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CYCLONE DISCRETE DB BUILD

2012.11.26

| | | |
|-------------|-----------------|-----|
| 26-NOV-2012 | 2012-ECO-XXXXXX | A |
| DATE | CHANGE NO. | REV |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|--|--|--------------------------------|--|--|--|-------------|--|--|--|------------|--|--|--|-------------|--|--|--|---------------------|--|--|--|-------------|--|--|--|-------|--|--|--|------------|--|--|--|-------------------|--|--|--|-----|--|--|--|-----|--|--|--|
| DRAWER | | | | EE | | | | DATE | | | | POWER | | | | DATE | | | | INVENTEC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DESIGN | | | | TRENZ PATE | | | | 26-NOV-2012 | | | | ISEH ALAN | | | | 26-NOV-2012 | | | | TITLE | | | | CYCLONE DIS | | | | | | | | | | | | | | | | | | | | | | | |
| CHECK | | | | VER AL EK | | | | 26-NOV-2012 | | | | ISEH ALAN | | | | 26-NOV-2012 | | | | SHARKBAY MAIN BOARD | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESPONSIBLE | | | | CHIU WING | | | | 26-NOV-2012 | | | | ISEH ALAN | | | | 26-NOV-2012 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIZE | | | | A4 | | | | VER | | | | XII | | | | SIZE | | | | A4 | | | | CODE | | | | CS | | | | DOC NUMBER | | | | 13110A25664-0-ALG | | | | REV | | | | Y01 | | | |
| FILE NAME | | | | CYCLONE DB 2012 11 26 01 10 00 | | | | PN | | | | 9999139999 | | | | XXXX | | | | SHEET | | | | 1 | | | | of 99 | | | | | | | | | | | | | | | | | | | |

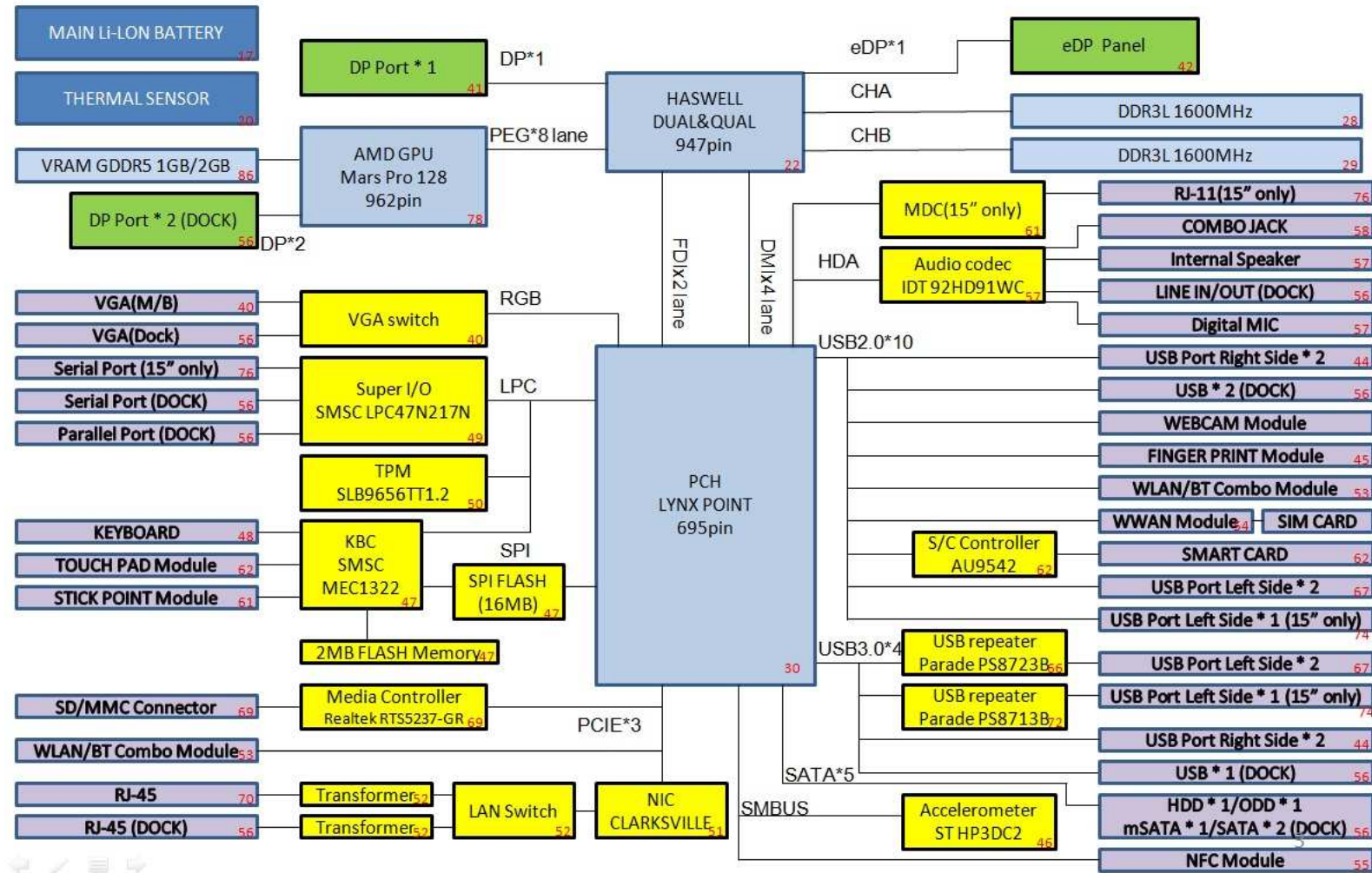
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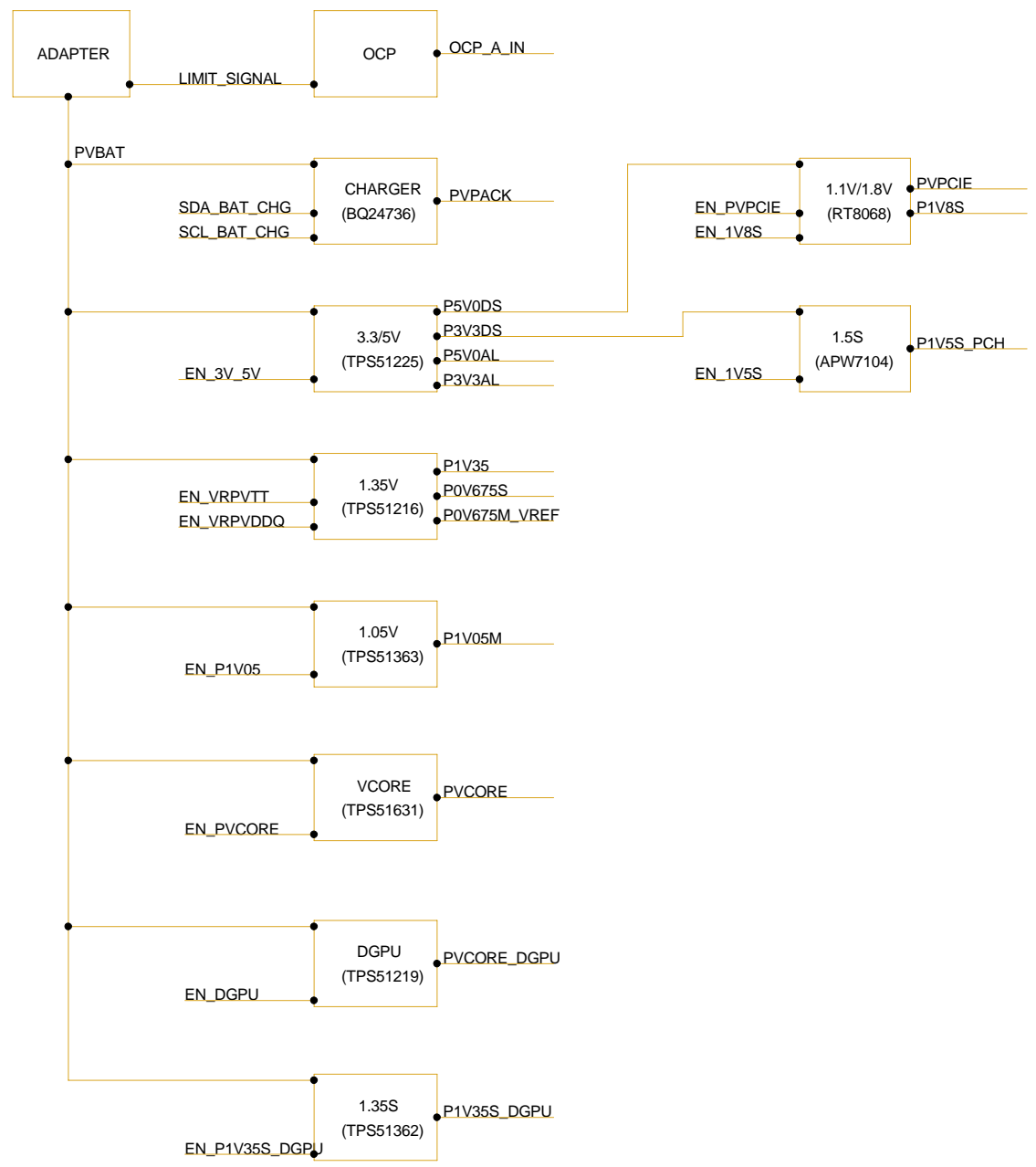
DIS - Block Diagram



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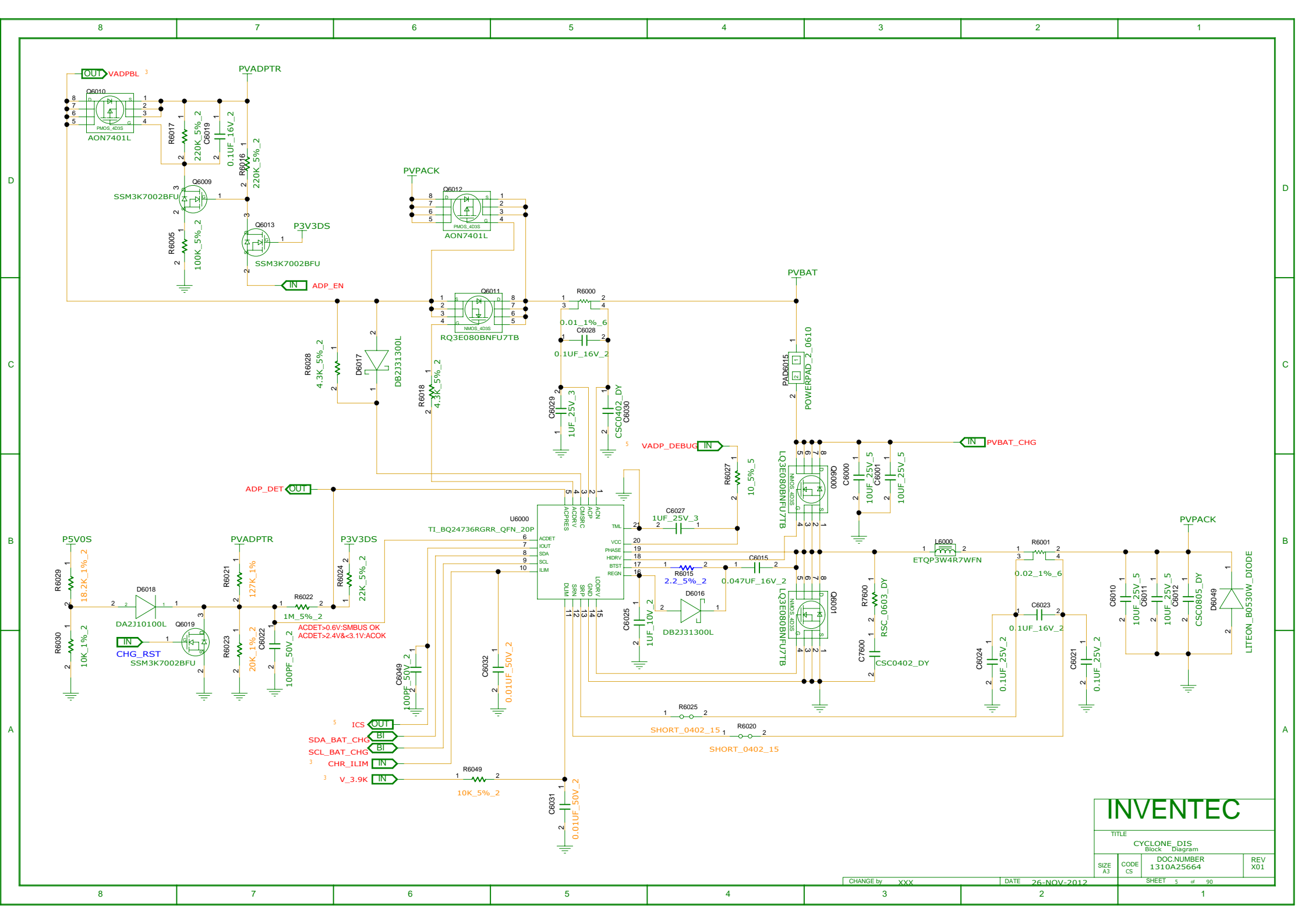
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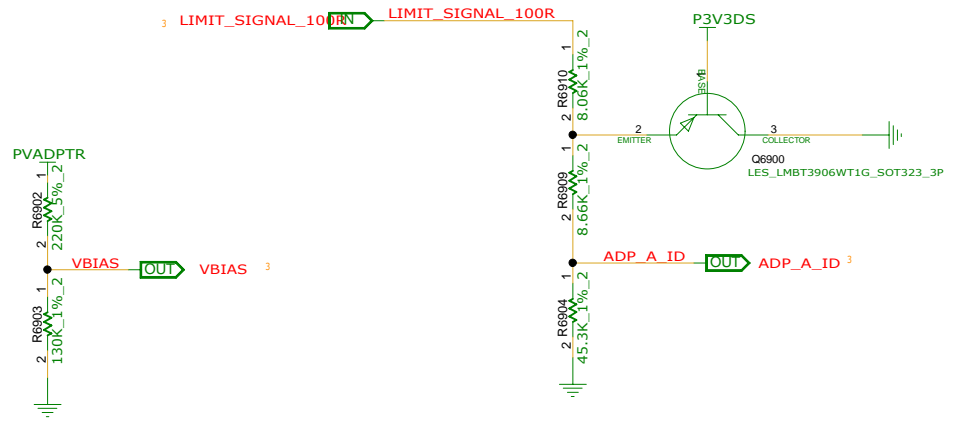
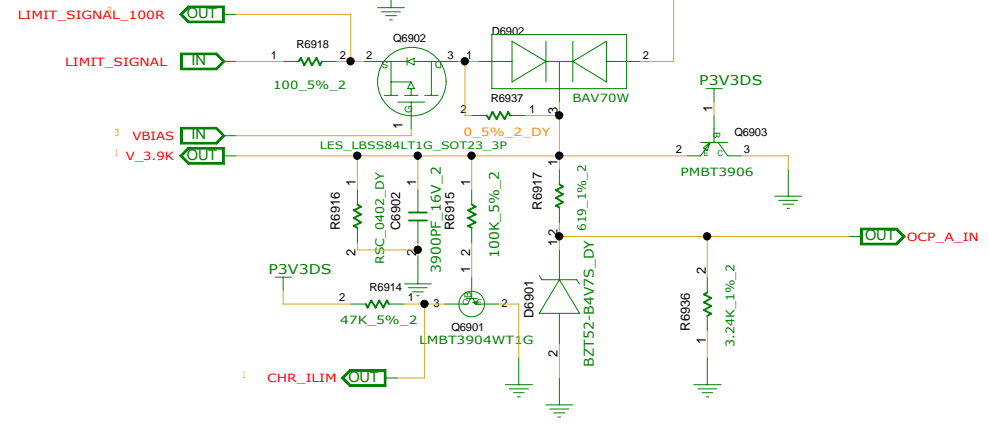
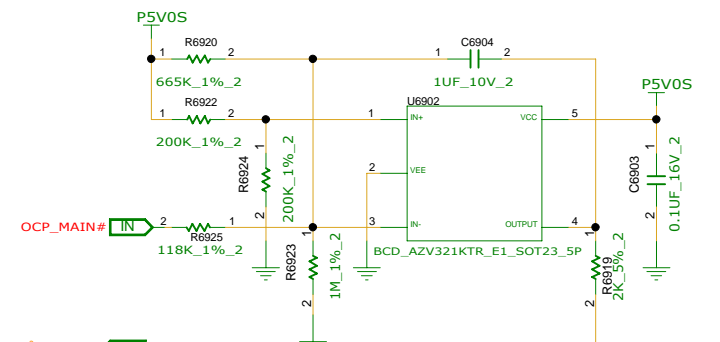
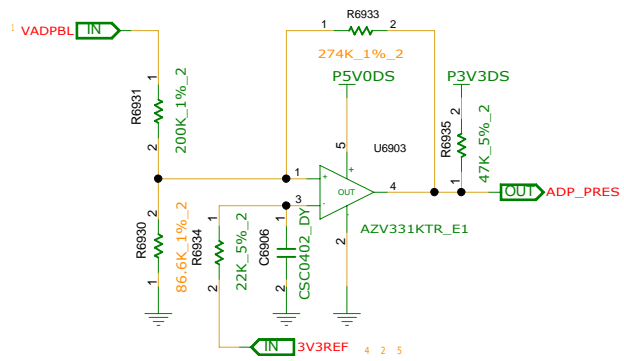
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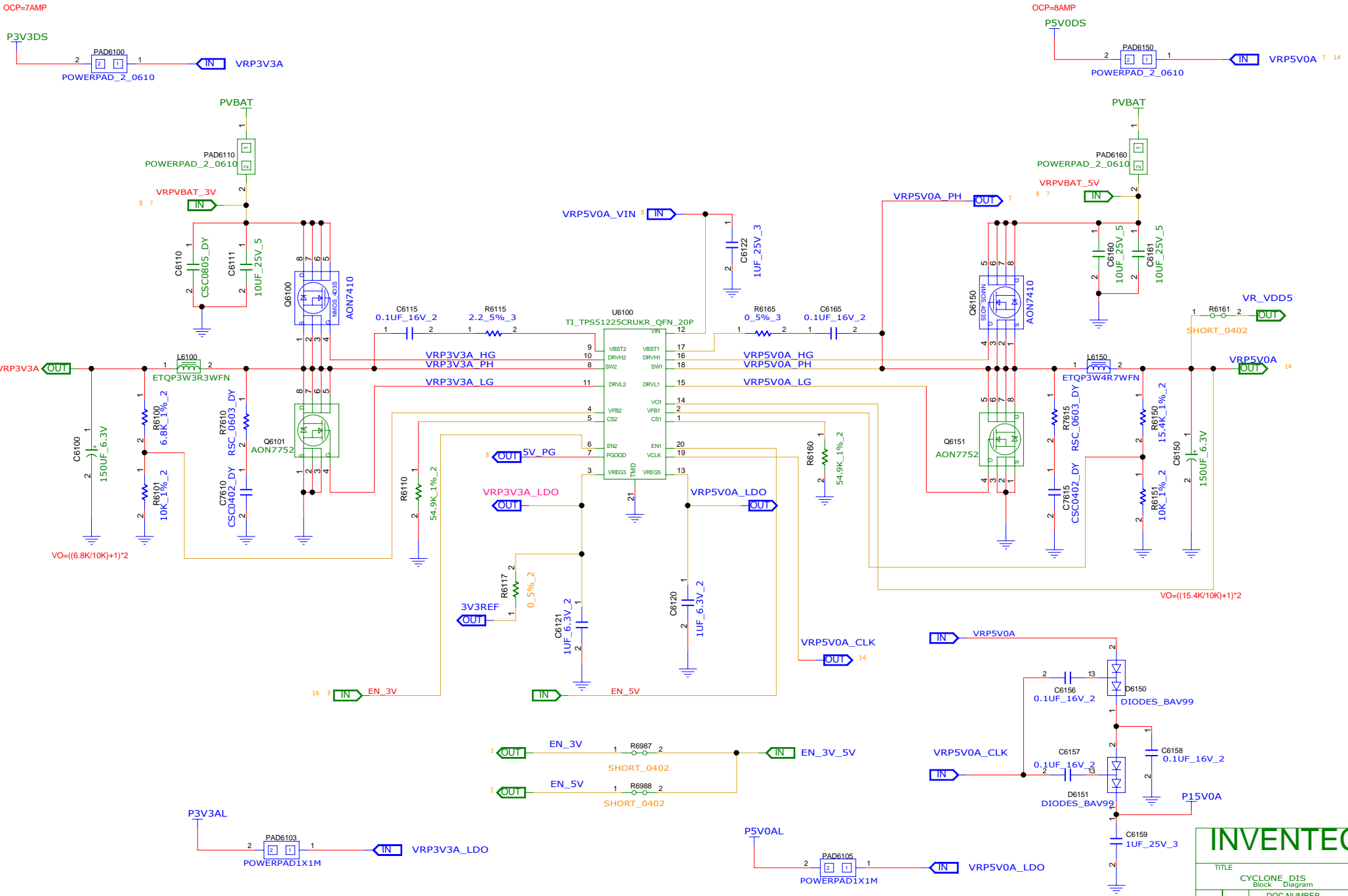


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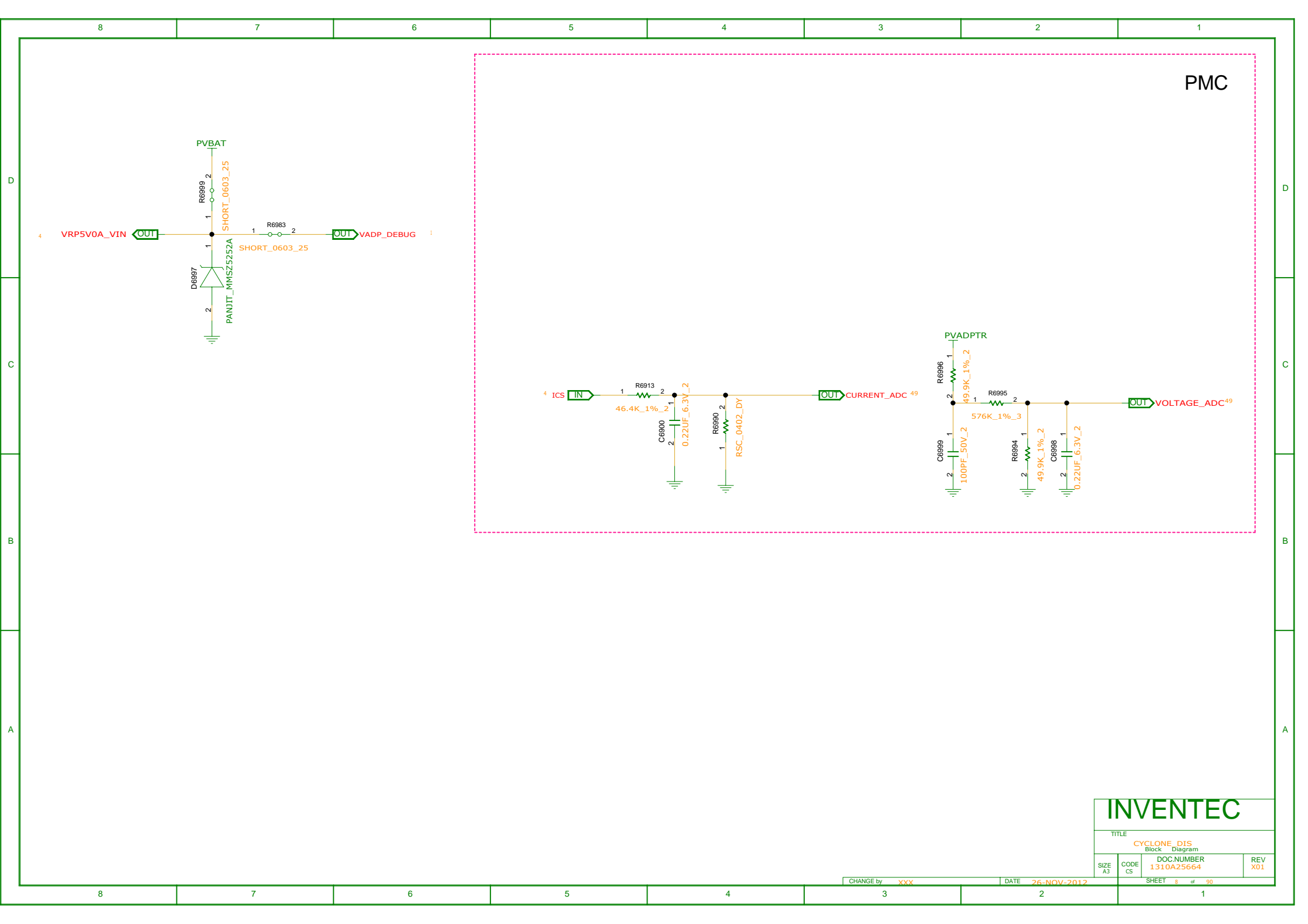


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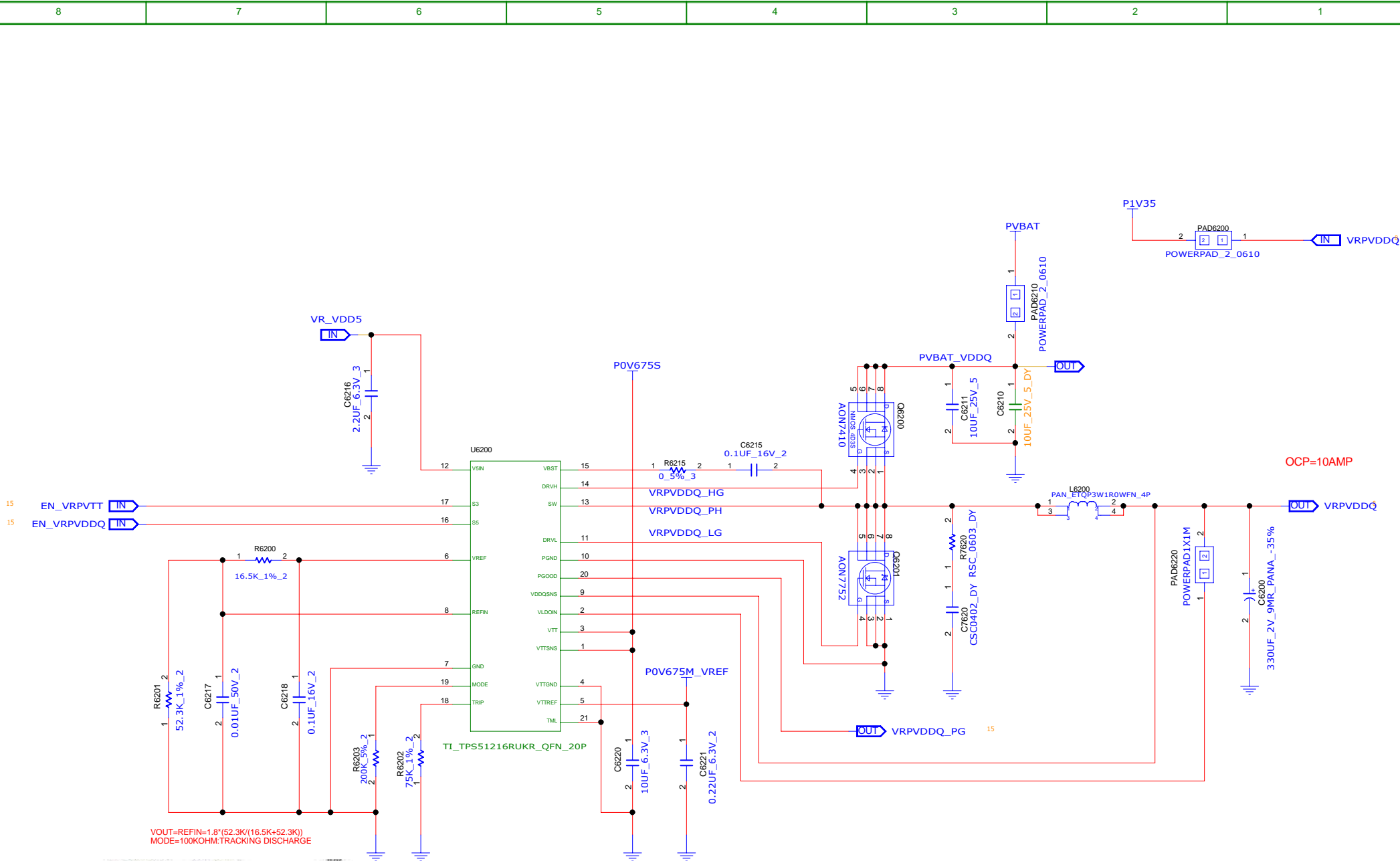
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PMC

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| CYCLONE_DIS Block Diagram | | | |
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$V_{OUT} = V_{REFIN} \times 1.8 \times (52.3K / (16.5K + 52.3K))$
 MODE=100KOHM:TRACKING DISCHARGE

Table 1. S3/S5 Power State Control

| STATE | S3 | S5 | VREF | VDDQ | VTTREF | VTT |
|-------|----|----|------|-----------------|-----------------|-----------------|
| S0 | HI | HI | ON | ON | ON | ON |
| S3 | LO | HI | ON | ON | ON | OFF (High-Z) |
| S4/S5 | LO | LO | OFF | OFF (Discharge) | OFF (Discharge) | OFF (Discharge) |

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TITLE: CYCLONE DIS Block Diagram

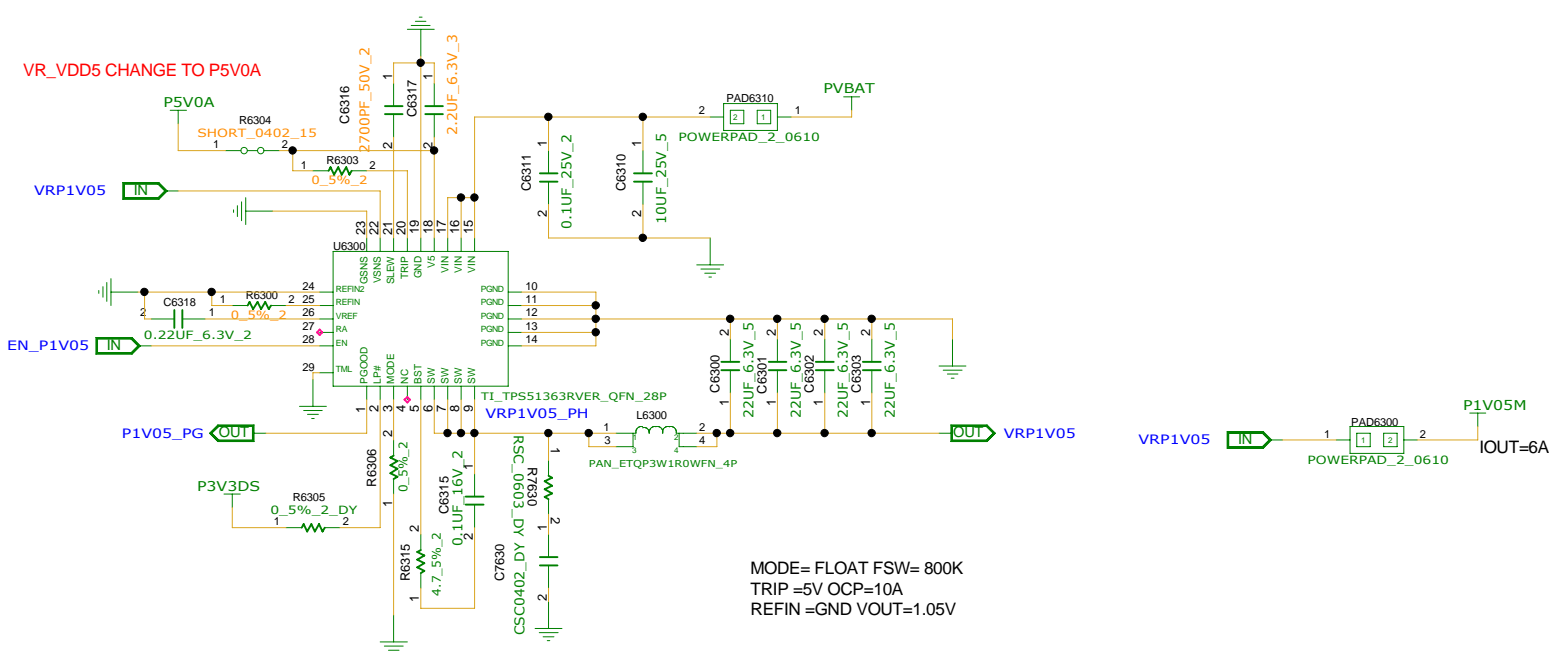
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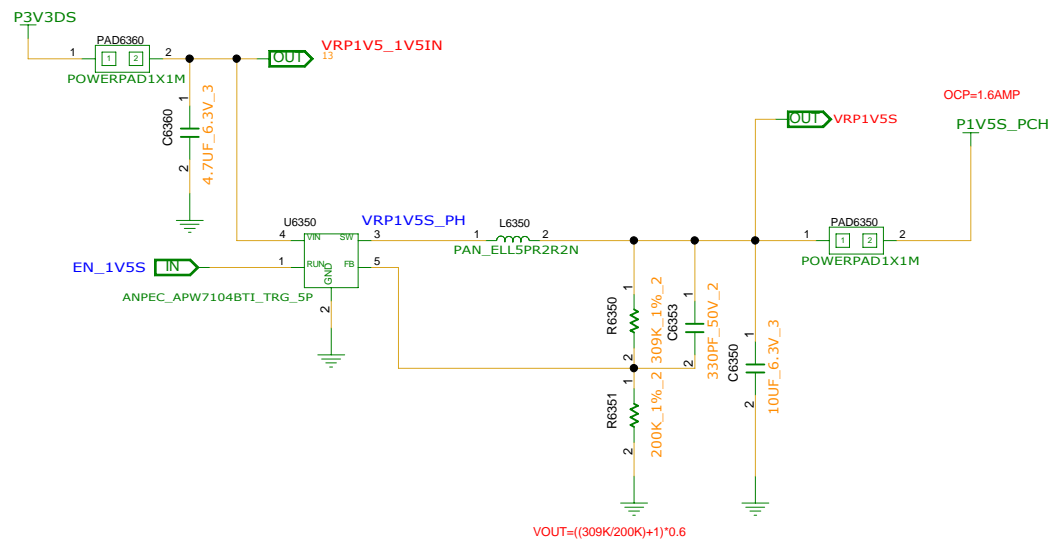
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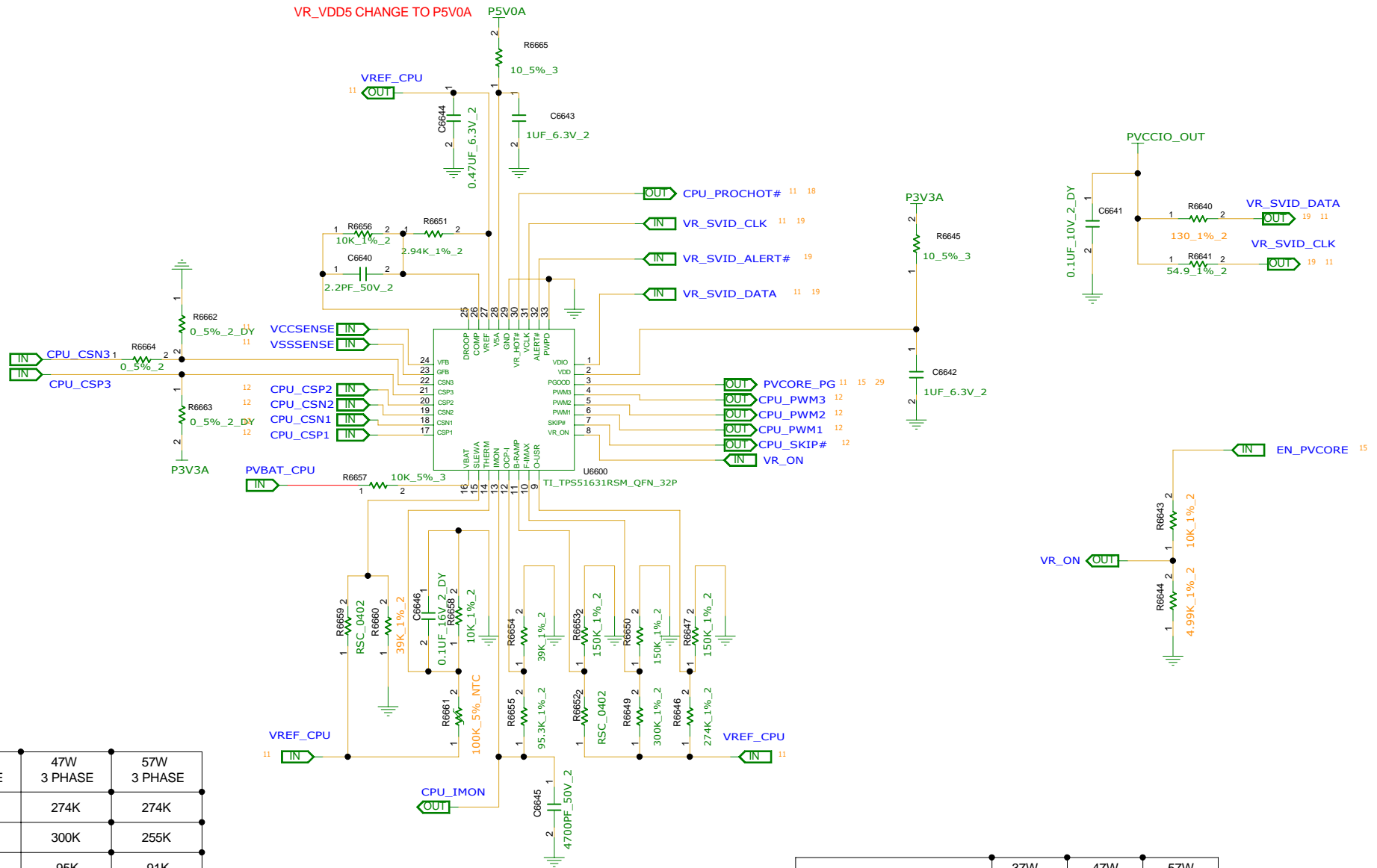


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| CYCLONE_DIS Block Diagram | | |
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| | 37W 2 PHASE | 47W 3 PHASE | 57W 3 PHASE |
|-------------------------|----------------|----------------|----------------|
| R6646 | 487K | 274K | 274K |
| R6649 | 549K | 300K | 255K |
| R6655 | 178K | 95K | 91K |
| R6662 | POP | DNP | DNP |
| R6663 | POP | DNP | DNP |
| R6619 R6629 R6639 | 17.8K | 17.8K | 17.8K |
| R6651 | 2.94K | 2.94K | 2.94K |

| | 37W | 47W | 57W |
|------------------------|-----------|-----------|-----------|
| INPUT VOLTAGE RANGE | 9V TO 20V | 9V TO 20V | 9V TO 20V |
| MAX CURRENT | 55A | 85A | 95A |
| THERMAL DESIGN CURRENT | 21A | 27A | 33A |
| DYNAMIC CURRENT | 35A | 60A | 60A |
| OVER CURRENT LEVEL | 70A | 105A | 105A |
| SWITCHING FREQUENCY | 1MHZ | 1MHZ | 1MHZ |
| BOOT VOLTAGE | 1.7V | 1.7V | 1.7V |
| DC LOAD-LINE | 1.5MOHM | 1.5MOHM | 1.5MOHM |

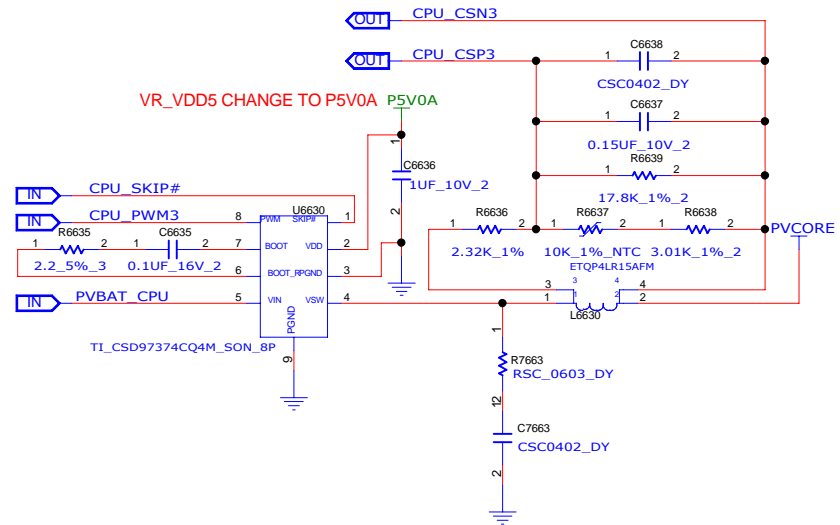
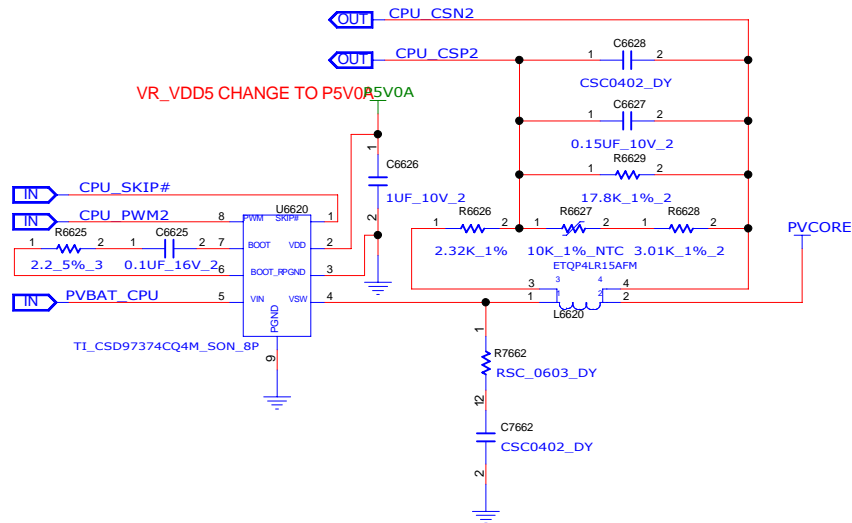
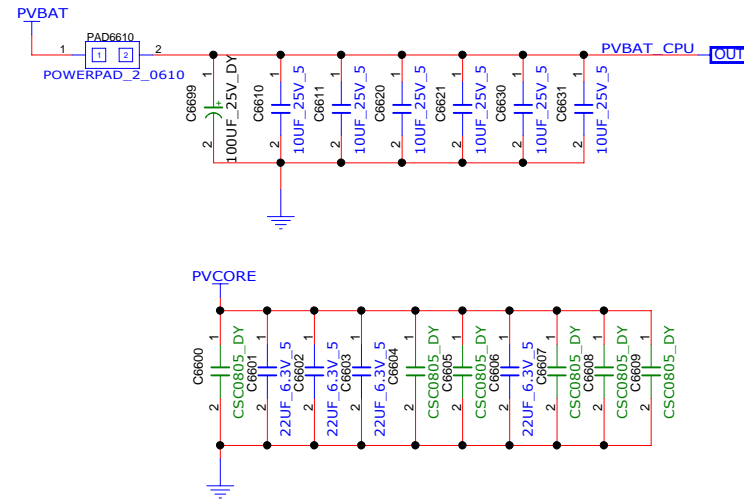
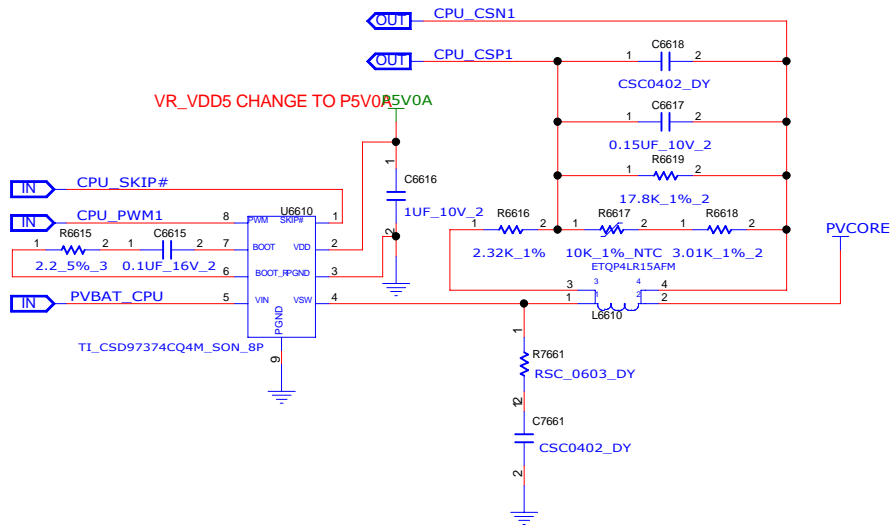
PS: TOTAL OUTPUT CAPACITOR IS 38X22UF (0805) WITH 1MHZ SWITCHING FREQUENCY IS DEPEND ON -2.85MV/A DROOP SPEC

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TITLE: CYCLONE_D1S Block Diagram

SIZE A3 CODE CS DDC NUMBER 1310A25664 REV X01

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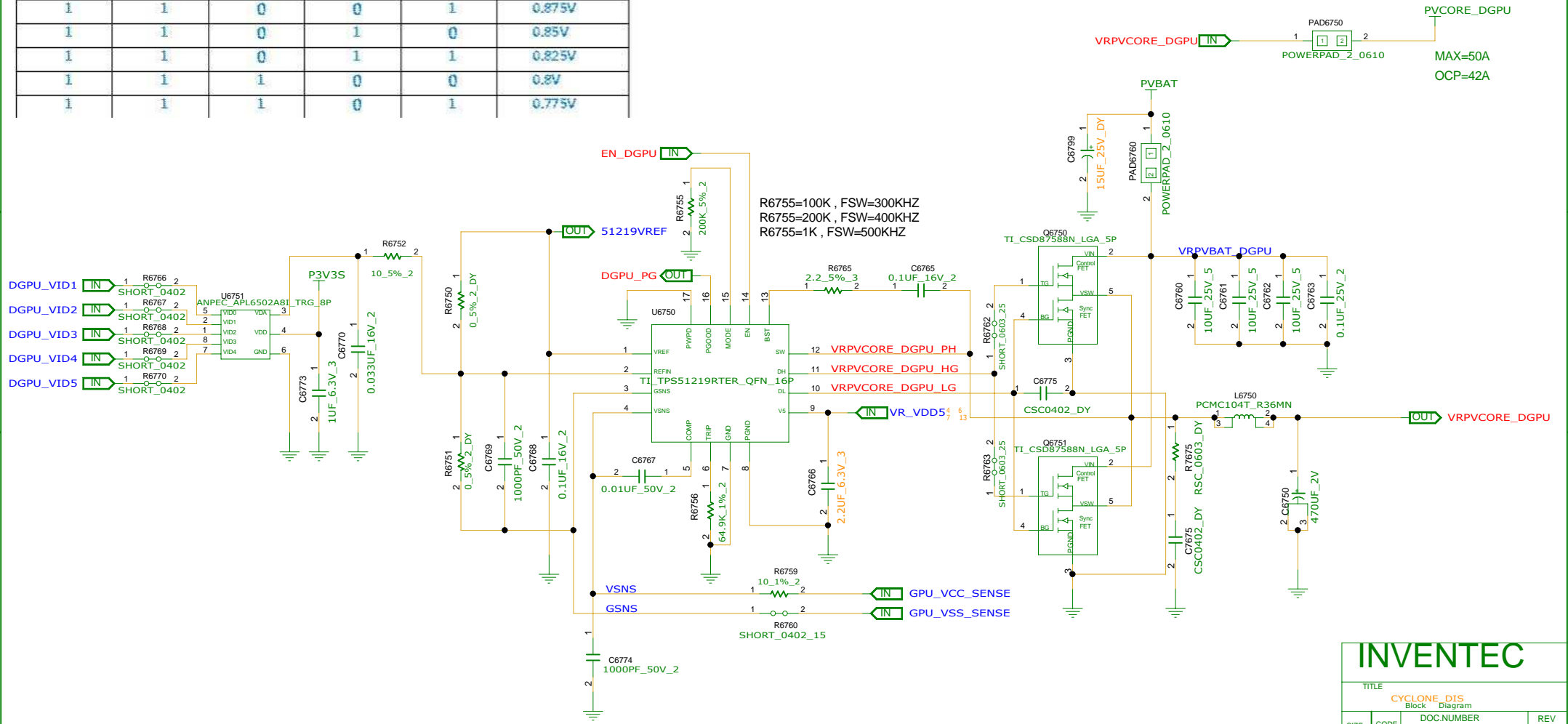


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| CYCLONE_DIS Block Diagram | | | |
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| GPU_VID5 GPIO_10 | GPU_VID4 GPIO_14 | GPU_VID3 GPIO_15 | GPU_VID2 GPIO_16 | GPU_VID1 GPIO_20 | Core Voltage Level |
|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| 0 | 1 | 1 | 1 | 1 | 1.125V |
| 1 | 0 | 0 | 0 | 0 | 1.1V |
| 1 | 0 | 0 | 0 | 1 | 1.075V |
| 1 | 0 | 0 | 1 | 0 | 1.05V |
| 1 | 0 | 0 | 1 | 1 | 1.025V |
| 1 | 0 | 1 | 0 | 0 | 1.0V |
| 1 | 0 | 1 | 0 | 1 | 0.975V |
| 1 | 0 | 1 | 1 | 0 | 0.95V |
| 1 | 0 | 1 | 1 | 1 | 0.925V |
| 1 | 1 | 0 | 0 | 0 | 0.9V |
| 1 | 1 | 0 | 0 | 1 | 0.875V |
| 1 | 1 | 0 | 1 | 0 | 0.85V |
| 1 | 1 | 0 | 1 | 1 | 0.825V |
| 1 | 1 | 1 | 0 | 0 | 0.8V |
| 1 | 1 | 1 | 0 | 1 | 0.775V |

| | C6762 | C6752 | L6750 | Q6751 | R6756 |
|-----|---------|---------|--------------------------------|---------|--------------------------|
| 17W | OPEN | OPEN | ETQP4LR36AFM 6014B0164501 | OPEN | 80.6K_1% 6013A0072901 |
| 25W | install | install | PCMC104T-R36MN 6014B0024003 | install | 42.2K_1% 6013A0017701 |



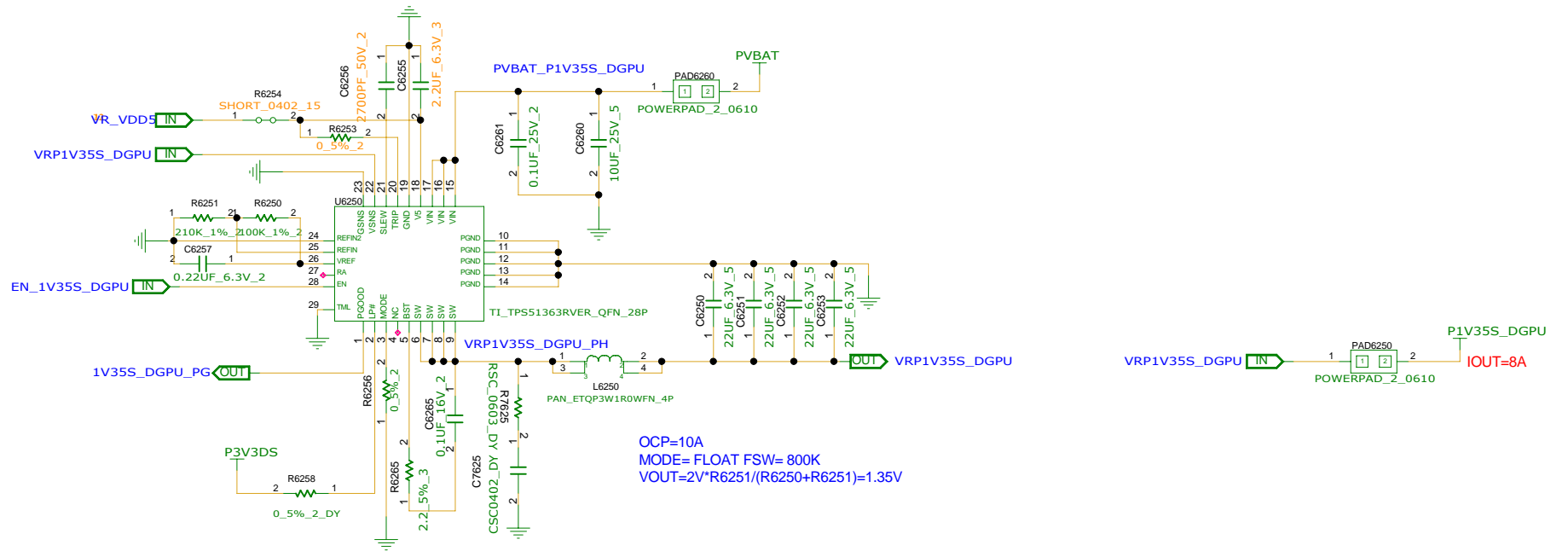
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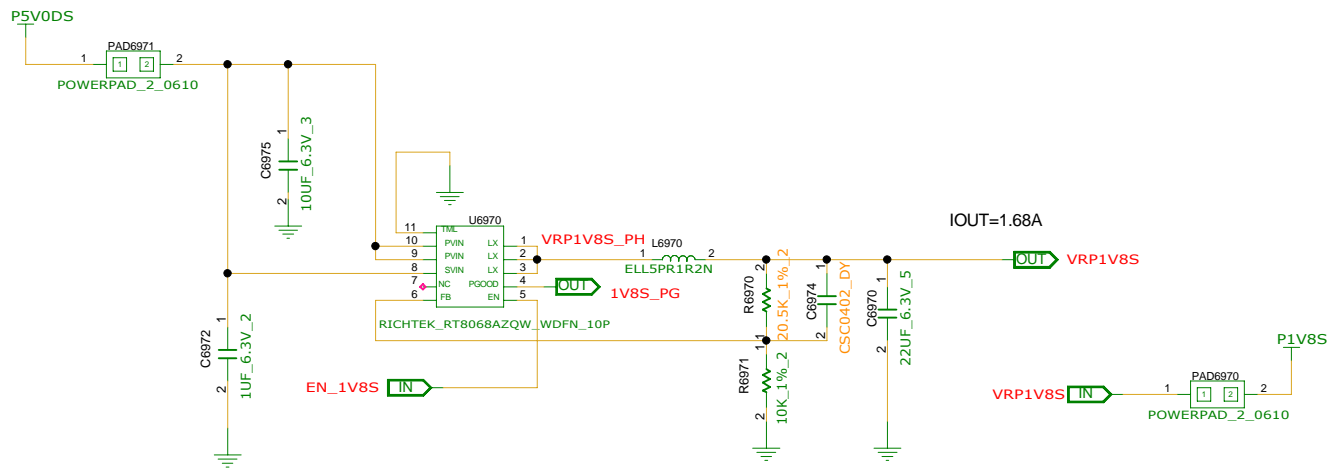
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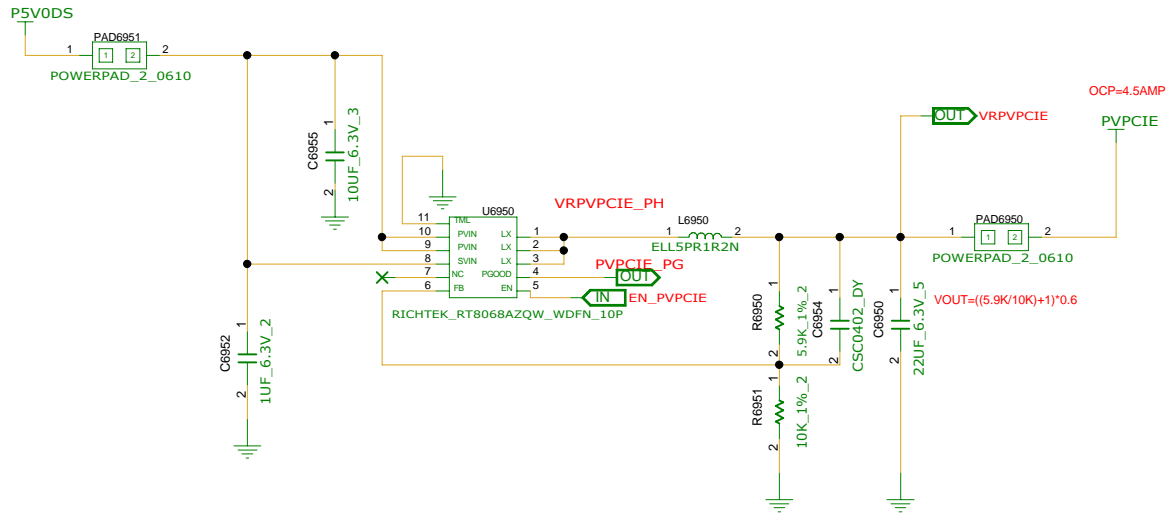
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| CYCLONE DIS Block Diagram | | | |
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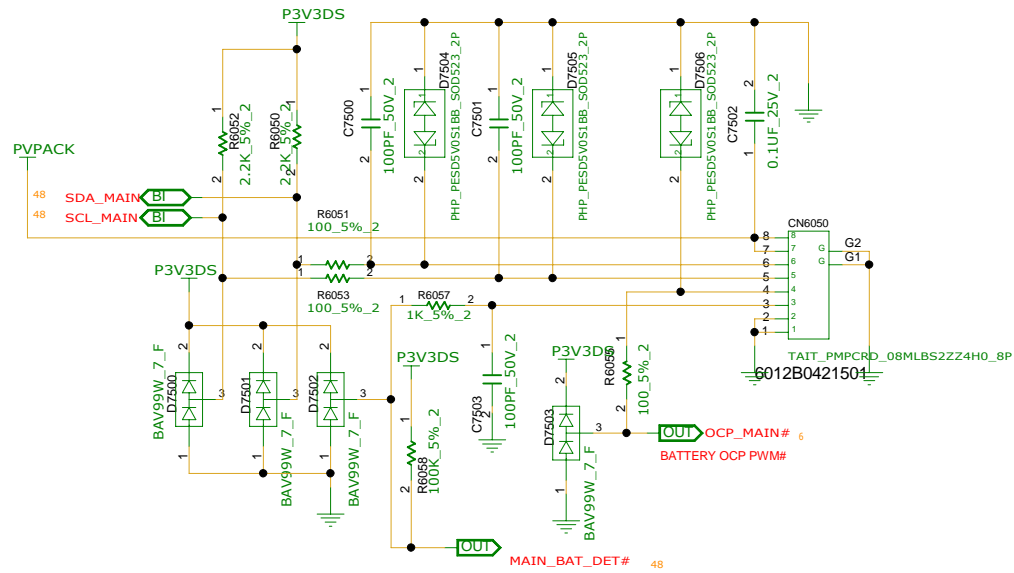
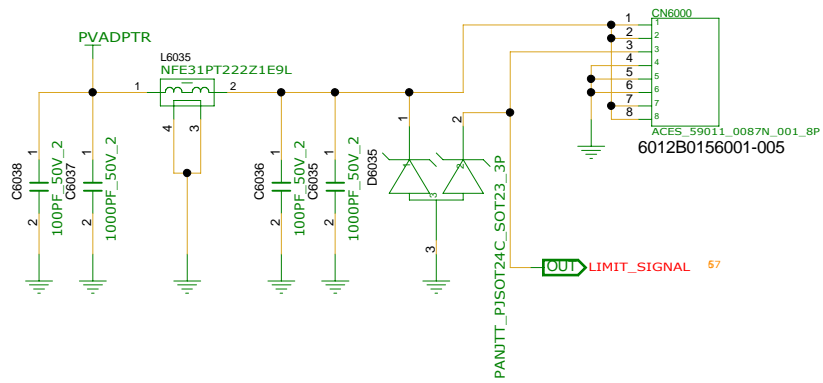


VREF=0.6V
 15K=1.5V
 10K=1.2V
 20.5K=1.83V
 MODE=FLOAT=SKIP MODE
 MODE=VIN=FCCM MODE

| | | | |
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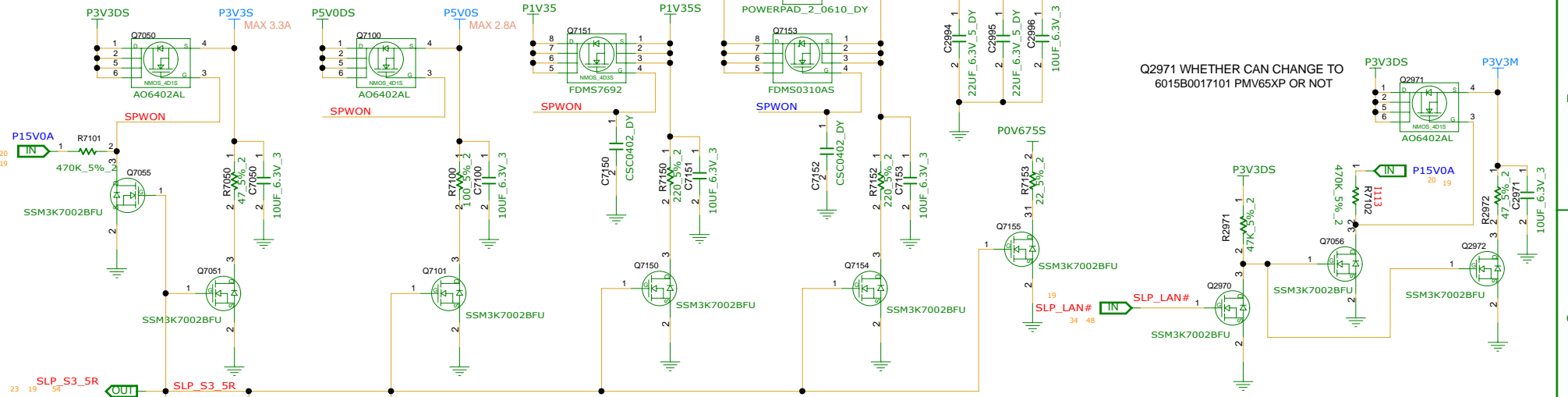
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| CYCLONE_DIS Block Diagram | | | |
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REFERENCE NUMBER : 7000~7350



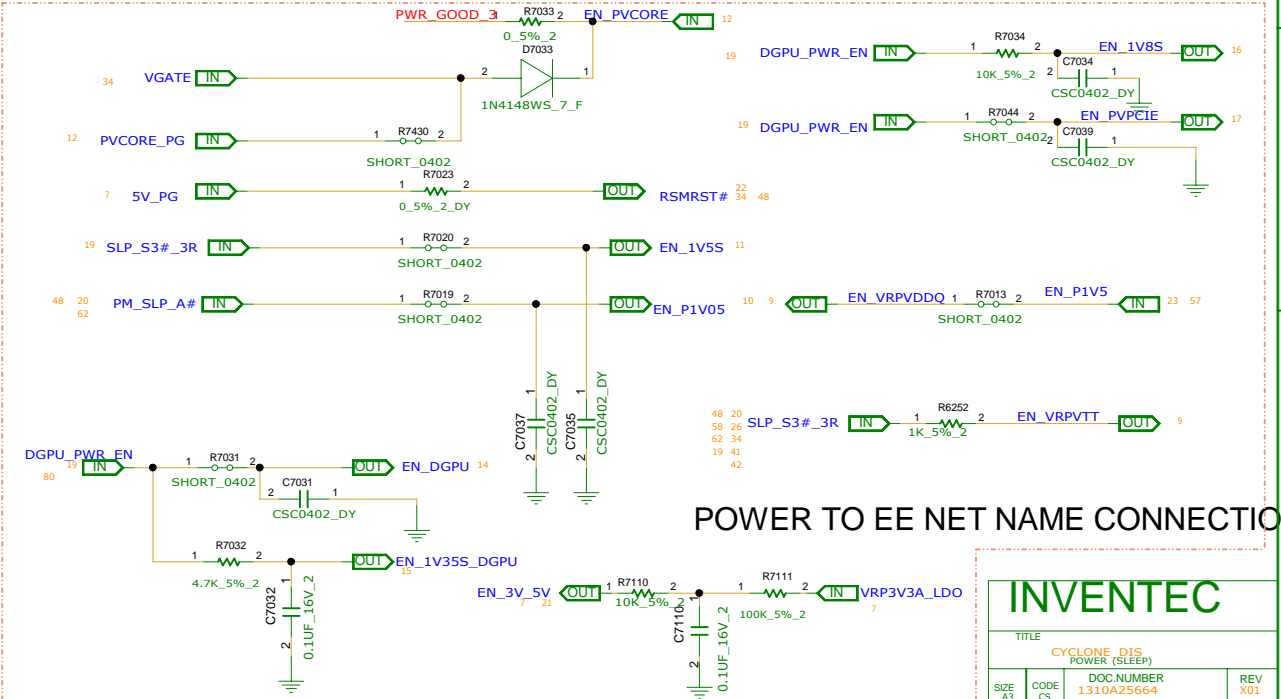
PAD2990 Q7153
 NON-IAMT INSTALL UN-INSTALL
 IAMT UN-INSTALL INSTALL

Q2971 WHETHER CAN CHANGE TO 6015B0017101 PMV65XP OR NOT

FOR IAMT

PAD2990 Q2992,Q2993 R2992,R2993
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 IAMT UN-INSTALL INSTALL

REFERENCE NUMBER : 2950~2999

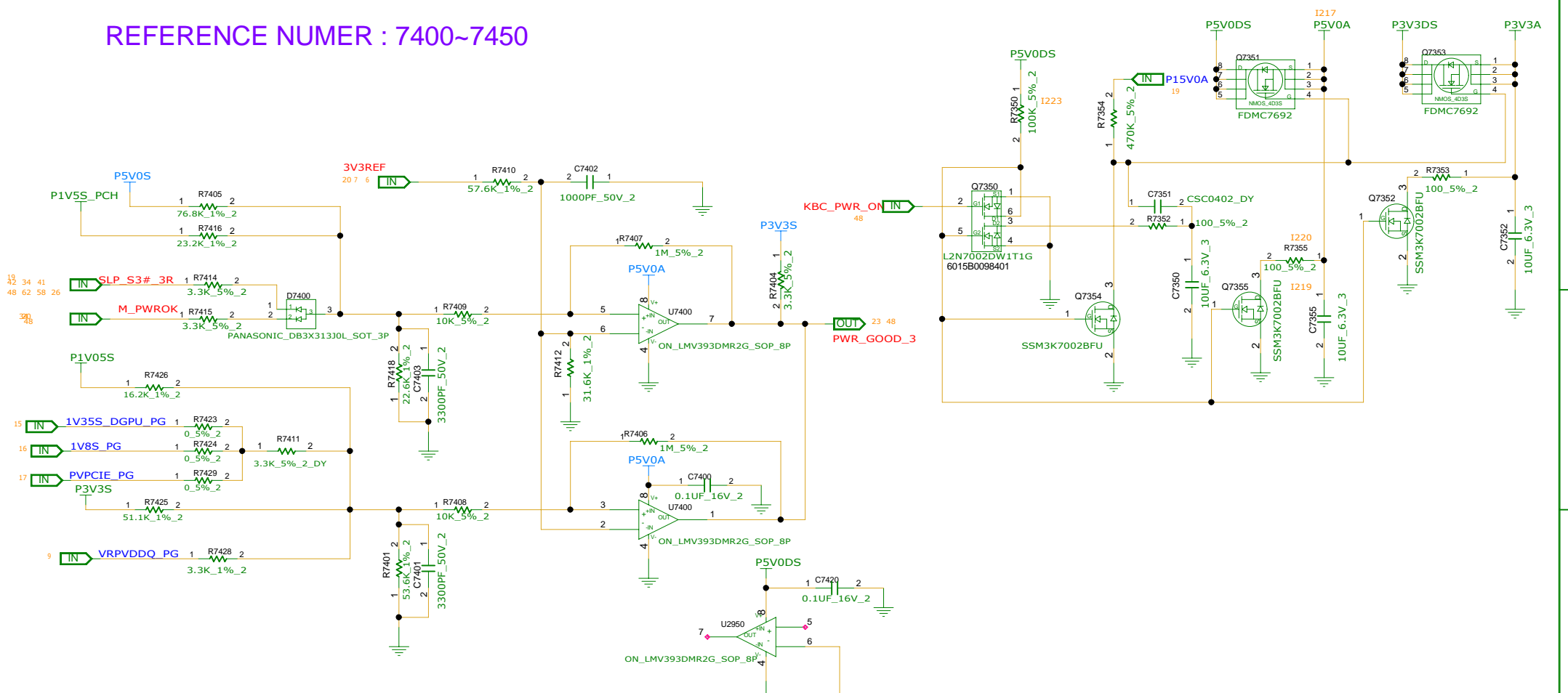


POWER TO EE NET NAME CONNECTION

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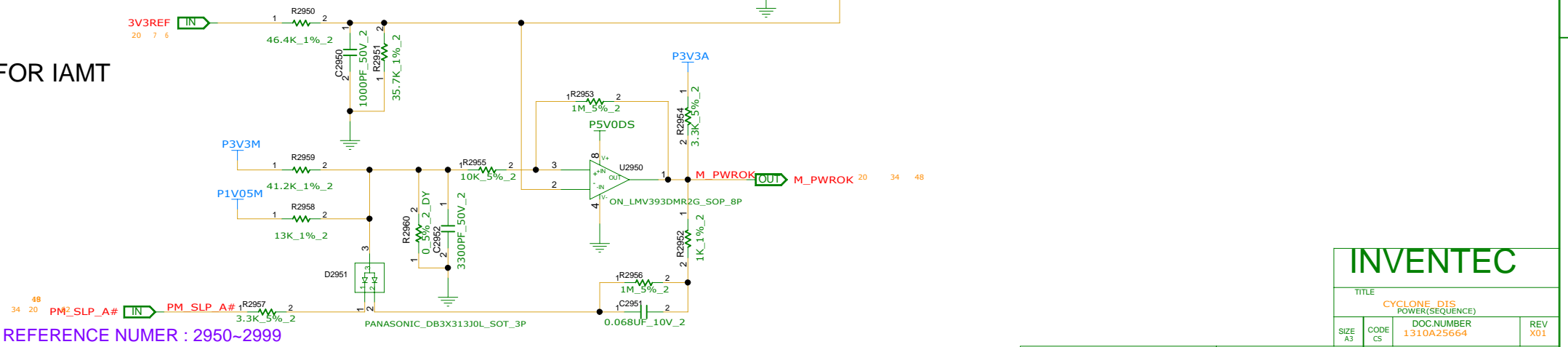
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| TITLE | | | |
| CYCLONE DIS POWER (SLEEP) | | | |
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REFERENCE NUMER : 7400~7450



FOR IAMT

REFERENCE NUMER : 2950~2999

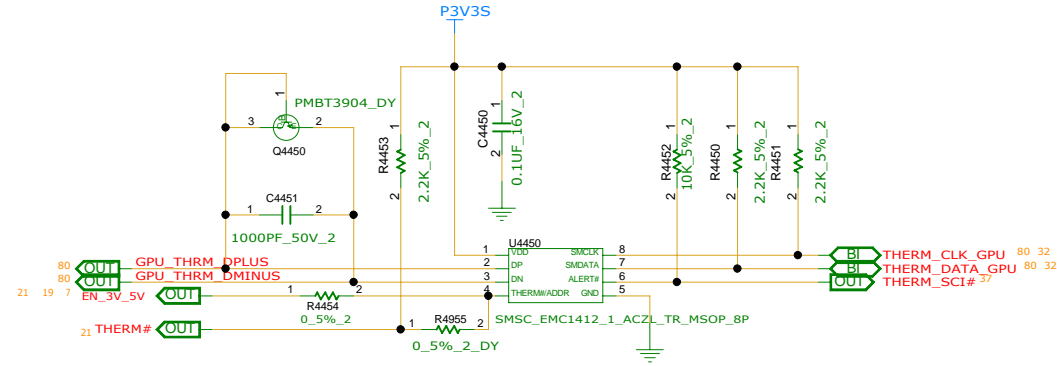


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| CYCLONE_DIS POWER(SQUENCE) | | | |
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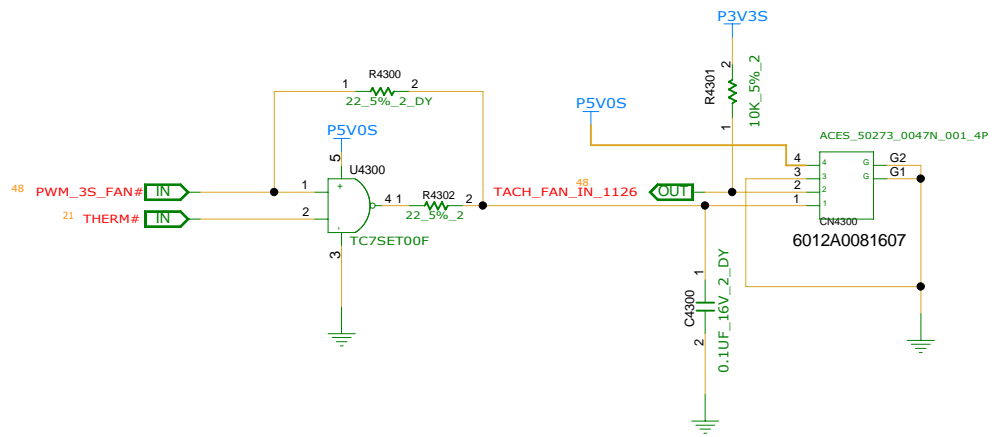
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THERM SENSOR

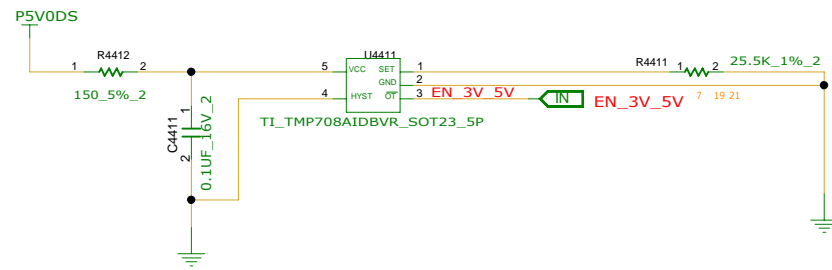


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|-------|---------------|-------------|
| | * CYCLONE-DIS | CYCLONE-UMA |
| Q4450 | UNINSTALL | INSTALL |

REFERENCE NUMBER:4400~4349



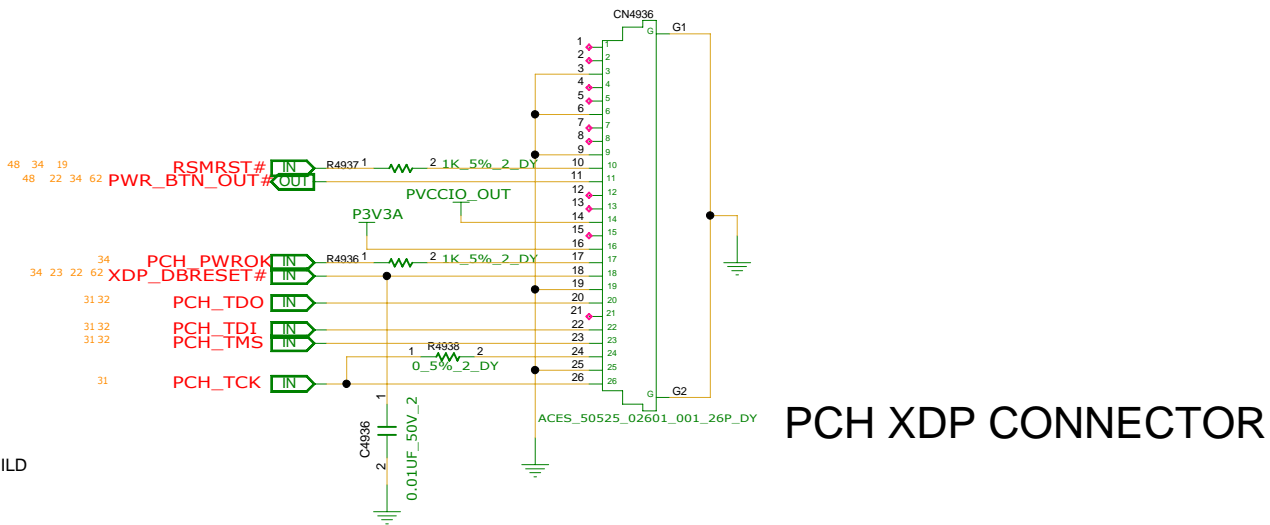
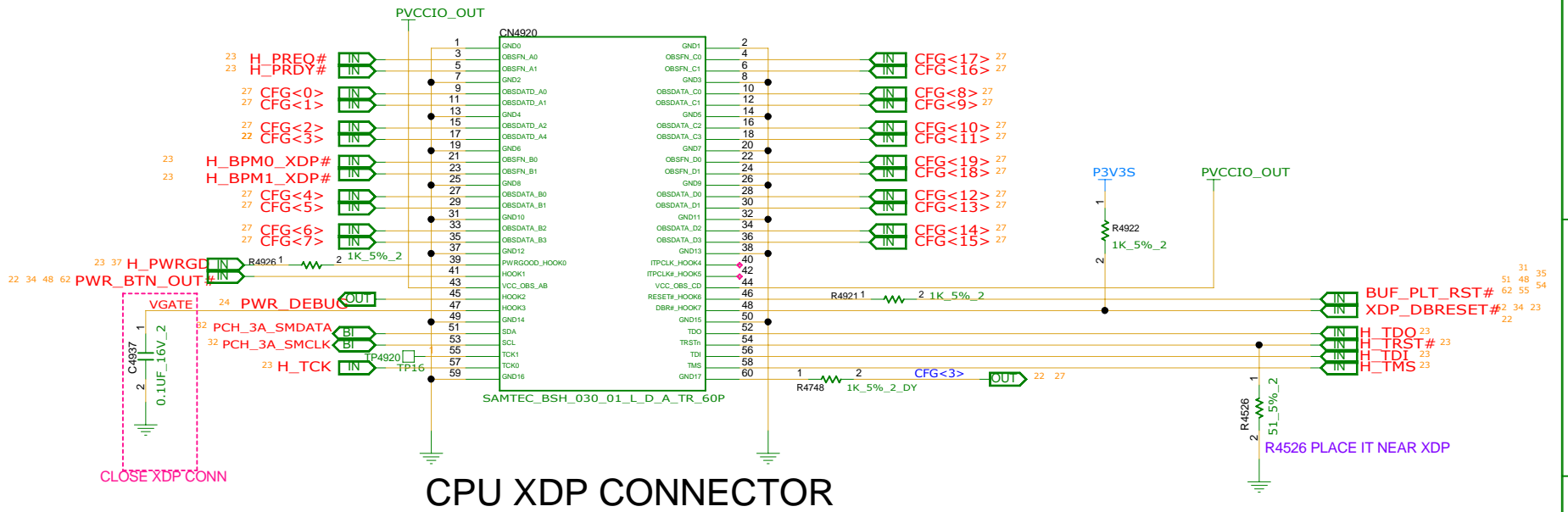
AMBIENT TEMP SENSE



RSET (K OHM) = 0.0012T^2 - 0.9308T + 96.147
 THERMAL SHUTDOWN AT 85 DEG.

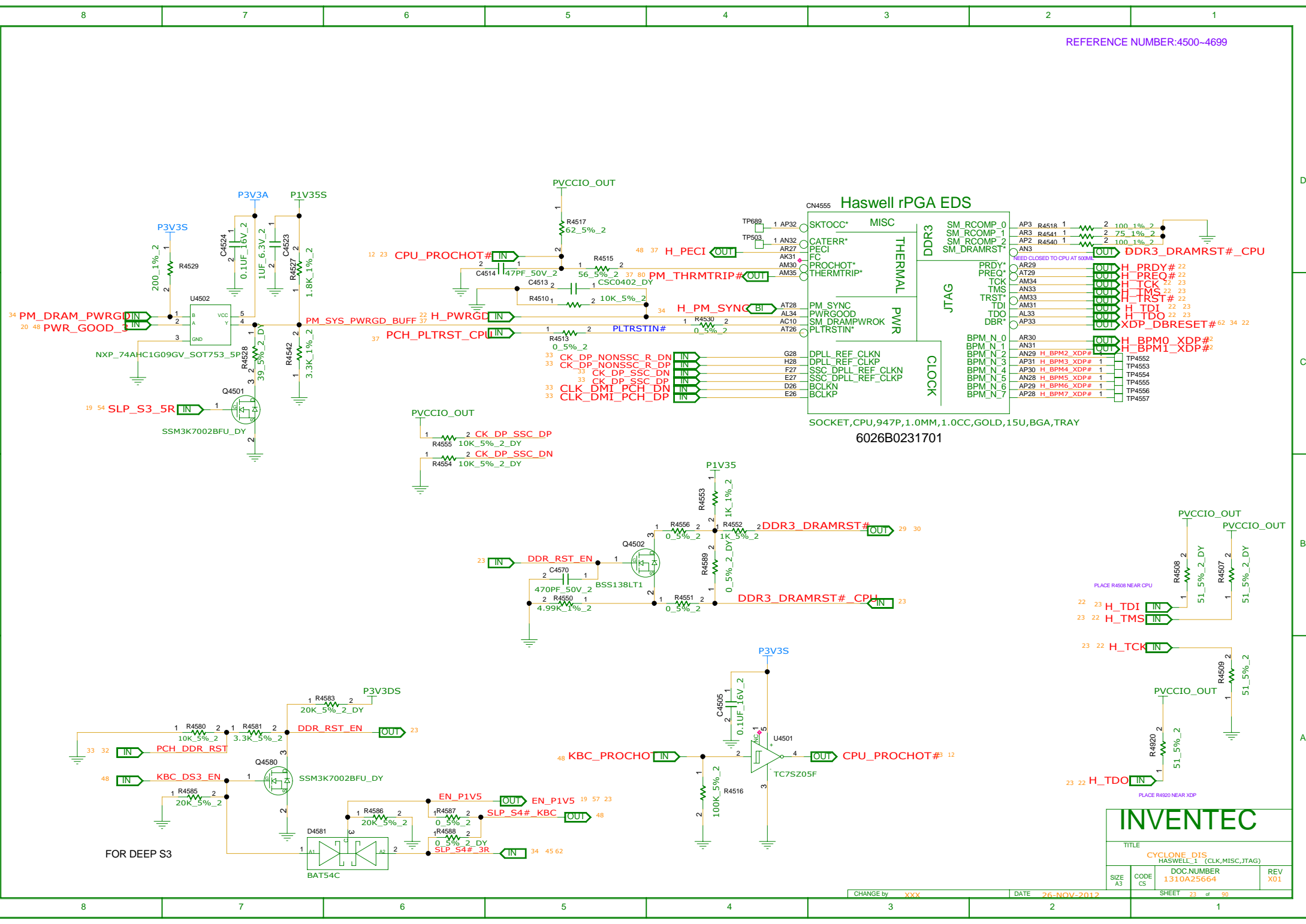
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| INVENTEC | | | |
| TITLE CYCLONE_DIS FAN & THERMAL | | | |
| CODE CS | | DOC NUMBER 1310A25664 | |
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NON-INSTALL CN4936,R4937,R4936 ON PV BUILD

| | | | |
|-----------------------------------|------------|--------------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE iDIS XDP CONN | | | |
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Haswell rPGA EDS

SOCKET, CPU, 947P, 1.0MM, 1.0CC, GOLD, 15U, BGA, TRAY
6026B0231701

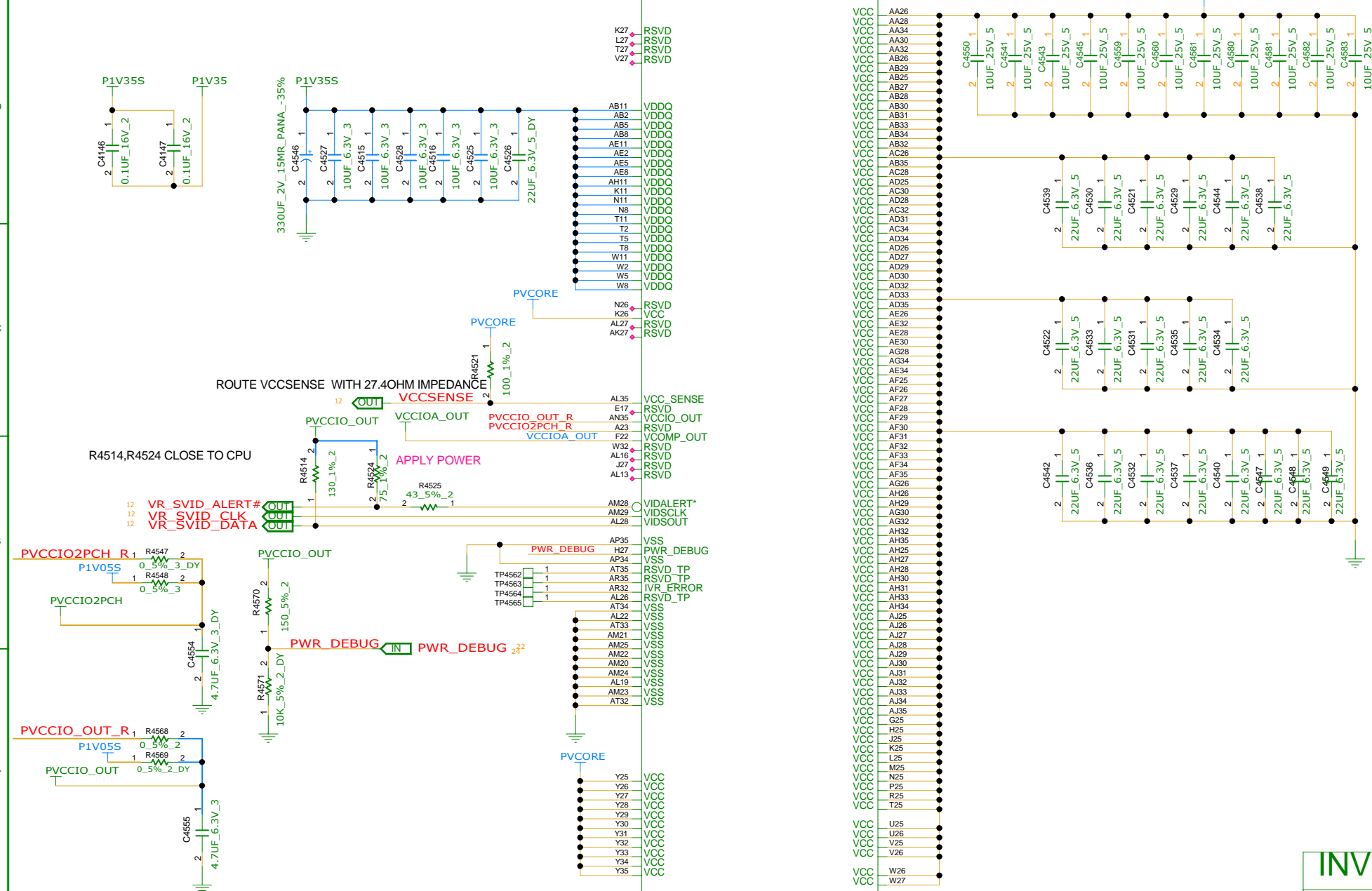
| | | | | | | | |
|--------------|------------|------|-------------|---|--------|----------|--|
| SKTOCC* | MISC | AP3 | R4518 | 1 | 2 | 100_1%_2 | |
| CATERR* | PECI | AR3 | R4541 | 1 | 2 | 75_1%_2 | |
| FC | PROCHOT* | AP2 | R4540 | 1 | 2 | 100_1%_2 | |
| PROCHOT* | THERMTRIP* | AN3 | | | | | |
| PM_SYNC | PWRGOOD | AR29 | | | | | |
| SM_DRAMPWROK | PLTRSTIN* | AT29 | | | | | |
| PLTRSTIN* | | AM34 | | | | | |
| | | AN33 | | | | | |
| | | AM33 | | | | | |
| | | AM31 | | | | | |
| | | AL33 | | | | | |
| | | AP33 | | | | | |
| | | AR30 | | | | | |
| | | AN31 | | | | | |
| | | AN29 | H_BPM2_XDP# | 1 | TP4552 | | |
| | | AP31 | H_BPM3_XDP# | 1 | TP4553 | | |
| | | AP30 | H_BPM4_XDP# | 1 | TP4554 | | |
| | | AN28 | H_BPM5_XDP# | 1 | TP4555 | | |
| | | AP29 | H_BPM6_XDP# | 1 | TP4556 | | |
| | | AP28 | H_BPM7_XDP# | 1 | TP4557 | | |

| | | | |
|---------------------------------------|------|-------------|----------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_DIS HASWELL_1 (CLK,MISC,ITAG) | | | |
| SIZE | CODE | DOC NUMBER | REV |
| A3 | CS | 1310A25664 | X01 |
| CHANGE by | | DATE | SHEET |
| XXX | | 26-NOV-2012 | 23 of 90 |

Haswell rPGA EDS

CN4555

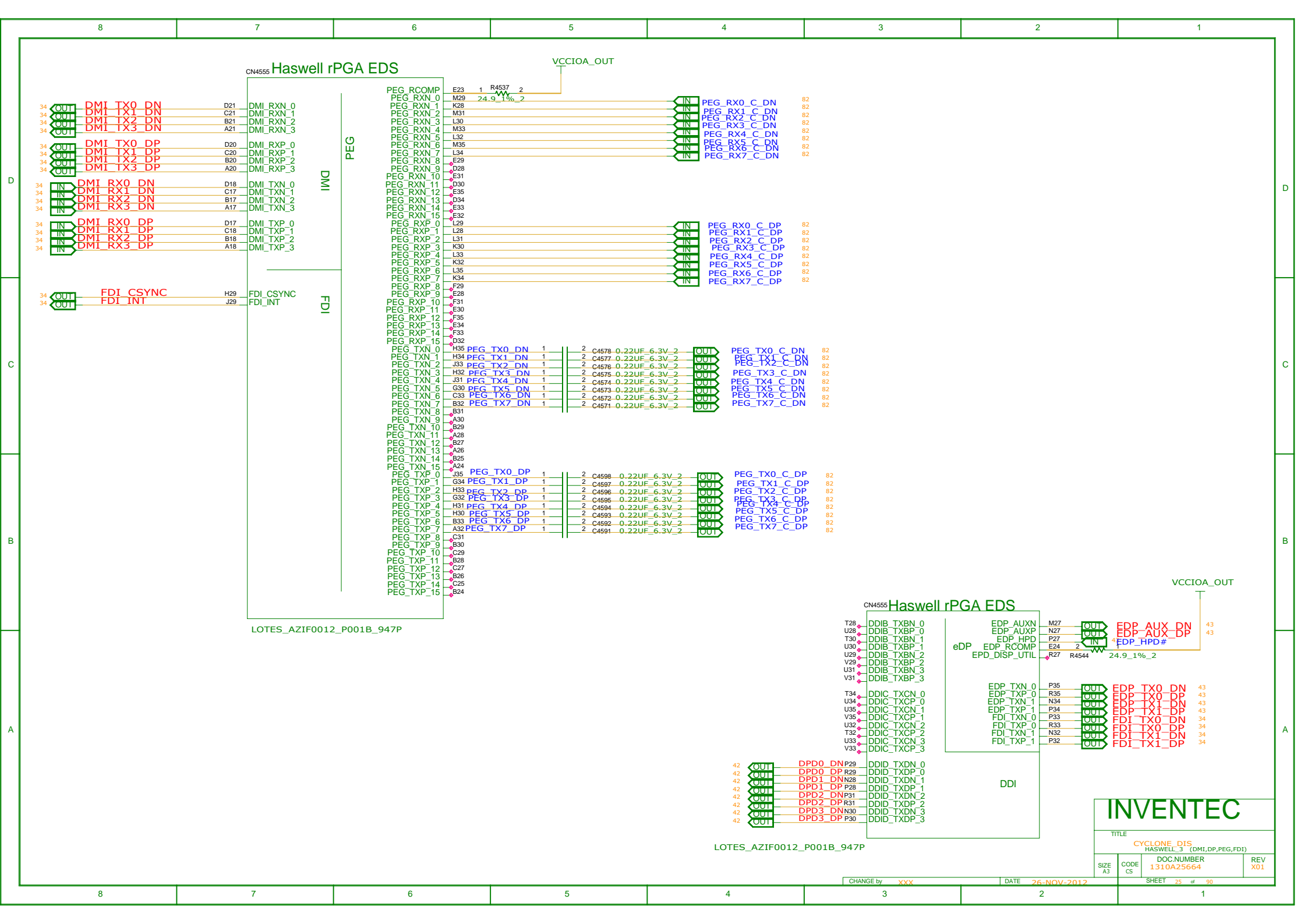
LOTES_AZIF0012_P001B_947P



| | | | |
|---|--|---------------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_D15 HASWELL_2 (POWER) | | | |
| SIZE A3 | | CODE CS | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| CHANGE by XXX | | DATE 26-NOV-2012 | |
| SHEET 24 of 90 | | | |

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1



Haswell rPGA EDS

LOTES_AZIF0012_P001B_947P

Haswell rPGA EDS

LOTES_AZIF0012_P001B_947P

INVENTEC

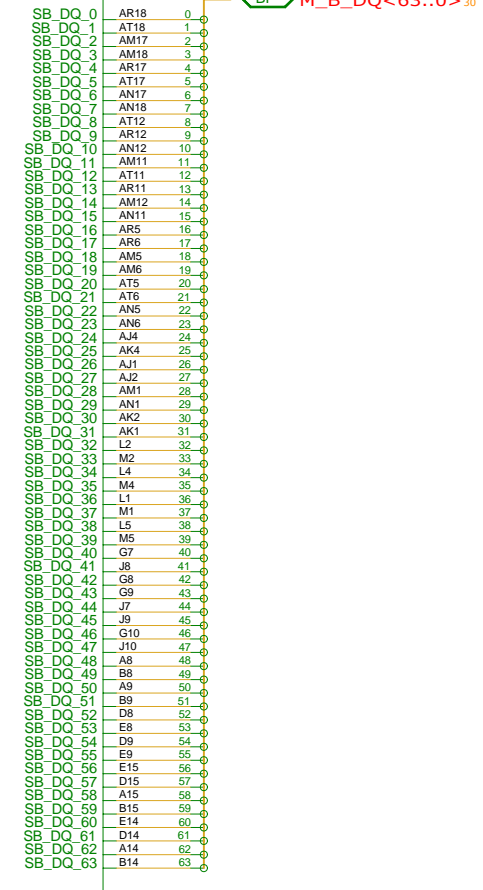
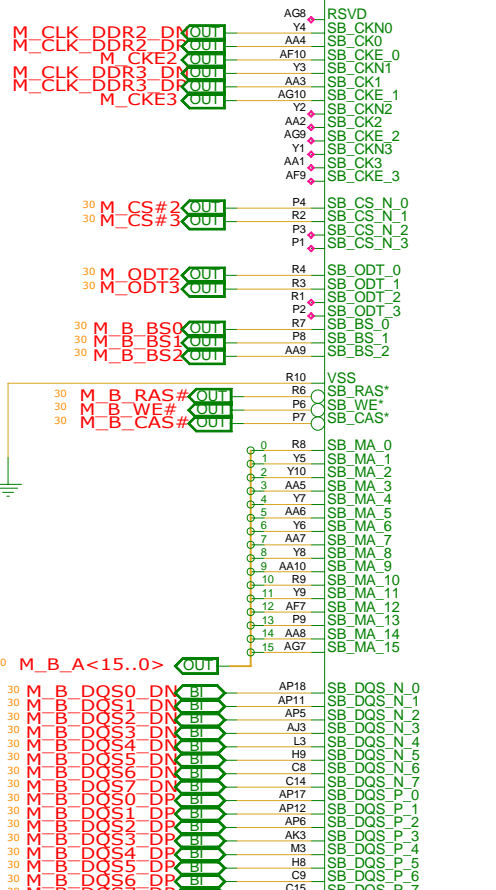
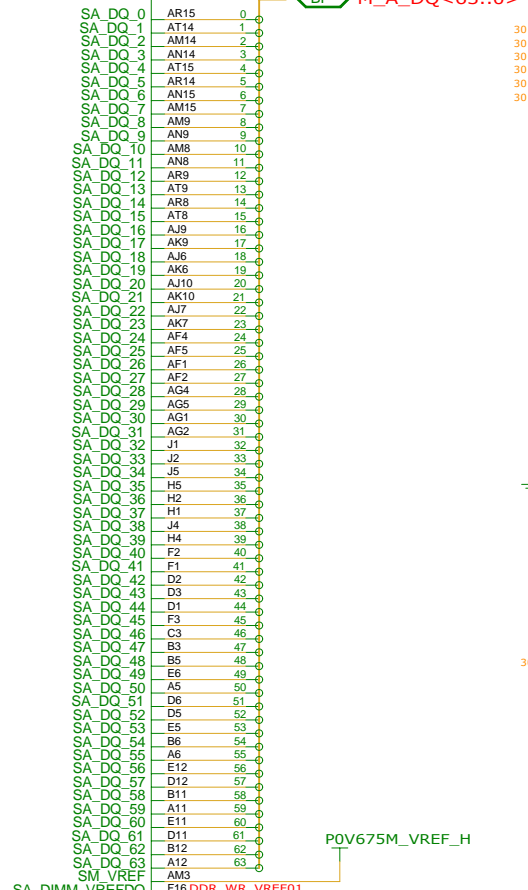
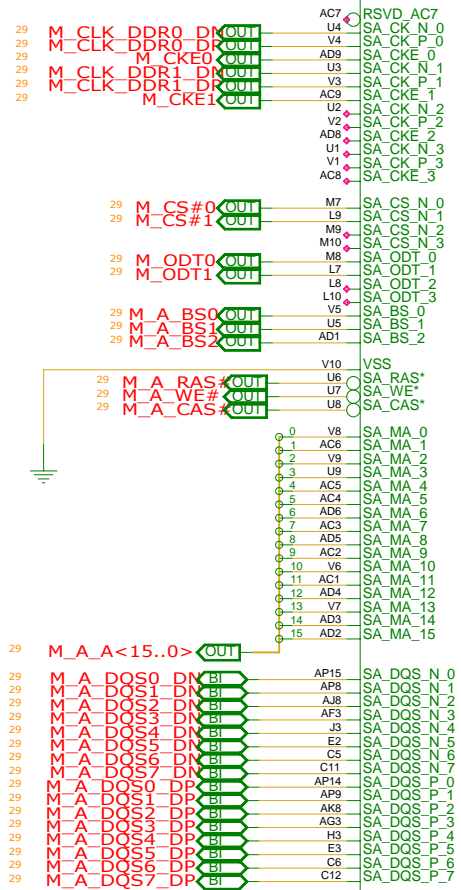
TITLE
CYCLONE_D15
HASWELL_3 (DMI,DP,PEG,FDI)

| | | | |
|------------|------------|--------------------------|------------|
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
|------------|------------|--------------------------|------------|

CHANGE by XXX DATE 26-NOV-2012 SHEET 25 of 90

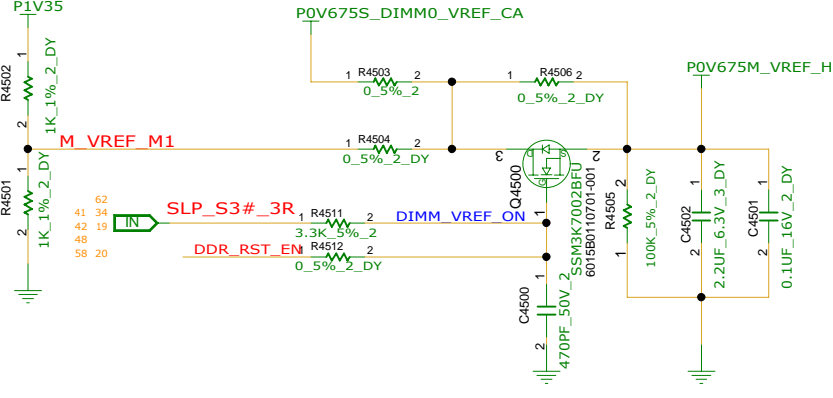
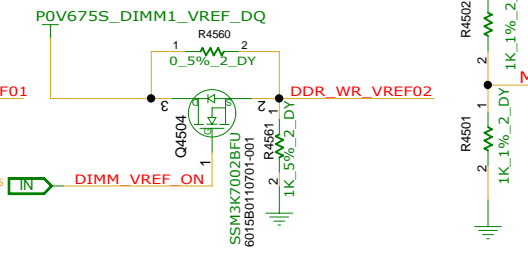
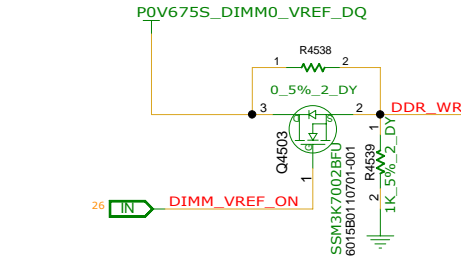
Haswell rPGA EDS

Haswell rPGA EDS

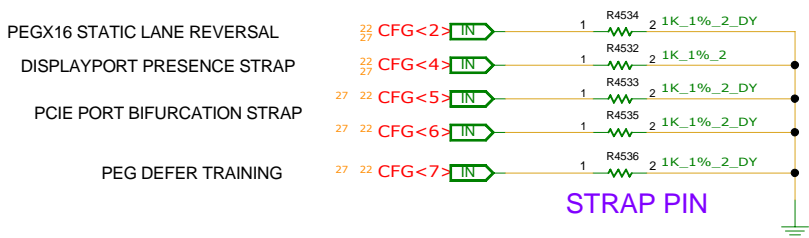
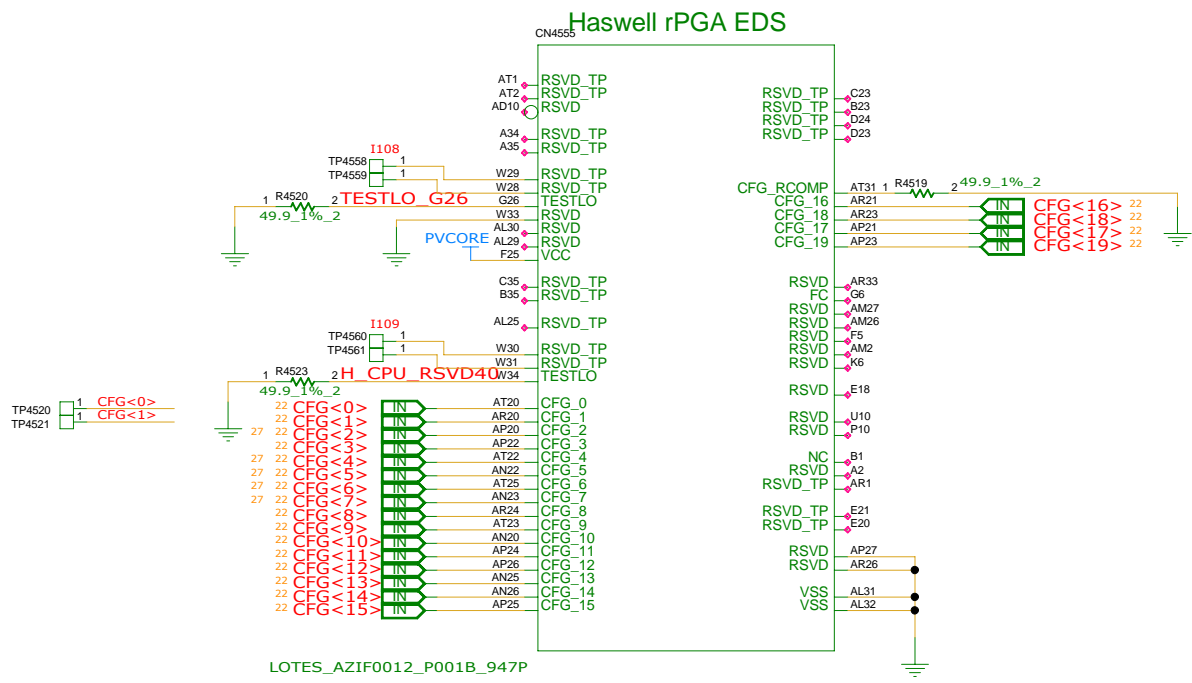


LOTES_AZIF0012_P001B_947P

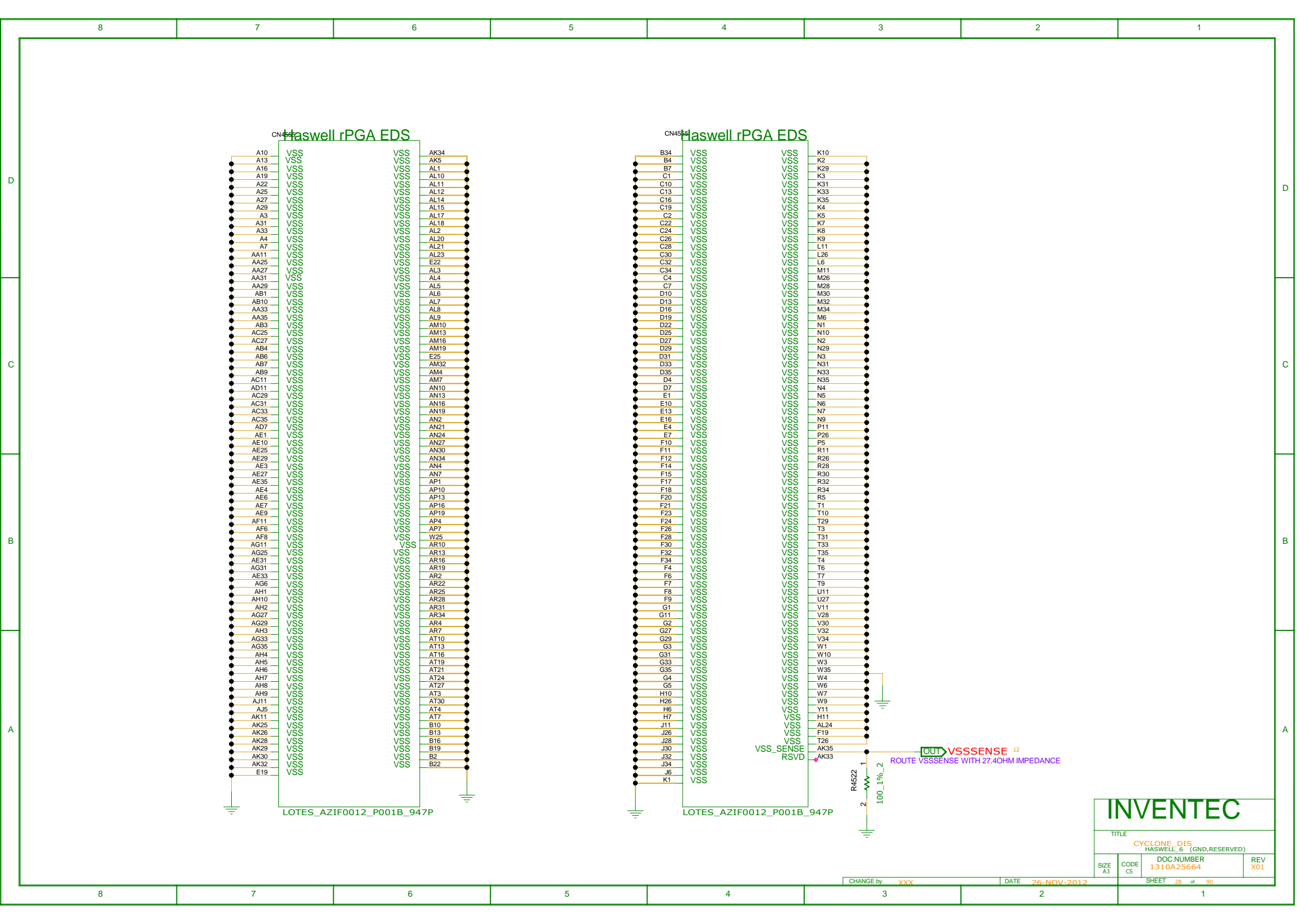
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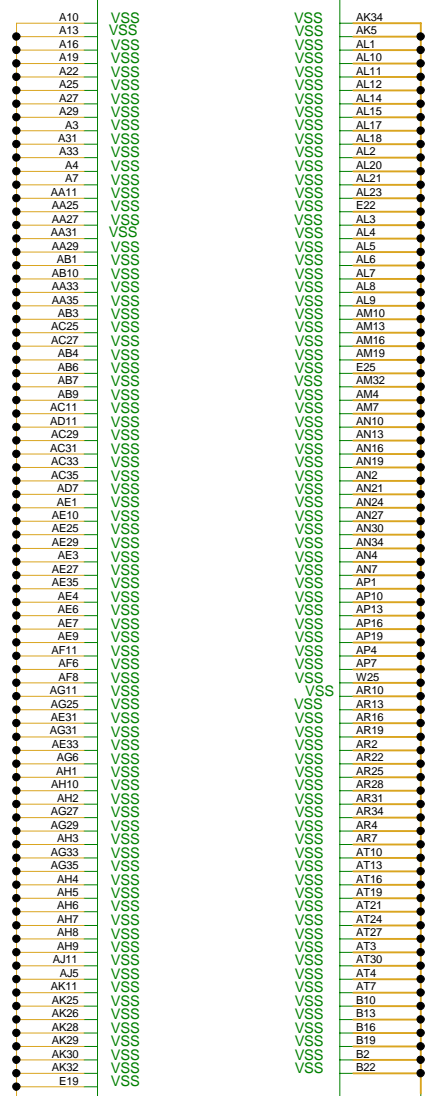
| | | | |
|--|--|---------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE_D15 HASWELL_4 (DDR3) | | | |
| SIZE A3 | | CODE CS | REV X01 |
| DOC NUMBER 1310A25664 | | REV X01 | |
| CHANGE by XXX | | DATE 26-NOV-2012 | |
| SHEET 26 | | of 90 | |



| | | | |
|---|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS HASWELL_5 (CFG) | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 27 of 90 |

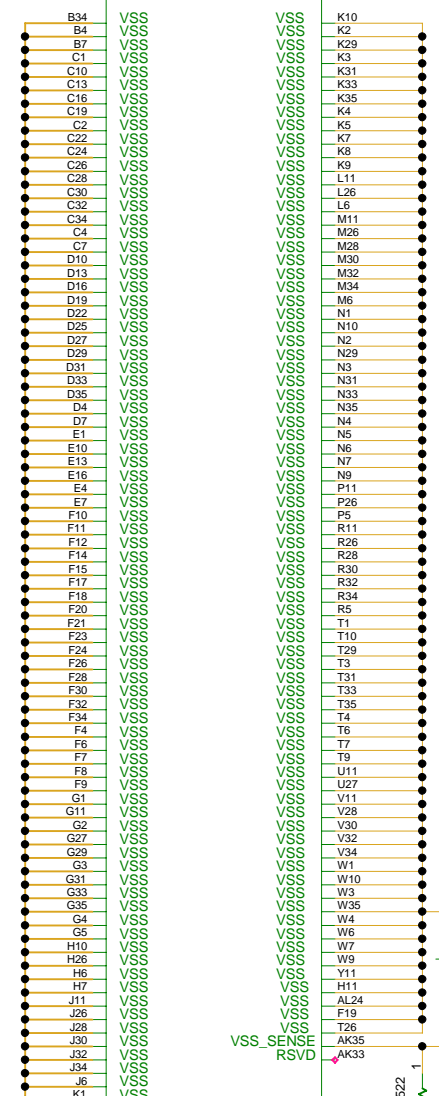


Haswell rPGA EDS



LOTES_AZIF0012_P001B_947P

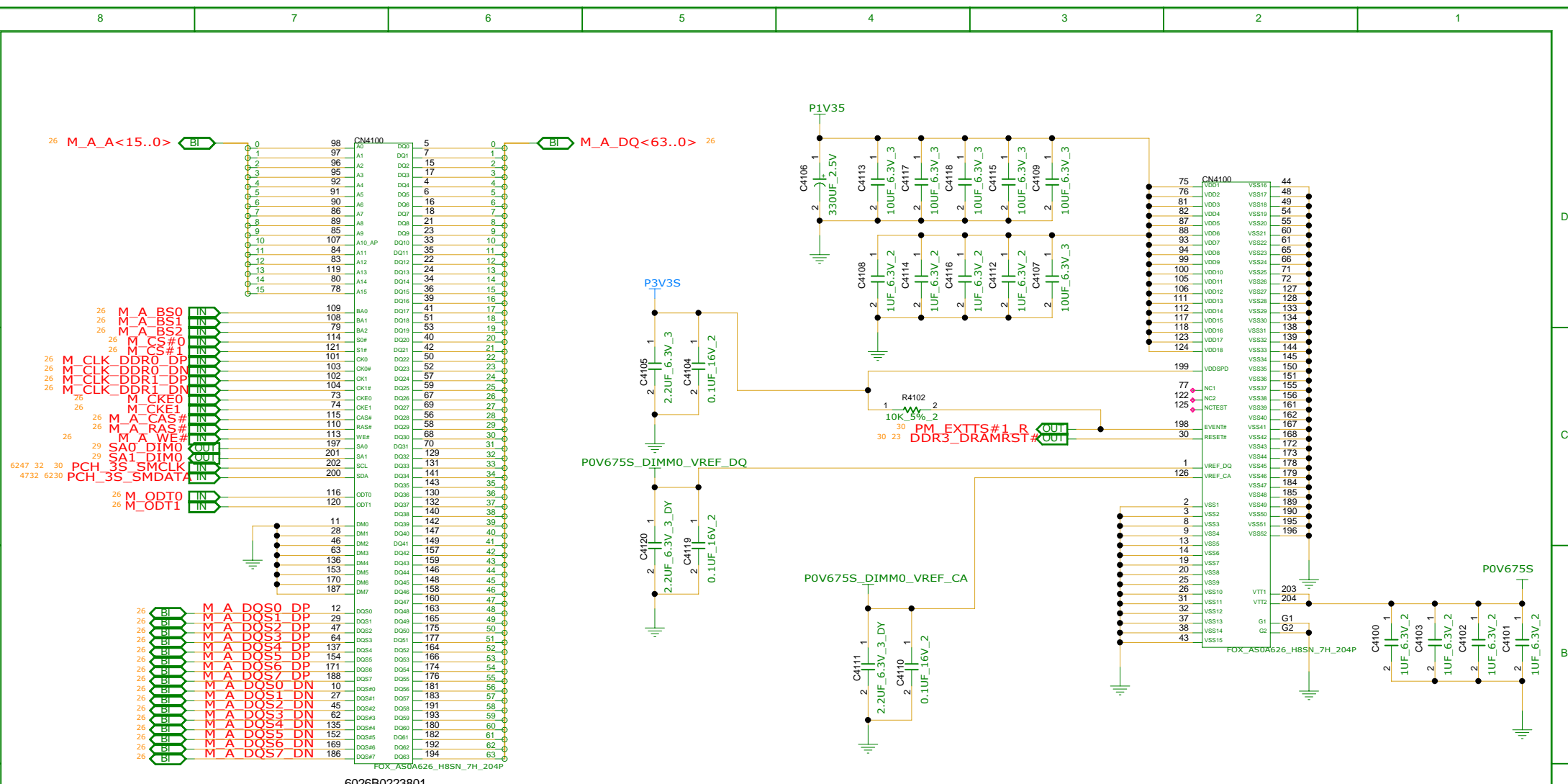
Haswell rPGA EDS



LOTES_AZIF0012_P001B_947P

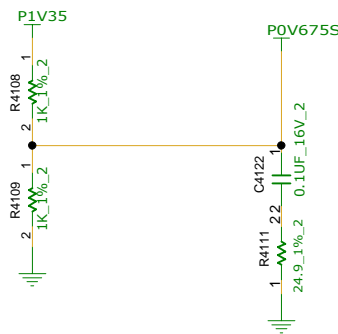
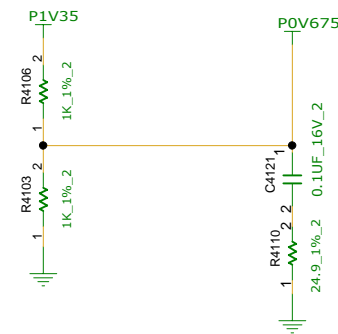
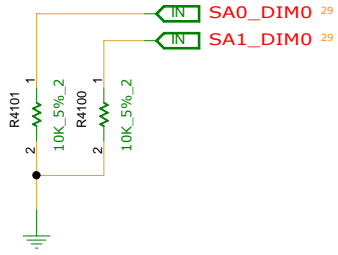
OUT VSSSENSE I2
ROUTE VSSSENSE WITH 27.40HM IMPEDANCE

| | | | |
|--|------------|--------------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE_D15 HASWELL_6 (GND,RESERVED) | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| SHEET 28 of 90 | | | |

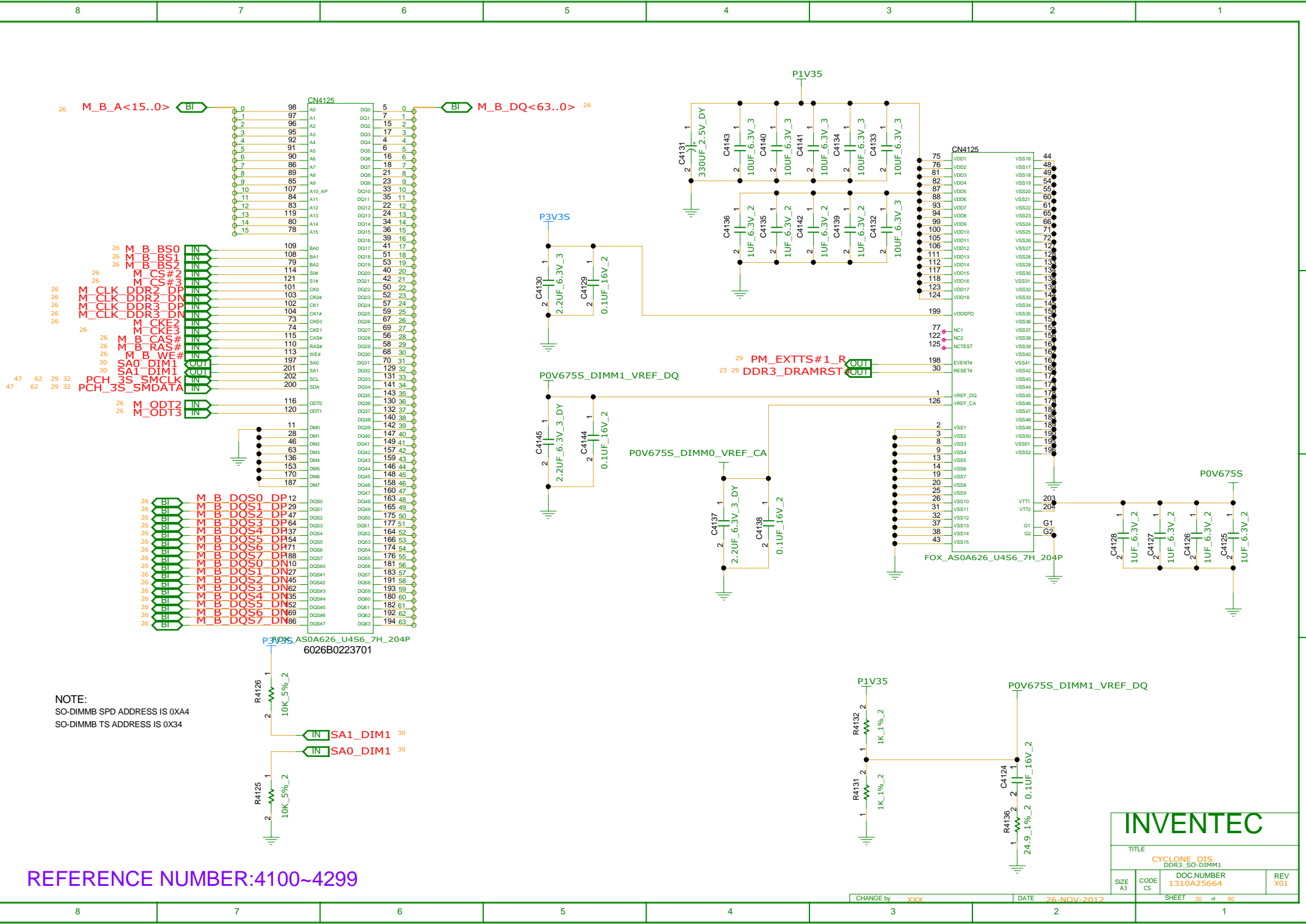


NOTE:
 IF SA0_DIMM0=0, SA1_DIMM0=0
 SO-DIMMA SPD ADDRESS IS 0XA0
 SO-DIMMA TS ADDRESS IS 0X30
 IF SA0_DIMM0=1, SA1_DIMM0=0
 SO-DIMMA SPD ADDRESS IS 0XA2
 SO-DIMMA TS ADDRESS IS 0X32

REFERENCE NUMBER:4100~4299



| | | | |
|------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_D1S DDR3_SO_DIMM0 | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 29 of 90 |

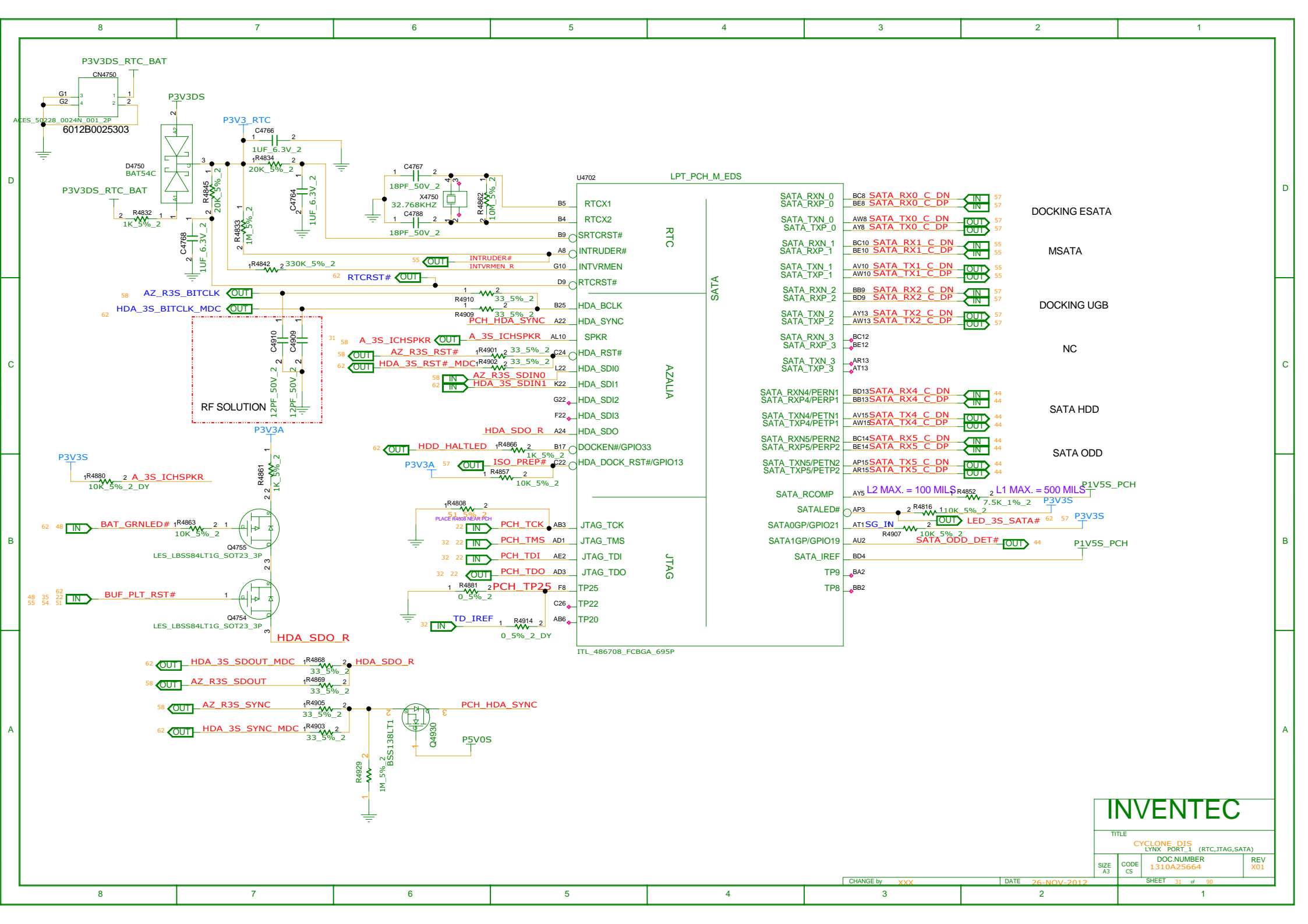


| Pin | Signal | Pin | Signal |
|-----|---------------|-----|--------|
| 98 | A0 | 5 | D00 |
| 97 | A1 | 7 | D01 |
| 96 | A2 | 15 | D02 |
| 95 | A3 | 17 | D03 |
| 92 | A4 | 4 | D04 |
| 91 | A5 | 6 | D05 |
| 90 | A6 | 16 | D06 |
| 89 | A7 | 18 | D07 |
| 88 | A8 | 21 | D08 |
| 85 | A9 | 23 | D09 |
| 107 | A10_AP | 33 | D10 |
| 84 | A11 | 35 | D11 |
| 83 | A12 | 22 | D12 |
| 119 | A13 | 24 | D13 |
| 80 | A14 | 34 | D14 |
| 78 | A15 | 36 | D15 |
| 109 | BA0 | 39 | D16 |
| 108 | BA1 | 41 | D17 |
| 79 | BA2 | 51 | D18 |
| 114 | BA3 | 53 | D19 |
| 121 | SO# | 40 | D20 |
| 101 | SI# | 42 | D21 |
| 103 | CK0# | 50 | D22 |
| 102 | CK1# | 52 | D23 |
| 104 | CK1# | 57 | D24 |
| 73 | CKE0# | 59 | D25 |
| 74 | CKE1# | 67 | D26 |
| 115 | CKE2# | 69 | D27 |
| 110 | CKE3# | 56 | D28 |
| 113 | RAS# | 58 | D29 |
| 197 | WE# | 68 | D30 |
| 201 | SA0_DIM1 | 70 | D31 |
| 202 | SA1_DIM1 | 129 | D32 |
| 200 | PCH_3S_SMCLK | 131 | D33 |
| 200 | PCH_3S_SMDATA | 141 | D34 |
| 116 | ODT0 | 143 | D35 |
| 120 | ODT1 | 130 | D36 |
| 11 | DM0 | 132 | D37 |
| 28 | DM1 | 140 | D38 |
| 46 | DM2 | 142 | D39 |
| 63 | DM3 | 147 | D40 |
| 136 | DM4 | 149 | D41 |
| 153 | DM5 | 157 | D42 |
| 170 | DM6 | 159 | D43 |
| 187 | DM7 | 146 | D44 |
| 187 | DM7 | 148 | D45 |
| 187 | DM7 | 158 | D46 |
| 160 | DM7 | 160 | D47 |
| 163 | DM7 | 163 | D48 |
| 165 | DM7 | 165 | D49 |
| 175 | DM7 | 175 | D50 |
| 177 | DM7 | 177 | D51 |
| 164 | DM7 | 164 | D52 |
| 166 | DM7 | 166 | D53 |
| 174 | DM7 | 174 | D54 |
| 176 | DM7 | 176 | D55 |
| 181 | DM7 | 181 | D56 |
| 183 | DM7 | 183 | D57 |
| 191 | DM7 | 191 | D58 |
| 193 | DM7 | 193 | D59 |
| 180 | DM7 | 180 | D60 |
| 182 | DM7 | 182 | D61 |
| 192 | DM7 | 192 | D62 |
| 194 | DM7 | 194 | D63 |
| 12 | DQS0 | 12 | DQ09 |
| 29 | DP29 | 29 | DQ01 |
| 47 | DP47 | 47 | DQ02 |
| 64 | DP64 | 64 | DQ03 |
| 37 | DP37 | 37 | DQ04 |
| 71 | DP71 | 71 | DQ05 |
| 88 | DP88 | 88 | DQ06 |
| 10 | DN10 | 10 | DQ07 |
| 27 | DN27 | 27 | DQ08 |
| 45 | DN45 | 45 | DQ09 |
| 62 | DN62 | 62 | DQ10 |
| 85 | DN85 | 85 | DQ11 |
| 52 | DN52 | 52 | DQ12 |
| 69 | DN69 | 69 | DQ13 |
| 86 | DN86 | 86 | DQ14 |

NOTE:
 SO-DIMMB SPD ADDRESS IS 0XA4
 SO-DIMM TS ADDRESS IS 0X34

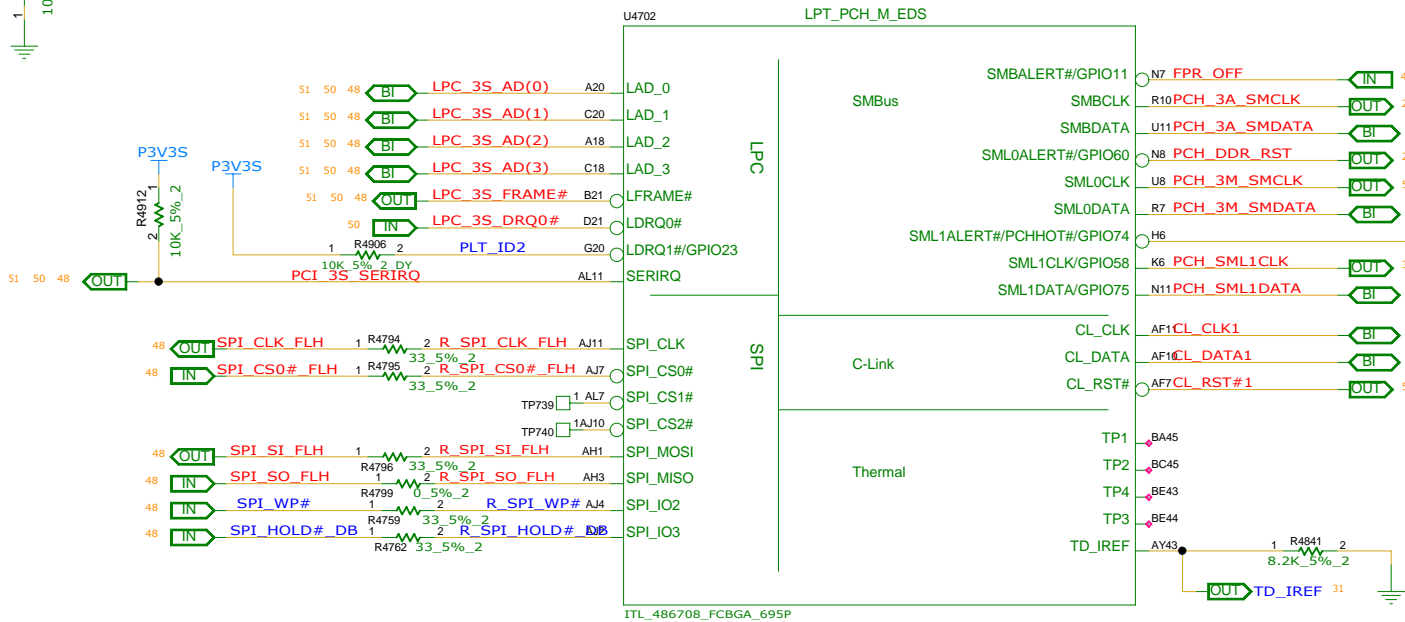
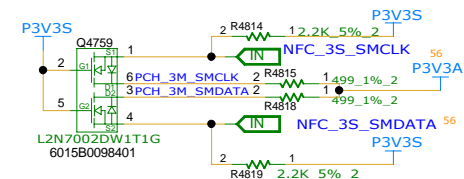
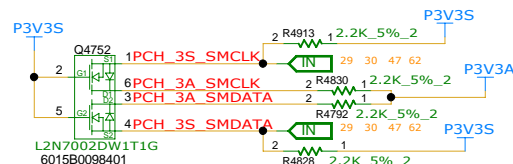
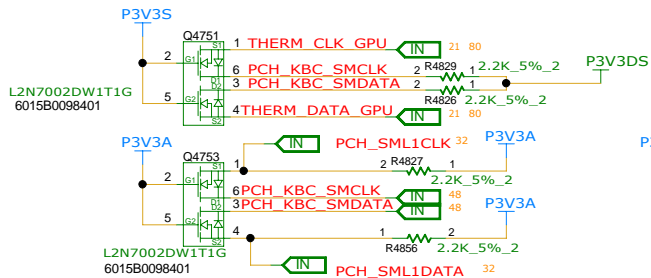
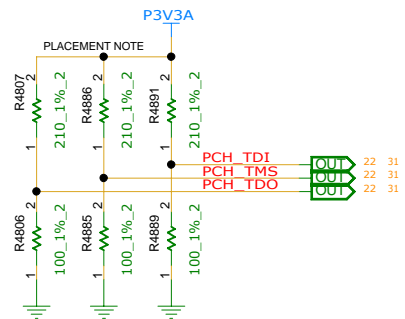
REFERENCE NUMBER:4100~4299

| | | | |
|------------------------------|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_D1S DDR3_SO_DIMM1 | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 30 of 90 |

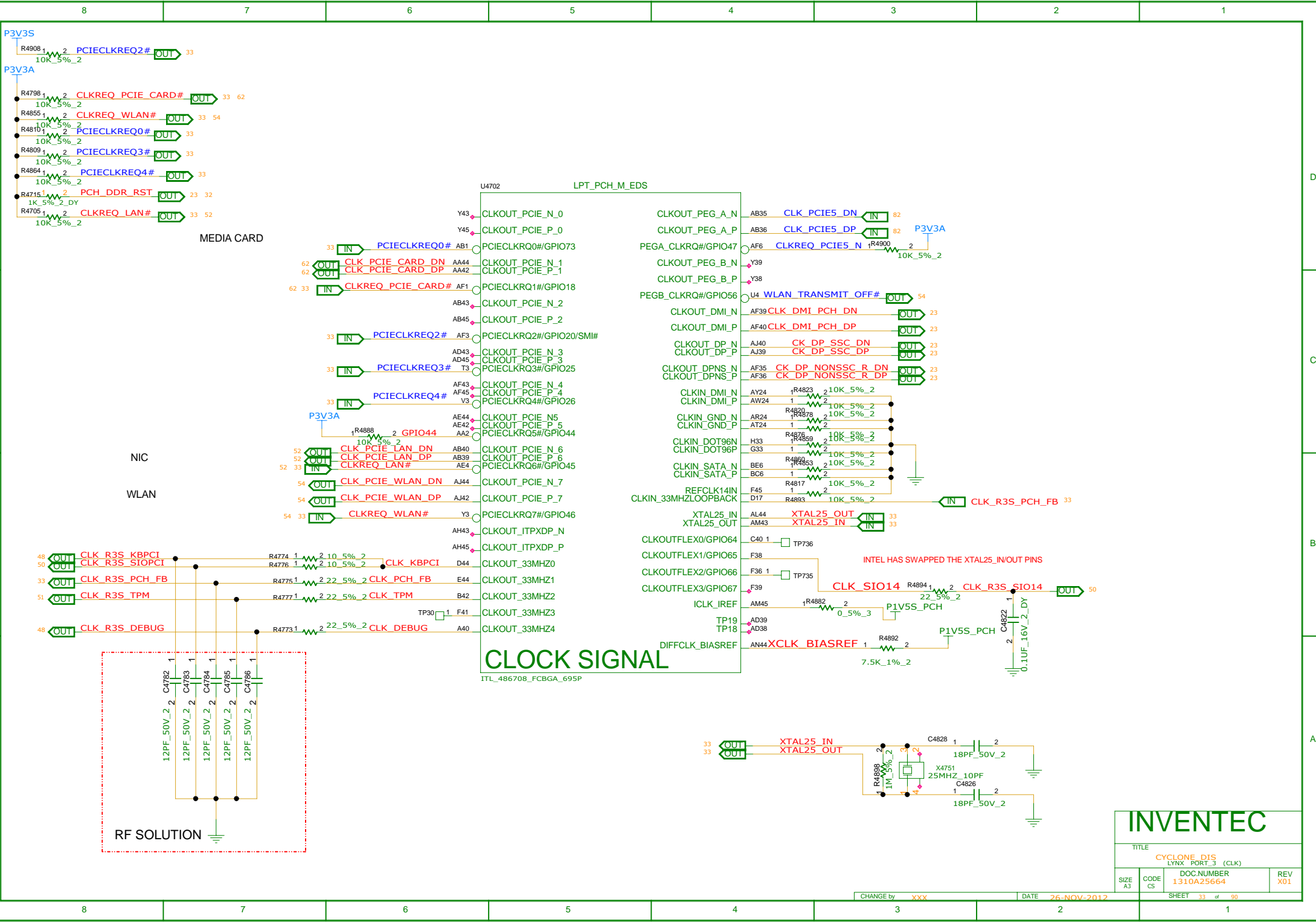


| | | | |
|--------------------------------------|------------|---------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE D1S (RTC,JTAG,SATA) | | | |
| DOC NUMBER 1310A25664 | | | |
| REV X01 | | | |
| SIZE A3 | CODE CS | DATE 26-NOV-2012 | SHEET 31 of 90 |

LAYOUT NOTE: JTAG_TMS TERMINATIONS NEED TO BE PLACED NEAR PCH
 LAYOUT NOTE: JTAG_TDI TERMINATIONS NEED TO BE PLACED NEAR PCH
 LAYOUT NOTE: JTAG_TDO TERMINATIONS NEED TO BE PLACED NEAR XDP



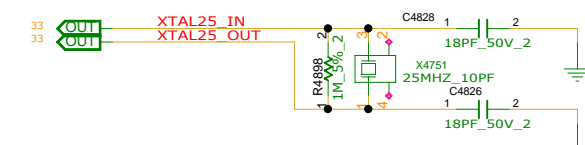
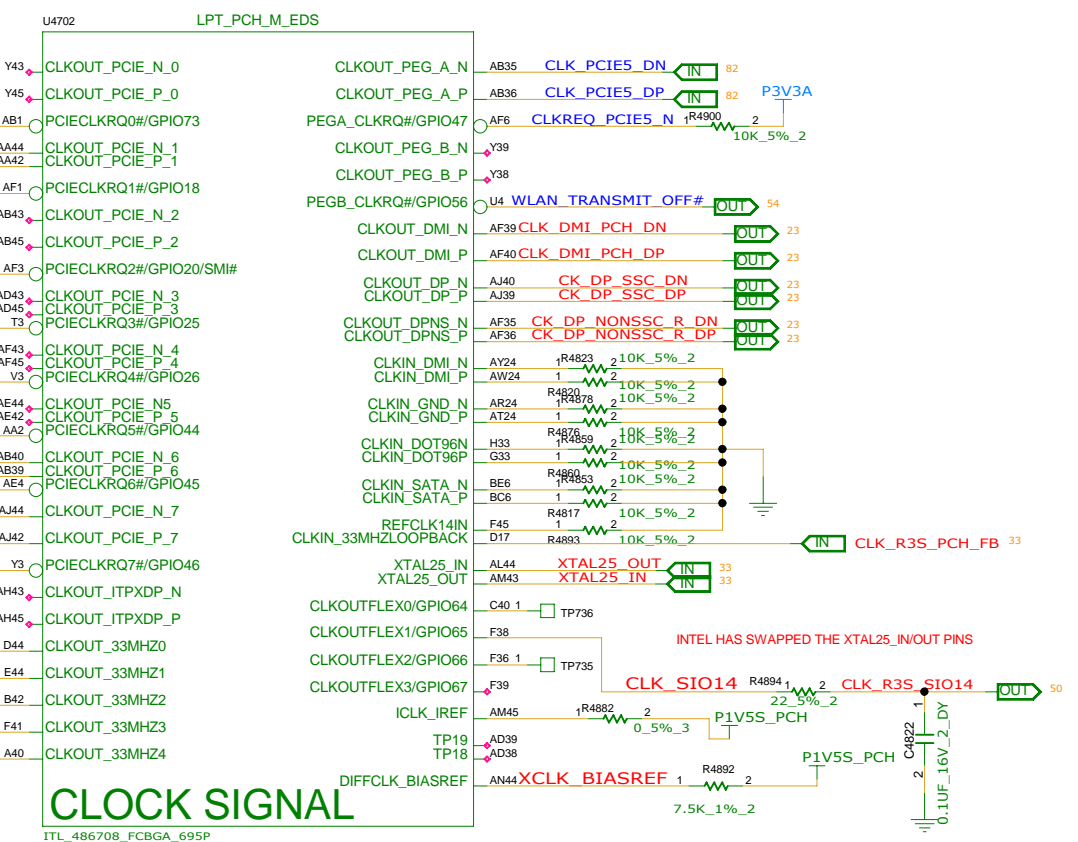
| | | | |
|----------------------------|------|-------------|----------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_DIS (SPI,SMBUS,CL) | | | |
| SIZE | CODE | DOC NUMBER | REV |
| A3 | CS | 1310A25664 | X01 |
| CHANGE by | | DATE | SHEET |
| XXX | | 26-NOV-2012 | 32 of 90 |



MEDIA CARD

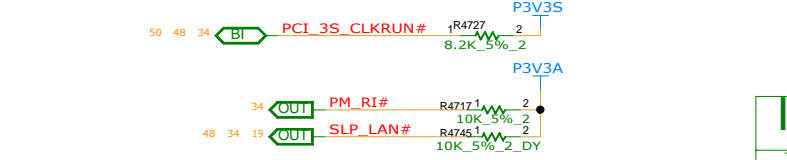
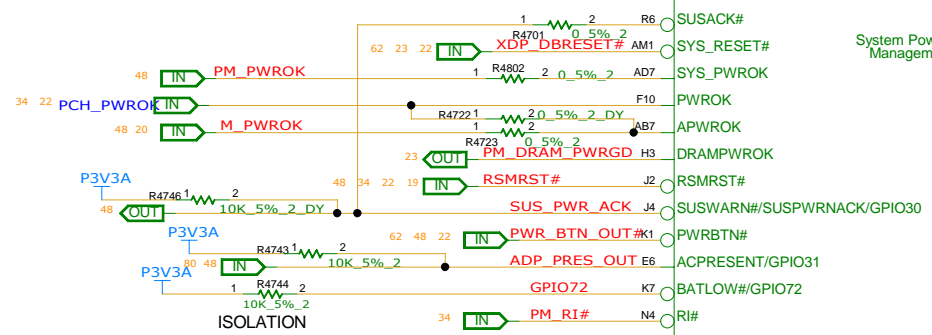
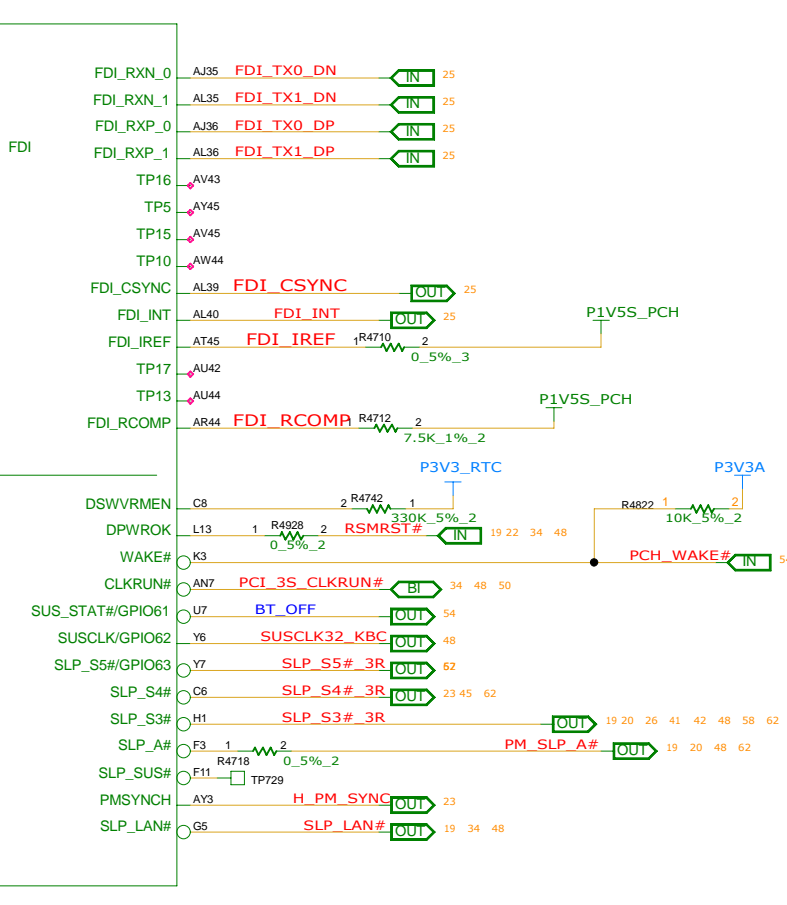
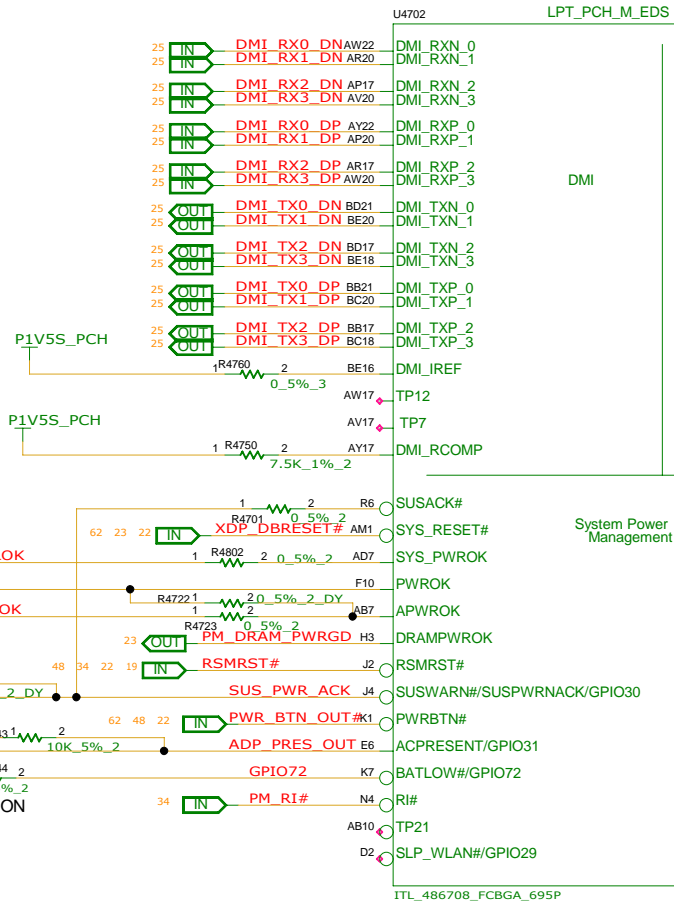
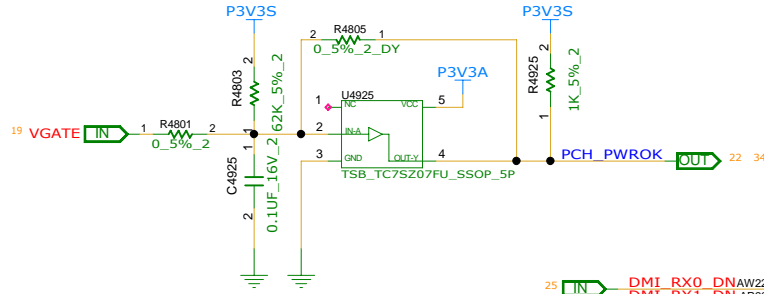
NIC

WLAN



| | | | |
|--------------------------------------|--|-------------------|----------------|
| INVENTEC | | | |
| TITLE: CYCLONE D1S LYNX PORT 3 (CLK) | | | |
| SIZE A3 | | CODE CS | REV X01 |
| CHANGE by: XXX | | DATE: 26-NOV-2012 | SHEET 33 of 90 |

| | IAMT | NON-IAMT |
|-------|-----------|-----------|
| R4718 | INSTALL | UNINSTALL |
| R4723 | INSTALL | UNINSTALL |
| R4722 | UNINSTALL | INSTALL |

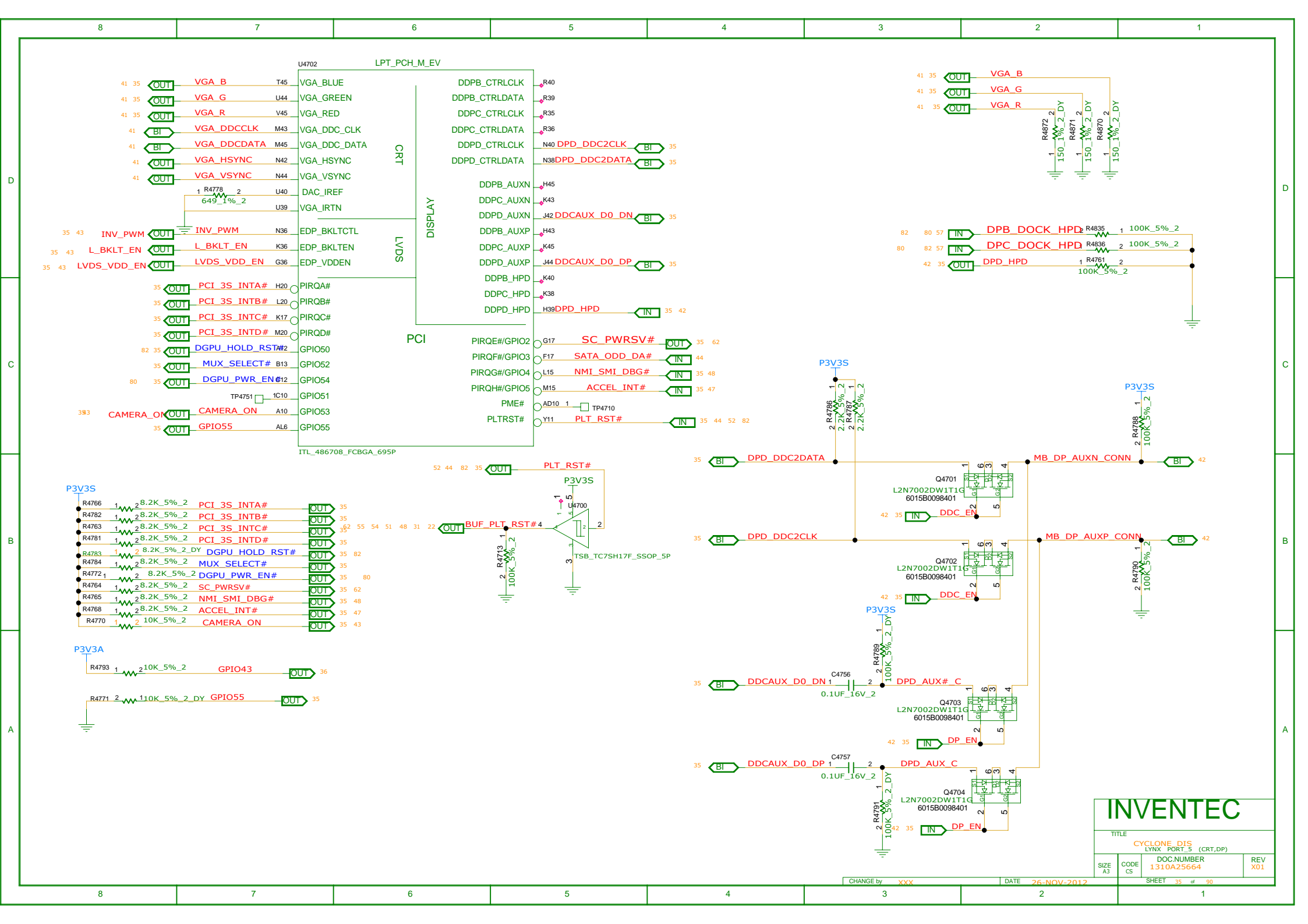


INVENTEC

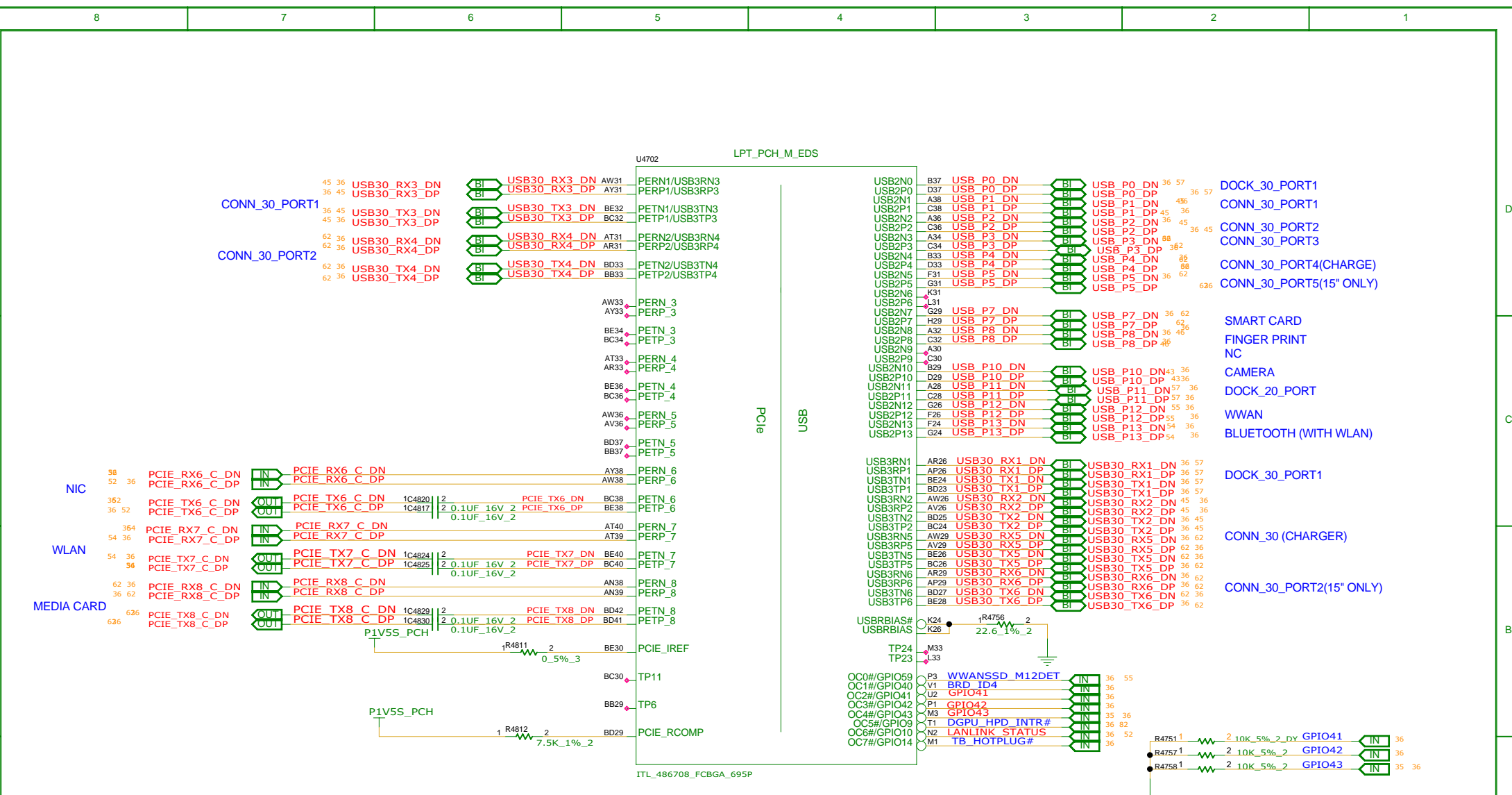
TITLE
CYCLONE_DIS
LWXX_FORT_4(DMI,FDI,SPM)

| | | | |
|------------|------------|--------------------------|------------|
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
|------------|------------|--------------------------|------------|

SHEET 34 of 90

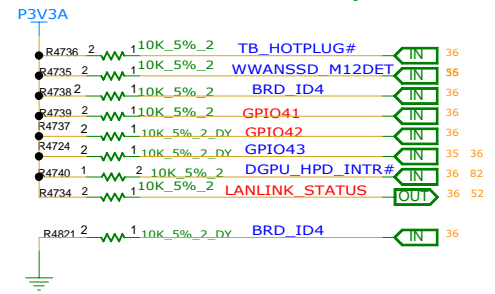


| | | | |
|-------------------------------------|----|-------------|----------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_DIS LVXK_PORT.5 (CRT,DP) | | | |
| SIZE | | DOC NUMBER | |
| A3 | CS | 1310A25664 | REV |
| | | | X01 |
| CHANGE by | | DATE | |
| XXX | | 26-NOV-2012 | |
| SHEET | | | 35 of 90 |



Platform IDs (Super I/O GPIOs)

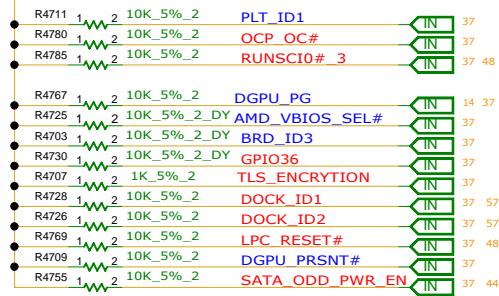
| PLT_ID1 | PLT_ID2 | PLT_ID3 | PLATFORM | Series | ODM | CPU | Dock | COMMON BIOS |
|---------|---------|---------|-------------|--------|-----|---------|--------|-------------|
| 0 | 0 | 0 | Titan 14" | B | TBD | AMD | Common | 6 |
| 0 | 0 | 1 | Cyclone 14" | B | TBD | Haswell | Common | 7 |
| 0 | 1 | 0 | Cyclone 15" | B | TBD | Haswell | Common | 7 |
| 0 | 1 | 1 | Cyclone 14" | W | TBD | Haswell | Common | 7 |



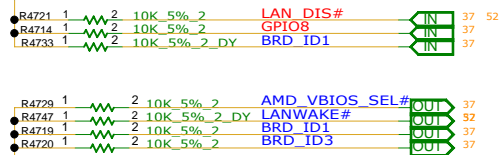
INVENTEC

| | | | |
|--|------------|--------------------------|-------------------|
| TITLE CYCLONE_D15 LVXX_PORT.6 (PCIe,USB) | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 36 of 90 |

P3V3S



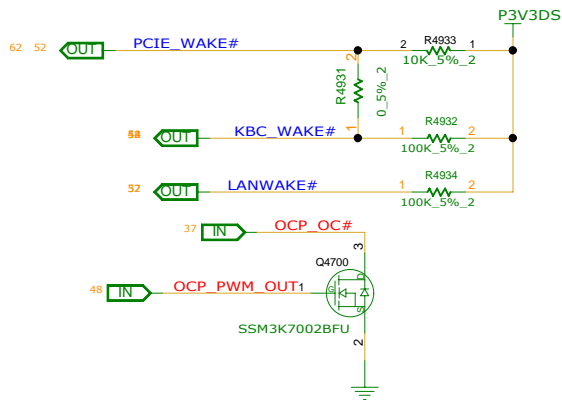
P3V3A



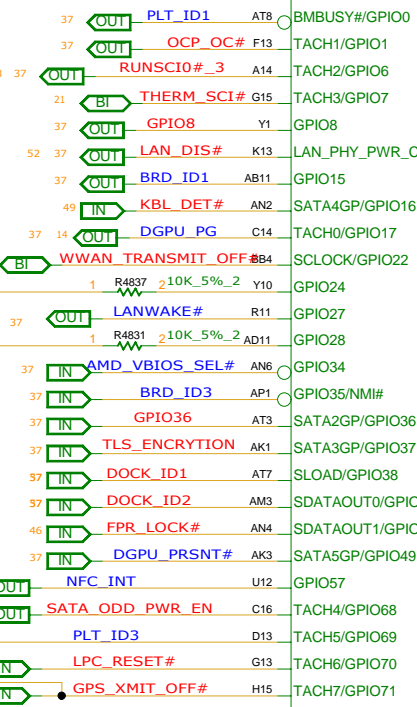
P3V3S

P3V3S

P3V3A



U4702 LPT_PCH_M_EDS

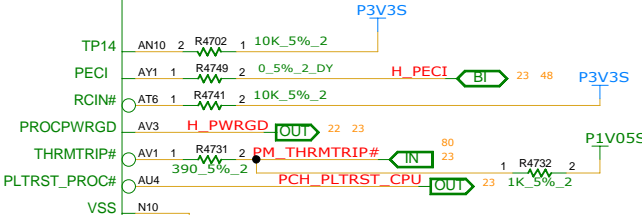


CPU/Misc

GPIO

NCTF

ITL_486708_FCBGA_695P

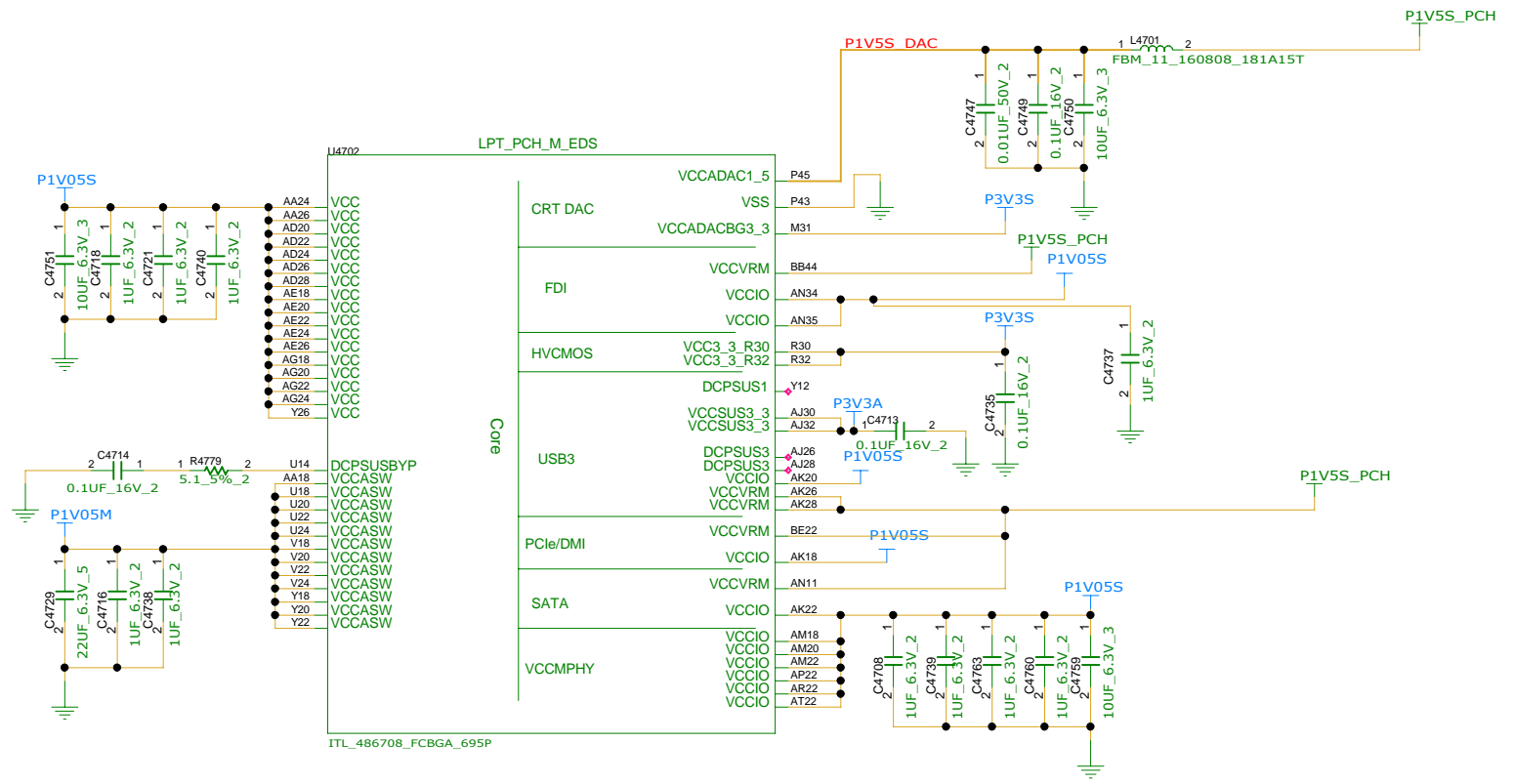


| BOARD REVISION | BRD_ID1 | BRD_ID2 | BRD_ID3 | BRD_ID4 |
|----------------|---------|---------|---------|---------|
| LPT-H | GPIO15 | GPIO34 | GPIO35 | GPIO40 |
| DB 0 | 0 | 0 | 0 | 0 |
| DB 1 | 0 | 0 | 0 | 1 |
| DB 2 | 0 | 0 | 1 | 0 |
| | 0 | 0 | 1 | 1 |
| SI 1 | 0 | 1 | 0 | 0 |
| SI 1B | 0 | 1 | 0 | 1 |
| SI 2 | 0 | 1 | 1 | 0 |
| | 0 | 1 | 1 | 1 |
| PV 1 | 1 | 0 | 0 | 0 |
| | 1 | 0 | 0 | 1 |
| | 1 | 0 | 1 | 0 |
| | 1 | 0 | 1 | 1 |
| MV | 1 | 1 | 0 | 0 |
| | 1 | 1 | 0 | 1 |
| | 1 | 1 | 1 | 1 |

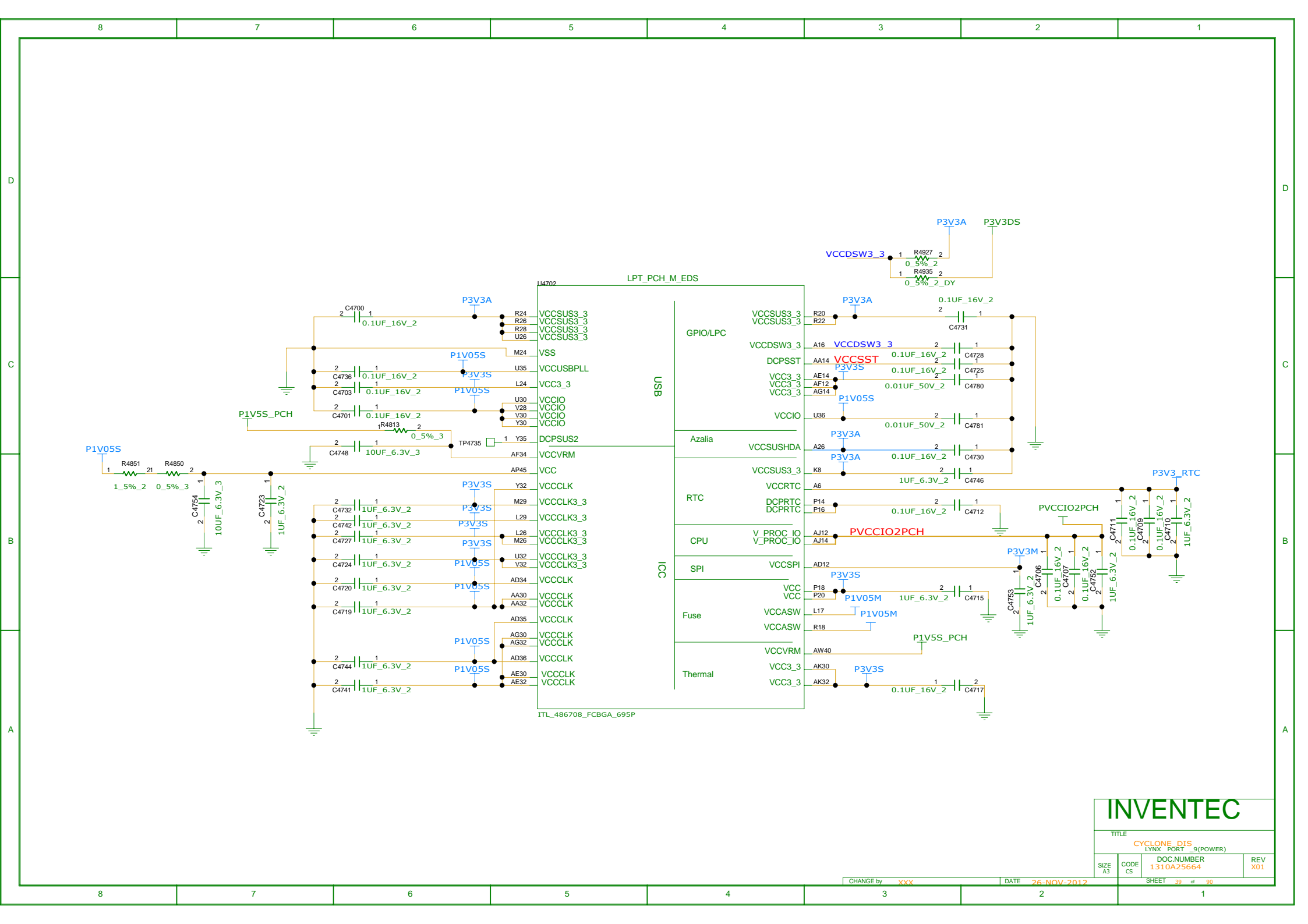
INVENTEC

TITLE: CYCLONE DIS LVW# PORT 7 (GPIO,VSS,MISC)

| | | | |
|---------|---------|-----------------------|---------|
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
|---------|---------|-----------------------|---------|

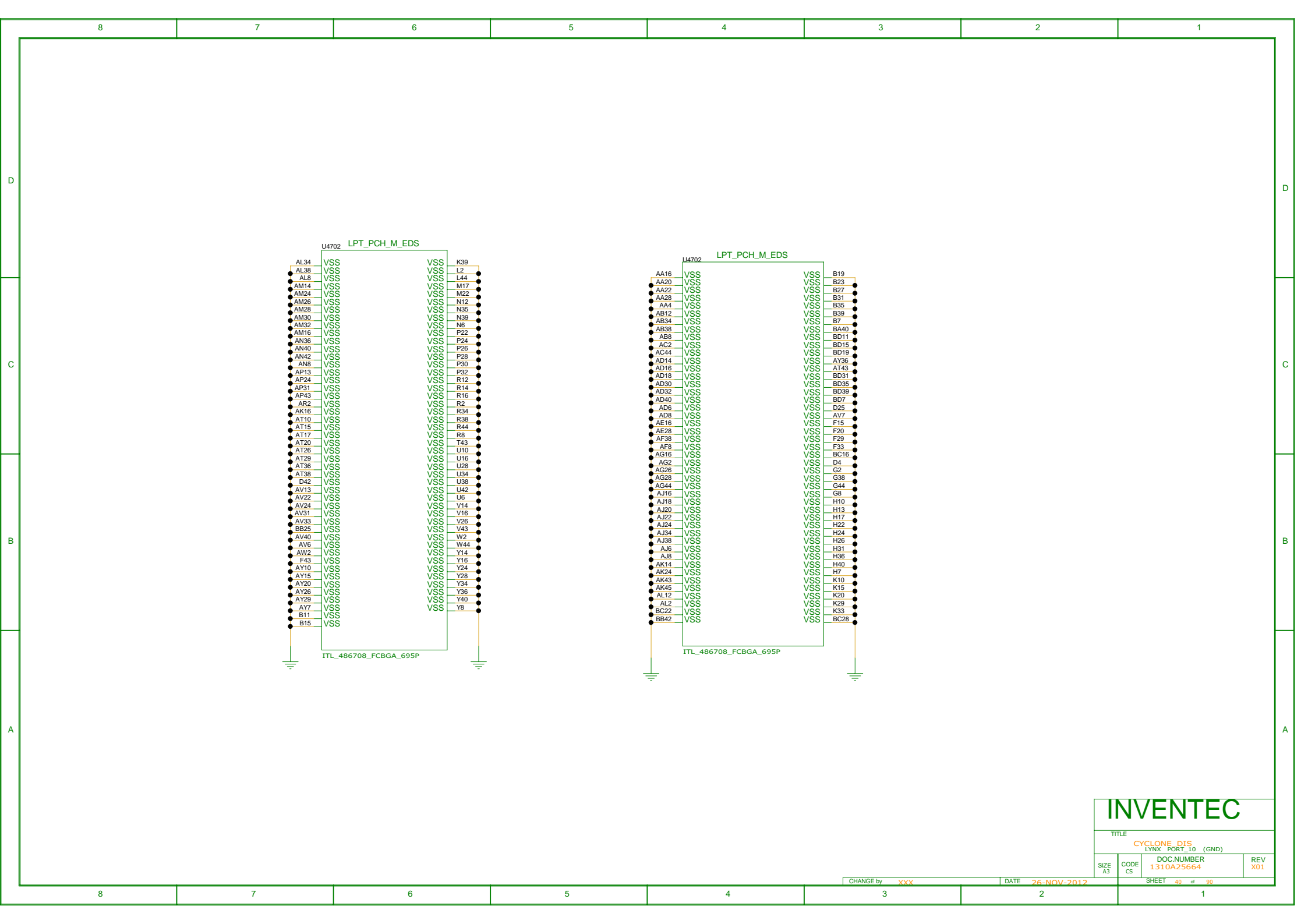


| | | | |
|--|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE D1S LYNX PORT 8 (POWER) | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 38 of 90 |



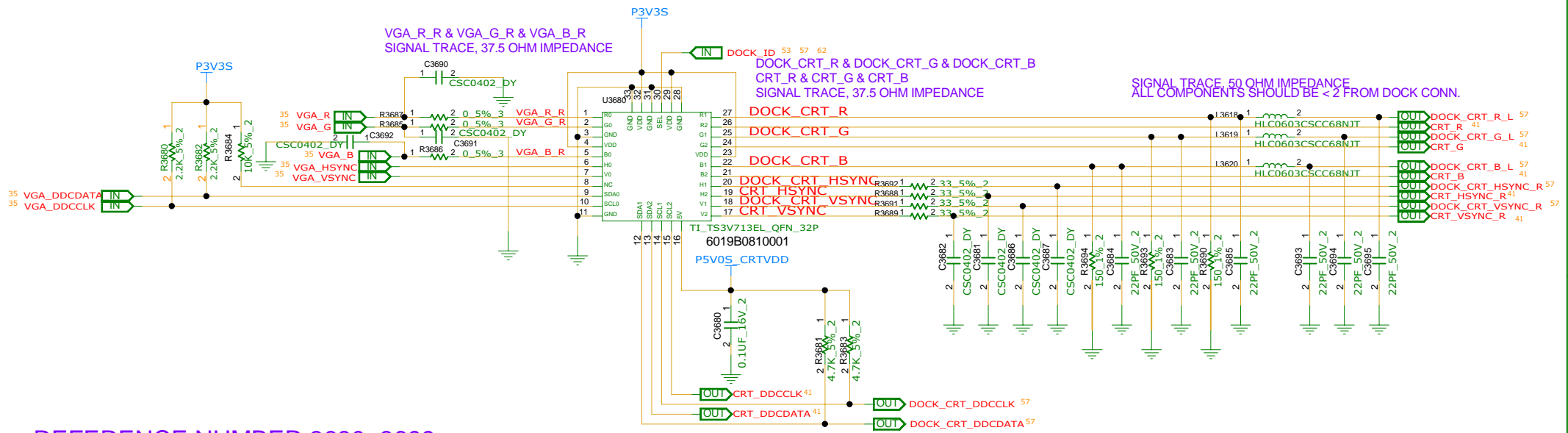
INVENTEC

| | | | |
|-----------------------------------|--|------------|---------|
| TITLE | | | |
| CYCLONE_DIS LVXX_PORT_9(POWER) | | | |
| SIZE A3 | | CODE CS | REV X01 |
| DCC NUMBER | | 1310A25664 | |
| SHEET 39 of 90 | | | |



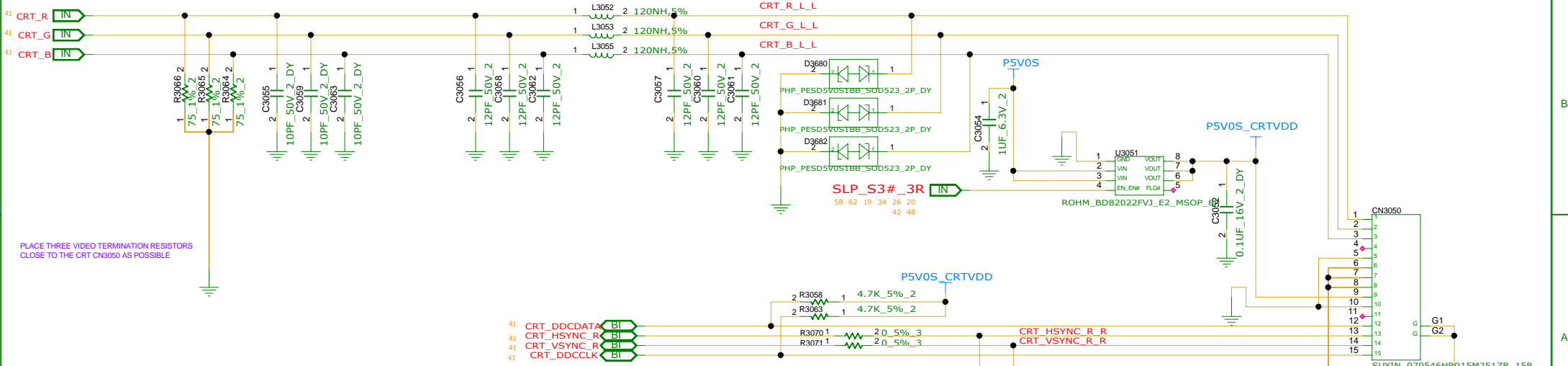
INVENTEC

| | | | |
|--------------------------------|------|------------|-----|
| TITLE | | | |
| CYCLONE_DIS LYWX_PORT_10 (GND) | | | |
| SIZE | CODE | DOC NUMBER | REV |
| A3 | CS | 1310A25664 | X01 |



REFERENCE NUMBER:3680~3699

NOTE-PUT ALL DOCK CRT COMPONENTS CLOSE TO DOCK CONNECTOR AS POSSIBLE.



REFERENCE NUMBER:3050~3099

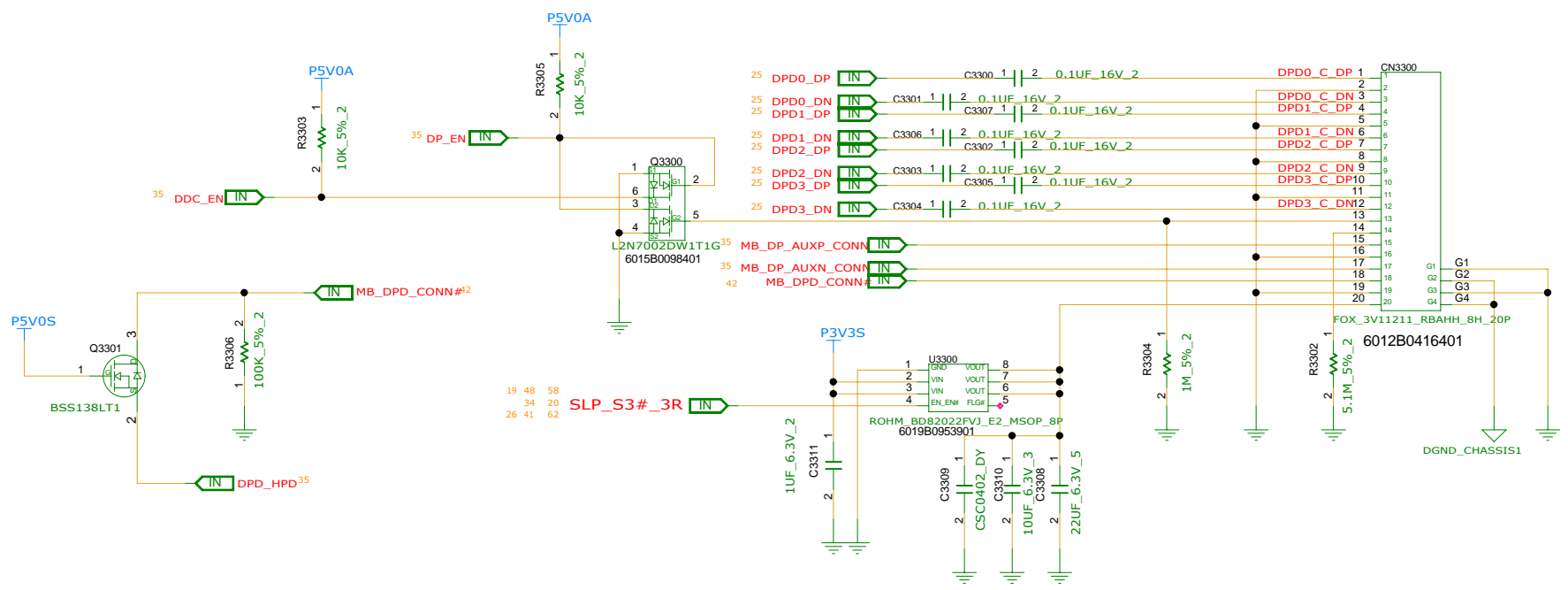
INVENTEC

TITLE
CYCLONE_D1S
VGA SWITCH / CRT

DOC NUMBER
1310A25664

REV
X01

SIZE A3 CODE CS SHEET 41 of 90



REFERENCE NUMBER:3300~3399

INVENTEC

TITLE: CYCLONE_DIS DISPLAY_PORT_CNTR

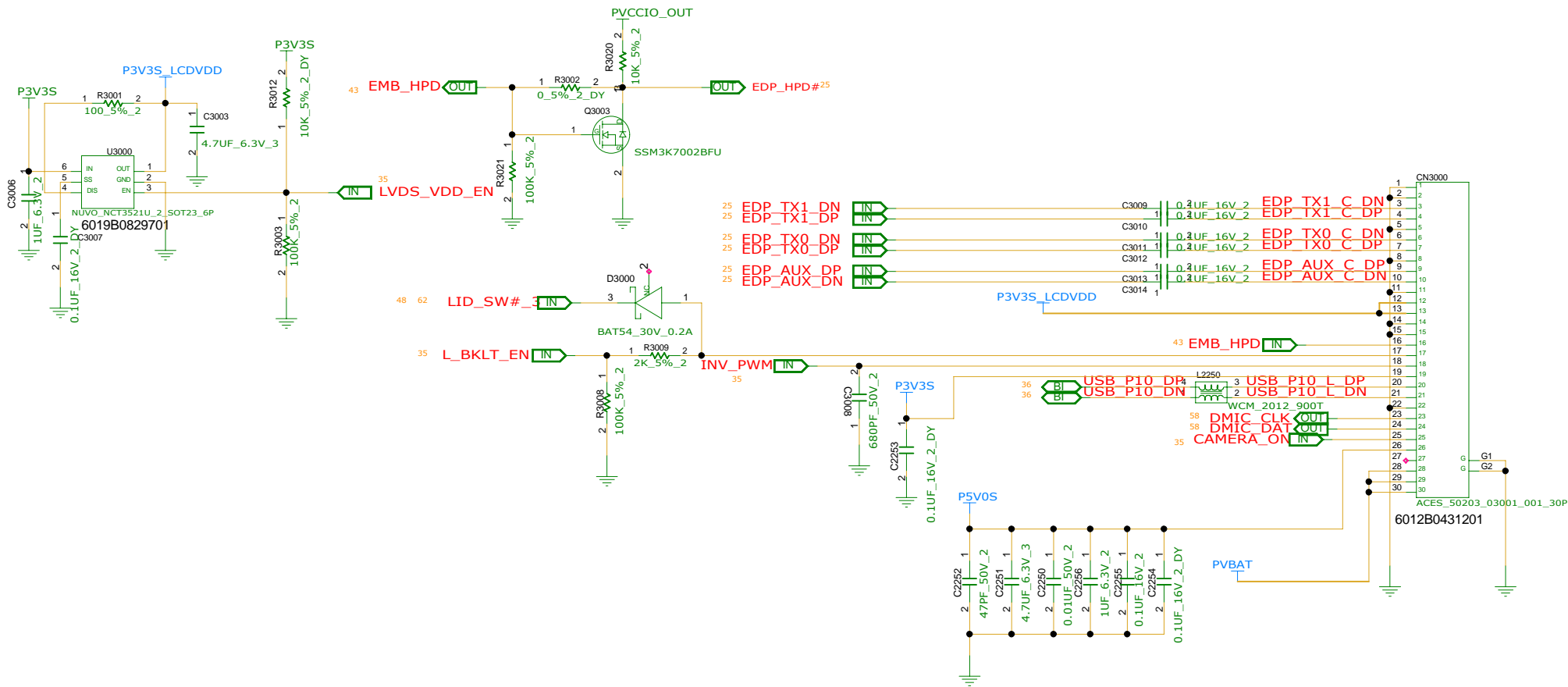
DOC NUMBER: 1310A25664

REV: X01

DATE: 26-NOV-2012

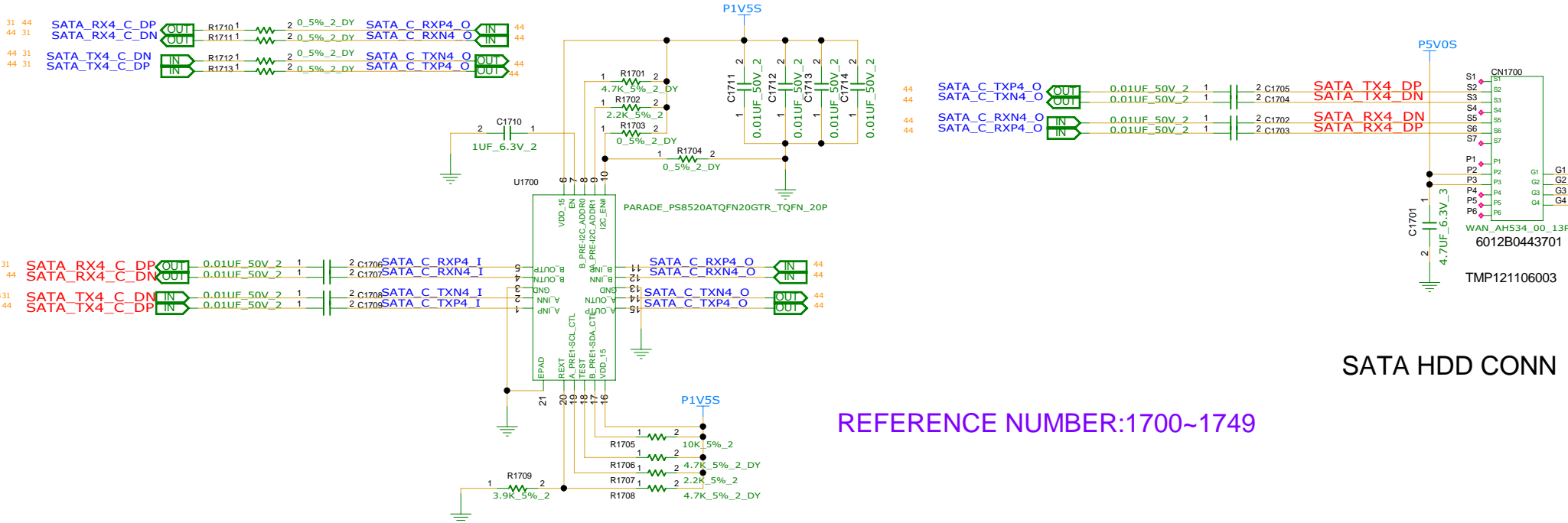
SHEET: 42 of 90

REFERENCE NUMBER:3000~3049



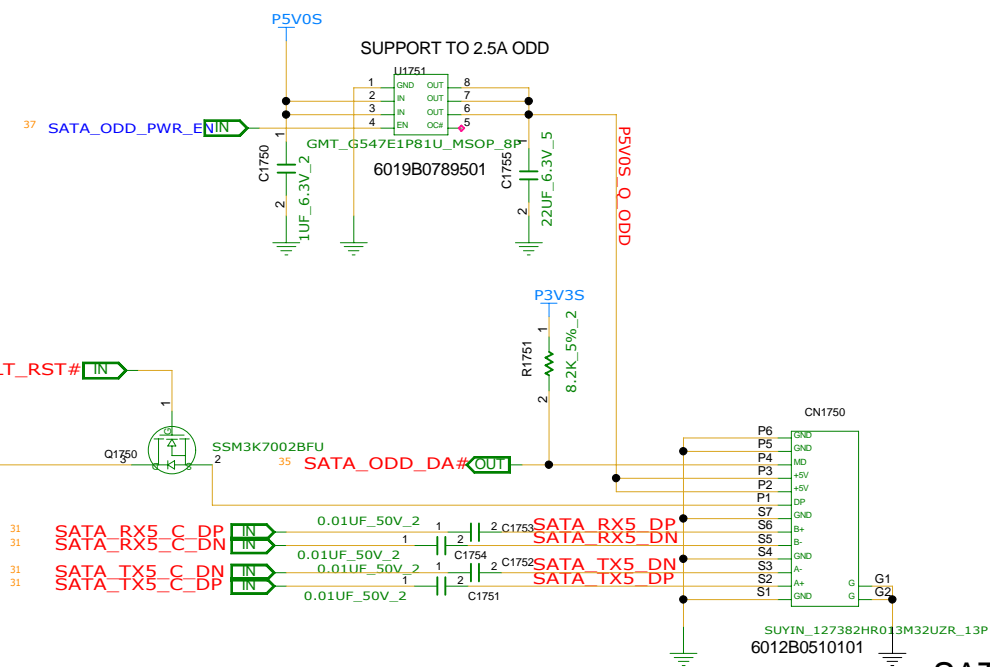
EDP CONN

| | | | |
|--------------------------------------|------------|---------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS EDP & WEBCAM | | | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| SIZE A3 | CODE CS | DATE 26-NOV-2012 | SHEET 43 of 90 |



SATA HDD CONN

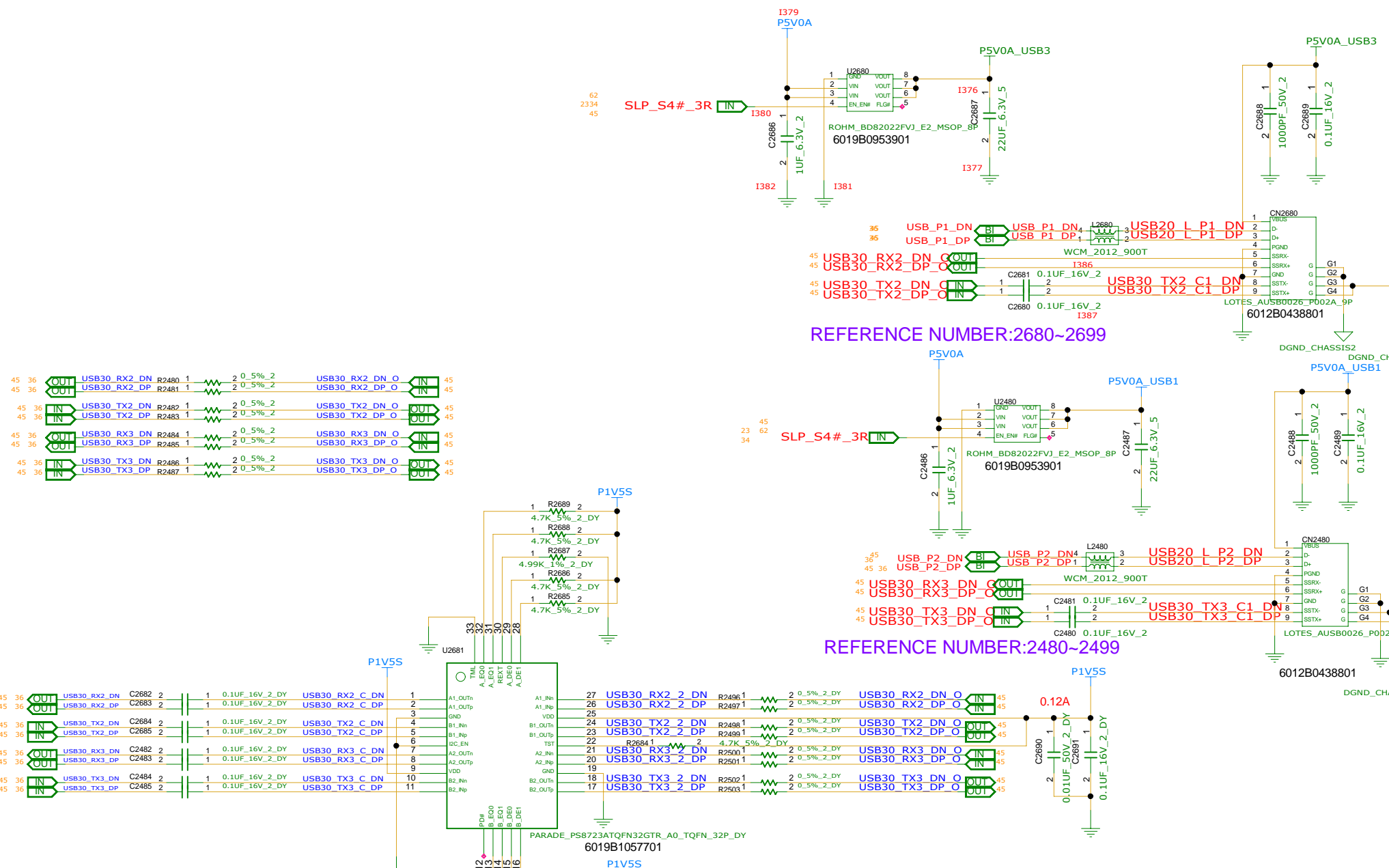
REFERENCE NUMBER:1700~1749



SATA ODD

REFERENCE NUMBER:1750~1799

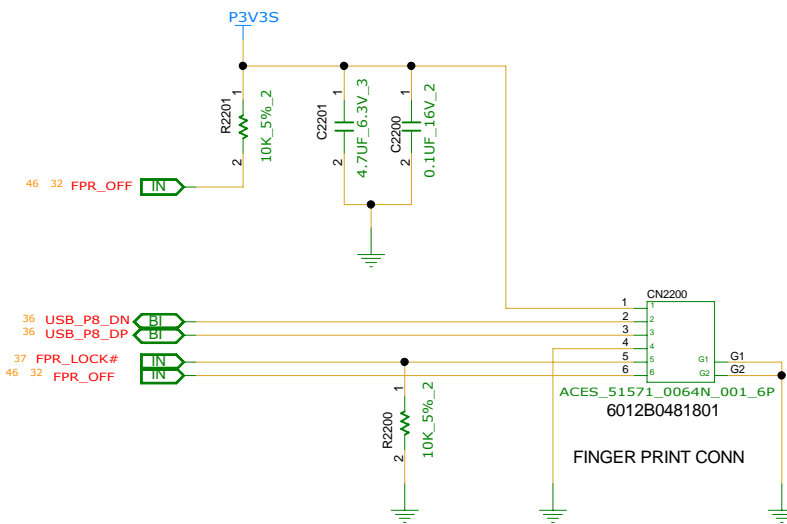
| | | | |
|---|--|------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_D1S SATA_HDD & ODD_CNTR | | | |
| SIZE A3 | | CODE CS | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| SHEET 44 of 90 | | | |



REFERENCE NUMBER:2680~2699

REFERENCE NUMBER:2480~2499

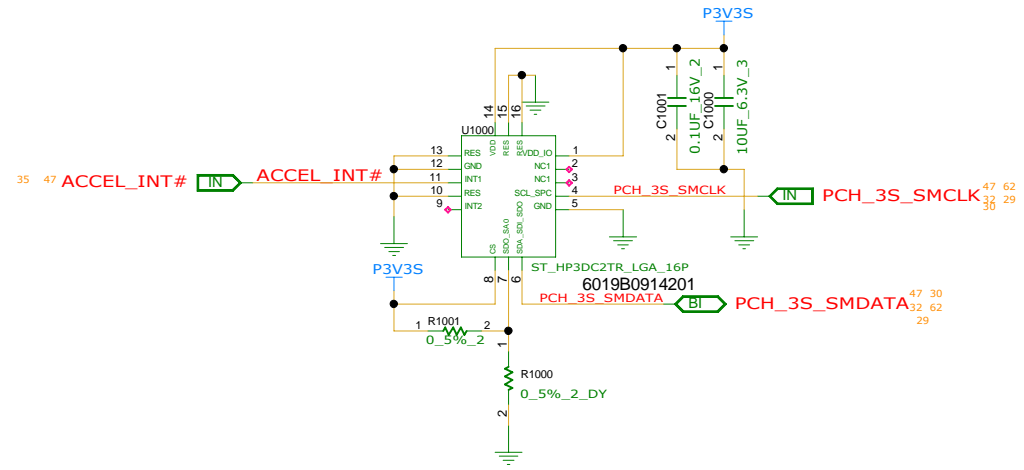
| | | | |
|-----------------------------------|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_D1S USB RIGHT | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 45 of 90 |



REFERENCE:2200~2249

| | | | |
|---|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE DIS FINGER PRINTER CNTR | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 46 of 90 |

LAYOUT NOTE
FOLLOW DESIGNATED PIN1 ORIENTATION WITH SUPPORT APPS



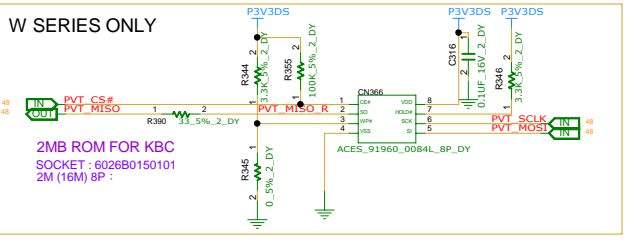
ACCELEMETOR

REFERENCE NUMER : 1000~1099

| | | | |
|-------------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS ACCELEMETOR | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 47 of 90 |



SPI BIOS
 SOCKET : 6026B0150101
 16M (128M) 8P
 6019B0988701
 6019B0988601



INVENTEC

TITLE
 CYCLONE_DIS
 KBC

| SIZE | CODE | DOCNUMBER | REV |
|------|------|------------|-----|
| E | CS | 1310A/3604 | X01 |

SHEET 48 OF 50

SCAN_3S_OUT<13..0> IN

SCAN_3S_OUT<13..0>

0 SCAN_3S_OUT<0>
 1 SCAN_3S_OUT<1>
 2 SCAN_3S_OUT<2>
 3 SCAN_3S_OUT<3>
 4 SCAN_3S_OUT<4>
 5 SCAN_3S_OUT<5>
 6 SCAN_3S_OUT<6>
 7 SCAN_3S_OUT<7>
 8 SCAN_3S_OUT<8>
 9 SCAN_3S_OUT<9>
 10 SCAN_3S_OUT<10>
 11 SCAN_3S_OUT<11>
 12 SCAN_3S_OUT<12>
 13 SCAN_3S_OUT<13>

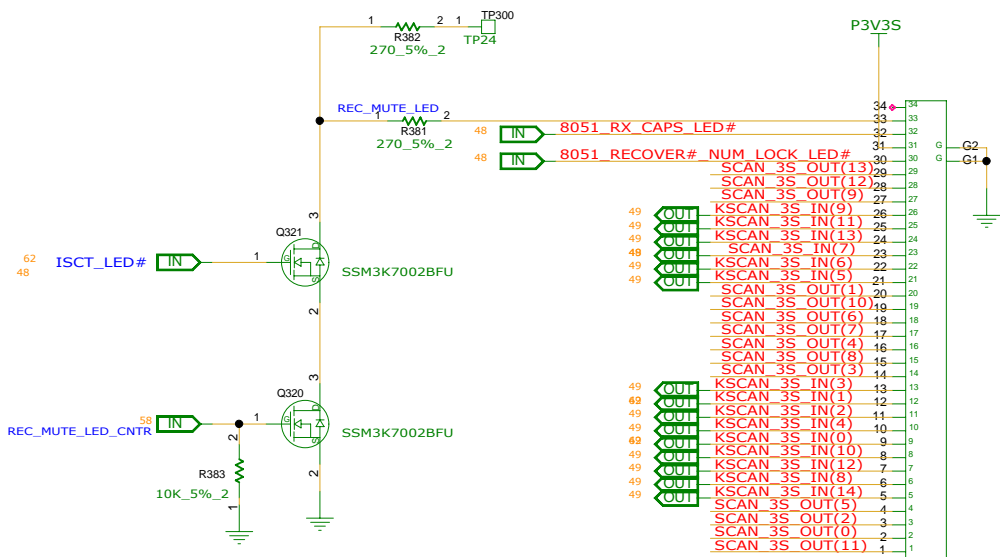
SCAN_3S_IN<7..0> OUT

SCAN_3S_IN<7..0>

0 SCAN_3S_IN<0>
 1 SCAN_3S_IN<1>
 2 SCAN_3S_IN<2>
 3 SCAN_3S_IN<3>
 4 SCAN_3S_IN<4>
 5 SCAN_3S_IN<5>
 6 SCAN_3S_IN<6>
 7 SCAN_3S_IN<7>

P3V3DS

49 48 BI SCAN_3S_IN<4> 1 R373 2 10K_5%_2
 49 48 BI SCAN_3S_IN<5> 1 R374 2 10K_5%_2
 49 48 BI SCAN_3S_IN<6> 1 R375 2 10K_5%_2
 49 48 BI SCAN_3S_IN<7> 1 R376 2 10K_5%_2
 49 48 BI SCAN_3S_IN<3> 1 R377 2 10K_5%_2
 49 48 BI SCAN_3S_IN<2> 1 R378 2 10K_5%_2
 49 48 BI SCAN_3S_IN<1> 1 R379 2 10K_5%_2
 49 48 BI SCAN_3S_IN<0> 1 R384 2 10K_5%_2



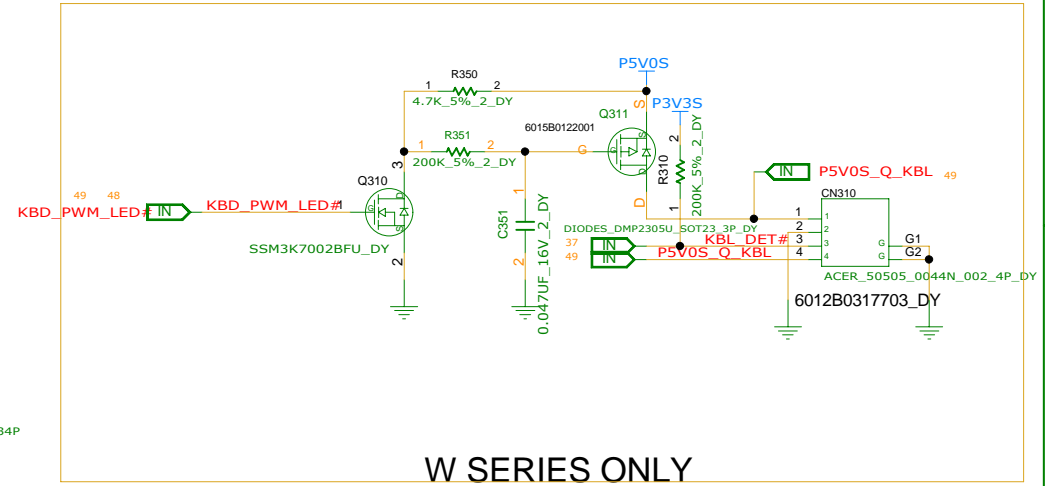
8051_RX_CAPS_LED# IN

8051_RECOVER# IN

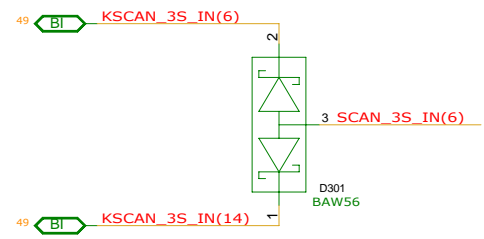
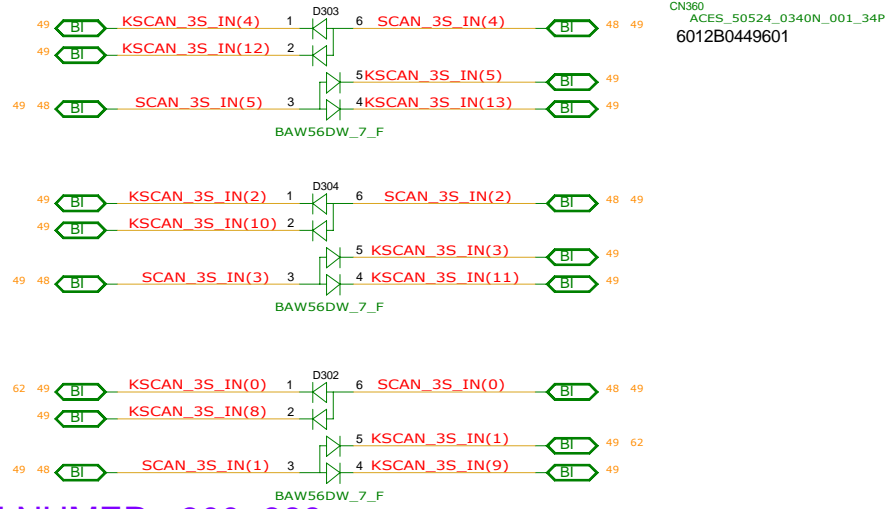
NUM_LOCK_LED# IN

SCAN_3S_OUT<13>
 SCAN_3S_OUT<12>
 SCAN_3S_OUT<9>

49 OUT KSCAN_3S_IN<9>
 49 OUT KSCAN_3S_IN<11>
 49 OUT KSCAN_3S_IN<13>
 49 OUT KSCAN_3S_IN<7>
 49 OUT KSCAN_3S_IN<6>
 49 OUT KSCAN_3S_IN<5>
 SCAN_3S_OUT<11>
 SCAN_3S_OUT<10>
 SCAN_3S_OUT<6>
 SCAN_3S_OUT<7>
 SCAN_3S_OUT<4>
 SCAN_3S_OUT<8>
 SCAN_3S_OUT<3>
 SCAN_3S_OUT<1>
 KSCAN_3S_IN<3>
 KSCAN_3S_IN<1>
 KSCAN_3S_IN<2>
 KSCAN_3S_IN<4>
 KSCAN_3S_IN<0>
 KSCAN_3S_IN<10>
 KSCAN_3S_IN<12>
 KSCAN_3S_IN<8>
 KSCAN_3S_IN<14>
 SCAN_3S_OUT<5>
 SCAN_3S_OUT<2>
 SCAN_3S_OUT<0>
 SCAN_3S_OUT<11>

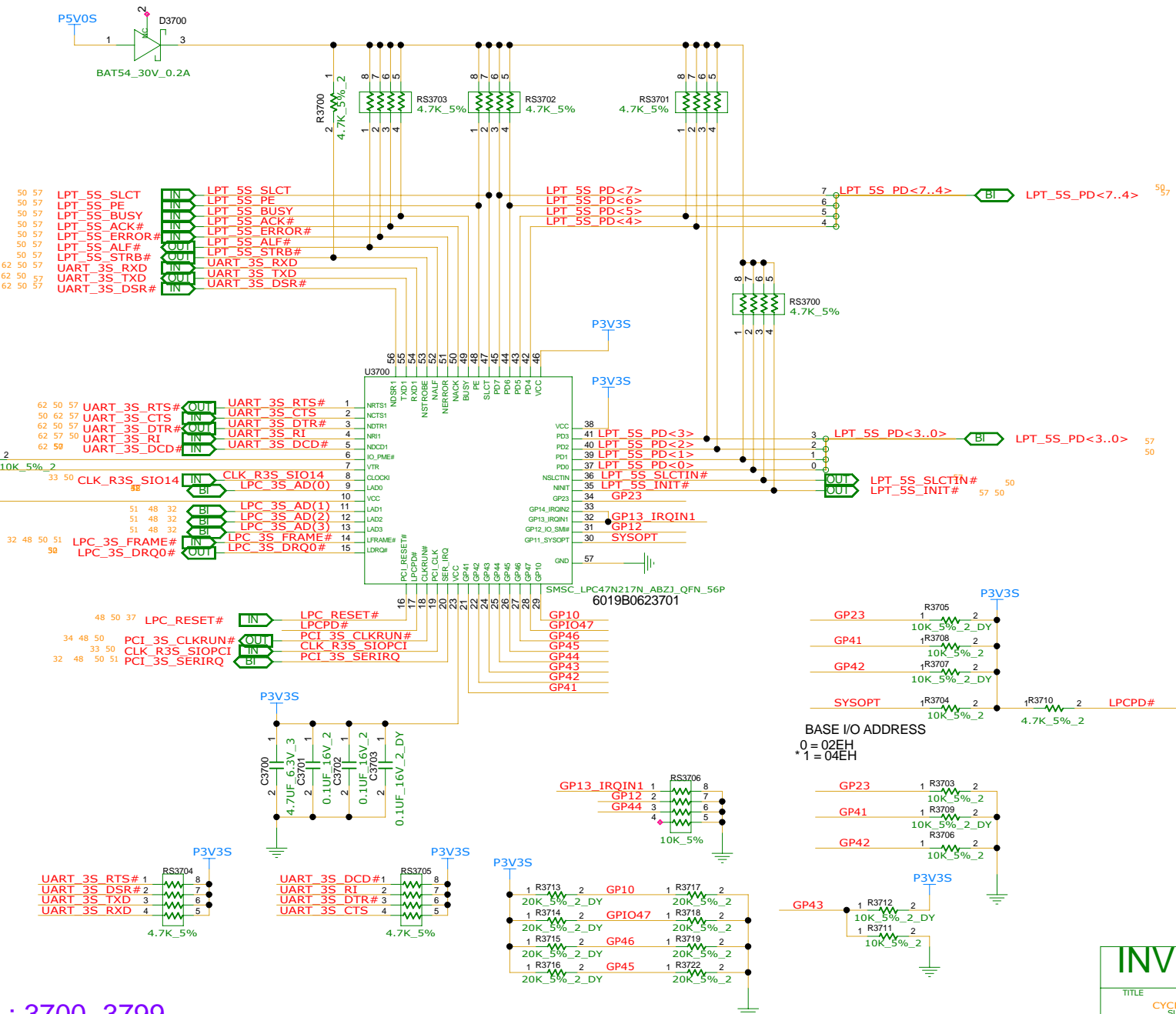


W SERIES ONLY



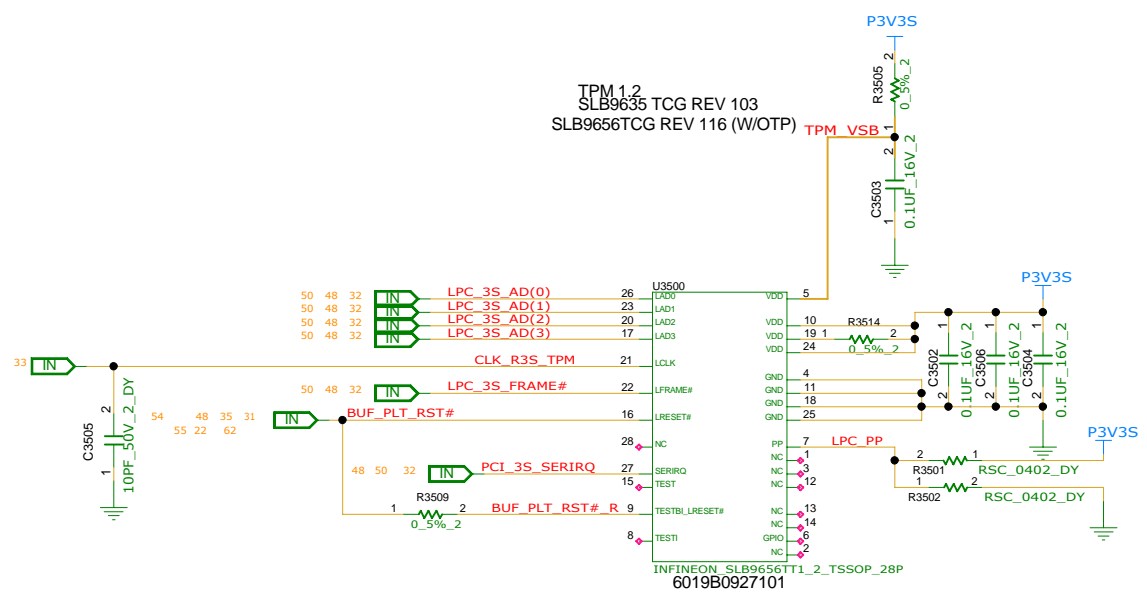
REFERENCE NUMBER : 300~389

| | | | |
|----------------------------------|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_D1S KEYBOARD | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 49 of 90 |



REFERENCE NUMBER : 3700~3799

| | | | |
|-----------------------------------|--|---------------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_D1S SUPER I/O | | | |
| SIZE A3 | | CODE CS | |
| DOCNUMBER 1310A25664 | | REV X01 | |
| CHANGE by XXX | | DATE 26-NOV-2012 | |
| SHEET 50 | | of 90 | |



TPM 1.2
 SLB9635 TCG REV 103
 SLB9656TCG REV 116 (W/OTP)

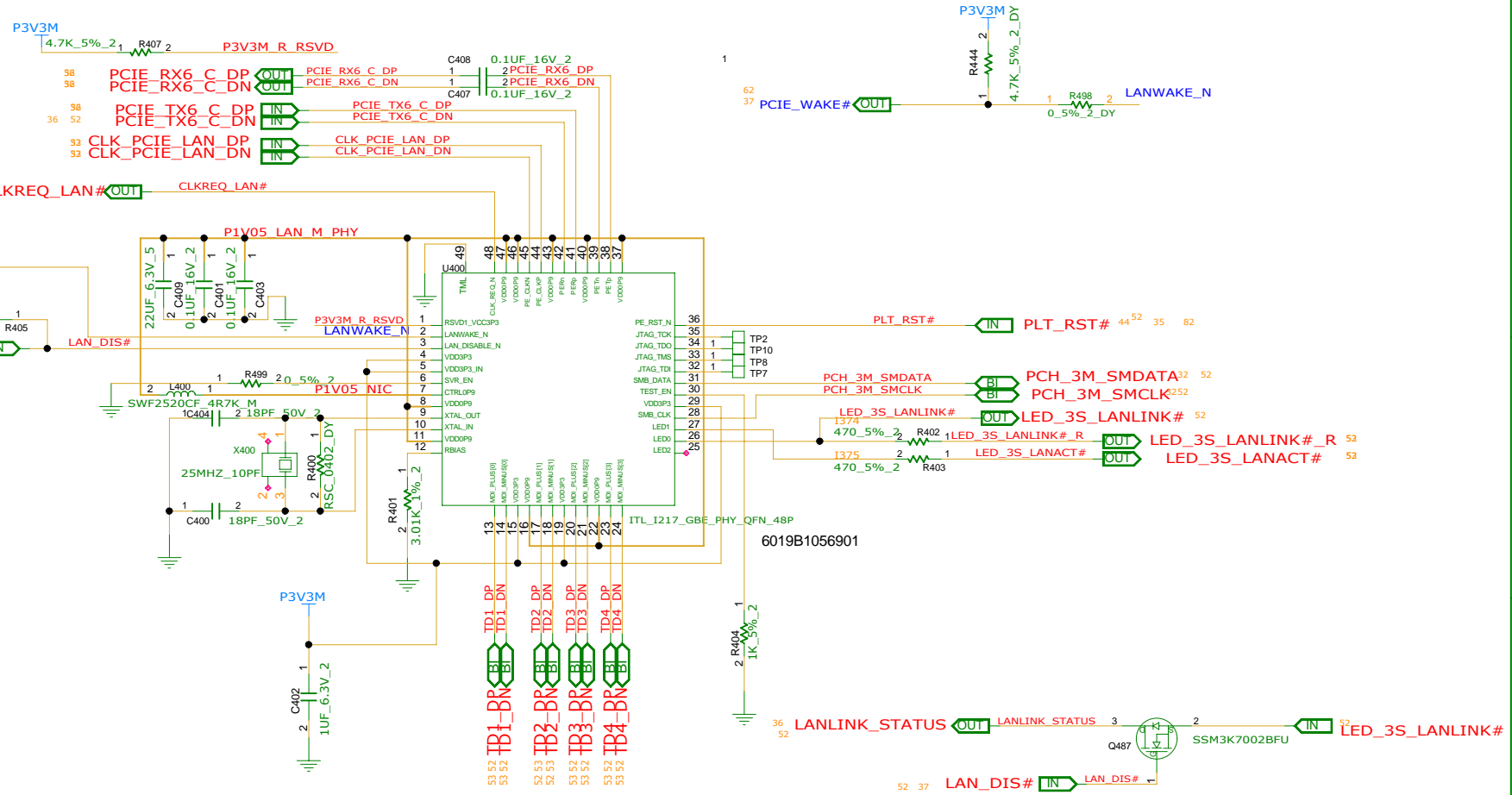
TPM1.2

REFERENCE NUMER : 3500~3549

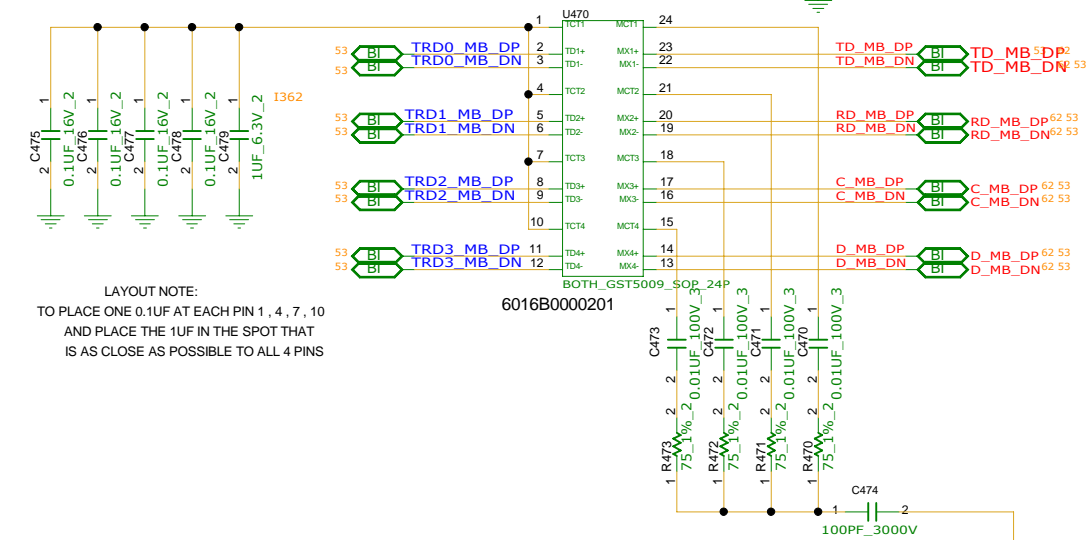
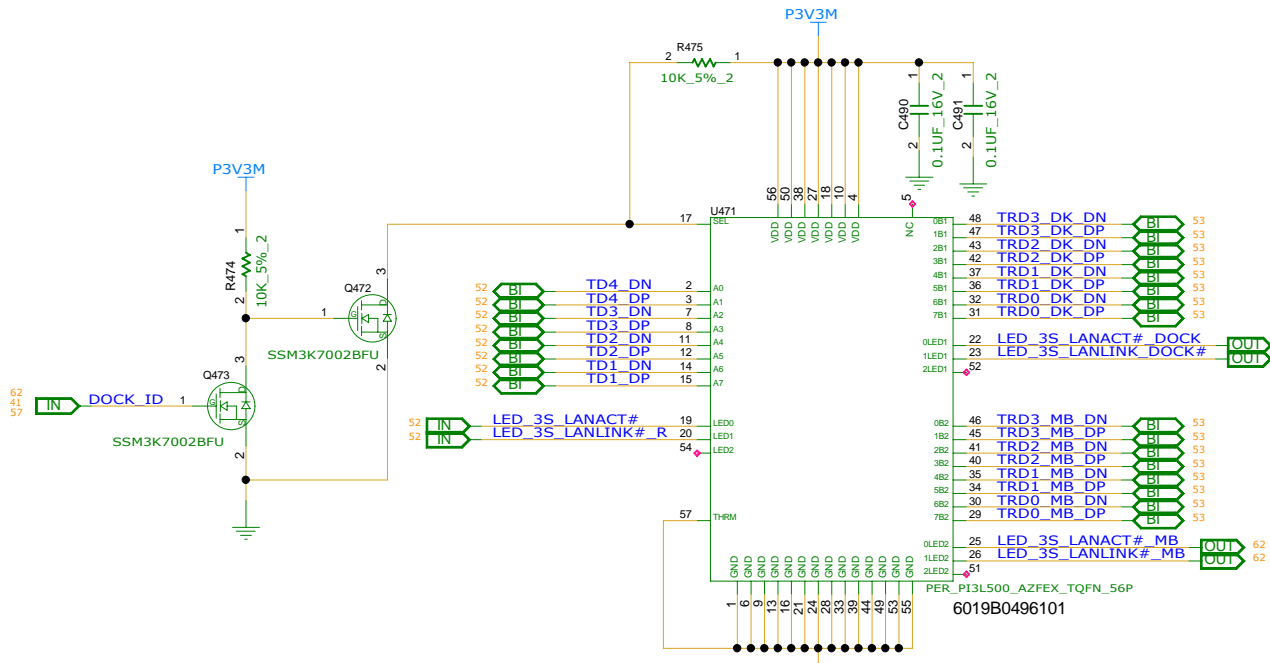
| | | | |
|-----------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS TPM | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 51 of 90 |

NOTE:
 NON-VPRO SKU U400 MOUNT 6019B0836601
 VPRO SKU U400 MOUNT 6019B0746801

REFERENCE NUMER : 400~469



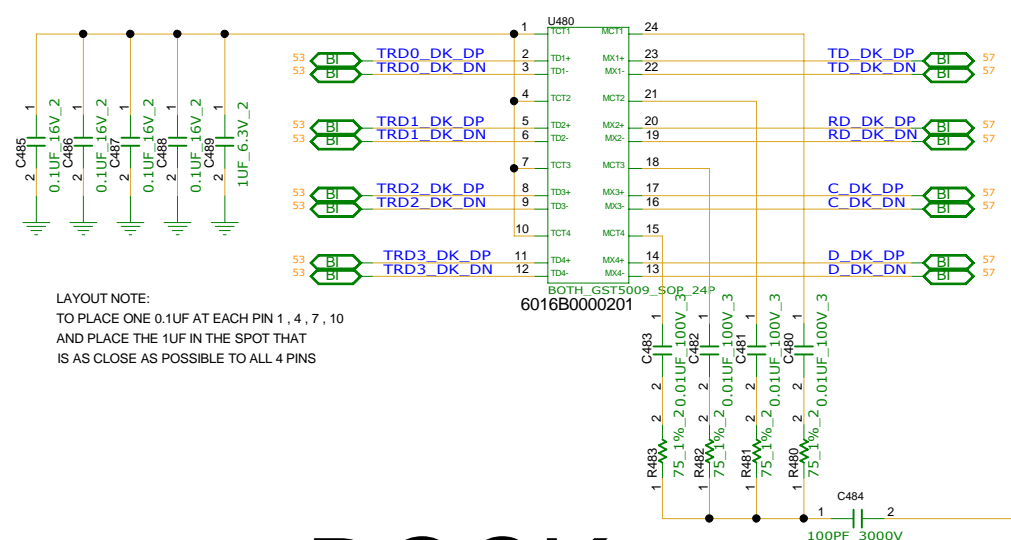
| | | | |
|--------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS LAN (NIC) | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | |
| | | REV X01 | |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 52 of 90 |



LAYOUT NOTE:
TO PLACE ONE 0.1UF AT EACH PIN 1, 4, 7, 10
AND PLACE THE 1UF IN THE SPOT THAT
IS AS CLOSE AS POSSIBLE TO ALL 4 PINS

REFERENCE NUMER : 470~499

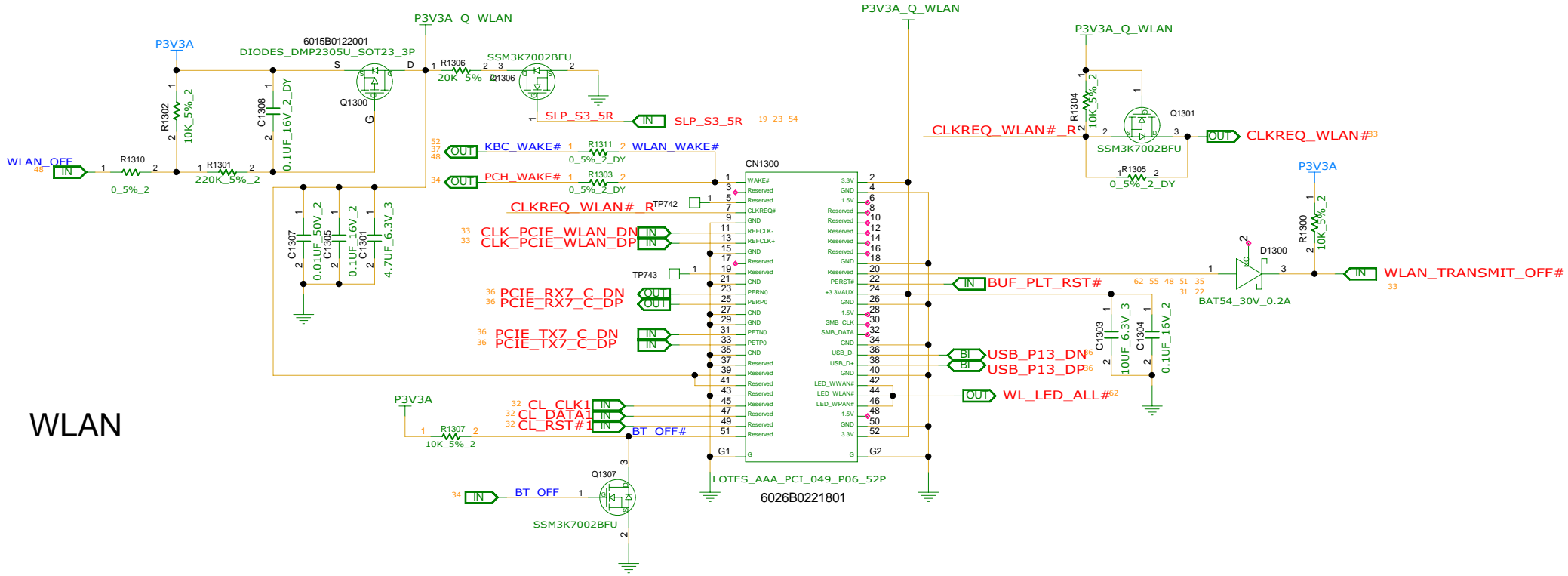
MB



LAYOUT NOTE:
TO PLACE ONE 0.1UF AT EACH PIN 1, 4, 7, 10
AND PLACE THE 1UF IN THE SPOT THAT
IS AS CLOSE AS POSSIBLE TO ALL 4 PINS

DOCK

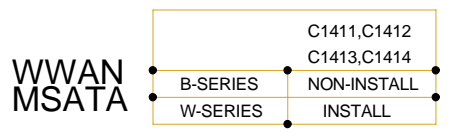
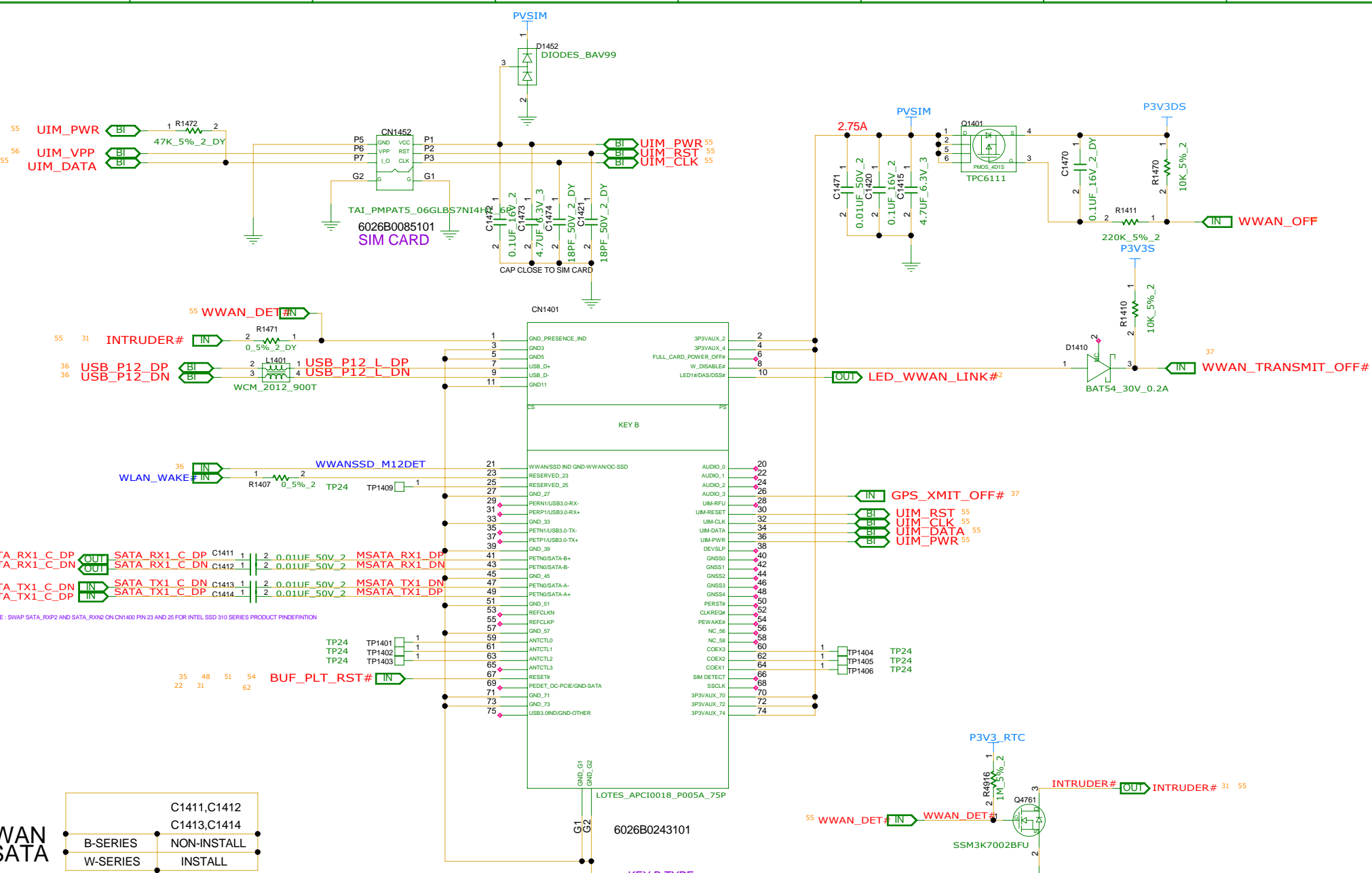
| | | | |
|--|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS LAN (SWITCH,TRANSFORMER) | | | |
| SIZE A3 | CODE CS | DOC.NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 53 of 90 |



WLAN

REFERENCE NUMBER:1300~1349

| | | | |
|------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS WLAN | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 54 of 90 |

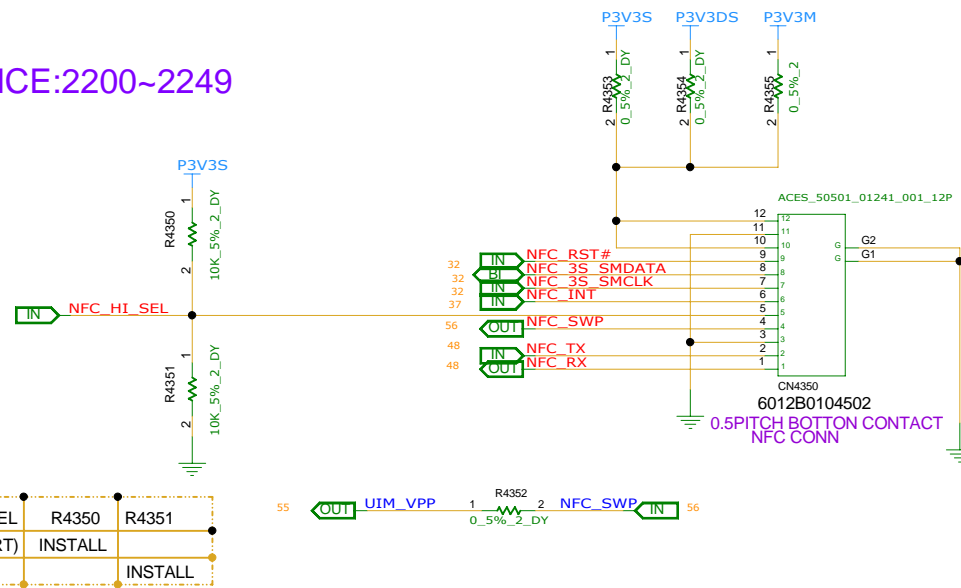


REFERENCE NUMBER:1400~1499

KEY B TYPE
NGFF WWAN

| | | | |
|----------------------------------|------------|---------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_D1S WWANNGFF | | | |
| SIZE A3 | CODE CS | DOC. NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 55 of 90 |

REFERENCE:2200~2249



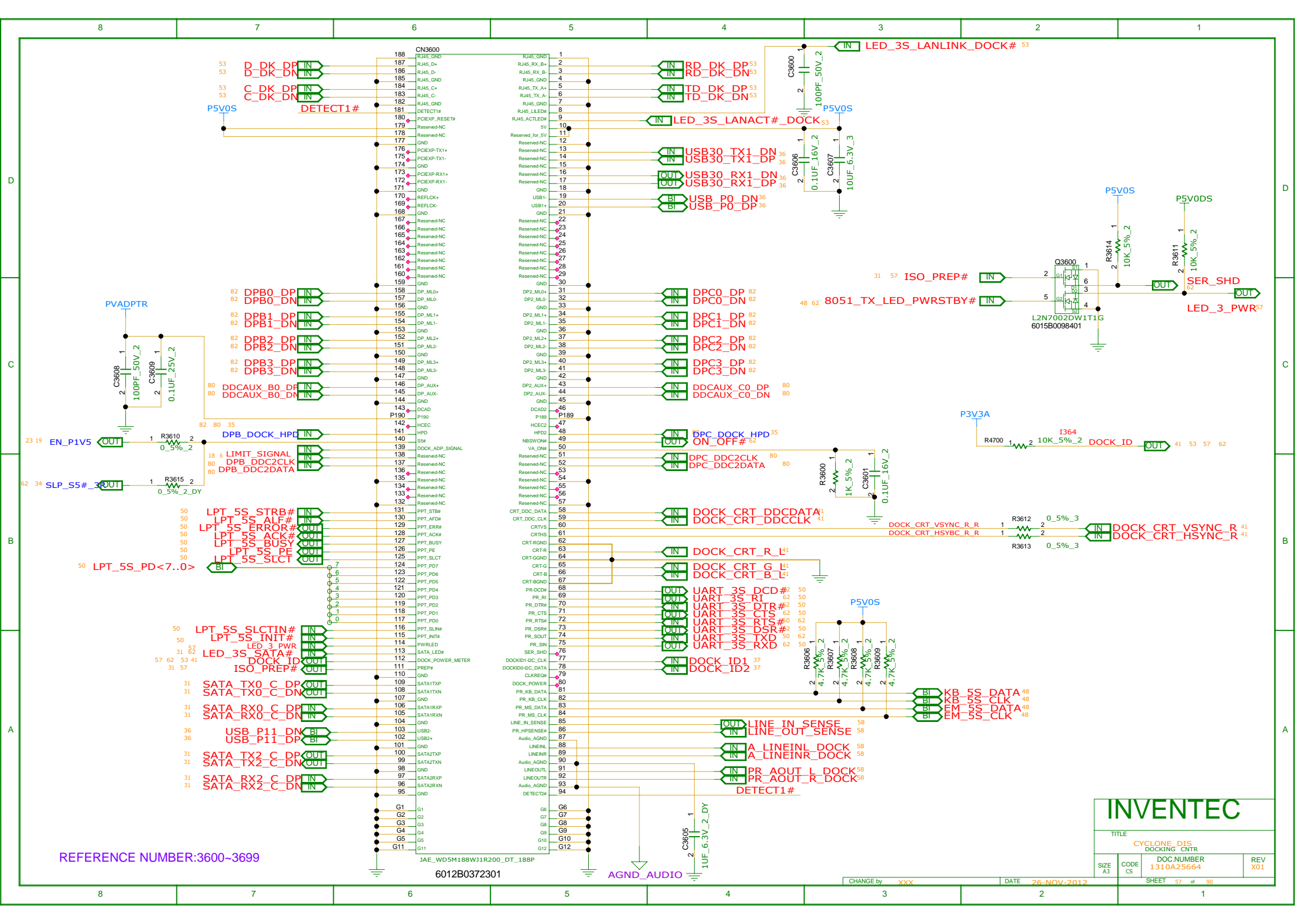
REFERENCE:4350~4399

INVENTEC

TITLE: CYCLONE_DIS
NFC

DOC NUMBER: 1310A25664
REV: X01

CHANGE by: XXX DATE: 26-NOV-2012 SHEET 56 of 90



REFERENCE NUMBER:3600~3699

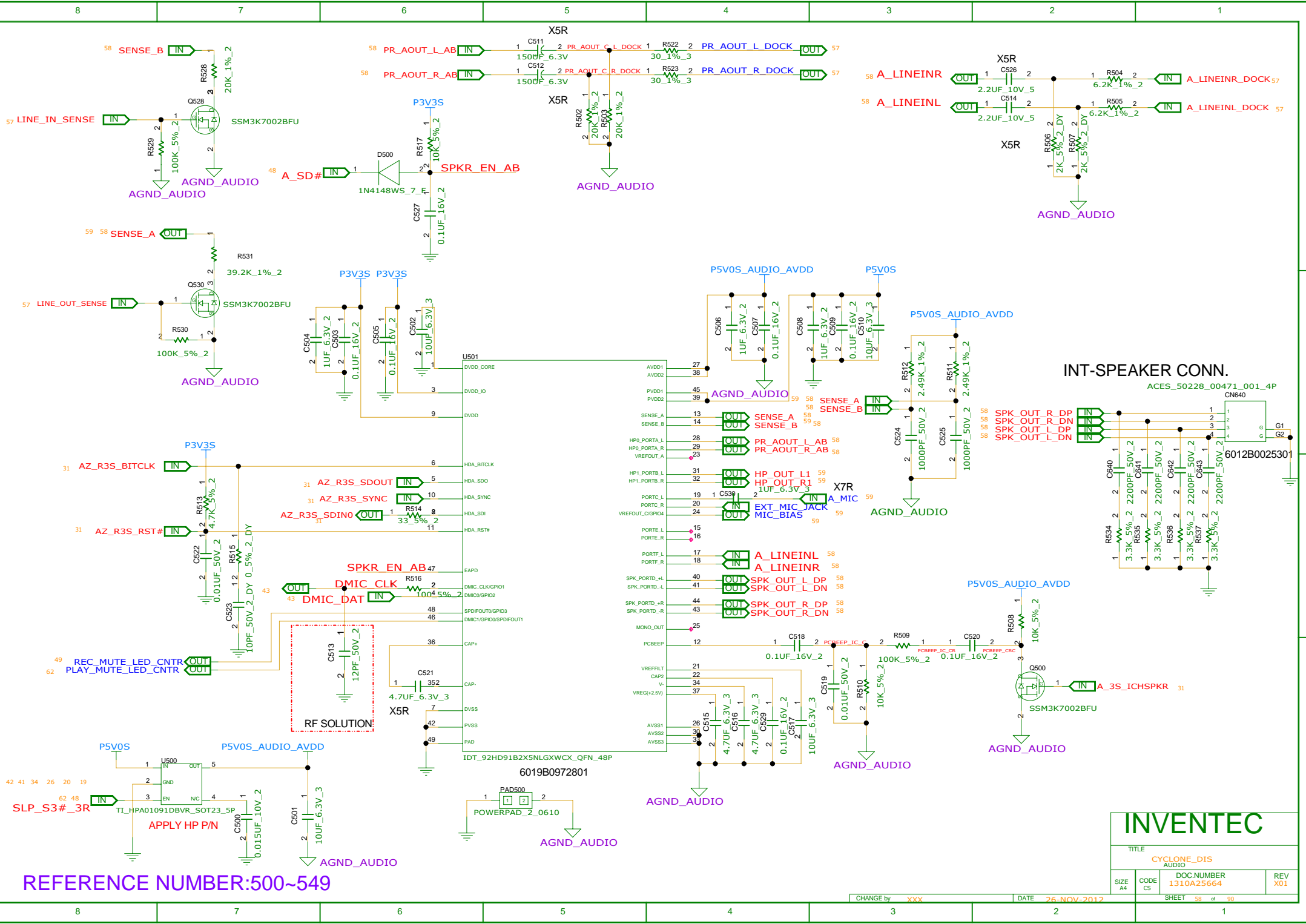
6012B0372301

AGND_AUDIO

CHANGE by XXX

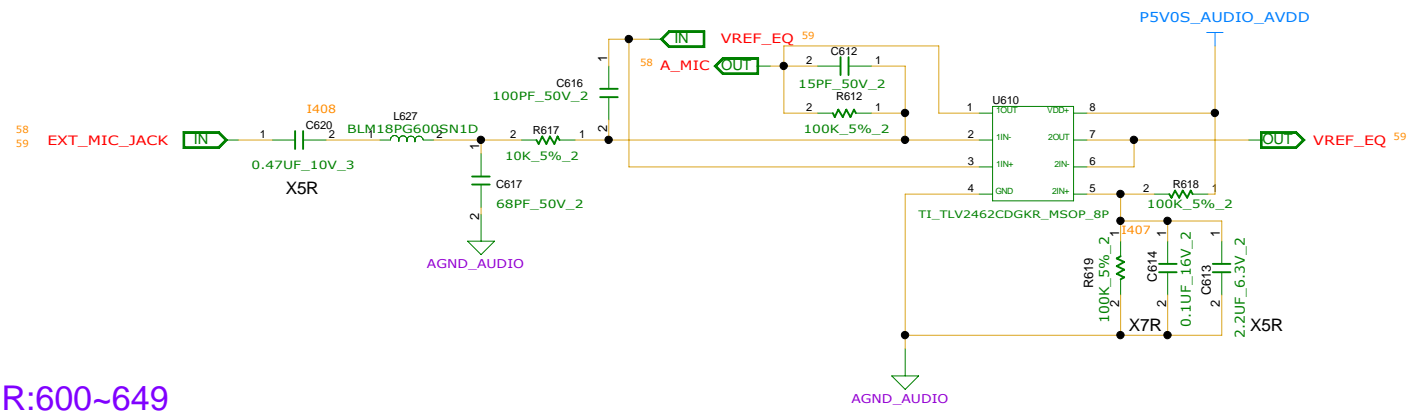
DATE 26-NOV-2012

| | | | |
|--------------------------------------|------------|------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_D1S DOCKING_CNTR | | | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| SIZE A3 | CODE CS | DATE | SHEET 57 of 90 |

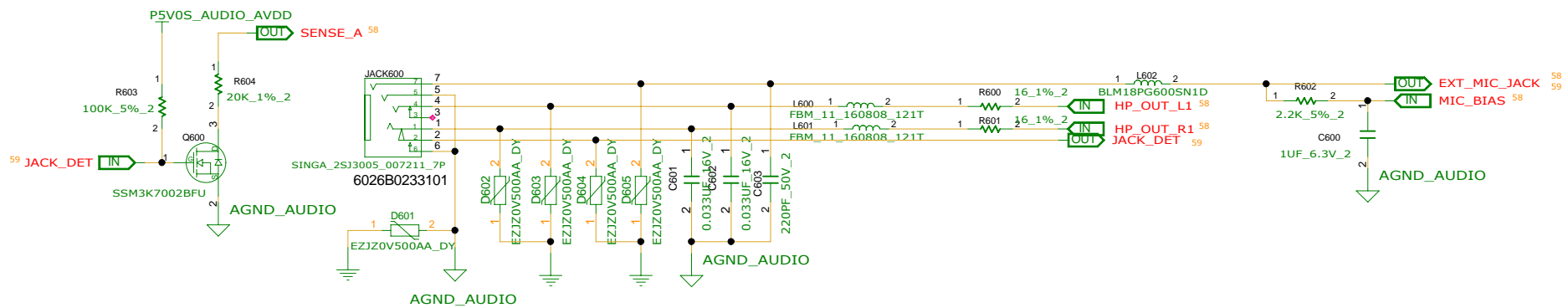


REFERENCE NUMBER:500~549

| | | | |
|----------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE | | | |
| CYCLONE_DIS AUDIO | | | |
| SIZE A4 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 58 of 90 |

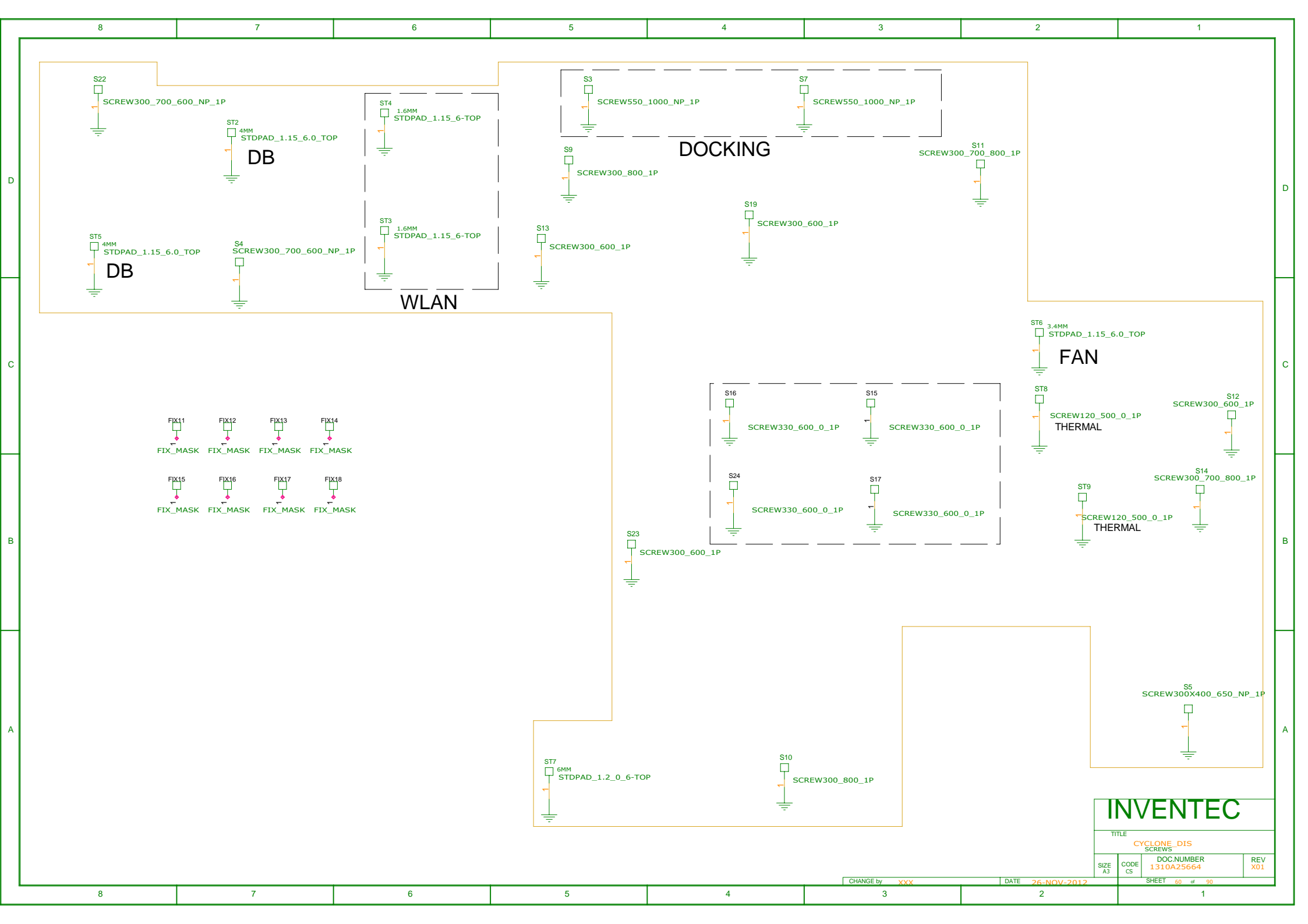


REFERENCE NUMBER:600~649

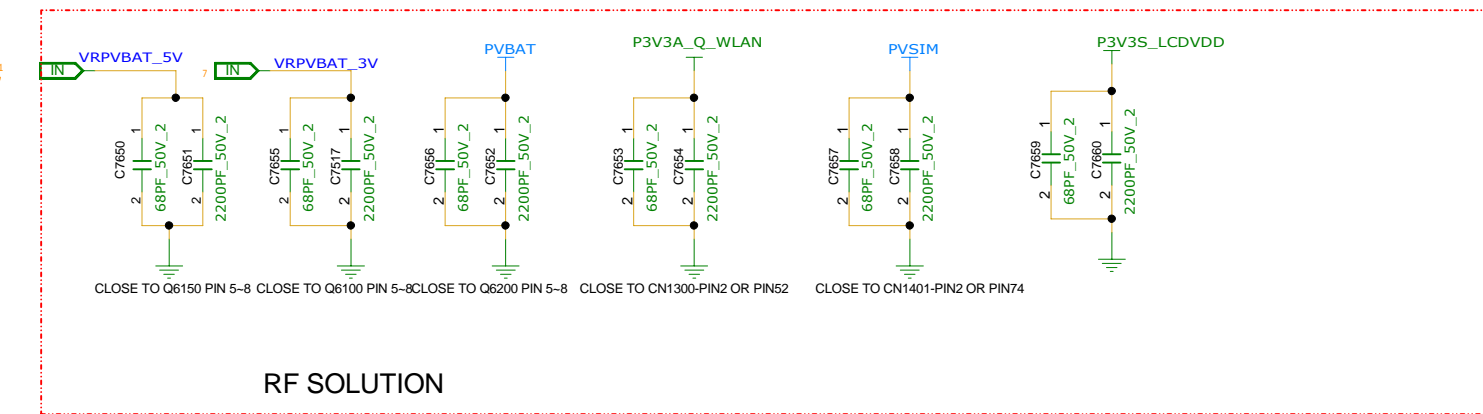
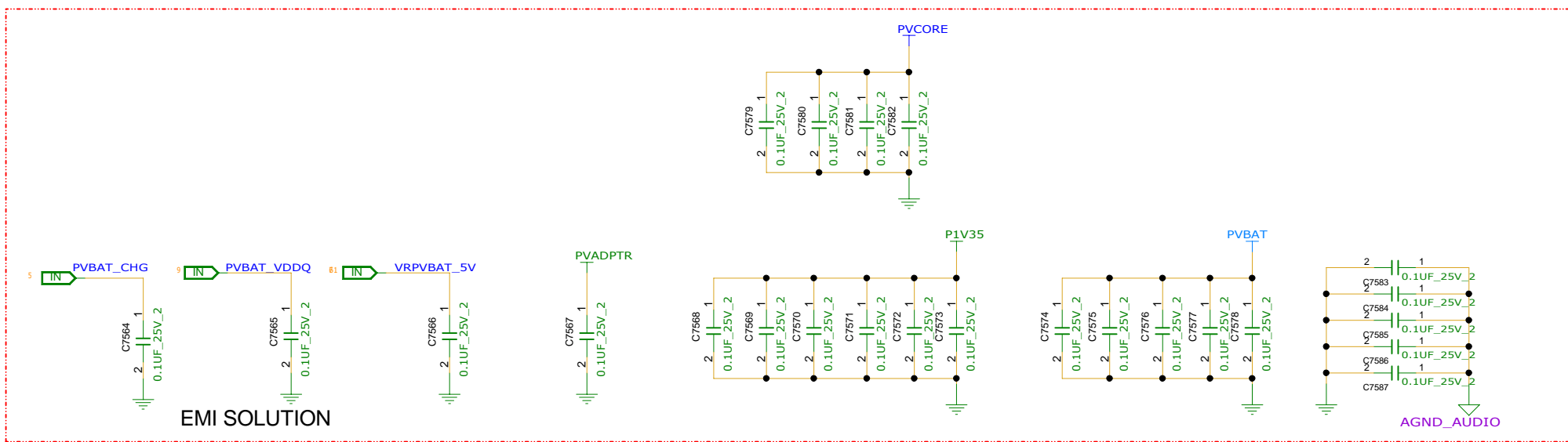


REFERENCE NUMBER:600~610

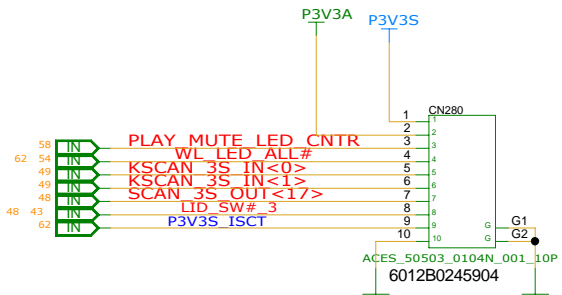
| | | | |
|--|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS EXT.MIC / MIC / HP | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 59 of 90 |



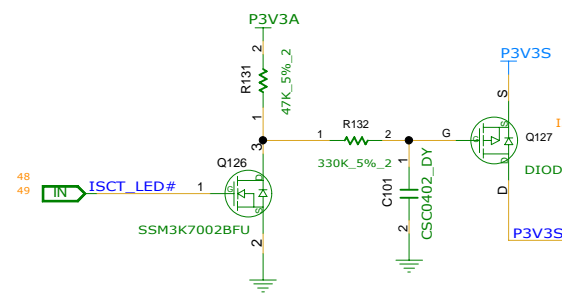
| | | | |
|--------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS SCREWS | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 60 of 90 |



| | | | |
|---|--|-------------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_D1S EMI & RF SOLUTION | | | |
| SIZE A3 | | CODE CS | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| DATE 26-NOV-2012 | | SHEET 61 of 90 | |

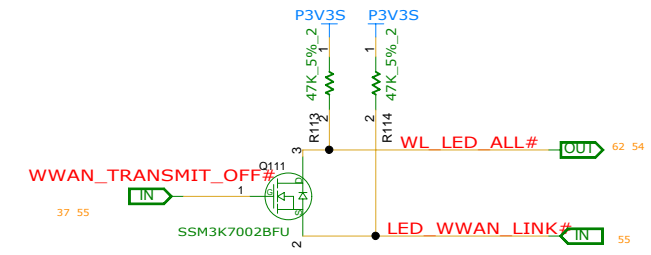


FB MB SIDE



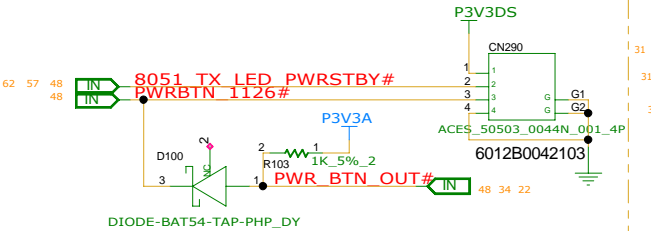
SMART CARD MB CONN.

REFERENCE NUMBER:120~139



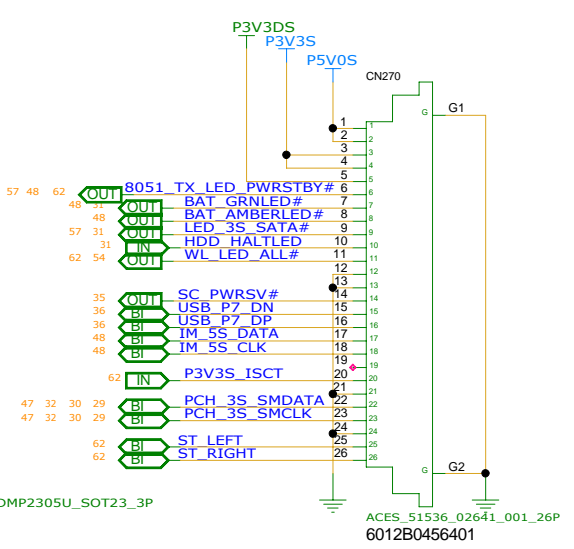
WLAN_WWAN_BLUETOOTH_LED_CNCONTROL

REFERENCE NUMBER:100~199

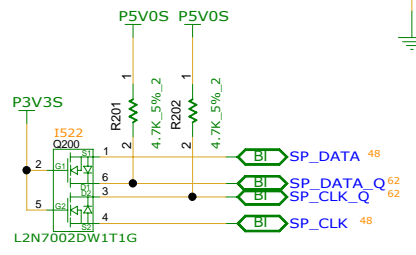


POWER BUTTON MB CONN.

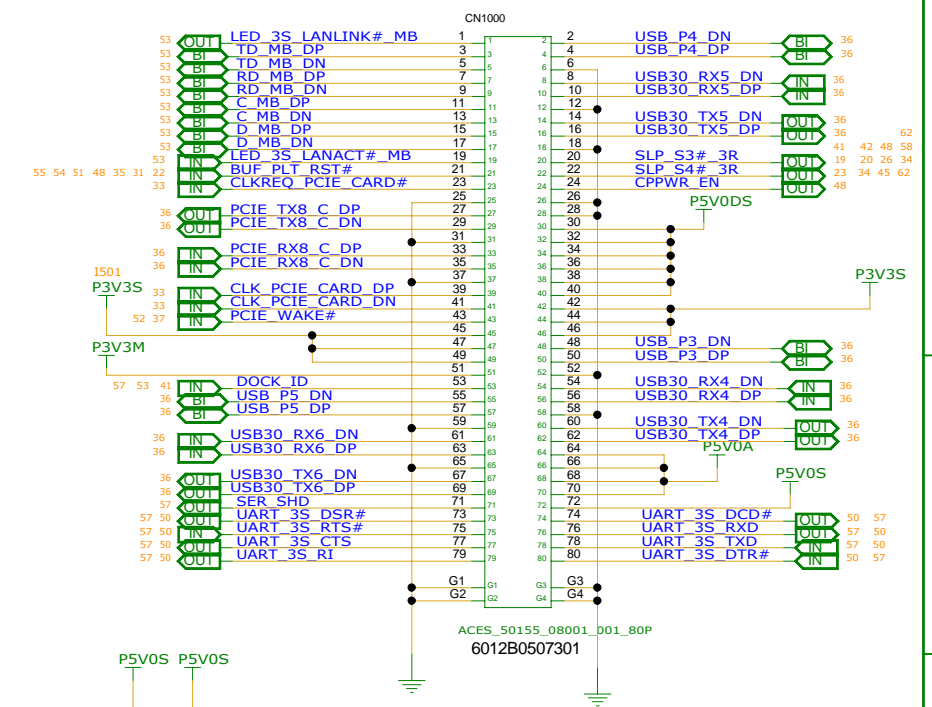
REFERENCE NUMBER:270~279



STICK POINT



MDC(15" ONLY)

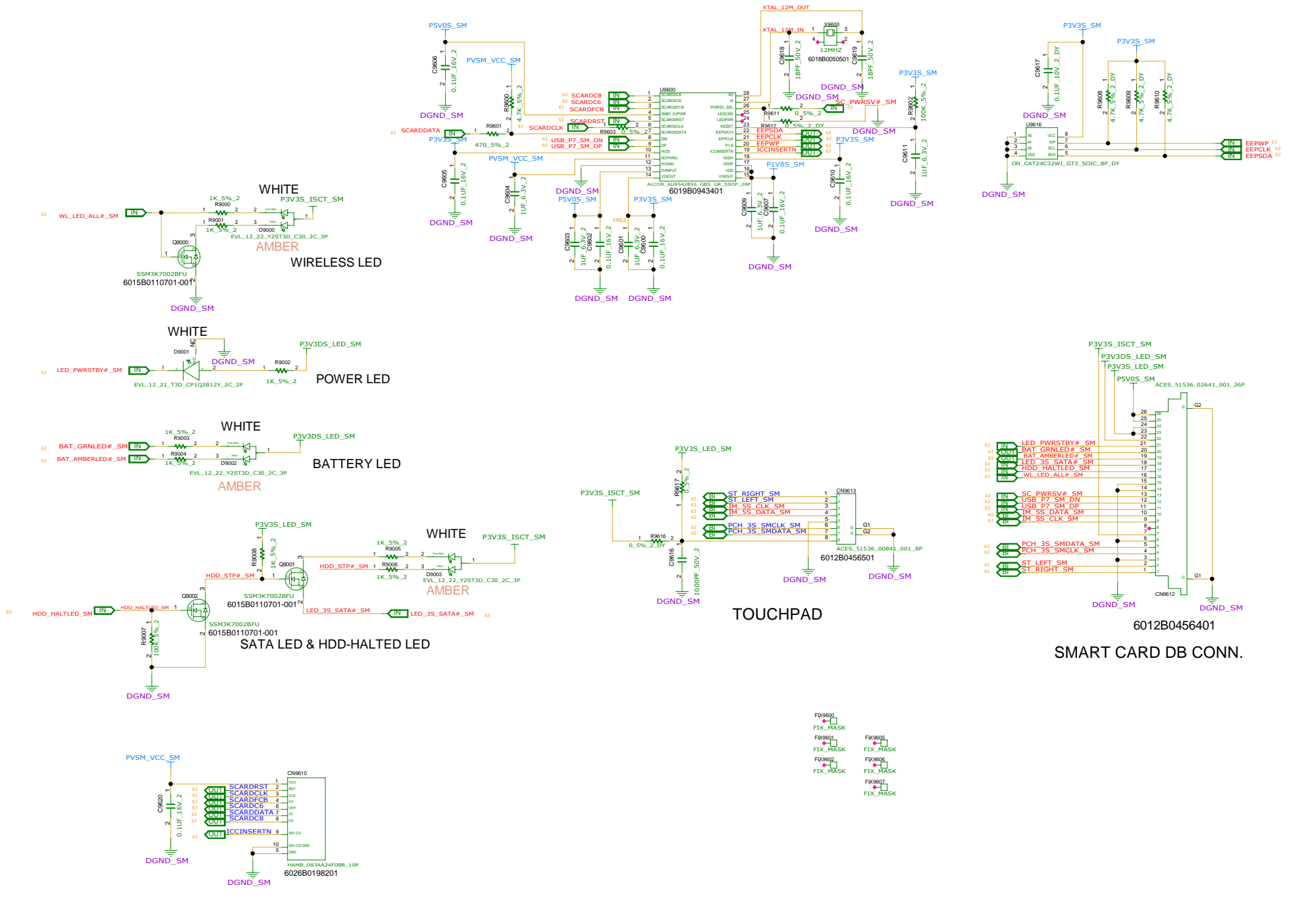


INVENTEC

FOR ME TEST

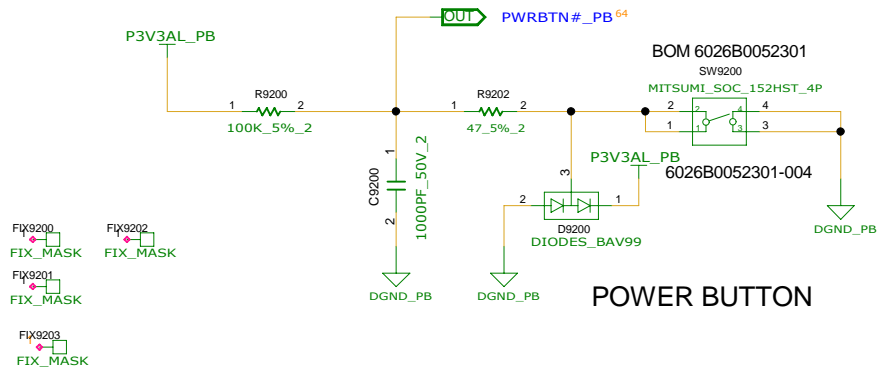
| | | | |
|--------------------------|---------|-----------------------|----------------|
| TITLE | | | |
| CYCLONE_DIS MB SIDE CONN | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXXX | | DATE 26-NOV-2012 | SHEET 62 of 90 |

F
E
D
C
B
A

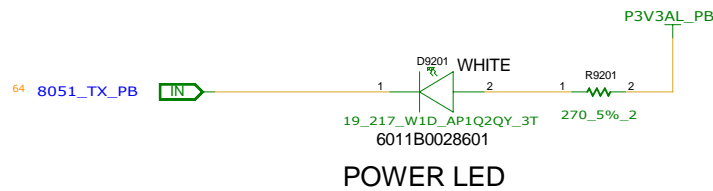


SMART CARD DAUGHTER BOARD

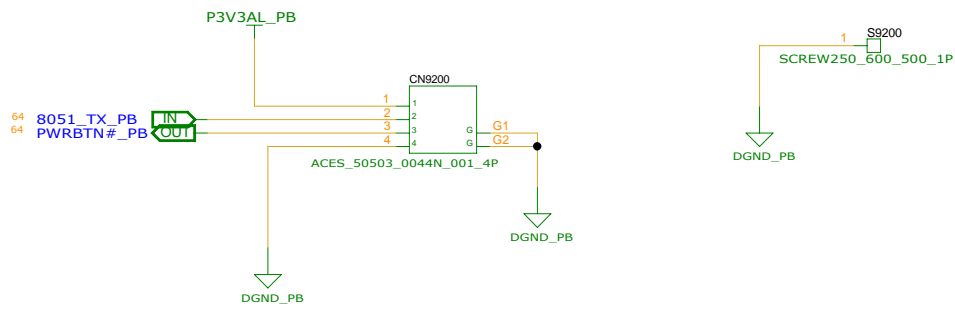
| | | | |
|------------------------------------|------------|-------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS SMART CARD | | | |
| SIZE C | CODE CS | DOCNUMBER 1310A25064 | REV X01 |
| CHANGE BY xxx | | DATE 26/NOV/2012 | SHEET 61 of 90 |



POWER BUTTON

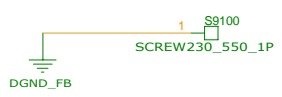
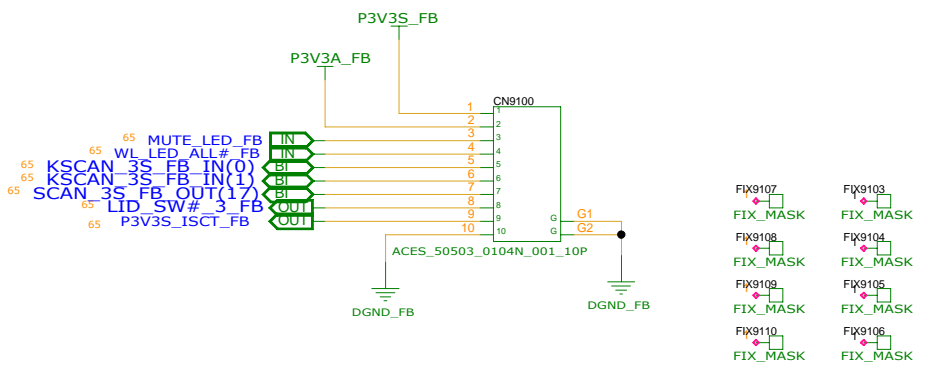
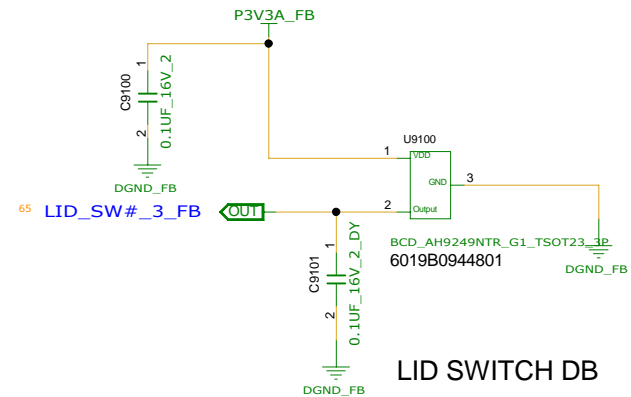
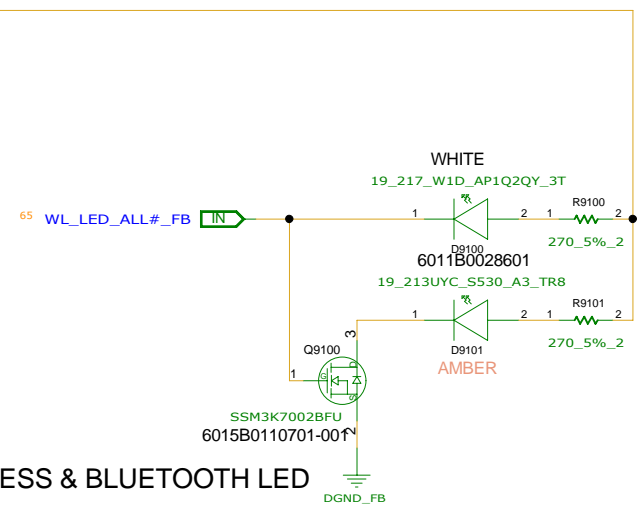
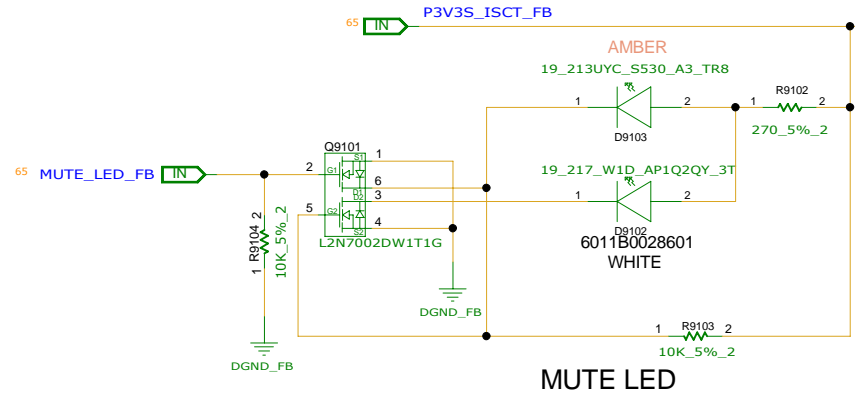
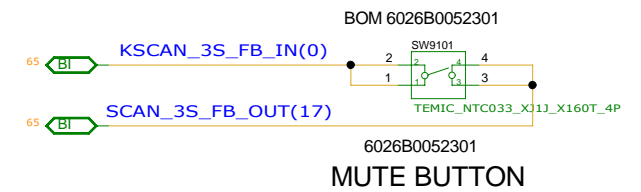
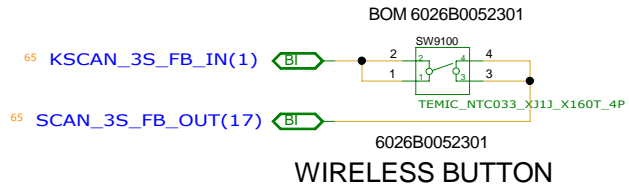


POWER LED



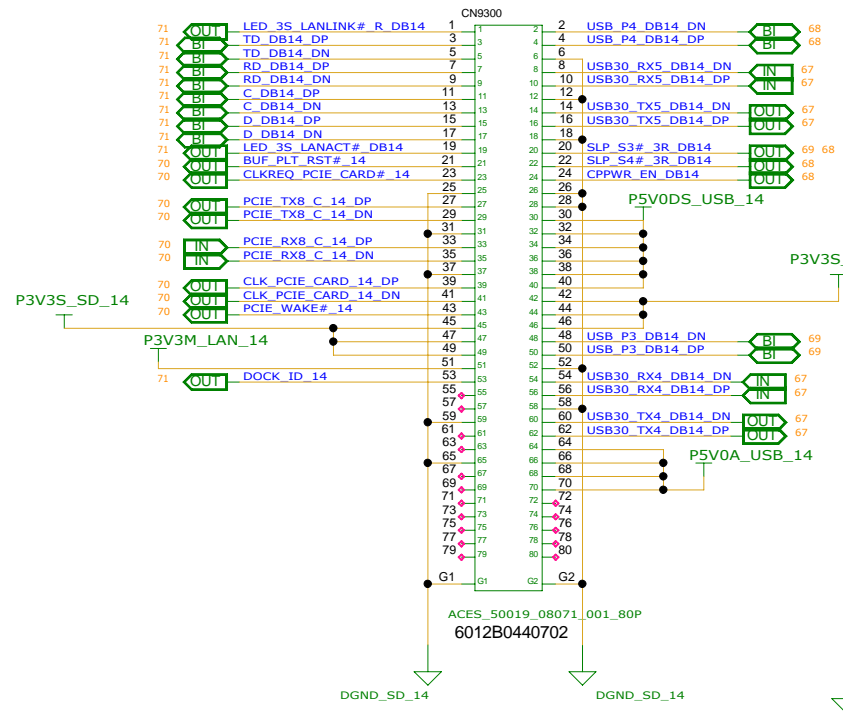
POWER BUTTON BOARD

| | | | |
|--|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE DIS POWER BUTTON BOARD | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 64 of 90 |

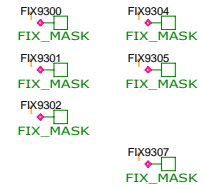
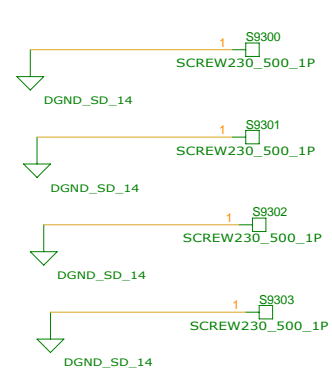


FUNCTION BUTTON BOARD

| | | | |
|---|--|-------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE DIS FUNCTION BUTTON BOARD | | | |
| SIZE A3 | | CODE CS | REV X01 |
| DOC NUMBER 1310A25664 | | REV X01 | |
| DATE 26-NOV-2012 | | SHEET 65 of 90 | |

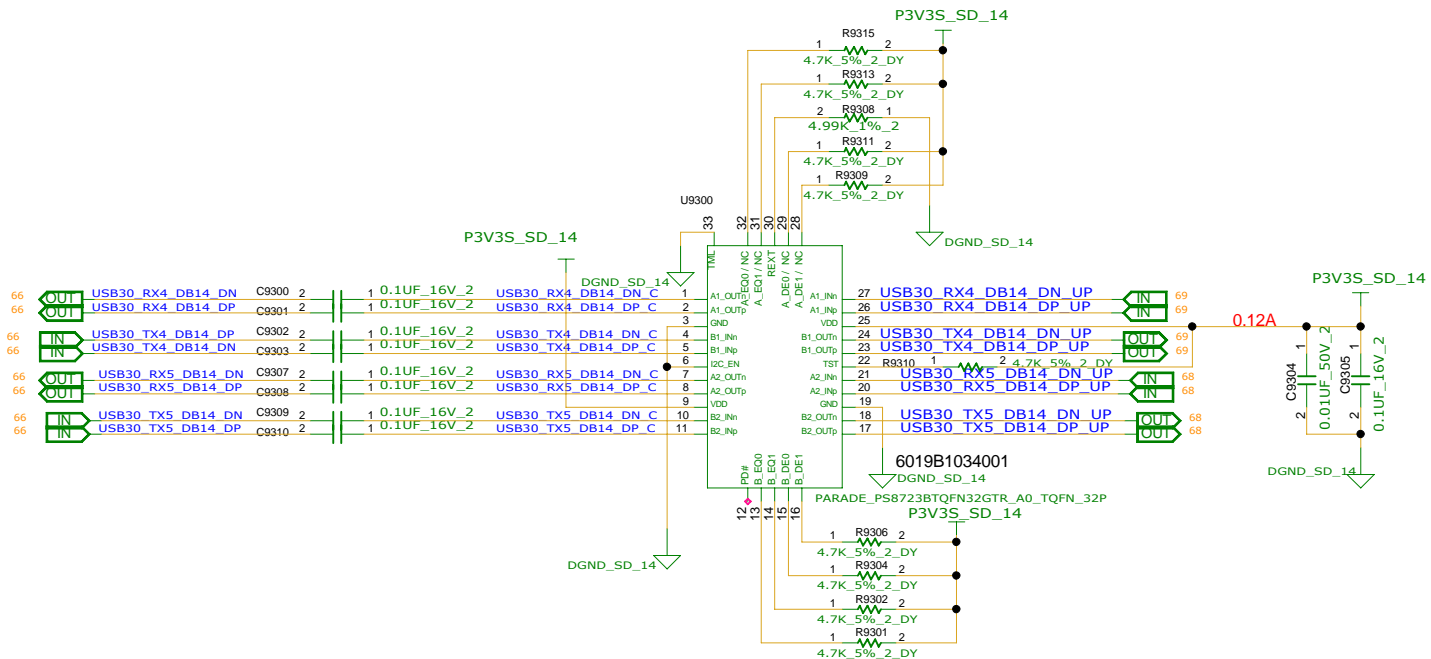


REFERENCE NUMBER:9300~9339



14" USB DAUGHTER BOARD

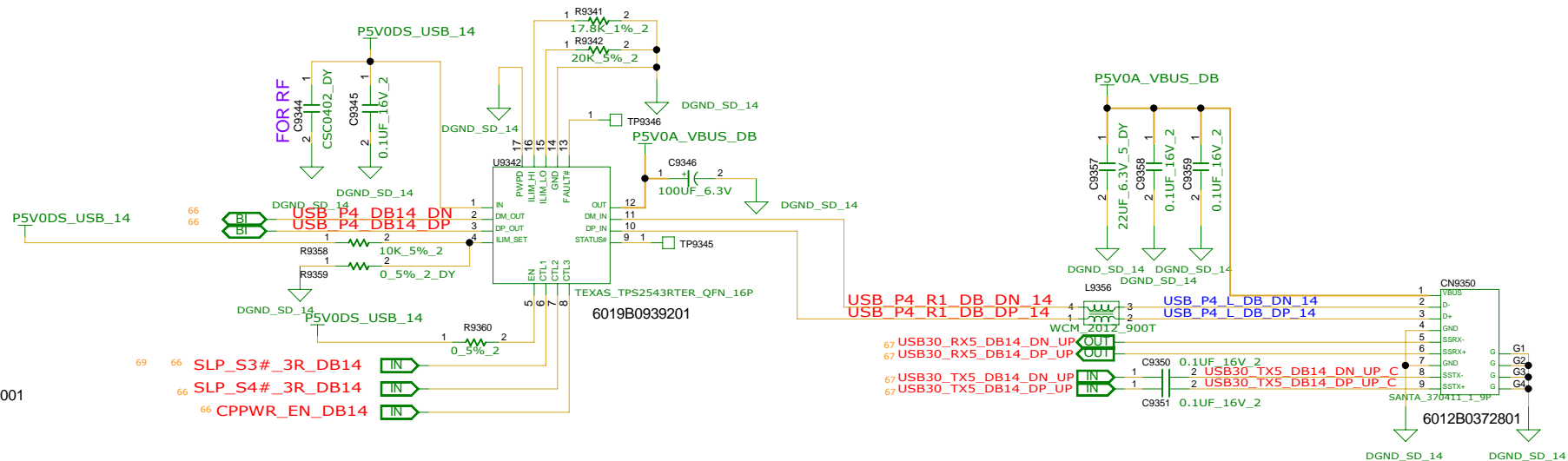
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|--------------------------|------------|------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS | | | |
| 14 B TO B CONN | | | |
| DOC NUMBER 1310A25664 | | | |
| SIZE A3 | CODE CS | REV X01 | |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 66 of 90 |



REFERENCE NUMBER:9300~9339

14" USB DAUGHTER BOARD

| | | | |
|--------------------------|------------|----------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_DIS | | | |
| 14 USB30 REDRIVER | | | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| SIZE A3 | CODE CS | SHEET 67 of 90 | |



TI TPS2543 P/N:6019B0939201
 PERICOM PI5USB2543 P/N:6019B0932001

| | | | |
|------------|-------|-------|-------|
| | R9358 | R9359 | R9342 |
| * TPS2543 | 10K | NI | 20K |
| PI5USB2543 | NI | 0 | 0 |

REFERENCE NUMBER:9340~9359

14" USB DAUGHTER BOARD

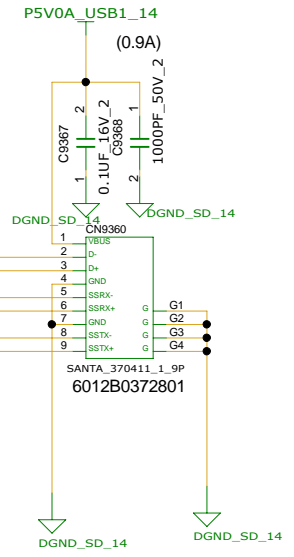
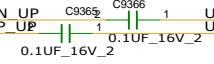
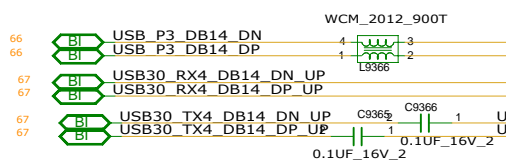
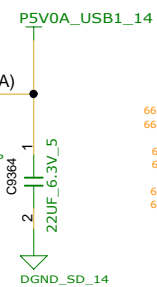
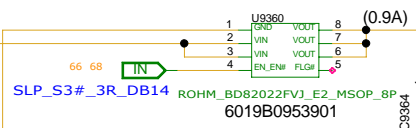
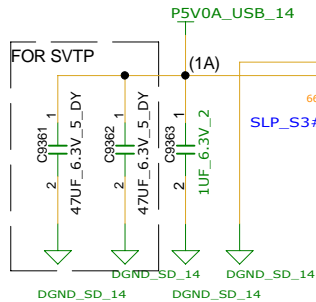
INVENTEC

TITLE
 14" USB CHARGER

DOC NUMBER
 1310A25664

REV
 X01

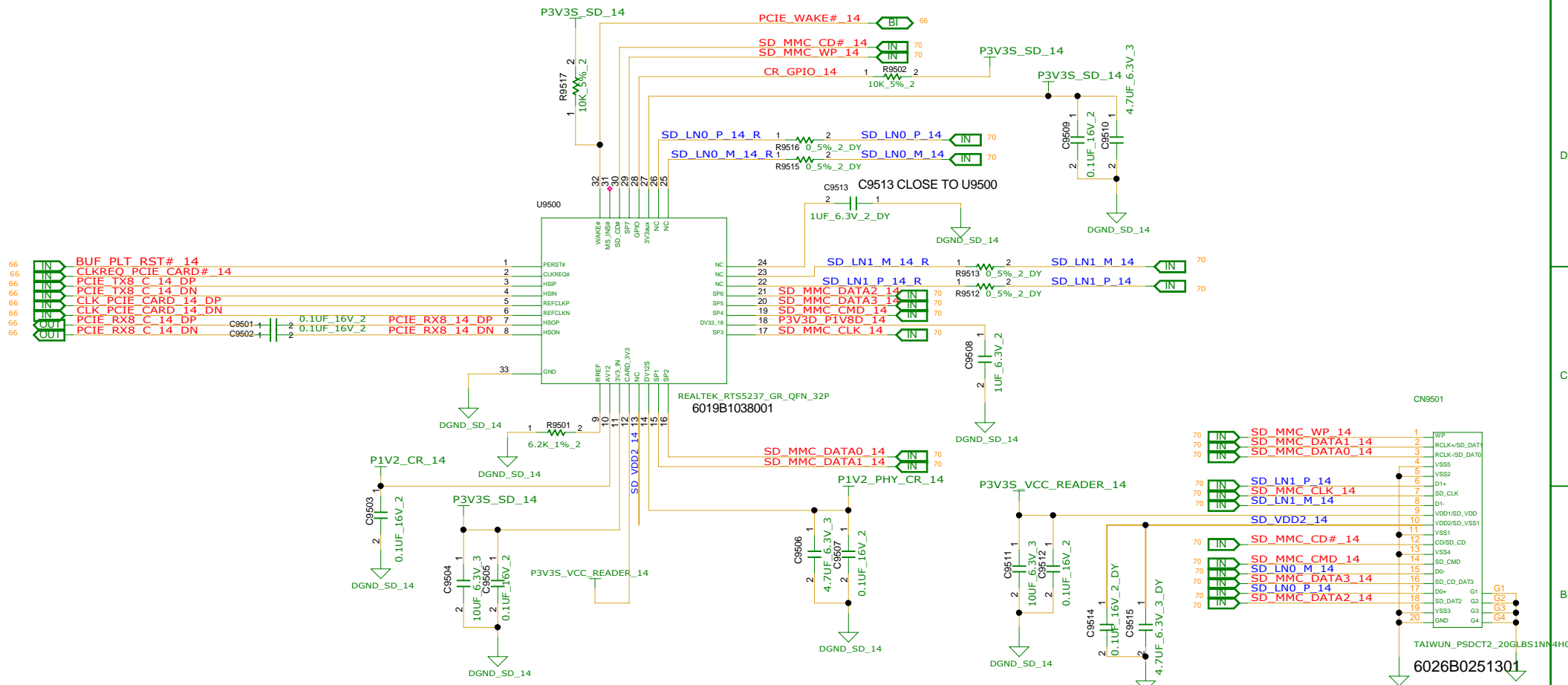
SIZE A3 CODE CS SHEET 68 of 90



REFERENCE NUMBER: 9360~9369

14" USB DAUGHTER BOARD

| | | | |
|--------------------------|------------|--------------------------|------------------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS | | | |
| 14 USB CONN | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 69 of 90 |



| LOCATION | RTS5237 | RTS5248 |
|----------|------------|---------|
| R9512 | NO INSTALL | INSTALL |
| R9513 | NO INSTALL | INSTALL |
| R9515 | NO INSTALL | INSTALL |
| R9516 | NO INSTALL | INSTALL |
| C9513 | NO INSTALL | INSTALL |
| C9514 | NO INSTALL | INSTALL |
| C9515 | NO INSTALL | INSTALL |

*B-ONLY W SERIES ONLY FOR SD4.0

REFERENCE NUMBER:9500~9529

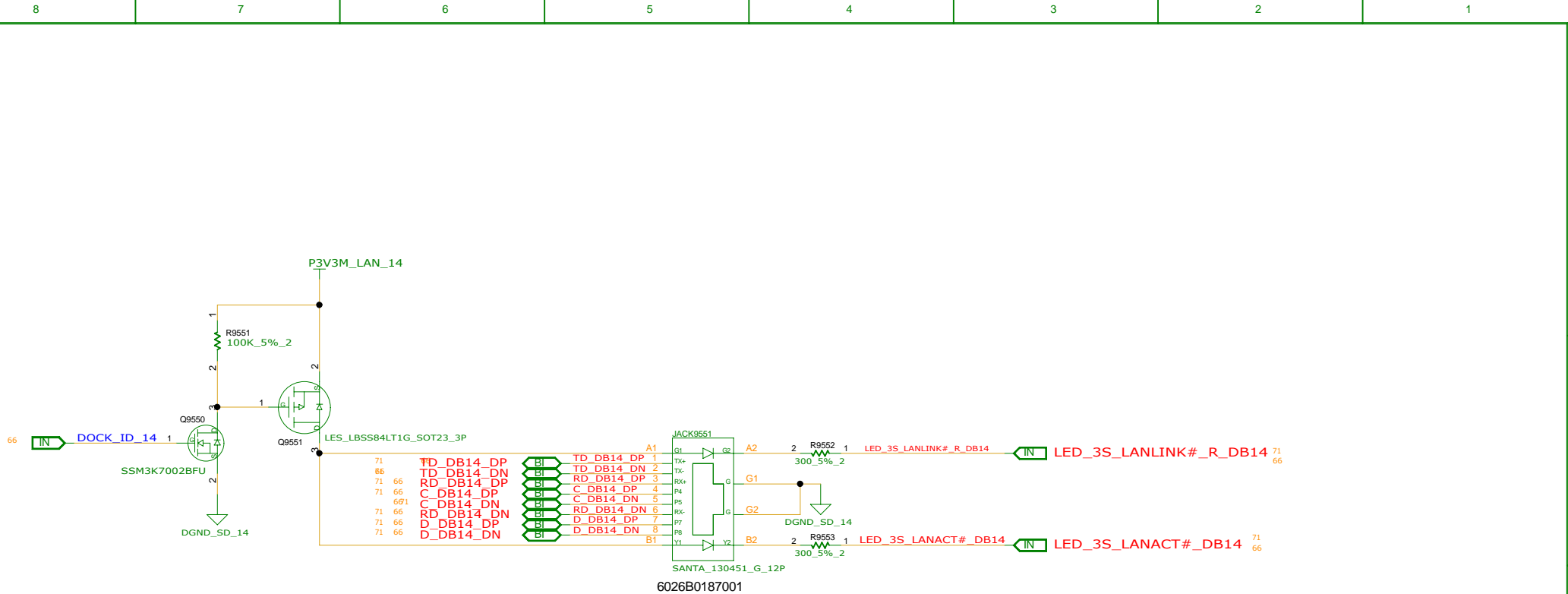
14" USB DAUGHTER BOARD

INVENTEC

TITLE: CYCLONE D15 14 CARD READER

SIZE A3 CODE CS DOC NUMBER 1310A25664 REV X01

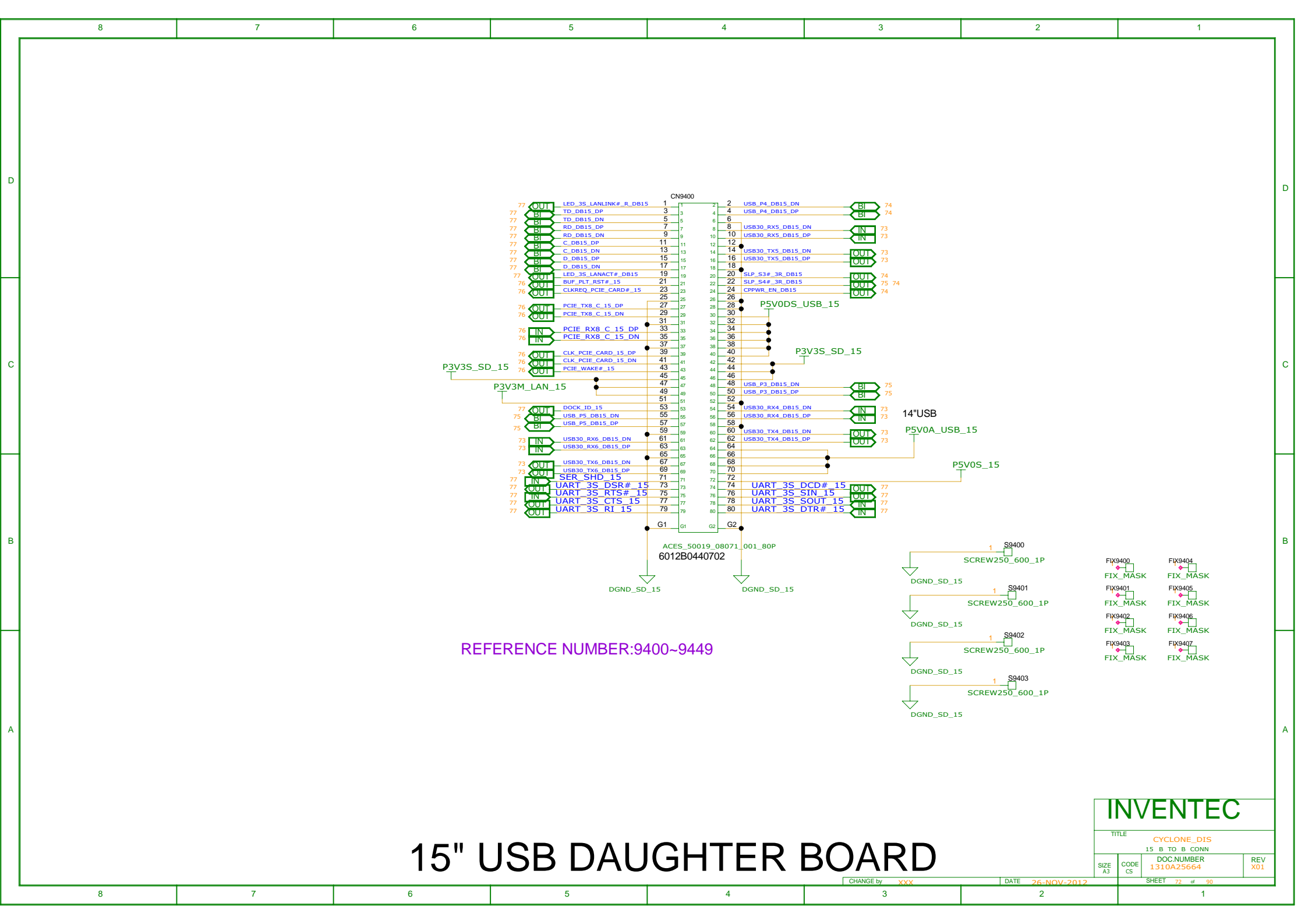
CHANGE by XXX DATE 26-NOV-2012 SHEET 70 of 90



REFERENCE NUMBER:9550~9569

14" USB DAUGHTER BOARD

| | | | |
|--------------------------------------|------------|--------------------------|-------------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS 14_RJ45_GDWN | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 71 of 90 |

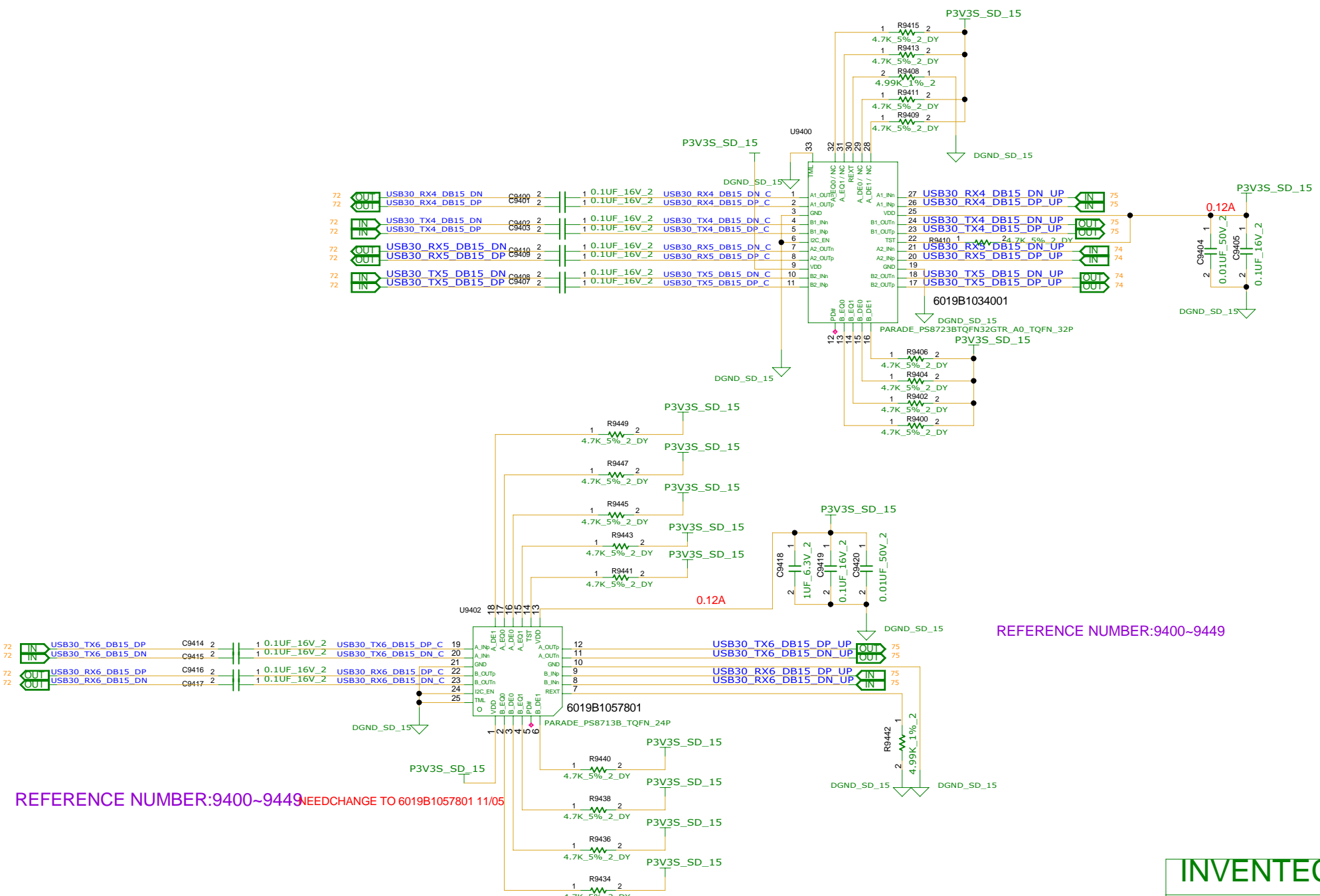


REFERENCE NUMBER:9400-9449

15" USB DAUGHTER BOARD

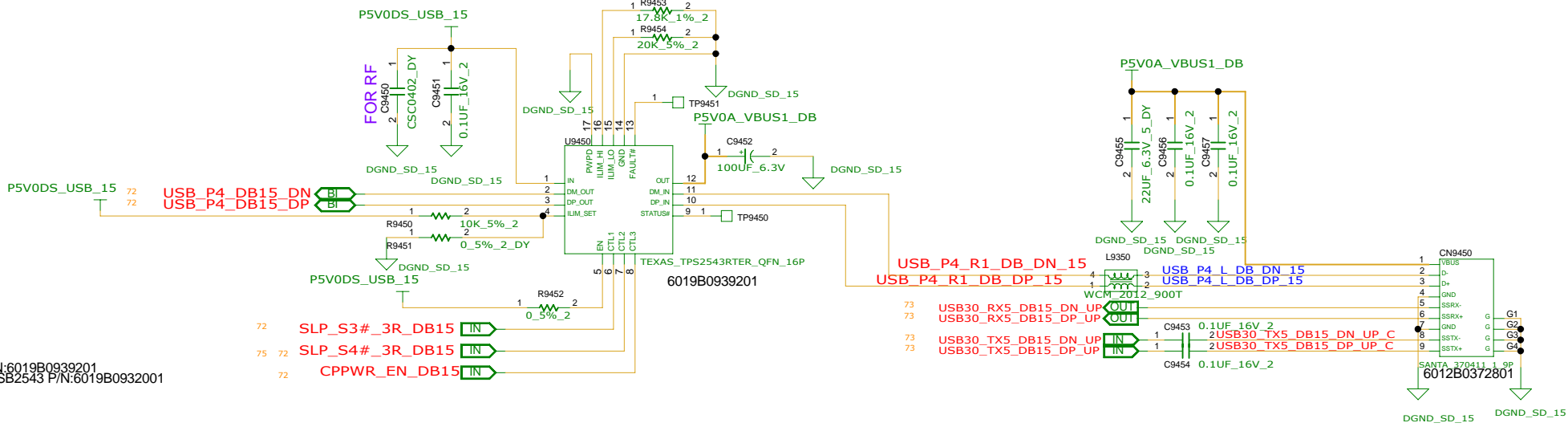
INVENTEC

| | | | |
|----------------|--|------------|---------|
| TITLE | | | |
| CYCLONE_DIS | | | |
| 15 B TO B CONN | | | |
| SIZE A3 | | CODE CS | REV X01 |
| DOC NUMBER | | 1310A25664 | |
| SHEET 72 of 90 | | | |



15" USB DAUGHTER BOARD

| | | | |
|--------------------------|--|------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_DIS | | | |
| 15 USB30 REDRIVER | | | |
| SIZE A3 | | CODE CS | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| DATE 26-NOV-2012 | | | |
| SHEET 73 of 90 | | | |



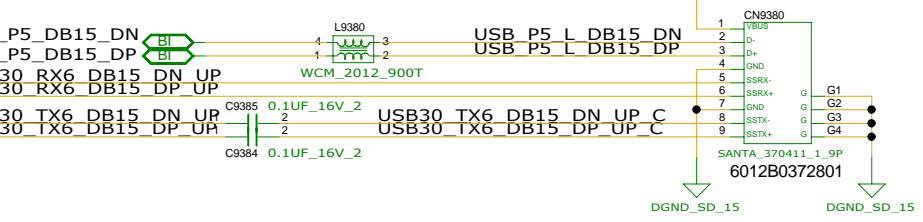
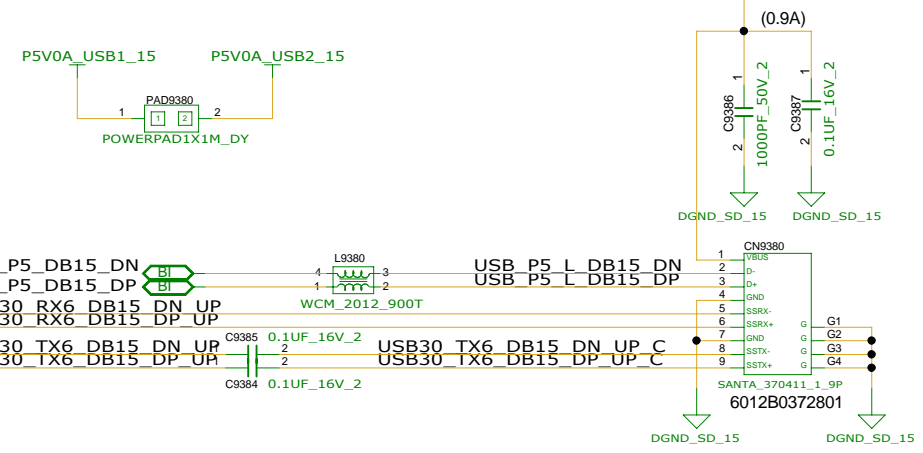
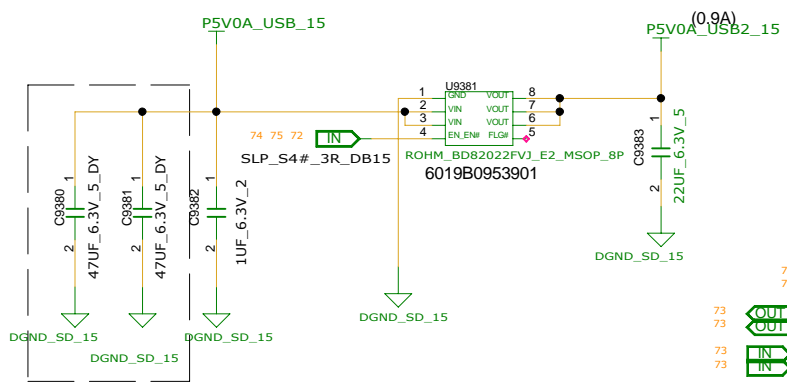
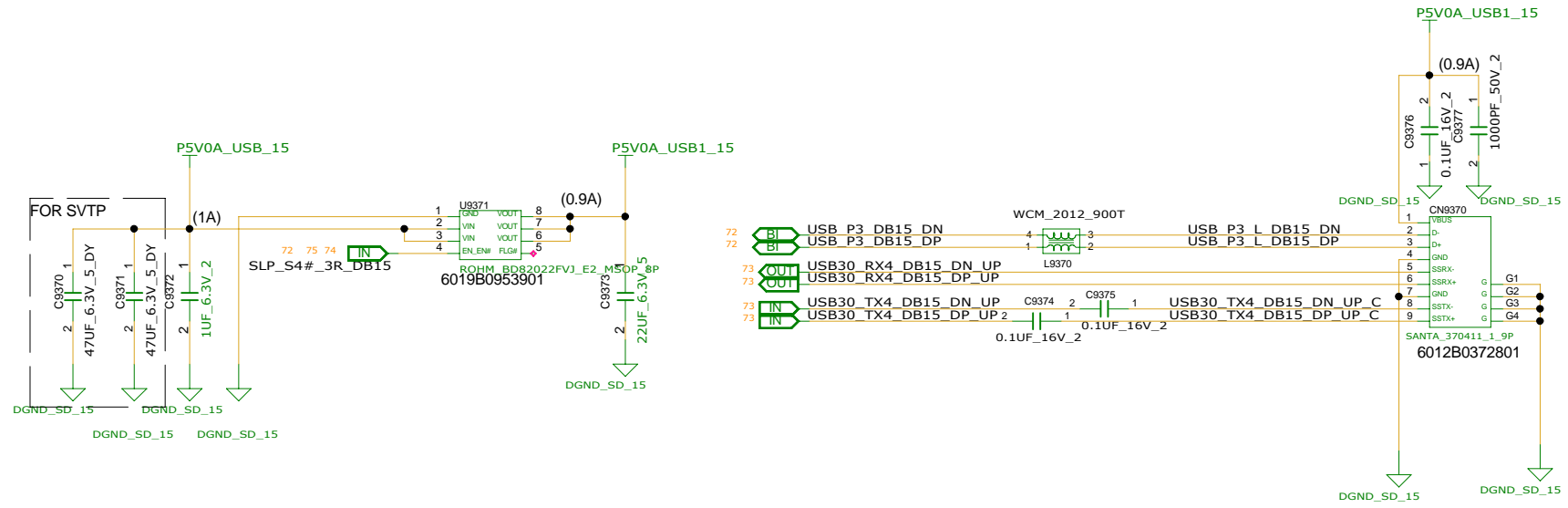
TI TPS2543 P/N:6019B0939201
 PERICOM PI5USB2543 P/N:6019B0932001

| | | | |
|------------|-------|-------|-------|
| | R9450 | R9451 | R9454 |
| * TPS2543 | 10K | NI | 20K |
| PI5USB2543 | NI | 0 | 0 |

REFERENCE NUMBER:9450~9499

15" USB DAUGHTER BOARD

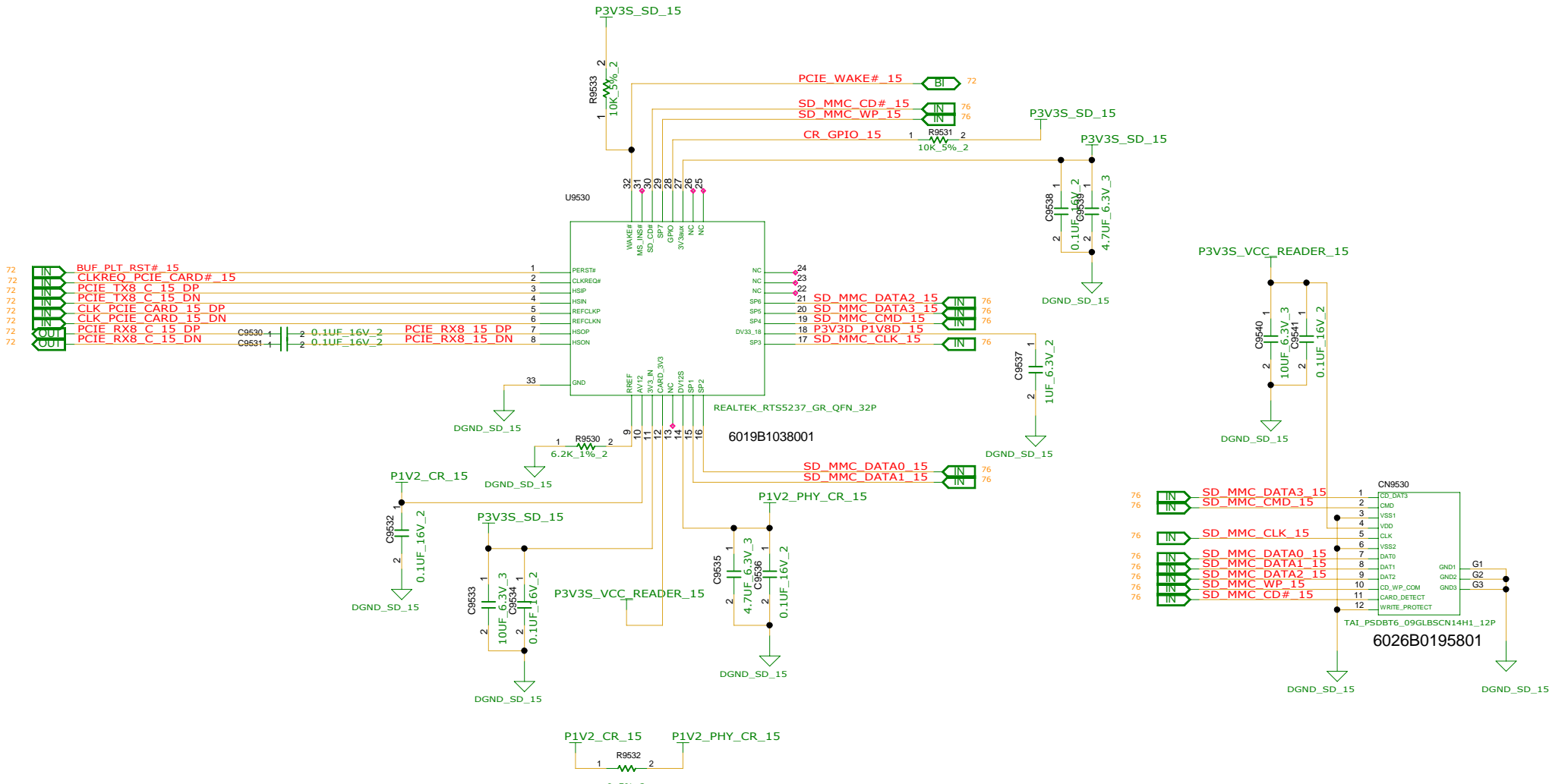
| | | | |
|---|------------|--------------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE-DIS 15" USB CHARGER | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| SHEET 74 of 90 | | | |



REFERENCE NUMBER:9370~9399

15" USB DAUGHTER BOARD

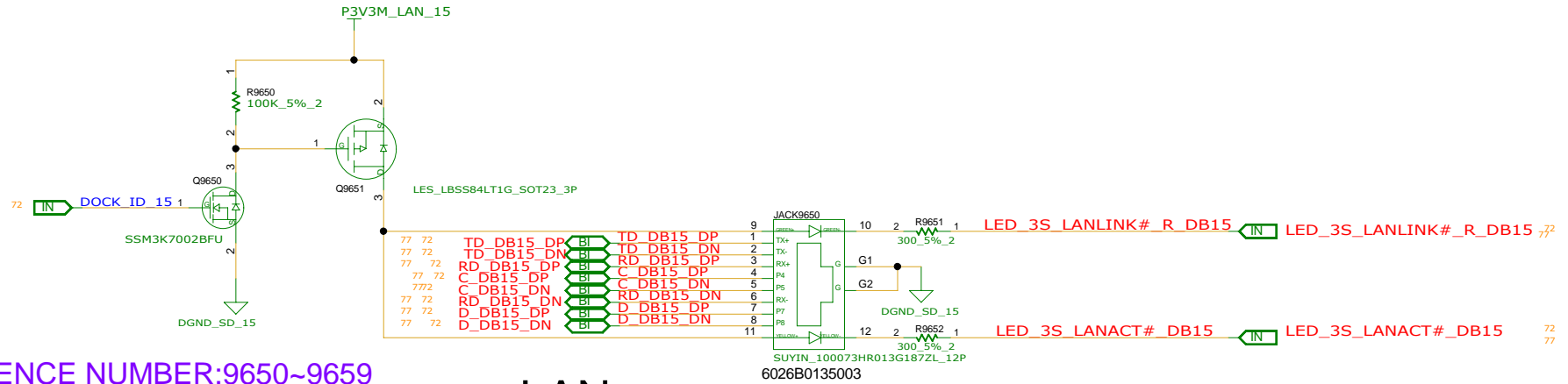
| | | | |
|--|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE-DIS 15" USB DAUGHTER BOARD | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 75 of 90 |



REFERENCE NUMBER:9530~9549

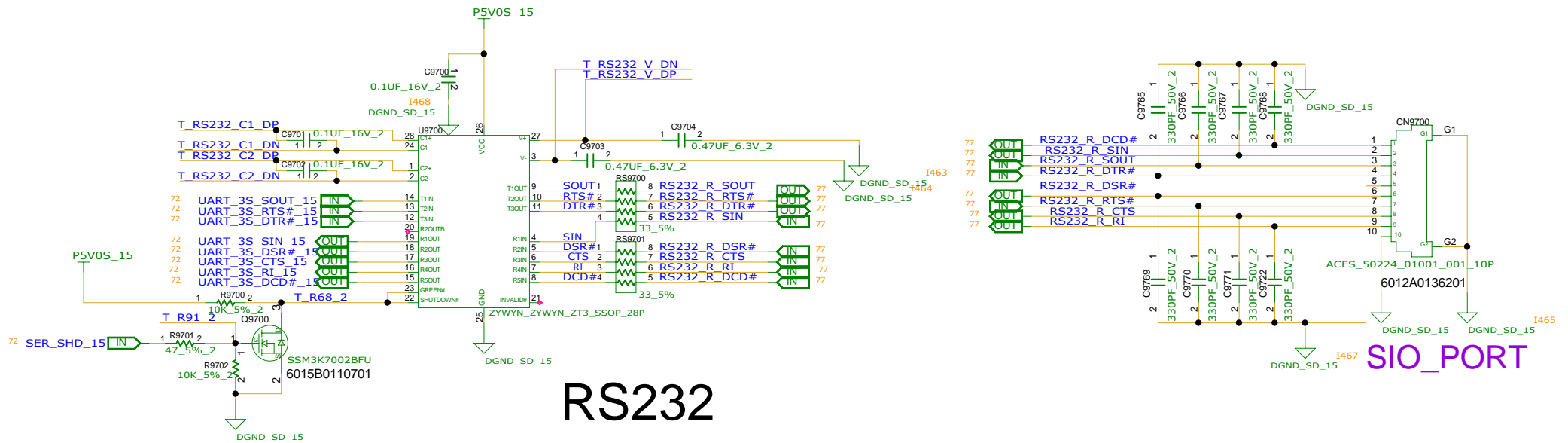
15" USB DAUGHTER BOARD

| | | | |
|---|--|------------|--|
| INVENTEC | | | |
| TITLE CYCLONE-DIS 15" CARD-READER | | | |
| CODE CS | | DOC.NUMBER | |
| SIZE A3 | | 1310A25664 | |
| DATE | | REV | |
| 26-NOV-2012 | | X01 | |
| CHANGE by | | SHEET | |
| XXX | | 76 of 90 | |



REFERENCE NUMBER:9650~9659

LAN

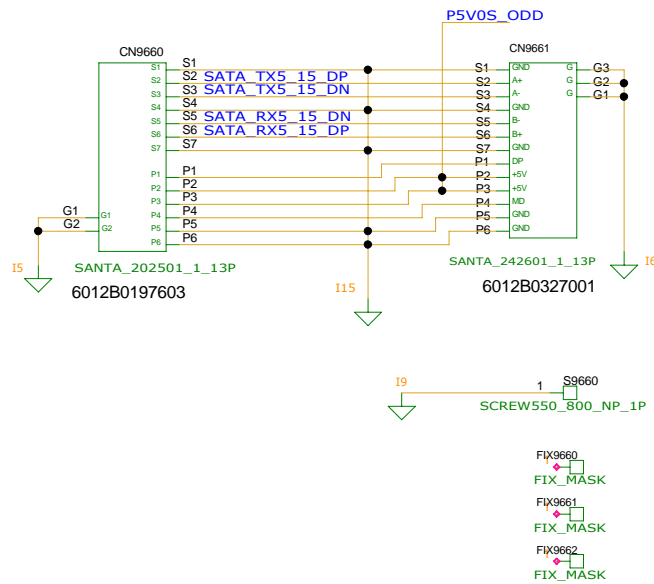


REFERENCE NUMBER:9600~9649

RS232

15" USB DAUGHTER BOARD

| | | | |
|---|--|-------------------|--|
| INVENTEC | | | |
| TITLE CYCLONE_DIS_15_RJ45_GDMN/SERIAL_PORT | | | |
| SIZE A3 | | CODE CS | |
| DOC NUMBER 1310A25664 | | REV X01 | |
| DATE 26-NOV-2012 | | SHEET 77 of 90 | |

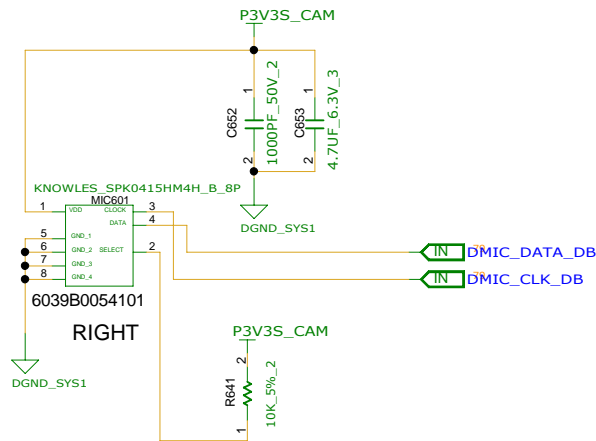
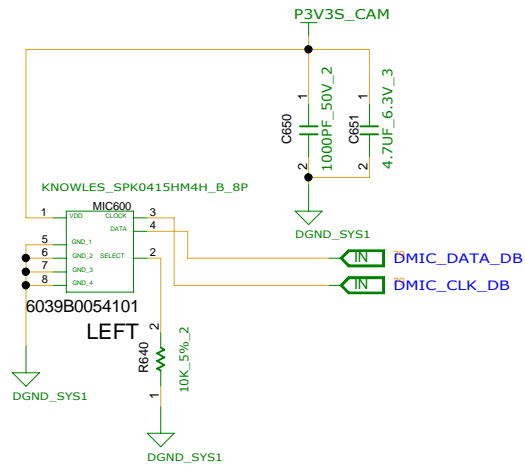
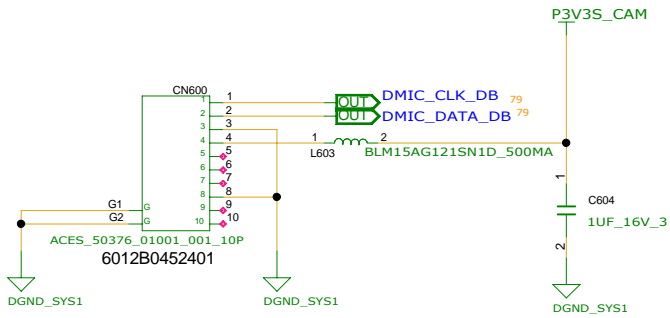


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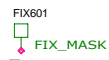
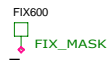
15" SATA ODD BOARD

INVENTEC

| | | | |
|-------------------------------|--|------------|--------------------------|
| TITLE | | | |
| CYCLONE_DIS 15 SATA_ODD_DB | | | |
| SIZE A3 | | CODE CS | DOC NUMBER 1310A25664 |
| SHEET 78 of 90 | | | REV X01 |



REFERENCE NUMBER:600~649



MIC DOUGHTER BOARD

INVENTEC

| | | | |
|-----------------------------------|------------|--------------------------|------------|
| TITLE CYCLONE DIS MIC BOARD | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |

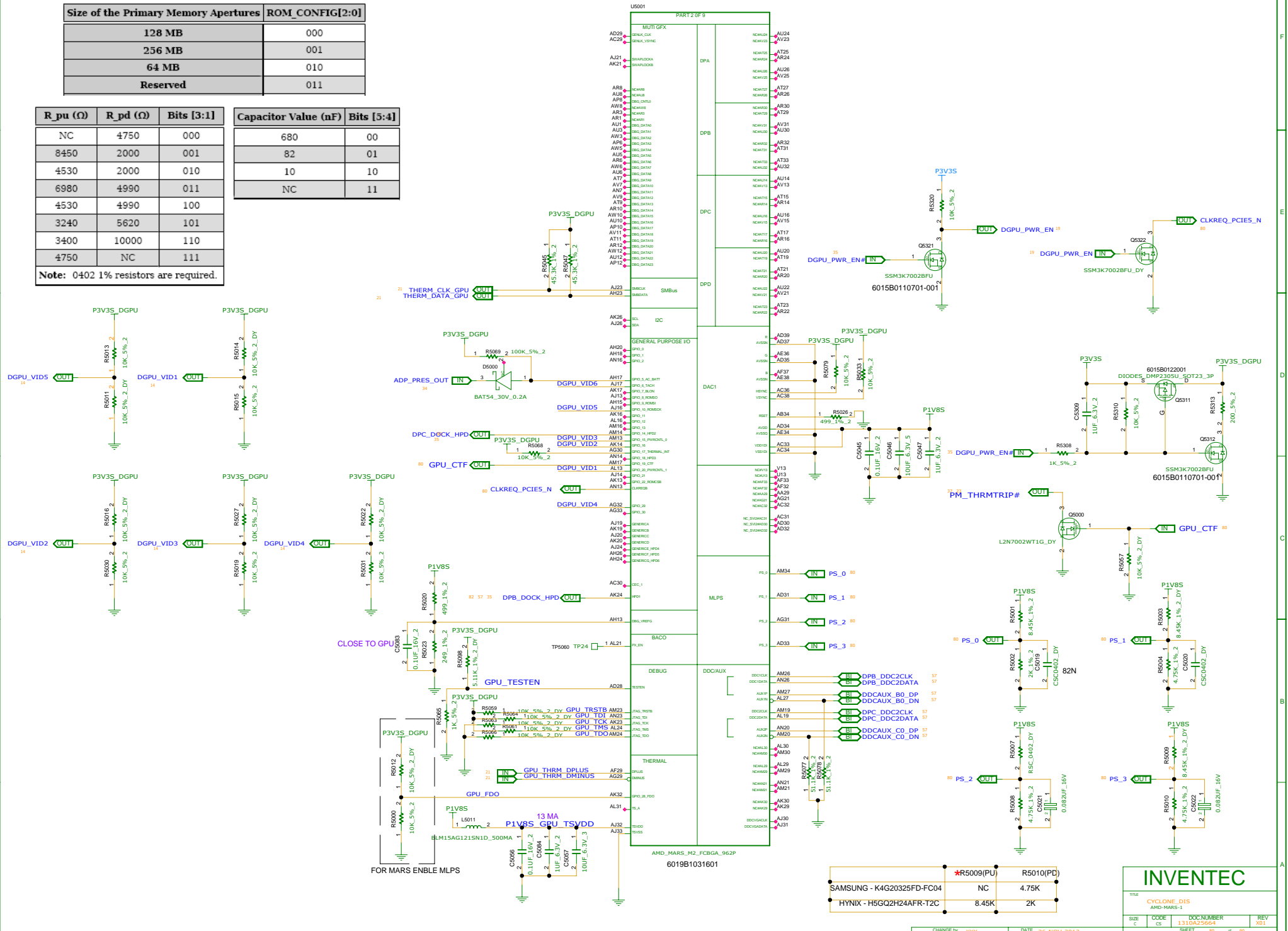
MLPS TABLE

THERM SENSOR

| Size of the Primary Memory Apertures | ROM_CONFIG[2:0] |
|--------------------------------------|-----------------|
| 128 MB | 000 |
| 256 MB | 001 |
| 64 MB | 010 |
| Reserved | 011 |

| R _{pu} (Ω) | R _{pd} (Ω) | Bits [3:1] | Capacitor Value (nF) | Bits [5:4] |
|---------------------|---------------------|------------|----------------------|------------|
| NC | 4750 | 000 | 680 | 00 |
| 8450 | 2000 | 001 | 82 | 01 |
| 4530 | 2000 | 010 | 10 | 10 |
| 6980 | 4990 | 011 | NC | 11 |
| 4530 | 4990 | 100 | | |
| 3240 | 5620 | 101 | | |
| 3400 | 10000 | 110 | | |
| 4750 | NC | 111 | | |

Note: 0402 1% resistors are required.



| | |
|---------------------------|-----------|
| *R5009(PU) | R5010(PD) |
| SAMSUNG - K4G20325FD-FC04 | NC |
| HYNIX - H5G02H24AFR-T2C | 4.75K |
| | 2K |

INVENTEC

TITLE: CYCLONE_DIS
 AMD-MARS-1

SIZE: C CODE: 13110A2556P4 DOCNUMBER: X01
 SHEET: 88 OF 90

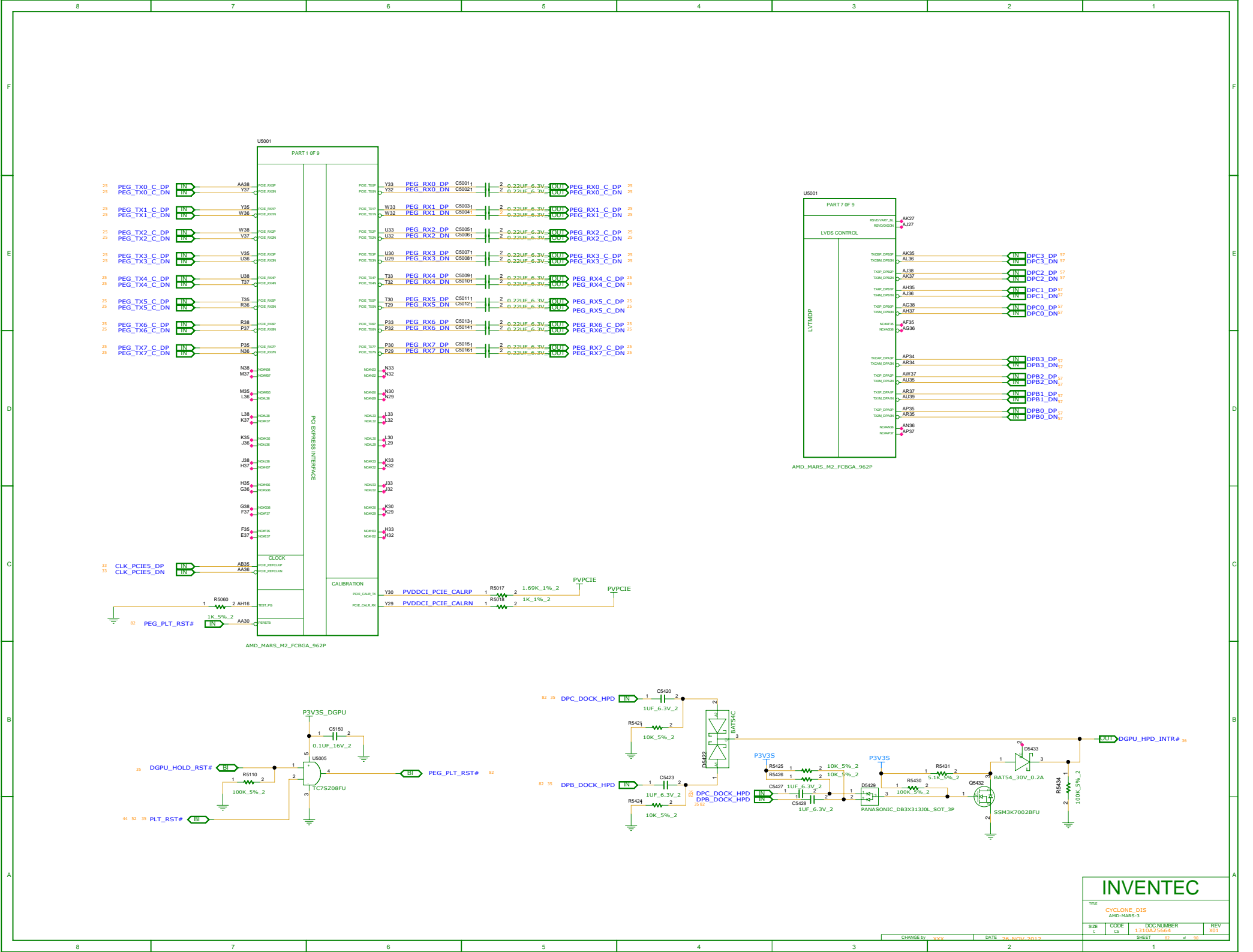
| MLPS Bit | Strap Name | Description |
|----------|-----------------------------|---|
| PS_0[1] | ROM_CONFIG[0] | See Primary Memory Aperture Sizes. |
| PS_0[2] | ROM_CONFIG[1] | |
| PS_0[3] | ROM_CONFIG[2] | |
| PS_0[4] | N/A | Reserved for internal use only. Must be 1 at reset. |
| PS_0[5] | AUD_PORT_CONN_PINSTRAP[0] | The LSB (least significant bit) of the strap option that indicates the number of audio-capable display outputs. |
| PS_1[1] | STRAP_BIF_GEN3_EN_A | PCIe GEN3 capability. 1 = PCIe GEN3 is supported. |
| PS_1[2] | STRAP_BIF_CLK_PM_EN | Determines whether or not the PCIe reference clock power management capability is reported in the PCI configuration space (otherwise known as CLKREQB). 0 = The CLKREQB power management capability is disabled |
| PS_1[3] | N/A | Reserved for internal use only. Must be 0 at reset. |
| PS_1[4] | STRAP_TX_CFG_DRV_FULL_SWING | Control the transmitter full-/half-swing mode 1 = The transmitter full-swing is enabled |
| PS_1[5] | STRAP_TX_DEEMPH_EN | PCI EXPRESS® transmitter, de-emphasis enable. 1 = Tx deemphasis enabled. |
| PS_2[1] | N/A | Reserved. |
| PS_2[2] | N/A | Reserved. |
| PS_2[3] | STRAP_BIOS_ROM_EN | To enable the external BIOS ROM device. 0 = Disable the external BIOS ROM device. |
| PS_2[4] | STRAP_BIF_VGA_DIS | VGA disable determines whether or not the card will be recognized as the system's VGA controller (through the SUBCLASS field in the PCI configuration space). 0 = VGA controller capacity enabled. |
| PS_2[1] | N/A | Reserved. |
| PS_2[2] | N/A | Reserved. |
| PS_2[3] | STRAP_BIOS_ROM_EN | To enable the external BIOS ROM device. 0 = Disable the external BIOS ROM device. |
| PS_2[4] | STRAP_BIF_VGA_DIS | VGA disable determines whether or not the card will be recognized as the system's VGA controller (through the SUBCLASS field in the PCI configuration space). 0 = VGA controller capacity enabled. |
| PS_2[5] | N/A | Reserved |
| PS_3[1] | BOARD_CONFIG[0] | See Board configuration related strapping, such as for memory ID. |
| PS_3[2] | BOARD_CONFIG[1] | |
| PS_3[3] | BOARD_CONFIG[2] | |
| PS_3[4] | AUD_PORT_CONN_PINSTRAP[1] | Determines the maximum number of digital display audio endpoints that will be presented to the OS and user. 111 = No usable endpoints. 110 = One usable endpoint. 101 = Two usable endpoints. 100 = Three usable endpoints. 011 = Four usable endpoints. 010 = Five usable endpoints. 001 = Six usable endpoints. 000 = All endpoints are usable. |
| PS_3[5] | AUD_PORT_CONN_PINSTRAP[2] | |

Note : AUD[1] (on HYSNC) and AUD[0] (on VSYNC) still need to be properly pin strapped even in a MLPS-based design.

| LPT-LP GPIO 34 | MARS MLPS Bit: PS_3 [3:1] | | | R_pu (Ω) | R_pd (Ω) | Vendor & PN | Die Ver. | |
|--|---|-------------------------------------|-------------------------------|------------------------------------|----------|----------------------------|-----------|---|
| 0 | 0 | 0 | 0 | NC | 4750 | Samsung - K4G20325FD-FC04 | D | GDDR5 - 64Mx32/128Mx16, 1.5V/1.35V, 5.0Gbps/4Gbps |
| | 0 | 0 | 1 | 8450 | 2000 | Hynix - H5GQ2H24AFR-T2C | A (Gemma) | GDDR5 - 64Mx32/128Mx16, 1.5V/1.35V, 5.0Gbps/4Gbps |
| 1 | 1 | 1 | 0 | 3400 | 10000 | *Samsung - K4G41325FC-HC04 | C | *GDDR5 - 128Mx32/256Mx16, 1.5V/1.35V, 5.0Gbps/4Gbps |
| | 1 | 1 | 1 | 4759 | NC | *Hynix - H5GC4H24MFR-T0C | Huma | *GDDR5 - 128Mx32/256Mx16, 1.5V/1.35V, 5.0Gbps/4Gbps |
| VBIOS selection : 0 : VBIOS 1, 64Mx32 for 1GB sku 1 : VBIOS 2, 128Mx32 for 2GB sku | Vram configuration 00: 64Mx32 (2Gb) 11: 128Mx32 (4Gb) | Vendor ID 0: Samsung 1: Hynix | Resistor Divider Lookup Table | Vram information * 2GB sku, TBD | | | | |

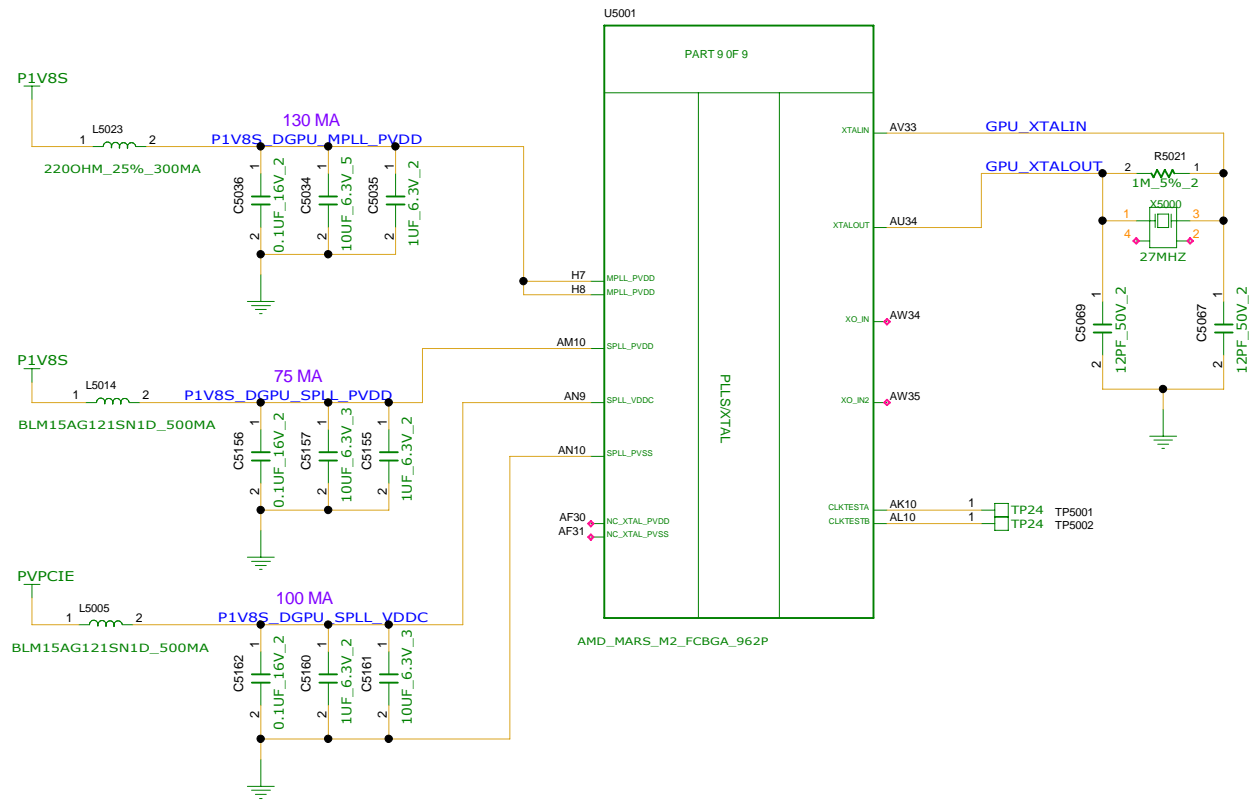
INVENTEC

| | | | |
|------------------------------------|------------|--------------------------|------------|
| Title CYCLONE_DIS AMD-MARS-2 | | | |
| SIZE C | CODE CS | DOC NUMBER 1310A25064 | REV X01 |
| SHEET | | of | 30 |

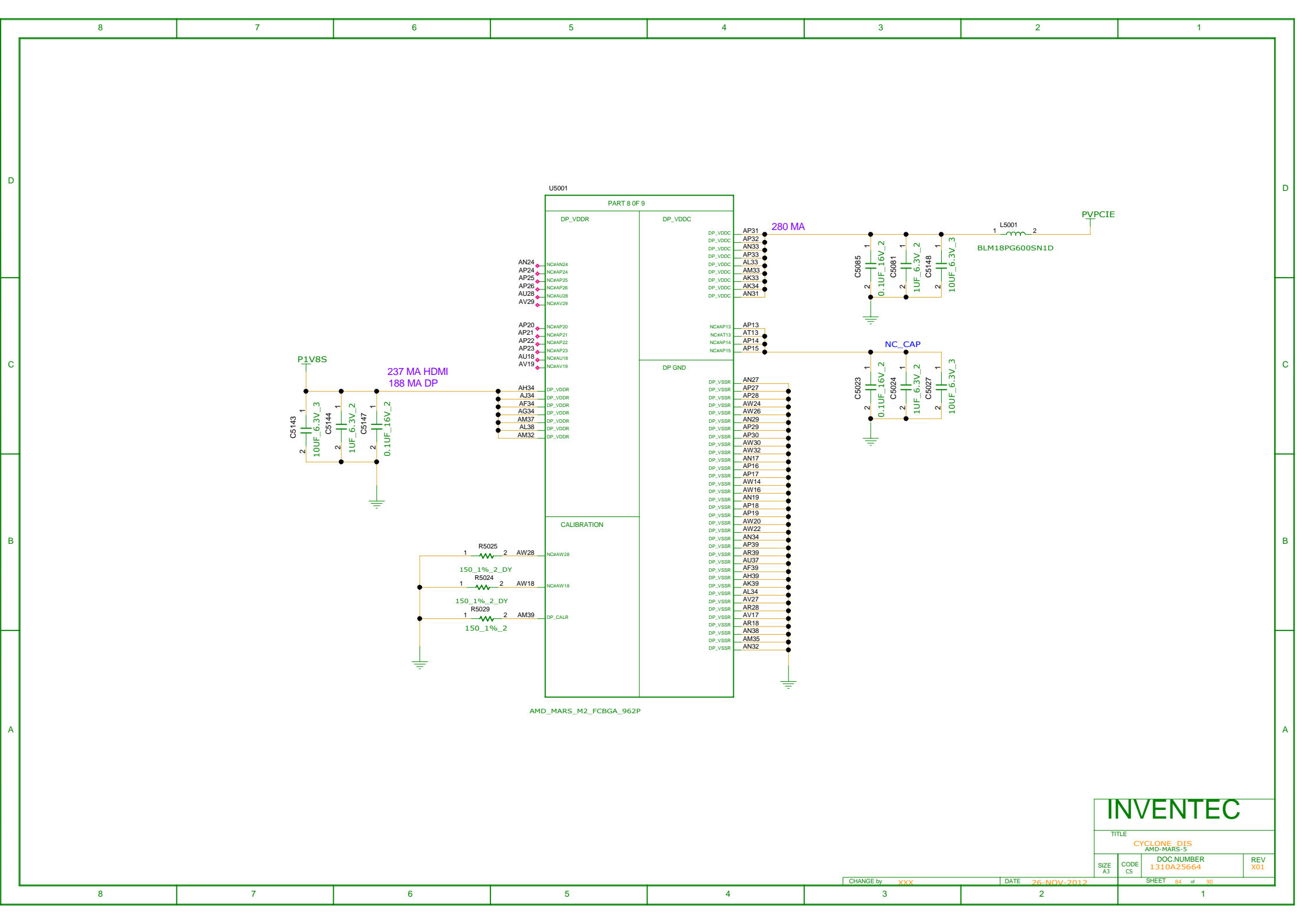


| | | | |
|------------------------------------|------------|-------------------------|------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS AMD-MARS-3 | | | |
| SIZE C | CODE CS | DOCNUMBER 1310A23564 | REV X01 |
| SHEET 82 | | of 90 | |

CHANGE BY: yxx DATE: 26 JUN 2012

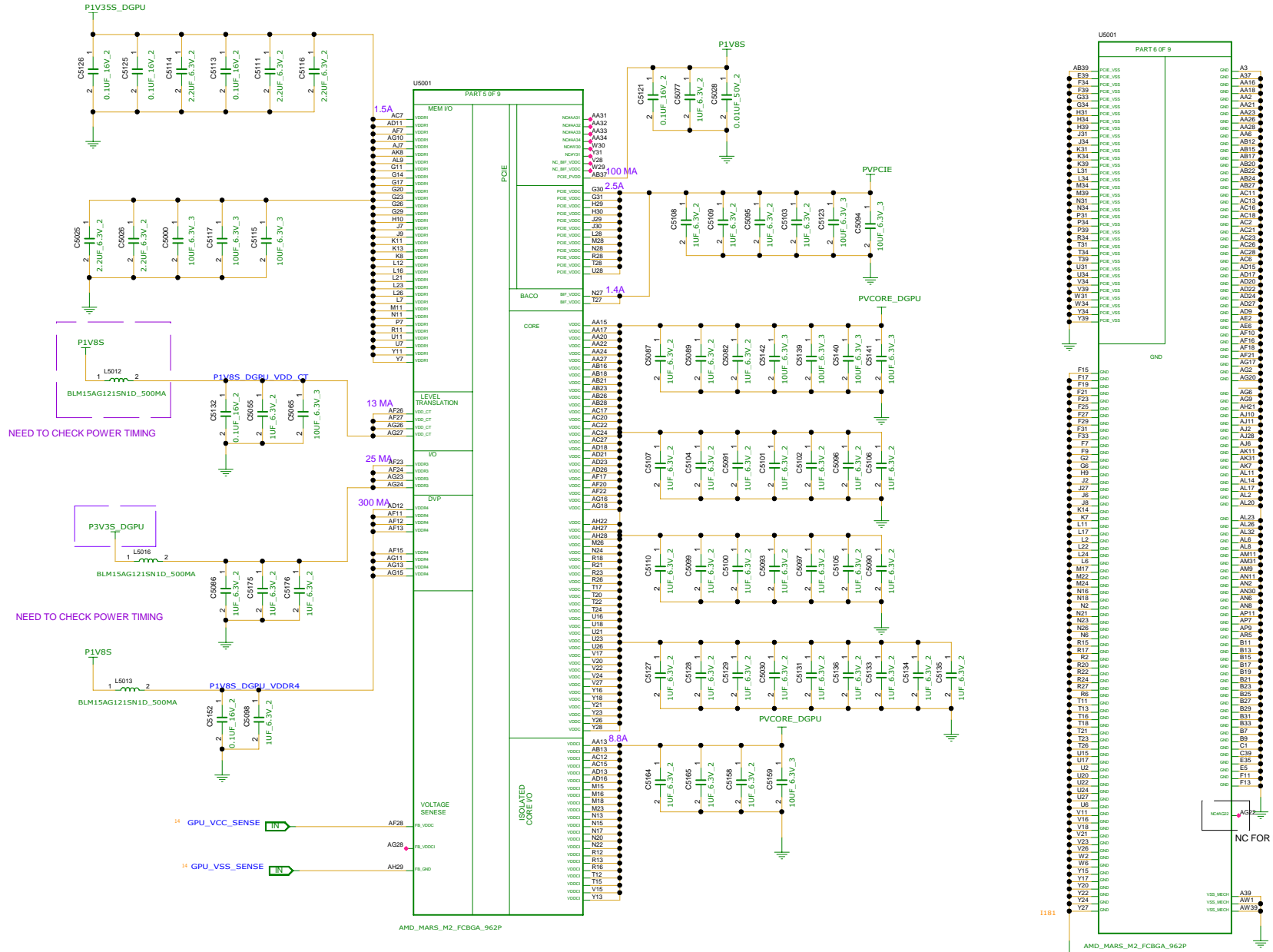


| | | | |
|------------------------------------|------------|--------------------------|----------------|
| INVENTEC | | | |
| TITLE CYCLONE_DIS AMD_MARS_4 | | | |
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
| CHANGE by XXX | | DATE 26-NOV-2012 | SHEET 83 of 90 |



INVENTEC

| | | | |
|---------------------------|------|------------|-----|
| TITLE | | | |
| CYCLONE_DIS AMD_MARS_5 | | | |
| SIZE | CODE | DOC NUMBER | REV |
| A3 | CS | 1310A25664 | X01 |

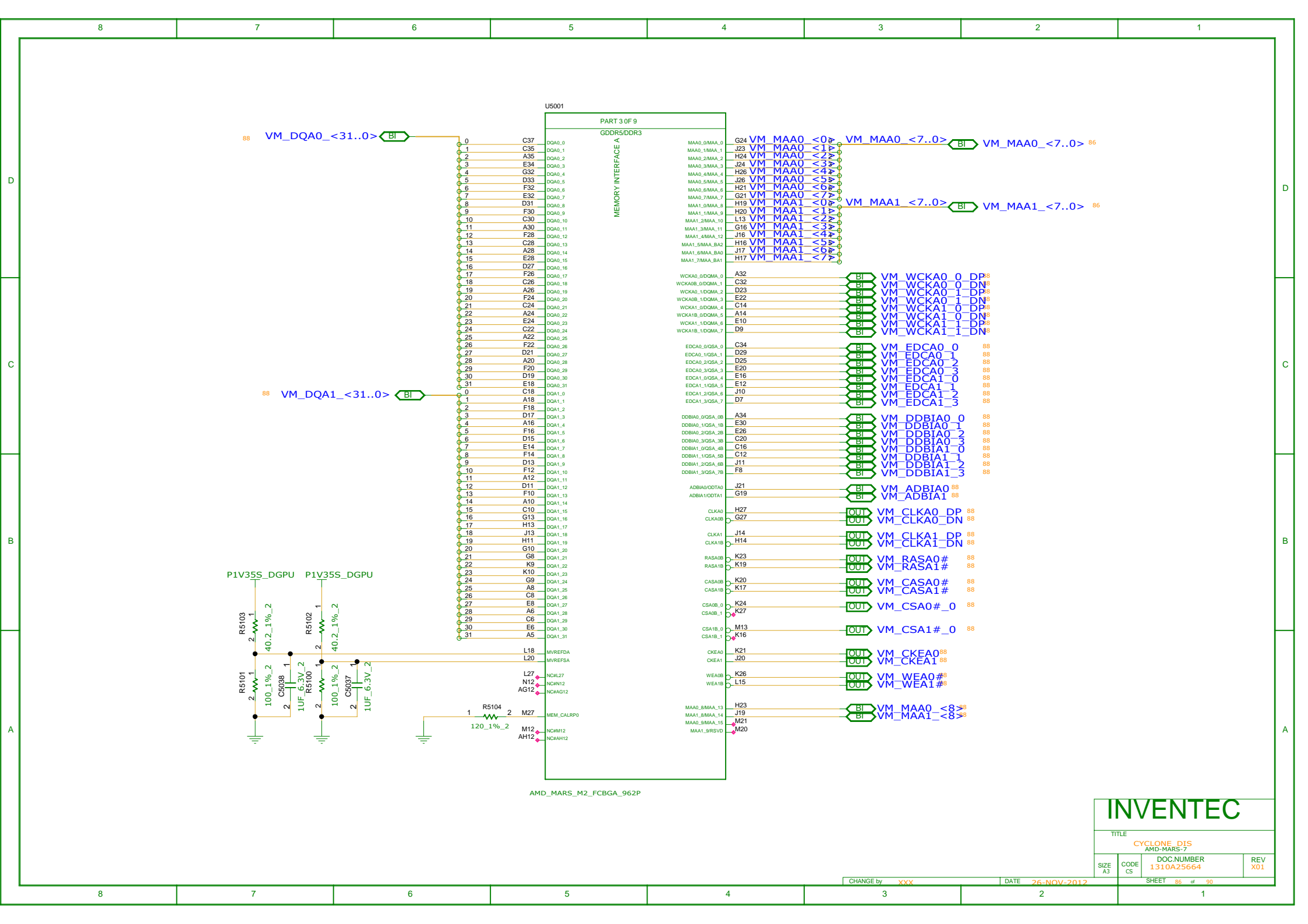


INVENTEC

| | | | |
|-------------|------|-------------|-------|
| TITLE | | | |
| CYCLONE_DIS | | | |
| AMD-MARS-6 | | | |
| SIZE | CODE | DOC NUMBER | REV |
| C | CS | 13110A25864 | X01 |
| SHEET | | 88 | of 90 |

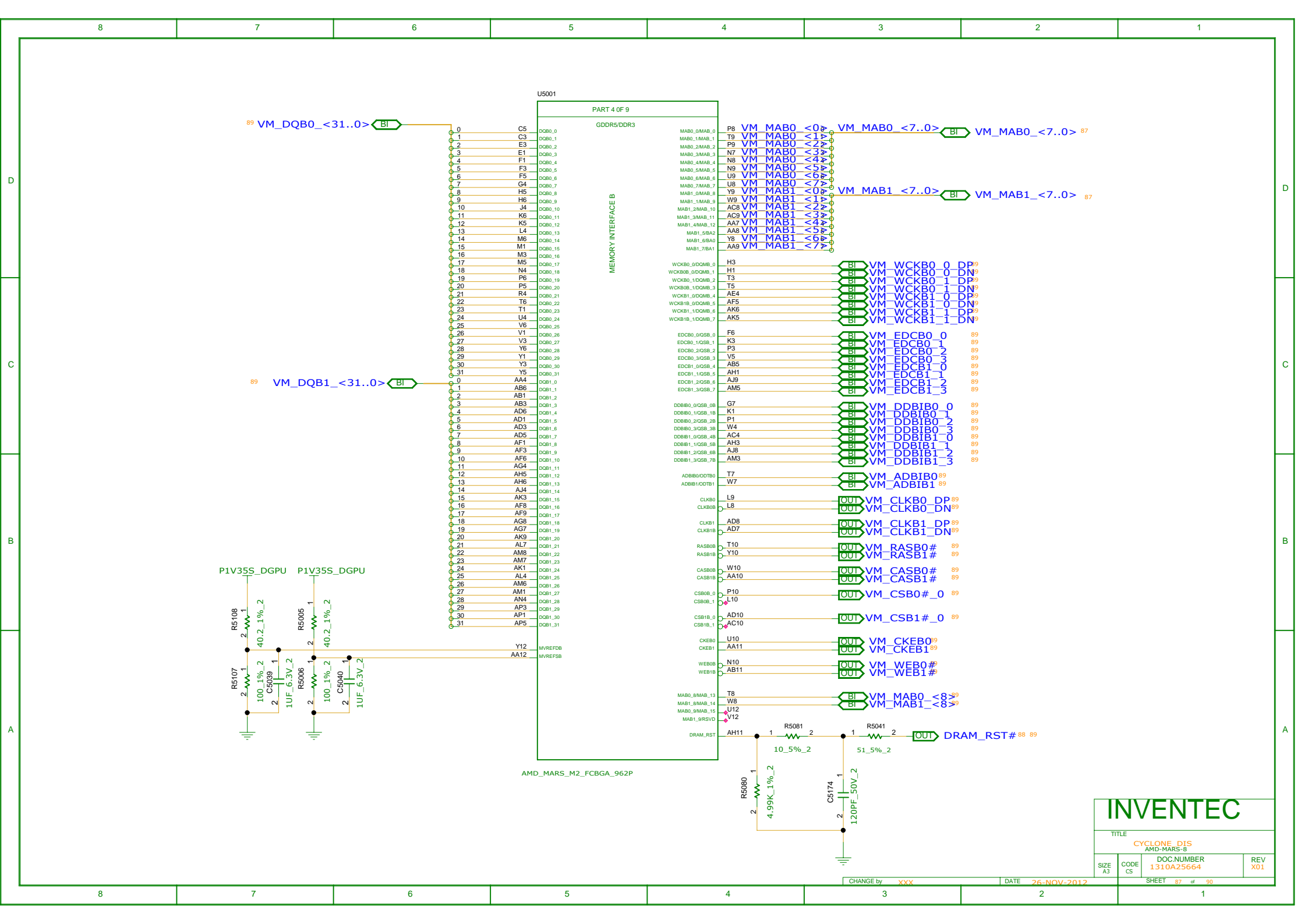
AMD_MARS_M2_FC BGA_962P

AMD_MARS_M2_FC BGA_962P



INVENTEC

| | | | |
|---------------------------|--|------------|---------|
| TITLE | | | |
| CYCLONE_D1S AMD_MARS-7 | | | |
| SIZE A3 | | CODE CS | REV X01 |
| DOC NUMBER | | 1310A25664 | |
| SHEET 86 of 90 | | | |

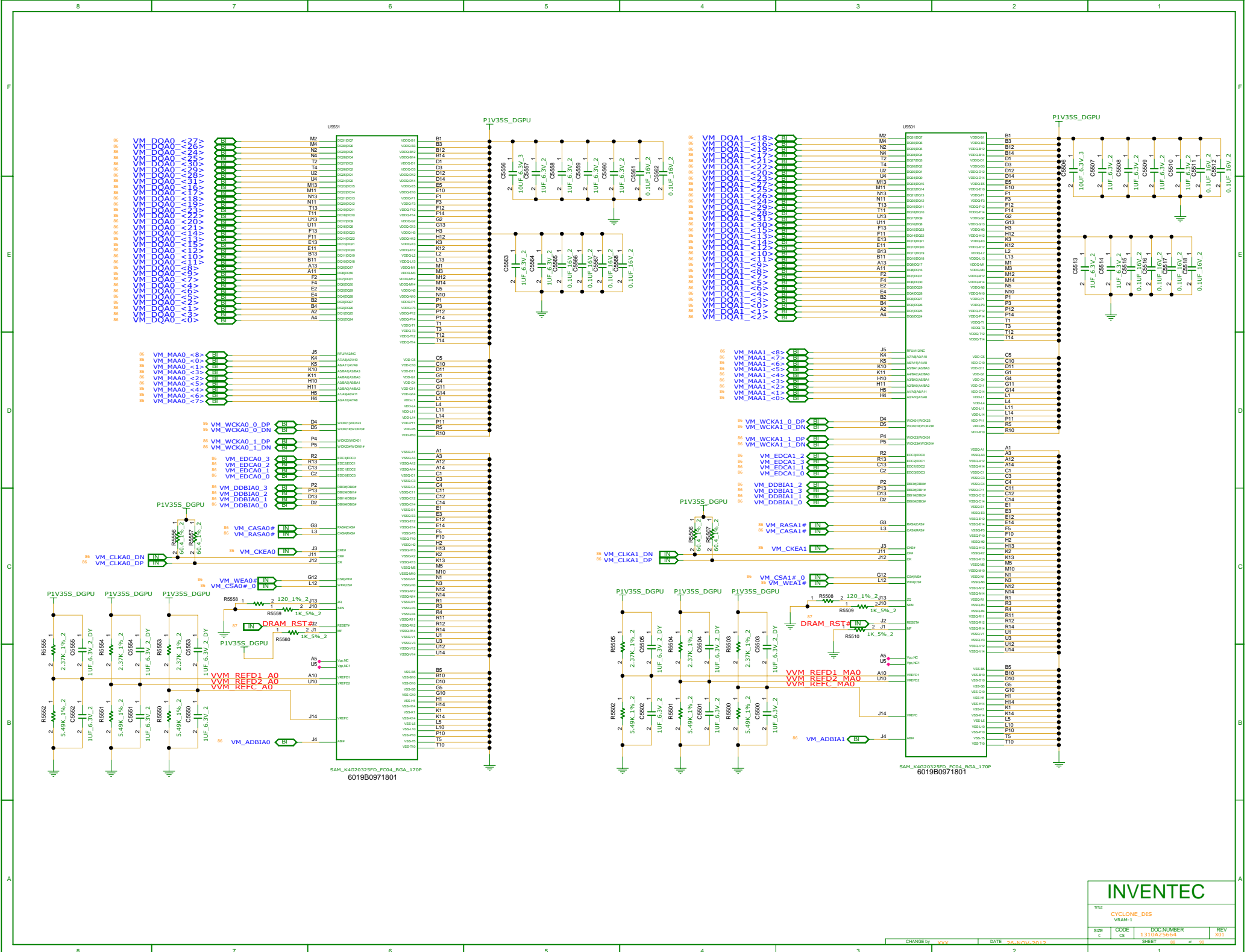


INVENTEC

TITLE
CYCLONE_D1S
AMD_MARS_8

| | | | |
|------------|------------|--------------------------|------------|
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
|------------|------------|--------------------------|------------|

SHEET 87 of 90



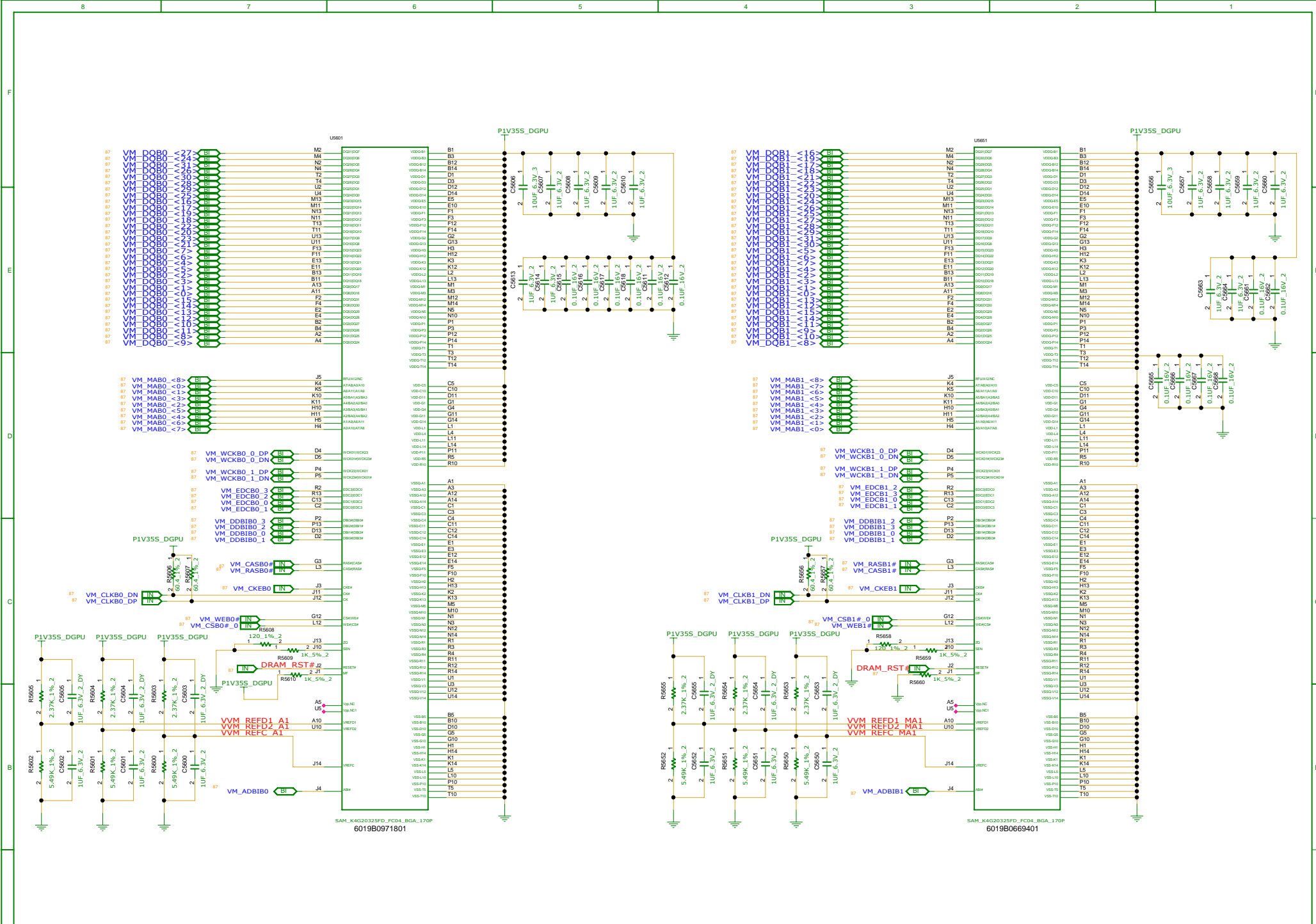
INVENTEC

FILE: CYCLONE_DIS VRAM-1

SIZE: C CODE: 1310A25004 DOCNUMBER: REV: X01

SHEET: 88 of 90

DATE: 26/NOV/2012



SAM_K4G20325FD_FCD4_BGA_170P
6019B0971801

SAM_K4G20325FD_FCD4_BGA_170P
6019B069401

INVENTEC

TITLE
CYCLONE_DIS
VRAM-2

| | | | |
|------|------|------------|-----|
| SIZE | CODE | DOCNUMBER | REV |
| C | CS | 1310A25064 | X01 |

CHANGE BY: xxx DATE: 26/NOV/2012

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8

7

6

5

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3

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1

D

D

C

C

B

B

A

A

INVENTEC

TITLE

CYCLONE_DIS
Block Diagram

| | | | |
|------------|------------|--------------------------|------------|
| SIZE A3 | CODE CS | DOC NUMBER 1310A25664 | REV X01 |
|------------|------------|--------------------------|------------|

| | | |
|------------------|---------------------|-------------------|
| CHANGE by XXX | DATE 26-NOV-2012 | SHEET 90 of 90 |
|------------------|---------------------|-------------------|

8

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