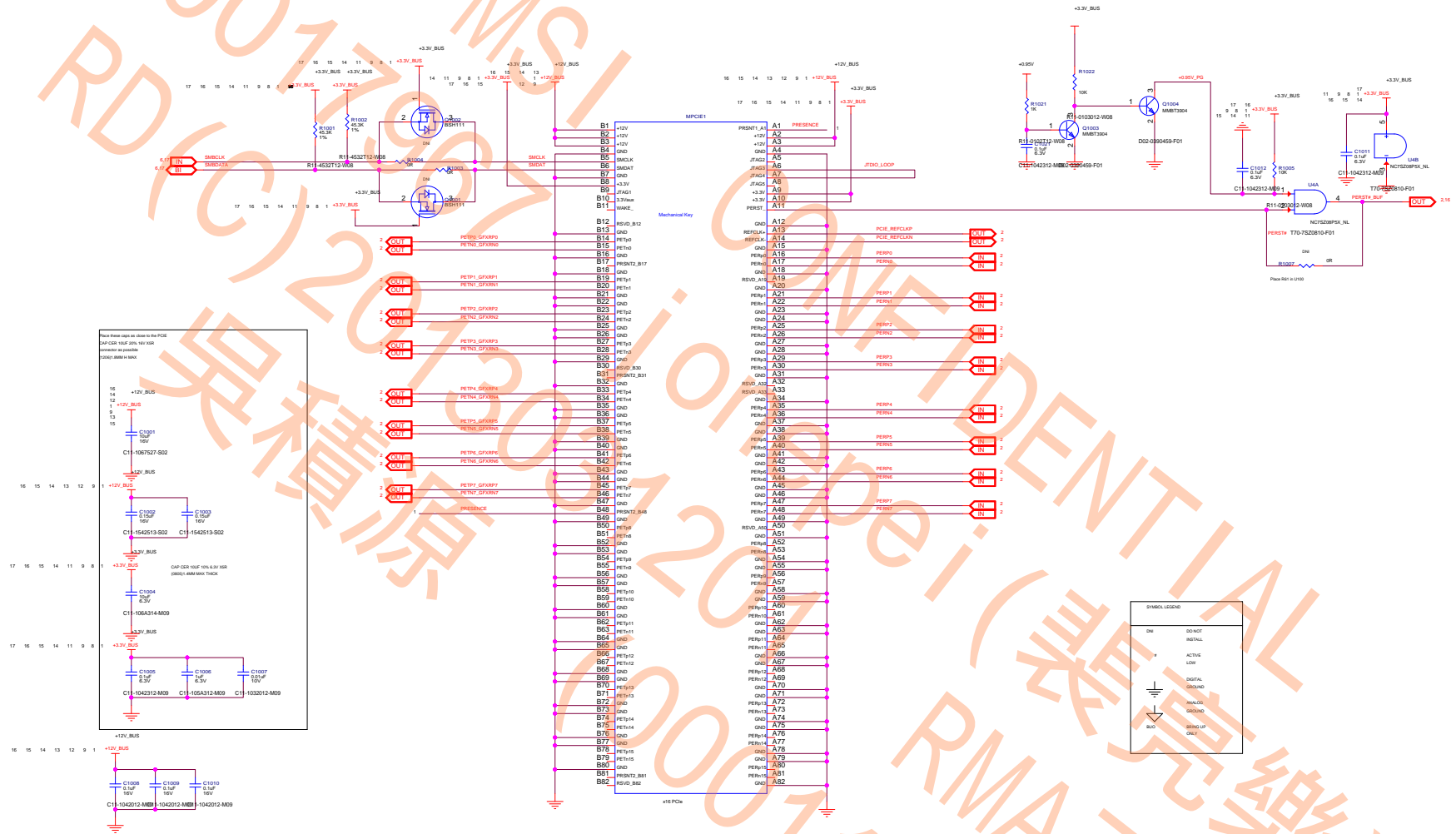
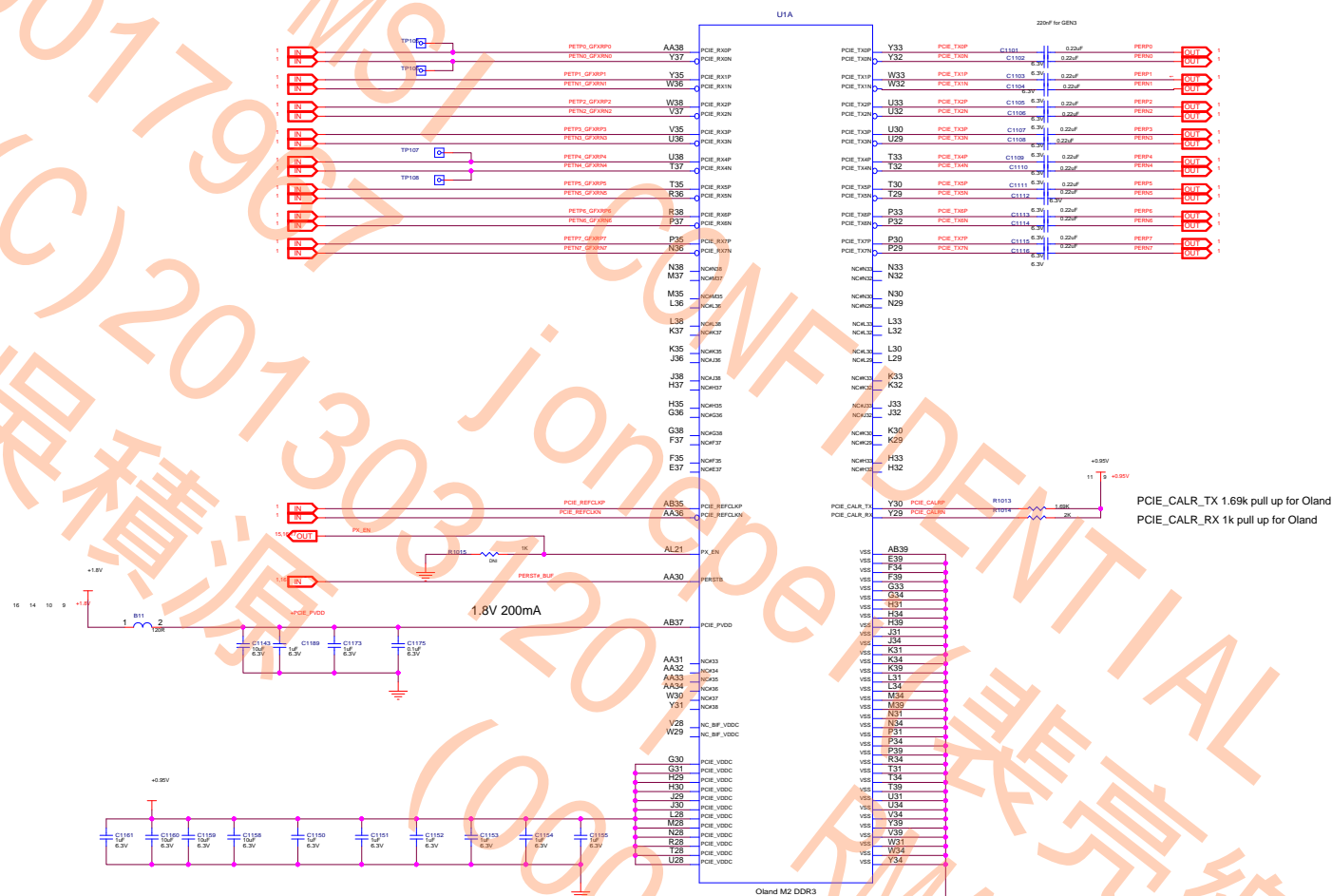


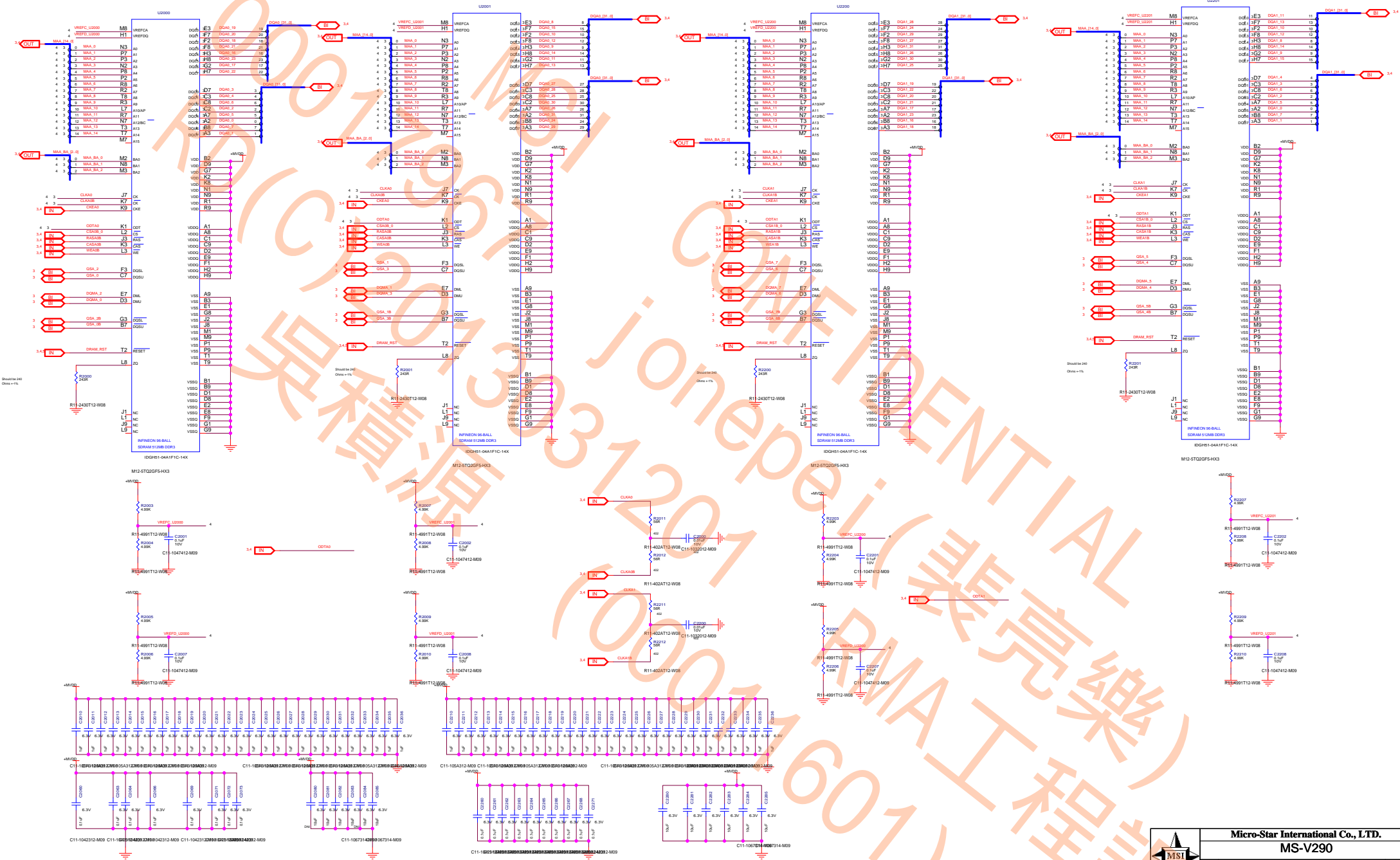
PCI-EXPRESS EDGE CONNECTOR

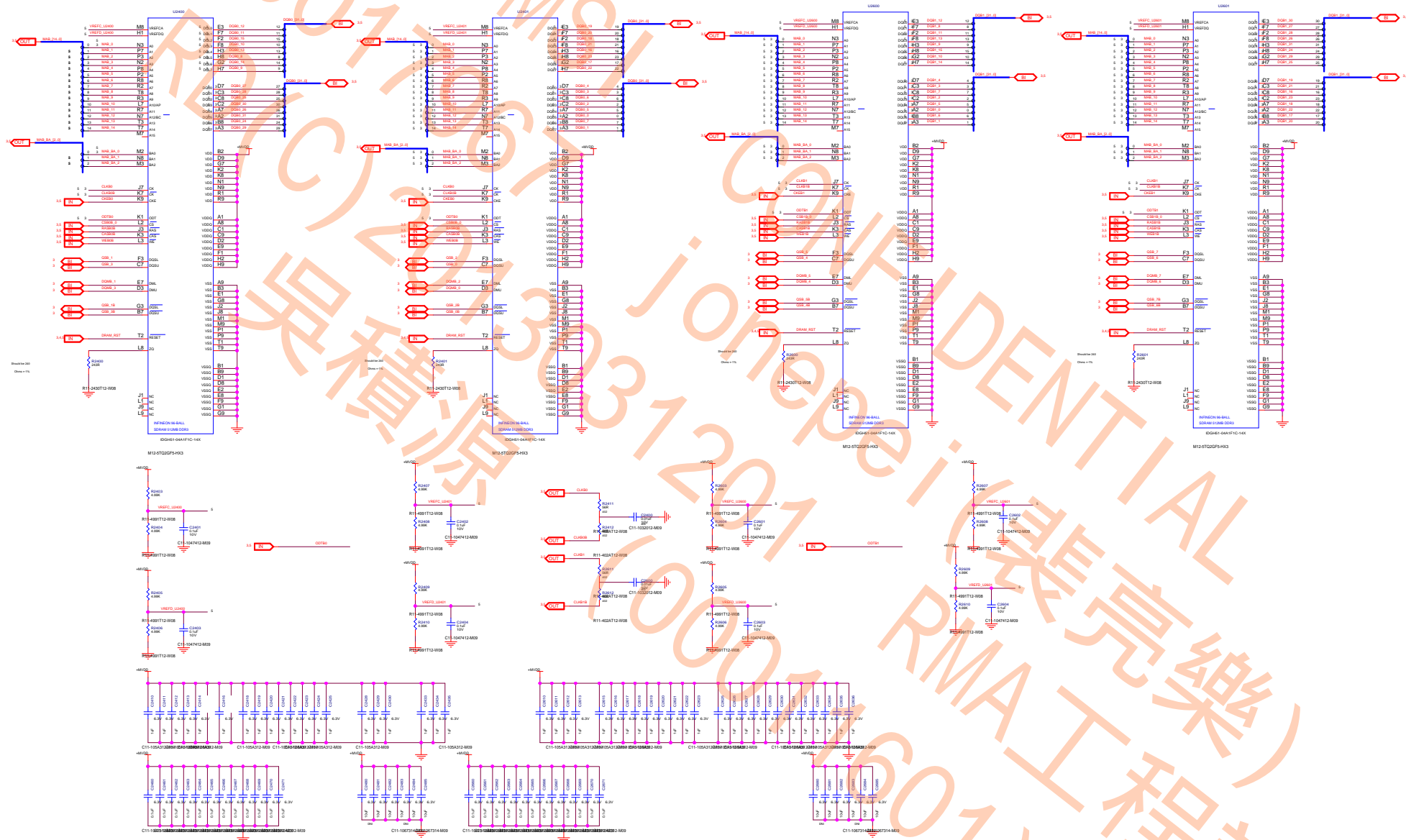


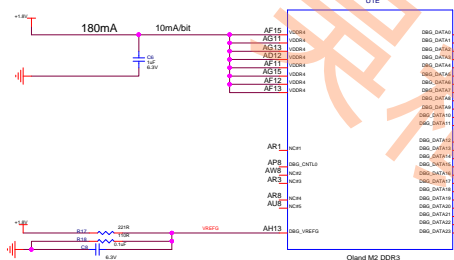
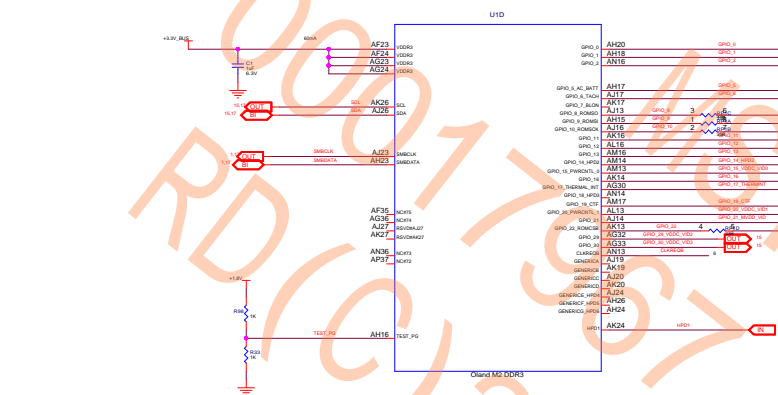
NOTE: Some of the PCIe testpoints will be available through vias on traces.



(4) DDR3 Memory Channel A

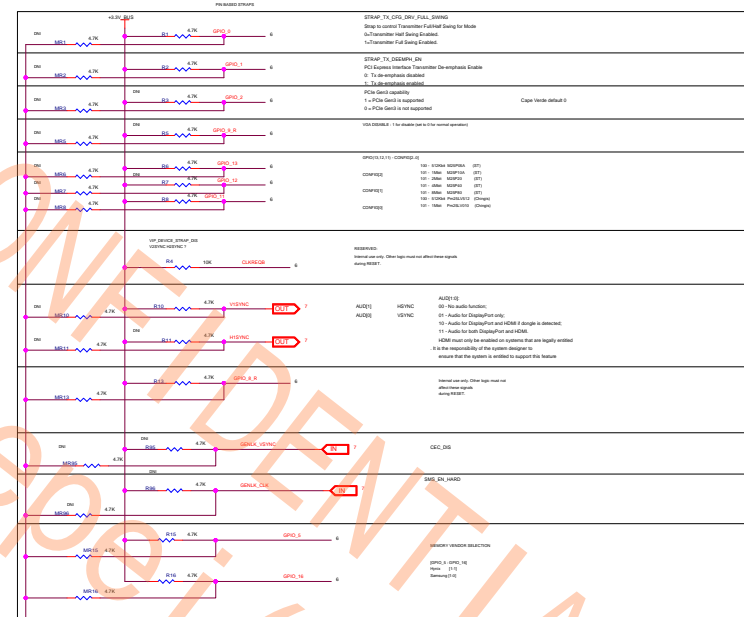
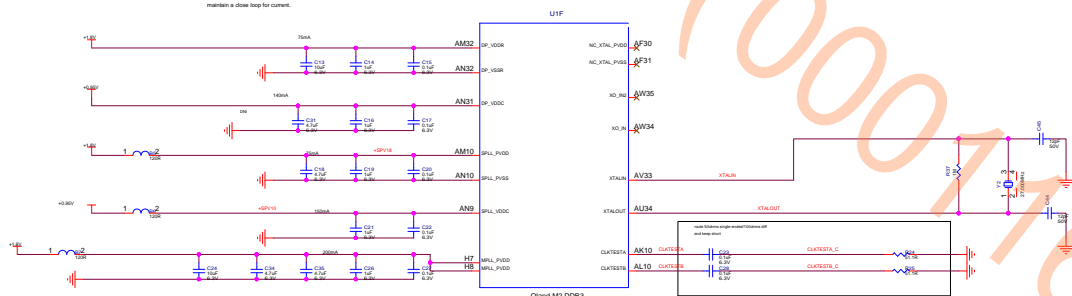






Please place the capacitors
helps near the ASIC and
near the connector

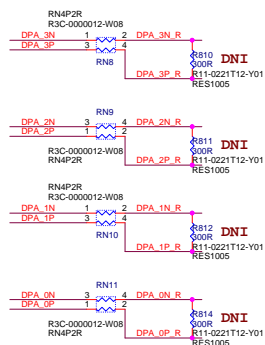
Please pay attention to the grounding
strategies for these filter capacitors to
maintain a close loop for current.

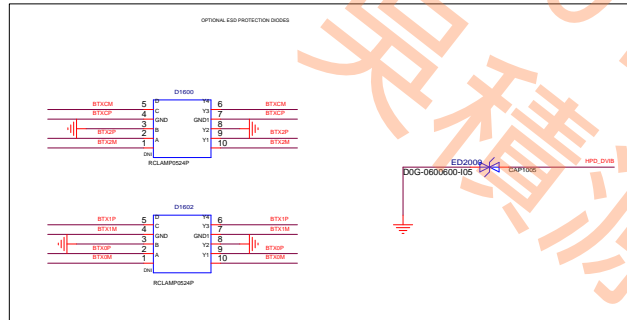
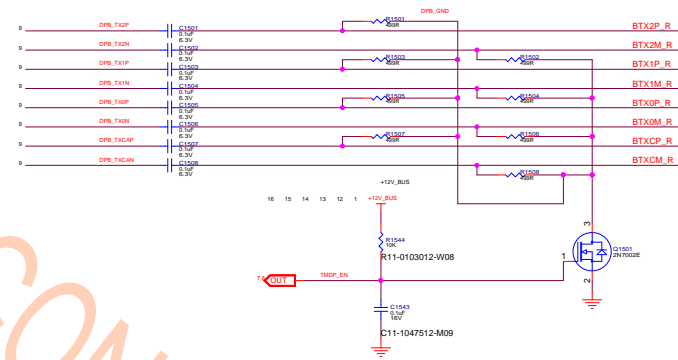
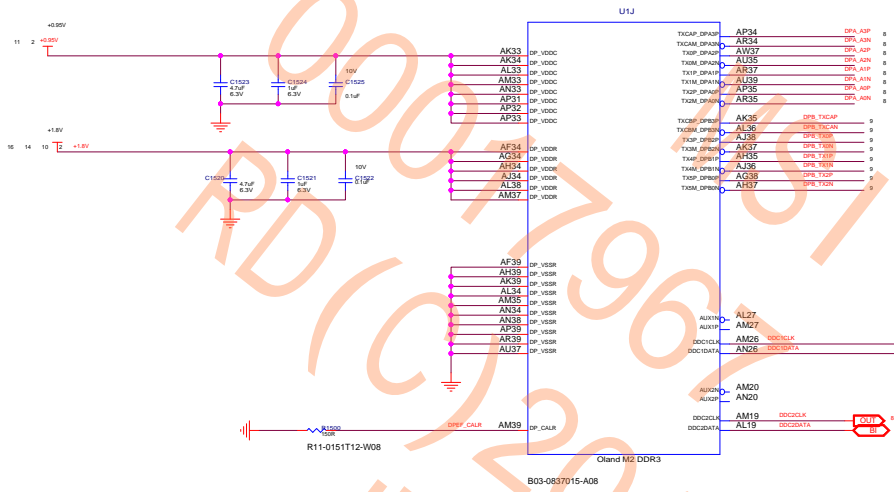


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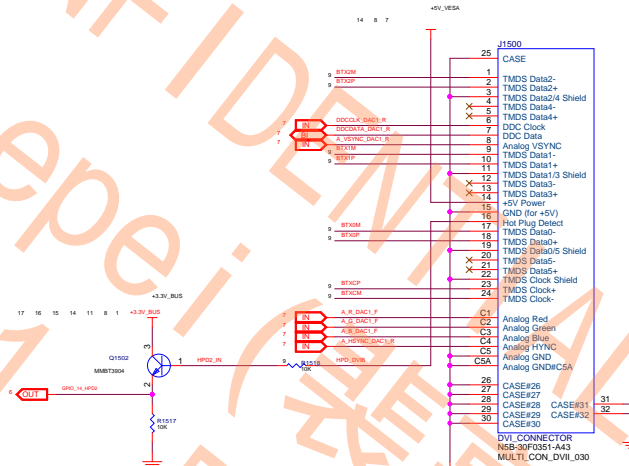
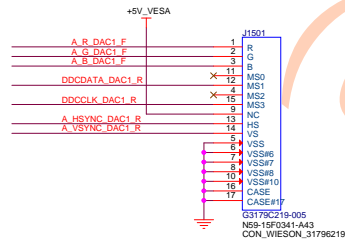
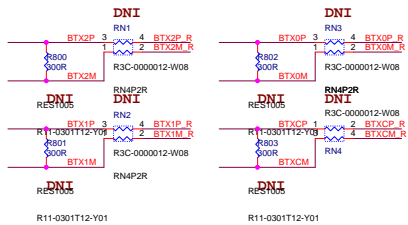
MS-V290

Size: Custom
Document Number: 06_Oland GPIO STRAP PLL
Date: Wednesday, November 28, 2012 15:00
Rev: 20
Page: 6 of 20

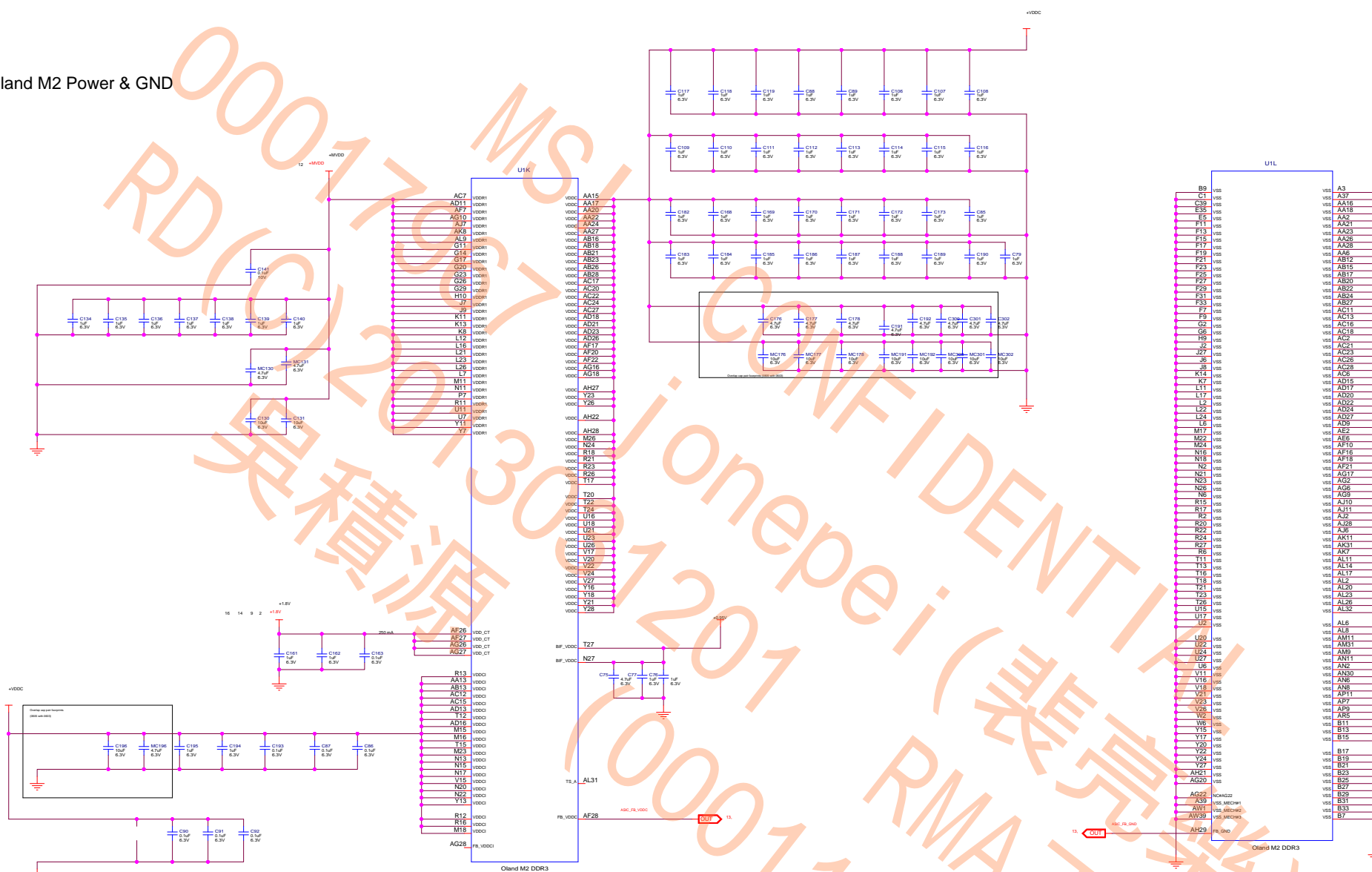


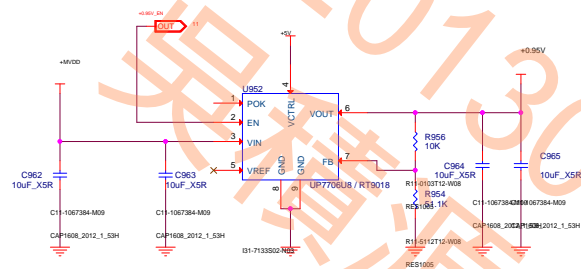


Reserve EMI solution common choke



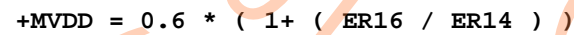
Oland M2 Power & GND





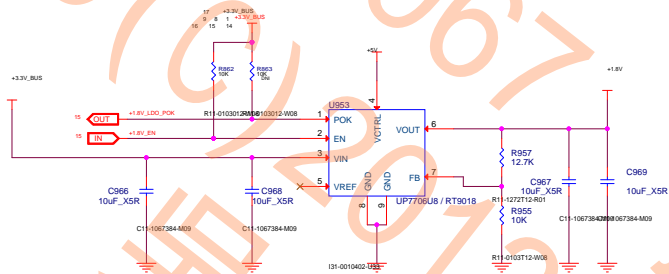
$$V_{out}=0.8V * (1 + R956 / R954)$$

Micro-Star International Co., LTD.			
MS-V290			
Size	Document Number	Rev	
Custom	11_0.95V	20	
Date:	Wednesday, November 28, 2012	11 of	20



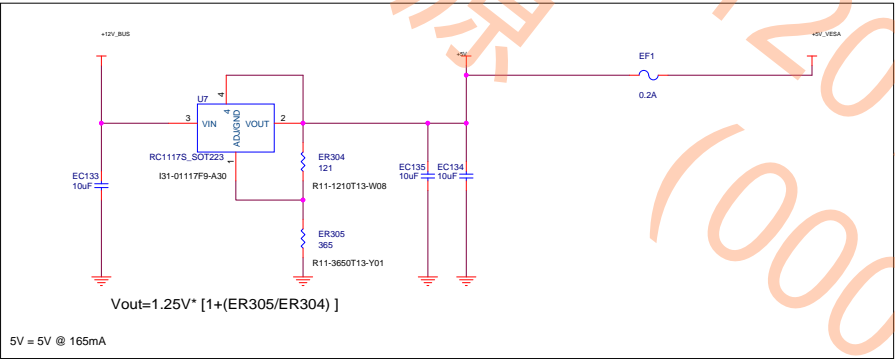
Load R1:	Vin = 3.00V to 3.60V (3.3V +/- 5%)	Vout = +1.8V +/- 2%	Iout = 1.6A (TRV) RMS MAX
PCB: 50 to 70mm sq. copper area for cooling			

Regulators for +5V, +5V_VESA and +5V_VESA2



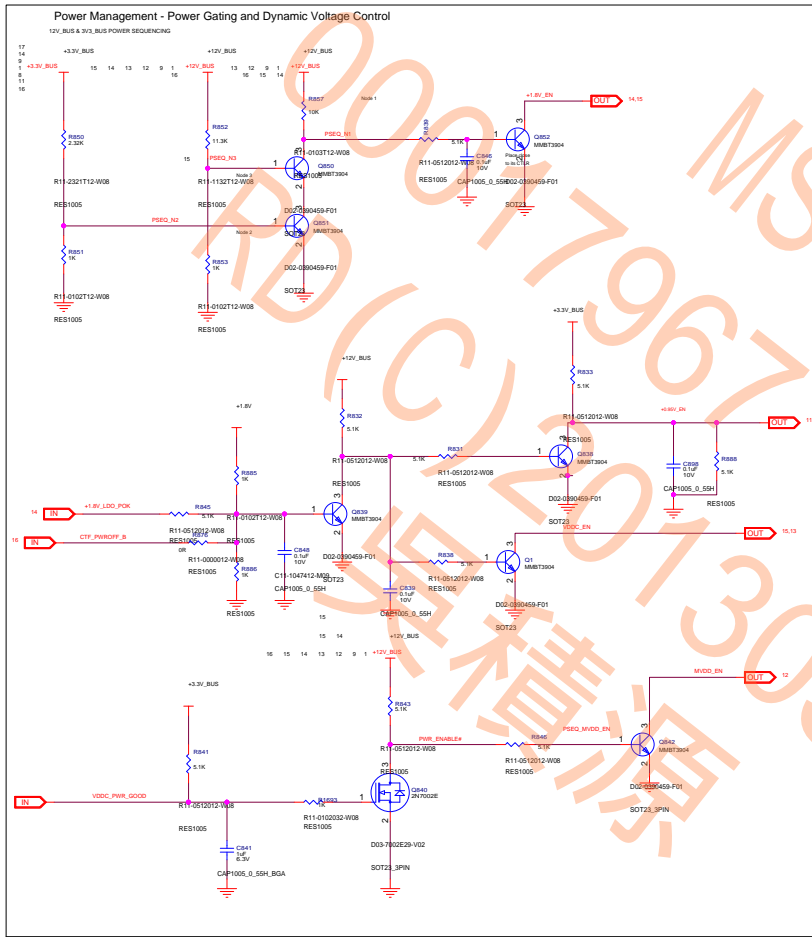
1.8V WORST-CASE REQUIREMENT	
Display (TRV)	Ed. Content
100000000	1000000

$V_{out}=0.8V * (1+ R957 / R955)$

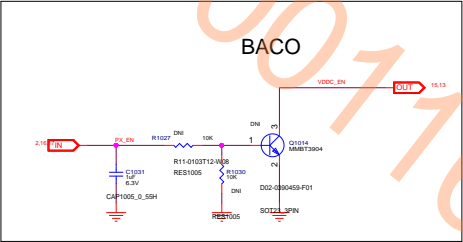
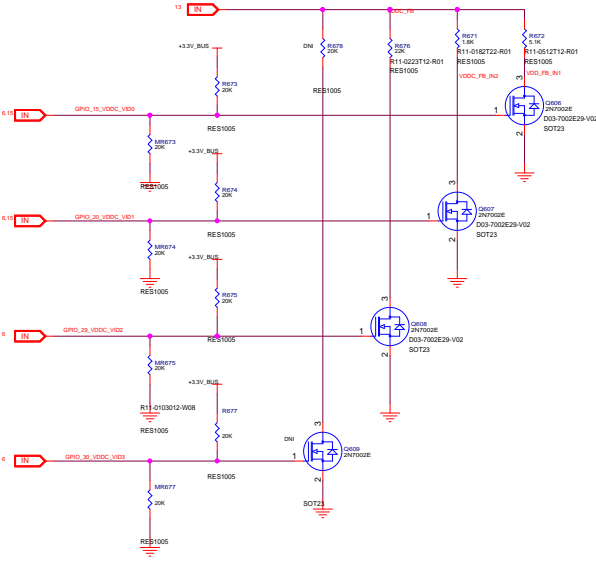


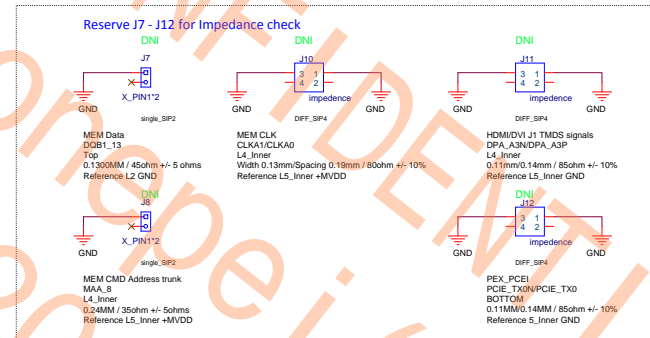
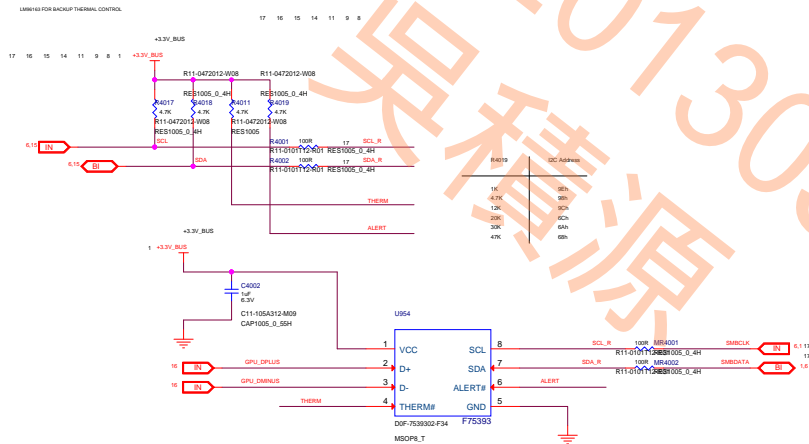
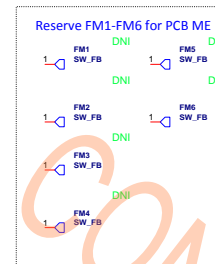
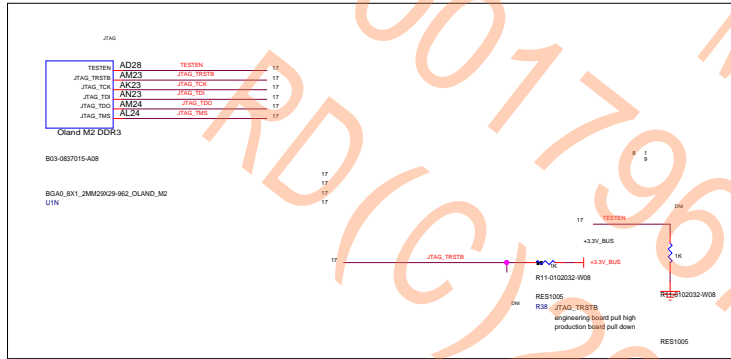
$V_{out}=1.25V * [1+(ER305/ER304)]$

5V = 5V @ 165mA



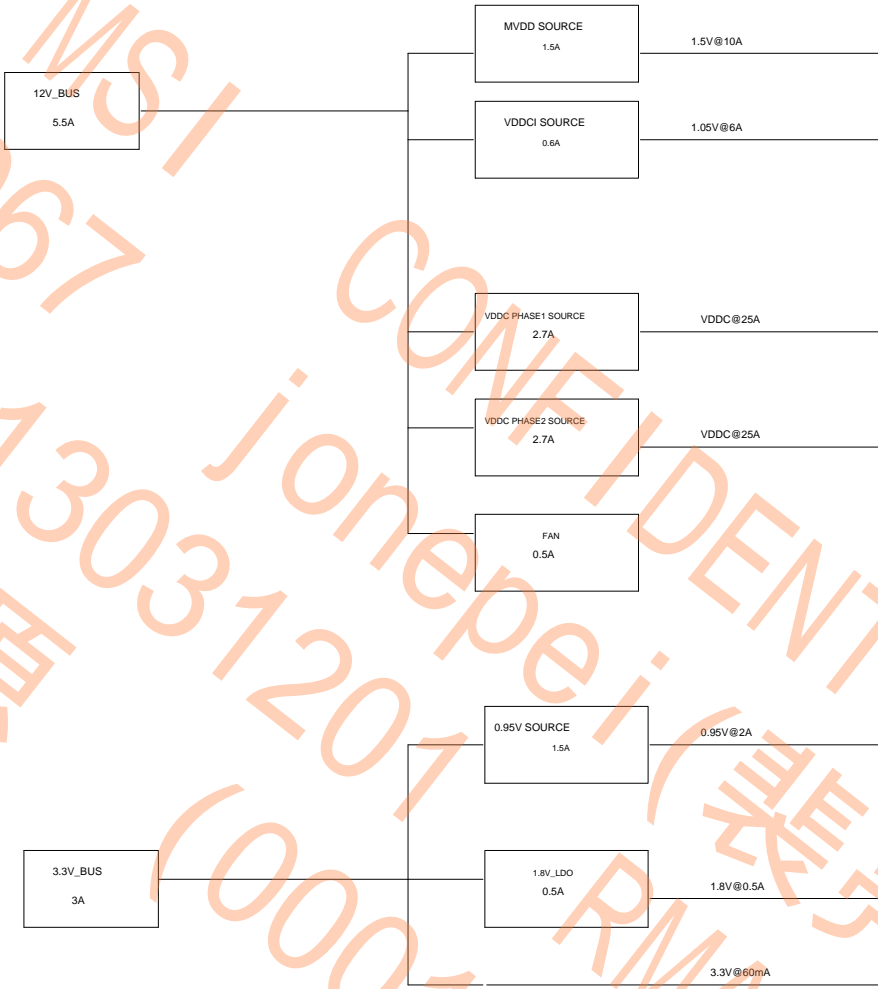
VDDC Low Side Divider





DW1	HPD2	DDCAUX1
HPD0P	HPD1	DDCAUX2

GPIO15	VDDC_VDD	
GPIO20	VDDC_VD1	
GPIO29	VDDC_VD2	
GPIO30	VDDC_VD3	
GPIO31	MVDD_VD	



MS-V290 VER 20

OLAND Pro,128MB, BGA 128MX16 DDRIII*8Pcs,PCIE,DVI-I,D-SUB(Fly Cable),HDMI

			TITLE	SCHEMATIC NO.	DATE
			OLAND Pro DDR3 D38 SL DVI-I+HDMI+VGA	105-C522KX-00	
			REVISION HISTORY	NOTE:	REV
				THE SCHEMATIC REPRESENTS THE PCB. IT DOES NOT REPRESENT ANY LOGICAL CIRCUIT. FOR PROPOSED OPTIONS, COMPONENT VALUES, OR PLEASE CONSULT THE PRODUCT SPECIFICATION. PLEASE CONTACT AND REPRESENTATIVE TO OBTAIN THE LATEST INFORMATION TO THE OPERATIONAL PRODUCT.	P01
SCH REV	PCB REV	DATE	REVISION DESCRIPTION		
01	001	2012/01/01	Initial Oland XT schematic based on C522KX-00		
02	002	2012/01/01	Add Oland XT to BGA128MX16 DDR3 1.5V to 1.8V and to DVI change from 480 to 480/1		
03	003	2012/01/01	Modify VDDC regulator to use v10_VDDC		
04	004	2012/01/01	MSI Mainly VDDC/MDDC+1.8V/1.8V/1.8V / 1.8V connector		