

Manaus 10

CS BUILD

2010.03.18

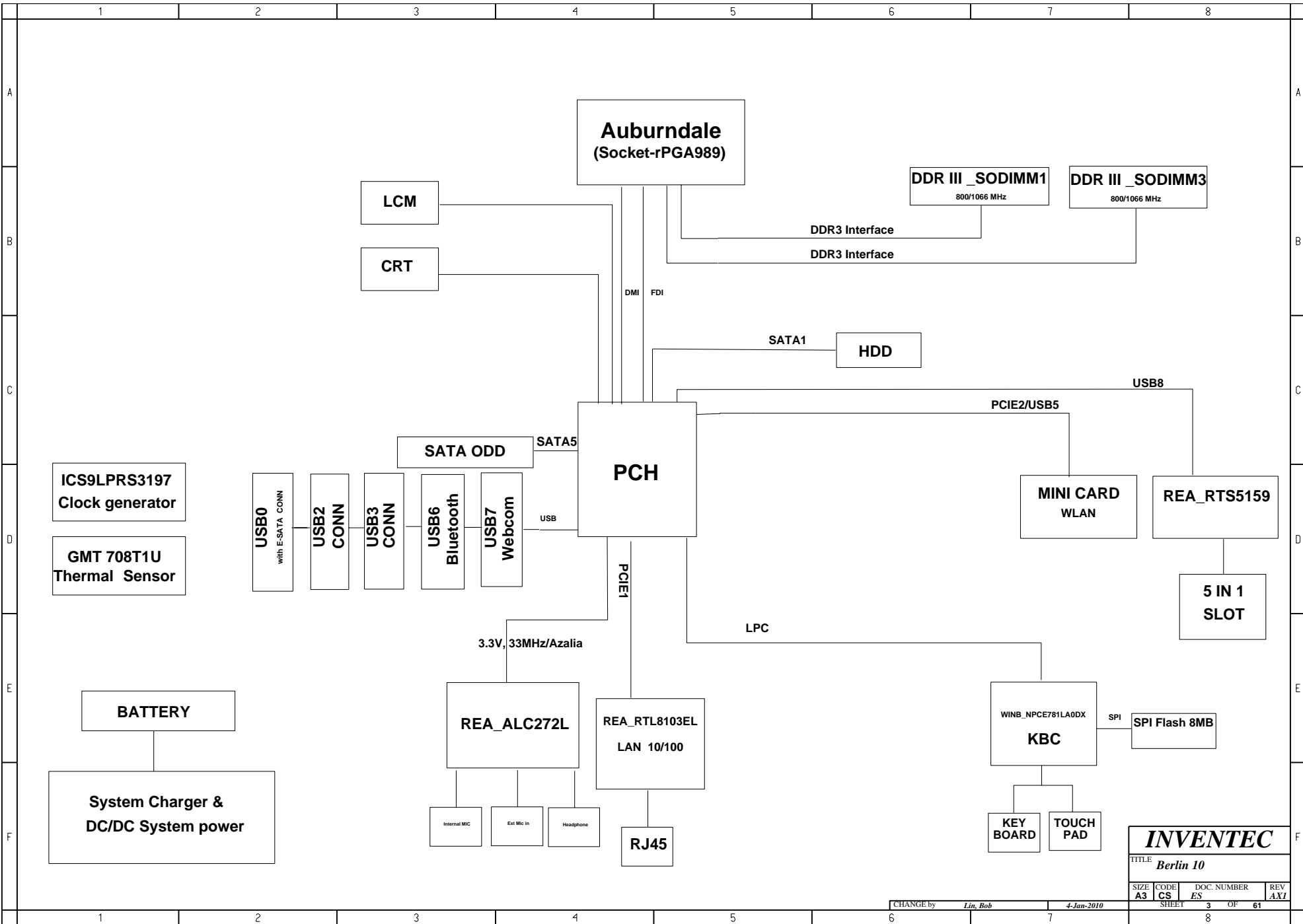
DRAWER	EE	DATE	POWER	DATE	INVENTEC
DESIGN					
CHECK					
RESPONSIBLE					
TITLE					Berlin 10
SIZE =	3	VER :			SIZE
FILE NAME :	XXXX-XXXXXX-XX				CODE
P/N	XXXXXXXXXXXX				CS
					DOC. NUMBER
					ES
					1 OF 61
					SHEET

DATE	CHANGE NO.	REV
1		2
3		
4		
5		
6		
7		
8		

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 ES	REV AXI
CHANGE by <i>Lin, Bob</i>		26-Jan-2010	
SHEET		2	OF 61
		8	

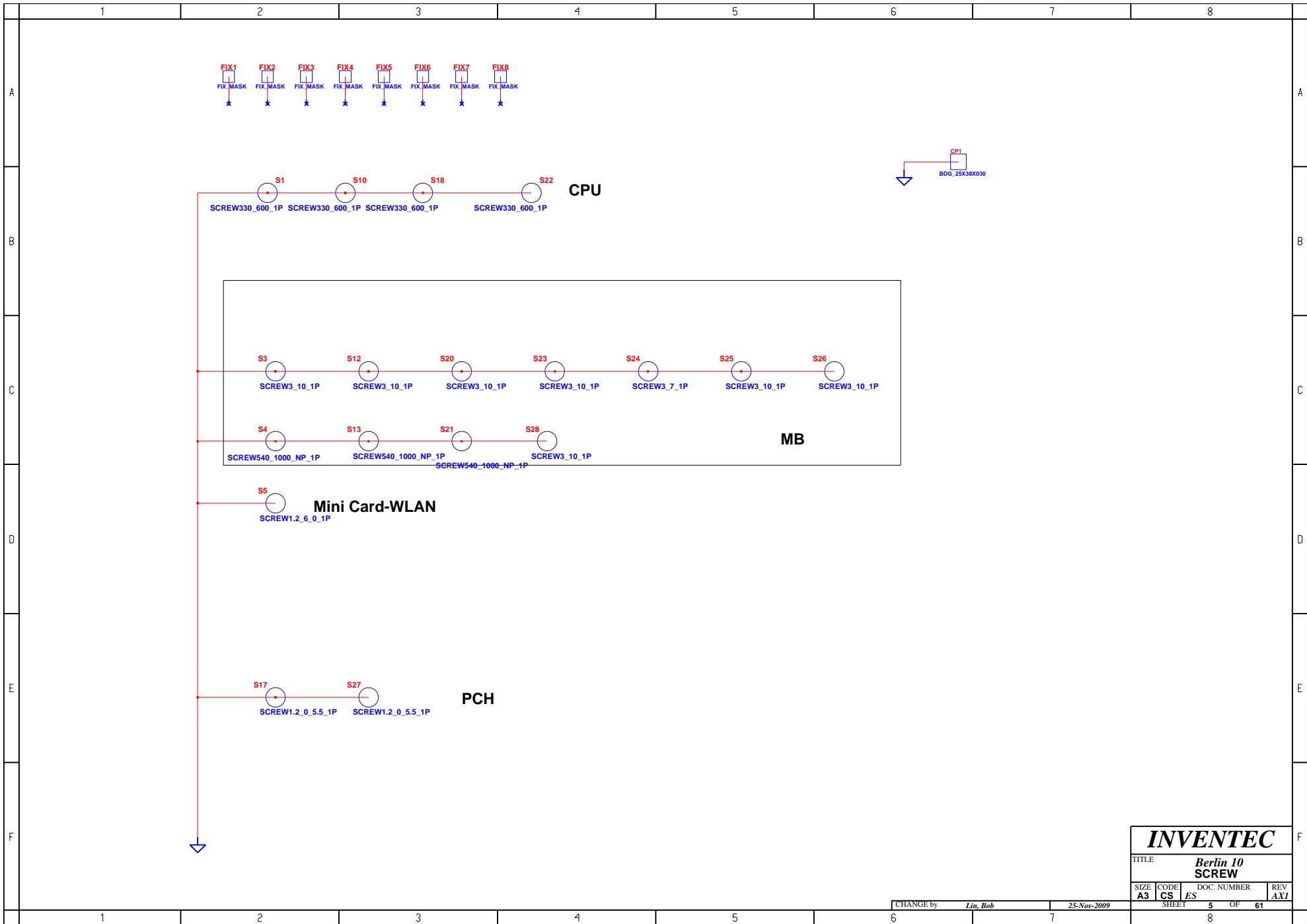


INVENTEC			
TITLE <i>Berlin 10</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>ES</i>	REV <i>AX1</i>
SHEET		3	OF 61

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

Add Excel Power map

INVENTEC			
TITLE Berlin 10			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		4	OF 61
		8	



INVENTEC

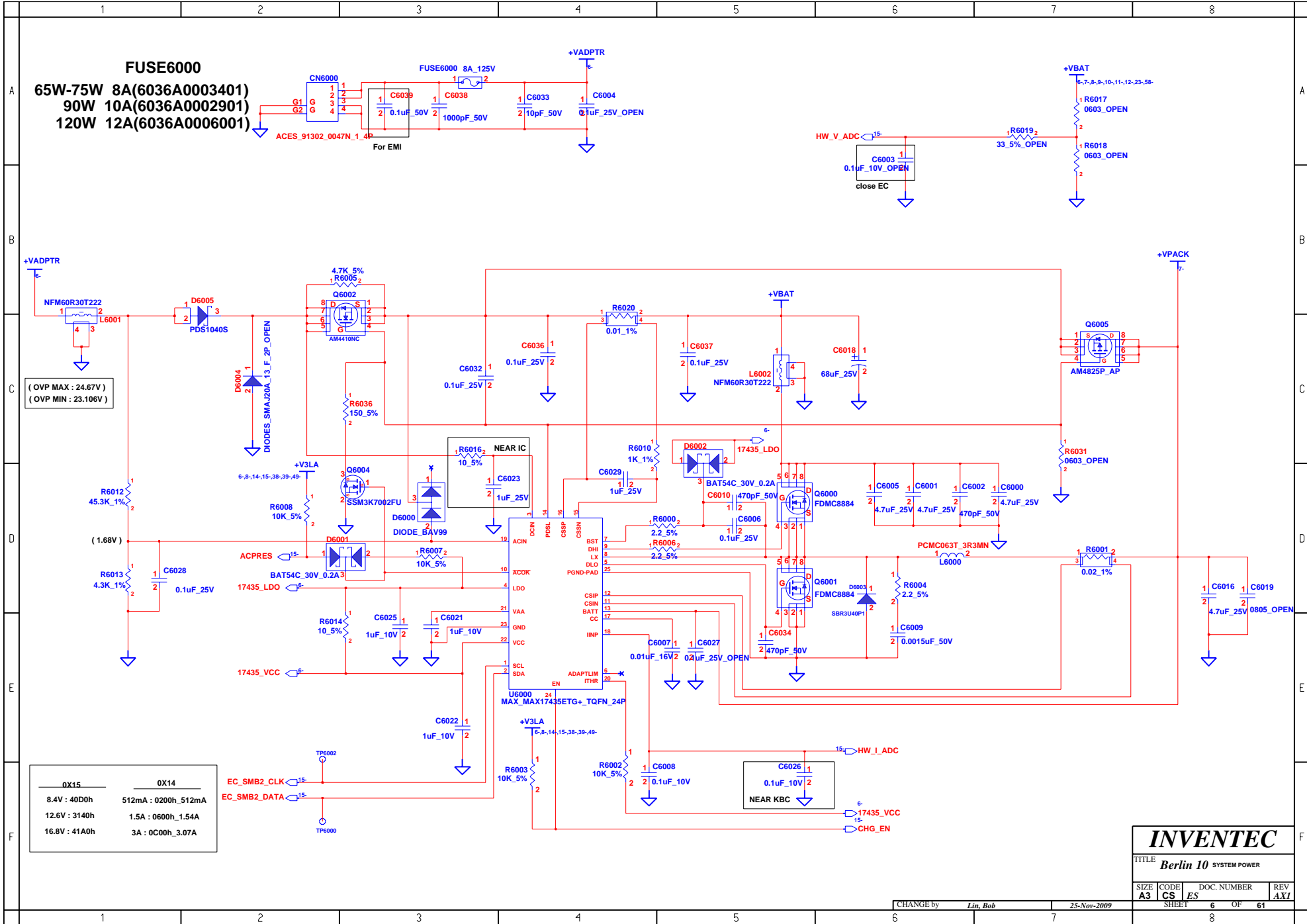
TITLE **Berlin 10 SCREW**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

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

SHEET 5 OF 61

8



FUSE6000
 65W-75W 8A(6036A0003401)
 90W 10A(6036A0002901)
 120W 12A(6036A0006001)

(OVP MAX : 24.67V)
 (OVP MIN : 23.106V)

0X15	0X14
8.4V : 40D0h	512mA : 0200h_512mA
12.6V : 3140h	1.5A : 0600h_1.54A
16.8V : 41A0h	3A : 0C00h_3.07A

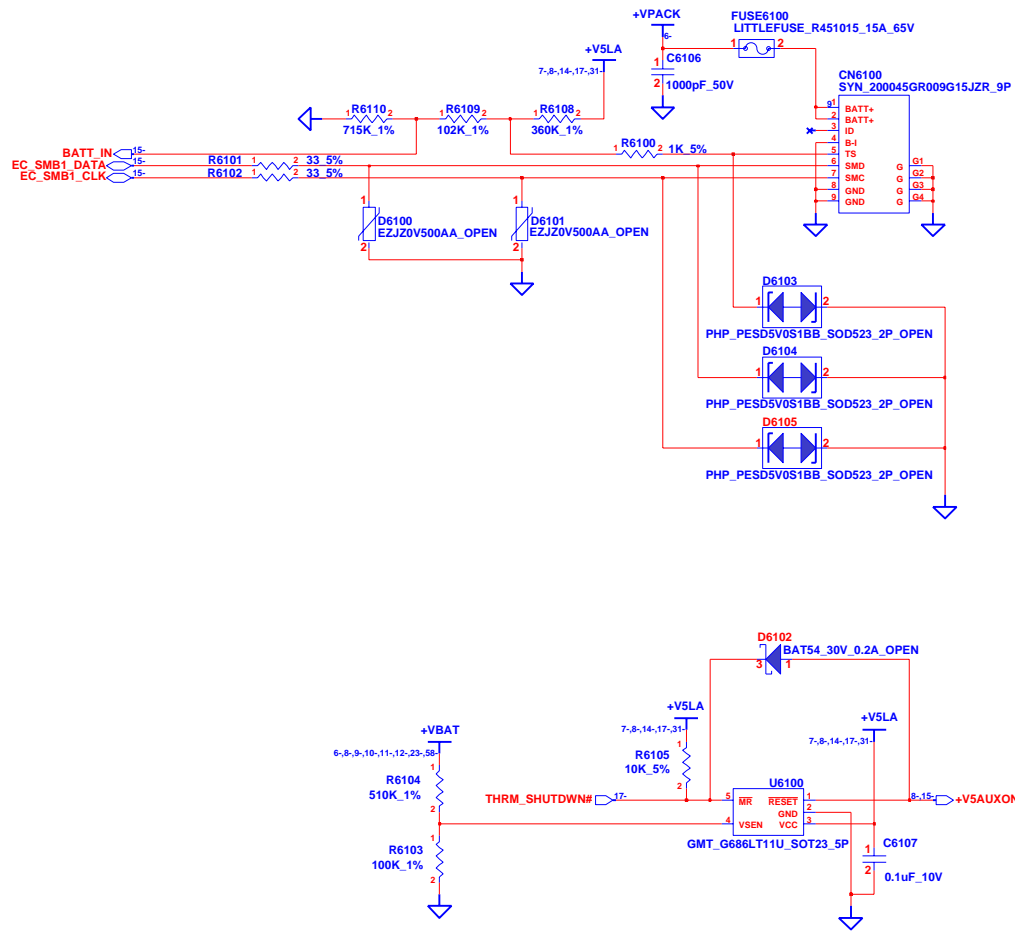
INVENTEC

TITLE: Berlin 10 SYSTEM POWER

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AX1

CHANGE by Lin, Bob 25-Nov-2009

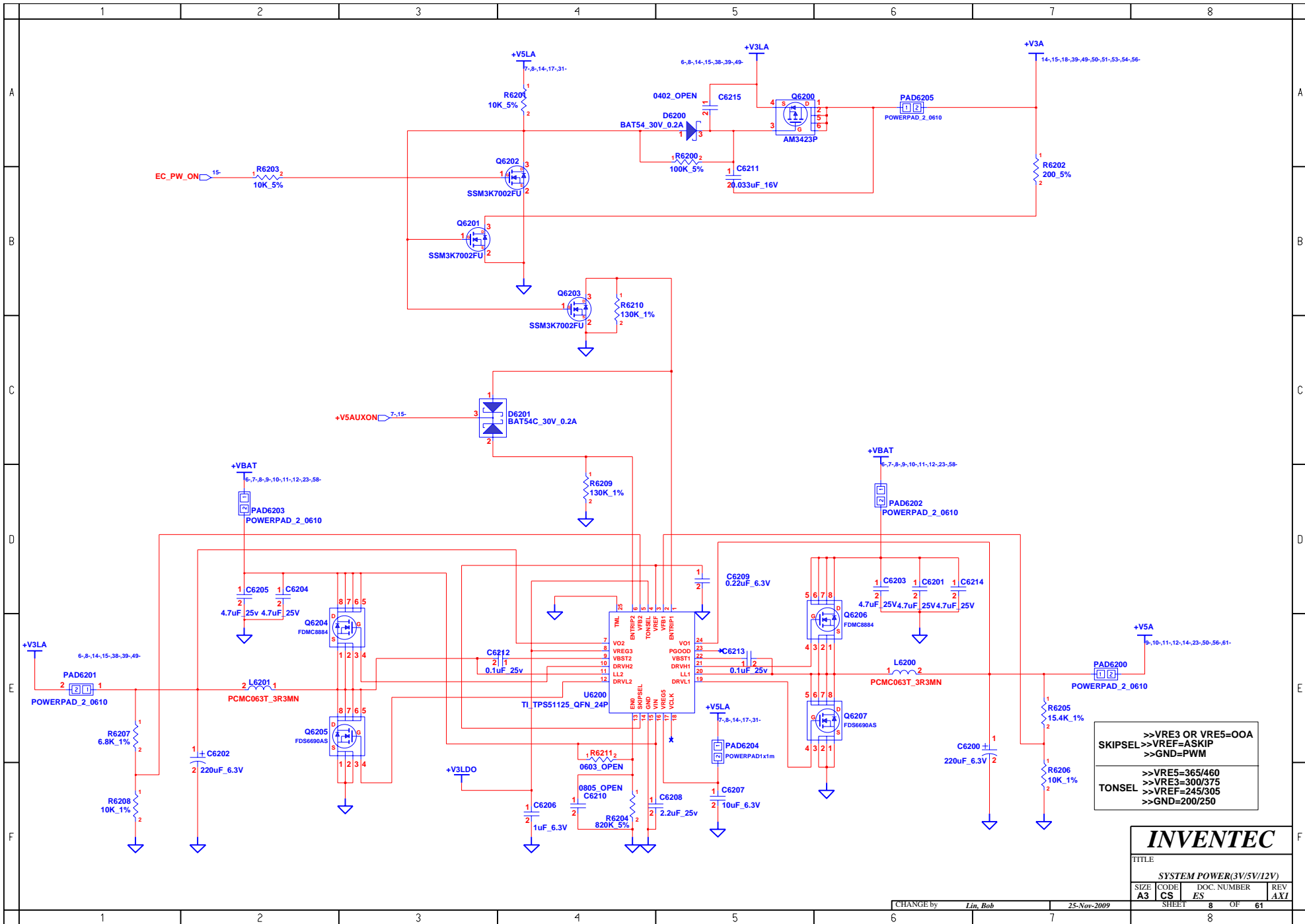
SHEET 6 OF 61



INVENTEC

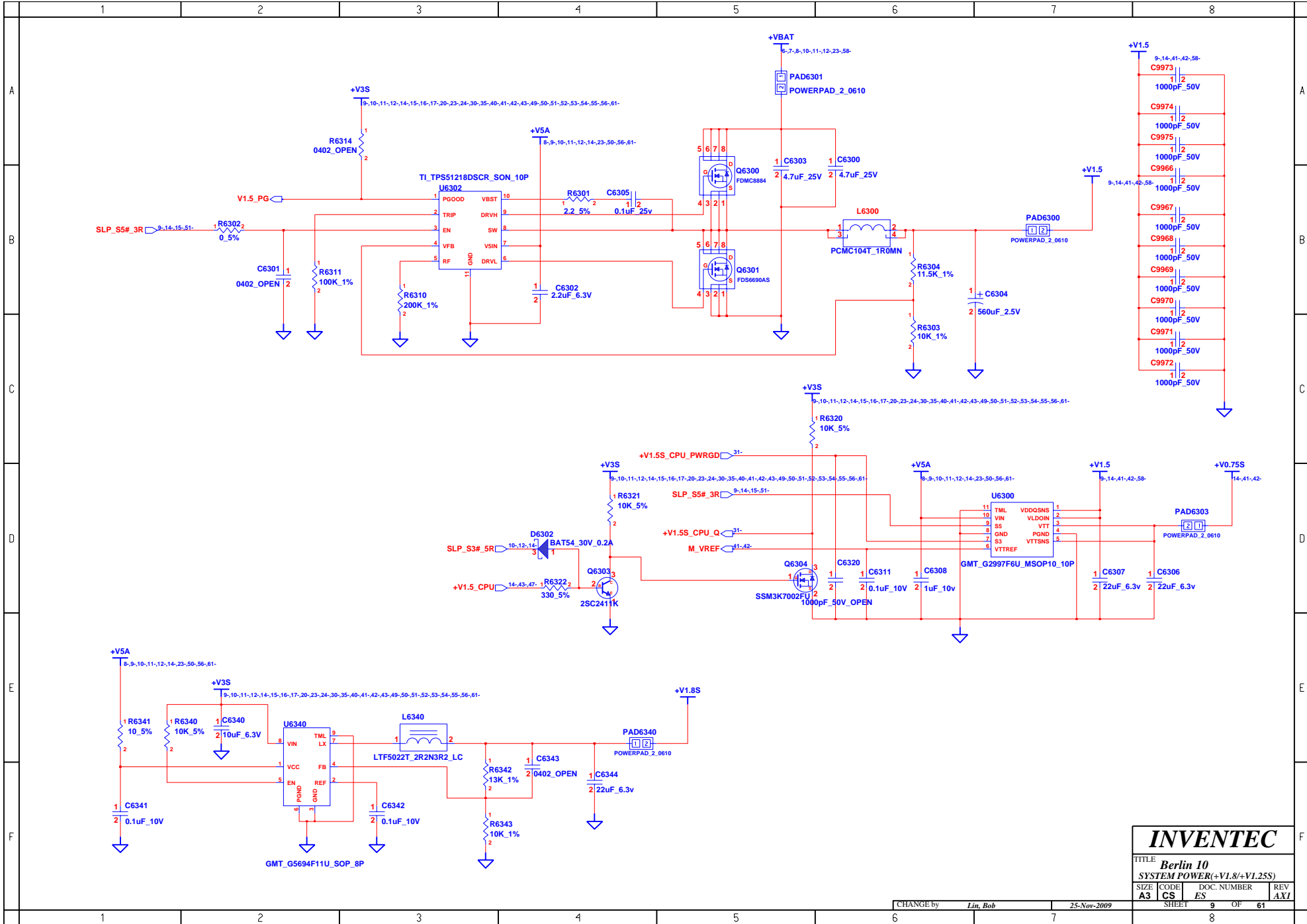
TITLE			
Berlin 10			
SELECT & BATTERY CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		7 OF	61

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

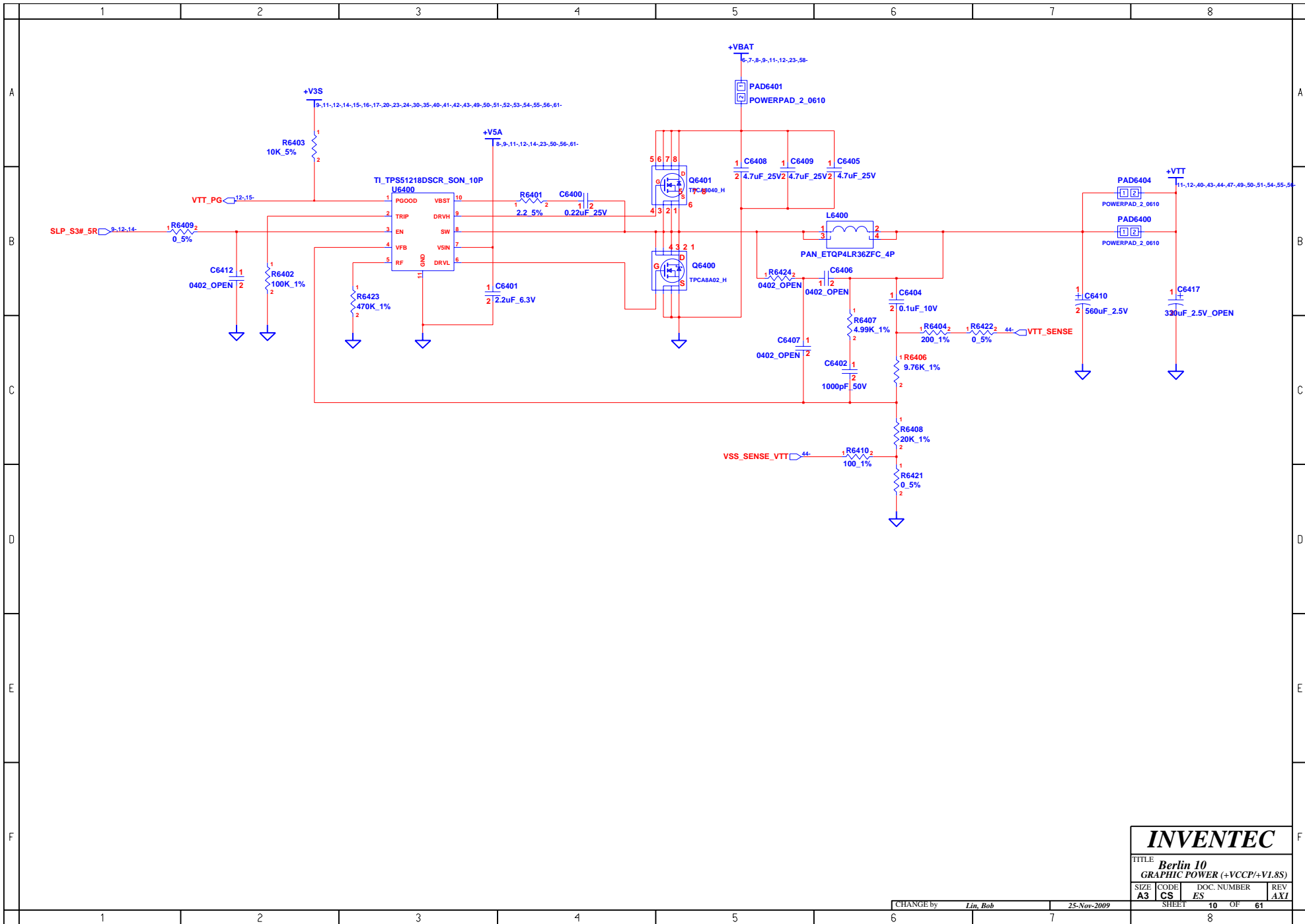


INVENTEC

TITLE			
SYSTEM POWER(3V/5V/12V)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AX1

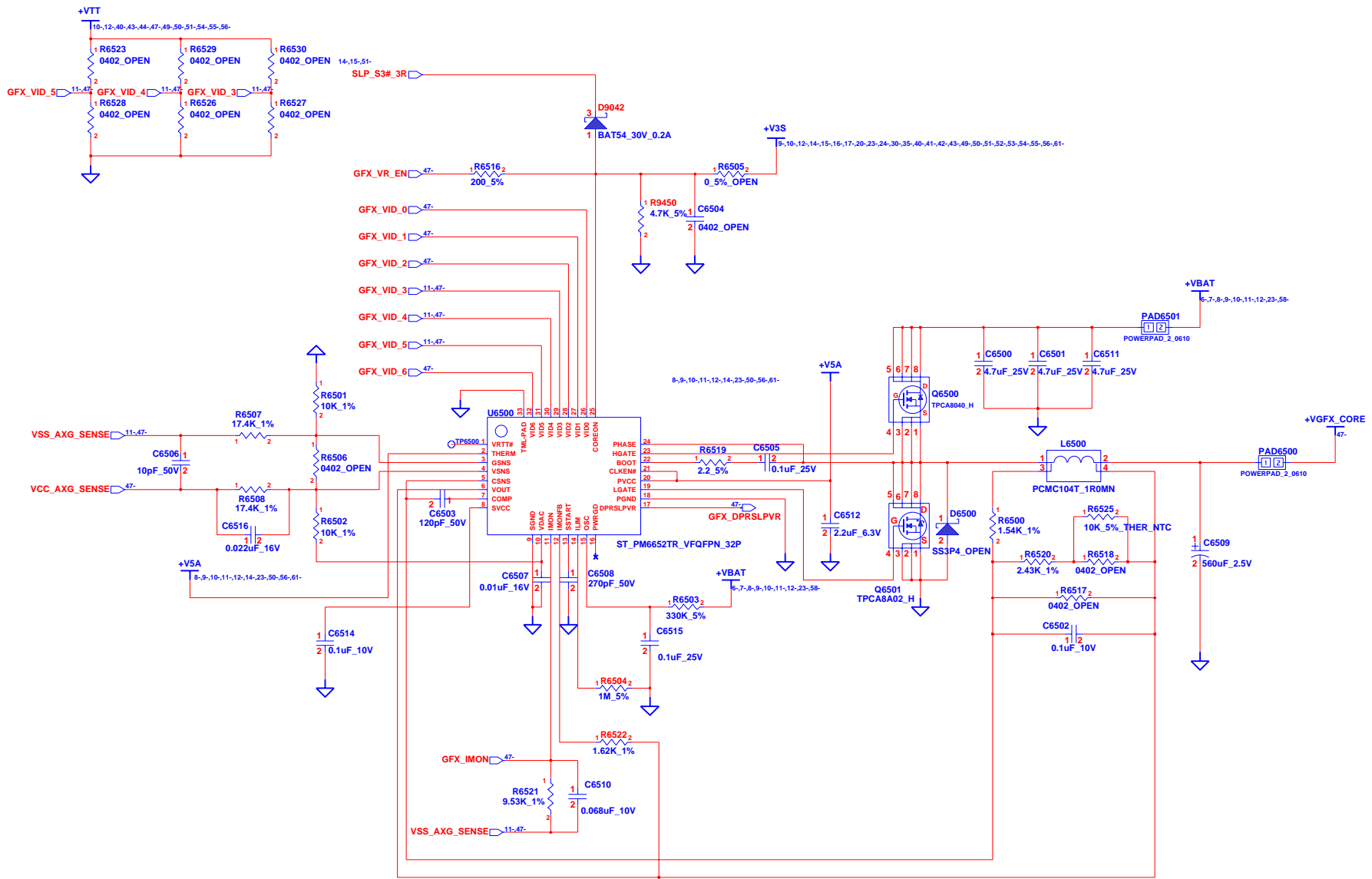


INVENTEC			
TITLE Berlin 10			
SYSTEM POWER(+V1.8/+V1.25S)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AX1

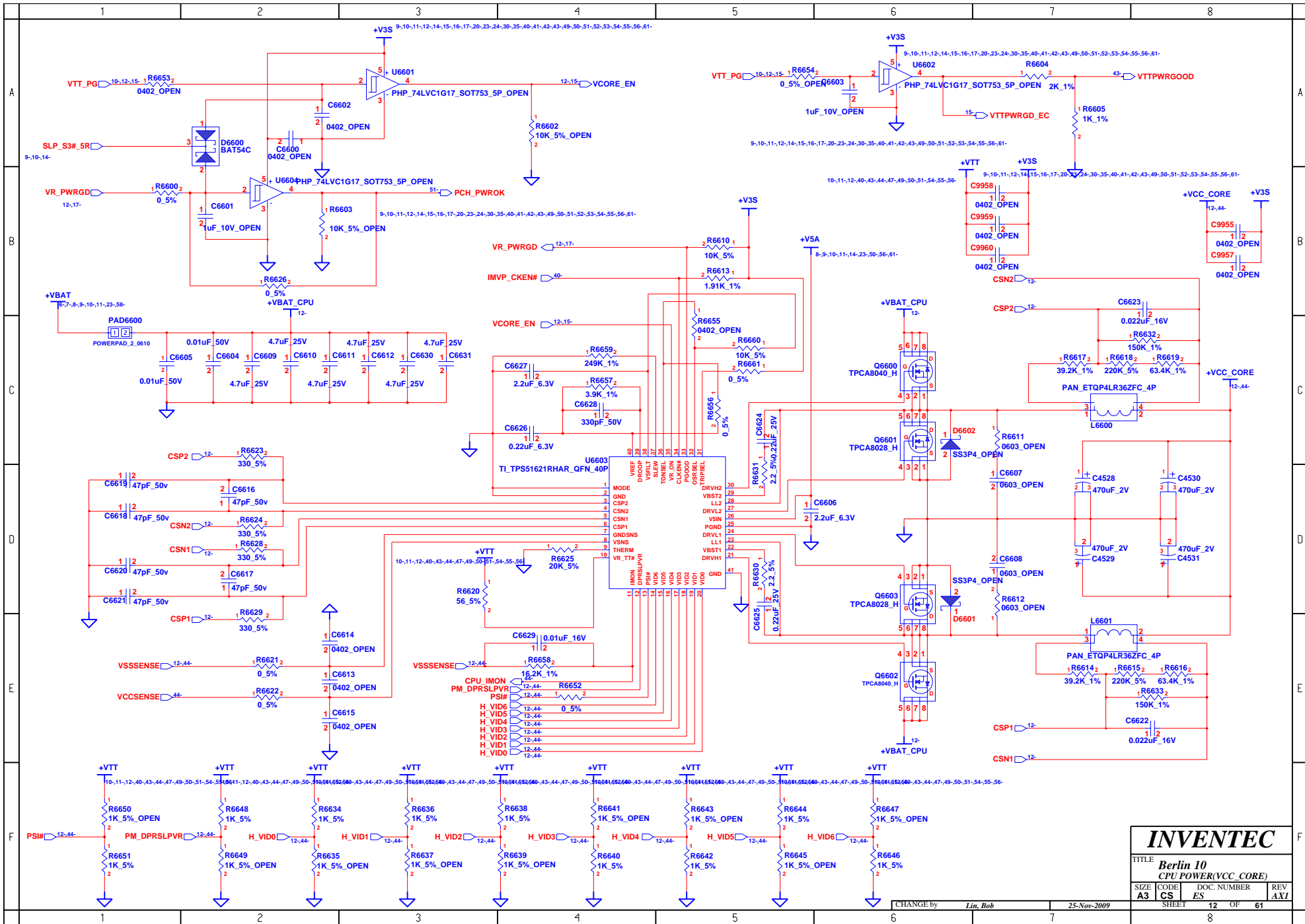


INVENTEC

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



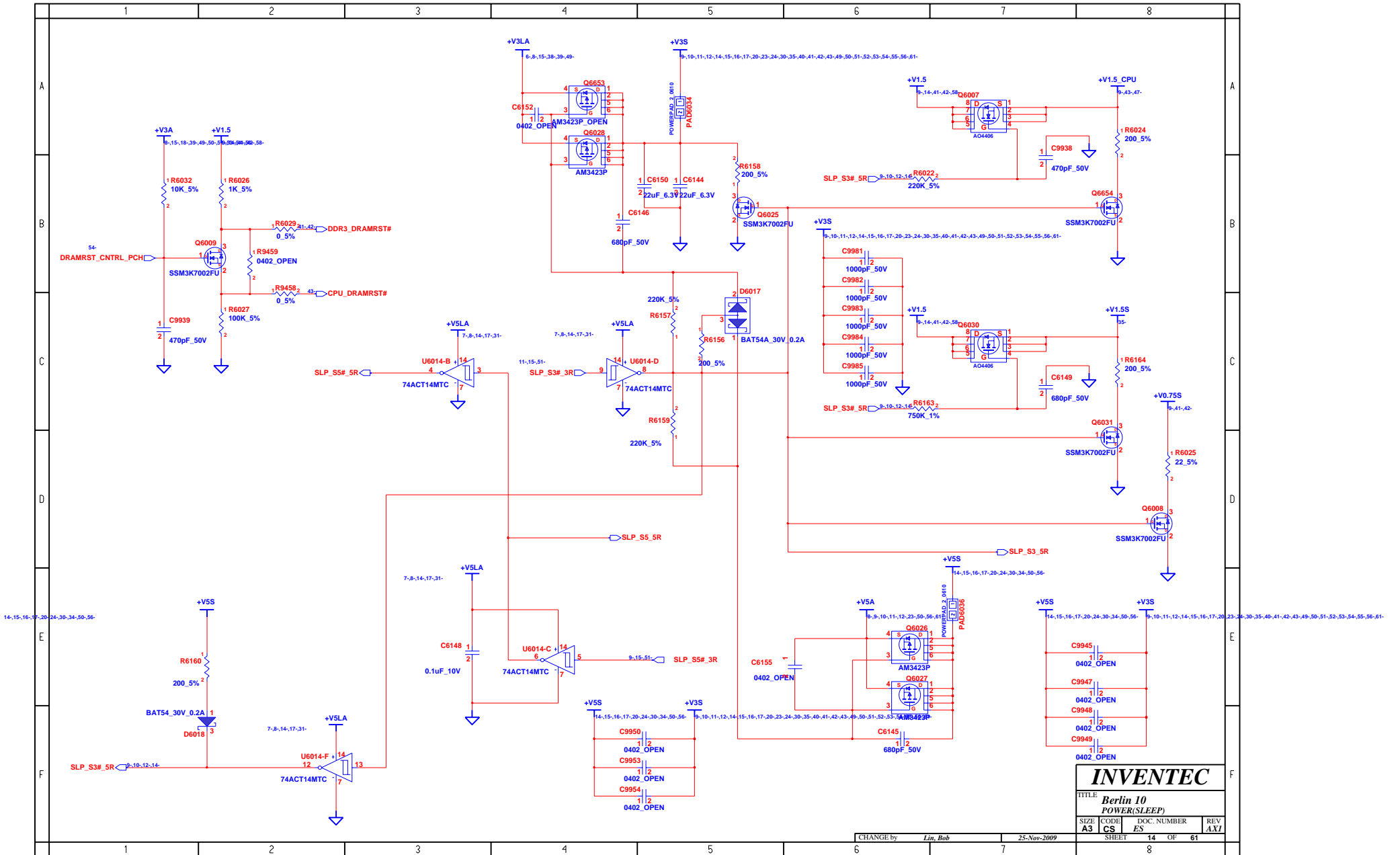
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TITLE Berlin 10 SYSTEM POWER(+VGFX_CORE)			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET 11		OF 61	



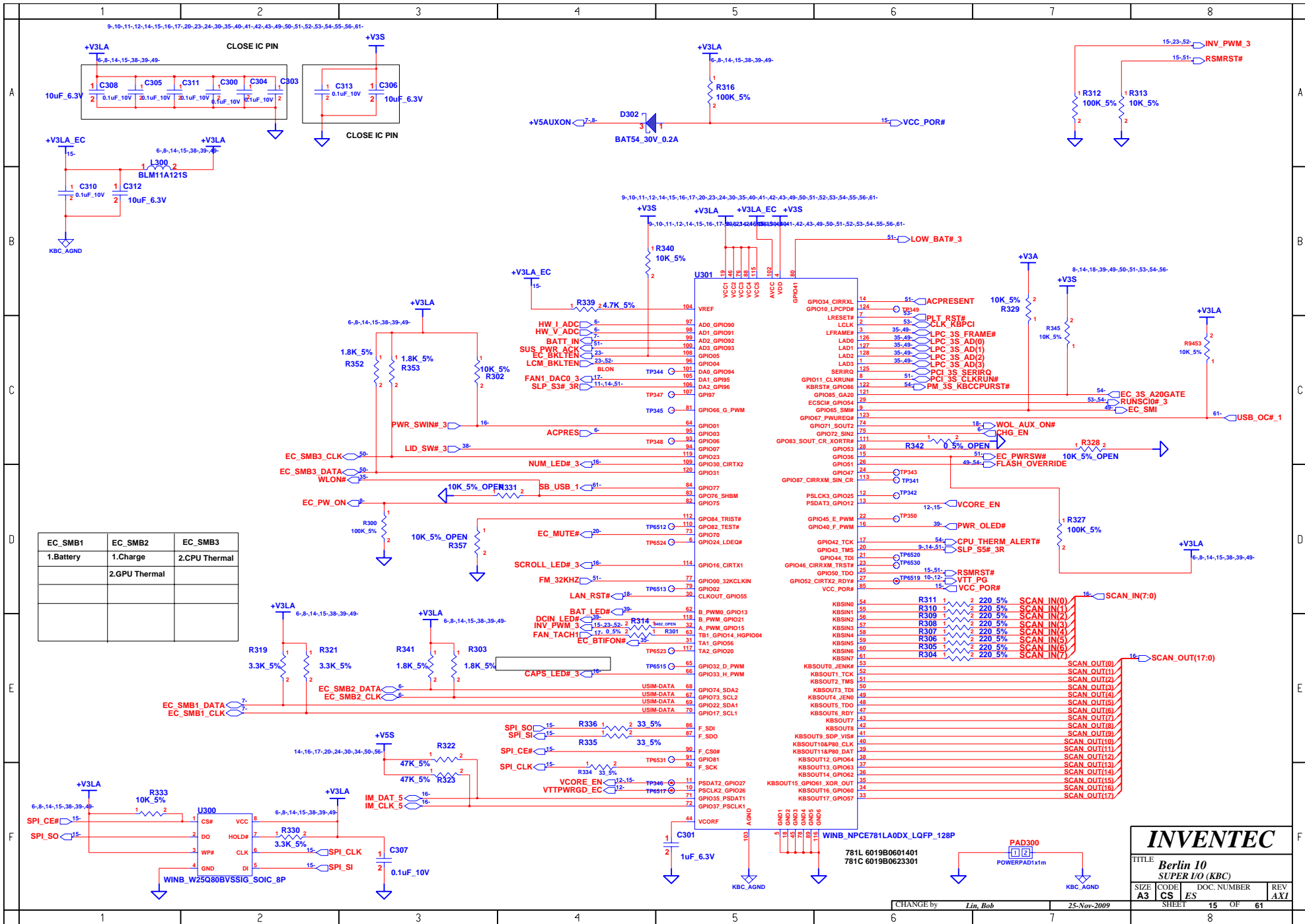
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TITLE Berlin 10 CPU POWER(VCC_CORE)			
SIZE A3	CODE CS	DOC NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET 12		OF 61	

skip

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



INVENTEC			
TITLE Berlin 10 POWER(SLEEP)			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	SHEET 14 OF 61



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

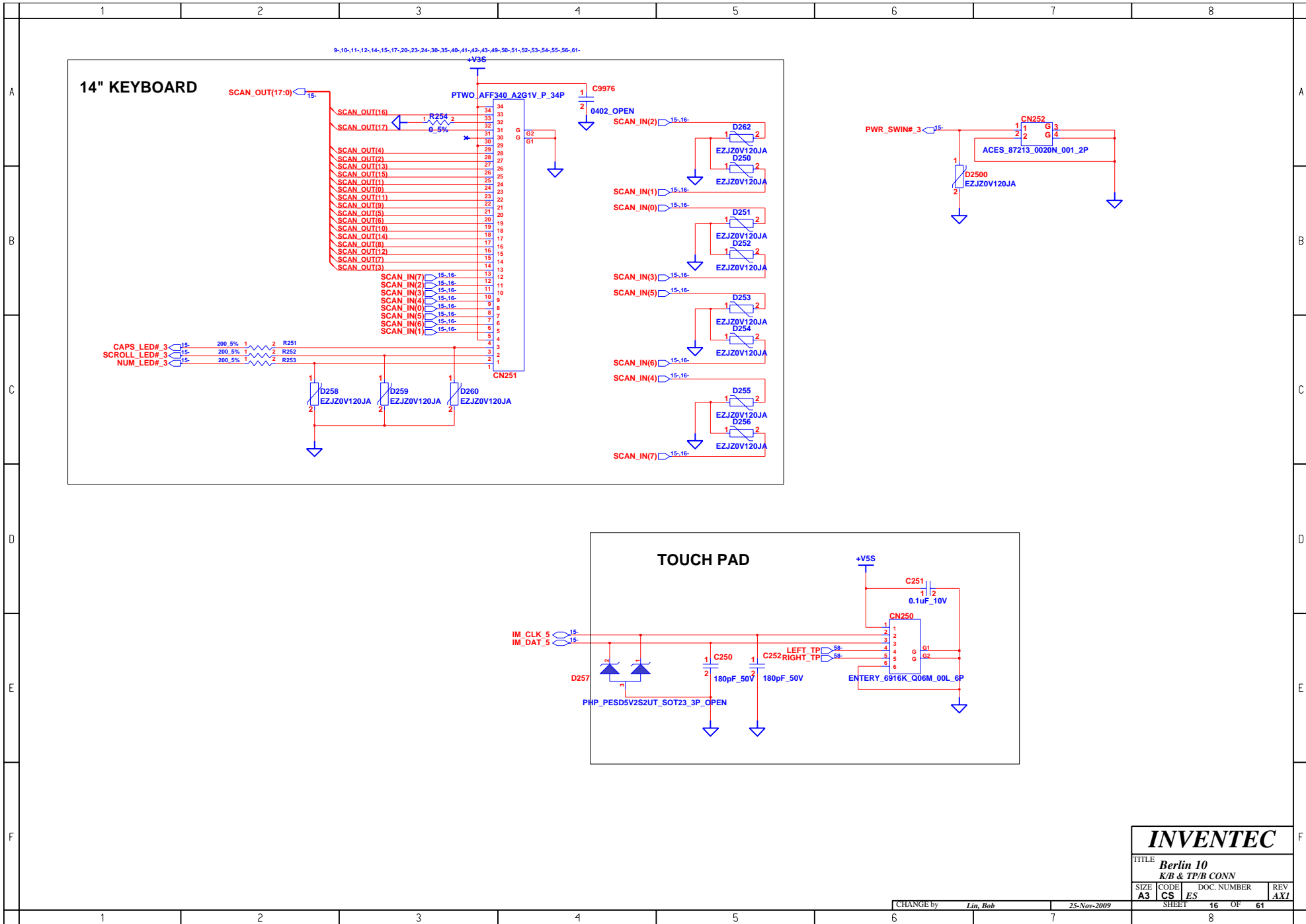
INVENTEC

TITLE: Berlin 10 SUPER I/O (KBC)

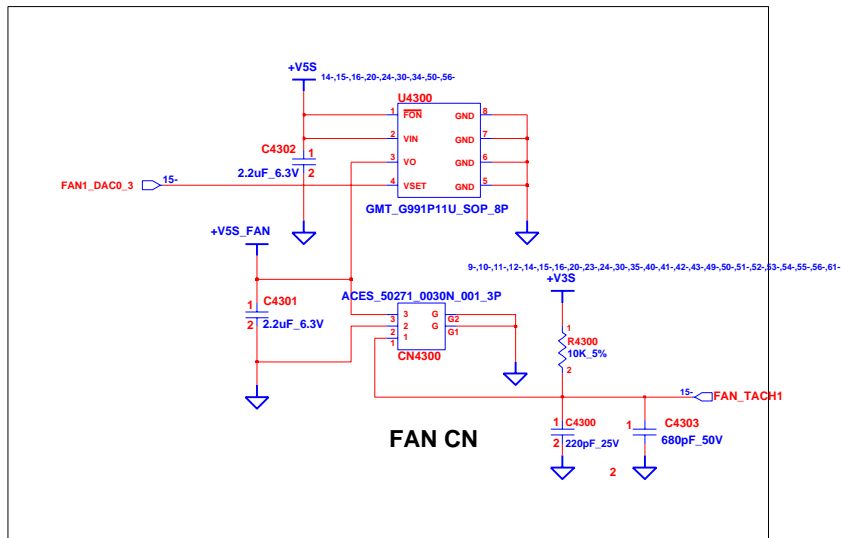
SIZE	CODE	DOC NUMBER	REV
A3	CS	ES	AXI

SHEET 15 OF 61

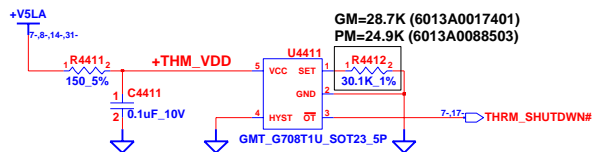
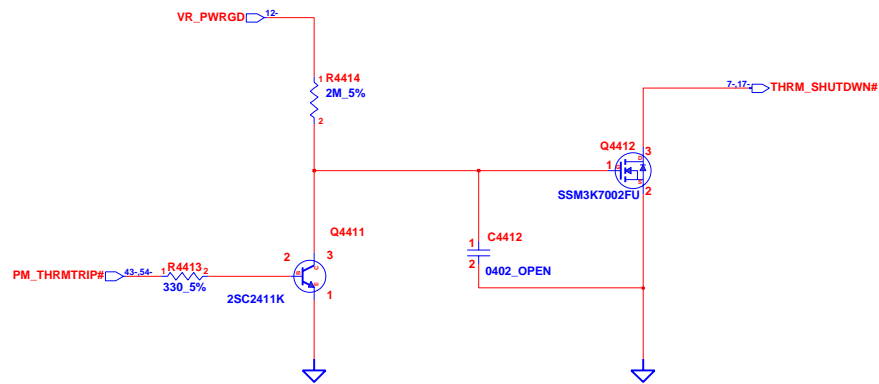
CHANGE by Lin, Bob 25-Nov-2009



INVENTEC				
TITLE Berlin 10				
K/B & TP/B CONN				
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI	
CHANGE by <i>Lin, Bob</i>			25-Nov-2009	
SHEET 16			OF 61	



FAN CN

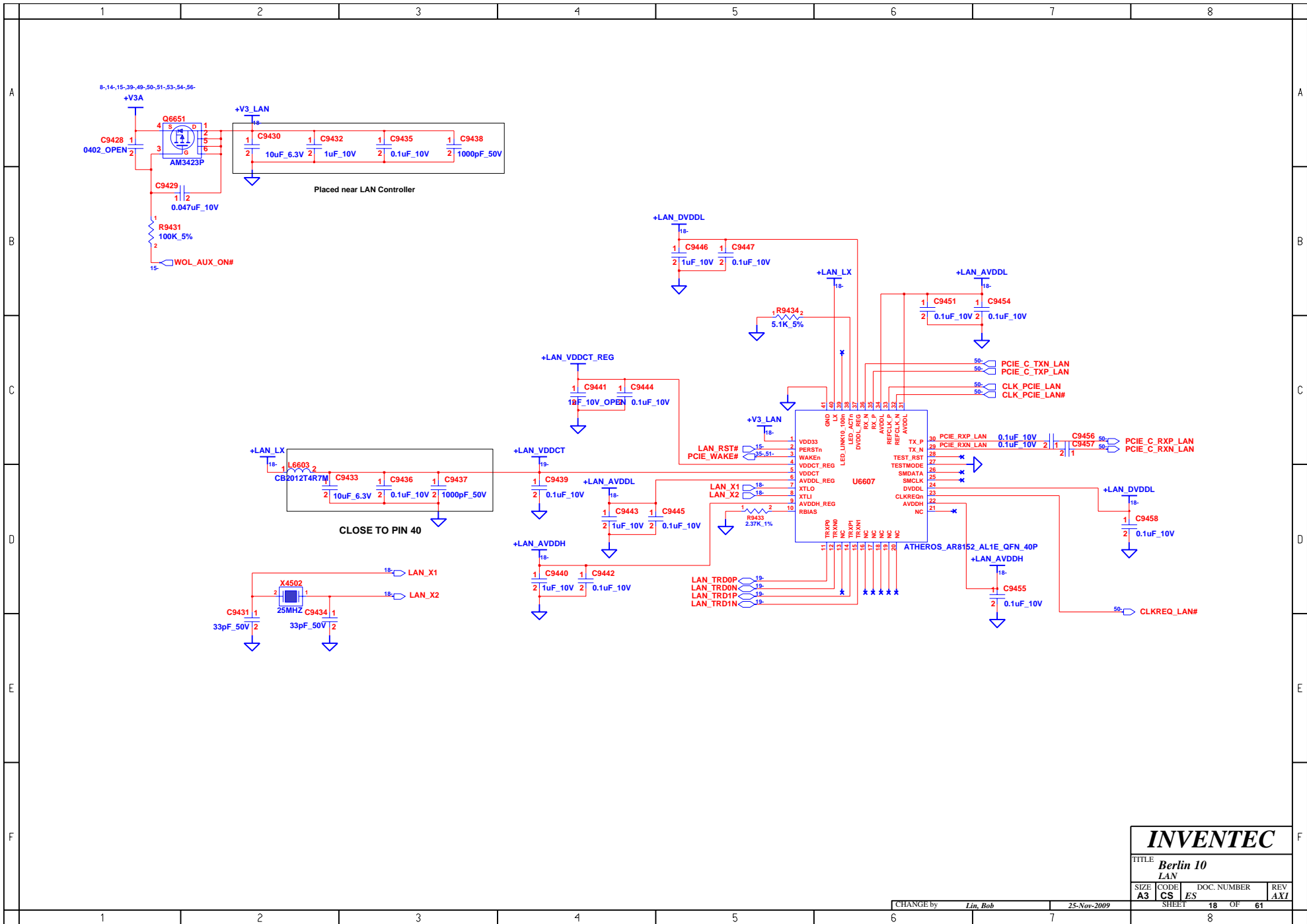


GM Thermal shutdown at 80.8°C +/-3°C from 60°C to 100°C
 PM Thermal shutdown at 86°C +/-3°C from 60°C to 100°C
 $RSET=0.0012*T^2 - 0.9308*T + 96.147$
 Hysteresis is 30C

INVENTEC

TITLE			
Berlin 10			
FAN,Thermal controller			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		OF	61
17		8	

CHANGE by Lin, Bob 25-Nov-2009

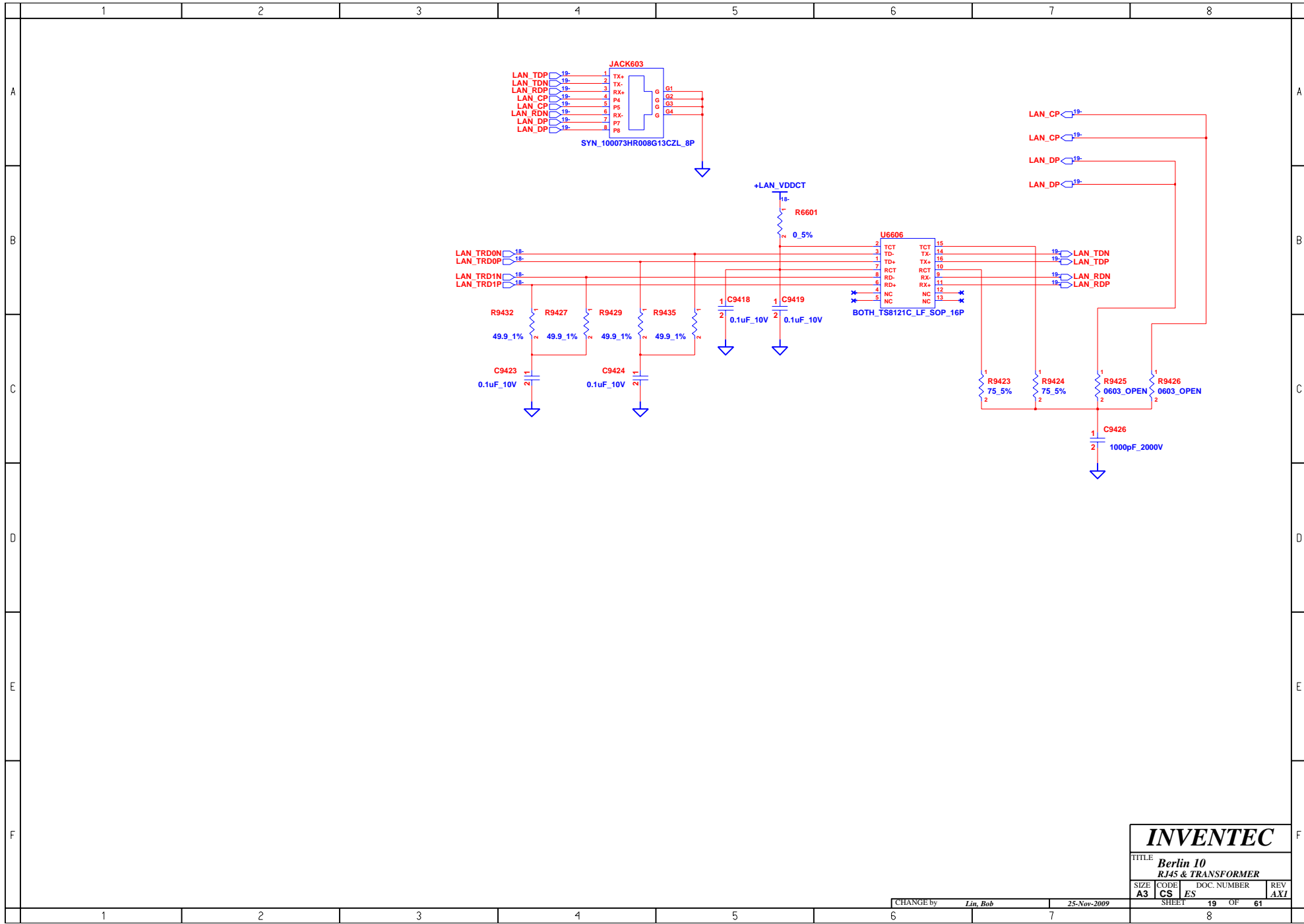


INVENTEC

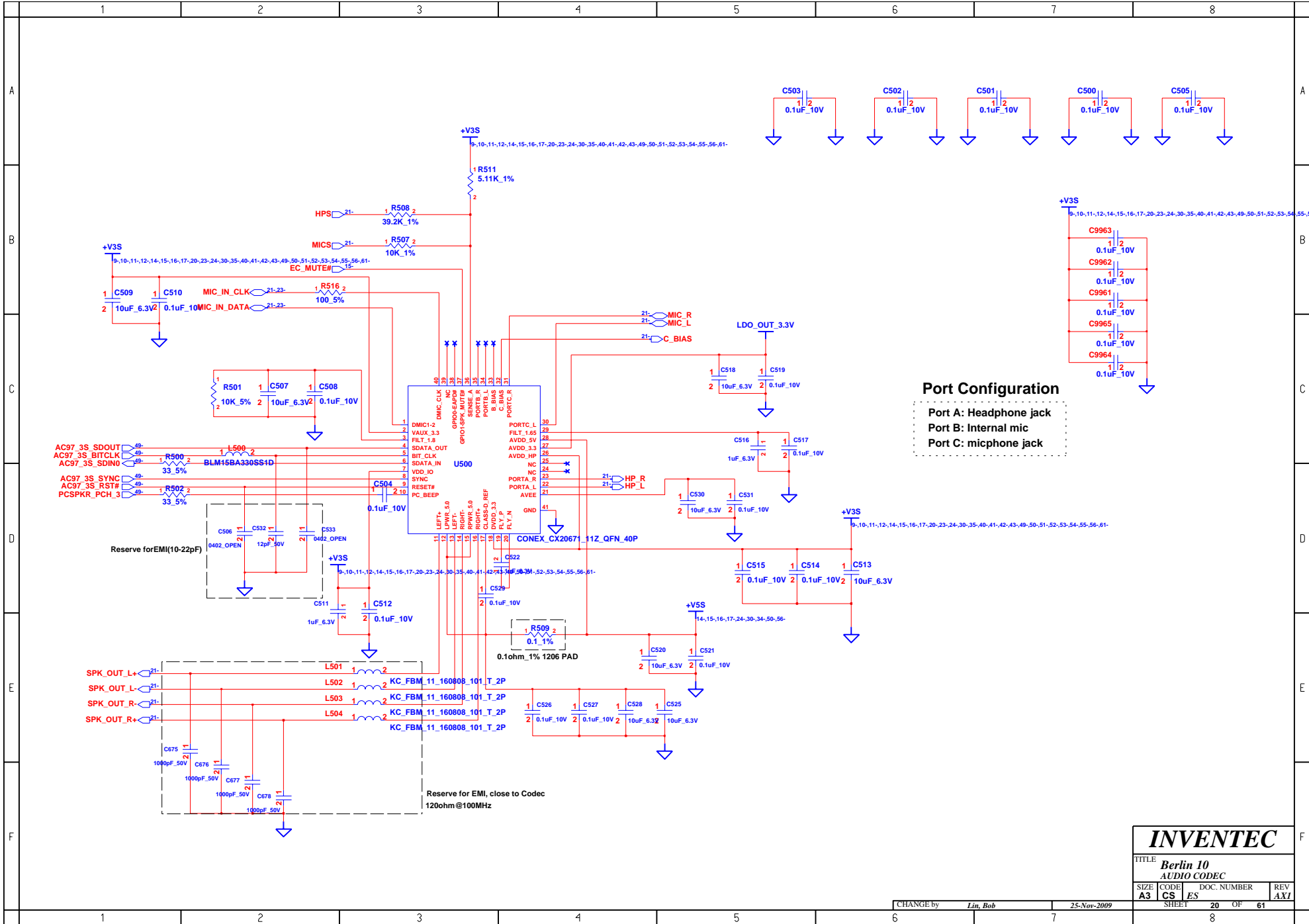
TITLE
Berlin 10
LAN

SIZE	CODE	ES	DOC. NUMBER	REV
A3	CS	ES		AXI

CHANGE by *Lin, Bob* 25-Nov-2009 SHEET 18 OF 61



INVENTEC			
TITLE			
Berlin 10			
RJ45 & TRANSFORMER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by		25-Nov-2009	
Lin, Bob		SHEET 19 OF 61	



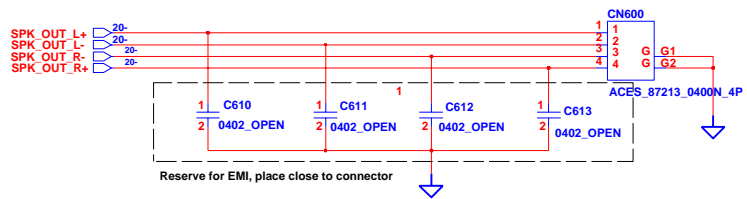
Port Configuration
 Port A: Headphone jack
 Port B: Internal mic
 Port C: micphone jack

INVENTEC

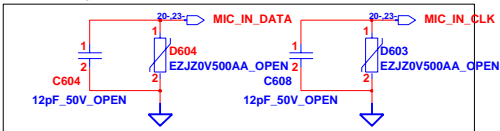
TITLE			
Berlin 10 AUDIO CODEC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS ES		AXI
SHEET		20 OF	61

CHANGE by Lin, Bob 25-Nov-2009

INTERNAL SPEAKERS

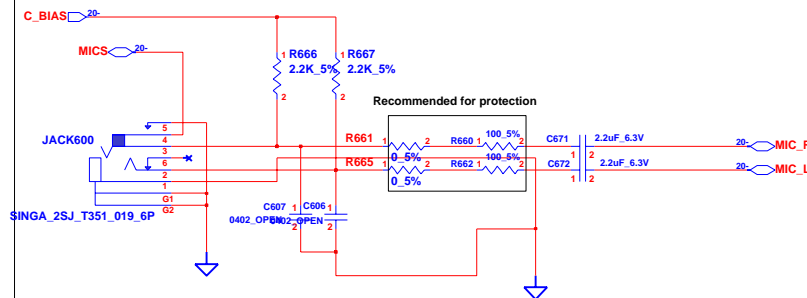


INTERNAL MIC

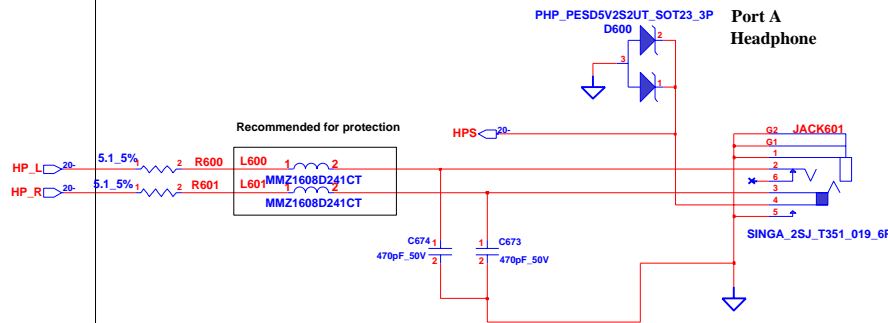


AUDIO JACKS

Port C
External microphone



Port A
Headphone



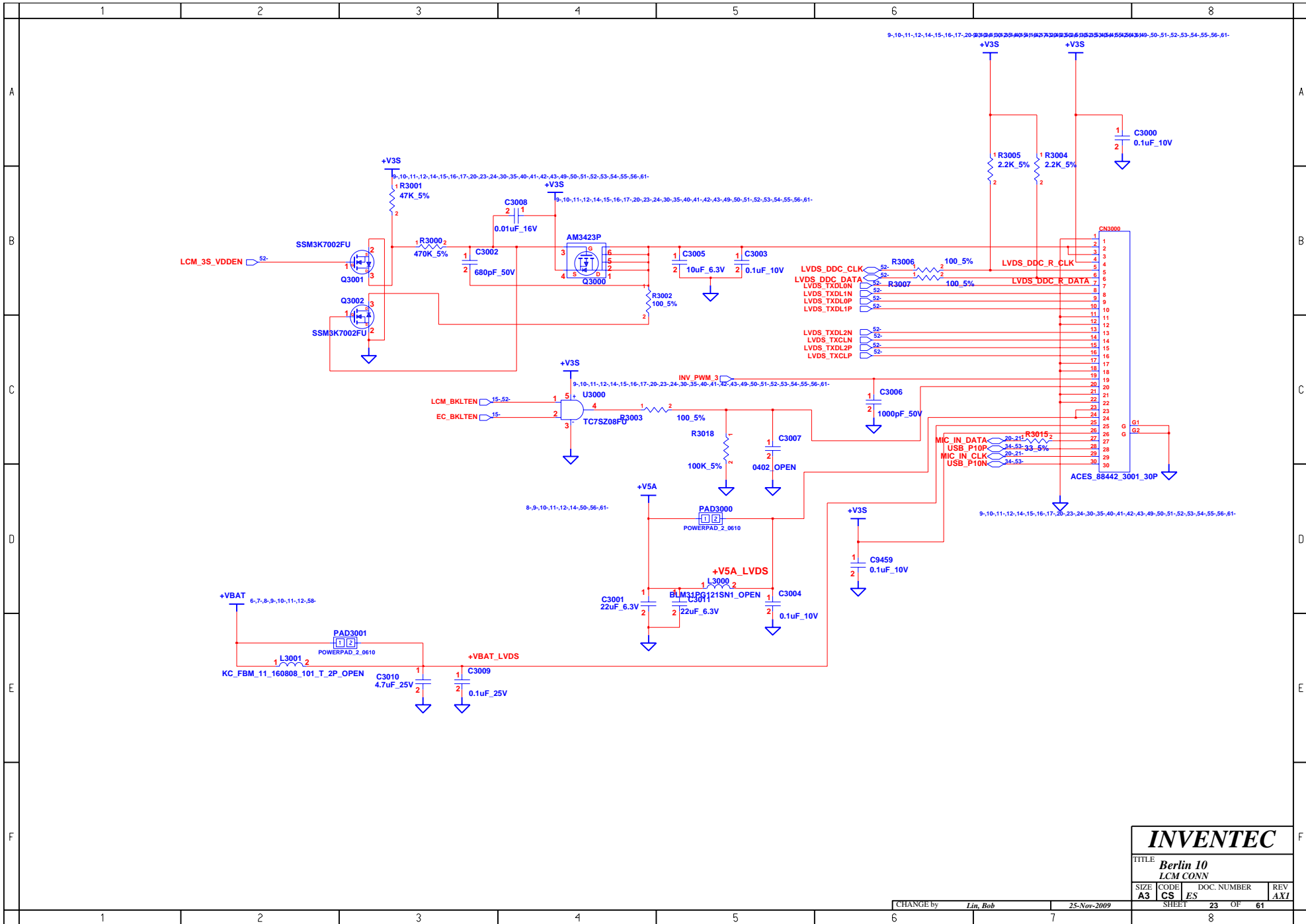
INVENTEC

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

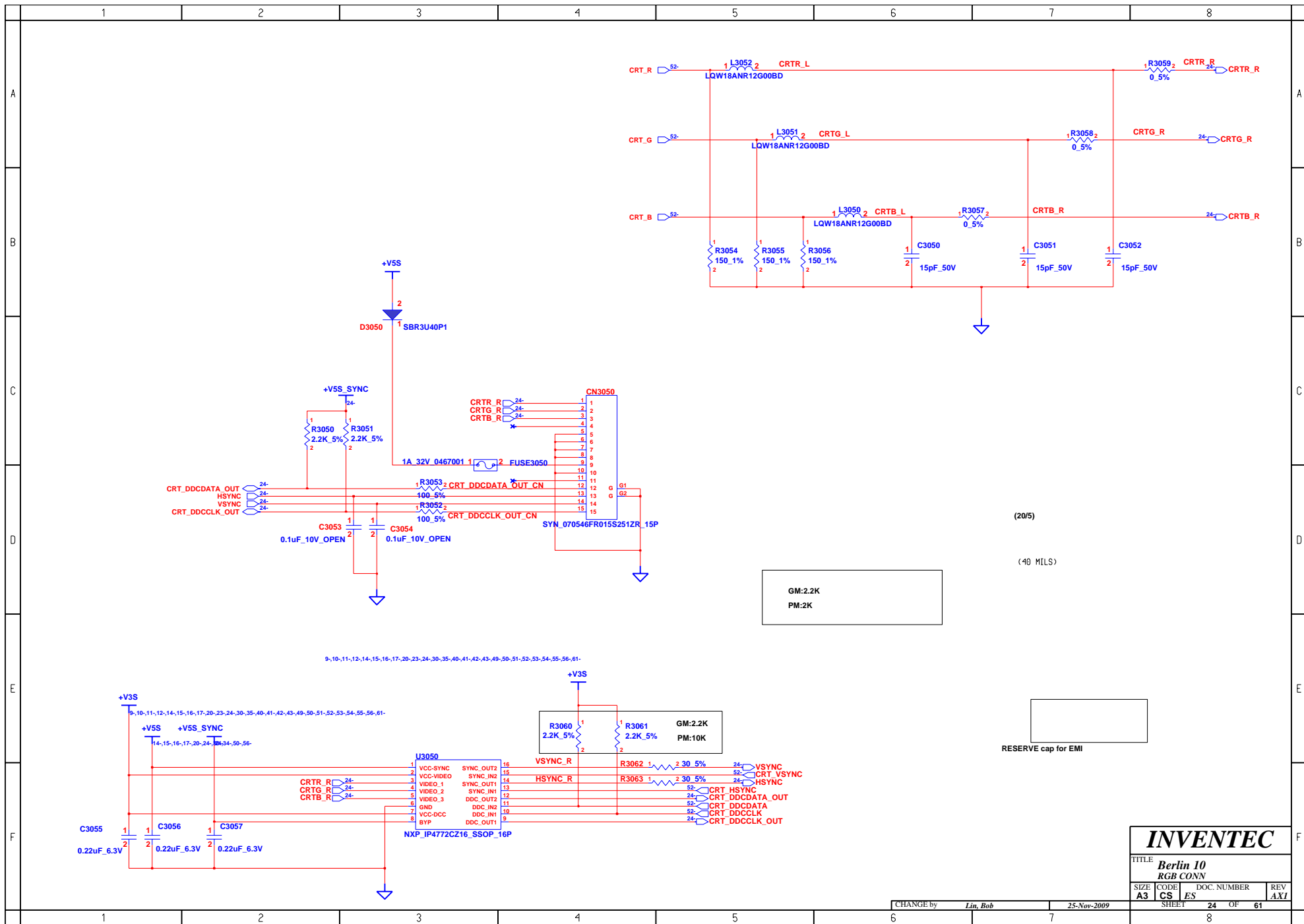
CHANGE by Lin, Bob 25-Nov-2009 SHEET 21 OF 61

	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 Berlin 10			
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 A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		23	OF 61
		8	



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

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

SHEET 25 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 HDMI Level Shifter</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		26	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 HDMI CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by <i>Lin, Bob</i>		4-Jan-2010	
SHEET		27	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 EXPRESS CARD**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

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

SHEET	28	OF	61
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B									B
C									C
D									D
E									E
F									F
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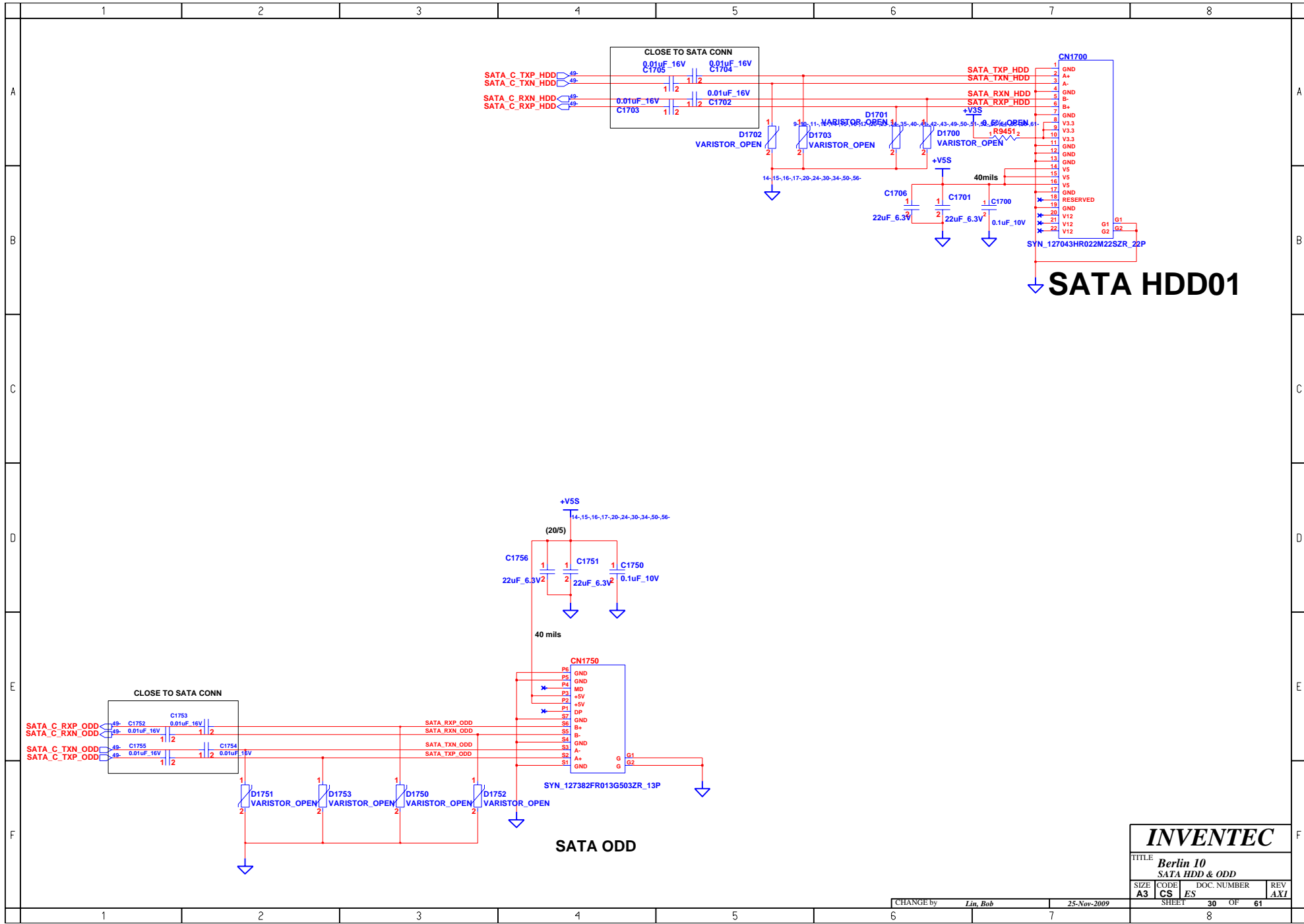
INVENTEC

TITLE **Berlin 10**
Cardreader

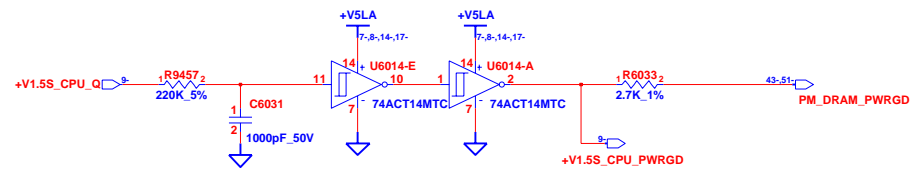
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A3	CS	<i>ES</i>	<i>AXI</i>

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

SHEET 29 OF 61



INVENTEC			
TITLE Berlin 10 SATA HDD & ODD			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		30	OF 61
		8	



INVENTEC

TITLE			
Berlin 10			
E-SATA			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by		SHEET	
Lin, Bob		31 OF 61	

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 Berlin 10			
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	
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B									B
C									C
D									D
E									E
F									F
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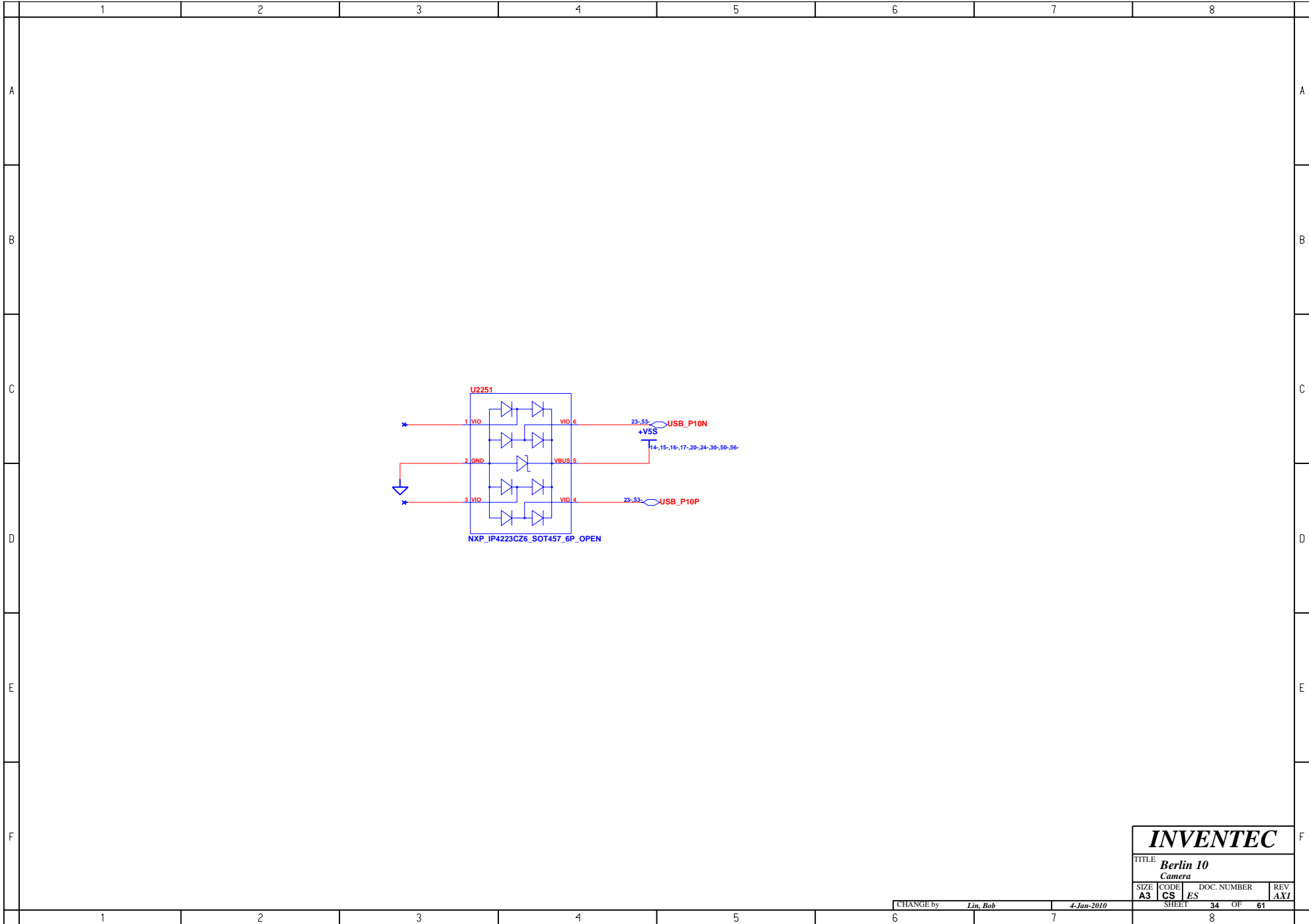
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TITLE **Berlin 10 Bluetooth**

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

SHEET 33 OF 61



INVENTEC

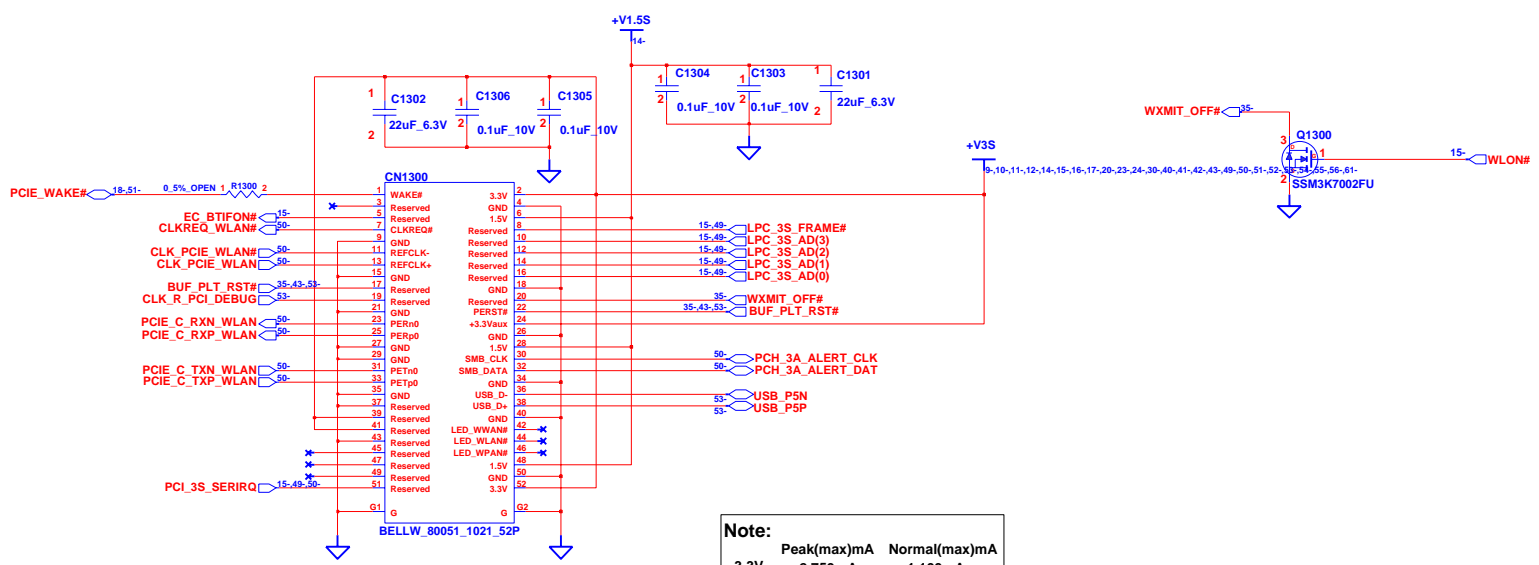
TITLE **Berlin 10**
Camera

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



MINI CARD 1

INVENTEC

TITLE			
Berlin 10			
WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET			OF
35			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 **Berlin 10**
3D sensor

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

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

SHEET 36 OF 61

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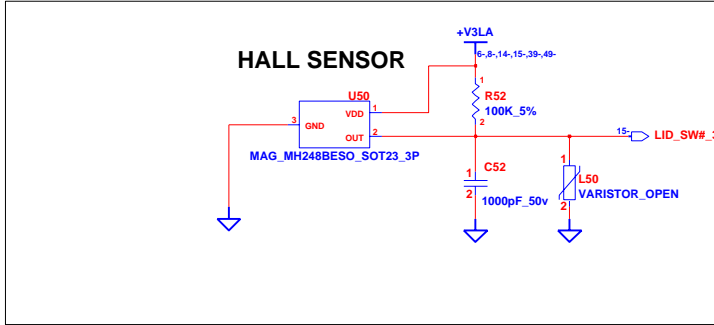
INVENTEC

TITLE **Berlin 10**
KILL SW

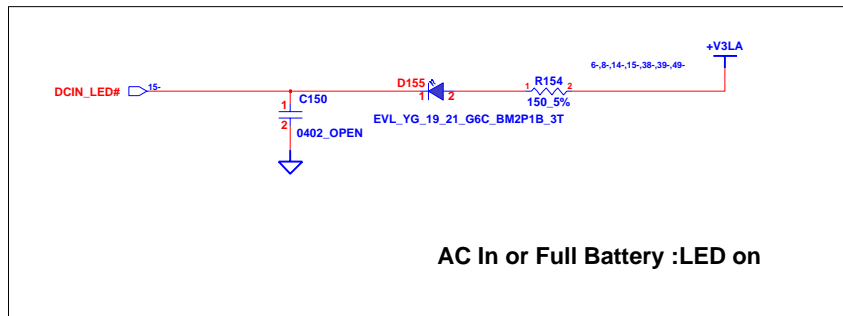
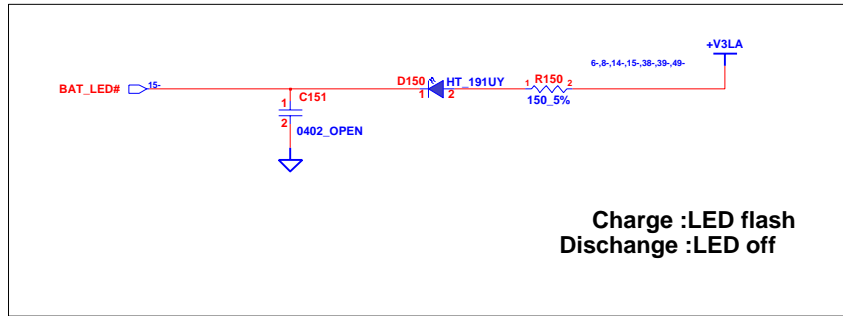
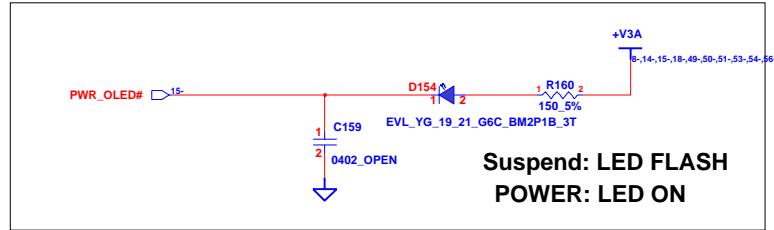
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

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

SHEET 37 OF 61

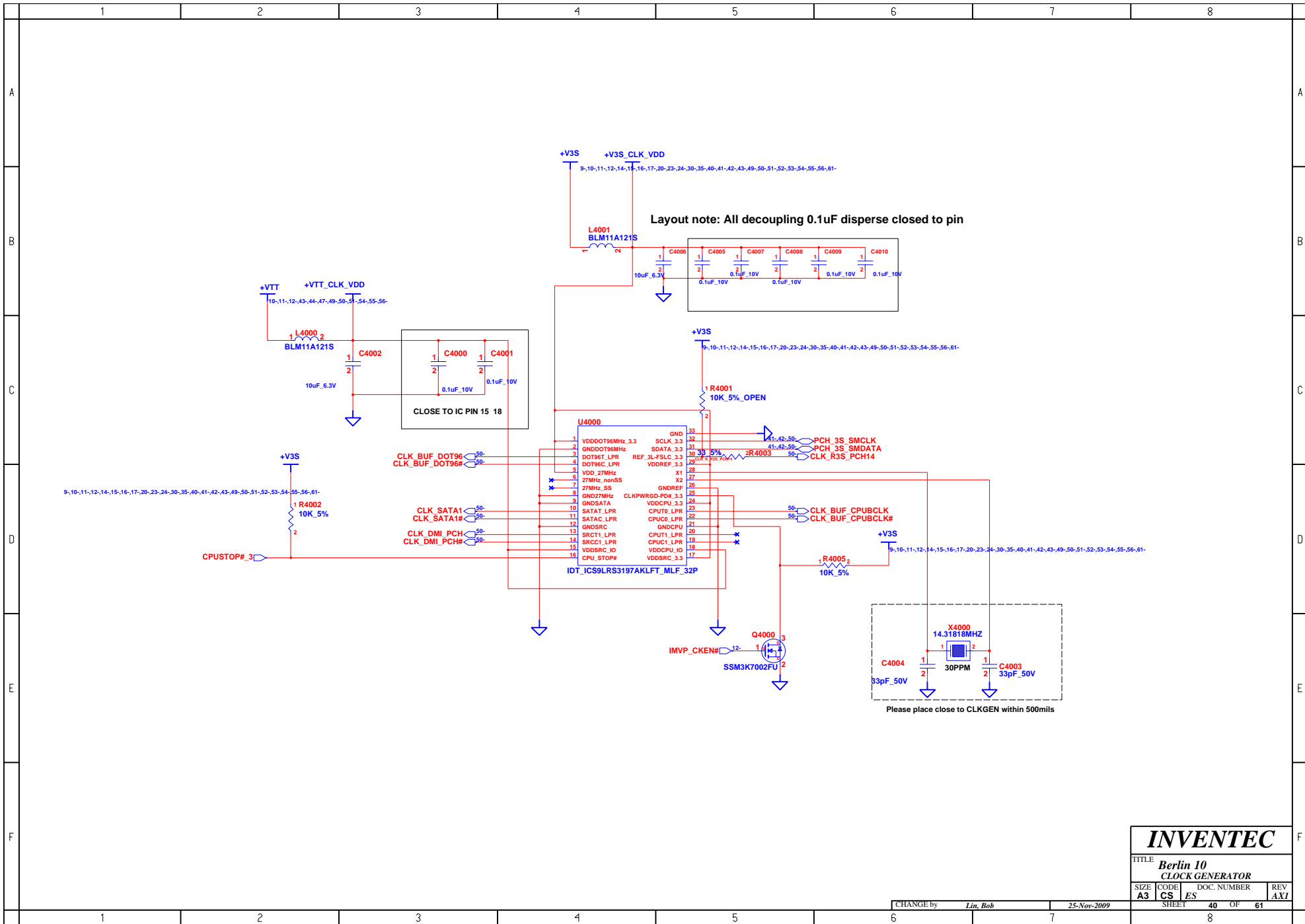


INVENTEC			
TITLE			
Berlin 10			
LID SW			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
CHANGE by		25-Nov-2009	
Lin. Bob			
SHEET		38	OF 61
		8	



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

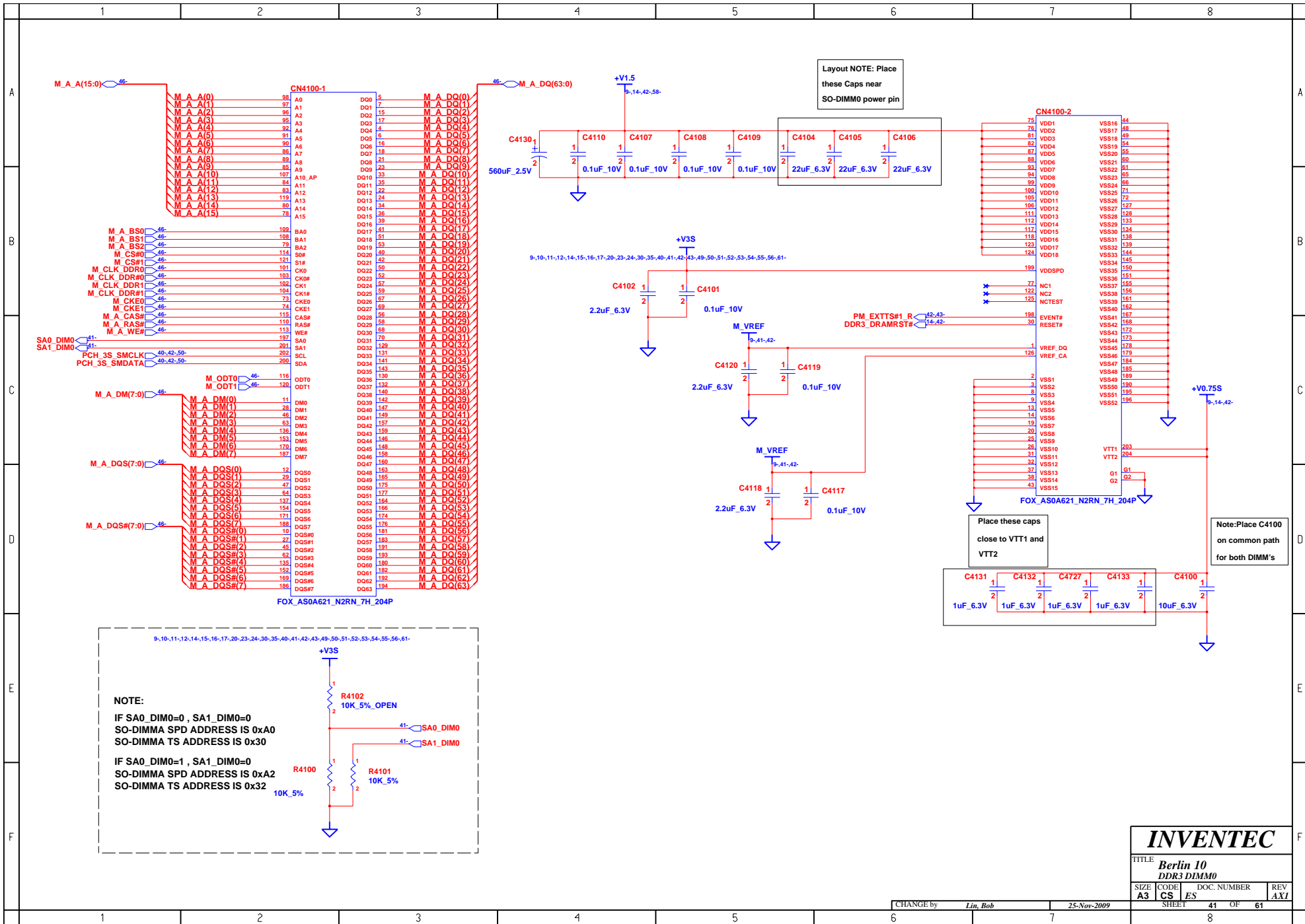
CHANGE by *Lin, Bob* 25-Nov-2009



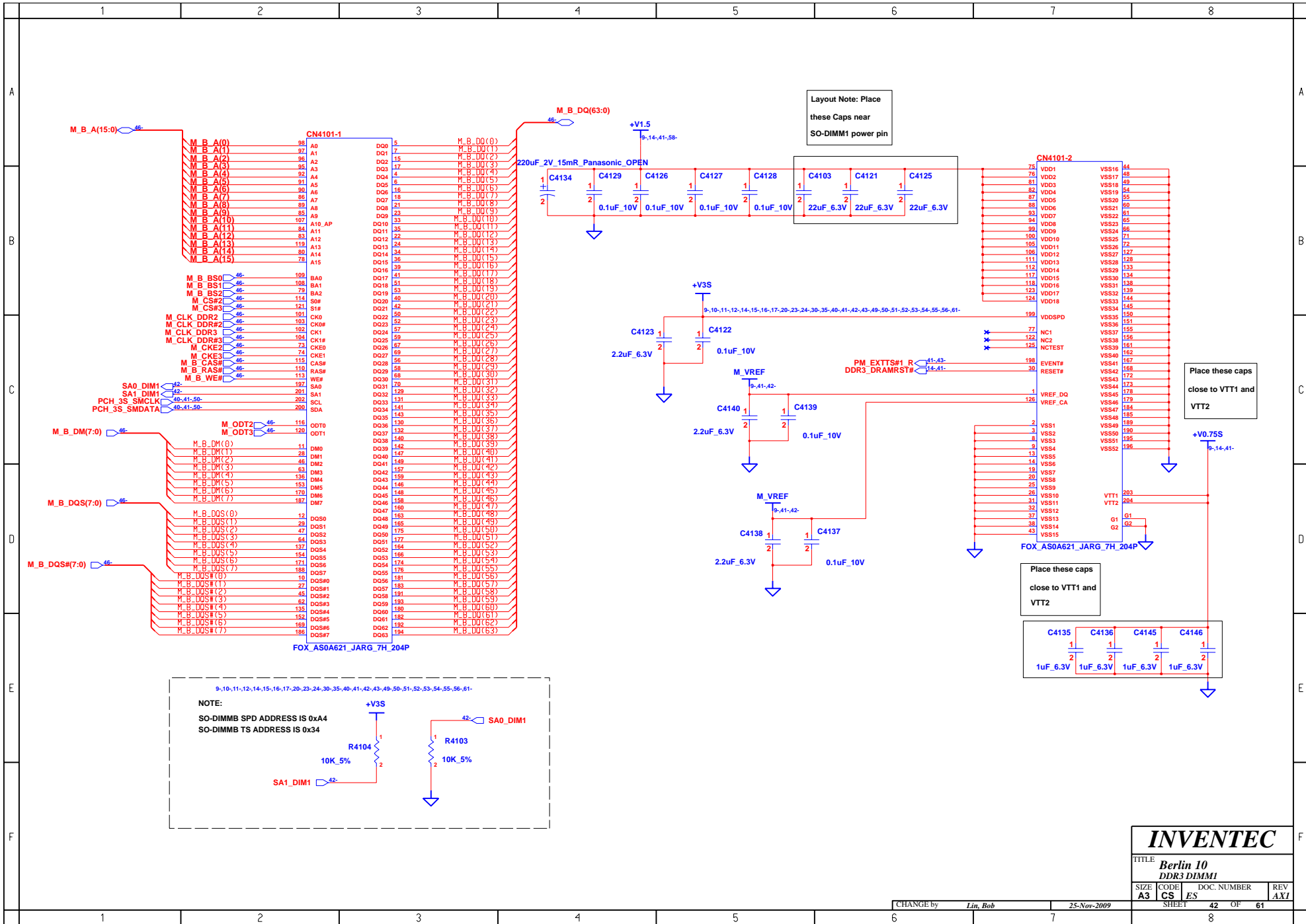
INVENTEC

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

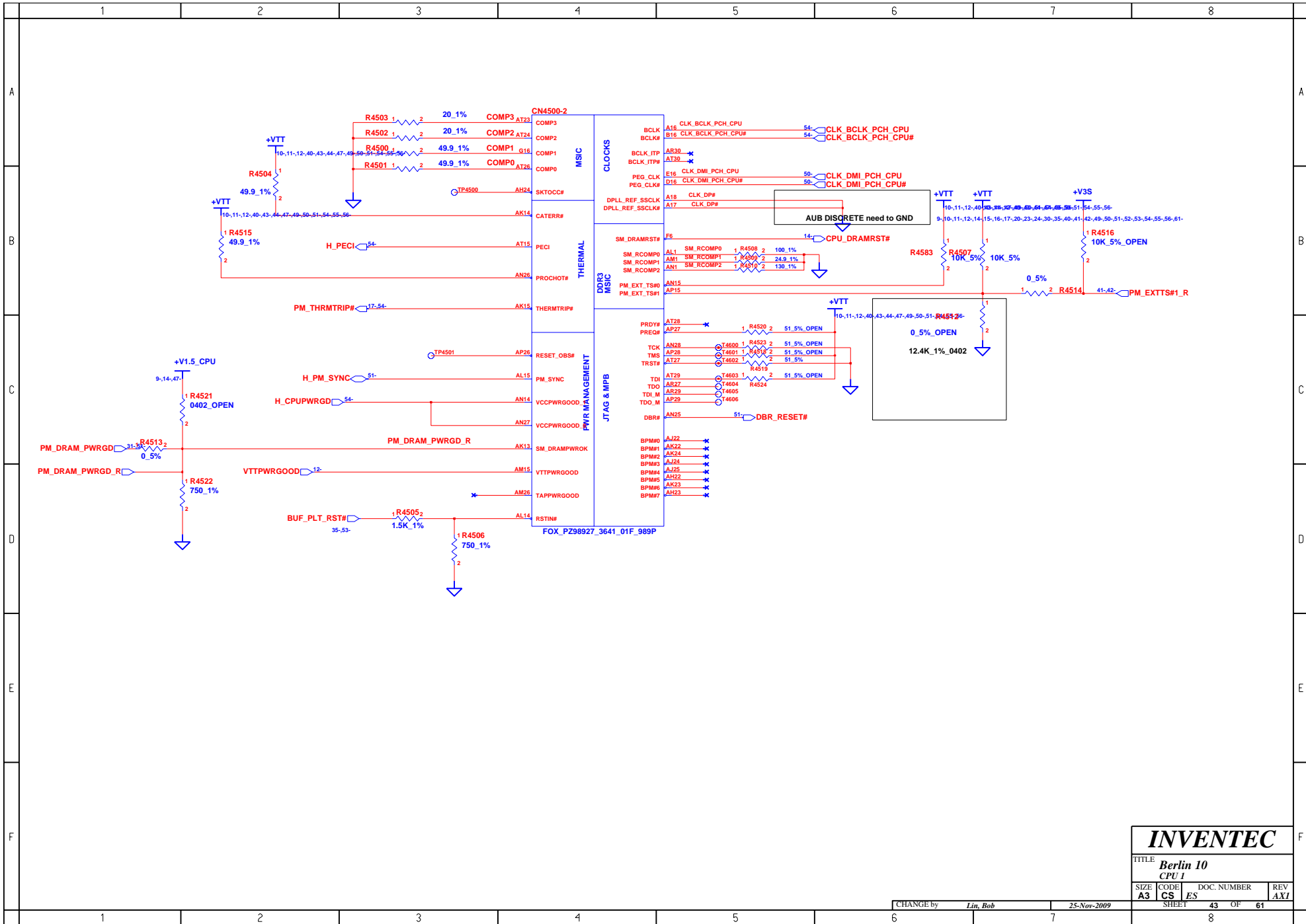


INVENTEC				
TITLE: Berlin 10 DDR3 DIMM0				
SIZE: A3	CODE: CS	DOC. NUMBER: ES	SHEET: 41	OF: 61
REV: AX1				



INVENTEC

TITLE			
Berlin 10			
DDR3 DIMM1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AX1
CHANGE by		SHEET	OF
Lin_Bob		42	61
DATE		REV	
25-Nov-2009		8	

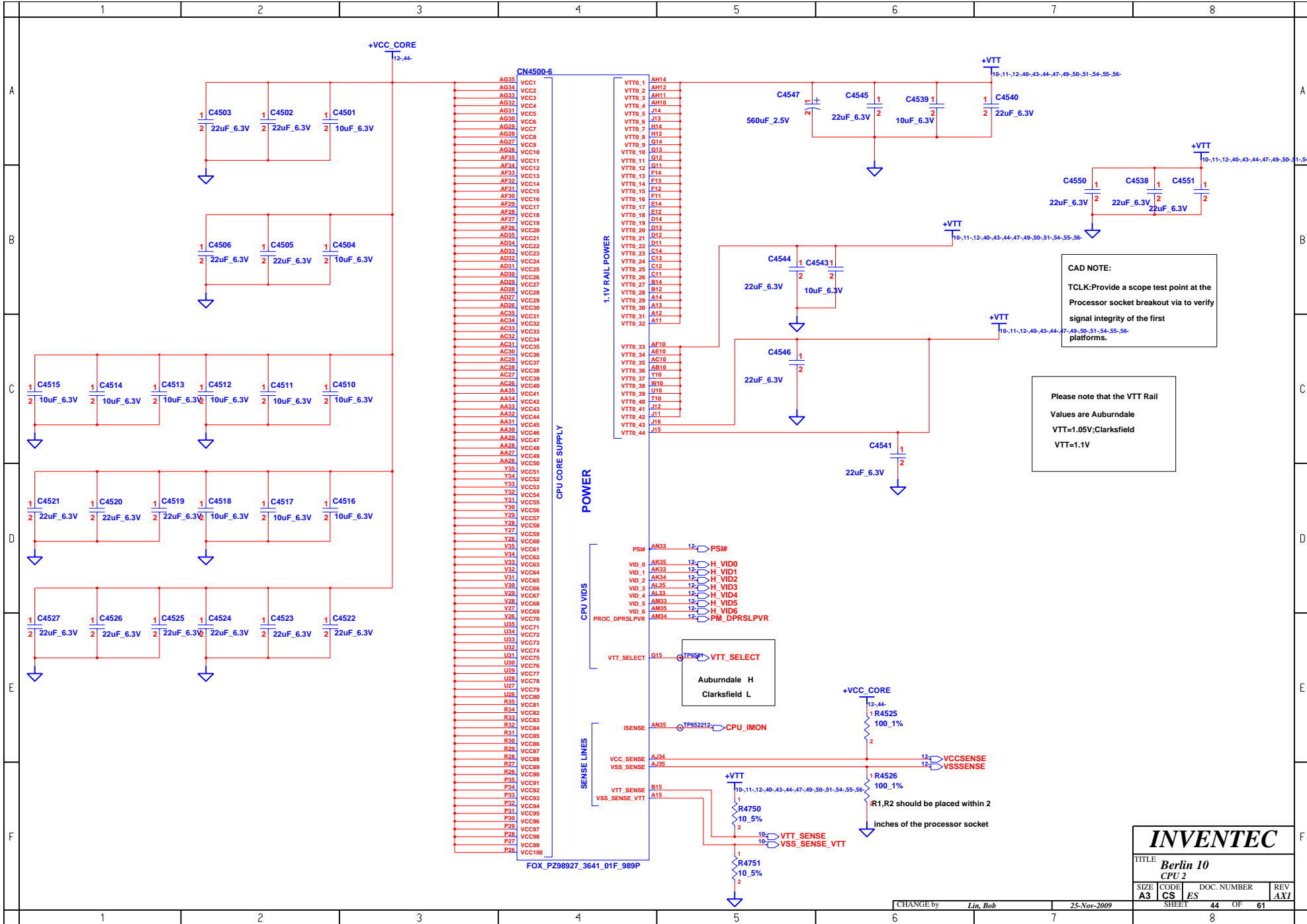


INVENTEC

TITLE
Berlin 10
 CPU 1

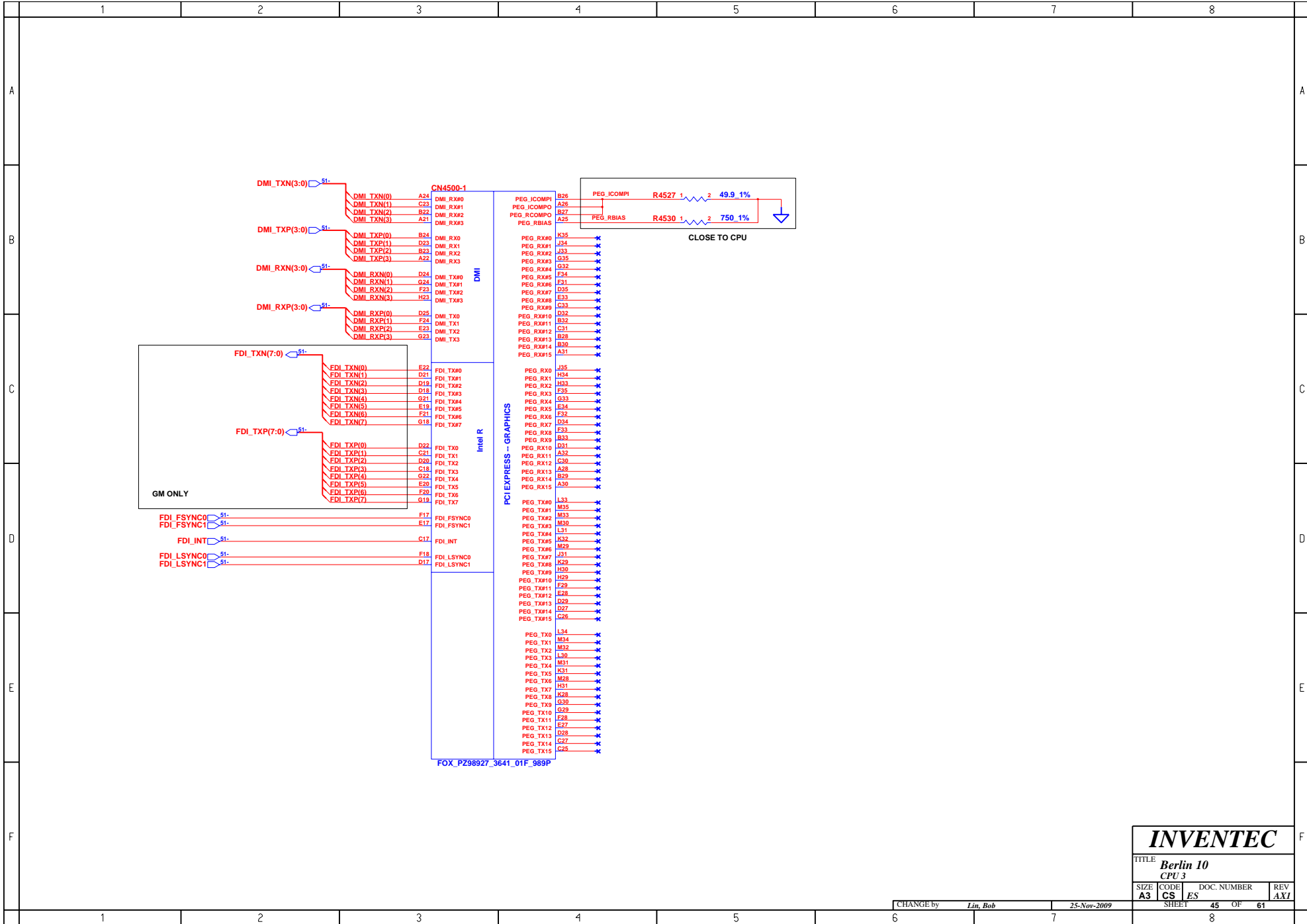
SIZE	CODE	ES	DOC. NUMBER	REV
A3	CS	ES	43 OF 61	AXI

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

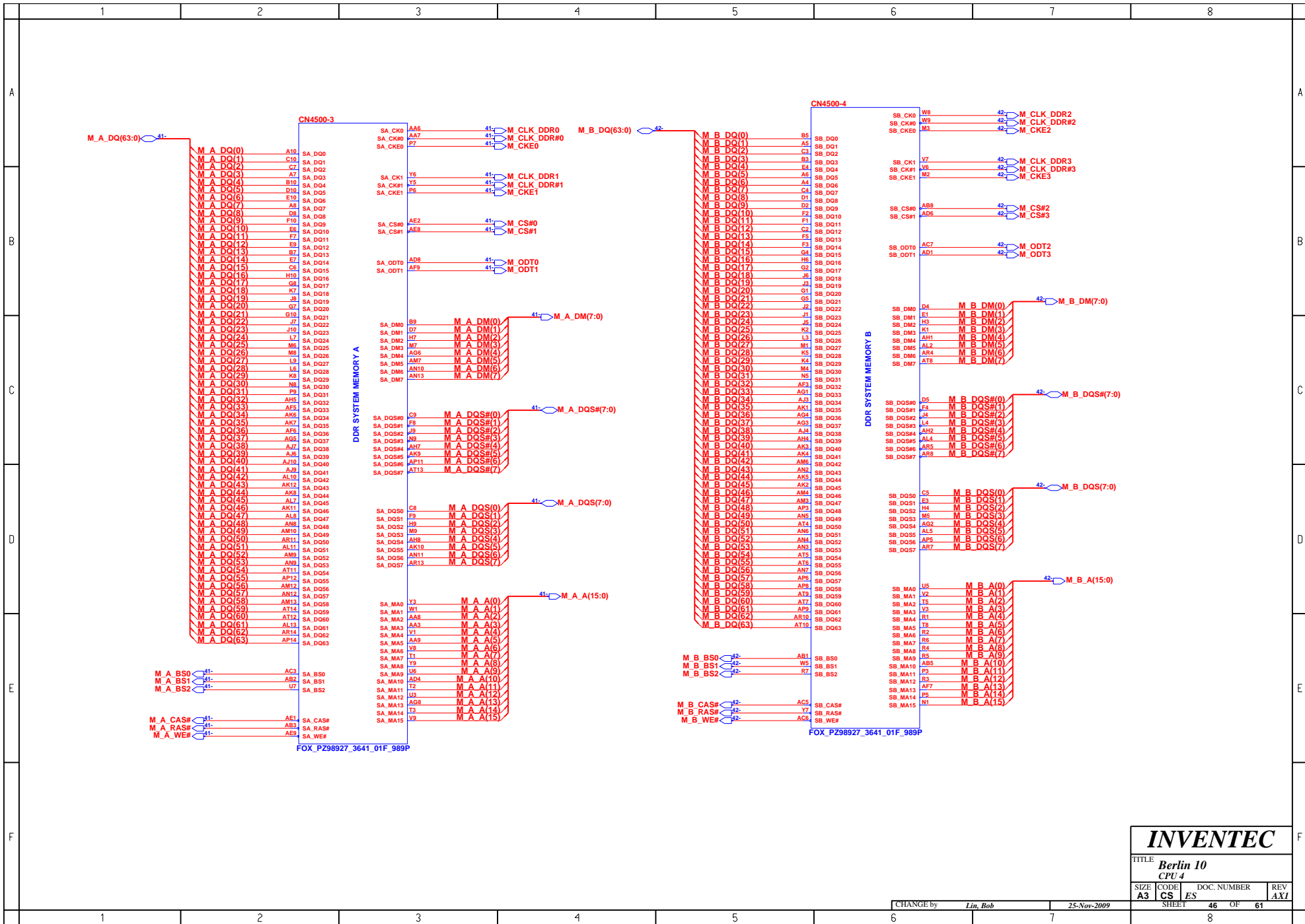


INVENTEC			
TITLE Berlin 10			
CPU 2			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AX1
SHEET		44 OF	61

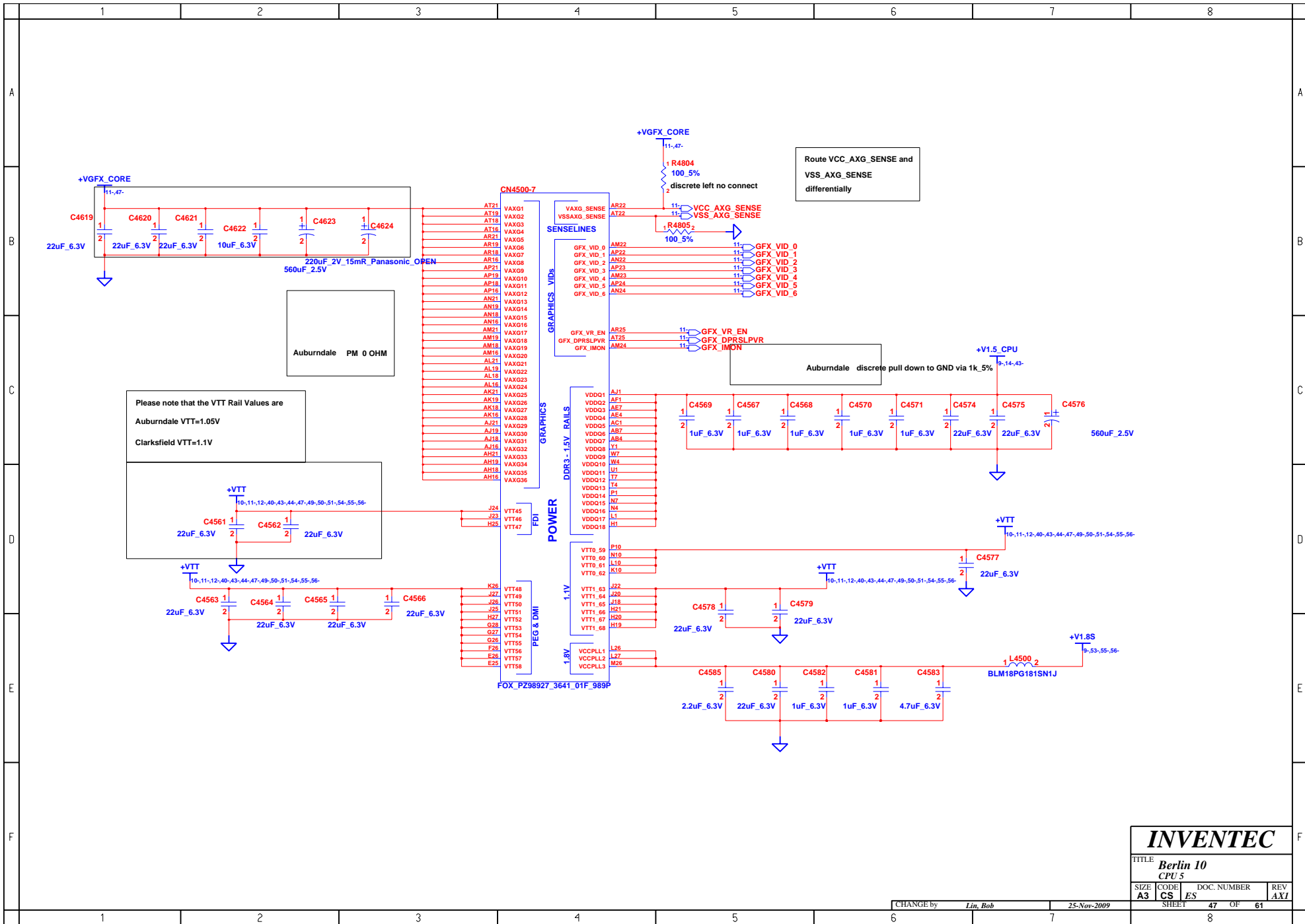
CHANGE by *Lin, Bob* 25-Nov-2009



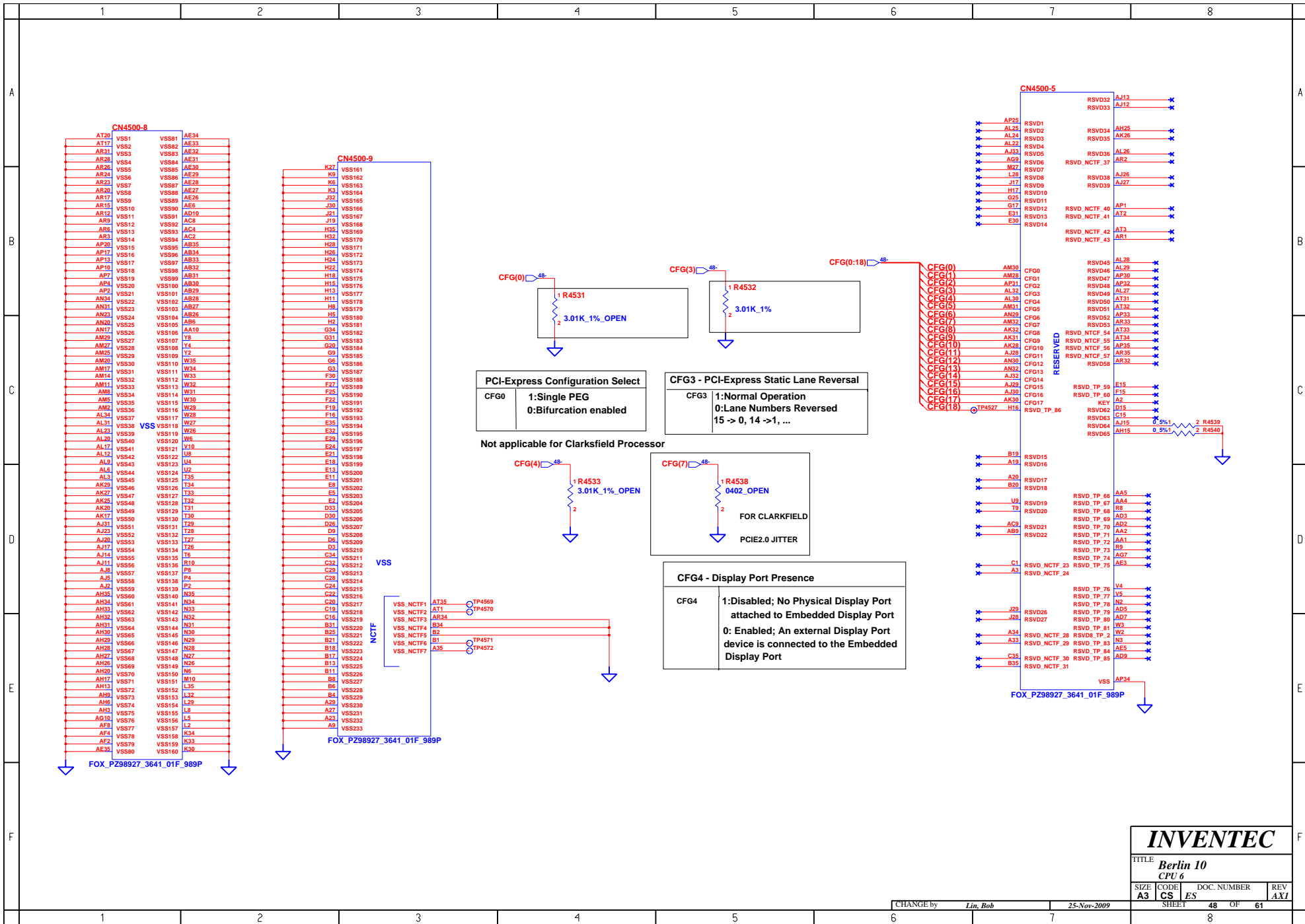
INVENTEC				
TITLE Berlin 10				
CPU 3				
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI	
CHANGE by <i>Lin, Bob</i>		25-Nov-2009		
SHEET 45 OF 61			8	

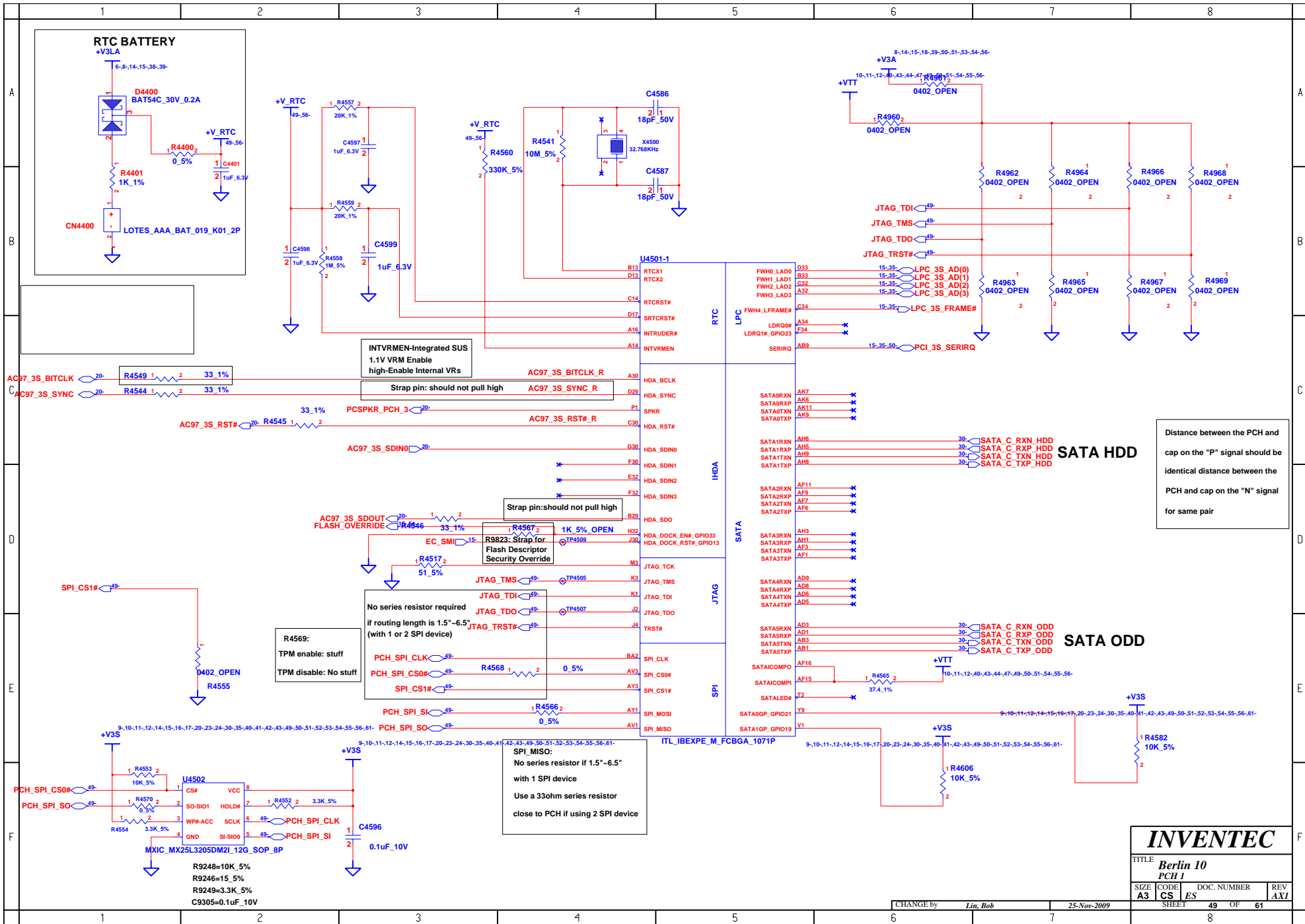


INVENTEC				
TITLE Berlin 10 CPU 4				
SIZE A3	CODE CS	ES	DOC. NUMBER	REV AXI
CHANGE by <i>Ljn, Bob</i>		25-Nov-2009		SHEET 46 OF 61



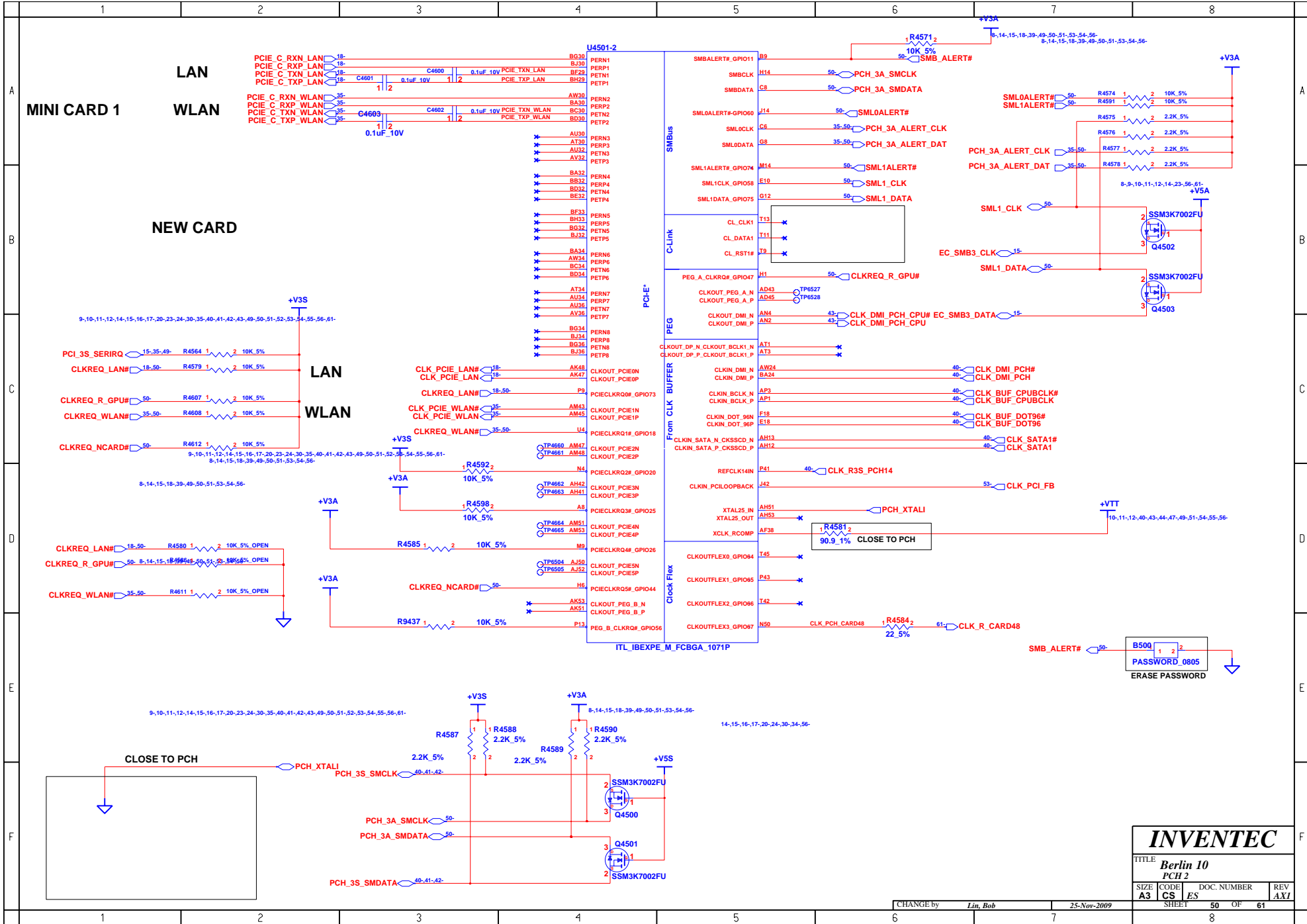
INVENTEC				
TITLE Berlin 10 CPU 5				
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI	
CHANGE by <i>Lin, Bob</i>		25-Nov-2009		
SHEET		47	OF	61
1		8		





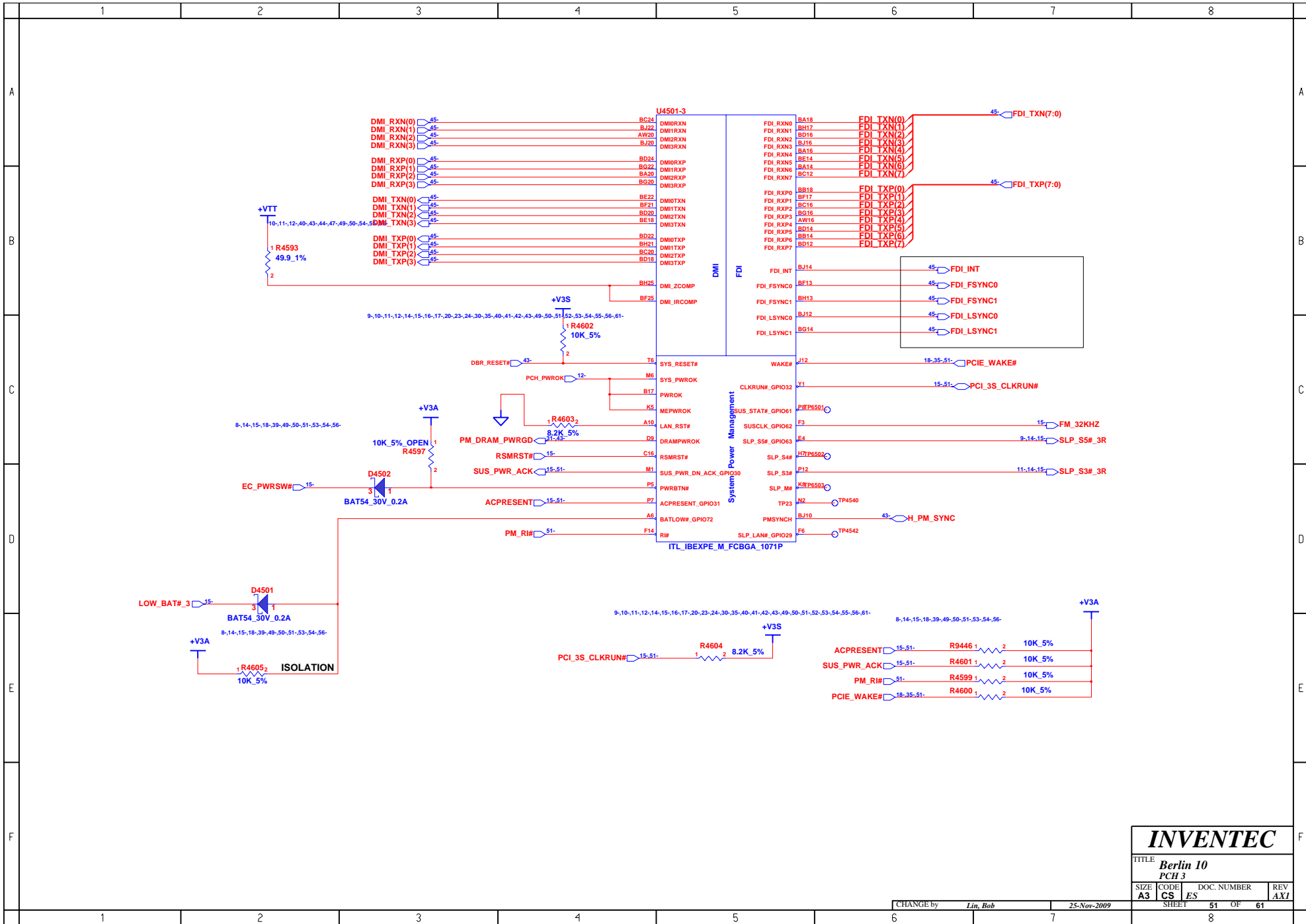
Distance between the PCH and cap on the "P" signal should be identical distance between the PCH and cap on the "N" signal for same pair

INVENTEC				
TITLE Berlin 10 PCH 1				
SIZE A3	CODE CS	ES	DOC. NUMBER	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009		
SHEET			49 OF 61	
8				

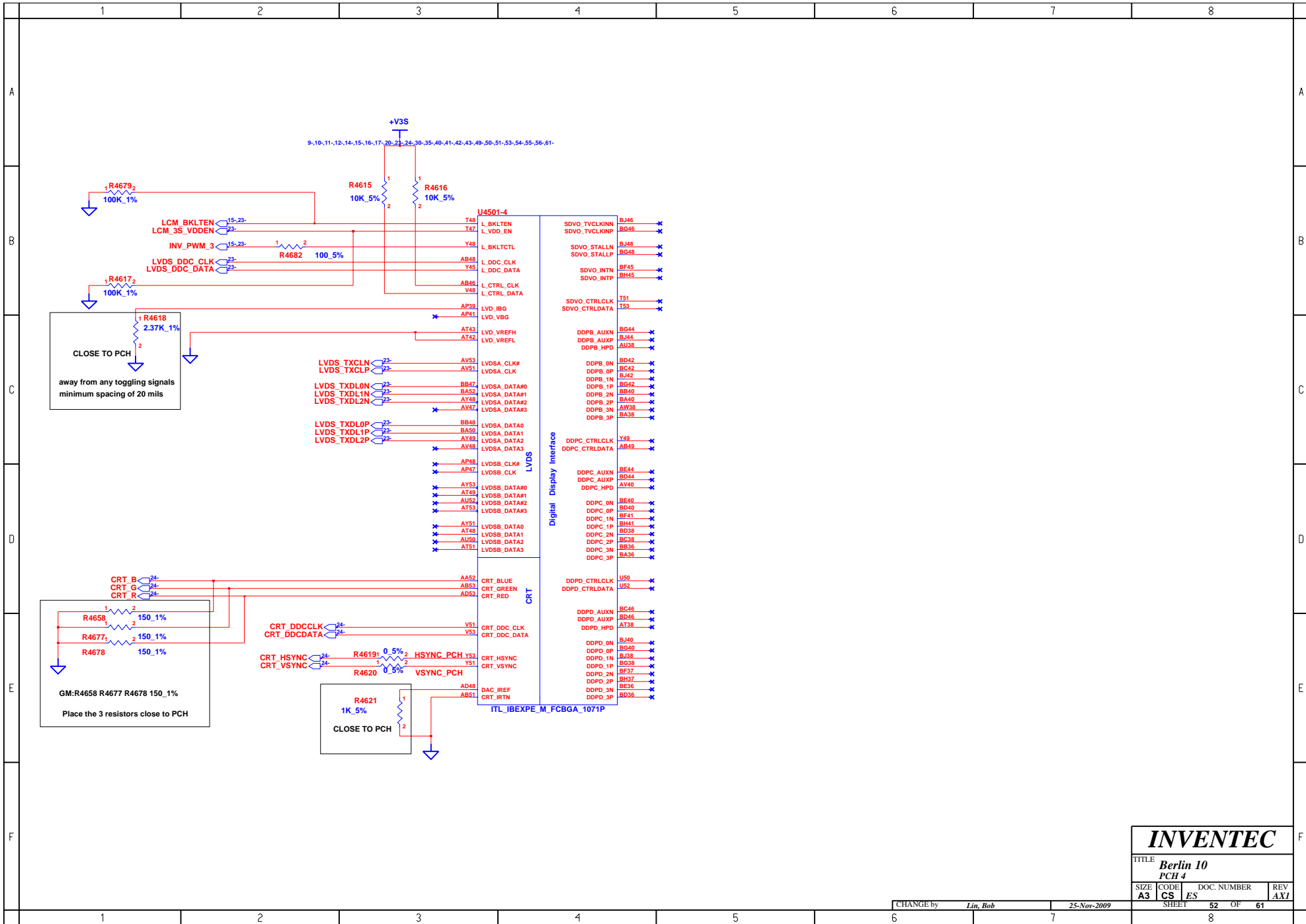


INVENTEC				
TITLE Berlin 10 PCH 2				
SIZE A3	CODE CS	ES	DOC. NUMBER	REV AXI
SHEET		50	OF	61

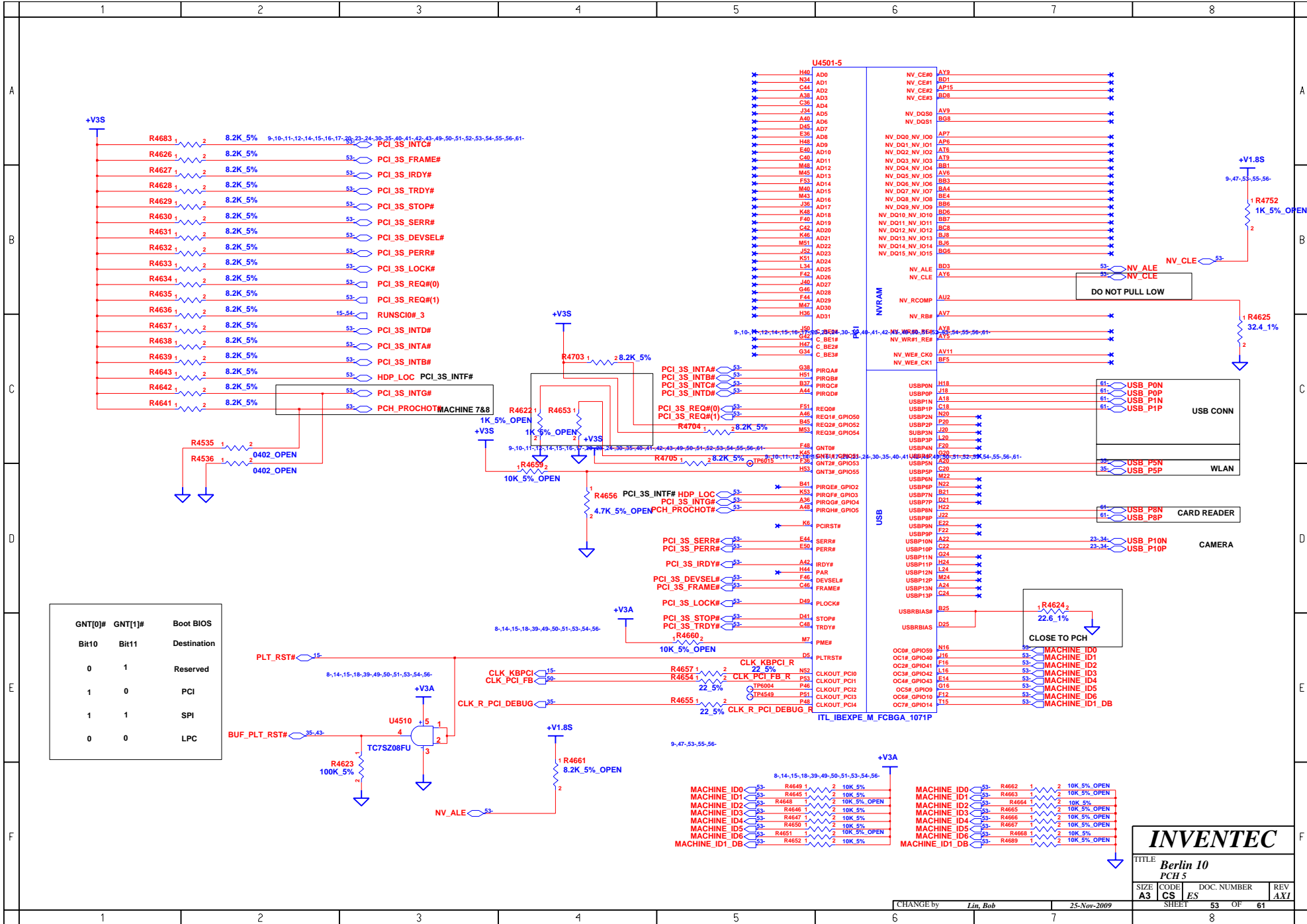
CHANGE by *Lin, Bob* 25-Nov-2009



INVENTEC			
TITLE Berlin 10 PCH 3			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET 51		OF 61	



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



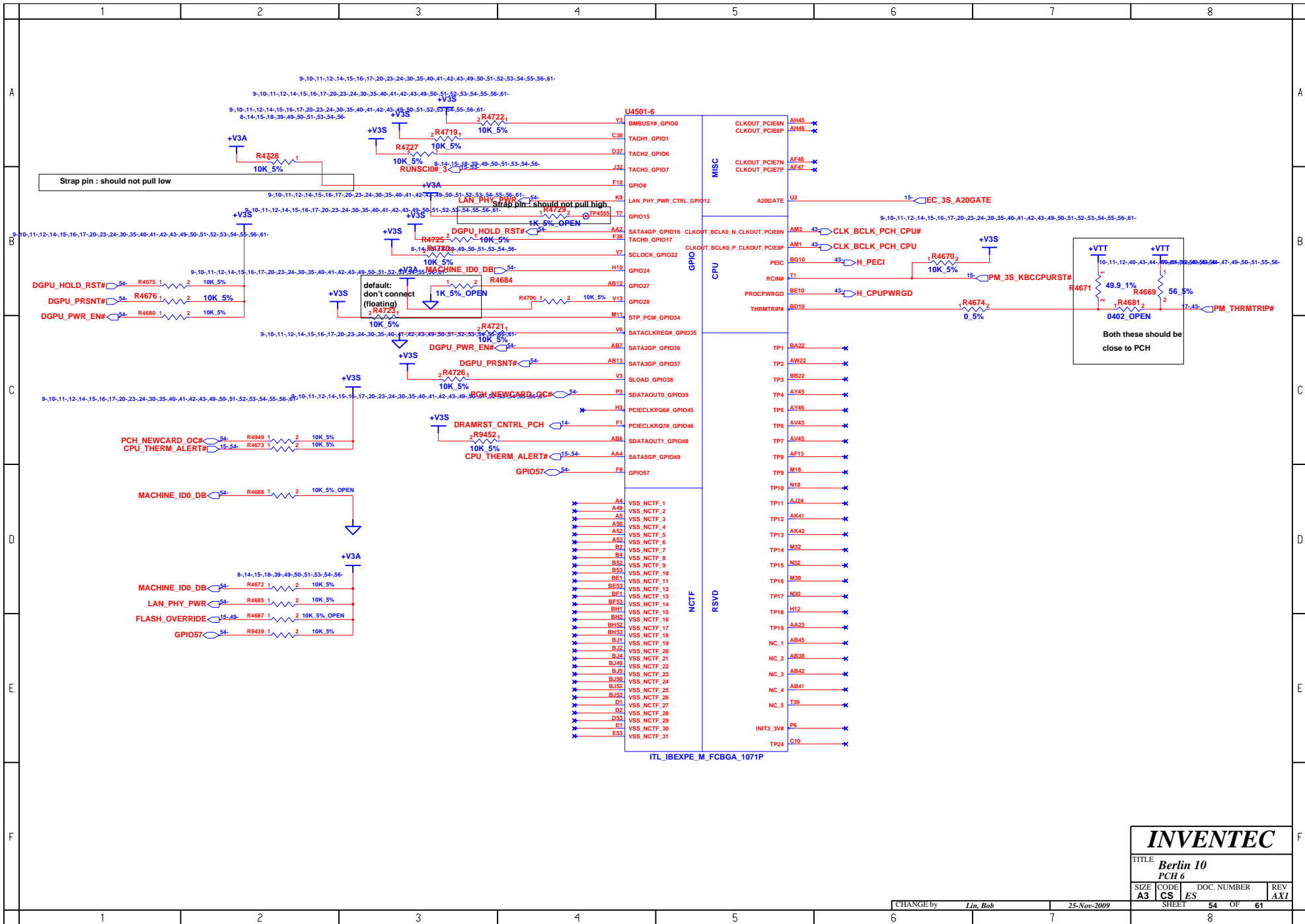
INVENTEC

TITLE: Berlin 10 PCH 5

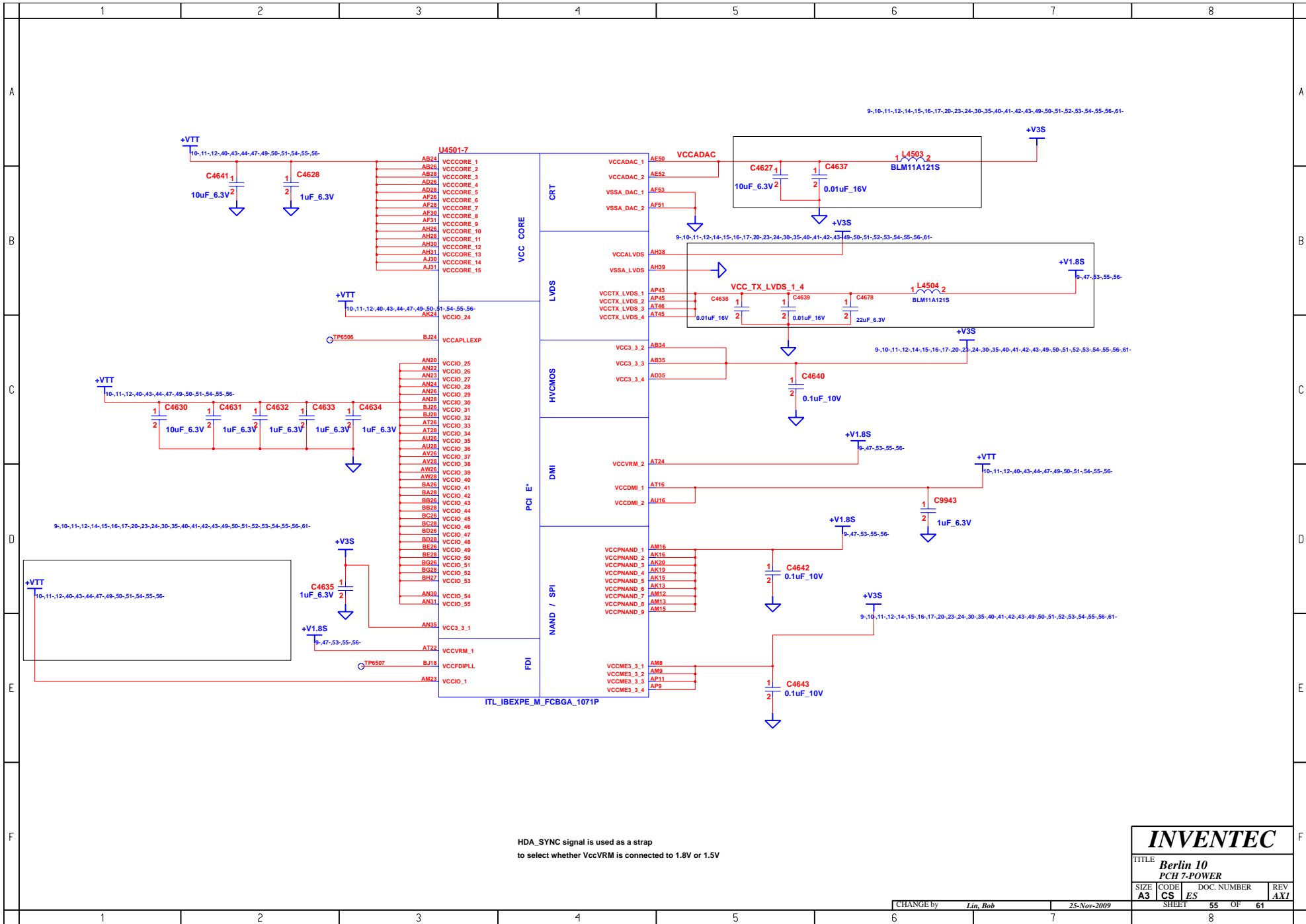
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

CHANGE by: Lin, Bob 25-Nov-2009

SHEET 53 OF 61



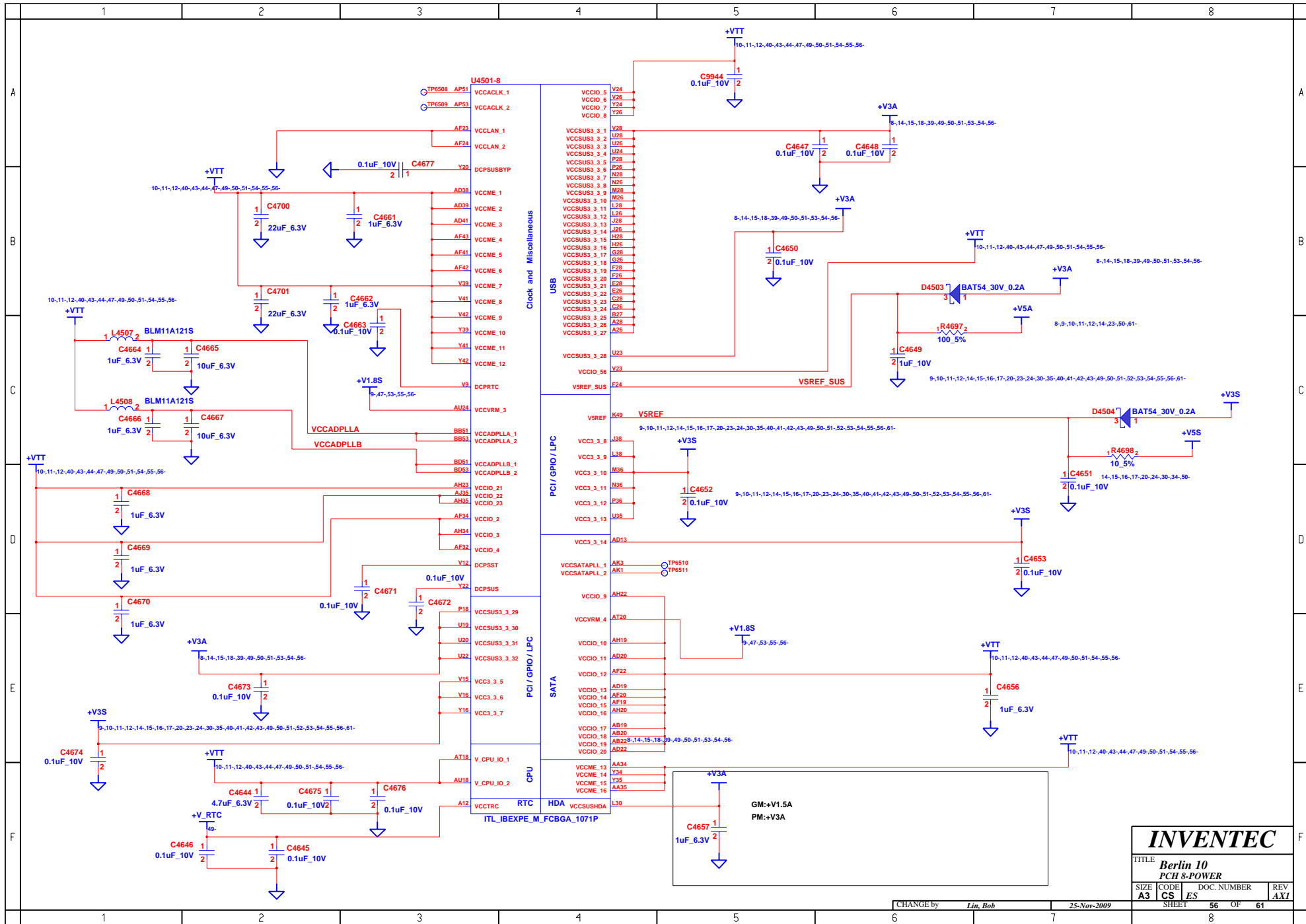
INVENTEC			
TITLE Berlin 10 PCH 6			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
CHANGE by <i>Lin, Bob</i>		25-Nov-2009	
SHEET		54 OF 61	



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

INVENTEC

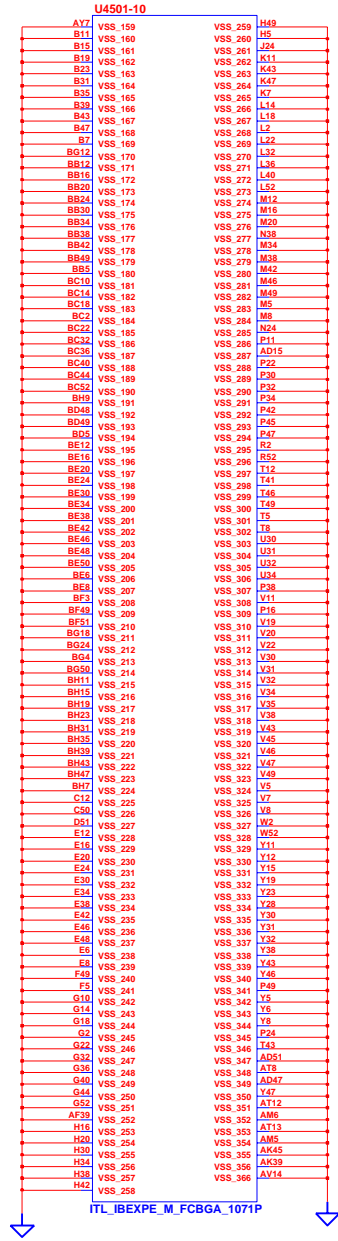
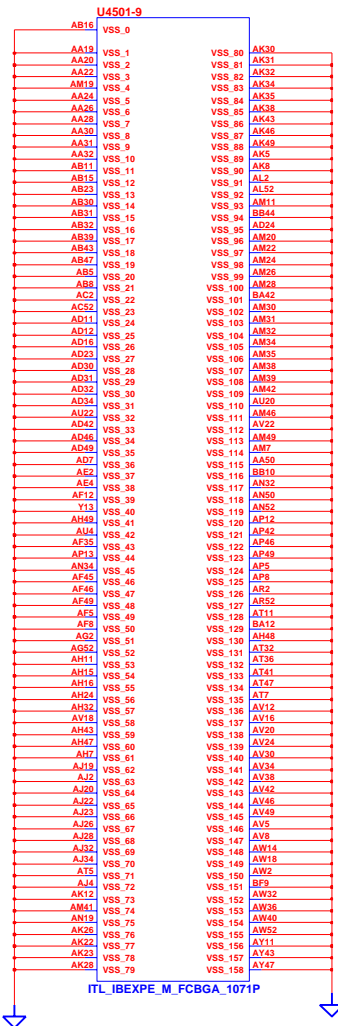
TITLE			
Berlin 10			
PCH 7-POWER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI



INVENTEC			
TITLE Berlin 10 PCH 8-POWER			
SIZE A3	CODE CS	DOC. NUMBER ES	REV AXI
SHEET		56	OF 61

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

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



INVENTEC

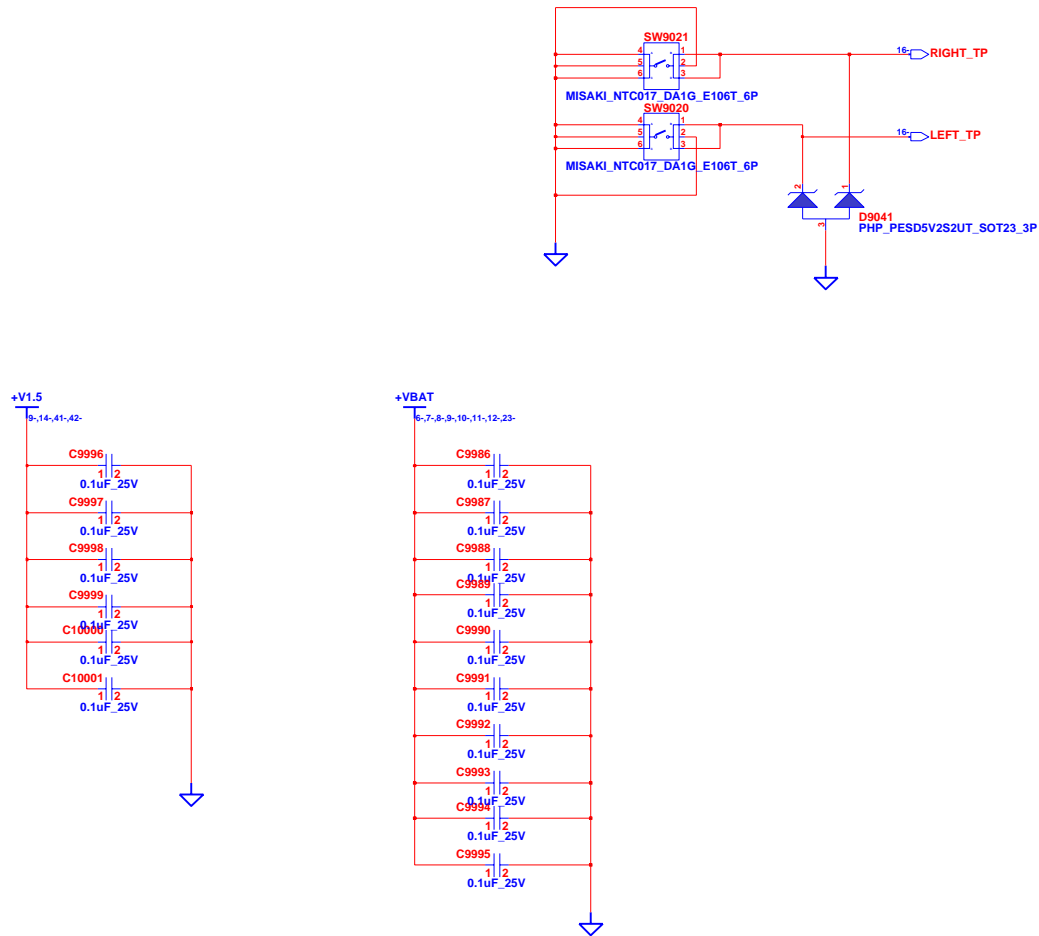
TITLE
Berlin 10
PCH 9

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

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

PICK BUTTON and EMI

(For - Touchpad Module, Touchpad Switch)



INVENTEC

TITLE			
Berlin 10			
<i>Hot key board</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI
SHEET		OF	
8		61	

CHANGE by *Lin, Bob* 7-Jan-2010

	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

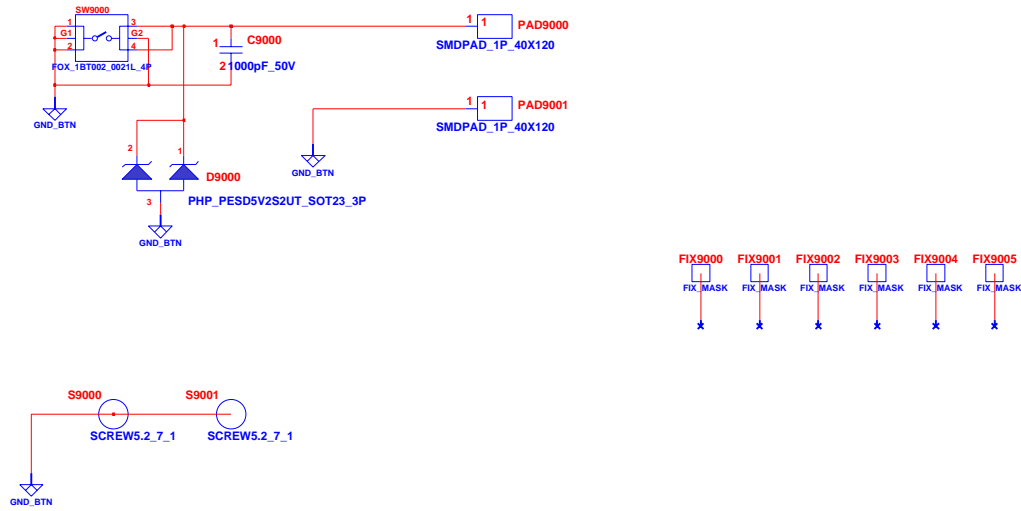
TITLE **Berlin 10**
Touch pad

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

CHANGE by *Lin, Bob* *5-Jan-2010*

SHEET **59** OF **61**

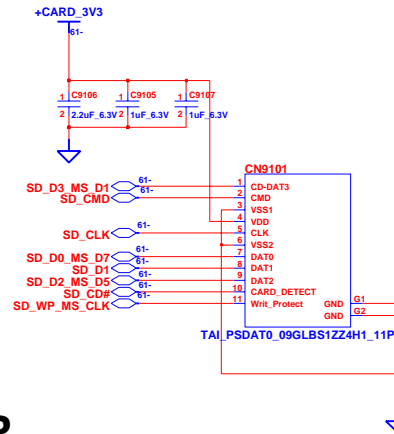
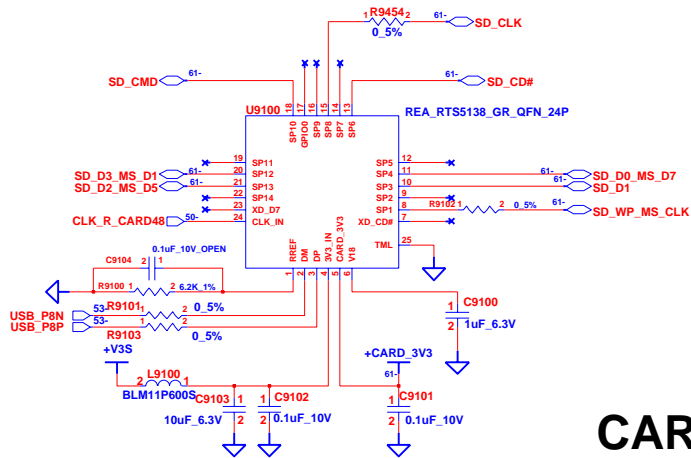
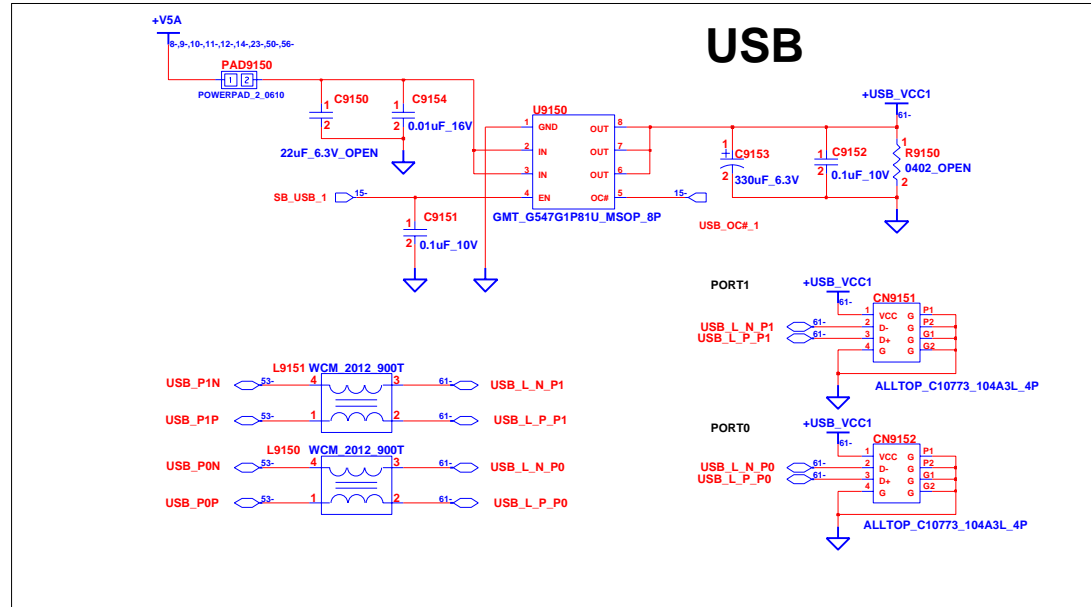
POWER BUTTON



EMI

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

CARD READER & USB



CARD READER

INVENTEC

TITLE
Berlin 10

SIZE	CODE	DOC. NUMBER	REV
A3	CS	ES	AXI

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