

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF INVENTEC CORPORATION AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION, INVENTEC CORPORATION. @2018 ALL RIGHT RESERVED.

NOTES:
1.HSF Property:Comply iSupplier system HSF property attribute up-to-date value.



210012002		
DATE	CHANGE NO.	REV

DESIGN/ DRAWER	XXX	DATE	21-OCT-2020
CHECK			
APPROVAL			
FILE NAME			
PCB P/N	0000000000	PCB VER	XXX

INVENTEC			
TITLE MODEL PROJECT FUNCTION			
MAIN BOARD			
SIZE	CODE	DOC NUMBER	REV
A3	GS	13100000-00	001
SHEET 1		of 10	

TABLE OF CONTENTS

01.PROJECT NAME
02.TABLE OF THE CONTENT
03.BLOCK DIAGRAM
04.TABLE OF SMBUS,I2C
05.POWER BLOCK DIAGRAM
06.GPU POWER BLOCK DIAGRAM
07.DC IN
08.CHARGER(BQ24780S)
09.SCP/BATT
10.SYSTEM POWER(P5V0DS)
11.SYSTEM POWER(P3V3DS)
12.SYSTEM POWER(VDDQ)
13.SYSTEM POWER(P1V8DS)
14.SYSTEM POWER(P2V5)
15.SYSTEM POWER(P1V05A)
16.SYSTEM POWER(PVCCIO)
17.VCORE>SA CONTROLLER_NCP81215
18.PVCORE
19.PVCCGT
20.PVCCSA
21.POWER LOAD SW
22.ENABLE PIN
23.FAN
24.PCB SCREW
25.COMET LAKE_H_1 (PEG, HDMI)
26.COMET LAKE_H_2 (DDI, EDP)
27.COMET LAKE_H_3 (DDR-1)
28.COMET LAKE_H_4 (DDR-2)
29.COMET LAKE_H_5 (CFG)
30.COMET LAKE_H_6 (POWER-1)
31.COMET LAKE_H_7 (POWER-2)
32.COMET LAKE_H_8 (DECOUPLING)
33.COMET LAKE_H_9 (GT DECOUPLING)
34.COMET LAKE_H_10 (GND)
35.COMET LAKE_PCH_H (SPI, GPP)
36.COMET LAKE_PCH_H (DMI, USB2,PCIE)
37.COMET LAKE_PCH_H (CLINK, FAN, PCIE/SATA,HOST)
38.COMET LAKE_PCH_H (AUDIO, SMBUS, JTAG)
39.COMET LAKE_PCH_H (LPC/ESPI, USB3, SATA)
40.COMET LAKE_PCH_H (CORE, VCCGPIO, MPHY)

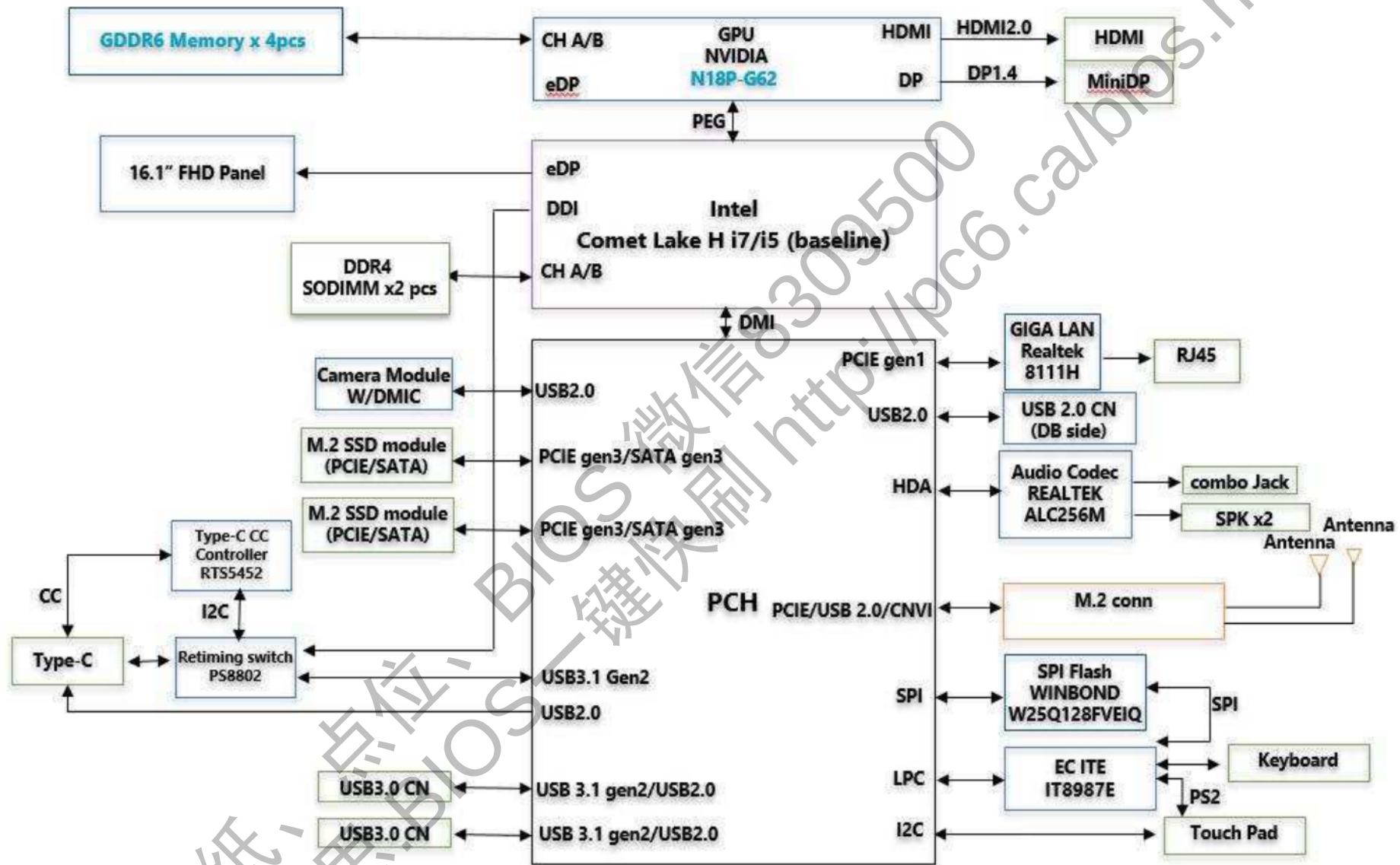
41.COMET LAKE_PCH_H (RTC)
42.COMET LAKE_PCH_H (GND)
43.COMET LAKE_PCH_H (GPP)
44.COMET LAKE_PCH_H (GPP, CLKOUT)
45.COMET LAKE_PCH_H (GPP)
46.SYSTEM MEMORY(DIMM0)
47.SYSTEM MEMORY(DIMM1)
48.THERMAL
49.ROM
50.EC1 ITE8987E
51.KB_CNTR
52.TP_CNTR
53.RESERVED
54.AUDIO CODEC ALC256M
55.AUDIO SPEAKER
56.M.2 FOR WLAN/BT
57.M.2 FOR SSD1
58.M.2 FOR SSD2
59.TYPE-C / USB3.0 SWITCH(PS8802)
60.TYPE-C CC CONTROLLER(RTS5452)
61.TYPE-C_CNTR
62.USB3.0_CNTR1
63.USB3.0_CNTR2
64.LAN CONTROLLER(8111H)
65.RJ45 TRANSFORMER
66.EDP_CNTR
67.USB AUDIO CN
68.SEQUENCING
69.SEQUENCING
70.RF_EMI
71.RESERVED
72.SMALL BOARD
73.USB AUDIO DB CN
74.USB2.0_CNTR/JACK
75.HALL SENOR BOARD
76.RESERVED FOR TEST
77.GPU HDMI_CNTR
78.GPU DP_CNTR

GPU(N18P-G62) PAGE 79-101

79.COVER
80.GPU INDEX
81.GPU PCI-E GEN3 X 16
82.GPU FRAME BUFFER A
83.GPU MEMORY FBA PARTITION 31-0
84.GPU MEMORY FBA PARTITION 63-32
85.GPU FRAME BUFFER B
86.GPU MEMORY FBB PARTITION 31-0
87.GPU MEMORY FBB PARTITION 63-32
88.GPU HDMI/DP
89.GPU LVDS
90.GPU BIOS/EXTERNAL STRAPS
91.GPU GPIOs
92.GPU POWER/GND
93.OVR-M
94.POWER SEQUENCE MAP
95.POWER SEQUENCE
96.POWER LOAD & DISCHARGER
97.GPU_NVVDD (MP2884A)
98.PVCORE_DGPU (MP86941_1-2P)
99.P1V2S_DGPU (RT8237)
100.P1V0S_DGPU (RT8068A)
101.P1V8S_DGPU (RT8068A)

INVENTECTITLE
MODEL/PROJECT/FUNCTION
TABLE OF THE CONTENTCHANGE by: XXX
PCB PIN: 60xxxxxxxxx
DATE: 21-OCT-2002
PCB VER: XXXSIZE: A3
CODE: CS
DOC NUMBER: 1310xxxx-0-0
REV: X01
SHEET: 2 of 101

Block Diagram (N18P-G62)

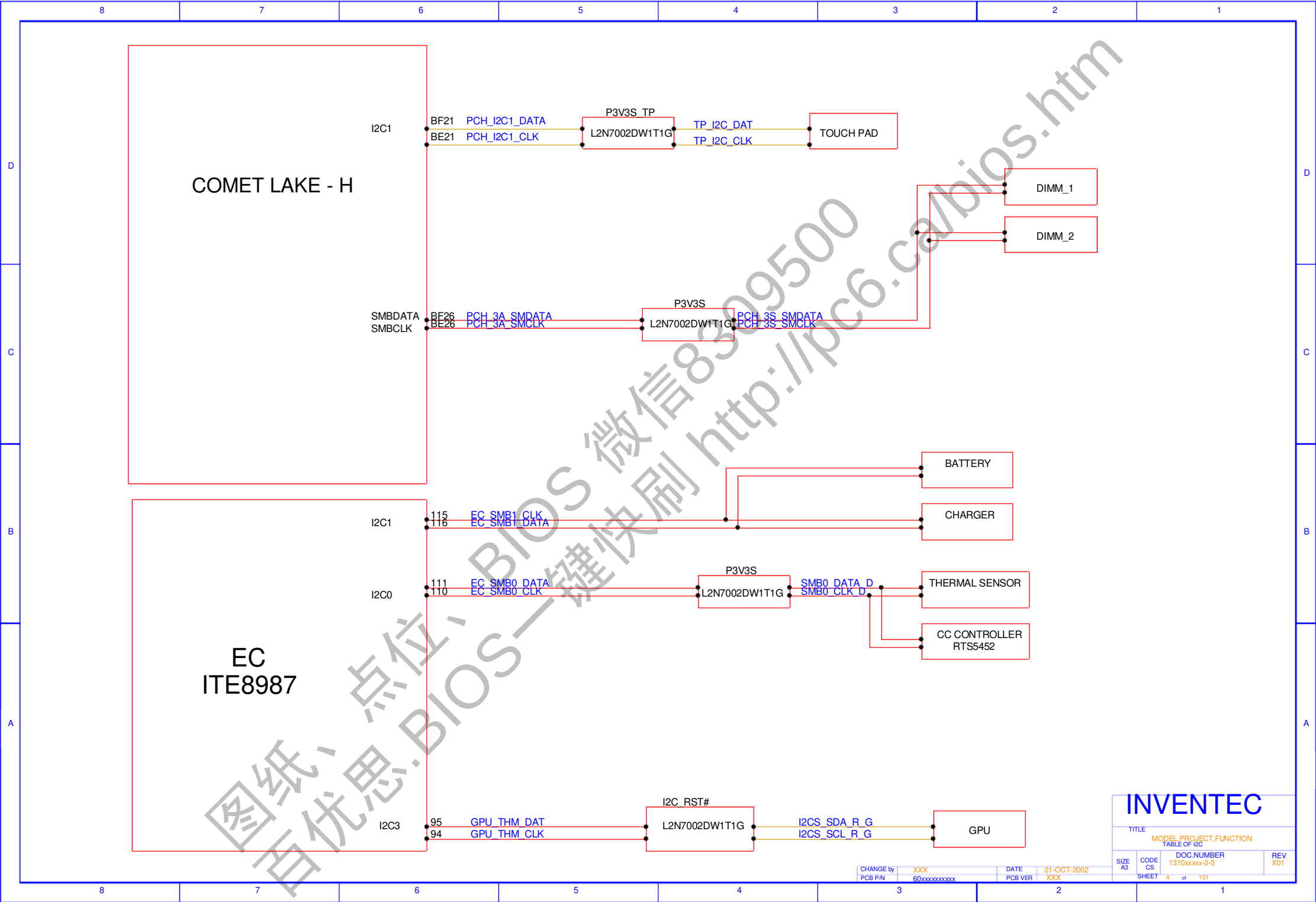
**INVENTEC**TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE CODE DOC NUMBER REV

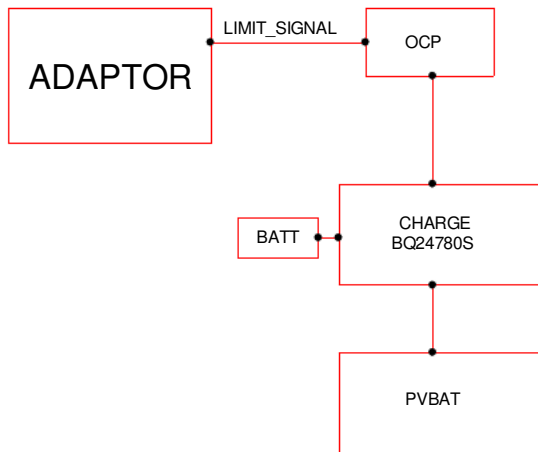
A3 CS 1310xxxx-0-0 X01

SHEET 3 of 101

CHANGE by XXX
PCB P/N 60xxxxxxx
DATE 21-OCT-2002
PCB VER XXX

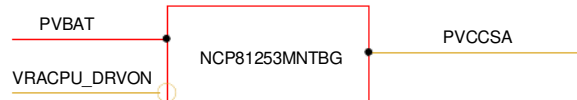
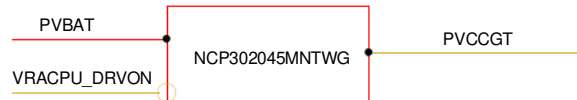
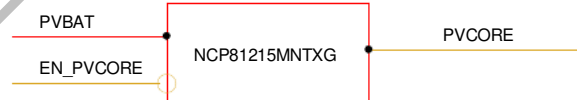
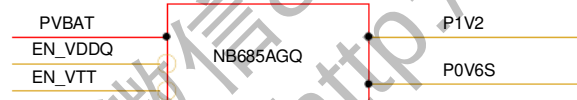
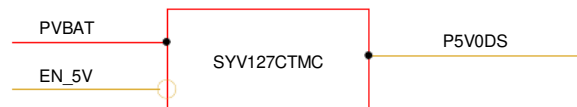


POWER BLOCK



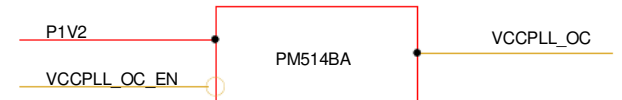
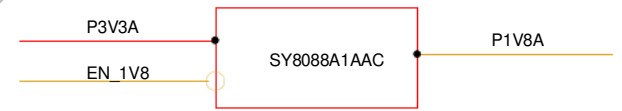
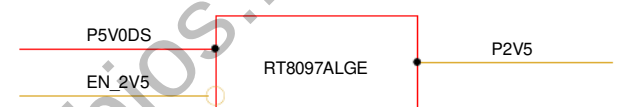
IN/EN

OUT



IN/EN

OUT



INVENTEC

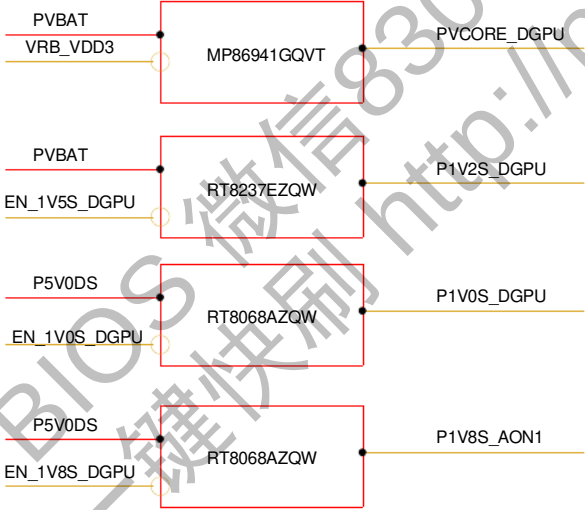
TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 5	of 101		

CHANGE by PCB P/N	XXX 60xxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	-------------------	-----------------	--------------------

GPU POWER BLOCK

IN/EN OUT

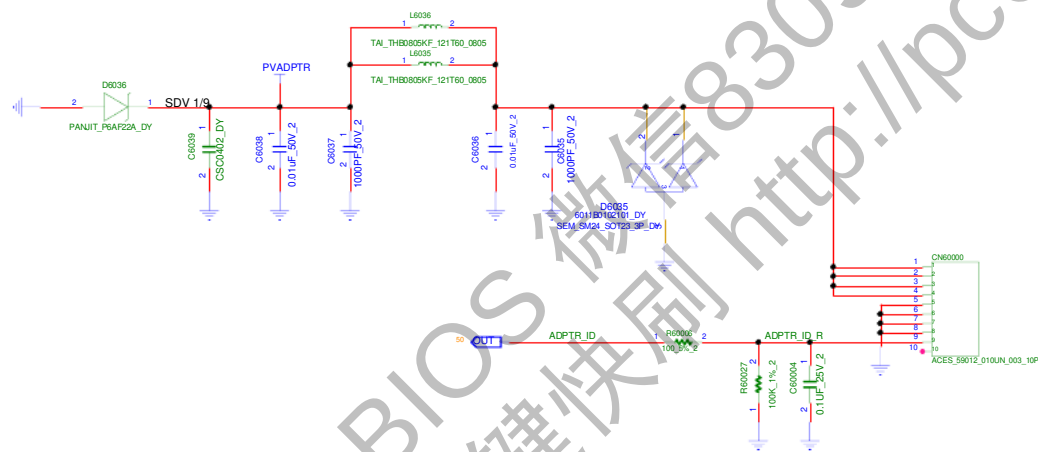


INVENTEC

TITLE
MODEL PROJECT FUNCTION
TABLE OF I2C

SIZE CODE DOC NUMBER REV
A3 CS 1310xxxxx-0-0 X01
SHEET 6 of 101

CHANGE by XXX DATE 21-OCT-2002
PCB P/N 60xxxxxxxxx PCB VER XXX

**INVENTEC**

TITLE			
MODEL_PROJECT.FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	131000000-000	001
SHEET		7 of 10	

CHANGED BY	XXX	DATE	21-OCT-2002
PCB P/N	800000000000	PCB VER	XXX

图纸、点位、百优思.BIOS

INVENTEC

MODEL PROJECT FUNCTION
Block Diagram

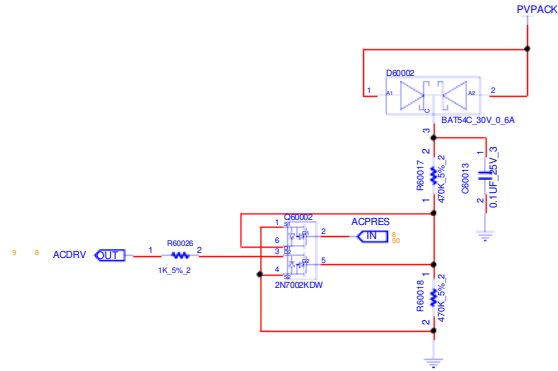
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-00	X01

SHEET	6	of	101
-------	---	----	-----

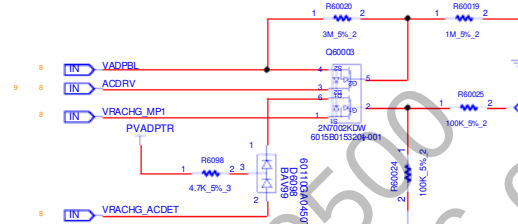
CHANGE BY	XXX	DATE	21-OCT-2002
PCB P/N	800000000000	PCB VER	XXX

FOR CHARGER

SCP

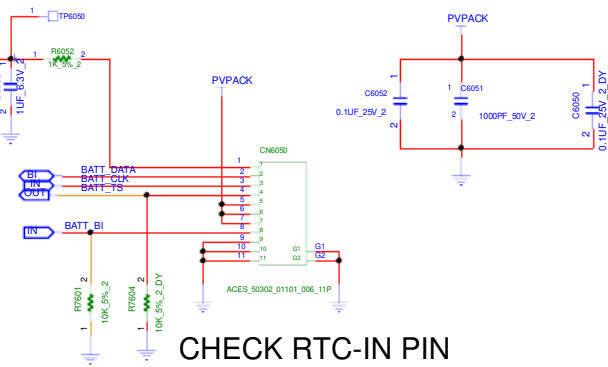
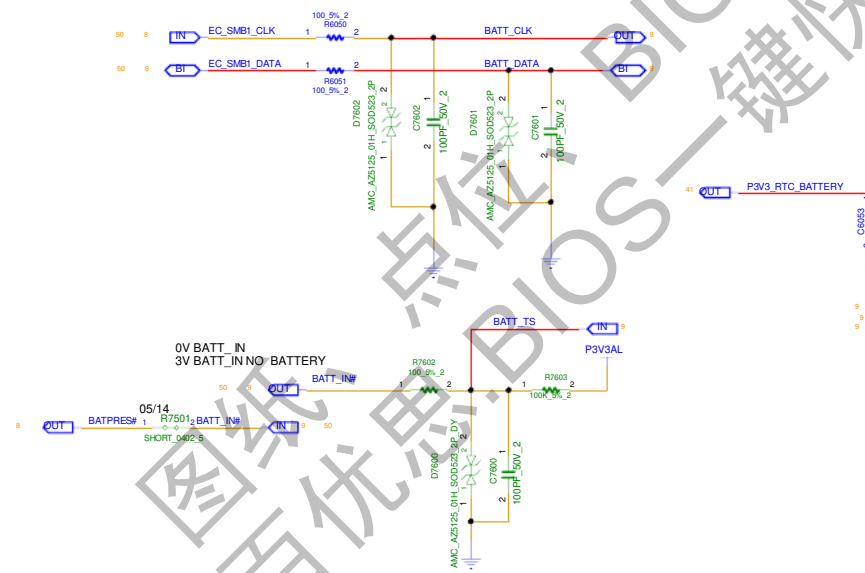


ARP



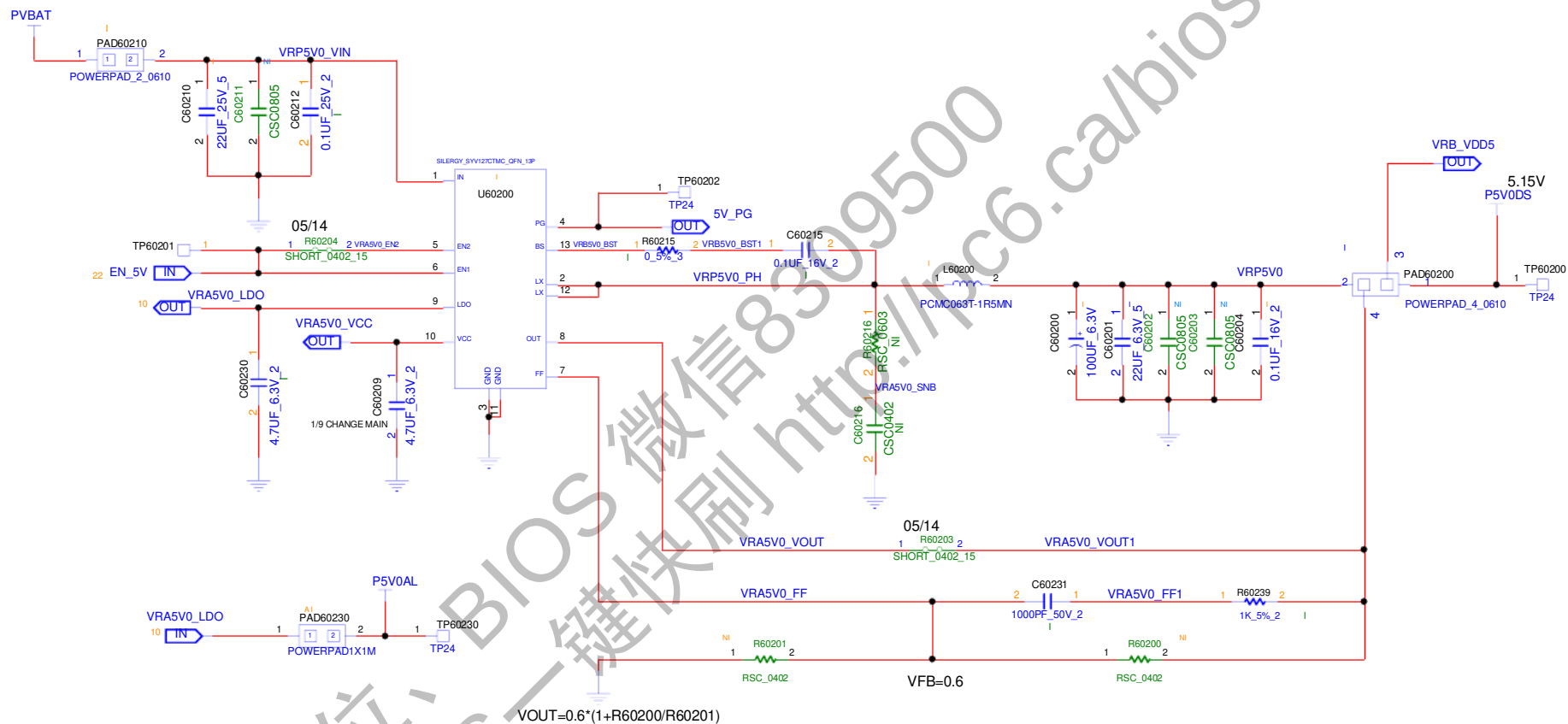
BATT

Terminal	Name
1,2,3	GND
4	B/I
5,6,7	P+
8	BAT_PR#
9	SMB CLK
10	SMB DATA
11	RTC



CHECK RTC-IN PIN

INVENTEC


$$V_{OUT} = 0.6 \cdot (1 + R_{60200}/R_{60201})$$

INVENTEC

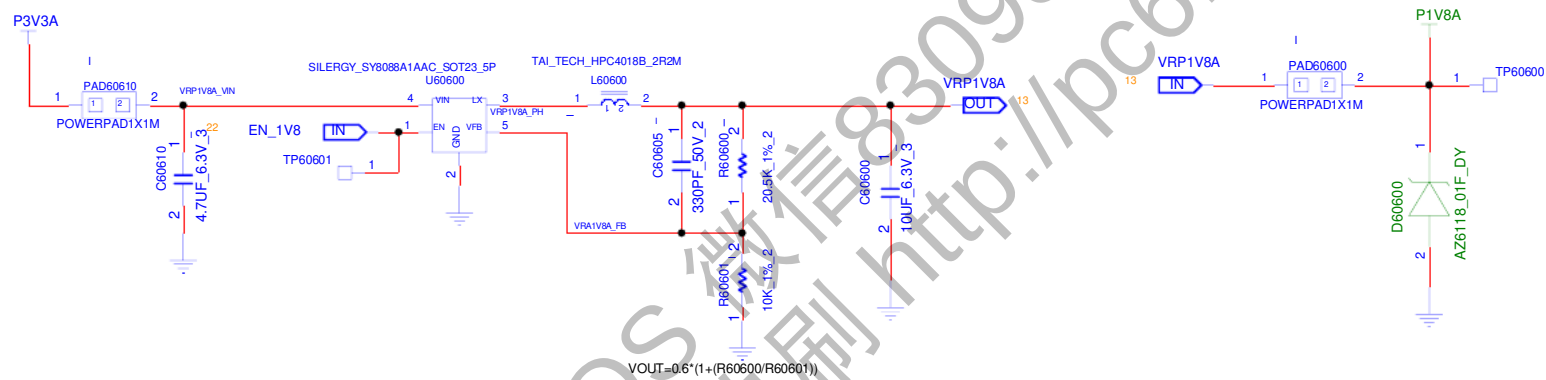
TITLE	MODEL PROJECT FUNCTION
REV0, NR679 (RIGHT SIDE FOR USB PORT)	

SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET		10 of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX

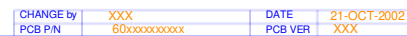
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX



**INVENTEC**TITLE
MODEL PROJECT FUNCTION
P1V8DS

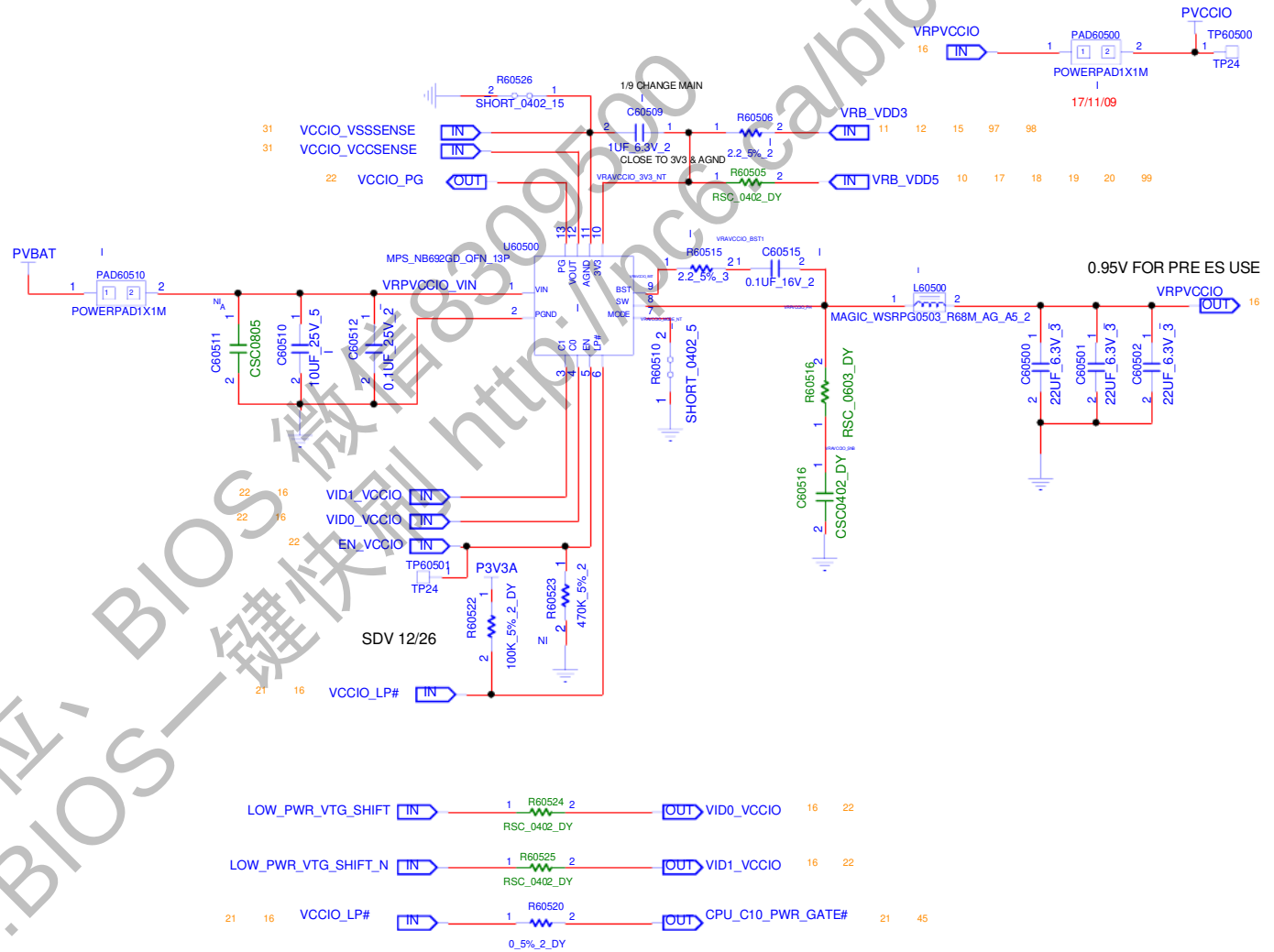
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET		13 of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX



MODE	VR Rail	Resistor to GND (1% Accuracy)
M1	VCCIO	0
M2	PRIMCORE	Float or > 230K
M3	EDRAM/V1.0A/EOPIO	100K
M4	Others	150K

	LP#	C1	C0	VOUT(V)
VCCIO	0	X	X	0
	1	0	0	0.85
	1	0	1	0.875
	1	1	0	0.95
	1	1	1	0.975
VCCPRIM _CORE	0	X	X	0.75
	1	0	0	0.9
	1	0	1	0.95
	1	1	0	1.0
	1	1	1	1.05
EDRAM/ EOPIO/ V1.0A	0	X	X	0
	1	0	0	0.8 (MSM)
	1	0	1	0.95
	1	1	0	1
	1	1	1	1.05
Others (Fixed design only, not allowed for changing on-the-fly)	0	0	0	1.59
	0	0	1	1.99
	0	1	0	2.38
	0	1	1	3.3
	1	0	0	1.2
	1	0	1	1.5
	1	1	0	1.8
	1	1	1	2.5



INVENTEC

TITLE			
MODEL PROJECT.FUNCTION			
Block Diagram			
SHEET	SIZE A3	CODE CS	REV X01
16	of 101	1310xxxxx-0-0	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX



SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET		19 of 101	

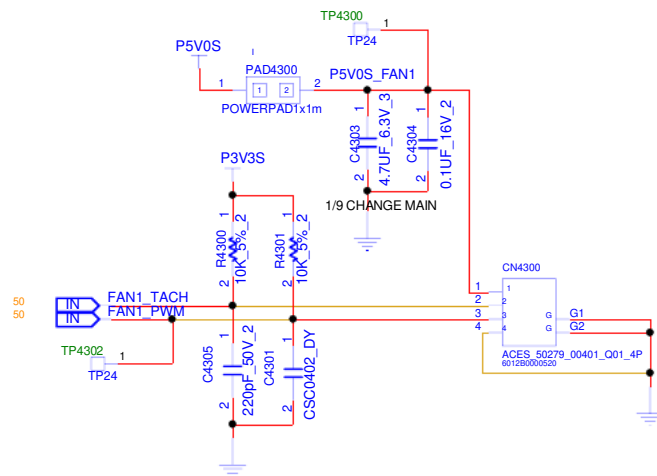


56PF X5	6.8PF X5
12PF X5	0.1UF X5
2200PF X5	

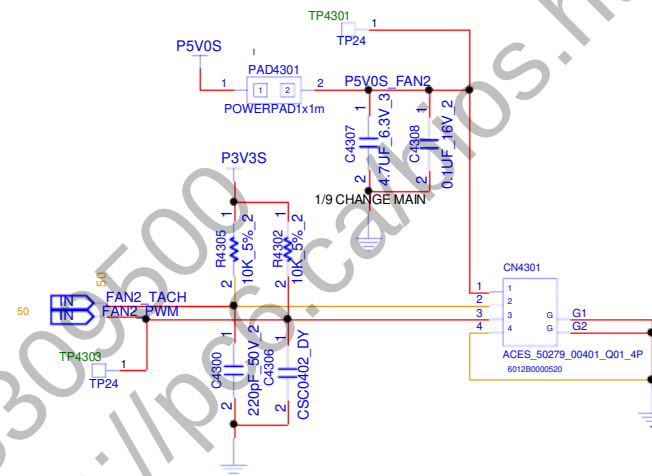


CHANGE by	XXX	DATE	21-OCT-2002	SIZE	A3	CODE	CS	DOC NUMBER	1310xxxxx-0-0	REV	X01
PCB P/N	60xxxxxxxxxx	PCB VER	XXX	SHEET		22	of		101		

REFERENCE 4300~4349(FAN)
REFERENCE 4411~4449(THERMAL)



FAN1 CN GPU



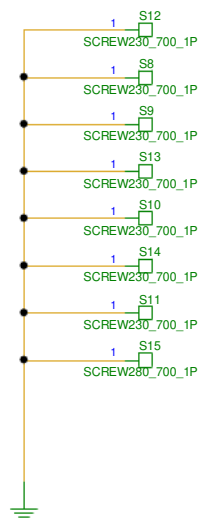
FAN2 CN CPU

INVENTEC

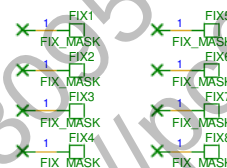
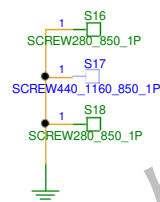
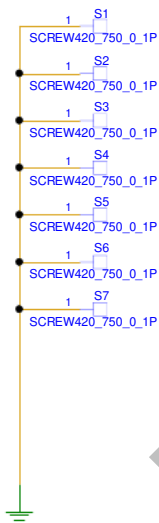
TITLE			
MODEL PROJECT FUNCTION			
FAN & THERMAL			
SIZE		DOC NUMBER	
A3		1310xxxx-0-0	
CODE		REV	
CS		X01	
SHEET		23 of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX

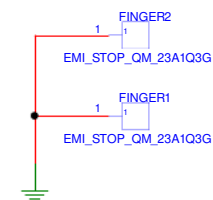
REFERENCE 0~49(PCB SCREW)



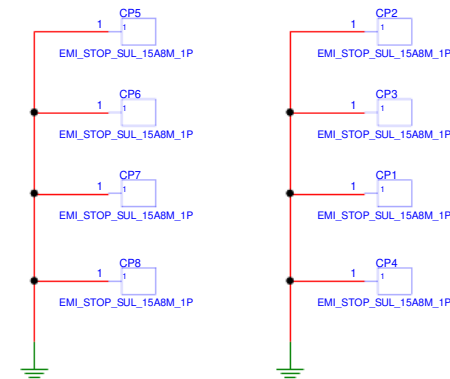
GPU CPU



SHIELDING SDV 1/9



DDR SHIELDING



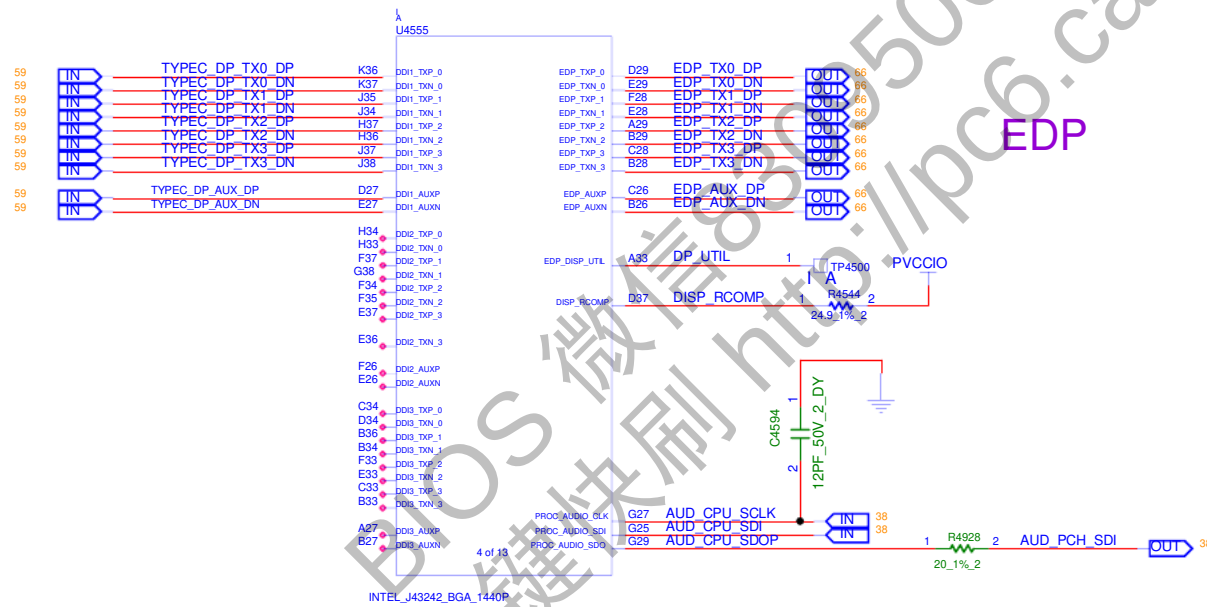
INVENTEC

TITLE
MODEL PROJECT FUNCTION
XDP & ME CONN.

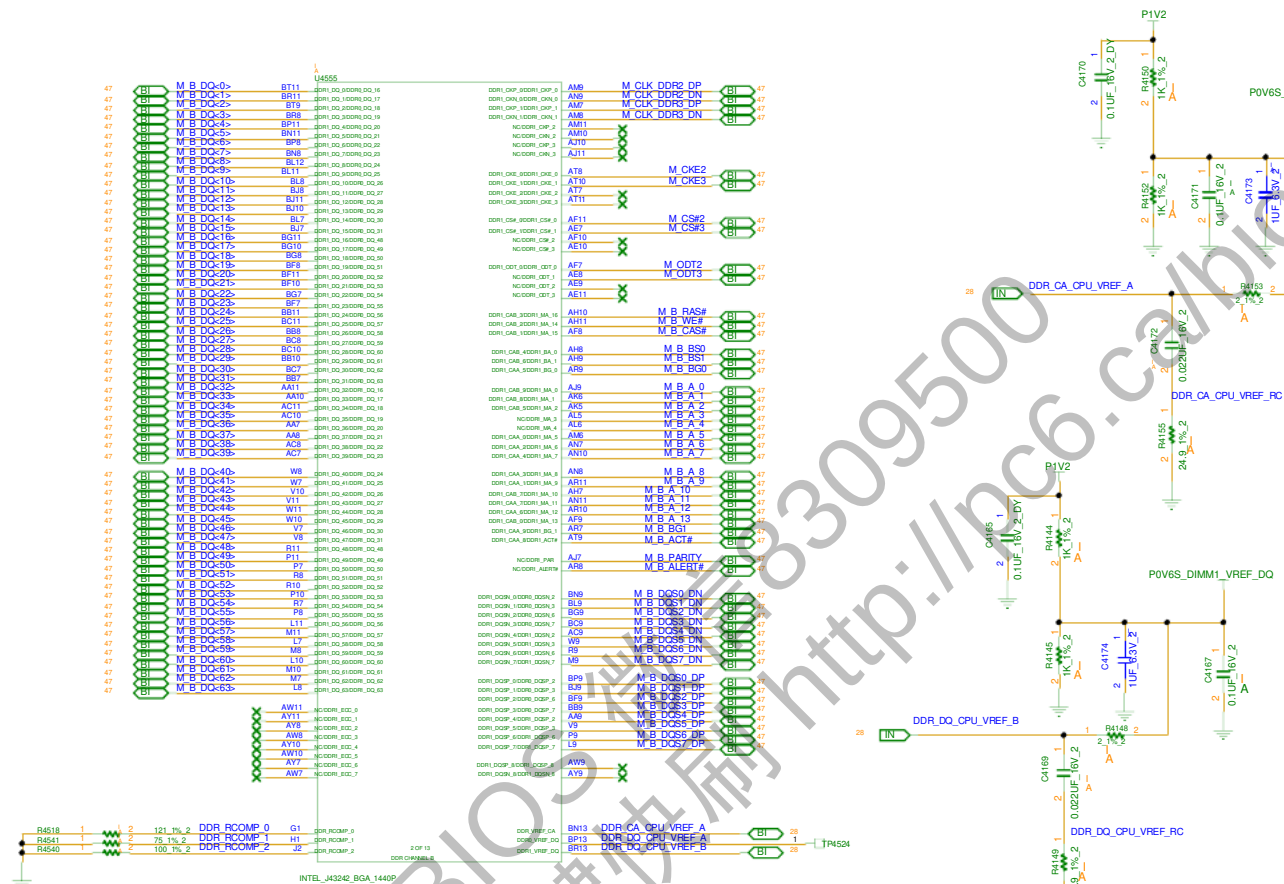
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET		24 of 101	

CHANGE by	DATE
XXX	21-OCT-2002
PCB P/N	PCB VER
60xxxxxxxxx	XXX

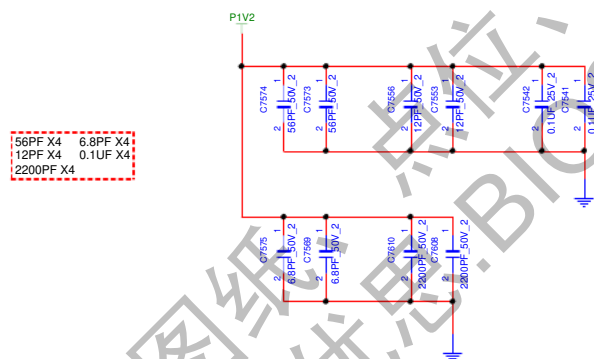


**INVENTEC**TITLE
MODEL PROJECT FUNCTION
SKYLAKE2_H-DDI/EDPSIZE A3 CODE CS DOC NUMBER 1310xxxxx-0-0 REV X01
SHEET 26 of 101CHANGE by XXX DATE 21-OCT-2002
PCB P/N 60xxxxxxxxx PCB VER XXX





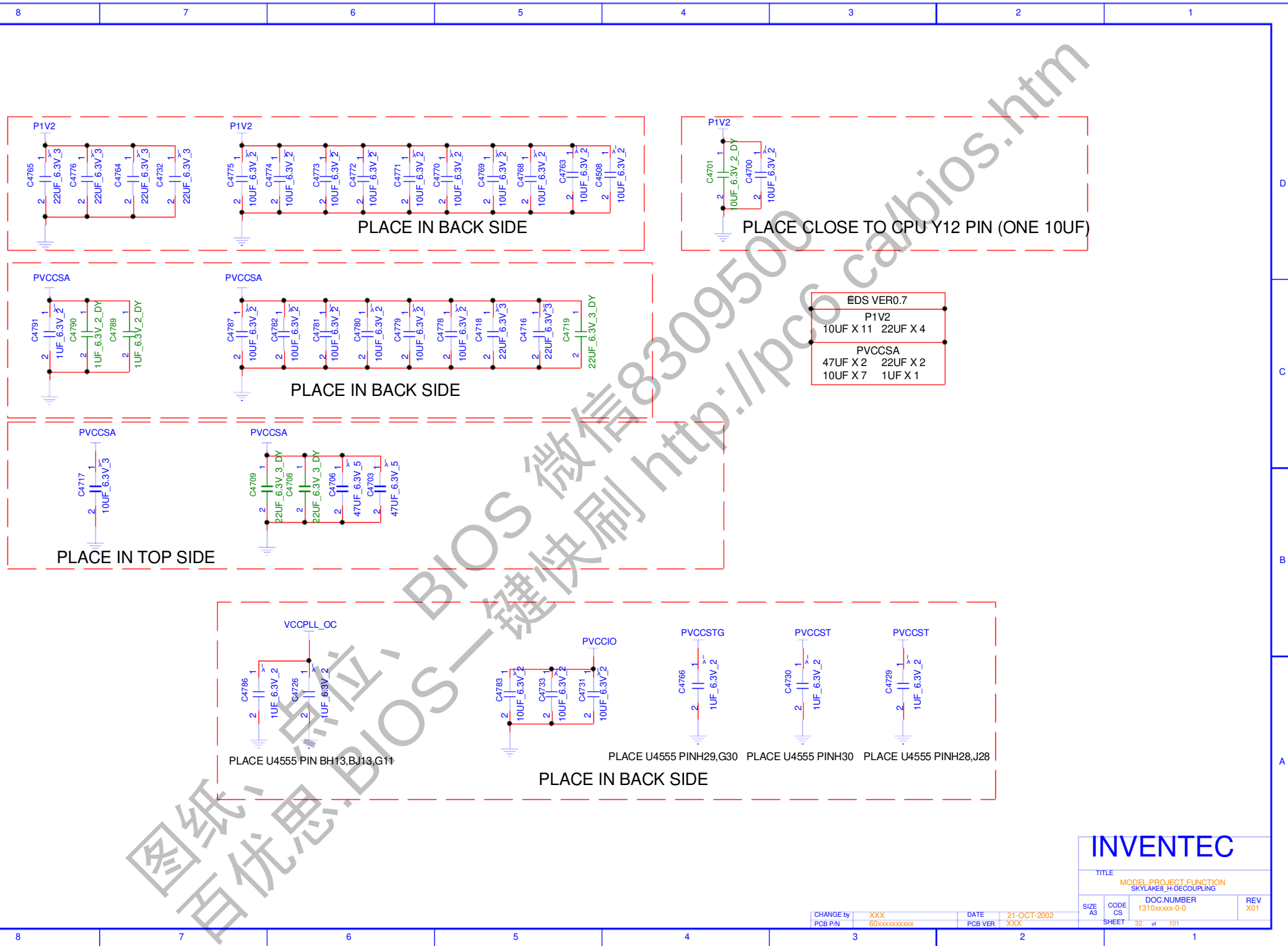
RF CAPACITOR (7500~)

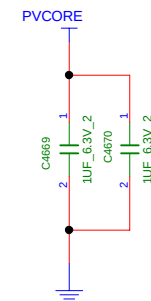
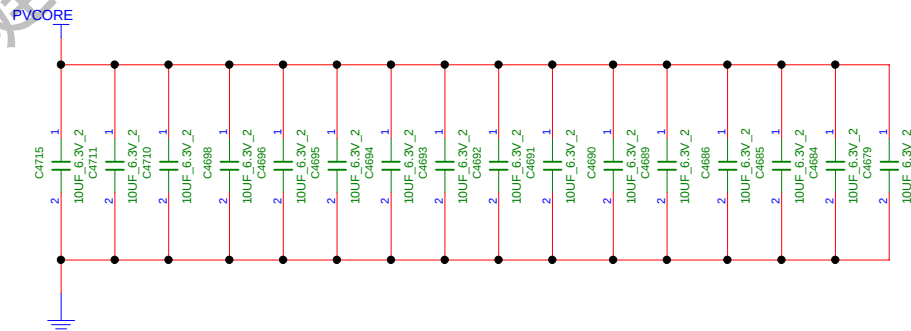
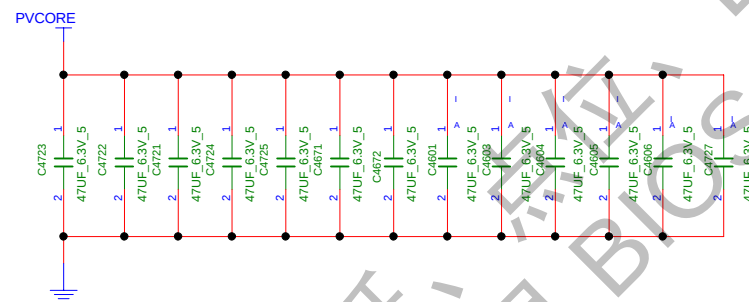
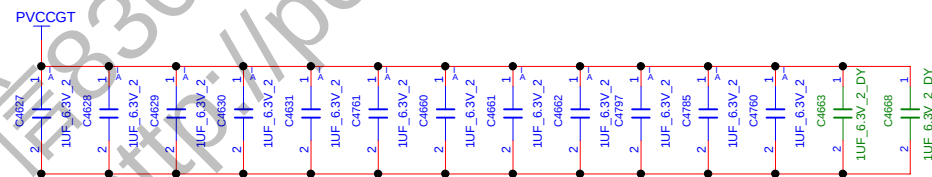
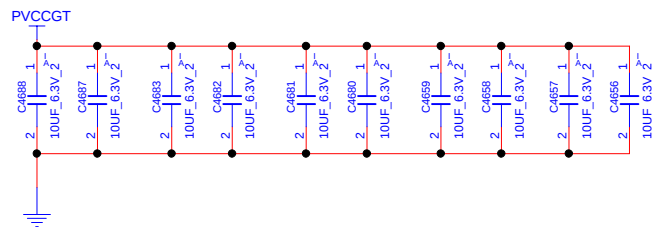
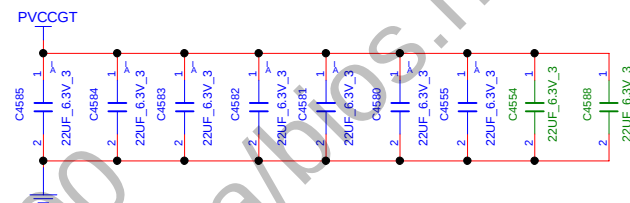
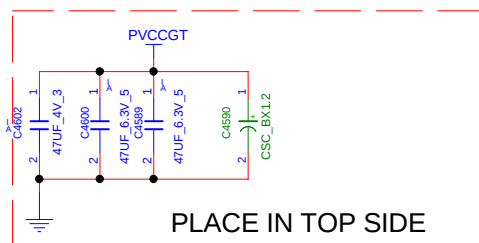


56PF X4 6.8PF X4
12PF X4 0.1UF X4
2200PF X4



TITLE			
MODEL PROJECT FUNCTION SKYLAKE7_H-POWER			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET		21	of 101





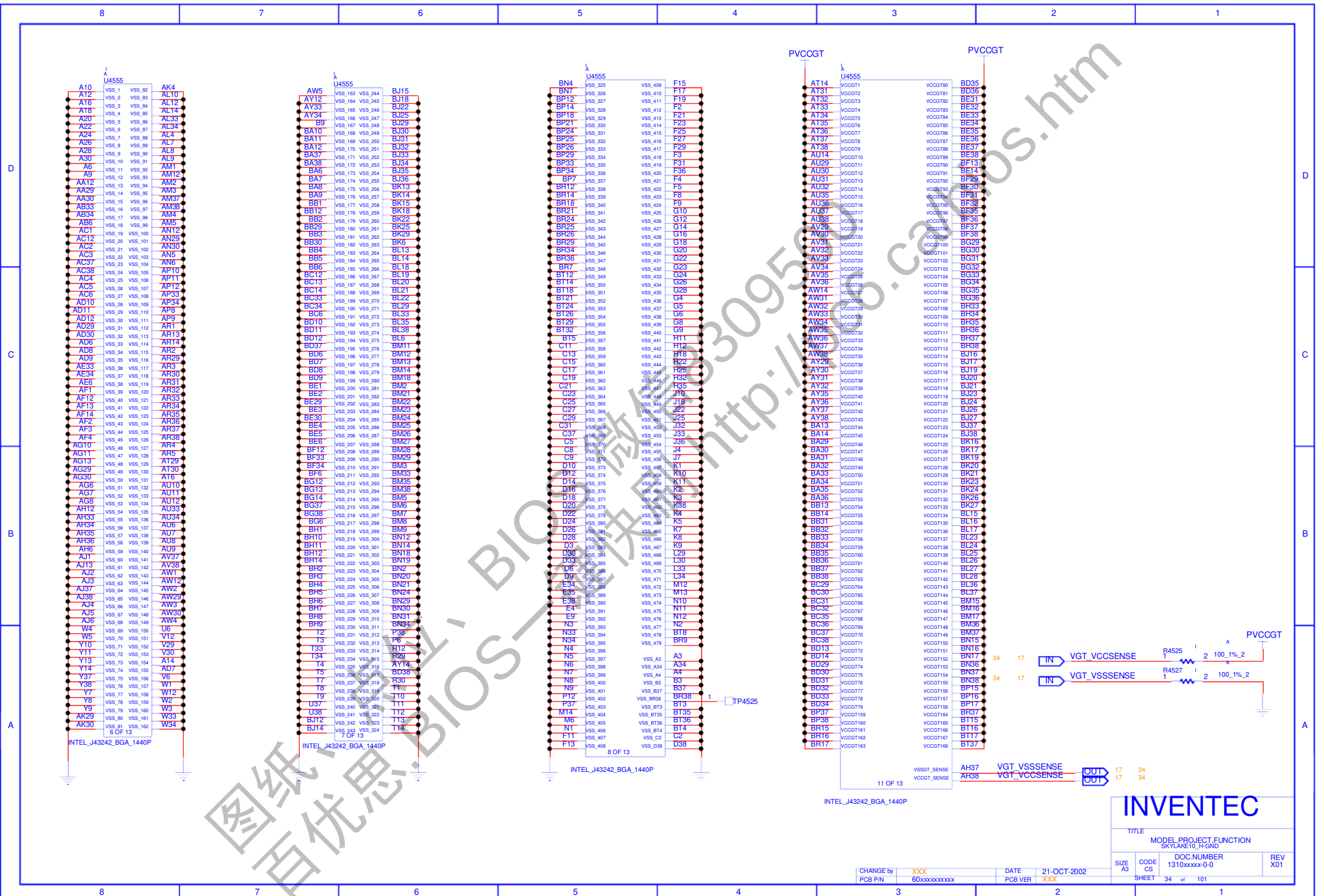
H82 CPU

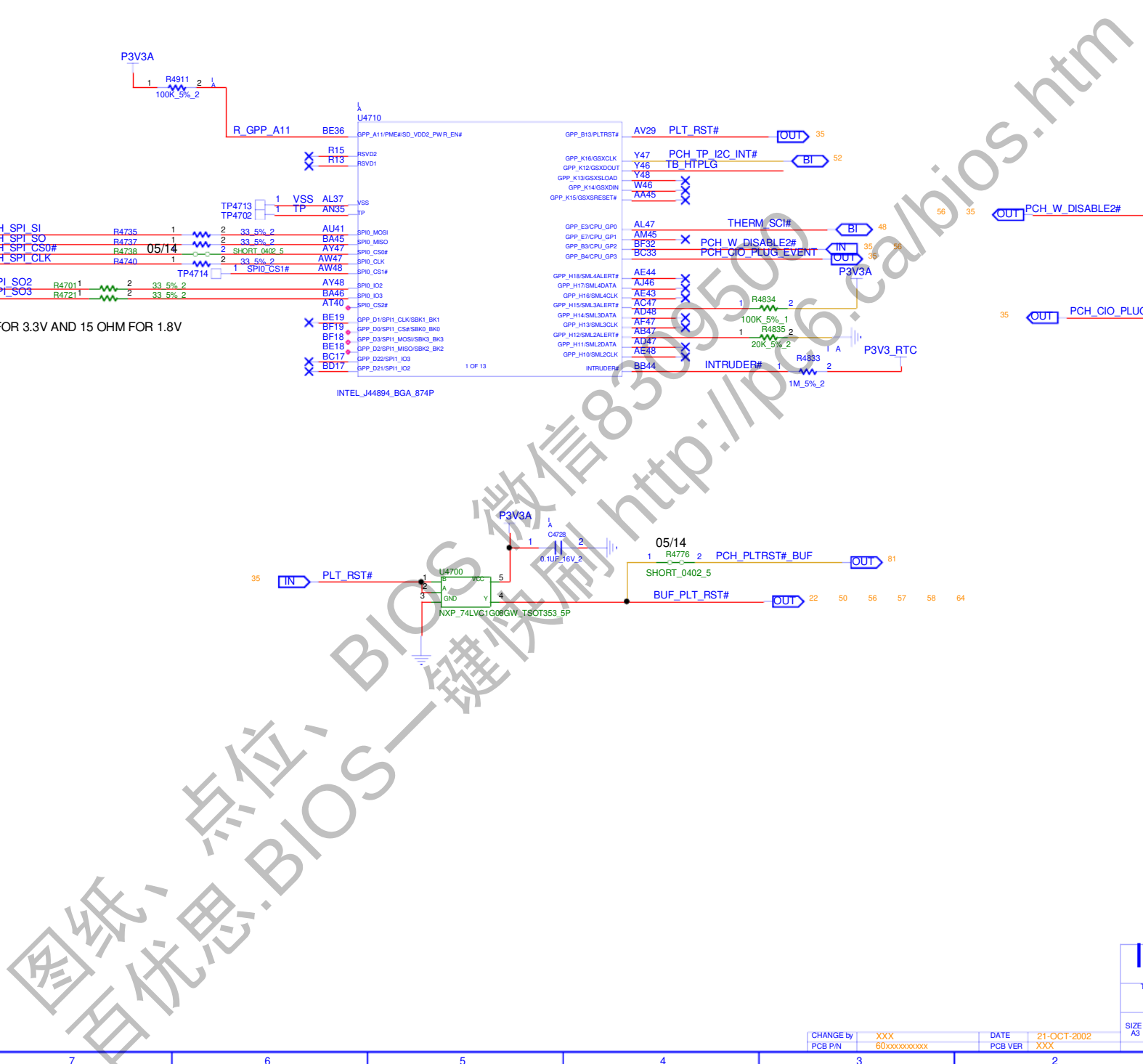
INVENTEC

TITLE	MODEL,PROJECT,FUNCTION
	SKYLAKE9 H-GT DECOUPLING

SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET 33 of 101			

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX



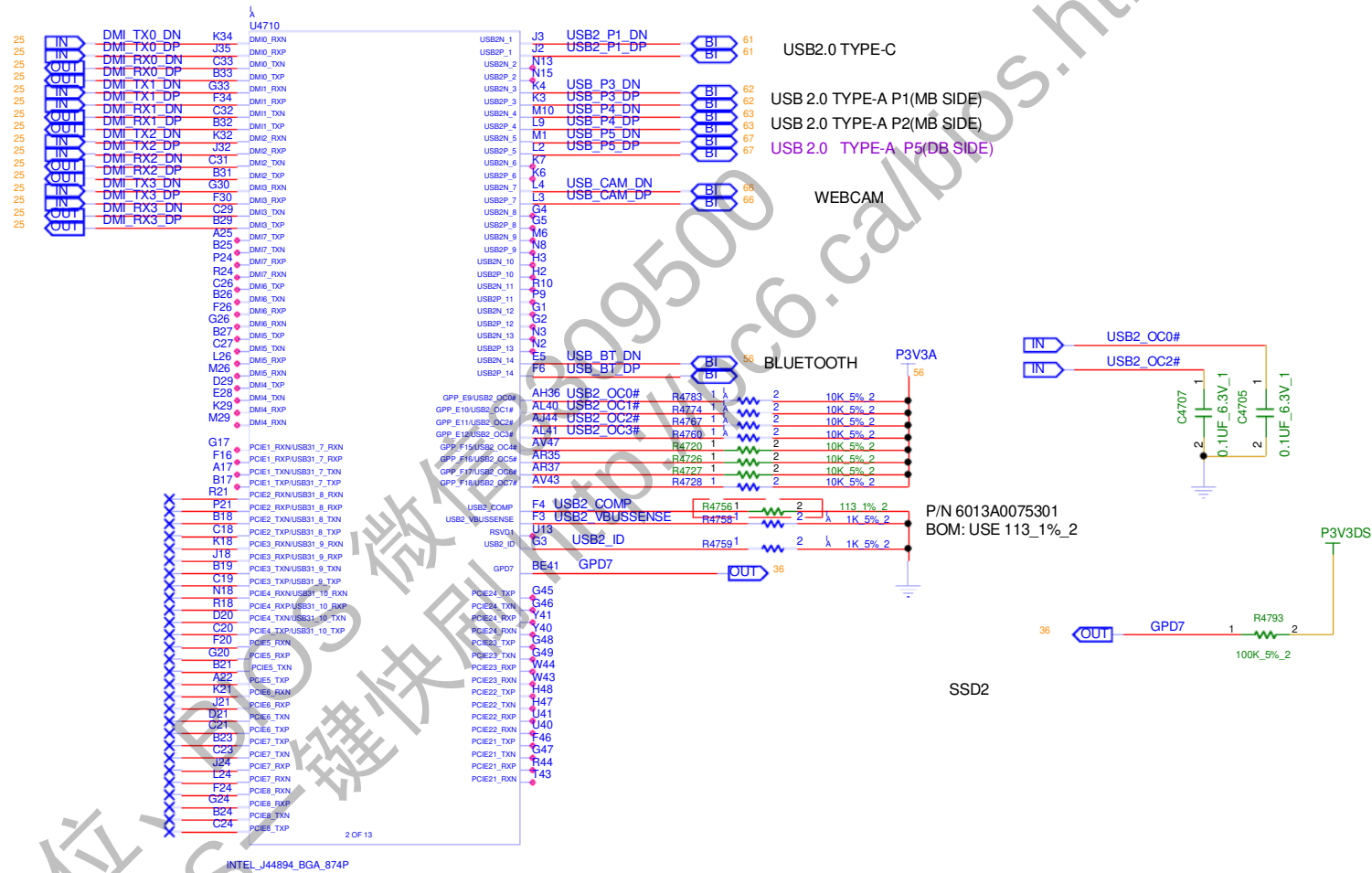


SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0
SHEET	05	104

3	2
---	---

SHEET 35 of 101

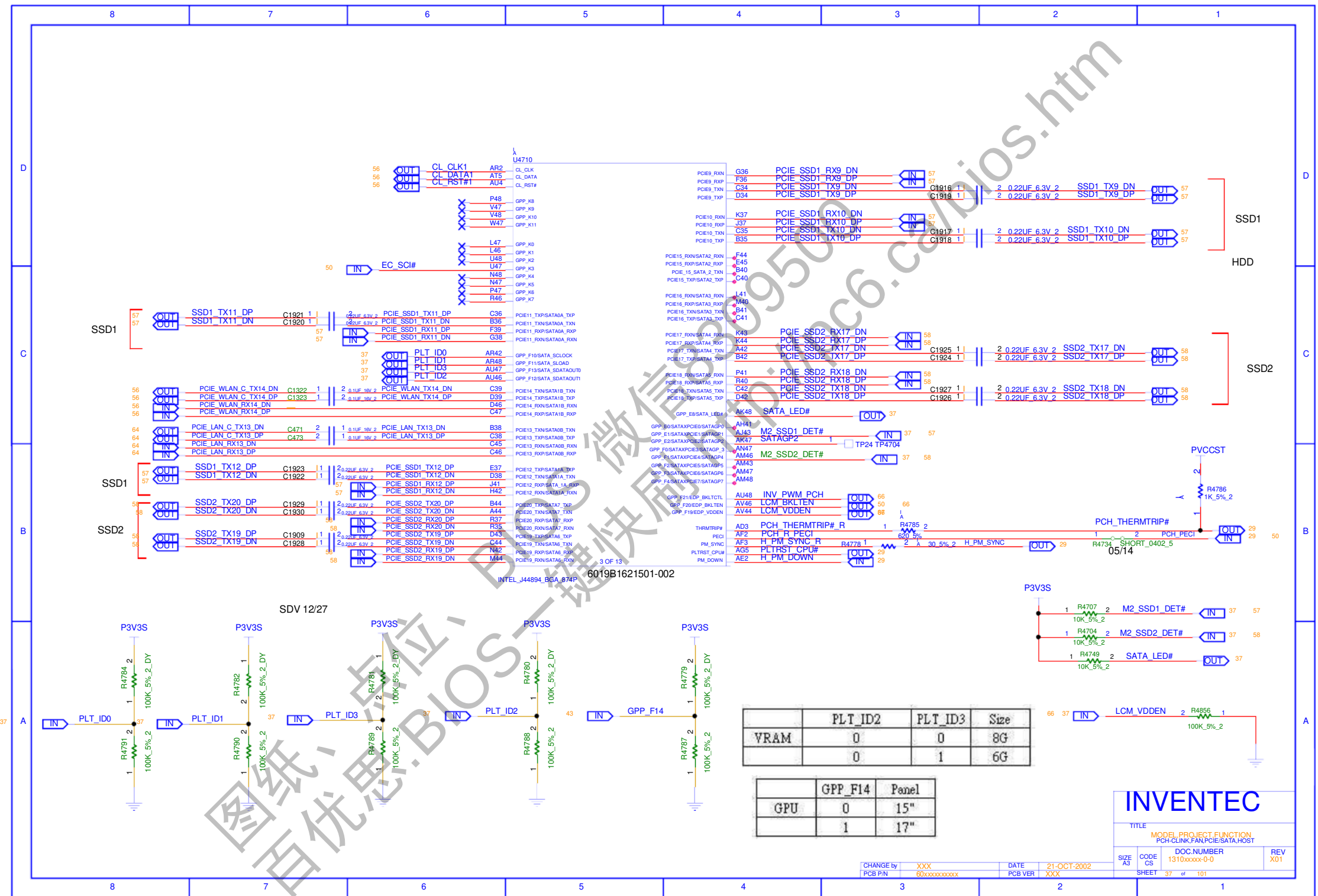
1



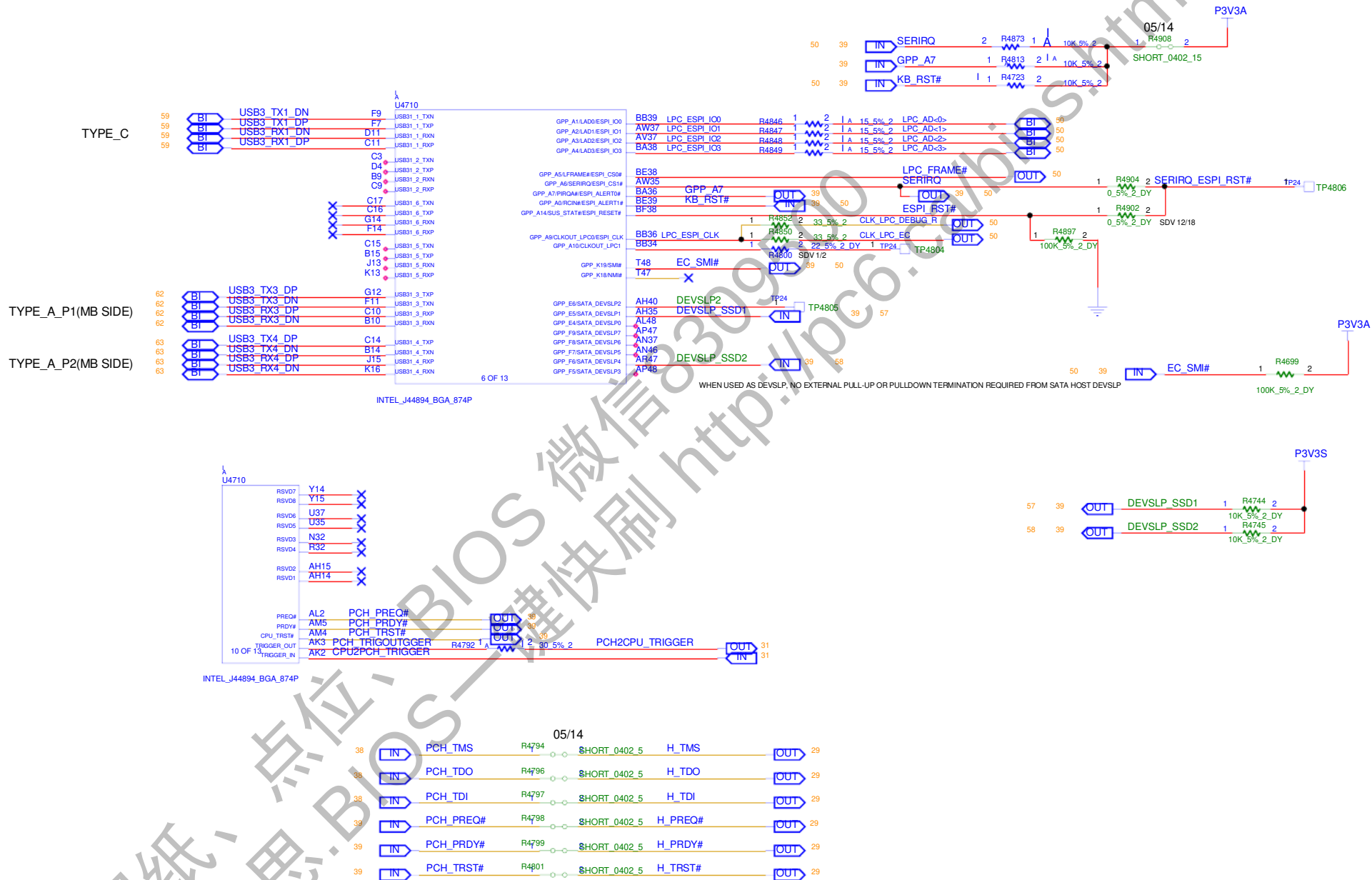
INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
PCB:DM1.USB2.USB83			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET	36	of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX





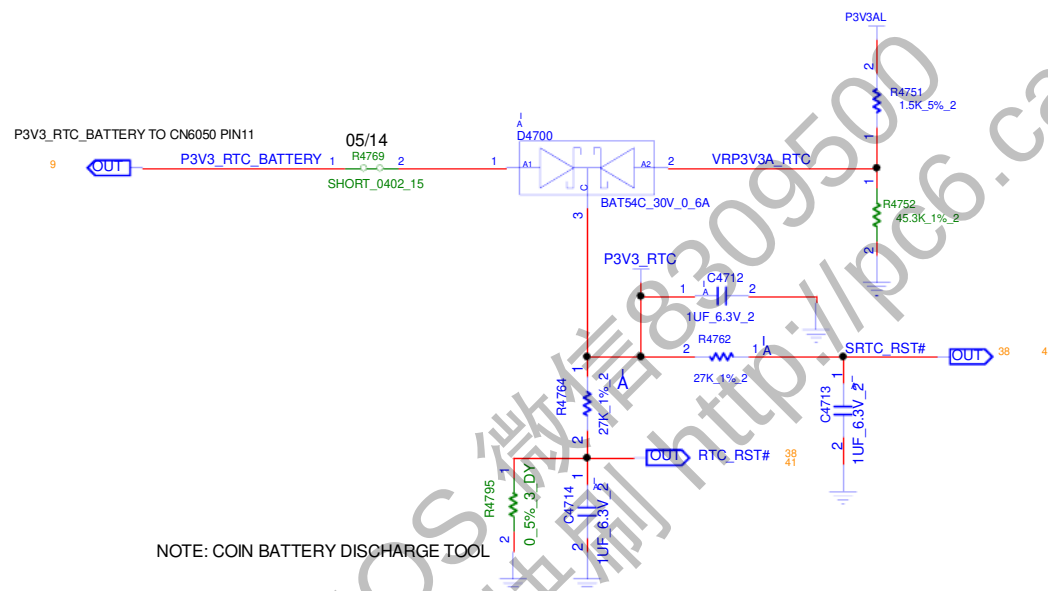


INVENTEC

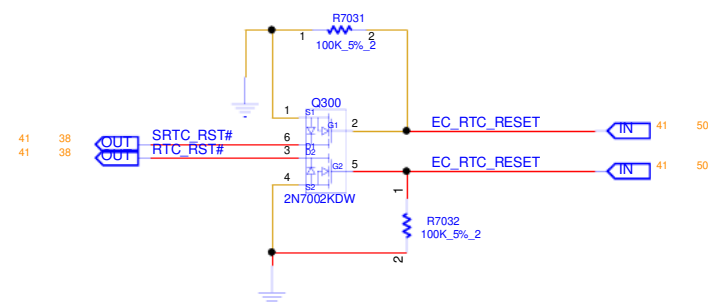
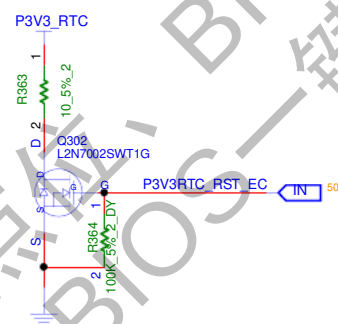
TITLE			
MODEL PROJECT FUNCTION			
PCH/LPC/ESPI/USB/SATA			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET			
39 of 101			

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxx	PCB VER	XXX

RTC



NOTE: COIN BATTERY DISCHARGE TOOL



INVENTEC

TITLE

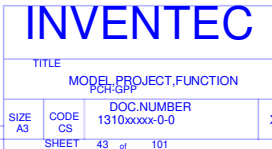
MODEL,PROJECT,FUNCTION

Block Diagram

SIZE A3	CODE CS	DOC. NUMBER 1310xxxxx-0-0	REV X01
SHEET		41 of 101	

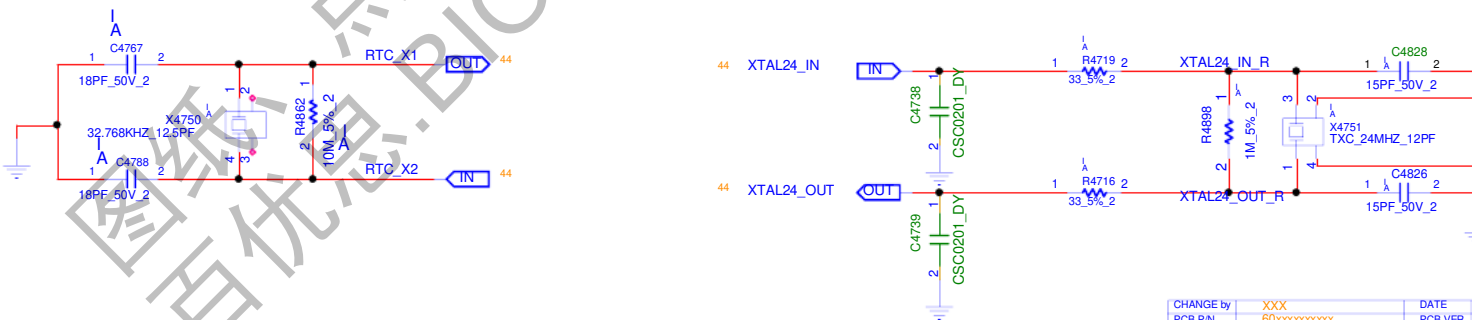
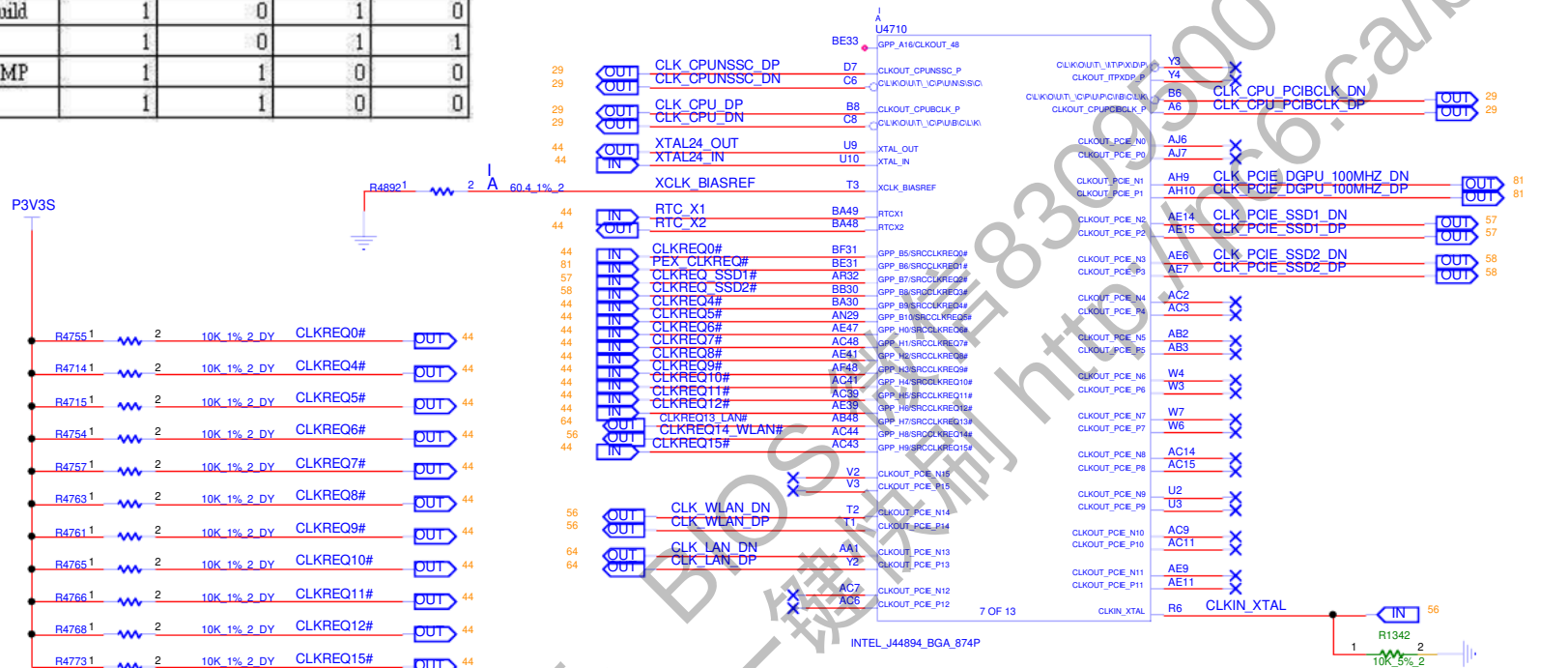
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX

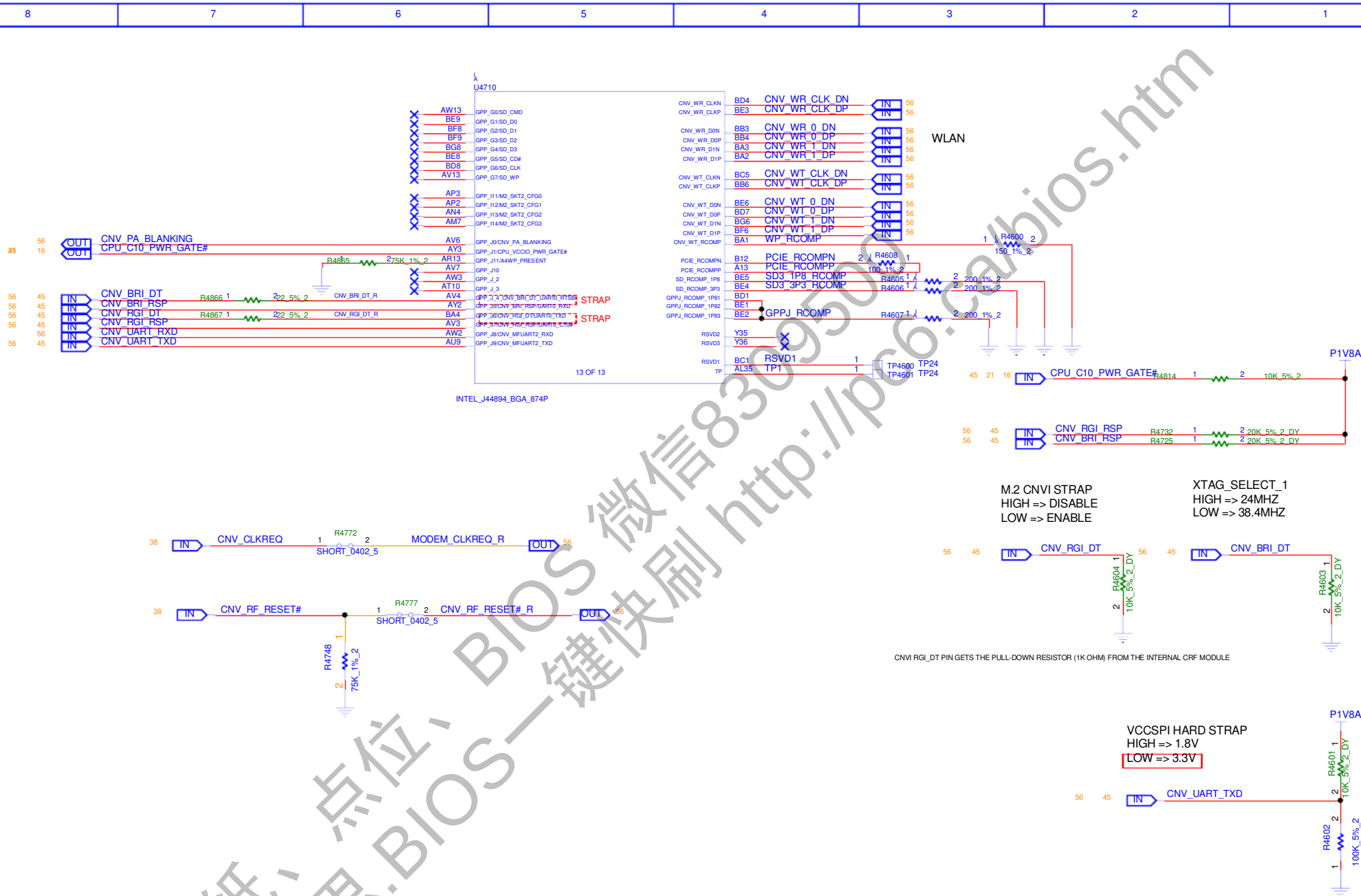




	GPP_A23	GPP_A22	GPP_A21	GPP_A20
A build0	0	0	0	0
A build1	0	0	0	1
B build0	0	1	0	0
B build1	0	1	0	1
B build2	0	1	1	0
	0	1	1	1
C build0	1	0	0	0
	1	0	0	1
D build	1	0	1	0
	1	0	1	1
Pre-MP	1	1	0	0
MP	1	1	0	0

1. SSC = Spread Spectrum Clocking
2. The SRCCLKREQ#[15:0] signals can be configured to map to any of the PCH-H PCI Express* Root Ports
3. SRCCLKREQ#[15:0] to CLKOUT_PCIE_P/N[15:0] Mapping Requirements
 - SRCCLKREQ#[7:0] signals can be mapped to any of the CLKOUT_PCIE_P/N[7:0] differential clock pairs
 - SRCCLKREQ#[15:8] signals can be mapped to any of the CLKOUT_PCIE_P/N[15:8] differential clock pairs





INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET 45 of 101			

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX

D

D

C

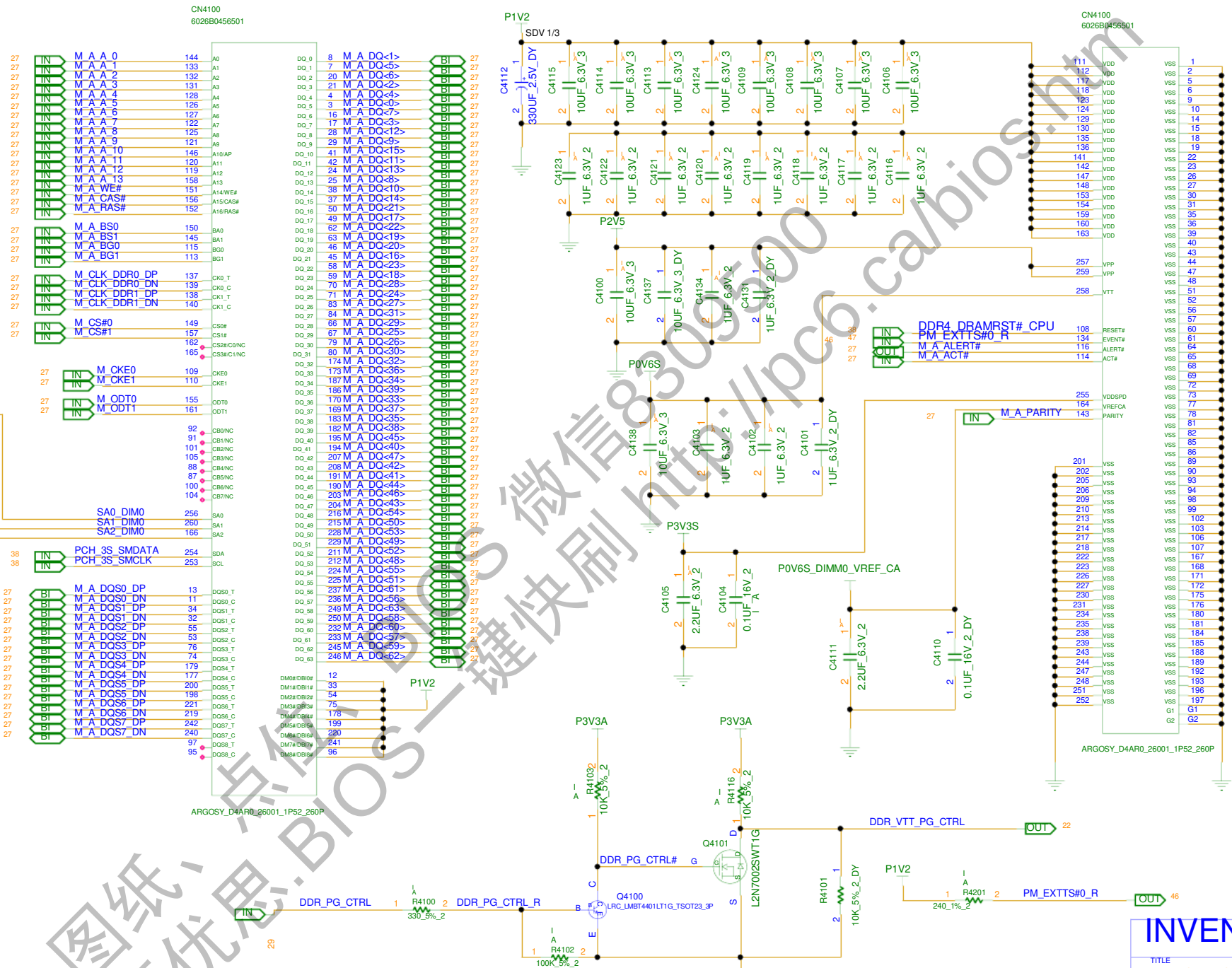
C

B

B

A

A



INVENTEC

TITLE

MODEL PROJECT FUNCTION

DDR4_S0_DIMM0

SIZE
A3CODE
CSDOC NUMBER
1310XXXX-0-0REV
X01CHANGE by
PCB P/NXXX
60XXXXXXXDATE
PCB VER21-OCT-2002
XXX

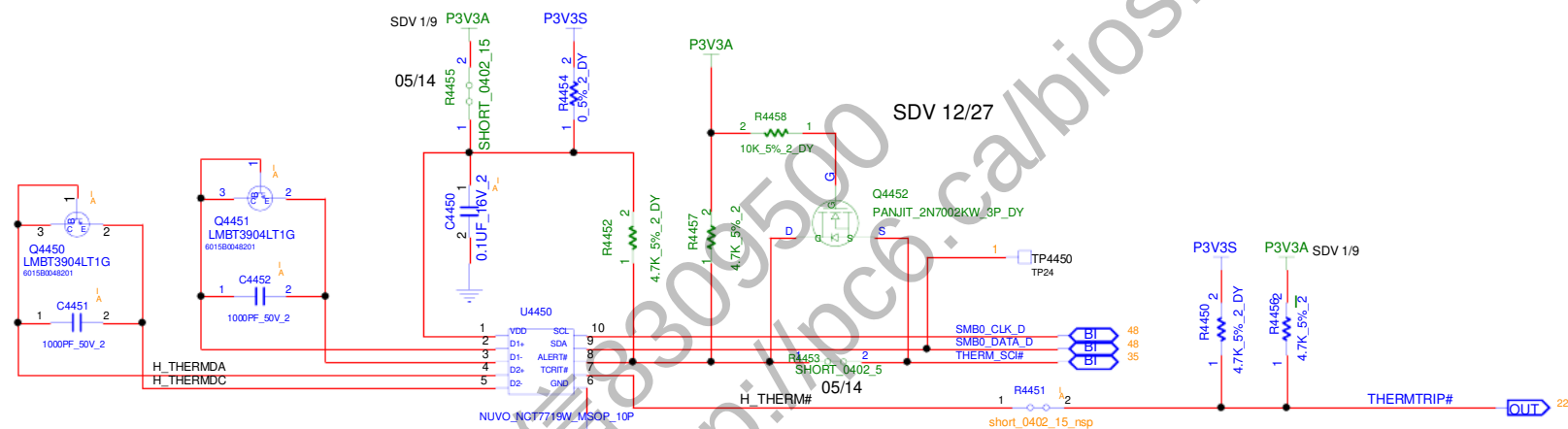
SHEET

46 of 101

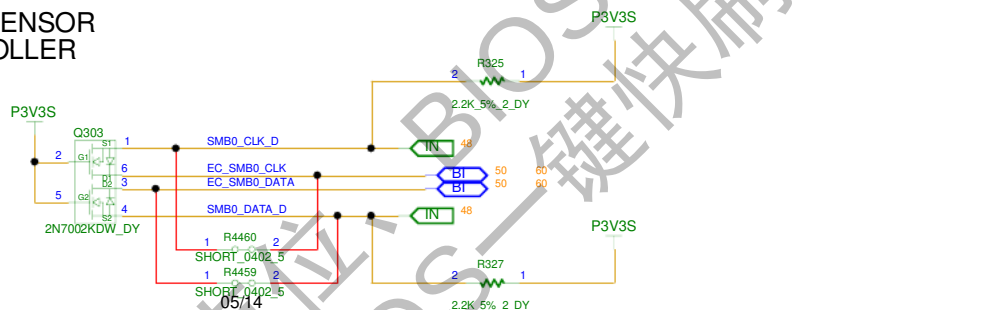


REFERENCE NUMBER:4450~4499

THERM SENSOR

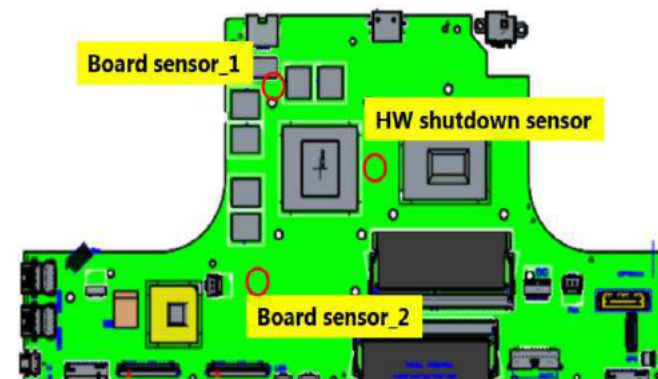
THERMAL SENSOR
CC CONTROLLER

SDV 1/2



BOARD SENSOR

- Board sensor_1 monitor VRAM.
- Board sensor_2 monitor GPU & VRAM power.



INVENTEC

TITLE

MODEL PROJECT FUNCTION

Block Diagram

SIZE CODE DOC NUMBER REV

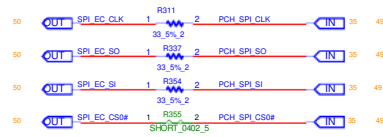
A3 CS 1310xxxx-0-0 X01

SHEET 48 of 101

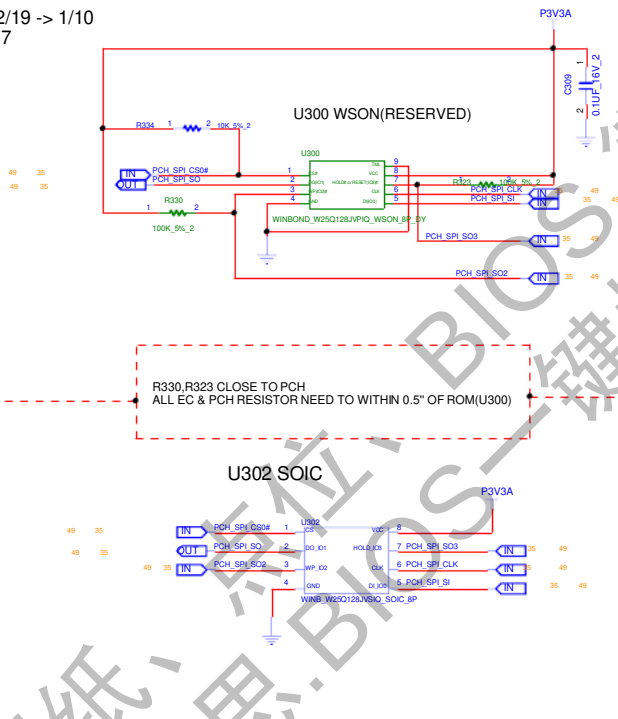
CHANGE by XXX DATE 21-OCT-2002

PCB P/N 60xxxxxxx PCB VER XXX

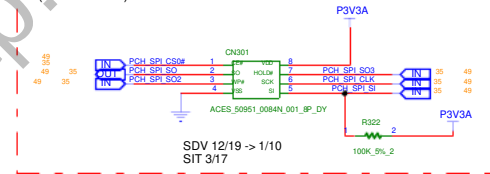
REFERENCE 300~389(KBC)



SDV 12/19 -> 1/10
SIT 3/17



ROM SOCKET
(RESERVED)



INVENTEC

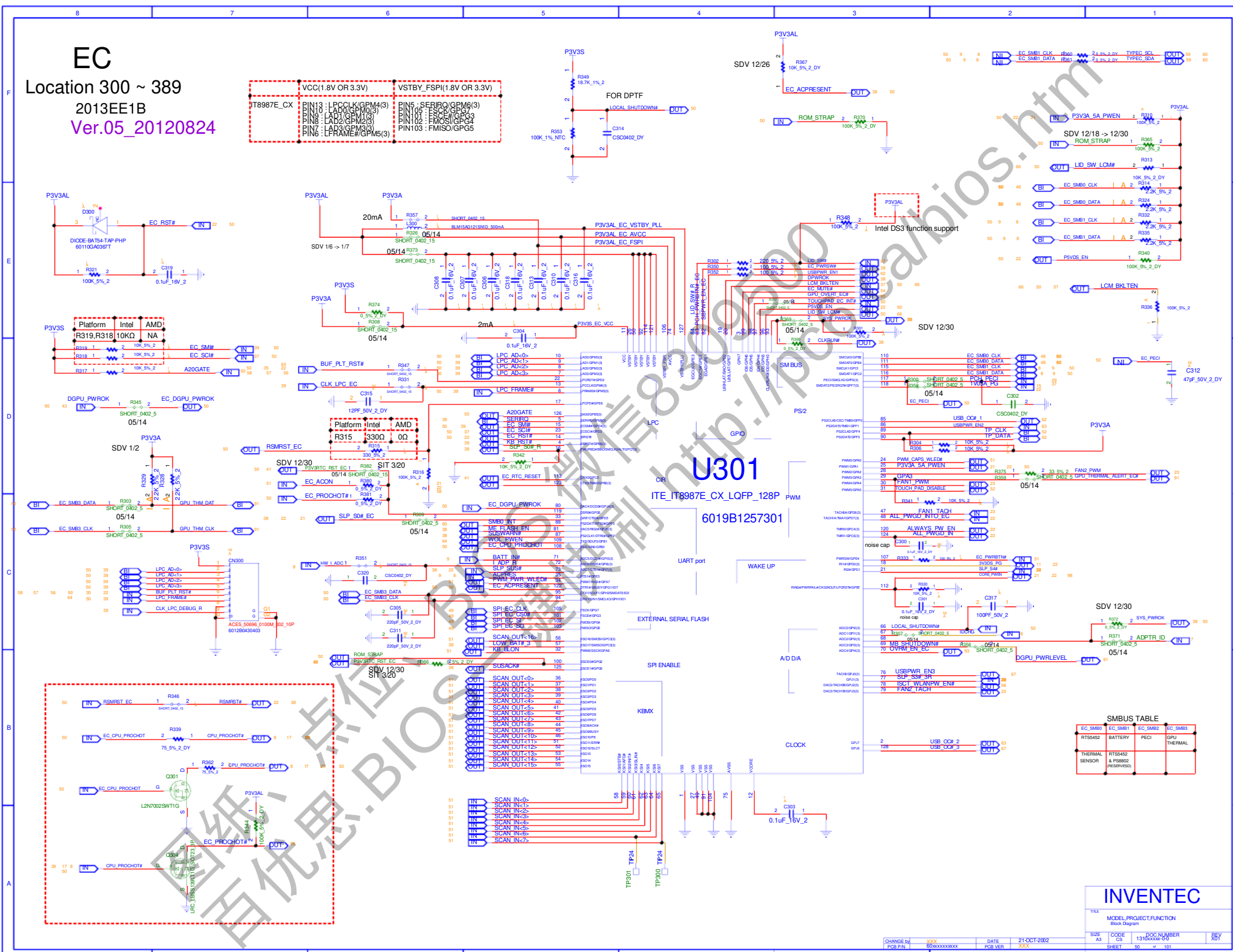
MODEL PROJECT FUNCTION
Block Diagram

SIZE CODE DOC NUMBER REV
A3 CS 131000000000 001

CHANGED BY XXX DATE 21-OCT-2002
PCB P/N XXX PCB VER XXX

SHEET 46 of 101

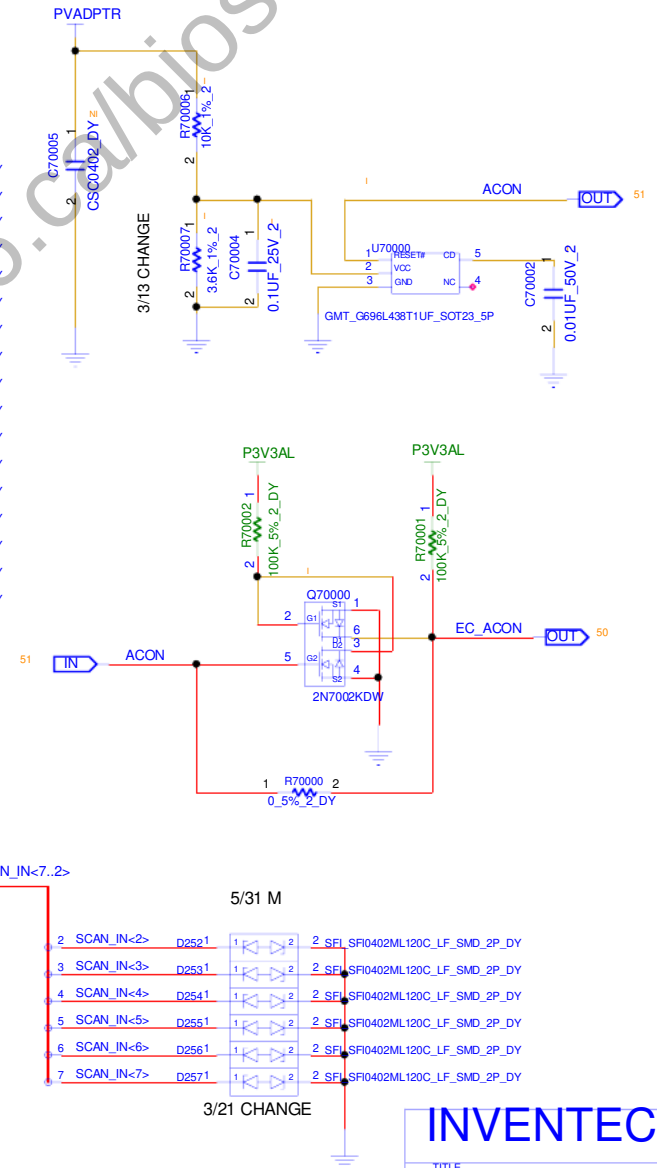
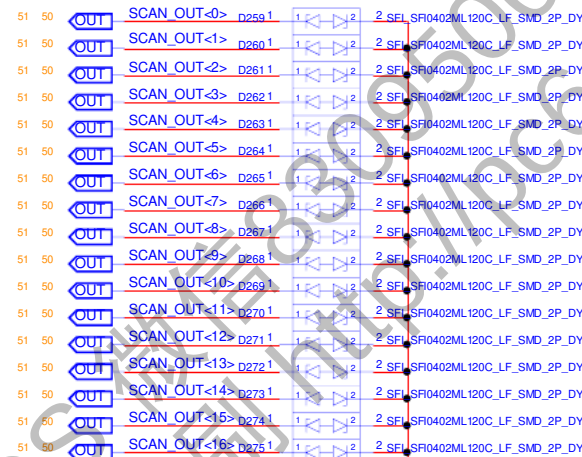
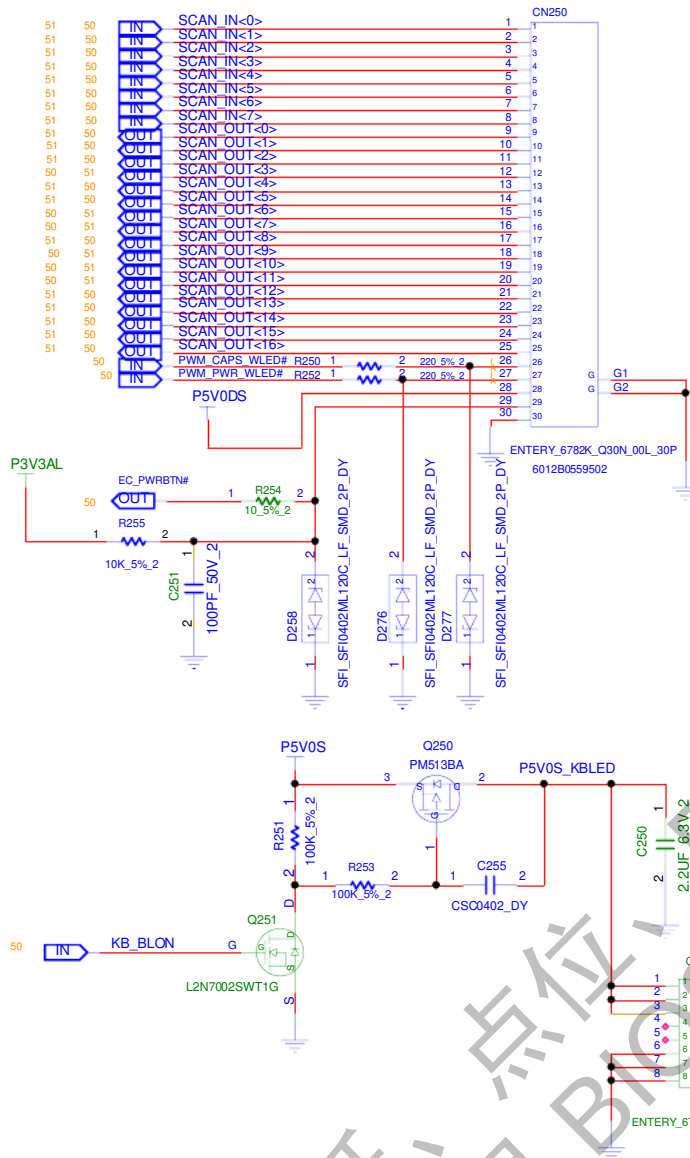
EC
Location 300 ~ 389
2013EE1B
Ver.05 20120824



REFERENCE 200~249(POWER CONN)
REFERENCE 250~299(KB/TP CONN)

KEYBOARD CONN

RESERVED ADP-IN



KB BACK LIGHT CONN

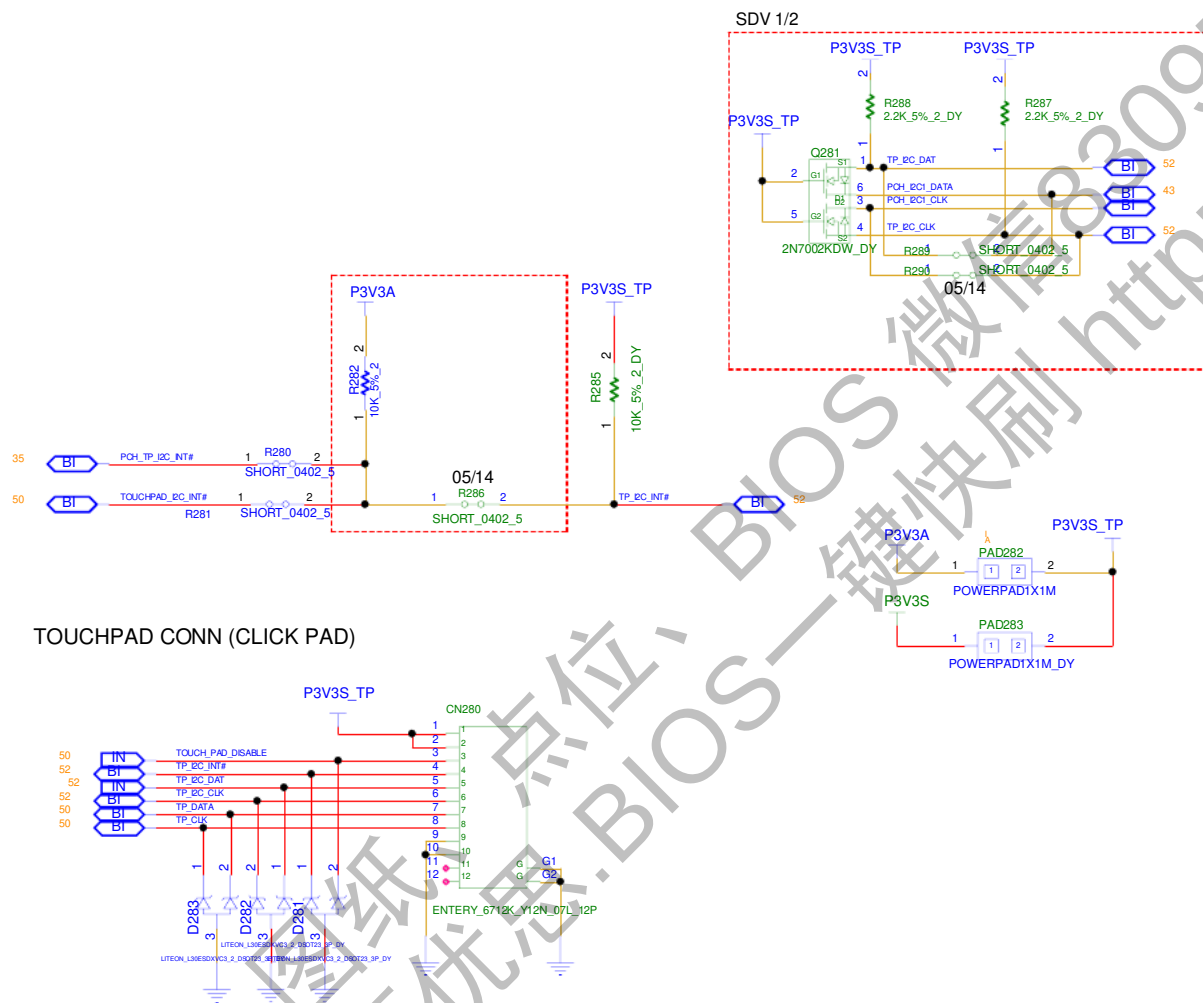
VCC : +5V
LED V : 2.9~3.5V

	Min(LED V : 3.5V)	Max(LED V : 2.9V)
Power consumption	228.71mA	320.2mA

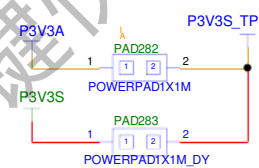
INVENTEC

TITLE			
MODEL PROJECT.FUNCTION			
Block Diagram			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	51	of 101	

CHANGE by XXXX
PCB P/N 60xxxxxxxxxx
DATE 21-OCT-2002
PCB VER XXXX



TOUCHPAD CONN (CLICK PAD)



INVENTEC				
TITLE MODEL_PROJECT,FUNCTION Block Diagram				
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0		REV X01
SHEET		52 of 101		

	8	7	6	5	4	3	2	1
D								
C								
B								
A								
	8	7	6	5	4	3	2	1

图纸、点位、BIOS 微信8309500
百优思.BIOS一键快刷 <http://pc6.ca/bios.htm>

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 53 of 101			

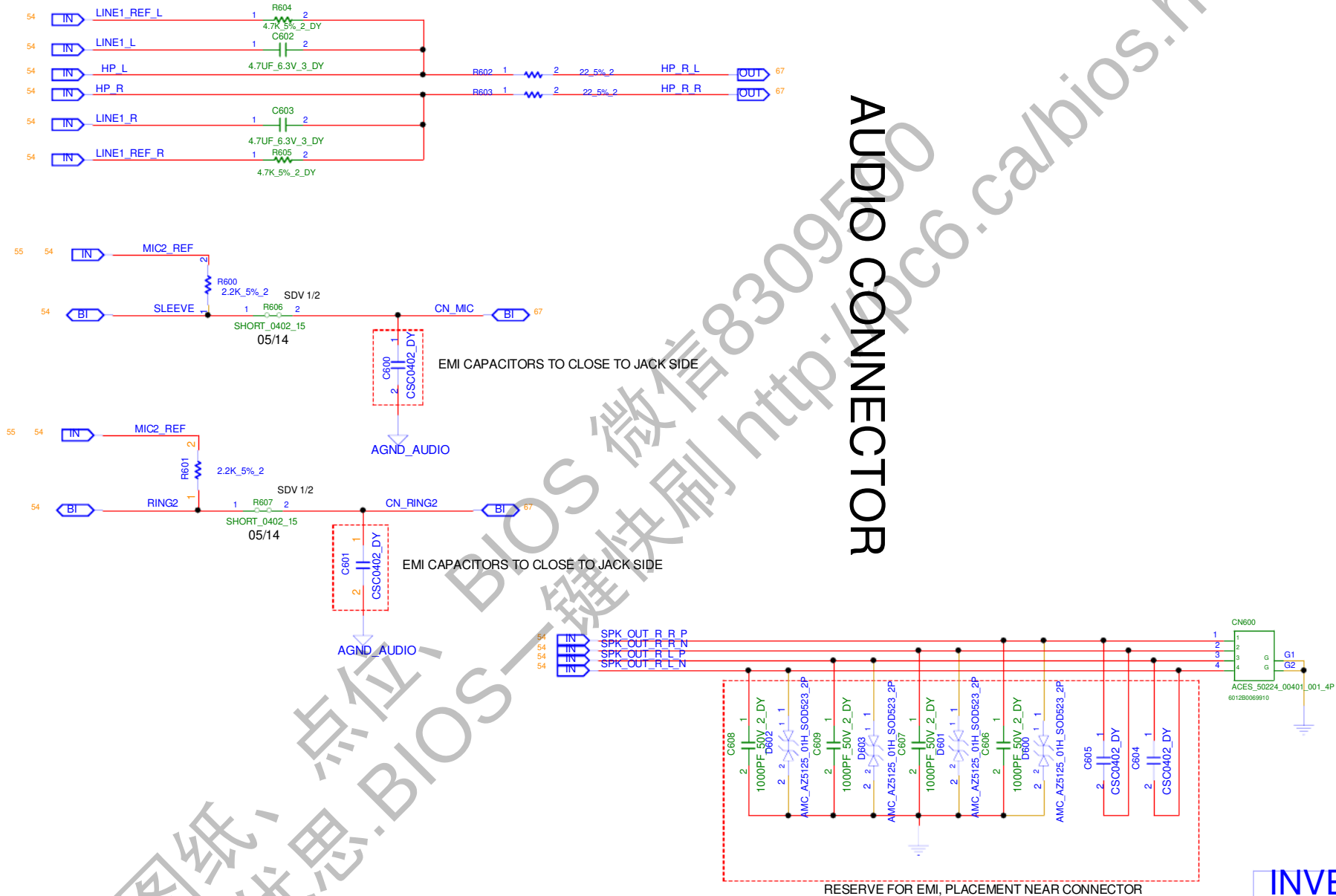
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxx	PCB VER	XXX

REFERCE 600~649(JACK/MIC/SPEAKER)

AUDIO SPEAKER

CODEC SIDE

AUDIO CONNECTOR



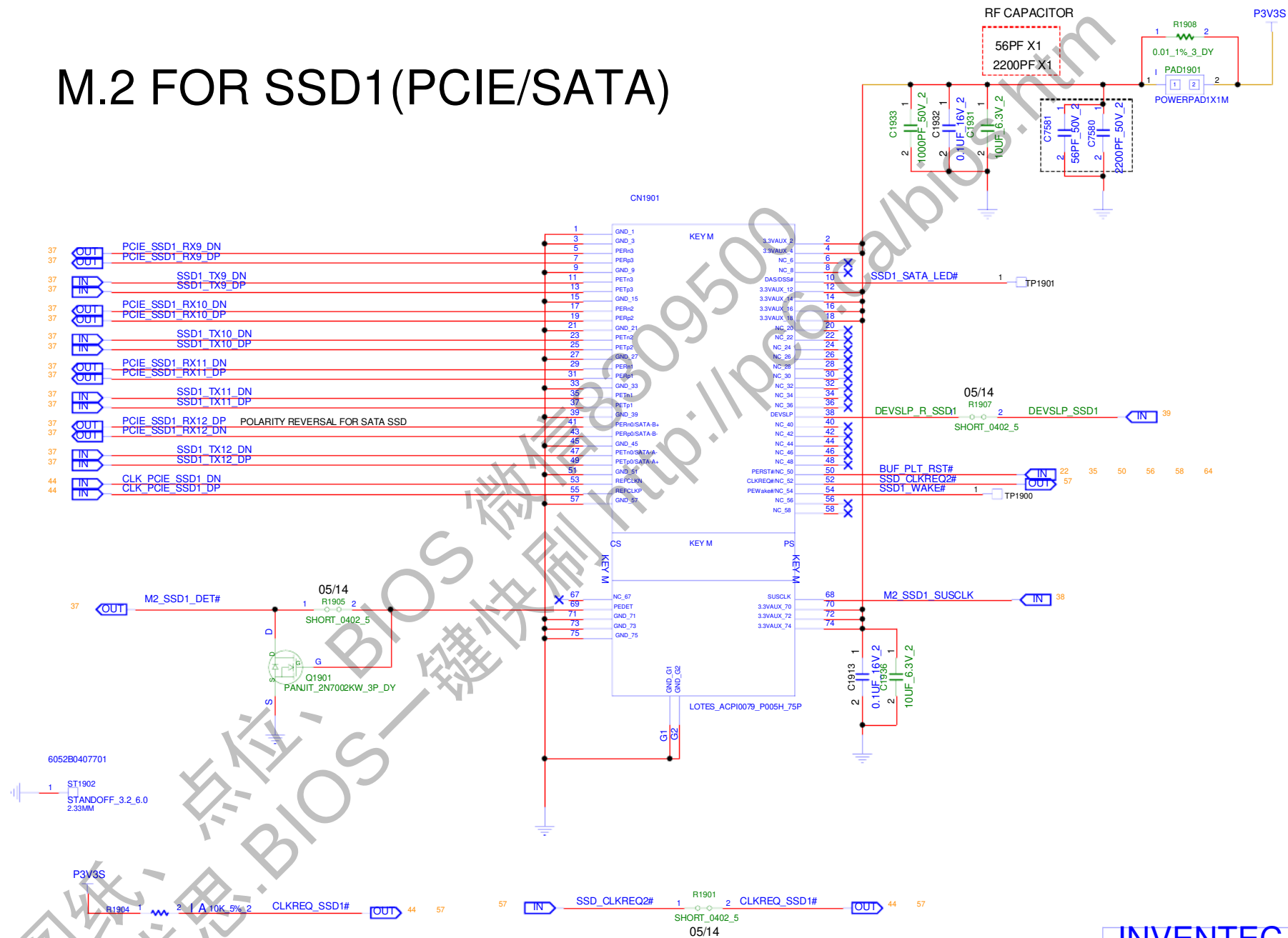
INVENTEC

TITLE			
MODEL PROJECT.FUNCTION			
Block Diagram			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	55	of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxx	PCB VER	XXX

REV
X01

M.2 FOR SSD1(PCIE/SATA)



INVENTEC

TITLE

MODEL PROJECT FUNCTION

Block Diagram

DOC NUMBER

1310xxxx-0-0

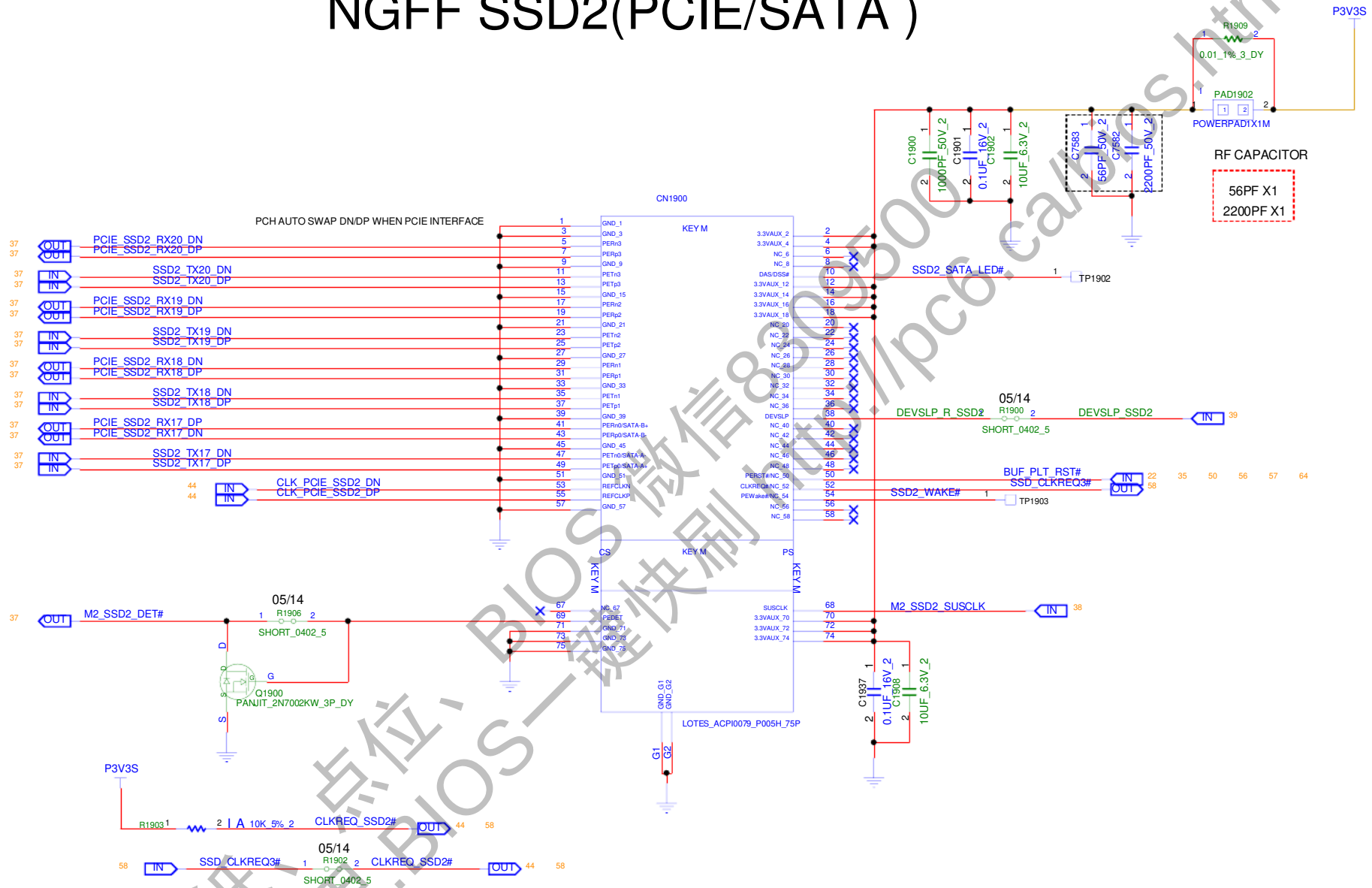
REV

X01

CHANGE by XXX
PCB P/N 60xxxxxxxDATE 21-OCT-2002
PCB VER XXXSIZE A3
CODE CS
SHEET 57 of 101

REV X01

NGFF SSD2(PCIE/SATA)



M.2 CARD USES; SATA SIGNALING (LOW) OR PCIE SIGNALING (HIGH)

REFERENCE NUMBER:1950~1999

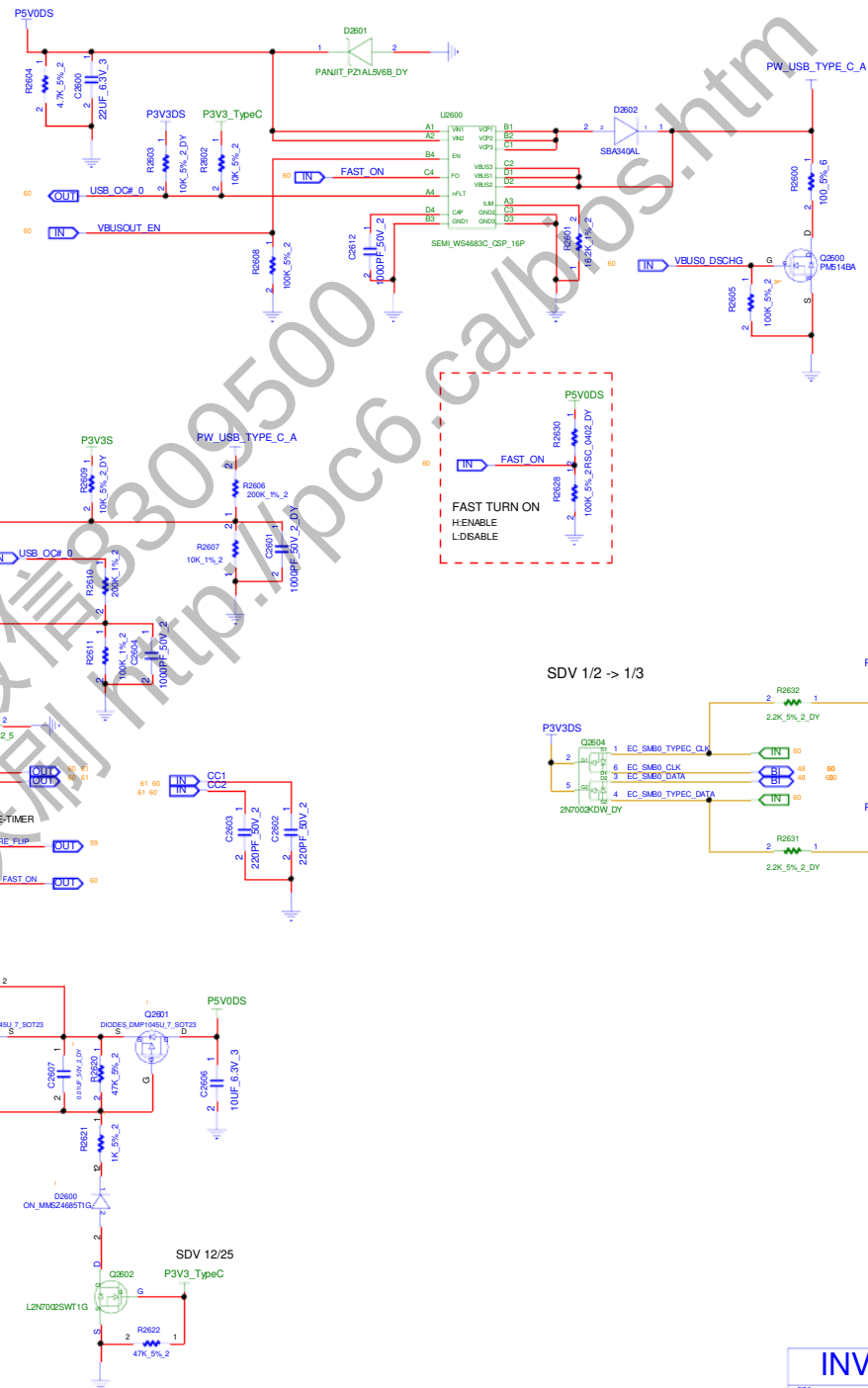
INVENTEC

TITLE MODEL PROJECT FUNCTION
SATA HDD CONN.

SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	58	of 101	

CHANGE by	DATE
XXX	21-OCT-2002
PCB P/N	60xxxxxxx
PCB VER	XXX

CC-CONTROLLER(RTS5452)

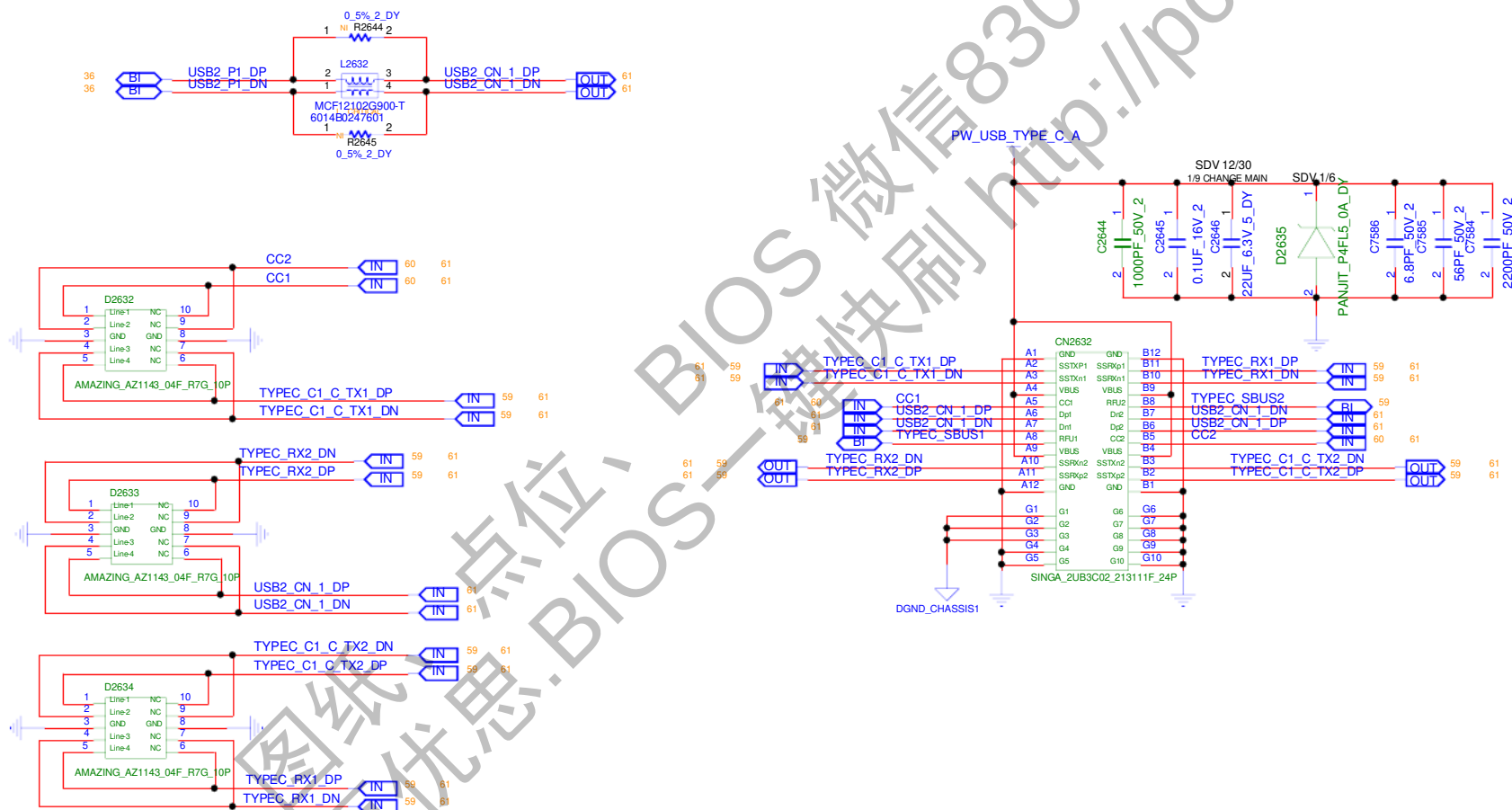


INVENTEC

FILE	MODEL_PROJECT.FUNCTION
SIZE	TPS5452
CODE	131050000000
SHEET	101

CHANGE IN XXXX DATE 21-OCT-2002 PCB VER XXXX <VER>

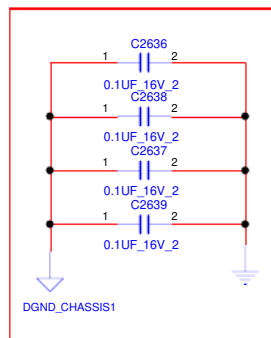
TYPE-C CONN.



RF CAPACITOR

56PF X1 6.8PF X1
2200PF X1

EMI

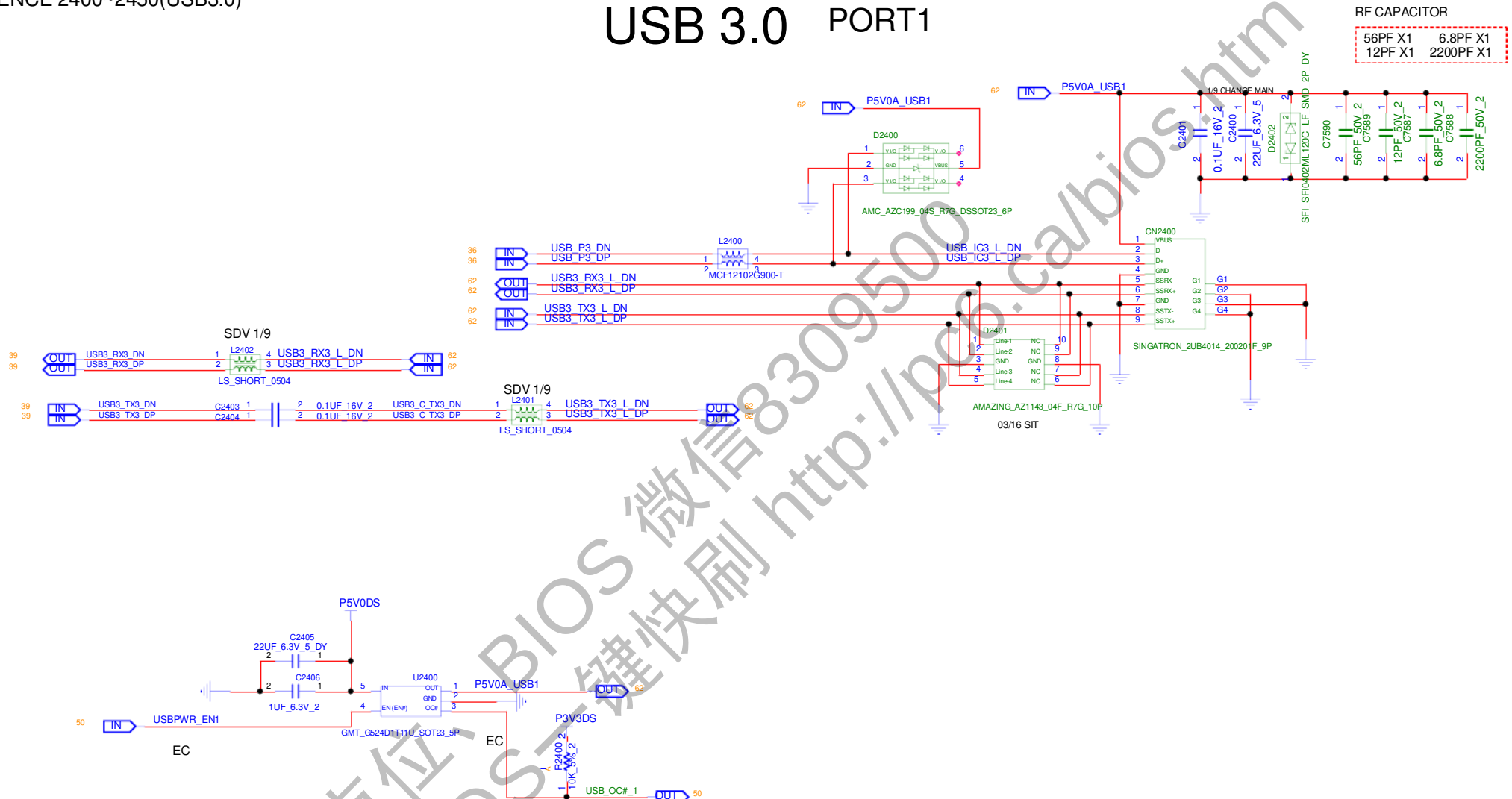


INVENTEC

TITLE			
MODEL PROJECT FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET 61 of 101			

REFERENCE 2400~2450(USB3.0)

USB 3.0 PORT1



INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block Diagram

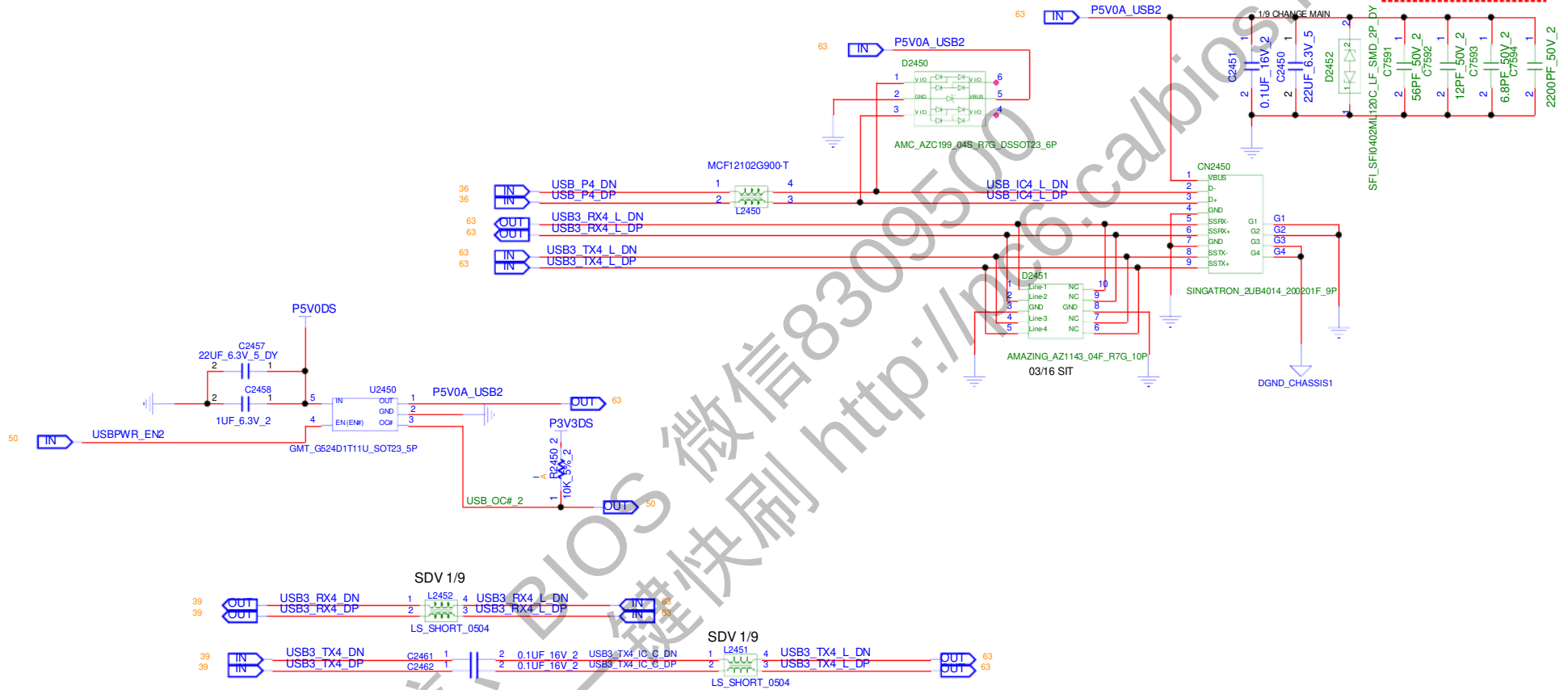
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET		62 of 101	

CHANGE by	DATE
XXX	21-OCT-2002
PCB P/N	60xxxxxxxx
PCB VER	XXX

REFERENCE 2450~2599(USB3.0)

USB 3.0 PORT2

RF CAPACITOR

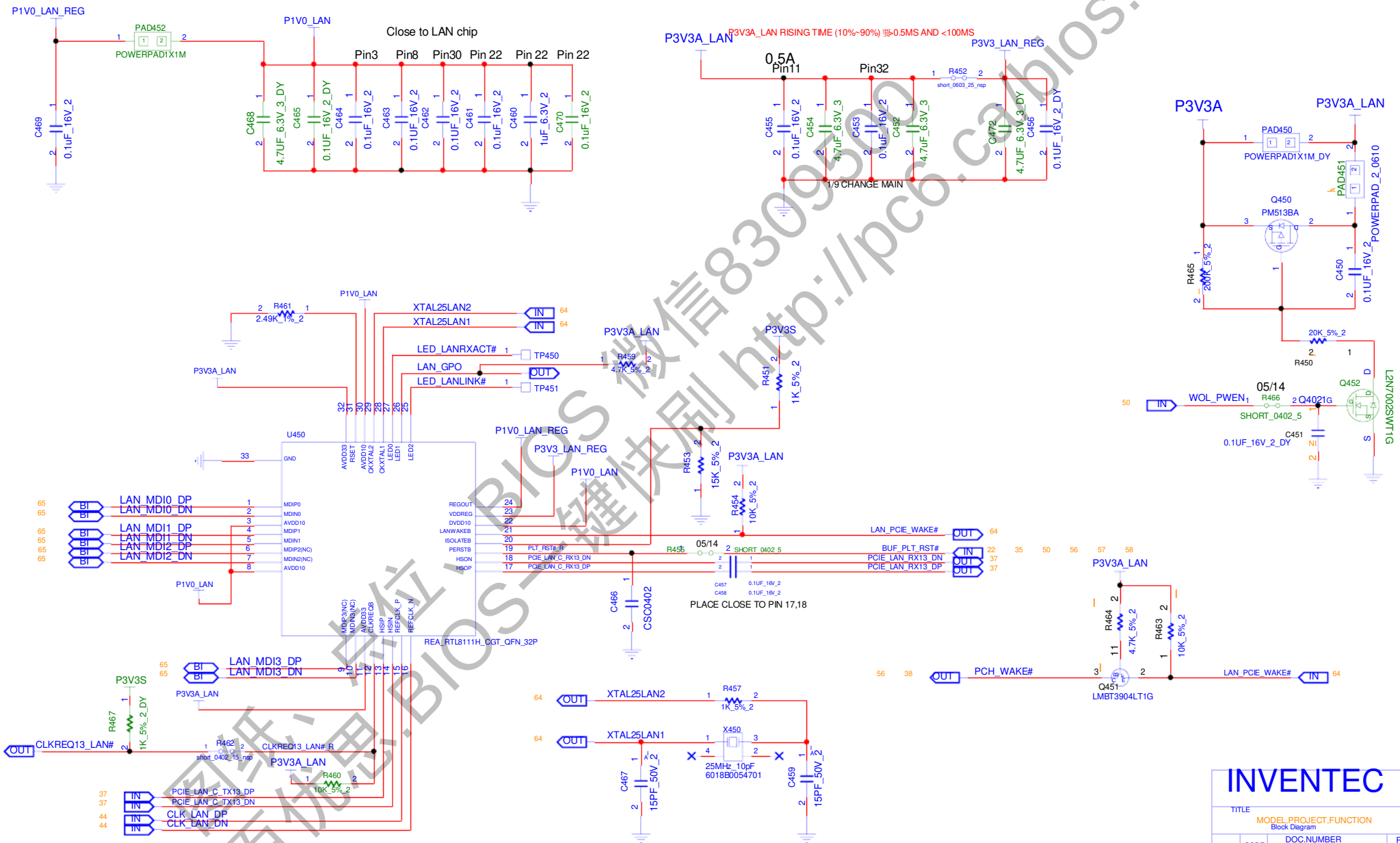
56PF X1
12PF X1
6.8PF X1
2200PF X1

INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block DiagramSIZE A3
CODE CS
SHEET 63 of 101
DOC NUMBER 1310xxxx-0-0
REV X01CHANGE by XXX
PCB P/N 60xxxxxxxxx
DATE 21-OCT-2002
PCB VER XXX

LOCATION 450 ~ 499
Ver.03_210120807

01. 請註記 +3V_LAN Rising time (10%~90%)要>0.5mS and <100mS.
02. LAN power Noise +3V_LAN < 200mV Vpeak to Vpeak.
03. LAN power Noise P1V0_LAN < 100mV Vpeak to Vpeak.



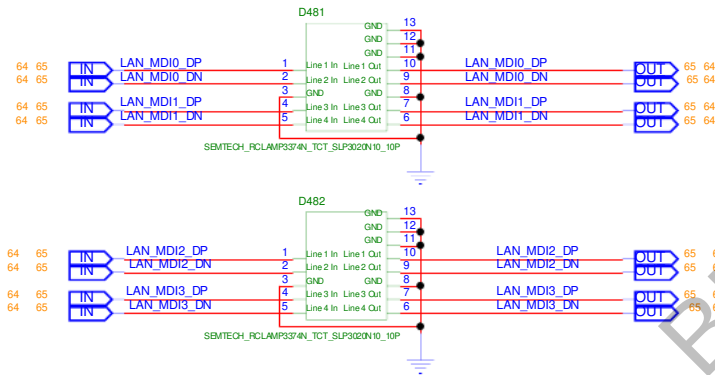
INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET 64 of 101			

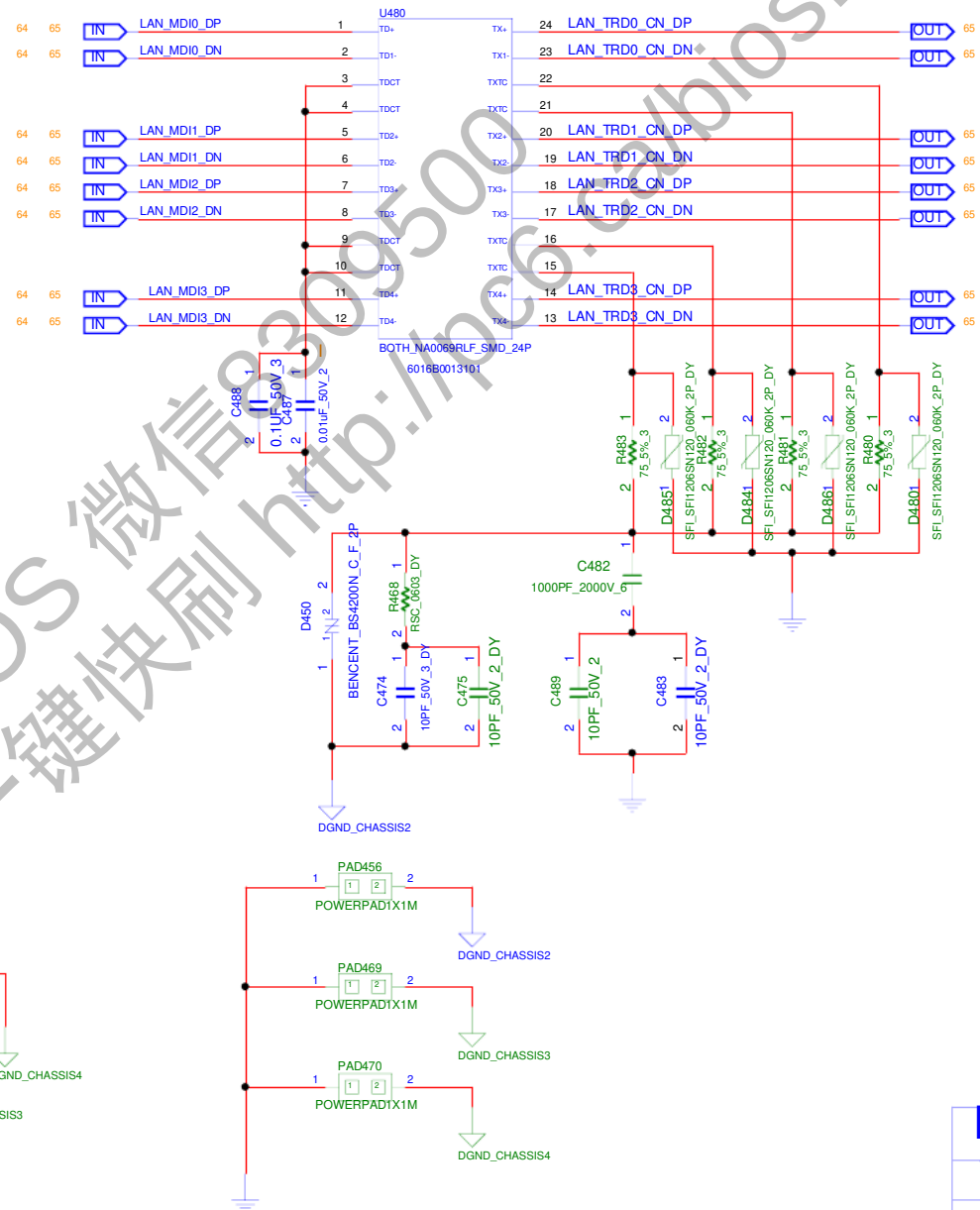
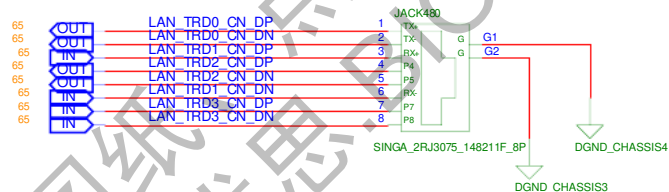
REFERENCE 450~499

TRANSFORMER

ESD



RJ-45



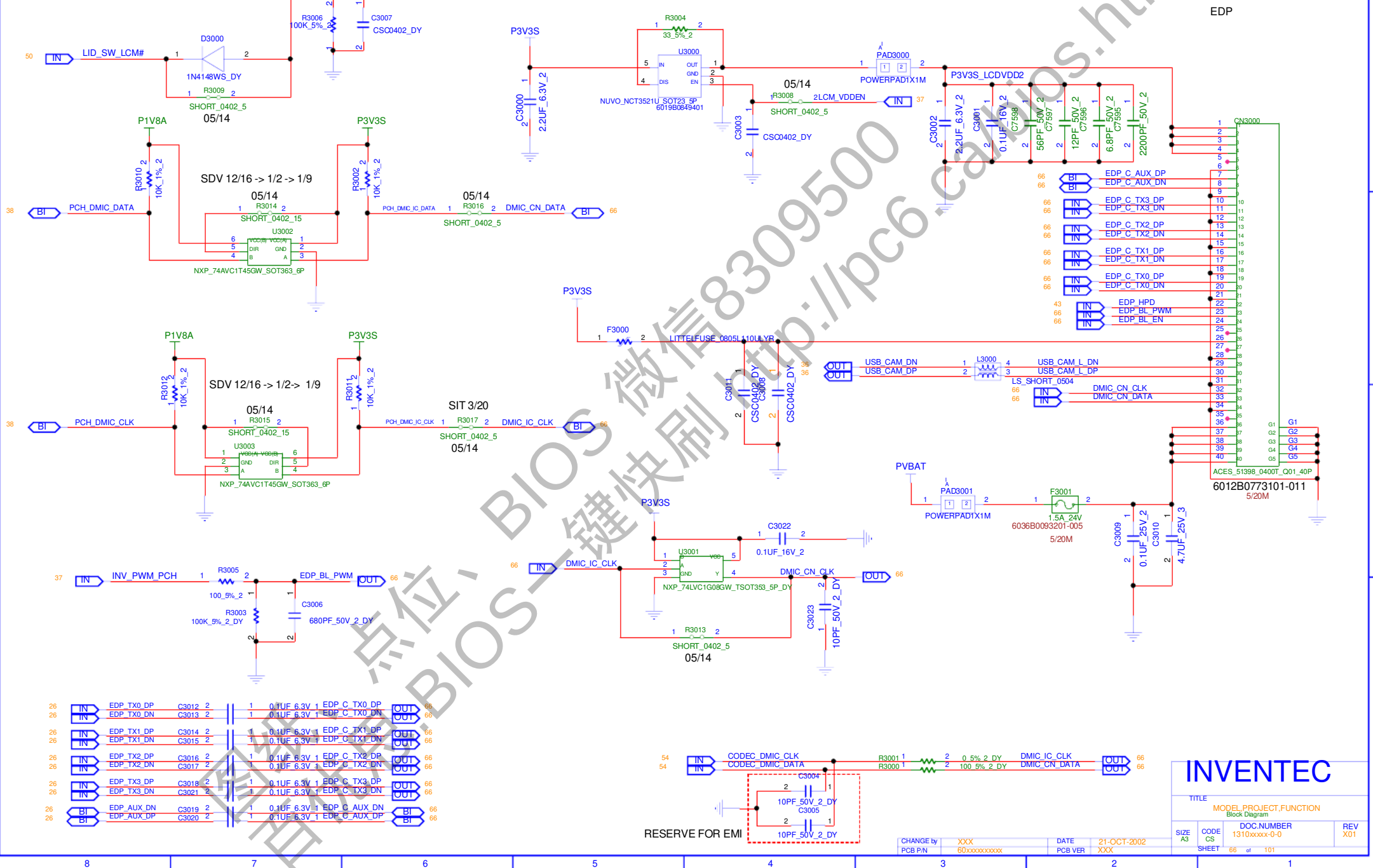
INVENTEC

TITLE			
MODEL PROJECT.FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET		65 of 101	

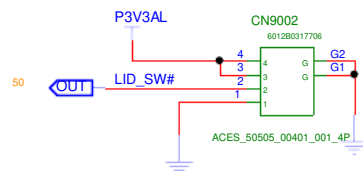
CHANGE by XXX DATE 21-OCT-2002
PCB P/N 60xxxxxxx PCB VER XXX

REFERENCE 3000~3049(LCM)

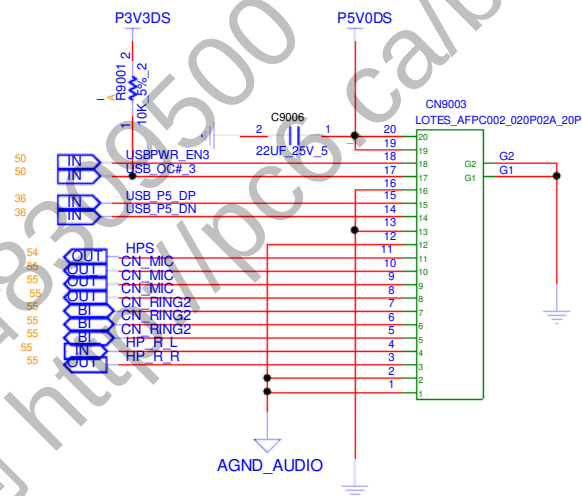
EDP CONN



HALL SENSOR BOARD CONN



SMALL BOARD CONN



INVENTEC

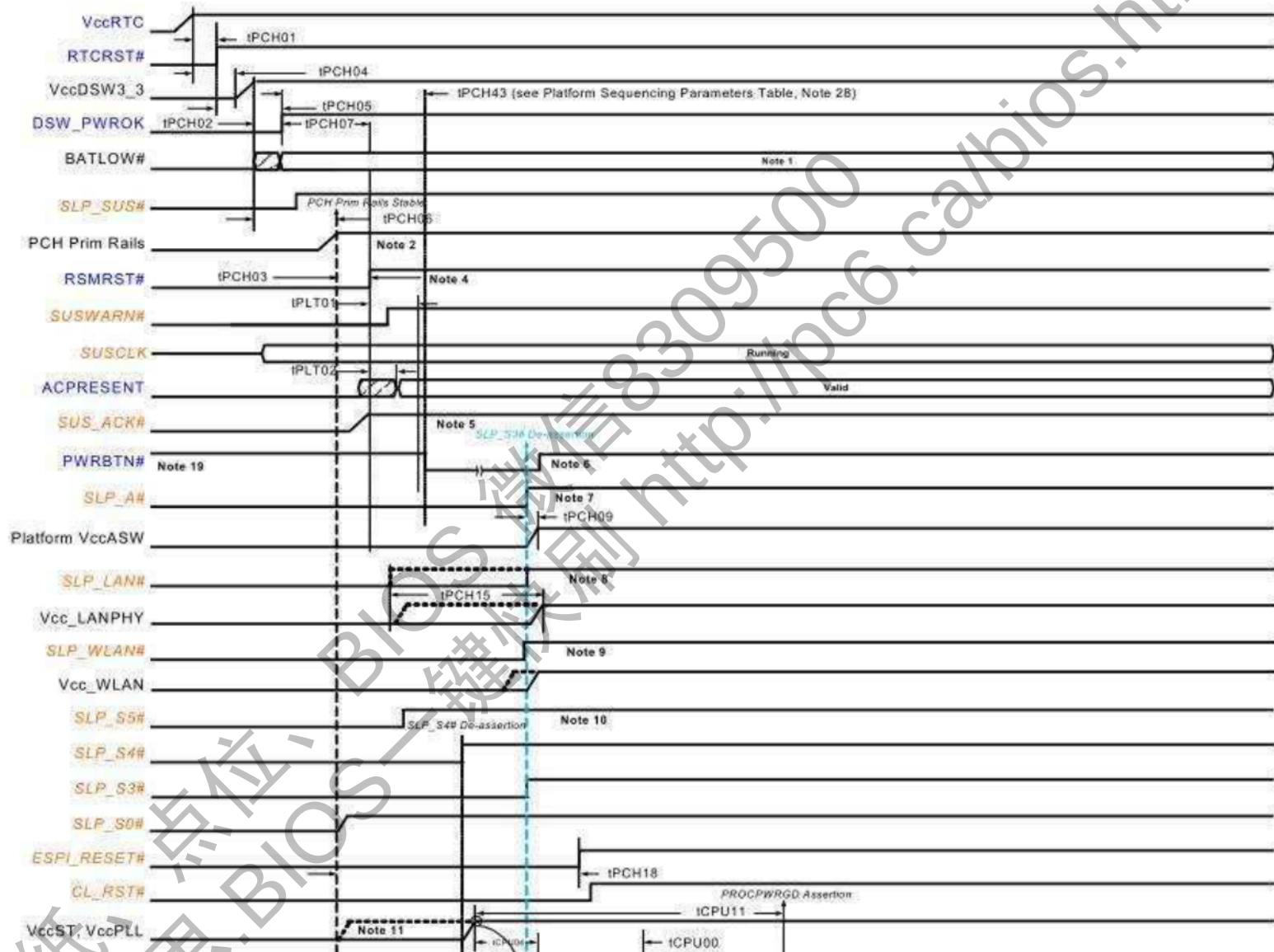
TITLE

MODEL PROJECT FUNCTION

Block Diagram

SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	67	of 101	

CHANGE by	DATE
XXX	21-OCT-2002
PCB P/N	PCB VER
60xxxxxxx	XXX



INVENTEC

TITLE

MODEL, PROJECT, FUNCTION

Block Diagram

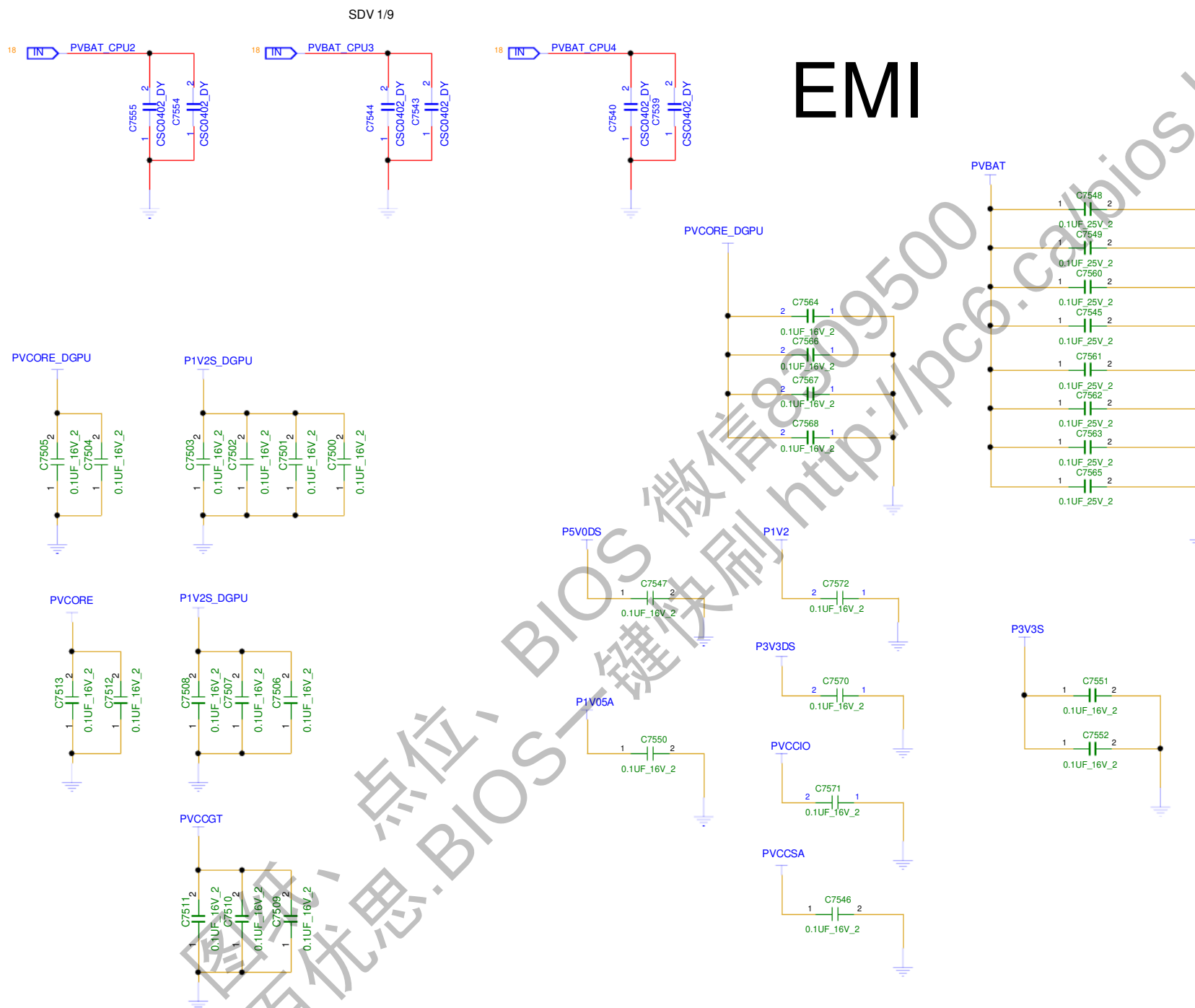
SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 68	of 101		

CHANGE by PCB P/N	XXX 60xxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	-------------------	-----------------	--------------------



INVENTEC

TITLE			
MODEL PROJECT.FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	69 of 101		



EMI

INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION NFC CNNN.			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET		70 of 101	

8

7

6

5

4

3

2

1

RESERVED

INVENTEC

TITLE

MODEL PROJECT FUNCTION
Block Diagram

SIZE
A3

CODE
CS

DOC NUMBER
1310xxxx-0-0

REV
X01

CHANGE by
PCB P/N

XXX
60xxxxxxxx

DATE
PCB VER

21-OCT-2002
XXX

SHEET 71 of 101

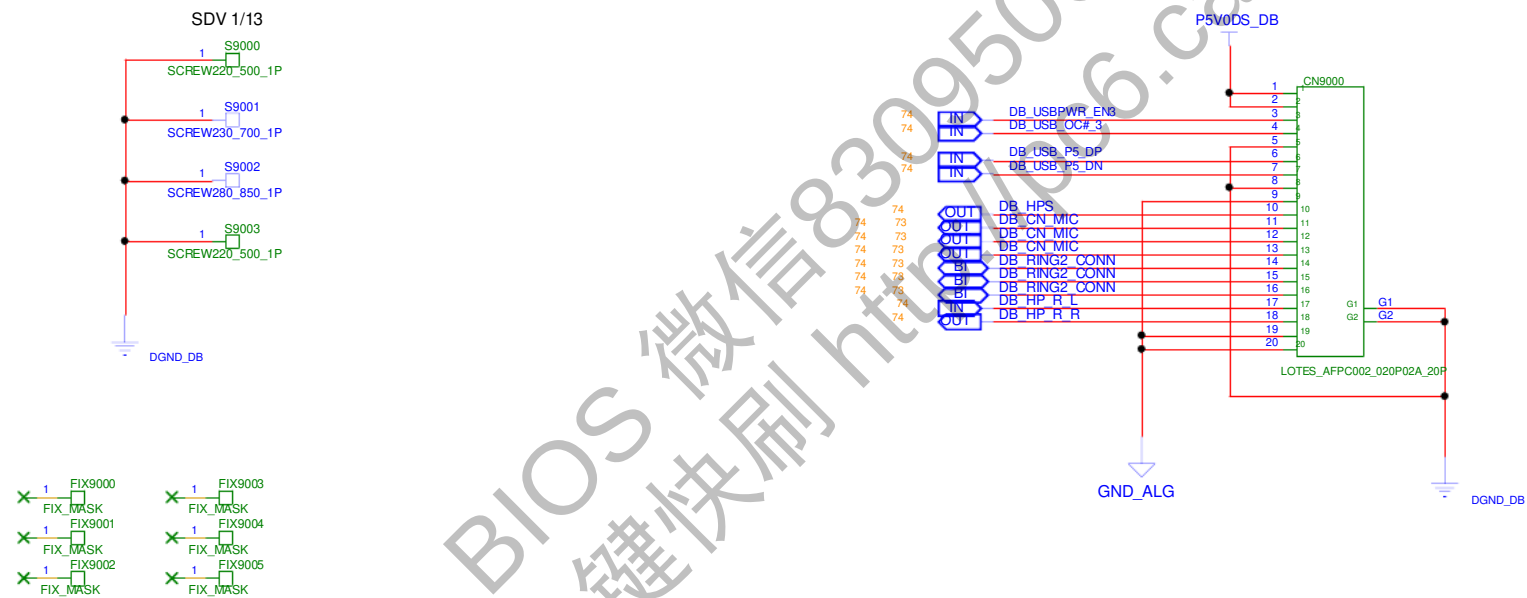
SMALL BOARD

INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 72 of 101			

CHANGE by PCB P/N	XXX 60xxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	-------------------	-----------------	--------------------



INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block Diagram

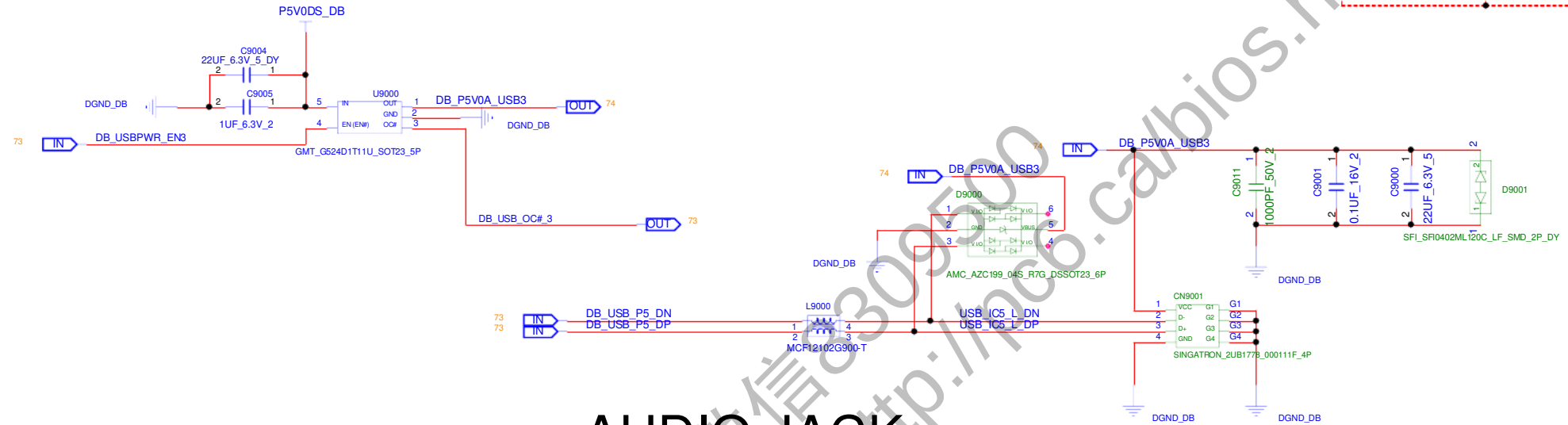
SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 73 of 101			

CHANGE by PCB P/N	XXX 60xxxxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	---------------------	-----------------	--------------------

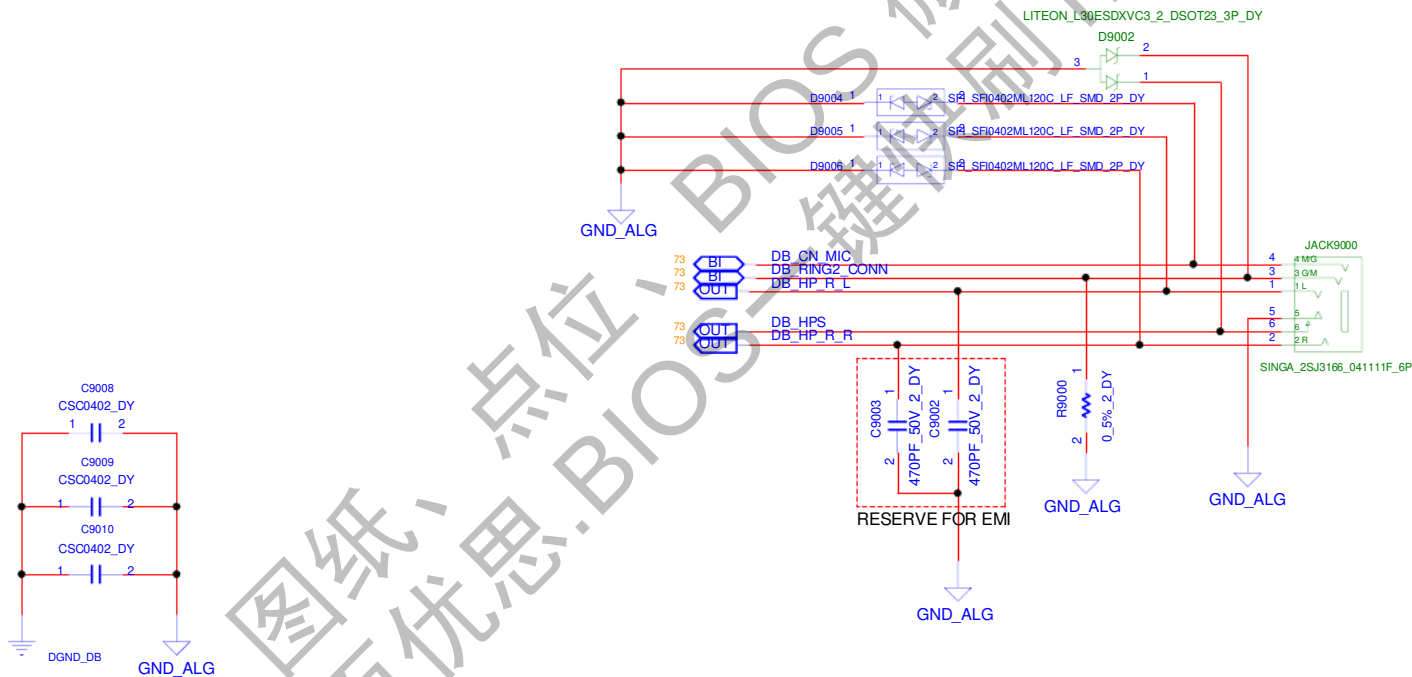
REFERENCE 9000~(USB2.0)

USB2.0 CNTR

D2000	NOTE
6011B0158001 ->6011B0158201	ADD D2001



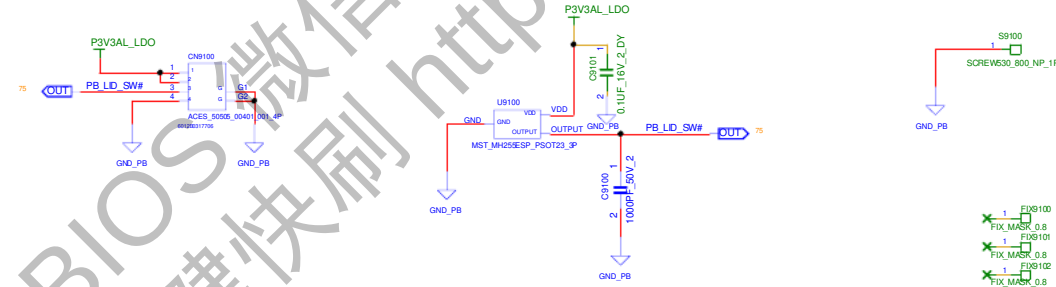
AUDIO JACK

**INVENTEC**

TITLE			
MODEL PROJECT FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	74	of 101	

CHANGE by XXX
PCB P/N 60xxxxxxx
DATE 21-OCT-2002
PCB VER XXX

HALL_SENSOR



- SDV 1/13
- 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8
 - 1 FIX_MASK_0.8

RESERVED

INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 76 of 101			

CHANGE by PCB P/N	XXX 60xxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	-------------------	-----------------	--------------------



TITLE			MODEL,PROJECT,FUNCTION		
			Block Diagram		
SIZE	CODE	DOC.NUMBER			
A3	CS	1310xxxx-0-0			
SHEET		78	of	101	

THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF INVENTEC CORPORATION AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION, INVENTEC CORPORATION, ALL RIGHT RESERVED.

NOTES:
1. HSF Property: Comply iSupplier system HSF property attribute up-to-date value.

N18P-G62

GDDR6 29X29(4PCS)

2020.1.13

21OCT-2002		
DATE	CHANGE NO.	REV

DESIGN/ DRAWER	XXX	DATE	21OCT-2002
CHECK			
APPROVAL			
FILE NAME			
PCB P/N	02000XXXXX	PCB VER	XXX

INVENTEC			
TITLE MODEL PROJECT FUNCTION			
SIZE	CODE	DOC NUMBER	REV
3	05	13100XXXX-00	001
SHEET	4	75	101

SHEET	CONTENT	SHEET	CONTENT
79	COVER	94	POWER SEQUENCE MAP
80	GPU Index	95	POWER SEQUENCE
81	GPU PCI-E GEN3 X 16	96	POWER LOAD & DISCHARGER
82	GPU FRAME BUFFER A	97	GPU_NVVDD (MP2884A)
83	GPU MEMORY FBA PARTITION 31-0	98	PVCORE_DGPU (MP86941_1-2P)
84	GPU MEMORY FBA PARTITION 63-32	99	P1V2S_DGPU (RT8237)
85	GPU FRAME BUFFER B	100	P1V0S_DGPU (RT8068A)
86	GPU MEMORY FBB PARTITION 31-0	101	P1V8S_DGPU (RT8068A)
87	GPU MEMORY FBB PARTITION 63-32	102	
88	GPU HDMI/DP	103	
89	GPU LVDS	104	
90	GPU BIOS/EXTERNAL STRAPS	105	
91	GPU GPIOs	106	
92	GPU POWER/GND	107	
93	OVR-M	108	

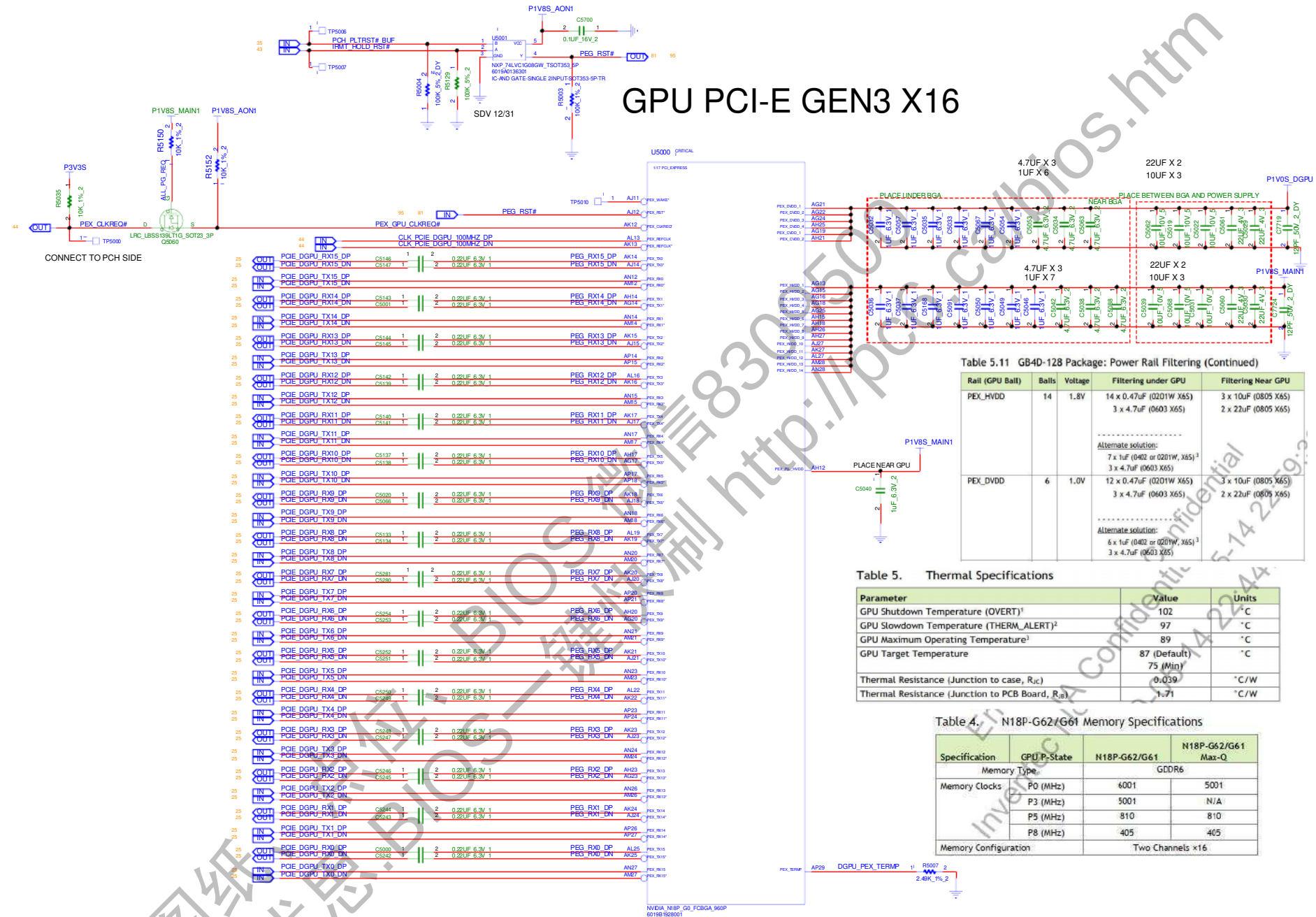
INVENTEC

TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET		80 of 101	

CHANGE by PCB P/N	XXX 60xxxxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	---------------------	-----------------	--------------------

GPU PCI-E GEN3 X16



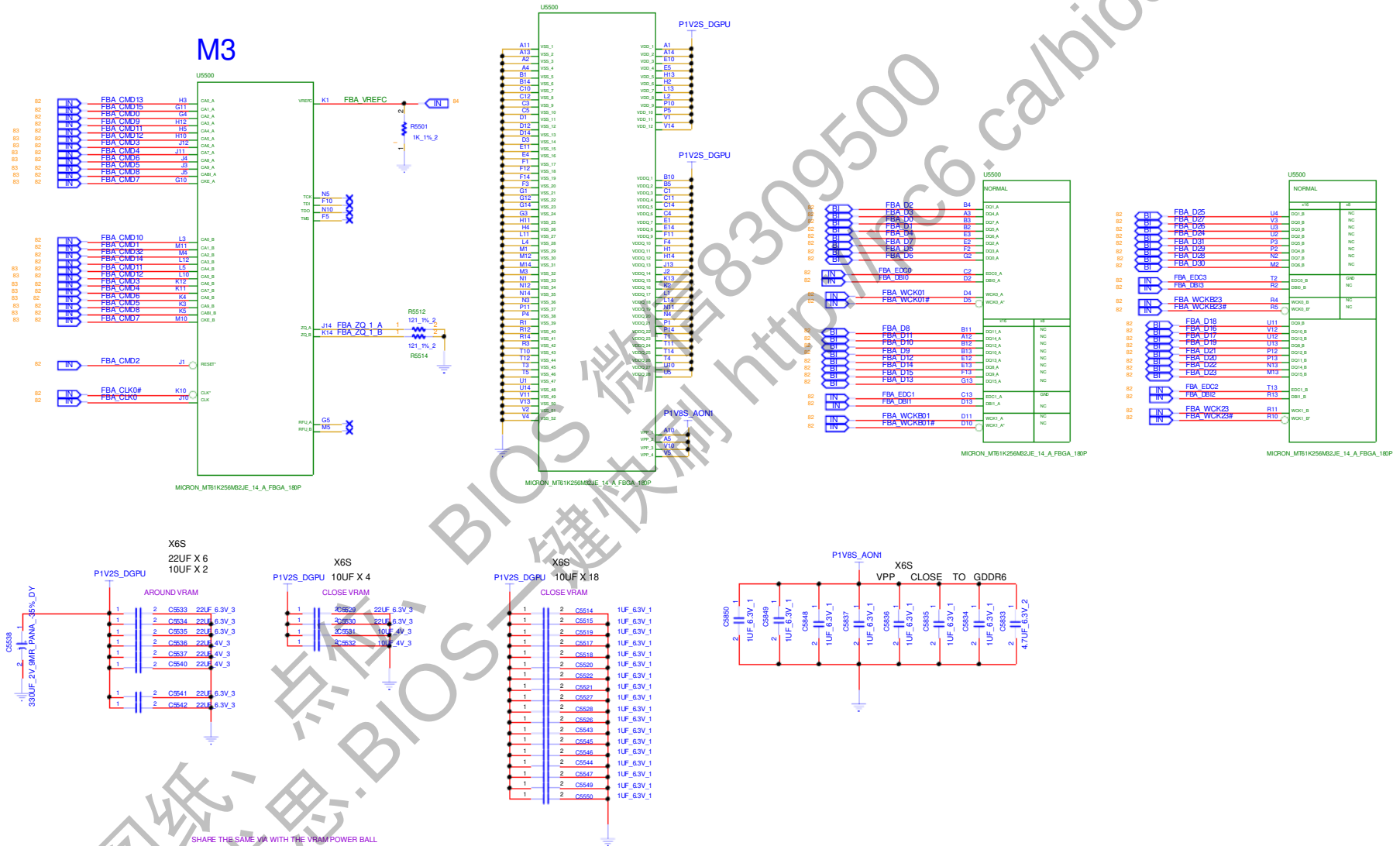
INVENTEC

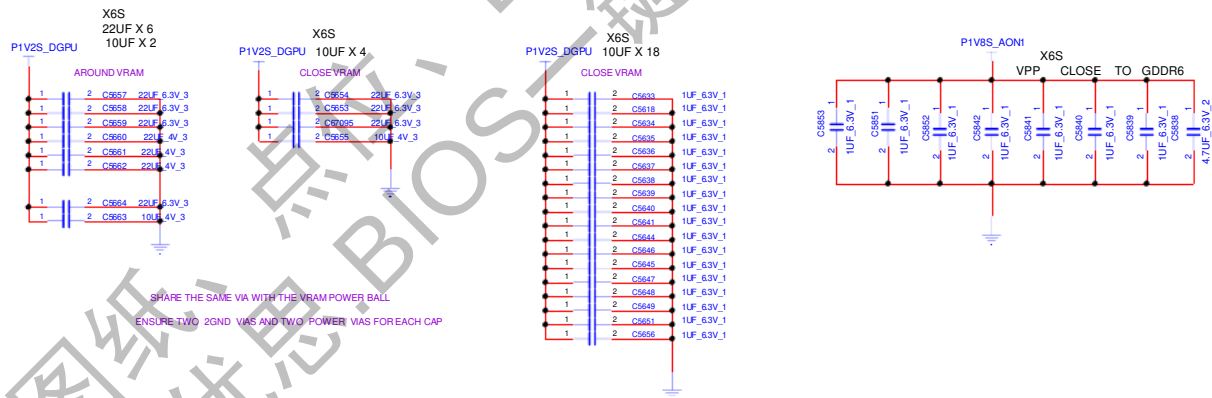
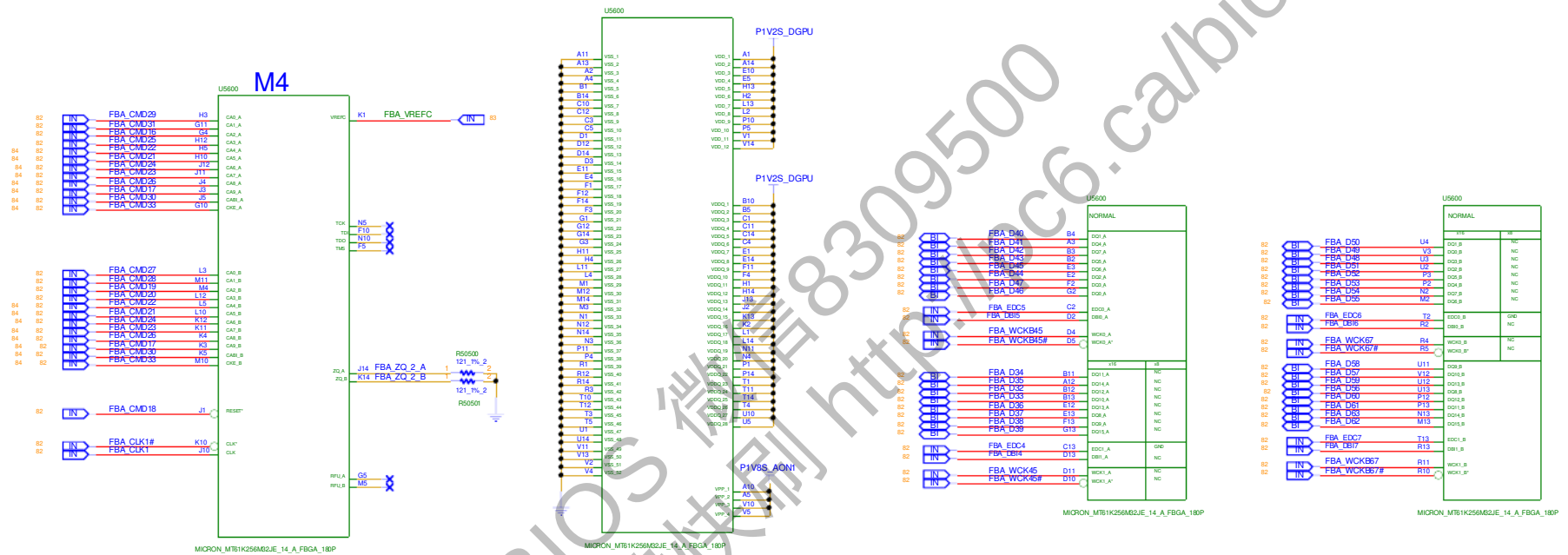
FILE
MODEL_PROJECT/Function
Block Diagram
SIZE A3
CODE CS
SHEET 61 of 101

CHANGE N XXX
PCB PIN 800000000000
DATE 21-OCT-2002
PCB VER XXX

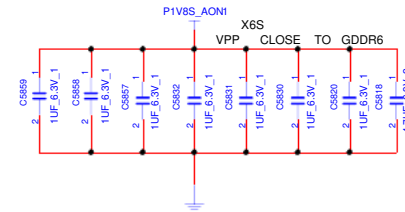
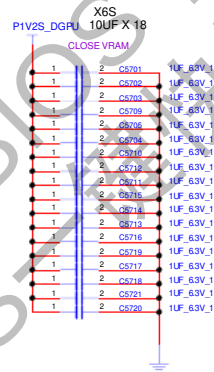
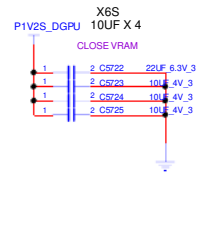
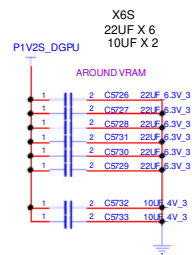
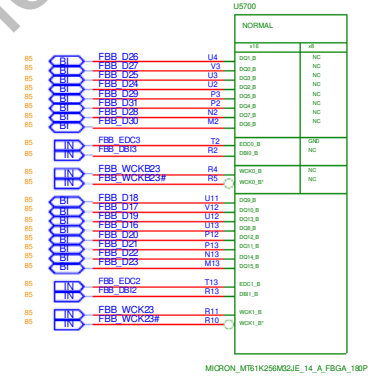
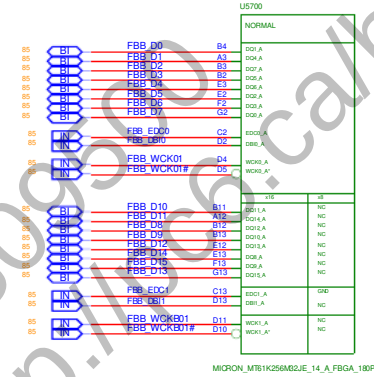
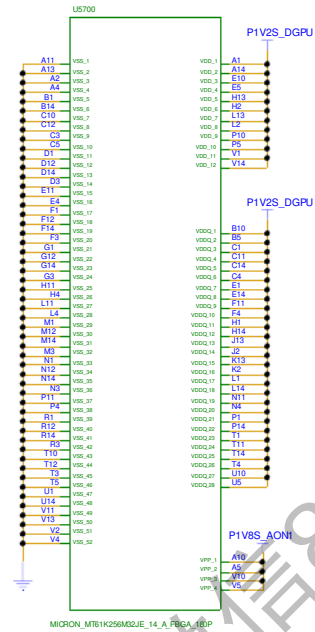
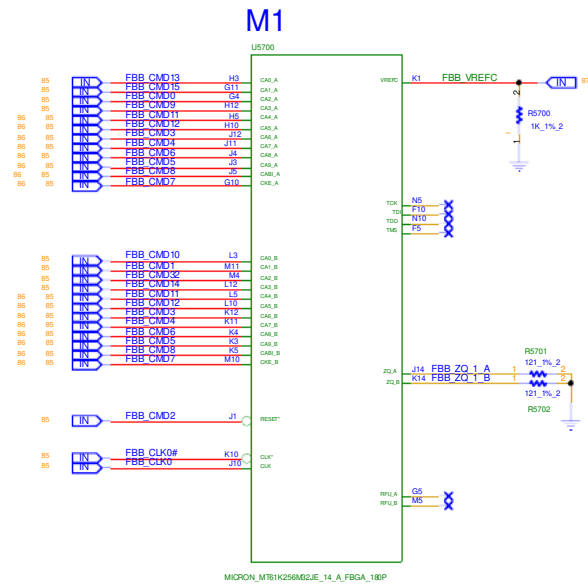
DOC NUMBER 13100000-000
REV X01

MEMORY :FBA PARTITION 31..0

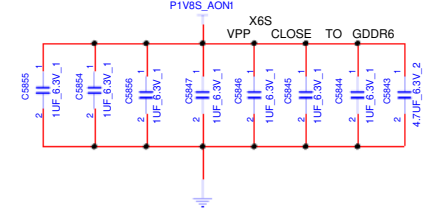
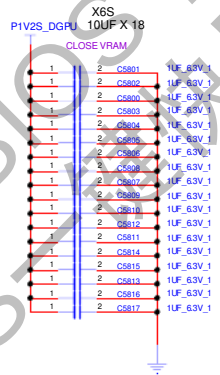
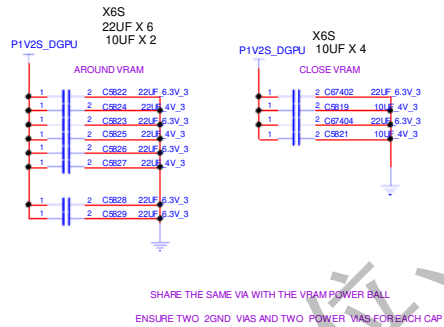
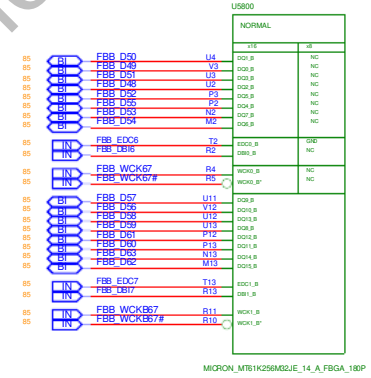
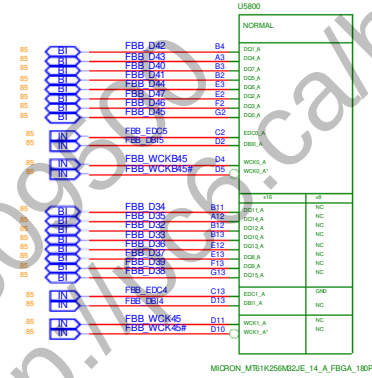
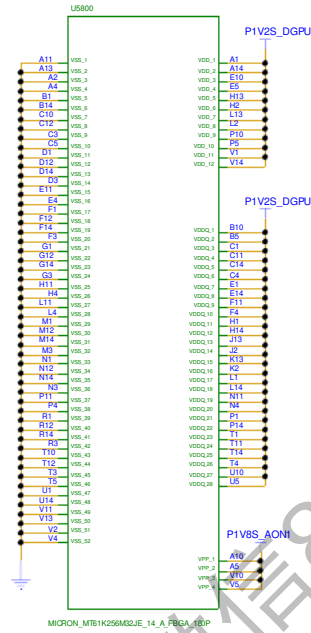
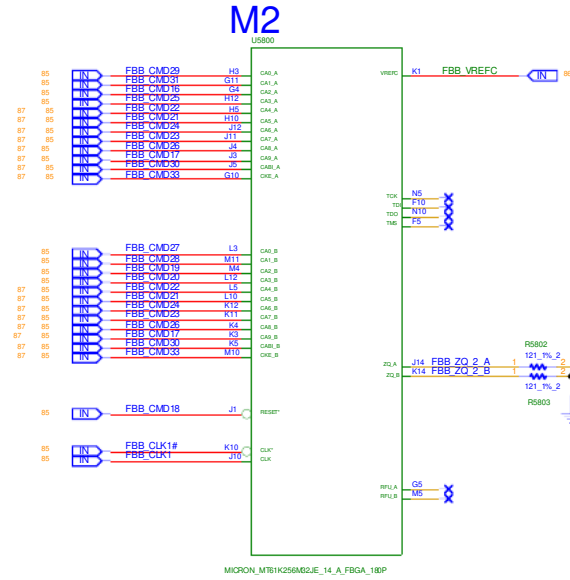




MEMORY :FBB PARTITION 31..0



MEMORY :FBB PARTITION 63..32



GPU HDMI/DP

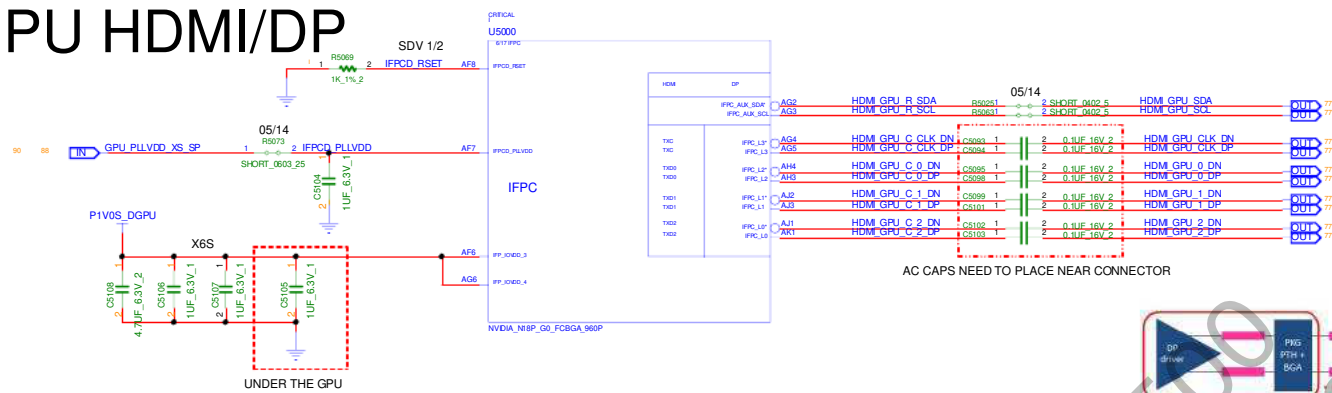


Table 9.3 GB4D-128 Standard Configurations

Link	Standard Display Configurations	
Link A	DisplayPort, DVI (Single Link)	DVI (Dual Link)
Link B	DisplayPort, DVI (Single Link)	
Link C	DisplayPort, HDMI , DVI (Single Link)	
Link D	eDP only (does not support drive of an external display)	
Link E	DisplayPort, HDMI, DVI (Single Link)	

Note: Maximum of four independent simultaneously served display heads supported.
Note: eDP is supported on IFPD only

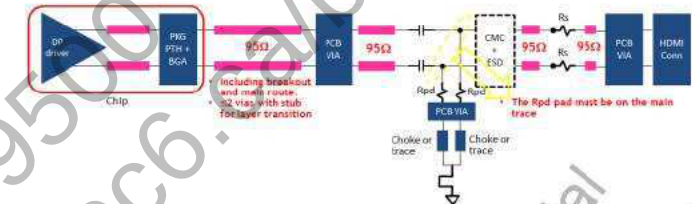
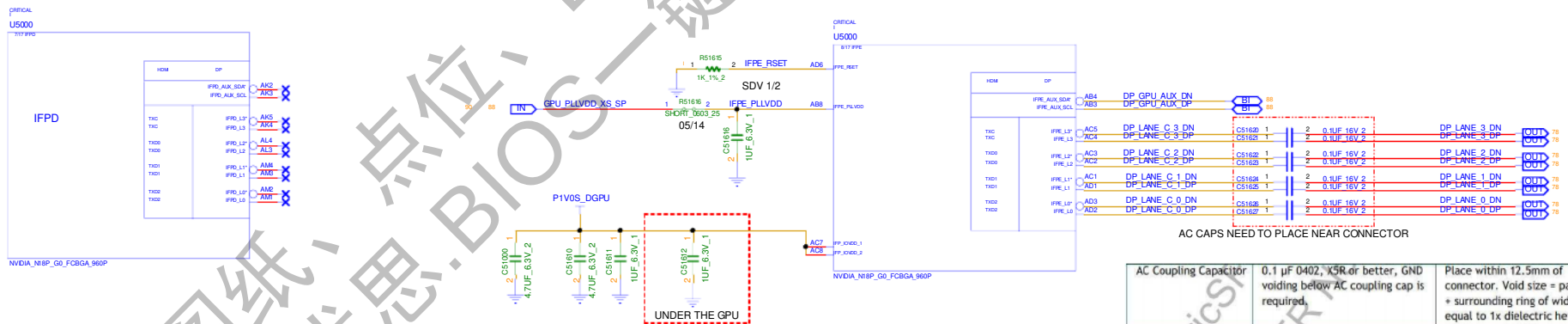


Figure 9.9 GPU-to-HDMI Connection Diagram



AC Coupling Capacitor	0.1 μ F 0402, X5R or better, GND voiding below AC coupling cap is required.	Place within 12.5mm of connector. Void size = pad size + surrounding ring of width equal to 1x dielectric height.
-----------------------	---	---

INVENTEC

TITLE

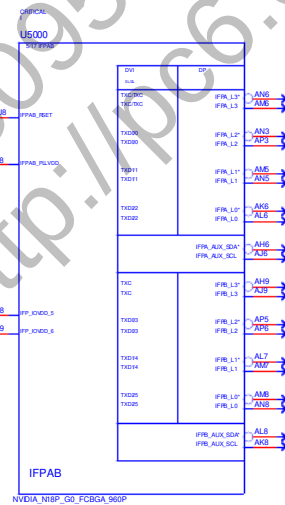
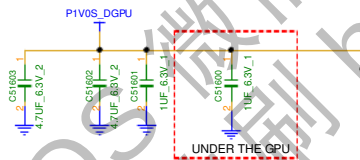
MODEL,PROJECT,FUNCTION

Block Diagram

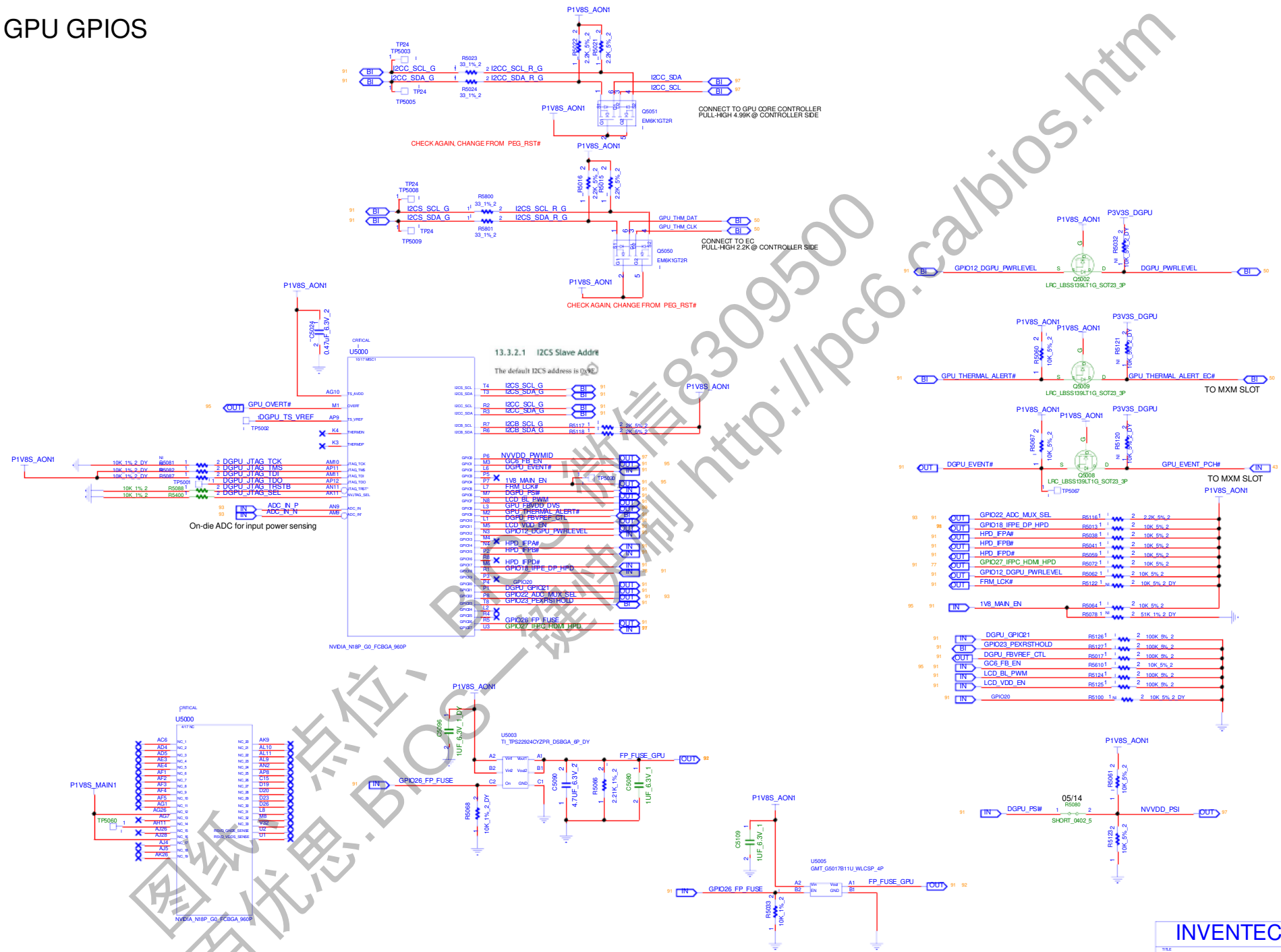
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60XXXXXXXXXX	PCB VER	XXX

SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET		88	of 101

图纸、点位、



GPU GPIOs

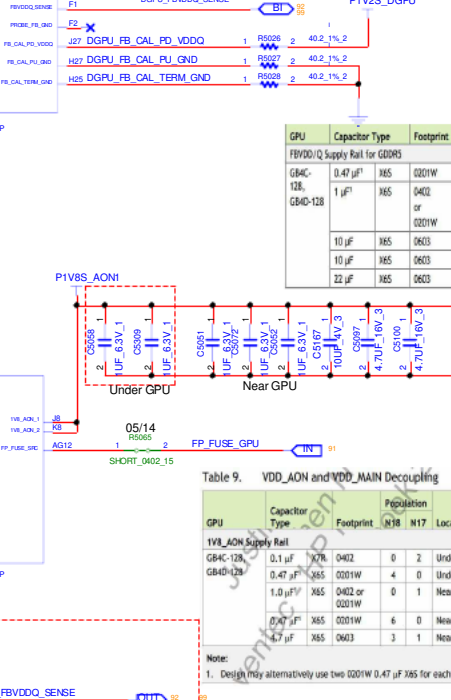
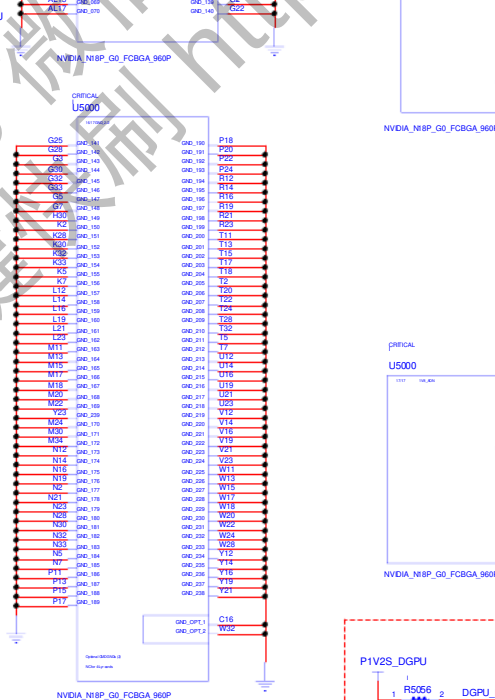
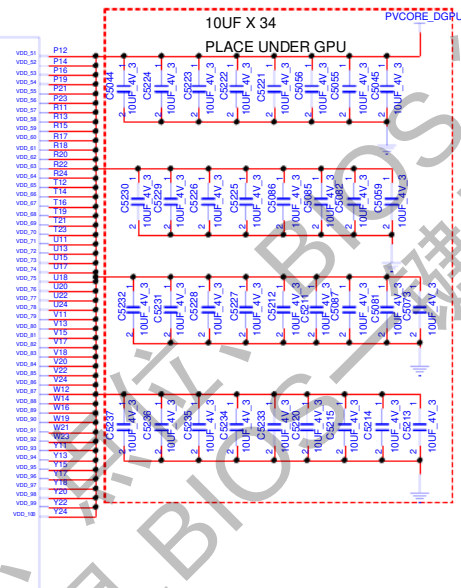
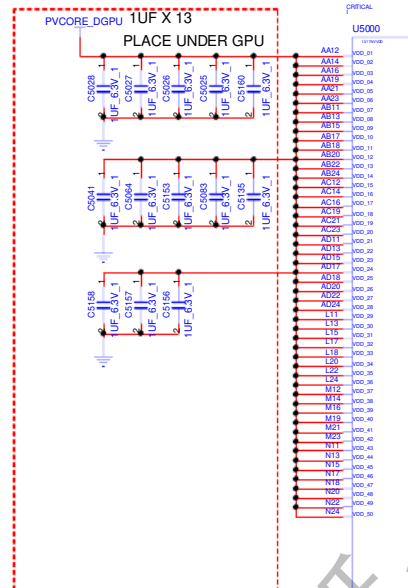
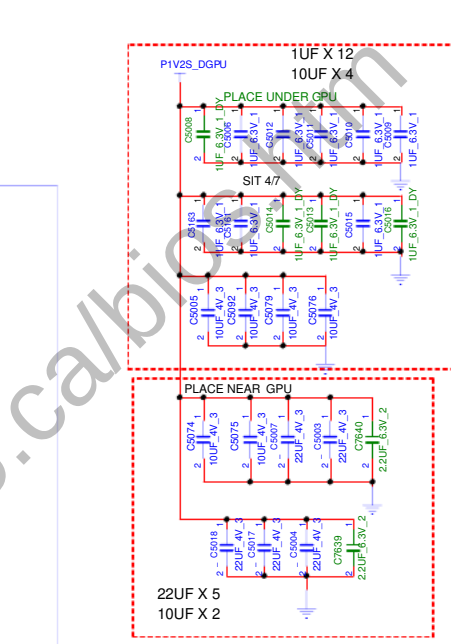
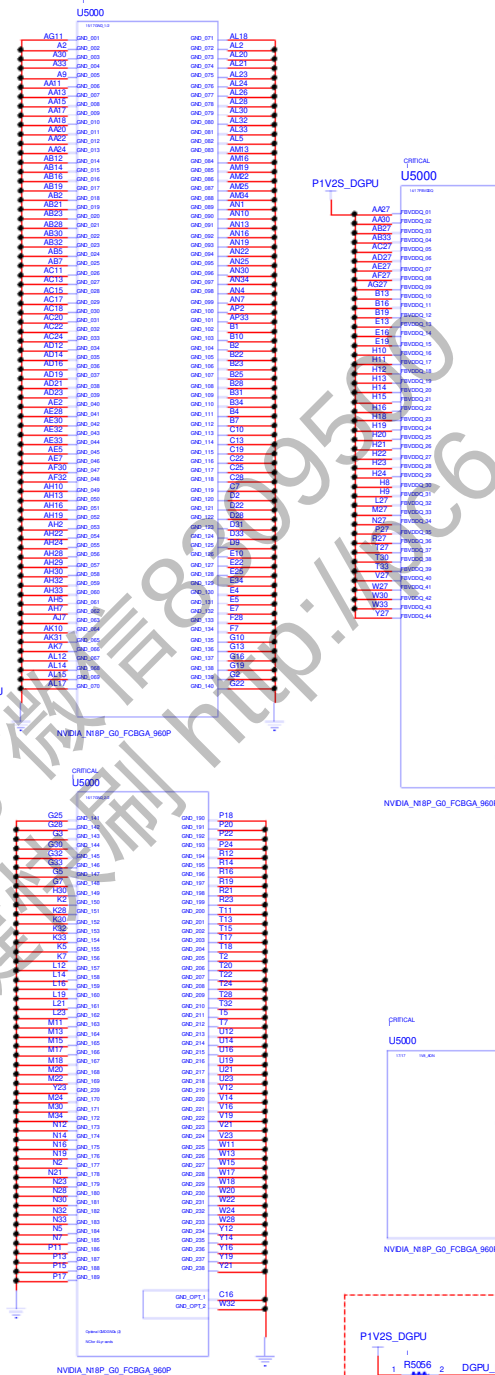
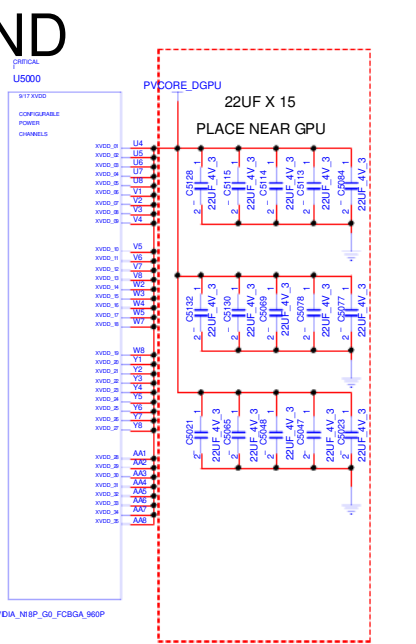


INVENTEC

CHANGE by	XXXX	DATE	21-OCT-2002	SIZE	A3	CODE	CS	DOC NUMBER	1310-xxxx-0-0	REV	X01
PCB P/N	60xxxxxxx	PCB VER	XXXX			SHEET		91	of	101	

GPU POWER/GND

GPU	Capacitor Type	Footprint	Population	N18	N17	Location
NVVDD Supply Net						
GB4C-128, GB4D-128	10 μ F ¹	X65	D603	34	21	Under GPU
	1 μ F ¹	X65	D402 or D201W	0	13	Under GPU
	0.47 μ F ¹	X65	D402 or D201W	26	0	Under GPU
	10 μ F	X65	D603	0	11	Near GPU
	22 μ F	X65	D805	15	10	Near GPU
	4.7 μ F	X65	D603	0	2	Near GPU
	330 μ F	POS	T343	0	1	Near GPU



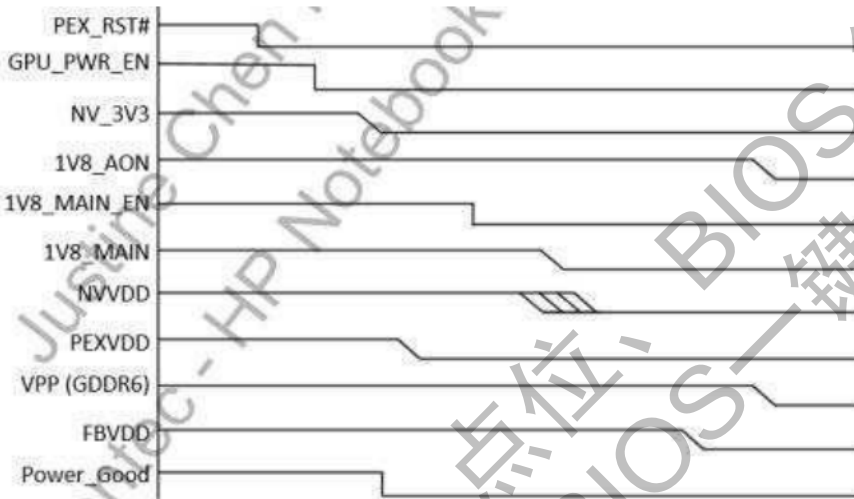
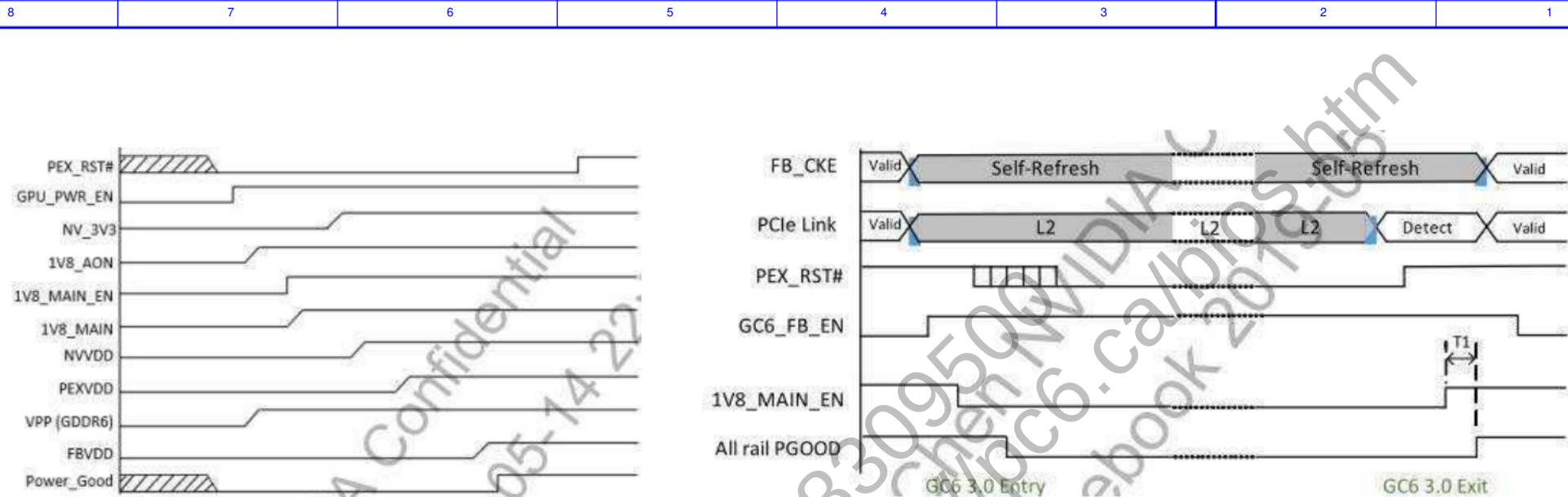
GPU	Capacitor Type	Footprint	N18	N17	Location	
F1VDDQ/Q Supply Rail for GDDR5						
GB4C-128, GB4D-128	0.47 μ F ¹	X65	D201W	24	0	Under GPU
	1 μ F	X65	D402 or D201W	0	12	Under GPU
	10 μ F	X65	D603	4	4	Under GPU
	10 μ F	X65	D603	2	2	Near GPU
	22 μ F	X65	D603	5	5	Near GPU

Table 9. VDD_AON and VDD_MAIN Decoupling

GPU	Capacitor Type	Footprint	Population	N18	N17	Location
F1V_AON Supply Rail						
GB4C-128, GB4D-128	0.1 μ F	X78	D402	0	2	Under GPU
	0.47 μ F ¹	X65	D201W	4	0	Under GPU
	1.0 μ F ¹	X65	D402 or D201W	0	1	Near GPU
	0.47 μ F	X65	D201W	4	0	Near GPU
	4.7 μ F	X65	D603	3	1	Near GPU

Note:
1. Design may alternatively use two 0201W 0.47 μ F X65 for each 0201W 1 μ F.

INVENTEC

**INVENTEC**TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 94 of 101			

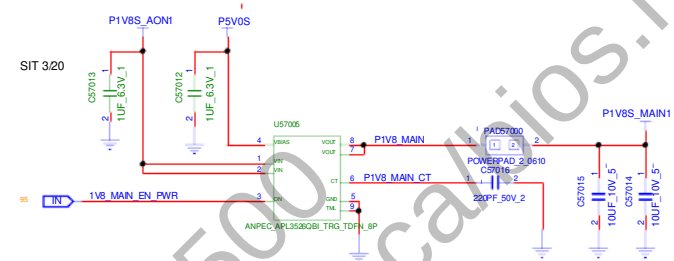
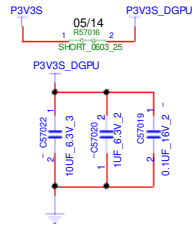
CHANGE by PCB P/N	XXX 60xxxxxxxx	DATE PCB VER	21-OCT-2002 XXX
----------------------	-------------------	-----------------	--------------------

1V8 AON EN

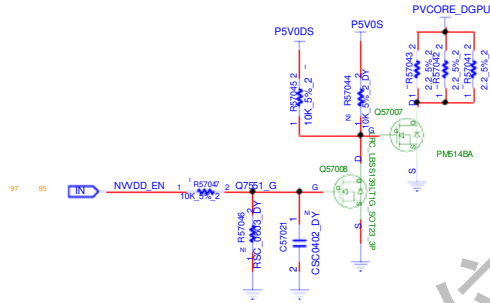


		TITLE MODEL,PROJECT,FUNCTION Block Diagram		
CHANGE BY PCB.PIN	XXX 00000000000000000000	DATE PCB.VER	21-OCT-2002 XXX	SIZE A3 CODE CS DOC NUMBER 13100000000000000000 REV X01
		SHEET		95 of 101

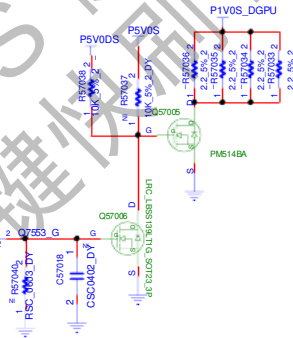
1V8_MAIN



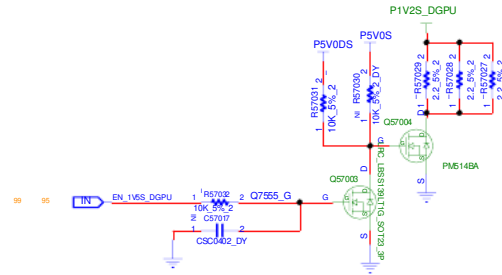
NVDD DISCHARGE



PEXVDD DISCHARGE



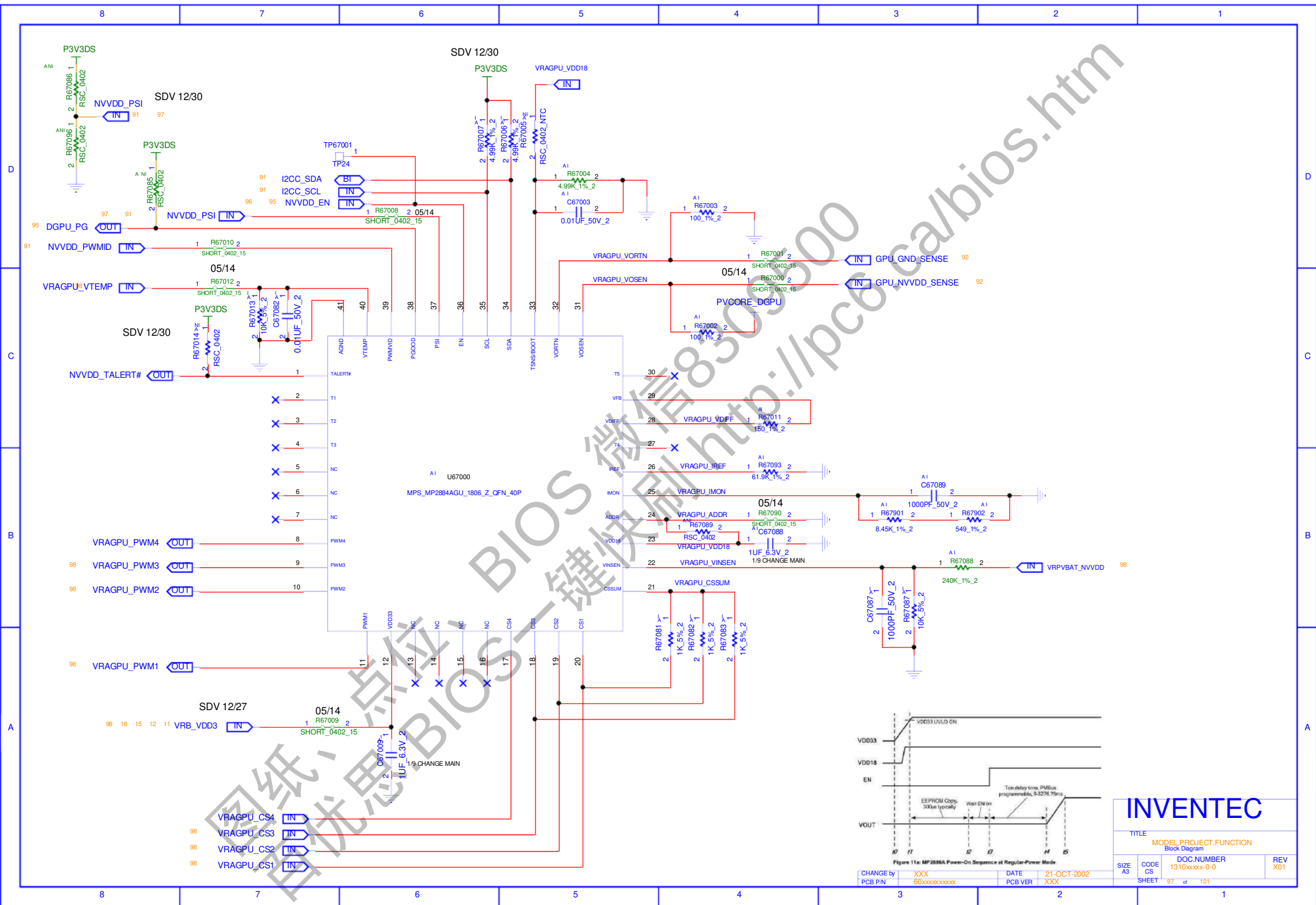
FBVDD DISCHARGE

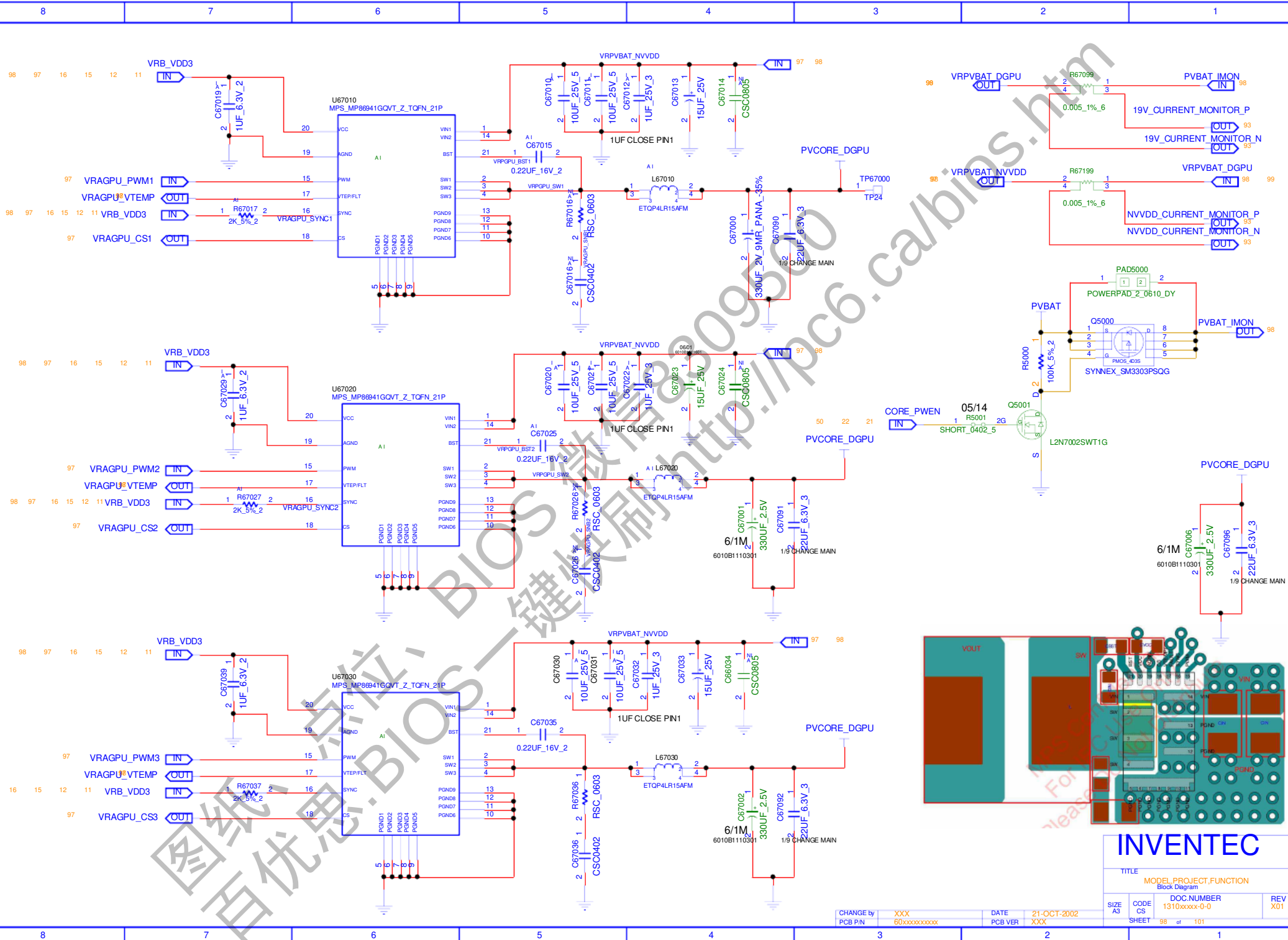


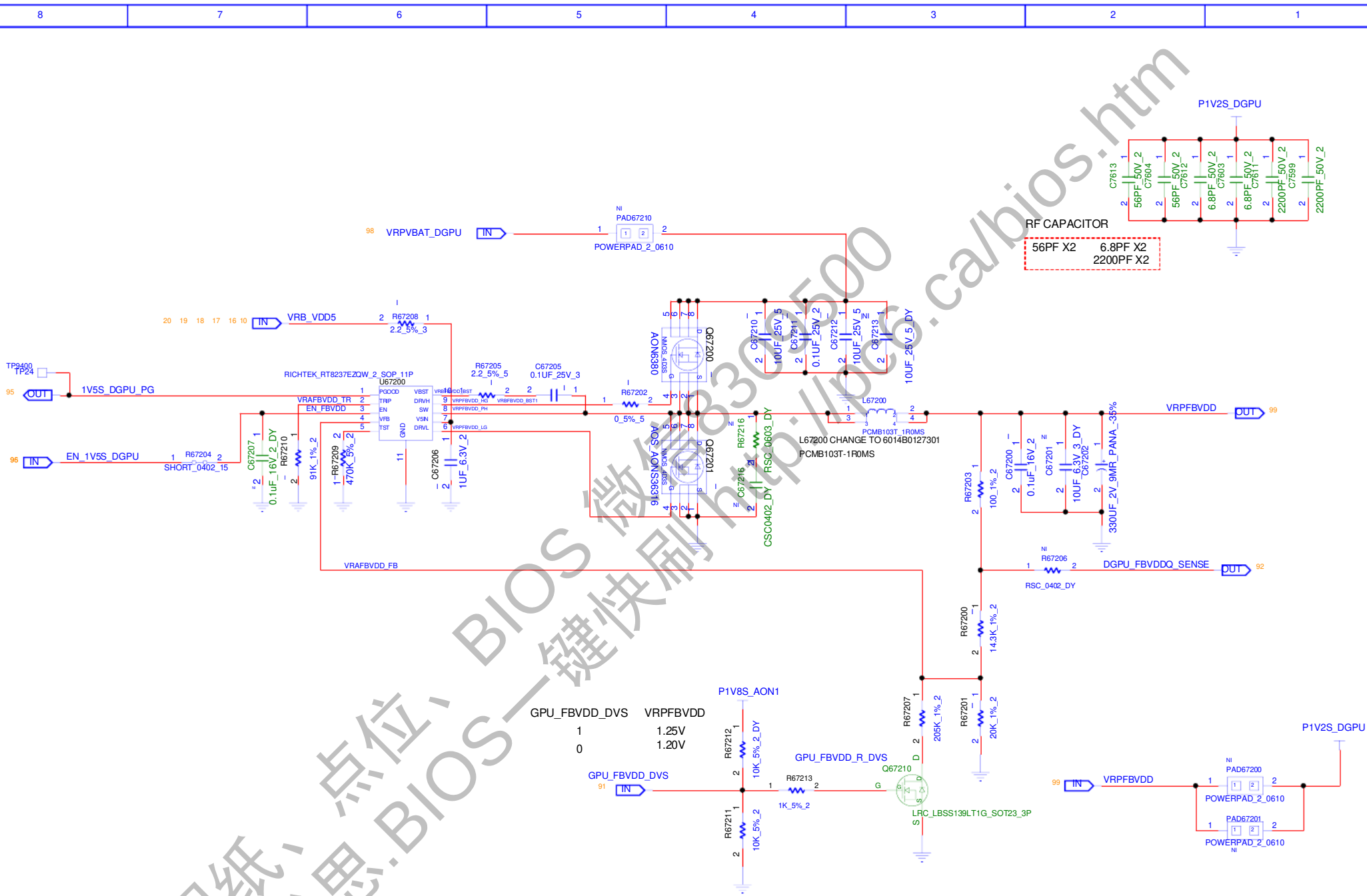
INVENTEC

TITLE		MODEL_PROJECT/FUNCTION		BLOCK DIAGRAM	
SIZE	A3	CODE	CS	DOC NUMBER	131020000-00
SHEET	66	REV	101		

CHANGED BY	XXX	DATE	21-OCT-2002
PCB PIN	800000000000	PCB VER	XXX





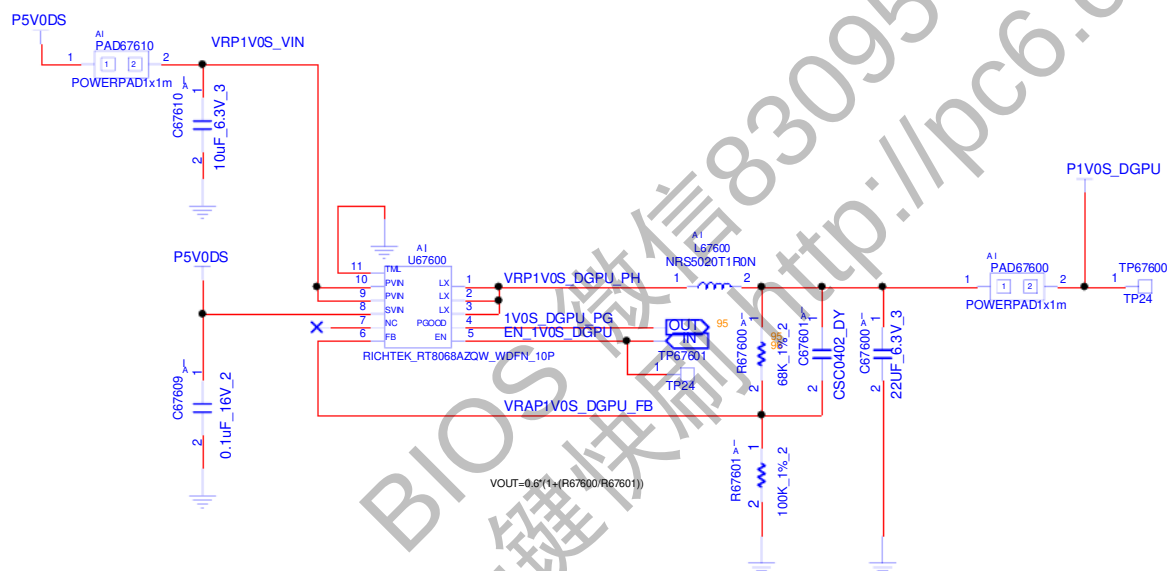


INVENTEC

TITLE	MODEL, PROJECT, FUNCTION
	Block Diagram

SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	RE X0
SHEET		99 of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxx	PCB VER	XXX

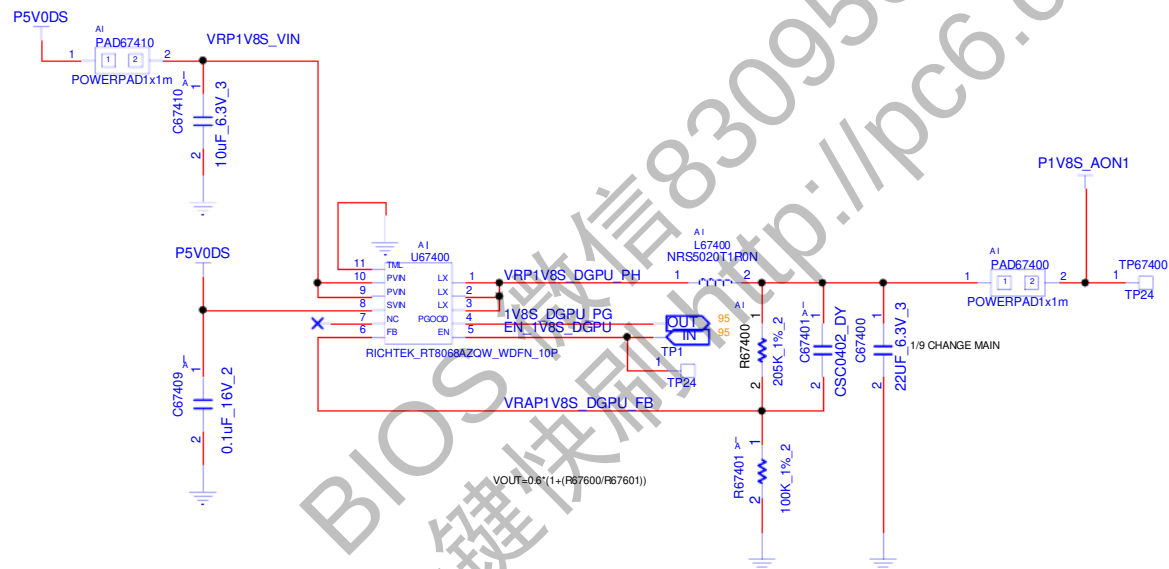


INVENTEC

TITLE	MODEL,PROJECT,FUNCTION
Block Diagram	

SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET		100 of 101	

CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX

**INVENTEC**TITLE
MODEL PROJECT FUNCTION
Block Diagram

SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET		101 of 101	

CHANGE by	DATE
XXX	21-OCT-2002
PCB P/N	PCB VER
60xxxxxxxxx	XXX