

GA102 GF SKU P-BOARD

370W, 7.4inch STD PCB, 320b, GDDR6x x16 10GB

DP + DP + DP + HDMI

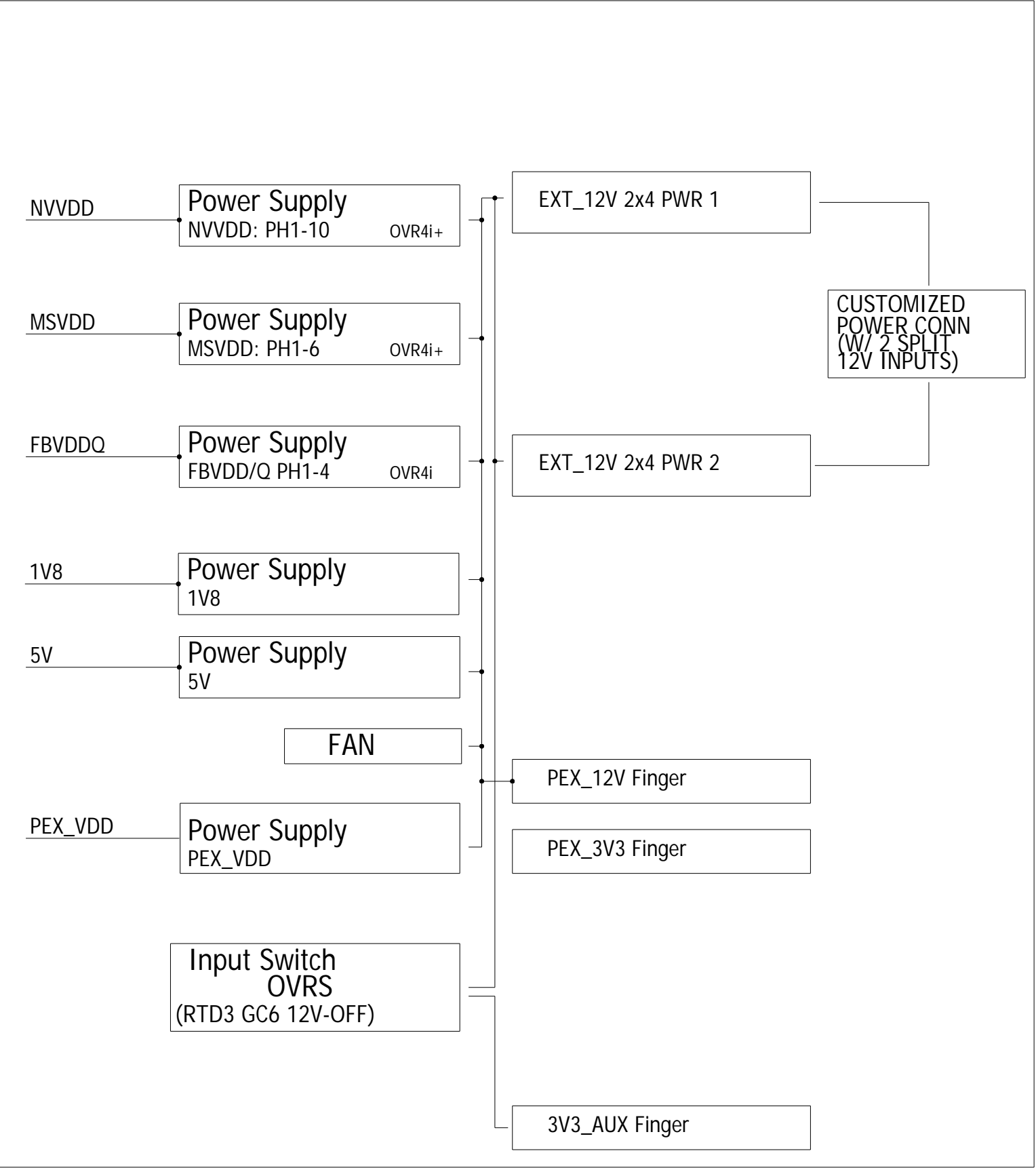
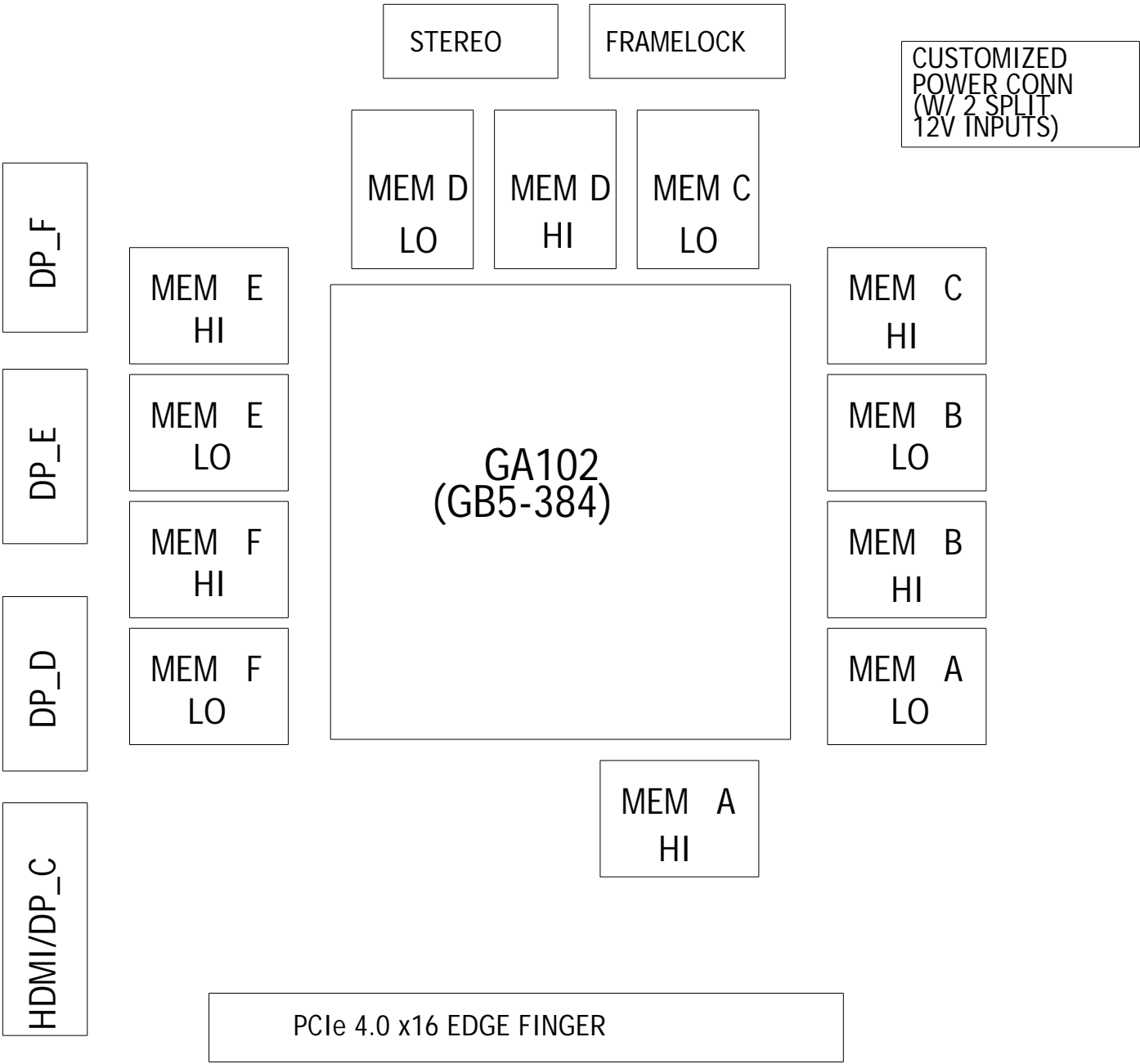
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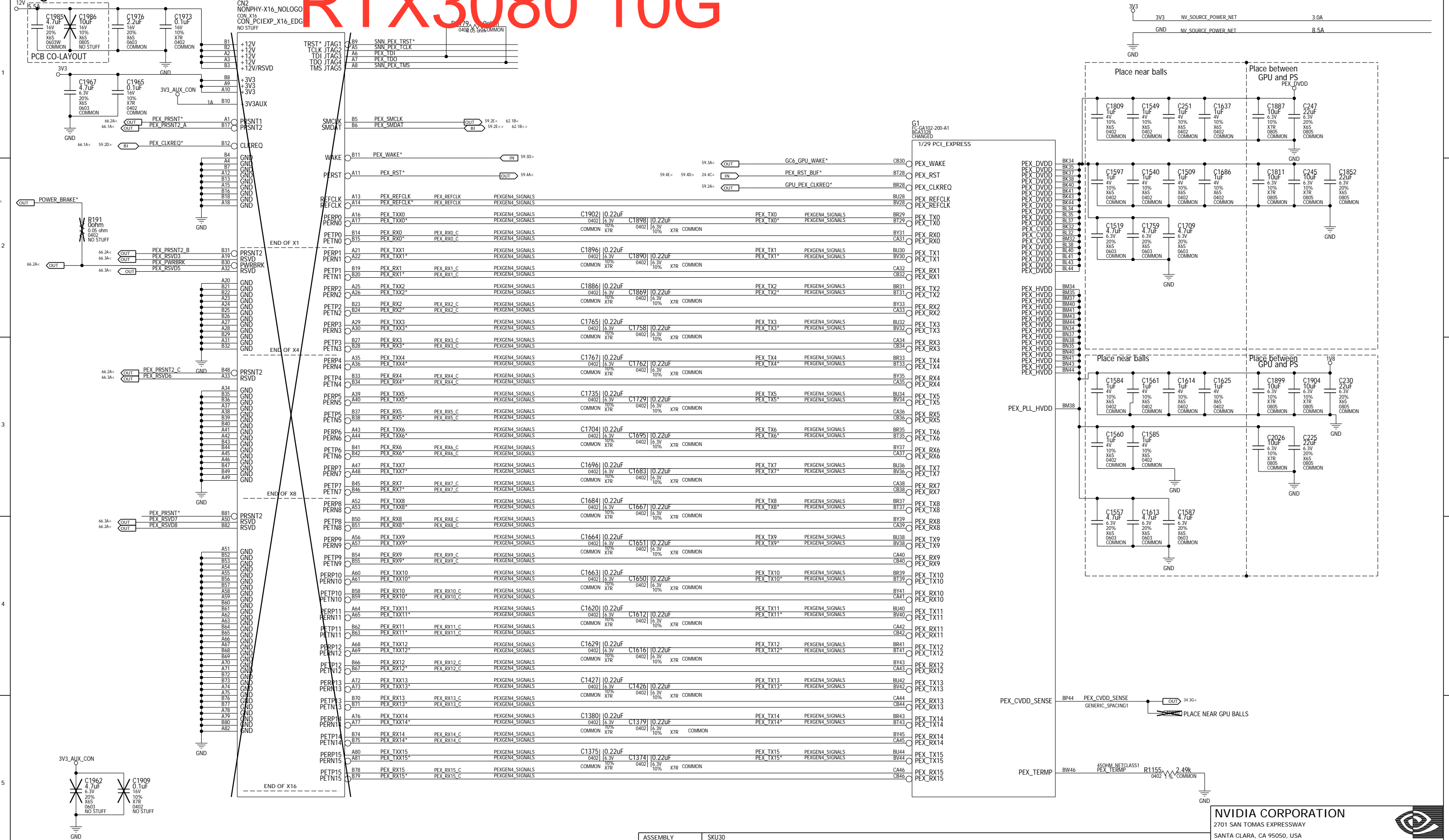
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NVIDIA RTX3080 GAMING EKRAK KARTI



RTX3080 10G



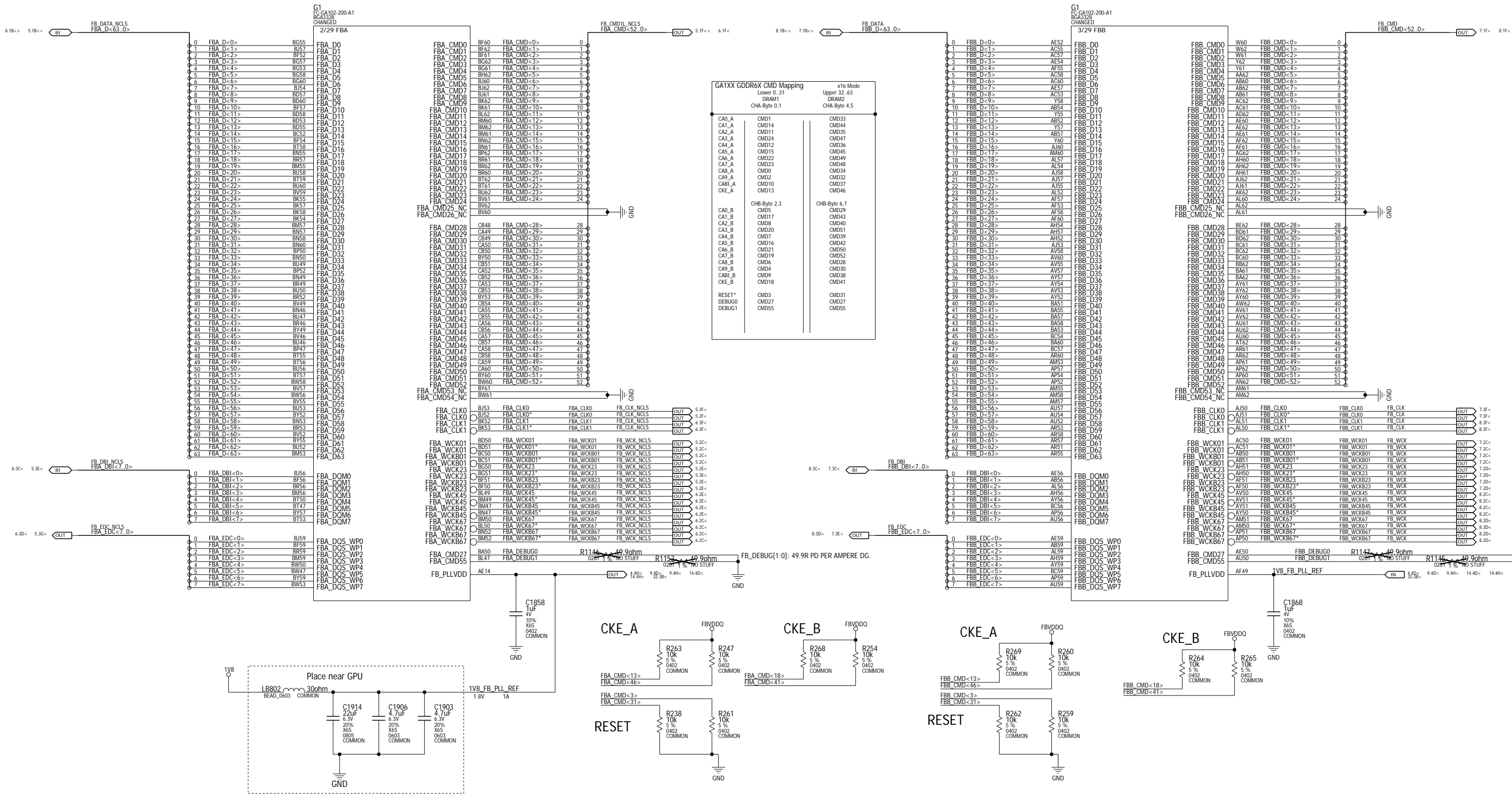
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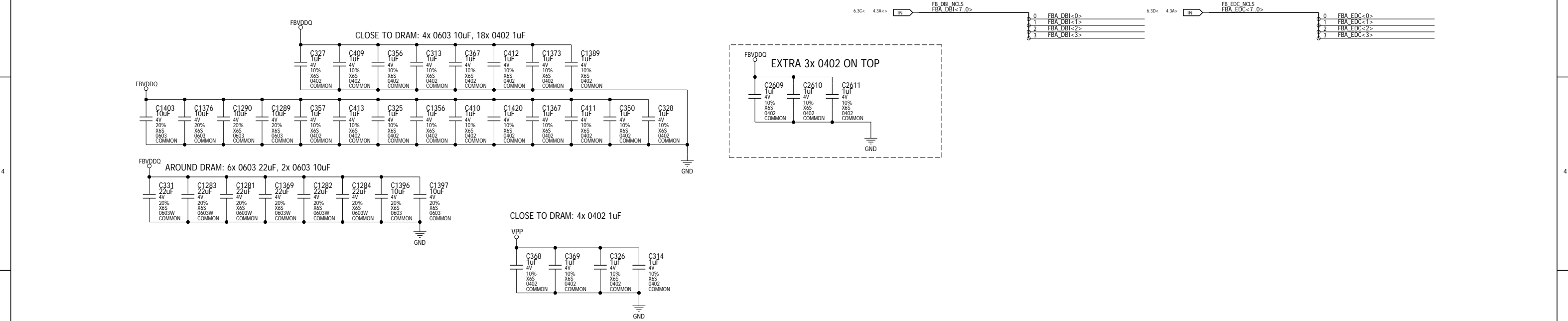
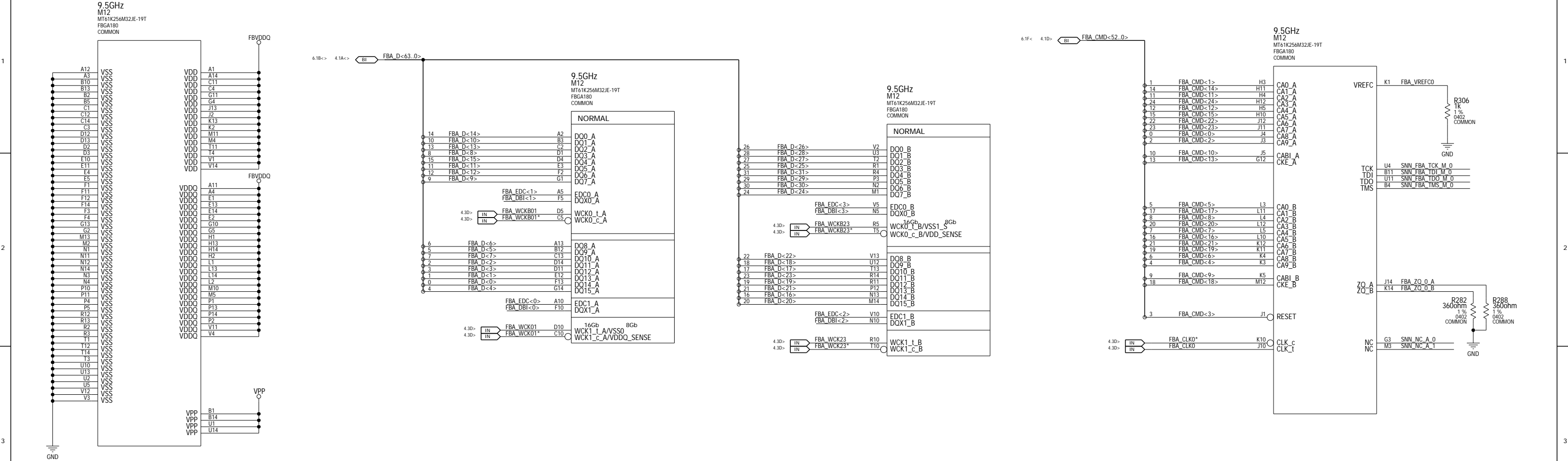
2701 SAN TOMAS EXPRESSWAY
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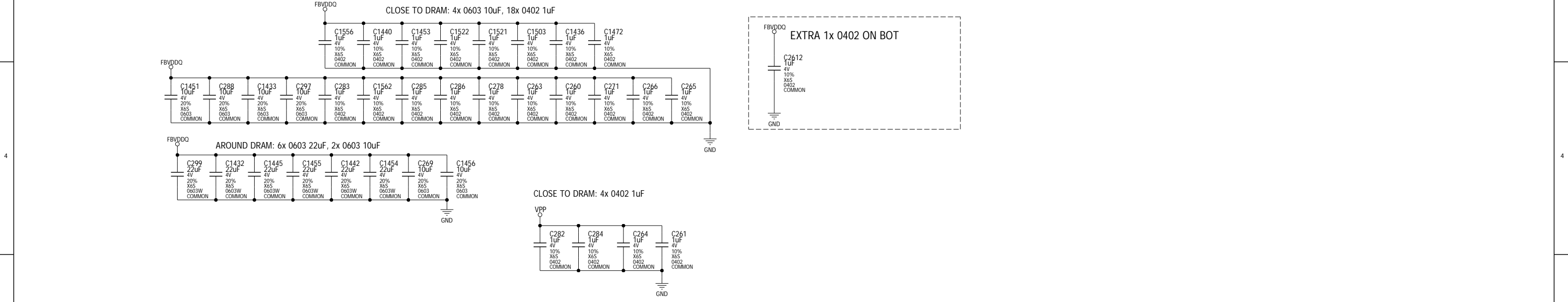
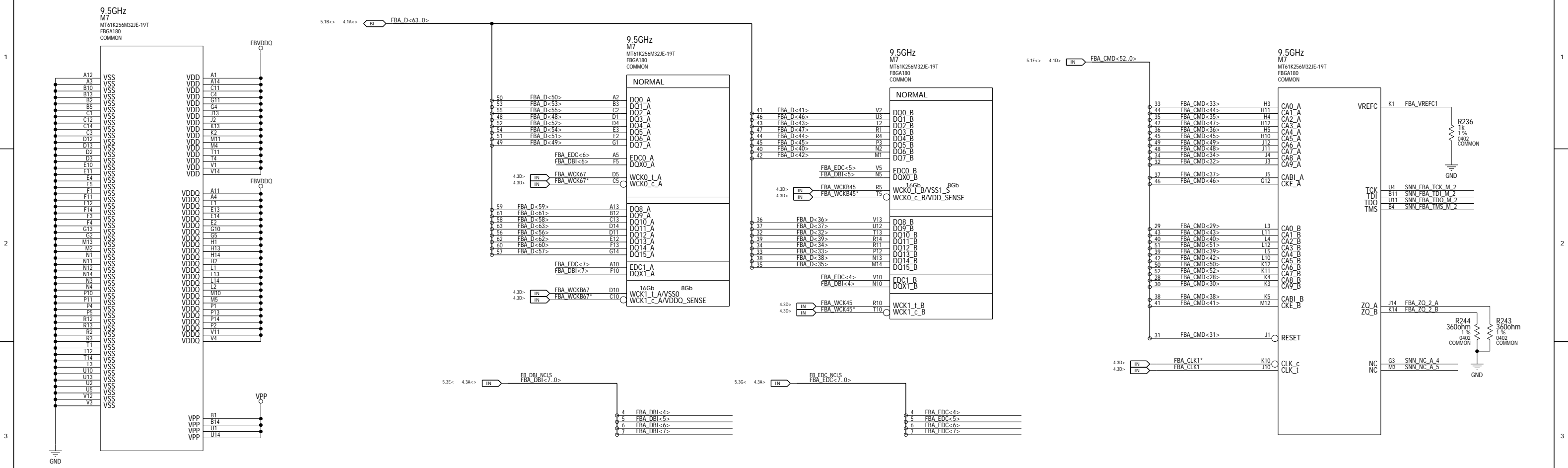
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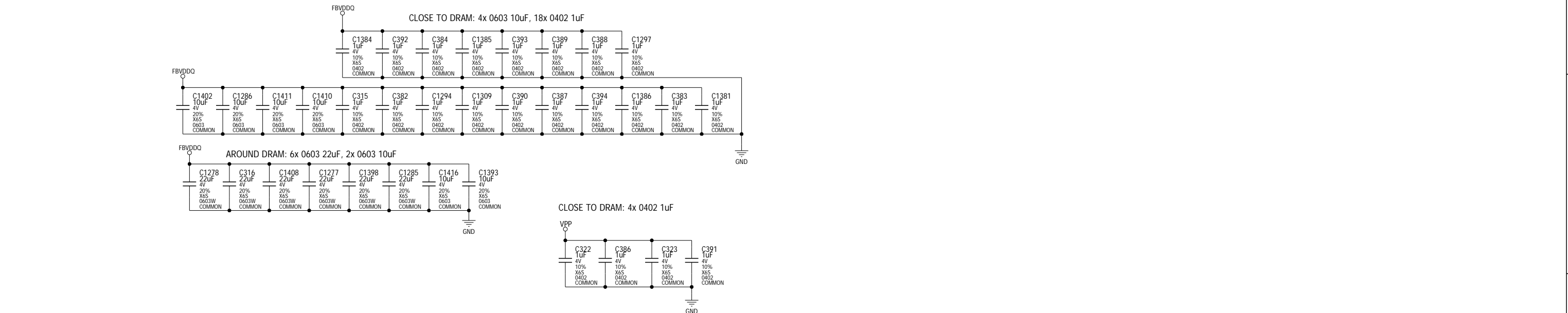
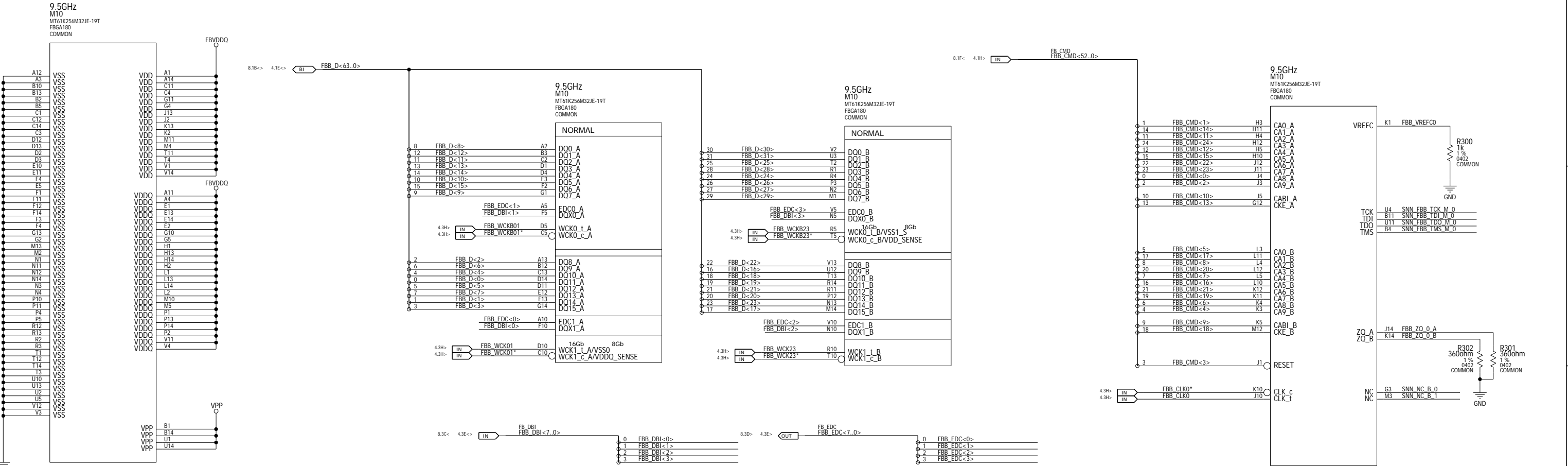




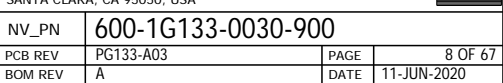
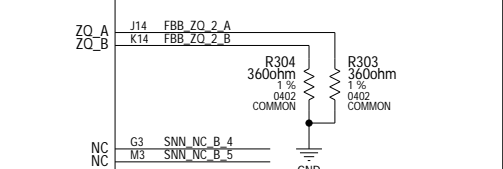
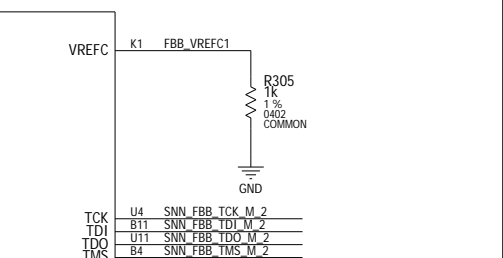
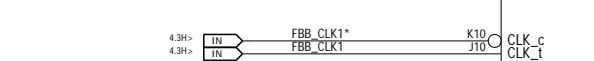
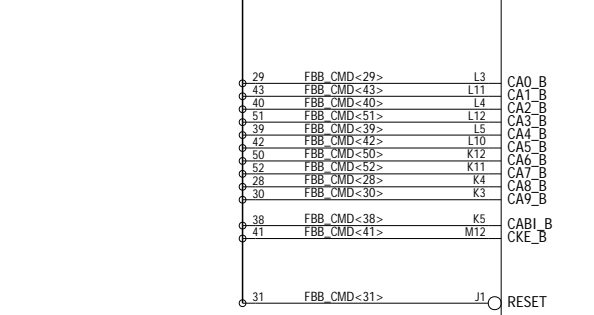
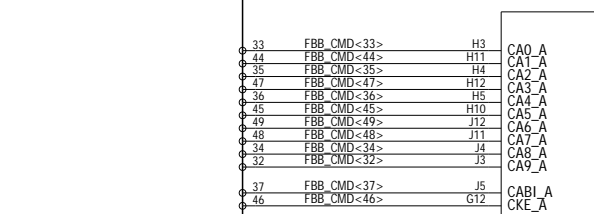
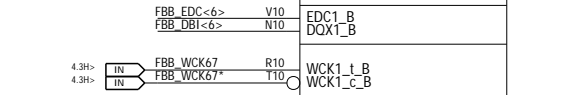
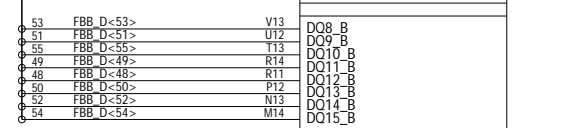
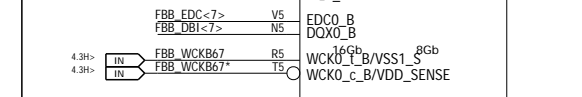
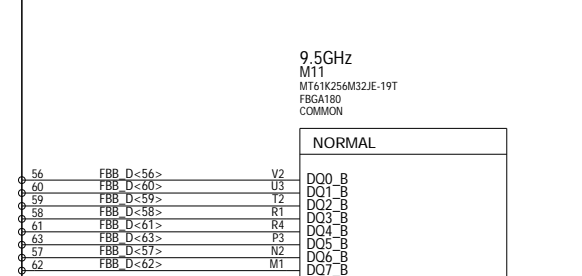
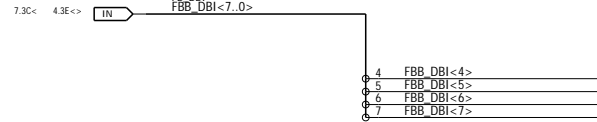
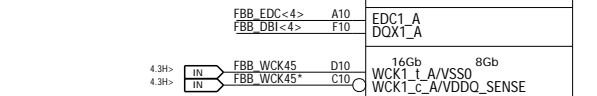
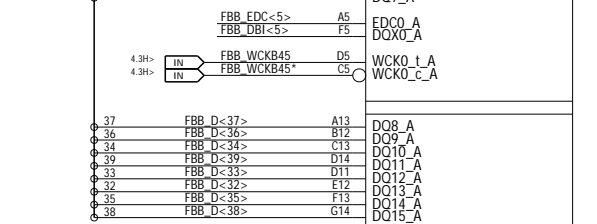
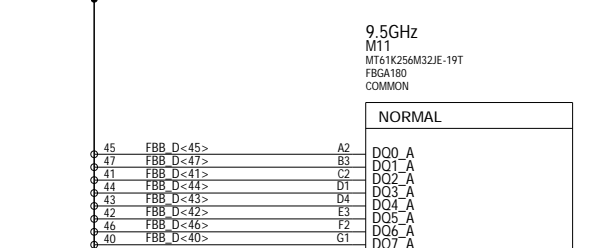
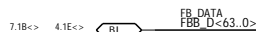
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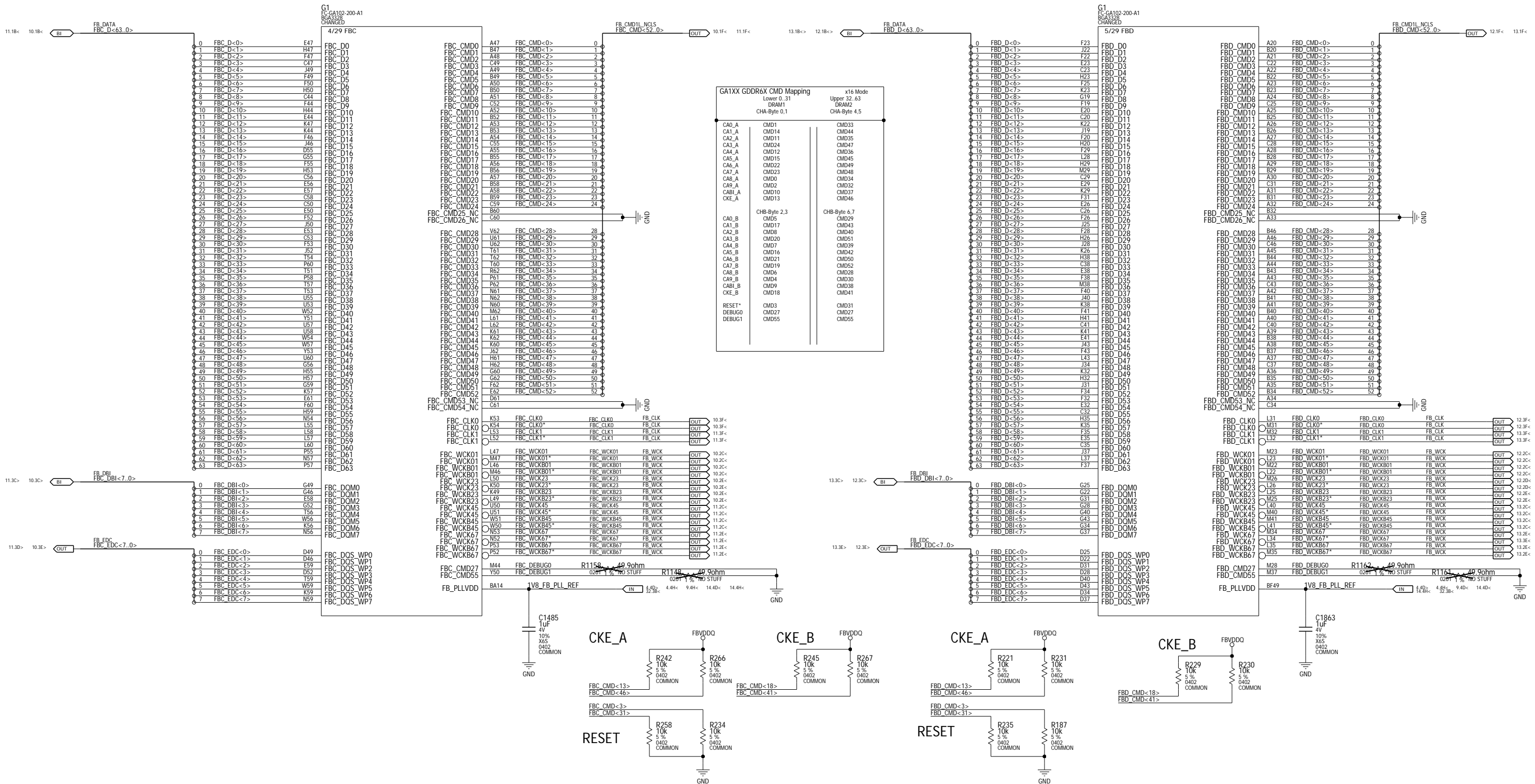


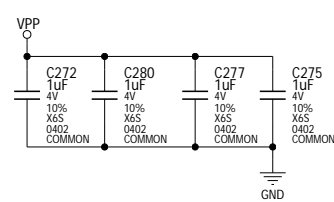
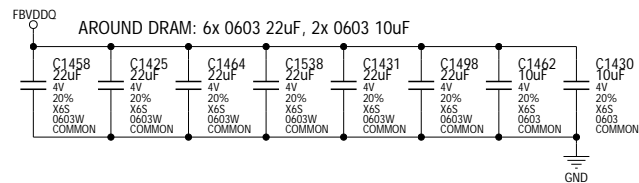
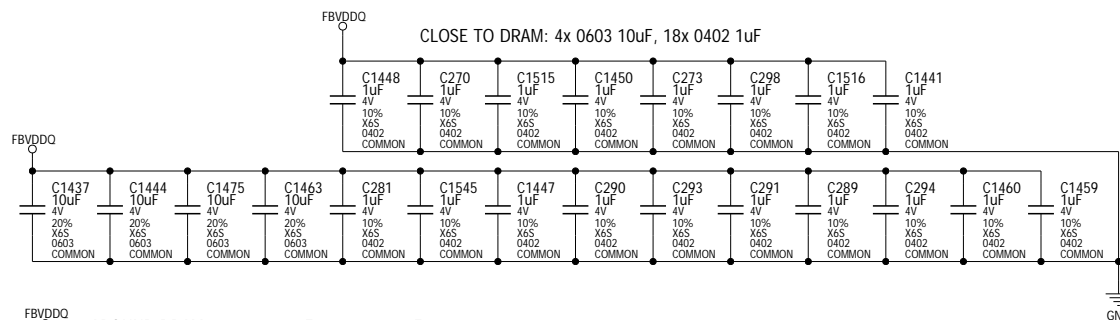
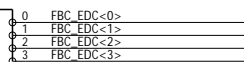
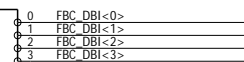
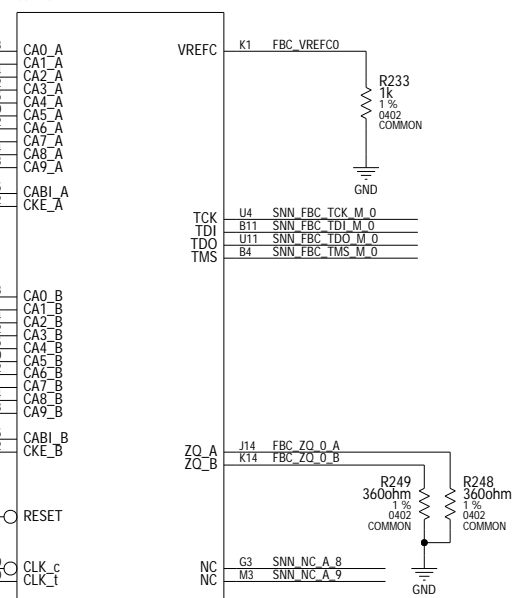
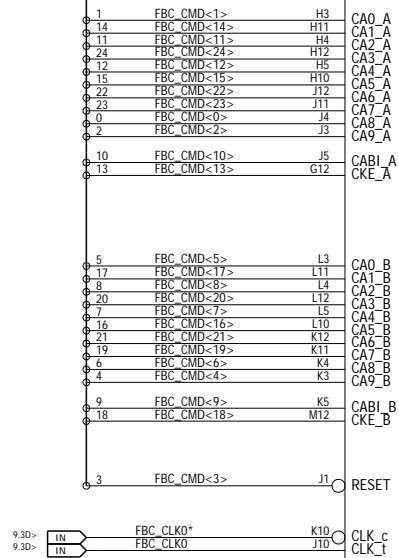
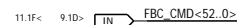
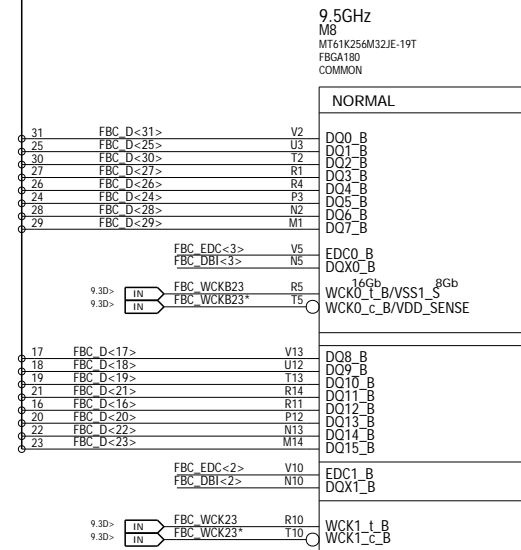
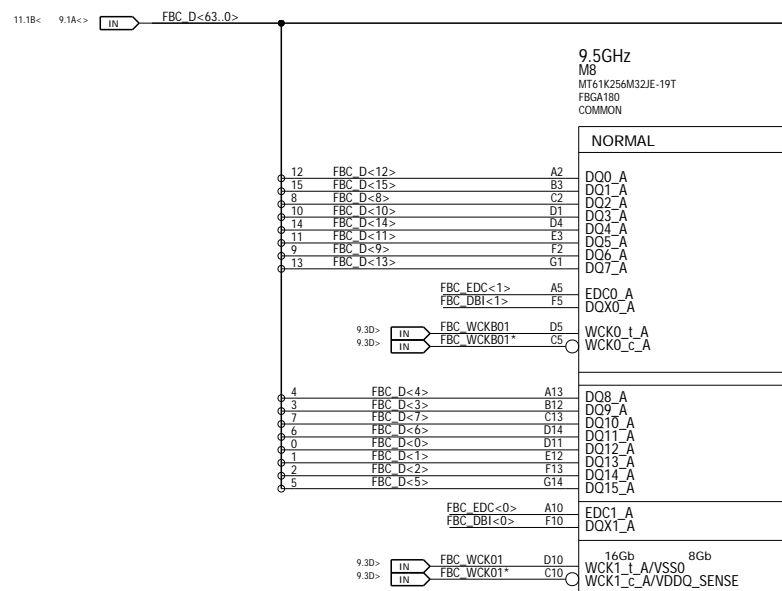
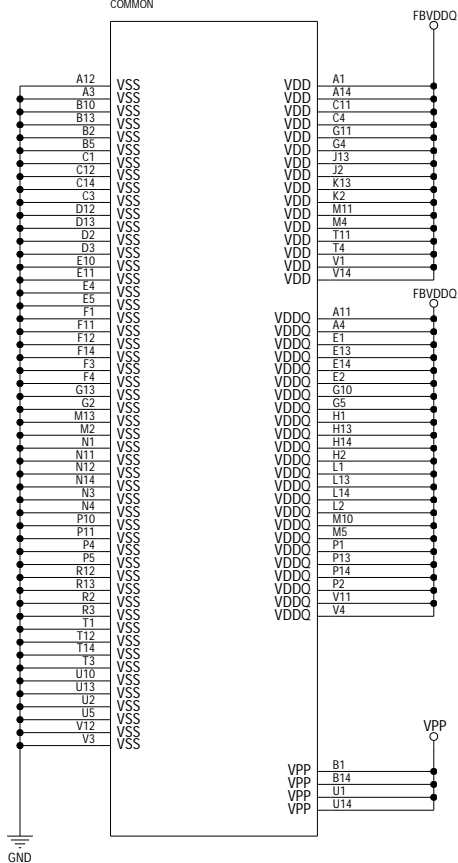
9.5GHz
M11
MT61K256M32JE-19T
FBGA180
COMMON

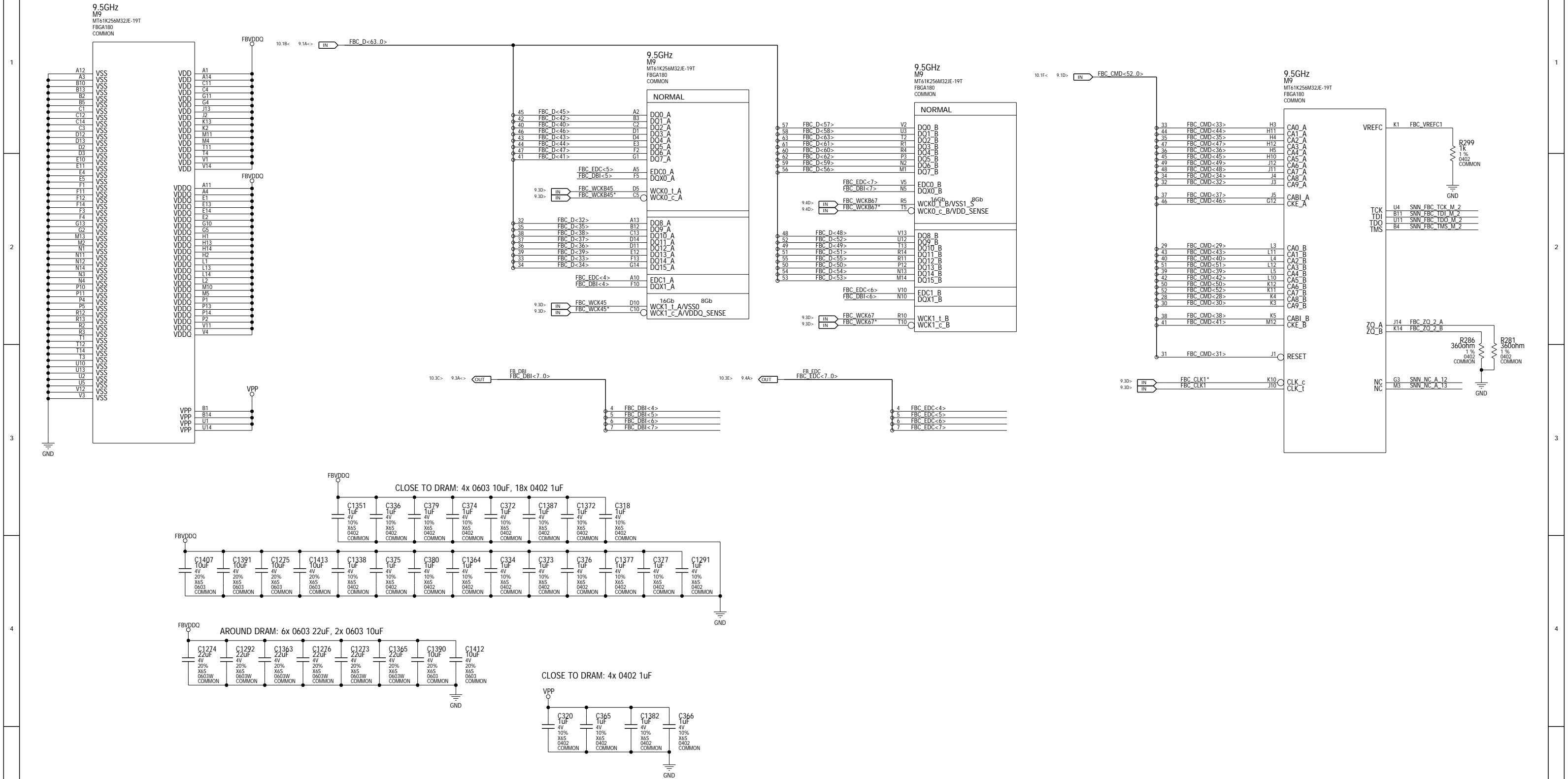


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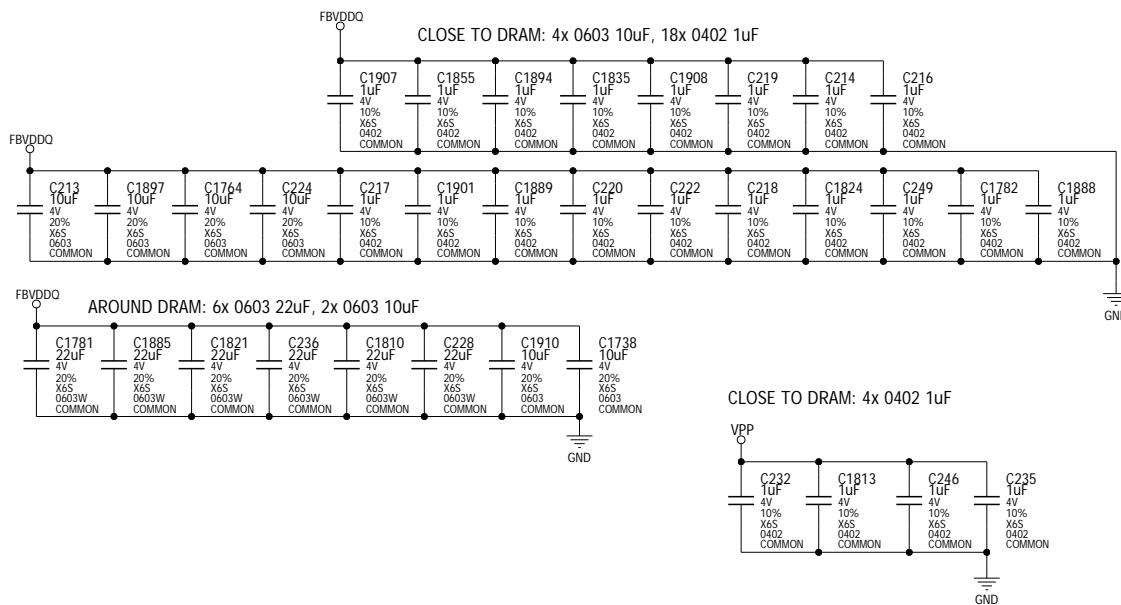
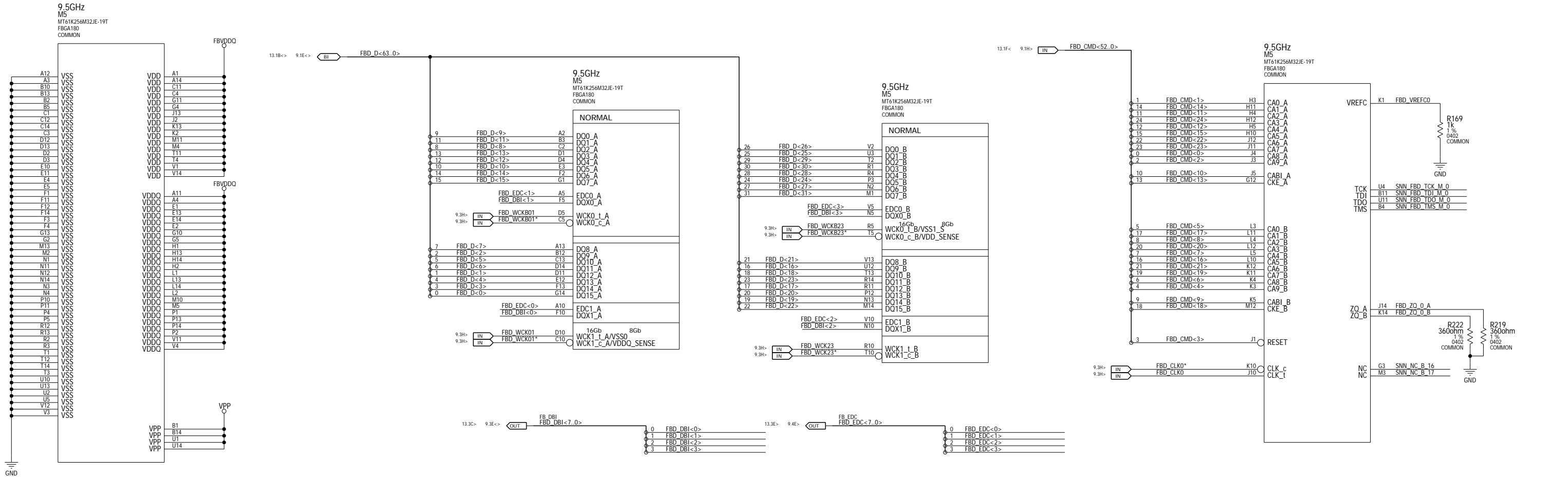
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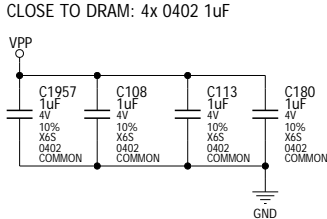
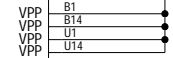
ASSEMBLY	SKU30
PAGE DETAIL	MEMORY: FBD PARTITION[31:0]


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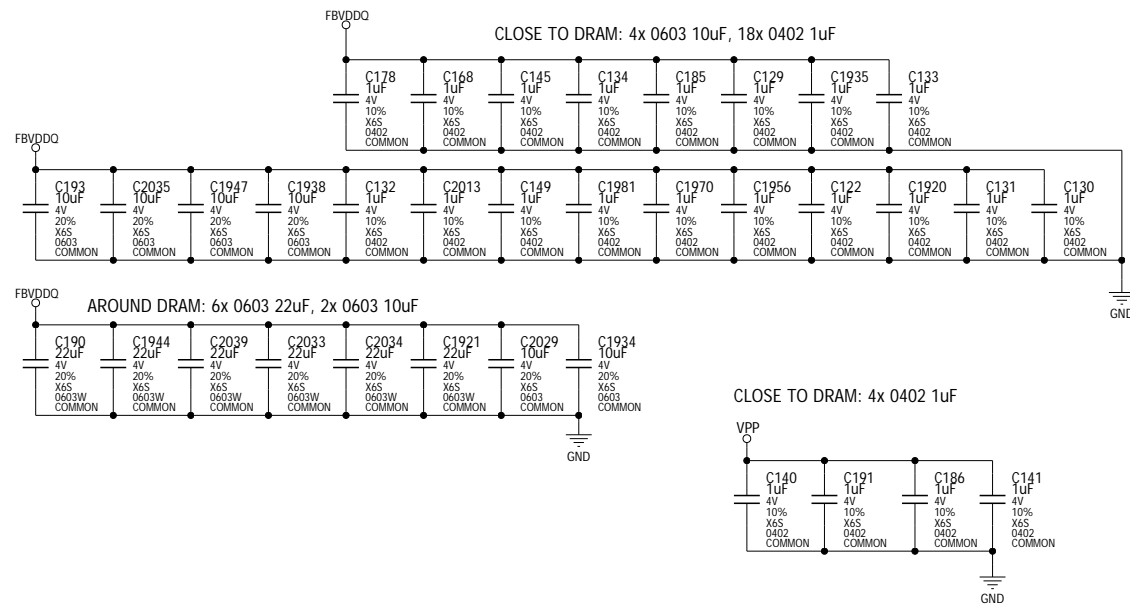
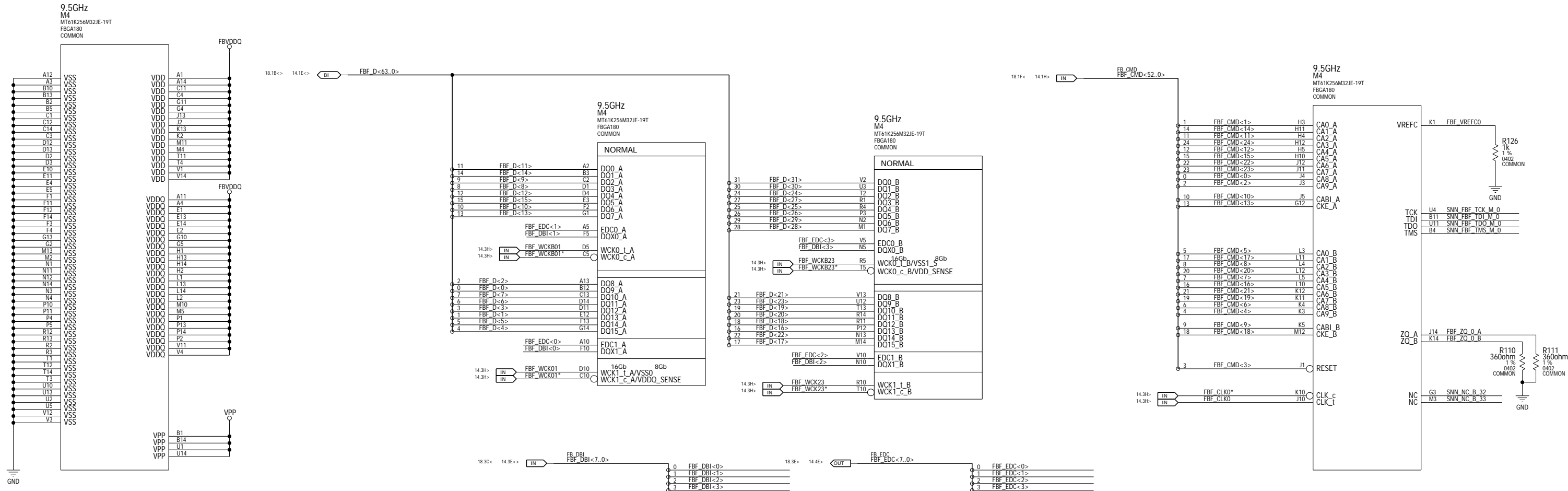
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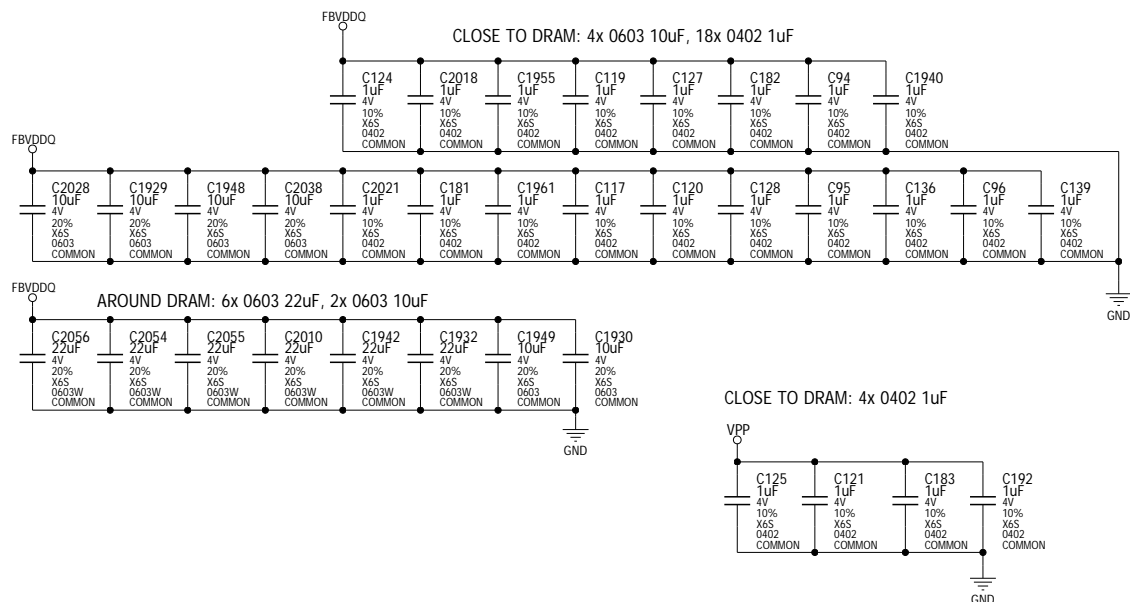
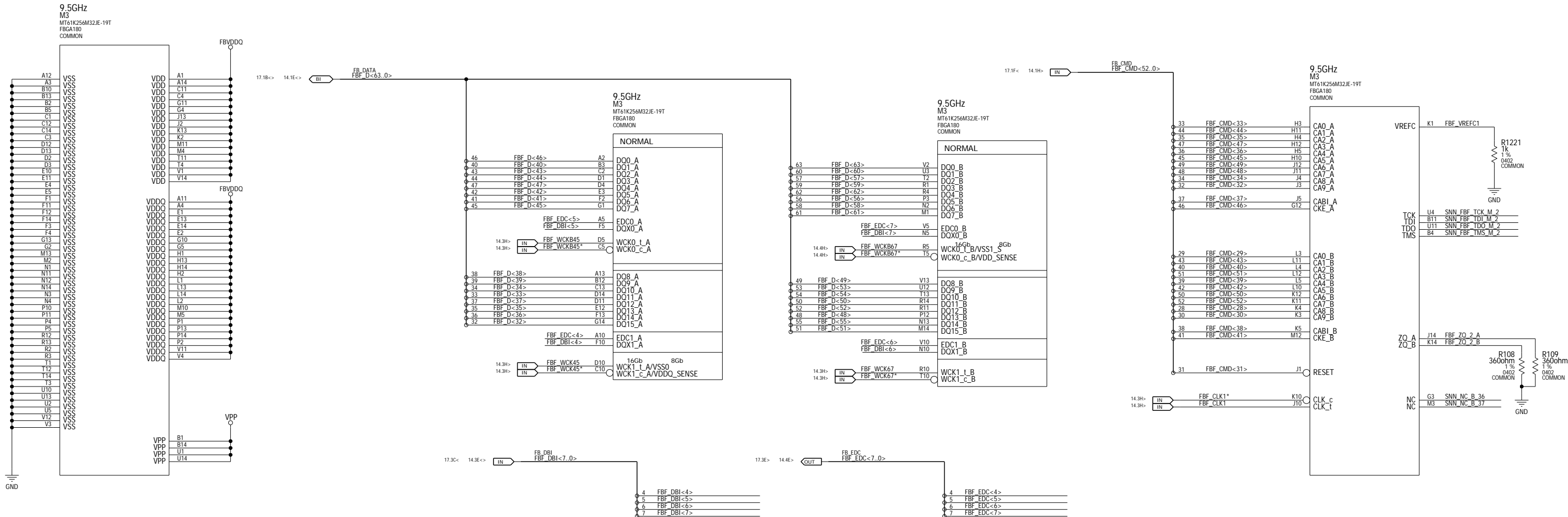
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NV_PN PCB REV BOM REV		600-1G133-0030-900 PG133-A03 A		
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Page 17: MEMORY: FBF Partition 31..0




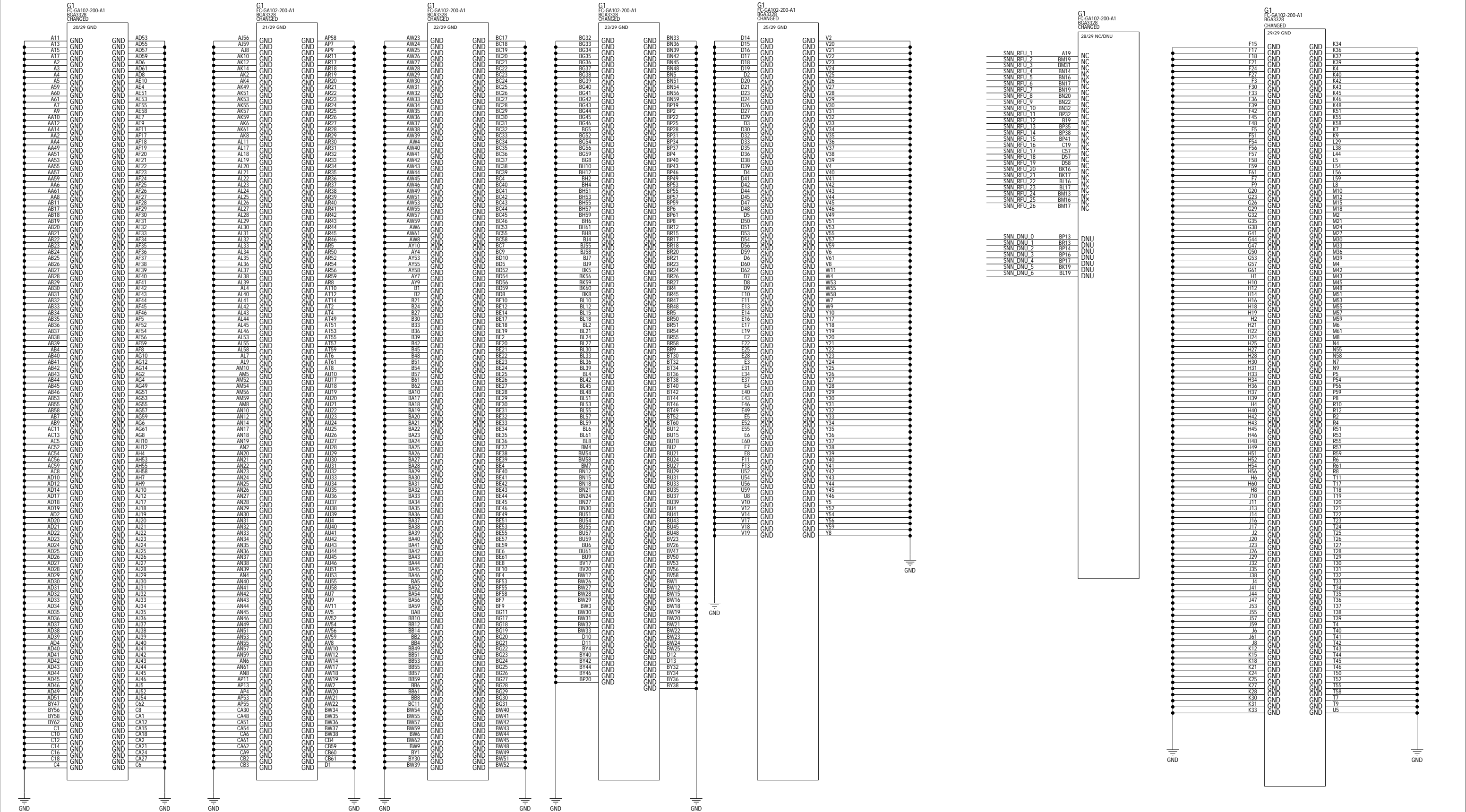
Page 18: MEMORY: FBF Partition 63..32

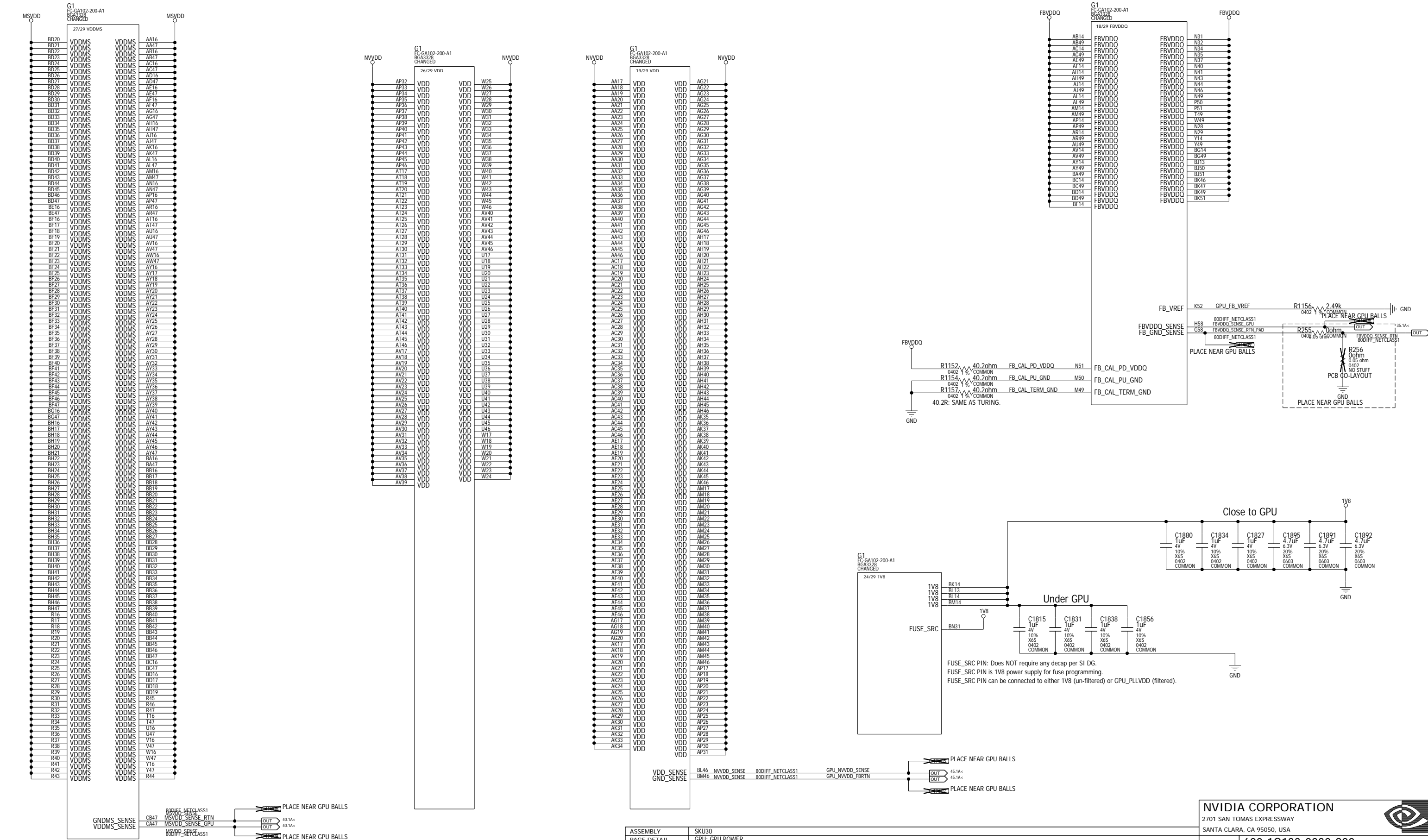


ASSEMBLY	SKU30
PAGE DETAIL	MEMORY: FBF PARTITION[63:32]

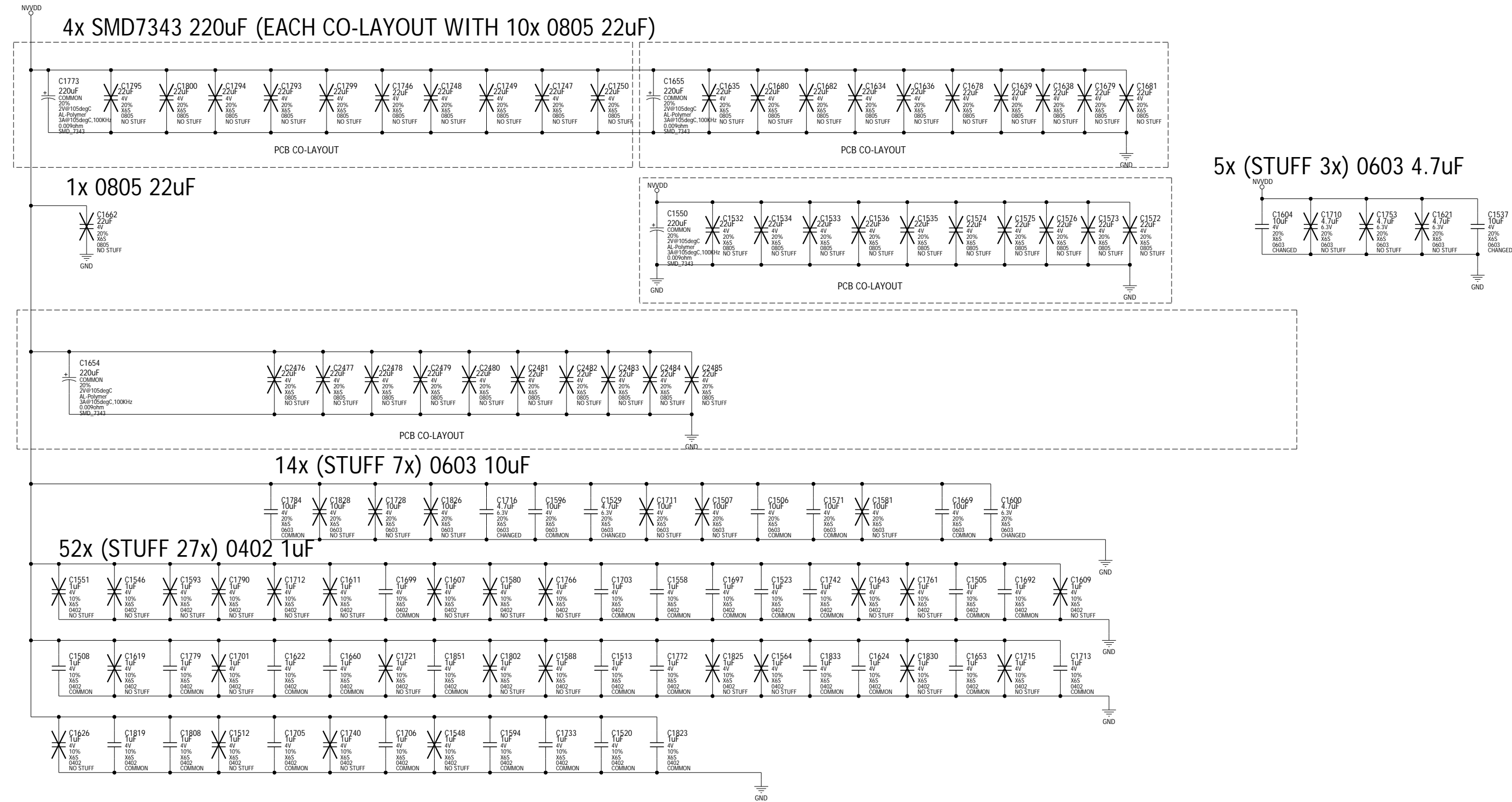
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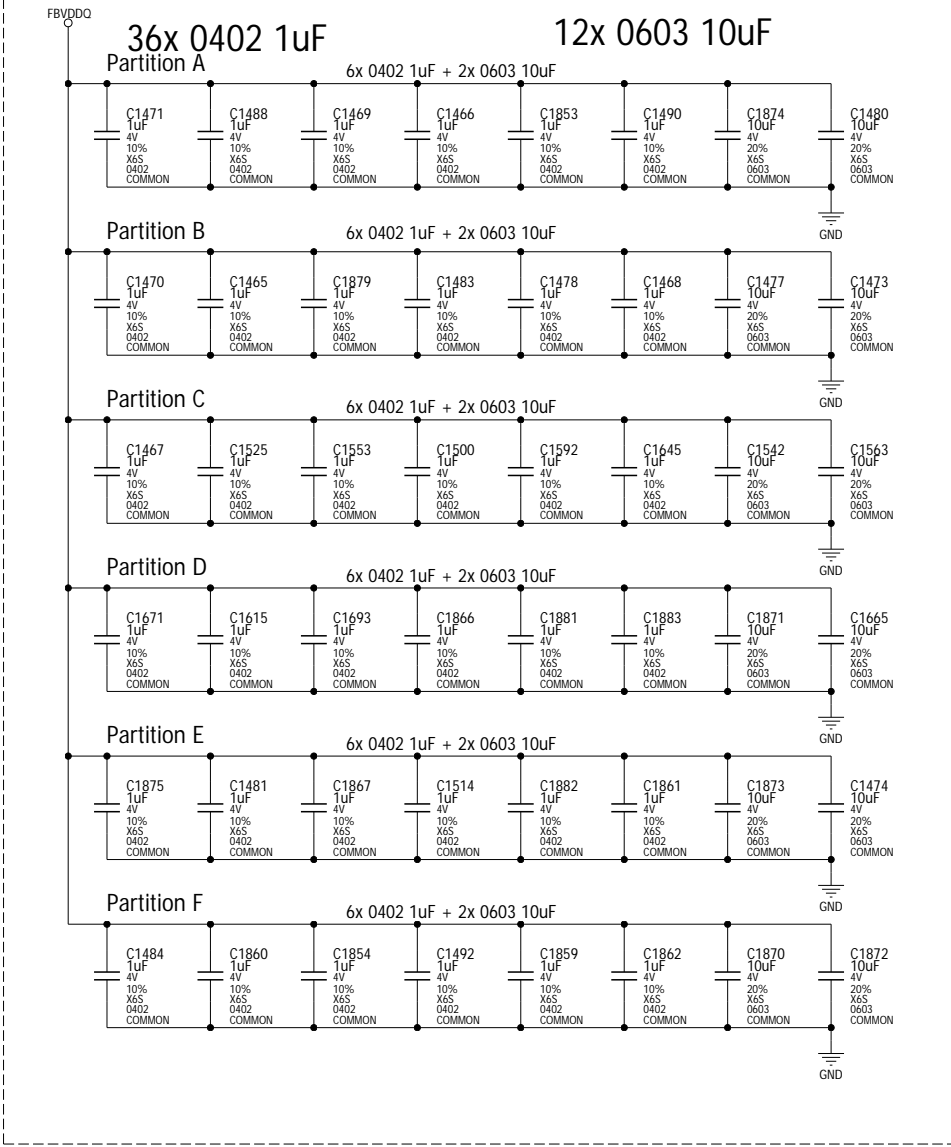


NVVDD UNDER GPU

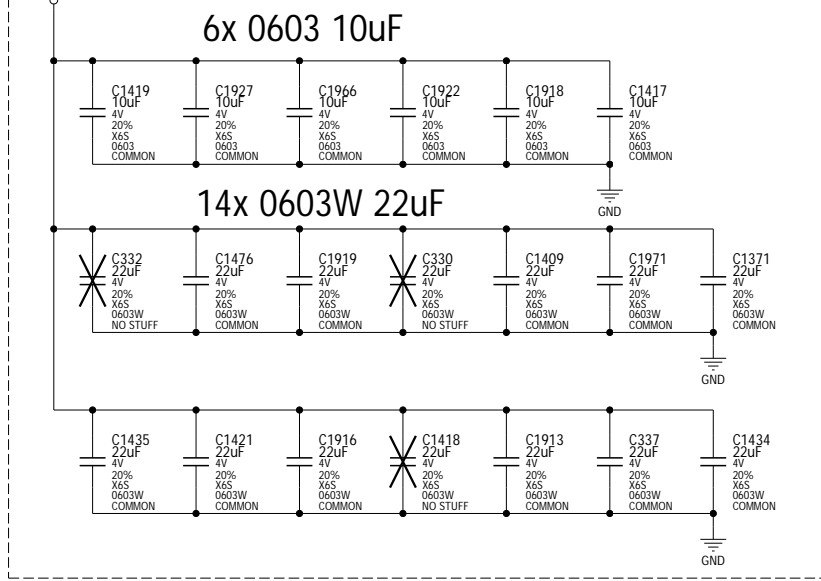


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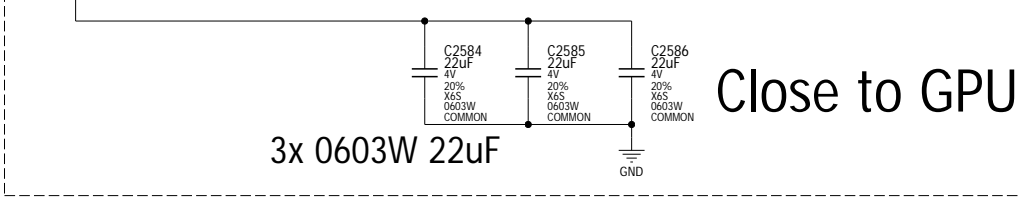
Under GPU



Close to GPU



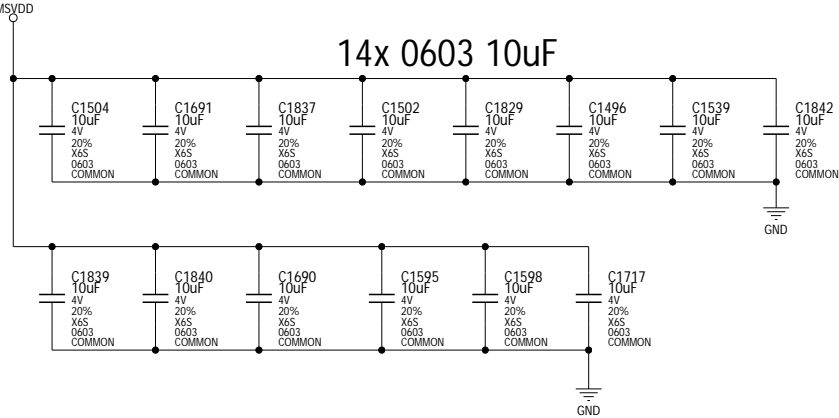
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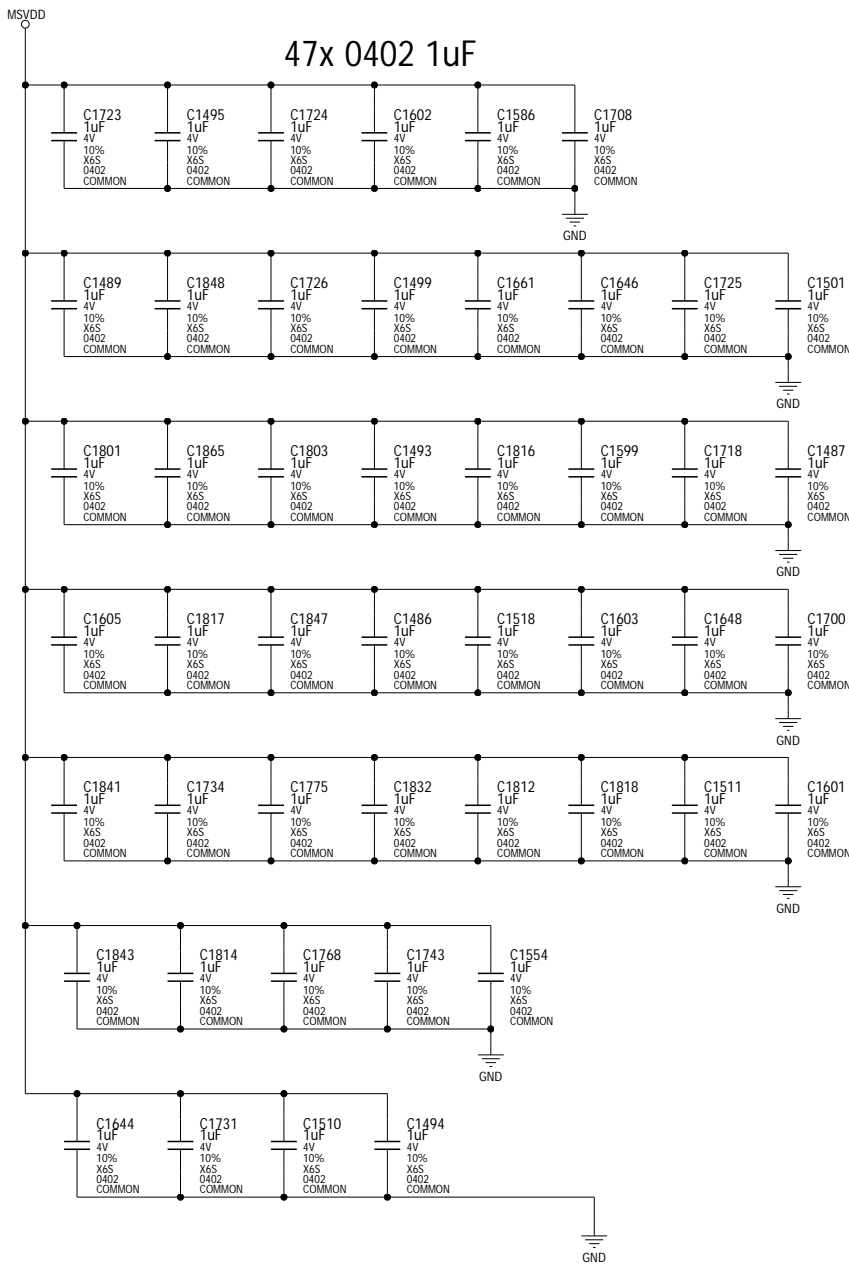
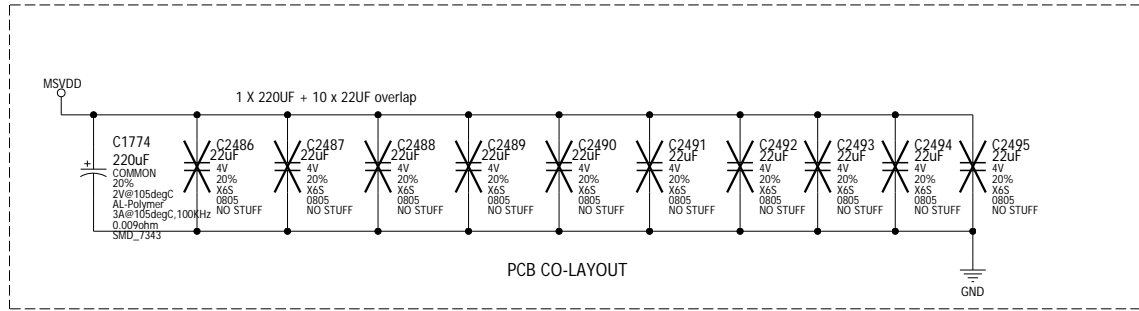
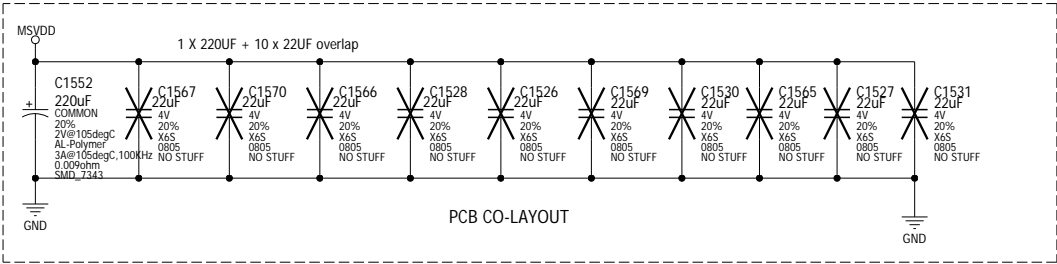
Page 23: GPU: MSVDD DECOUPLING

MSVDD

UNDER GPU

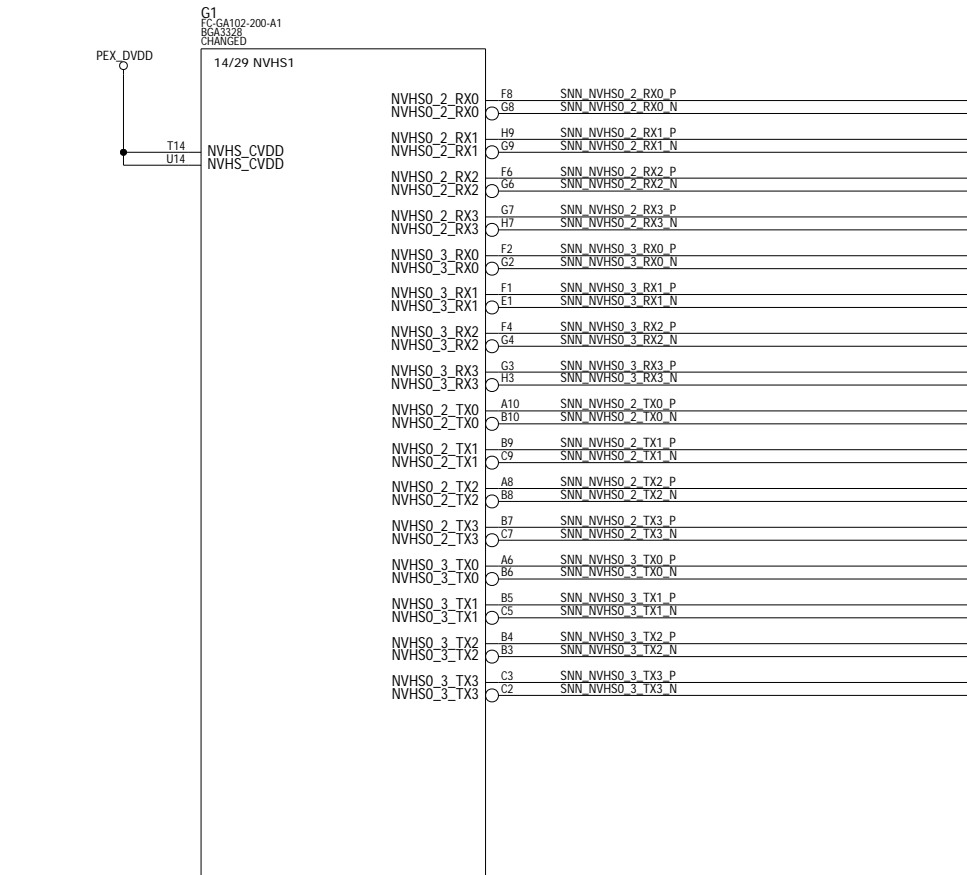
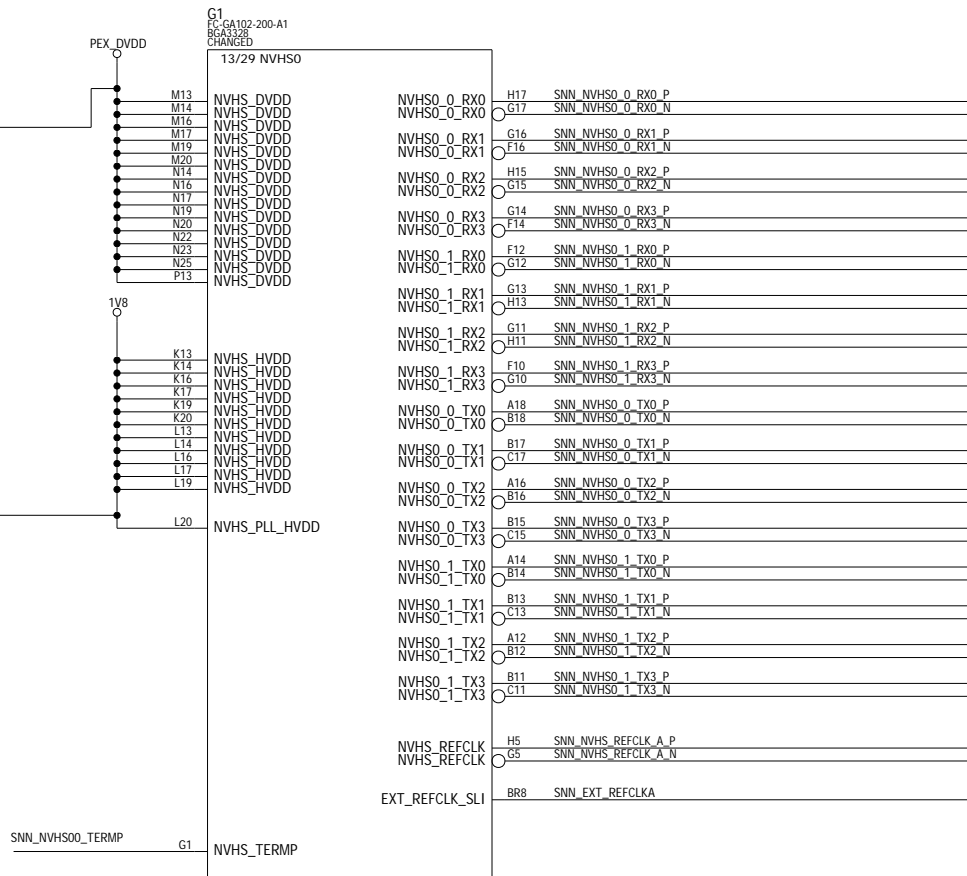
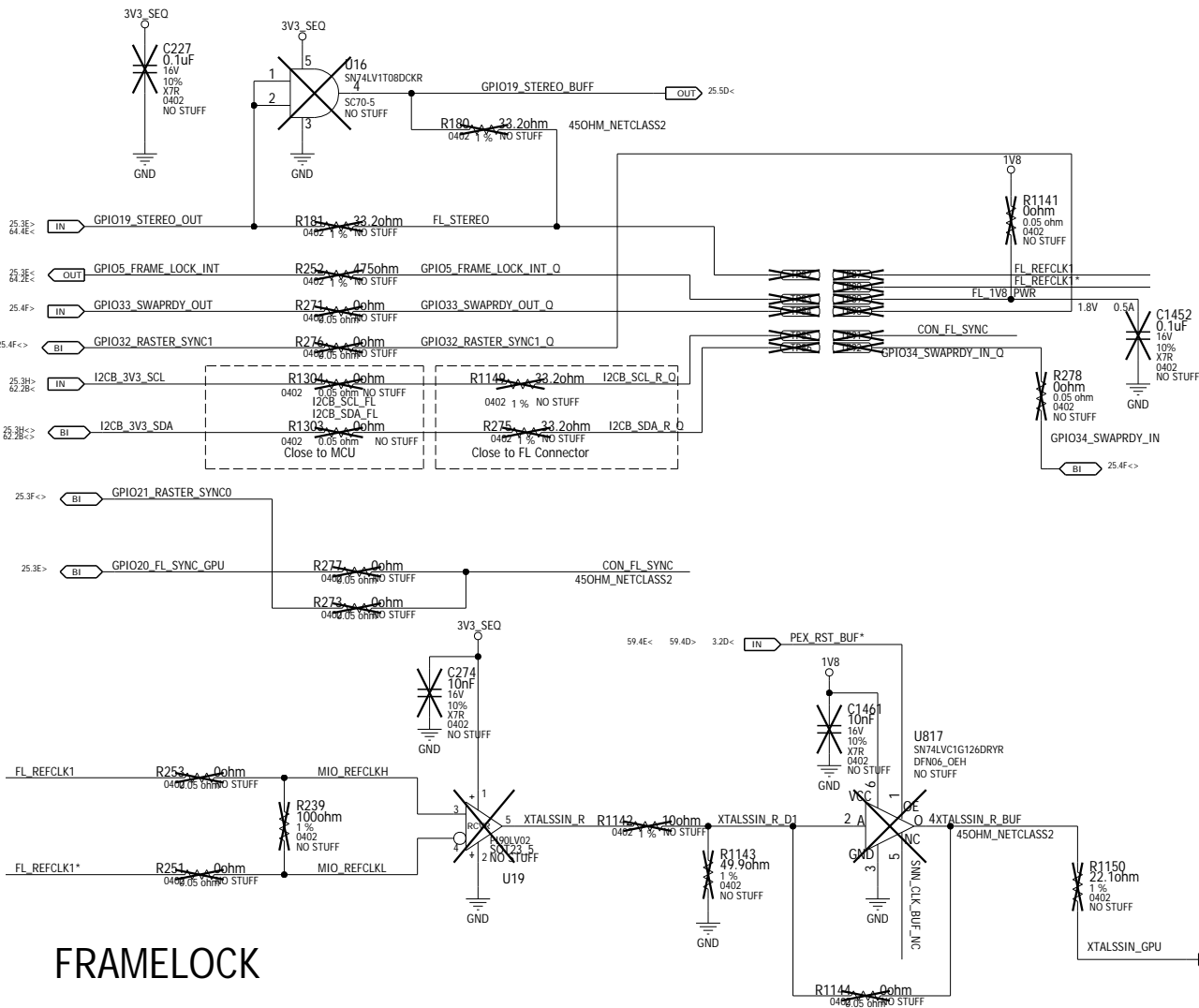
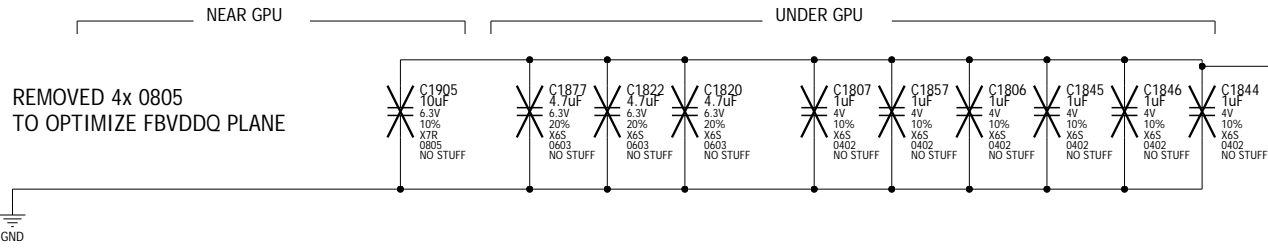
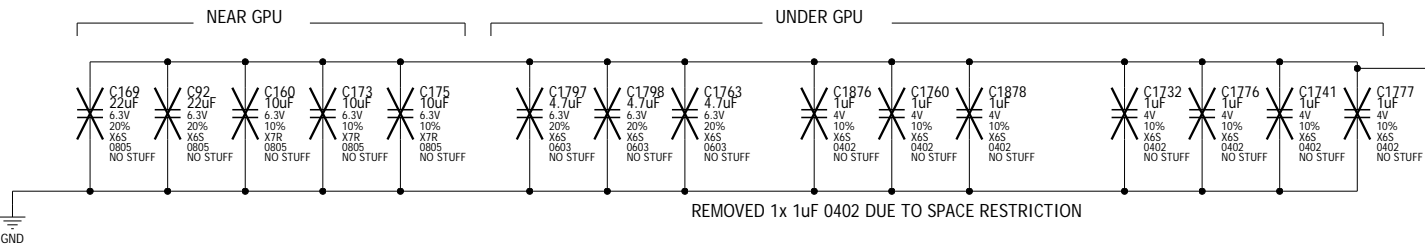


2x SMD7343 220uF (EACH CO-LAYOUT WITH 10x 22uF 0805)



REMOVED 3X 1uF 0402 DUE TO SPACE RESTRICTION



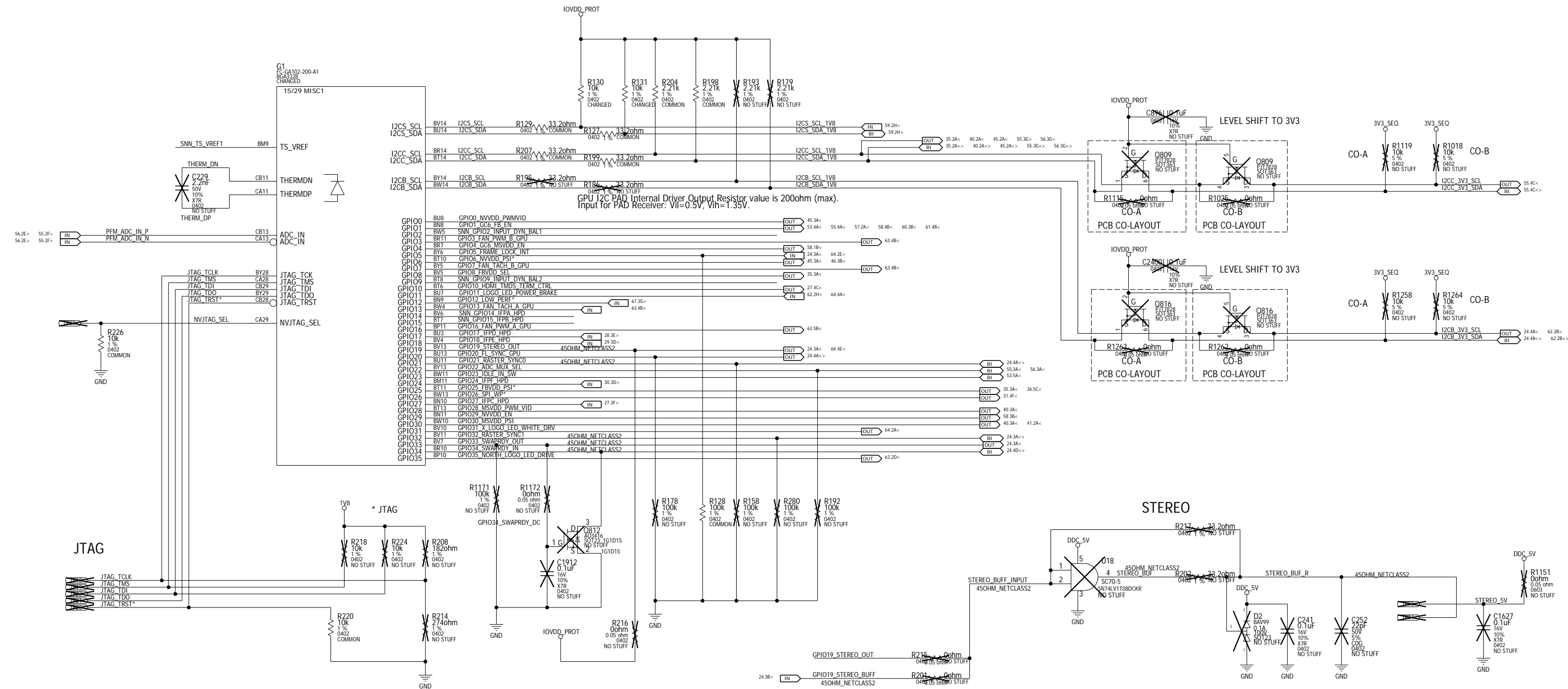


ASSEMBLY	SKU30
PAGE DETAIL	GPU: NVHS x16, FRAMELOCK

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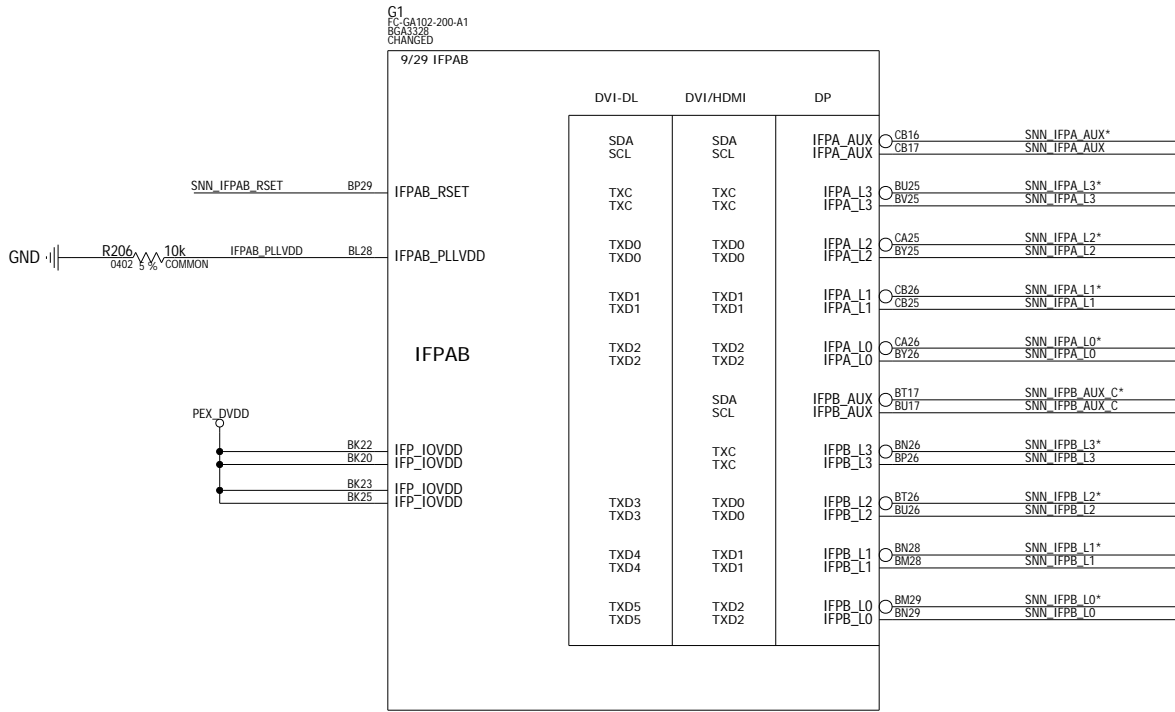
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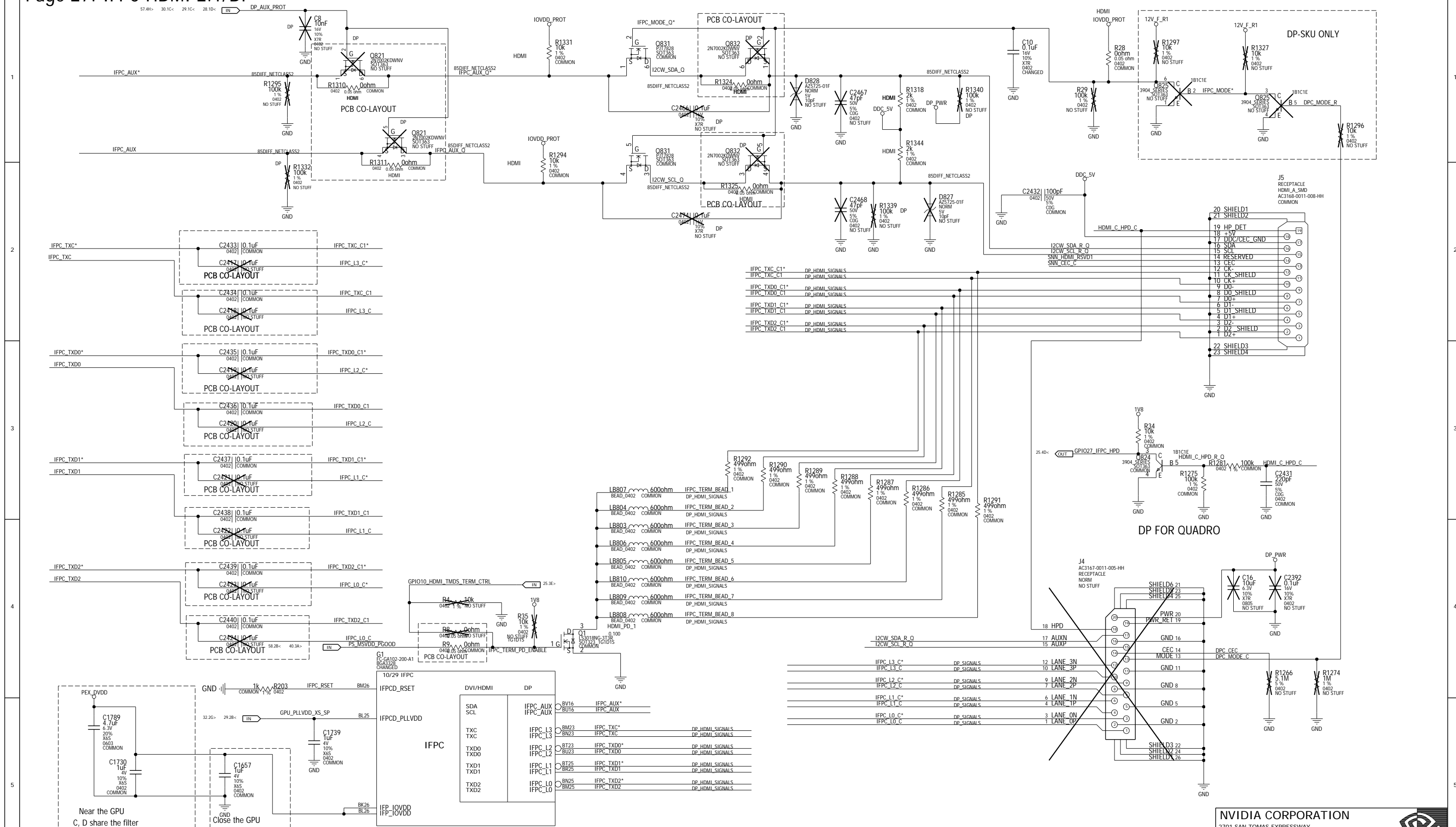


ASSEMBLY	SKU30
PAGE DETAIL	GPU: GPIO, THERMAL, JTAG, STEREO

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NV_PN 600-1G133-0030-900			
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1

2

3

4

5

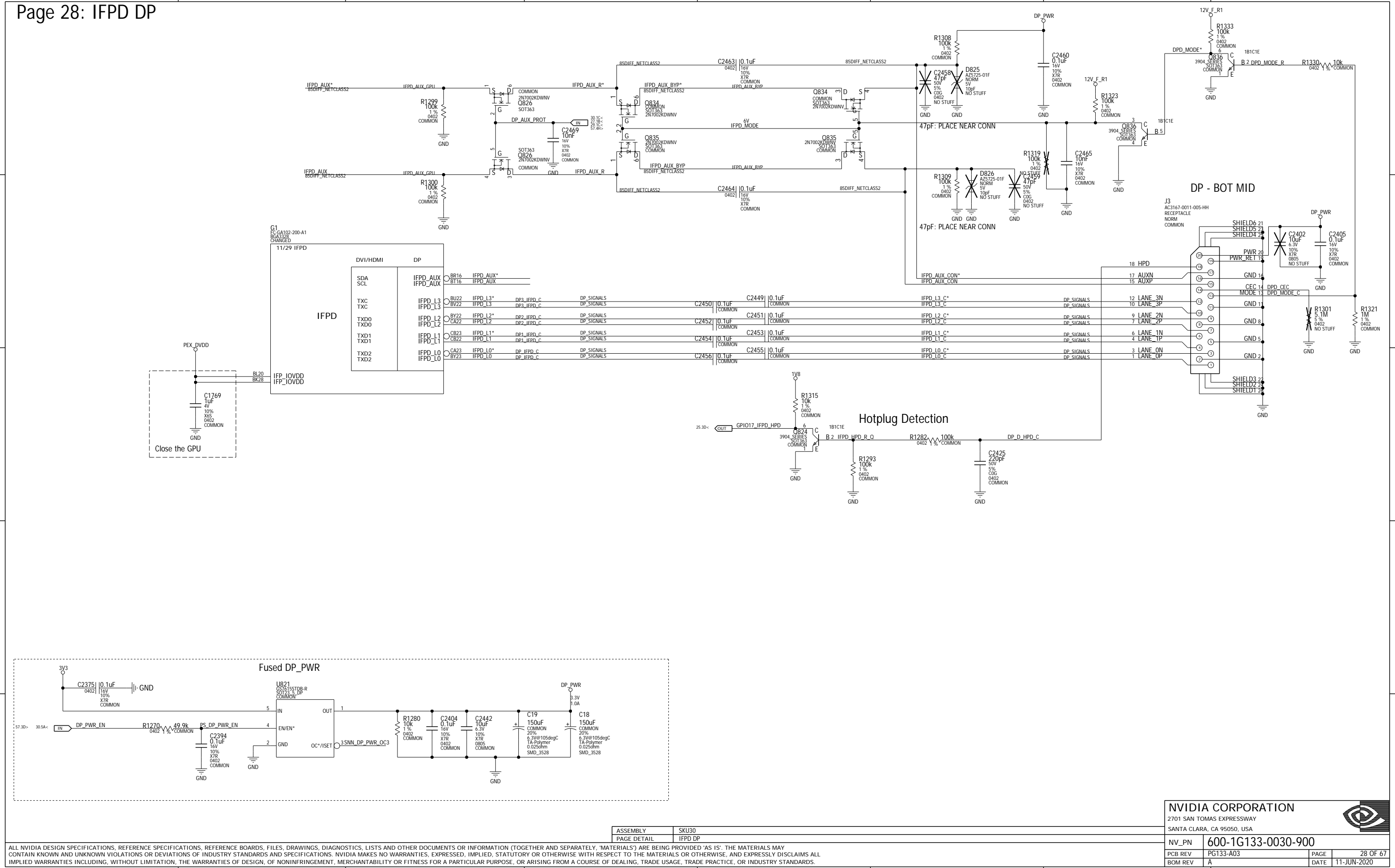
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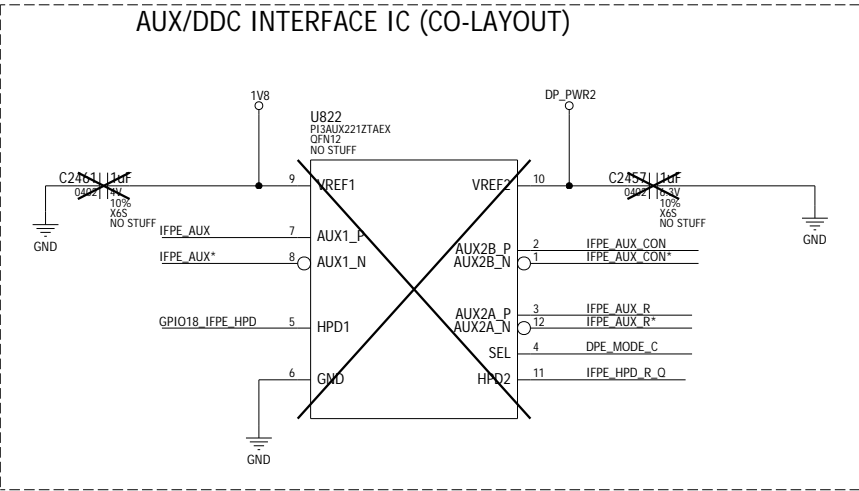
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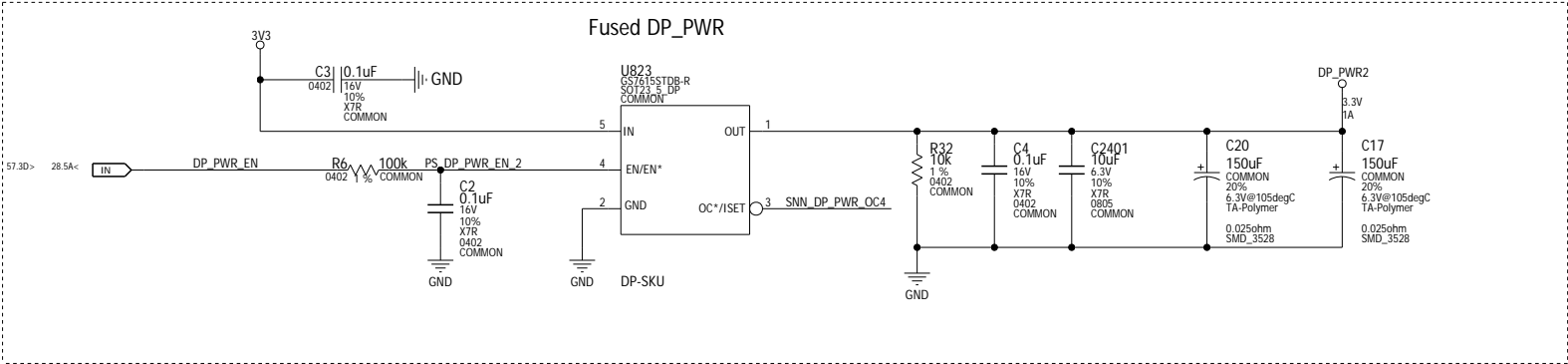
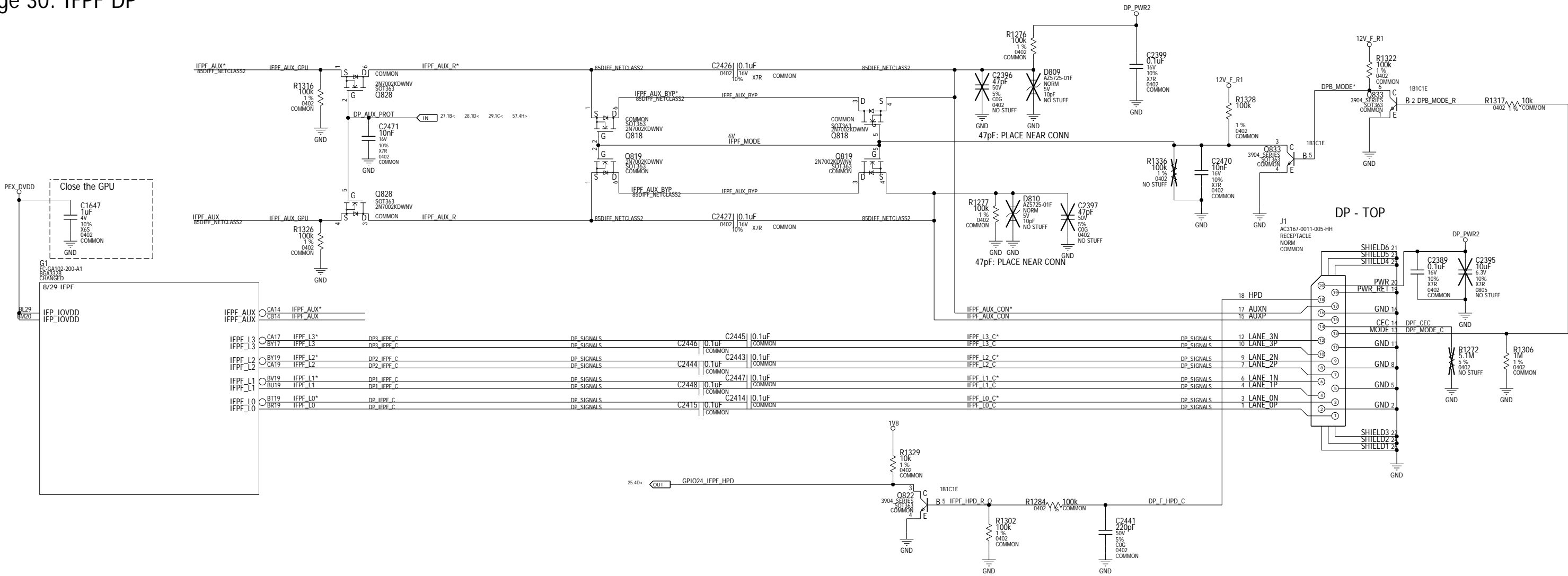
3

4

5







Page 31: 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)
M	H	L	01110	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)
L	M	H	01010	RAMCFG MICRON 8Gb G6X 19Gbps x16 (161-0430-900)

GROUP1 ROM_SO	ROM_SI	ROM_SCLK	SMARTFAN[2:0],FS_OVERT	1:ENABLE 0:DISABLE
L	M	L	1001	FAN0/1=33%/33%, FS_OVERT ENABLE
H	H	H	0111	FAN0/1=66%/66%, FS_OVERT ENABLE

GROUP2 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

<-DEFAULT

- 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

<-Default

STRAP0	CA7	STRAP0
STRAP1	CB7	STRAP1
STRAP2	BW8	STRAP2
STRAP3	BW7	STRAP3
STRAP4	BY7	STRAP4
STRAP5	BV8	STRAP5

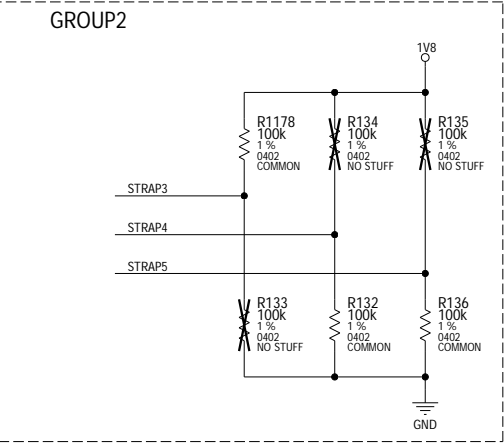
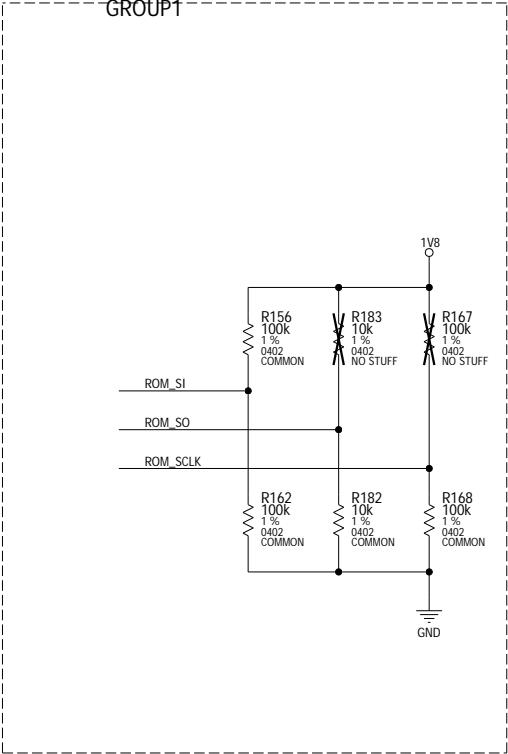
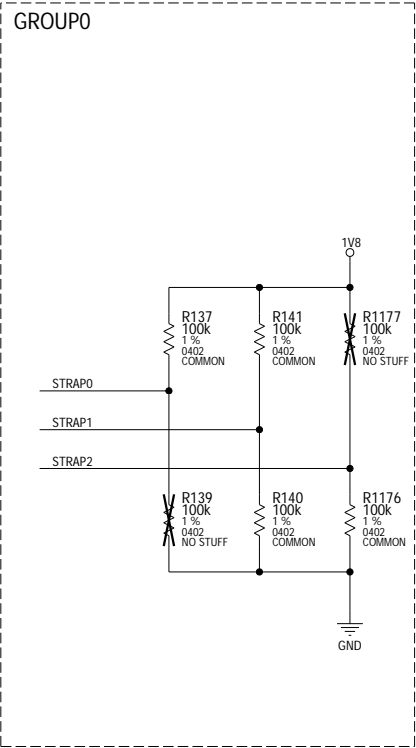
H=High :Tied to 1.8V
M=Middle:Tied to 0.9V
L=Low :Tied to 0V

<-A01 PCB

<-OLD

<-DISMISSED

<-LATEST A02/A03 PCB

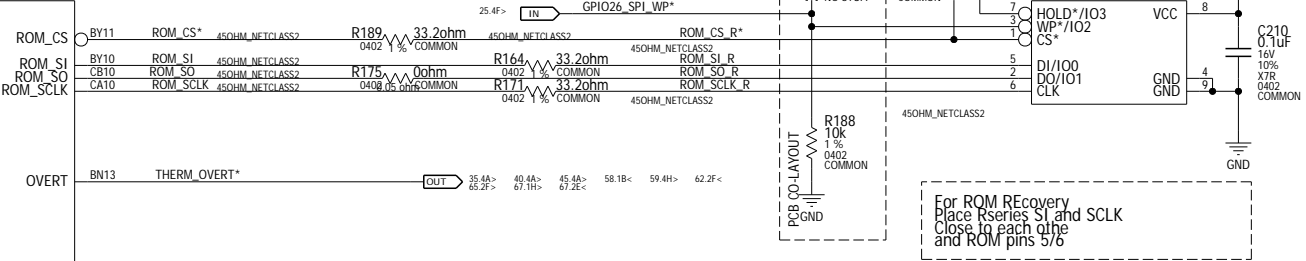


G1
FC:GA102-200-A1
BGA3328
CHANGED

17/29 MISC2

ROM_CS
ROM_SI
ROM_SO
ROM_SCLK

OVERT

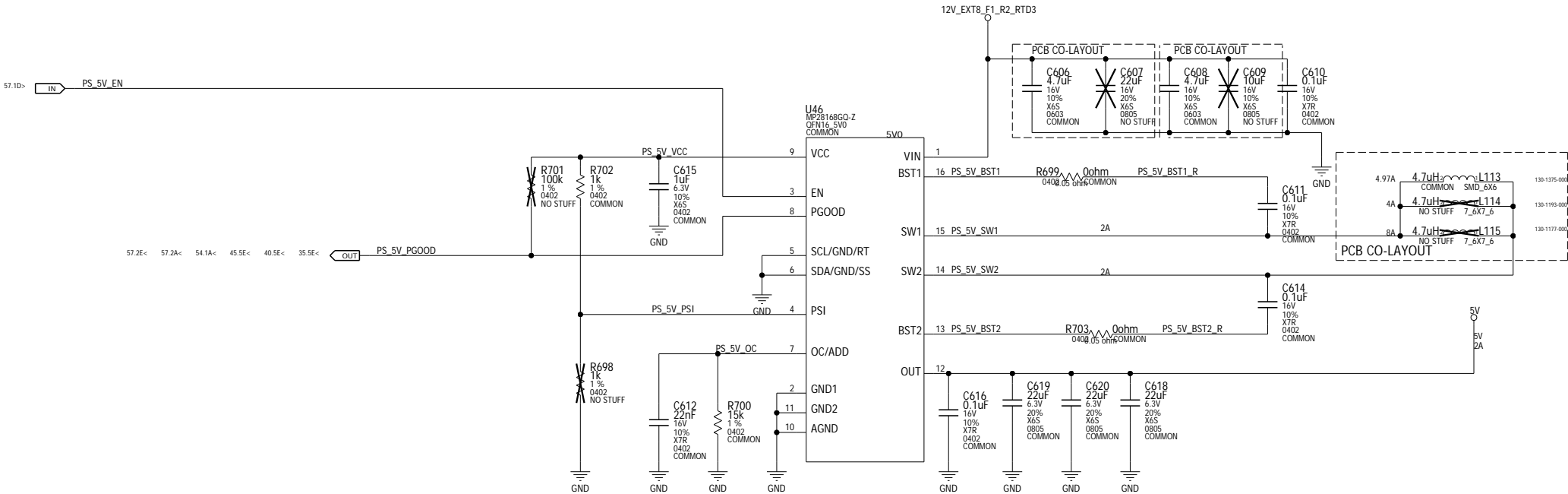


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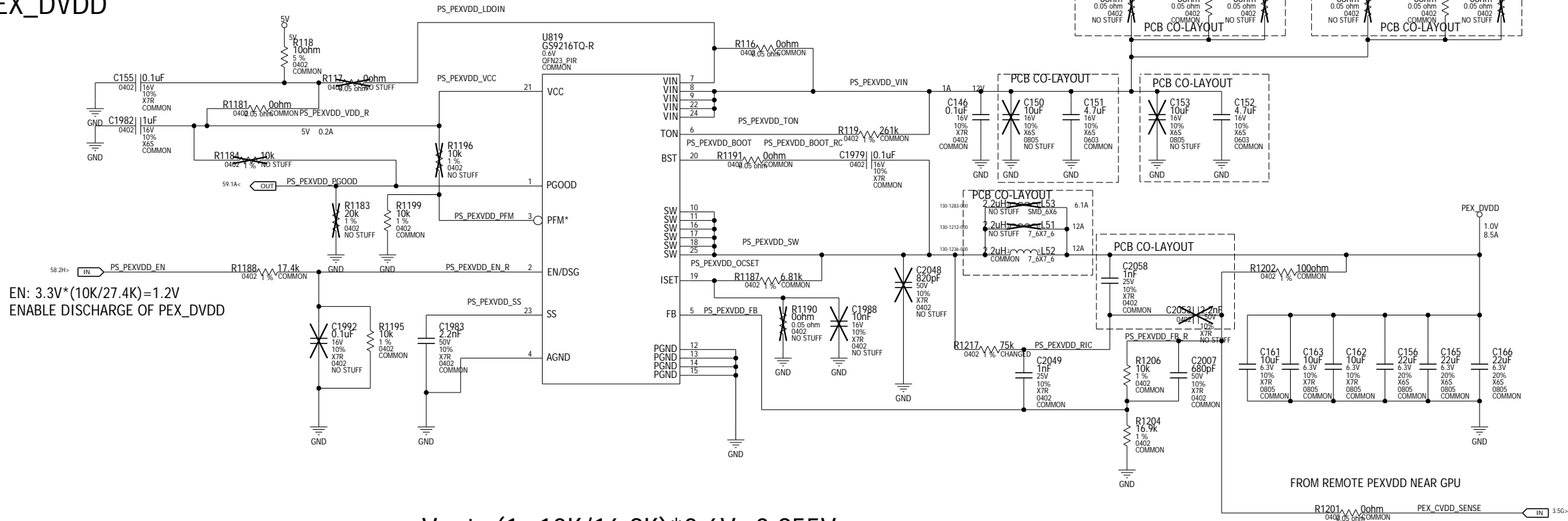
ASSEMBLY	SKU30
PAGE DETAIL	MISC. ROM, STRAPS

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2701 SAN TOMAS EXPRESSWAY			
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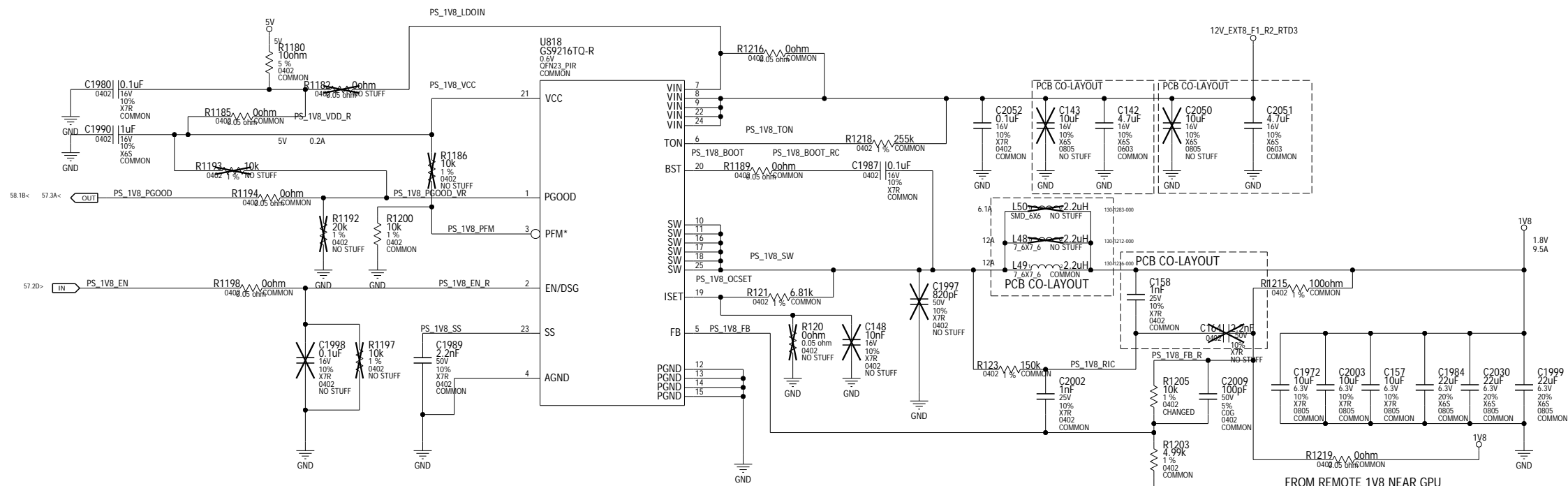


PEX_DVDD



$$V_{out} = (1 + 10K/16.9K) * 0.6V = 0.955V$$

1V8



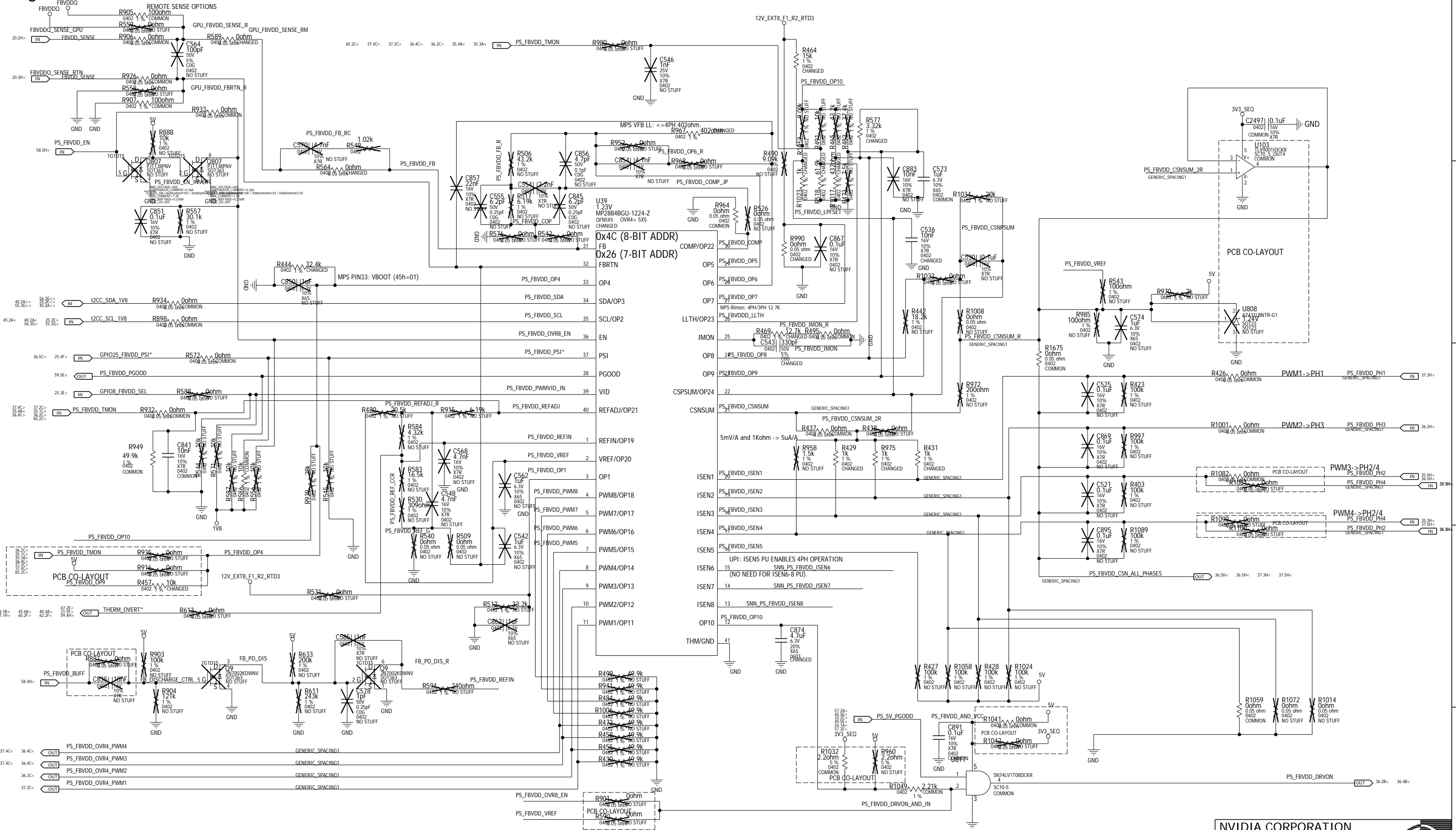
$$V_{out} = (1 + 10K/4.99K) * 0.6V = 1.802V$$

ASSEMBLY	SKU30
PAGE DETAIL	PS: PEX_DVDD, 1V8

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Page 35: PS: FBVDD Controller



ASSEMBLY	SKU30
PAGE DETAIL	PS: FBVDD CONTROLLER OVR4i

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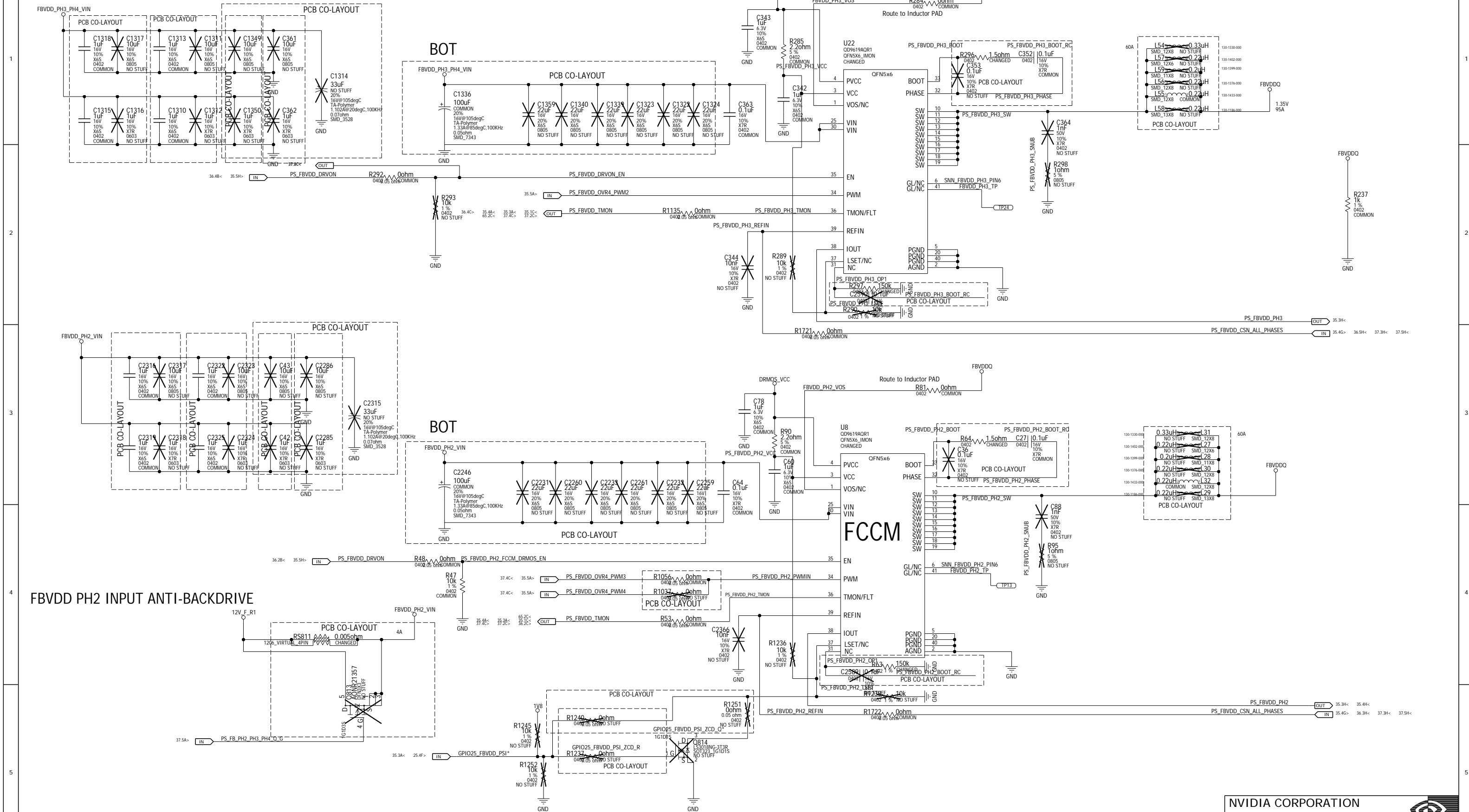
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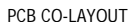
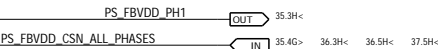
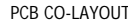


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12V_EXT8_F1_R2_RTD3

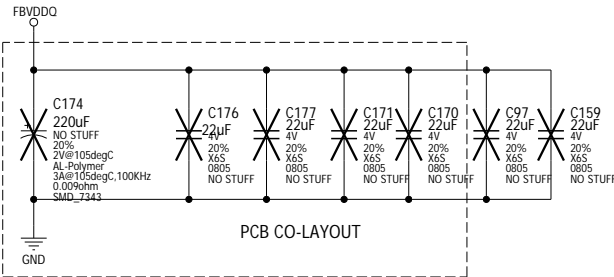


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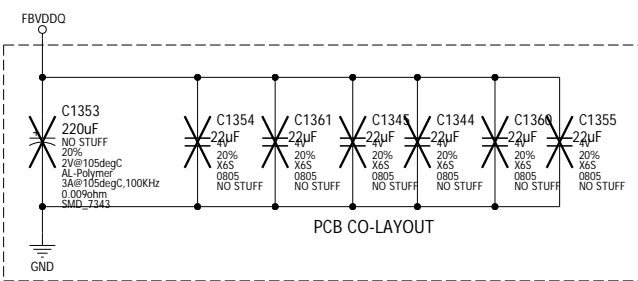
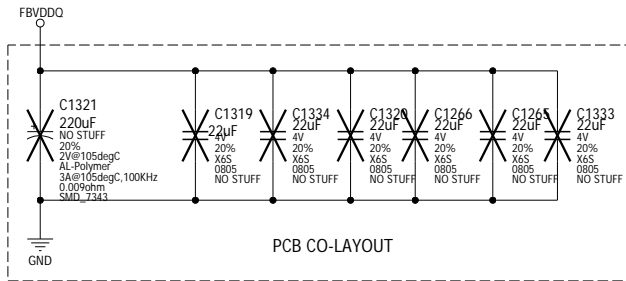
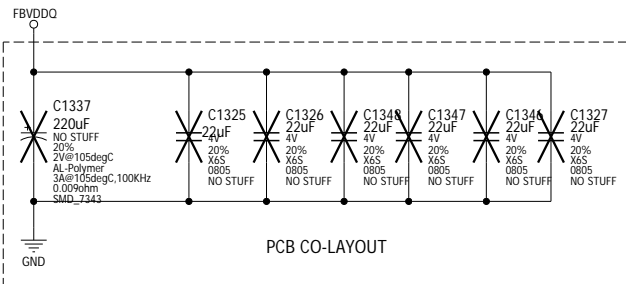
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
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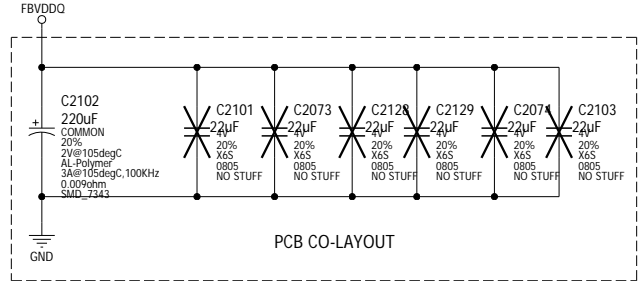
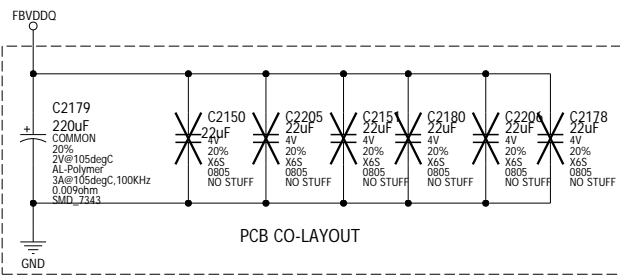
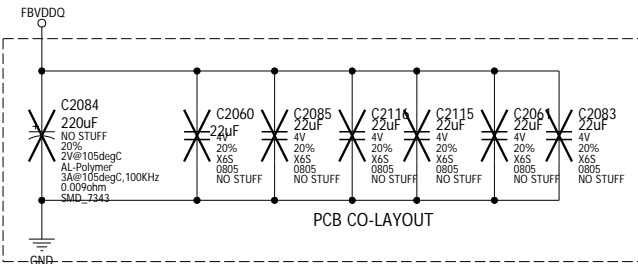
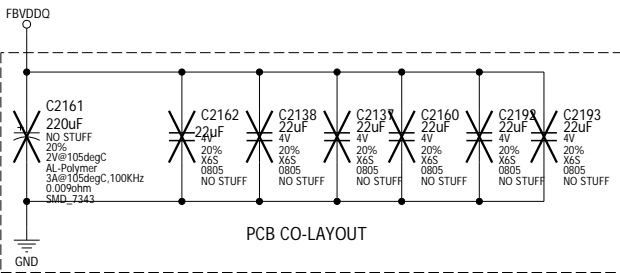
PLACE NEAR POWER SUPPLY
8x SMD7343 330uF CO-LAYOUT WITH 48x 0805 22uF



TOP WEST OF PCB

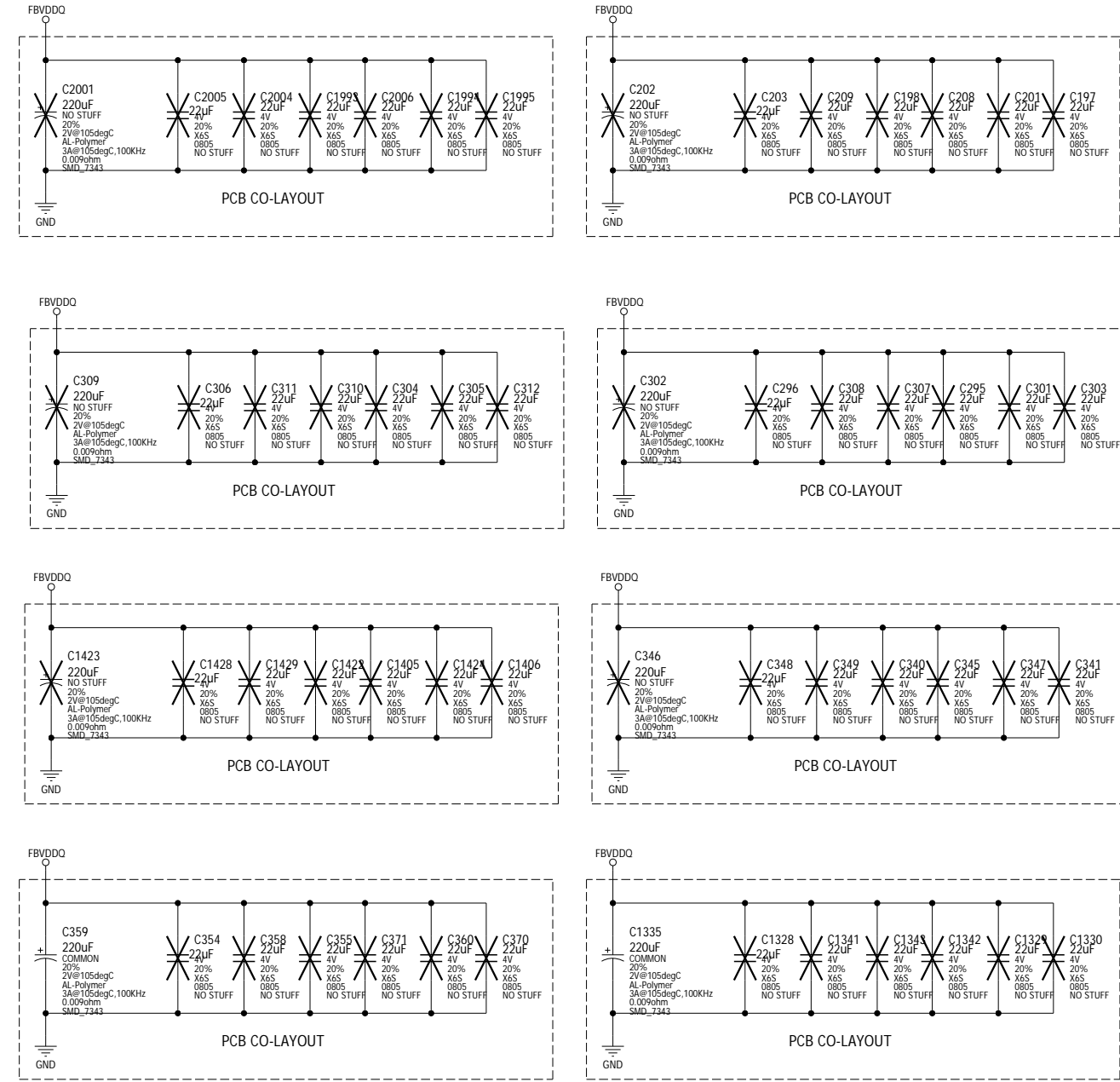


BACK WEST OF PCB



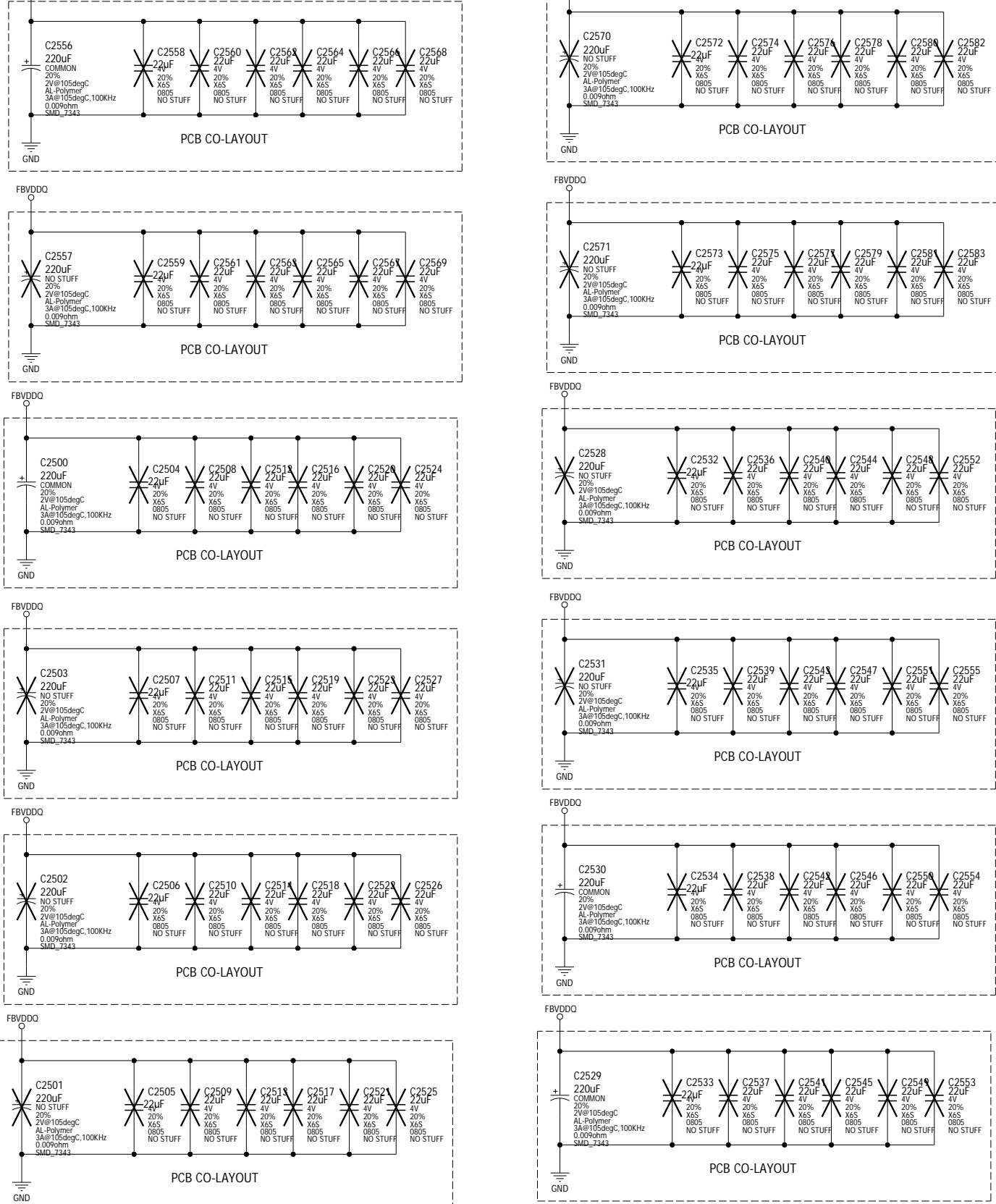
BACK EAST OF PCB

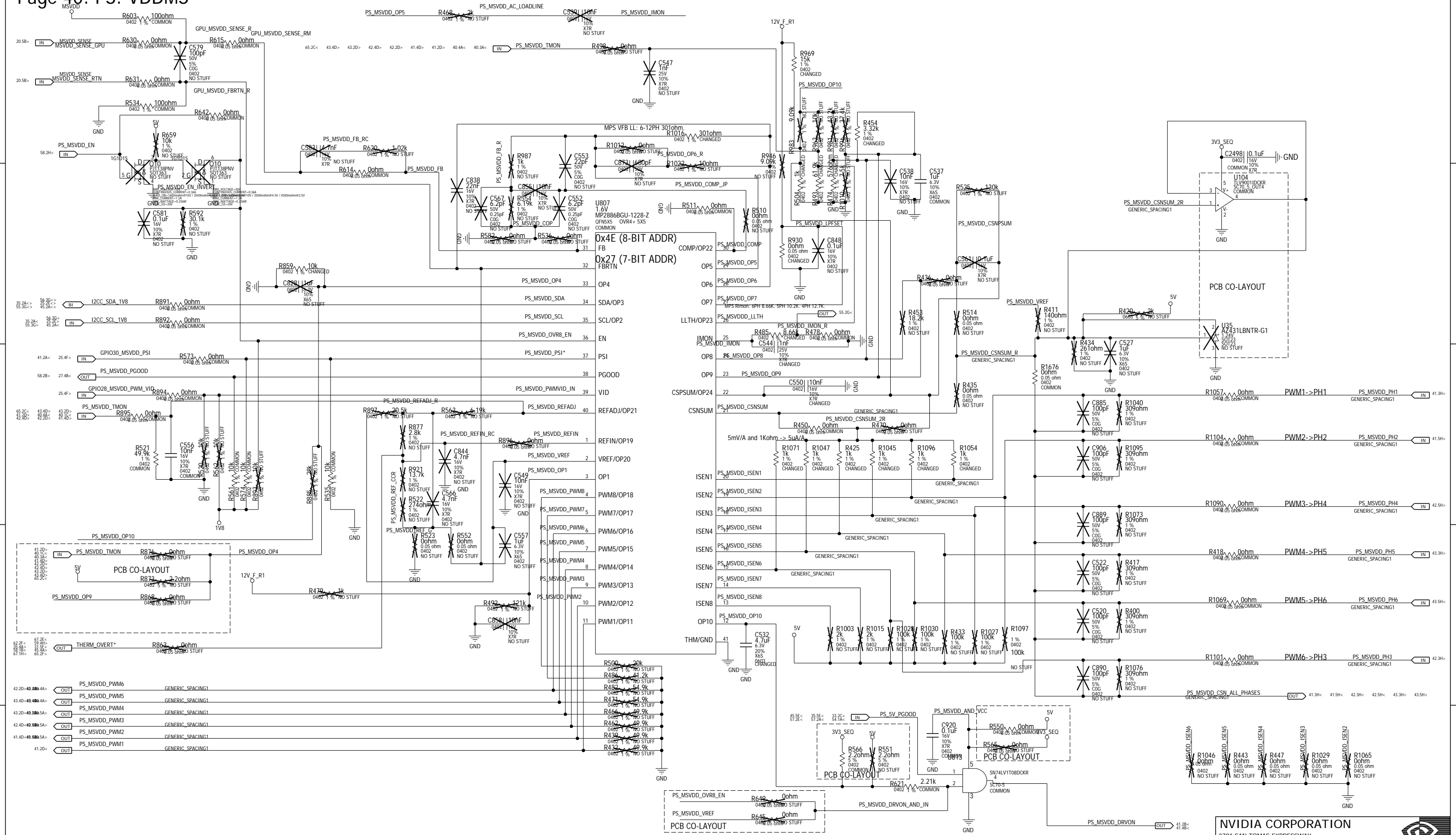
PLACE NEAR MEMORY

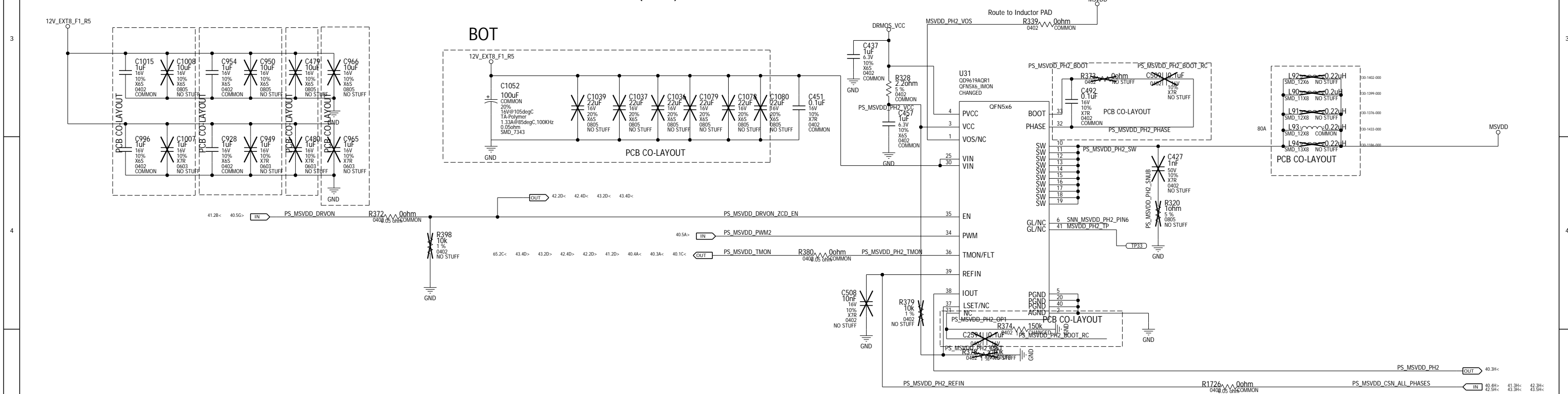
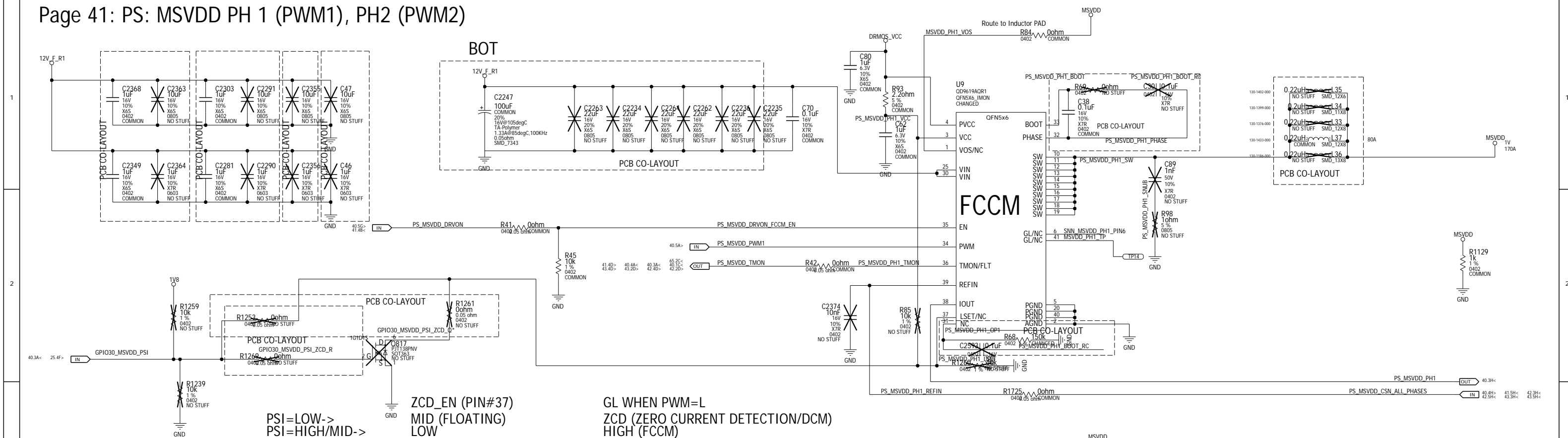


Added for A00 x16

ADDED FOR A00 X16 DESIGN: PLACE UNDER MEMORIES

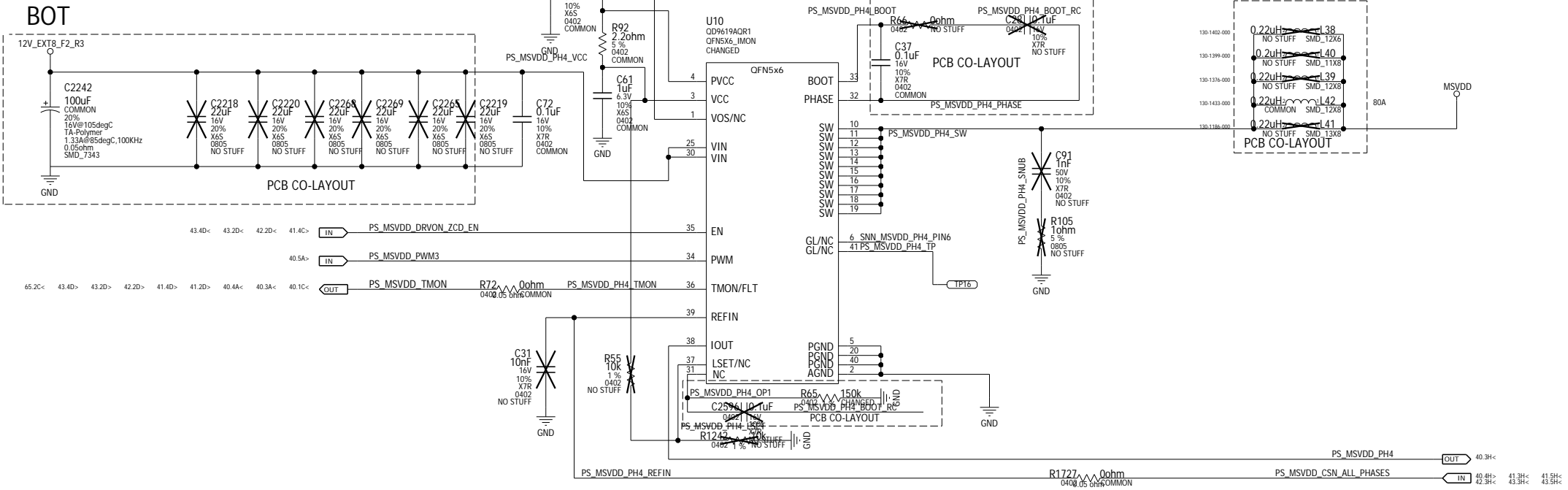
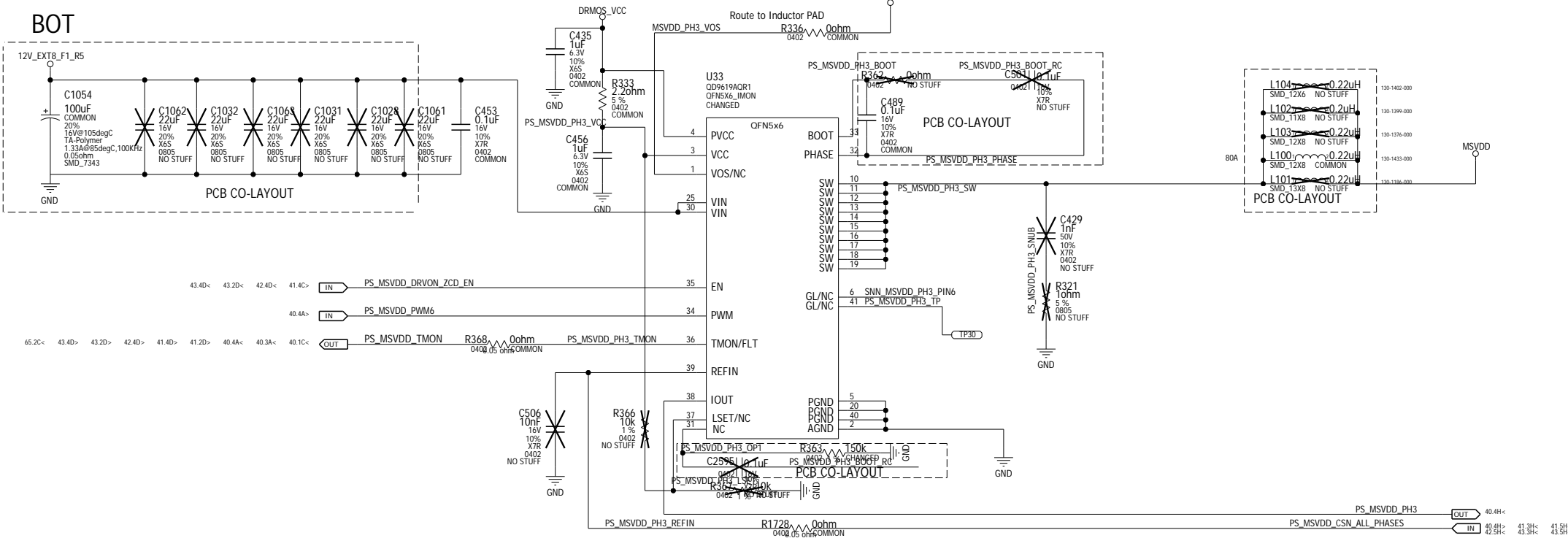
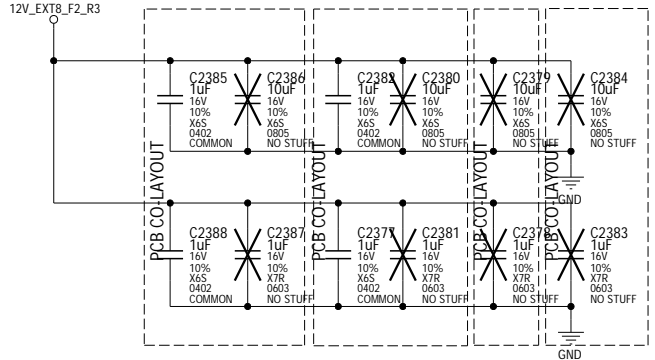
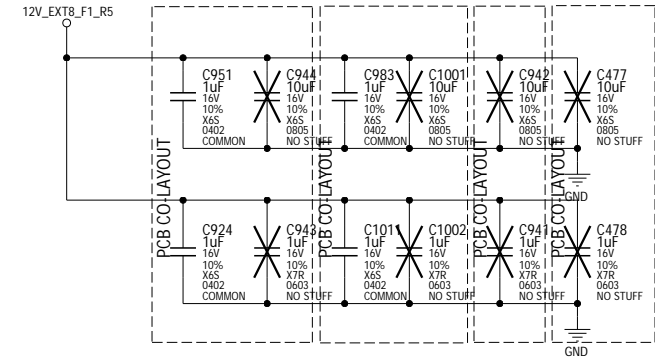




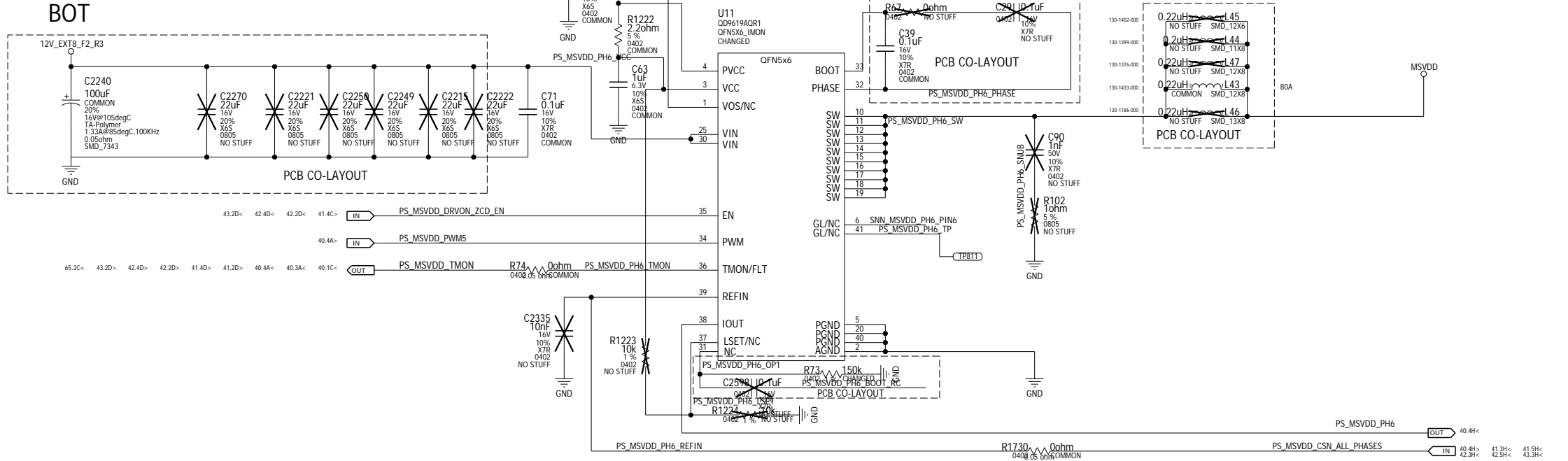
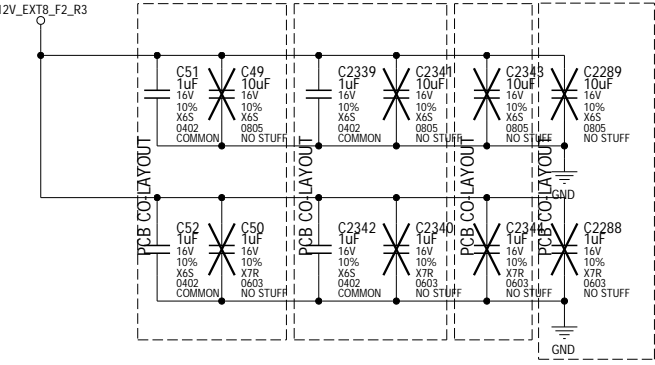
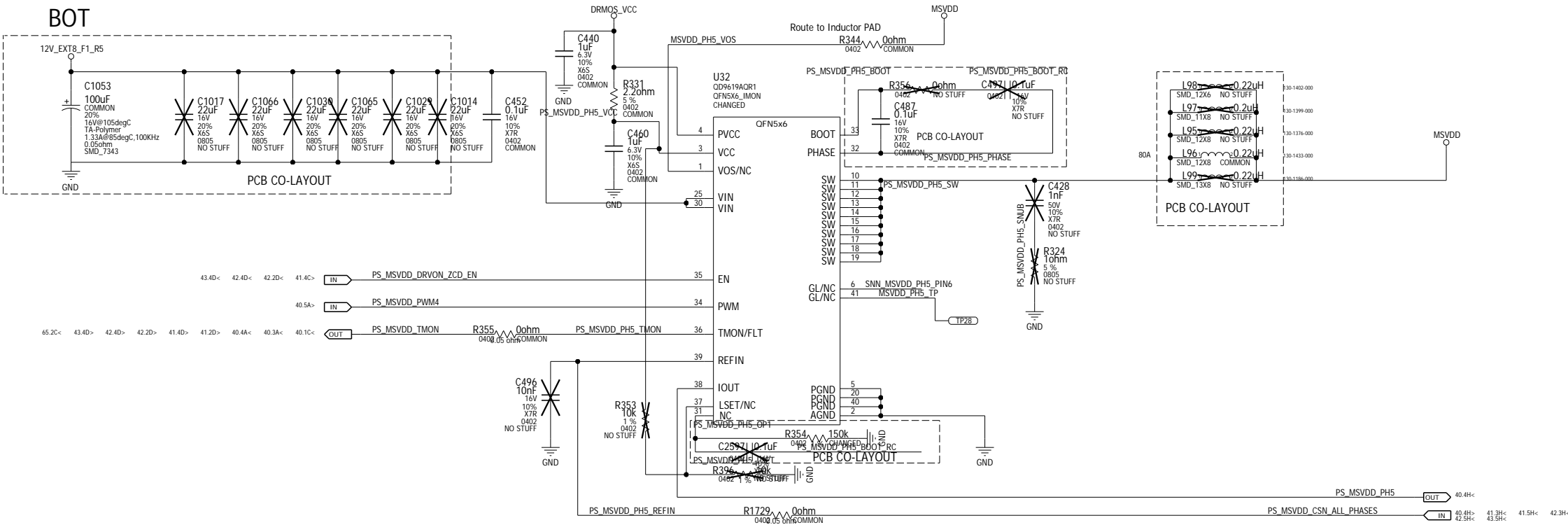
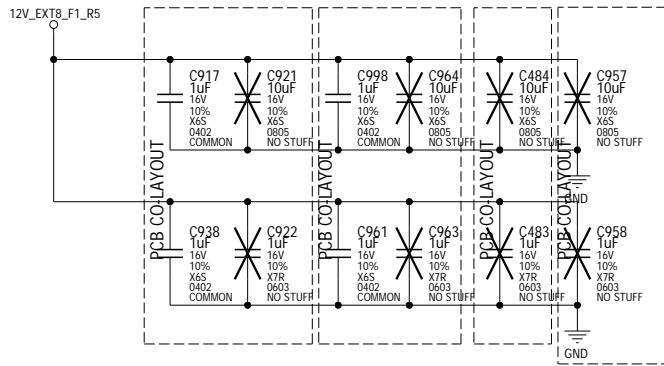


ASSEMBLY	SKU30
PAGE DETAIL	PS: MSVDD PH1 (PWM1) and PH2 (PWM2

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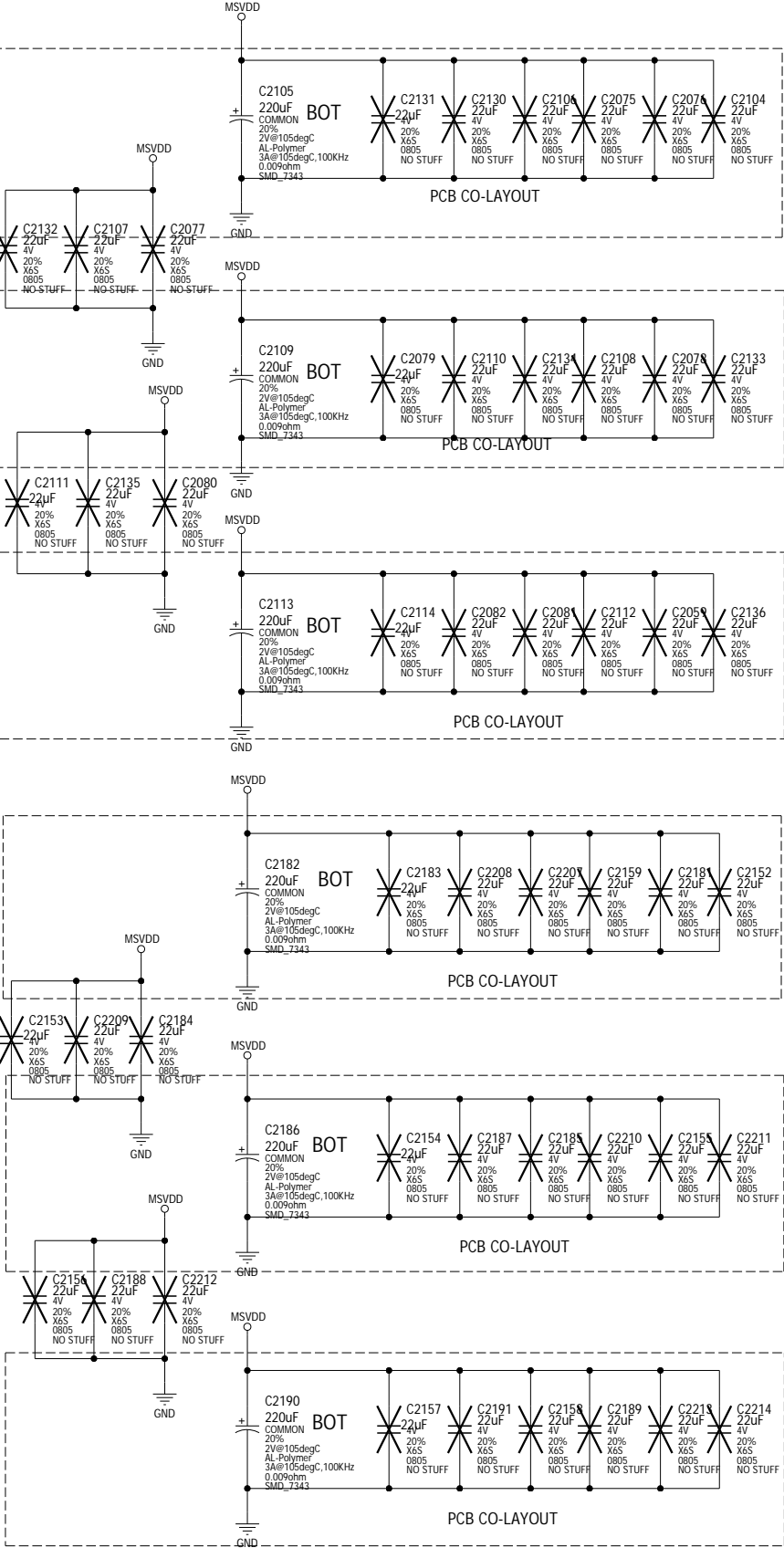


Page 43: PS:MSVDD PH 5 (PWM4), PH 6 (PWM5)



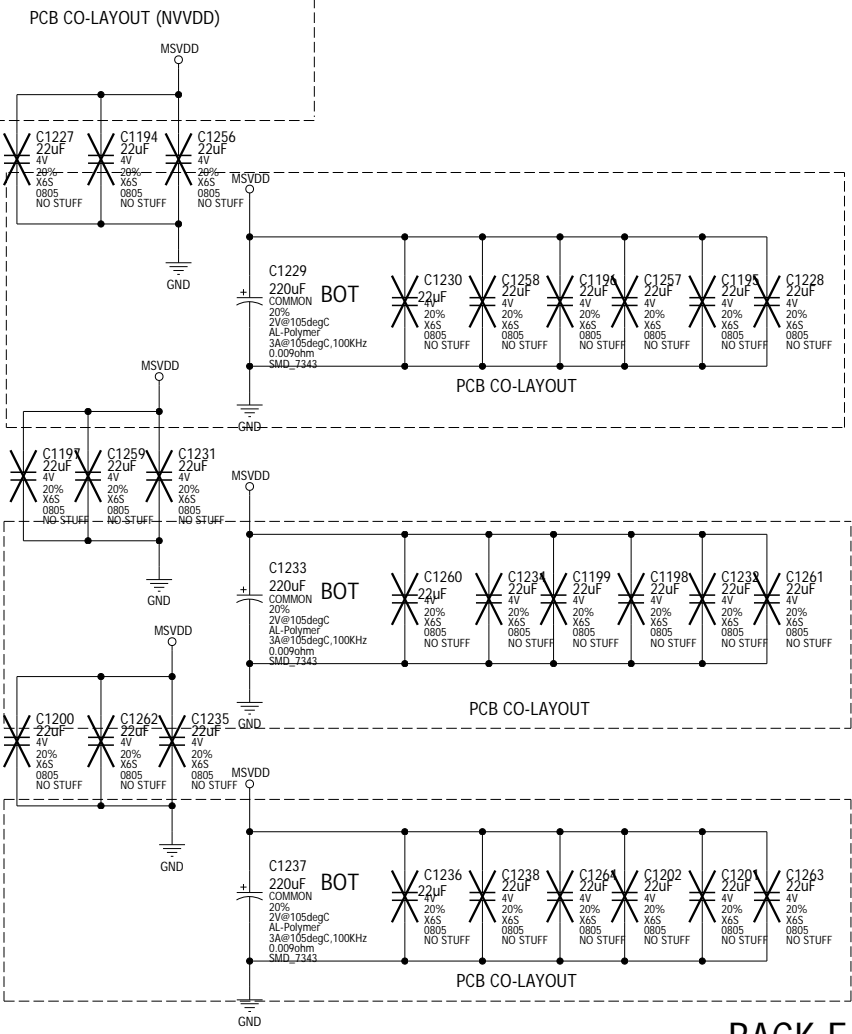
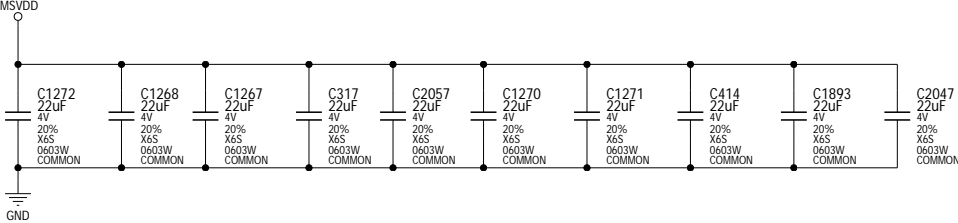
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Page 44: PS: MSVDD OUTPUT CAP
12x SMD7343 330uF CO-LAYOUT WITH 72x 0805 22uF

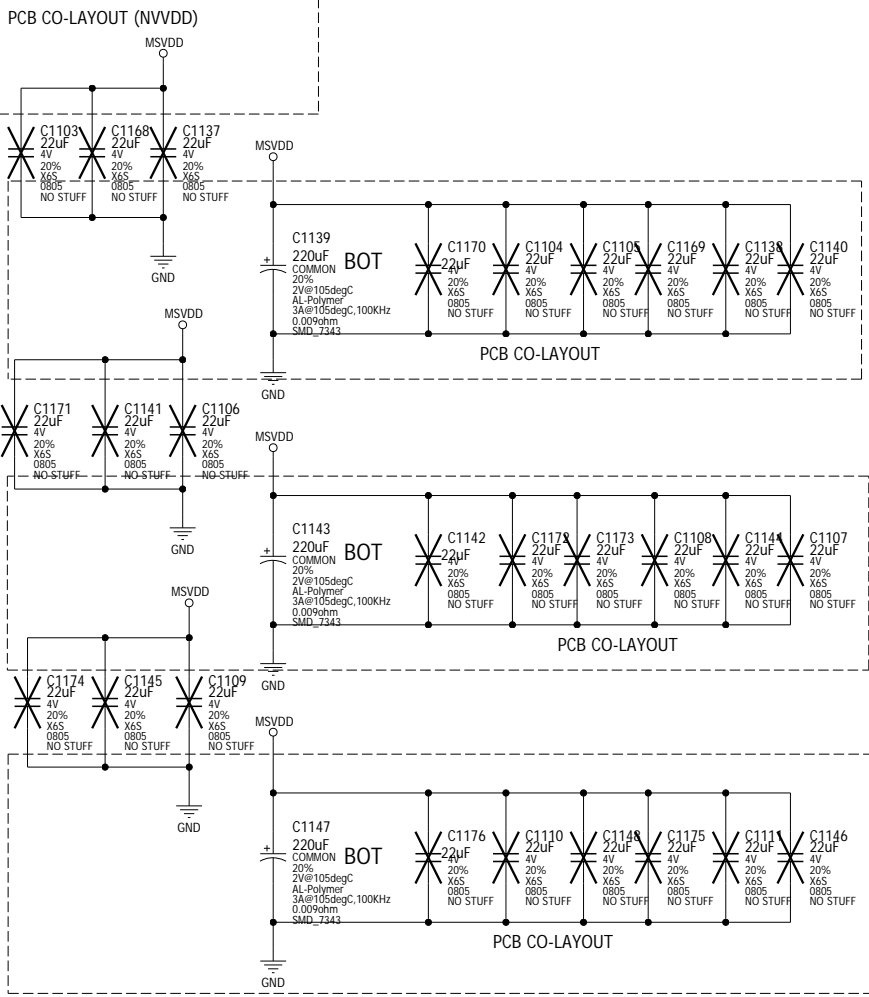
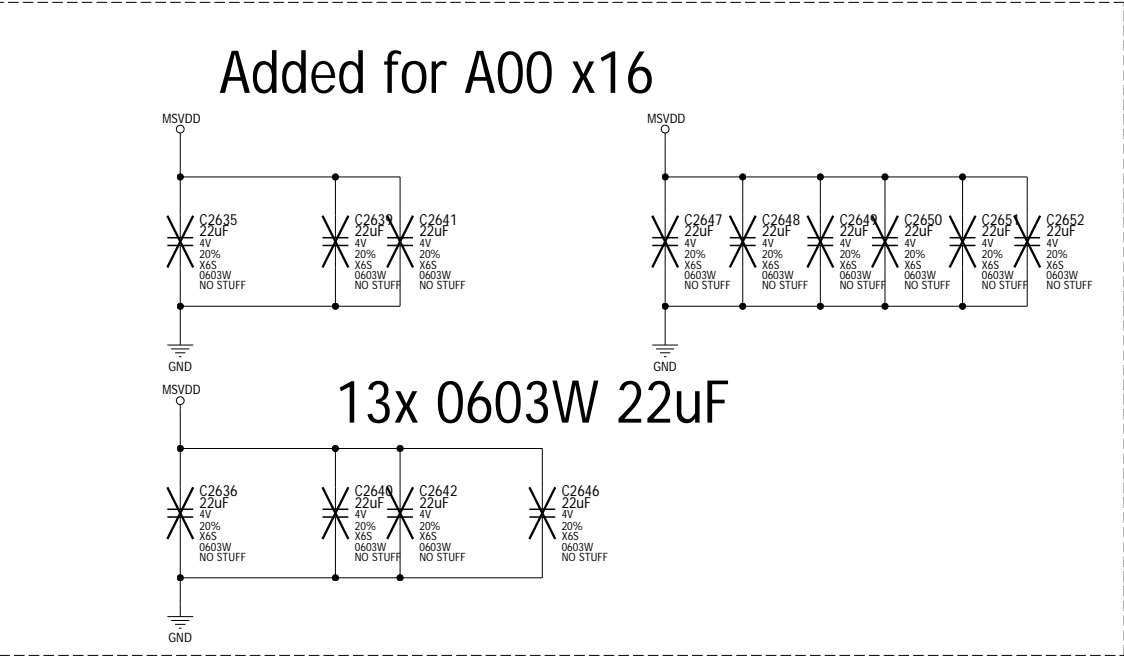


BACK WEST OF PCB

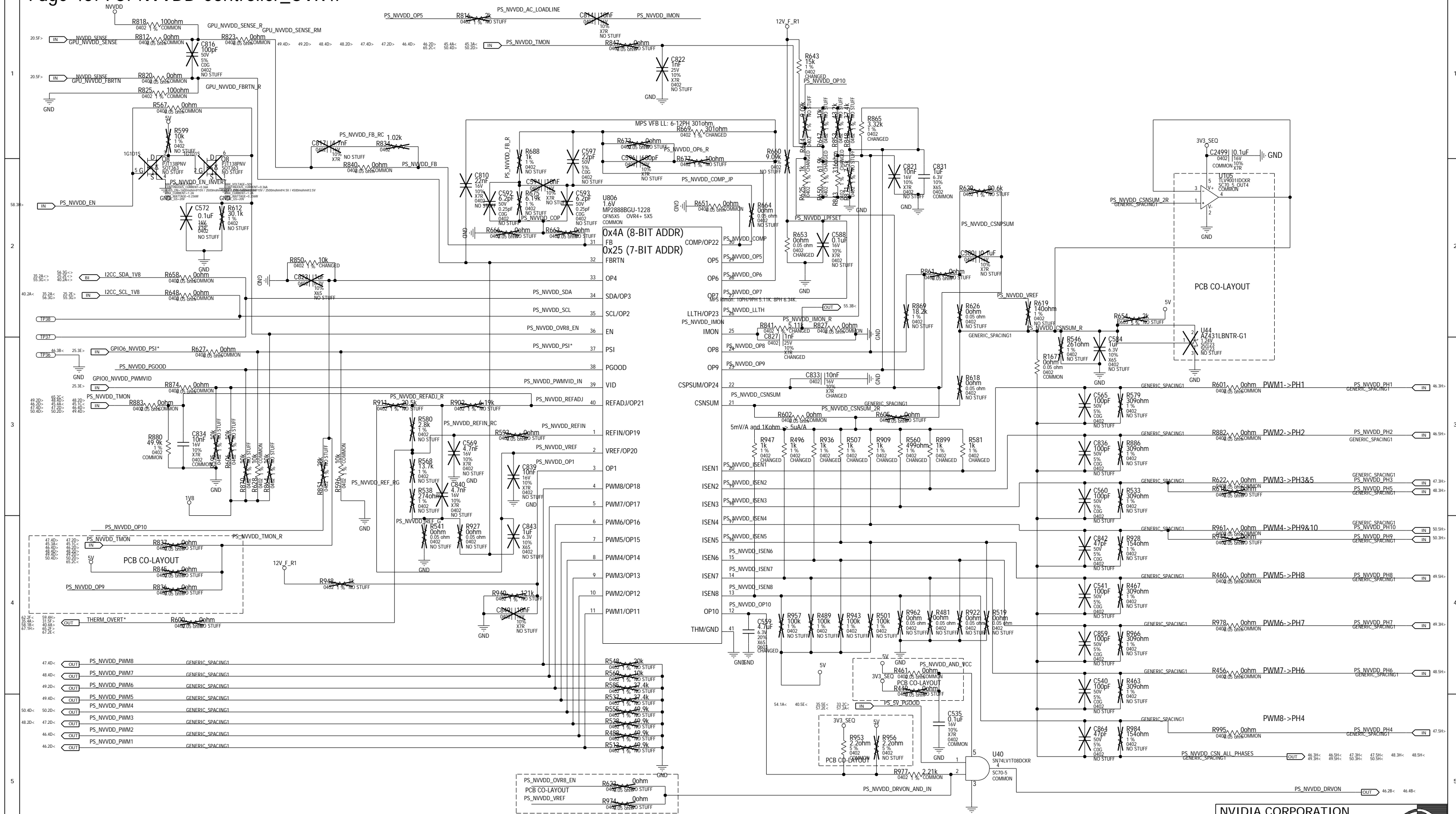
10x 0603W 22uF BETWEEN GPU AND VRM



BACK EAST OF PCB



Page 45: PS: NVVDD Controller_OVR4i



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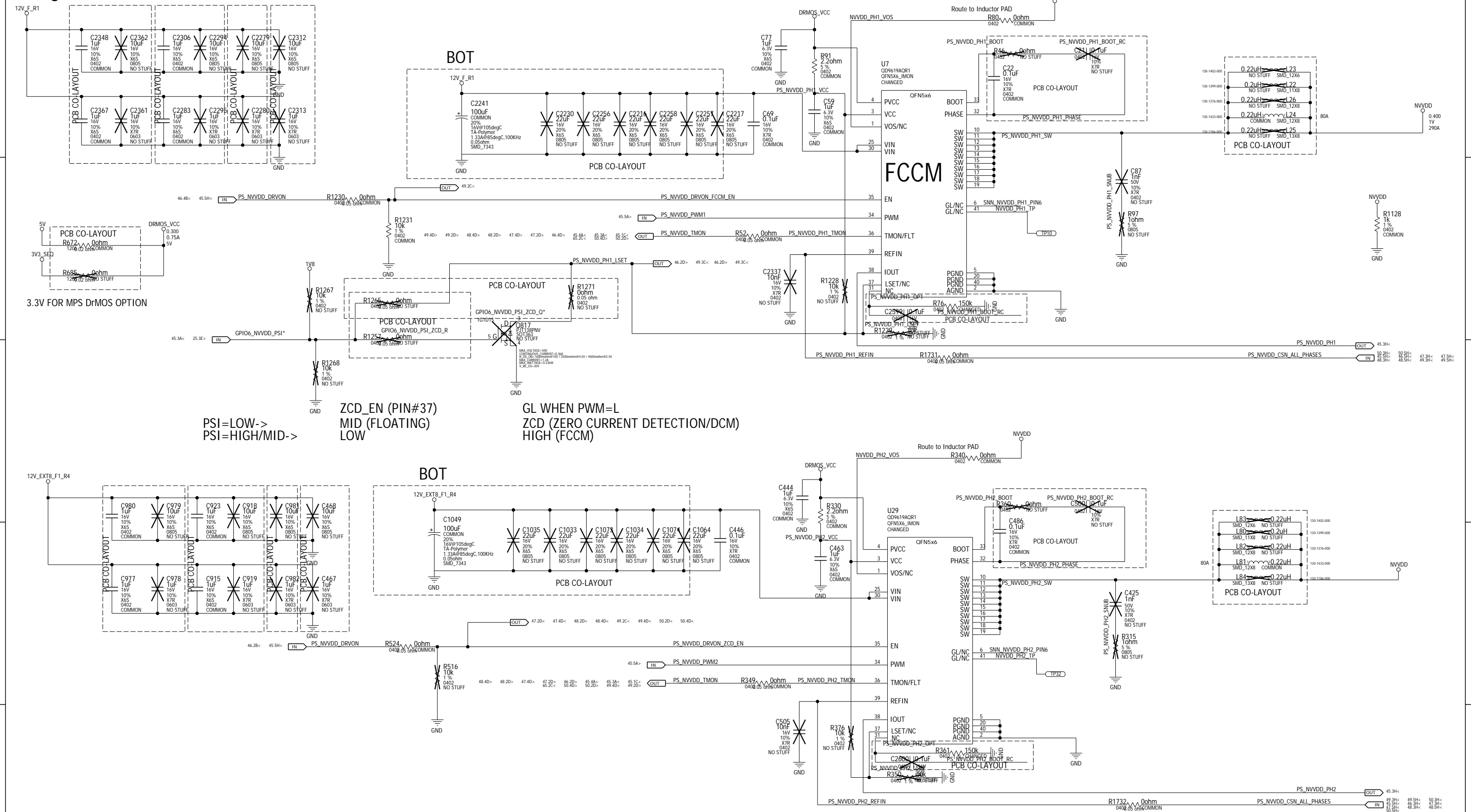


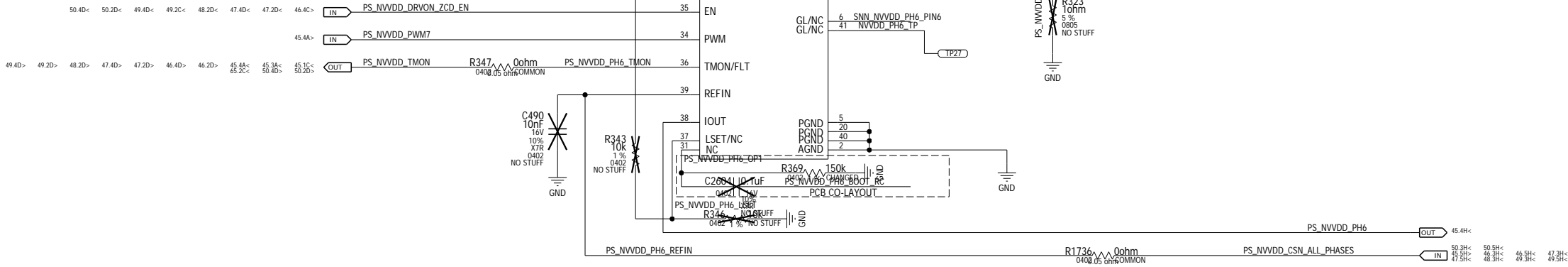
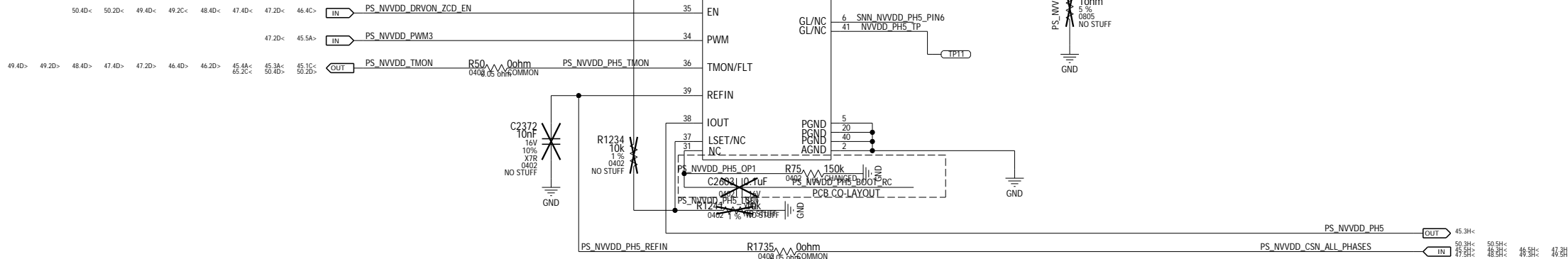
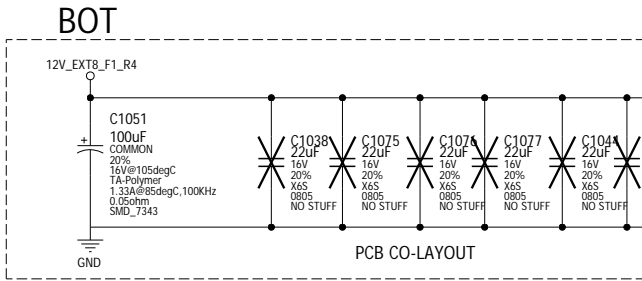
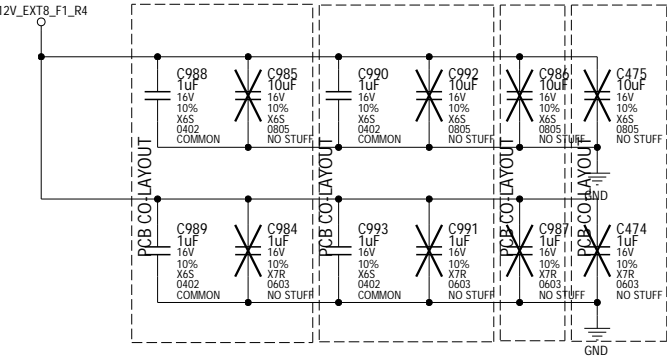
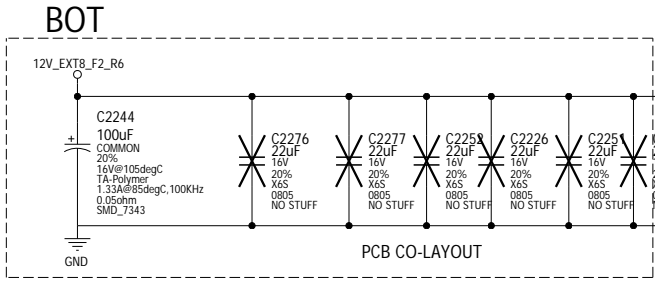
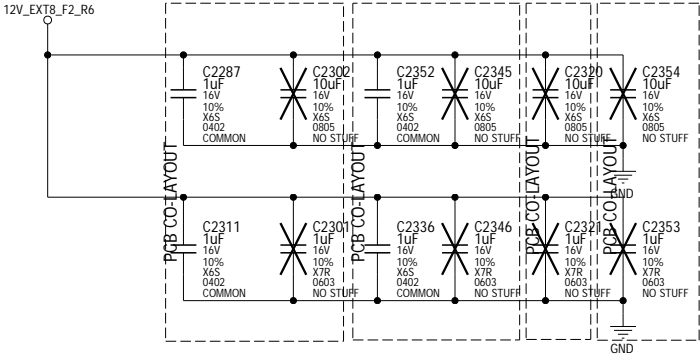
600-1G133-0030-900

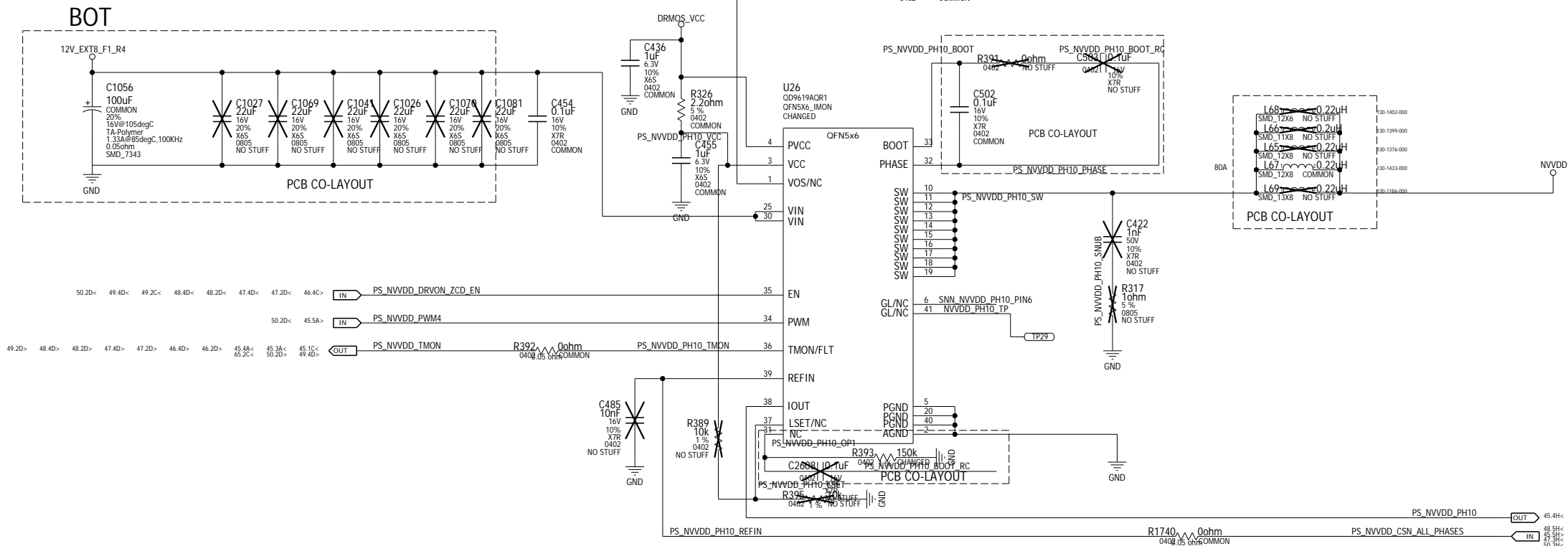
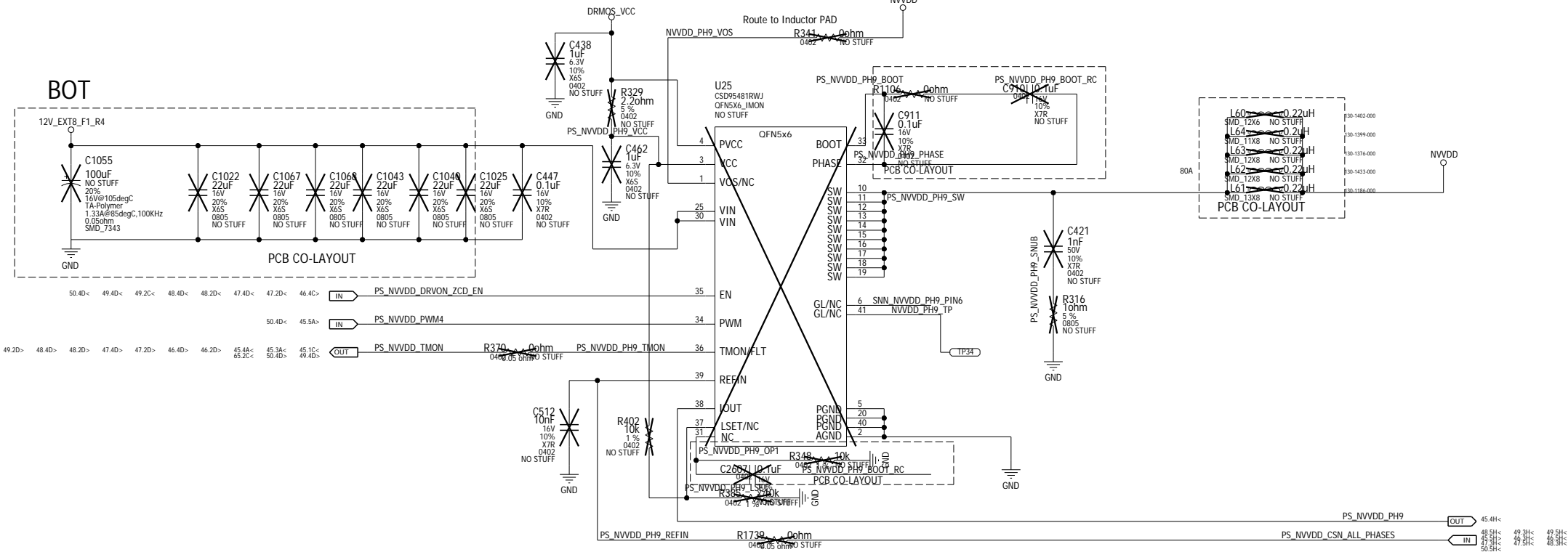
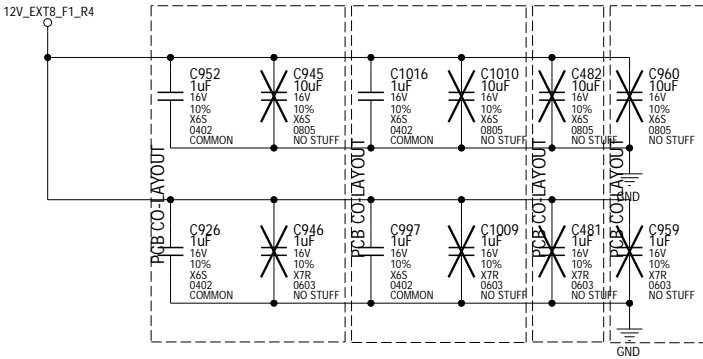
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Page 46: PS: NVVDD PH 1 (PWM1), PH 2 (PWM2)



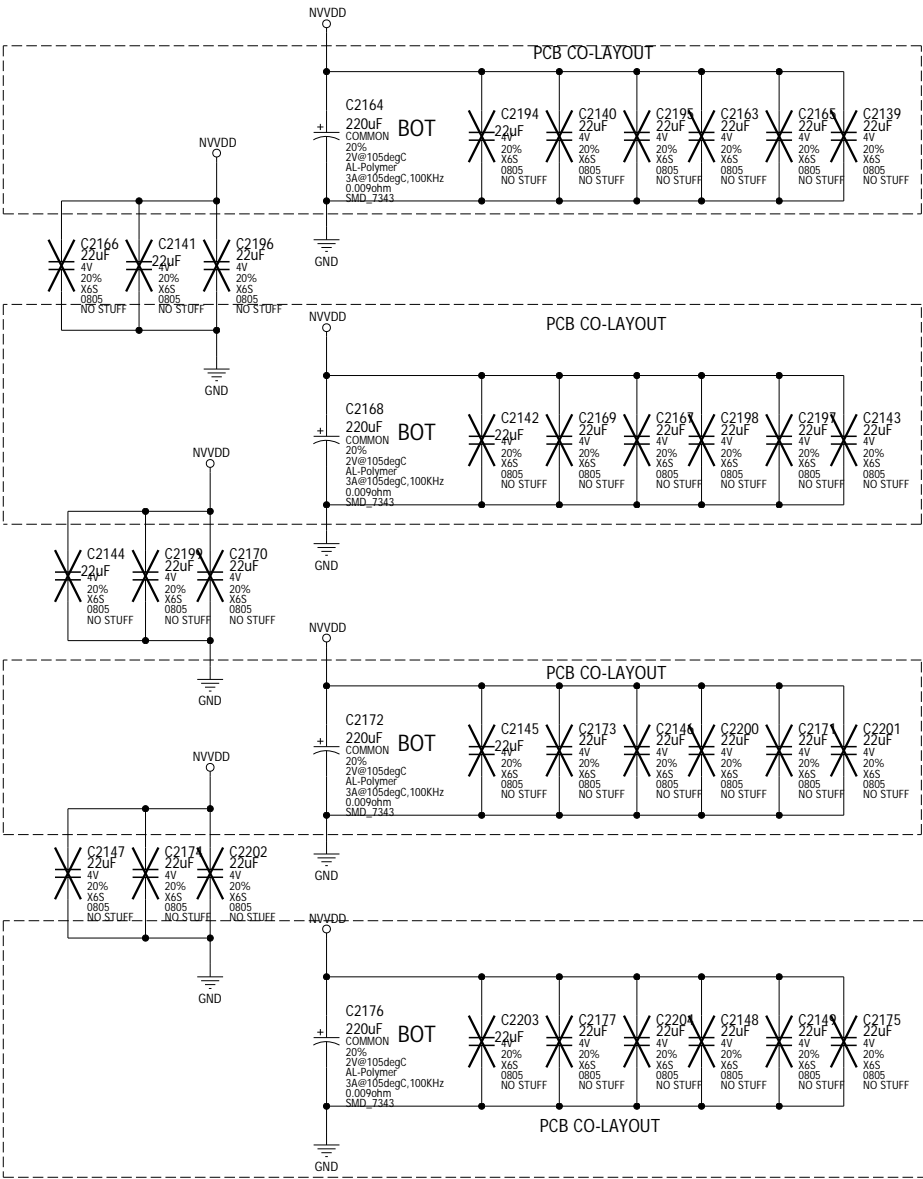




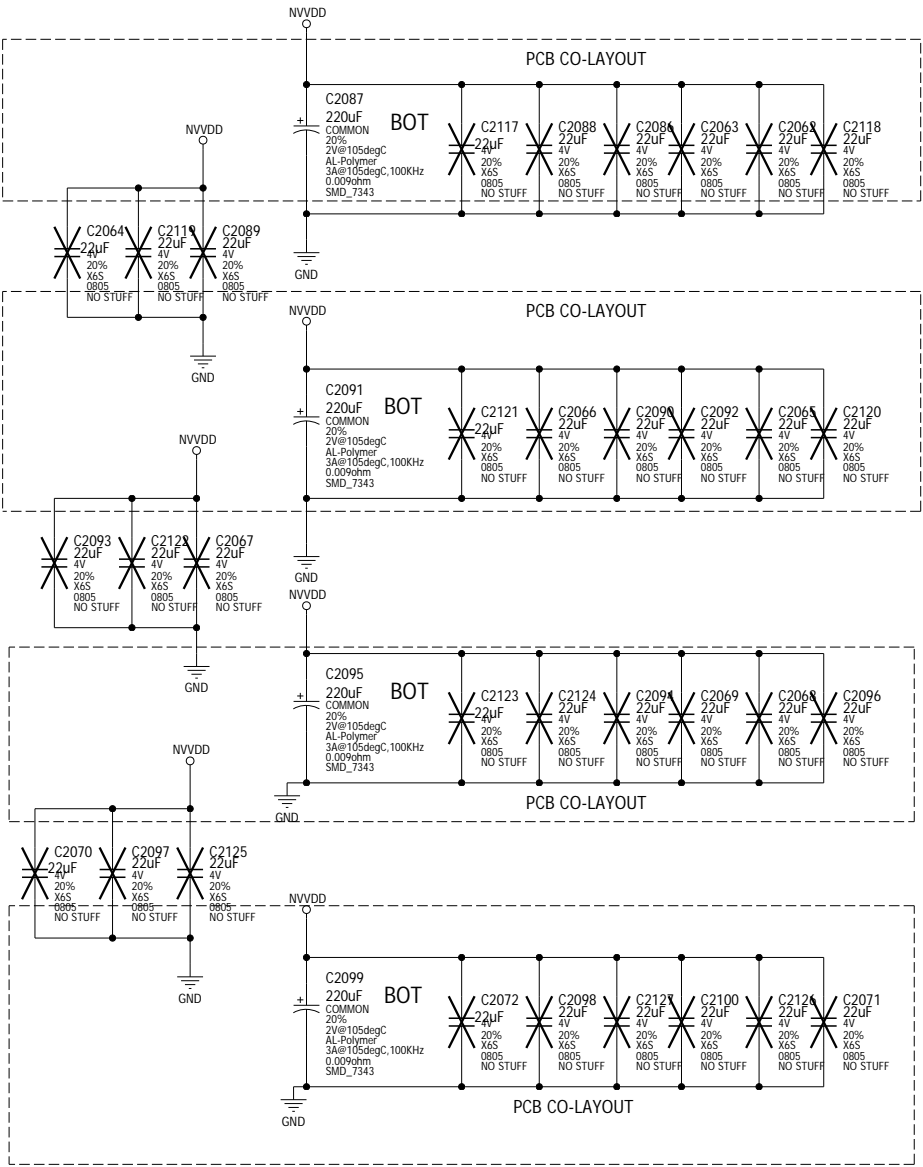
NVIDIA CORPORATION 2701 SAN TOMAS EXPRESSWAY SANTA CLARA, CA 95050, USA			
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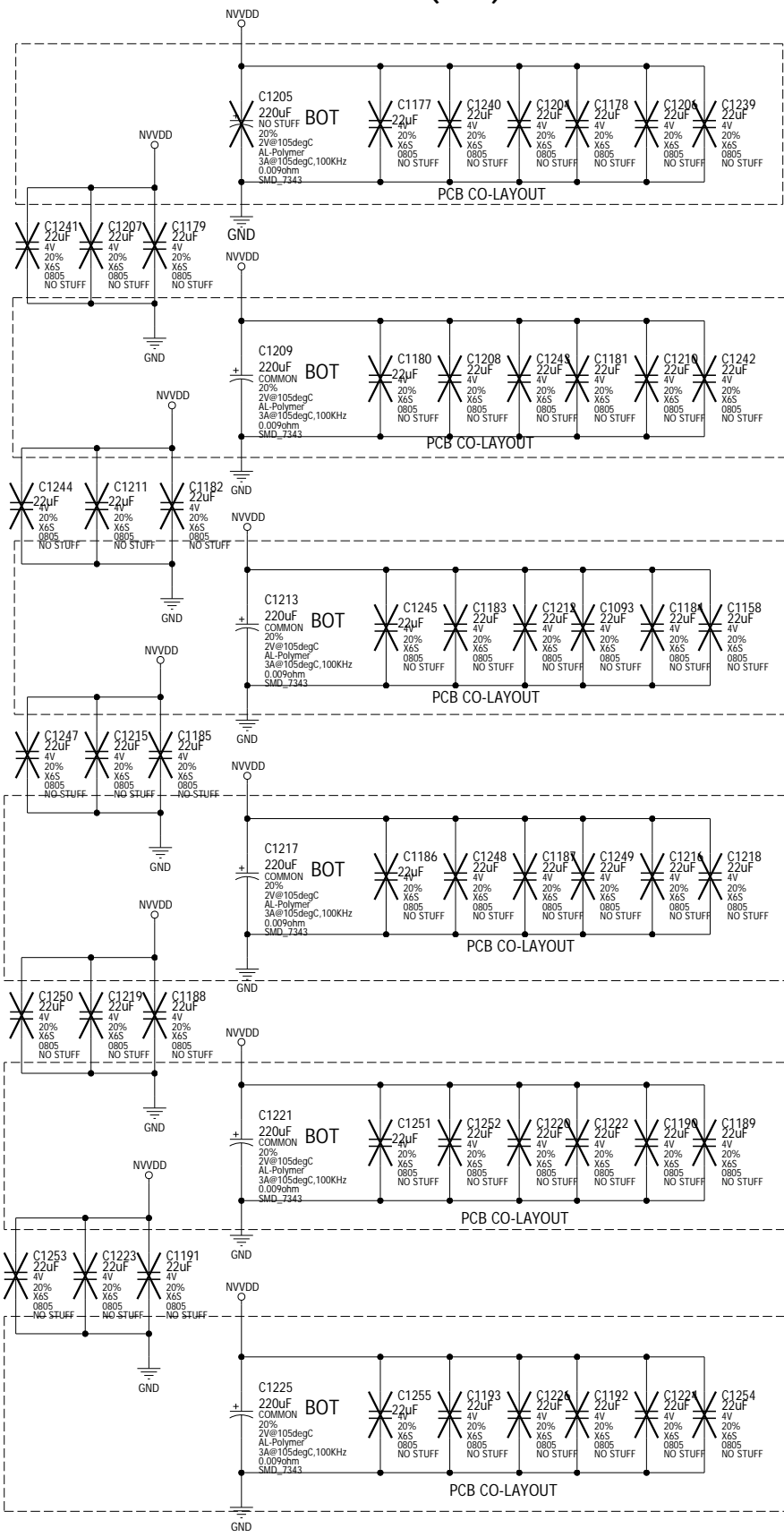
20x SMD7343 220uF CO-LAYOUT WITH 120x 0805 22uF



BACK WEST OF PCB

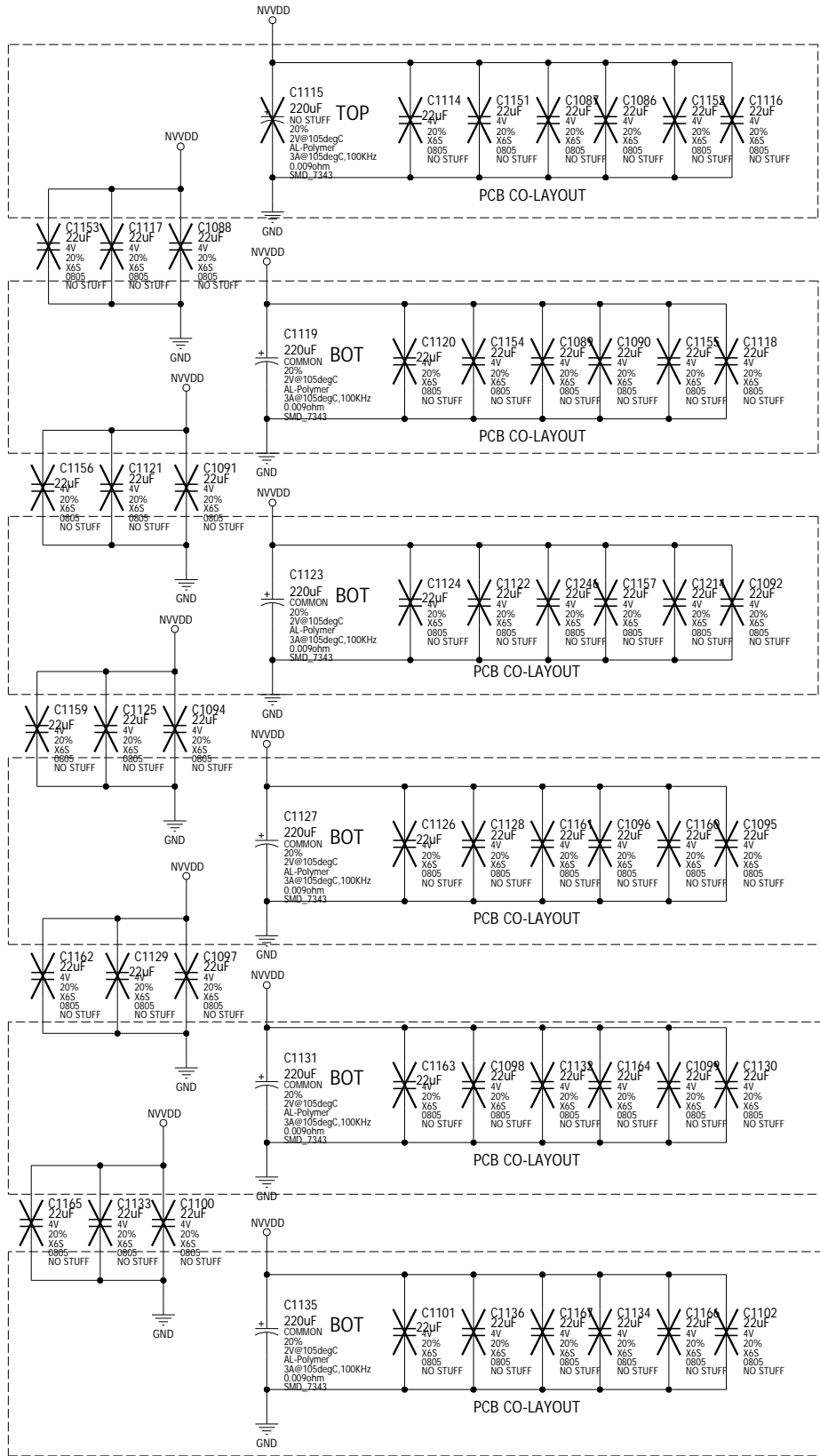
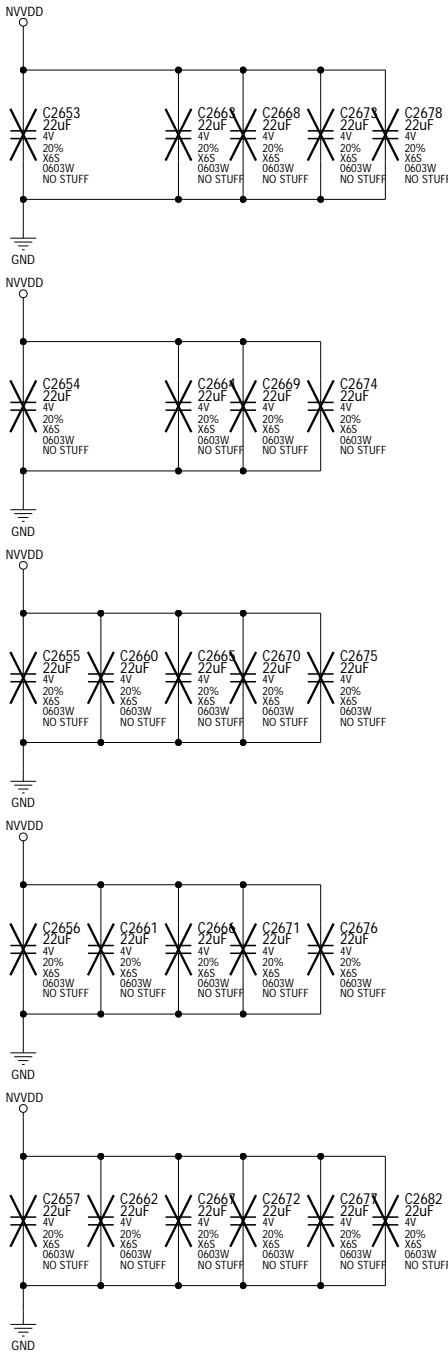


BACK WEST OF PCB

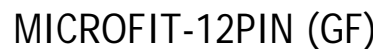
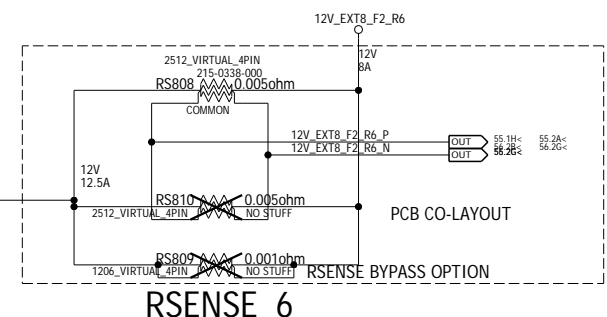
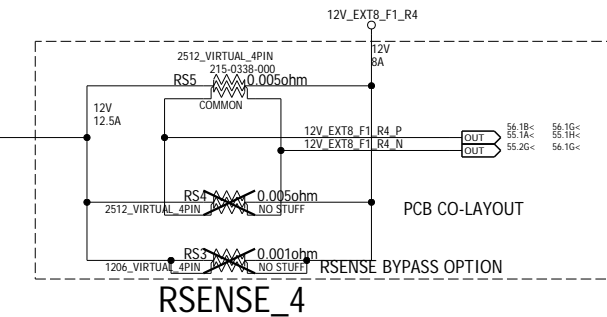
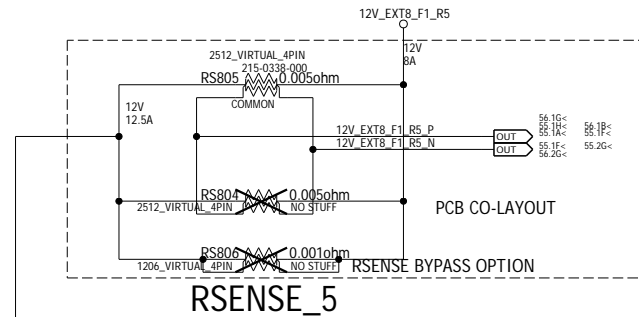
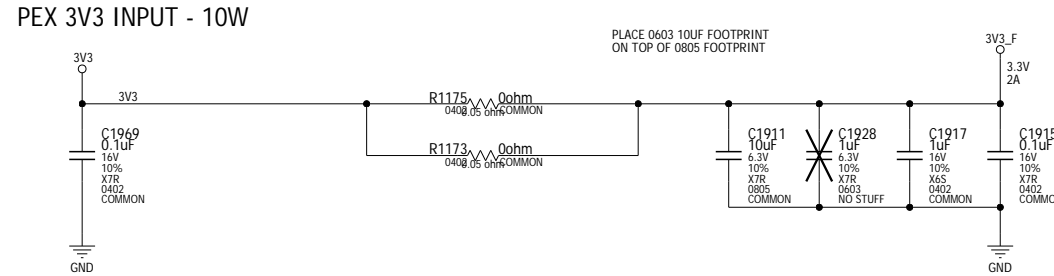


BACK EAST OF PCB

Added for A00 x16
25x 0603W 22uF




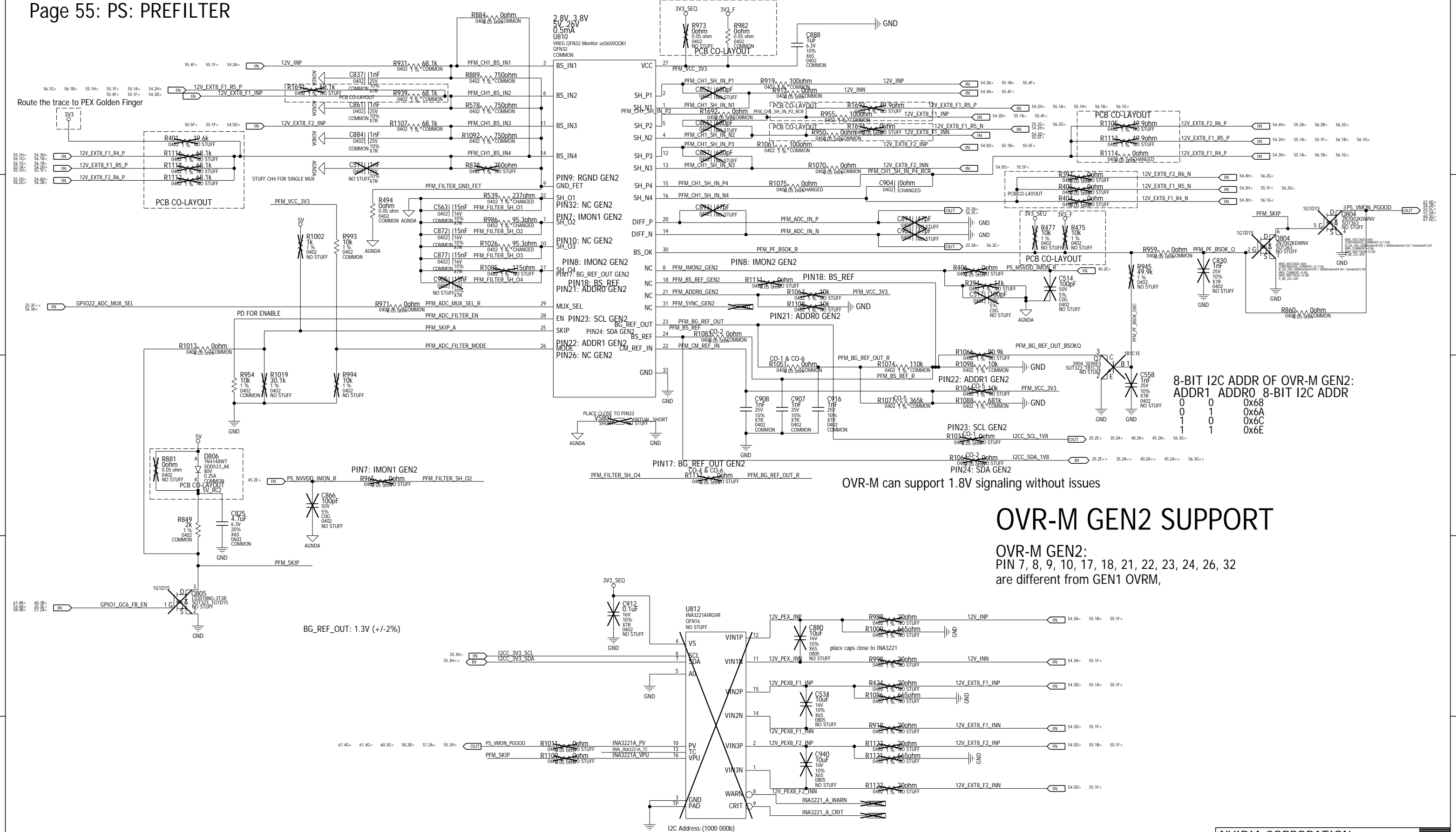
BACK EAST OF PCB



ASSEMBLY	SKU30
PAGE DETAIL	PS: INPUTS, FILTERING, MONITORING

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OVR-M can support 1.8V signaling without issues

OVR-M GEN2 SUPPORT

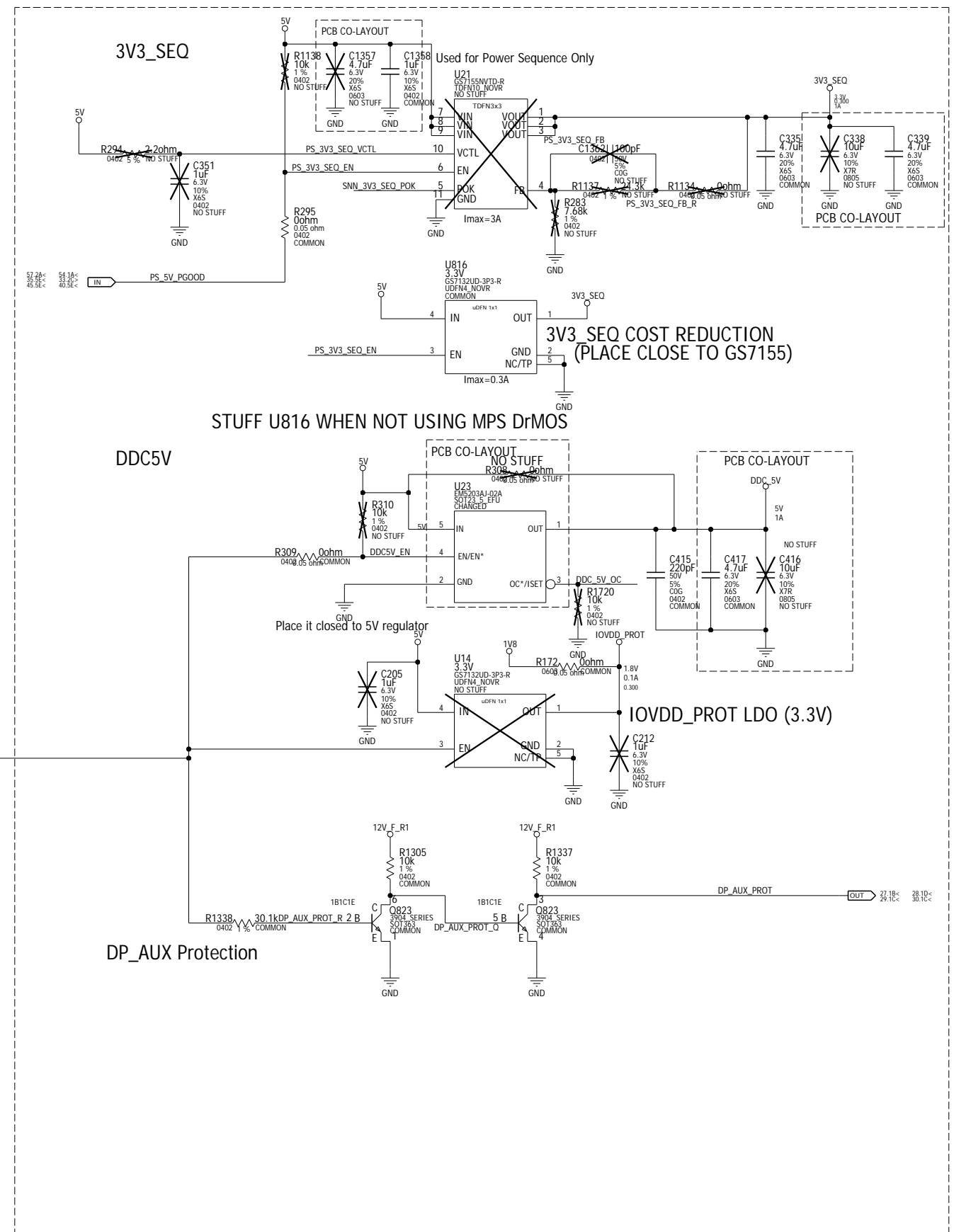
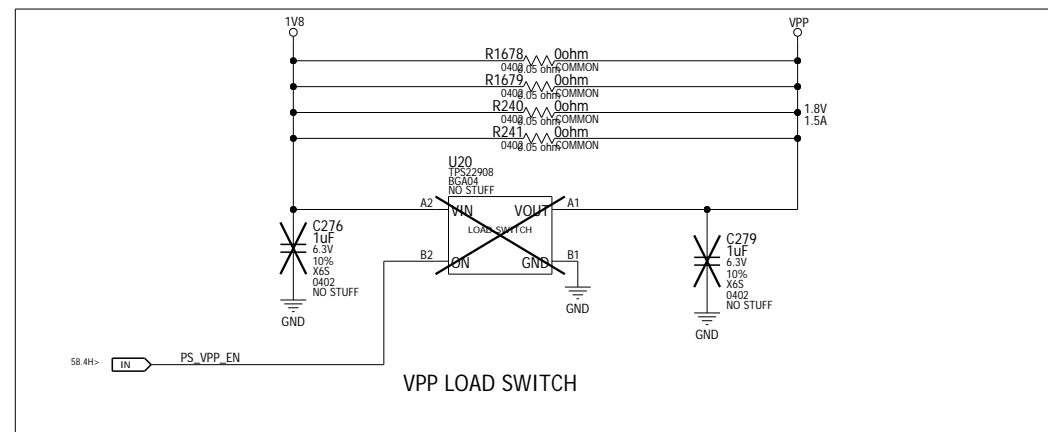
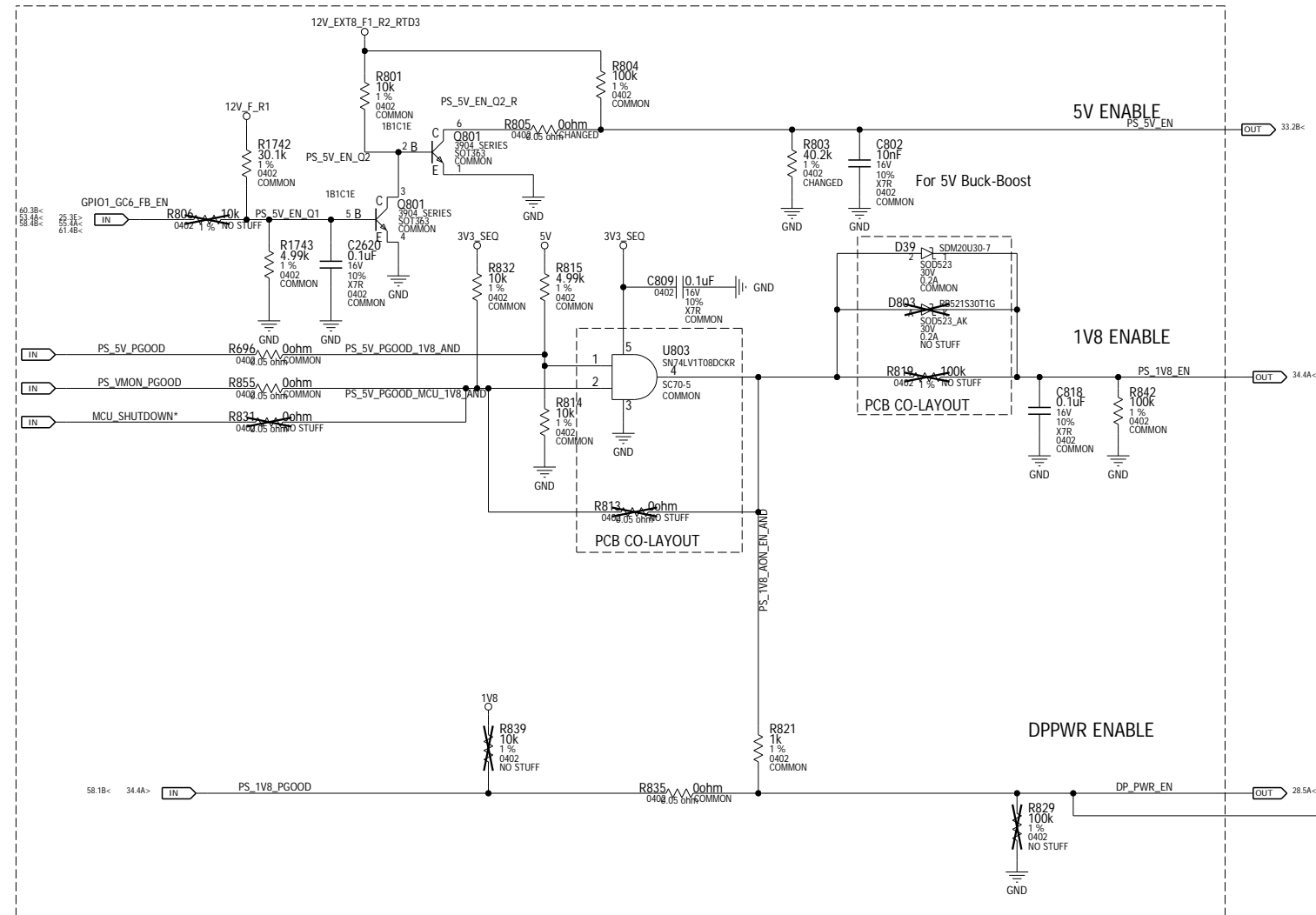
OVR-M GEN2:
PIN 7, 8, 9, 10, 17, 18, 21, 22, 23, 24, 26, 32
are different from GEN1 OVRM,

2

4

5

OVR-M can support 1.8V signaling without issues



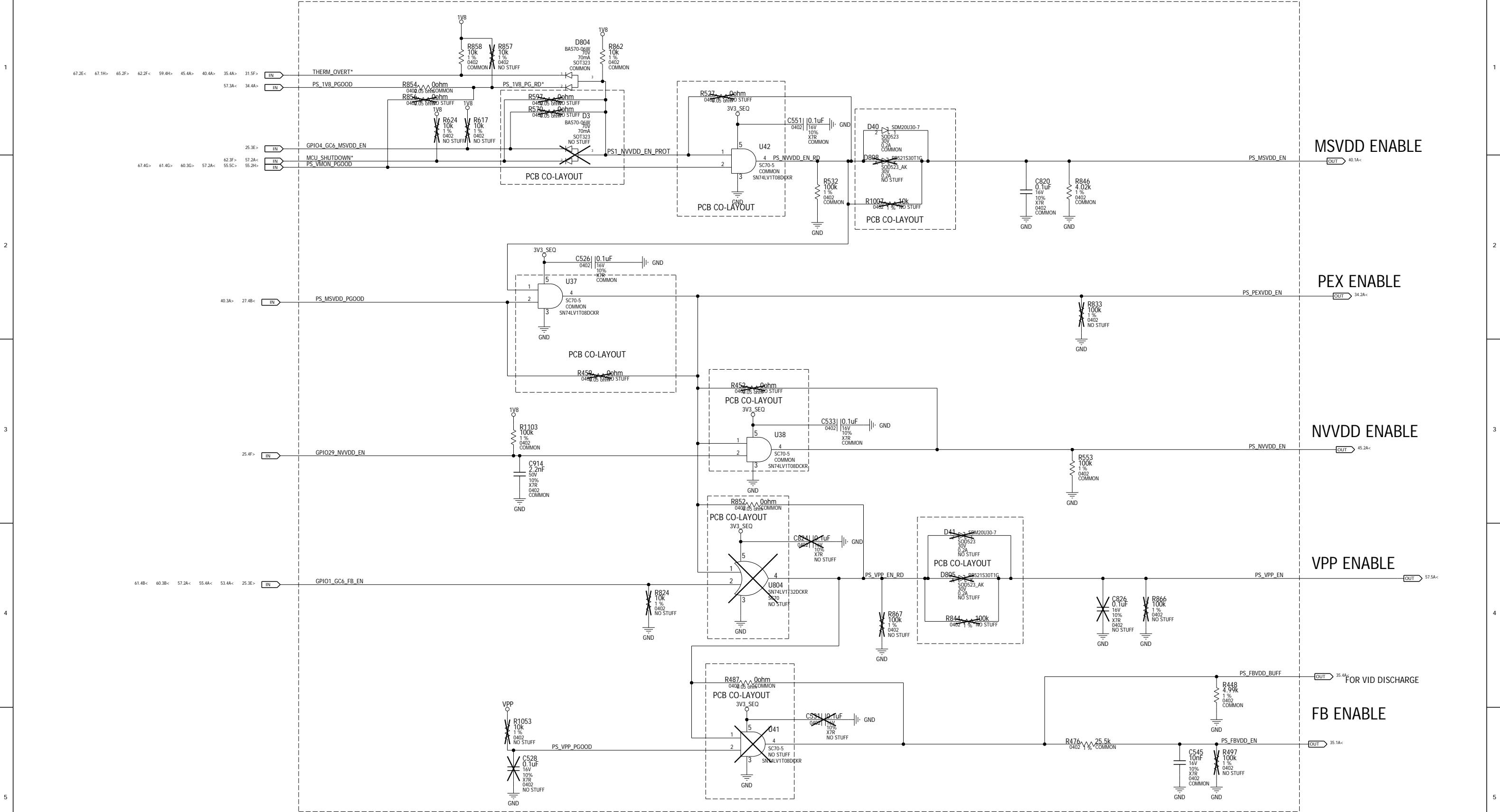
ASSEMBLY	SKU30
PAGE DETAIL	SEQ: 5V/1V8 EN & VPP LOAD SW

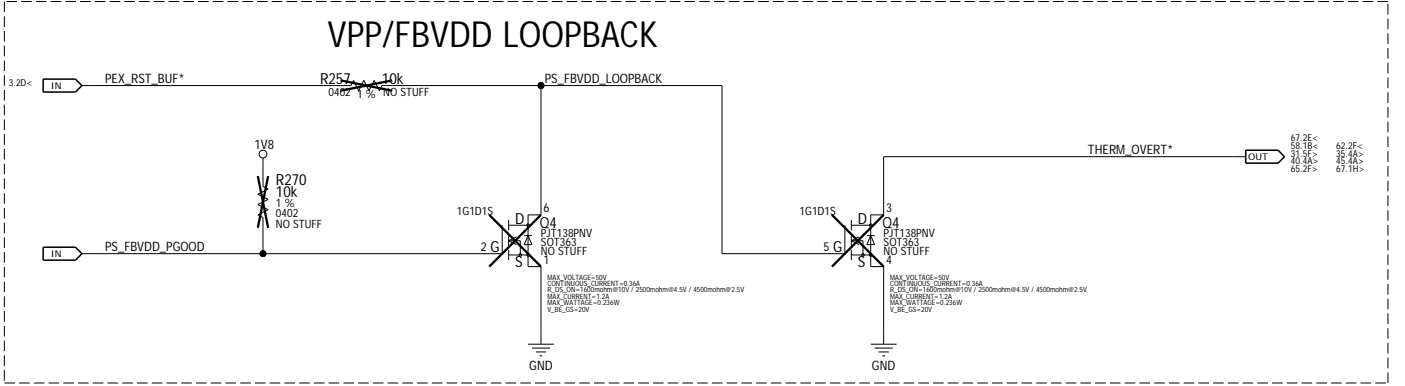
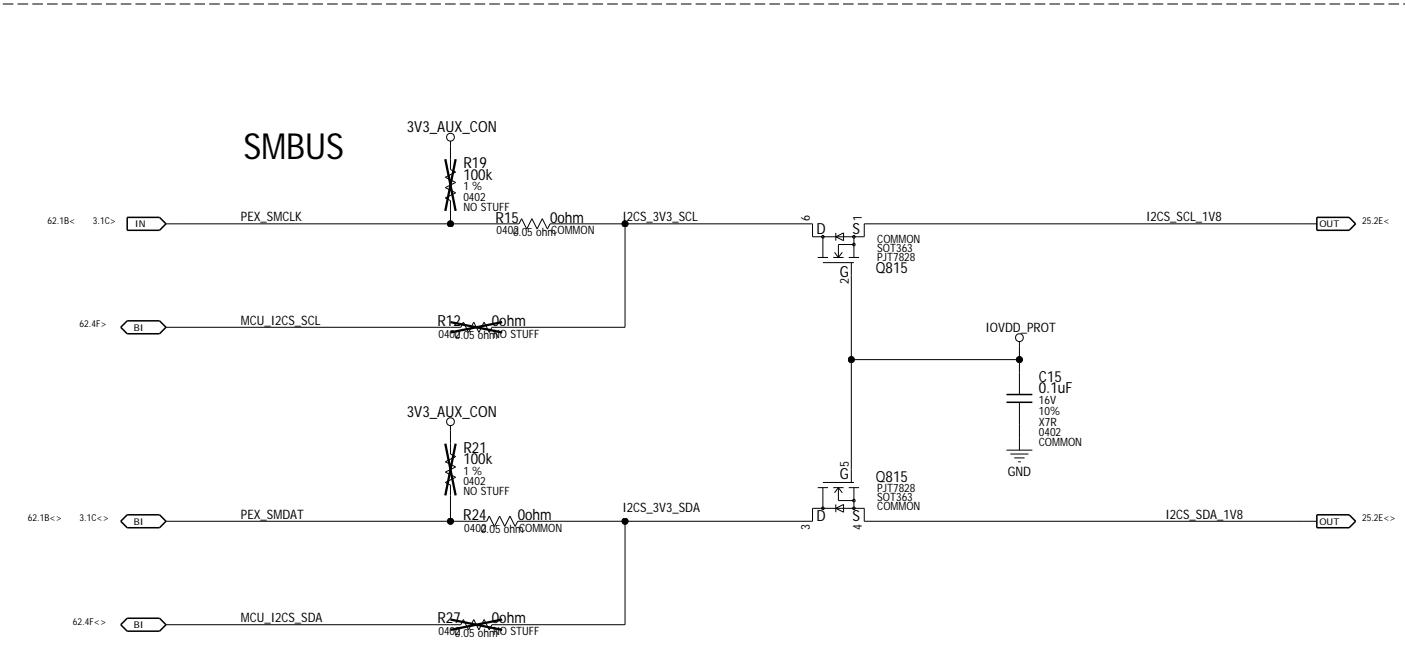
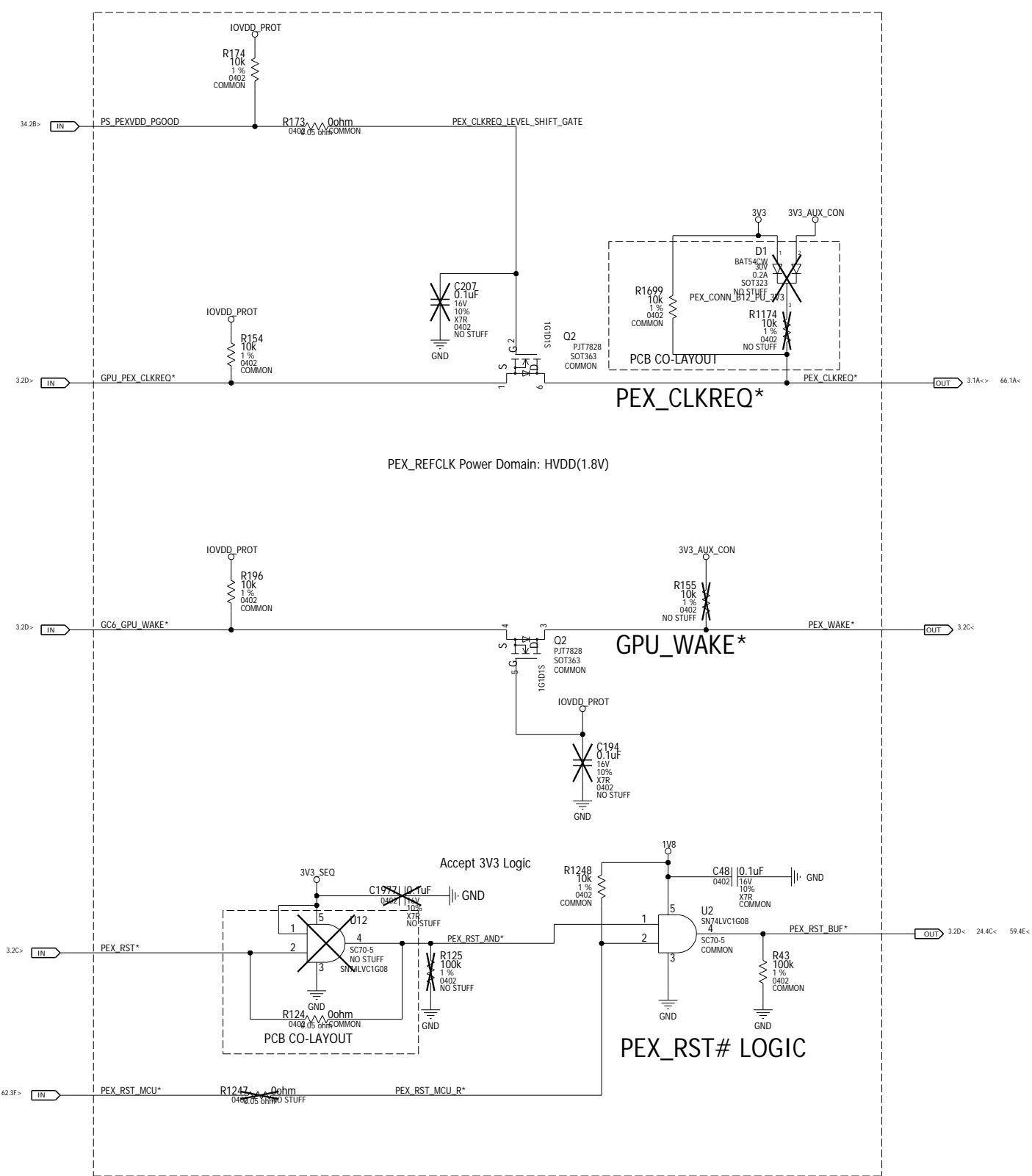
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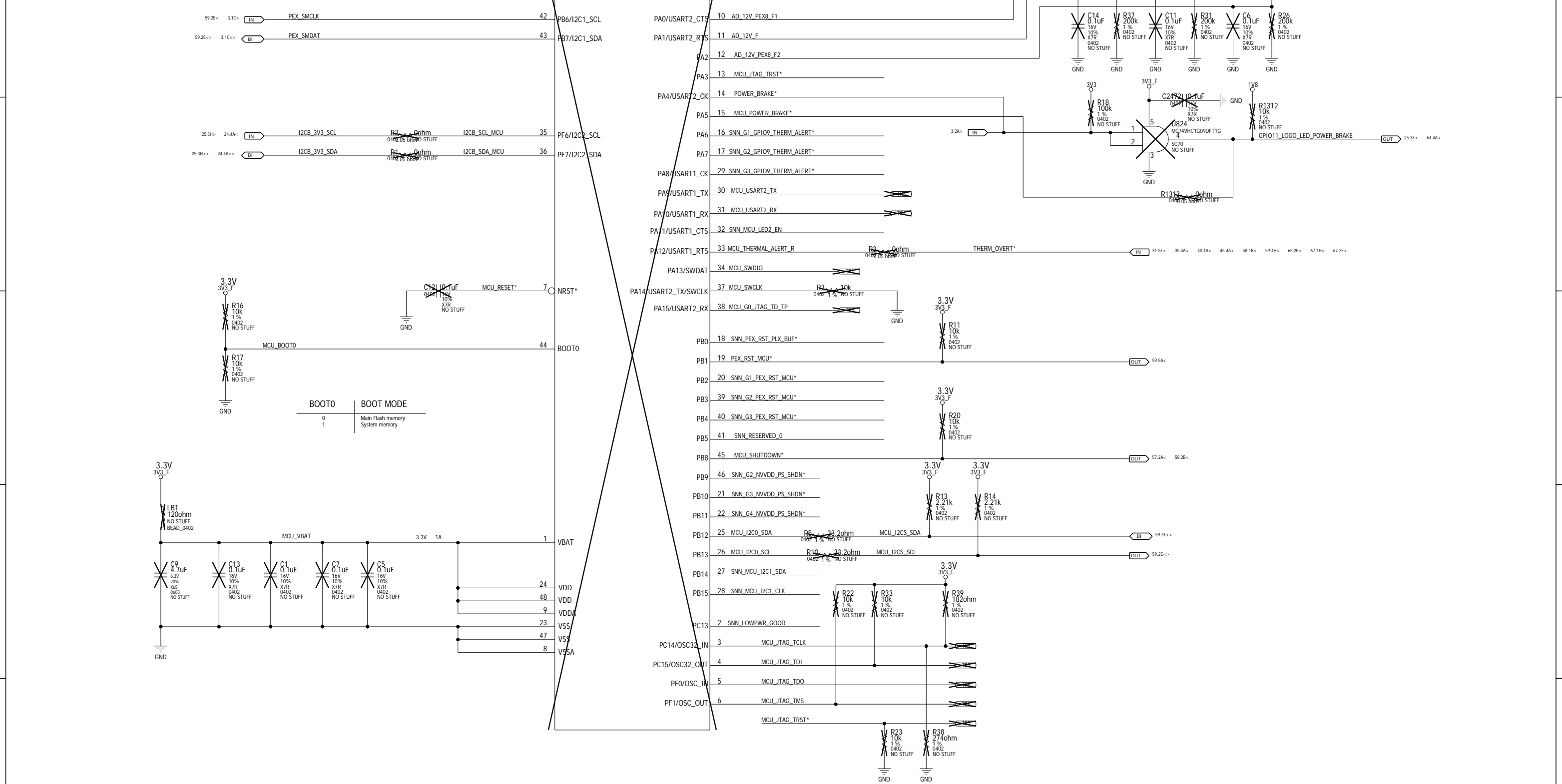


2



4

A



2-PIN LED HEADER FOR NORTH LOGO LED (WHITE)

White LED: Preliminary Vf = 2.7V-3.3V @ 20mA

NORTH LOGO LED (WHITE)

GPIO35_NORTH_LOGO_LED_DRIVE

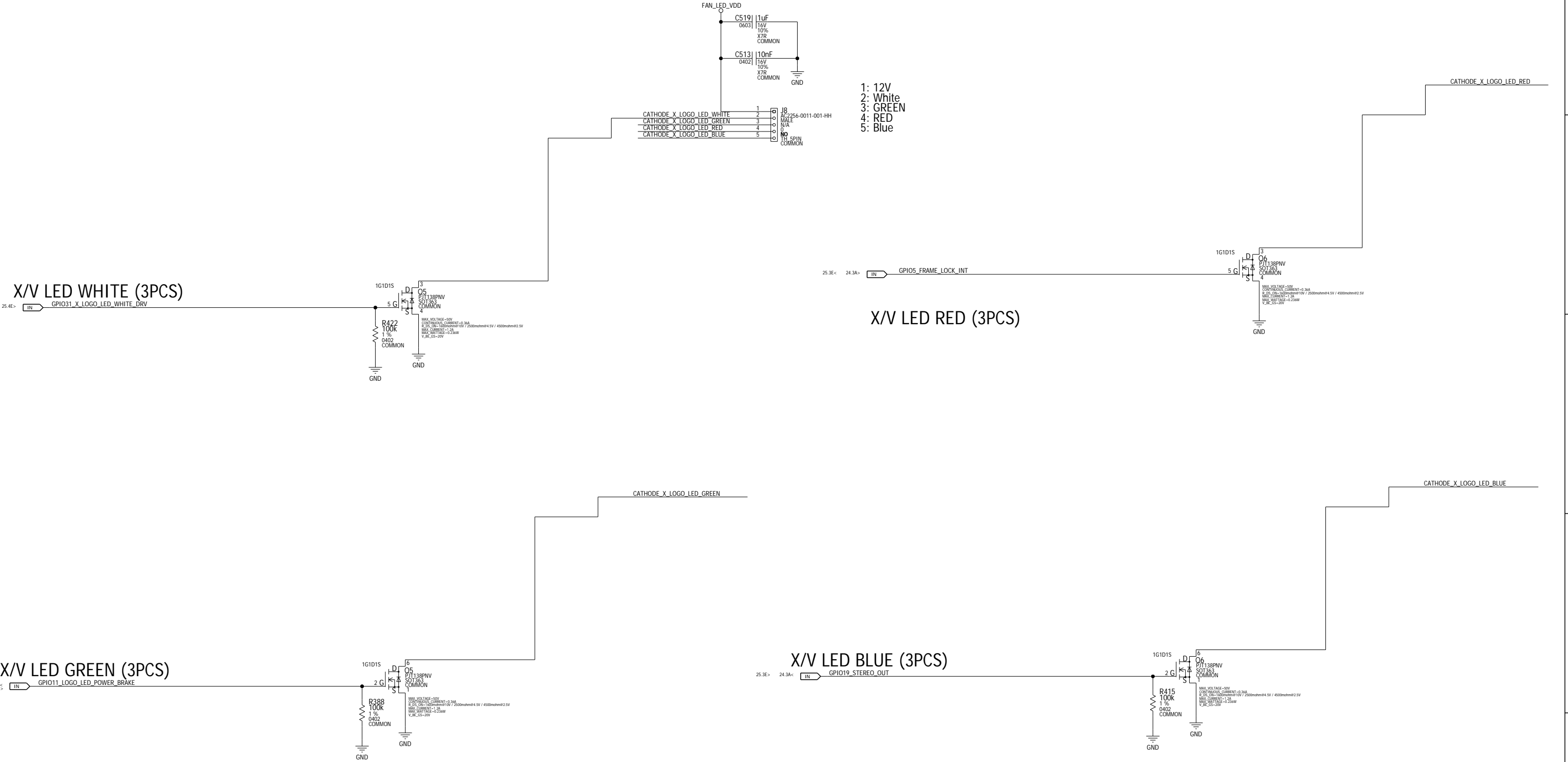
PCB CO-LAYOUT

DUAL FAN 6-PIN FFC HEADERS W/ 0.5MM PITCH

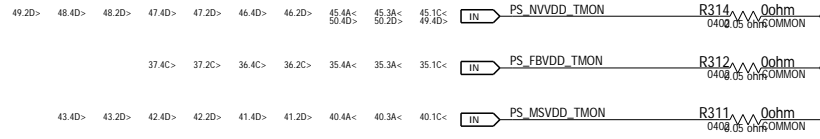
FAN B (RIGHT)

FAN A (LEFT)

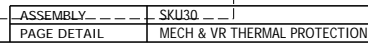
5-PIN POGO-PIN HEADERS FOR 'X/V' LEDS




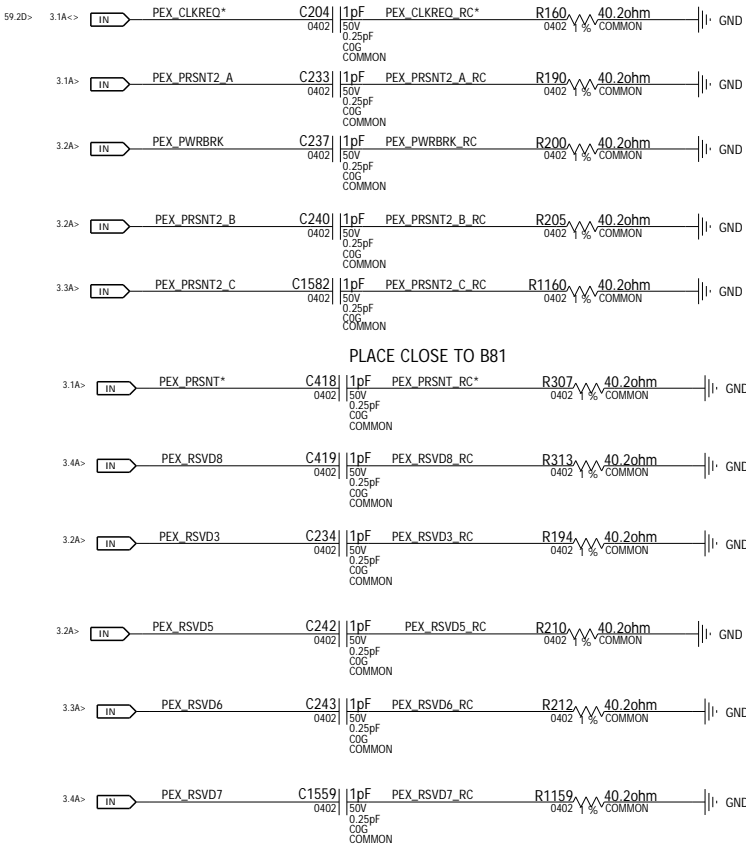
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EMISTOP: 320-1764-000
TYCO: 320-1742-000



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