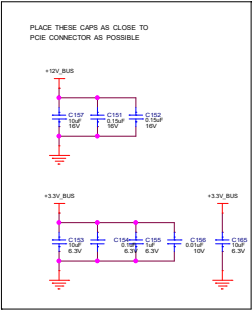
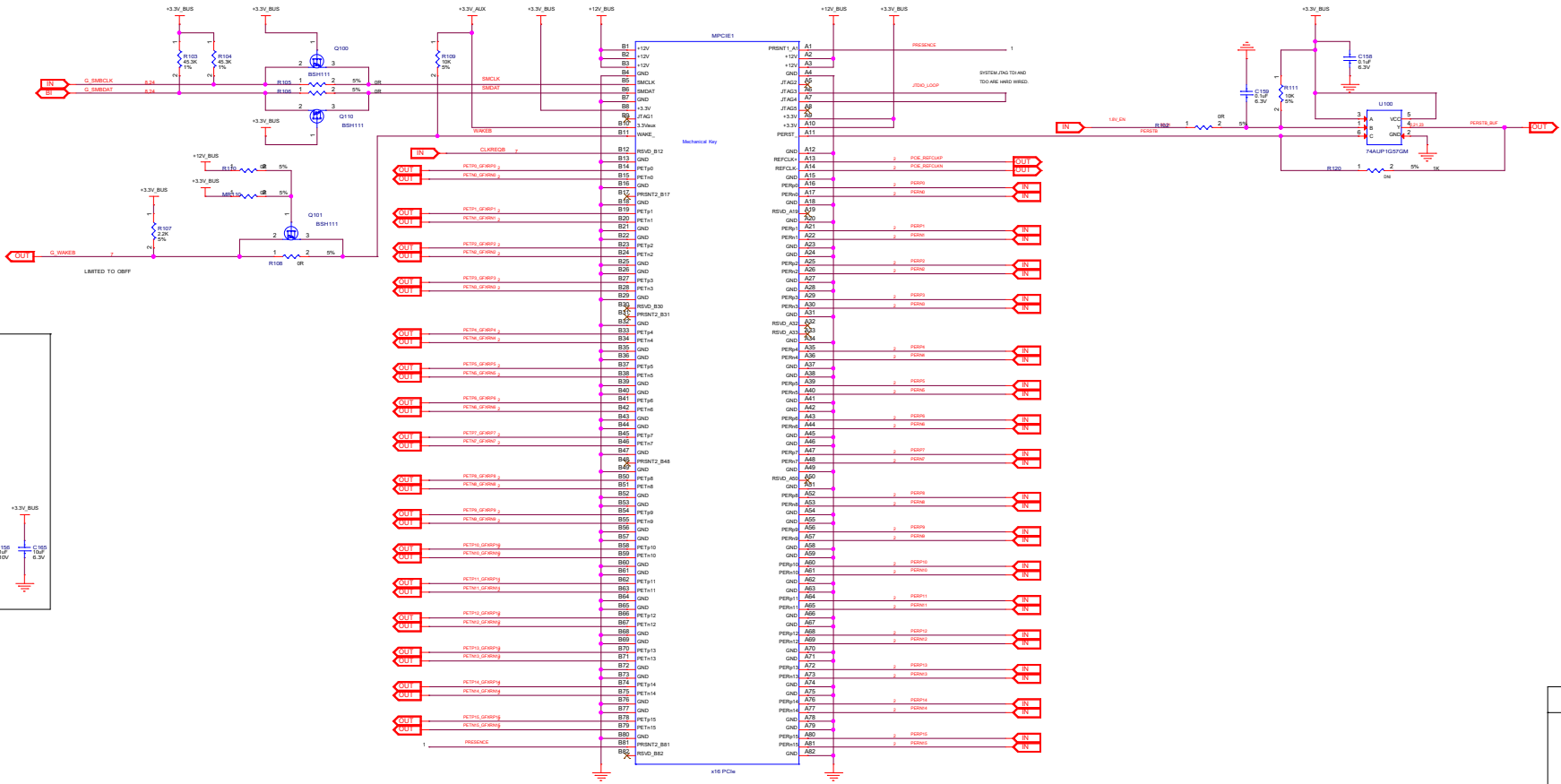


(1) PCI-EXPRESS EDGE CONNECTOR

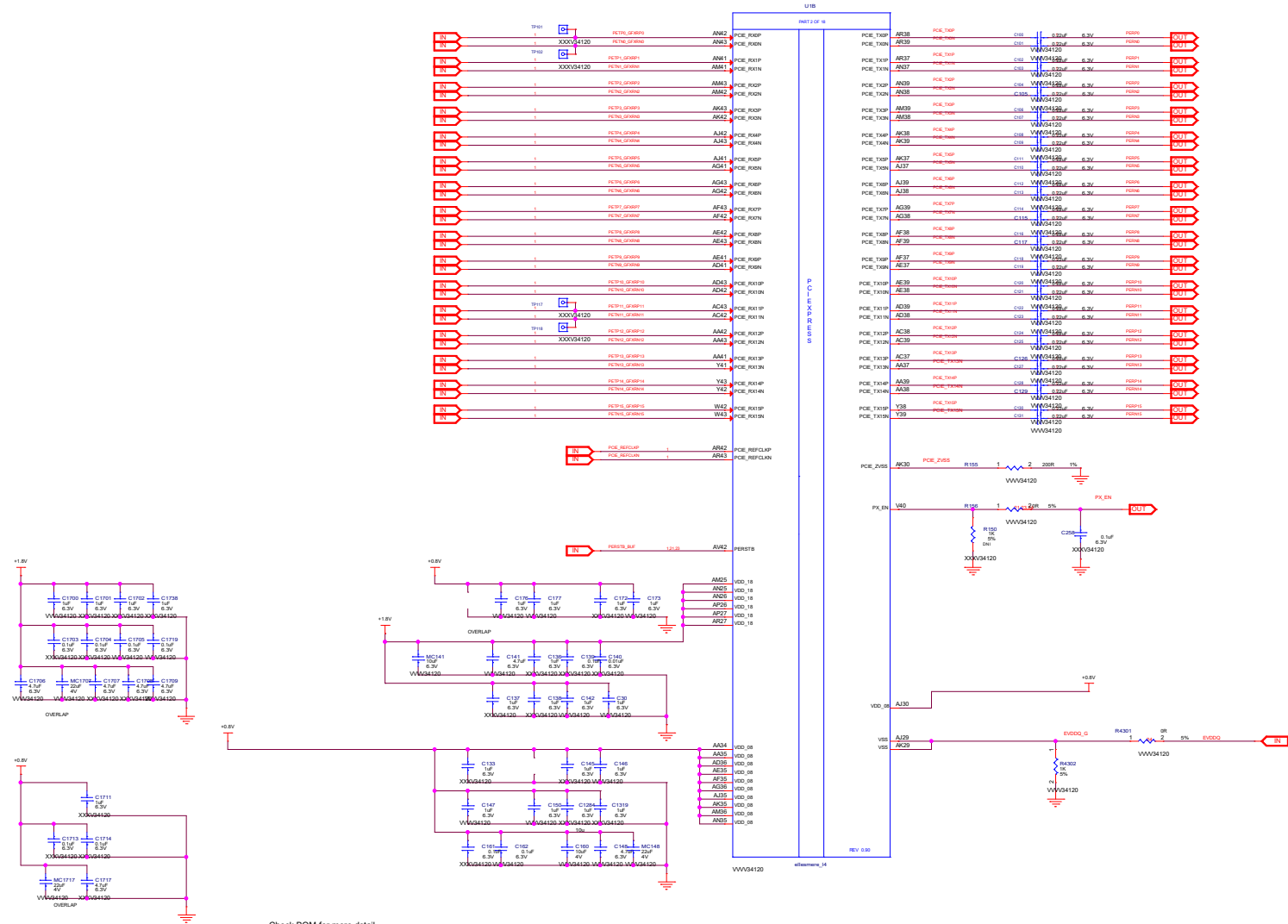


SYMBOL LEGEND

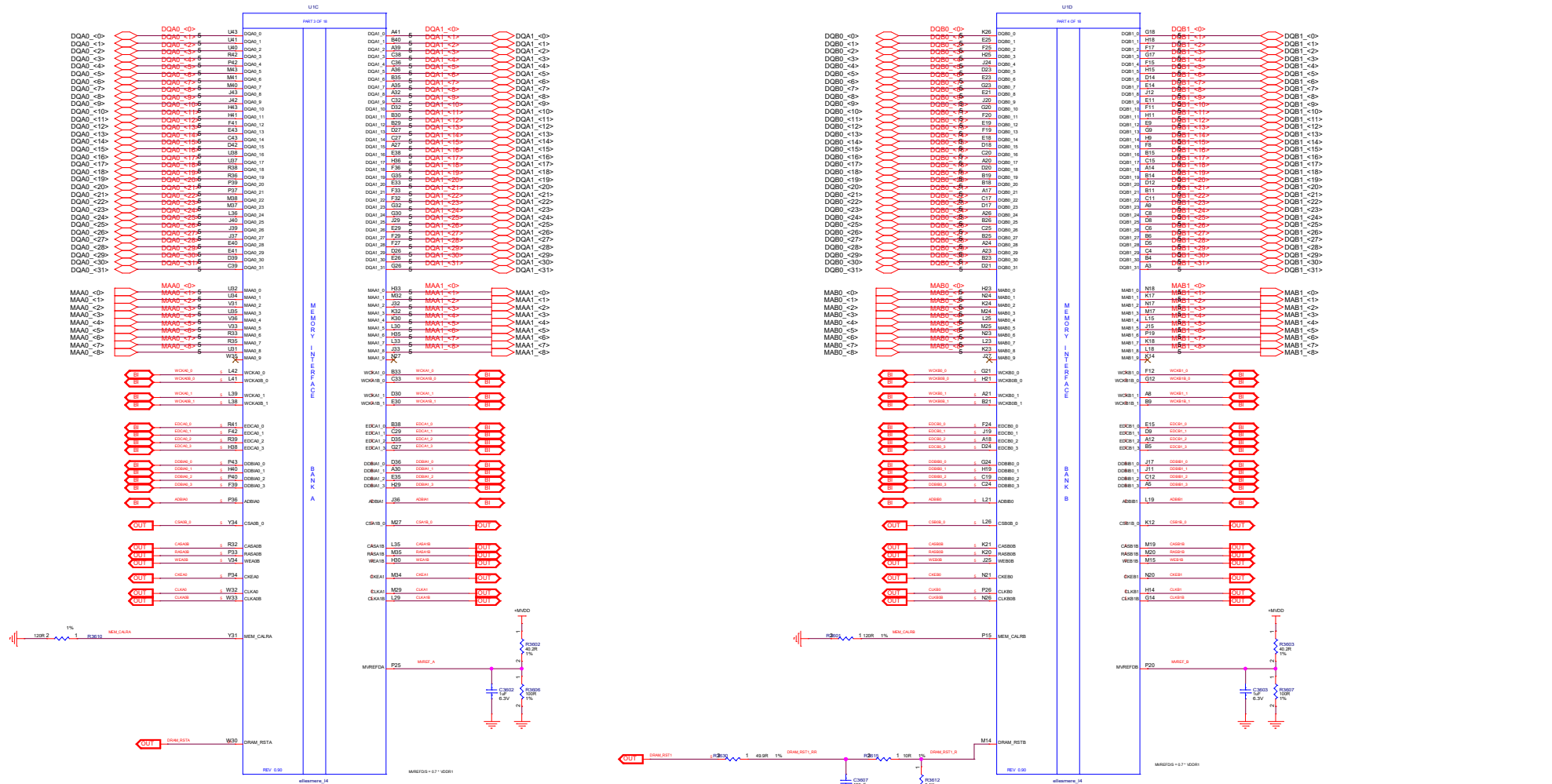
SW	DO NOT
NETALL	NETALL
ACTIVE	ACTIVE
LOW	LOW
BRNG LP ONLY	BRNG LP ONLY
DIGITAL GROUND	DIGITAL GROUND
ANALOG GROUND	ANALOG GROUND

	MICRO-STAR INT'L CO.,LTD	
	MS-V341	
	Size: Custom Document Description: 0001 PCI-E EDGE CONNECTOR Date: Wednesday, August 03, 2016	Rev: 2.1 Sheet: 1 of 26

(2) ELLESMERE PCIE INTERFACE

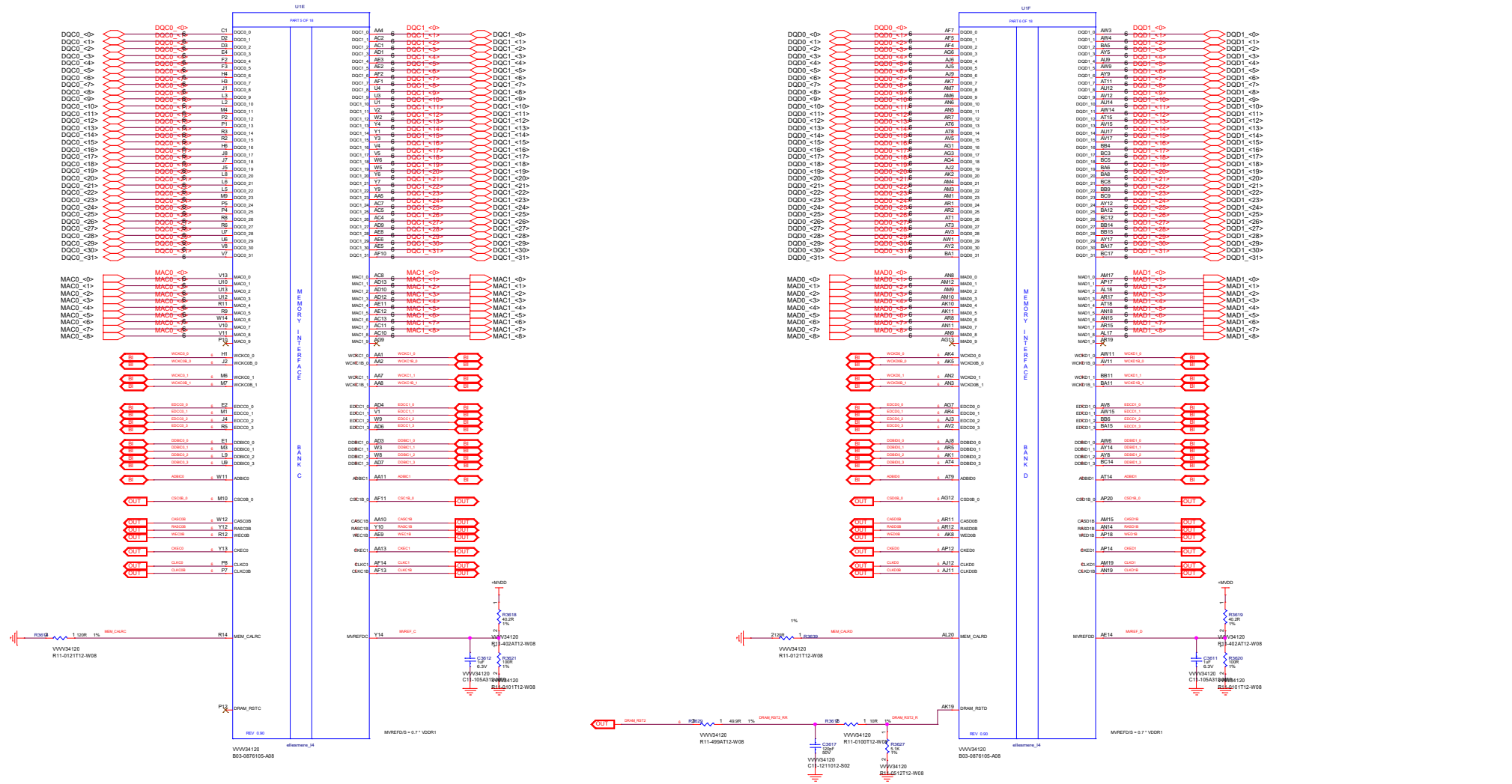


(3) ELLESMERE MEM INTERFACE CH A/B

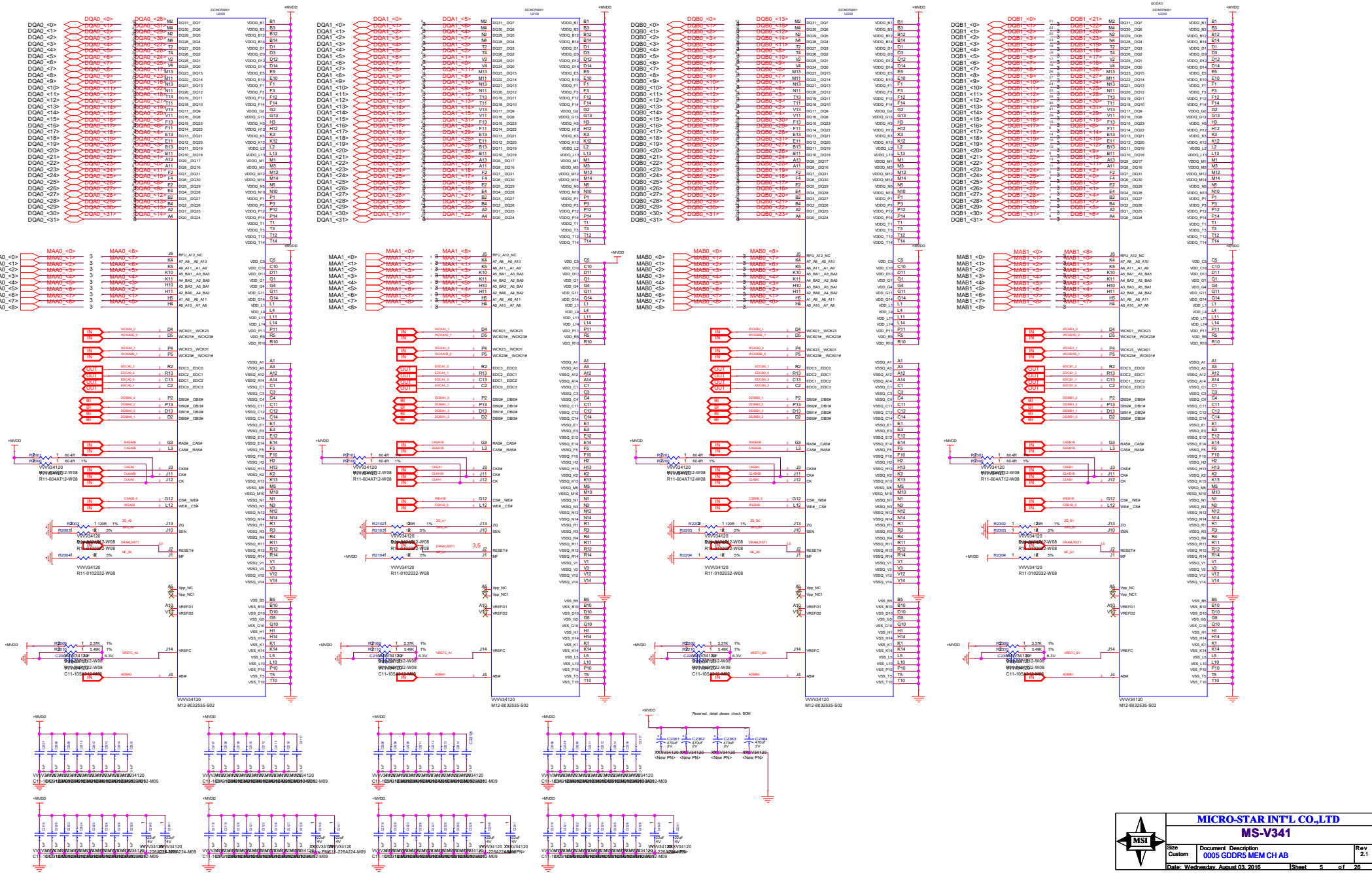


	MICRO-STAR INT'L CO.,LTD		
	MS-V341		
	Size Custom	Document Description 0003 ELLESMERE MEM CH AB	Rev 2.1
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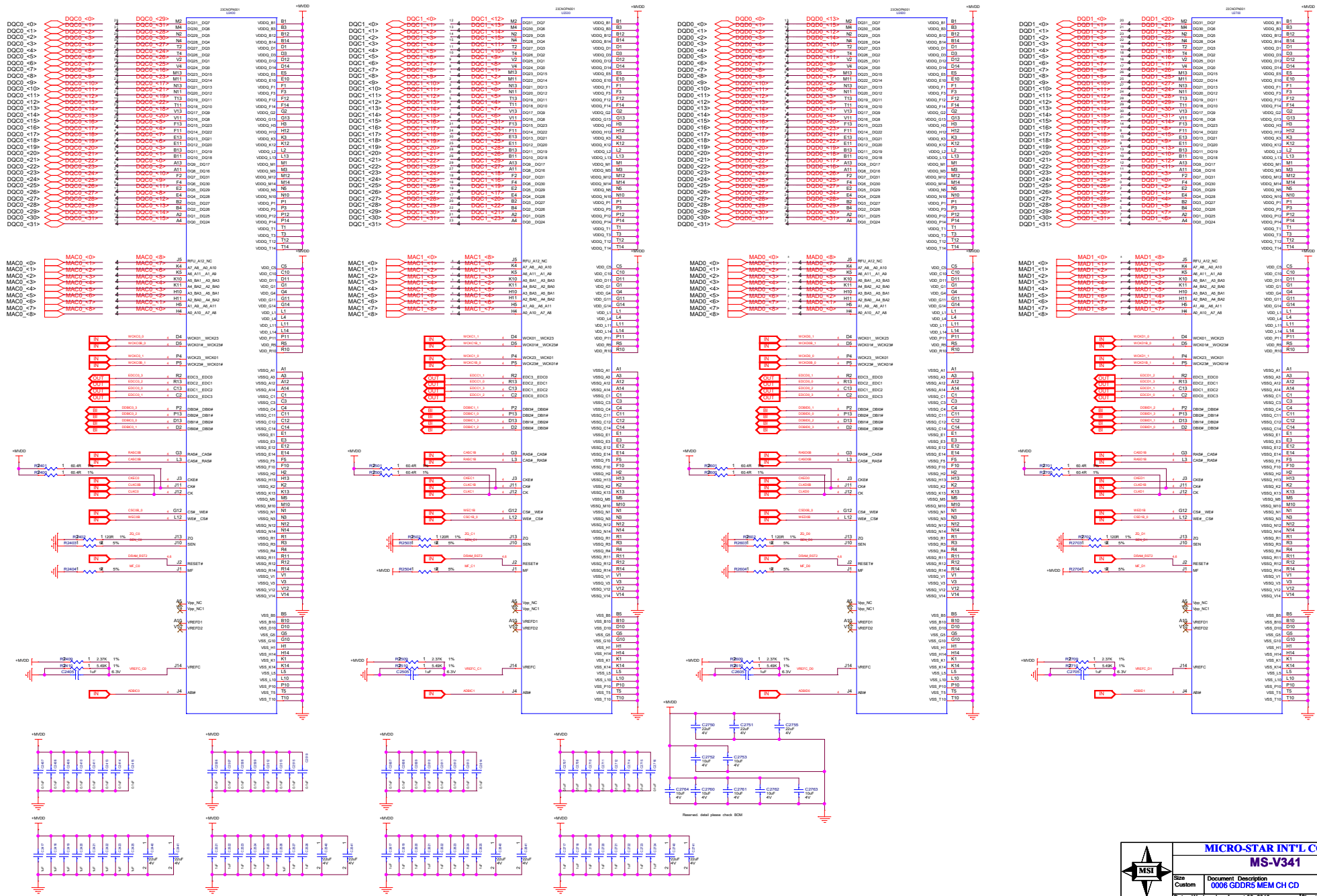
(4) ELLESMERE MEM INTERFACE CH C/D



(5) GDDR5 MEMORY CH A/B



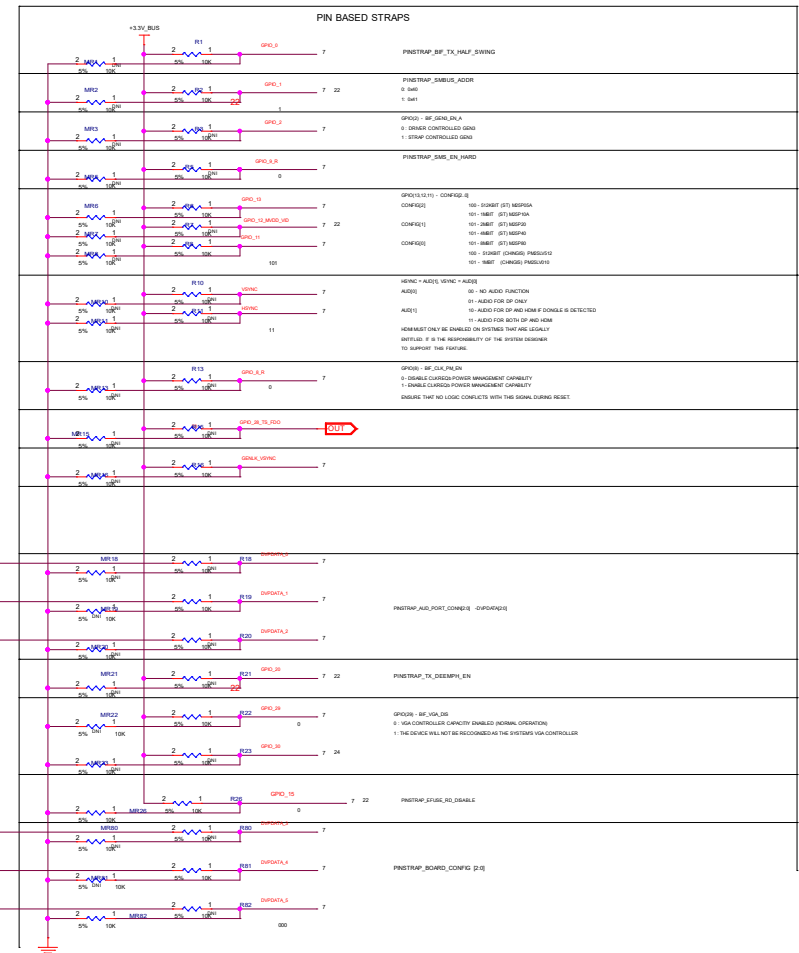
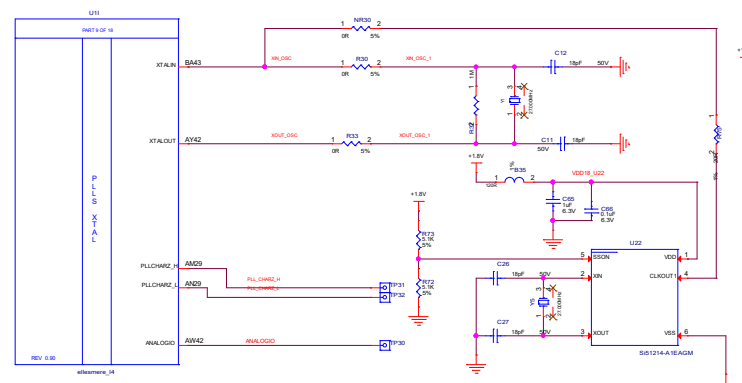
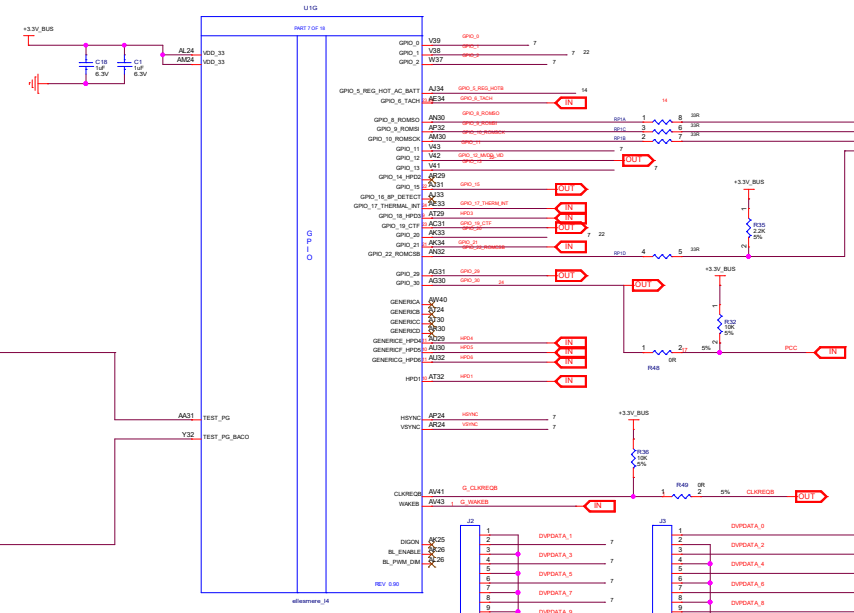
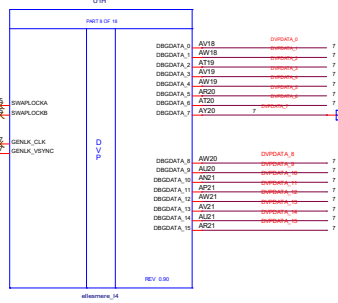
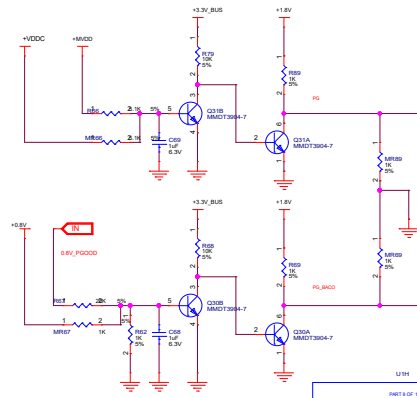
(6) GDDR5 MEMORY CH C/D



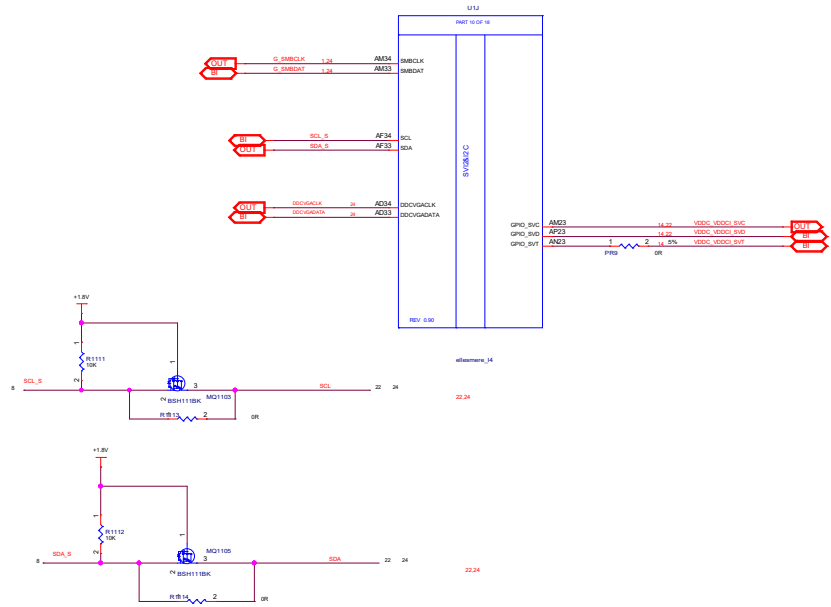
(7) ELLESMERE GPIO STRAP CF XTAL

IOADDRESS	FUNCTION	DEVICE

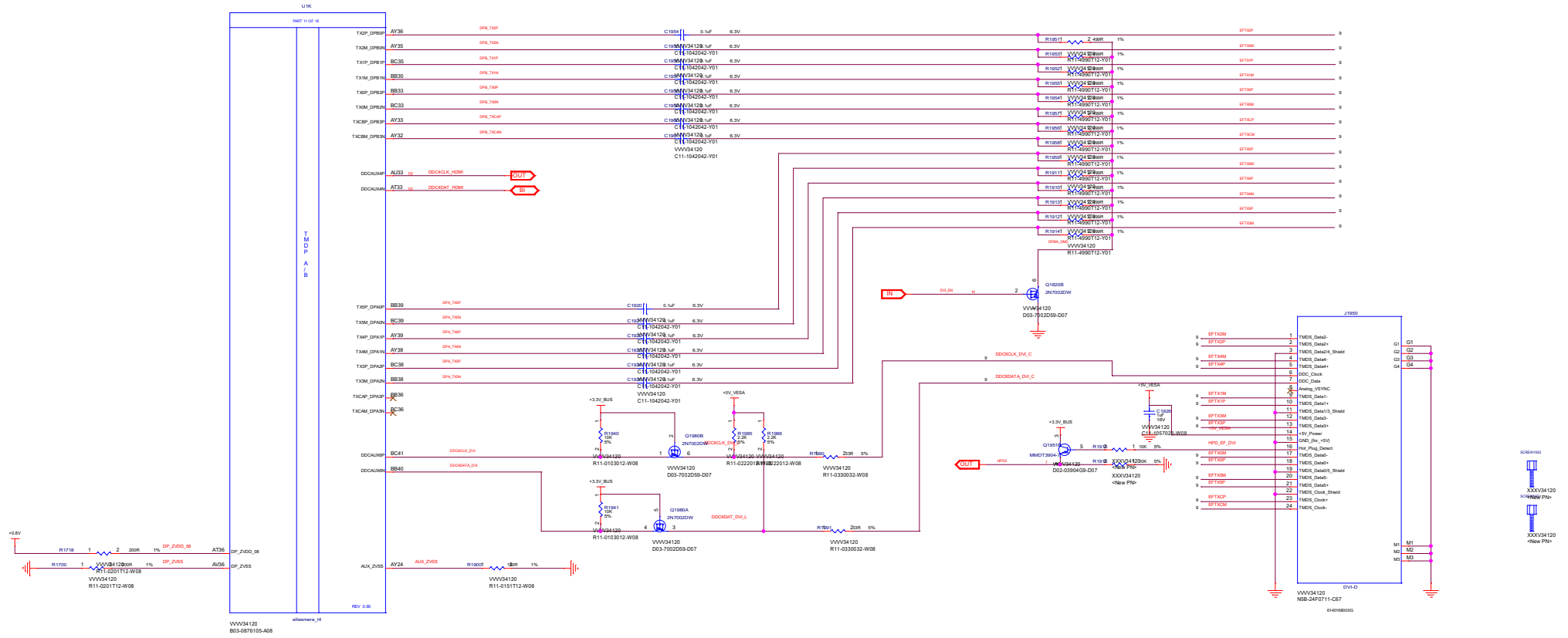
IOADDRESS	FUNCTION	DEVICE
0x48	EXT TEMP SENSOR	LM93C83



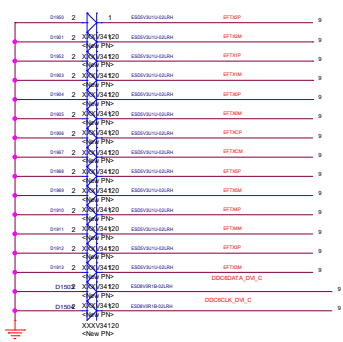
(8) ELLESMERE DAC1 LOCK



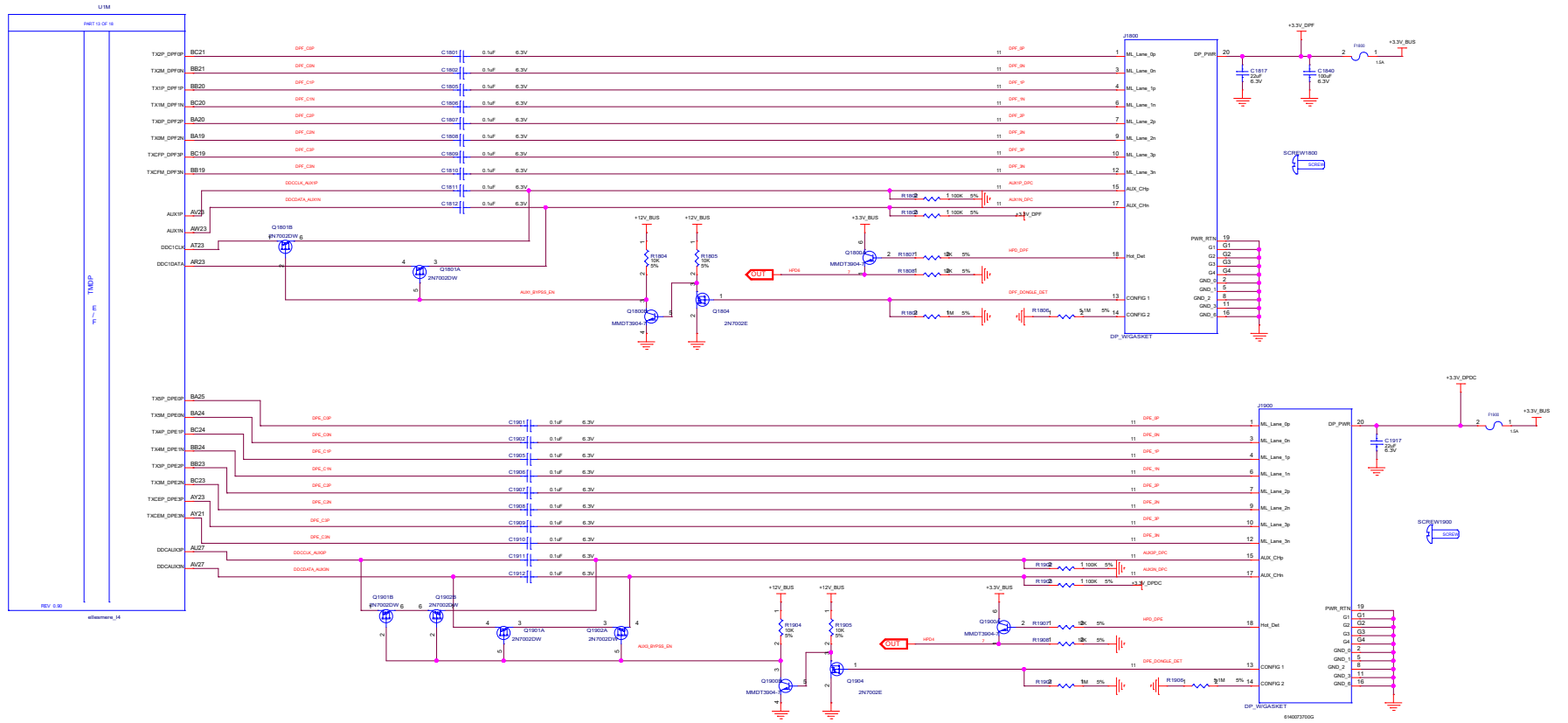
(9) ELLESMERE TMDP A/B



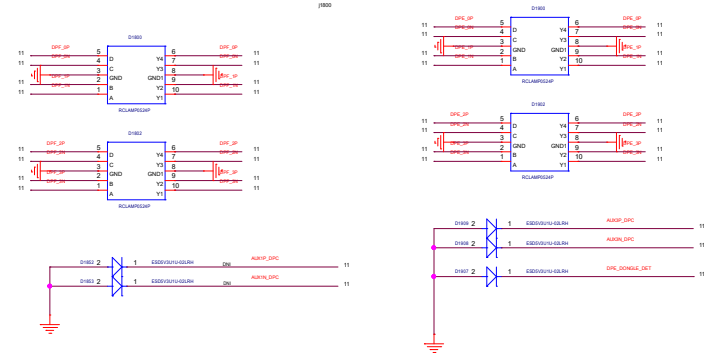
OPTIONAL ESD PROTECTION DIODES



		MICRO-STAR INT'L CO.,LTD	
		MS-V341	
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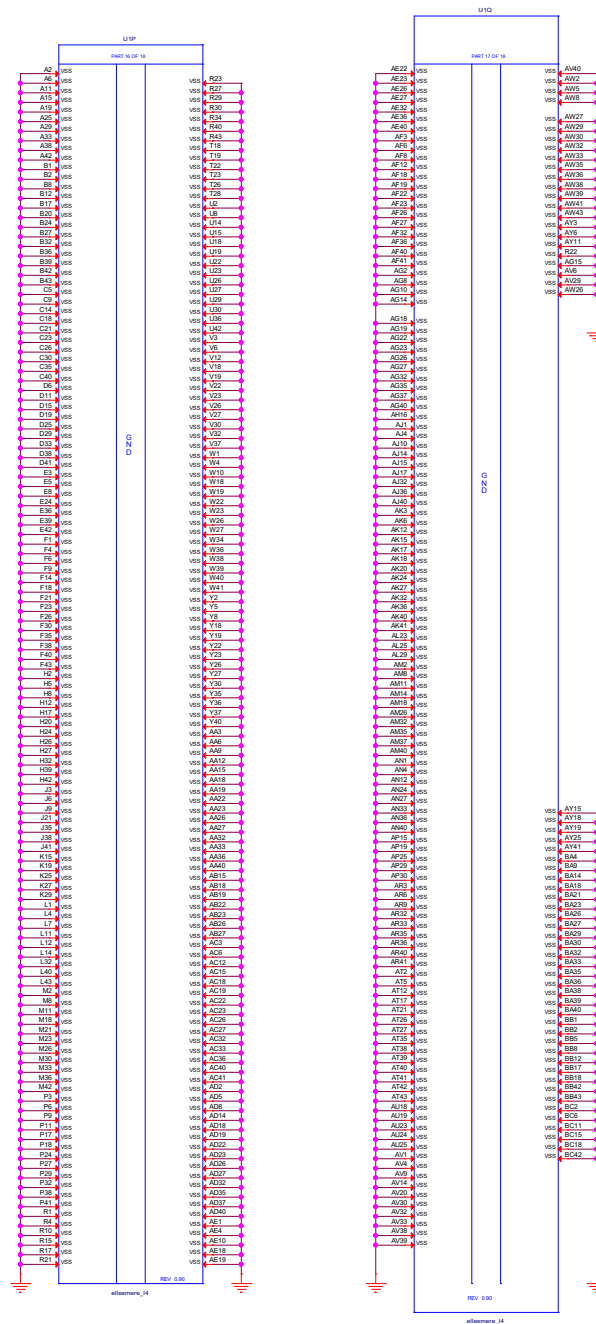
OPTIONAL ESD PROTECTION DIODES




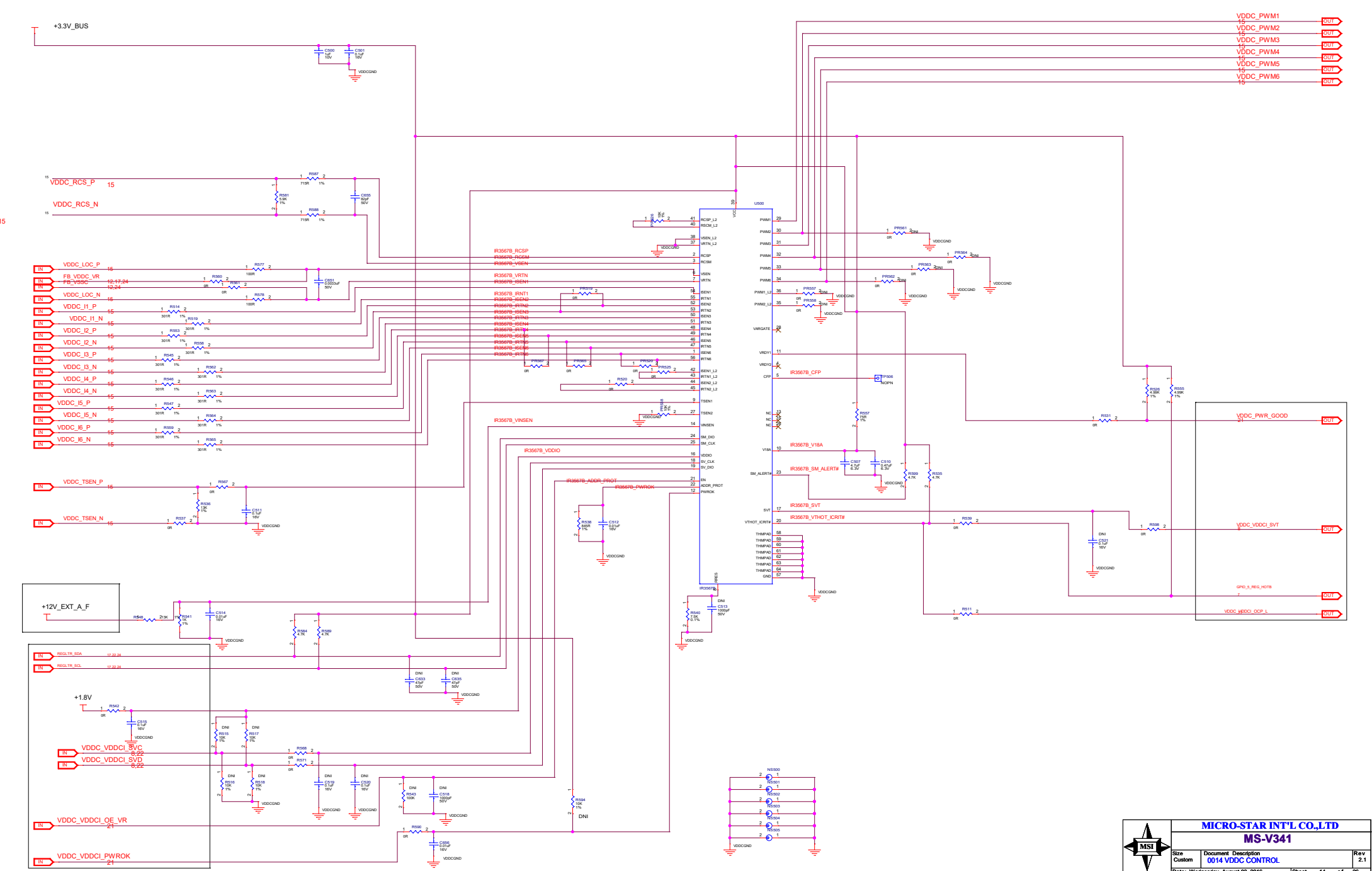
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MICRO-STAR INT'L CO.,LTD			
MS-V341			
Size	Document Description		Rev
Custom	0011 ELLESMERE TMDPEF DP DP		2.1
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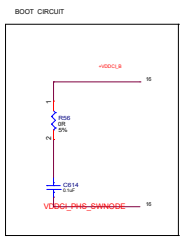
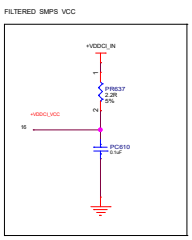
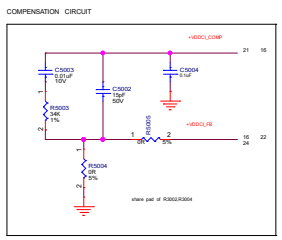
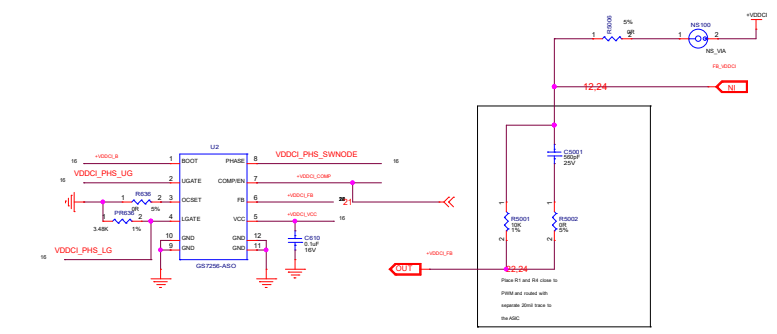
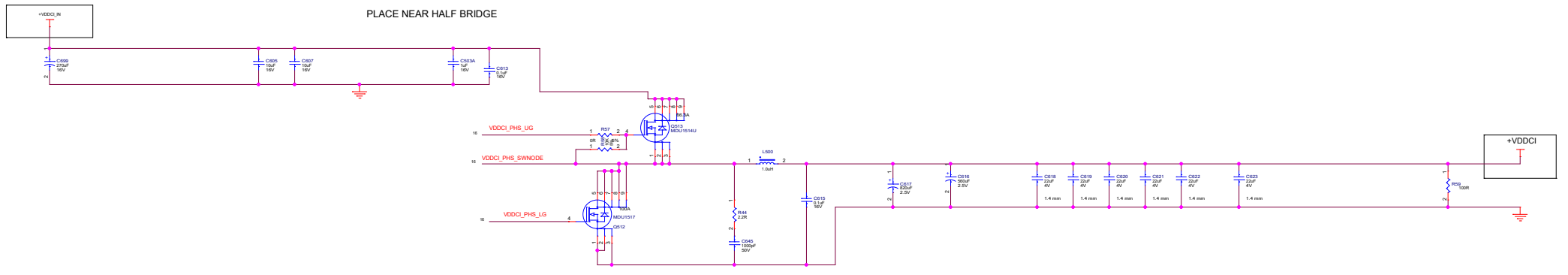
(13) ELLESMERE GROUND



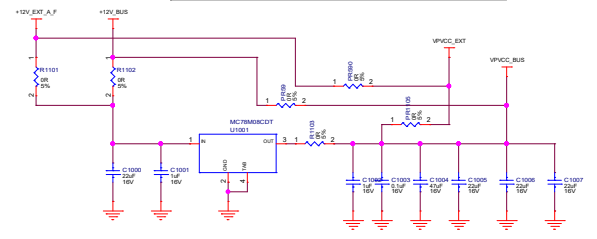
	MICRO-STAR INT'L CO.,LTD	
	MS-V341	
	Size Custom	Document Description 0013 ELLESMERE GND
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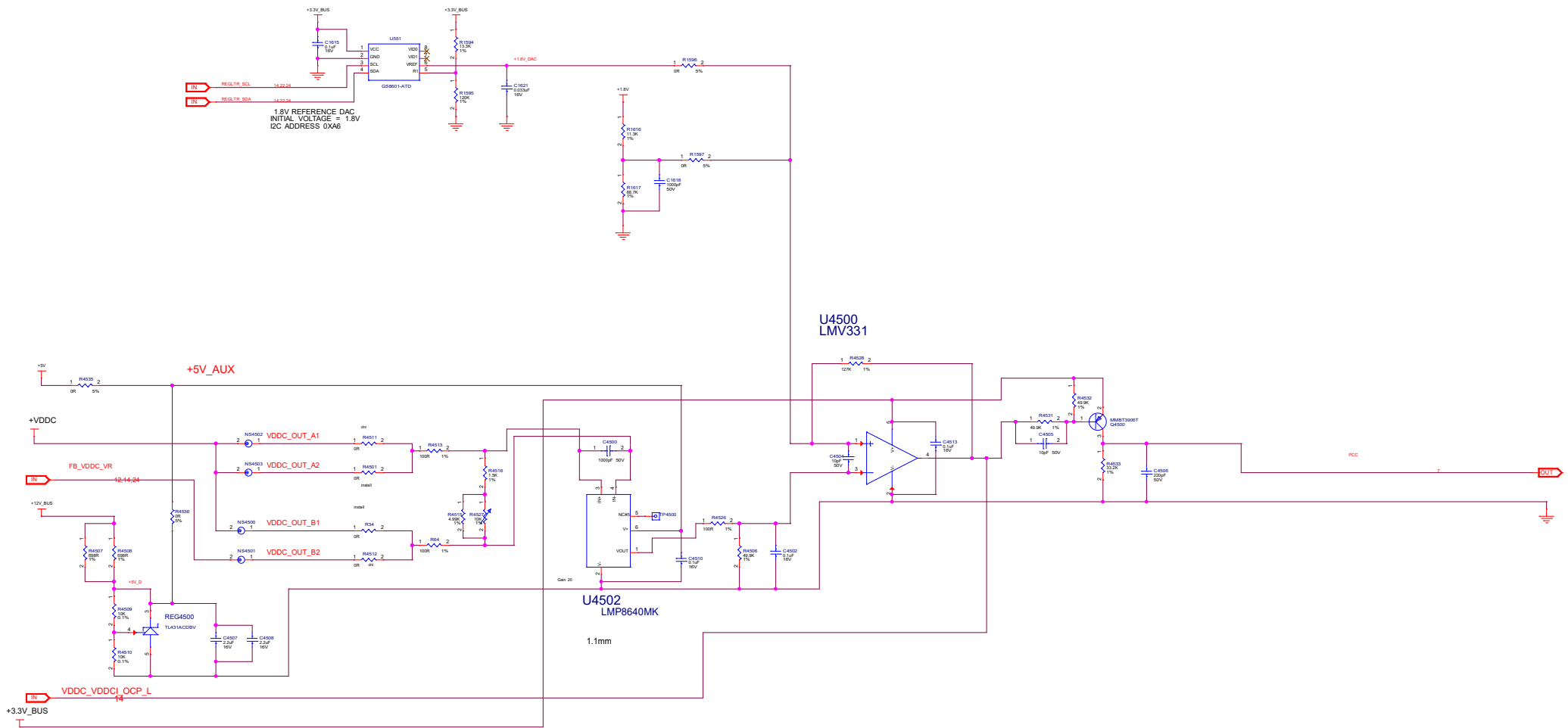


- VDDC_PWM1 15 DNI
- VDDC_PWM2 15 DNI
- VDDC_PWM3 15 DNI
- VDDC_PWM4 15 DNI
- VDDC_PWM5 15 DNI
- VDDC_PWM6 15 DNI



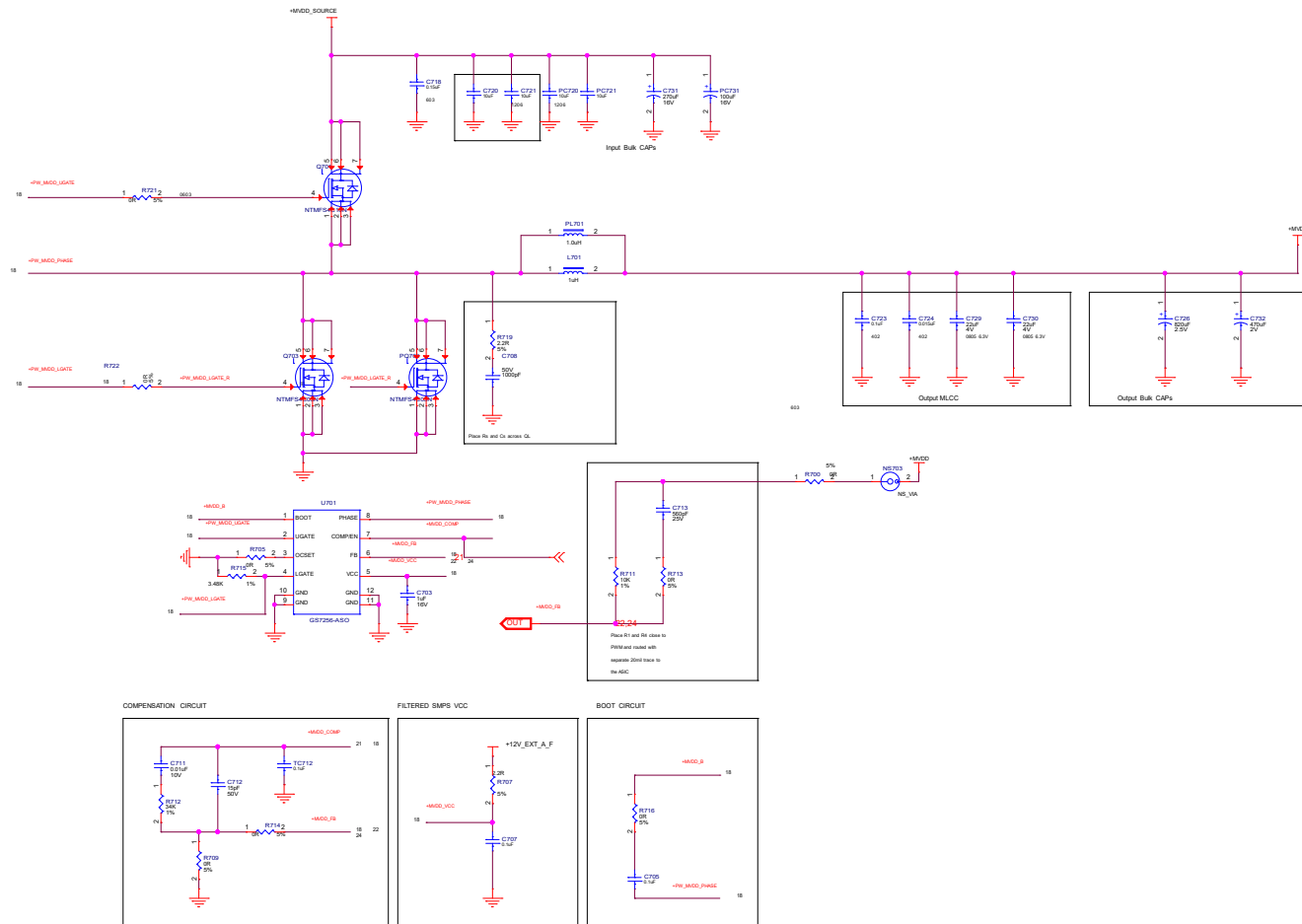
REGULATOR FOR VPVCC RAILS
IOUT MAX = 500mA

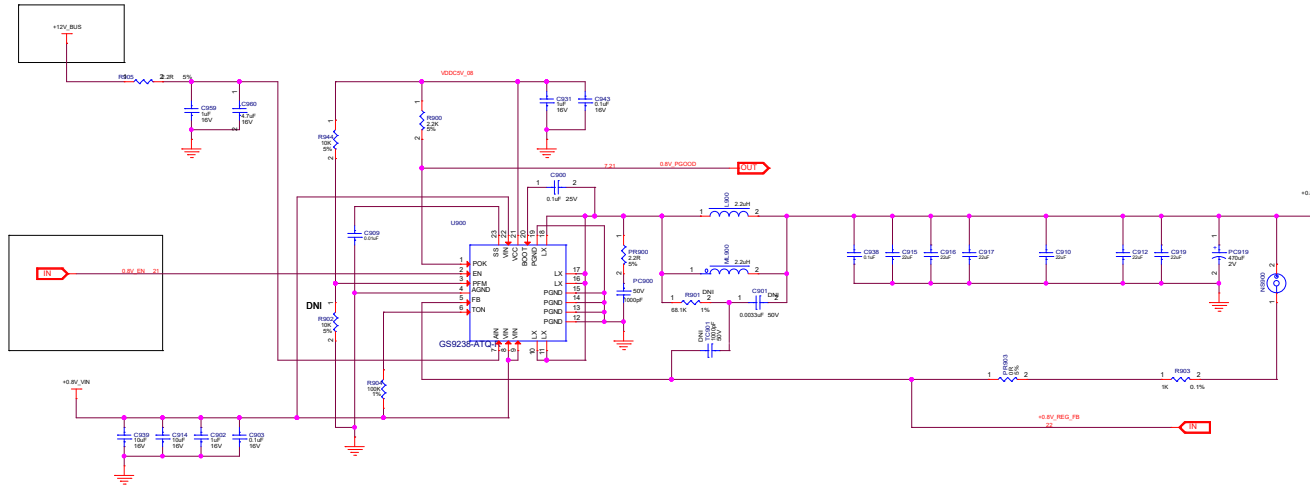





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MS-V341		
Size	Document Description	Rev
Custom	0017 PCC VDDC	2.1
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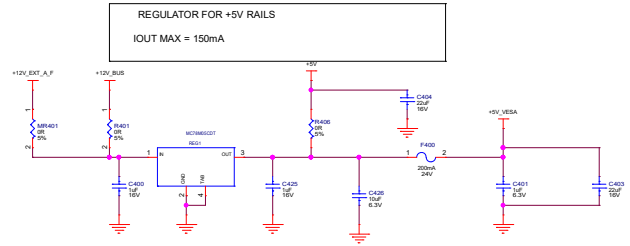
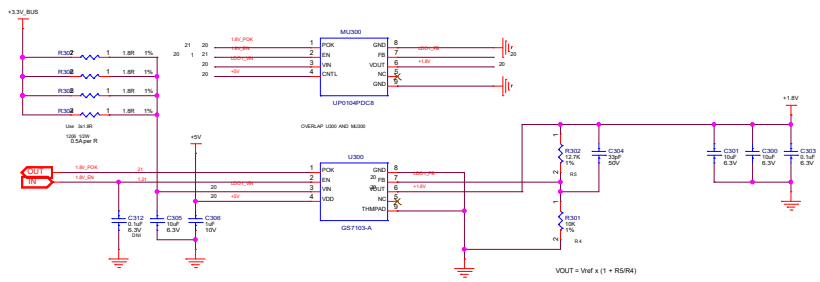




			MICRO-STAR INT'L CO.,LTD	
			MS-V341	
Size	Custom	Document Description	0019 0.8V REG	Rev
				2.1
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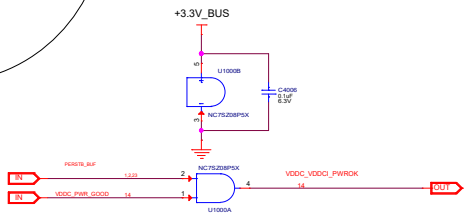
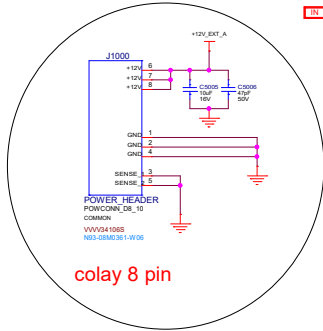
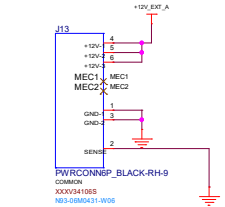
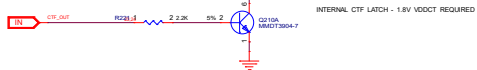
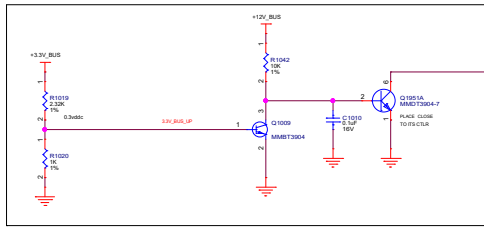
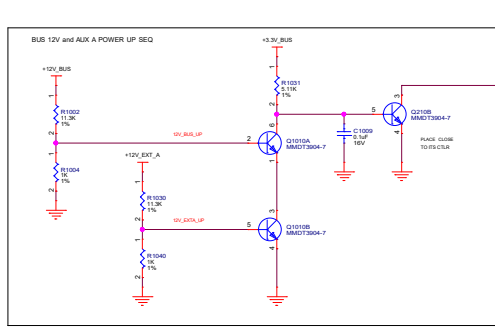
(18) SMALL RAIL REGULATORS

LDO #1: VIN = 3.0V TO 3.6V MAX VOUT = +1.8V +/- 2% IOUT = 1.3A RMS MAX
 PCB: 50 TO 70mm SQ. COPPER AREA FOR COOLING



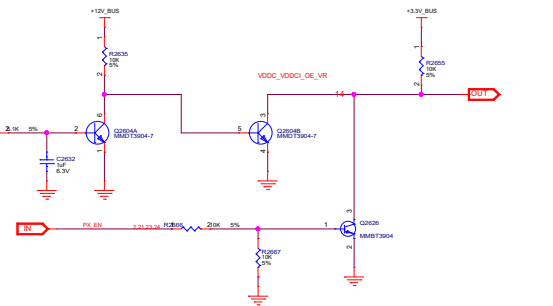
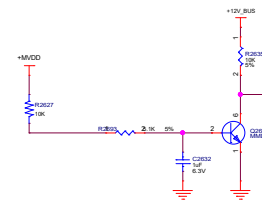
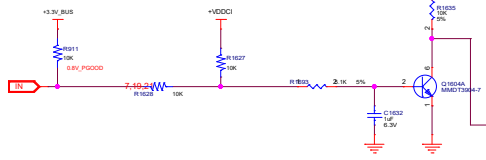
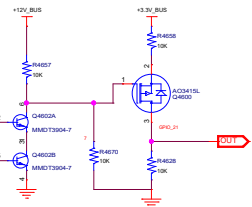
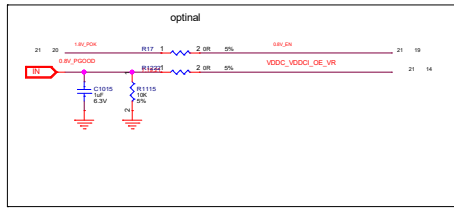
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	MS-V341		
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Custom	0020 SMALL RAIL REGULATORS	2.1	
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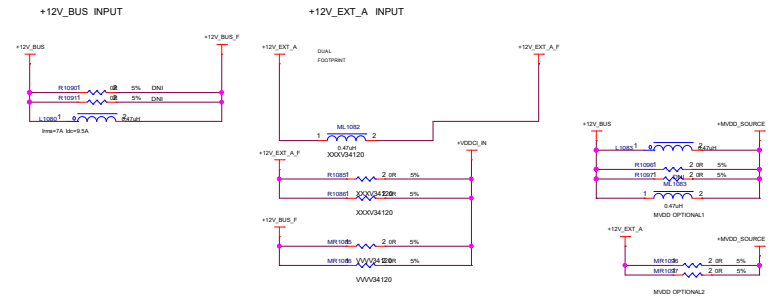
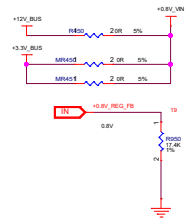
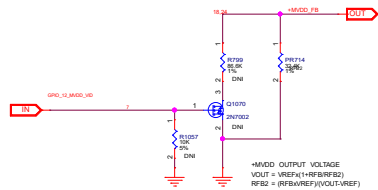
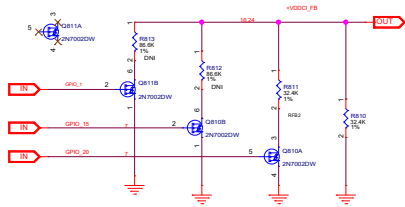
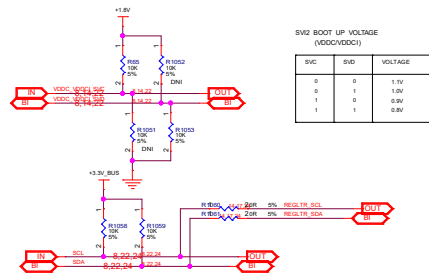
(19) POWER MANAGEMENT



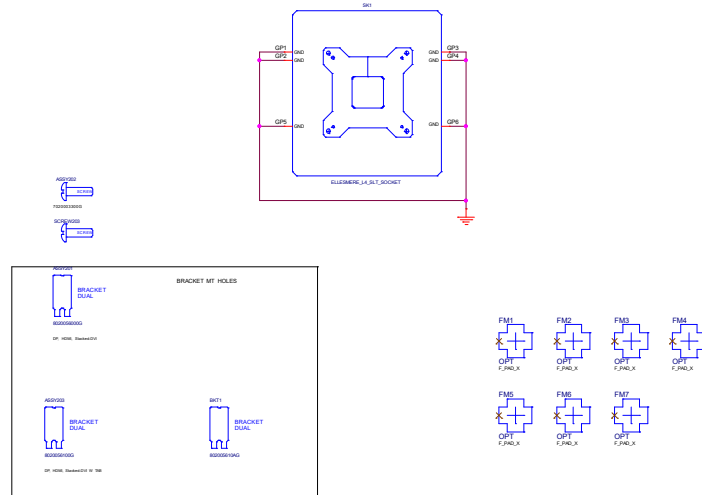
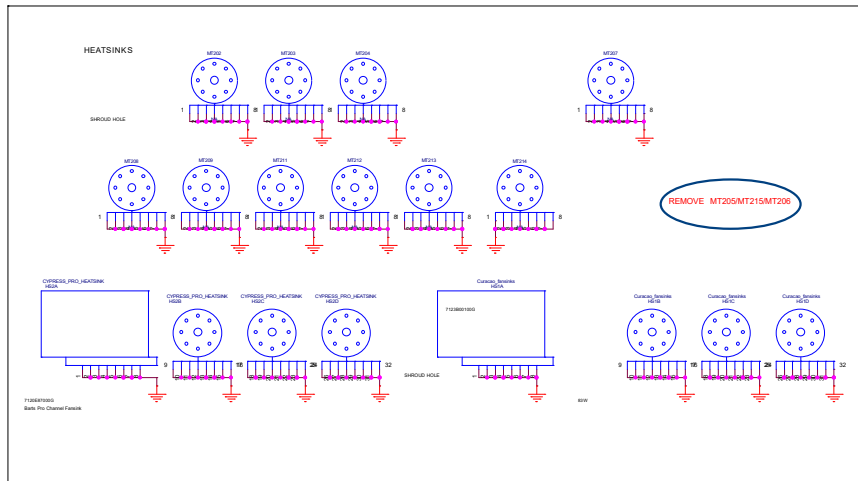
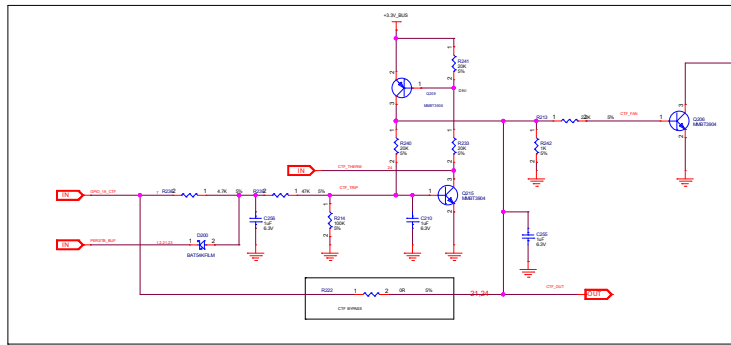
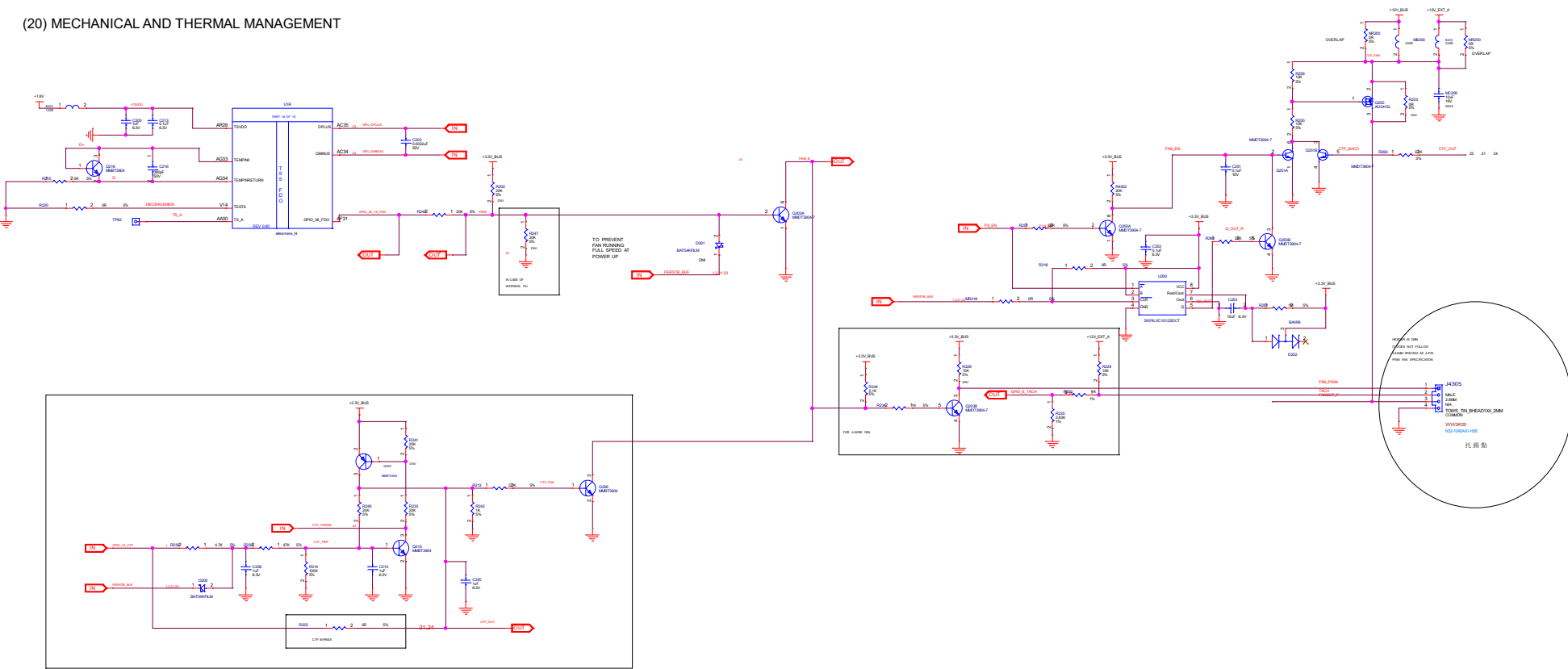
POWER UP SEQUENCE

BUS FALLS (3.3V/0V UP) = +1.8V + 880V			
MP_VDDC	MP_VDDC	MP_VDDC	MP_VDDC
VDDC_VDDCI_DE_VR	VDDC_VDDCI_DE_VR	VDDC_VDDCI_DE_VR	VDDC_VDDCI_DE_VR

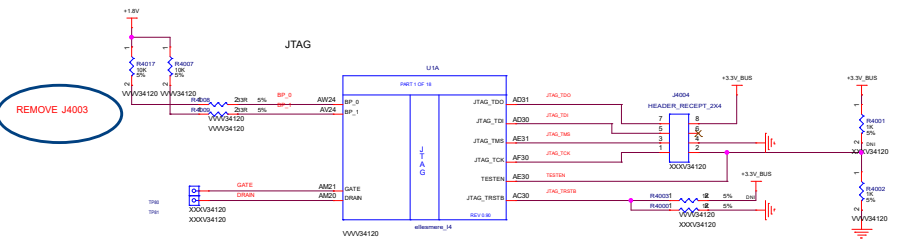




(20) MECHANICAL AND THERMAL MANAGEMENT



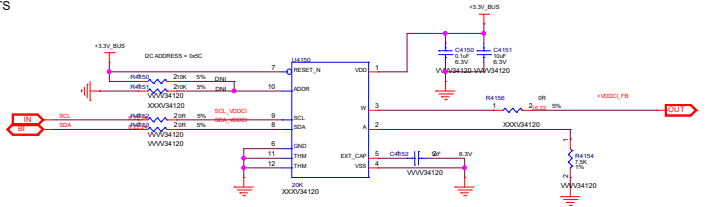
(21) DEBUG CIRCUITS



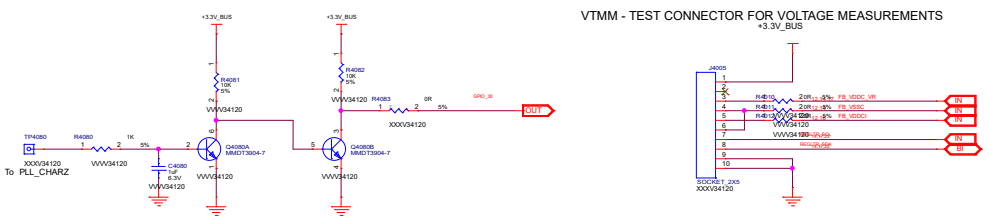
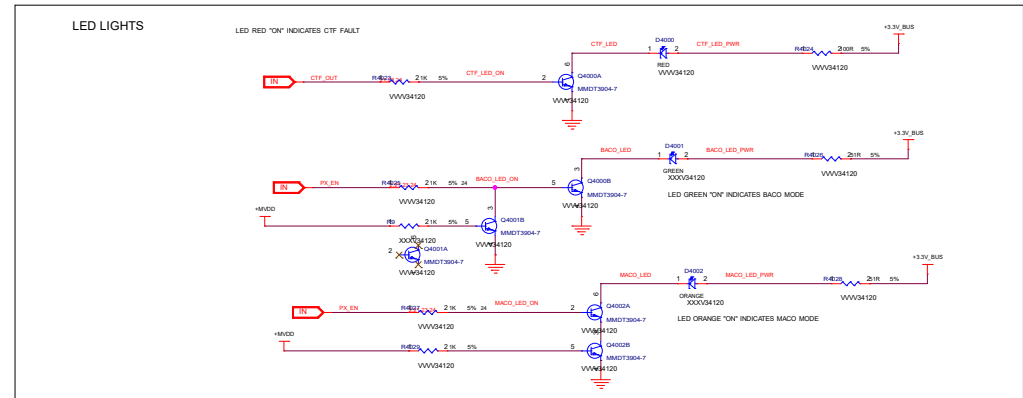
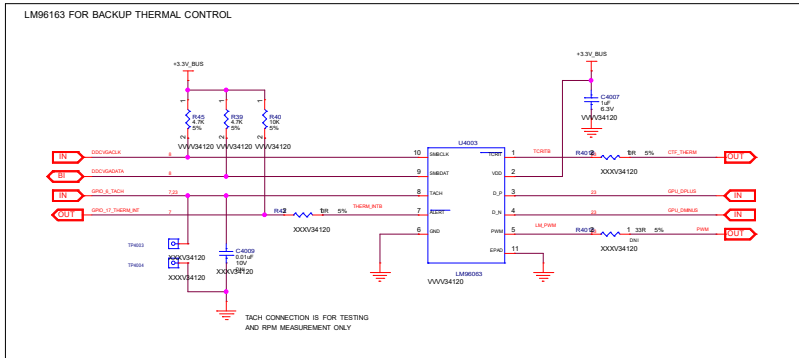
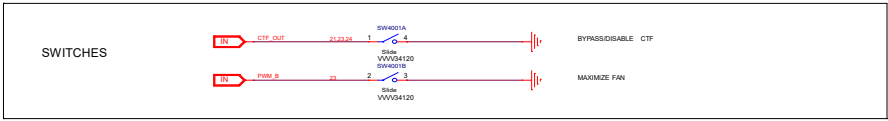
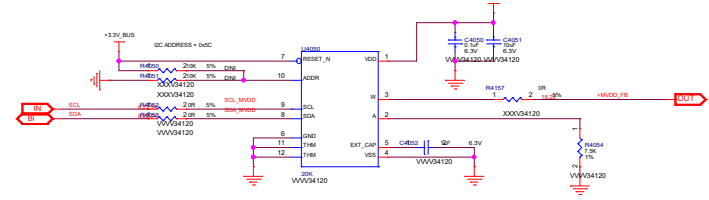
REMOVE

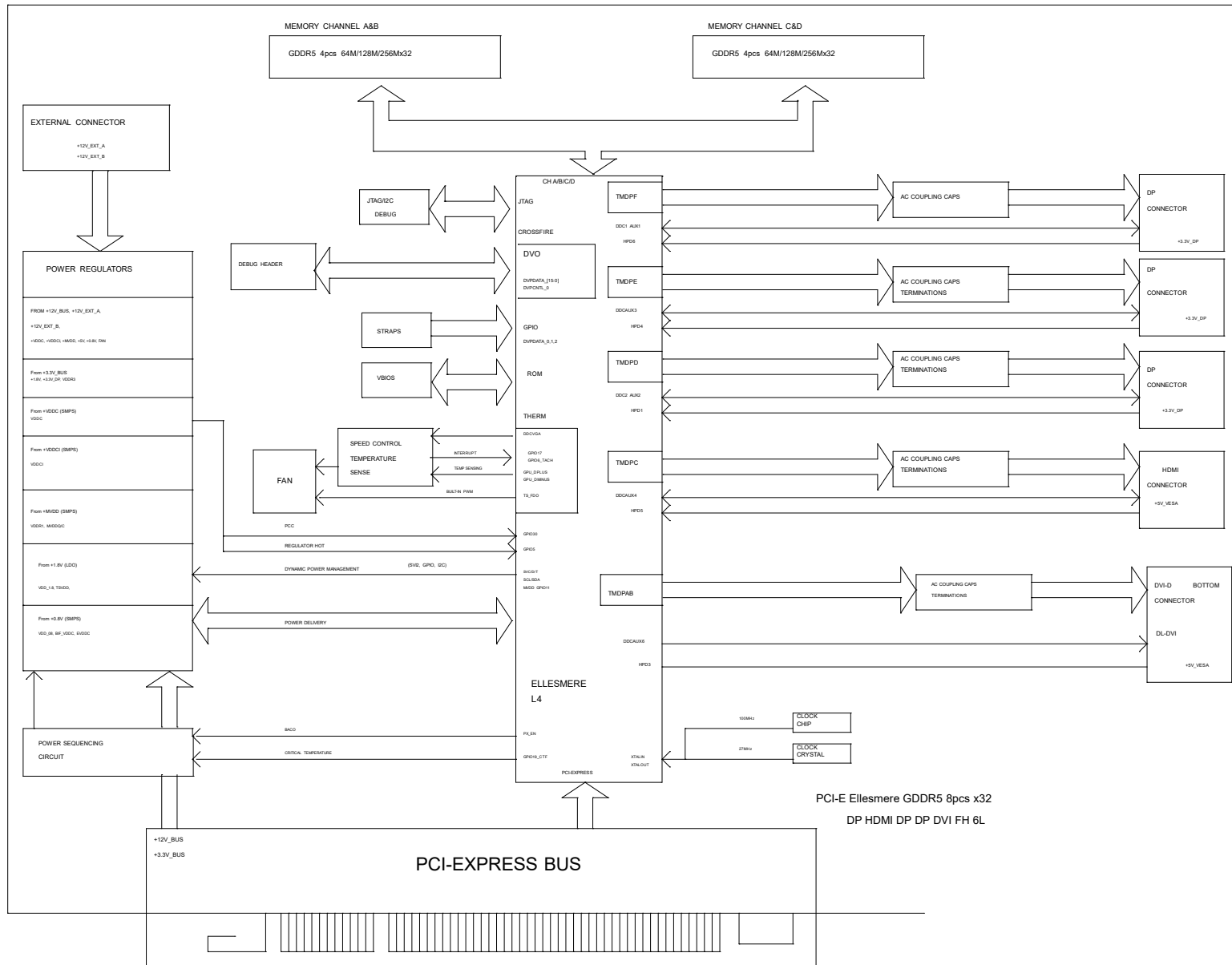
E-FUSE CAPABILITY
 DEFAULT = GPIO-CONTROLLED
 (MANUAL OPTION AS BACK-UP)

DIGITAL POTS



DIGITAL POTS





PCI-E Ellesmere GDDR5 8pcs x32
 DP HDMI DP DP DVI FH 6L

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