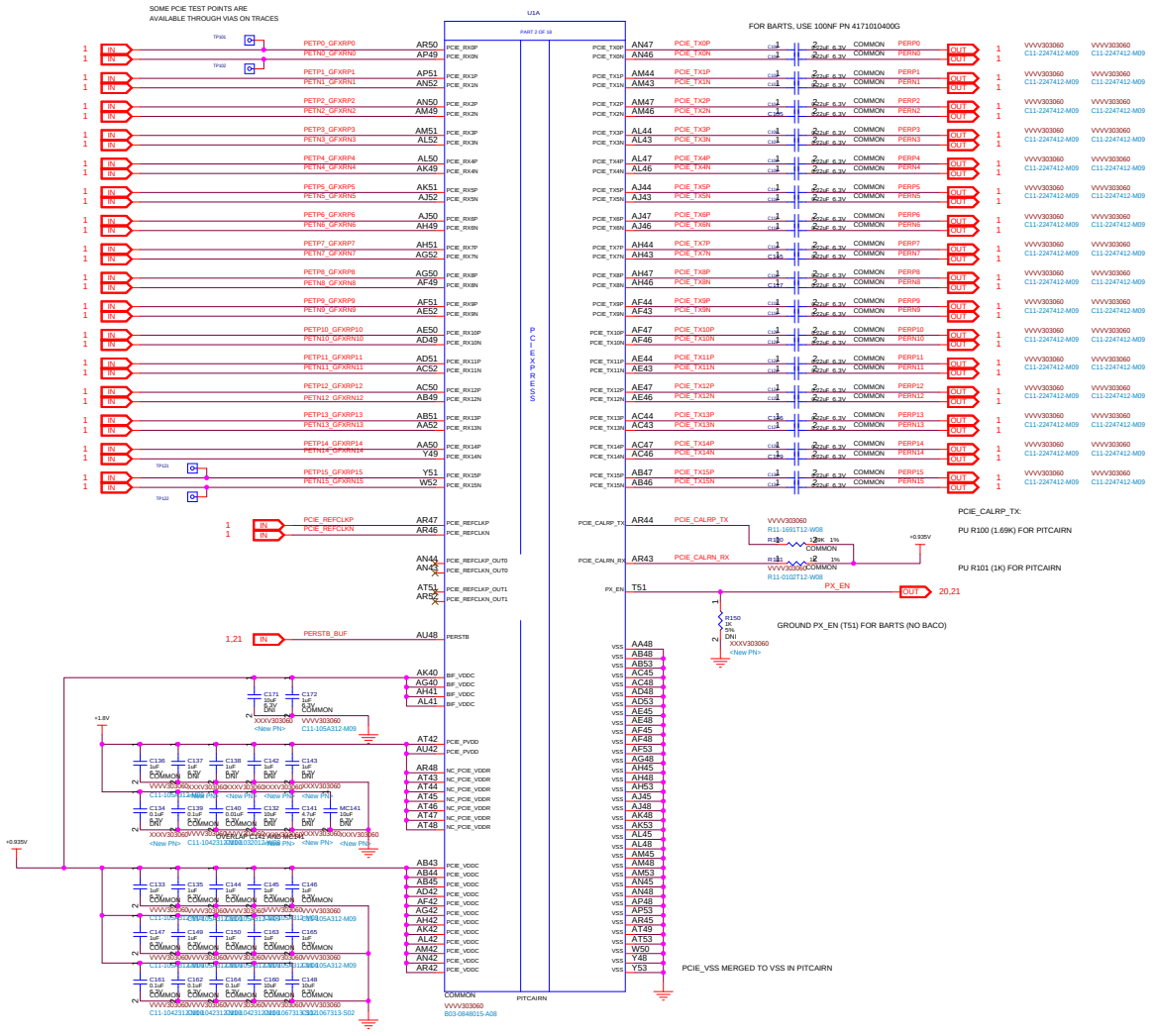
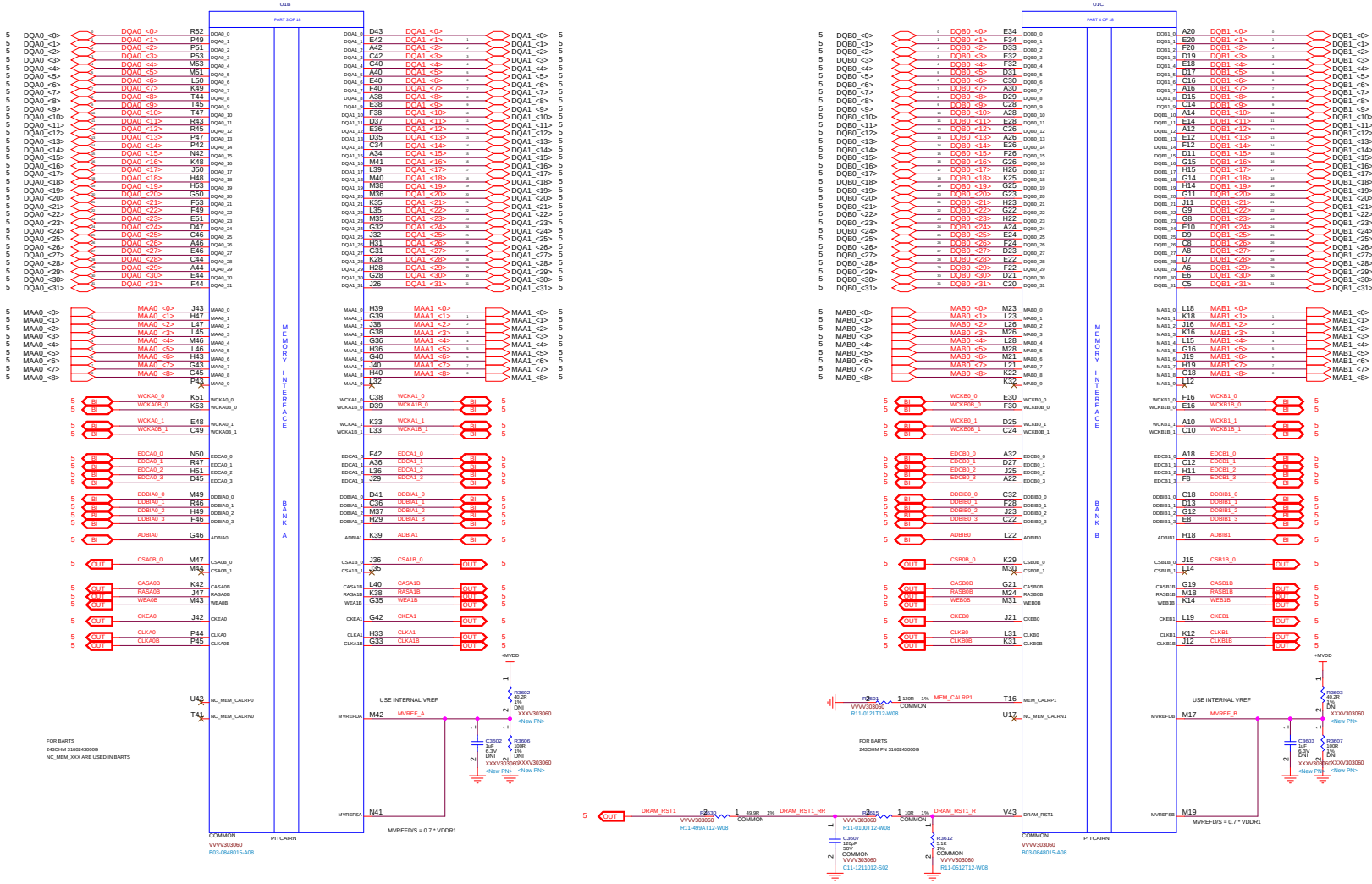
(2) CURACAO PCIE INTERFACE



(3) CURACAO MEM INTERFACE CH AB

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|---|---|---|
| Custom | 03 CURACAO PITCAIRN MEM CH AB | 2.0 |

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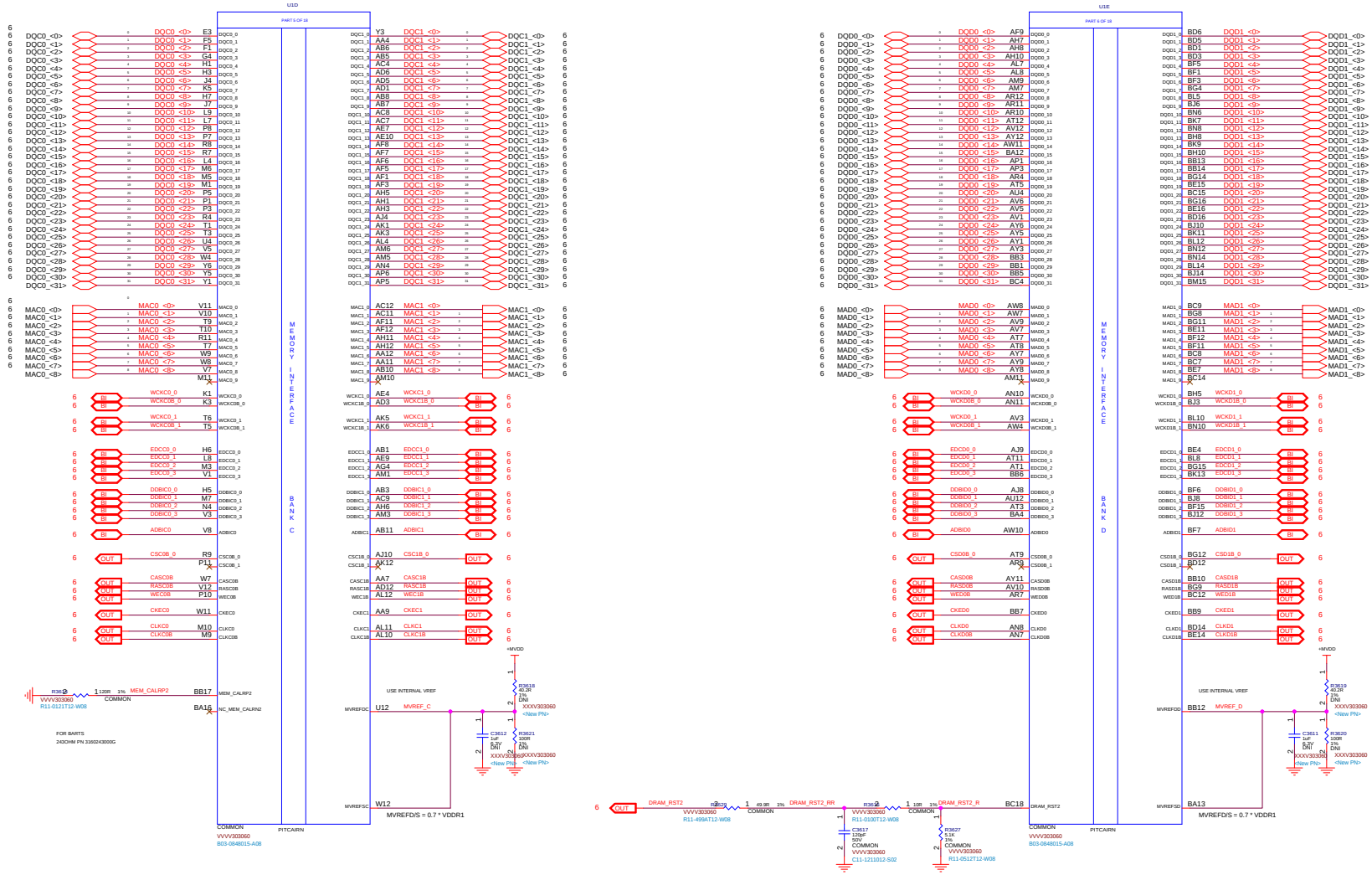
(4) CURACAO MEM INTERFACE CH CD

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| MS-V303 | | |
| Size: Custom | Document Description: 04 CURACAO PITCAIRN MEM CH CD | Rev: 2.0 |
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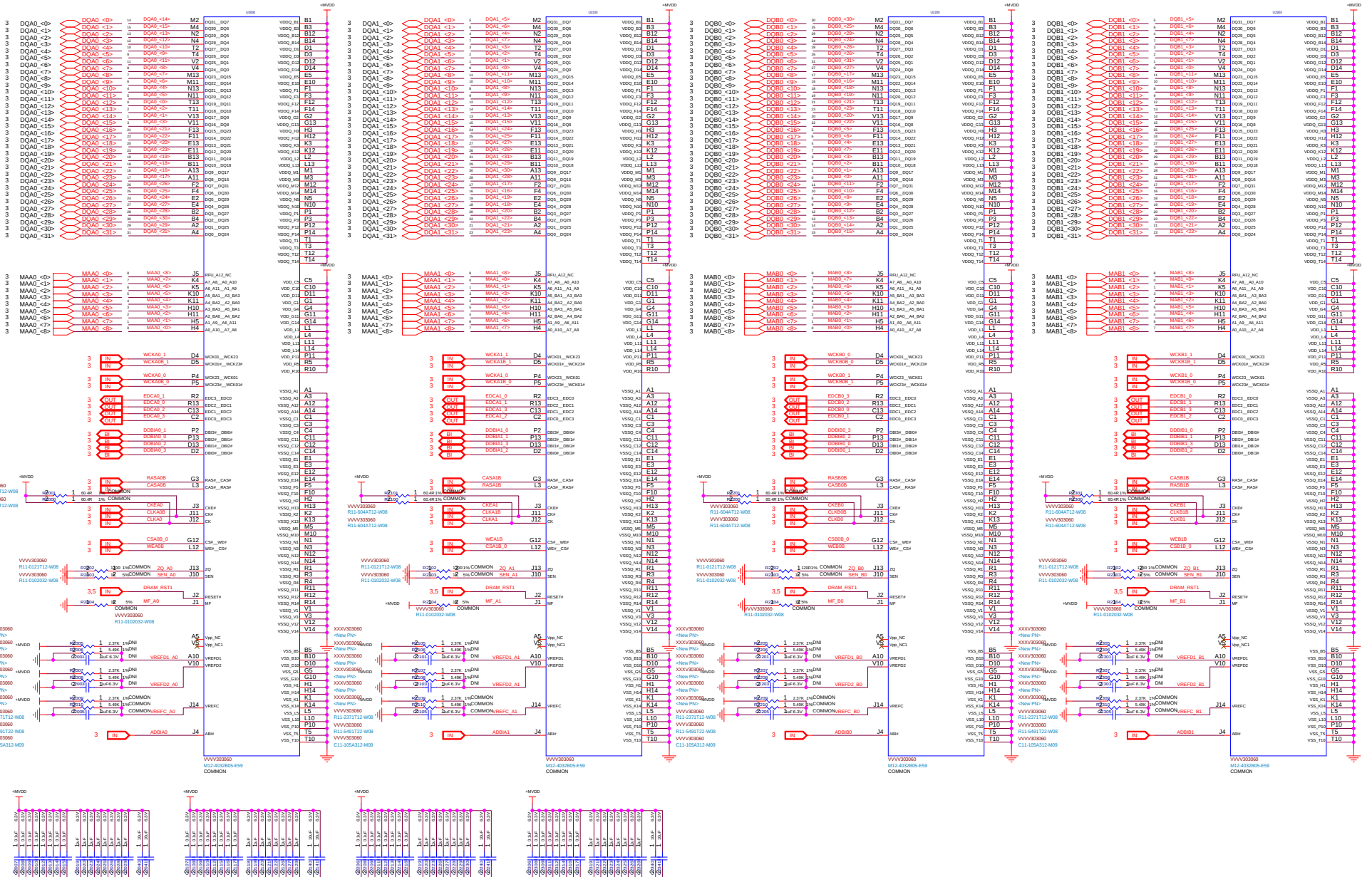
(5) GDDR5 MEM CH AB



DRAM SCAN PINS
SSH [J2] - SCAN SHIFT
SCK [G12] - SCAN CLOCK
SOUT [C2] - SCAN OUTPUT
SEN [J10] - SCAN ENABLE
SOE# [J1] - SCAN OUTPUT ENABLE

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|---|---|---|
| Custom | 05 GDDR5 MEM CH AB | 2.0 |

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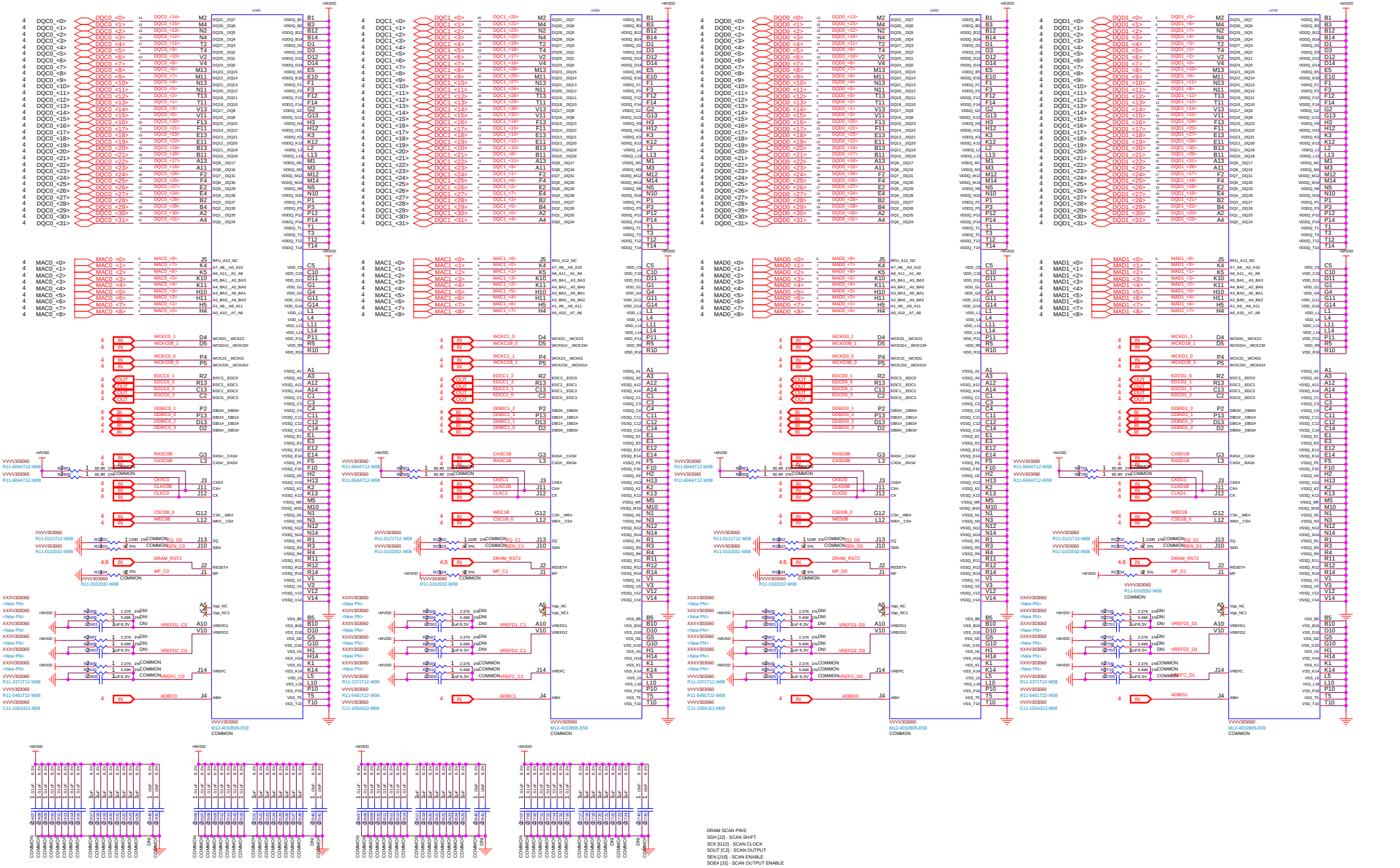
(6) GDDR5 MEM CH CD



DRAM SCAN PINS
SSH [J2] - SCAN SHIFT
SCK [G12] - SCAN CLOCK
SOUT [C2] - SCAN OUTPUT
SEN [J10] - SCAN ENABLE
SOEB [J1] - SCAN OUTPUT ENABLE

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|---|---|---|
| Custom | 06 GDDR5 MEM CH CD | 2.0 |

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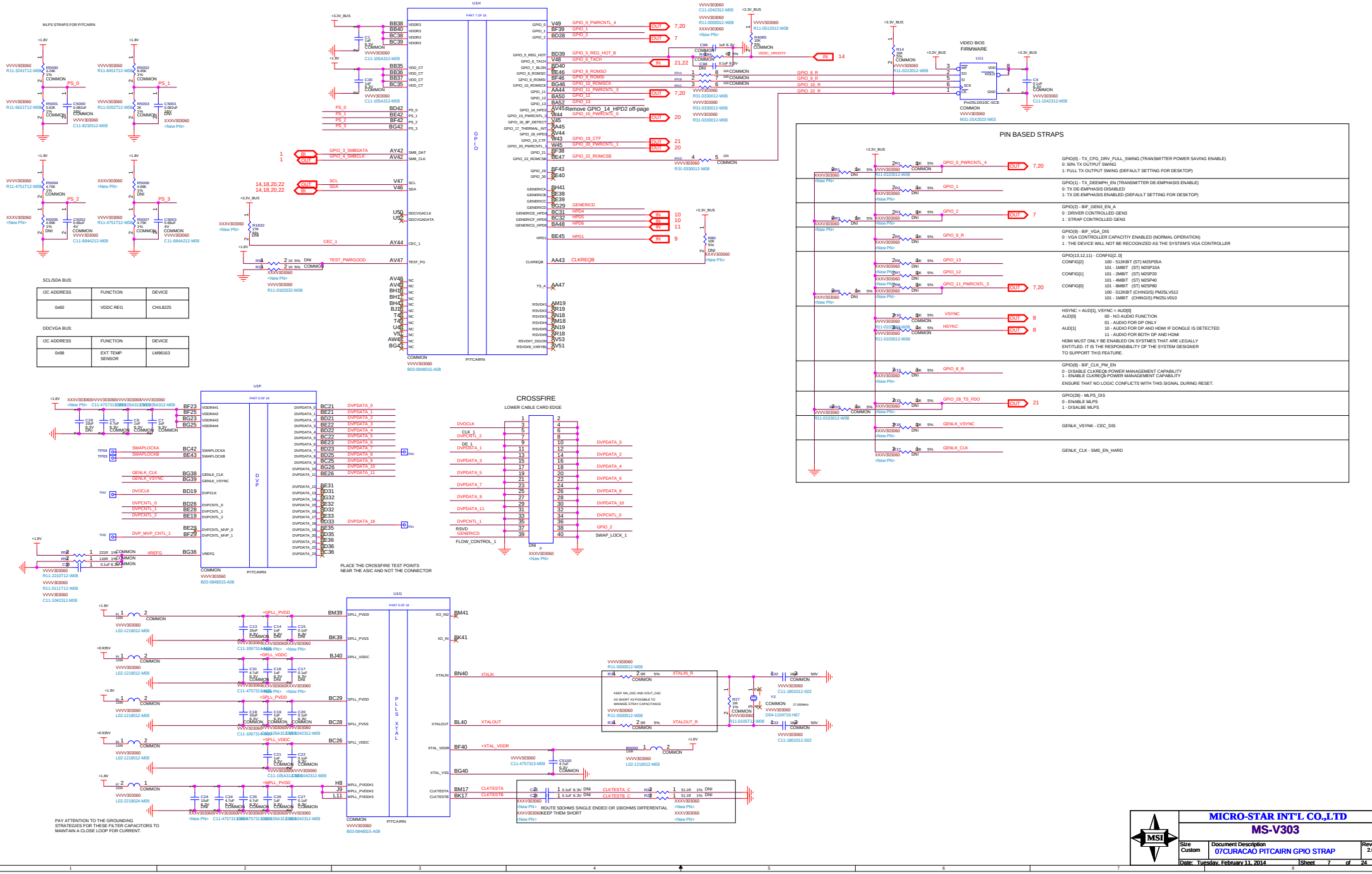
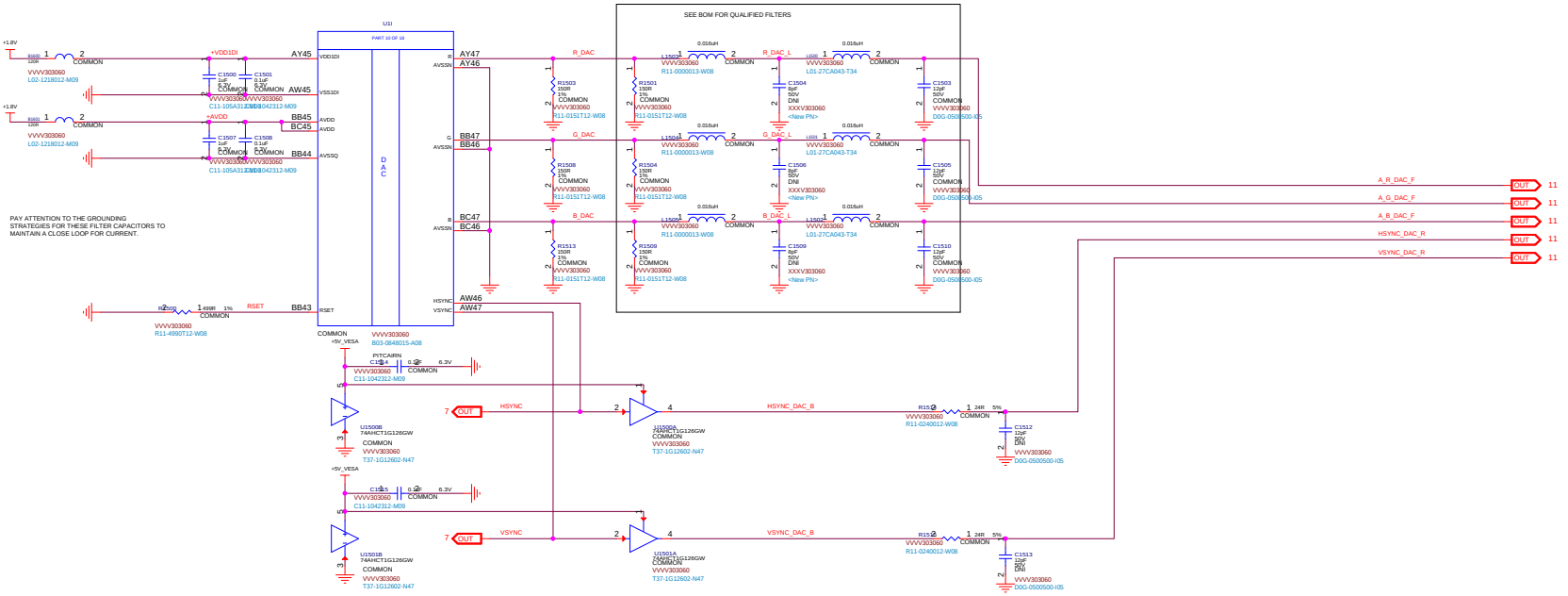
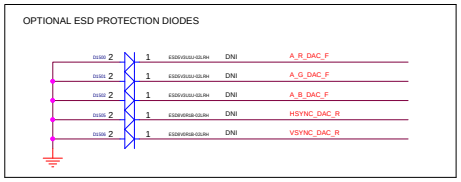
# (7) CURACAO GPIO STRAP CF PLL XTAL



(8) CURACAO DAC

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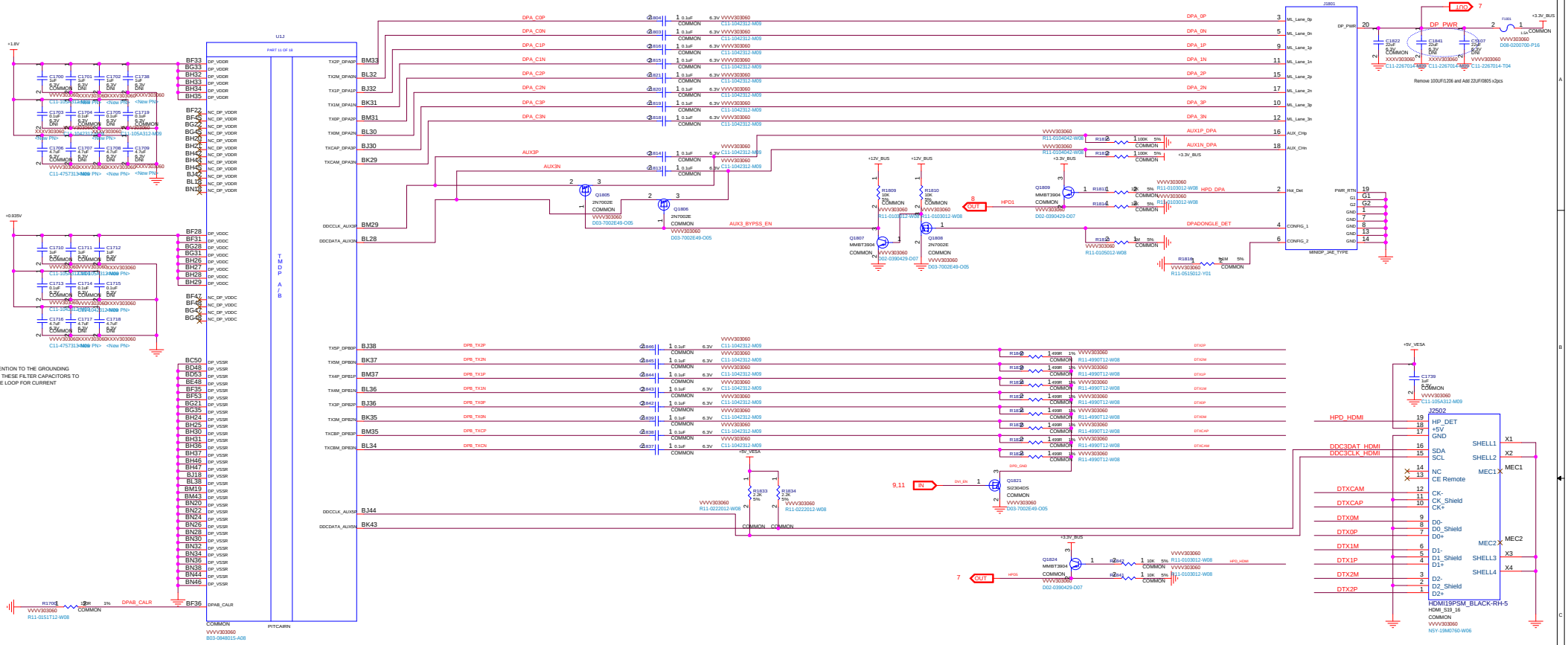
| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 08 CURACAO PITCAIRN DAC | Rev: 2.0 |
| Date: Tuesday, February 11, 2014 | Sheet 8 of 24 | |

(9) CURACAO TMDPAB sDVI

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| MICRO-STAR INT'L CO.,LTD | | | |
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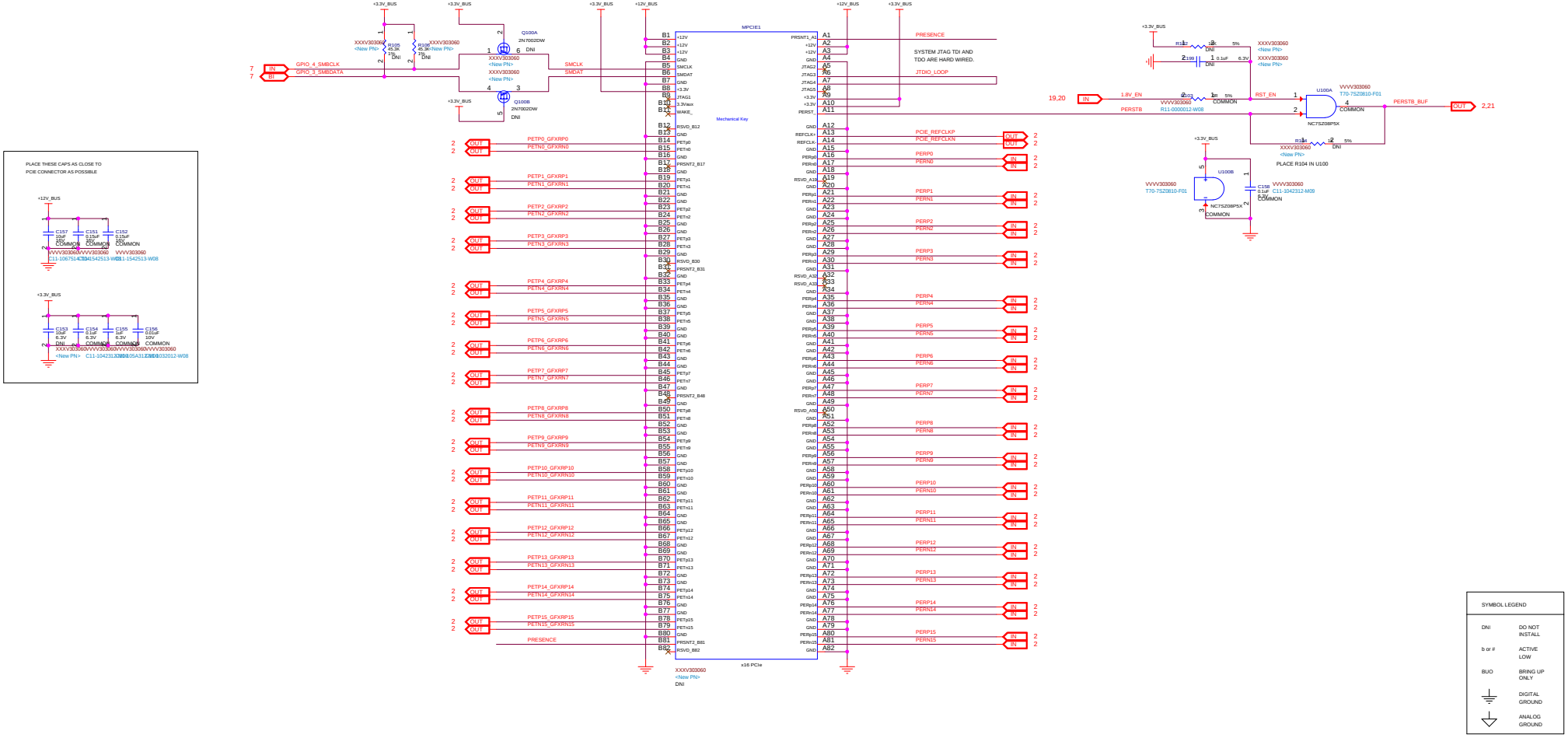
| Size: Custom | Document Description: 09 CURACAO PITCAIRN TMDPAB dDVI | | Rev: 2.0 |
| Date: Tuesday, February 11, 2014 | Sheet 9 of 24 | | |

(1) PCI-EXPRESS EDGE CONNECTOR

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| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 01 PCIE EDGE CONNECTOR | Rev: 2.0 |
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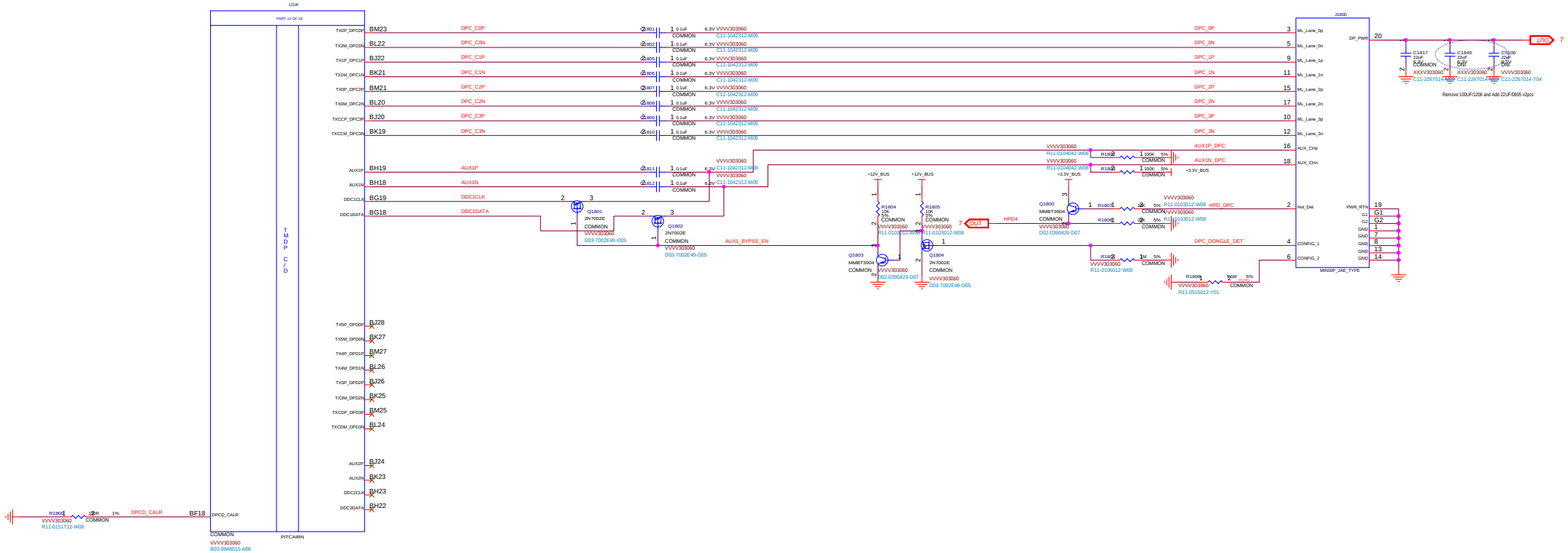
# (10) CURACAO TMDPCD DP HDMI




OPTIONAL ESD PROTECTION DIODES

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|---|---|---|
| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 10 CURACAO PITCAIRN TMDPCD DP H | Rev: 2.0 |
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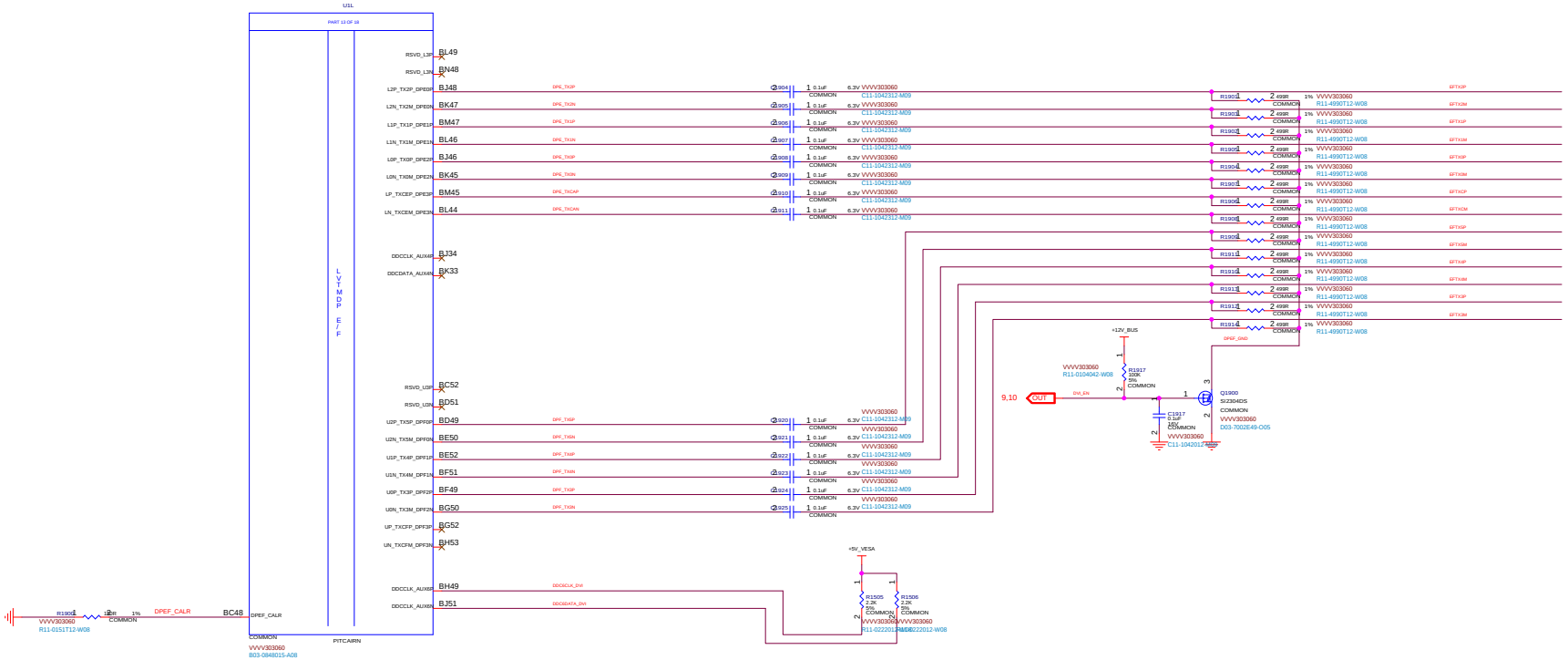
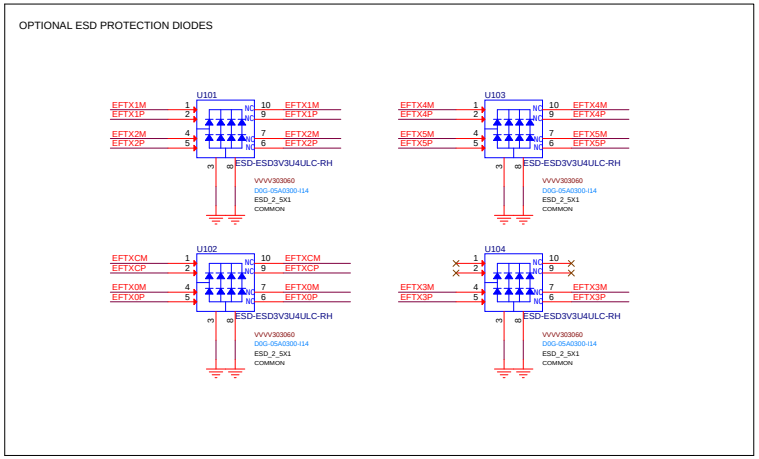
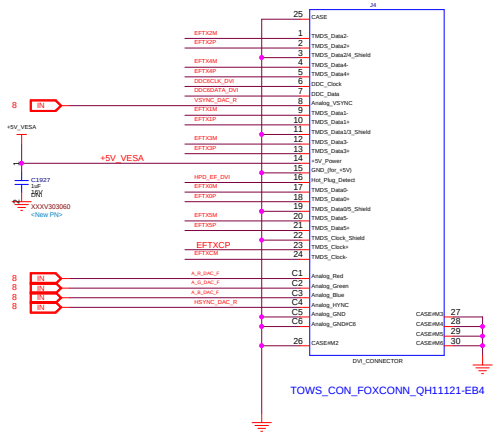
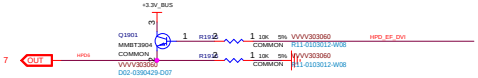
# (11) CURACAO LVTMDPEF dDVI



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| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 11 CURACAO PITCAIRN LVTMDPEF dD | Rev: 2.0 |
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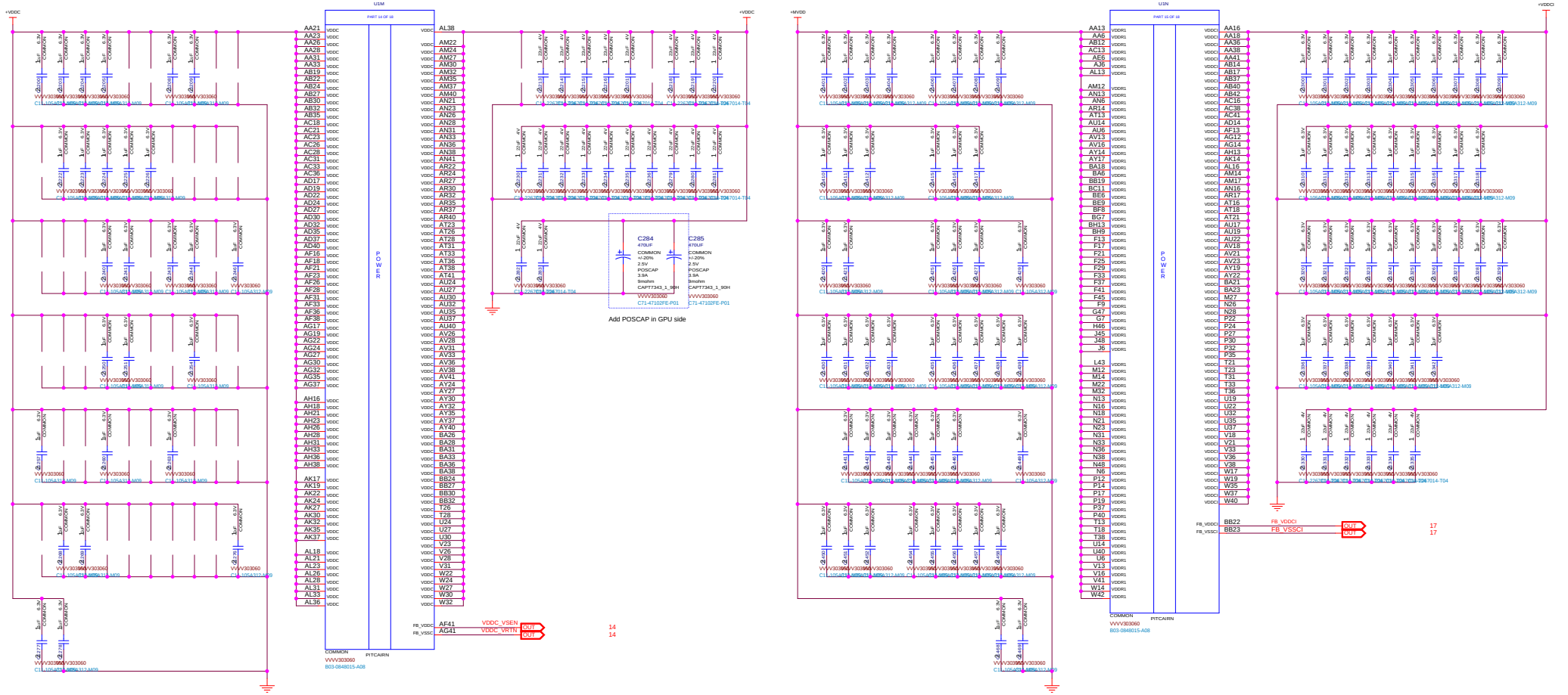
(12) CURACAO POWER

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| MICRO-STAR INT'L CO.,LTD | |
| MS-V303 | |
| Size: Custom | Document Description: 12 CURACAO PITCAIRN POWER |
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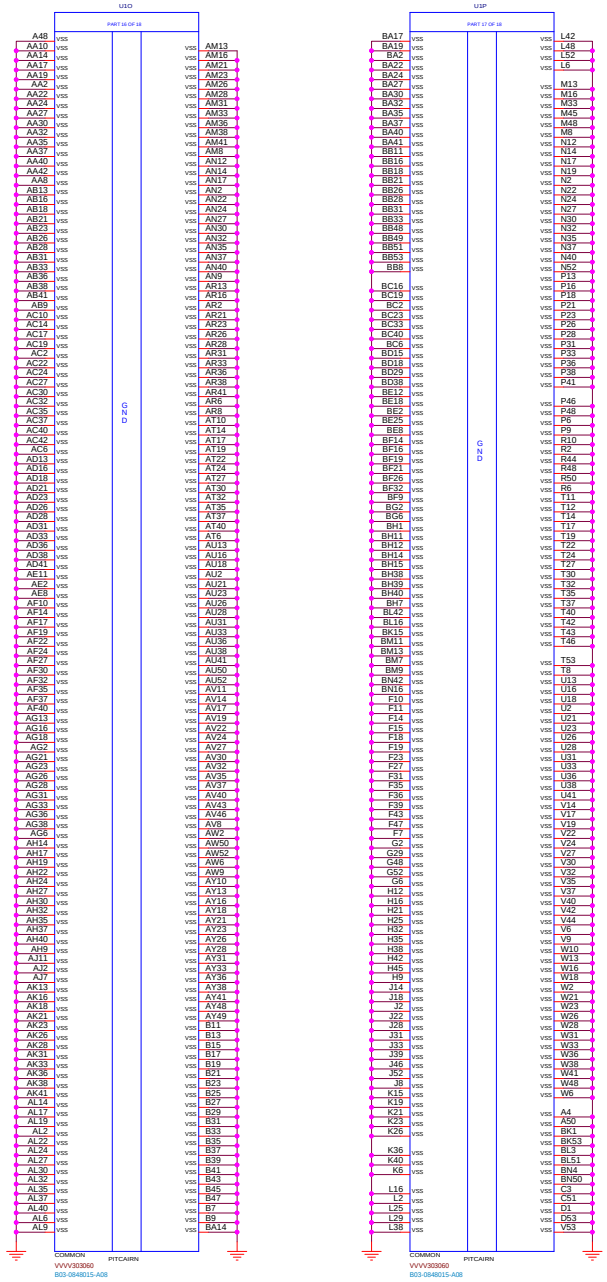
(13) CURACAO GND







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|---|---|---|
| Custom | 13 CURACAO PITCAIRN GND | 2.0 |

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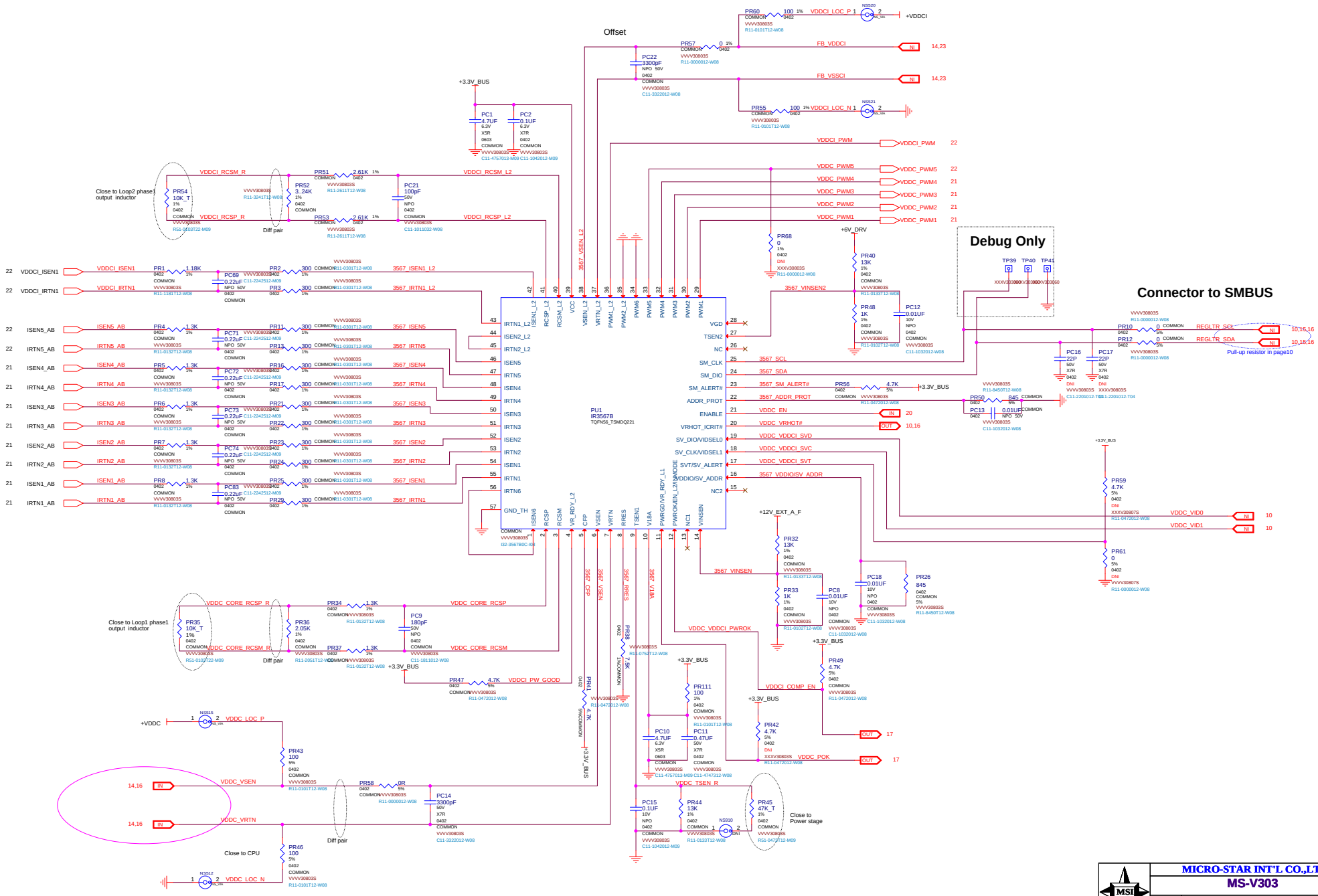
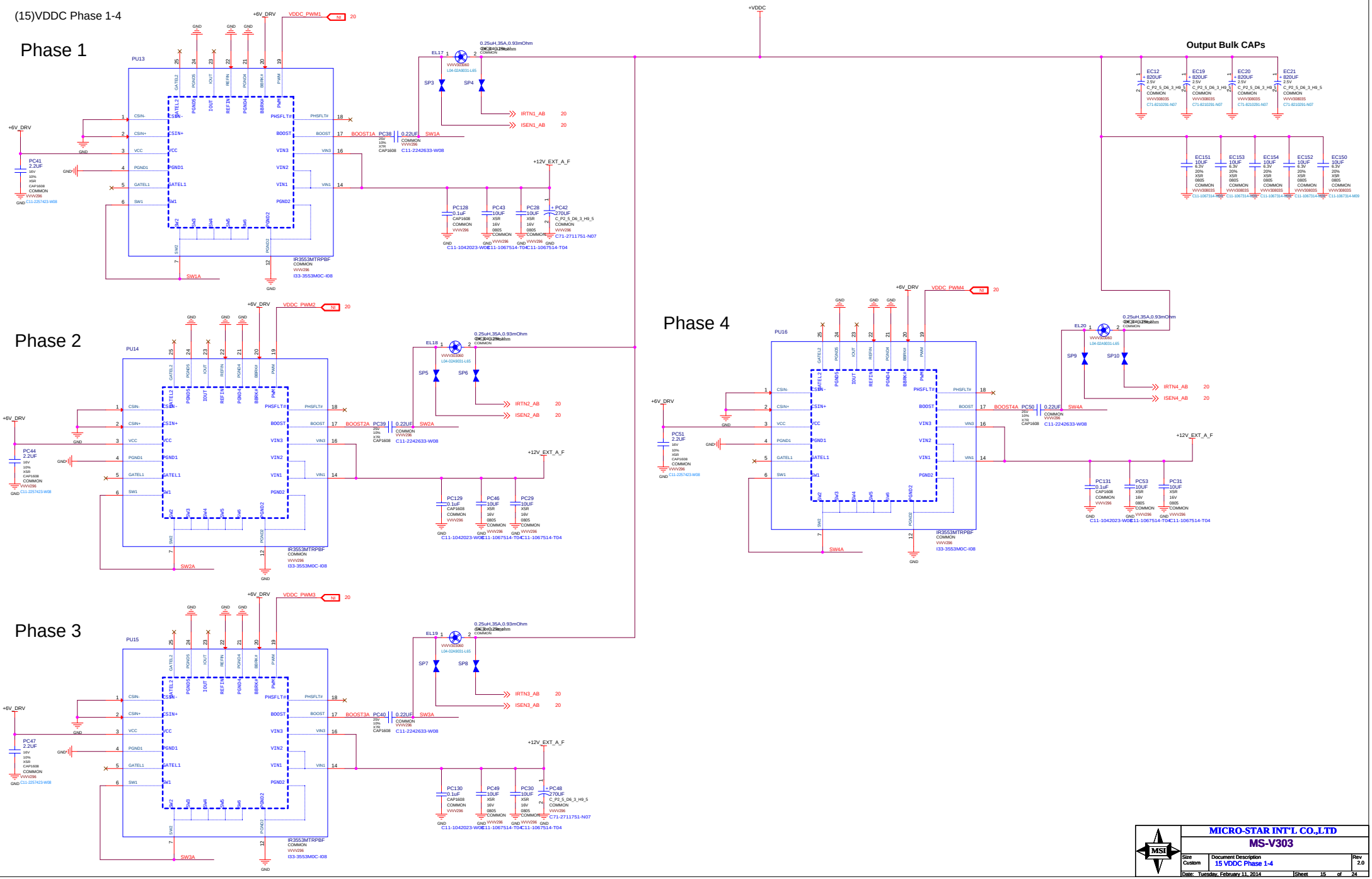
(14) VDDC-3567B



(15)VDDC Phase 1-4

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| MICRO-STAR INT'L CO.,LTD | |
| MS-V303 | |
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| Rev: 2.0 | |
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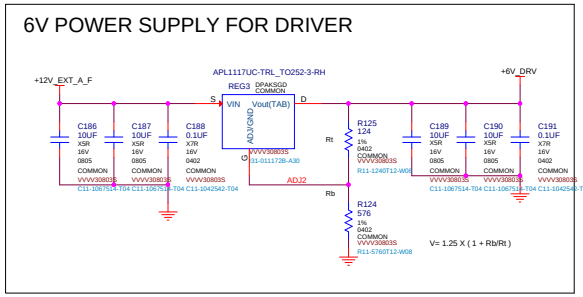
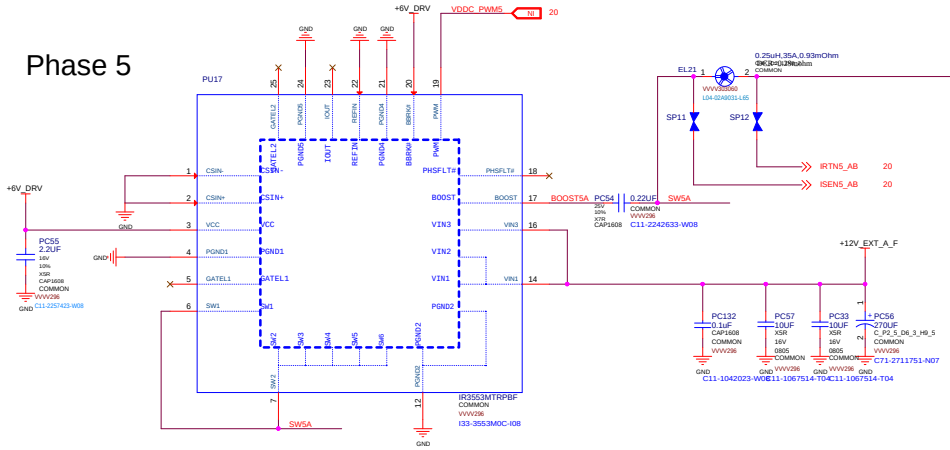
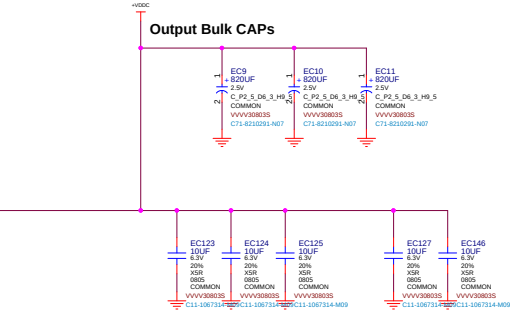
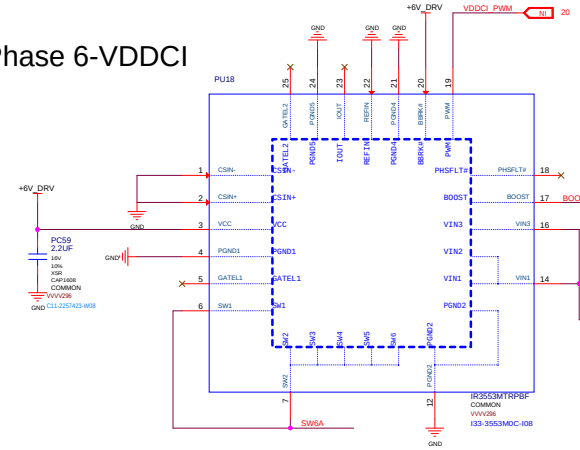


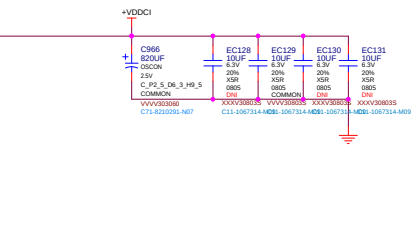

## Phase 5




## Phase 6-VDDCI

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| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 16 VDDC Phase 5-8 | Rev: 2.0 |
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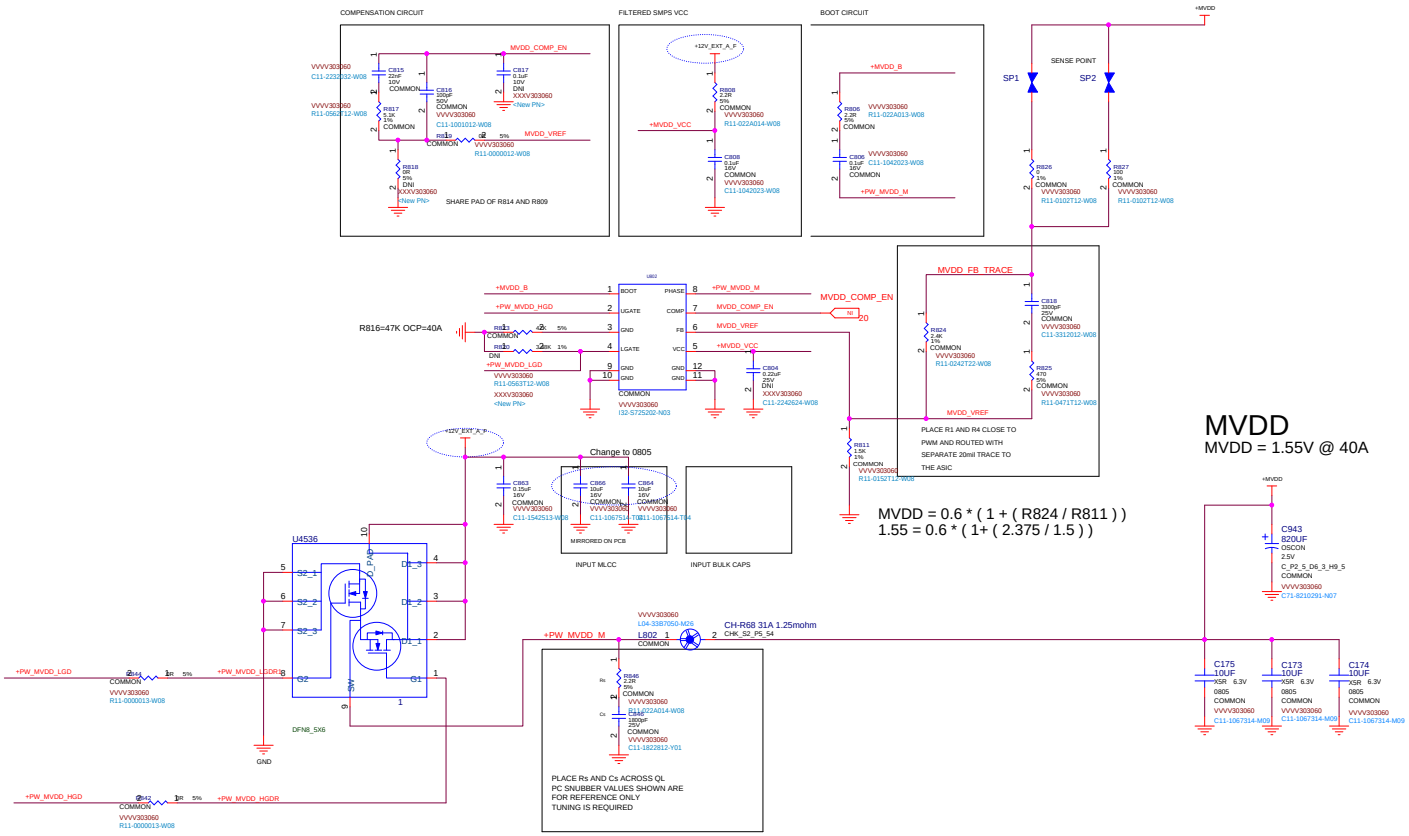
(17) VDDCI

(17) MVDD




# MVDD

MVDD = 1.55V @ 40A

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| MICRO-STAR INT'L CO.,LTD | |
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| Size: Custom | Document Description: 18 MVDD |
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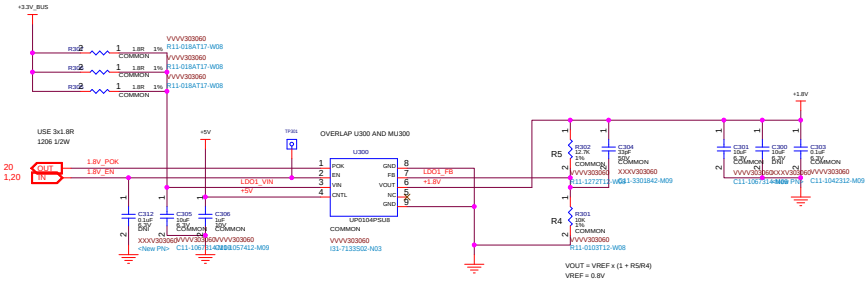
# (18) SMALL RAIL REGULATOR

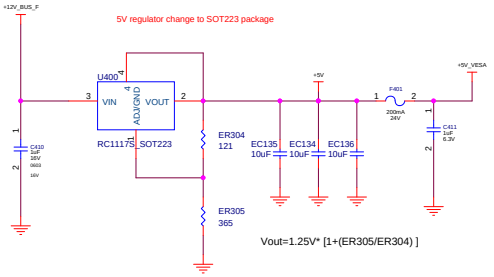
LDO #1: VIN = 3.0V TO 3.6V MAX VOUT = +1.8V +/- 2% IOUT = 1.3A RMS MAX

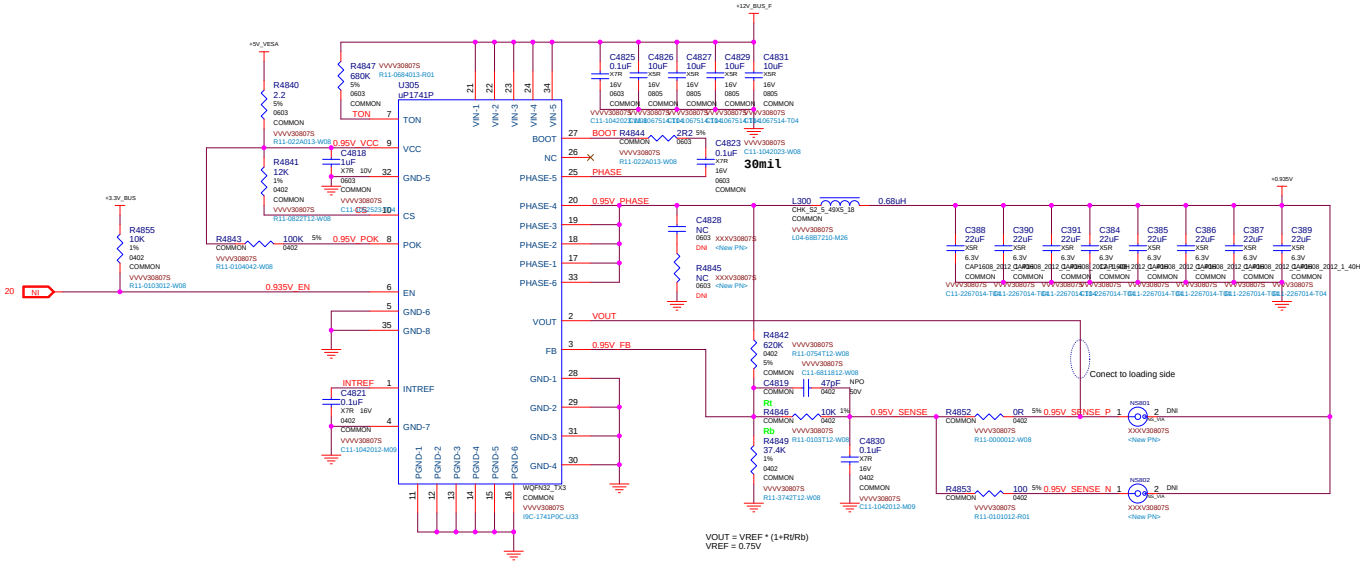
PCB: 50 TO 70mm SQ. COPPER AREA FOR COOLING

REGULATOR FOR +5V RAILS

IOUT MAX = 150mA

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| MICRO-STAR INT'L CO.,LTD | |
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| Size: Custom | Document Description: 19 SMALL RAIL REGULATORS |
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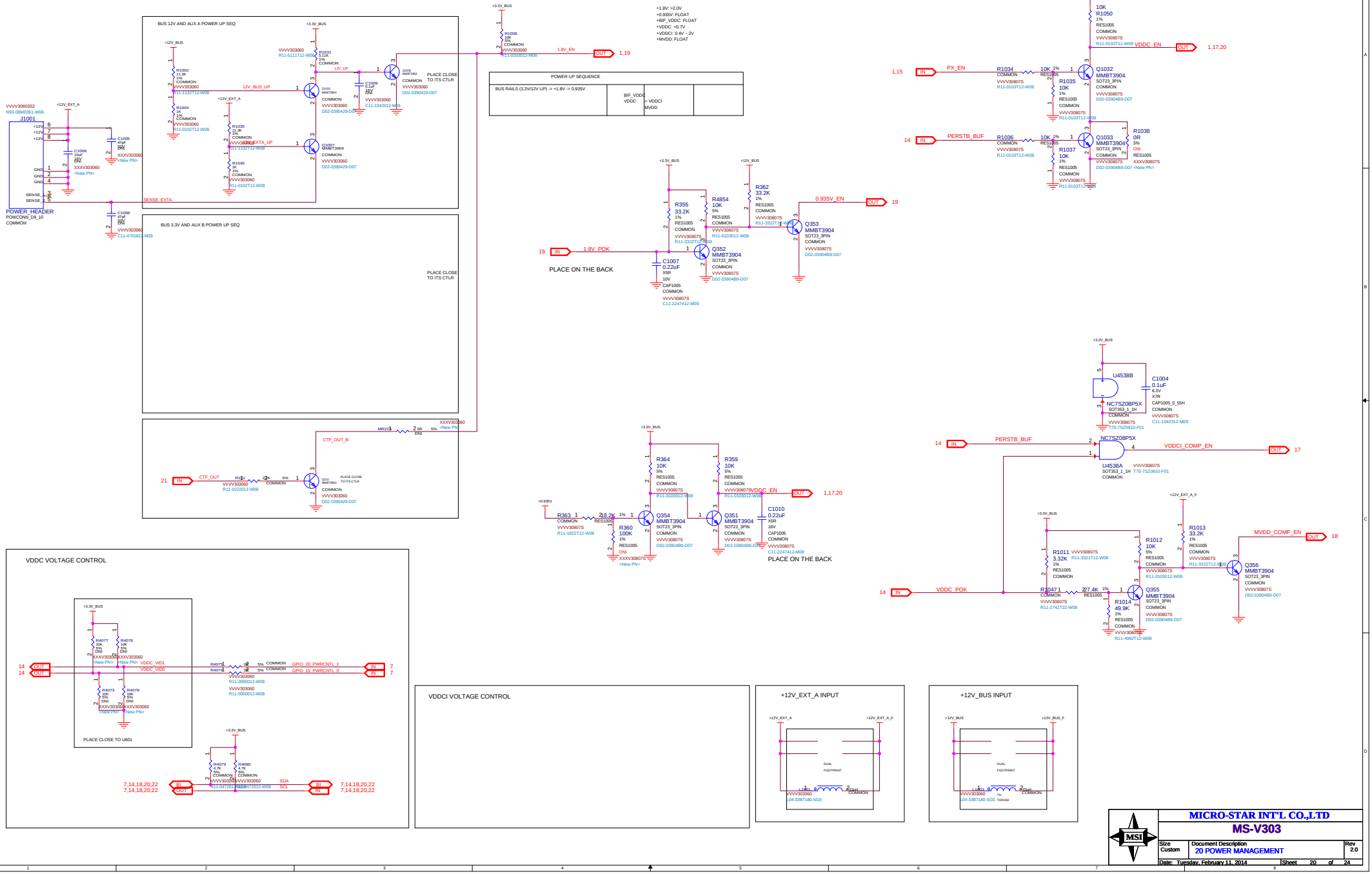
# (19) POWER MANAGEMENT

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|---|---|---|
| Custom | 20 POWER MANAGEMENT | 2.0 |

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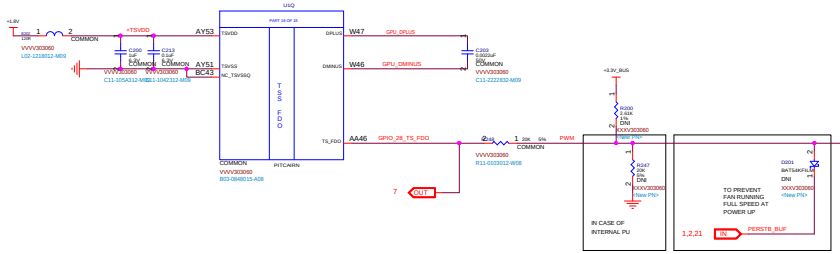
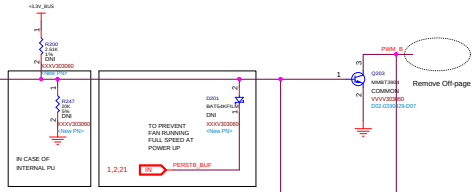
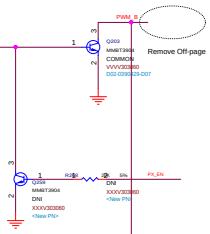
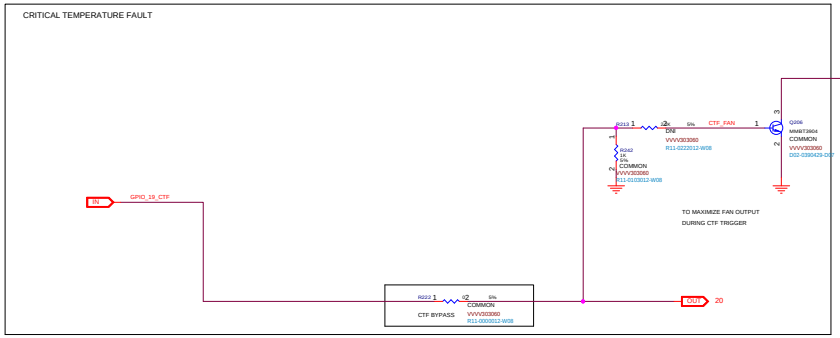
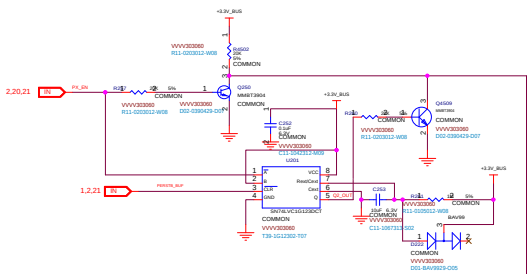
(20) MECH AND THERM MANAGEMENT

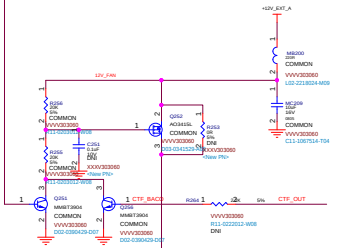


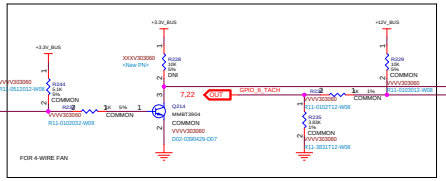



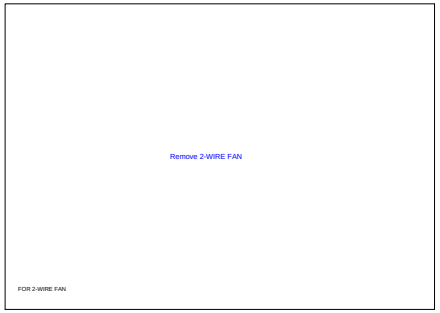



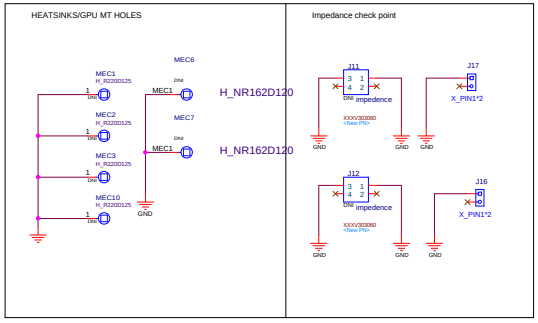



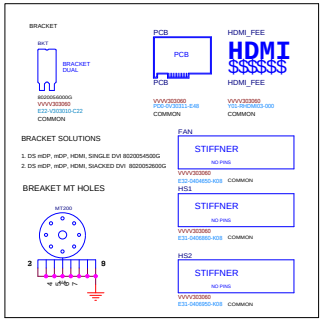



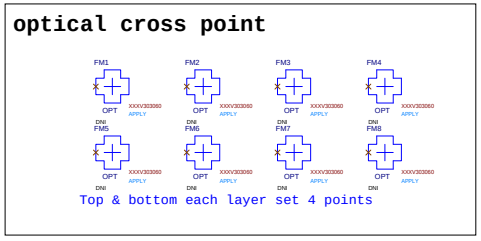

HEADER IS 2MM
IT DOES NOT FOLLOW
2.54MM SPACING AS 4-PIN
PWM FAN SPECIFICATION







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| MSI | MICRO-STAR INT'L CO.,LTD | |
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| Size: Custom | Document Description: 21 MECHANICLA AND THERMAL | Rev: 2.0 |
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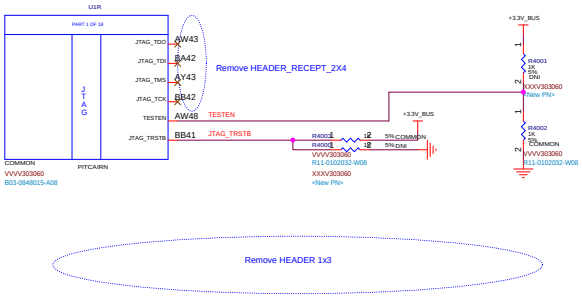
# (21) DEBUG CIRCUIT

## JTAG




## LM96163 FOR BACKUP THERMAL CONTROL

Remove

## SWITCH CONNECTIONS TO PINSTRAPS

Remove

## I2C ACCESS POINTS FOR VDDC CONTROLLER

Remove

Remove

Thermal IC

## LED LIGHTS

Remove

V-Check Point

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|---|---|---|
| Custom | 22 DEBUG CIRCUITS | 2.0 |

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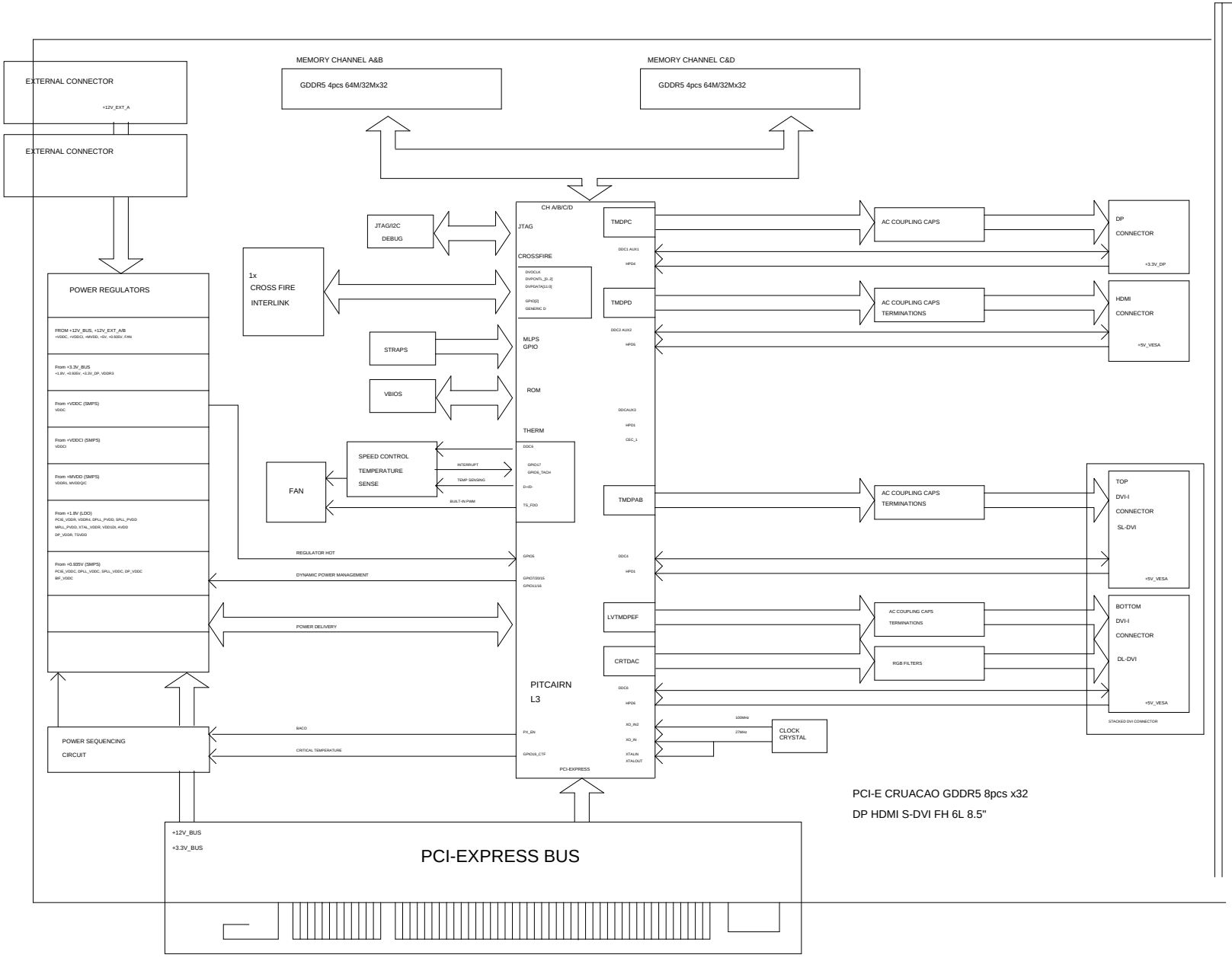


PCI-E CRUACAO GDDR5 8pcs x32

DP HDMI S-DVI FH 6L 8.5"

| | | |
|---|---|---|
| MICRO-STAR INT'L CO.,LTD | | |
| MS-V303 | | |
| Size: Custom | Document Description: 23 BLOCK DIAGRAM | Rev: 2.0 |
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| | | | |
|---|---|---|---|
| 0 | 00A | 12/07/2012 | INITIAL SCHEMATIC BASED ON C400 |
| 1 | 00B | 30/10/2012 | add R688,C98,C99 |
| 1 | 00C | 25/12/2012 | remove L1720 ~ L1733<br>remove NC pin for DP_VDDR/DP_VDDC |
| | 00D | 19/06/2013 | update power sequence to make 0.95V power up before vddc |
| | V303-1.0 | 01/08/2013 | Page07：Remove GPIO_14_HPD2 off-page<br>Add Dual-BIOS & Switch<br>Page10：Change J2501 footprint and Library<br>Page11：Add optional ESD Protection DIODES<br>Page12：Add C284/C285 (POSCAP)<br>Remove some 1UF/0402 of VDDC<br>Page14：Change VDDC controller to 8228G<br>Page15：Add Driver IR3598 circuit<br>Page16：Add Driver IR3598 circuit<br>Page17：Change L801 footprint<br>Change VDDCI_VIN<br>Page18：Page14：Change MVDD controller to uP1610PQAG<br>Page19：Change +5V circuit<br>Change 0.935V_VCC to +12V_BUS_F<br>Page20：Add R7341/R7342/L1506<br>Del R1090~R1095<br>Page21：Remove 2-wire FAN circuit<br>Page22：Remove JTAG pin header<br>Remove SWITCH CONNECTIONS TO PINSTRAPS<br>Remove LED LIGHTS<br>Remove I2C ACCESS POINTS FOR VDDC CONTROLLER<br>Add V-Check Point and Thermal IC |
| | V303-1.1 | 06/08/2013 | Page14：Controller change to IR3563B |
| | V303-2.0 | 01/23/2014 | Page07：Remove OSC & dual vbios circuit<br>Page09：DPA chahge to mDP<br>DPB chahge to HDMI<br>Page10： DPC chahge to mDP<br>Page14：change to IR3567 , reference V308-2.0<br>Page15：change MOS , reference V296-1.1<br>Page16：change MOS , reference V296-1.1<br>Page18：MVDD reference V303-1.1 VDDCI circuit<br>Page19：remove MU300 & +0.935V used Regulator , +5V change to TO223<br>Page20：POWER sequence reference V308-2.2<br>Page21：remove CTF<br>Page22：remove DEBUG CIRCUIT |