NAVI14 GDDR6 4PCS,8L 3xDPs +1xHDMI

105-D332xx-00B RevB Desktop board(110W TGP)

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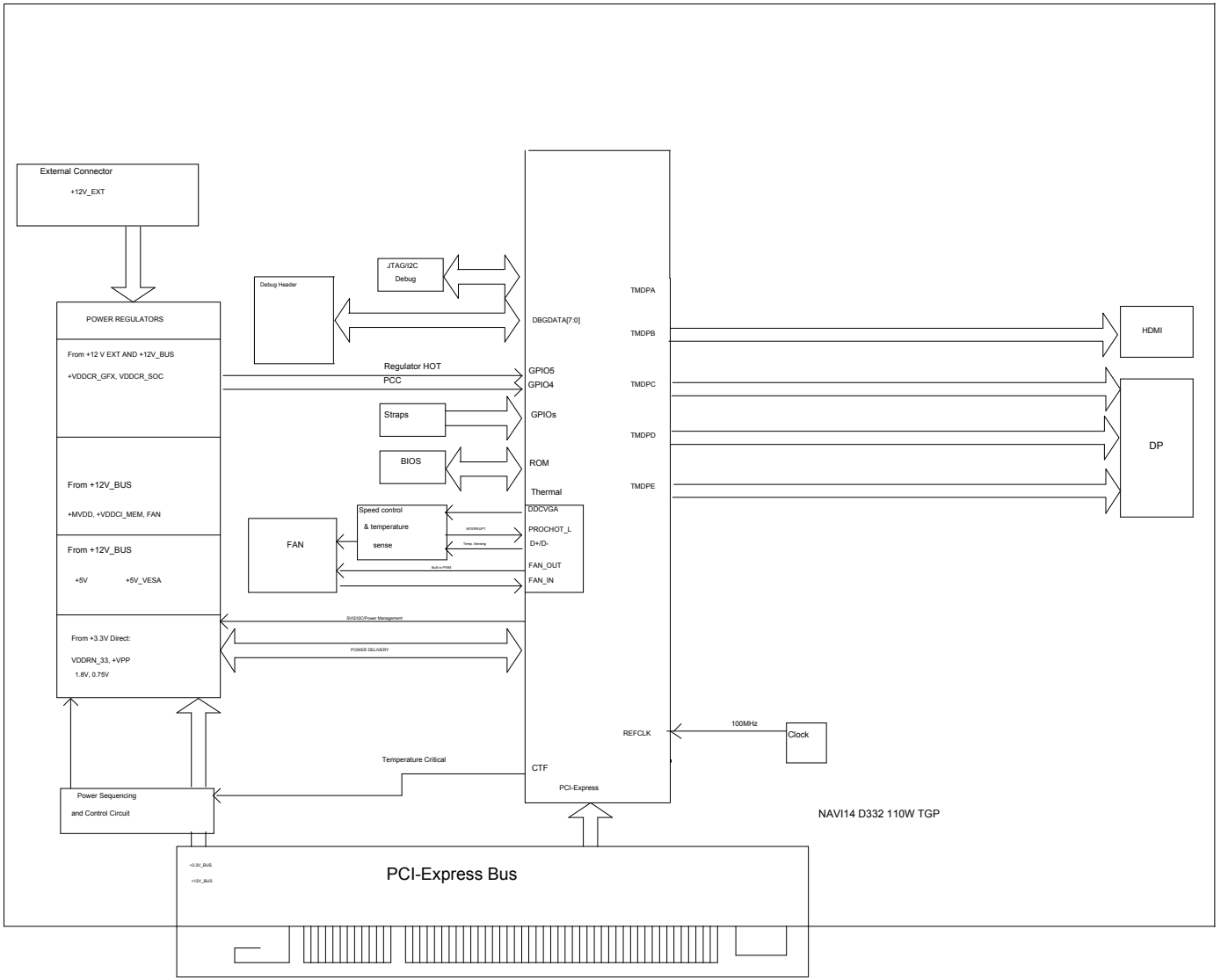

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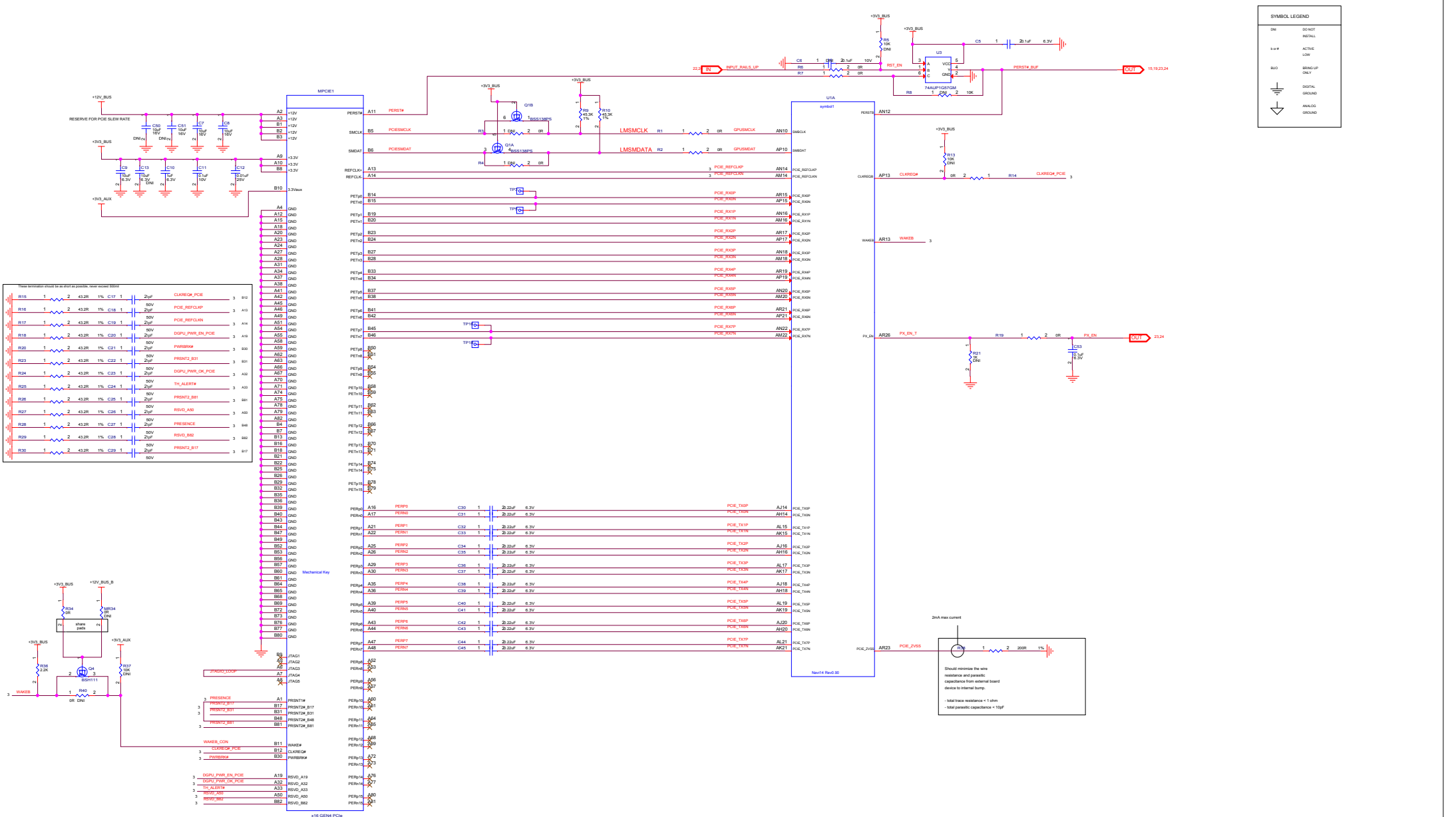

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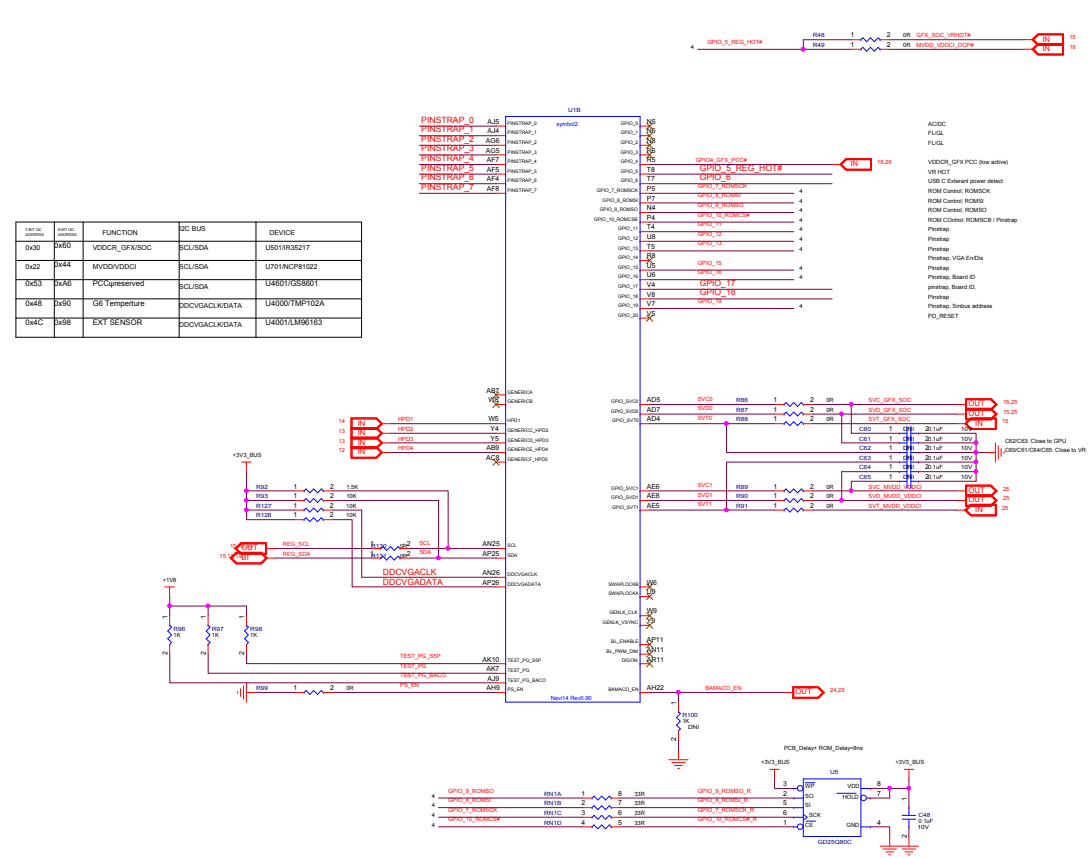
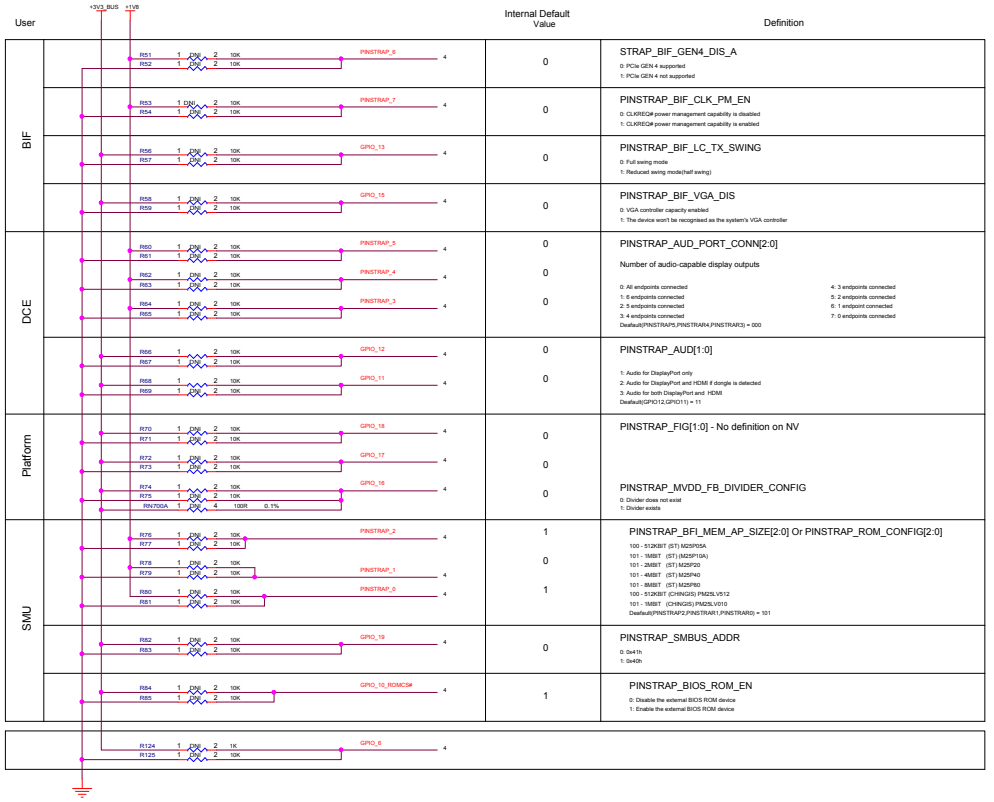
(4) NAVI14 GPIOs & ROM



7-BIT I2C ADDRESS	8-BIT I2C ADDRESS	FUNCTION	I2C BUS	DEVICE
0x30	0x60	VDDCR_GFX/SOC	SCL/SDA	U501/IR35217
0x22	0x44	MVDD/VDDCI	SCL/SDA	U701/NCP81022
0x53	0xA6	PCCpreserved	SCL/SDA	U4601/GS8601
0x48	0x90	G6 Temperture	DDCVGACLK/DATA	U4000/TMP102A
0x4C	0x98	EXT SENSOR	DDCVGACLK/DATA	U4001/LM96163

Note: Internal PU/PD at GPIO pad is ~40k
strength in 14nm design spec



		User	Internal Default Value	Definition
BIF	PINSTRAP_6		0	STRAP_BIF_GEN4_DIS_A 0: PCIe GEN 4 supported 1: PCIe GEN 4 not supported
	PINSTRAP_7		0	PINSTRAP_BIF_CLK_PM_EN 0: CLKREQ# power management capability is disabled 1: CLKREQ# power management capability is enabled
	GPIO_13		0	PINSTRAP_BIF_LC_TX_SWING 0: Full swing mode 1: Reduced swing mode(half swing)
	GPIO_15		0	PINSTRAP_BIF_VGA_DIS 0: VGA controller capacity enabled 1: The device won't be recognised as the system's VGA controller
DCE	PINSTRAP_5 PINSTRAP_4 PINSTRAP_3		0 0 0	PINSTRAP_AUD_PORT_CONN[2:0] Number of audio-capable display outputs 0: All endpoints connected 1: 6 endpoints connected 2: 5 endpoints connected 3: 4 endpoints connected 4: 3 endpoints connected 5: 2 endpoints connected 6: 1 endpoint connected 7: 0 endpoints connected Deafault(PINSTRAP5,PINSTRAP4,PINSTRAP3) = 000
	GPIO_12 GPIO_11		0 0	PINSTRAP_AUD[1:0] 1: Audio for DisplayPort only 2: Audio for DisplayPort and HDMI if dongle is detected 3: Audio for both DisplayPort and HDMI Deafault(GPIO12,GPIO11) = 11
Platform	GPIO_18 GPIO_17 GPIO_16		0 0 0	PINSTRAP_FIG[1:0] - No definition on NV PINSTRAP_MVDD_FB_DIVIDER_CONFIG 0: Divider does not exist 1: Divider exists
SMU	PINSTRAP_2 PINSTRAP_1 PINSTRAP_0		1 0 1	PINSTRAP_BFI_MEM_AP_SIZE[2:0] Or PINSTRAP_ROM_CONFIG[2:0] 100 - 512KBIT (ST) M25P05A 101 - 1MBIT (ST) (M25P10A) 101 - 2MBIT (ST) M25P20 101 - 4MBIT (ST) M25P40 101 - 8MBIT (ST) M25P80 100 - 512KBIT (CHINGIS) PM25LV512 101 - 1MBIT (CHINGIS) PM25LV010 Deafault(PINSTRAP2,PINSTRAR1,PINSTRAR0) = 101
	GPIO_19		0	PINSTRAP_SMBUS_ADDR 0: 0x41h 1: 0x42h
	GPIO_10_ROMCS#		1	PINSTRAP_BIOS_ROM_EN 0: Disable the external BIOS ROM device 1: Enable the external BIOS ROM device
	GPIO_6			

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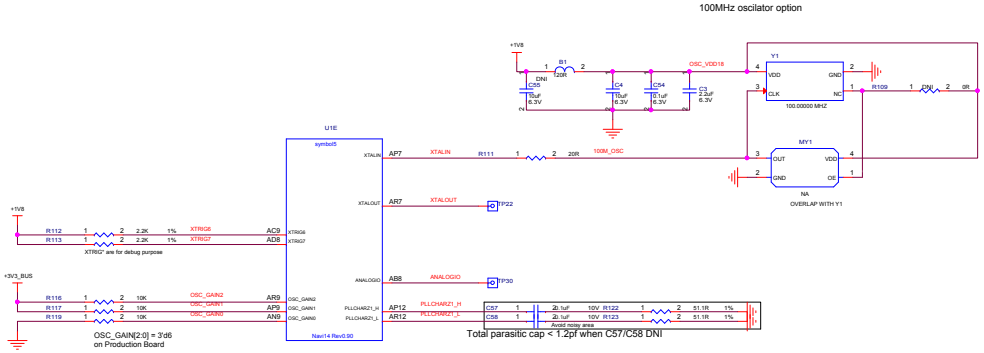

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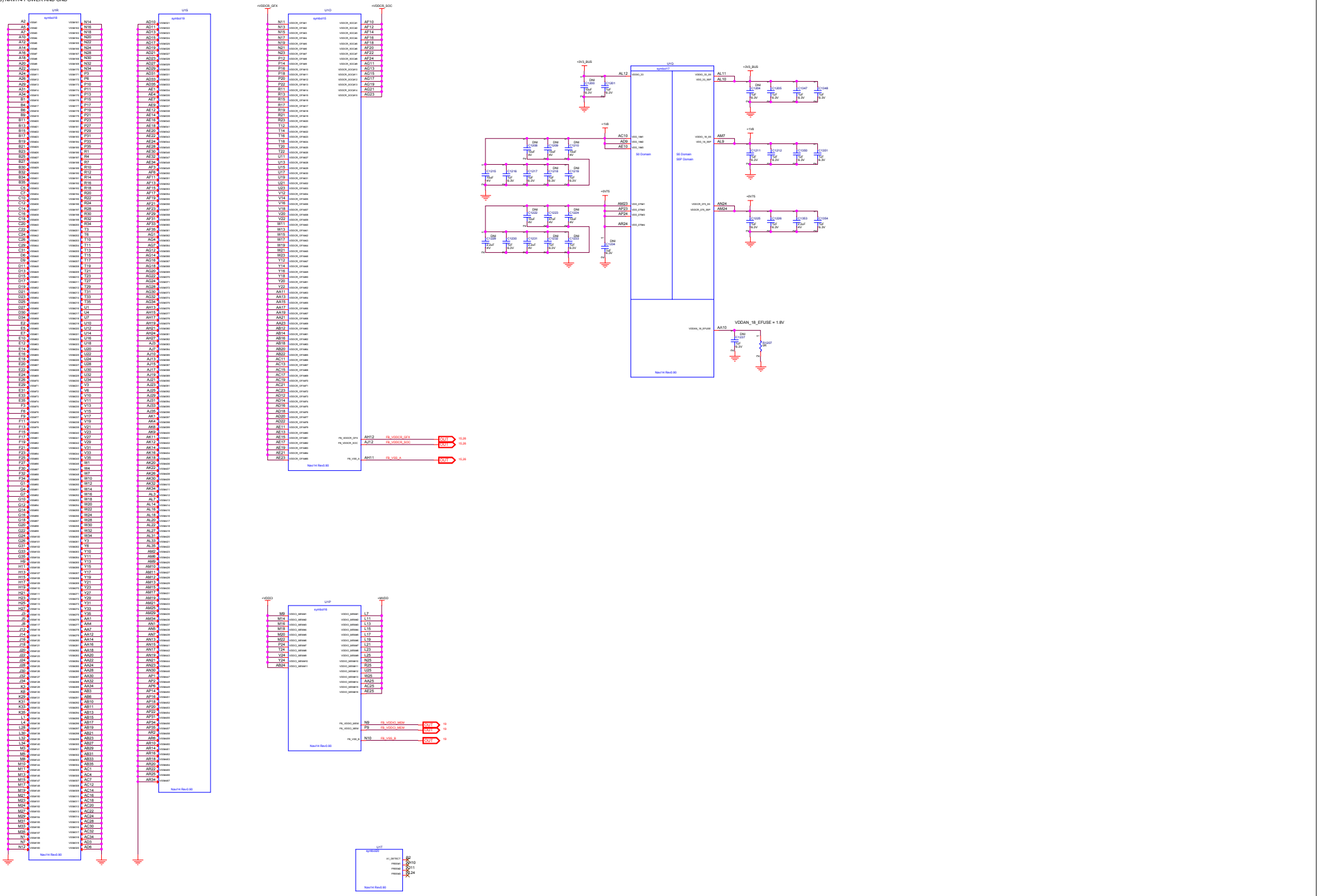
(6) NAVI14 POWER AND GND



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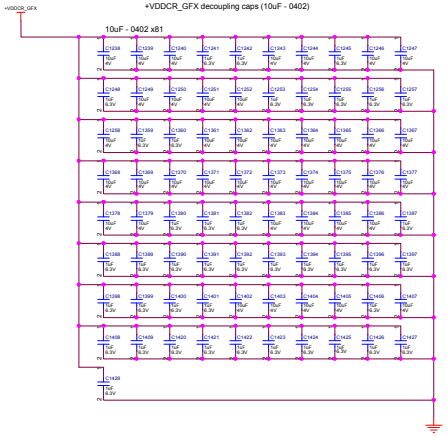

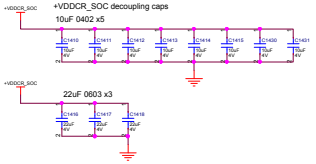

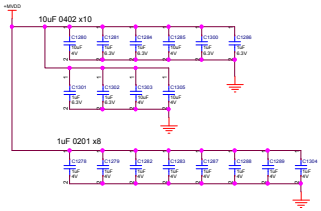

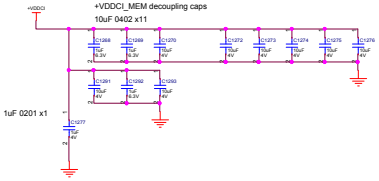

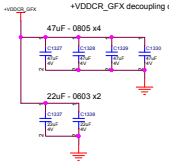

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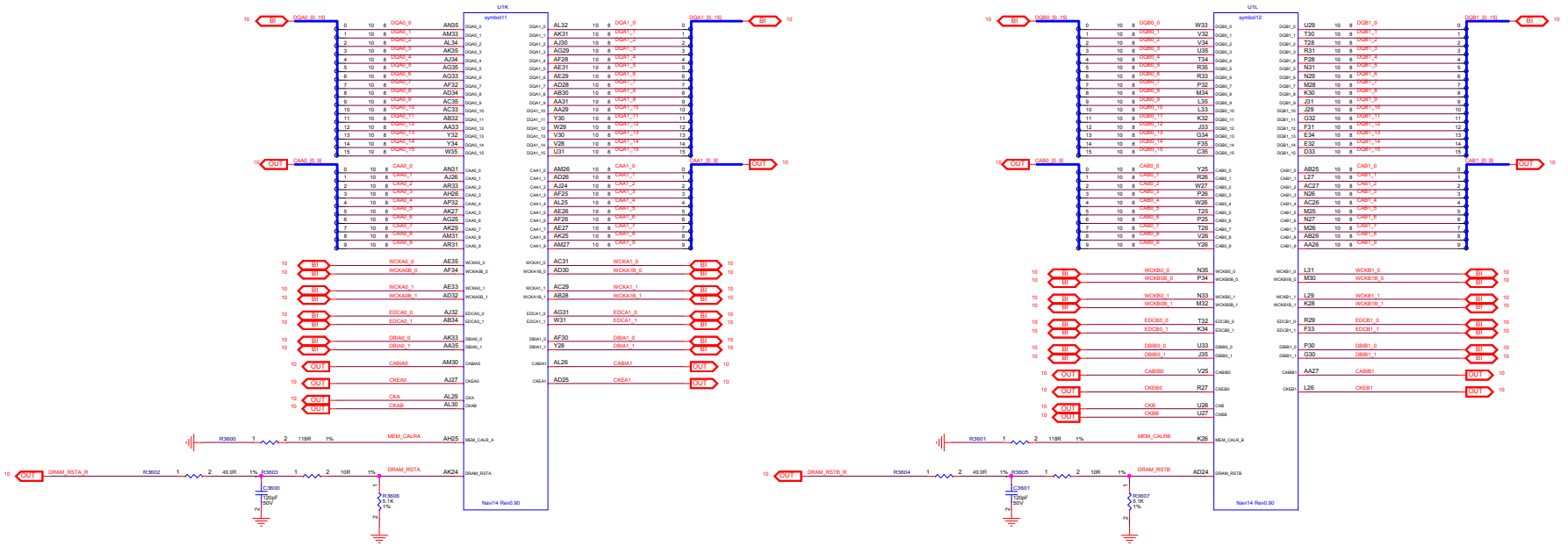
(8) NAVI14 MEM INTERFACE CH A/B



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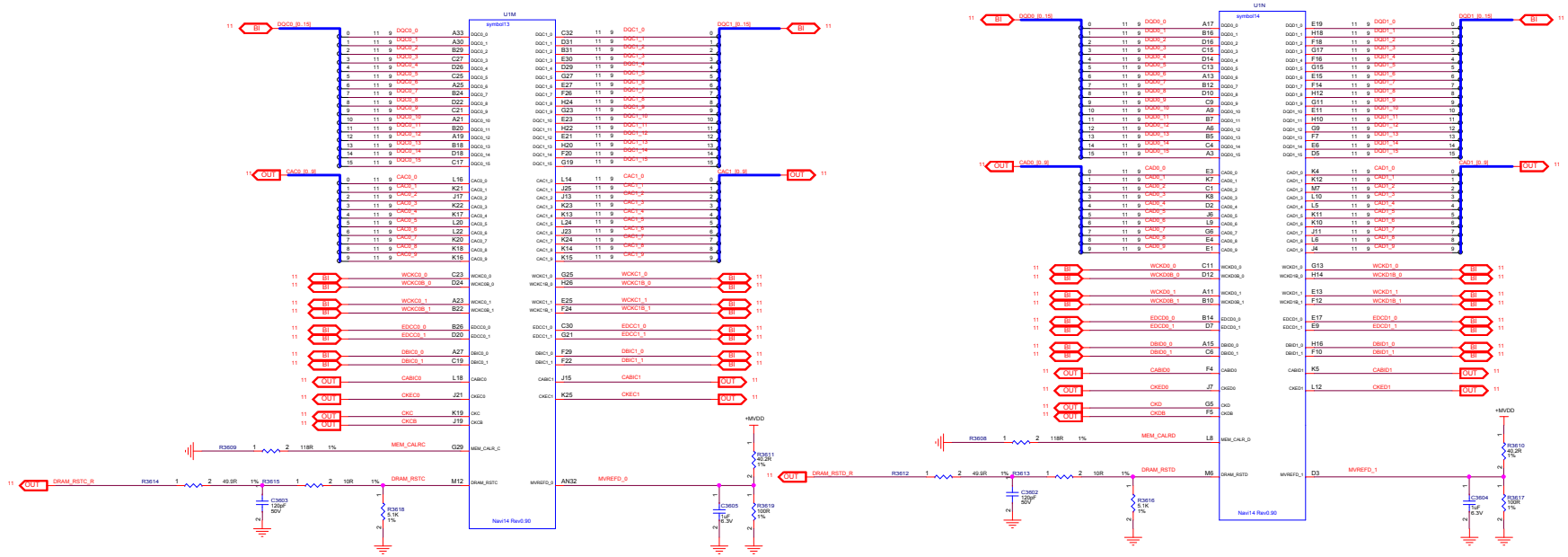
(9) NAVI14 MEM INTERFACE CH C/D



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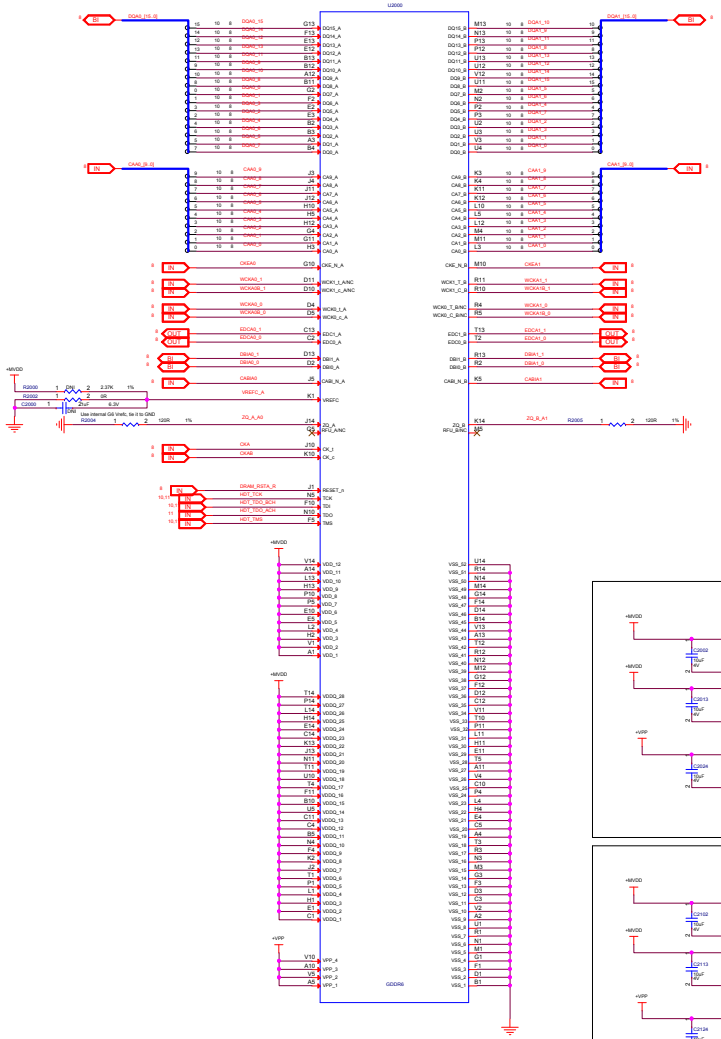

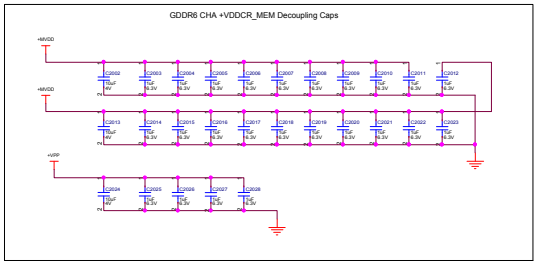

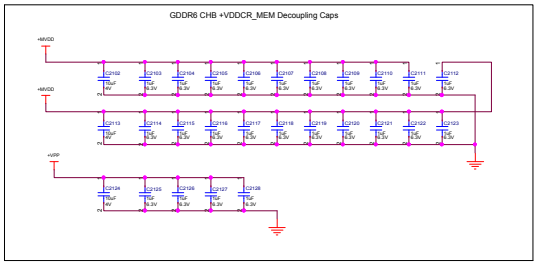

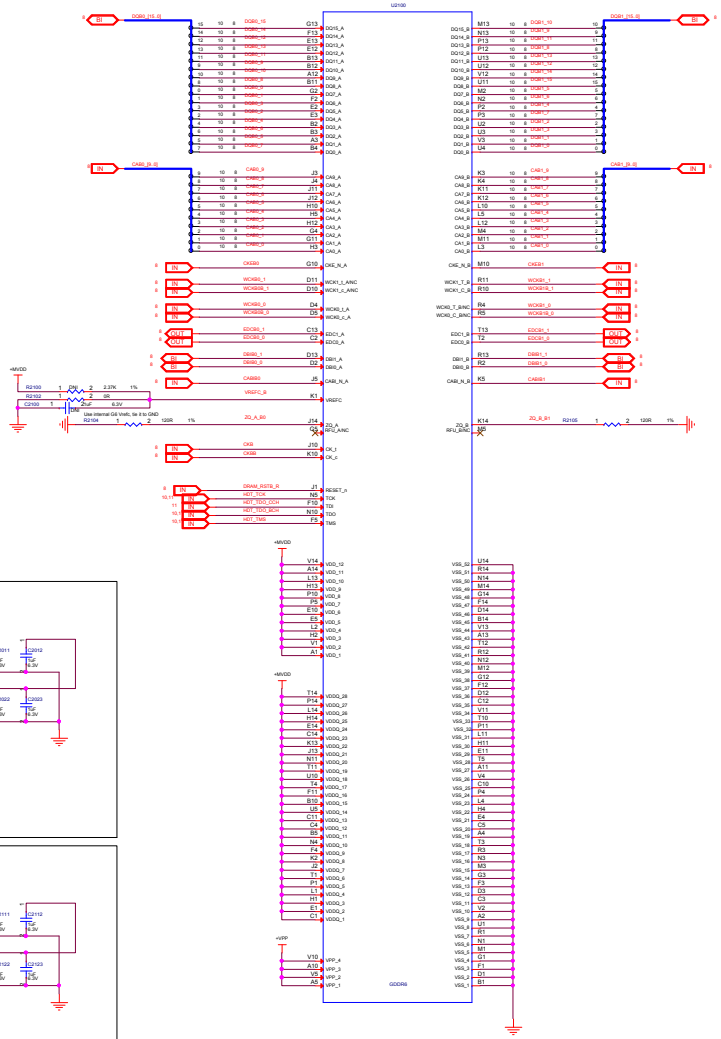

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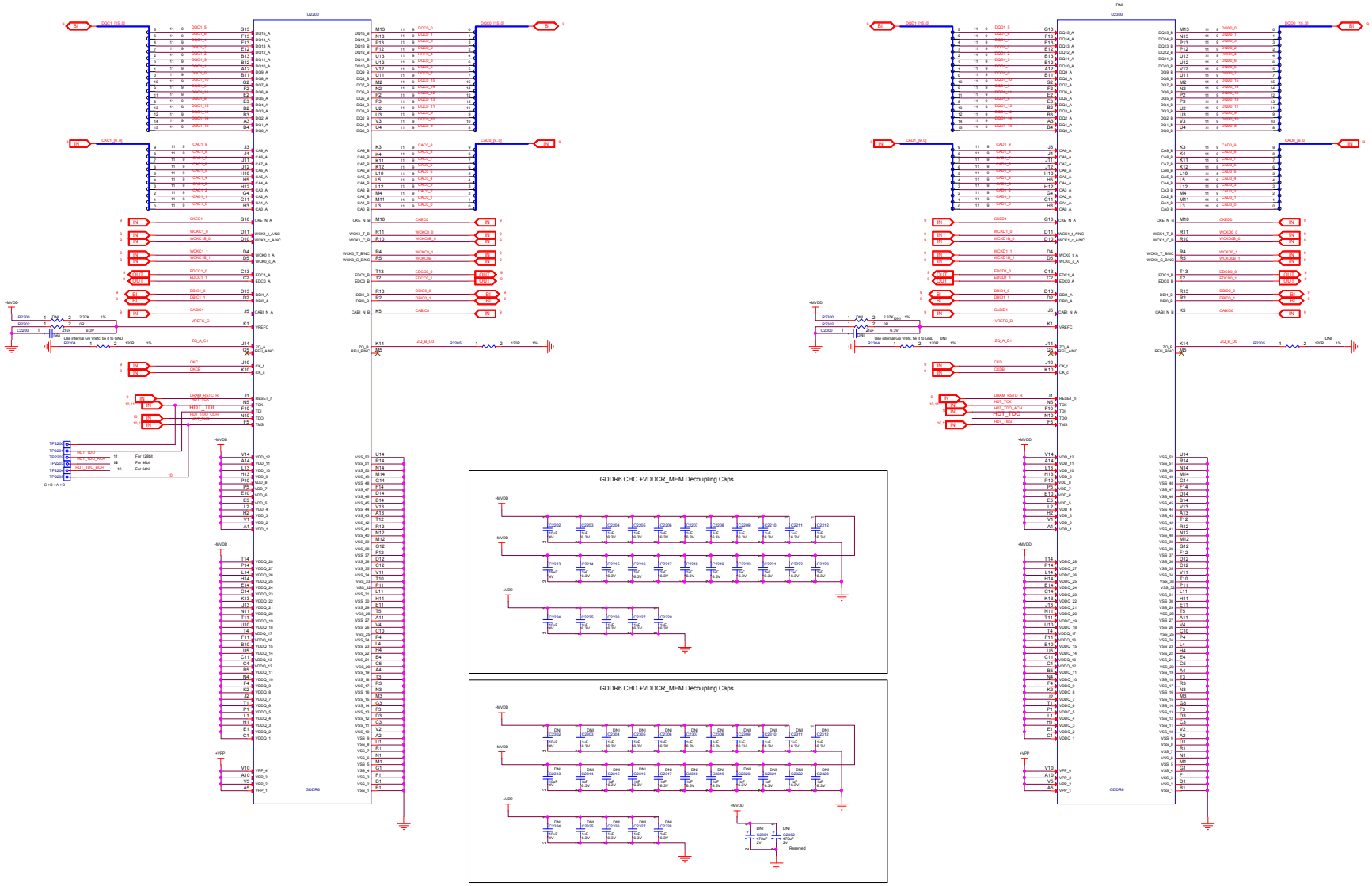

GDDR6 CHC +VDDCR_MEM Decoupling Caps

GDDR6 CHD +VDDCR_MEM Decoupling Caps

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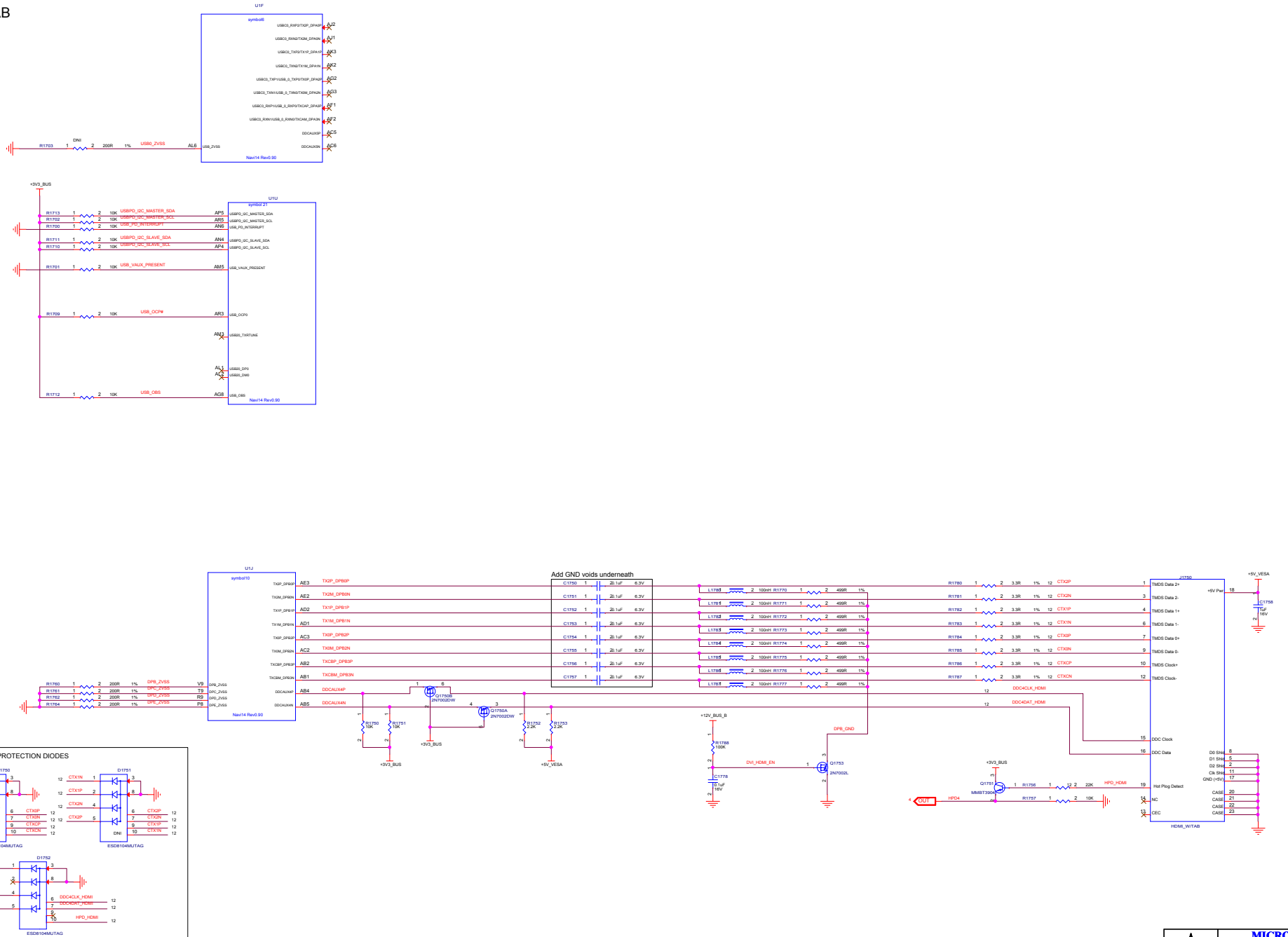
(12) TMDP AB



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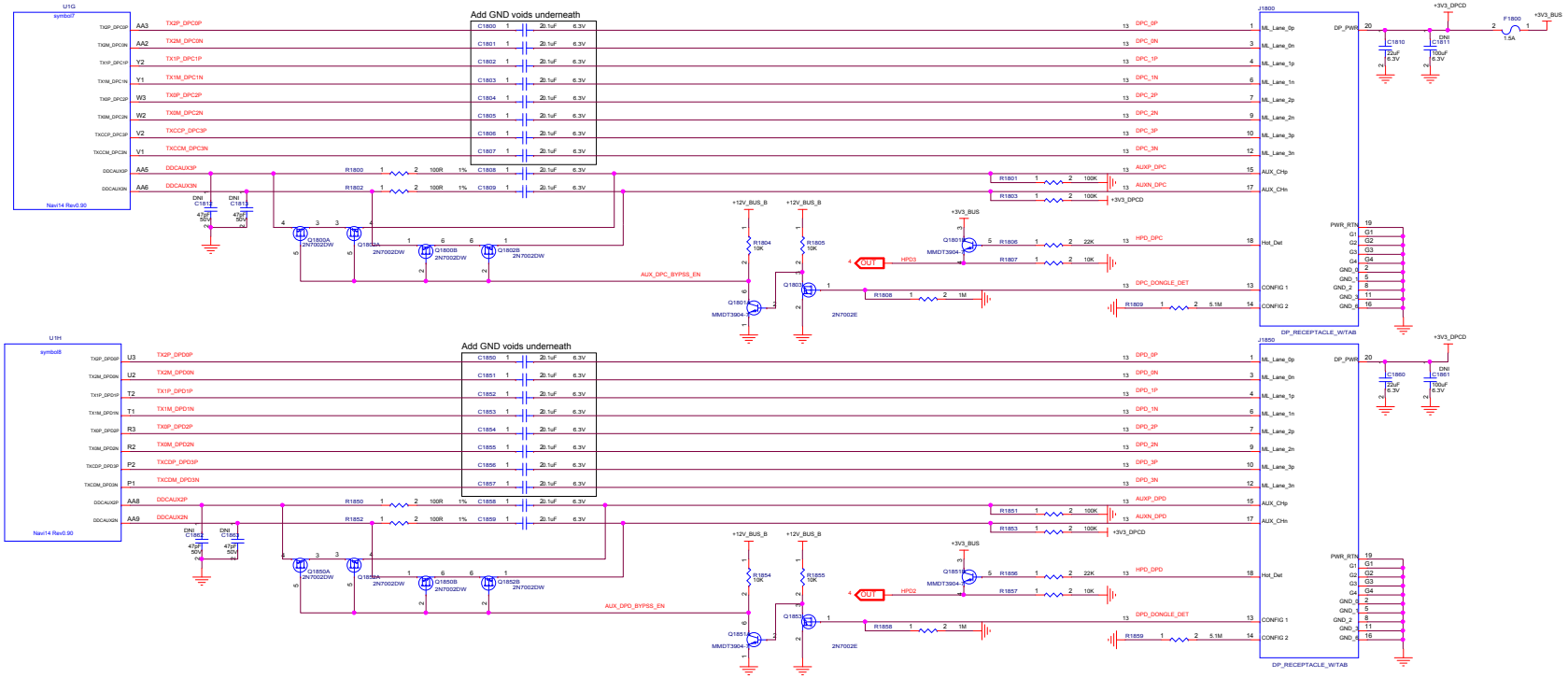
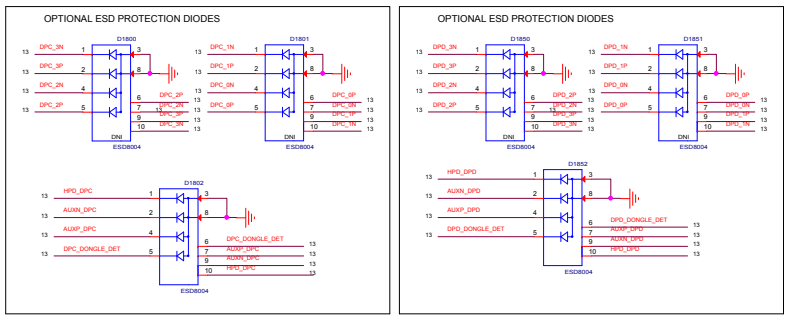
(13) TMDP D/E





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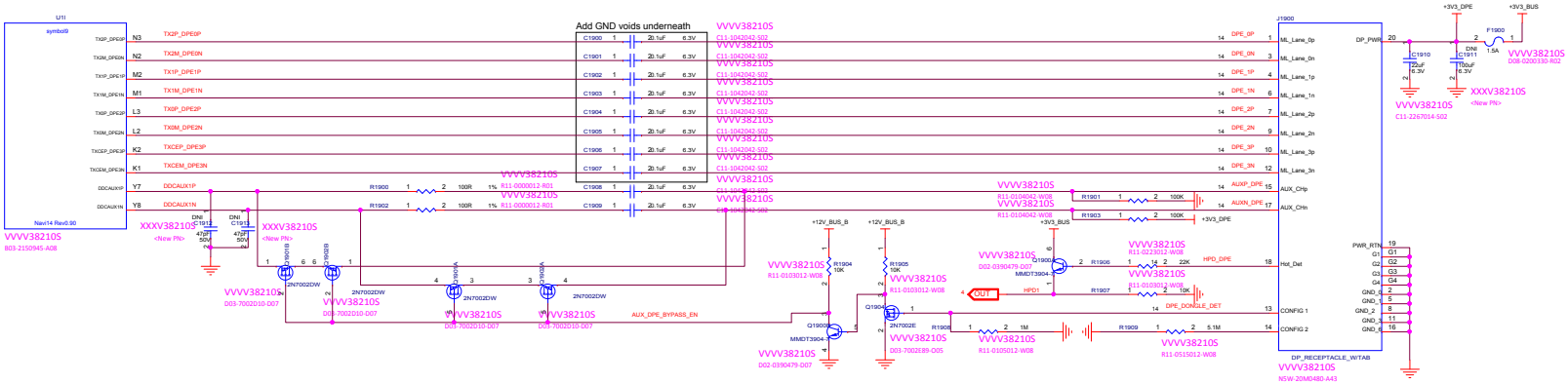
(14) TMDP C



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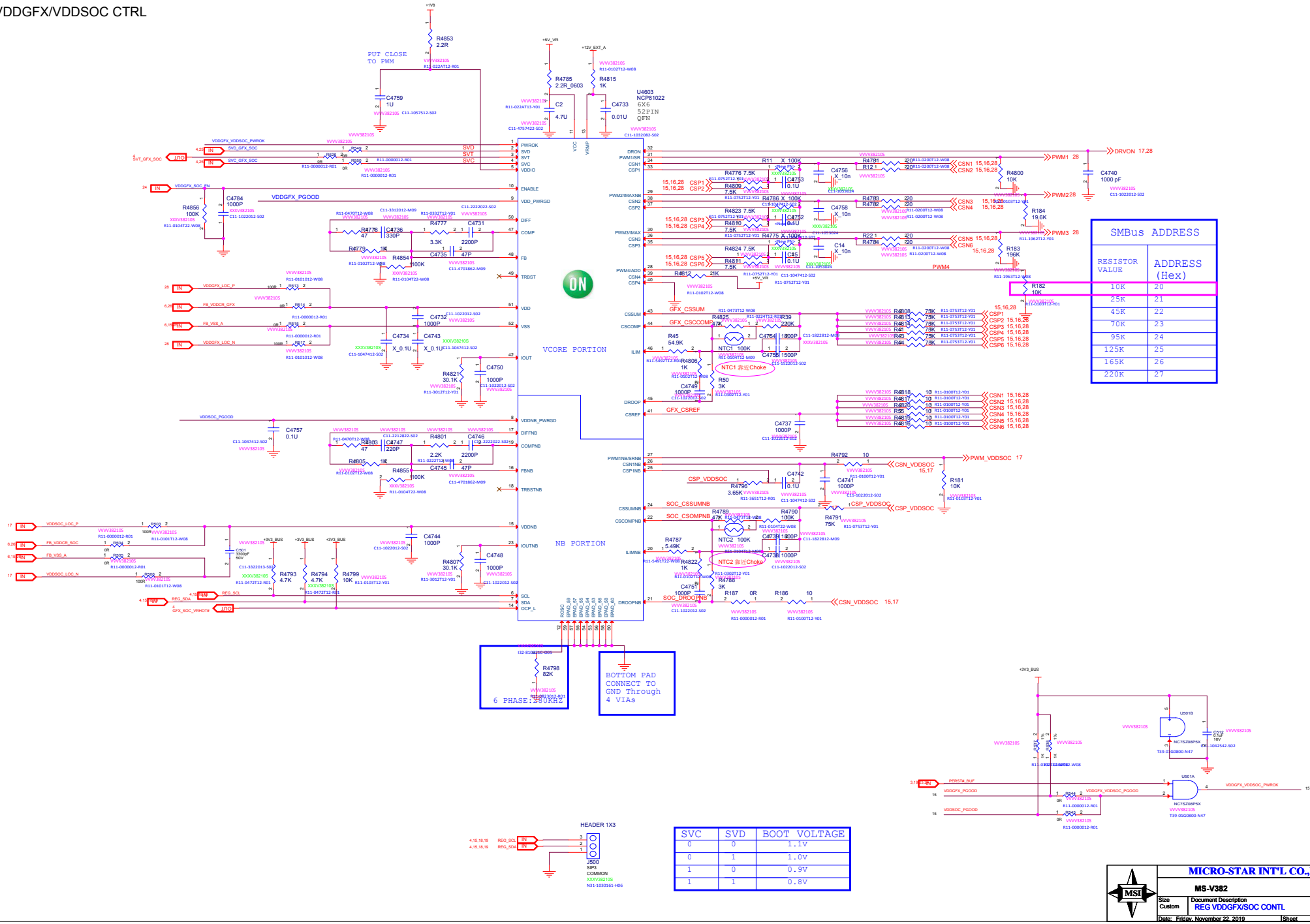
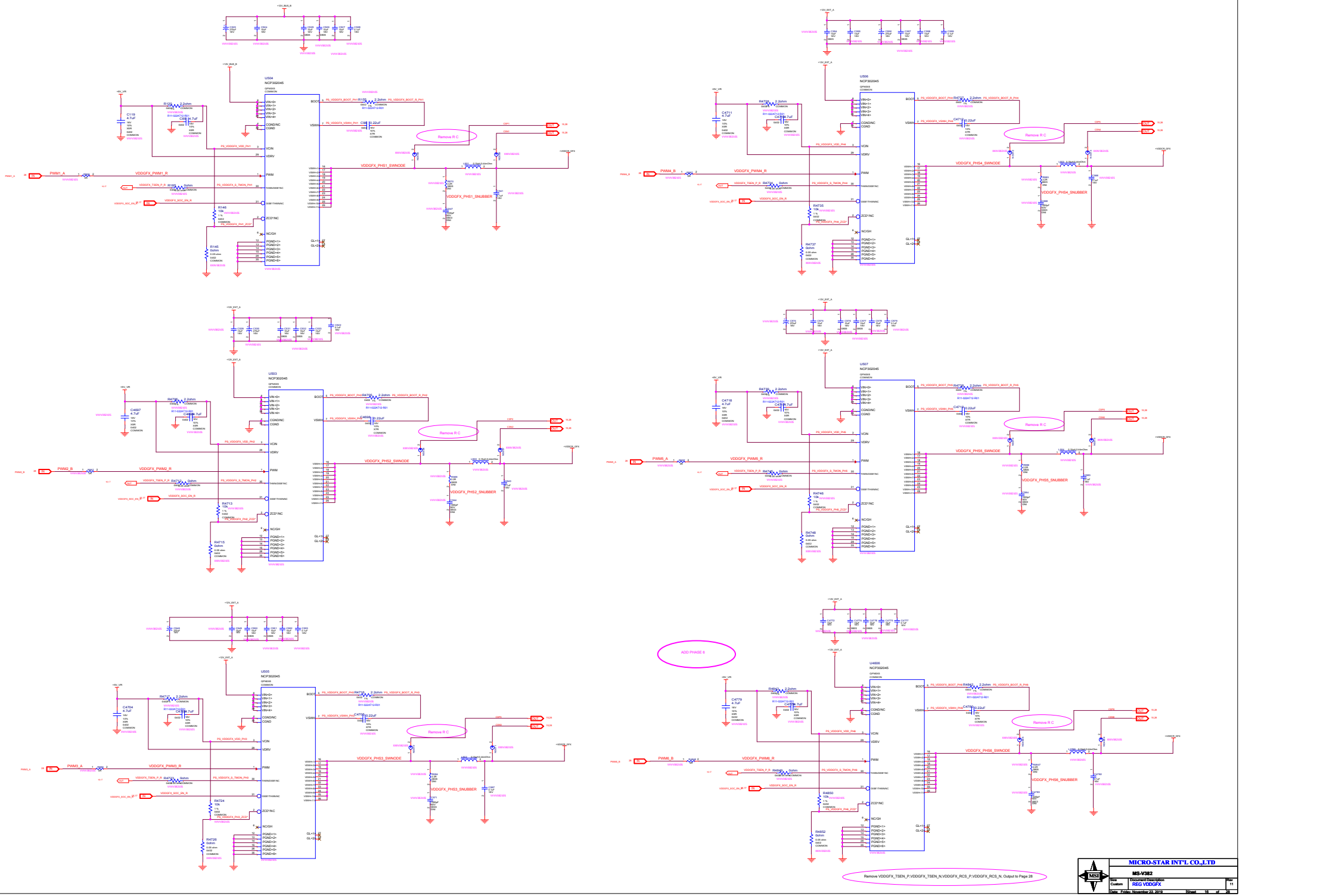
REG - VDDGFX/VDDSOC CTRL





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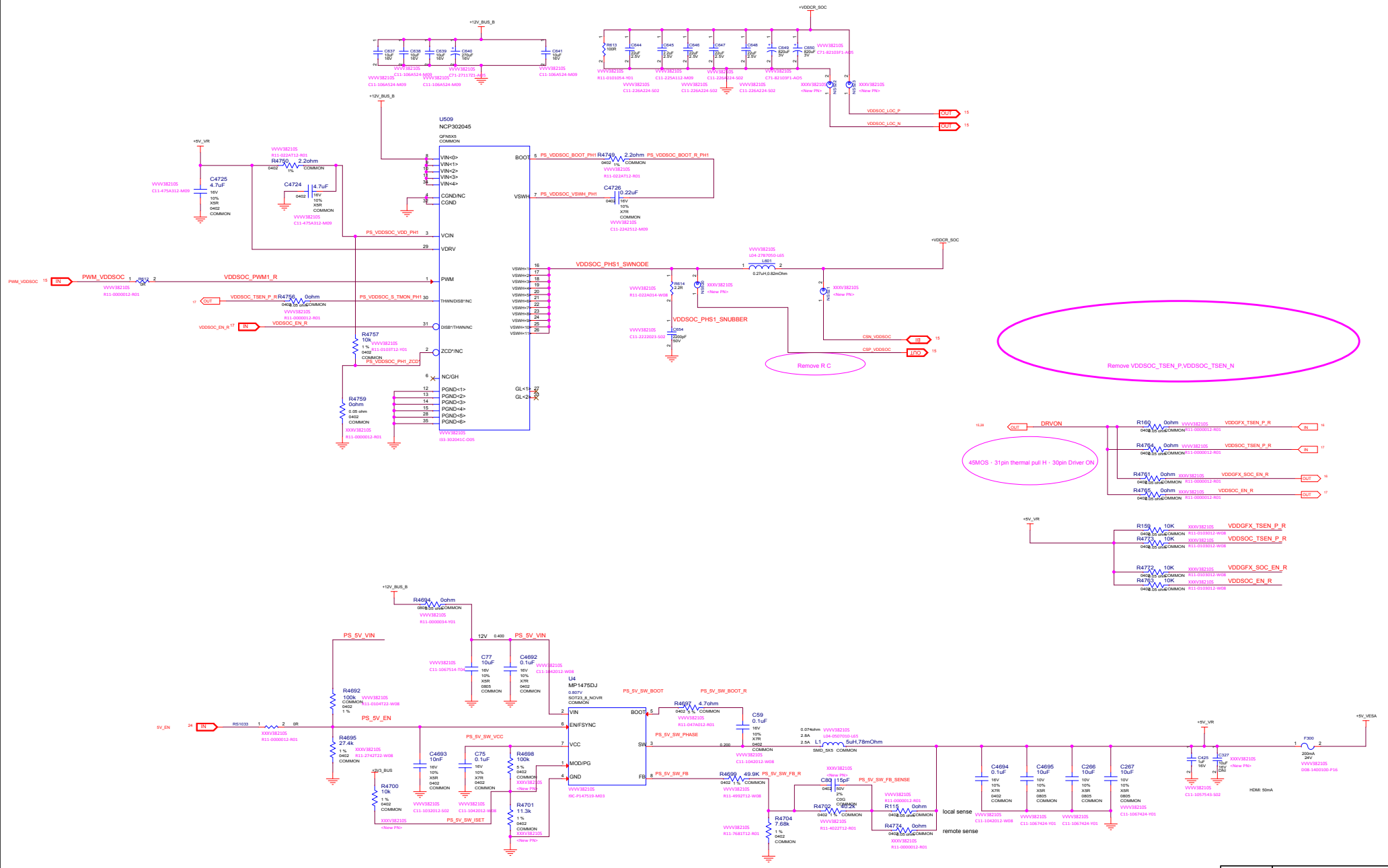

0.8V*(1+40.2K/7.68K)=4.9875V

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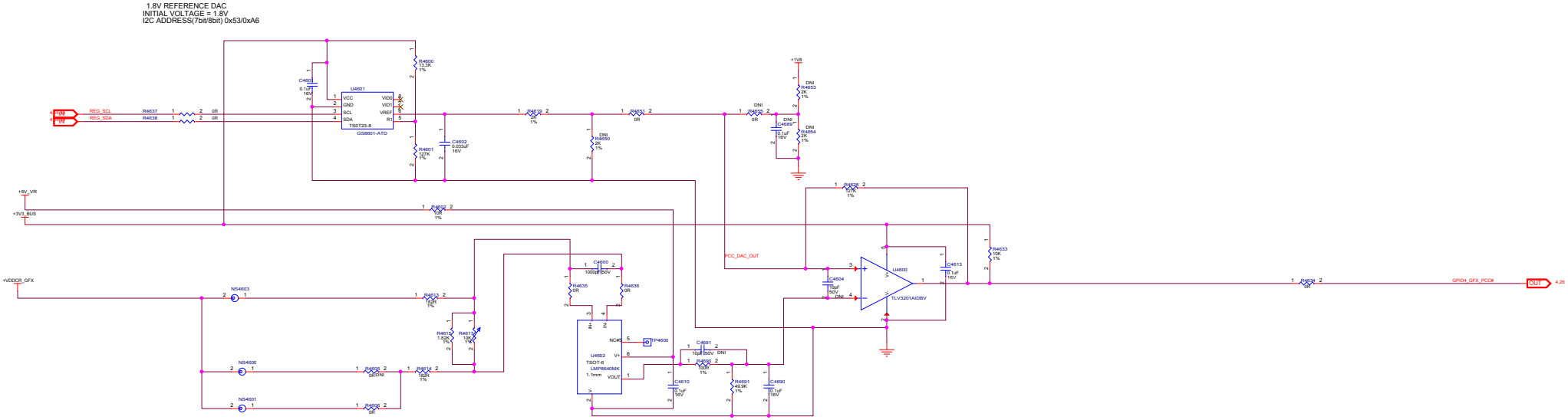
PCC



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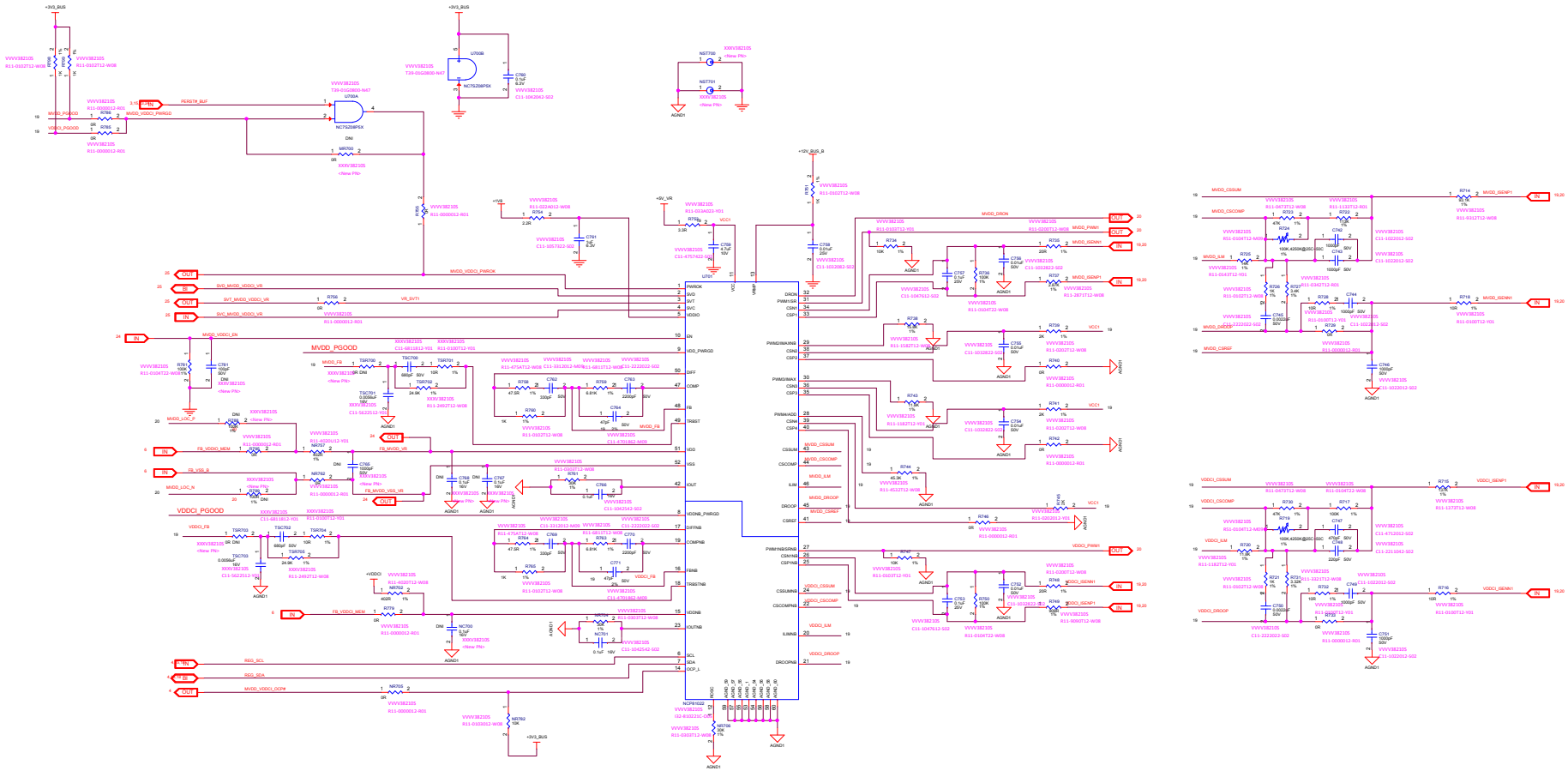

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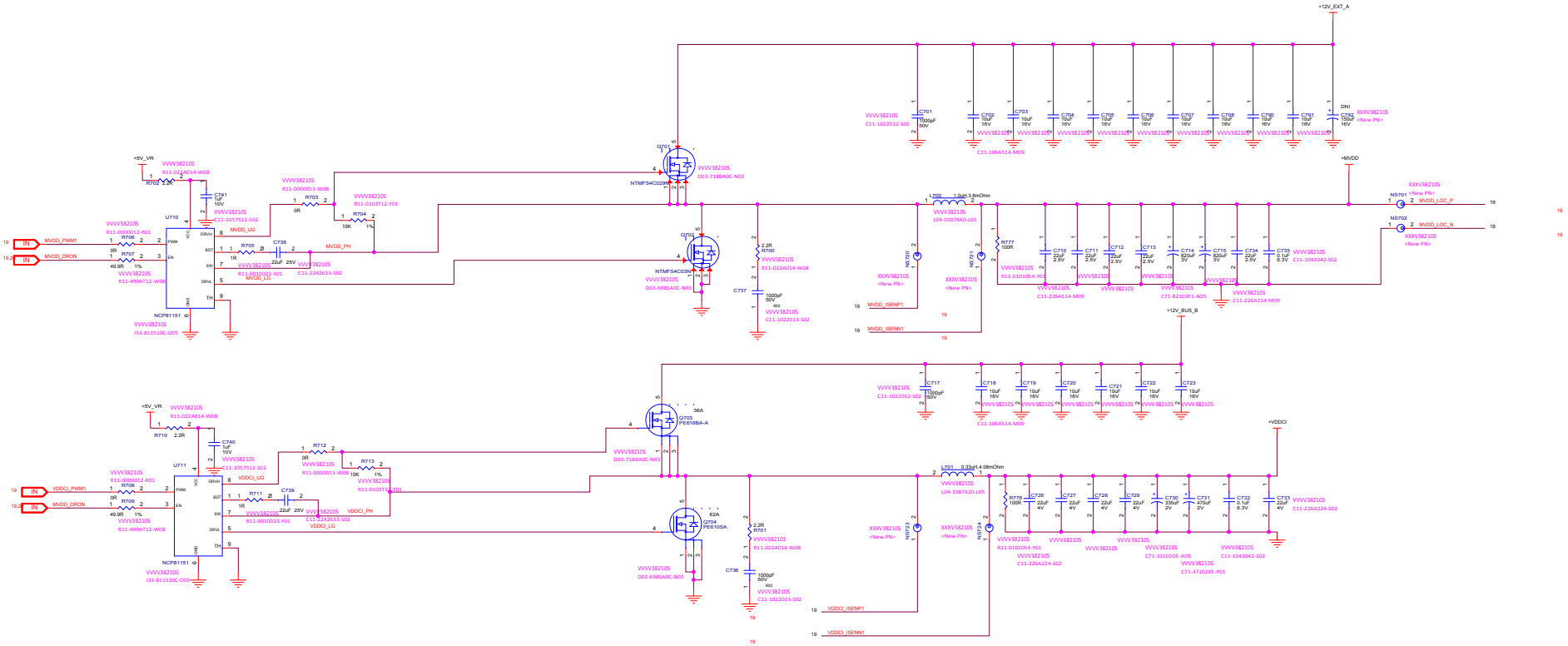

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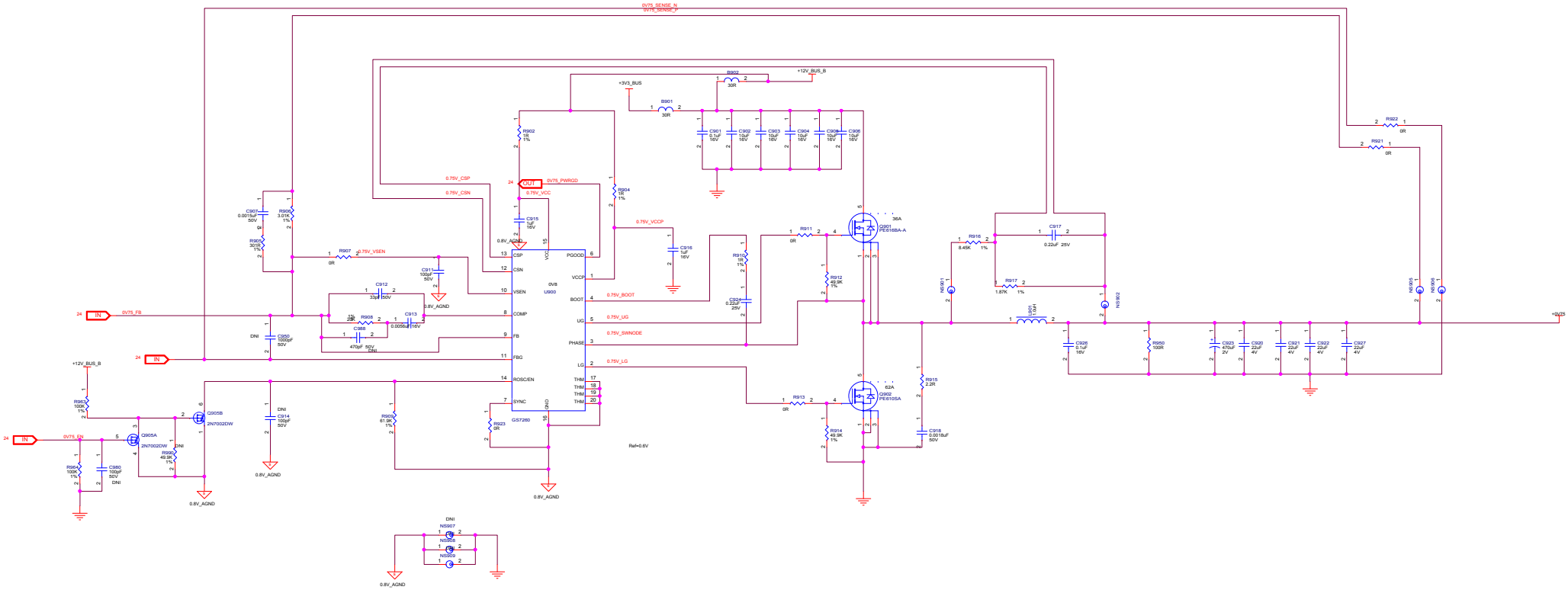
REG - 0.75V



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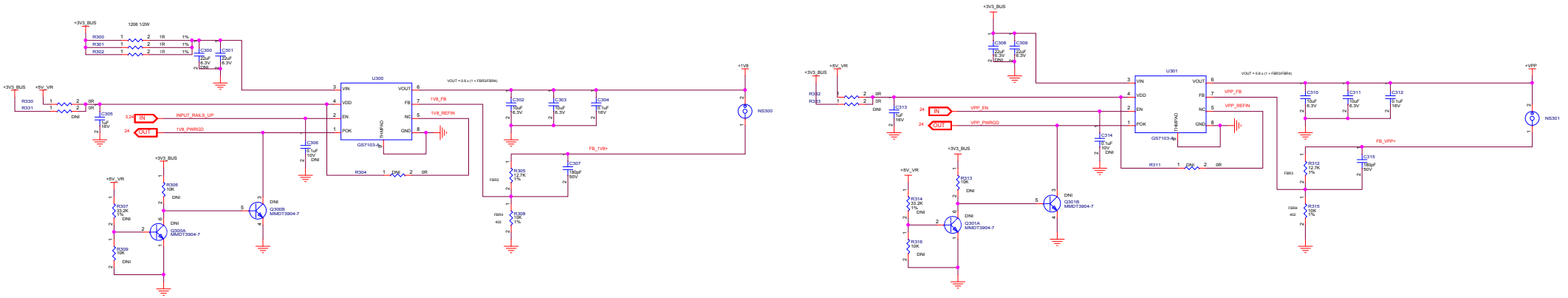
LDO - 1V8/VPP/5V



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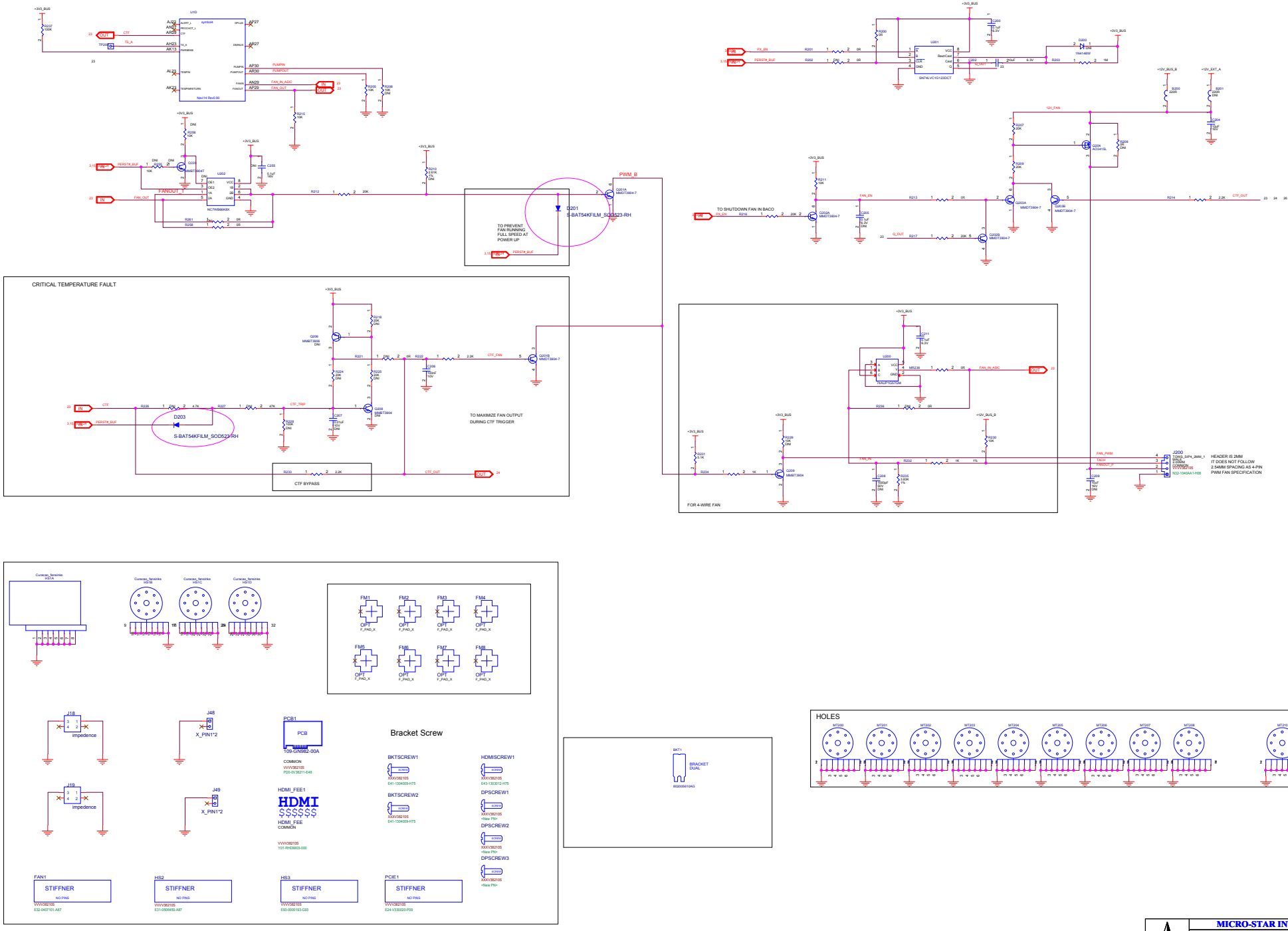

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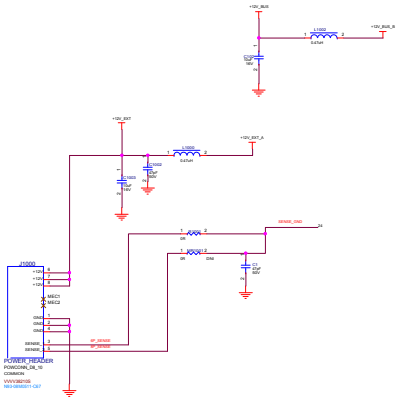

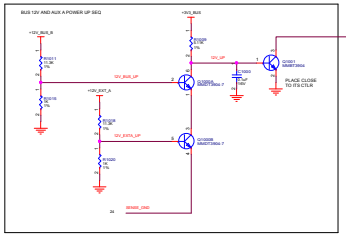

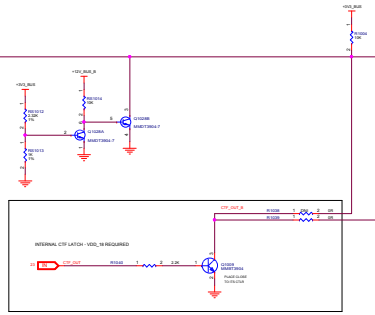

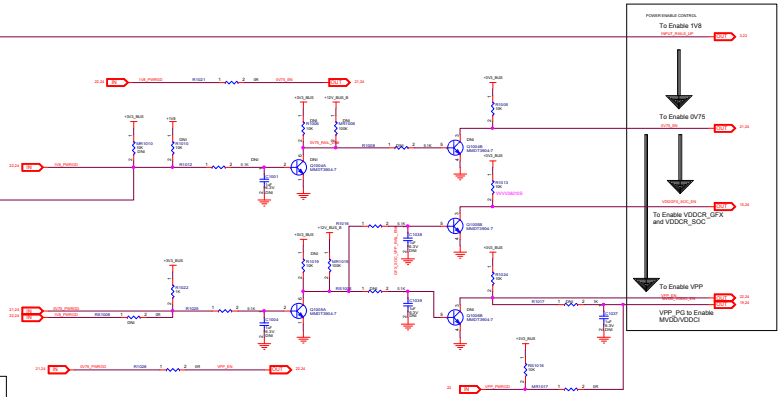

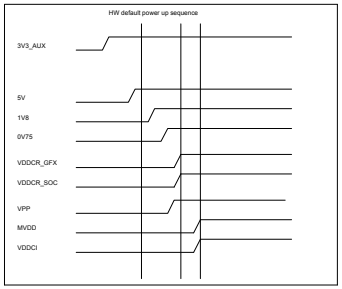

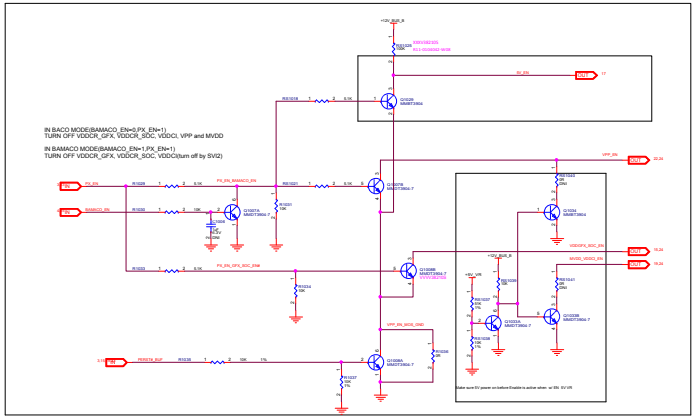

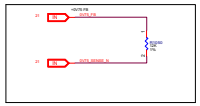

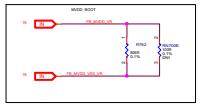

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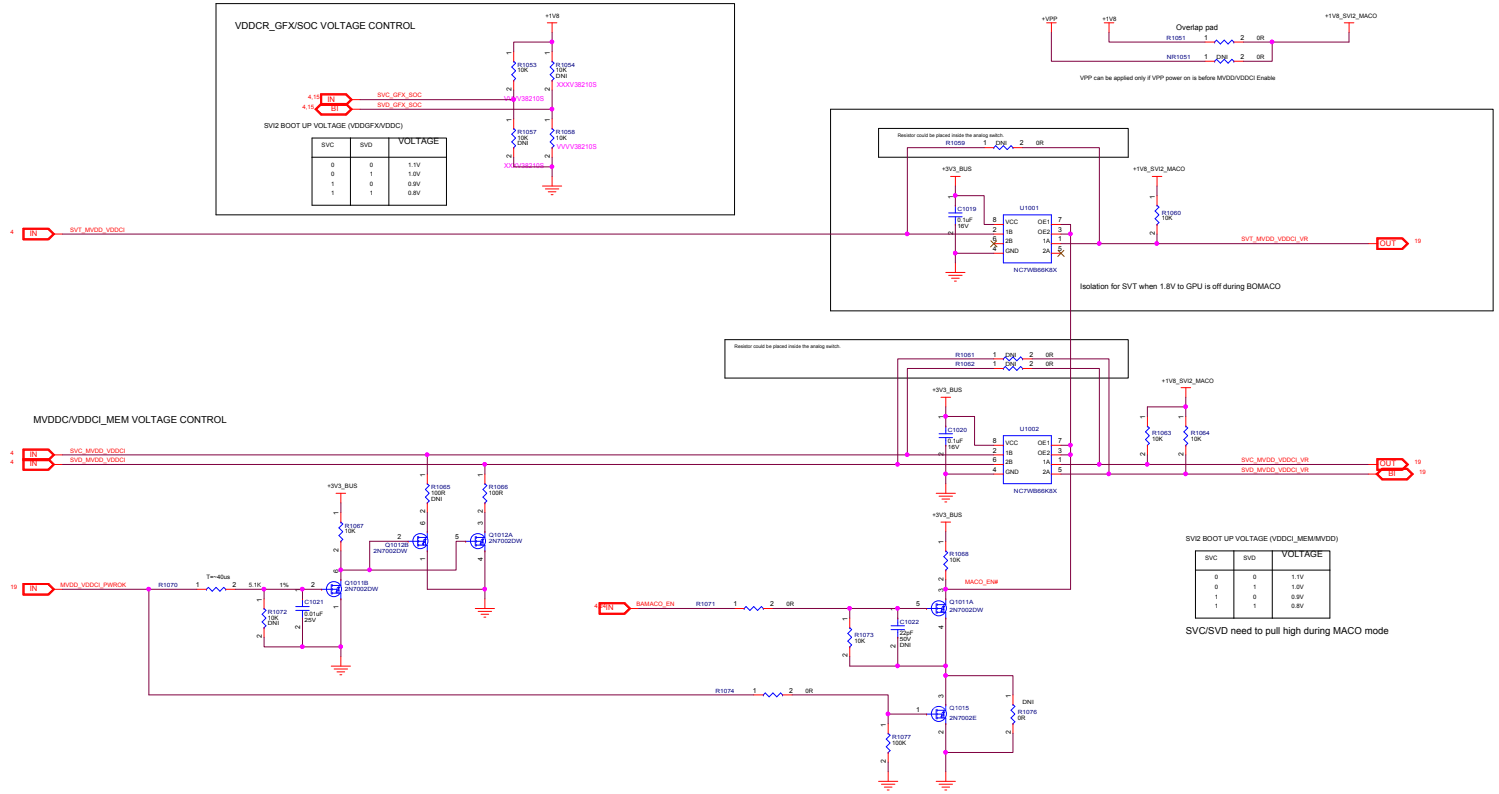
(28) SVI2



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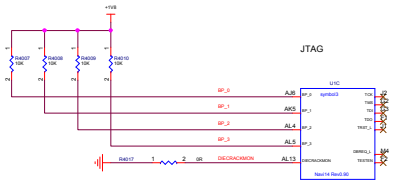
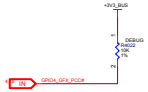
(29) DEBUG CIRCUIT





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REVISION HISTORY

1.00	00A	08/09/2018	Initial schematic
		12/28/2018	change all 4172010501G parts to 4172010500G
1.00	00B	04/16/2019	ADD D1752 D1802 D1852 D1952 ADD R795 AND CHANGE MVDD LOCAL SENSE POINT ADD R1092 R1093 MR1092 MR1093 and reassign gfx phase1-3 input source ADD R4653 R4654 R4655 C4689 Change 701: 0.33uH/5260116000G R749: 909R/3160909000G NR704:30K/3160300200G R743: 18K/3160180200G C747:470pF/4170047100G C748:220pF/4 1700221 00G

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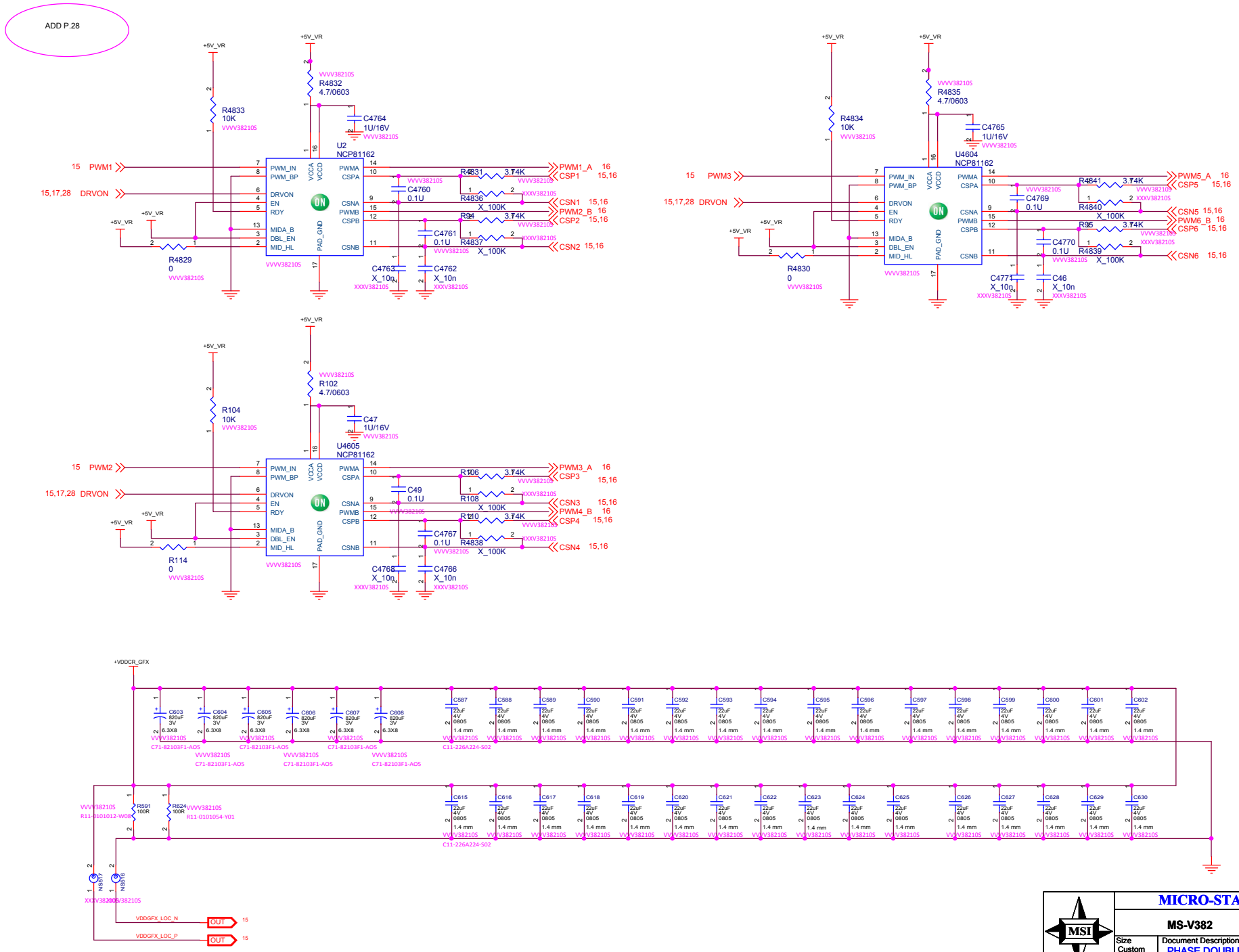
ADD P.28
+5V_VR
U2
NCP81162
PWM_IN
PWM_BP
DRVON
EN
RDY
MIDA_B
DBL_EN
MID_HL
VCCA
VCCD
PWMA
CSPA
CSNA
PWMB
CSPB
CSNB
PAD_GND
15 PWM1
15,17,28 DRVON
PWM1_A 16
CSP1 15,16
CSN1 15,16
PWM2_B 16
CSP2 15,16
CSN2 15,16
R4833 10K
R4832 4.7/0603
C4764 1U/16V
R4829 0
C4760 0.1U
C4761 0.1U
C4763 X_10n
C4762 X_10n
R4831 3.74K
R4836 X_100K
R4834 3.74K
R4837 X_100K
U4604
NCP81162
15 PWM3
PWM5_A 16
CSP5 15,16
CSN5 15,16
PWM6_B 16
CSP6 15,16
CSN6 15,16
R4834 10K
R4835 4.7/0603
C4765 1U/16V
R4830 0
C4769 0.1U
C4770 0.1U
C4771 X_10n
C46 X_10n
R4841 3.74K
R4840 X_100K
R4842 3.74K
R4839 X_100K
U4605
NCP81162
15 PWM2
PWM3_A 16
CSP3 15,16
CSN3 15,16
PWM4_B 16
CSP4 15,16
CSN4 15,16
R104 10K
R102 4.7/0603
C47 1U/16V
R114 0
C49 0.1U
C4767 0.1U
C4768 X_10n
C4766 X_10n
R106 3.74K
R108 X_100K
R110 3.74K
R4838 X_100K
+VDDCR_GFX
C603 820uF 3V 6.3X8
C604 820uF 3V 6.3X8
C605 820uF 3V 6.3X8
C606 820uF 3V 6.3X8
C607 820uF 3V 6.3X8
C608 820uF 3V 6.3X8
C587 22uF 4V 0805 1.4 mm
C588 22uF 4V 0805 1.4 mm
C589 22uF 4V 0805 1.4 mm
C590 22uF 4V 0805 1.4 mm
C591 22uF 4V 0805 1.4 mm
C592 22uF 4V 0805 1.4 mm
C593 22uF 4V 0805 1.4 mm
C594 22uF 4V 0805 1.4 mm
C595 22uF 4V 0805 1.4 mm
C596 22uF 4V 0805 1.4 mm
C597 22uF 4V 0805 1.4 mm
C598 22uF 4V 0805 1.4 mm
C599 22uF 4V 0805 1.4 mm
C600 22uF 4V 0805 1.4 mm
C601 22uF 4V 0805 1.4 mm
C602 22uF 4V 0805 1.4 mm
C615 22uF 4V 0805 1.4 mm
C616 22uF 4V 0805 1.4 mm
C617 22uF 4V 0805 1.4 mm
C618 22uF 4V 0805 1.4 mm
C619 22uF 4V 0805 1.4 mm
C620 22uF 4V 0805 1.4 mm
C621 22uF 4V 0805 1.4 mm
C622 22uF 4V 0805 1.4 mm
C623 22uF 4V 0805 1.4 mm
C624 22uF 4V 0805 1.4 mm
C625 22uF 4V 0805 1.4 mm
C626 22uF 4V 0805 1.4 mm
C627 22uF 4V 0805 1.4 mm
C628 22uF 4V 0805 1.4 mm
C629 22uF 4V 0805 1.4 mm
C630 22uF 4V 0805 1.4 mm
R591 100R
R624 100R
NSS7
NSS6
VDDGFX_LOC_N
VDDGFX_LOC_P
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Size Custom
Document Description
PHASE DOUBLERS
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