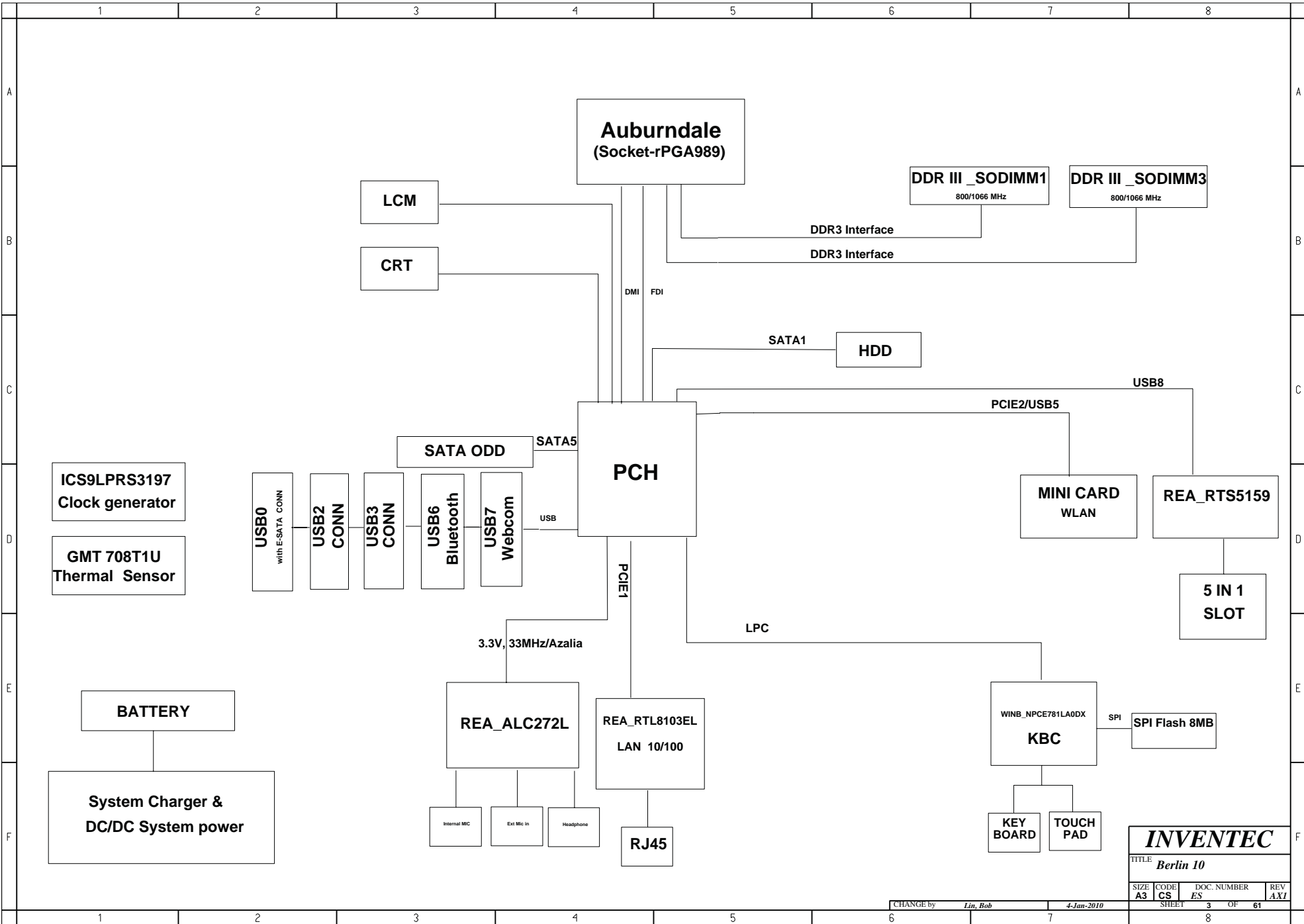


TABLE OF CONTENTS

PAGE	PAGE	PAGE
1. COVER PAGE	31. BLANK	61.DDR DAMPING
2. INDEX	32. USB CONN	
3. BLOCK DIAGRAM	33. BLANK	
4. POWER SEQUENCE BLOCK	34.Camera	
5. PCB	35. BLANK	
6. SYSTEM POWER	36.3D SENSOR	
7. SYSTEM POWER	37. KILL SW	
8. SYSTEM POWER	38. Hall sensor	
9. SYSTEM POWER	39.LED	
10.SYSTEM POWER	40.CLOCK GENERATOR	
11.SYSTEM POWER	41. DDR3 DIMM0	
12.SYSTEM POWER	42. DDR3 DIMM1	
13.VGA POWER	43.CPU 1	
14.SYSTEM POWER	44.CPU 2	
15. SUPER I/O(KBC)	45. CPU 3	
16.K/B & TP/B CONN	46.CPU 4	
17.FAN & THERMAL CONTROLLER	47. CPU 5	
18.LAN	48.CPU 6	
19.RJ45 & TRANSFORMER	49.PCH 1	
20.AUDIO CODEC	50. PCH 2	
21.AUDIO AMP	51. PCH 3	
22.BLANK	52. PCH 4	
23.LCM CONN	53. PCH 5	
24.RGB CONN	54. PCH 6	
25.BLANK	55. PCH 7 POWER	
26. BLANK	56. PCH 8 POWER	
27. BLANK	57. PCH 9	
28. BLANK	58.Hotkey board and 0 BUTTON BOARD	
29. BLANK	59.Touch pad board	
30.SATA HDD & ODD	60.EMI	

INVENTEC			
TITLE <i>Berlin 10</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AXI
CHANGE by <i>Lin, Bob</i>		26-Jan-2010	
SHEET		2	OF 61
		8	



ICS9LPRS3197
Clock generator

GMT 708T1U
Thermal Sensor

BATTERY

System Charger &
DC/DC System power

Auburndale
(Socket-rPGA989)

LCM

CRT

DDR III_SODIMM1
800/1066 MHz

DDR III_SODIMM3
800/1066 MHz

DDR3 Interface

DDR3 Interface

DMI FDI

SATA1

HDD

USB8

PCIE2/USB5

SATA ODD

SATA5

PCH

USB

MINI CARD
WLAN

REA_RTS5159

5 IN 1
SLOT

LPC

3.3V, 33MHz/Azalia

PCIE1

REA_ALC272L

REA_RTL8103EL
LAN 10/100

Internal MC

Ext MC in

Headphone

RJ45

WINB_NPCE781LA0DX
KBC

SPI

SPI Flash 8MB

KEY
BOARD

TOUCH
PAD

INVENTEC

TITLE
Berlin 10

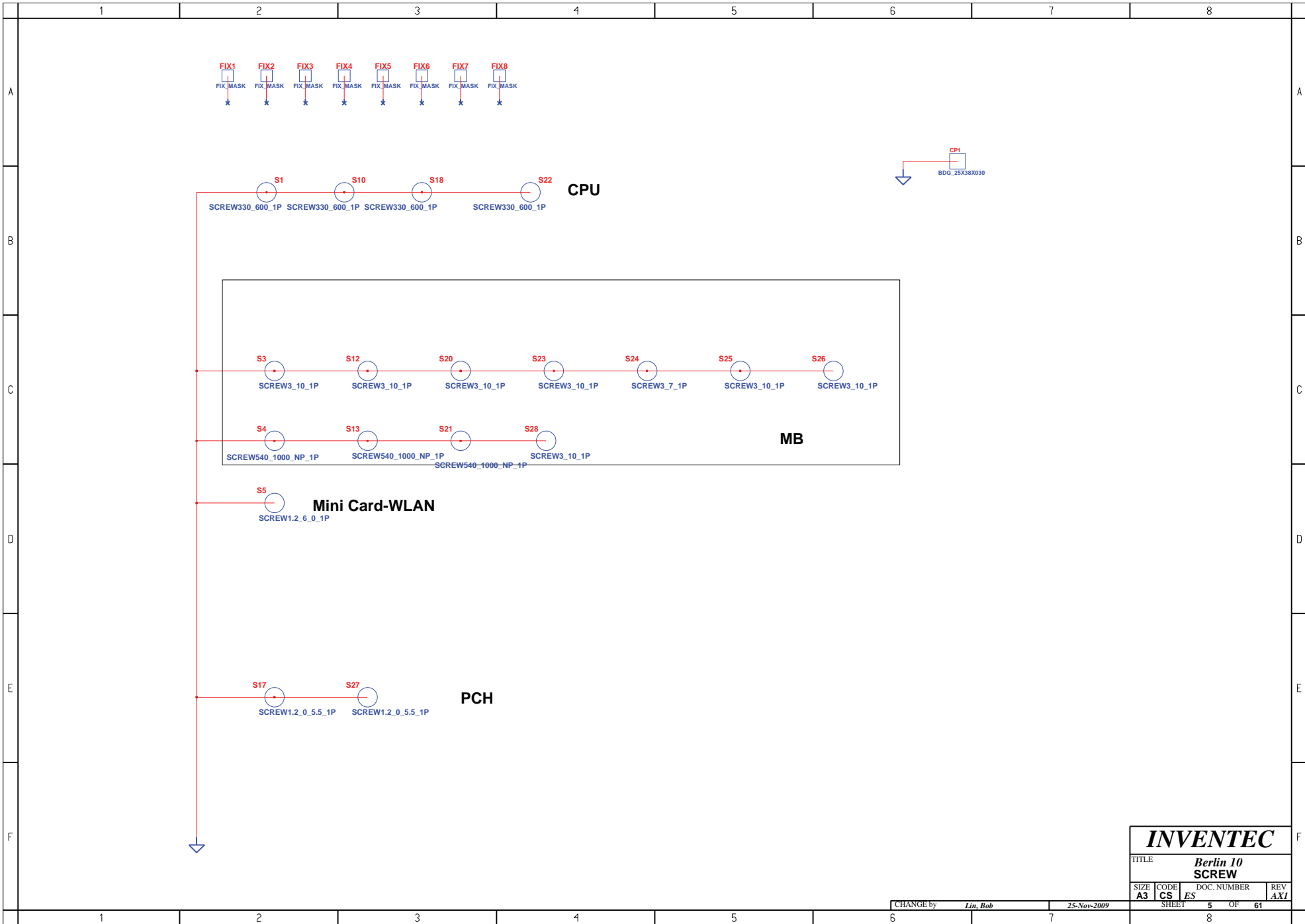
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXZ
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SHEET 3 OF 61

CHANGE by Lin, Bob 4-Jan-2010

Add Excel Power map

INVENTEC			
TITLE <i>Berlin 10</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>ES 4</i>	REV <i>AXI</i>
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		4	OF 61



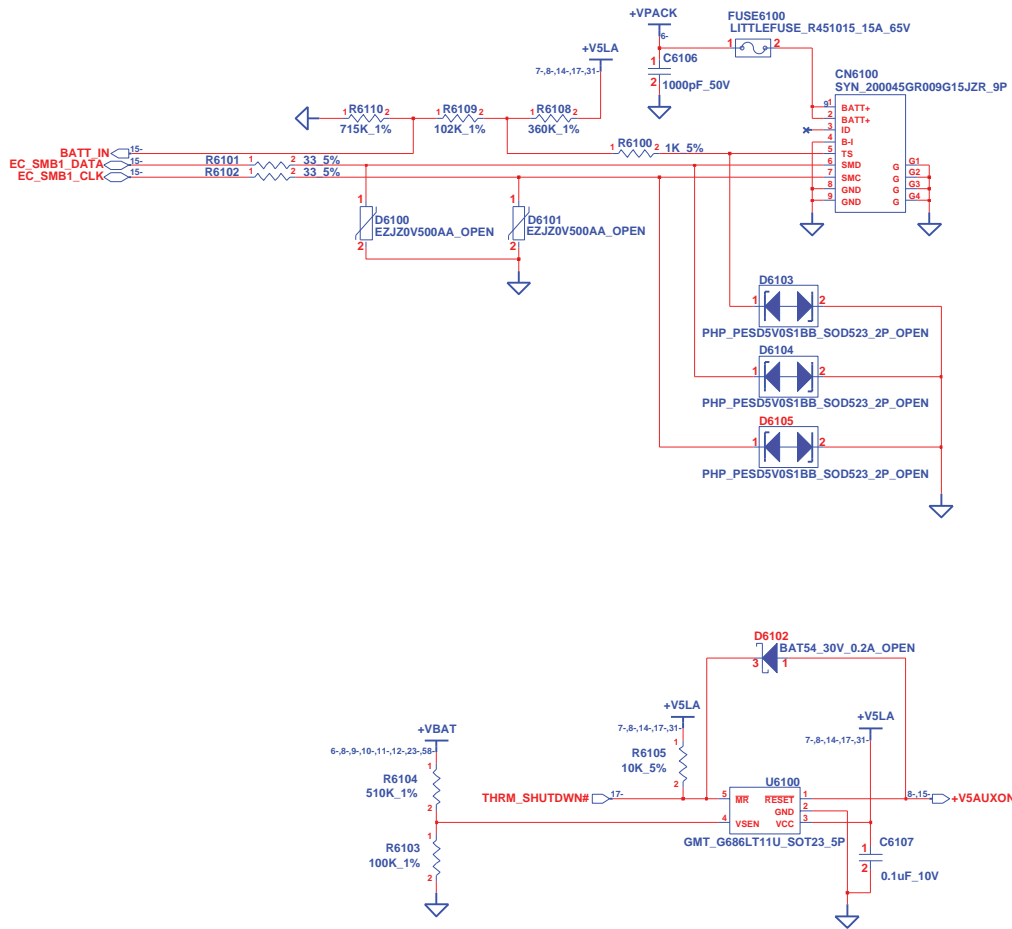
INVENTEC

TITLE *Berlin 10*
SCREW

SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AX1
-------------------	-------------------	--------------------------	-------------------

CHANGE by *Lin, Bob* 25-Nov-2009

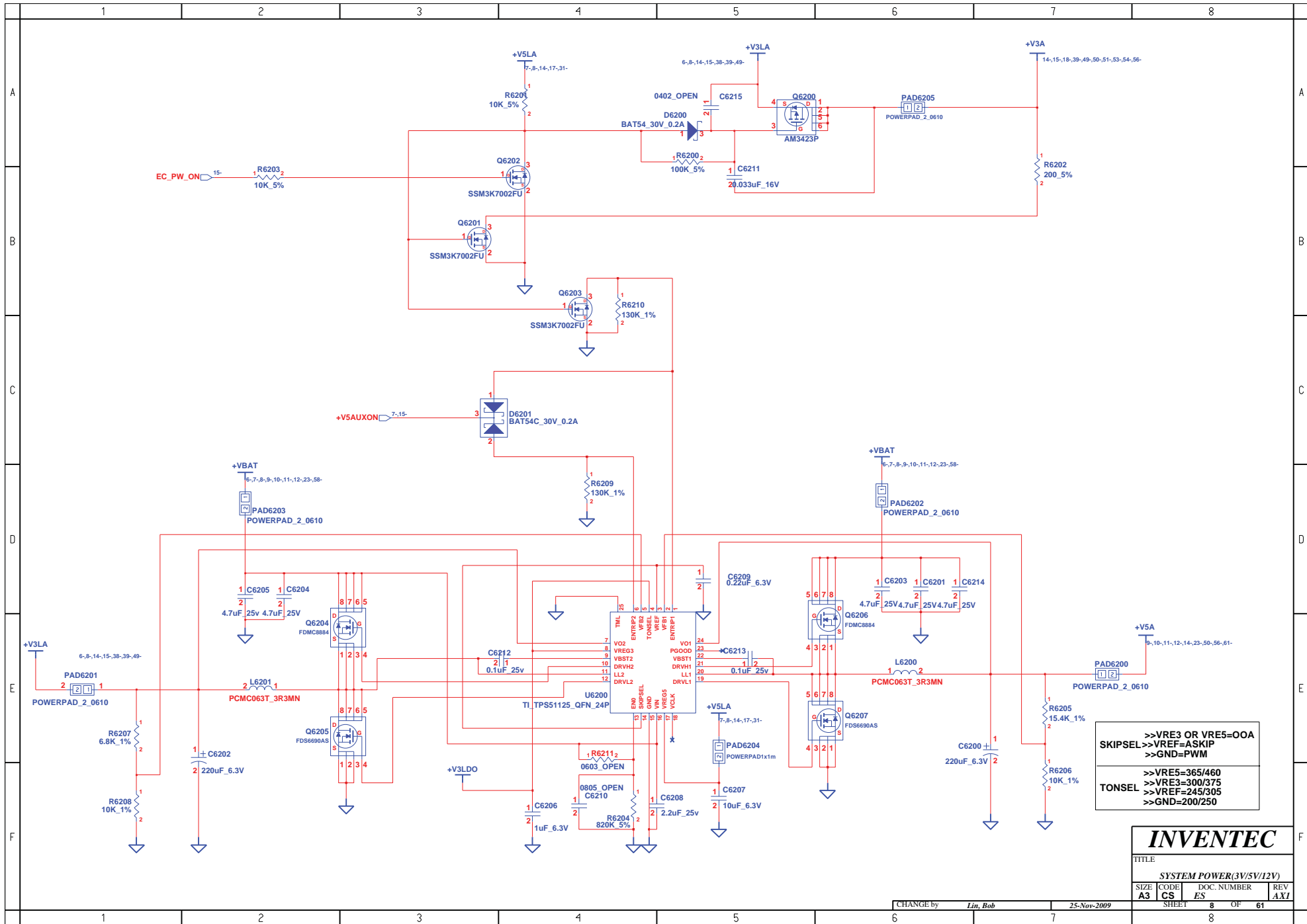
SHEET 5 OF 61



INVENTEC

TITLE			
Berlin 10			
SELECT & BATTERY CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		7 OF	61

CHANGE by Lin, Bob 25-Nov-2009



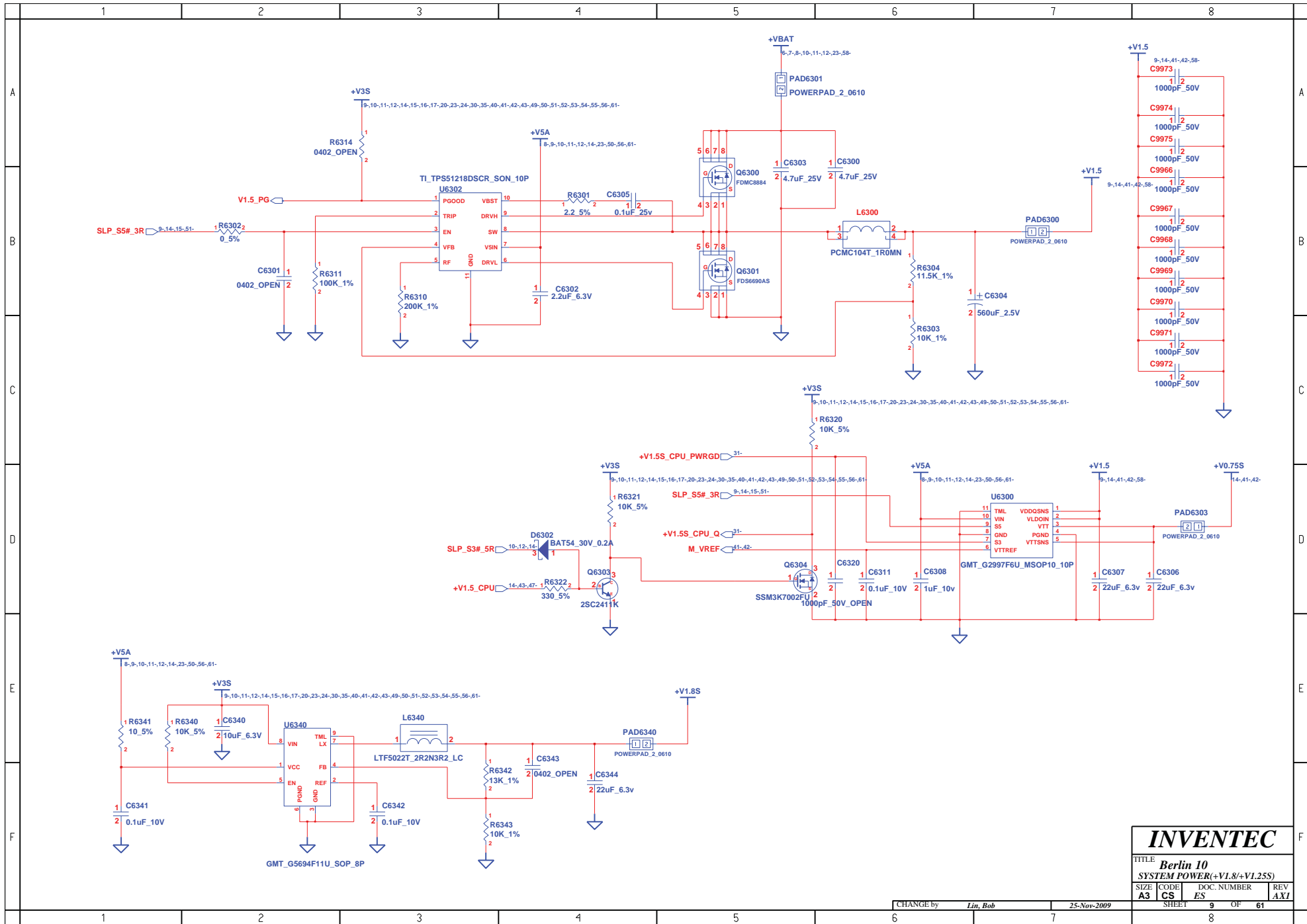
>>VRE3 OR VRE5=OOA
 >>VREF=ASKIP
 >>GND=PWM

 >>VRE5=365/460
 >>VRE3=300/375
 TONSEL >>VREF=245/305
 >>GND=200/250

INVENTEC

TITLE			
SYSTEM POWER(3V/5V/12V)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

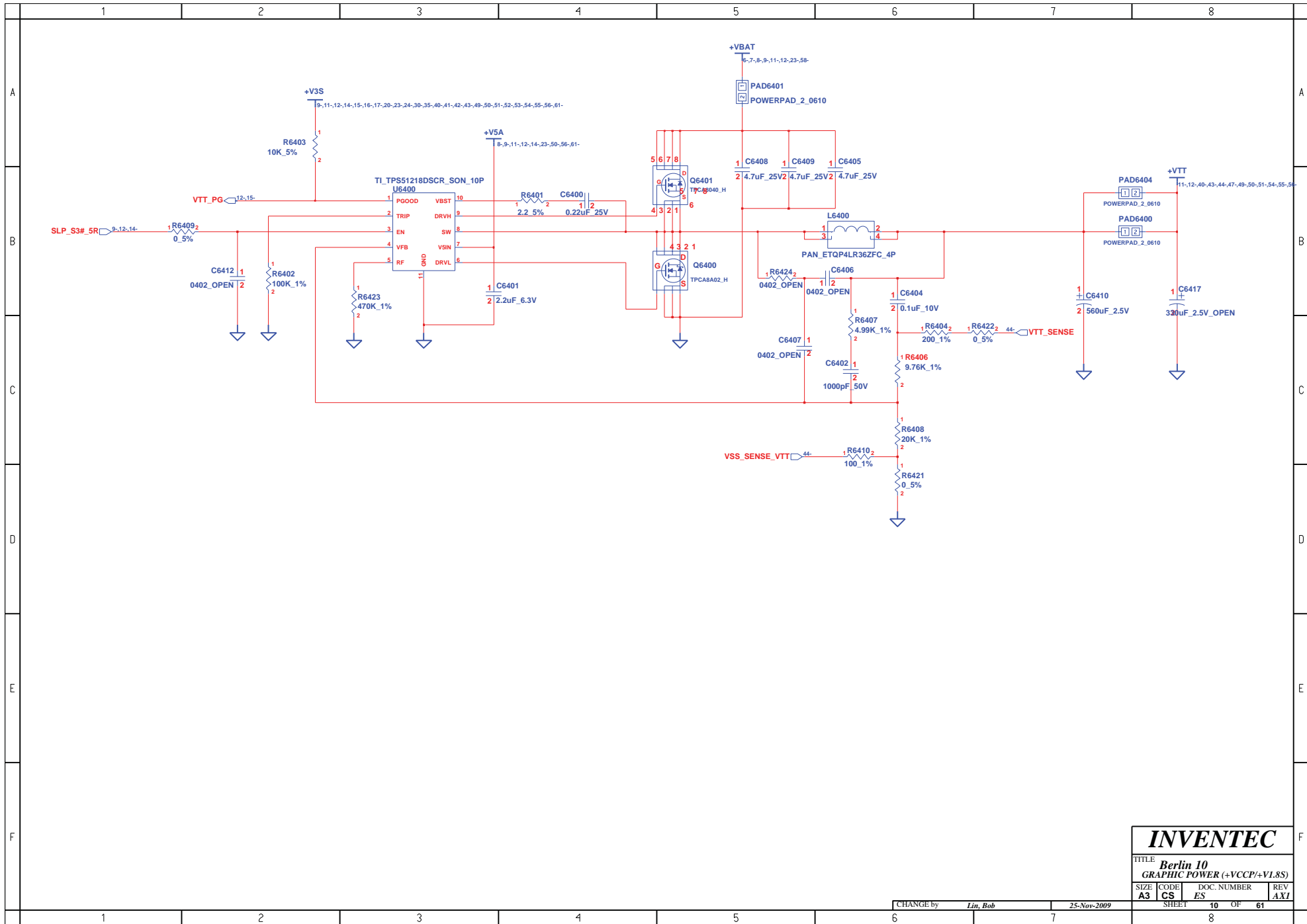
CHANGE by *Lin, Bob* 25-Nov-2009



INVENTEC

TITLE			
Berlin 10			
SYSTEM POWER(+V1.8/+V1.25S)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by	Lin_Bob	25-Nov-2009	SHEET	9	OF	61
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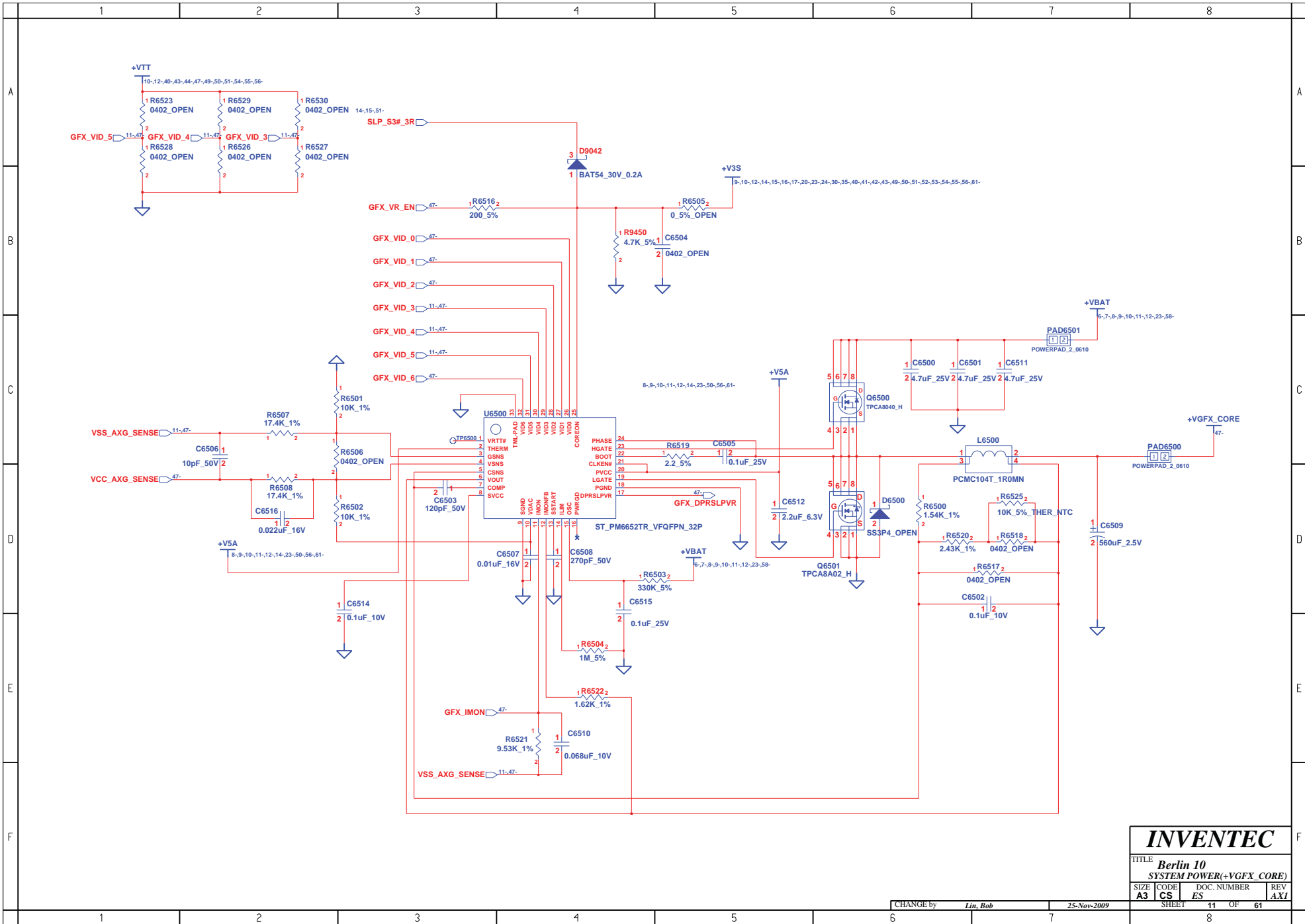


INVENTEC

TITLE			
Berlin 10			
GRAPHIC POWER (+VCCP/+V1.8S)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by Lin, Bob 25-Nov-2009

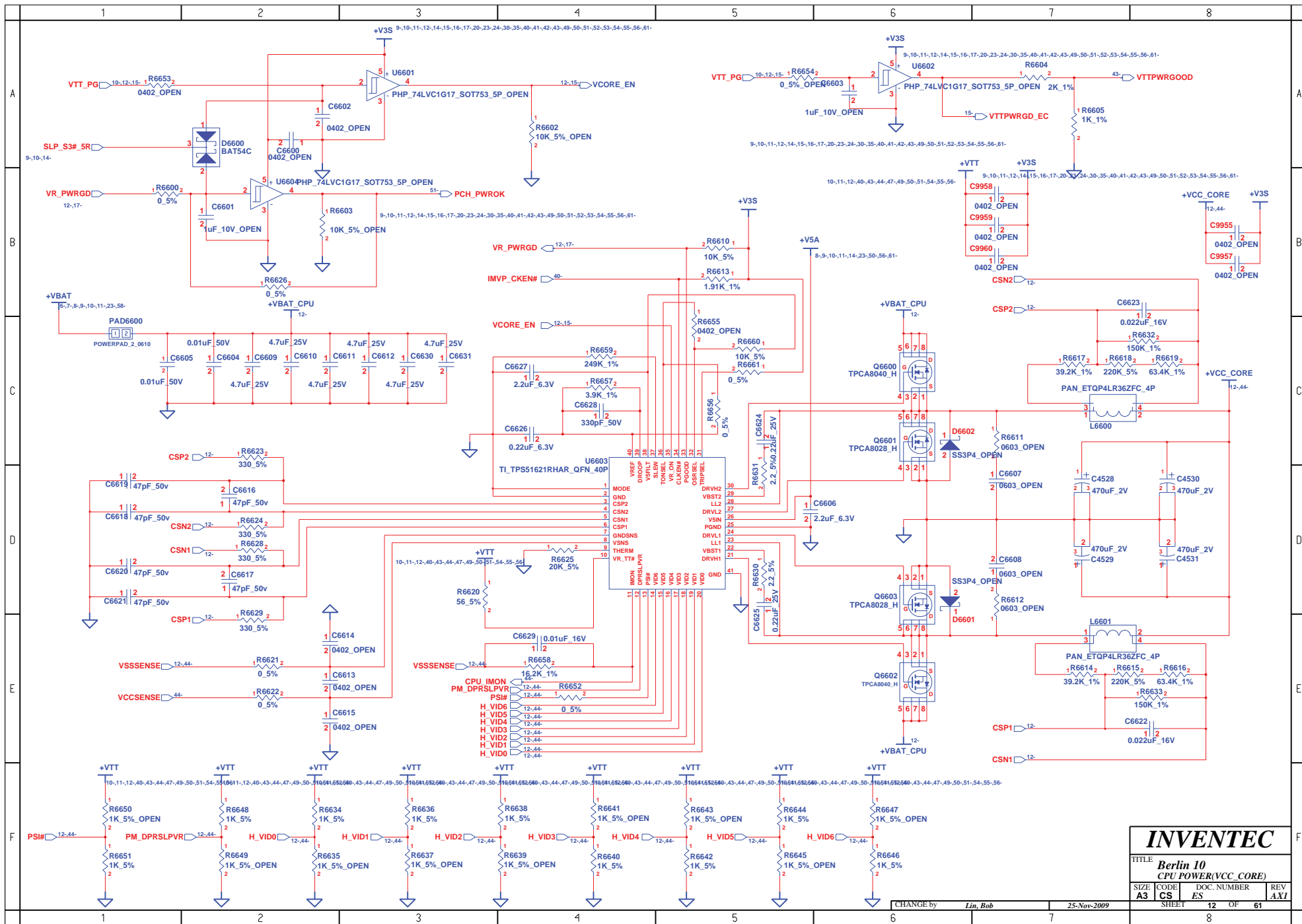
SHEET 10 OF 61



INVENTEC

TITLE			
Berlin 10			
SYSTEM POWER(+V GFX_CORE)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by Lin, Bob 25-Nov-2009

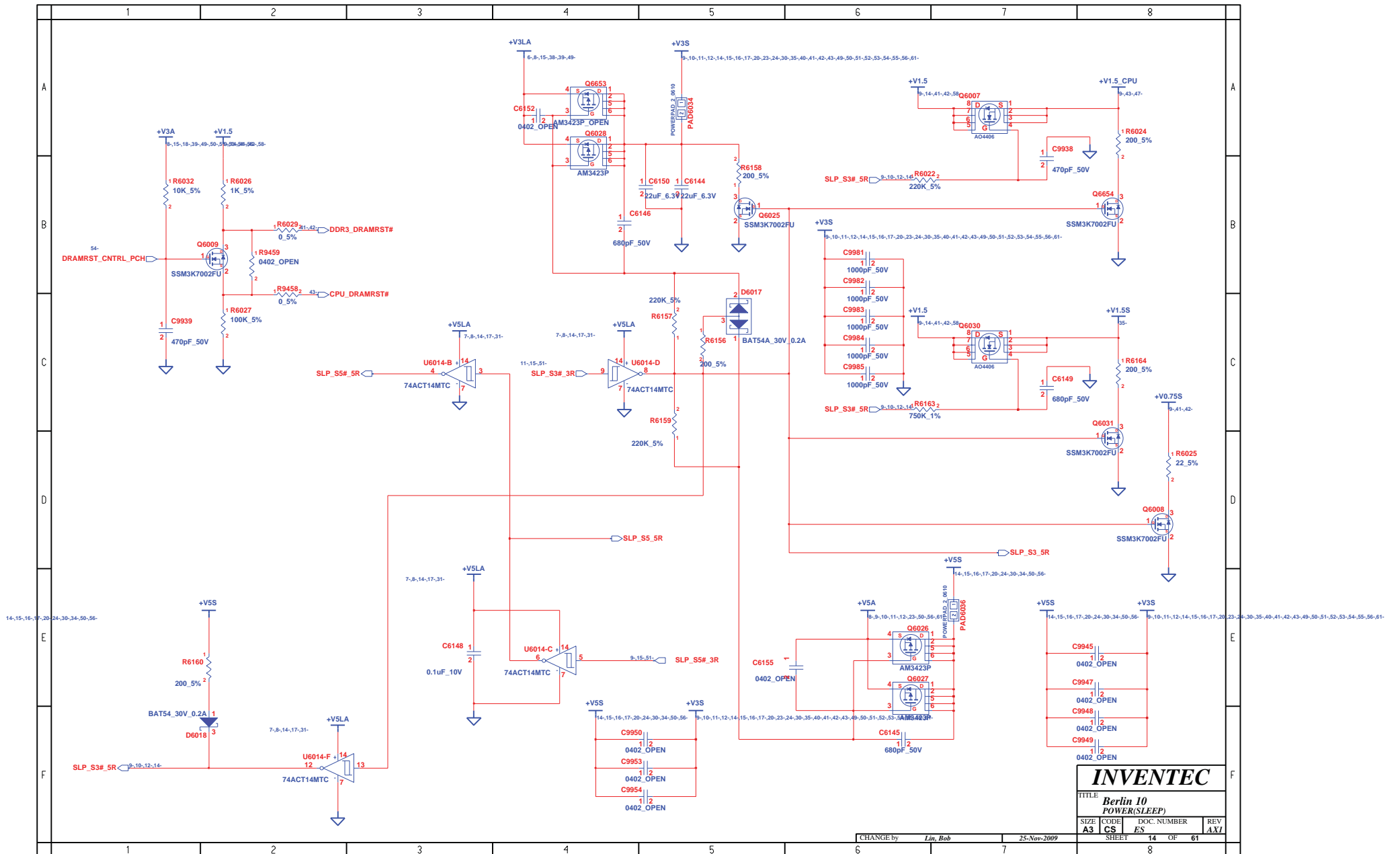


INVENTEC

TITLE Berlin 10 CPU POWER(VCC_CORE)			
SIZE A3	CODE CS	DOC NUMBER ES	REV AX1
CHANGE by Lin, Bob		25-Nov-2009	SHEET 12 OF 61

skip

INVENTEC			
TITLE <i>Berlin 10</i> VGA POWER			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AXZ
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		13	OF 61
		8	

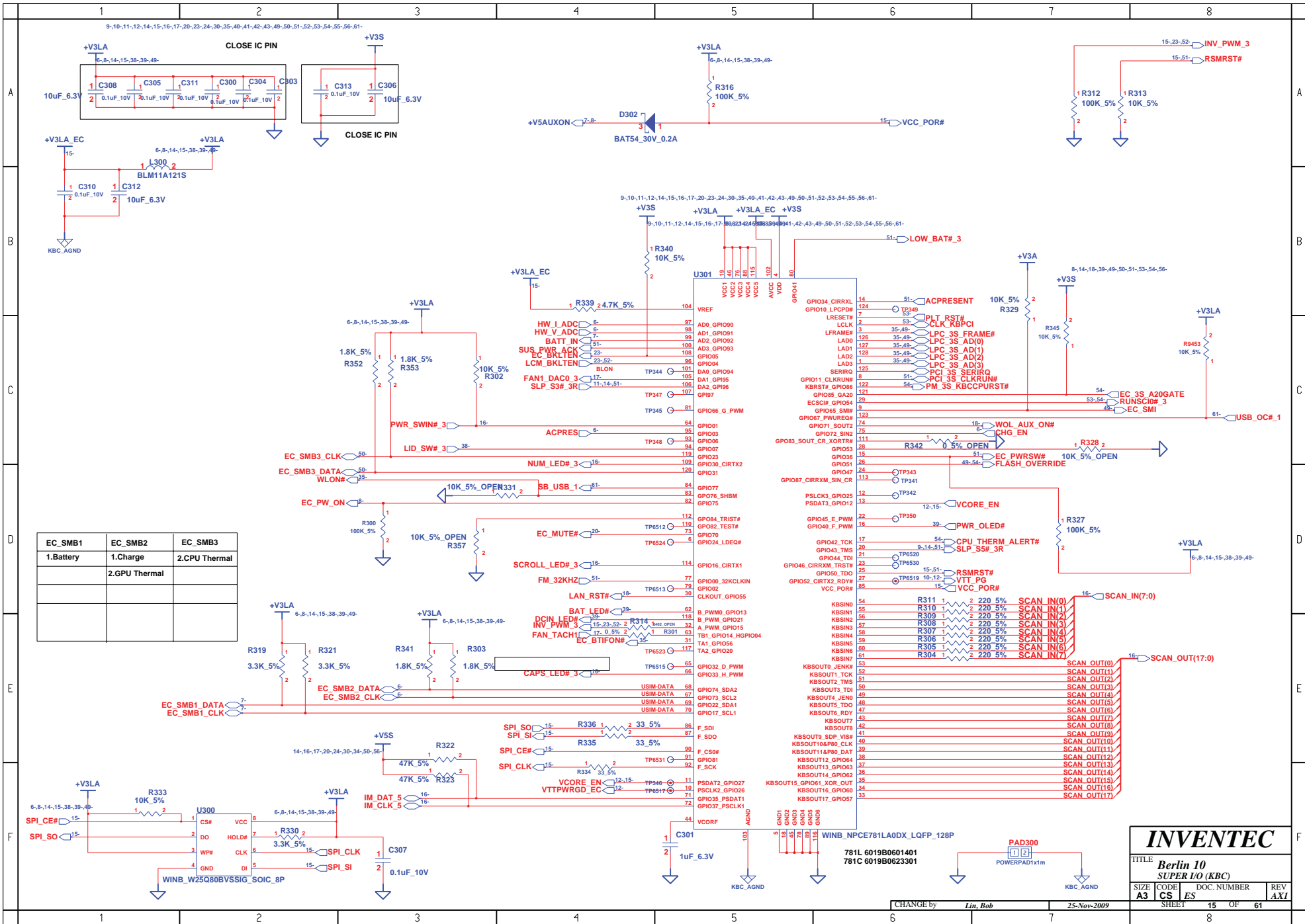


INVENTEC

TITLE: Berlin 10
POWER(SLEEP)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by: Lin, Bob 25-Nov-2009 SHEET 14 OF 61



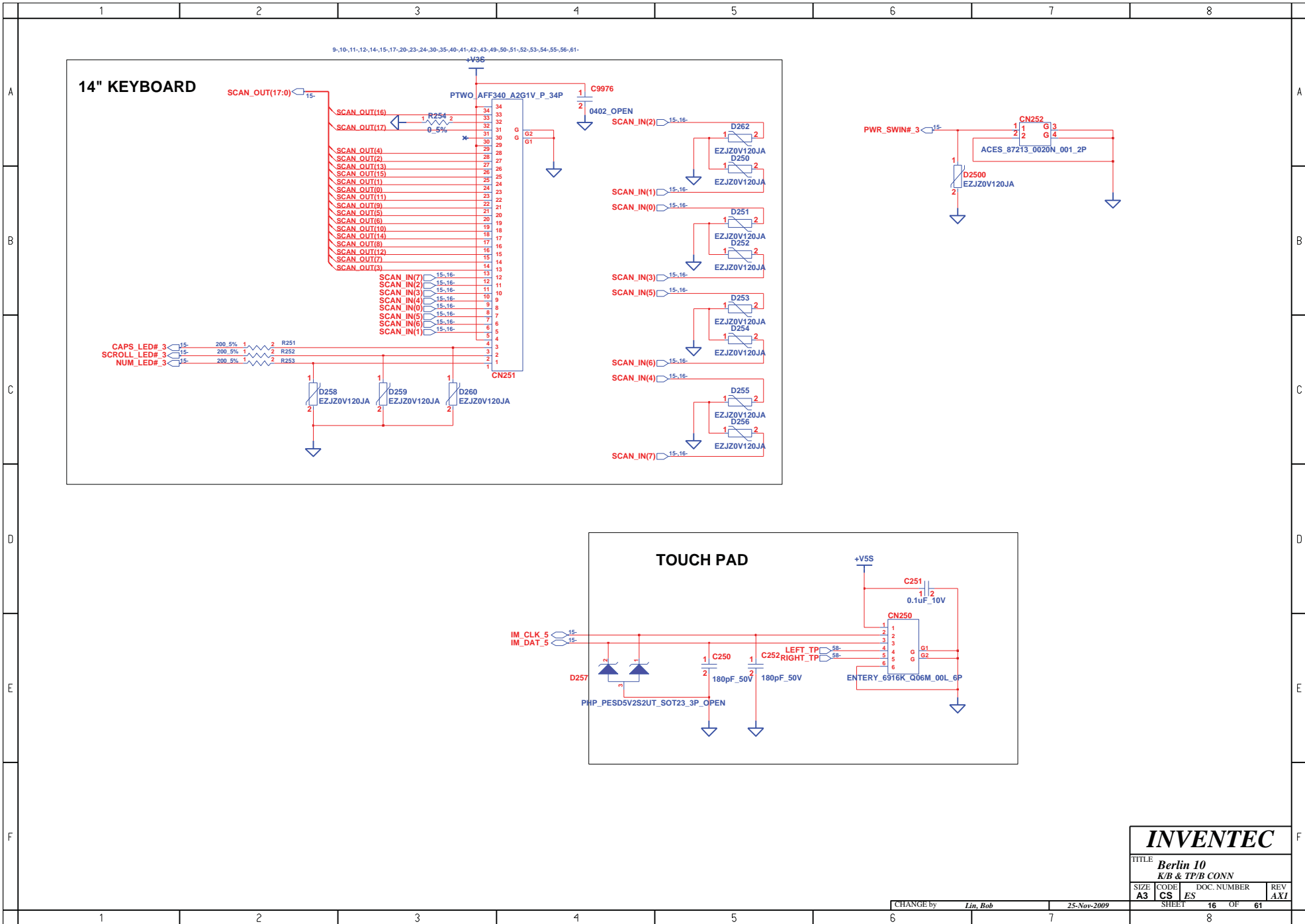
EC_SMB1	EC_SMB2	EC_SMB3
1.Battery	1.Charge	2.CPU Thermal
	2.GPU Thermal	

INVENTEC

TITLE: Berlin 10 SUPER I/O (KBC)

SIZE A3	CODE CS	DOC NUMBER ES	REV AX1
SHEET 15		OF 61	

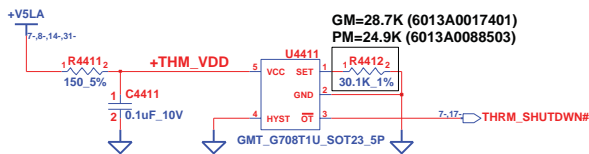
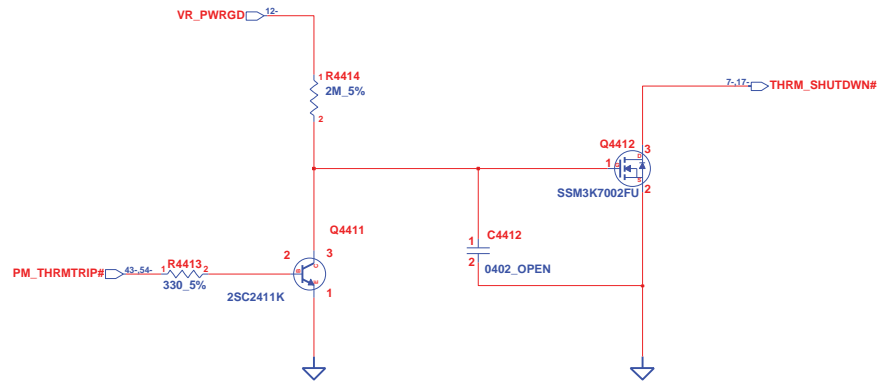
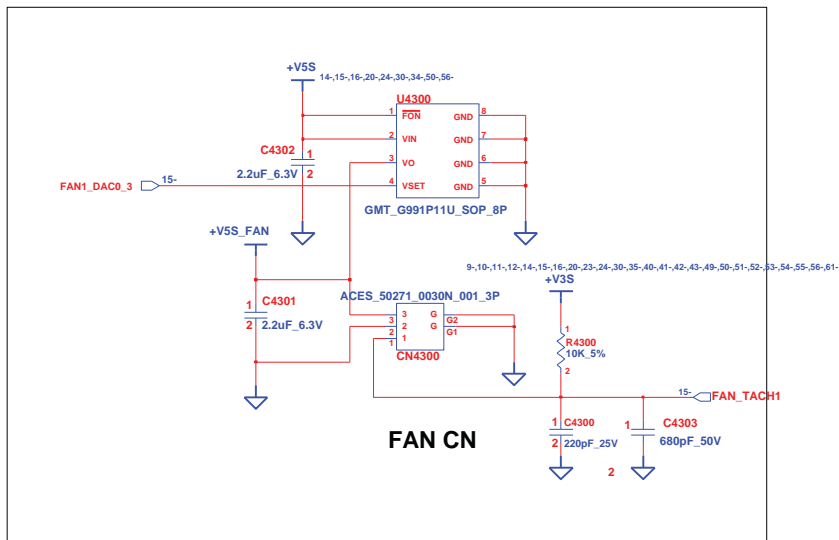
CHANGE by Lin, Bob 25-Nov-2009



INVENTEC

TITLE			
Berlin 10			
K/B & TP/B CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		OF	61
8			

CHANGE by Lin, Bob 25-Nov-2009

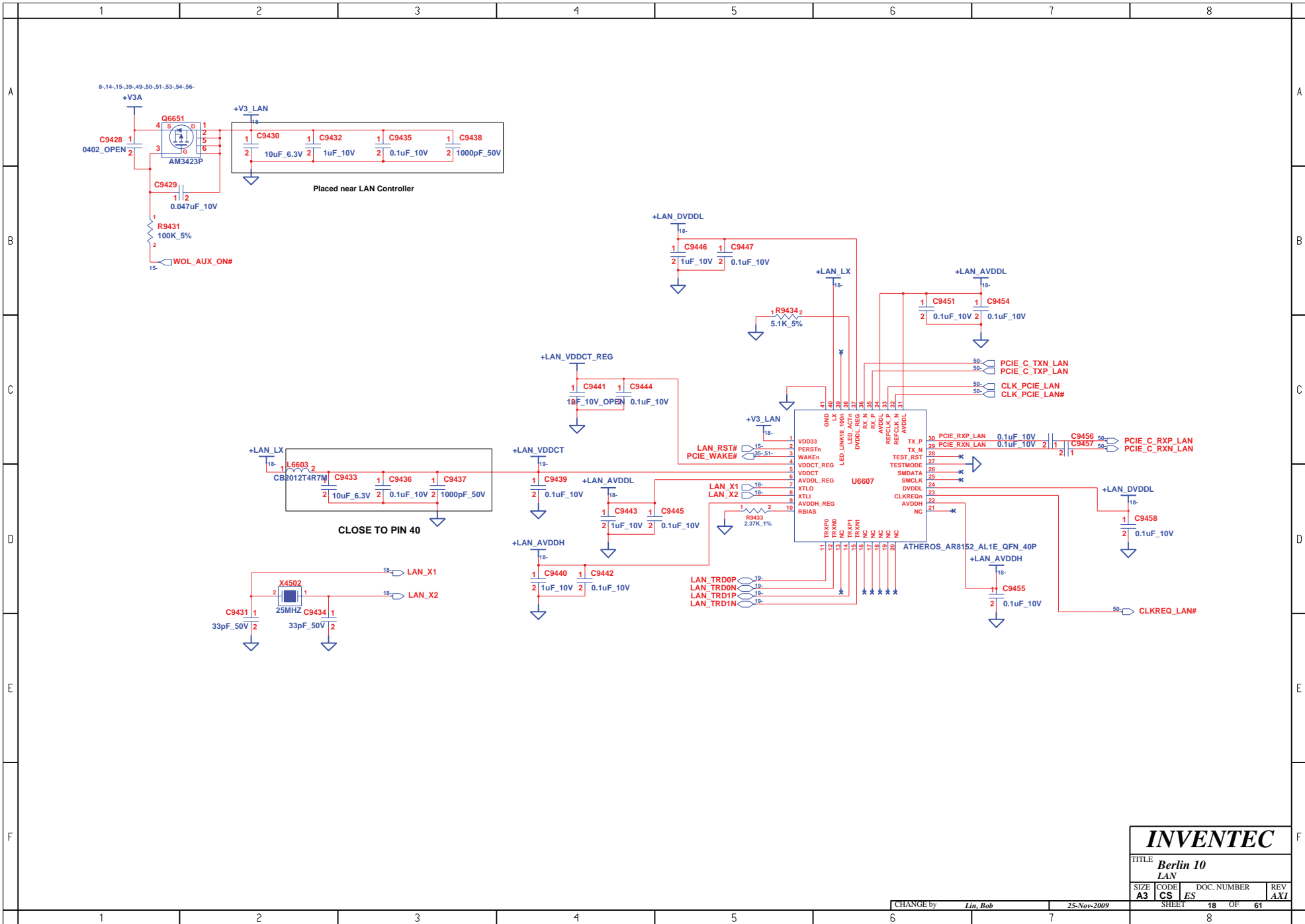


GM Thermal shutdown at 80.8°C +/-3°C from 60°C to 100°C
 PM Thermal shutdown at 86°C +/-3°C from 60°C to 100°C
 $RSET=0.0012*T^2 - 0.9308*T + 96.147$
 Hysteresis is 30C

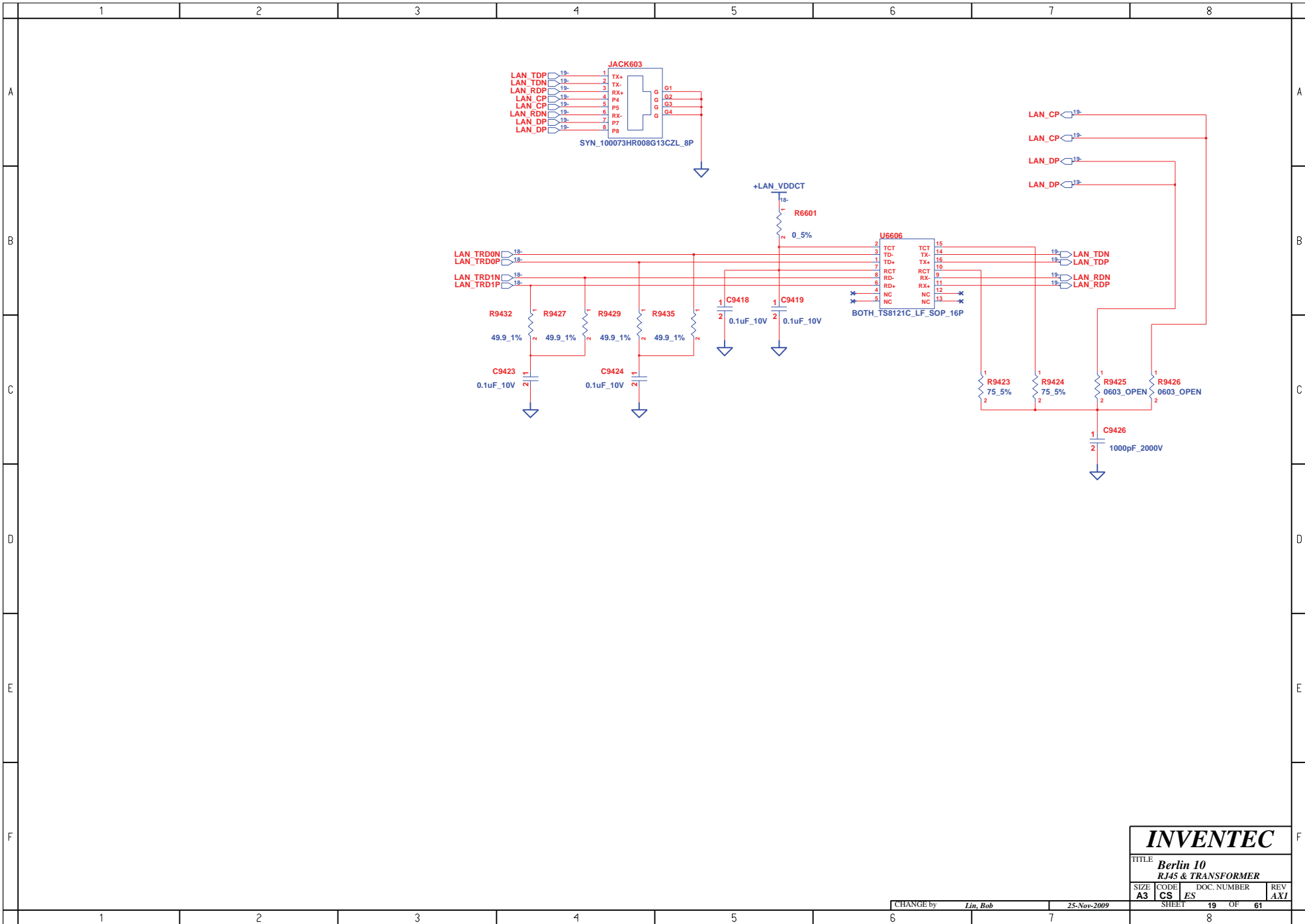
INVENTEC

TITLE			
Berlin 10			
FAN, Thermal controller			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		17 OF	61

CHANGE by Lin, Bob 25-Nov-2009



CHANGE by Lin, Bob 25-Nov-2009

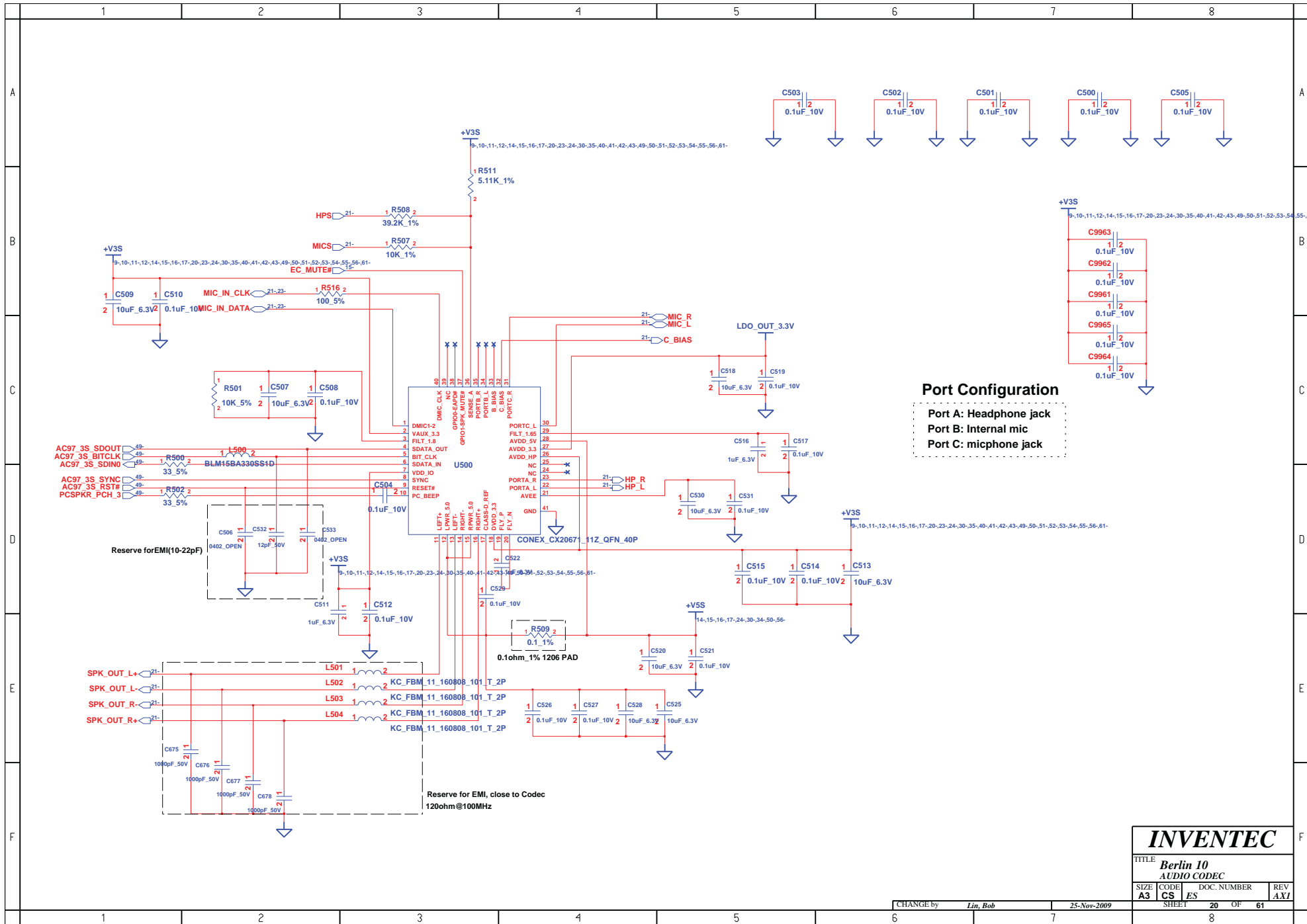


INVENTEC

TITLE
Berlin 10
RJ45 & TRANSFORMER

SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
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CHANGE by *Lin, Bob* 25-Nov-2009 SHEET 19 OF 61

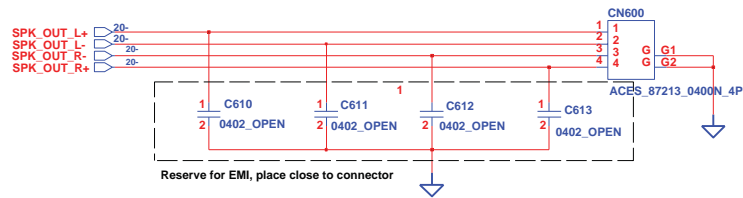


INVENTEC

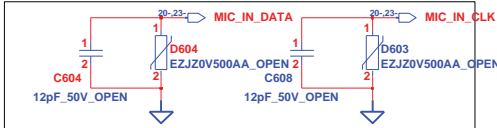
TITLE			
Berlin 10 AUDIO CODEC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by	Lin, Bob	25-Nov-2009	SHEET	20	OF	61
				8		

INTERNAL SPEAKERS

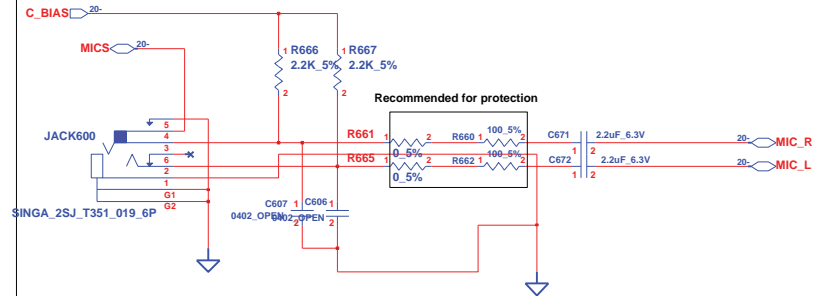


INTERNAL MIC

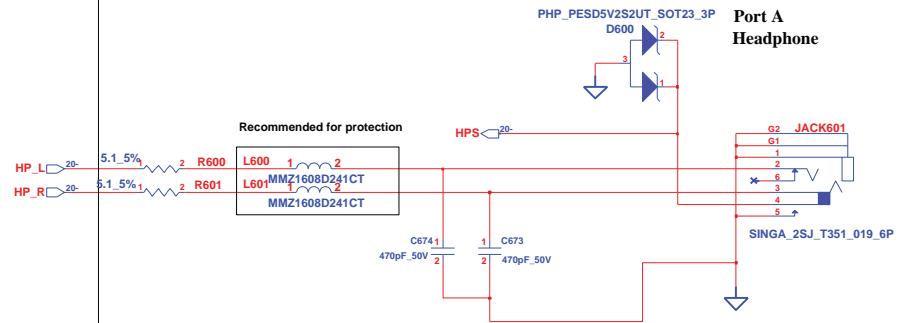


AUDIO JACKS

Port C External microphone



Port A Headphone



INVENTEC

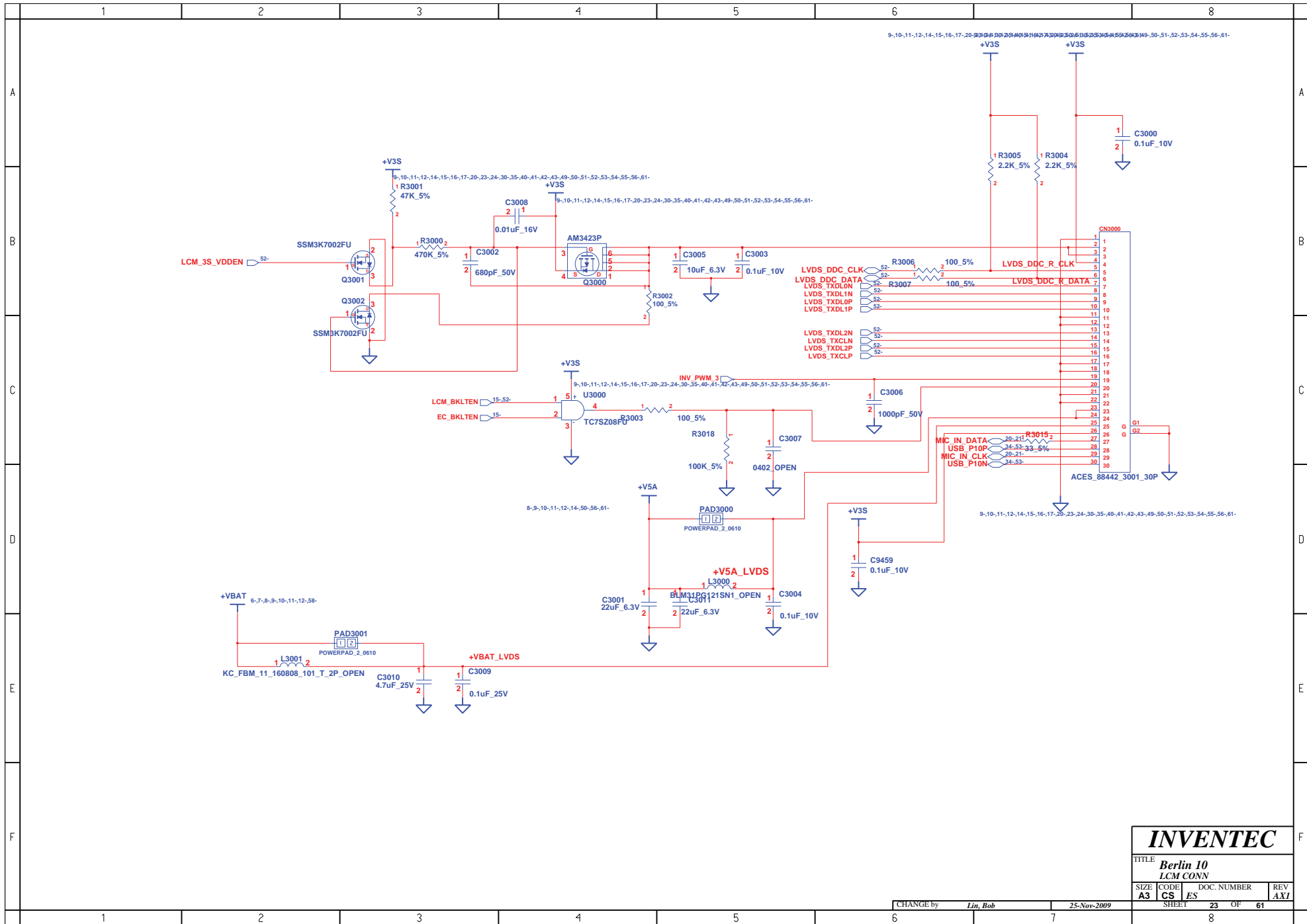
TITLE			
Berlin 10			
AUDIO AMP&MIC&SPEAKER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by Lin, Bob 25-Nov-2009

SHEET 21 OF 61

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

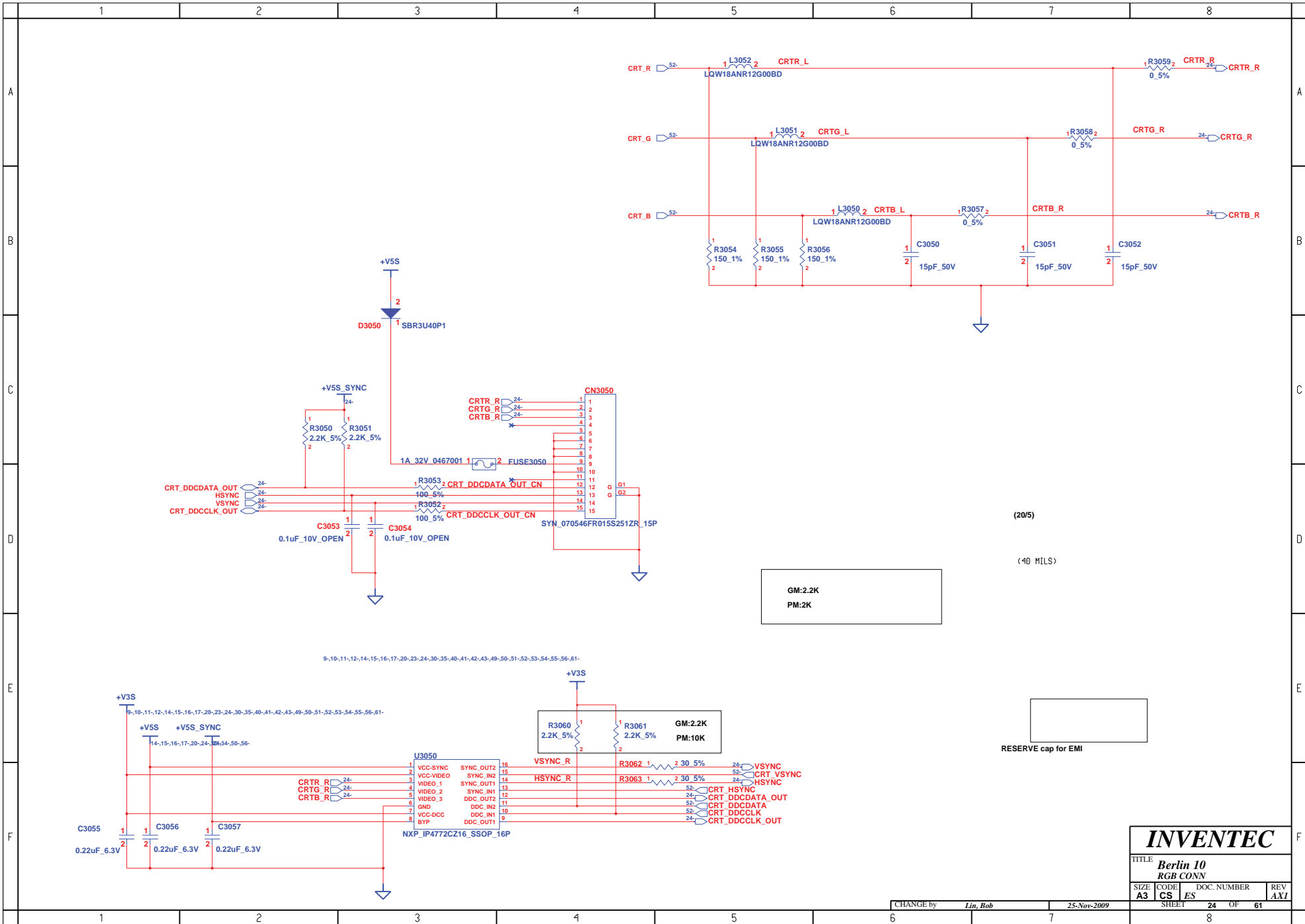
INVENTEC			
TITLE <i>Berlin 10</i>			
MDC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		22	OF 61
		8	



INVENTEC

TITLE			
Berlin 10			
LCM CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		23 OF	61

CHANGE by Lin, Bob 25-Nov-2009



(20/5)
(40 MILS)

GM:2.2K
PM:2K

RESERVE cap for EMI

INVENTEC			
TITLE Berlin 10 RGB CONN			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		24 OF	61

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

INVENTEC

TITLE			
<i>Berlin 10</i>			
CEC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		25 OF	61

CHANGE by *Ljn, Bob* 25-Nov-2009

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

INVENTEC

TITLE			
<i>Berlin 10</i>			
<i>HDMI Level Shifter</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>ES</i>	<i>AXI</i>
SHEET		26	OF 61

CHANGE by *Lin, Bob* 4-Jan-2010

SHEET 26 OF 61

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

INVENTEC			
TITLE Berlin 10			
HDMI CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by		4-Jan-2010	
Lin. Bob		SHEET 27 OF 61	

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

INVENTEC			
TITLE <i>Berlin 10 EXPRESS CARD</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		28	OF 61
		8	

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

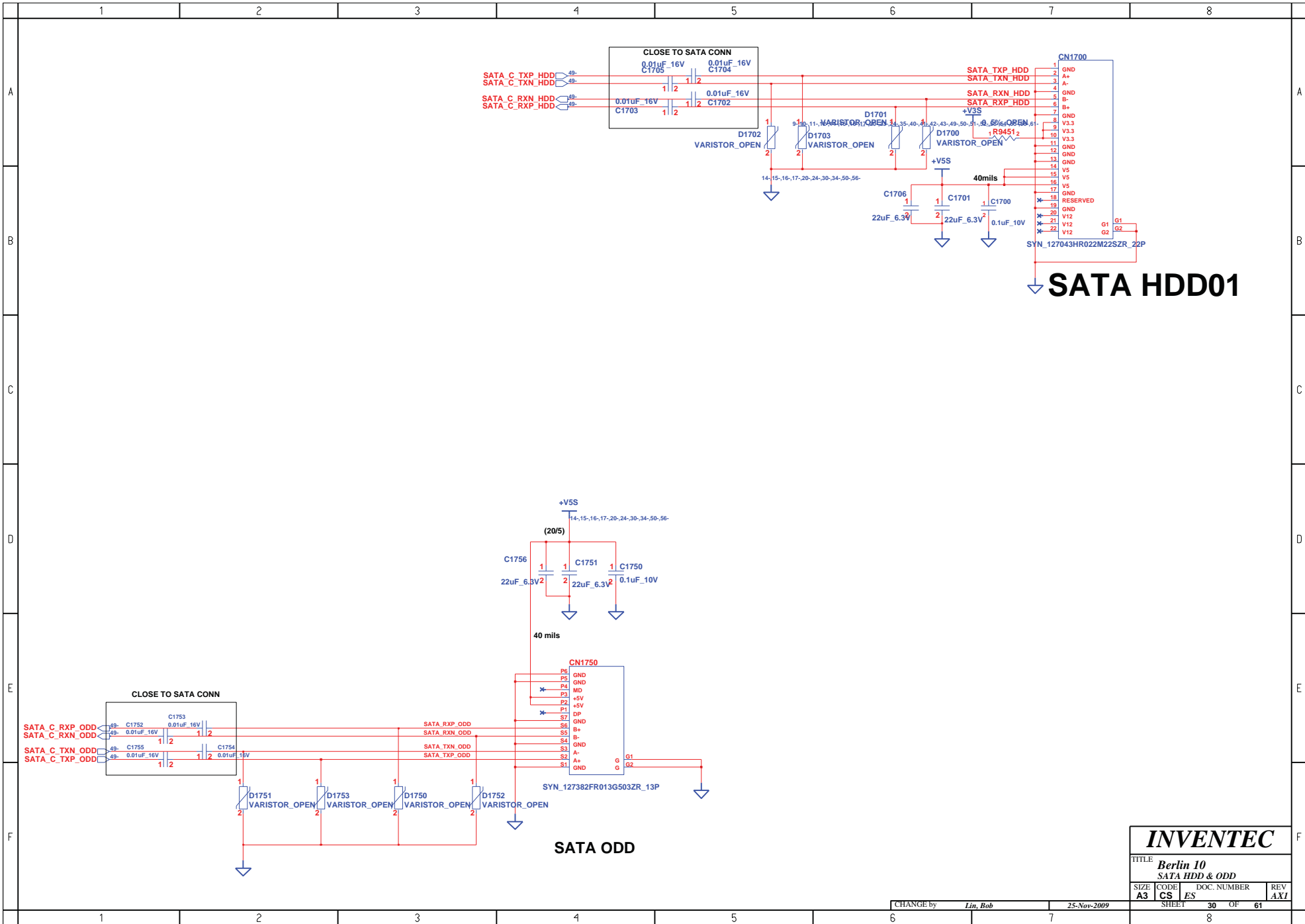
INVENTEC

TITLE **Berlin 10**
Cardreader

SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AXI
-------------------	-------------------	--------------------------	-------------------

CHANGE by *Lin, Bob* 4-Jan-2010

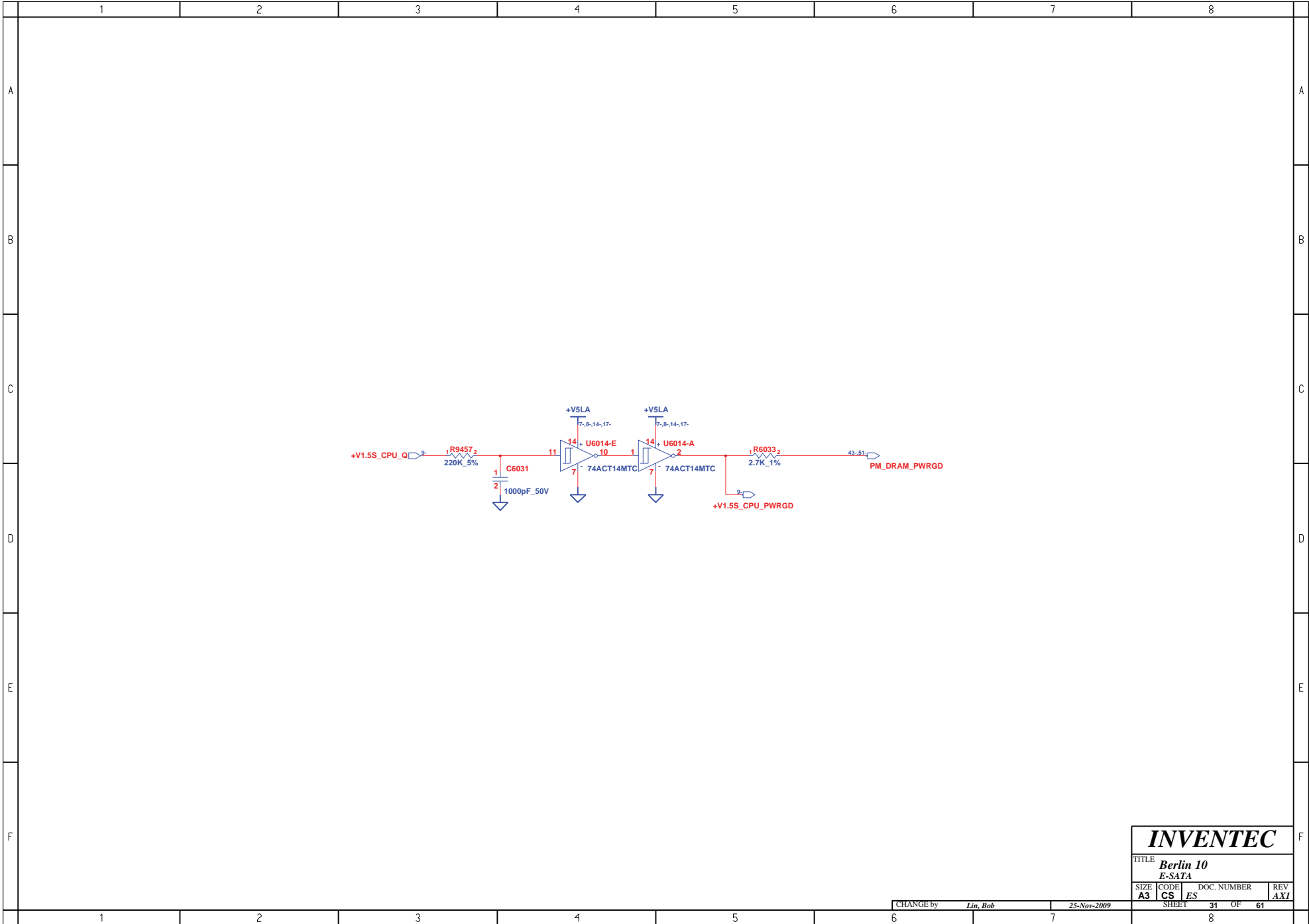
SHEET 29 OF 61



SATA HDD01

SATA ODD

INVENTEC			
TITLE Berlin 10 SATA HDD & ODD			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		30 OF	61



INVENTEC

TITLE **Berlin 10**
E-SATA

SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
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CHANGE by *Lin, Bob* 25-Nov-2009

SHEET	31	OF	61
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	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC			
TITLE <i>Berlin 10</i>			
USB CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		32	OF 61
		8	

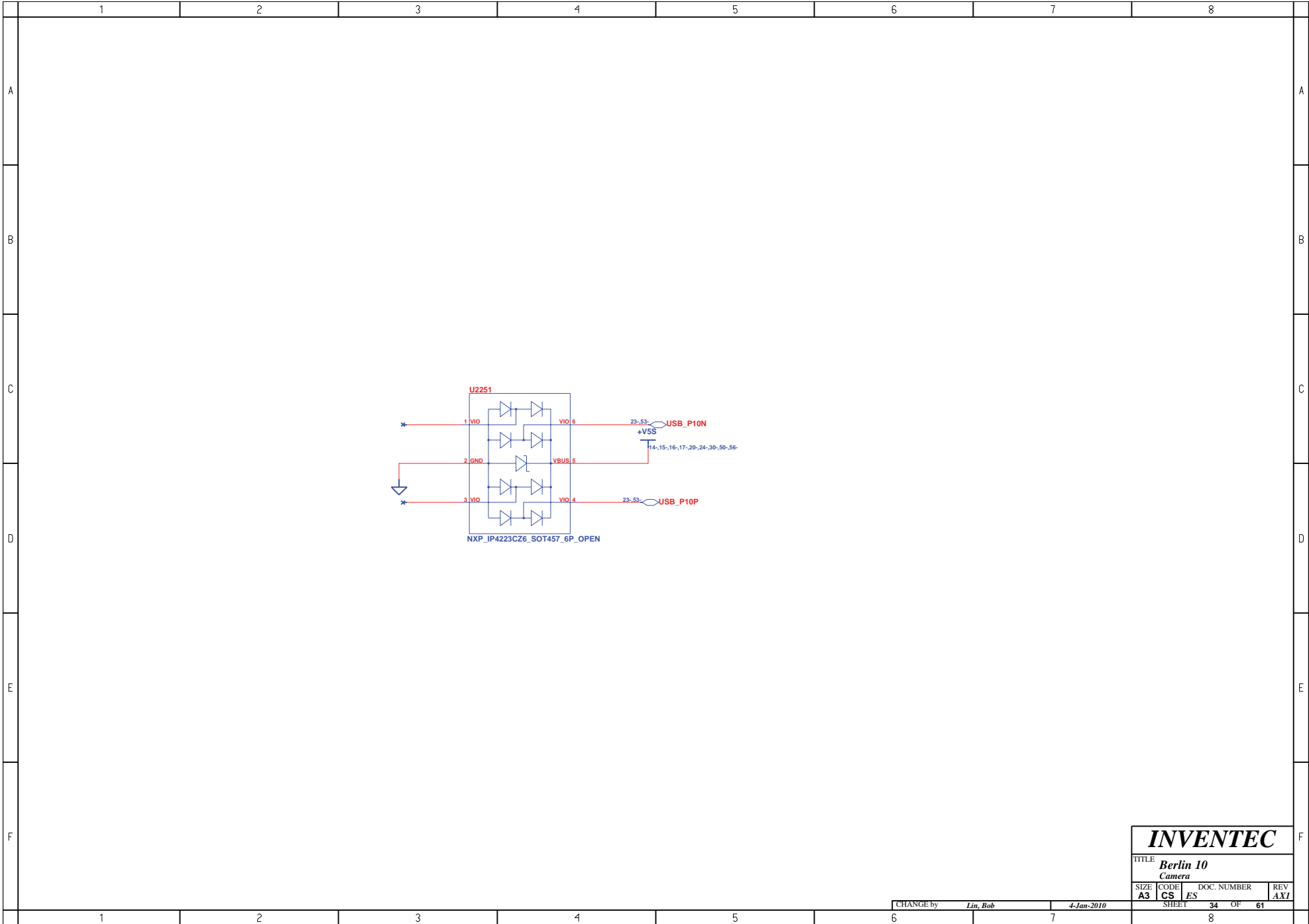
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC

TITLE			
<i>Berlin 10 Bluetooth</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>ES</i>	<i>AXI</i>
SHEET		33 OF	61

CHANGE by *Lin, Bob* 4-Jan-2010

8



INVENTEC

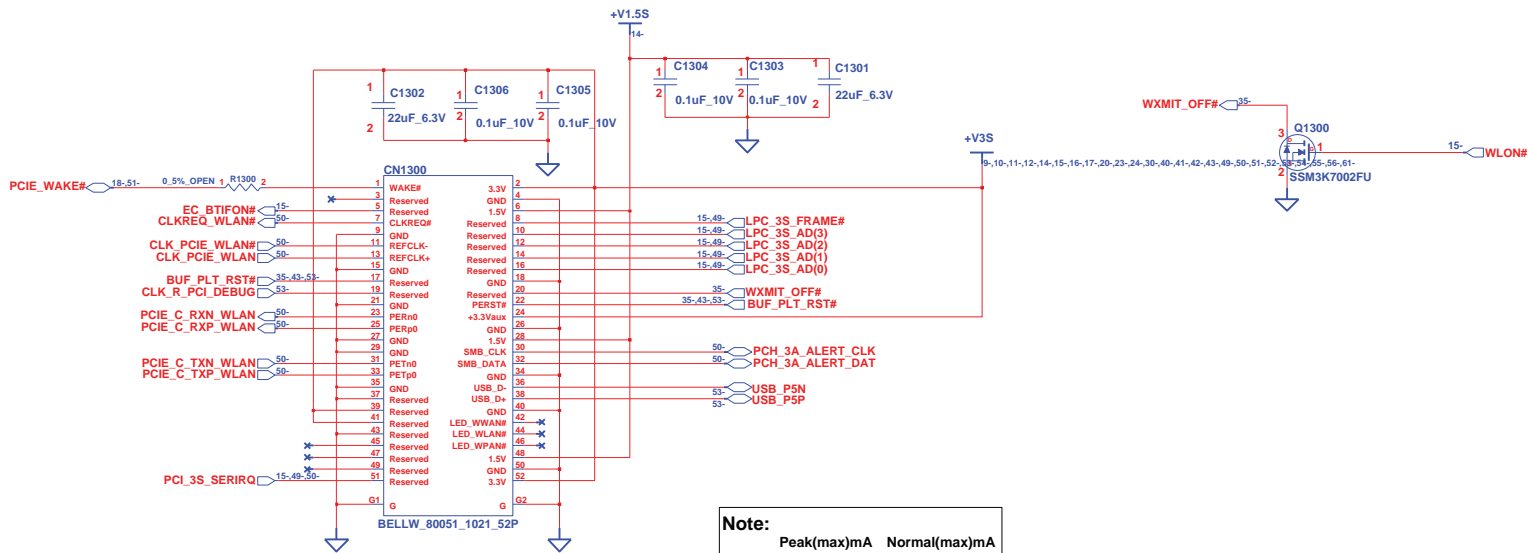
TITLE **Berlin 10**
Camera

SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
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CHANGE by *Lin, Bob* 4-Jan-2010

SHEET 34 OF 61

Wireless & Debug card



Note:

	Peak(max)mA	Normal(max)mA
3.3V	2,750mA	1,100mA
1.5V	500mA	375mA

MINI CARD 1

INVENTEC

TITLE			
Berlin 10			
WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		35 OF	61

CHANGE by Lin, Bob 25-Nov-2009

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

INVENTEC

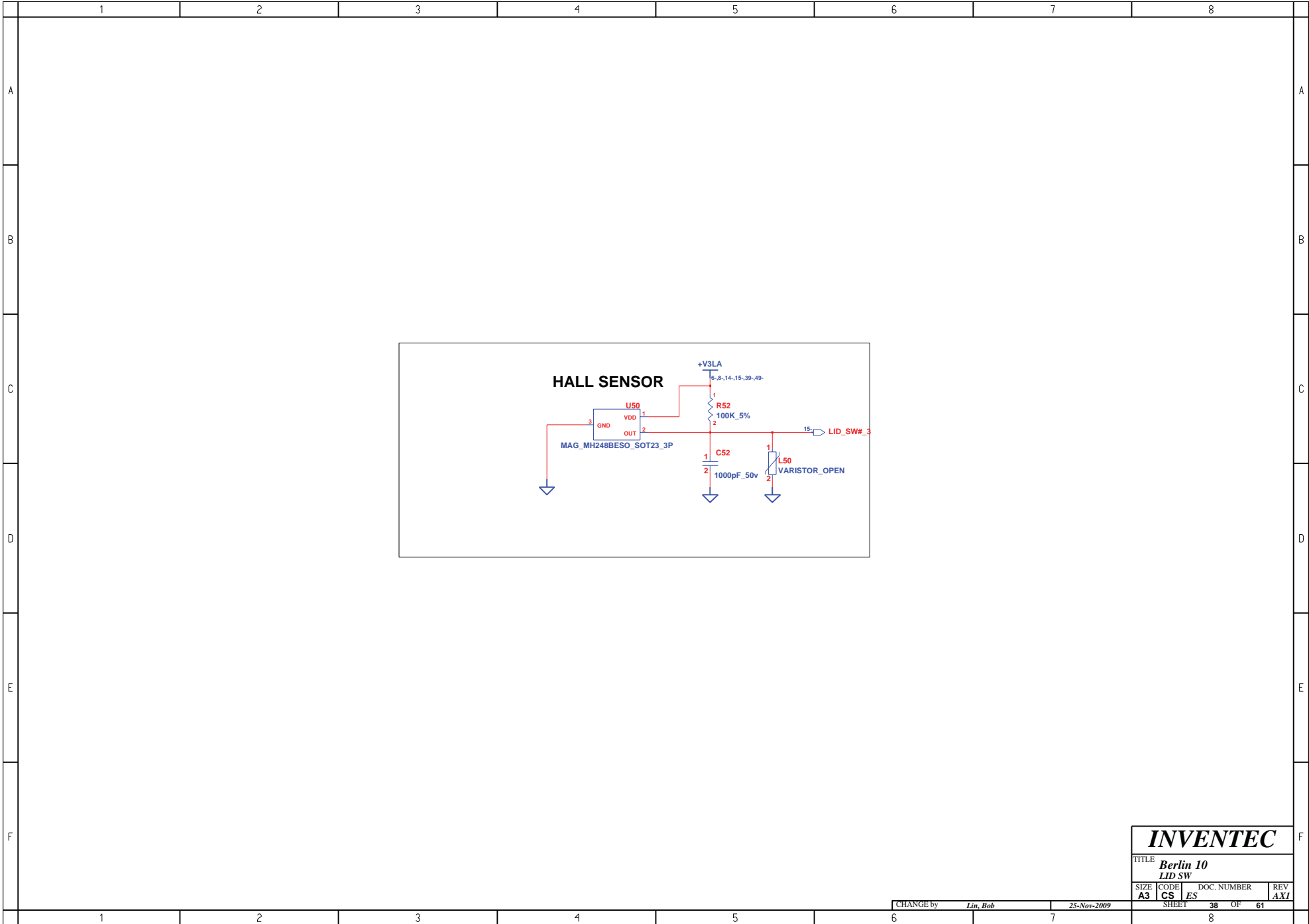
TITLE			
<i>Berlin 10</i>			
<i>3D sensor</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>ES</i>	<i>AXI</i>
SHEET		36 OF	61

CHANGE by *Lin, Bob* 4-Jan-2010

8

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

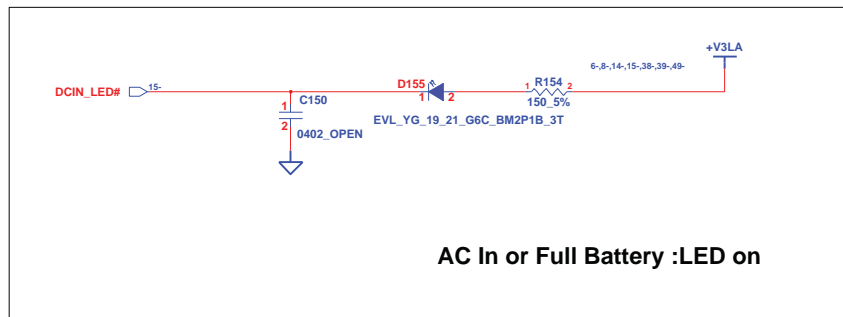
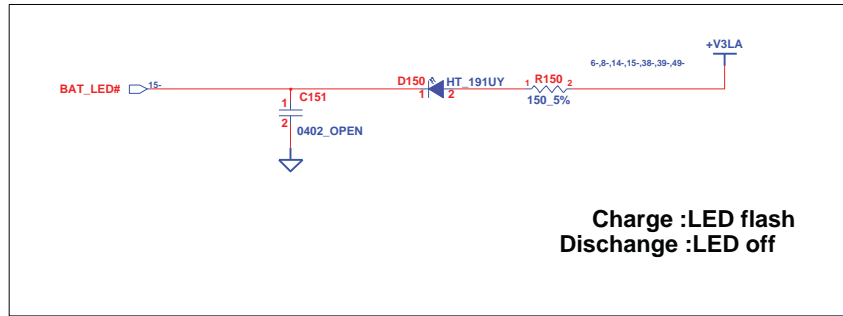
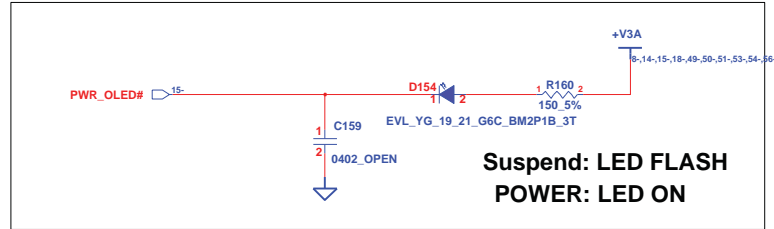
INVENTEC			
TITLE <i>Berlin 10</i>			
KILL SW			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		37	OF 61
		8	



INVENTEC

TITLE			
Berlin 10			
LID SW			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		38 OF	61

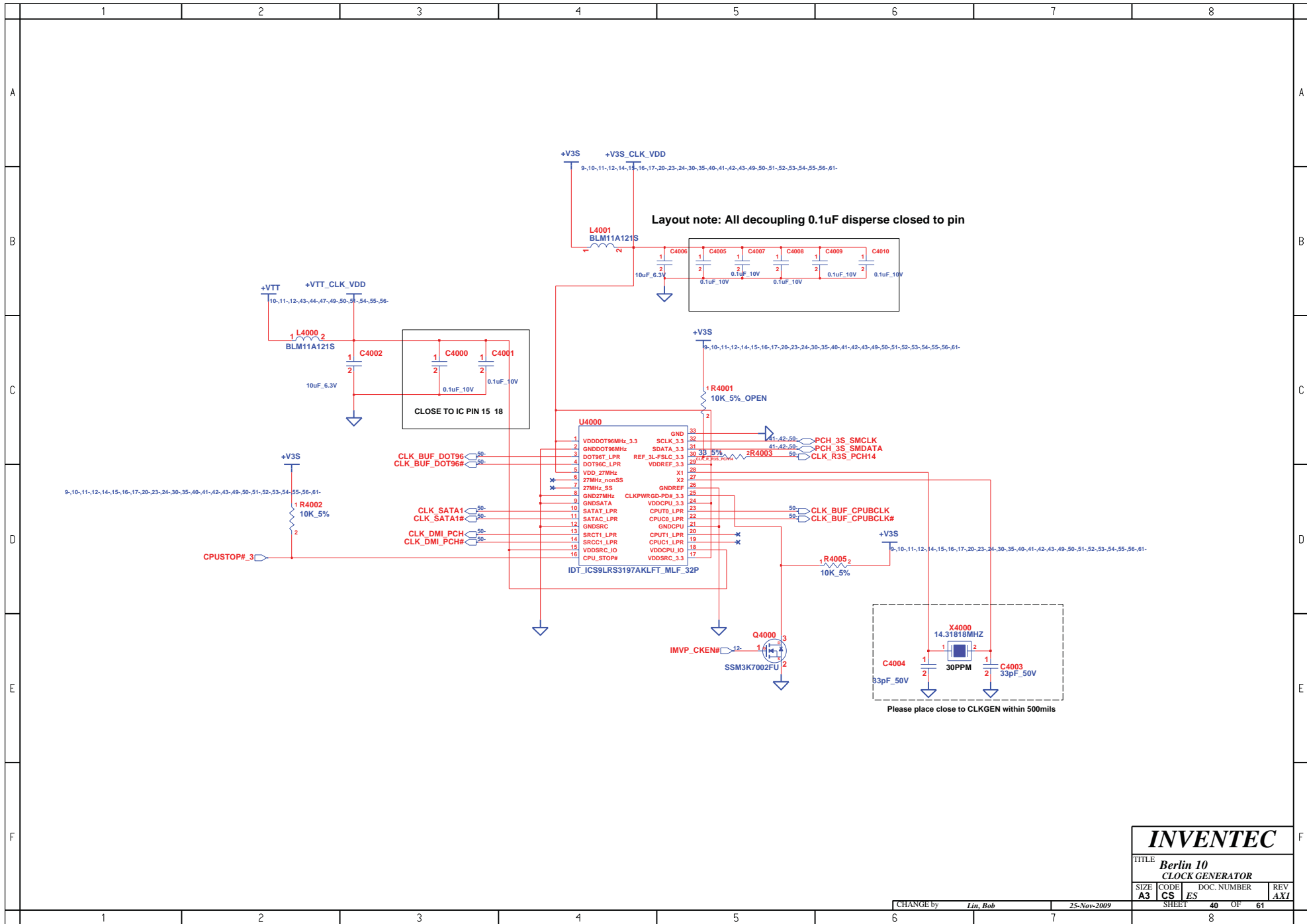
CHANGE by Lin, Bob 25-Nov-2009



INVENTEC

TITLE			
<i>Berlin 10</i>			
LED			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		39 OF	61

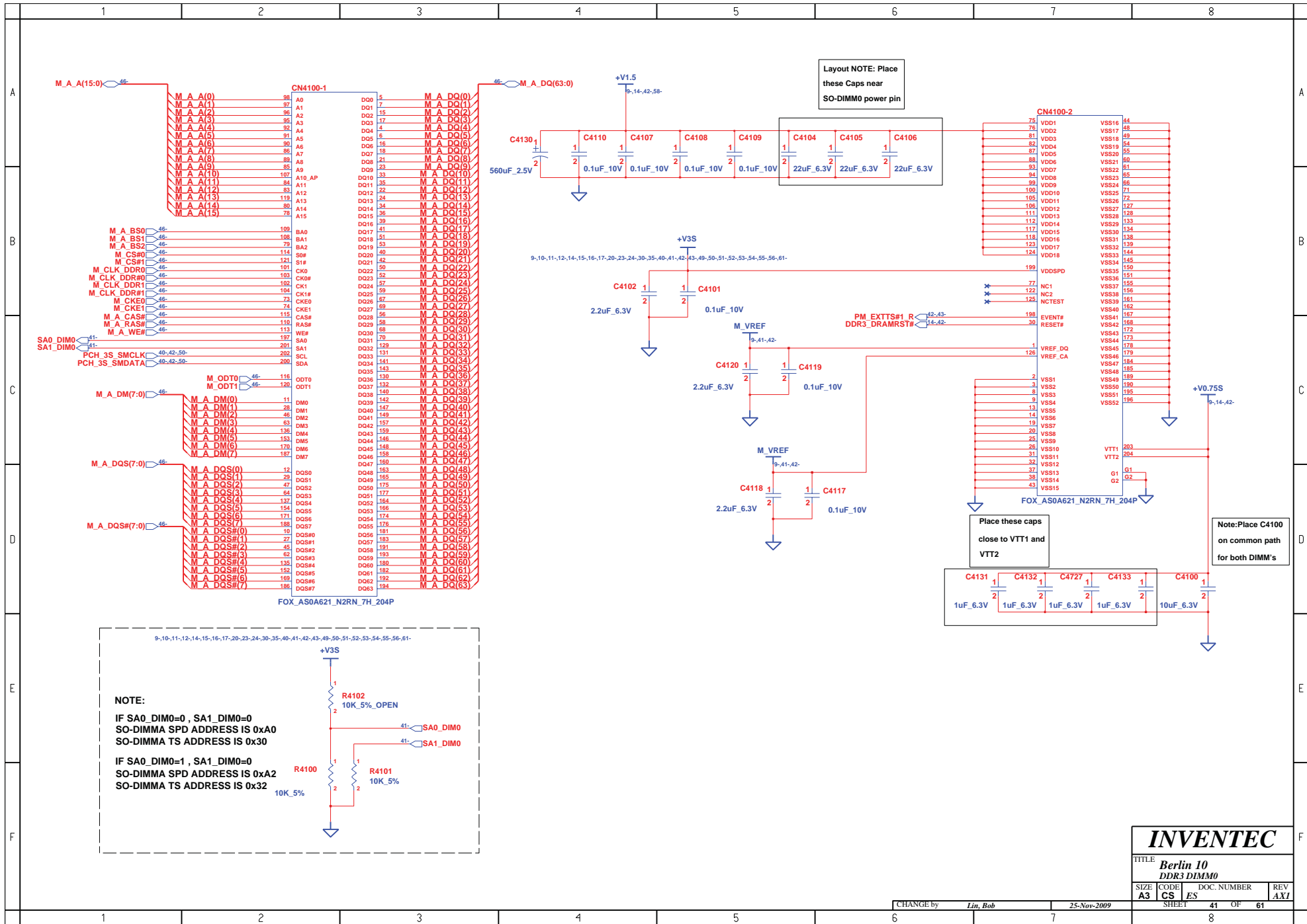
CHANGE by *Lin, Bob* 25-Nov-2009



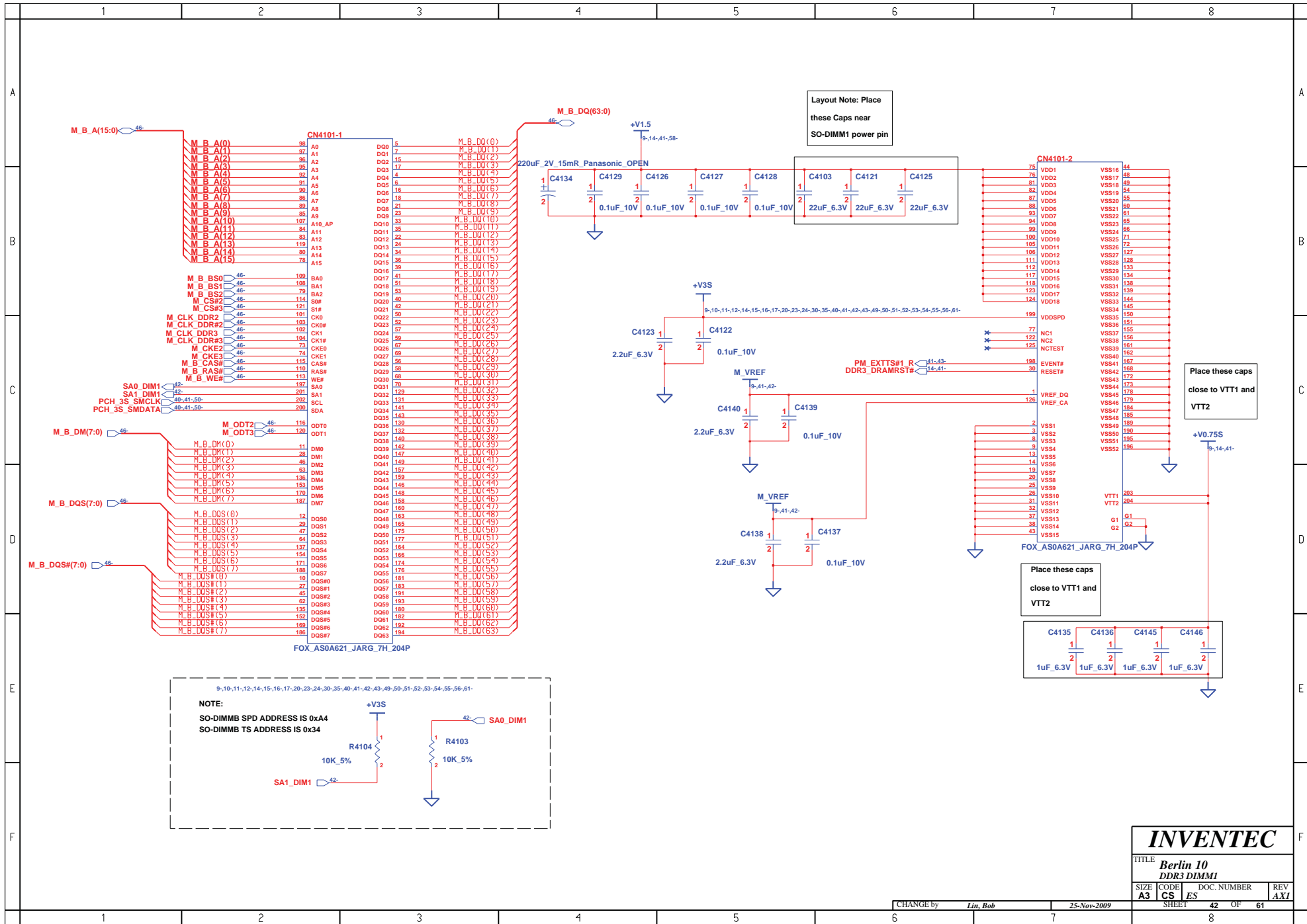
INVENTEC

TITLE			
Berlin 10 CLOCK GENERATOR			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AX1
SHEET		40 OF	61

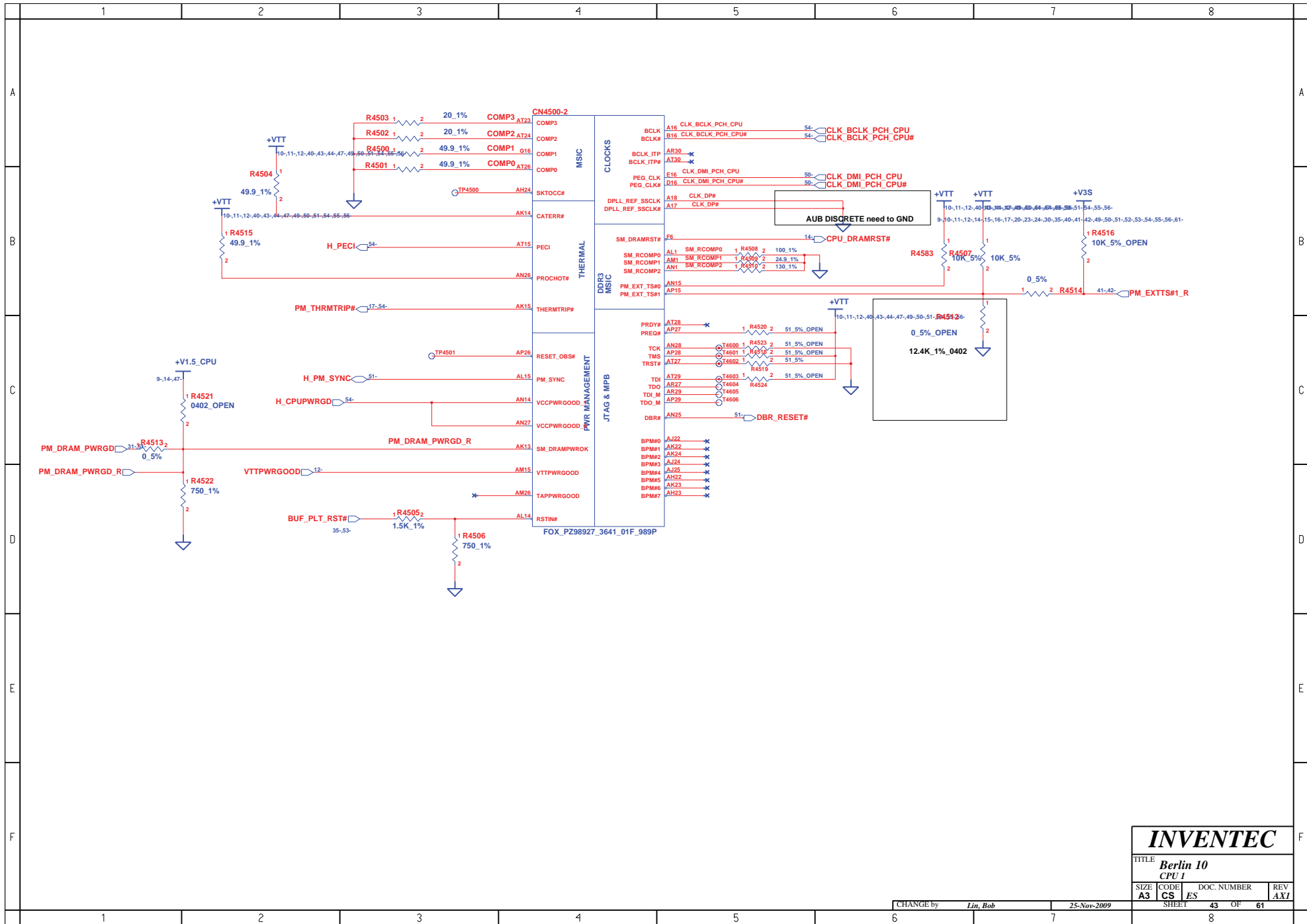
CHANGE by Lin, Bob 25-Nov-2009



INVENTEC			
TITLE: Berlin 10 DDR3 DIMM0			
SIZE: A3	CODE: CS	DOC. NUMBER: ES	REV: AXZ
CHANGE by: Lin, Bob		25-Nov-2009	
SHEET 41		OF 61	



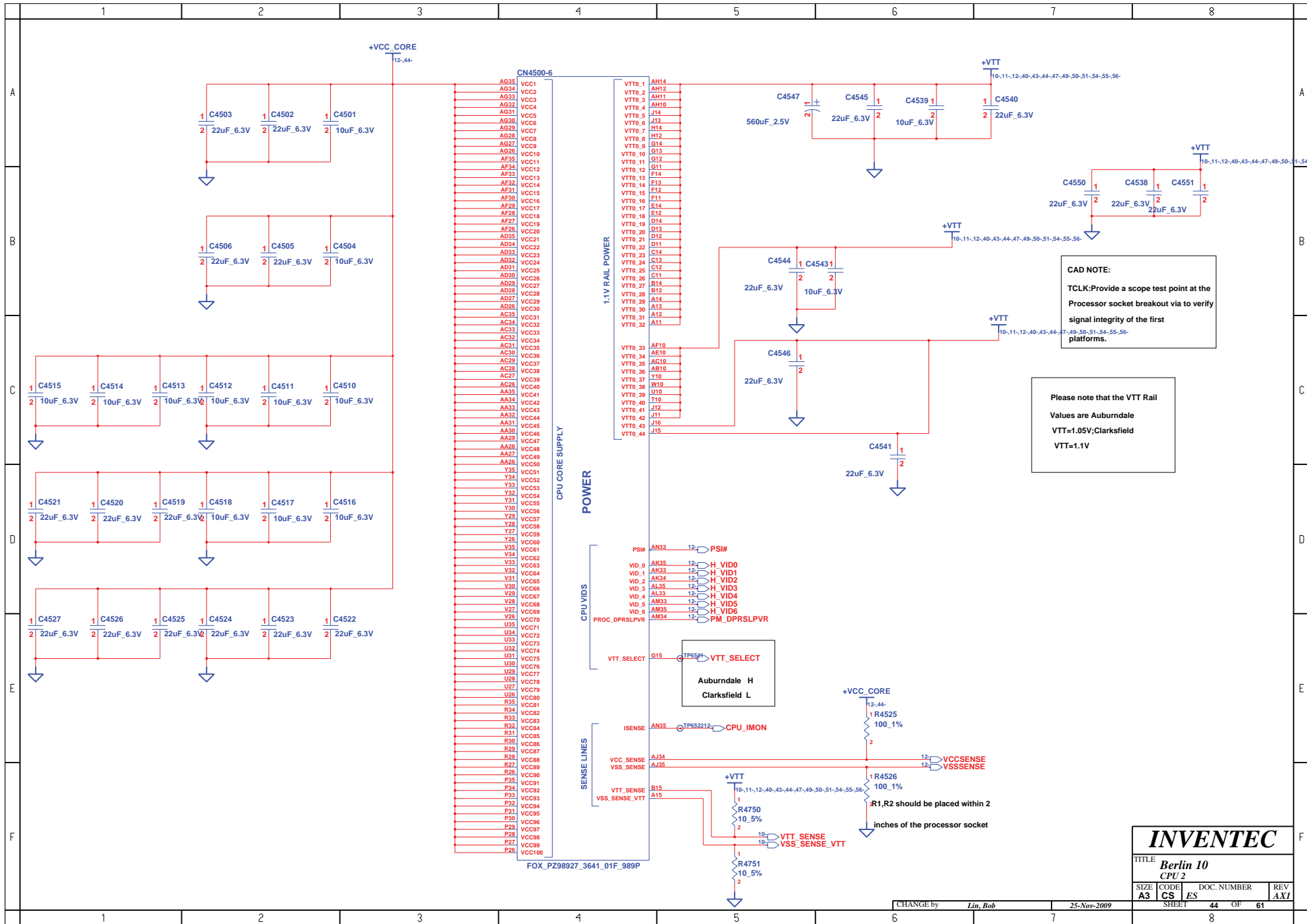
INVENTEC			
TITLE Berlin 10 DDR3 DIMM1			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
CHANGE by Lin, Bob		25-Nov-2009	
SHEET 42		OF 61	



INVENTEC

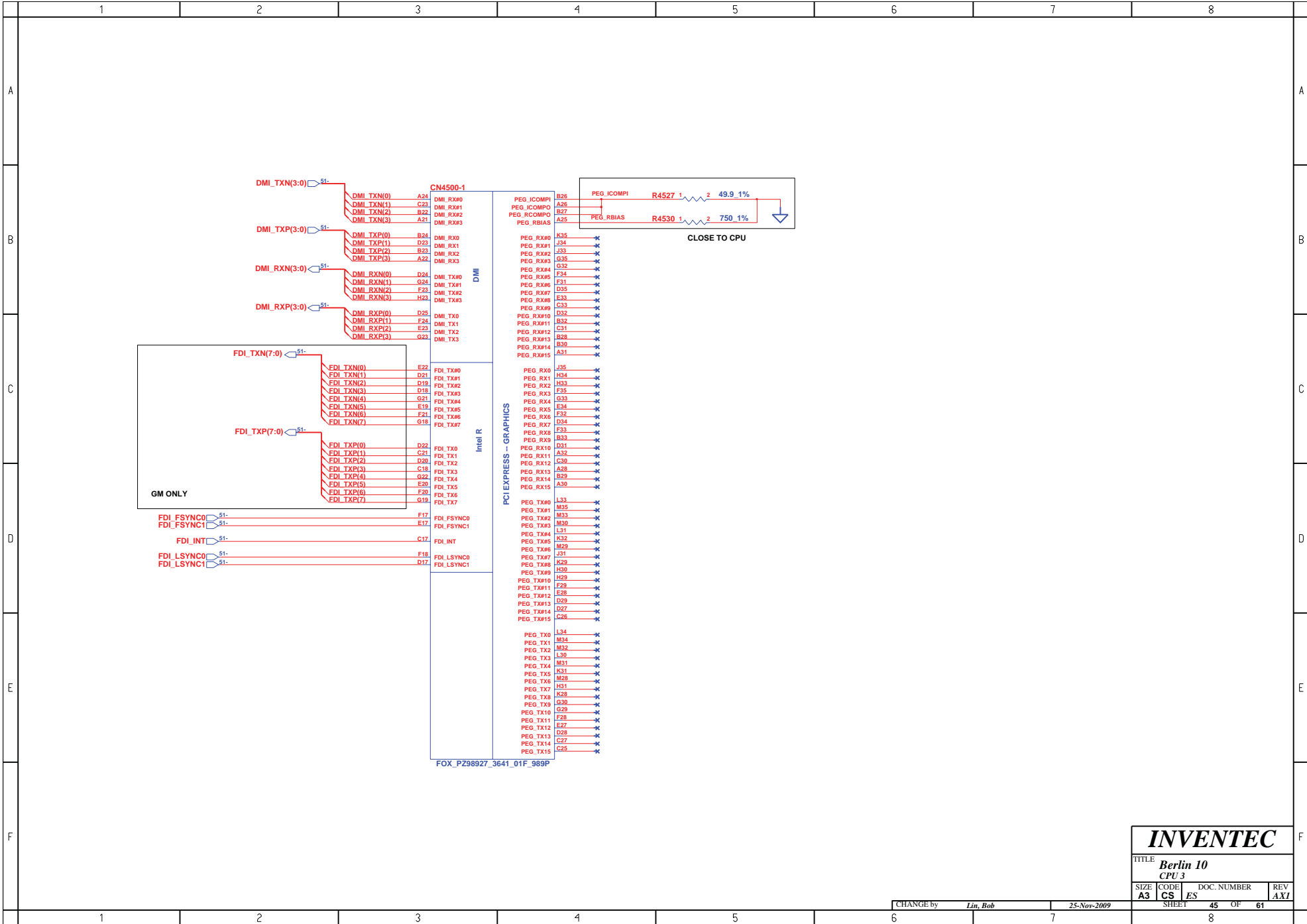
TITLE			
Berlin 10 CPU 1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXZ
SHEET		43 OF	61

CHANGE by Lin, Bob 25-Nov-2009



INVENTEC			
TITLE			
Berlin 10 CPU 2			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		44 OF	61
		8	

CHANGE by *Ljn, Bob* 25-Nov-2009



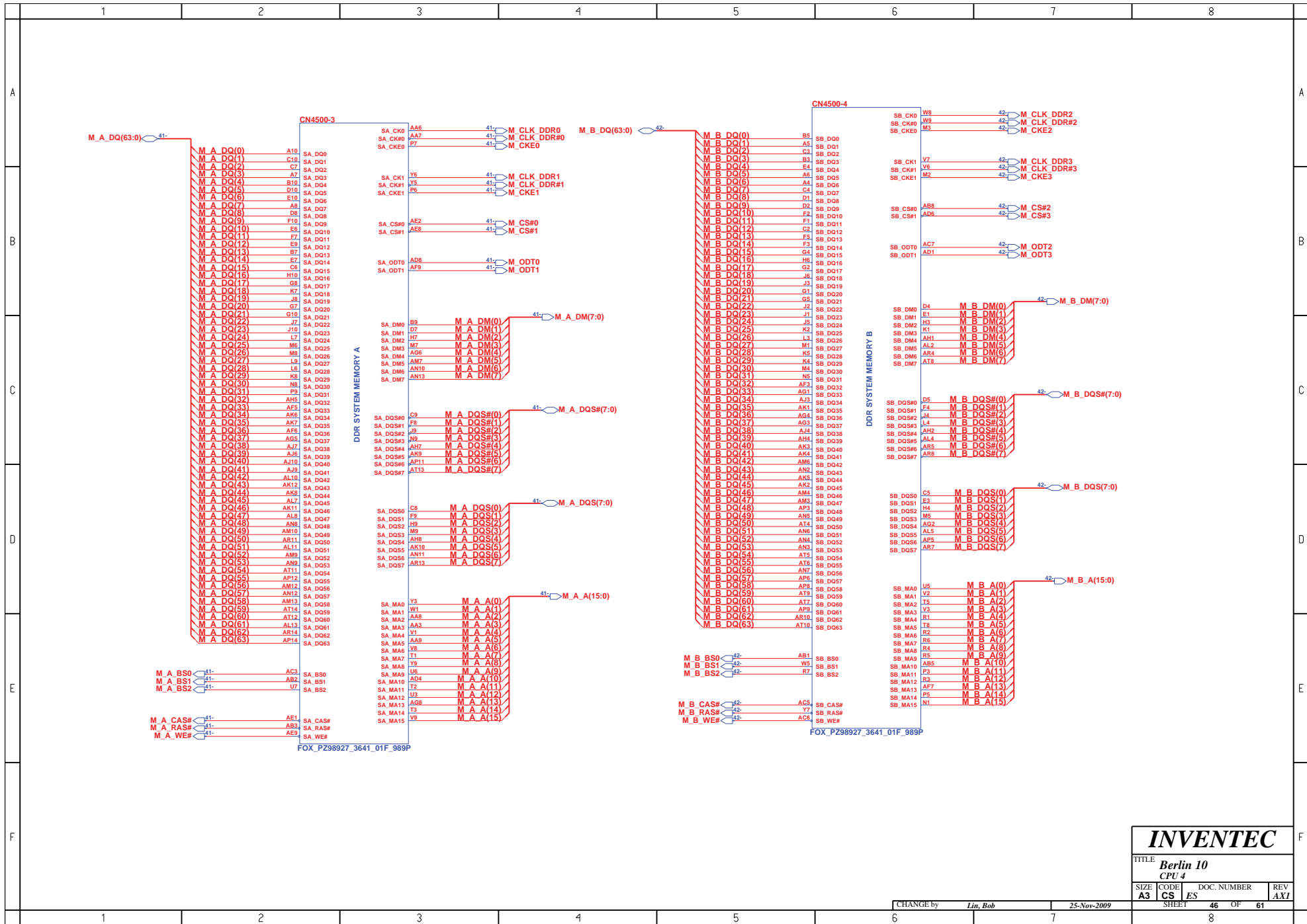
INVENTEC

TITLE
**Berlin 10
 CPU 3**

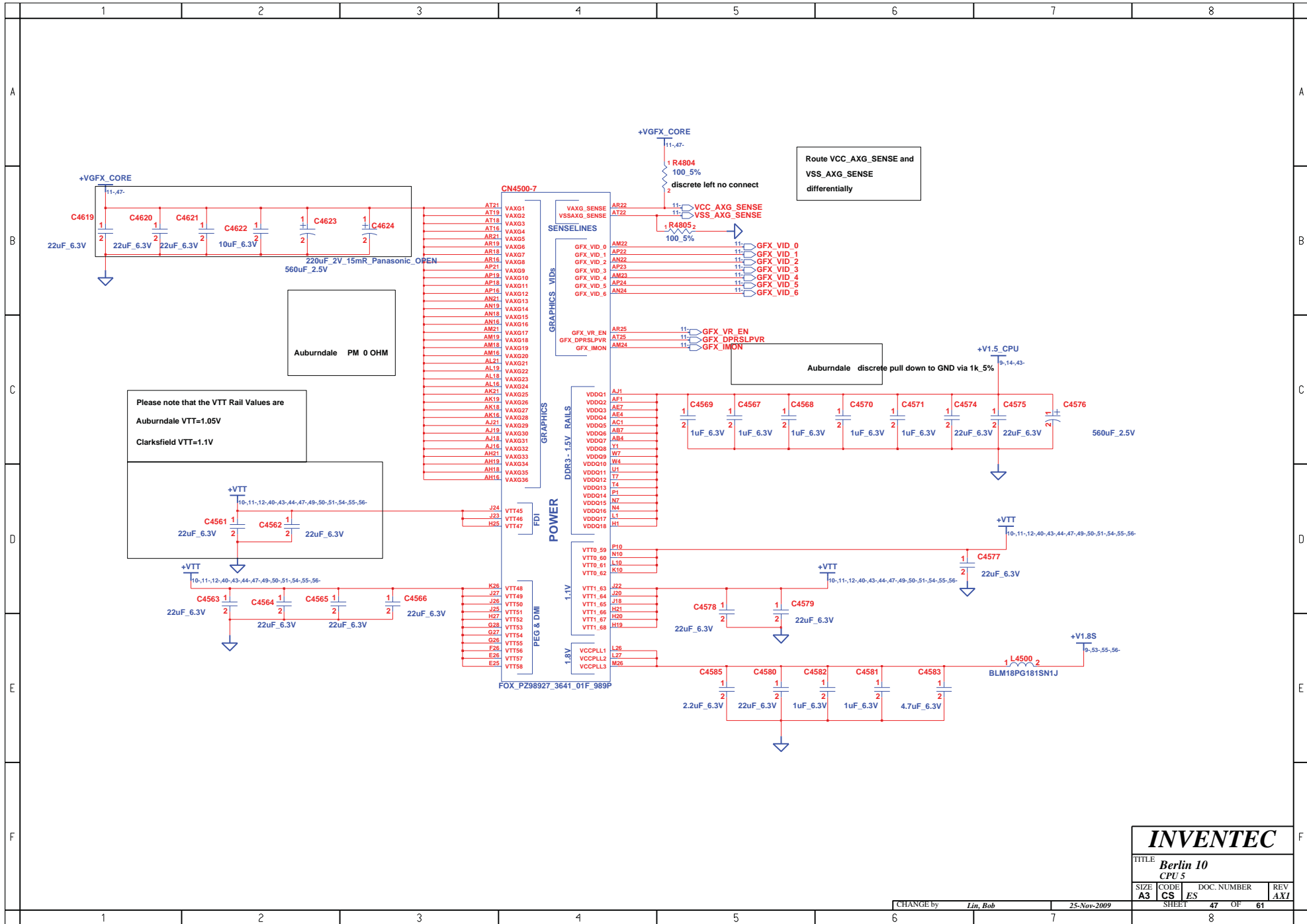
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXZ
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CHANGE by *Lin, Bob* 25-Nov-2009

SHEET 45 OF 61

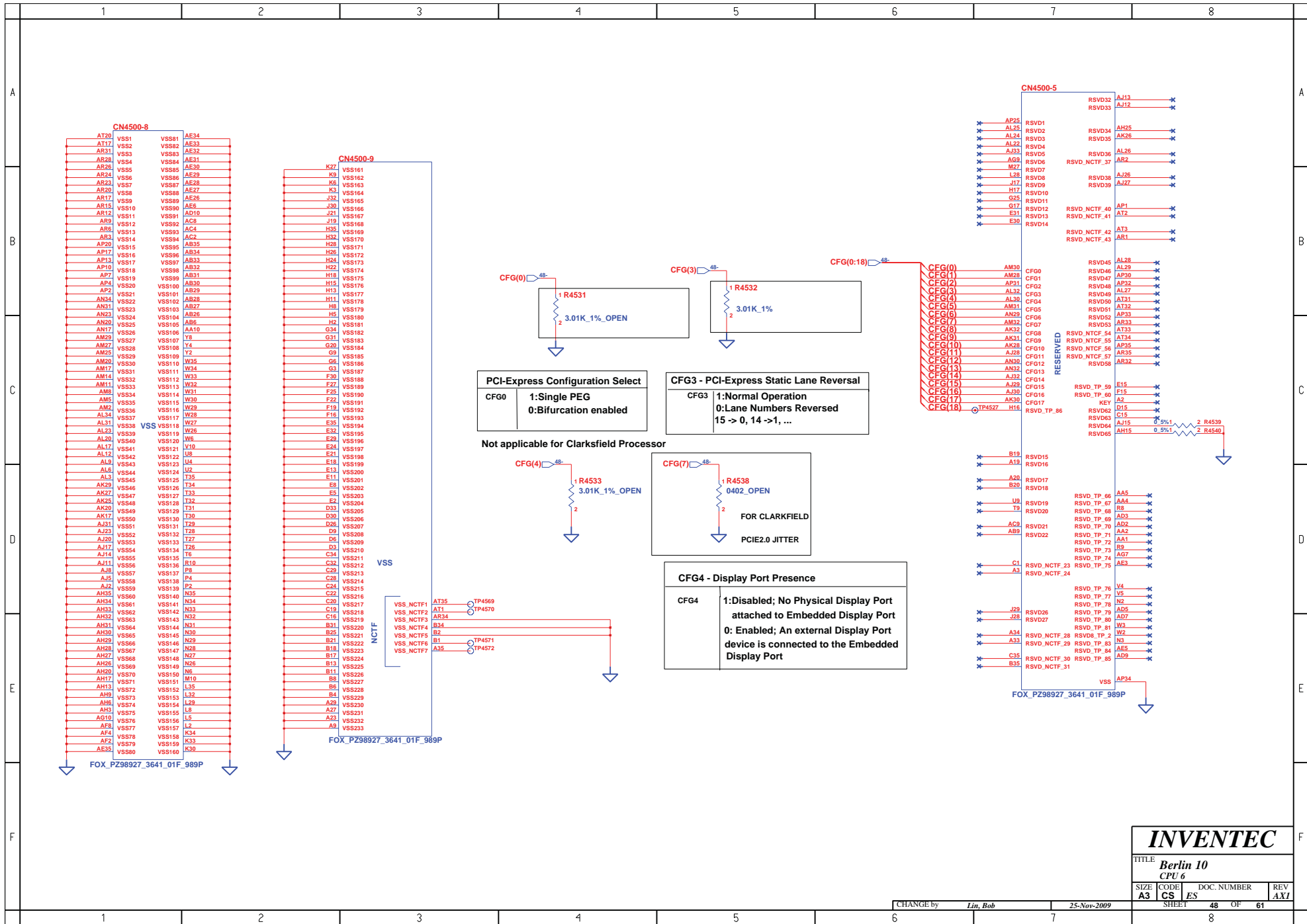


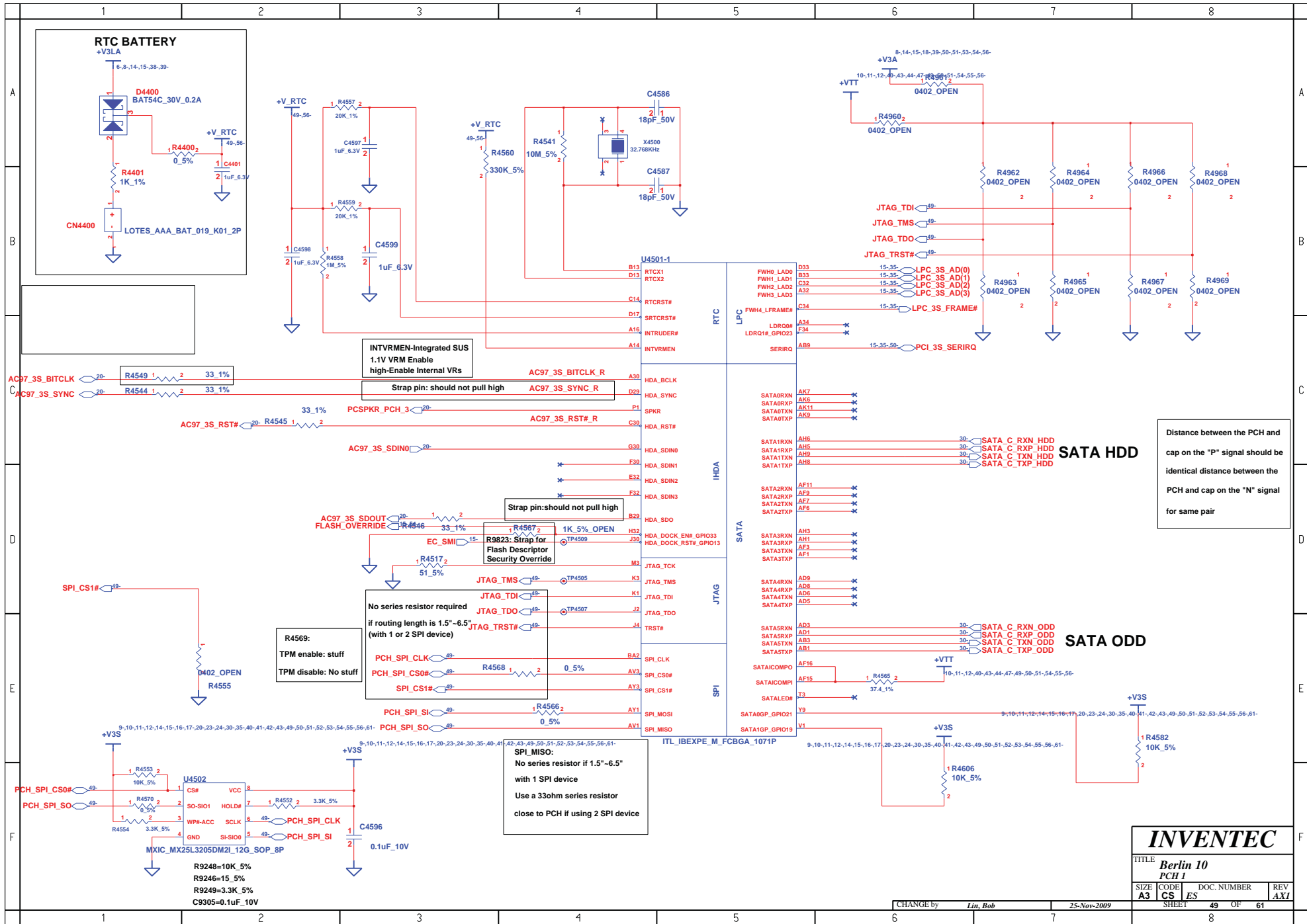
INVENTEC			
TITLE: Berlin 10 CPU 4			
SIZE: A3	CODE: CS	DOC. NUMBER: ES	REV: AX1
CHANGE by: Lin, Bob		25-Nov-2009	SHEET 46 OF 61



INVENTEC

TITLE			
Berlin 10			
CPU 5			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI



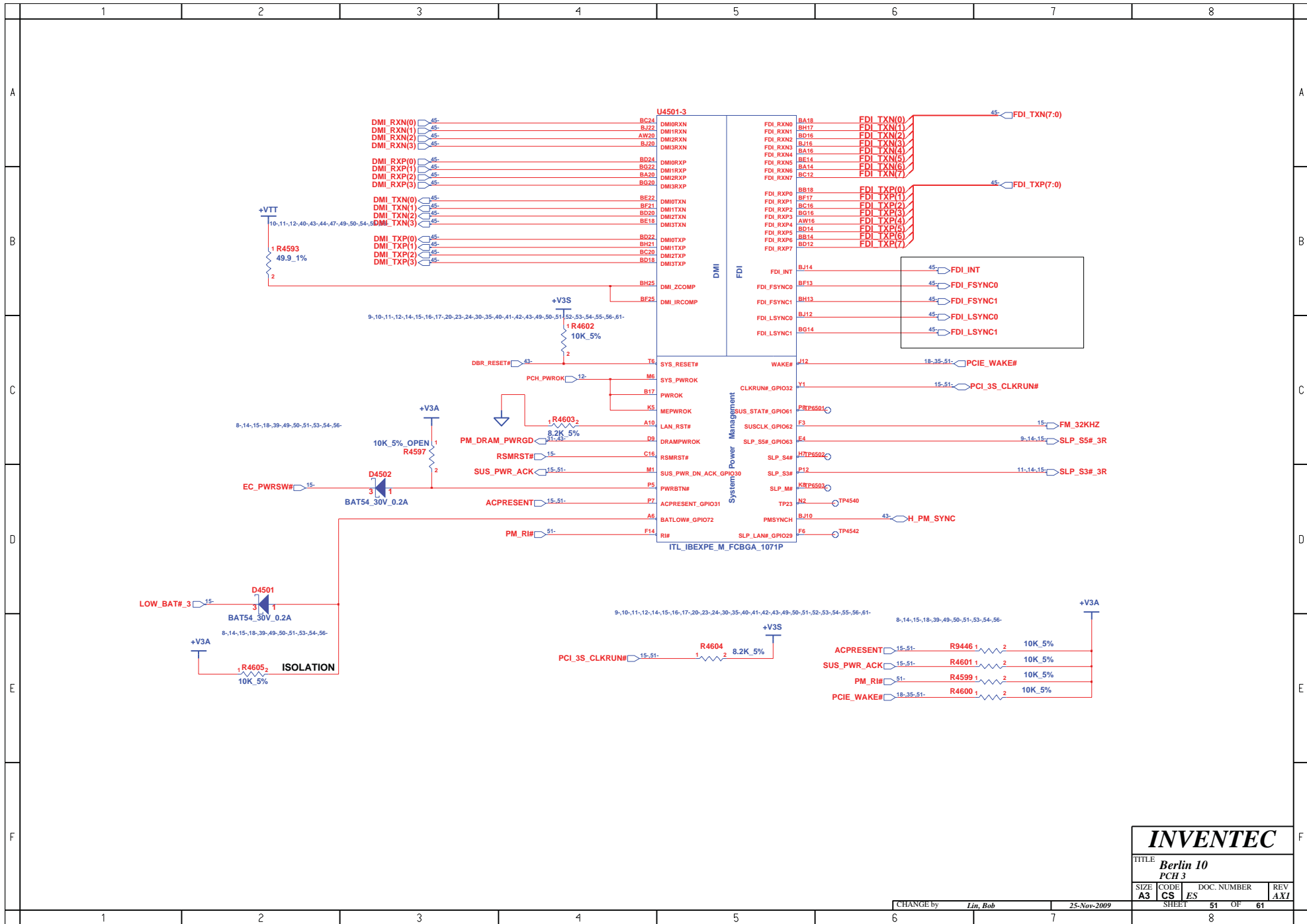


Distance between the PCH and cap on the "P" signal should be identical distance between the PCH and cap on the "N" signal for same pair

R4569:
TPM enable: stuff
TPM disable: No stuff

No series resistor required
if routing length is 1.5"-6.5"
(with 1 or 2 SPI device)

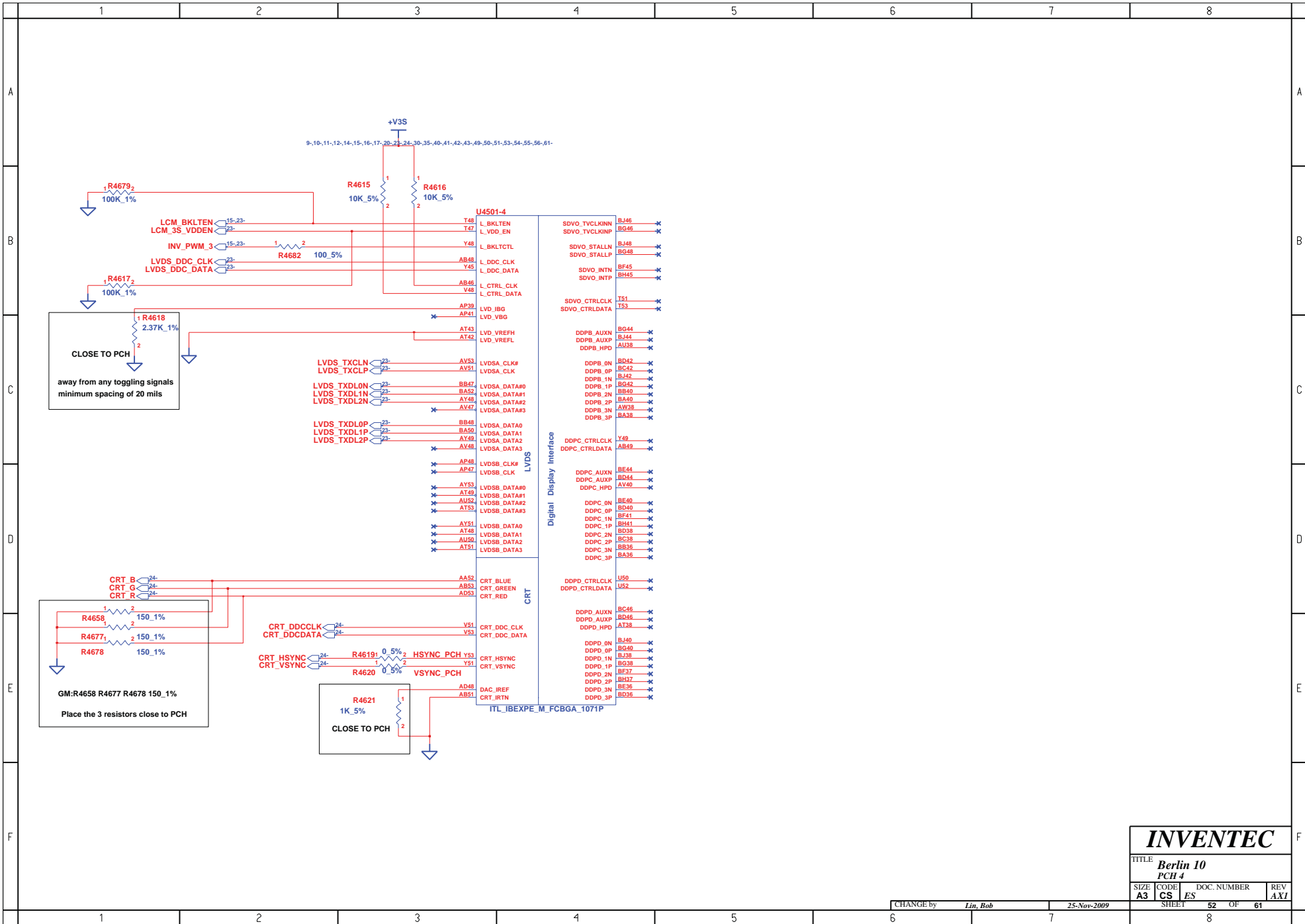
SPI_MISO:
No series resistor if 1.5"-6.5"
with 1 SPI device
Use a 33ohm series resistor
close to PCH if using 2 SPI device



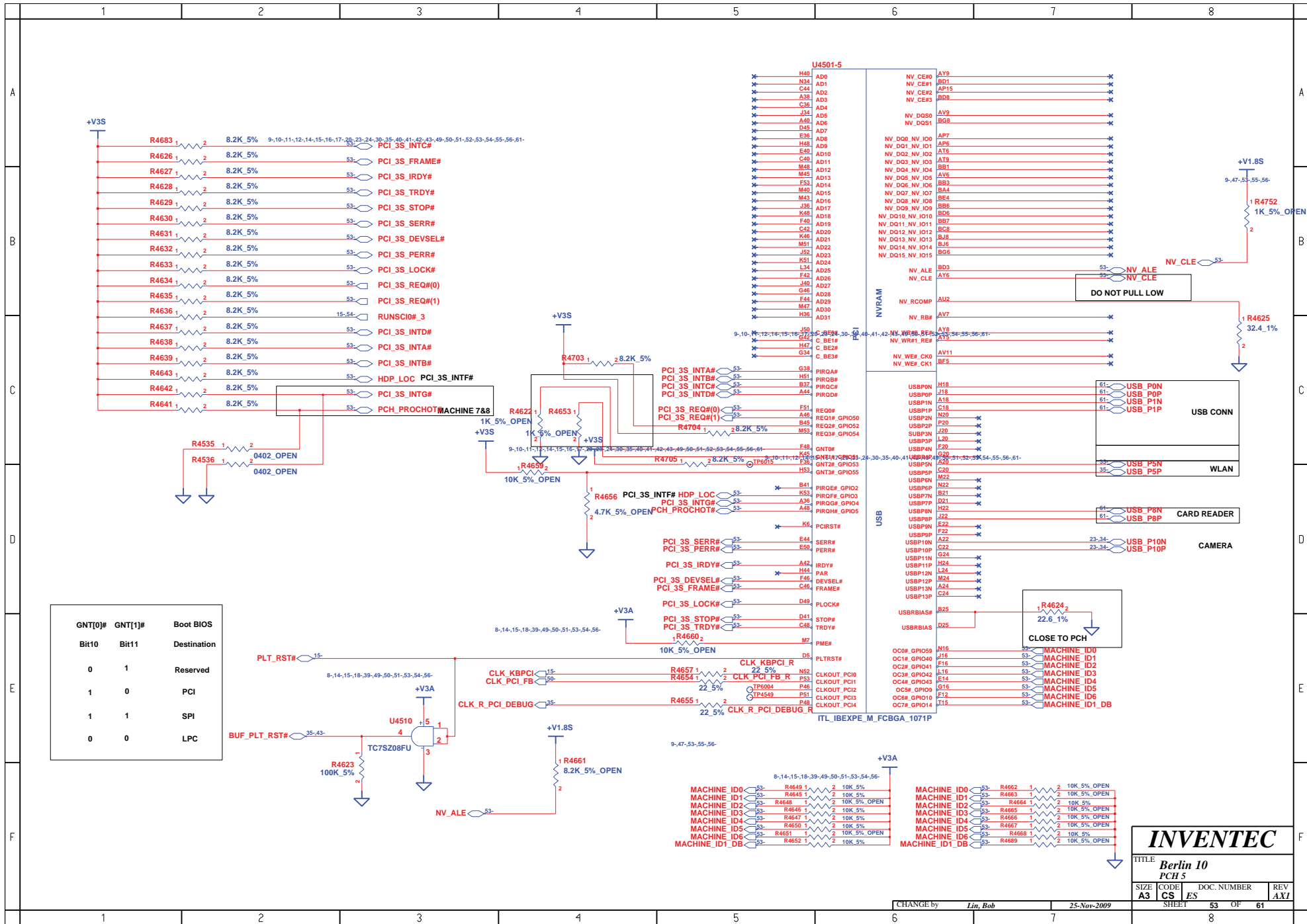
INVENTEC

TITLE			
Berlin 10			
PCH 3			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		OF	61

CHANGE by Lin, Bob 25-Nov-2009

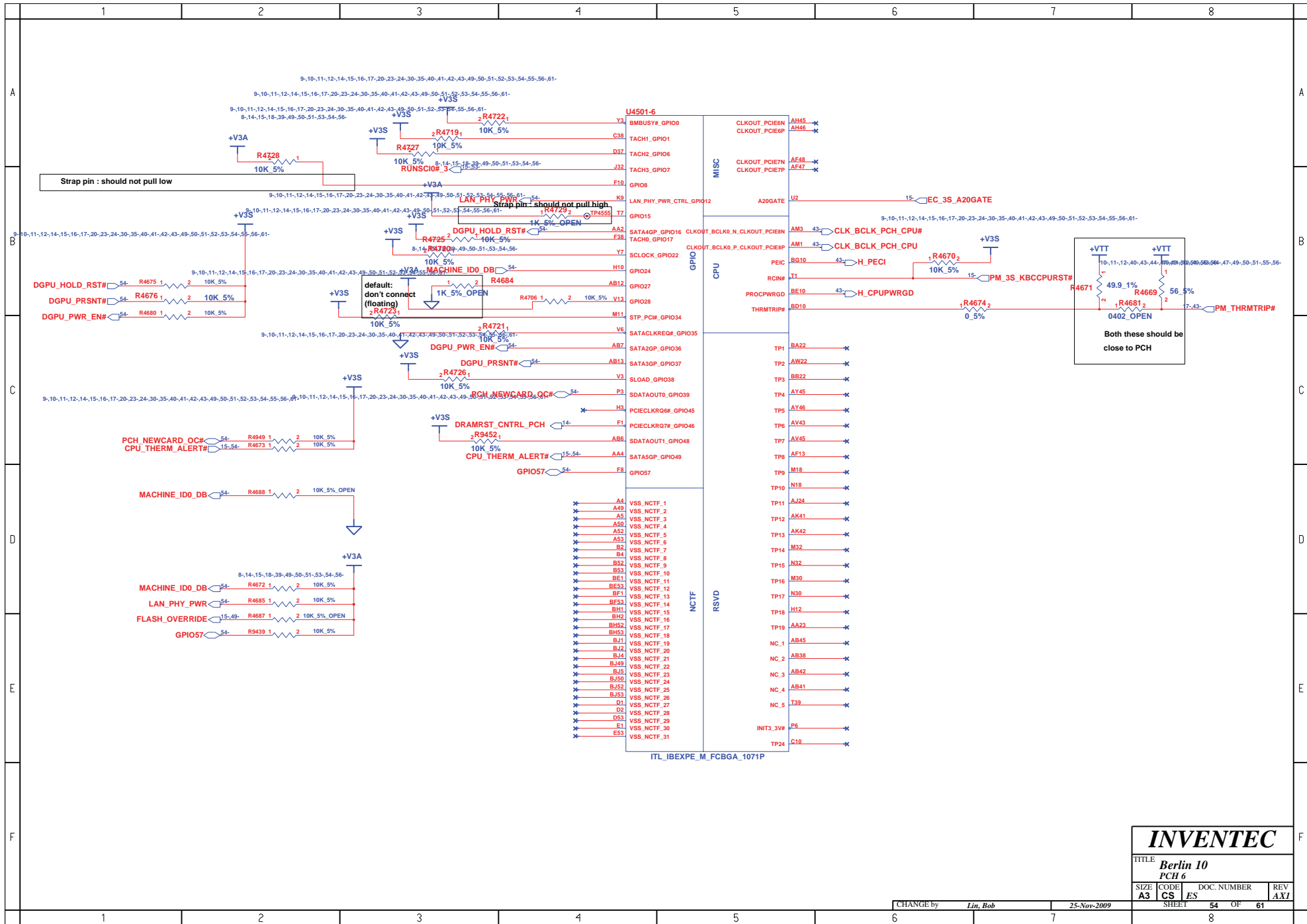


INVENTEC			
TITLE Berlin 10 PCH 4			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		52 OF	61



GNT[0]#	GNT[1]#	Boot BIOS
Bit10	Bit11	Destination
0	1	Reserved
1	0	PCI
1	1	SPI
0	0	LPC

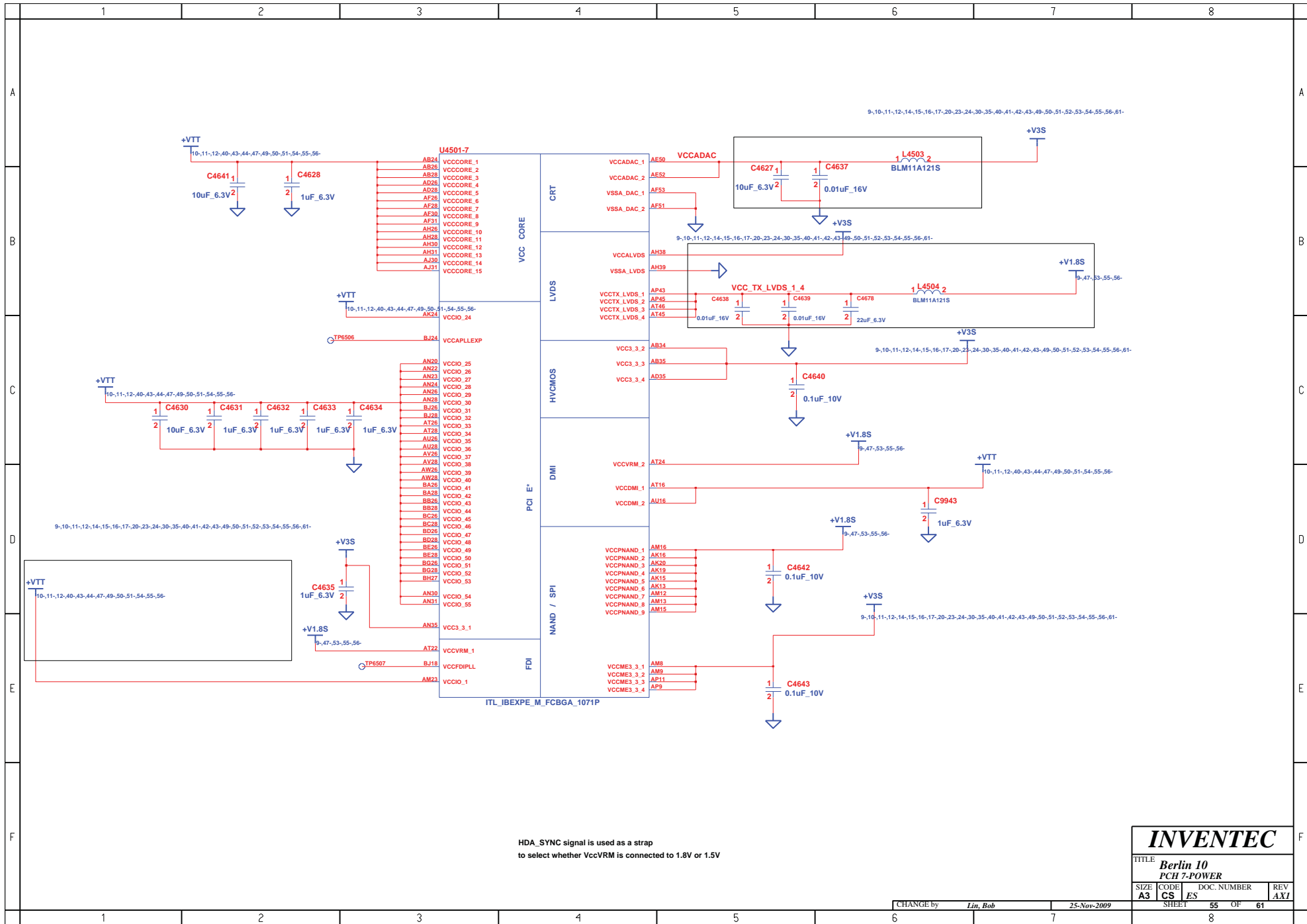
INVENTEC			
TITLE Berlin 10 PCH 5			
SIZE A3	CODE CS	DOC NUMBER ES	REV AXI
CHANGE by Lin, Bob		25-Nov-2009	
SHEET 53		OF 61	



INVENTEC

TITLE
**Berlin 10
PCH 6**
SIZE CODE ES DOC NUMBER REV
A3 CS ES 54 OF 61 AXZ

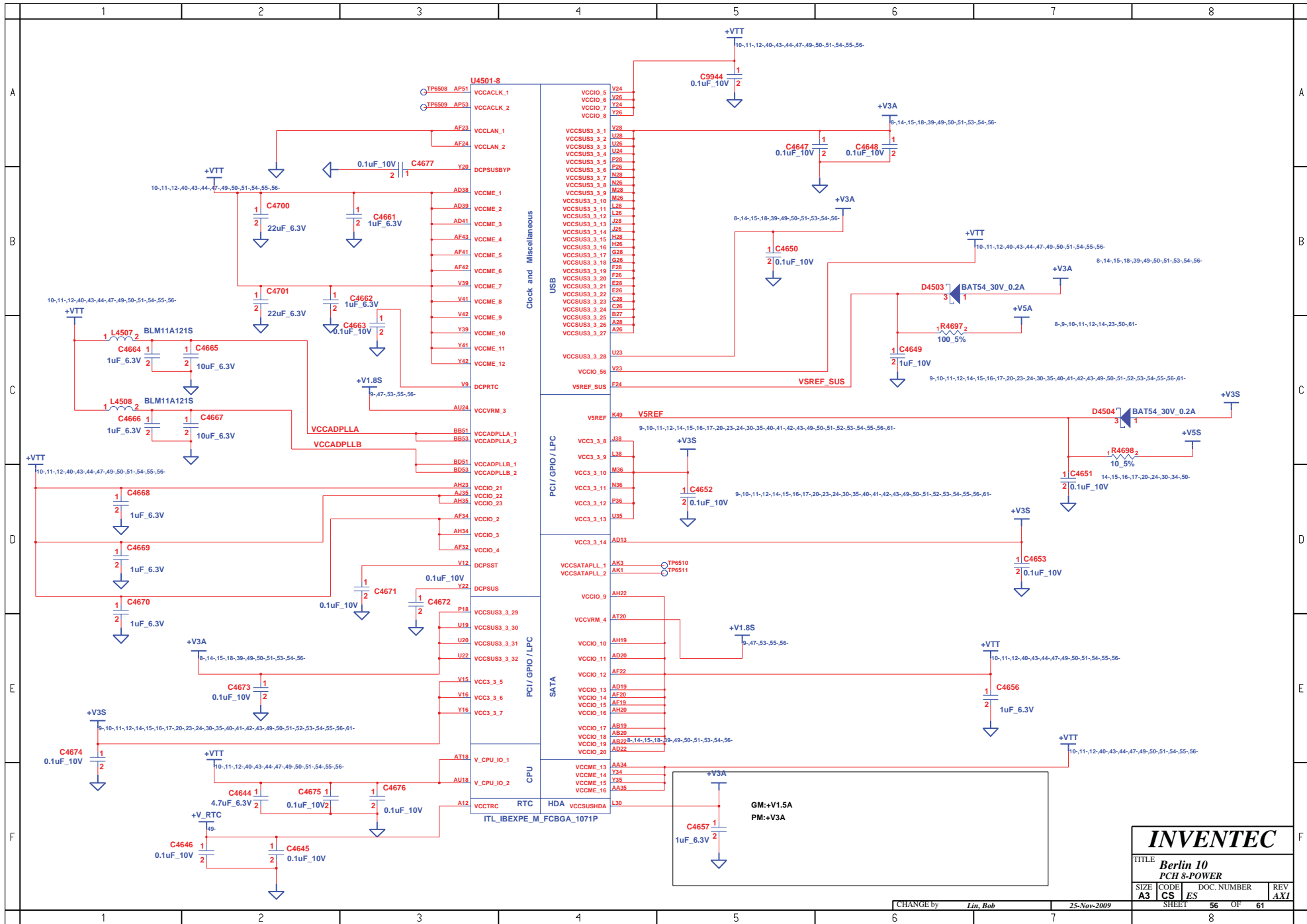
CHANGE by *Lin, Bob* 25-Nov-2009



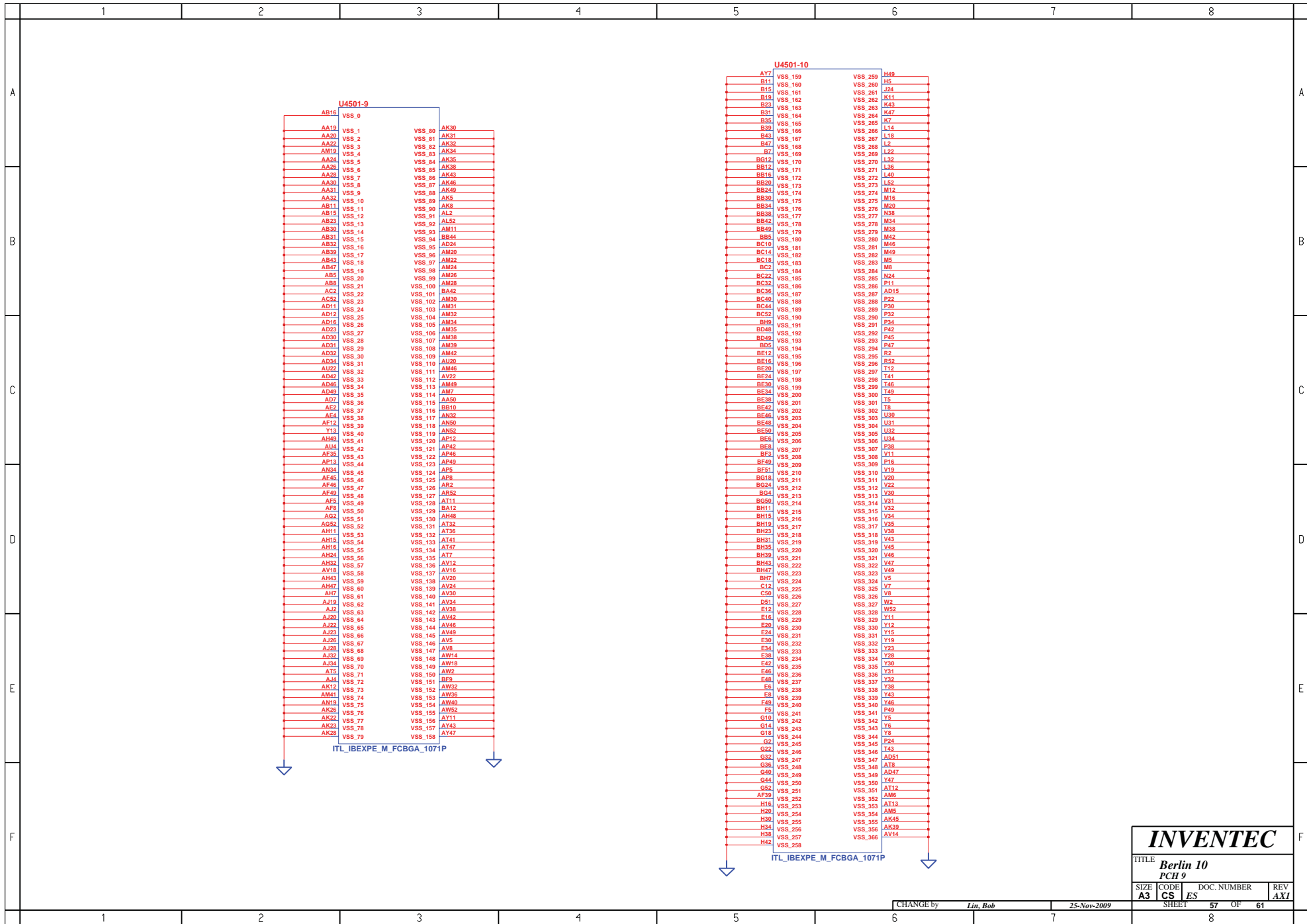
HDA_SYNC signal is used as a strap
to select whether VccVRM is connected to 1.8V or 1.5V

INVENTEC

TITLE			
Berlin 10 PCH 7-POWER			
SIZE	CODE	DOC NUMBER	REV
A3	CS	ES	AX1
CHANGE by		SHEET	OF
Lin, Bob		55	61
25-Nov-2009		8	



INVENTEC			
TITLE Berlin 10 PCH 8-POWER			
SIZE A3	CODE CS	DOC NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET 56		OF 61	



INVENTEC

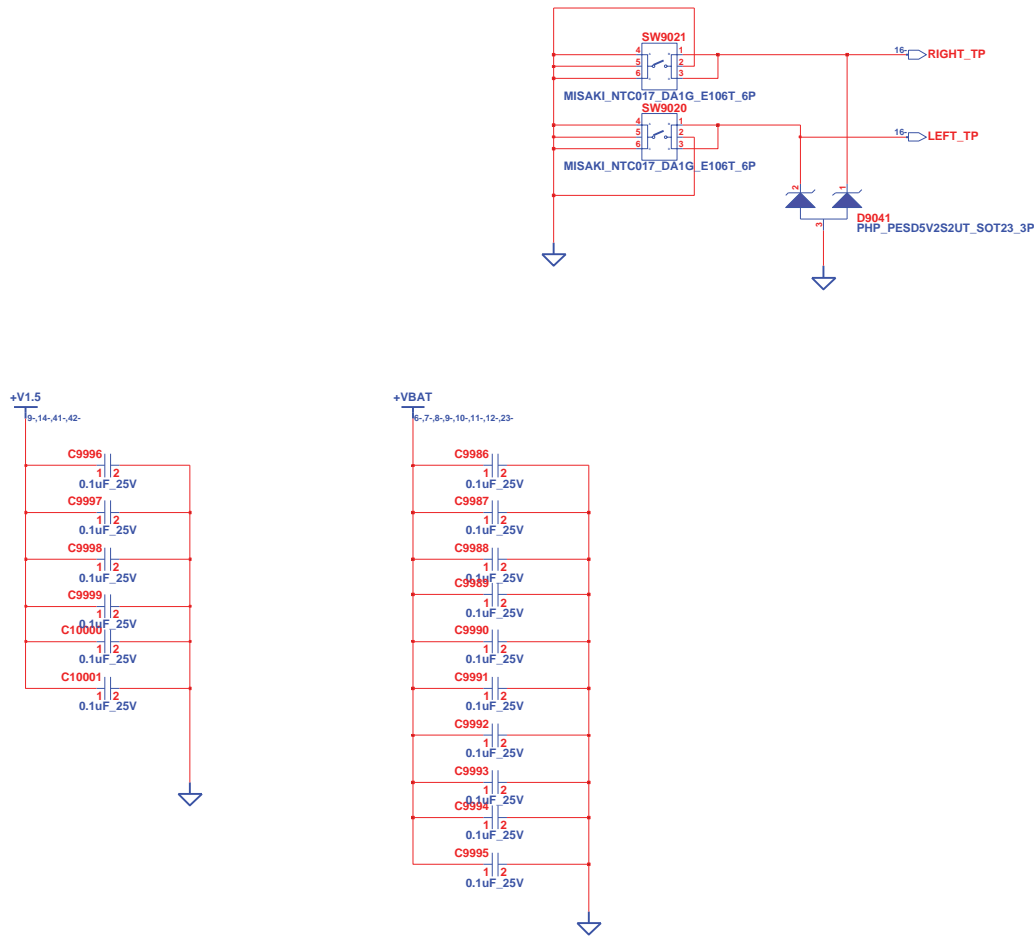
TITLE **Berlin 10 PCH 9**

SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
SHEET		57 OF	61

CHANGE by *Lin, Bob* 25-Nov-2009

PICK BUTTON and EMI

(For - Touchpad Module, Touchpad Switch)

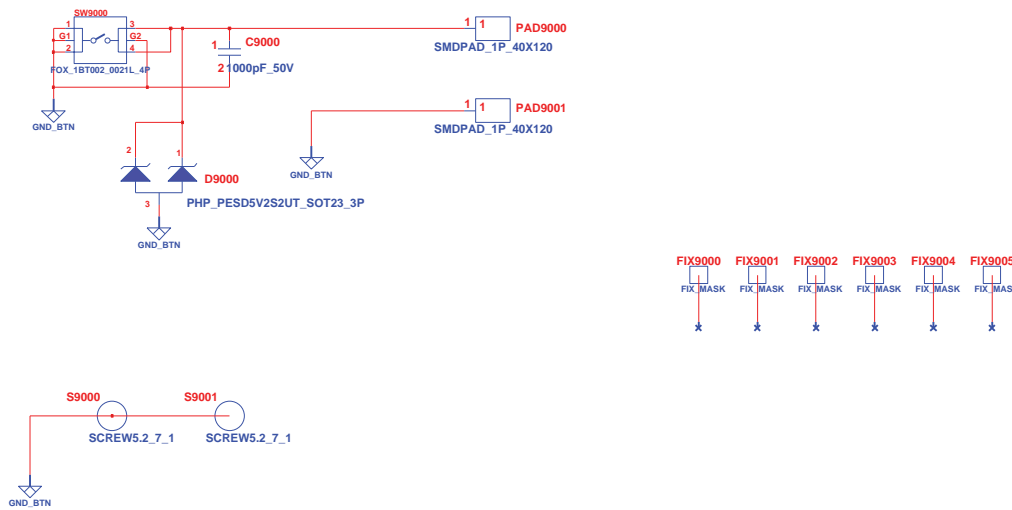


INVENTEC			
TITLE <i>Berlin 10</i> Hot key board			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AX1
CHANGE by <i>Lin, Bob</i>		7-Jan-2010	
SHEET		58 OF	61
		8	

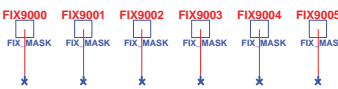
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC			
TITLE <i>Berlin 10 Touch pad</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV <i>AXI</i>
CHANGE by <i>Ljn, Bob</i>		5-Jan-2010	
SHEET		59	OF 61
		8	

POWER BUTTON

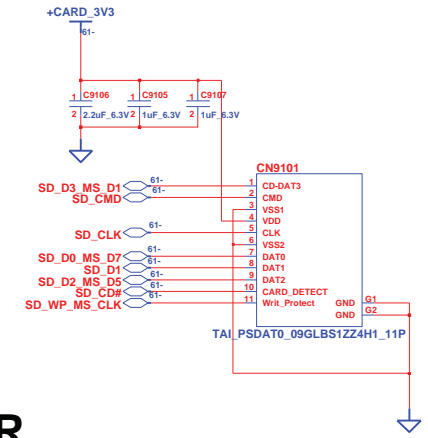
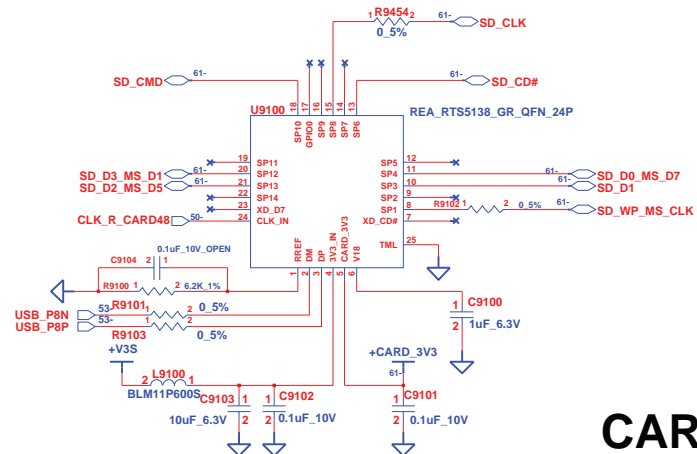
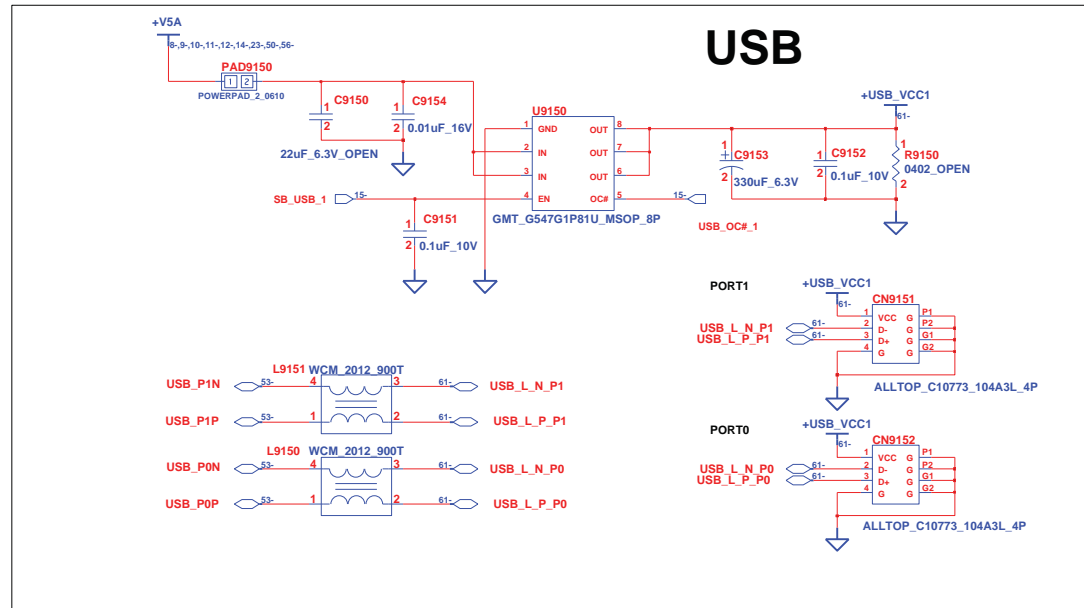


EMI



INVENTEC			
TITLE <i>Berlin 10</i>			
EMI			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV AX1
CHANGE by <i>Lin, Bob</i>		17-Mar-2010	
SHEET		60 OF	61
		8	

CARD READER & USB



CARD READER

INVENTEC			
TITLE Berlin 10			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXZ
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET 61		OF 61	