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HSF Property: ROHS or Halogen-Free

| GT    |                       |              |
|-------|-----------------------|--------------|
| R5279 | SAMSUNG: 6019B0971801 | 6013A0017501 |
| R5279 | HYNIX: 6019B0971701   | 6013A0088503 |
| GV2   |                       |              |
| R5061 | SAMSUNG: 6019B1033601 | 6013A0107901 |
| R5061 | MICRON: 6019B1033501  | 6013A0017501 |

|       | DIS        | SKU |
|-------|------------|-----|
| MOUNT | R307 R4834 |     |
| DEL   | R309 R4832 |     |

|       | UMA                     | SKU |
|-------|-------------------------|-----|
| MOUNT | R4819                   |     |
| DEL   | R7496 R4636 R4638 R4639 |     |

U800 CN6050 IS NOT P/N

|                  |              |              |
|------------------|--------------|--------------|
| USB BOARD (6L)   | 1310A2548501 | 6050A2548501 |
| USB BOARD (8L)   | 1310A2548601 | 6050A2548601 |
| POWER BOARD (6L) | 1310A2548701 | 6050A2548701 |
| POWER BOARD (8L) | 1310A2548801 | 6050A2548801 |
| EMI BOARD (6L)   | 1310A2552101 | 6050A2552101 |
|                  | 1310A2552102 |              |
| EMI BOARD (8L)   | 1310A2552201 | 6050A2552201 |
|                  | 1310A2552202 |              |

# 15SBGV2

## SHARK BAY PGA

PV BUILD  
2012.12.25

| Platform | CPU        | GPU                  | VRAM                   |                                                                                | PCB count        | IEC P/N      |
|----------|------------|----------------------|------------------------|--------------------------------------------------------------------------------|------------------|--------------|
| UMA      | 37W (Quad) | NA                   | NA                     |                                                                                | 6050A2547701(6L) | 1310A2547701 |
|          | 47W (Quad) |                      |                        |                                                                                |                  | 1310A2547702 |
| DIS      | 37W (Quad) | N14P-GV2 23*23 (25W) | 128Mx16 DDR3 8pcs (2G) | Samsung K4W2G1646E-BC1A (E-die)<br>HP P/N: 601498-955<br>IEC P/N: 6019B1033601 | 1310A2548101     |              |
|          |            |                      |                        | Micron MT41J128M16JT-093G:K<br>HP P/N: 601498-654<br>IEC P/N: 6019B1033601     | 1310A2548102     |              |
| DIS      | 47W (Quad) | N14P-GV2 23*23 (25W) | 128Mx16 DDR3 8pcs (2G) | Samsung K4W2G1646E-BC1A (E-die)<br>HP P/N: 601498-955<br>IEC P/N: 6019B1033601 | 1310A2548105     |              |
|          |            |                      |                        | Micron MT41J128M16JT-093G:K<br>HP P/N: 601498-654<br>IEC P/N: 6019B1033601     | 1310A2548106     |              |

|             |            |     |     |
|-------------|------------|-----|-----|
|             |            | MV  | A03 |
|             |            | MV  | A02 |
|             |            | PV  | A01 |
|             |            | SIZ | A01 |
| 21-OCT-2002 |            | DBZ | X02 |
| 2012-5-22   |            | DB  | X01 |
| DATE        | CHANGE NO. | REV |     |

| DRAWER      |      |       |      | INVENTEC                       |      |                |      |
|-------------|------|-------|------|--------------------------------|------|----------------|------|
| DESIGN      | DATE | POWER | DATE | TITLE MODEL, PROJECT, FUNCTION |      |                |      |
| CHECK       |      |       |      | Main Board                     |      |                |      |
| RESPONSIBLE |      |       |      | SIZE                           | CODE | DOC NUMBER     | REV  |
| FILE NAME   |      | VER   |      | C                              | CS   | 1310cxxxxx-D-0 | A01  |
| P/N         | XXXX |       |      | SHEET                          |      |                | # 28 |

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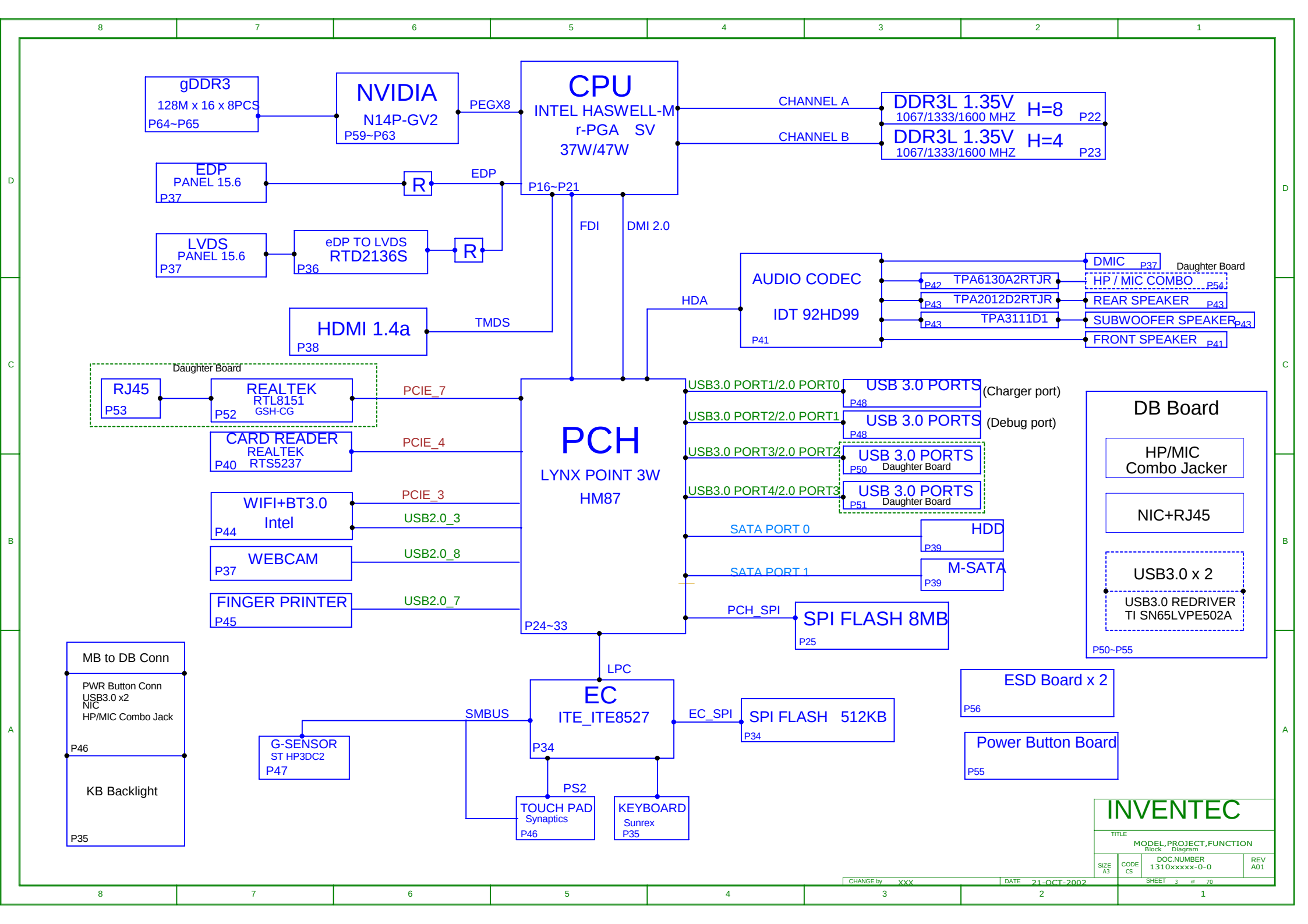
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| 08 | Pvddq           | 33 | PCH-10              | 58 | N14P-GV2                 |
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| 16 | CPU-1           | 41 | AUDIO-1             | 66 | PVCORE_DGPU              |
| 17 | CPU-2           | 42 | AUDIO-2             | 67 | P1V5S_DGPU               |
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| 23 | DDR3L-2         | 48 | USB3.0 CONN         |    |                          |
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| 25 | PCH-2           | 50 | AUB_USB30-1         |    |                          |

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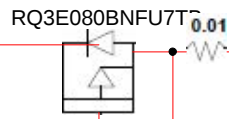
TITLE  
MODEL,PROJECT,FUNCTION  
INDEX

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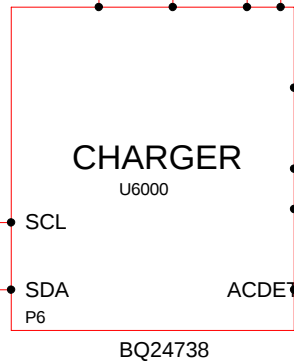
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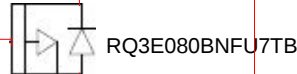
ADAPTER  
DCIN JACK



BATT\_CLK  
BATT\_DAT  
CN6050

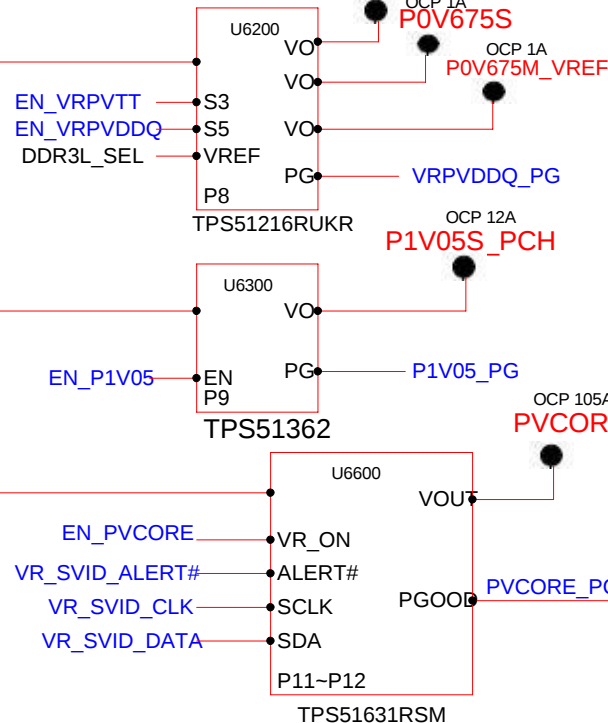


PVBAT



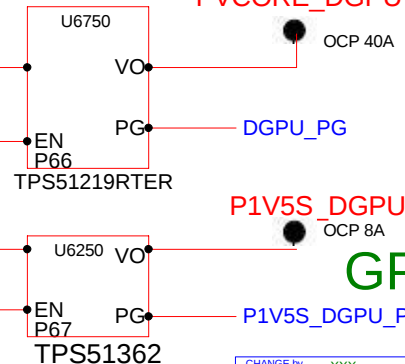
PVPACK

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EN\_VRPVDDQ  
DDR3L\_SEL



DGPU\_PWR\_EN

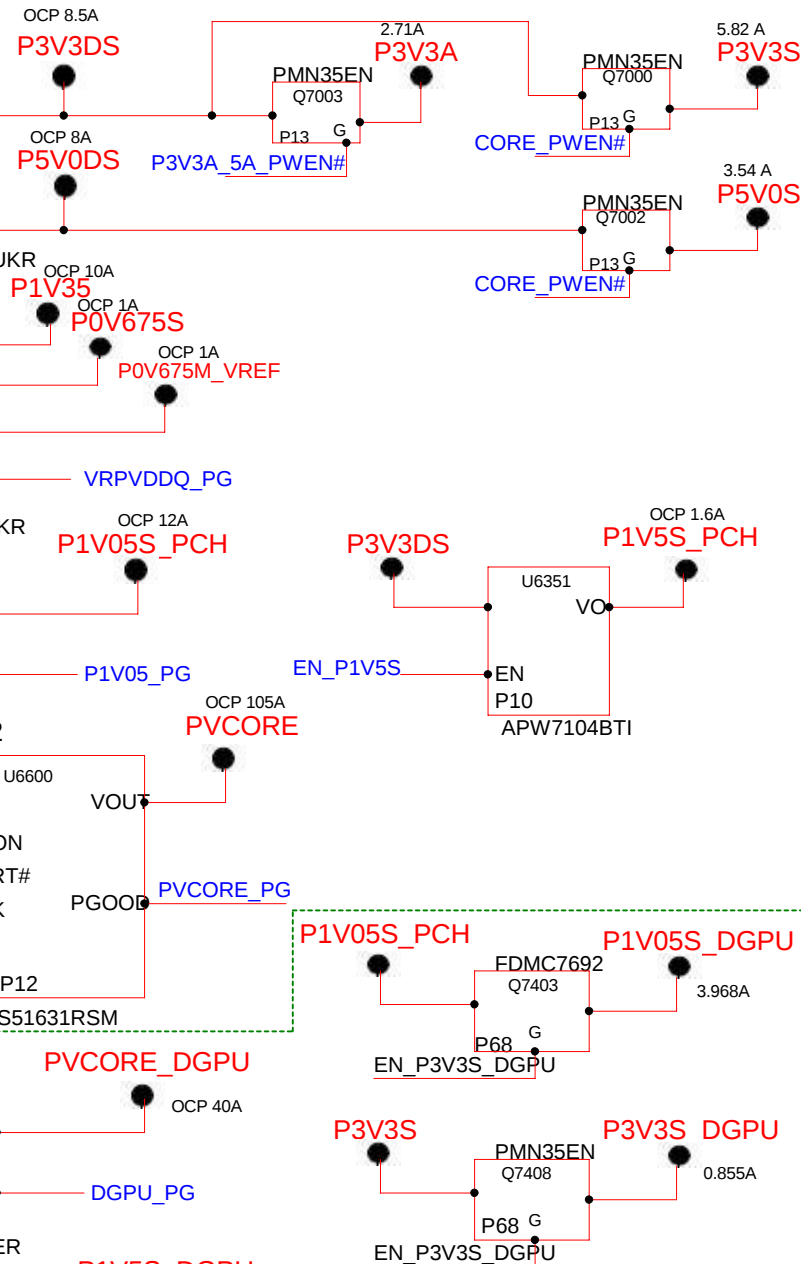
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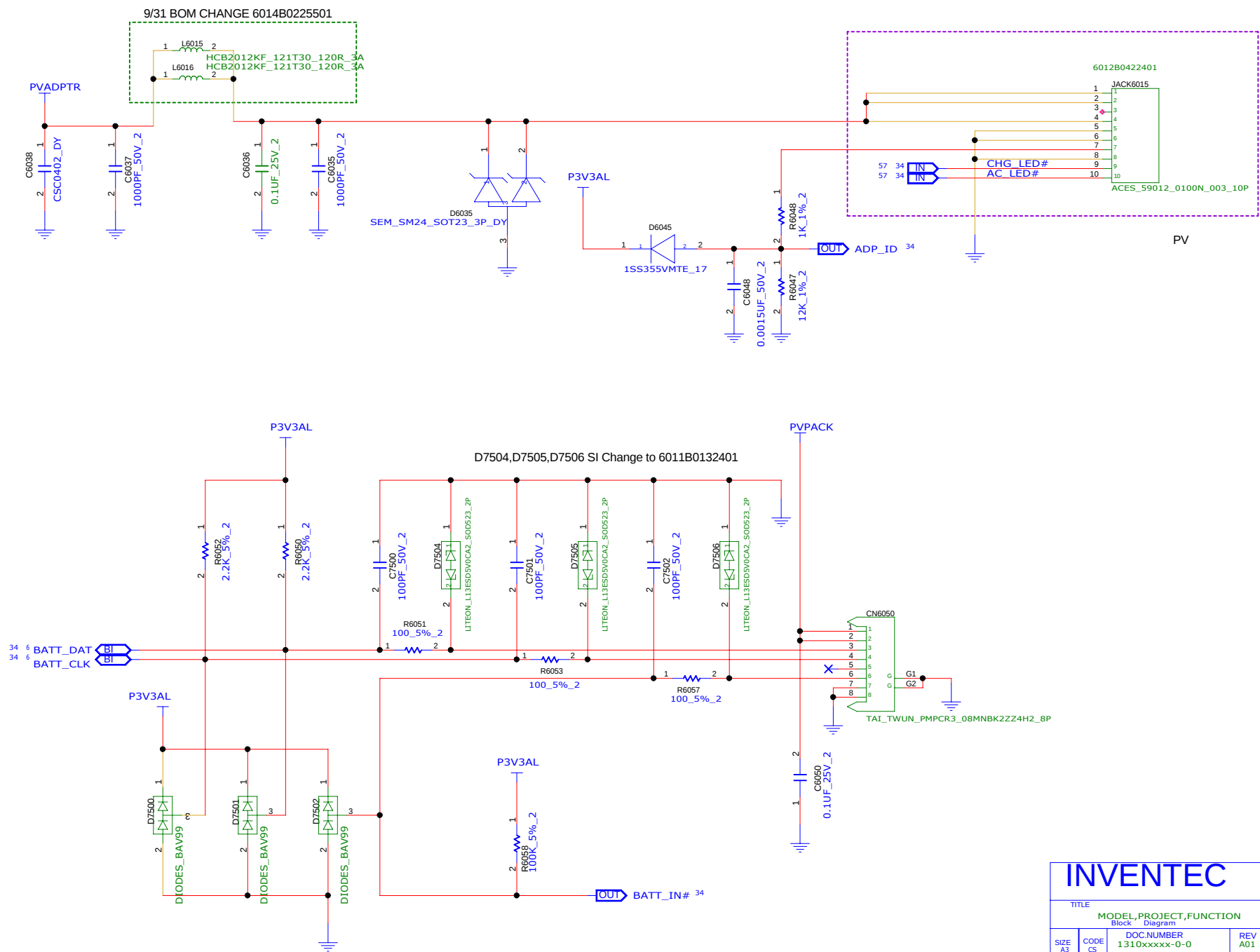


GPU POWER

INVENTEC

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| DOC NUMBER                                |      | REV     |  |
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Block Diagram

DOC NUMBER

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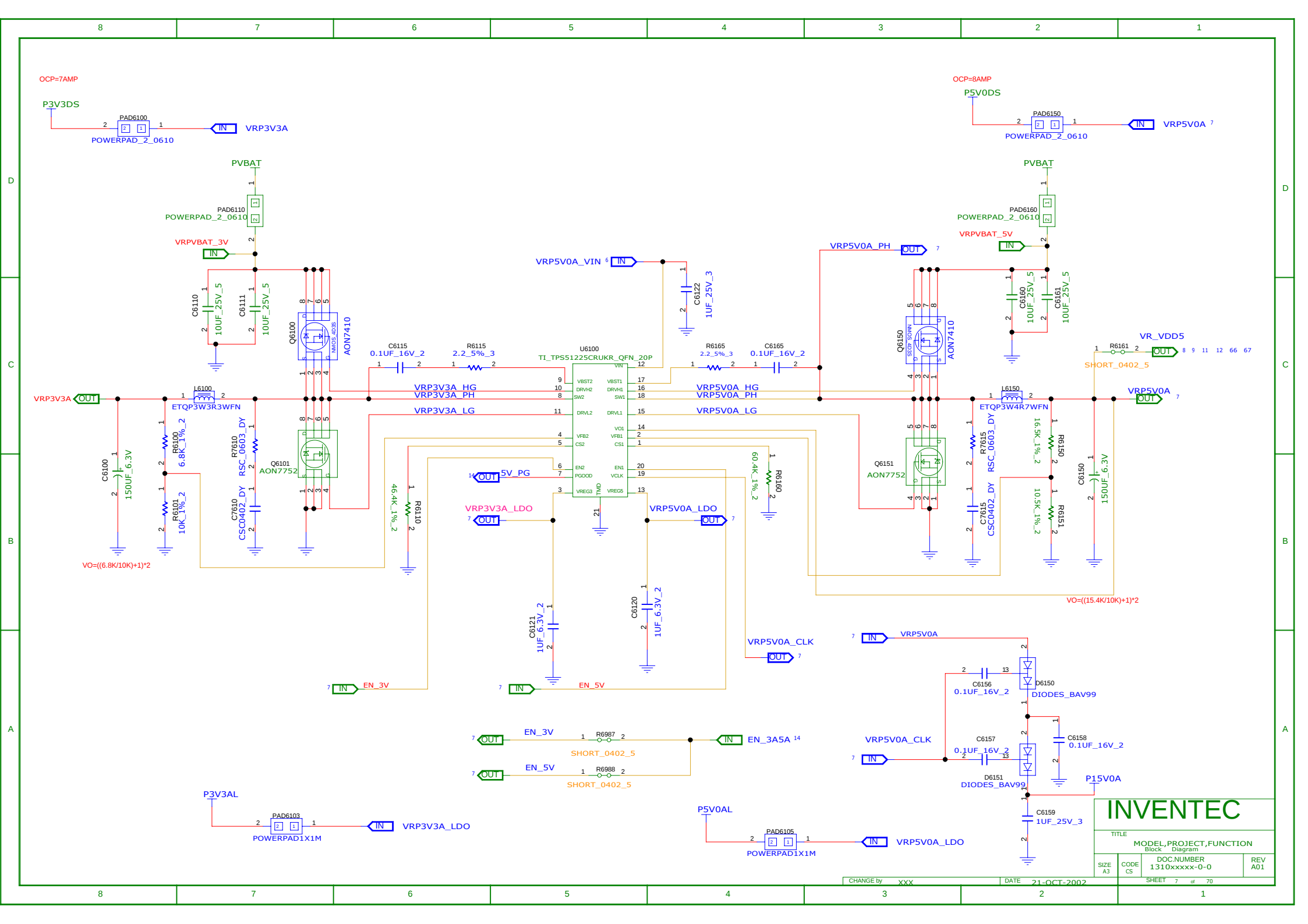
CHANGE by

XXX

DATE

21-OCT-2002



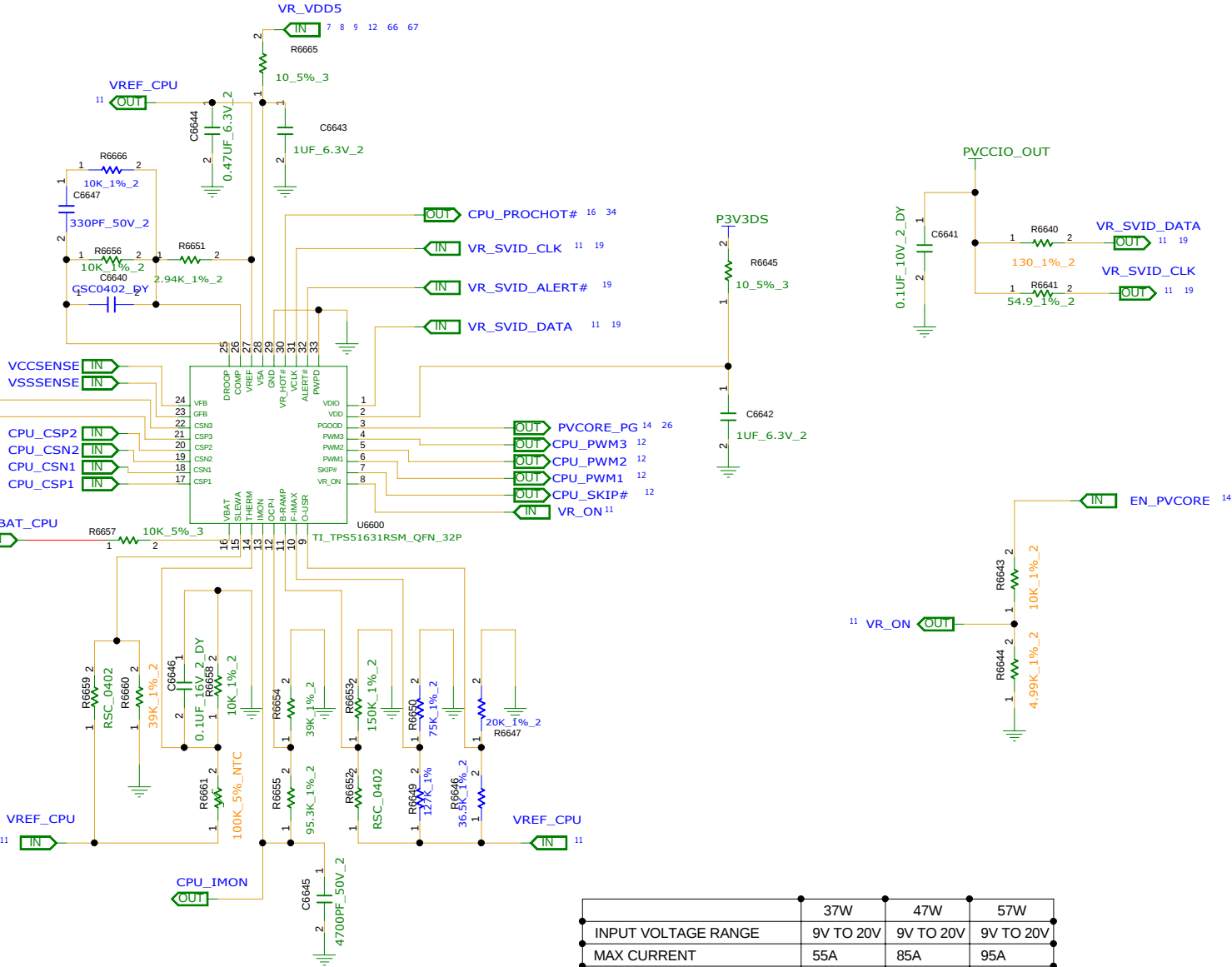








|       | 37W<br>2 PHASE | 47W<br>3 PHASE | 57W<br>3 PHASE |
|-------|----------------|----------------|----------------|
| R6646 | 64.9K          | 36.5K          | 36.5K          |
| R6649 | 549K           | 150K           | 127K           |
| R6650 | 150K           | 75K            | 75K            |
| R6655 | 178K           | 91K            | 91K            |
| R6662 | POP            | DNP            | DNP            |
| R6663 | POP            | DNP            | DNP            |
| R6664 | DNP            | POP            | POP            |



|                        | 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      | 800KHZ    | 800KHZ    |
| BOOT VOLTAGE           | 1.7V      | 1.7V      | 1.7V      |
| DC LOAD-LINE           | 1.5MOHM   | 1.5MOHM   | 1.5MOHM   |

INVENTEC

TITLE MODEL,PROJECT,FUNCTION

Block Diagram

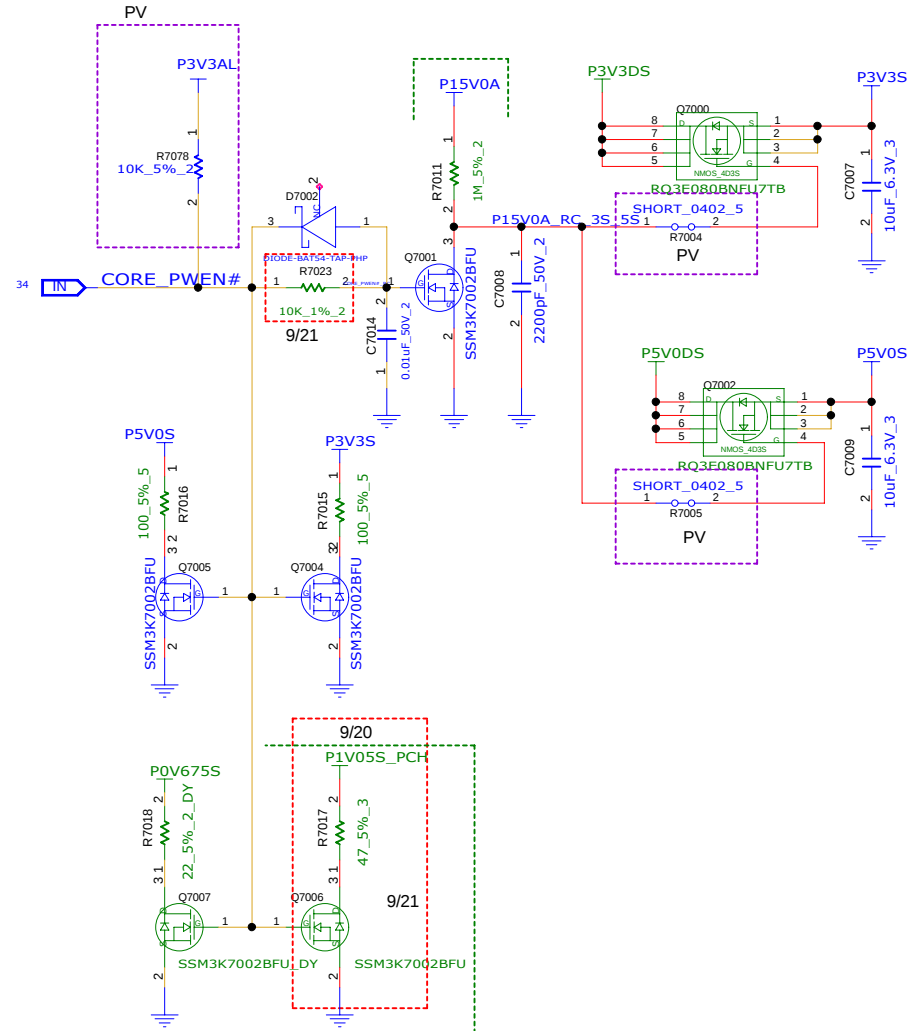
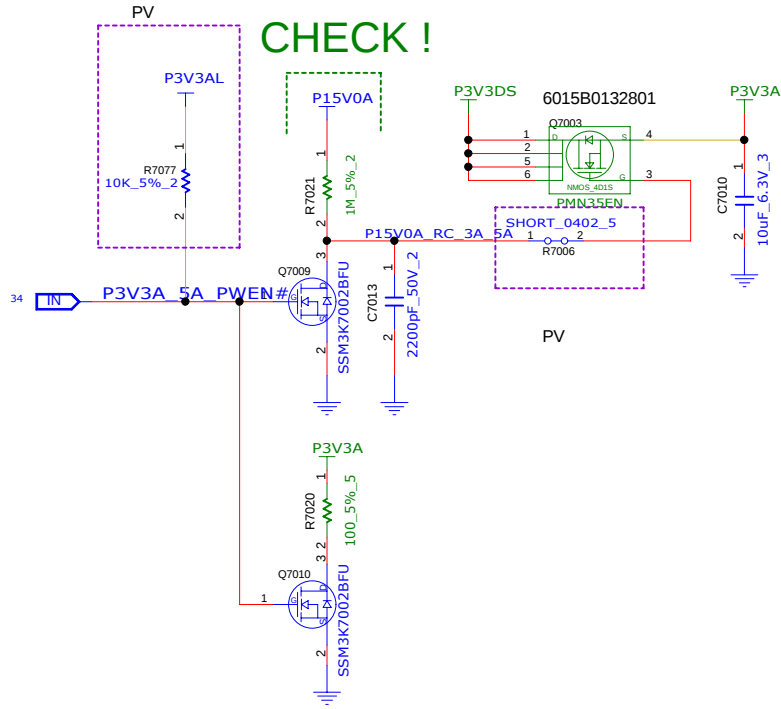
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CHECK !



INVENTEC

TITLE MODEL,PROJECT,FUNCTION  
Block Diagram

SIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV A01

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D

C

B

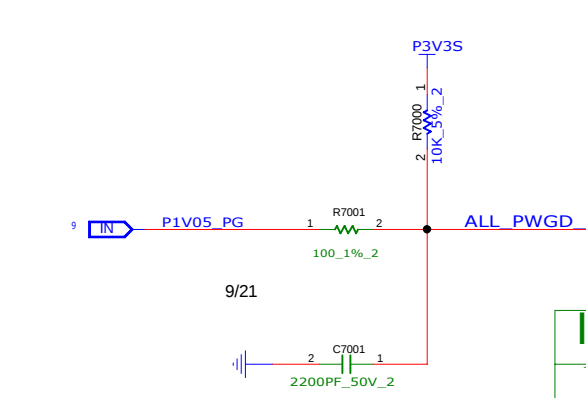
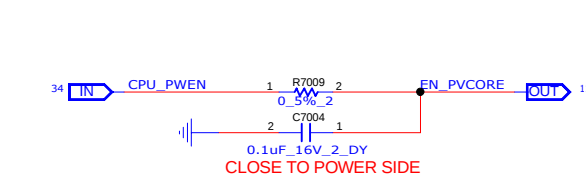
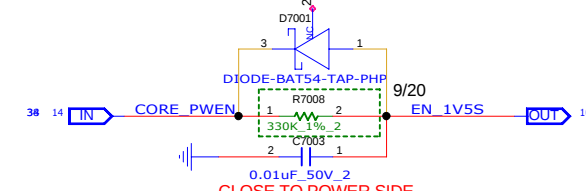
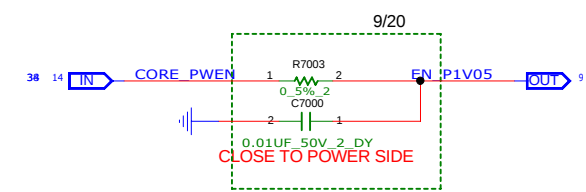
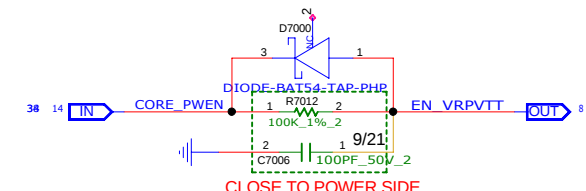
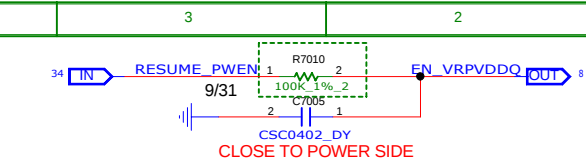
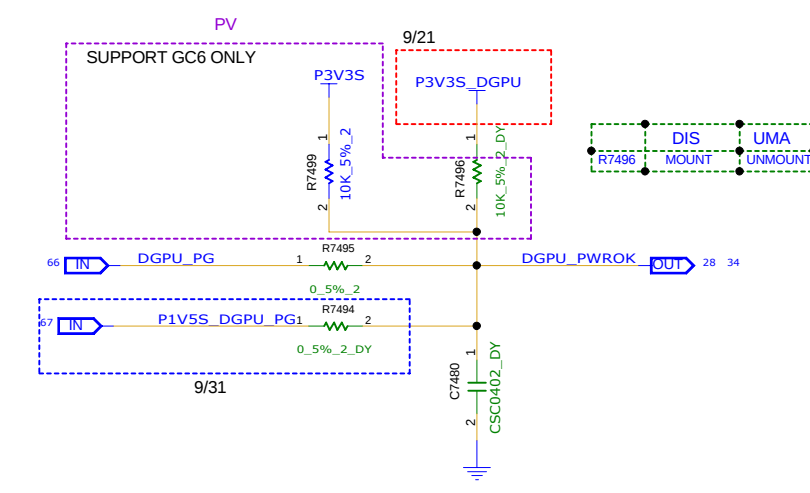
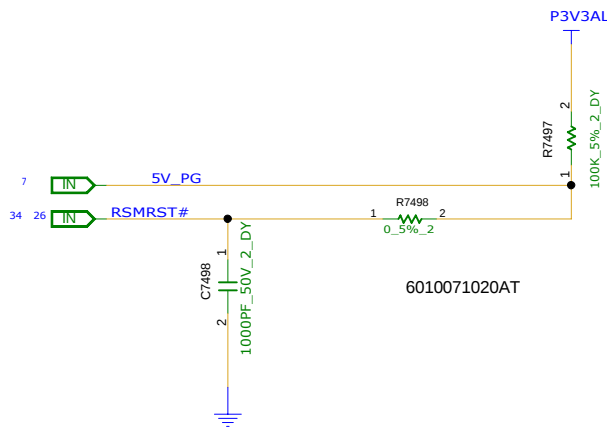
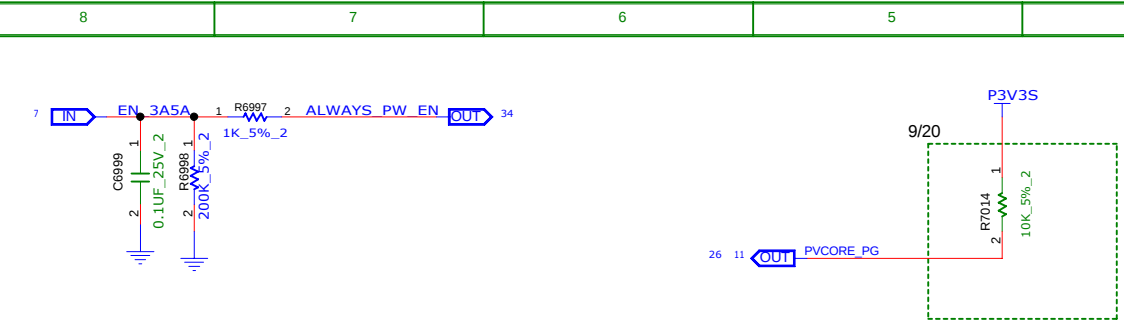
A

D

C

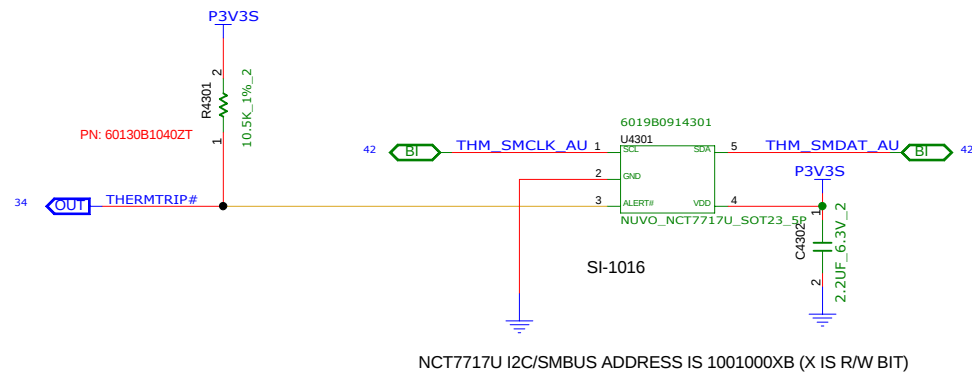
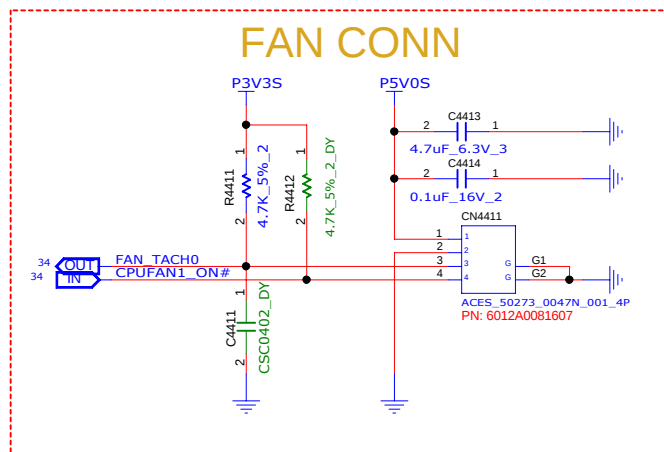
B

A



| INVENTEC               |      |               |          |
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| MODEL,PROJECT,FUNCTION |      |               |          |
| Block Diagram          |      |               |          |
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| PULL-UP RESISTOR |        | TEMPERATURE (°C) |
|------------------|--------|------------------|
| ALERT            | 2KΩ    | 75               |
|                  | 7.5KΩ  | 90               |
|                  | 10.5KΩ | 100              |
|                  | 14KΩ   | 105              |
|                  | 18.7KΩ | 110              |

TEMPERATURE (°C)

**ALERT**

|                |
|----------------|
| 2K $\Omega$    |
| 7.5K $\Omega$  |
| 10.5K $\Omega$ |
| 14K $\Omega$   |
| 18.7K $\Omega$ |

7.5KΩ

10.5KΩ

14K $\Omega$ 

18.7KΩ

|     |
|-----|
| 75  |
| 90  |
| 100 |
| 105 |
| 110 |

90100105110

INVENTEC

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TITLE

MODEL,PROJECT,FUNCTION  
THERMAL & FAN

DOC NUMBER

SIZE  
A3

|      |  |
|------|--|
| CODE |  |
| CS   |  |

DOC.NUMBER  
1310xxxxx-0-0

REV  
A01

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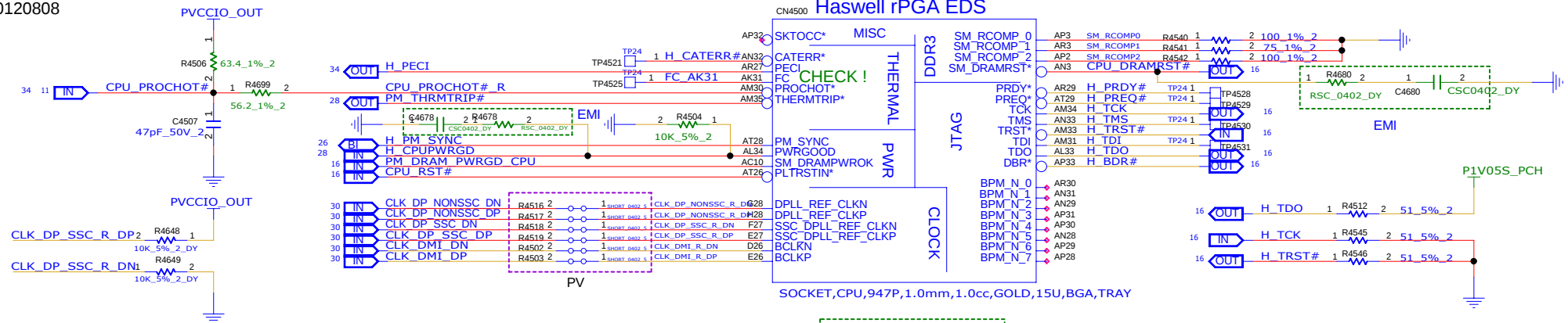
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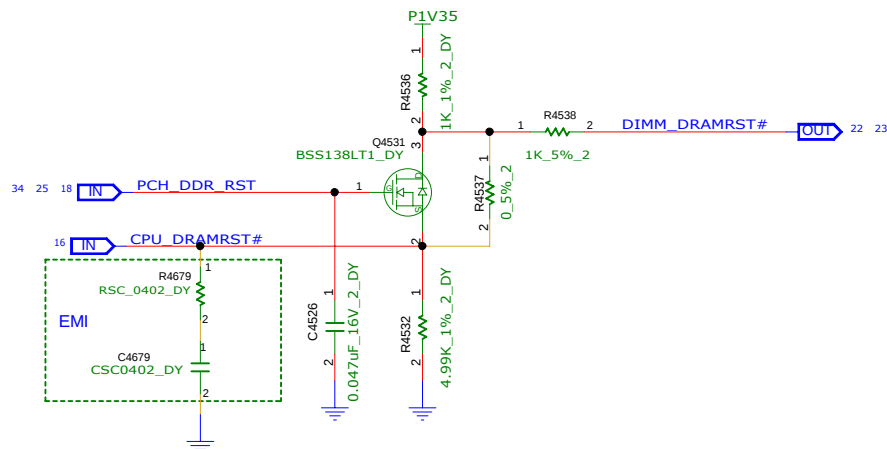
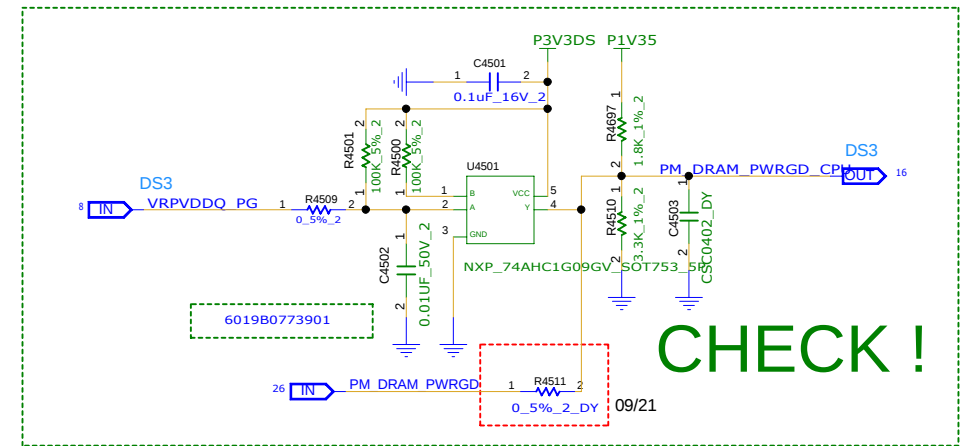
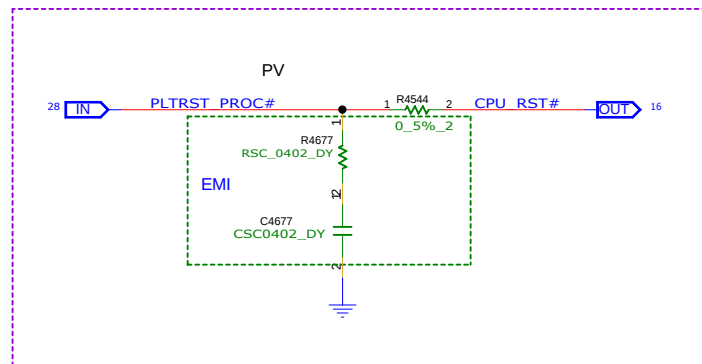
CHANGE by xxx

|      |             |
|------|-------------|
| DATE | 21-OCT-2002 |
|------|-------------|

CPU  
LOCATION 4500-4699  
VER.01\_20120808



CN4500  
6026B0231701



# CHECK !

09/21

# INVENTEC

|                                         |            |                             |            |
|-----------------------------------------|------------|-----------------------------|------------|
| TITLE                                   |            |                             |            |
| MODEL,PROJECT,FUNCTION<br>Block Diagram |            |                             |            |
| SIZE<br>A3                              | CODE<br>CS | DOC.NUMBER<br>1310xxxxx-0-0 | REV<br>A01 |

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| CHANGE by | XXX | DATE | 21-OCT-2002 |
|-----------|-----|------|-------------|

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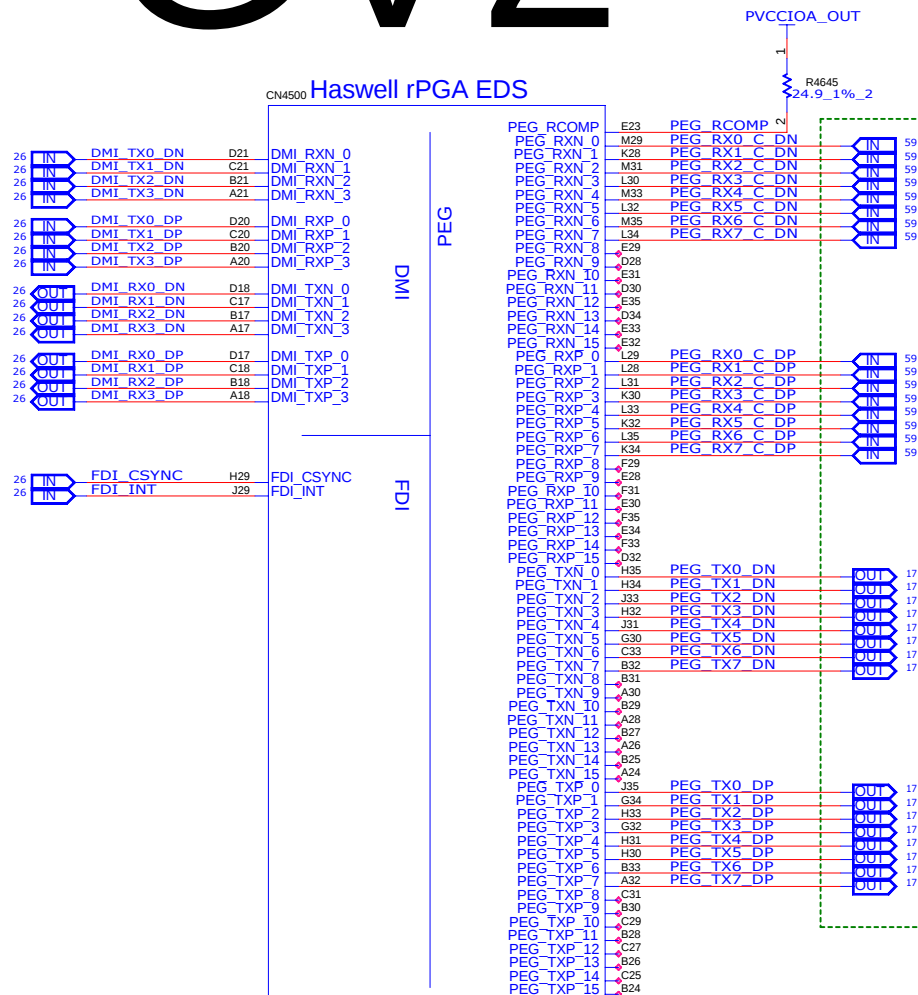
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LOCATION 4500-4699  
VER.01\_20120808

# GV2

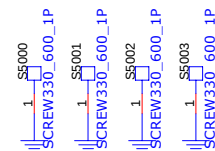
# UMA DELETE

CLOSE TO CPU

FOR DGPU SCREW



LOTES\_AZIF0012\_P001B\_947P

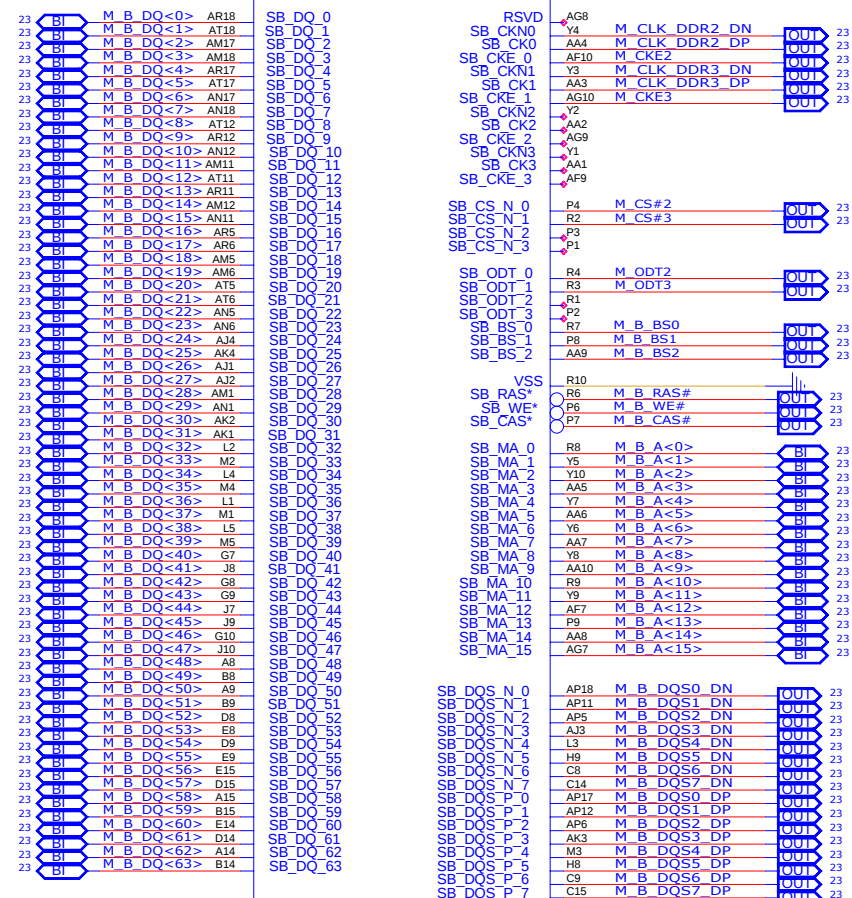


## INVENTEC

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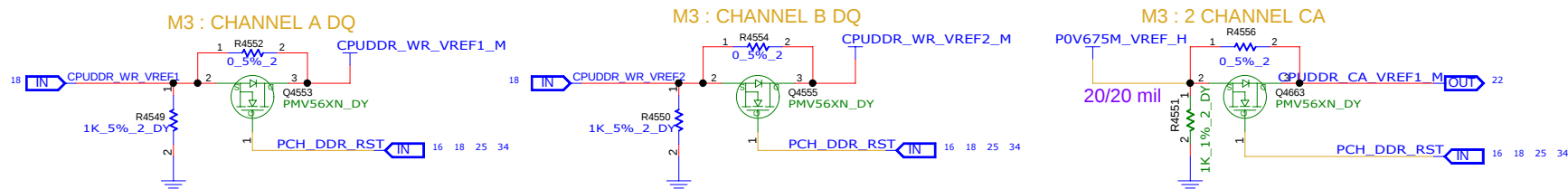
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LOTES AZIF0012 P001B 947P

CN4500  
6026B0231701

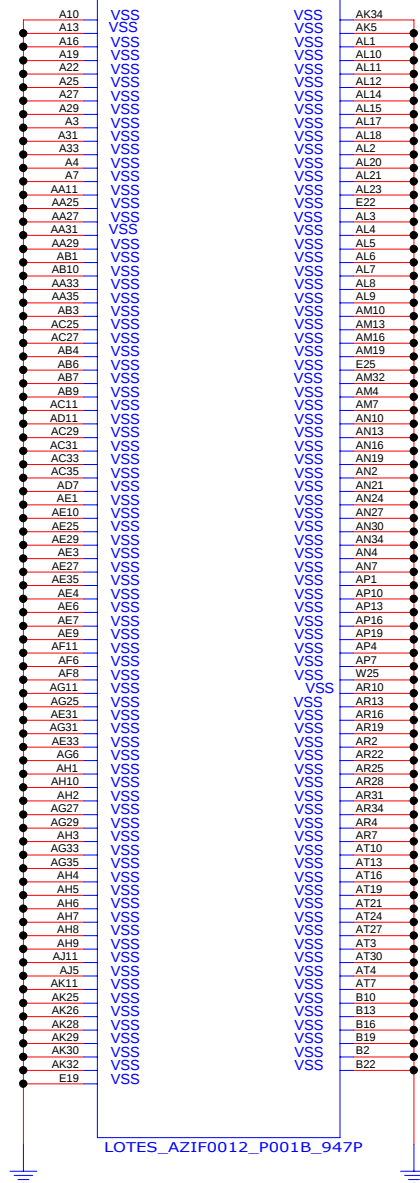


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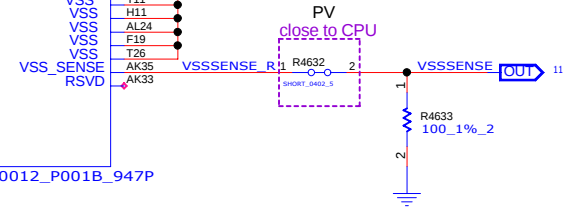
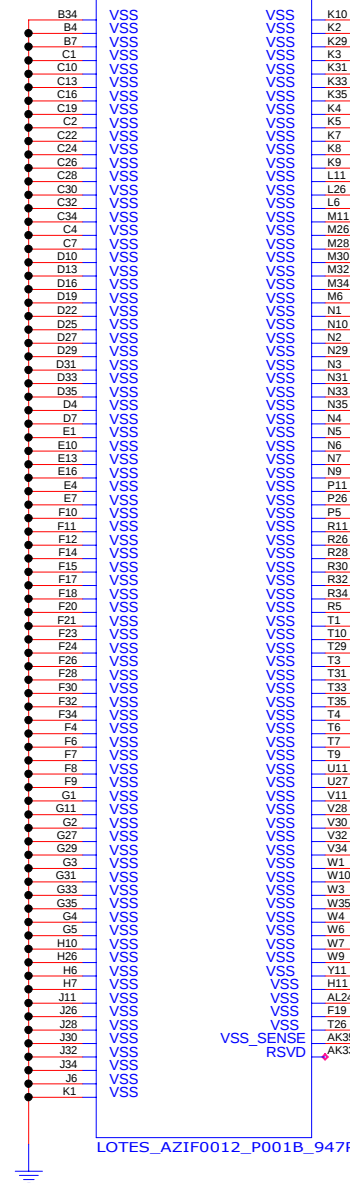


CPU  
LOCATION 4500-4699  
VER.01\_20120808

Haswell rPGA EDS



Haswell rPGA EDS



INVENTEC

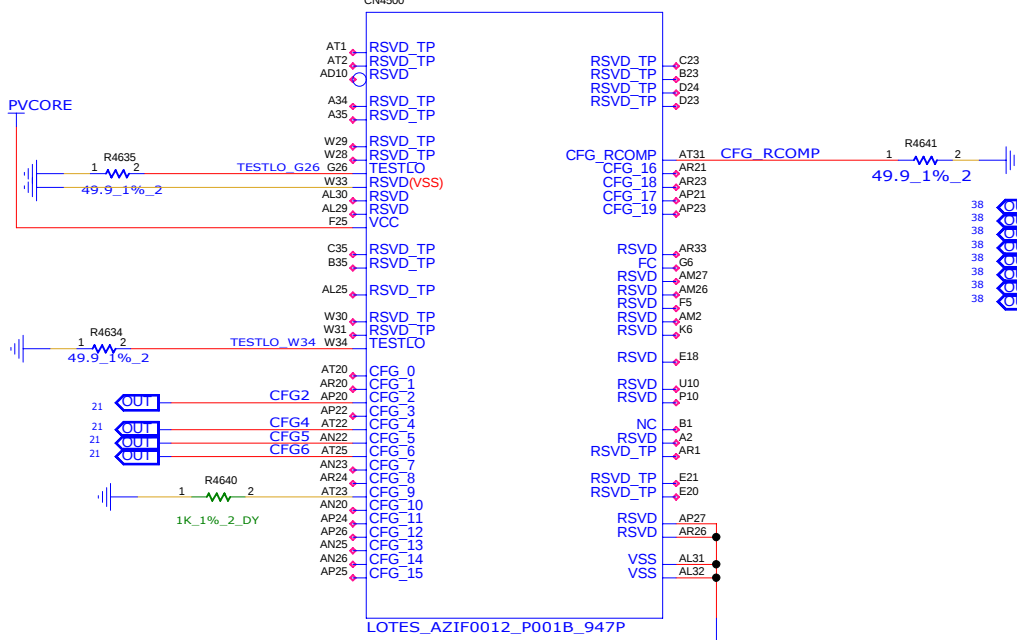
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CHANGE by XXX DATE 21-OCT-2002

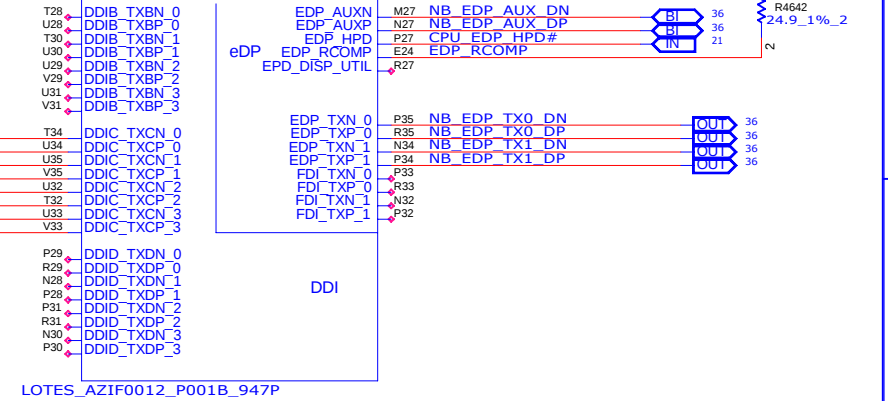
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CPU  
LOCATION 4500-4699  
VER.01\_20120808

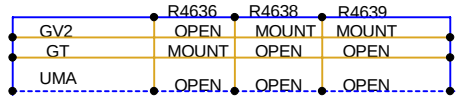
## Haswell rPGA EDS



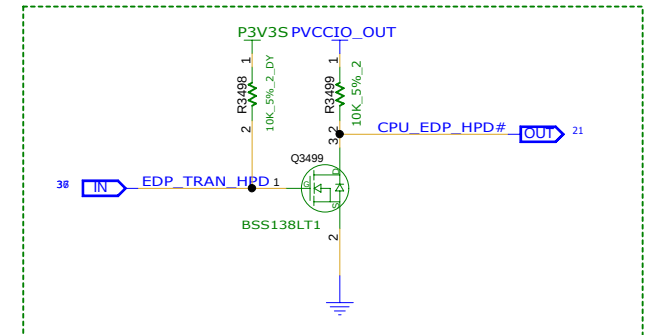
## Haswell rPGA EDS



LOTES\_AZIF0012\_P001B\_947P



- CFG[1:0]: Reserved configuration lane. A test point may be placed on the board for these lanes.
- CFG[2]: PCI Express\* Static x16 Lane Numbering Reversal
  - 1 = Normal operation
  - 0 = Lane numbers reversed
- CFG[3]: MSR Privacy Bit Feature
  - 1 = Debug capability is determined by IA32\_Debug\_Interface\_MSR (0xC80) bit[0] setting
  - 0 = IA32\_Debug\_Interface\_MSR (0xC80) bit[0] default setting overridden
- CFG[4]: eDP enable
  - 1 = Disabled
  - 0 = Enabled
- CFG[6:5]: PCI Express\* Bifurcation:
  - 00 = 1 x8, 2 x4 PCI Express\*
  - 01 = reserved
  - 10 = 2 x8 PCI Express\*
  - 11 = 1 x16 PCI Express\*
- CFG[19:7]: Reserved configuration lanes. A test point may be placed on the board for these lands.

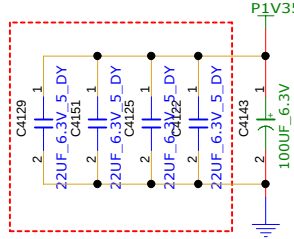
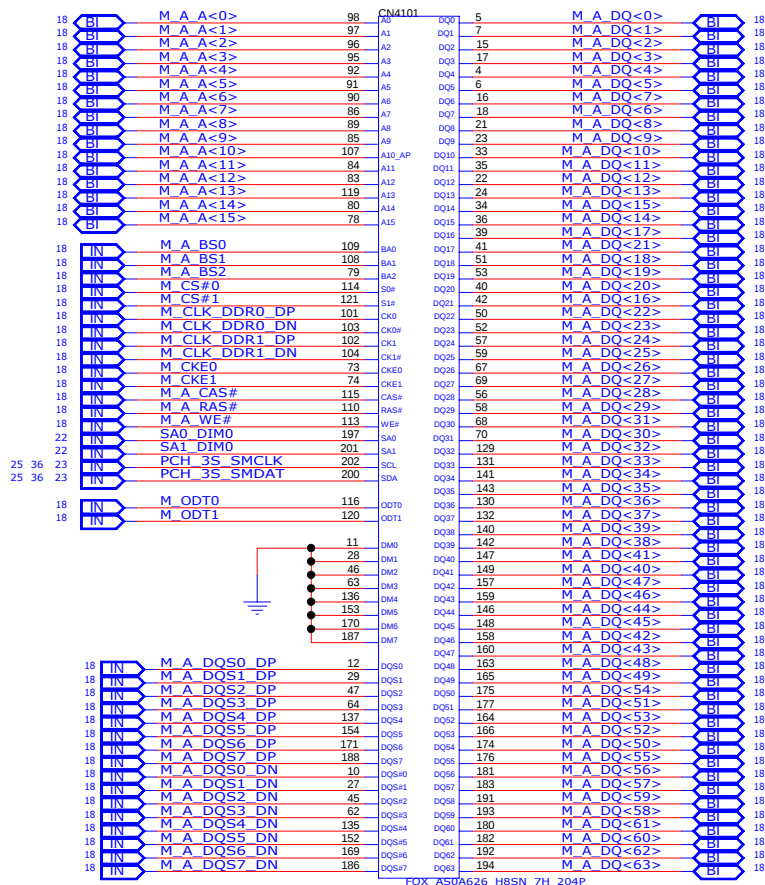


# INVENTEC

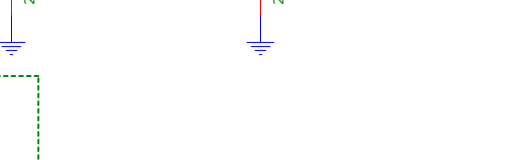
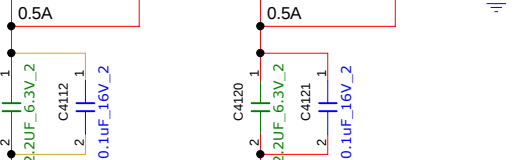
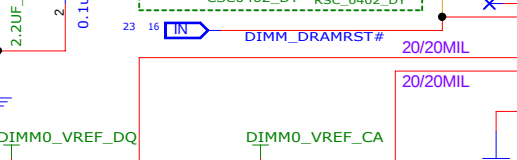
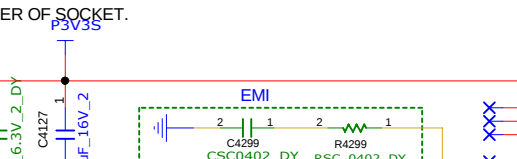
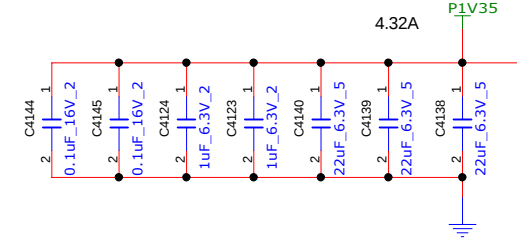
| TITLE                  |      |              |     |
|------------------------|------|--------------|-----|
| MODEL,PROJECT,FUNCTION |      |              |     |
| SIZE                   | CODE | DOC NUMBER   | REV |
| A3                     | CS   | 1310xxxx-0-0 | A01 |

# CH A - DIMM0, H = 8MM STD

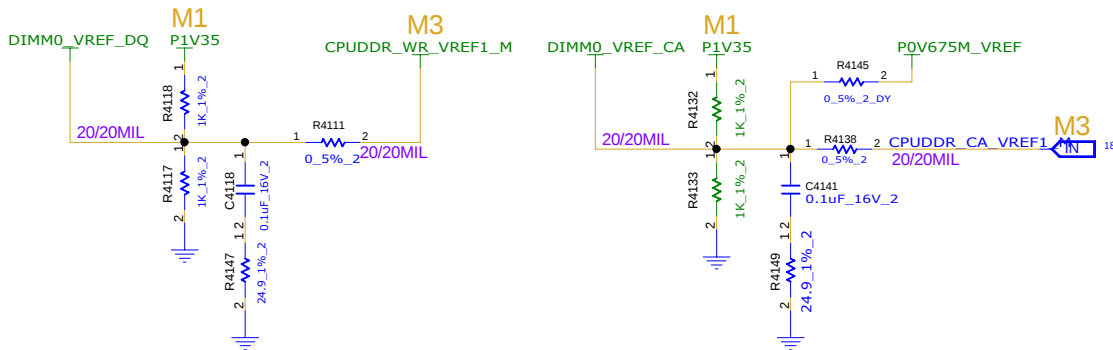
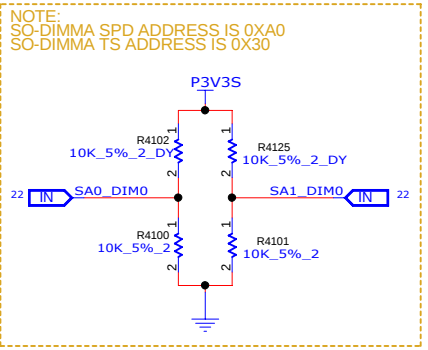
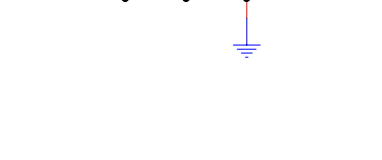
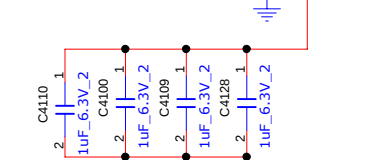
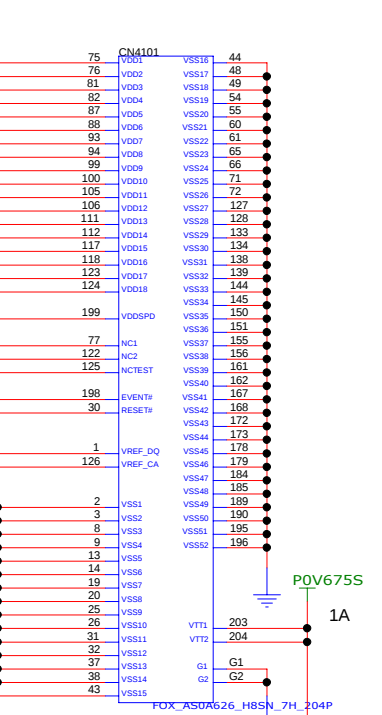
6026B0223801



PLEASE PLACE 4 CAPS IN THE CENTER OF SOCKET.



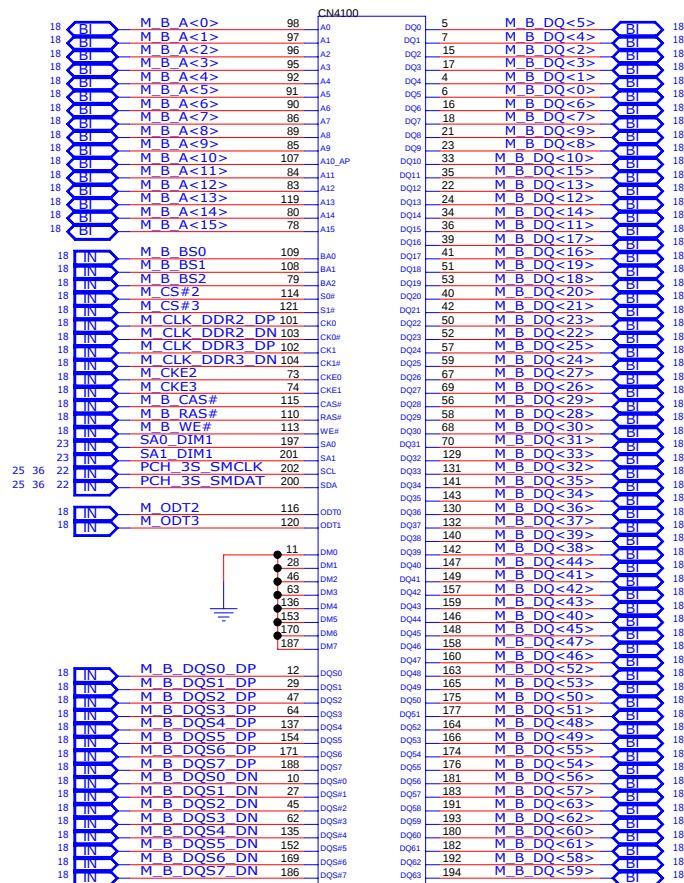
CN4101  
6026B0223801



| INVENTEC               |      |       |       |
|------------------------|------|-------|-------|
| TITLE                  |      |       |       |
| MODEL,PROJECT,FUNCTION |      |       |       |
| DOC NUMBER             |      |       |       |
| 1310xxxxx-0-0          |      |       |       |
| REV                    |      |       |       |
| A01                    |      |       |       |
| SIZE                   | CODE | SHEET |       |
| A3                     | CS   | 22    | of 70 |

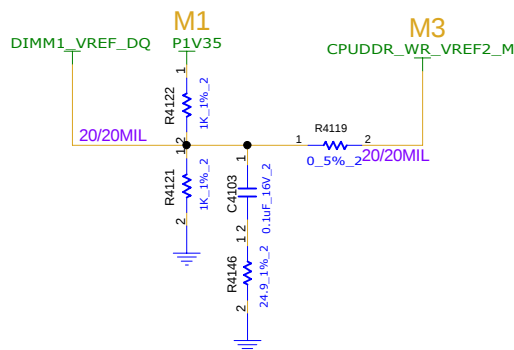
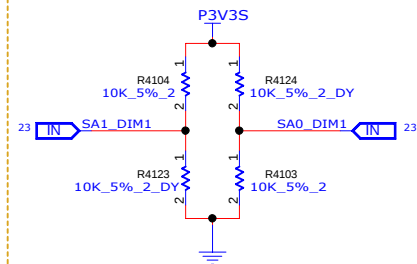
# CH B - DIMM1, H = 4MM STD

6026B0223701



FOX\_AS0A626\_U4S6\_7H\_204P

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



CN4100  
6026B0223701

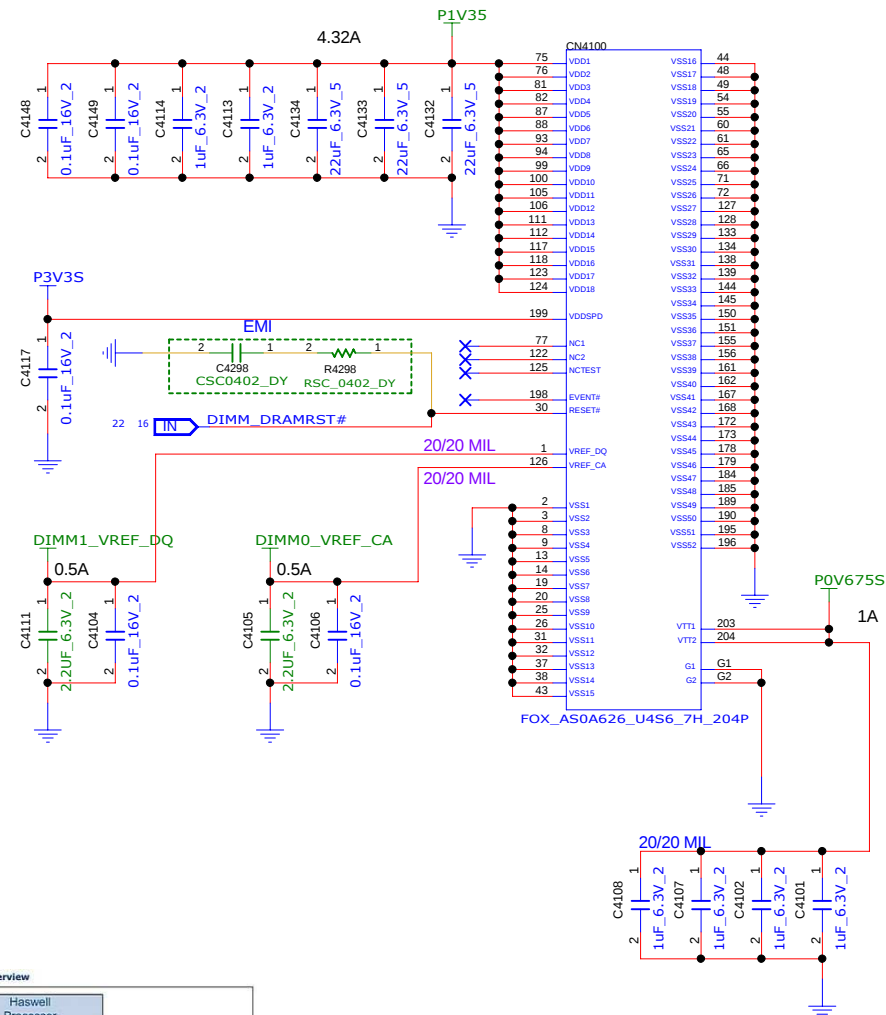
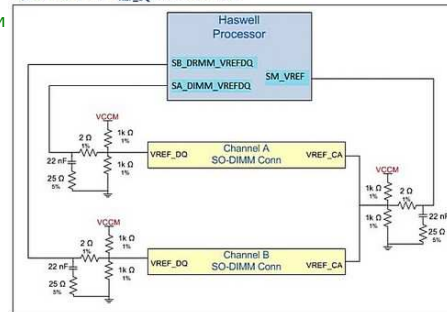
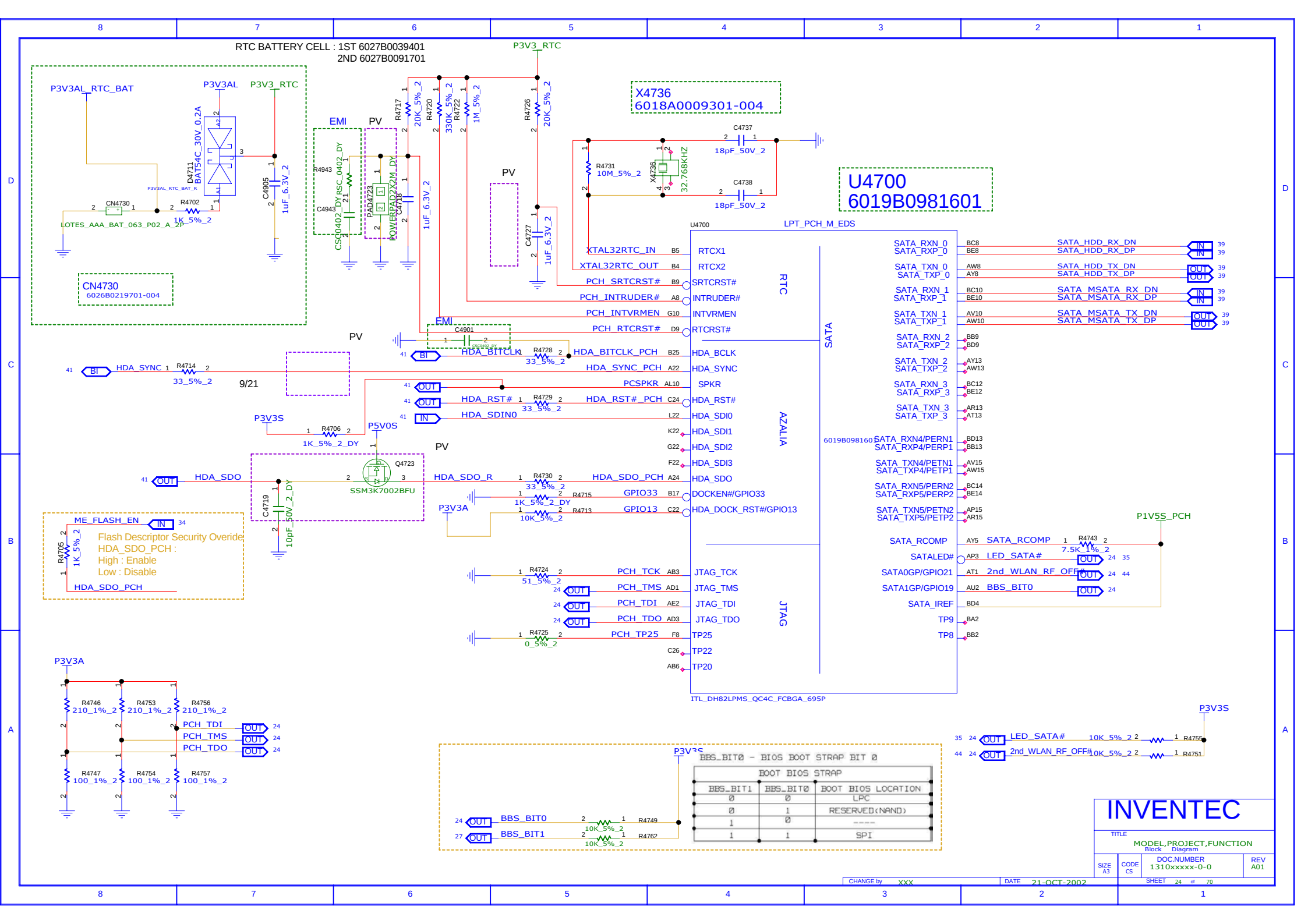


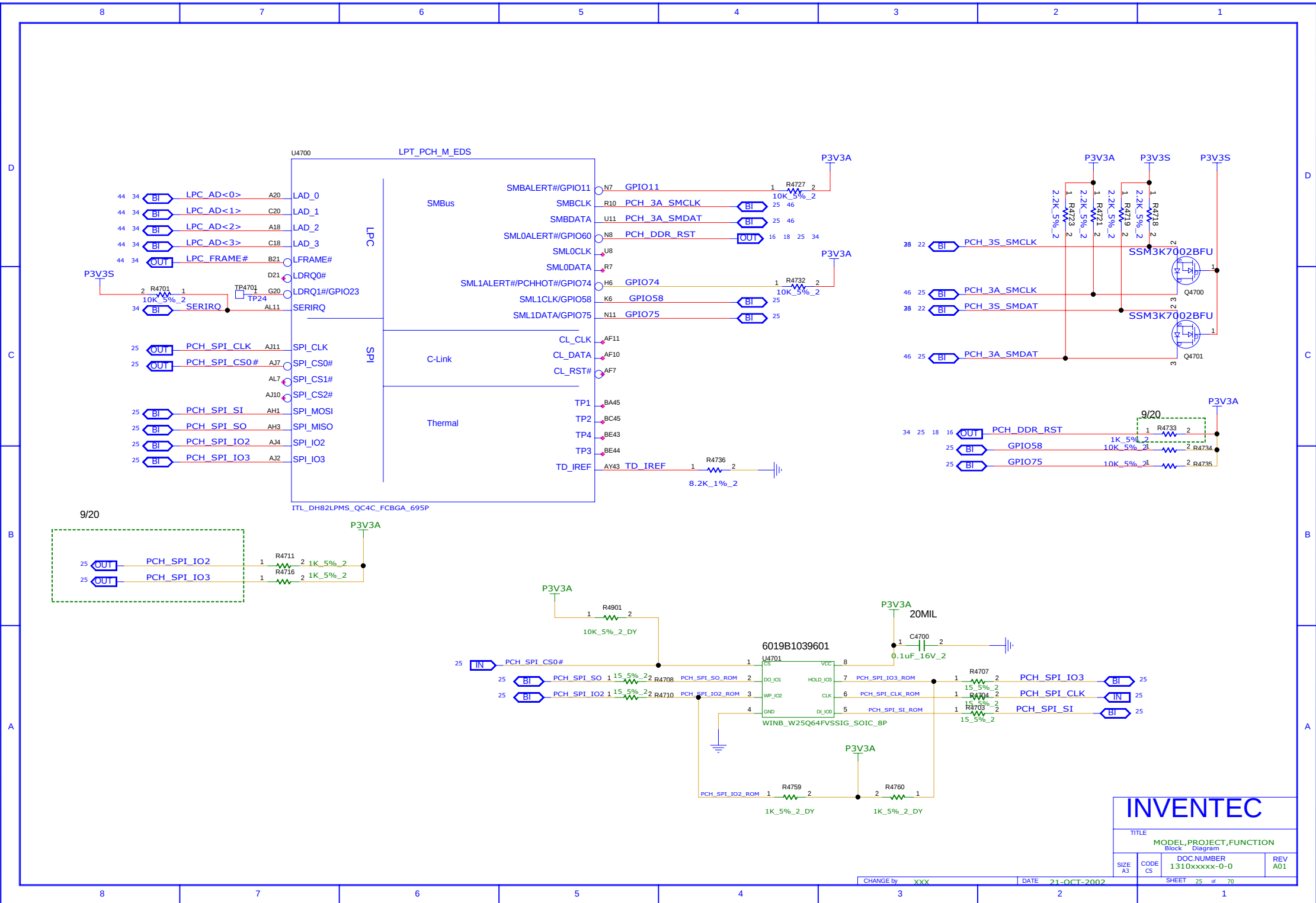
Figure 4-29. DDR3L VREF\_DQ Control Overview



INVENTEC

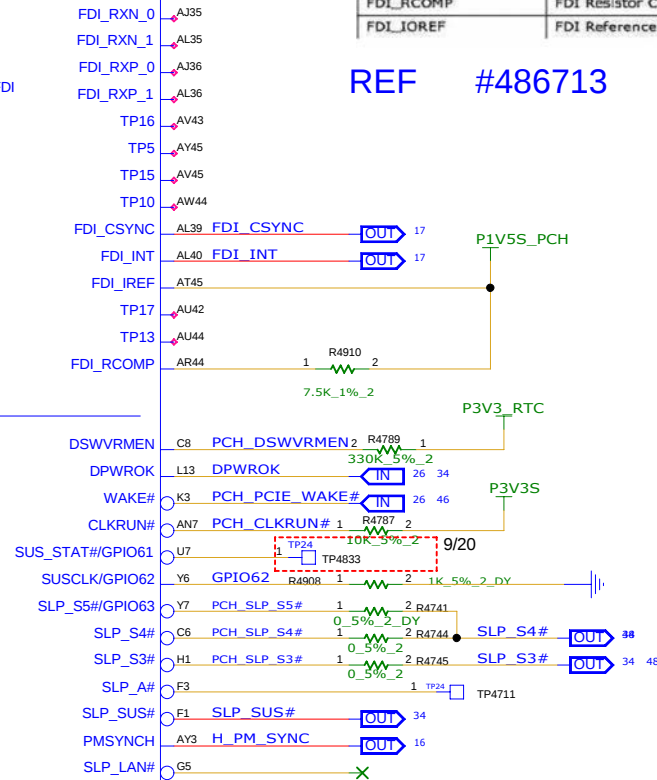
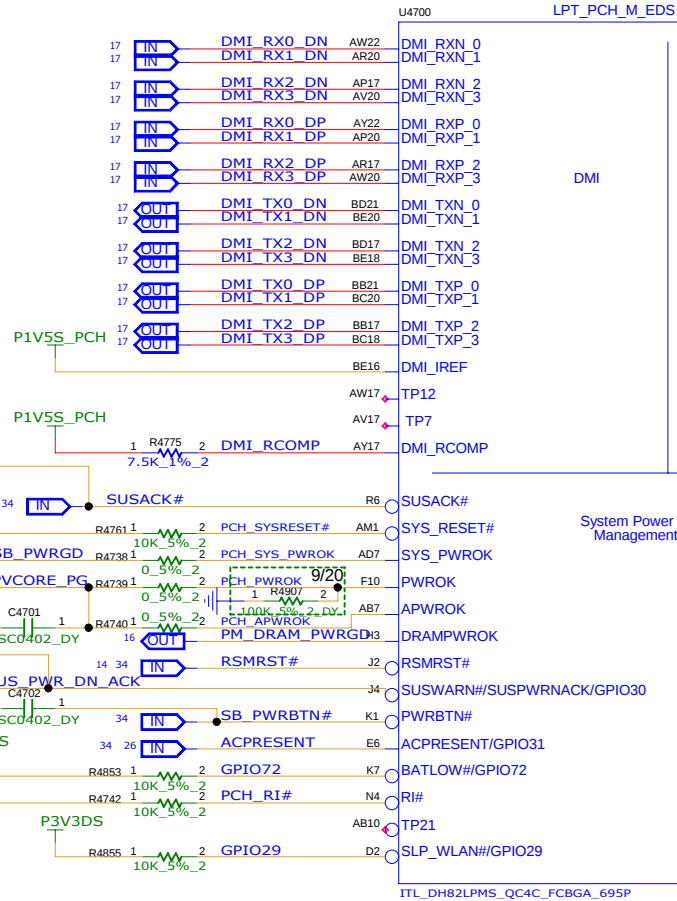
TITLE  
MODEL, PROJECT, FUNCTION  
SIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV A01  
CHANGE by XXX DATE 21-OCT-2002 SHEET 23 of 70



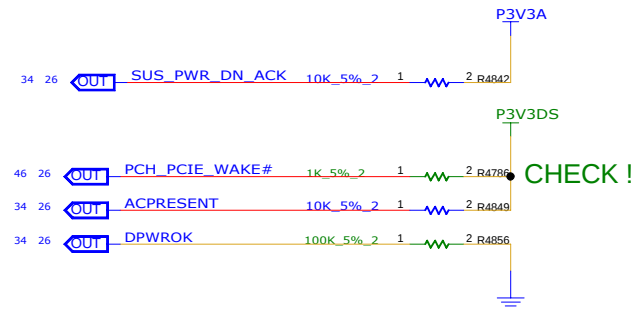


| Signal                       | Description                                       | Disable Guidelines           |
|------------------------------|---------------------------------------------------|------------------------------|
| FDI_RXP[0:1]<br>FDI_RXN[0:1] | Intel FDI Receive Differential Pair on PCH        | Float                        |
| FDI_TXP[0:1]<br>FDI_TXN[0:1] | Intel FDI Transmit Differential Pair on Processor | Float                        |
| FDI_CSXNC                    | Intel FDI Composite Sync                          | Connect to Processor and PCH |
| DISP_INT                     | Intel FDI Hot Plug Interrupt                      | Connect to Processor and PCH |
| FDI_RCOMP                    | FDI Resistor Compensation                         | Float                        |
| FDI_IREF                     | FDI Reference Voltage                             | Float                        |

REF #486713 INTEL SBY DG V1.0



power rail ->DSW :  
SLP\_A#  
SLP\_S3#  
SLP\_S4#  
SLP\_SUS#  
SLP\_LAN#  
SLP\_WLAN#/GPIO29  
GPIO27  
PWRBTN#  
WAKE#  
ACPRESENT/GPIO31  
BATLOW#/GPIO72  
VCCDSW3\_3  
LAN\_PHY\_PWR\_CTRL/GPIO12



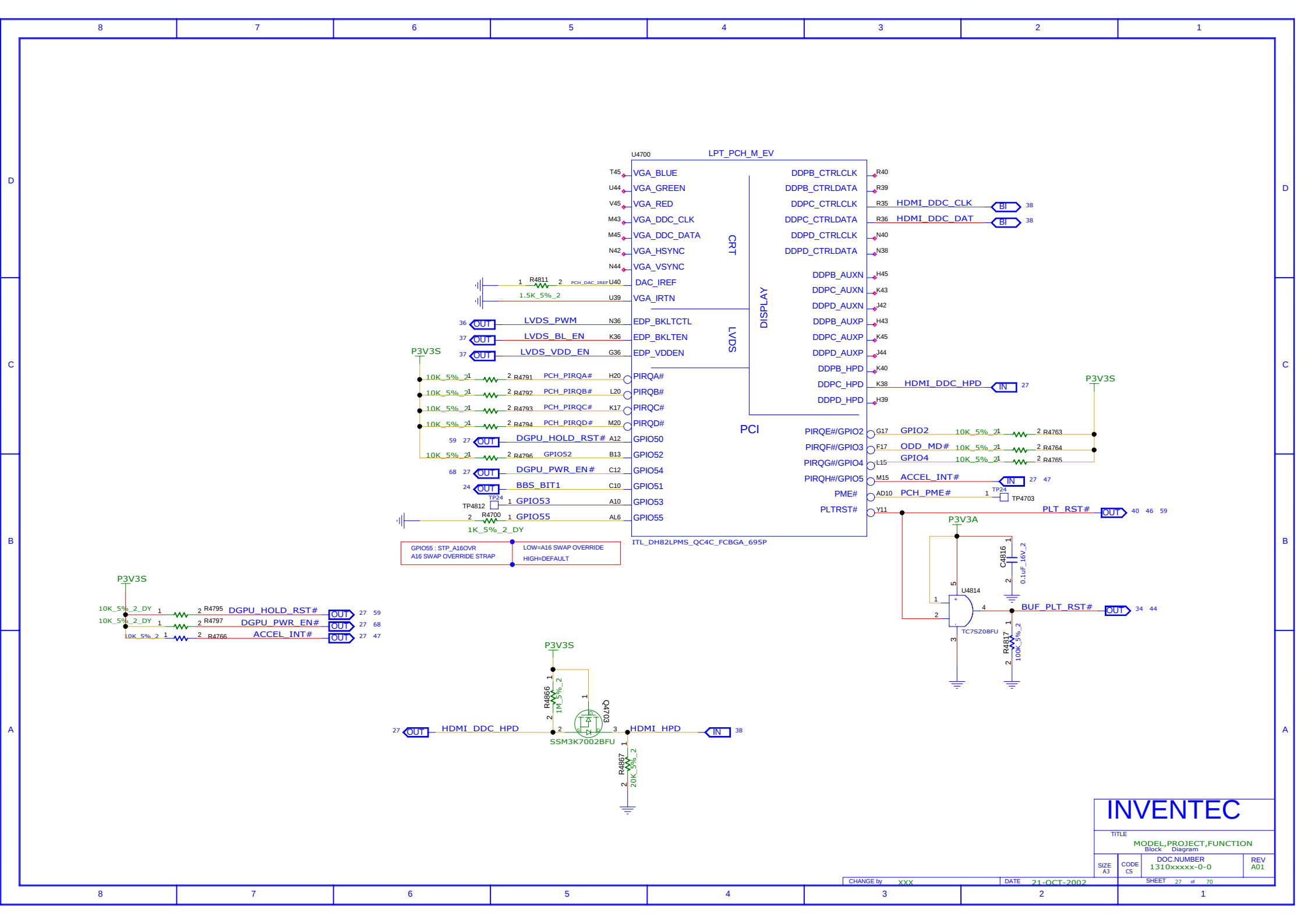
INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION

SIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV A01

CHANGE by XXX DATE 21-OCT-2002

SHEET 26 of 70



INVENTEC

TITLE MODEL,PROJECT,FUNCTION

Block Diagram

DOC NUMBER 1310xxxxx-0-0

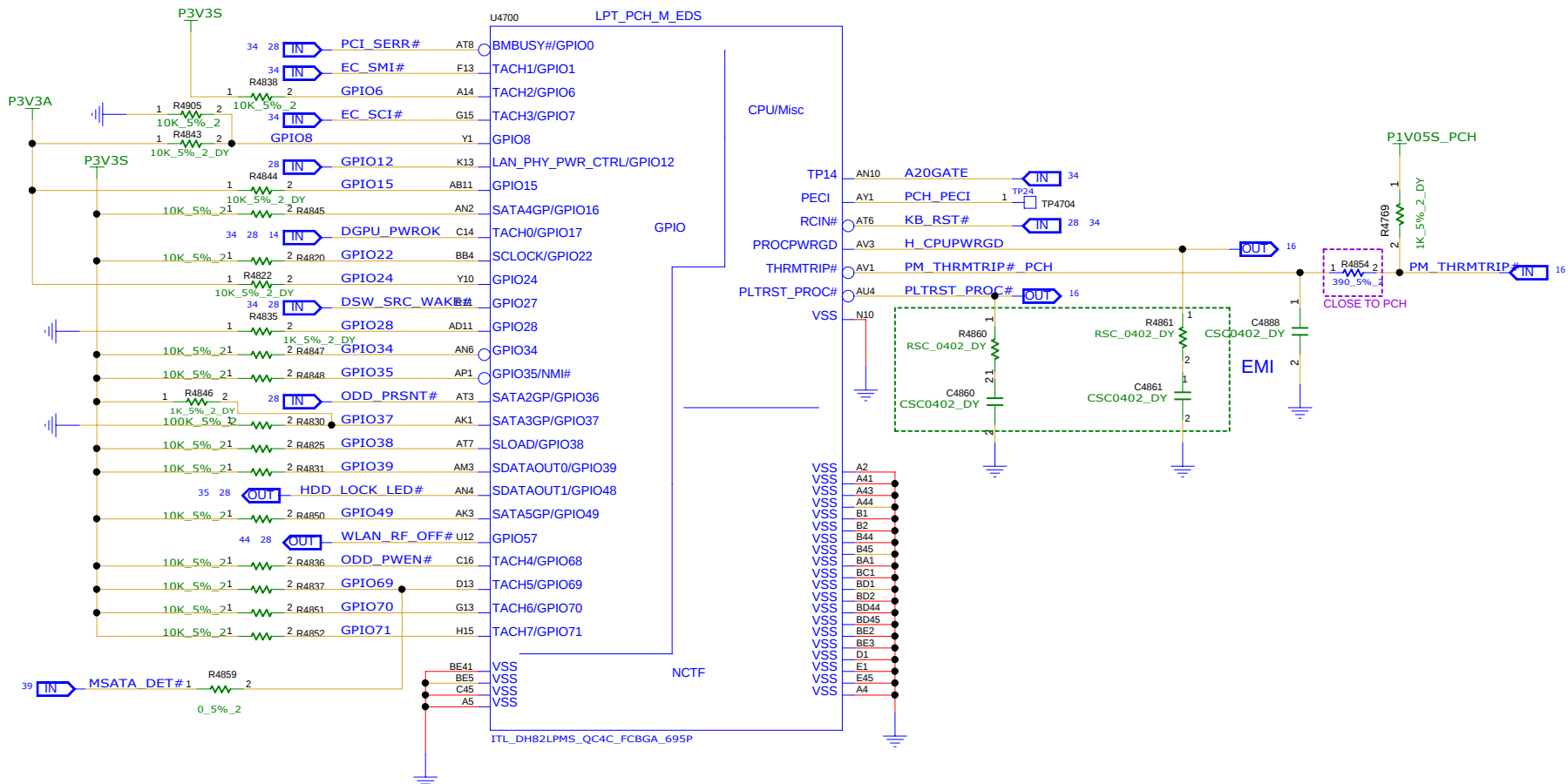
REV A01

SHEET 27 of 70

CHANGE by XXX DATE 21-OCT-2002

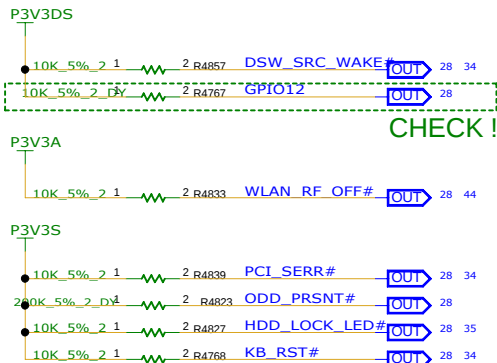
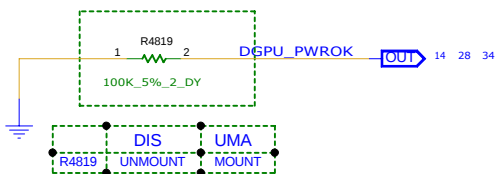
## GPIO28

THE PIN REQUIRES GLITCH-FREE OUTPUT POWER SEQUENCE.  
THE PAD SHOULD ONLY BE PULLED LOW  
MOMENTARY  
WHEN THE CORRESPONDING BUFFER POWER SUPPLY IS NOT STABLE.



| GPIO36         | RSVD                | Rising edge of PWROK     | This signal has a weak internal pull-down.<br><b>NOTE:</b> The internal pull-down is disabled after PLTRST# deasserts.                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SATA3GP/GPIO37 | TLS Confidentiality | Rising edge of PWROK pin | Low = Intel ME Crypto Transport Layer Security (TLS) cipher suite with no confidentiality<br>High = Intel ME Crypto TLS cipher suite with confidentiality<br>This signal has a weak internal pull-down.<br><b>NOTES:</b><br>1. A strong pull-up may be needed for GPIO functionality<br>2. This signal must be pulled up to support Intel AMT with TLS. Intel ME configuration parameters also need to be set correctly to enable TLS. |

UMA



INVENTEC

| TITLE                                |      |               |     |
|--------------------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION Block Diagram |      |               |     |
| SIZE                                 | CODE | DOC NUMBER    | REV |
| A3                                   | CS   | 1310xxxxx-0-0 | A01 |



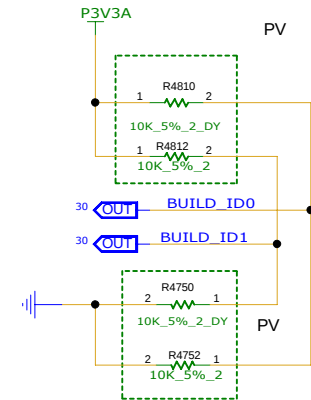
SUK\_0606

PV

U4700

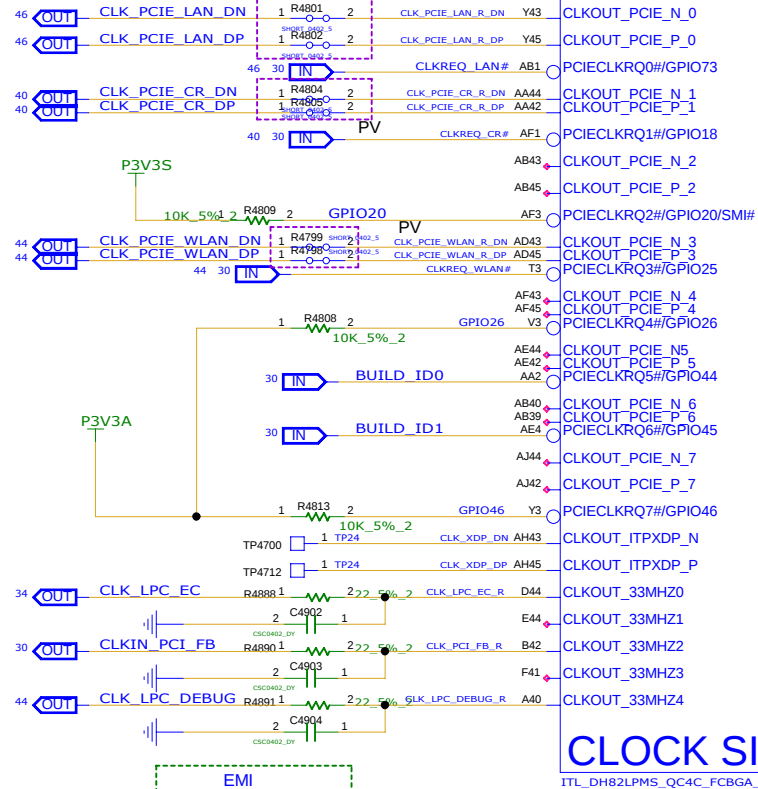
LPT\_PCH\_M\_EDS

UMA DELETE



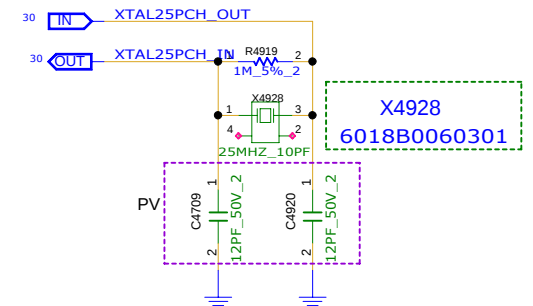
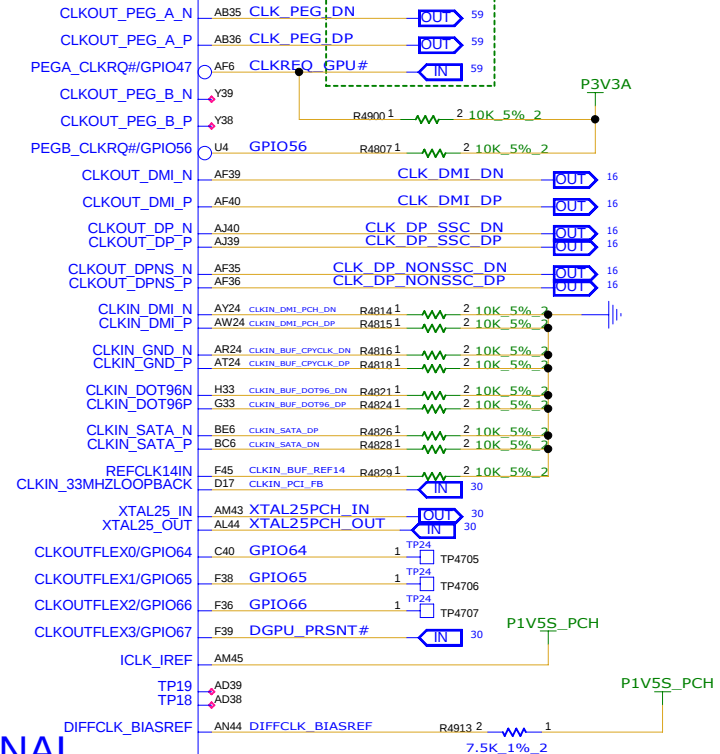
BUILD ID

|    | BUILD_ID1 | BUILD_ID0 |
|----|-----------|-----------|
| DB | 0         | 0         |
| SI | 0         | 1         |
| PV | 1         | 0         |
| MV | 1         | 1         |



CLOCK SIGNAL

ITL\_DH82LPMS\_QC4C\_FCBGA\_695P



INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

CHANGE by XXX

DATE 21-OCT-2002

SHEET 30 of 70





D

C

B

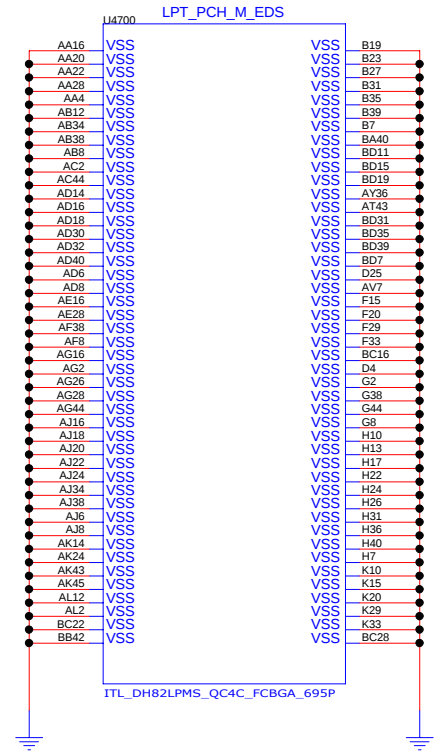
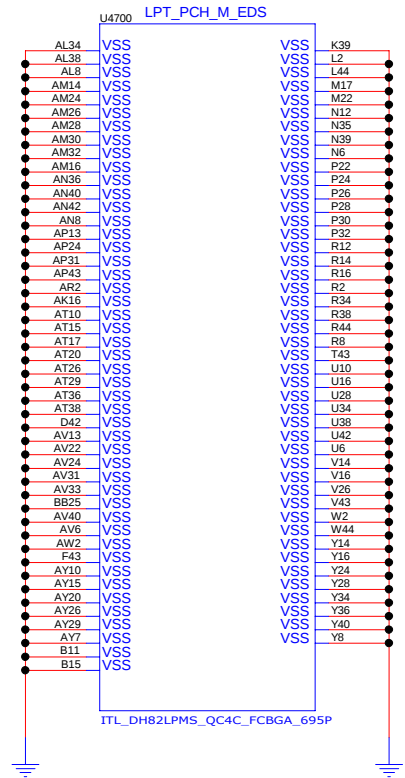
A

D

C

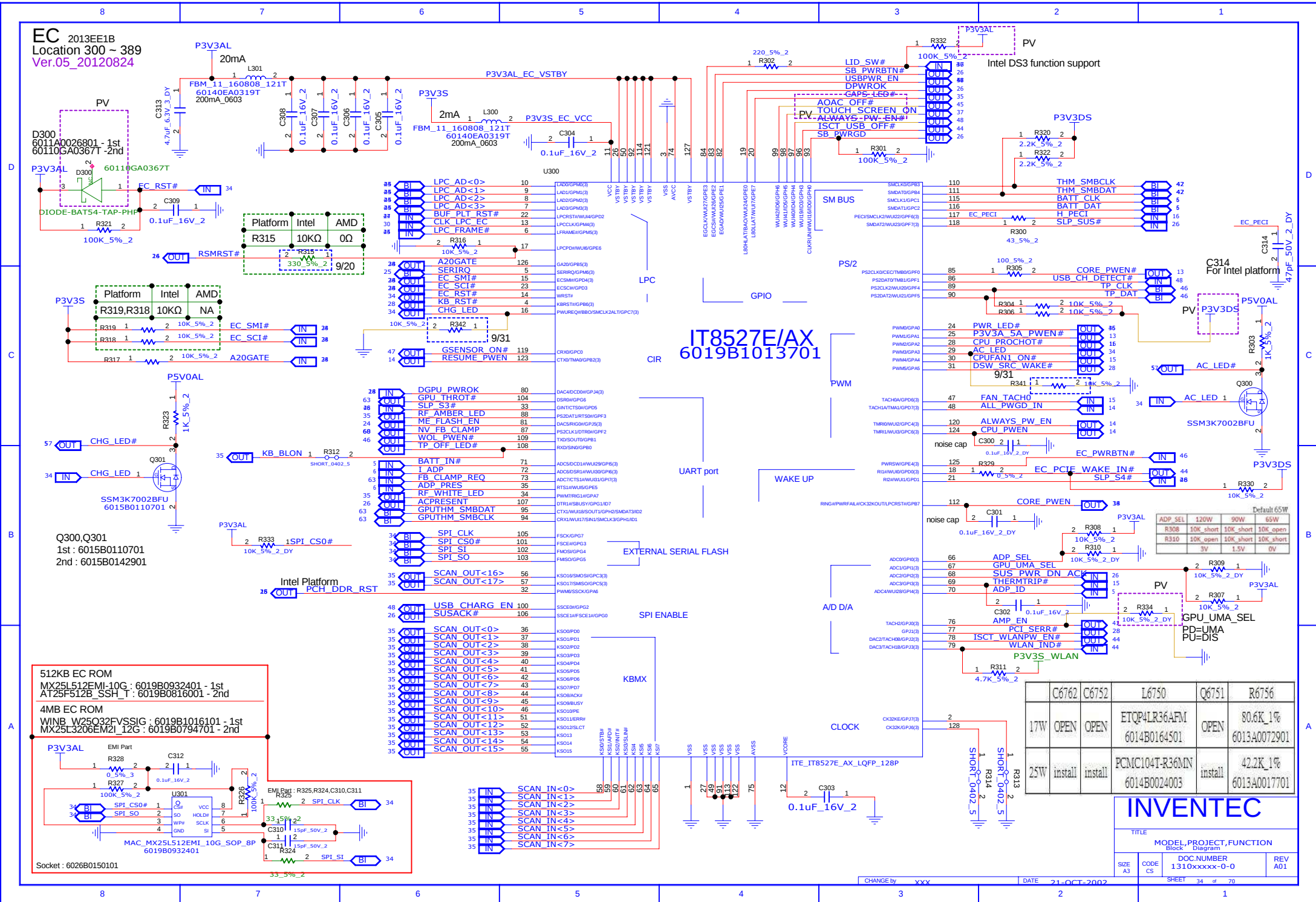
B

A



| INVENTEC               |      |               |  |     |
|------------------------|------|---------------|--|-----|
| TITLE                  |      |               |  |     |
| MODEL,PROJECT,FUNCTION |      |               |  |     |
| Block Diagram          |      |               |  |     |
| SIZE                   | CODE | DOC NUMBER    |  | REV |
| A3                     | CS   | 1310xxxxx-0-0 |  | A01 |

EC 2013EE1B  
Location 300 ~ 389  
Ver.05\_20120824

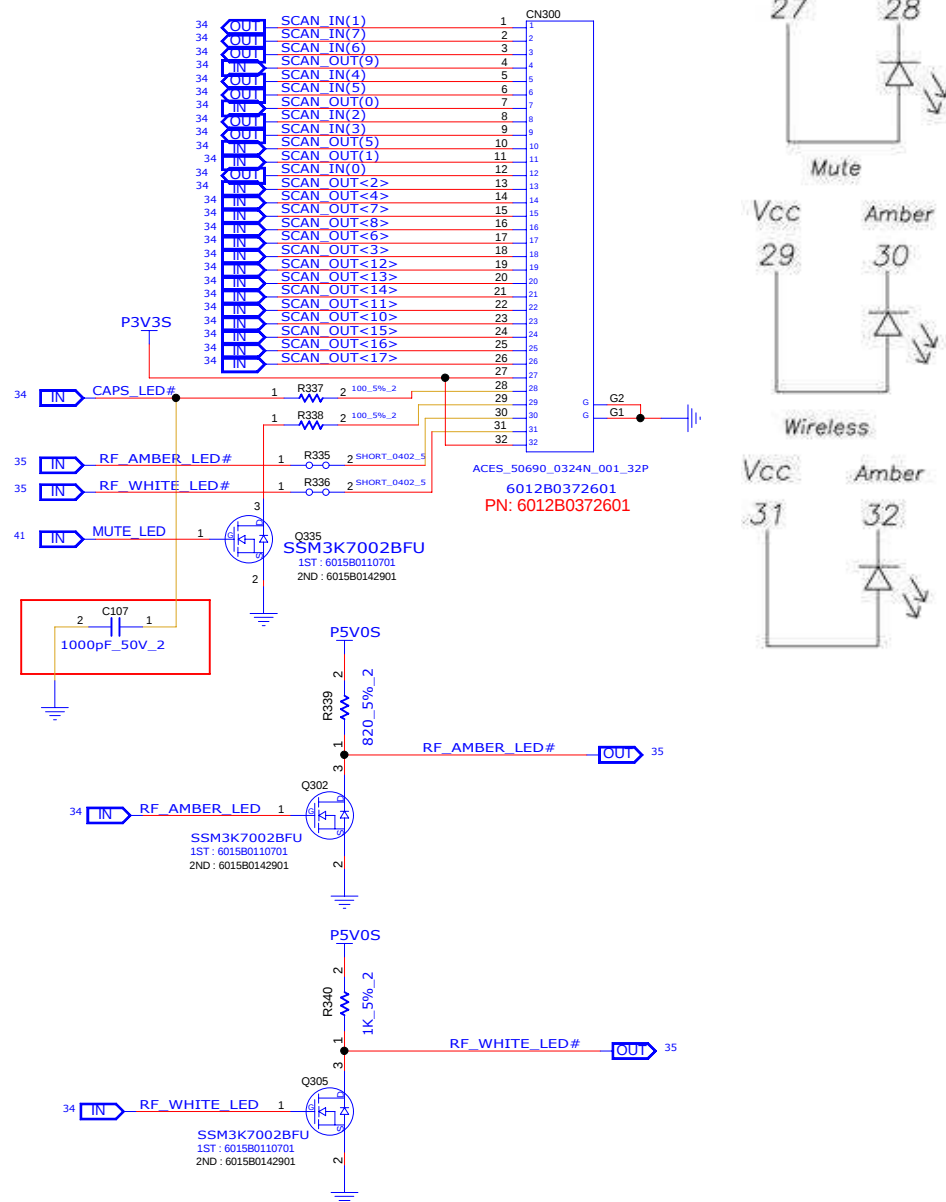


INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC.NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |
| SHEET 34 of 70         |      |               |     |

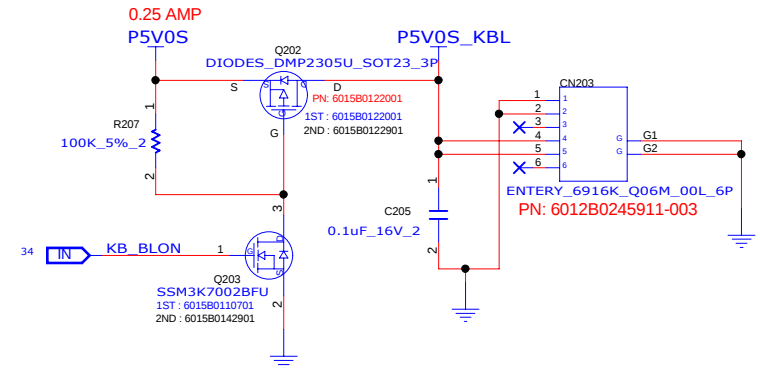
CHANGE by: xxx DATE: 21-OCT-2002

## KEYBOARD CONN(32 PIN)



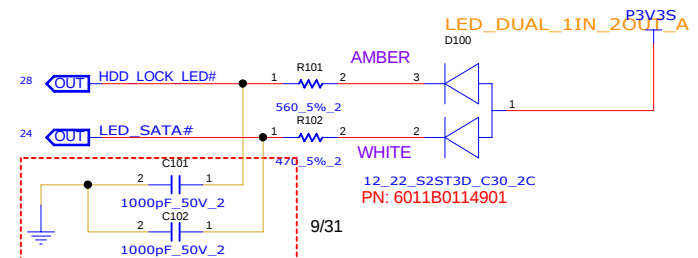
CONNECTOR KEY BOARD 200~299

## KEYBOARD BACKLIGHT

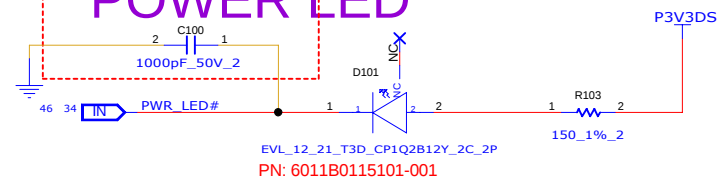


LED 100~199

## HDD LED



## POWER LED



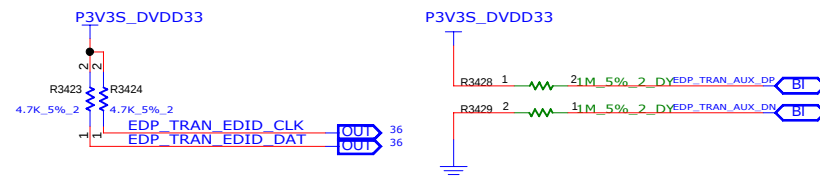
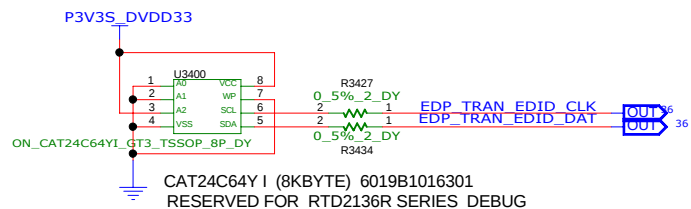
INVENTEC

| TITLE                  |      |              |     |
|------------------------|------|--------------|-----|
| MODEL PROJECT FUNCTION |      |              |     |
| KB CONN & LED          |      |              |     |
| SIZE                   | CODE | DOC NUMBER   | REV |
| A3                     | CS   | 1310xxxx-0-0 | A01 |

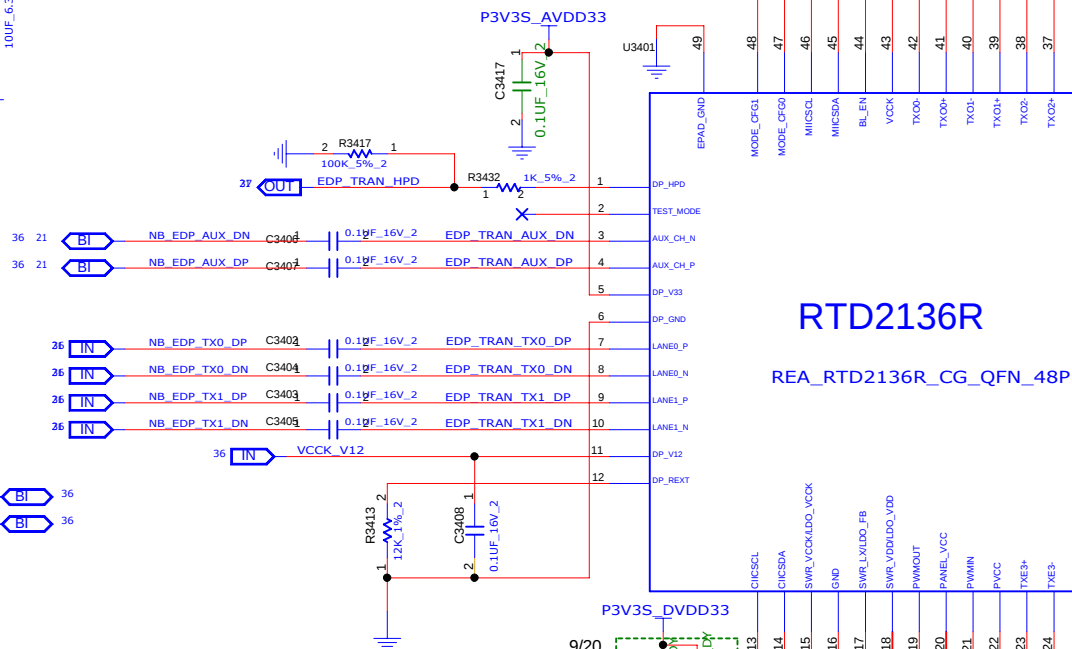
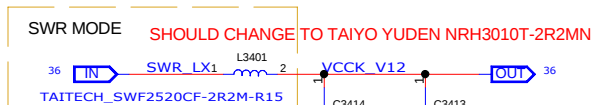
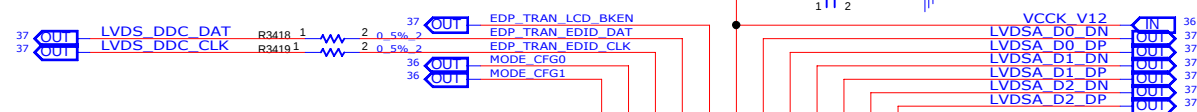
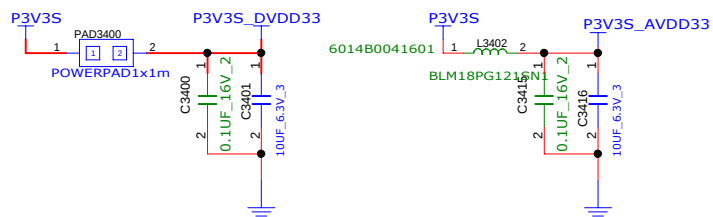
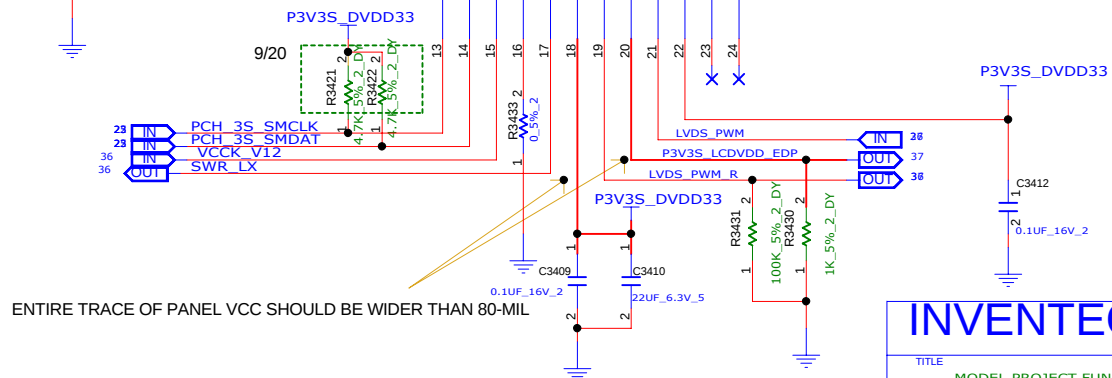
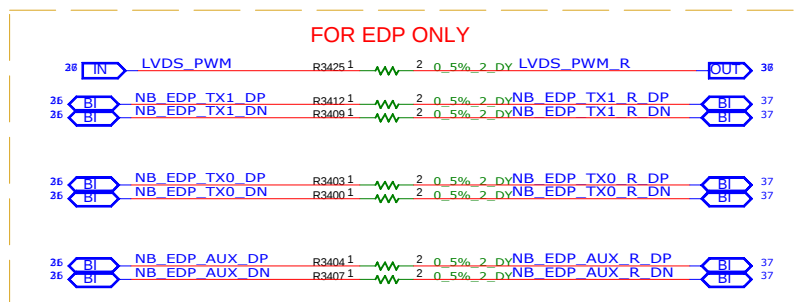
CHANGE by XXX DATE 21-OCT-2002

SHEET 35 of 70

Location 3400~3499  
Ver.02 20120824



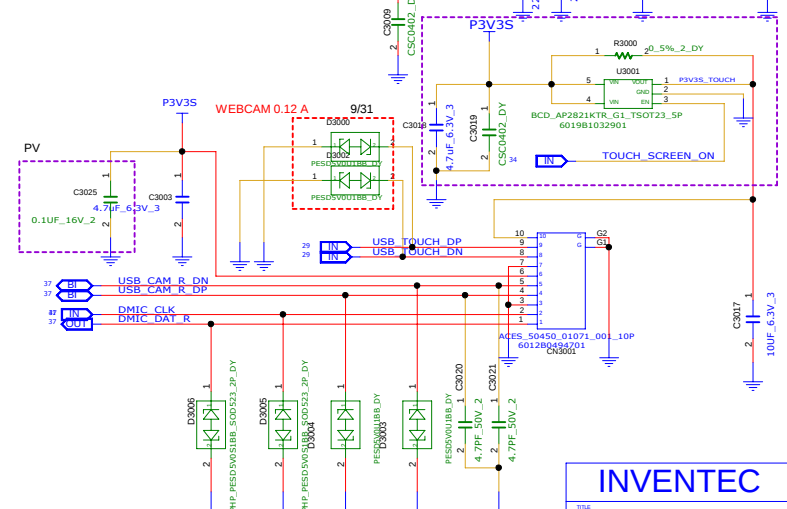
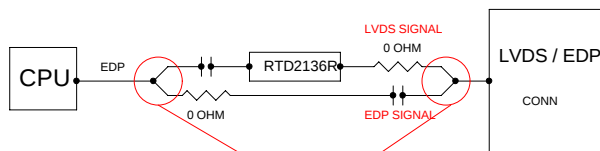
ENTIRE TRACE OF PANEL VCC SHOULD BE WIDER THAN 80-MIL

[illegible]

ENTIRE TRACE OF PANEL VCC SHOULD BE WIDER THAN 80-MIL

|                                         |            |                             |            |
|-----------------------------------------|------------|-----------------------------|------------|
| INVENTEC                                |            |                             |            |
| TITLE                                   |            |                             |            |
| MODEL,PROJECT,FUNCTION<br>Block Diagram |            |                             |            |
| SIZE<br>A3                              | CODE<br>CS | DOC NUMBER<br>1310xxxxx-0-0 | REV<br>A01 |

Location 3000~3049  
Ver.02 20120824



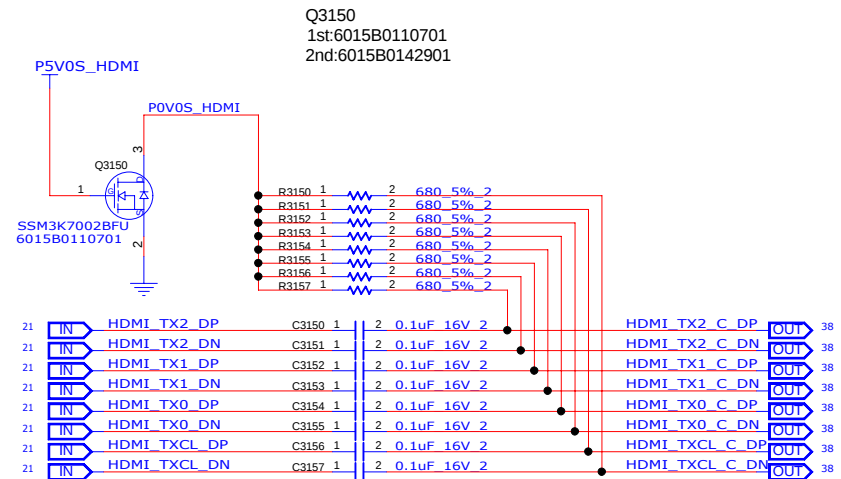
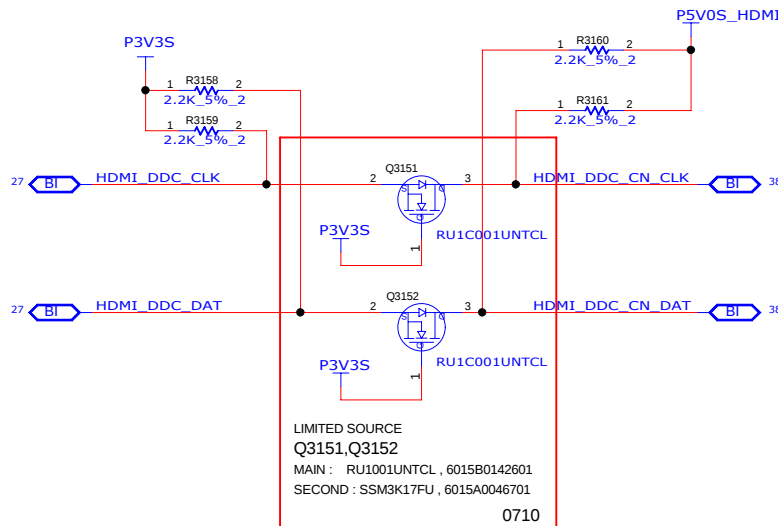
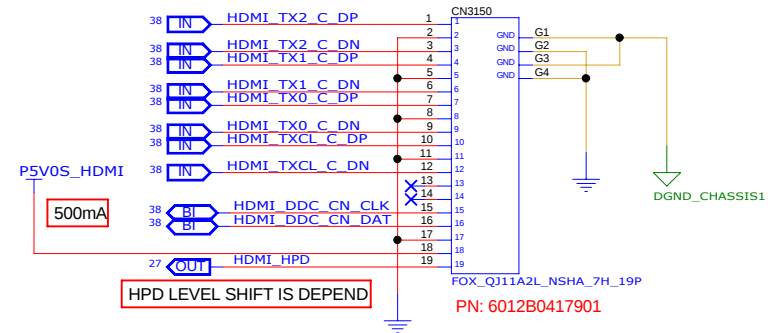
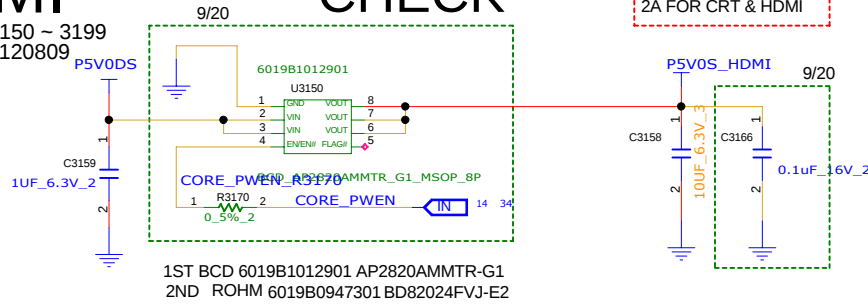
## WEBCAM+TOUCHN SCREEN

|                                         |            |                              |            |
|-----------------------------------------|------------|------------------------------|------------|
| INVENTEC                                |            |                              |            |
| TITLE<br>MODEL,PROJECT,FUNCTION<br>LVDS |            |                              |            |
| SIZE<br>C                               | CODE<br>CS | DOC NUMBER<br>1310xxxxxx-0-0 | REV<br>A01 |
| SHEET                                   |            | 37                           | of 70      |

# HDMI

Location 3150 ~ 3199  
Ver.02\_20120809

## CHECK



| Location | Part number        | Factory | Manufacturer Part No | Marking |
|----------|--------------------|---------|----------------------|---------|
| D300     | 1ST : 6011A0026801 | DIODES  | D-BAT54-7            | KL1     |
|          | 2nd : 60110GA0367T | NXP     | BAT54                |         |
| Q300     | 1ST : 6015B0124601 | NXP     | 2N7002P              | LWx     |
| Q301     | 2nd : 6015B0140901 | DIODES  | DMN65D8L-7           | MM6     |
| U301     | 1ST : 6019B0932401 | MXIC    | MX25L512EMI-10G      |         |
| 512KB    | 2nd : 6019B0816001 | ATMEL   | AT25F512B-SSH-T      |         |
| U301     | 1ST : 6019B1016101 | WINBOND | W25Q32FVSSIG         |         |
| 4MB      | 2nd : 6019B0794701 | MXIC    | MX25L3206EM2I-12G    |         |

## INVENTEC

TITLE MODEL,PROJECT,FUNCTION

DOC NUMBER 1310xxxxx-0-0

REV A01

CHANGE by XXX

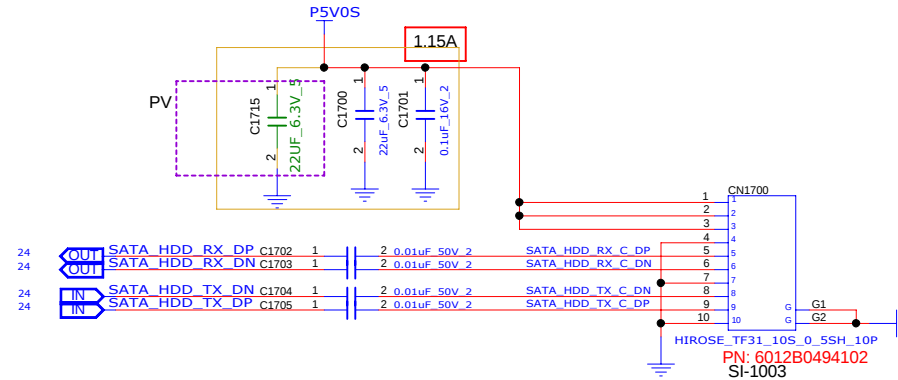
DATE 21-OCT-2002

SHEET 38 of 70

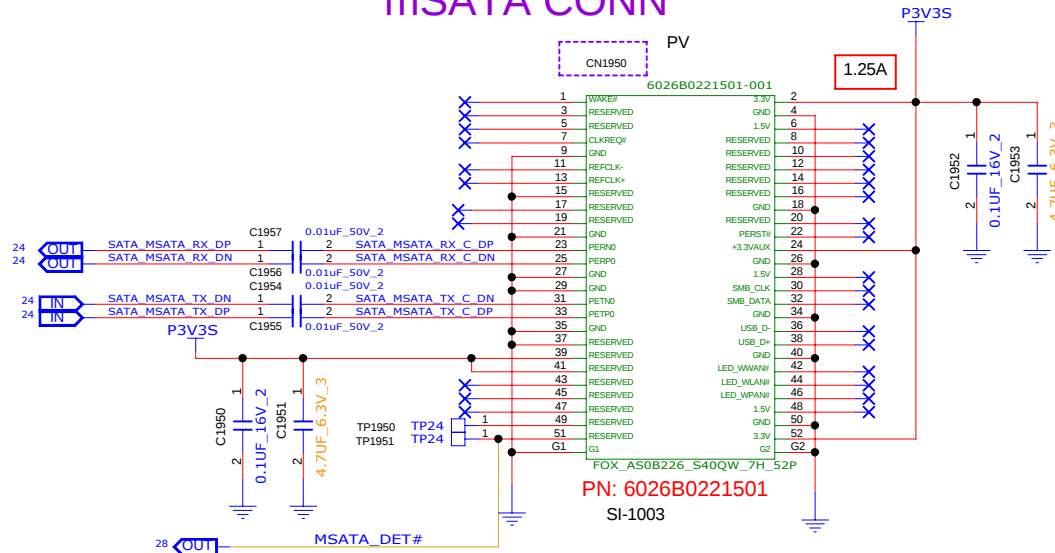
SATA HDD  
Location 1700 ~ 1749

mSATA  
Location 1950 ~ 1999  
Ver.01\_20120808

## SATA HDD CABLE CONN on MB



## mSATA CONN



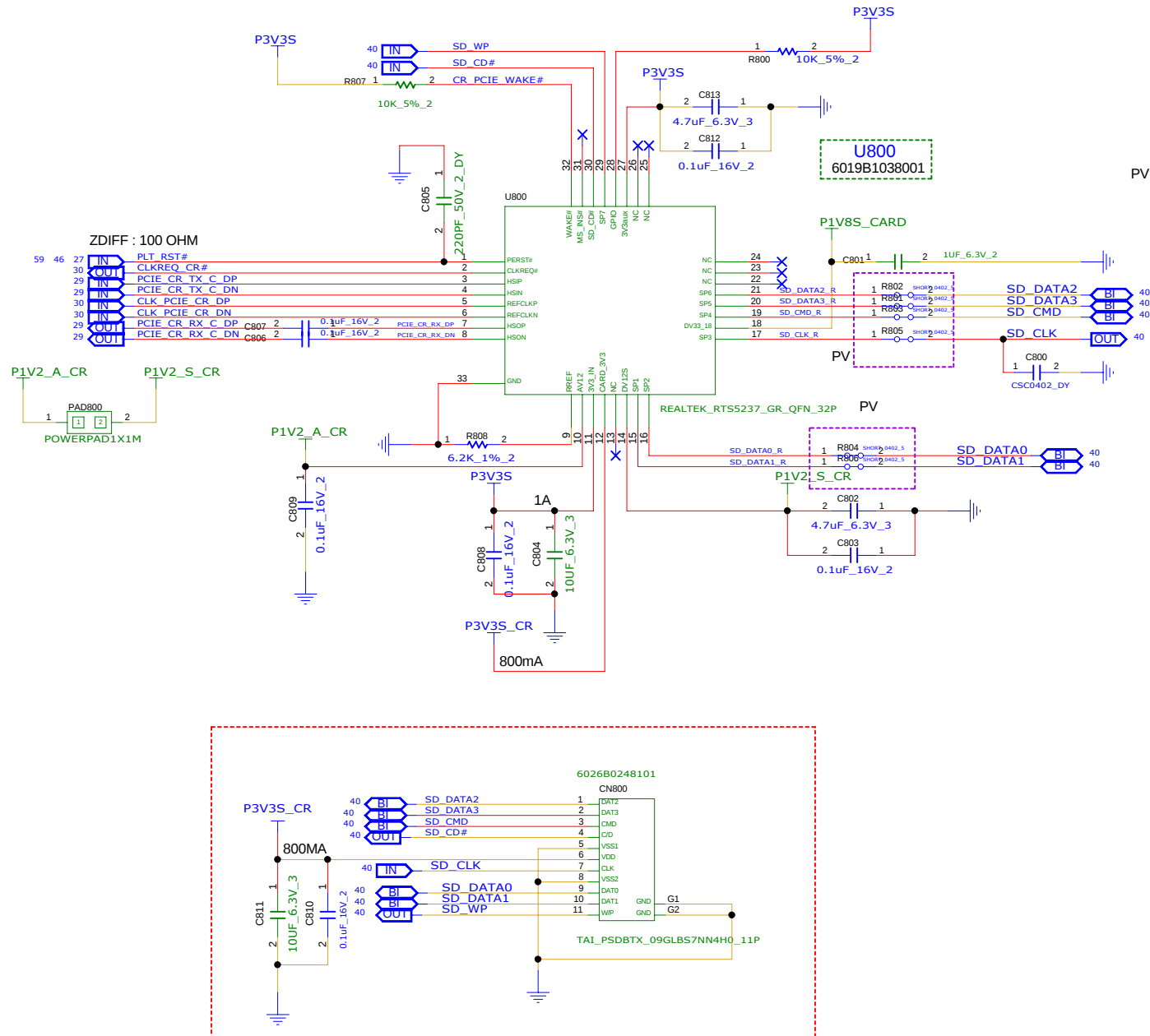
INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| SATA HDD & SATA ODD    |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

# CARD READER RTS5237

LOCATION: 800~899

VER\_03 . 20120823



## INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

CHANGE by XXX DATE 21-OCT-2002

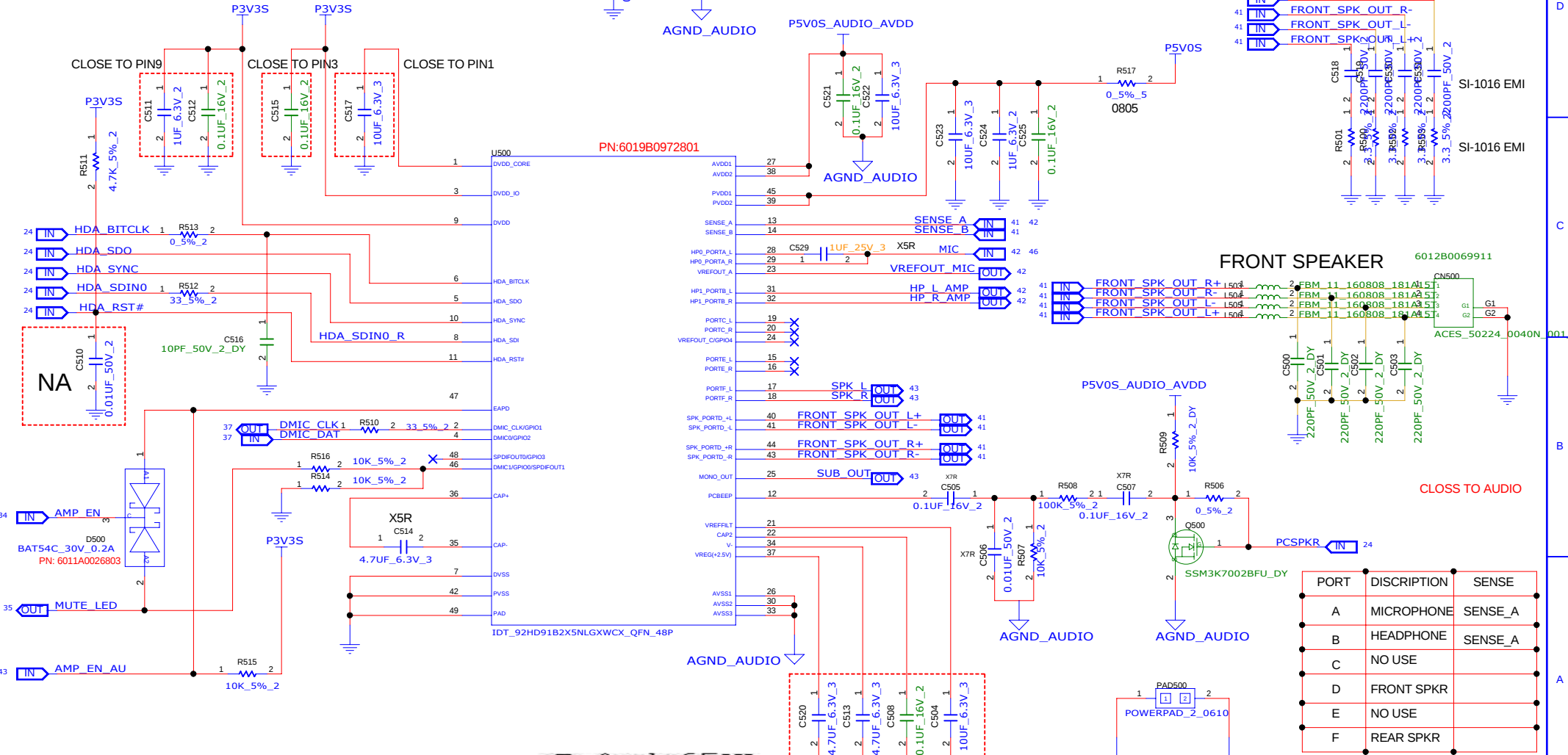
SHEET 40 of 70

# AUDIO-1

## CODEC

LOCATION: 500-549  
VER.06\_20120824

DVDD 0.025AMP  
AVDD 0.06AMP  
PVDD 0.01.3AMP



| Default 65W |           |           |           |
|-------------|-----------|-----------|-----------|
| ADP_SEL     | 120W      | 90W       | 65W       |
| R308        | 10K_short | 10K_short | 10K_open  |
| R310        | 10K_open  | 10K_short | 10K_short |
|             | 3V        | 1.5V      | 0V        |

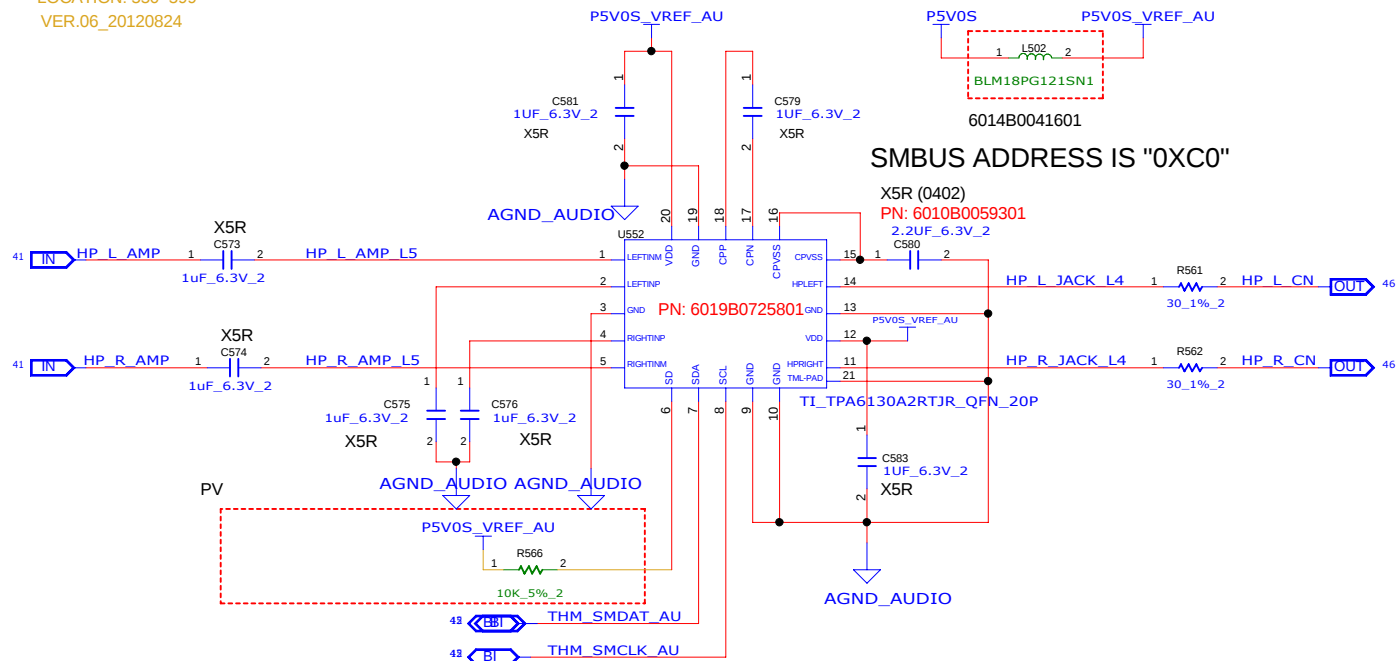
| PORT | DISCRPTION | SENSE   |
|------|------------|---------|
| A    | MICROPHONE | SENSE_A |
| B    | HEADPHONE  | SENSE_A |
| C    | NO USE     |         |
| D    | FRONT SPKR |         |
| E    | NO USE     |         |
| F    | REAR SPKR  |         |

INVENTEC

| TITLE                  |      |              |     |
|------------------------|------|--------------|-----|
| MODEL,PROJECT,FUNCTION |      |              |     |
| SIZE                   | CODE | DOC.NUMBER   | REV |
| A3                     | CS   | 1310xxxx-0-0 | A01 |
| SHEET 41 of 70         |      |              |     |

## AUDIO-2

## CODEC

LOCATION: 550-599  
VER.06\_20120824

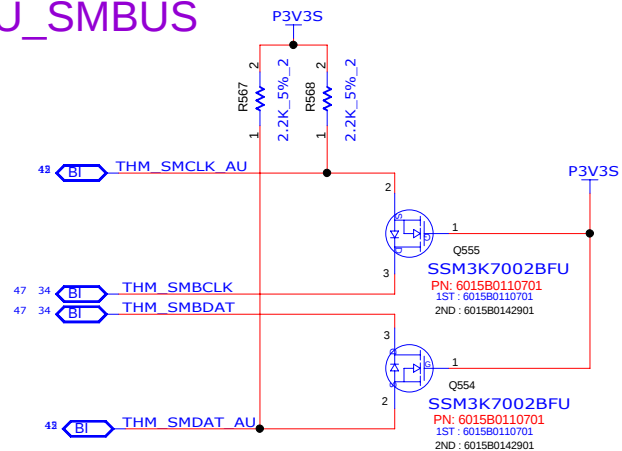
SMBUS ADDRESS IS "0XC0"

X5R (0402)  
PN: 6010B0059301  
2.2UF\_6.3V\_2

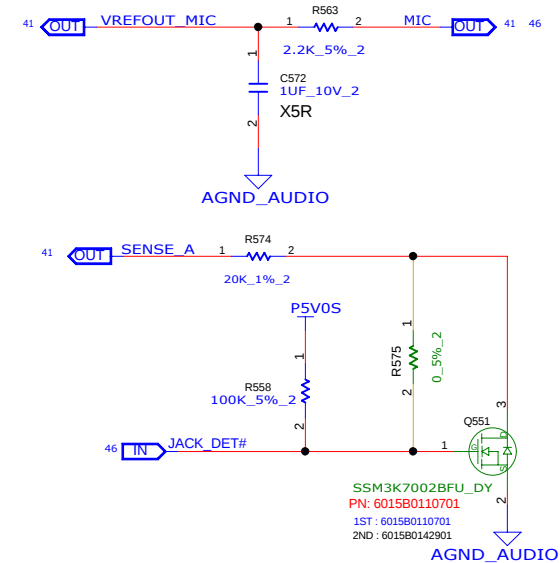
PN: 6019B0725801

TI\_TPA6130A2RTJR\_QFN\_20P

## AU\_SMBUS



## COMBO JACK

SSM3K7002BFU\_DY  
PN: 6015B0110701  
1ST: 6015B0110701  
2ND: 6015B0142901

| Location | Part number        | Factory  | Manufacturer Part No | Marking |
|----------|--------------------|----------|----------------------|---------|
| Q9401    | 1st : 6015B0122001 | DIODES   | DMP2305U             | 23P     |
|          | 2nd : 6015B0122901 | TOSHIBA  | SSM3J327R            | KFG     |
| L9401    | 1st : 6014B0200401 | TAI-TECH | SWF2520CF-2R2M-R15   |         |
|          | 2nd : 6014B0190301 | CYNTEC   | PHI25201B-2R2MS      |         |
| X9401    | 1st : 6018B0060301 | EPSON    | FA-238G              | 2500M   |
|          | 2nd : 6018B0054701 | TXC      | 7V25000014           | T250    |

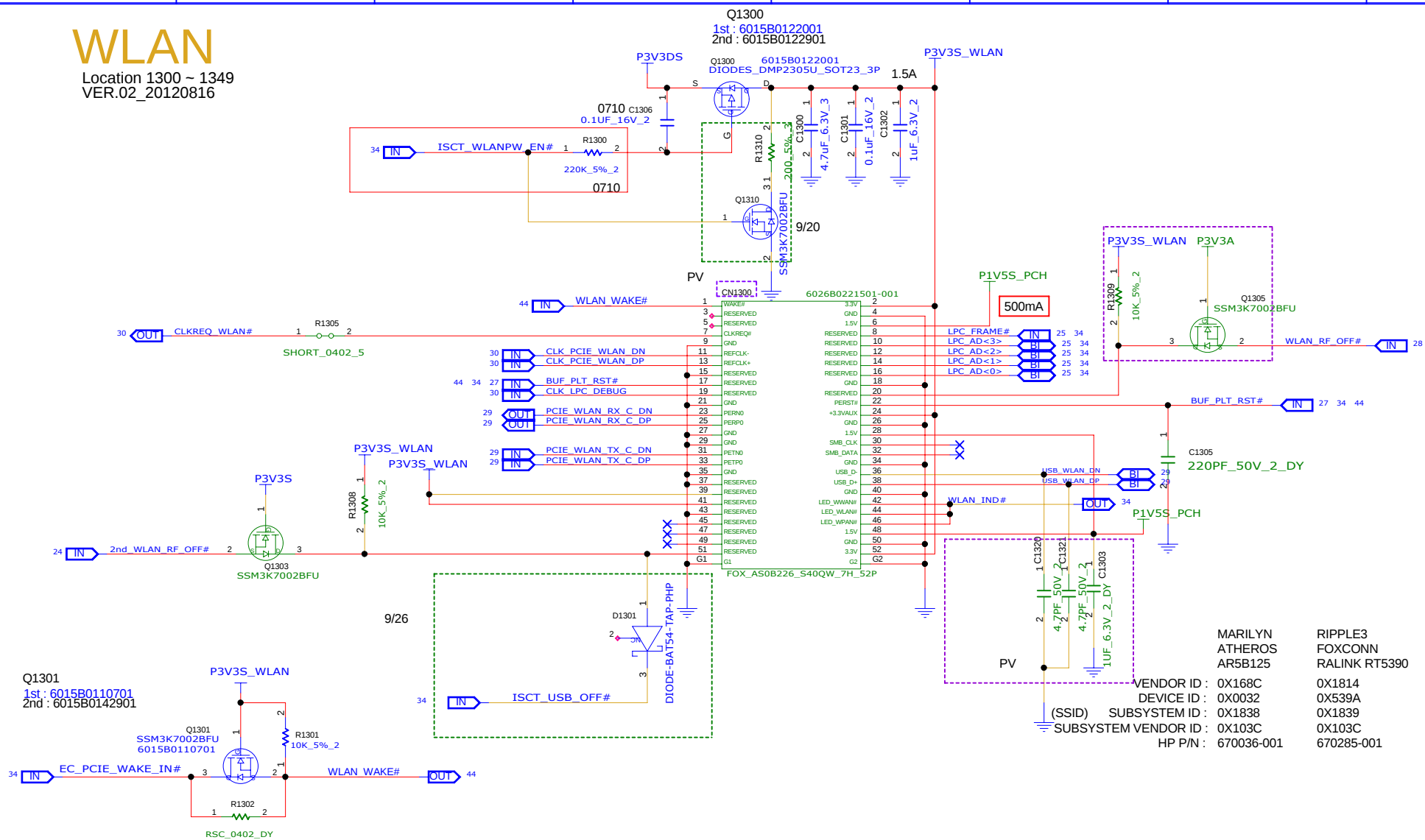
INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |



# WLAN

Location 1300 ~ 1349  
VER.02\_20120816



MARILYN  
ATHEROS  
AR5B125

RIPPLE3  
FOXCONN  
RALINK RT5390

VENDOR ID : 0X168C  
DEVICE ID : 0X0032  
(SSID) SUBSYSTEM ID : 0X1838  
SUBSYSTEM VENDOR ID : 0X103C  
HP P/N : 670036-001

## INVENTEC

| TITLE                    |      |              |     |
|--------------------------|------|--------------|-----|
| MODEL, PROJECT, FUNCTION |      |              |     |
| WLAN & BT                |      |              |     |
| SIZE                     | CODE | DOC NUMBER   | REV |
| A3                       | CS   | 1310xxxx-0-0 | A01 |

## D

## C

B

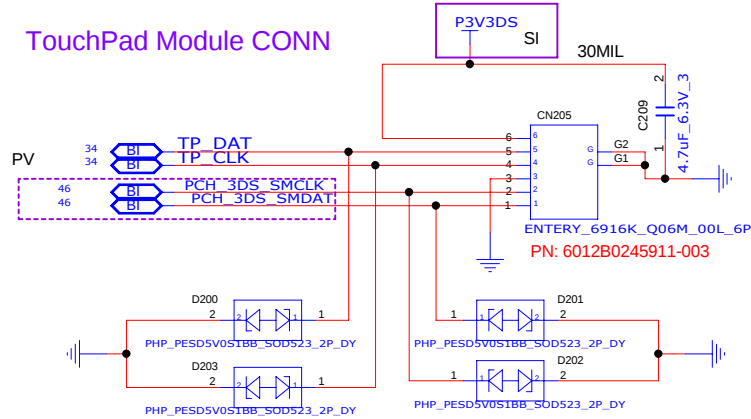
A



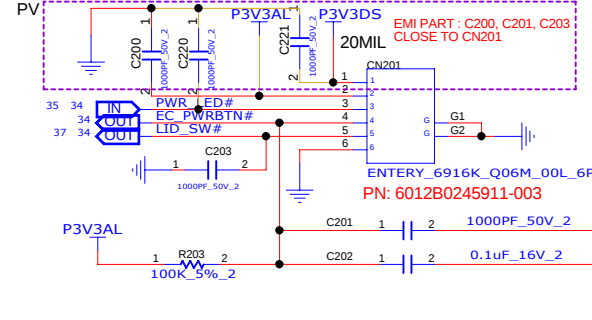
| TITLE | MODEL,PROJECT,FUNCTION |
|-------|------------------------|
| 1.1   | 1.1.1                  |
| 1.2   | 1.2.1                  |
| 1.3   | 1.3.1                  |
| 1.4   | 1.4.1                  |
| 1.5   | 1.5.1                  |
| 1.6   | 1.6.1                  |
| 1.7   | 1.7.1                  |
| 1.8   | 1.8.1                  |
| 1.9   | 1.9.1                  |
| 1.10  | 1.10.1                 |
| 1.11  | 1.11.1                 |
| 1.12  | 1.12.1                 |
| 1.13  | 1.13.1                 |
| 1.14  | 1.14.1                 |
| 1.15  | 1.15.1                 |
| 1.16  | 1.16.1                 |
| 1.17  | 1.17.1                 |
| 1.18  | 1.18.1                 |
| 1.19  | 1.19.1                 |
| 1.20  | 1.20.1                 |
| 1.21  | 1.21.1                 |
| 1.22  | 1.22.1                 |
| 1.23  | 1.23.1                 |
| 1.24  | 1.24.1                 |
| 1.25  | 1.25.1                 |
| 1.26  | 1.26.1                 |
| 1.27  | 1.27.1                 |
| 1.28  | 1.28.1                 |
| 1.29  | 1.29.1                 |
| 1.30  | 1.30.1                 |
| 1.31  | 1.31.1                 |
| 1.32  | 1.32.1                 |
| 1.33  | 1.33.1                 |
| 1.34  | 1.34.1                 |
| 1.35  | 1.35.1                 |
| 1.36  | 1.36.1                 |
| 1.37  | 1.37.1                 |
| 1.38  | 1.38.1                 |
| 1.39  | 1.39.1                 |
| 1.40  | 1.40.1                 |
| 1.41  | 1.41.1                 |
| 1.42  | 1.42.1                 |
| 1.43  | 1.43.1                 |
| 1.44  | 1.44.1                 |
| 1.45  | 1.45.1                 |
| 1.46  | 1.46.1                 |
| 1.47  | 1.47.1                 |
| 1.48  | 1.48.1                 |
| 1.49  | 1.49.1                 |
| 1.50  | 1.50.1                 |
| 1.51  | 1.51.1                 |
| 1.52  | 1.52.1                 |
| 1.53  | 1.53.1                 |
| 1.54  | 1.54.1                 |
| 1.55  | 1.55.1                 |
| 1.56  | 1.56.1                 |
| 1.57  | 1.57.1                 |
| 1.58  | 1.58.1                 |
| 1.59  | 1.59.1                 |
| 1.60  | 1.60.1                 |
| 1.61  | 1.61.1                 |
| 1.62  | 1.62.1                 |
| 1.63  | 1.63.1                 |
| 1.64  | 1.64.1                 |
| 1.65  | 1.65.1                 |
| 1.66  | 1.66.1                 |
| 1.67  | 1.67.1                 |
| 1.68  | 1.68.1                 |
| 1.69  | 1.69.1                 |
| 1.70  | 1.70.1                 |
| 1.71  | 1.71.1                 |
| 1.72  | 1.72.1                 |
| 1.73  | 1.73.1                 |
| 1.74  | 1.74.1                 |
| 1.75  | 1.75.1                 |
| 1.76  | 1.76.1                 |
| 1.77  | 1.77.1                 |
| 1.78  | 1.78.1                 |
| 1.79  | 1.79.1                 |
| 1.80  | 1.80.1                 |
| 1.81  | 1.81.1                 |
| 1.82  | 1.82.1                 |
| 1.83  | 1.83.1                 |
| 1.84  | 1.84.1                 |
| 1.85  | 1.85.1                 |
| 1.86  | 1.86.1                 |
| 1.87  | 1.87.1                 |
| 1.88  | 1.88.1                 |
| 1.89  | 1.89.1                 |
| 1.90  | 1.90.1                 |
| 1.91  | 1.91.1                 |
| 1.92  | 1.92.1                 |
| 1.93  | 1.93.1                 |
| 1.94  | 1.94.1                 |
| 1.95  | 1.95.1                 |
| 1.96  | 1.96.1                 |
| 1.97  | 1.97.1                 |
| 1.98  | 1.98.1                 |
| 1.99  | 1.99.1                 |
| 2.00  | 2.00.1                 |
| 2.01  | 2.01.1                 |
| 2.02  | 2.02.1                 |
| 2.03  | 2.03.1                 |
| 2.04  | 2.04.1                 |
| 2.05  | 2.05.1                 |
| 2.06  | 2.06.1                 |
| 2.07  | 2.07.1                 |
| 2.08  | 2.08.1                 |
| 2.09  | 2.09.1                 |
| 2.10  | 2.10.1                 |
| 2.11  | 2.11.1                 |
| 2.12  | 2.12.1                 |
| 2.13  | 2.13.1                 |
| 2.14  | 2.14.1                 |
| 2.15  | 2.15.1                 |
| 2.16  | 2.16.1                 |
| 2.17  | 2.17.1                 |
| 2.18  | 2.18.1                 |
| 2.19  | 2.19.1                 |
| 2.20  | 2.20.1                 |
| 2.21  | 2.21.1                 |
| 2.22  | 2.22.1                 |
| 2.23  | 2.23.1                 |
| 2.24  | 2.24.1                 |
| 2.25  | 2.25.1                 |
| 2.26  | 2.26.1                 |
| 2.27  | 2.27.1                 |
| 2.28  | 2.28.1                 |
| 2.29  | 2.29.1                 |
| 2.30  | 2.30.1                 |
| 2.31  | 2.31.1                 |
| 2.32  | 2.32.1                 |
| 2.33  | 2.33.1                 |
| 2.34  | 2.34.1                 |
| 2.35  | 2.35.1                 |
| 2.36  | 2.36.1                 |
| 2.37  | 2.37.1                 |
| 2.38  | 2.38.1                 |
| 2.39  | 2.39.1                 |
| 2.40  | 2.40.1                 |
| 2.41  |                        |

|           |     |      |             |
|-----------|-----|------|-------------|
| CHANGE by | XXX | DATE | 21-OCT-2002 |
|-----------|-----|------|-------------|

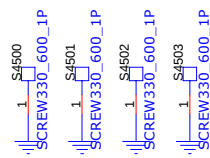
## TouchPad Module CONN



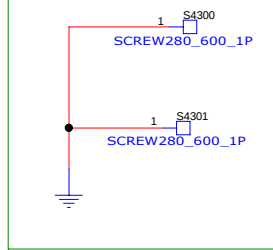
## POWER BUTTON CONN ON MB



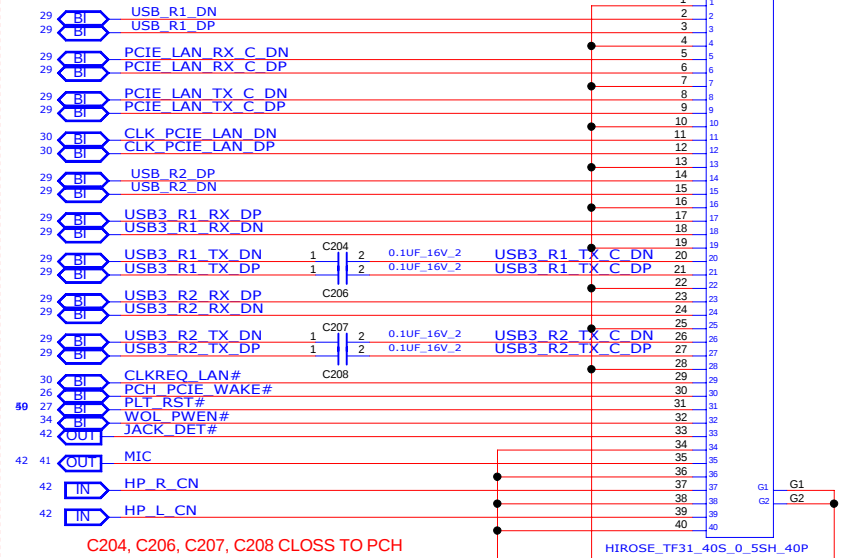
## FOR CPU



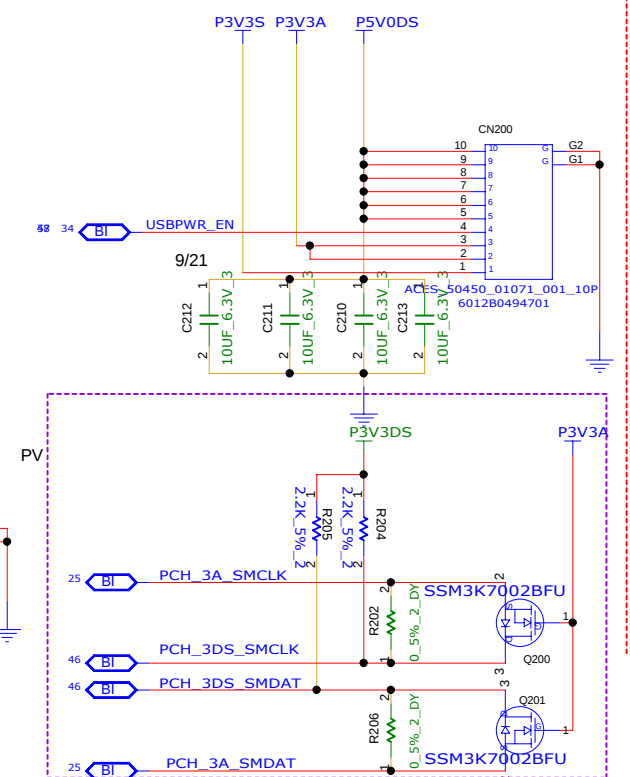
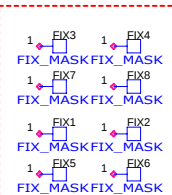
## FOR FAN



## MB CONNECTOR TO AUB



C204, C206, C207, C208 CLOSS TO PCH



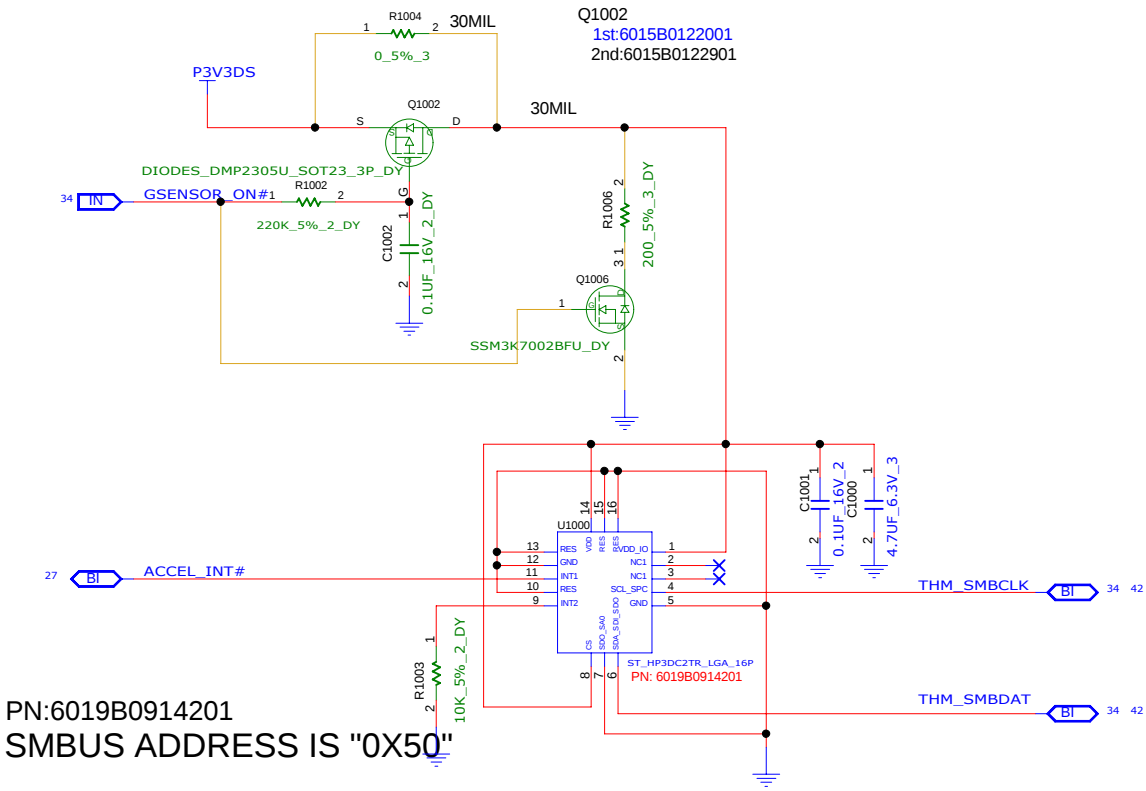
INVENTEC

| TITLE                    |         |                |  |
|--------------------------|---------|----------------|--|
| MODEL PROJECT,FUNCTION   |         |                |  |
| POWER BUTTON             |         |                |  |
| DOC NUMBER 1310xxxxx-0-0 |         |                |  |
| REV A01                  |         |                |  |
| SIZE A3                  | CODE CS | SHEET 46 of 70 |  |

# G-Sensor

Loctaion 1000 ~ 1099  
Ver.01\_20120807

## HARDDRIVE PROTECTION



INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |
| SHEET 47 of 70         |      |               |     |

1ST: 6019B1012901 BCD AP2820AMMTR-  
2ND: 6019B0947301 ROHM BD82024FVJ-E  
3TH: 6019B0975501 NCT NCT3520W-H15

2.5 AMP  
P5V0A\_USB3

| Location | Part number  | Factory   | Manufacturer Part No | Color |
|----------|--------------|-----------|----------------------|-------|
| D9400    | 6011B0115101 | EVERLIGHT | T3D_CP1Q2B12Y_2C     | White |
| D9401    | 6011B0101001 | EVERLIGHT | S2C_AL1M2VY_3C       | Amber |

USB 3.0 CONN

USB CHARGING TPS2546  
PN: 6019B1035901

|                                |      |               |     |
|--------------------------------|------|---------------|-----|
| INVENTEC                       |      |               |     |
| TITLE                          |      |               |     |
| MODEL PROJECT FUNCTION         |      |               |     |
| USB 3.0 CONN & M/B TO D/B CONN |      |               |     |
| SIZE                           | CODE | DOC NUMBER    | REV |
| A3                             | CS   | 1310xxxxx-0-0 | A01 |
| SHEET 48 of 70                 |      |               |     |

# AUB BOARD

INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

|            |            |                             |            |
|------------|------------|-----------------------------|------------|
| SIZE<br>A3 | CODE<br>CS | DOC NUMBER<br>1310xxxxx-0-0 | REV<br>A01 |
|------------|------------|-----------------------------|------------|

|                  |                     |
|------------------|---------------------|
| CHANGE by<br>XXX | DATE<br>21-OCT-2002 |
|------------------|---------------------|

SHEET 49 of 70

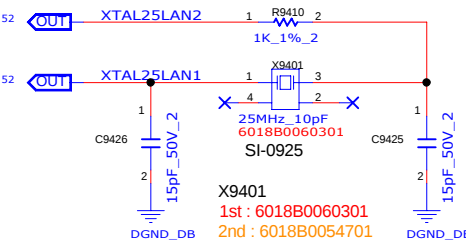
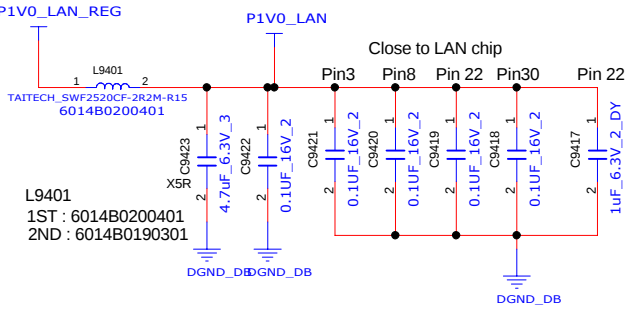
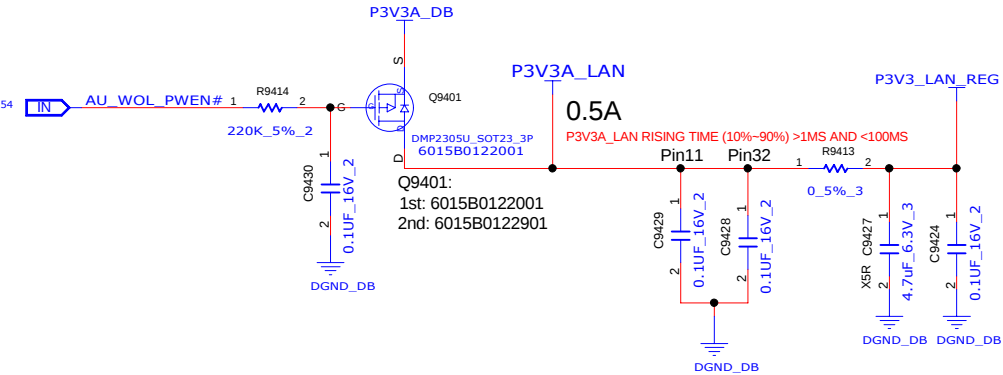
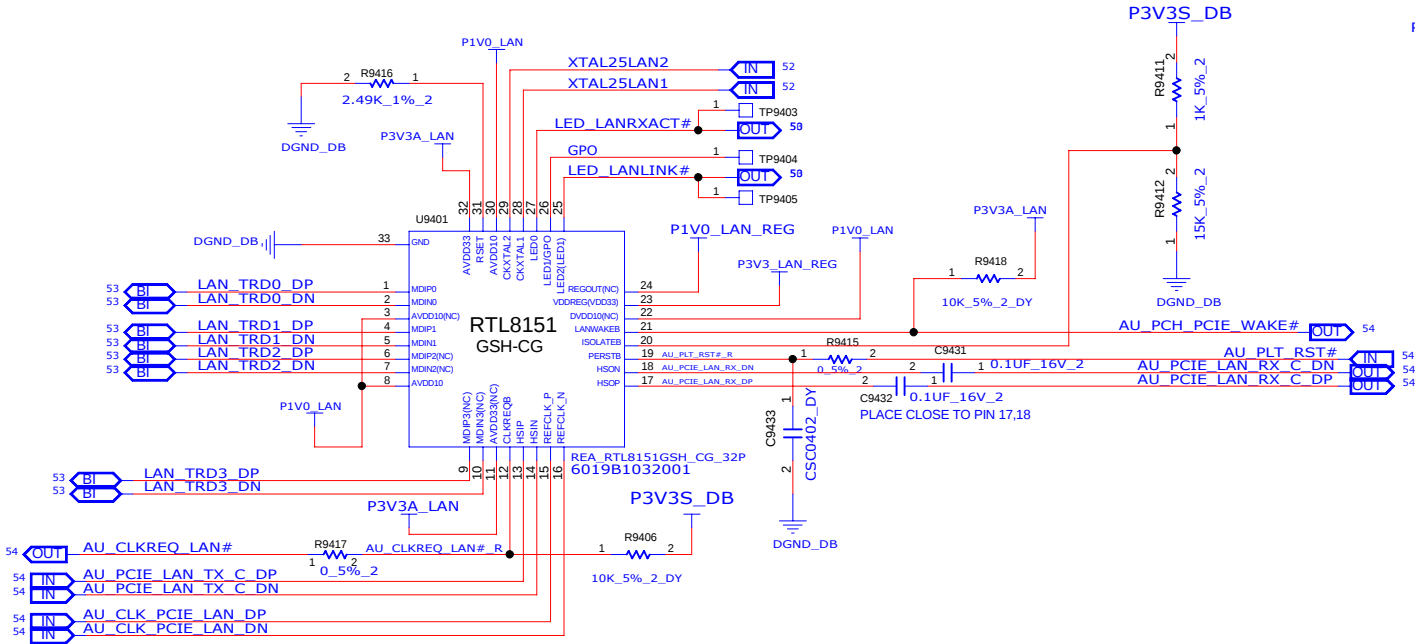




LAN ( Controller)

Location 9400 ~ 9499  
Ver.03\_20120807

6019B1032101\_RTL8161GSH-CG\_10/100/1000  
6019B1032001\_RTL8151GSH-CG\_10/100/1000



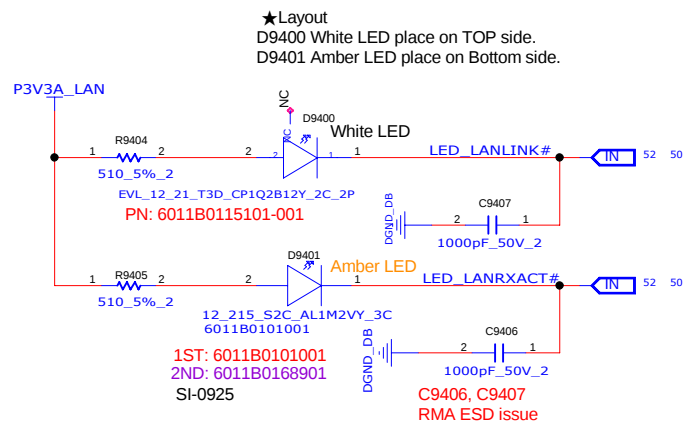
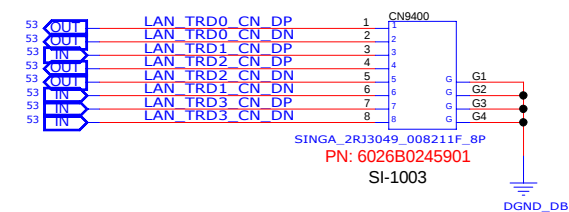
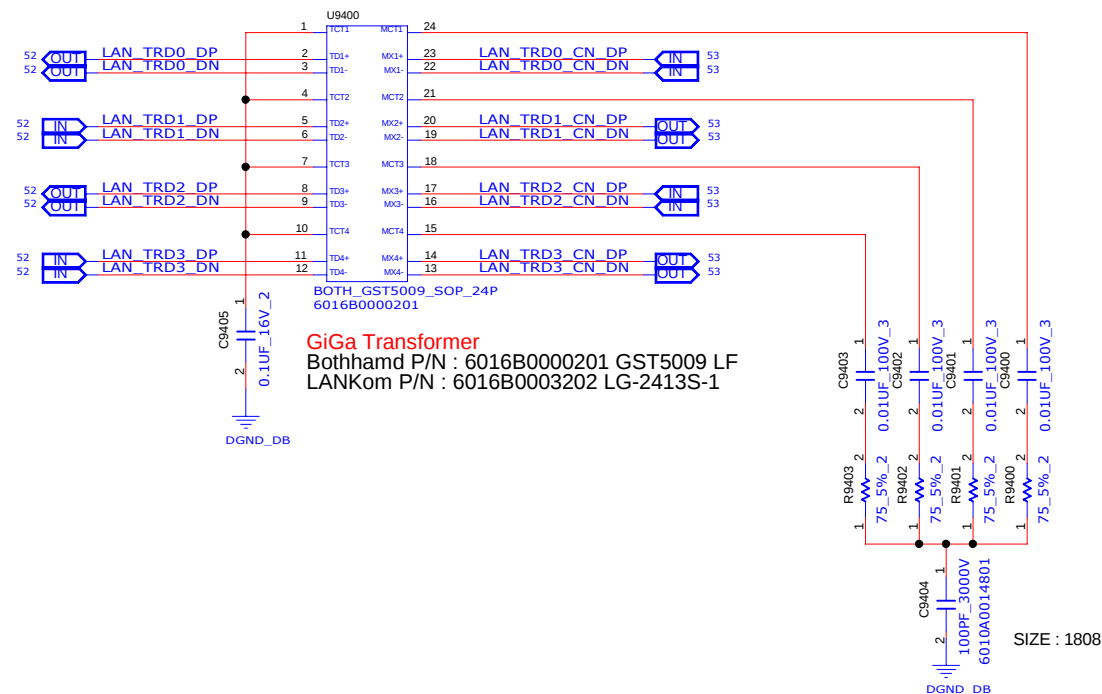
INVENTEC

| TITLE                  |      |               |     |
|------------------------|------|---------------|-----|
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

# LAN ( Transformer & RJ45 )

Location 9400 ~ 9499  
Ver.06\_20120813

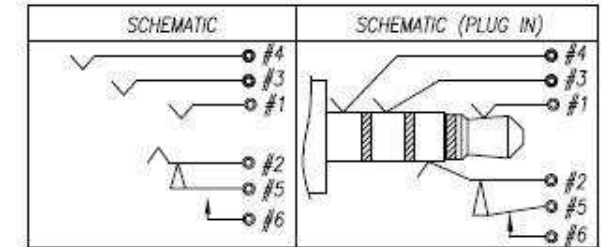
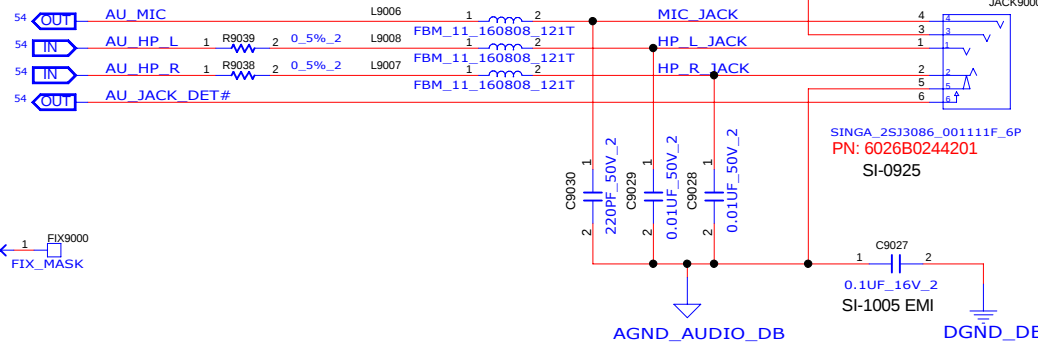
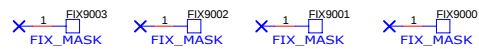
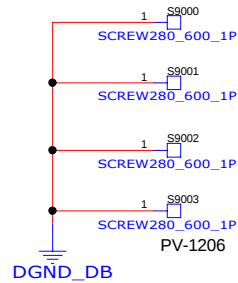
## RJ-45



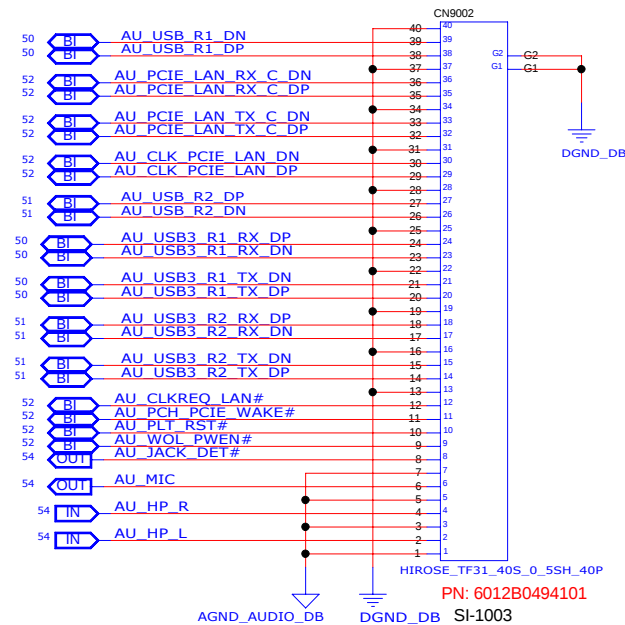
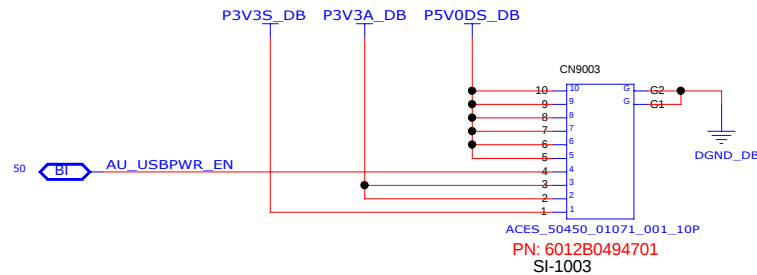
| INVENTEC               |      |               |     |
|------------------------|------|---------------|-----|
| TITLE                  |      |               |     |
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

# CONNECTOR

## COMBO JACK



## MB TO AUB CONNECTOR



INVENTEC

TITLE MODEL,PROJECT,FUNCTION

Block Diagram

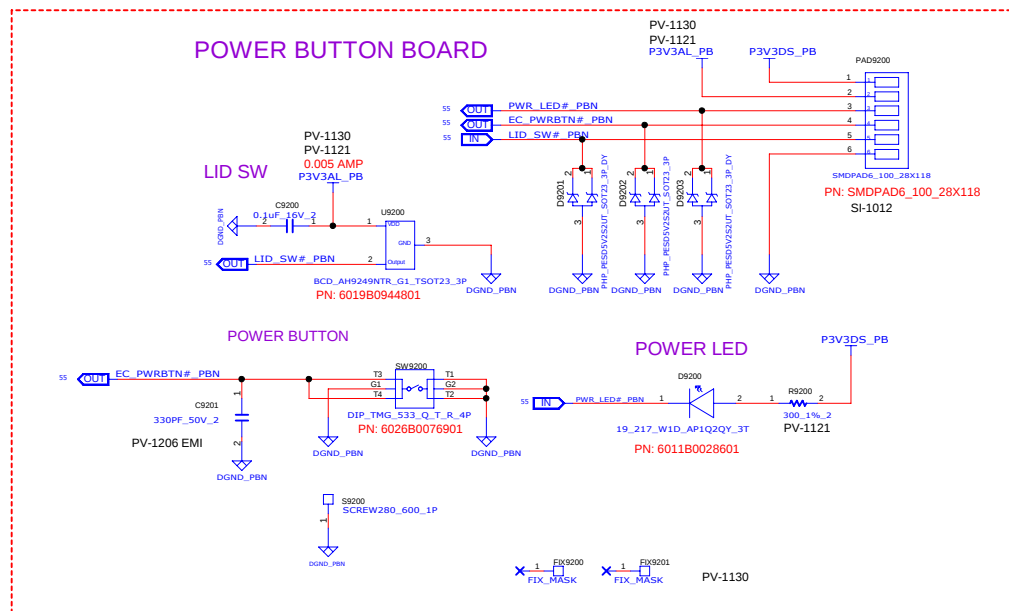
DOC NUMBER 1310xxxx-0-0

REV A01

CHANGE by XXX DATE 21-OCT-2002

SHEET 54 of 70

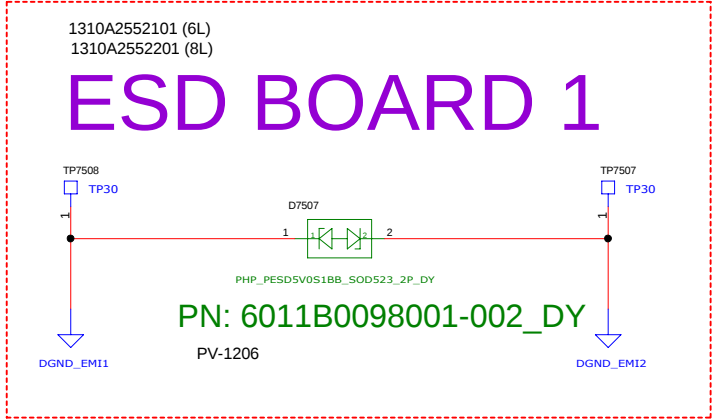
# POWER BUTTON BOARD



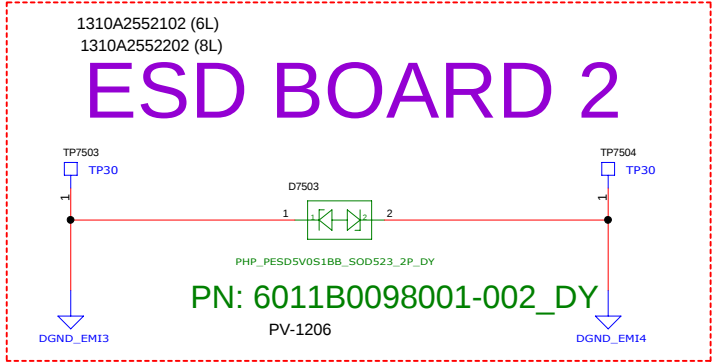
**INVENTEC**

| TITLE                                   |            |                             |            |
|-----------------------------------------|------------|-----------------------------|------------|
| MODEL,PROJECT,FUNCTION<br>Block Diagram |            |                             |            |
| SIZE<br>C                               | CODE<br>CS | DOC NUMBER<br>1310xxxxx-0-0 | REV<br>A01 |
| SHEET 55                                |            | of 79                       |            |

CHANGE BY: xxx DATE: 21-OCT-2002



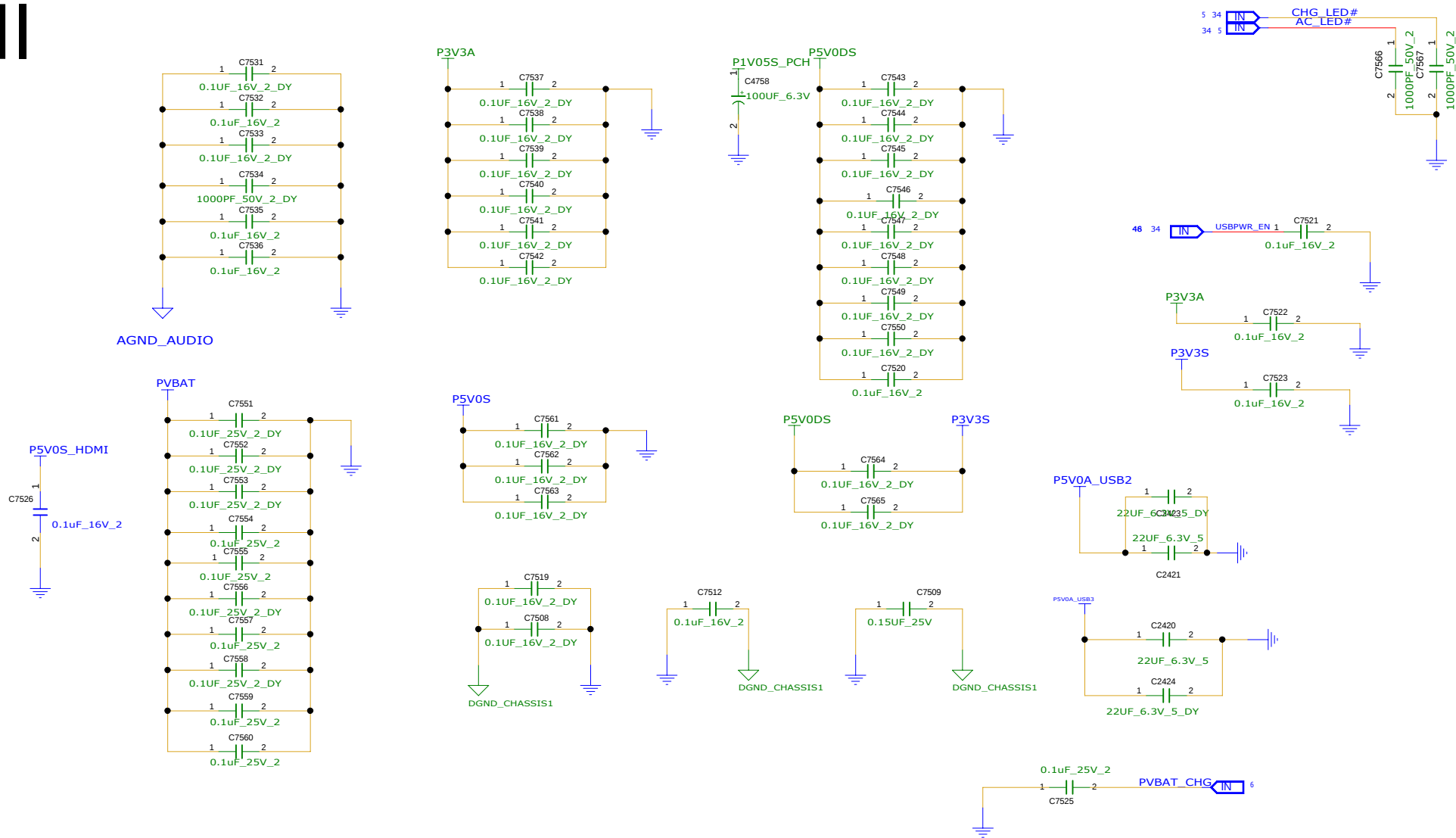
|                  |                              |              |
|------------------|------------------------------|--------------|
| USB BOARD (6L)   | 1310A2548501                 | 6050A2548501 |
| USB BOARD (8L)   | 1310A2548601                 | 6050A2548601 |
| POWER BOARD (6L) | 1310A2548701                 | 6050A2548701 |
| POWER BOARD (8L) | 1310A2548801                 | 6050A2548801 |
| EMI BOARD (6L)   | 1310A2552101<br>1310A2552102 | 6050A2552101 |
| EMI BOARD (8L)   | 1310A2552201<br>1310A2552202 | 6050A2552201 |



|             |     |                                   |     |                                |              |
|-------------|-----|-----------------------------------|-----|--------------------------------|--------------|
| CHIEF RIVER | DIS | NVIDIA N14P-GV2<br>(GEFORCE 630M) | 4G  | SAMSUNG<br>K4W4G1646B-HC11     | 1310A2548301 |
| CHIEF RIVER | DIS | NVIDIA N14P-GV2<br>(GEFORCE 630M) | 2G  | MICRON<br>MT41K256M16HA-107G:E | 1310A2548302 |
| CHIEF RIVER | UMA | N/A                               | N/A | N/A                            | 1310A2548201 |

| INVENTEC                                |            |                             |            |
|-----------------------------------------|------------|-----------------------------|------------|
| TITLE                                   |            |                             |            |
| MODEL,PROJECT,FUNCTION<br>Block Diagram |            |                             |            |
| SIZE<br>A3                              | CODE<br>CS | DOC.NUMBER<br>1310xxxxx-0-0 | REV<br>A01 |
| SHEET 56 of 70                          |            |                             |            |

# EMI



INVENTEC

TITLE MODEL, PROJECT, FUNCTION  
Block Diagram

SIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV A01

CHANGE by XXX DATE 21-OCT-2002

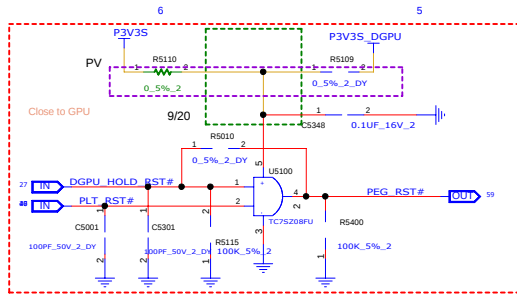
SHEET 57 of 70

GPU  
Location:GPU 5000~5499 VRAM 5500~5799 GPU SWITCH 7400~7499  
VER.11\_20120824

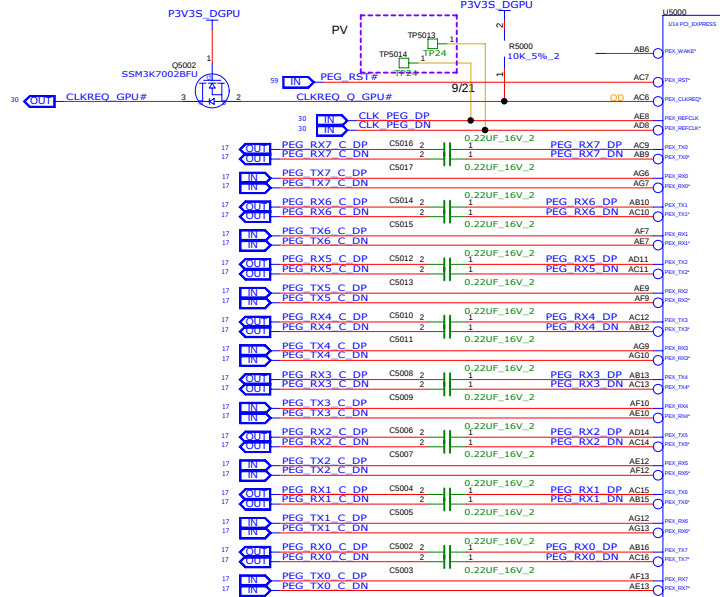
N14P-GV2 GB2-64 25W DUAL RANK DDR3

|                        |      |               |          |
|------------------------|------|---------------|----------|
| INVENTEC               |      |               |          |
| TITLE                  |      |               |          |
| MODEL,PROJECT,FUNCTION |      |               |          |
| Block Diagram          |      |               |          |
| SIZE                   | CODE | DOC NUMBER    | REV      |
| A3                     | CS   | 1310xxxxx-0-0 | A01      |
| CHANGE by              |      | DATE          | SHEET    |
| xxx                    |      | 21-OCT-2002   | 58 of 70 |

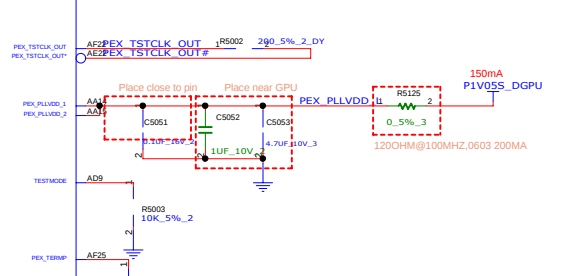
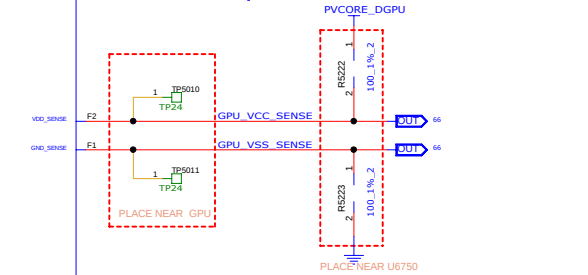
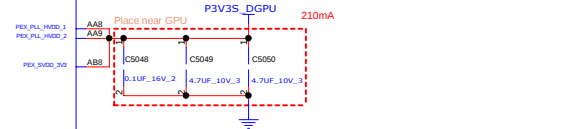
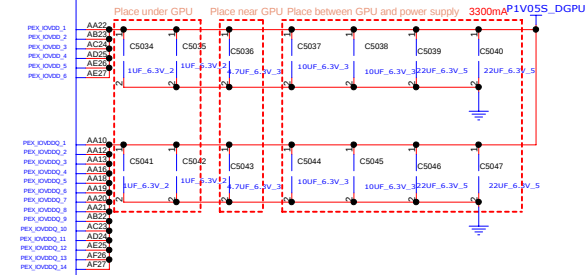
F



E



D



6019B1027001

C

B

A

F

E

D

C

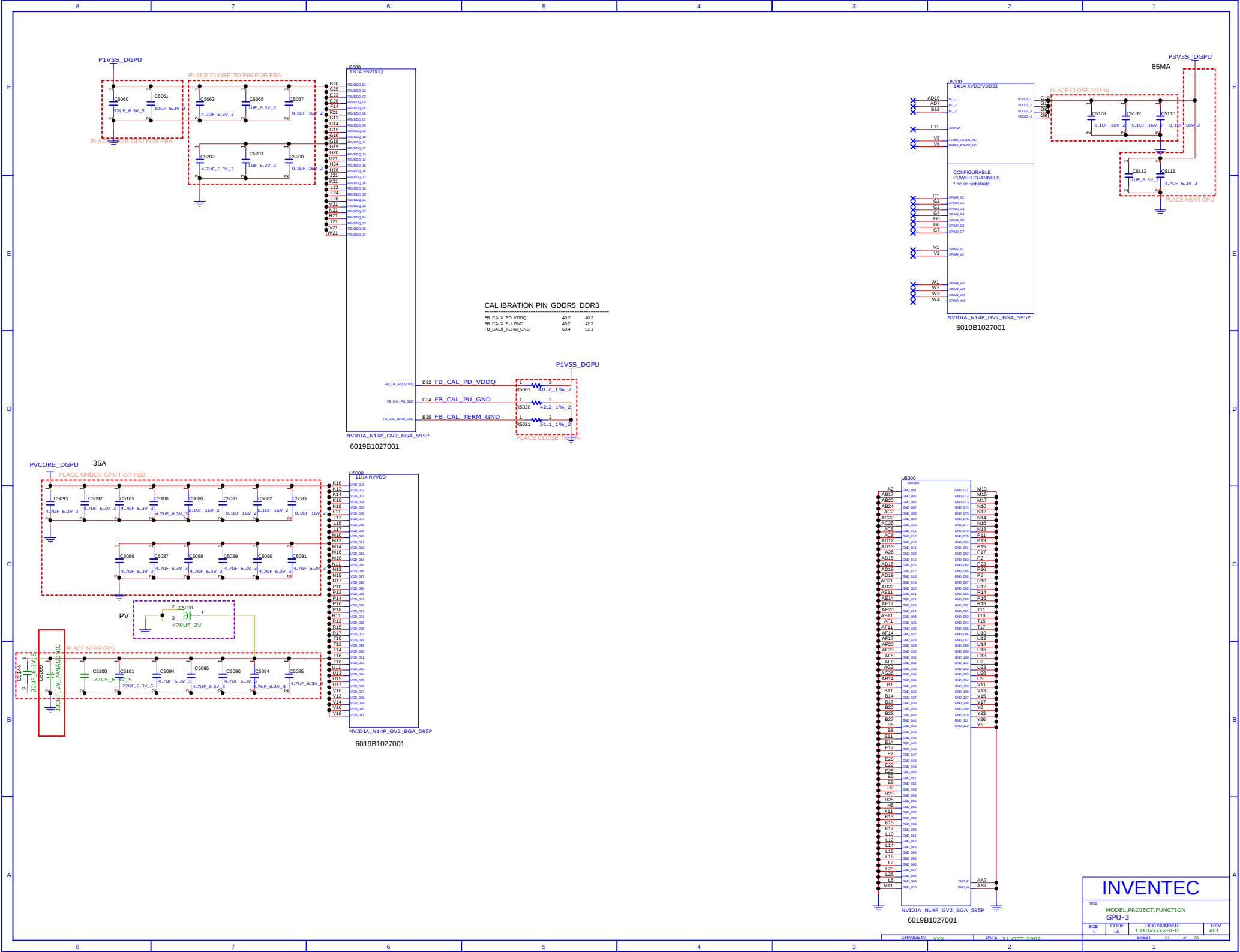
B

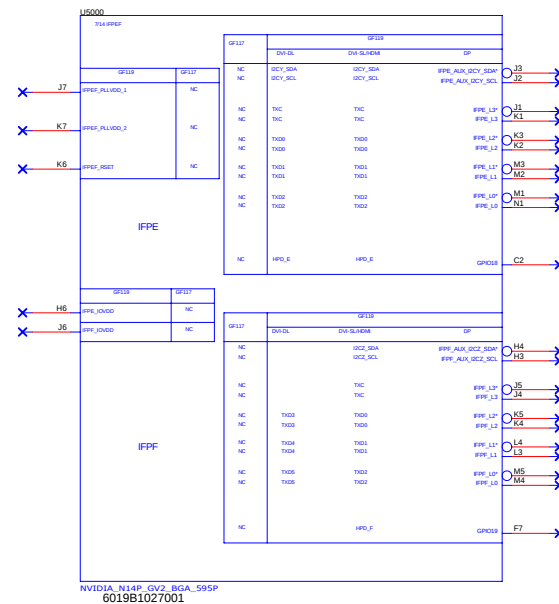
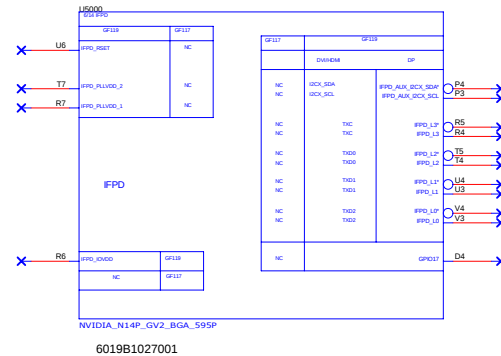
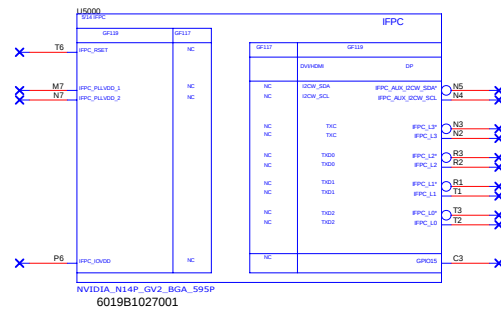
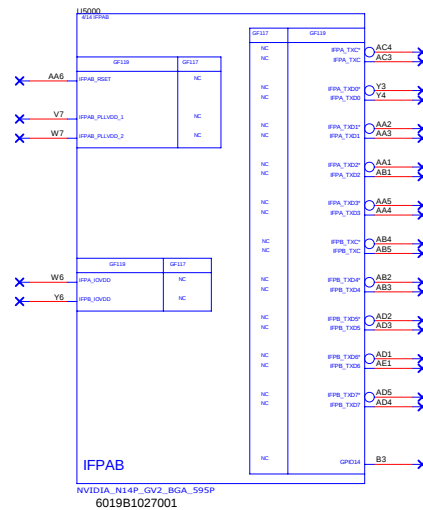
A

INVENTEC

|                        |      |                 |         |
|------------------------|------|-----------------|---------|
| TITLE                  |      |                 |         |
| MODEL,PROJECT,FUNCTION |      |                 |         |
| GPU-1                  |      |                 |         |
| SIZE                   | CODE | DOC NUMBER      | REV     |
| C                      | CS   | 13101300000-0-0 | A01     |
| SHEET                  |      | 59              | # of 70 |







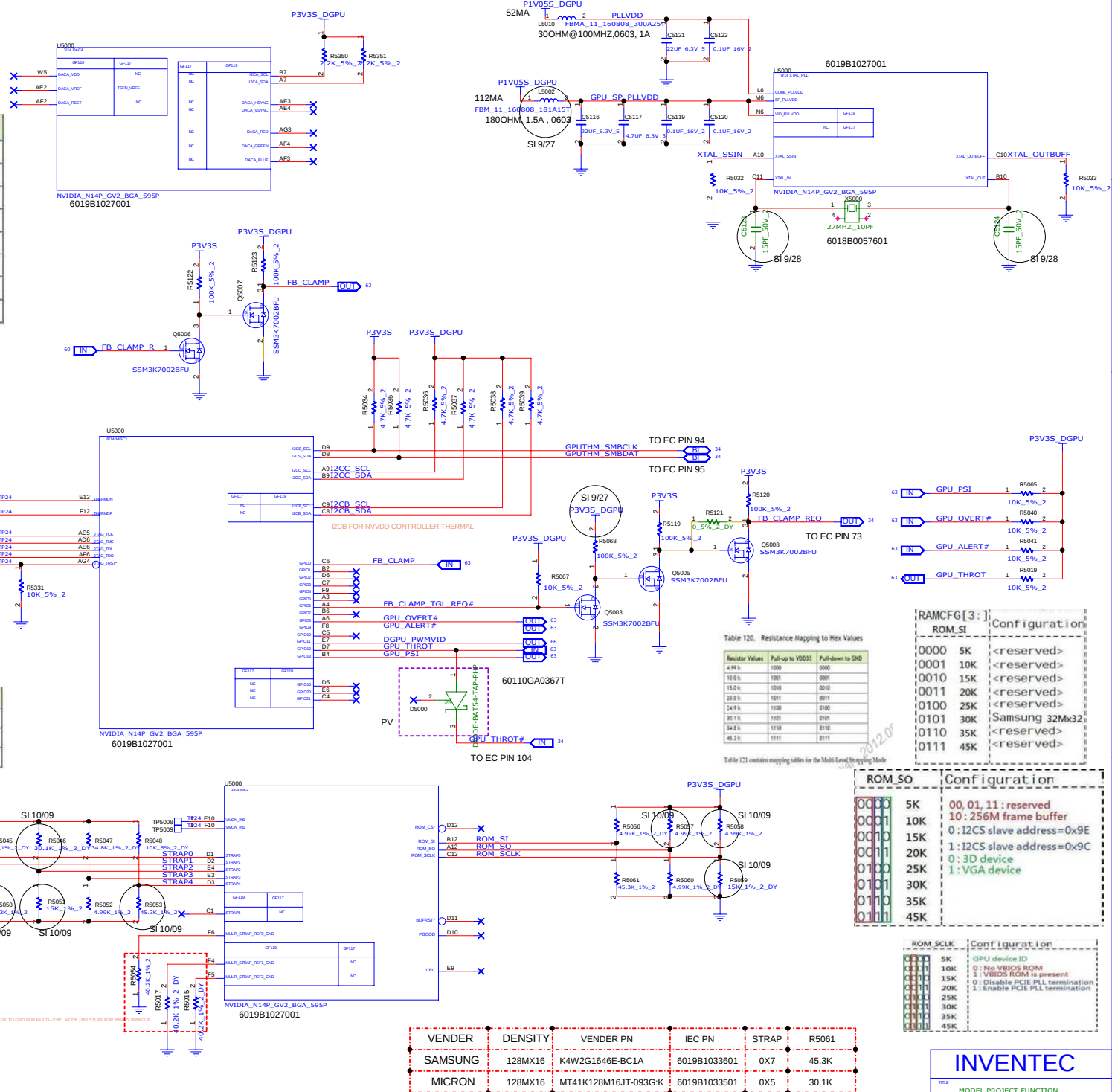
| Resistor Values | Pull-up to VDD33 | Pull-down to GND |
|-----------------|------------------|------------------|
| 4.99 k          | 1000             | 0000             |
| 10.0 k          | 1001             | 0001             |
| 15.0 k          | 1010             | 0010             |
| 20.0 k          | 1011             | 0011             |
| 24.9 k          | 1100             | 0100             |
| 30.1 k          | 1101             | 0101             |
| 34.8 k          | 1110             | 0110             |
| 45.3 k          | 1111             | 0111             |

| Strap Pin Name | Logical Strapping Bit 2 | Logical Strapping Bit 1  | Logical Strapping Bit 0 |
|----------------|-------------------------|--------------------------|-------------------------|
| ROM_SCLK       | PCI_DEVID[4]            | SUB_VENDOR               | PCI_DEVID[5]            |
| ROM_SI         | RAM_CFG[3]              | RAM_CFG[2]               | RAM_CFG[1]              |
| ROM_SO         | FB[1]                   | FB[0]                    | SMB_ALT_ADDR            |
| STRAP0         | USER[3]                 | USER[2]                  | USER[1]                 |
| STRAP1         | 3GIO_PADCFG[3]          | 3GIO_PADCFG[2]           | 3GIO_PADCFG[1]          |
| STRAP2         | PCI_DEVID[3]            | PCI_DEVID[2]             | PCI_DEVID[1]            |
| STRAP3         | SOR3_EXPOSED            | SOR2_EXPOSED             | SOR1_EXPOSED            |
| STRAP4         | RESERVED                | PCIE_SPEED_CHAIN_GE_GEN3 | PCIE_MAX_SPEED          |

| STRAP1         | Description                |
|----------------|----------------------------|
| 0110           | Gen 1 / Gen 2 support only |
| 0000           | Gen 3 support              |
| Other settings | RESERVED                   |

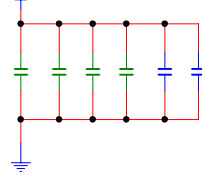
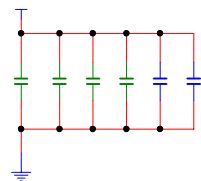
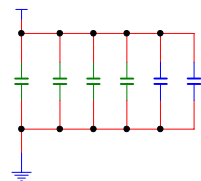
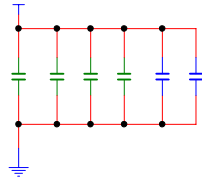
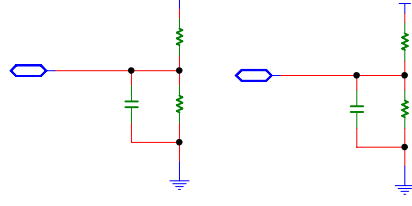
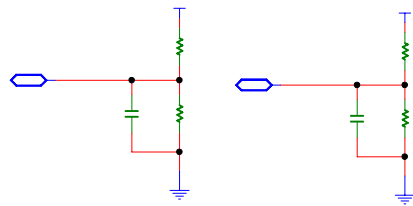
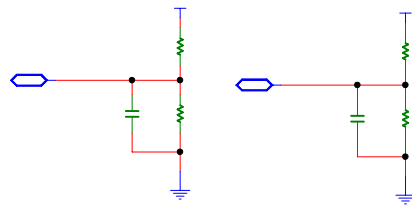
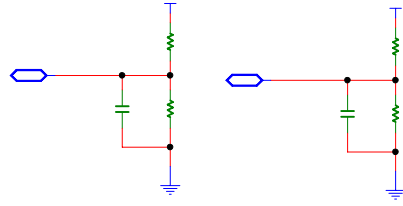
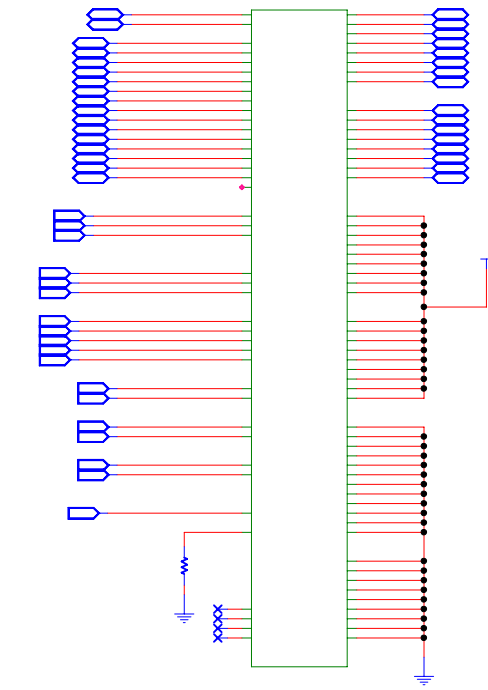
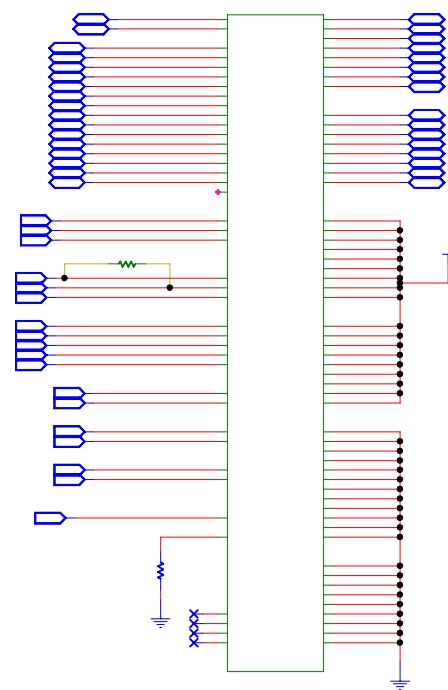
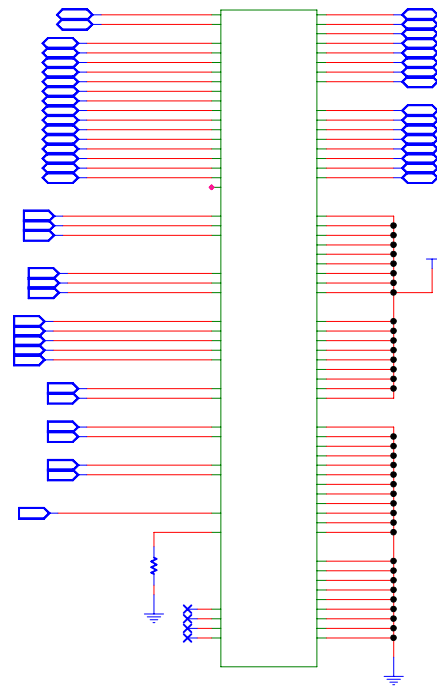
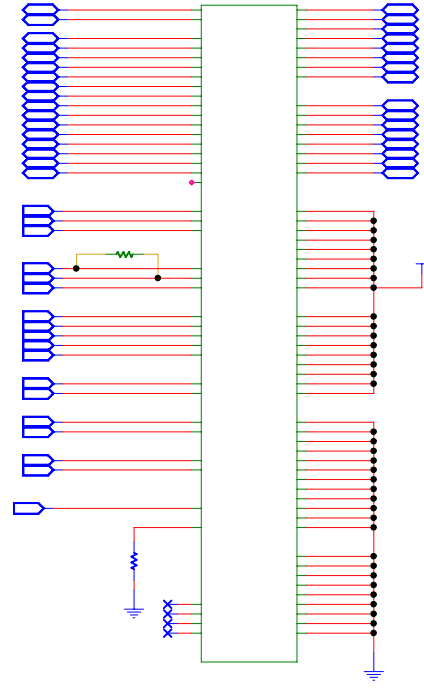
| STRAP3        | HWID[0] | DV1        | LVDS       | eDP        | Not in Use |
|---------------|---------|------------|------------|------------|------------|
| Standard Mode | PPA/B   | SOR1_EXP=1 |            | SOR2_EXP=0 | SOR3_EXP=0 |
|               | PPC     | SOR2_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |
|               | PPD     | SOR3_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |
| Split Mode    | PPA/B   | SOR1_EXP=1 |            | SOR2_EXP=0 | SOR3_EXP=0 |
|               | PPC     | SOR2_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |
|               | PPD     | SOR3_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |
| Combined Mode | PPA/B   | SOR1_EXP=1 | SOR2_EXP=1 | SOR2_EXP=0 | SOR3_EXP=0 |
|               | PPC     | SOR2_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |
|               | PPD     | SOR3_EXP=1 |            | SOR2_EXP=0 | SOR1_EXP=0 |

| STRAP4 | Configuration                            |
|--------|------------------------------------------|
| 0000   | 5K reserved                              |
| 0001   | 10K reserve for PCIE GEN3 speed function |
| 0010   | 15K 0: default                           |
| 0011   | 20K 0: limit to PCIE Gen1                |
| 0100   | 25K 1: PCIE Gen2/3 capable               |
| 0101   | 30K reserve for future use               |
| 0110   | 35K 0: default                           |
| 0111   | 45K                                      |



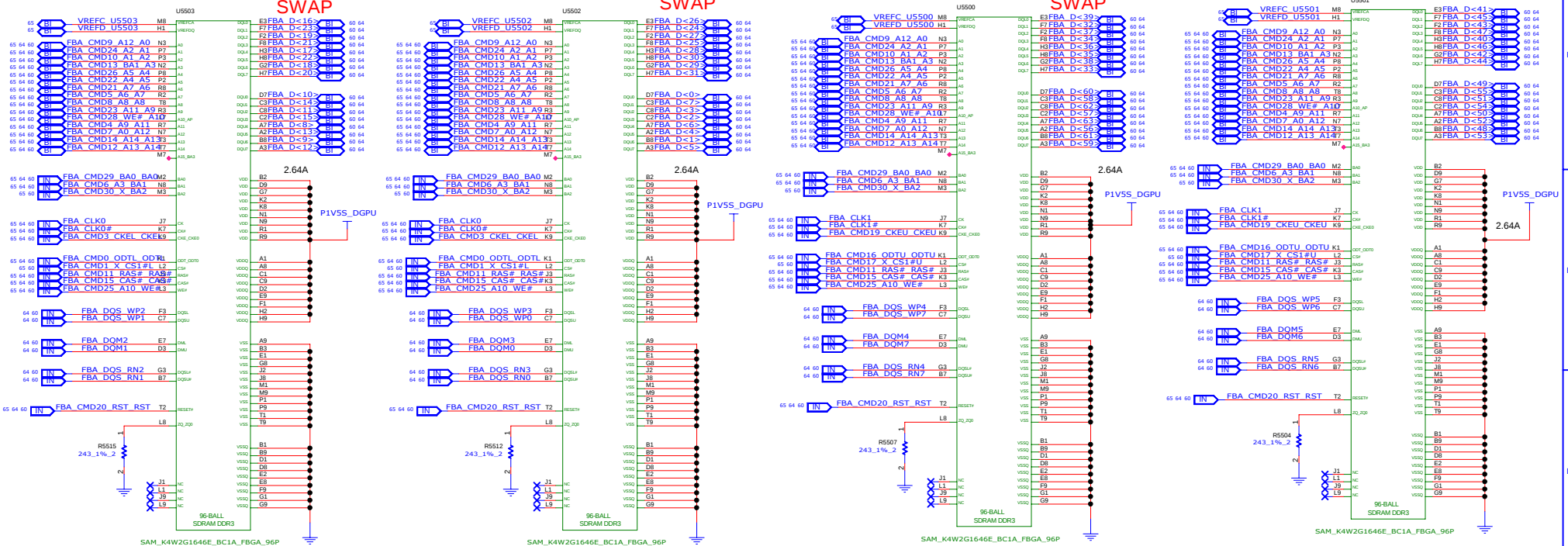
INVENTEC

|              |                        |
|--------------|------------------------|
| TITLE        | MODEL,PROJECT,FUNCTION |
| GPU-5        |                        |
| SIZE         | CODE                   |
| 1310XXXX-0-0 | REV                    |
| SHEET        | A01                    |



|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# RANK1



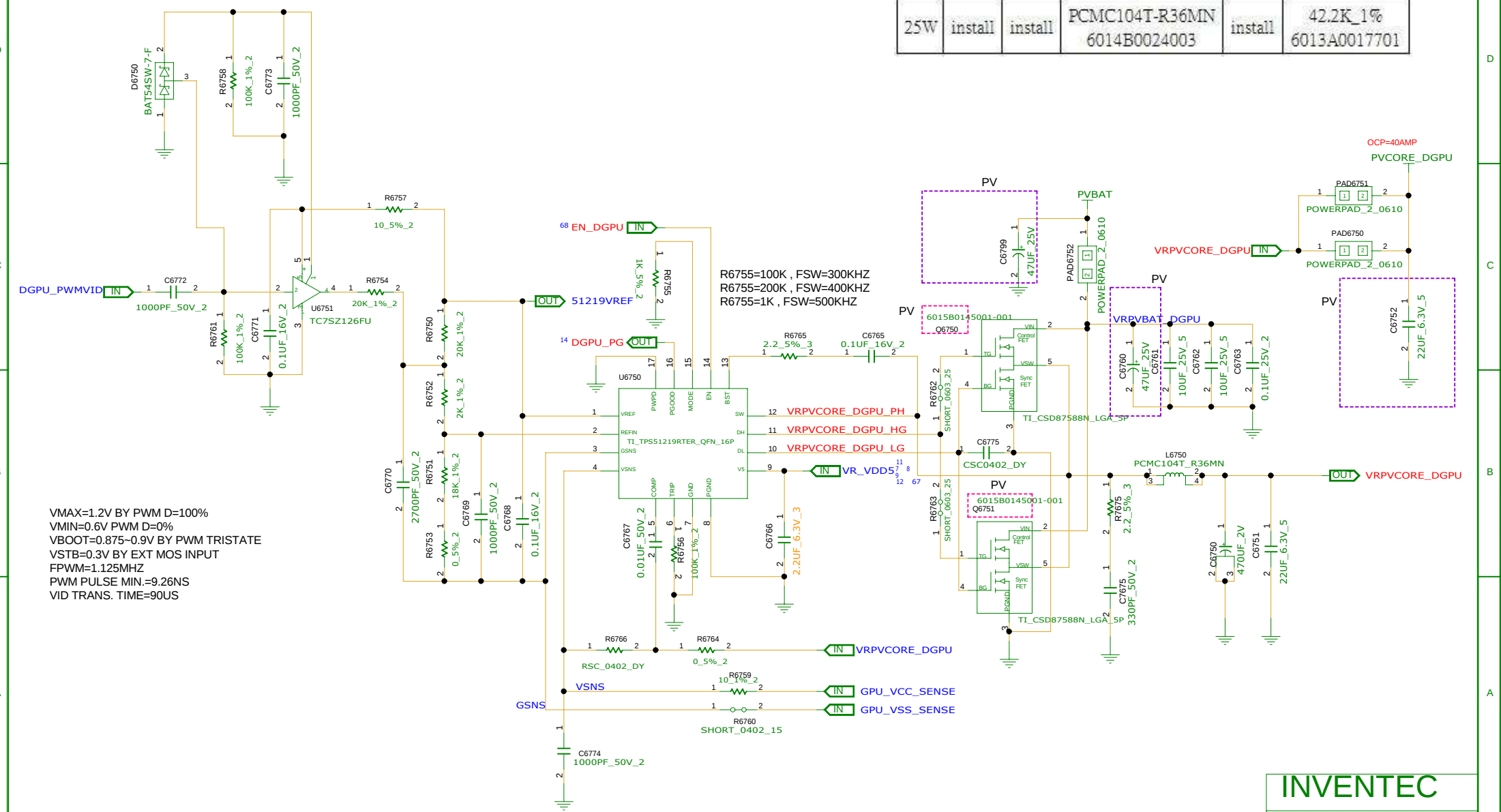
## CHANNEL A MEMORY

| VENDER  | DENSITY | VENDER PN            | IEC PN       | STRAP |
|---------|---------|----------------------|--------------|-------|
| SAMSUNG | 128MX16 | K4W2G1646E-BC1A      | 6019B1033601 | 0X7   |
| MICRON  | 128MX16 | MT41K128M16JT-093G-K | 6019B1033501 | 0X5   |

INVENTEC

|               |                        |               |
|---------------|------------------------|---------------|
| TITLE         | MODEL,PROJECT,FUNCTION | REV           |
| SIZE          | CODE                   | DOC NUMBER    |
| 13110XXXX-0-0 | 13110XXXX-0-0          | 13110XXXX-0-0 |
| SHEET         | 65                     | 65            |

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

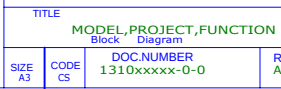


VMAX=1.2V BY PWM D=100%  
VMIN=0.6V PWM D=0%  
VBOOT=0.875-0.9V BY PWM TRISTATE  
VSTB=0.3V BY EXT MOS INPUT  
FPWM=1.125MHZ  
PWM PULSE MIN.=9.26NS  
VID TRANS. TIME=90US

R6755=100K , FSW=300KHZ  
R6755=200K , FSW=400KHZ  
R6755=1K , FSW=500KHZ

|                        |      |               |     |
|------------------------|------|---------------|-----|
| INVENTEC               |      |               |     |
| TITLE                  |      |               |     |
| MODEL,PROJECT,FUNCTION |      |               |     |
| Block Diagram          |      |               |     |
| SIZE                   | CODE | DOC NUMBER    | REV |
| A3                     | CS   | 1310xxxxx-0-0 | A01 |

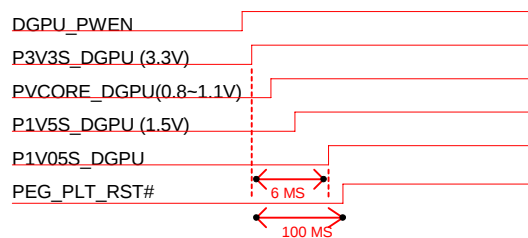




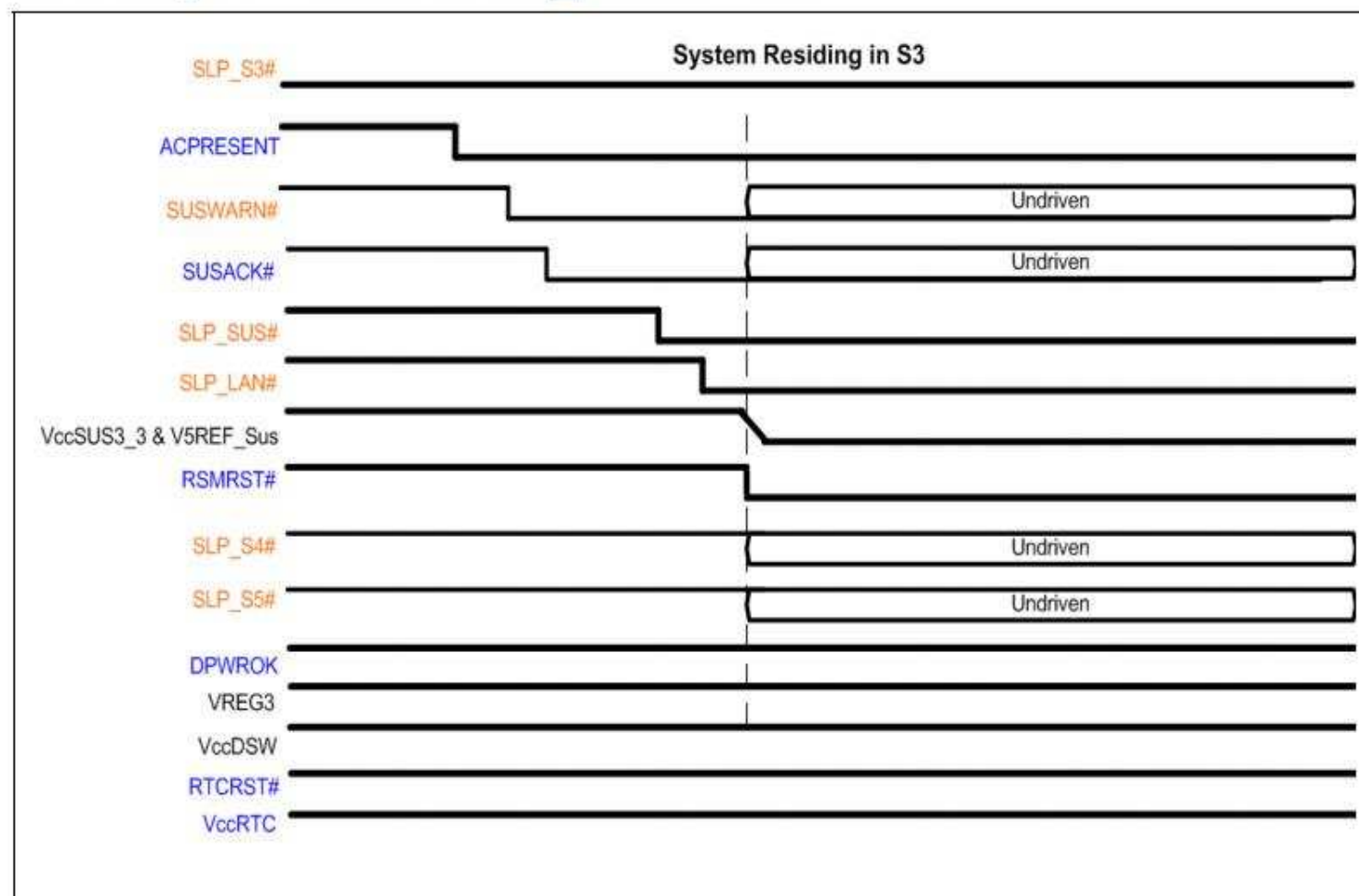
# POWE UP



## NV N14P GB2-64 power up sequence



## S3 to Deep S3 Transition on AC\_PRESENT Low



INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

SIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV A01

CHANGE by XXX DATE 21-OCT-2002

SHEET 70 of 70