

PG132-A02

370W, FH Std PCB, 384b, GDDR6x 2CH X16
DP + DP + DP + HDMI/DP

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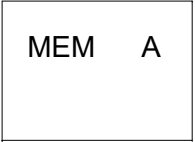
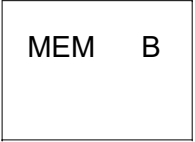
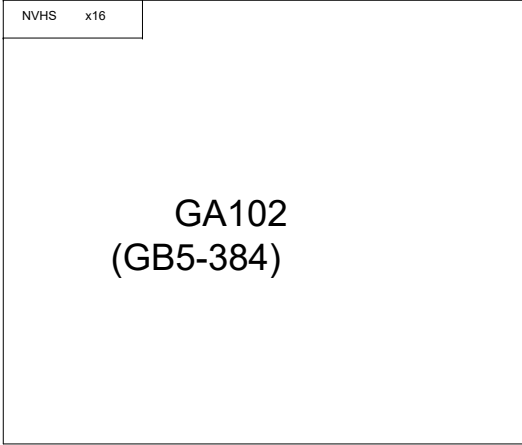
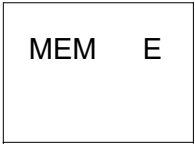
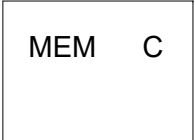
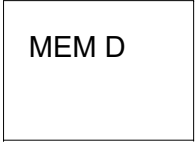
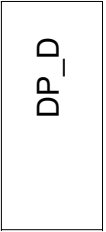
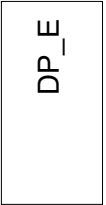
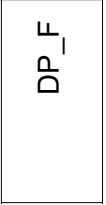
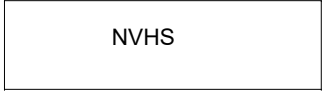
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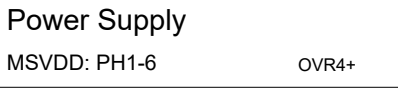
Block Diagram



NVVDD



MSVDD



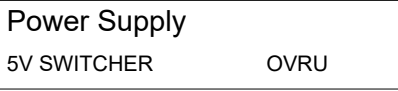
FBVDDQ



1V8



5V



PEX_VDD



EXT_12V 2x4 PWR 1

EXT_12V 2x4 PWR 2

PEX_12V Finger

PEX_3V3 Finger

2xFAN

3V3_AUX Finger

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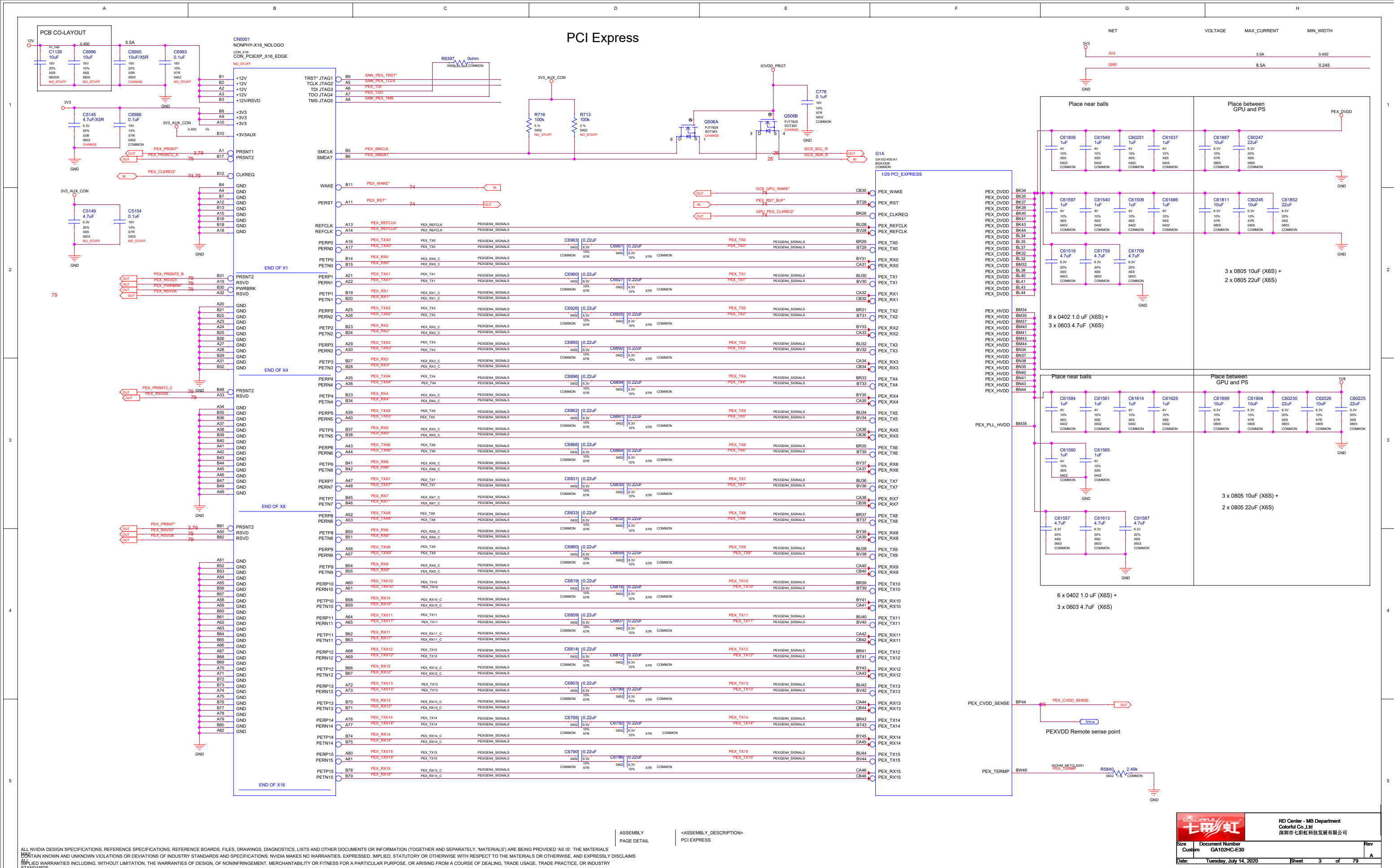
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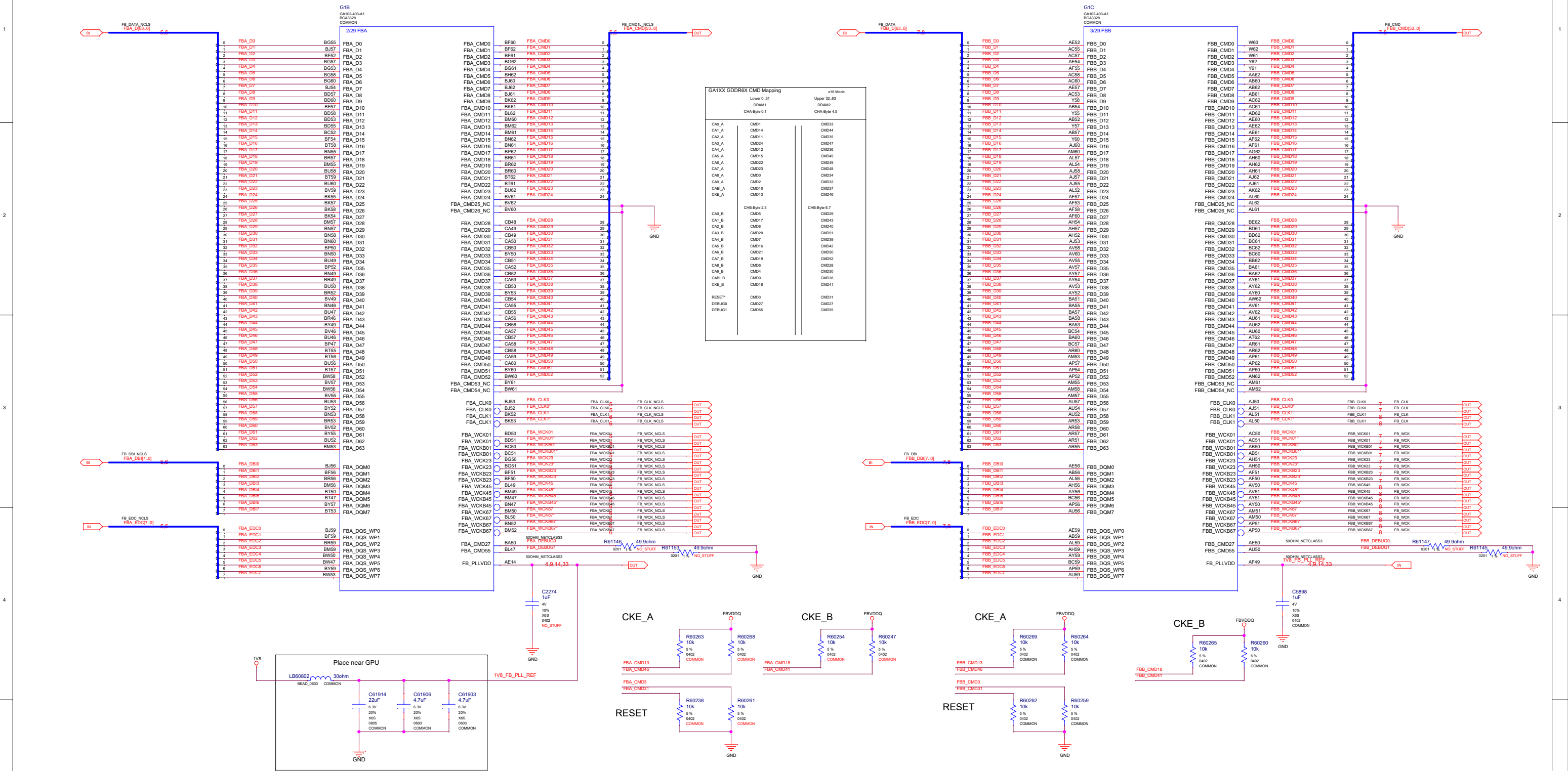
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MEMORY: GPU Partition A/B

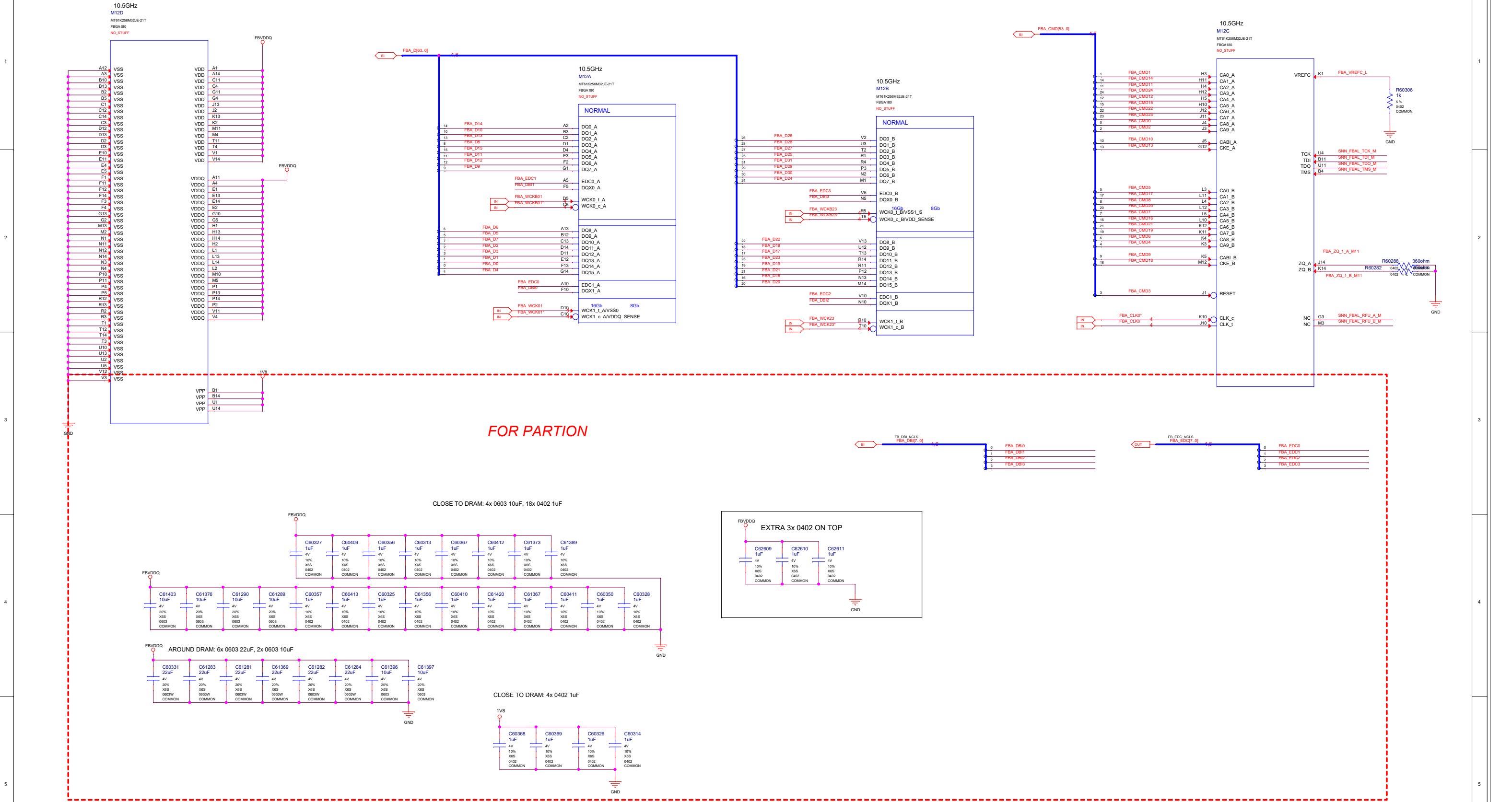


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MEMORY: FBA Partition 31..0



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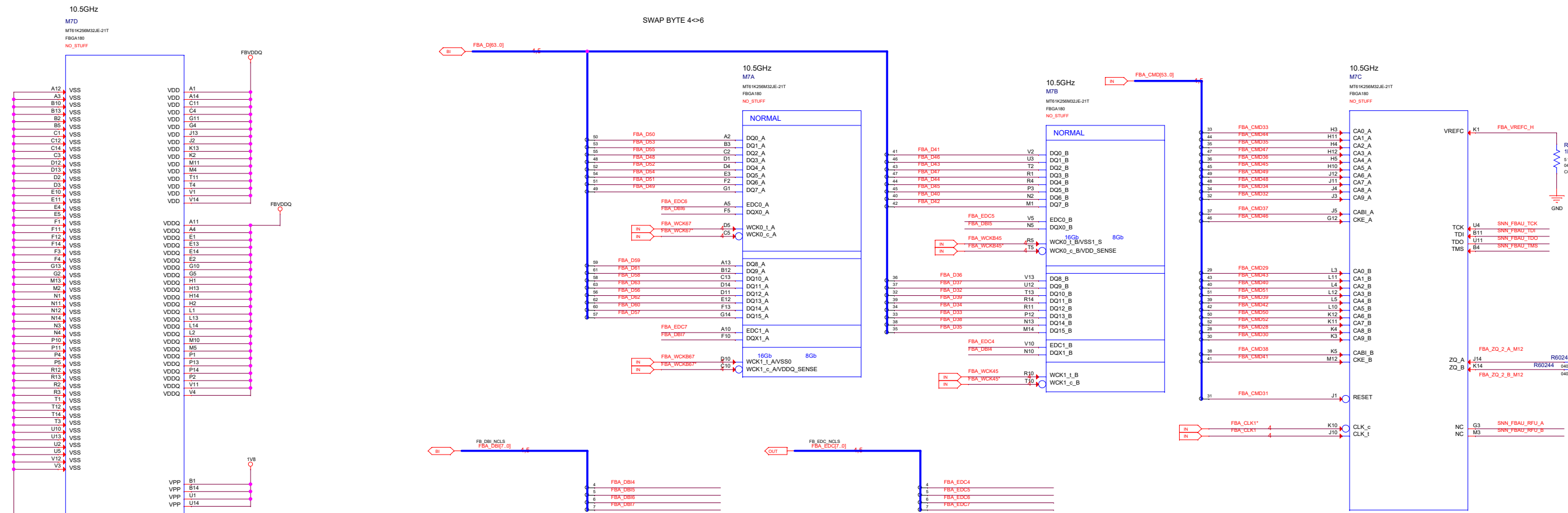
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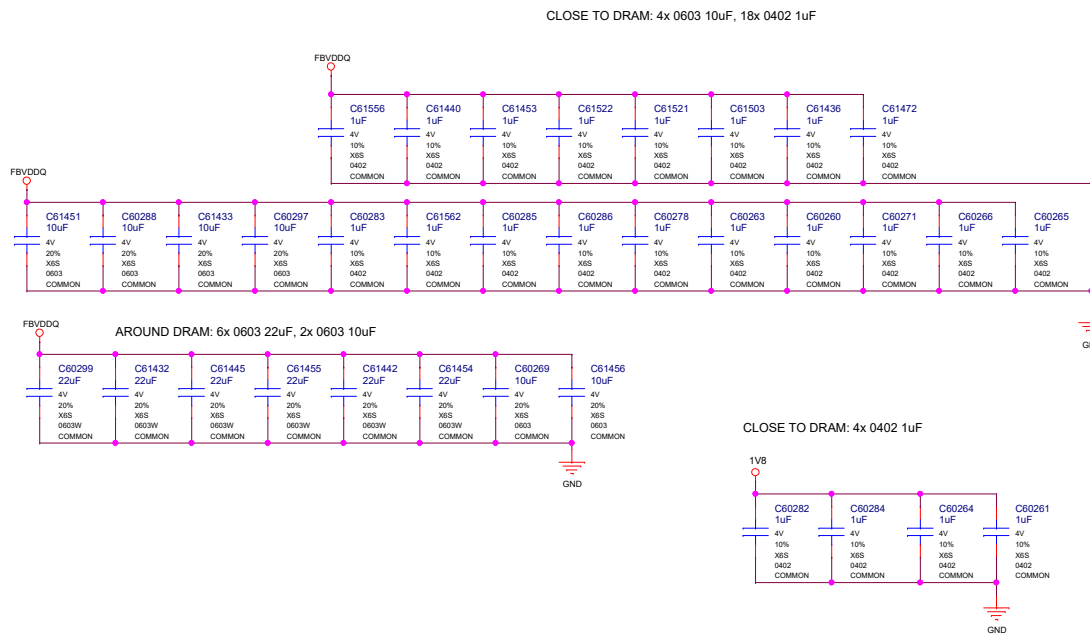
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MEMORY: FBA Partition 63..32



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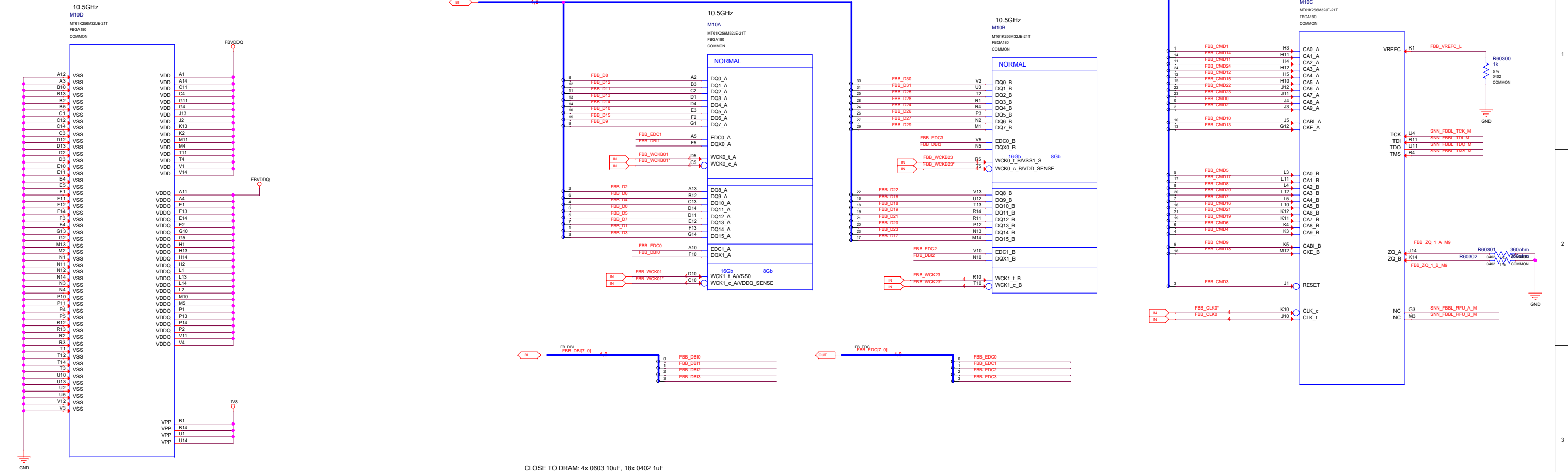


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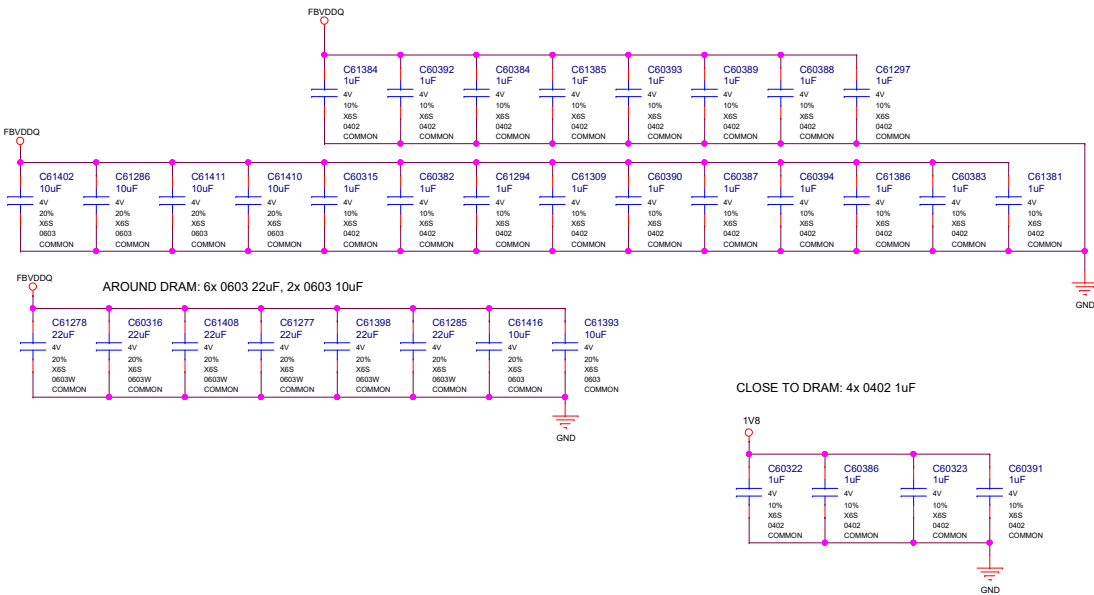
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MEMORY: FBB Partition 31..0



CLOSE TO DRAM: 4x 0603 10uF, 18x 0402 1uF




AROUND DRAM: 6x 0603 22uF, 2x 0603 10uF

CLOSE TO DRAM: 4x 0402 1uF

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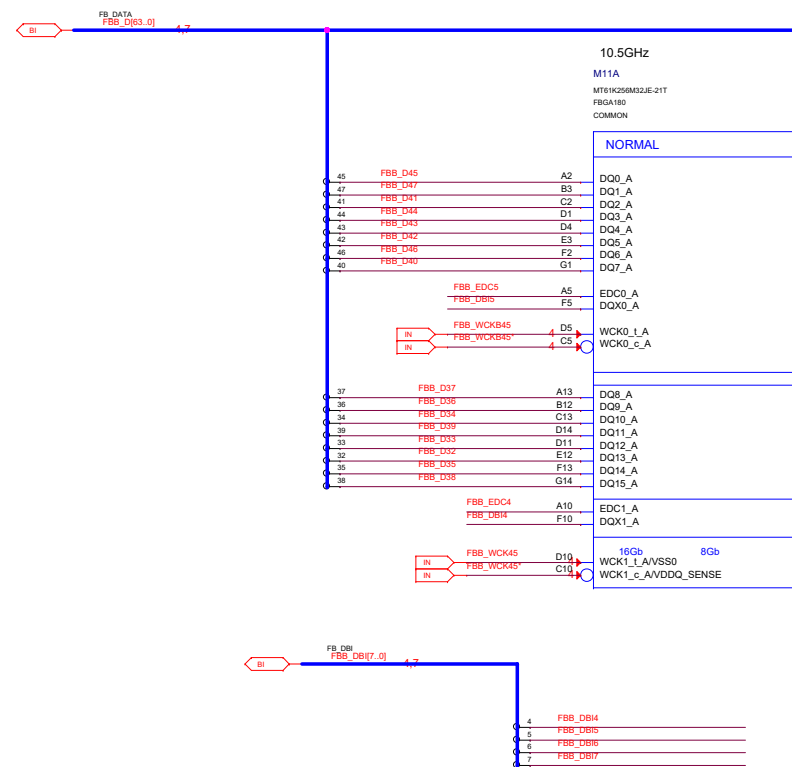
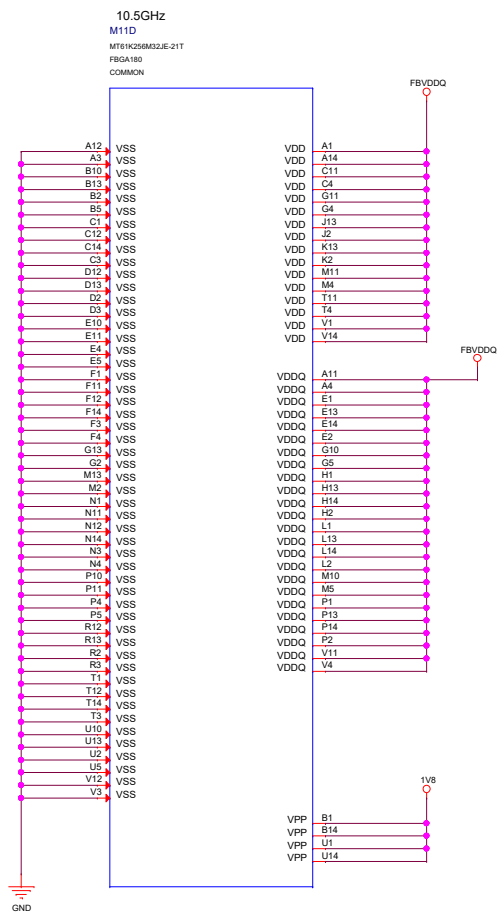
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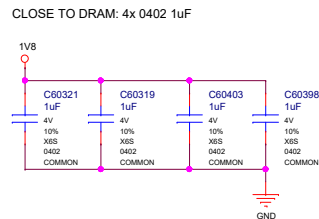
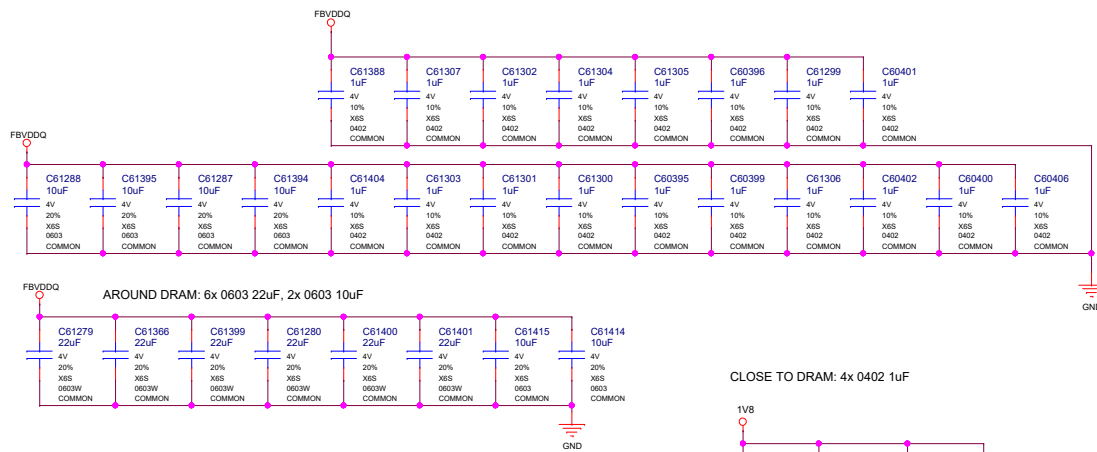
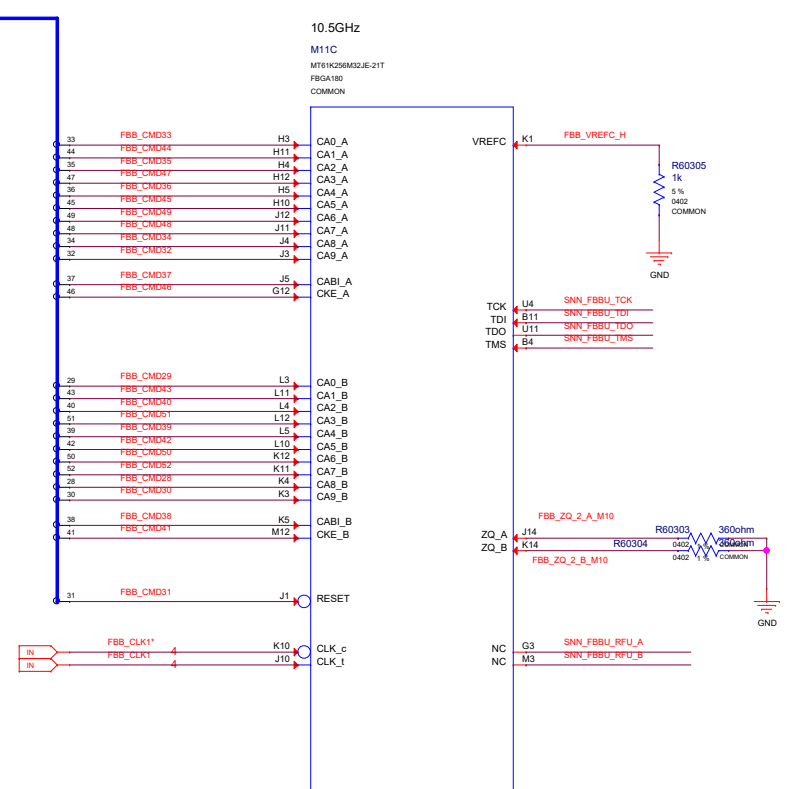
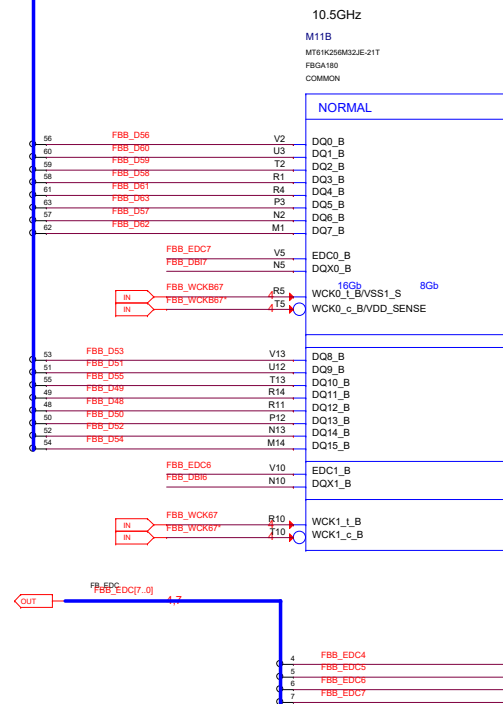
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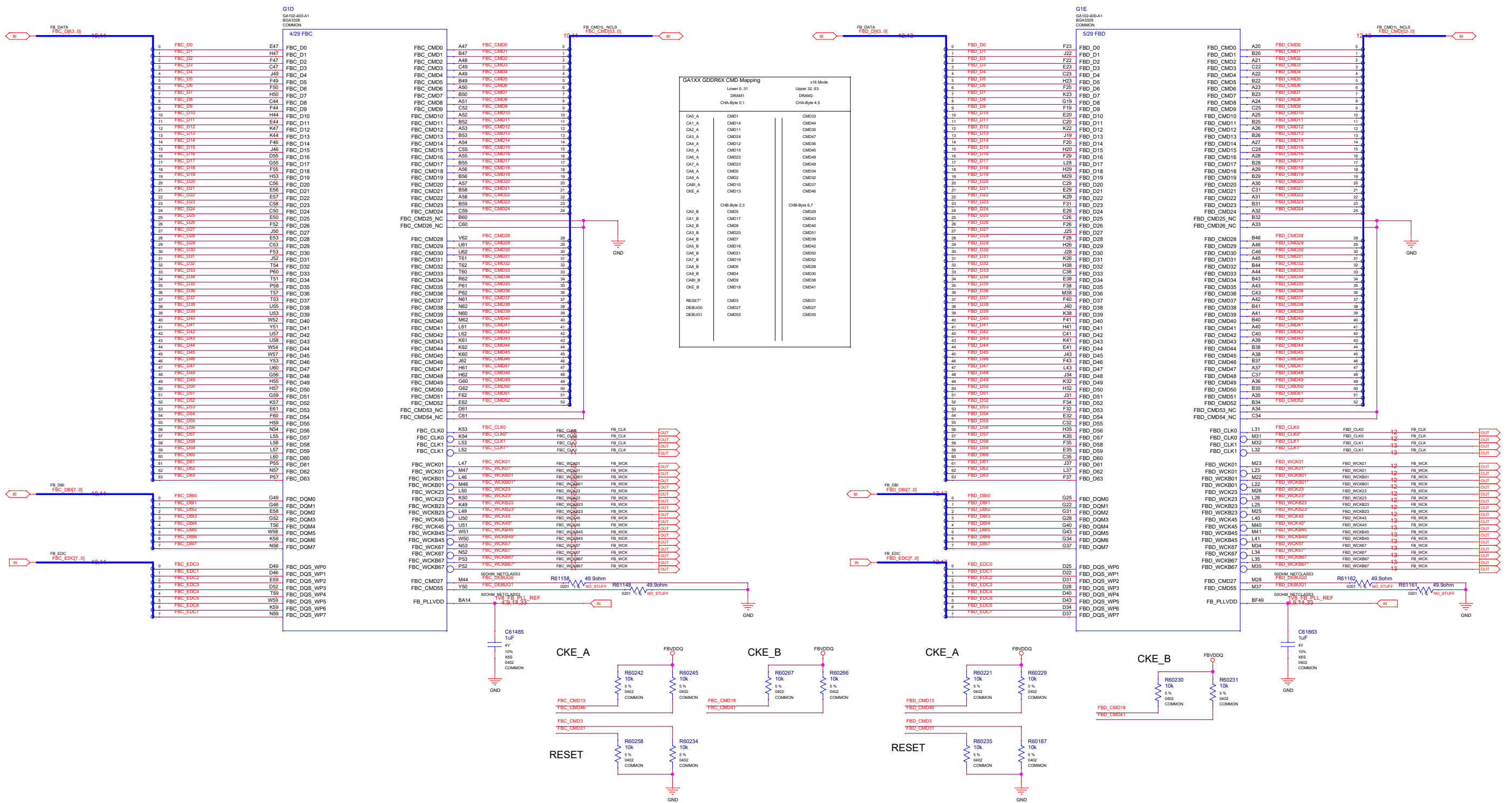
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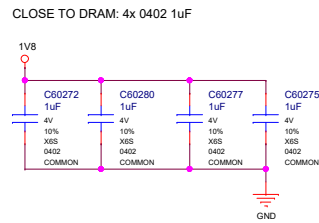
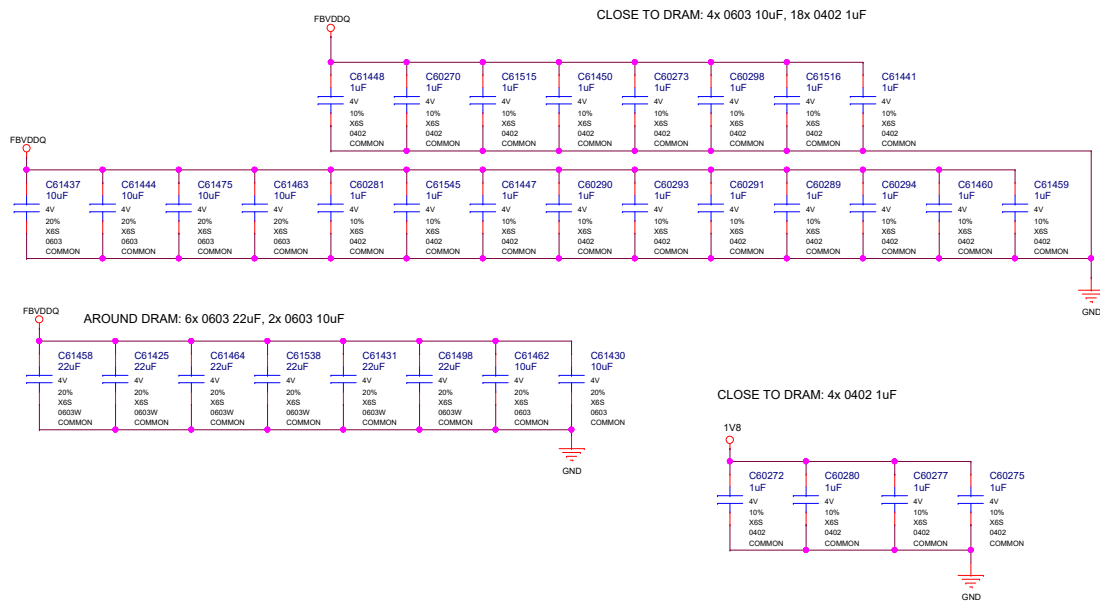
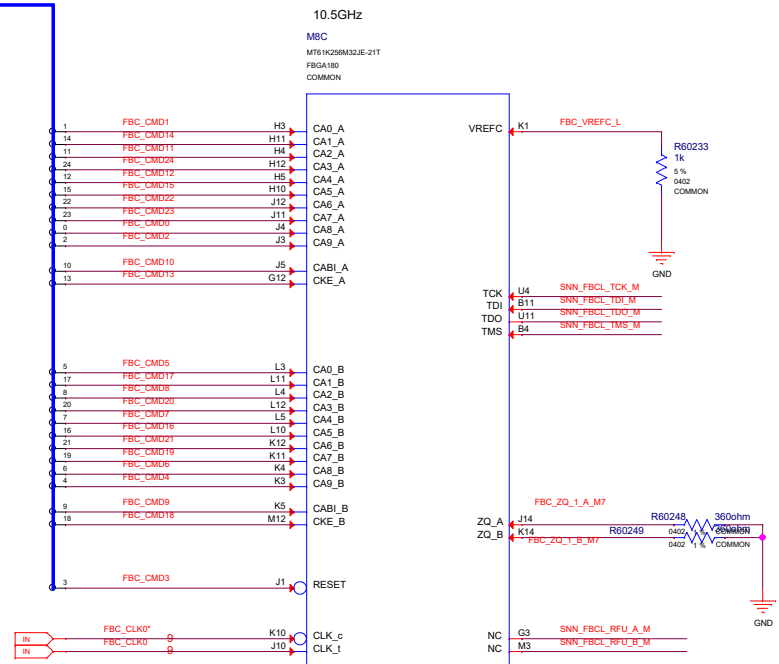
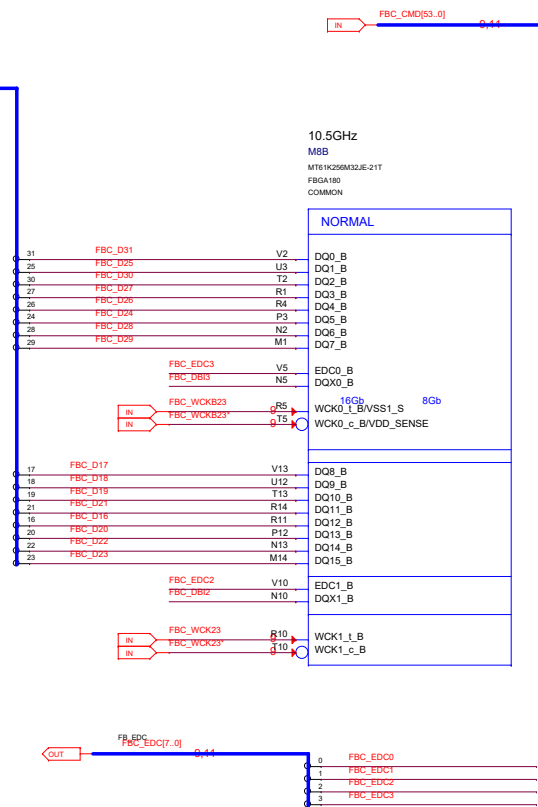
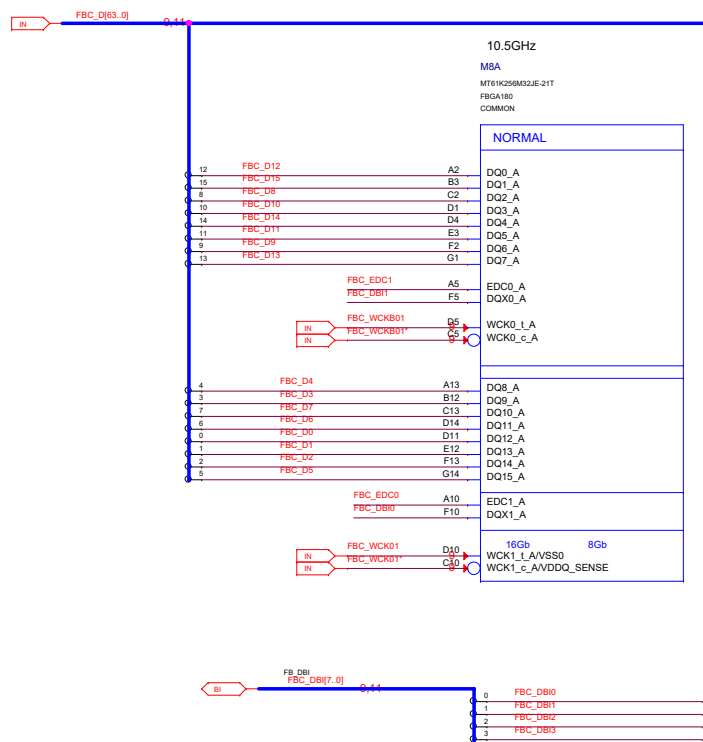
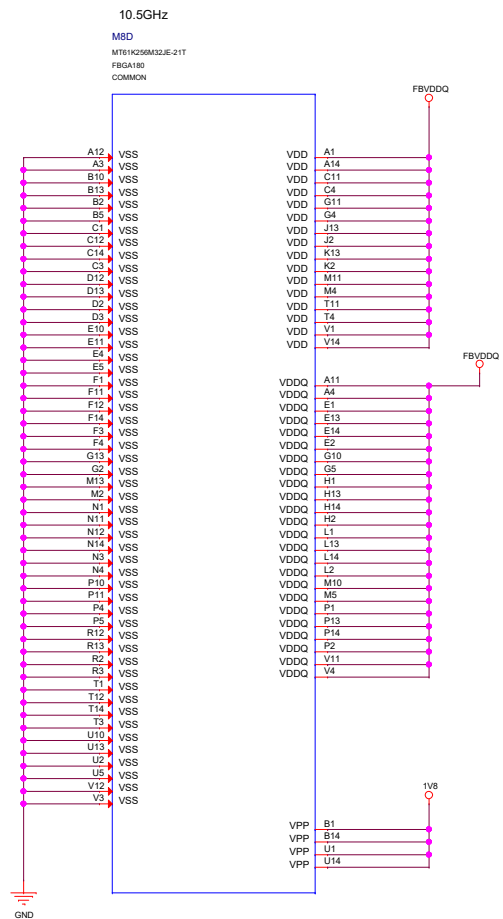


MEMORY: GPU Partition C/D

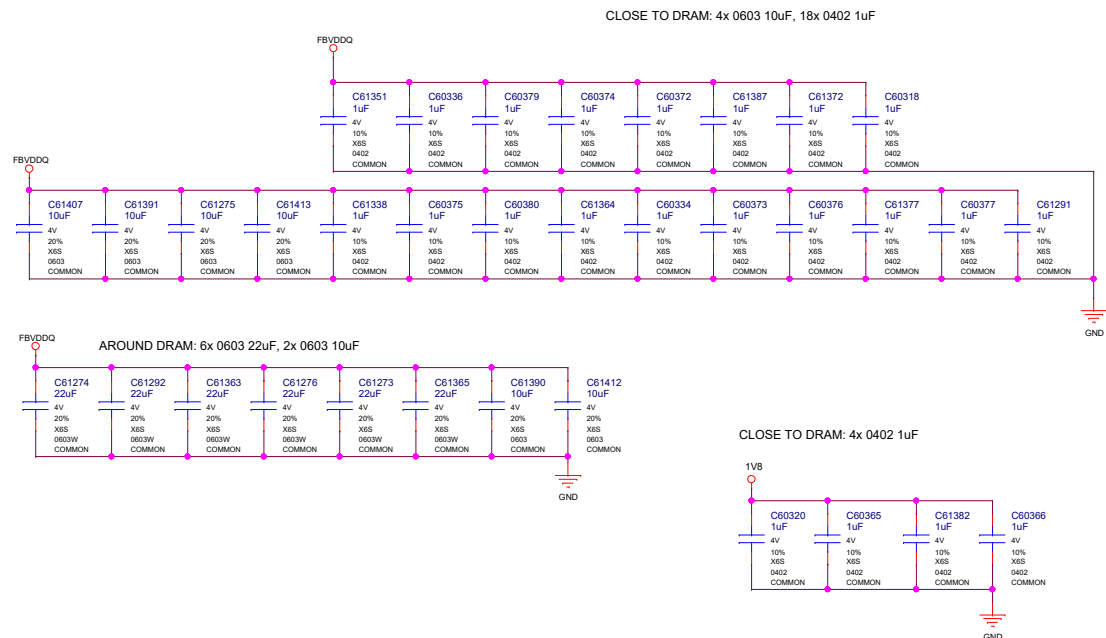
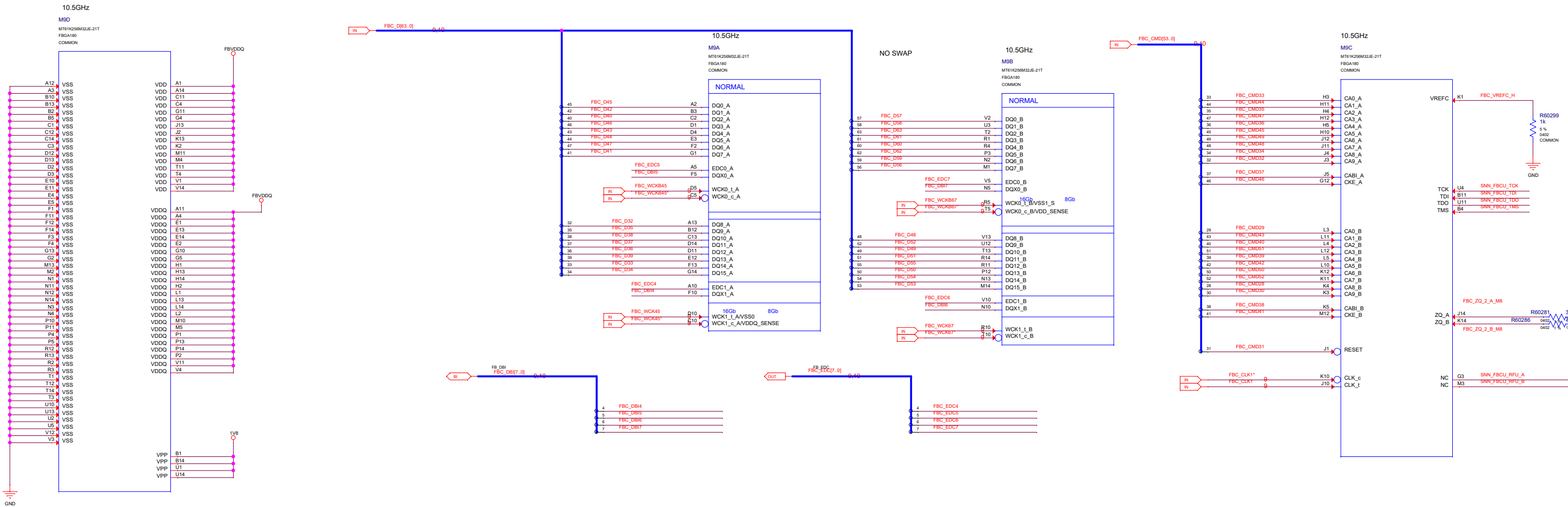


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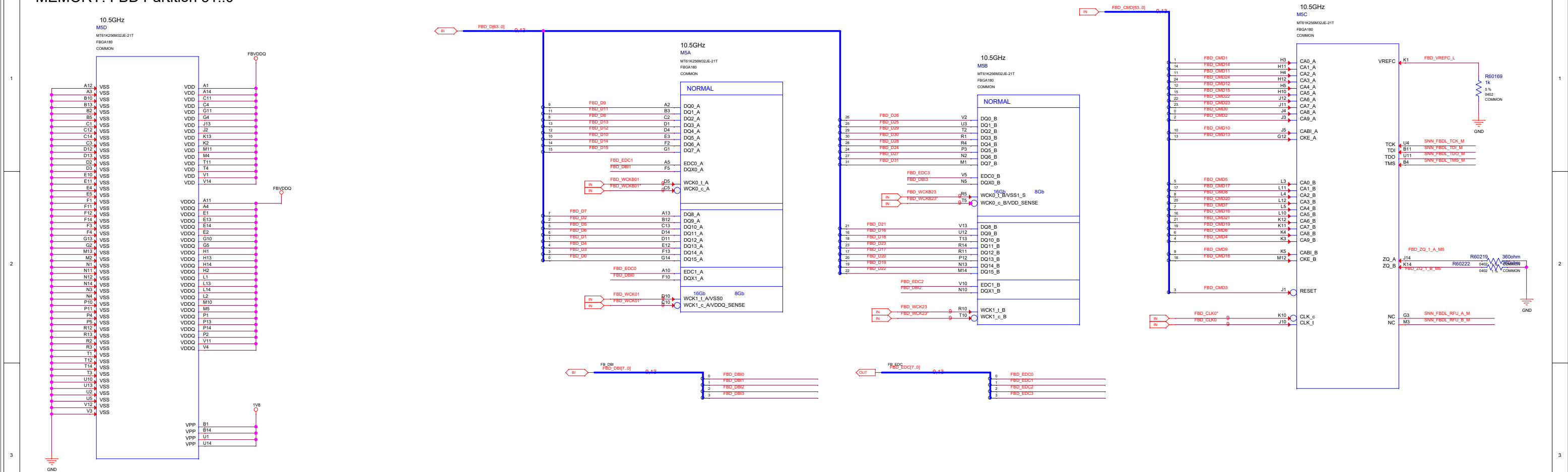
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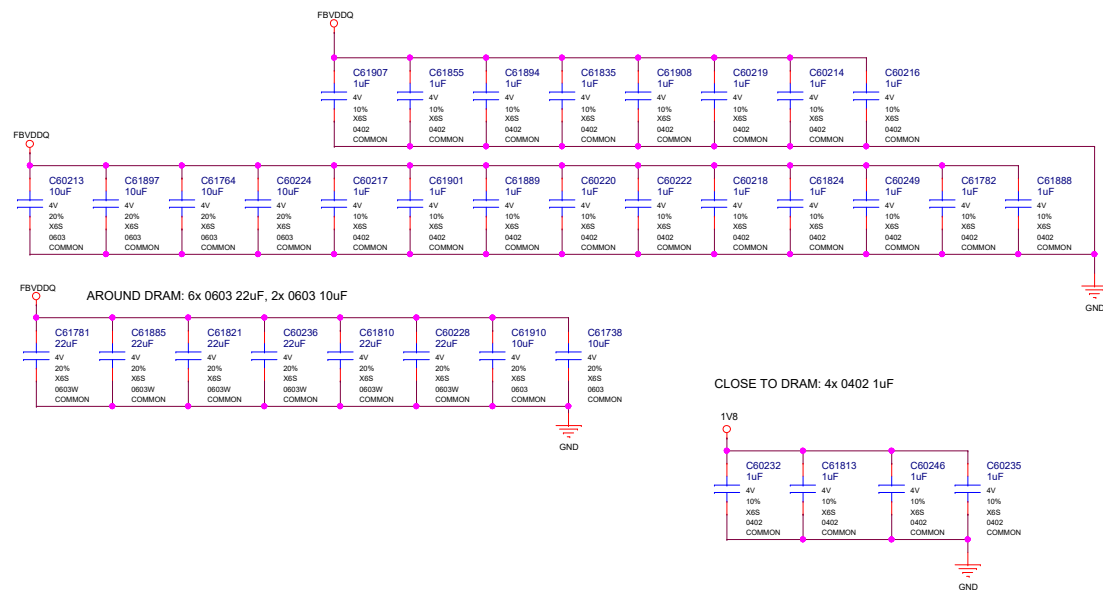
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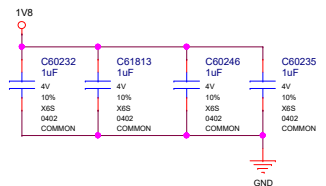
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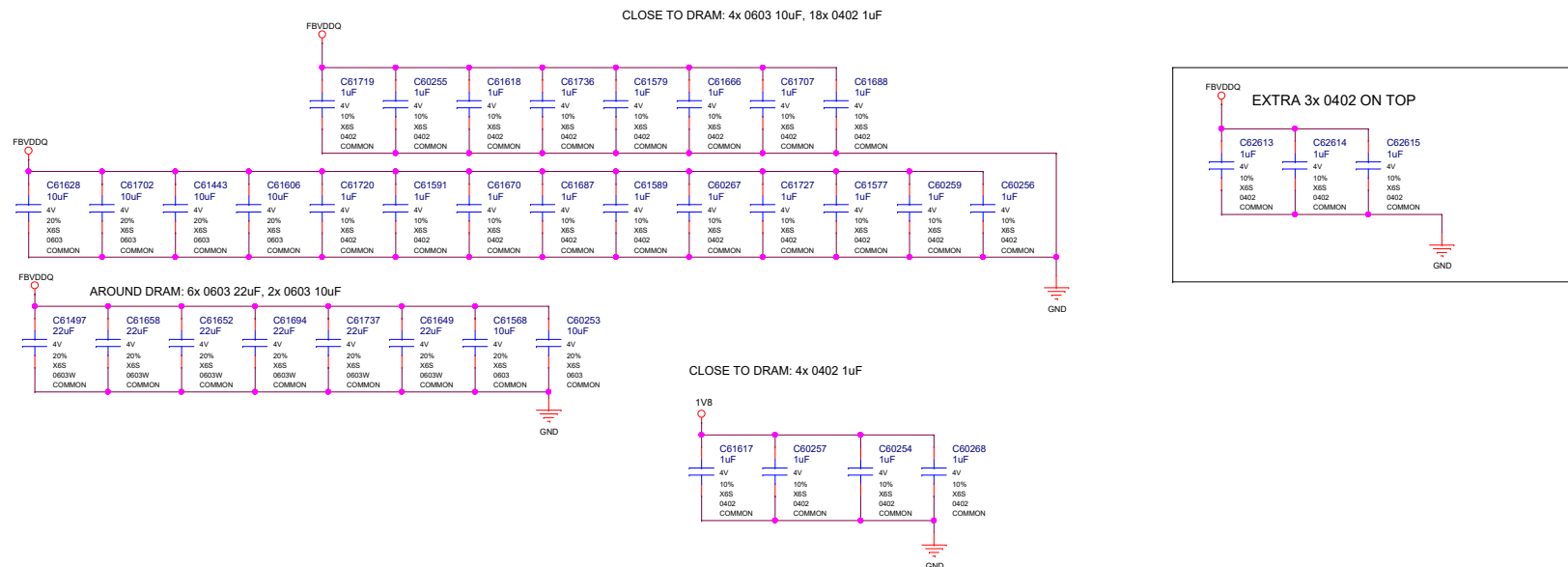
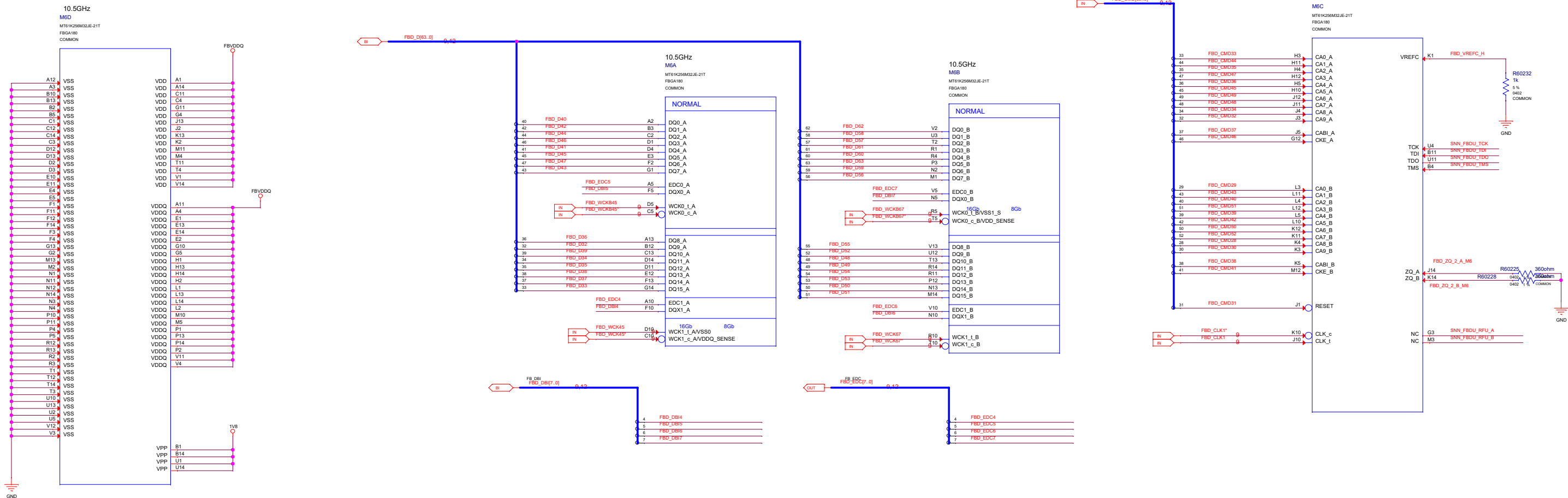
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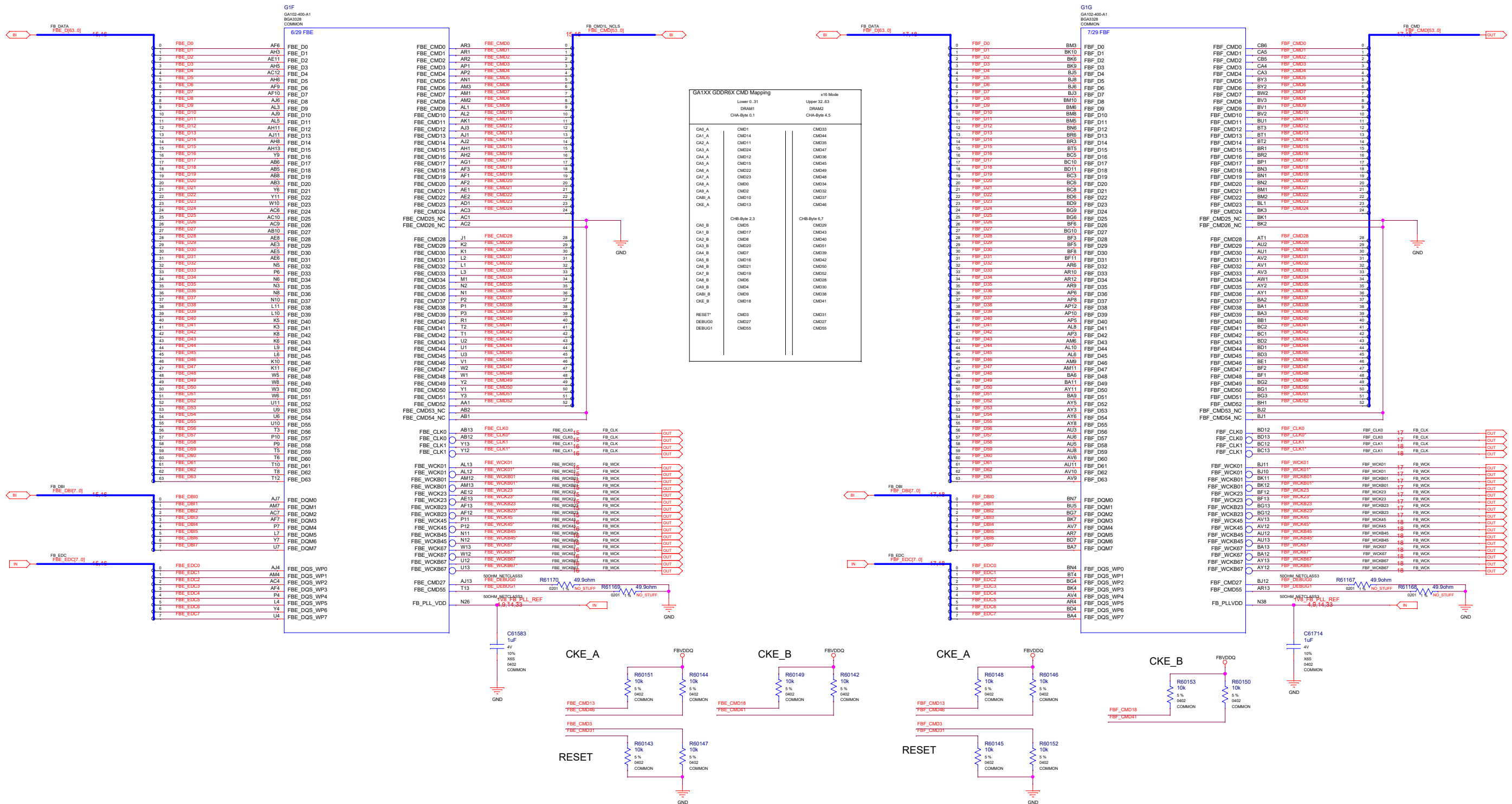
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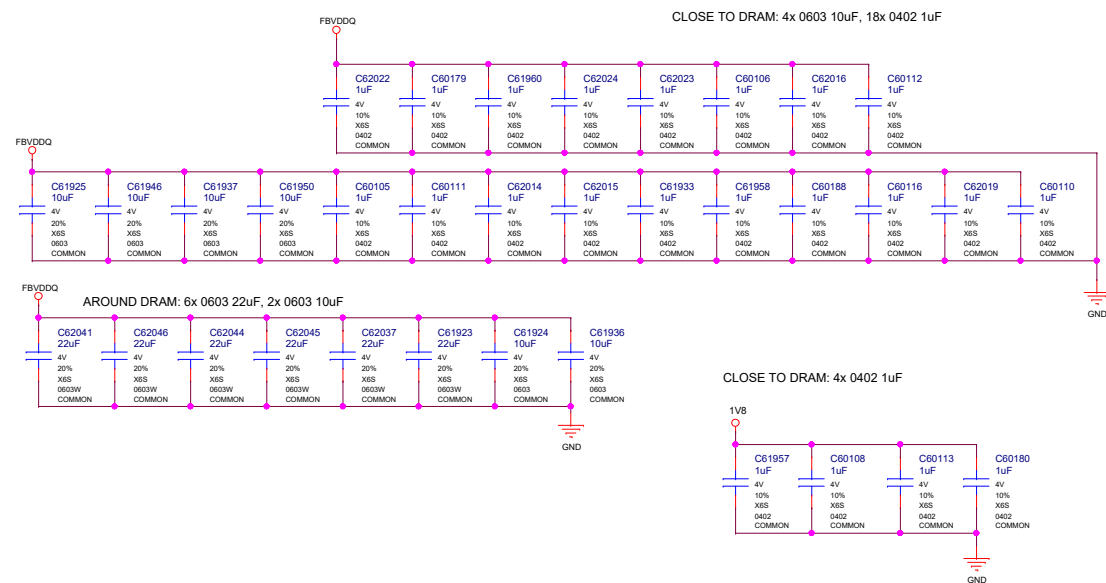
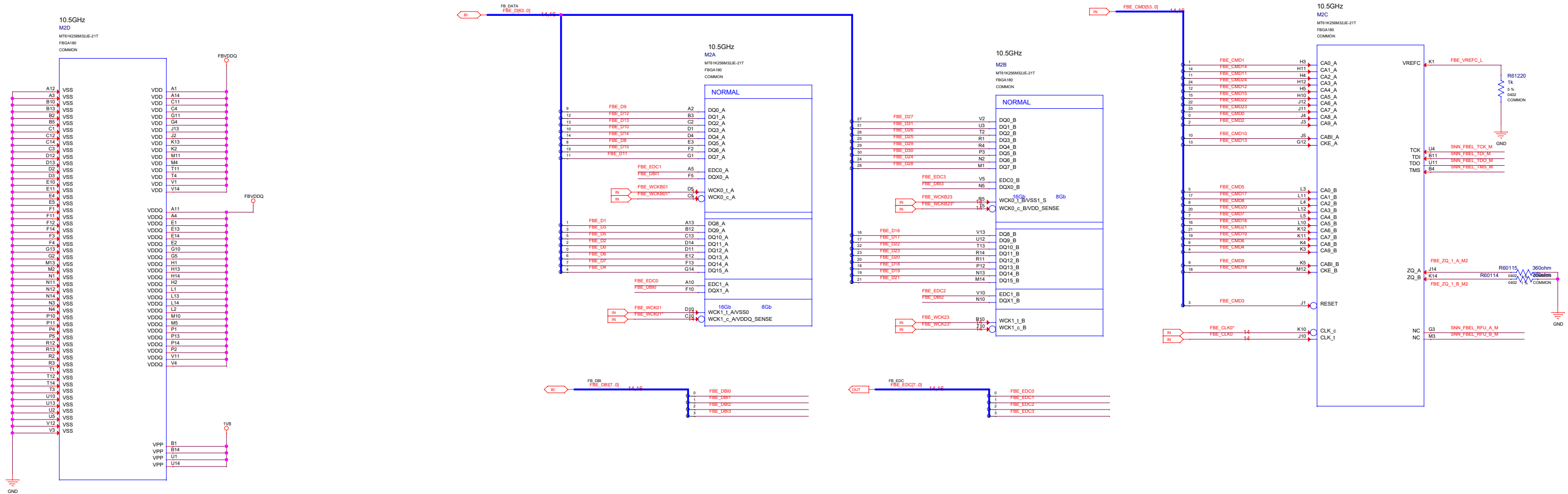
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MEMORY: GPU Partition E/F



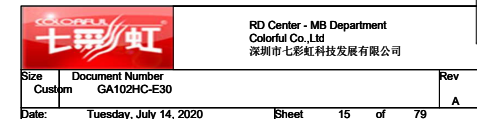
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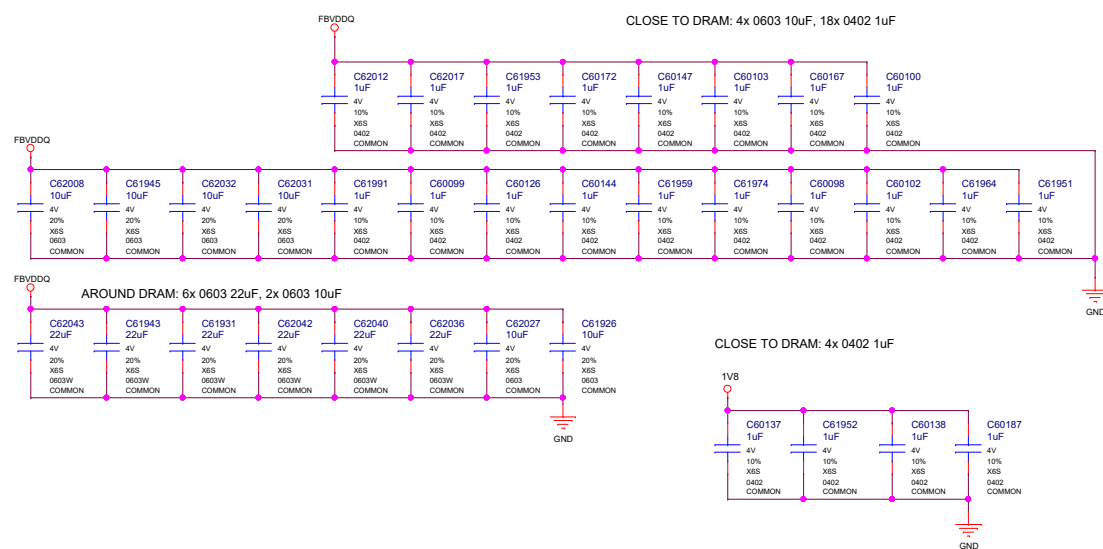
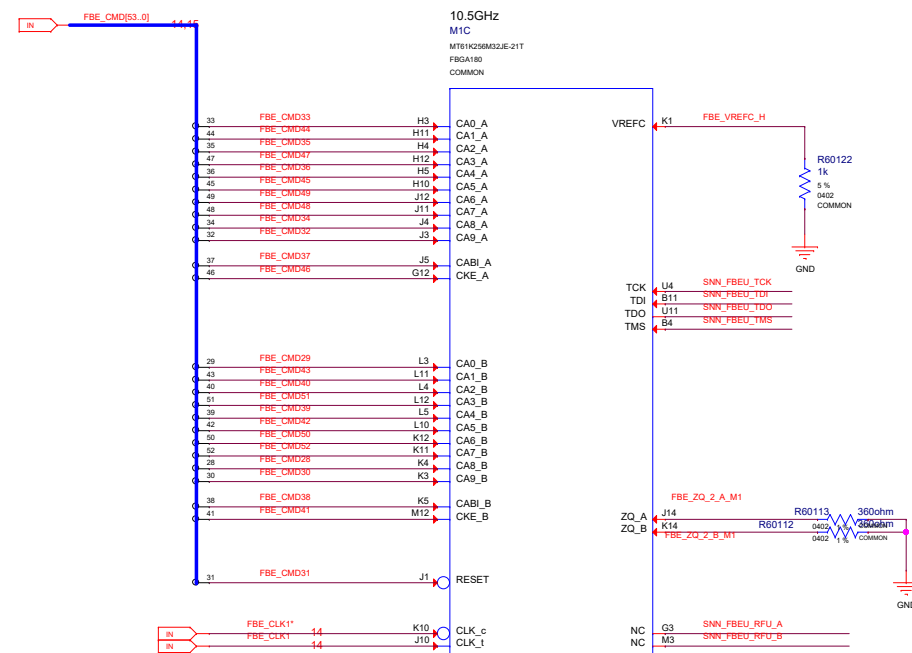
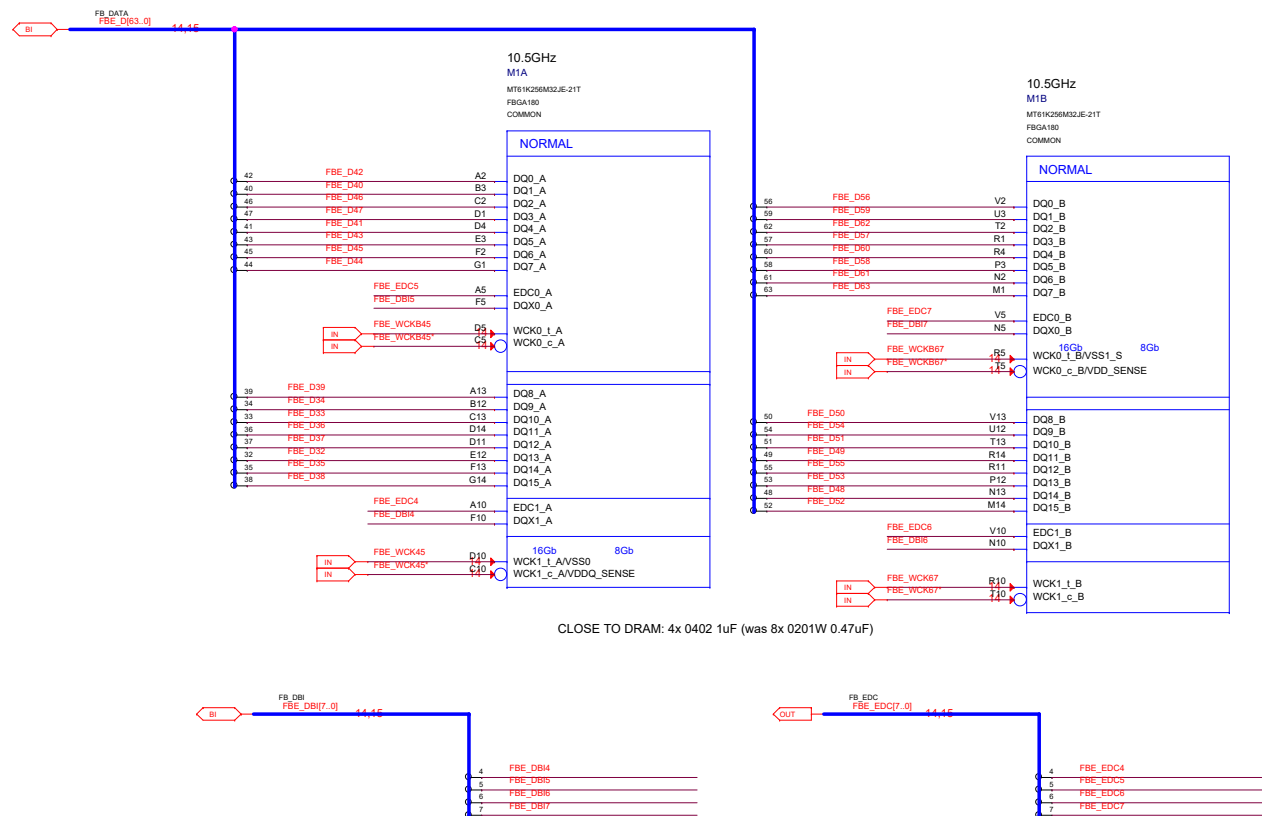
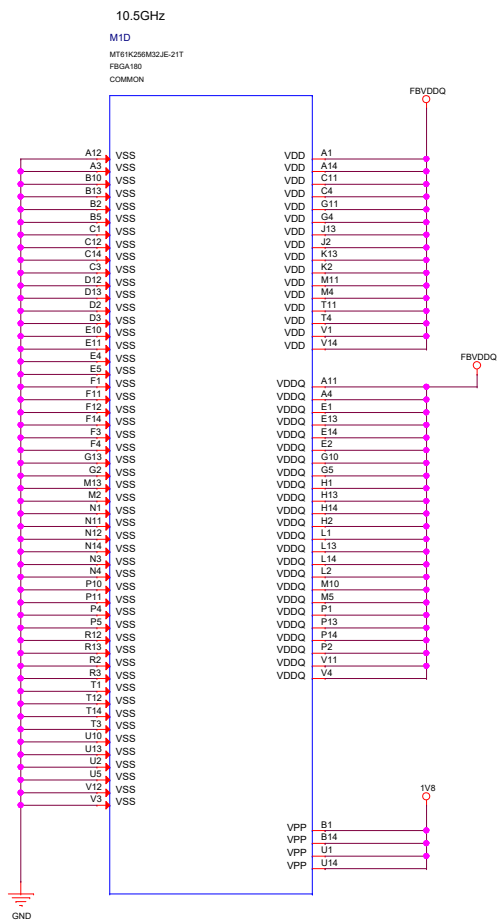
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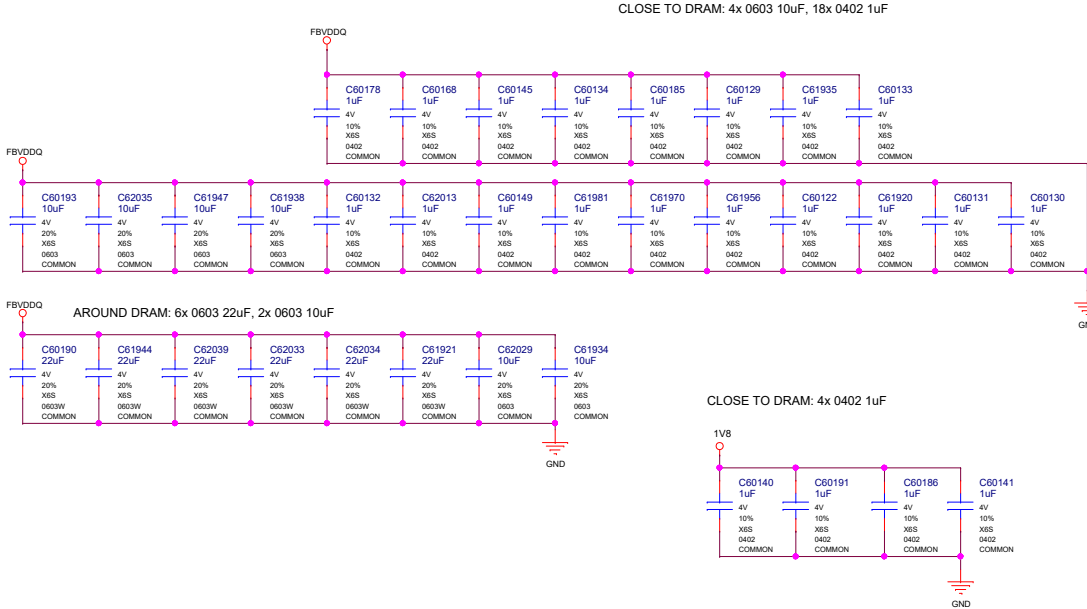
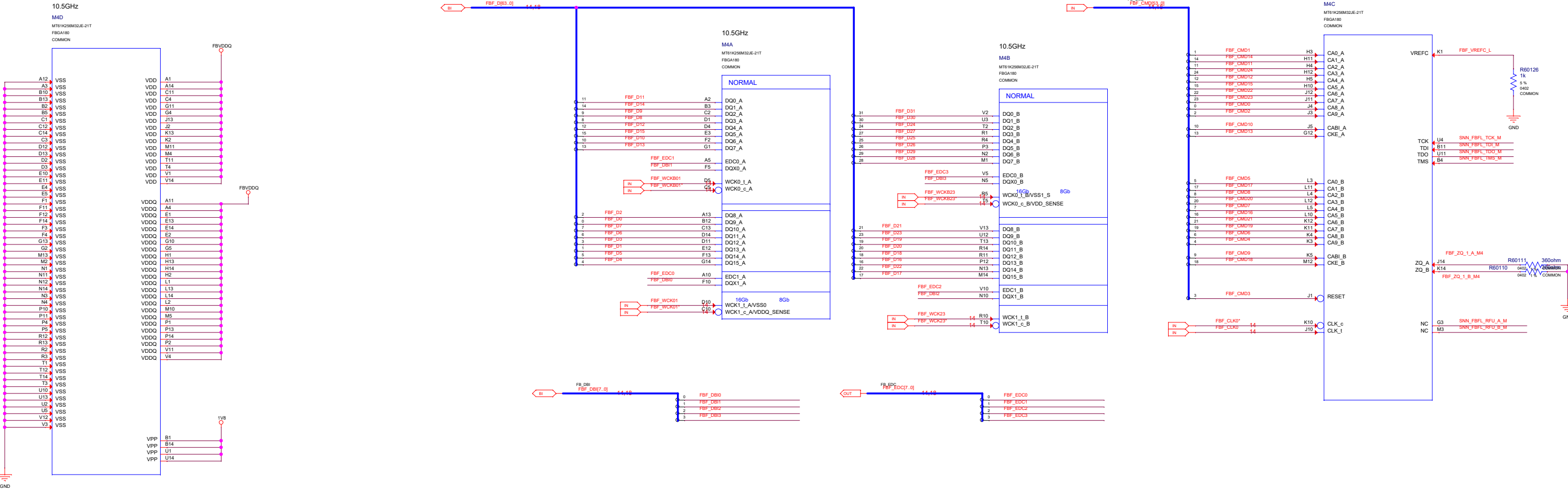
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MEMORY: FBE Partition 63..32

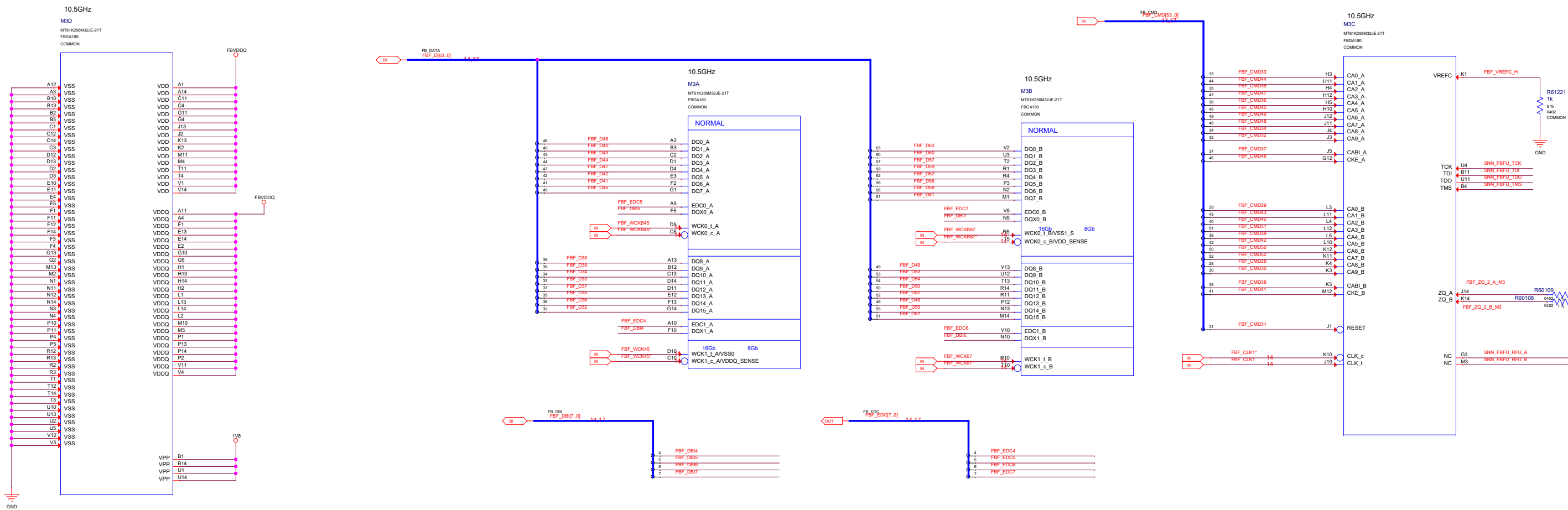


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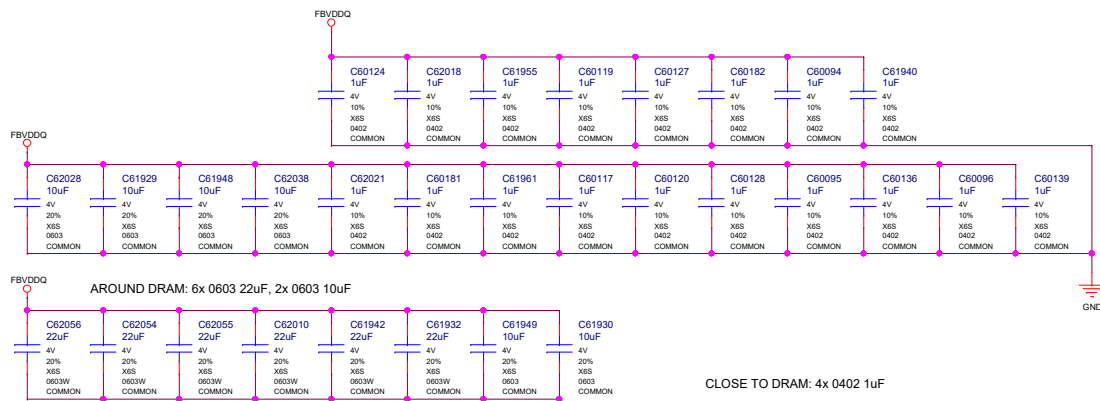


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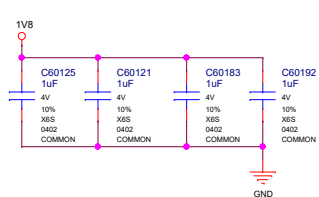
MEMORY: FBF Partition 63..32



CLOSE TO DRAM: 4x 0603 10uF, 18x 0402 1uF



CLOSE TO DRAM: 4x 0402 1uF



ASSEMBLY
PAGE DETAIL

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MEMORY: FBF PARTITION[63:32]
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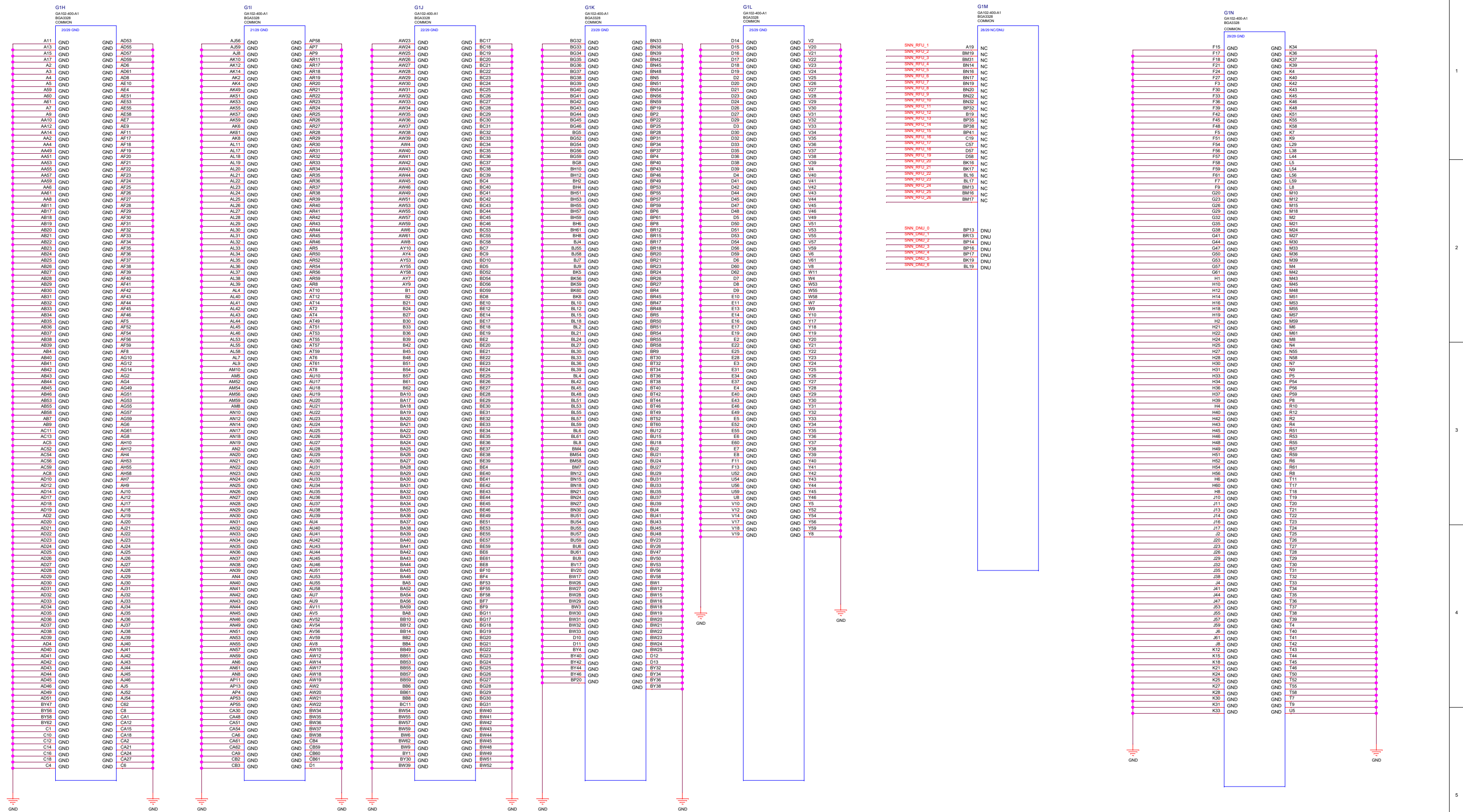
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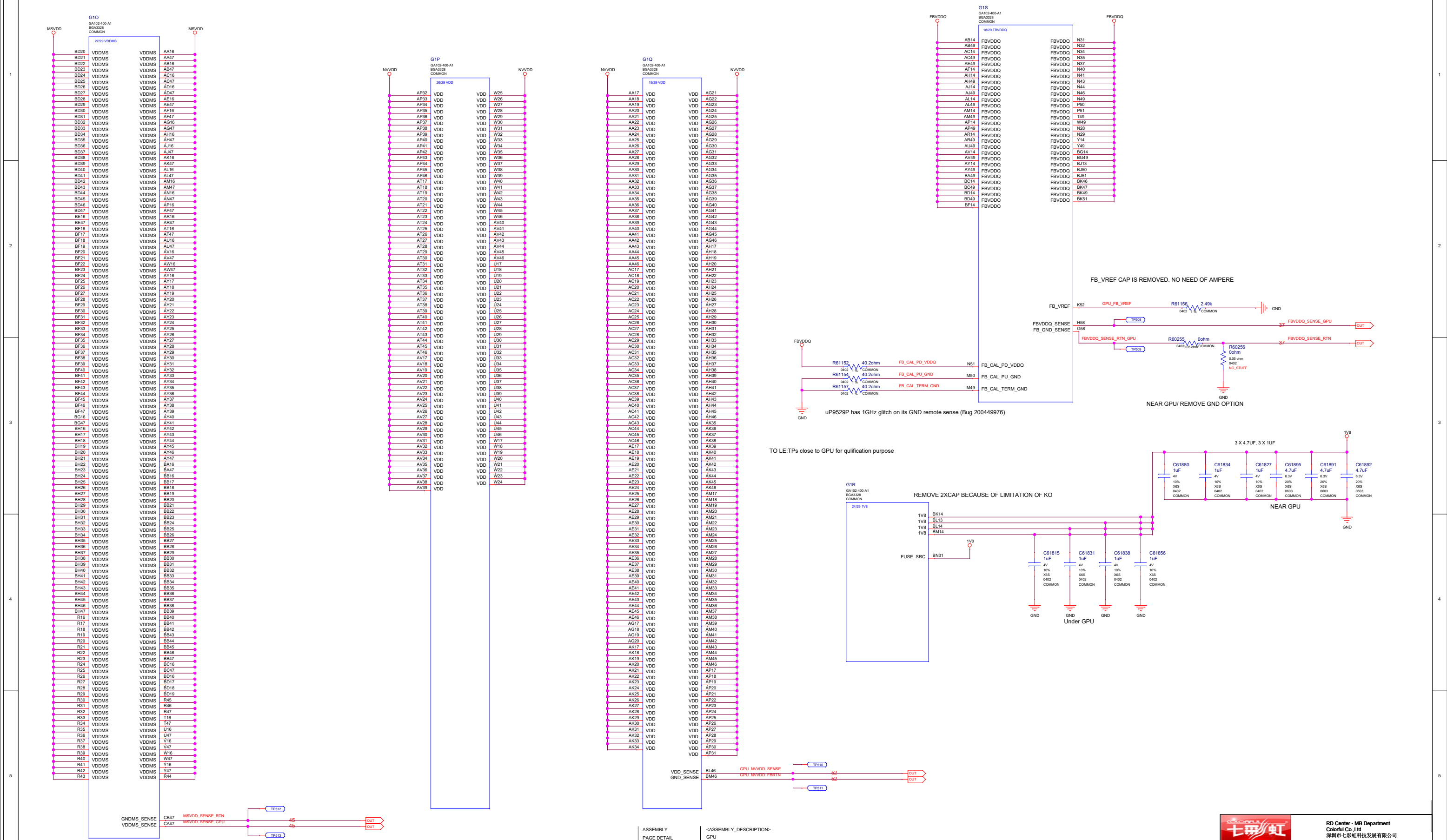
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GPU GND, RFUs & RSVD



GPU PWR and GND



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NVVDD UNDER GPU



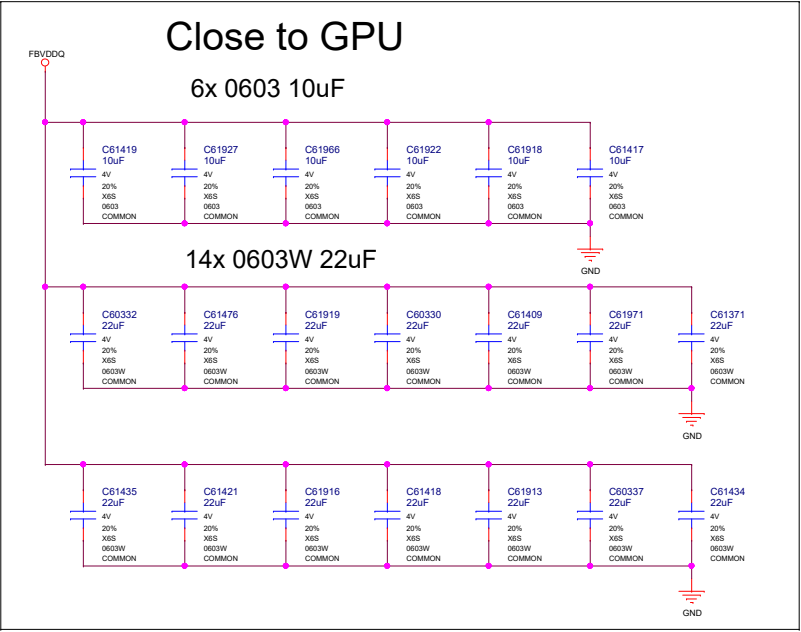
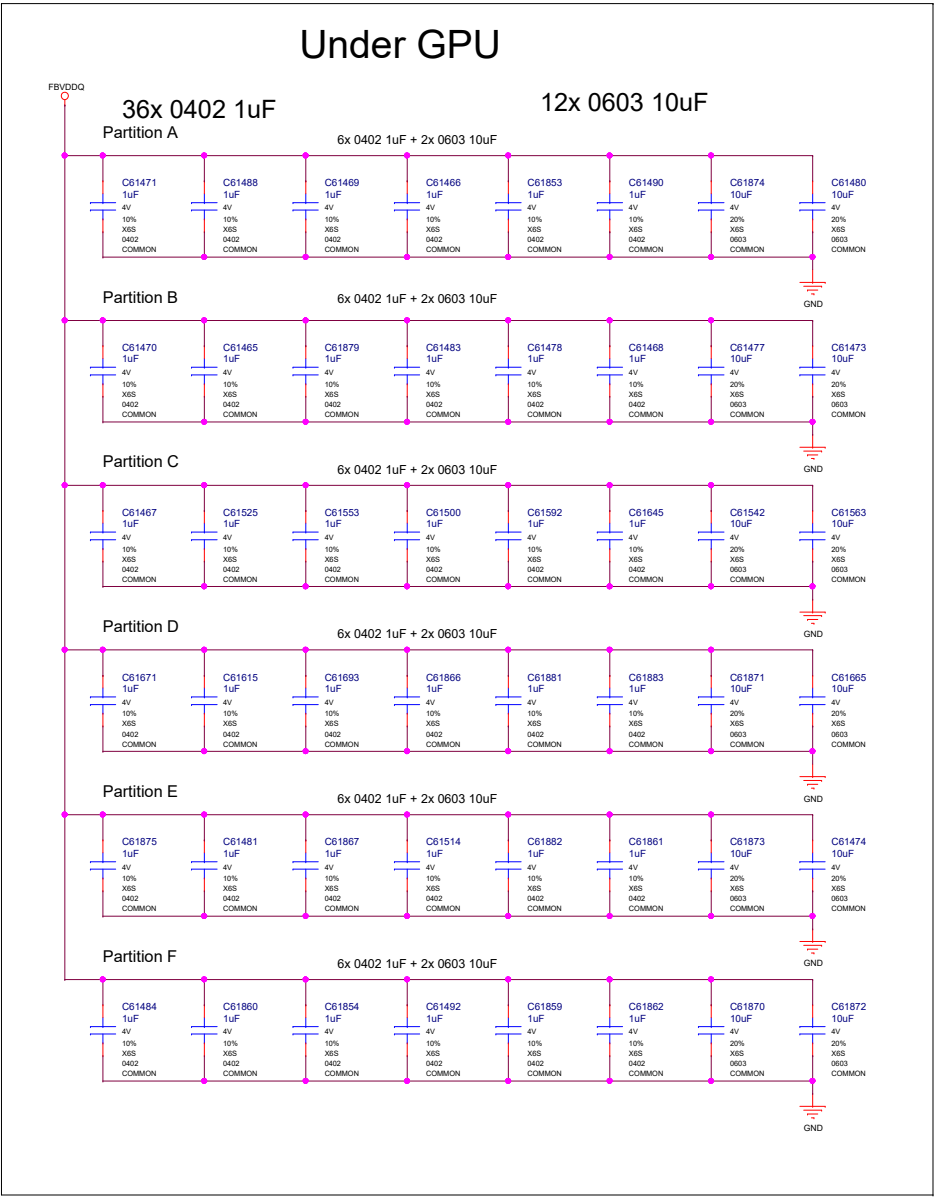
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ASSEMBLY
PAGE DETAIL

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GPU DECOUPLING NVVDD

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FBVDDQ



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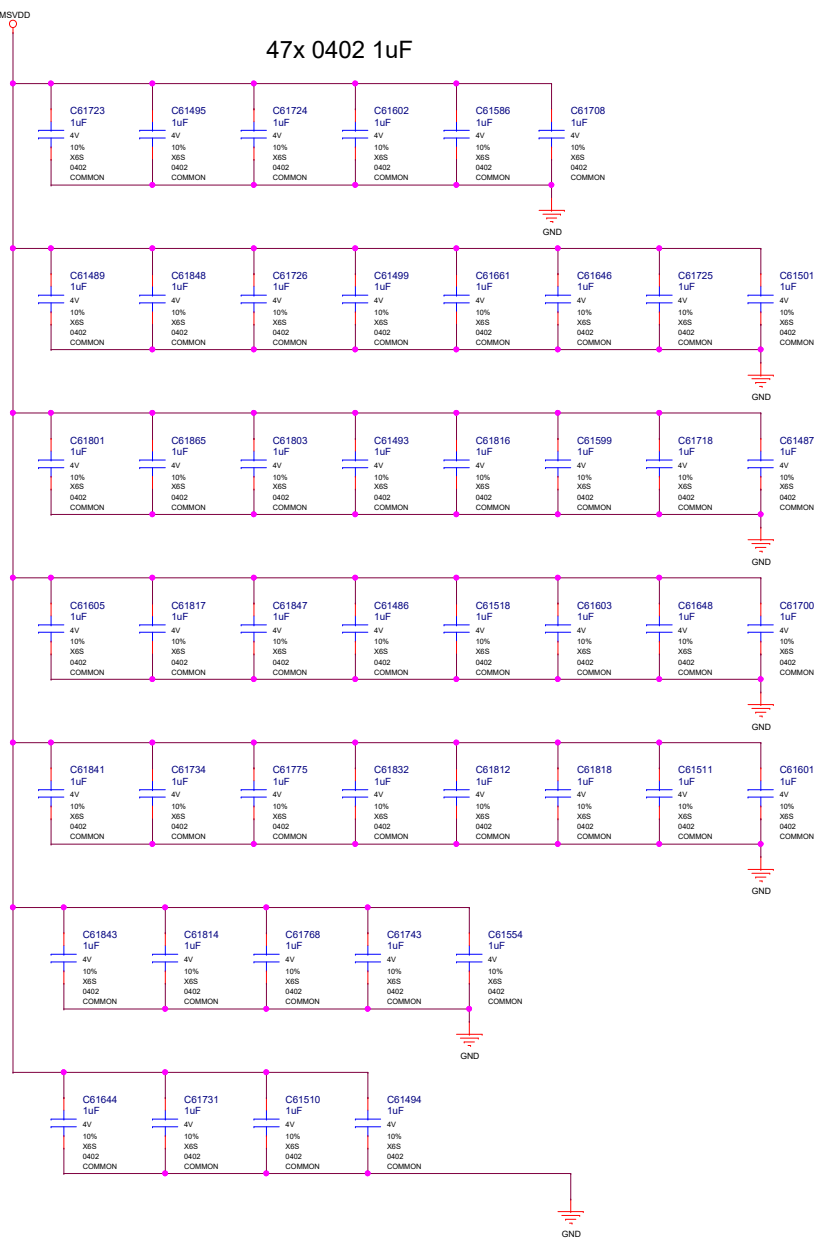
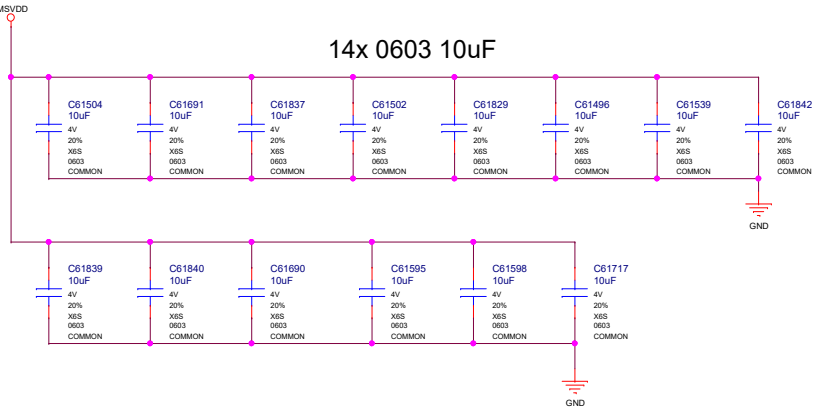
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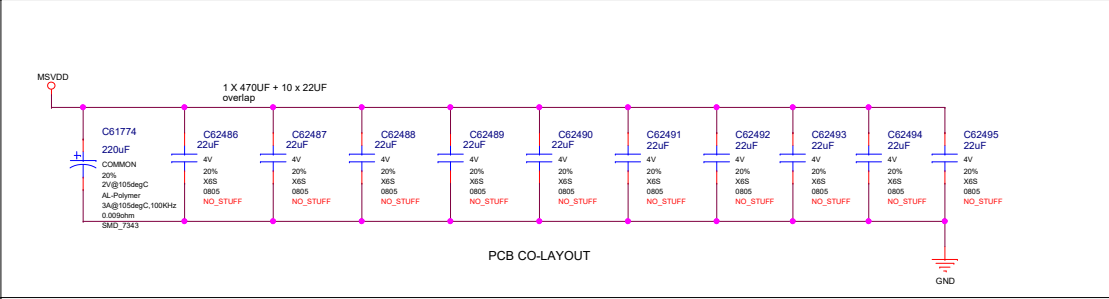
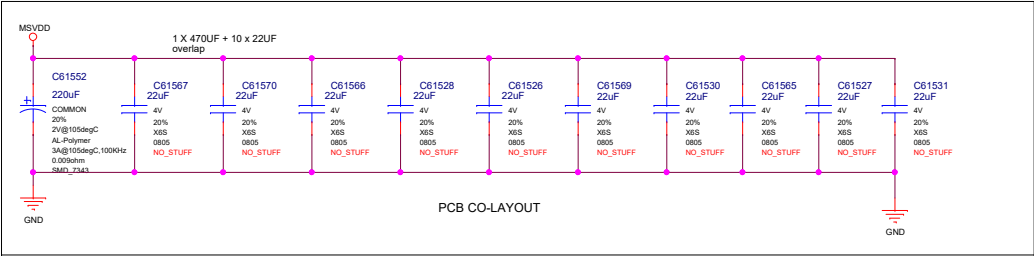
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MSVDD

UNDER GPU



2x SMD7343 220uF (EACH CO-LAYOUT WITH 10x 22uF 0805)




REMOVED 3X 1uF 0402 DUE TO SPACE RESTRICTION

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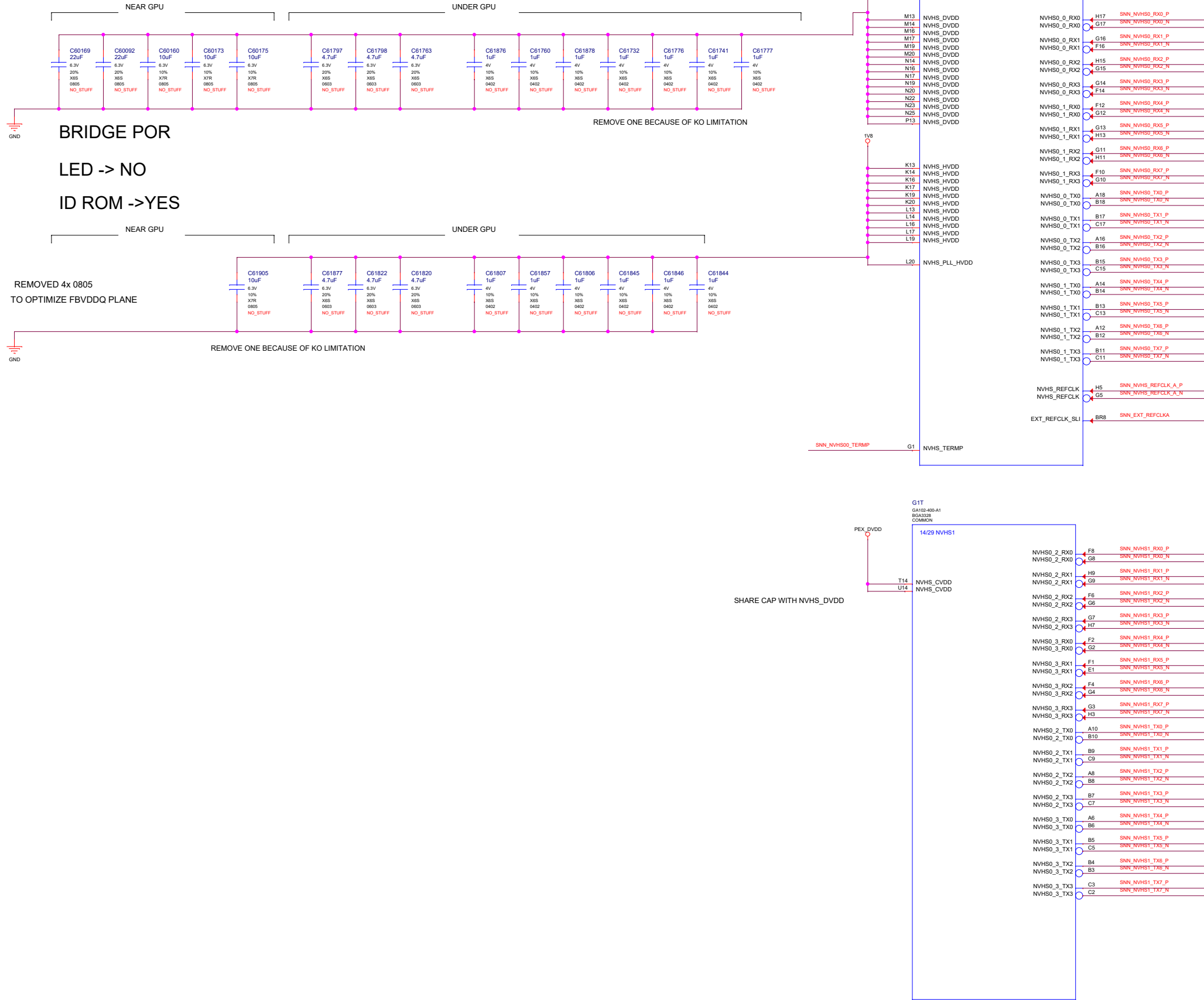
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NVHS Interface and FRAME LOCK

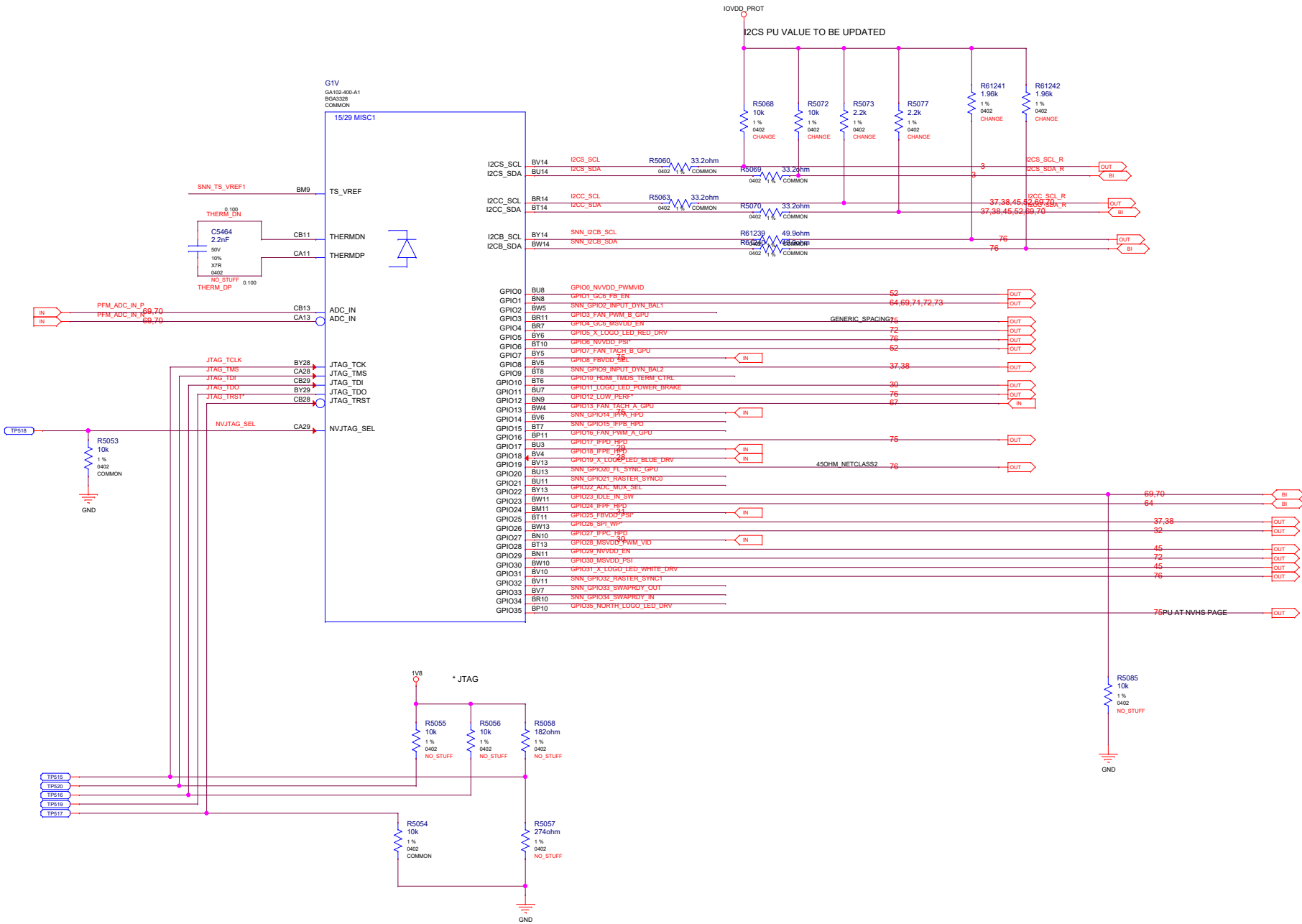


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ASSEMBLY
PAGE DETAIL
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NVHS
x16

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MISC1: Fan, Thermal, JTAG, GPIO, STEREO



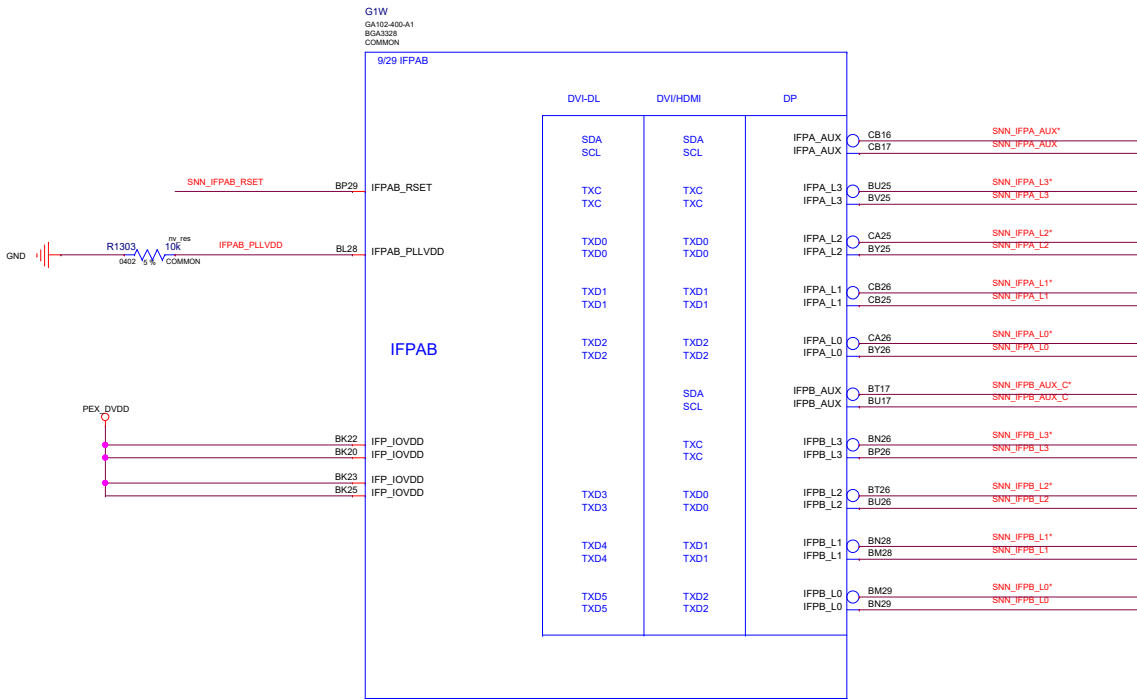
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ASSEMBLY
PAGE DETAIL

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MISC: THERMAL, JTAG, GPIO

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IFPA UNUSED, IFPB UNUSED



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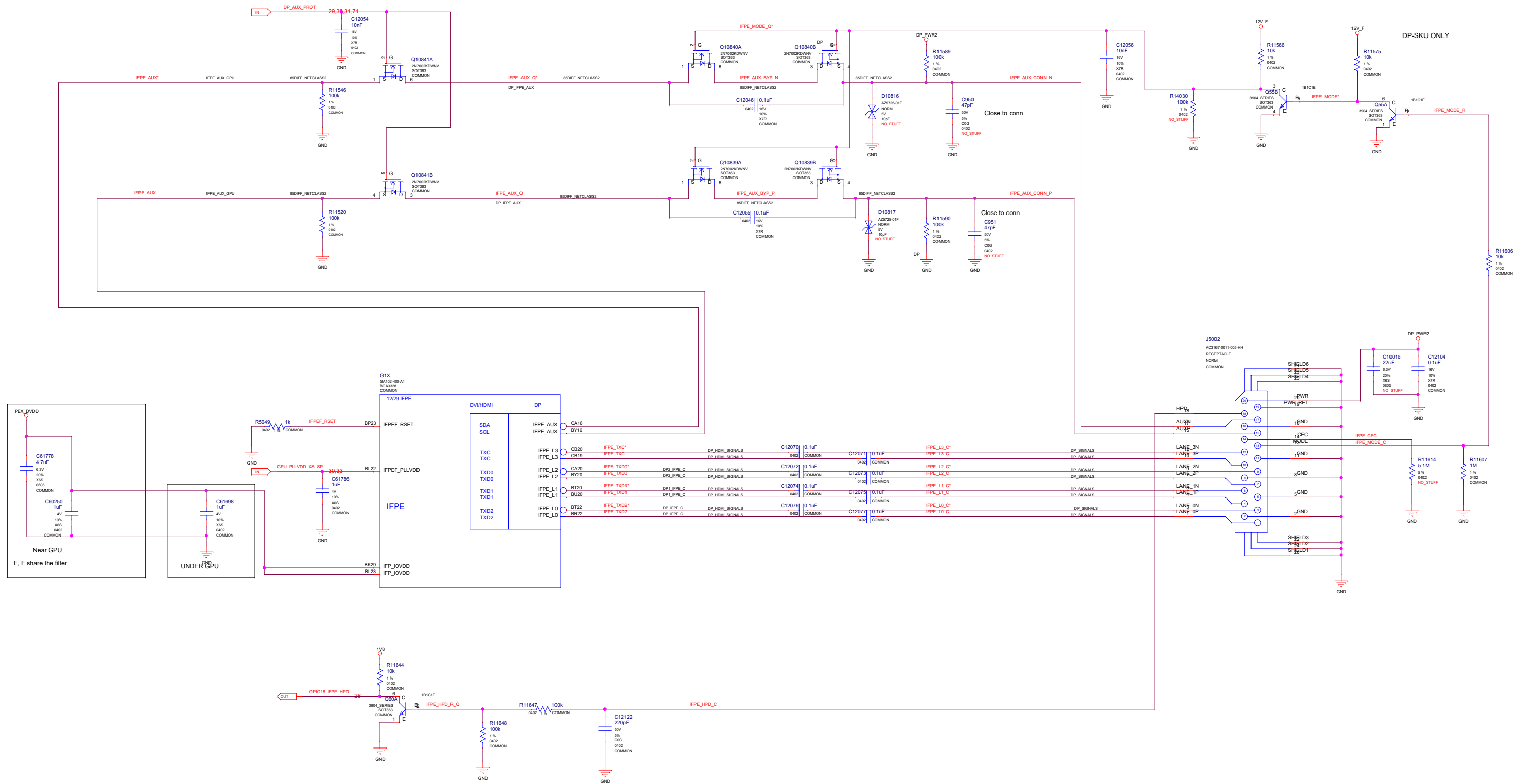
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IFPE DP



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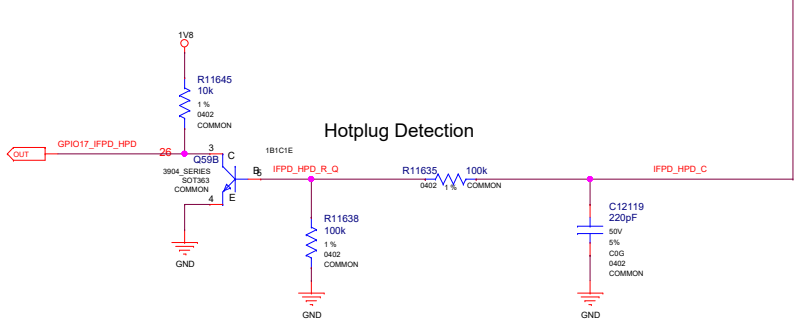
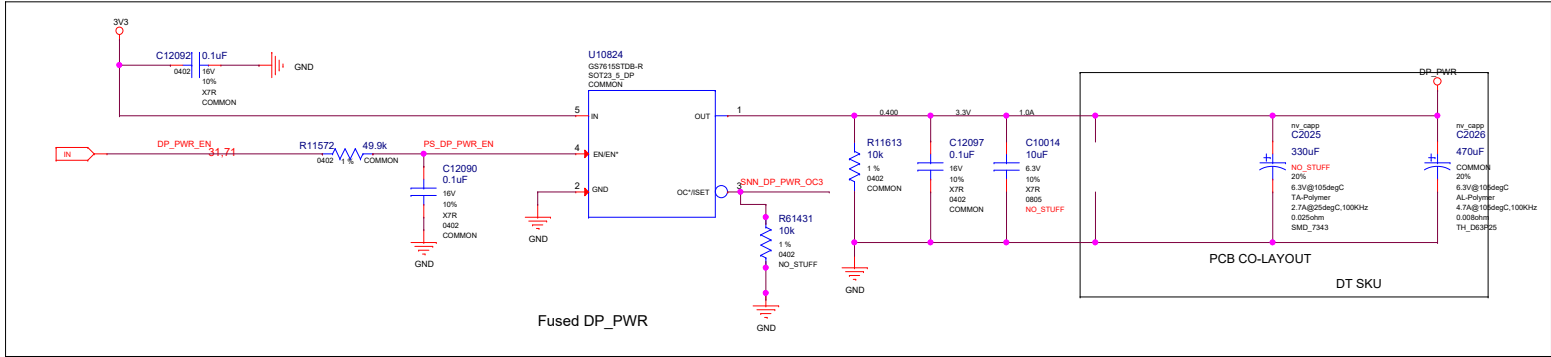
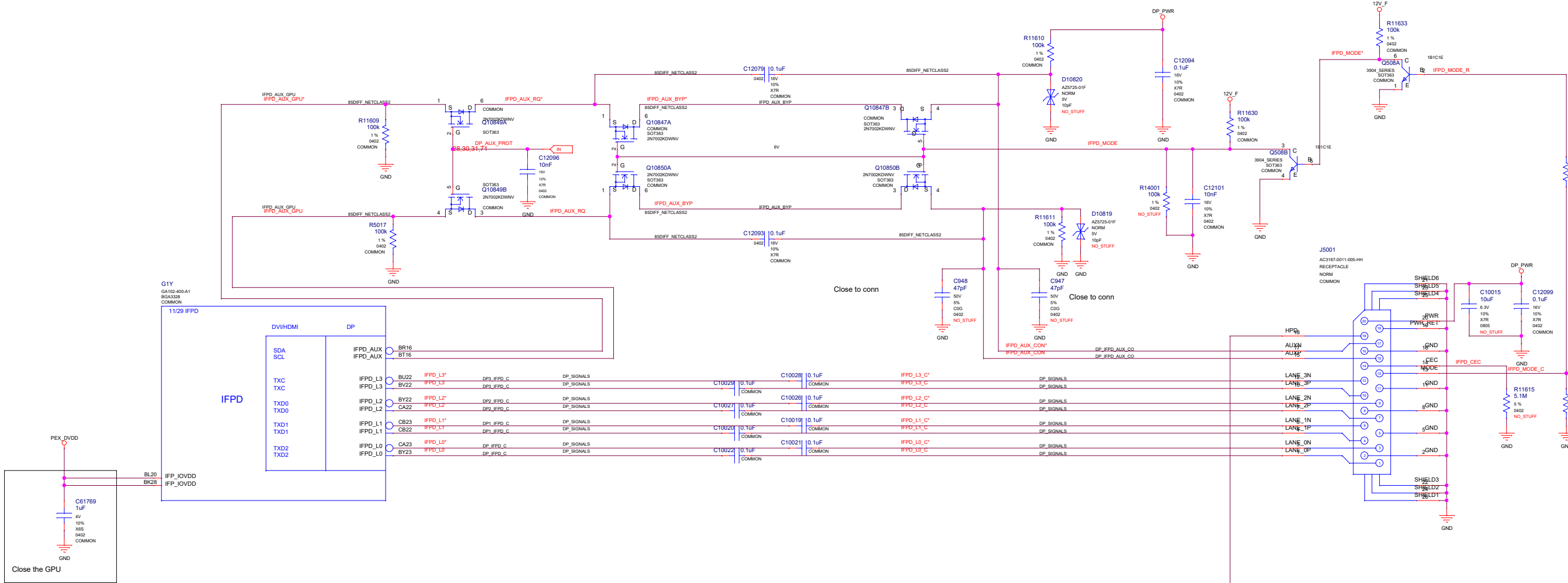
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IFPD DP



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ASSEMBLY
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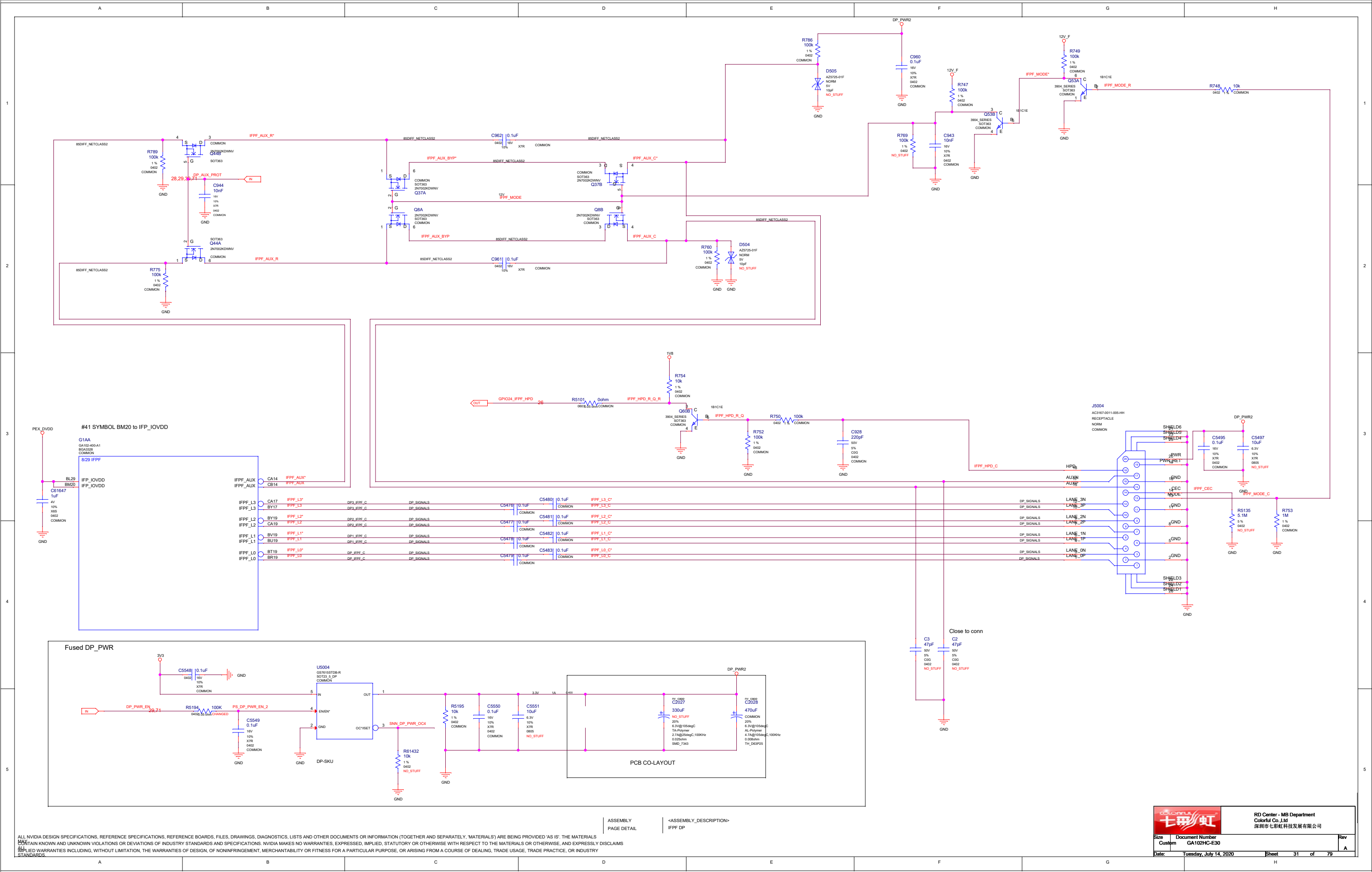
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IFPC HDMI/DP

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ASSEMBLY
PAGE DETAIL

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IFPC HDMI/DP



MISC: ROM, Straps

GROUP0	STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
	L	L	L	00000	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)
	H	L	L	00100	RAMCFG MICRON 8Gb G6X 19Gbps x8 (161-0430-900)
	H	L	H	00101	RAMCFG MICRON 8Gb G6X 21Gbps x8 (161-0431-900)
	L	L	M	01000	RAMCFG MICRON 8Gb G6X 20Gbps x16 (161-0424-900)
	L	L	H	00001	RAMCFG MICRON 8Gb G6X 21Gbps x16 (161-0431-900)
	L	M	H	01010	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)

ROM_SO	ROM_SI	ROM_SCLK	SMARTFAN[2:0],FS_OVERT	1:ENABLE 0:DISABLE	
H	H	H	0111	FS_OVERT ENABLE	DEFAULT
L	L	L	0000	FS_OVERT DISABLE	

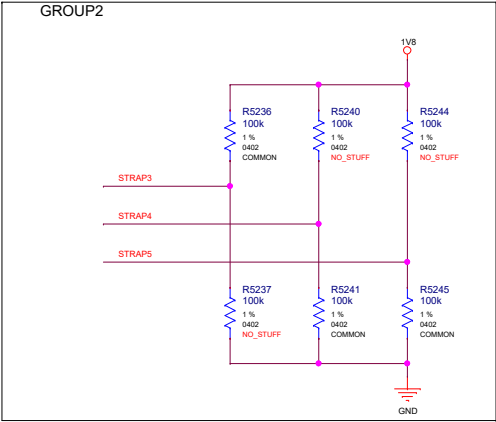
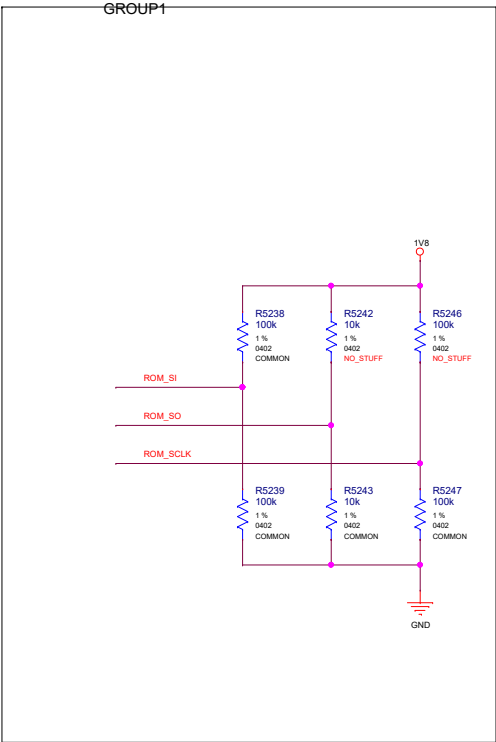
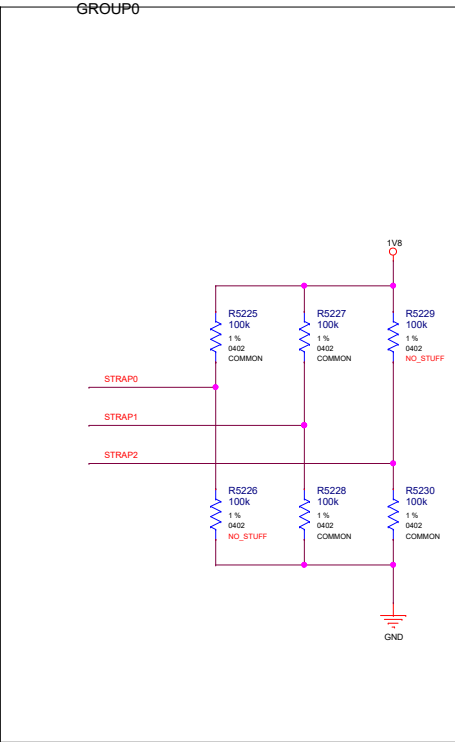
STRAP5	STRAP4	STRAP3	SMB_ALT_ADDR	DEVID_SEL	PCIE_CFG	VGA_DEVICE
M	H	H	1	1	1	1
M	H	L	1	1	1	0
M	L	H	1	1	0	1
M	L	L	1	1	0	0
L	H	M	1	0	1	1
L	M	H	1	0	1	0
L	M	L	1	0	0	1
L	L	M	1	0	0	0
H	H	H	0	1	1	1
H	H	L	0	1	1	0
H	L	H	0	1	0	1
H	L	L	0	1	0	0
L	H	H	0	0	1	1
L	H	L	0	0	1	0
L	L	H	0	0	0	1
L	L	L	0	0	0	0

H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

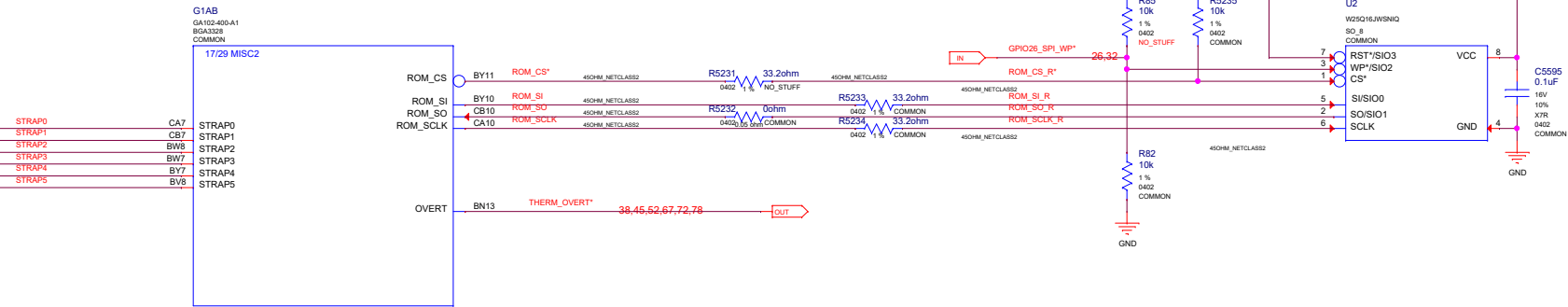
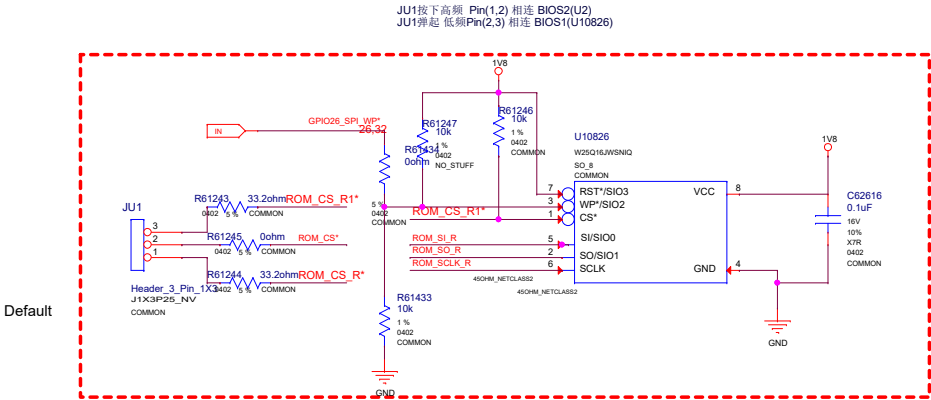
<-A01 PCB

<-OLD

<-LATEST A02 PCB



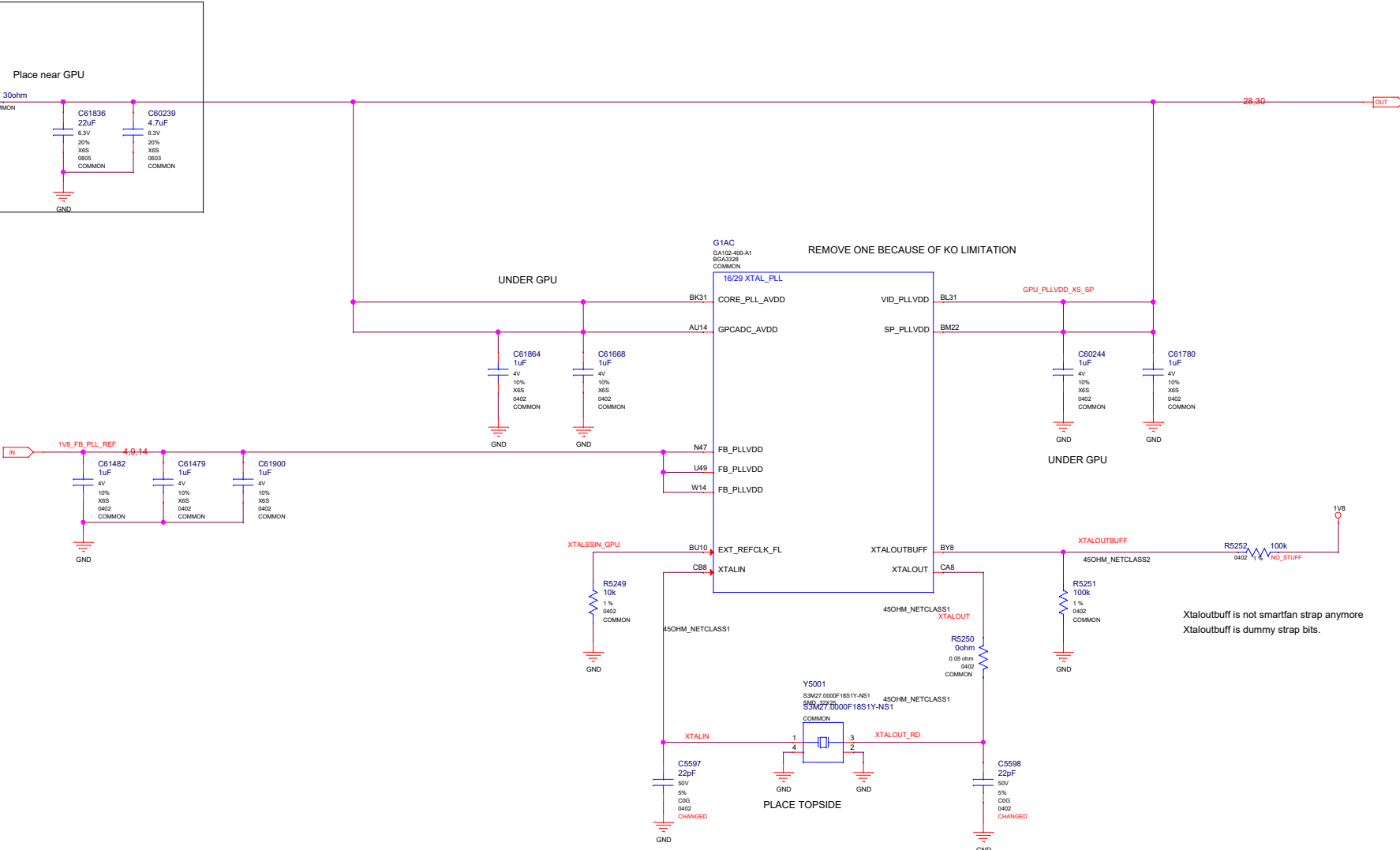
- 1:SMB_ALT_ADDR ENABLE
0:SMB_ALT_ADDR DISABLE
- 1:DEVID_SEL REBRAND
0:DEVID_SEL ORIGNAL
- 1:PCIE_CFG LOW POWER
0:PCIE_CFG HIGH POWER
- 1:VGA_DEVICE ENABLE
0:VGA_DEVICE DISABLE



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ASSEMBLY PAGE DETAIL <ASSEMBLY_DESCRIPTION> MISC. ROM, STRAPS

MISC: XTAL. PLL



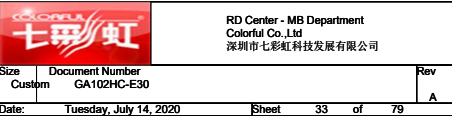
Xtaloutbuff is not smartfan strap anymore
Xtaloutbuff is dummy strap bits.

PLACE TOPSIDE

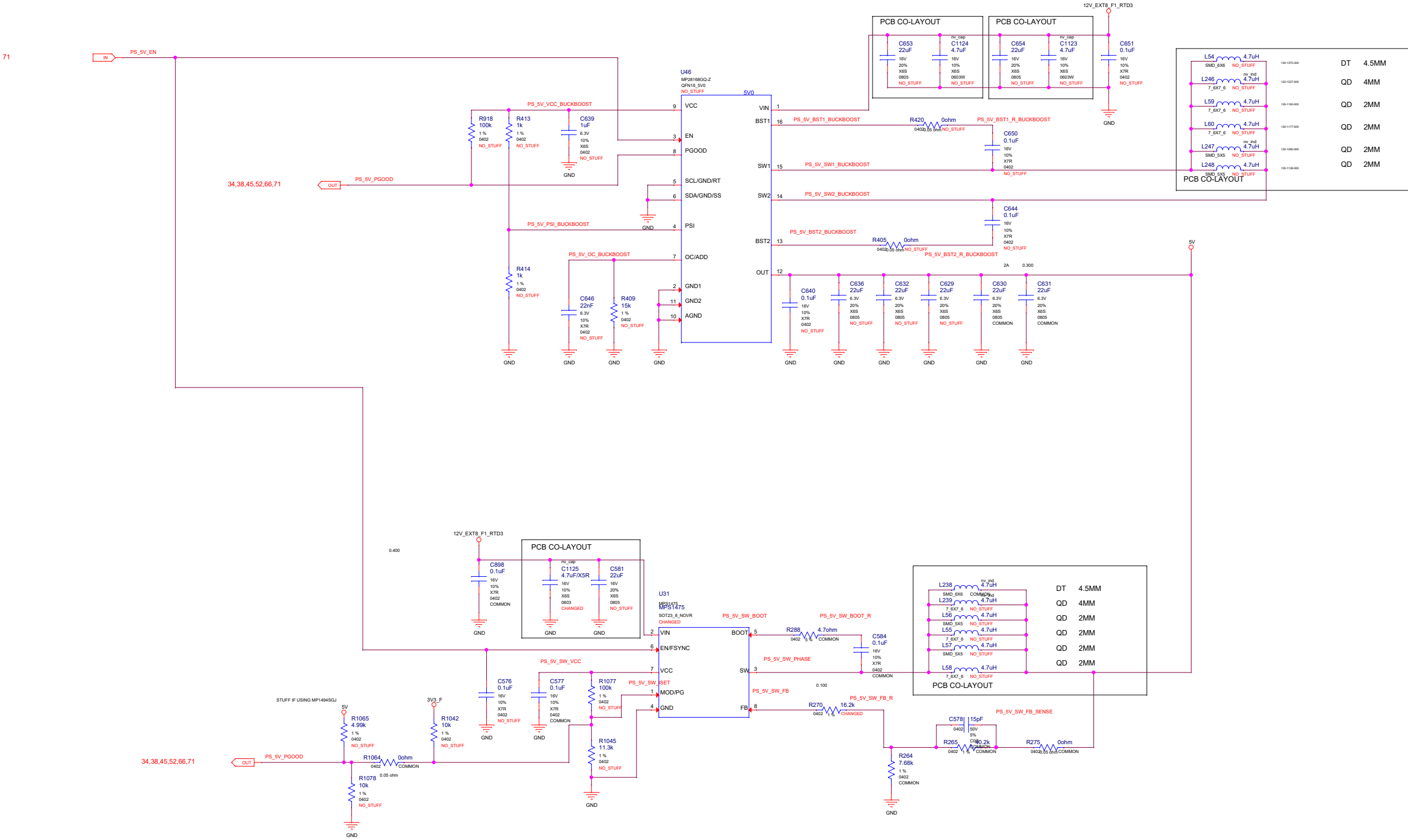
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ASSEMBLY
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MISC. XTAL, PLL
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PS: 5V, 5V_BACKUP



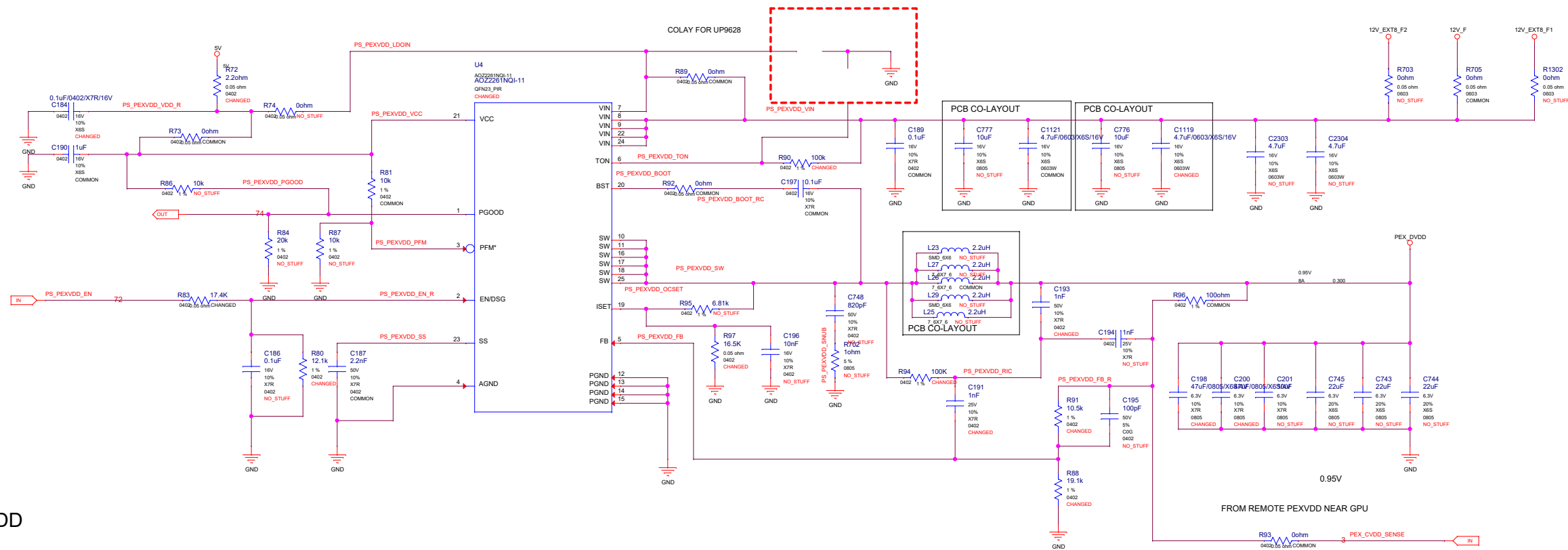
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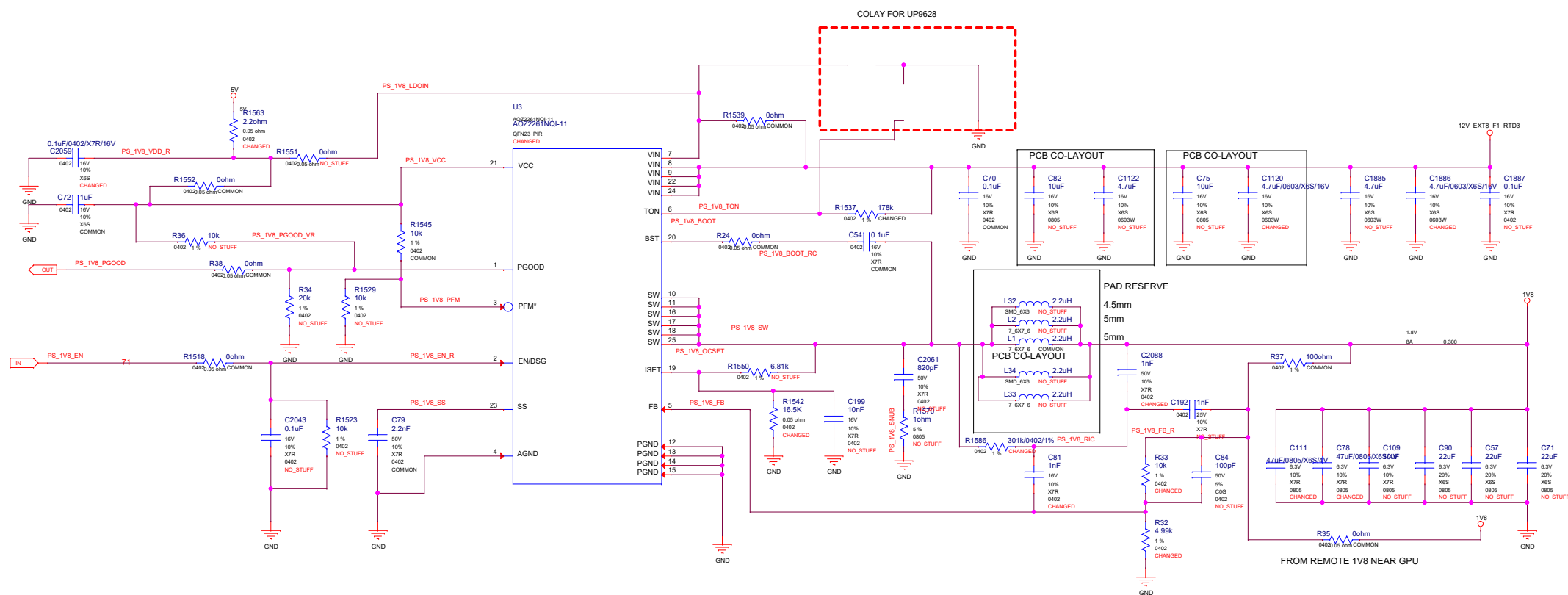
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PS: 5V

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PS: PEX_DVDD 1V8 Rail



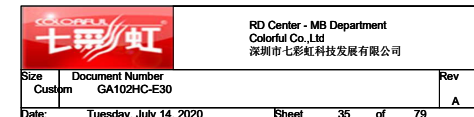
PEX_DVDD



1V8

ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	PS: PEX_DVDD and 1V8


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PIN12 MP2988 VIN SENSE 1/16 DIVIDER
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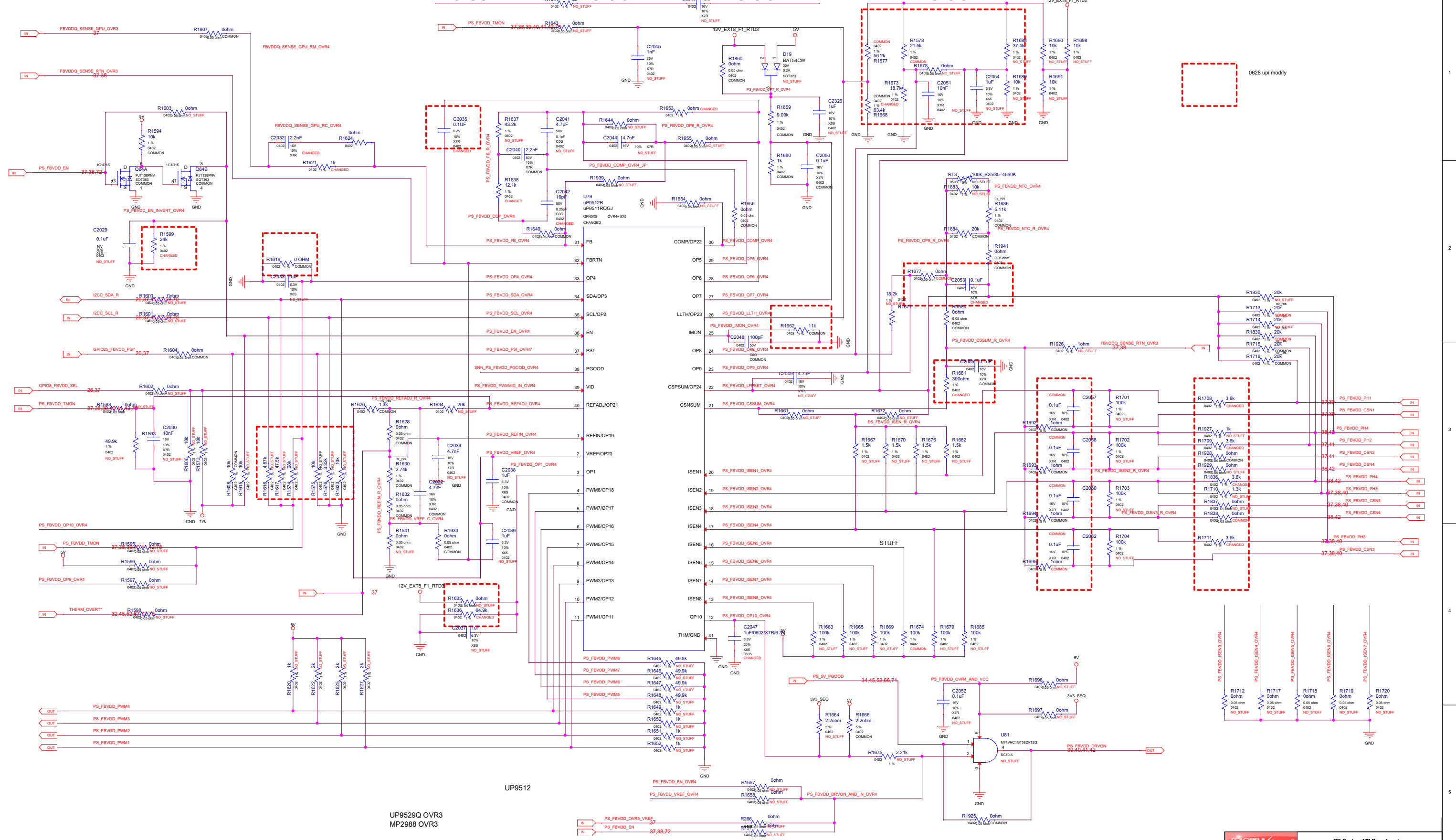
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PS:FBVDDQ OVR4



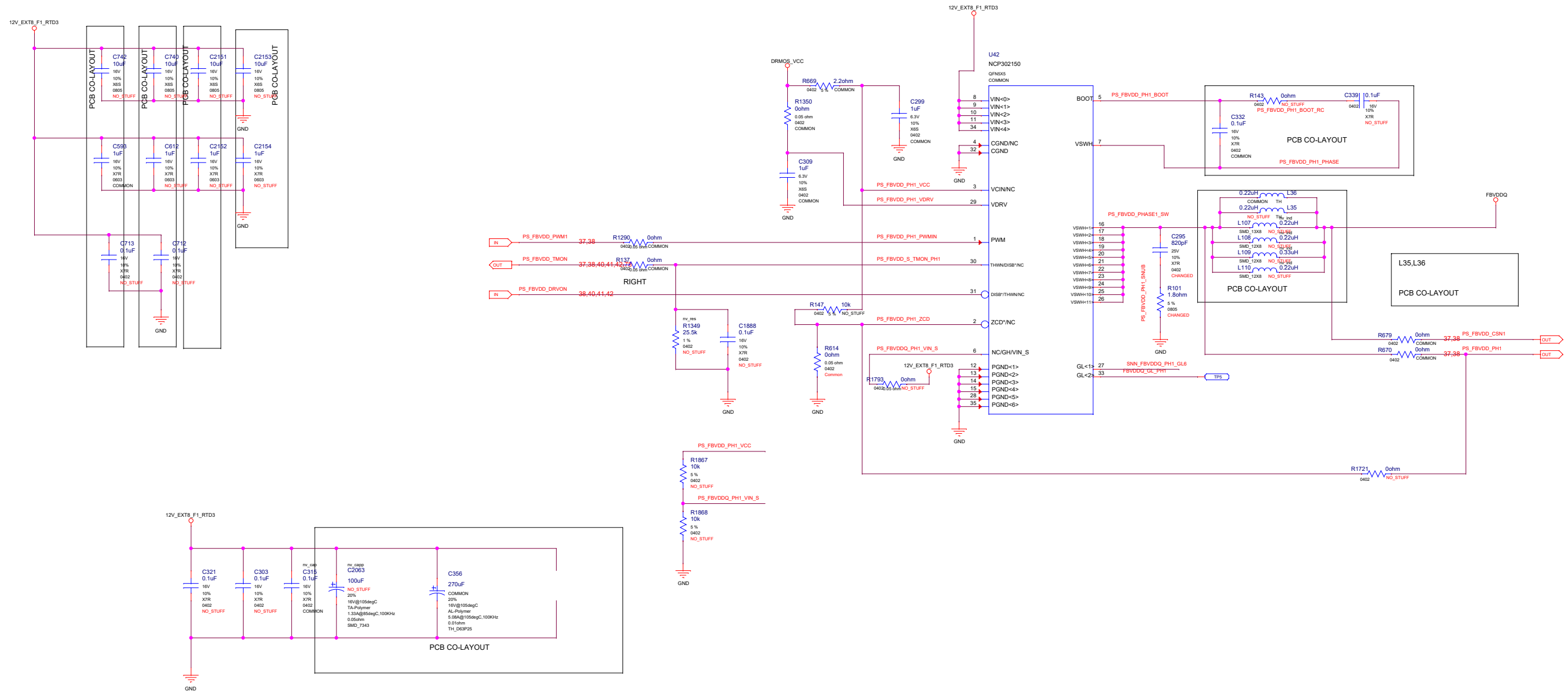
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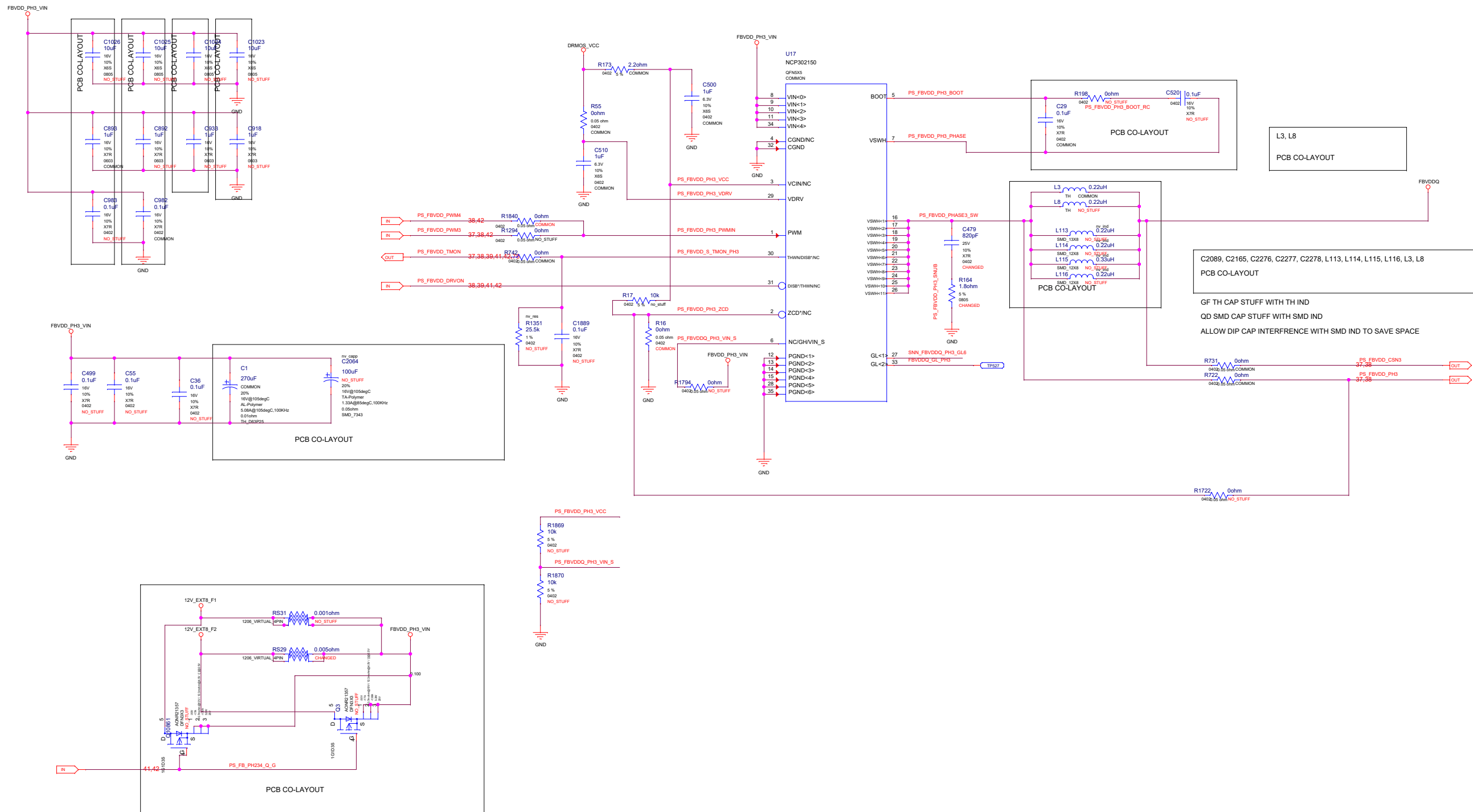
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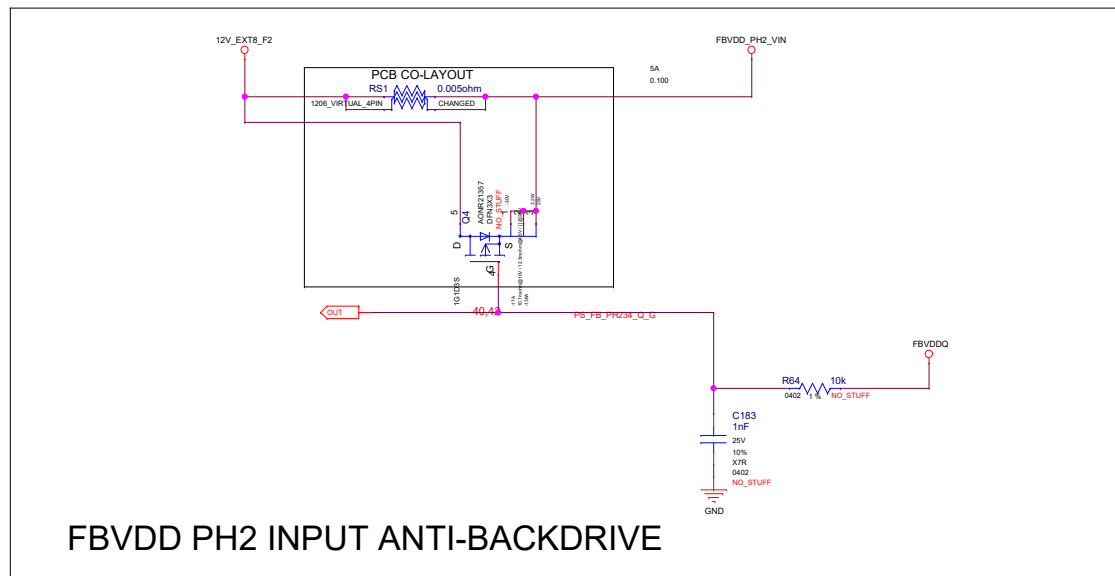
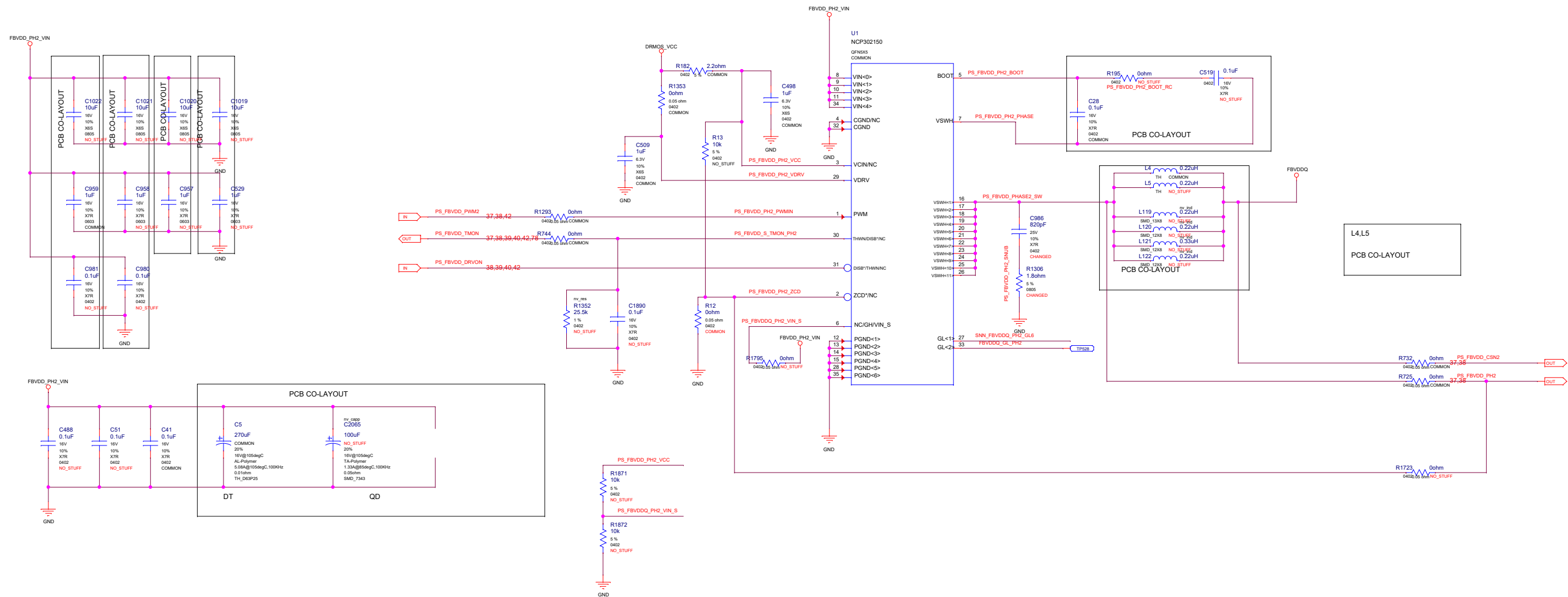
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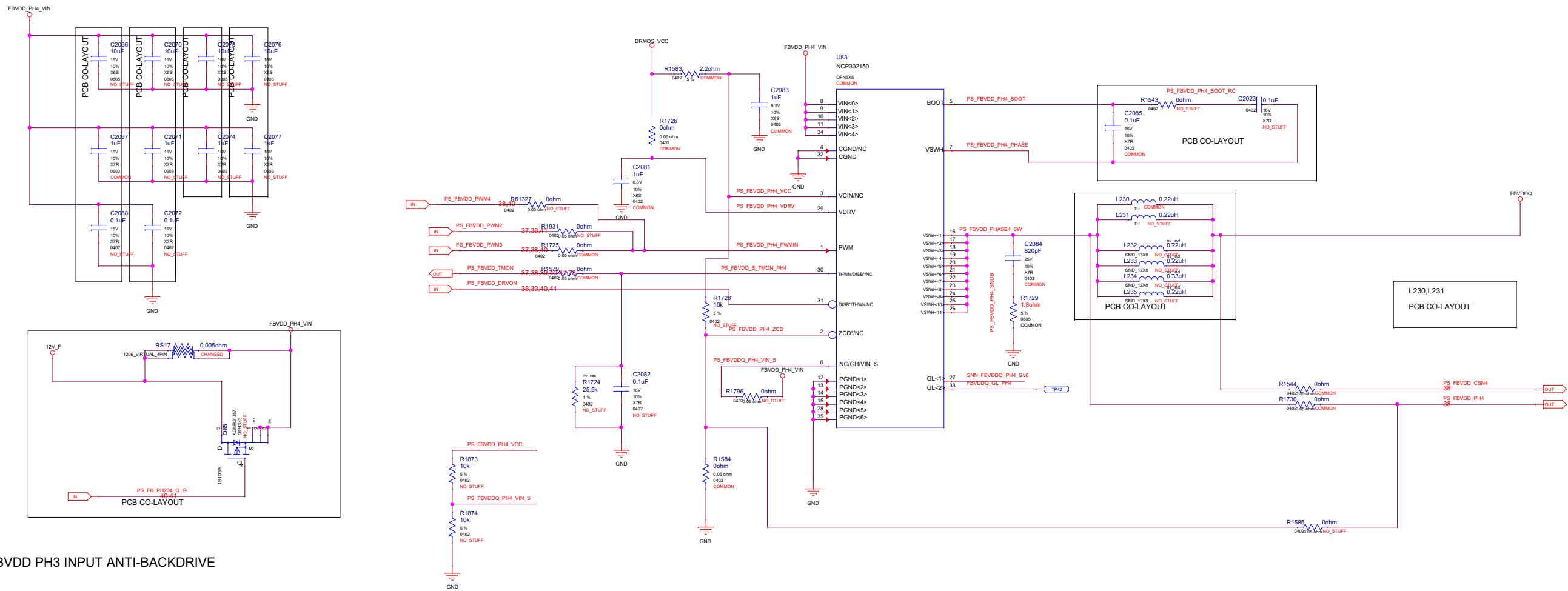
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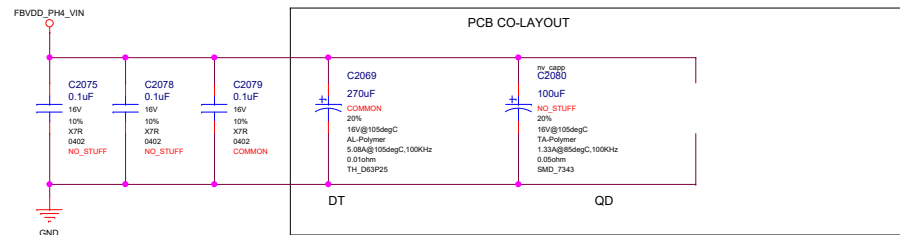


FBVDD PH2 INPUT ANTI-BACKDRIVE

PS: FBVDD PH4




FBVDD PH3 INPUT ANTI-BACKDRIVE



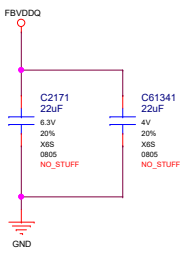
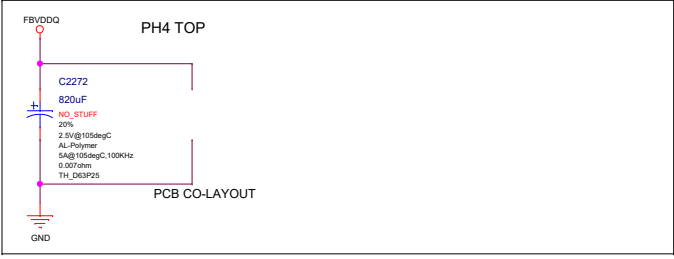
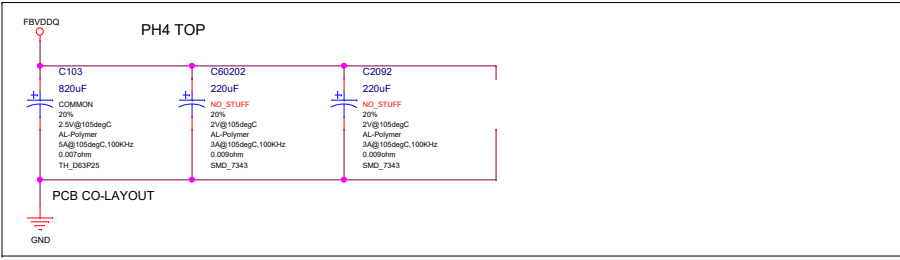
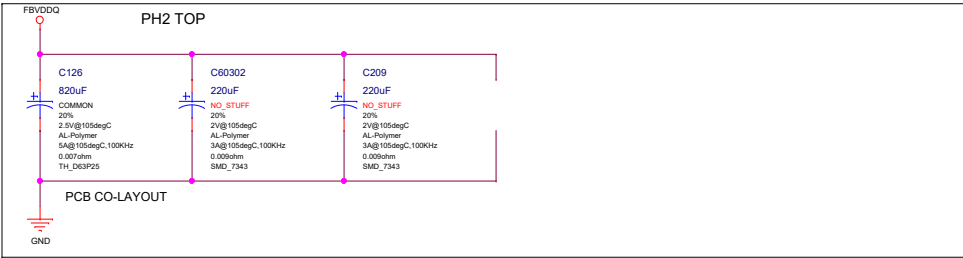
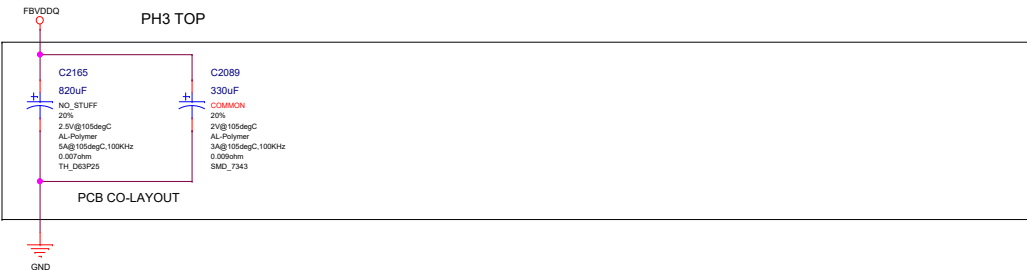
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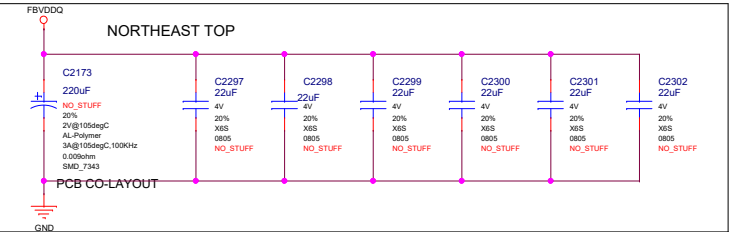
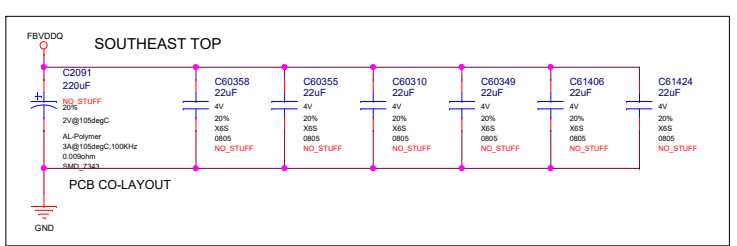
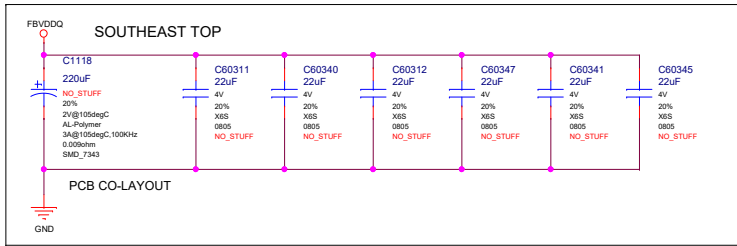
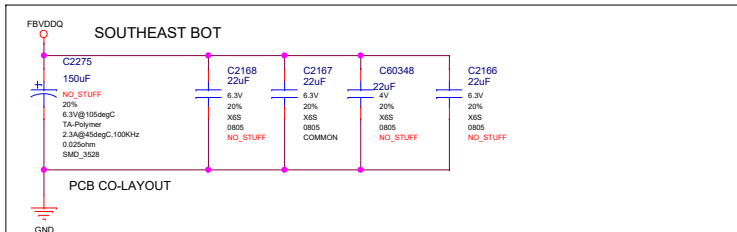
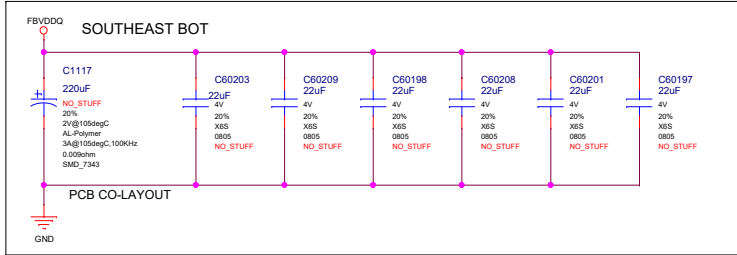
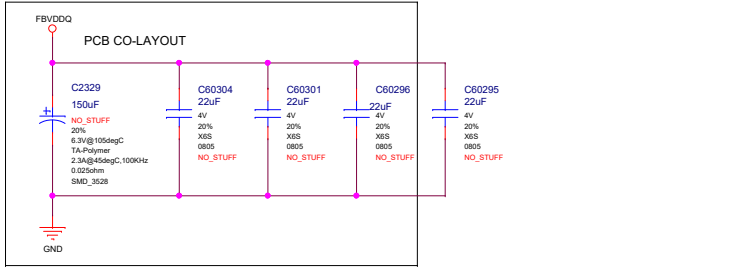
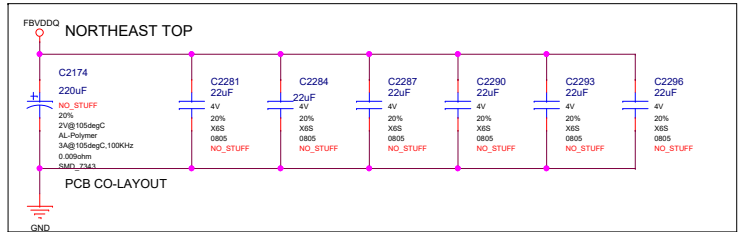
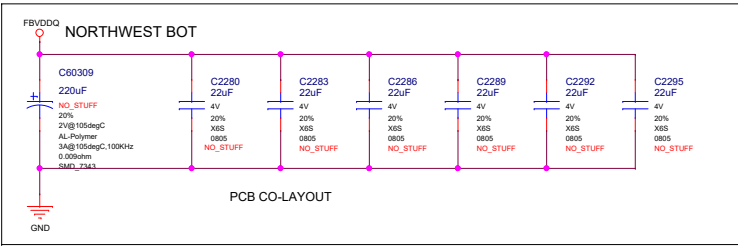
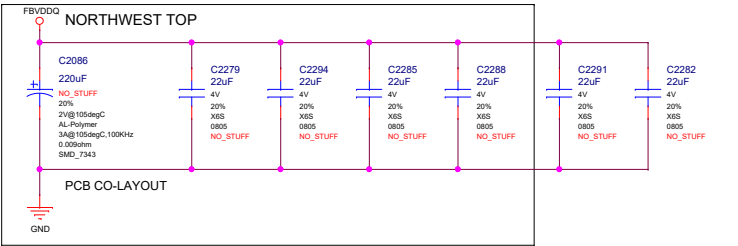
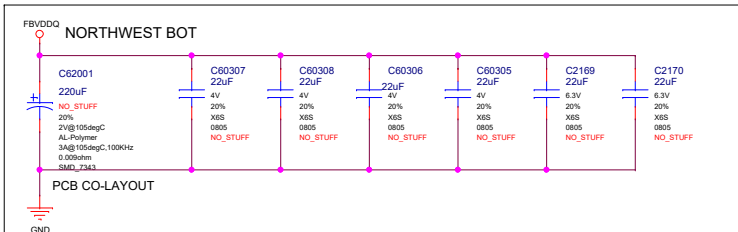
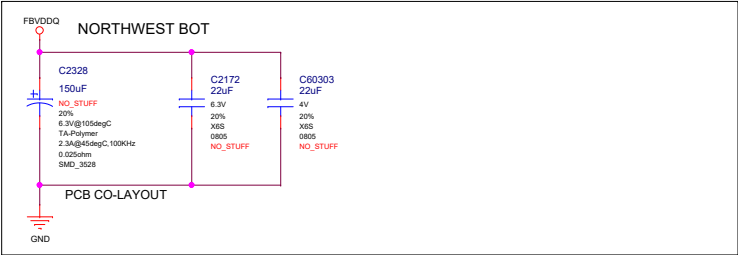
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PS: FBVDD OUTPUT CAP

3x 820uF TH FBVDD OUTPUT BULK CAPS



CLOSE TO FB PH3 OUTPUT STUFF



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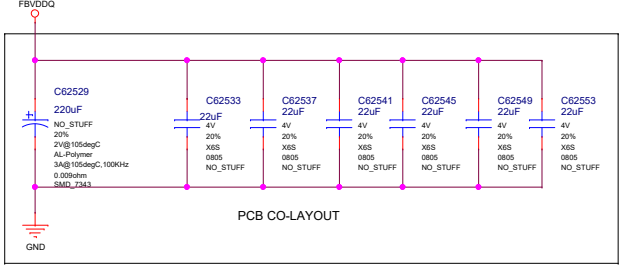
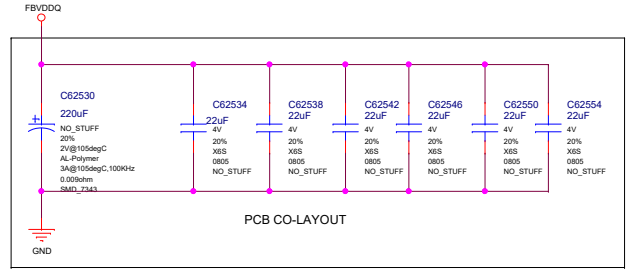
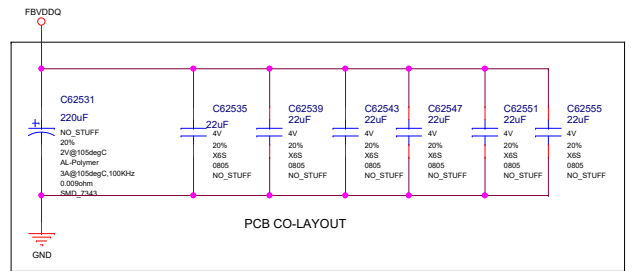
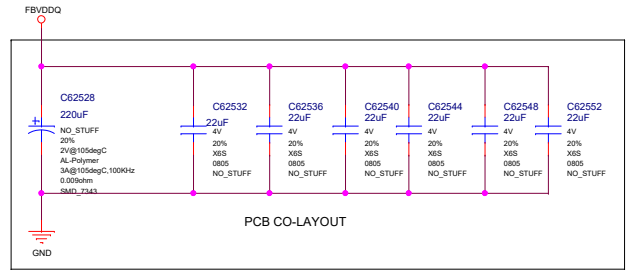
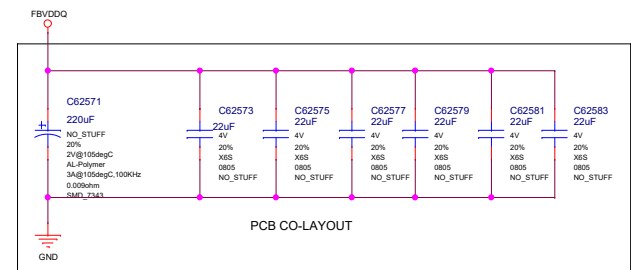
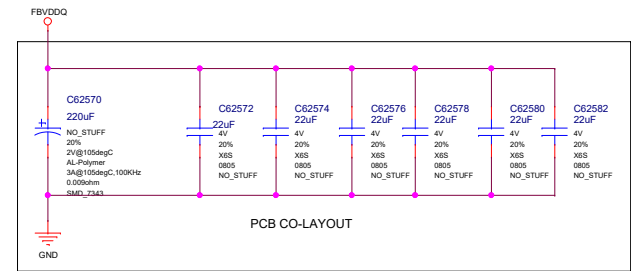
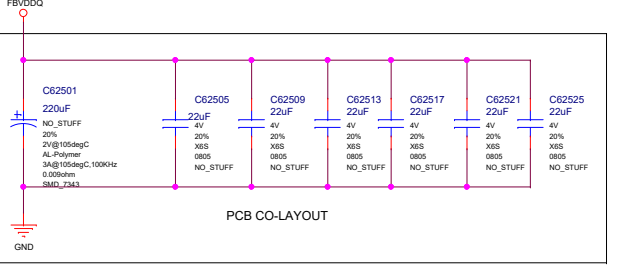
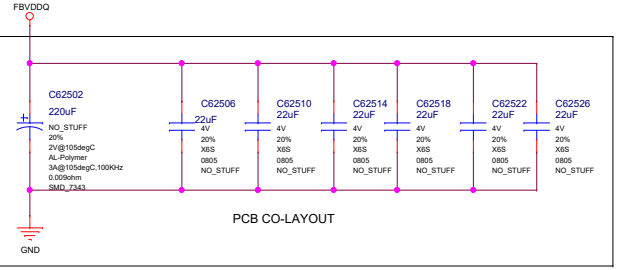
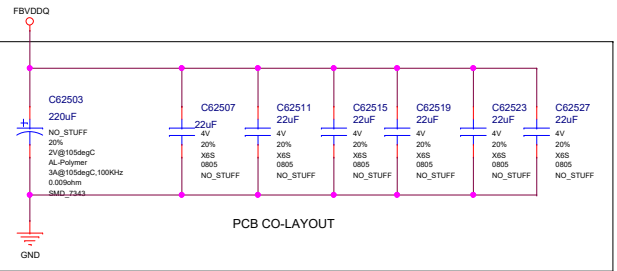
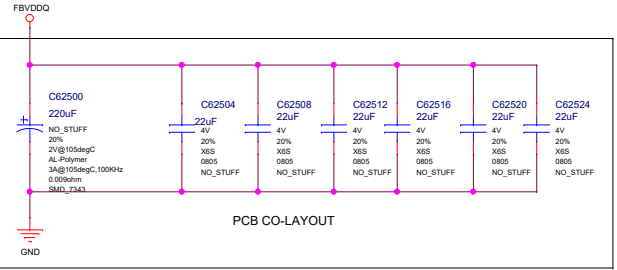
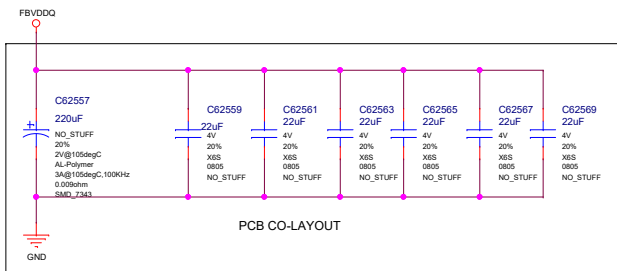
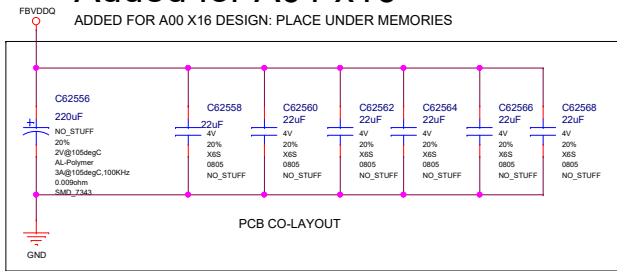


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Added for A01 x16


ADDED FOR A00 X16 DESIGN: PLACE UNDER MEMORIES



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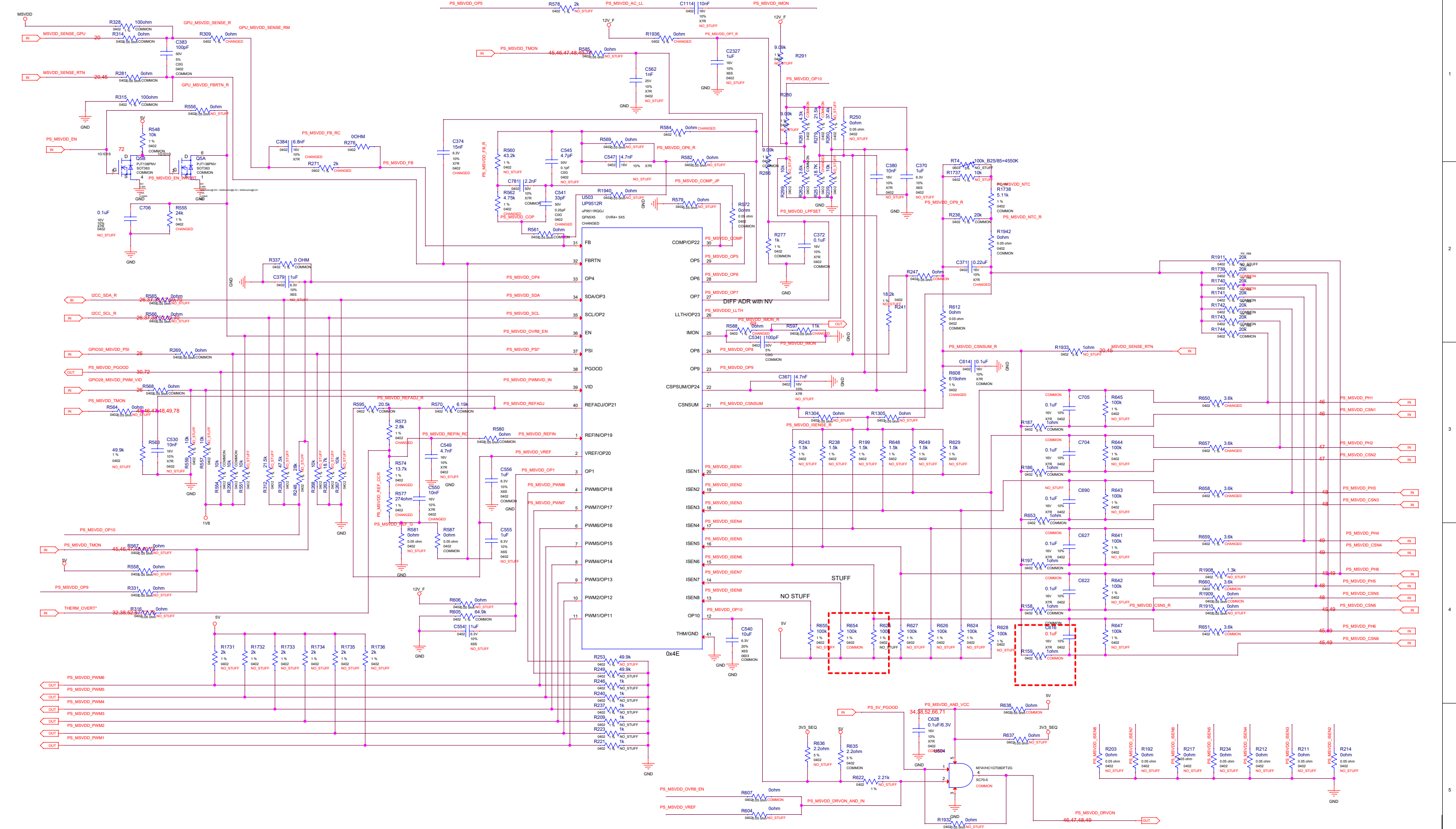
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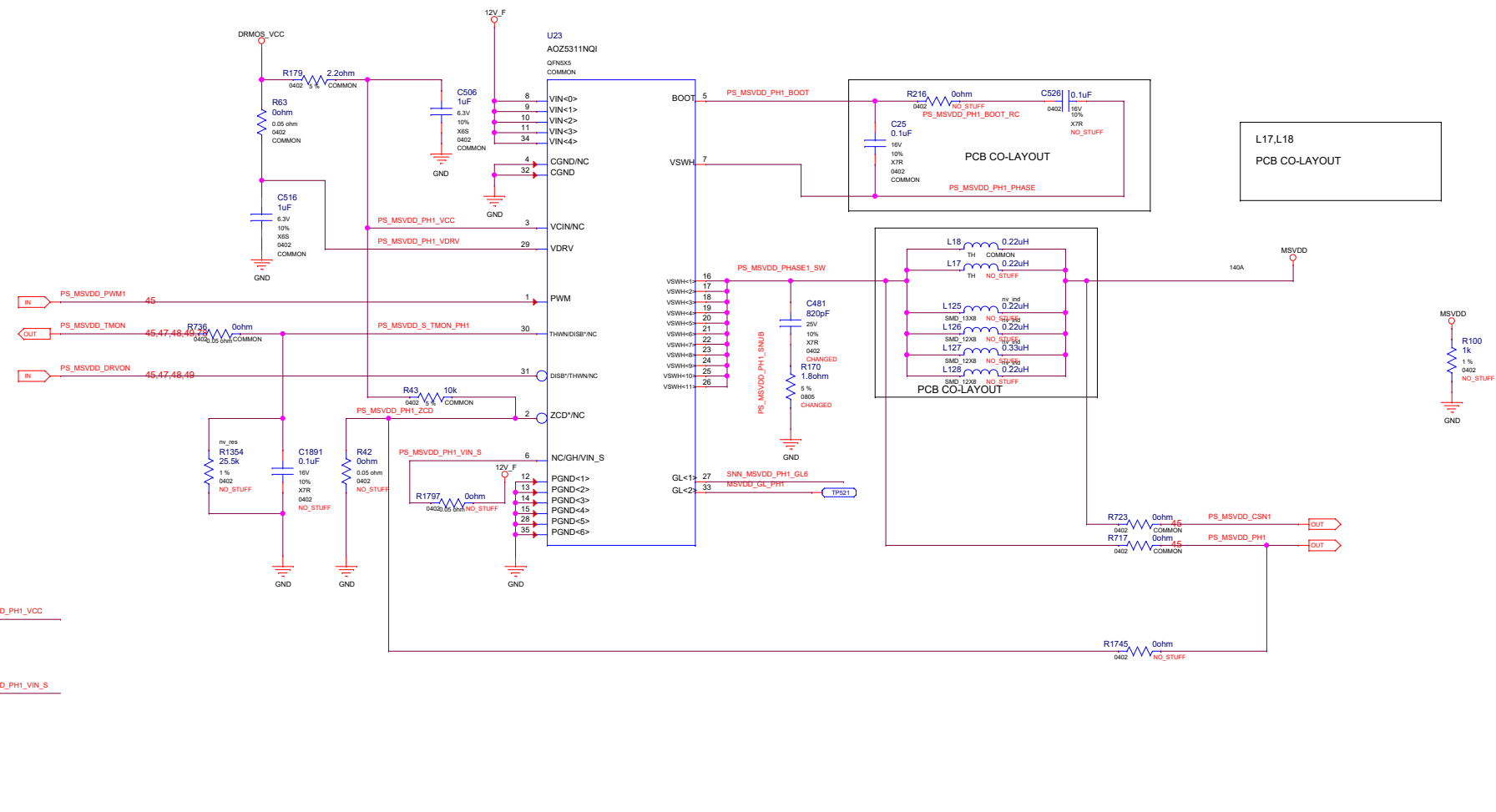
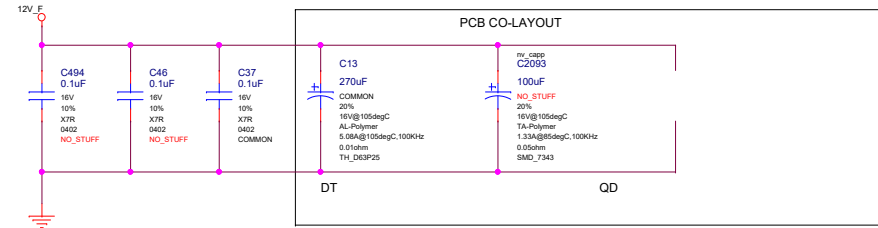
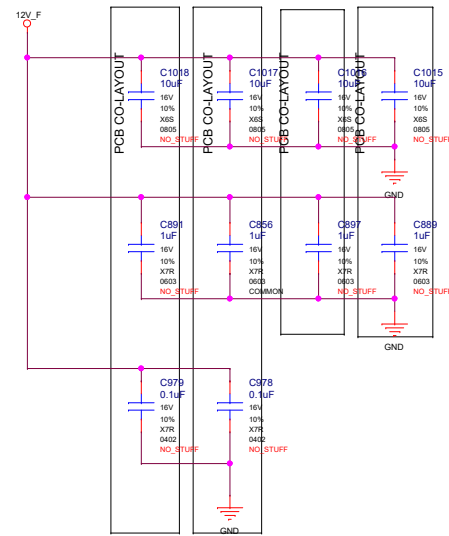
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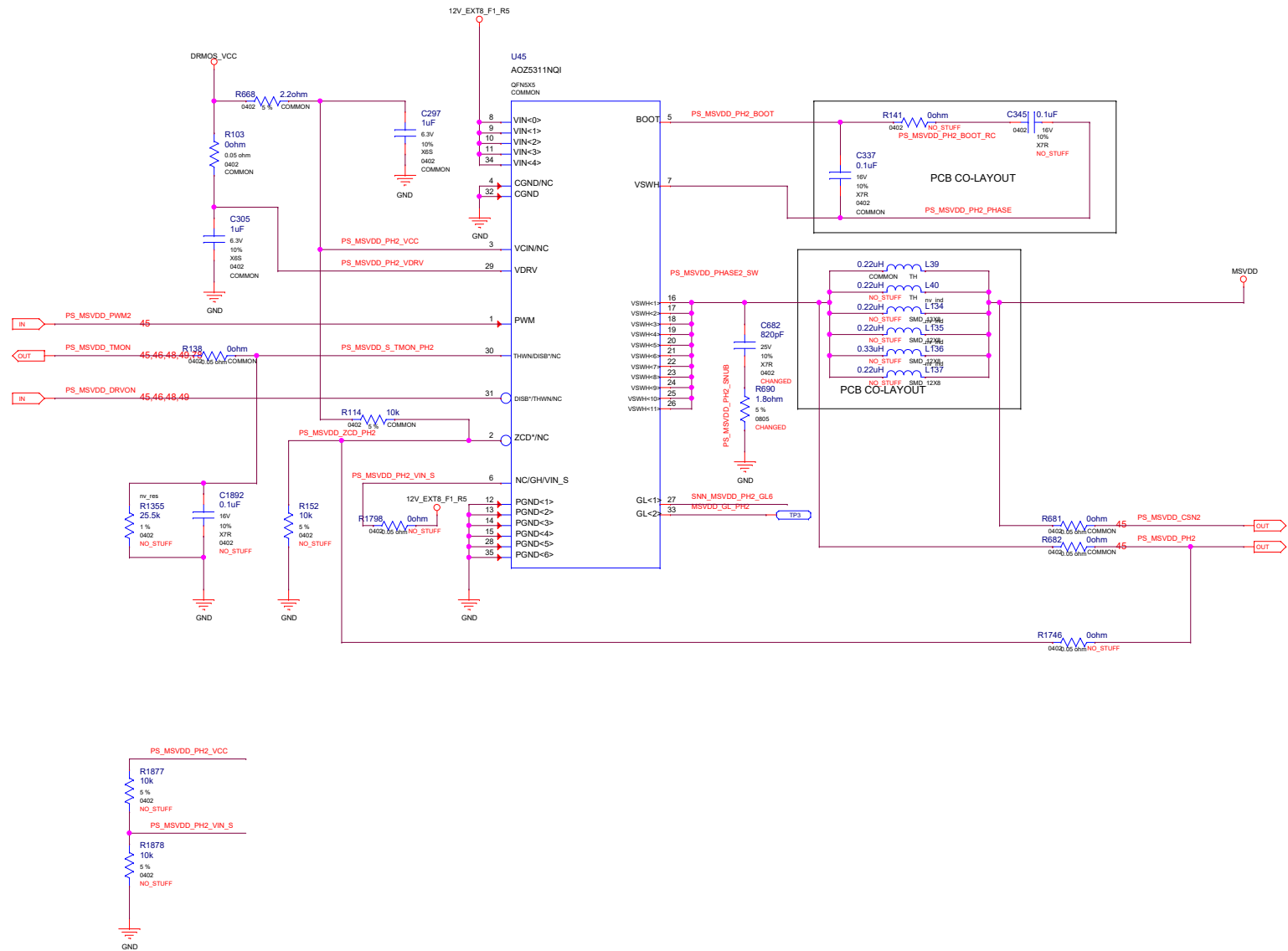
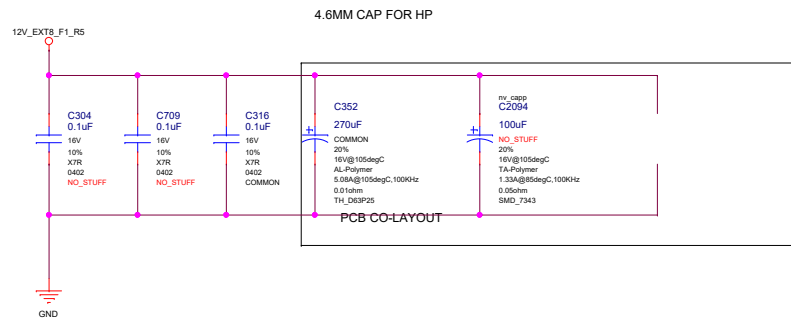
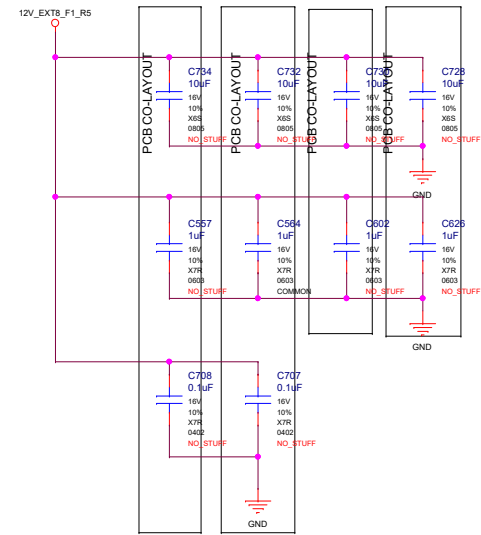
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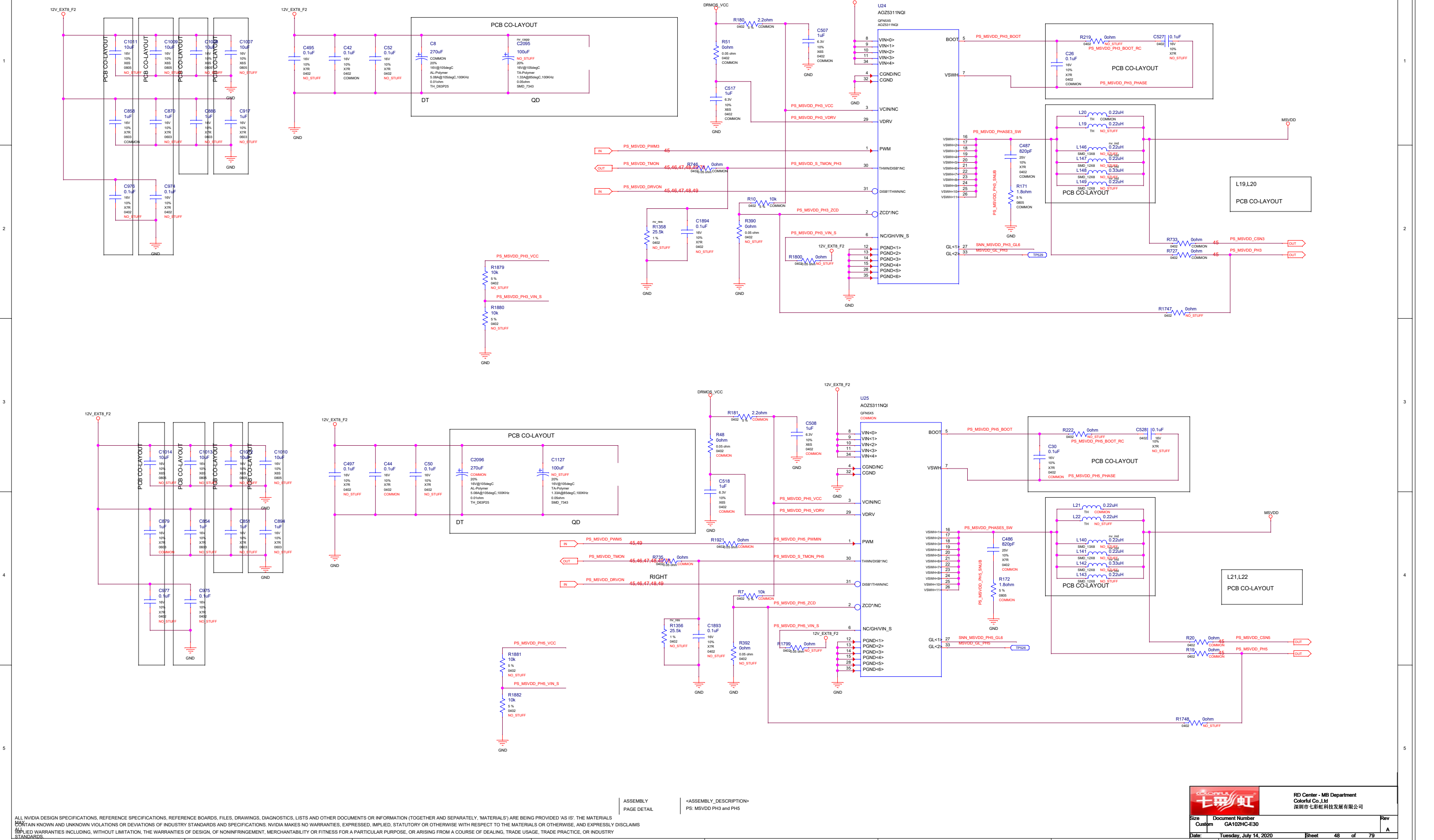
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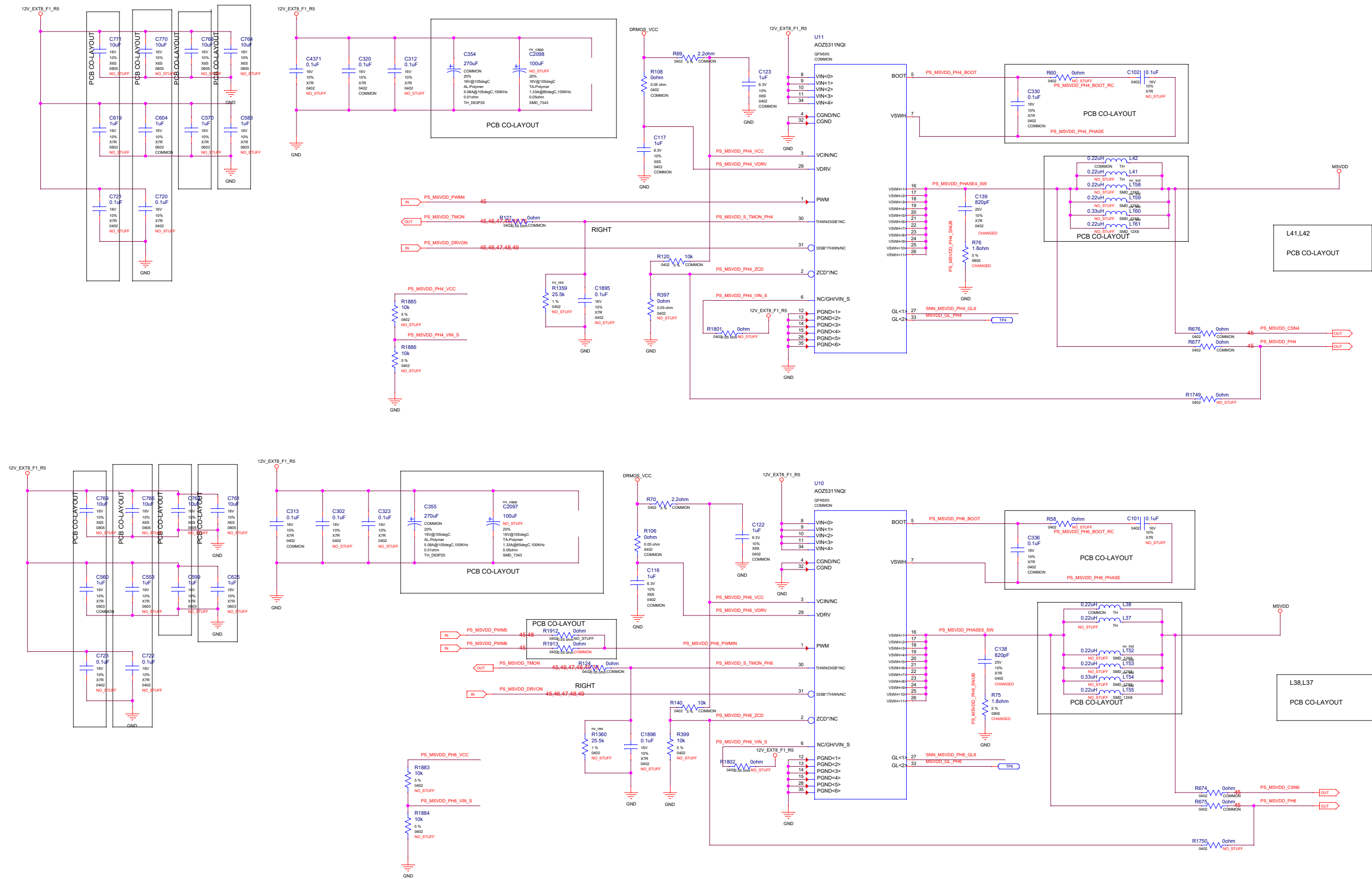


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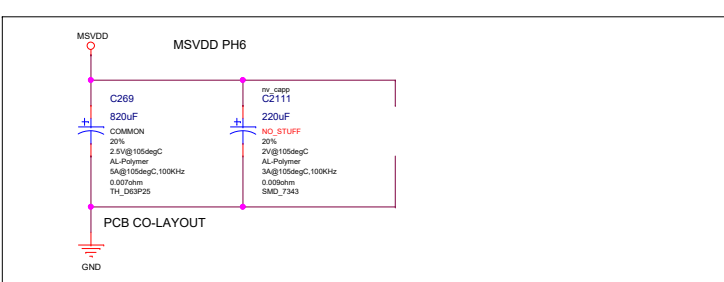
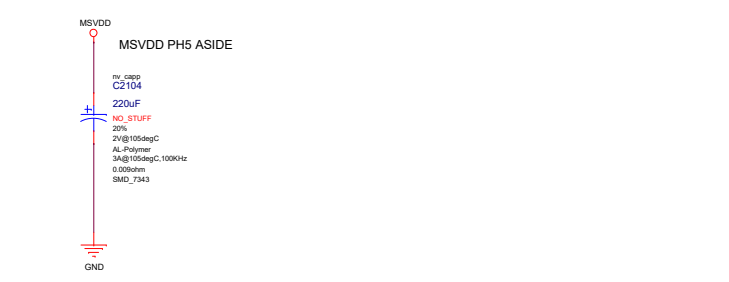
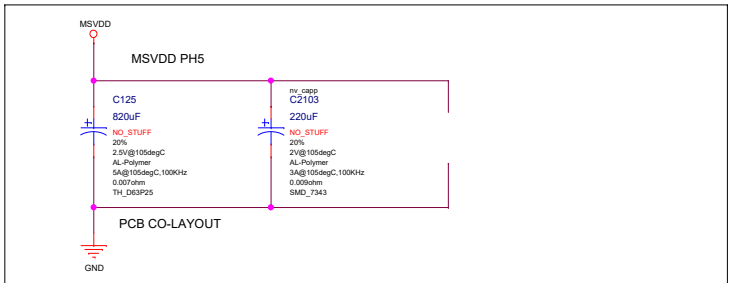
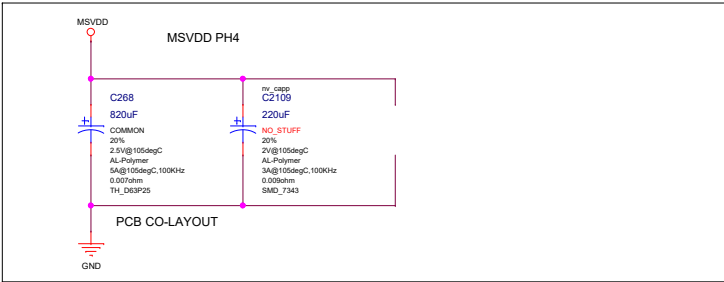
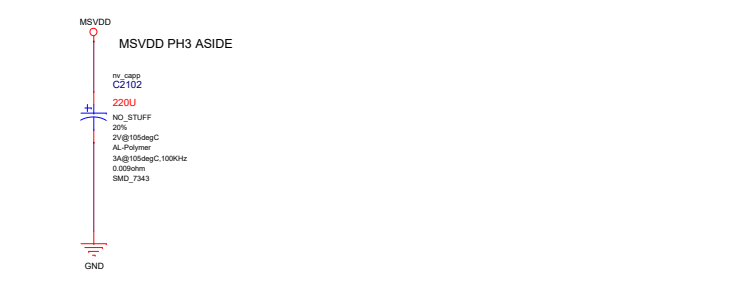
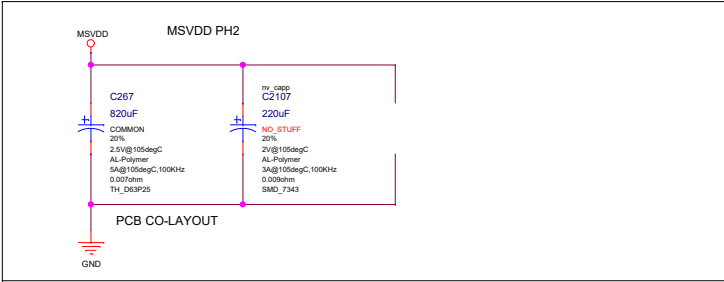
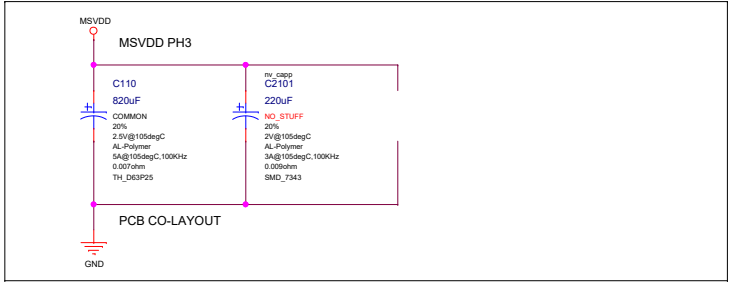
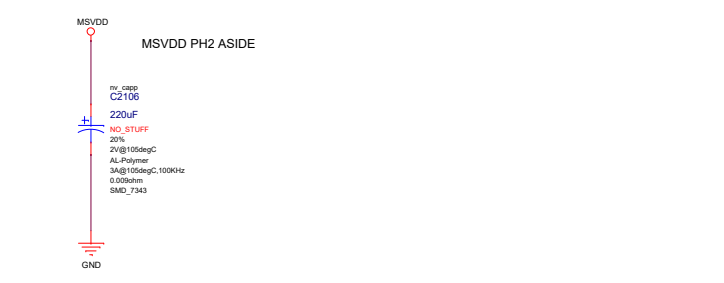
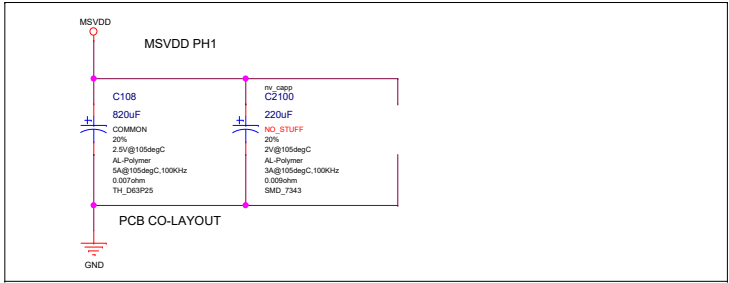
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PS:MSVDD OUTPUT CAP (TOP)



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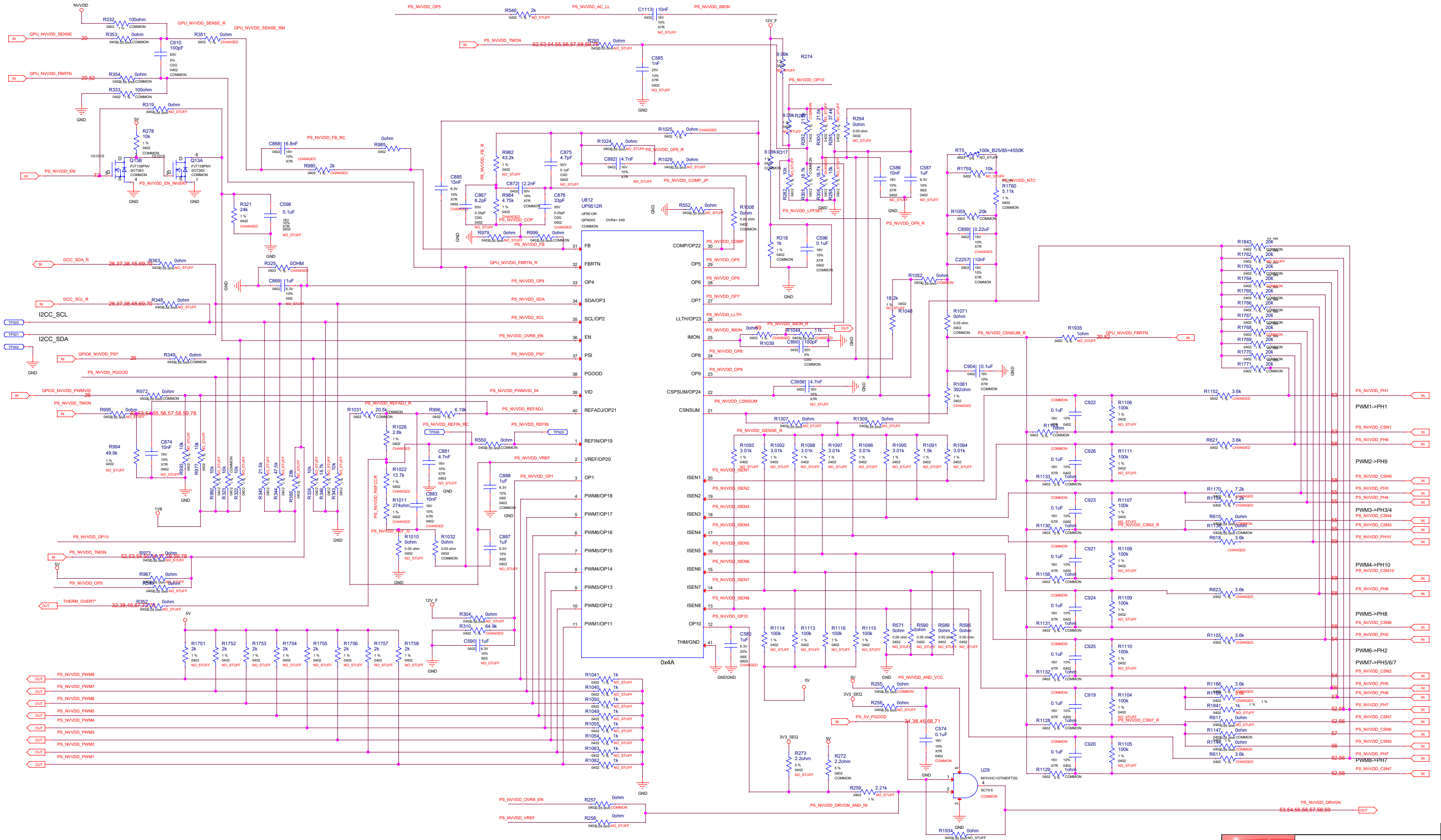
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PS: NVVDD Controller_OVR8



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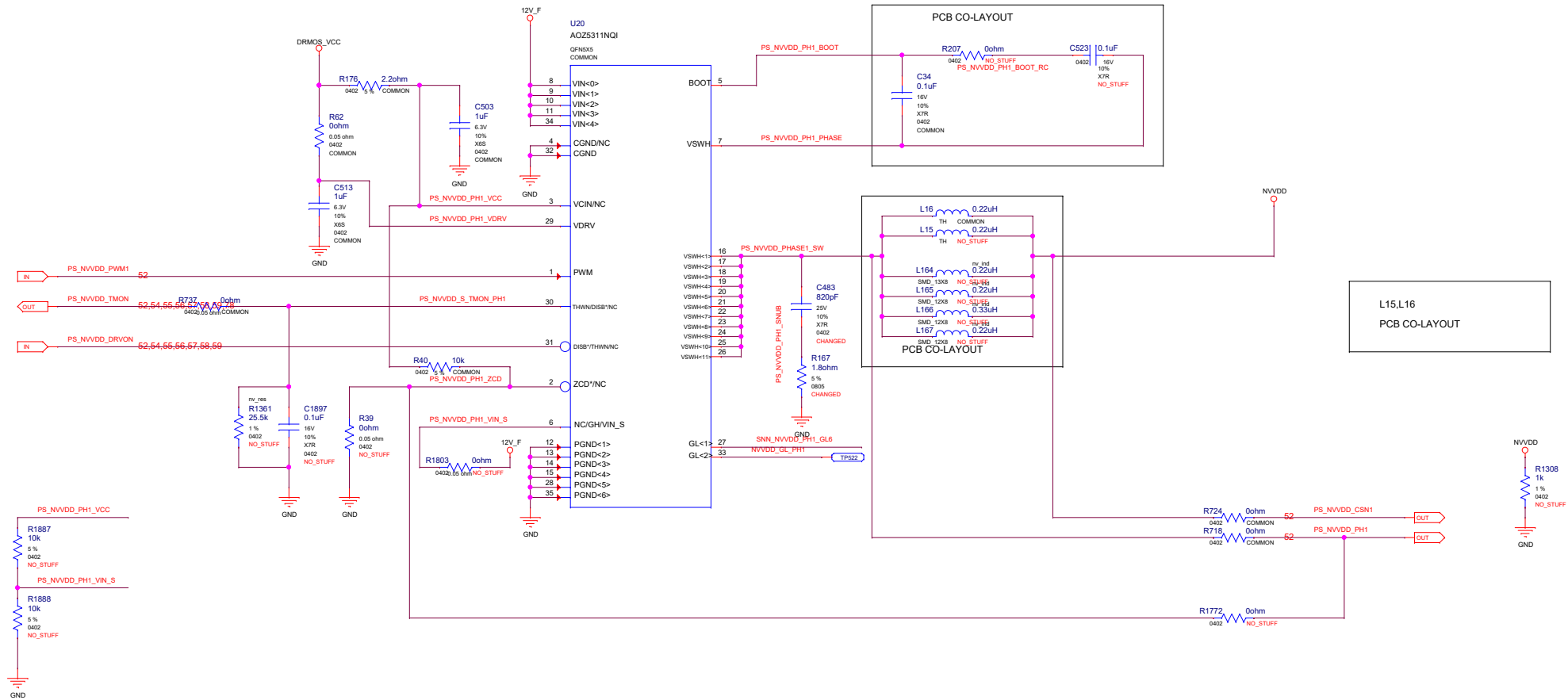
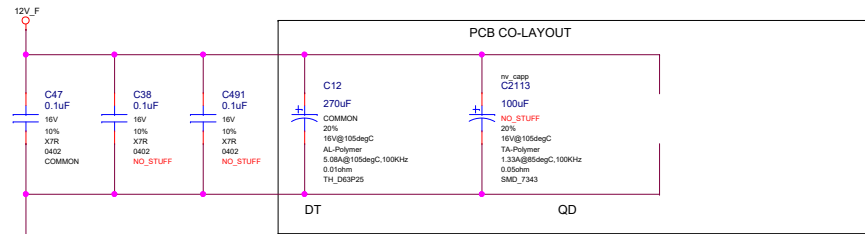
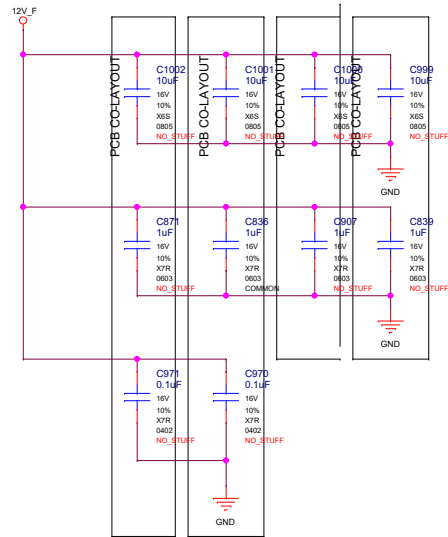
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PS: NVVDD Phase 1



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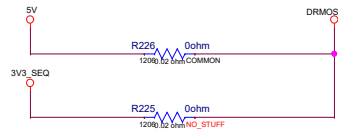
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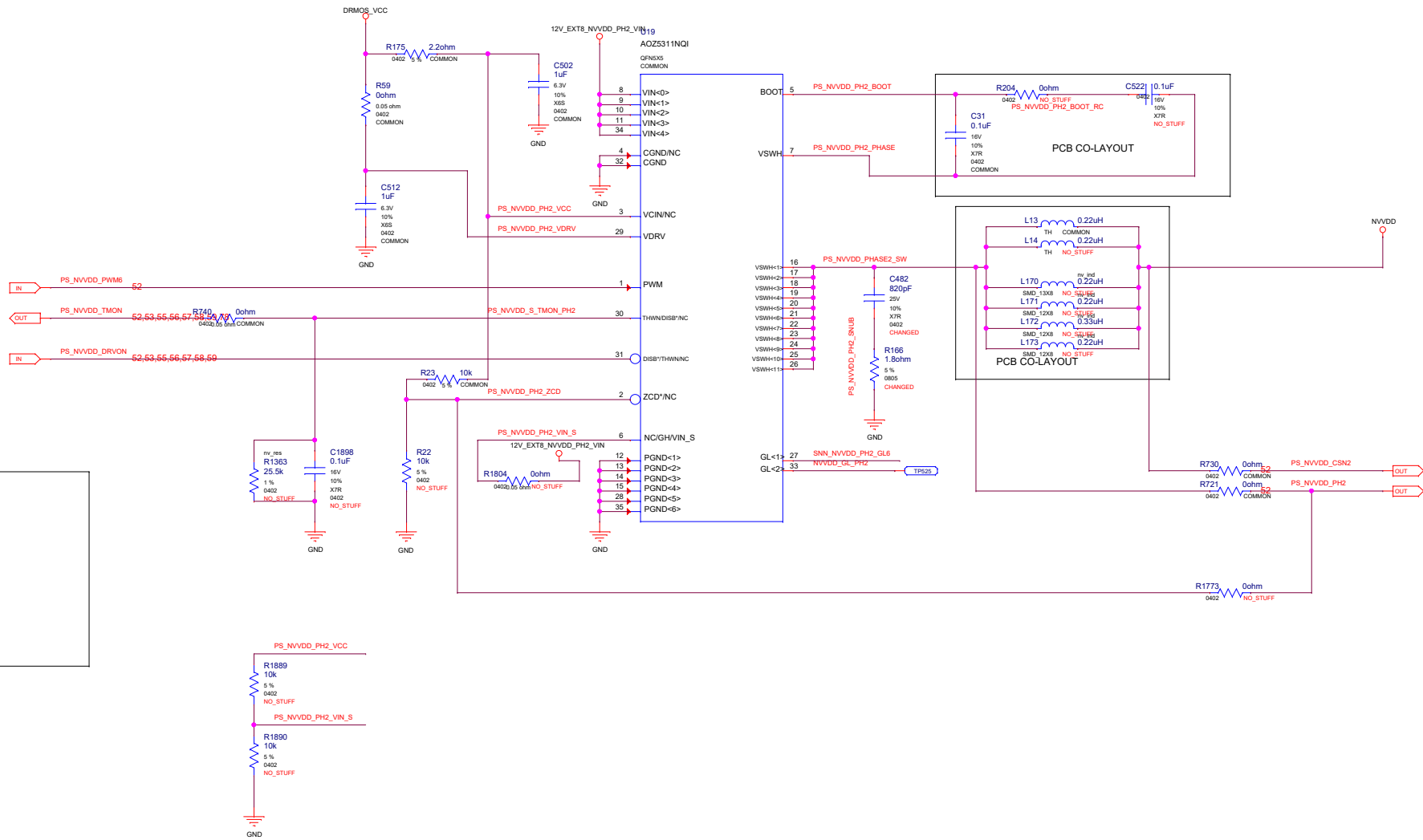
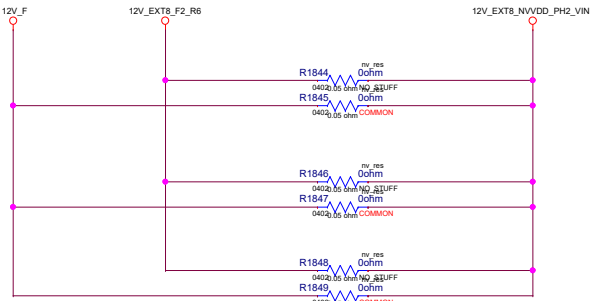
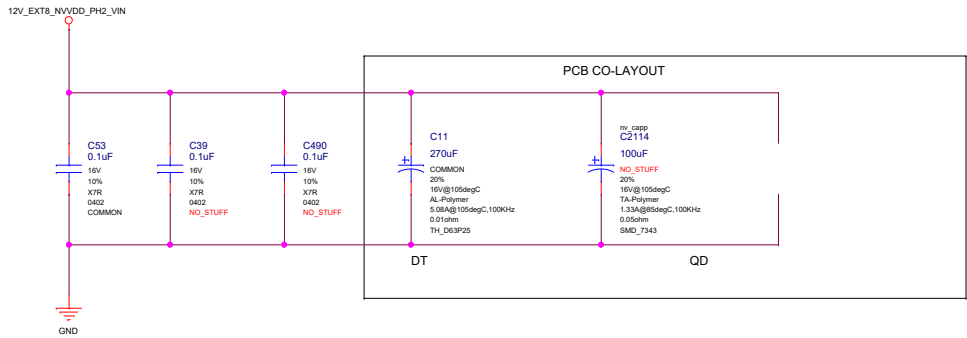
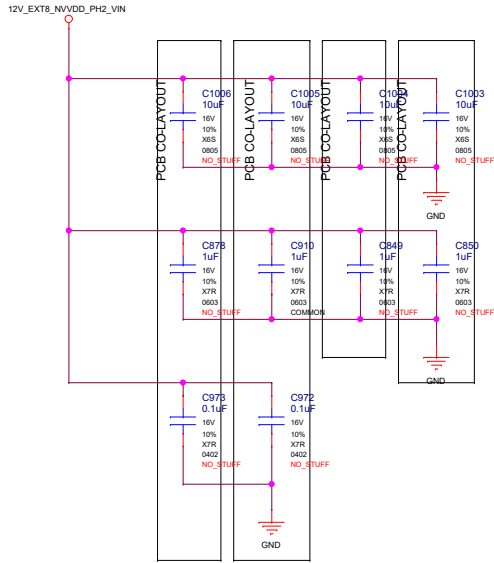
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PS: NVVDD Phase 2




MPS DRMos WITH 3V3 SUPPLY



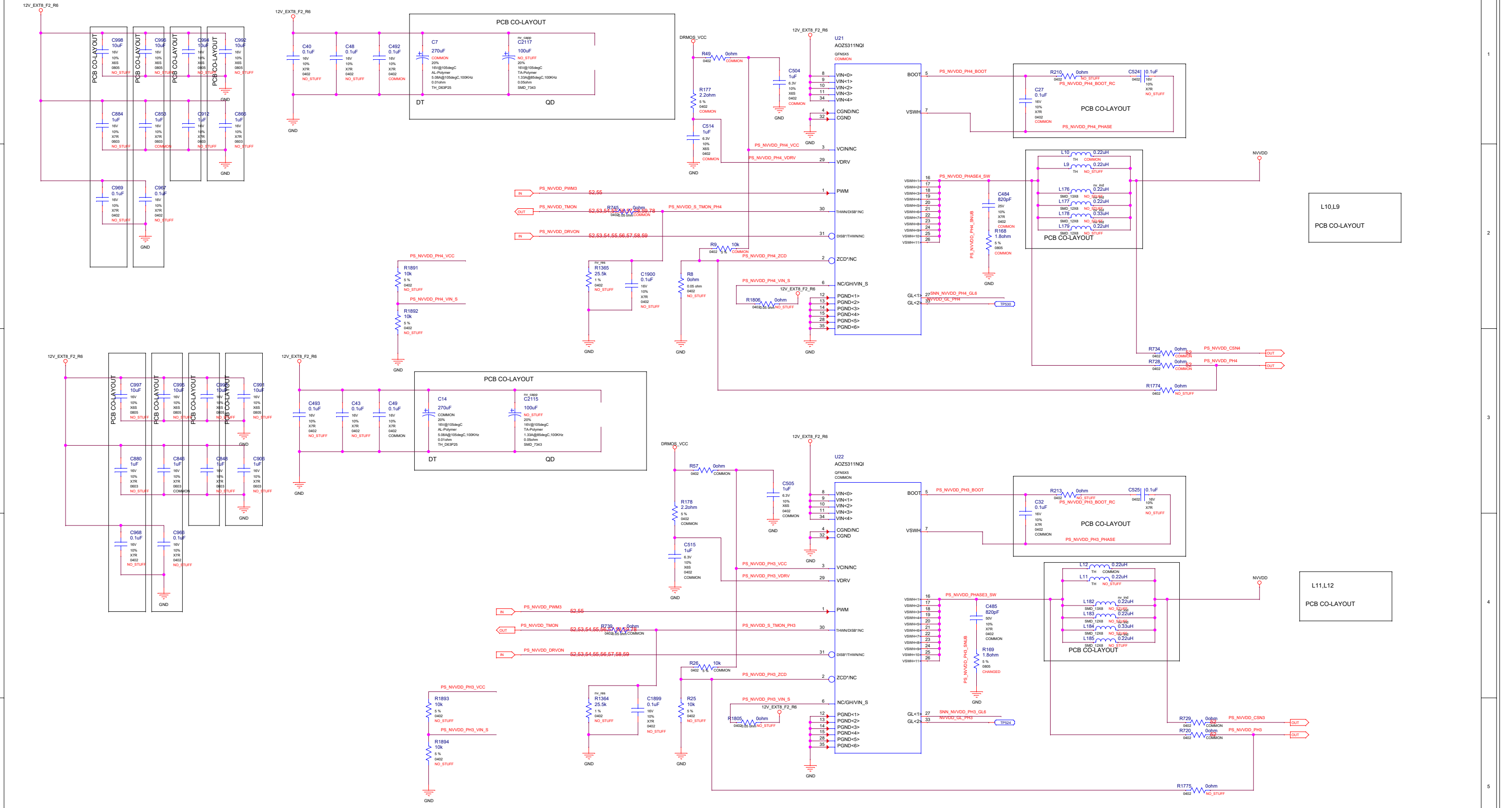
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PH2(PWM6)

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PS: NVVDD Phase 3 (PWM6), PHASE 4(PWM2)

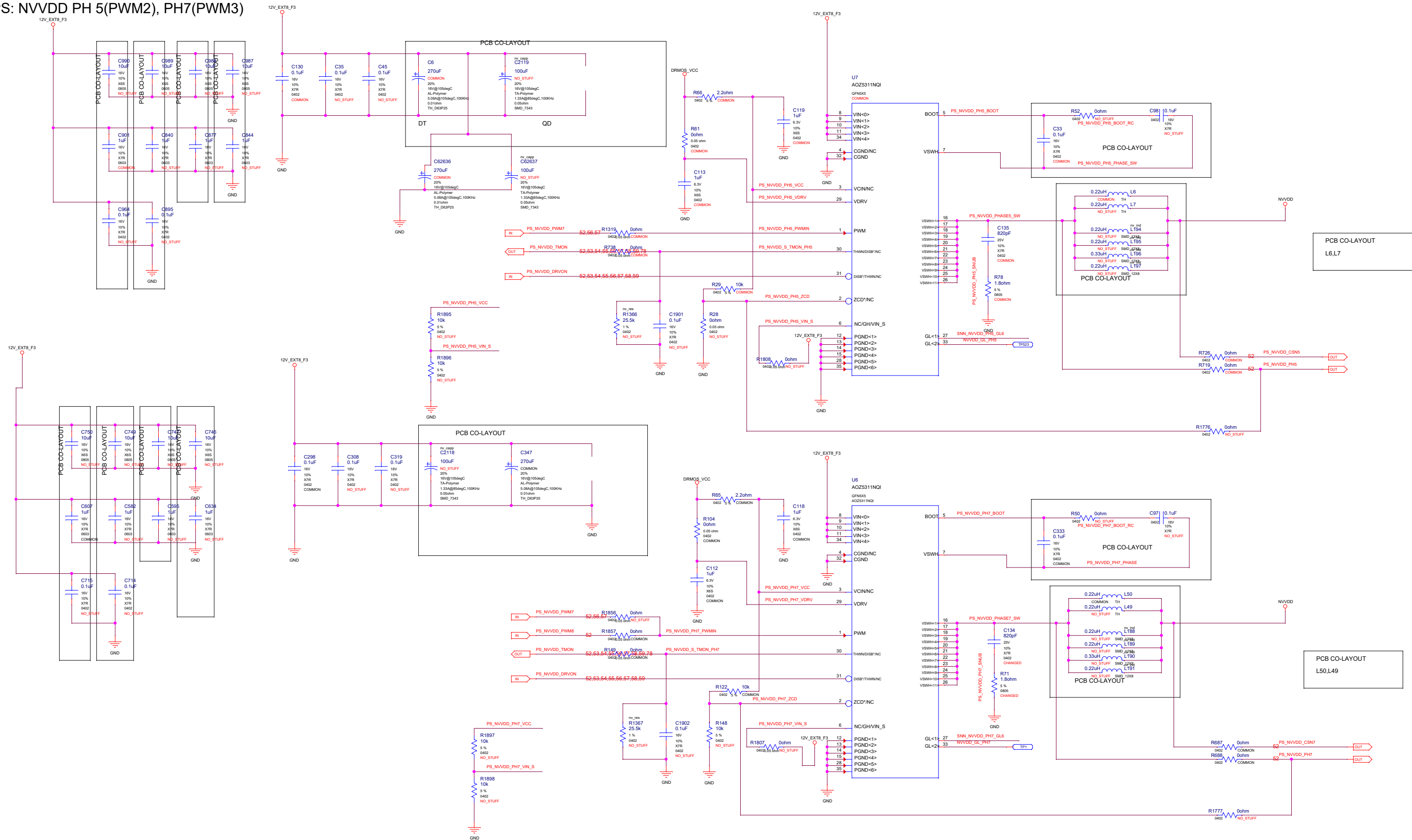


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PS: NVVDD PH 5(PWM2), PH7(PWM3)



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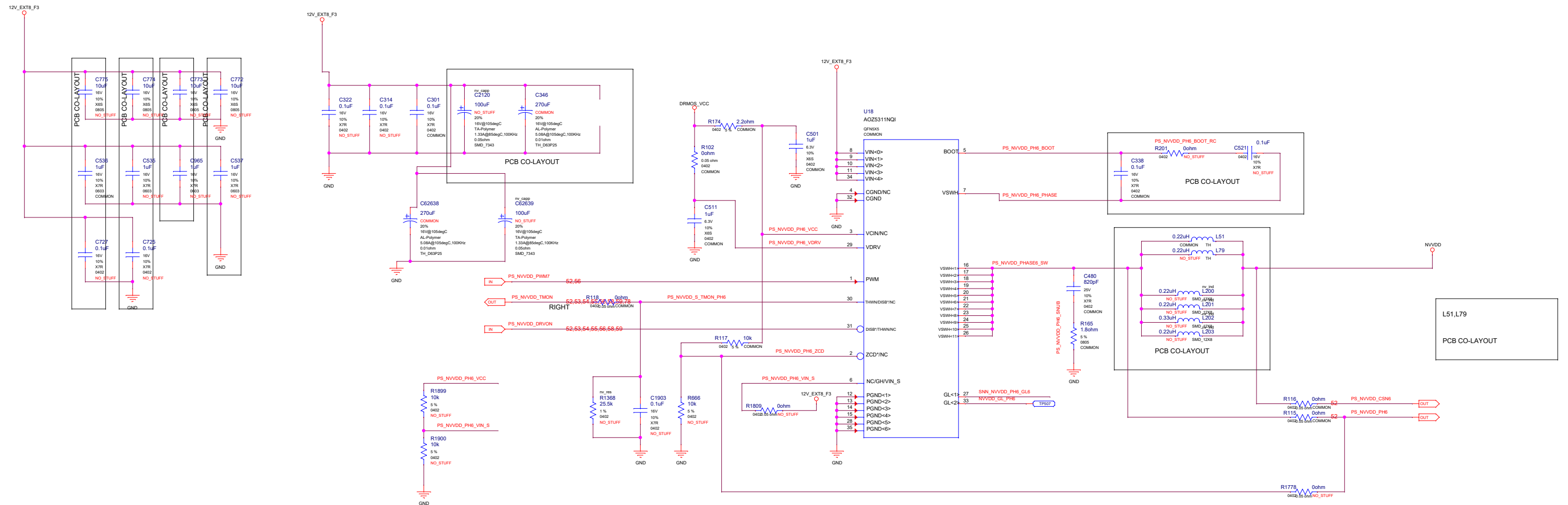
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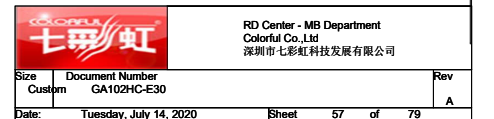
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PS: NVVDD Phase 6(PWM7)

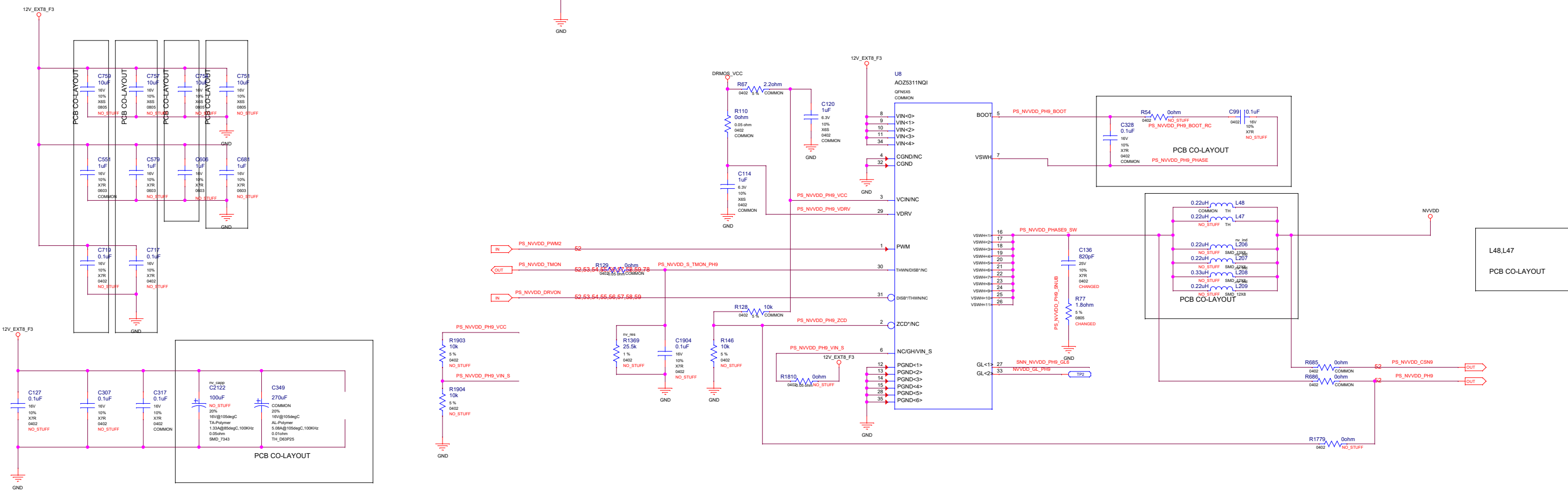
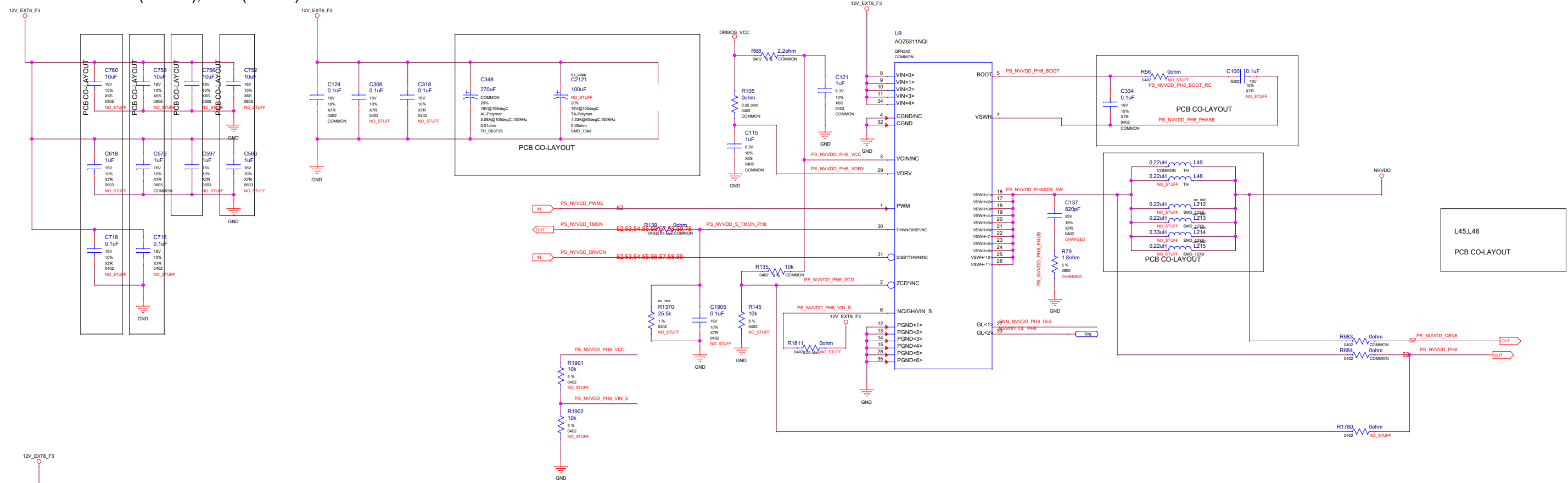


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PAGE DETAIL	PS: NVDD PH6 (PWM7)



PS: NVVDD PH 8 (PWM5), PH 9(PWM8)



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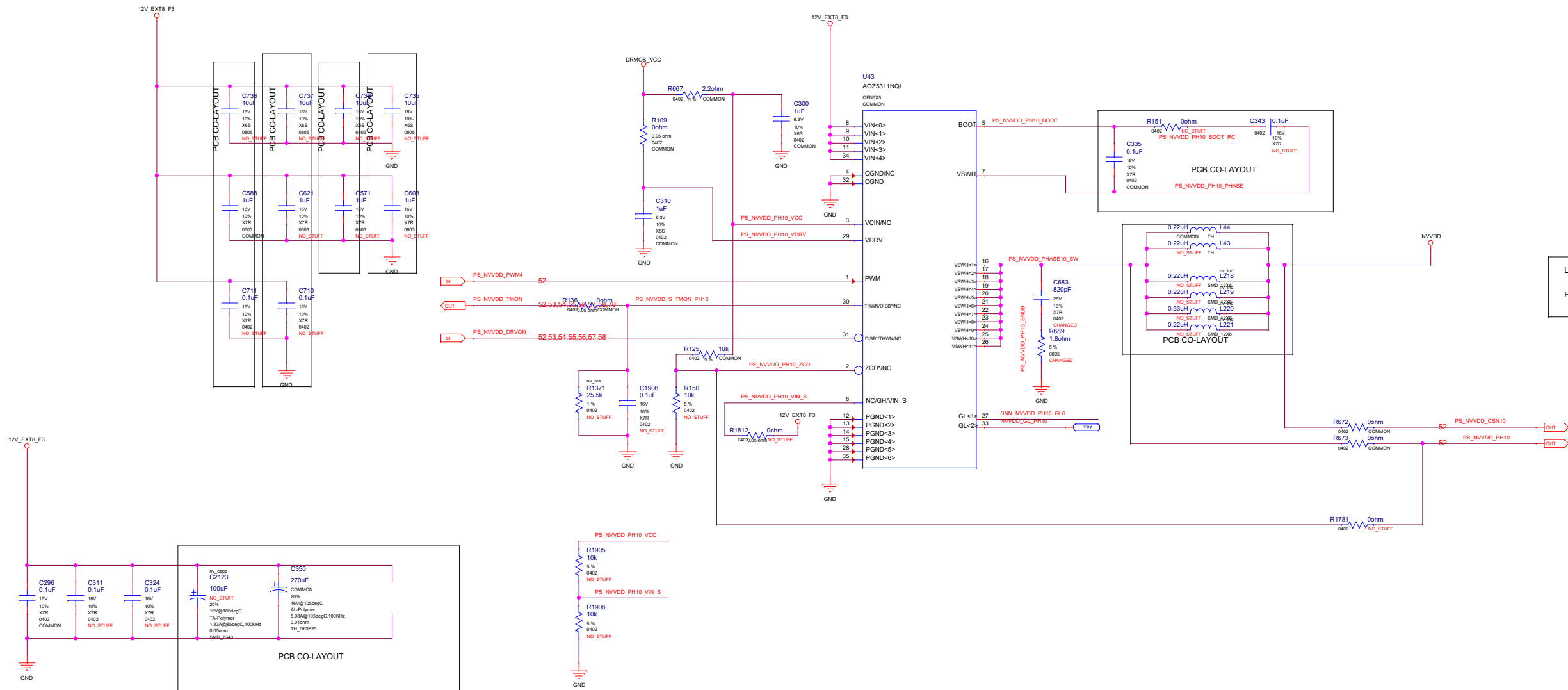
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PS: NVVDD Phase 10 (PWM8)




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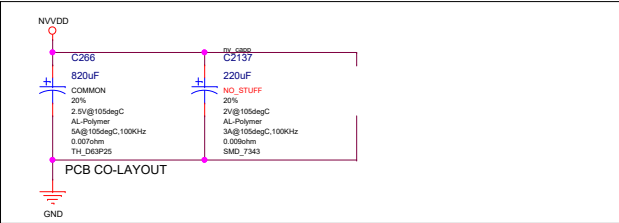
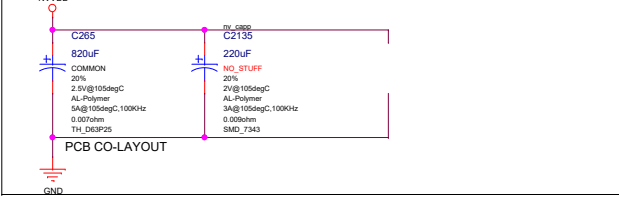
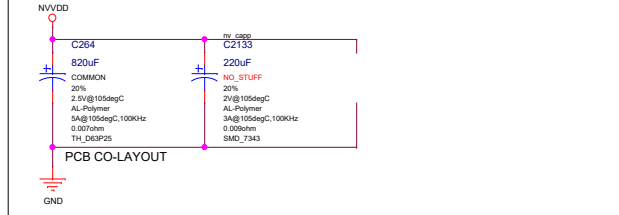
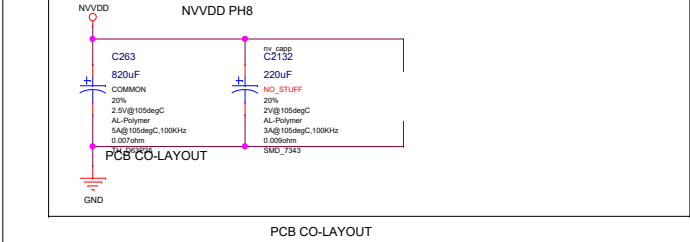
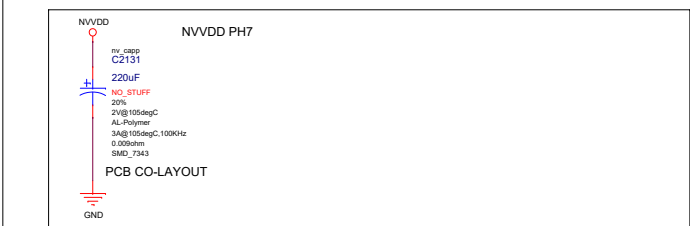
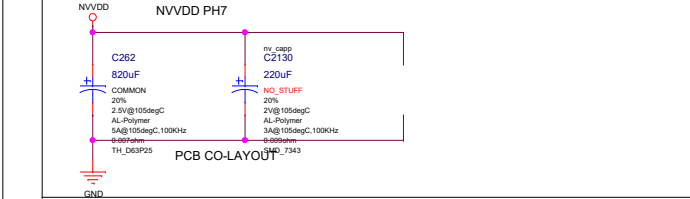
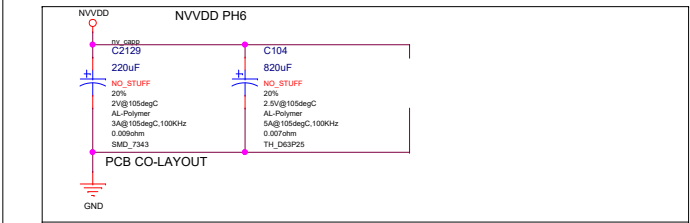
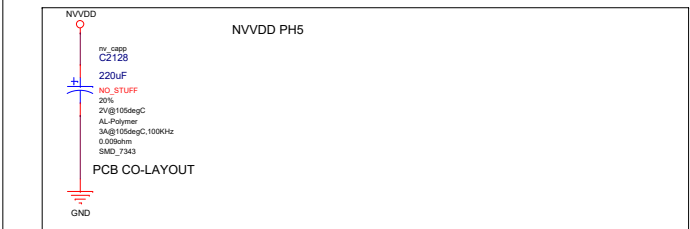
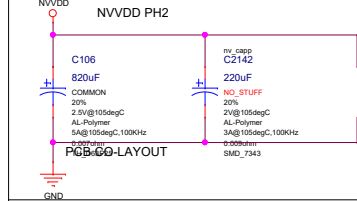
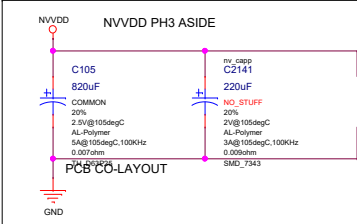
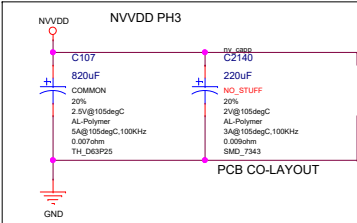
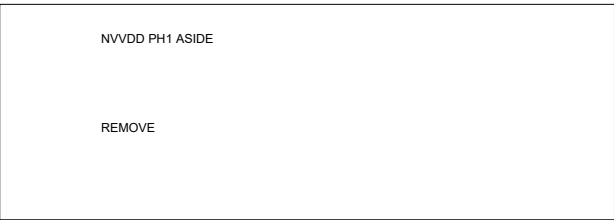
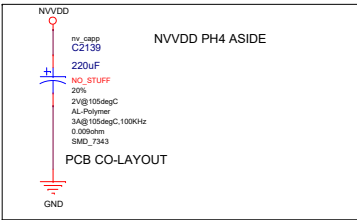
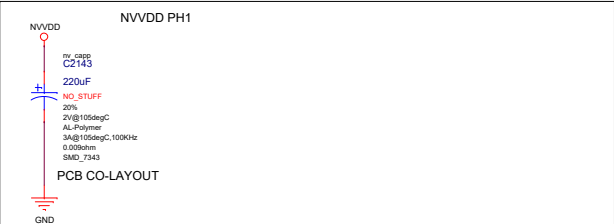
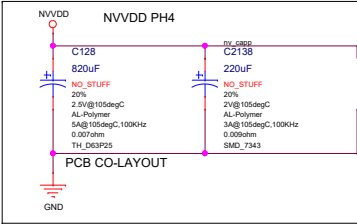
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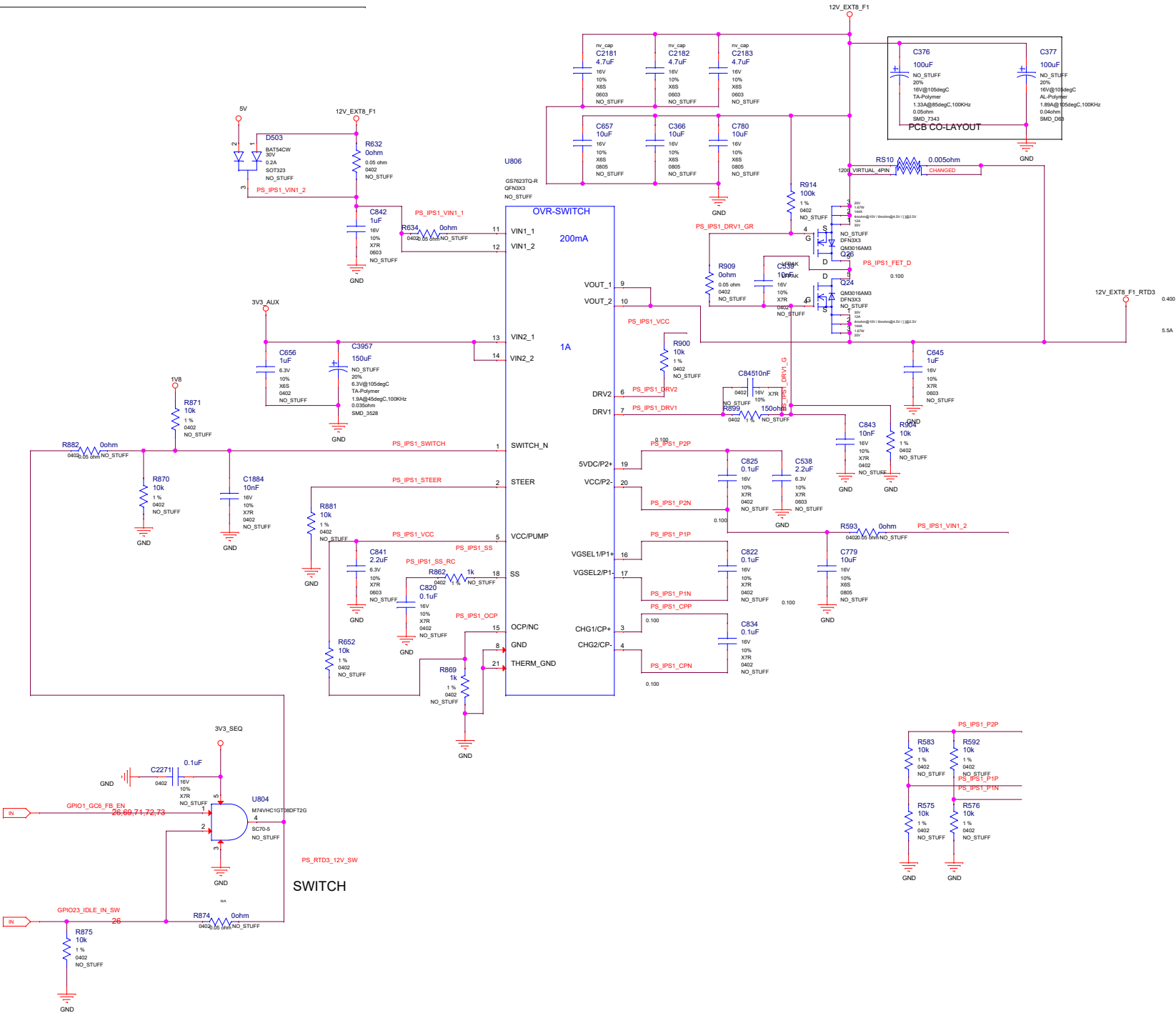
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PS: INPUT SWITCH RTD3


AND GATE LOGIC FOR P-BOARD

GPIO1	GPIO23	SWITCH	VOUT
0	0	0	12V_F
0	1	0	12V_F
1	0	0	12V_F
1	1	1	3V3A



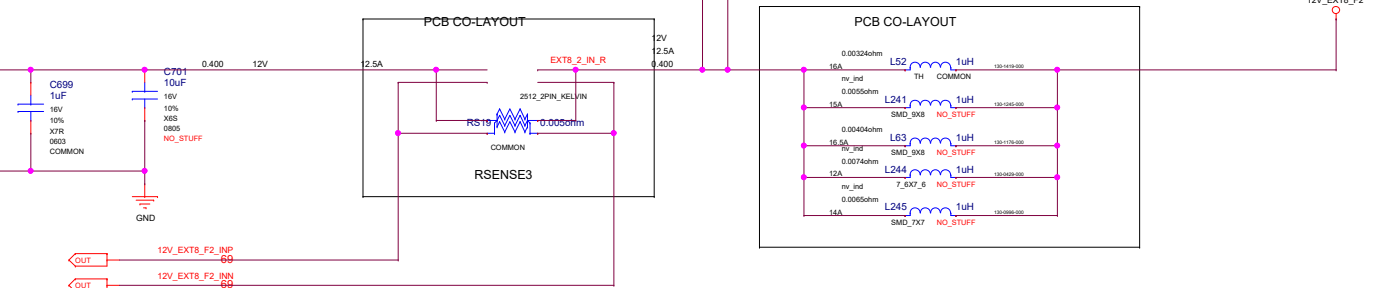
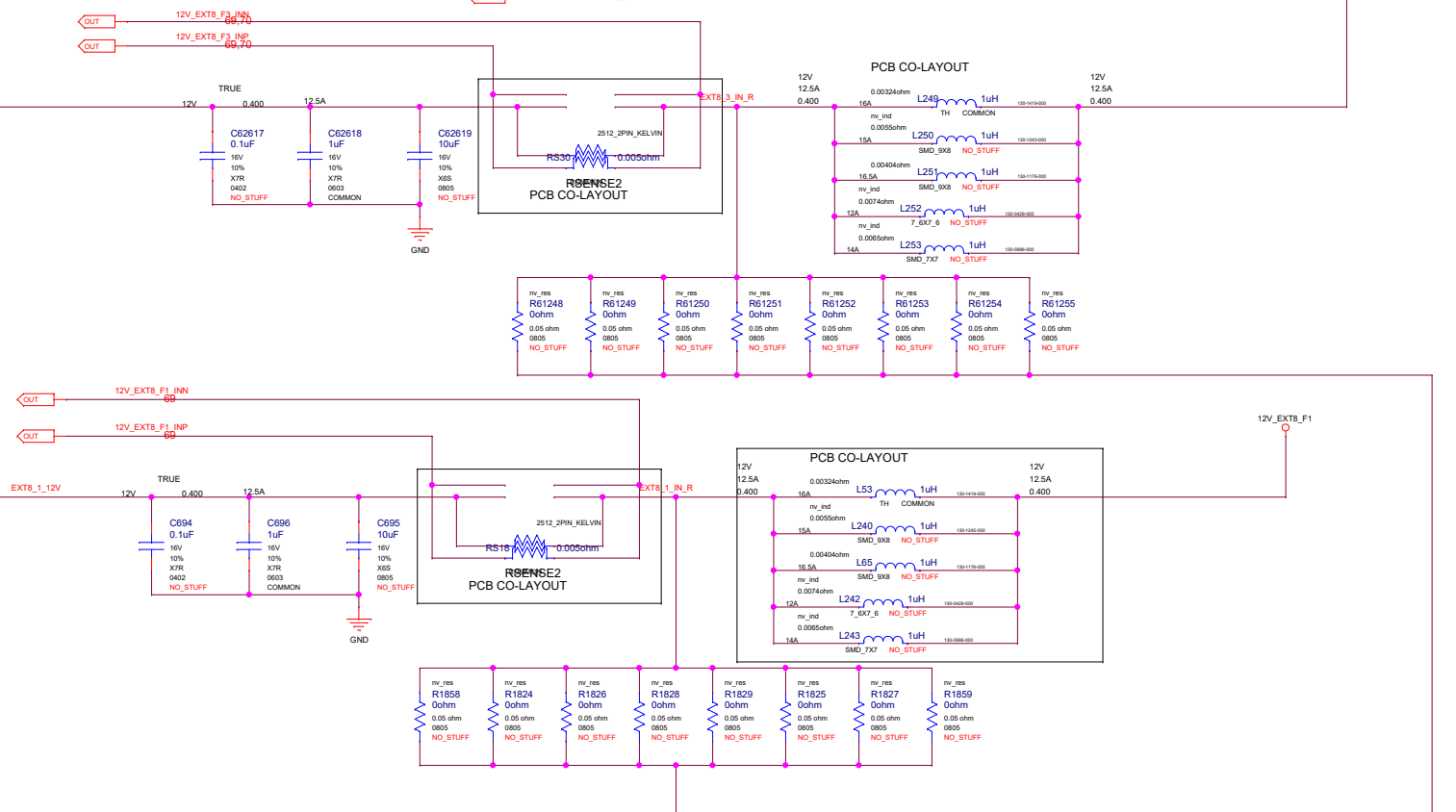
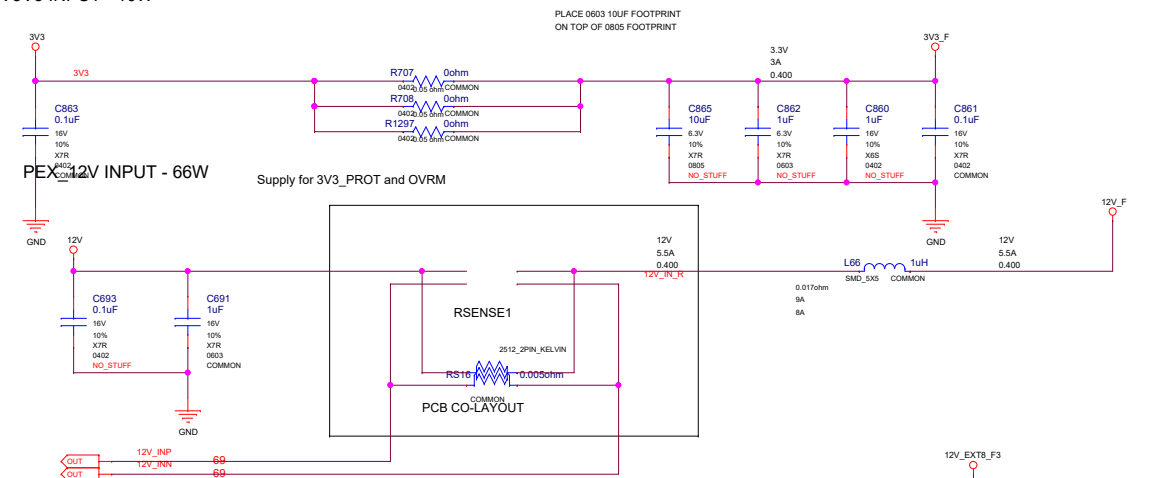
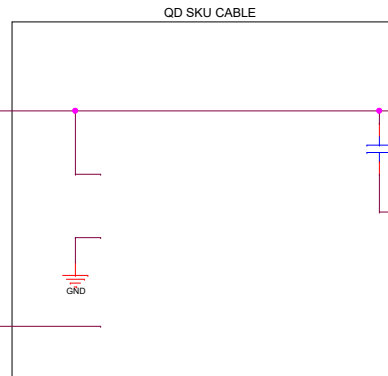
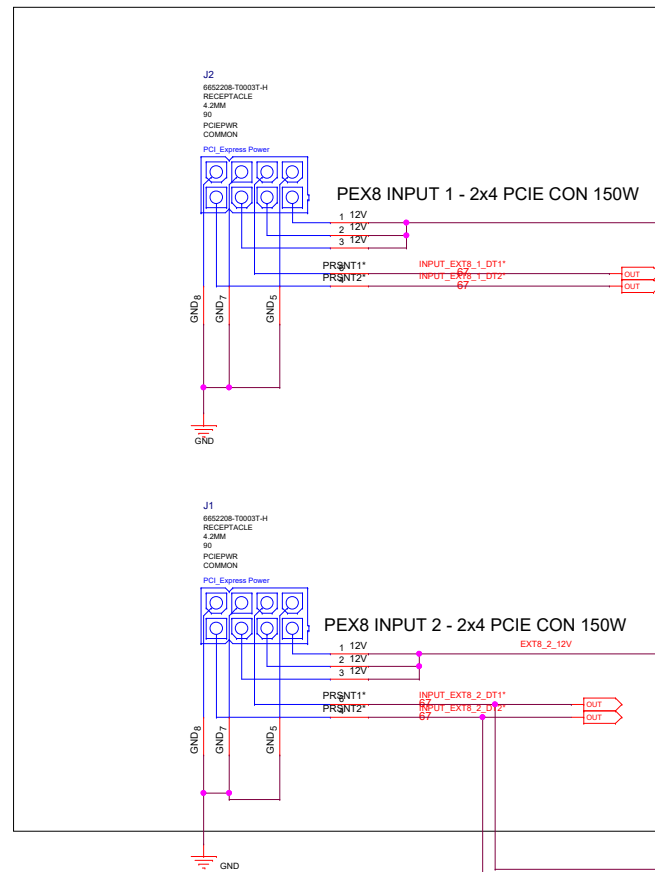
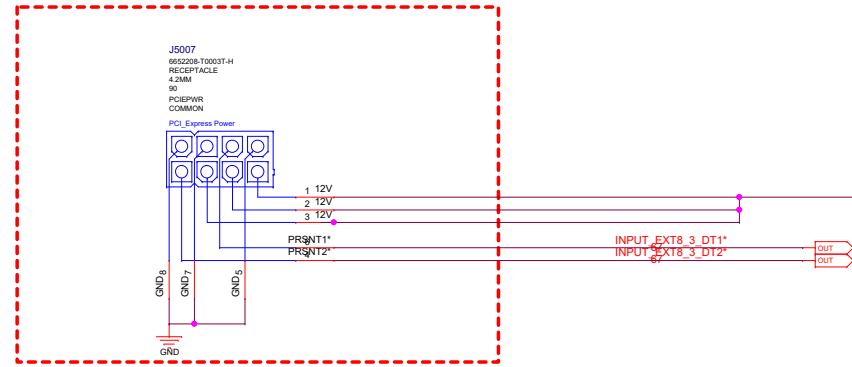
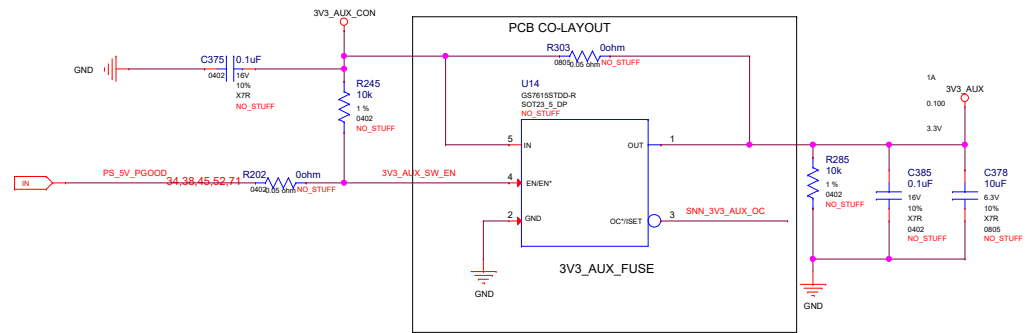
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ASSEMBLY
PAGE DETAIL
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PS: INPUT SWITCH
RTD3

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PS: Inputs, Filtering, and Monitoring

ASSEMBLY
PAGE DETAIL

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PS: INPUTS, FILTERING, and, MONITORING

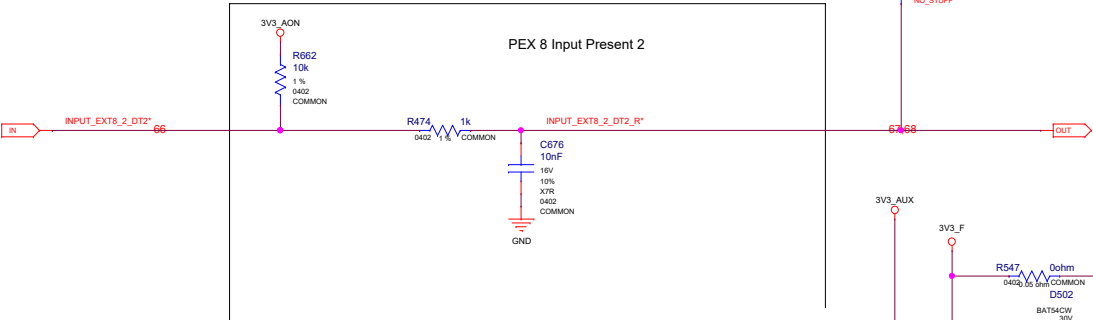
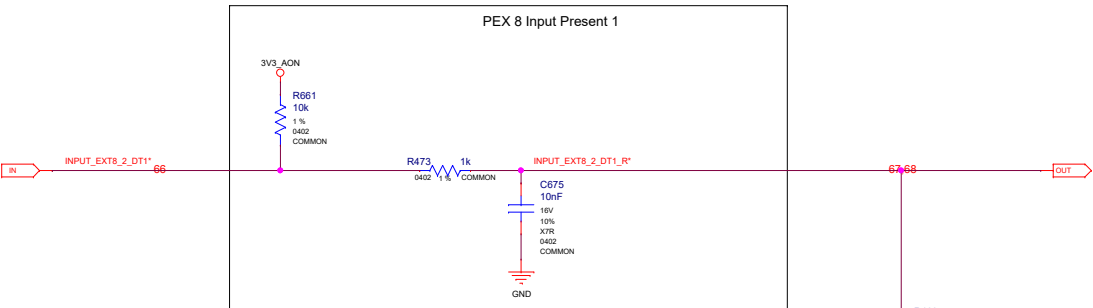
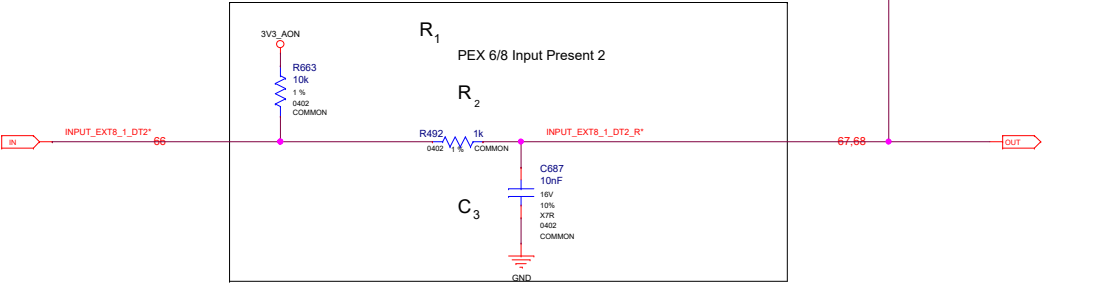
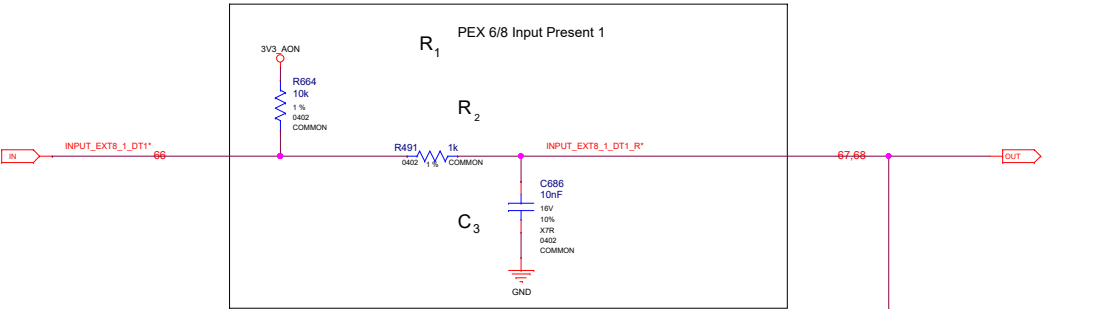
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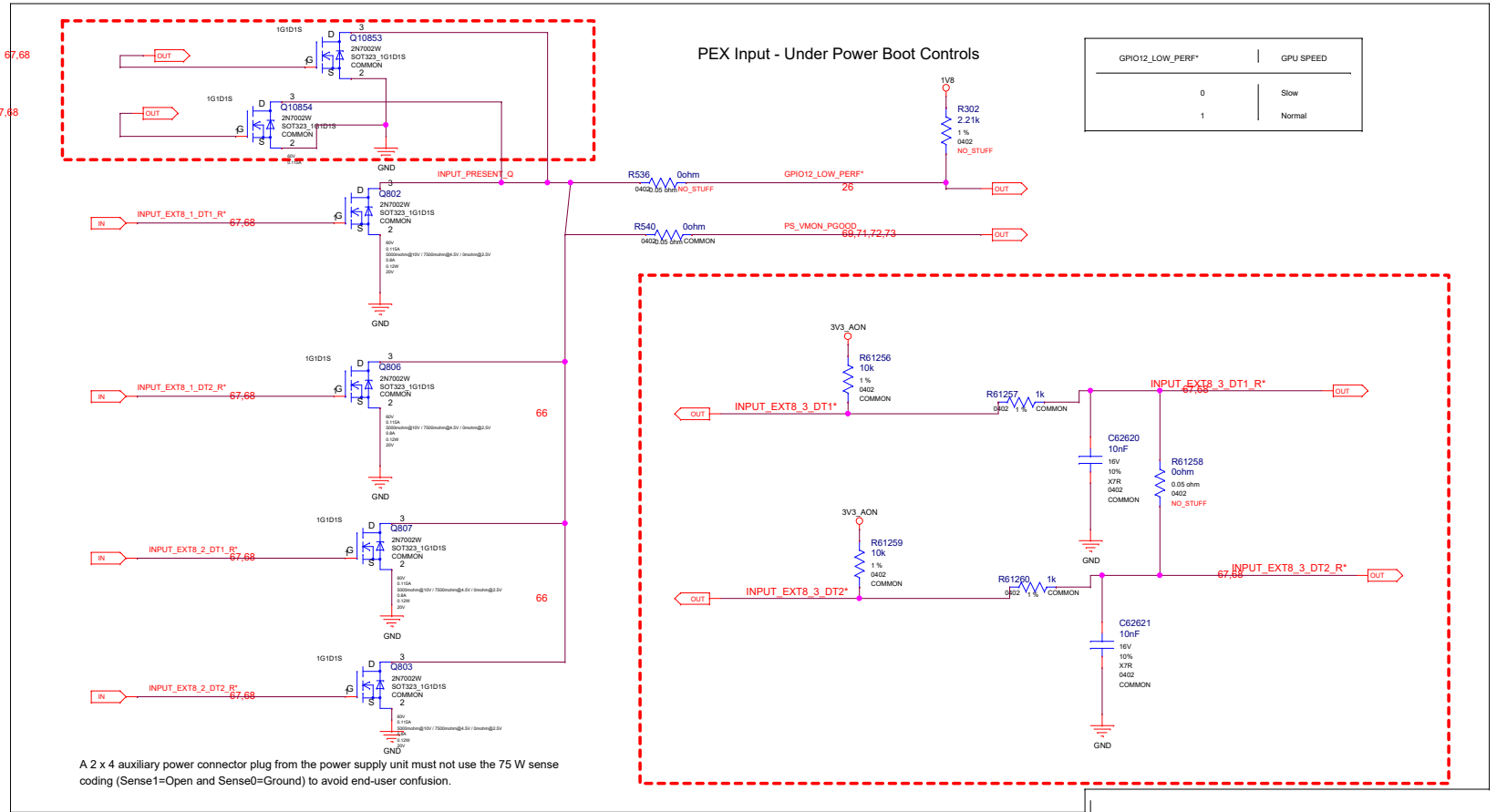
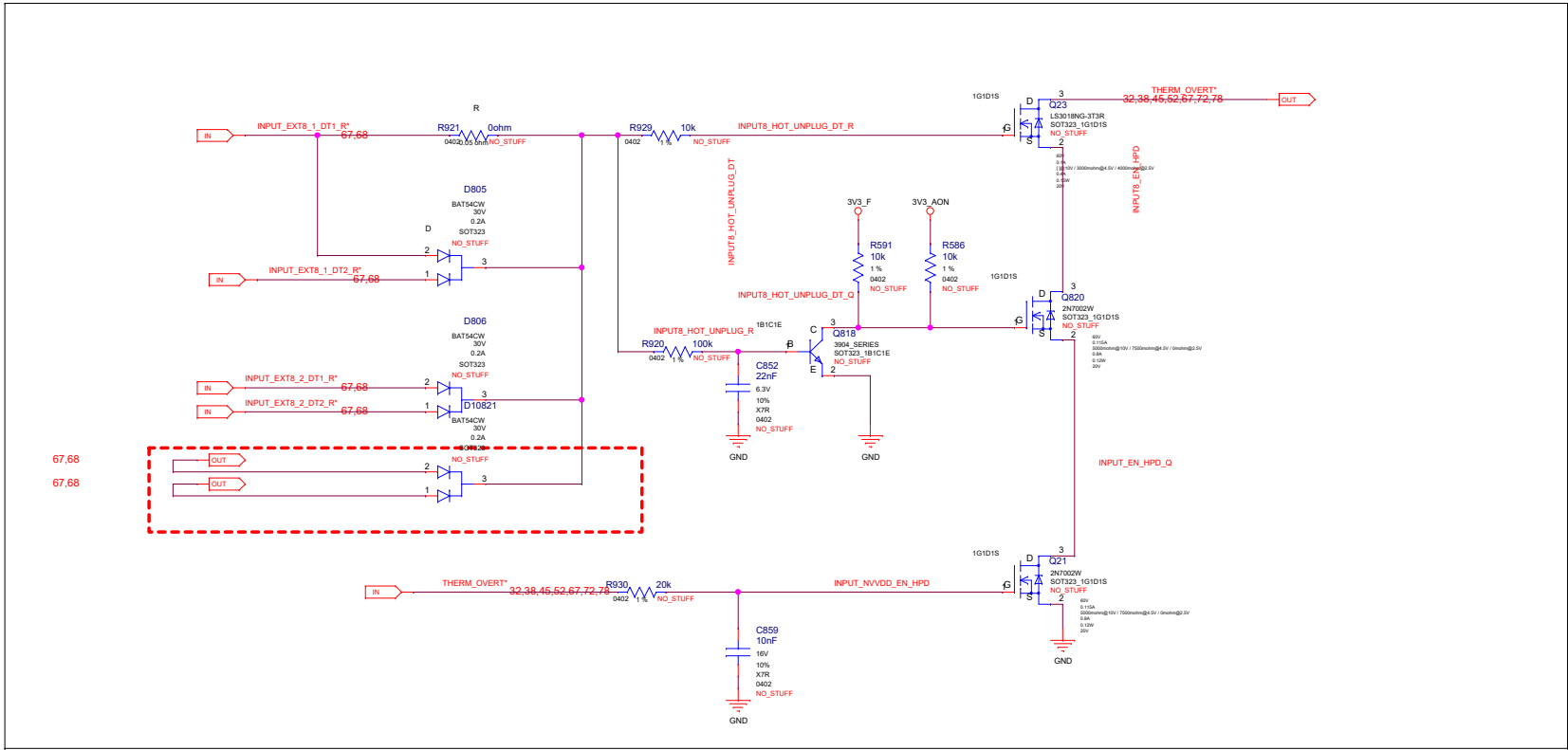
PS: 12V Current Steering & Hot Unplug Detect



INPUT_EXT8_1_DT1_R*	L	H	X	X	X
INPUT_EXT8_2_DT1_R*	L	X	H	X	X
INPUT_EXT8_1_DT2_R*	L	X	X	H	X
INPUT_EXT8_2_DT2_R*	L	X	X	X	H

NORMAL BOOT NO BOOT

POR TBD



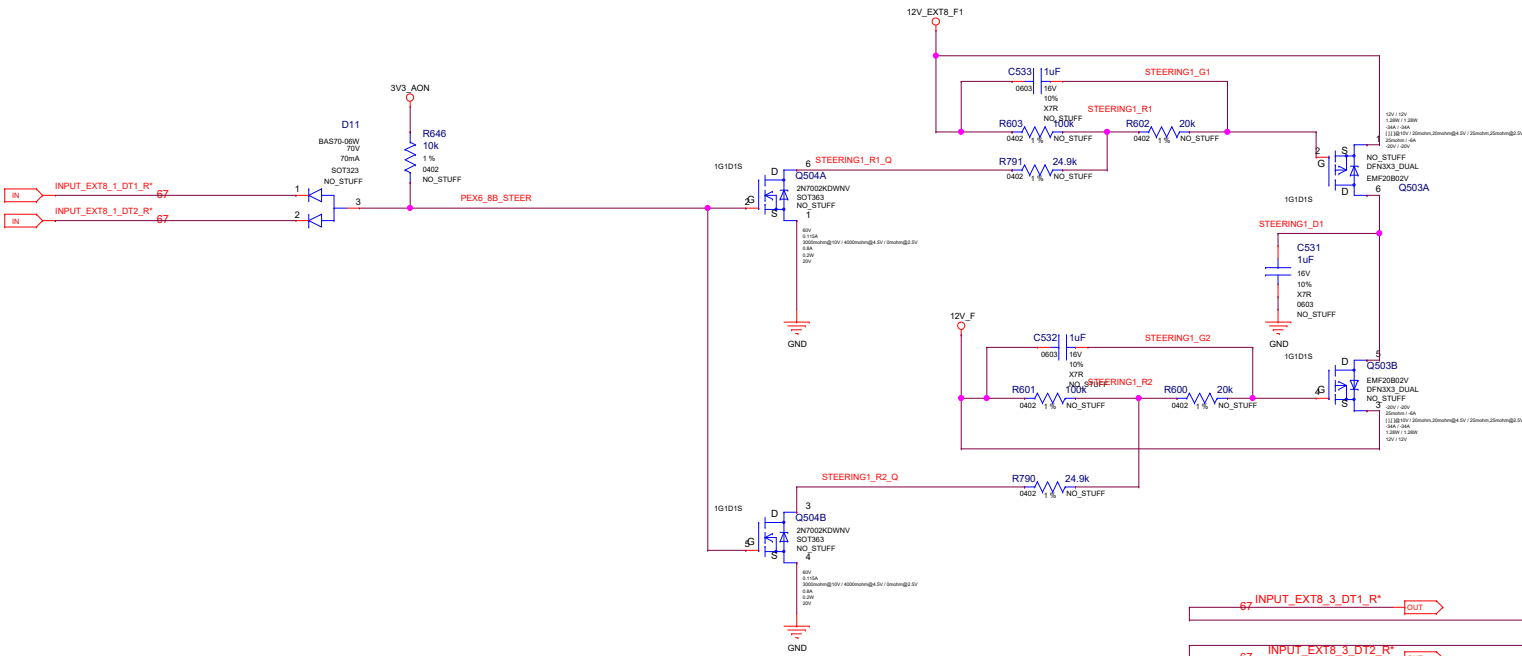
A 2 x 4 auxiliary power connector plug from the power supply unit must not use the 75 W sense coding (Sense1=Open and Sense0=Ground) to avoid end-user confusion.

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PS: Discrete Steering

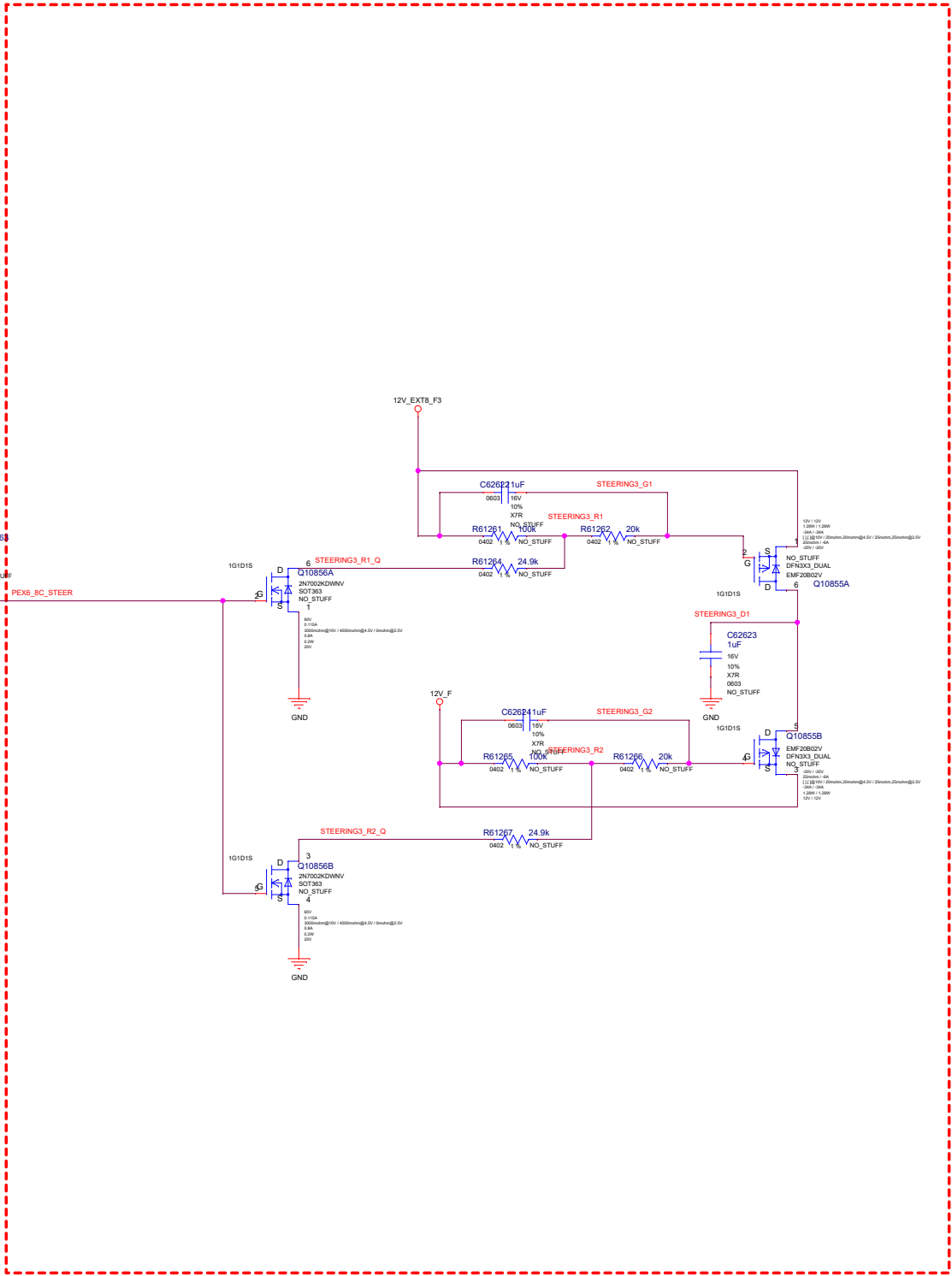
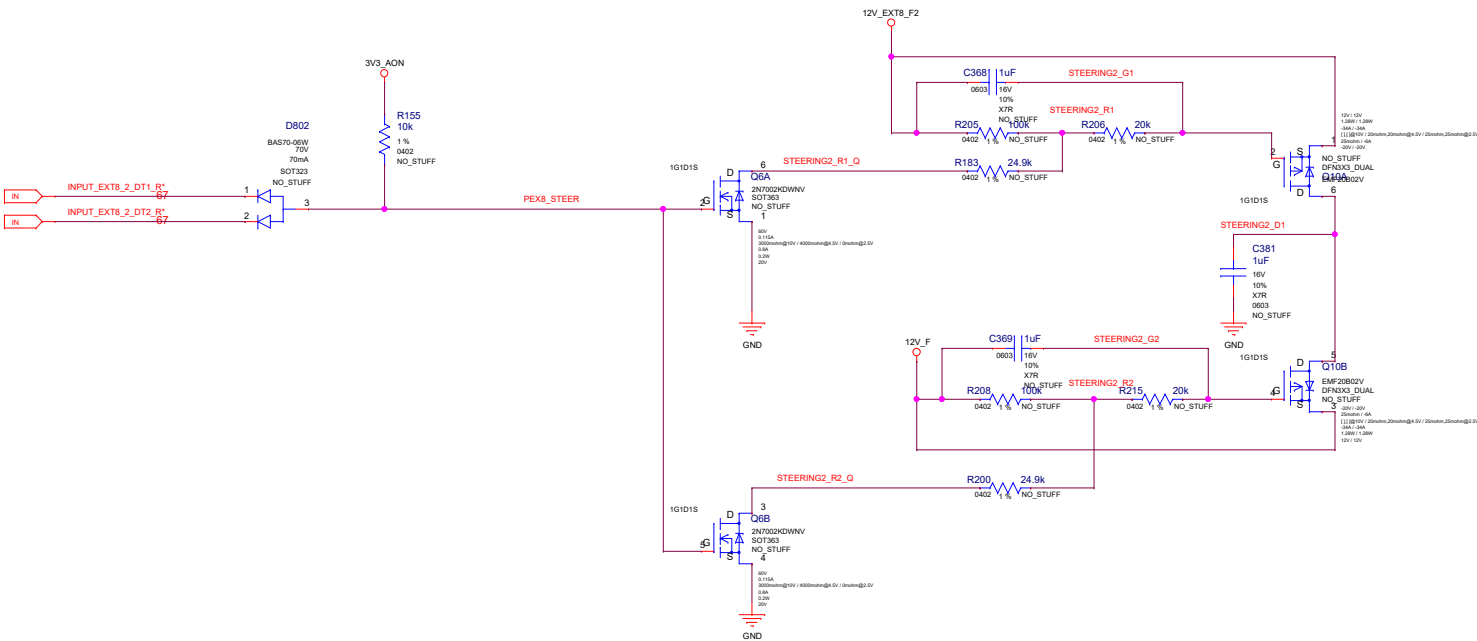
12V CURRENT STEERING (UNDER POWER BOOT):

PEX12V AND 12V_EXT8_F1



NO STUFF BY DEFAULT REF ONLY

PEX12V AND 12V_EXT8_F2



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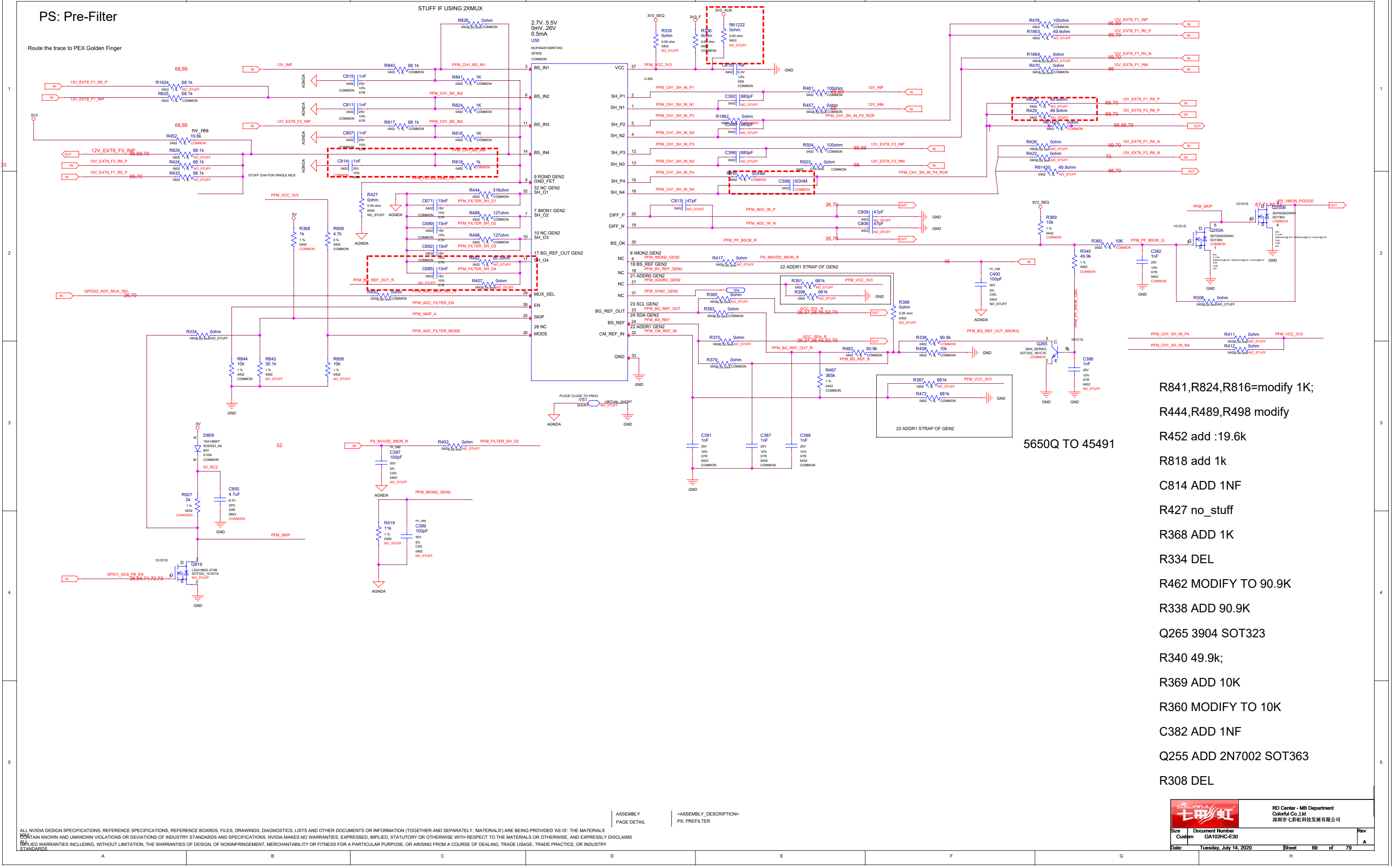
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BOM REV

DATE

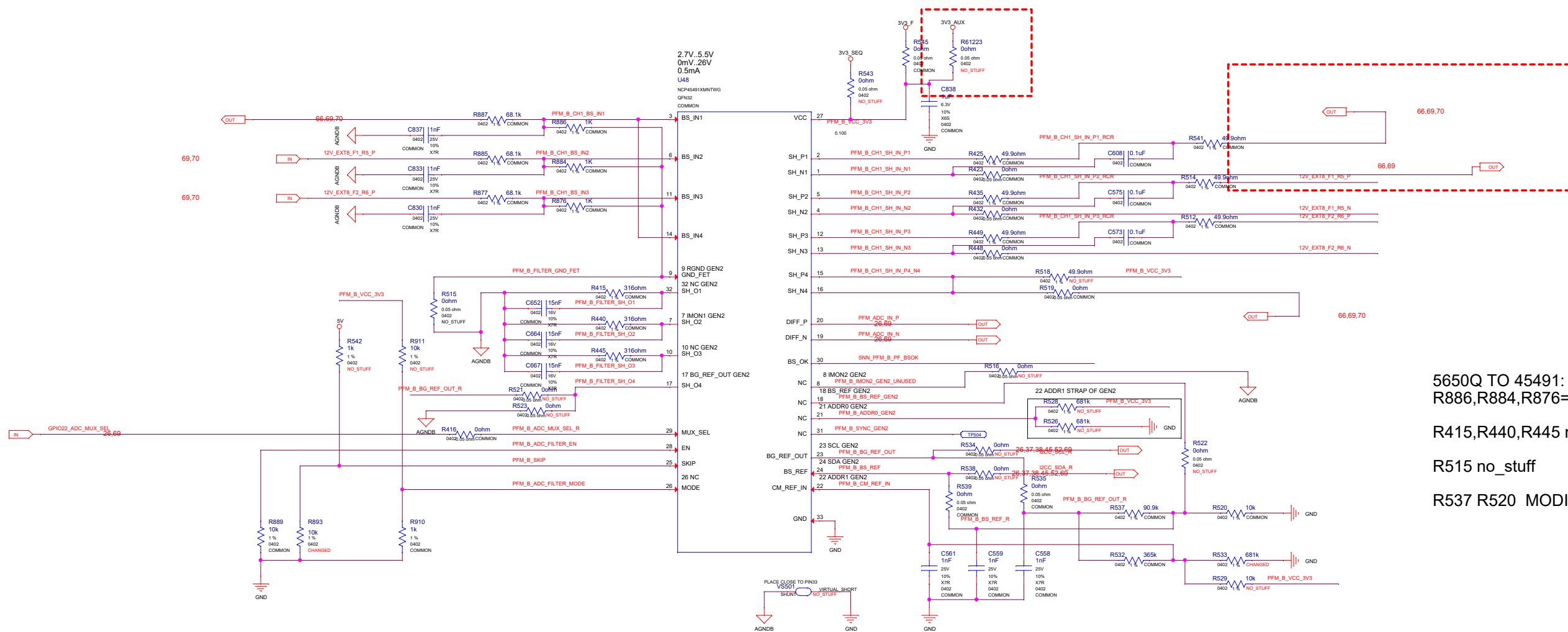
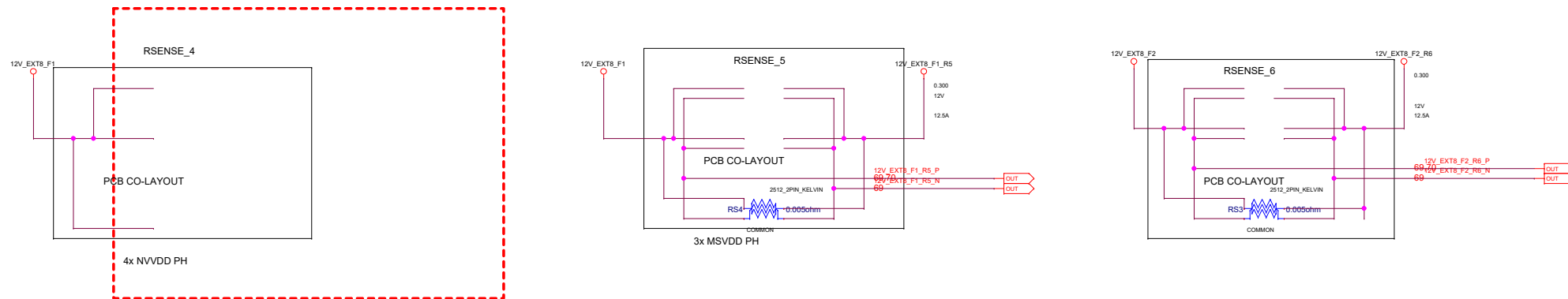
PS: Pre-Filter

Route the trace to PEX Golden Finger



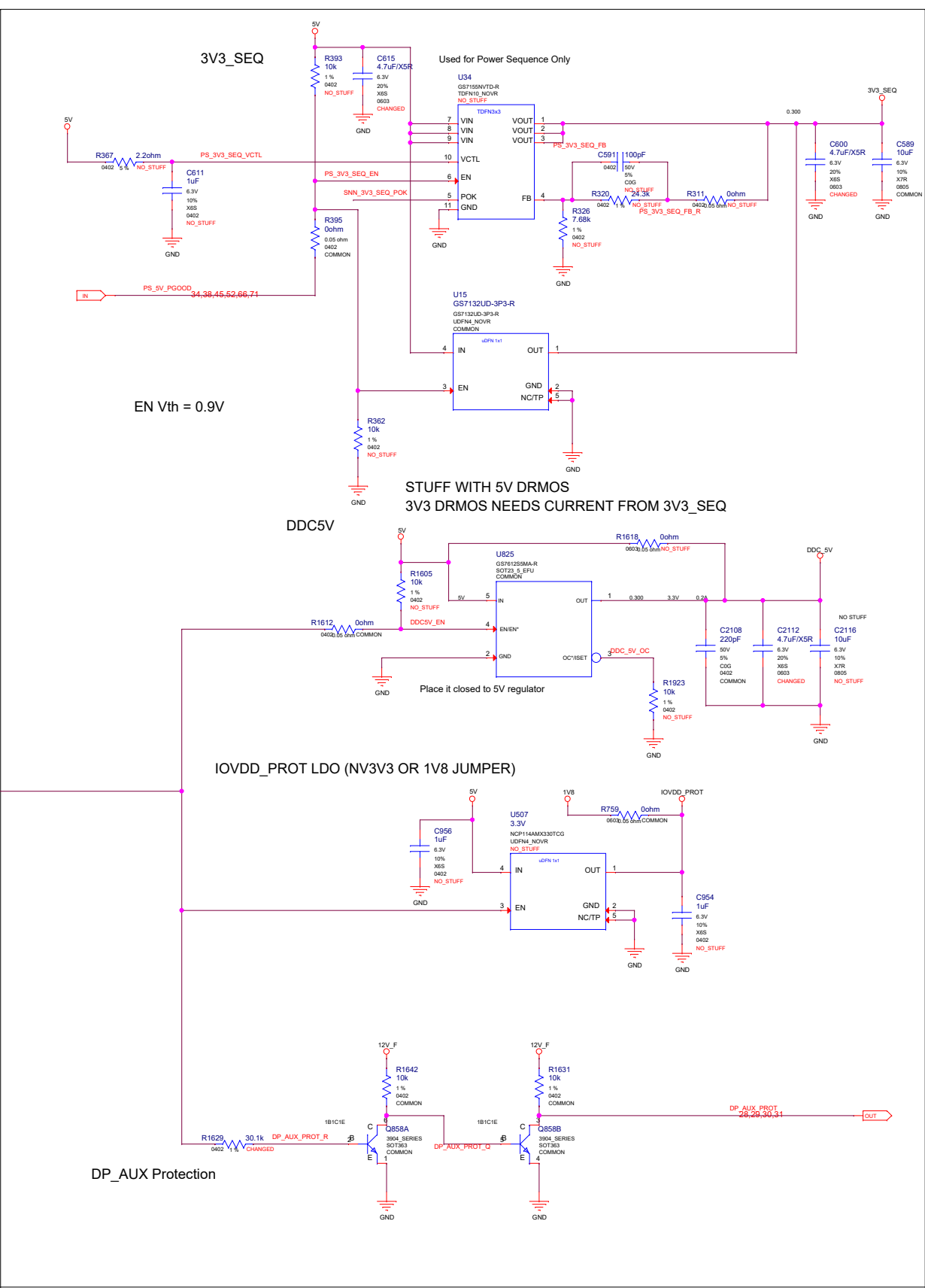
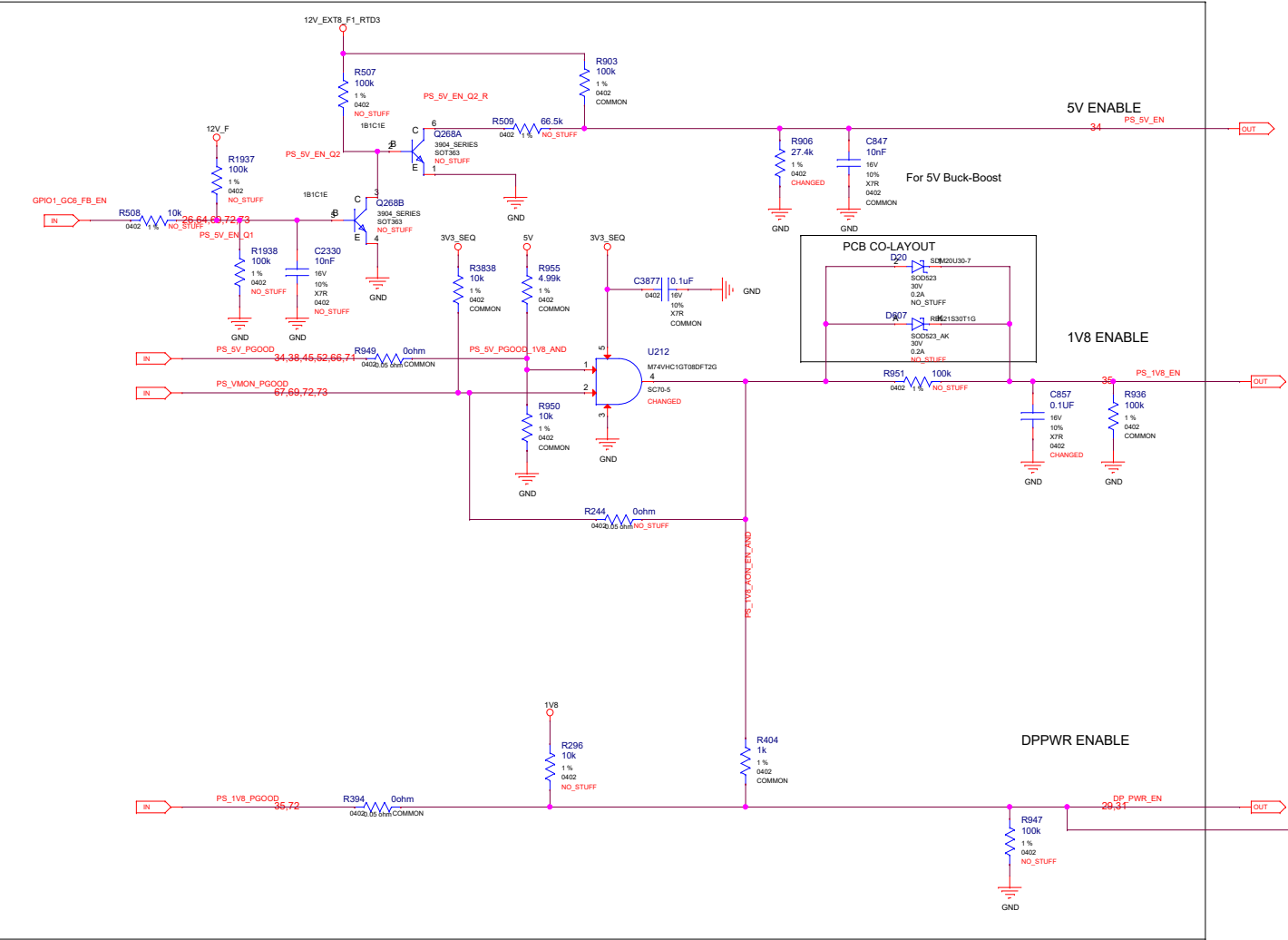
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PS: Pre-Filter B



5650Q TO 45491:
R886,R884,R876=modify 1K;
R415,R440,R445 modify
R515 no_stuff
R537 R520 MODIFY TO 90.9K

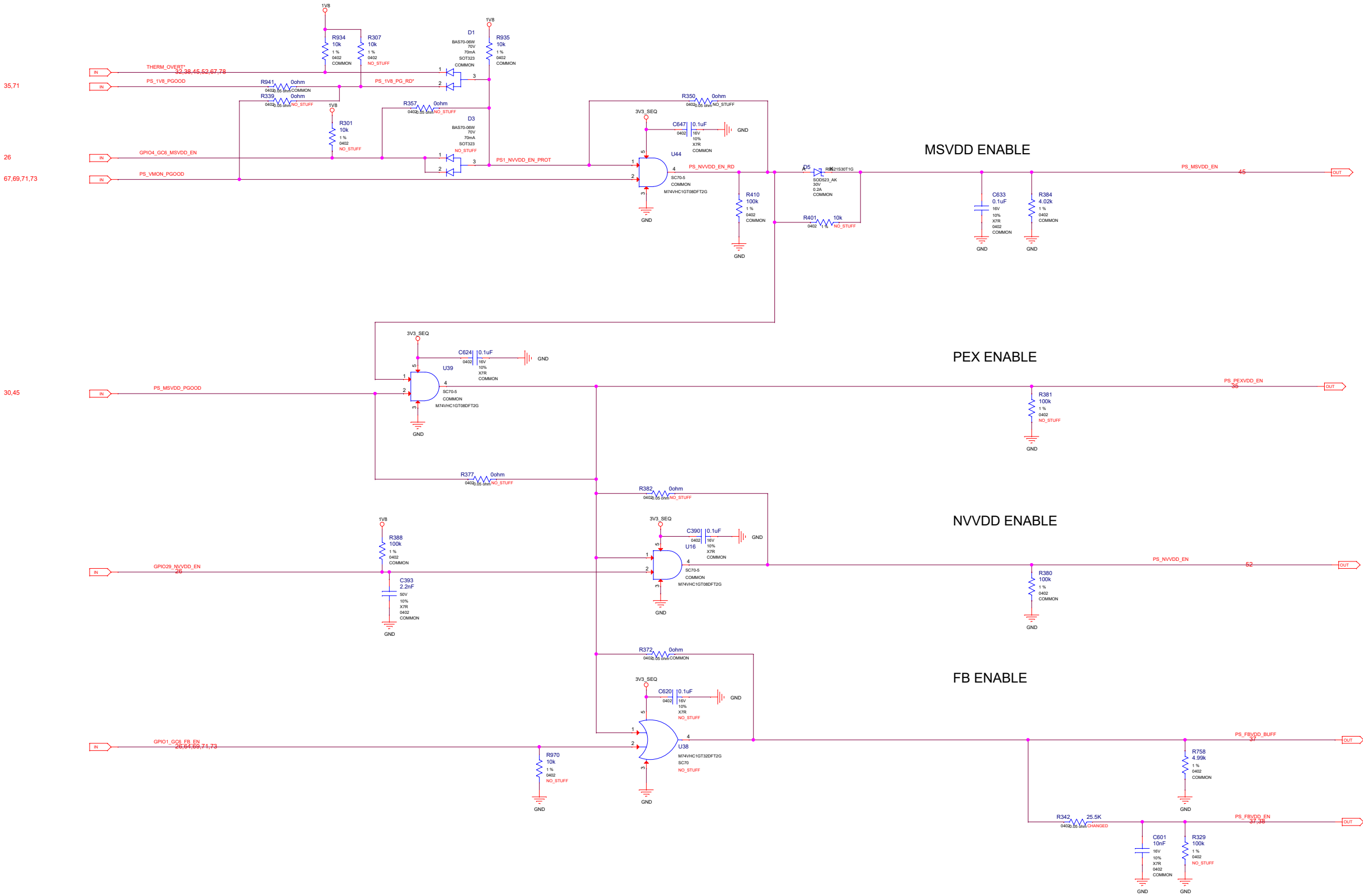
SEQUENCE:5V,1V8,3V3_SEQ ENABLE



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ASSEMBLY PAGE DETAIL
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SEQUENCE:NV,PEX,FB ENABLE



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ASSEMBLY
PAGE DETAIL

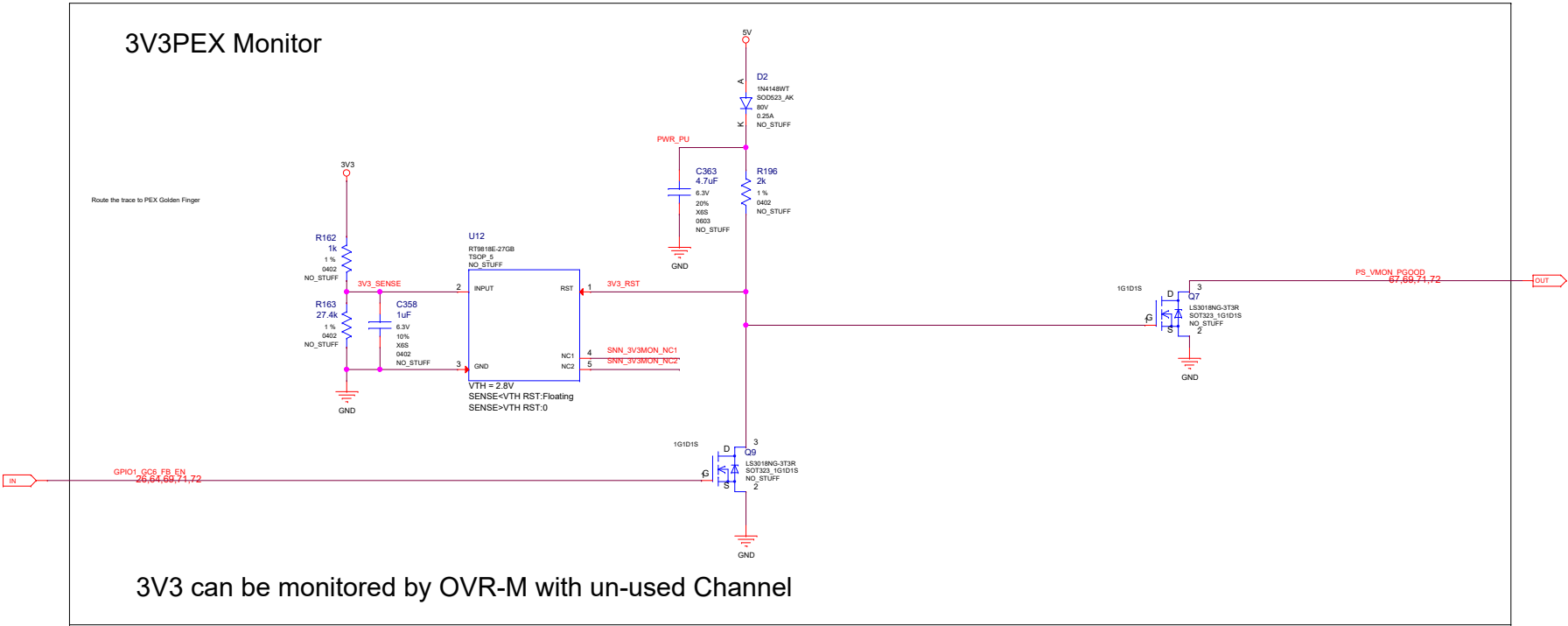
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Sequence: 3V3 MONITOR



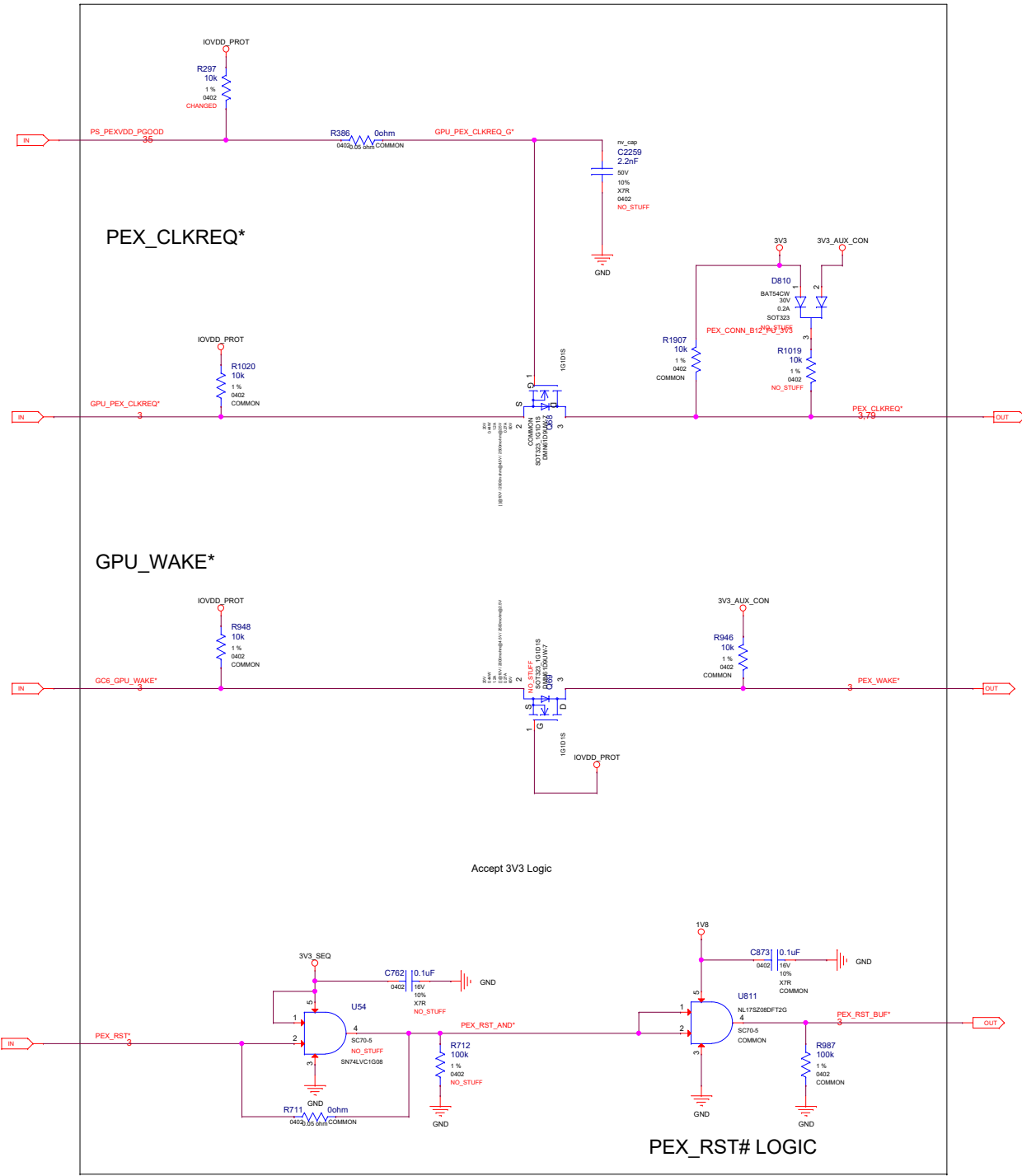
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SEQUENCE:MISC



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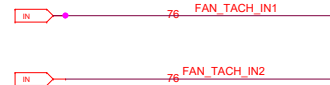
ASSEMBLY
PAGE DETAIL

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Sequence: MISC

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MISC: LED & FAN

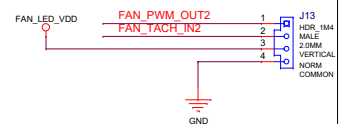
2-PIN LED HEADER



DUAL FAN 4-PIN HEADERS



FAN1 MIDDLE FAN TACH



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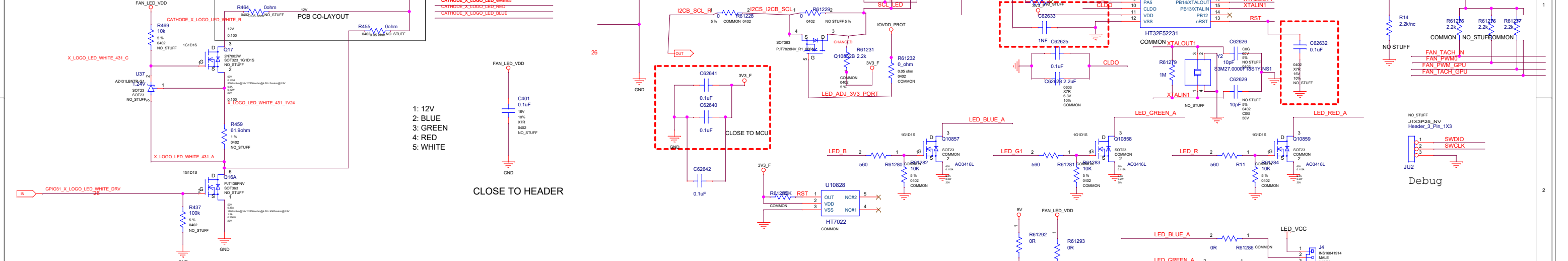
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MISC: LED & FAN



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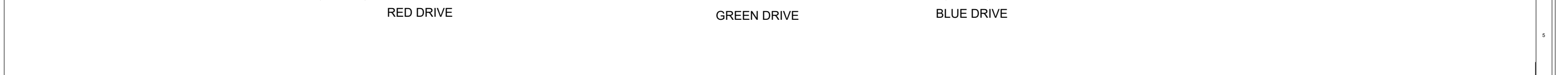
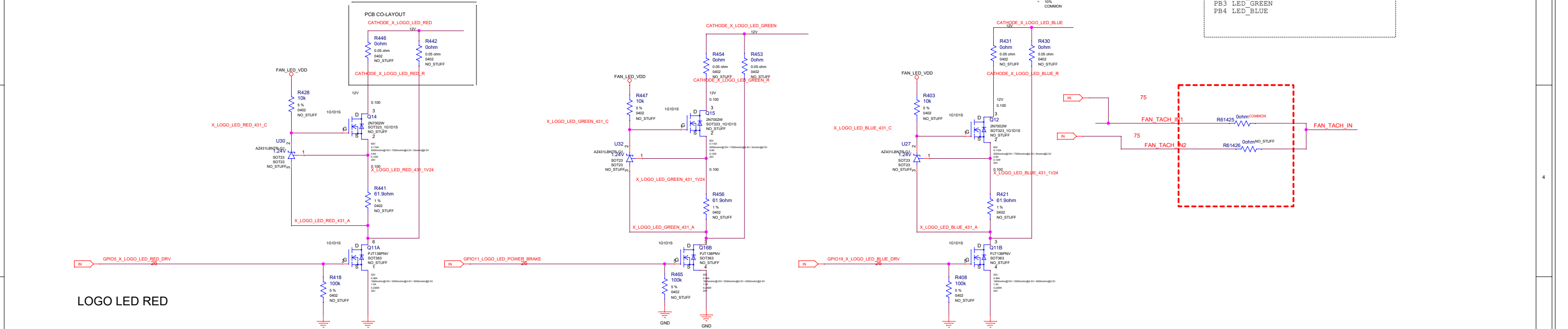
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MISC: RGBW LED REF

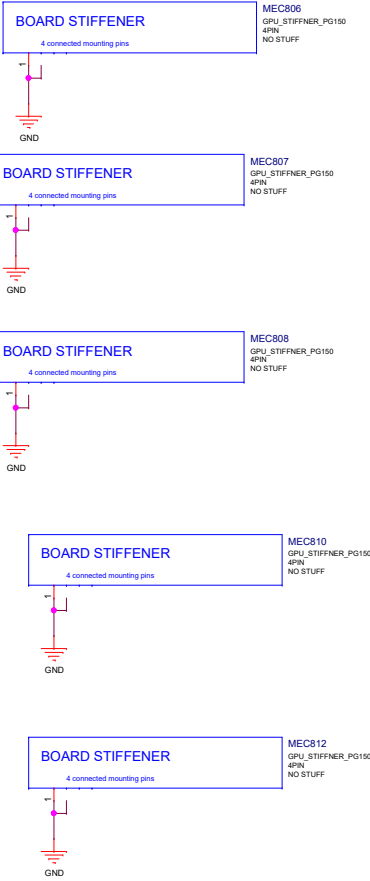
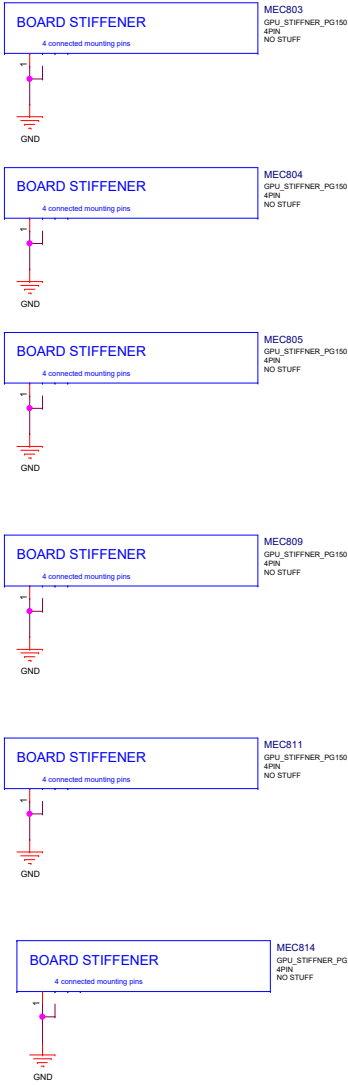
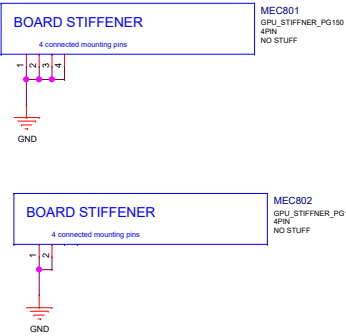
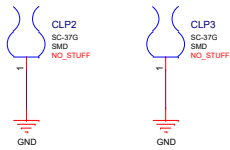


WHITE DRIVE

CONNECTOR SIZE TO FIT LAYOUT
ALL CIRCUIT NO STUFF BY DEFAULT
ALIGN WITH PASH
IF ADDITIONAL POWER CONSUMPTION R
NEEDED, IT SHOULD BE ON LED MOD.



Mechanical: Mounting holes



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ASSEMBLY
PAGE DETAIL

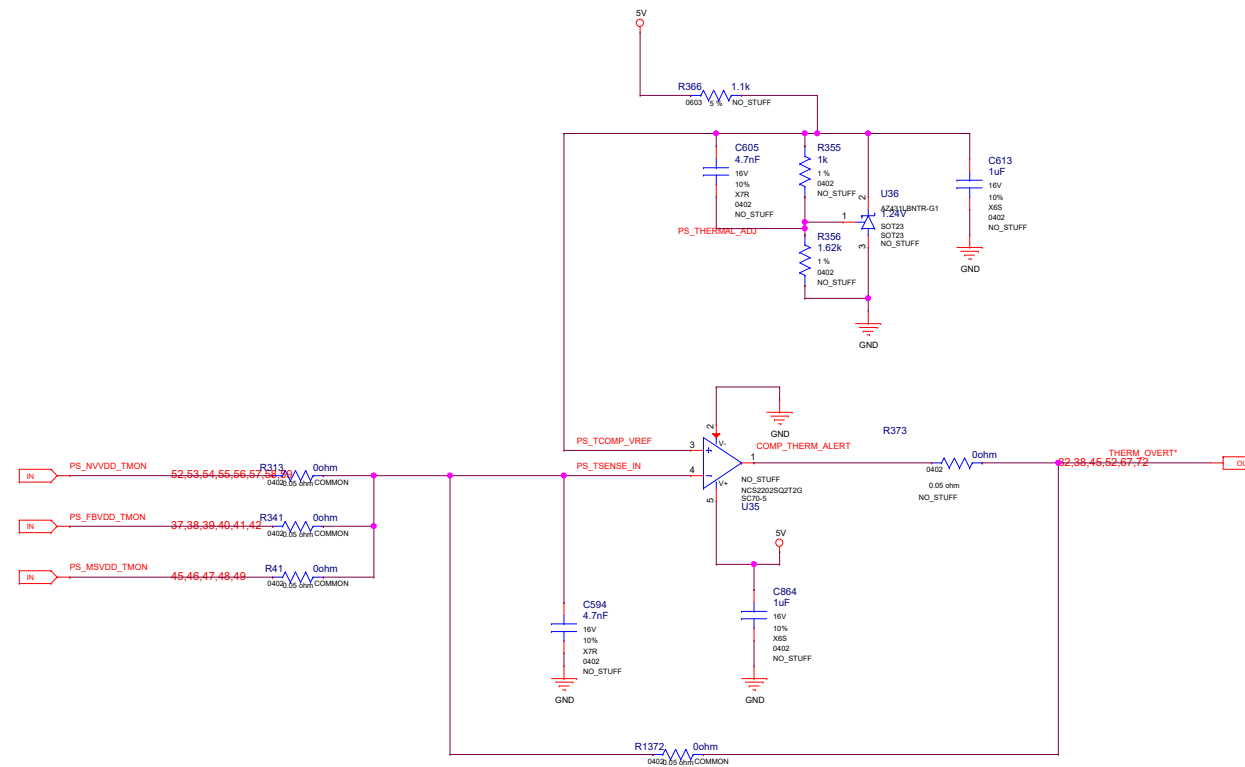
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MECH



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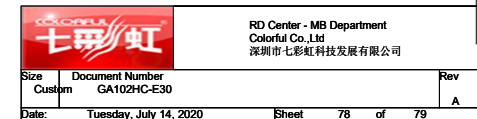
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VR THERMAL PROTECTION



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ASSEMBLY	<ASSEMBLY_DESCRIPTION>
PAGE DETAIL	VR Thermal Protection



PCI TERM



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ASSEMBLY
PAGE DETAIL

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PCIE TERM



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