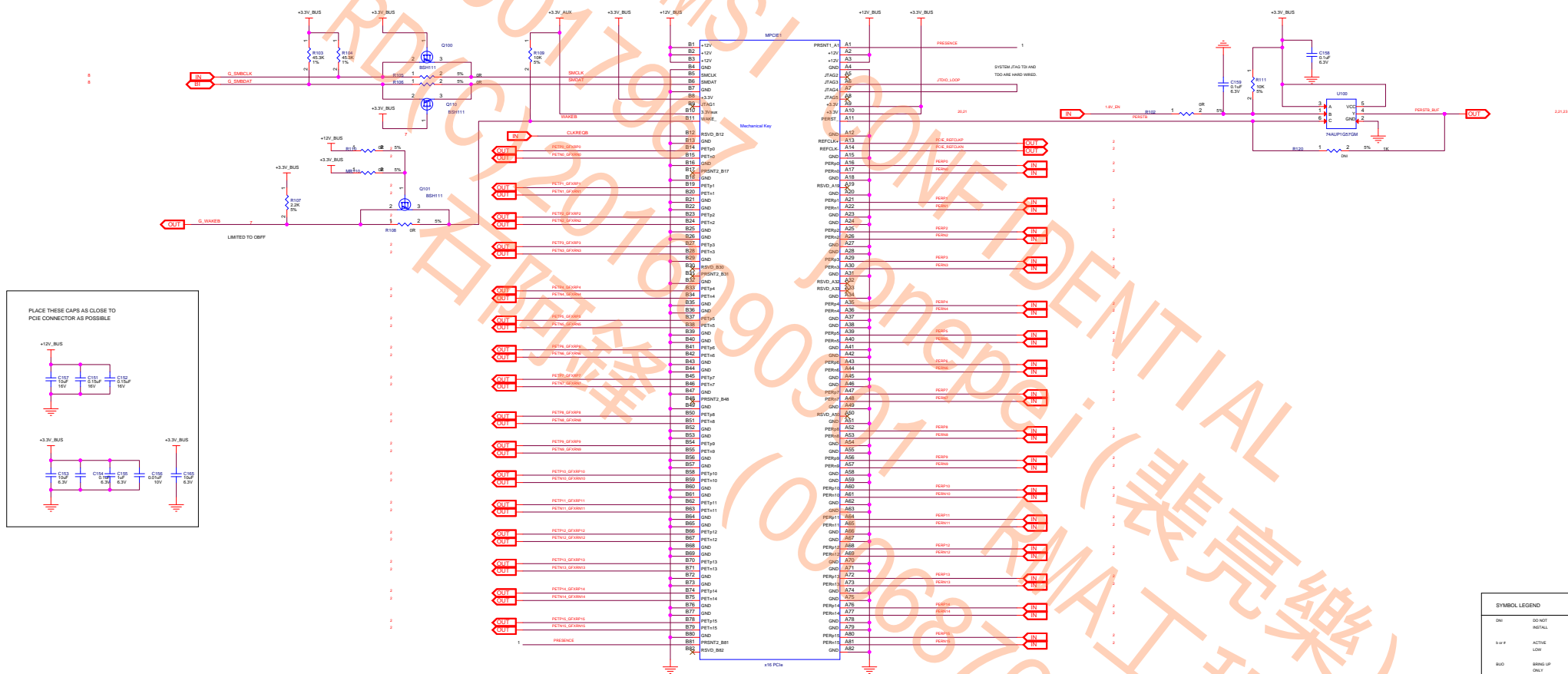
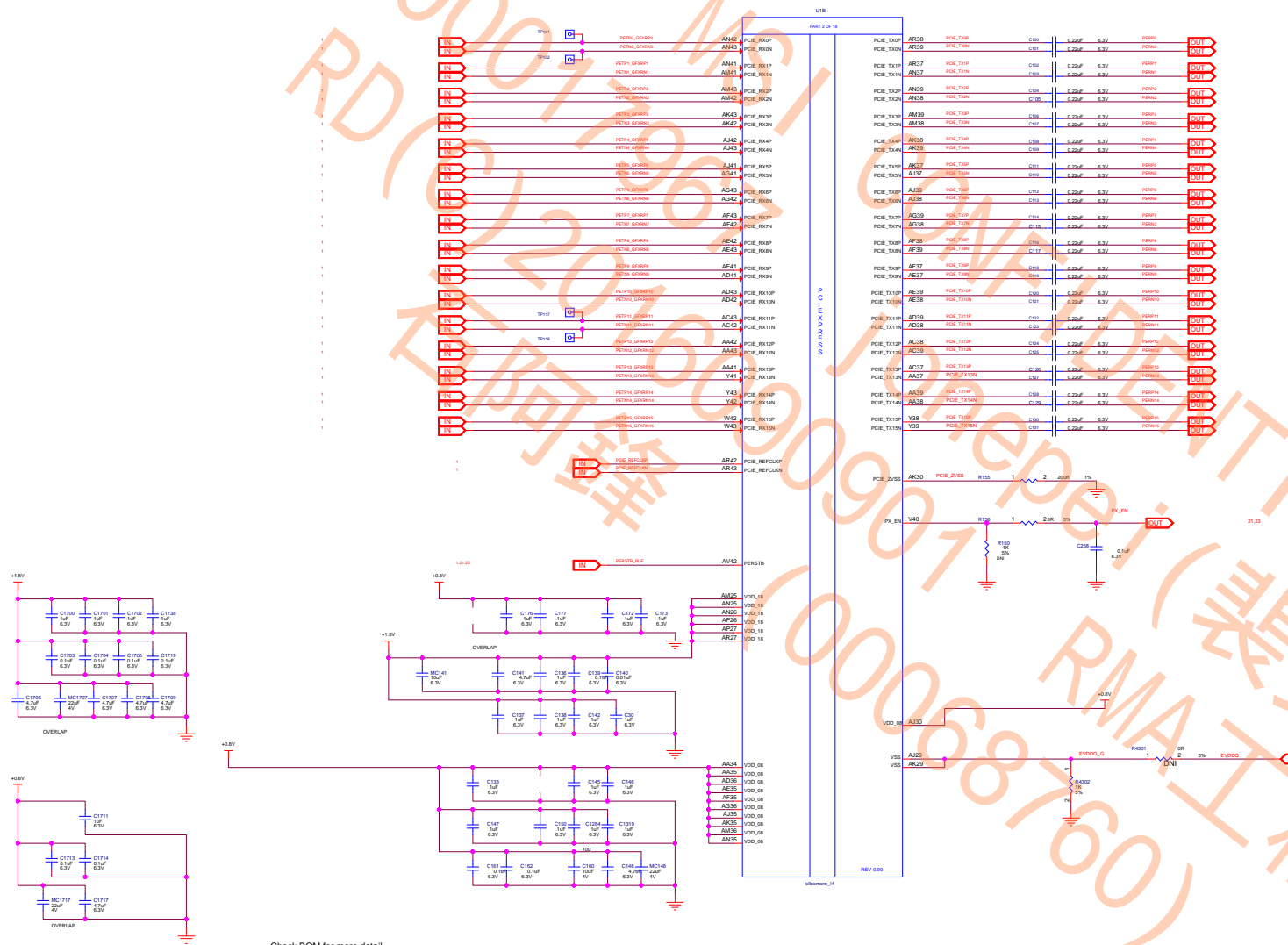


(1) PCI-EXPRESS EDGE CONNECTOR

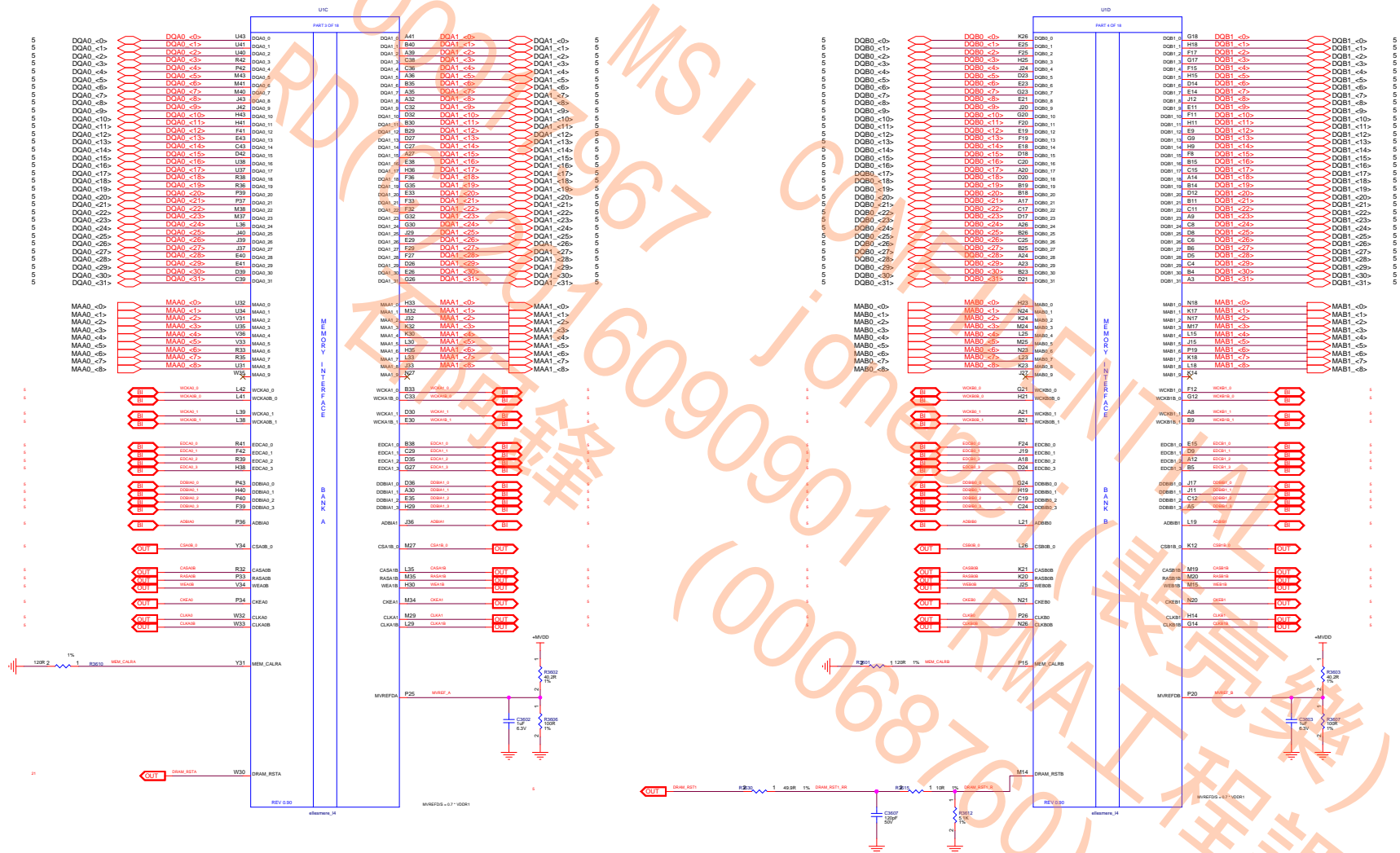


	MICRO-STAR INT'L CO.,LTD		
	MS-V341		
	Size Custom	Document Description TABLE OF CONTENTS	Rev 1.0
	Date: Monday, June 06, 2016		Sheet 1 of 26

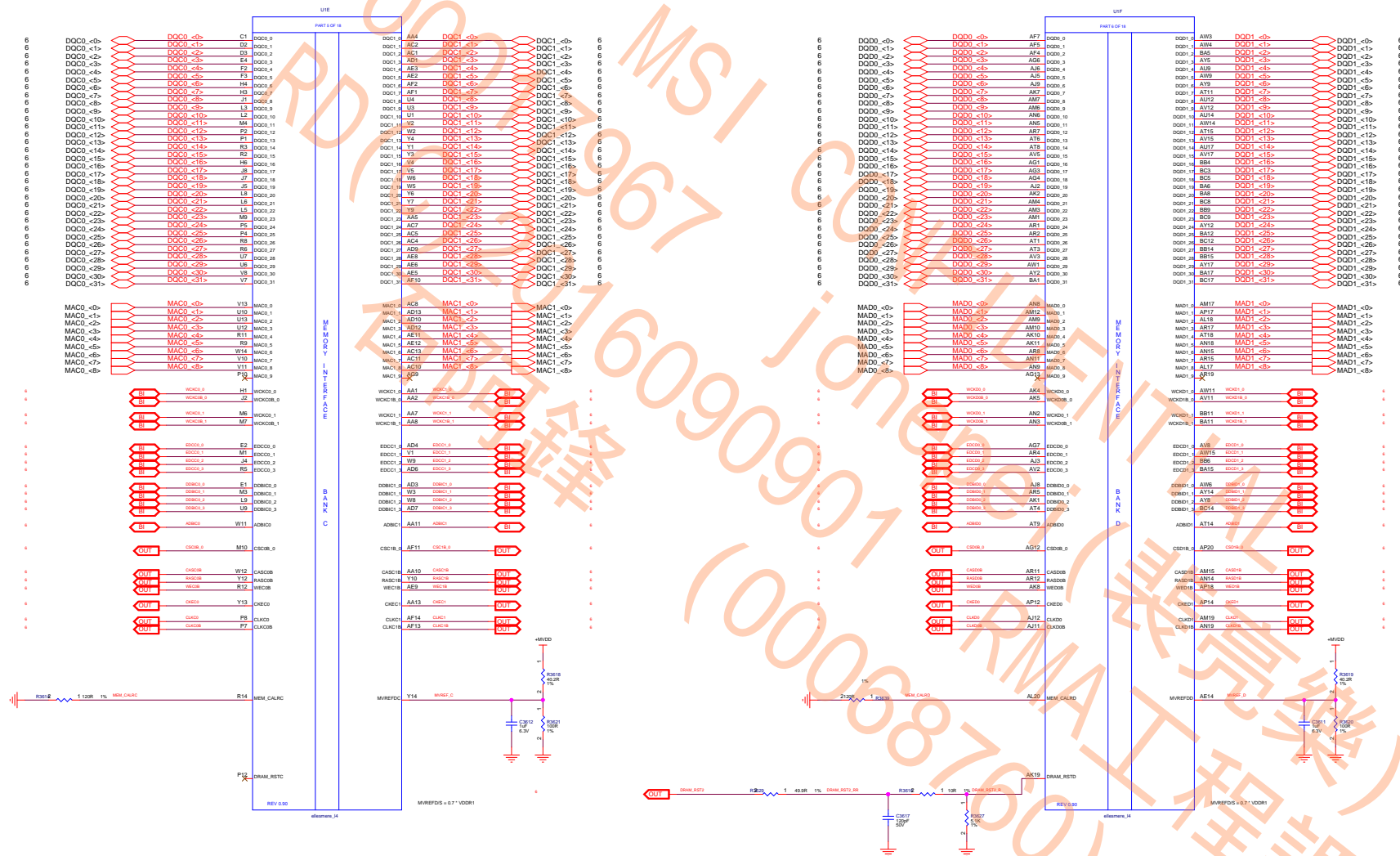
(2) ELLESMERE PCIE INTERFACE



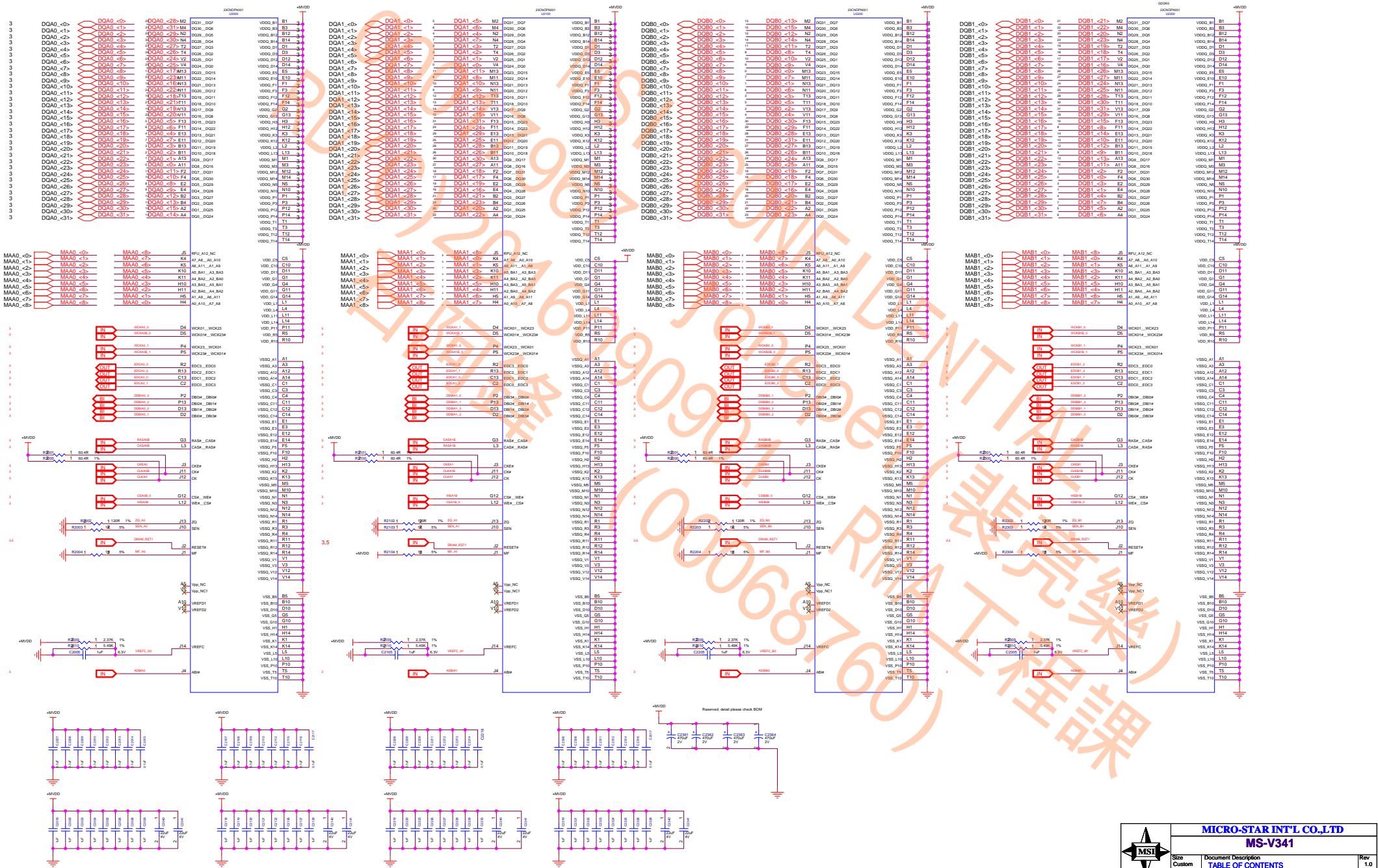
(3) ELLESMERE MEM INTERFACE CH A/B



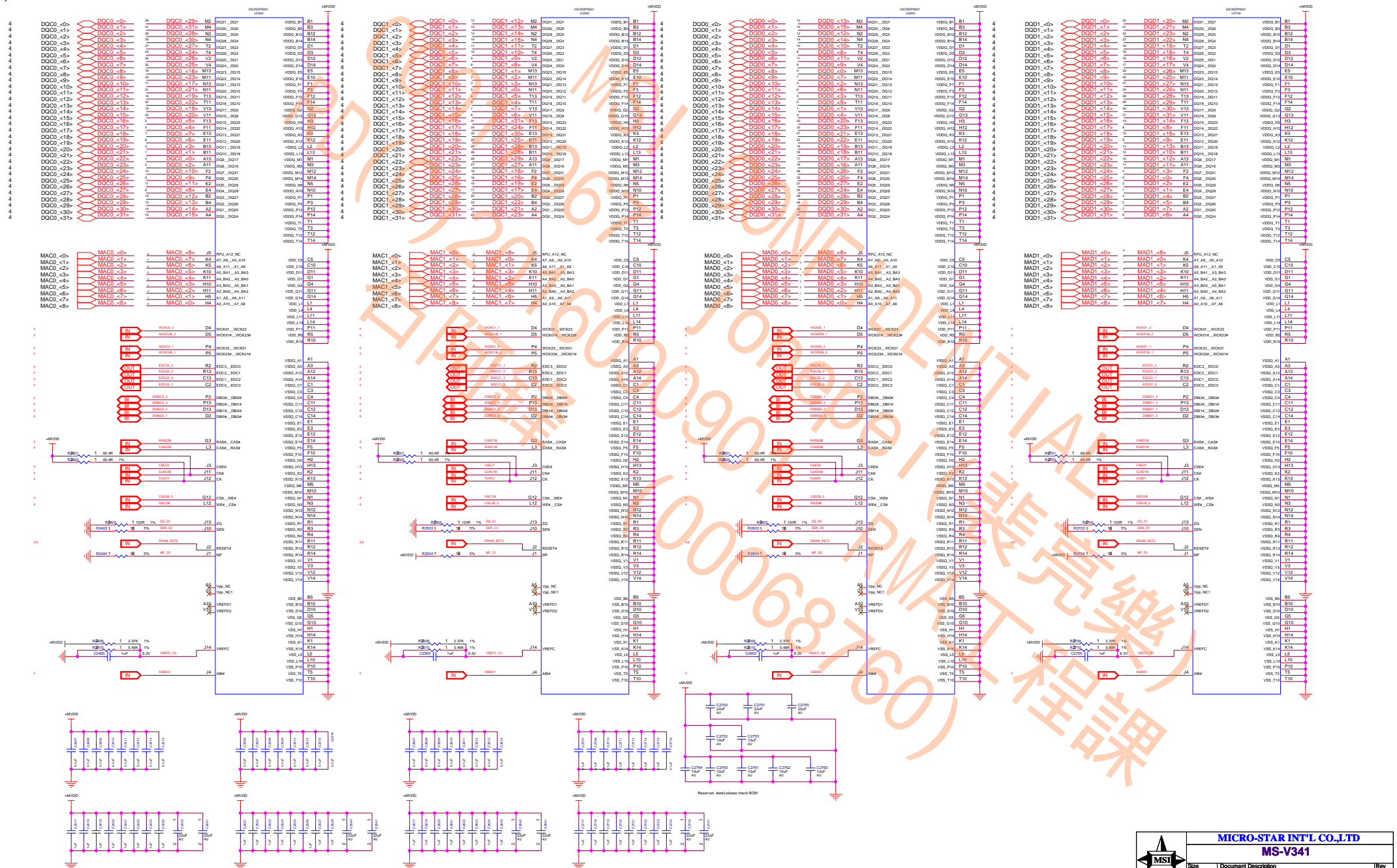
(4) ELLESMERE MEM INTERFACE CH C/D



(5) GDDR5 MEMORY CH A/B



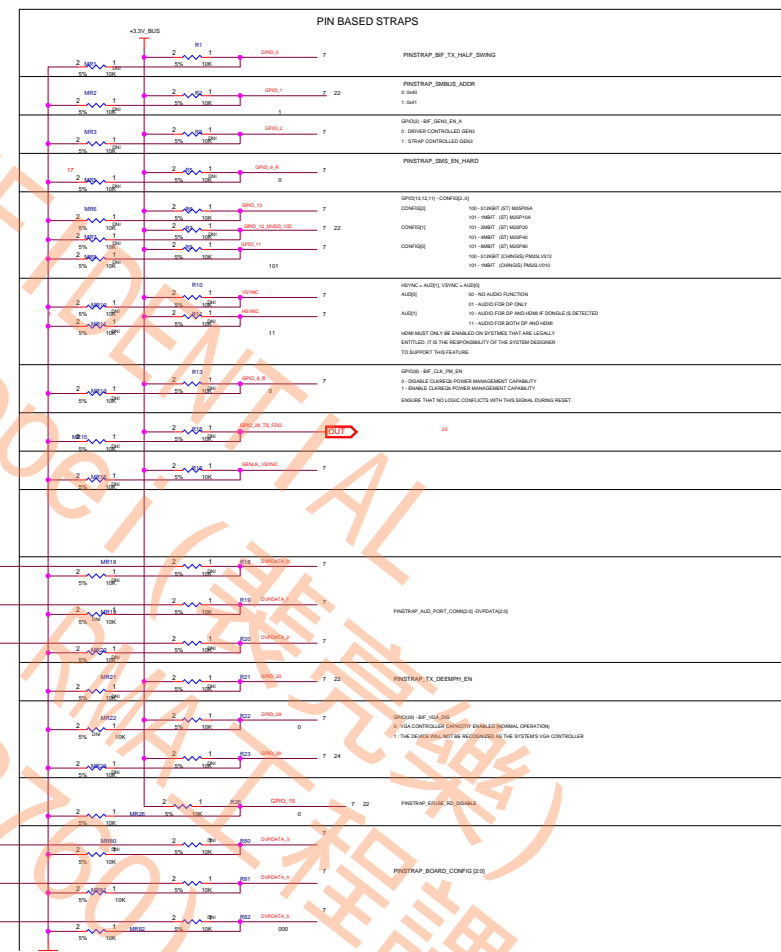
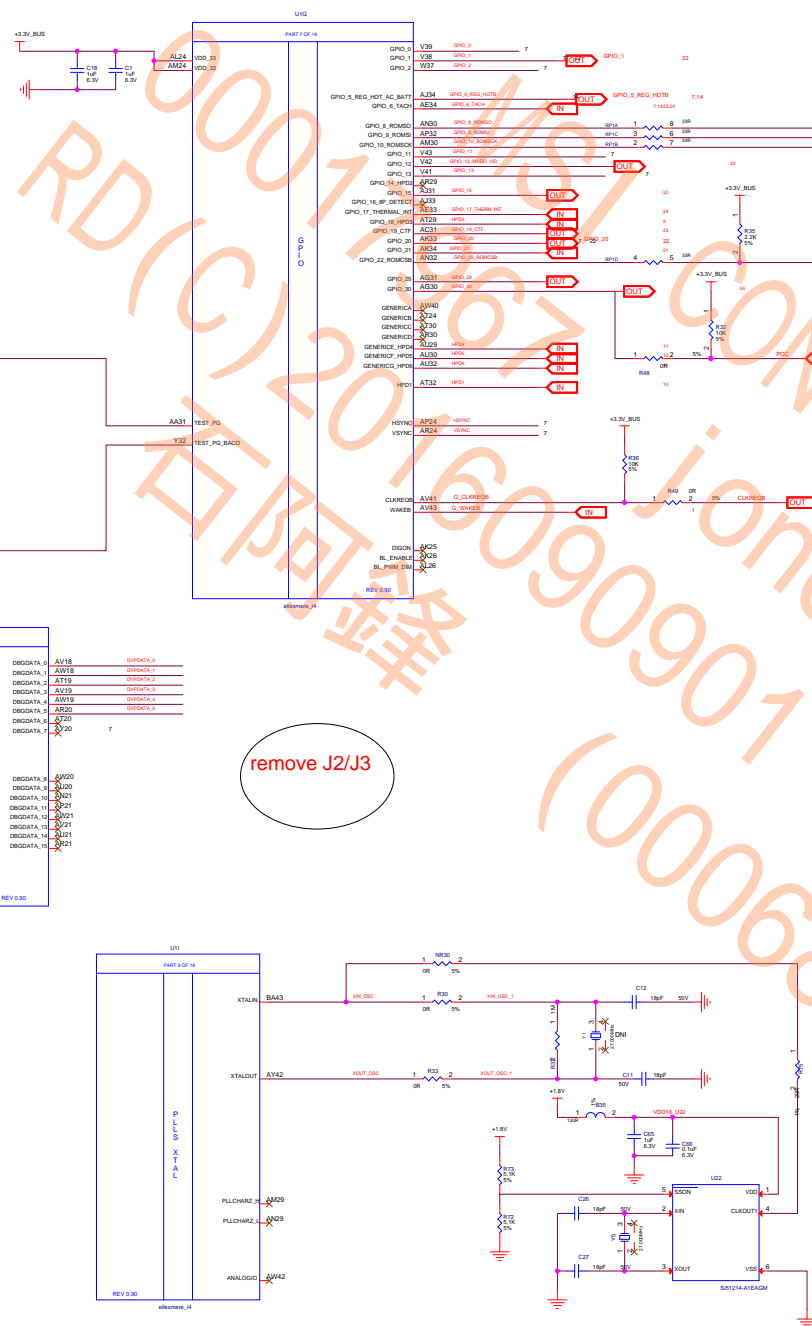
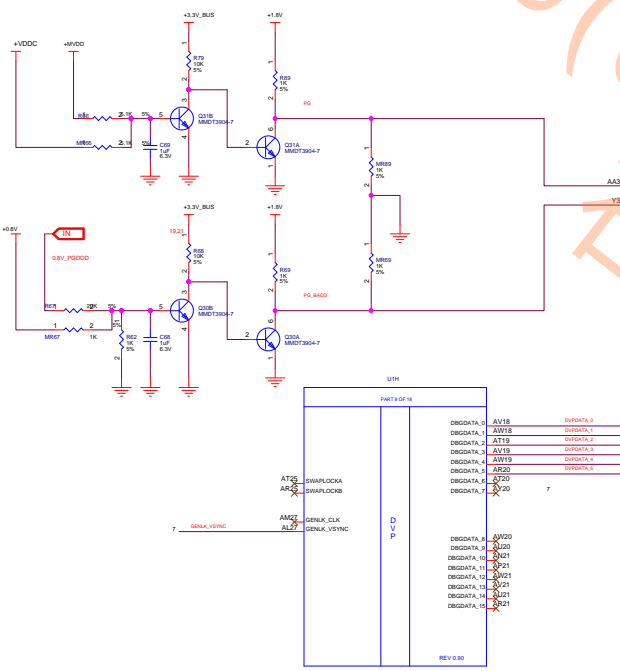
(6) GDDR5 MEMORY CH C/D



(7) ELLESMERE GPIO STRAP CF XTAL

QC ADDRESS	FUNCTION	DEVICE

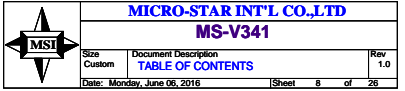
DC ADDRESS	FUNCTION	DEVICE
0x98	EXT TEMP SENSOR	LM56063

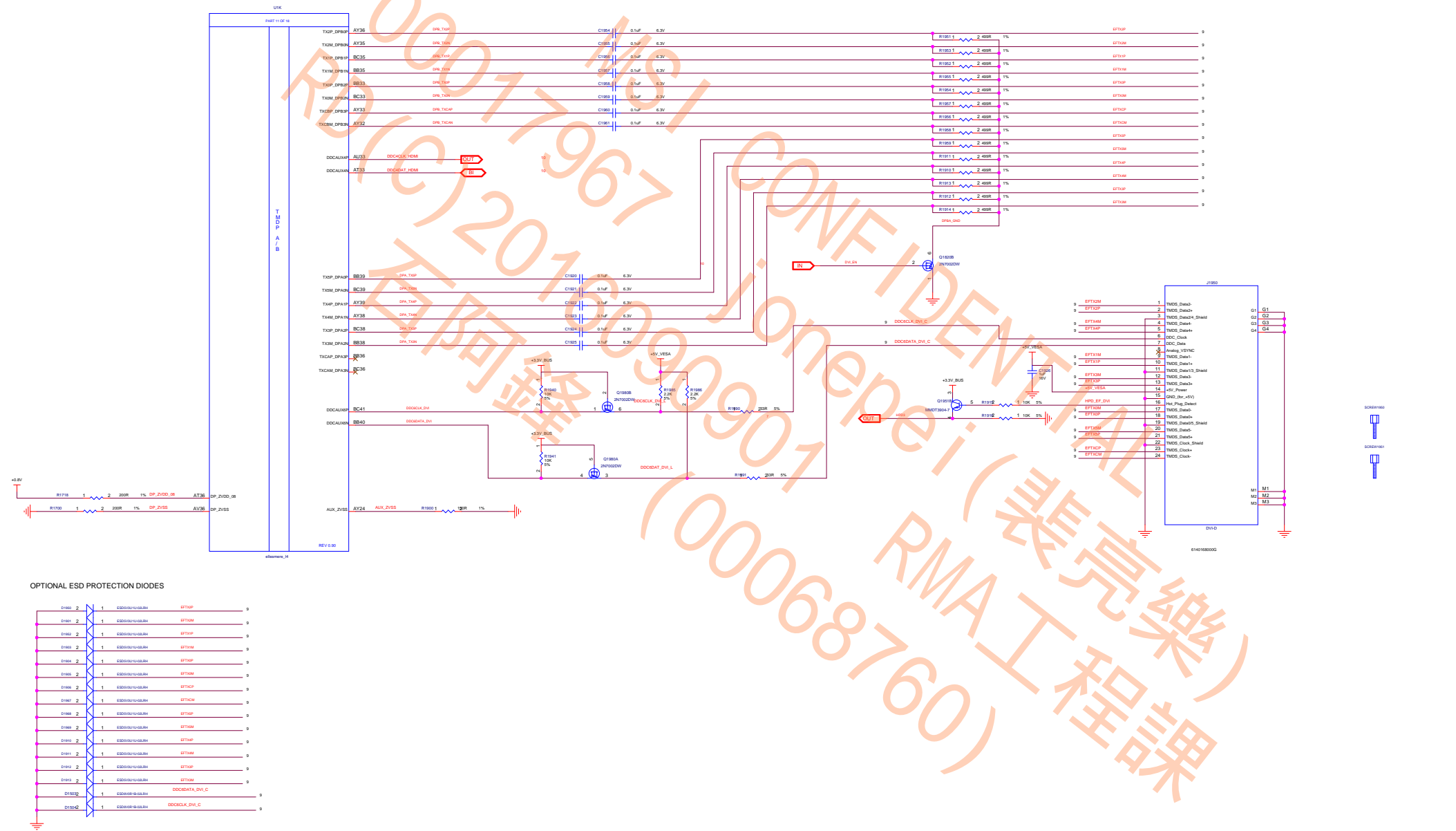


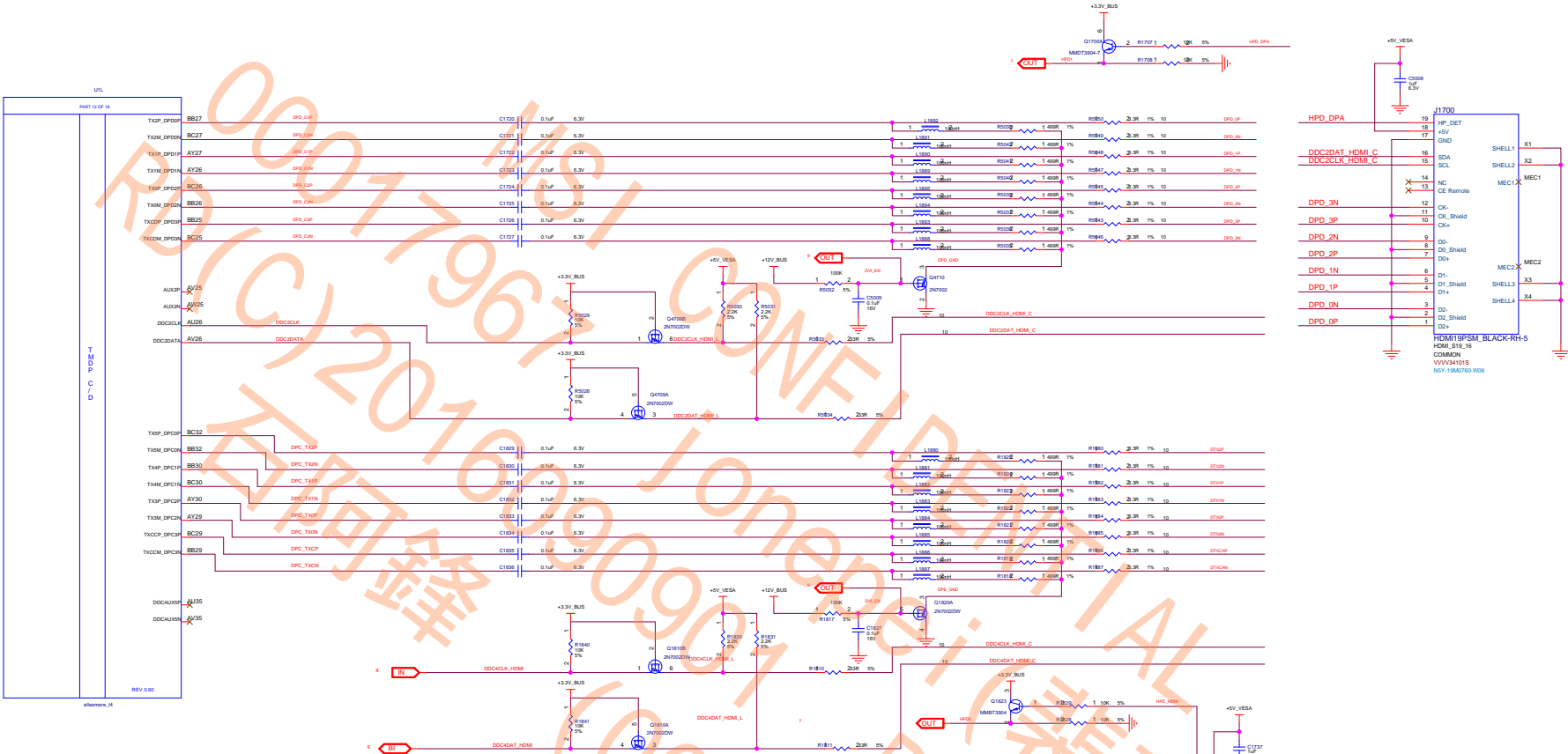
MICRO-STAR INT'L CO.,LTD

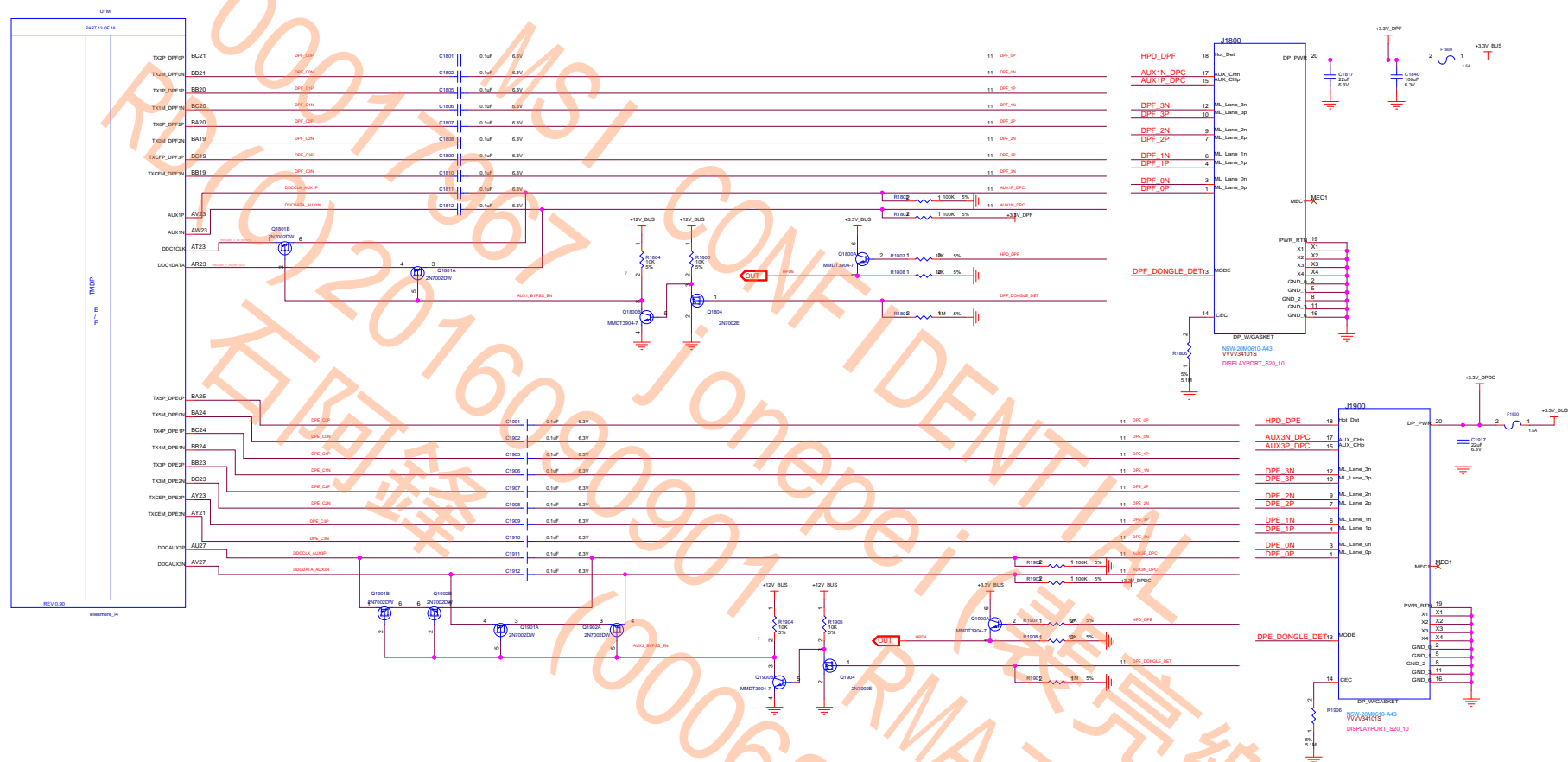
MS-V341

Size Custom	Document Description TABLE OF CONTENTS	Rev 1.0
Date: Monday, June 06, 2016		Sheet 7 of 26

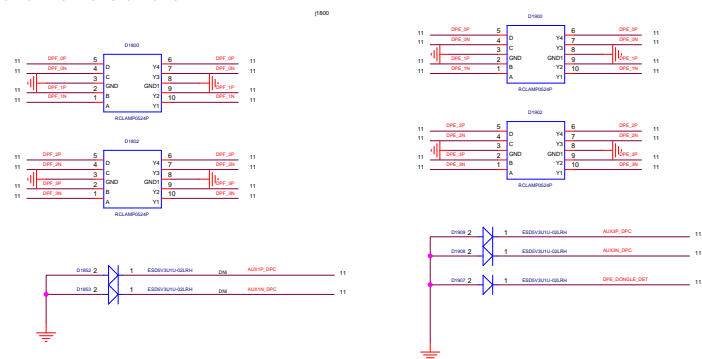
[illegible]



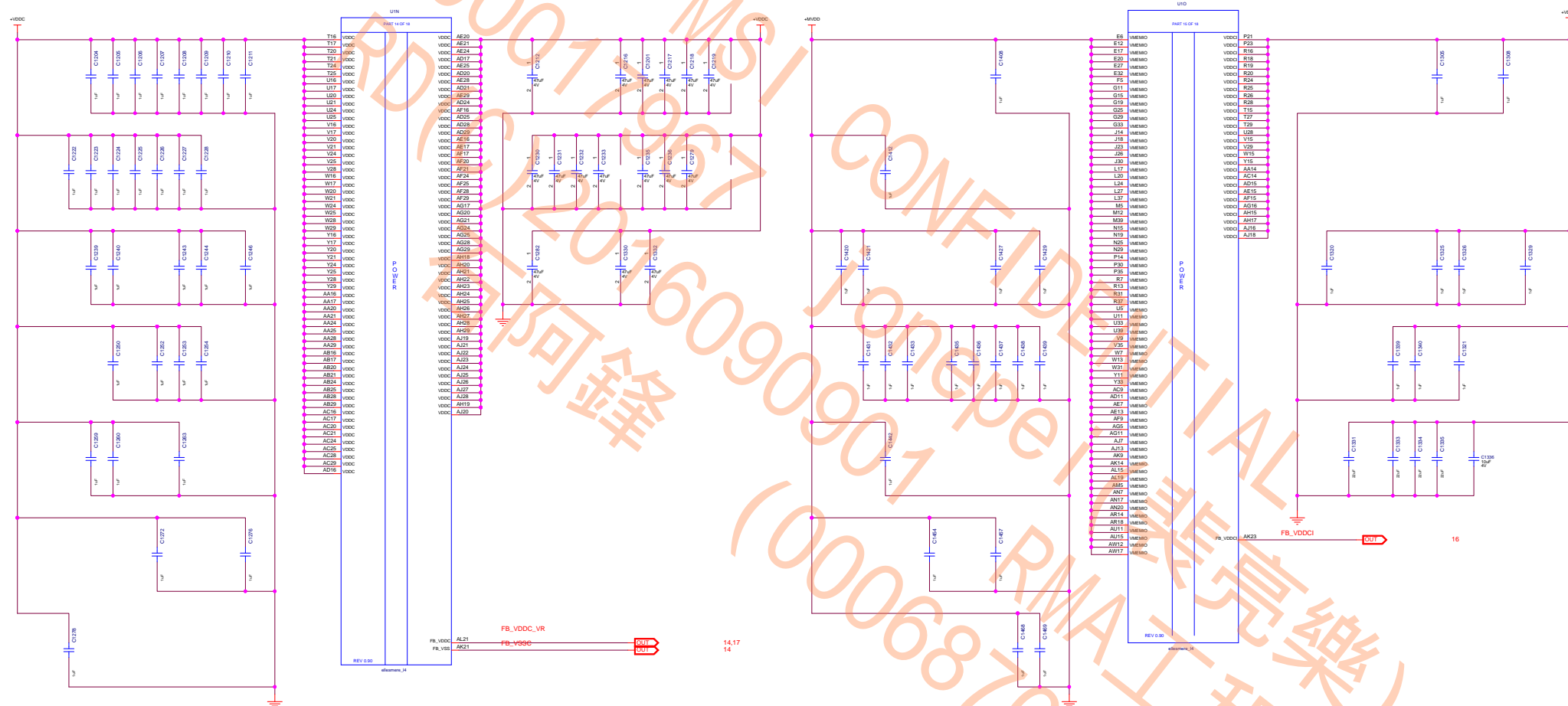


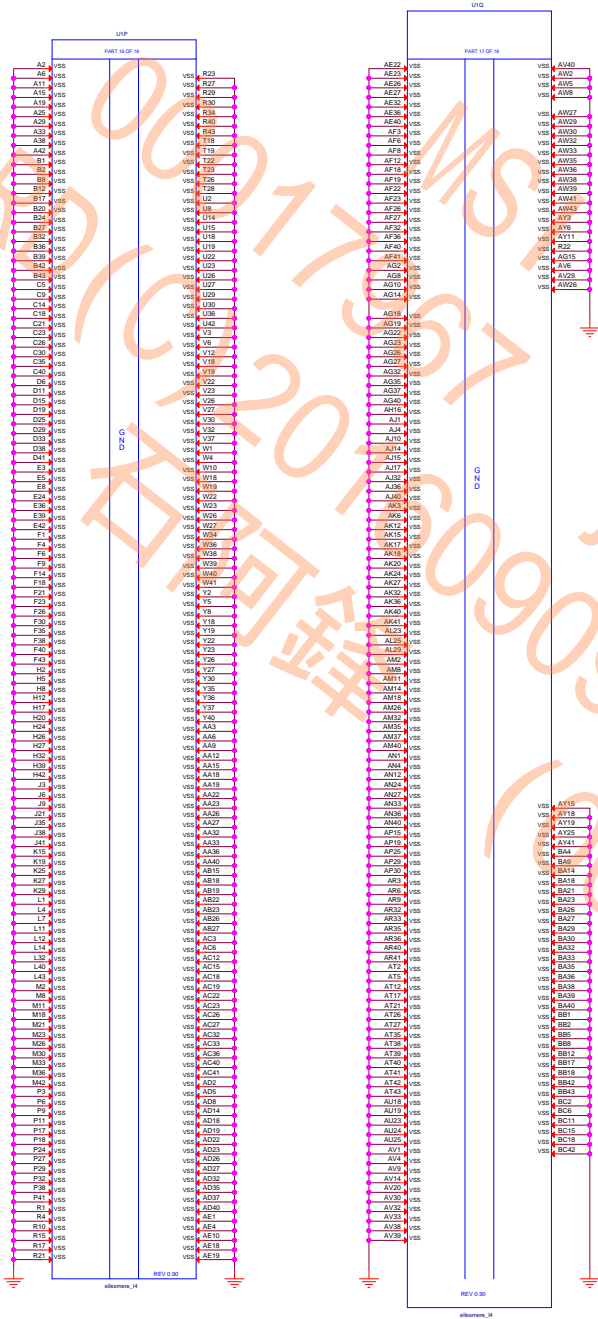


OPTIONAL ESD PROTECTION DIODES

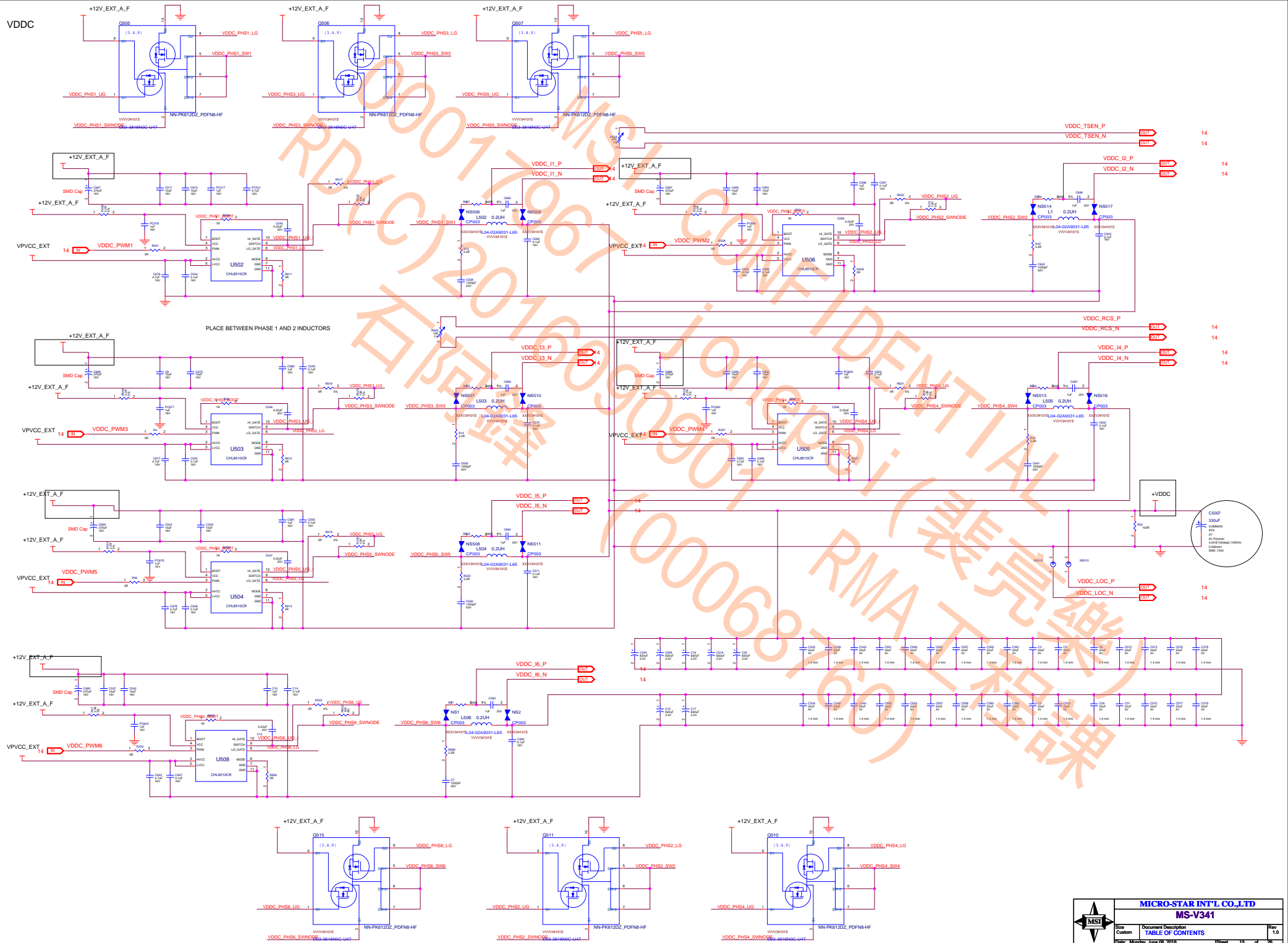


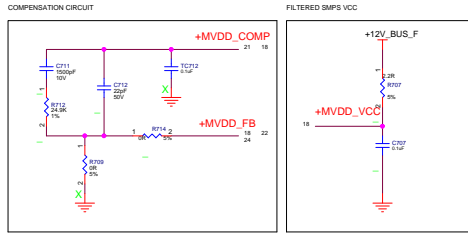
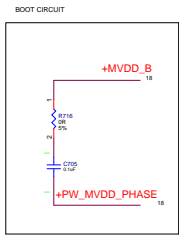
(12) ELLESMERE POWER





VDDC



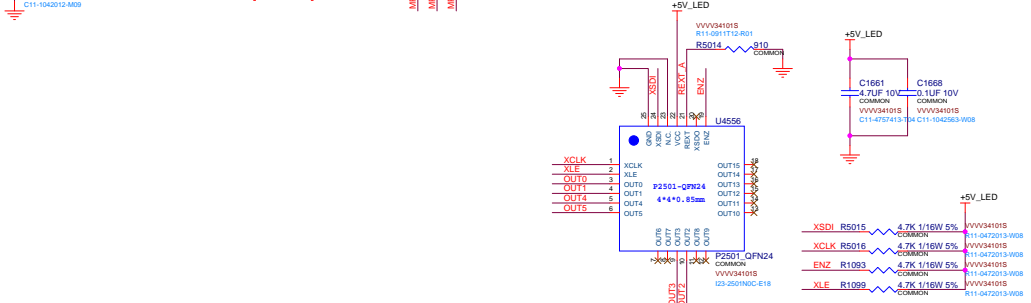
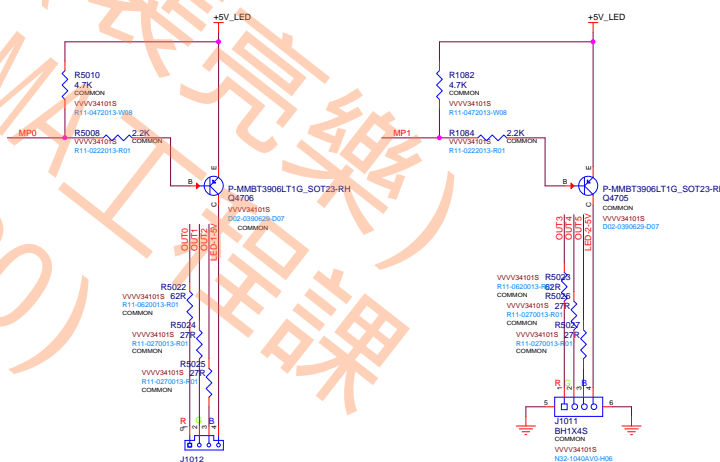
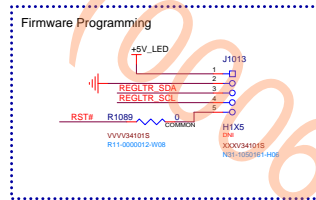
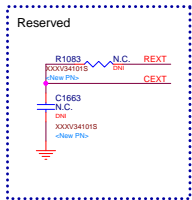
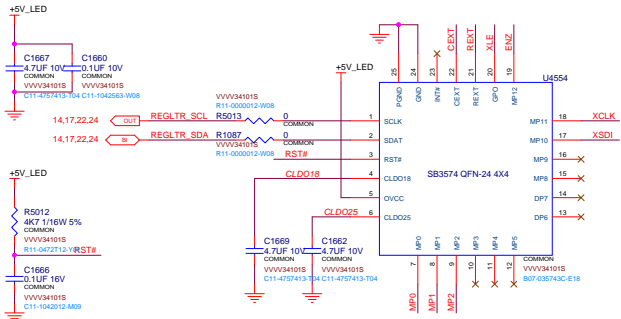
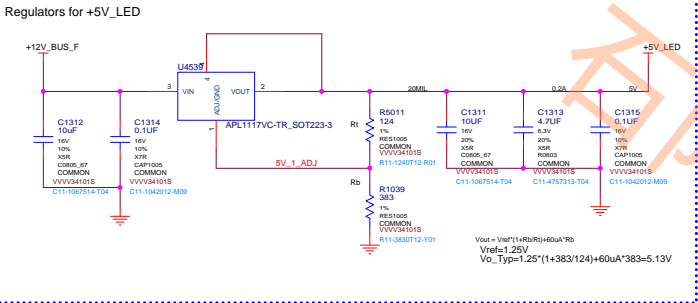
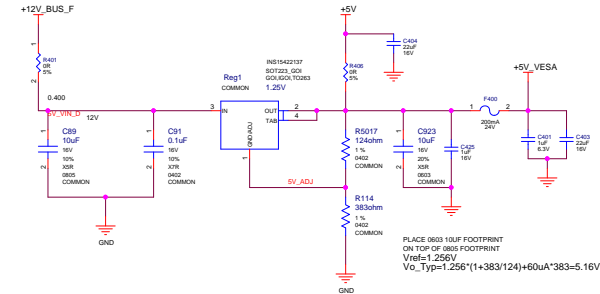
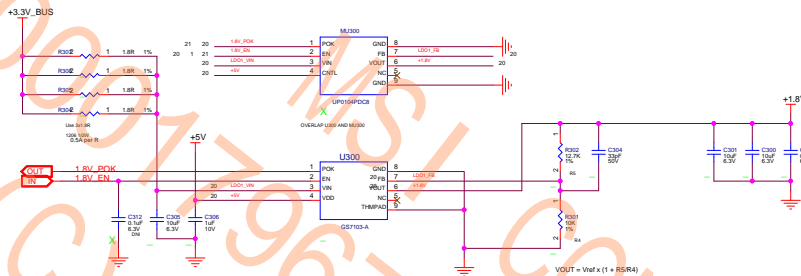




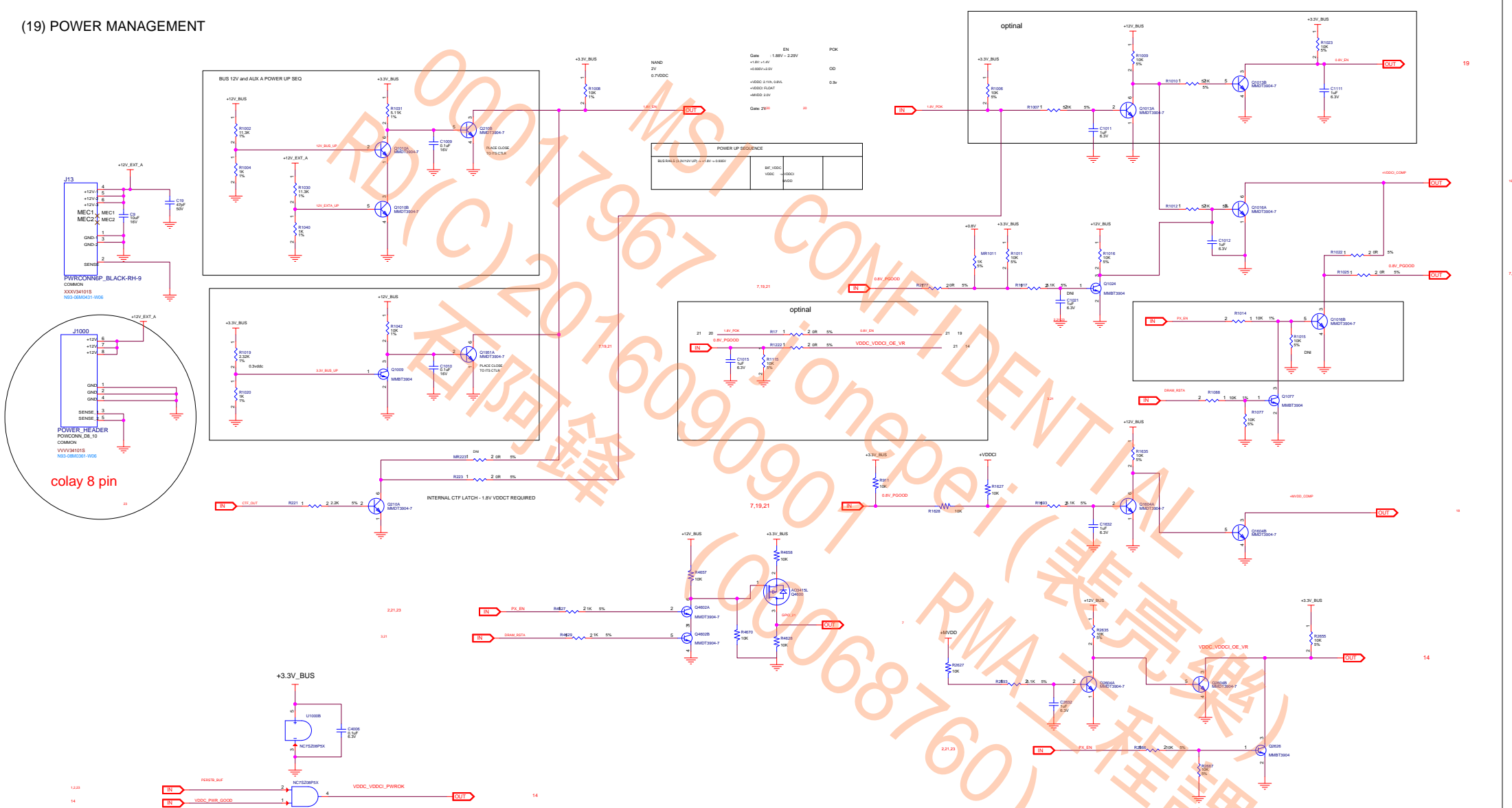
(18) SMALL RAIL REGULATORS , LED_CONTROLLER_ENE3574

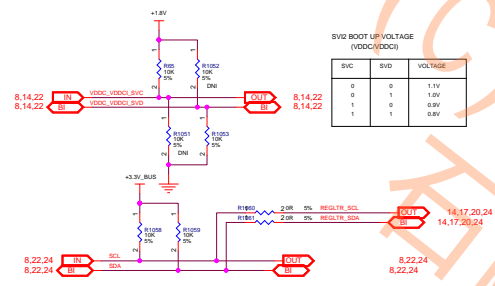
LDO #1: VIN = 3.0V TO 3.6V MAX VOUT = +1.8V +/- 2% IOUT = 1.3A RMS MAX
PCB: 50 TO 70mm SQ. COPPER AREA FOR COOLING

REGULATOR FOR +5V RAILS
IOUT MAX = 150mA



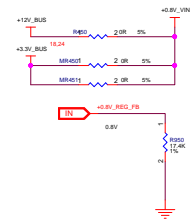
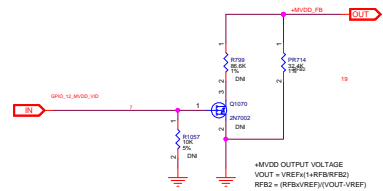
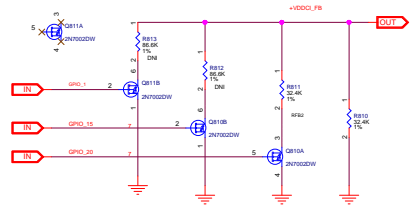
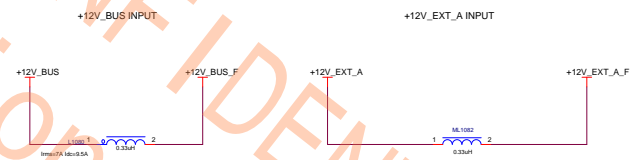
(19) POWER MANAGEMENT

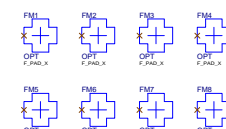
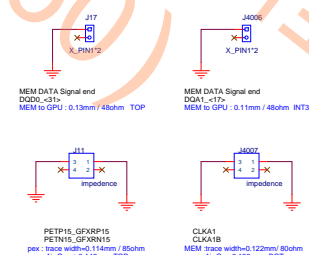
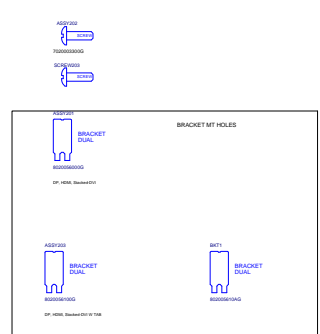
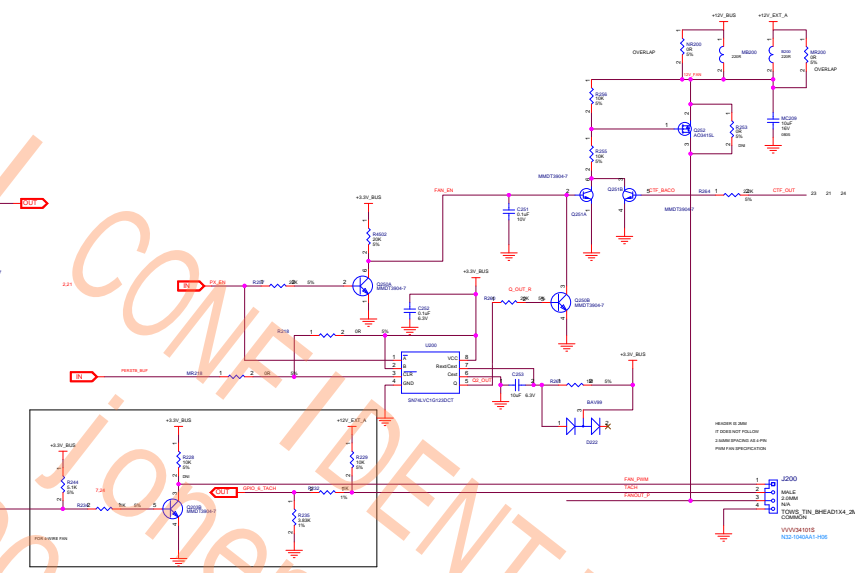




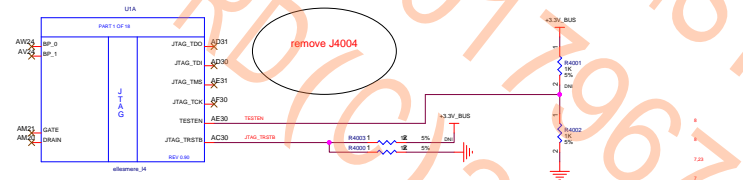
SVW2 BOOT UP VOLTAGE (VDDCI/VDDCI)

SVW2	SVW1	VOLTAGE
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V

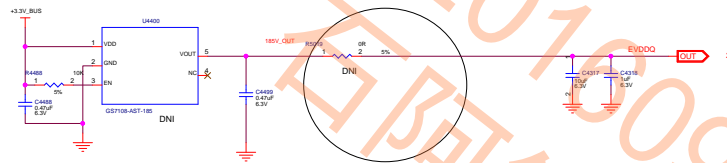




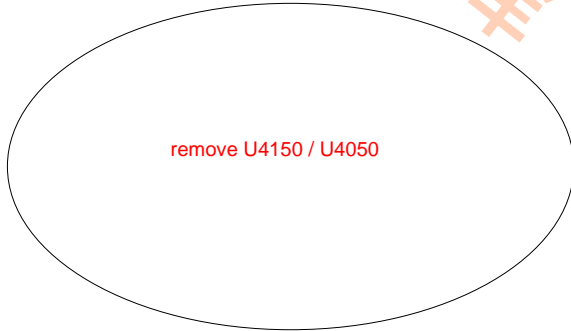
JTAG



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



DIGITAL POTS



DIGITAL POTS

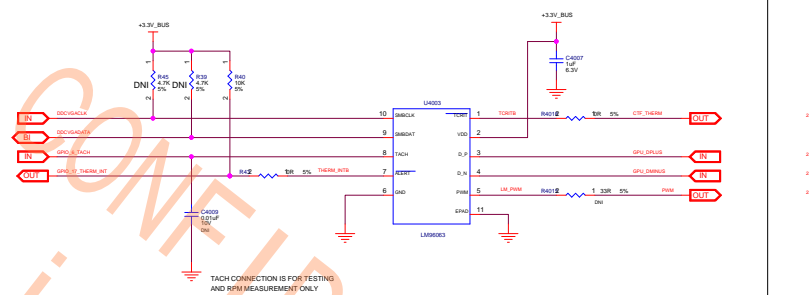
remove J4001/J4002

SWITCHES

remove SW

BYPASS/DISABLE CTF
MAXIMIZE FAN

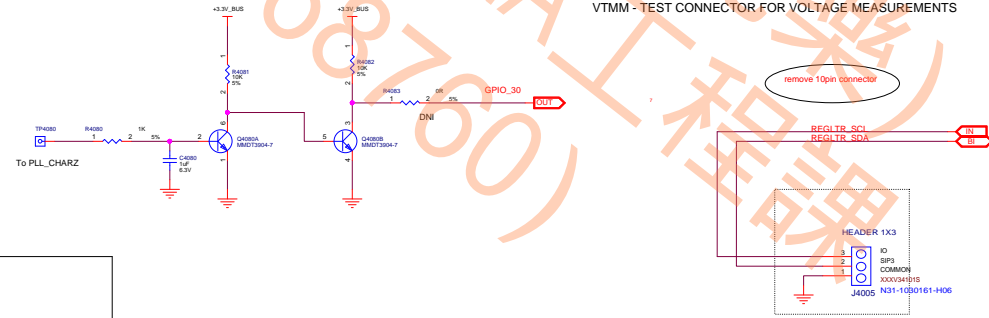
LM96163 FOR BACKUP THERMAL CONTROL



LED LIGHTS



VTMM - TEST CONNECTOR FOR VOLTAGE MEASUREMENTS



0	00A	00000000	
1	00B	00000000	1. Add EPD01 for dynamic OSD01 2. Update OSD01 driver signature
2	00C	00000000	HDSD: - add series resistor R11880 ~R11887 - add pull-down inductor L11880 ~L11887 Remove C402, C403, VR402, C412, C414, R405

- Page7: remove J2,J3
- Page9: enable DVI
- Page10: DP change to HDMI
- Page15: change dual-N MOS
- Page16: change dual-N MOS
- Page18: change dual-N MOS
- Page20: Add LED circuit
- Page21: colay 8pin power connector
- Page24: remove debug circuit