PG142-B00

DP + DP + DP + HDMI/DP

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MS-V390

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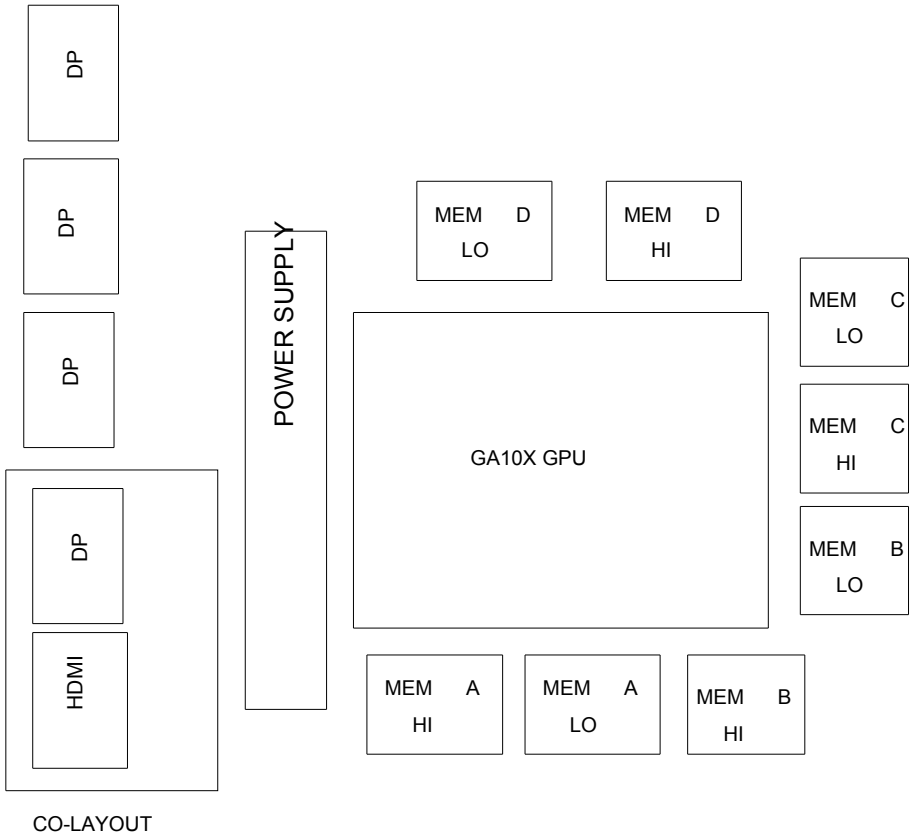

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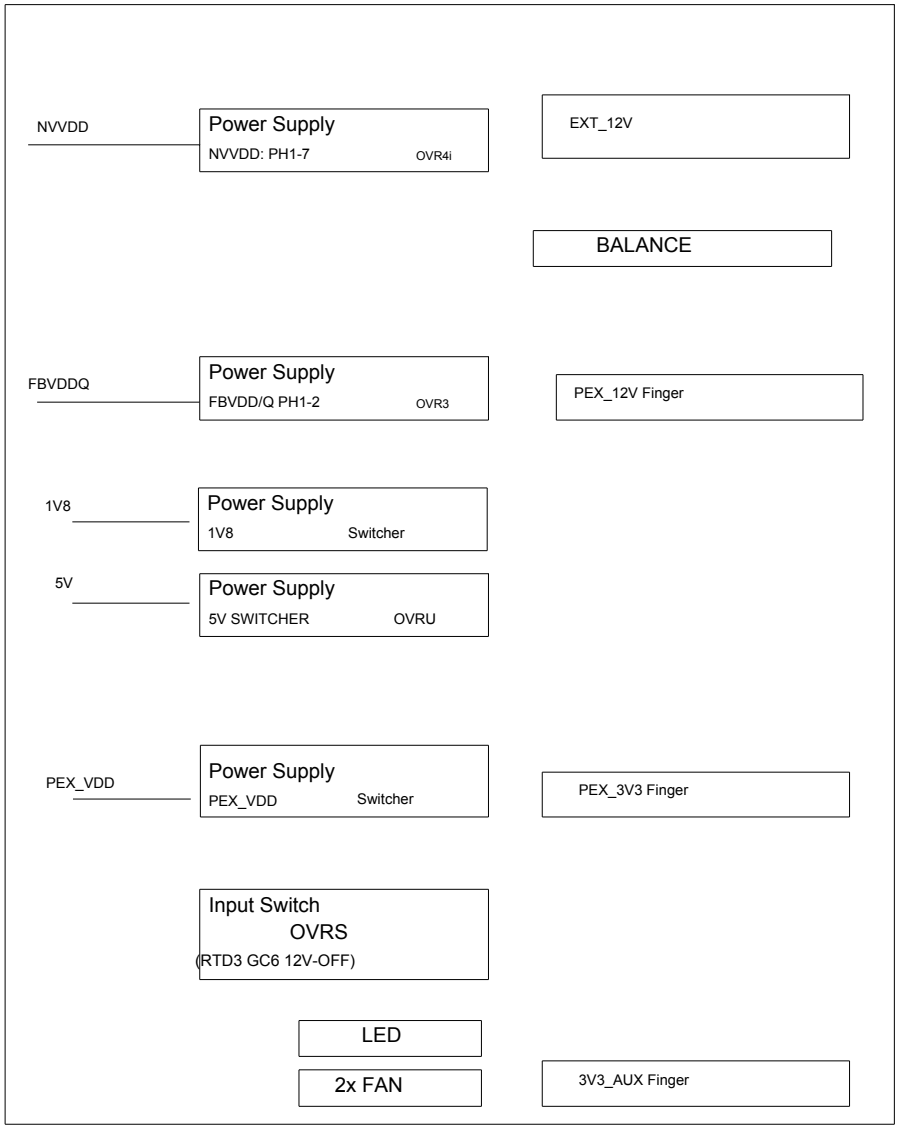

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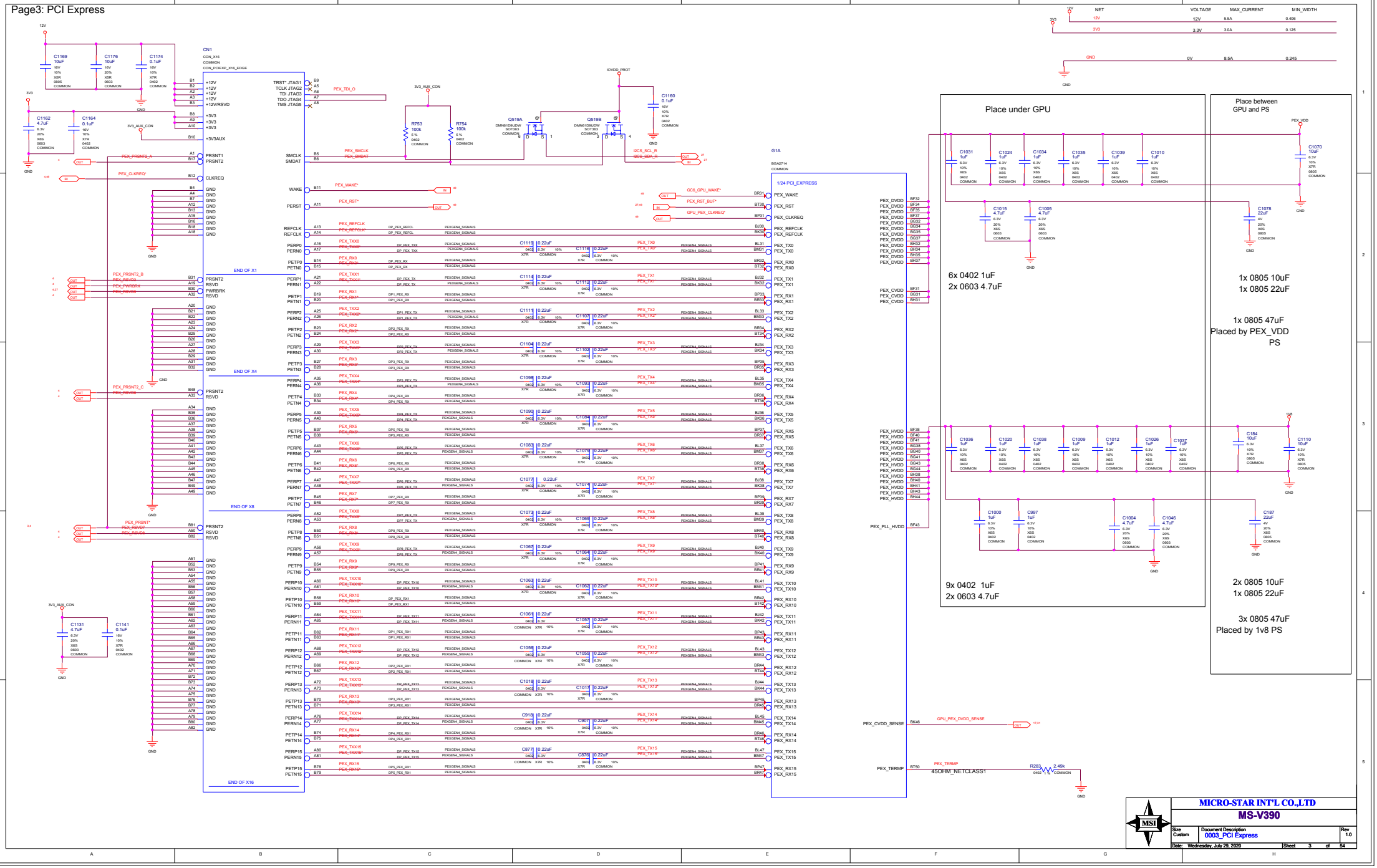
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CN1
CON_X16
CON_PCIEXP_X16_EDGE
END OF X1
END OF X4
END OF X8
END OF X16
1/24 PCI_EXPRESS
BGA2714
Place under GPU
6x 0402 1uF
2x 0603 4.7uF
9x 0402 1uF
2x 0603 4.7uF
Place between GPU and PS
1x 0805 10uF
1x 0805 22uF
1x 0805 47uF
Placed by PEX_VDD PS
2x 0805 10uF
1x 0805 22uF
3x 0805 47uF
Placed by 1v8 PS
NET VOLTAGE MAX_CURRENT MIN_WIDTH
12V 12V 5.5A 0.406
3V3 3.3V 3.0A 0.125
GND 0V 8.5A 0.245
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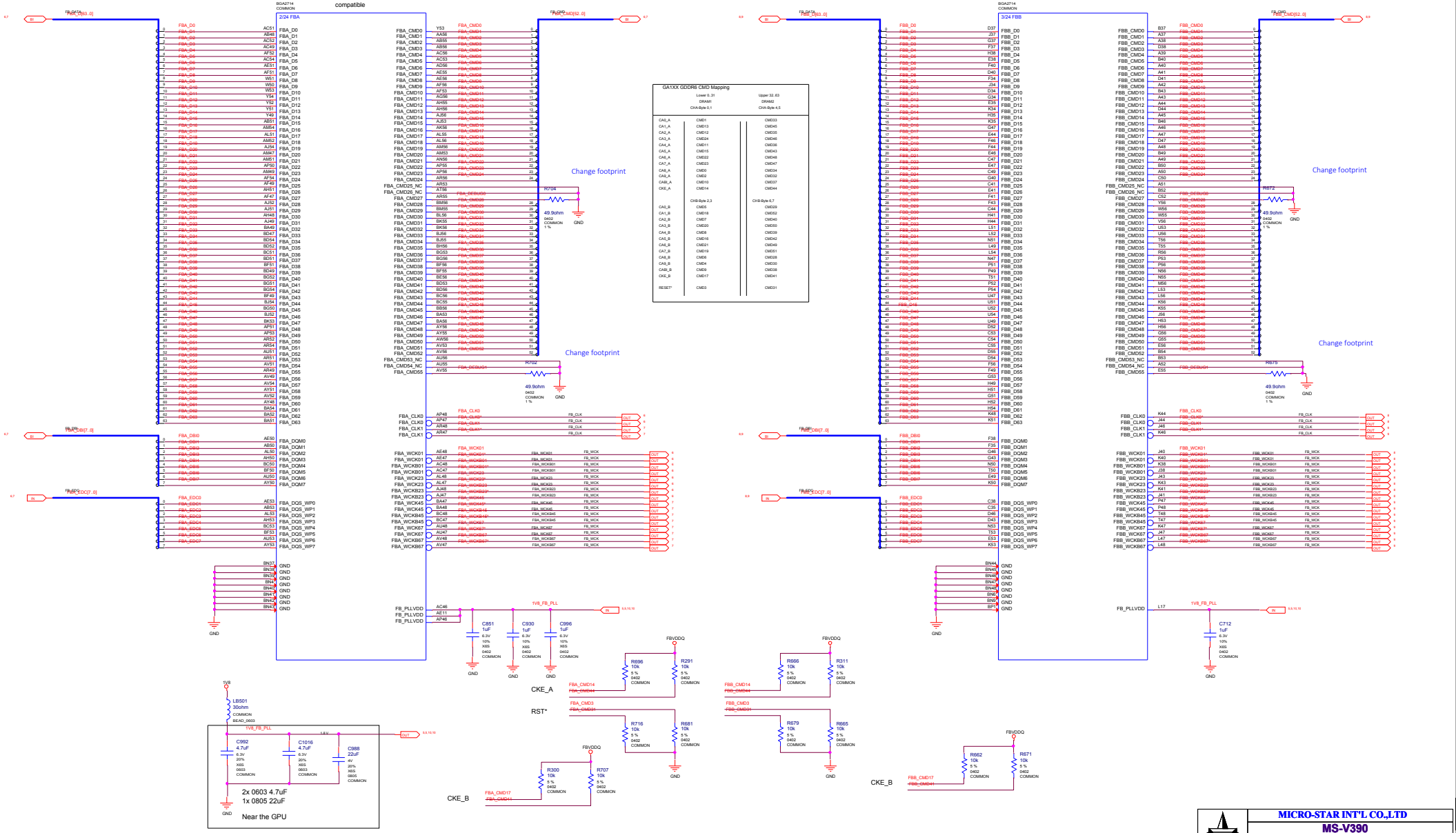
Page5: MEMORY: GPU Partition A/B

//syseng/Projects/GA1xx/GA1XX_CMD-Mapping.xlsx



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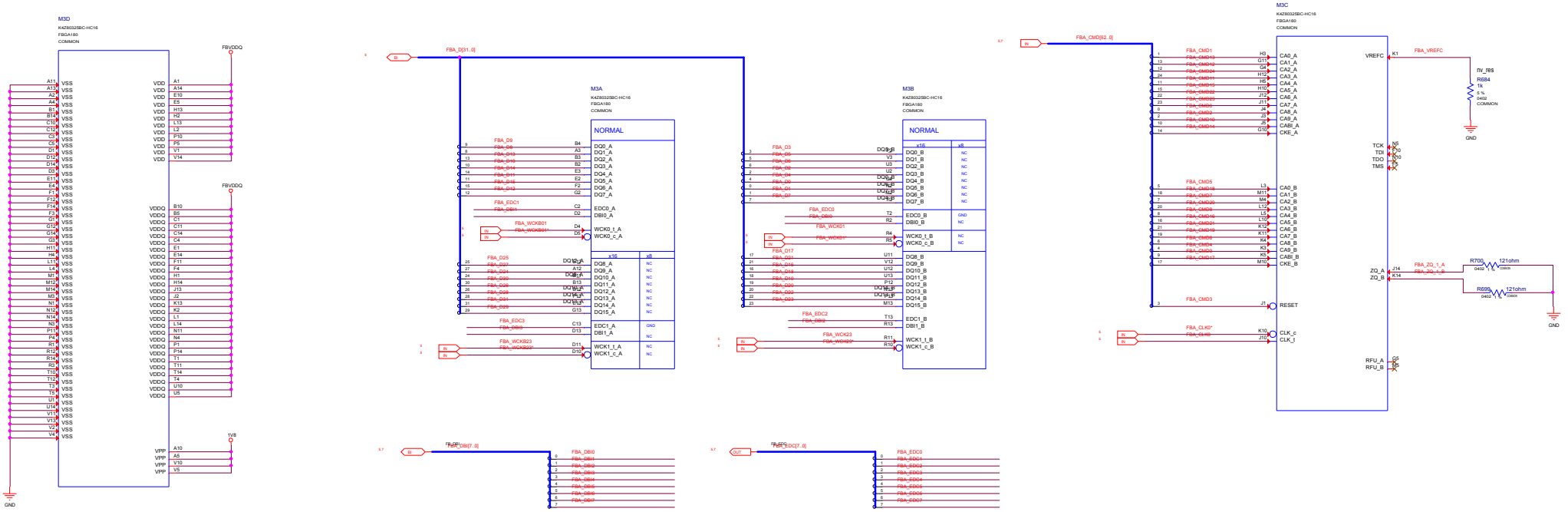
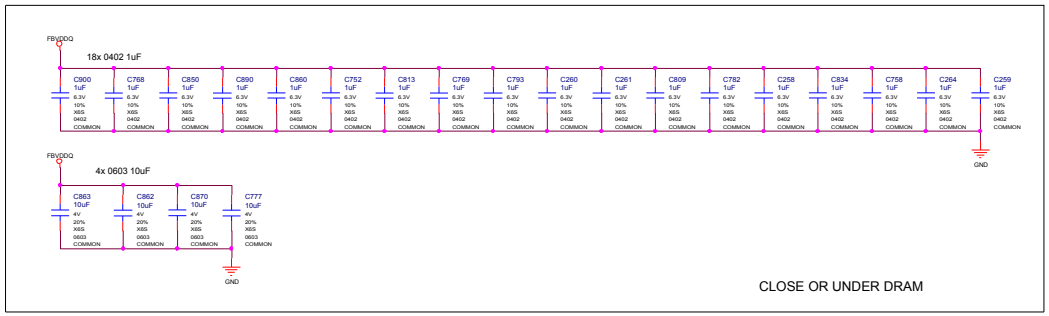
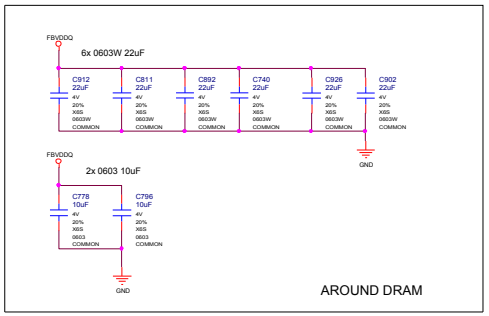
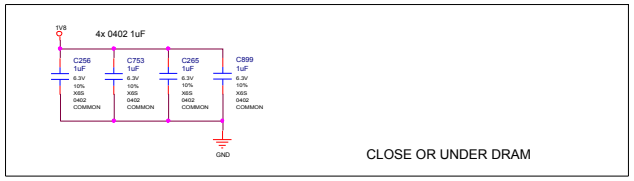
Page6: MEMORY: FBA Partition 31..0



decap via : at least 2 gnd vias and 2 power vias for each cap







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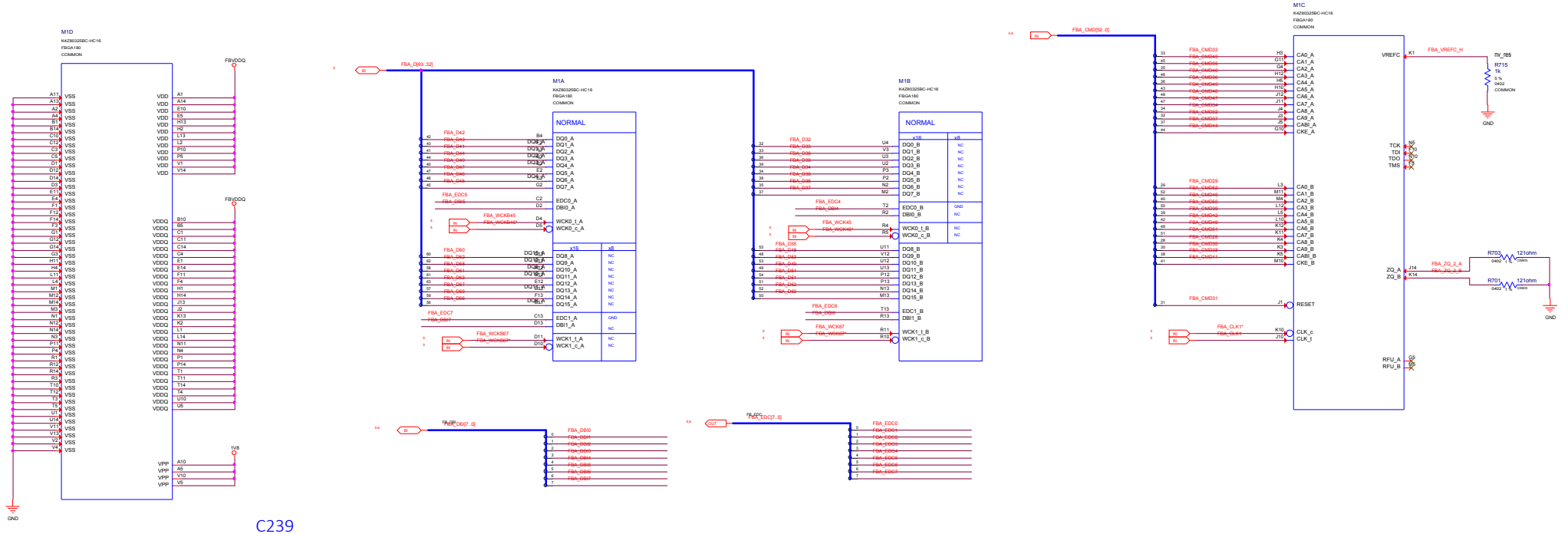
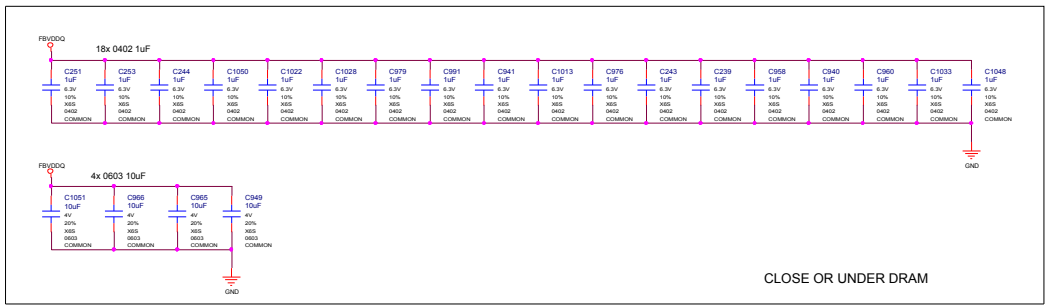
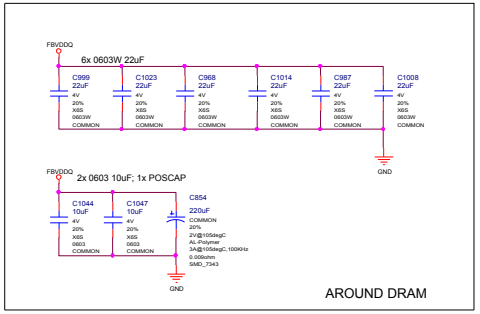
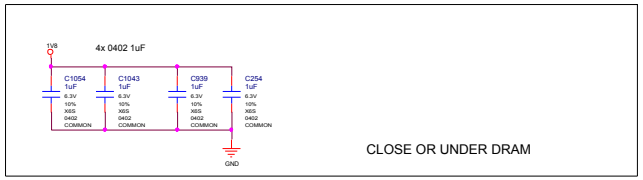
Page7: MEMORY: FBA Partition 63..32



C239
location ---- colse remote sense







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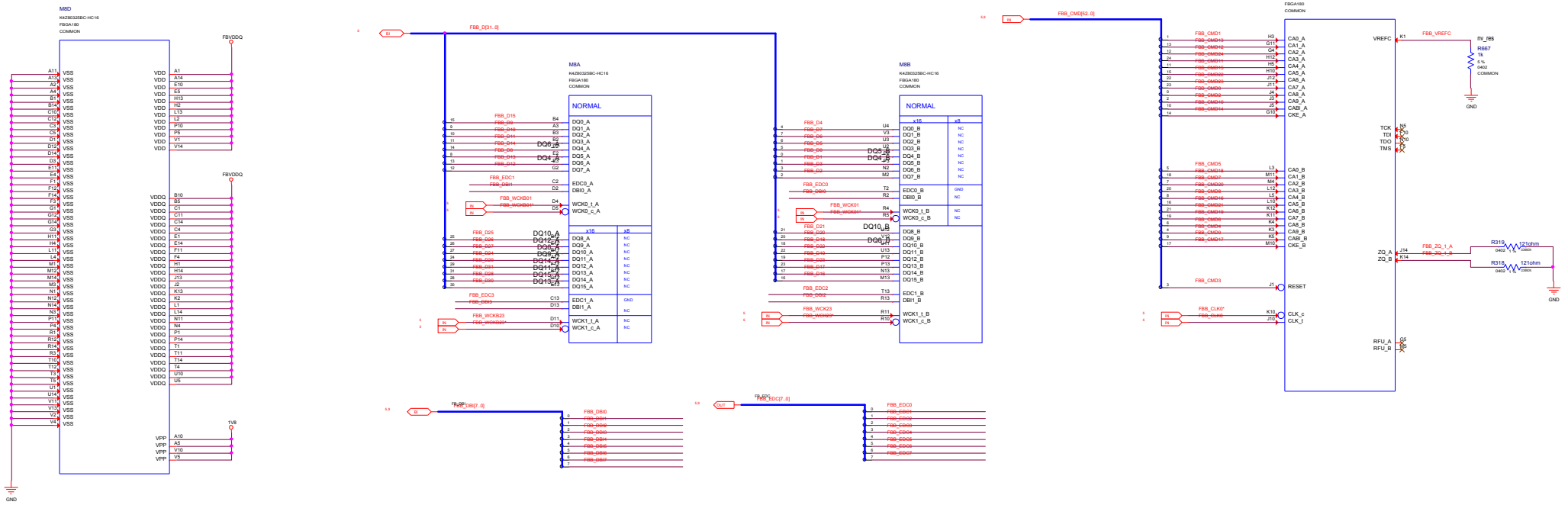
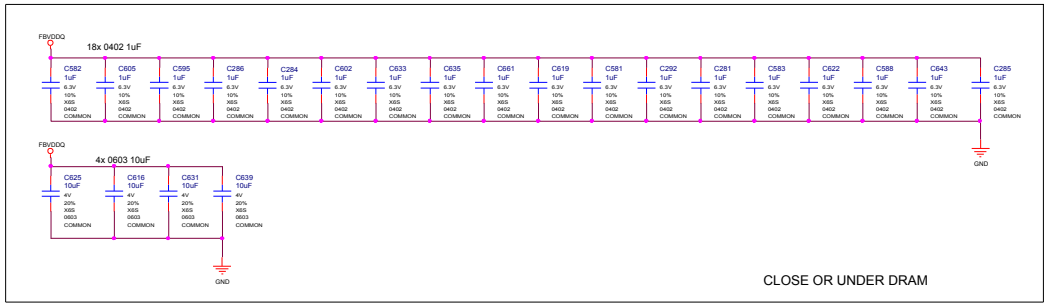
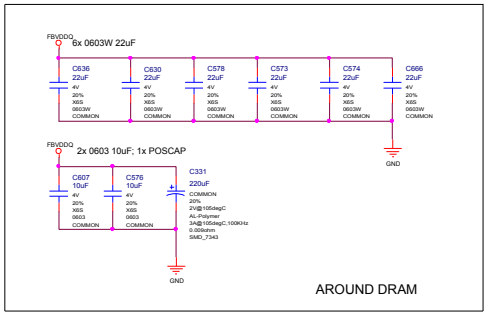
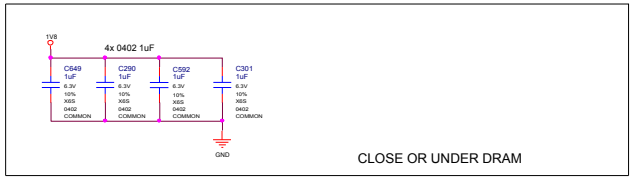
Page8: MEMORY: FBB Partition 31..0









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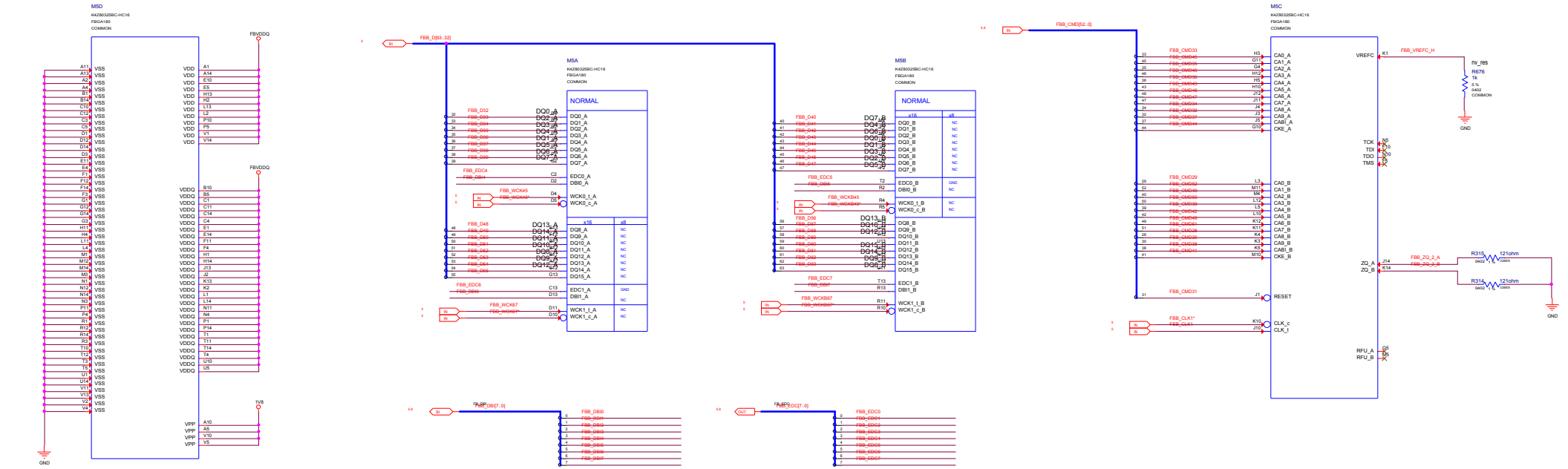

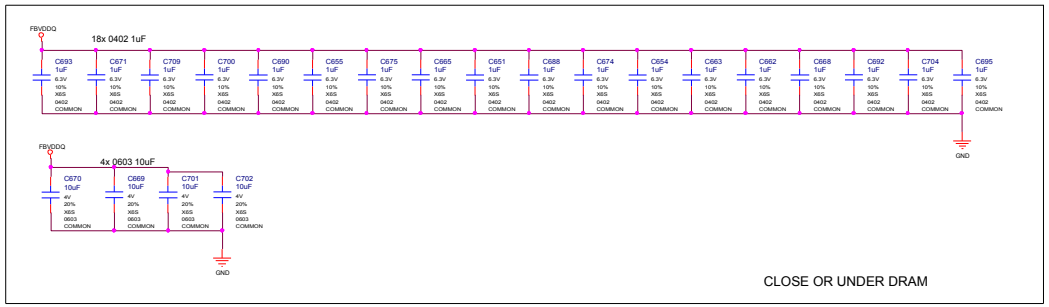

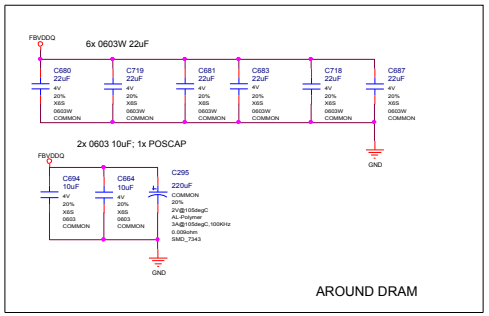

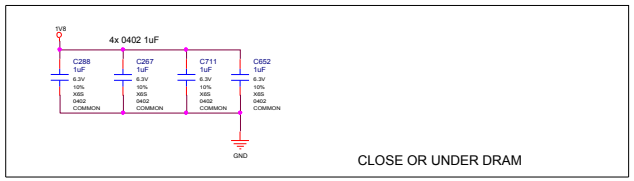

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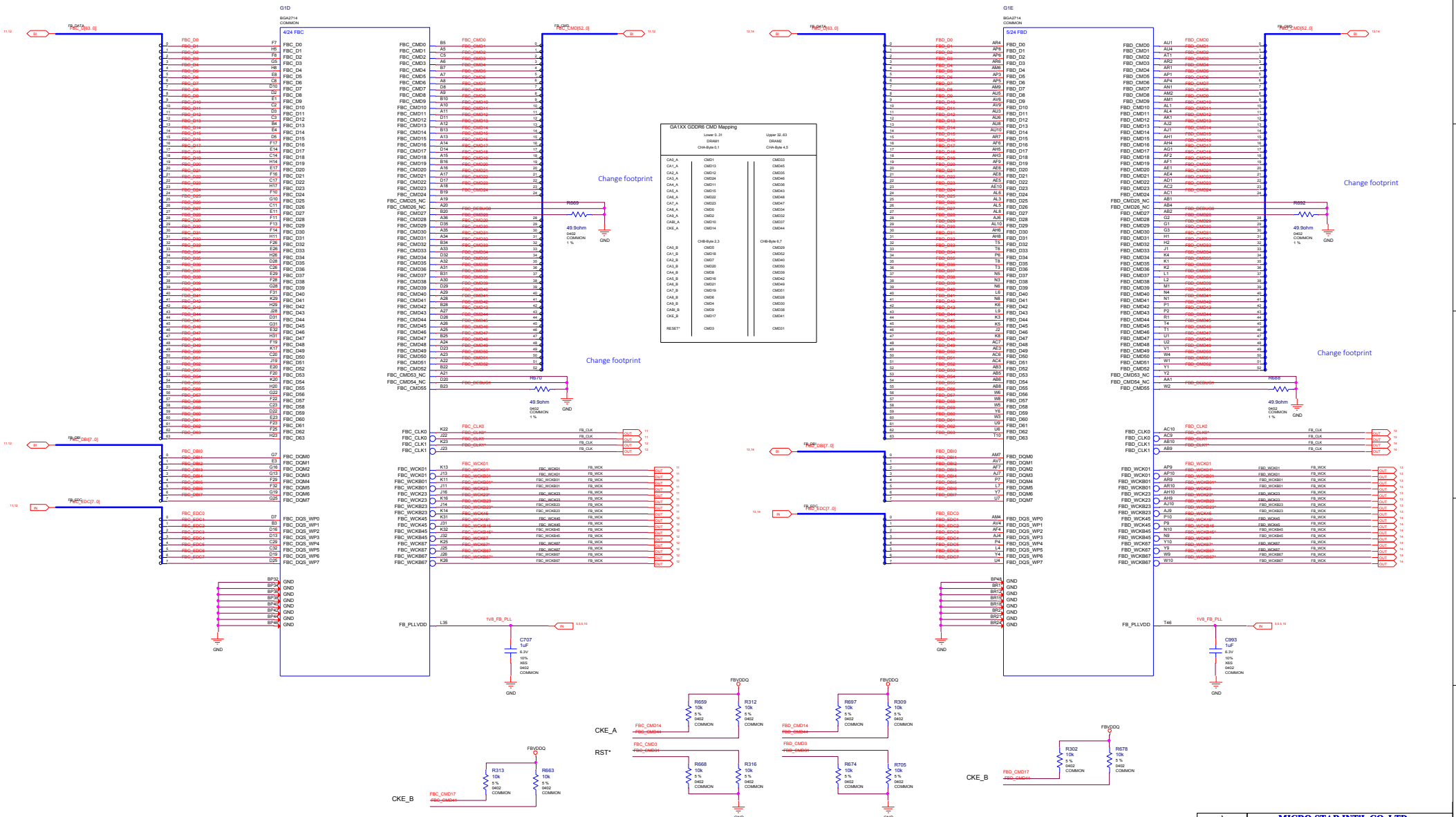
Page10: MEMORY: GPU Partition C/D



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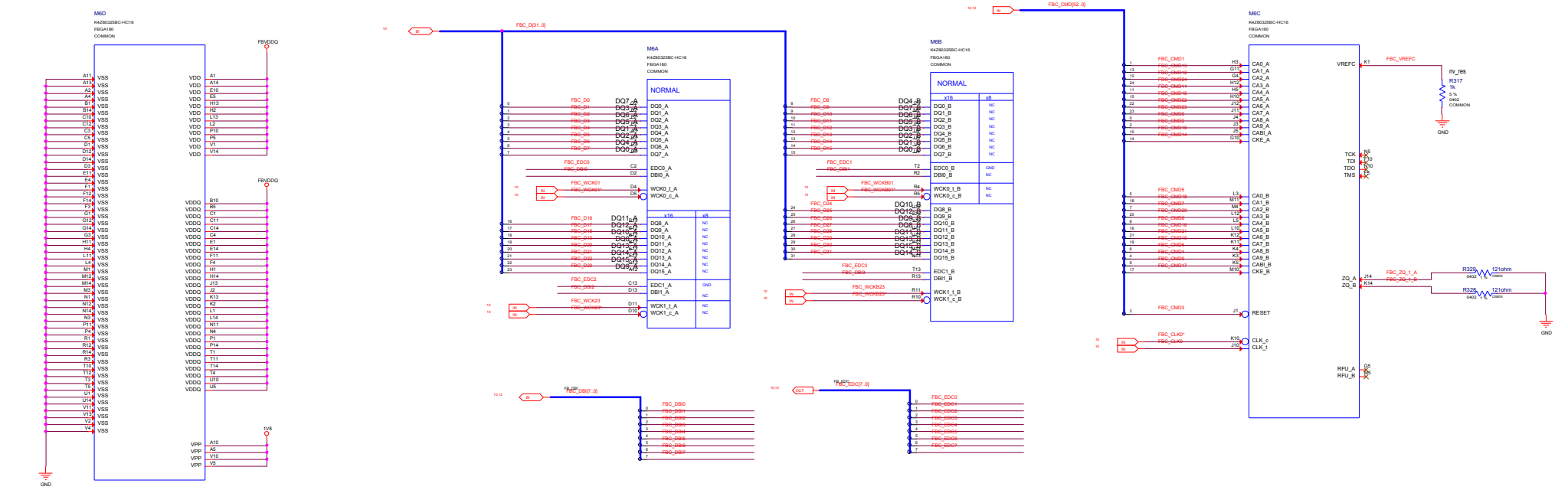
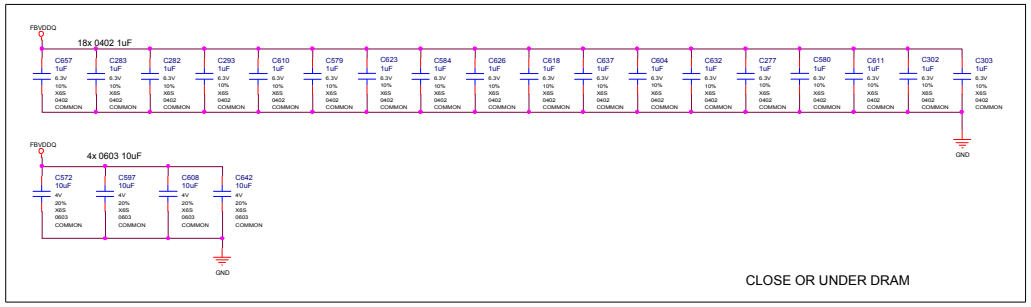
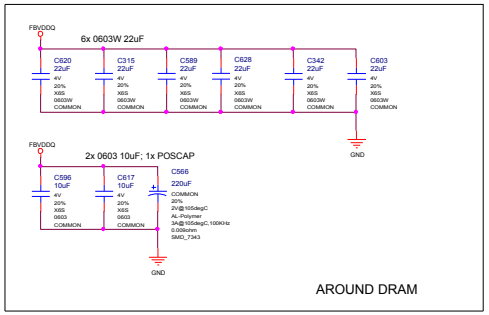




CLOSE OR UNDER DRAM



AROUND DRAM

CLOSE OR UNDER DRAM

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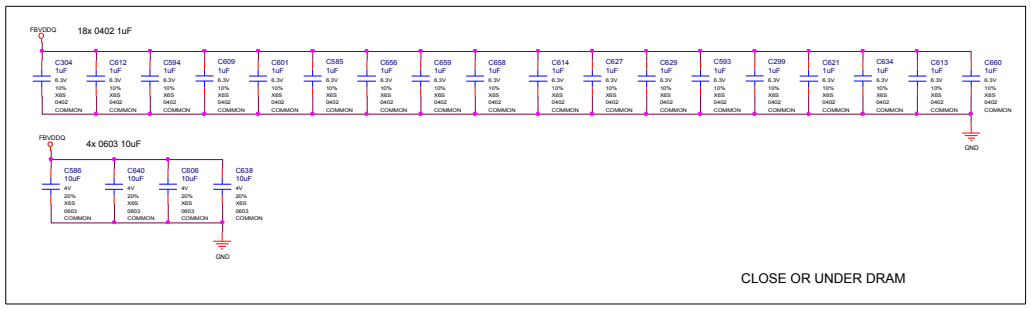

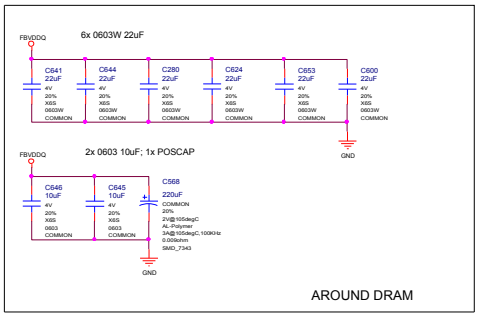

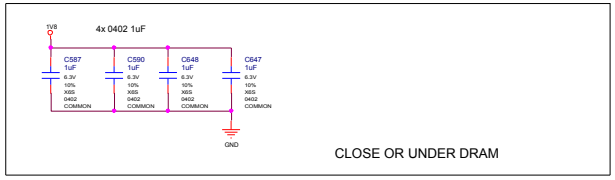

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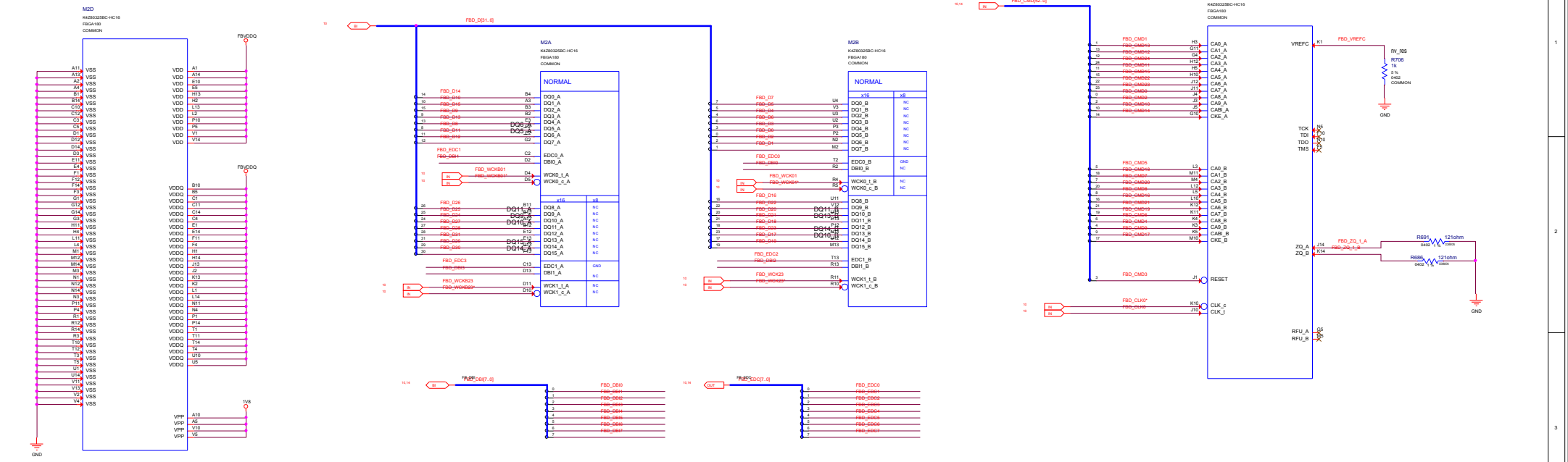
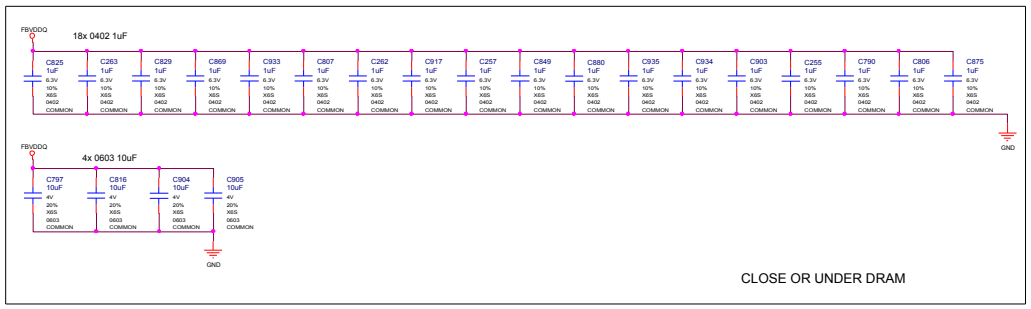
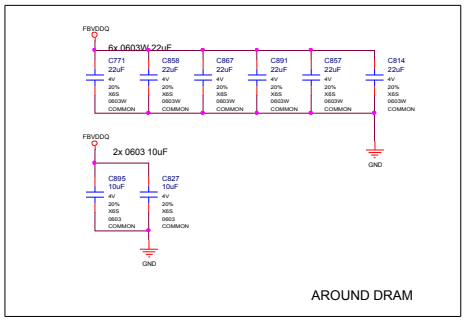
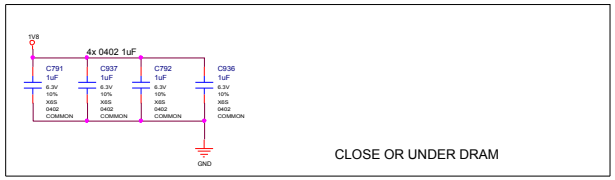
Page13: MEMORY: FBD Partition 31..0









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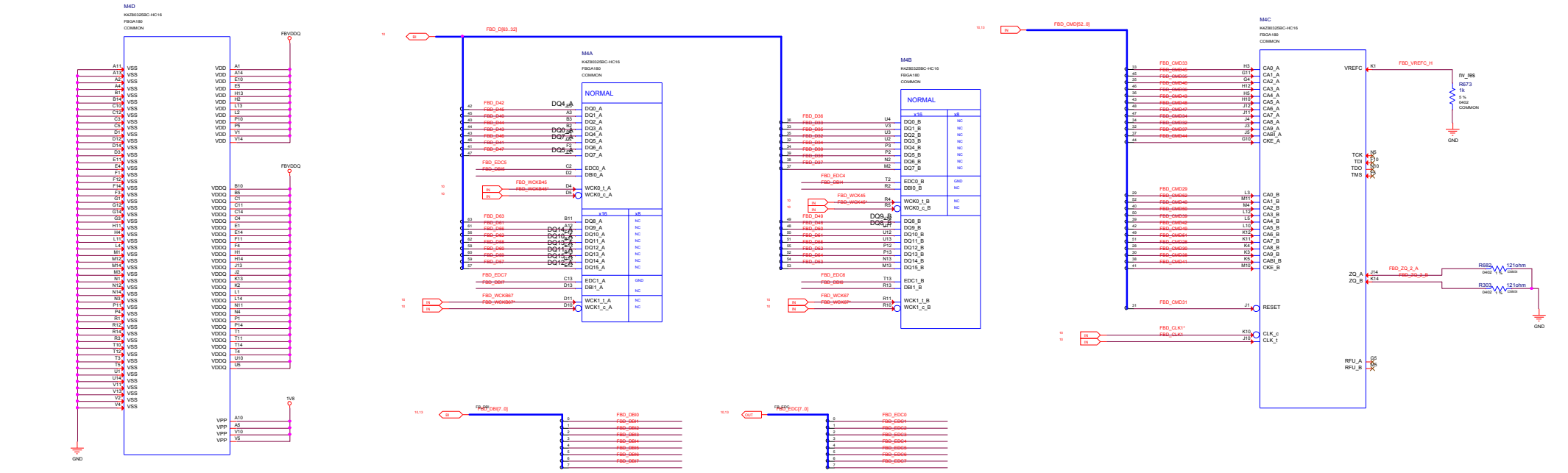

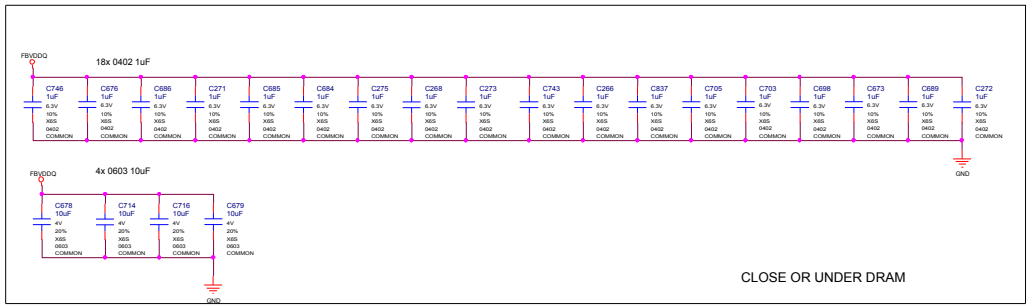

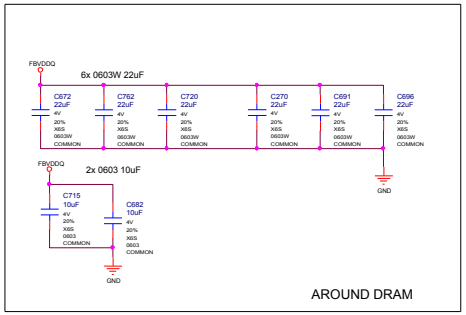

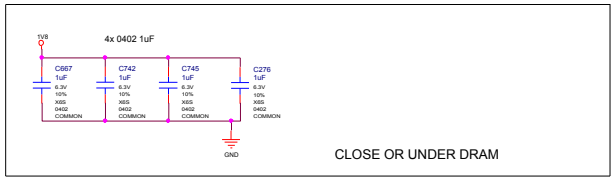

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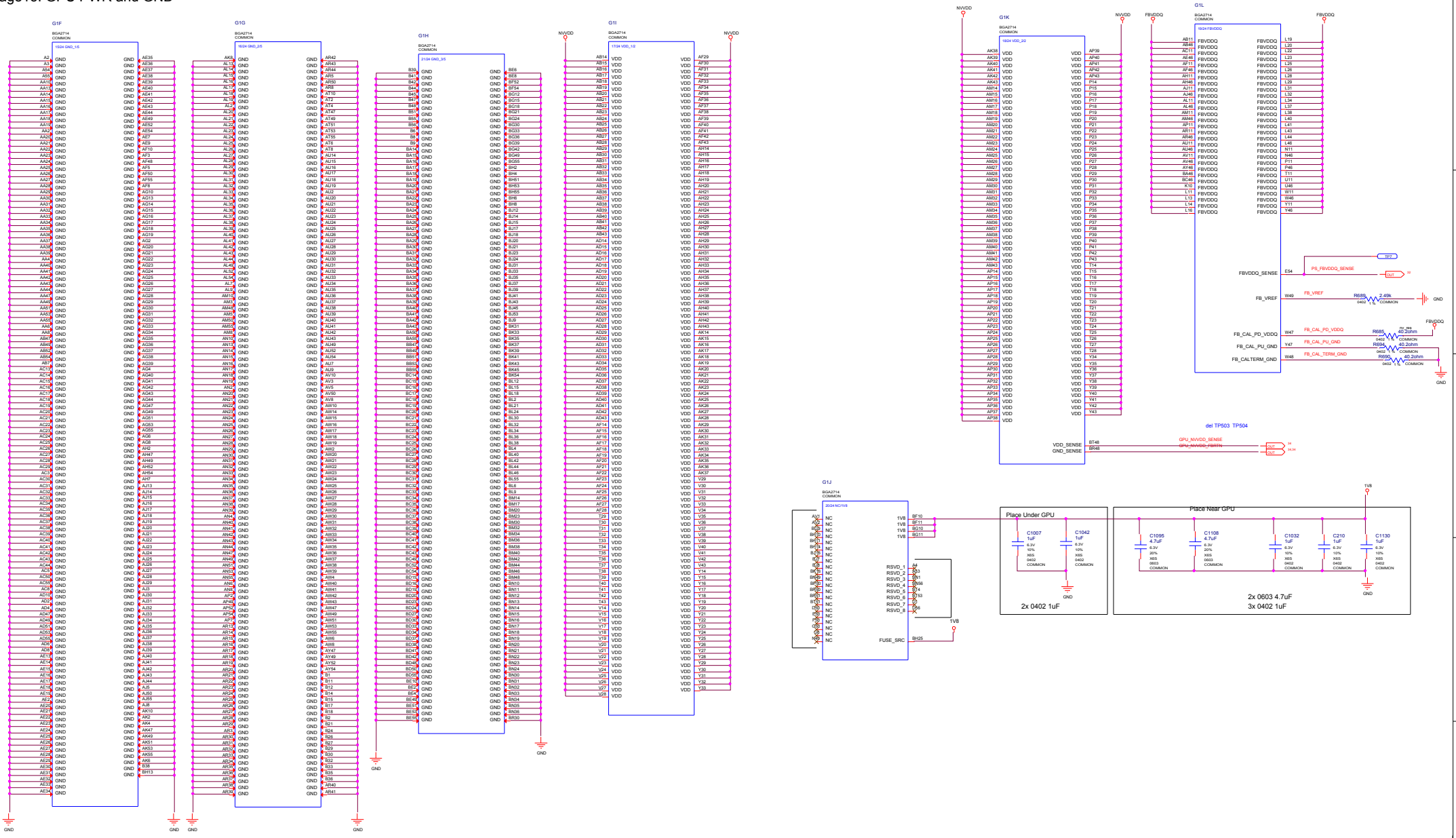

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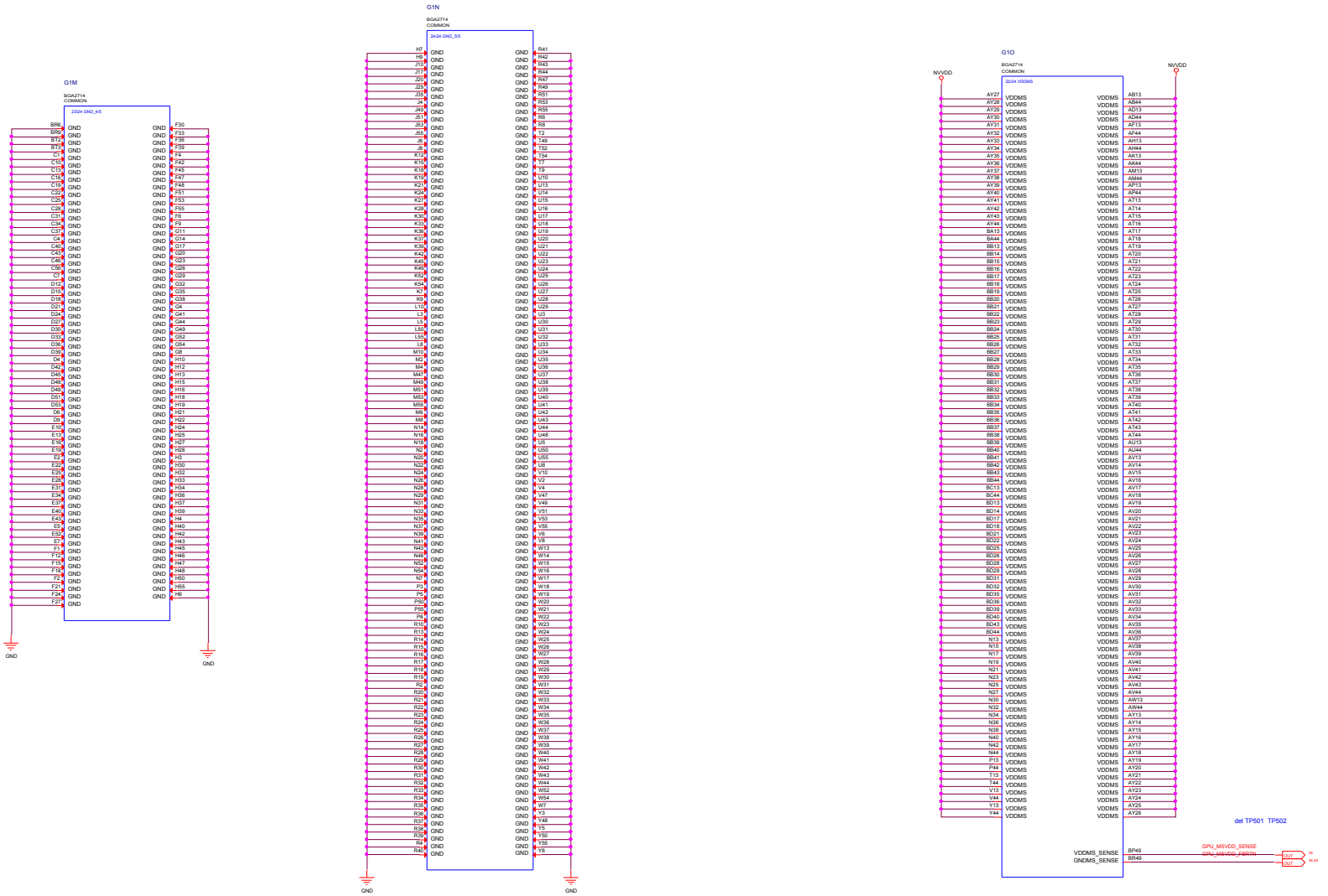
Page16: GPU PWR and GND 2



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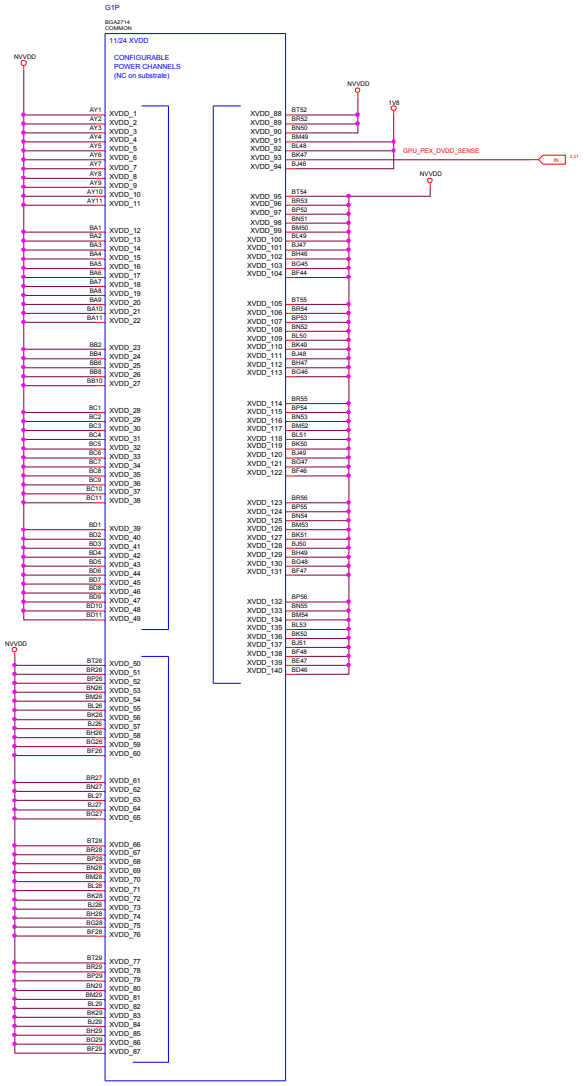

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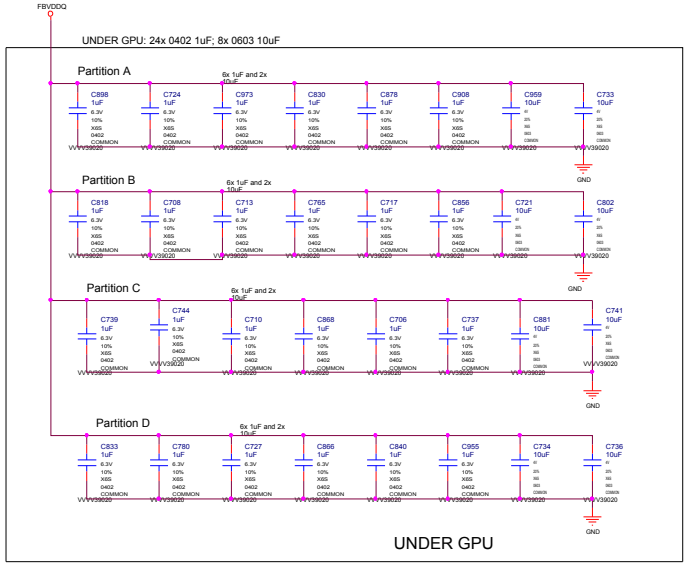
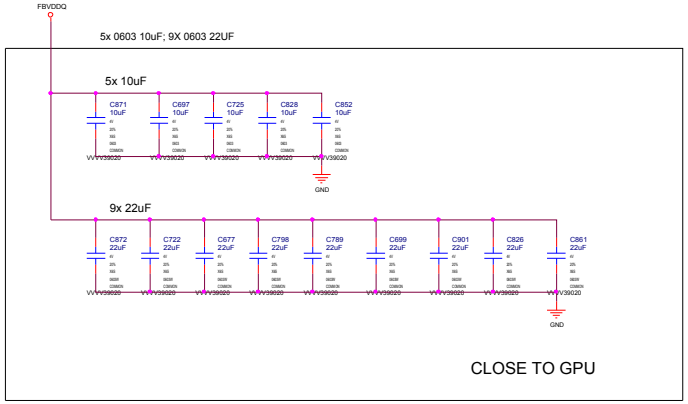
Page18: GPU DECOUPLING FBVDDQ

FBVDDQ





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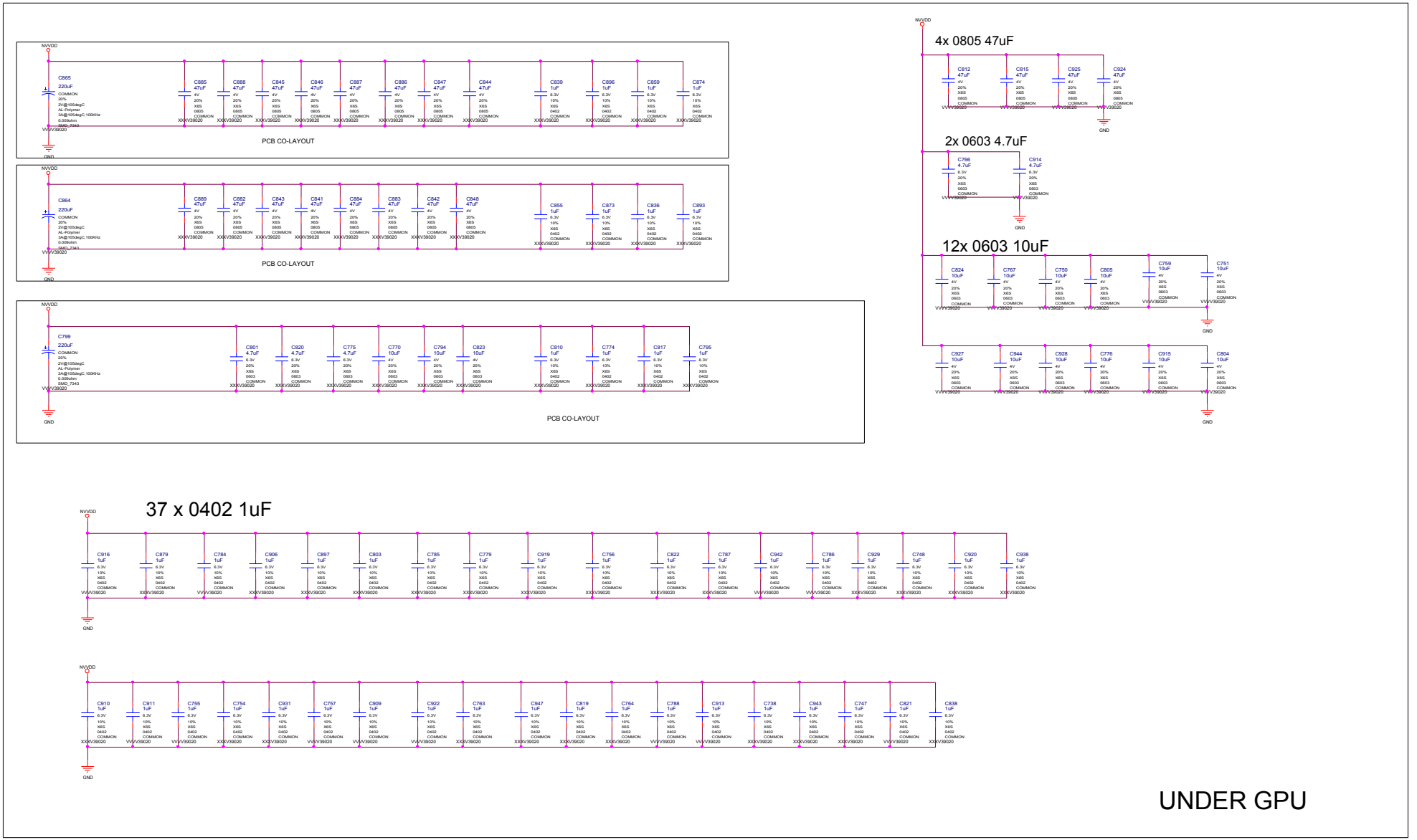
Page19: GPU DECOUPLING NVVDD



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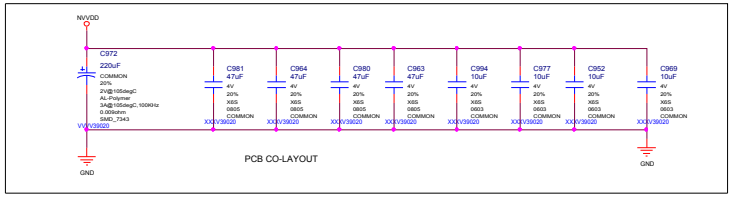

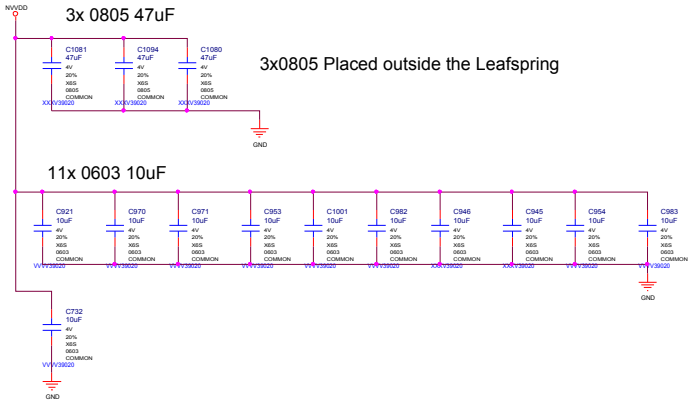

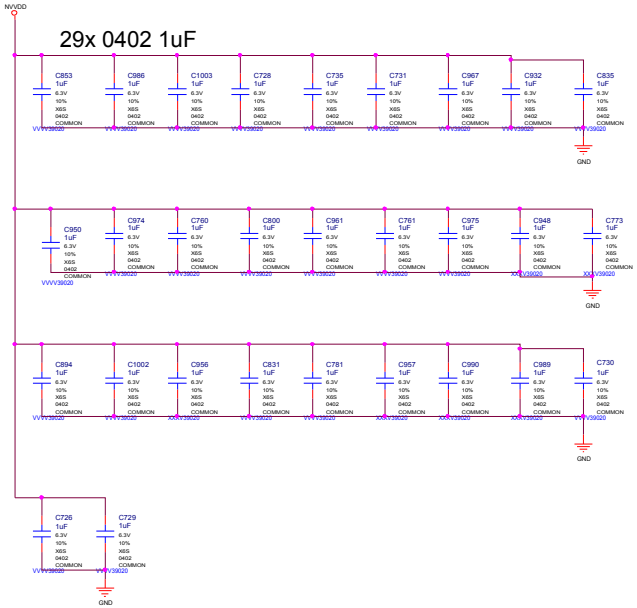

UNDER GPU

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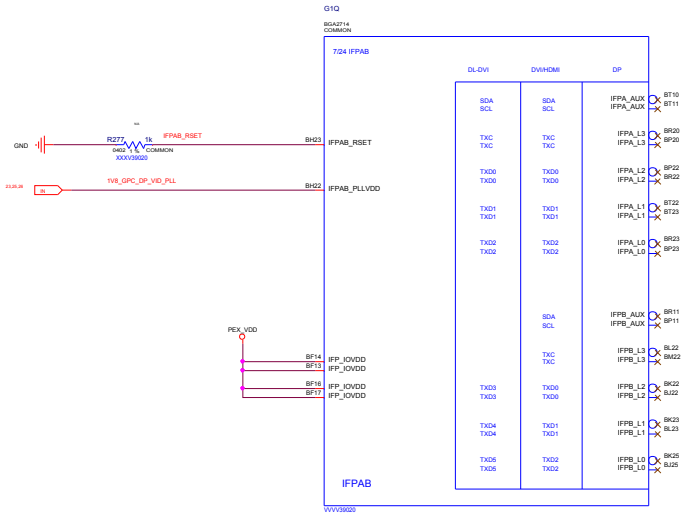

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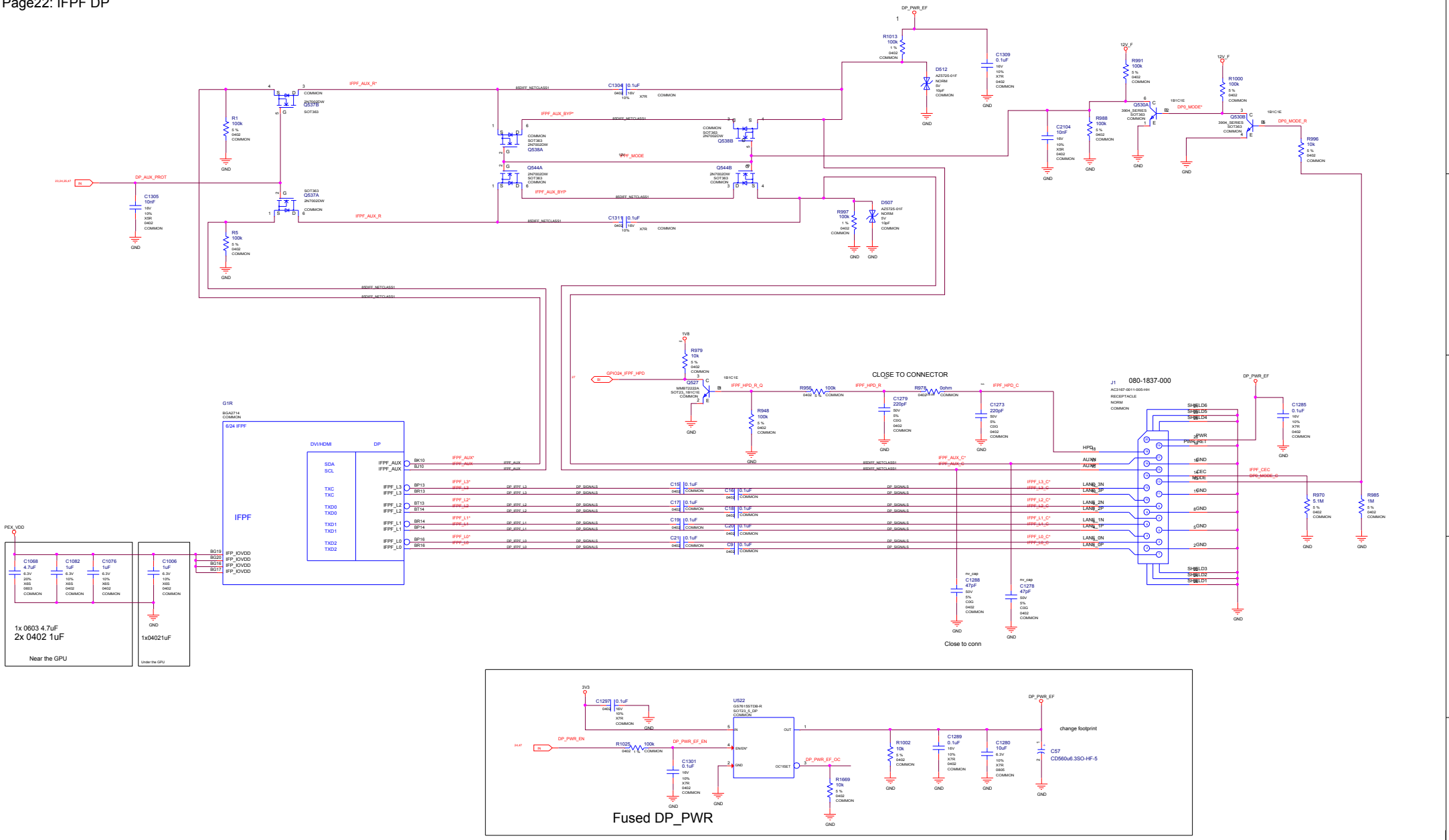
Page22: IFPF DP



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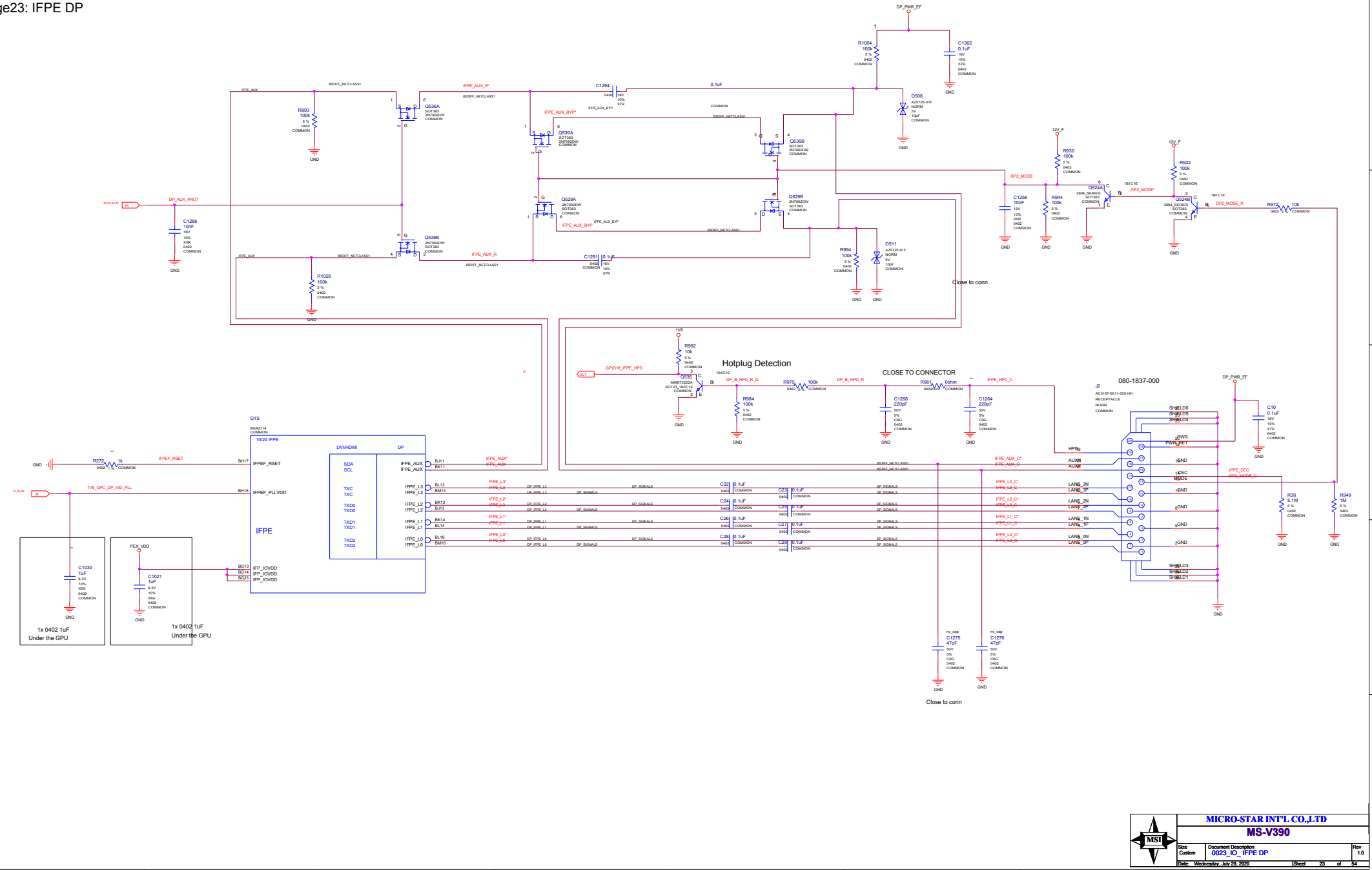
Page23: IFPE DP



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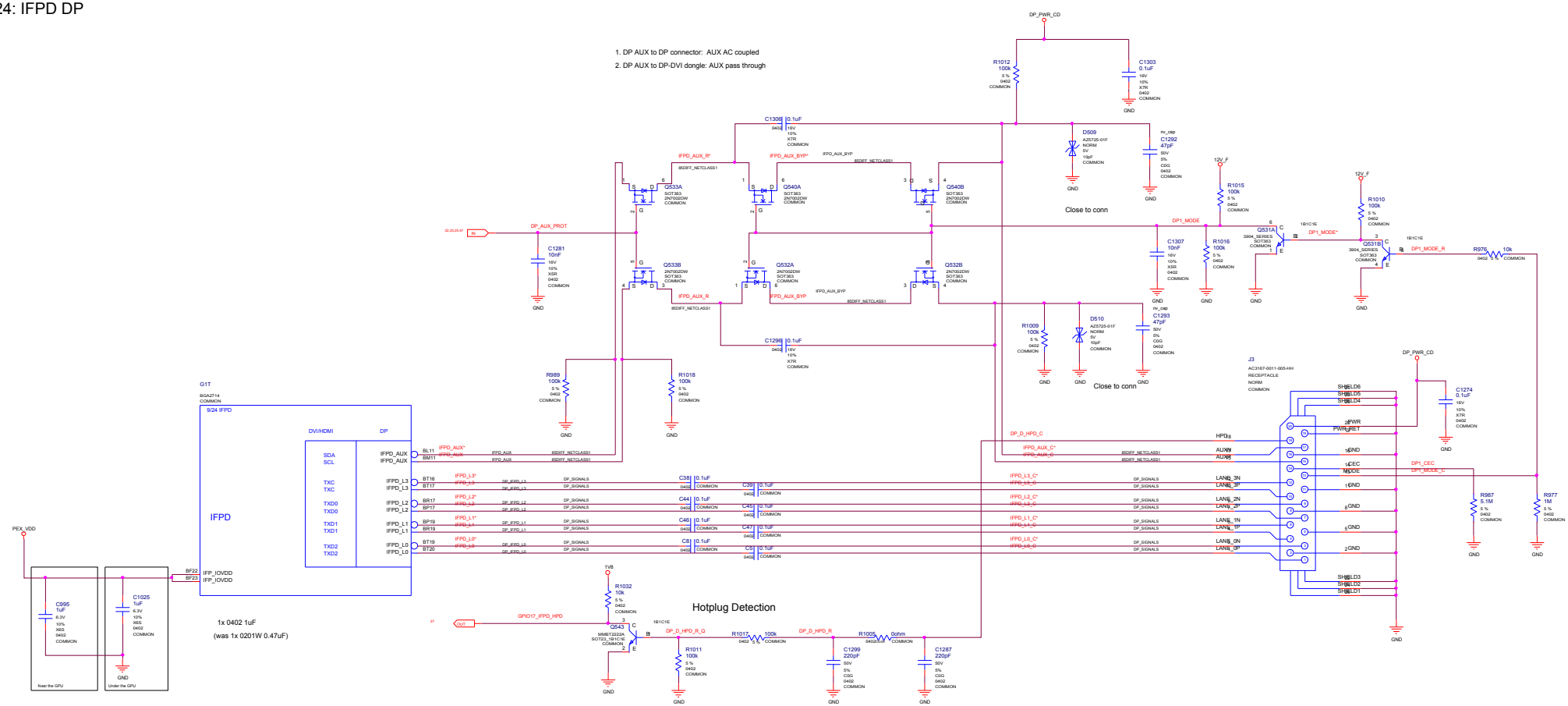
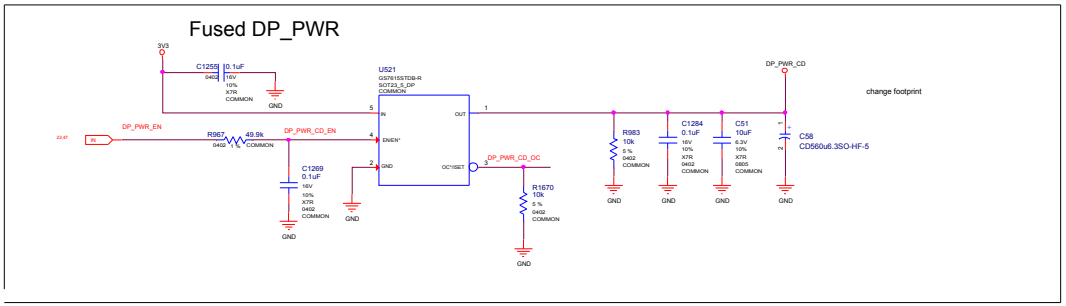
Page24: IFPD DP

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





MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0024_IO_ IFPD DP	Rev: 1.0
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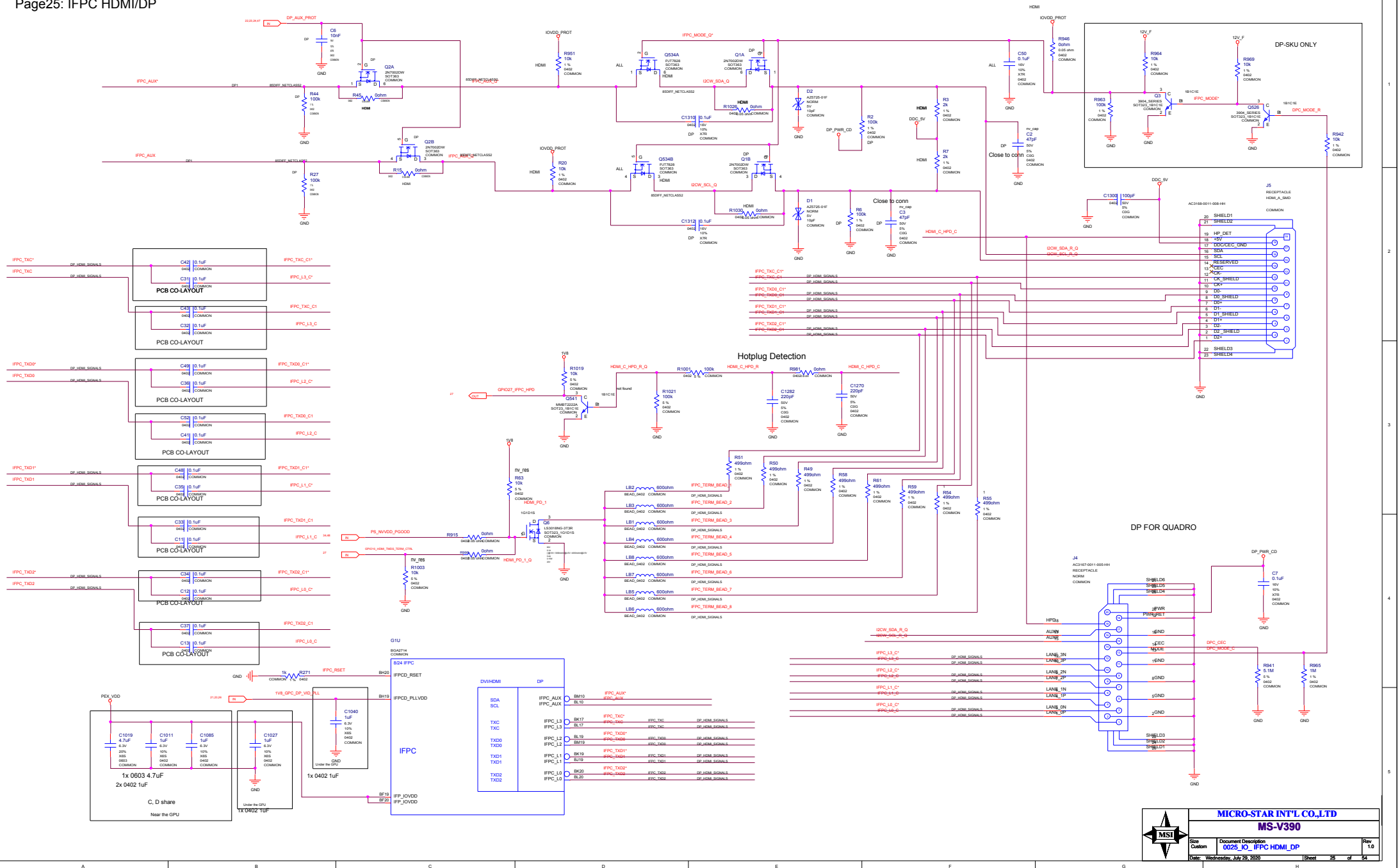
27-JUN-2020

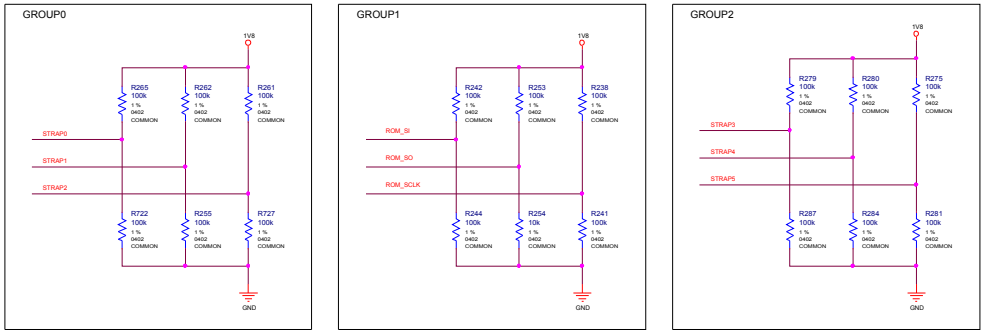
Page25: IFPC HDMI/DP

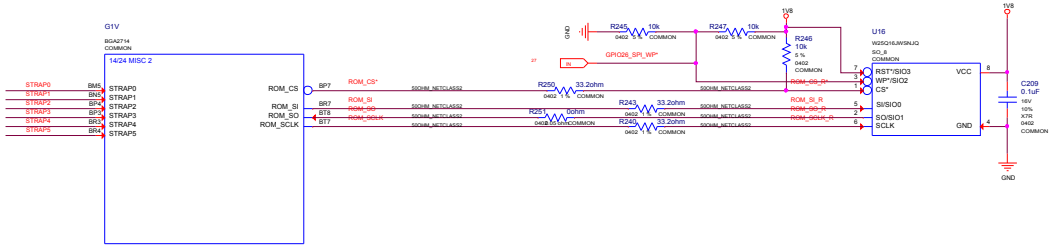


Page26: MISC2: ROM, XTAL, Straps

STRAP2	STRAP1	STRAP0	RAMCFG[4:0]	
L	L	L	00000	RAMCFG SAMSUNG 8Gb 7GHz
L	L	H	00001	RAMCFG MICRON 8Gb 7GHz
L	H	L	00010	RAMCFG HYNIX 8Gb 7GHz
H	H	L	00110	RAMCFG SAMSUNG 16Gb 8Gb
		TBD		

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





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

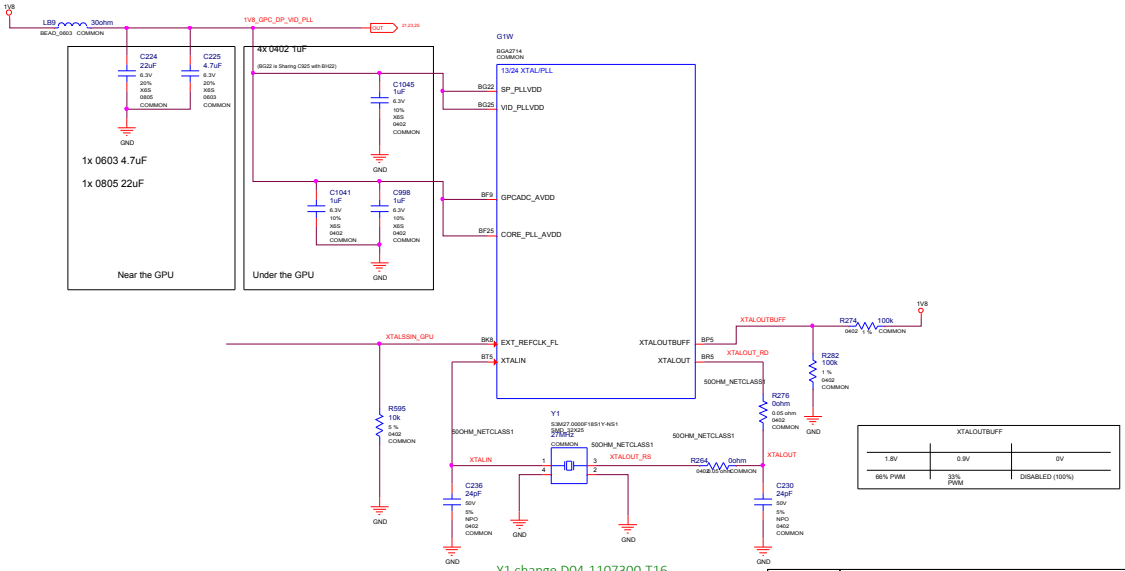
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

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



Y1 change D04-1107300-T16

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Custom	0026_MISC1_ ROM, XTAL,STRAPS	1.0
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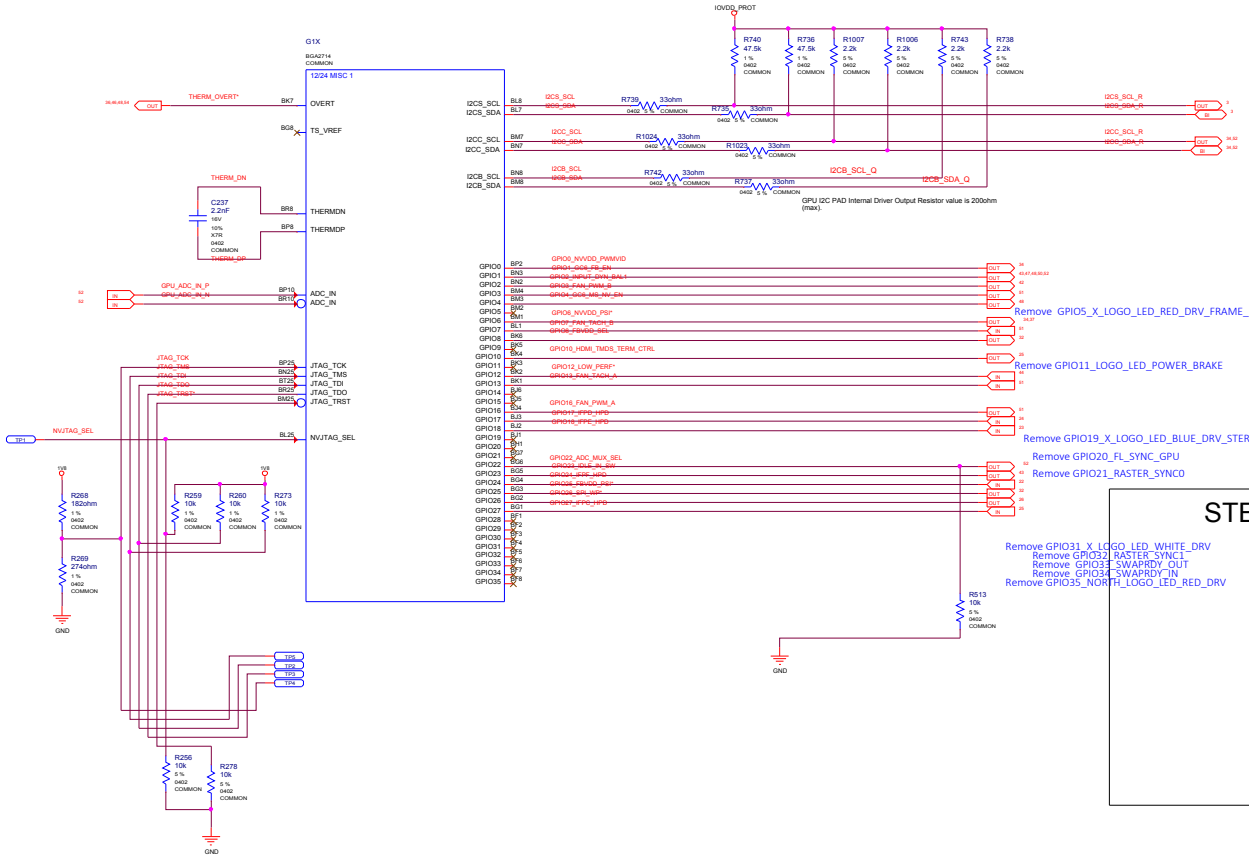
Page27: MISC1: JTAG, GPIO, ADC, I2C, OVERT



Remove I2CB --Q542--LEVEL SHIFT

LEVEL SHIFT TO 3V3

CO-A
PCB CO-LAYOUT

CO-B
PCB CO-LAYOUT

Remove GPIO5_X_LOGO_LED_RED_DRV_FRAME_LOCK_INT*

Remove GPIO11_LOGO_LED_POWER_BRAKE

Remove PEX_PWRBRK to GPIO11_LOGO_LED_POWER_BRAKE

Remove GPIO19_X_LOGO_LED_BLUE_DRV_STEREO_OU

Remove GPIO20_FL_SYNC_GPU

Remove GPIO21_RASTER_SYNC0

STEREO

Remove GPIO31_X_LOGO_LED_WHITE_DRV
Remove GPIO32_RASTER_SYNC1
Remove GPIO33_SWAPRDY_OUT
Remove GPIO34_SWAPRDY_IN
Remove GPIO35_NORTH_LOGO_LED_RED_DRV

Remove STEREO

Remove J6 HEADER

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WHITE DRIVE

Remove RGB LED

LOGO LED WHITE

LOGO LED RED

GREEN DRIVE

BLUE DRIVE

RED DRIVE

MICRO-STAR INT'L CO.,LTD
MS-V390
Size: Custom
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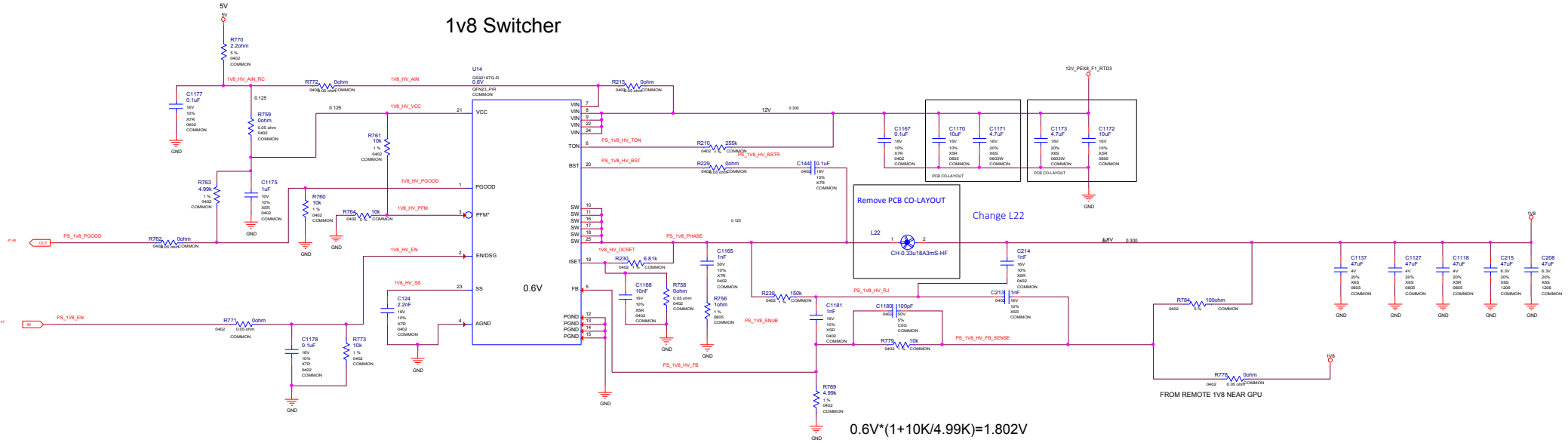
1v8 Switcher



MICRO-STAR INT'L CO.,LTD	
MS-V390	
Size: Custom	Document Description: 0029_PS_ 1V8
Rev: 1.0	
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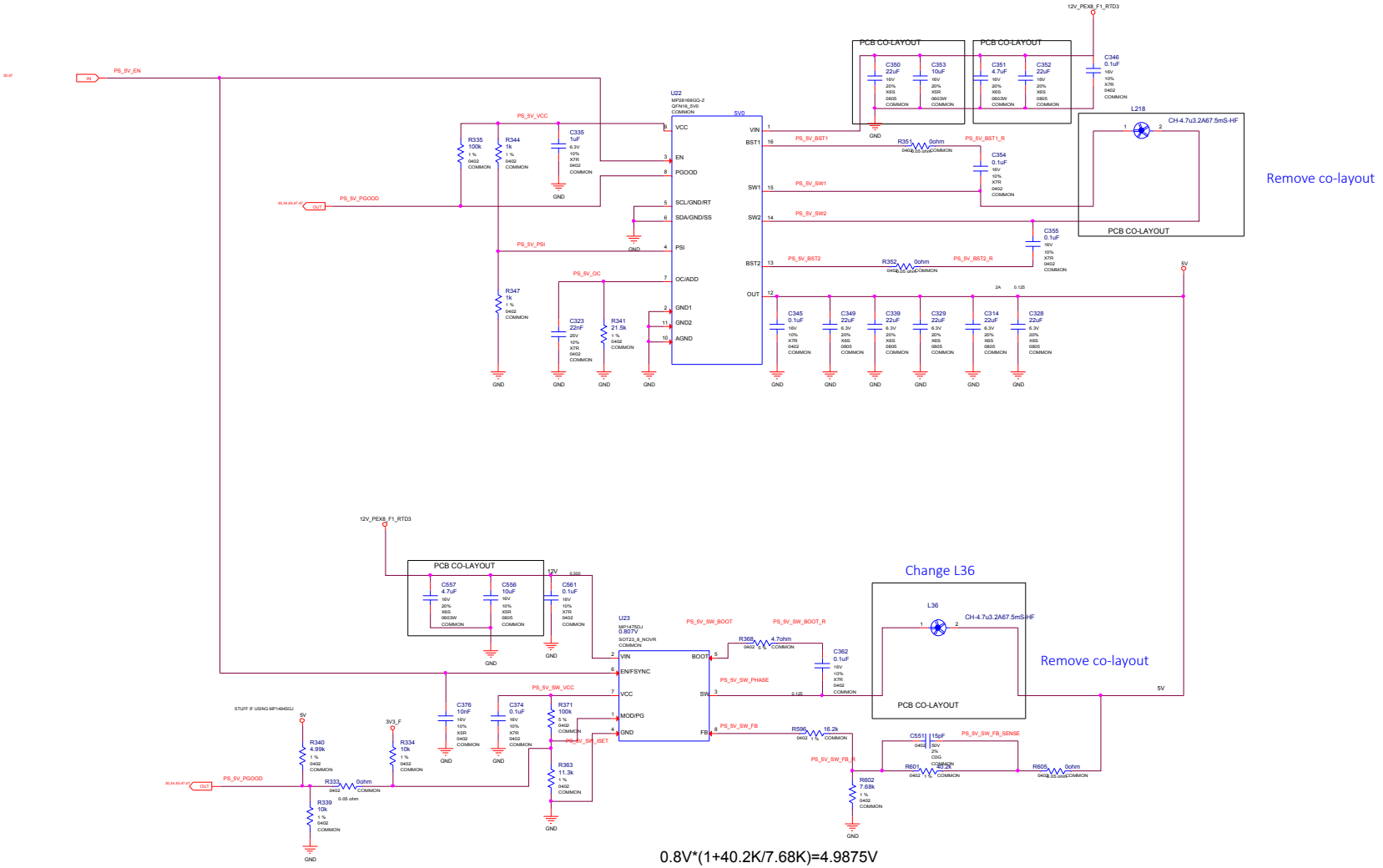
Page30: PS: 5V



MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0030_PS_ 5V	Rev: 1.0
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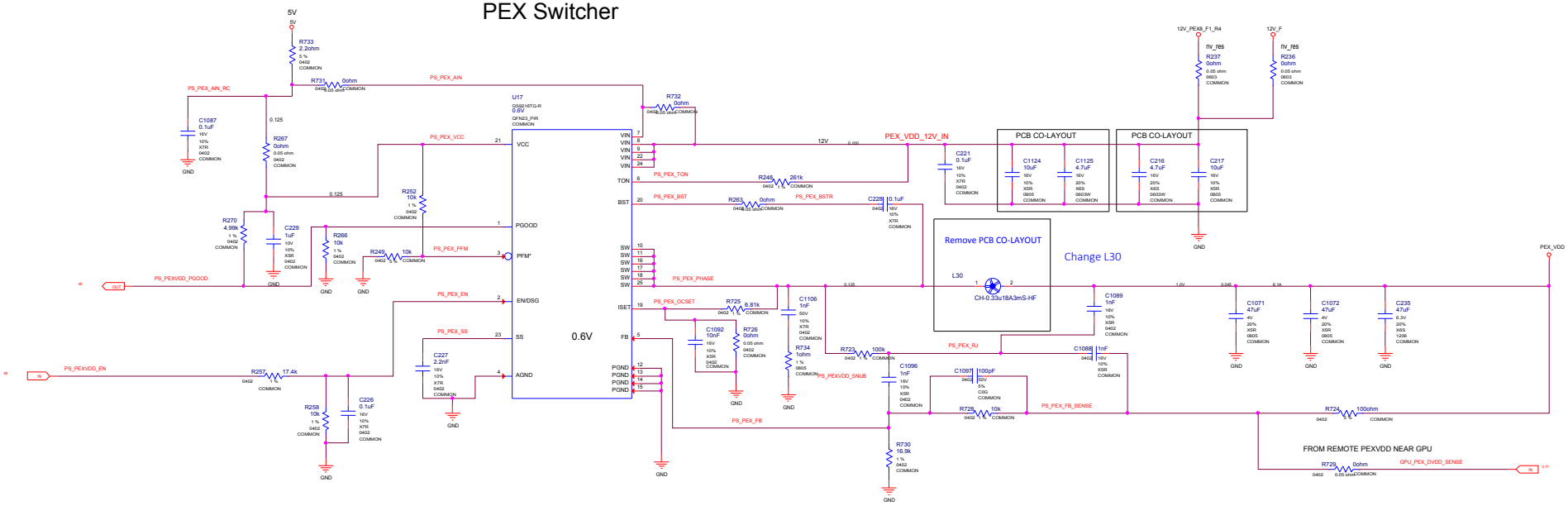
PEX Switcher



0.6V*(1+10K/16.9K)=0.955V

MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0031_PS_ PEXVDD	Rev: 1.0
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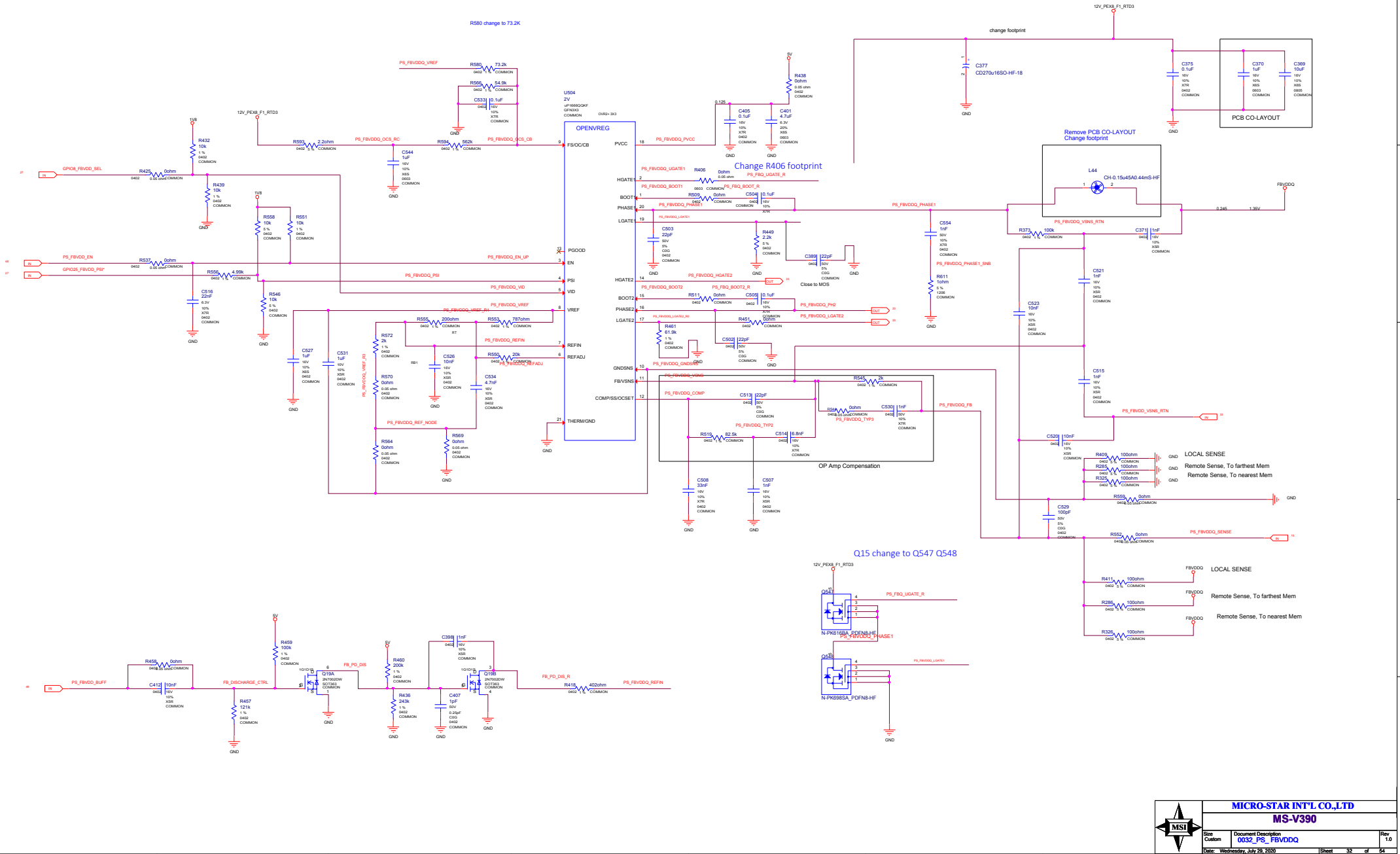
Page32: PS: FBVDDQ



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MS-V390	
Size: Custom	Document Description: 0032_PS_ FBVDDQ
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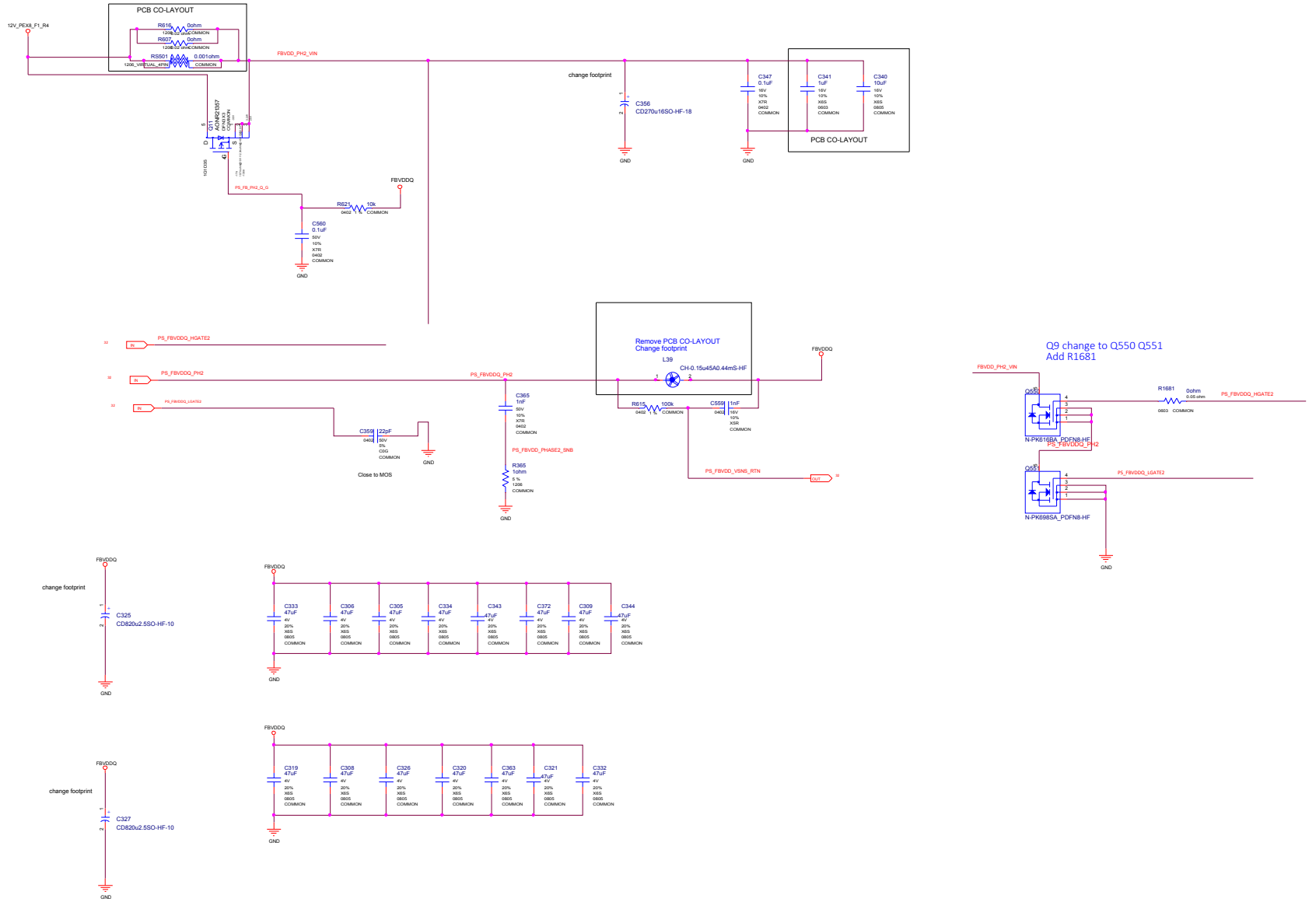
Page33: PS: FBVDDQ PH2

FBVDD PH2 INPUT ANTI-BACKDRIVE



MICRO-STAR INT'L CO.,LTD	
MS-V390	
Size: Custom	Document Description: 0033_PS_ FBVDDQ PH2
Rev: 2.0	
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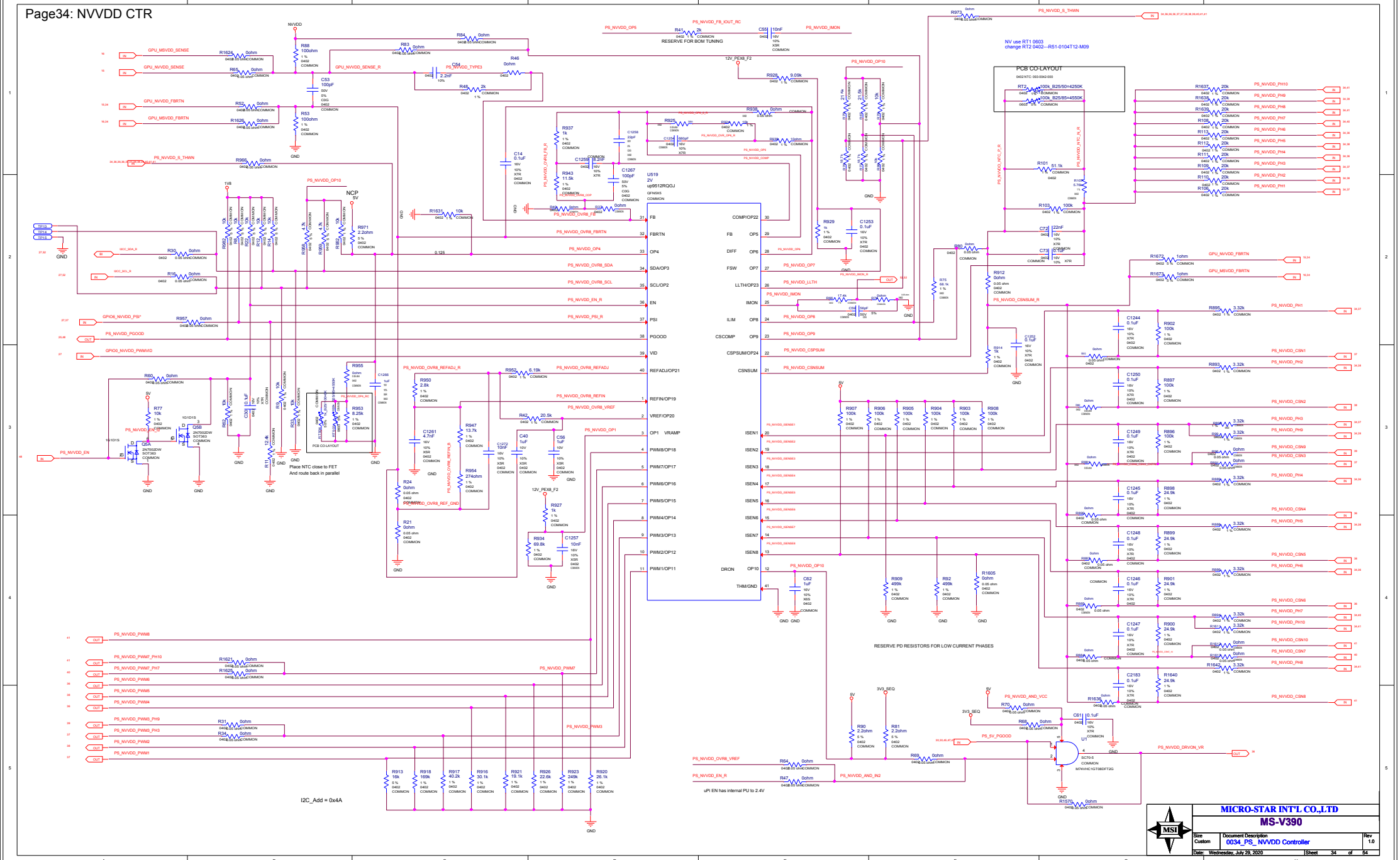
Page34: NVVDD CTR



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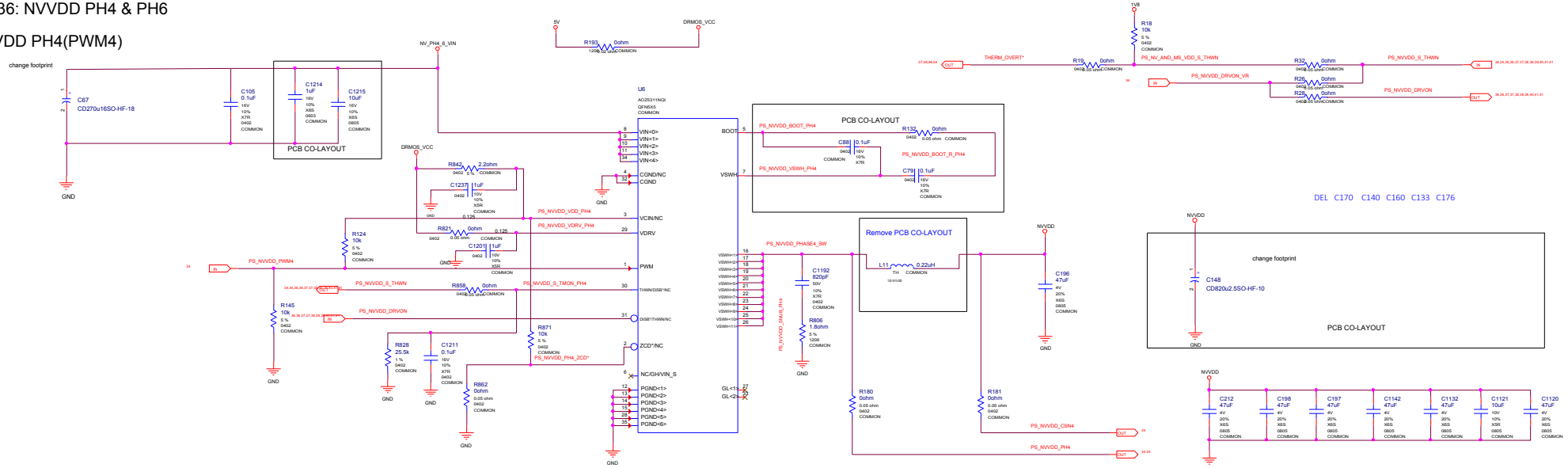
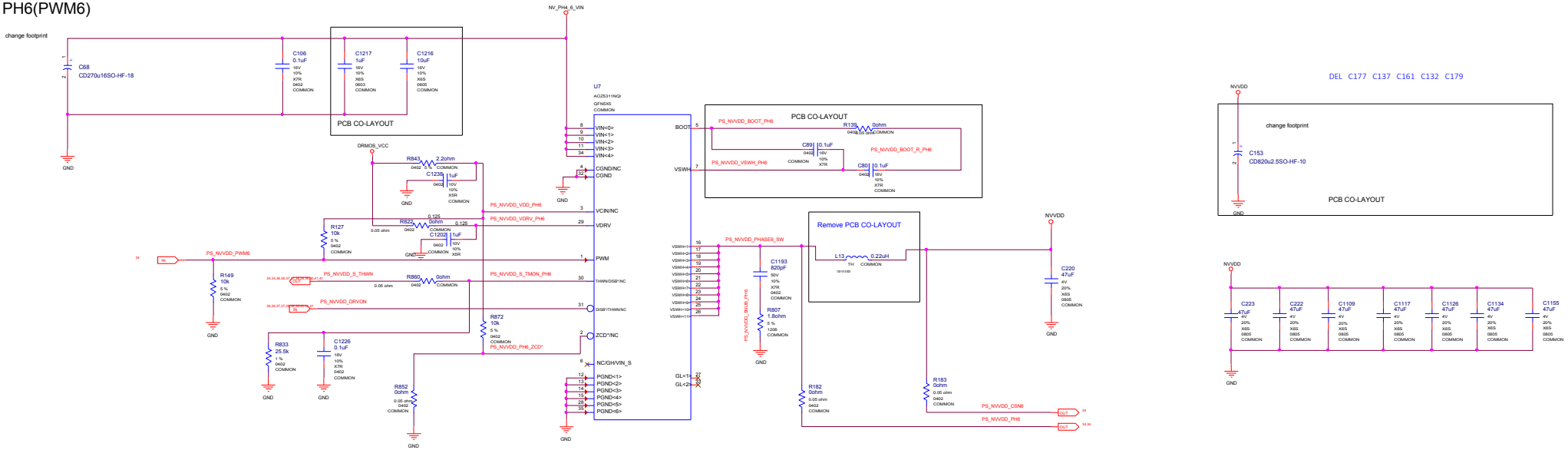
Page36: NVVDD PH4 & PH6

NVVDD PH4(PWM4)



NVVDD PH6(PWM6)



MICRO-STAR INT'L CO.,LTD	
MS-V390	
Size: Custom	Document Description: 0036_PS_ NVVDD PH4, PH6
Rev: 1.0	
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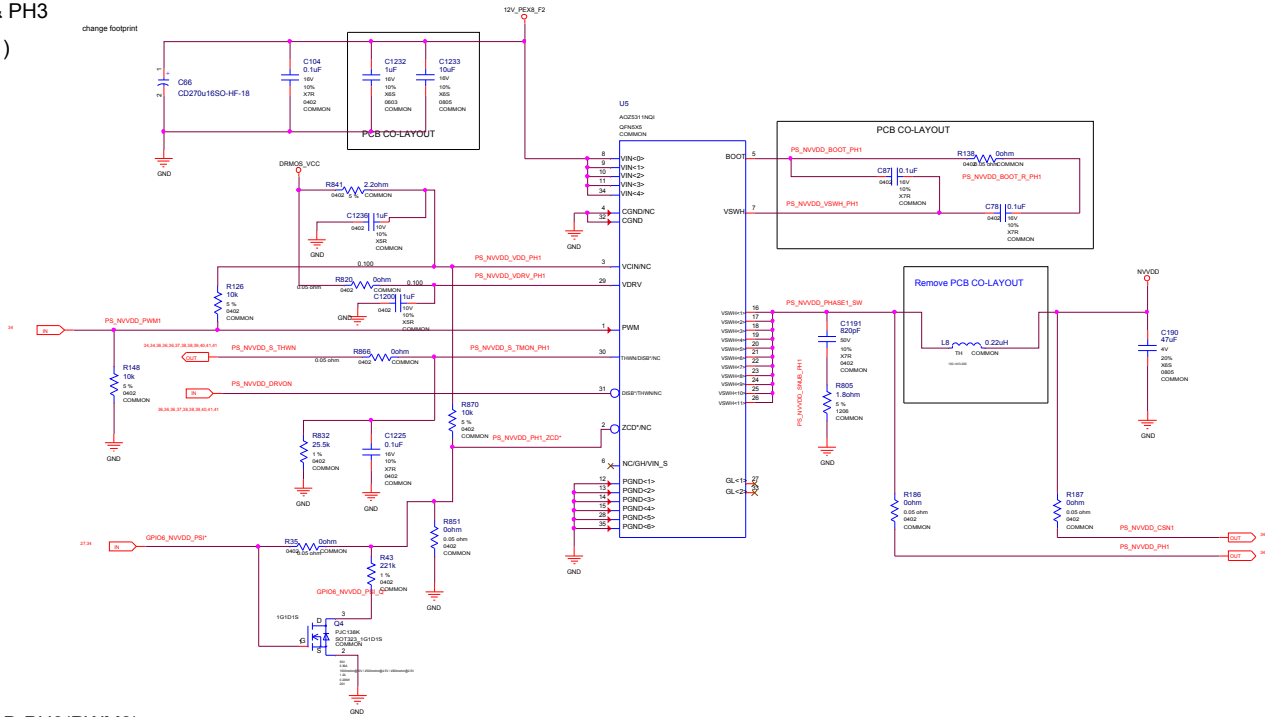
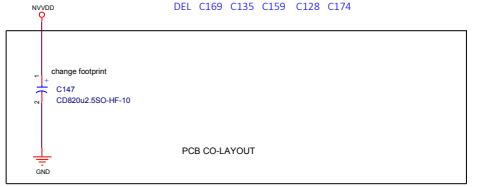
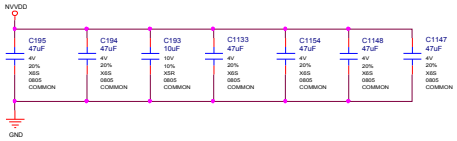
Page37: NVVDD PH1 & PH3

NVVDD PH1(PWM1)

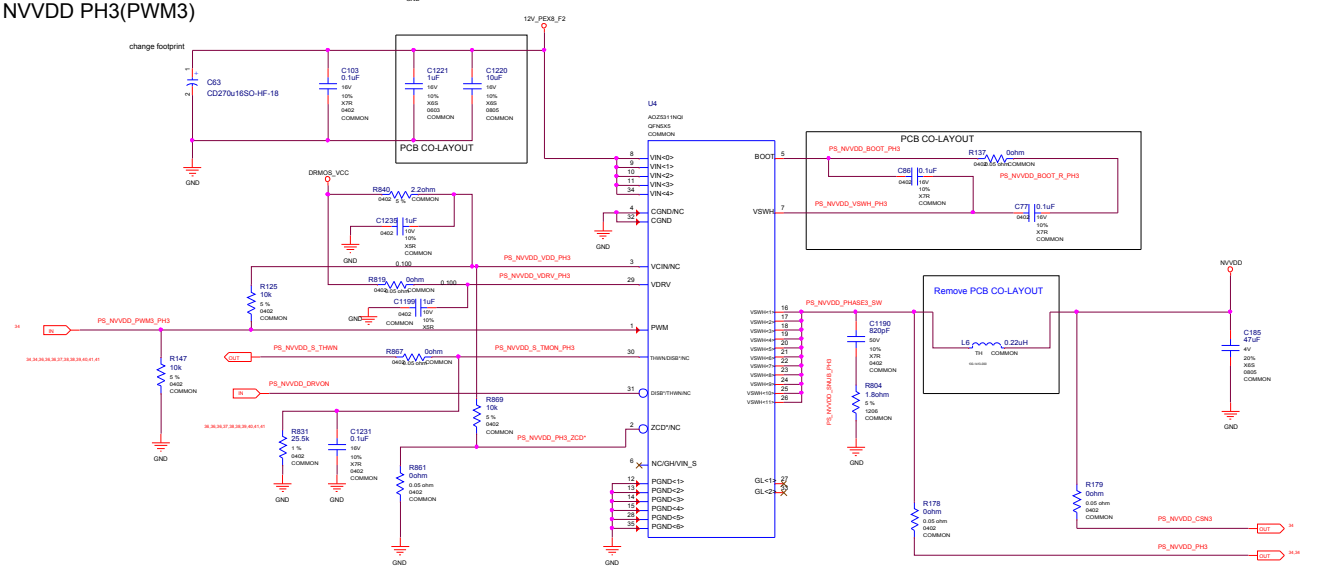


DEL C169 C135 C159 C128 C174

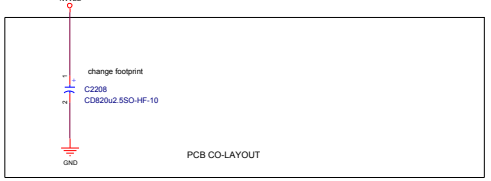




NVVDD PH3(PWM3)



DEL C166 C136 C156 C131 C175



colayout only no self standing mlccs

MICRO-STAR INT'L CO.,LTD			
MS-V390			
Size: Custom	Document Description: 0037_PS_ NVVDD PH1, PH3		Rev: 1.0
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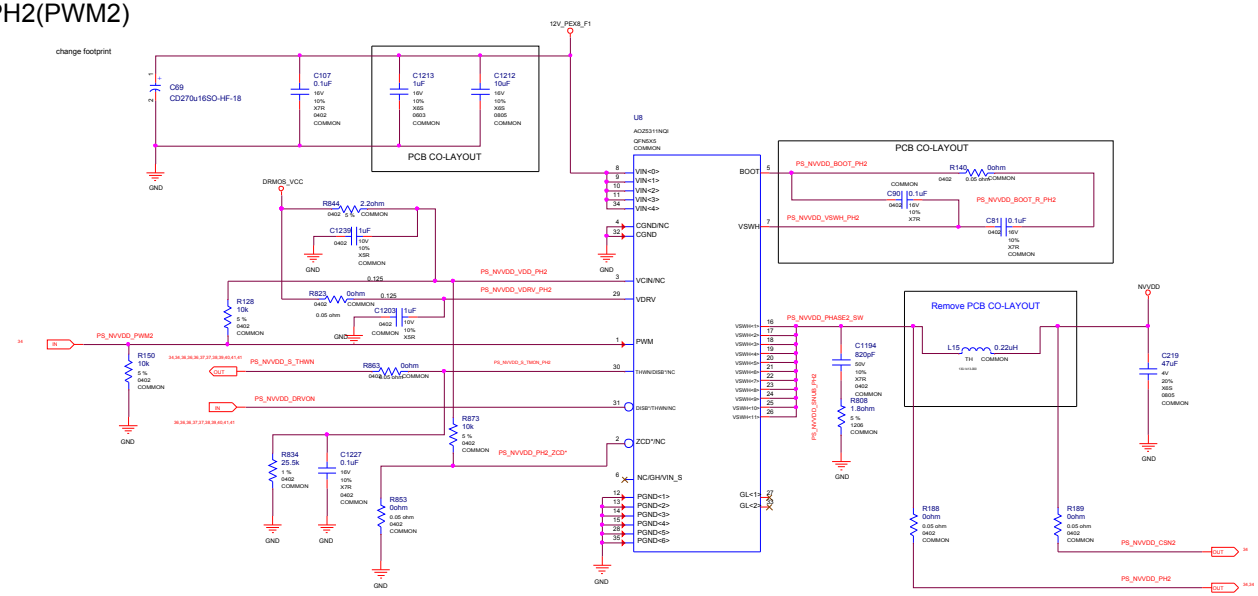
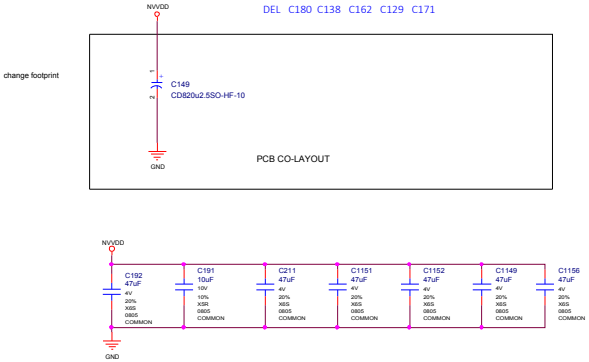
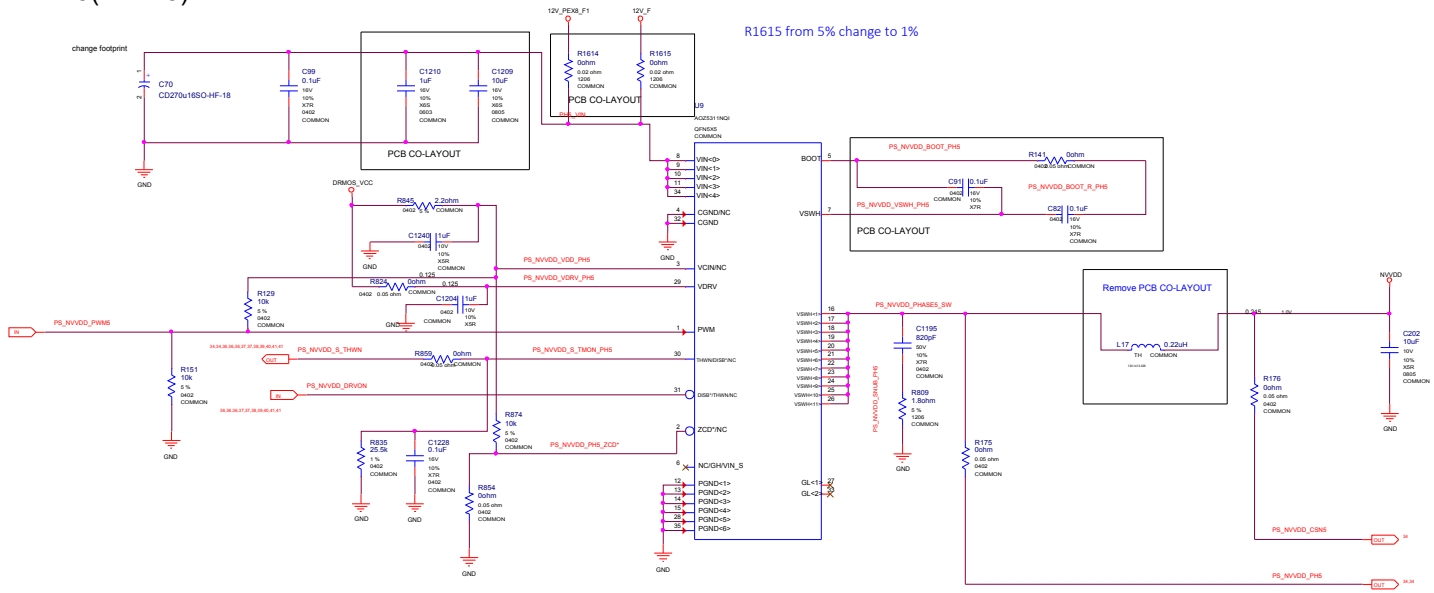
Page38: NVVDD PH2 & PH5

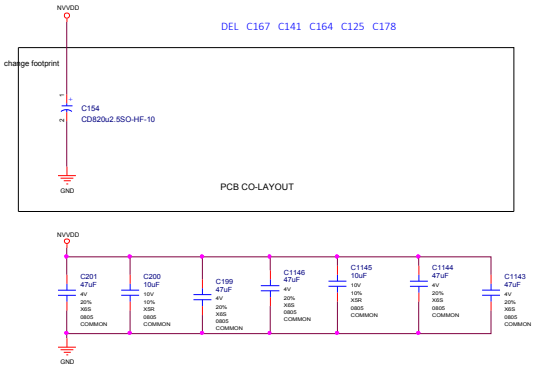
NVVDD PH2(PWM2)





NVVDD PH5(PWM5)





MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0038_PS_ NVVDD PH2, PH5	Rev: 1.0
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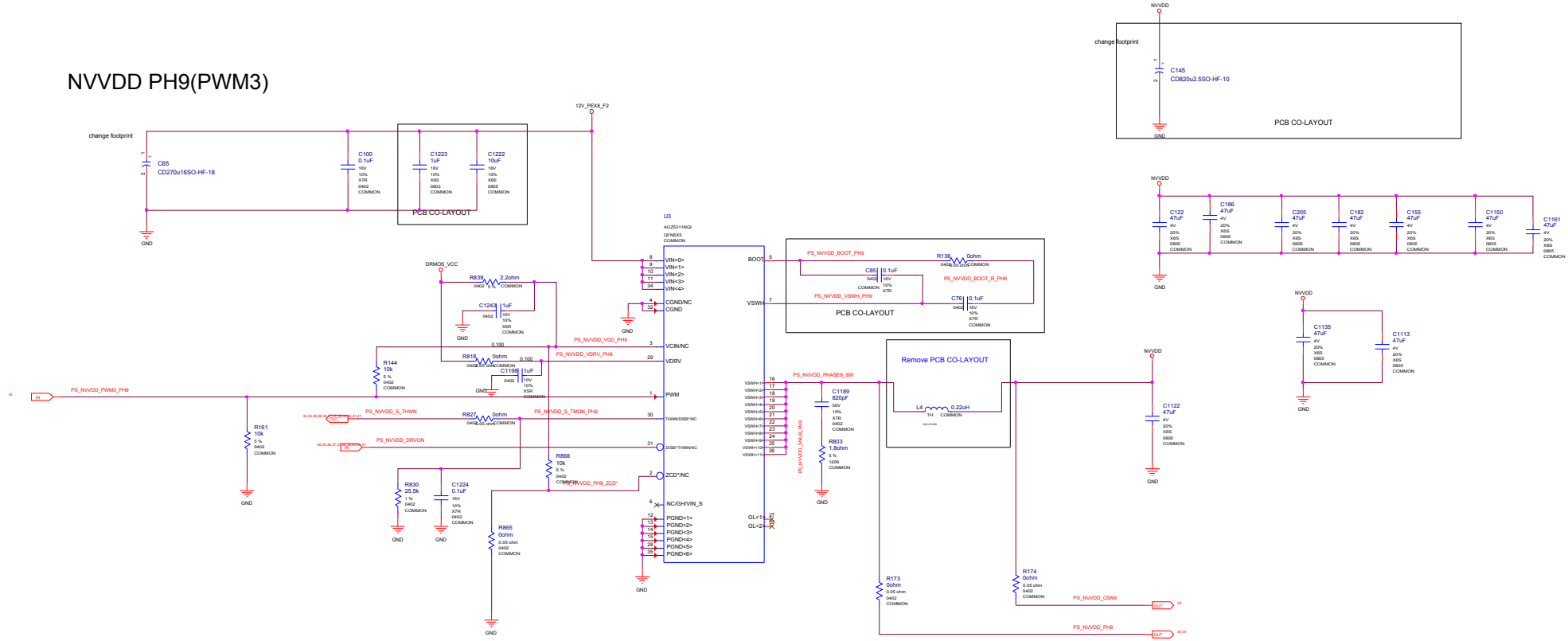
NVVDD PH9(PWM3)



MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0039_PS_ NVVDD PH9	Rev: 1.0
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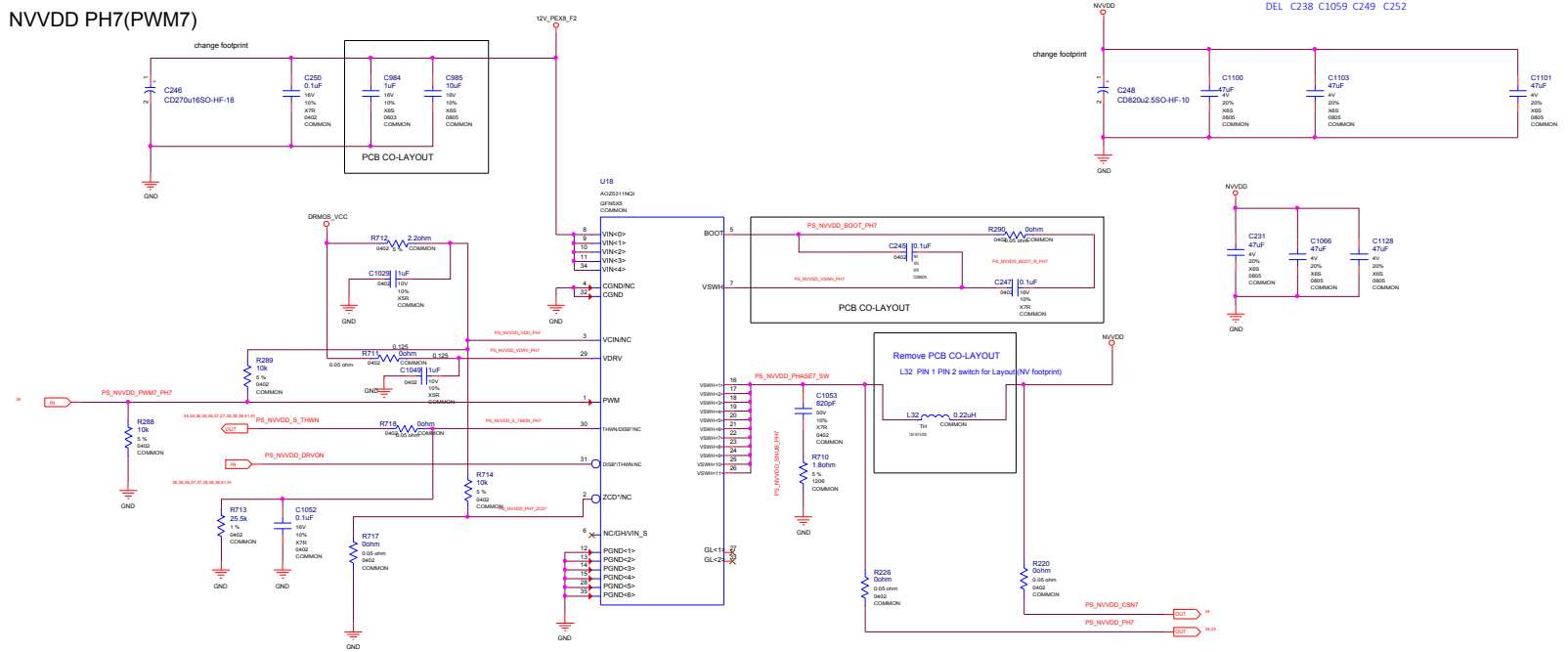
NVVDD PH7(PWM7)



MICRO-STAR INT'L CO.,LTD	
MS-V390	
Size: Custom	Document Description: 0040_PS_ NVVDD PH7
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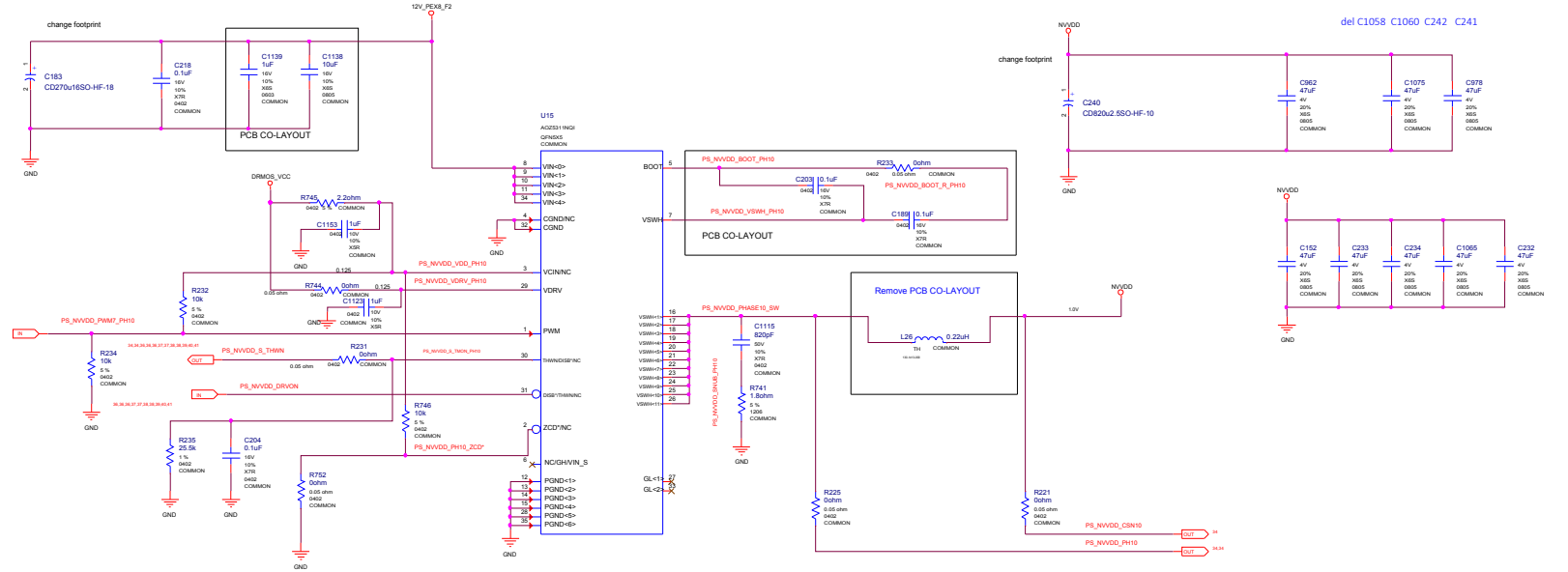
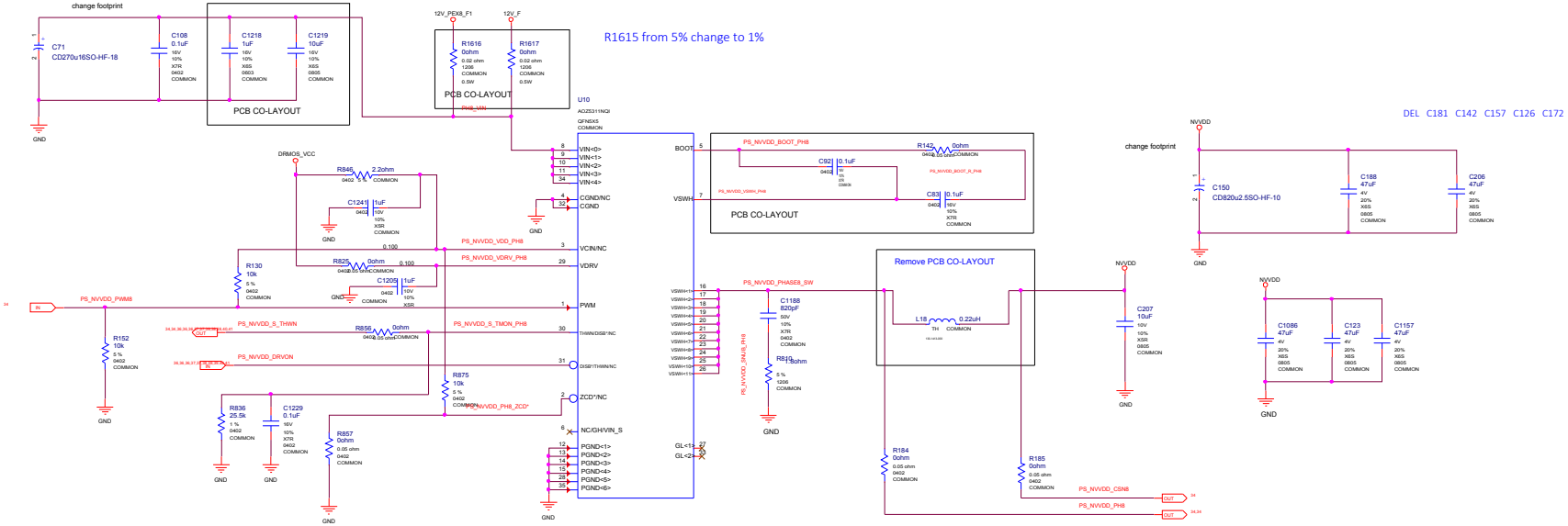
Page41: NVVDD PH10 & 8

NVVDD PH10(PWM7)



NVVDD PH8(PWM8)



MICRO-STAR INT'L CO.,LTD		
MS-V390		
Size: Custom	Document Description: 0041_PS_ NVVDD PH10, PH8	Rev: 1.0
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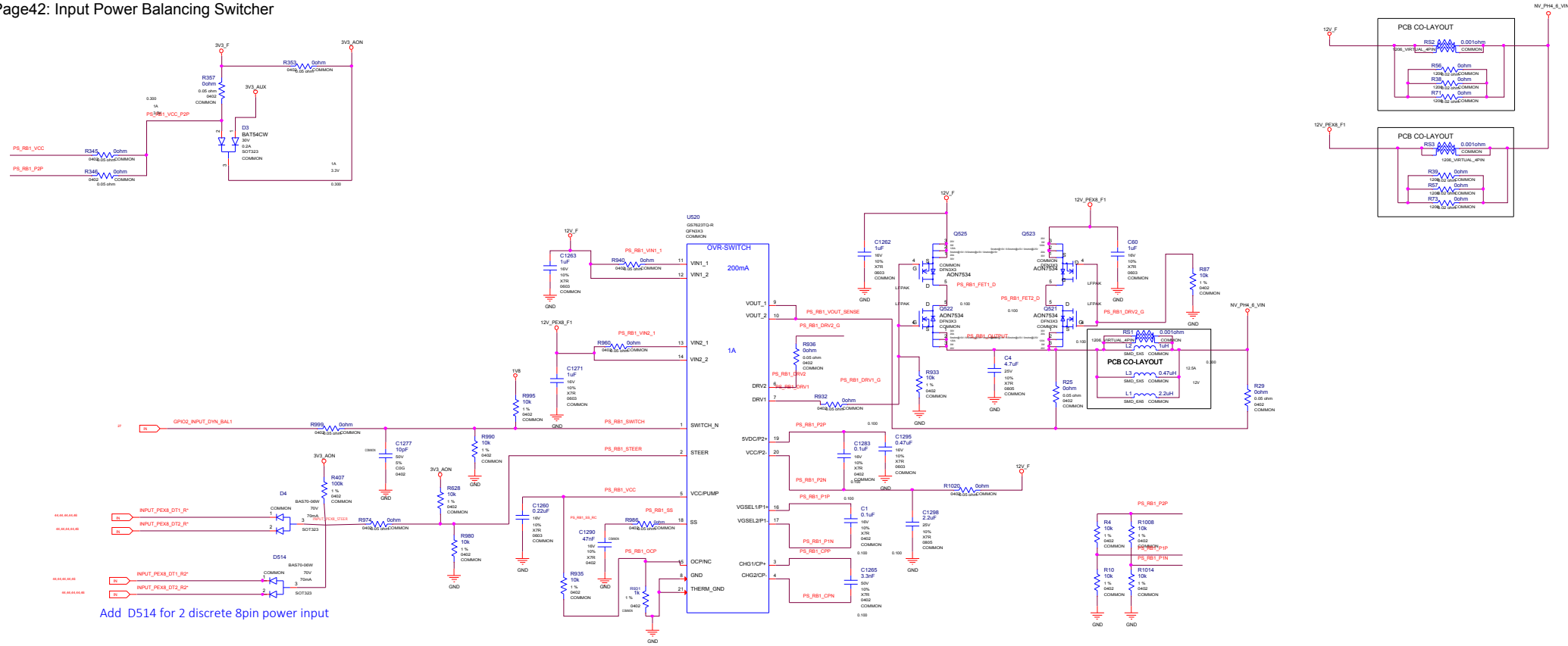
Page42: Input Power Balancing Switcher



MICRO-STAR INT'L CO.,LTD			
MS-V390			
Size: Custom	Document Description: 0042_PS_ OVRS_INPUT POWER BALAN		Rev: 1.0
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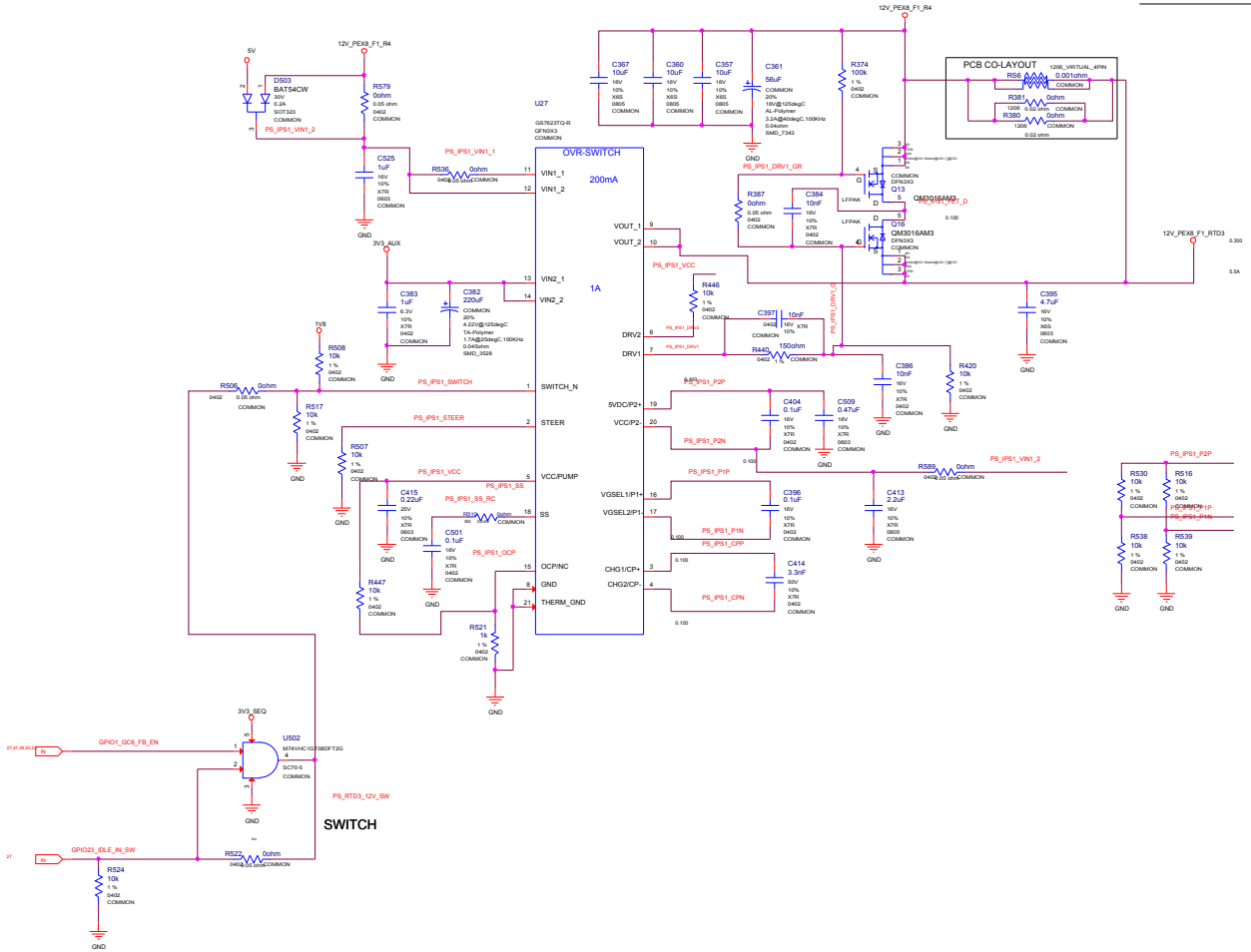
Page43: INPUT SWITCH RTD3 (12V & 3V3_A SWITCHER)

AND GATE LOGIC

GPIO1	GPIO29	SWITCH	VOUT
0	0	0	12V
0	1	0	12V
1	0	0	12V
1	1	1	3V3A

SWITCH	VOUT
0	VOUT = VIN1
1	VOUT = VIN2



MICRO-STAR INT'L CO.,LTD			
MS-V390			
Size: Custom	Document Description: 0043_PS_ RDT3_12V & 3V3_A Switc		Rev: 1.0
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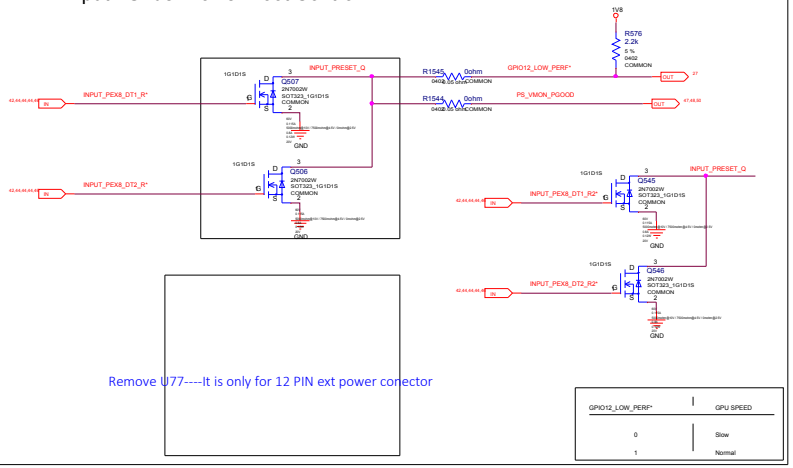
Page44: 12V_EXT_INPUT, FILTERING & UNDER POWER BOOT

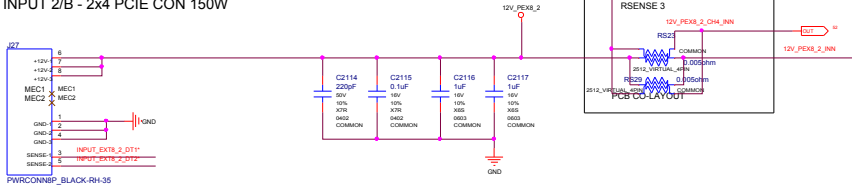
Remove 12 PIN Power connector 's CURRENT STREENING

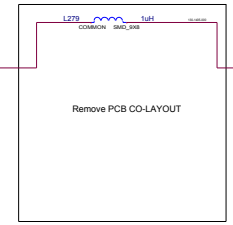
PEX Input - Under Power Boot Control



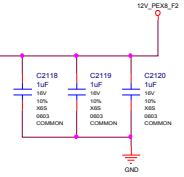
one 12pin EXT power conn. change to two reverse 8pin conn.

PEX8 INPUT 2/B - 2x4 PCIE CON 150W

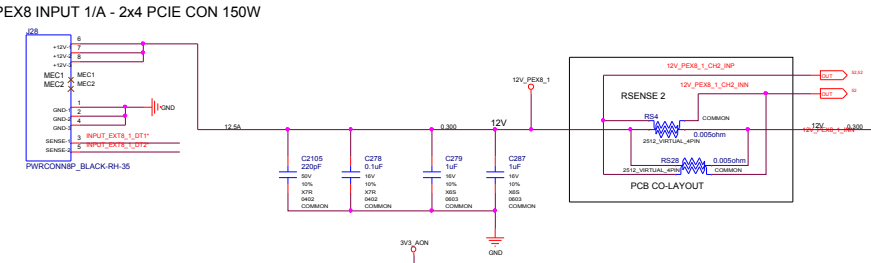


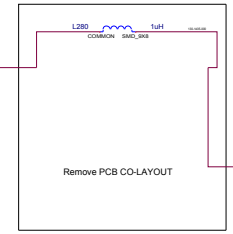


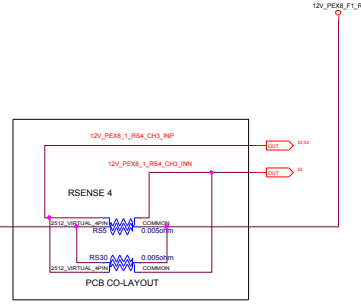
Remove RS24

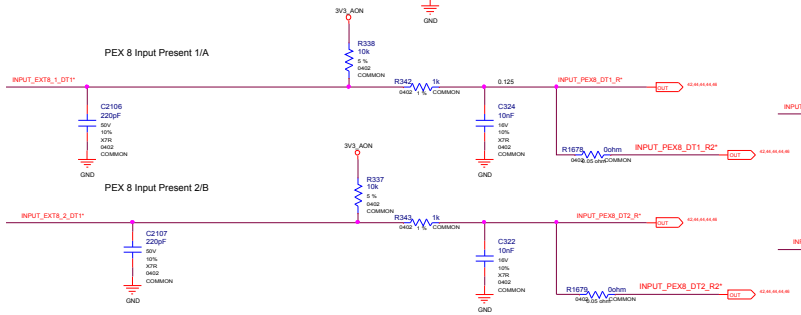


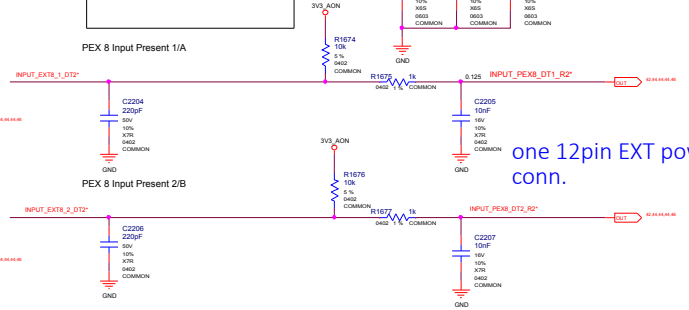
PEX8 INPUT 1/A - 2x4 PCIE CON 150W











one 12pin EXT power conn. change to two reverse 8pin conn.

MSI	MICRO-STAR INT'L CO.,LTD	
	MS-V390	
Size: Custom	Document Description: 0044_PS_ INPUTS, FILTERING and	Rev: 1.0
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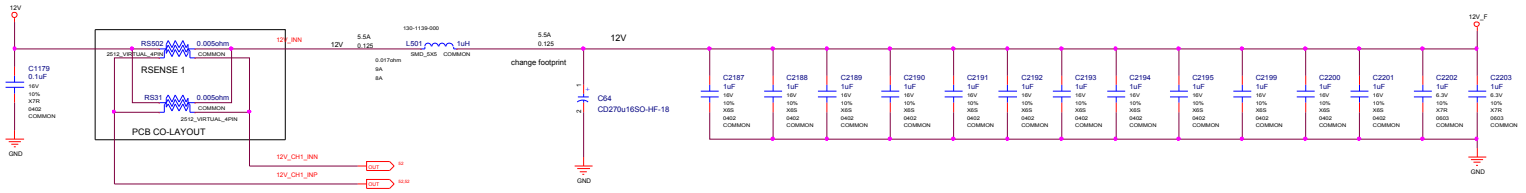
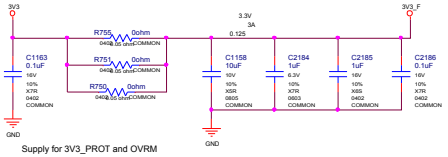
Page45: PEX_INPUT & FILTERING, PEX_3V3, 3V3_AUX

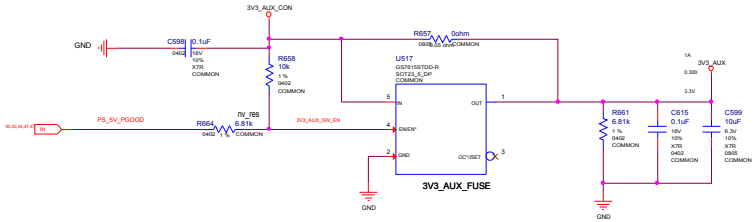
PEX_12V INPUT - 66W



PEX 3V3 INPUT - 10W



3V3_AUX



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MS-V390			
Size: Custom	Document Description: 0045_PS_ PEX_12V, PEX_3V3 AND A		Rev: 1.0
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Page46: STEERING, UPB, HOT UNPLUG

POWER CONNECTOR HOT-UNPLUG DETECT

Remove power connector HOT-UNPLUG

one 12pin EXT power conn. change to two reverse 8pin conn.

12V CURRENT STEERING (UNDER POWER BOOT):

GUIDES CURRENT FROM PEX EDGE TO PEX 8 PIN INPUT AREA

Remove 12V CURRENT STREERING

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Custom	0046_PS_ STEERING, UPB, HOT UNP	1.0

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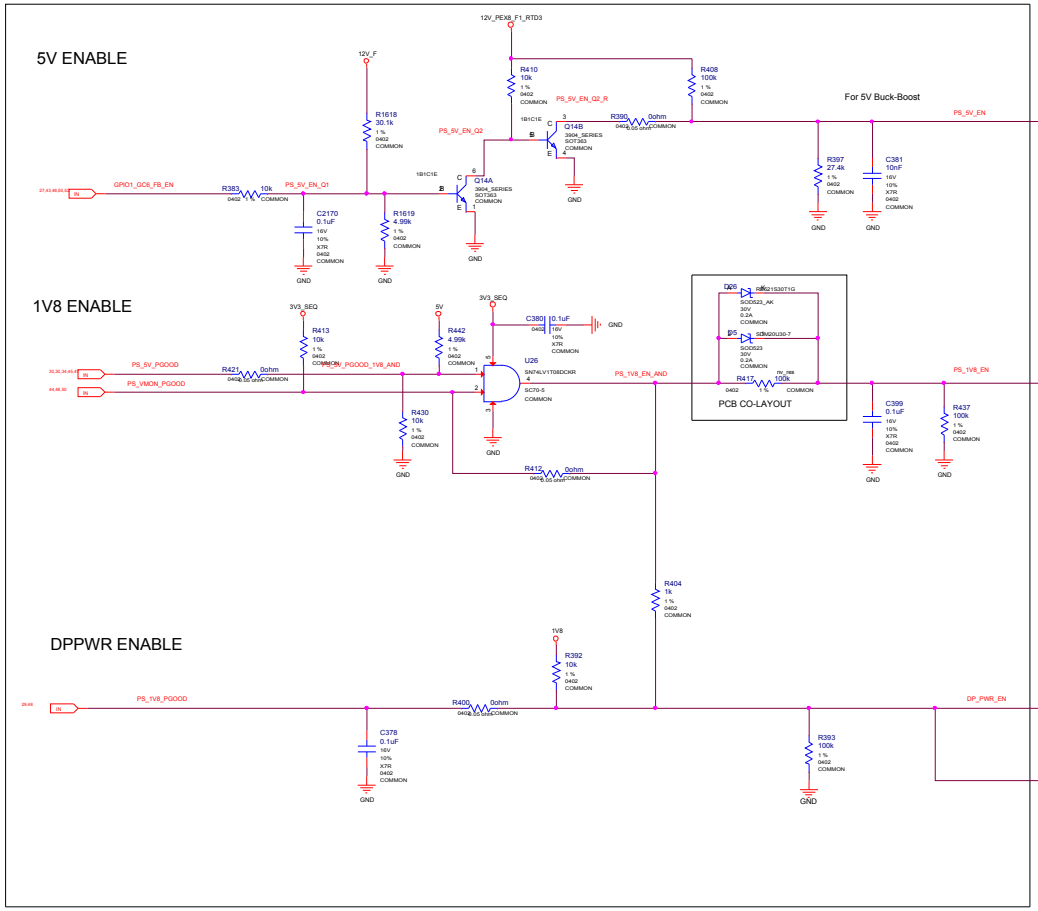
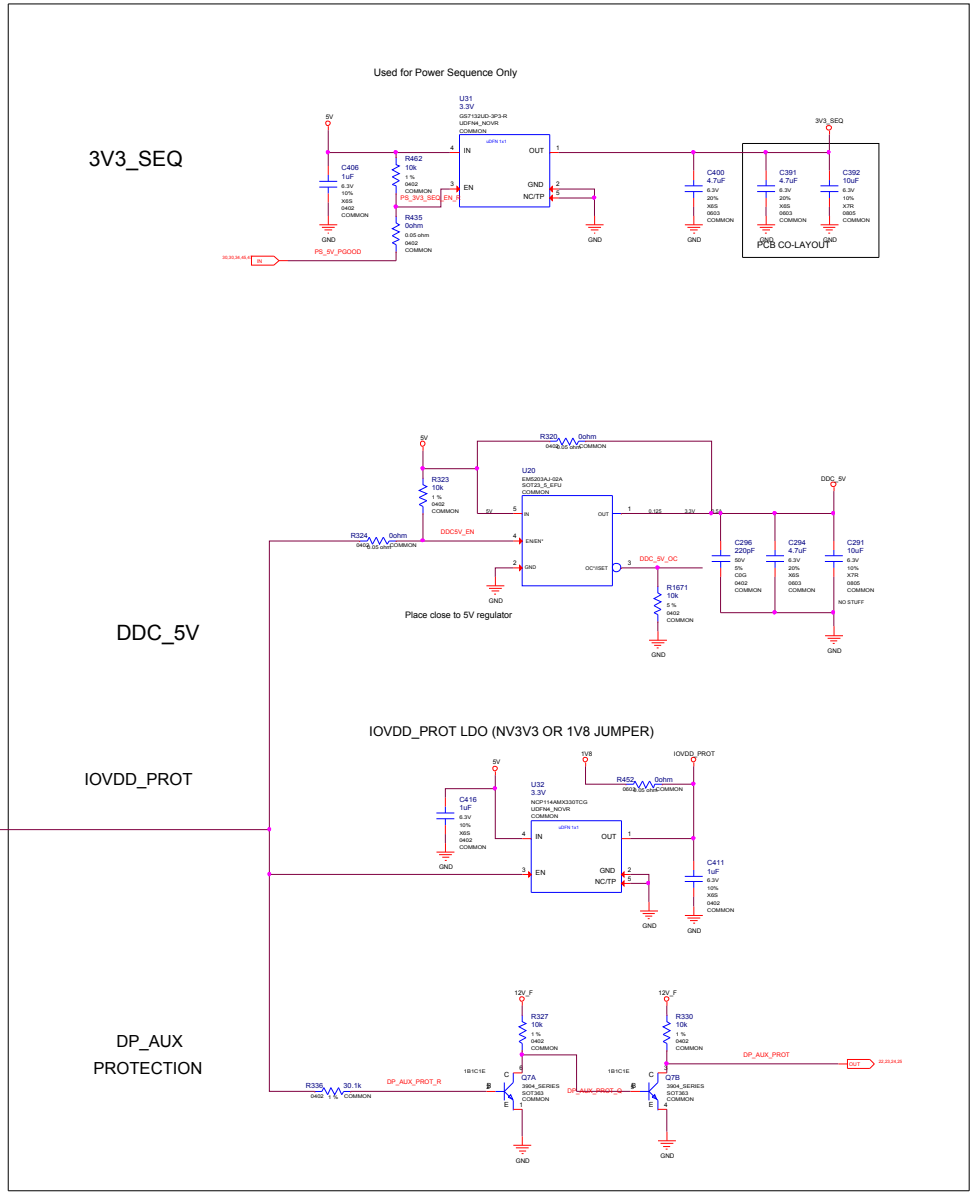
Page47: SEQ: 5V, 1V8, 3V3_SEQ, DDC_5V, DP_AUX_PROT





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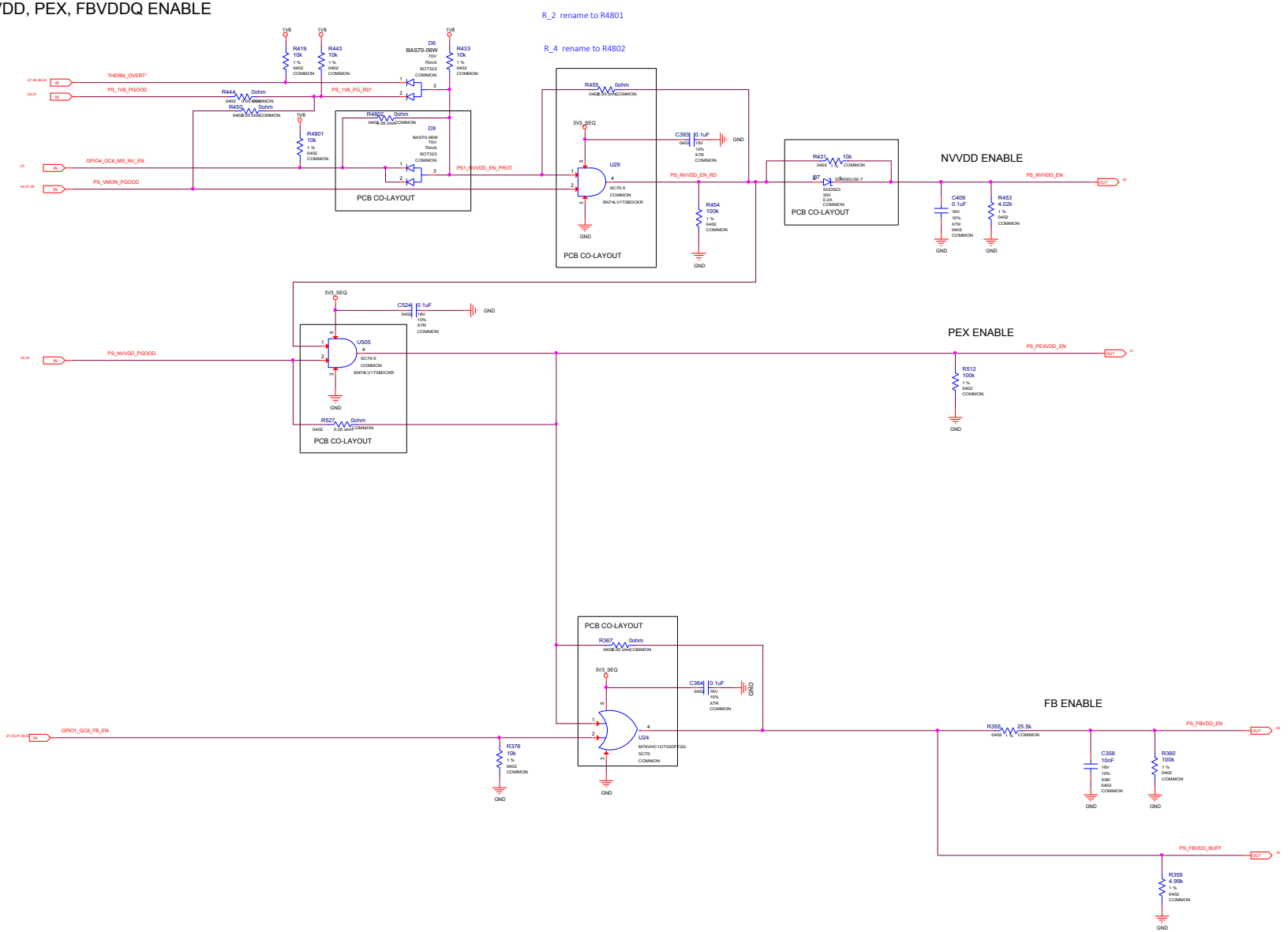
Page48: SEQ:NVVDD, PEX, FBVDDQ ENABLE



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MS-V390			
Size: Custom	Document Description: 0048_SEQ_ NVVDD, PEX, FBVDDQ EN		Rev: 1.0
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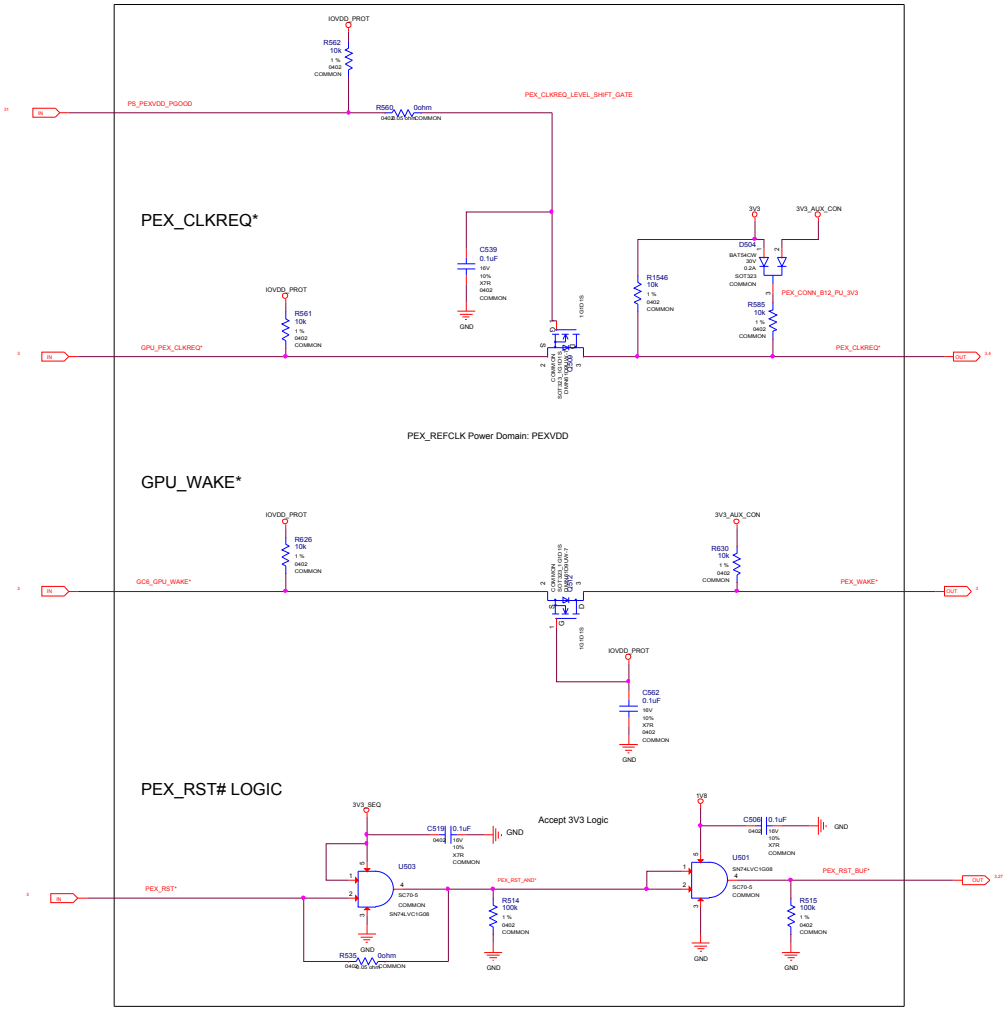
Page49: SEQ:MISC



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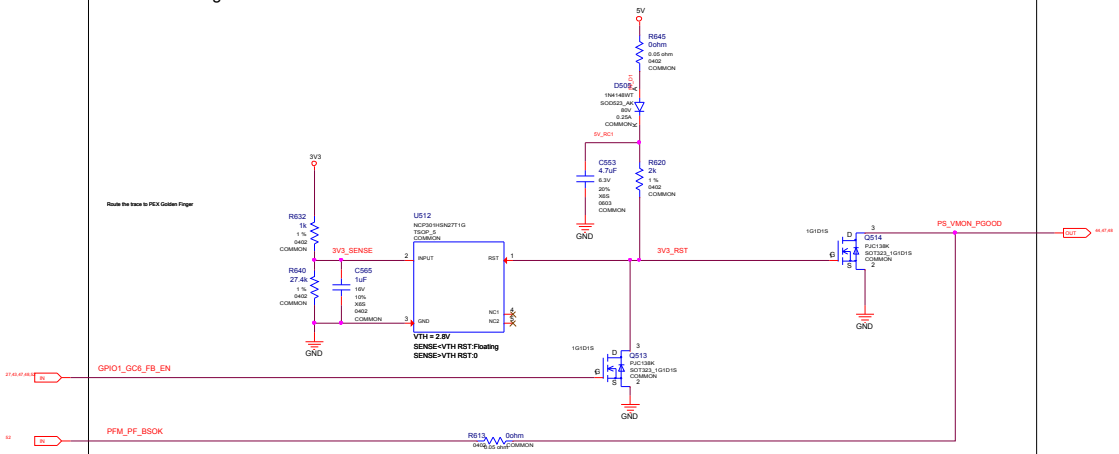
3V3PEX Voltage Monitor



BOM Configuration

OPTIONS	PEX3V3_SENSE	PEX12V_SENSE	OTHER_12V_SENSE
Use Pre-Filter	**Pre-Filter**	**Pre-Filter**	**Pre-Filter**
NO Pre-Filter	Voltage_Monitor	Voltage_Monitor	N/A

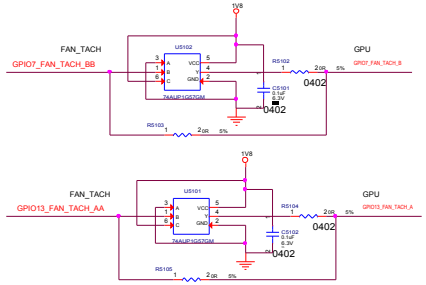
Signal	Direction	Function
3V3	INPUT	Sense the 3V3 Voltage from PCIE golden finger
12V	INPUT	Sense the 12V Voltage from PCIE golden finger
PS_VMON_PGOOD	OPEN-DRAIN	Floating(H) once both 3V3 and 12V reach Vth
GC6_FB_EN	INPUT	Indicator for RTD3/GC6 residence,Use to Mask the VMON_PGOOD
PS_PF_SKIP	INPUT	From INA3221(VPU) or Pre-filter(SKIP)
PS_PF_BSOK	INPUT	From INA3221(PV) or Pre-filter(BS_OK)

Page51: FAN&LED

2-PIN LED HEADER

Remove 2-PIN LED function

Add Fan tach buffer circuit



DUAL FAN 4-PIN HEADERS

change to D01-AT54C49-LA9

R_1 rename to R5106

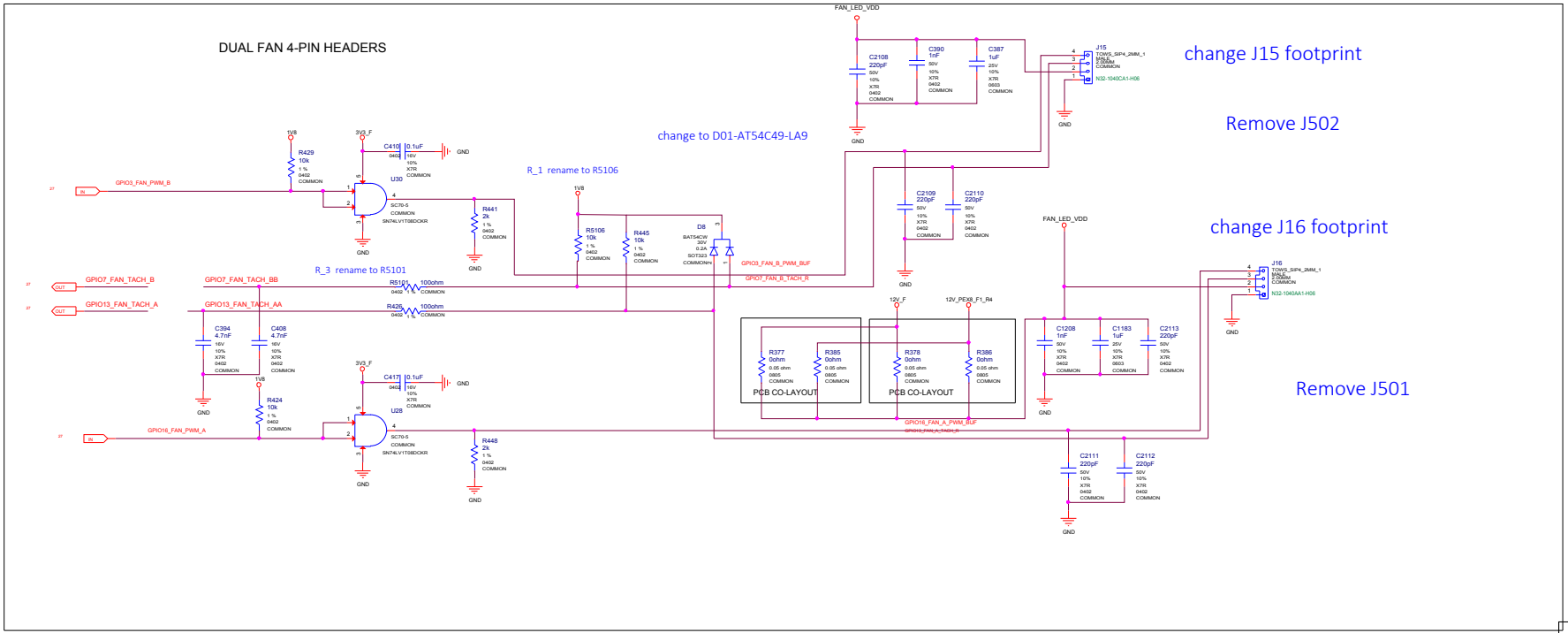
R_3 rename to R5101

change J15 footprint

Remove J502

change J16 footprint

Remove J501



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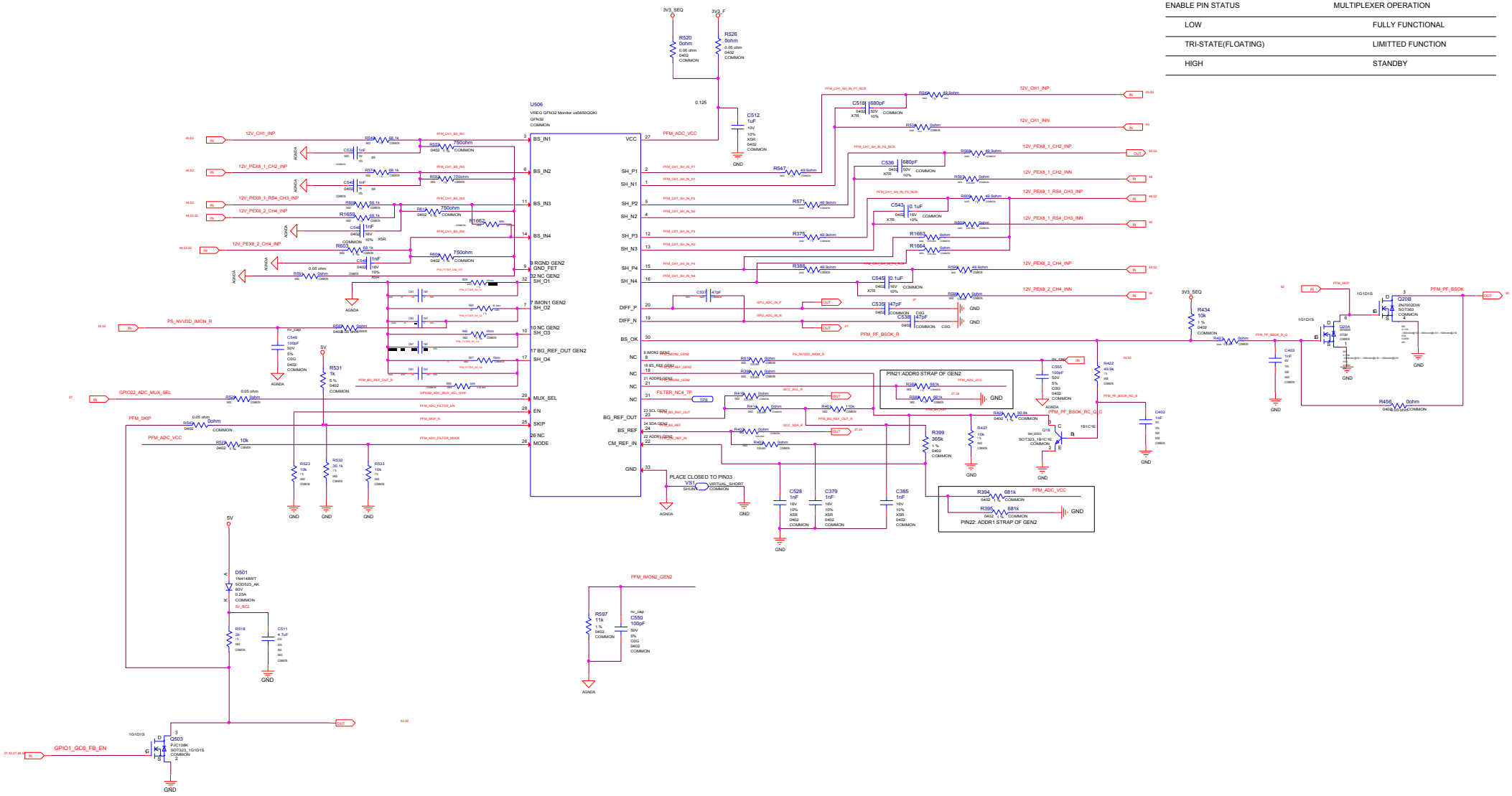
Page52: OVRM_PWR SENSE

MODE PIN STATUS	MULTIPLEXER OPERATION
LOW	DEVICE A
TRI-STATE(FLOATING)	STAND-ALONE
HIGH	DEVICE B

ENABLE PIN STATUS	MULTIPLEXER OPERATION
LOW	FULLY FUNCTIONAL
TRI-STATE(FLOATING)	LIMITTED FUNCTION
HIGH	STANDBY



MSI	MICRO-STAR INT'L CO.,LTD	
	MS-V390	
Size: Custom	Document Description: 0052_PS_OVRM_PWR_SENSE	Rev: 1.0
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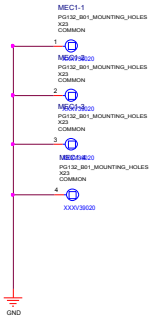
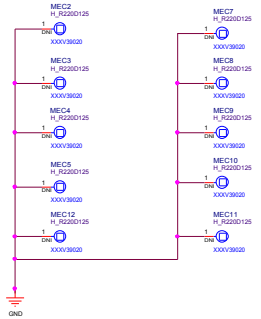
Page53: MECH

Bracket:

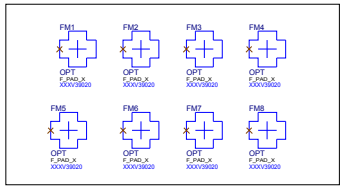
Add MEC (from V388 10)

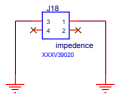


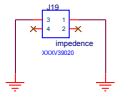


ADD MEC

Bracket Screw







Remove CLP1 / CLP2 / CLP3

HDMI_FEE

HDMI

HDMI_FEE
COMMON

VVVV39020
Y01-RHDMI03-000

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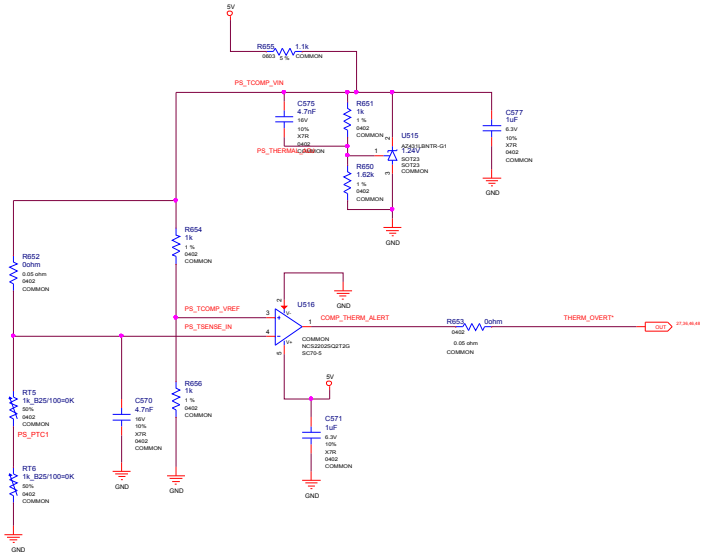

Close to FBVDD MOS

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