

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, 2014 ALL RIGHT RESERVED.

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

# R10 REFRESH SVT

X64 2PCS

2019.01.30

21-OCT-2002		
DATE	CHANGE NO.	REV

DESIGN / DRAWER	XXX	DATE	21-OCT-2002	MODEL,PROJECT,FUNCTION			
CHECK	<CHECK>			SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
APPROVAL	<APPROVAL>						
FILE NAME	<FILENAME>						
PCB P/N	600000000000	PCB VER	XXX	SHEET 1 of 60			

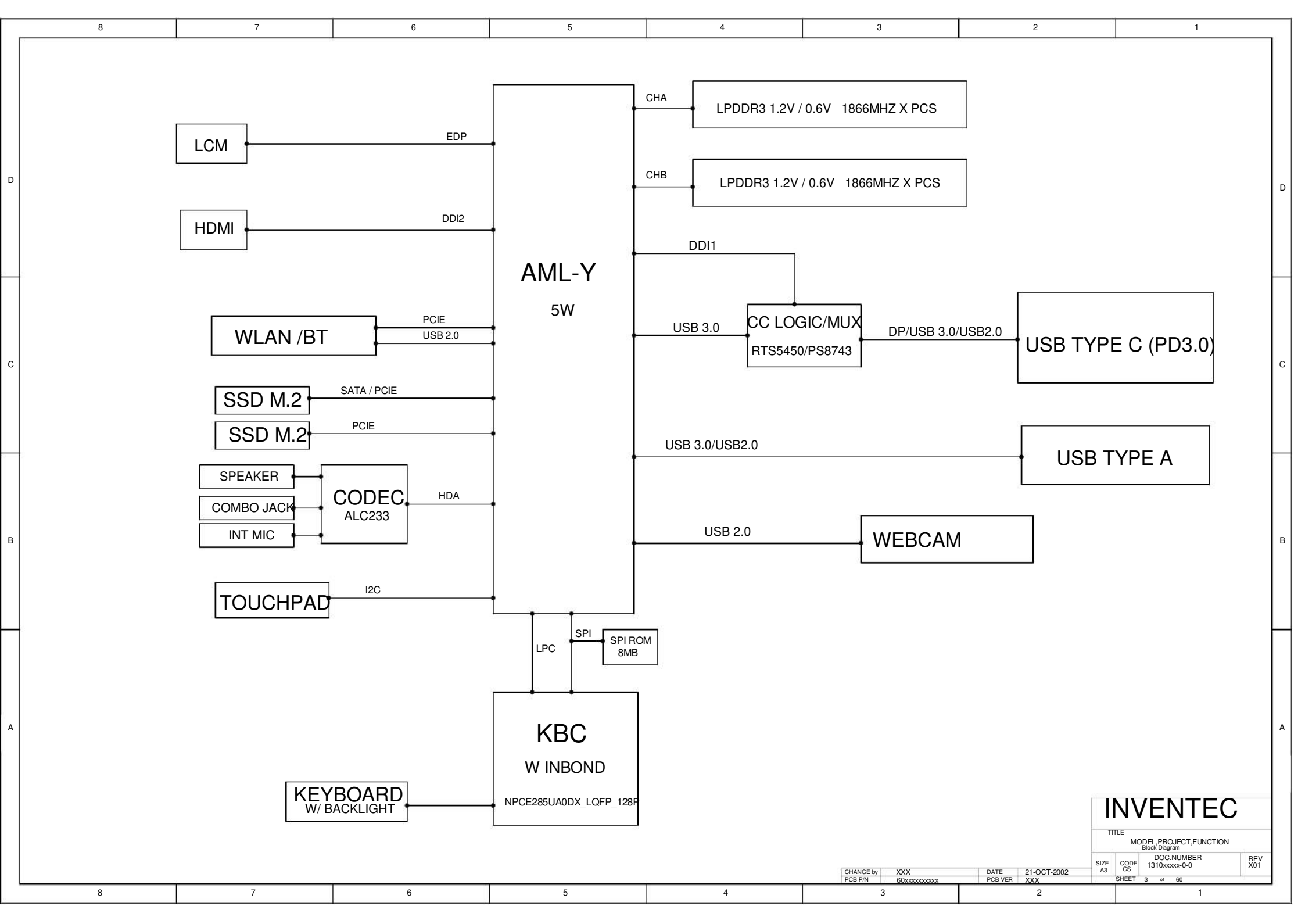
# TABLE OF CONTENTS

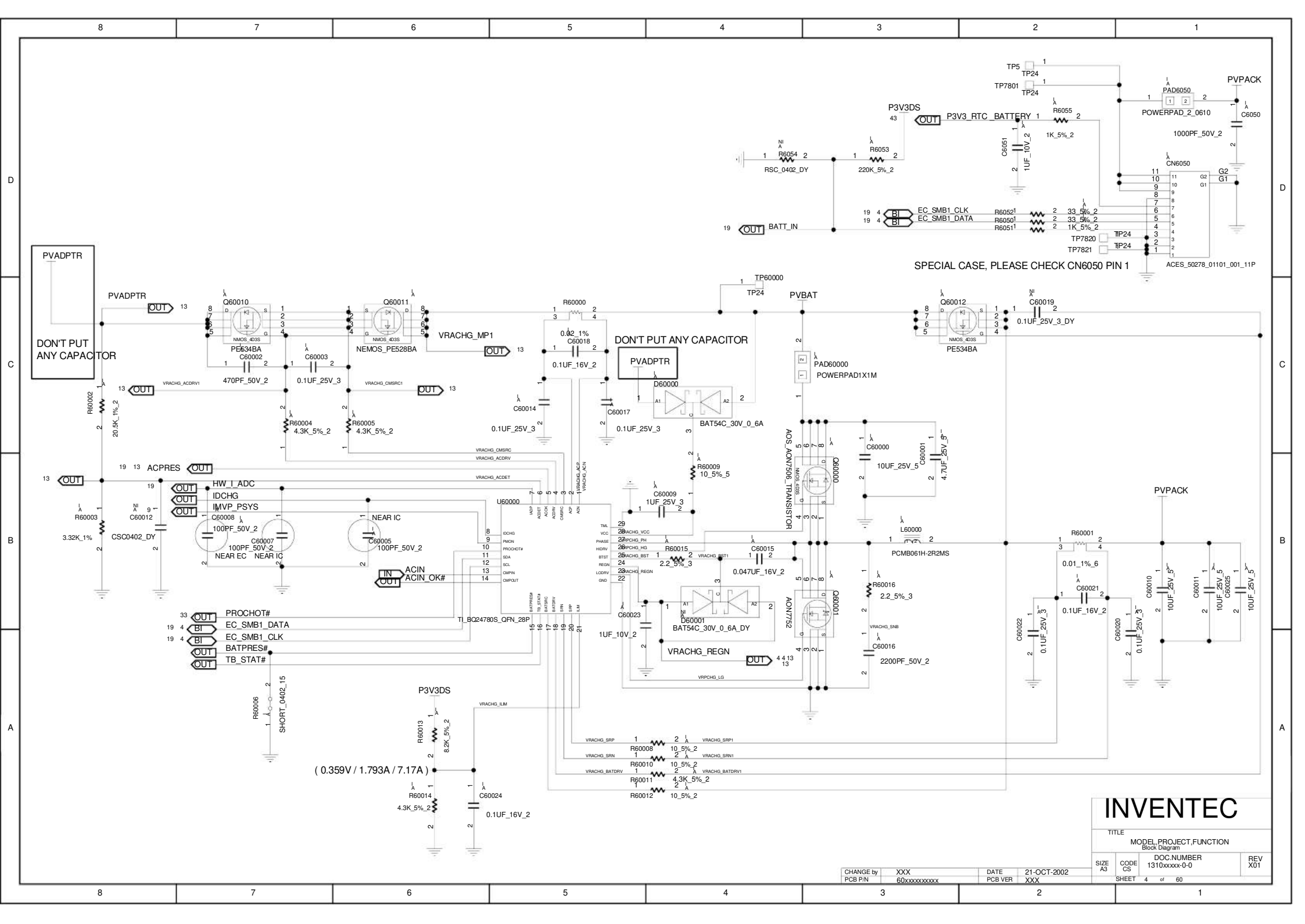
PAGE	PAGE	PAGE
1. COVER PAGE	21. AUDIO JACK&CONN	44. AM LAKE Y_12 (CFG/RESERVED)
2. INDEX	22. WLAN/BT	45. AM LAKE Y_13 (CPU POWER-1)
3. BLOCK DIAGRAM	23. NGFF-M2 SSD	46. AM LAKE Y_14 (CPU POWER-2)
4. POWER CHARGER	24. NGFF-M2 SSD2	47. AM LAKE Y_15 (CPU POWER-3)
5. POWER 3V/5V	25. USB3.0/SLEEP CHARGE	48. AM LAKE Y_16 (CPU POWER-4)
6. POWER VDDQ	26. USB TYPE-C CC	49. AM LAKE Y_17 (PCH POWER IO-1)
7. POWER P1V8A	27. USB TYPE-C CONN	50. AM LAKE Y_18 (PCH POWER IO-2)
8. POWER P1V0A	28. EDP CONN	51. AM LAKE Y_19 (POWER GND)
9. POWER GT-SA CONTROLLER	29. HDMI CONN	52. LPDDR3_-1 (B)
10. POWER PVCORE	32. THERMAL SENSOR	53. LPDDR3_-2 (B)
11. POWER PVCCGT	33. AM LAKE Y_1 (MISC/JIAG)	54. LPDDR3_-3 (A)
12. POWER PVCCSA	34. AM LAKE Y_2 (LPC / SPI / SMB / CLINK)	55. LPDDR3_-4 (A)
13. ENABLE PIN	35. AM LAKE Y_3 (LPSS/ISH)	56. LPDDR3_-5 (VREF)
14. SYSTEM POWER	36. AM LAKE Y_4 (POWER MANAGEMENT)	57. LPDDR3_-6 (CAP)
15. SYSTEM POWER	37. AM LAKE Y_5 (AUDIO/SDIO)	58. LPDDR3_-7 (VREF)
16. PCB SCREW	38. AM LAKE Y_6 (CSI-2/EMMC)	60. AUDIO DB
17. TOUCHPAD CNTR / PWR BTN / LID	39. AM LAKE Y_7 (DISPLAY)	59. EMI
18. KB CONN	40. AM LAKE Y_8 (DDR CHANNEL-A)	60. SMALL BOARD IO(AUDIO JACK)
19. EC	41. AM LAKE Y_9 (DDR CHANNEL-B)	
20. AUDIO CODEC_ALC233	42. AM LAKE Y_10 (PCIE/USB/SATA)	
	43. AM LAKE Y_11 (CLOCK)	

INVENTEC

TITLE			
MODEL PROJECT.FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET 2 of 60			

CHANGE by	XXX	DATE	21-OCT-2002
PCB PIN	60xxxxxxx	PCB VER	XXX

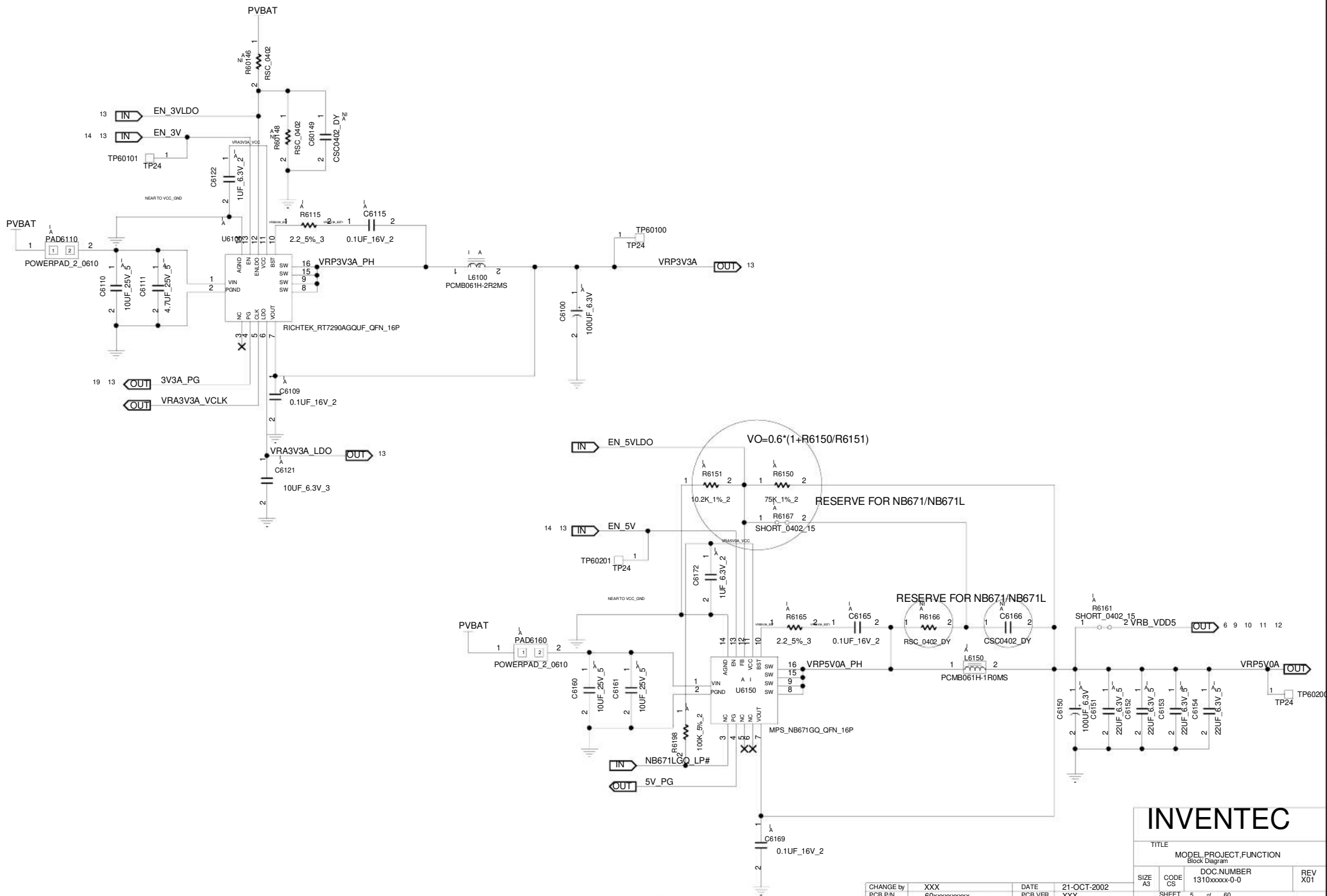




# INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	4	of 60	

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

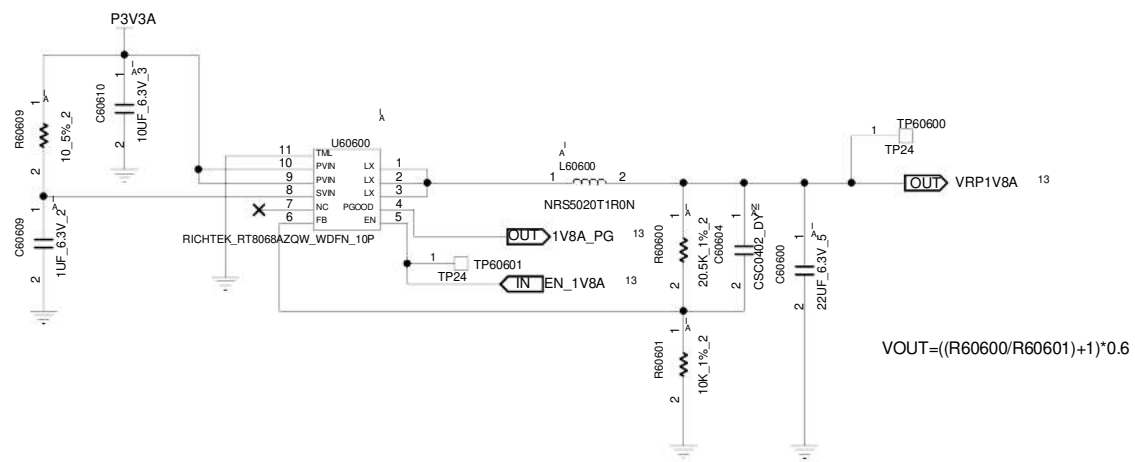


**INVENTEC**

TITLE			
Block Diagram			
MODEL PROJECT FUNCTION			
1310xxxx-0-0			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	5	of 60	

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





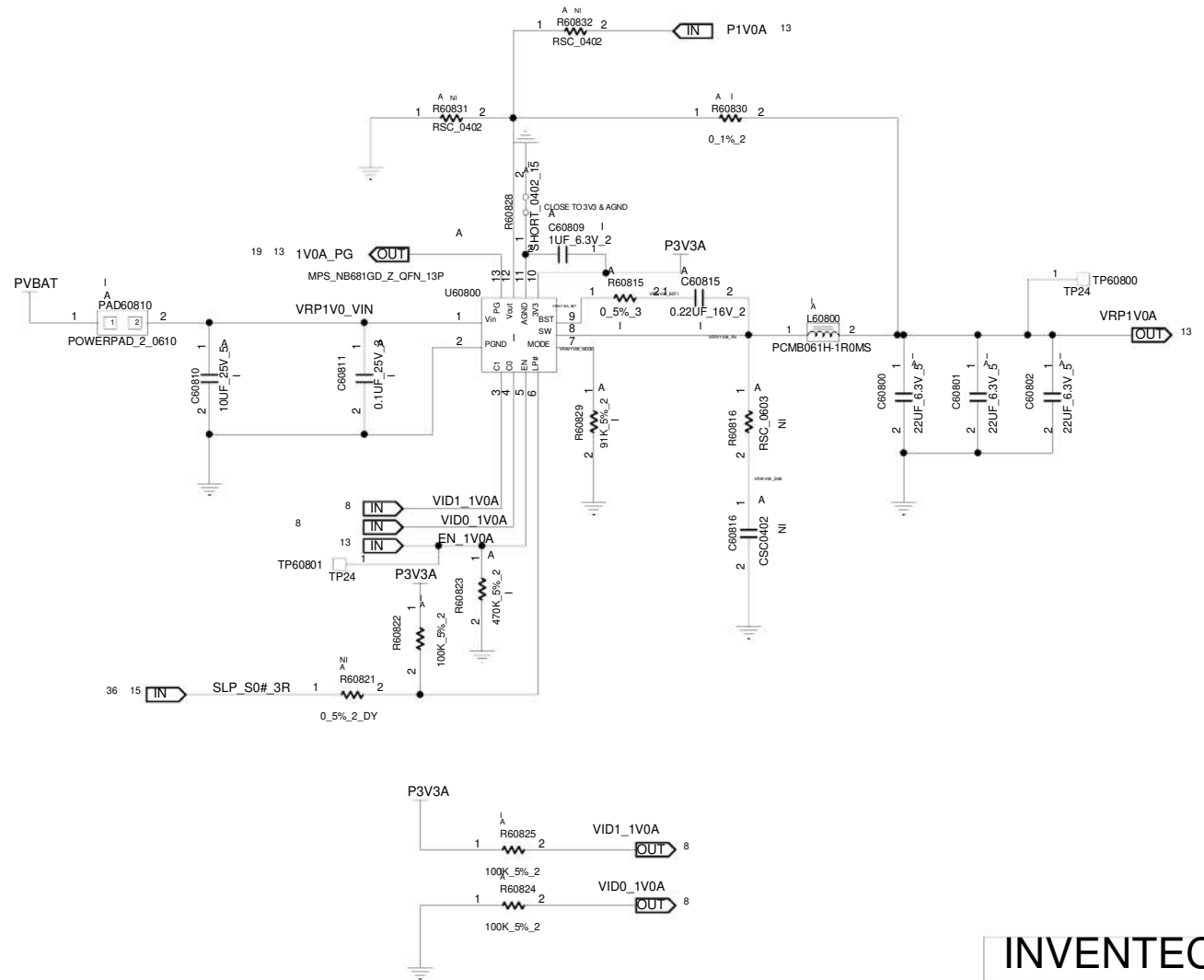
INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET		7 of 60	

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

MODE	VR Rail	Resistor to GND
M1	VCCIO	0
M2	PCH	Float,( or >200k)
M3	EDRAM/EOPIO	100K
M4	Other	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	0.7
	1	0	0	0.85
	1	0	1	0.9
	1	1	0	0.95
	1	1	1	1.00
EDRAM/EOPIO	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	0	X	X	0
	1	0	0	1.0
	1	0	1	1.075
	1	1	0	1.15
	1	1	1	1.2



INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	8	of 60	

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



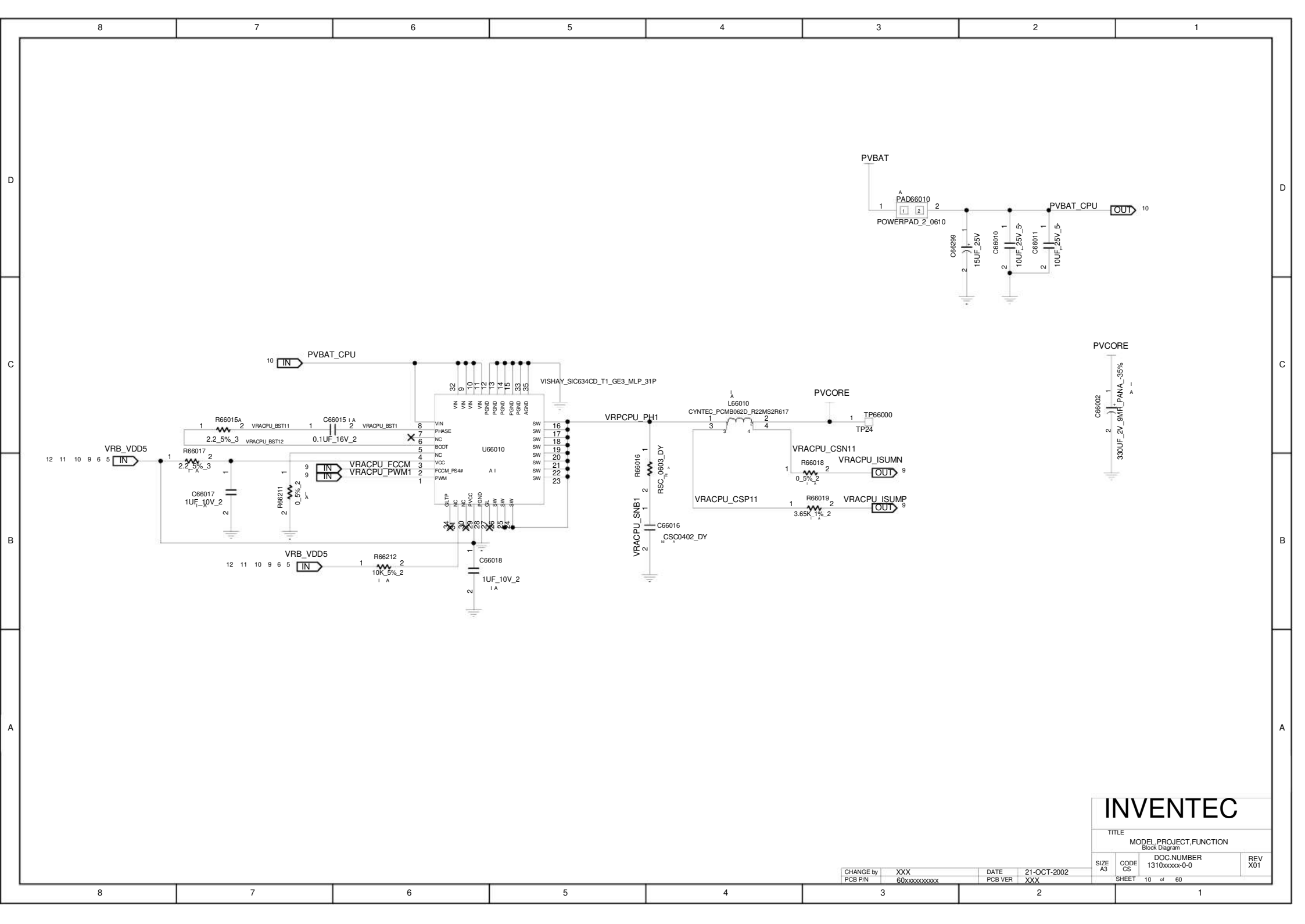
A

# INVENTEC

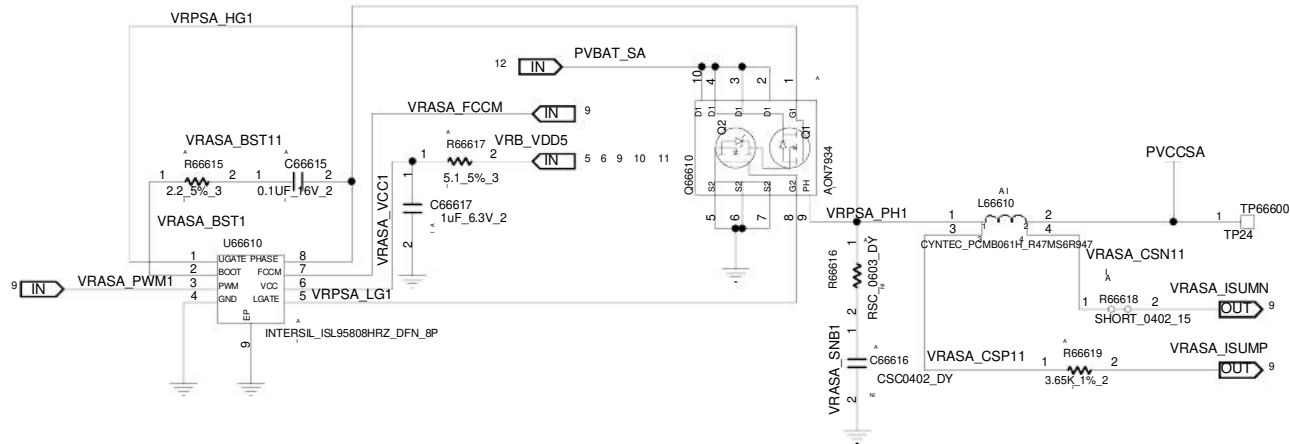
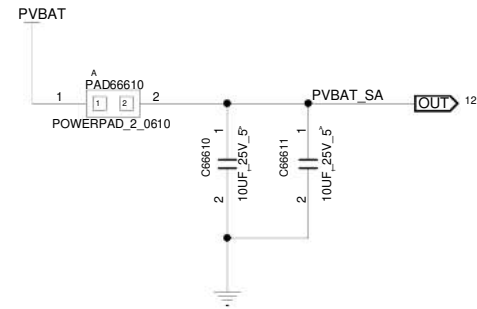
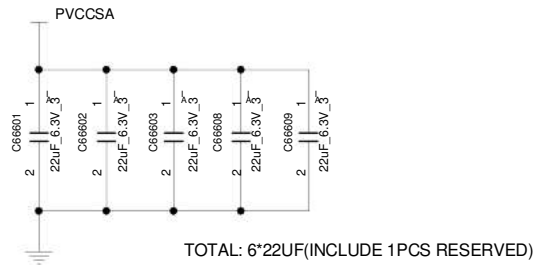
TITLE	MODEL, PROJECT, FUNCTION
	Block Diagram

SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET		9 of 60	

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







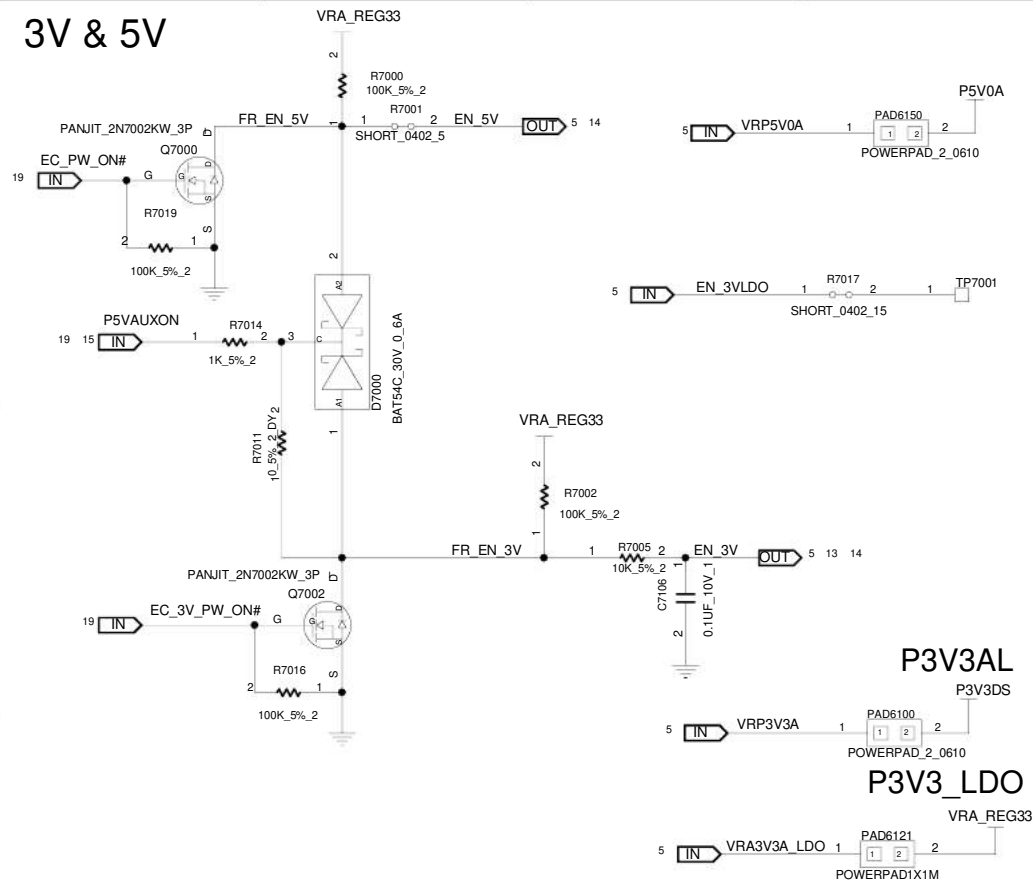
INVENTEC

TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

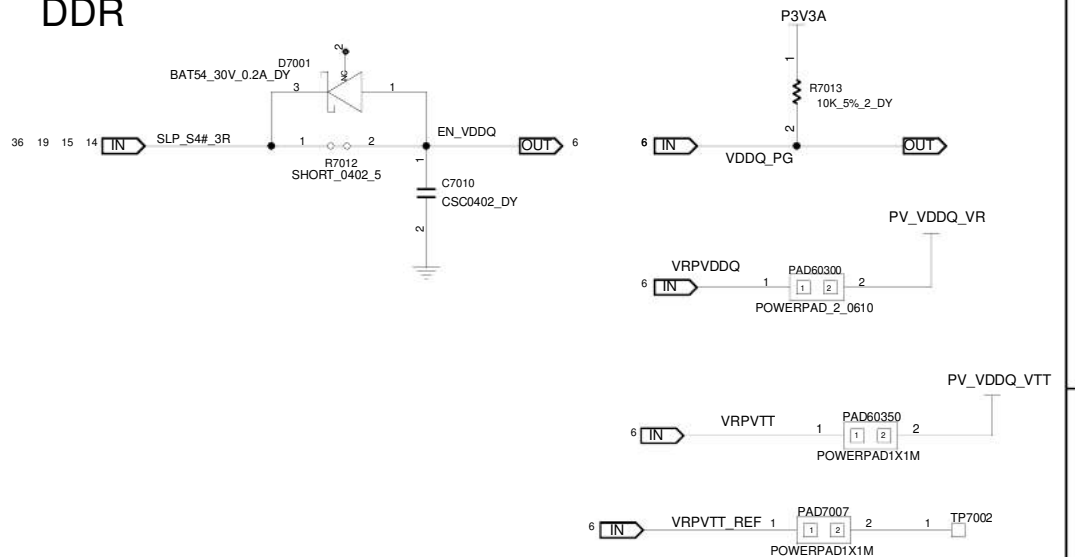
SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 12 of 60			

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

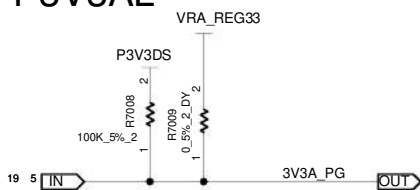
## 3V & 5V



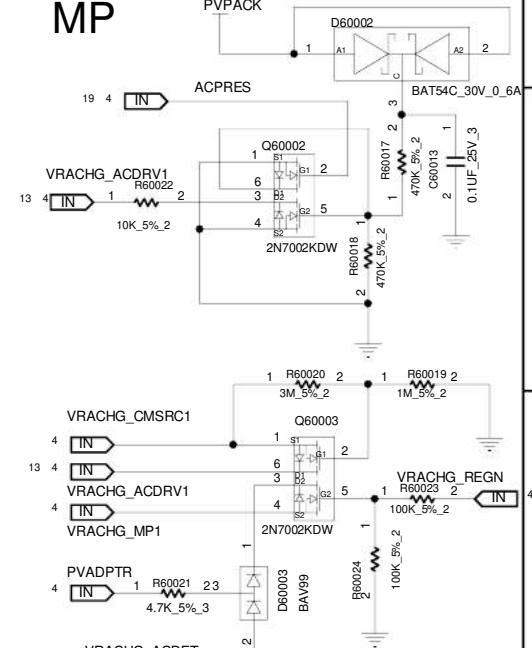
## DDR



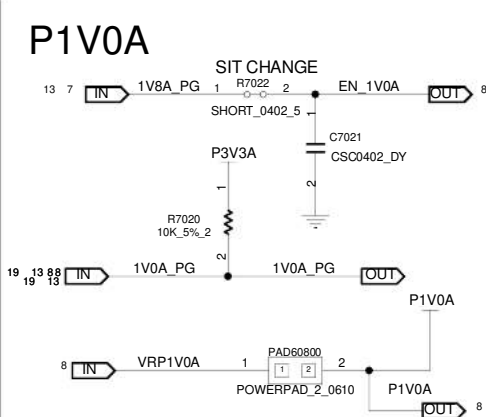
## P3V3AL



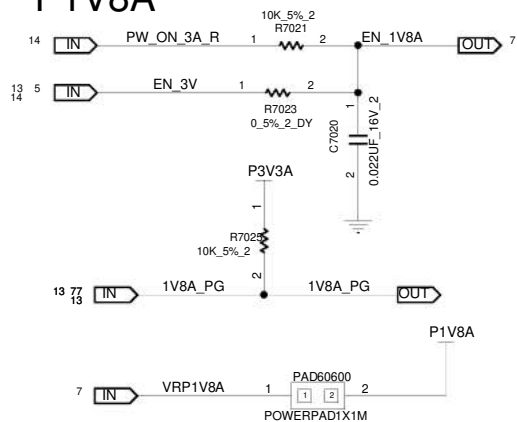
## MP



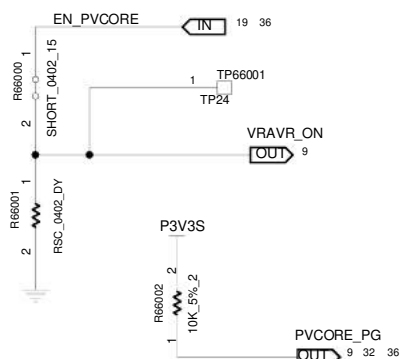
## P1V0A



## P1V8A



## PVCORE



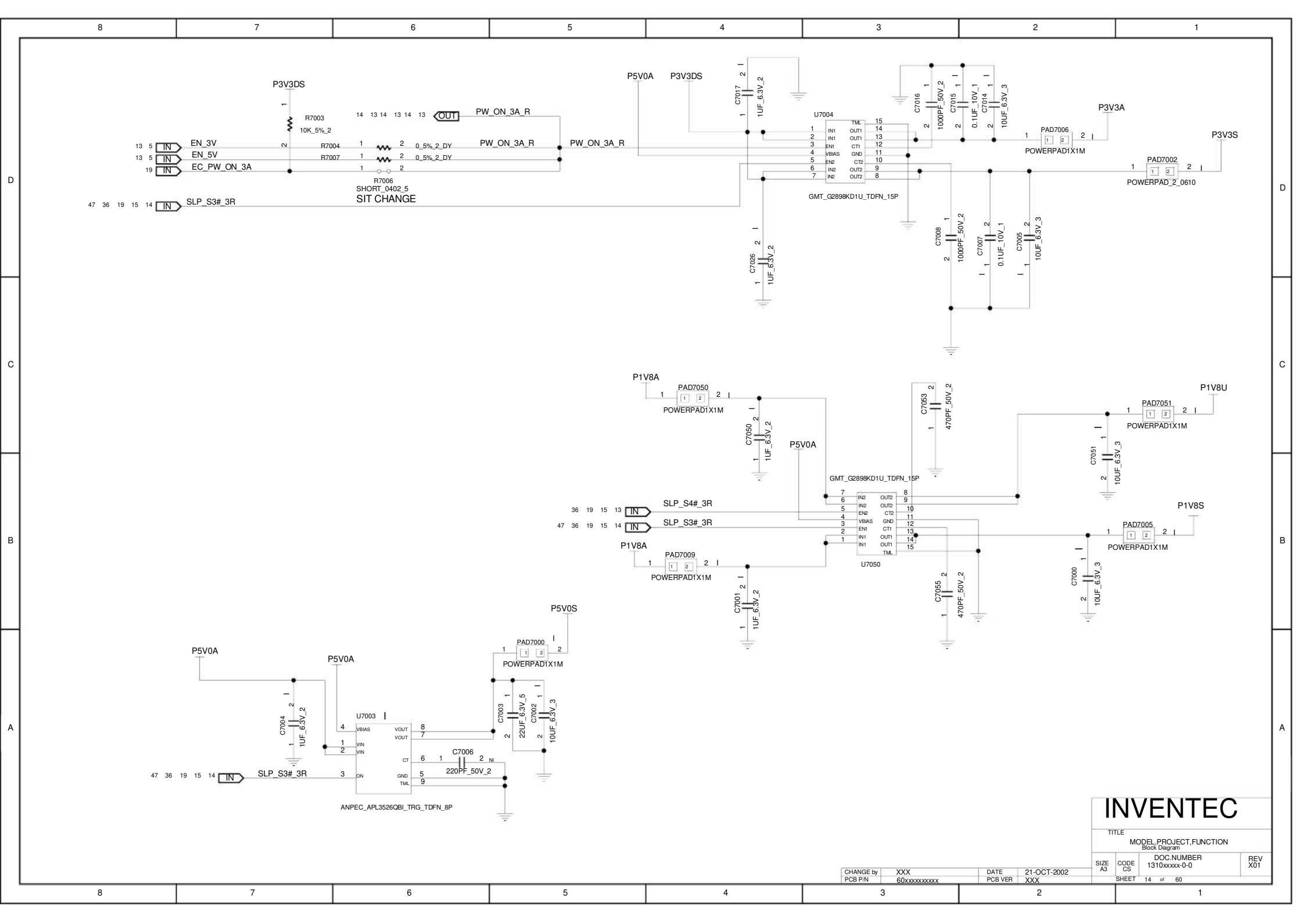
INVENTEC

TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

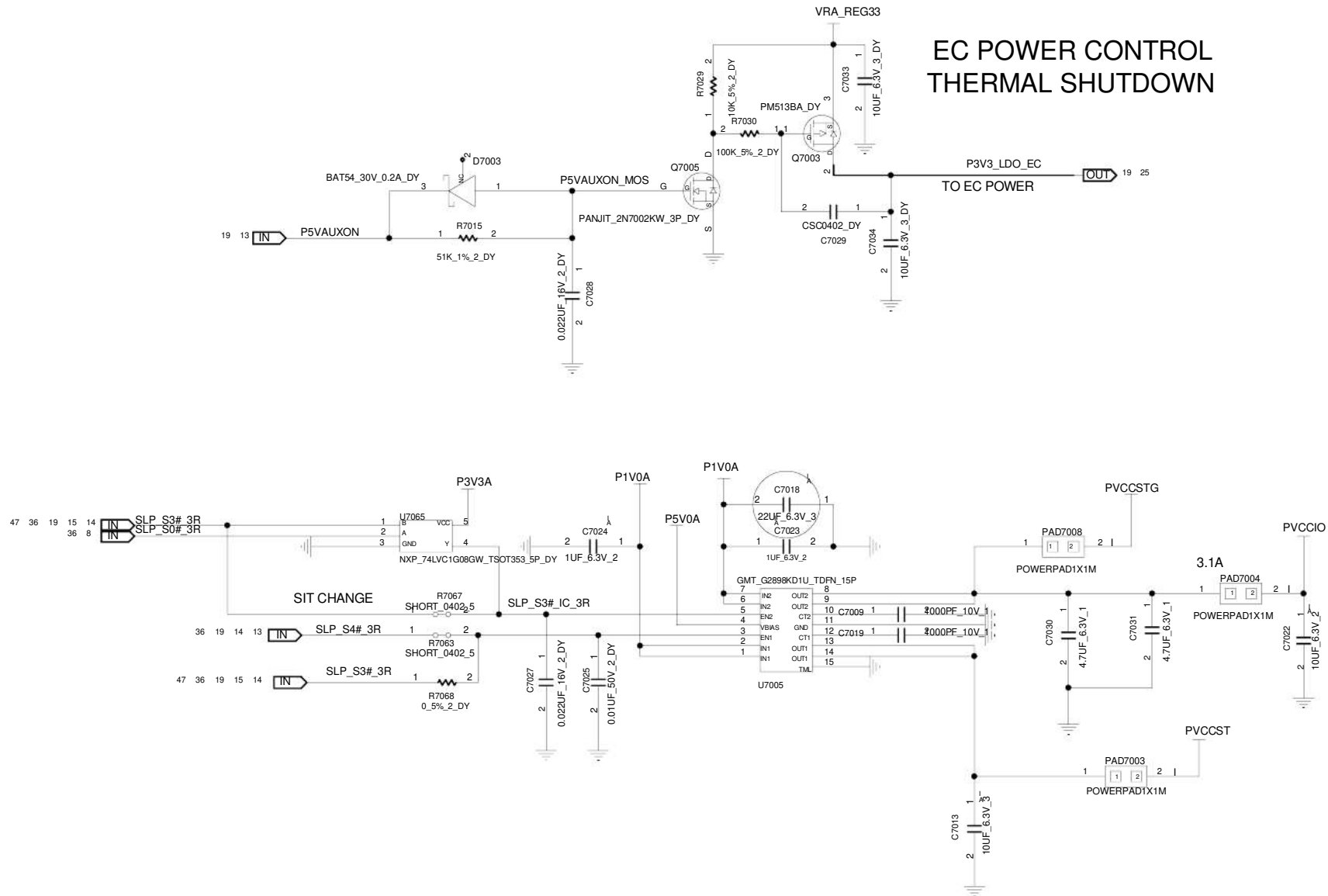
SIZE A3 CODE CS DOC NUMBER 1310xxxx-0-0 REV X01  
SHEET 13 of 60

CHANGE by XXXX  
PCB P/N 60xxxxxxxxxx

DATE 21-OCT-2002  
PCB VER XXX



# EC POWER CONTROL THERMAL SHUTDOWN

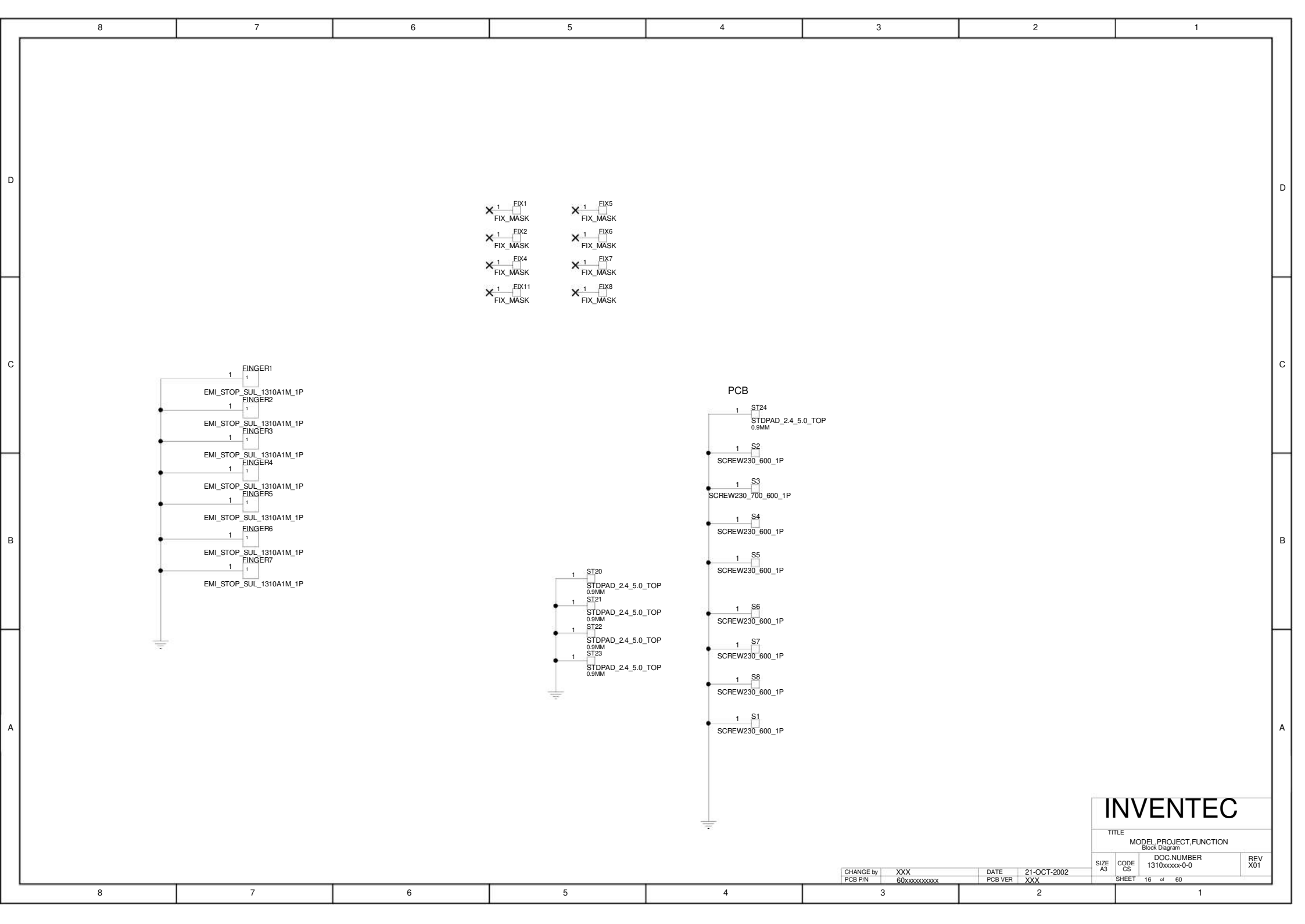


INVENTEC

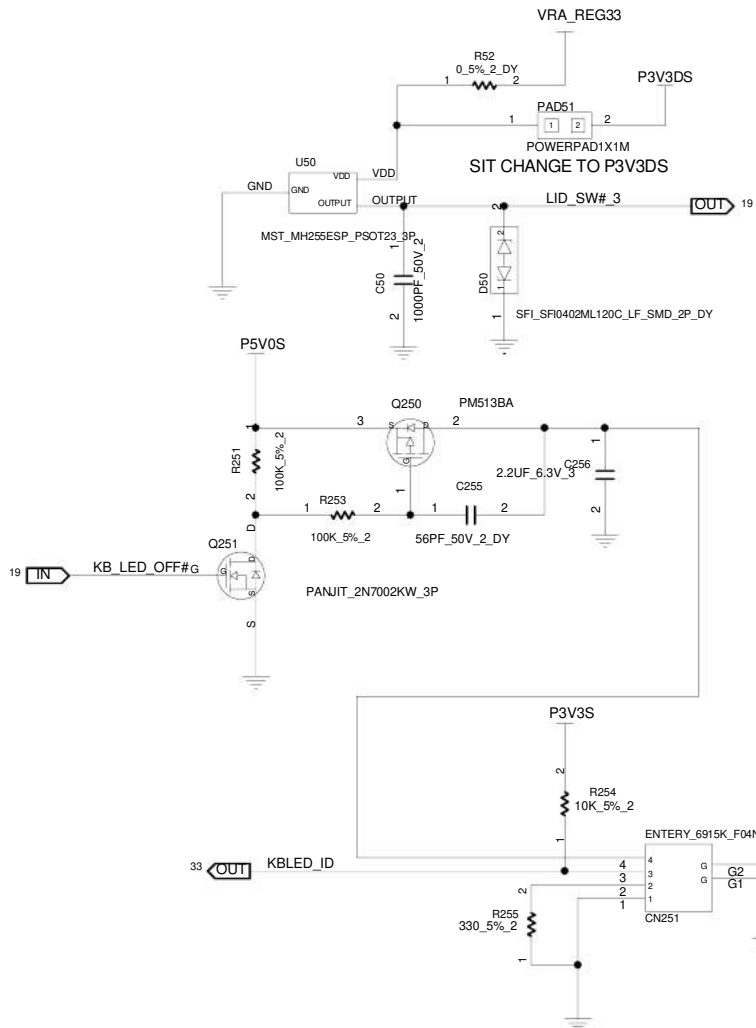
TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 15 of 60			

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

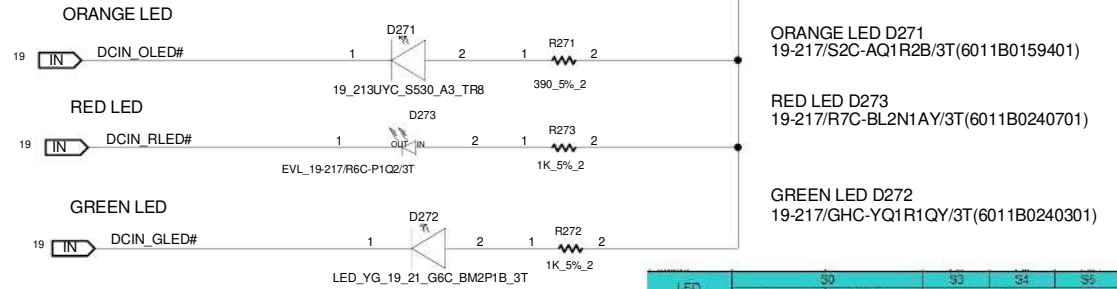




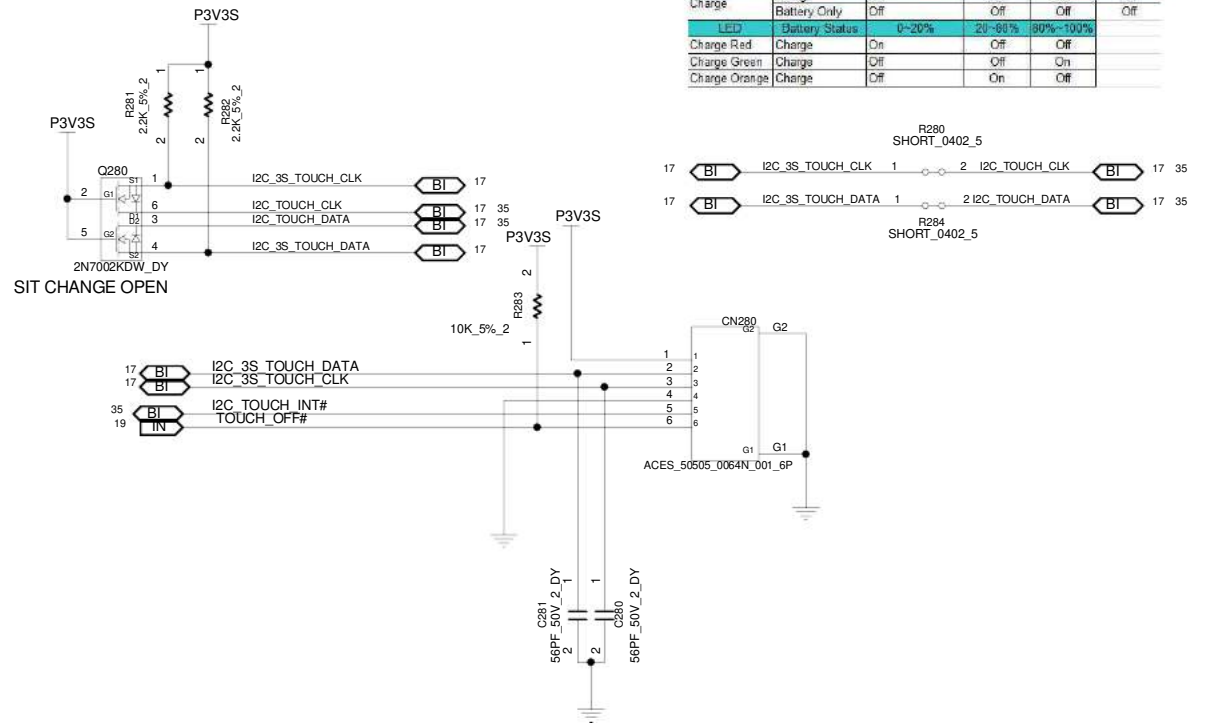


KEYBOARD BACKLIGHT CONN

## BATTERY CHARGE LED



LED	Status	30	33	34	35
Change	Charge	On	On	On	On
	Battery Only	Off	Off	Off	Off
LED	Battery Status	0~20%	20~80%	80~100%	
Change Red	Charge	On	Off	Off	
Change Green	Charge	Off	Off	On	
Change Orange	Charge	Off	On	Off	



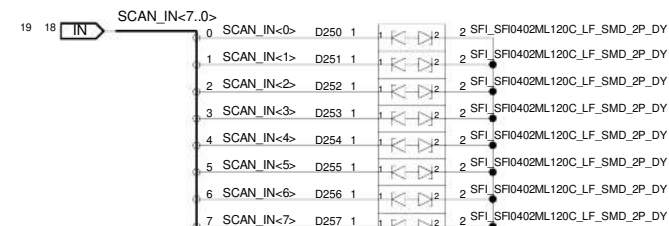
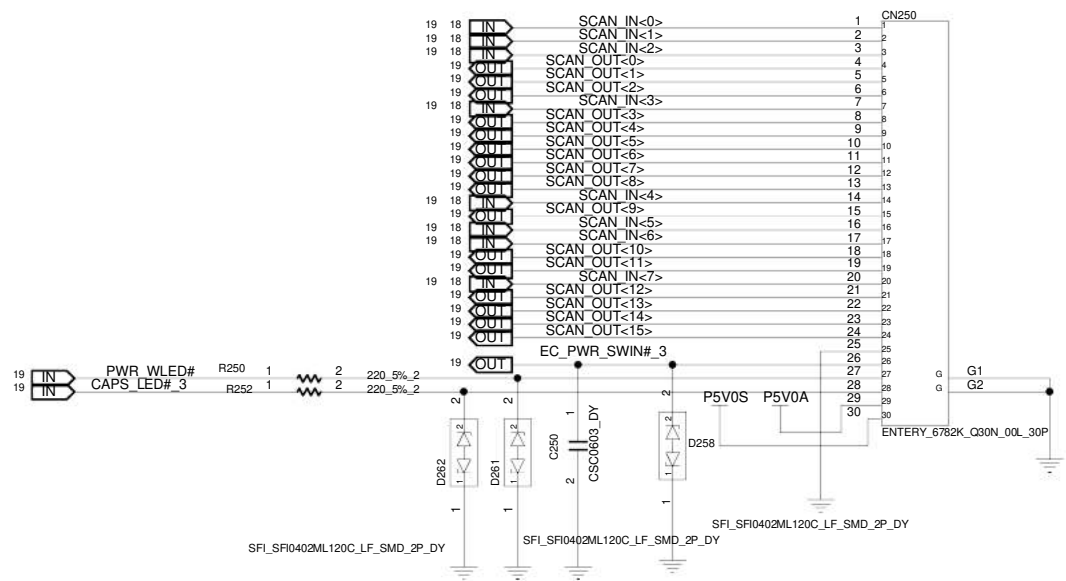
INVENTEC

TITLE  
MODEL PROJECT FUNCTION  
Block Diagram

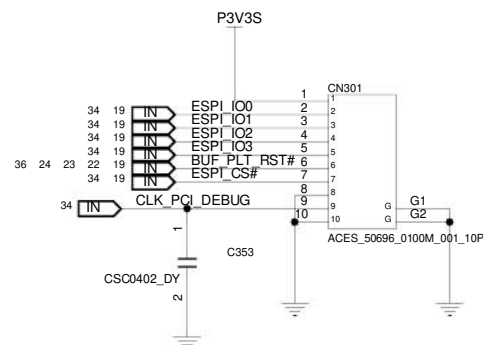
SIZE CODE DOC NUMBER REV  
A3 CS 1310xxxxx-0-0 X01  
SHEET 17 of 60

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

## KEYBOARD CONN



DEBUG CONN

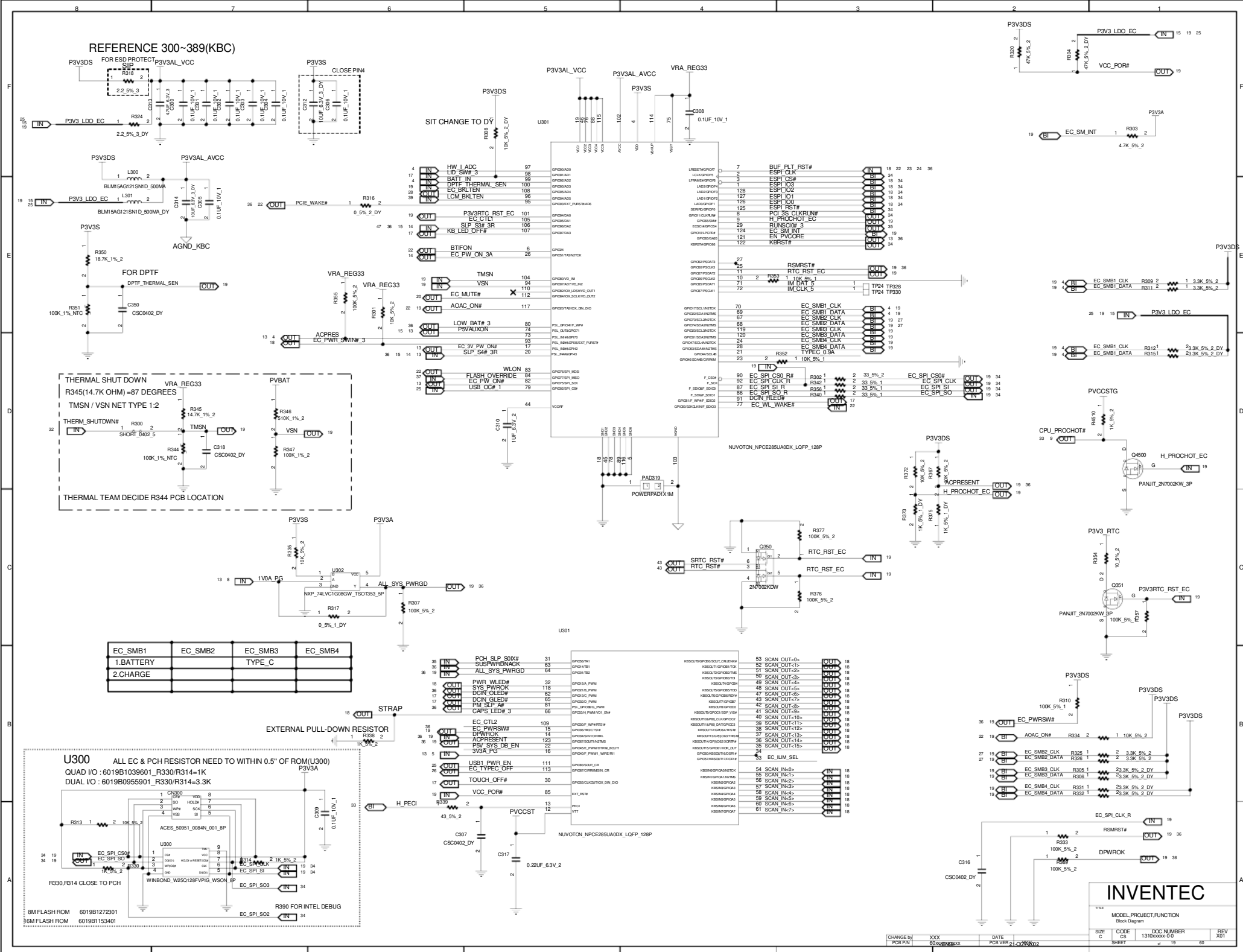


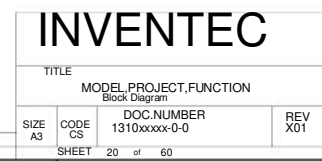
# INVENTEC

TITLE	MODEL, PROJECT, FUNCTION
	Block Diagram

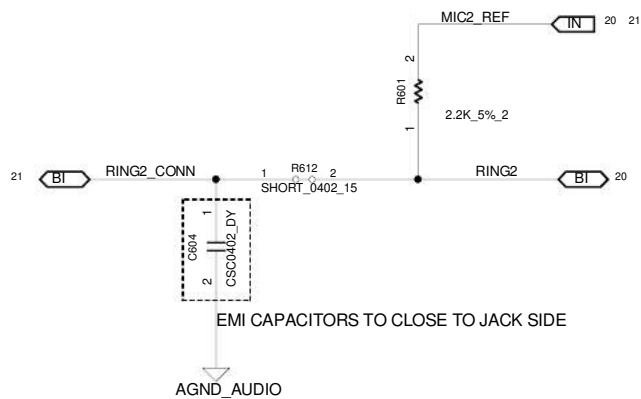
SIZE A3	CODE CS	DOC. NUMBER 1310xxxx-0-0	REV X01
SHEET		of 18	60

CHANGE by	XXX	DATE	
PCB P/N	6090XXXXX	PCB VER	XK OCT-2002



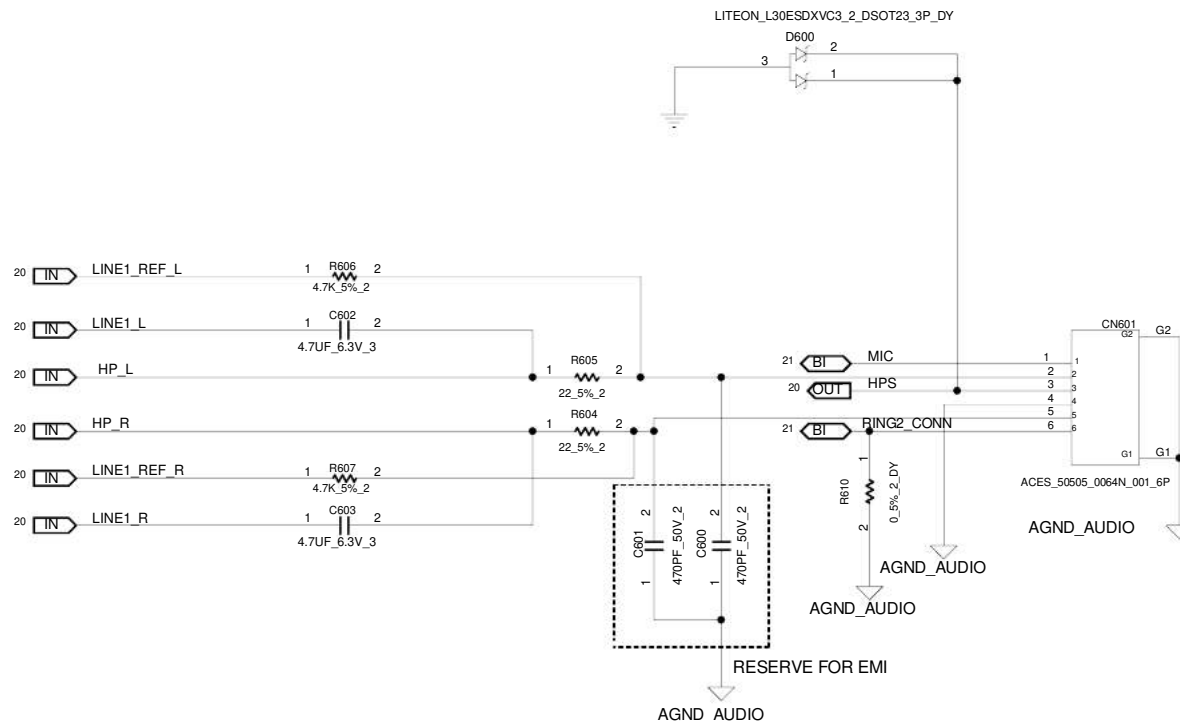
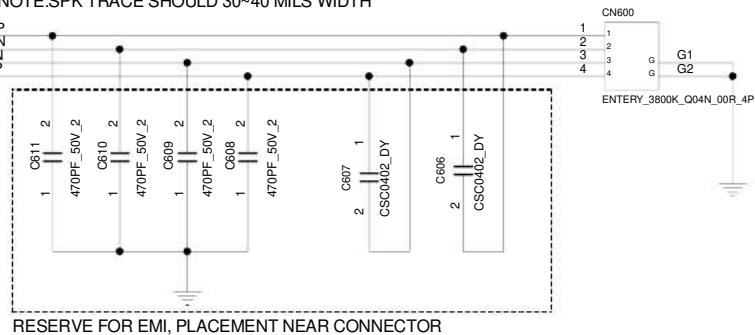


# AUDIO JACKS



## INTERNAL SPEAKERS

20	IN	SPK OUT R R P
20	IN	SPK OUT R R N
20	IN	SPK OUT R L N
20	IN	SPK OUT R L P



INVENTEC

TITLE	MODEL, PROJECT, FUNCTION
	Block Diagram

SIZE A3	CODE CS	DOC. NUMBER 1310xxxx-0-0	REV X01
SHEET		21 of 60	

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

# WLAN

REFERENCE 1300 ~ 1349

P3V3A\_Q\_WLAN

P3V3A\_Q\_WLAN

P3V3S

P3V3A

P3V3S

SLP\_WLAN\_PCH#

P3V3A\_Q\_WLAN

U1300

CODEX1\_WLAN  
CODEX2\_WLAN  
CODEX3\_WLAN

SUSCLK32\_WLAN  
WLON

CLKREQ\_WLAN#  
PERST#\_WLAN

SIT CHANGE

PERST#\_WLAN

ITL\_8260D2W\_ML\_MODULE\_76P

## INVENTEC

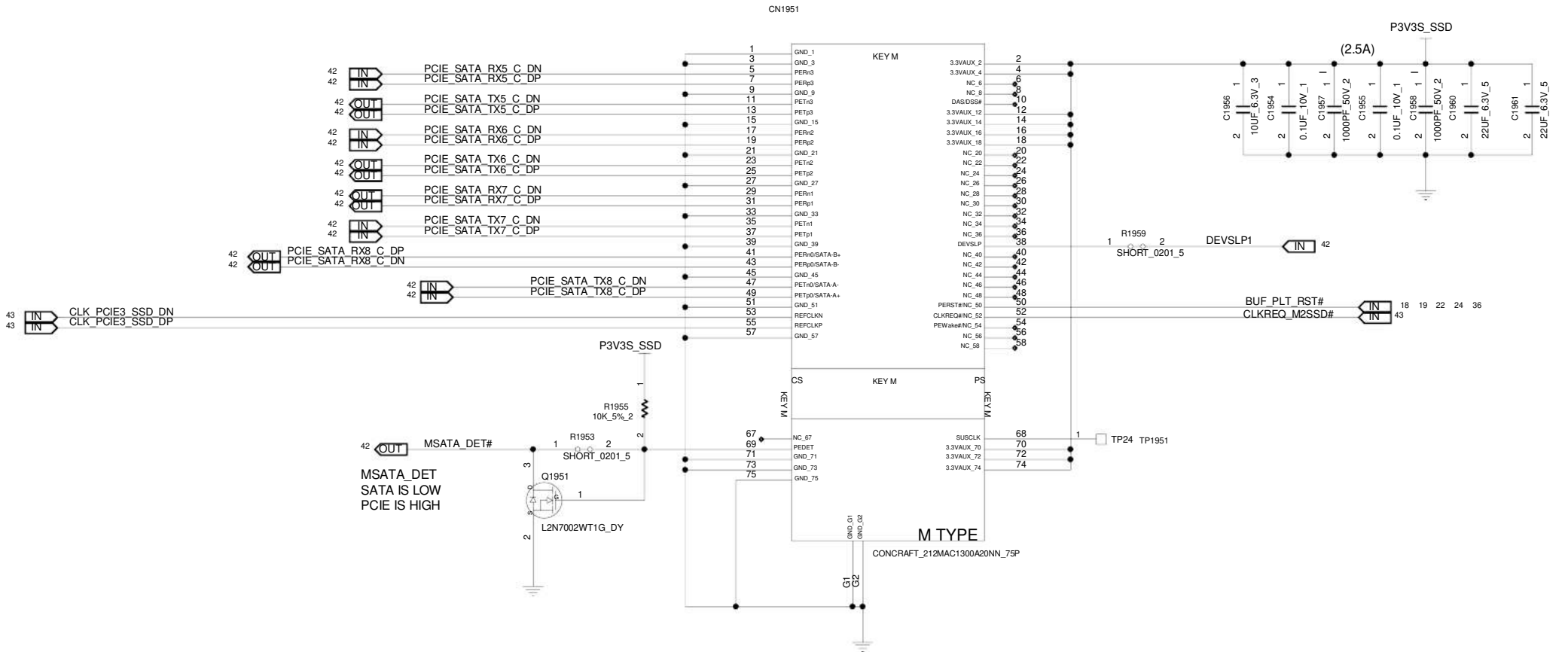
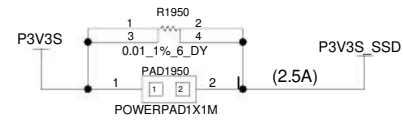
TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

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

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

SHEET 22 of 60

# SOCKET 3 PCIE-BASED MODULE PINOUT NGFF M.2 SSD1 COMBO PCIE\SATA



## M.2 FOR SSD

REFERENCE NUMBER:1950~1999

INVENTEC

TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

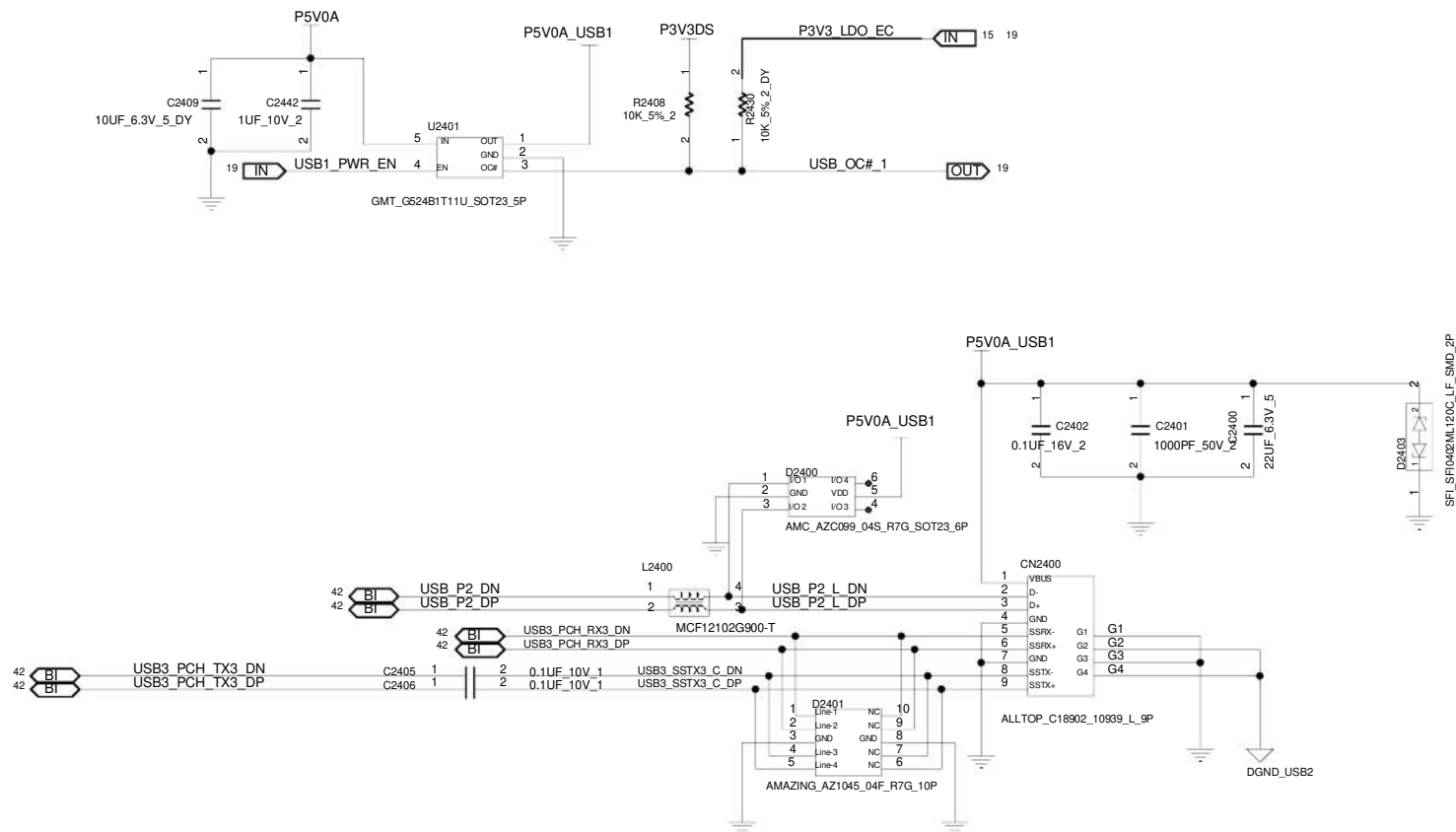
SIZE A3	CODE CS	DOC NUMBER 1310xxxx-0-0	REV X01
SHEET 23	of 60		

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





REFERENCE 2400~2450(USB3.0)



INVENTEC

TITLE

MODEL PROJECT,FUNCTION

Block Diagram

CHANGE by

PCB P/N

XXX

60xxxxxxxxxxx

DATE

PCB VER

21-OCT-2002

XXX

SIZE

A3

CODE

CS

DOC NUMBER

1310xxxxx-0-0

REV

X01

SHEET

25

of

60







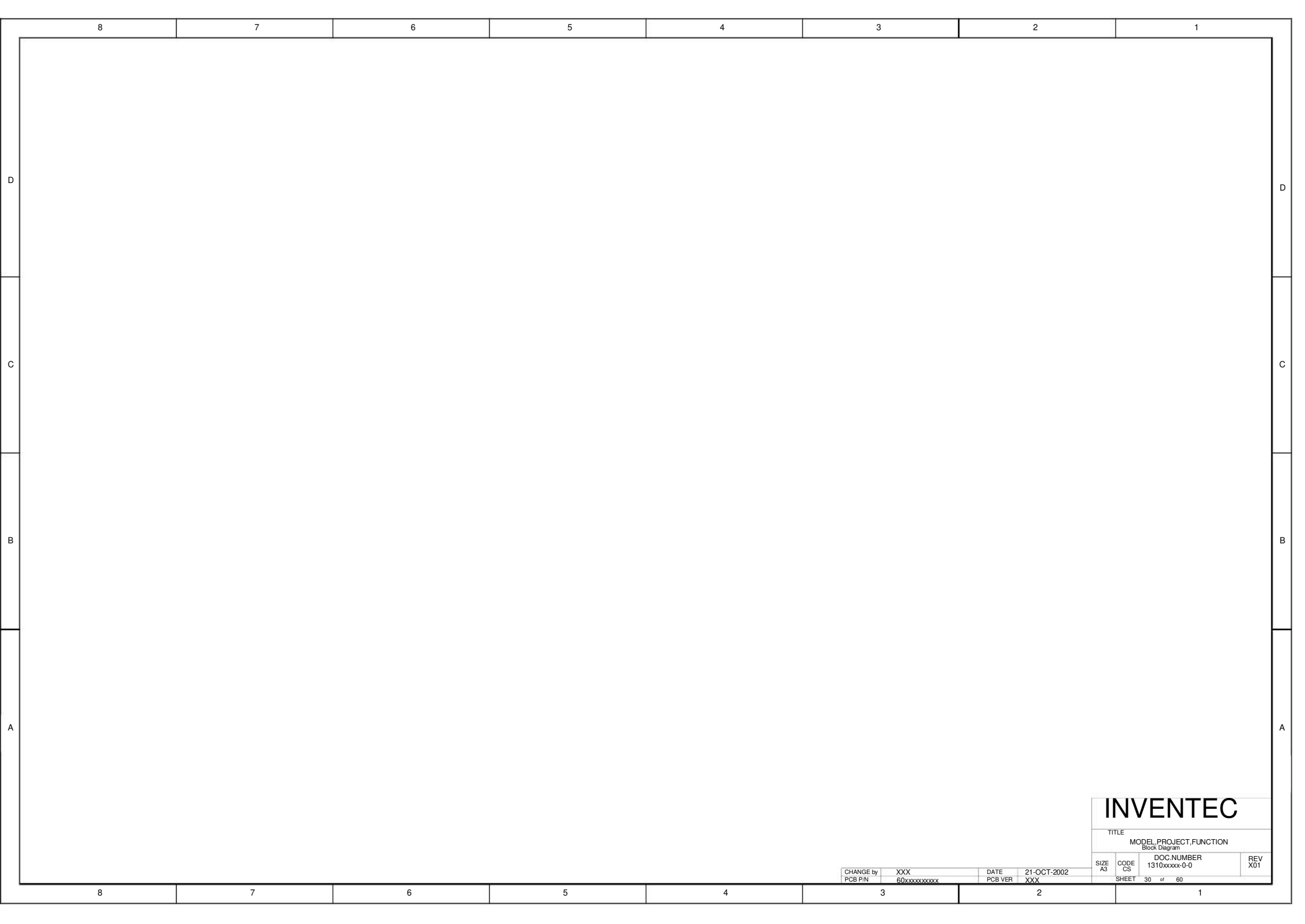
SIZE A3	CODE CS	DOC. NUMBER 1310xxxx-0-0	REV X01
SHEET		28 of 60	

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		29 of 60	

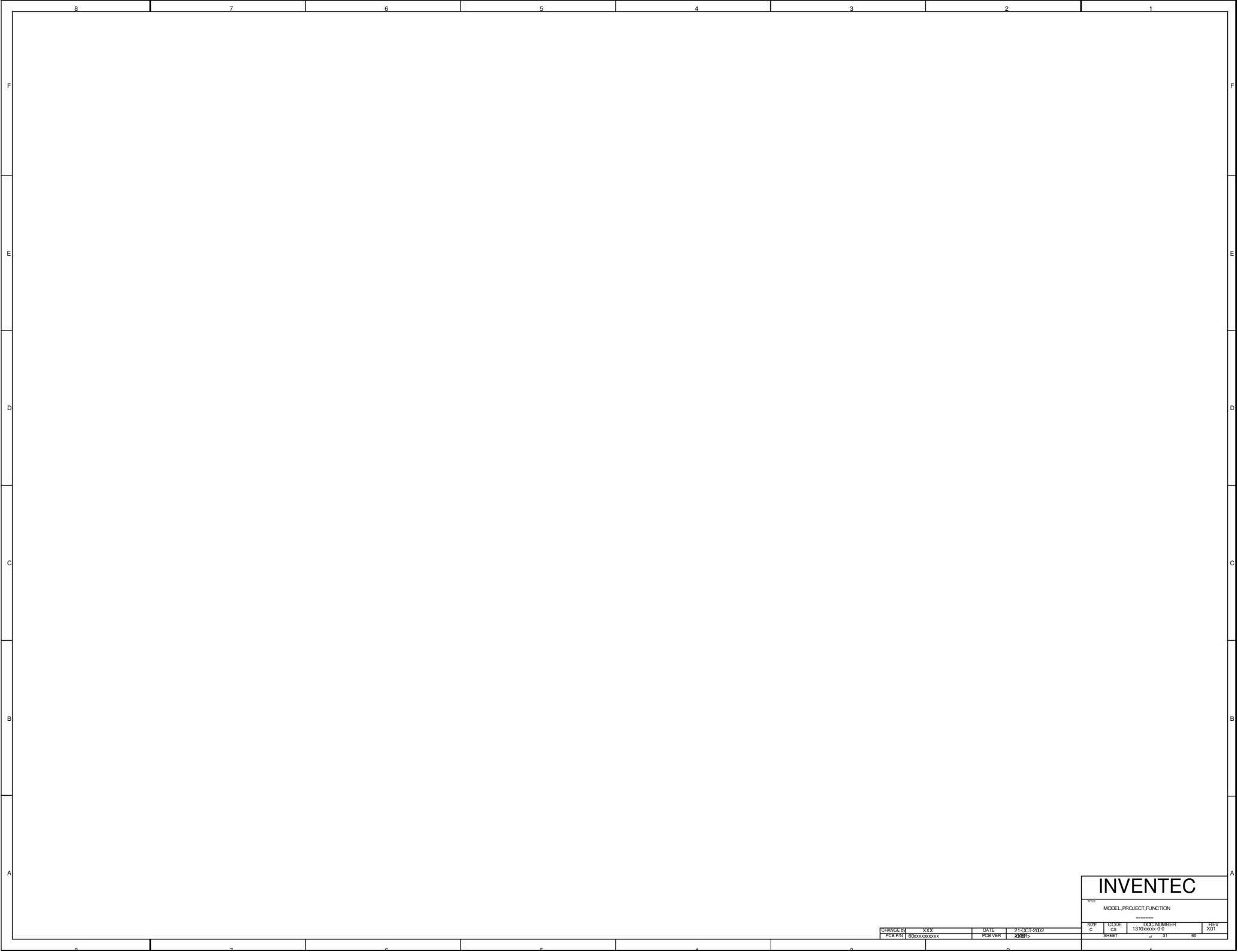
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX



INVENTEC

TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

CHANGE by PCB P/N	XXX 60xxxxxxxxxxx	DATE PCB VER	21-OCT-2002 XXX	SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 30 of 60							



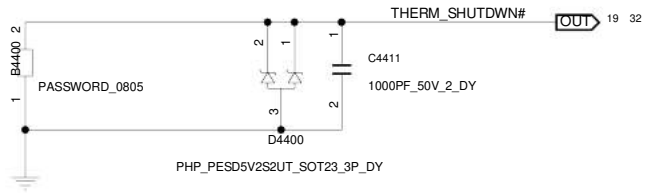
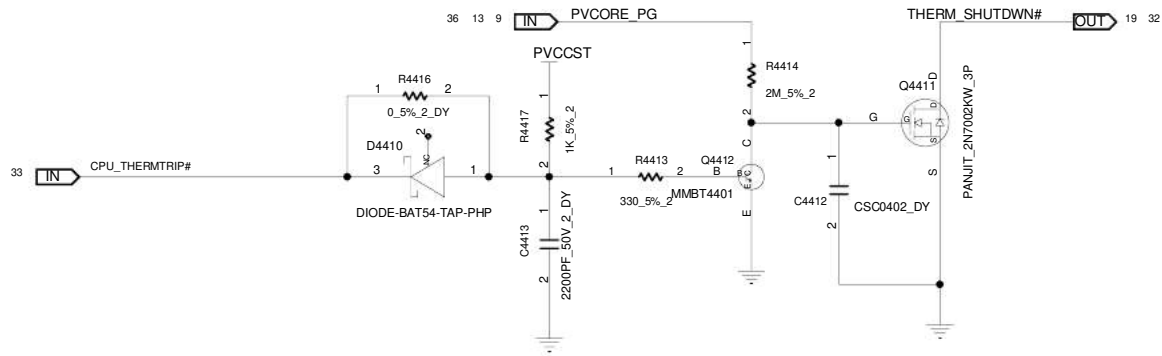
# INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION

*****			
SIZE	CODE	DOC NUMBER	REV
G	CS	1310XXXX-5-0	X01
SHEET of 31 80			

CHANGE BY	XXX	DATE	21-OCT-2002
PCB PIN	600000000000	PCB VER	XWB15

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



POWER OFF SWITCH

REFERENCE NUMBER:4411~4449

INVENTEC

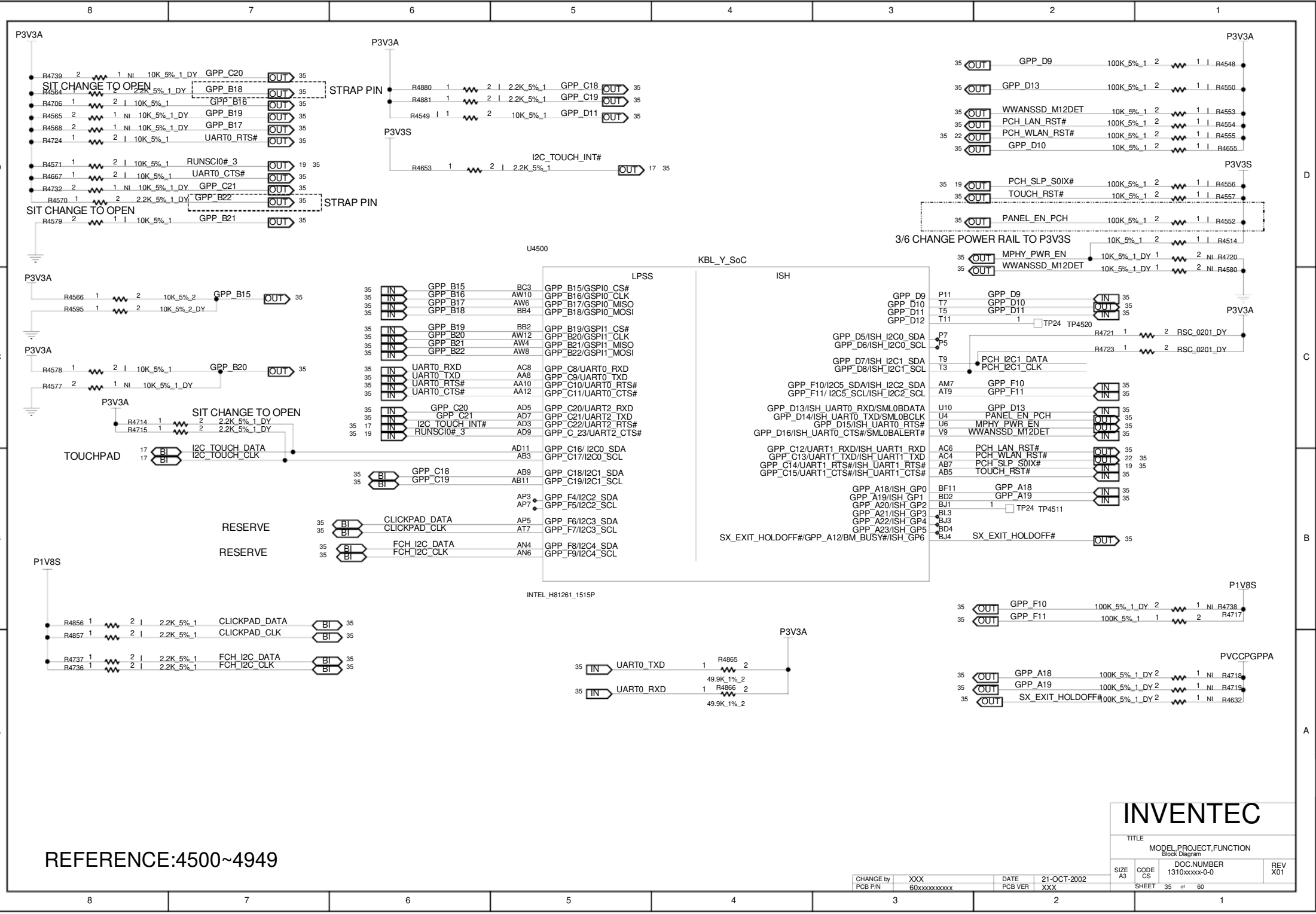
TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET		of 32	60

CHANGE by	XXX	DATE	
PCB P/N	6RNG6xxxxxx	PCB VER	XX OCT-2002









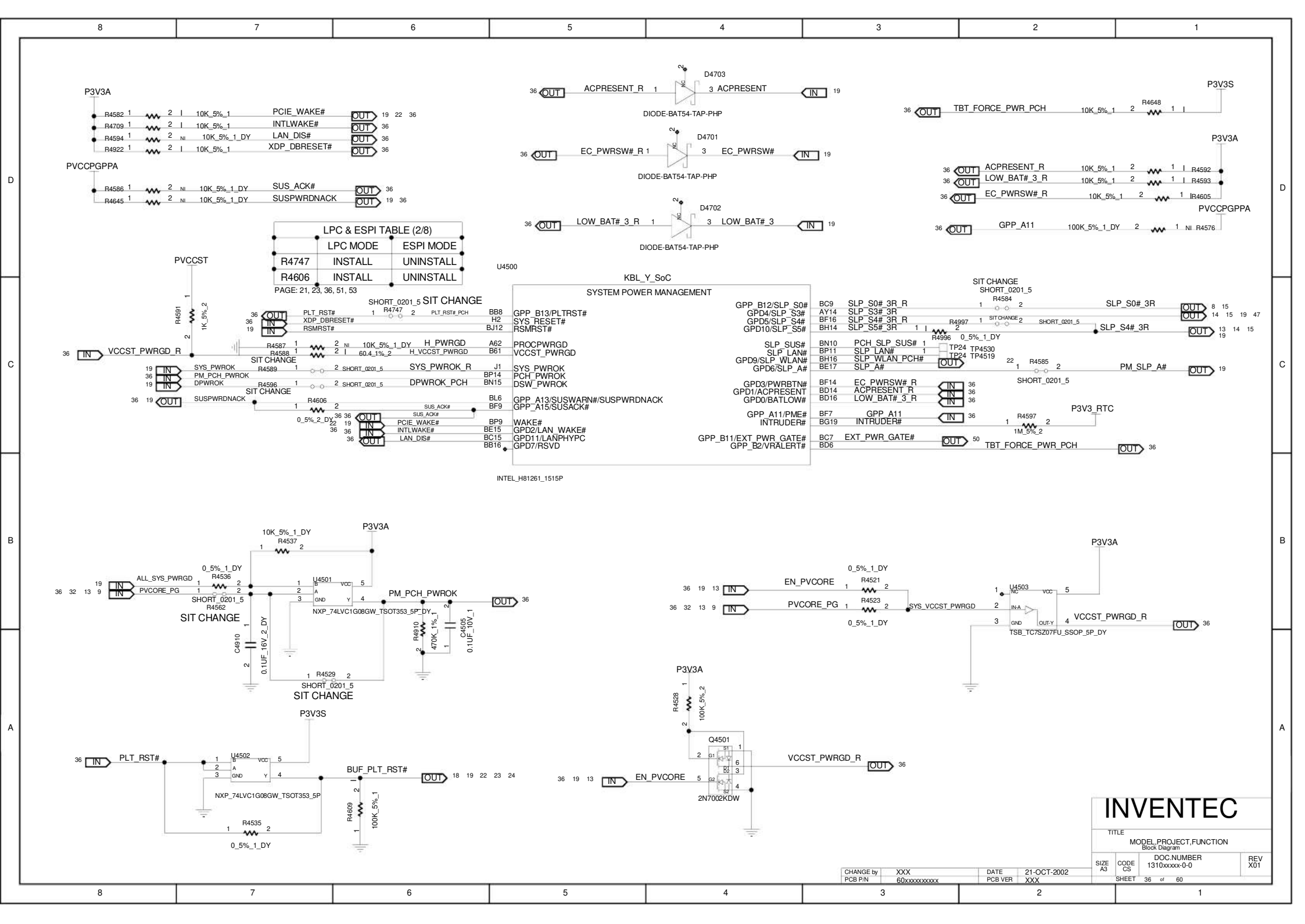
REFERENCE:4500~4949

INVENTEC

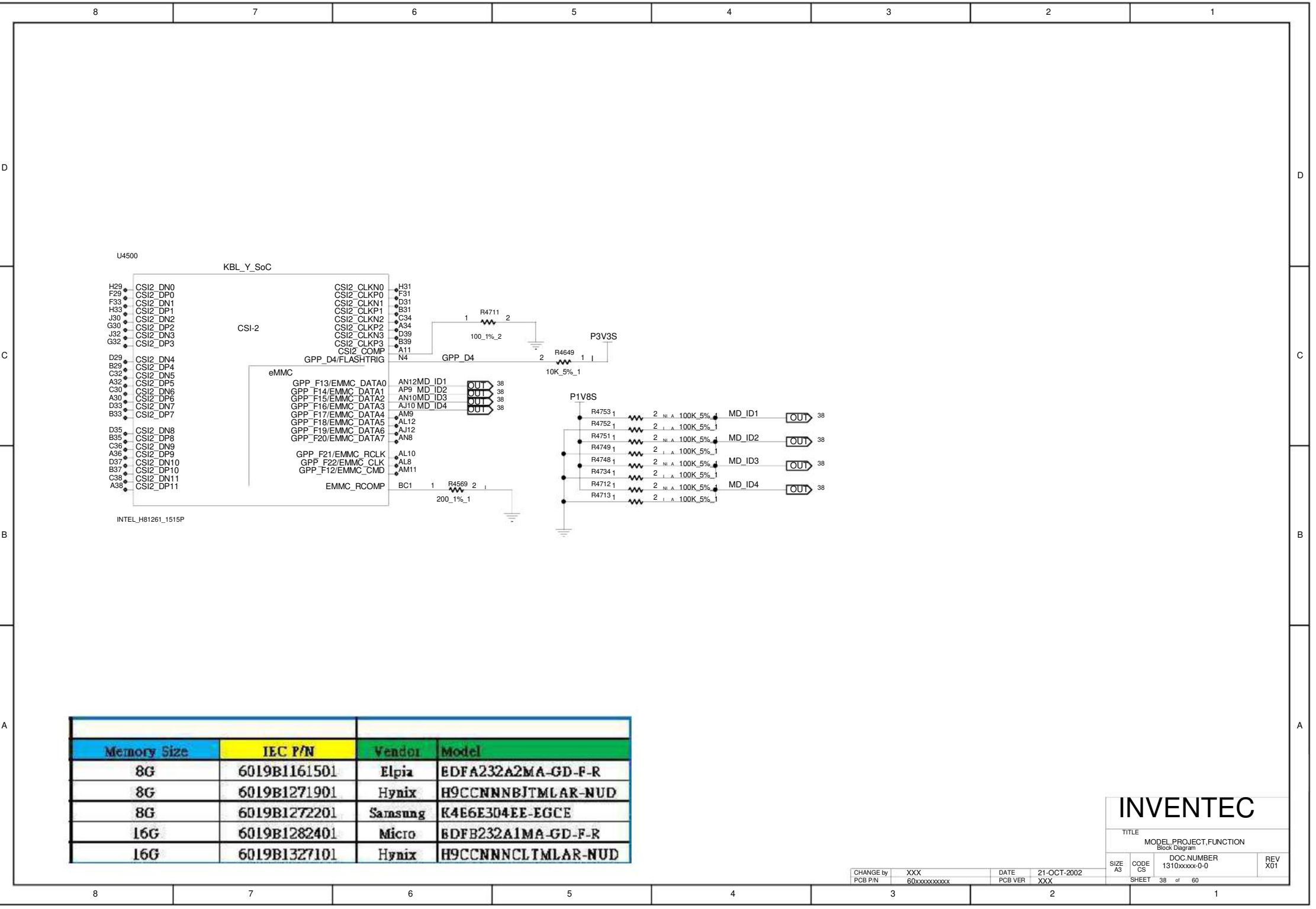
TITLE  
MODEL PROJECT, FUNCTION  
Block Diagram

SIZE A3	CODE CS	DOC. NUMBER 1310xxxx-0-0	REV X01
SHEET 35	of 60		

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

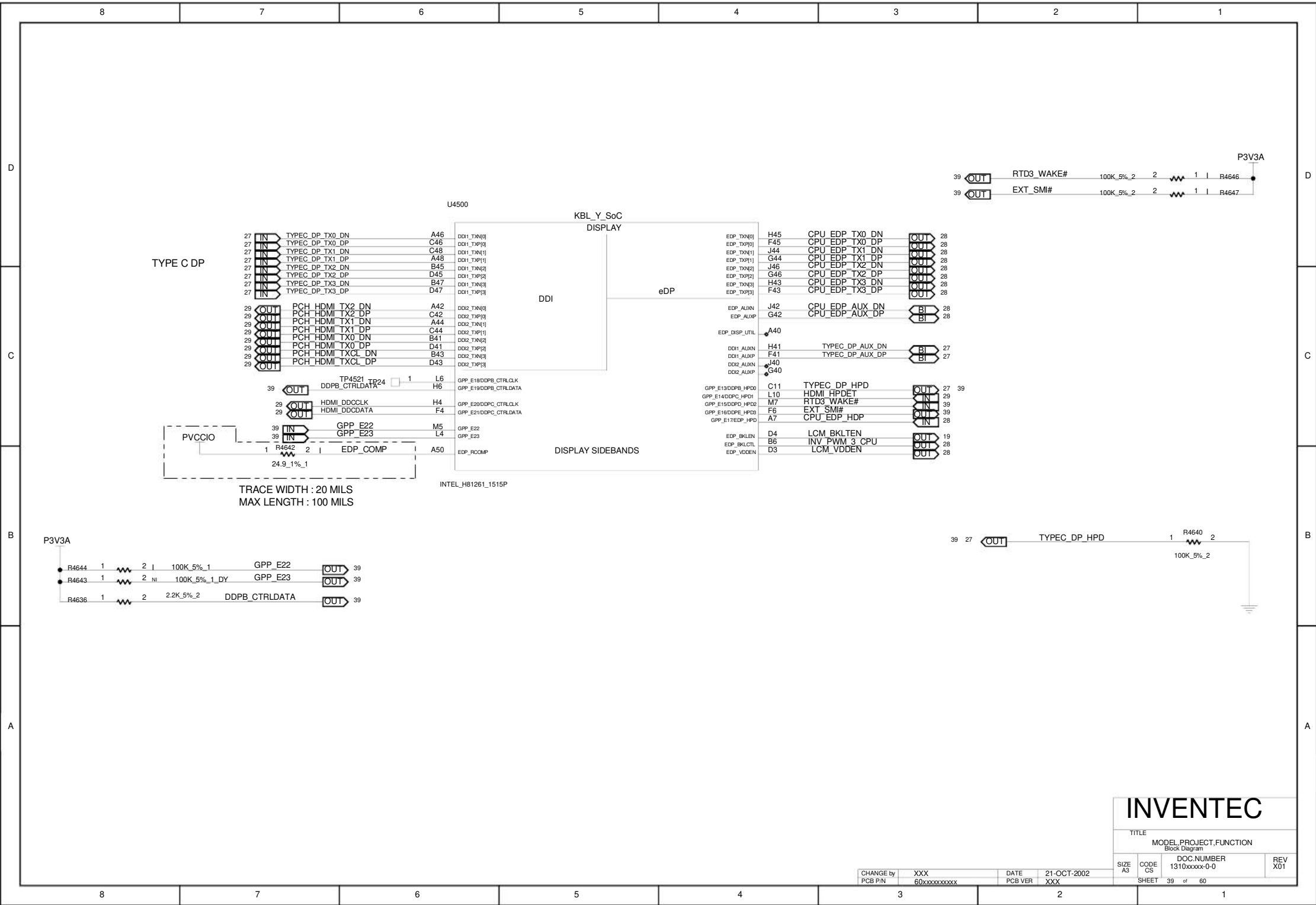


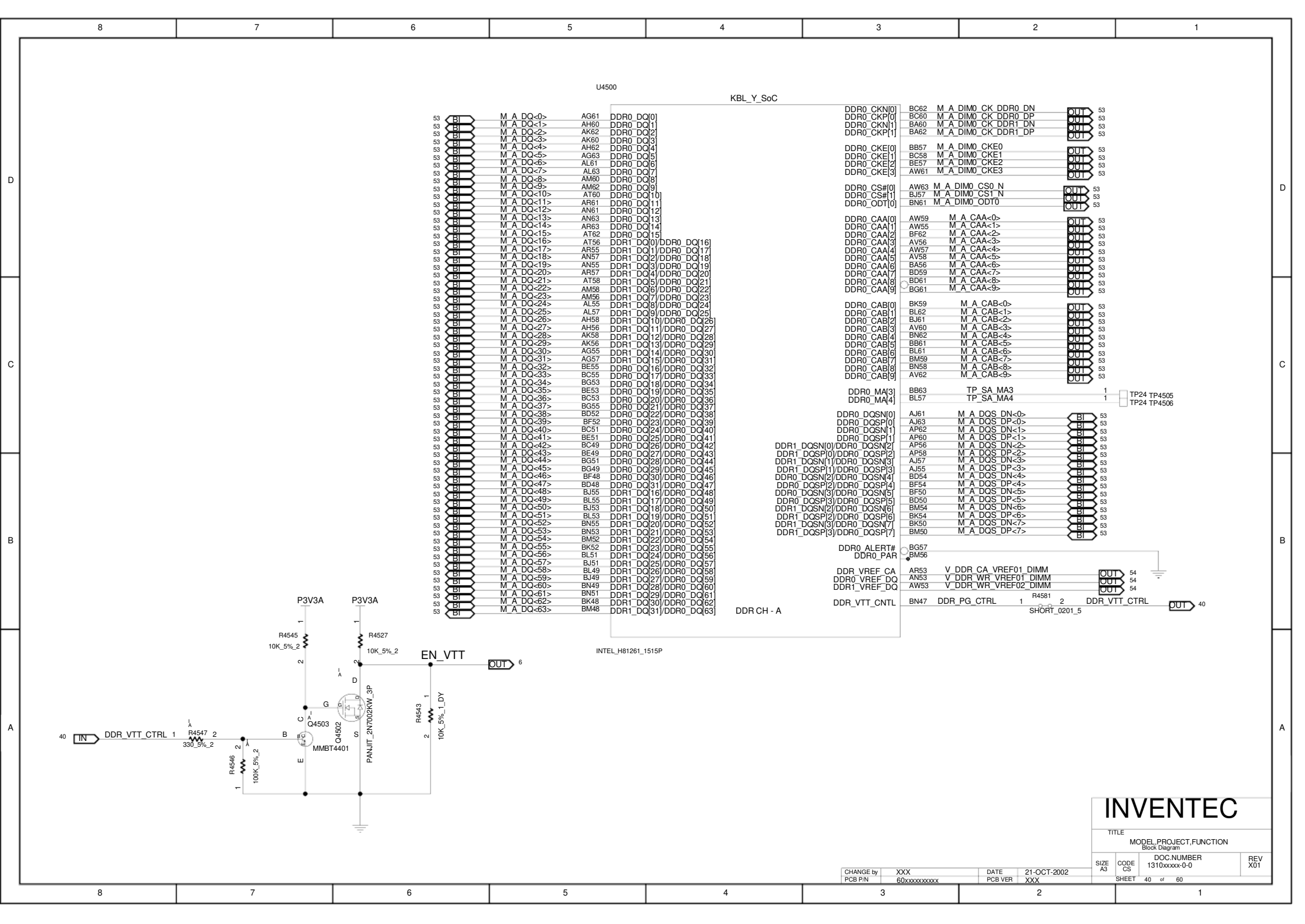




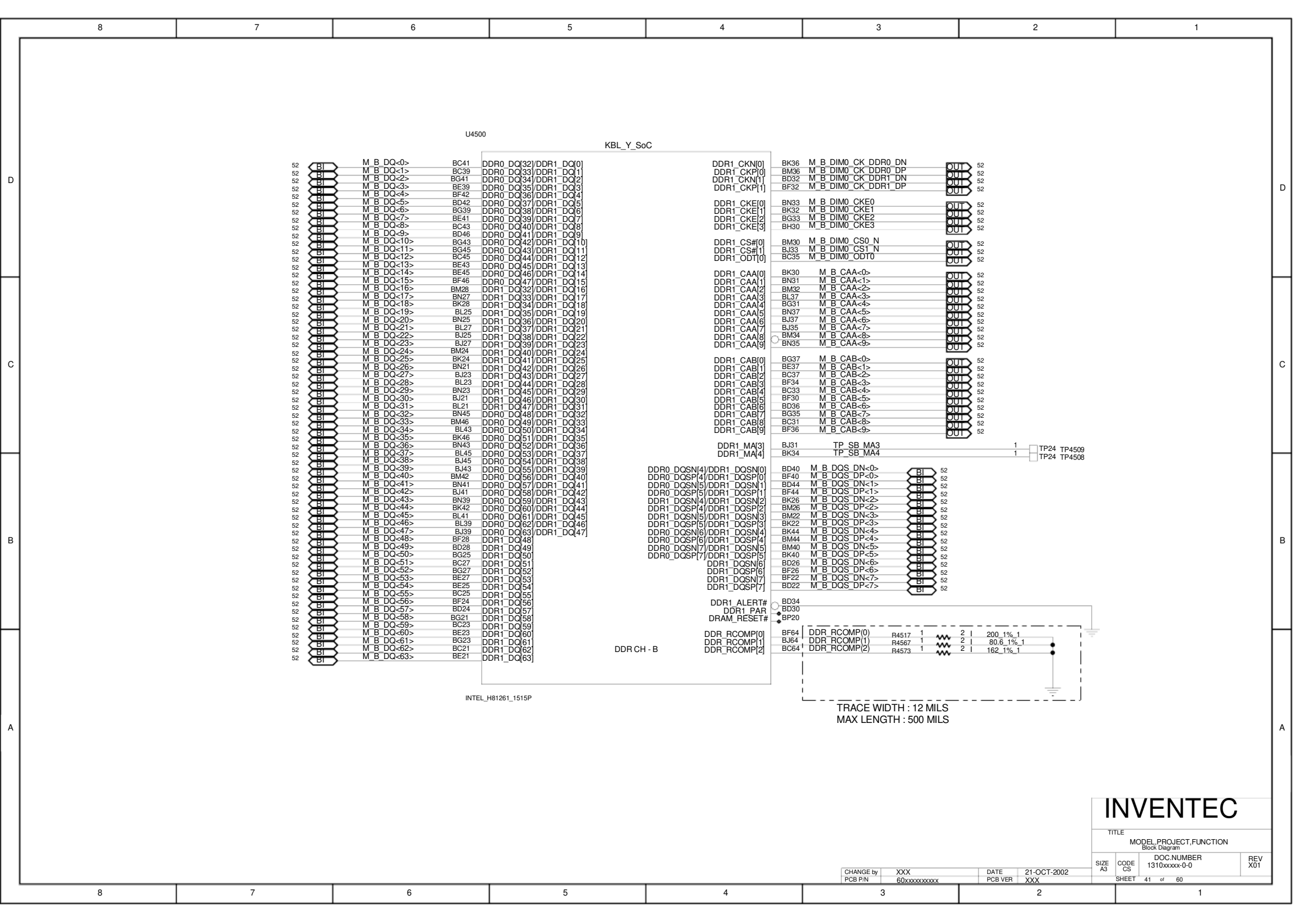
Memory Size	IEC P/N	Vendor	Model
8G	6019B1161501	Elpia	EDFA232A2MA-GD-F-R
8G	6019B1271901	Hynix	H9CCNNNB1TMLAR-NUD
8G	6019B1272201	Samsung	K4E6E304EE-EGCE
16G	6019B1282401	MicTo	EDFB232A1MA-GD-F-R
16G	6019B1327101	Hynix	H9CCNNNCLTMLAR-NUD

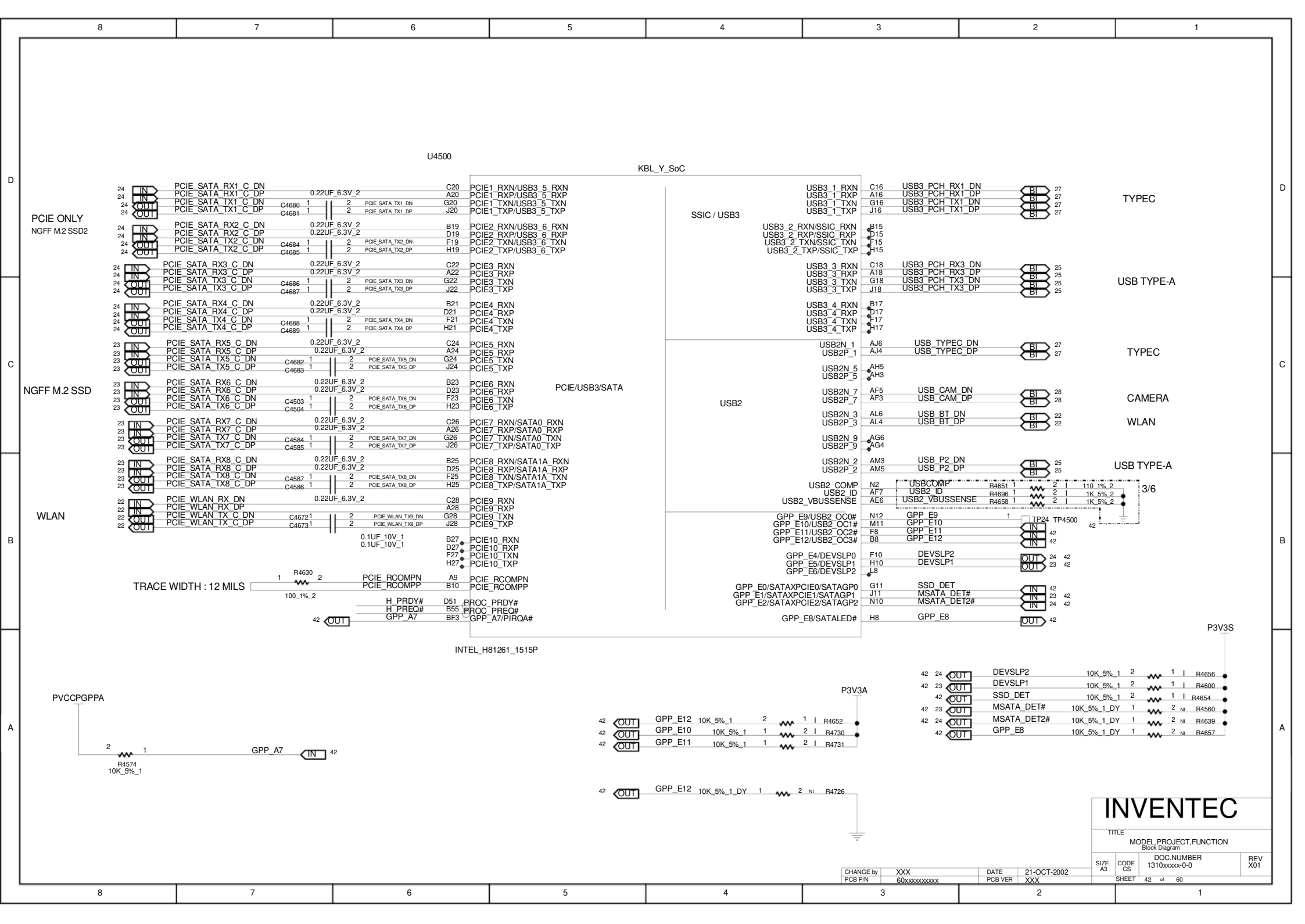
INVENTEC











D

C

B

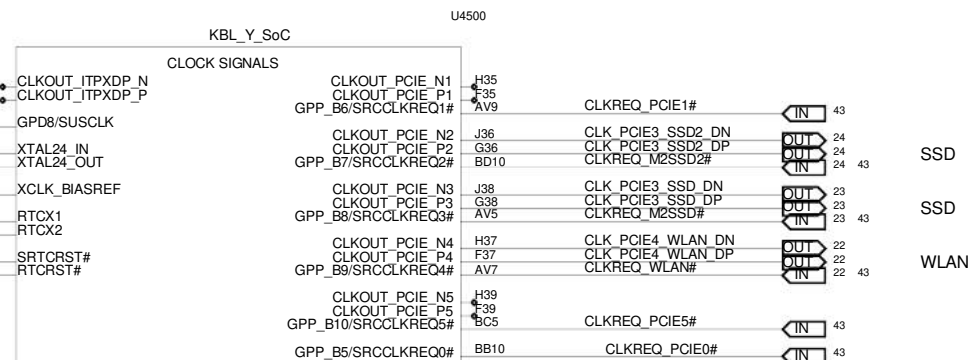
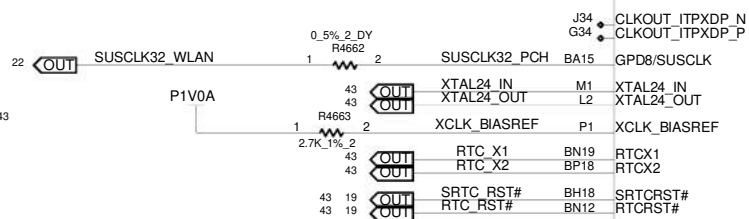
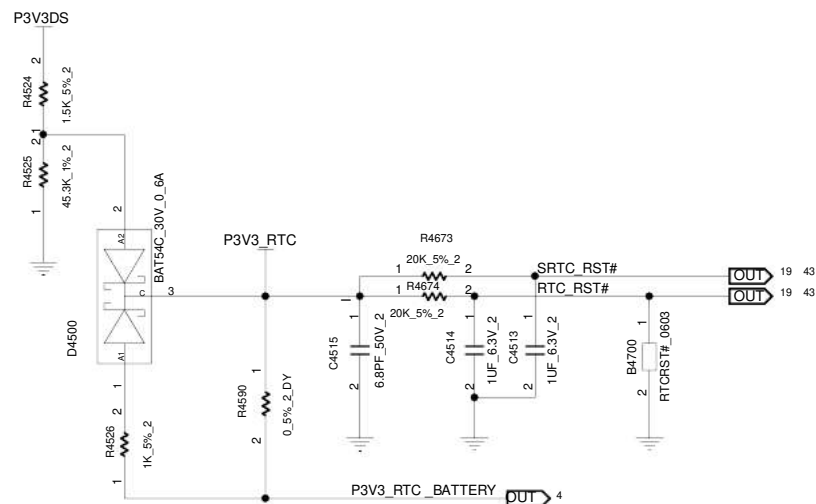
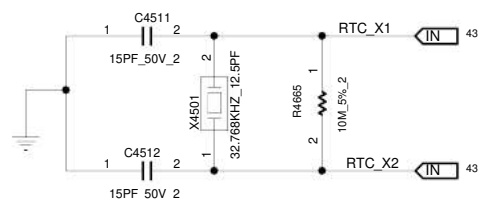
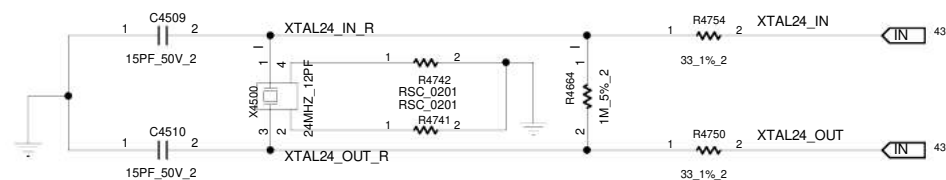
A

D

C

B

A



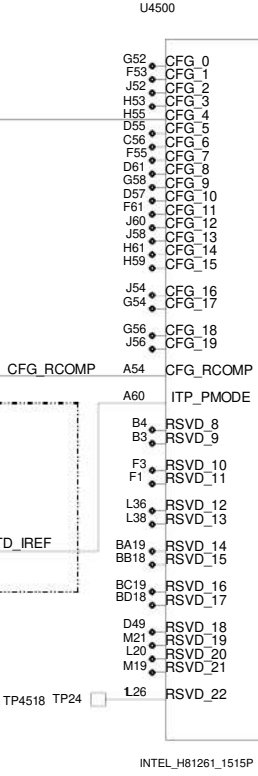
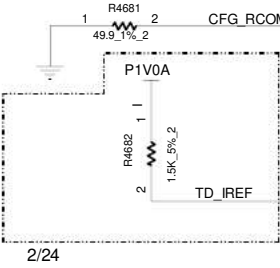
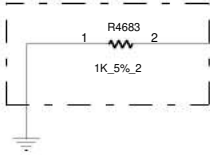
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxx	PCB VER	XXX

# INVENTEC

TITLE  
MODEL PROJECT,FUNCTION  
Block Diagram

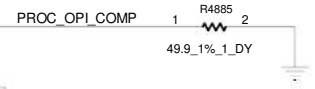
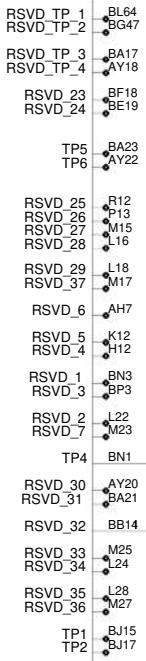
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	43	of 60	

CFG<4> : EDP ENABLE  
1 - DISABLE  
0 - ENABLE



KBL\_Y\_SoC

RESERVED SIGNALS



INTEL\_H81261\_1515P

INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET	44	of	60

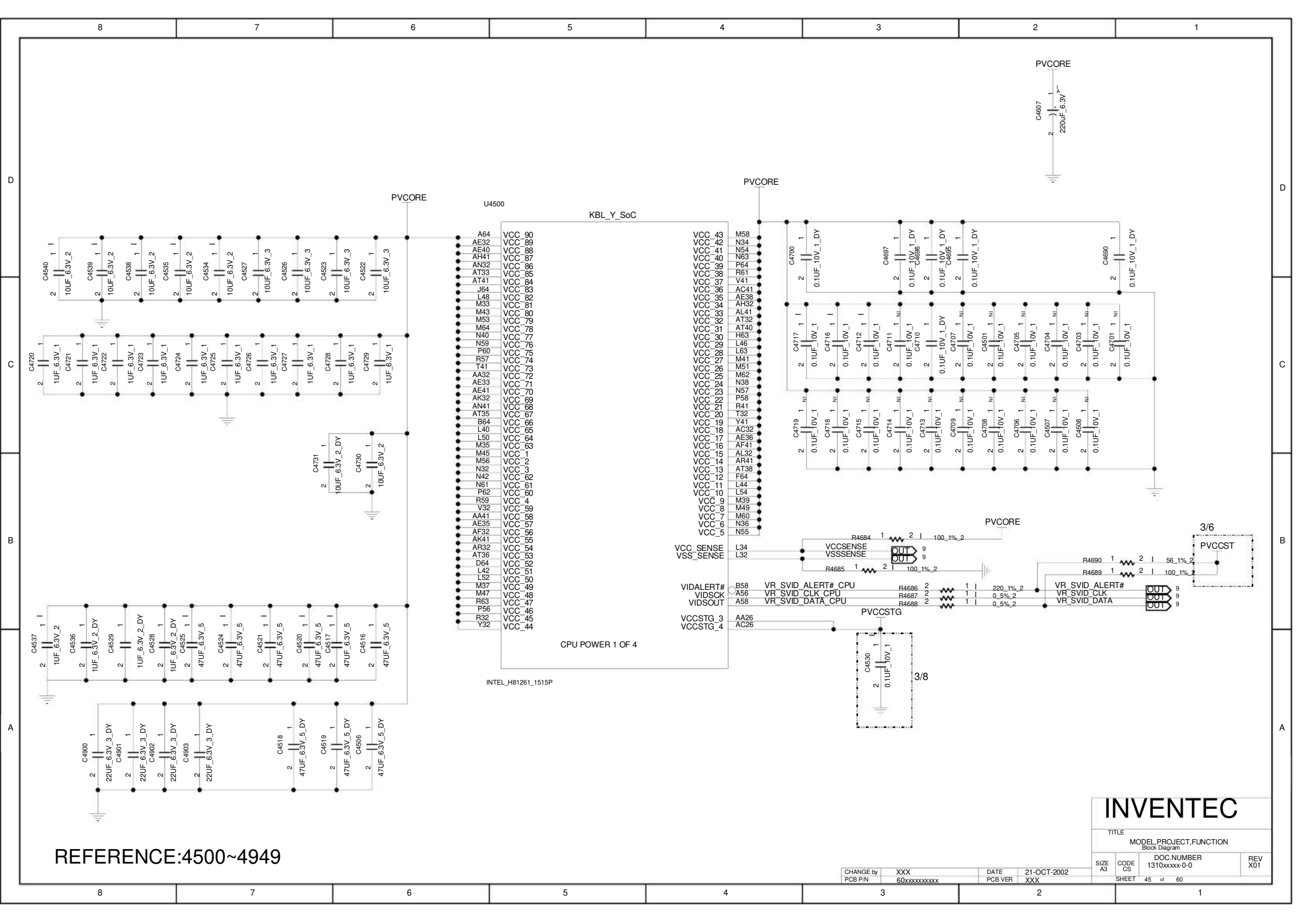
CHANGE by	XXX	DATE	21-OCT-2002
PCB P/N	60xxxxxxxxxxx	PCB VER	XXX

REFERENCE:4500~4949

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

INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	45	of 60	

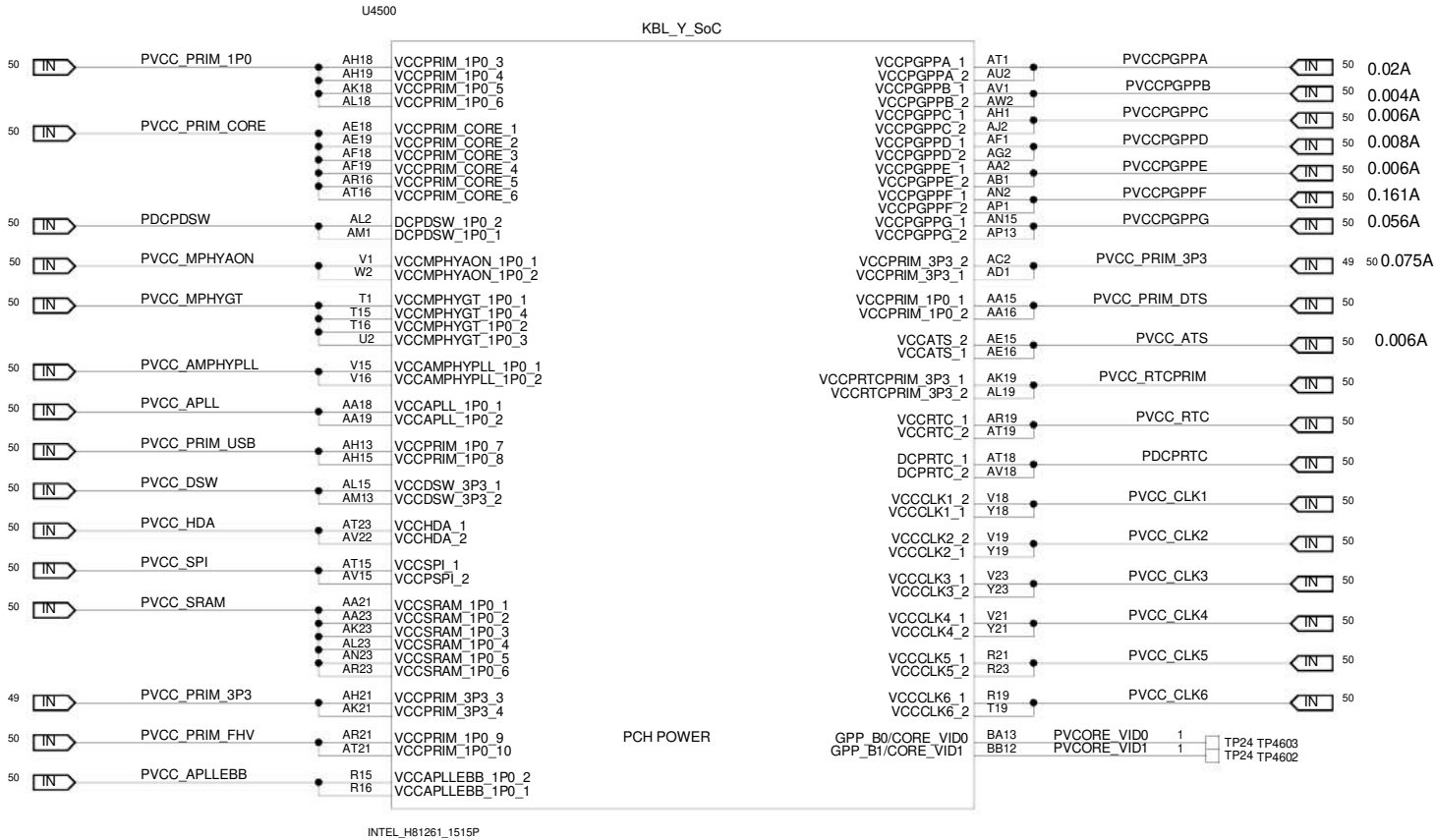










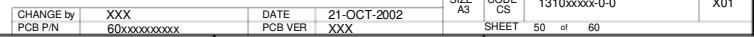


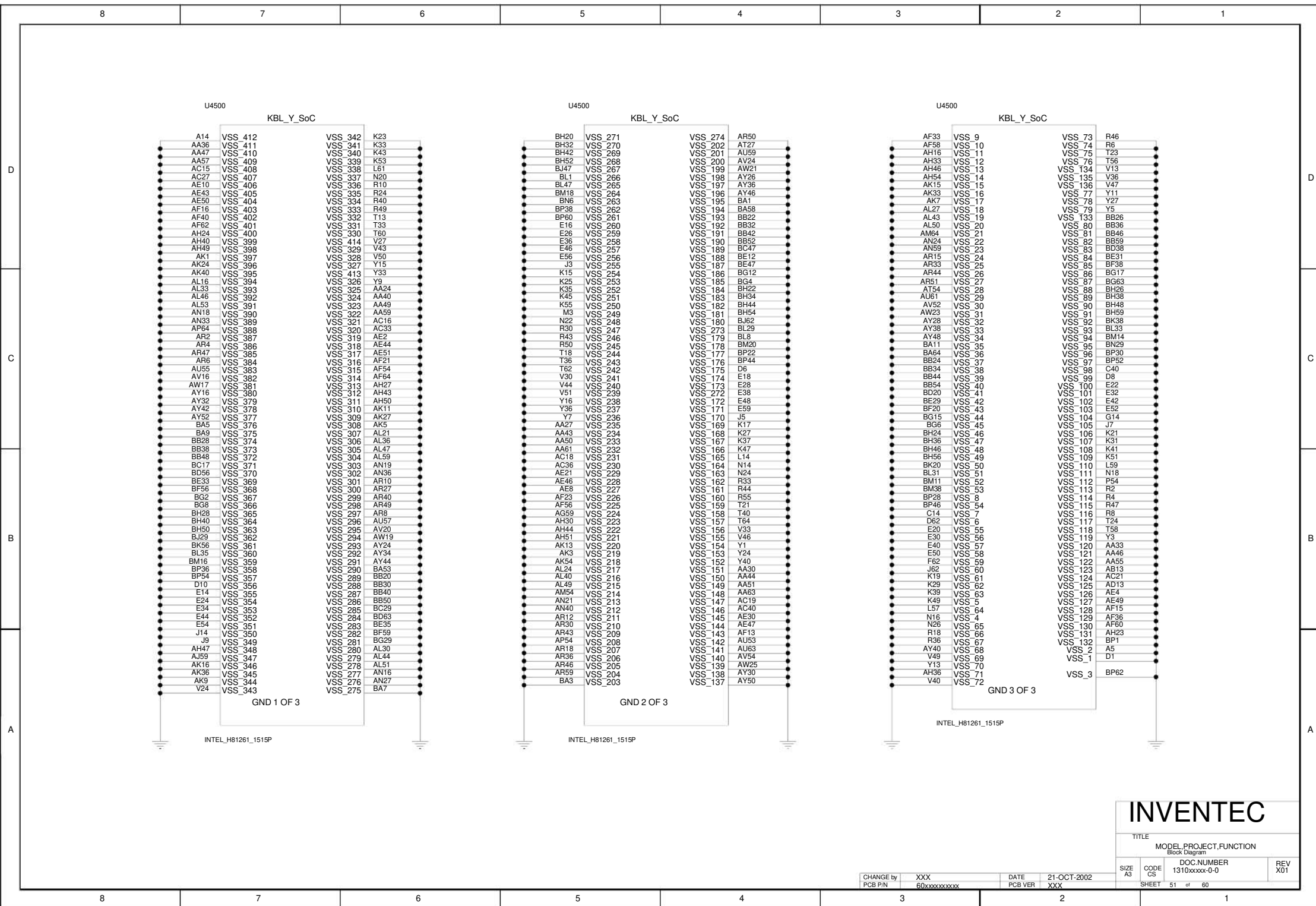
REFERENCE:4500~4949

INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET	49	of 60	

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





D

D

C

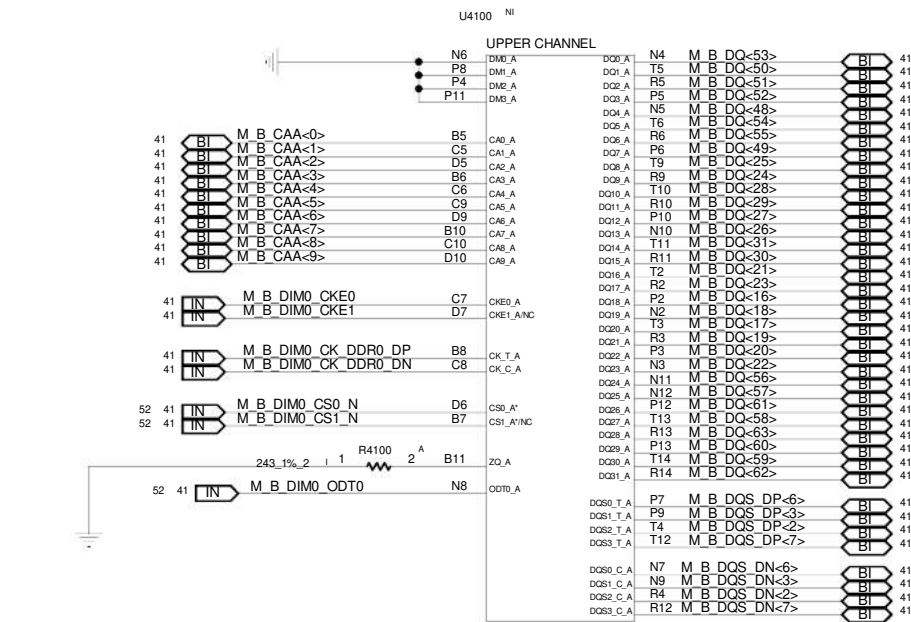
C

B

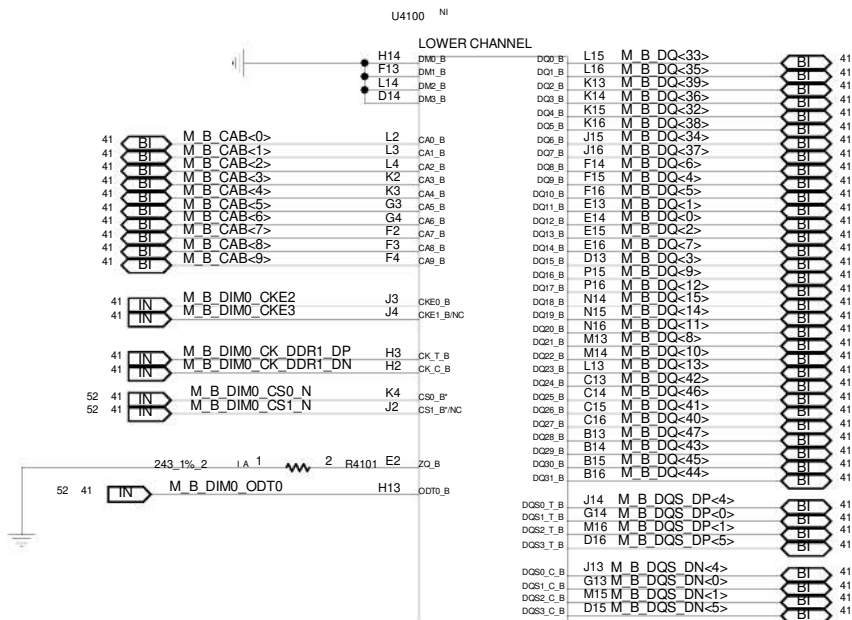
B

A

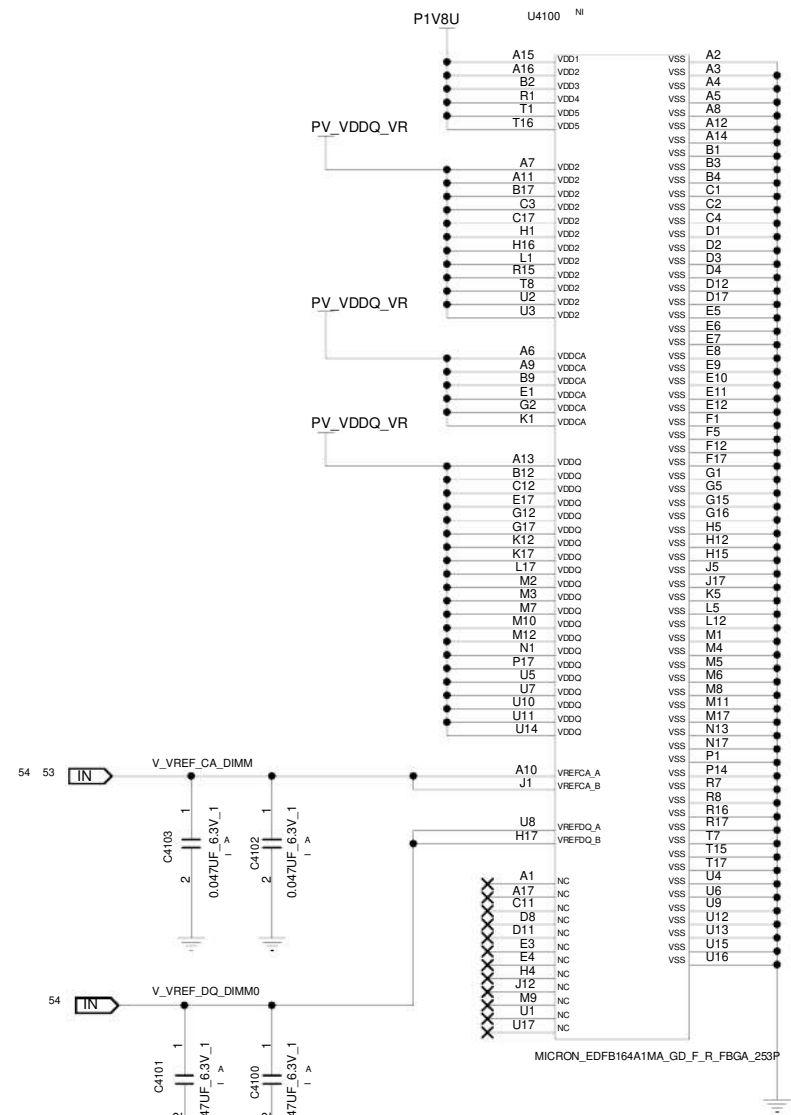
A



MICRON\_EDFB164A1MA\_GD\_F\_R\_FBGA\_253P

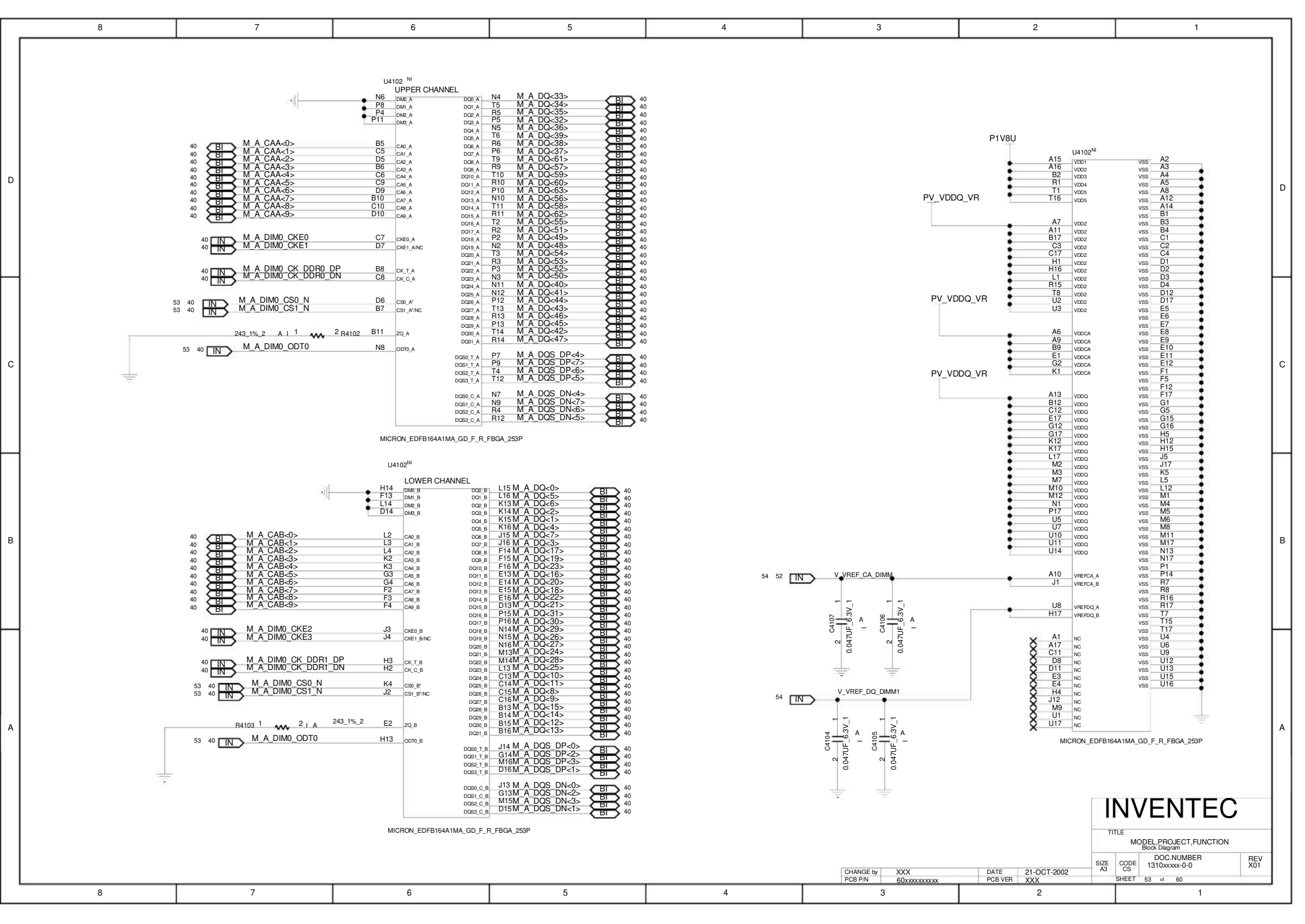


MICRON\_EDFB164A1MA\_GD\_F\_R\_FBGA\_253P

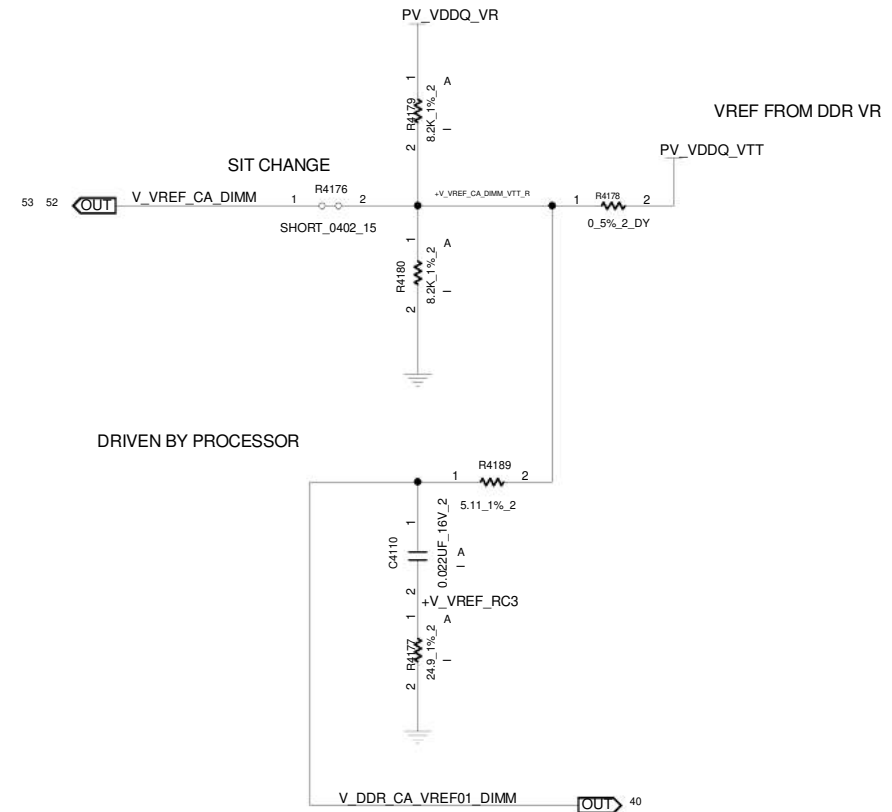
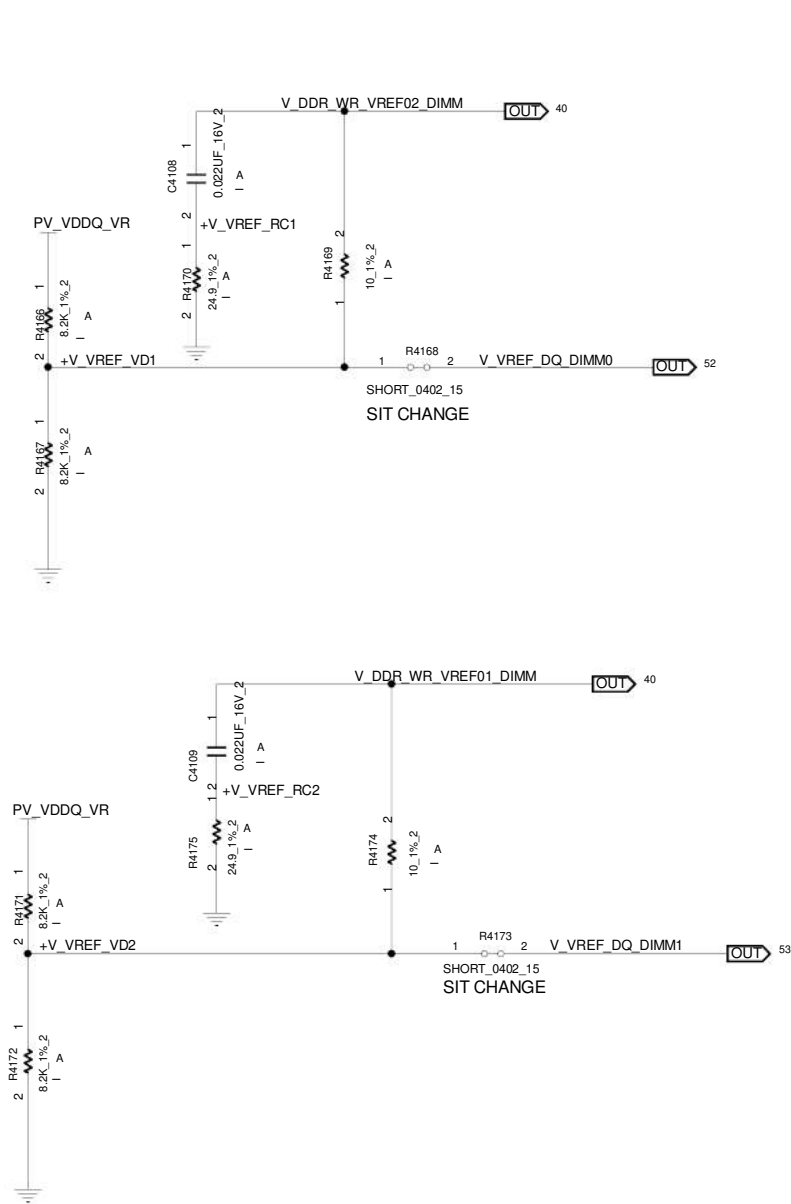


INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block DiagramSIZE A3  
CODE CS  
DOC NUMBER 1310xxxx-0-0  
REV X01  
SHEET 52 of 60CHANGE by XXXX  
PCB P/N 60xxxxxxxxxxx  
DATE 21-OCT-2002  
PCB VER XXXX



## VREF CIRCUITRY - M1 (VOLTAGE DIVIDER NETWORK) & M3 (DRIVEN BY PROCESSOR) IMPLEMENTATION

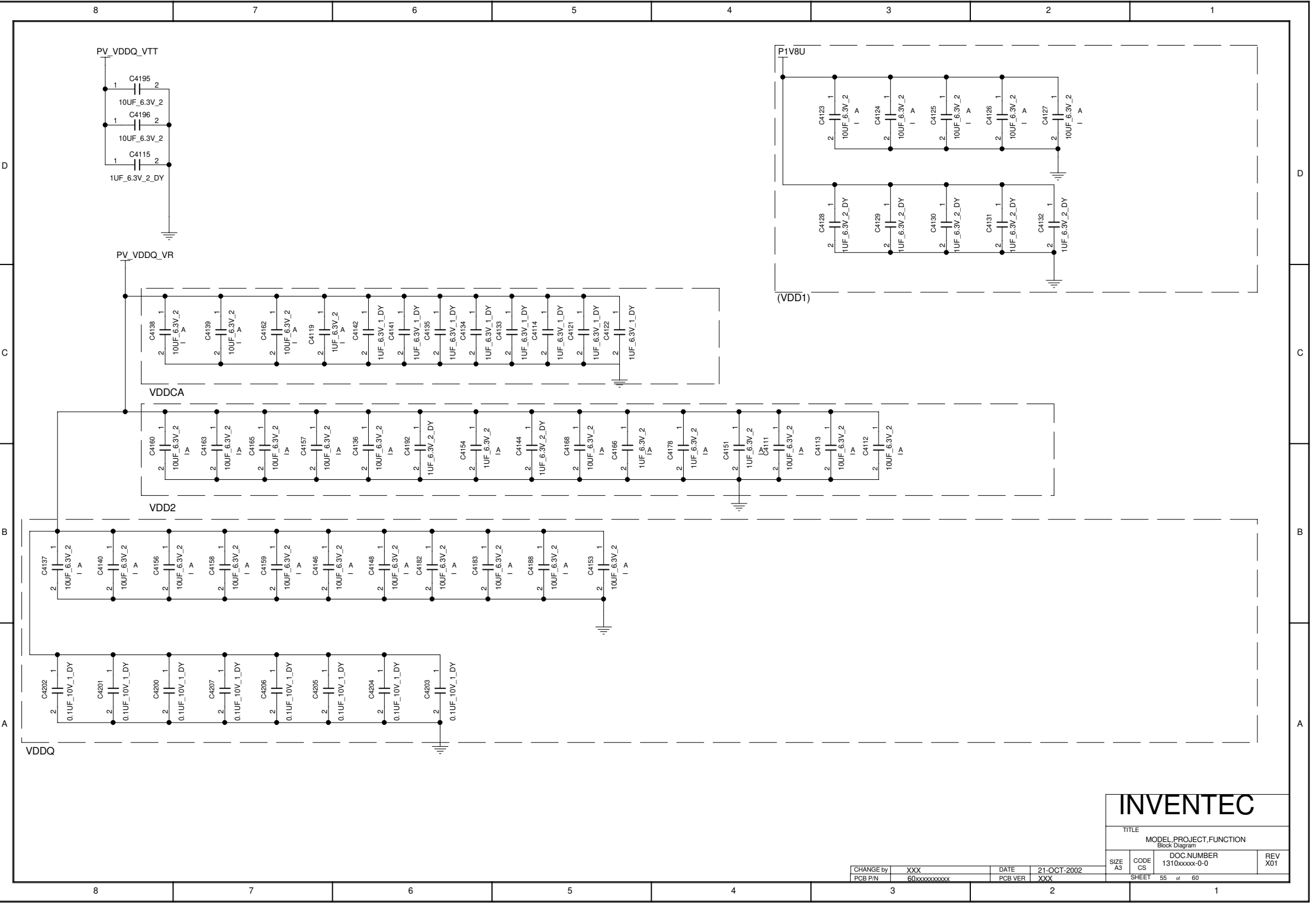


# INVENTEC

TITLE	MODEL,PROJECT,FUNCTION
	LPDDR3-6 VREF

SIZE A3	CODE CS	DOC.NUMBER 1310xxxx-0-0	REV X01
SHEET		54 of 60	

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



INVENTEC

TITLE  
MODEL PROJECT, FUNCTION  
Block Diagram

SIZE  
A3

CODE  
CS

DOC. NUMBER  
1310xxxx-0-0

REV  
X01

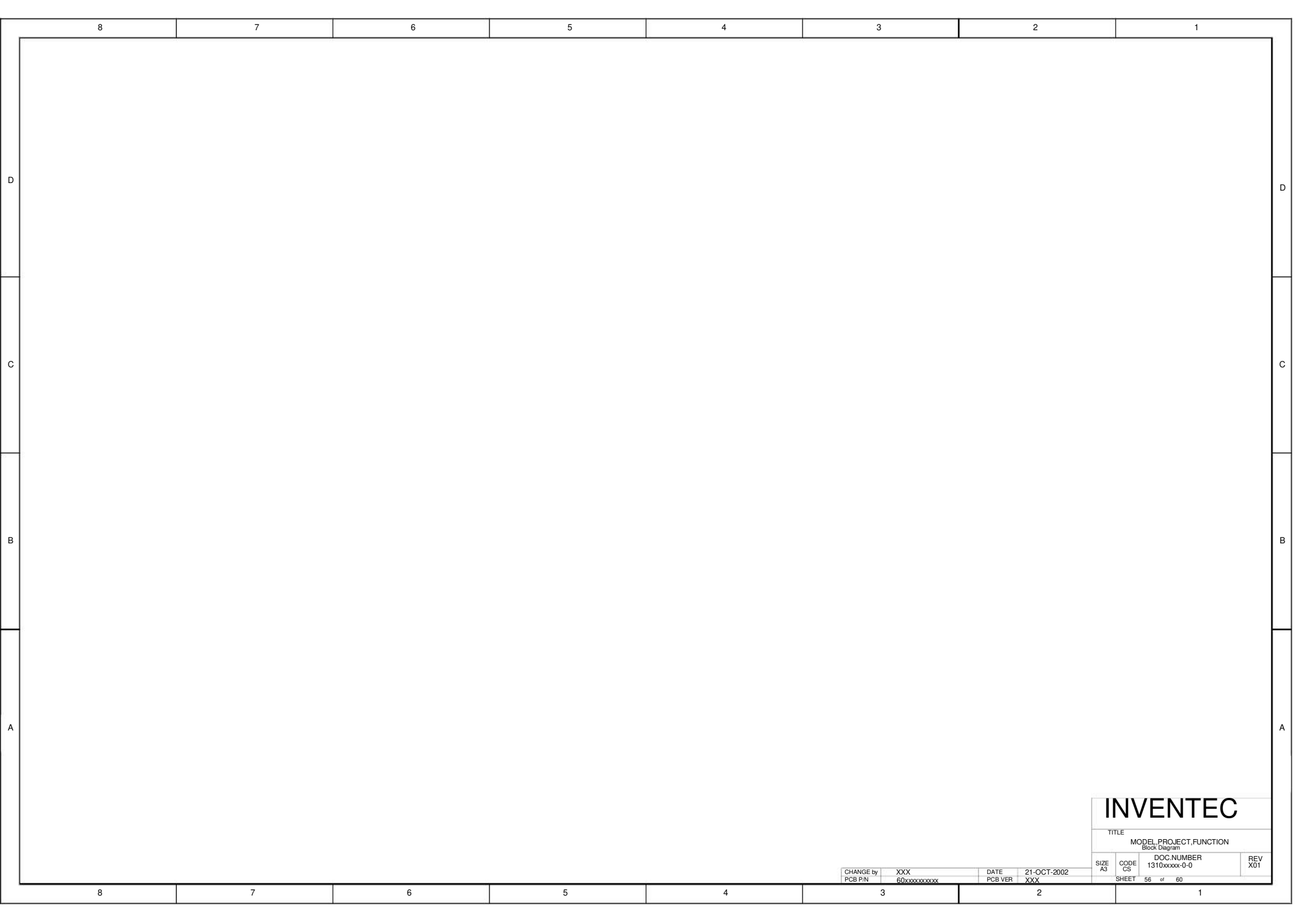
CHANGE by  
PCB P/N

XXX  
60xxxxxxxxxx

DATE  
PCB VER

21-OCT-2002  
XXX

SHEET 55 of 60



# INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

CHANGE by PCB P/N	XXX 60xxxxxxxxxxx	DATE PCB VER	21-OCT-2002 XXX	SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 56 of 60							



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

INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

CHANGE by PCB P/N	XXX 60xxxxxxxxxxx	DATE PCB VER	21-OCT-2002 XXX	SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 57 of 60							

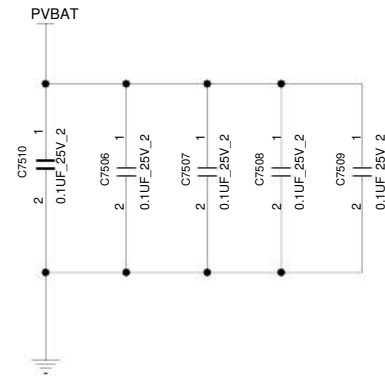
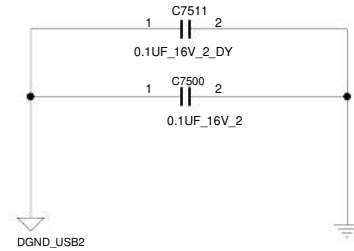
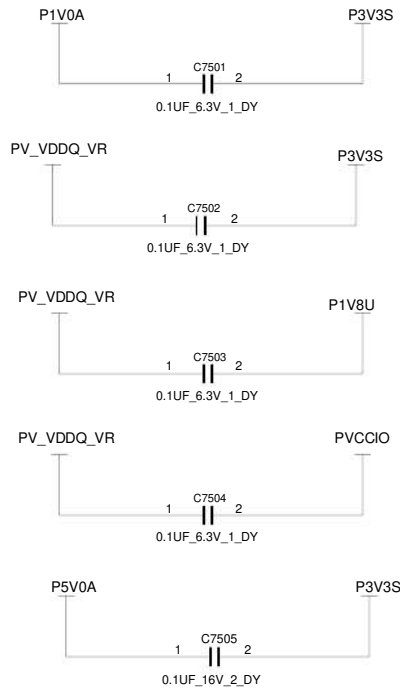
8		7		6		5		4		3		2		1	
D															
C															
B															
A															
8		7		6		5		4		3		2		1	

INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

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

SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET	58	of	60

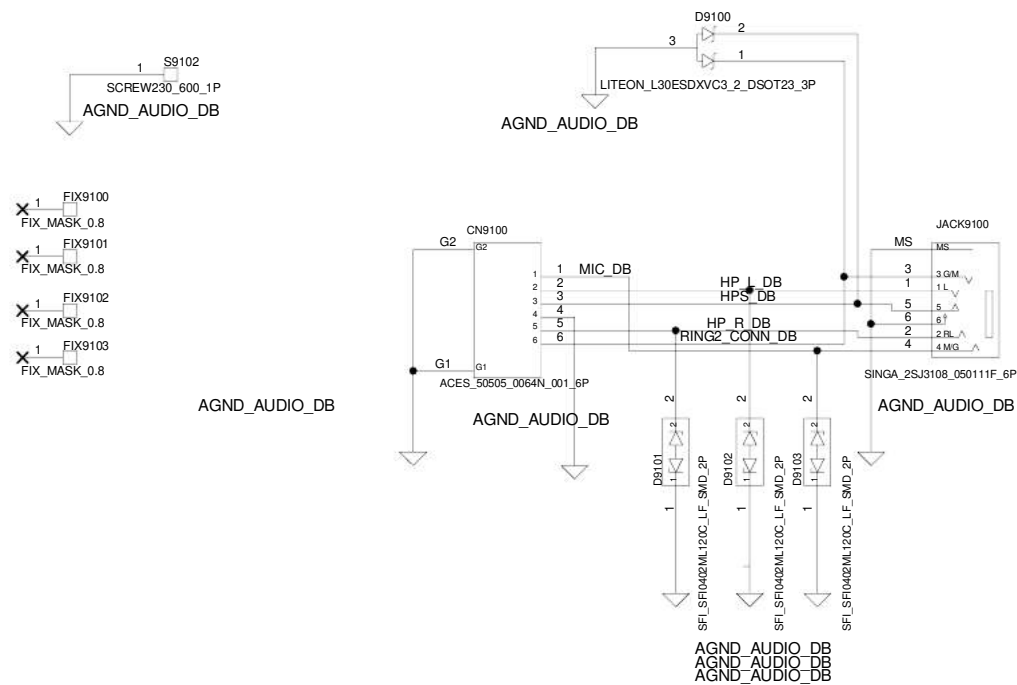


INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET	59	of	60

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

# AUDIO JACK SMALL BOARD



INVENTEC

TITLE  
MODEL, PROJECT, FUNCTION  
Block Diagram

SIZE A3	CODE CS	DOC. NUMBER 1310xxxx-0-0	REV X01
SHEET		60 of 60	

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