

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, 2009 ALL RIGHT RESERVED.

HSF Property: ROHS or Halogen-Free(5L3?)

CALVIN DIS

DB BUILD

2011.05.23

23 MAY 2011		
DATE	CHANGE NO.	

	EE	DATE	POWER	DATE	INVENTEC			
DRAWER					TITLE			
DESIGN					MODEL PROJECT FUNCTION			
CHECK					PROJECT NAME			
RESPONSIBLE								
SIZE				VER:	SIZE	CODE	DOC NUMBER	REV
FILE NAME					5	01	1310KXKX-0-0	2011
PIN					SHEET			

TABLE OF CONTENTS

1. PROJECT NAME	28. IVY BRIDGE_6 (GND,RESERVED)	54. WWAN & WLAN & SIM
2. TABLE OF CONTENTS	29. DDR3_SO-DIMM0	55. DOCKING CONN
3. BLOCK DIAGRAM	30. DDR3_SO-DIMM1	56. POWER & WLAN_LED
4. BATTERY CHARGER	31. PANTER POINT_1 (HDA,JTAG,SPI,SATA)	57. SCREW
5. SELECTOR & BATTERY CONN	32. PANTER POINT_2 (PCI-E,SMBUS,CLK)	58. WIRELESS / QUICK WEB / MUTE LED
6. OCP	33. PANTER POINT_3 (DMI,FDI,GPIO)	59. SMART CARD
7. SYSTEM POWER (P3V3 / P5V0)	34. PANTER POINT_4 (LVDS,DDI)	60. EXPRESS CARD CONN
8. SYSTEM POWER (P3V3 / P5V0_PORT)	35. PANTER POINT_5 (PCI,USB,NVRAM)	61. EXPRESS CARD/POINT STICH/TOUCH PAD
9. SYSTEM POWER (P1V5)	36. PANTER POINT_6 (GPIO,VSS_NCFT,RSVD)	62. AUDIO
10. SYSTEM POWER (P1V05_LAN_M)	37. PANTER POINT_7 (POWER)	63. EXT. MIC / MIC / HP
11. SYSTEM POWER (P1V0_VCCP)	38. PANTER POINT_8 (POWER)	64. CARD READER CTRL/1394 CONN/SD CONN
12. SYSTEM POWER (P1V8S)	39. PANTER POINT_9 (GND)	65. LID SWITCH
13. CPU POWER(PVSA)	40. VGA SWITCH / CRT CONN	66. EMI & RF SOLUTION
14. PVCORE_1(PV_CORE / PV_AXG)	41. DISPLAY PORT CONN	67. GPU-1
15. PVCORE_2(PV_CORE / PV_AXG)	42. LCM & WEBCAM	68. GPU-2
16. PVCORE_DGPU	43. BLANK	69. GPU-3
17. P1V35_DGPU	44. SATA HDD & ODD CONN	70. GPU-4
18. HP_OCP	45. USB & ESATA COMBO / USB CHARGER	71. VRAM-1
19. POWER(SLEEP)	46. USB CONN	72. VRAM-2
20. POWER(SEQUENCE)	47. BLUE TOOTH & FINGER PRINTER CONN	
21. FAN & THERMAL	48. ACCELEMETOR	
22. XDP CONN	49. KBC & SPI	
23. IVY BRIDGE_1 (CLK,MISC,JTAG)	50. KEYBOARD	
24. IVY BRIDGE_2 (POWER)	51. SUPER I/O	
25. IVY BRIDGE_3 (DMI,DP,PEG,FDI)	52. TPM & MDC	
26. IVY BRIDGE_4 (DDR3)	53. LAN (NIC,TRANSFORMER,RJ45)	
27. IVY BRIDGE_5 (GRAPHICS POWER)		

INVENTEC

TITLE			
MODEL PROJECT FUNCTION TABLE OF CONTENTS			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 2 of 72			

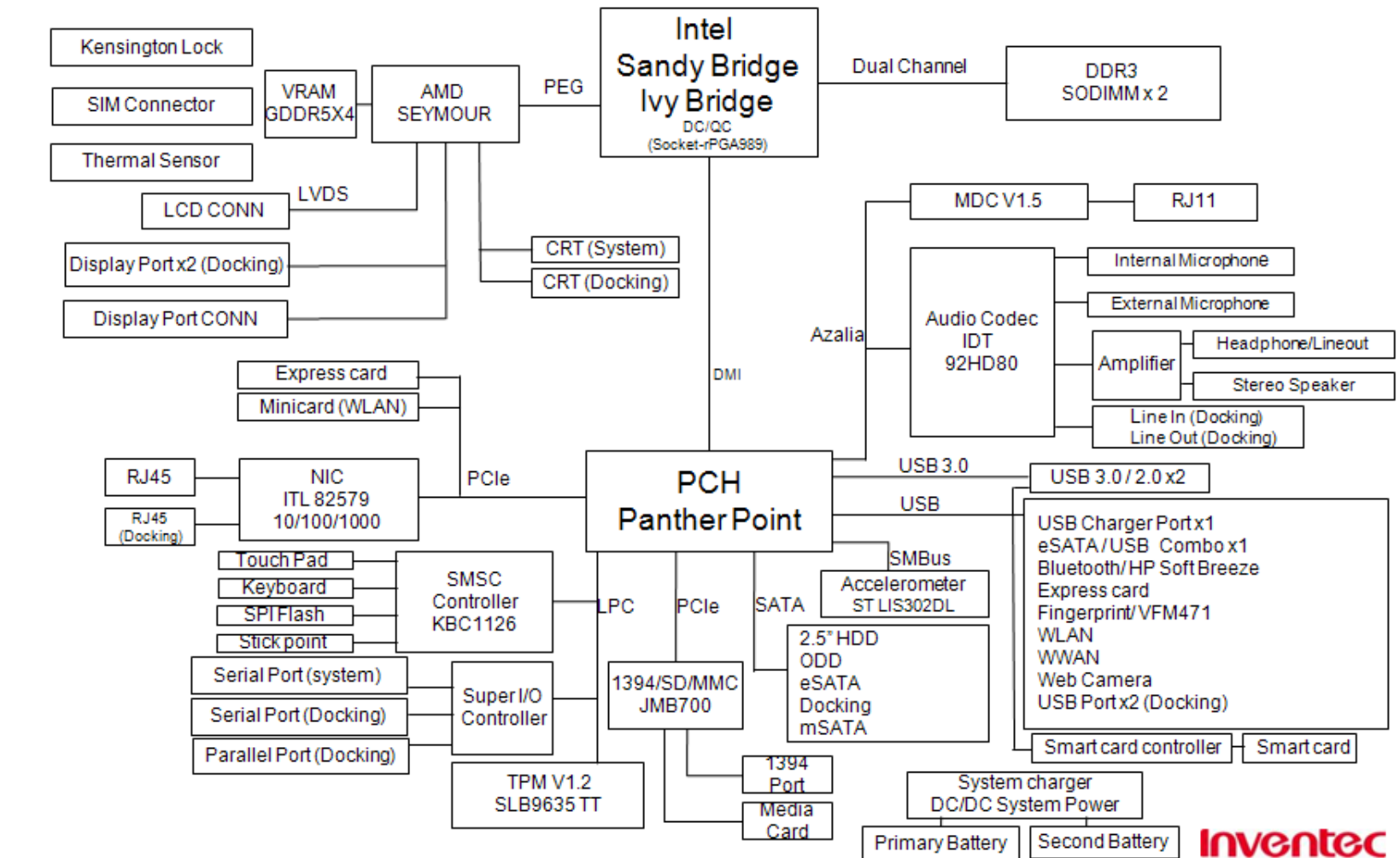
CHANGE by First Chang DATE 23-MAY-2011

3

2

1

CALVIN Discrete Block Diagram


INVENTEC

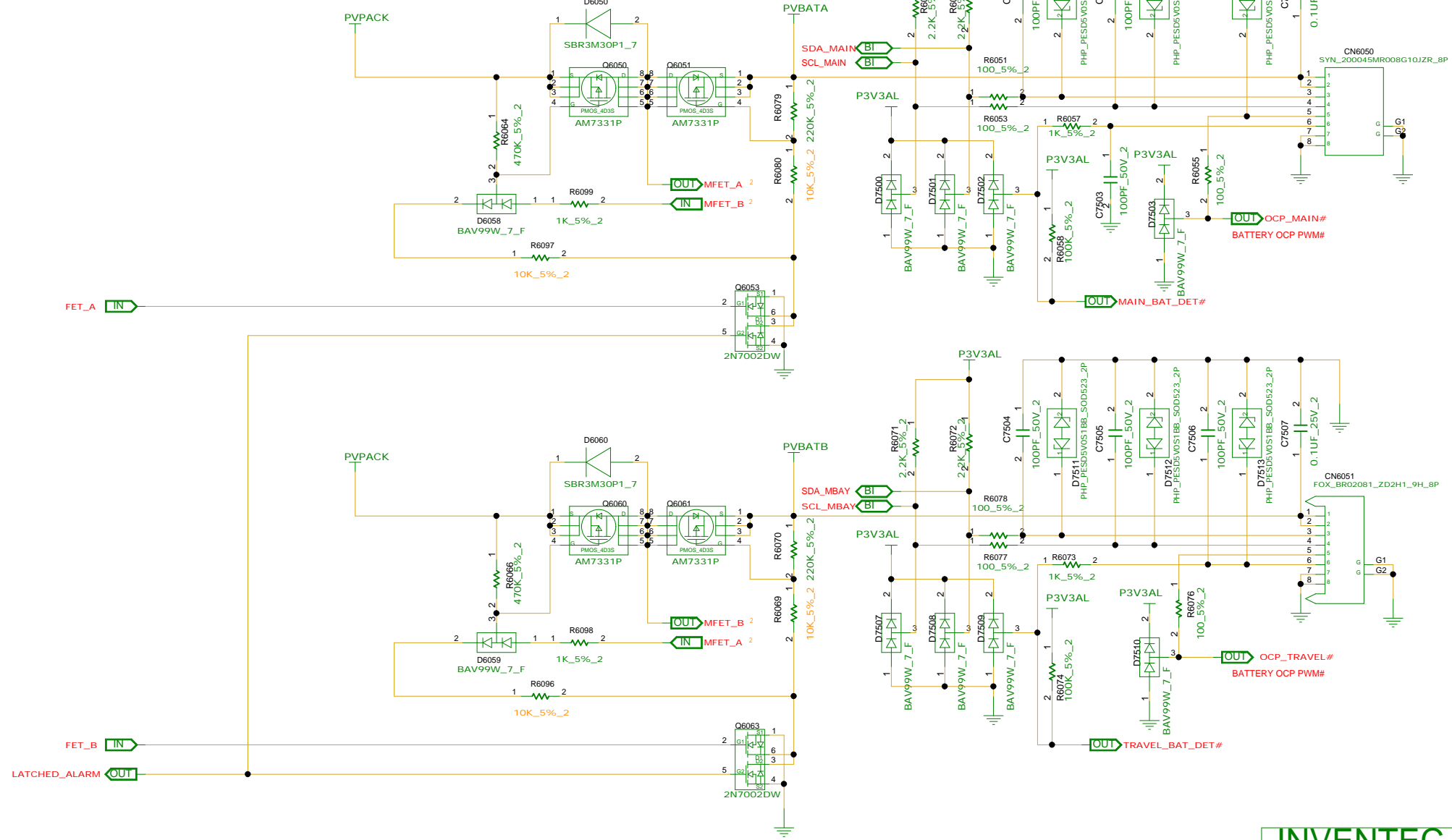
TITLE			
MODEL PROJECT FUNCTION			
BLOCK DIAGRAM			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE BY First Chang DATE 23-MAY-2011

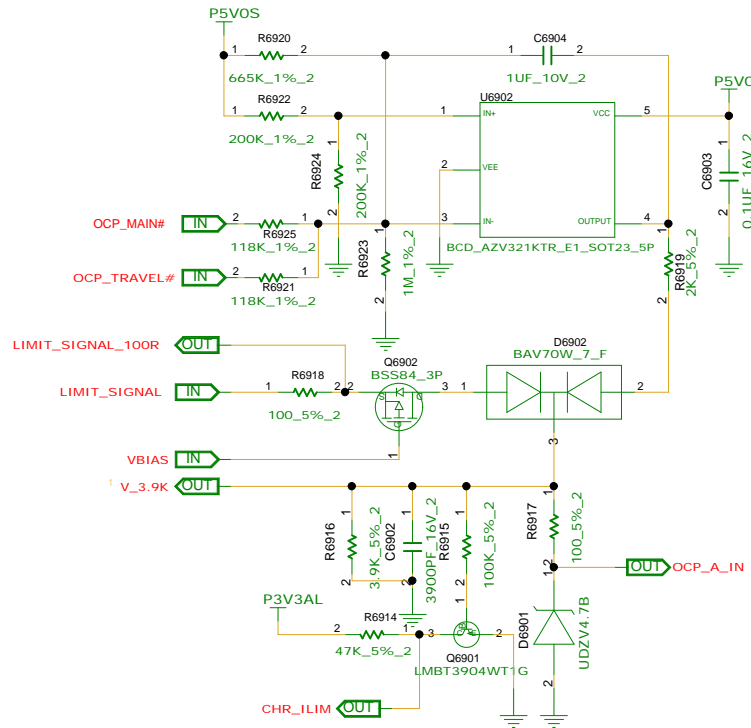
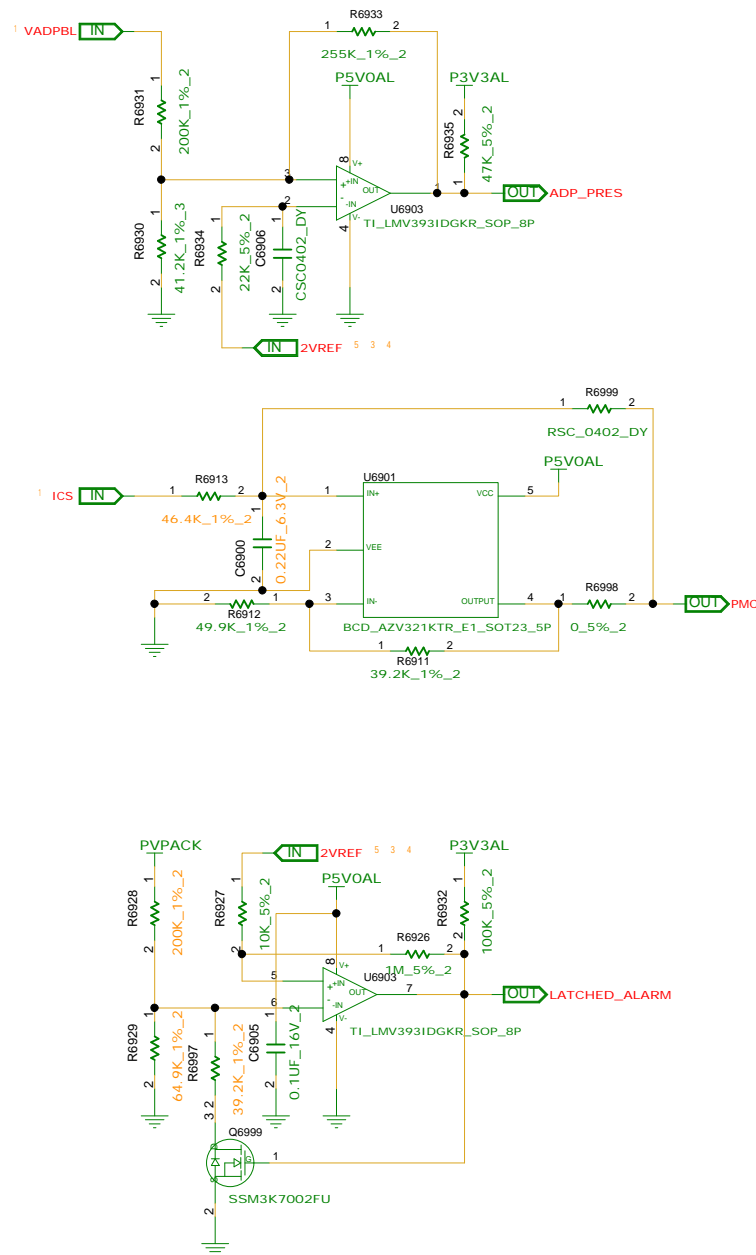
SHEET 3 of 72



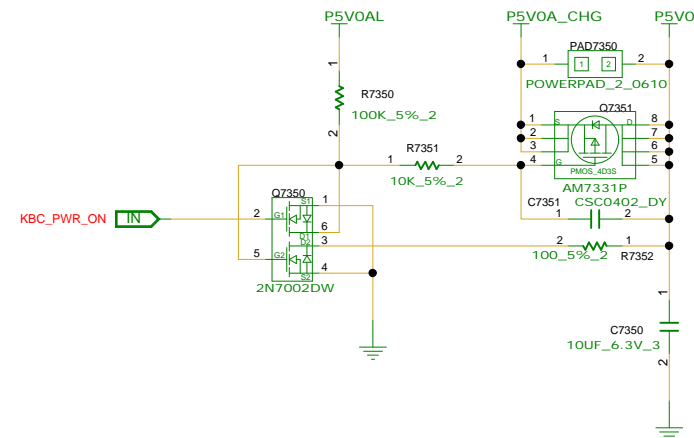
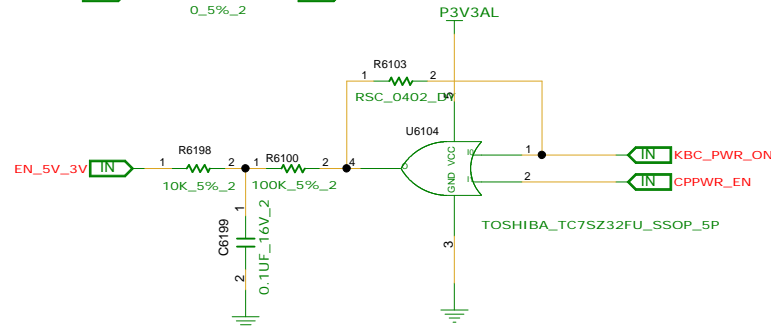
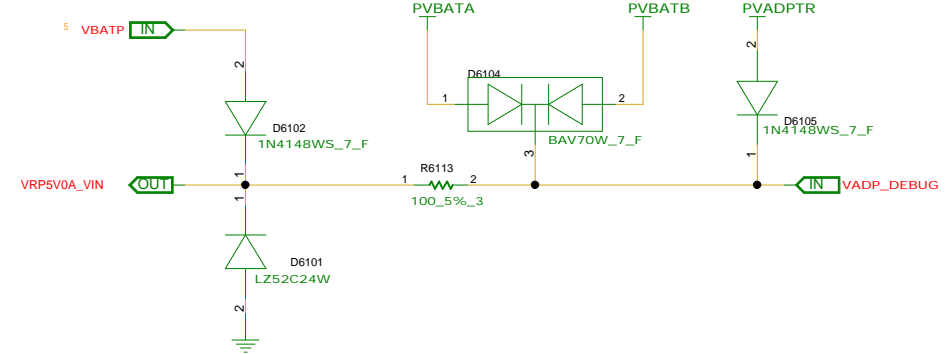
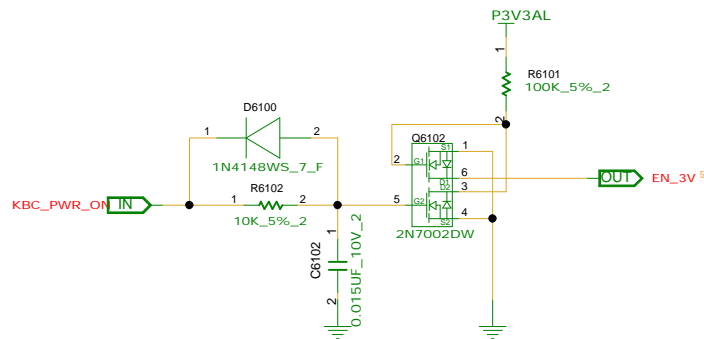
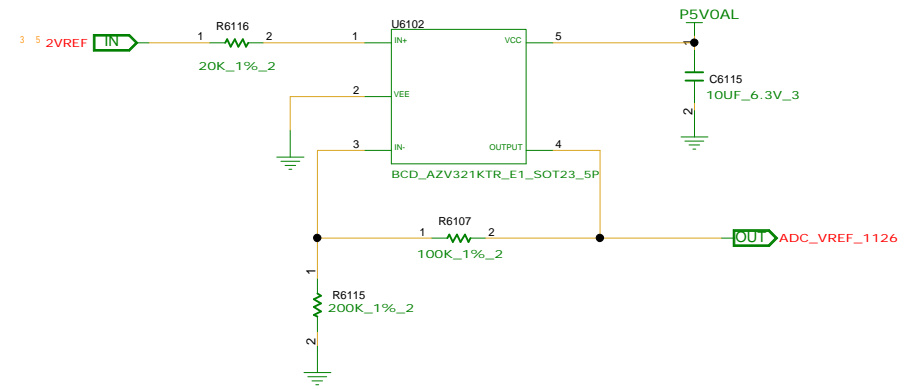
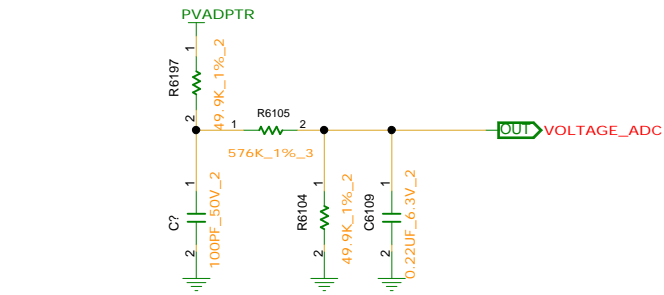
SHEET 4 of 72



INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
SYSTEM POWER(BATT_SELECTOR)			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 5 of 72			



INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
SYSTEM POWER(OCP)			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET 6 of 72			



INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
P3V3A&P5V0A_CHG PORT			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

SHEET 7 of 72



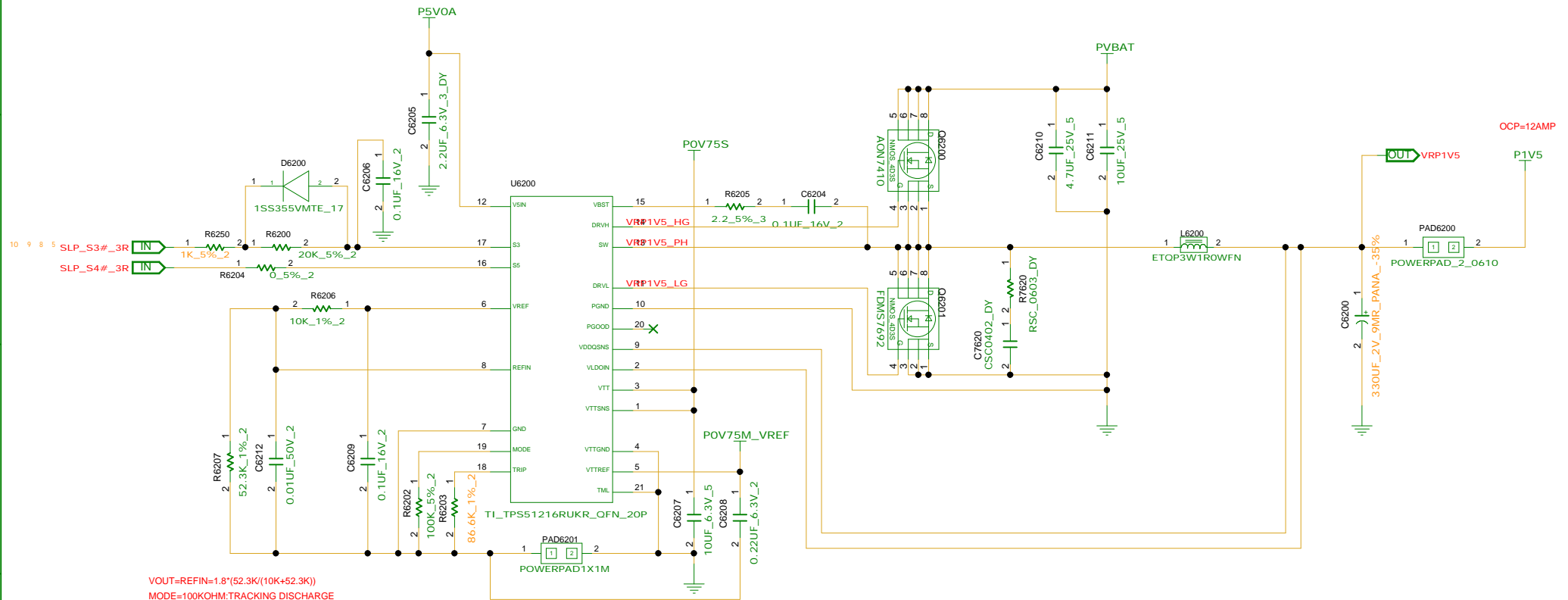


Table 1. S3/S5 Power State Control

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

INVENTEC

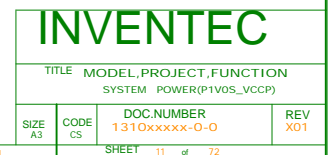
TITLE			
MODEL PROJECT FUNCTION			
SYSTEM POWER(P1V5)			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

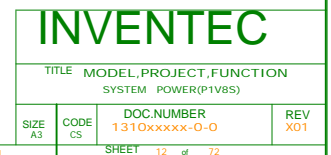
CHANGE by First Chang DATE 23-MAY-2011

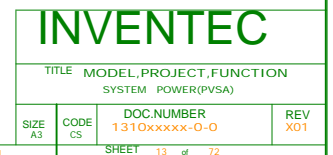
SHEET 9 of 72



SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	RE X0
------------	------------	-----------------------------	----------



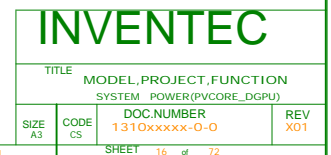








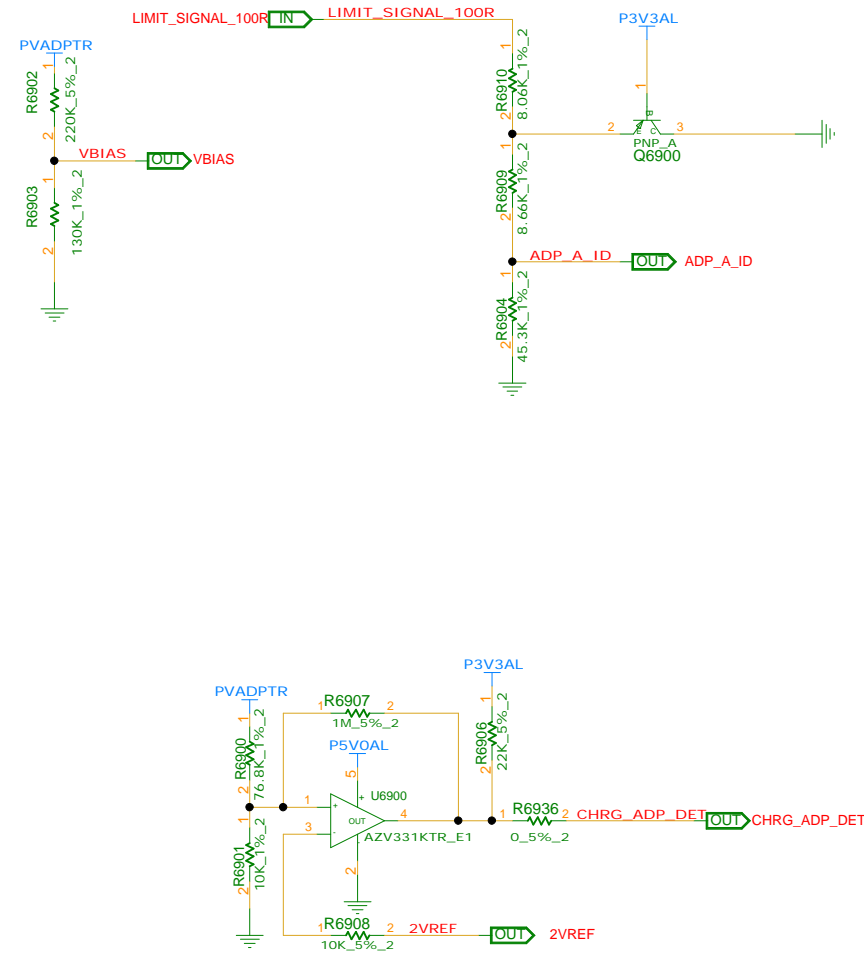
SHEET 15 of 72





INVENTEC			
TITLE MODEL,PROJECT,FUNCTION SYSTEM POWER(P1V35S_DGPU)			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET 17 of 72			

REFERENCE NUMBER : 6900~6999



INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
HP_OCP			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

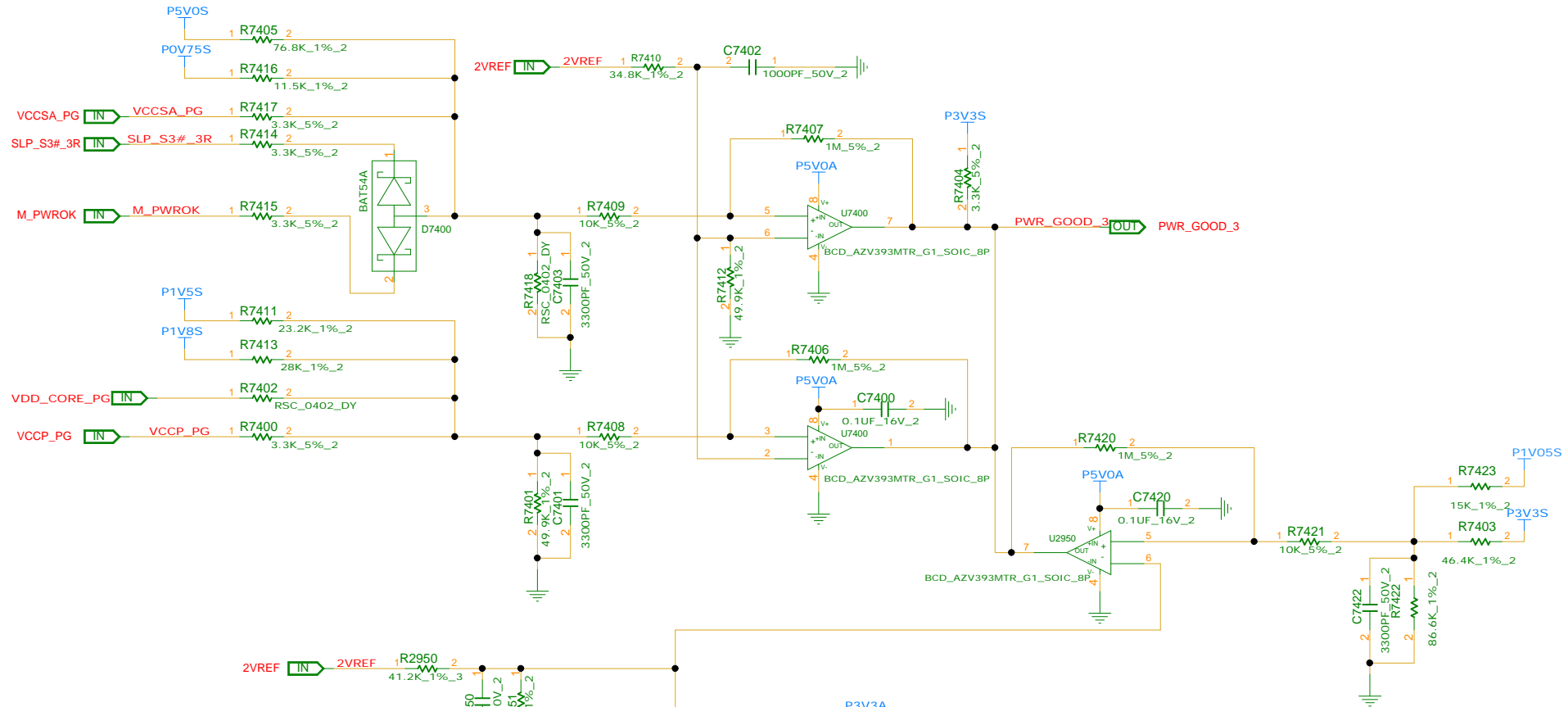
SHEET 18 of 72

<http://sualaptop365.edu.vn>



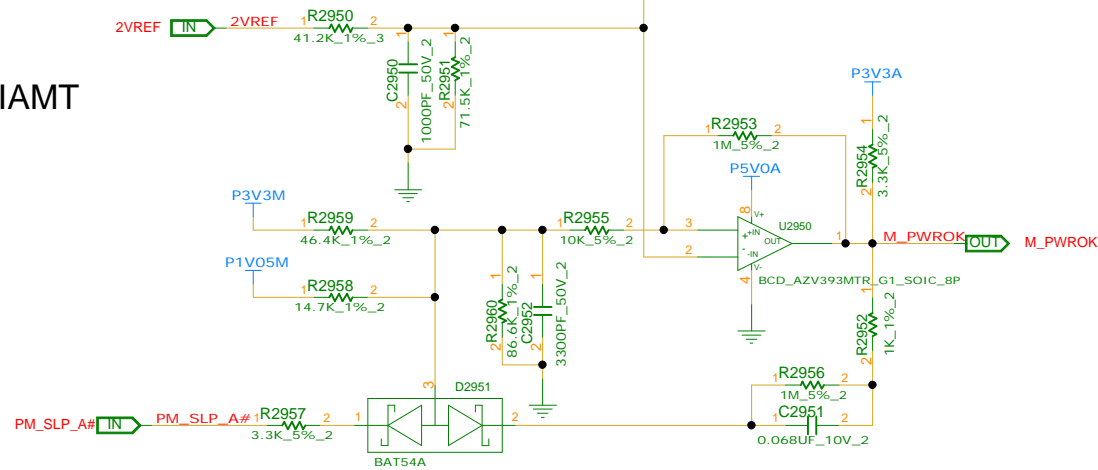
TITLE			
MODEL,PROJECT,FUNCTION POWER(SLEEP)			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET 19 of 72			

REFERENCE NUMER : 7400~7450



FOR IAMT

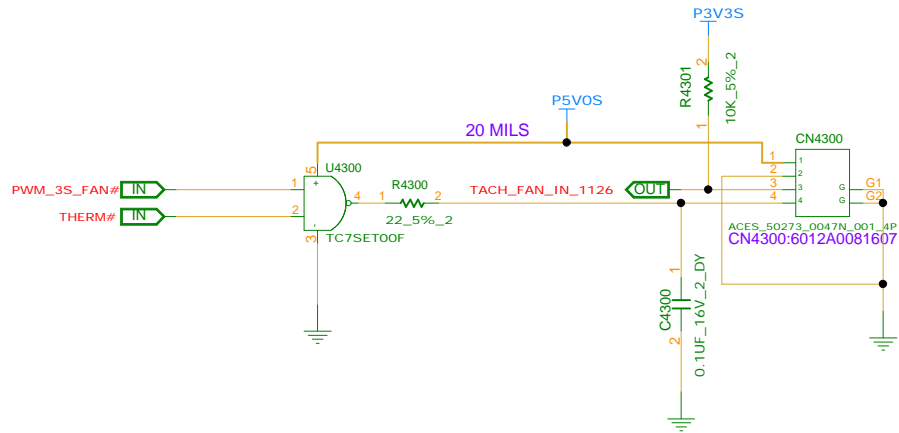
REFERENCE NUMER : 2950~2999



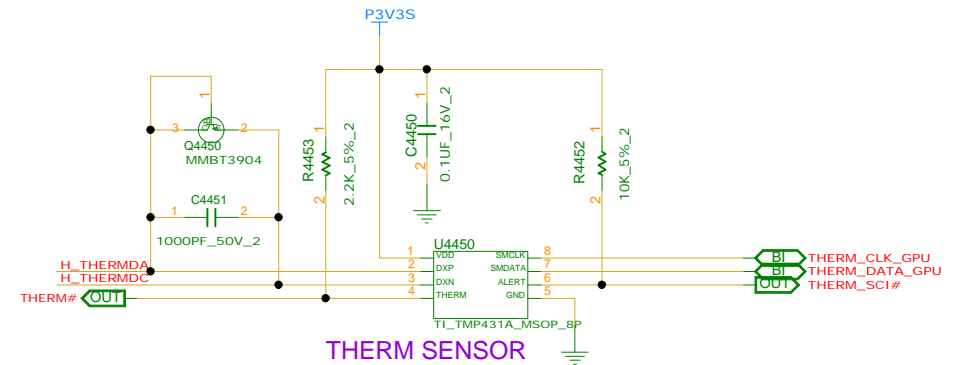
INVENTEC

TITLE			
MODEL PROJECT FUNCTION POWER (SEQUENCE)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 20 of 72			

REFERENCE NUMBER:4400~4349



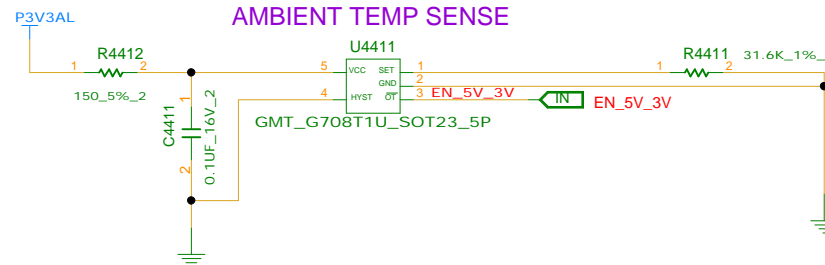
REFERENCE NUMBER:4450~4499



THERM SENSOR

Fan speeds (RPM) :	2500	3300	3800	4300	5000	0	0	0
CPU temperature trip points :	45	57	68	80	91	0	0	0

AMBIENT TEMP SENSE



RSET (K OHM) = 0.0012T^2 - 0.9308T + 96.147
THERMAL SHUTDOWN AT 77 DEG. FOR B SERIES

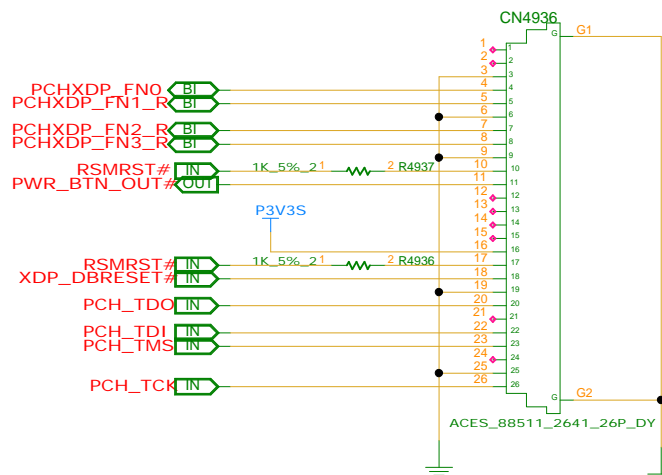
REFERENCE NUMBER:4411~4449

INVENTEC

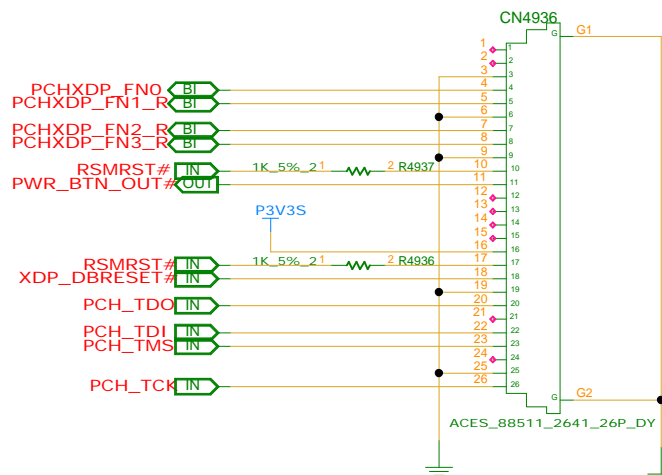
TITLE			
MODEL,PROJECT,FUNCTION			
FAN & THERMAL			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

SHEET 21 of 72

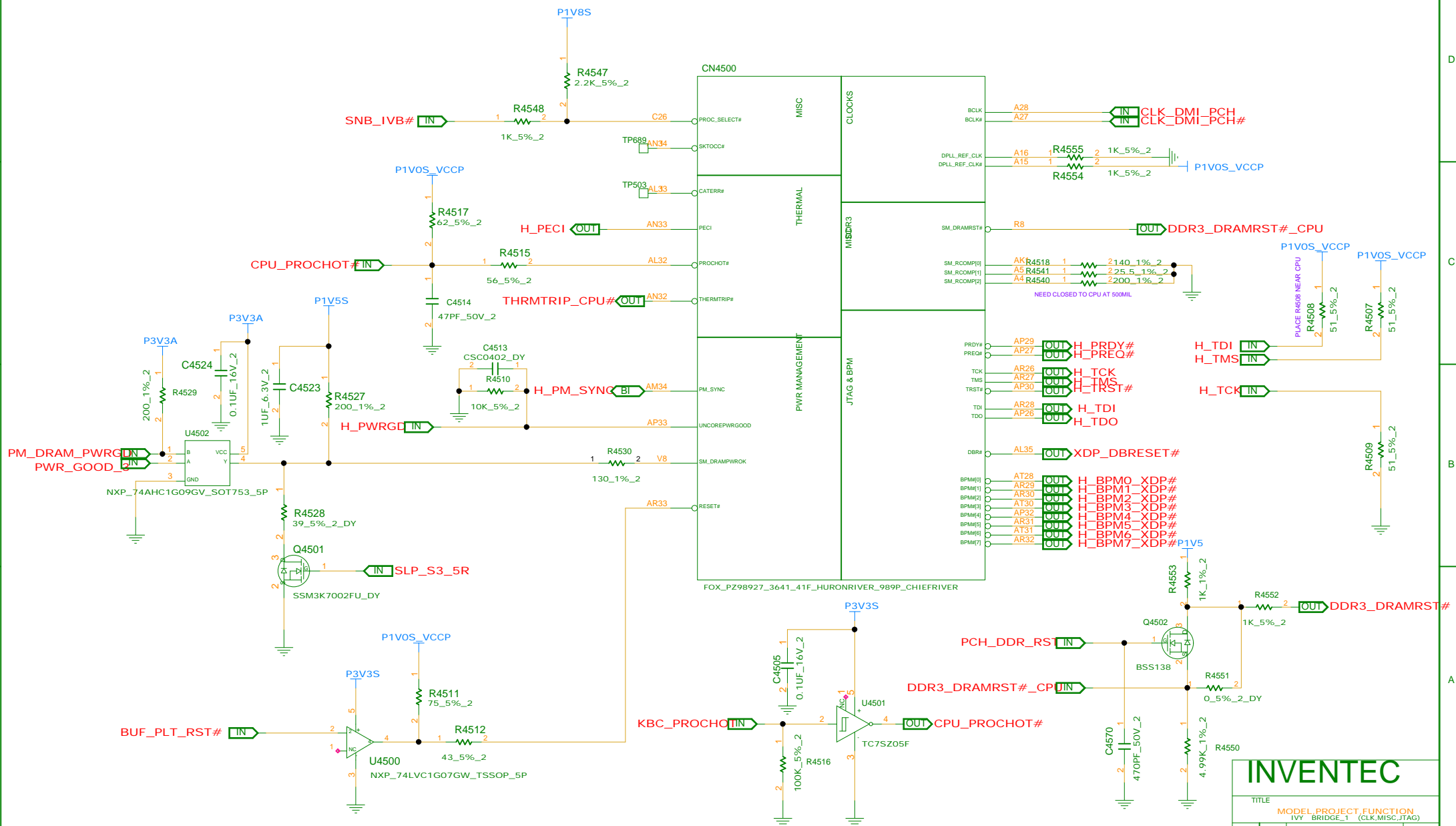


PCH XDP CONNECTOR



INVENTEC			
TITLE			
MODEL PROJECT,FUNCTION XDP CONN			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxxx-0-0	REV X01
SHEET 22 of 22			

REFERENCE NUMBER:4500~4699

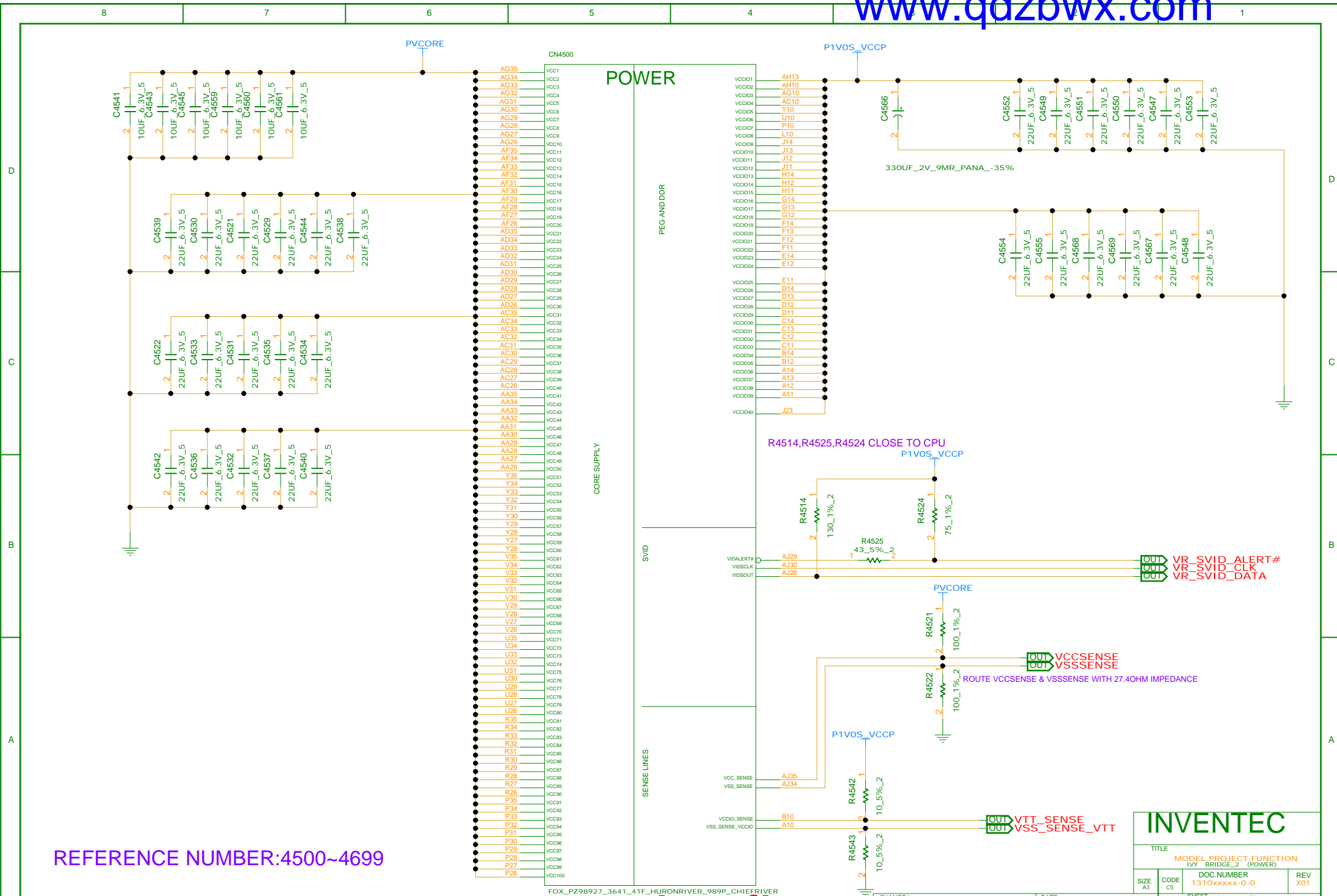


INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
IVY BRIDGE-1 (CLK,MISC,JTAG)			
DOC NUMBER			
1310xxxxx-0-0			
REV			
X01			

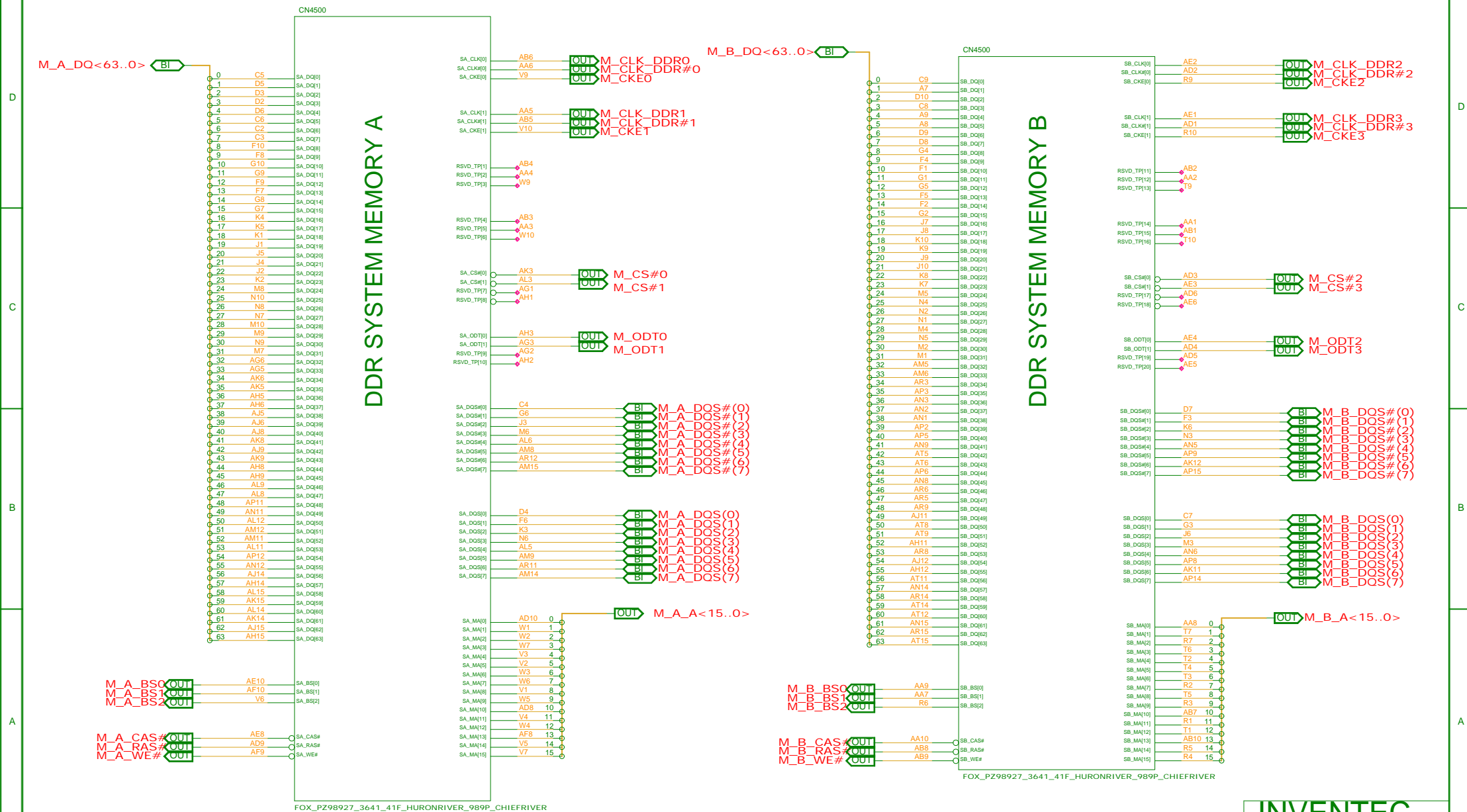
CHANGE by First Chang DATE 23-MAY-2011

SHEET 23 of 72





SHEET 25 of 72



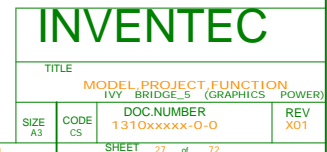
REFERENCE NUMBER:4500~4699

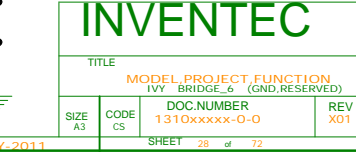
INVENTEC

TITLE			
MODEL PROJECT FUNCTION I/VY BRIDGE_4 (DDR3)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
		SHEET 26 of 72	

CHANGE by First Chang DATE 23-MAY-2011

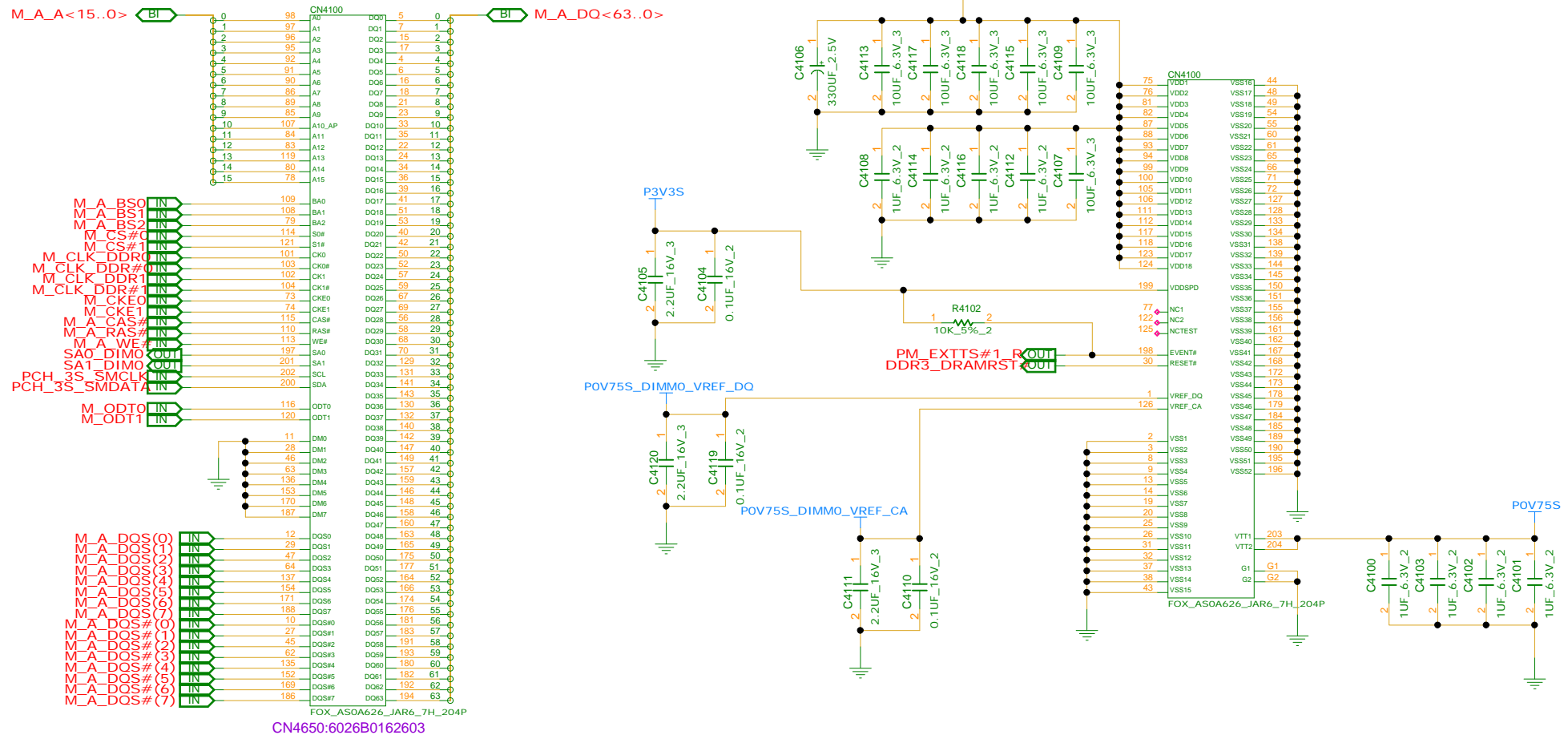
<http://sualaptop365.edu.vn>





<http://sualapton365.edu.vn>

M_A_A<15..0> BI M_A_DQ<63..0>



CN4650:6026B0162603

NOTE:

IF SA0_DIM0=0, SA1_DIM0=0
SO-DIMMA SPD ADDRESS IS 0XA0
SO-DIMMA TS ADDRESS IS 0X30

IF SA0_DIM0=1, SA1_DIM0=0
SO-DIMMA SPD ADDRESS IS 0XA2
SO-DIMMA TS ADDRESS IS 0X32

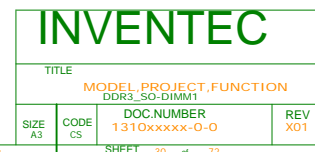
REFERENCE NUMBER:4100~4299

INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
DDR3_SO_DIMM0			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

SHEET 29 of 72



<http://sualaptop365.edu.vn>

8

7

6

5

4



C

B

A

TITLE			
MODEL,PROJECT,FUNCTION			
PANTER POINT_1 (HDA, JTAG, SPI, SATA)			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE by	First	Chang	DATE	23-MAY-2011
-----------	-------	-------	------	-------------

1

<http://sualaptop365.edu.vn>



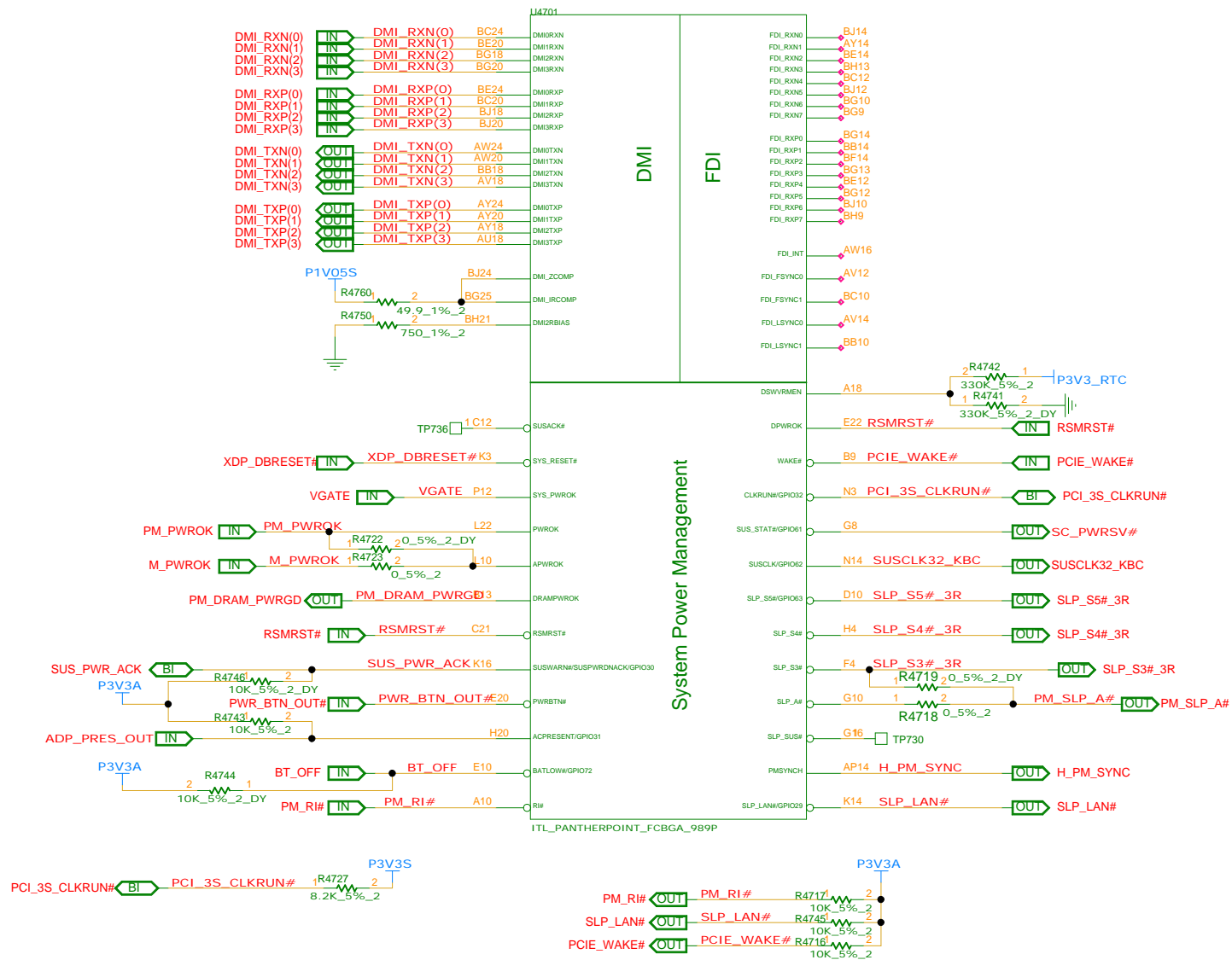
TITLE			
MODEL PROJECT FUNCTION			
PANTER		POINT_2 (PC1-E,SMBUS,CLK)	
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
SHEET 32 of 72			

REFERENCE NUMBER : 4700~4949

NOTE:

- 1.SLP_SUS AND SUSACK# ARE NC IF DSW IS NOT SUPPORTED
- 2.DPWROK SHOULD CONNECT TO RSMRST# IF DSW NOT SUPPORTED
- 3.PCH_DPWROK PULL UP TO +V3S ENABLES DSW WUPPORT. NO INSTALL R5261 TO DISABLE DSW

	IAMT	NON-IAMT
R4718	INSTALL	UNINSTALL
R4723	INSTALL	UNINSTALL
R4719	UNINSTALL	INSTALL
R4722	UNINSTALL	INSTALL



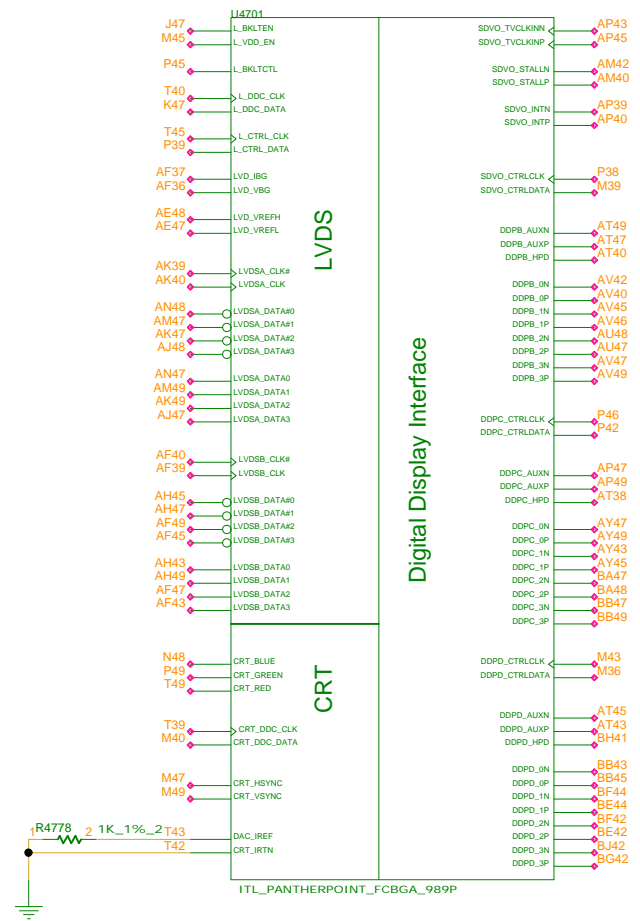
INVENTEC

TITLE			
MODEL PROJECT,FUNCTION PANTHER POINT-3 (DMI,FDI,GPIO)			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

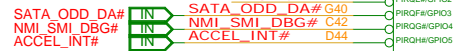
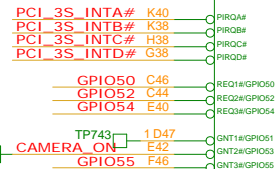
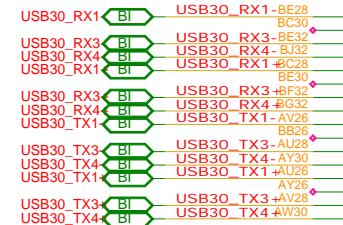
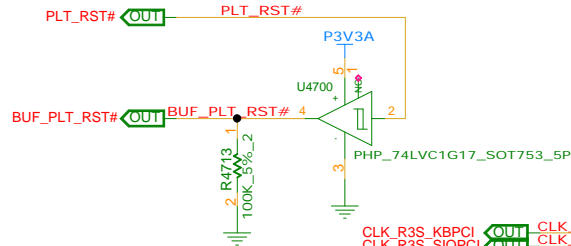
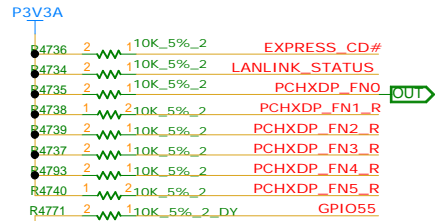
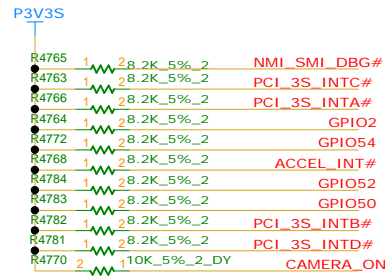
SHEET 33 of 72

REFERENCE NUMER : 4700~4949

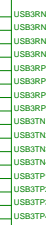


INVENTEC			
TITLE			
MODEL PROJECT FUNCTION PANTHER POINT_4 (LVDS,DDI)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01

REFERENCE NUMER : 4700~4949



RSVD



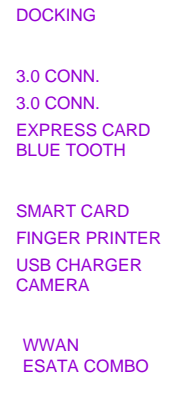
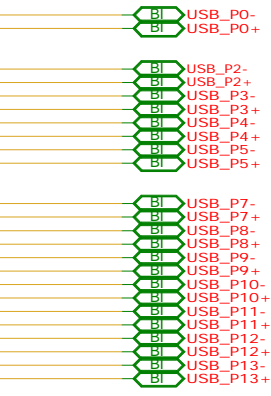
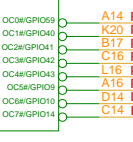
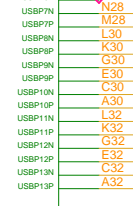
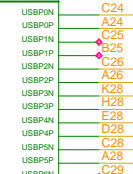
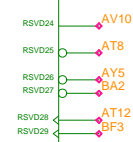
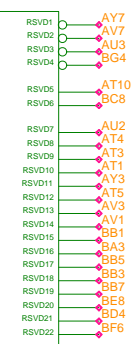
PCI



ITL_PANTHERPOINT_FCBGA_989P

NVRAM

USB

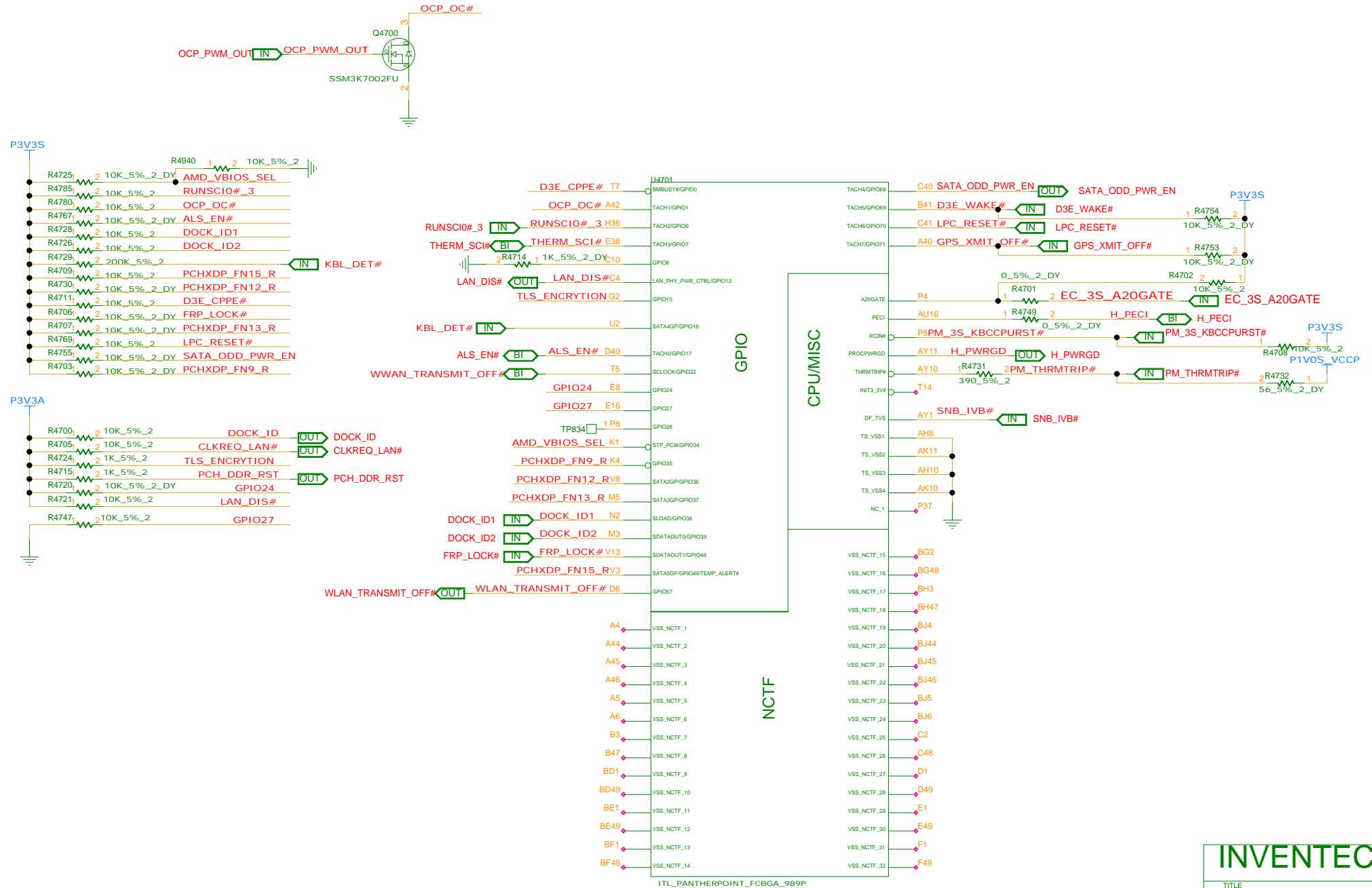


INVENTEC

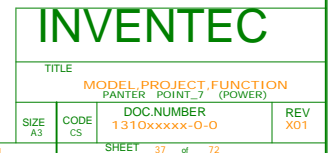
TITLE			
MODEL PROJECT FUNCTION PANTHER POINT-5 (PCI,USB,NVRAM)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 35 of 72			

CHANGE by First Chang DATE 23-MAY-2011

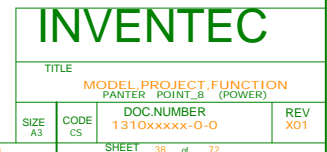
REFERENCE NUMER : 4700~4949



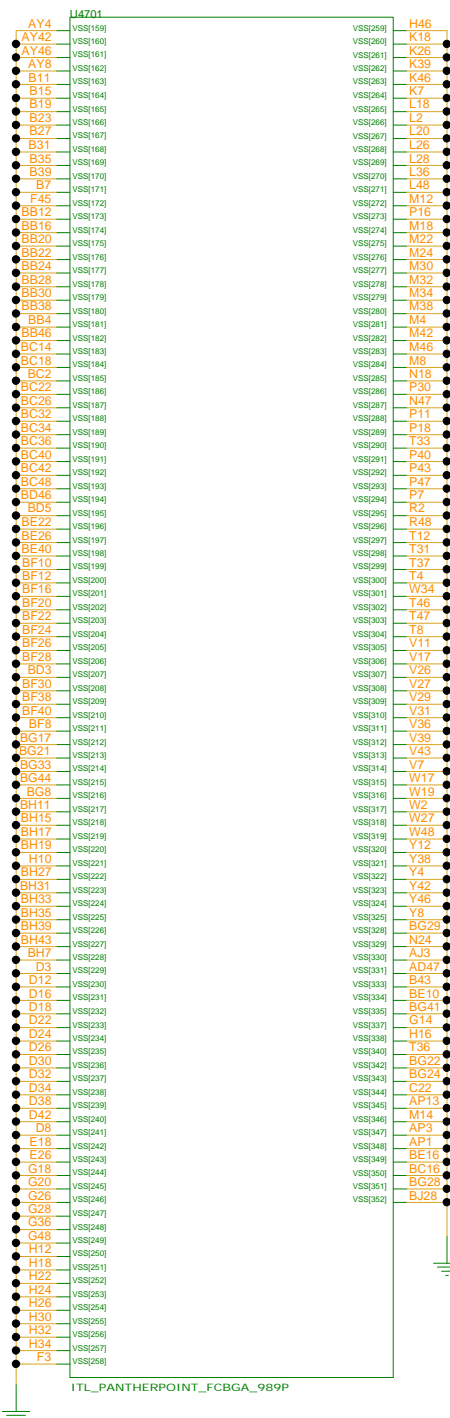
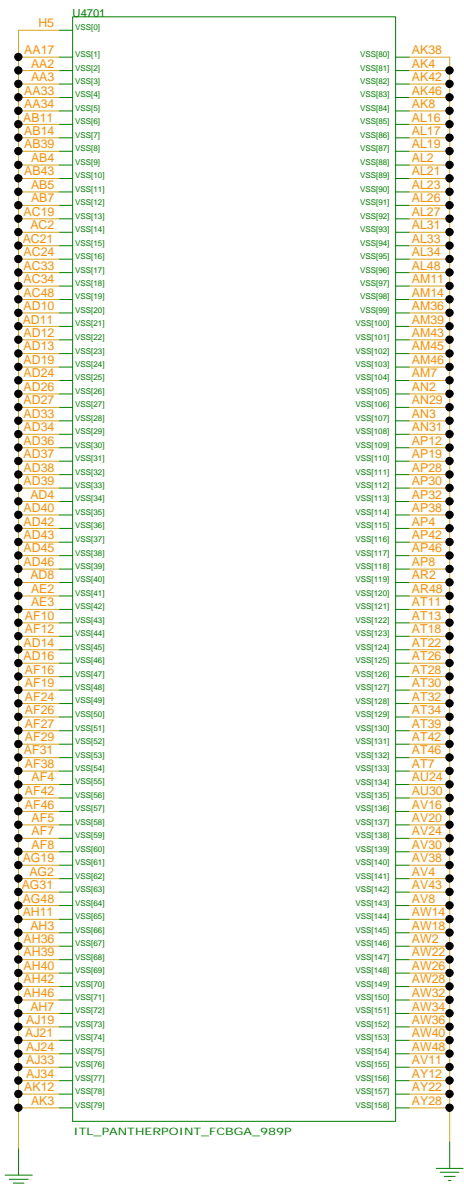
<http://sualaptop365.edu.vn>



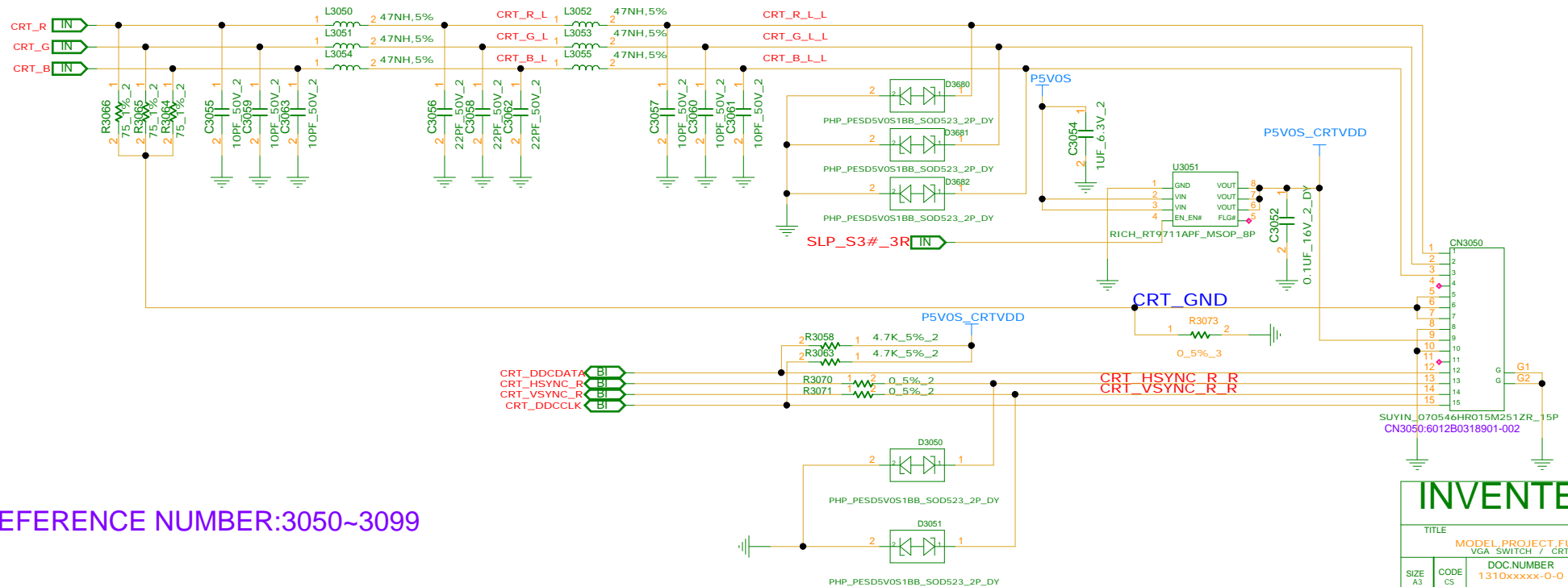
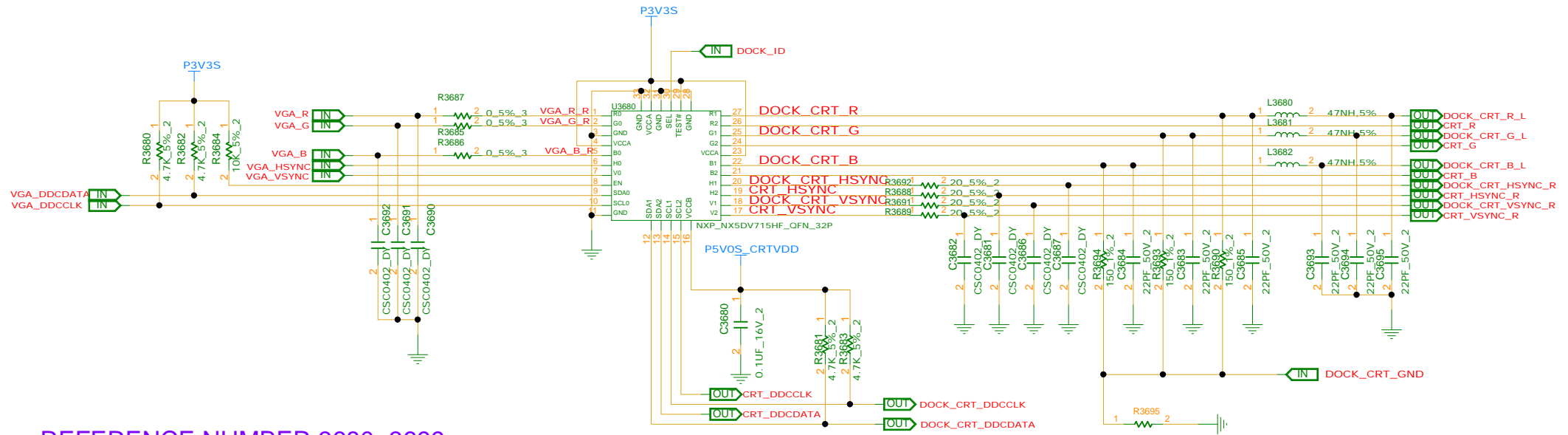
<http://sualaptop365.edu.vn>



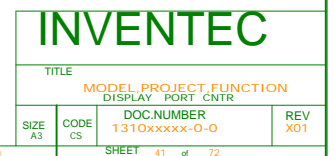
REFERENCE NUMBER : 4700~4949



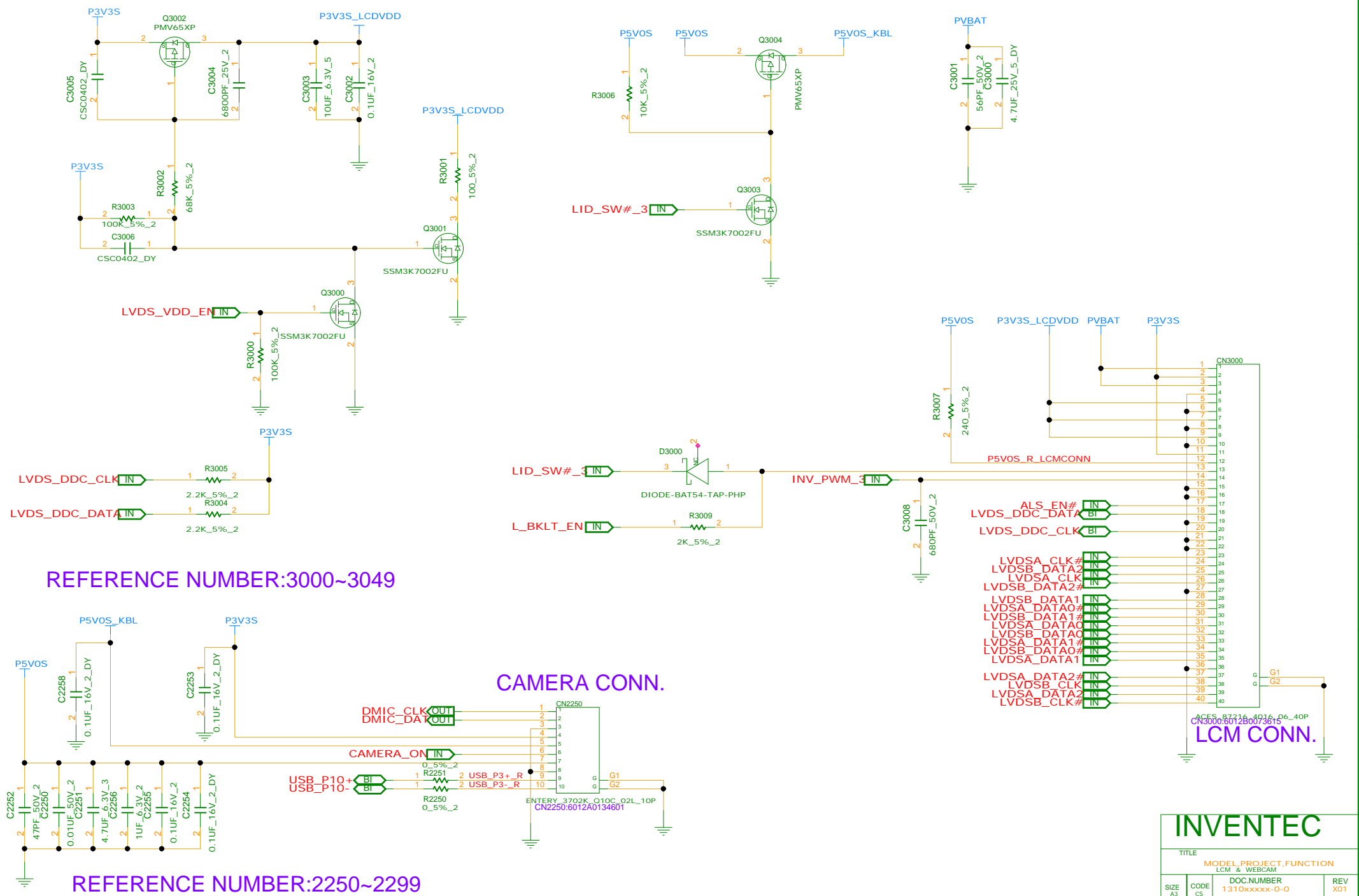
INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
PANTHER POINT-2 (GND)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 39 of 72			



INVENTEC				
TITLE				
MODEL PROJECT FUNCTION				
VGA SWITCH / CRT				
DOC NUMBER				
1310xxxxx-0-0				
REV				
X01				
SIZE	CODE	SHEET		
A3	CS	40 of 72		



<http://sualaplikasi365.com> www.vinafix.vn



BLANK

REFERENCE NUMBER:3400~3499

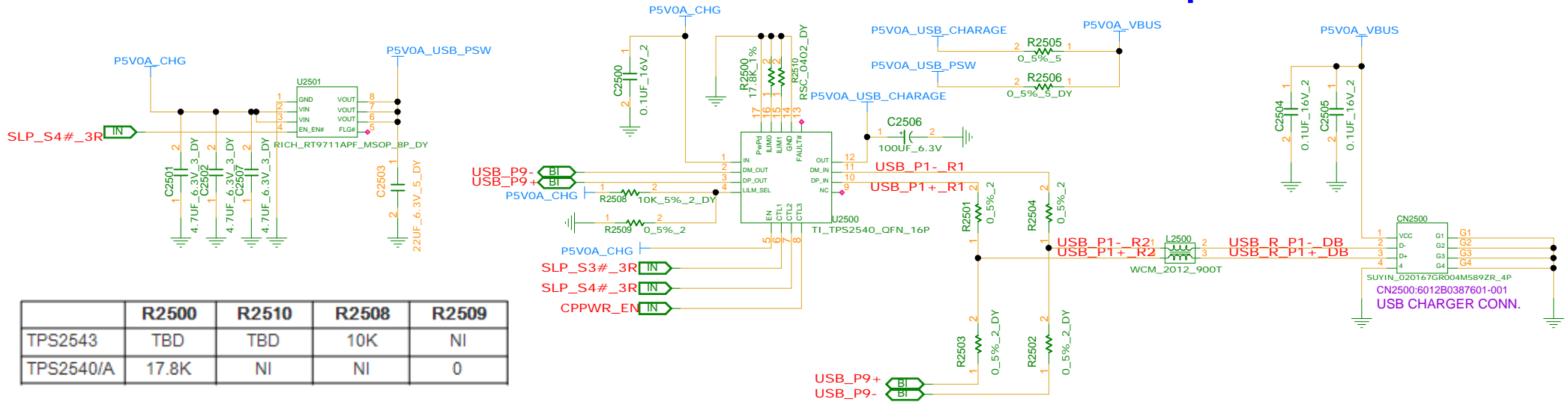
INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION			
EDP TO LVDS			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 43 of 72			

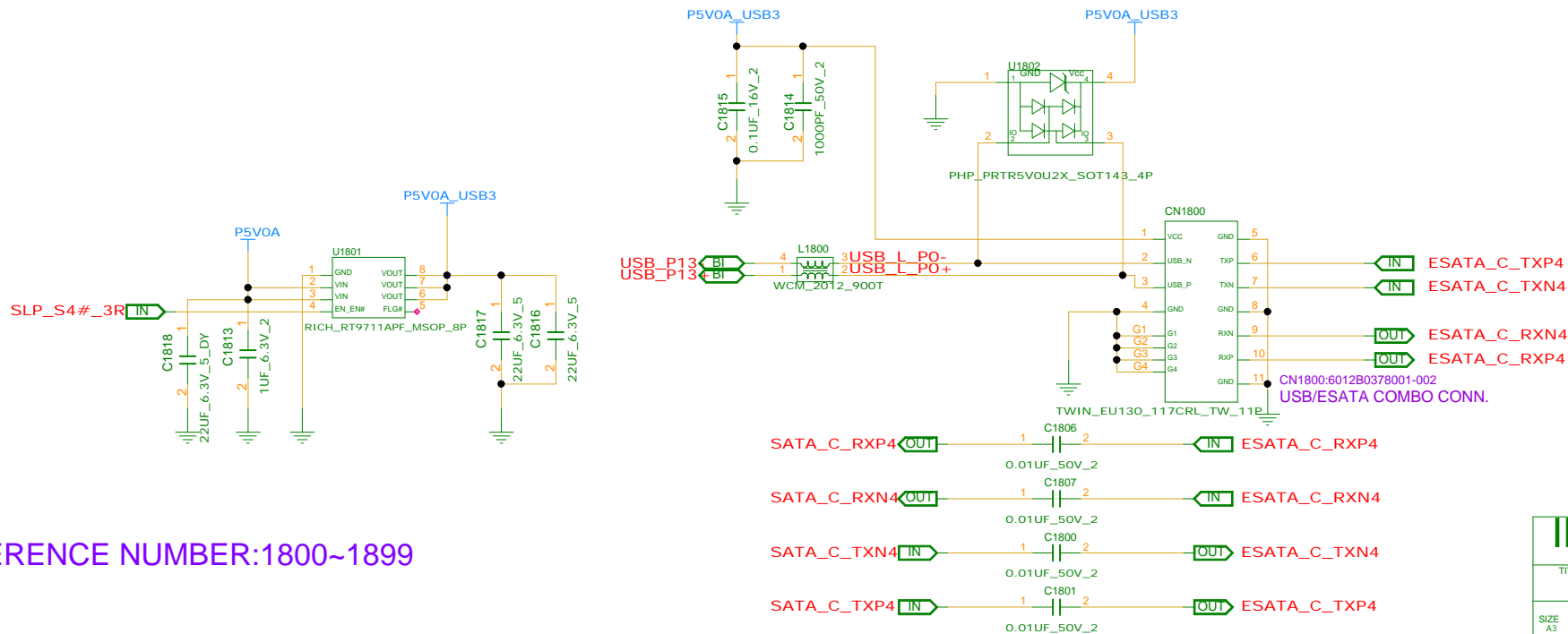
CHANGE by	First Chang	DATE	23-MAY-2011
-----------	-------------	------	-------------



INVENTEC			
TITLE			
MODEL PROJECT FUNCTION SATA HDD & ODD CNTR			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 44 of 72			

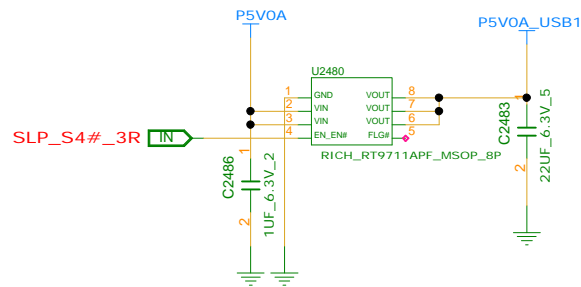


REFERENCE NUMBER:2500~2599

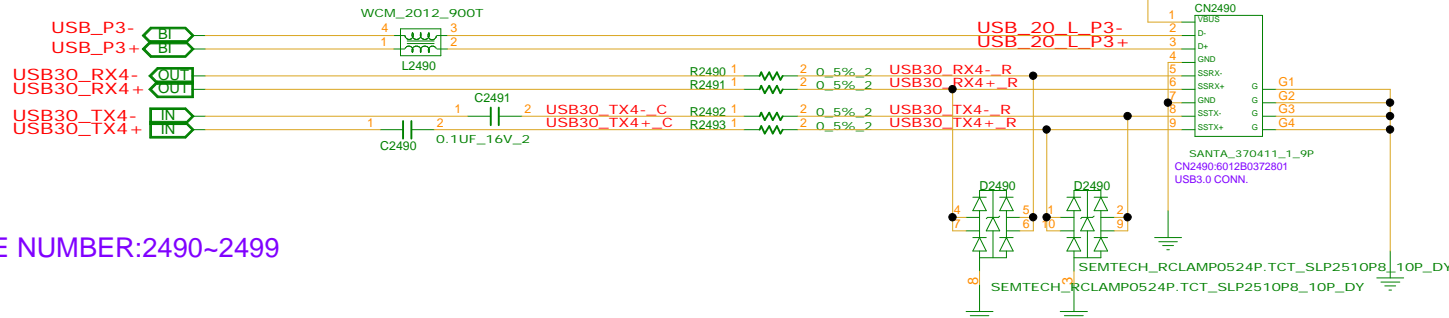
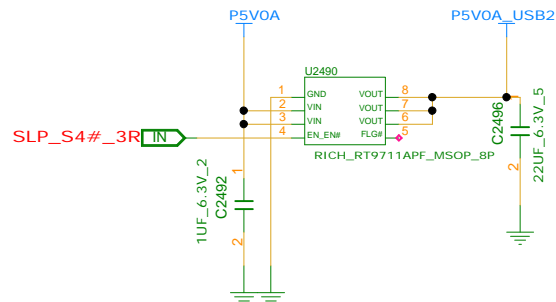
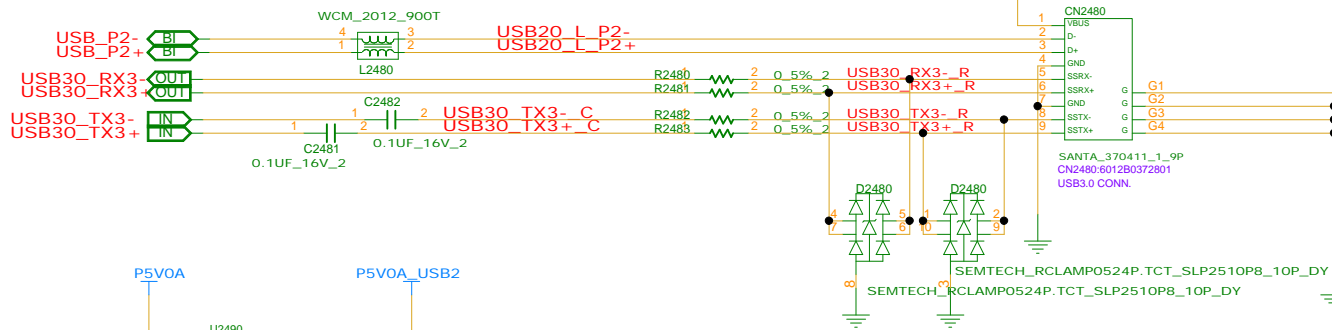


REFERENCE NUMBER:1800~1899

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
USB & ESATA COMBO / USB CHARGER			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 45 of 72			



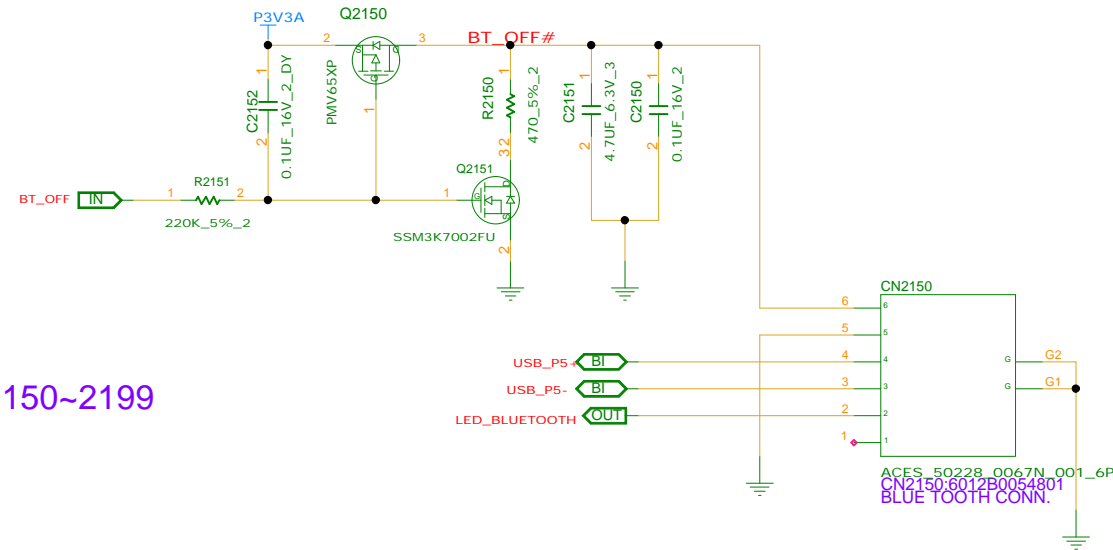
REFERENCE NUMBER:2480~2489



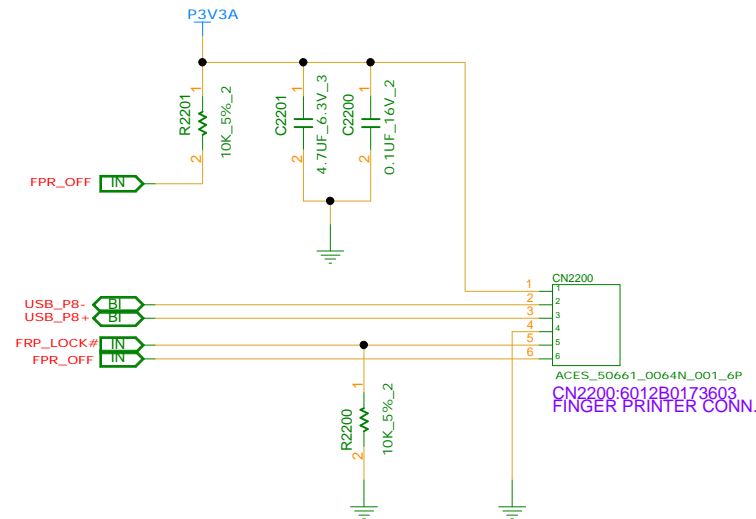
REFERENCE NUMBER:2490~2499

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
USB CONN.			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 46 of 72			

REFERENCE:2150~2199

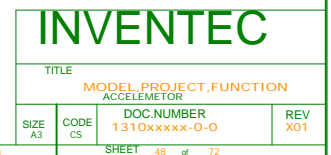


REFERENCE:2200~2249



INVENTEC			
TITLE			
BLUE TOOTH & FINGER PRINTER CNTR			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET 47 of 72			

<http://sualaplikasi345.edu.vn> www.vinafix.vn



REFERENCE NUMBER : 300~399

D

C

B

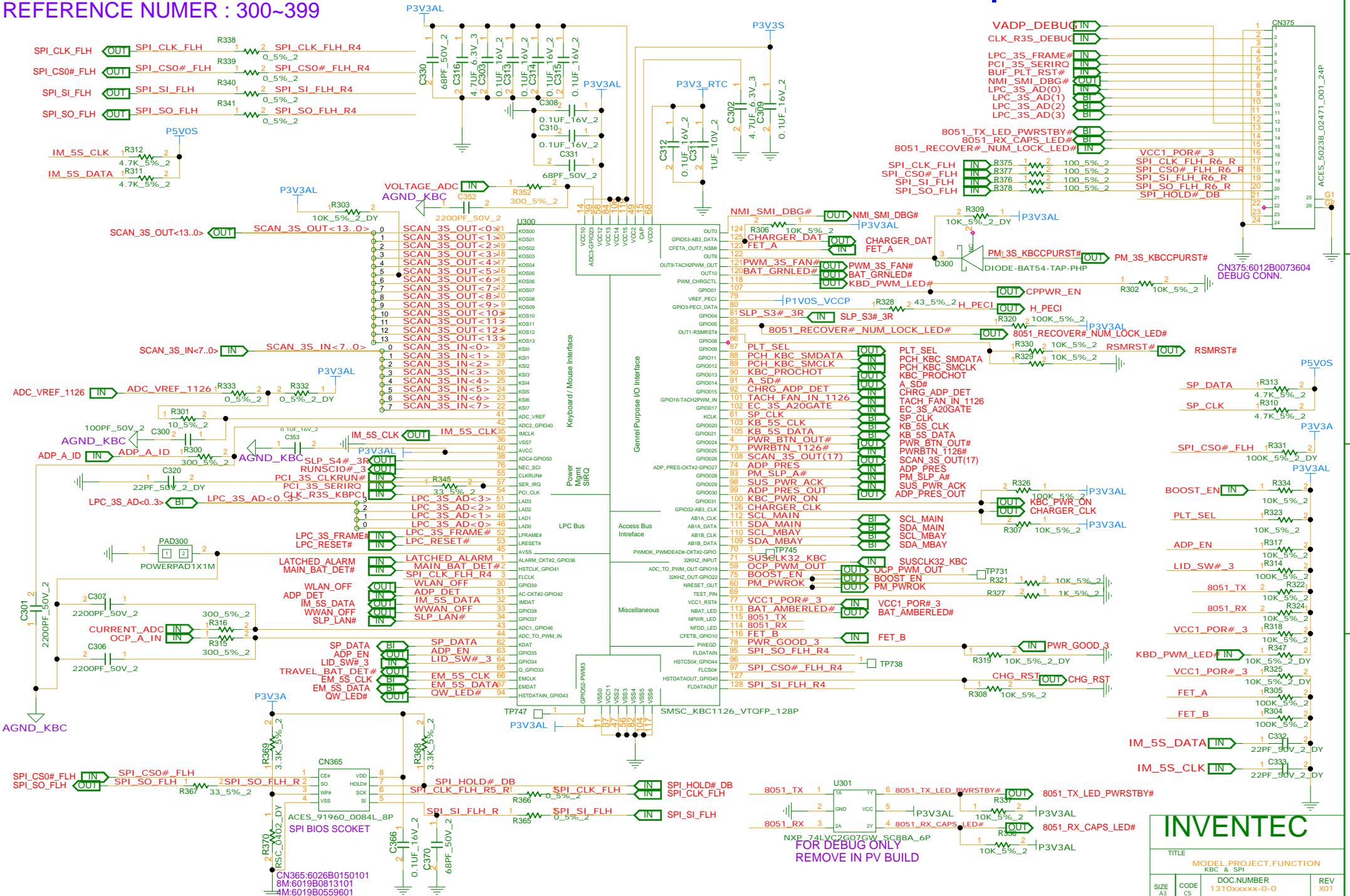
A

D

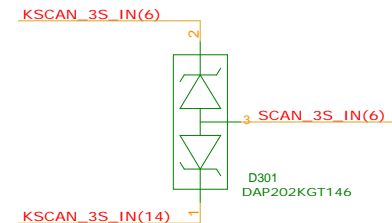
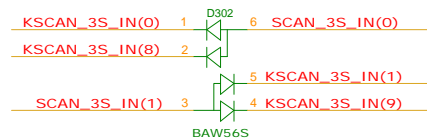
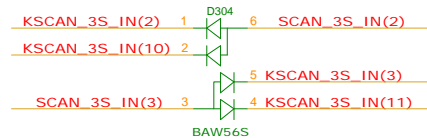
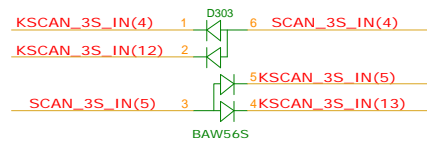
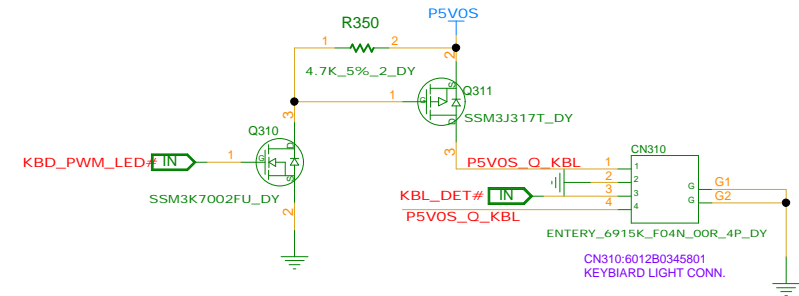
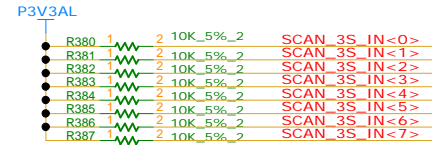
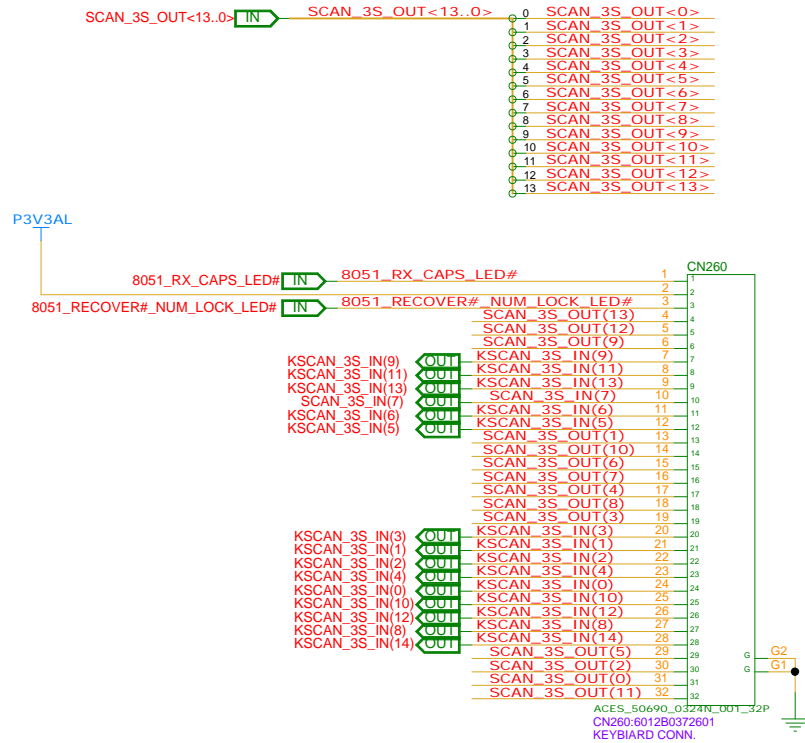
C

B

A



REFERENCE NUMER : 300~389



INVENTEC

TITLE
MODEL PROJECT FUNCTION
KEYBOARD

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

SHEET 50 of 72

CHANGE by First Chang DATE 23-MAY-2011

<http://sualaptop365.vn>



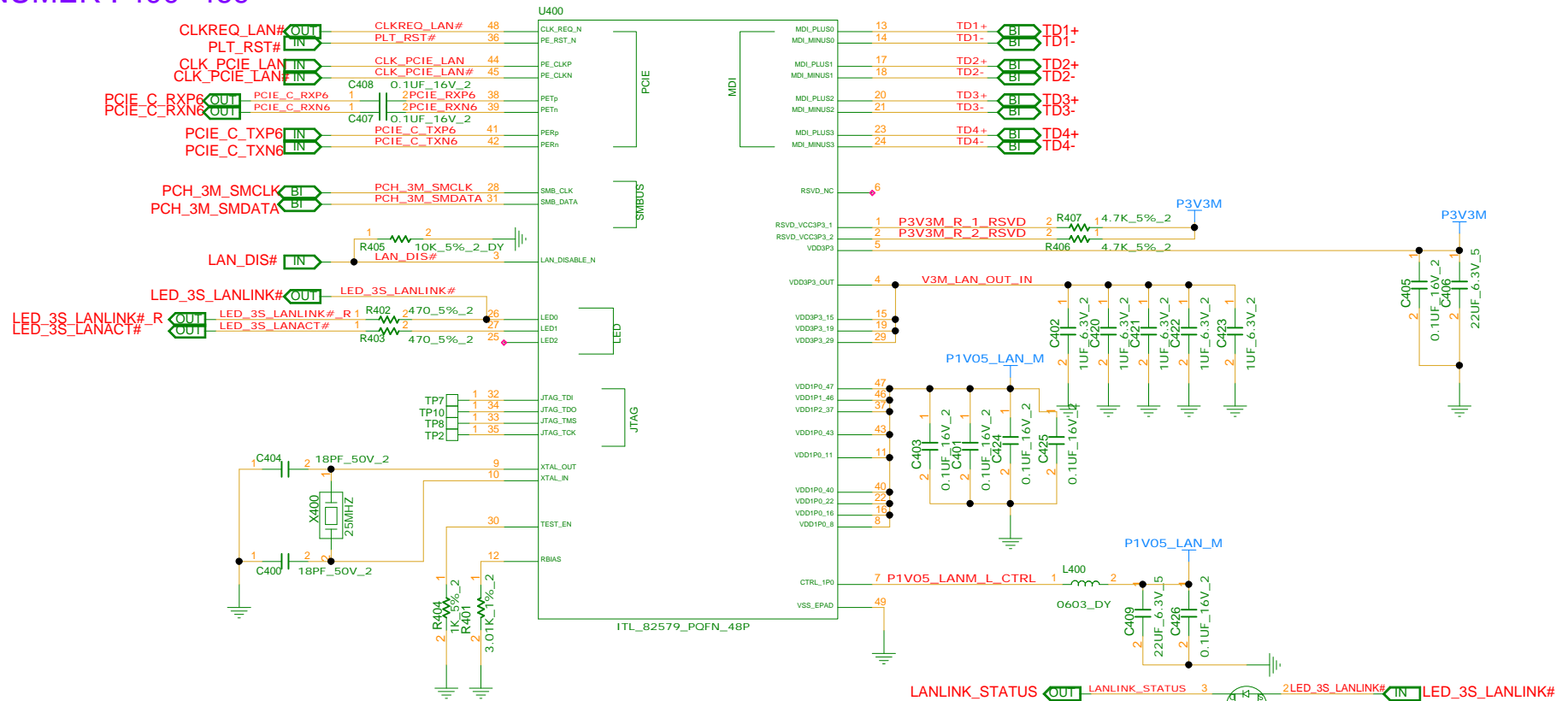
D



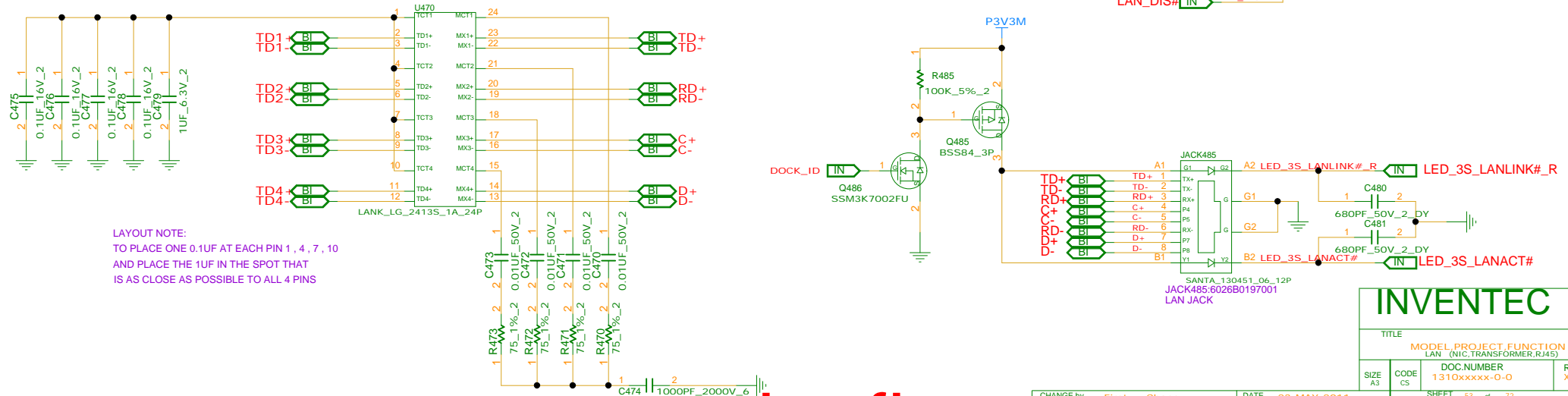
B



REFERENCE NUMER : 400~469



REFERENCE NUMER : 470~499



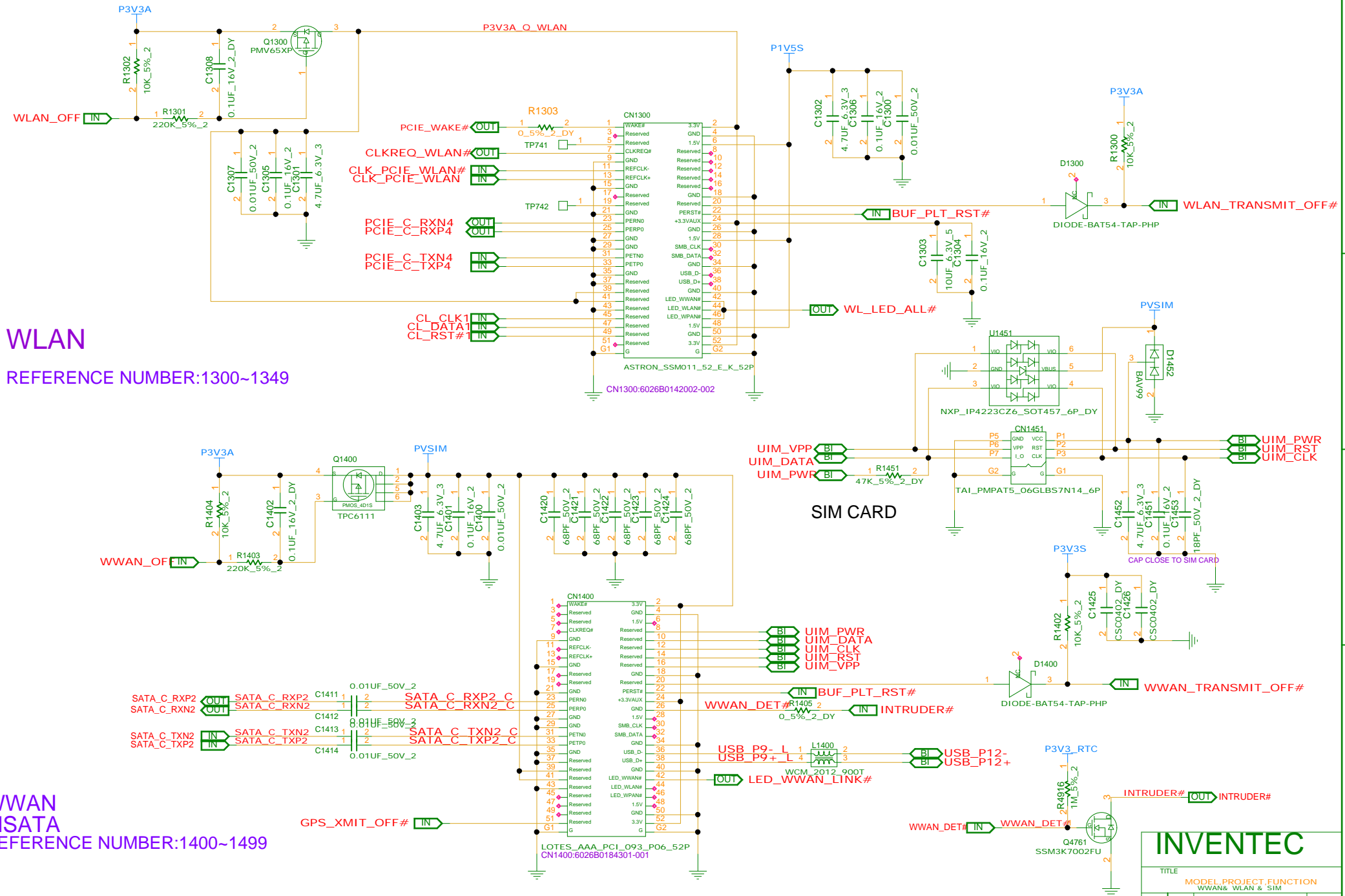
LAYOUT NOTE:
TO PLACE ONE 0.1UF AT EACH PIN 1, 4, 7, 10
AND PLACE THE 1UF IN THE SPOT THAT
IS AS CLOSE AS POSSIBLE TO ALL 4 PINS

INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
LAN (NIC TRANSFORMER RJ45)			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

SHEET 53 of 72

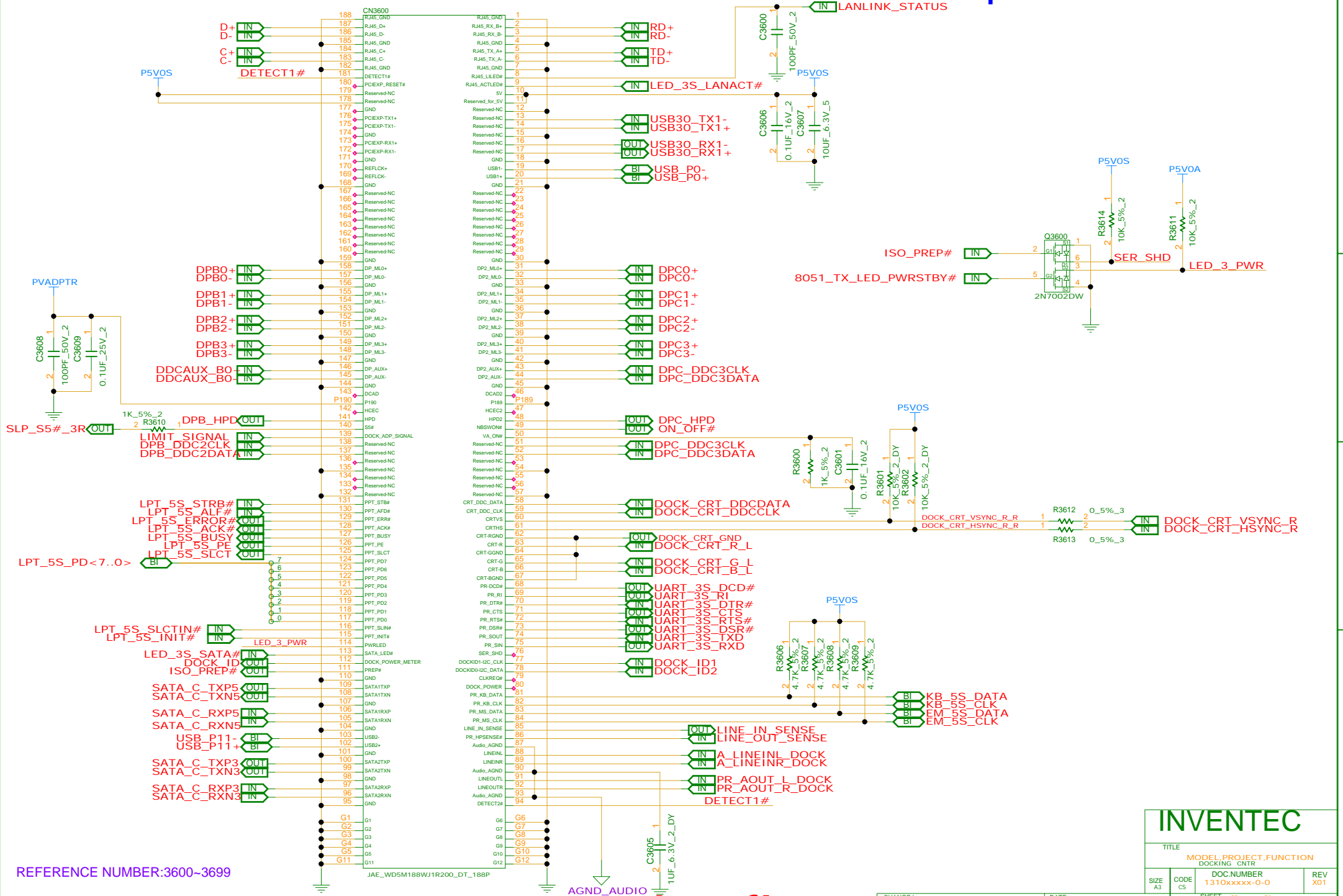


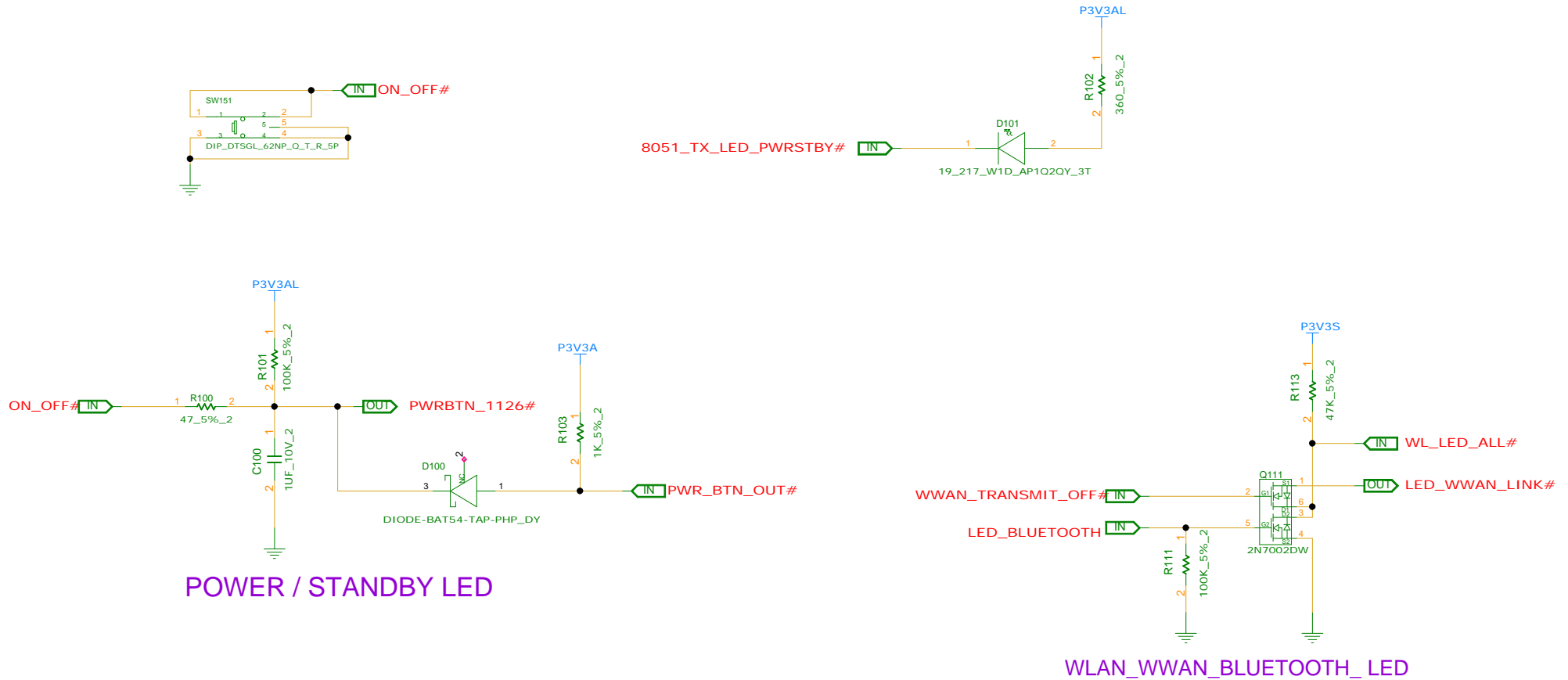
D

C

B

A





REFERENCE NUMBER:100~199

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION POWER & WLAN_LED			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 56 of 72			

CHANGE by First Chang DATE 23-MAY-2011

The diagram shows two digital signals, STD26 and STD27, over time. Both signals are represented by a green line that is high (logic 1) for most of the duration and low (logic 0) for a short period. The low period is marked with an orange '1' and a small square symbol. The signals are labeled STD26 and STD27, and the low period is labeled STDPAD_1.2_0_6-TOP.

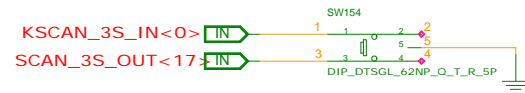
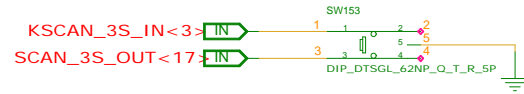
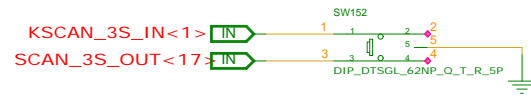
MDC

GPU

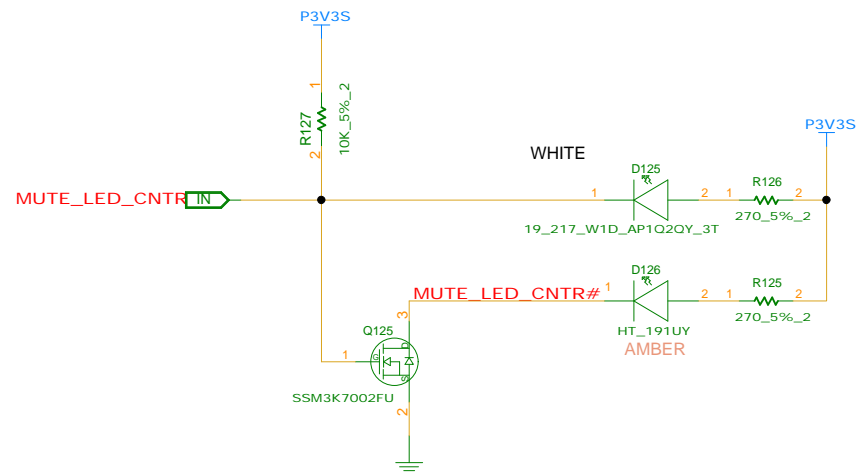
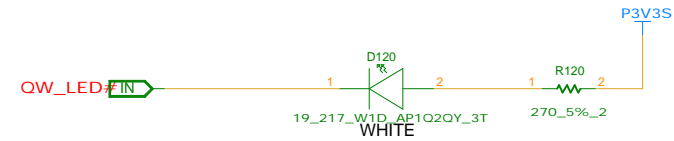
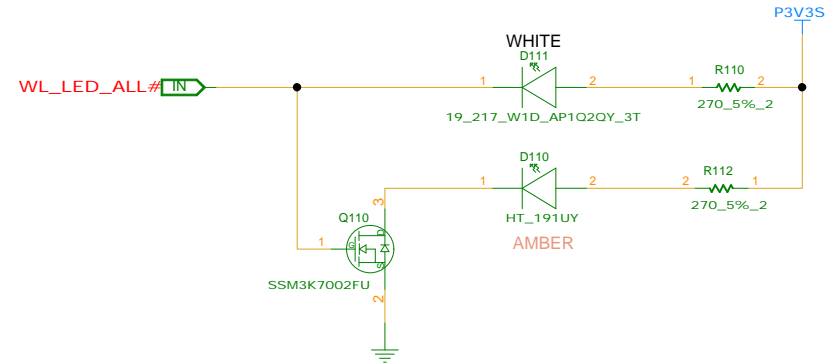
CPU

SHEET 57 of 72

<http://sualaptop365.edu.vn>

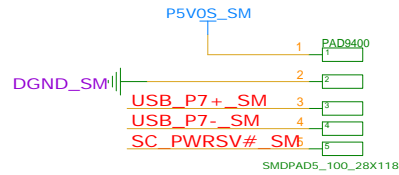


REFERENCE NUMBER:100~199



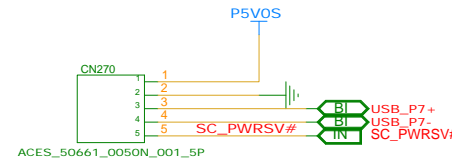
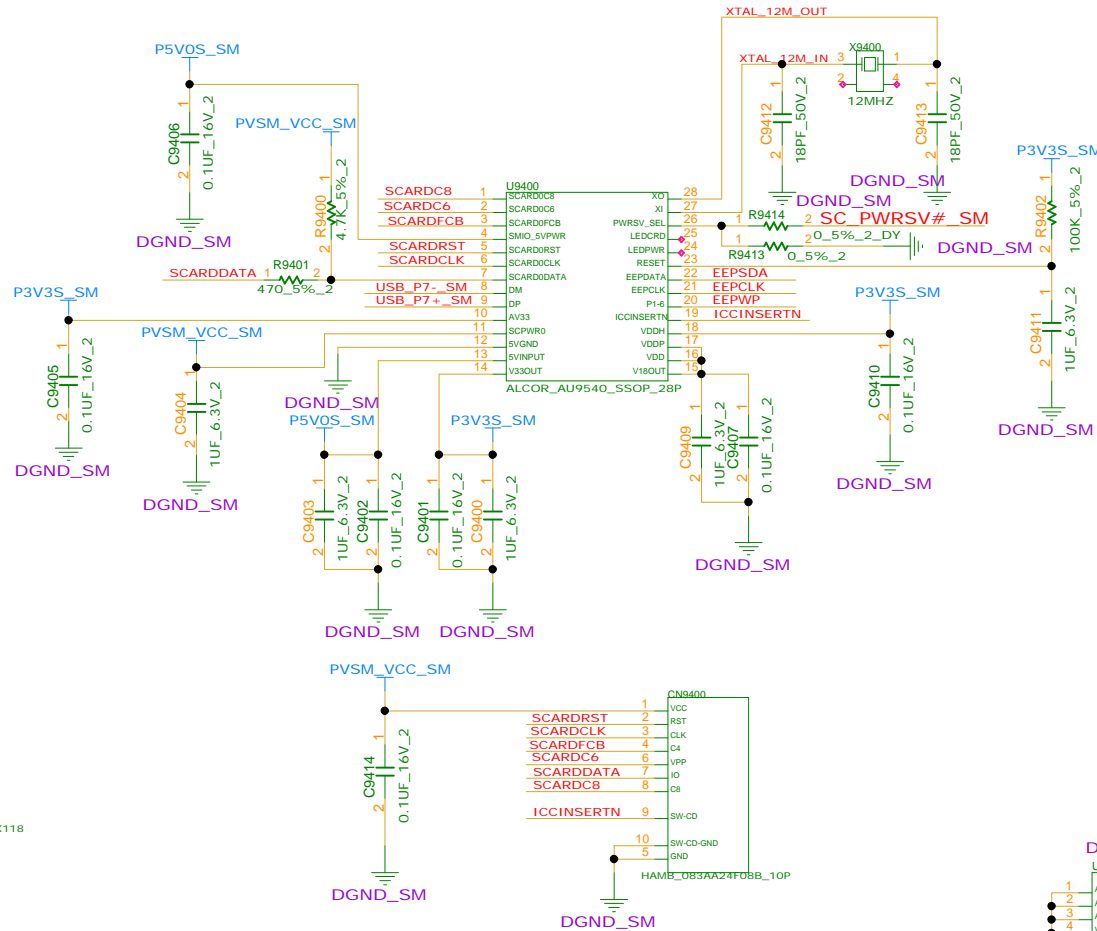
INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
WIRELESS / QUICK WEB / MUTE LED			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET 58 of 72			

FIX9401
FIX_MASK
FIX9402
FIX_MASK
FIX9403
FIX_MASK
FIX9404
FIX_MASK
FIX9405
FIX_MASK
FIX9406
FIX_MASK
FIX9407
FIX_MASK
FIX9408
FIX_MASK

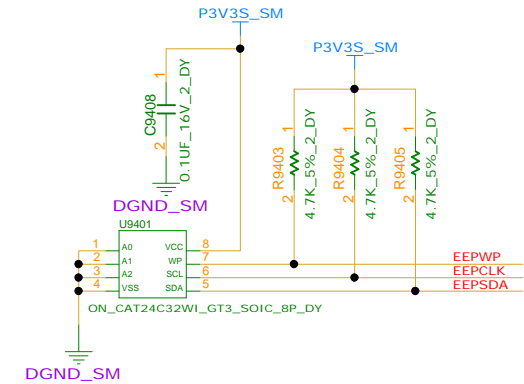


SMART CARD DB

REFERENCE NUMBER:9400~9499

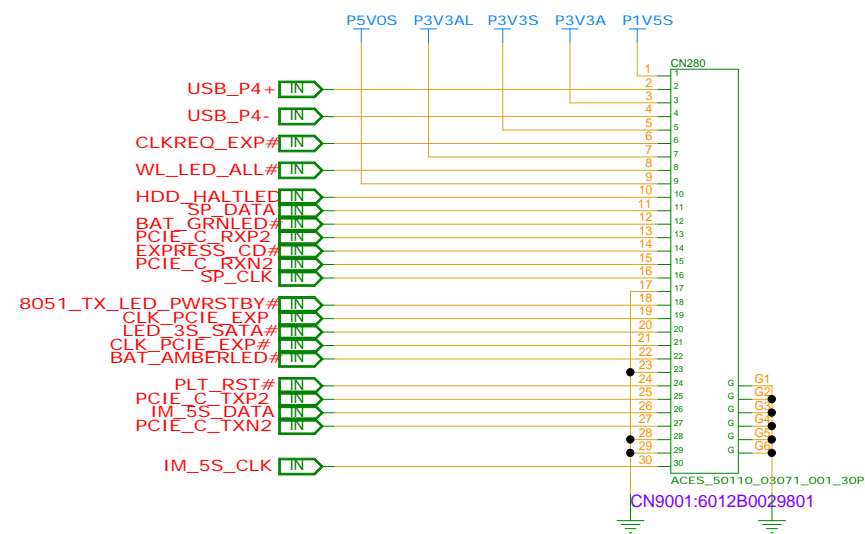


SMART CARD MB CONN.



INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
SMART CARD			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01



INVENTEC			
TITLE			
MODEL PROJECT.FUNCTION			
EXPRESS_CARD_CNTR			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 60 of 72			

BLANK

INVENTEC			
TITLE			
MODEL,PROJECT,FUNCTION			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 61 of 72			

D

D

C

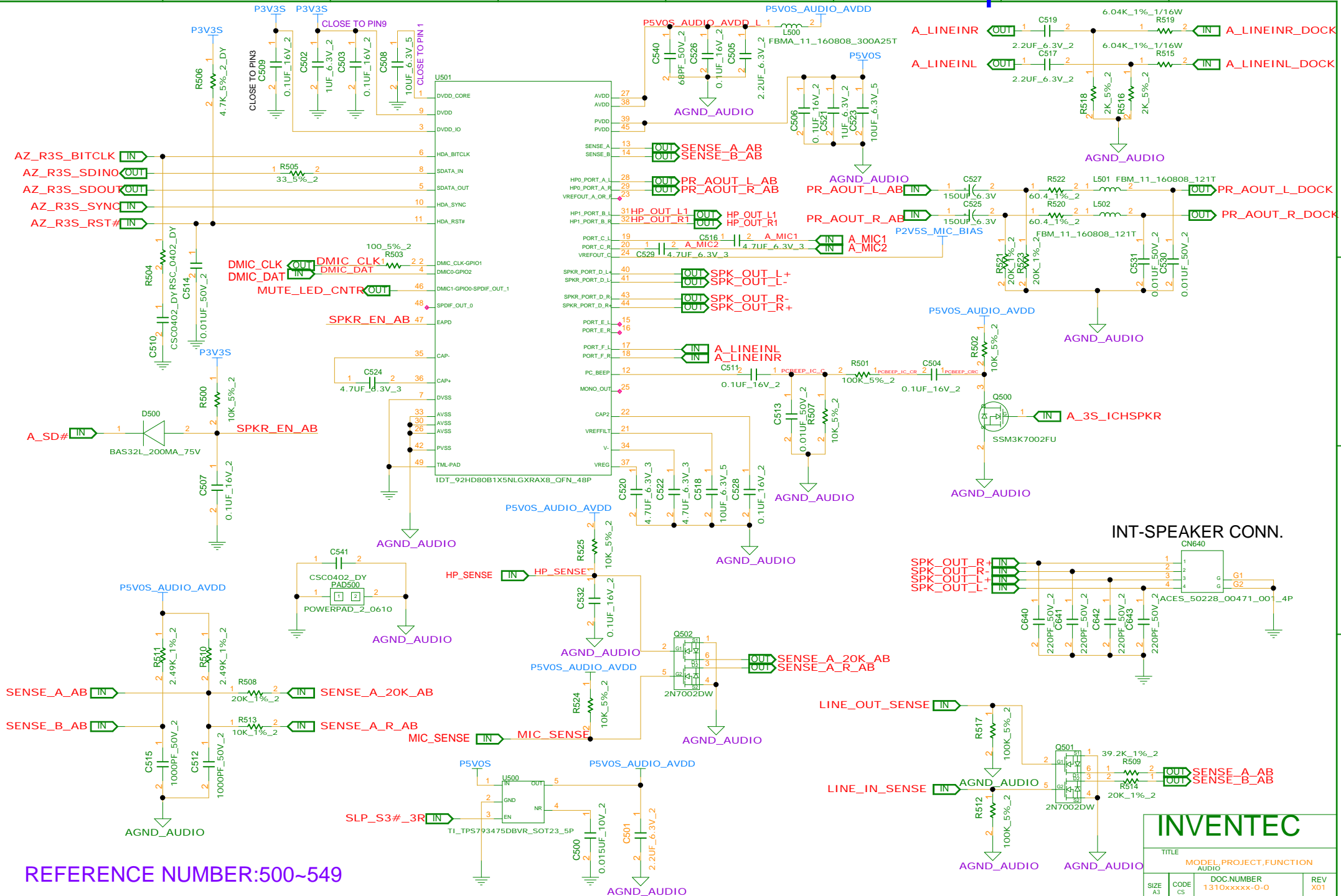
C

B

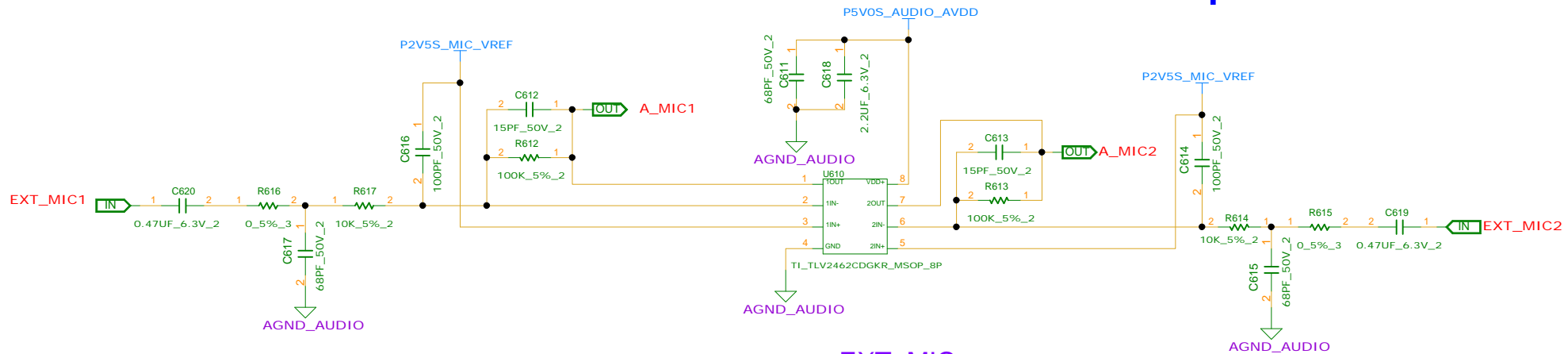
B

A

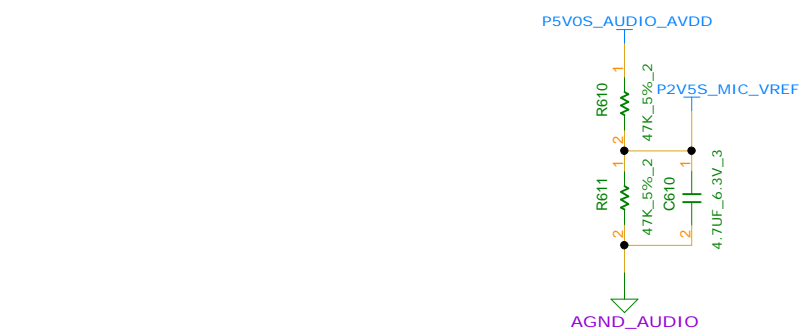
A



REFERENCE NUMBER:500~549

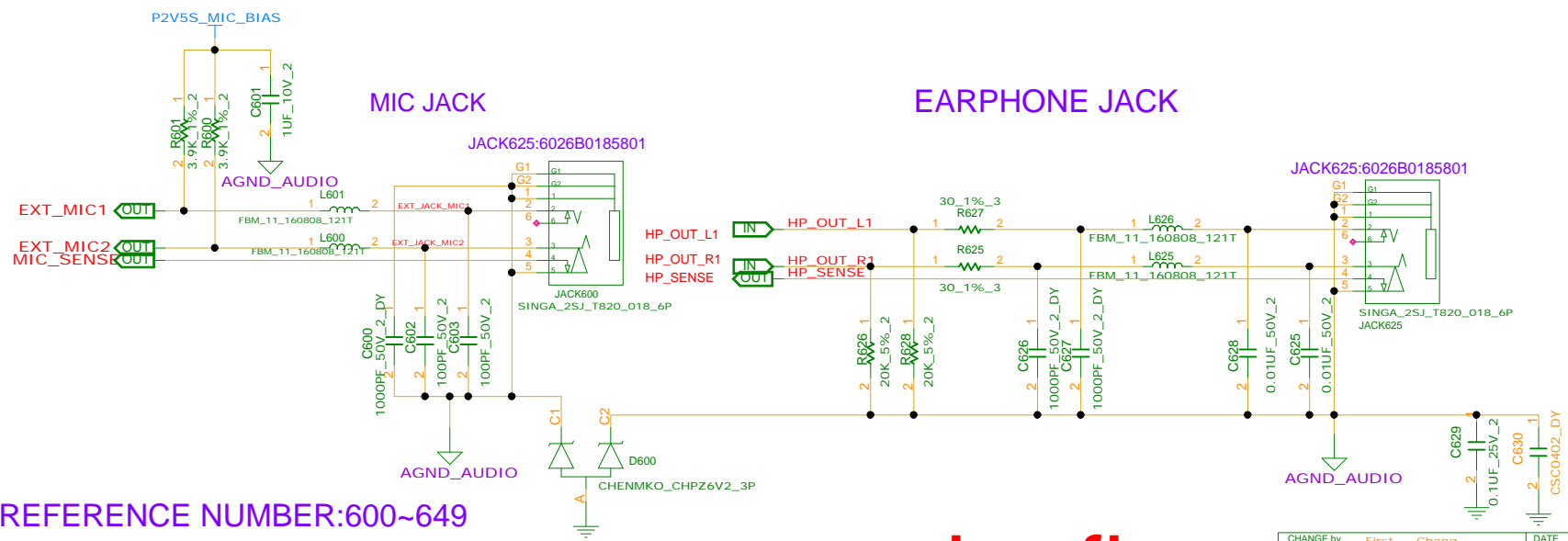


EXT. MIC
REFERENCE NUMBER:610~624



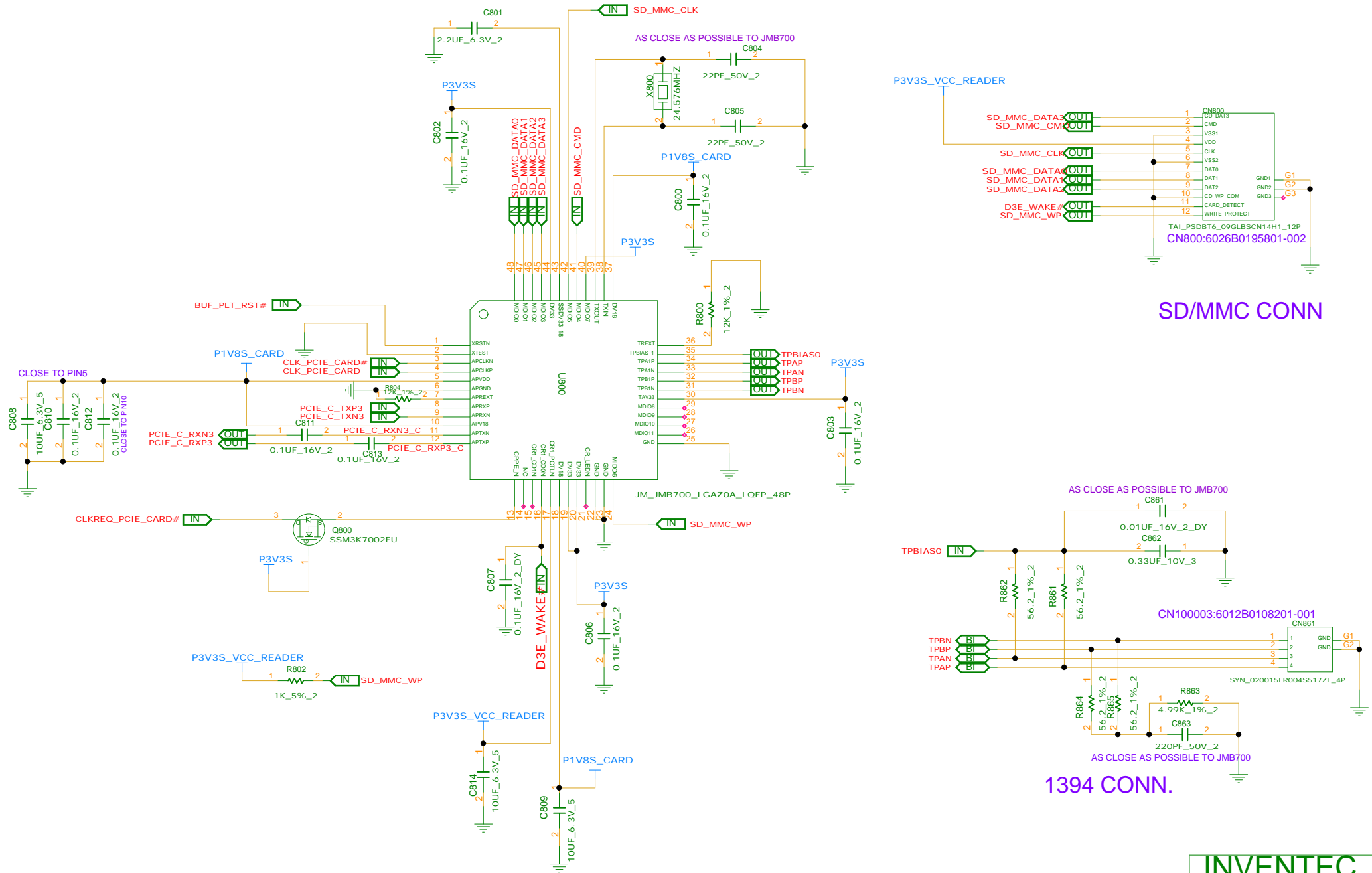
MIC JACK

EARPHONE JACK



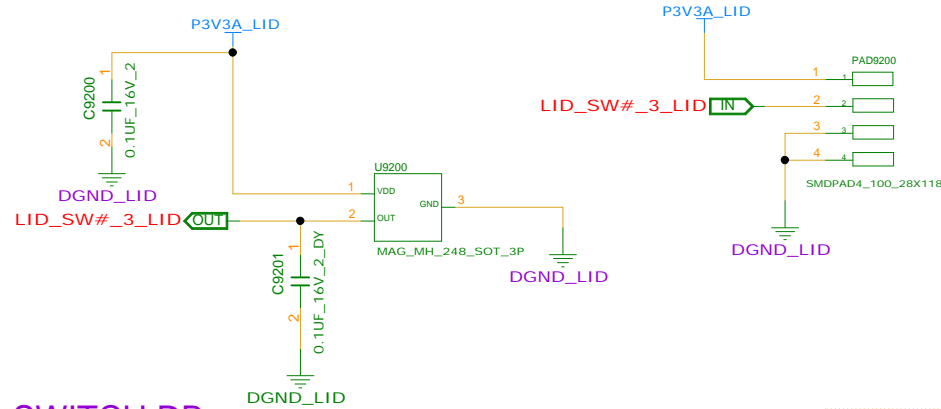
REFERENCE NUMBER:600~649

INVENTEC			
TITLE			
MODEL, PROJECT, FUNCTION			
EXT. MIC / MIC / HP			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
CHANGE by		DATE	SHEET
First Chang		23-MAY-2011	63 of 72



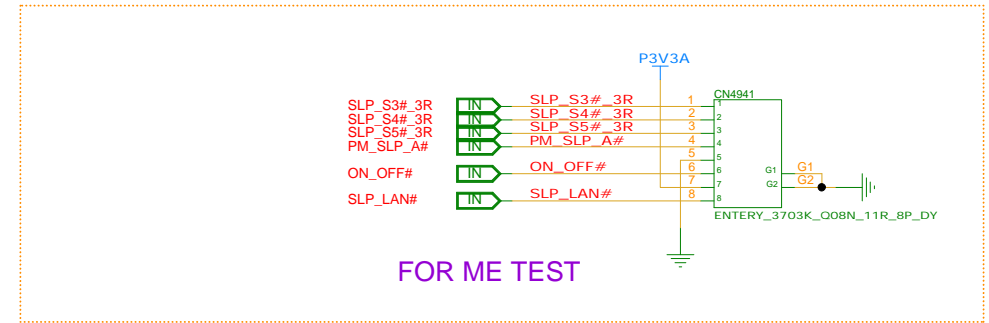
REFERENCE NUMBER:800~899

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
CARD READER CTRL / 1394 CONN / SD CONN			
DOC NUMBER			
1310xxxxx-0-0			
REV			
X01			
SIZE	CODE	DATE	SHEET
A3	CS	23-MAY-2011	64 of 72

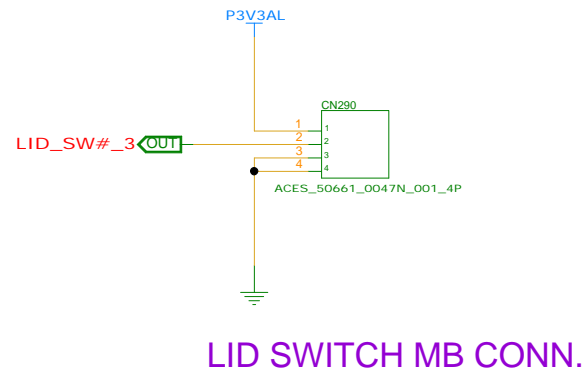


LID SWITCH DB

REFERENCE NUMBER:9200~9299



FOR ME TEST



LID SWITCH MB CONN.

INVENTEC			
TITLE			
MODEL PROJECT,FUNCTION			
LID SWITCH			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01

CHANGE by First Chang DATE 23-MAY-2011

SHEET 65 of 72



