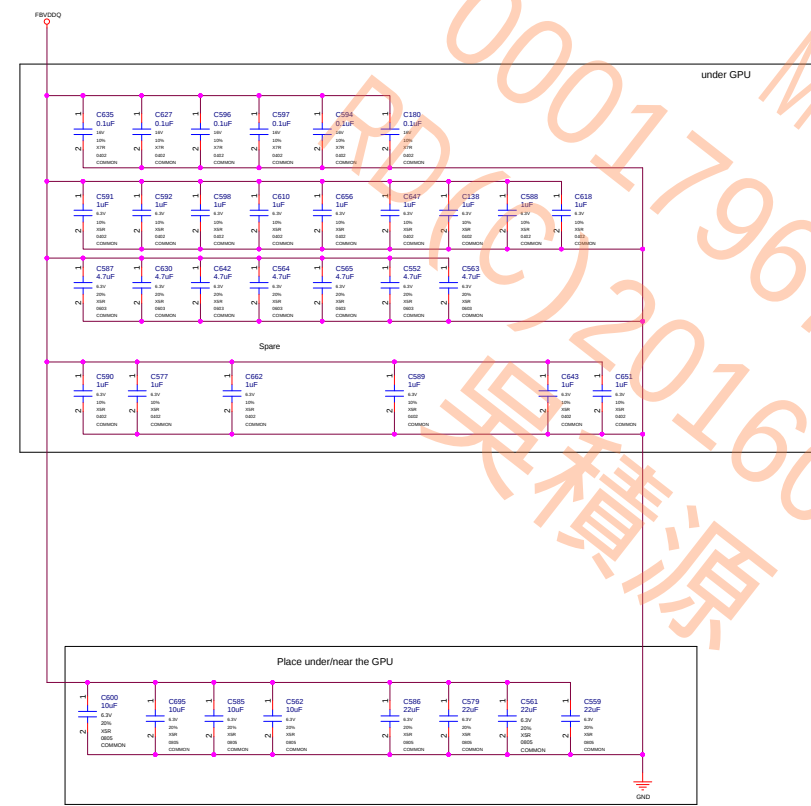
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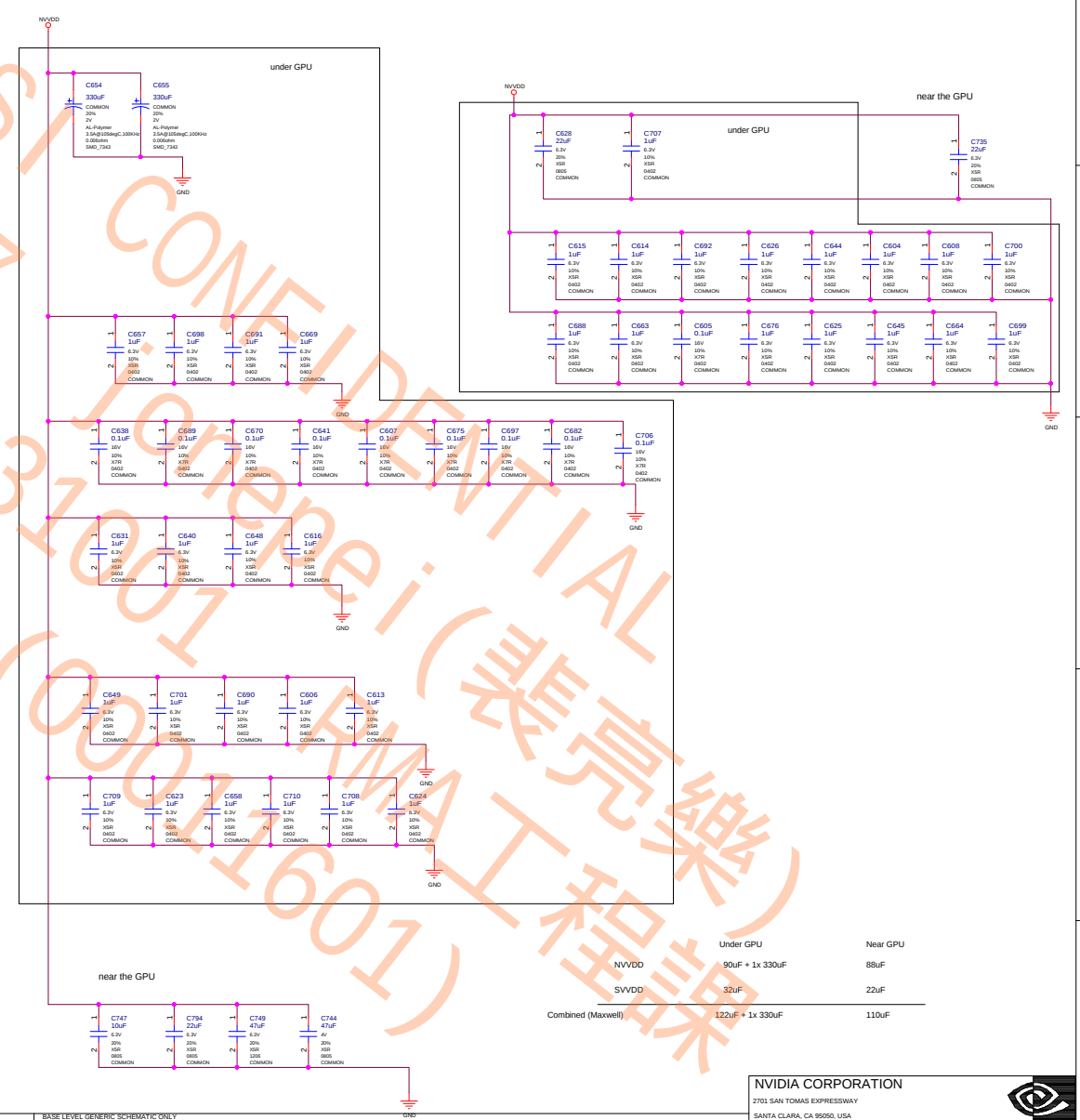
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GPU Decoupling

FBVDDQ

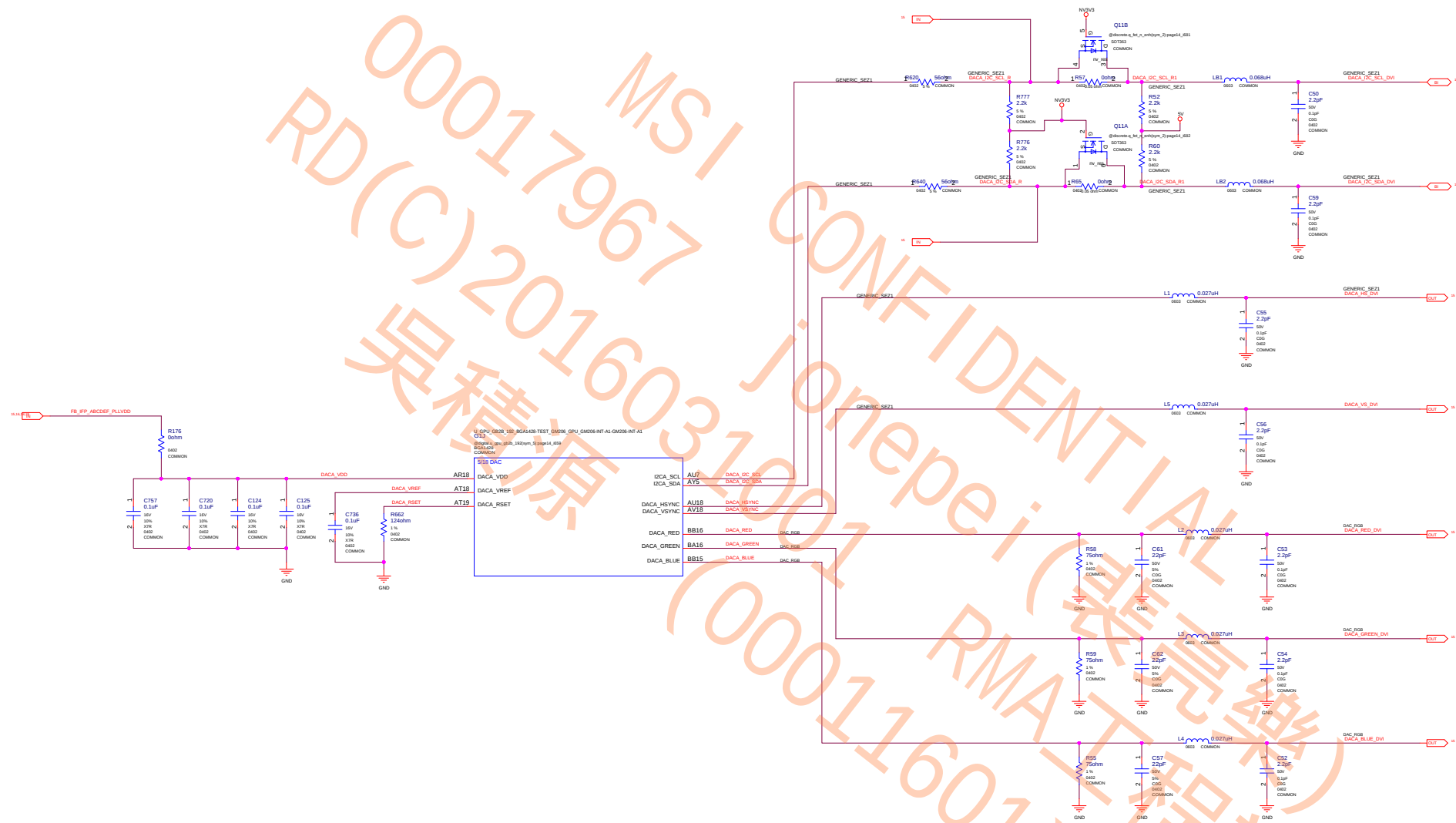


NVVD



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DACA Interface



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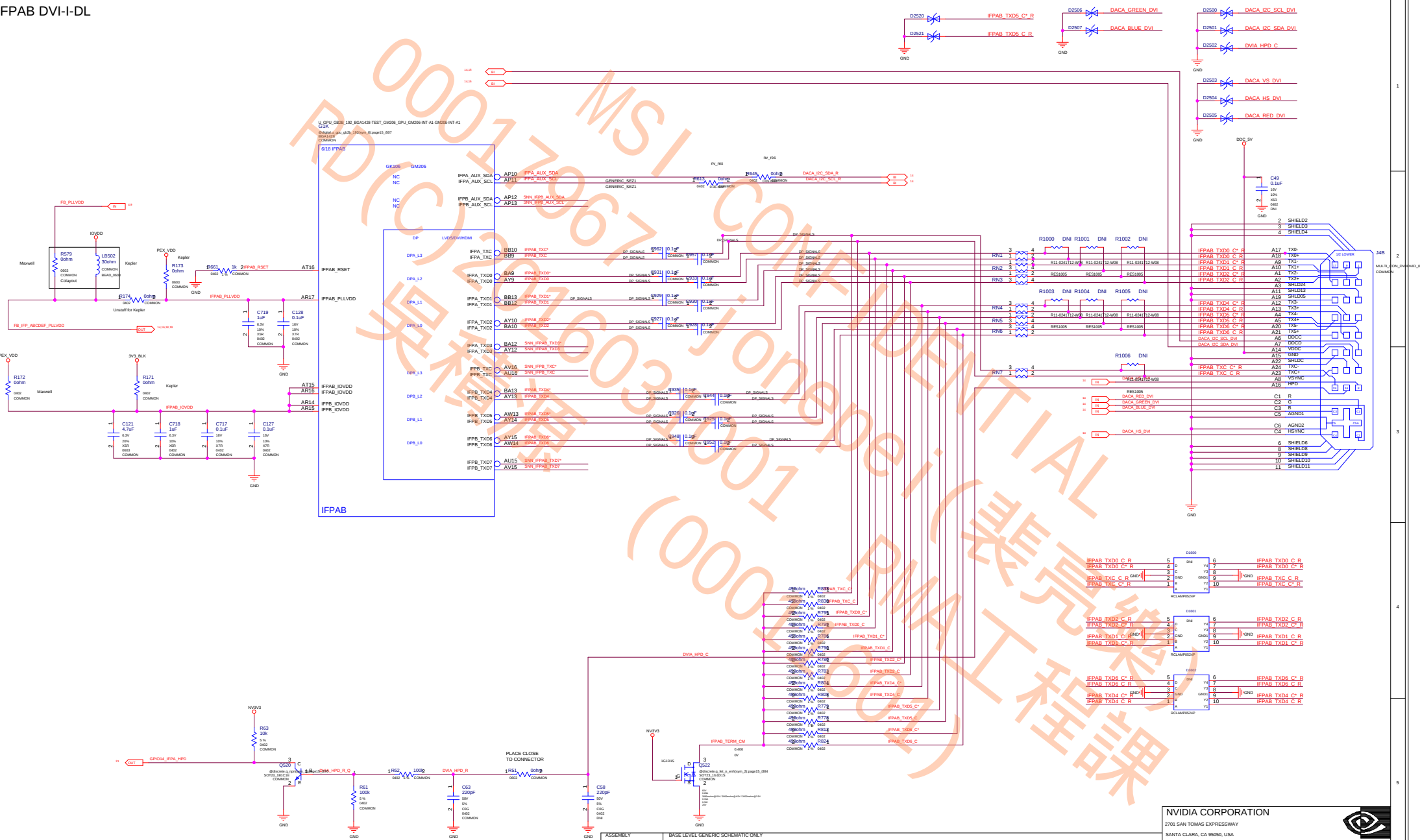
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PAGE DETAIL	DACA Interface

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IFPAB DVI-I-DL



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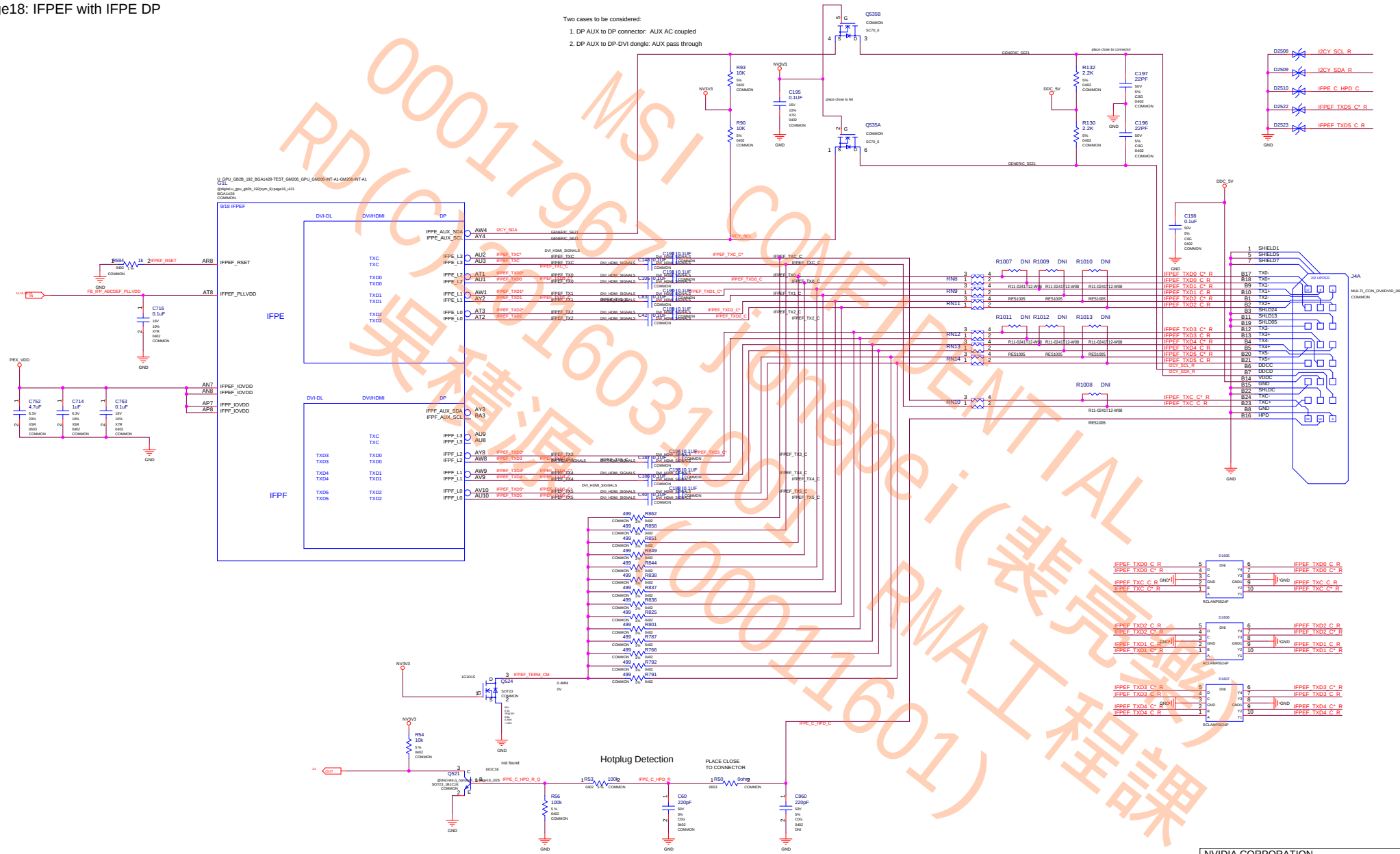
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- Two cases to be considered:
- 1. DP AUX to DP connector: AUX AC coupled
 - 2. DP AUX to DP-DVI dongle: AUX pass through

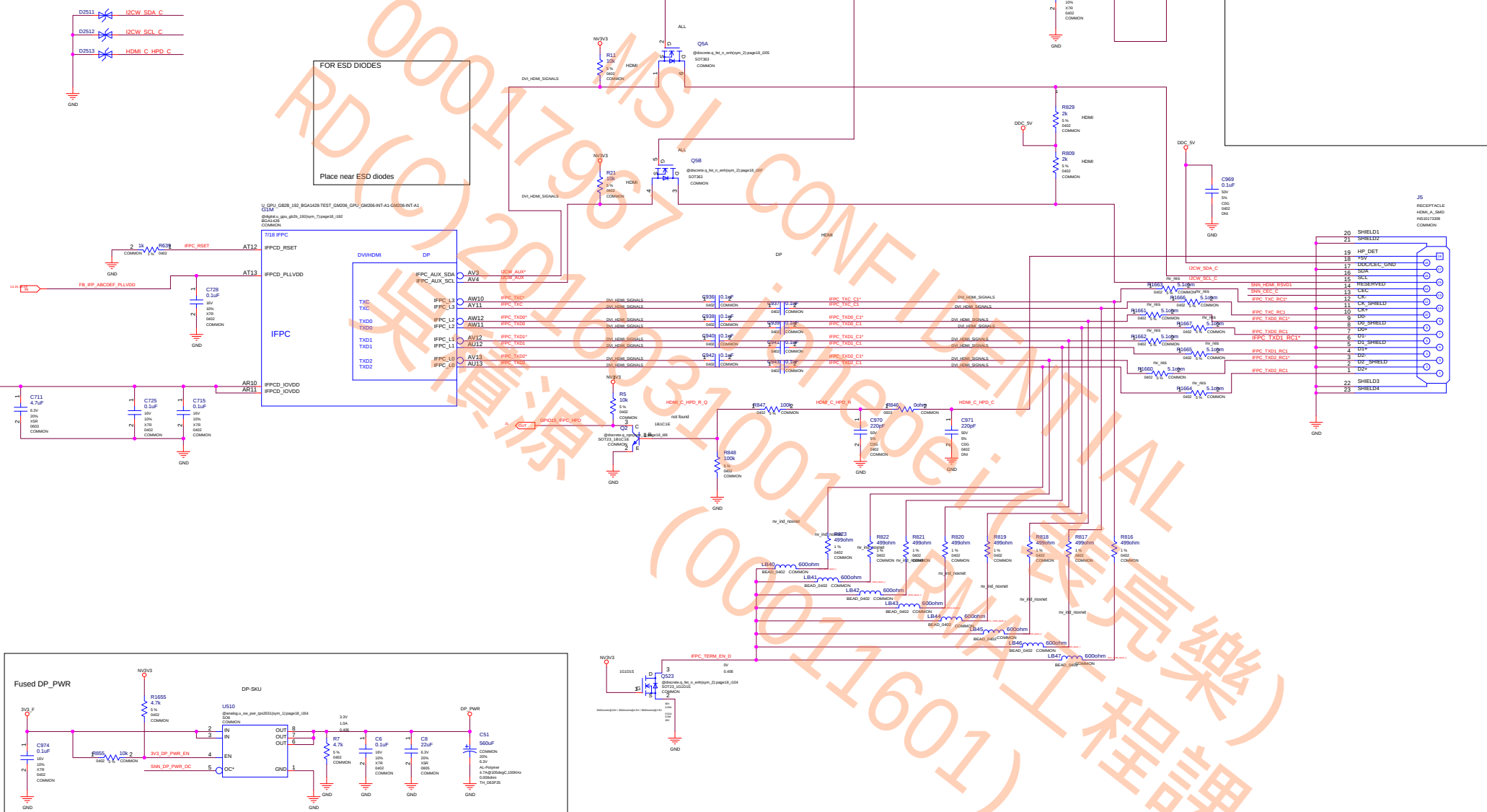


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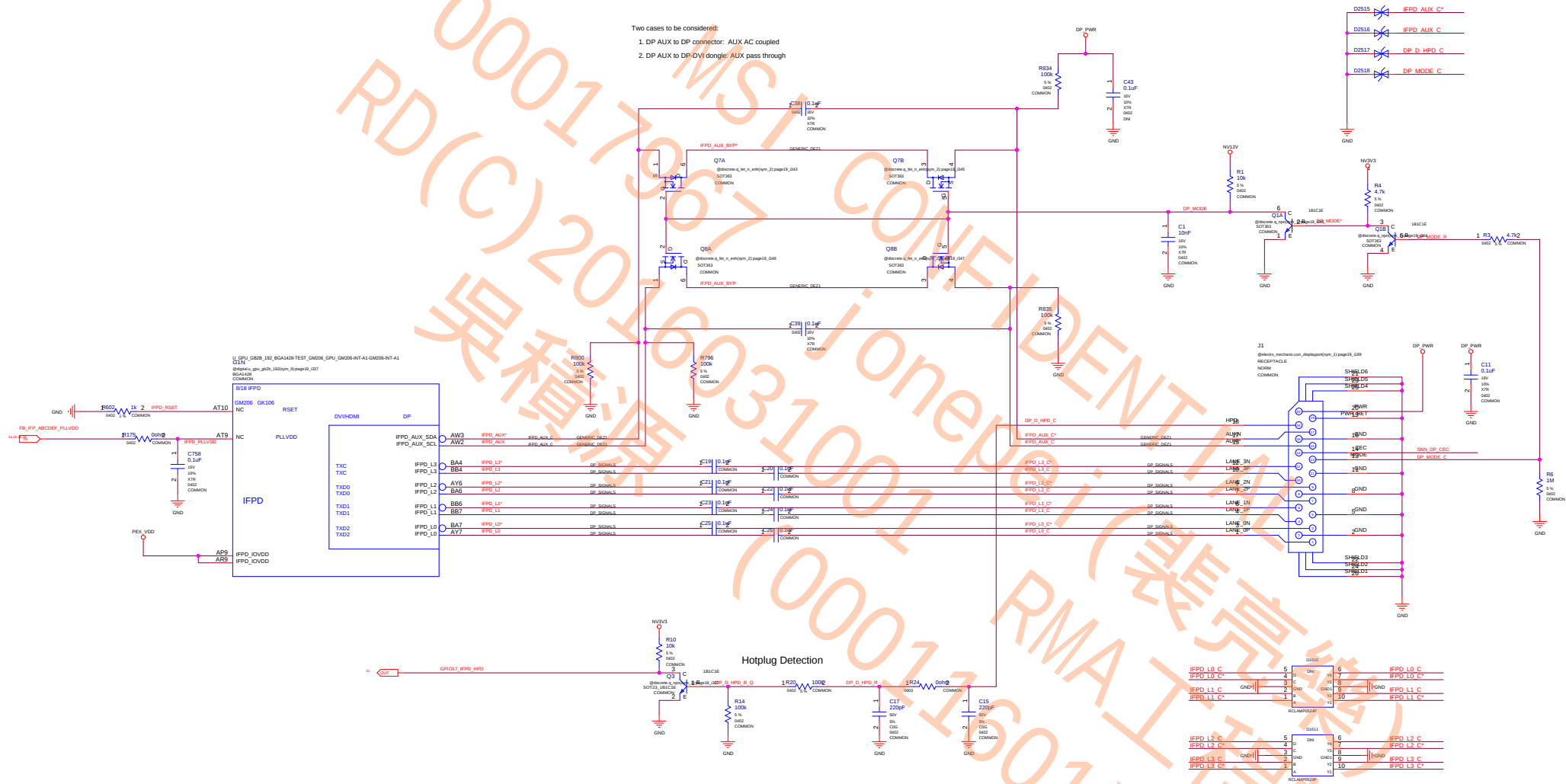


NV PN	600-1G301-BASE-200
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RCB_REV	PIG301-A02
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PCB REV	FG501-A02
BOM REV	A

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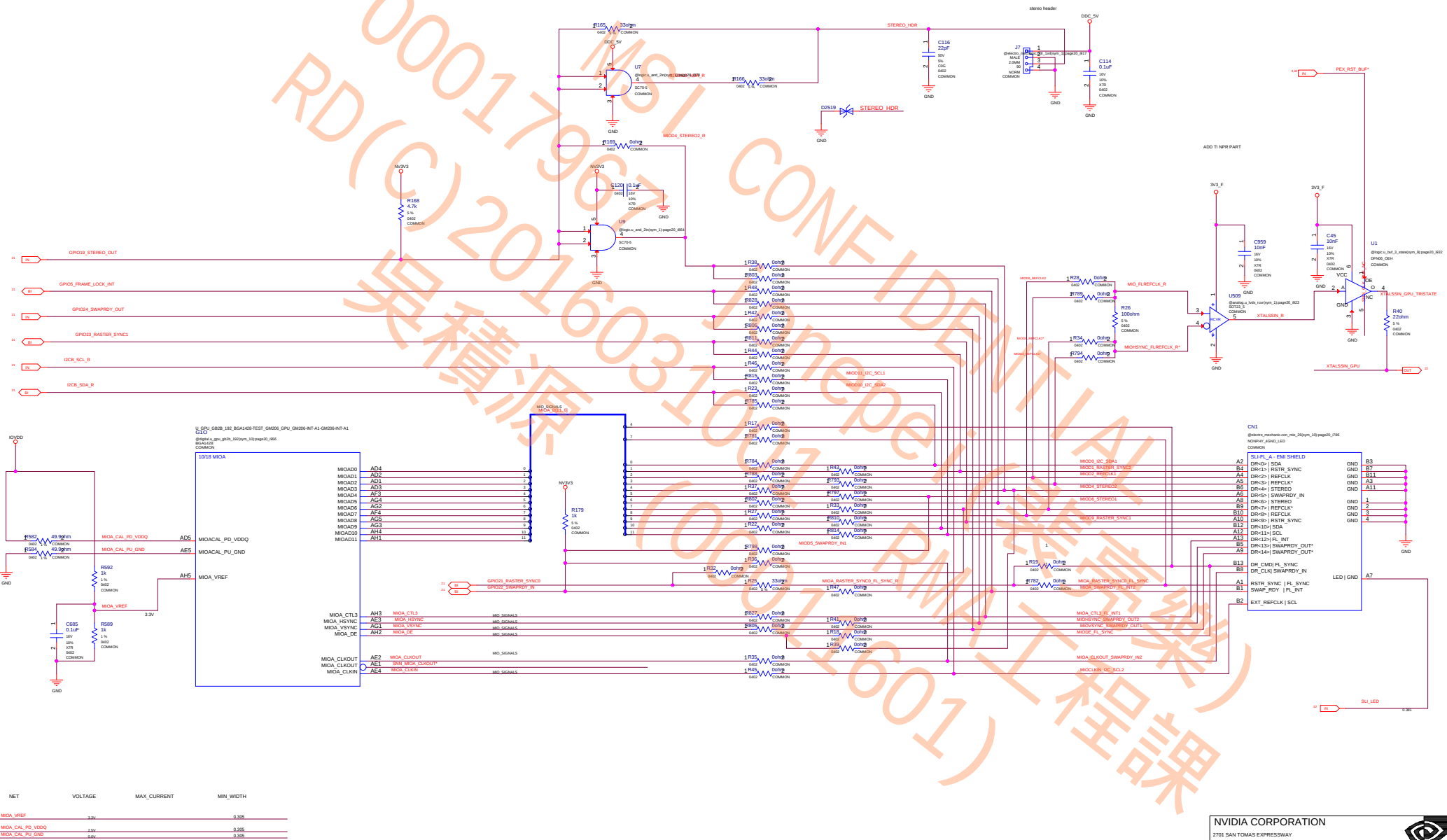
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MIOA/SLI Interface



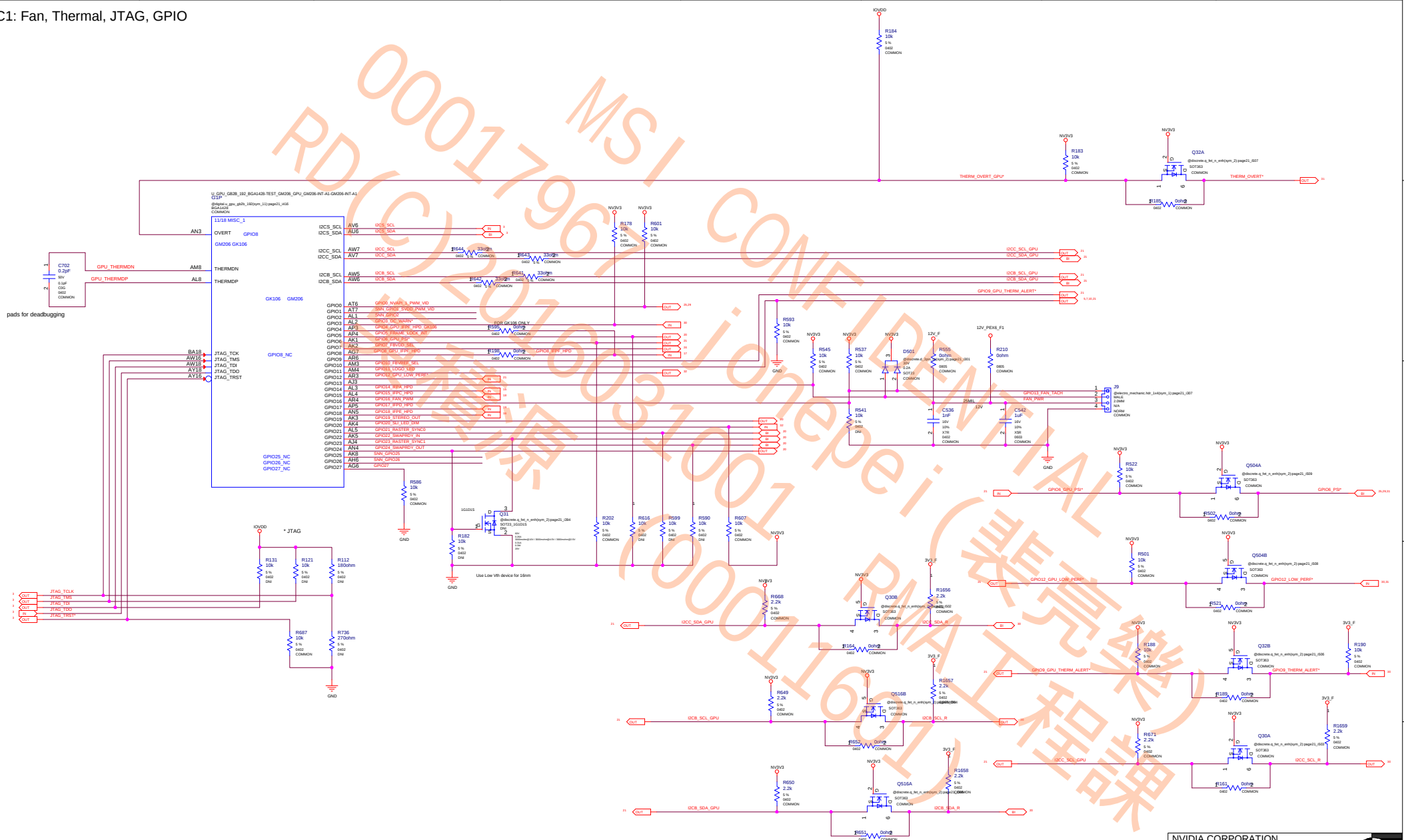
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MIOA

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MISC1: Fan, Thermal, JTAG, GPIO



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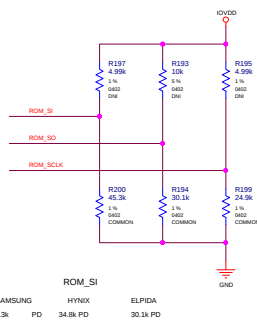
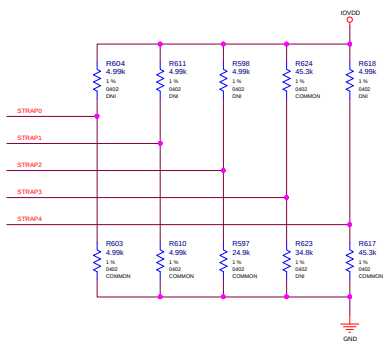
ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	MISC1: Fan, Thermal, JTAG, GPIO

MISC2: ROM, XTAL, Straps

	KEPLER	MAXWELL
	USER_BIT [3:0]*	
STRAP0		
STRAP1	3GIO_PADCFG_LUT_ADR*	
STRAP2	PCI_DEVID [3:0]*	
STRAP3	SOR_EXPOSED [3:0]*	
STRAP4	DP_PLL_VDD_33V*	
	PEX_MAX_SPEED*	
	PEX_SPD_CHANGE_GEN3*	
	*	
ROM_SI	RAMCFG[0]*	RAMCFG[0]*
	RAMCFG[1]*	RAMCFG[1]*
	RAMCFG[2]*	RAMCFG[2]*
	RAMCFG[3]*	RAMCFG[3]*
ROM_SO	VGA_DEVICE*	VGA_DEVICE*
	SMB_ALT_ADDR*	SMB_ALT_ADDR*
	FB[0]_APERTURE_SIZE*	PCIE_CFG*
	FB[1]_APERTURE_SIZE*	DEVID_SEL*
ROM_SCLK	PEX_PLL_EN_TERM100*	SOR0_EXPOSED*
	PCI_DEVID_EXT[5]*	SOR1_EXPOSED*
	SUB_VENDOR*	SOR2_EXPOSED*
	PCI_DEVID_EXT[4]*	SOR3_EXPOSED*

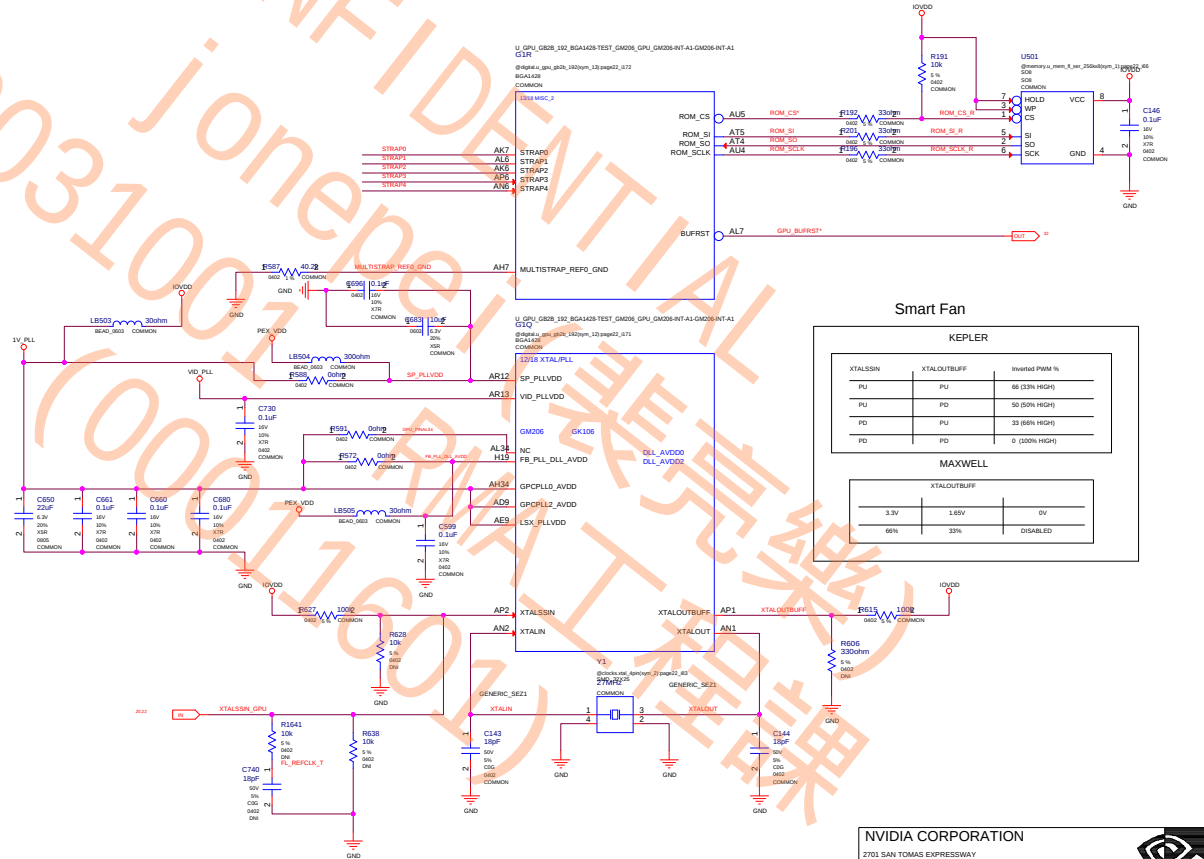
MULTI_STRAP_REF0_GND	
BINARY PRODUCTION	NC
BINARY BRICKUP	NC
MULTI-LEVEL	40.2k 1% TO GND

MAXWELL		
3.3V	1.65V	0V
GCH ISLAND ENABLED	GCH DEBUG MODE	GCH ISLAND DISABLED



ROM_SI		
SAMSUNG	HYUNIX	ELPIDA
45.3k	PD	30.1k PD

	GND	3V3
5k	0000	1000
10k	0001	1001
15k	0010	1010
20k	0011	1011
25k	0100	1100
30k	0101	1101
35k	0110	1110
45k	0111	1111



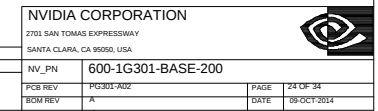
Smart Fan			
KEPLER		MAXWELL	
XTALSSIN	XTALOUTBUFF	XTALOUTBUFF	
PU	PU	66 (33% HIGH)	
PU	PD	50 (50% HIGH)	
PD	PU	33 (66% HIGH)	
PD	PD	0 (200% HIGH)	
		XTALOUTBUFF	
3.3V	1.65V	0V	
66%	33%	DISABLED	

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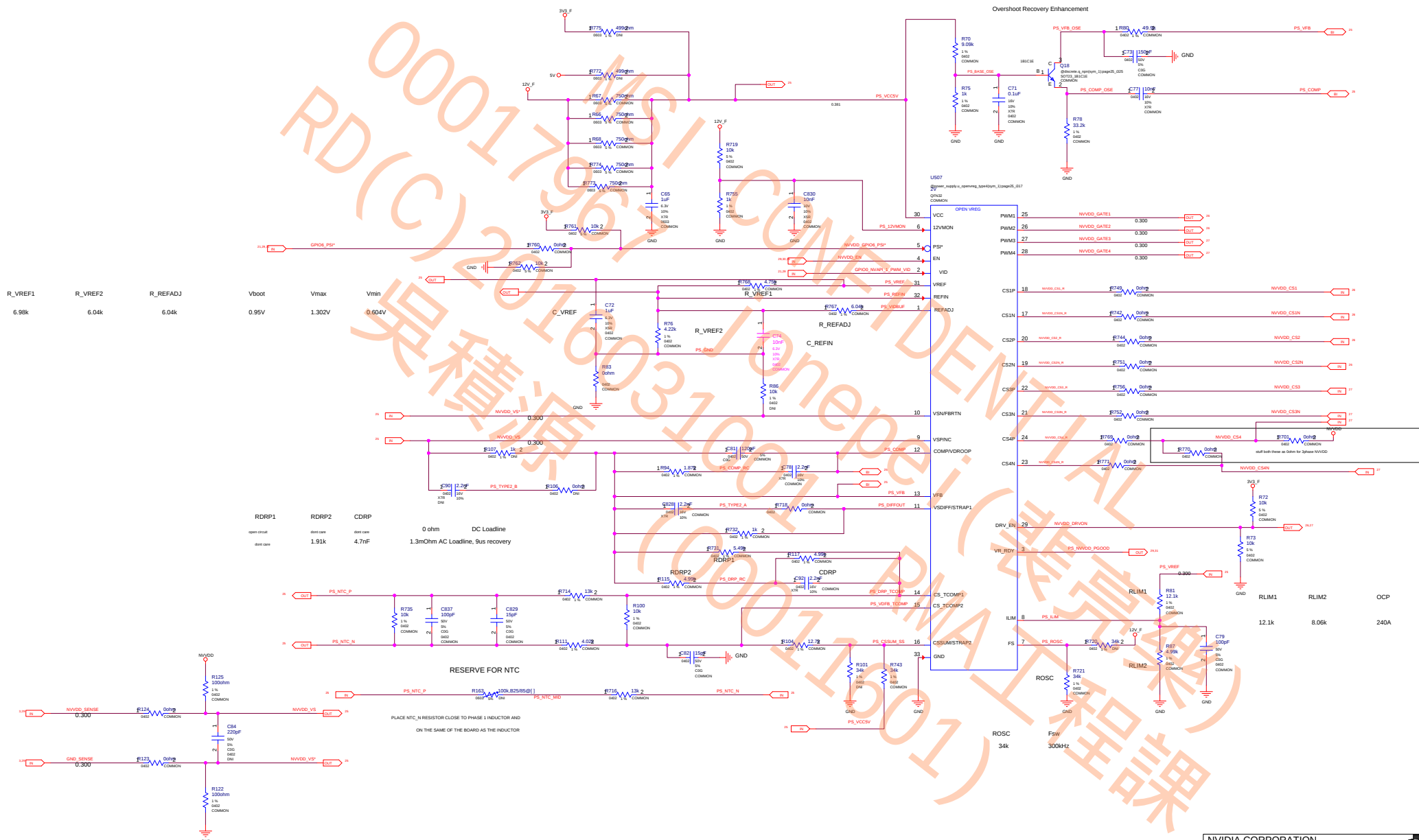


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ASSEMBLY		BASE LEVEL GENERIC SCHEMATIC ONLY	
PAGE DETAIL		MISC2: ROM, XTAL, Straps	
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PS: NVVDD Controller



ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: NVDD Controller OVR4 option

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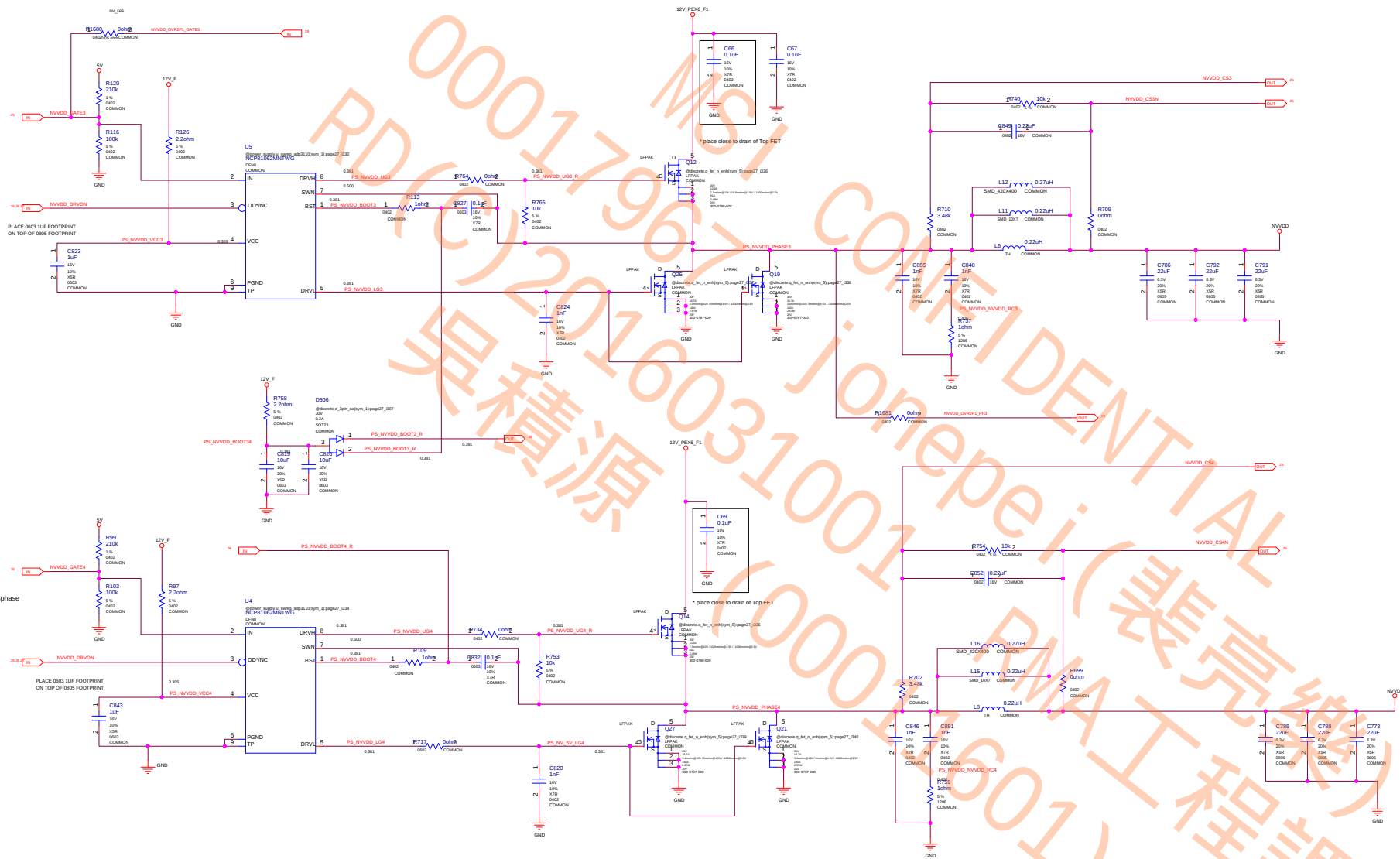
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PS: NVVDD Phase 3,4



A	B	C	D	E	F	G	H
1							
2							
3							
4							
5							
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A	B	C	D	E	F	G	H

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吳積源
jonepei (裴亮樂)
(00011601)
RMA工程課

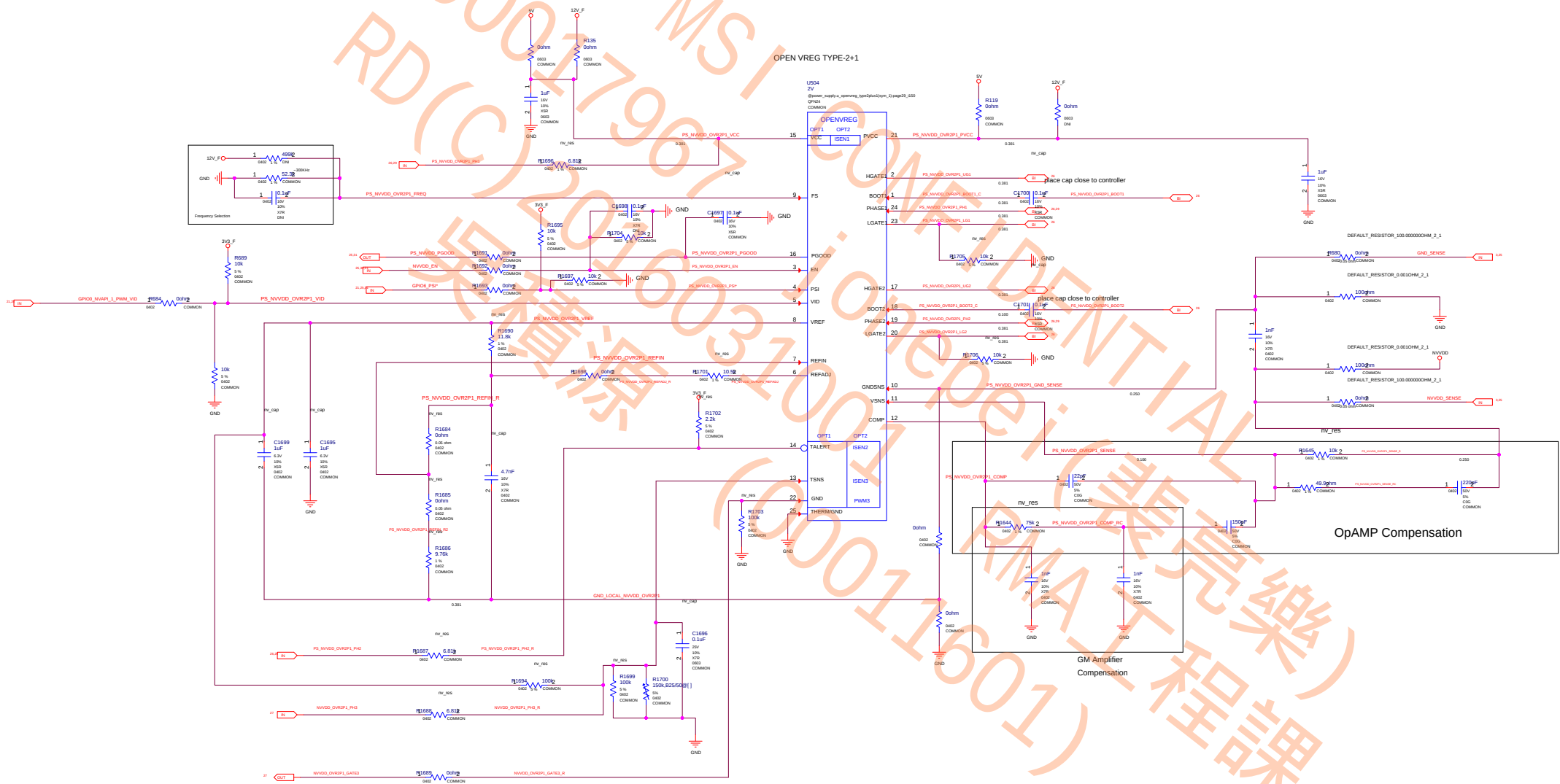
[RESERVED]

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PS: NVVDD OVR2+1 POWER



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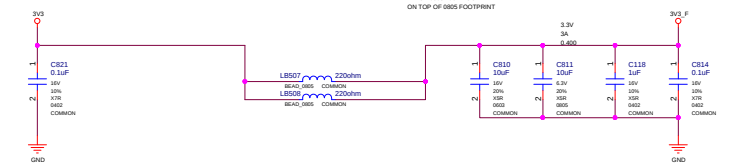
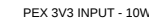
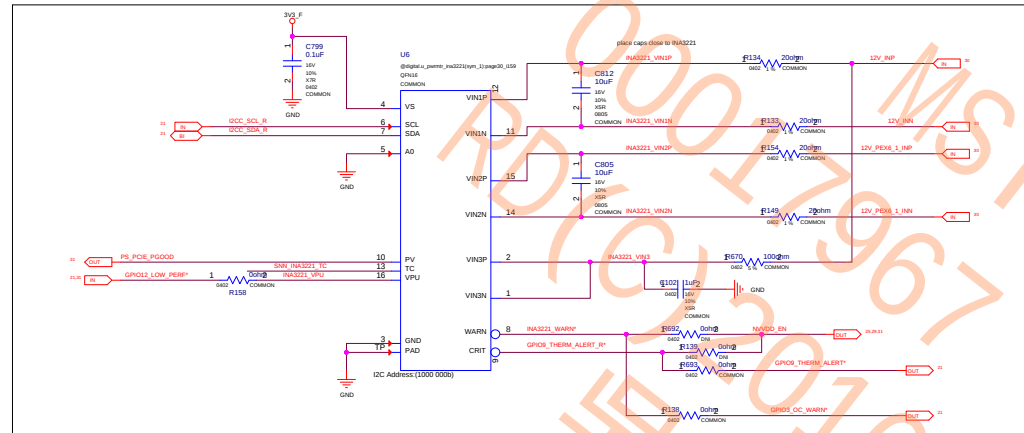
BOM REV	A	DATE	09-OCT-2014
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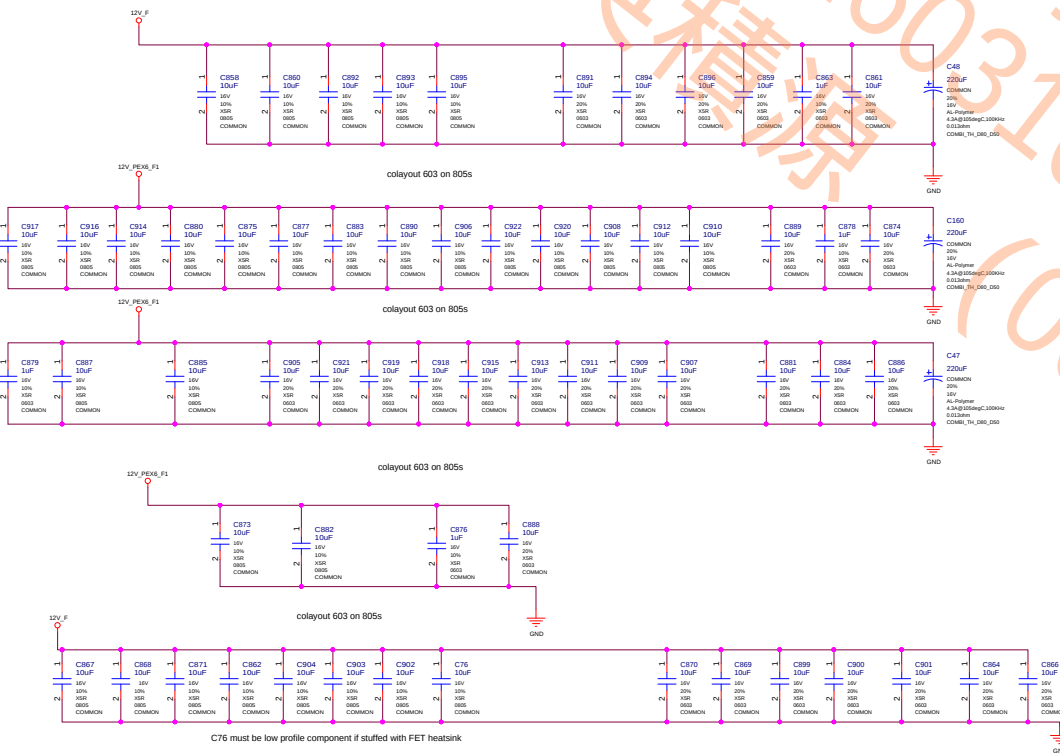
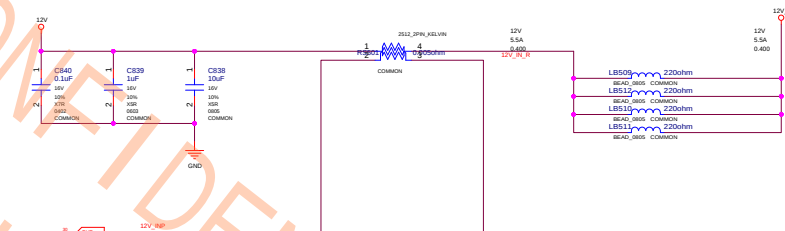
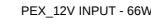
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ASSEMBLY	BASE LEVEL GENERIC SCHEMATIC ONLY
PAGE DETAIL	PS: NVVDD OVR2+1 option

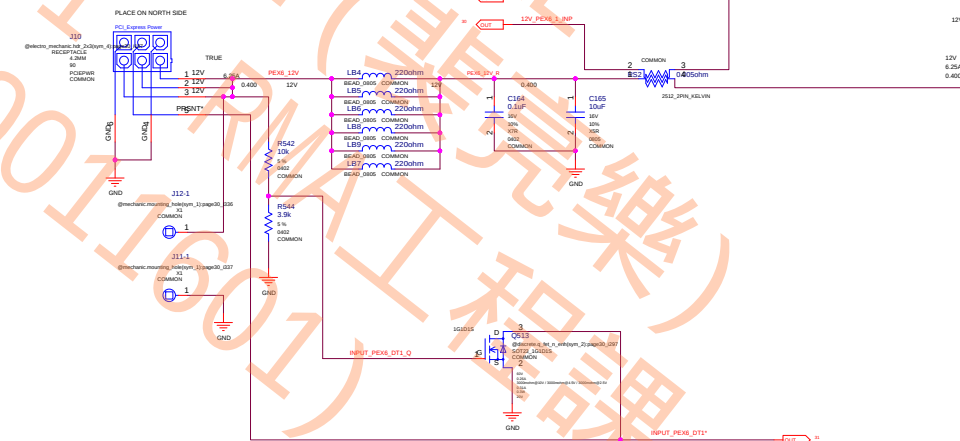
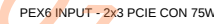
PS: Inputs, Filtering, and Monitoring



PLACE 0603 10UF FOOTPRINT
ON TOP OF C005 FOOTPRINT



C76 must be low profile component if stuffed with FET heatsink



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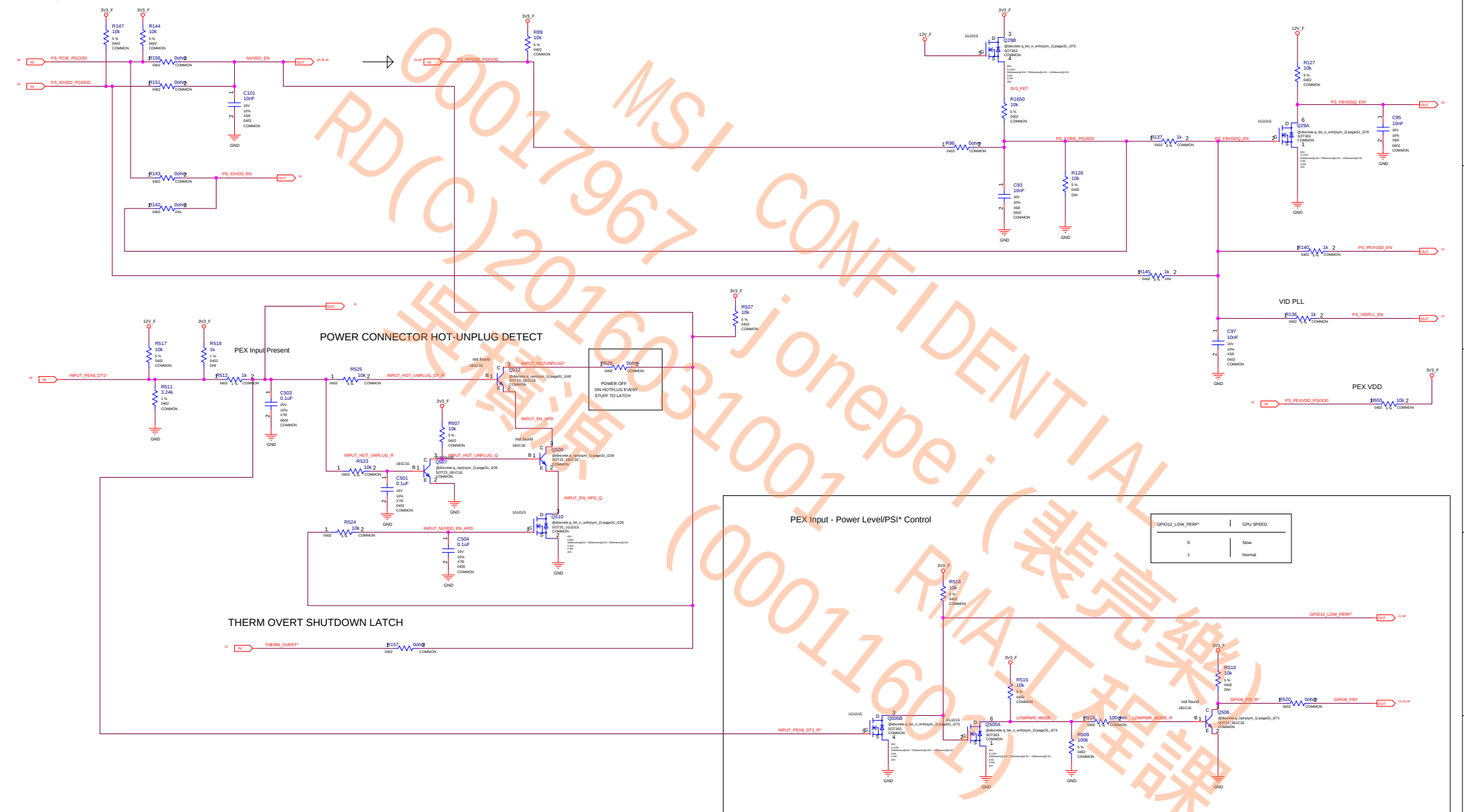
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PS: Sequence and Shutdown



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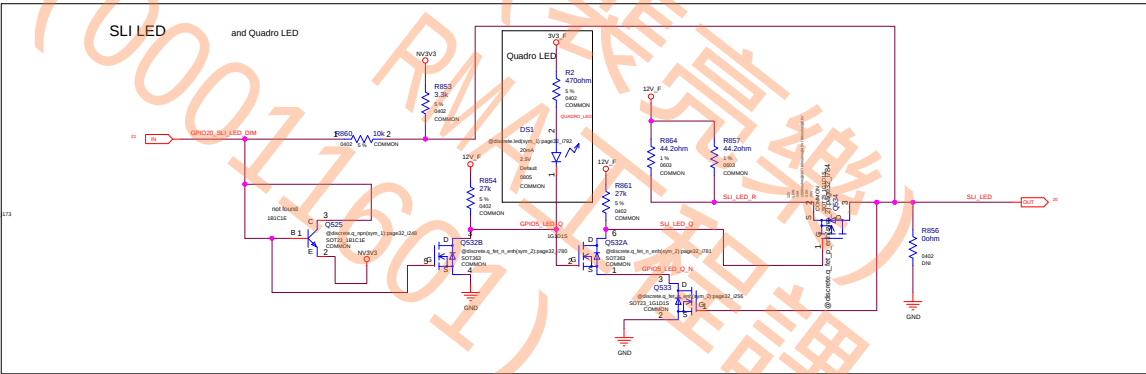
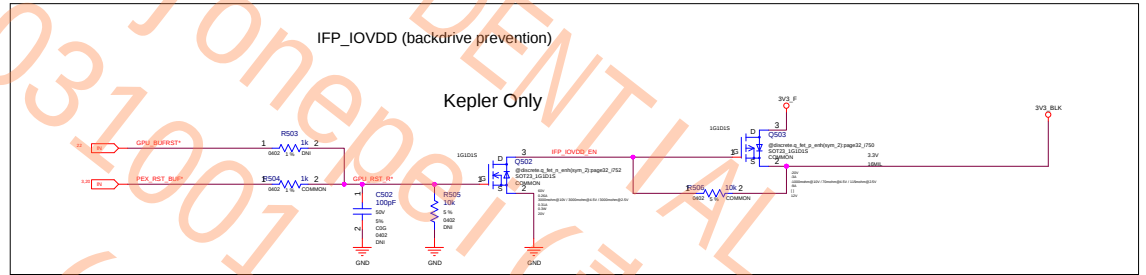
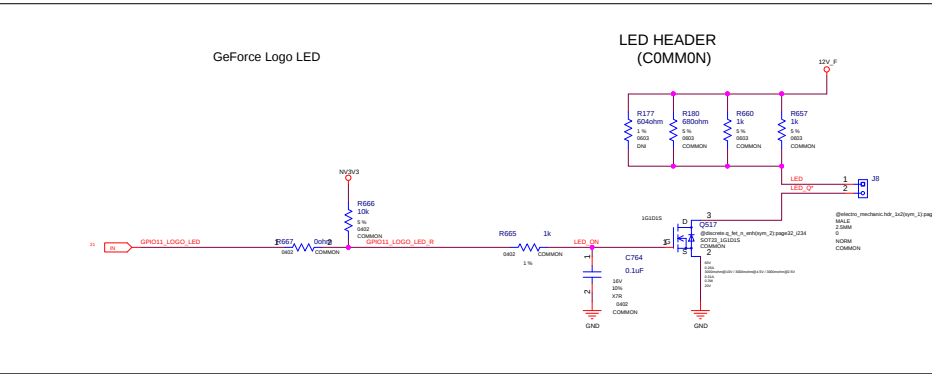


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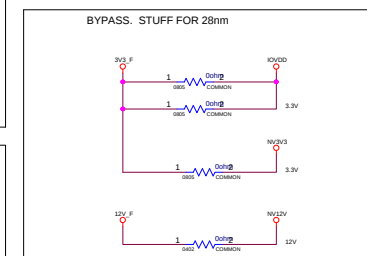
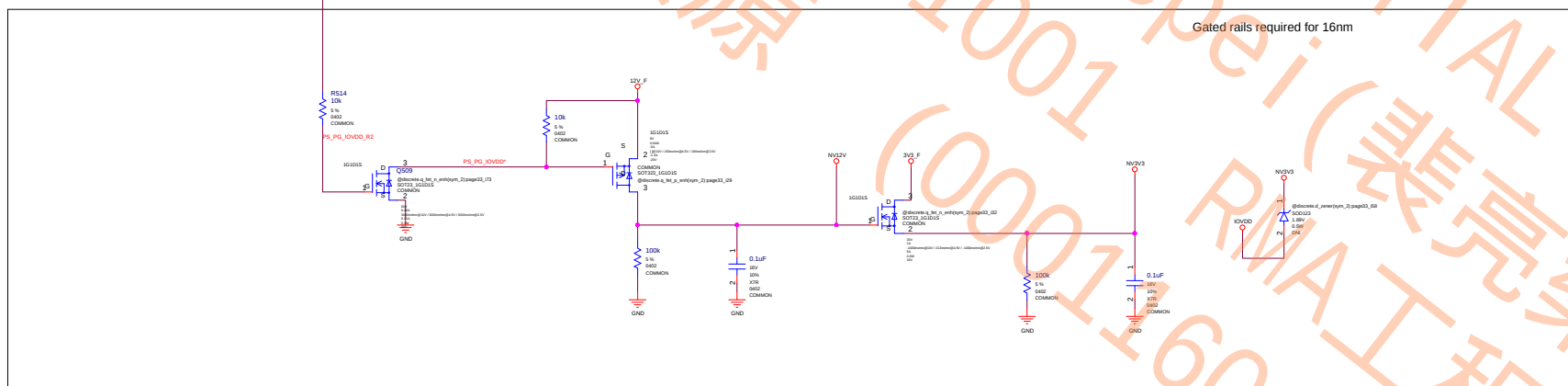
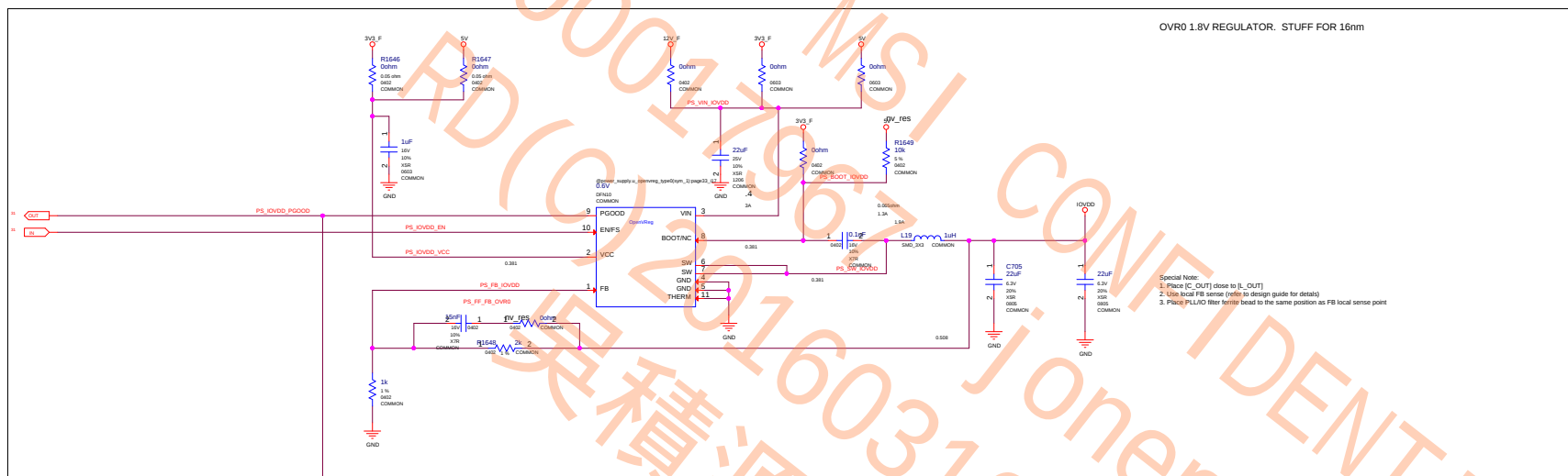
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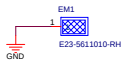
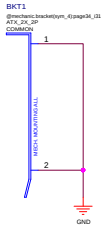
LEDs



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Brackets:

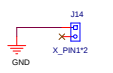


For DVI Connector

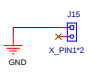
DVDVI SCREWS with top tab



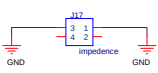
Reserve J3 - J20 for Impedance check



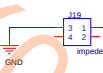
MEM Data
FBC_D<9>
Top
0.129mm / 47ohm +/- 10%
Reference L2 GND



SLU Data
MCA_D7
L3
0.103mm / 52ohm +/- 10%
Reference L2 GND



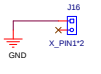
MEM CLK
FBA_CLK<FBA_CLK1*
L3 Inner
0.103mm / 52ohm +/- 10%
Reference L2 Inner GND



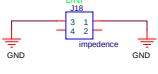
HDMI TMDS signals
IFPC_TX<IFPC_TXC*
L4 Inner
0.104mm / 52ohm +/- 10%
Reference L5 Inner GND



RGB signal
DACA_GREEN_DVI
Bottom
0.103mm / 52ohm +/- 10%
Reference L5 Inner GND



MEM Address
FBC_CMD<4>
L4
0.127mm / 47ohm +/- 10%
Reference L5 GND



PEX_PCEI / DVI IFPEF
PEX_RX13/PEX_RX13* IFPEF_TXC_C* RIIFPEF_TXC_C_R
TOP
0.101mm / 52ohm +/- 10%
Reference L2 Inner GND



PEX_PCEI / DVI IFPAB
PEX_TX6/PEX_TX6* IFPAB_TXD1_C* RIIFPAB_TXD1_C_R
Bottom
0.101mm / 52ohm +/- 10%
Reference L5 Inner GND



F_PAD_X



F_PAD_X



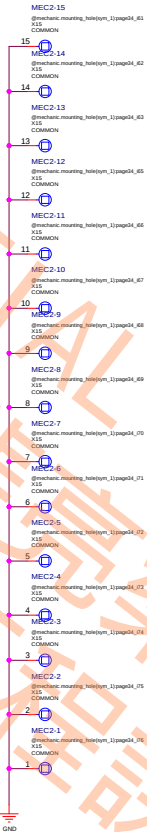
F_PAD_X



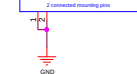
F_PAD_X



F_PAD_X



COOLING SOLUTION



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