HSF Property:ROHS or Halogen-Free

COMET DIS

SI1 BUILD

2012.11.30

21-OCT-2002		
DATE	CHANGE NO.	REV

	EE	DATE	POWER	DATE
DRAWER	EDI CHEN	2012/10/24	IRAY CHEN	2012/10/24
DESIGN	EDI CHEN	2012/10/24	IRAY CHEN	2012/10/24
CHECK	EDI CHEN	2012/10/24	IRAY CHEN	2012/10/24
RESPONSIBLE	EDI CHEN	2012/10/24	IRAY CHEN	2012/10/24

SIZE= A3 VER: X01

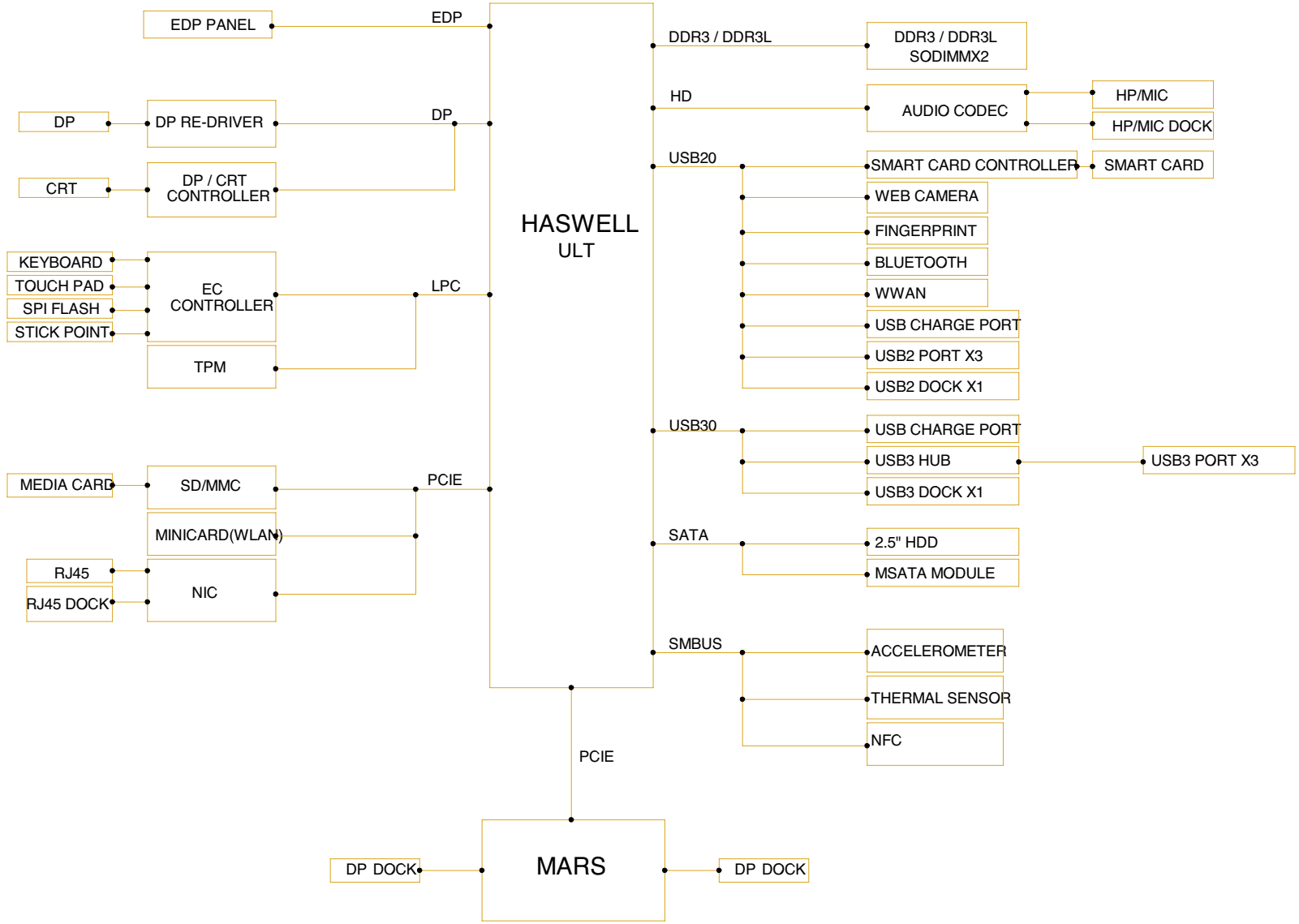
FILE NAME: COMET DIS

P/N 6050A2559101 XXX

INVENTEC

TITLE MODEL,PROJECT,FUNCTION
COMET

SIZE	CODE	DOC.NUMBER	REV
C	CS	1310xxxxx-0-0	X01



INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

SIZE	CODE	DOC.NUMBER	REV
C	CS	1310xxxxx-D-D	X01

CHANGE by XXX DATE 21-OCT-2002 SHEET 2 of 72

TABLE OF CONTENTS

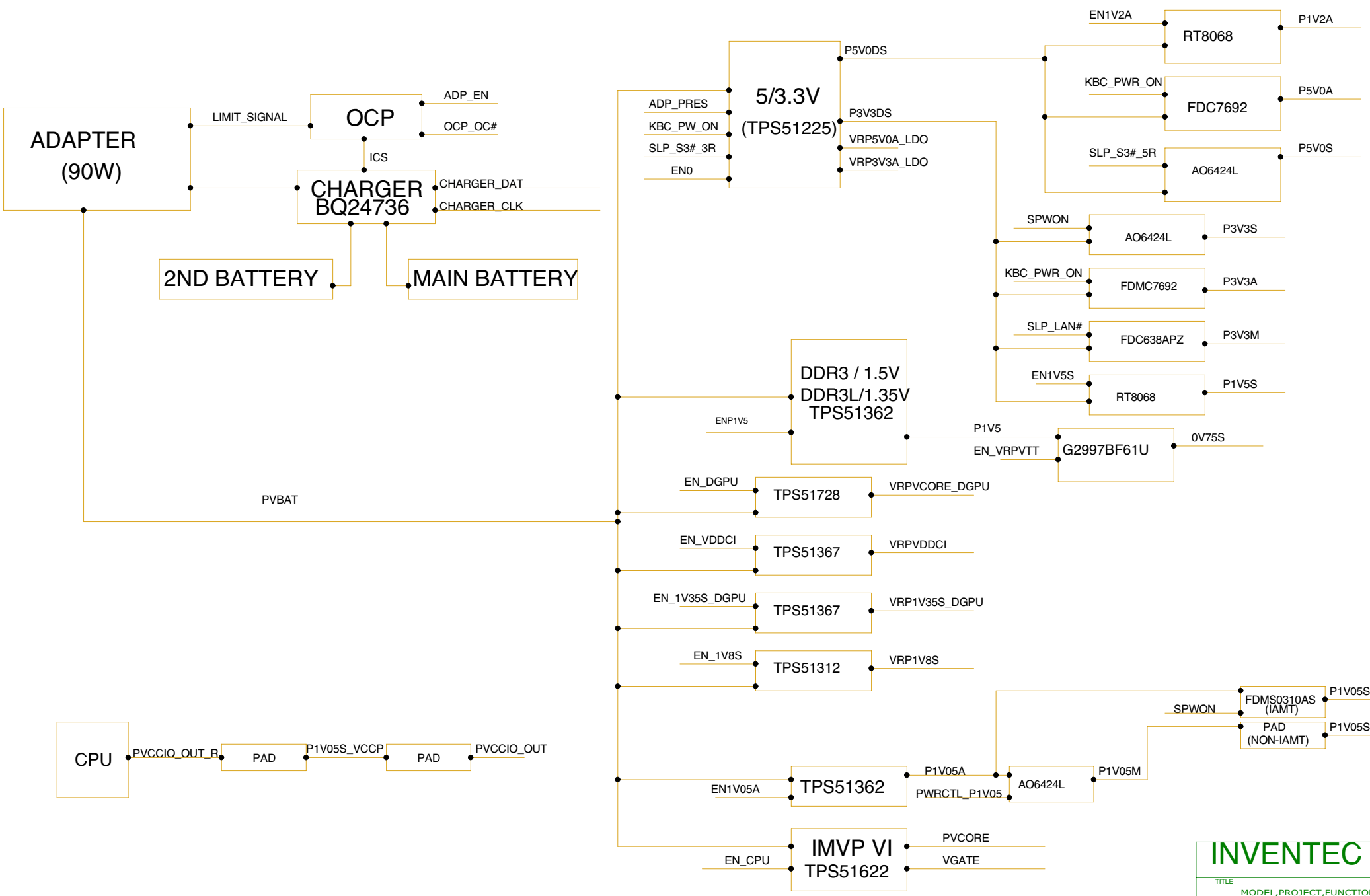
01.PROJECT NAME
02.BLOCK DIAGRAM
03.TABLE OF CONTENTS
04.POWER BLOCK DIAGRAM
05.SYSTEM POWER(CHARGER)
06.SYSTEM POWER(BATT SELECTOR)
07.SYSTEM POWER(OCP)
08.SYSTEM POWER(P3V3A&P5V0A)
09.P3V3A&P5V0A_CHG PORT
10.SYSTEM POWER(P1V5)
11.SYSTEM POWER(P1V05_M)
12.SYSTEM POWER(P1V05S)
13.USB HUB POWER (P1V2A)
14.SYSTEM POWER(PVCORE&PVAXG-1)
15.SYSTEM POWER(PVCORE&PVAXG-2)
16.POWER SEQUENCE (SLEEP)
17.DC JACK & BATTERT CONN.
18.HP_OCP
19.PVCORE_DGPU
20.PVDDCI
21.P1V35S_DGPU
22.P1V8S
23.PVPCIE
24.POWER (SEQUENCE)
25.FAN & THERMAL
26.XDP & ME CONN.
27.HASWELL_1 (MISC,JTAG)
28.HASWELL_2 (LPC,SPI,SMBUS,CLINK,PM)
29.HASWELL_3 (GPIO)
30.HASWELL_4 (DP,EDP)
31.HASWELL_5 (DDR)
32.HASWELL_6 (PCIE,USB)
33.HASWELL_7 (RTC,AUDIO,SATA,JTAG)
34.HASWELL_8 (CLK)
35.HASWELL_9 (POWER)
36.HASWELL_10 (POWER)
37.HASWELL_11 (GND)
38.SYSTEM MEMORY (DIMM0)
39.SYSTEM MEMORY (DIMM1)
40.EMPTY
41.EMPTY
42.DP TO VGA CONVERTER
43.DISPLAY PORT
44.LCM & WEBCAM CONN
45.SATA HDD, MSATA
46.USB HUB
47.USB3 PORTS
48.USB & CRT DB
49.FINGERPRINT READER, NFC
50.ACCELEMETER
51.KBC, SPI
52.KEYBOARD
53.TPM
54.LAN
55.WLAN/BT SLOT
56.WWAN SLOT, SIM SLOT
57.DOCKING
58.B TO B CONN, POINT STICK CONN
59.AUDIO CODEC
60.AUDIO JACK, MIC AMP.
61.CARD READER
62.BUTTON, LED
63.SMART CARD DAUGHTER BOARD
64.CRT DB WTB CONN
65.MIC DB
66.SCREW
67.EMPTY
68.MARS-1
69.MARS-2
70.MARS-3
71.MARS-4
72.MARS-5
73.MARS-6
74.MARS-7
75.MARS-8
76.VRAM-1
77.VRAM-2

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
TABLE OF CONTENTS

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

CHANGE by xxx | DATE 21-OCT-2002 | SHEET 3 of 77

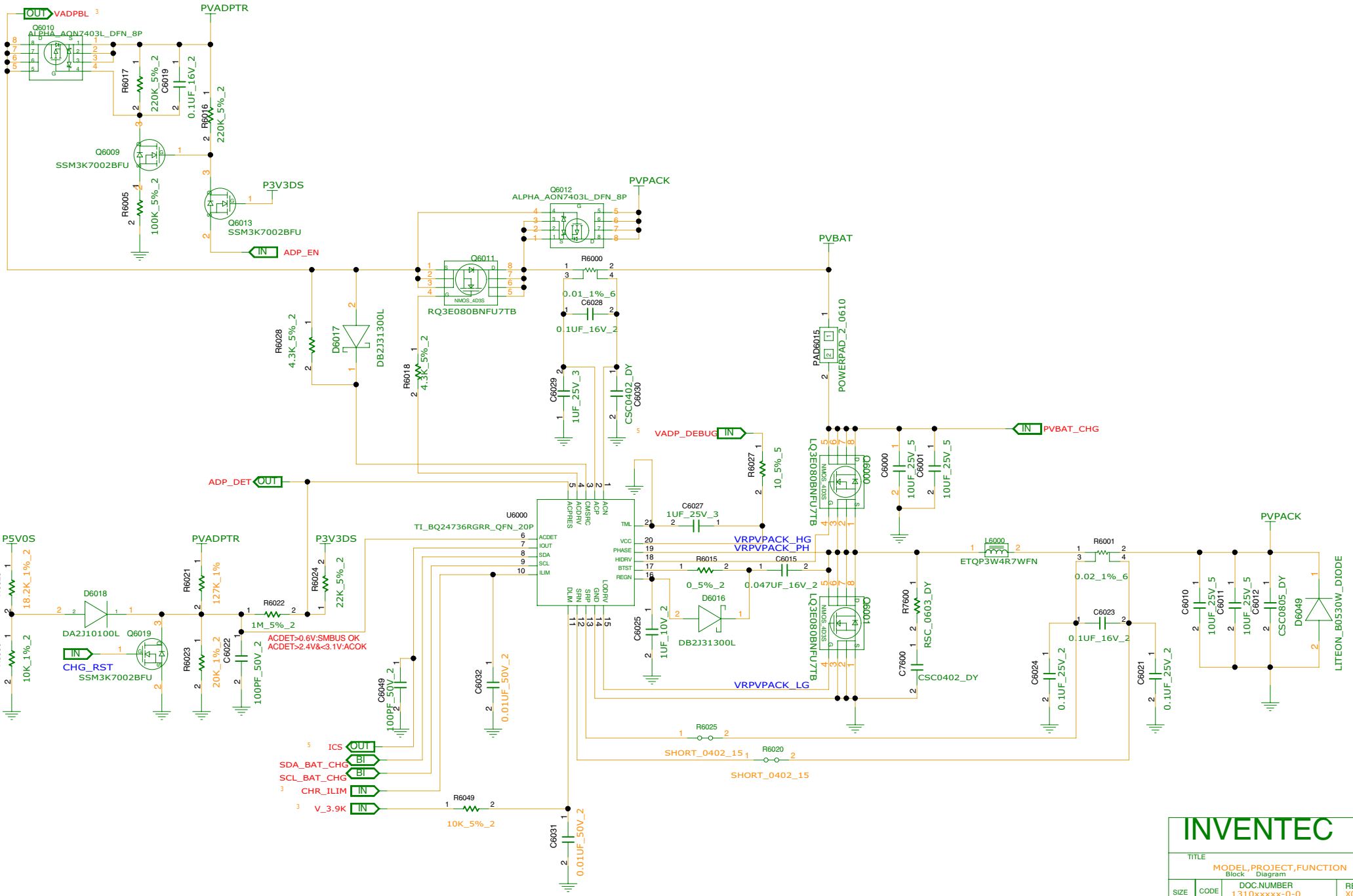


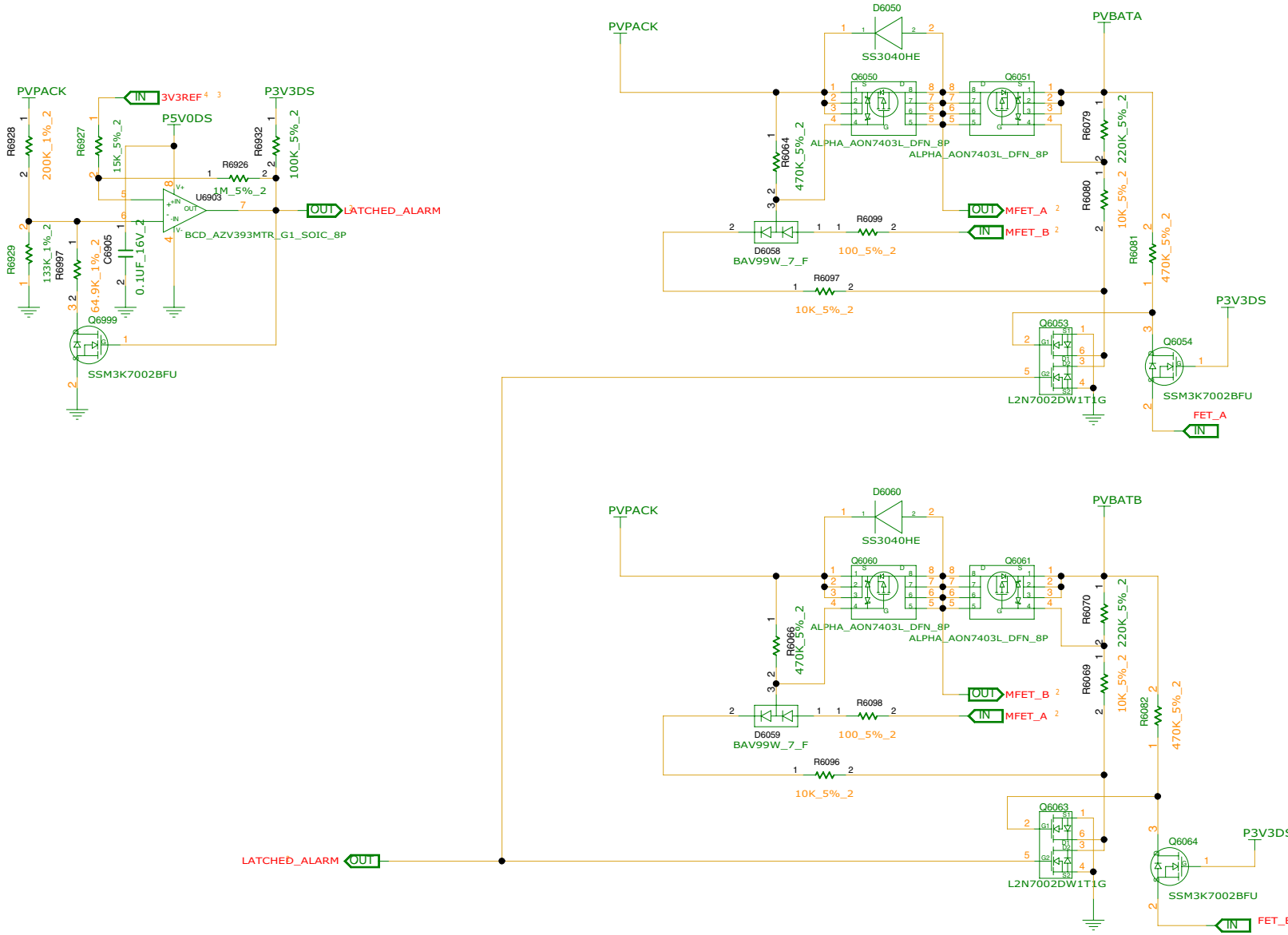
INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
BLOCK DIAGRAM POWER

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 4 of 77


OUT VADPBL
PVADPTR
Q6010
ALPHA_AON7403L_DFN_8P
R6017
220K_5%_2
C6019
0.1UF_16V_2
R6016
220K_5%_2
Q6009
SSM3K7002BFU
R6005
100K_5%_2
P3V3DS
Q6013
SSM3K7002BFU
IN ADP_EN
Q6012
ALPHA_AON7403L_DFN_8P
PVPACK
Q6011
NMOS_4D3S
RQ3E080BNFU7TB
R6000
0.01_1%_6
C6028
0.1UF_16V_2
PVBAT
PAD6015
POWERPAD_2_0610
R6028
4.3K_5%_2
D6017
DB2J31300L
R6018
4.3K_5%_2
C6029
1UF_25V_3
C6030
CSC0402_DY
VADP_DEBUG IN
R6027
10_5%_5
IN PVBAT_CHG
C6000
10UF_25V_5
C6001
10UF_25V_5
ADP_DET OUT
U6000
TI_BQ24736RGRR_QFN_20P
C6027
1UF_25V_3
VRPVPACK_HG
VRPVPACK_PH
R6015
0_5%_2
C6015
0.047UF_16V_2
D6016
DB2J31300L
C6025
1UF_10V_2
VRPVPACK_LG
L6000
ETQP3W4R7WFN
R6001
0.02_1%_6
C6023
0.1UF_16V_2
R7600
RSC_0603_DY
C7600
CSC0402_DY
C6024
0.1UF_25V_2
C6021
0.1UF_25V_2
C6010
10UF_25V_5
C6011
10UF_25V_5
C6012
CSC0805_DY
D6049
LITEON_B0530W_DIODE
P5V0S
R6029
18.2K_1%_2
R6030
10K_1%_2
D6018
DA2J10100L
Q6019
SSM3K7002BFU
IN CHG_RST
PVADPTR
R6021
127K_1%
R6023
20K_1%_2
C6022
100PF_50V_2
P3V3DS
R6024
22K_5%_2
R6022
1M_5%_2
ACDET>0.6V:SMBUS OK
ACDET>2.4V&<3.1V:ACOK
C6049
100PF_50V_2
C6032
0.01UF_50V_2
C6031
0.01UF_50V_2
R6025
SHORT_0402_15
R6020
SHORT_0402_15
OUT ICS
BI SDA_BAT_CHG
BI SCL_BAT_CHG
IN CHR_ILIM
IN V_3.9K
R6049
10K_5%_2
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
Block Diagram
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 5 of 77

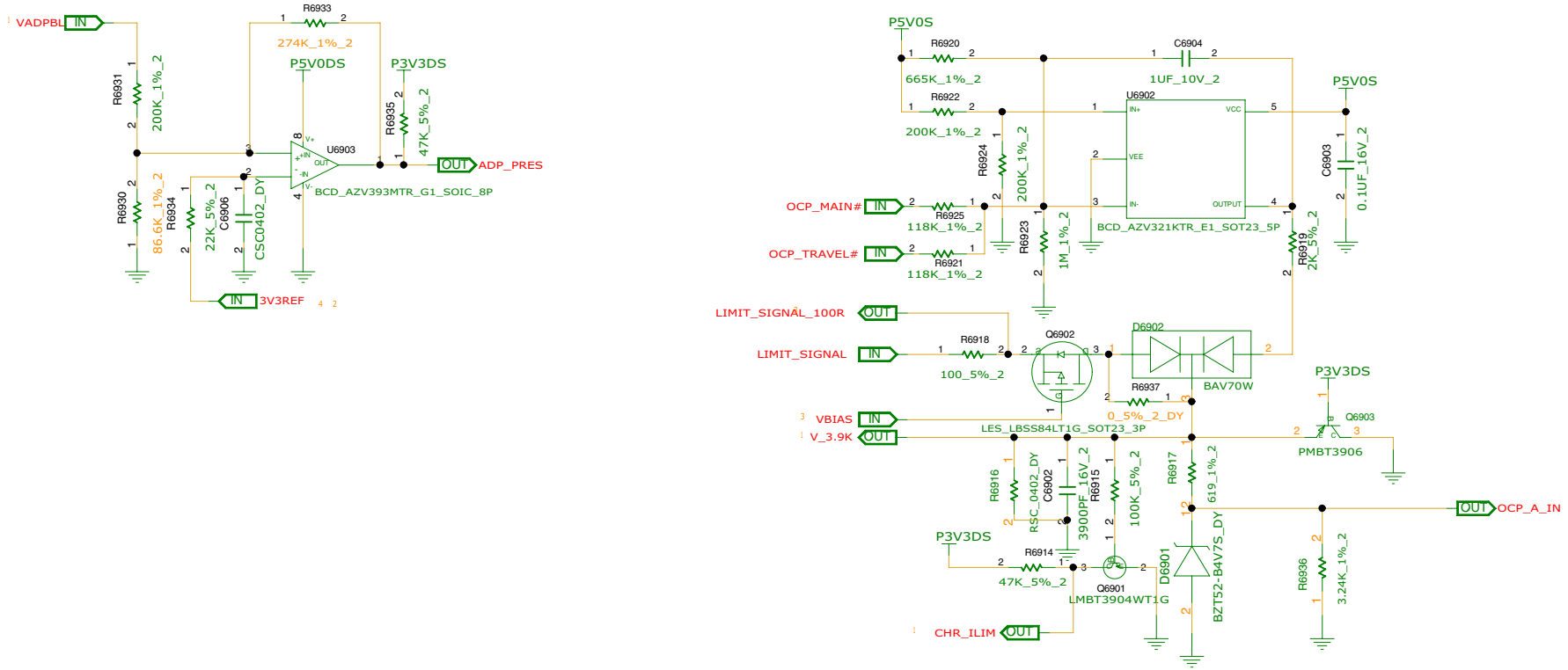


INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 6 of 77

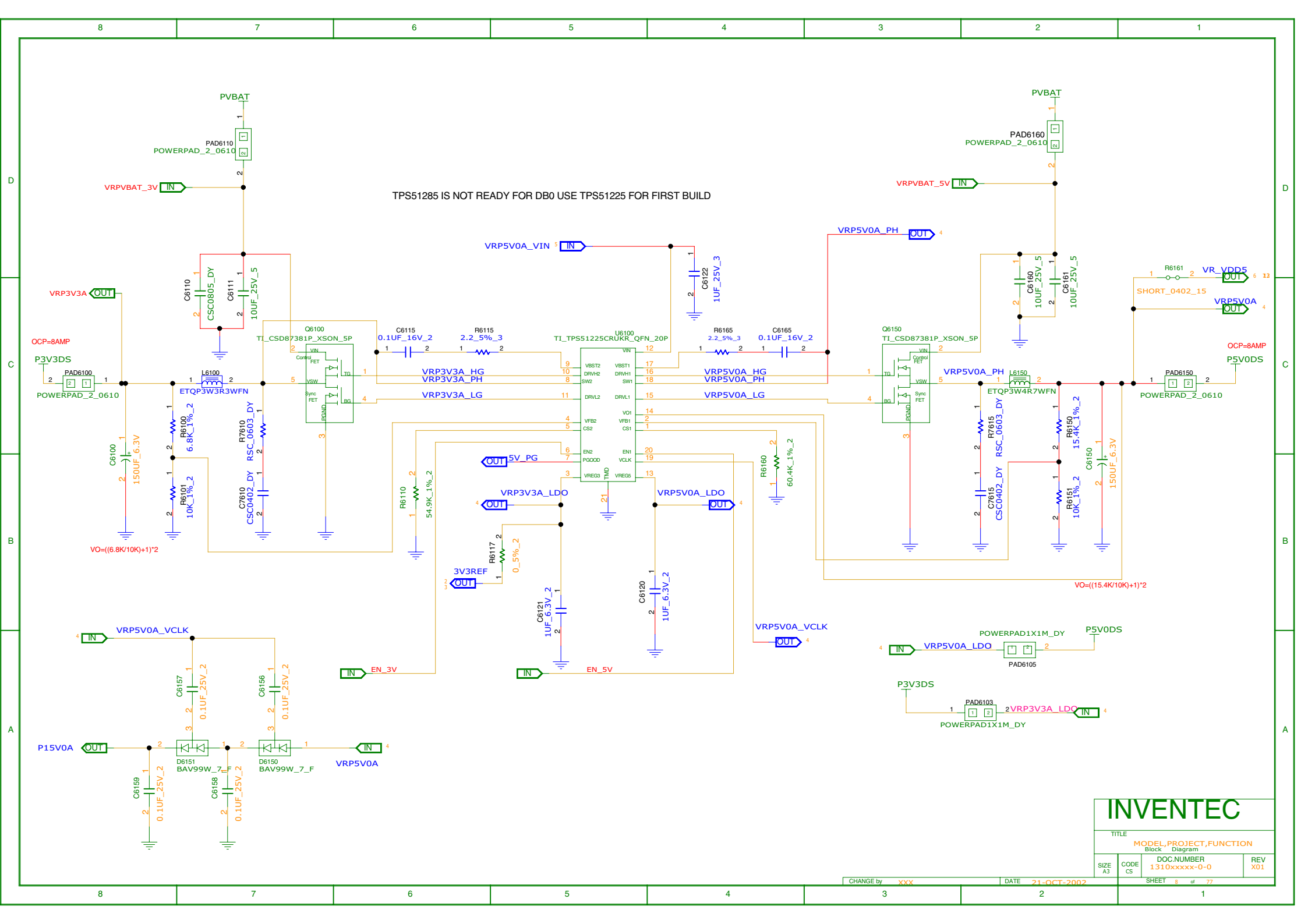


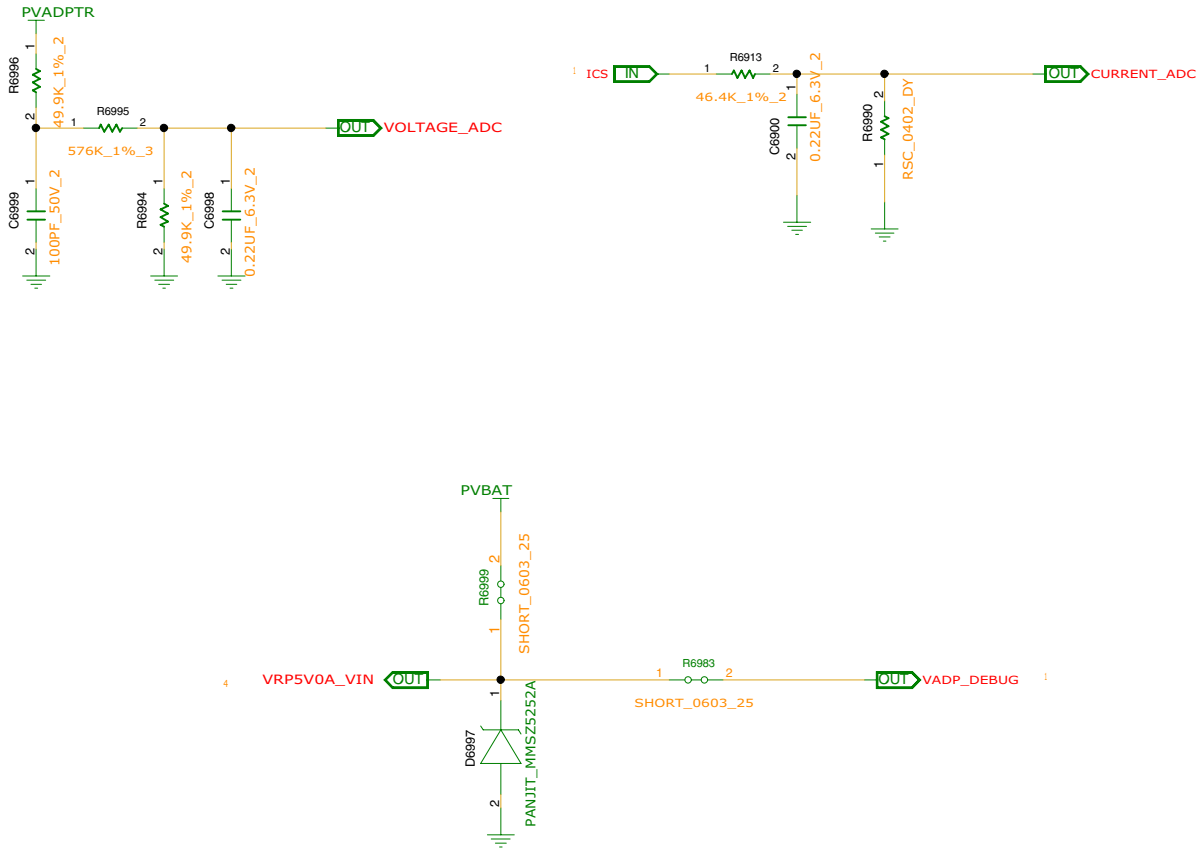
INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 7 of 77


TPS51285 IS NOT READY FOR DB0 USE TPS51225 FOR FIRST BUILD
PVBAT
PAD6110
POWERPAD_2_0610
VRPVBAT_3V
VRP3V3A
C6110
CSC0805_DY
C6111
10UF_25V_5
OCP=8AMP
P3V3DS
PAD6100
POWERPAD_2_0610
L6100
ETQP3W3R3WFN
C6100
150UF_6.3V
R6100
6.8K_1%_2
R6101
10K_1%_2
VO=((6.8K/10K)+1)*2
R7610
RSC_0603_DY
C7610
CSC0402_DY
Q6100
TI_CSD87381P_XSON_5P
C6115
0.1UF_16V_2
R6115
2.2_5%_3
VRP5V0A_VIN
C6122
1UF_25V_3
U6100
TI_TPS51225CRUKR_QFN_20P
VRP3V3A_HG
VRP3V3A_PH
VRP3V3A_LG
5V_PG
VRP3V3A_LDO
VRP5V0A_LDO
R6110
54.9K_1%_2
3V3REF
R6117
0_5%_2
C6121
1UF_6.3V_2
C6120
1UF_6.3V_2
R6165
2.2_5%_3
C6165
0.1UF_16V_2
VRP5V0A_HG
VRP5V0A_PH
VRP5V0A_LG
R6160
60.4K_1%_2
VRP5V0A_VCLK
EN_3V
EN_5V
PVBAT
PAD6160
POWERPAD_2_0610
VRPVBAT_5V
VRP5V0A_PH
C6160
10UF_25V_5
C6161
10UF_25V_5
Q6150
TI_CSD87381P_XSON_5P
L6150
ETQP3W4R7WFN
R7615
RSC_0603_DY
C7615
CSC0402_DY
R6150
15.4K_1%_2
R6151
10K_1%_2
C6150
150UF_6.3V
VO=((15.4K/10K)+1)*2
R6161
SHORT_0402_15
VR_VDD5
VRP5V0A
OCP=8AMP
P5V0DS
PAD6150
POWERPAD_2_0610
VRP5V0A_VCLK
C6157
0.1UF_25V_2
C6156
0.1UF_25V_2
P15V0A
D6151
BAV99W_7_F
D6150
BAV99W_7_F
VRP5V0A
C6159
0.1UF_25V_2
C6158
0.1UF_25V_2
POWERPAD1X1M_DY
P5V0DS
VRP5V0A_LDO
PAD6105
P3V3DS
PAD6103
VRP3V3A_LDO
POWERPAD1X1M_DY
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
Block Diagram
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 8 of 77

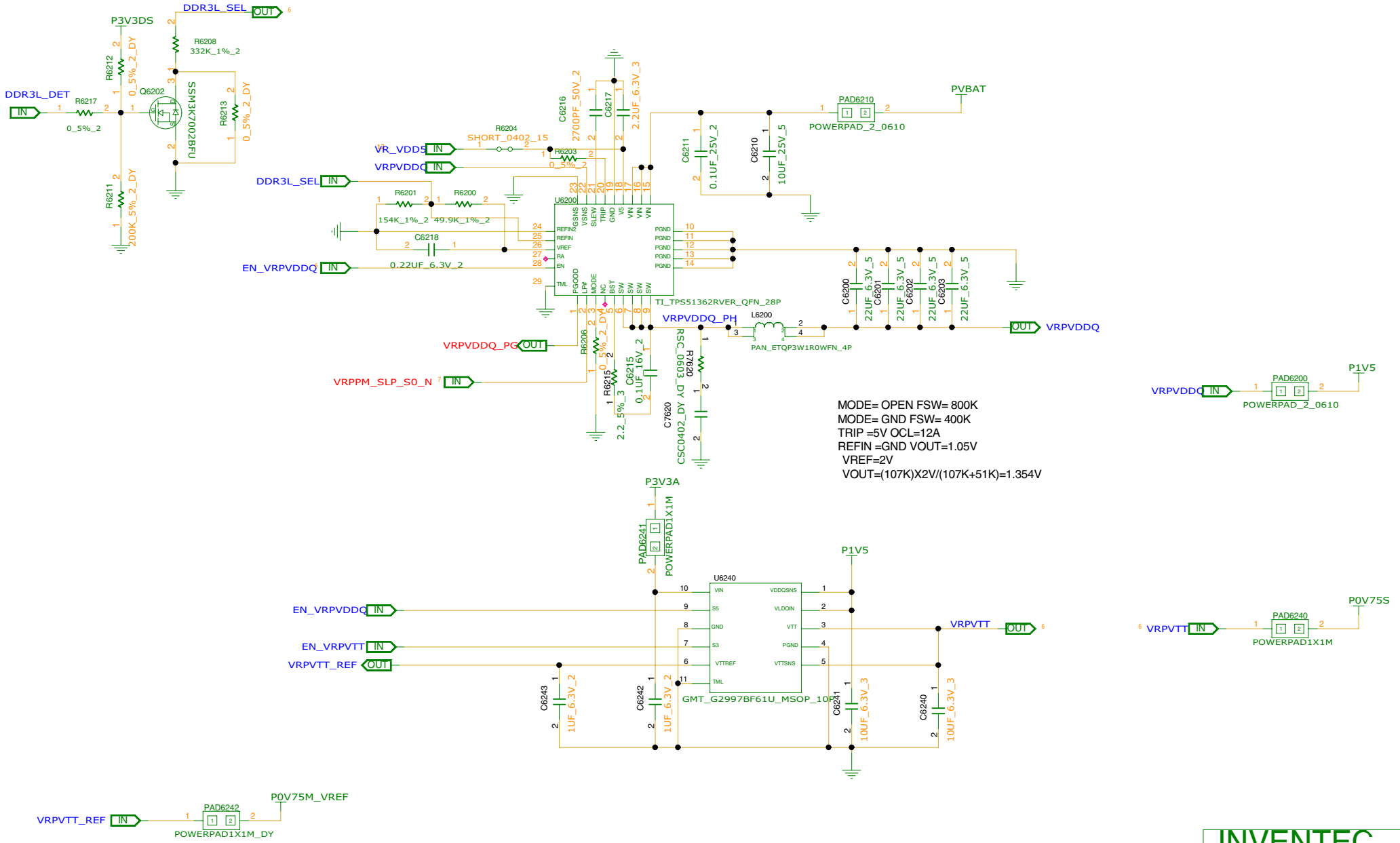


INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 9 of 77

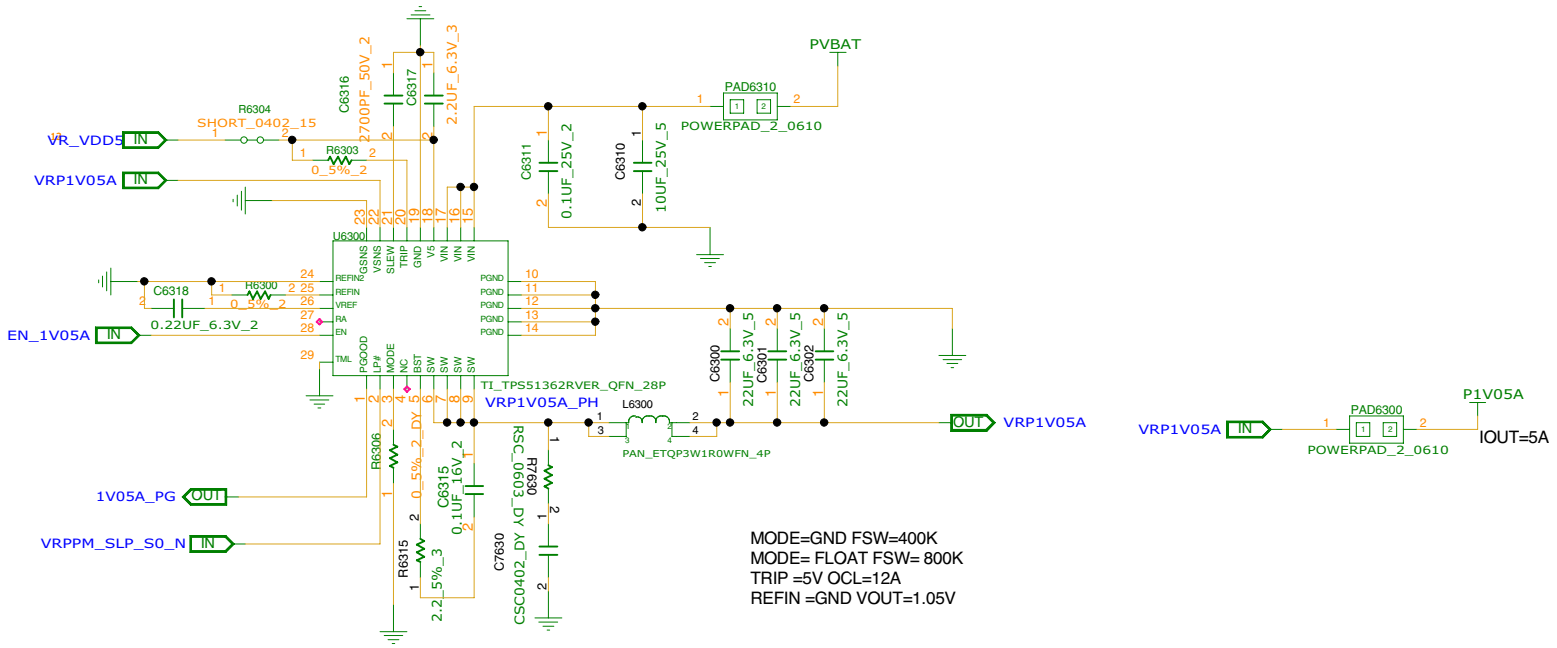


INVENTEC

TITLE: MODEL,PROJECT,FUNCTION Block Diagram

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 10 of 77

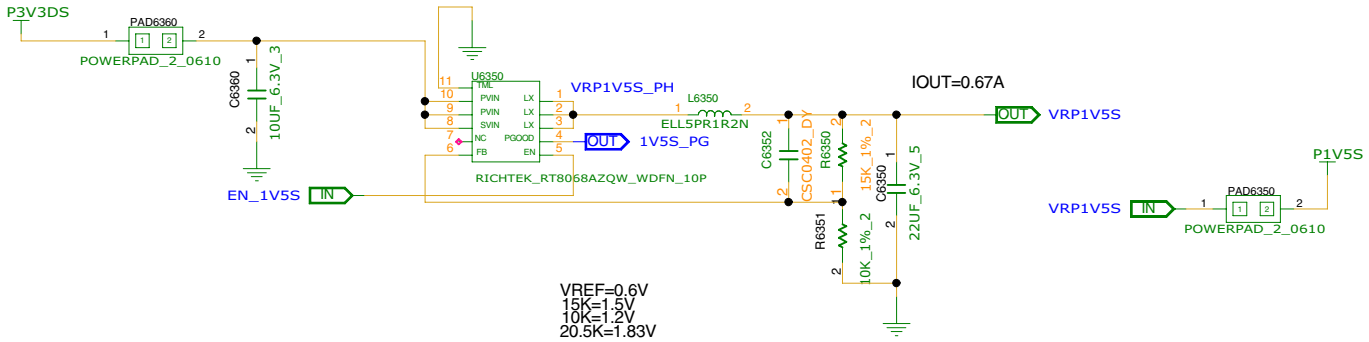


INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 11 of 77

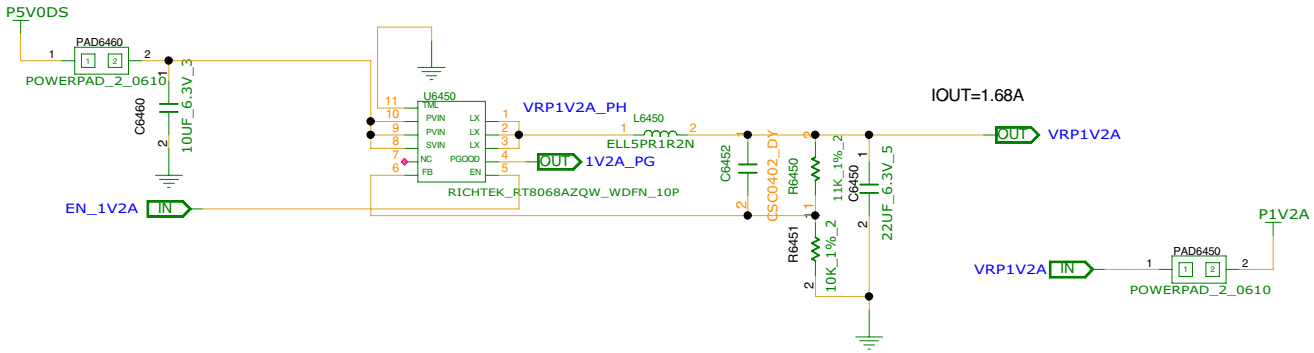


INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 12 of 77



VREF=0.6V
15K=1.5V
10K=1.2V
11K=1.25V
20.5K=1.83V

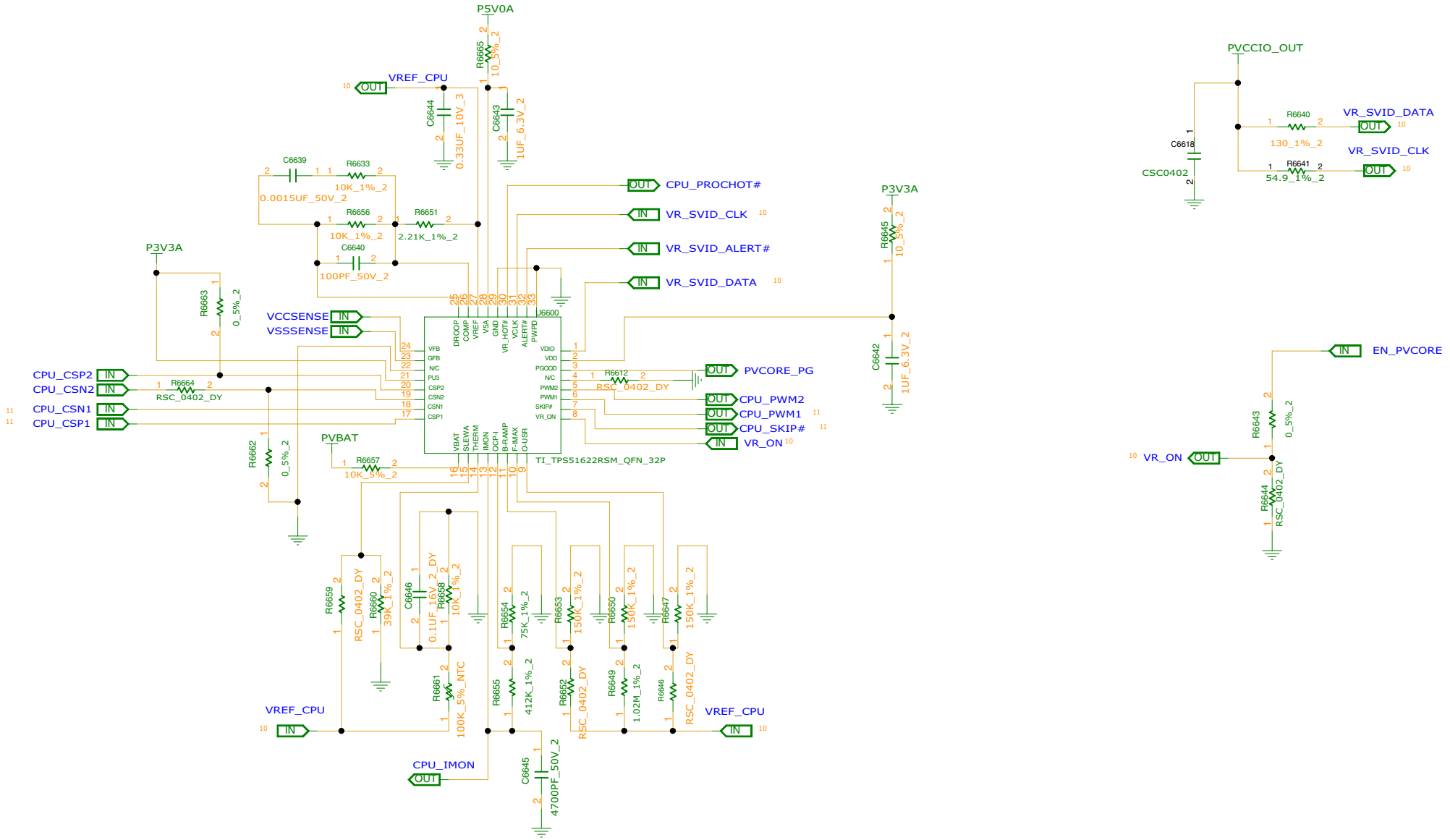
MODE= FLOAT=SKIP MODE
MODE=VIN=FCCM MODE

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 13 of 77

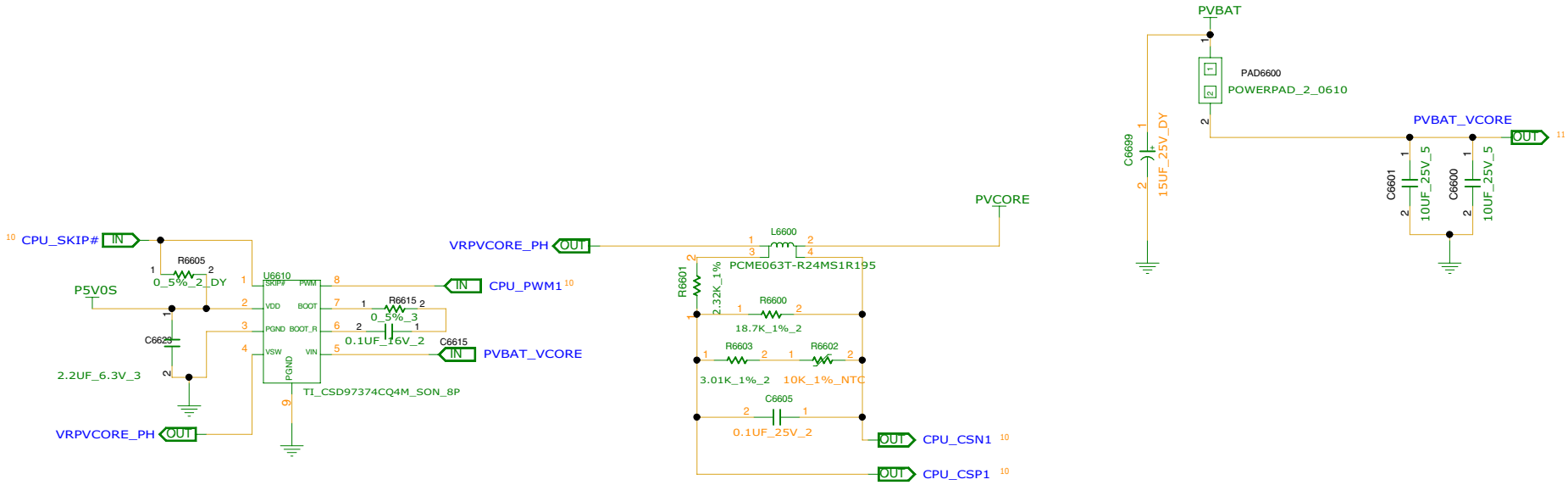


INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

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

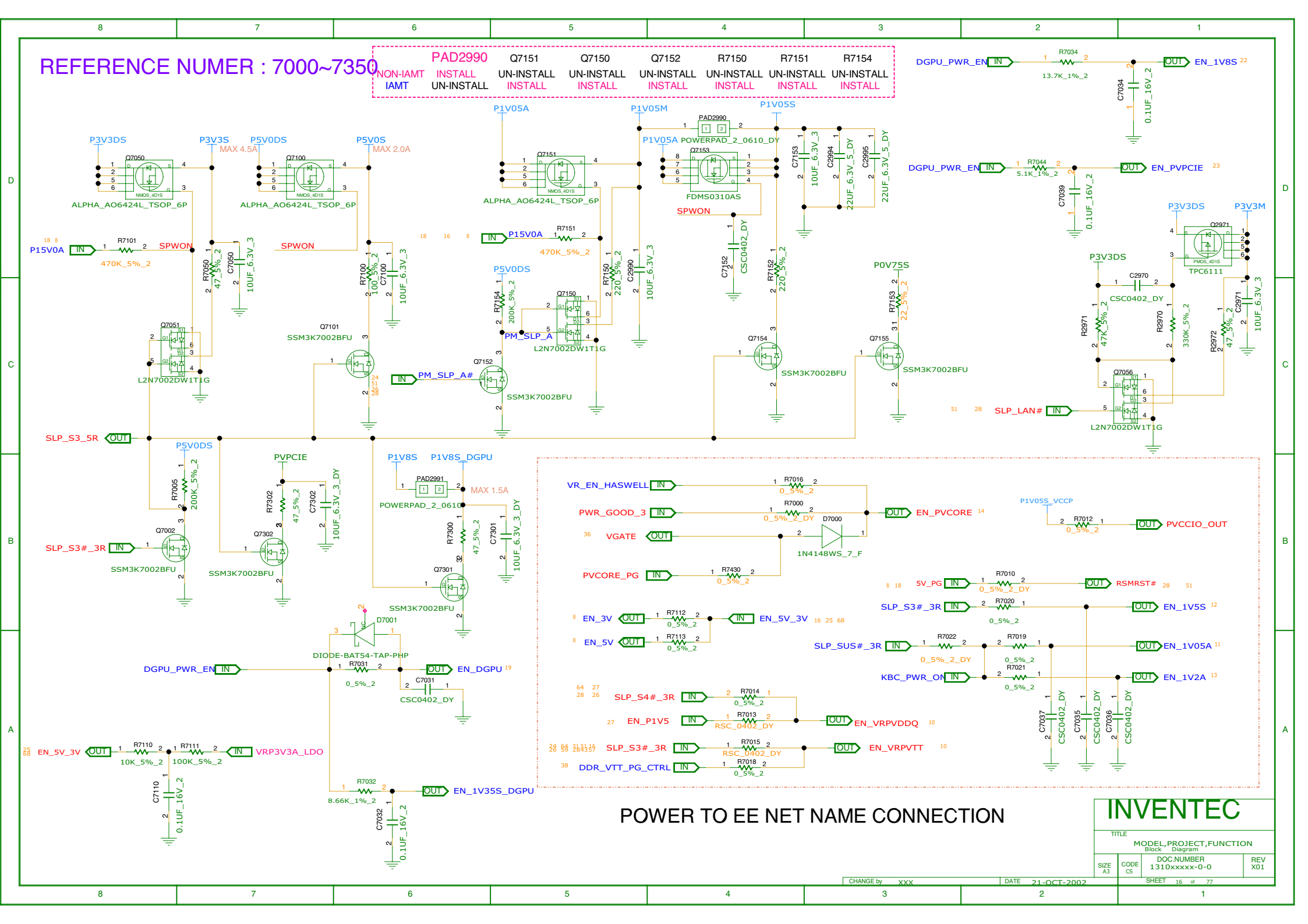
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 14 of 77



INVENTEC			
TITLE: MODEL,PROJECT,FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 15 of 77	

REFERENCE NUMER : 7000~7350

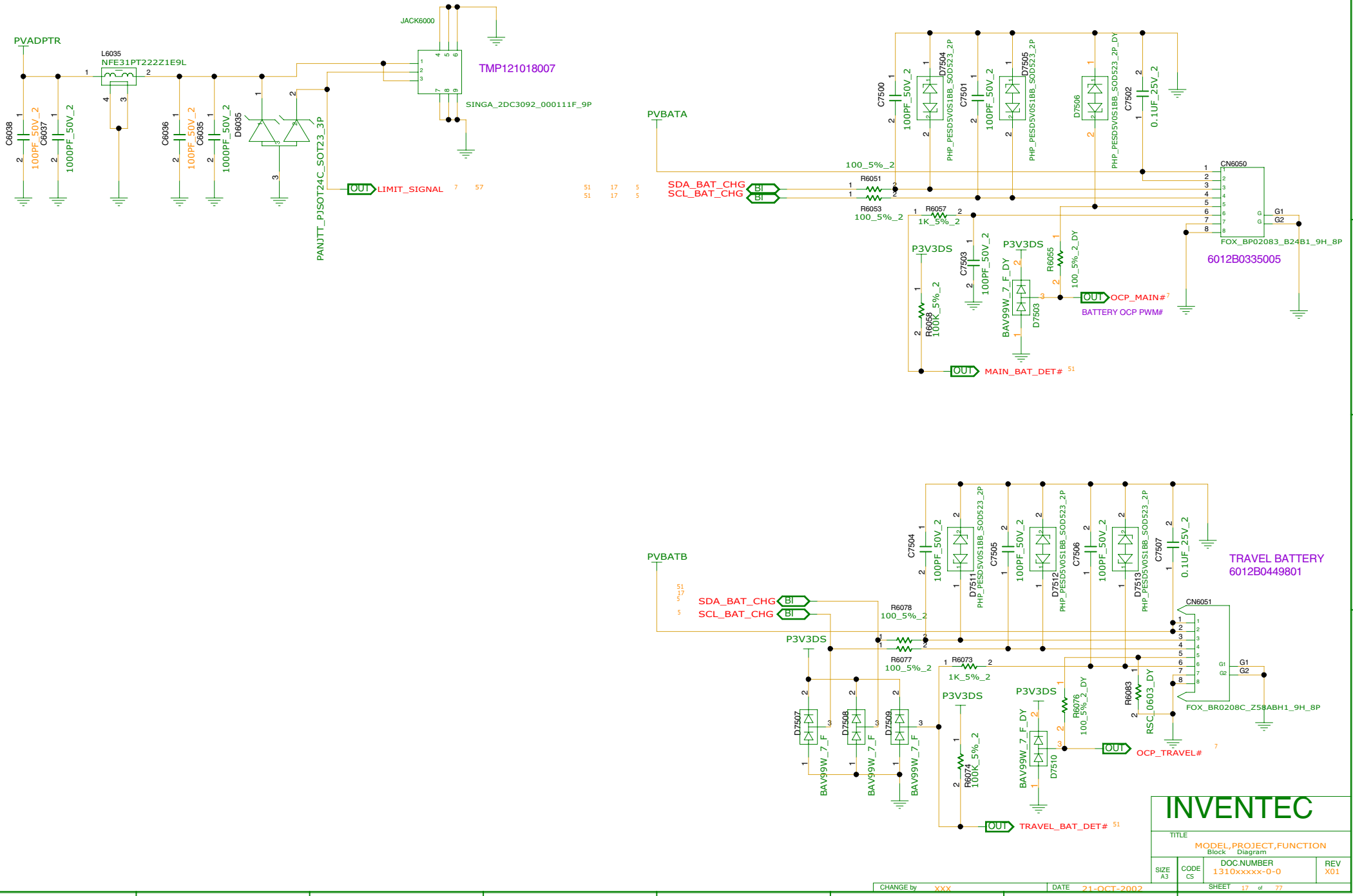
	PAD2990	Q7151	Q7150	Q7152	R7150	R7151	R7154
NON-IAMT	INSTALL	UN-INSTALL	UN-INSTALL	UN-INSTALL	UN-INSTALL	UN-INSTALL	UN-INSTALL
IAMT	UN-INSTALL	INSTALL	INSTALL	INSTALL	INSTALL	INSTALL	INSTALL

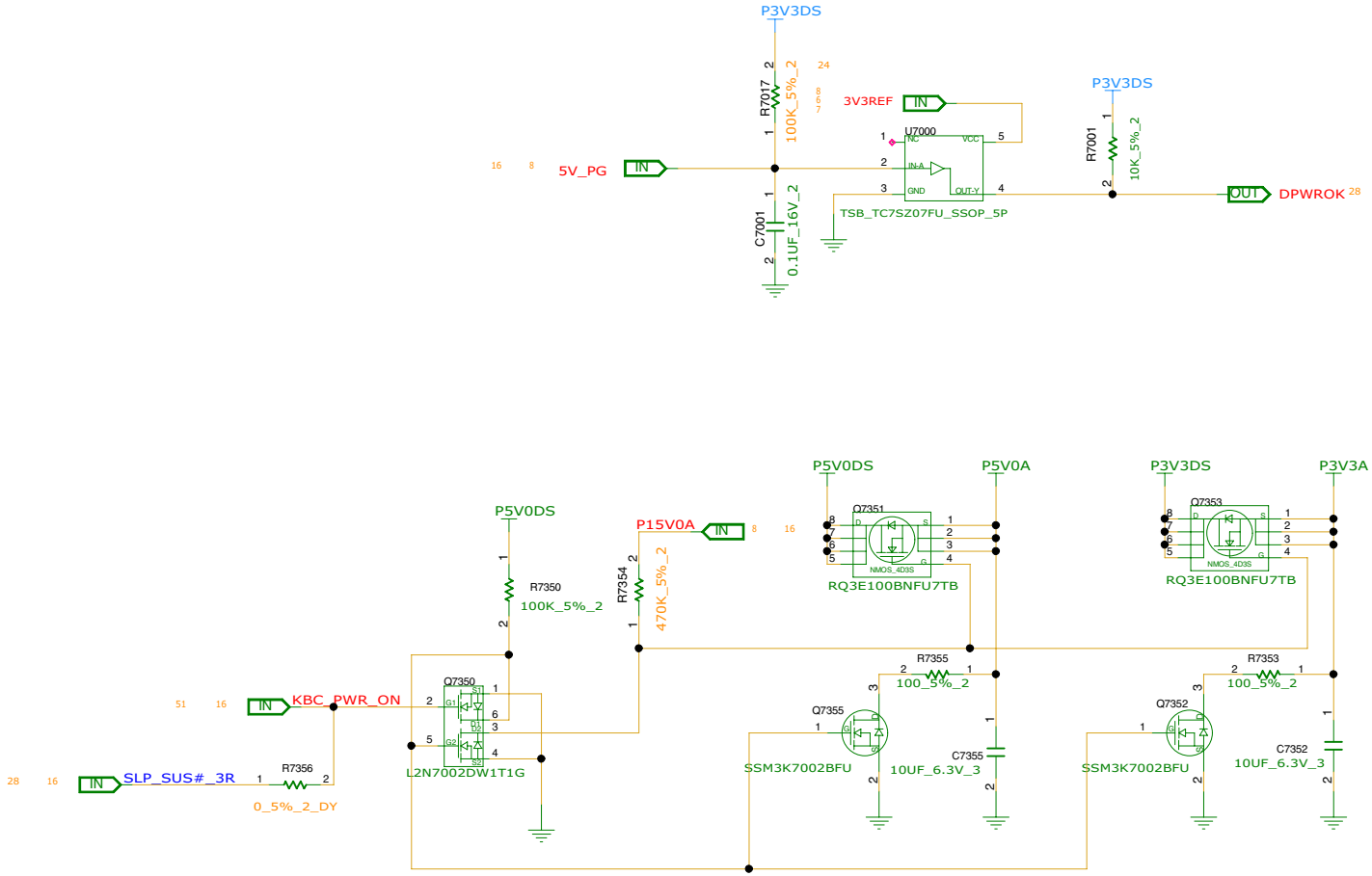


POWER TO EE NET NAME CONNECTION

INVENTEC

TITLE: MODEL,PROJECT,FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 16 of 77	


PVADPTR
L6035
NFE31PT222Z1E9L
C6038
C6037
C6036
C6035
100PF_50V_2
1000PF_50V_2
D6035
JACK6000
TMP121018007
SINGA_2DC3092_000111F_9P
PANJTT_PJSOT24C_SOT23_3P
OUT
LIMIT_SIGNAL
PVBATA
SDA_BAT_CHG
SCL_BAT_CHG
BI
R6051
R6053
R6057
100_5%_2
1K_5%_2
C7500
C7501
C7502
0.1UF_25V_2
D7504
D7505
D7506
PHP_PESD5V0S1BB_SOD523_2P
PHP_PESD5V0S1BB_SOD523_2P_DY
CN6050
G1
G2
FOX_BP02083_B24B1_9H_8P
6012B0335005
P3V3DS
C7503
R6058
100K_5%_2
R6055
100_5%_2_DY
D7503
BAV99W_7_F_DY
OCP_MAIN#
BATTERY OCP PWM#
MAIN_BAT_DET#
PVBATB
C7504
C7505
C7506
C7507
D7511
D7512
D7513
PHP_PESD5V0S1BB_SOD523_2P
R6078
R6077
R6073
CN6051
TRAVEL BATTERY
6012B0449801
FOX_BR0208C_Z58ABH1_9H_8P
D7507
D7508
D7509
BAV99W_7_F
R6074
100K_5%_2
R6076
100_5%_2_DY
R6083
RSC_0603_DY
D7510
OCP_TRAVEL#
TRAVEL_BAT_DET#
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
Block Diagram
SIZE A3
CODE CS
DOC.NUMBER
1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 17 of 77



INVENTEC

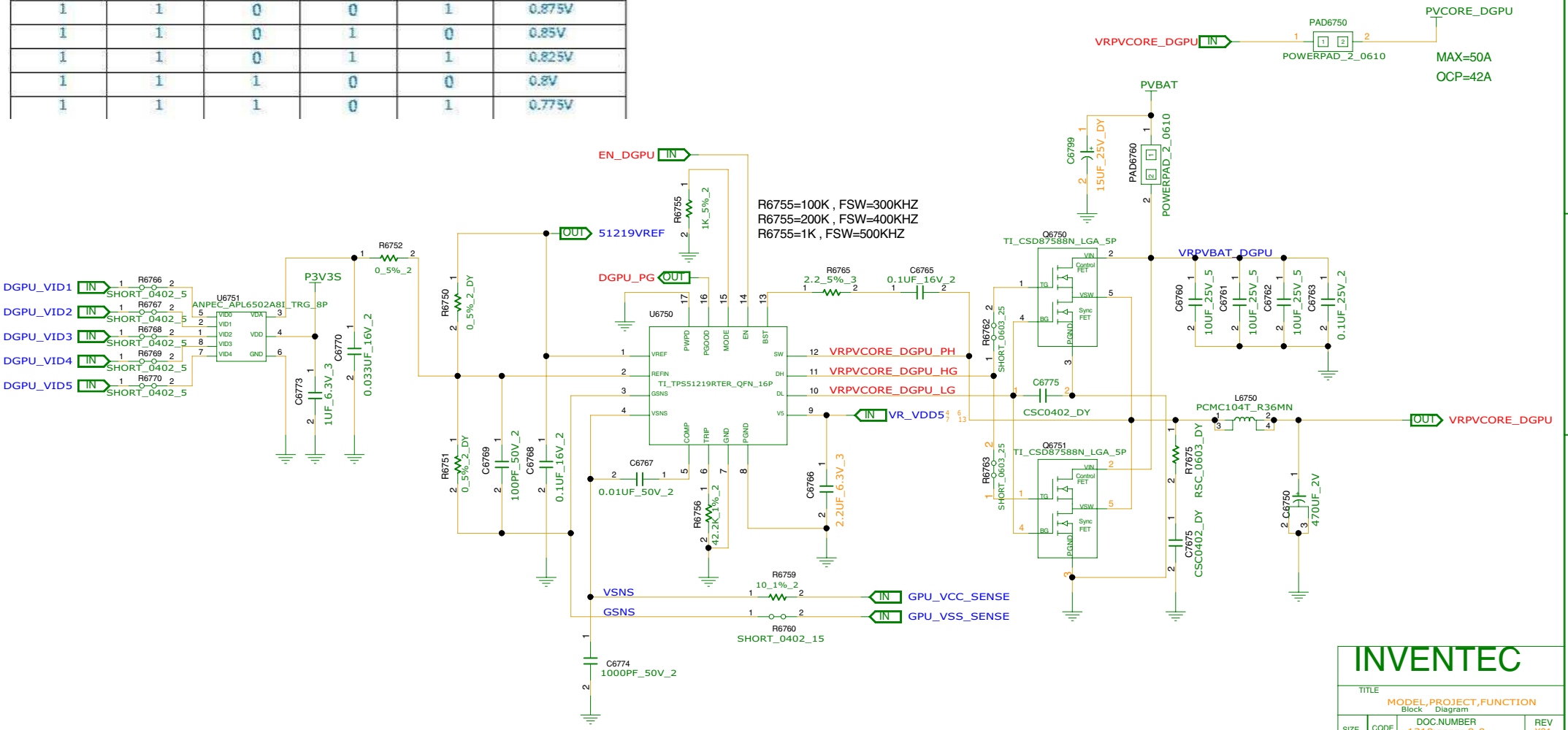
TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 18 of 77

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

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



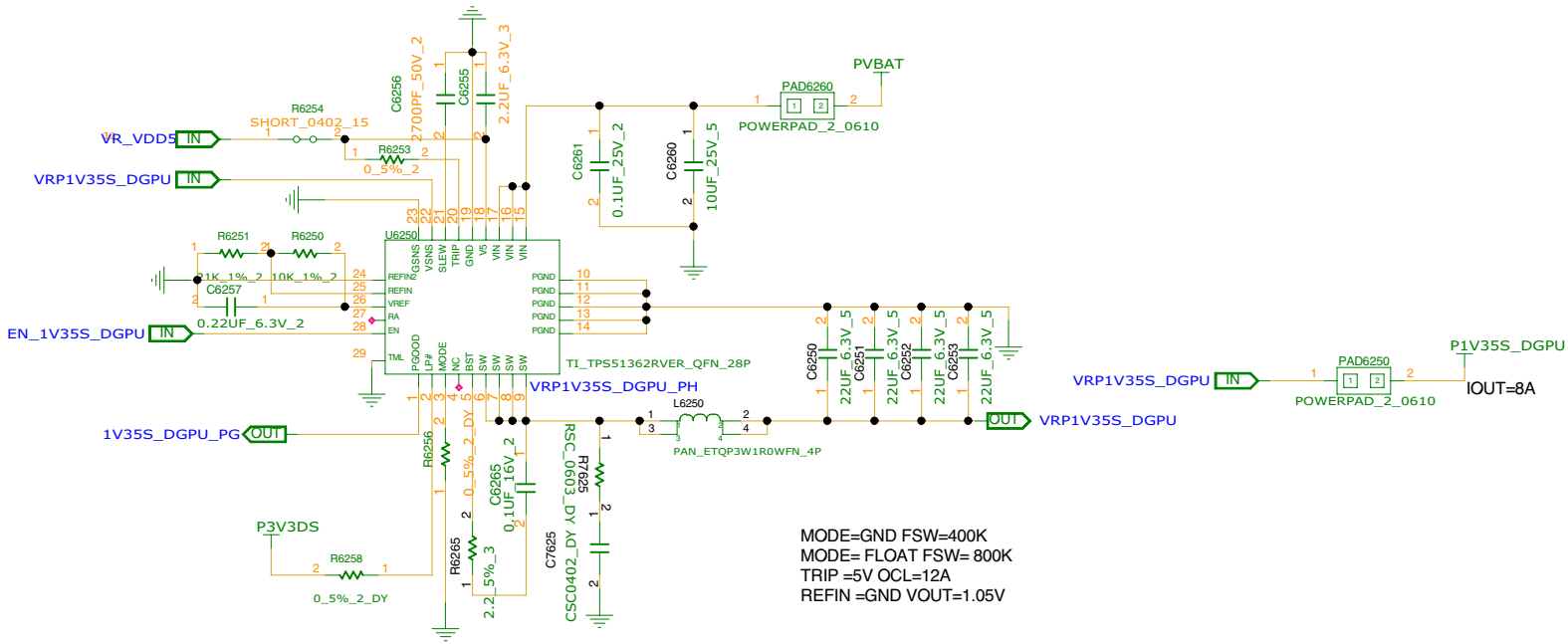
EMPTY

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 20 of 77

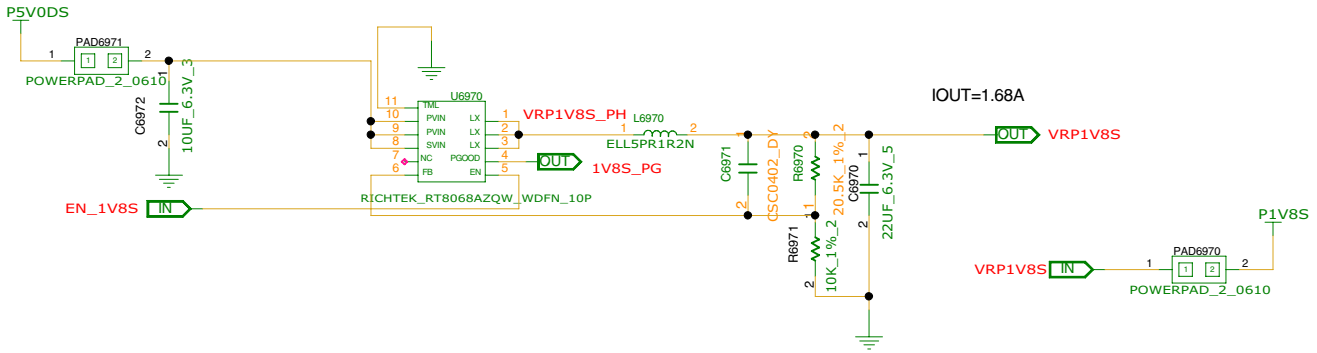


INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 21 of 77



VREF=0.6V
15K=1.5V
10K=1.2V
20.5K=1.83V

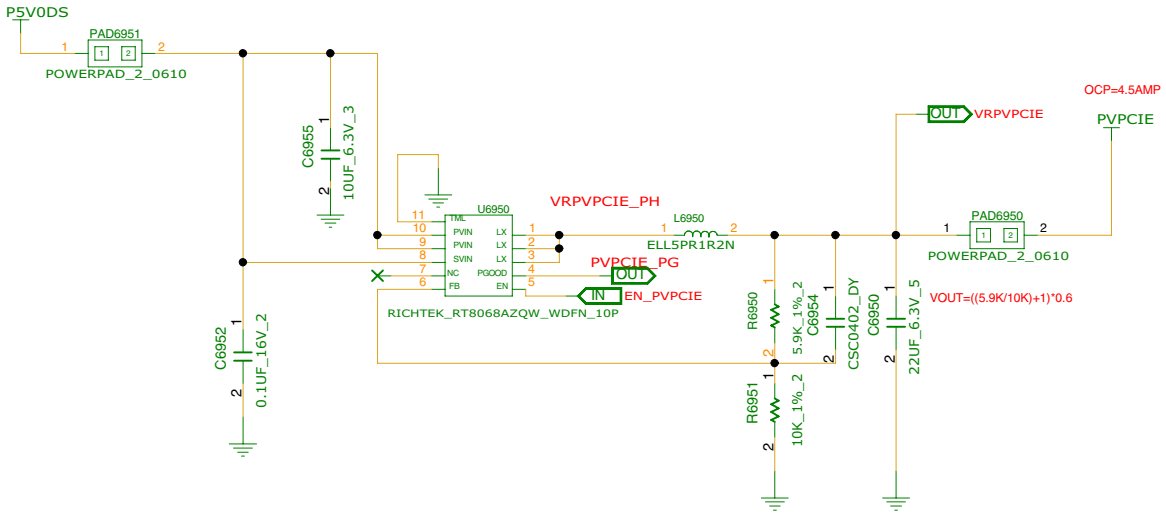
MODE= FLOAT=SKIP MODE
MODE=VIN=FCCM MODE

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 22 of 77



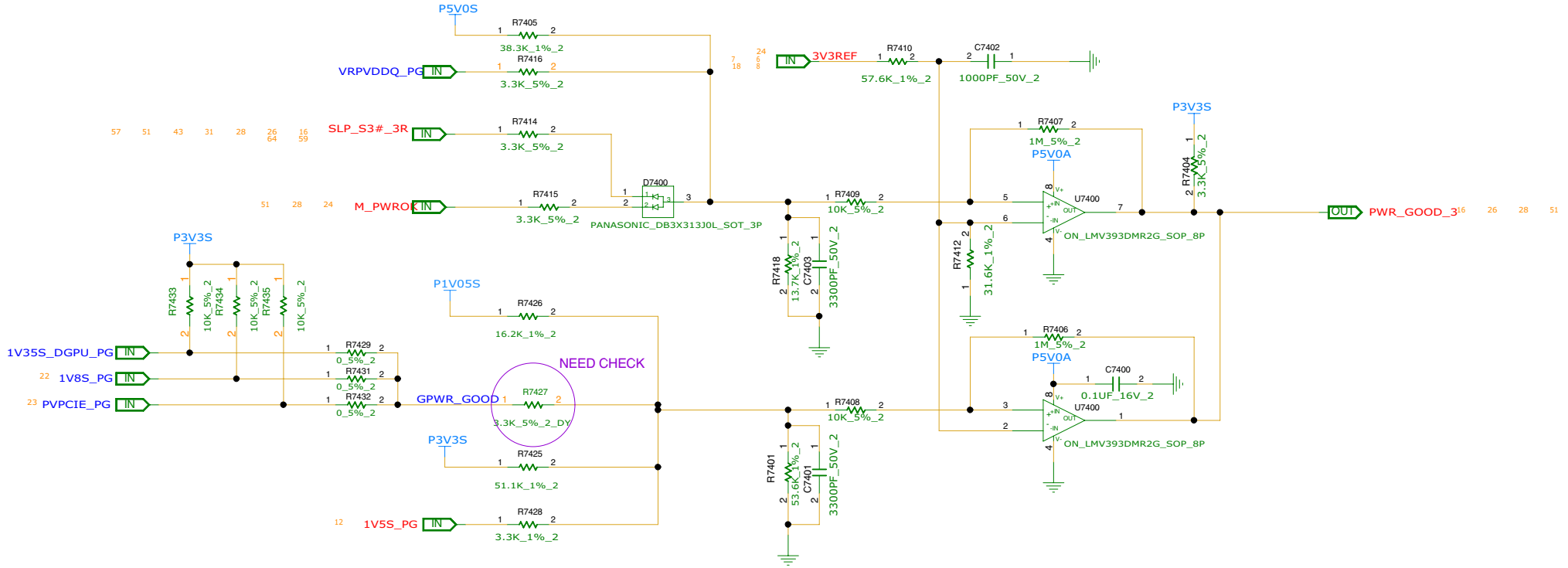
INVENTEC

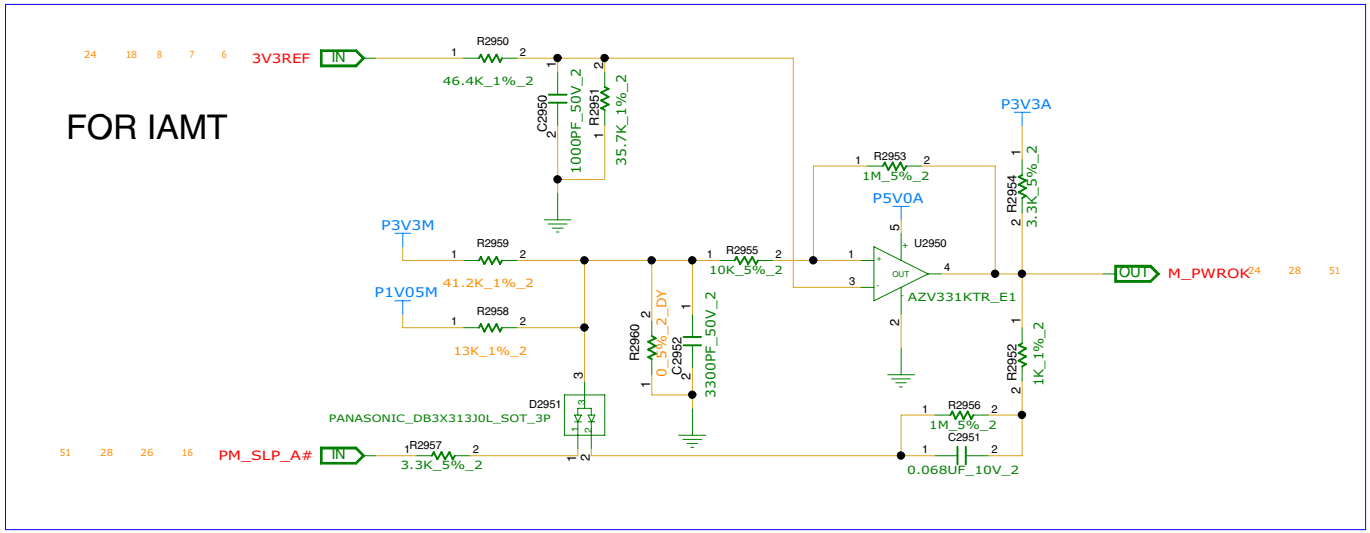
TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 23 of 77

REFERENCE NUMER : 7400~7450





REFERENCE NUMER : 2950~2999

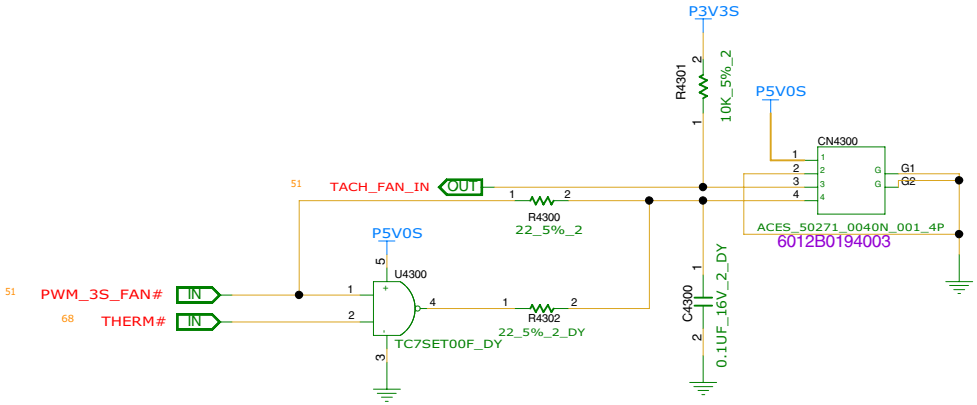
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
POWER(SEQUENCE)

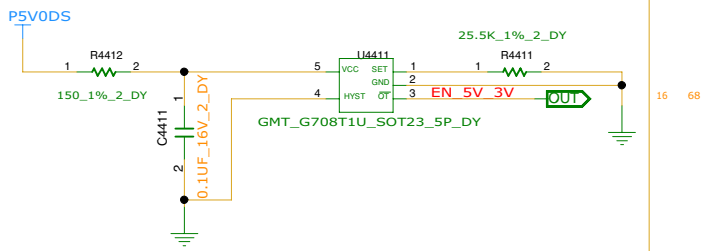
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 24 of 77

REFERENCE NUMBER:4400~4349



AMBIENT TEMP SENSE
WILL BE NOT USED IN 2013?

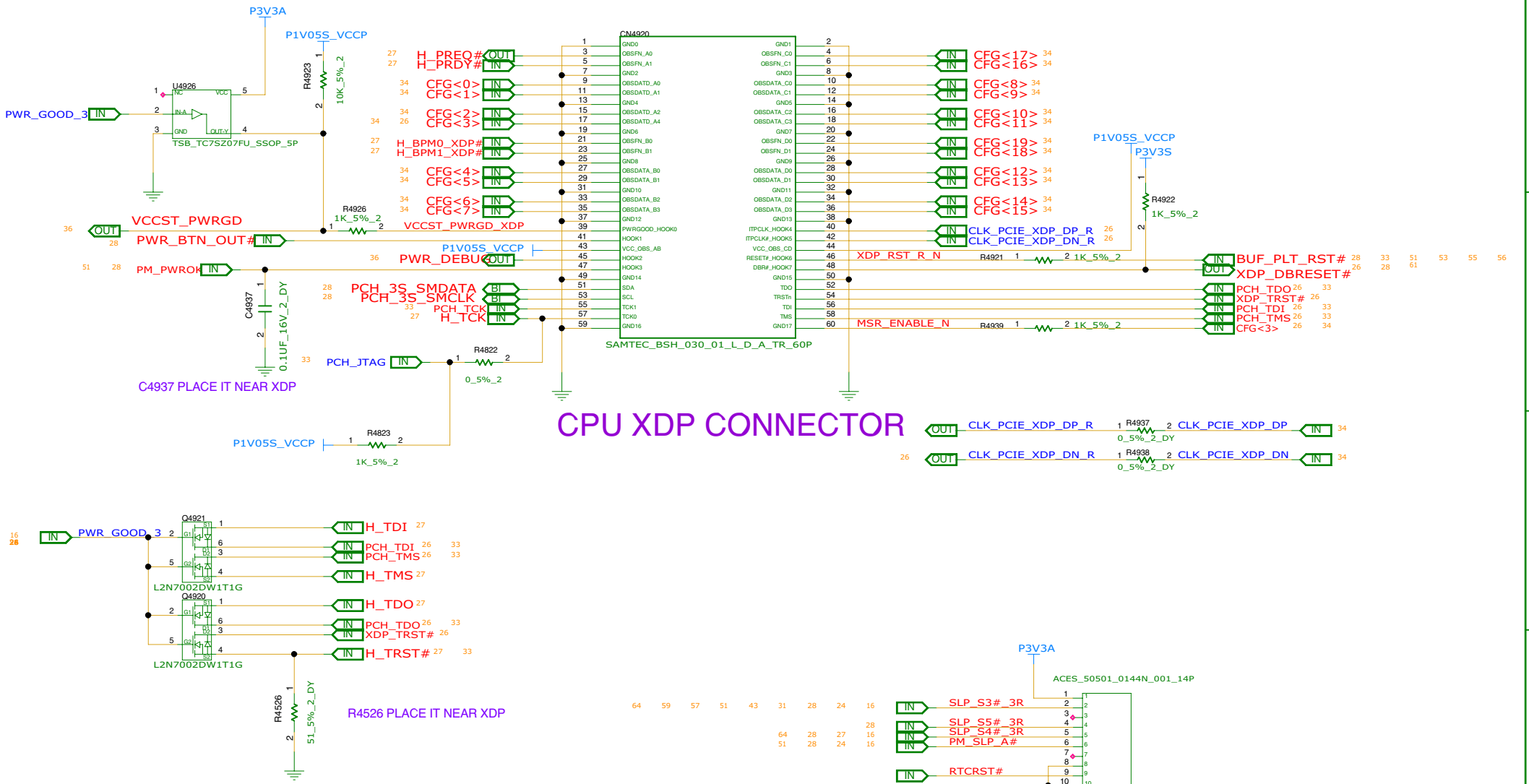


RSET (K OHM) = 0.0012T^2 - 0.9308T + 96.147
THERMAL SHUTDOWN AT 85 DEG.

REFERENCE NUMBER:4411~4449

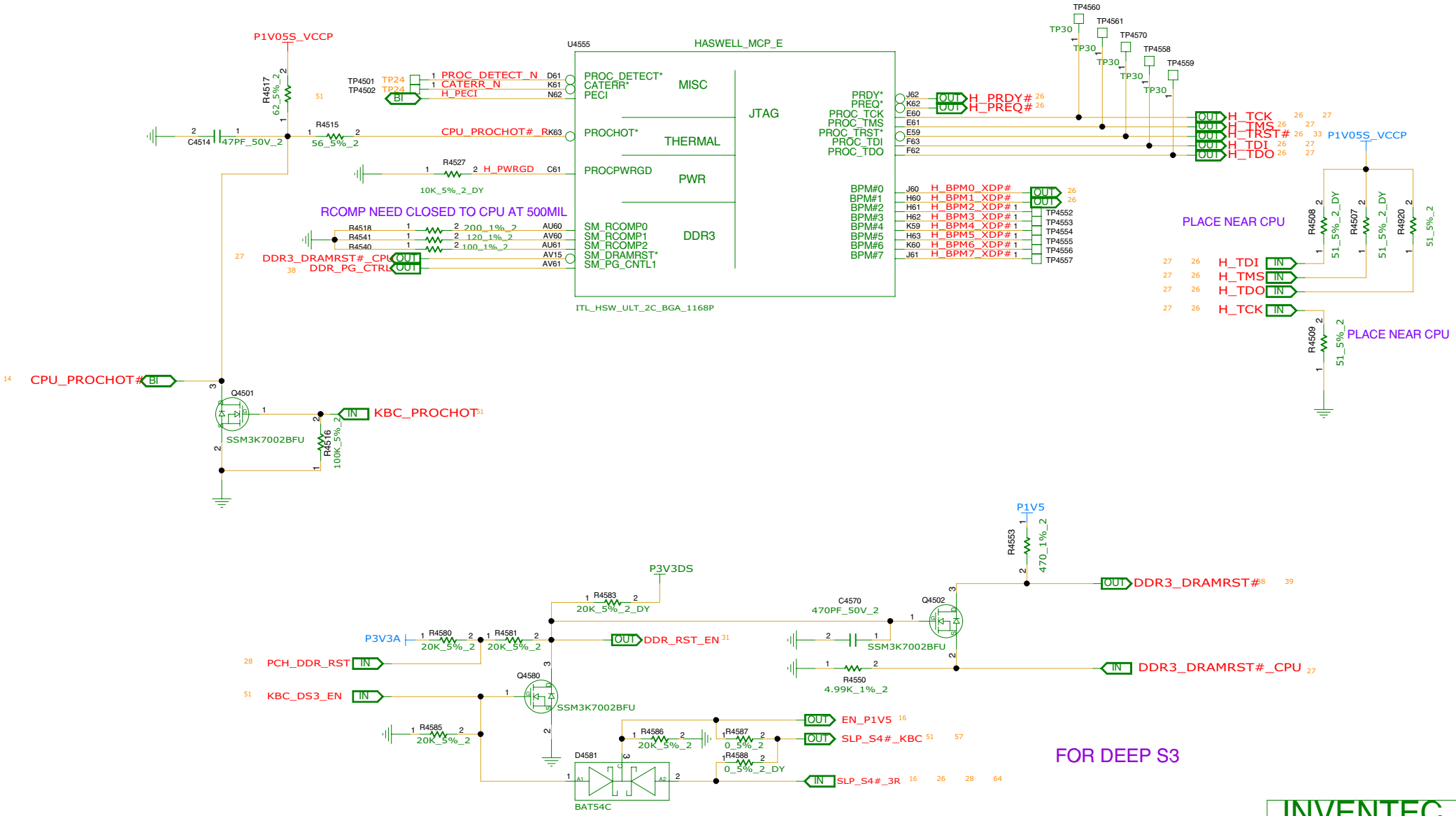
INVENTEC

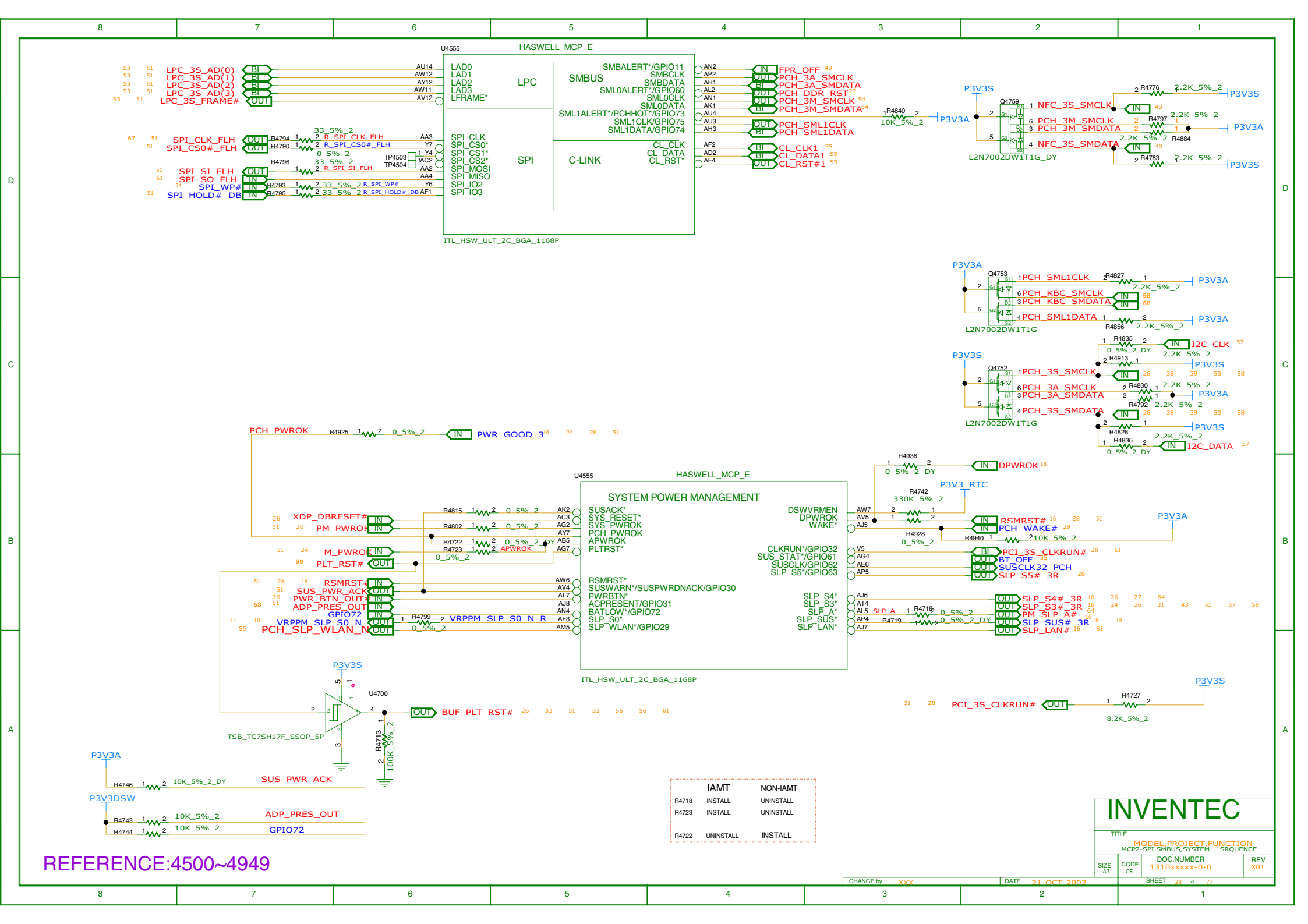
TITLE			
MODEL,PROJECT,FUNCTION FAN & THERMAL			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 25 of 77	

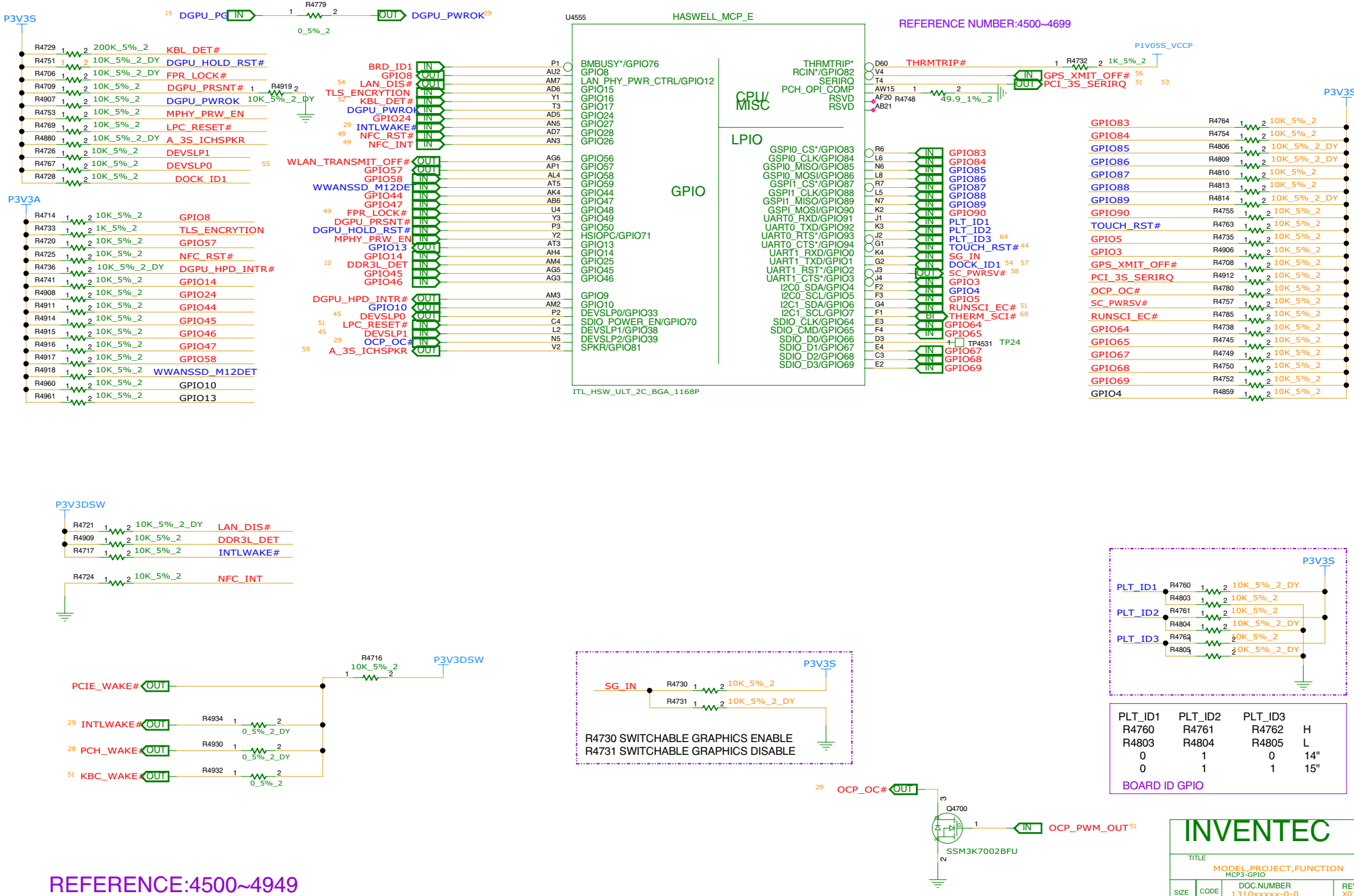


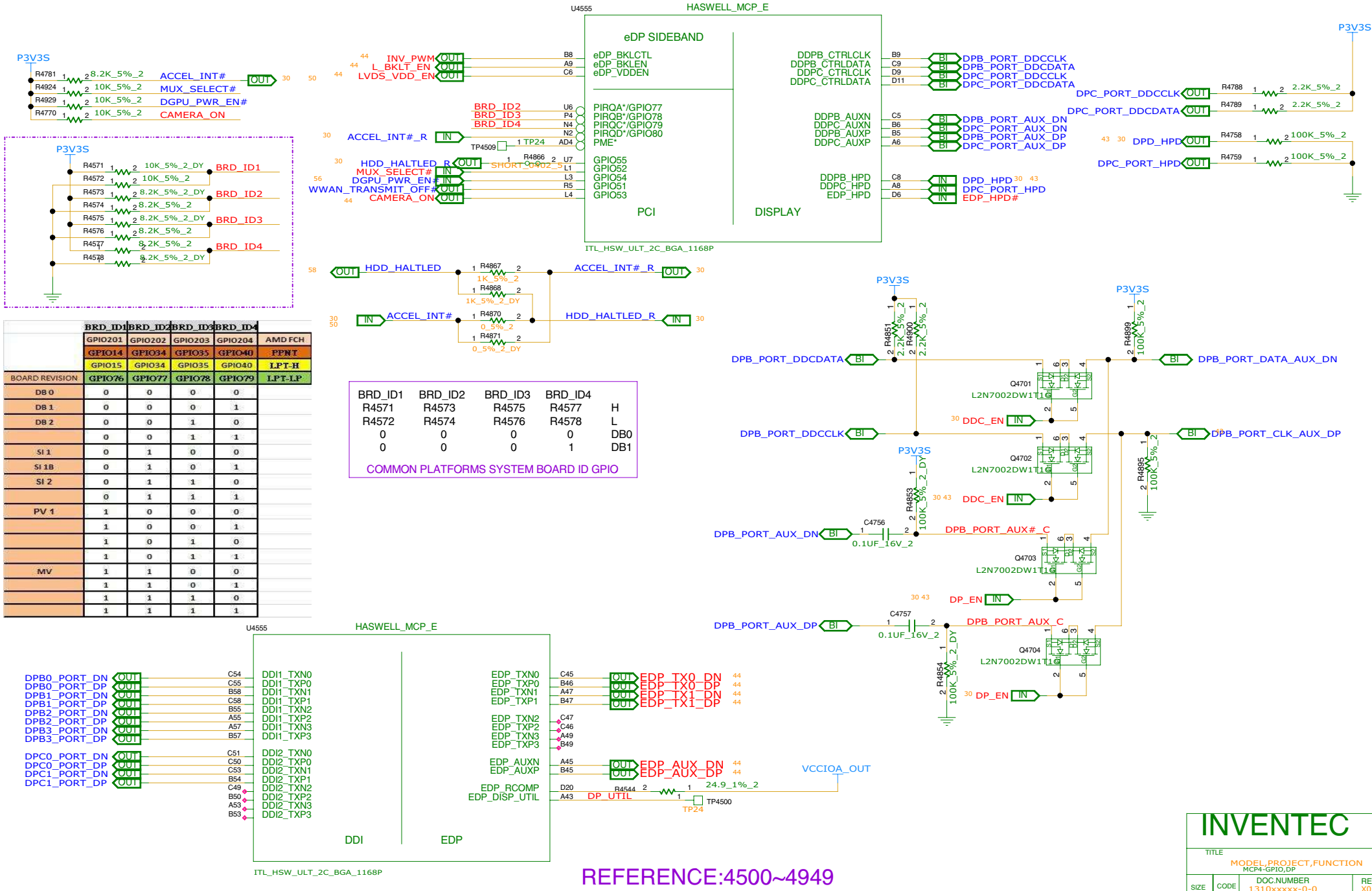
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION — XDP & ME CONN.			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 26 of 77	


P1V05S_VCCP
U4555
HASWELL_MCP_E
ITL_HSW_ULT_2C_BGA_1168P
MISC
JTAG
THERMAL
PWR
DDR3
PROC_DETECT*
CATERR*
PECI
PROCHOT*
PROCPWRGD
SM_RCOMP0
SM_RCOMP1
SM_RCOMP2
SM_DRAMRST*
SM_PG_CNTL1
PRDY*
PREQ*
PROC_TCK
PROC_TMS
PROC_TRST*
PROC_TDI
PROC_TDO
BPM#0
BPM#1
BPM#2
BPM#3
BPM#4
BPM#5
BPM#6
BPM#7
PROC_DETECT_N
CATERR_N
H_PECI
CPU_PROCHOT#_R
H_PWRGD
H_PRDY#
H_PREQ#
H_TCK
H_TMS
H_TRST#
H_TDI
H_TDO
H_BPM0_XDP#
H_BPM1_XDP#
H_BPM2_XDP#
H_BPM3_XDP#
H_BPM4_XDP#
H_BPM5_XDP#
H_BPM6_XDP#
H_BPM7_XDP#
RCOMP NEED CLOSED TO CPU AT 500MIL
DDR3_DRAMRST#_CPU
DDR_PG_CTRL
PLACE NEAR CPU
CPU_PROCHOT#
KBC_PROCHOT
SSM3K7002BFU
P3V3DS
P3V3A
P1V5
PCH_DDR_RST
KBC_DS3_EN
DDR_RST_EN
DDR3_DRAMRST#
EN_P1V5
SLP_S4#_KBC
SLP_S4#_3R
BAT54C
FOR DEEP S3
REFERENCE:4500~4949
INVENTEC
MODEL,PROJECT,FUNCTION
MCP1-MISC
DOC.NUMBER
1310xxxxx-0-0
REV
X01
SIZE
A3
CODE
CS
CHANGE by
XXX
DATE
21-OCT-2002
SHEET
27 of 77


U4555
HASWELL_MCP_E
LPC_3S_AD(0)
LPC_3S_AD(1)
LPC_3S_AD(2)
LPC_3S_AD(3)
LPC_3S_FRAME#
LAD0
LAD1
LAD2
LAD3
LFRAME*
LPC
SMBUS
SMBALERT*/GPIO11
SMBCLK
SMBDATA
SML0ALERT*/GPIO60
SML0CLK
SML0DATA
SML1ALERT*/PCHHOT*/GPIO73
SML1CLK/GPIO75
SML1DATA/GPIO74
FPR_OFF
PCH_3A_SMCLK
PCH_3A_SMDATA
PCH_DDR_RST
PCH_3M_SMCLK
PCH_3M_SMDATA
PCH_SML1CLK
PCH_SML1DATA
SPI_CLK_FLH
SPI_CS0#_FLH
SPI_SI_FLH
SPI_SO_FLH
SPI_WP#
SPI_HOLD#_DB
SPI_CLK
SPI_CS0*
SPI_CS1*
SPI_CS2*
SPI_MOSI
SPI_MISO
SPI_IO2
SPI_IO3
SPI
C-LINK
CL_CLK
CL_DATA
CL_RST*
CL_CLK1
CL_DATA1
CL_RST#1
ITL_HSW_ULT_2C_BGA_1168P
P3V3S
P3V3A
Q4759
NFC_3S_SMCLK
NFC_3S_SMDATA
PCH_3M_SMCLK
PCH_3M_SMDATA
L2N7002DW1T1G_DY
Q4753
PCH_SML1CLK
PCH_KBC_SMCLK
PCH_KBC_SMDATA
PCH_SML1DATA
L2N7002DW1T1G
Q4752
PCH_3S_SMCLK
PCH_3A_SMCLK
PCH_3A_SMDATA
PCH_3S_SMDATA
I2C_CLK
I2C_DATA
PCH_PWROK
PWR_GOOD_3
P3V3_RTC
DPWROK
SYSTEM POWER MANAGEMENT
SUSACK*
SYS_RESET*
SYS_PWROK
PCH_PWROK
APWROK
PLTRST*
DSWVRMEN
DPWROK
WAKE*
RSMRST*
SUSWARN*/SUSPWRDNACK/GPIO30
PWRBTN*
ACPRESENT/GPIO31
BATLOW*/GPIO72
SLP_S0*
SLP_WLAN*/GPIO29
CLKRUN*/GPIO32
SUS_STAT*/GPIO61
SUSCLK/GPIO62
SLP_S5*/GPIO63
SLP_S4*
SLP_S3*
SLP_A*
SLP_SUS*
SLP_LAN*
RSMRST#
PCH_WAKE#
PCI_3S_CLKRUN#
BT_OFF
SUSCLK32_PCH
SLP_S5#_3R
SLP_S4#_3R
SLP_S3#_3R
PM_SLP_A#
SLP_SUS#_3R
SLP_LAN#
XDP_DBRESET#
PM_PWROK
M_PWROK
PLT_RST#
SUS_PWR_ACK
PWR_BTN_OUT#
ADP_PRES_OUT
GPIO72
VRPPM_SLP_S0_N
PCH_SLP_WLAN_N
VRPPM_SLP_S0_N_R
U4700
TSB_TC7SH17F_SSOP_5P
BUF_PLT_RST#
P3V3DSW
ADP_PRES_OUT
GPIO72
IAMT
NON-IAMT
R4718 INSTALL UNINSTALL
R4723 INSTALL UNINSTALL
R4722 UNINSTALL INSTALL
REFERENCE:4500~4949
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
MCP2-SPI,SMBUS,SYSTEM SRQUENCE
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 28 of 77


P3V3S
DGPU_PG
R4779
0_5%_2
DGPU_PWROK
U4555
HASWELL_MCP_E
REFERENCE NUMBER:4500~4699
P1V05S_VCCP
R4729 200K_5%_2 KBL_DET#
R4751 10K_5%_2_DY DGPU_HOLD_RST#
R4706 10K_5%_2_DY FPR_LOCK#
R4709 10K_5%_2 DGPU_PRSNT#
R4907 10K_5%_2 DGPU_PWROK
R4753 10K_5%_2 MPHY_PRW_EN
R4769 10K_5%_2 LPC_RESET#
R4880 10K_5%_2_DY A_3S_ICHSPKR
R4726 10K_5%_2 DEVSLP1
R4767 10K_5%_2 DEVSLP0
R4728 10K_5%_2 DOCK_ID1
R4919 10K_5%_2_DY
P3V3A
R4714 10K_5%_2 GPIO8
R4733 1K_5%_2 TLS_ENCRYTION
R4720 10K_5%_2 GPIO57
R4725 10K_5%_2 NFC_RST#
R4736 10K_5%_2_DY DGPU_HPD_INTR#
R4741 10K_5%_2 GPIO14
R4908 10K_5%_2 GPIO24
R4911 10K_5%_2 GPIO44
R4914 10K_5%_2 GPIO45
R4915 10K_5%_2 GPIO46
R4916 10K_5%_2 GPIO47
R4917 10K_5%_2 GPIO58
R4918 10K_5%_2 WWANSSD_M12DET
R4960 10K_5%_2 GPIO10
R4961 10K_5%_2 GPIO13
BRD_ID1
GPIO8
LAN_DIS#
TLS_ENCRYTION
KBL_DET#
DGPU_PWROK
GPIO24
INTLWAKE#
NFC_RST#
NFC_INT
WLAN_TRANSMIT_OFF#
GPIO57
GPIO58
WWANSSD_M12DET
GPIO44
GPIO47
FPR_LOCK#
DGPU_PRSNT#
DGPU_HOLD_RST#
MPHY_PRW_EN
GPIO13
GPIO14
DDR3L_DET
GPIO45
GPIO46
DGPU_HPD_INTR#
GPIO10
DEVSLP0
LPC_RESET#
DEVSLP1
OCP_OC#
A_3S_ICHSPKR
BMBUSY*/GPIO76
GPIO8
LAN_PHY_PWR_CTRL/GPIO12
GPIO15
GPIO16
GPIO17
GPIO24
GPIO27
GPIO28
GPIO26
GPIO56
GPIO57
GPIO58
GPIO59
GPIO44
GPIO47
GPIO48
GPIO49
GPIO50
HSIOPC/GPIO71
GPIO13
GPIO14
GPIO25
GPIO45
GPIO46
GPIO9
GPIO10
DEVSLP0/GPIO33
SDIO_POWER_EN/GPIO70
DEVSLP1/GPIO38
DEVSLP2/GPIO39
SPKR/GPIO81
CPU/MISC
THRMTRIP*
RCIN*/GPIO82
SERIRQ
PCH_OPI_COMP
RSVD
RSVD
LPIO
GSPI0_CS*/GPIO83
GSPI0_CLK/GPIO84
GSPI0_MISO/GPIO85
GSPI0_MOSI/GPIO86
GSPI1_CS*/GPIO87
GSPI1_CLK/GPIO88
GSPI1_MISO/GPIO89
GSPI_MOSI/GPIO90
UART0_RXD/GPIO91
UART0_TXD/GPIO92
UART0_RTS*/GPIO93
UART0_CTS*/GPIO94
UART1_RXD/GPIO0
UART1_TXD/GPIO1
UART1_RST*/GPIO2
UART1_CTS*/GPIO3
I2C0_SDA/GPIO4
I2C0_SCL/GPIO5
I2C1_SDA/GPIO6
I2C1_SCL/GPIO7
SDIO_CLK/GPIO64
SDIO_CMD/GPIO65
SDIO_D0/GPIO66
SDIO_D1/GPIO67
SDIO_D2/GPIO68
SDIO_D3/GPIO69
GPIO
ITL_HSW_ULT_2C_BGA_1168P
THRMTRIP#
R4732 1K_5%_2
GPS_XMIT_OFF#
PCI_3S_SERIRQ
R4748 49.9_1%_2
TP4531 TP24
GPIO83
GPIO84
GPIO85
GPIO86
GPIO87
GPIO88
GPIO89
GPIO90
PLT_ID1
PLT_ID2
PLT_ID3
TOUCH_RST#
SG_IN
DOCK_ID1
SC_PWRSV#
GPIO3
GPIO4
GPIO5
RUNSCI_EC#
THERM_SCI#
GPIO64
GPIO65
GPIO67
GPIO68
GPIO69
R4764 10K_5%_2 GPIO83
R4754 10K_5%_2 GPIO84
R4806 10K_5%_2_DY GPIO85
R4809 10K_5%_2_DY GPIO86
R4810 10K_5%_2 GPIO87
R4813 10K_5%_2 GPIO88
R4814 10K_5%_2_DY GPIO89
R4755 10K_5%_2 GPIO90
R4763 10K_5%_2 TOUCH_RST#
R4735 10K_5%_2 GPIO5
R4906 10K_5%_2 GPIO3
R4708 10K_5%_2 GPS_XMIT_OFF#
R4912 10K_5%_2 PCI_3S_SERIRQ
R4780 10K_5%_2 OCP_OC#
R4757 10K_5%_2 SC_PWRSV#
R4785 10K_5%_2 RUNSCI_EC#
R4738 10K_5%_2 GPIO64
R4745 10K_5%_2 GPIO65
R4749 10K_5%_2 GPIO67
R4750 10K_5%_2 GPIO68
R4752 10K_5%_2 GPIO69
R4859 10K_5%_2 GPIO4
P3V3DSW
R4721 10K_5%_2_DY LAN_DIS#
R4909 10K_5%_2 DDR3L_DET
R4717 10K_5%_2 INTLWAKE#
R4724 10K_5%_2 NFC_INT
R4716 10K_5%_2
PCIE_WAKE#
INTLWAKE#
PCH_WAKE#
KBC_WAKE#
R4934 0_5%_2_DY
R4930 0_5%_2_DY
R4932 0_5%_2
SG_IN
R4730 10K_5%_2
R4731 10K_5%_2_DY
R4730 SWITCHABLE GRAPHICS ENABLE
R4731 SWITCHABLE GRAPHICS DISABLE
PLT_ID1
PLT_ID2
PLT_ID3
R4760 10K_5%_2_DY
R4803 10K_5%_2
R4761 10K_5%_2
R4804 10K_5%_2_DY
R4762 10K_5%_2
R4805 10K_5%_2_DY
PLT_ID1 PLT_ID2 PLT_ID3
R4760 R4761 R4762 H
R4803 R4804 R4805 L
0 1 0 14"
0 1 1 15"
BOARD ID GPIO
OCP_OC#
Q4700
SSM3K7002BFU
OCP_PWM_OUT
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
MCP3-GPIO
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 29 of 77
REFERENCE:4500~4949



	BRD_ID1	BRD_ID2	BRD_ID3	BRD_ID4	
	GPIO201	GPIO202	GPIO203	GPIO204	AMD FCH
	GPIO14	GPIO34	GPIO35	GPIO40	PPNT
	GPIO15	GPIO34	GPIO35	GPIO40	LPT-H
BOARD REVISION	GPIO76	GPIO77	GPIO78	GPIO79	LPT-LP
DB 0	0	0	0	0	
DB 1	0	0	0	1	
DB 2	0	0	1	0	
	0	0	1	1	
SI 1	0	1	0	0	
SI 1B	0	1	0	1	
SI 2	0	1	1	0	
	0	1	1	1	
PV 1	1	0	0	0	
	1	0	0	1	
	1	0	1	0	
	1	0	1	1	
MV	1	1	0	0	
	1	1	0	1	
	1	1	1	0	
	1	1	1	1	

BRD_ID1	BRD_ID2	BRD_ID3	BRD_ID4	
R4571	R4573	R4575	R4577	H
R4572	R4574	R4576	R4578	L
0	0	0	0	DB0
0	0	0	1	DB1

COMMON PLATFORMS SYSTEM BOARD ID GPIO

REFERENCE:4500~4949

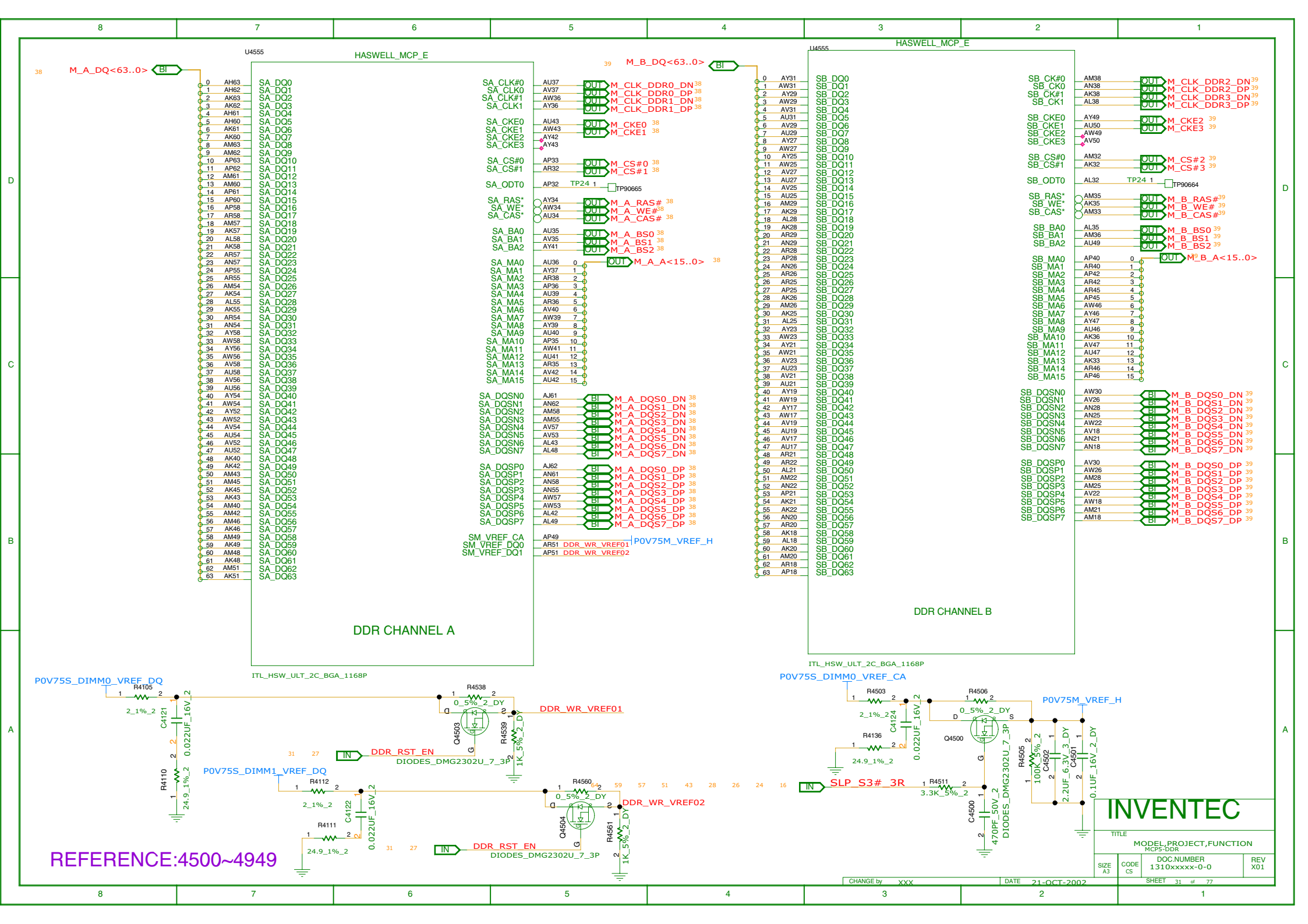
CHANGE by	XXX	DATE 21-OCT-2002

INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
MCP4-GPIO,DP

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

SHEET 30 of 77


U4555
HASWELL_MCP_E
M_A_DQ<63..0>
SA_DQ0
SA_DQ1
SA_DQ2
SA_DQ3
SA_DQ4
SA_DQ5
SA_DQ6
SA_DQ7
SA_DQ8
SA_DQ9
SA_DQ10
SA_DQ11
SA_DQ12
SA_DQ13
SA_DQ14
SA_DQ15
SA_DQ16
SA_DQ17
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SA_DQ21
SA_DQ22
SA_DQ23
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SA_DQ30
SA_DQ31
SA_DQ32
SA_DQ33
SA_DQ34
SA_DQ35
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SA_DQ40
SA_DQ41
SA_DQ42
SA_DQ43
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SA_DQ50
SA_DQ51
SA_DQ52
SA_DQ53
SA_DQ54
SA_DQ55
SA_DQ56
SA_DQ57
SA_DQ58
SA_DQ59
SA_DQ60
SA_DQ61
SA_DQ62
SA_DQ63
SA_CLK#0
SA_CLK0
SA_CLK#1
SA_CLK1
SA_CKE0
SA_CKE1
SA_CKE2
SA_CKE3
SA_CS#0
SA_CS#1
SA_ODT0
SA_RAS*
SA_WE*
SA_CAS*
SA_BA0
SA_BA1
SA_BA2
SA_MA0
SA_MA1
SA_MA2
SA_MA3
SA_MA4
SA_MA5
SA_MA6
SA_MA7
SA_MA8
SA_MA9
SA_MA10
SA_MA11
SA_MA12
SA_MA13
SA_MA14
SA_MA15
SA_DQSN0
SA_DQSN1
SA_DQSN2
SA_DQSN3
SA_DQSN4
SA_DQSN5
SA_DQSN6
SA_DQSN7
SA_DQSP0
SA_DQSP1
SA_DQSP2
SA_DQSP3
SA_DQSP4
SA_DQSP5
SA_DQSP6
SA_DQSP7
SM_VREF_CA
SM_VREF_DQ0
SM_VREF_DQ1
M_CLK_DDR0_DN
M_CLK_DDR0_DP
M_CLK_DDR1_DN
M_CLK_DDR1_DP
M_CKE0
M_CKE1
M_CS#0
M_CS#1
TP90665
M_A_RAS#
M_A_WE#
M_A_CAS#
M_A_BS0
M_A_BS1
M_A_BS2
M_A_A<15..0>
M_A_DQS0_DN
M_A_DQS1_DN
M_A_DQS2_DN
M_A_DQS3_DN
M_A_DQS4_DN
M_A_DQS5_DN
M_A_DQS6_DN
M_A_DQS7_DN
M_A_DQS0_DP
M_A_DQS1_DP
M_A_DQS2_DP
M_A_DQS3_DP
M_A_DQS4_DP
M_A_DQS5_DP
M_A_DQS6_DP
M_A_DQS7_DP
P0V75M_VREF_H
DDR_WR_VREF01
DDR_WR_VREF02
DDR CHANNEL A
ITL_HSW_ULT_2C_BGA_1168P
M_B_DQ<63..0>
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SB_DQ1
SB_DQ2
SB_DQ3
SB_DQ4
SB_DQ5
SB_DQ6
SB_DQ7
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SB_DQ10
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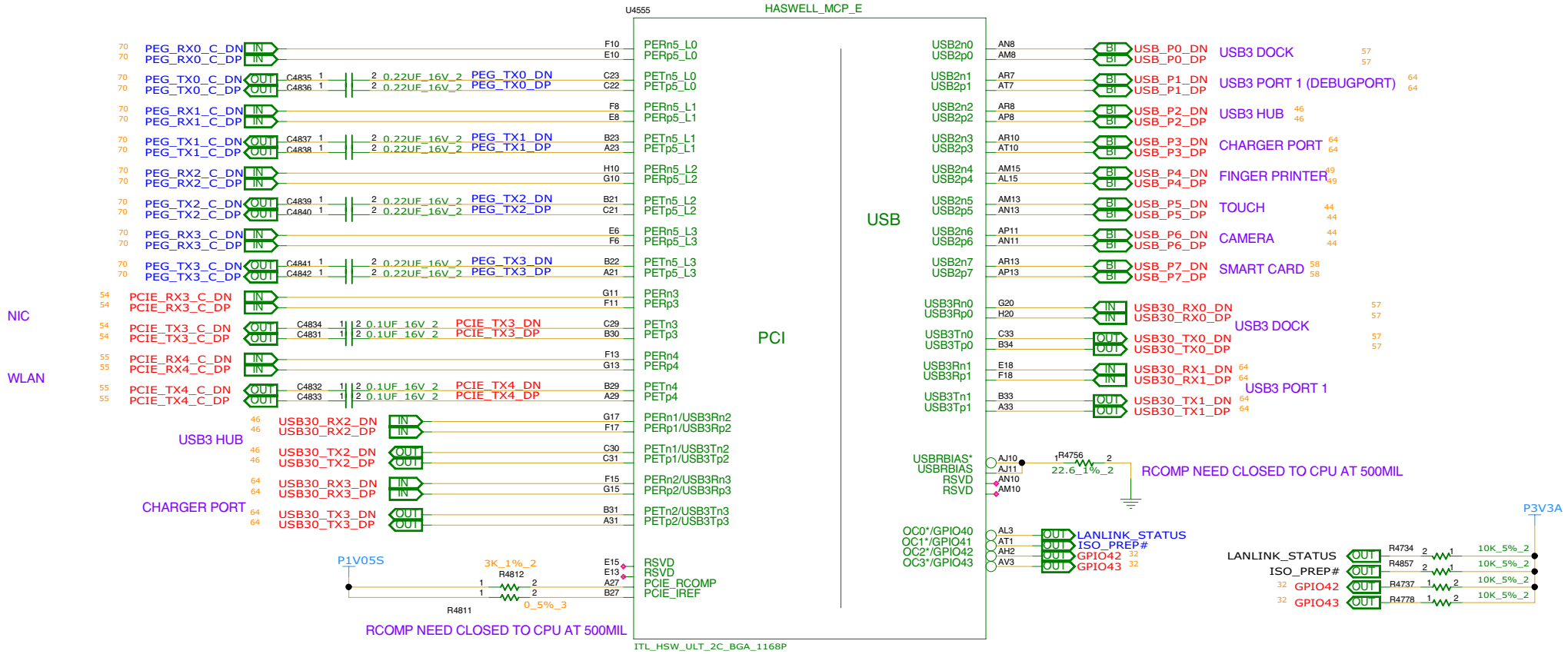
SB_CK#1
SB_CK1
SB_CKE0
SB_CKE1
SB_CKE2
SB_CKE3
SB_CS#0
SB_CS#1
SB_ODT0
SB_RAS*
SB_WE*
SB_CAS*
SB_BA0
SB_BA1
SB_BA2
SB_MA0
SB_MA1
SB_MA2
SB_MA3
SB_MA4
SB_MA5
SB_MA6
SB_MA7
SB_MA8
SB_MA9
SB_MA10
SB_MA11
SB_MA12
SB_MA13
SB_MA14
SB_MA15
SB_DQSN0
SB_DQSN1
SB_DQSN2
SB_DQSN3
SB_DQSN4
SB_DQSN5
SB_DQSN6
SB_DQSN7
SB_DQSP0
SB_DQSP1
SB_DQSP2
SB_DQSP3
SB_DQSP4
SB_DQSP5
SB_DQSP6
SB_DQSP7
M_CLK_DDR2_DN
M_CLK_DDR2_DP
M_CLK_DDR3_DN
M_CLK_DDR3_DP
M_CKE2
M_CKE3
M_CS#2
M_CS#3
TP90664
M_B_RAS#
M_B_WE#
M_B_CAS#
M_B_BS0
M_B_BS1
M_B_BS2
M_B_A<15..0>
M_B_DQS0_DN
M_B_DQS1_DN
M_B_DQS2_DN
M_B_DQS3_DN
M_B_DQS4_DN
M_B_DQS5_DN
M_B_DQS6_DN
M_B_DQS7_DN
M_B_DQS0_DP
M_B_DQS1_DP
M_B_DQS2_DP
M_B_DQS3_DP
M_B_DQS4_DP
M_B_DQS5_DP
M_B_DQS6_DP
M_B_DQS7_DP
DDR CHANNEL B
ITL_HSW_ULT_2C_BGA_1168P
P0V75S_DIMM0_VREF_DQ
P0V75S_DIMM1_VREF_DQ
P0V75S_DIMM0_VREF_CA
P0V75M_VREF_H
DDR_RST_EN
SLP_S3#_3R
DIODES_DMG2302U_7_3P
REFERENCE:4500~4949
INVENTEC
MODEL,PROJECT,FUNCTION
MCP5-DDR
DOC.NUMBER
1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 31 of 77

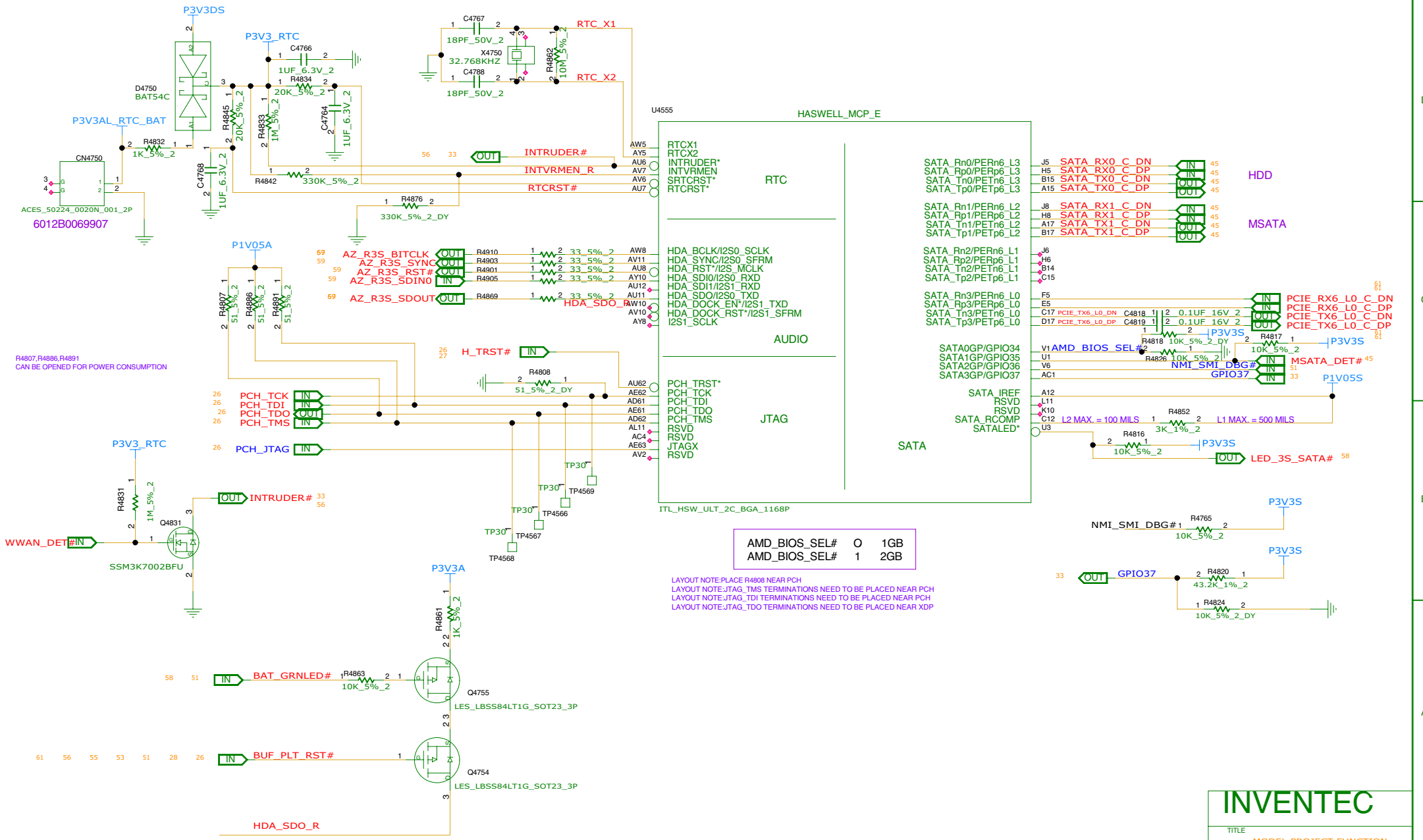


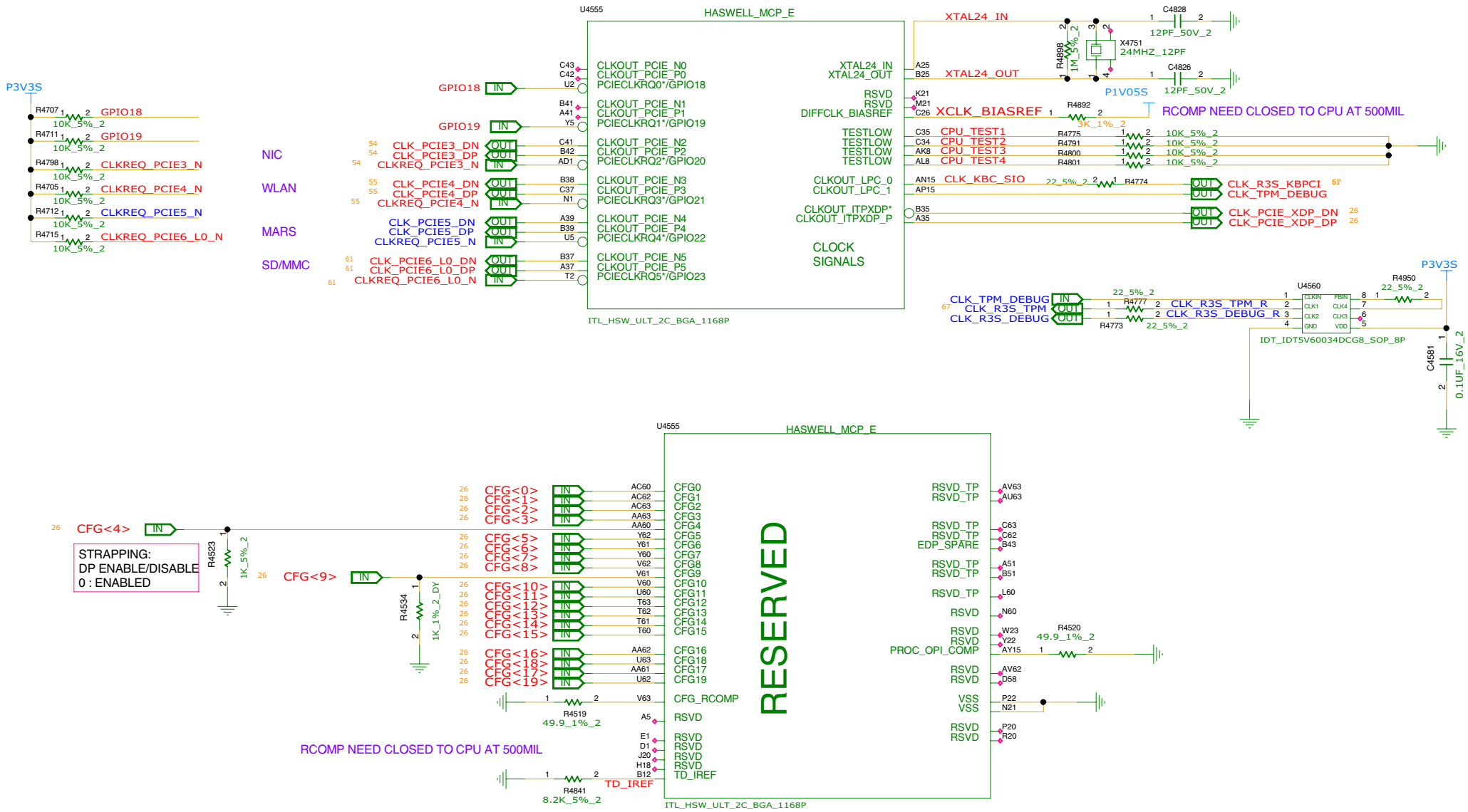
REFERENCE:4700~4949

INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION MCP6-PCIE,USB			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 32 of 77

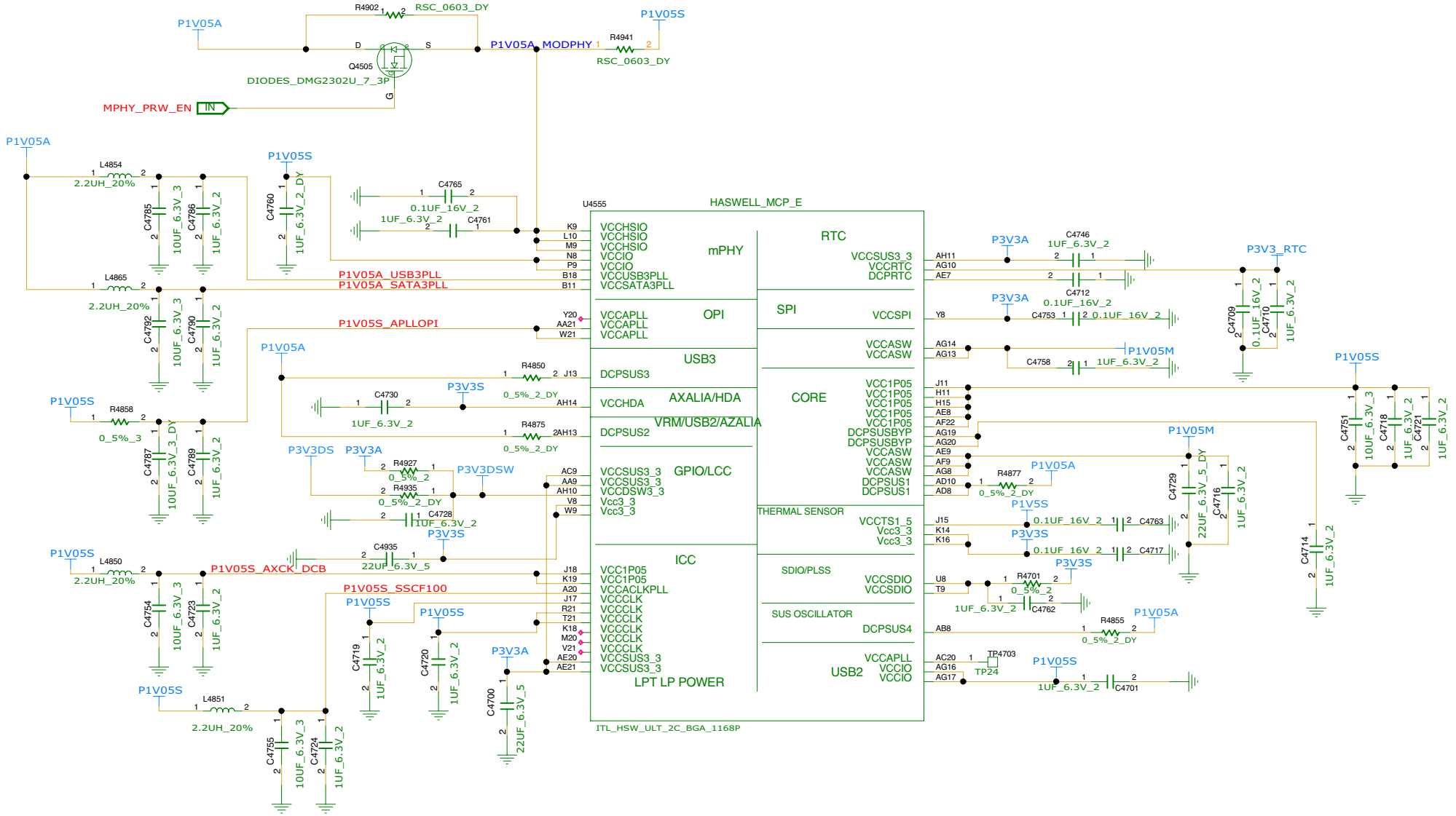

P3V3DS
P3V3_RTC
C4766
1UF_6.3V_2
D4750
BAT54C
R4834
20K_5%_2
R4845
20K_5%_2
R4833
1M_5%_2
C4764
1UF_6.3V_2
P3V3AL_RTC_BAT
R4832
1K_5%_2
CN4750
ACES_50224_0020N_001_2P
6012B0069907
C4768
1UF_6.3V_2
R4842
330K_5%_2
C4767
18PF_50V_2
X4750
32.768KHZ
C4788
18PF_50V_2
R4862
10M_5%_2
RTC_X1
RTC_X2
U4555
HASWELL_MCP_E
RTCX1
RTCX2
INTRUDER*
INTVRMEN
SRTCRST*
RTCRST*
RTC
INTRUDER#
INTVRMEN_R
RTCRST#
R4876
330K_5%_2_DY
P1V05A
R4807
51_5%_2
R4886
51_5%_2
R4891
51_5%_2
R4807,R4886,R4891
CAN BE OPENED FOR POWER CONSUMPTION
AZ_R3S_BITCLK
AZ_R3S_SYNC
AZ_R3S_RST#
AZ_R3S_SDIN0
AZ_R3S_SDOUT
R4910
R4903
R4901
R4905
R4869
33_5%_2
HDA_BCLK/I2S0_SCLK
HDA_SYNC/I2S0_SFRM
HDA_RST*/I2S_MCLK
HDA_SDI0/I2S0_RXD
HDA_SDI1/I2S1_RXD
HDA_SDO/I2S0_TXD
HDA_DOCK_EN*/I2S1_TXD
HDA_DOCK_RST*/I2S1_SFRM
I2S1_SCLK
HDA_SDO_R
AUDIO
H_TRST#
R4808
51_5%_2_DY
PCH_TCK
PCH_TDI
PCH_TDO
PCH_TMS
PCH_JTAG
PCH_TRST*
PCH_TCK
PCH_TDI
PCH_TDO
PCH_TMS
RSVD
RSVD
JTAGX
RSVD
JTAG
TP30
TP4569
TP4566
TP4567
TP4568
ITL_HSW_ULT_2C_BGA_1168P
SATA_Rn0/PERn6_L3
SATA_Rp0/PERp6_L3
SATA_Tn0/PETn6_L3
SATA_Tp0/PETp6_L3
SATA_RX0_C_DN
SATA_RX0_C_DP
SATA_TX0_C_DN
SATA_TX0_C_DP
HDD
SATA_Rn1/PERn6_L2
SATA_Rp1/PERp6_L2
SATA_Tn1/PETn6_L2
SATA_Tp1/PETp6_L2
SATA_RX1_C_DN
SATA_RX1_C_DP
SATA_TX1_C_DN
SATA_TX1_C_DP
MSATA
SATA_Rn2/PERn6_L1
SATA_Rp2/PERp6_L1
SATA_Tn2/PETn6_L1
SATA_Tp2/PETp6_L1
SATA_Rn3/PERn6_L0
SATA_Rp3/PERp6_L0
SATA_Tn3/PETn6_L0
SATA_Tp3/PETp6_L0
PCIE_RX6_L0_C_DN
PCIE_RX6_L0_C_DP
PCIE_TX6_L0_C_DN
PCIE_TX6_L0_C_DP
SATA0GP/GPIO34
SATA1GP/GPIO35
SATA2GP/GPIO36
SATA3GP/GPIO37
AMD_BIOS_SEL#
NMI_SMI_DBG#
GPIO37
MSATA_DET#
SATA_IREF
RSVD
RSVD
SATA_RCOMP
SATALED*
L2 MAX. = 100 MILS
L1 MAX. = 500 MILS
R4852
3K_1%_2
R4816
10K_5%_2
LED_3S_SATA#
SATA
AMD_BIOS_SEL# O 1GB
AMD_BIOS_SEL# 1 2GB
LAYOUT NOTE:PLACE R4808 NEAR PCH
LAYOUT NOTE:JTAG_TMS TERMINATIONS NEED TO BE PLACED NEAR PCH
LAYOUT NOTE:JTAG_TDI TERMINATIONS NEED TO BE PLACED NEAR PCH
LAYOUT NOTE:JTAG_TDO TERMINATIONS NEED TO BE PLACED NEAR XDP
P3V3_RTC
R4831
1M_5%_2
Q4831
SSM3K7002BFU
WWAN_DET#
INTRUDER#
P3V3A
R4861
1K_5%_2
BAT_GRNLED#
R4863
10K_5%_2
Q4755
LES_LBSS84LT1G_SOT23_3P
BUF_PLT_RST#
Q4754
LES_LBSS84LT1G_SOT23_3P
HDA_SDO_R
P3V3S
NMI_SMI_DBG#
R4765
10K_5%_2
GPIO37
R4820
43.2K_1%_2
R4824
10K_5%_2_DY
REFERENCE:4500~4949
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
MCP7-RTC,AUDIO,SATA
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 33 of 77



REFERENCE:4500~4949

INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION MCP8-CLOCK,RESERVED			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 34 of 77	

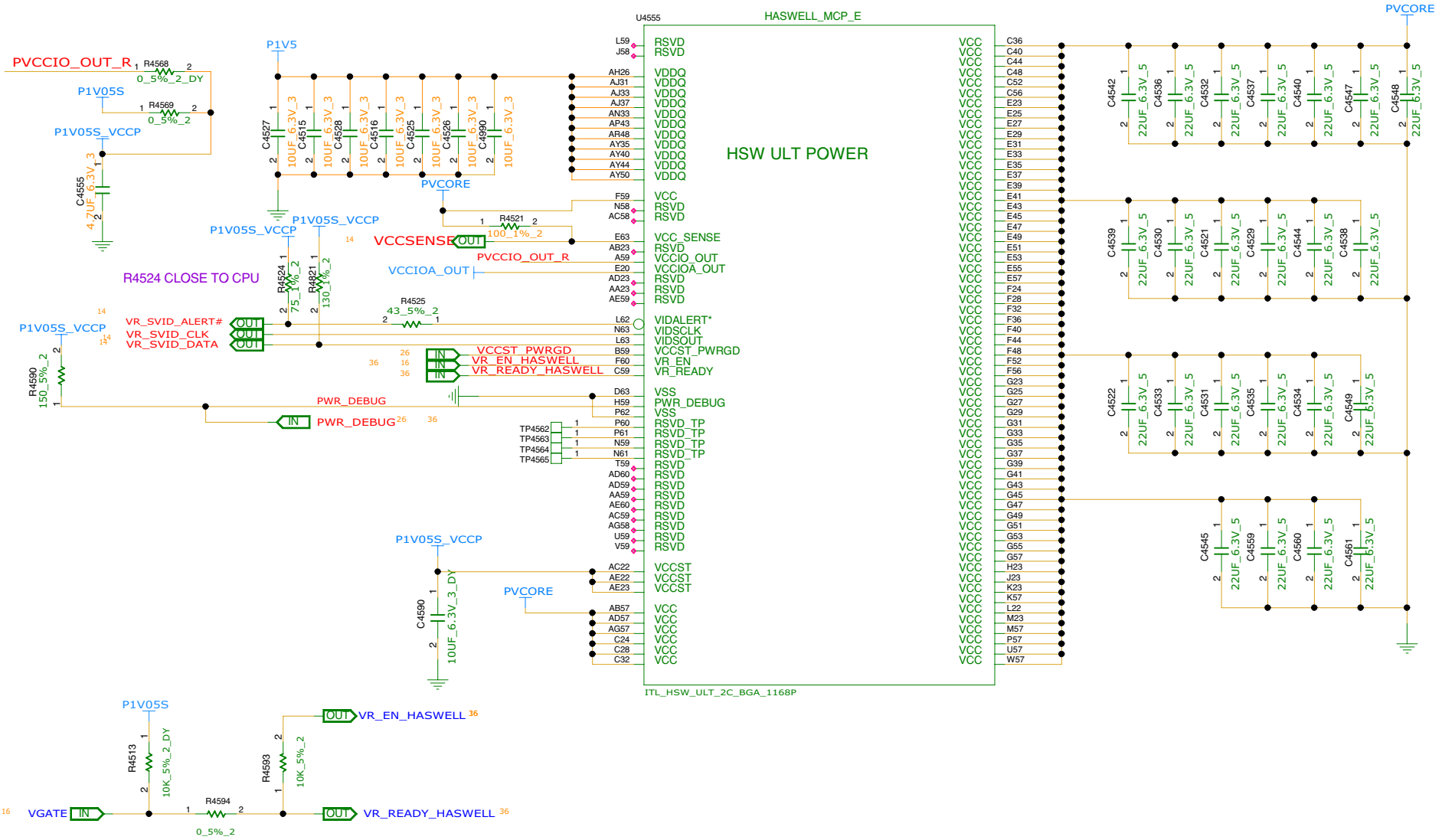


REFERENCE:4500~4949

INVENTEC

TITLE: MODEL,PROJECT,FUNCTION			
MCP9-POWER			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 35 of 77	

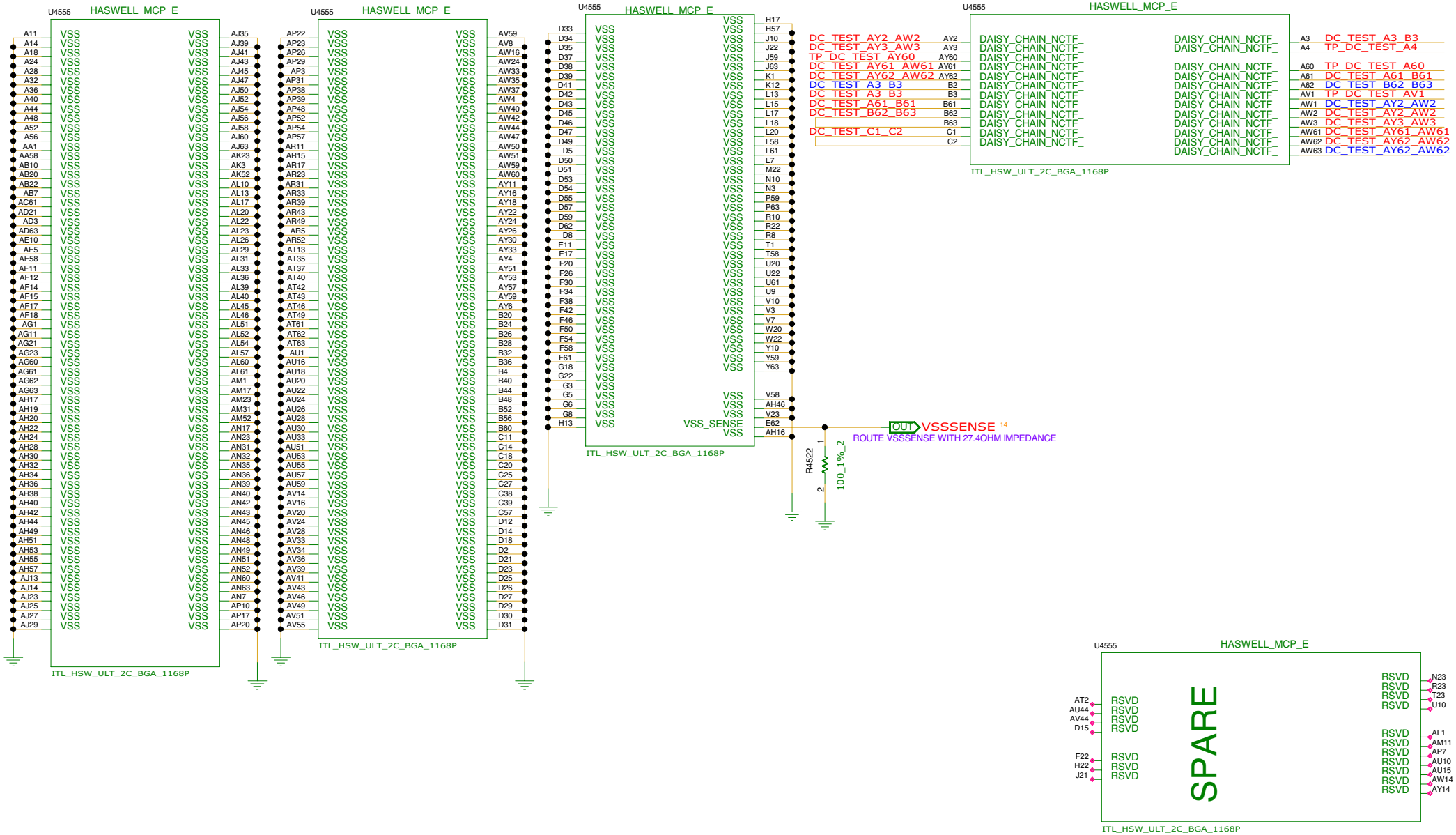
ROUTE VCCSENSE WITH 27.4OHM IMPEDANCE



REFERENCE:4500~4949

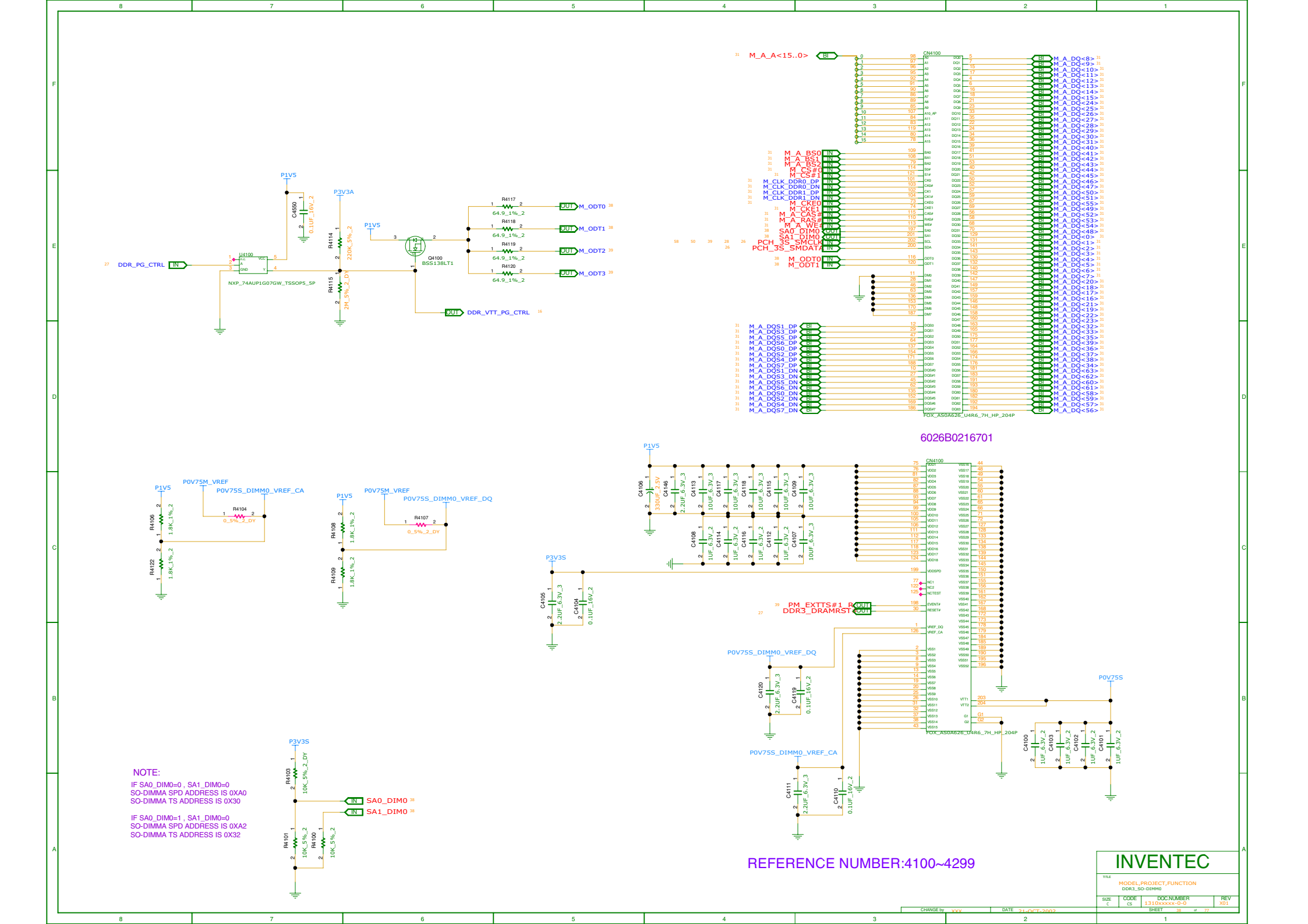
INVENTEC

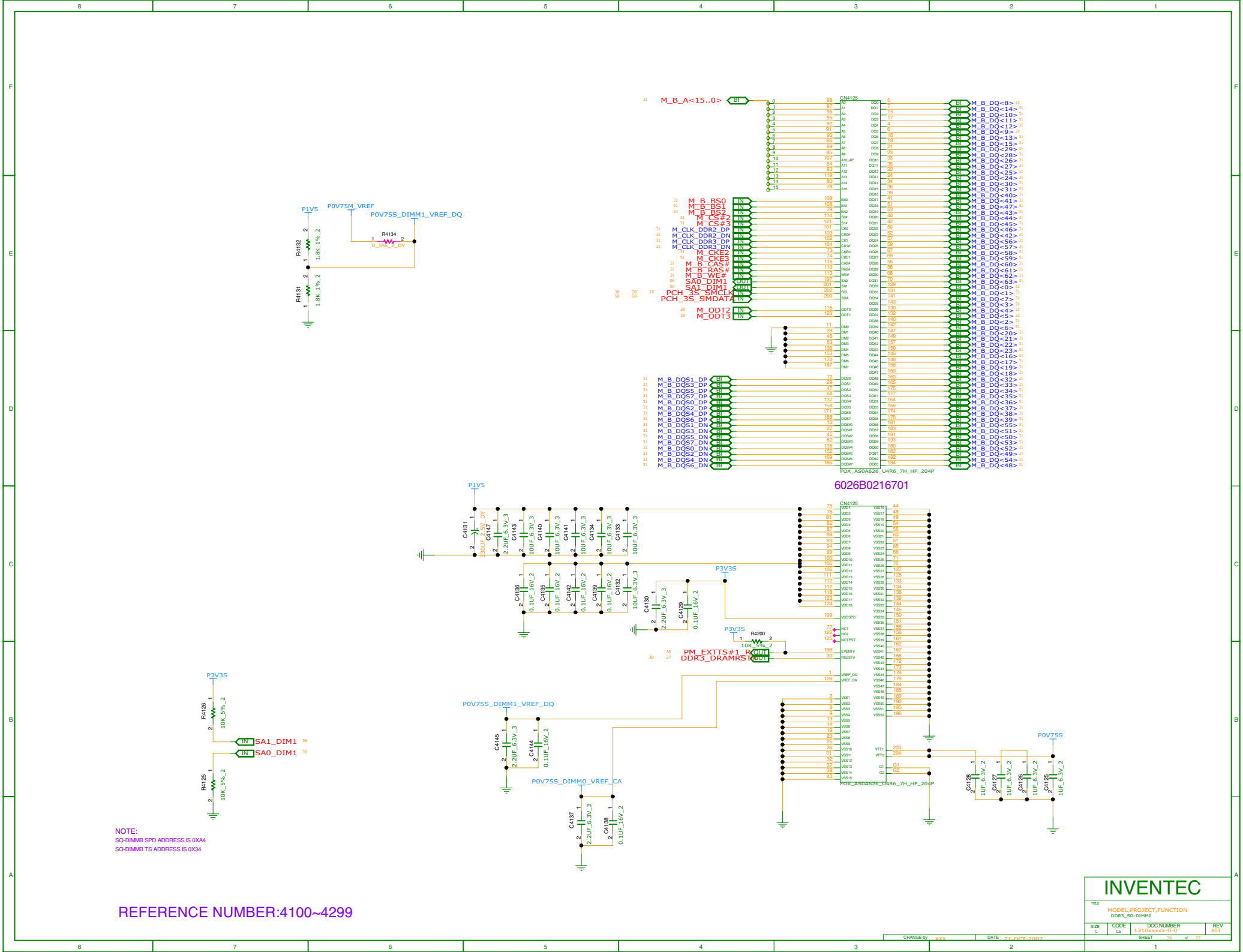
TITLE: MODEL,PROJECT,FUNCTION MCP10-POWER			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 36 of 77	



REFERENCE:4500~4949

INVENTEC			
TITLE: MODEL,PROJECT,FUNCTION MCP11-GND,DAISY CHAIN,RESERVE			
SIZE: A3	CODE: CS	DOC.NUMBER: 1310xxxxx-0-0	REV: X01
CHANGE by: XXX	DATE: 21-OCT-2002	SHEET: 37 of 77	


M_A_A<15..0>
CN4100
M_A_BS0
M_A_BS1
M_A_BS2
M_CS#0
M_CS#1
M_CLK_DDR0_DP
M_CLK_DDR0_DN
M_CLK_DDR1_DP
M_CLK_DDR1_DN
M_CKE0
M_CKE1
M_A_CAS#
M_A_RAS#
M_A_WE#
SA0_DIM0
SA1_DIM0
PCH_3S_SMCLK
PCH_3S_SMDATA
M_ODT0
M_ODT1
M_A_DQS1_DP
M_A_DQS3_DP
M_A_DQS5_DP
M_A_DQS6_DP
M_A_DQS0_DP
M_A_DQS2_DP
M_A_DQS4_DP
M_A_DQS7_DP
M_A_DQS1_DN
M_A_DQS3_DN
M_A_DQS5_DN
M_A_DQS6_DN
M_A_DQS0_DN
M_A_DQS2_DN
M_A_DQS4_DN
M_A_DQS7_DN
FOX_AS0A626_U4R6_7H_HP_204P
6026B0216701
P1V5
P3V3A
DDR_PG_CTRL
U4100
NXP_74AUP1G07GW_TSSOP5_5P
Q4100
BSS138LT1
M_ODT0
M_ODT1
M_ODT2
M_ODT3
DDR_VTT_PG_CTRL
P0V75M_VREF
P0V75S_DIMM0_VREF_CA
P0V75S_DIMM0_VREF_DQ
P3V3S
PM_EXTTS#1_R
DDR3_DRAMRST
P0V75S
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
MODEL,PROJECT,FUNCTION
DDR3_SO-DIMM0
DOC NUMBER
1310xxxx-0-0
REV
X01
CHANGE by
DATE
21-OCT-2002
SHEET


M_B_A<15..0>
CN4125
FOX_ASDA626_U4R6_7H_HP_204P
6026B0216701
P1V5
P0V75M_VREF
P0V75S_DIMM1_VREF_DQ
R4132
1.8K_1%_2
R4131
1.8K_1%_2
R4134
0_5%_2_DY
M_B_BS0
M_B_BS1
M_B_BS2
M_CS#2
M_CS#3
M_CLK_DDR2_DP
M_CLK_DDR2_DN
M_CLK_DDR3_DP
M_CLK_DDR3_DN
M_CKE2
M_CKE3
M_B_CAS#
M_B_RAS#
M_B_WE#
SA0_DIM1
SA1_DIM1
PCH_3S_SMCLK
PCH_3S_SMDATA
M_ODT2
M_ODT3
M_B_DQS1_DP
M_B_DQS3_DP
M_B_DQS5_DP
M_B_DQS7_DP
M_B_DQS0_DP
M_B_DQS2_DP
M_B_DQS4_DP
M_B_DQS6_DP
M_B_DQS1_DN
M_B_DQS3_DN
M_B_DQS5_DN
M_B_DQS7_DN
M_B_DQS0_DN
M_B_DQS2_DN
M_B_DQS4_DN
M_B_DQS6_DN
P3V3S
R4200
10K_5%_2
PM_EXTTS#1_R
DDR3_DRAMRST
P0V75S
P0V75S_DIMM0_VREF_CA
R4126
10K_5%_2
R4125
10K_5%_2
SA1_DIM1
SA0_DIM1
NOTE:
SO-DIMMB SPD ADDRESS IS 0XA4
SO-DIMMB TS ADDRESS IS 0X34
REFERENCE NUMBER:4100~4299
INVENTEC
MODEL,PROJECT,FUNCTION
DDR3_SO-DIMM0
DOC NUMBER
1310xxxxx-0-0
REV
X01
CHANGE by XXX
DATE 21-OCT-2002

RESERVED

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
DPB_DEMUX1_TO_DP

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 40 of 77

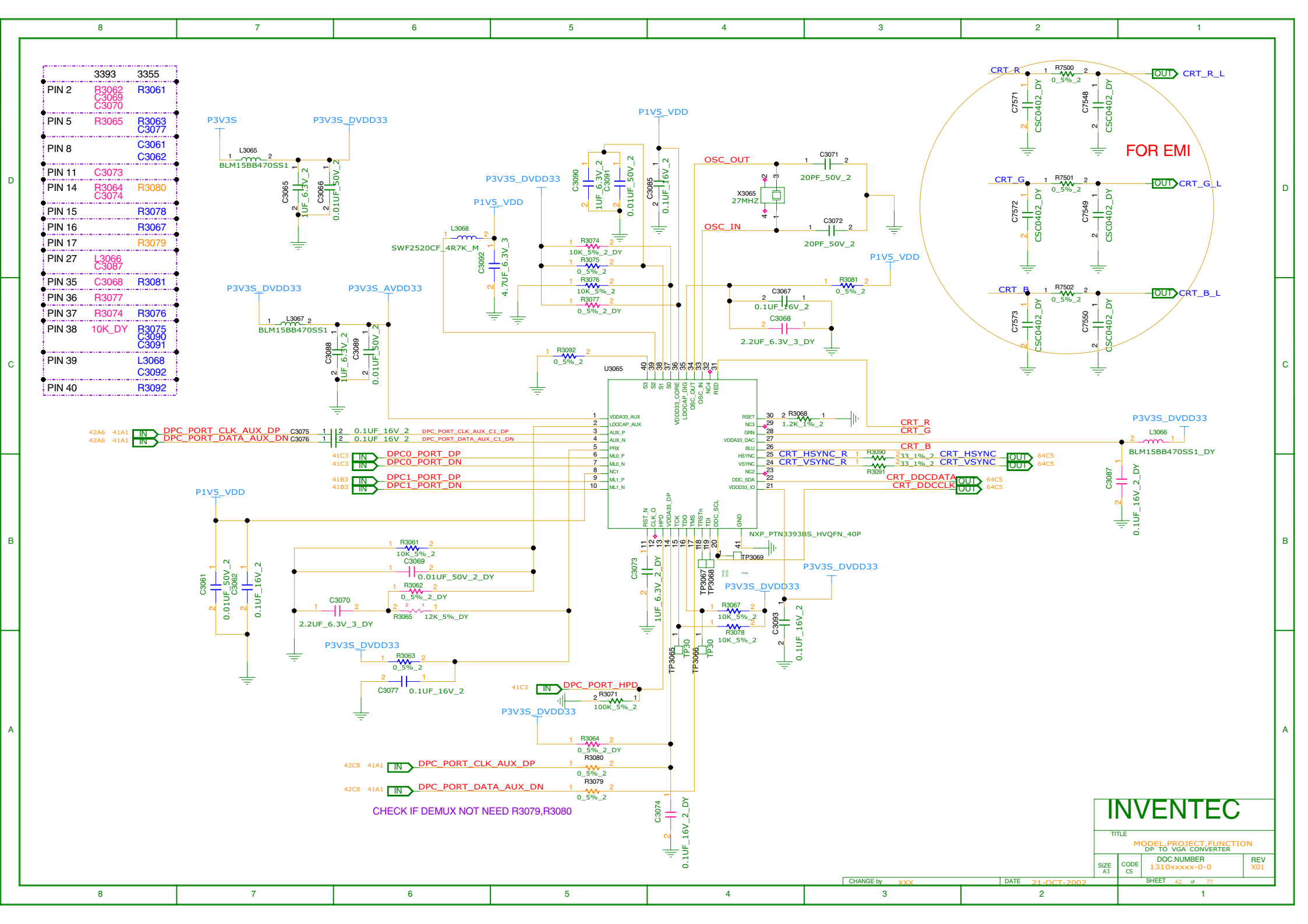
RESERVED

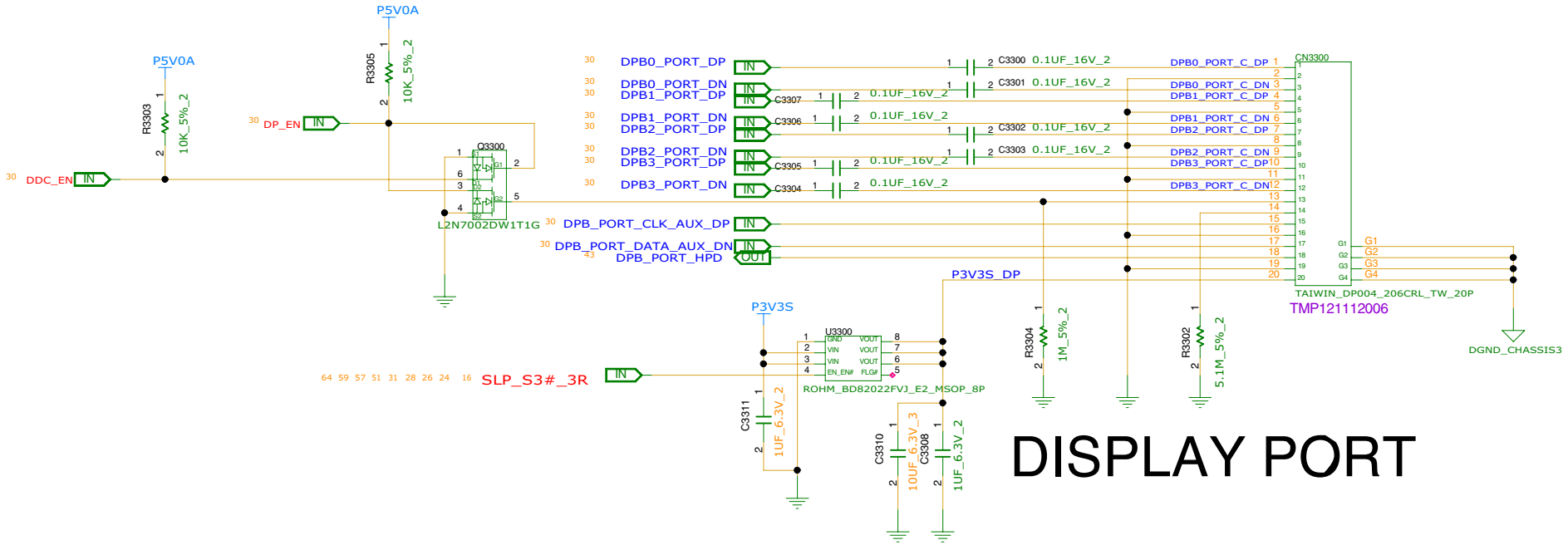
INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
DPC DEMUX2 TO VGA

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 41 of 77


3393 3355
PIN 2 R3062 C3069 C3070 R3061
PIN 5 R3065 R3063 C3077
PIN 8 C3061 C3062
PIN 11 C3073
PIN 14 R3064 C3074 R3080
PIN 15 R3078
PIN 16 R3067
PIN 17 R3079
PIN 27 L3066 C3087
PIN 35 C3068 R3081
PIN 36 R3077
PIN 37 R3074 R3076
PIN 38 10K_DY R3075 C3090 C3091
PIN 39 L3068 C3092
PIN 40 R3092
FOR EMI
CRT_R R7500 0_5%_2 OUT CRT_R_L
CRT_G R7501 0_5%_2 OUT CRT_G_L
CRT_B R7502 0_5%_2 OUT CRT_B_L
C7571 C7548 C7572 C7549 C7573 C7550 CSC0402_DY
P3V3S P3V3S_DVDD33 P3V3S_AVDD33 P1V5_VDD
L3065 BLM15BB470SS1
L3067 BLM15BB470SS1
L3068 SWF2520CF_4R7K_M
C3065 C3066 C3088 C3089 1UF_6.3V_2 0.01UF_50V_2
C3090 C3091 C3085 0.1UF_16V_2
C3092 4.7UF_6.3V_3
OSC_OUT OSC_IN X3065 27MHZ C3071 C3072 20PF_50V_2
C3067 0.1UF_16V_2 C3068 2.2UF_6.3V_3_DY
R3074 10K_5%_2_DY R3075 0_5%_2 R3076 10K_5%_2 R3077 0_5%_2_DY R3081 0_5%_2 R3092 0_5%_2
U3065
VDDA33_AUX LDOCAP_AUX AUX_P AUX_N PRX ML0_P ML0_N NC1 ML1_P ML1_N
VDDD33_CORE LDOCAP_CORE OSC_OUT OSC_IN NC4 RED
RSET NC3 GRN VDDA33_DAC BLU HSYNC VSYNC NC2 DDC_SDA VDDD33_IO
RST_N CLK_O HPD VDDA33_DP TCK TDO TMS TRSTn TDI DDC_SCL GND
NXP_PTN3393BS_HVQFN_40P
DPC_PORT_CLK_AUX_DP DPC_PORT_DATA_AUX_DN C3075 C3076 0.1UF_16V_2
DPC0_PORT_DP DPC0_PORT_DN DPC1_PORT_DP DPC1_PORT_DN
CRT_R CRT_G CRT_B CRT_HSYNC_R CRT_VSYNC_R R3090 R3091 33_1%_2 CRT_HSYNC CRT_VSYNC CRT_DDCDATA CRT_DDCCLK
L3066 BLM15BB470SS1_DY C3087 0.1UF_16V_2_DY
R3061 10K_5%_2 C3069 0.01UF_50V_2_DY R3062 0_5%_2_DY C3070 2.2UF_6.3V_3_DY R3065 12K_5%_DY
C3061 C3062 0.01UF_50V_2 0.1UF_16V_2
C3073 1UF_6.3V_2_DY
TP3067 TP3068 TP3065 TP30 TP3066 TP3069
R3067 10K_5%_2 R3078 10K_5%_2 C3093 0.1UF_16V_2
R3063 0_5%_2 C3077 0.1UF_16V_2
DPC_PORT_HPD R3071 100K_5%_2
R3064 0_5%_2_DY R3080 0_5%_2 R3079 0_5%_2
DPC_PORT_CLK_AUX_DP DPC_PORT_DATA_AUX_DN
C3074 0.1UF_16V_2_DY
CHECK IF DEMUX NOT NEED R3079,R3080
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
DP TO VGA CONVERTER
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 42 of 77



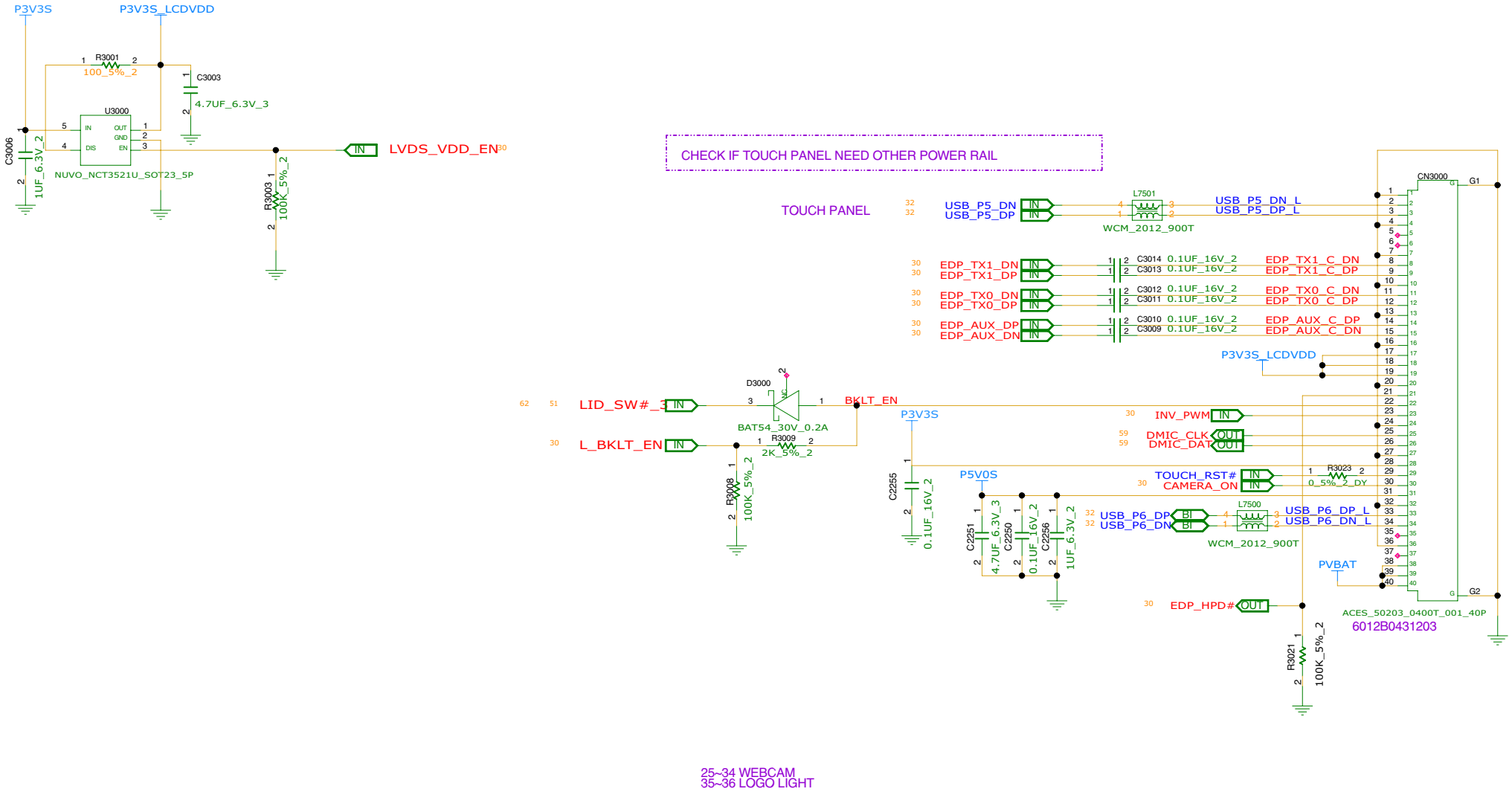
REFERENCE NUMBER:3300~3399

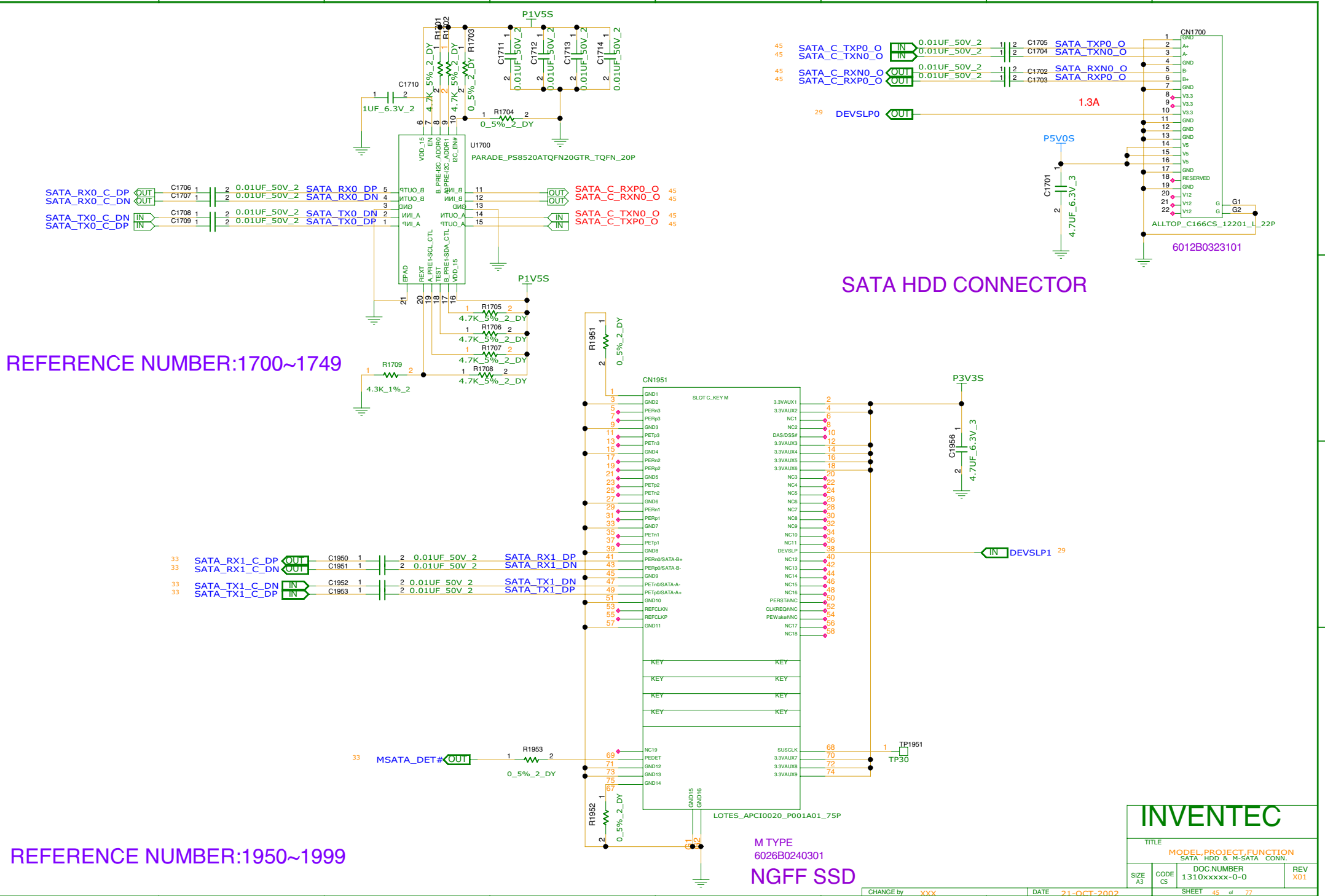
INVENTEC

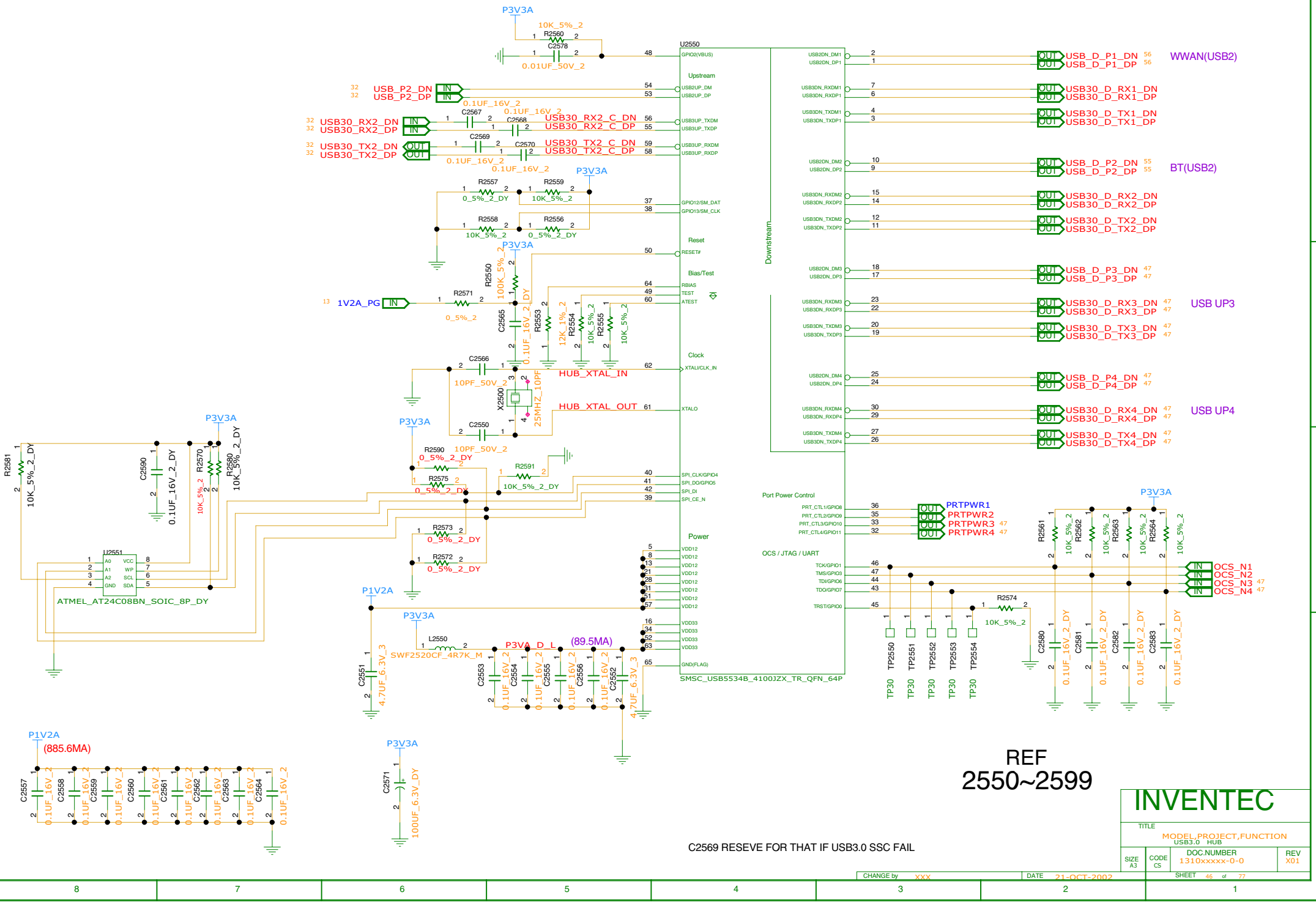
TITLE: MODEL,PROJECT,FUNCTION
CRT & DP

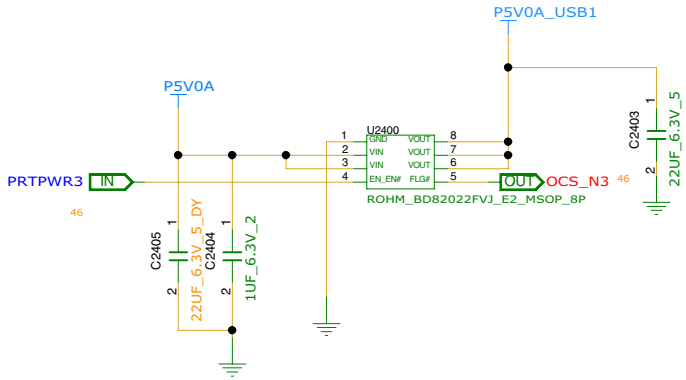
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

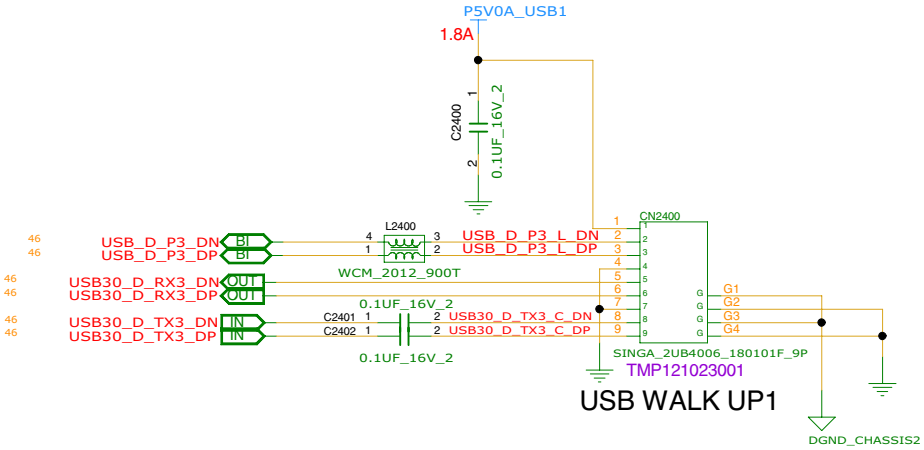
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 43 of 77

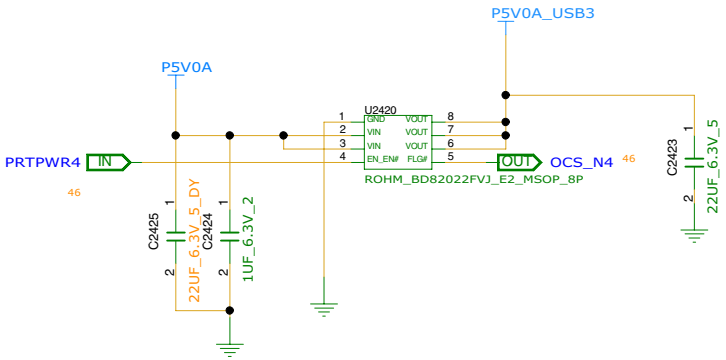

P3V3S
P3V3S_LCDVDD
R3001
100_5%_2
C3003
4.7UF_6.3V_3
U3000
IN
OUT
GND
DIS
EN
C3006
1UF_6.3V_2
NUVO_NCT3521U_SOT23_5P
R3003
100K_5%_2
IN
LVDS_VDD_EN30
CHECK IF TOUCH PANEL NEED OTHER POWER RAIL
TOUCH PANEL
USB_P5_DN
USB_P5_DP
L7501
WCM_2012_900T
USB_P5_DN_L
USB_P5_DP_L
EDP_TX1_DN
EDP_TX1_DP
C3014 0.1UF_16V_2
C3013 0.1UF_16V_2
EDP_TX1_C_DN
EDP_TX1_C_DP
EDP_TX0_DN
EDP_TX0_DP
C3012 0.1UF_16V_2
C3011 0.1UF_16V_2
EDP_TX0_C_DN
EDP_TX0_C_DP
EDP_AUX_DP
EDP_AUX_DN
C3010 0.1UF_16V_2
C3009 0.1UF_16V_2
EDP_AUX_C_DP
EDP_AUX_C_DN
CN3000
G1
G2
ACES_50203_0400T_001_40P
6012B0431203
P3V3S_LCDVDD
D3000
BAT54_30V_0.2A
LID_SW#_3
L_BKLT_EN
BKLT_EN
R3009
2K_5%_2
R3008
100K_5%_2
P3V3S
C2255
0.1UF_16V_2
INV_PWM
DMIC_CLK
DMIC_DAT
TOUCH_RST#
CAMERA_ON
R3023
0_5%_2_DY
P5V0S
C2251
4.7UF_6.3V_3
C2250
0.1UF_16V_2
C2256
1UF_6.3V_2
L7500
WCM_2012_900T
USB_P6_DP
USB_P6_DN
USB_P6_DP_L
USB_P6_DN_L
PVBAT
EDP_HPD#
R3021
100K_5%_2
25~34 WEBCAM
35~36 LOGO LIGHT
REFERENCE NUMBER:3000~3049
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
LCM & WEBCAM
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 44 of 77

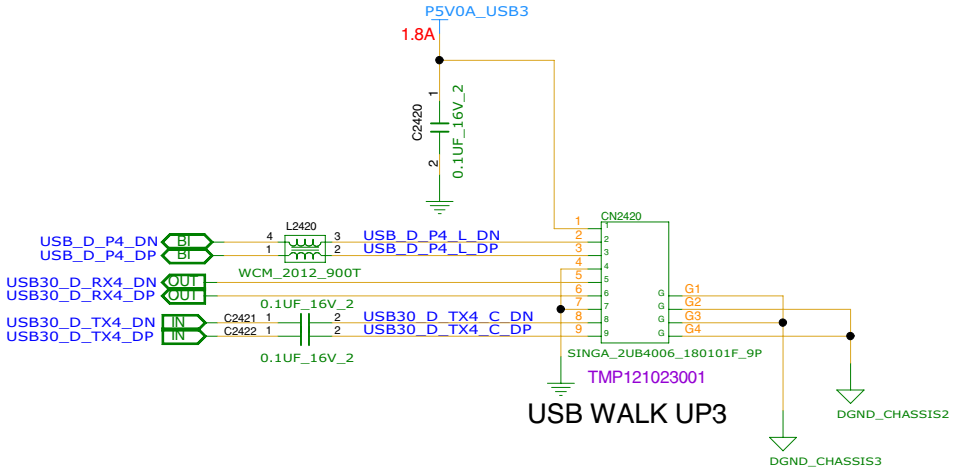

P1V5S
U1700
PARADE_PS8520ATQFN20GTR_TQFN_20P
SATA_RX0_C_DP
SATA_RX0_C_DN
SATA_TX0_C_DN
SATA_TX0_C_DP
SATA_RX0_DP
SATA_RX0_DN
SATA_TX0_DN
SATA_TX0_DP
SATA_C_RXP0_O
SATA_C_RXN0_O
SATA_C_TXN0_O
SATA_C_TXP0_O
REFERENCE NUMBER:1700~1749
SATA HDD CONNECTOR
CN1700
ALLTOP_C166CS_12201_L 22P
6012B0323101
1.3A
DEVSLP0
P5V0S
P3V3S
CN1951
SLOT C_KEY M
LOTES_APCI0020_P001A01_75P
SATA_RX1_C_DP
SATA_RX1_C_DN
SATA_TX1_C_DN
SATA_TX1_C_DP
SATA_RX1_DP
SATA_RX1_DN
SATA_TX1_DN
SATA_TX1_DP
DEVSLP1
MSATA_DET#
TP1951
TP30
REFERENCE NUMBER:1950~1999
M TYPE
6026B0240301
NGFF SSD
INVENTEC
MODEL,PROJECT,FUNCTION
SATA HDD & M-SATA CONN.
DOC.NUMBER
1310xxxxx-0-0
REV
X01
SIZE
A3
CODE
CS
SHEET 45 of 77
CHANGE by XXX
DATE 21-OCT-2002


U2550
SMSC_USB5534B_4100JZX_TR_QFN_64P
Upstream
Downstream
Reset
Bias/Test
Clock
Power
Port Power Control
OCS / JTAG / UART
USB_P2_DN
USB_P2_DP
USB30_RX2_DN
USB30_RX2_DP
USB30_TX2_DN
USB30_TX2_DP
1V2A_PG
HUB_XTAL_IN
HUB_XTAL_OUT
WWAN(USB2)
BT(USB2)
USB UP3
USB UP4
PRTPWR1
PRTPWR2
PRTPWR3
PRTPWR4
OCS_N1
OCS_N2
OCS_N3
OCS_N4
ATMEL_AT24C08BN_SOIC_8P_DY
SWF2520CF_4R7K_M
P3V3A
P1V2A
(89.5MA)
(885.6MA)
REF
2550~2599
C2569 RESEVE FOR THAT IF USB3.0 SSC FAIL
INVENTEC
MODEL,PROJECT,FUNCTION
USB3.0 HUB
DOC.NUMBER
1310xxxxx-0-0
REV
X01
SIZE
A3
CODE
CS
CHANGE by
XXX
DATE
21-OCT-2002
SHEET
46 of 77









REFERENCE NUMBER:2400~2499

INVENTEC

TITLE
MODEL_PROJECT_FUNCTION
USB & USB CHARGER

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 47 of 77

	R2511	R2515	R2514
TPS2543	20K	10K	NI
TPS2540/A PI5USB2543	NI	NI	0

REFERENCE NUMBER:2500~2599

P5V0A_USB2
P5V0DS_DB
SLP_S4#_3R_DB
U2410
ROHM_BD82022FVJ_E2_MSOP_8P
C2413 22UF_6.3V_5
C2415 22UF_6.3V_5_DY
C2414 1UF_6.3V_2
DGND_USB

P5V0DS_DB
R2512 17.8K_1%_2
R2511 20K_5%_2
R2515 10K_5%_2
C2513 0.1UF_16V_2
P5V0A_USB_CHARGE
2.5A
C2512 100UF_6.3V
U2511
PWPD ILIM_HI ILIM_LO GND FAULT#
IN DM_OUT DP_OUT ILIM_SET
OUT DM_IN DP_IN STATUS#
EN CTL1 CTL2 CTL3
TEXAS_TPS2546RTER_QFN_16P
USB_P3_DN_DB
USB_P3_DP_DB
USB_P3_CH_DN_DB
USB_P3_CH_DP_DB
R2514 0_5%_2_DY
C2514 0.1UF_16V_2
CPPWR_EN_DB
SLP_S4#_3R_DB
SLP_S3#_3R_DB
C2503 0.1UF_16V_2

P5V0A_USB2
1.8A
C2410 0.1UF_16V_2
L2410 WCM_2012_900T
CN2410
USB_P1_DN_DB
USB_P1_DP_DB
USB_P1_L_DN_DB
USB_P1_L_DP_DB
USB30_RX1_DN_DB
USB30_RX1_DP_DB
USB30_TX1_DN_DB
USB30_TX1_DP_DB
C2411 0.1UF_16V_2
C2412 0.1UF_16V_2
SINGA_2UB4006_180101F_9P
TMP121023001

S3051 SCREW300_600_1P
S3052 SCREW280_0_0_1P
S3050 SCREW300_600_1P
S3053 SCREW280_0_0_1P

L2500 WCM_2012_900T
USB_P3_L_DN_DB
USB_P3_L_DP_DB
USB30_RX3_DN_DB
USB30_RX3_DP_DB
USB30_TX3_DN_DB
USB30_TX3_DP_DB
C2500 0.1UF_16V_2
C2501 0.1UF_16V_2
CN2500
SINGA_2UB4006_180101F_9P
TMP121023001
USB CHARGER

CRT_R_DB
CRT_G_DB
CRT_B_DB
L3051 120NH,5%
L3052 120NH,5%
L3053 120NH,5%
VGA_R_L2_DB
VGA_G_L2_DB
VGA_B_L2_DB
R3051 75_1%_2
R3052 75_1%_2
R3053 75_1%_2
C3051 12PF_50V_2
C3052 12PF_50V_2
C3053 12PF_50V_2
C3054 12PF_50V_2
C3055 12PF_50V_2
C3056 12PF_50V_2

P5V0S_CRTVDD
R3059 4.7K_5%_2
R3060 4.7K_5%_2
CRT_DDCDATA_DB
CRT_HSYNC_DB
CRT_VSYNC_DB
CRT_DDCCLK_DB
CN3050
SUYIN_M195001HR015M205ZR_15P
6012B0503901

P5V0DS_DB
U3051
ROHM_BD82022FVJ_E2_MSOP_8P
SLP_S3#_3R_DB
C3357 1UF_6.3V_2
C3058 0.1UF_16V_2

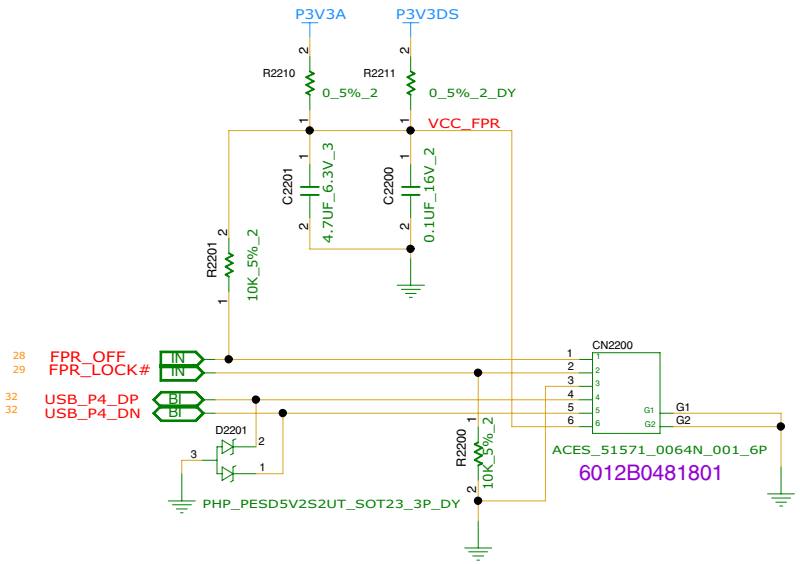
FIX2400 FIX_MASK
FIX2401 FIX_MASK
FIX2402 FIX_MASK
FIX2403 FIX_MASK

REFERENCE NUMBER:3050~3099

CRT

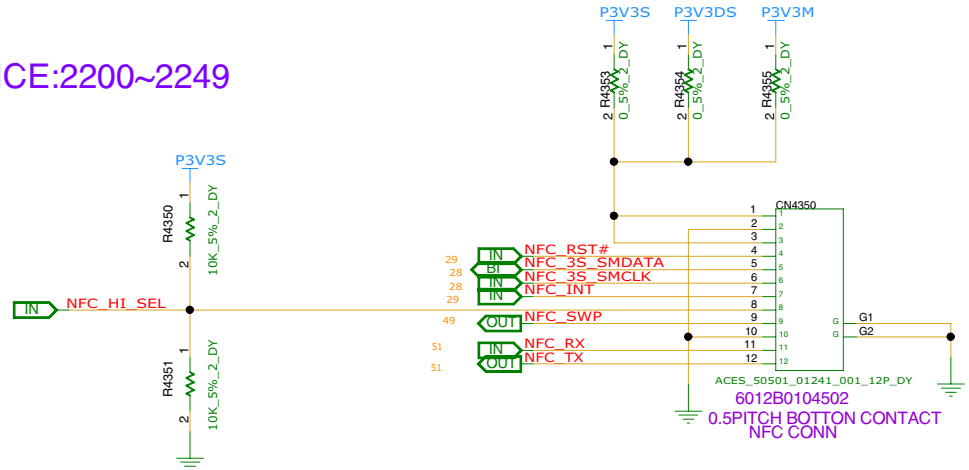
INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION USB CONN.			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 48 of 77	



FINGER PRINT CONN

REFERENCE:2200~2249



NFC_HI_SEL	R4350	R4351
HIGH (UART)	INSTALL	
LOW (I2C)		INSTALL

56 OUT UIM_VPP — R4352 0_5%_2_DY — NFC_SWP IN 49

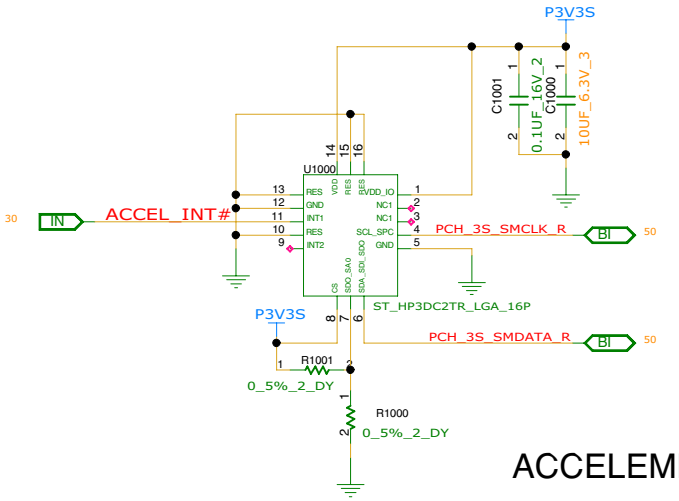
REFERENCE:4350~4399

INVENTEC

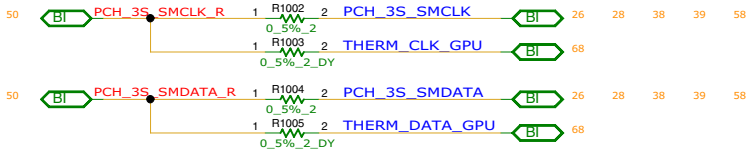
TITLE: MODEL,PROJECT,FUNCTION
FINGER PRINTER & NFC

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 49 of 77



ACCELEMETOR



REFERENCE NUMER : 1000~1099

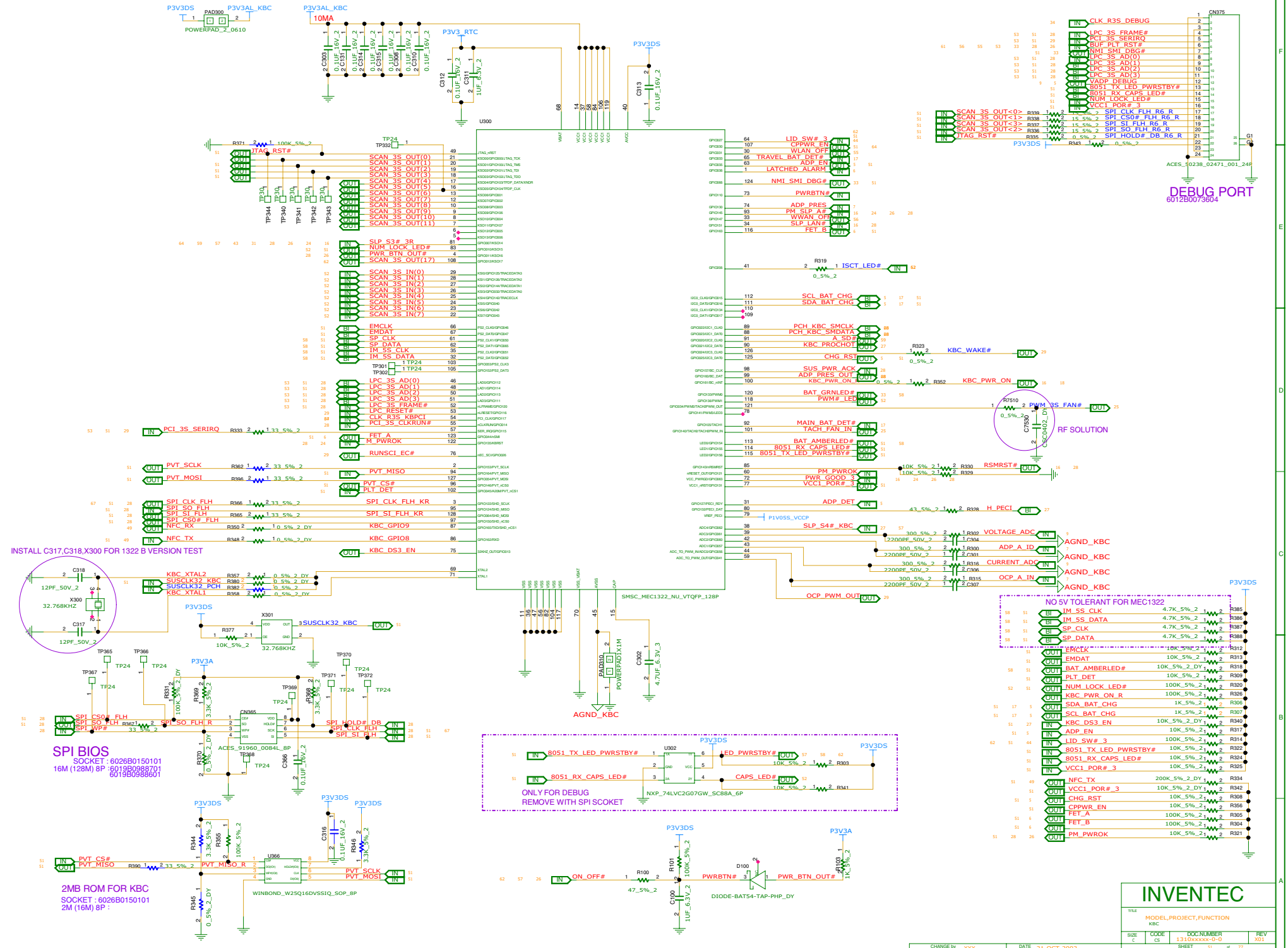
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
ACCELEMETOR

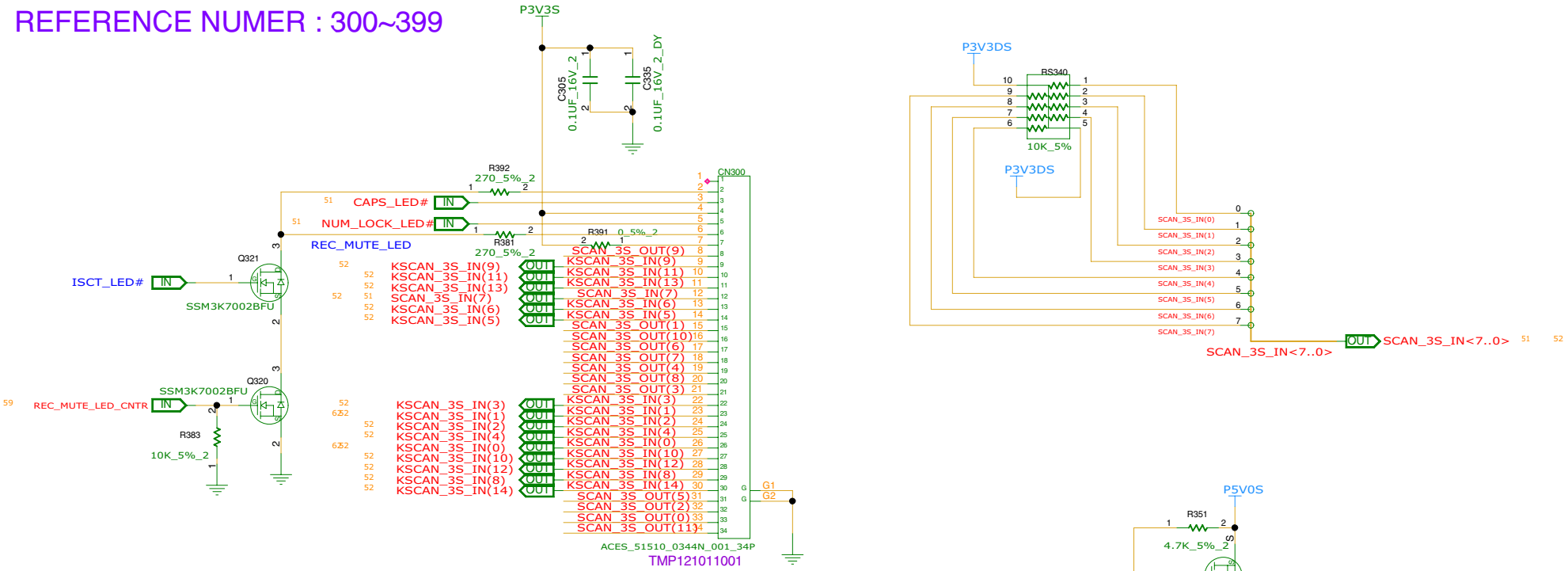
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

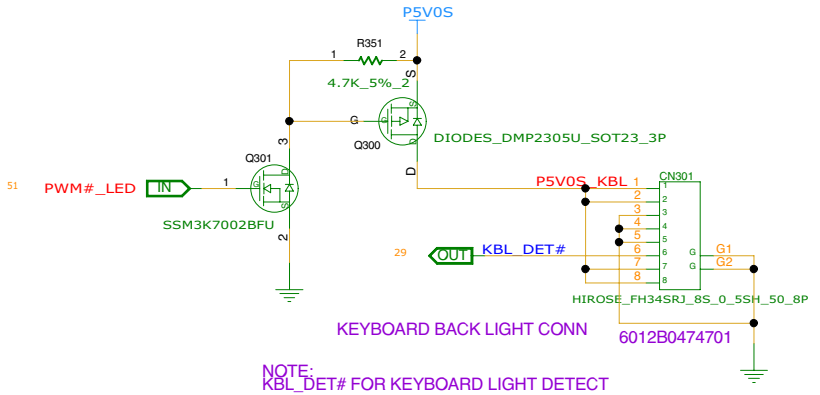
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 50 of 77

REFERENCE NUMER : 300~399

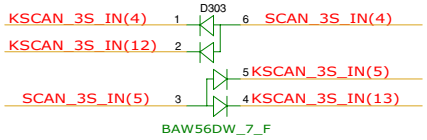


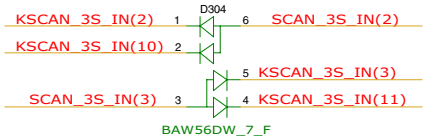
REFERENCE NUMER : 300~399

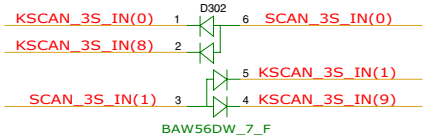


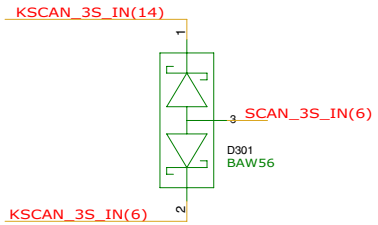


NOTE:
KBL_DET# FOR KEYBOARD LIGHT DETECT

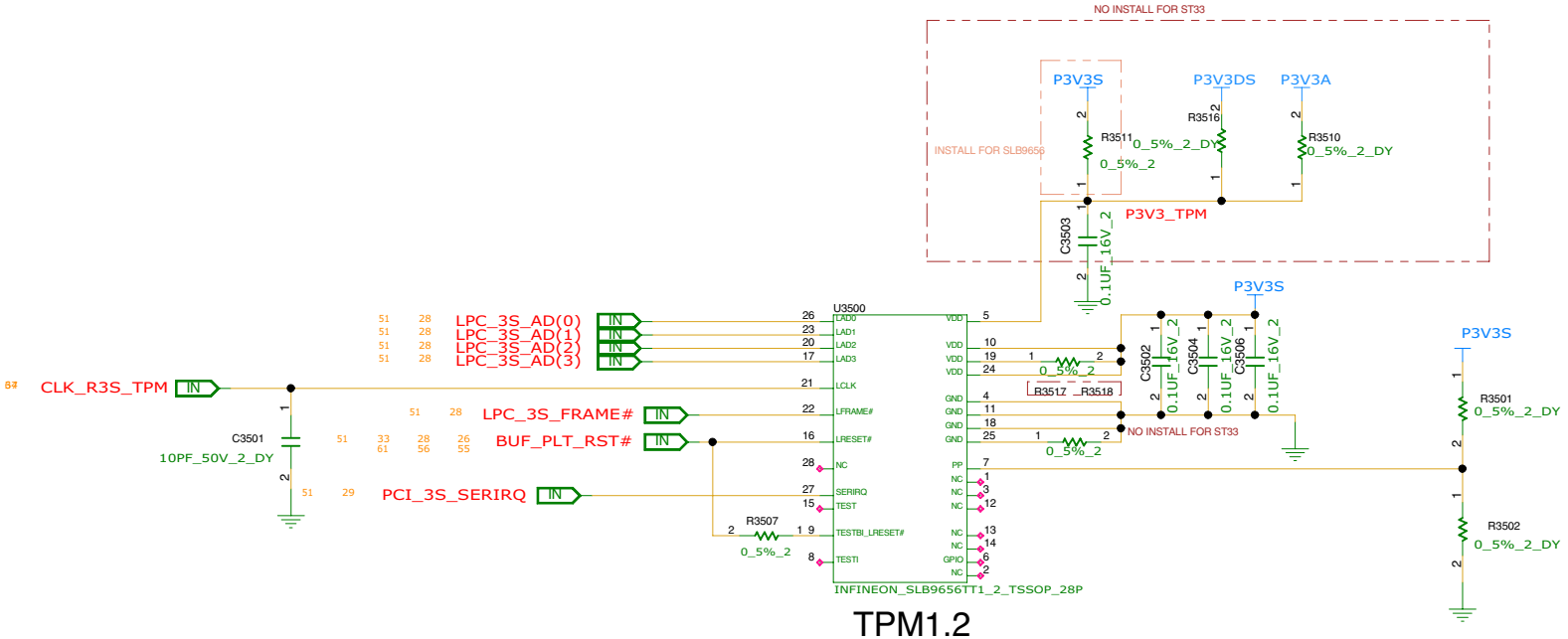








INVENTEC			
TITLE: MODEL,PROJECT,FUNCTION KEYBOARD			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 52 of 77	



TPM1.2

	SLB9656TT1.2	ST33
C3503	INSTALL	OPEN
R3507	INSTALL	OPEN
R3511	INSTALL	OPEN
R3517	INSTALL	OPEN
R3518	INSTALL	OPEN

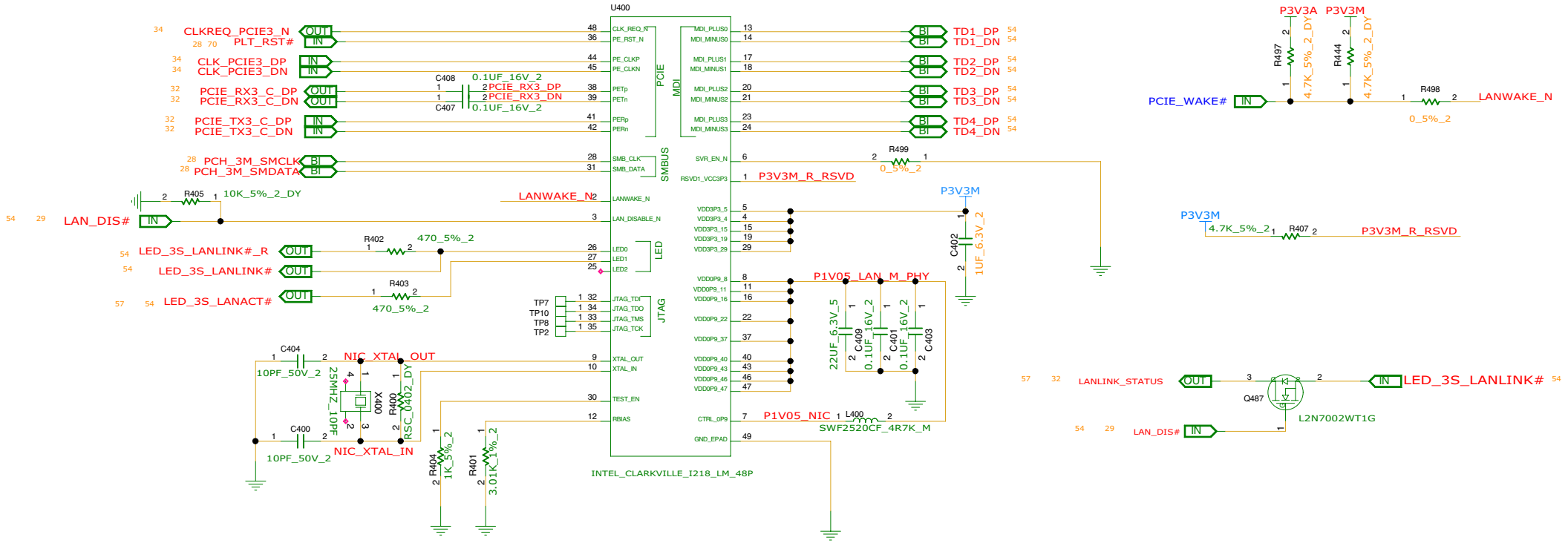
REFERENCE NUMER : 3500~3549

INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
TPM

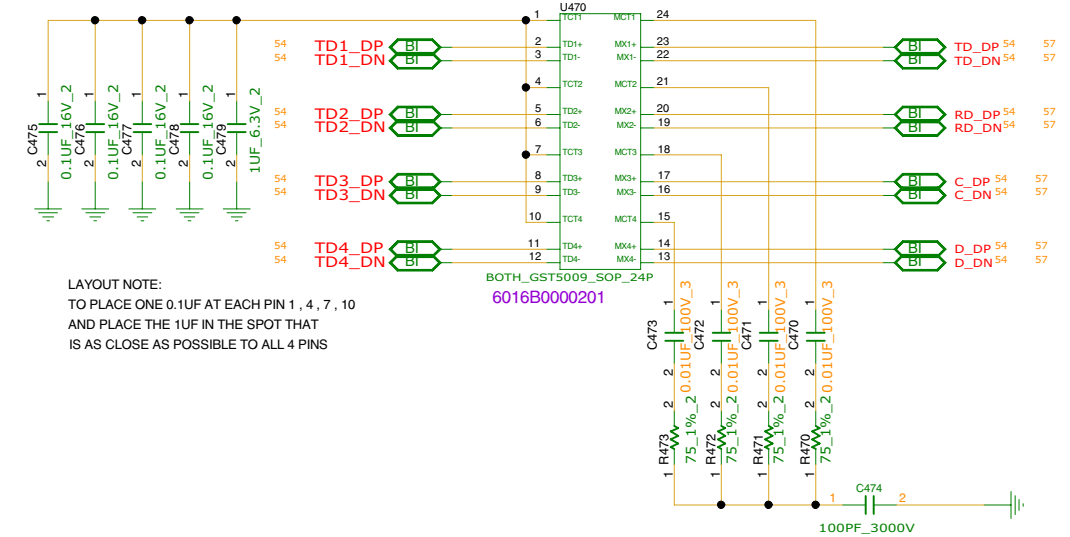
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

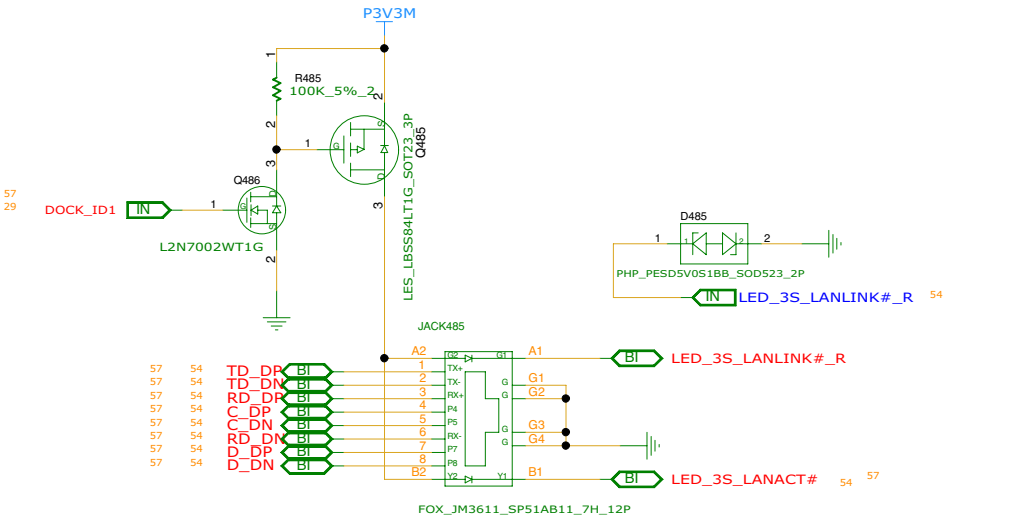
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 53 of 77



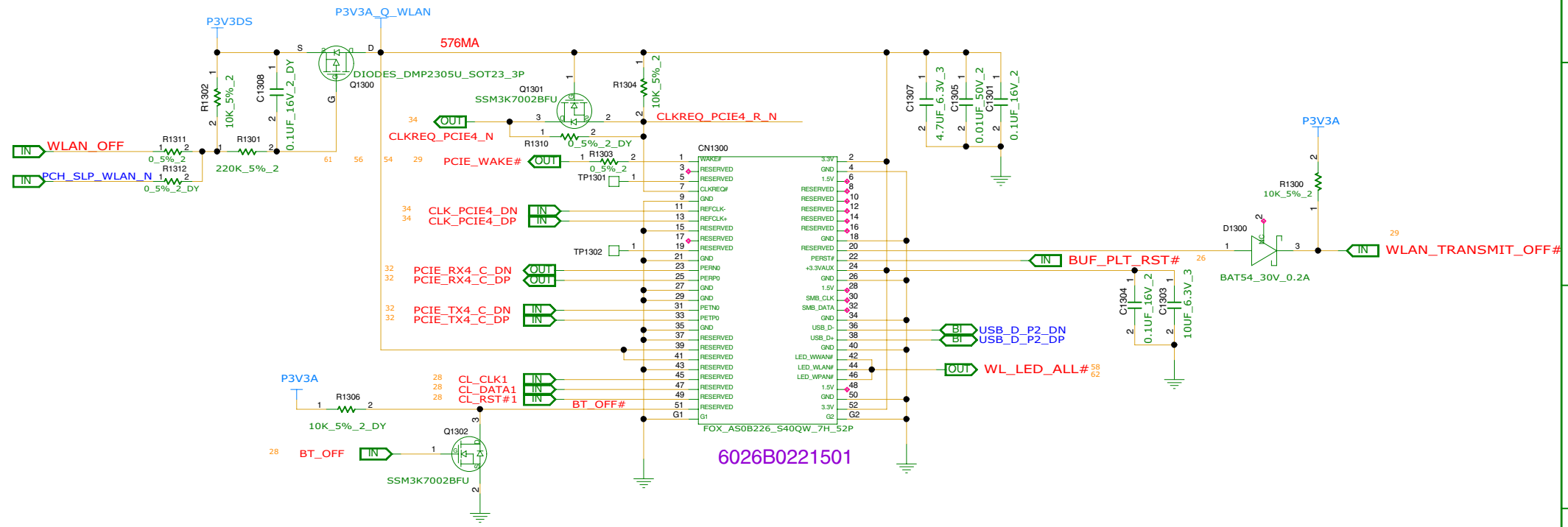
REFERENCE NUMER : 400~469

REFERENCE NUMER : 470~499





INVENTEC			
TITLE	MODEL,PROJECT,FUNCTION LAN (NIC,TRANSFORMER,RJ45)		
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 54 of 77	

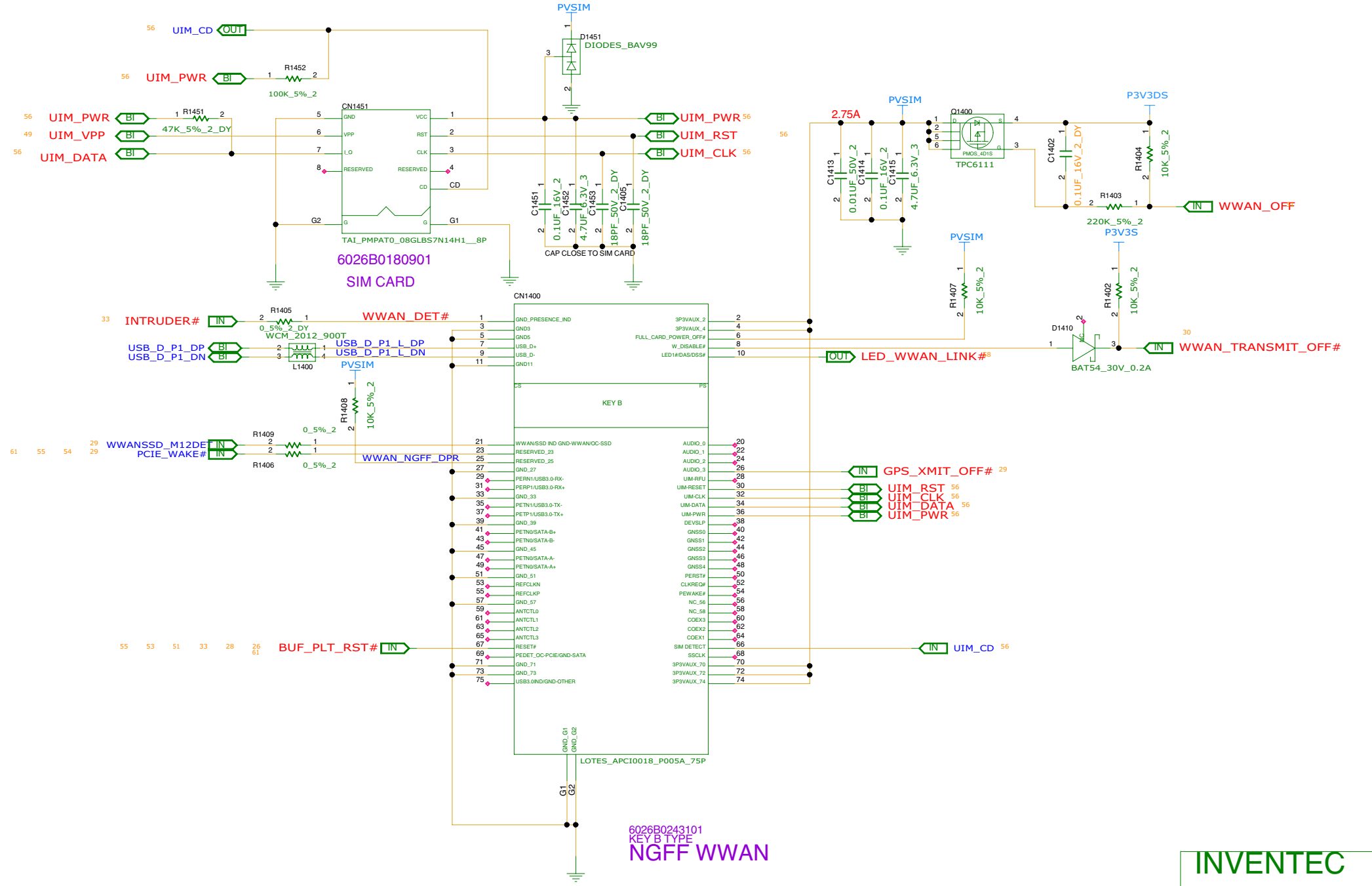


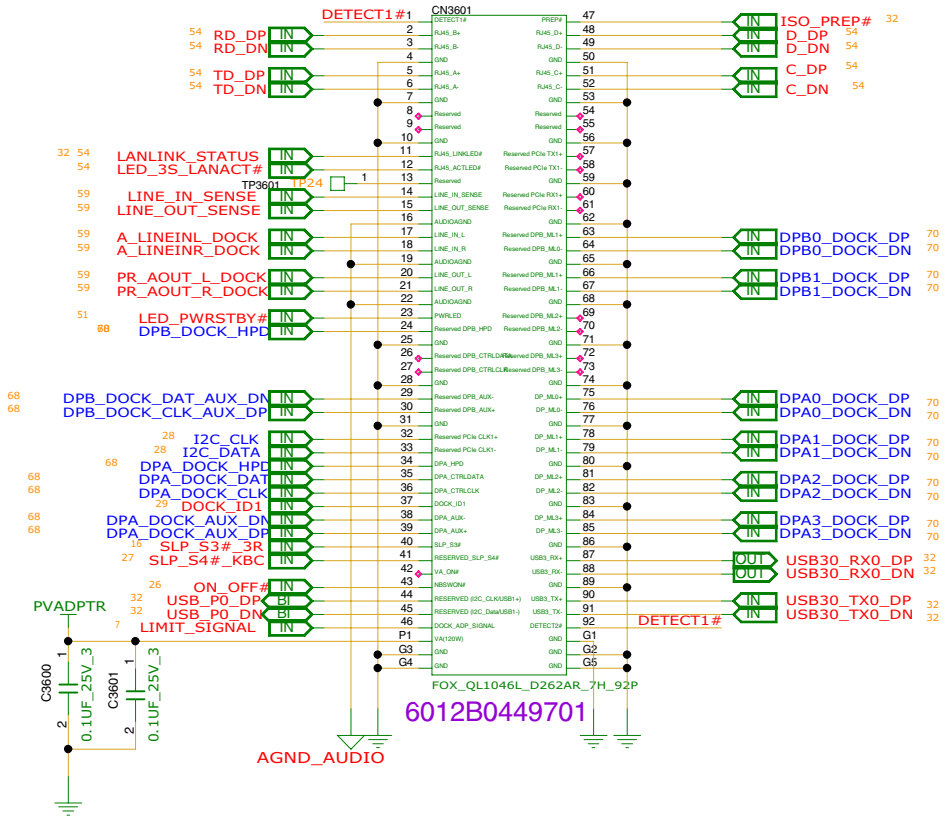
WLAN & BLUE TOOTH

REFERENCE NUMBER:1300~1349

INVENTEC

TITLE: MODEL,PROJECT,FUNCTION — WLAN & BLUE TOOTH			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 55 of 77	


UIM_CD
UIM_PWR
UIM_VPP
UIM_DATA
R1452
100K_5%_2
R1451
47K_5%_2_DY
CN1451
TAI_PMPAT0_08GLBS7N14H1__8P
PVSIM
D1451
DIODES_BAV99
C1451
C1452
C1453
C1405
0.1UF_16V_2
4.7UF_6.3V_3
18PF_50V_2_DY
CAP CLOSE TO SIM CARD
6026B0180901
SIM CARD
2.75A
Q1400
TPC6111
C1413
C1414
C1415
0.01UF_50V_2
0.1UF_16V_2
4.7UF_6.3V_3
C1402
0.1UF_16V_2_DY
R1404
10K_5%_2
R1403
220K_5%_2
P3V3DS
WWAN_OFF
R1407
R1402
P3V3S
D1410
BAT54_30V_0.2A
WWAN_TRANSMIT_OFF#
INTRUDER#
R1405
0_5%_2_DY
WCM_2012_900T
WWAN_DET#
USB_D_P1_DP
USB_D_P1_DN
L1400
USB_D_P1_L_DP
USB_D_P1_L_DN
R1408
R1409
R1406
WWANSSD_M12DET
PCIE_WAKE#
WWAN_NGFF_DPR
CN1400
KEY B
LOTES_APCI0018_P005A_75P
LED_WWAN_LINK#
GPS_XMIT_OFF#
UIM_RST
UIM_CLK
UIM_DATA
UIM_PWR
UIM_CD
BUF_PLT_RST#
6026B0243101
KEY B TYPE
NGFF WWAN
REFERENCE NUMBER:1400~1499
INVENTEC
MODEL,PROJECT,FUNCTION
WWAN NGFF
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 56 of 77

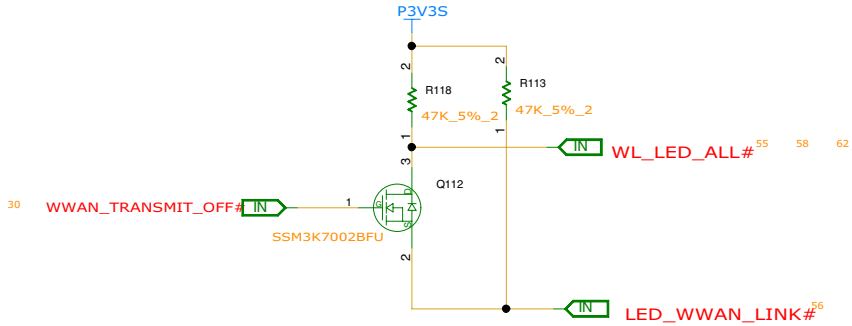


INVENTEC

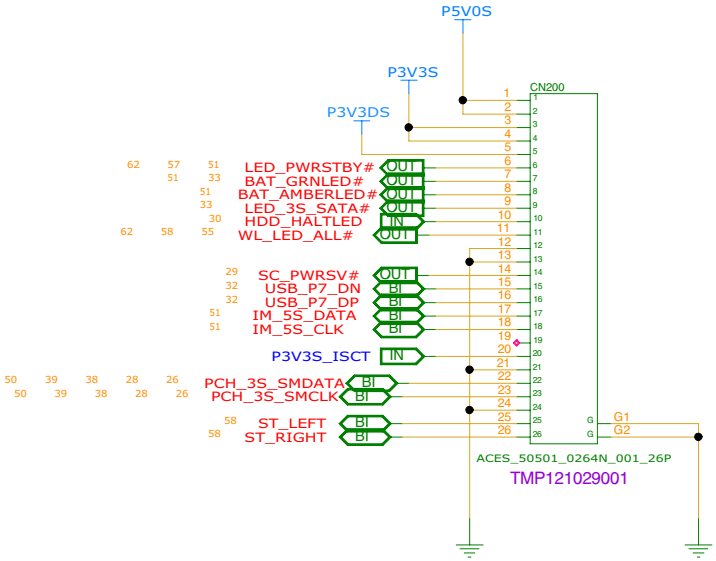
TITLE
MODEL,PROJECT,FUNCTION
DOCKING CONN.

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

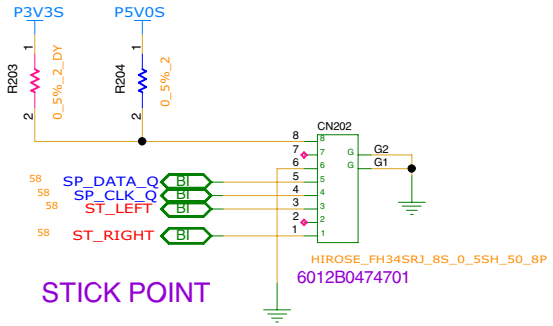
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 57 of 77



WLAN_WWAN_BLUETOOTH_ LED

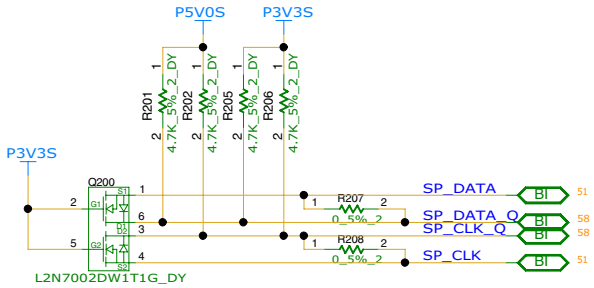


SMART CARD AND TOUCHPAD D/B W TO B CONN



STICK POINT

	5V	3.3V
R201	INSTALL	UNINSTALL
R202	INSTALL	UNINSTALL
R203	UNINSTALL	INSTALL
R204	INSTALL	UNINSTALL

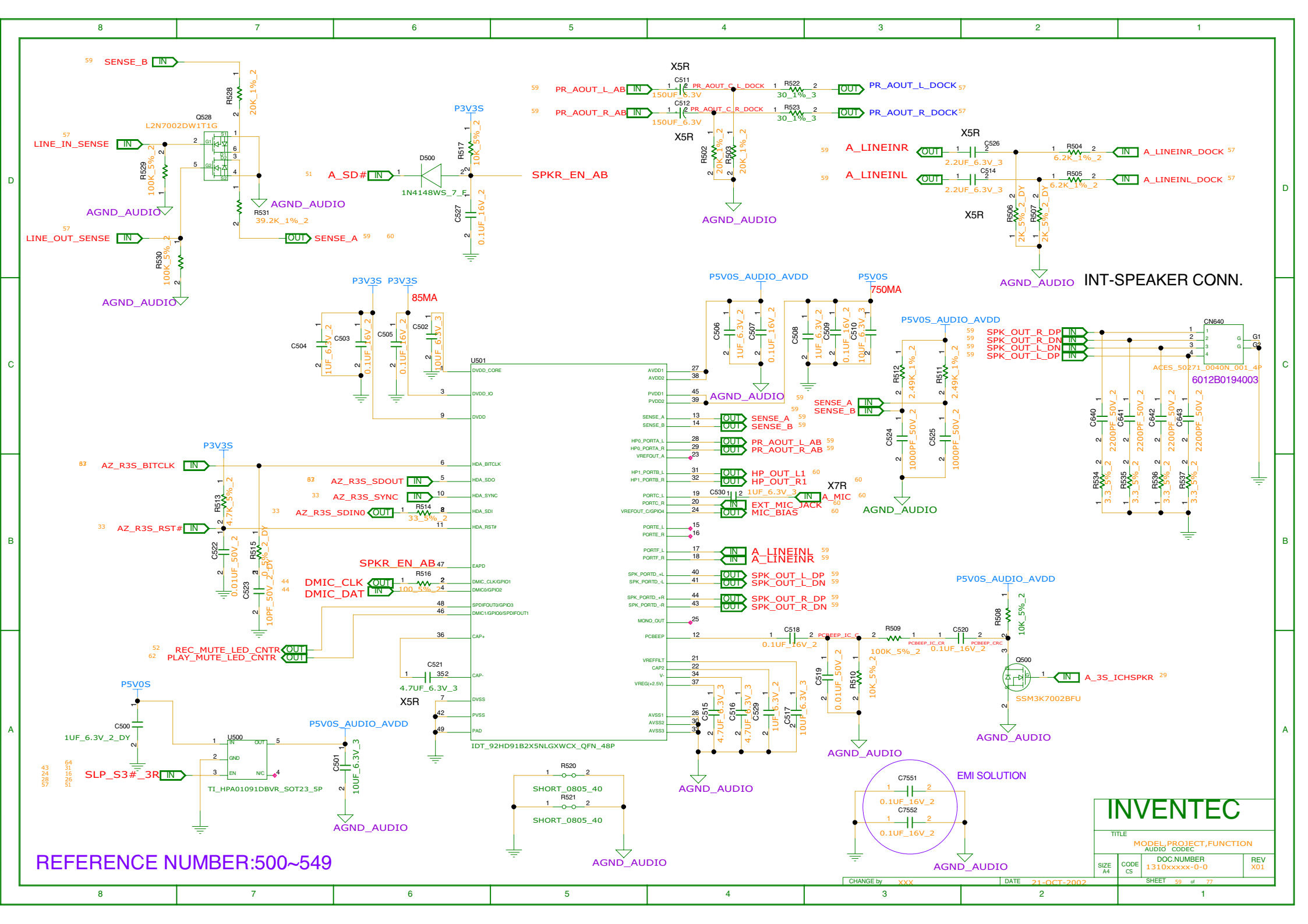


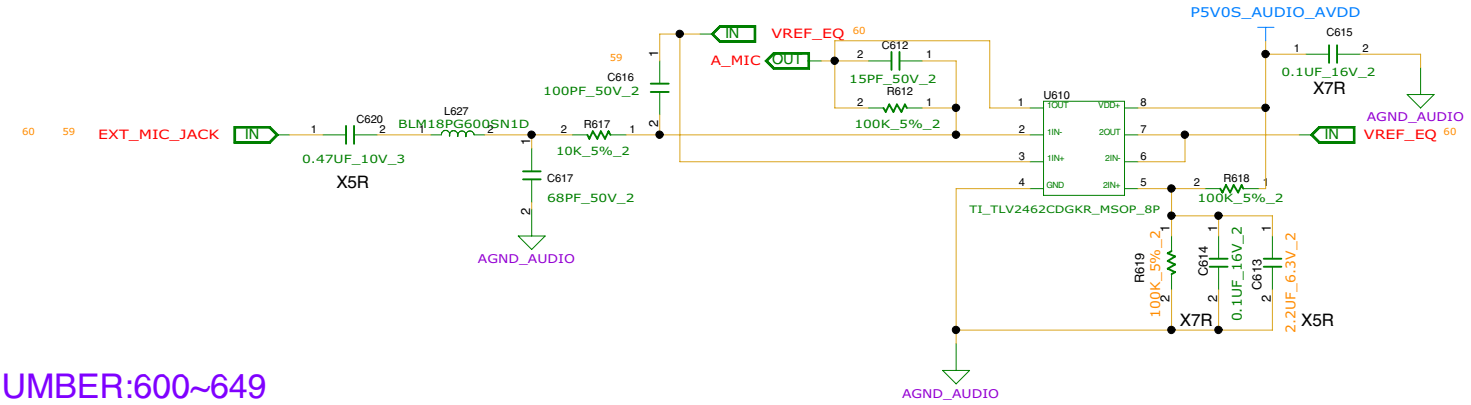
STICK POINT OPTION

REFERENCE NUMBER:100~199

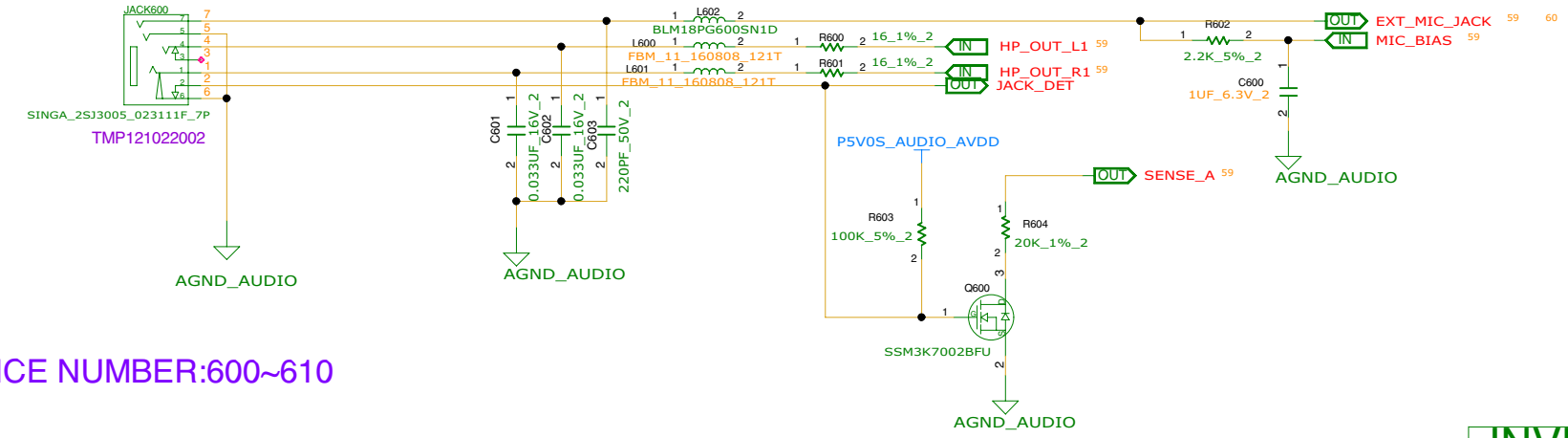
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION — STICK POINT & B2B CNTR			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 58 of 77	


SENSE_B
LINE_IN_SENSE
LINE_OUT_SENSE
Q528
L2N7002DW1T1G
R528 20K_1%_2
R529 100K_5%_2
R530 100K_5%_2
R531 39.2K_1%_2
AGND_AUDIO
SENSE_A
A_SD#
D500
1N4148WS_7_F
R517 10K_5%_2
C527 0.1UF_16V_2
SPKR_EN_AB
P3V3S
PR_AOUT_L_AB
PR_AOUT_R_AB
C511 150UF_6.3V
C512 150UF_6.3V
R522 30_1%_3
R523 30_1%_3
PR_AOUT_L_DOCK
PR_AOUT_R_DOCK
R502 20K_1%_2
R503 20K_1%_2
X5R
A_LINEINR
A_LINEINL
C526 2.2UF_6.3V_3
C514 2.2UF_6.3V_3
R504 6.2K_1%_2
R505 6.2K_1%_2
A_LINEINR_DOCK
A_LINEINL_DOCK
R506 2K_5%_2_DY
R507 2K_5%_2_DY
INT-SPEAKER CONN.
P3V3S
85MA
C504 1UF_6.3V_2
C503 0.1UF_16V_2
C505 0.1UF_16V_2
C502 10UF_6.3V_3
U501
IDT_92HD91B2X5NLGXWCX_QFN_48P
P5V0S_AUDIO_AVDD
P5V0S
750MA
C506 1UF_6.3V_2
C507 0.1UF_16V_2
C508 1UF_6.3V_2
C509 0.1UF_16V_2
C510 10UF_6.3V_3
R512 2.49K_1%_2
R511 2.49K_1%_2
C524 1000PF_50V_2
C525 1000PF_50V_2
SENSE_A
SENSE_B
PR_AOUT_L_AB
PR_AOUT_R_AB
HP_OUT_L1
HP_OUT_R1
EXT_MIC_JACK
MIC_BIAS
A_MIC
X7R
C530 1UF_6.3V_3
A_LINEINL
A_LINEINR
SPK_OUT_L_DP
SPK_OUT_L_DN
SPK_OUT_R_DP
SPK_OUT_R_DN
CN640
ACES_50271_0040N_001_4P
6012B0194003
C640 2200PF_50V_2
C641 2200PF_50V_2
C642 2200PF_50V_2
C643 2200PF_50V_2
R534 3.3_5%_2
R535 3.3_5%_2
R536 3.3_5%_2
R537 3.3_5%_2
AZ_R3S_BITCLK
AZ_R3S_SDOUT
AZ_R3S_SYNC
AZ_R3S_SDIN0
AZ_R3S_RST#
R513 4.7K_5%_2
R514 33_5%_2
R515 0_5%_2_DY
C522 0.01UF_50V_2
C523 10PF_50V_2_DY
SPKR_EN_AB
DMIC_CLK
DMIC_DAT
R516 100_5%_2
REC_MUTE_LED_CNTR
PLAY_MUTE_LED_CNTR
C521 4.7UF_6.3V_3
X5R
C518 0.1UF_16V_2
R509 100K_5%_2
C520 0.1UF_16V_2
R508 10K_5%_2
R510 10K_5%_2
C519 0.01UF_50V_2
Q500
SSM3K7002BFU
A_3S_ICHSPKR
P5V0S
C500 1UF_6.3V_2_DY
U500
TI_HPA01091DBVR_SOT23_5P
SLP_S3#_3R
C501 10UF_6.3V_3
P5V0S_AUDIO_AVDD
C515 4.7UF_6.3V_3
C516 4.7UF_6.3V_3
C529 1UF_6.3V_2
C517 10UF_6.3V_3
R520 SHORT_0805_40
R521 SHORT_0805_40
EMI SOLUTION
C7551 0.1UF_16V_2
C7552 0.1UF_16V_2
AGND_AUDIO
REFERENCE NUMBER:500~549
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
AUDIO CODEC
SIZE A4
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 59 of 77



REFERENCE NUMBER:600~649



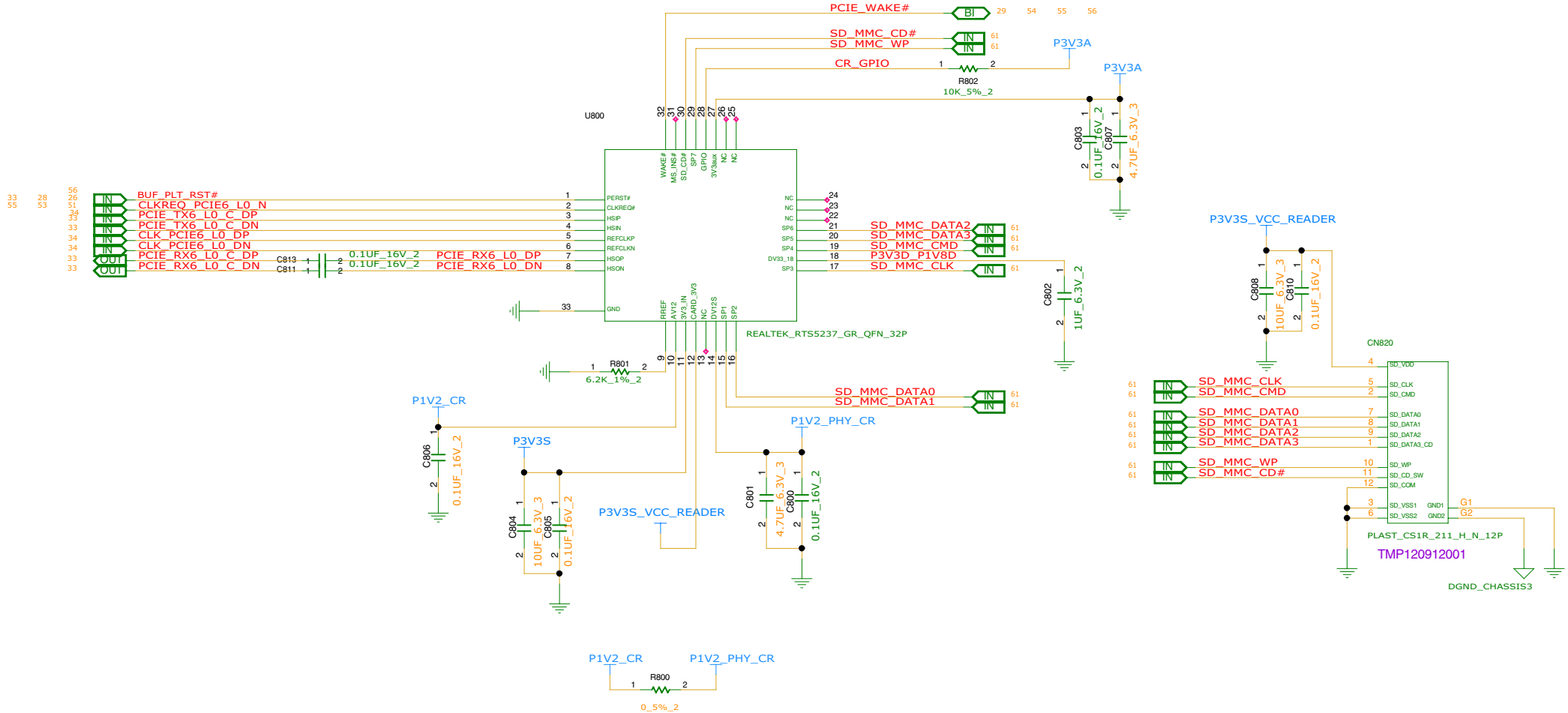
REFERENCE NUMBER:600~610

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
EXT. MIC AMP. & AUDIO JACK

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 60 of 77

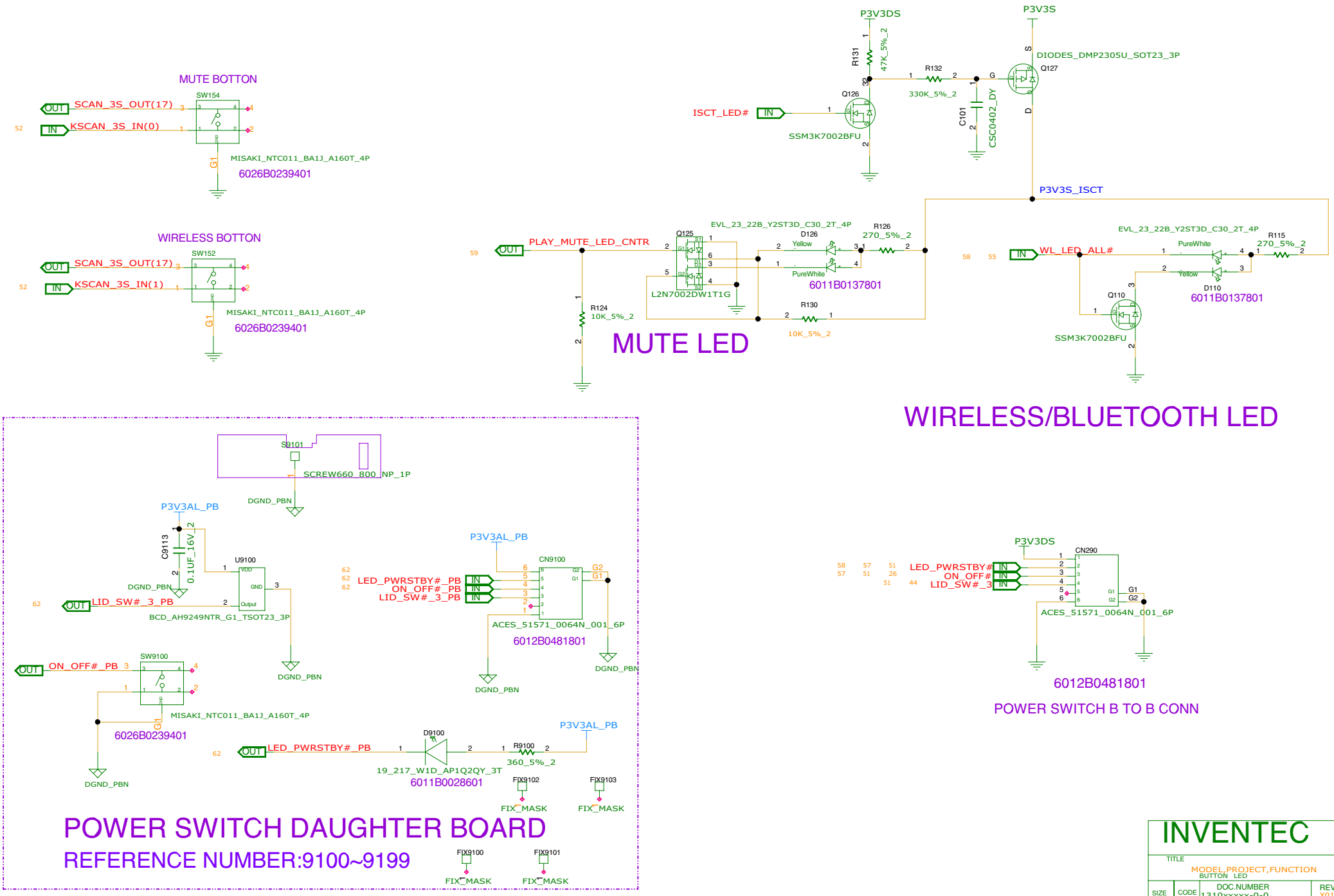


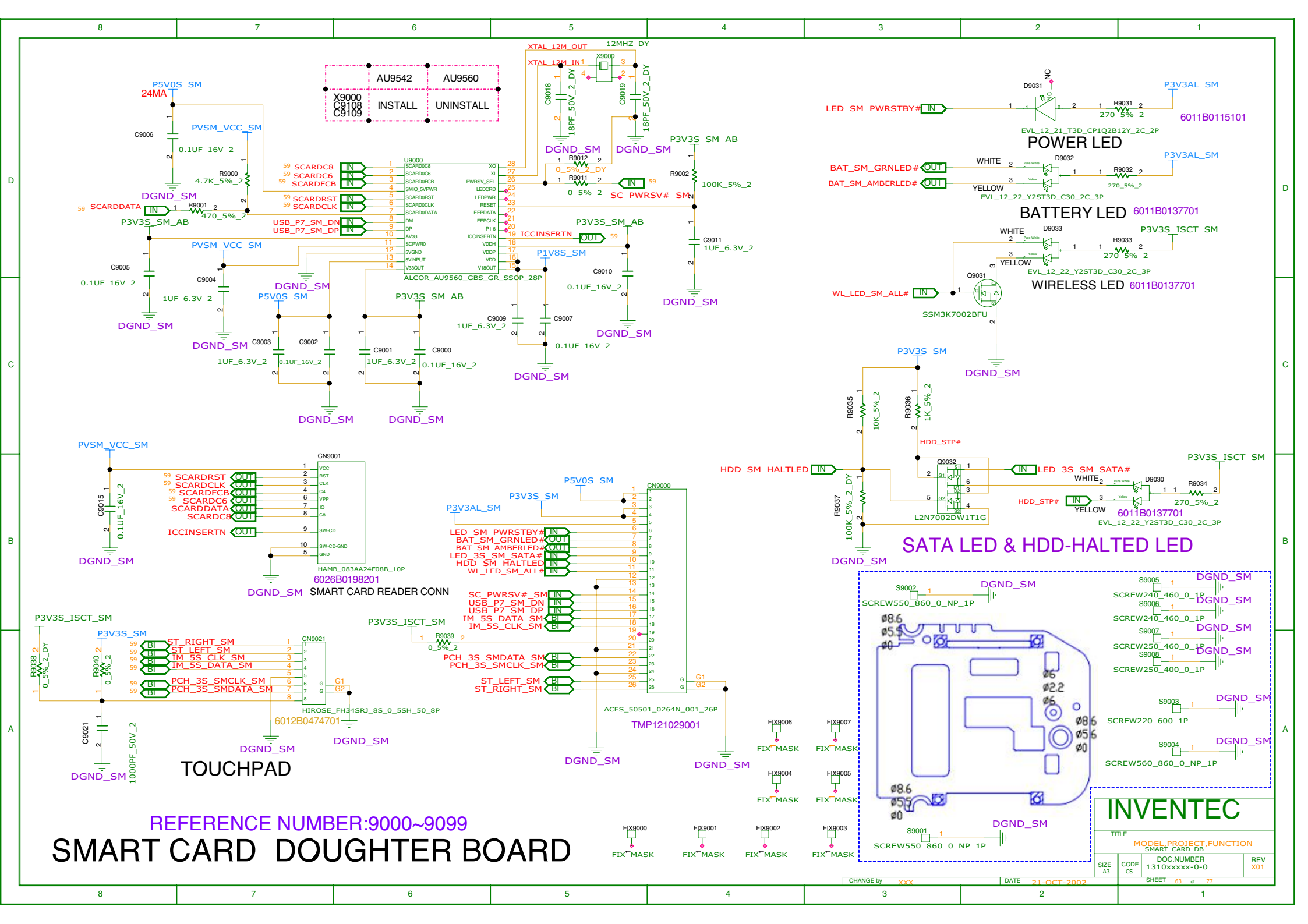
REFERENCE NUMBER:800~899

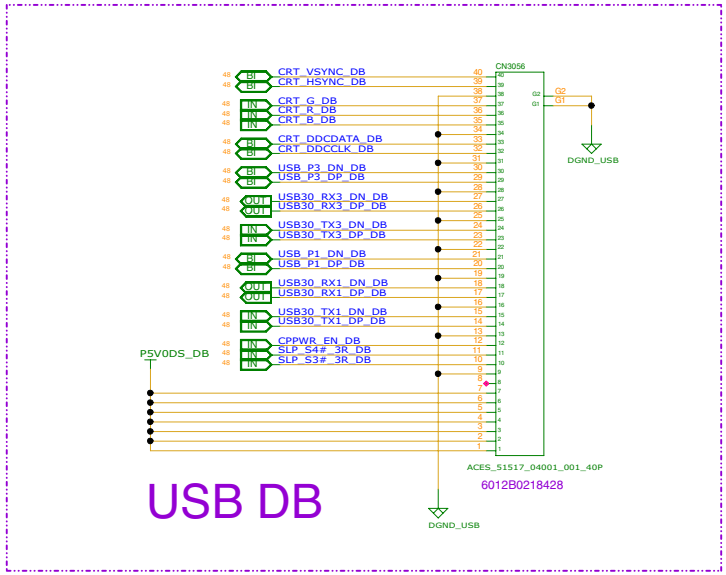
CHANGE by	XXX	DATE	21-OCT-2002

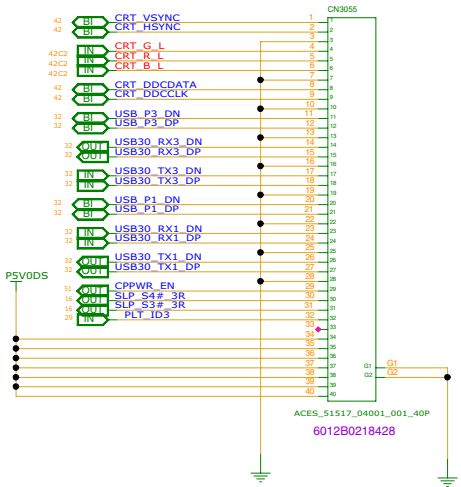
INVENTEC

TITLE	MODEL_PROJECT,FUNCTION CARD READER		
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
		SHEET 61 of 77	


MUTE BOTTON
SW154
OUT
SCAN_3S_OUT(17)
IN
KSCAN_3S_IN(0)
MISAKI_NTC011_BA1J_A160T_4P
6026B0239401
WIRELESS BOTTON
SW152
SCAN_3S_OUT(17)
KSCAN_3S_IN(1)
MISAKI_NTC011_BA1J_A160T_4P
6026B0239401
P3V3DS
R131
47K_5%_2
R132
330K_5%_2
Q126
ISCT_LED#
SSM3K7002BFU
C101
CSC0402_DY
P3V3S
DIODES_DMP2305U_SOT23_3P
Q127
P3V3S_ISCT
EVL_23_22B_Y2ST3D_C30_2T_4P
Q125
L2N7002DW1T1G
D126
Yellow
PureWhite
6011B0137801
R126
270_5%_2
R130
10K_5%_2
R124
10K_5%_2
PLAY_MUTE_LED_CNTR
MUTE LED
WL_LED_ALL#
R115
270_5%_2
D110
6011B0137801
Q110
SSM3K7002BFU
WIRELESS/BLUETOOTH LED
S9101
SCREW660_800_NP_1P
DGND_PBN
P3V3AL_PB
C9113
0.1UF_16V_2
U9100
BCD_AH9249NTR_G1_TSOT23_3P
LID_SW#_3_PB
SW9100
ON_OFF#_PB
MISAKI_NTC011_BA1J_A160T_4P
6026B0239401
CN9100
LED_PWRSTBY#_PB
ON_OFF#_PB
LID_SW#_3_PB
ACES_51571_0064N_001_6P
6012B0481801
D9100
19_217_W1D_AP1Q2QY_3T
6011B0028601
R9100
360_5%_2
LED_PWRSTBY#_PB
FIX9102
FIX9103
FIX_MASK
POWER SWITCH DAUGHTER BOARD
REFERENCE NUMBER:9100~9199
FIX9100
FIX9101
CN290
6012B0481801
POWER SWITCH B TO B CONN
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
BUTTON_LED
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 62 of 77


AU9542 AU9560
X9000 C9108 C9109 INSTALL UNINSTALL
U9000
ALCOR_AU9560_GBS_GR_SSOP_28P
CN9001
HAMB_083AA24F08B_10P
6026B0198201
SMART CARD READER CONN
CN9021
HIROSE_FH34SRJ_8S_0_5SH_50_8P
6012B0474701
TOUCHPAD
CN9000
ACES_50501_0264N_001_26P
TMP121029001
POWER LED
6011B0115101
BATTERY LED
6011B0137701
WIRELESS LED
6011B0137701
SATA LED & HDD-HALTED LED
L2N7002DW1T1G
SSM3K7002BFU
REFERENCE NUMBER:9000~9099
SMART CARD DOUGHTER BOARD
INVENTEC
MODEL,PROJECT,FUNCTION
SMART_CARD_DB
DOC.NUMBER
1310xxxxx-0-0
REV
X01
SHEET 63 of 77
DATE 21-OCT-2002
CHANGE by XXX



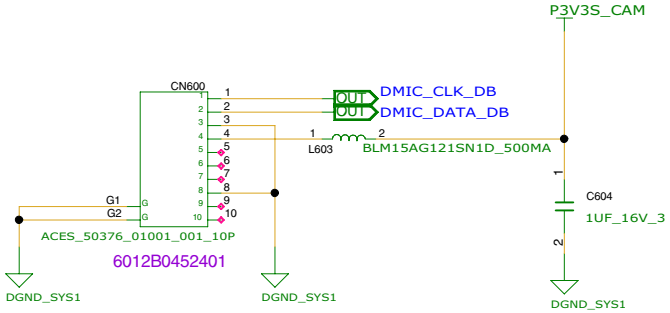


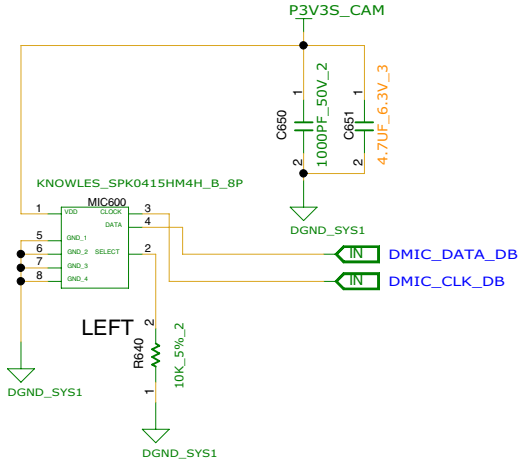
INVENTEC

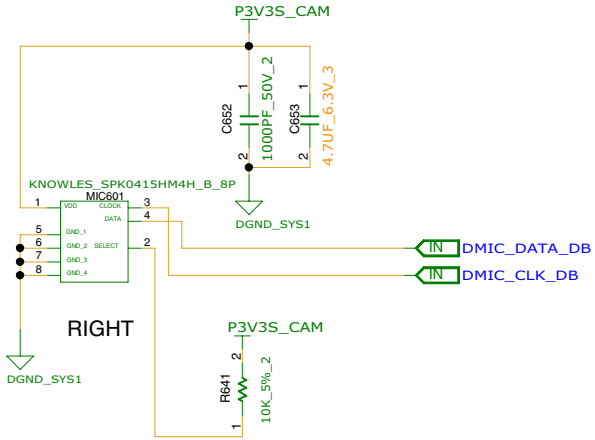
TITLE: MODEL,PROJECT,FUNCTION
RESERVE

SIZE	CODE	DOC NUMBER	REV
C	CS	1310xxxxx-D-D	X01

CHANGE by XXX DATE 21-OCT-2002 SHEET 64 of 72







FIX600
FIX_MASK

FIX601
FIX_MASK

REFERENCE NUMBER:600~649

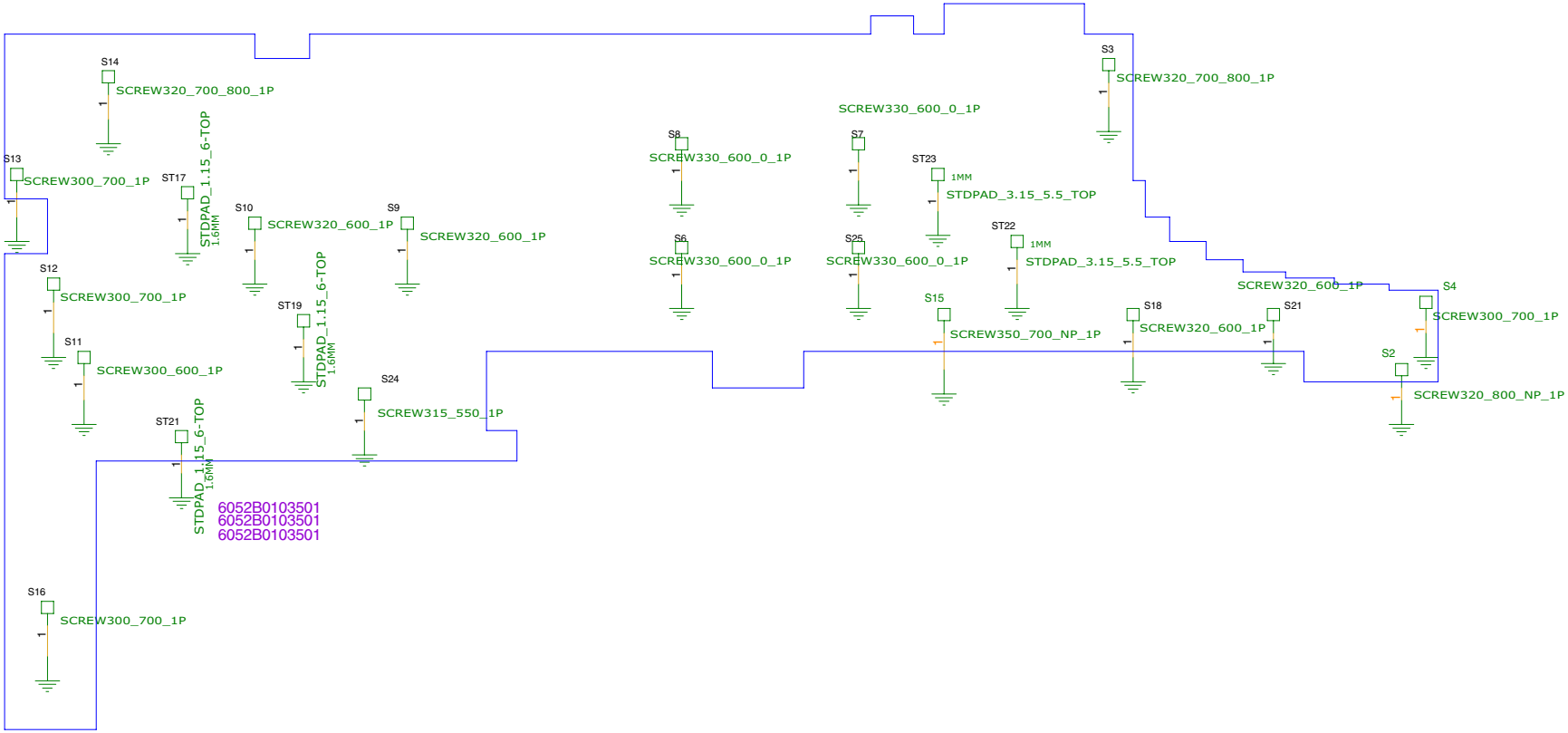
MIC DOUGHTER BOARD

INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 65 of 77



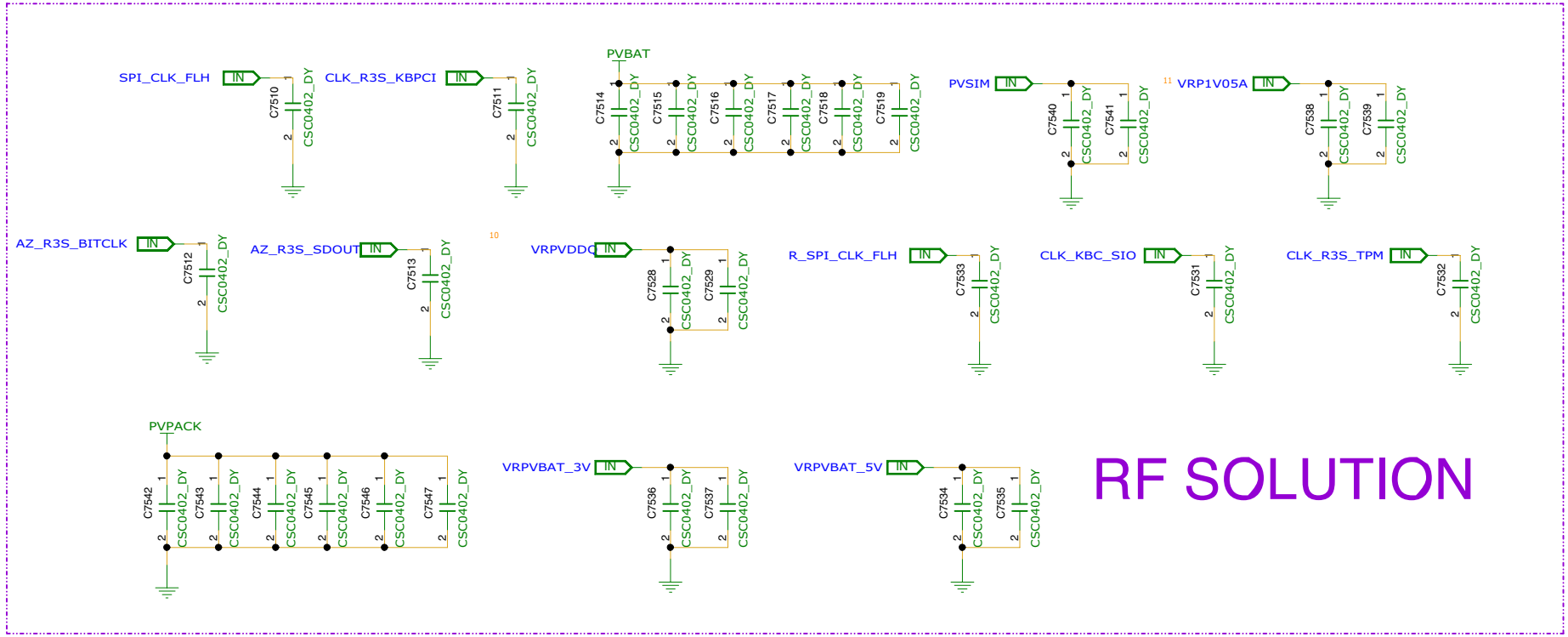
FIX1 FIX_MASK
FIX2 FIX_MASK
FIX3 FIX_MASK
FIX4 FIX_MASK
FIX5 FIX_MASK
FIX6 FIX_MASK
FIX7 FIX_MASK
FIX8 FIX_MASK

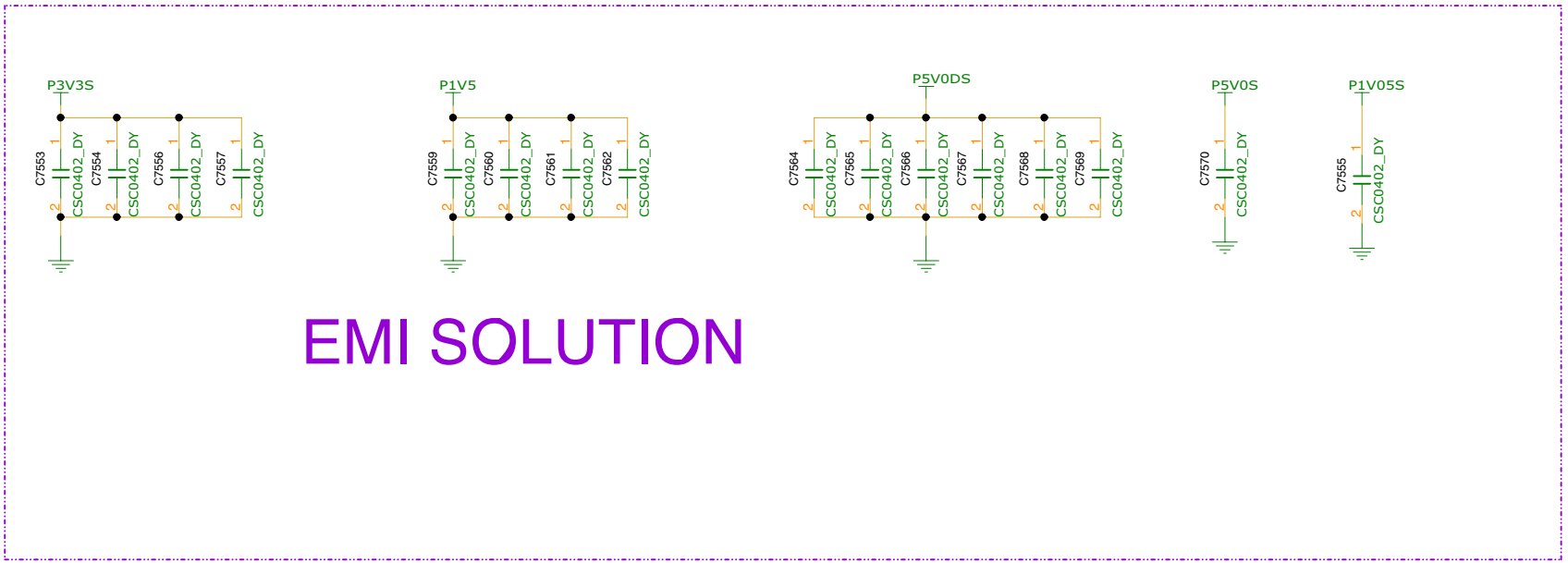
INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
SCREW

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 66 of 77





INVENTEC

TITLE
MODEL PROJECT FUNCTION
EMI & RF SOLUTION

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

CHANGE by XXX DATE 21-OCT-2002 SHEET 67 of 77

MLPS TABLE

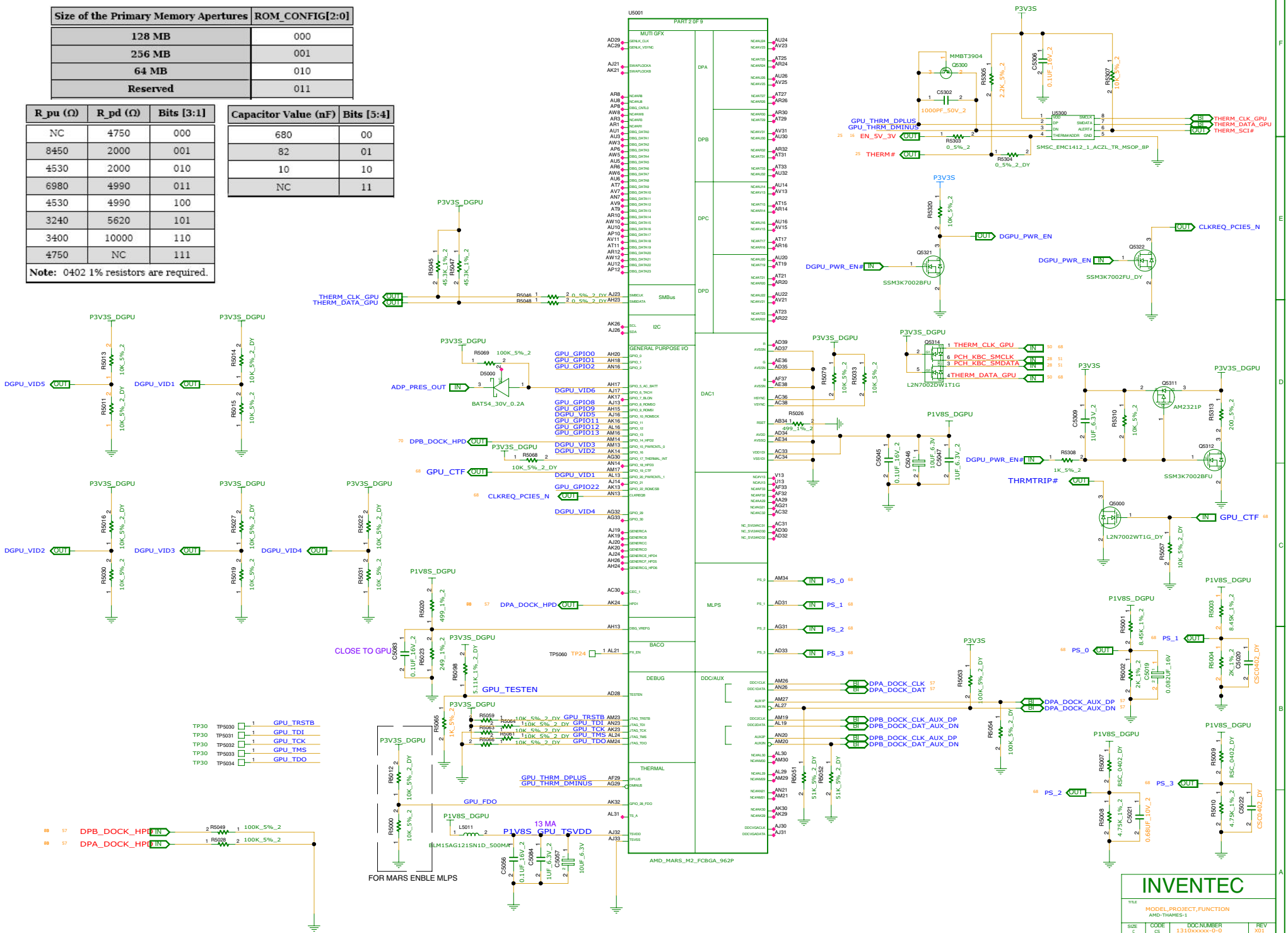
Size of the Primary Memory Apertures	ROM_CONFIG[2:0]
128 MB	000
256 MB	001
64 MB	010
Reserved	011

R_pu (Ω)	R_pd (Ω)	Bits [3:1]
NC	4750	000
8450	2000	001
4530	2000	010
6980	4990	011
4530	4990	100
3240	5620	101
3400	10000	110
4750	NC	111

Note: 0402 1% resistors are required.

Capacitor Value (nF)	Bits [5:4]
680	00
82	01
10	10
NC	11

THERM SENSOR



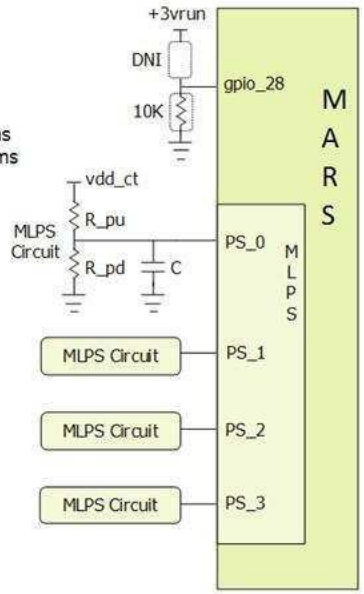
INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION AMD-THAMES-1			
SIZE C	CODE CS	DOC NUMBER 1310xxxxx-D-D	REV X01
CHANGE by XXX	DATE 21-OCT-2002	SHEET 68 of 72	

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

MLPS Implementation

- Connect GPIO_28 to 10K pulldown to enable MLPS
- If any of PS_0/1/2/3 is not used, leave "no connect"
- R_pu, R_pd and C must be properly populated per tables below
- Place MLPS circuit components as close to the ASIC as possible
- Total DC resistance of trace between PS pin and C should be less than 2 ohms
- Total DC resistance of trace between C and ground should be less than 2 ohms
- Trace capacitance should be less than 100pF. Resistors should be of +/-1% tolerance



Capacitor Lookup Table

C (nF)	Bits(5,4)
680	00
82	01
10	10
NC	11

Resistor Divider Lookup Table

R_pu (Ohm)	R_pd (Ohm)	Bits(3,2,1)
NC	4750	000
8450	2000	001
4530	2000	010
6980	4990	011
4530	4990	100
3240	5620	101
3400	10000	110
4750	NC	111

Pin/Bit	Name	Description	Default	Legacy
PS_0[3:1]	romidcfg[2:0]	Memory aperture size or ROM type select: If bios_rom_en = 0, romidcfg[2:0] define memory aperture size If bios_rom_en = 1, romidcfg[2:0] define ROM type	xxx	gpio_13 gpio_12 gpio_11
PS_0[4]	n/a	Reserved	1	genlk_vsync
PS_1[1]	bif_gen3_en_a	PCIe Gen3 capability: 1=Gen3 supported, 0=Gen3 not supported	x	gpio_2
PS_1[2]	bif_clk_pm_en	PCIe Clk PM capability: 1 = CLKREQB supported	x	gpio_8
PS_1[3]	n/a	Reserved		genlk_clk
PS_1[4]	tx_pwrs_enb	PCIe Tx power savings: 0=50% swing, 1=full swing	x	gpio_0
PS_1[5]	tx_deemph_en	PCIe Tx de-emphasis: 1=Tx de-emphasis enabled	x	gpio_1
PS_2[1]	n/a	Reserved		n/a
PS_2[2]	n/a	Reserved		n/a
PS_2[3]	bios_rom_en	Enable external BIOS ROM: 1=External ROM connected	x	gpio_22
PS_2[4]	vga_dis	VGA disable: 1=Disable this GPU as the system's VGA controller	0	gpio_9
PS_2[5]	n/a	Reserved		n/a
PS_3[1]	MEM Vendor ID	MEM Vendor ID	0	n/a
PS_3[2]	MEM Vendor ID	MEM Vendor ID	0	n/a
PS_3[3]	MEM Vendor ID	MEM Vendor ID	0	n/a
PS_3[5] PS_3[4] PS_0[5]	aud_port_cp[2] aud_port_cp[1] aud_port_cp[0]	3-bit field indicating number of audio-capable display outputs	xxx	n/a

MLPS Bit	Strap Name	Description
PS_0[1]	ROM_CONFIG[0]	See Primary Memory Aperture Sizes.
PS_0[2]	ROM_CONFIG[1]	
PS_0[3]	ROM_CONFIG[2]	
PS_0[4]	N/A	Reserved for internal use only. **Must be 1 at reset.**
PS_0[5]	AUD_PORT_CONN_PINSTRAP[0]	The LSB (least significant bit) of thestrap option that indicates thenumber of audio-capable displayoutputs.
PS_1[1]	STRAP_BIF_GEN3_EN_A	PCIe GEN3 capability. **1 = PCIe GEN3 is supported.**
PS_1[2]	STRAP_BIF_CLK_PM_EN	Determines whether or not thePCIe reference clock powermanagement capability is reportedin the PCI configuration space(otherwise known as CLKREQB). **0 = The CLKREQB powermanagement capability is disabled**
PS_1[3]	N/A	Reserved for internal use only. **Must be 0 at reset.**
PS_1[4]	STRAP_TX_CFG_DRV_FULL_SWING	Control the transmitter full-/half-swing mode **1 = The transmitter full-swing isenabled**
PS_1[5]	STRAP_TX_DEEMPH_EN	PCI EXPRESS® transmitter, de-emphasis enable. **1 = Tx deemphasis enabled.**
PS_2[1]	N/A	Reserved.
PS_2[2]	N/A	Reserved.
PS_2[3]	STRAP_BIOS_ROM_EN	To enable the external BIOS ROMdevice. **0 = Disable the external BIOS ROMdevice.**
PS_2[4]	STRAP_BIF_VGA_DIS	VGA disable determines whether ornot the card will be recognized asthe system's VGA controller(through the SUBCLASS field in thePCI configuration space). **0 = VGA controller capacityenabled.**
PS_2[5]	N/A	Reserved

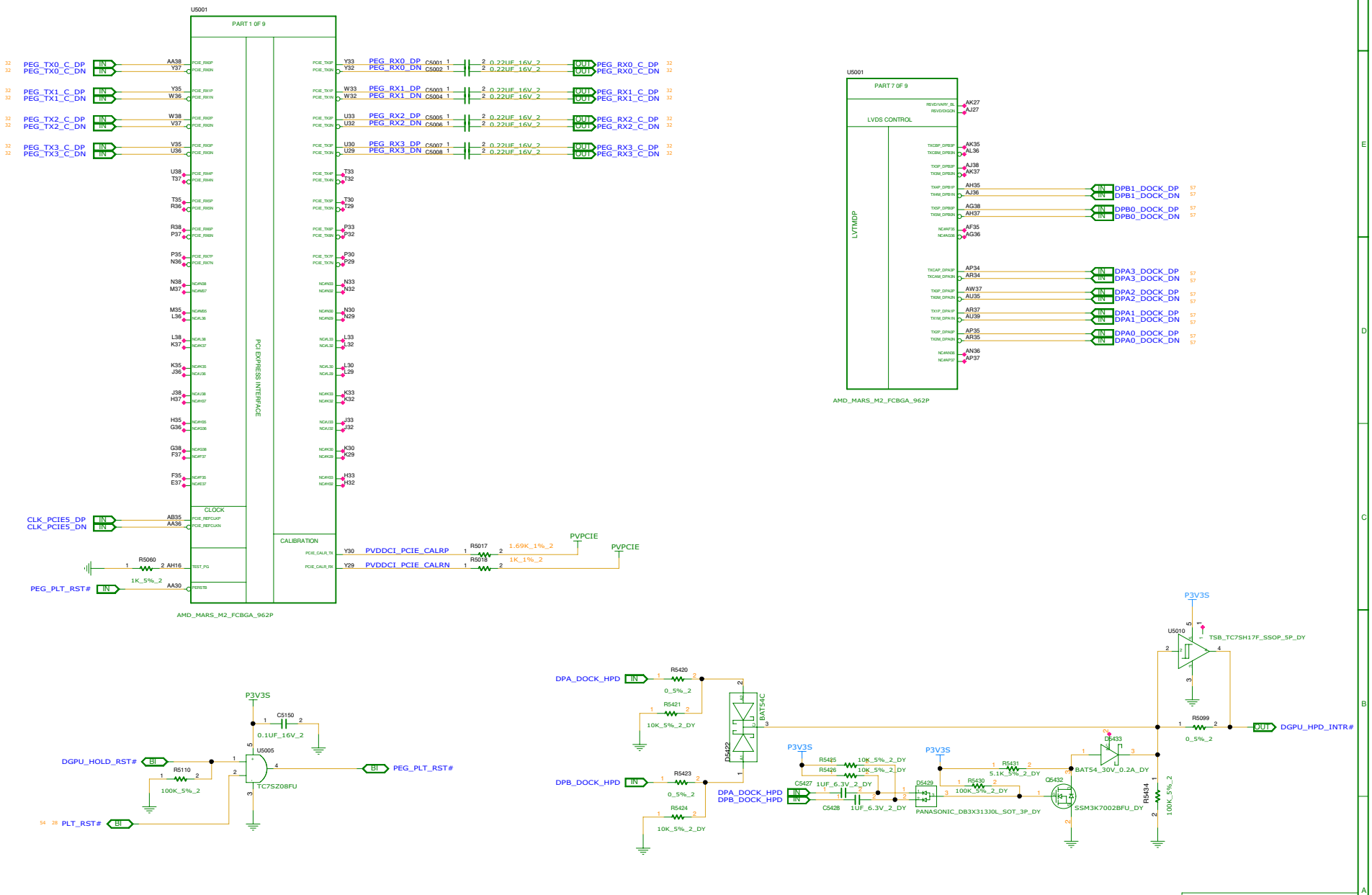
PS_2[1]	N/A	Reserved.
PS_2[2]	N/A	Reserved.
PS_2[3]	STRAP_BIOS_ROM_EN	To enable the external BIOS ROMdevice. **0 = Disable the external BIOS ROMdevice.**
PS_2[4]	STRAP_BIF_VGA_DIS	VGA disable determines whether ornot the card will be recognized asthe system's VGA controller(through the SUBCLASS field in thePCI configuration space). **0 = VGA controller capacityenabled.**
PS_2[5]	N/A	Reserved
PS_3[1]	BOARD_CONFIG[0]	See **Board** configuration relatedstrapping, such as for **memory ID.**
PS_3[2]	BOARD_CONFIG[1]	
PS_3[3]	BOARD_CONFIG[2]	
PS_3[4]	AUD_PORT_CONN_PINSTRAP[1]	Determines the maximum numberof digital display audio endpointsthat will be presented to the OS anduser.
PS_3[5]	AUD_PORT_CONN_PINSTRAP[2]	111 = No usable endpoints. 110 = One usable endpoint. **101 = Two usable endpoints.** 100 = Three usable endpoints. 011 = Four usable endpoints. 010 = Five usable endpoints. 001 = Six usable endpoints. 000 = All endpoints are usable.
Note : AUD[1] (on HYSNC) and AUD[0] (on VSYNC) still need to be properly pin strapped evenin a MLPS-based design.		

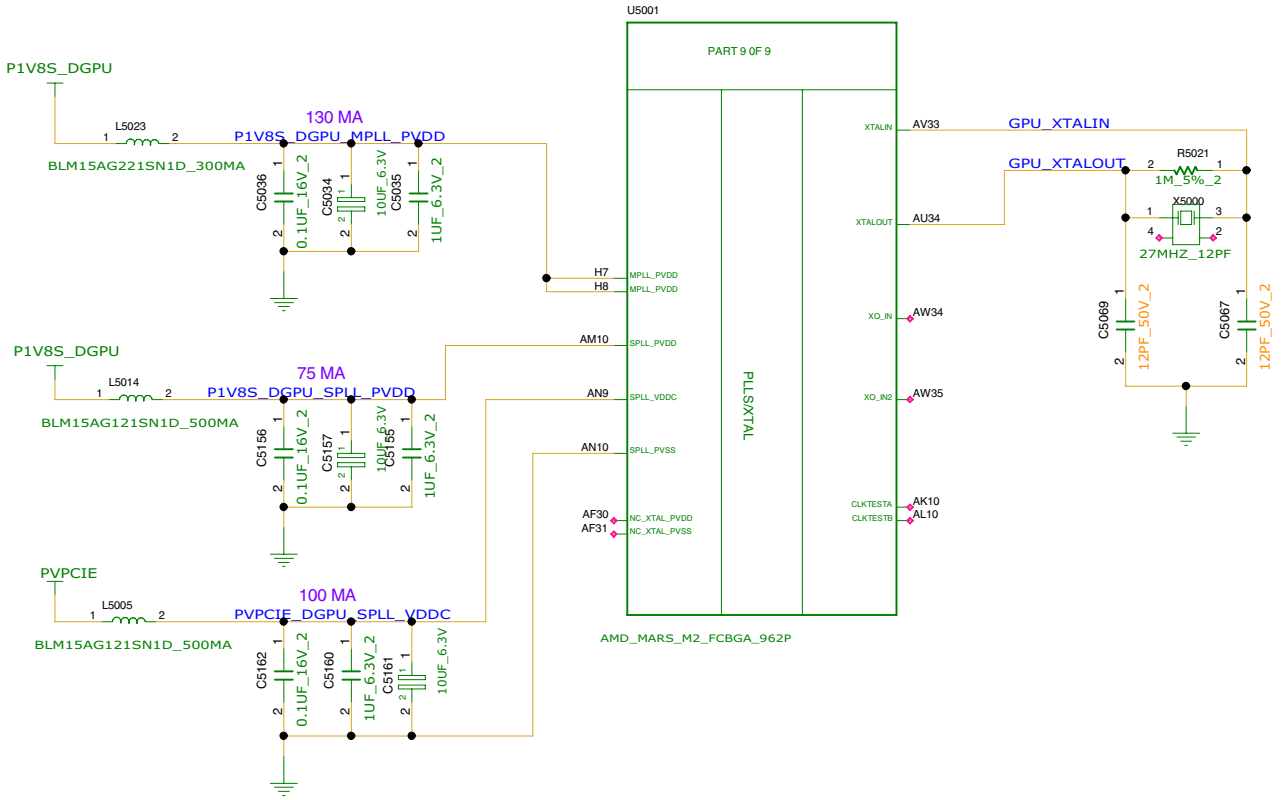
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
Block Diagram

SIZE	CODE	DOC.NUMBER	REV
C	CS	1310xxxx-0-0	X01

CHANGE by XXX DATE 21-OCT-2002 SHEET 69 of 72


U5001
PART 1 OF 9
PCI EXPRESS INTERFACE
CLOCK
CALIBRATION
PEG_TX0_C_DP
PEG_TX0_C_DN
PEG_TX1_C_DP
PEG_TX1_C_DN
PEG_TX2_C_DP
PEG_TX2_C_DN
PEG_TX3_C_DP
PEG_TX3_C_DN
PEG_RX0_DP
PEG_RX0_DN
PEG_RX1_DP
PEG_RX1_DN
PEG_RX2_DP
PEG_RX2_DN
PEG_RX3_DP
PEG_RX3_DN
0.22UF_16V_2
PEG_RX0_C_DP
PEG_RX0_C_DN
PEG_RX1_C_DP
PEG_RX1_C_DN
PEG_RX2_C_DP
PEG_RX2_C_DN
PEG_RX3_C_DP
PEG_RX3_C_DN
CLK_PCIE5_DP
CLK_PCIE5_DN
PEG_PLT_RST#
R5060
1K_5%_2
PVDDCI_PCIE_CALRP
PVDDCI_PCIE_CALRN
R5017
1.69K_1%_2
R5018
1K_1%_2
PVPCIE
AMD_MARS_M2_FCBGA_962P
U5001
PART 7 OF 9
LVDS CONTROL
LVTMDP
DPB1_DOCK_DP
DPB1_DOCK_DN
DPB0_DOCK_DP
DPB0_DOCK_DN
DPA3_DOCK_DP
DPA3_DOCK_DN
DPA2_DOCK_DP
DPA2_DOCK_DN
DPA1_DOCK_DP
DPA1_DOCK_DN
DPA0_DOCK_DP
DPA0_DOCK_DN
AMD_MARS_M2_FCBGA_962P
P3V3S
C5150
0.1UF_16V_2
DGPU_HOLD_RST#
R5110
100K_5%_2
U5005
TC7SZ08FU
PEG_PLT_RST#
PLT_RST#
DPA_DOCK_HPD
DPB_DOCK_HPD
R5420
0_5%_2
R5421
10K_5%_2_DY
R5423
R5424
D5422
BAT54C
R5425
R5426
10K_5%_2_DY
C5427
C5428
1UF_6.3V_2_DY
D5429
PANASONIC_DB3X313J0L_SOT_3P_DY
R5430
100K_5%_2_DY
R5431
5.1K_5%_2_DY
Q5432
SSM3K7002BFU_DY
D5433
BAT54_30V_0.2A_DY
R5434
100K_5%_2
U5010
TSB_TC7SH17F_SSOP_5P_DY
R5099
0_5%_2
DGPU_HPD_INTR#
INVENTEC
MODEL,PROJECT,FUNCTION
Block Diagram
SIZE C
CODE CS
DOC NUMBER 1310xxxxx-D-D
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 70 of 72

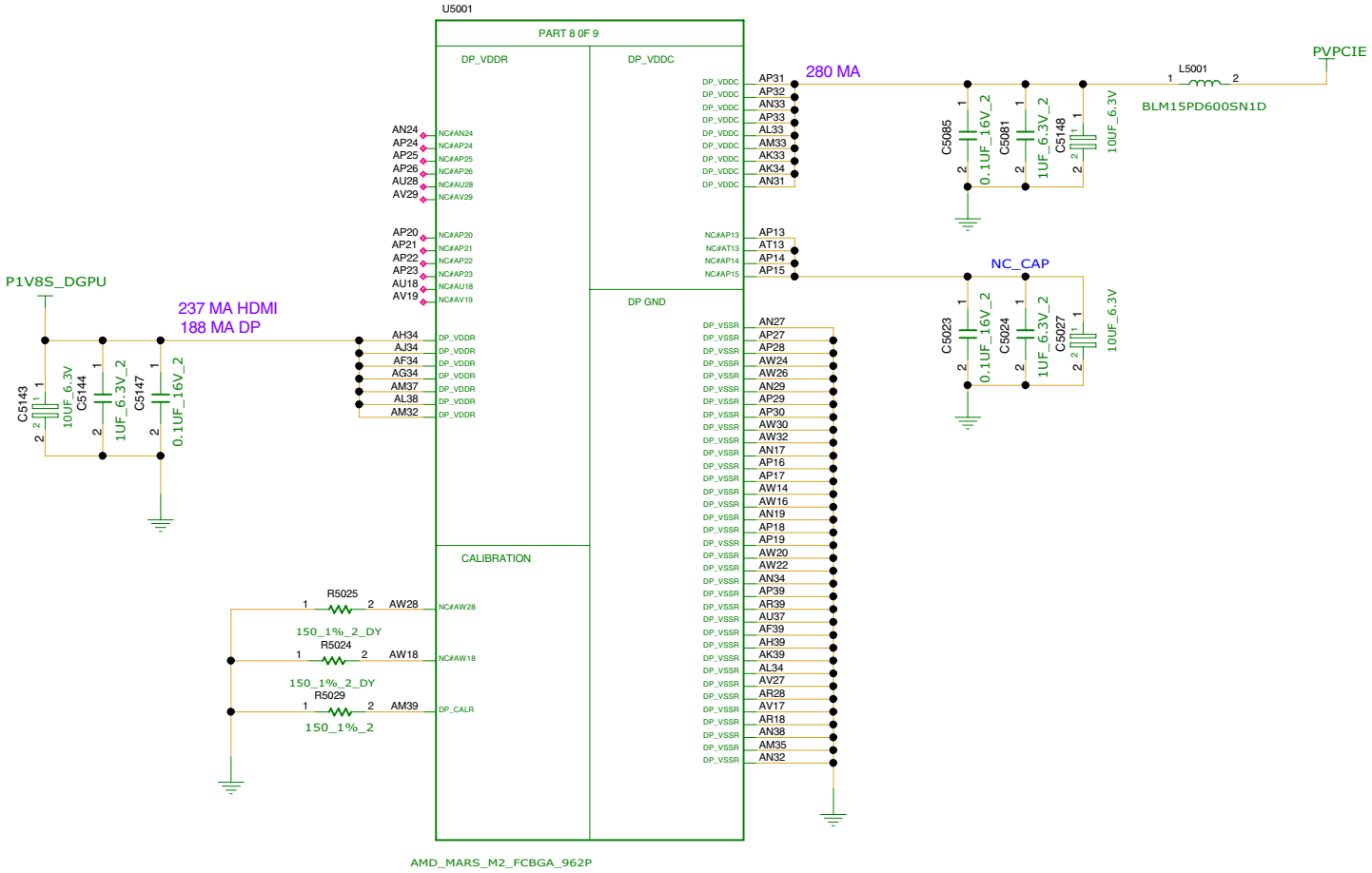


INVENTEC

TITLE
MODEL,PROJECT,FUNCTION
Block Diagram

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

CHANGE by XXX | DATE 21-OCT-2002 | SHEET 71 of 77

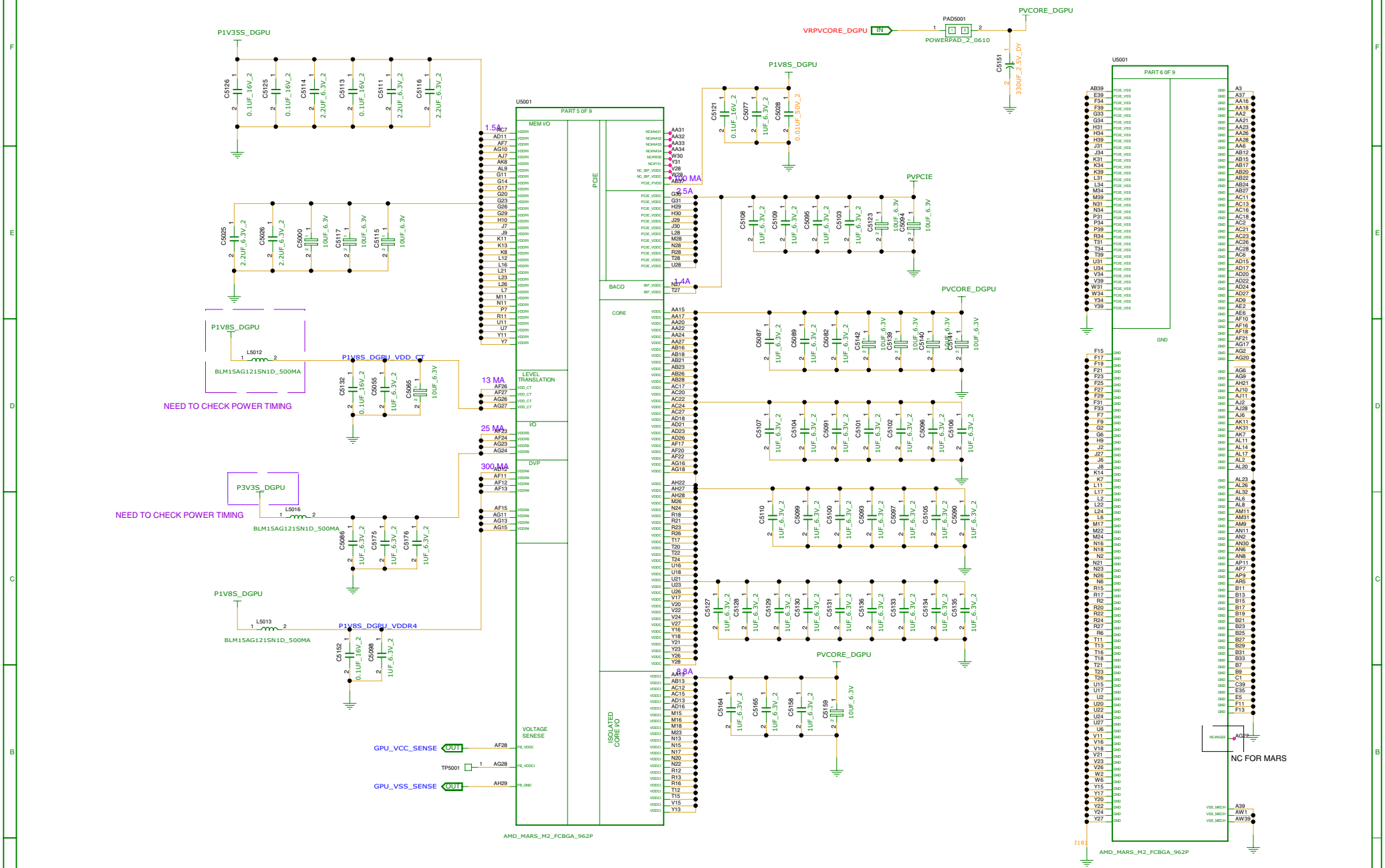


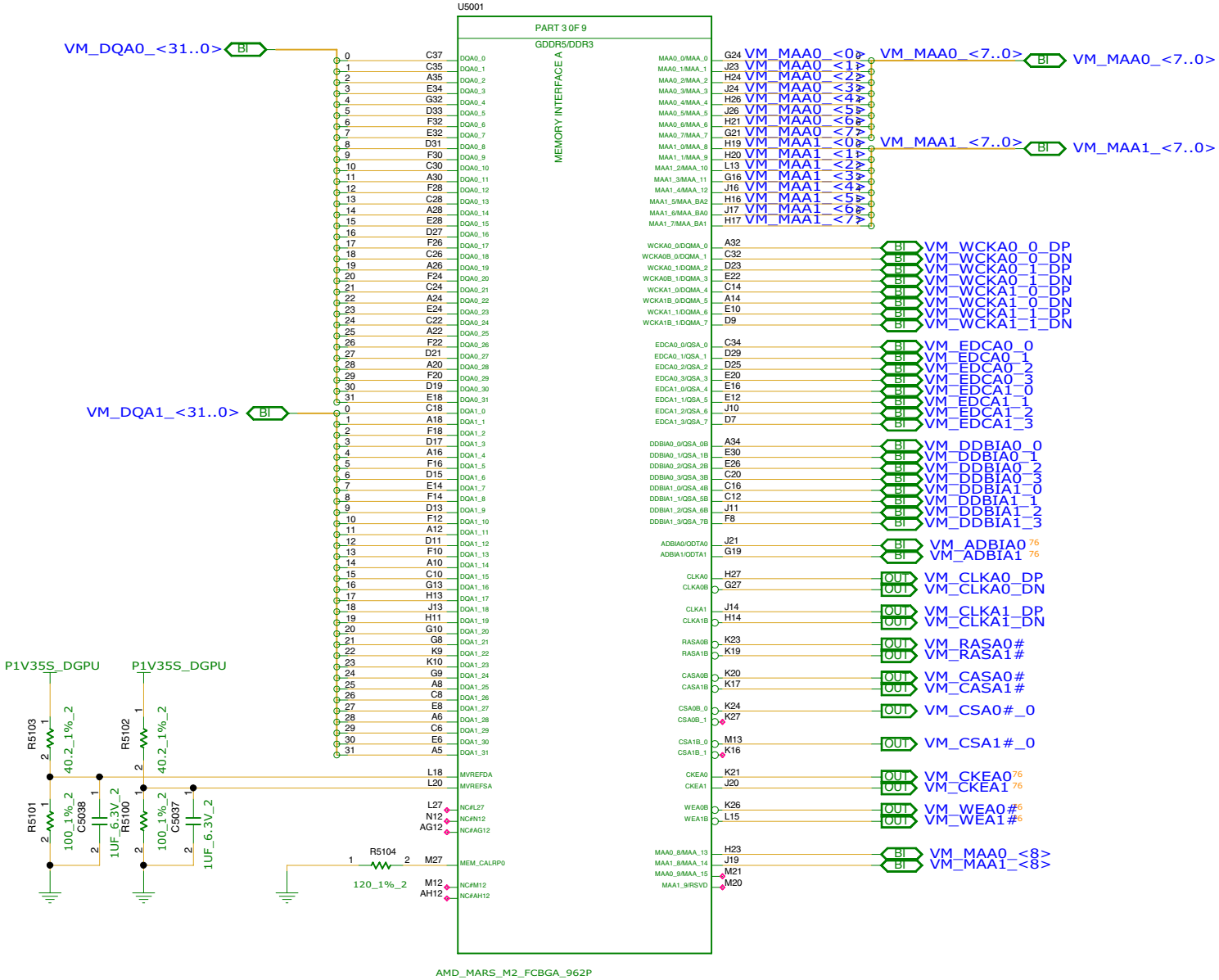
INVENTEC

TITLE: MODEL,PROJECT,FUNCTION Block Diagram

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

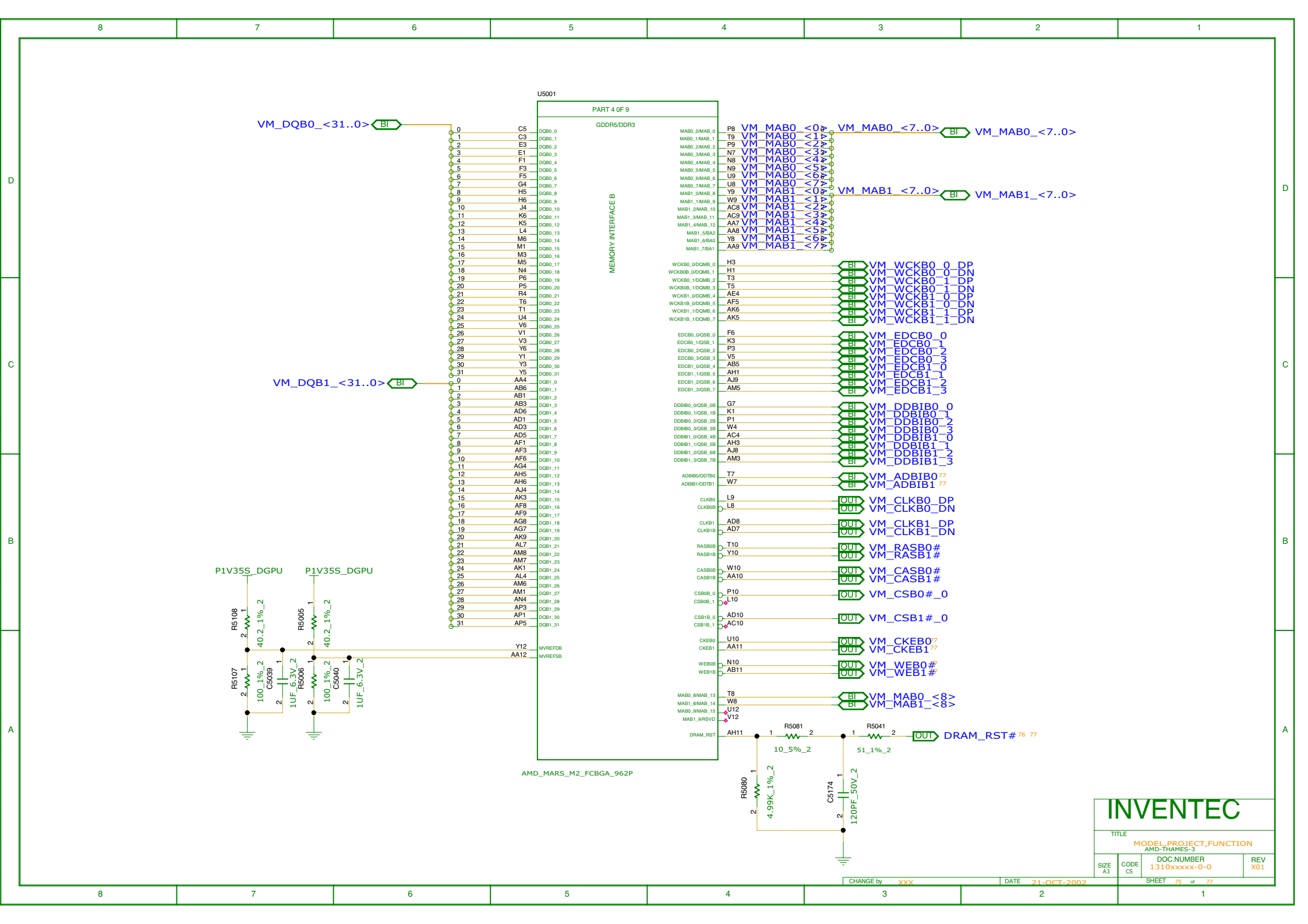
CHANGE by XXX | DATE 21-OCT-2002 | SHEET 72 of 77

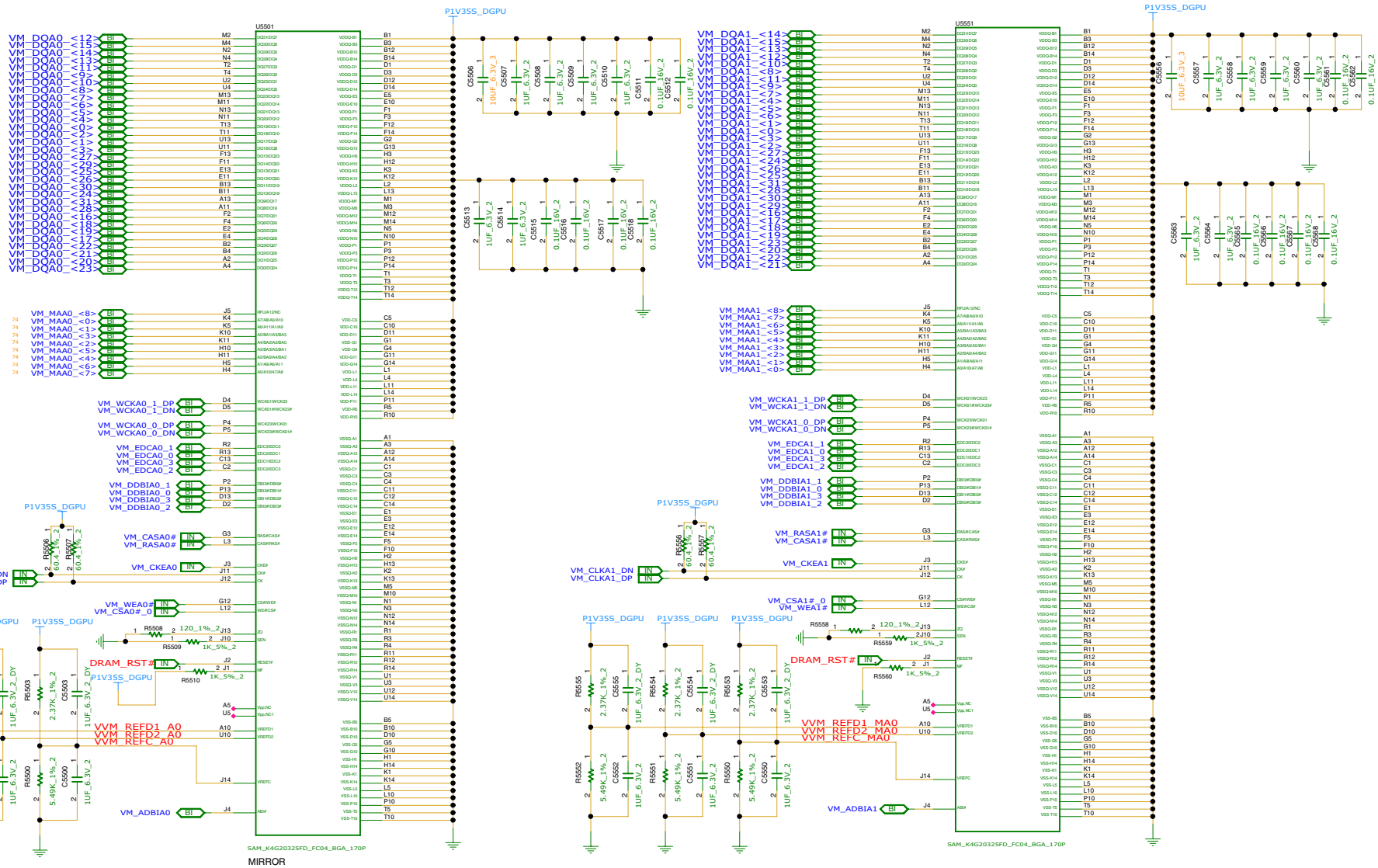

P1V35S_DGPU
C5126 0.1UF_16V_2
C5125 0.1UF_16V_2
C5114 2.2UF_6.3V_2
C5113 0.1UF_16V_2
C5111 2.2UF_6.3V_2
C5116 2.2UF_6.3V_2
C5025 2.2UF_6.3V_2
C5026 2.2UF_6.3V_2
C5000 10UF_6.3V
C5117 10UF_6.3V
C5115 10UF_6.3V
P1V8S_DGPU
L5012
BLM15AG121SN1D_500MA
P1V8S_DGPU_VDD_CT
NEED TO CHECK POWER TIMING
C5132 0.1UF_16V_2
C5055 1UF_6.3V_2
C5095 2.2UF_6.3V
C5001 10UF_6.3V
P3V3S_DGPU
L5016
BLM15AG121SN1D_500MA
C5086 1UF_6.3V_2
C5175 1UF_6.3V_2
C5176 1UF_6.3V_2
P1V8S_DGPU
L5013
BLM15AG121SN1D_500MA
P1V8S_DGPU_VDDR4
C5152 0.1UF_16V_2
C5098 1UF_6.3V_2
1.5A
13 MA
25 MA
300 MA
GPU_VCC_SENSE
OUT
TP5001
GPU_VSS_SENSE
U5001
PART 5 OF 9
MEM I/O
PCIE
BACO
CORE
LEVEL TRANSLATION
I/O
DVP
VOLTAGE SENESE
ISOLATED CORE I/O
AMD_MARS_M2_FCBGA_962P
P1V8S_DGPU
C5121 0.1UF_16V_2
C5077 1UF_6.3V_2
C5028 0.01UF_50V_2
100 MA
2.5A
1.4A
PVPCIE
C5108 1UF_6.3V_2
C5109 1UF_6.3V_2
C5095 1UF_6.3V_2
C5103 1UF_6.3V_2
C5123 10UF_6.3V
C5094 10UF_6.3V
PVCORE_DGPU
C5087 1UF_6.3V_2
C5089 1UF_6.3V_2
C5082 1UF_6.3V_2
C5142 10UF_6.3V
C5139 10UF_6.3V
C5140 10UF_6.3V
C5141 10UF_6.3V
C5107 1UF_6.3V_2
C5104 1UF_6.3V_2
C5091 1UF_6.3V_2
C5101 1UF_6.3V_2
C5102 1UF_6.3V_2
C5096 1UF_6.3V_2
C5106 1UF_6.3V_2
C5110 1UF_6.3V_2
C5099 1UF_6.3V_2
C5100 1UF_6.3V_2
C5093 1UF_6.3V_2
C5097 1UF_6.3V_2
C5105 1UF_6.3V_2
C5090 1UF_6.3V_2
C5127 1UF_6.3V_2
C5128 1UF_6.3V_2
C5129 1UF_6.3V_2
C5130 1UF_6.3V_2
C5131 1UF_6.3V_2
C5136 1UF_6.3V_2
C5133 1UF_6.3V_2
C5134 1UF_6.3V_2
C5135 1UF_6.3V_2
PVCORE_DGPU
C5164 1UF_6.3V_2
C5165 1UF_6.3V_2
C5158 1UF_6.3V_2
C5159 10UF_6.3V
8.8A
VRPVCORE_DGPU
IN
PAD5001
POWERPAD_2_0610
PVCORE_DGPU
C5151 330UF_2.5V_DY
U5001
PART 6 OF 9
GND
NC FOR MARS
AMD_MARS_M2_FCBGA_962P
INVENTEC
MODEL,PROJECT,FUNCTION
AMD-THAMES-1
SIZE C
CODE CS
DOC NUMBER 1310xxxxx-D-D
REV X01
SHEET 73 of 72
CHANGE by XXX
DATE 21-OCT-2002



TITLE	MODEL,PROJECT,FUNCTION AMD-THAMES-4
SIZE	A3
CODE	CS
DOC.NUMBER	1310xxxxx-0-0
REV	X01
CHANGE by	XXX
DATE	21-OCT-2002
SHEET	74 of 77

INVENTEC


U5001
PART 4 0F 9
GDDR5/DDR3
MEMORY INTERFACE B
AMD_MARS_M2_FCBGA_962P
VM_DQB0_<31..0>
VM_DQB1_<31..0>
VM_MAB0_<7..0>
VM_MAB1_<7..0>
VM_WCKB0_0_DP
VM_WCKB0_0_DN
VM_WCKB0_1_DP
VM_WCKB0_1_DN
VM_WCKB1_0_DP
VM_WCKB1_0_DN
VM_WCKB1_1_DP
VM_WCKB1_1_DN
VM_EDCB0_0
VM_EDCB0_1
VM_EDCB0_2
VM_EDCB0_3
VM_EDCB1_0
VM_EDCB1_1
VM_EDCB1_2
VM_EDCB1_3
VM_DDBIB0_0
VM_DDBIB0_1
VM_DDBIB0_2
VM_DDBIB0_3
VM_DDBIB1_0
VM_DDBIB1_1
VM_DDBIB1_2
VM_DDBIB1_3
VM_ADBIB0
VM_ADBIB1
VM_CLKB0_DP
VM_CLKB0_DN
VM_CLKB1_DP
VM_CLKB1_DN
VM_RASB0#
VM_RASB1#
VM_CASB0#
VM_CASB1#
VM_CSB0#_0
VM_CSB1#_0
VM_CKEB0
VM_CKEB1
VM_WEB0#
VM_WEB1#
VM_MAB0_<8>
VM_MAB1_<8>
DRAM_RST#
P1V35S_DGPU
P1V35S_DGPU
R5108 40.2_1%_2
R5005 40.2_1%_2
R5107 100_1%_2
C5039 1UF_6.3V_2
R5006 100_1%_2
C5040 1UF_6.3V_2
R5081 10_5%_2
R5041 51_1%_2
R5080 4.99K_1%_2
C5174 120PF_50V_2
INVENTEC
TITLE
MODEL,PROJECT,FUNCTION
AMD-THAMES-3
SIZE A3
CODE CS
DOC.NUMBER 1310xxxxx-0-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 75 of 77


P1V35S_DGPU
U5501
U5551
SAM_K4G20325FD_FC04_BGA_170P
VM_DQA0_<12>
VM_DQA0_<15>
VM_DQA0_<14>
VM_DQA0_<13>
VM_DQA0_<11>
VM_DQA0_<9>
VM_DQA0_<10>
VM_DQA0_<8>
VM_DQA0_<7>
VM_DQA0_<6>
VM_DQA0_<5>
VM_DQA0_<4>
VM_DQA0_<0>
VM_DQA0_<2>
VM_DQA0_<1>
VM_DQA0_<3>
VM_DQA0_<27>
VM_DQA0_<29>
VM_DQA0_<25>
VM_DQA0_<26>
VM_DQA0_<30>
VM_DQA0_<24>
VM_DQA0_<31>
VM_DQA0_<28>
VM_DQA0_<16>
VM_DQA0_<18>
VM_DQA0_<19>
VM_DQA0_<17>
VM_DQA0_<22>
VM_DQA0_<21>
VM_DQA0_<20>
VM_DQA0_<23>
VM_DQA1_<14>
VM_DQA1_<15>
VM_DQA1_<13>
VM_DQA1_<12>
VM_DQA1_<10>
VM_DQA1_<8>
VM_DQA1_<11>
VM_DQA1_<9>
VM_DQA1_<4>
VM_DQA1_<5>
VM_DQA1_<6>
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VM_DQA1_<0>
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VM_DQA1_<25>
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VM_DQA1_<18>
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VM_DQA1_<23>
VM_DQA1_<20>
VM_DQA1_<22>
VM_DQA1_<21>
VM_MAA0_<8>
VM_MAA0_<0>
VM_MAA0_<1>
VM_MAA0_<3>
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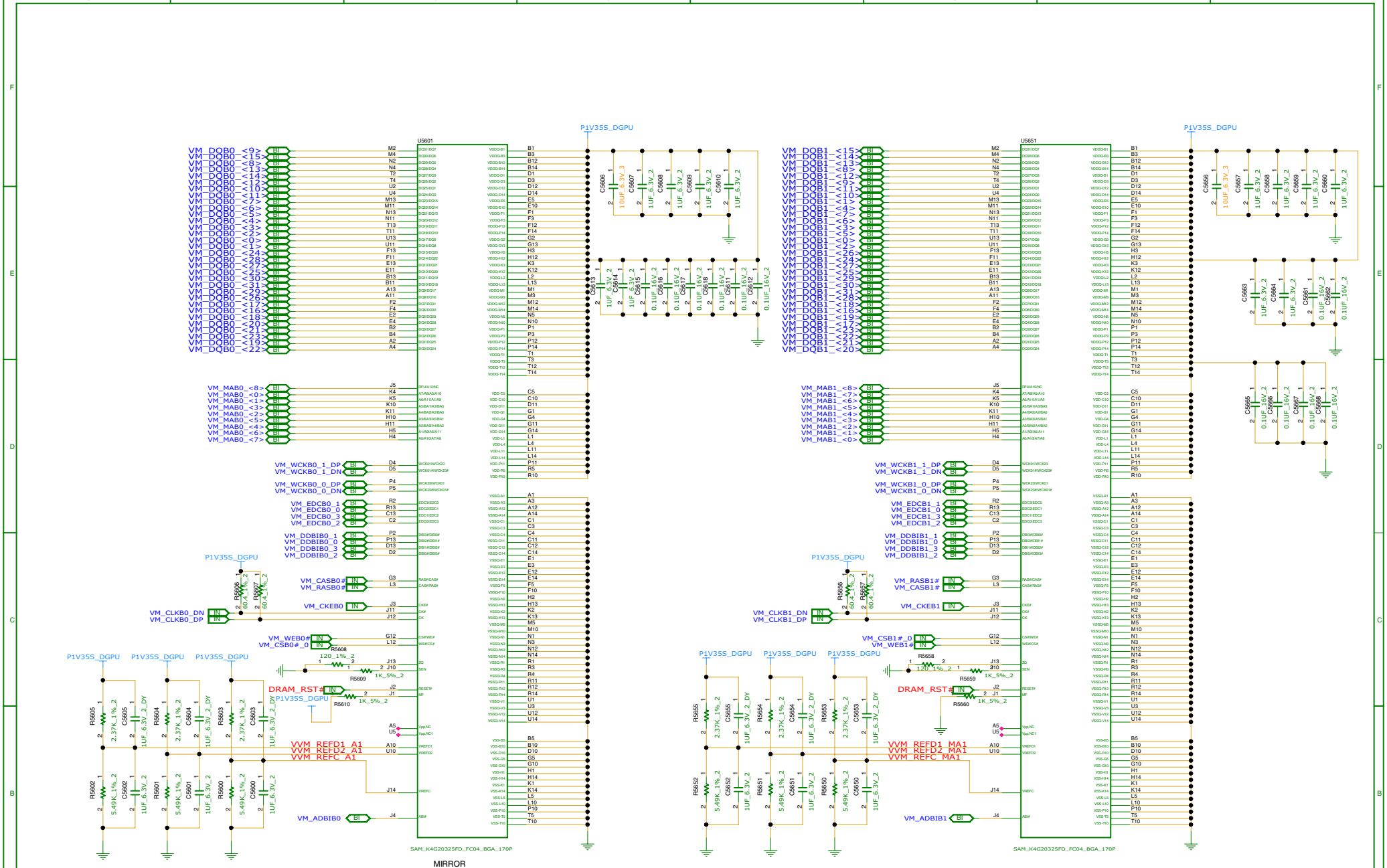
VM_MAA0_<5>
VM_MAA0_<4>
VM_MAA0_<6>
VM_MAA0_<7>
VM_MAA1_<8>
VM_MAA1_<7>
VM_MAA1_<6>
VM_MAA1_<5>
VM_MAA1_<4>
VM_MAA1_<3>
VM_MAA1_<2>
VM_MAA1_<1>
VM_MAA1_<0>
VM_WCKA0_1_DP
VM_WCKA0_1_DN
VM_WCKA0_0_DP
VM_WCKA0_0_DN
VM_WCKA1_1_DP
VM_WCKA1_1_DN
VM_WCKA1_0_DP
VM_WCKA1_0_DN
VM_EDCA0_1
VM_EDCA0_0
VM_EDCA0_3
VM_EDCA0_2
VM_EDCA1_1
VM_EDCA1_0
VM_EDCA1_3
VM_EDCA1_2
VM_DDBIA0_1
VM_DDBIA0_0
VM_DDBIA0_3
VM_DDBIA0_2
VM_DDBIA1_1
VM_DDBIA1_0
VM_DDBIA1_3
VM_DDBIA1_2
VM_CASA0#
VM_RASA0#
VM_RASA1#
VM_CASA1#
VM_CKEA0
VM_CKEA1
VM_CLKA0_DN
VM_CLKA0_DP
VM_CLKA1_DN
VM_CLKA1_DP
VM_WEA0#
VM_CSA0#_0
VM_CSA1#_0
VM_WEA1#
DRAM_RST#
VM_REFD1_A0
VM_REFD2_A0
VM_REFC_A0
VM_REFD1_MA0
VM_REFD2_MA0
VM_REFC_MA0
VM_ADBIA0
VM_ADBIA1
MIRROR
MF=1
INVENTEC
MODEL,PROJECT,FUNCTION
VRAM-1
SIZE C
CODE CS
DOC NUMBER 1310xxxx-D-0
REV X01
CHANGE by XXX
DATE 21-OCT-2002
SHEET 76 of 77



INVENTEC

TITLE: MODEL,PROJECT,FUNCTION
VRAM-2

SIZE	CODE	DOC NUMBER	REV
C	CS	1310xxxxx-D-D	X01

CHANGE by: XXX
DATE: 21-OCT-2002
SHEET 72 of 72