

PG301 A02

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

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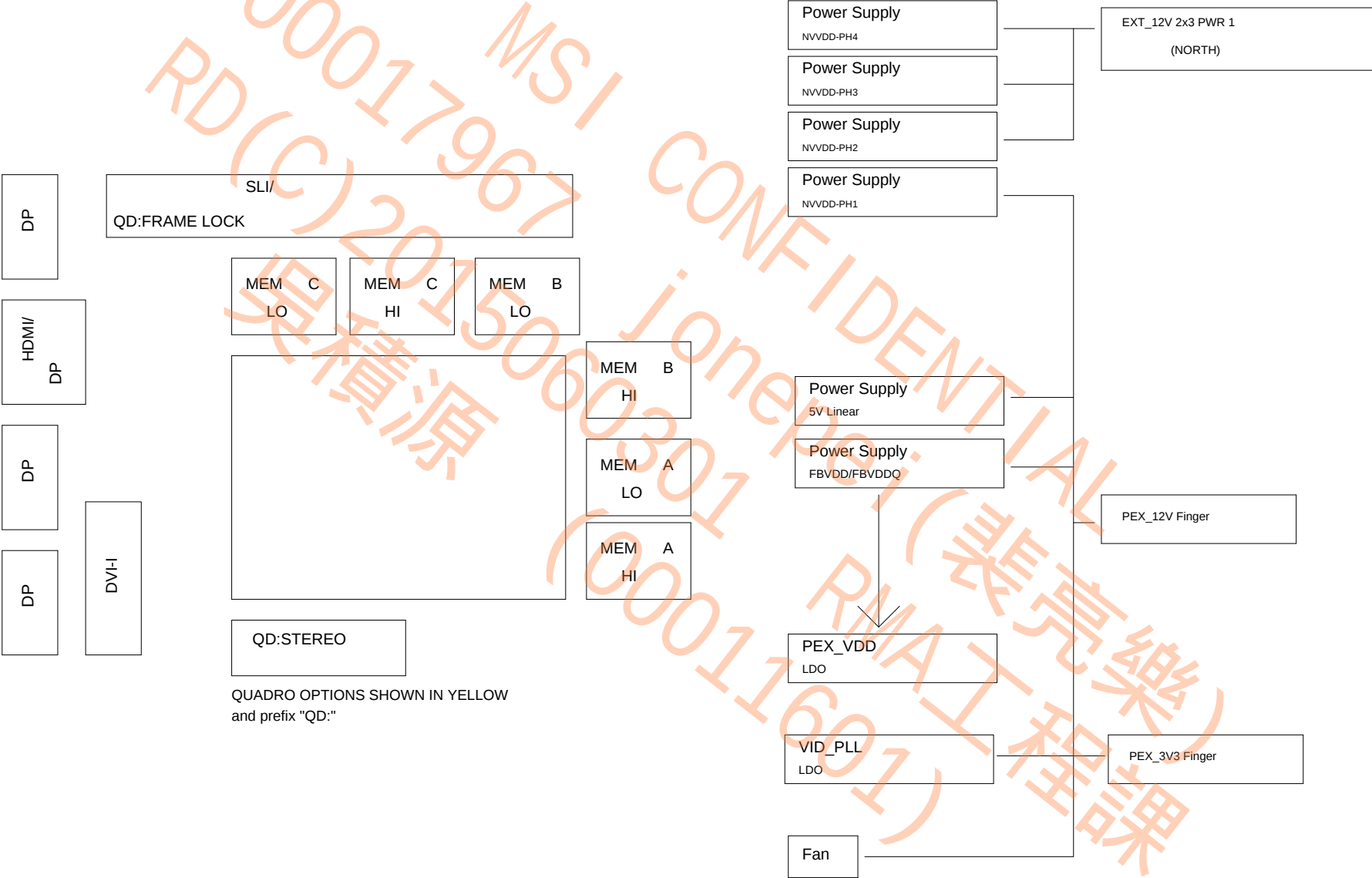
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V320-2.0 change item:

- Page15:DVI add esd
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- Page20:HDMI add esd
- Page21:4pin housing colay 6pin housing
- Page25:NVVDD enable phase4
- Page27:Add phase4
- Page29:remove colay NVVDD power solution
- Page30: 12V input bead change to choke
6pin power con colay 8pin con
remove 0603 MLCC colay
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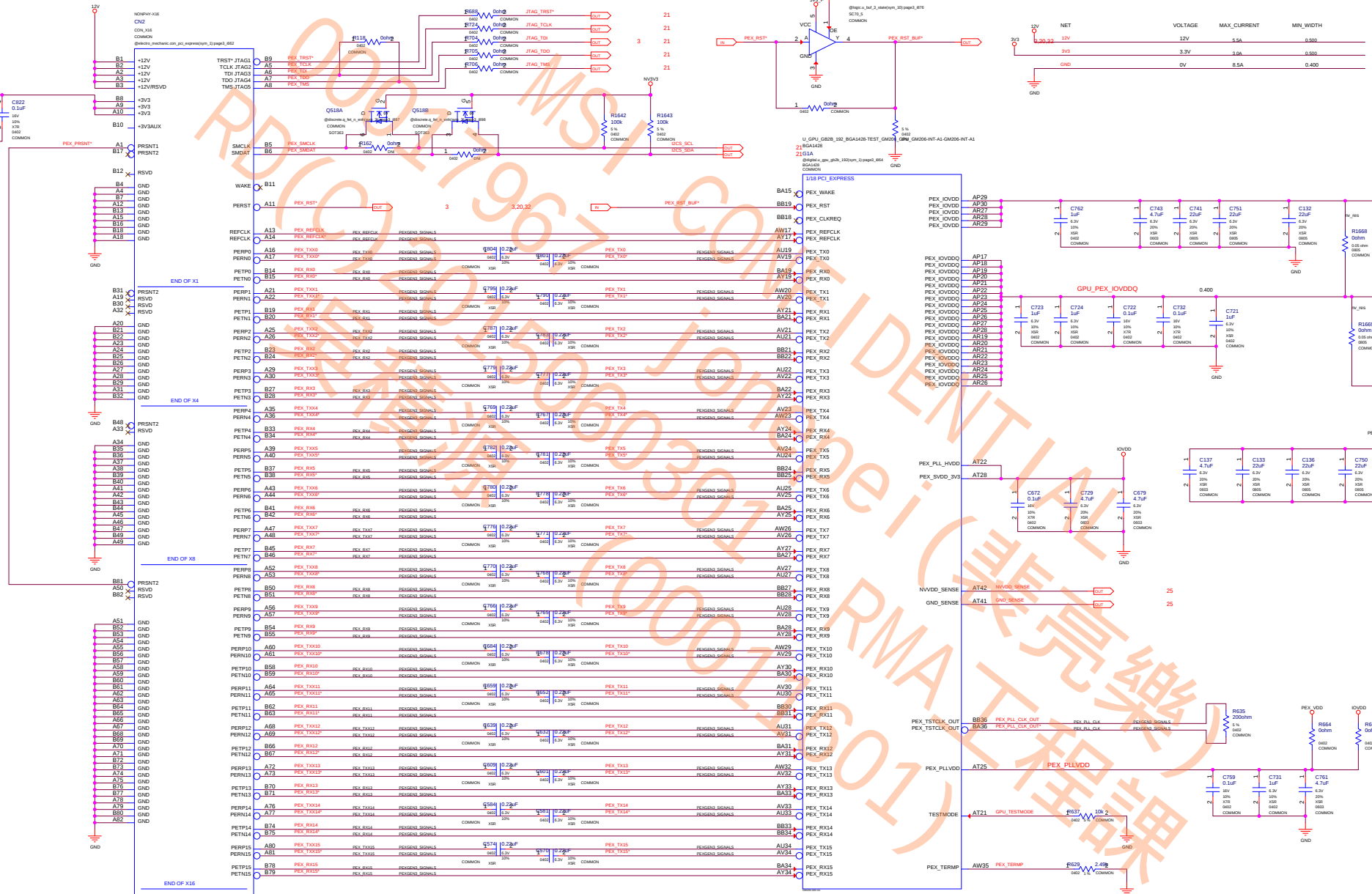
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Block Diagram



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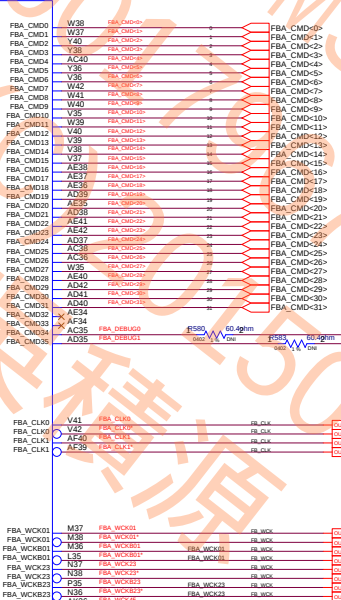
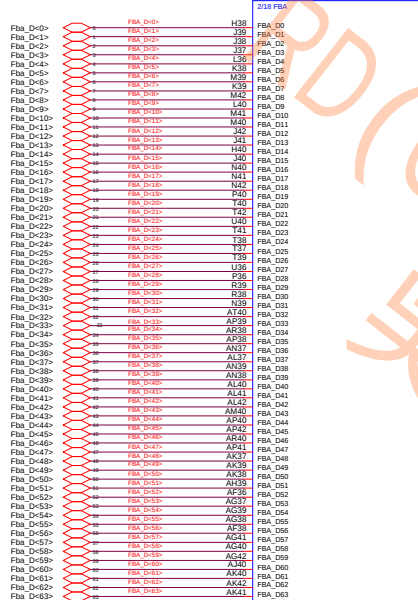
PCI Express



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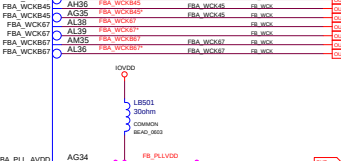
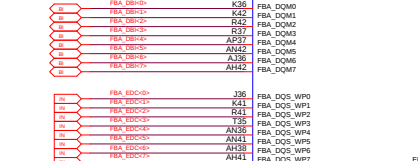
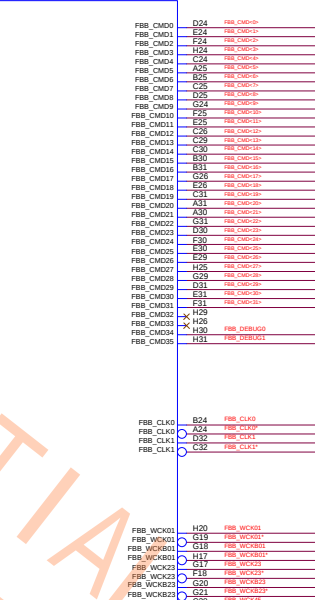
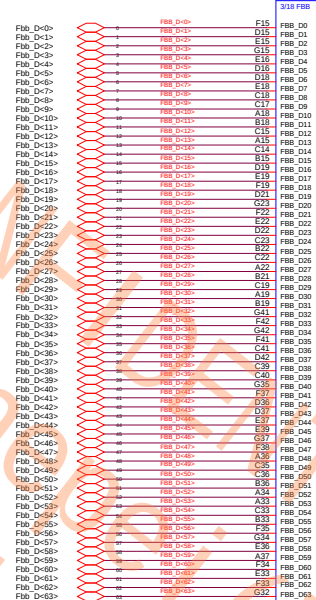
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0318
0318
0318



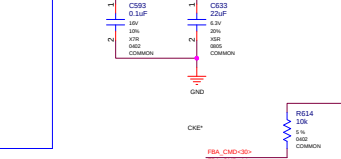
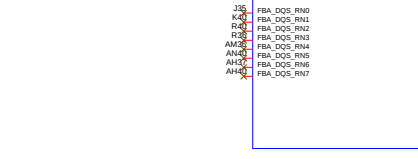
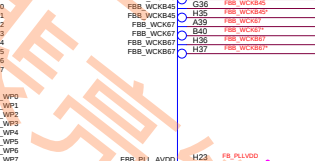
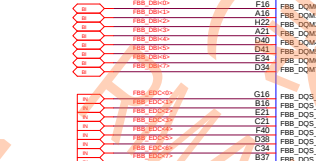
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0.31 32.83



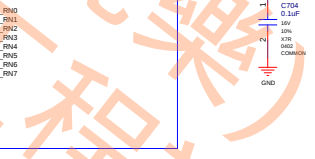
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GDDR5_BGA170_MIRROR

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GDDR5_BGA170_MIRROR

0.31 32.83



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MSI

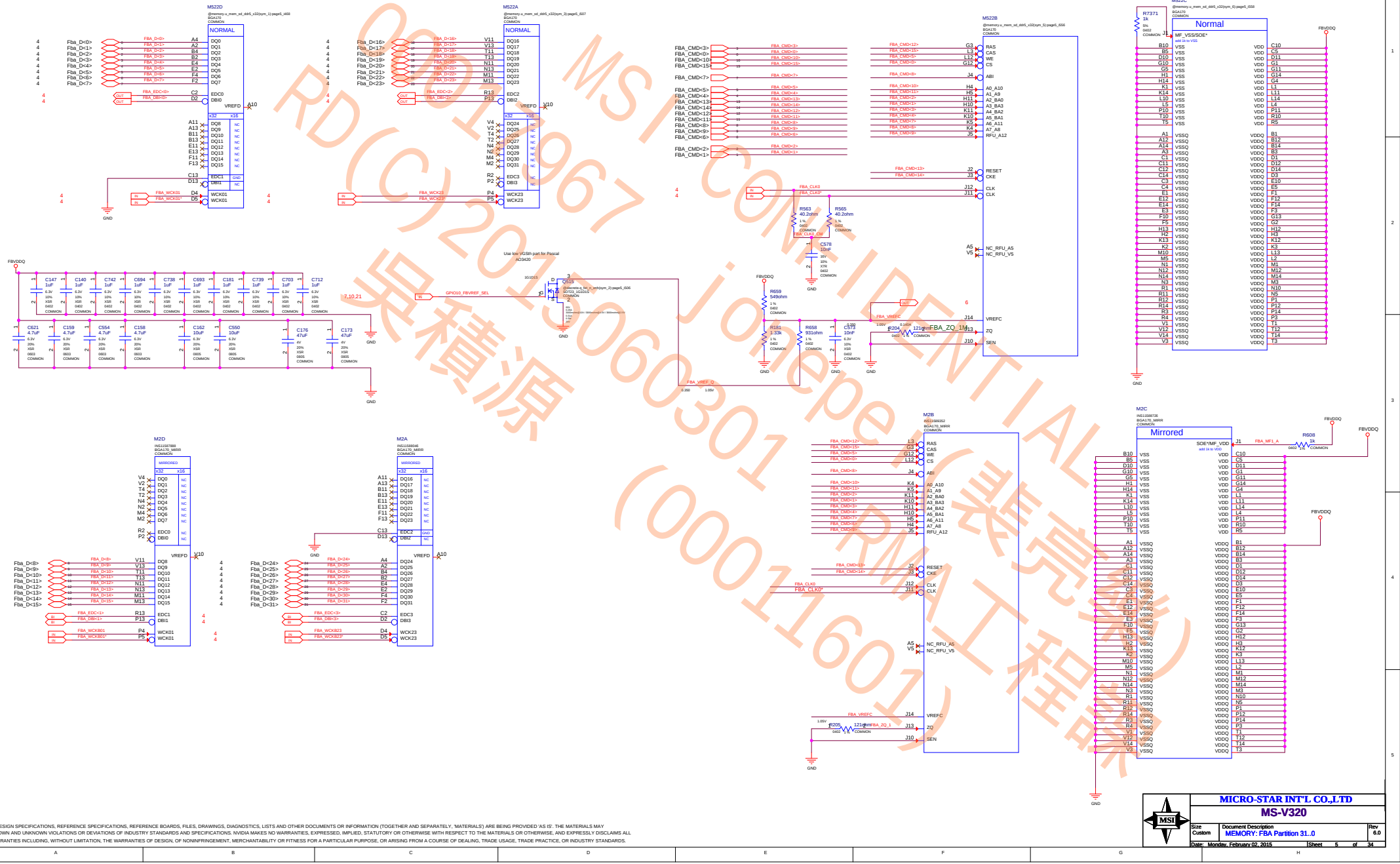
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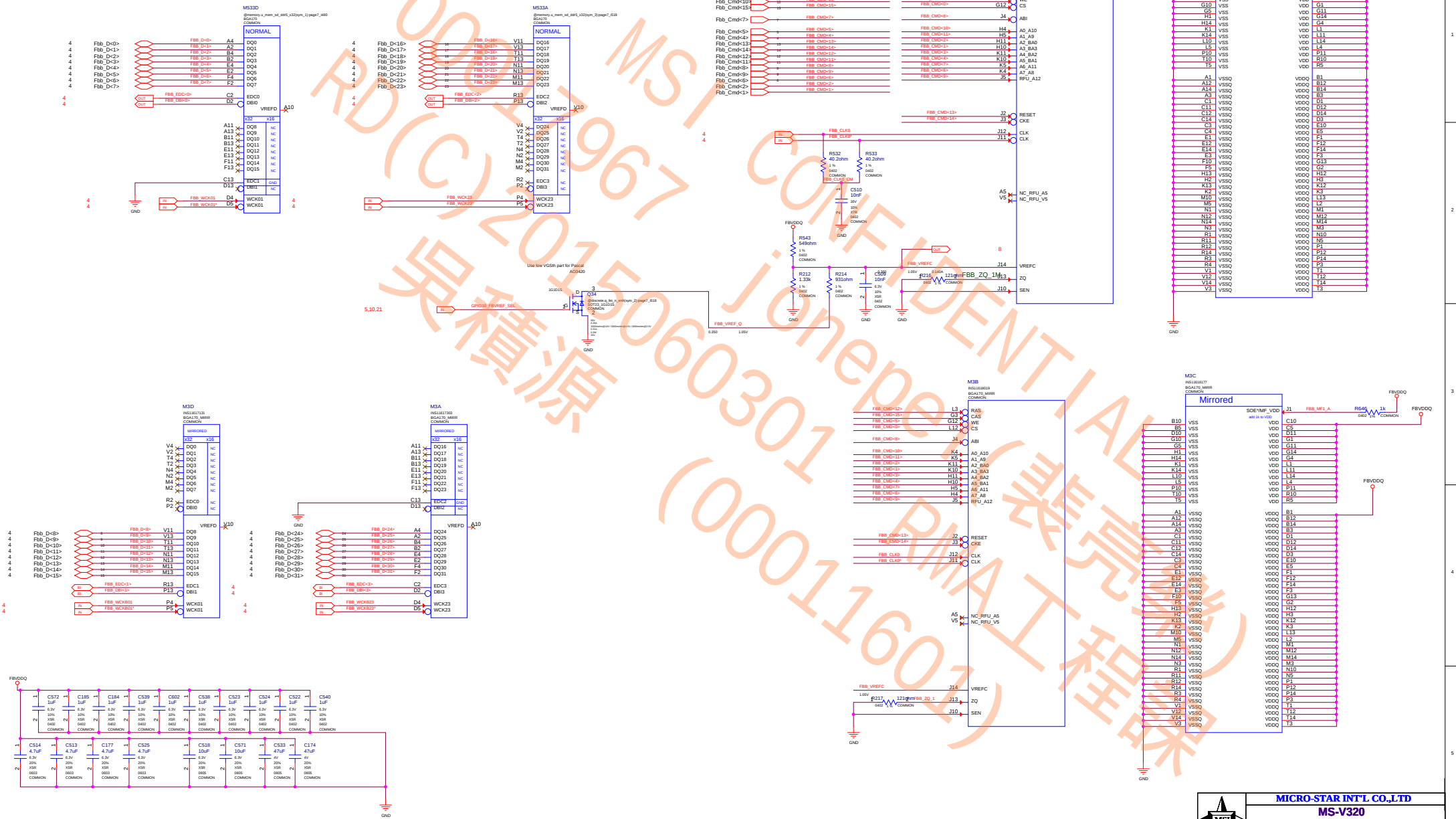
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MEMORY: FBA Partition 31..0



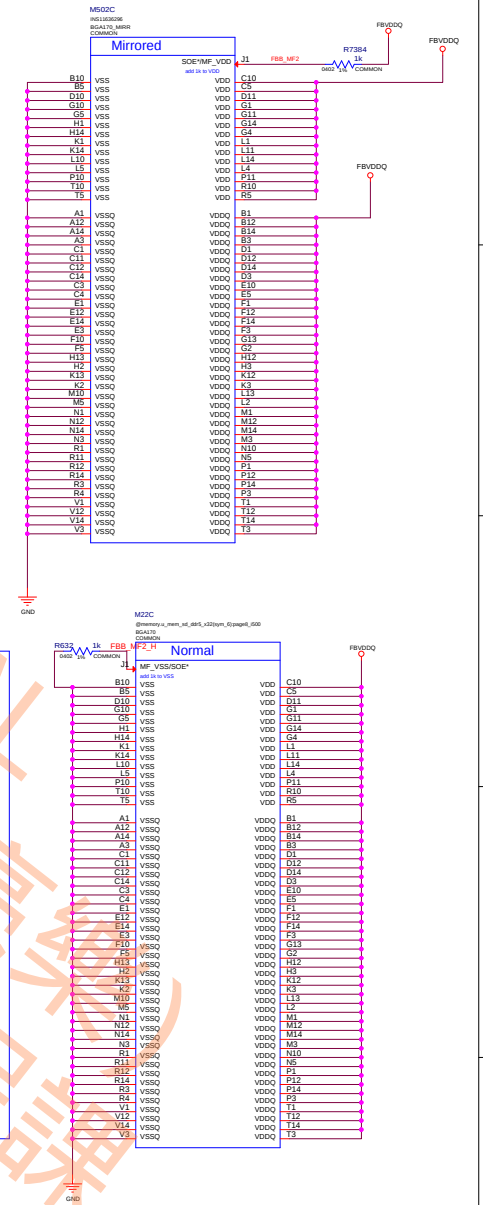
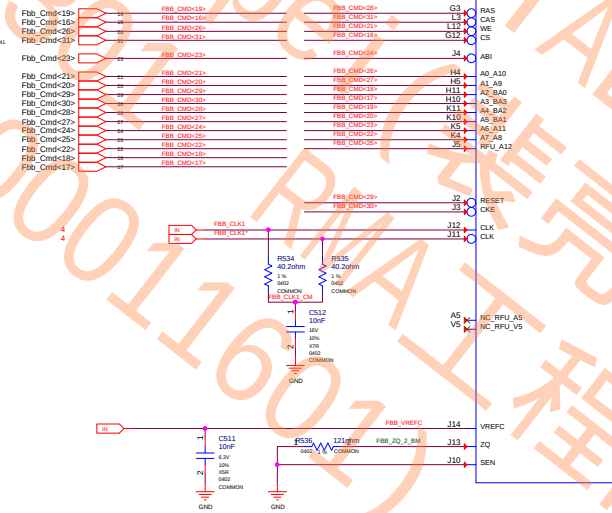
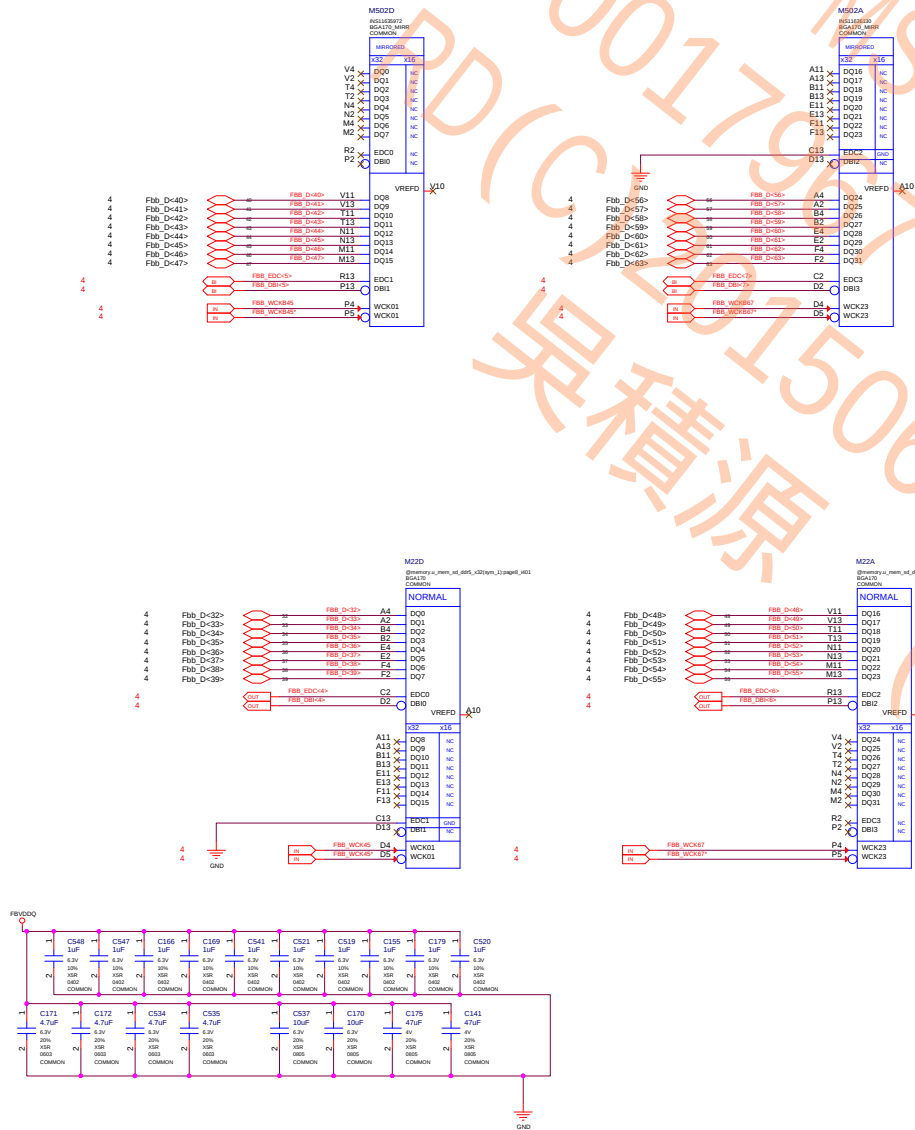
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MEMORY: FBB Partition 31..0

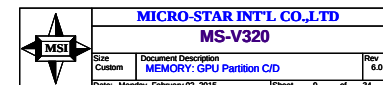


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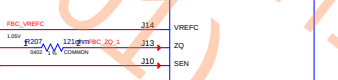
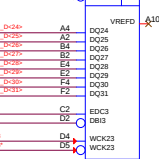
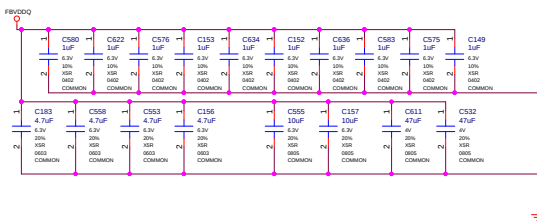
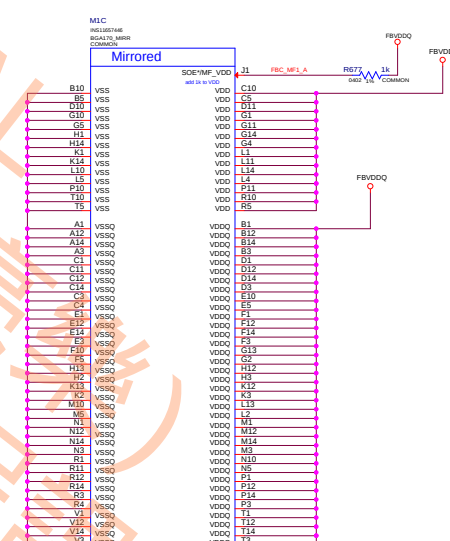
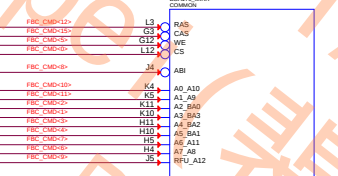
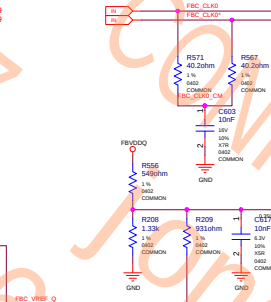
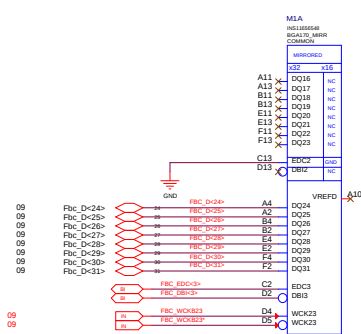
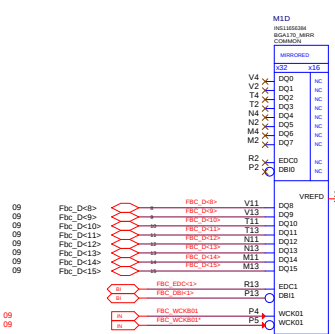
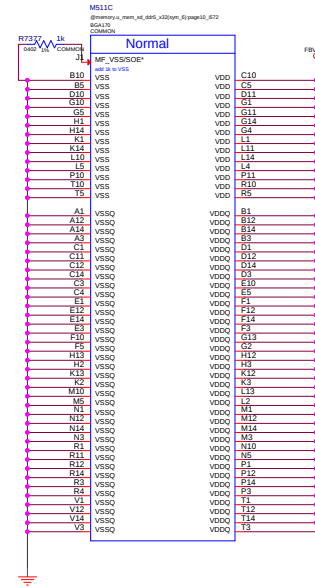
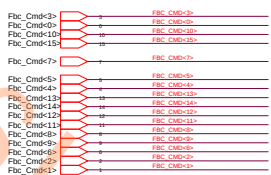
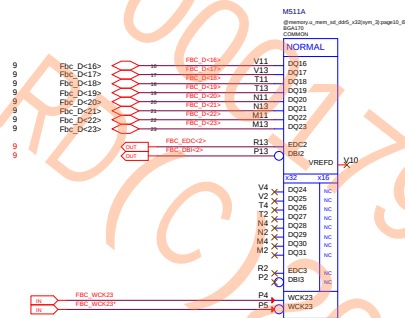
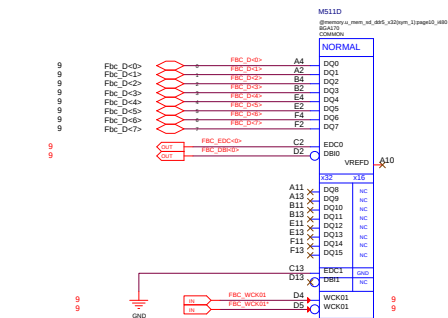
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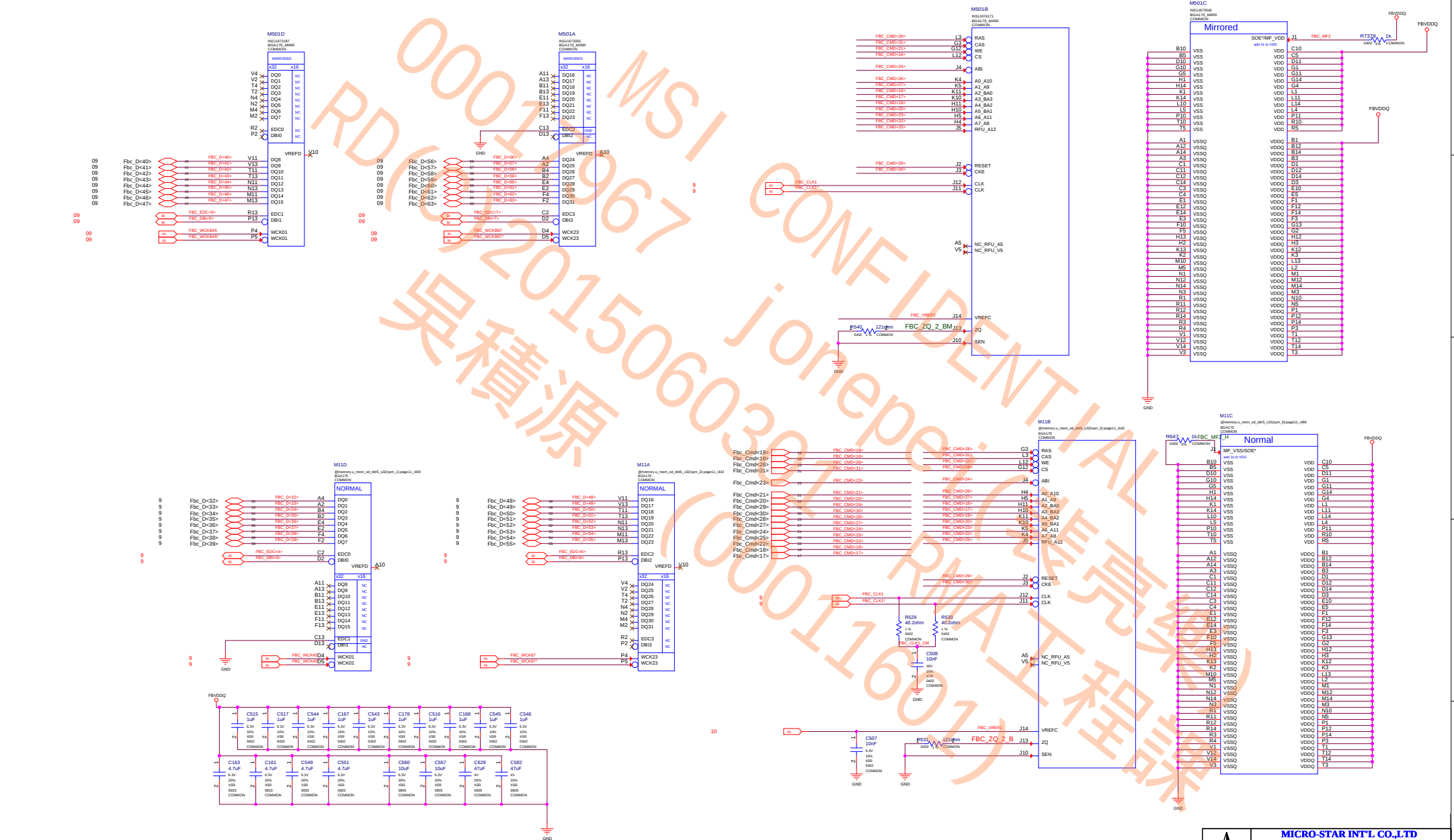
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MEMORY: FBC Partition 31..0



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Custom	MEMORY: FBC Partition 63..32	6.0

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GPU PWR and GND

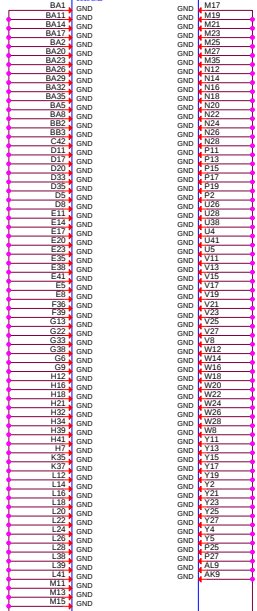
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BGA1428

COMMON



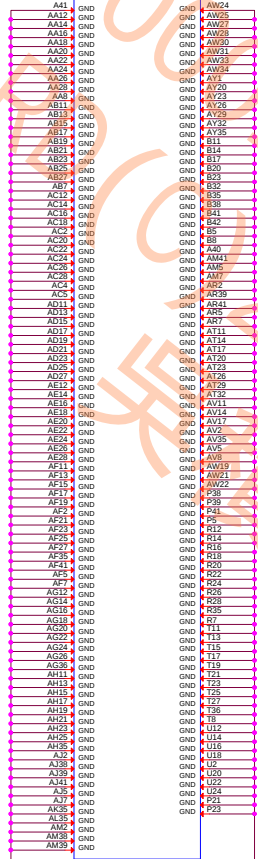
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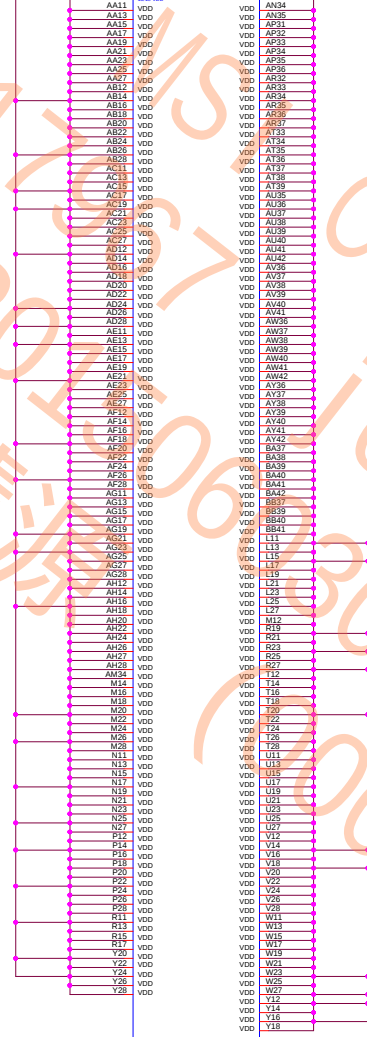
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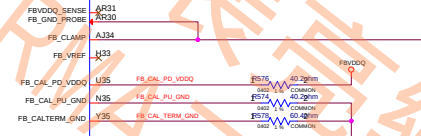
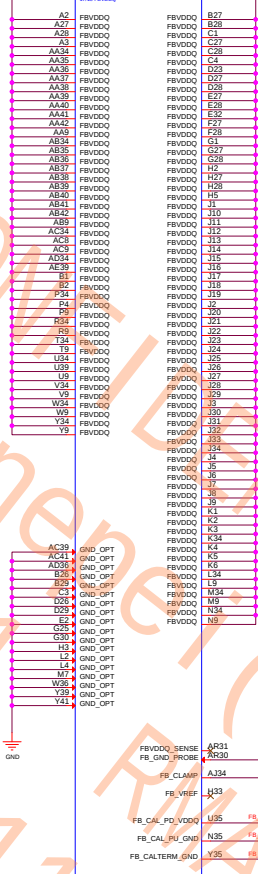
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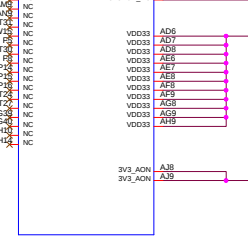
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BGA1428

COMMON



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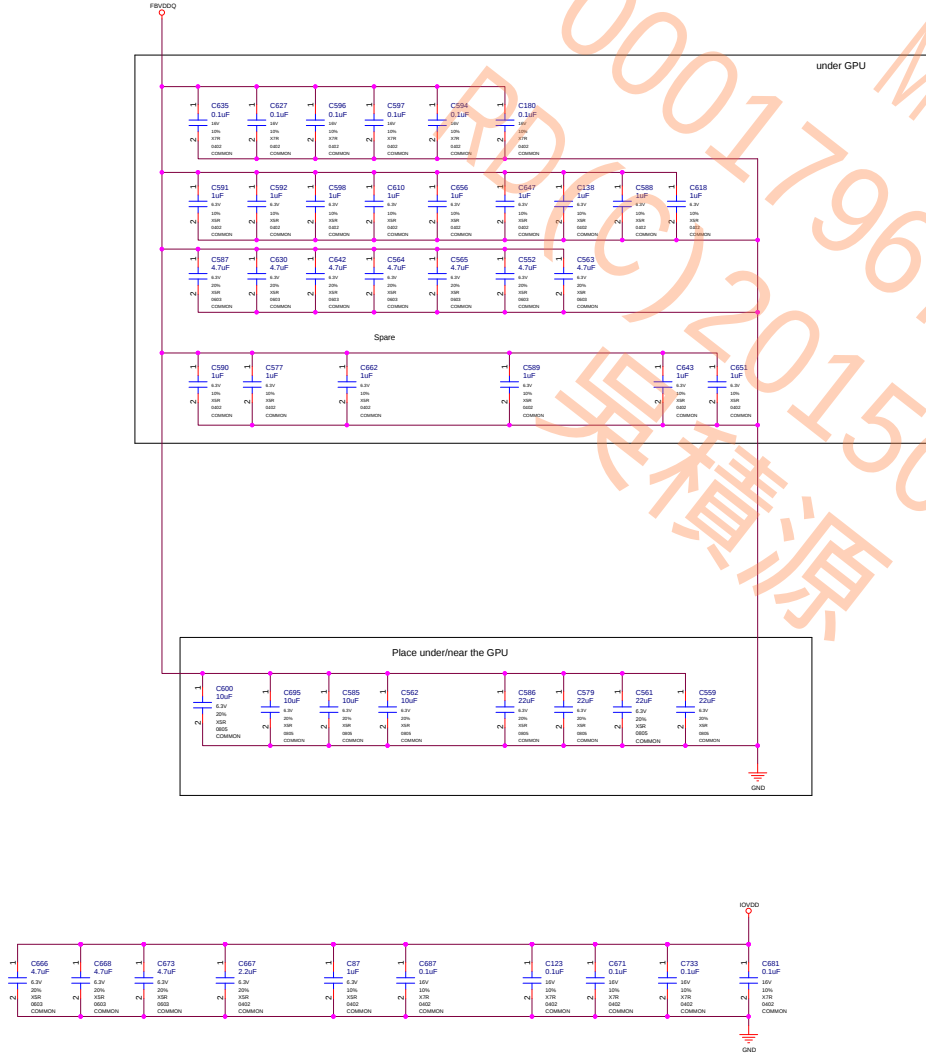
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Sheet 12 of 34

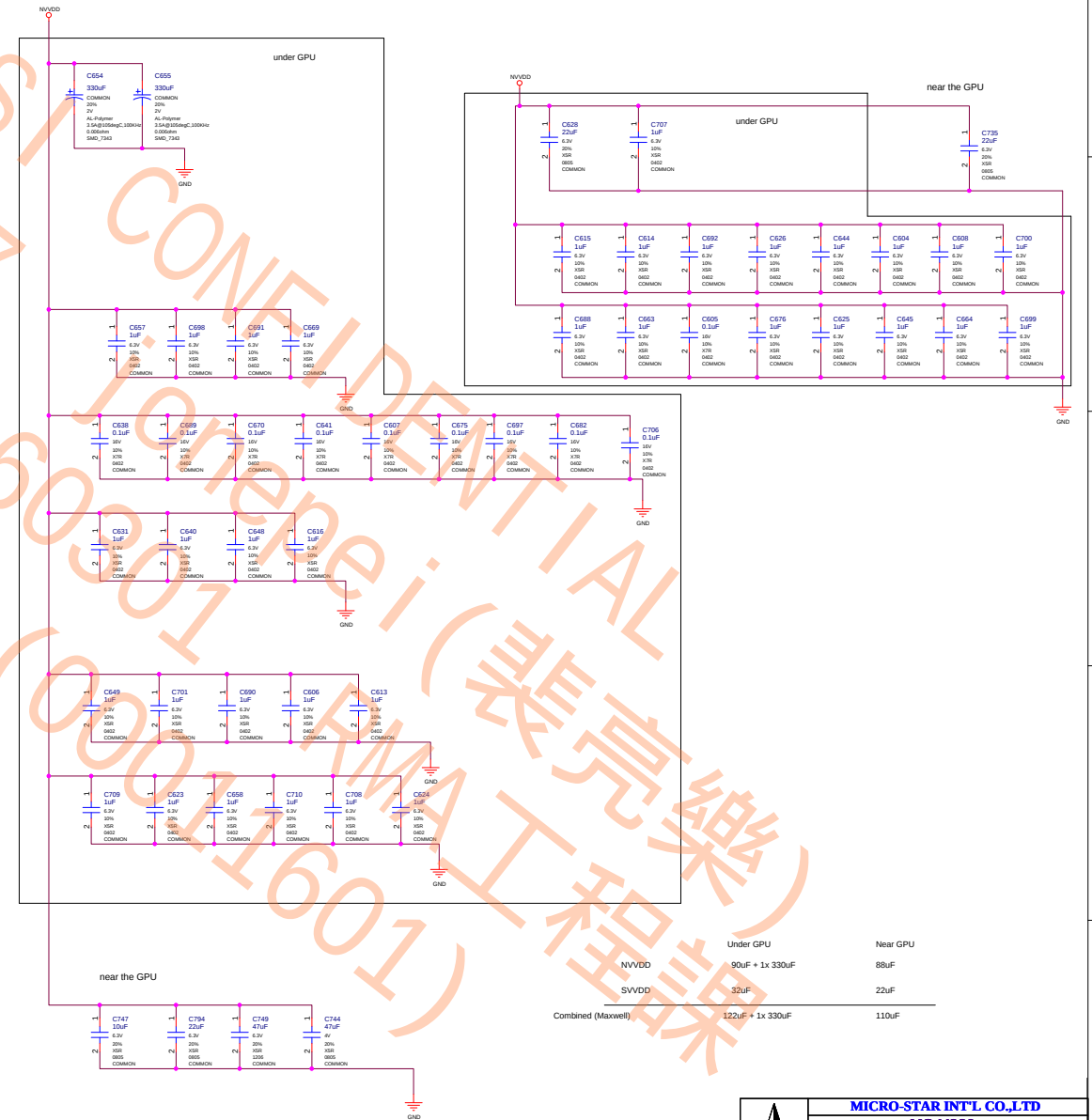
Rev 6.0

GPU Decoupling

FBVDDQ

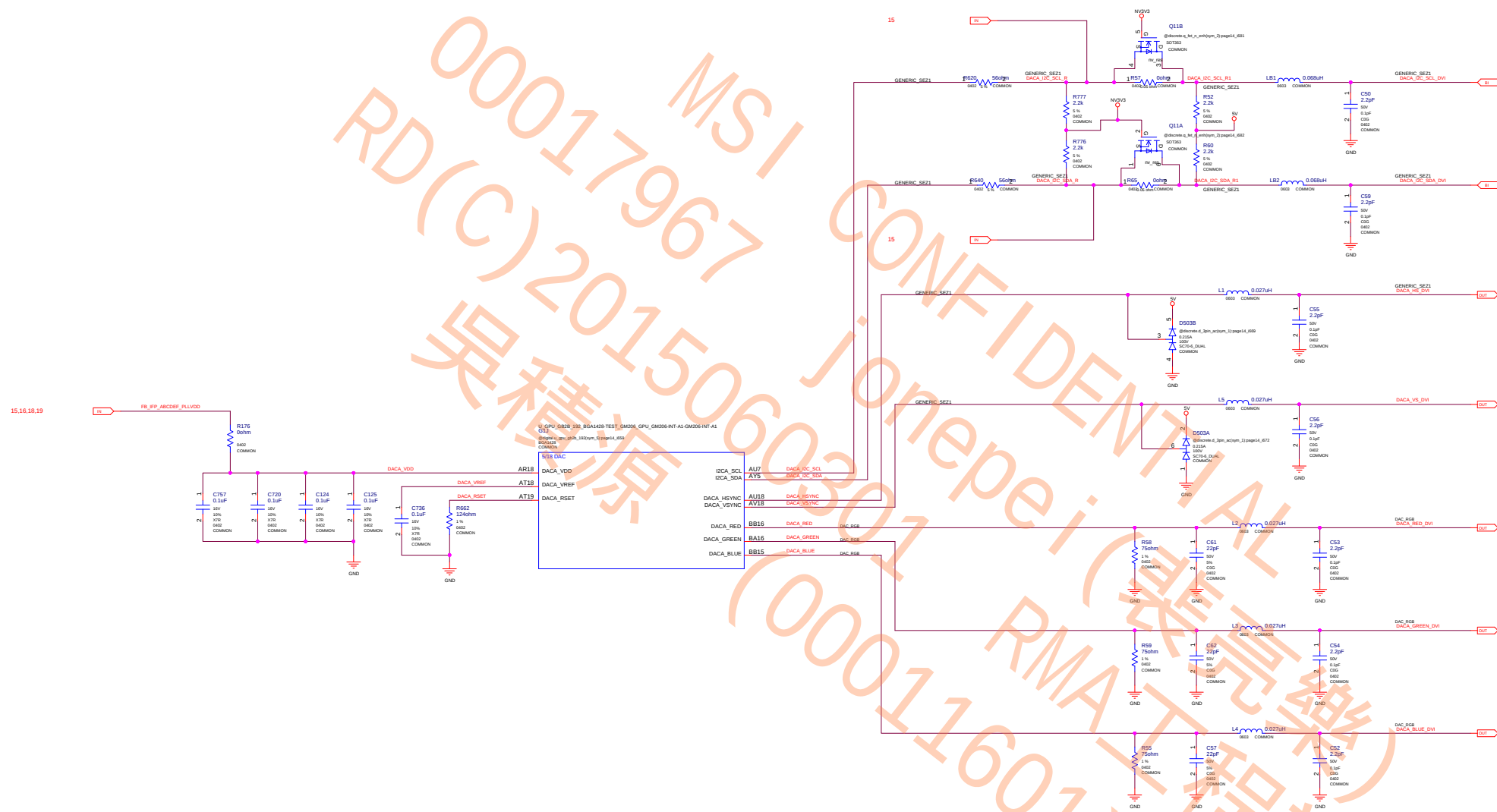


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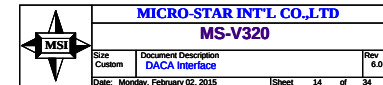


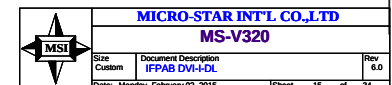
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DACA Interface



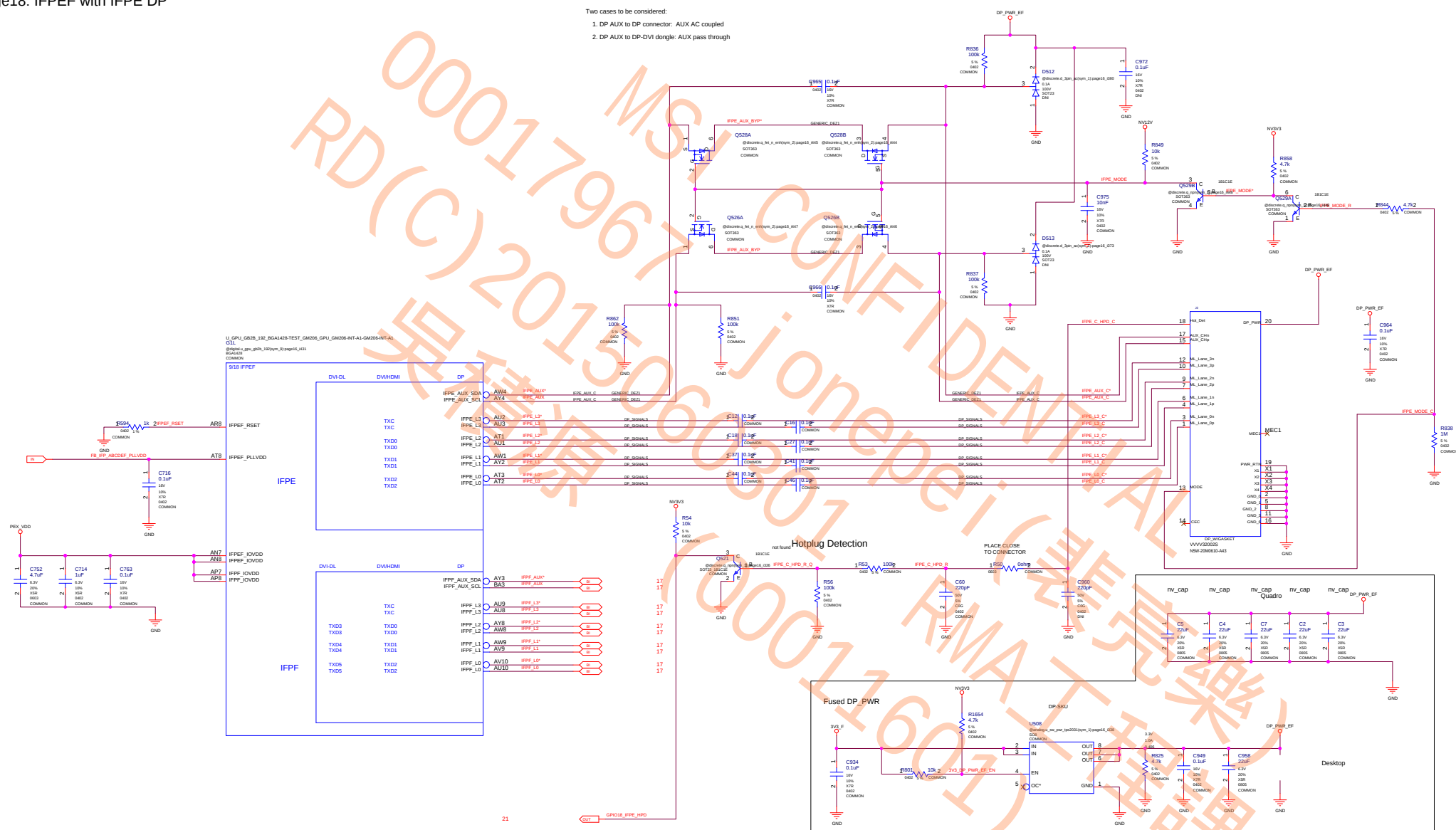
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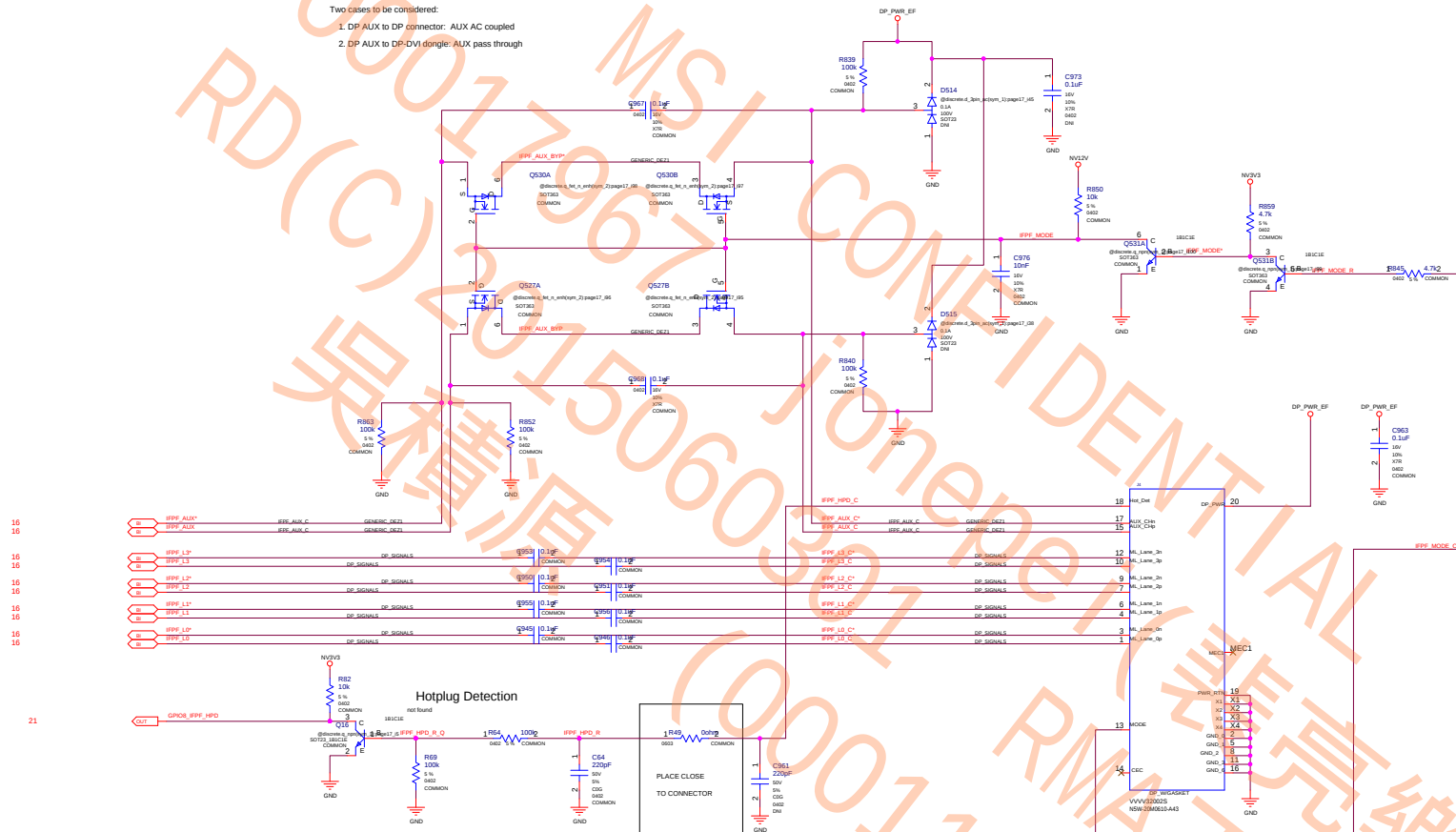
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2. DP AUX to DP-DVI dongle: AUX pass through



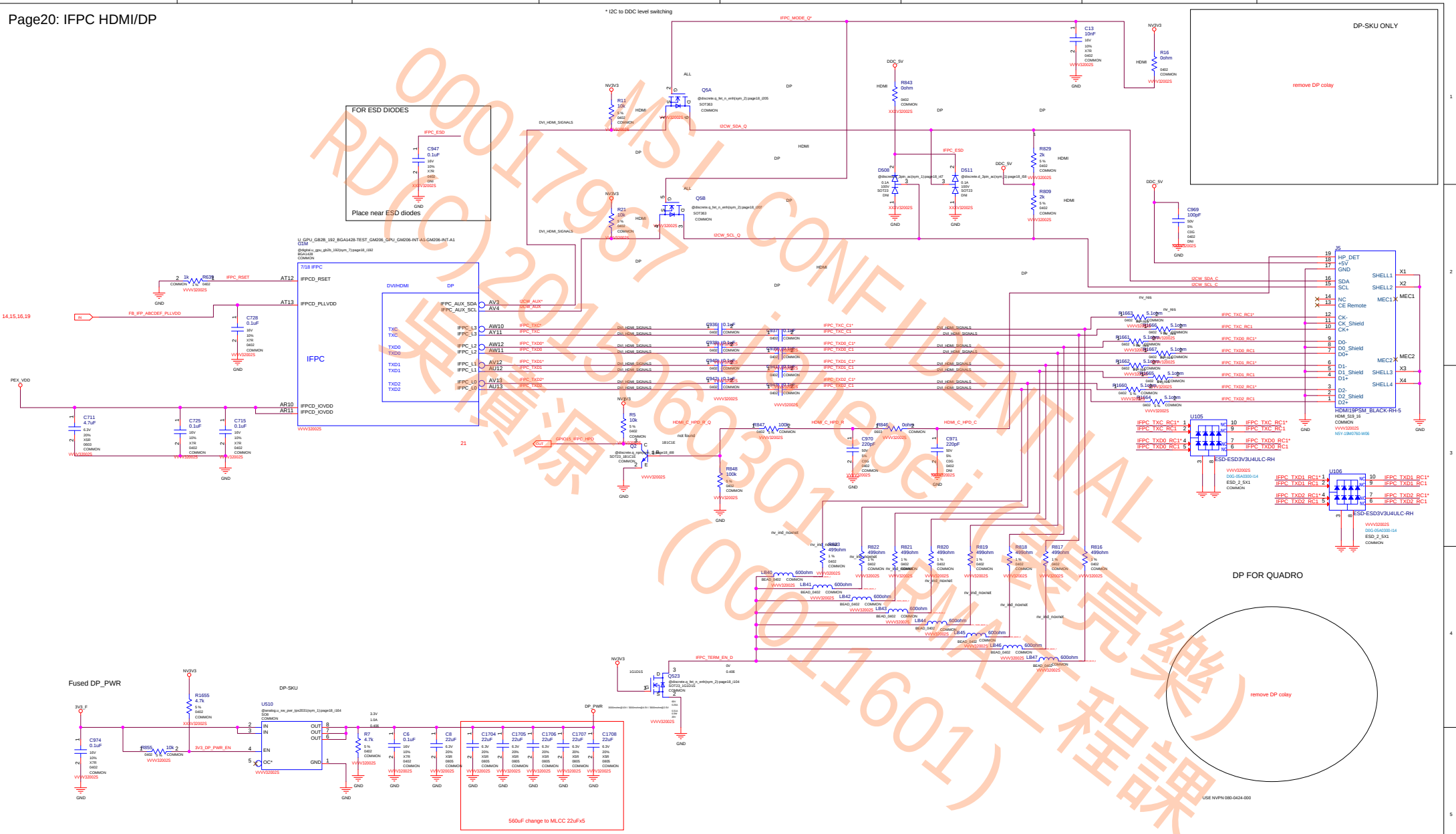
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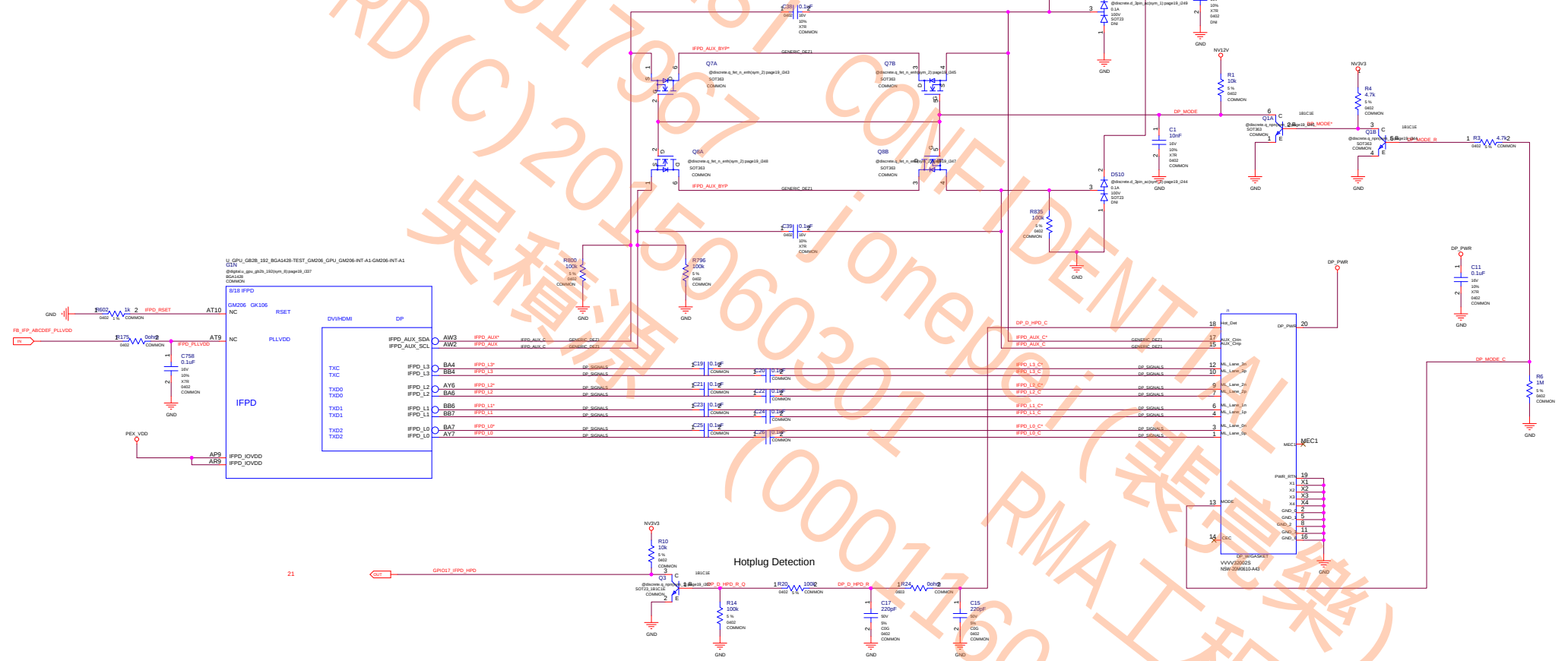
1. DP AUX to DP connector: AUX AC coupled
2. DP AUX to DP-DVI dongle: AUX pass through



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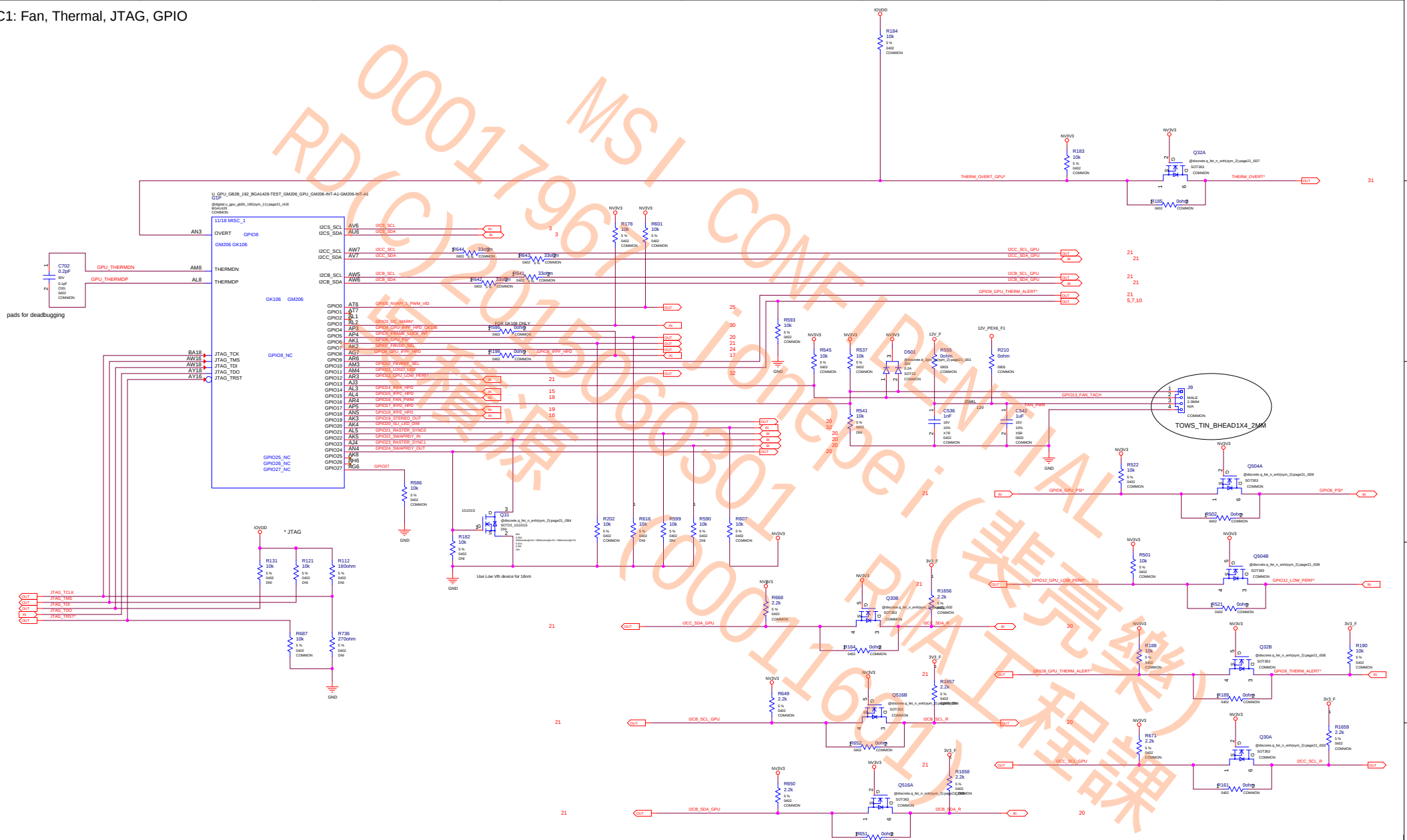


- Two cases to be considered:
1. DP AUX to DP connector: AUX AC coupled
 2. DP AUX to DP-DVI dongle: AUX pass through



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MISC1: Fan, Thermal, JTAG, GPIO



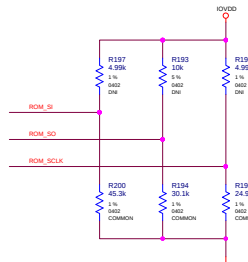
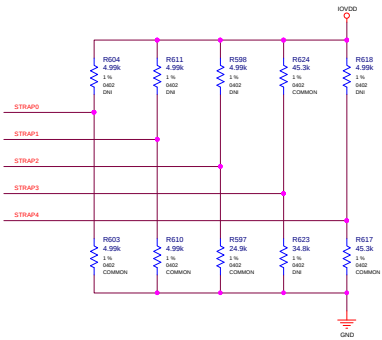
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MISC2: ROM, XTAL, Straps

	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*

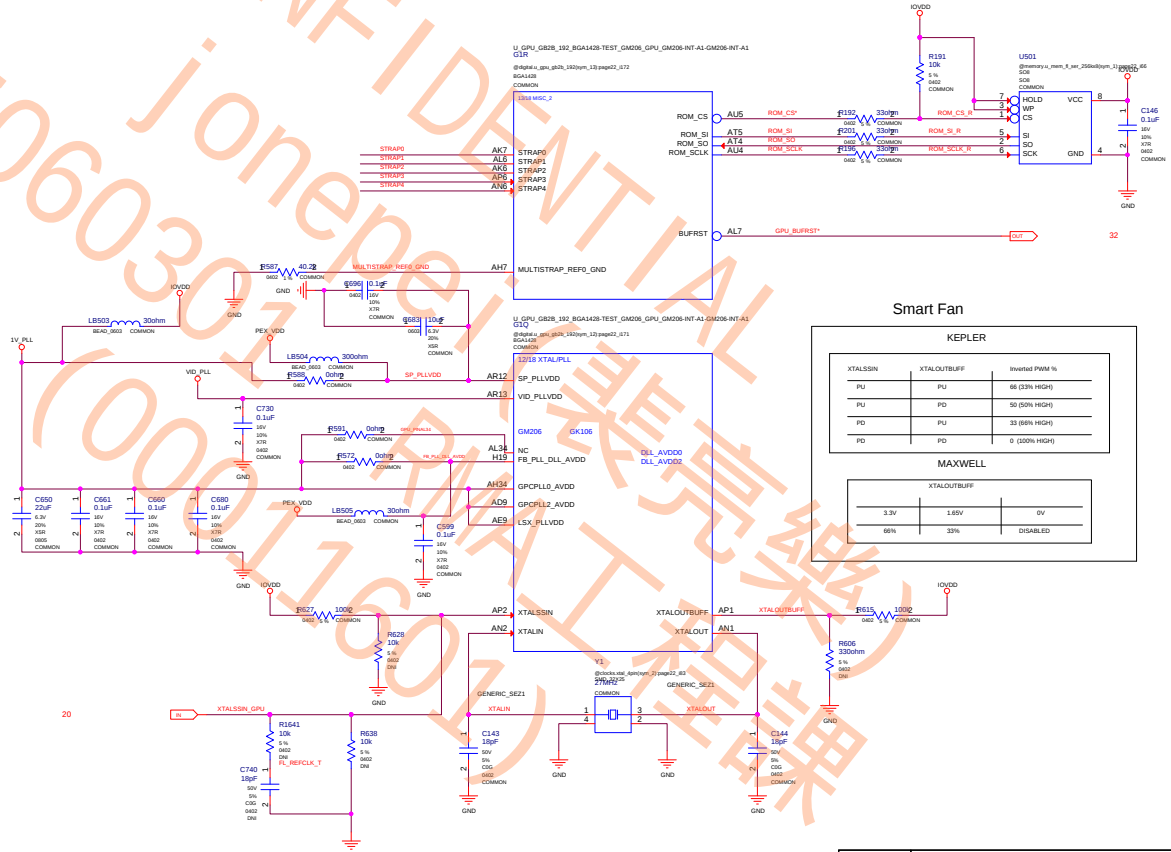
MULTI_STRAP_REF0_GND	
BINARY PRODUCTION	NC
BINARY BRINGUP	NC
MULTI-LEVEL	40.2k 1% TO GND

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



ROM_SI		
SAMSUNG	HYNIX	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

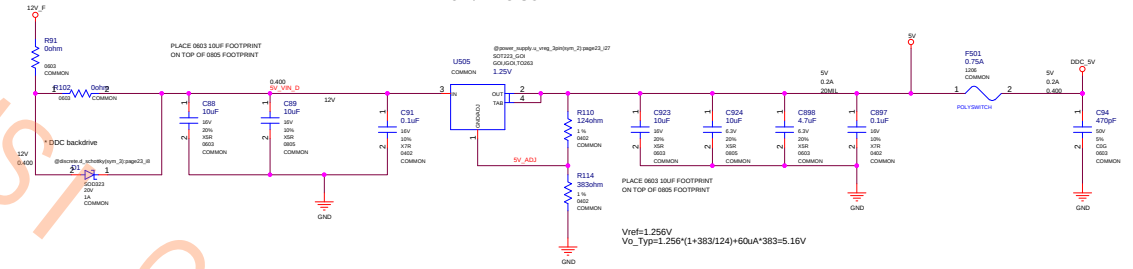


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Custom	MISC2:ROM,XTAL,Straps	6.0
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PS: 5V, PEX_VDD

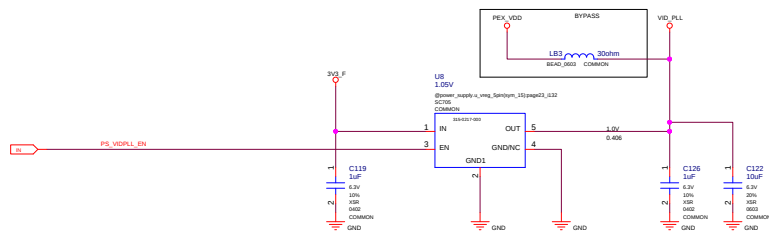
5V / DDC SUPPLY



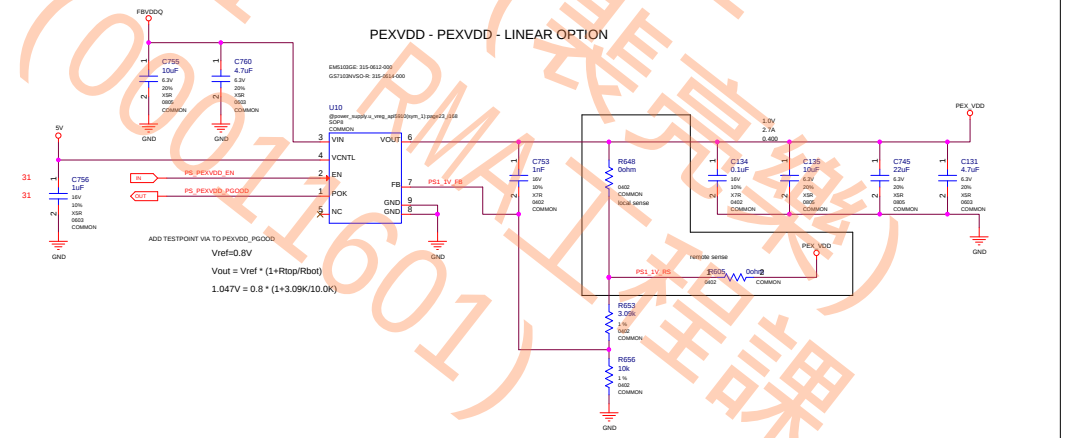
1V PLL SUPPLY



VID PLL SUPPLY

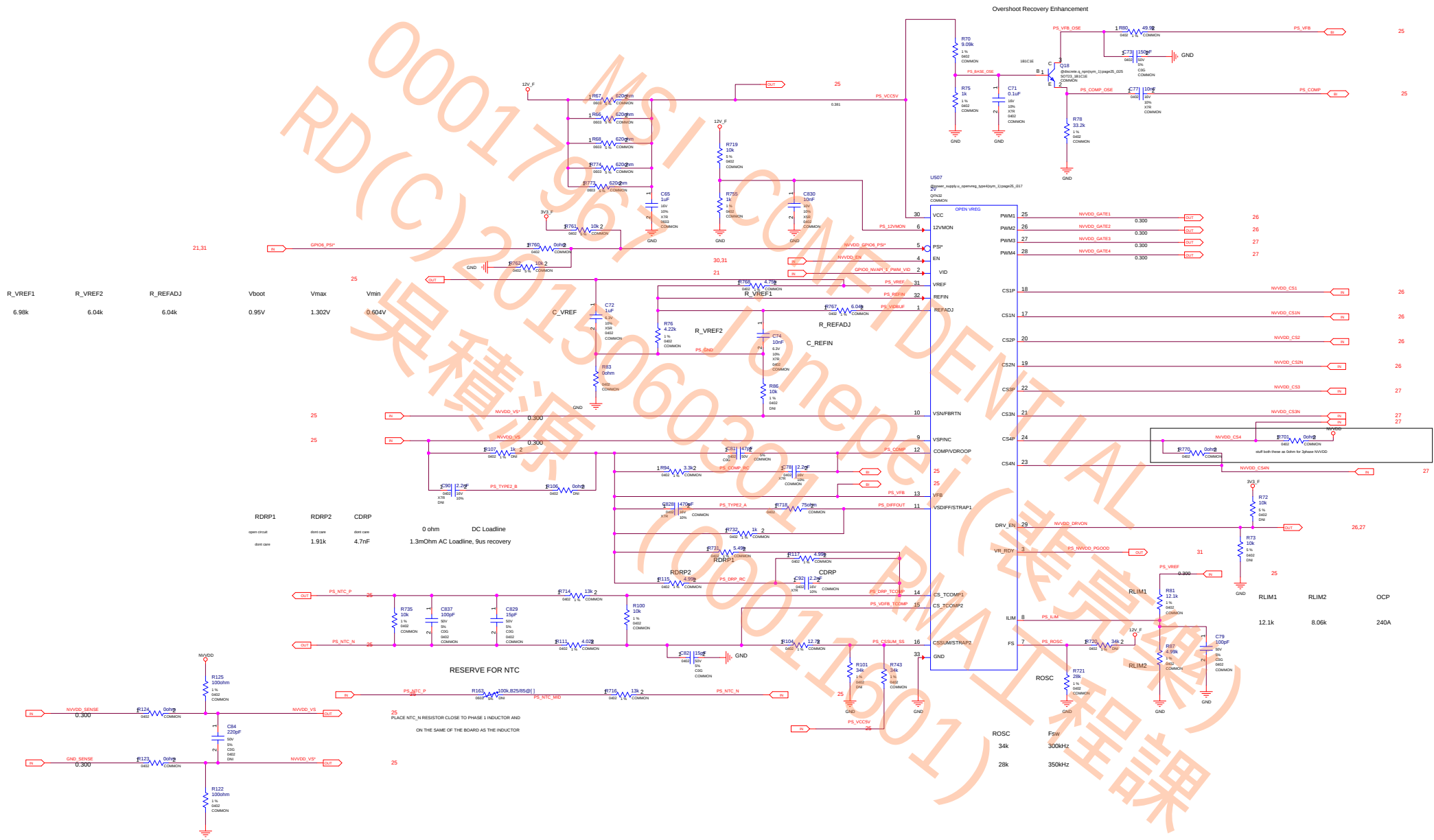


PEXVDD - PEXVDD - LINEAR OPTION

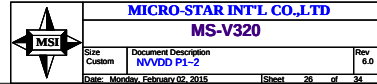


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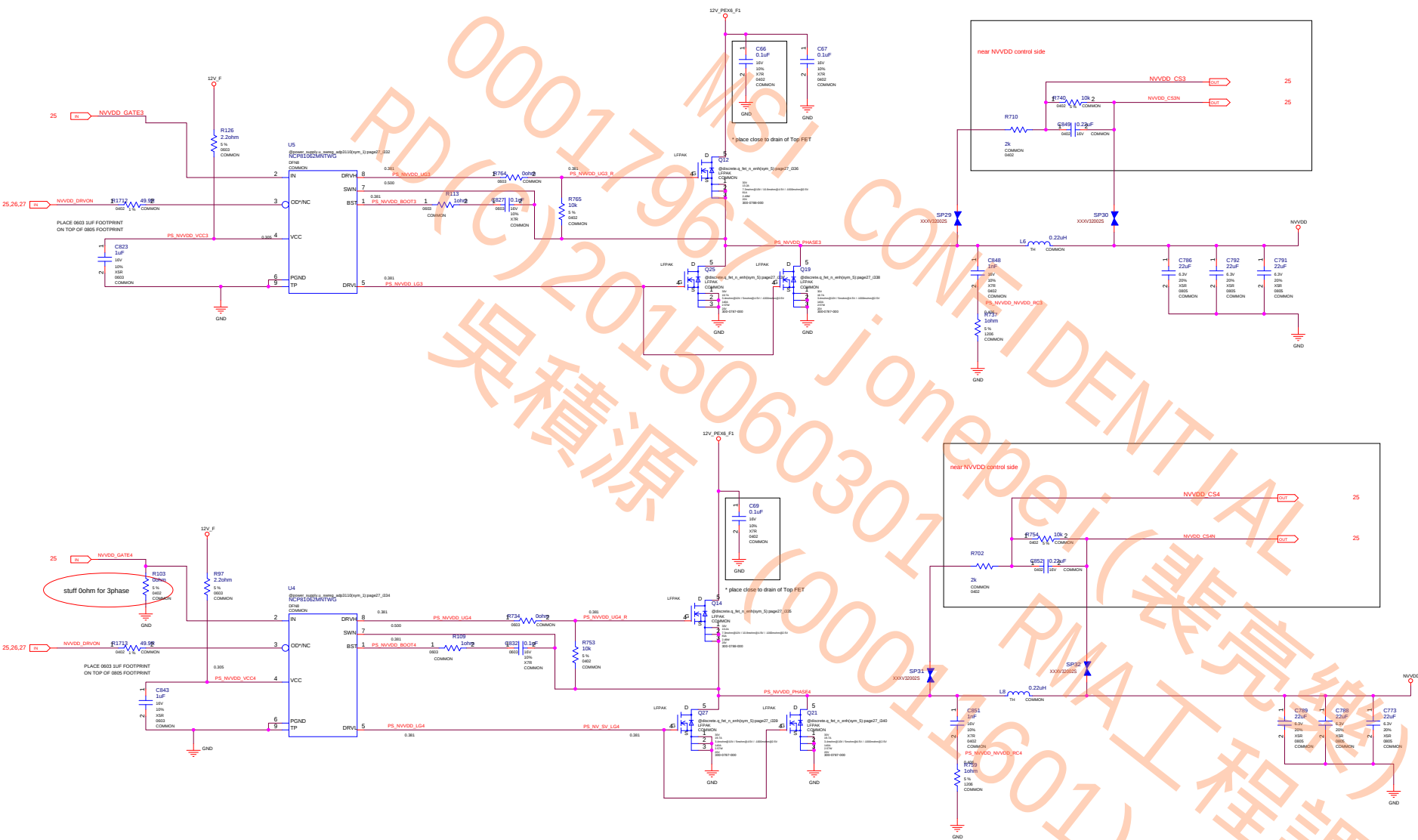
PS: NVVDD Controller



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PS: NVVDD Phase 3,4



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A	B	C	D	E	F	G	H

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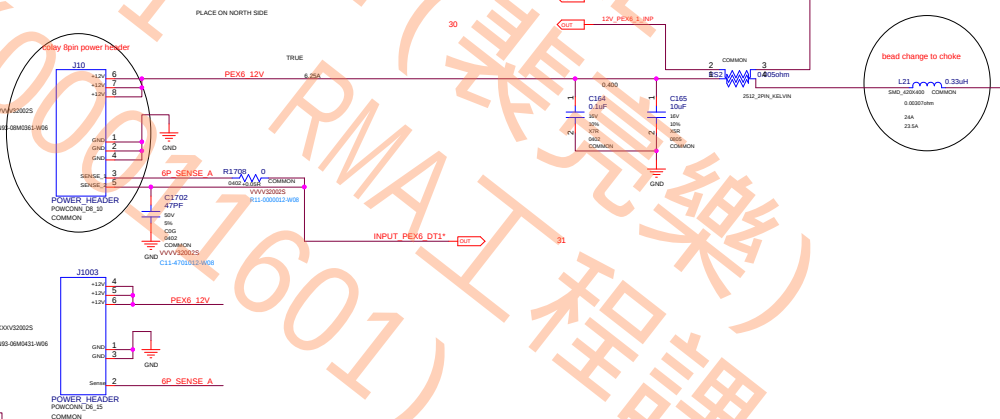
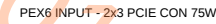
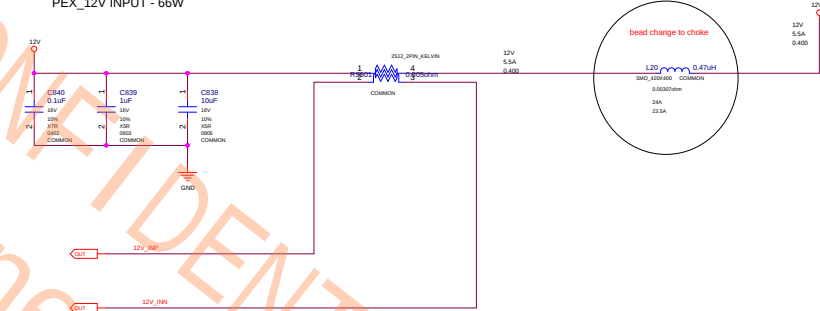
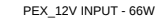
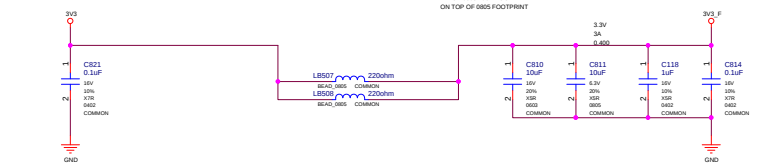
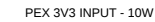
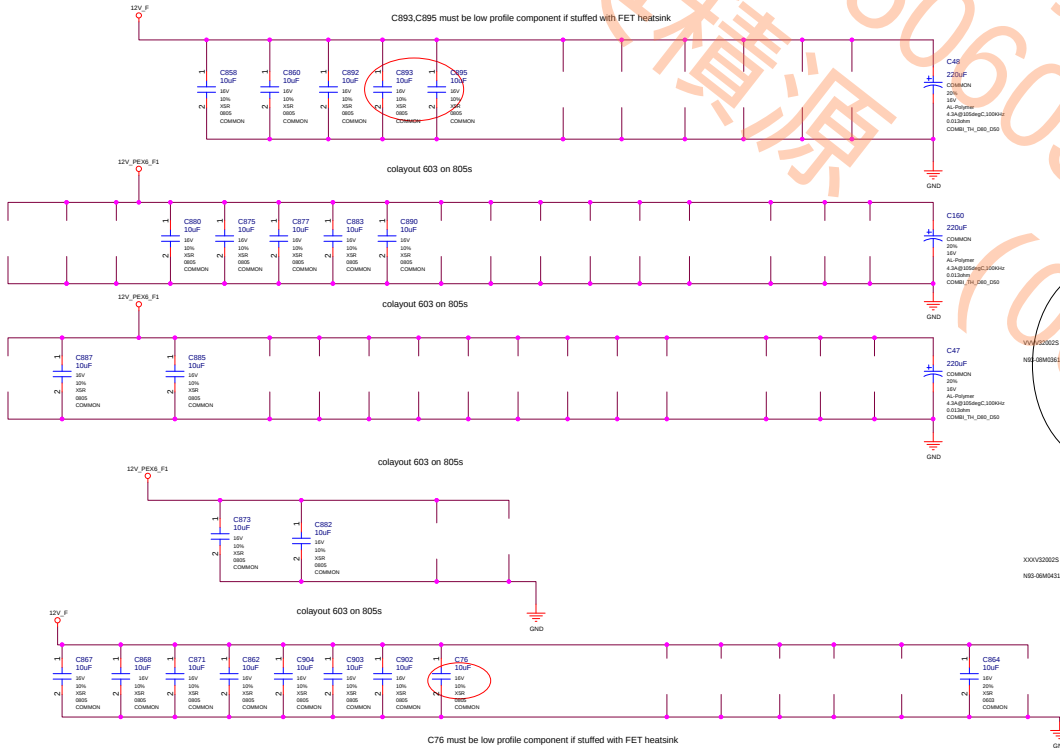
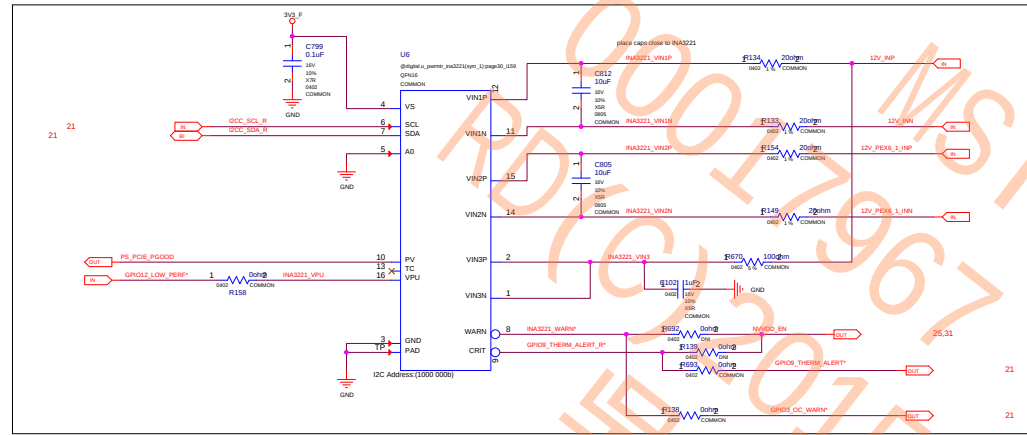
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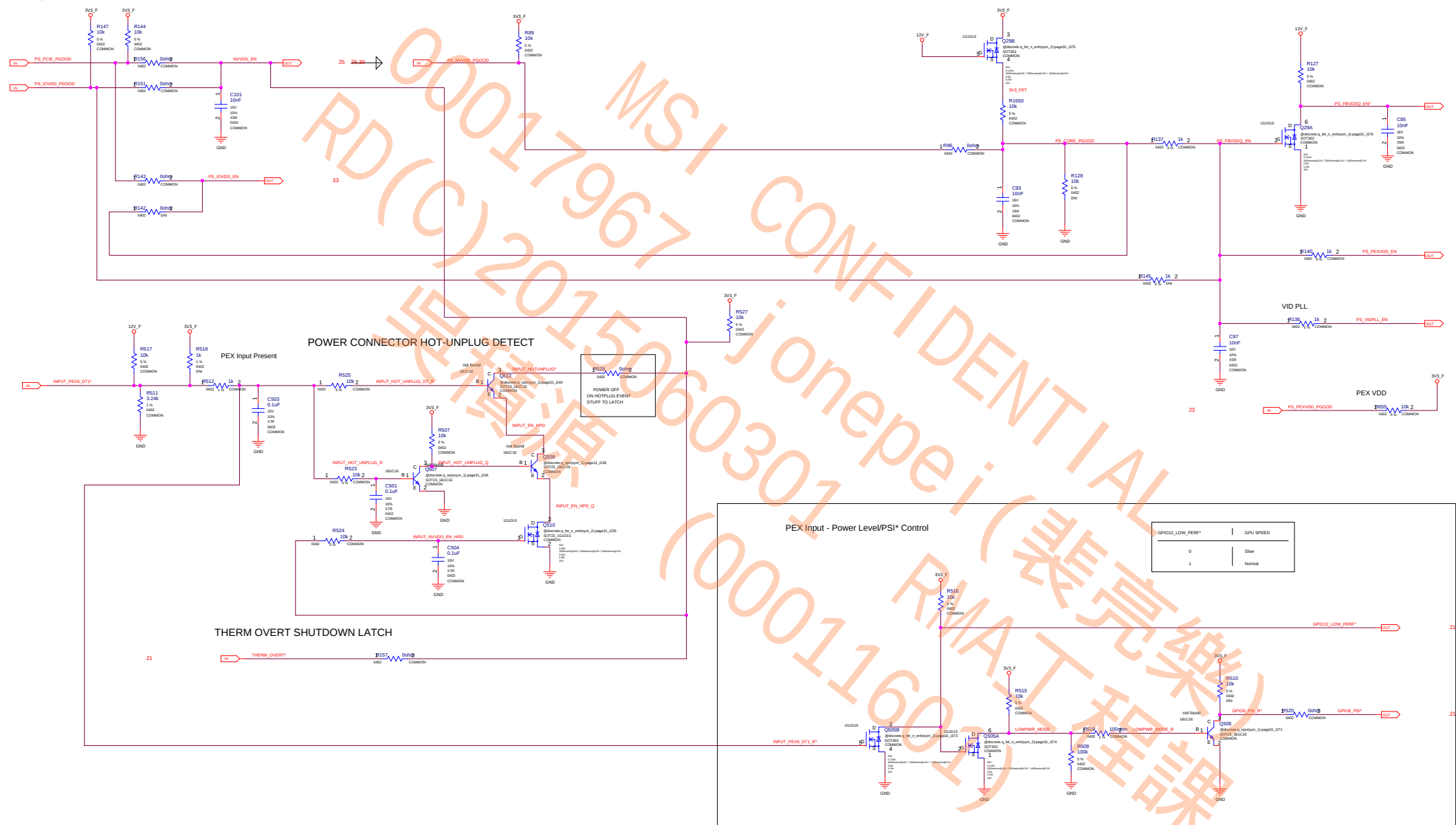
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PS: Inputs, Filtering, and Monitoring



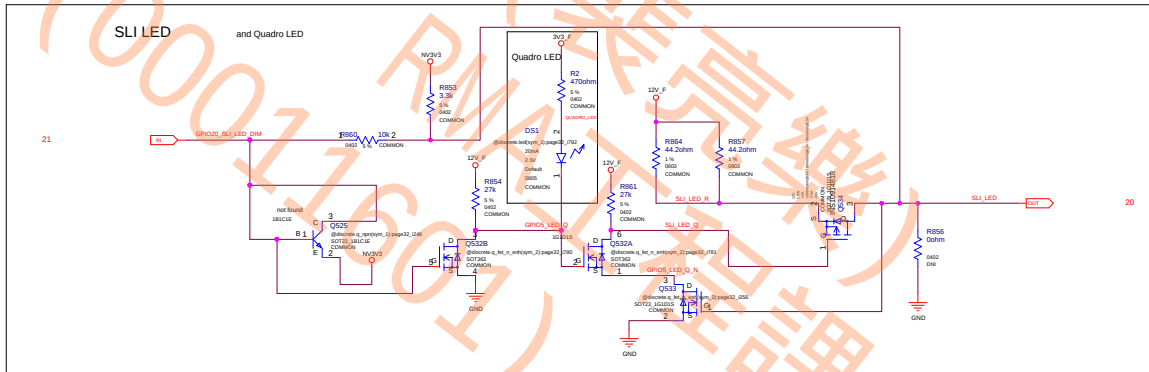
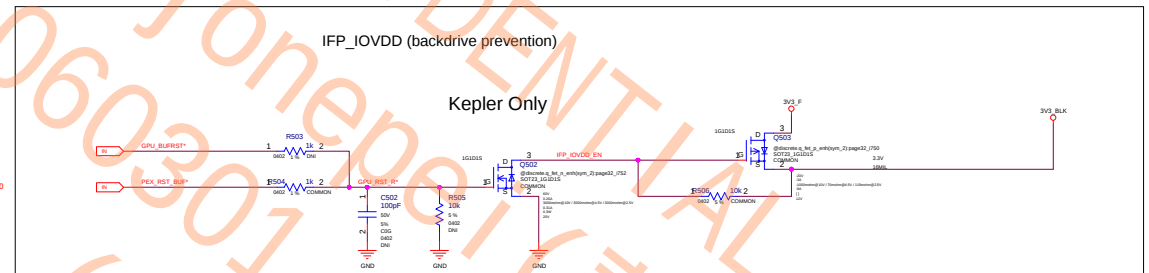
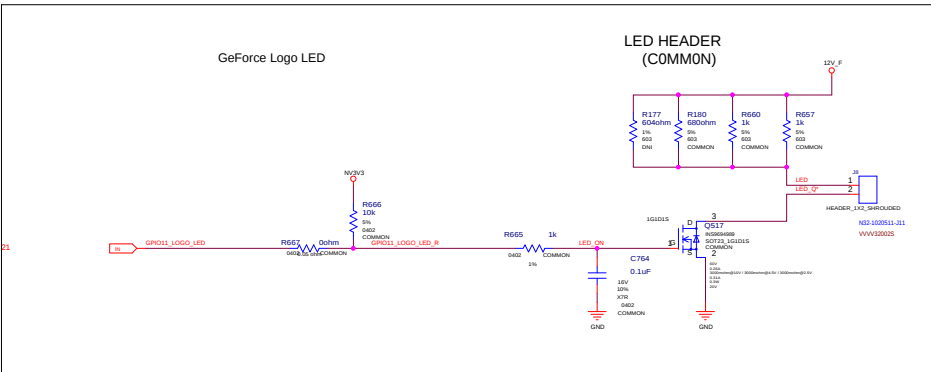
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PS: Sequence and Shutdown



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LEDs



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