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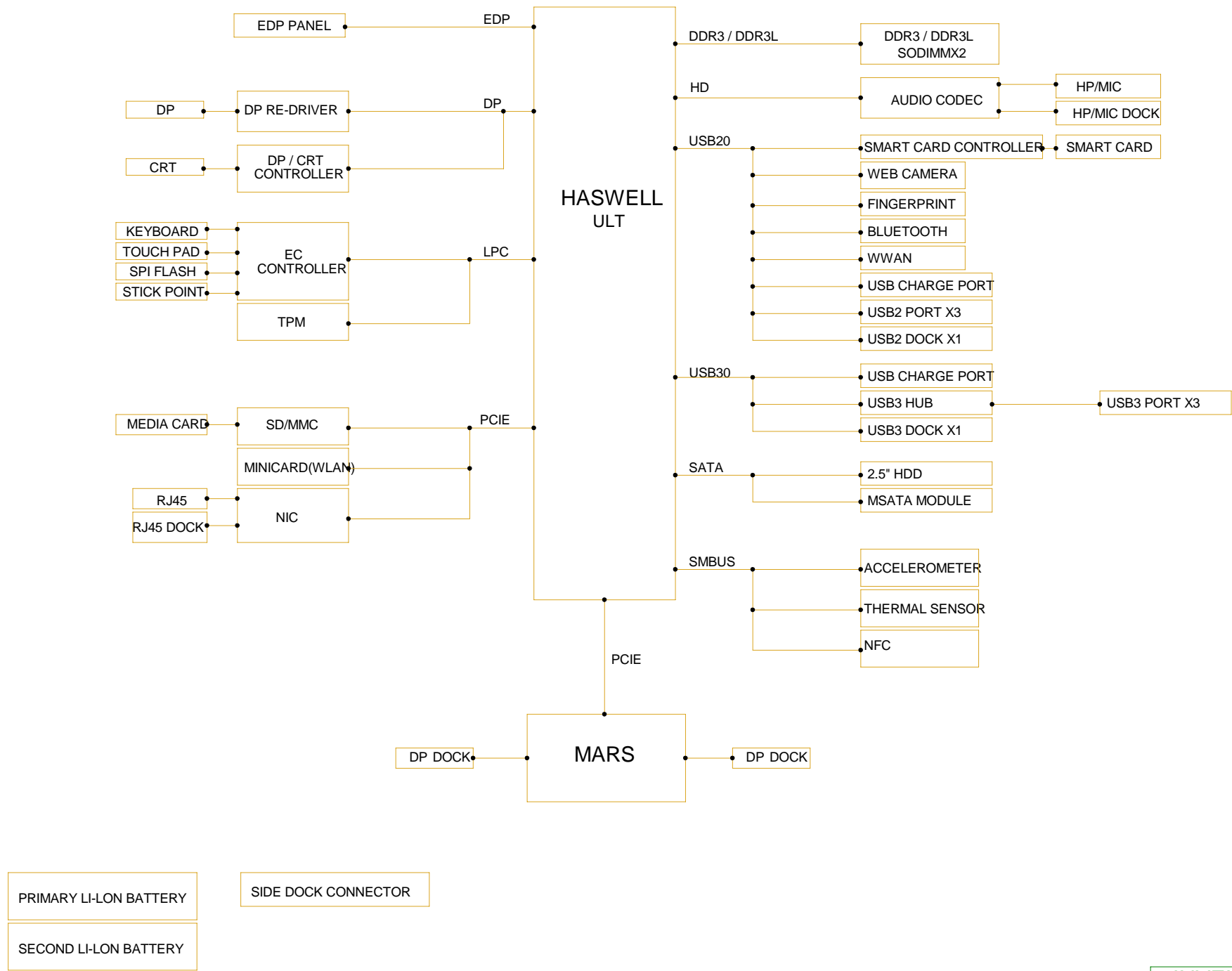
# COMET DIS

## SI2 BUILD

2013.02.27

21-OCT-2002		
DATE	CHANGE NO.	REV

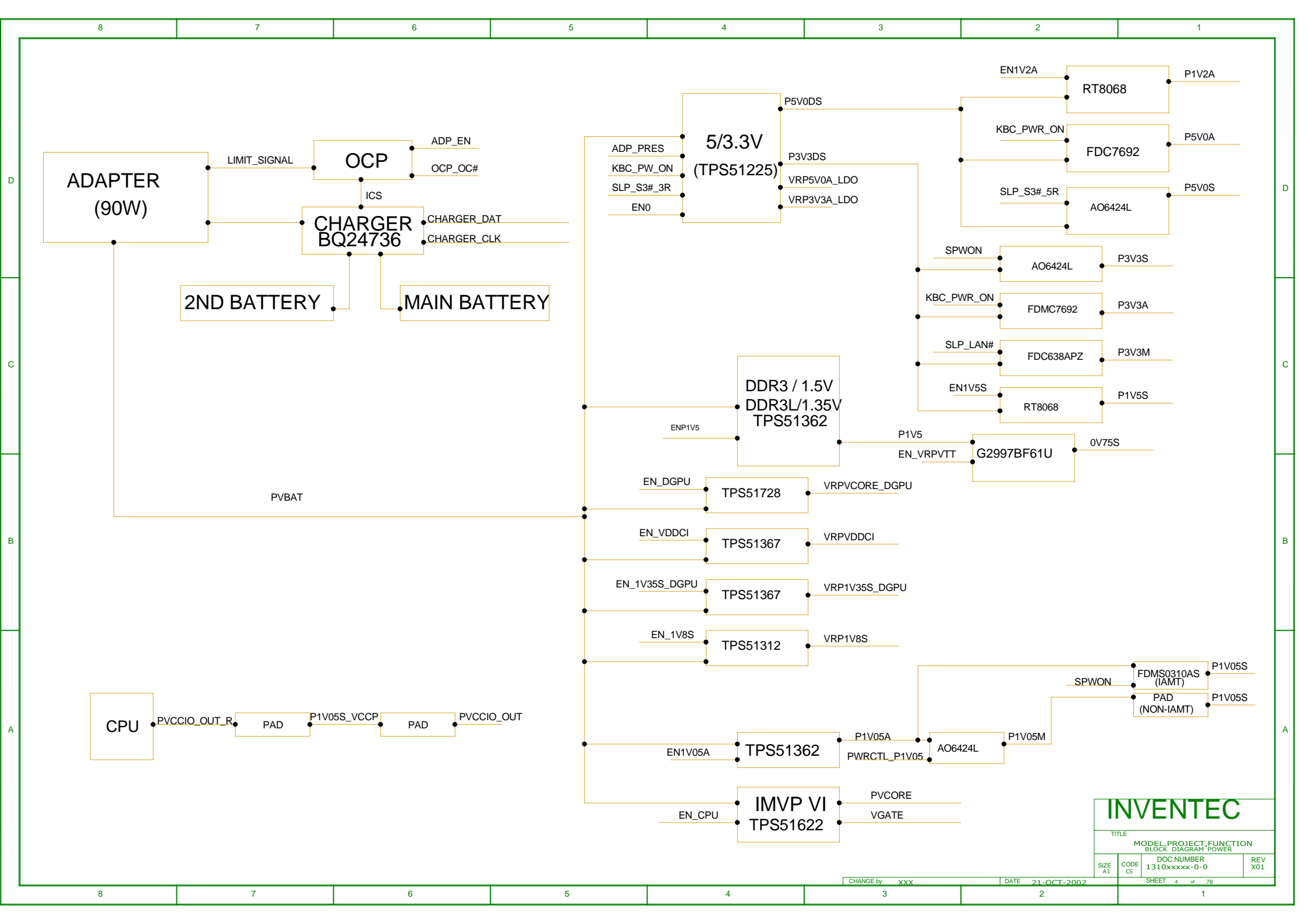
DRAWER					INVENTEC			
DESIGN		EE	DATE	POWER	DATE	TITLE		
CHECK		EEA CHEN	2013/1/8	RAY CHEN	2013/1/8			
RESPONSIBLE		EEA CHEN	2013/1/8	RAY CHEN	2013/1/8	MODEL, PROJECT, FUNCTION		
		EEA CHEN	2013/1/8	RAY CHEN	2013/1/8	COMET		
SIZE: A1					VER: A01	SIZE: C	CODE: CS	DOC NUMBER: 6310XXXX-0-0
FILE NAME: COMET DIS						SHEET		REV: Y01
PIN: 00000000000000000000								



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02.BLOCK DIAGRAM	27.HASWELL_1 (MISC,JTAG)	52.KEYBOARD
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		77.VRAM-2

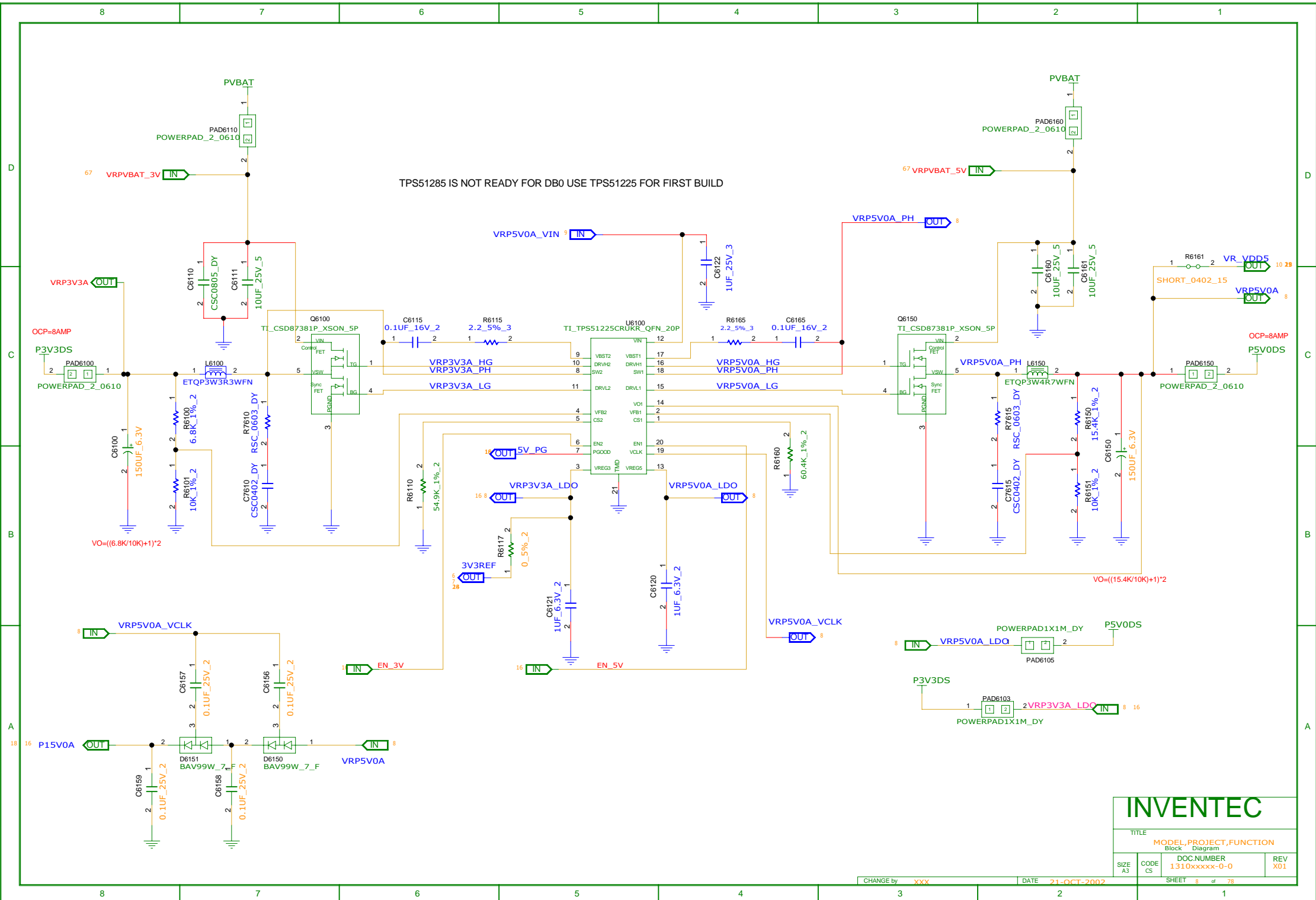
INVENTEC			
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MODEL,PROJECT,FUNCTION			
TABLE OF CONTENTS			
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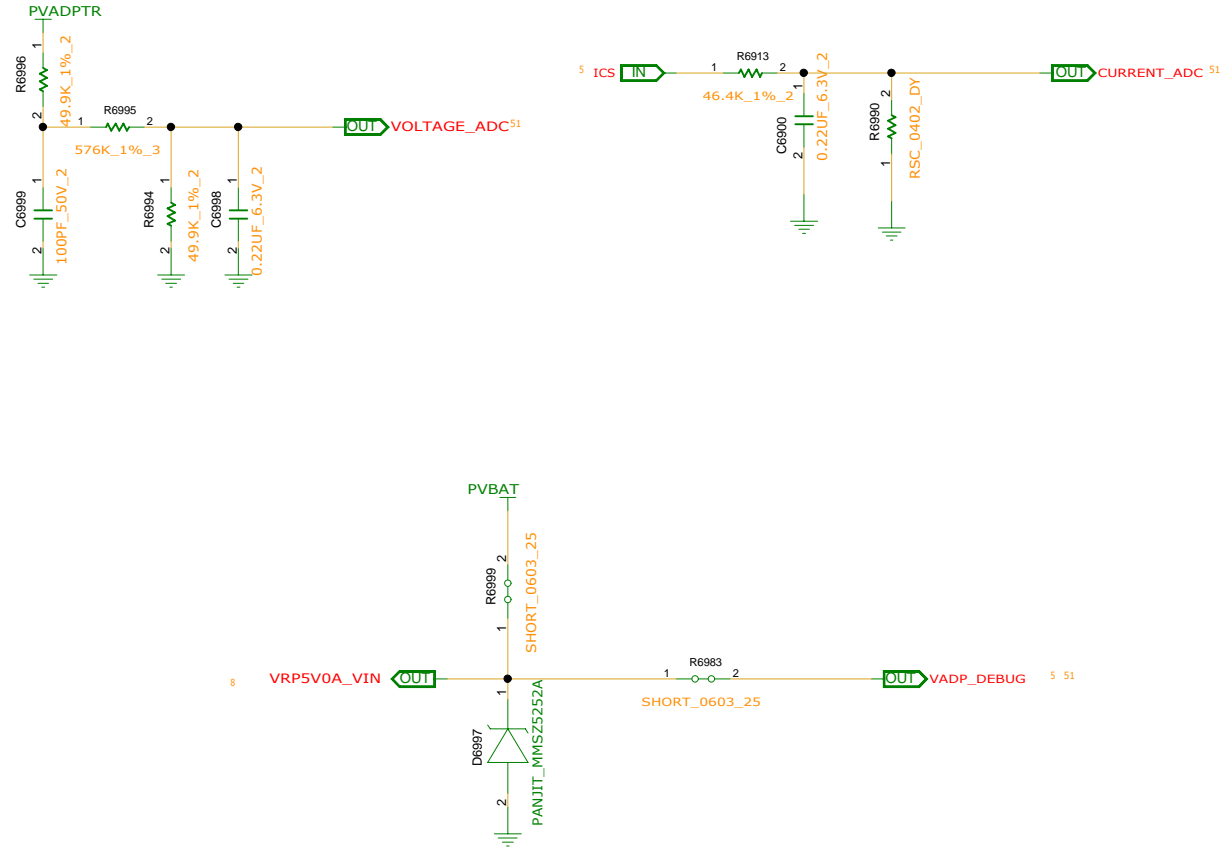












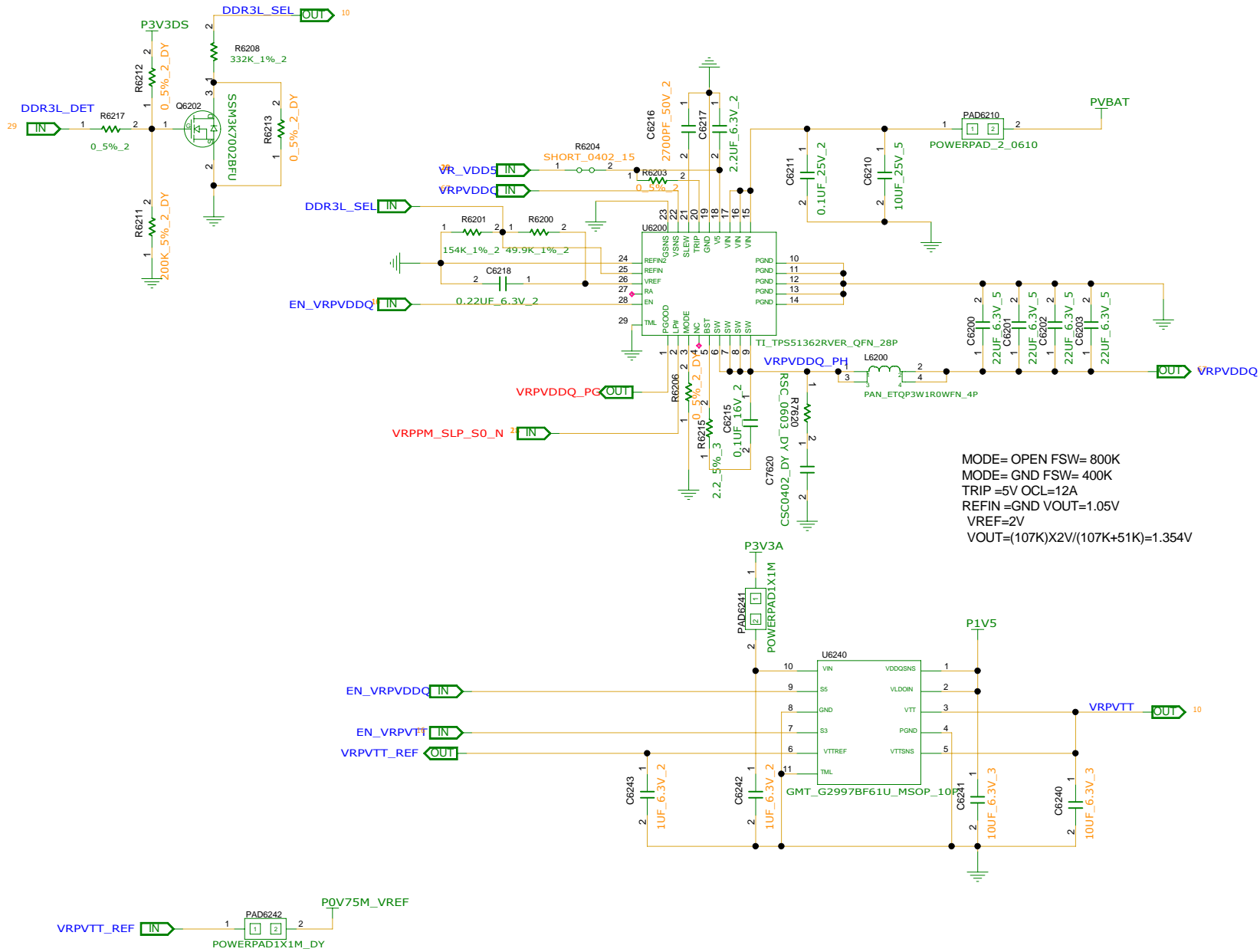
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TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

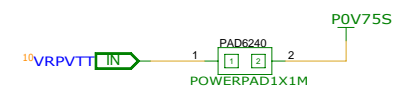
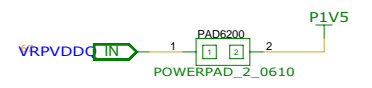
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CHANGE by XXX DATE 21-OCT-2002

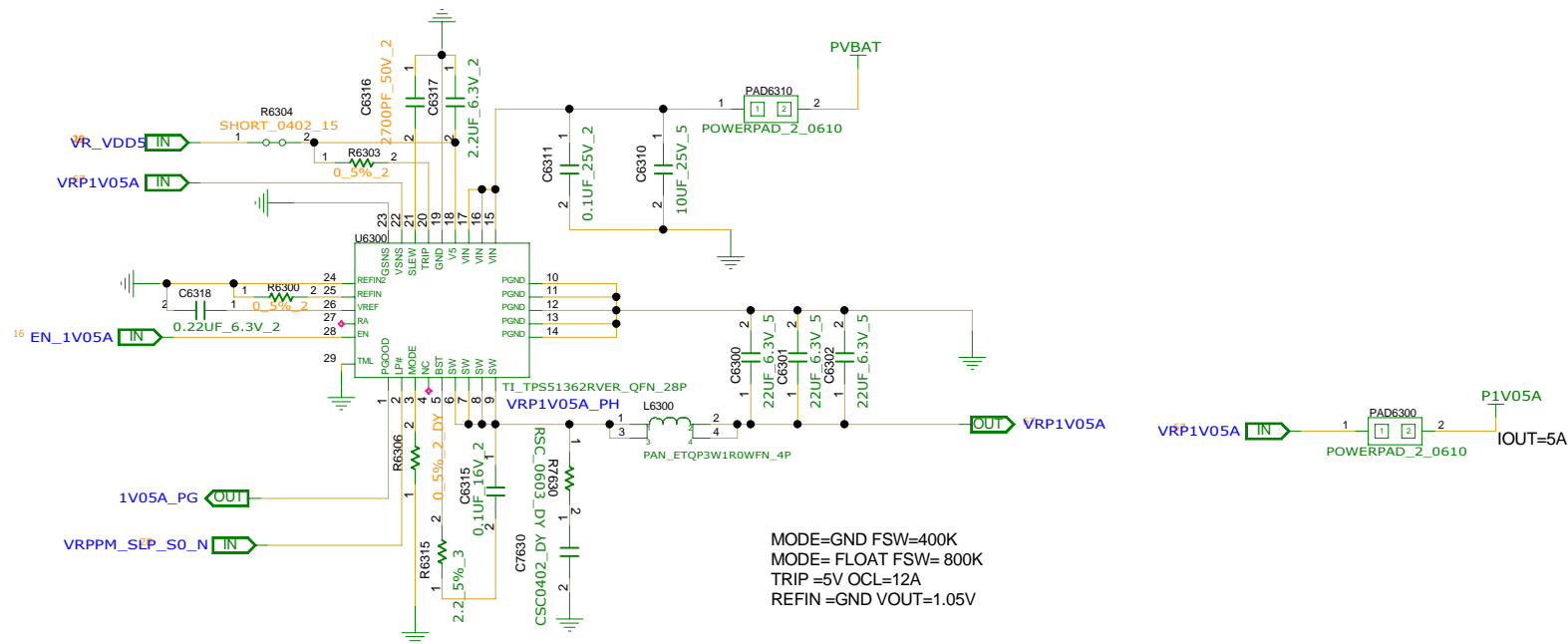
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MODE= OPEN FSW= 800K  
 MODE= GND FSW= 400K  
 TRIP =5V OCL=12A  
 REFIN =GND VOUT=1.05V  
 VREF=2V  
 $VOUT=(107K) \times 2V / ((107K+51K)=1.354V$



<b>INVENTEC</b>			
TITLE			
MODEL,PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
CHANGE by		DATE	SHEET
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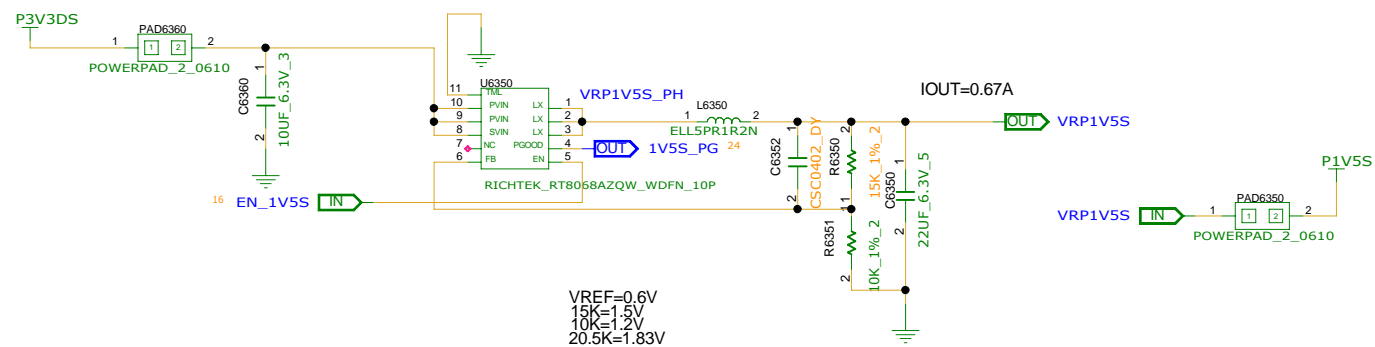
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TITLE  
 MODEL,PROJECT,FUNCTION  
 Block Diagram

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

CHANGE by XXX DATE 21-OCT-2002

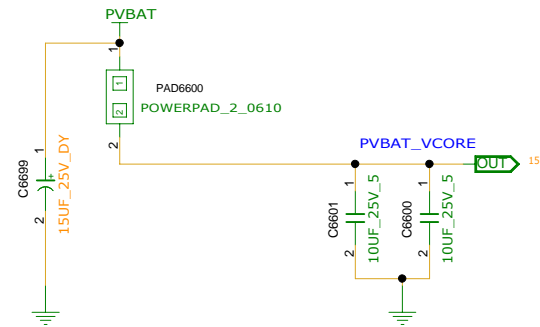
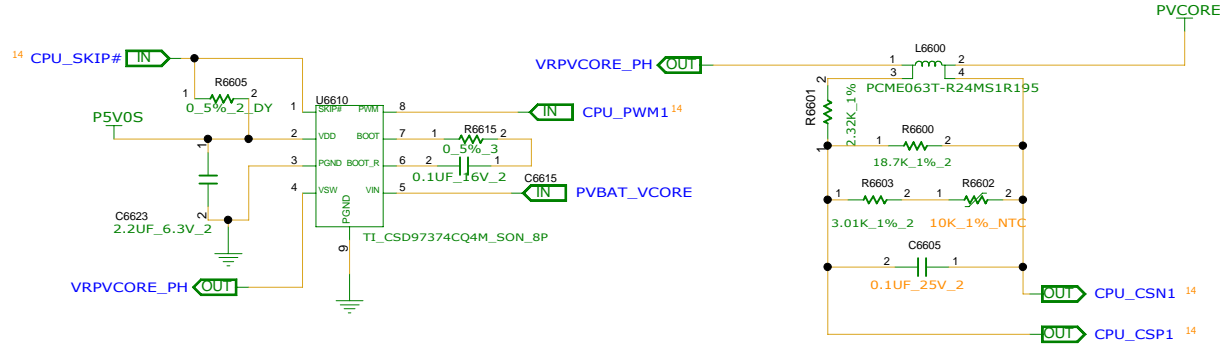
SHEET 11 of 78



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



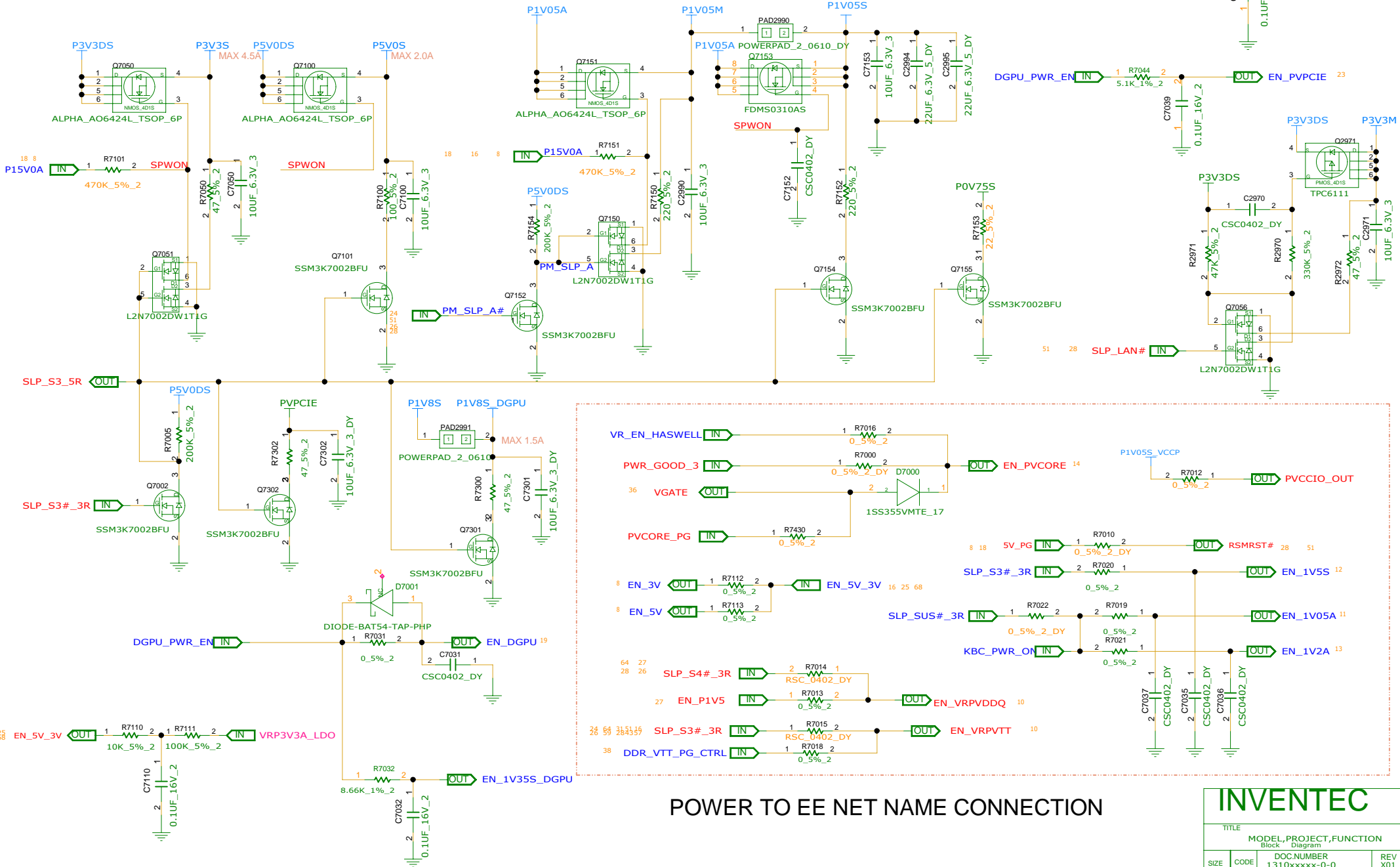




INVENTEC

TITLE  
MODEL,PROJECT,FUNCTION  
Block Diagram

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

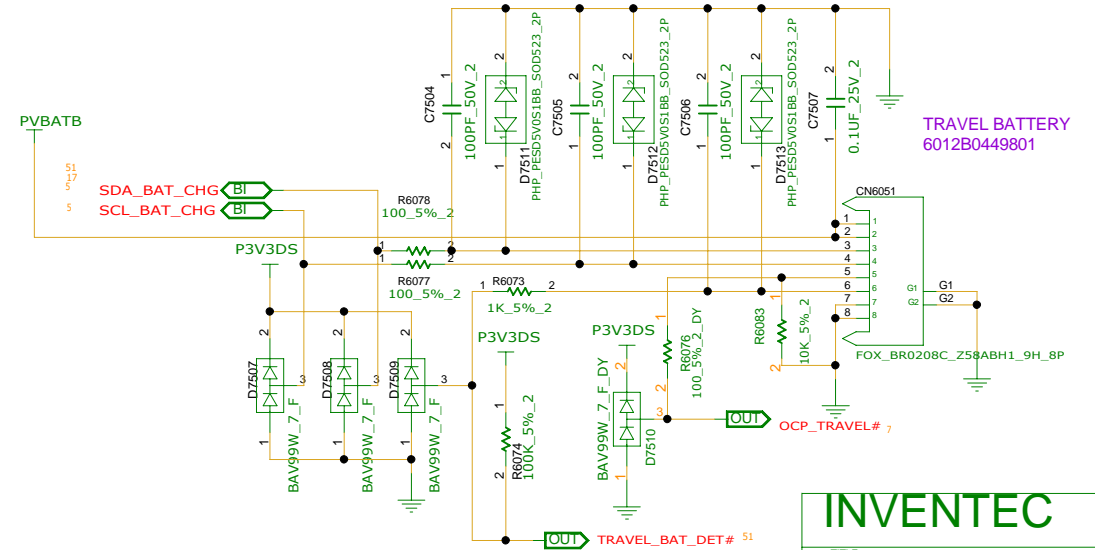
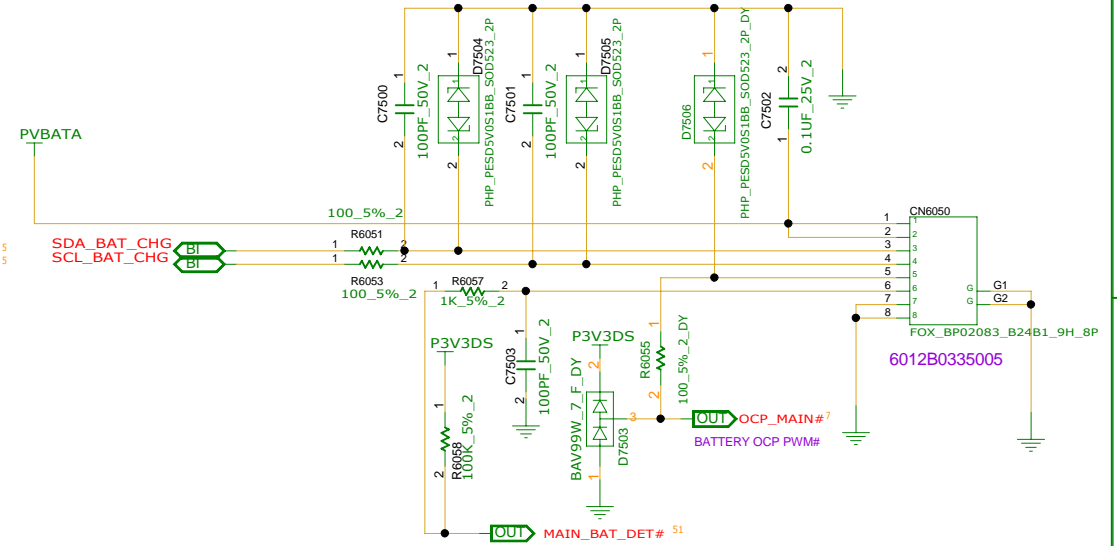
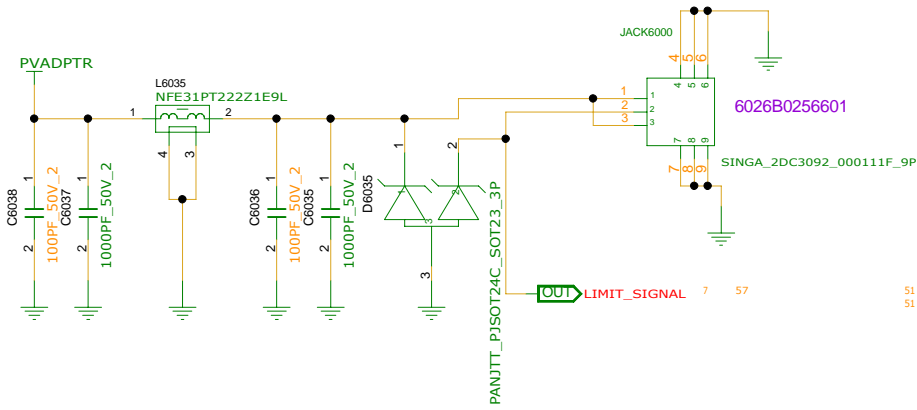
[illegible]

## POWER TO EE NET NAME CONNECTION

# INVENTEC

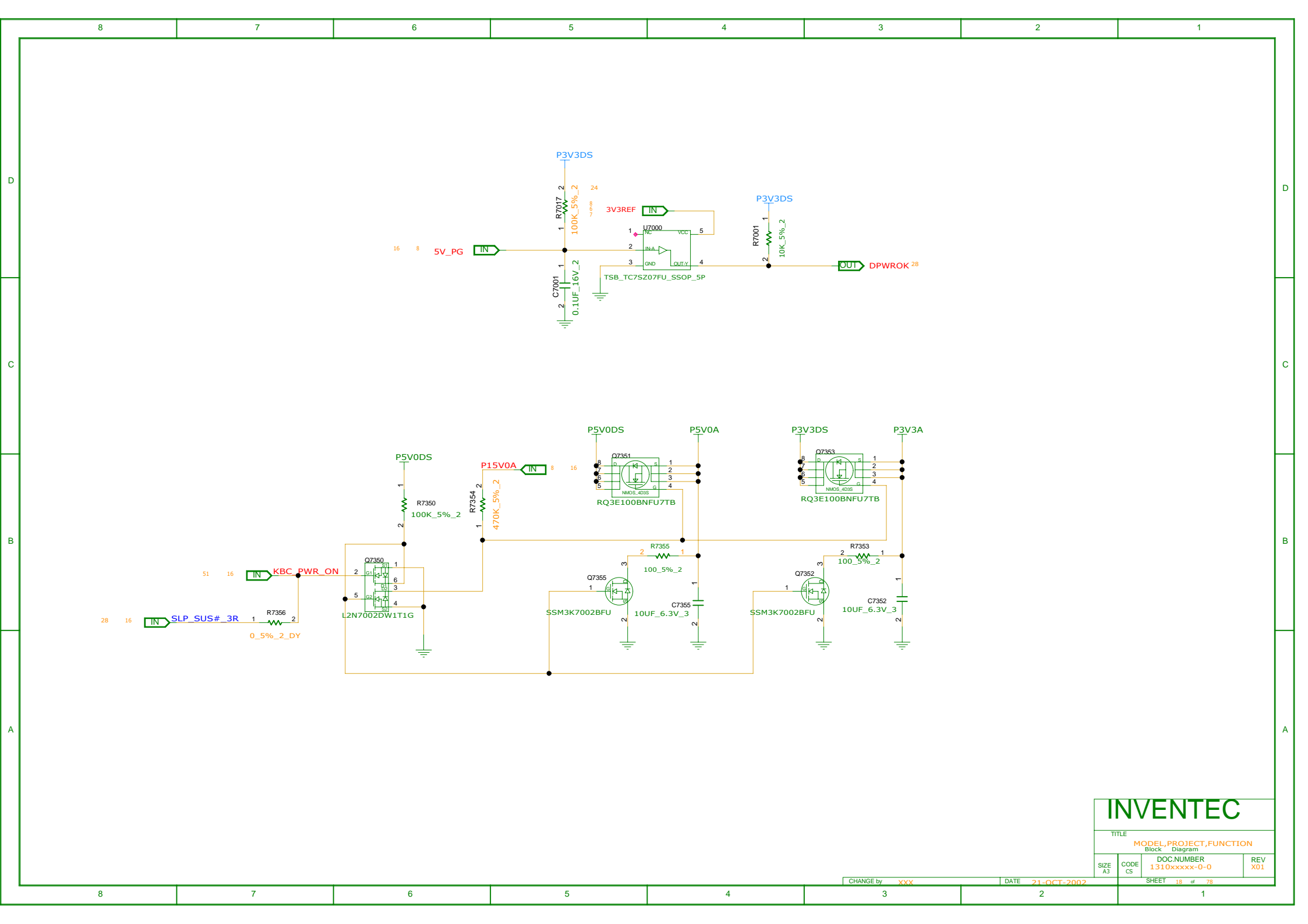
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MODEL,PROJECT,FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01





INVENTEC

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



INVENTEC

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



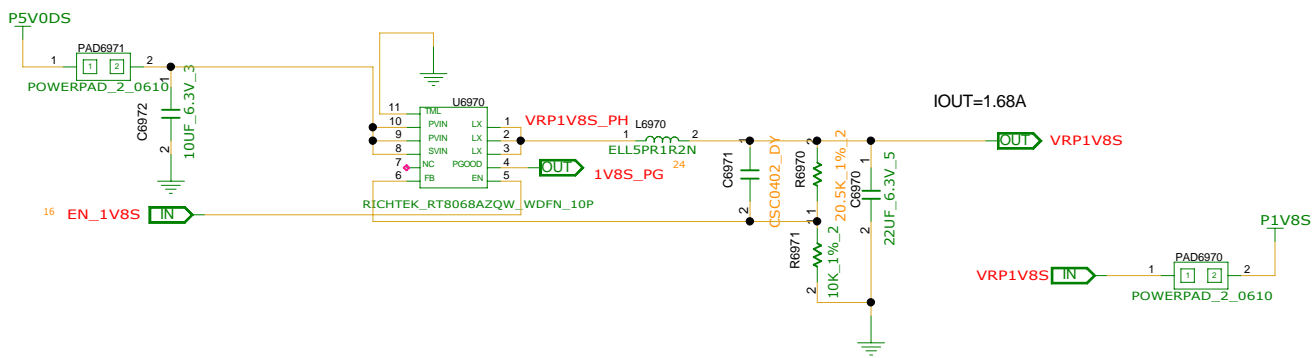
	8	7	6	5	4	3	2	1
D								
C								
B								
A								
	8	7	6	5	4	3	2	1

EMPTY

INVENTEC

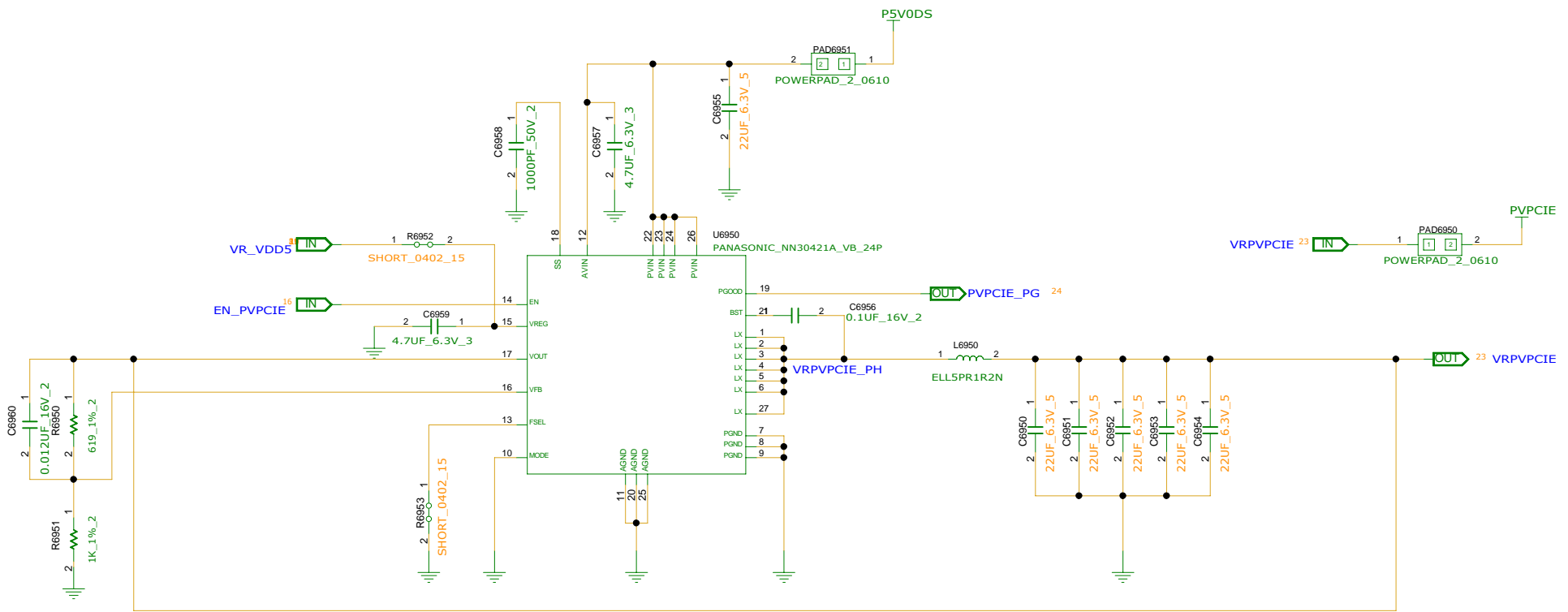
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MODEL,PROJECT,FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC.NUMBER 1310xxxxx-0-0	REV X01
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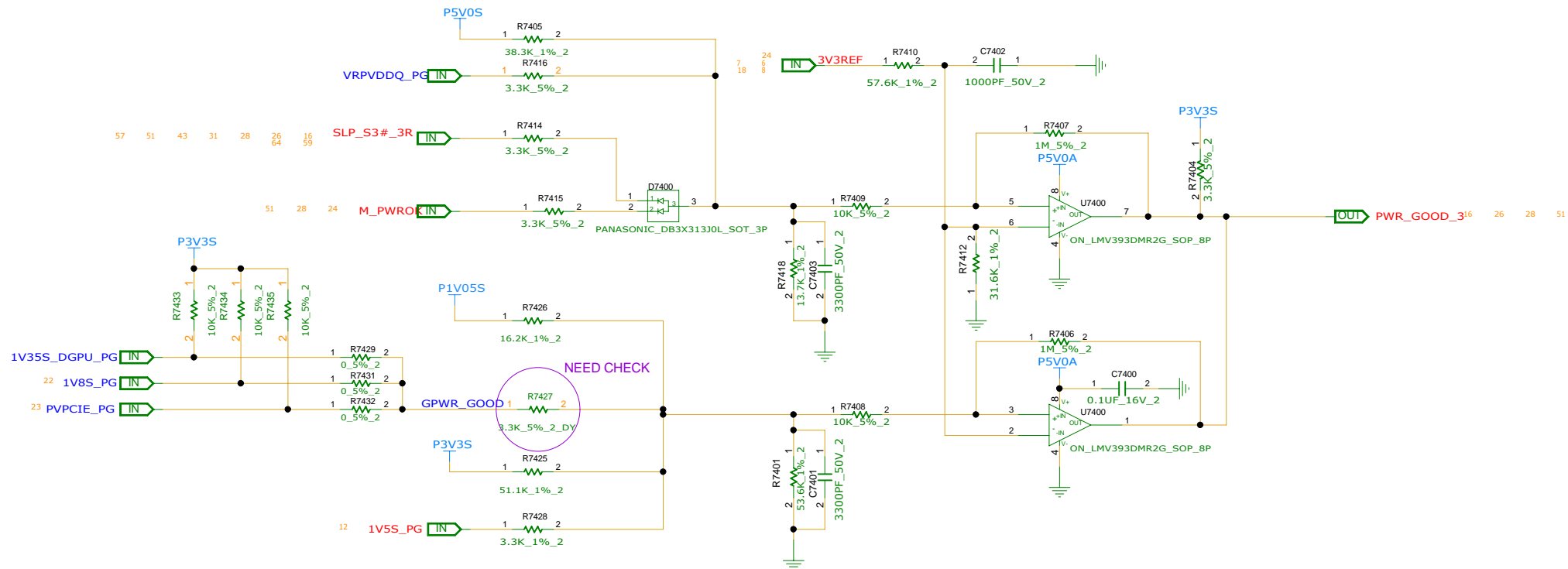
VREF=0.6V  
15K=1.5V  
10K=1.2V  
20.5K=1.83V  
MODE=FLOAT=SKIP MODE  
MODE=VIN=FCCM MODE

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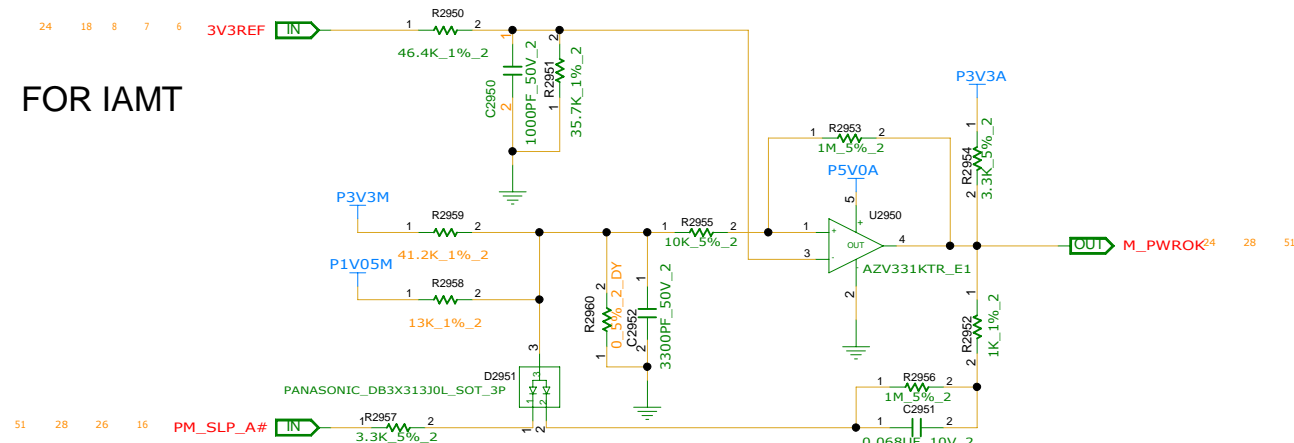


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TITLE			
MODEL,PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
CHANGE by		DATE	SHEET
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# REFERENCE NUMER : 7400~7450



FOR IAMT



REFERENCE NUMER : 2950~2999

INVENTEC

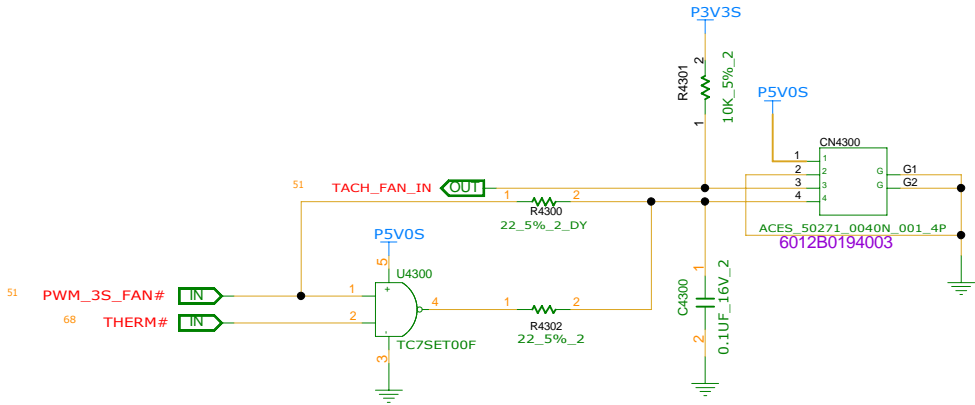
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MODEL PROJECT FUNCTION POWER (SEQUENCE)			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01

CHANGE by XXX DATE 21-OCT-2002

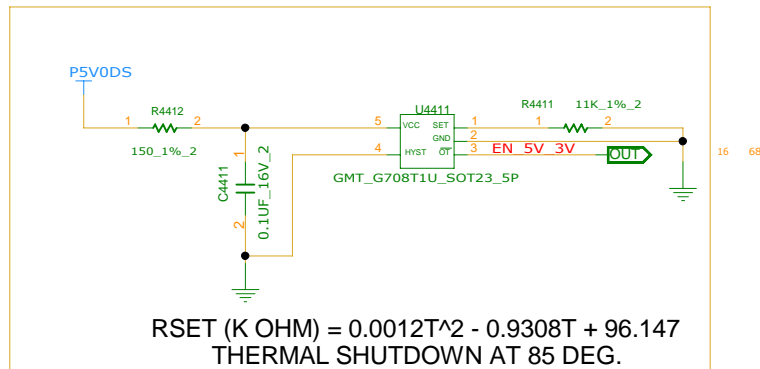
SHEET 24 of 78



REFERENCE NUMBER:4400~4349



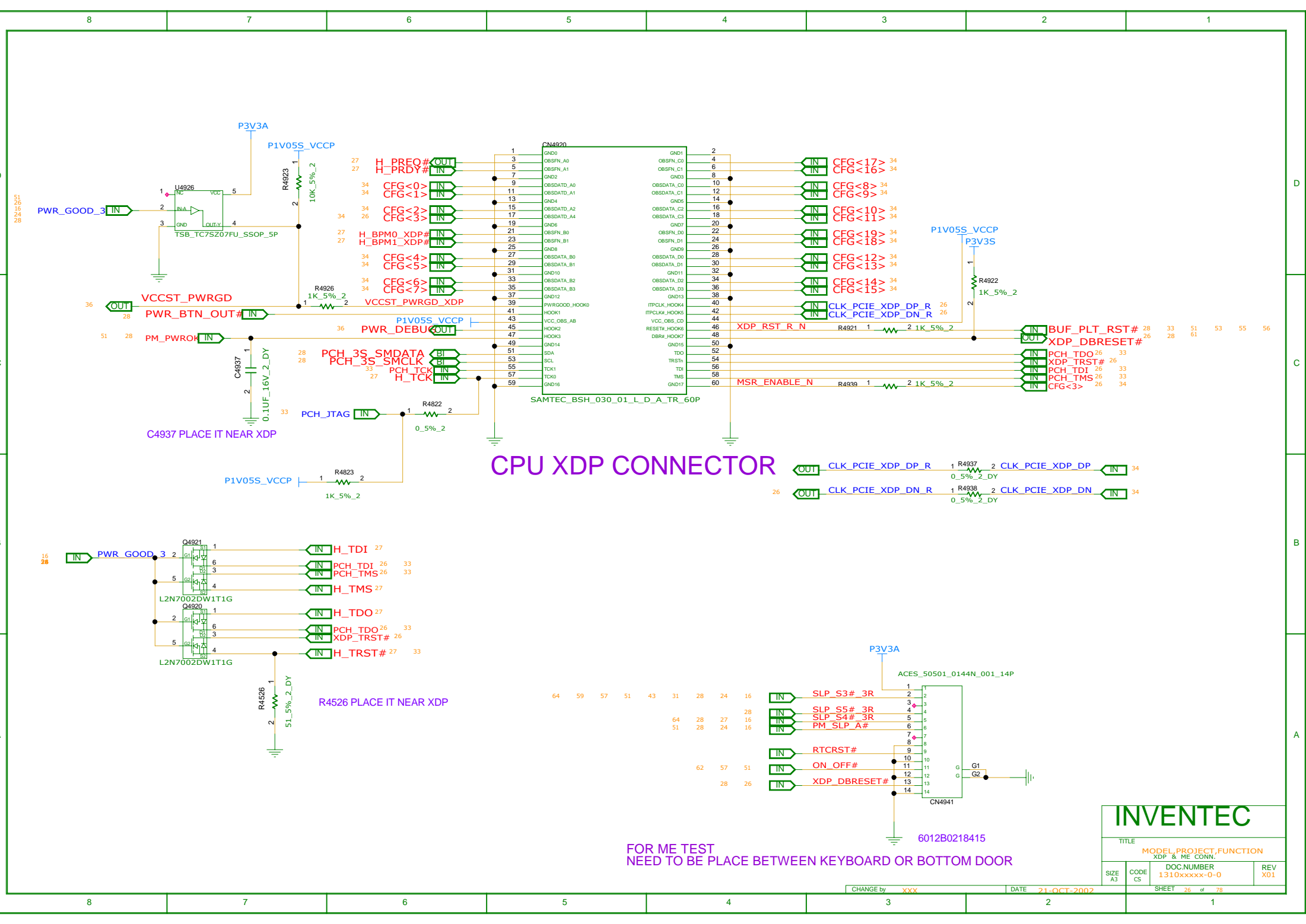
AMBIENT TEMP SENSE  
WILL BE NOT USED IN 2013?



REFERENCE NUMBER:4411~4449

INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
FAN & THERMAL			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
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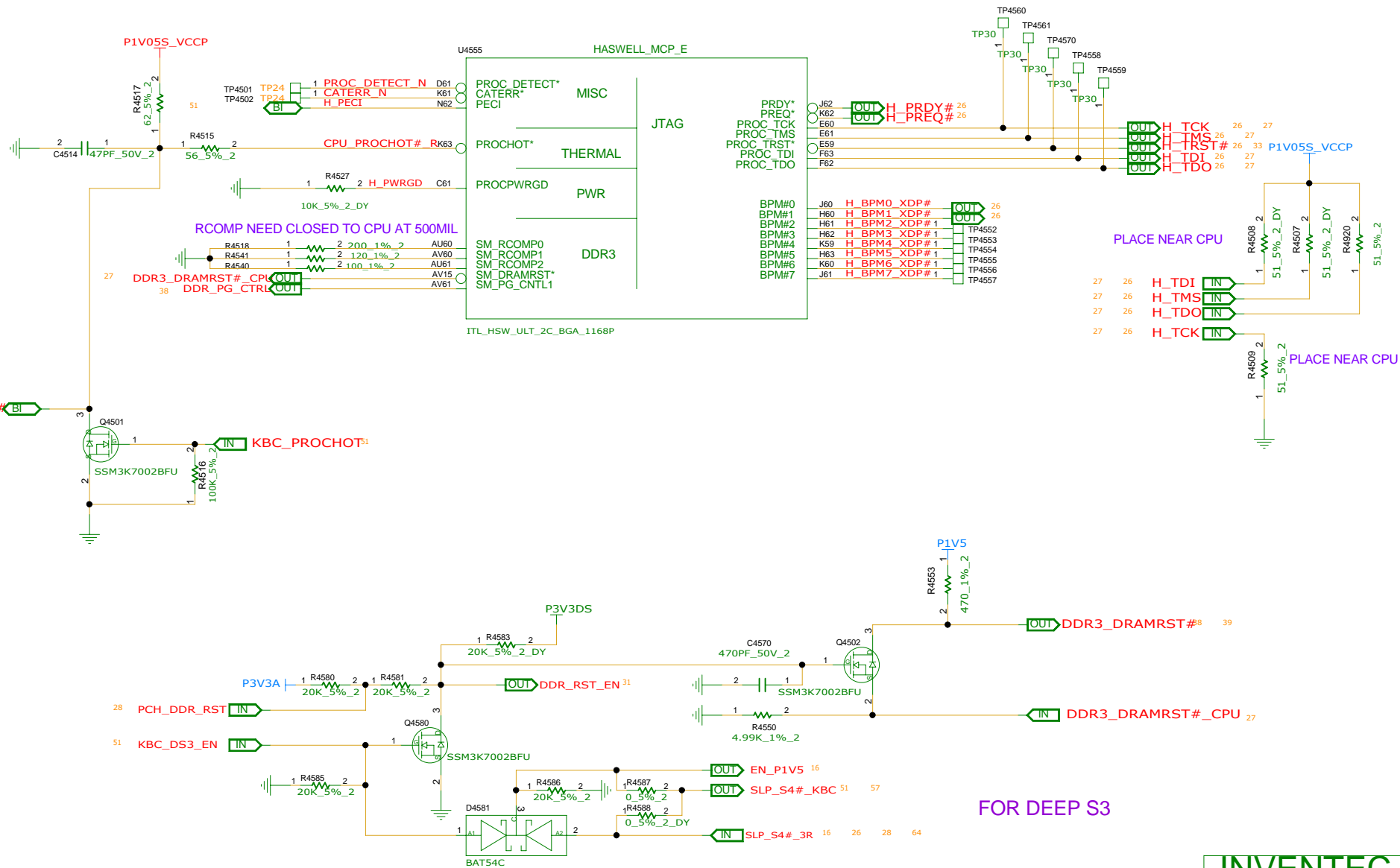
CPU XDP CONNECTOR

R4526 PLACE IT NEAR XDP

C4937 PLACE IT NEAR XDP

FOR ME TEST  
NEED TO BE PLACE BETWEEN KEYBOARD OR BOTTOM DOOR

INVENTEC			
TITLE MODEL PROJECT,FUNCTION XDP & ME CORN			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
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REFERENCE:4500~4949

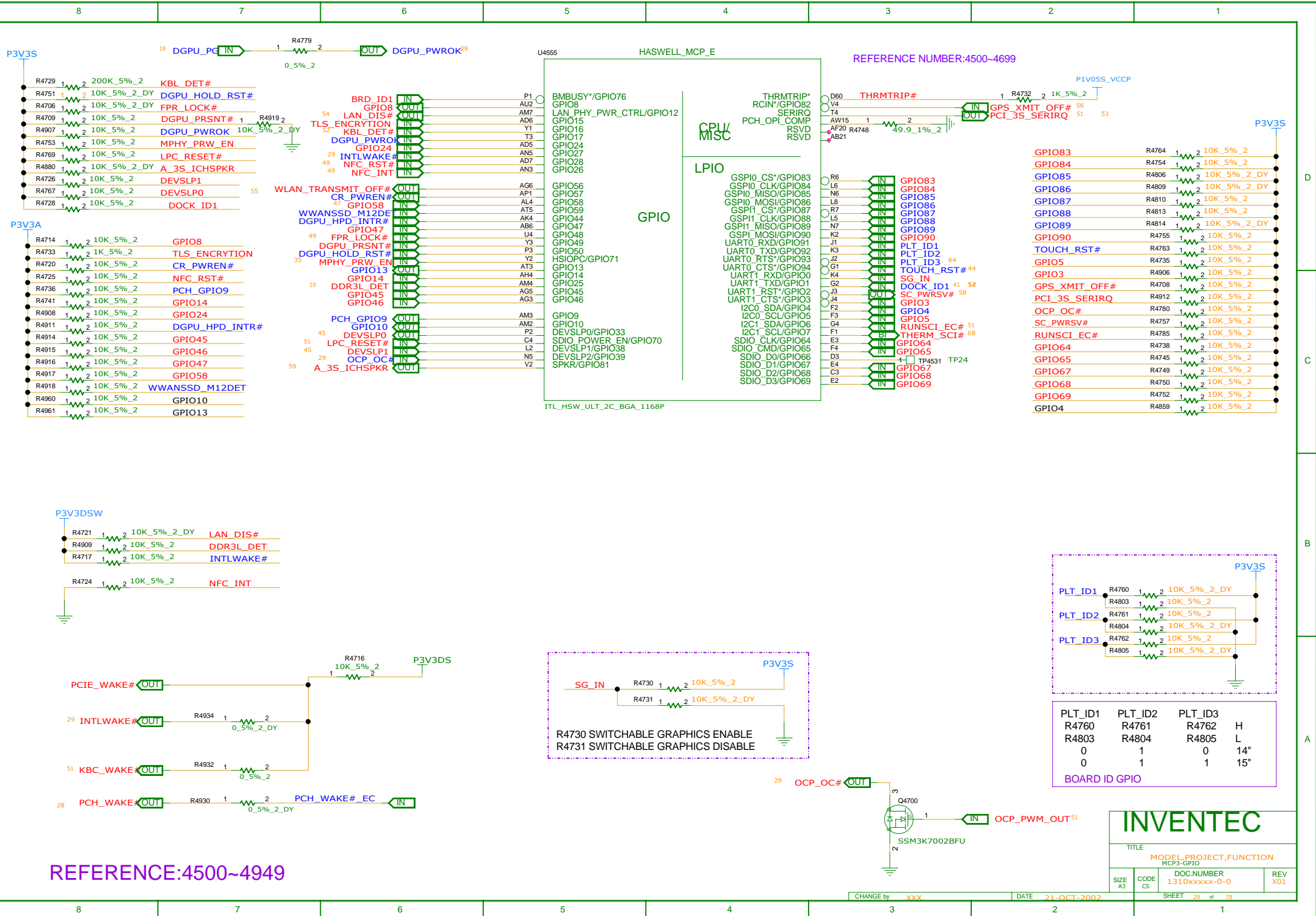
INVENTEC

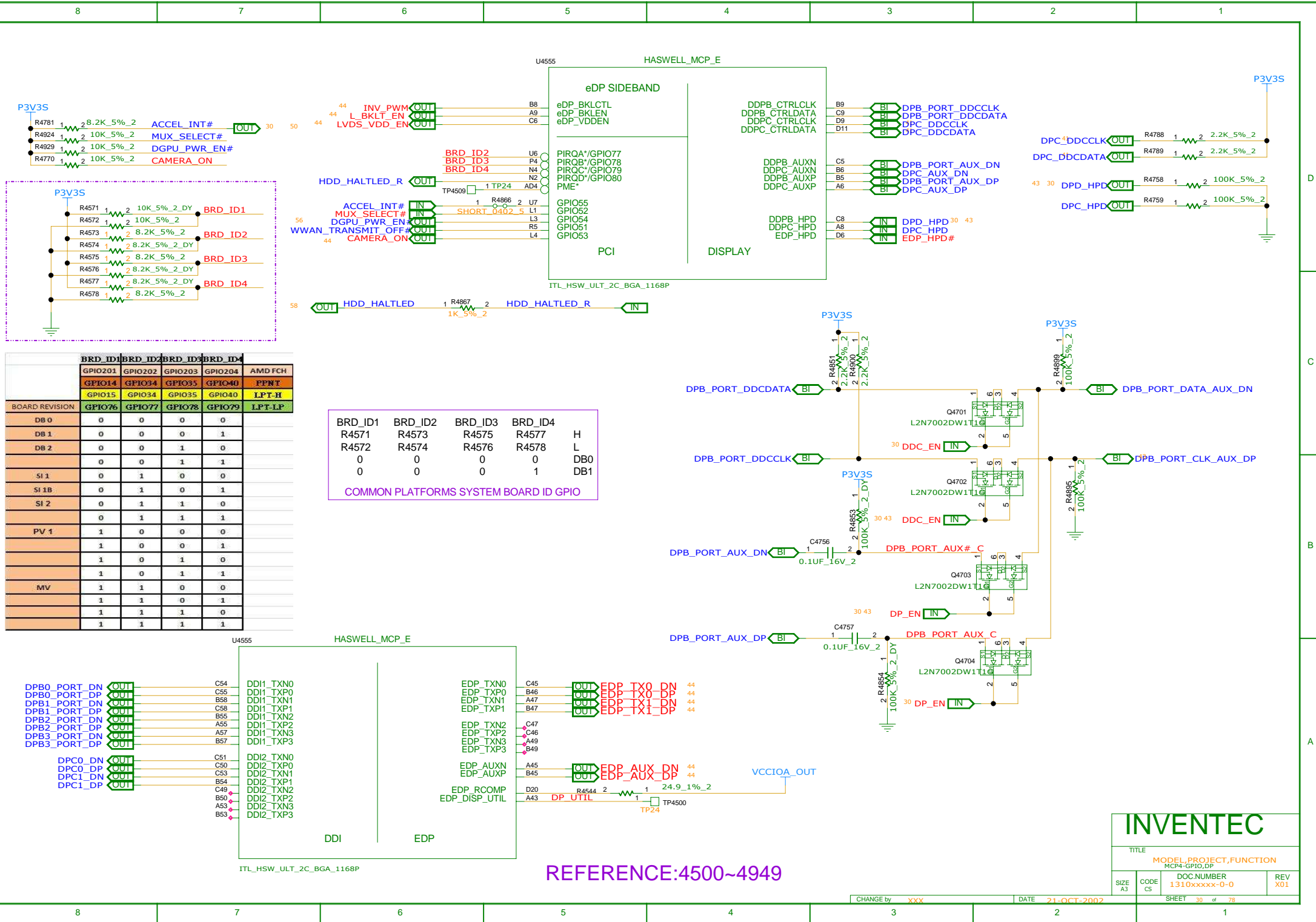
TITLE			
MODEL,PROJECT,FUNCTION			
MCP1-MISC			
SIZE	CODE	DOC NUMBER	REV
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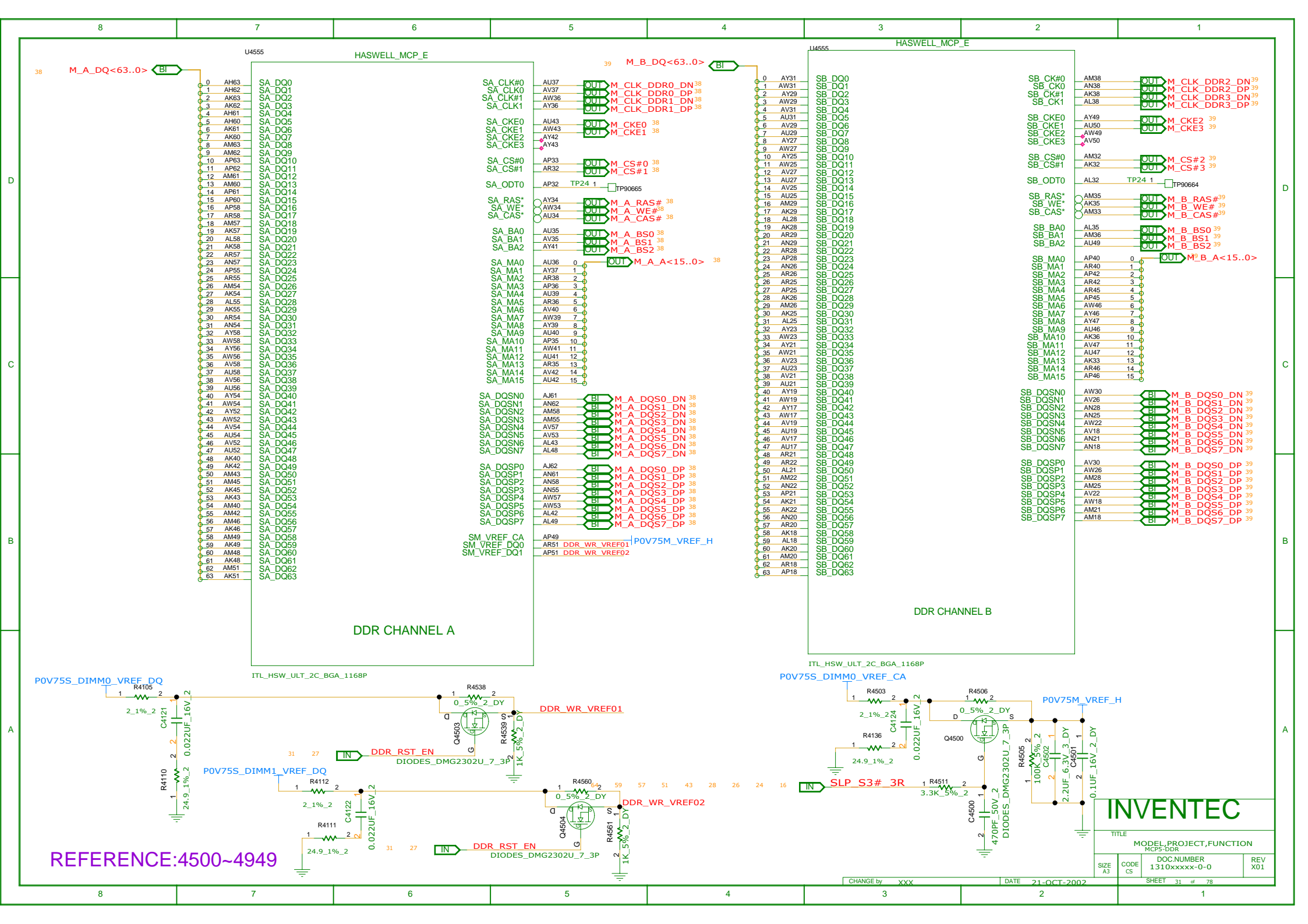
CHANGE by XXX DATE 21-OCT-2002

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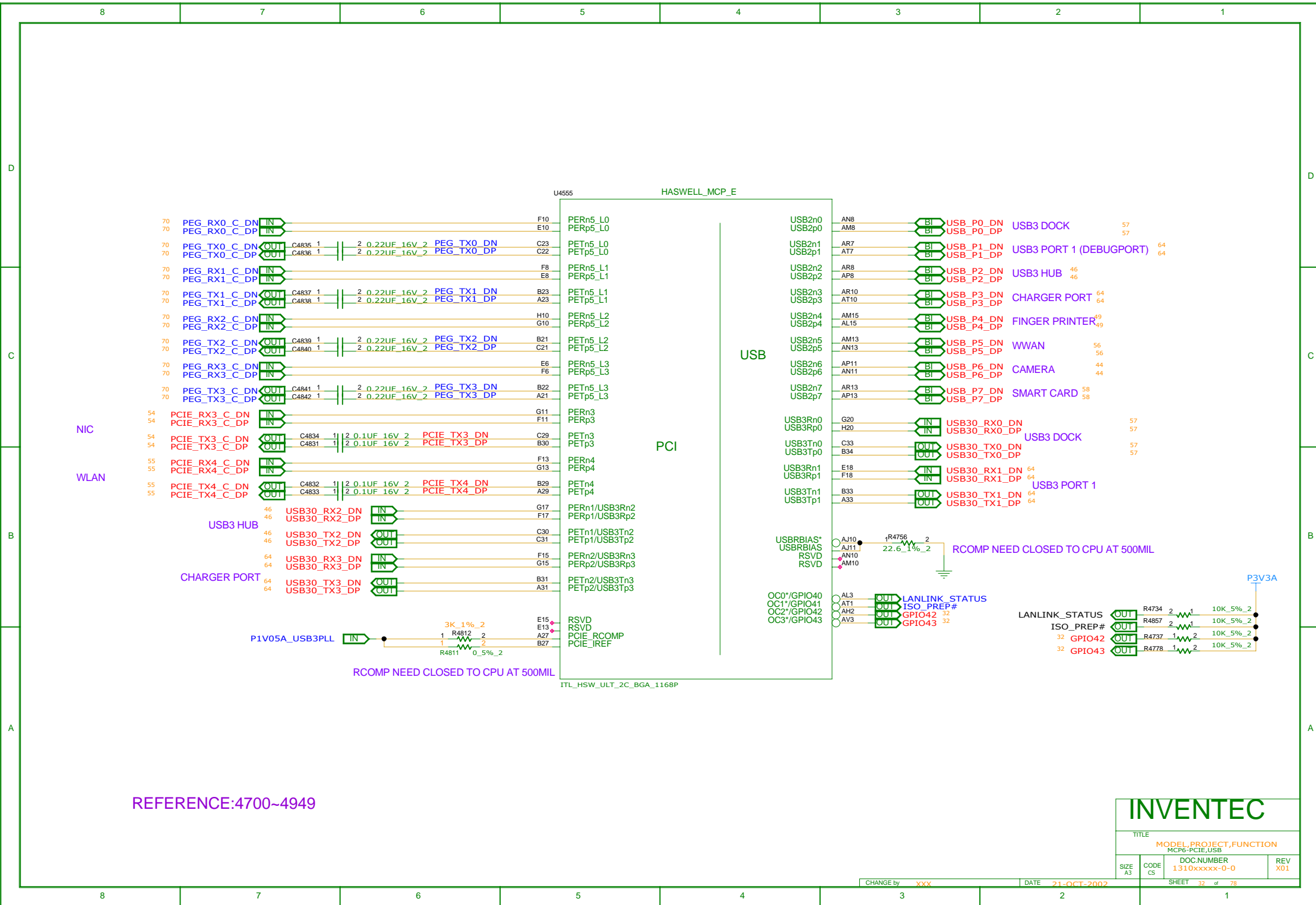




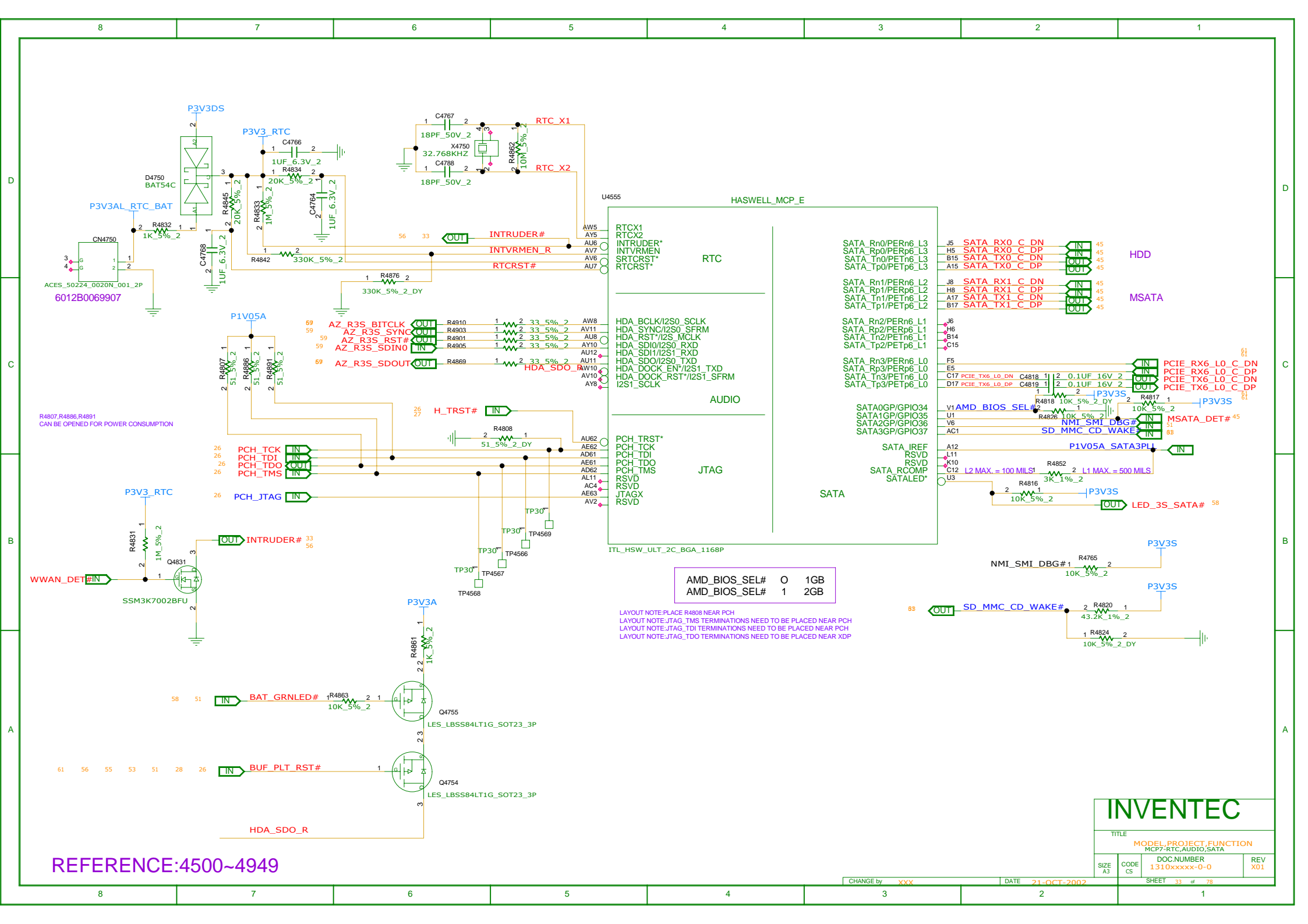








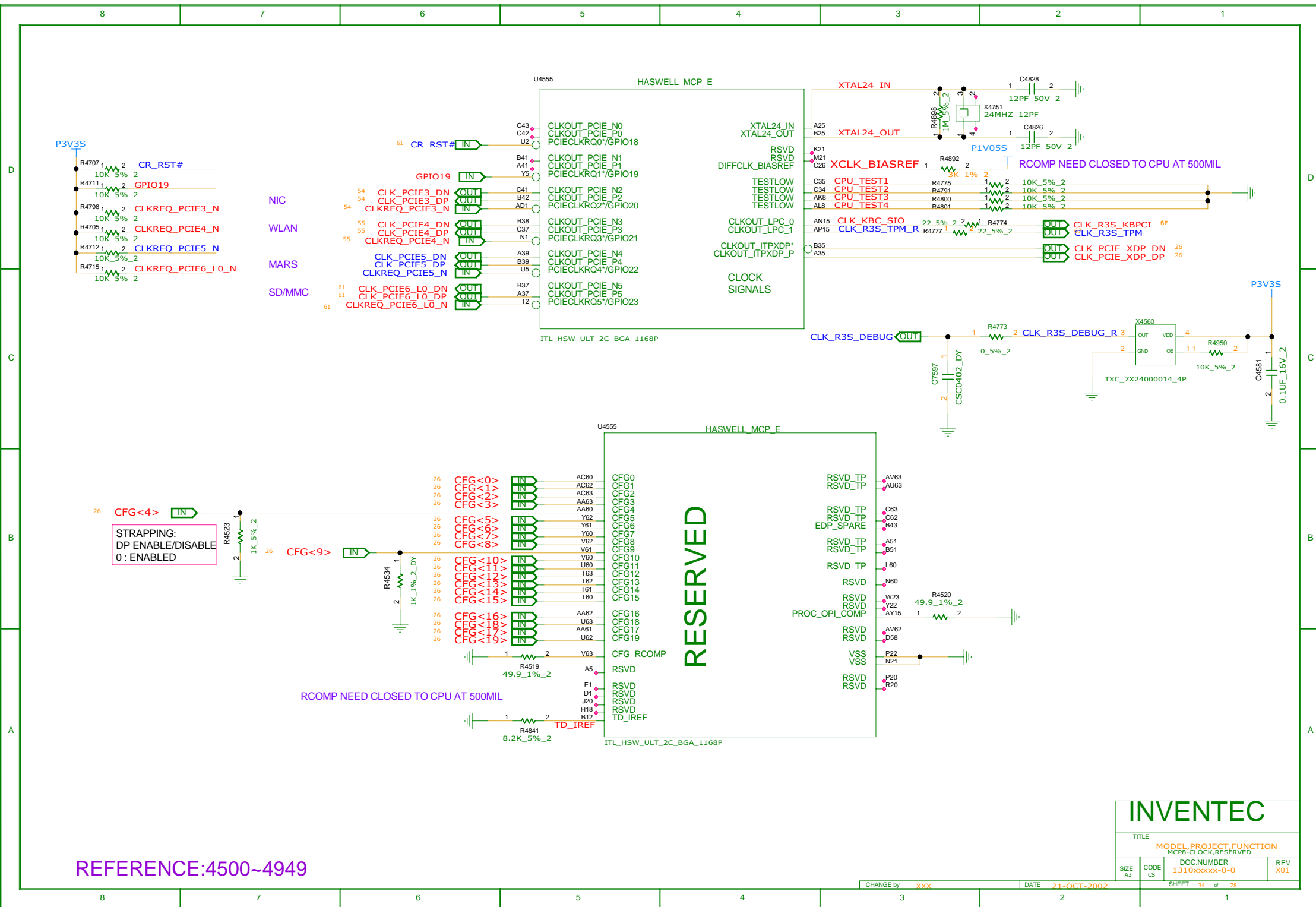




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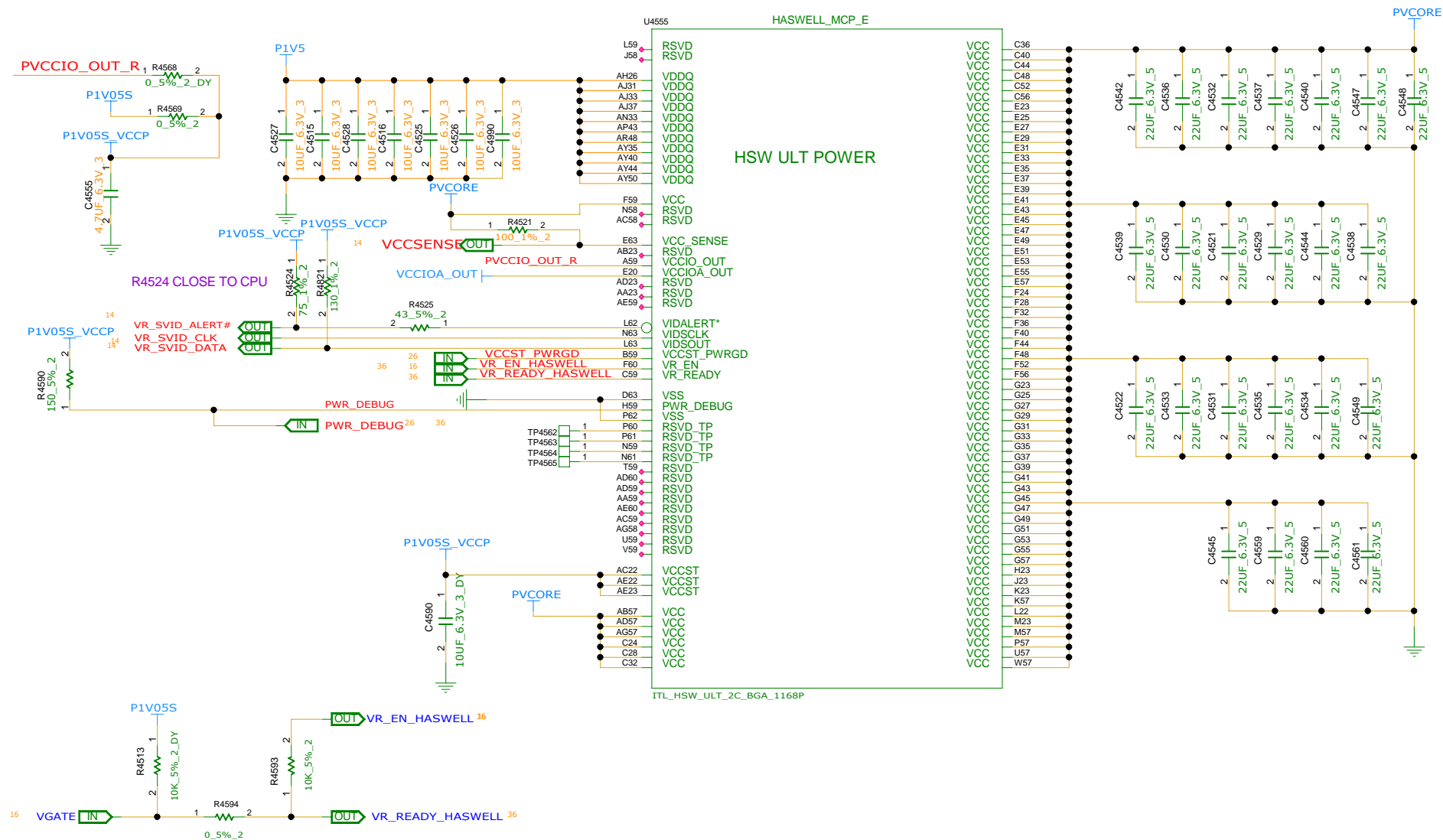
INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
MCP7-RTC-AUDIO-SATA			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01





ROUTE VCCSENSE WITH 27.4OHM IMPEDANCE

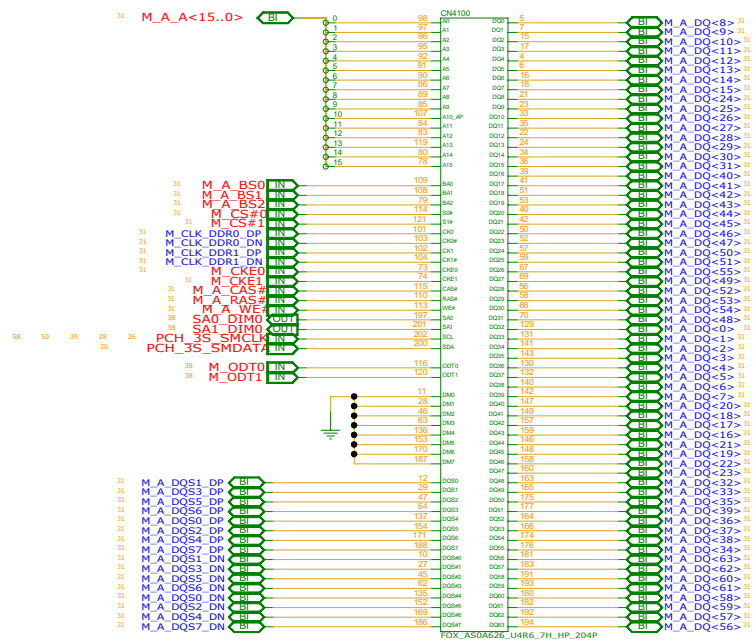
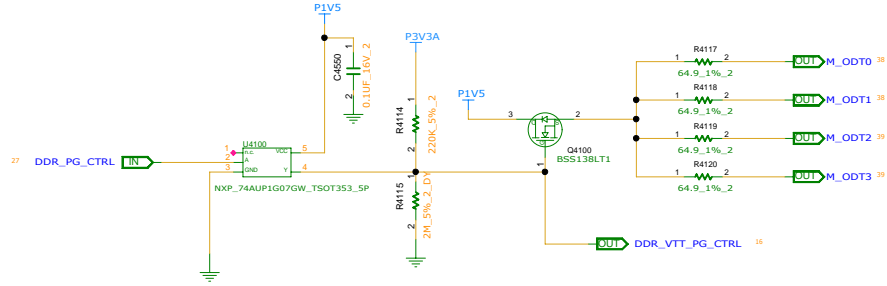


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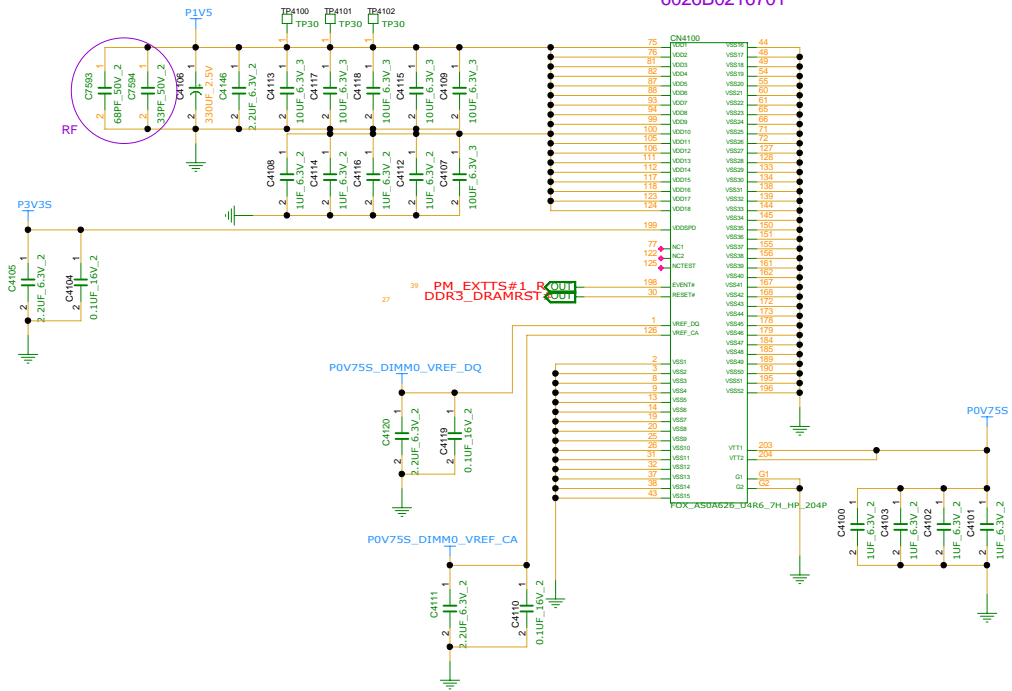
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TITLE			
MODEL PROJECT,FUNCTION			
MCP10-POWER			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
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100%

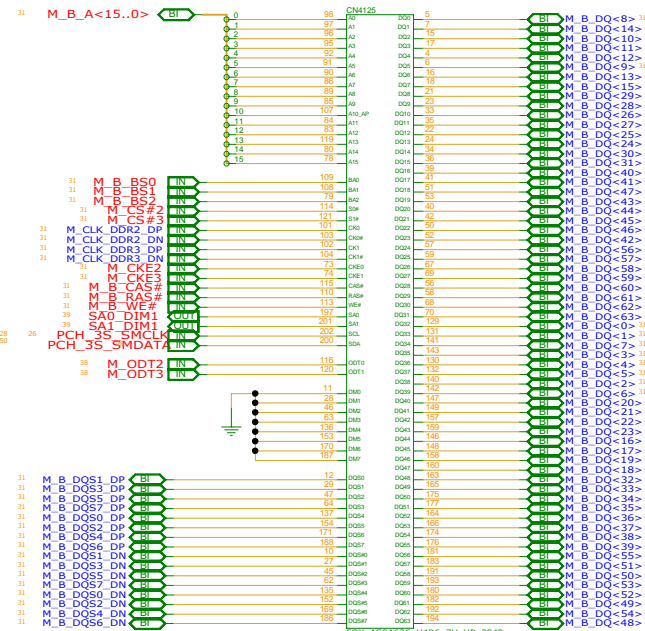


NOTE:  
 IF SA0\_DIMM0=0, SA1\_DIMM0=0  
 SO-DIMMA SPD ADDRESS IS 0XA0  
 SO-DIMMA TS ADDRESS IS 0X30  
 IF SA0\_DIMM0=1, SA1\_DIMM0=0  
 SO-DIMMA SPD ADDRESS IS 0XA2  
 SO-DIMMA TS ADDRESS IS 0X32



REFERENCE NUMBER:4100-4299

INVENTEC			
MODEL,PROJECT,FUNCTION			
DDR3_SO-DIMM0			
SIZE	CODE	DOC NUMBER	REV
C	CS	131000000-0-0	201
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<h1 style="text-align: center;">INVENTEC</h1>			
TITLE MODEL,PROJECT,FUNCTION DDR3_SO-DIMM0			
SIZE C	CODE CS	DOC NUMBER 1310xxxxxx-0-0	REV X01
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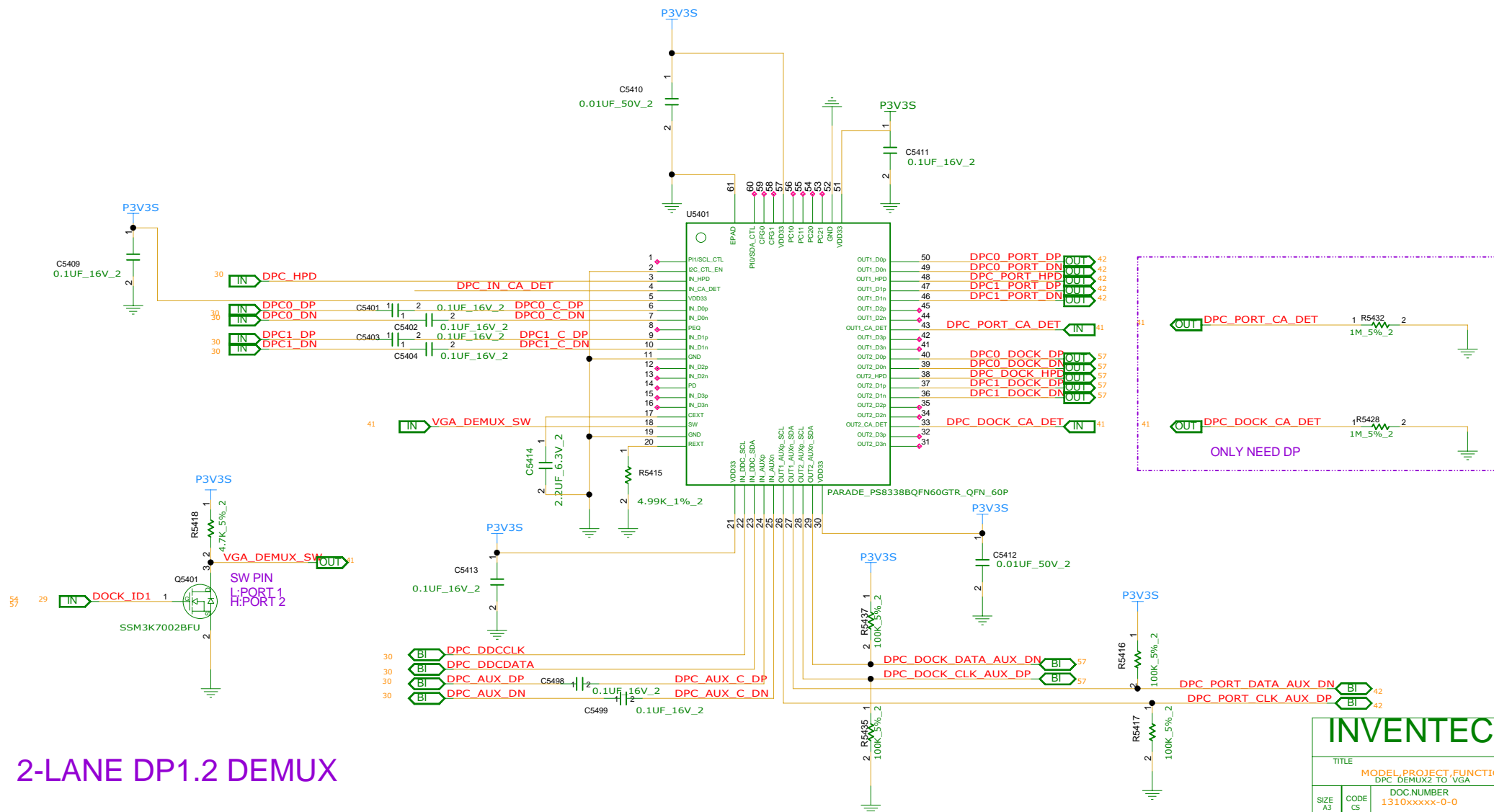
RESERVED

INVENTEC

TITLE			
MODEL PROJECT FUNCTION DPB DEMUX1 TO DP			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
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R5409 FOR CHIP OPERATION MODE  
R5411, R5412 FOR PROGRAMMABLE INPUT EQUALIZATION LEVELS  
R5413, R5414 FOR AUTO TEST ENABLE



2-LANE DP1.2 DEMUX

INVENTEC

TITLE			
MODEL PROJECT FUNCTION			
DPC DEMUX2 TO VGA			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01

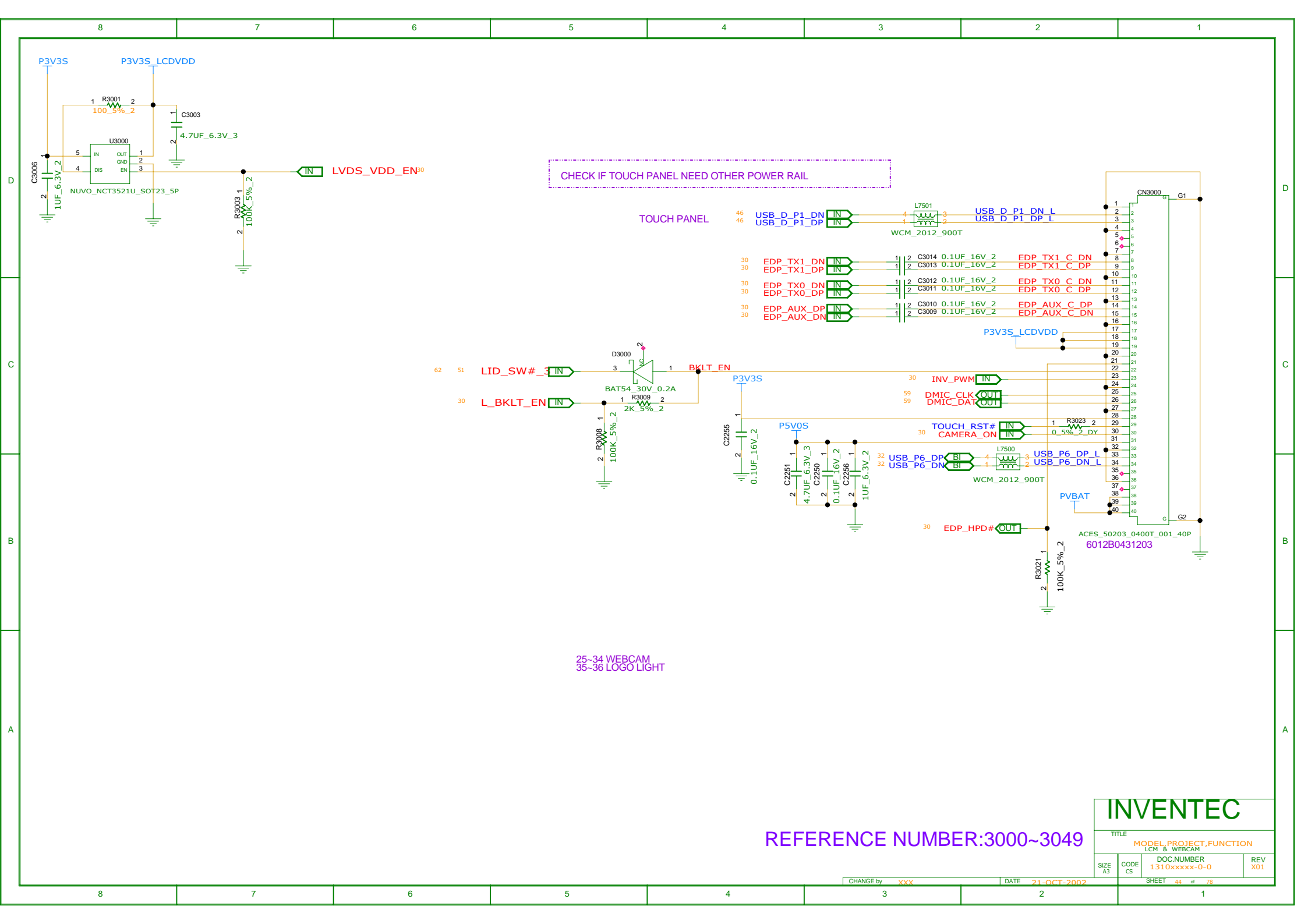


CHECK IF DEMUX NOT NEED R3079,R3080

R7577,R7578,R7579 CLOSE TO U3065







CHECK IF TOUCH PANEL NEED OTHER POWER RAIL

TOUCH PANEL

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 78			

REFERENCE NUMBER:1700~1749

REFERENCE NUMBER:1950~1999

M TYPE  
6026B0240301  
NGFF SSD

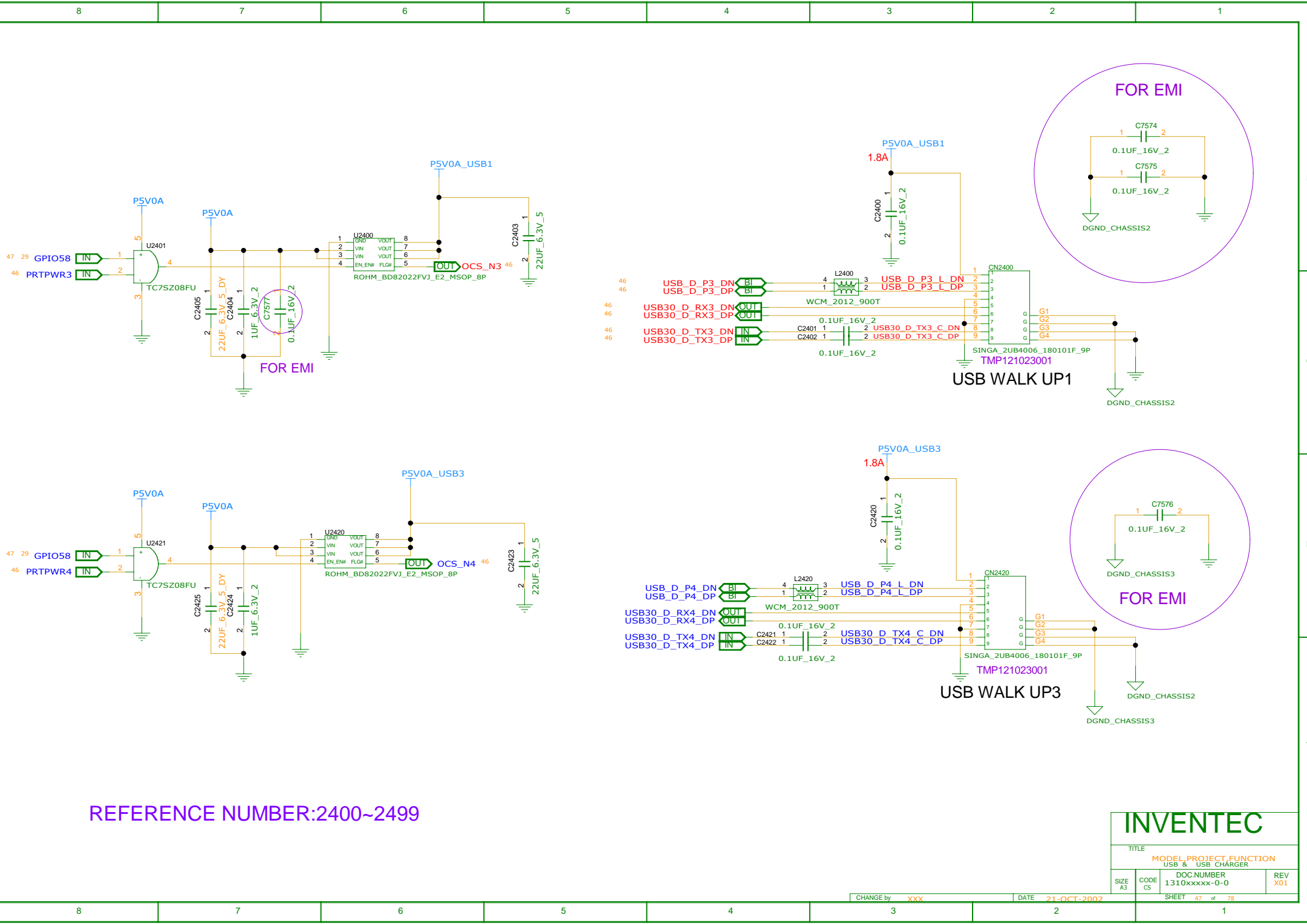
SATA HDD CONNECTOR

INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION			
SATA, HDD & M-SATA CONN.			
SIZE	CODE	DOC NUMBER	REV
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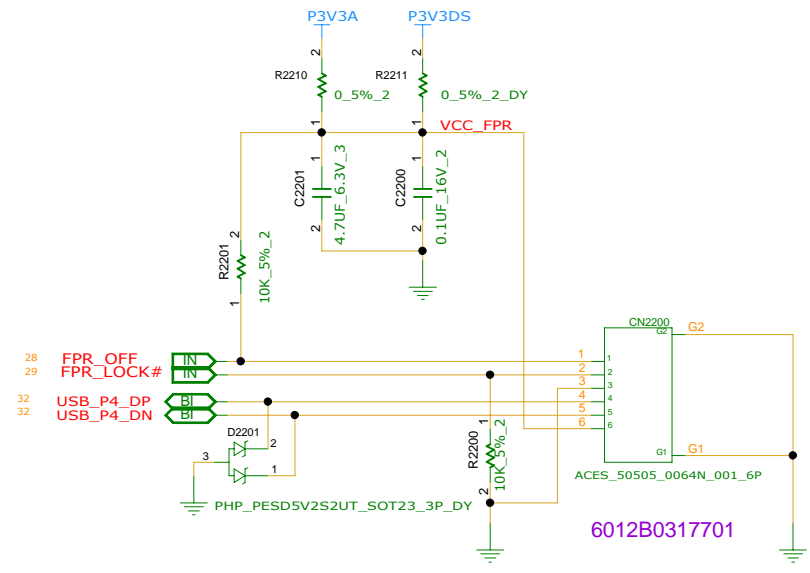
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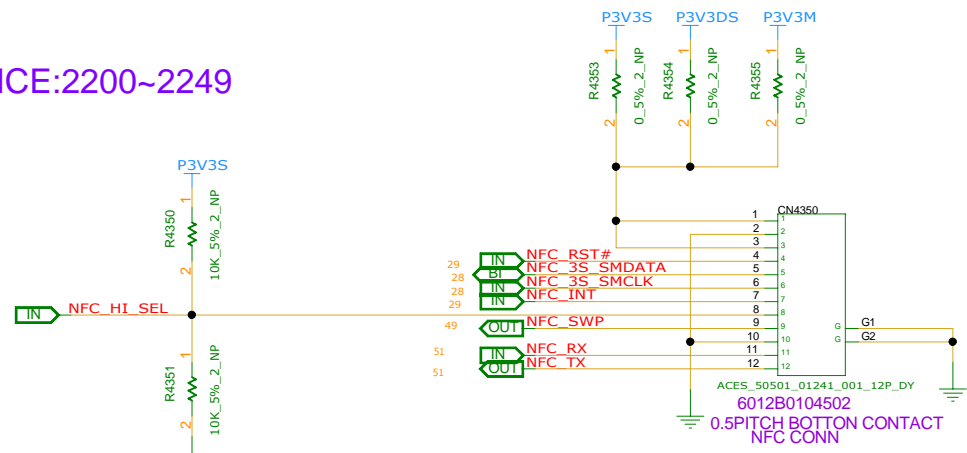
TITLE			
MODEL PROJECT FUNCTION			
USB & USB CHARGER			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01





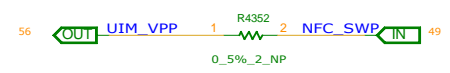


FINGER PRINT CONN



6012B0104502  
0.5PITCH BOTTOM CONTACT  
NFC CONN

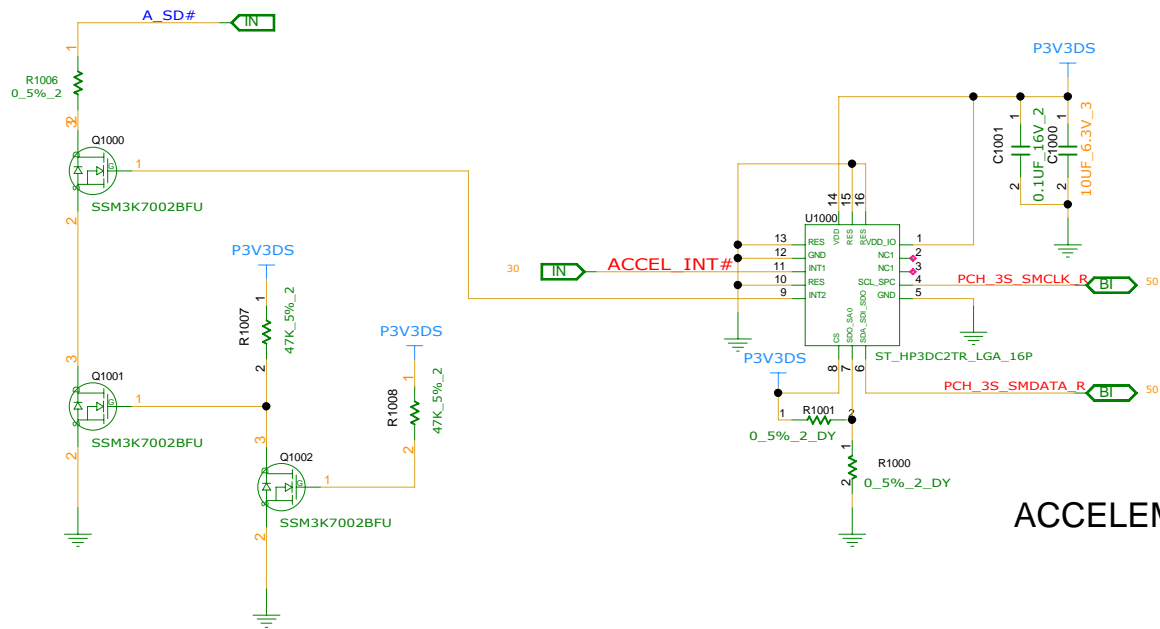
NFC\_HI\_SEL R4350 R4351  
HIGH (UART) INSTALL  
LOW (I2C) INSTALL



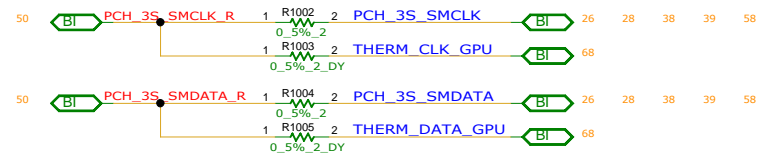
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REFERENCE:4350~4399

INVENTEC				
TITLE				
MODEL PROJECT FUNCTION				
FINGER PRINTER & NFC				
SIZE	CODE	DOC NUMBER	REV	
A3	CS	1310xxxxx-0-0	X01	
CHANGE by		DATE	SHEET	
XXX		21-OCT-2002	49 of 78	



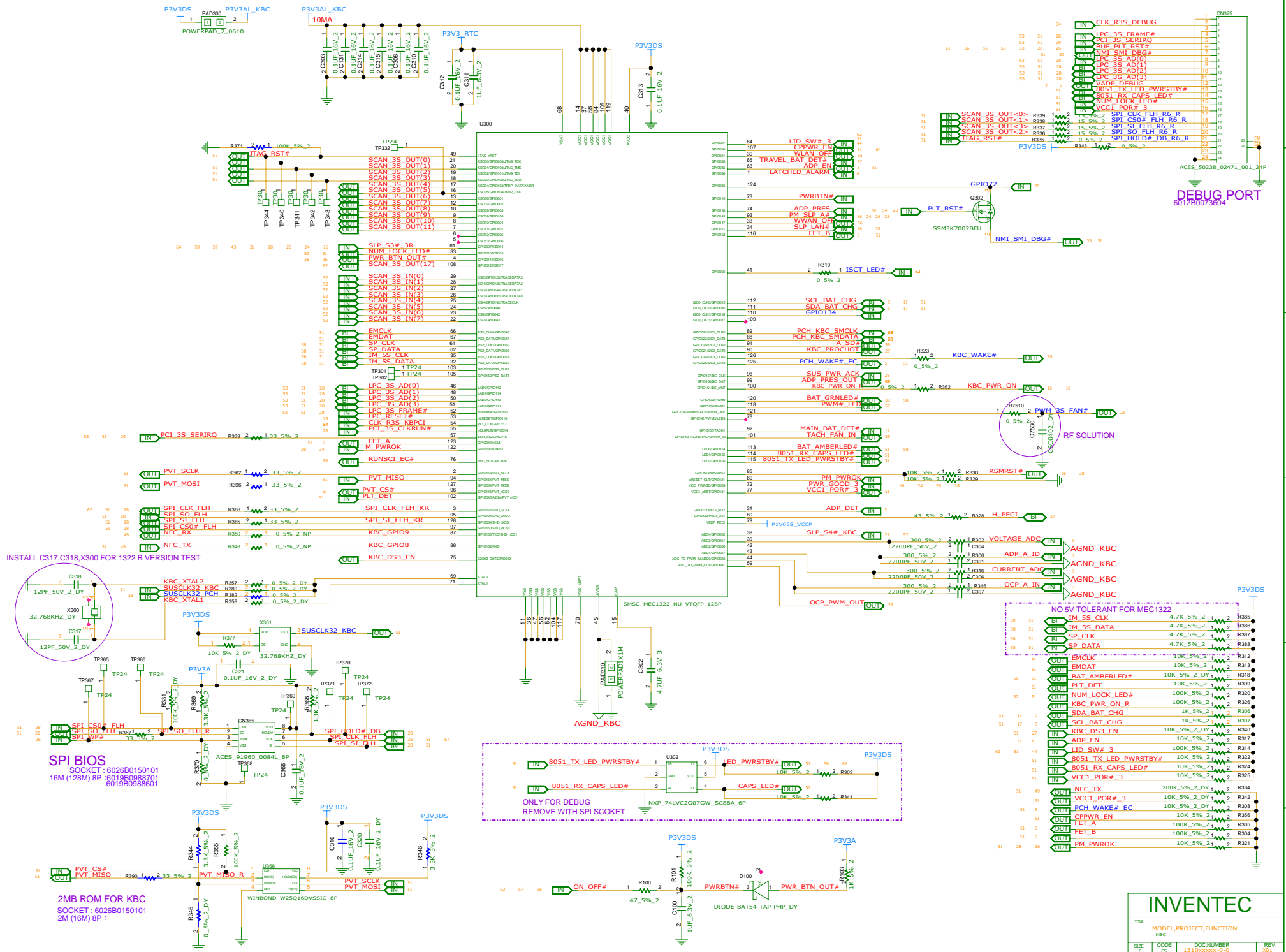
ACCELEMETER



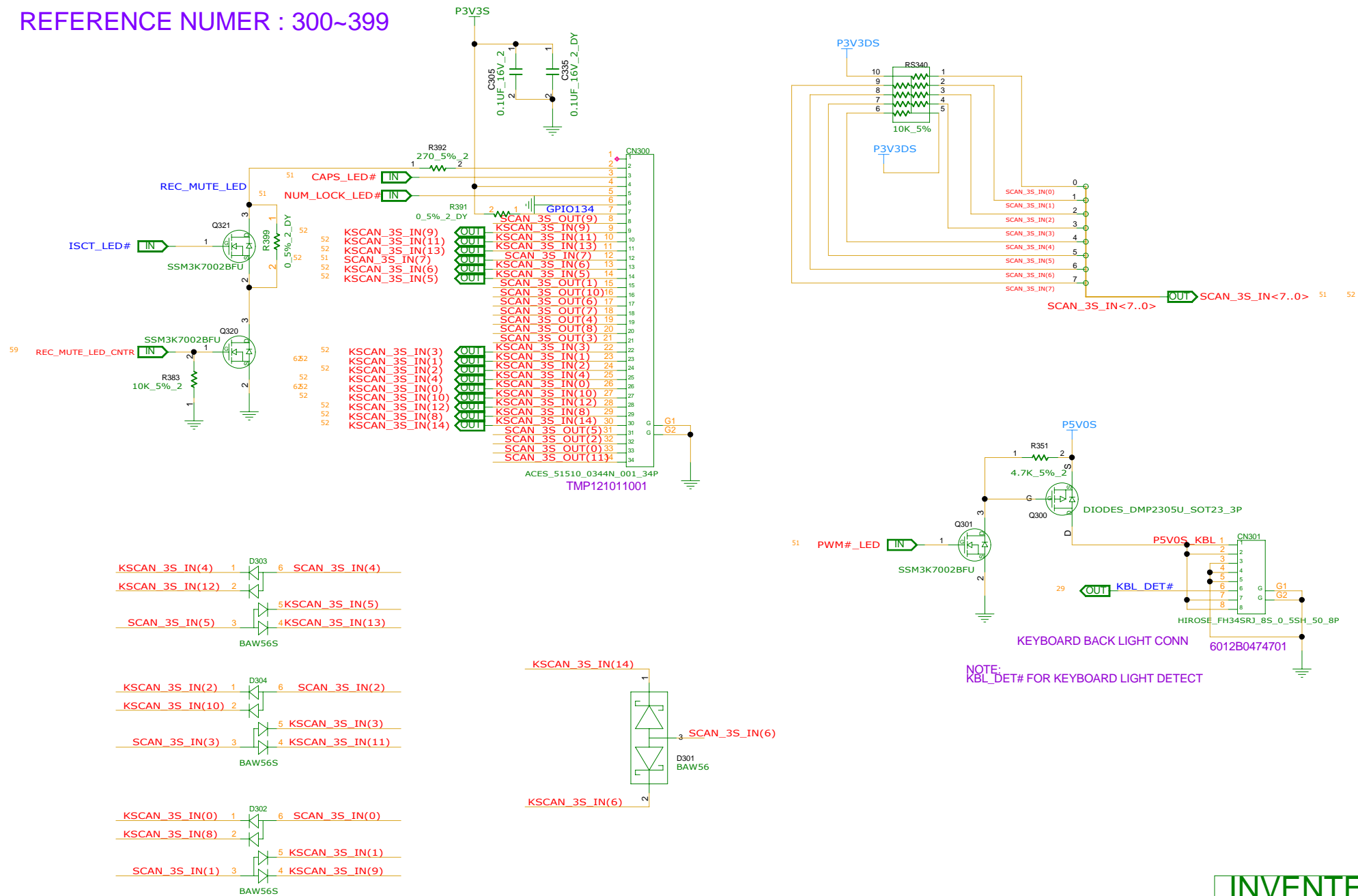
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INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
ACCELEMETER			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
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REFERENCE NUMBER : 300~399

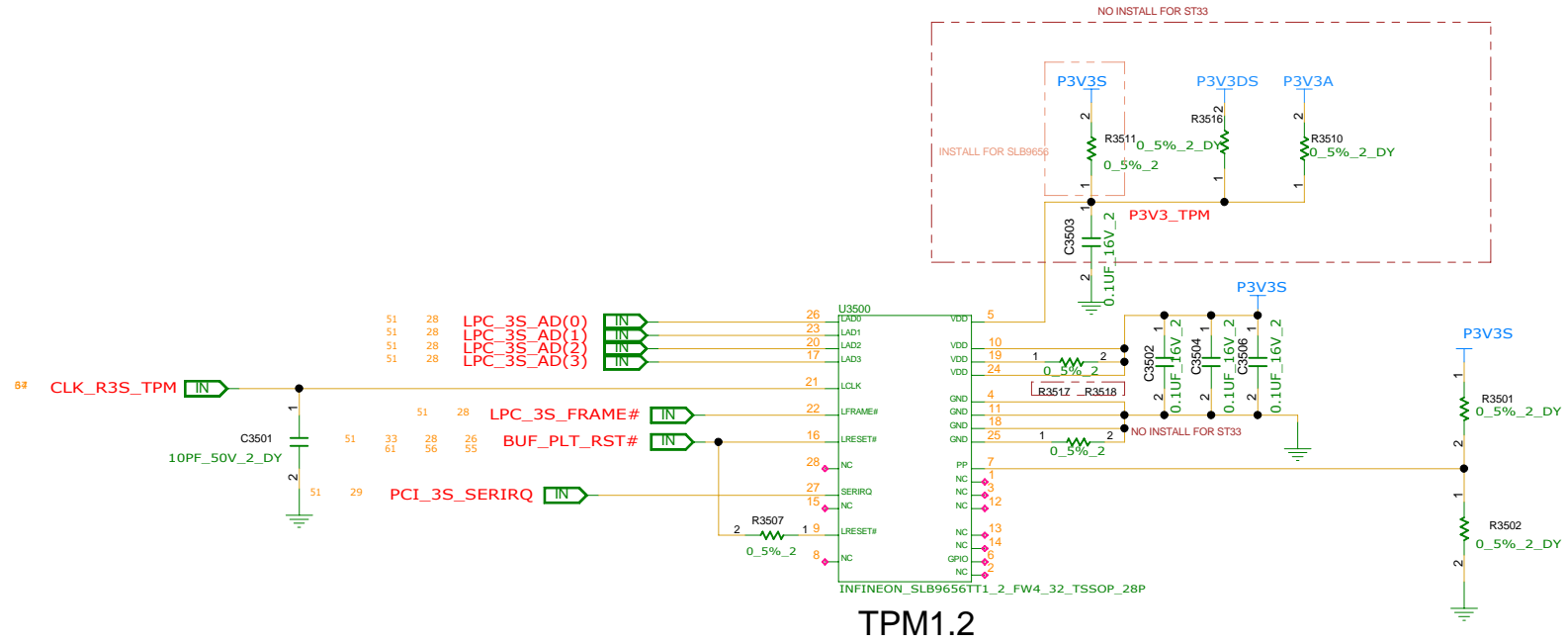


INVENTEC

TITLE  
MODEL PROJECT, FUNCTION  
KEYBOARD

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

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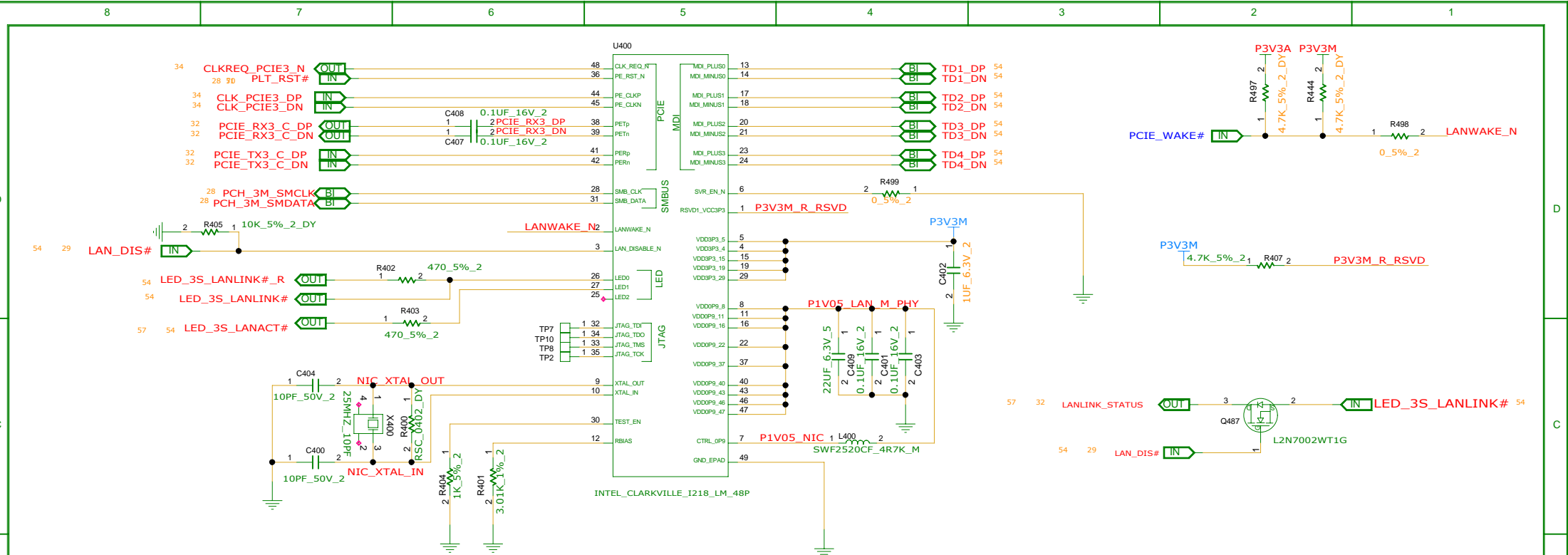


TPM1.2

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

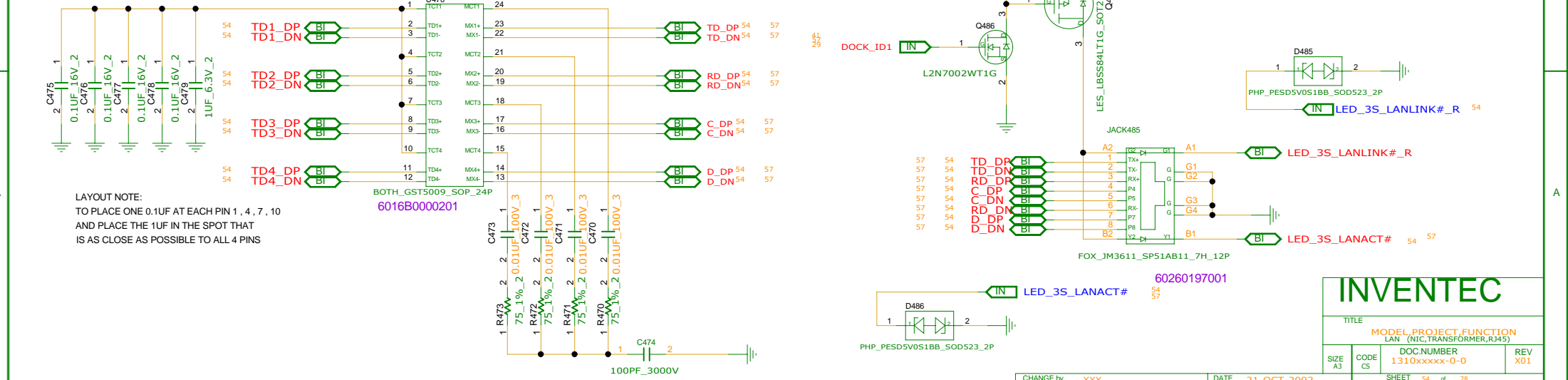
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INVENTEC			
TITLE			
MODEL,PROJECT,FUNCTION			
TPM			
SIZE	CODE	DOC NUMBER	REV
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REFERENCE NUMER : 400~469

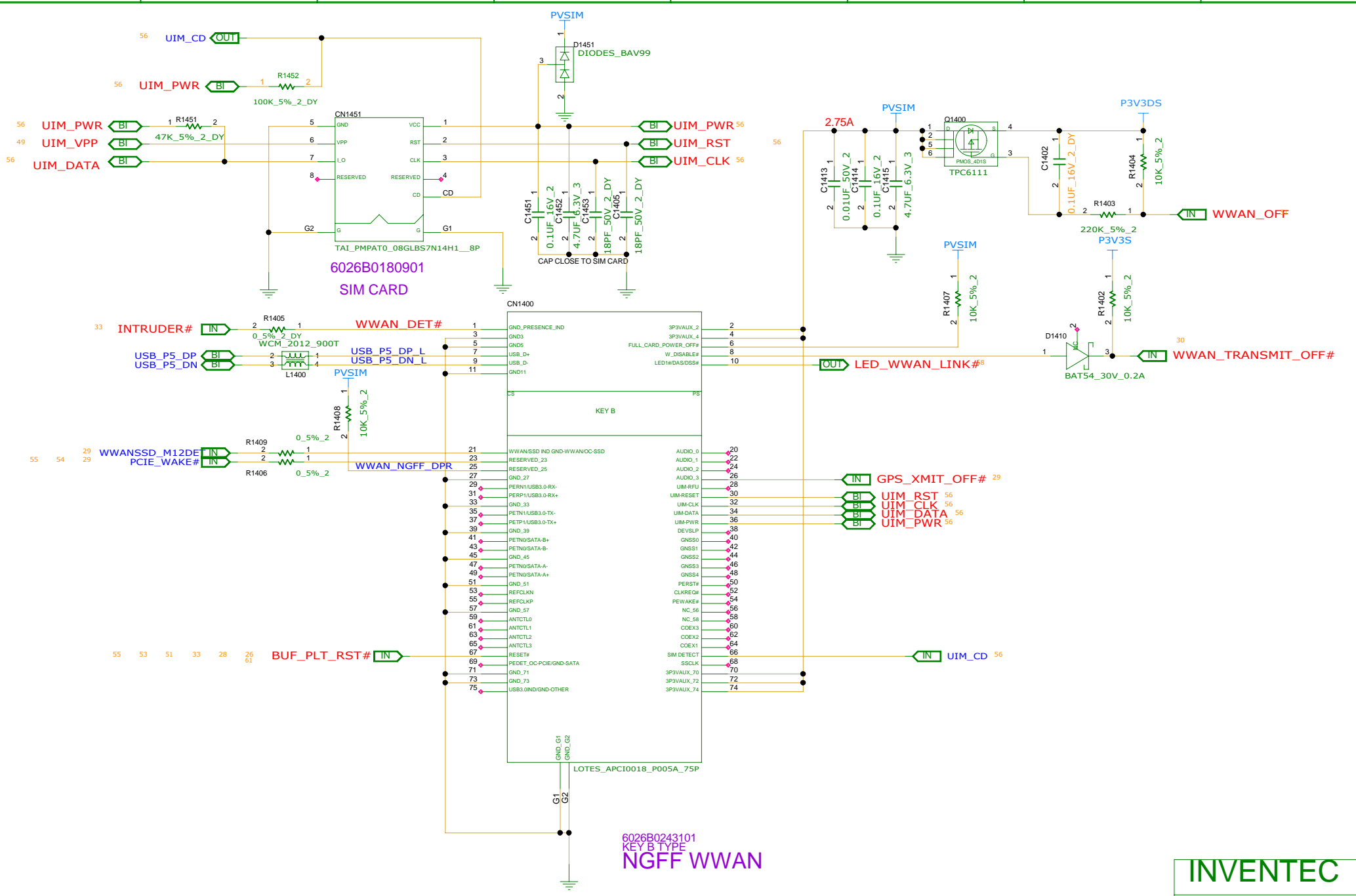
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LAYOUT NOTE:  
TO PLACE ONE 0.1UF AT EACH PIN 1, 4, 7, 10  
AND PLACE THE 1UF IN THE SPOT THAT  
IS AS CLOSE AS POSSIBLE TO ALL 4 PINS

INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
LAN (NIC TRANSFORMER RJ45)			
DOC NUMBER			
1310xxxxx-0-0			
REV			
X01			
SIZE	CODE	SHEET	
A3	CS	54 of 78	



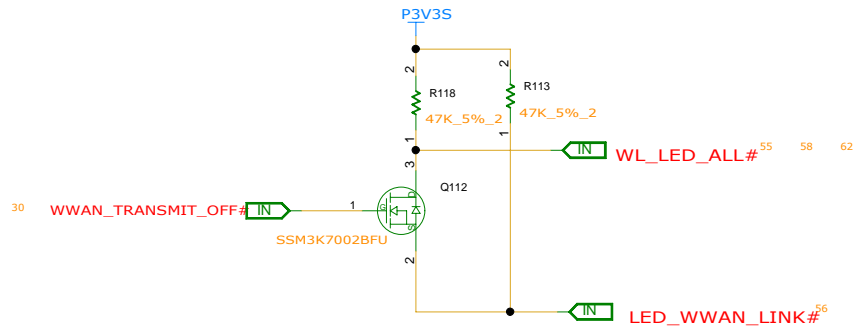


REFERENCE NUMBER:1400~1499

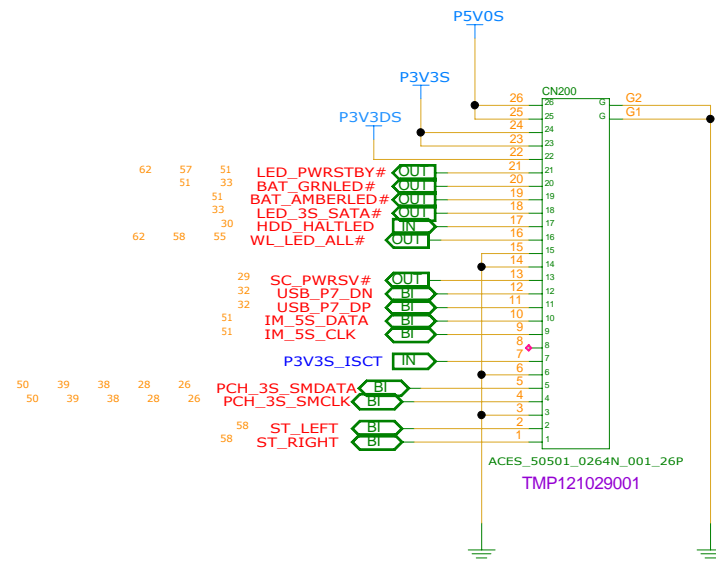
INVENTEC			
TITLE			
MODEL PROJECT,FUNCTION			
WWAN NGFF			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxx-0-0	X01
SHEET 56 of 78			



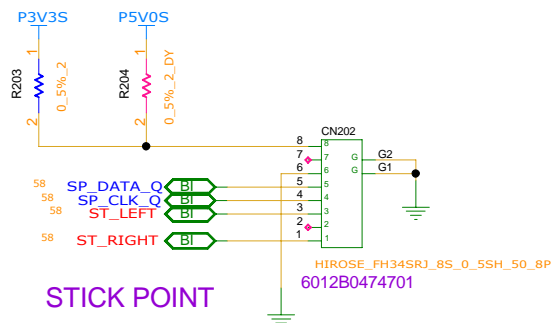




WLAN\_WWAN\_BLUETOOTH\_LED

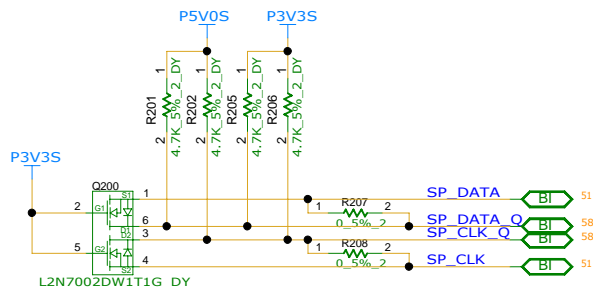


SMART CARD AND TOUCHPAD D/B W TO B CONN



STICK POINT

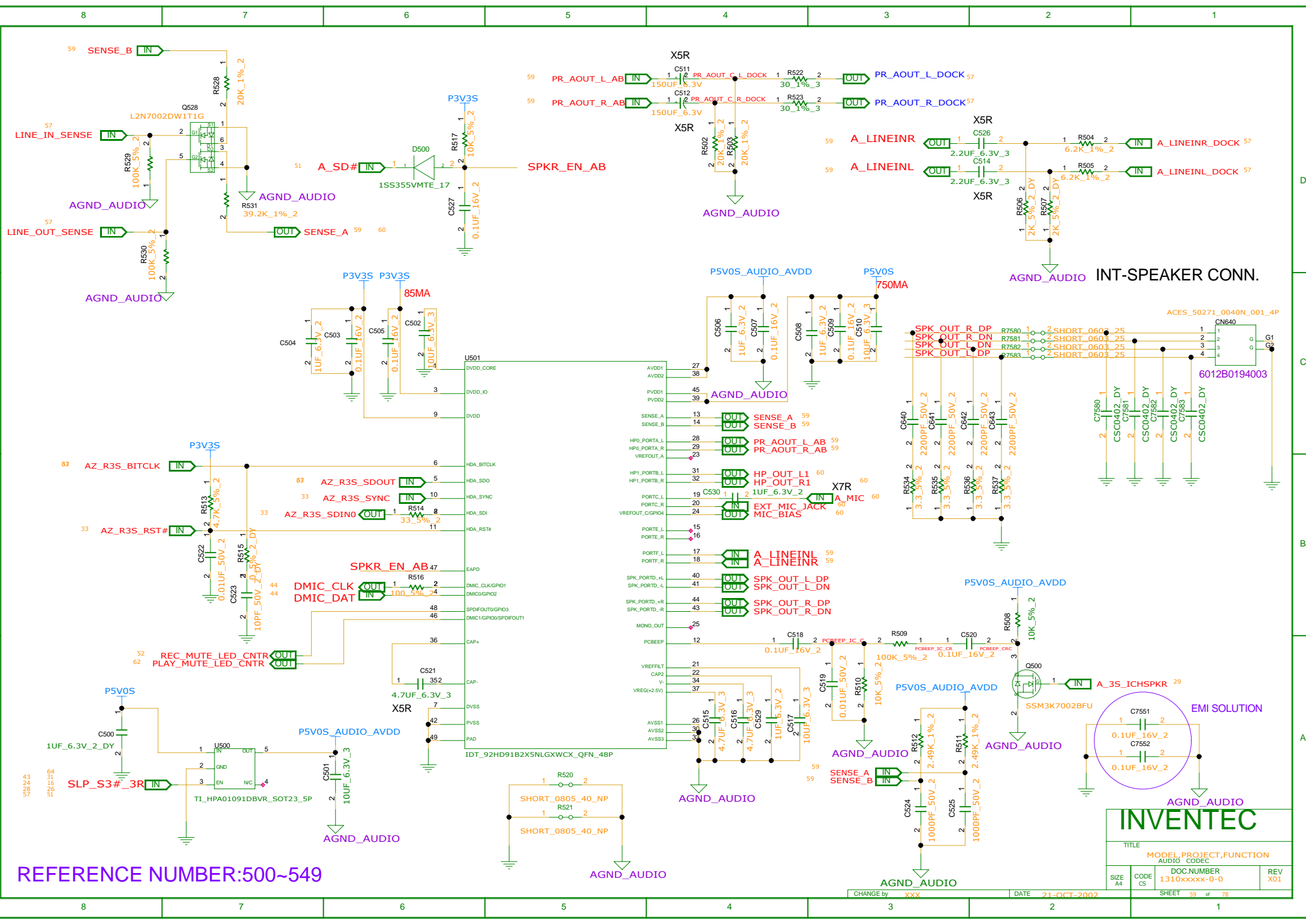
	5V	3.3V
R201	INSTALL	UNINSTALL
R202	INSTALL	UNINSTALL
R203	UNINSTALL	INSTALL
R204	INSTALL	UNINSTALL



STICK POINT OPTION

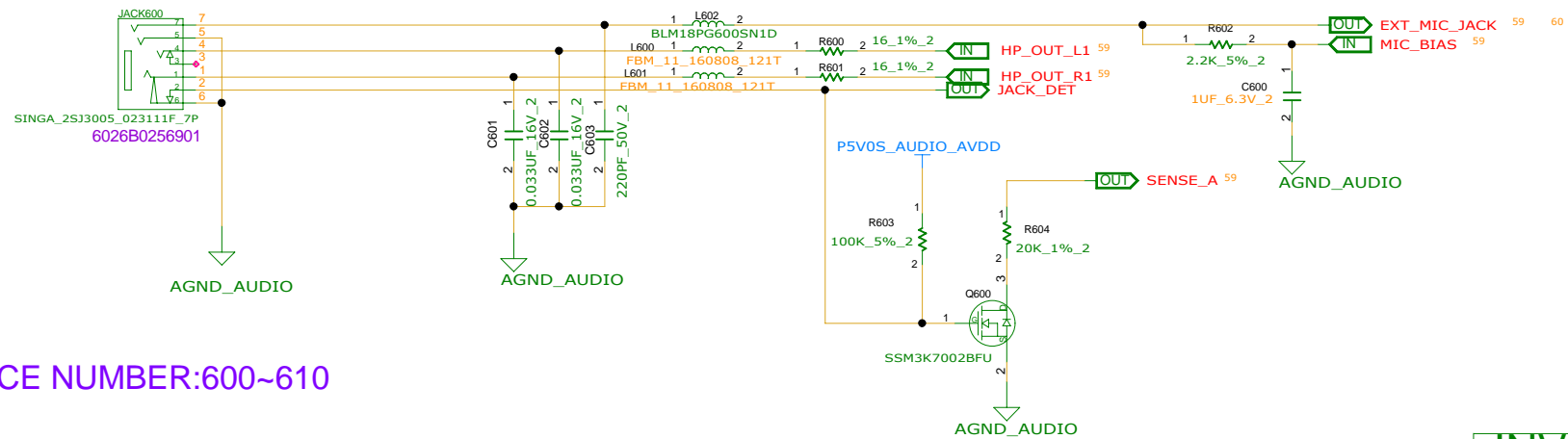
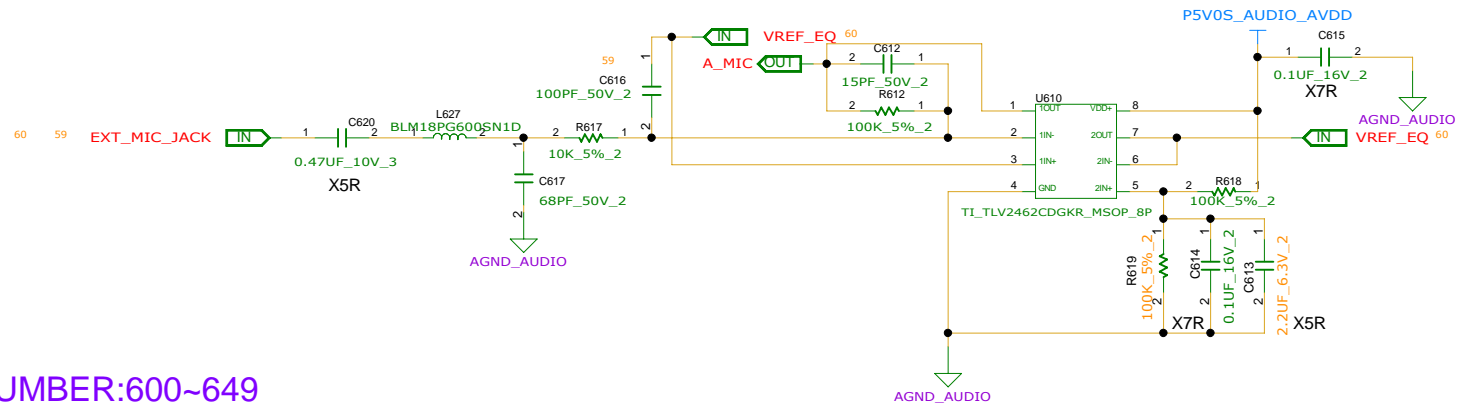
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INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
STICK POINT & B2B CNTR			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 58 of 78			



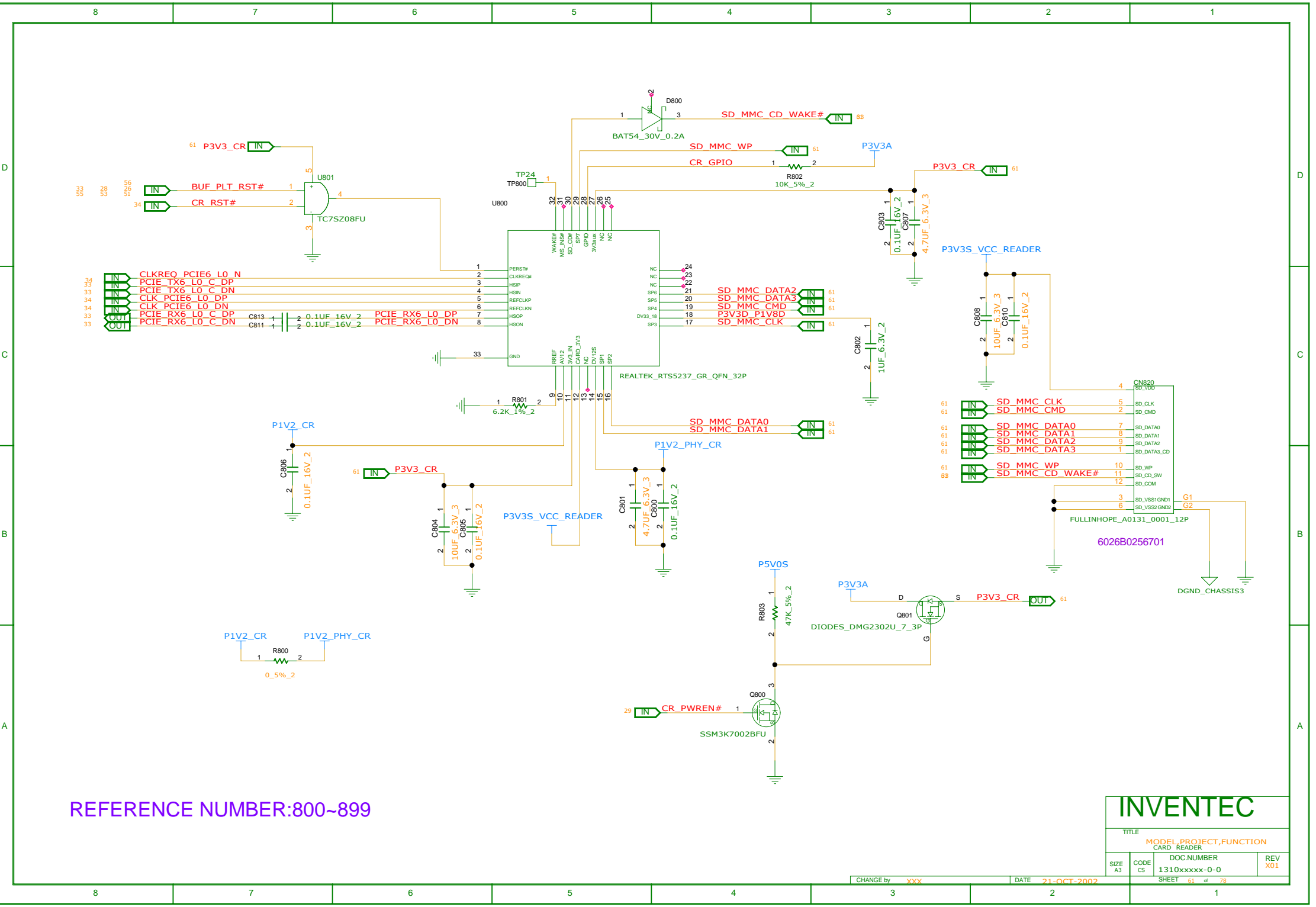
REFERENCE NUMBER:500~549

INVENTEC			
TITLE			
MODEL PROJECT,FUNCTION			
AUDIO CODEC			
DOC NUMBER			
1310xxxxx-0-0			
REV			
X01			
SHEET	59	of	78



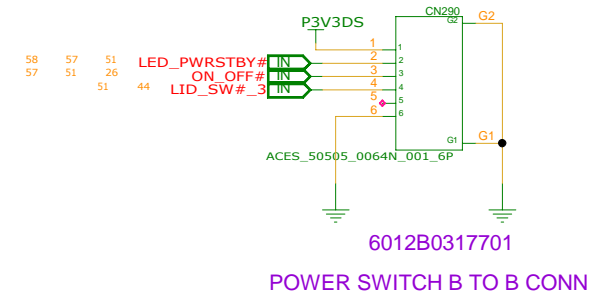
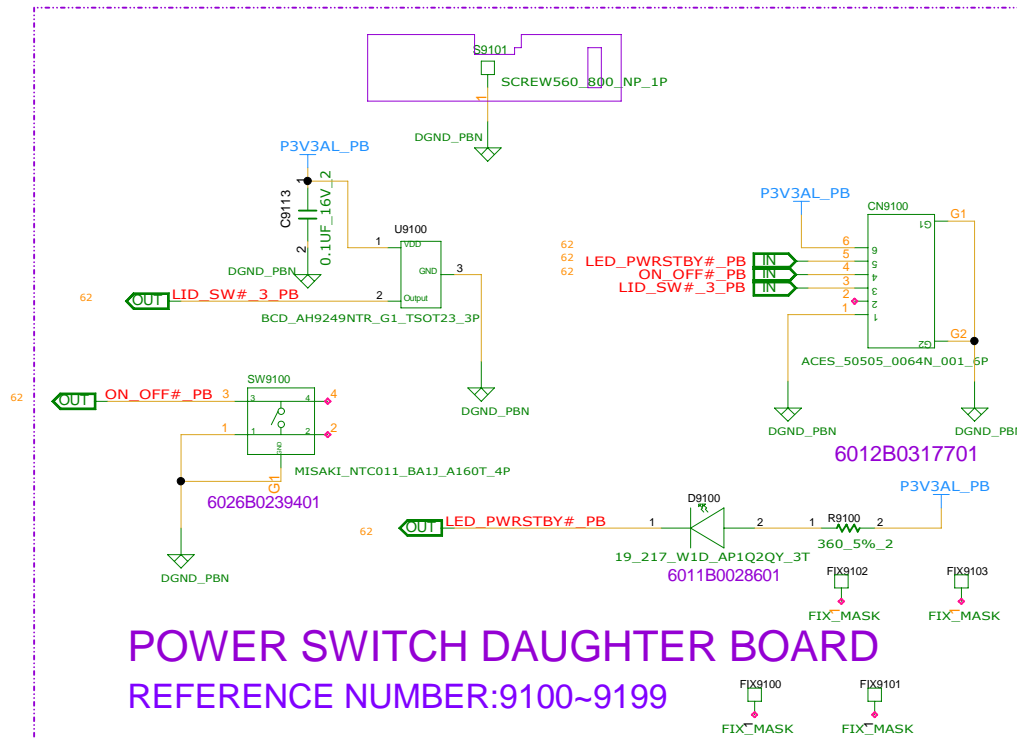
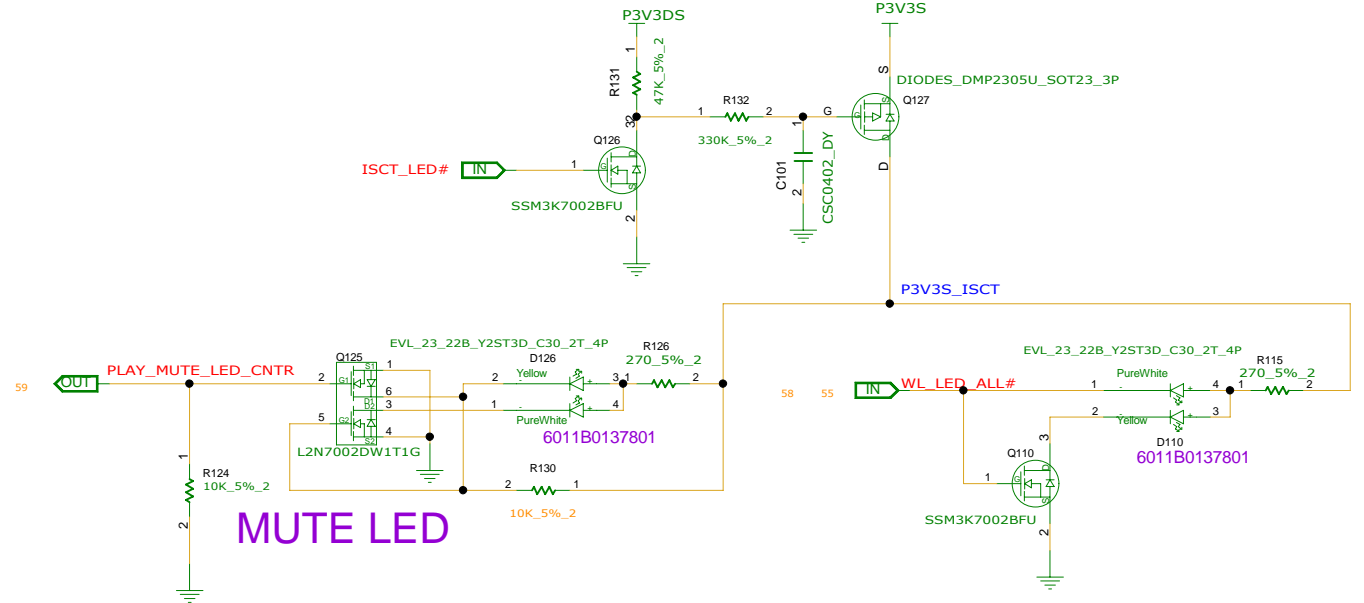
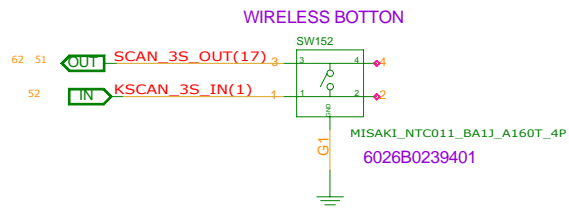
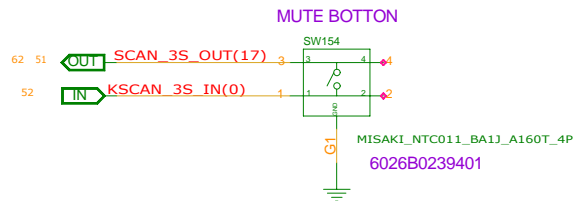
INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION EXT. MIC AMP. & AUDIO JACK			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 60 of 78			



REFERENCE NUMBER:800~899

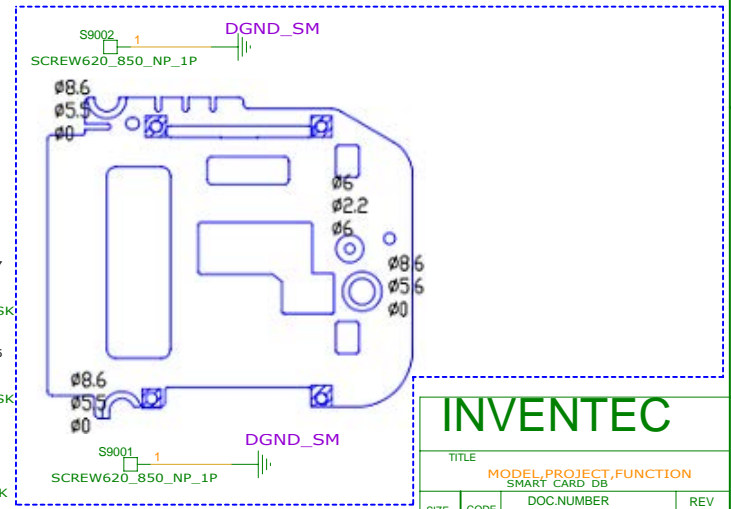
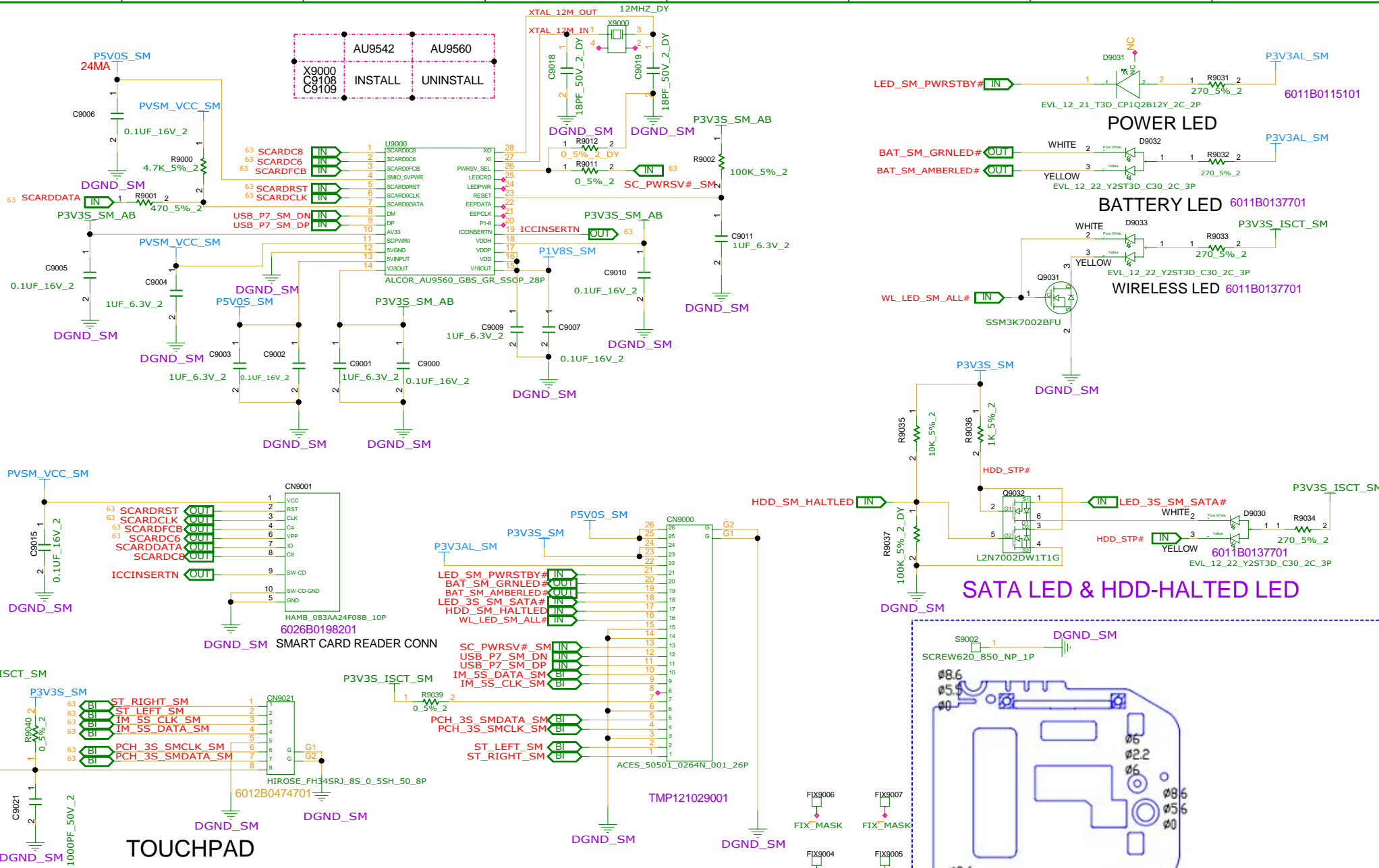
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TITLE			
MODEL,PROJECT,FUNCTION CARD READER			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxxx-0-0	REV X01
		SHEET 61 of 78	



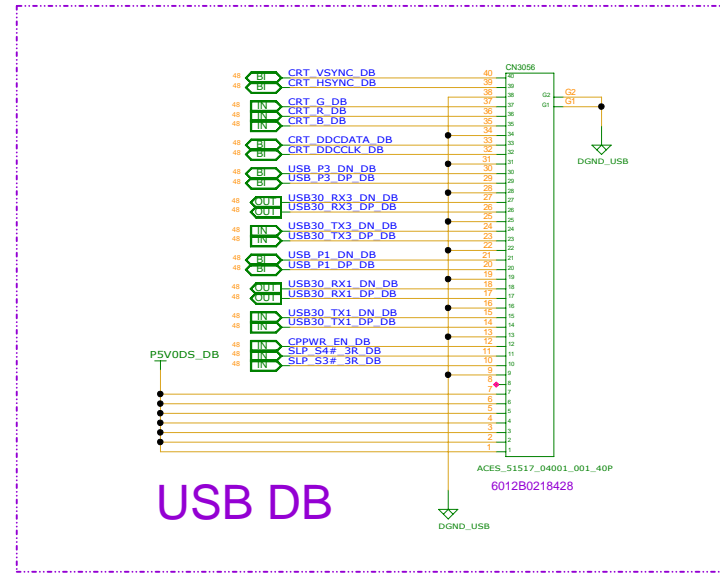
INVENTEC				
TITLE				
MODEL PROJECT,FUNCTION				
BUTTON LED				
SIZE	CODE	DOC NUMBER	REV	
A3	C3	1310xxxxx-0-0	X01	
SHEET 62 of 78				

CHANGE by XXX DATE 21-OCT-2002

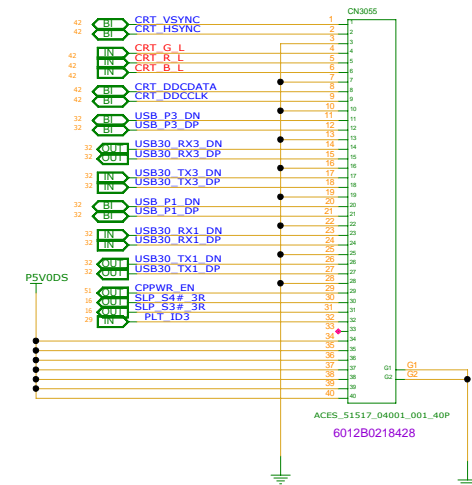
# REFERENCE NUMBER:9000~9099 SMART CARD DOUGHTER BOARD



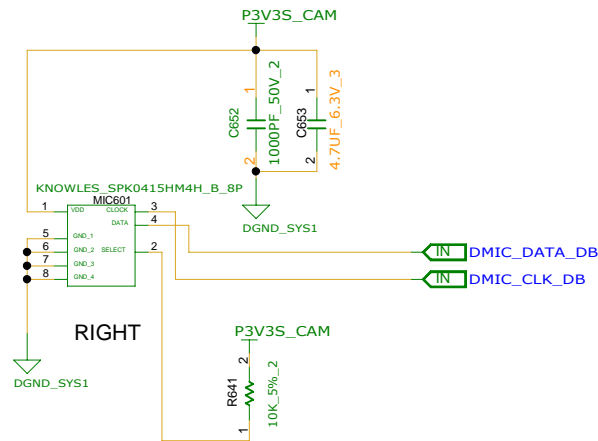
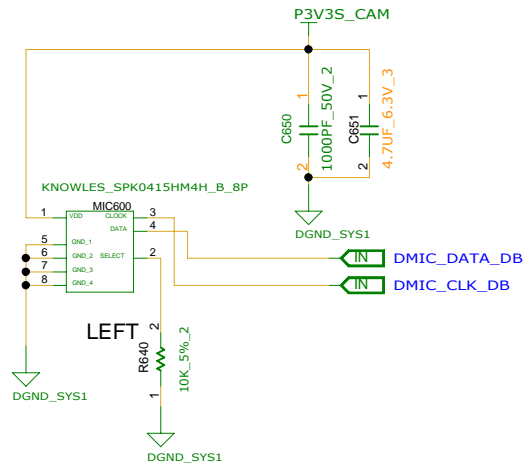
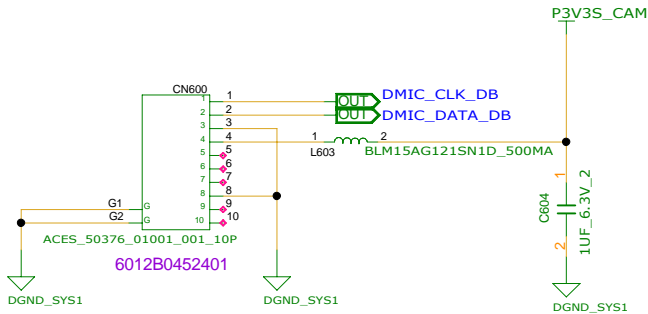
INVENTEC			
TITLE			
MODEL PROJECT FUNCTION			
DOC NUMBER			
1310xxxxx-0-0			
REV			
X01			
SHEET			
63 of 78			



USB DB

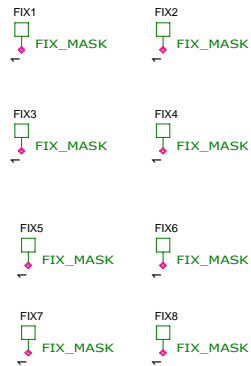
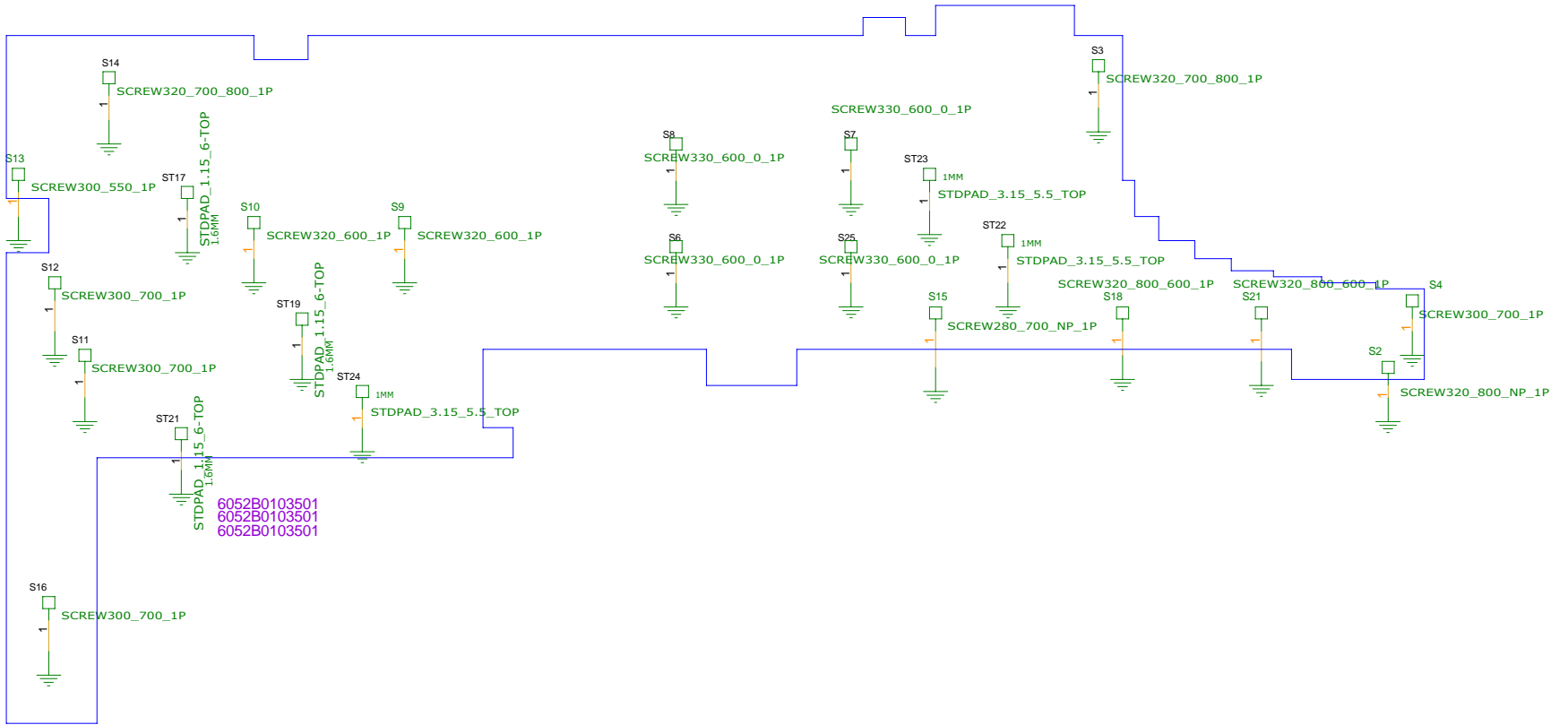






REFERENCE NUMBER:600-649  
MIC DOUGHTER BOARD

INVENTEC			
TITLE			
MODEL,PROJECT,FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310xxxxx-0-0	X01
SHEET 65 of 78			



INVENTEC

TITLE			
MODEL PROJECT,FUNCTION			
SCREW			
SIZE A3	CODE CS	DOC NUMBER 1310xxxxx-0-0	REV X01
SHEET 66 of 78			



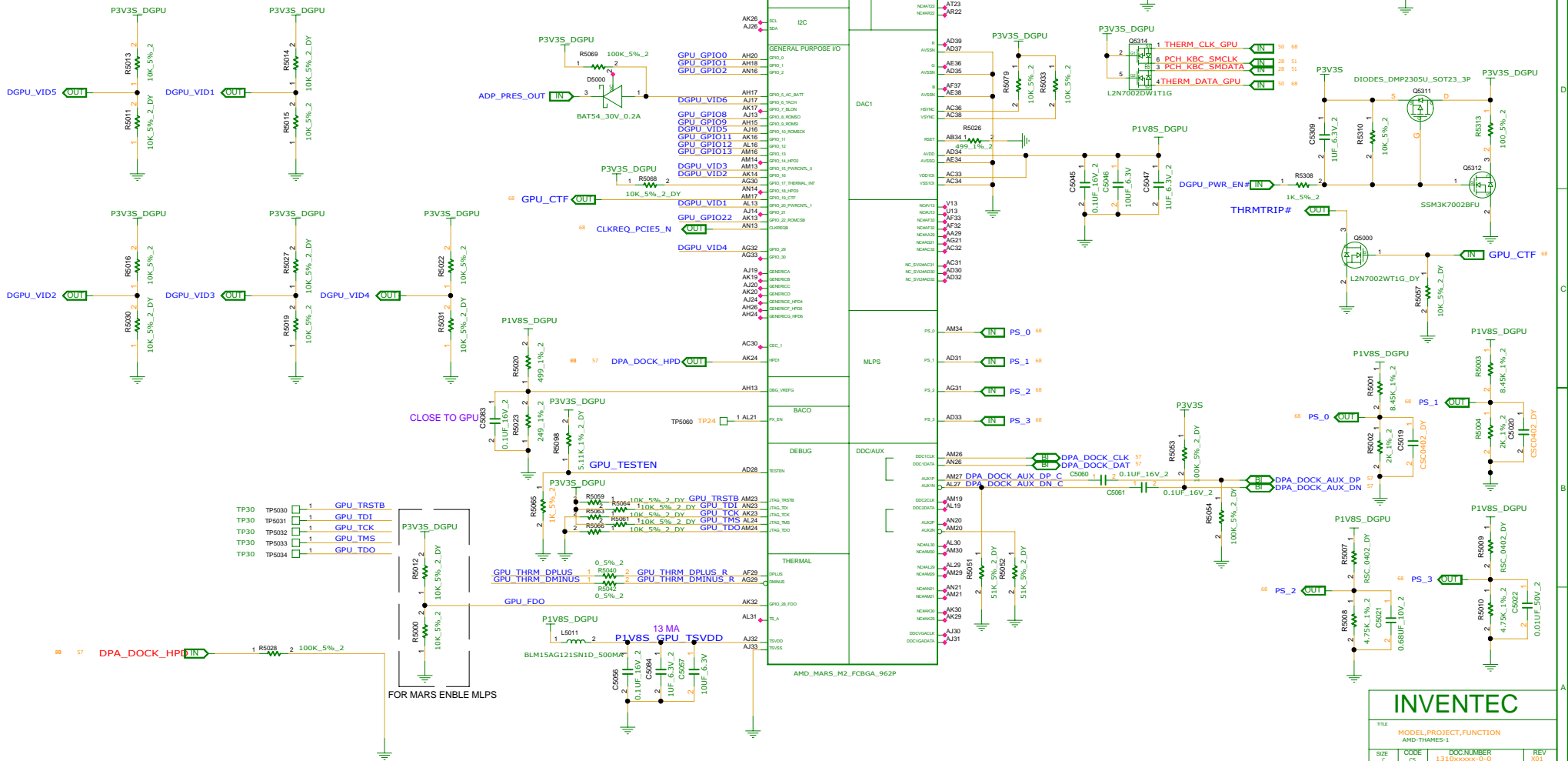
## MLPS TABLE

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

R <sub>pu</sub> (Ω)	R <sub>pd</sub> (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

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

**Note:** 0402 1% resistors are required.



LPT-LP GPIO 34	MARS MLPS Bit: PS_3 [3:1]			R <sub>pu</sub> (Ω)	R <sub>pd</sub> (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 :	Vram configuration			Vendor ID		Vram information		
0 : VBIOS 1, 64Mx32 for 1GB sku	00: 64Mx32 (2Gb)			0: Samsung		* 2GB sku, TBD		
1 : VBIOS 2, 128Mx32 for 2GB sku	11: 128Mx32 (4Gb)			1: Hynix				

### MLPS Implementation

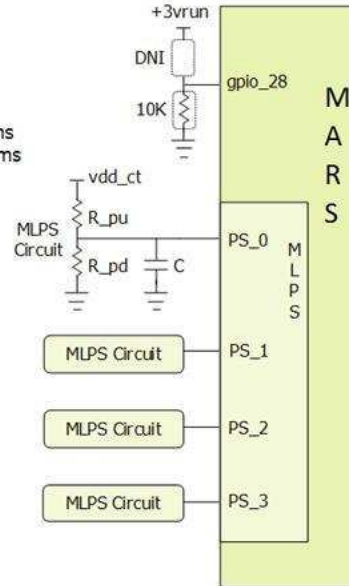
- Connect GPIO\_28 to 10K pulldown to enable MLPS
- If any of PS\_0/1/2/3 is not used, leave "no connect"
- R<sub>pu</sub>, R<sub>pd</sub> and C must be properly populated per tables below
- Place MLPS circuit components as close to the ASIC as possible
- Total DC resistance of trace between PS pin and 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 <sub>pu</sub> (Ohm)	R <sub>pd</sub> (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



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. <b>Must be 1 at reset.</b>
PS_0[5]	AUD_PORT_CONN_PINSTRAP[0]	The LSB (least significant bit) of the strap that indicates the number of audio-capable display outputs.
PS_1[1]	STRAP_BIF_GEN3_EN_A	PCIe GEN3 capability. <b>1 = PCIe GEN3 is supported.</b>
PS_1[2]	STRAP_BIF_CLK_PM_EN	Determines whether or not the PCIe reference clock power management capability is reported in the PCI configuration space (otherwise known as CLKREQB). <b>0 = The CLKREQB power management capability is disabled</b>
PS_1[3]	N/A	Reserved for internal use only. <b>Must be 0 at reset.</b>
PS_1[4]	STRAP_TX_CFG_DRV_FULL_SWING	Control the transmitter full-/half-swing mode <b>1 = The transmitter full-swing is enabled</b>
PS_1[5]	STRAP_TX_DEEMPH_EN	PCI EXPRESS® transmitter, de-emphasis enable. <b>1 = Tx deemphasis enabled.</b>
PS_2[1]	N/A	Reserved.
PS_2[2]	N/A	Reserved.
PS_2[3]	STRAP_BIOS_ROM_EN	To enable the external BIOS ROM device. <b>0 = Disable the external BIOS ROM device.</b>
PS_2[4]	STRAP_BIF_VGA_DIS	VGA disable determines whether or not the card will be recognized as the system's VGA controller (through the SUBCLASS field in the PCI configuration space). <b>0 = VGA controller capacity enabled.</b>
PS_2[5]	N/A	Reserved

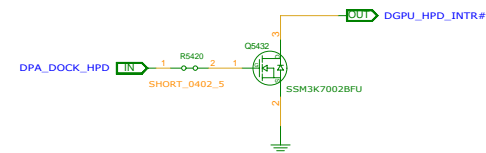
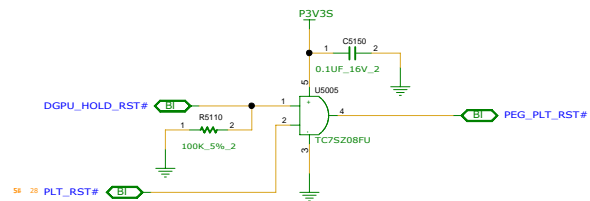
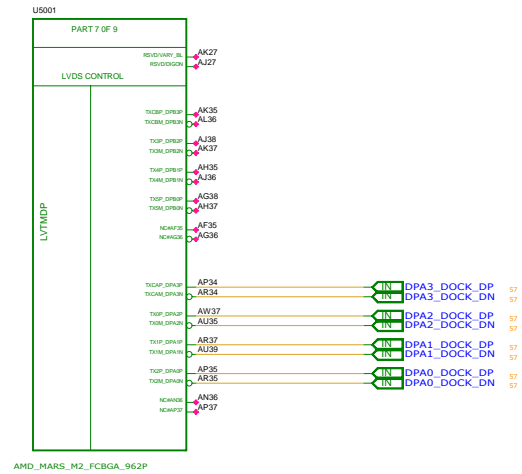
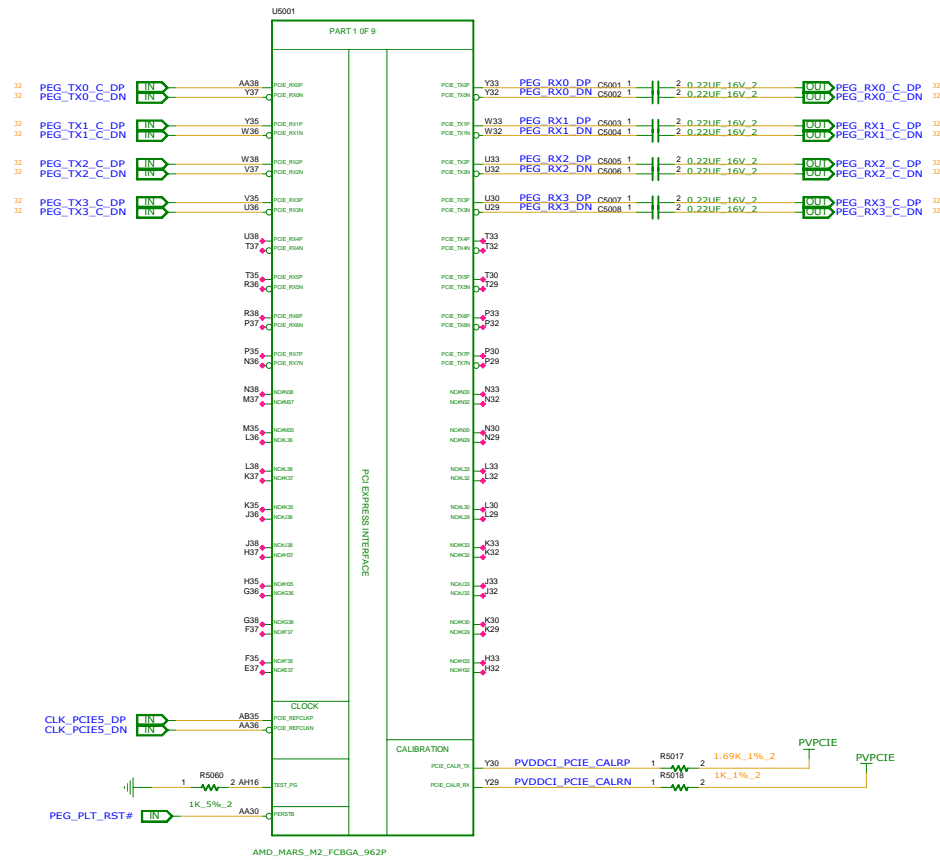
PS_2[1]	N/A	Reserved.
PS_2[2]	N/A	Reserved.
PS_2[3]	STRAP_BIOS_ROM_EN	To enable the external BIOS ROM device. <b>0 = Disable the external BIOS ROM device.</b>
PS_2[4]	STRAP_BIF_VGA_DIS	VGA disable determines whether or not the card will be recognized as the system's VGA controller (through the SUBCLASS field in the PCI configuration space). <b>0 = VGA controller capacity enabled.</b>
PS_2[5]	N/A	Reserved
PS_3[1]	BOARD_CONFIG[0]	See Board configuration related strapping, 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 number of digital display audio endpoints that will be presented to the OS and user. 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.
PS_3[5]	AUD_PORT_CONN_PINSTRAP[2]	

Note : AUD[1] (on HYSNC) and AUD[0] (on VSYNC) still need to be properly pin strapped even in a MLPS-based design.

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]	aud_port_cp[2]	3-bit field indicating number of audio-capable display outputs	xxx	n/a
PS_3[4]	aud_port_cp[1]			
PS_0[5]	aud_port_cp[0]			

INVENTEC

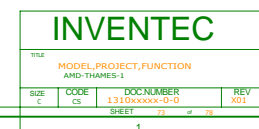
TITLE			
MODEL, PROJECT, FUNCTION			
Block Diagram			
SIZE	CODE	DOC NUMBER	REV
E	CS	1310XXXX-0-0	201
SHEET		of	08

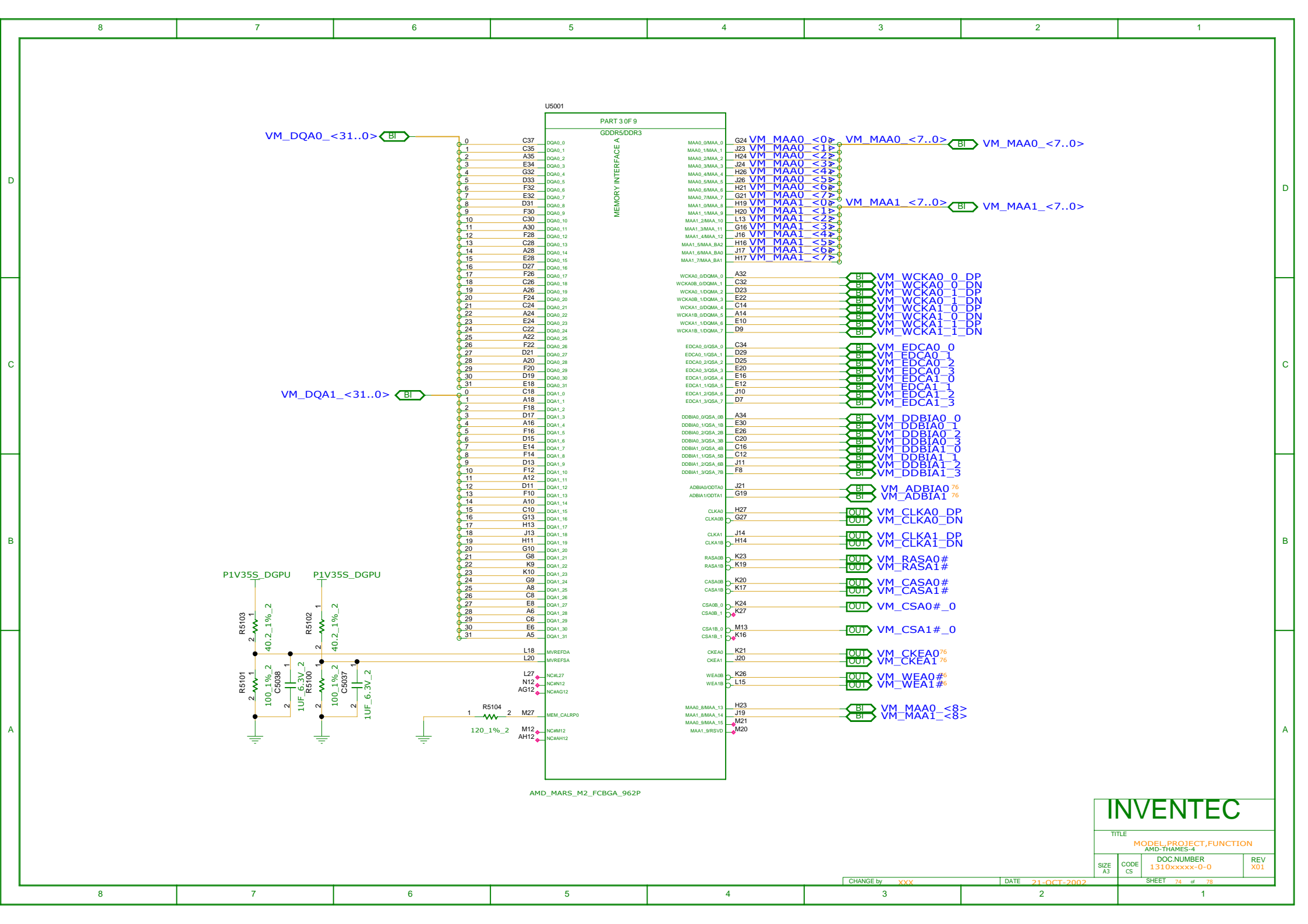


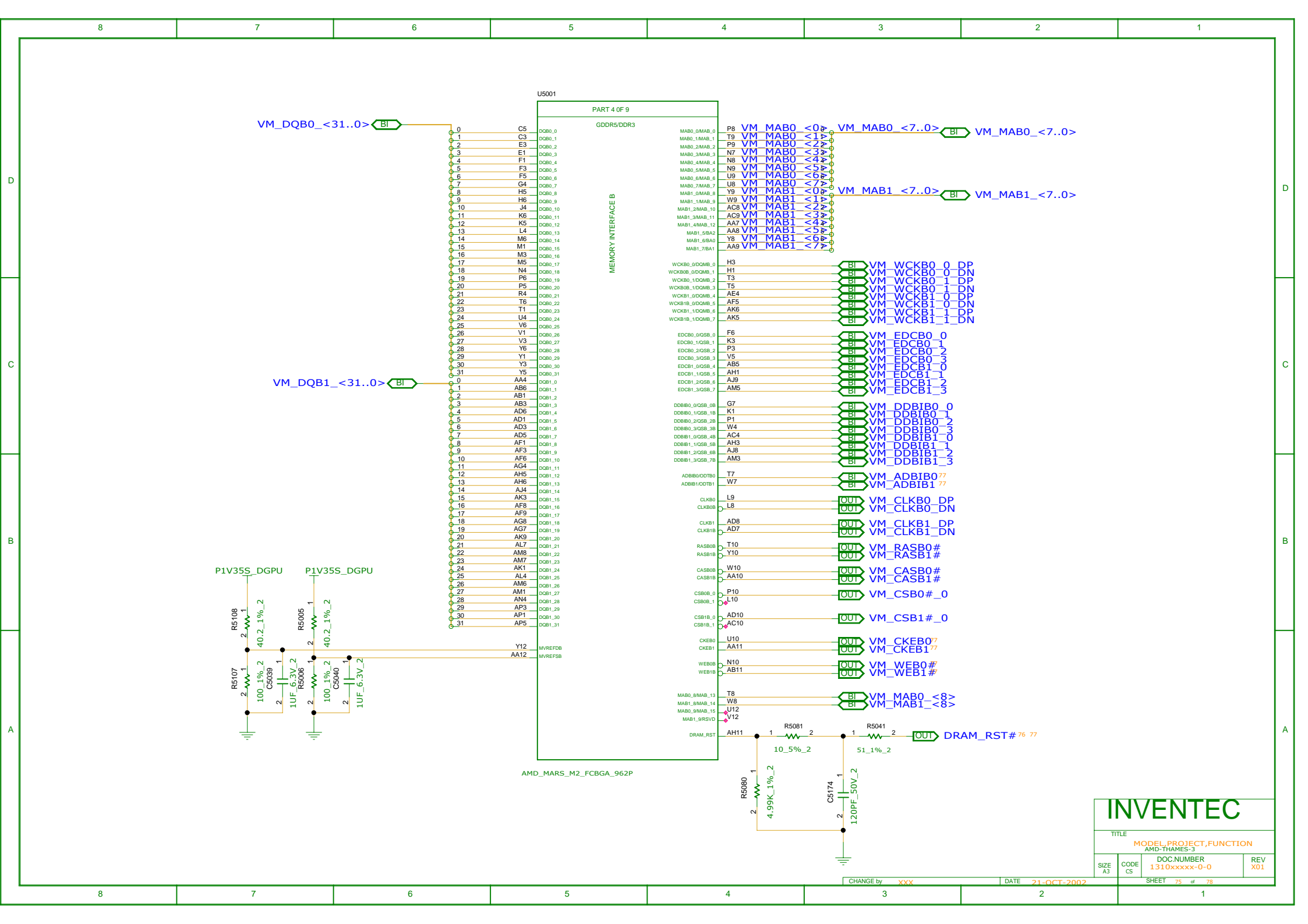












INVENTEC

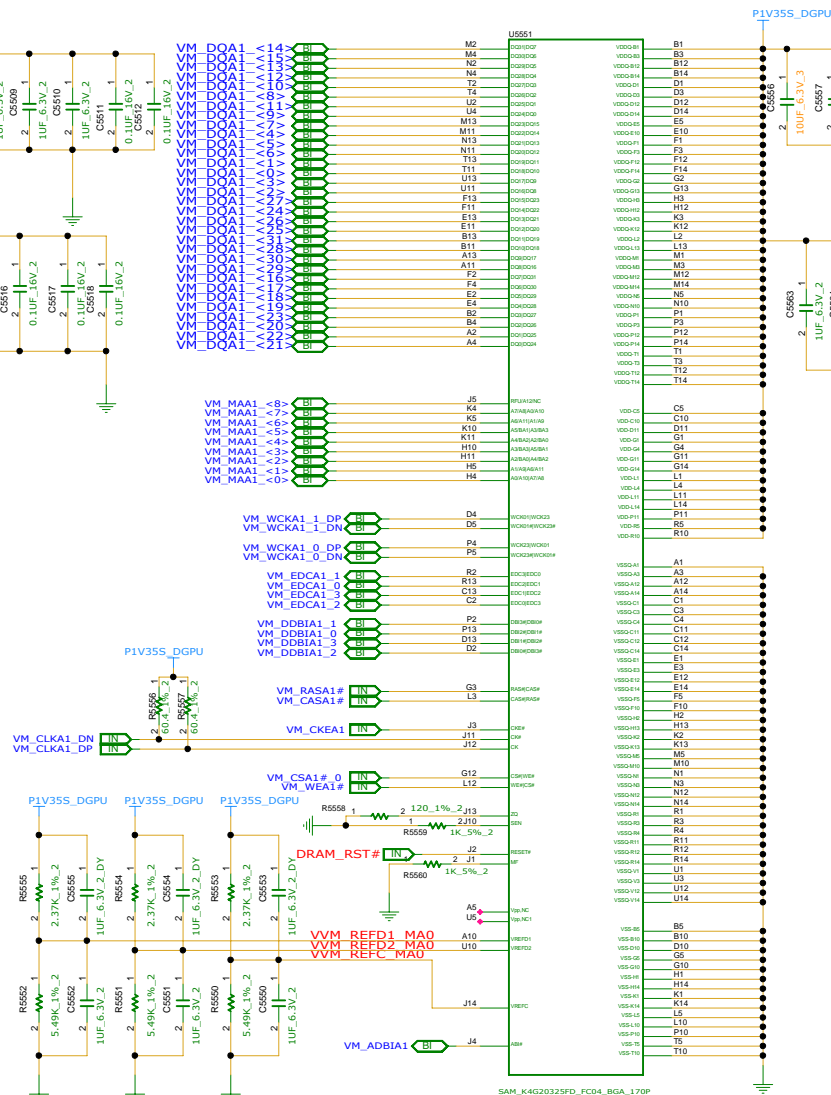
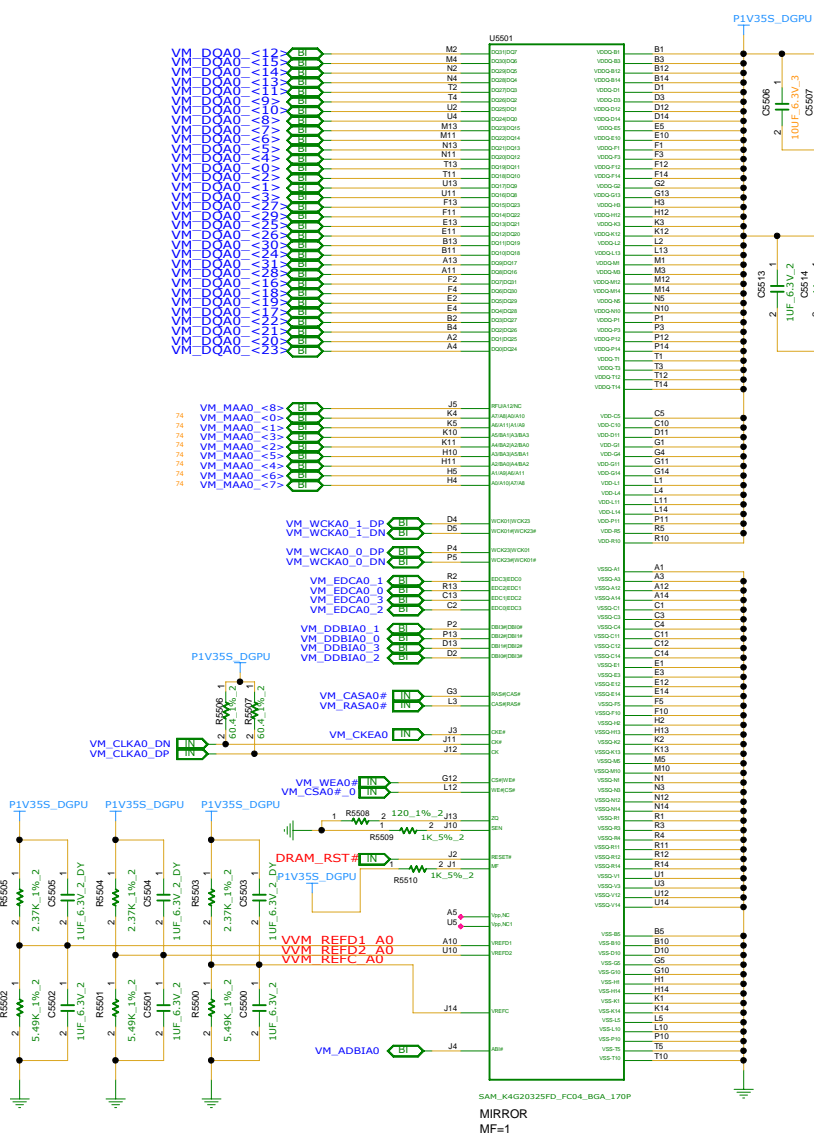
TITLE  
MODEL PROJECT FUNCTION

DOC NUMBER  
1310xxxx-0-0

REV  
X01

CHANGE by XXX DATE 21-OCT-2002

SHEET 75 of 78



SAM\_K4G20325FD\_FC04\_BGA\_170P

MIRROR

MF=1

CHANGE by	xxx	DATE	21-OCT-2002
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INVENTEC

TITLE			
MODEL,PROJECT,FUNCTION			
VRAM-1			
SIZE C	CODE CS	DOC NUMBER 1310xxxxxx-0-0	REV X01
SHEET 76 of 78			



SAM\_K4G20325FD\_FC04\_BGA\_170I

CHANGE by	xxx	DATE	21-OCT-2002
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<b>INVENTEC</b>			
TITLE			
MODEL, PROJECT, FUNCTION Block Diagram			
SIZE A3	CODE CS	DOC. NUMBER 1310xxxxx-0-0	REV X01
SHEET 78 of 78			