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KRUG DISCRETE WS BUILD

2010/05/03

DATE	CHANGE NO.	REV
2009-Nov-9	2009-ECO-032592	B
2009-Nov-2	2009-ECO-032092	B
2009-Oct-30	2009-ECO-031907	B
2009-Oct-27	2009-ECO-031470	B
2009-Sep-28	2009-ECO-029889	A
2009-Sep-24	2009-ECO-029545	A
2009-Sep-22	2009-ECO-029379	A
2009-Sep-19	2009-ECO-029157	A
2009-Sep-9	2009-ECO-028358	A
2009-Sep-1	2009-ECO-027740	A

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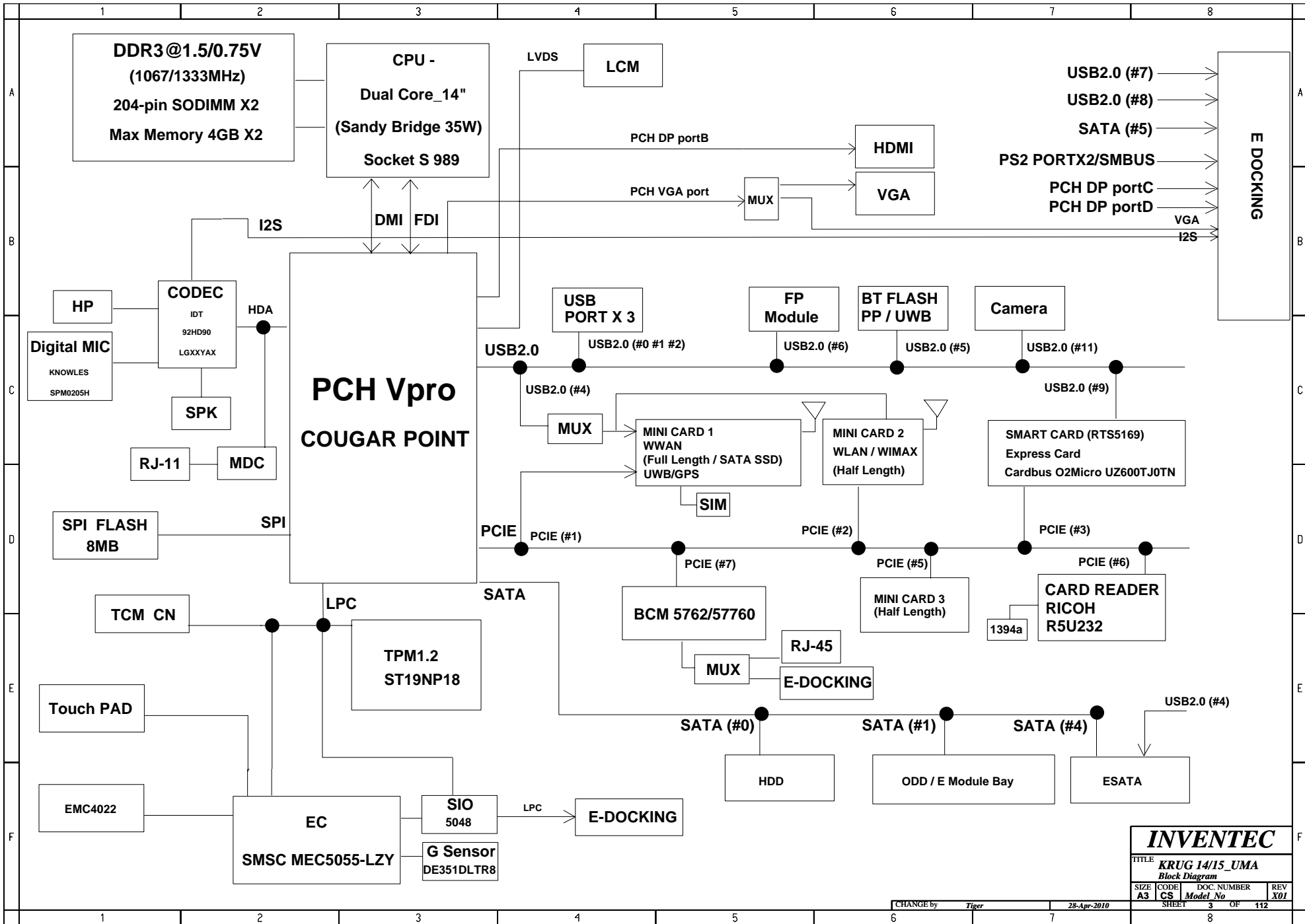
DELL CONFIDENTIAL/PROPRIETARY

DRAWER	EE	DATE	POWER	DATE	SIZE	CODE	DOC. NUMBER	REV
DESIGN					A3	CS	Model No	X01
CHECK					TITLE KRUG			
RESPONSIBLE					FILE NAME:	VER :	A02	
					P/N	6050A.2296601	SHEET	1 OF 112

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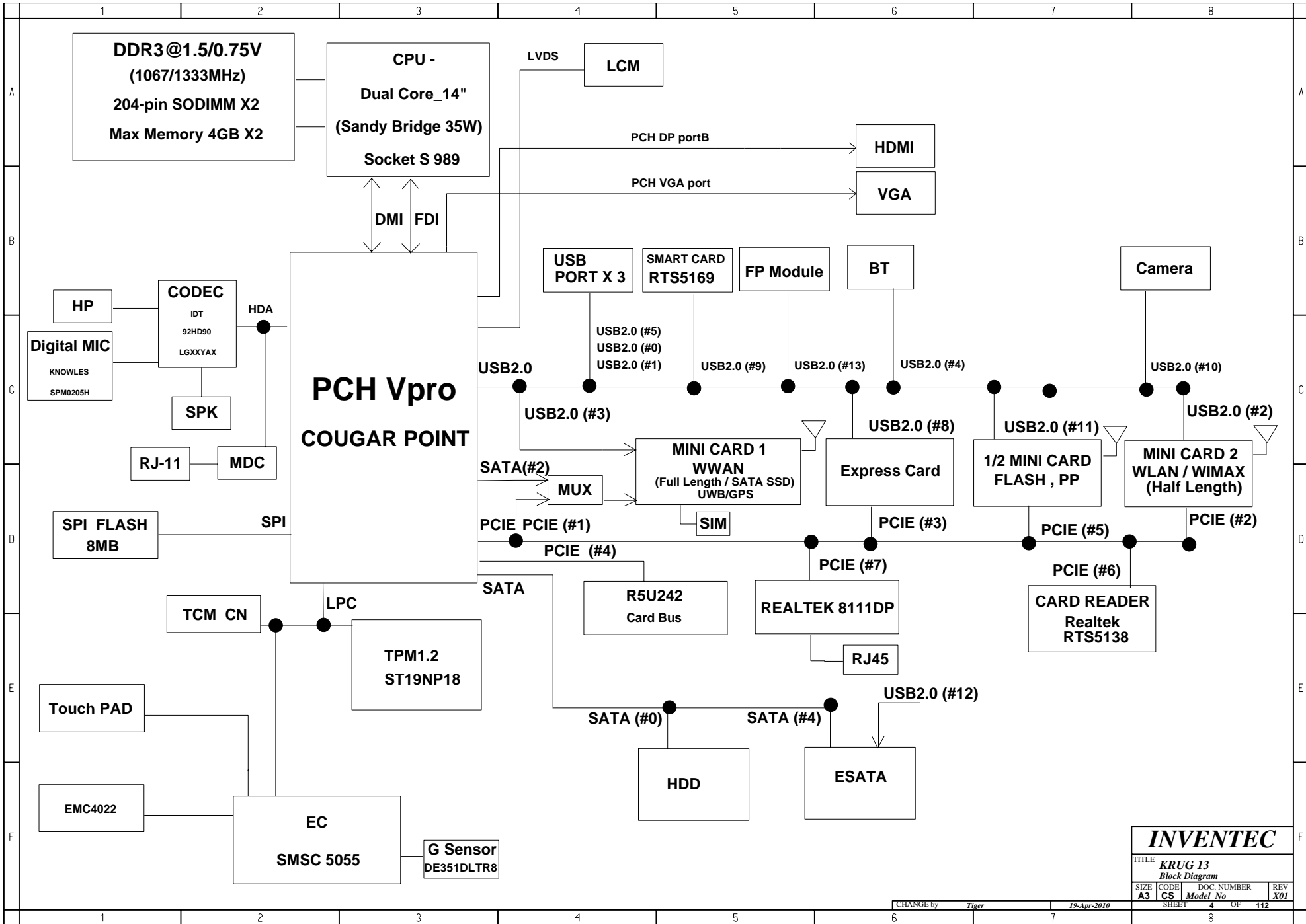
<p>PAGE</p> <p>1. Cover Page</p> <p>2. Index</p> <p>3. 14 / 15 Block Diagram</p> <p>4. 13 inch Block Diagram</p> <p>5. 14 Discrete Block Diagram</p> <p>6. SMB Diagram</p> <p>7. Power Block Diagram</p> <p>8. Power on Sequence</p> <p>9. UMA Power Charger</p> <p>10.UMA Power AC IN</p> <p>11.UMA Power Battery</p> <p>12.UMA Power +3A/+5A</p> <p>13.UMA Power +V1.5/+V0.75S</p> <p>14.UMA Power VCCP/+V1.05_LAN_M</p> <p>15.UMA Power +V0.85S/+V1.8S</p> <p>16.UMA VGFX_CORE</p> <p>17.UMA Power VCORE</p> <p>18.UMA Power +V3S/+V5S/+V1.5S</p> <p>19.UMA Power</p> <p>20.UMA Power</p> <p>21.CPU 1</p> <p>22.CPU 2</p> <p>23.CPU 3 DRAM</p> <p>24.CPU 4 POWER</p> <p>25.CPU 5 POWER</p> <p>26.CPU 6 GND</p> <p>27.ITP CONN</p> <p>28.FAN & THERMAL</p> <p>29.DDR3 DIMM0</p> <p>30.DDR3 DIMM1</p>	<p>PAGE</p> <p>31.PCH 1</p> <p>32.PCH 2</p> <p>33.PCH 3</p> <p>34.PCH 4</p> <p>35.PCH 5</p> <p>36.PCH 6</p> <p>37.PCH 7 POWER</p> <p>38.PCH 8 POWER</p> <p>39.PCH 9 GND</p> <p>40.CAMERA & MUX</p> <p>41.SATA HDD & ODD</p> <p>42.USB & ESATA</p> <p>43.USB Conn</p> <p>44.Blue Tooth</p> <p>45.ITE8518</p> <p>46.ITE8301</p> <p>47.AUDIO CODEC</p> <p>48.MDC/Speaker/Jack</p> <p>49.LAN RTL8111DP</p> <p>50.RJ45/Transformer</p> <p>51.WLAN</p> <p>52.WWAN</p> <p>53.FLASH PP</p> <p>54.SIM CARD</p> <p>55.G SENSOR</p> <p>56.TPM</p> <p>57.TCM</p> <p>58.Finger Print</p>	<p>PAGE</p> <p>59. CRT CONN</p> <p>60. LCM CONN</p> <p>61. HDMI</p> <p>62. LED</p> <p>63. CARD READER RTS5138</p> <p>64. CARD READER R5U232</p> <p>65. KB / CAP SENSOR / FP CONN</p> <p>66. Power Button / RF switch / Hall Sensor</p> <p>67. E DOCKING/LAN MUX/VGA MUX</p> <p>68-73. ATI PARK</p> <p>74-75. VRAM</p> <p>76. RTS5169</p> <p>77. EXPRESS CARD</p> <p>78. R5U242</p> <p>79. PCMCIA</p> <p>80-91 Discrete POWER (UMA OPEN)</p> <p>92. ITE8502</p> <p>93. ITE8709</p> <p>94. HDMI Repeater</p> <p>95. EC 5055</p> <p>96. SIO 5048</p> <p>97. KRUG 14 /15 UMA Block Diagram</p> <p>98. KRUG 13 UMA Block Diagram</p> <p>99. KRUG 14 Discrete Block Diagram</p> <p>100-103. Power</p> <p>104. CODEC ALC269Q-VB5</p> <p>105.USB HUB</p> <p>106. GENERAL IO_ECE1099</p> <p>107. Audio Board BTB</p> <p>108. Media Board BTB</p> <p>109. Power Board BTB</p> <p>110. RJ45 Board BTB</p>
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INVENTEC			
TITLE KRUG INDEX			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		27-Apr-2010	
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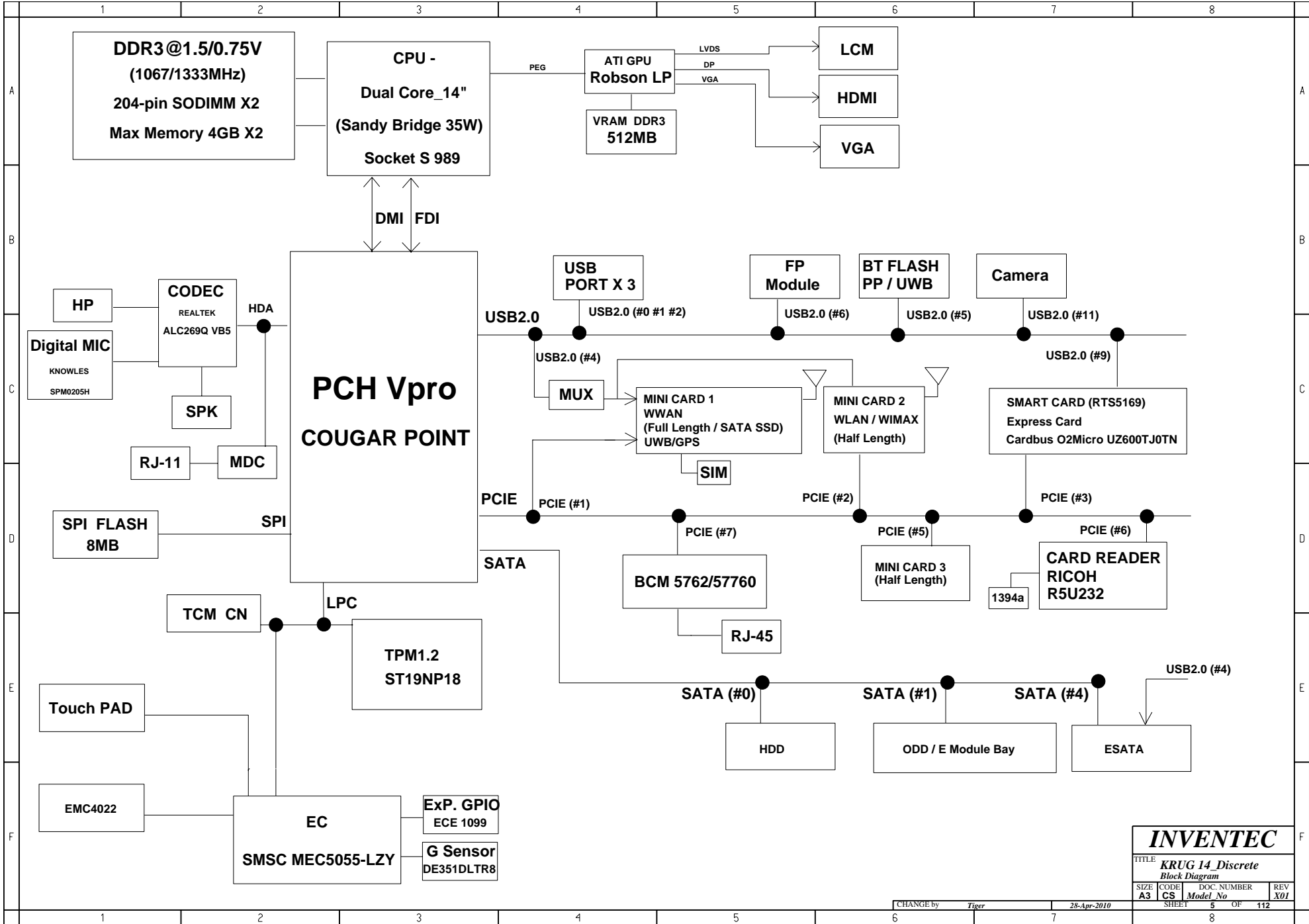
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SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET 3 OF 112			

CHANGE by Tiger 28-Apr-2010

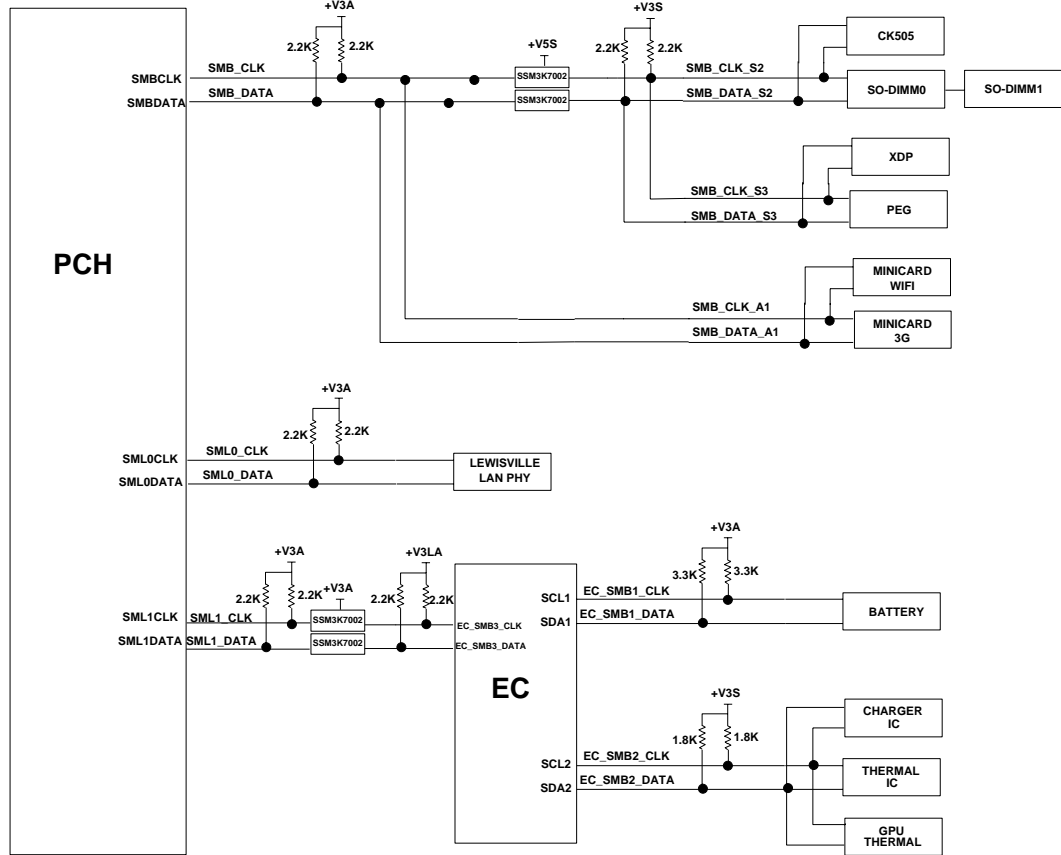


INVENTEC			
TITLE KRUG 13			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
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CHANGE by Tiger 19-Apr-2010



INVENTEC			
TITLE <i>KRUG 14 Discrete</i>			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
CHANGE by <i>Tiger</i>		28-Apr-2010	SHEET 5 OF 112



PCIE

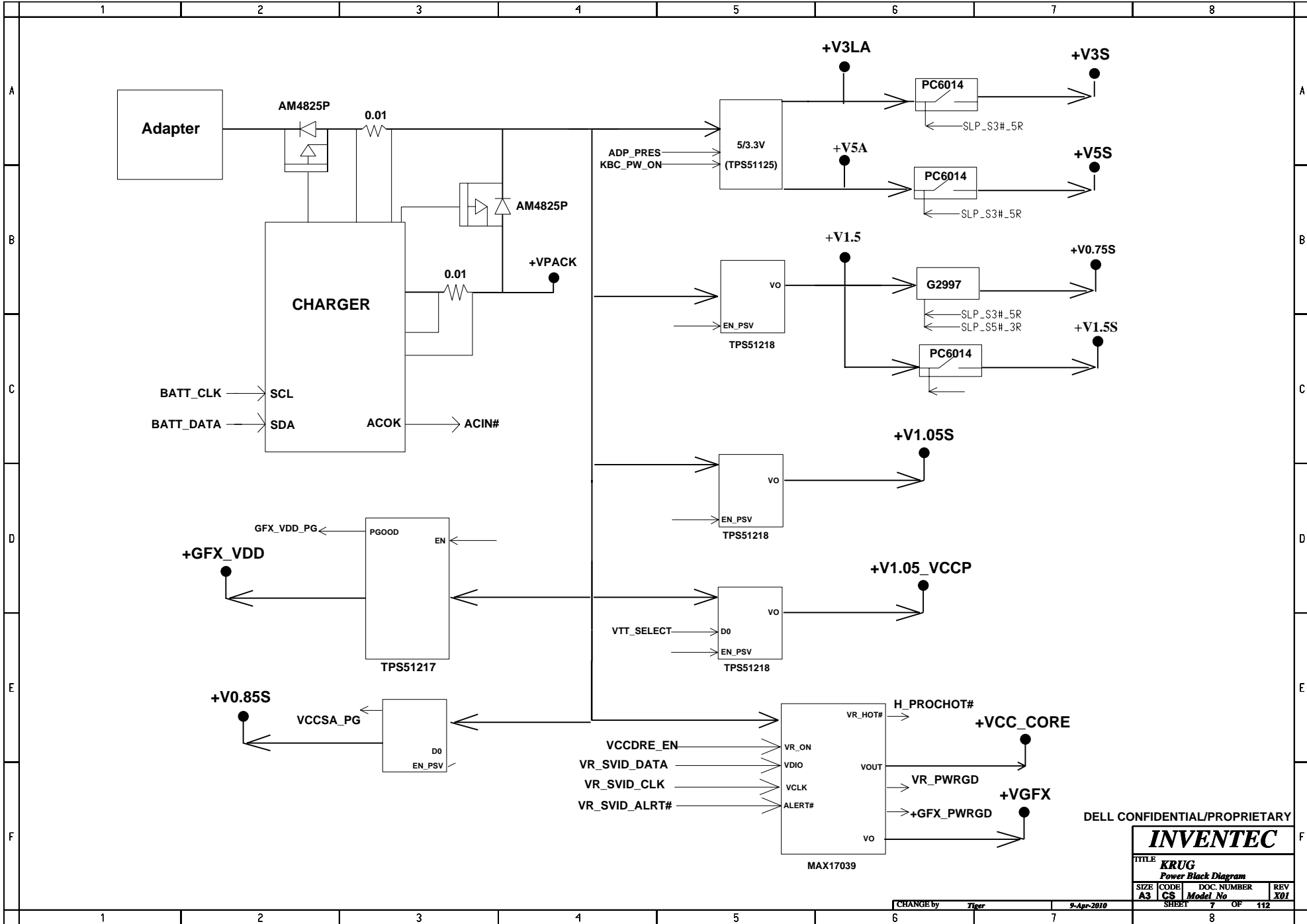
1	NC
2	NC
3	WLAN
4	MINICARD3G
5	NC
6	LAN
7	NC
8	NC

USB

0	eSATA+USB
1	USB PORT A
2	USB PORT B
3	NC
4	NC
5	MINICARD WLAN
6	NC
7	NC
8	CARDREADER
9	NC
10	WEBCAM
11	NC
12	BLUE TOOTH
13	MINICARD 3G

SATA

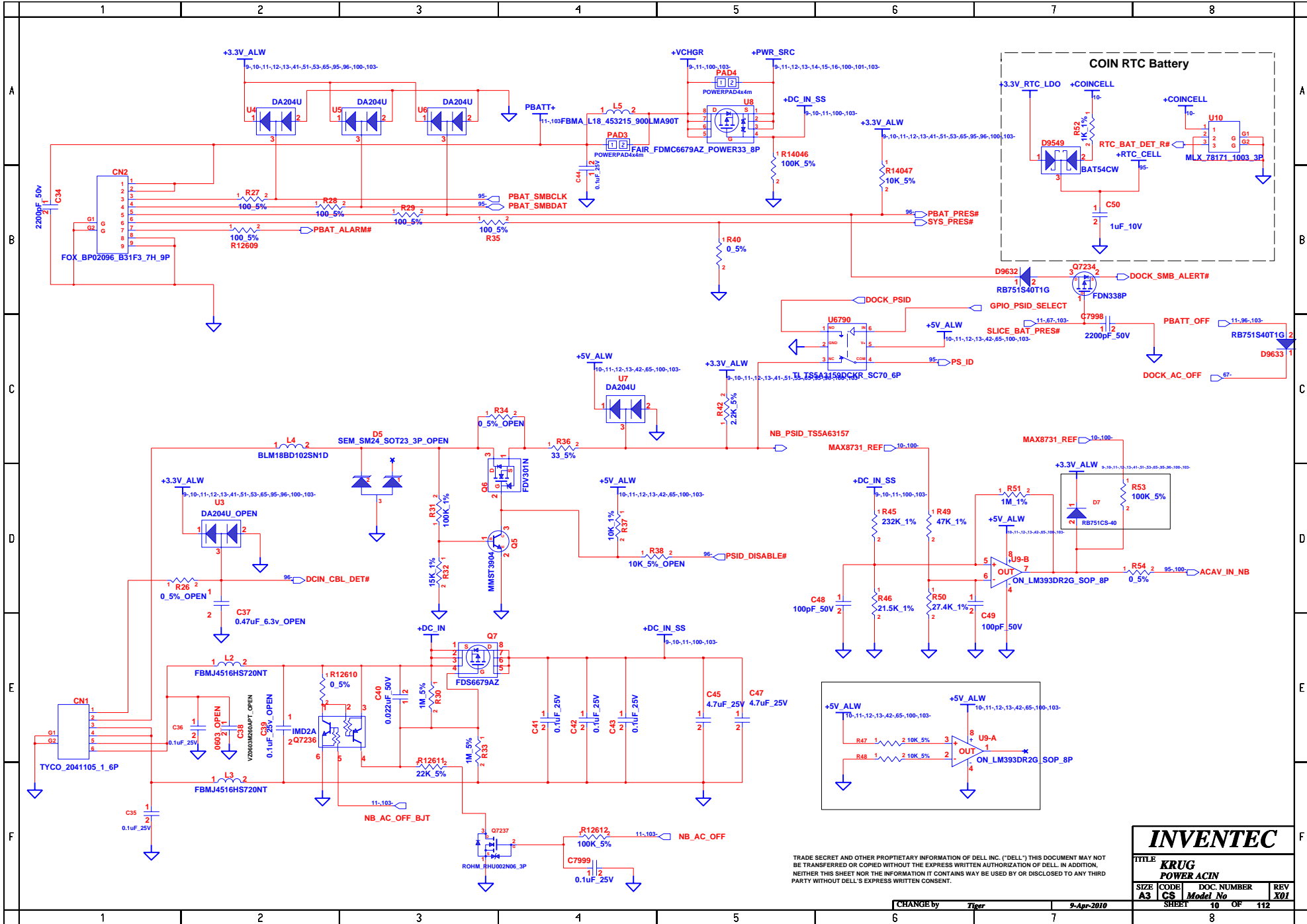
0	SSD
1	HDD
2	ODD
3	eSATA
4	NC
5	NC



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INVENTEC			
TITLE KRUG			
Power Block Diagram			
SIZE A3	CODE CS	DOC NUMBER 7	REV X01
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CHANGE by *Tifer* 9-Apr-2010

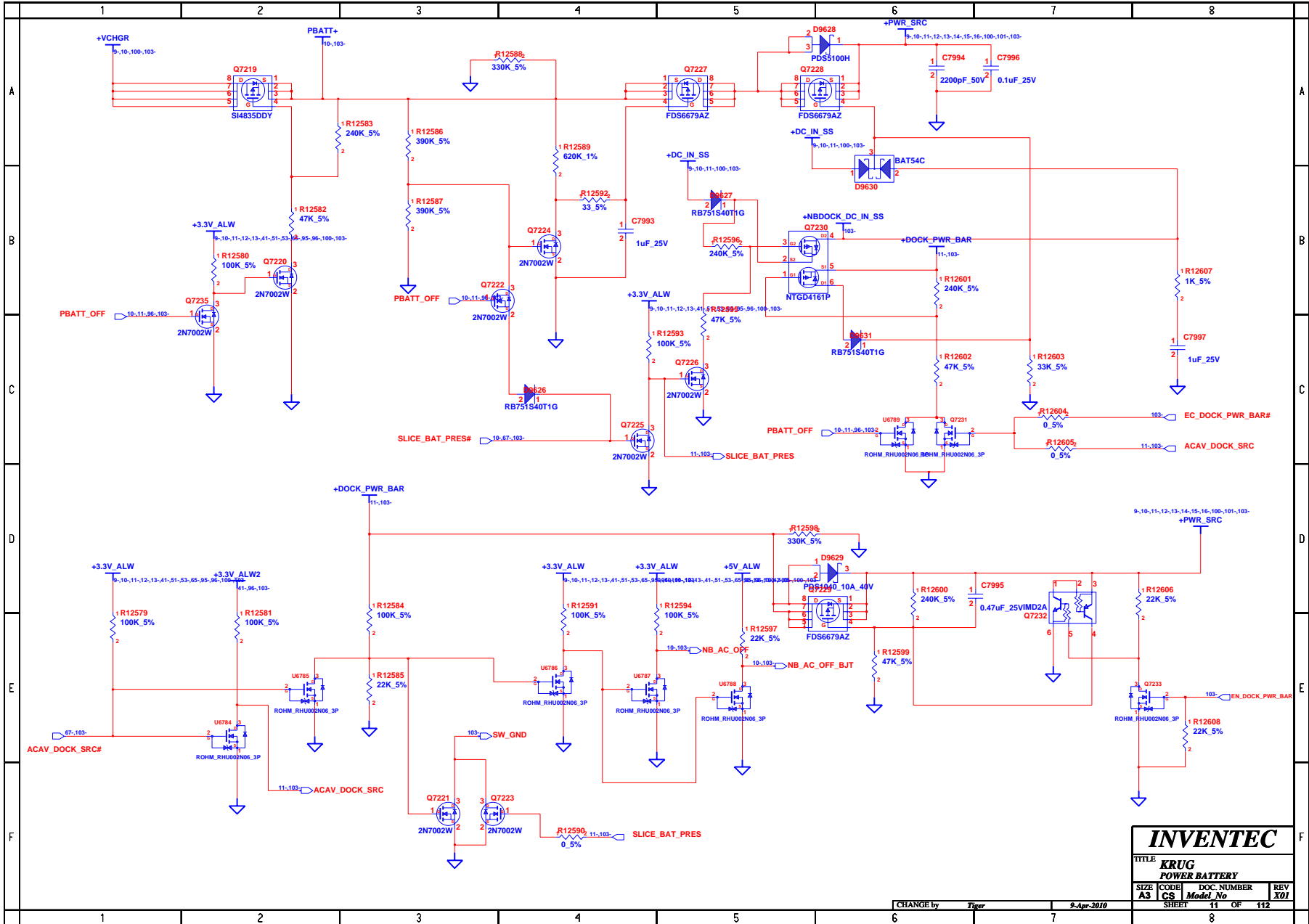


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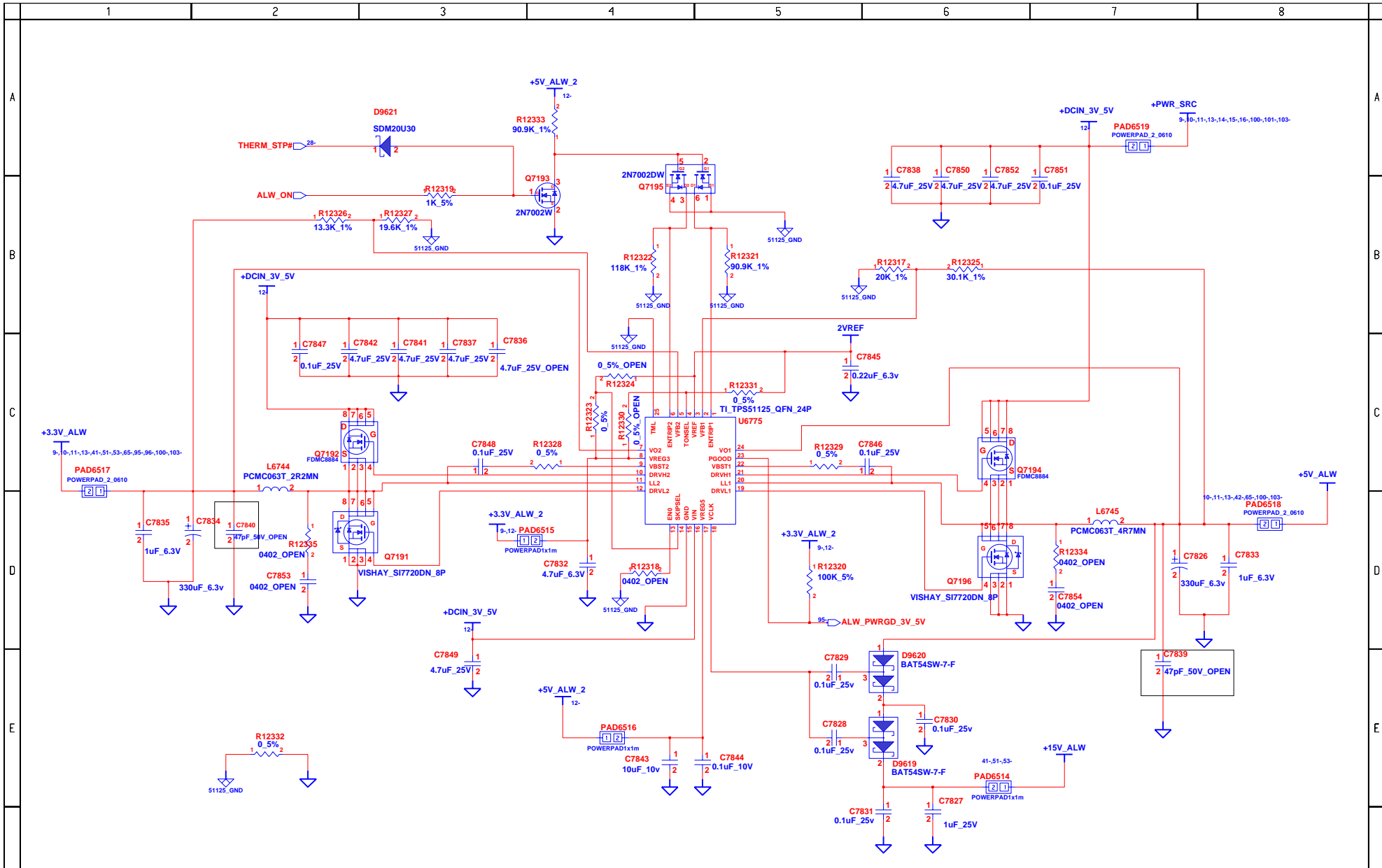
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TITLE KRUG POWER ACIN				
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01	
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CHANGE by *Tifer* 9-Apr-2010



INVENTEC				
TITLE KRUG				
POWER BATTERY				
SIZE	CODE	DOC. NUMBER	REV	
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CHANGE by Tiger			9-Apr-2010	
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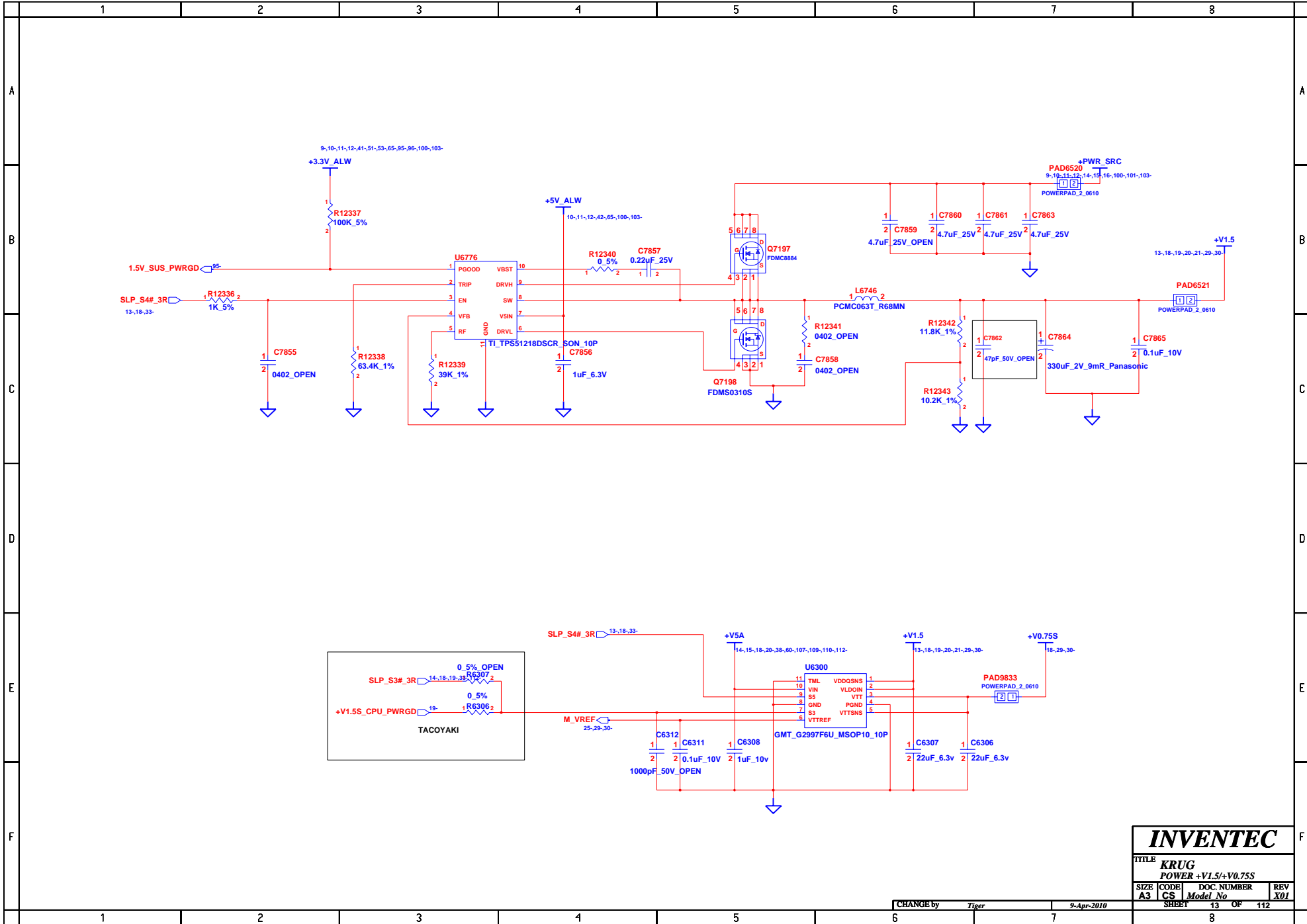


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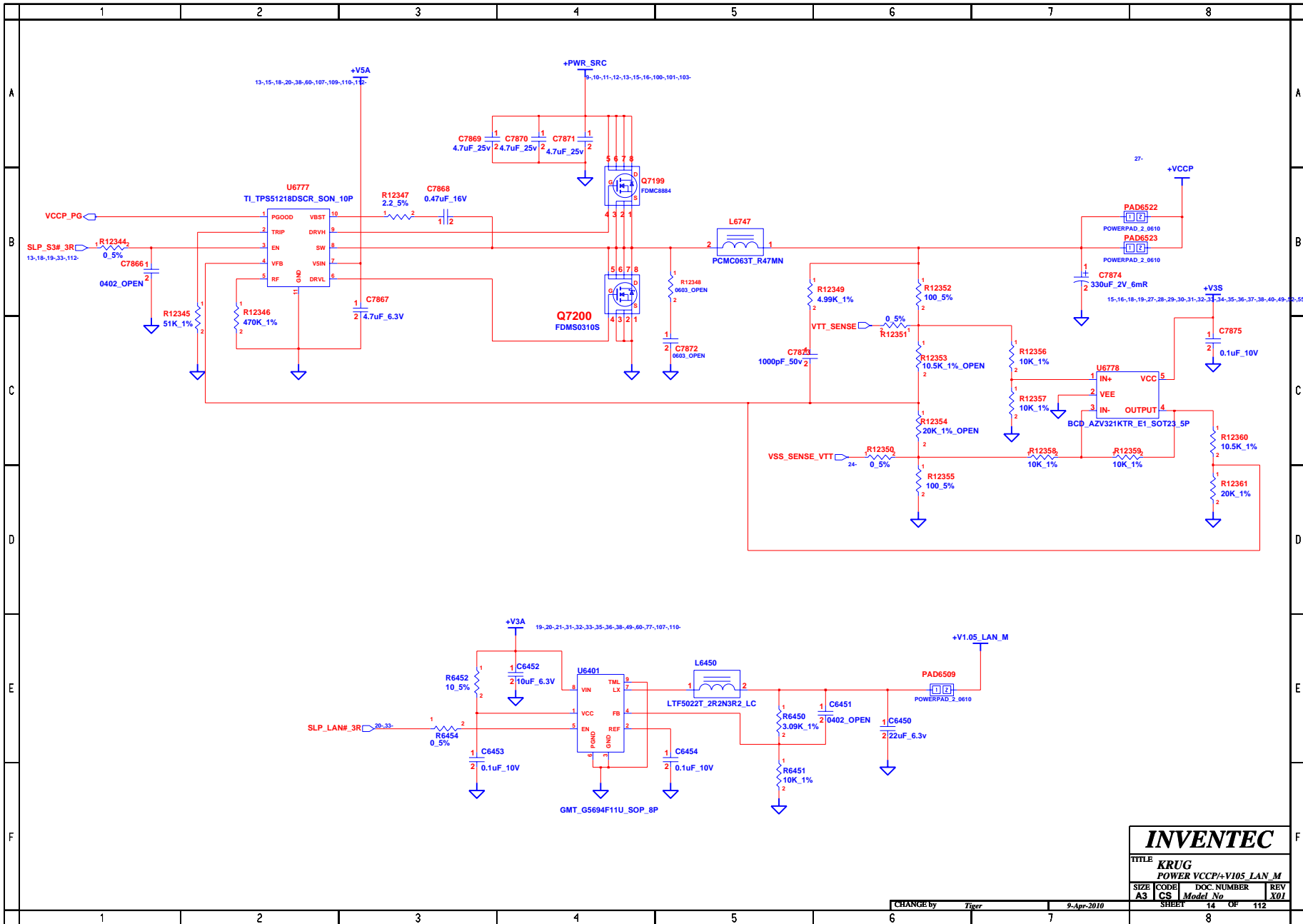
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KRUG
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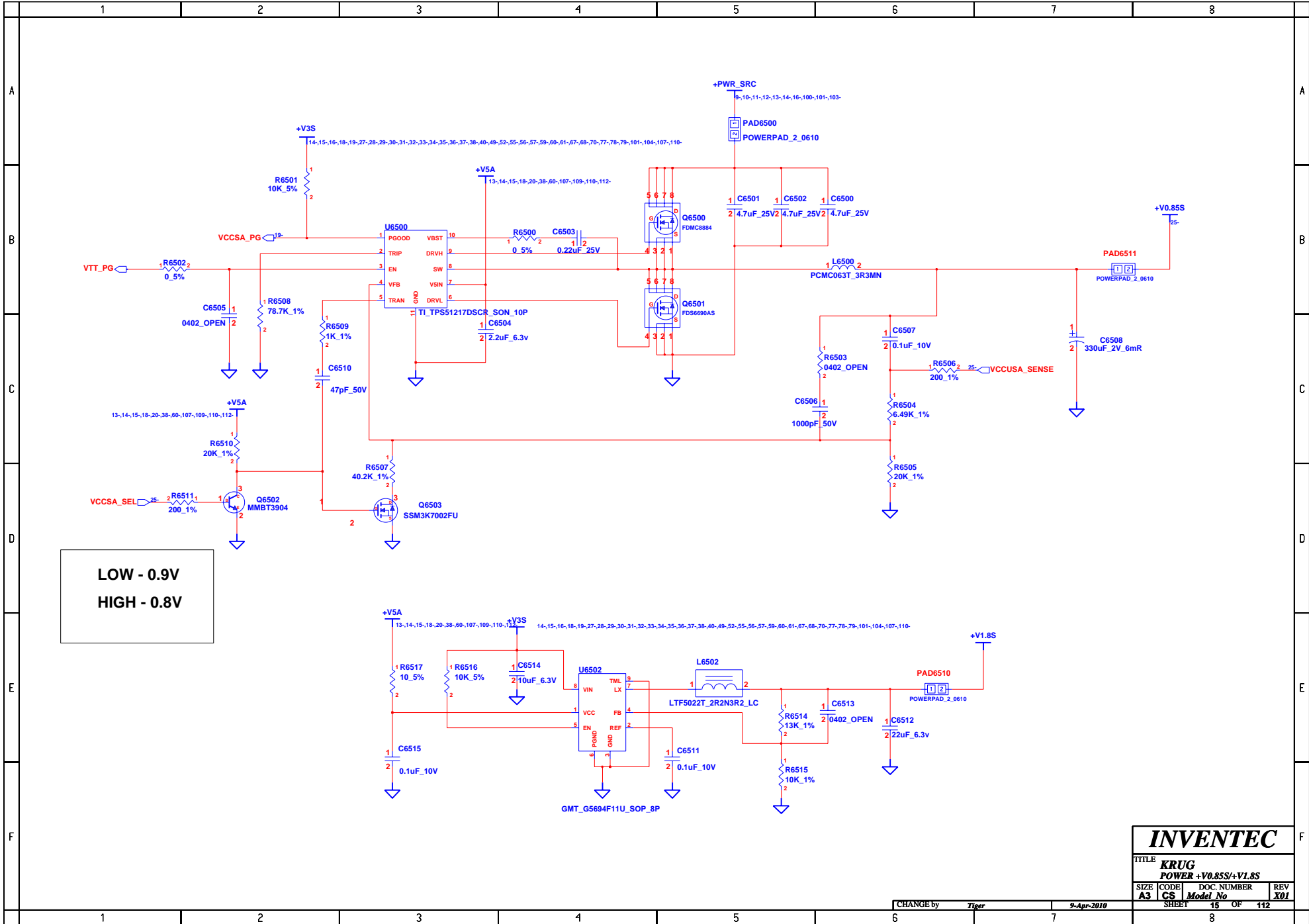
CHANGE by *Tiger* 9-Apr-2010
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INVENTEC				
TITLE KRUG				
POWER +V1.5/+V0.75S				
SIZE	CODE	DOC NUMBER	REV	
A3	CS	Model No	X01	
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TITLE KRUG			
POWER VCCP+V105 LAN_M			
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A3	CS	Model No	X01

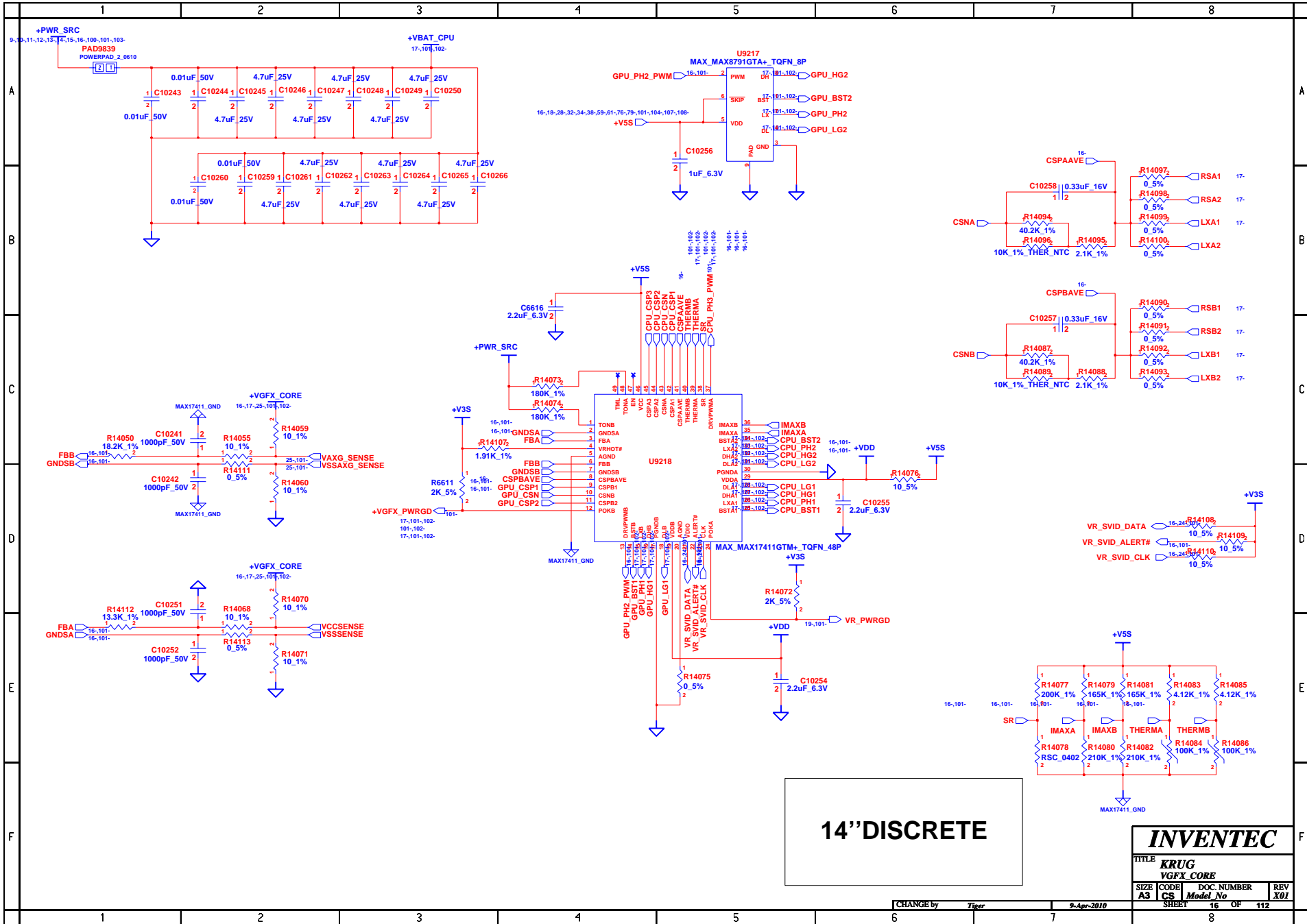


LOW - 0.9V
HIGH - 0.8V

INVENTEC

TITLE			
KRUG			
POWER +V0.85S/+V1.8S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
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CHANGE by Tifer 9-Apr-2010

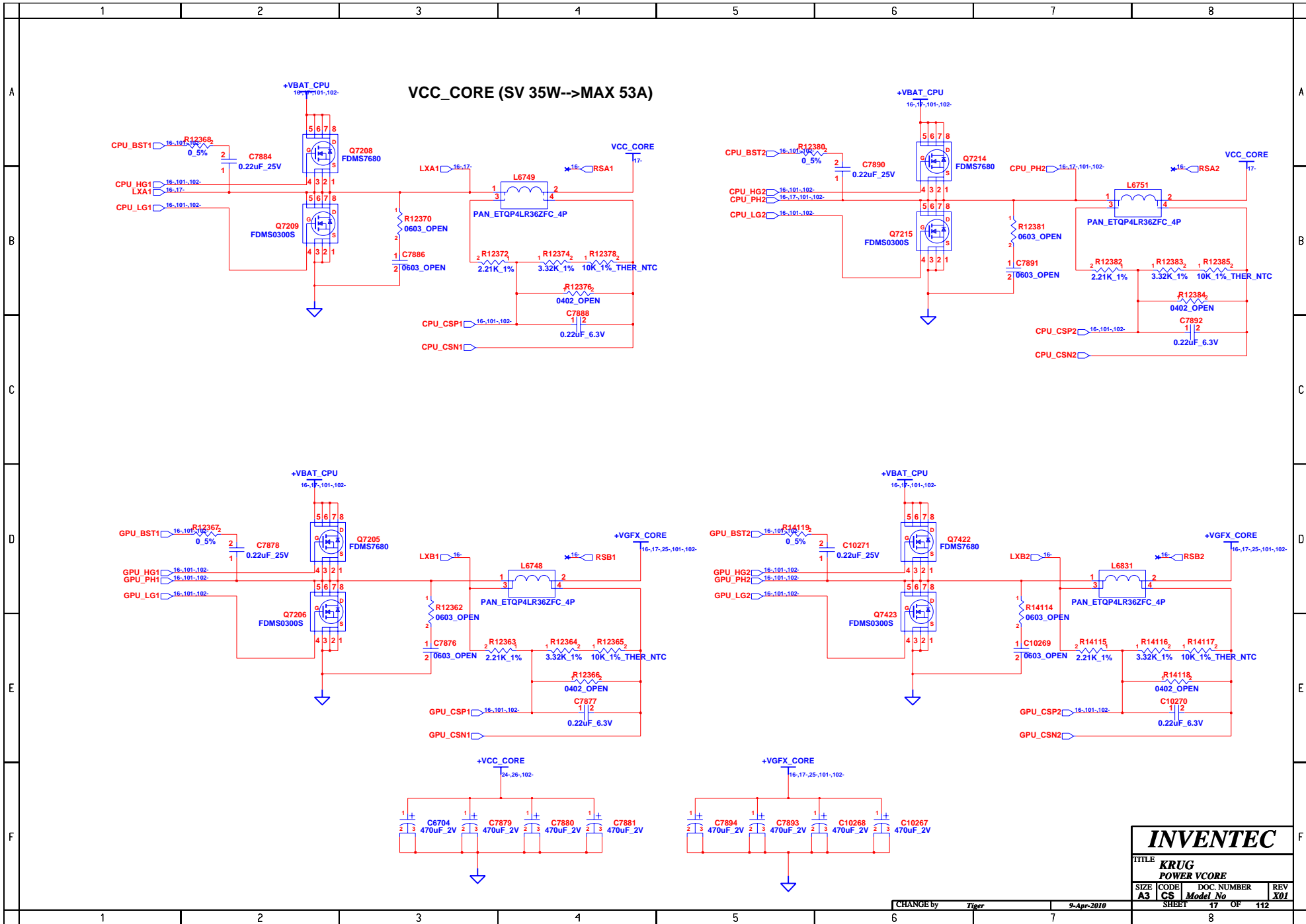


14" DISCRETE

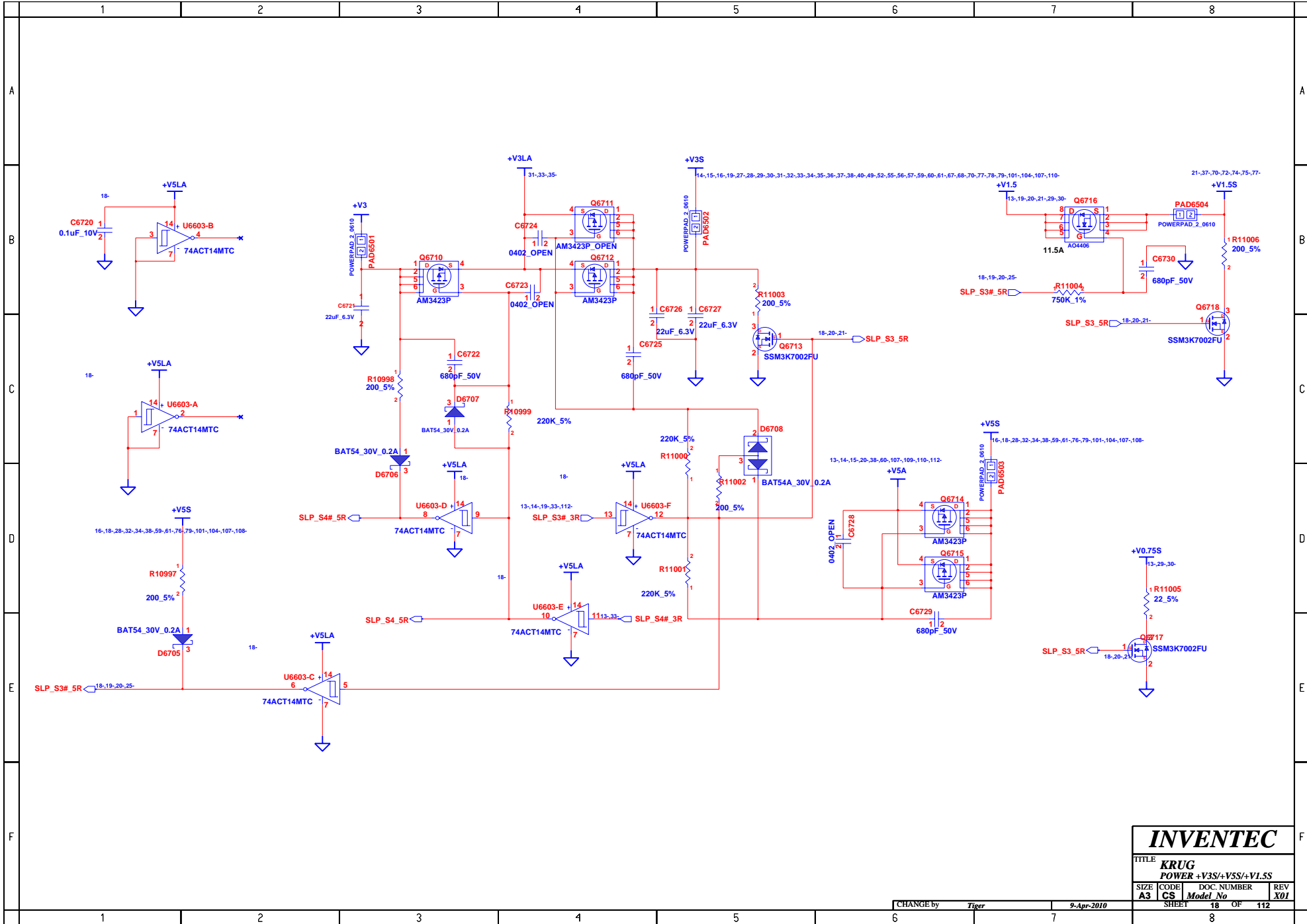
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TITLE				
KRUG				
VGFx CORE				
SIZE	CODE	DOC NUMBER	REV	
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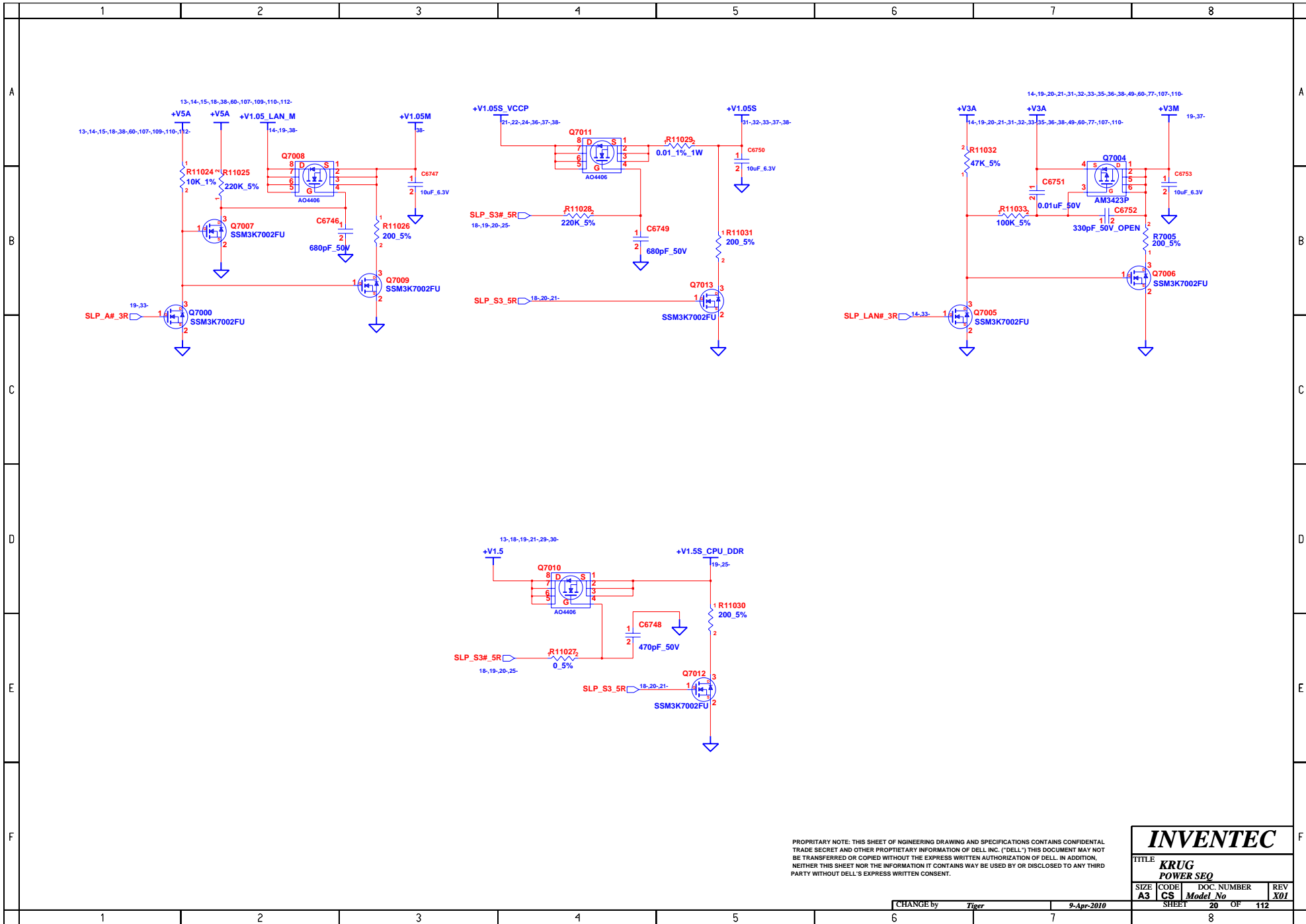
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INVENTEC			
TITLE KRUG POWER VCORE			
SIZE	CODE	DOC NUMBER	REV
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INVENTEC				
TITLE KRUG				
POWER +V3S/+V5S/+V1.5S				
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01	
CHANGE by <i>Tiger</i>		9-Apr-2010		SHEET 18 OF 112

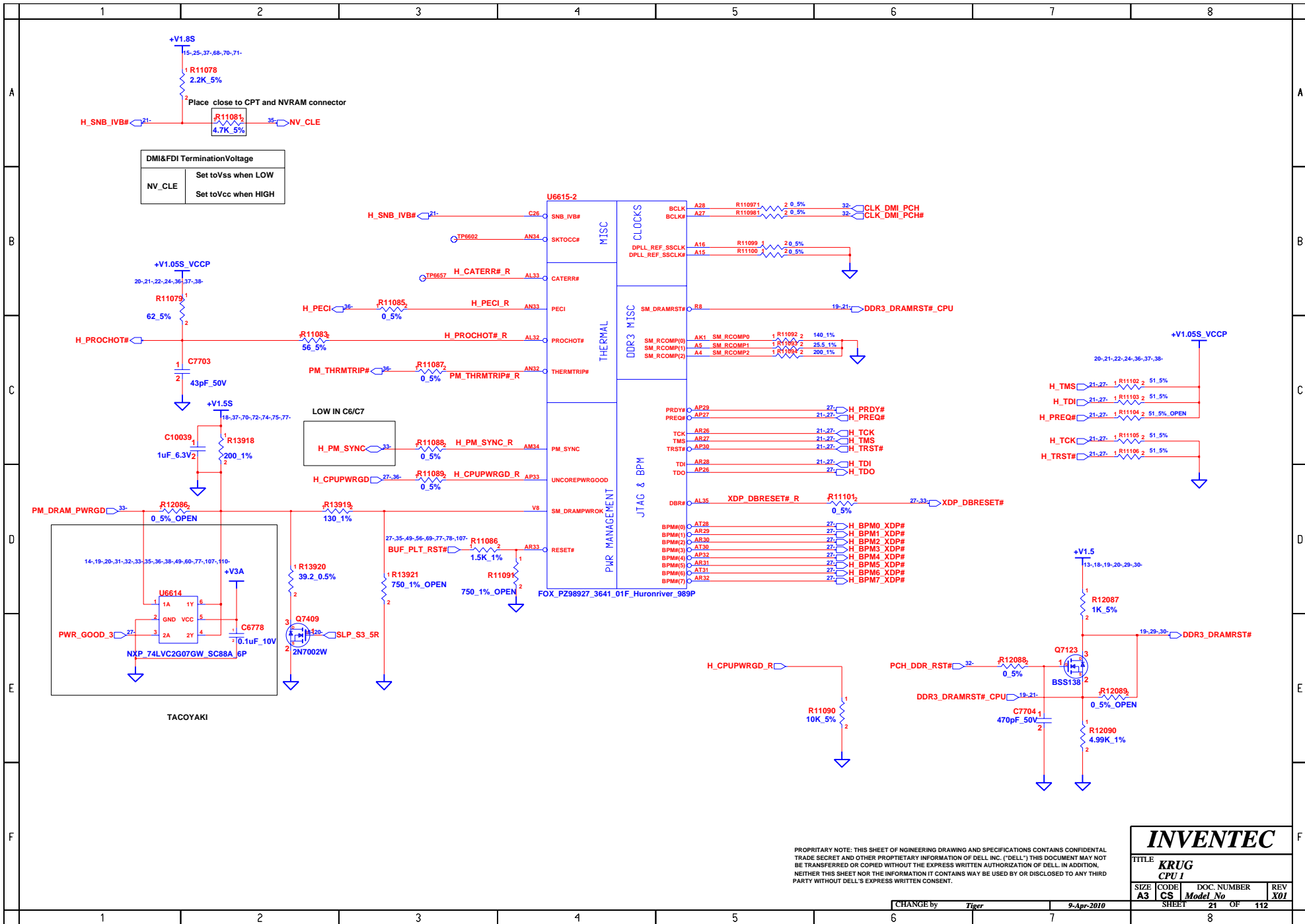


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TITLE			
KRUG			
POWER SEQ			
SIZE	CODE	DOC. NUMBER	REV
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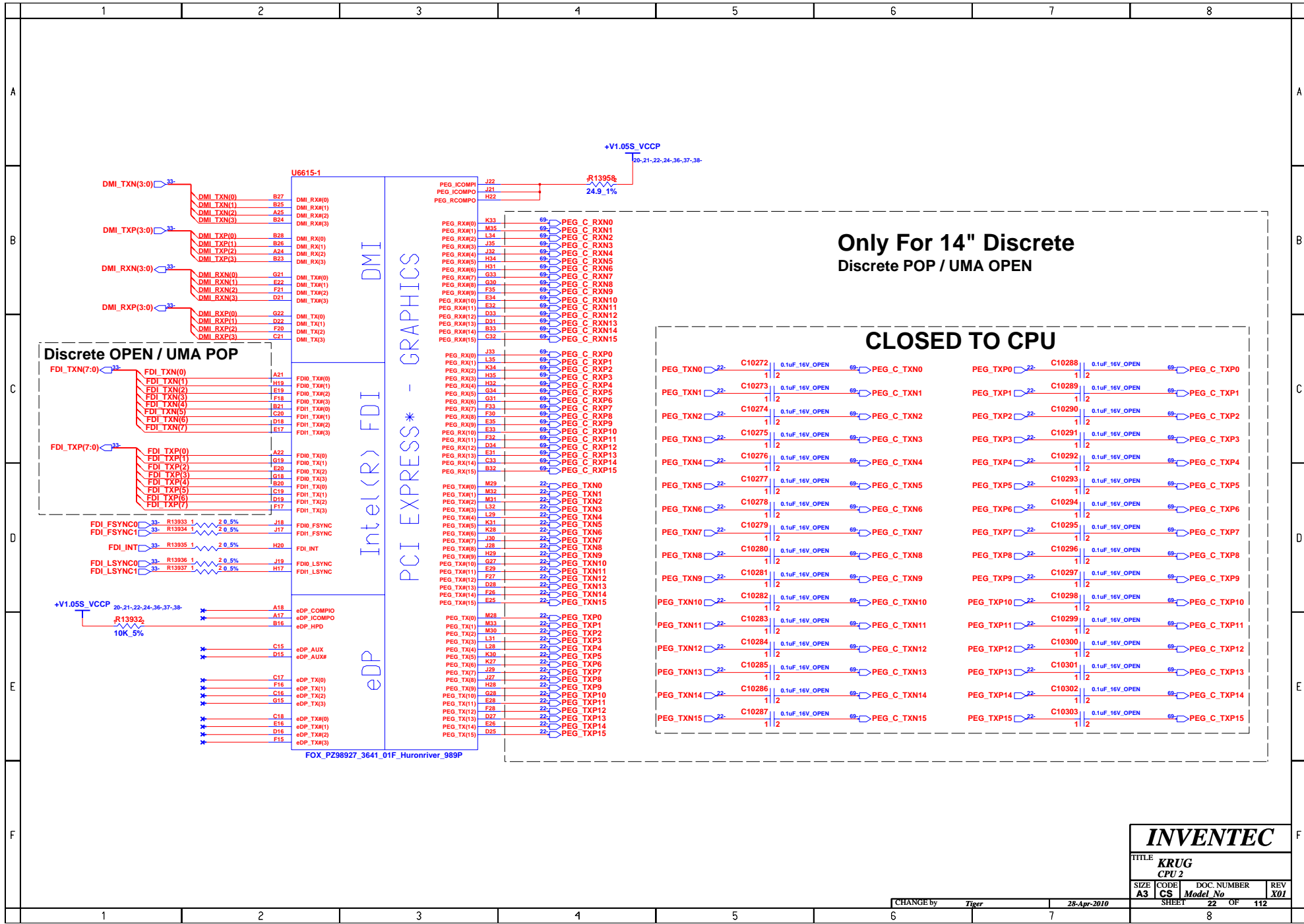


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INVENTEC

TITLE KRUG CPU 1			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
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CHANGE by *Tiker* 9-Apr-2010



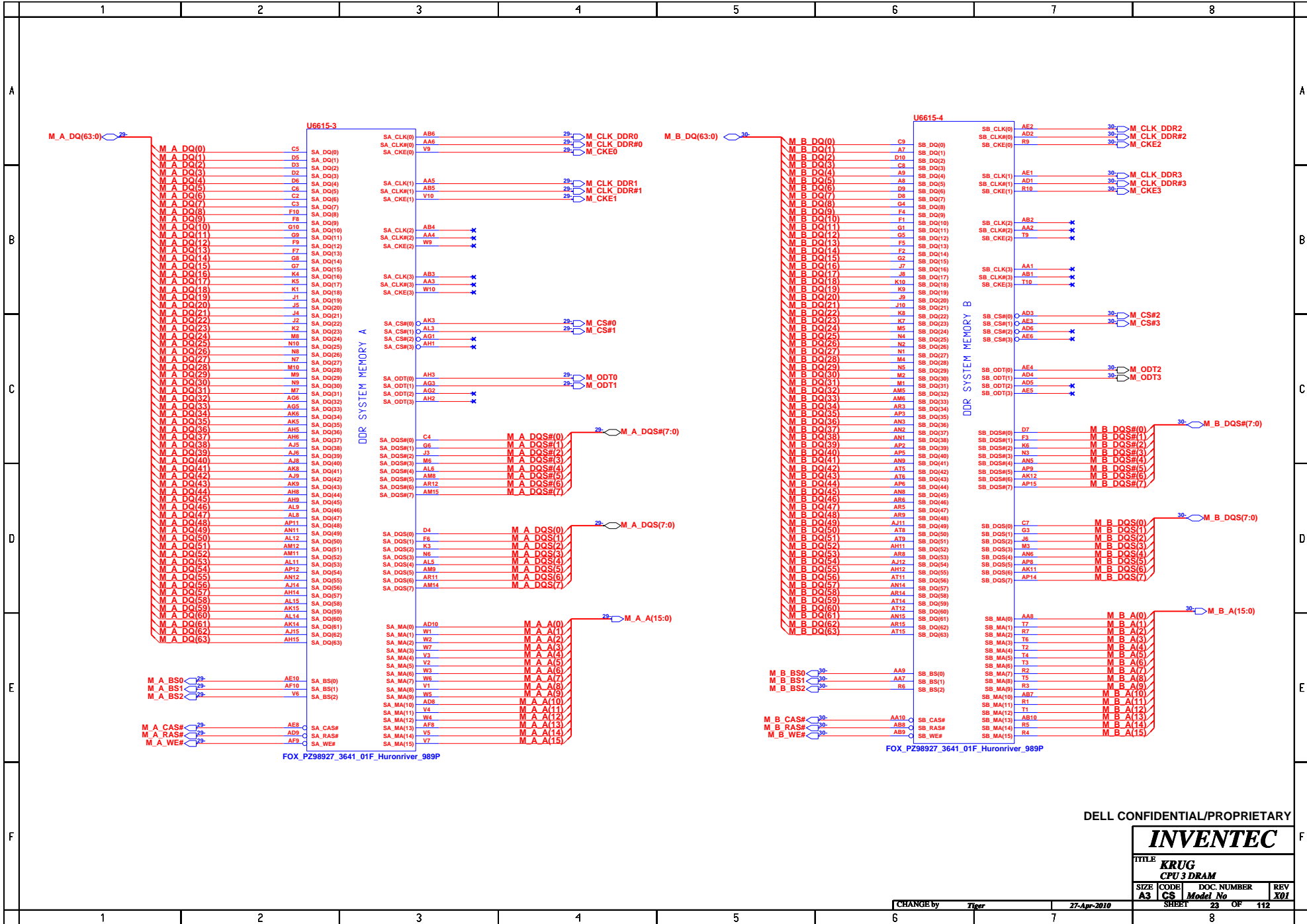
**Only For 14" Discrete
Discrete POP / UMA OPEN**

CLOSED TO CPU

INVENTEC			
TITLE KRUG CPU 2			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
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CHANGE by *Tiger* 28-Apr-2010

FOX_P298927_3641_01F_Huronriver_989P



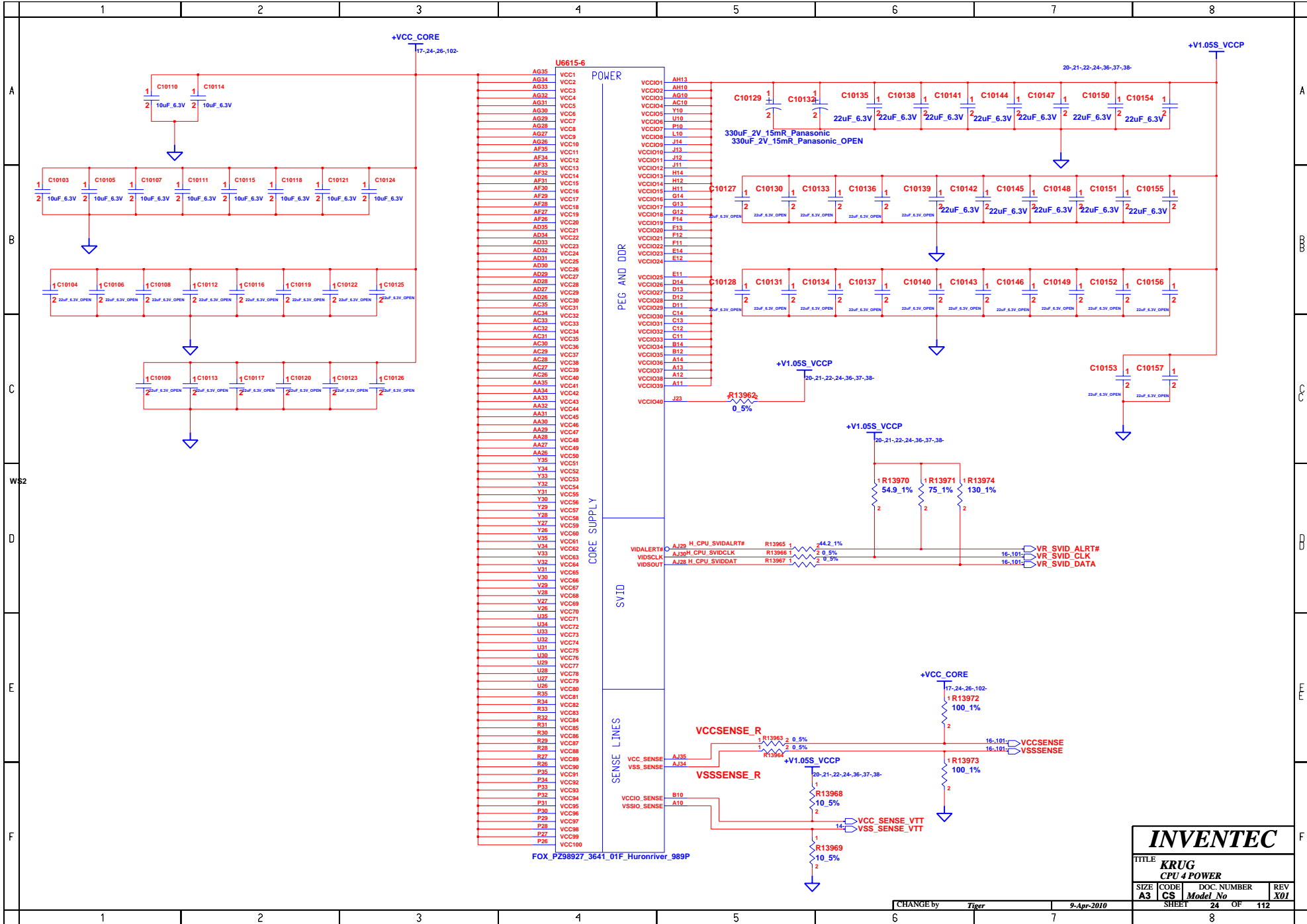
DELL CONFIDENTIAL/PROPRIETARY

INVENTEC

TITLE **KRUG CPU 3 DRAM**

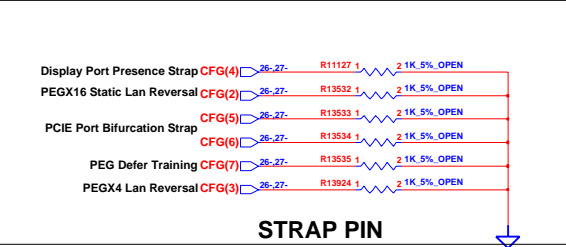
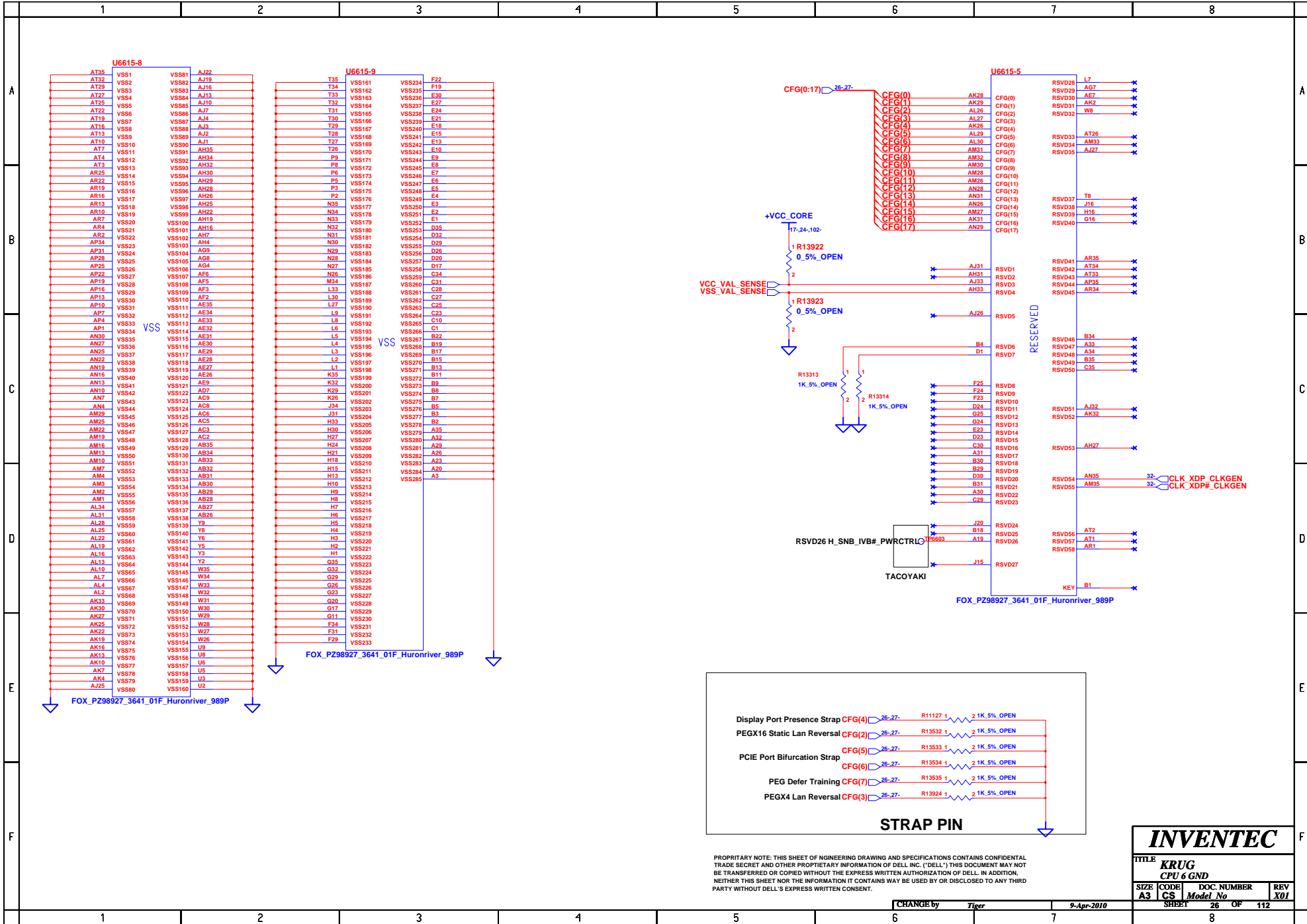
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SIZE A3	CODE CS	DOC NUMBER <i>Model No</i>	REV X01
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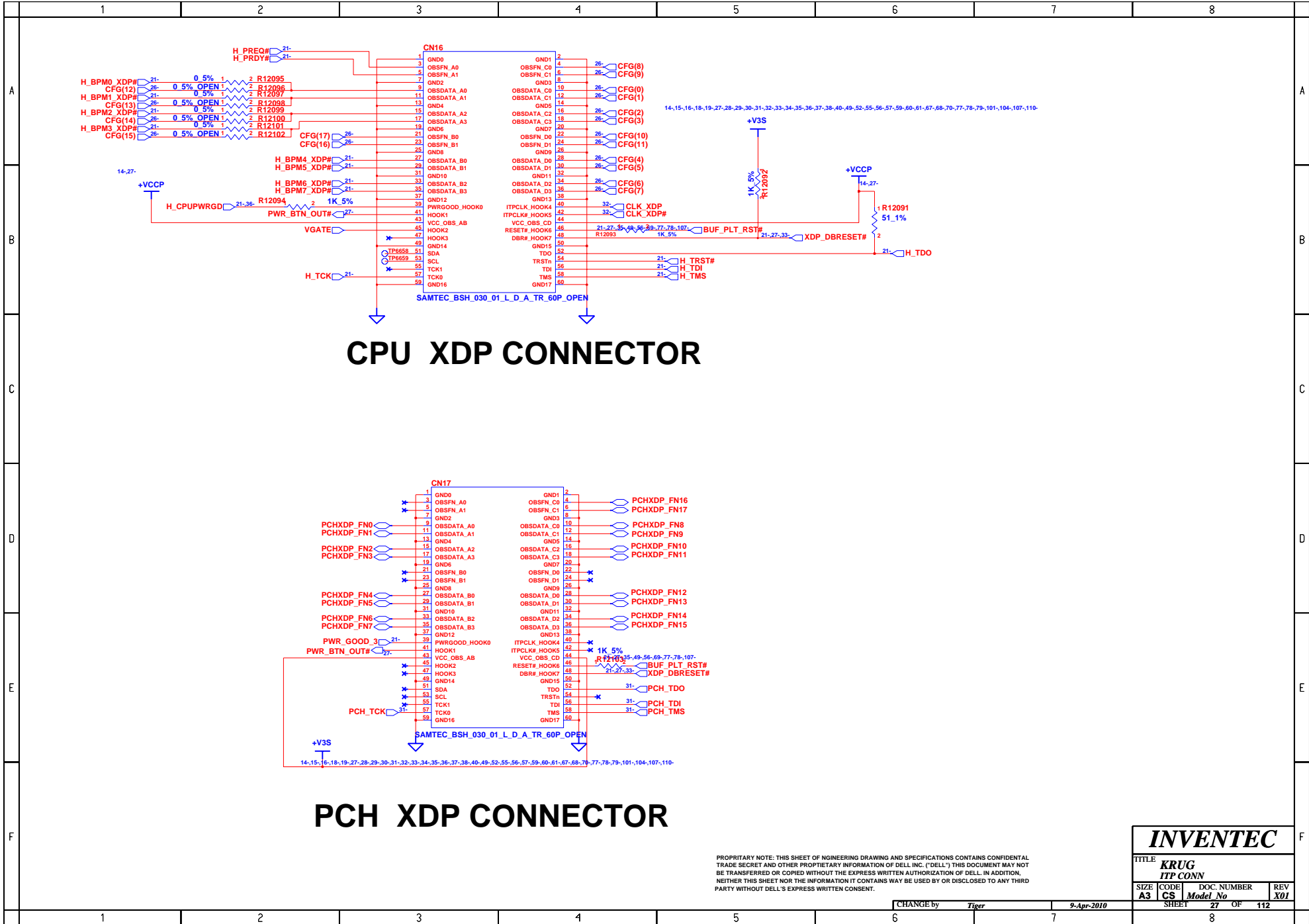
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INVENTEC				
TITLE KRUG CPU 6 GND				
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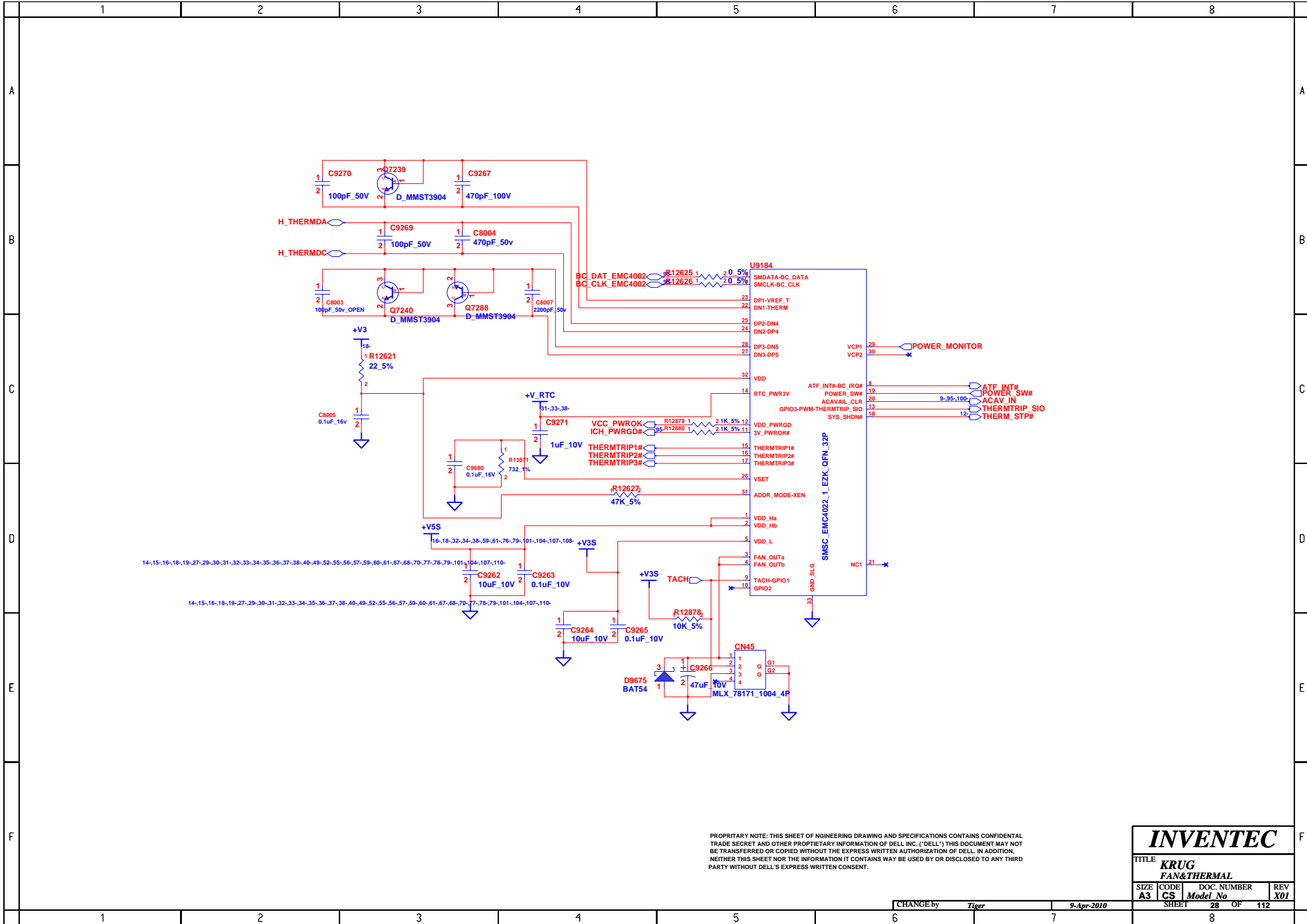


CPU XDP CONNECTOR

PCH XDP CONNECTOR

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INVENTEC			
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CHANGE by <i>Tiger</i>		9-Apr-2010	
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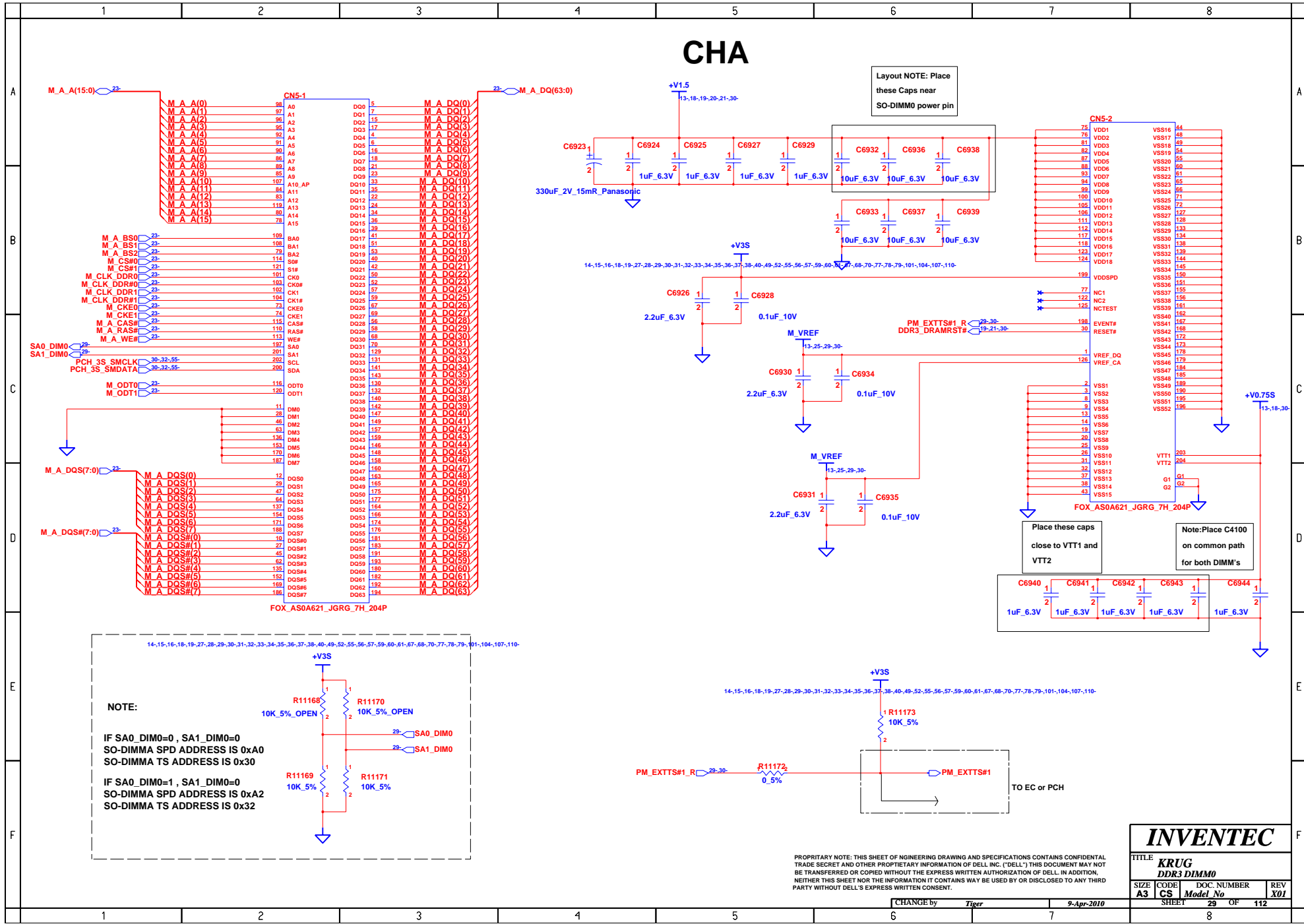
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TITLE			
KRUG FAN&THERMAL			
SIZE	CODE	DOC. NUMBER	REV
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CHANGE by *Tiger* 9-Apr-2010

CHA



Layout NOTE: Place these Caps near SO-DIMM0 power pin

Place these caps close to VTT1 and VTT2

Note: Place C4100 on common path for both DIMM's

NOTE:

IF SA0_DIM0=0 , SA1_DIM0=0
SO-DIMM0 SPD ADDRESS IS 0xA0
SO-DIMM0 TS ADDRESS IS 0x30

IF SA0_DIM0=1 , SA1_DIM0=0
SO-DIMM0 SPD ADDRESS IS 0xA2
SO-DIMM0 TS ADDRESS IS 0x32

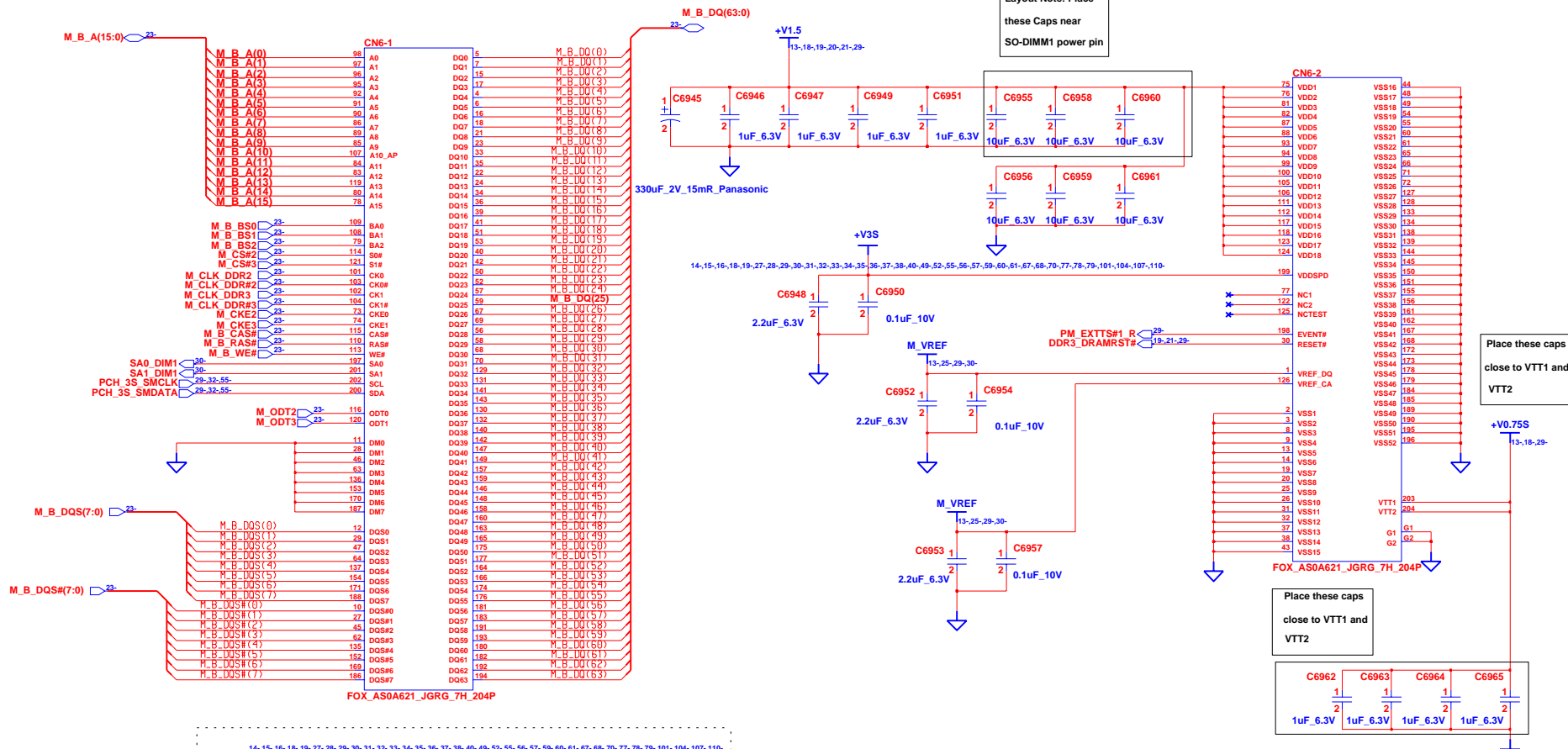
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INVENTEC				
TITLE KRUG				
DDR3 DIMM0				
SIZE A3	CODE CS	DOC NUMBER Model No	REV X01	
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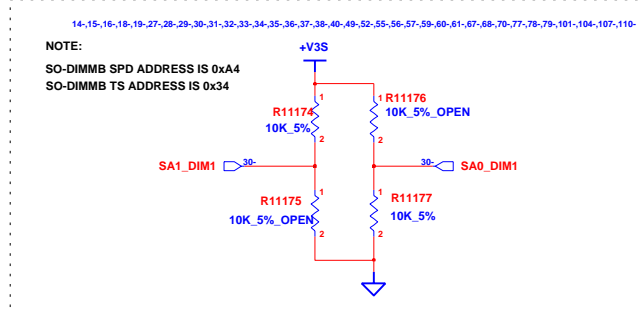
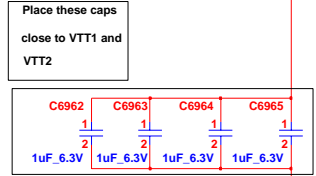
CHANGE by *Tiker* 9-Apr-2010

CHB

Layout Note: Place these Caps near SO-DIMM1 power pin



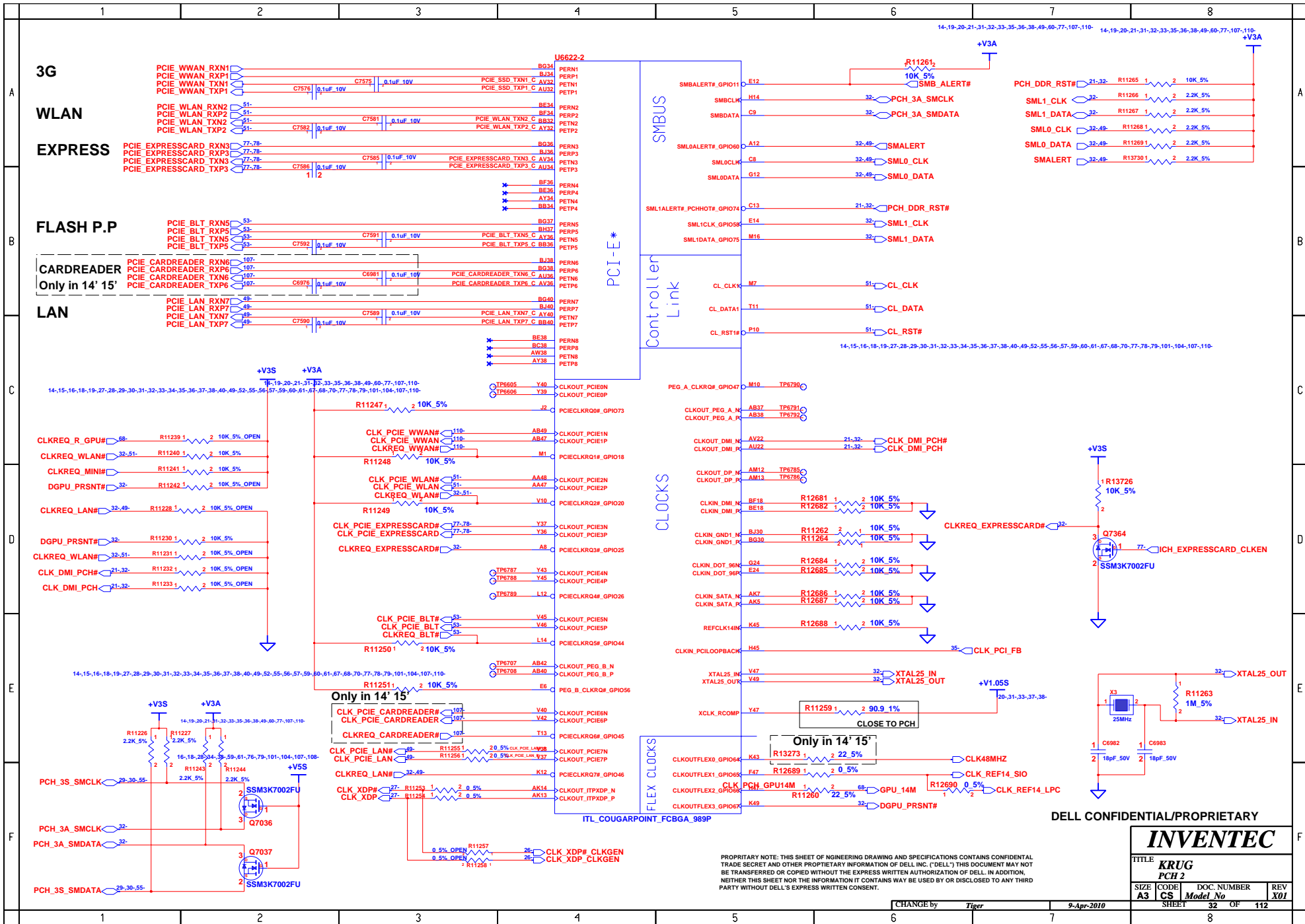
Place these caps close to VTT1 and VTT2



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INVENTEC			
TITLE KRUG DDR3 DIMM1			
SIZE A3	CODE CS	DOC NUMBER <i>Model No</i>	REV X01
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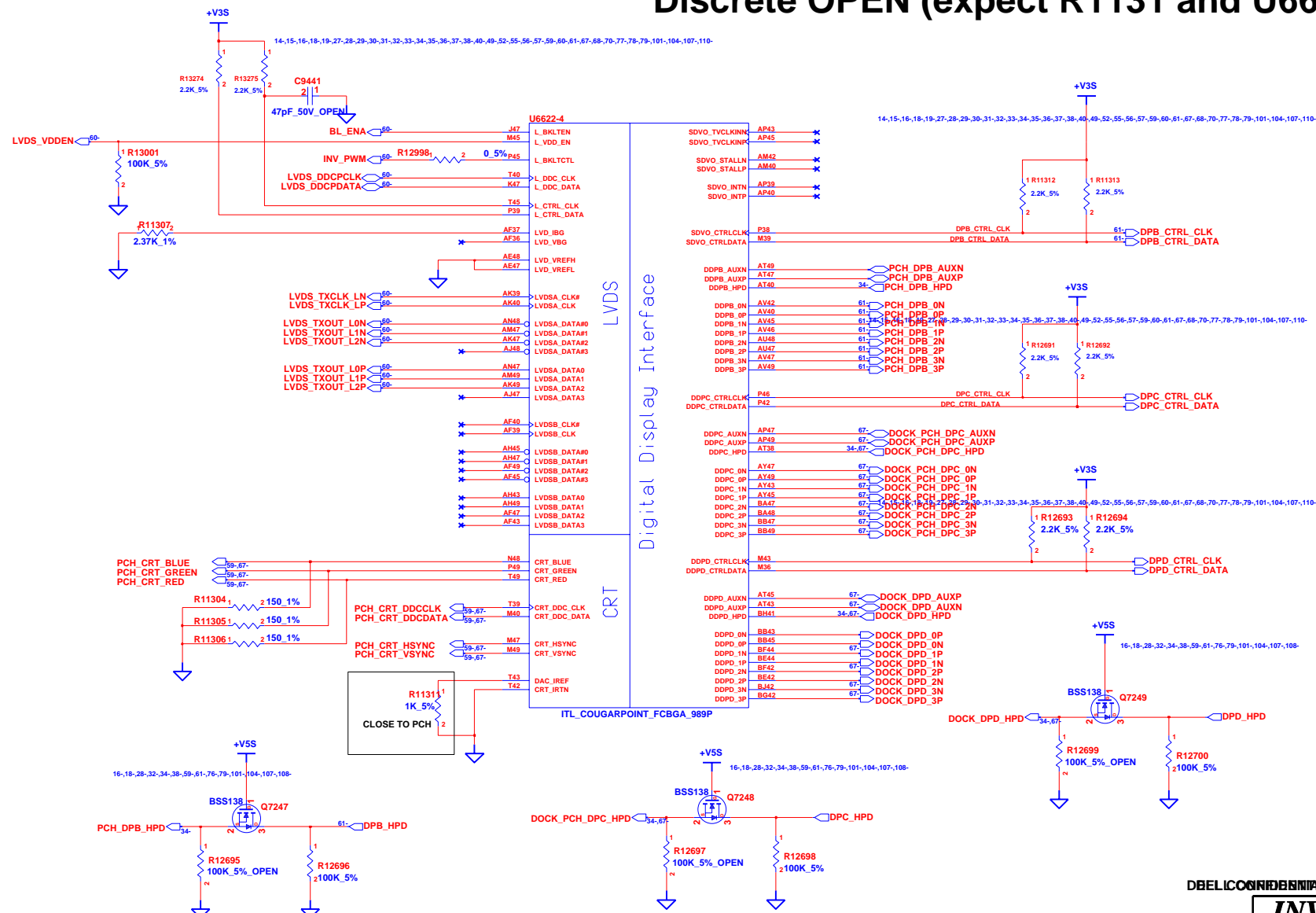
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TITLE KRUG PCH 2			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
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CHANGE by *Tiger* 9-Apr-2010

Discrete OPEN (expect R1131 and U6622-4)



DBELICONDDBNIAIBRBRORREARY

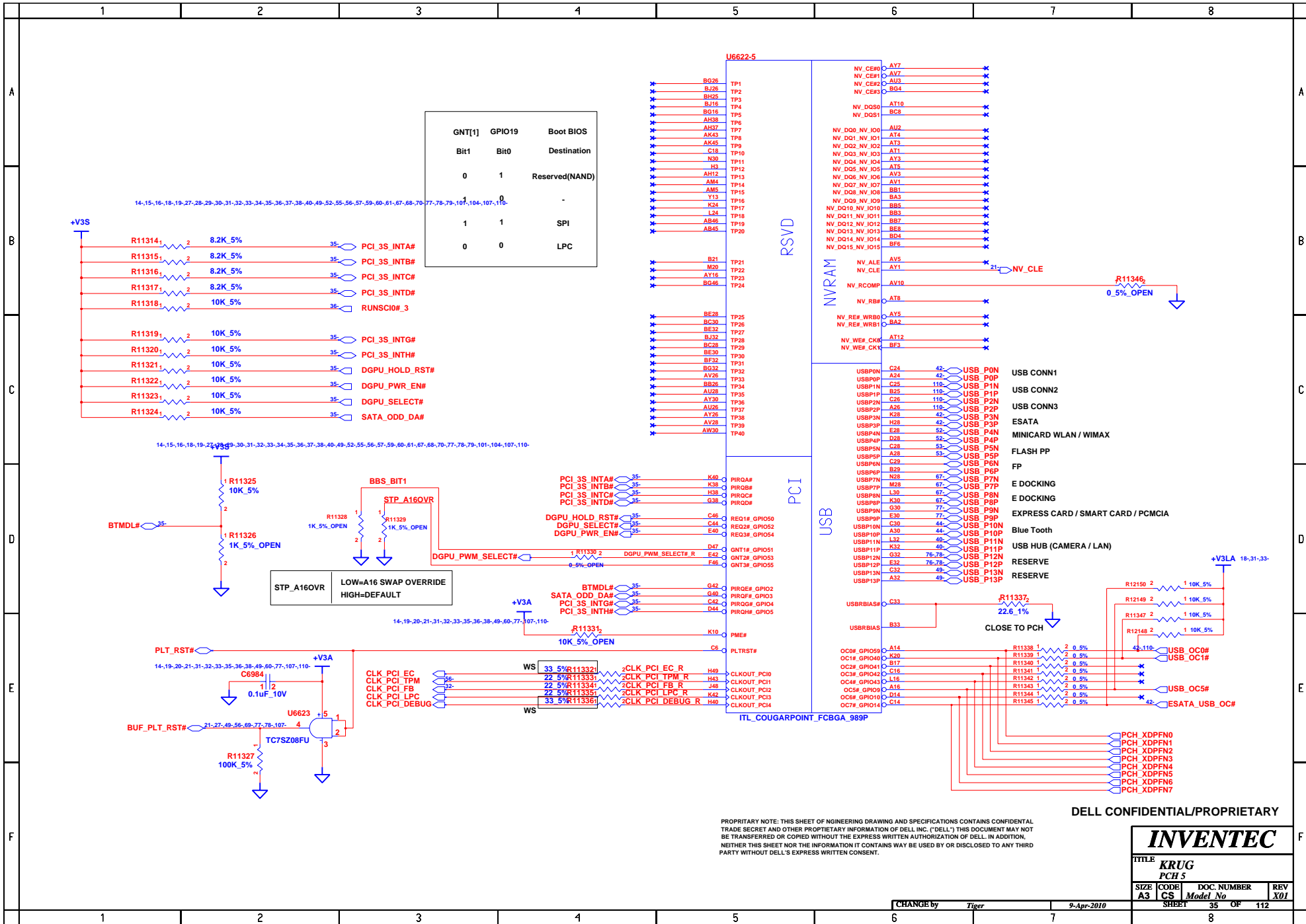
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TITLE **KRUG PCH 4**

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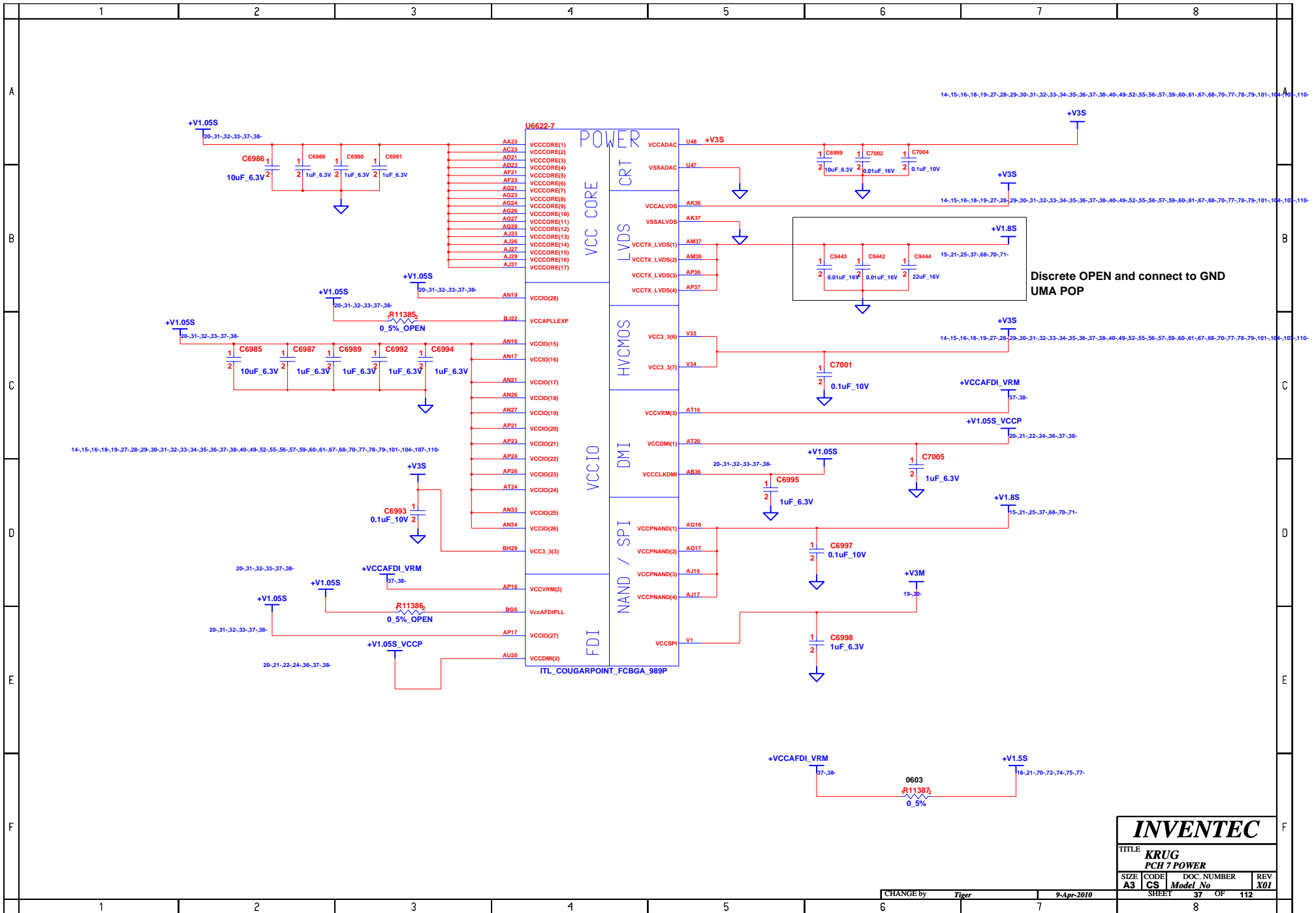
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SHEET		34	OF 112



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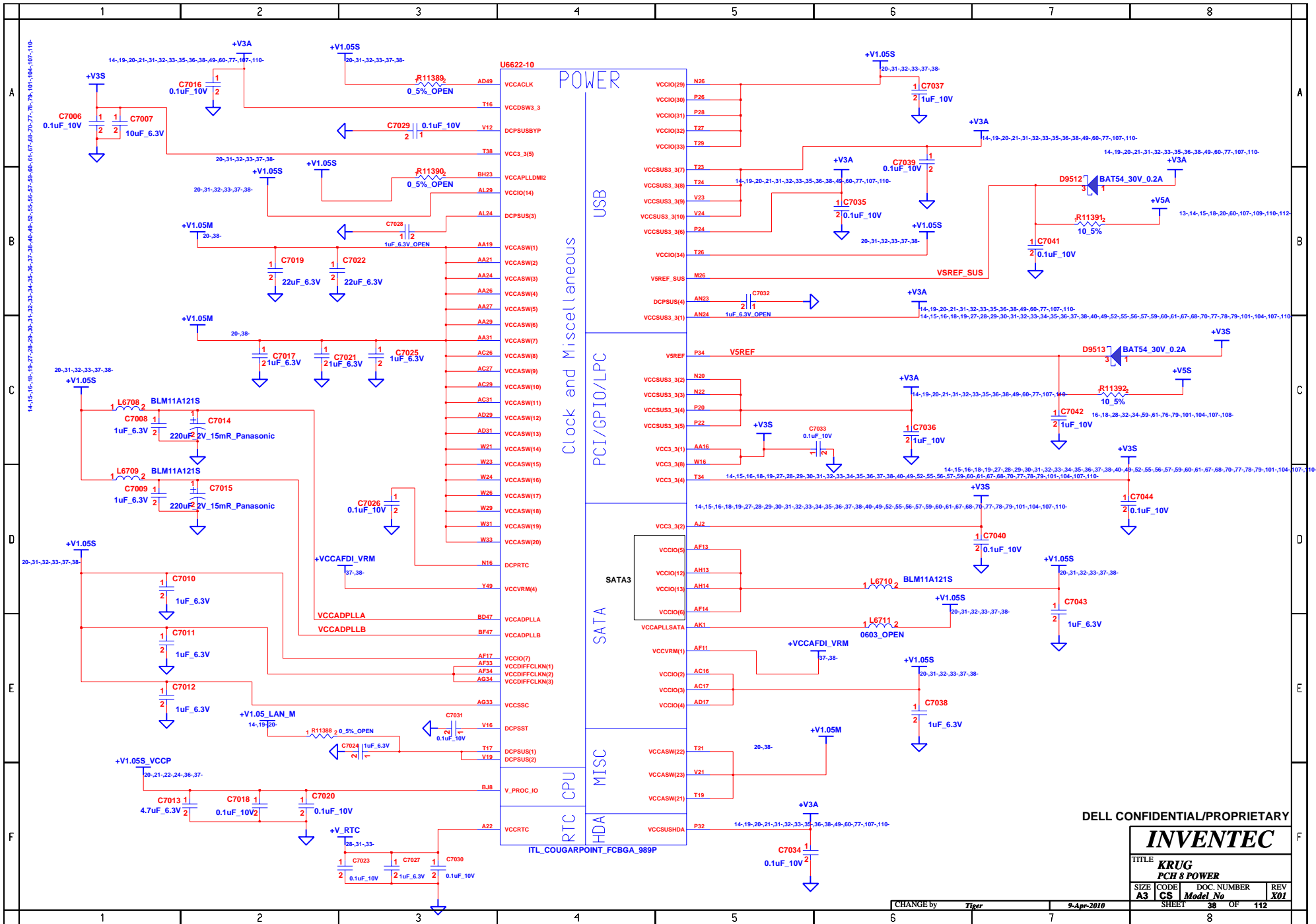
DELL CONFIDENTIAL/PROPRIETARY

INVENTEC				
TITLE KRUG PCH 5				
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01	
CHANGE by <i>Tiger</i>		9-Apr-2010		
PAGE		35 OF 112		



INVENTEC				
TITLE KRUG				
PCH 7 POWER				
SIZE A3	CODE CS	DOC. NUMBER Model No	REV X01	
SHEET 37		OF 112		

CHANGE by *Tiger* 9-Apr-2010

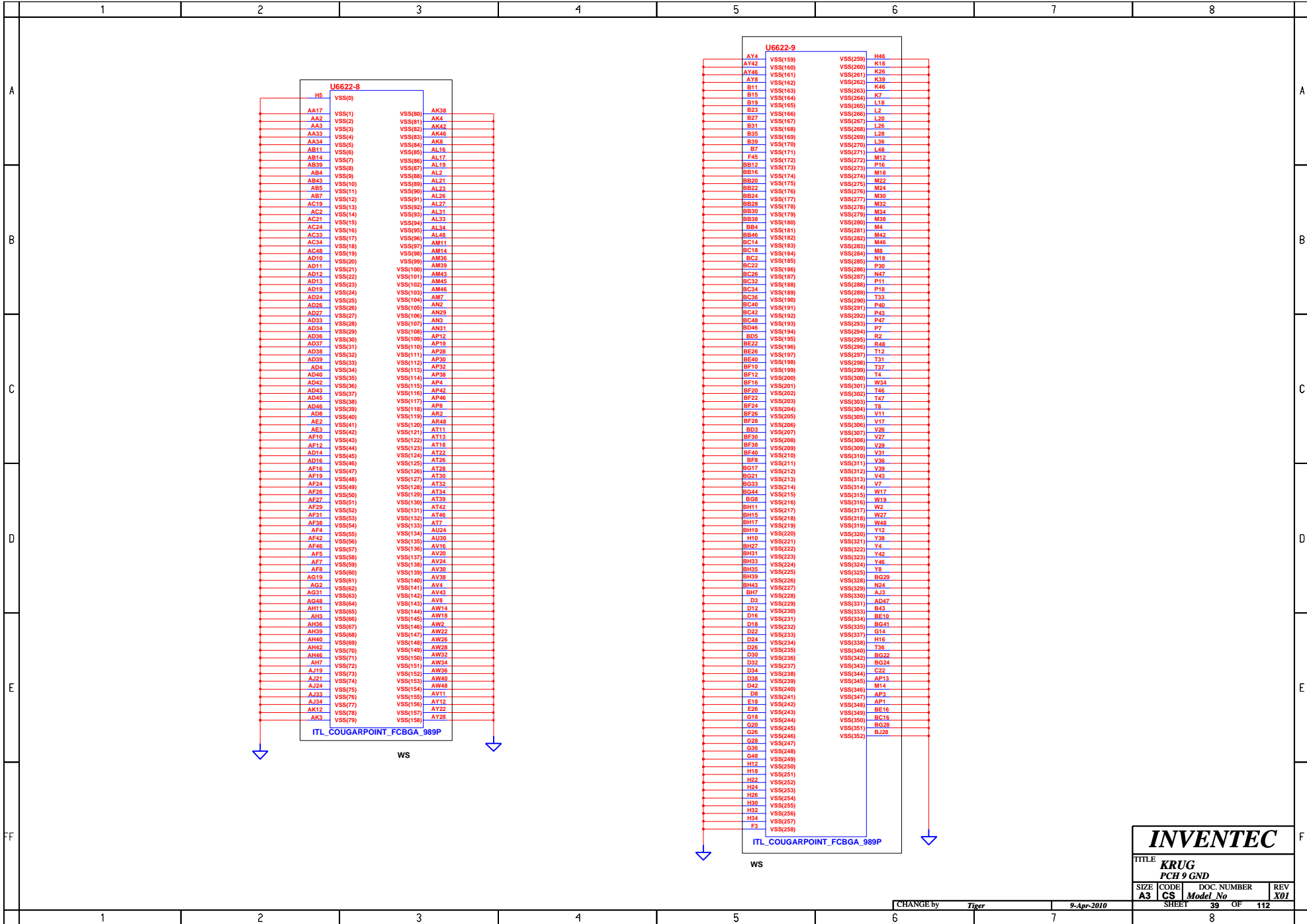


DELL CONFIDENTIAL/PROPRIETARY

INVENTEC

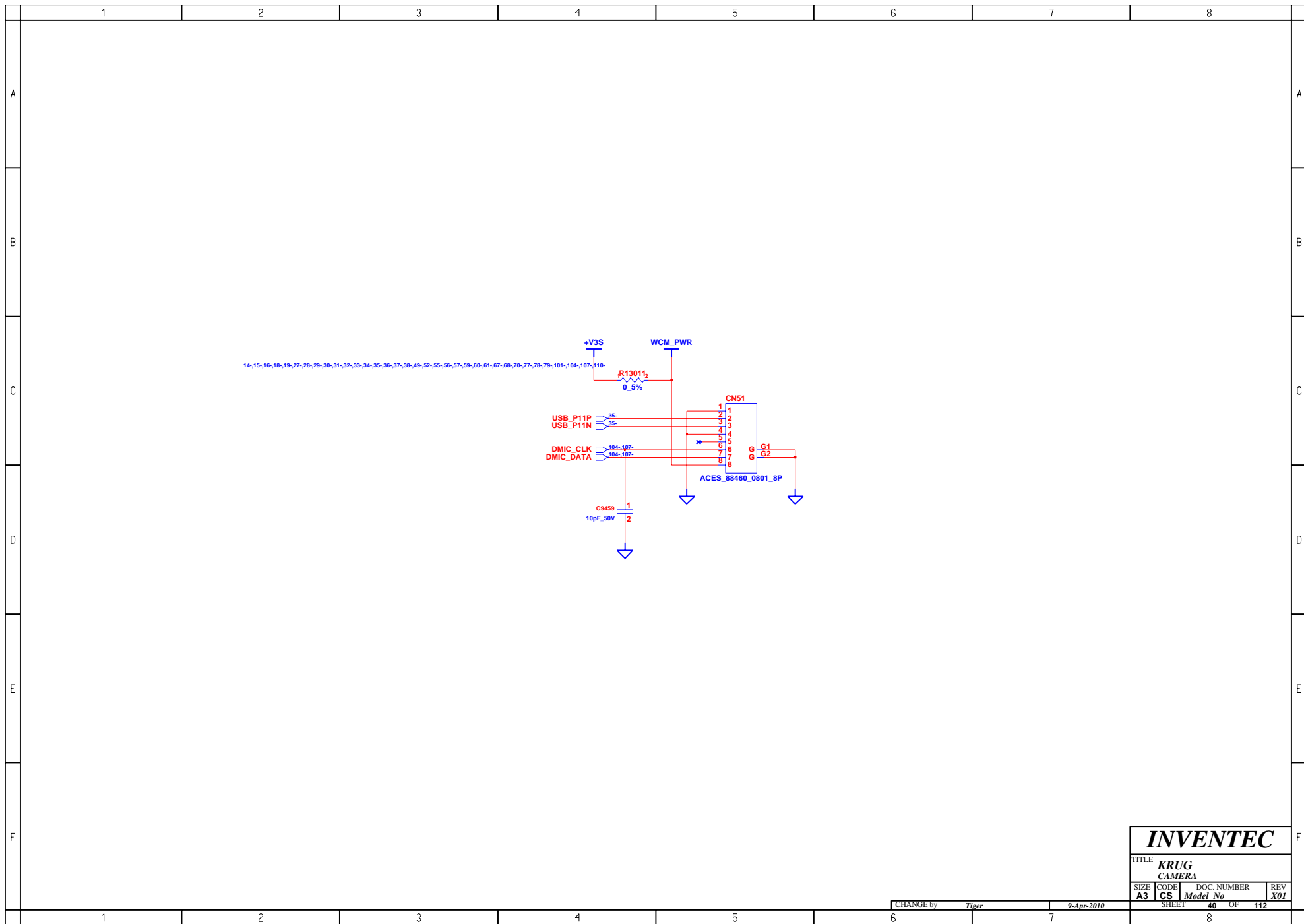
TITLE KRUG PCH 8 POWER			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV X01
SHEET 38		OF 112	

CHANGE by *Tiper* 9-Apr-2010

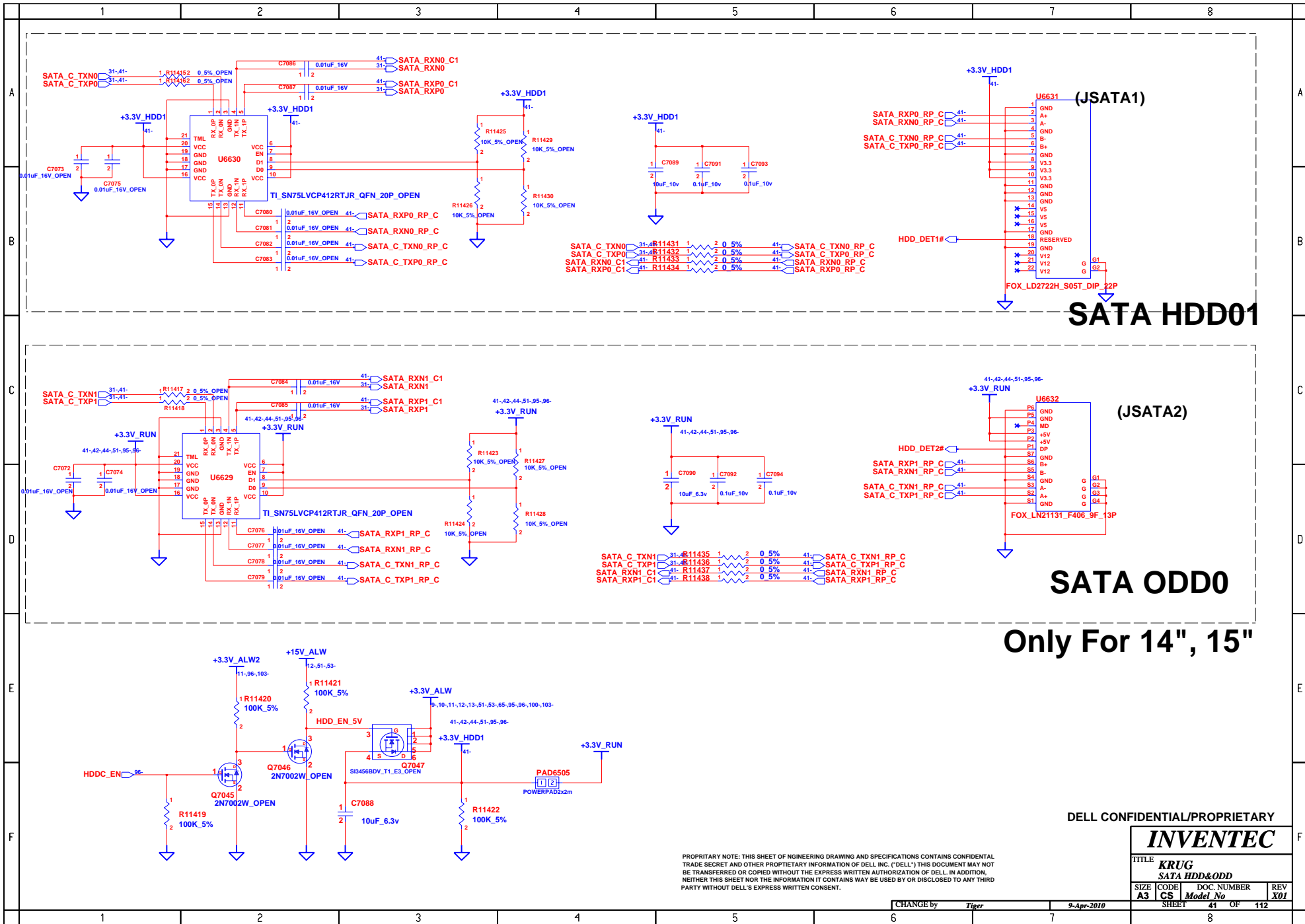


INVENTEC			
TITLE KRUG			
PCH 9 GND			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>Model No</i>	X01
SHEET		OF	
39		112	

CHANGE by *Tiker* 9-Apr-2010



INVENTEC			
TITLE KRUG CAMERA			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	SHEET 40 OF 112



SATA HDD01

SATA ODD0

Only For 14", 15"

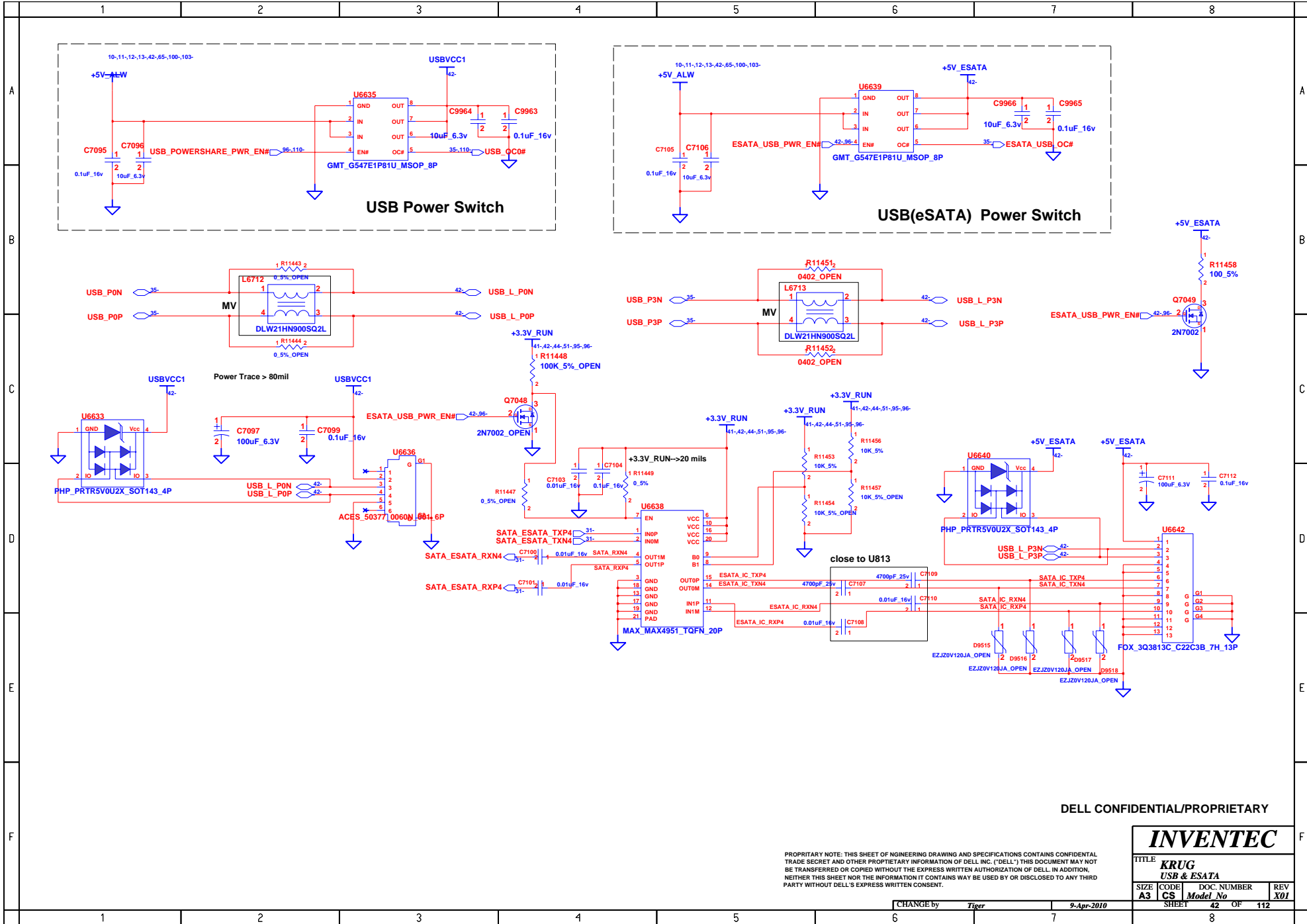
DELL CONFIDENTIAL/PROPRIETARY

INVENTEC

TITLE			
KRUG			
SATA HDD&ODD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		41 OF	112

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CHANGE by *Tiger* 9-Apr-2010



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DELL CONFIDENTIAL/PROPRIETARY

INVENTEC

TITLE KRUG USB & ESATA			
SIZE A3	CODE CS	DOC NUMBER <i>Model No</i>	REV X01
SHEET 42		OF 112	

CHANGE by *Tiger* 9-Apr-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	

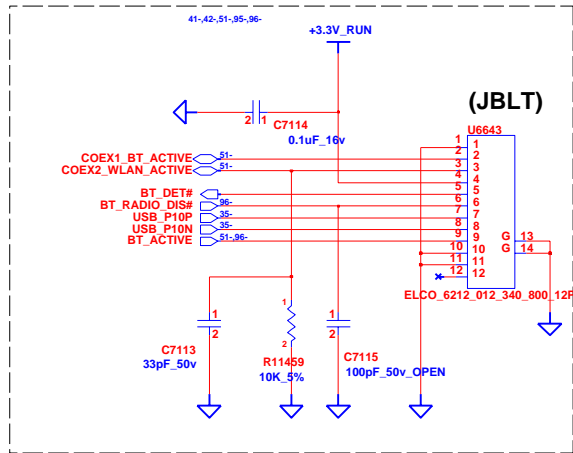
INVENTEC

TITLE **KRUG**
USB Conn

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
SHEET		43	OF 112

CHANGE by *Tiger* 27-Apr-2010

BlueTooth



INVENTEC			
TITLE KRUG			
BT			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET		44 OF 112	
1		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 DELL-KRUG13_15			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	45	OF 112
SHEET		8	

CHANGE by **KRUG** 27-Apr-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 **DELL-KRUG13_15**

SIZE A3	CODE CS	DOC. NUMBER 46	REV OF 112
SHEET		8	

CHANGE by **KRUG** 27-Apr-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	

DELL CONFIDENTIAL/PROPRIETARY

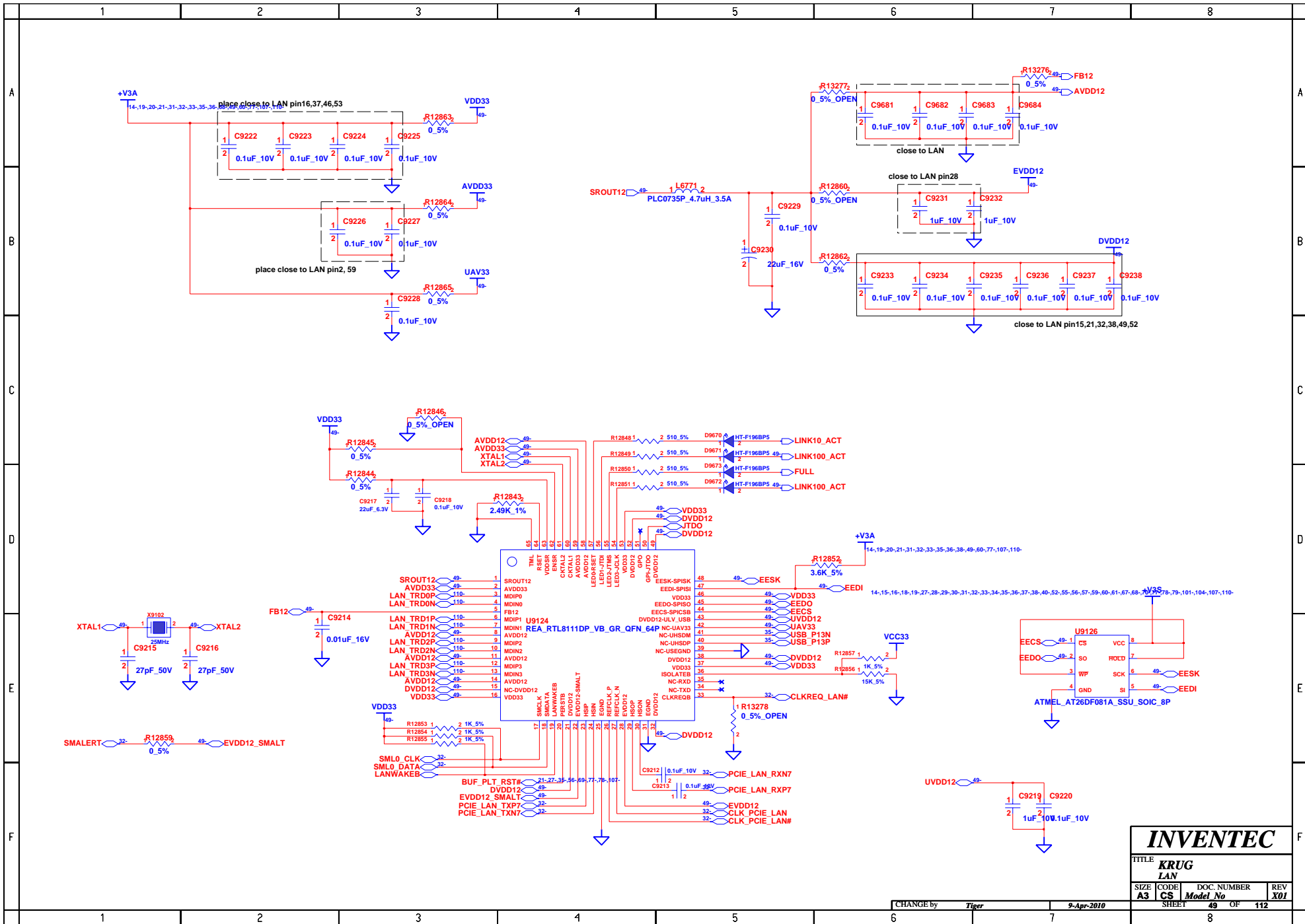
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INVENTEC			
TITLE KRUG			
AUDIO CODEC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		47	OF 112

CHANGE by *Tiger* 27-Apr-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 KRUG			
MDC/Speaker/Combo JACK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>Model No</i>	X01
CHANGE by <i>Tiger</i>		27-Apr-2010	
SHEET		48	OF 112
		8	



INVENTEC			
TITLE KRUG			
LAN			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiker</i>		9-Apr-2010	
SHEET 49		OF 112	

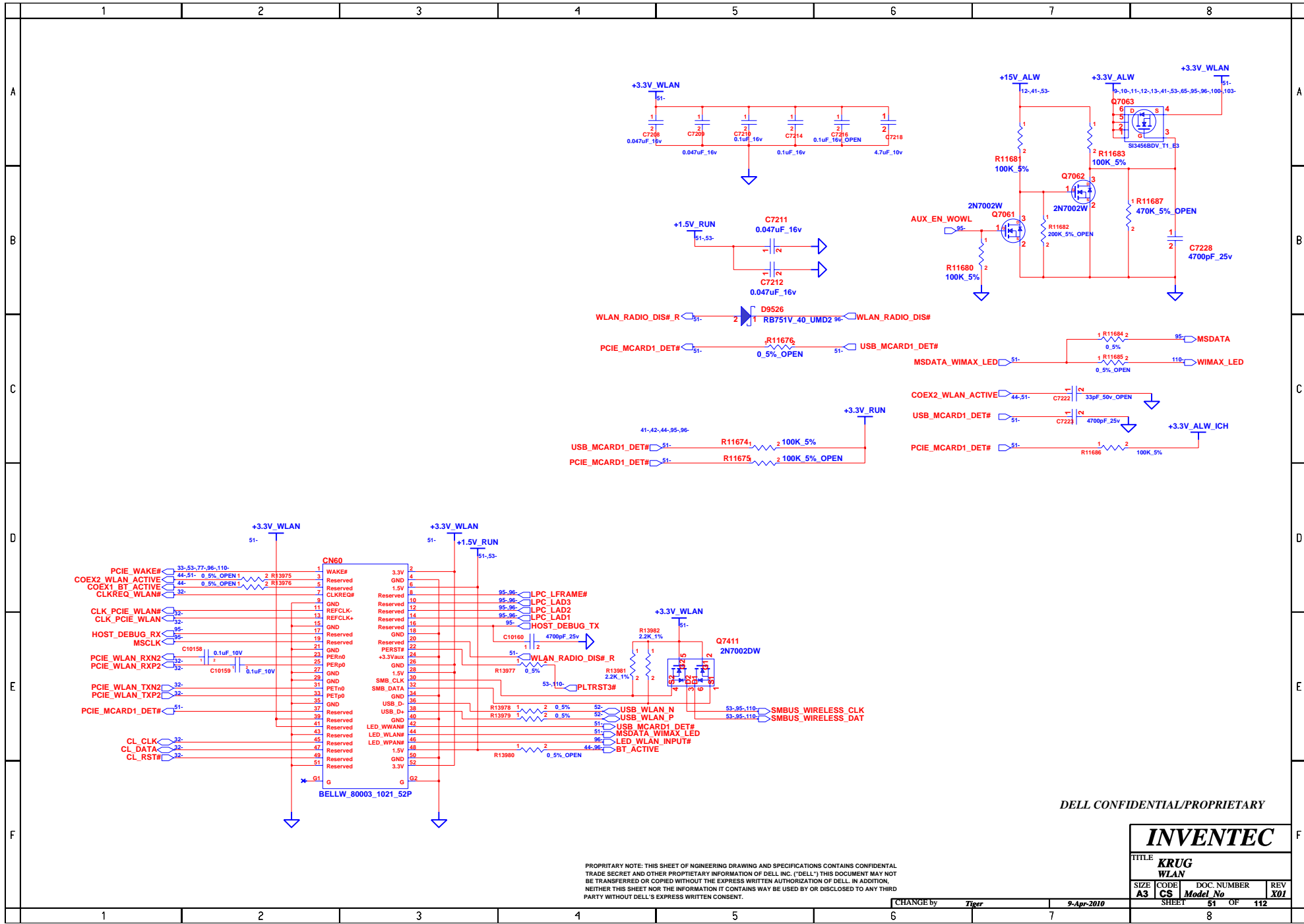
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC

TITLE **KRUG
RJ45/TRANSFORMER**

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
SHEET		50	OF 112

CHANGE by *Tiger* 27-Apr-2010



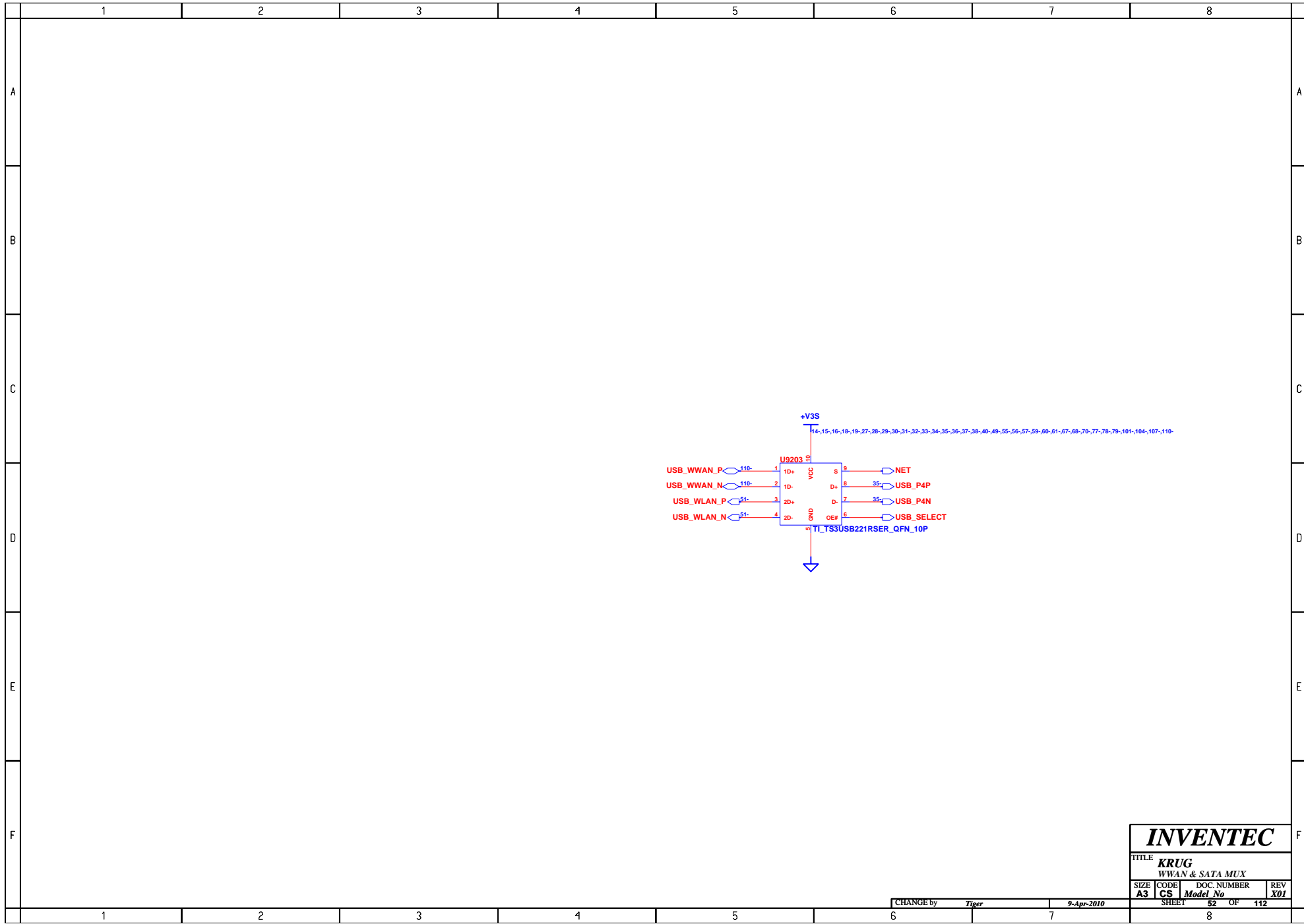
DELL CONFIDENTIAL/PROPRIETARY

INVENTEC

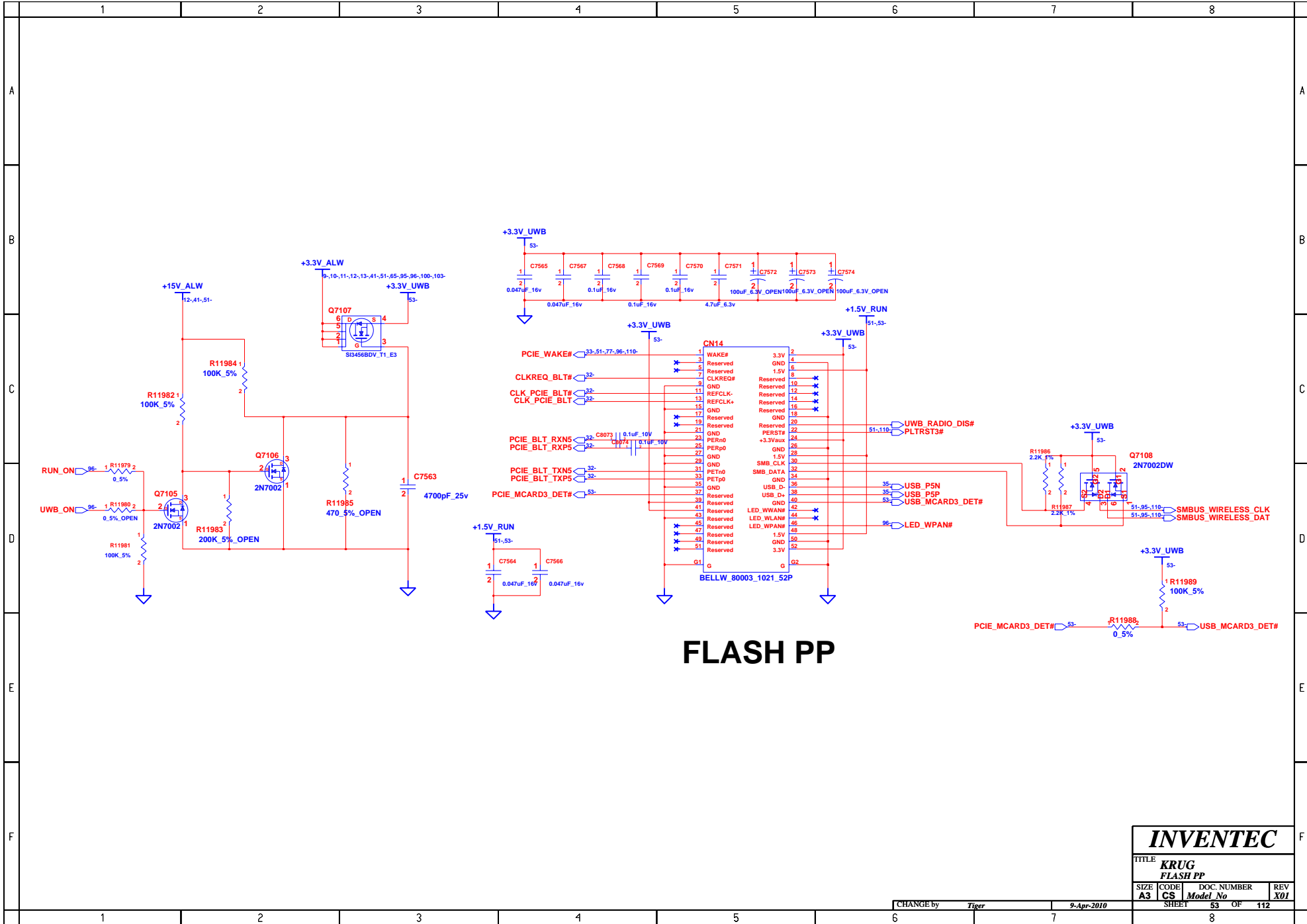
TITLE			
KRUG			
WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		51	OF 112

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CHANGE by *Tifer* 9-Apr-2010



INVENTEC			
TITLE KRUG			
WWAN & SATA MUX			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET 52		OF 112	
1		8	

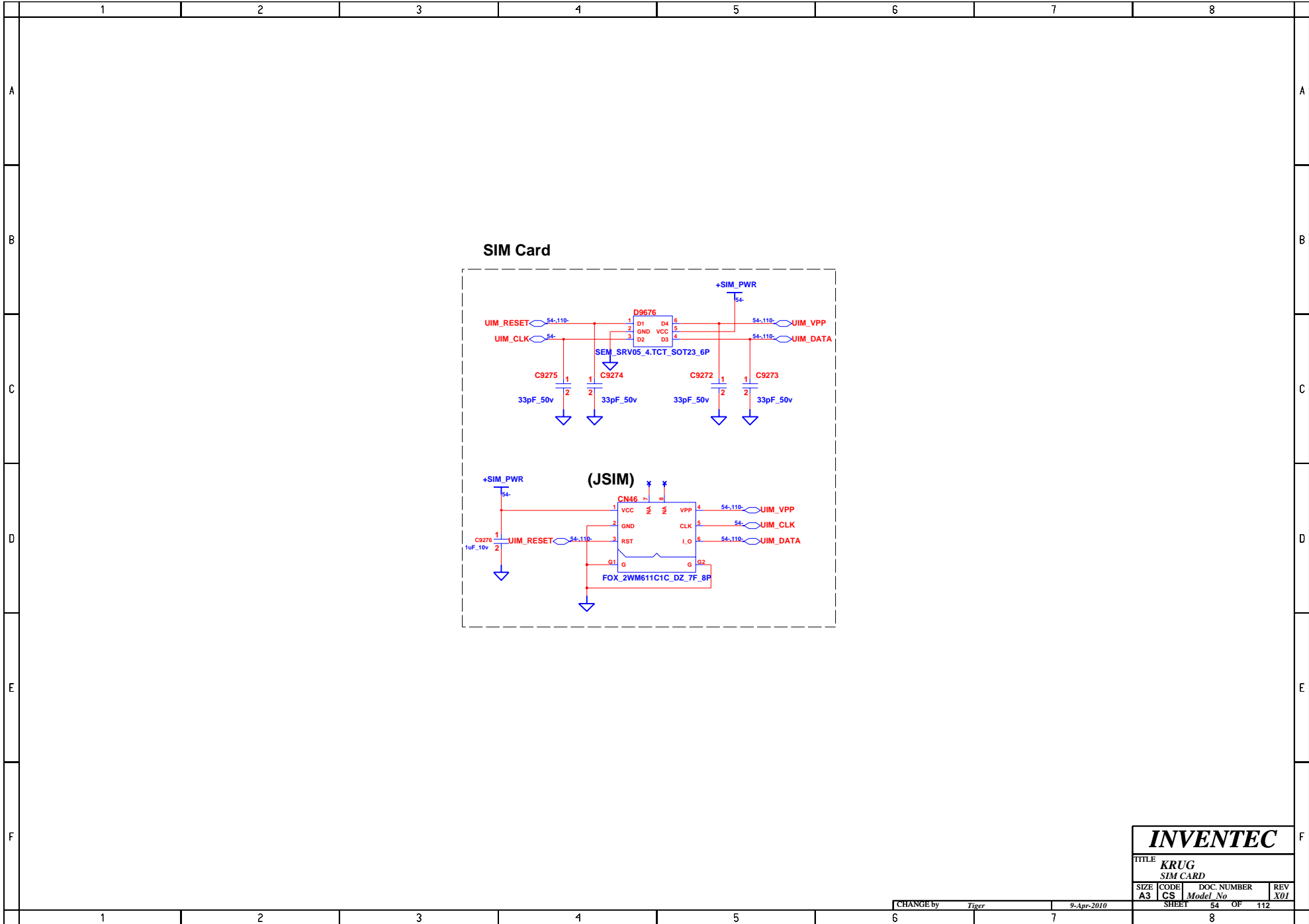


FLASH PP

INVENTEC

TITLE			
KRUG			
FLASH PP			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		53	OF 112

CHANGE by *Tiger* 9-Apr-2010

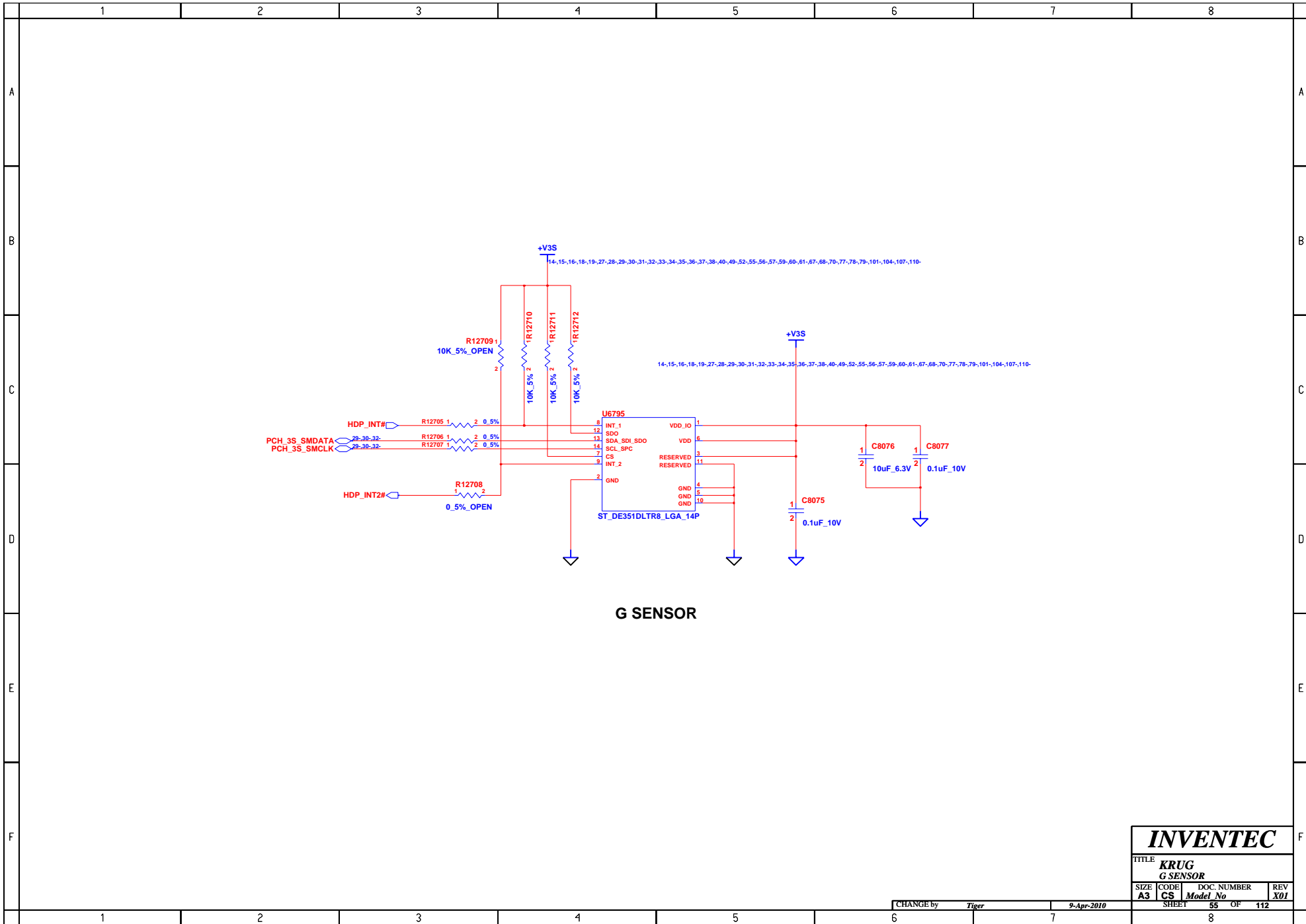


INVENTEC

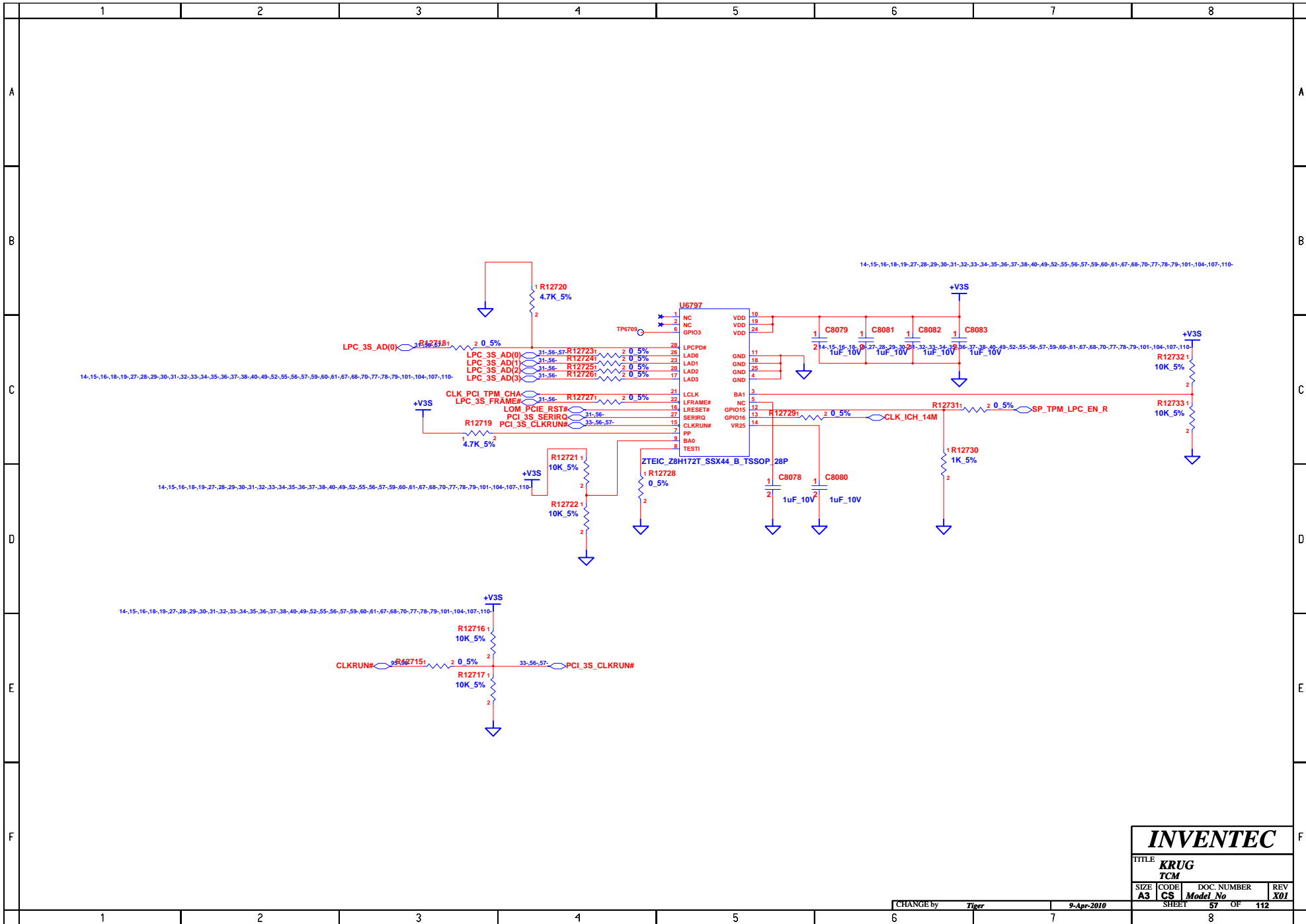
TITLE **KRUG
SIM CARD**

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
SHEET		54 OF 112	

CHANGE by *Tiger* 9-Apr-2010



INVENTEC			
TITLE KRUG			
G SENSOR			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET		55	OF 112
		8	



INVENTEC			
TITLE KRUG			
TCM			
SIZE A3	CODE CS	DOC. NUMBER Model No	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET 57		OF 112	

	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

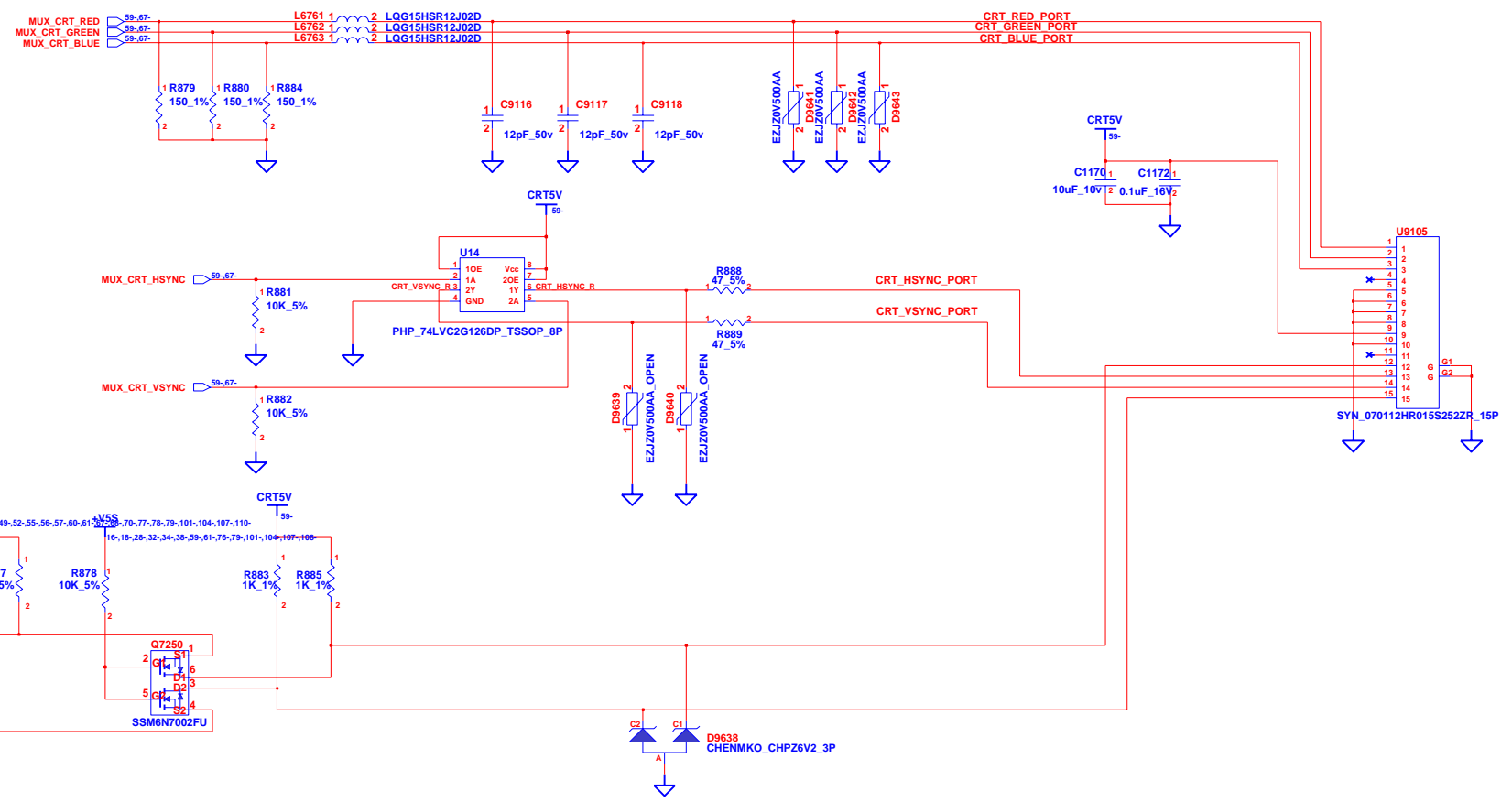
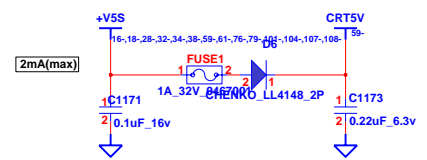
TITLE **KRUG**
FP

SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
SHEET		58	OF 112

CHANGE by *Tiger* 27-Apr-2010

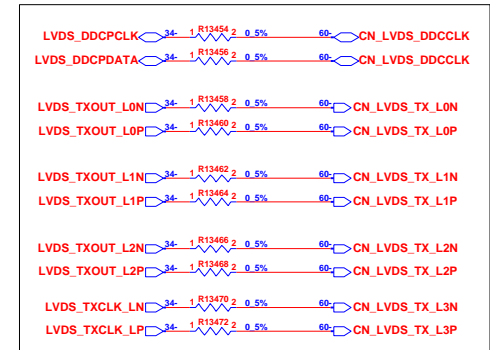
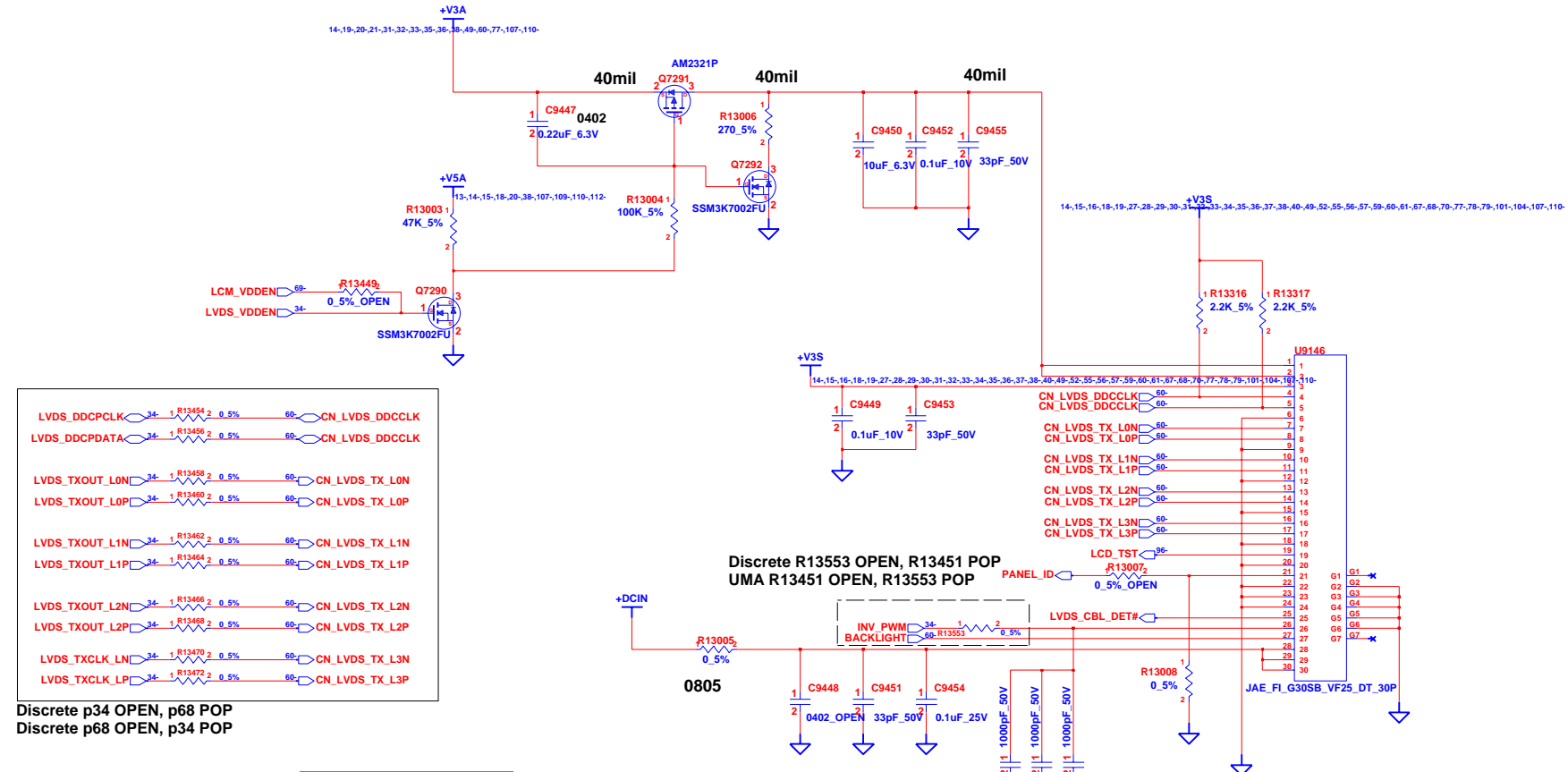
PCH_CRT_BLUE 34.67 R12734 1 2 0.5% OPENS9-67 MUX_CRT_BLUE
 PCH_CRT_GREEN 34.67 R12735 1 2 0.5% OPENS9-67 MUX_CRT_GREEN
 PCH_CRT_RED 34.67 R12736 1 2 0.5% OPENS9-67 MUX_CRT_RED
 PCH_CRT_DDCLK 34.67 R12737 1 2 0.5% OPENS9-67 MUX_CRT_DDCLK
 PCH_CRT_DDCDATA 34.67 R12738 1 2 0.5% OPENS9-67 MUX_CRT_DDCDATA
 PCH_CRT_HSYNC 34.67 R12739 1 2 0.5% OPENS9-67 MUX_CRT_HSYNC
 PCH_CRT_VSYNC 34.67 R12740 1 2 0.5% OPENS9-67 MUX_CRT_VSYNC

Discrete OPEN
UMA no docking POP
UMA with docking OPEN



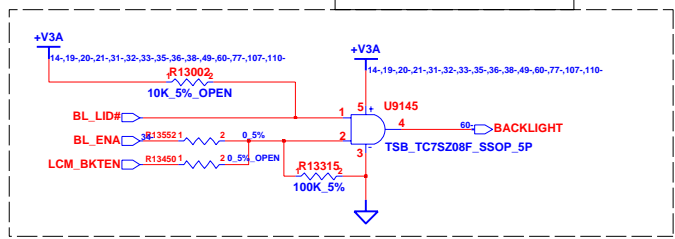
INVENTEC			
TITLE KRUG CRT CONN			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiper</i>		9-Apr-2010	SHEET 59 OF 112

LVDS Interface



Discrete p34 OPEN, p68 POP
Discrete p68 OPEN, p34 POP

LCD brightness control



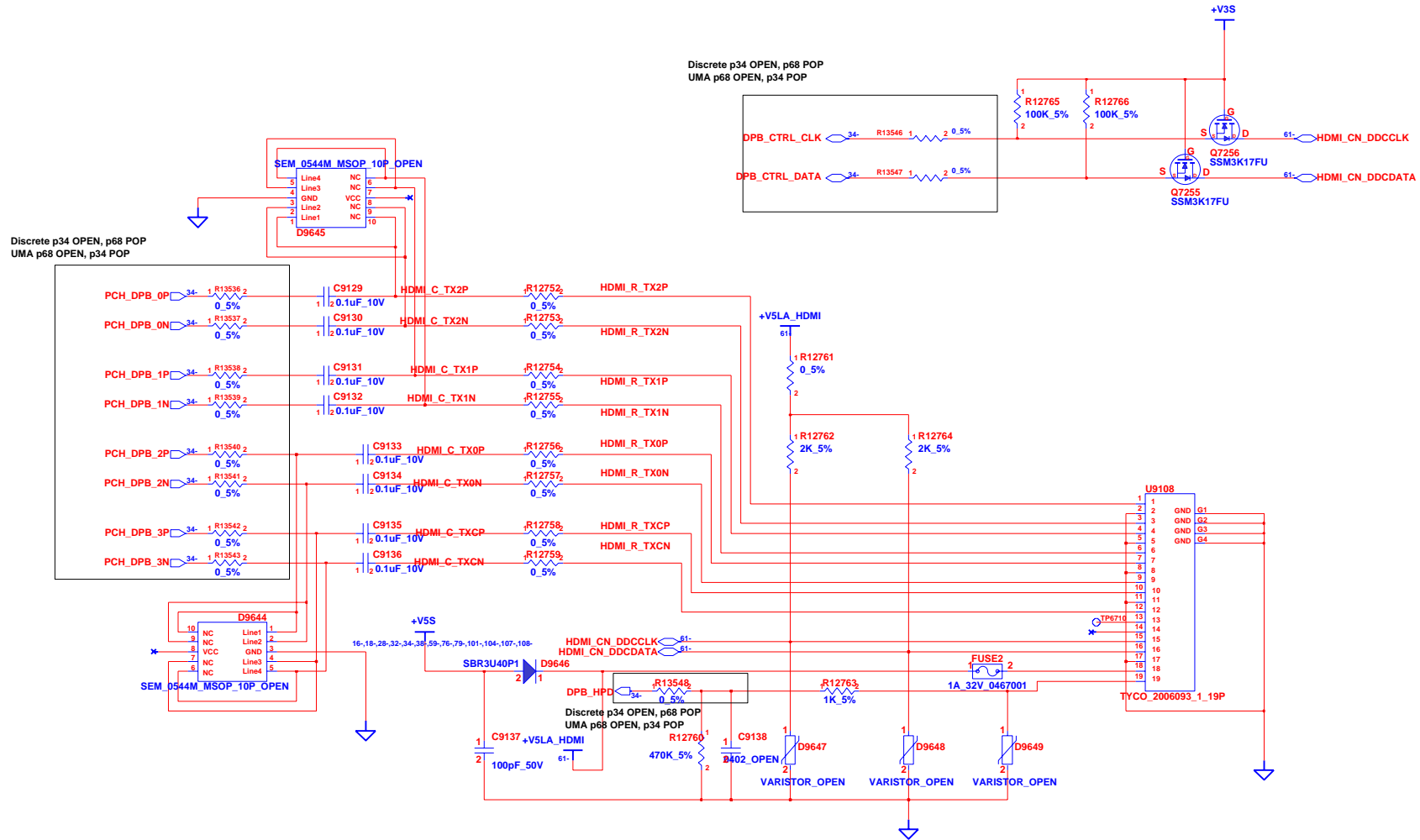
Discrete R13552 OPEN, R13450 POP
UMA R13450 OPEN, R13552 POP

INVENTEC

TITLE			
KRUG			
LVDS CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		60 OF	112

CHANGE by Tiger 9-Apr-2010

14, 15, 16, 18, 19, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 49, 52, 55, 56, 57, 59, 60, 67, 68, 70, 77, 78, 79, 101, 104, 107, 110



INVENTEC				
TITLE KRUG HDMI				
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01	
CHANGE by <i>Tiger</i>		9-Apr-2010		
SHEET 61 OF 112			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 KRUG			
LED			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>Model No</i>	X01
SHEET		62	OF 112

CHANGE by *Tiger* 27-Apr-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			
KRUG			
5138 CARD READER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>Model No</i>	X01
SHEET		63	OF 112

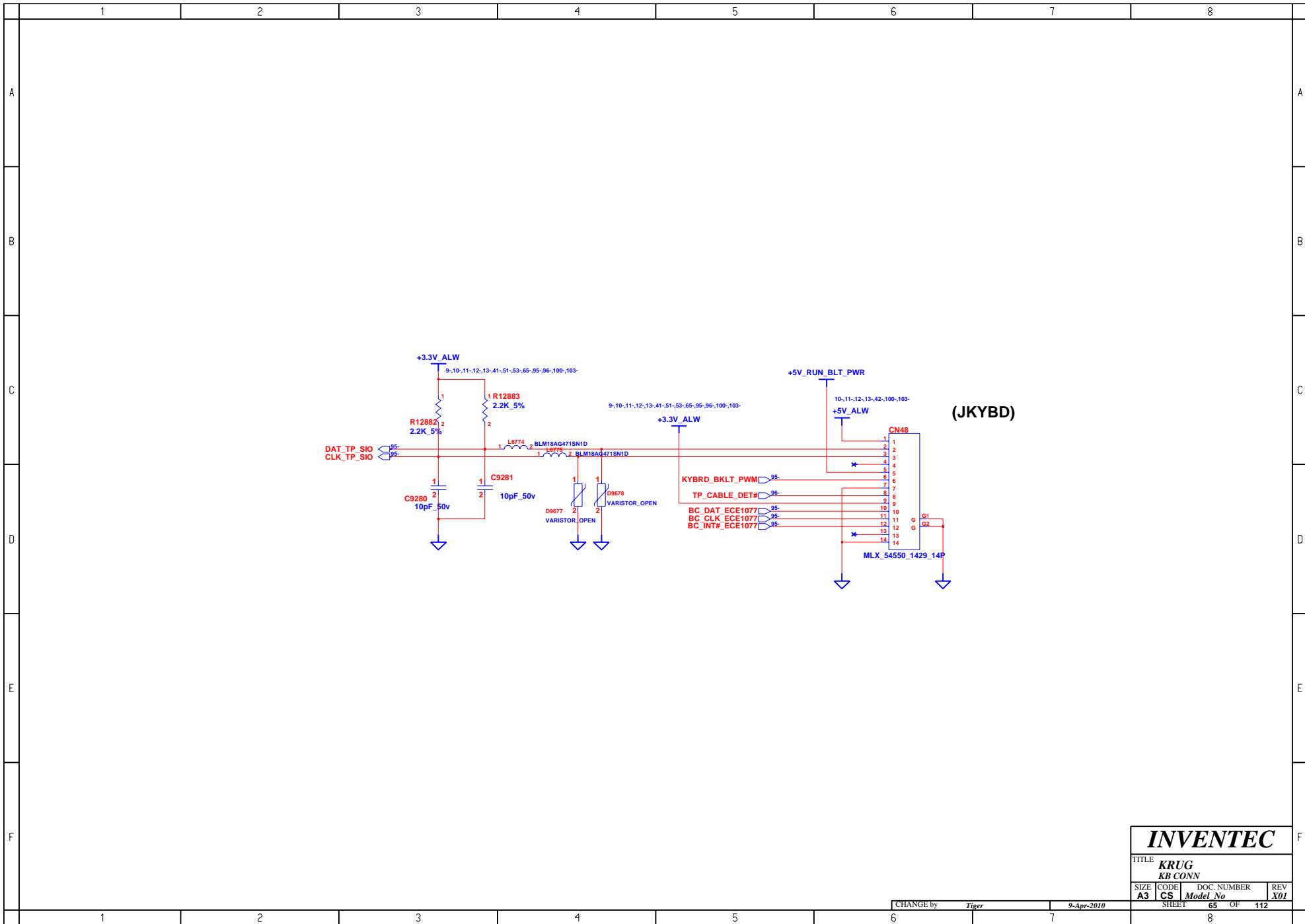
CHANGE by *Tiger* 27-Apr-2010

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

INVENTEC

TITLE			
KRUG			
RSU232 CARD READER			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	<i>Model No</i>	X01
SHEET		64	OF 112

CHANGE by *Tiger* 27-Apr-2010



INVENTEC

TITLE			
KRUG			
KB CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET			OF
65			112

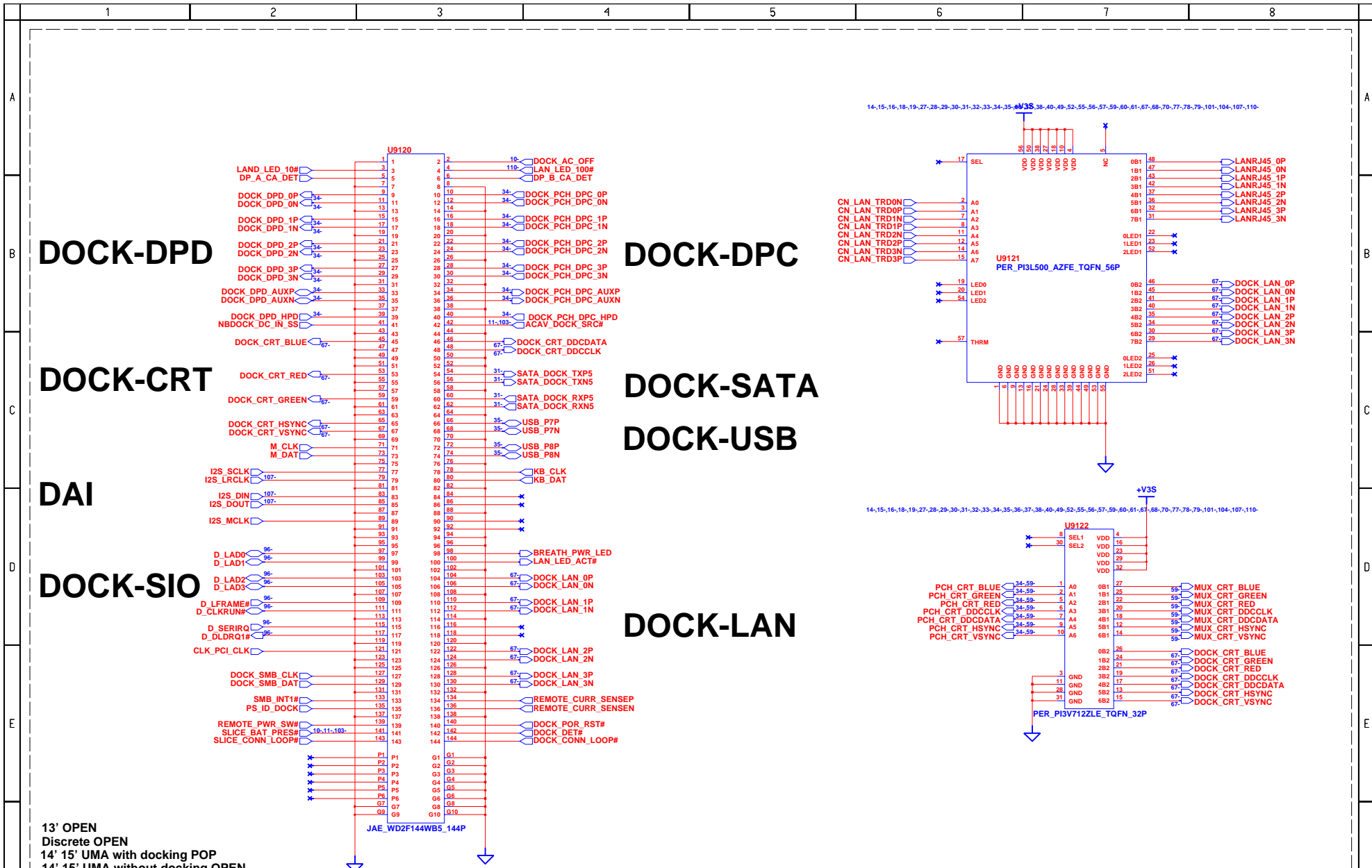
CHANGE by Tiger 9-Apr-2010

	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 KRUG			
POWER Button/RF Switch/HALL Sensor			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		66	OF 112

CHANGE by *Tiger* 27-Apr-2010



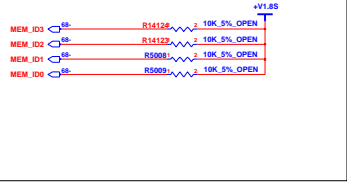
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INVENTEC

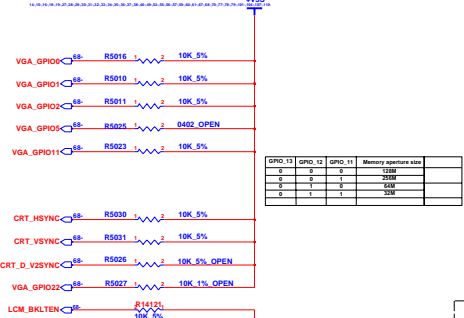
TITLE KRUG E-DOCKING			
SIZE A3	CODE CS	DOC NUMBER <i>Model No</i>	REV X01
SHEET		67	OF 112

CHANGE by *Tiker* 9-Apr-2010

PARK XT-S3 P/N = 6019B0730201
 M92 XTX-S2 P/N = 6019B0678502

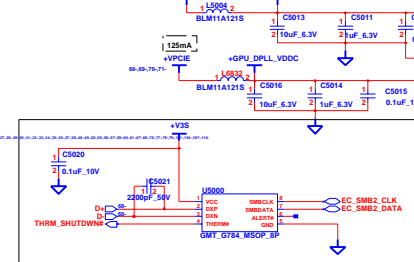
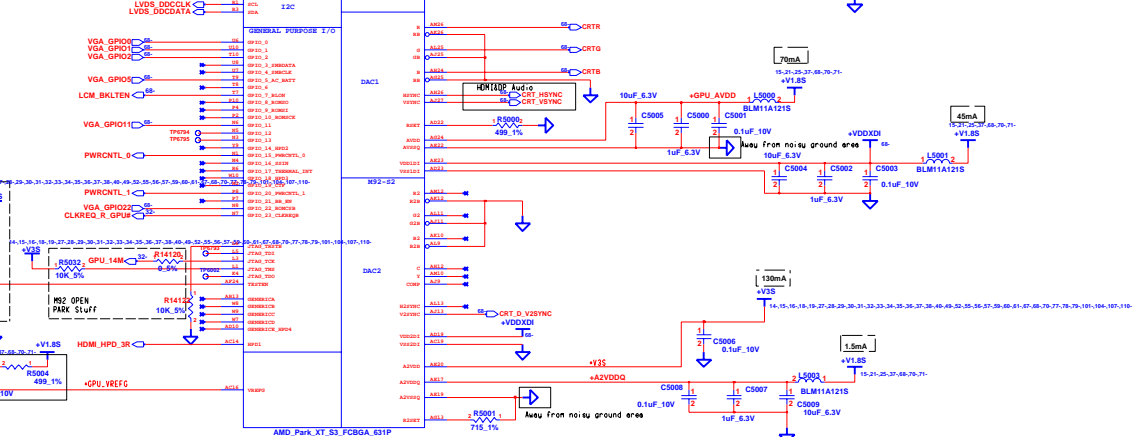
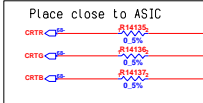
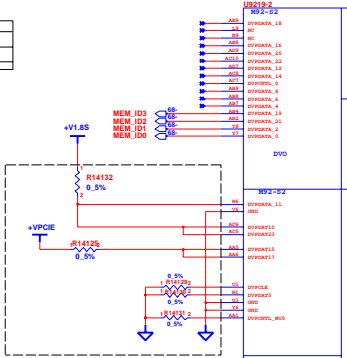


MEM_ID0	VRAM Vendor & Size	M92 XTX-S2
00h	Hynix 512MB (E15082)	Hynix 512MB (E15082)
01h	Hynix 512MB (E15082)	Hynix 512MB (E15082)
02h	Samsung 512MB (E15082)	Samsung 512MB (E15082)
03h	Samsung 512MB (E15082)	Samsung 512MB (E15082)
04h	Hynix 128MB (E10B)	Hynix 128MB (E10B)
05h	Samsung 128MB (E10B)	Samsung 128MB (E10B)
06h
07h



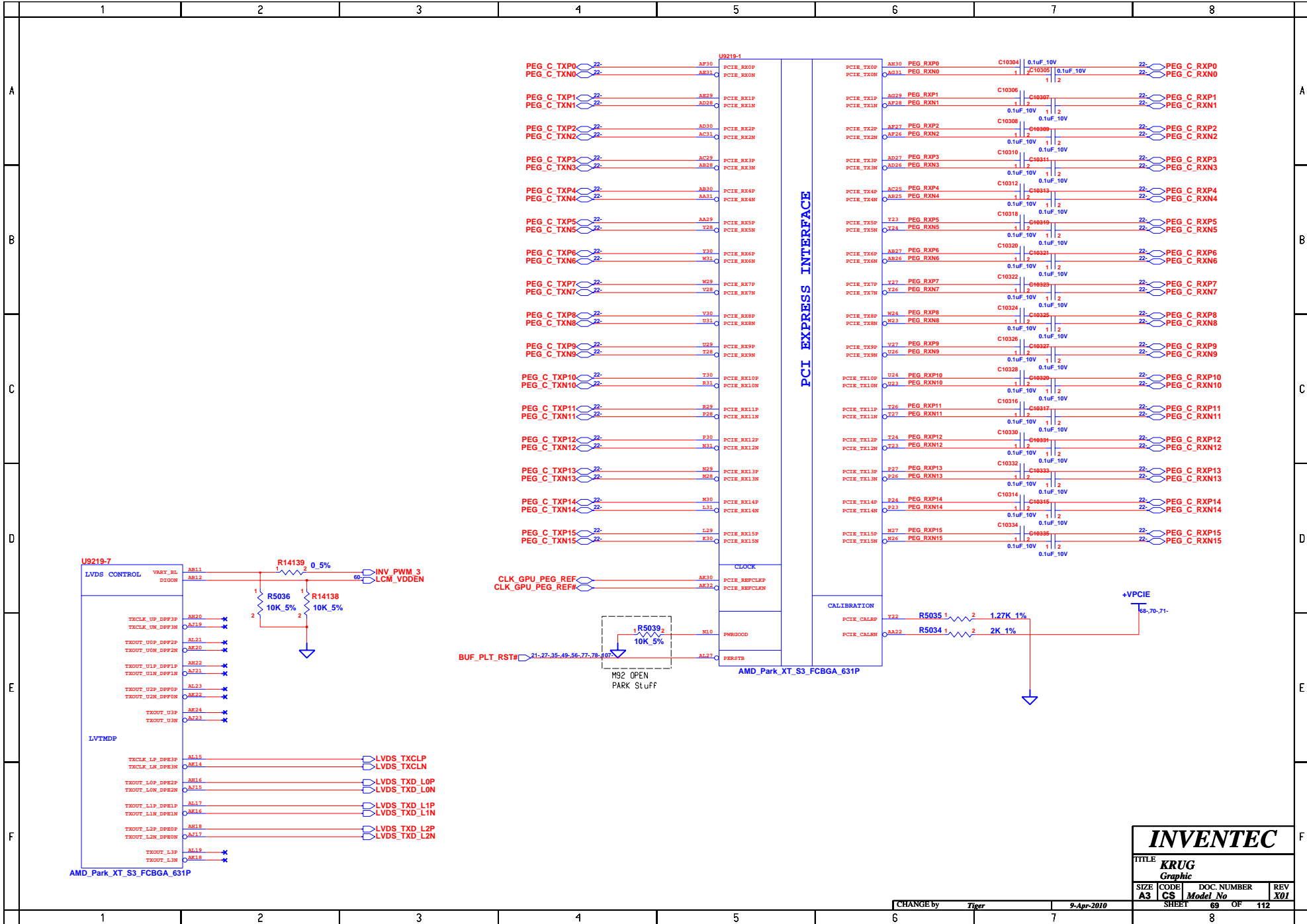
GPIO_12	GPIO_13	GPIO_11	Memory aperture size
0	0	0	256M
0	0	1	256M
0	1	0	512M
0	1	1	512M

Pin Base Straps		M92 OPEN																					
GPIO_0	Transmitter Power Saving Enable	0: 50% Tx output swing (default)	1: Full Tx output swing																				
GPIO_1	PCIe transmitter De-emphasis	0: De-emphasis disabled (default)	1: De-emphasis enabled																				
GPIO_2	GEN1GEN2 enable	0: GEN1 (default)	1: GEN2																				
GPIO_8	Must be low during reset	Left unconnected																					
GPIO_21		Left unconnected																					
GPIO_9	VGA Disable	0: Enable (default)	1: Disable																				
GPIO_11[13]	Memory aperture size	<table border="1"> <thead> <tr> <th>GPIO_12</th> <th>GPIO_13</th> <th>GPIO_11</th> <th>Memory aperture size</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>256M</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>256M</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>512M</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>512M</td> </tr> </tbody> </table>		GPIO_12	GPIO_13	GPIO_11	Memory aperture size	0	0	0	256M	0	0	1	256M	0	1	0	512M	0	1	1	512M
GPIO_12	GPIO_13	GPIO_11	Memory aperture size																				
0	0	0	256M																				
0	0	1	256M																				
0	1	0	512M																				
0	1	1	512M																				
GPIO_22	Enable external BIOS ROM device	0: Disable (default)	1: Enable																				
HSYNC[1]	Audio[1:0]	00: No audio function																					
VSYNC[0]		01: Audio for DP and HDMI if dongle is detected 10: Audio for DP 11: Audio for DP and HDMI																					

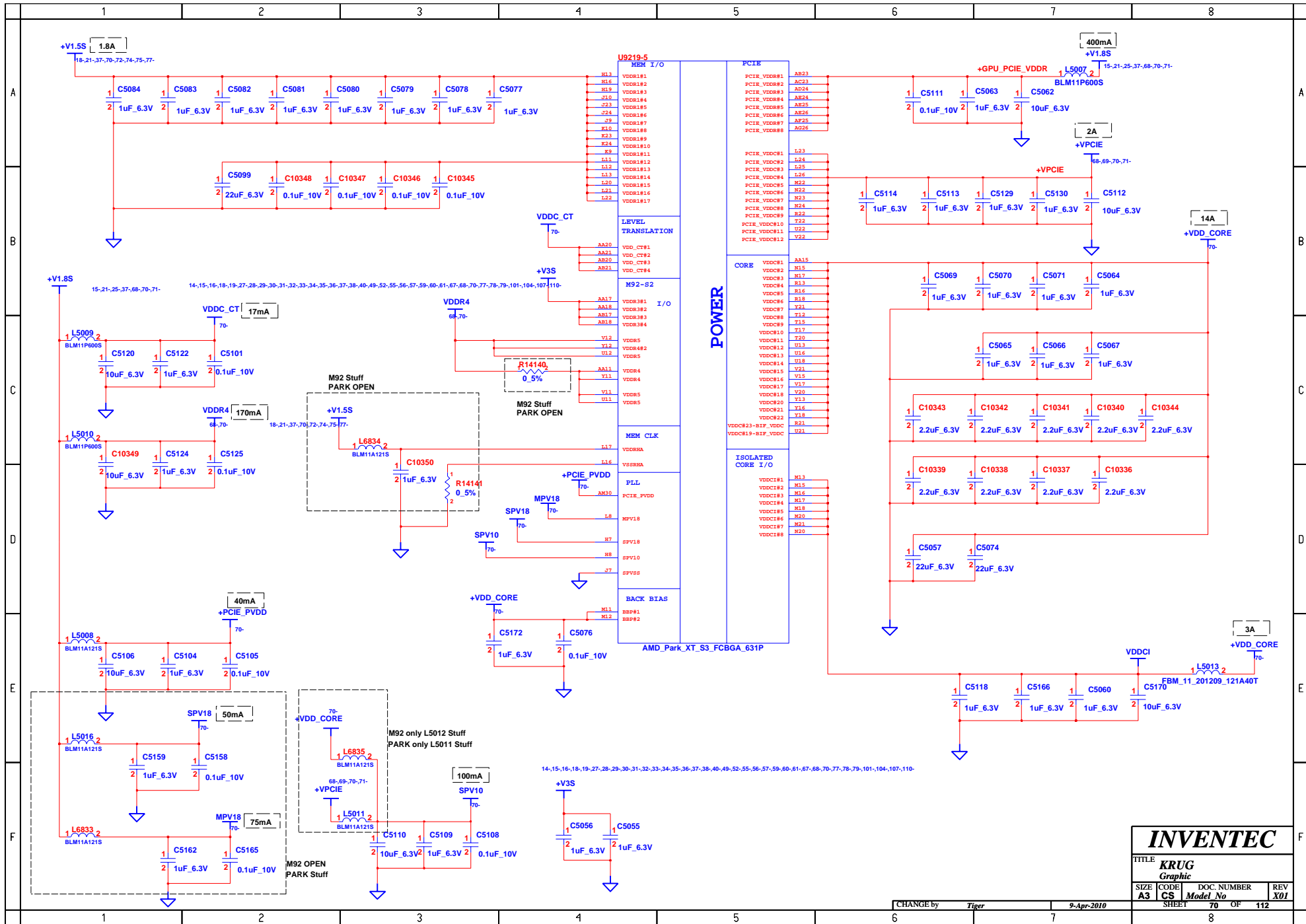


Engineer	COMPANY NAME		
Drawn by	Address		
R&D CHK	City		
DOC CTRL CHK	TITLE	Size	D
MFG CTRL CHK	Graphic		

Changed by	Date Changed	Time	QA CHK	REV	Drawing Number	Sheet 68	of 112
KRUG	9-Apr-2010	2:09:08 pm		X01			

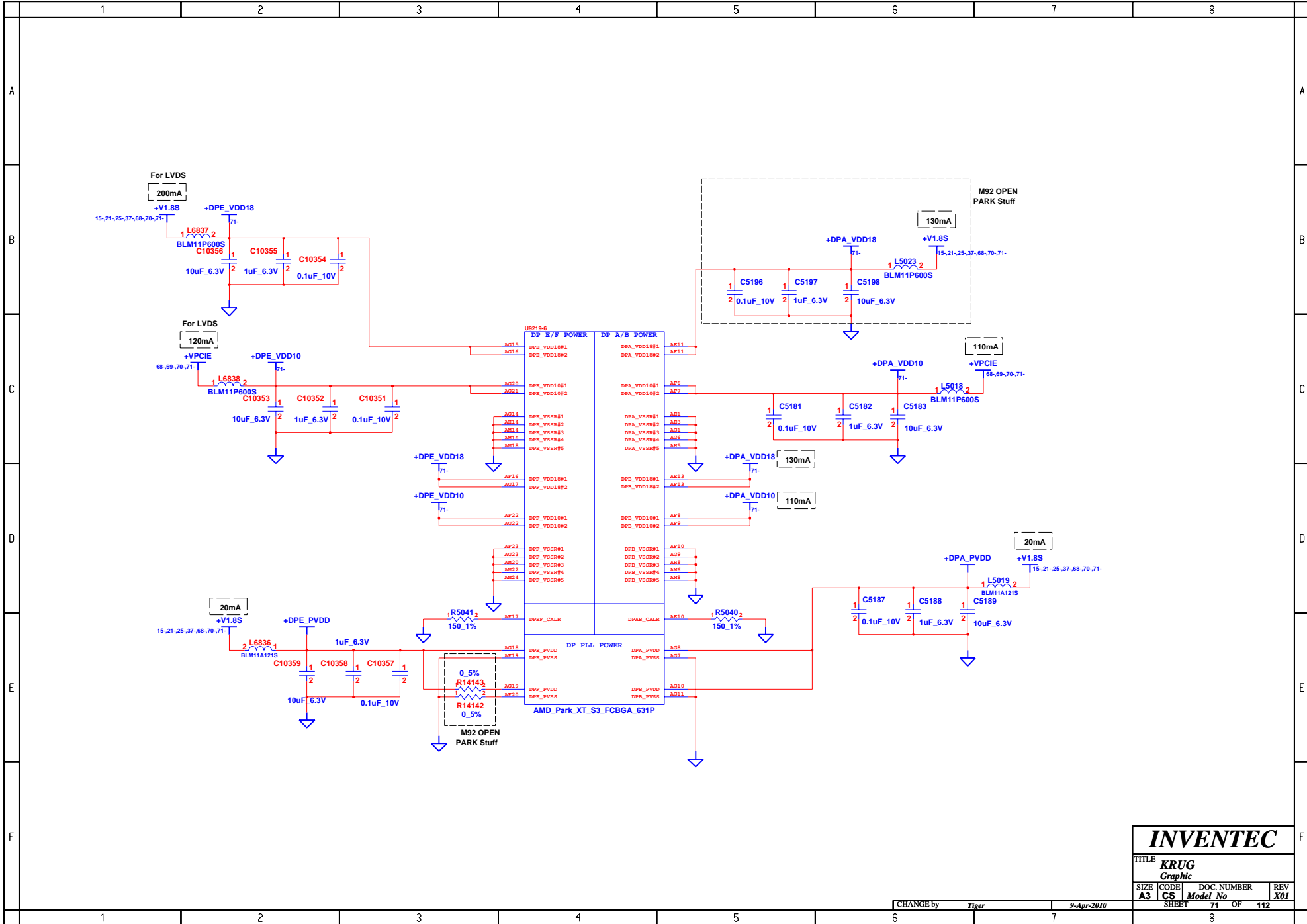


INVENTEC			
TITLE KRUG Graphic			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET		69 OF 112	

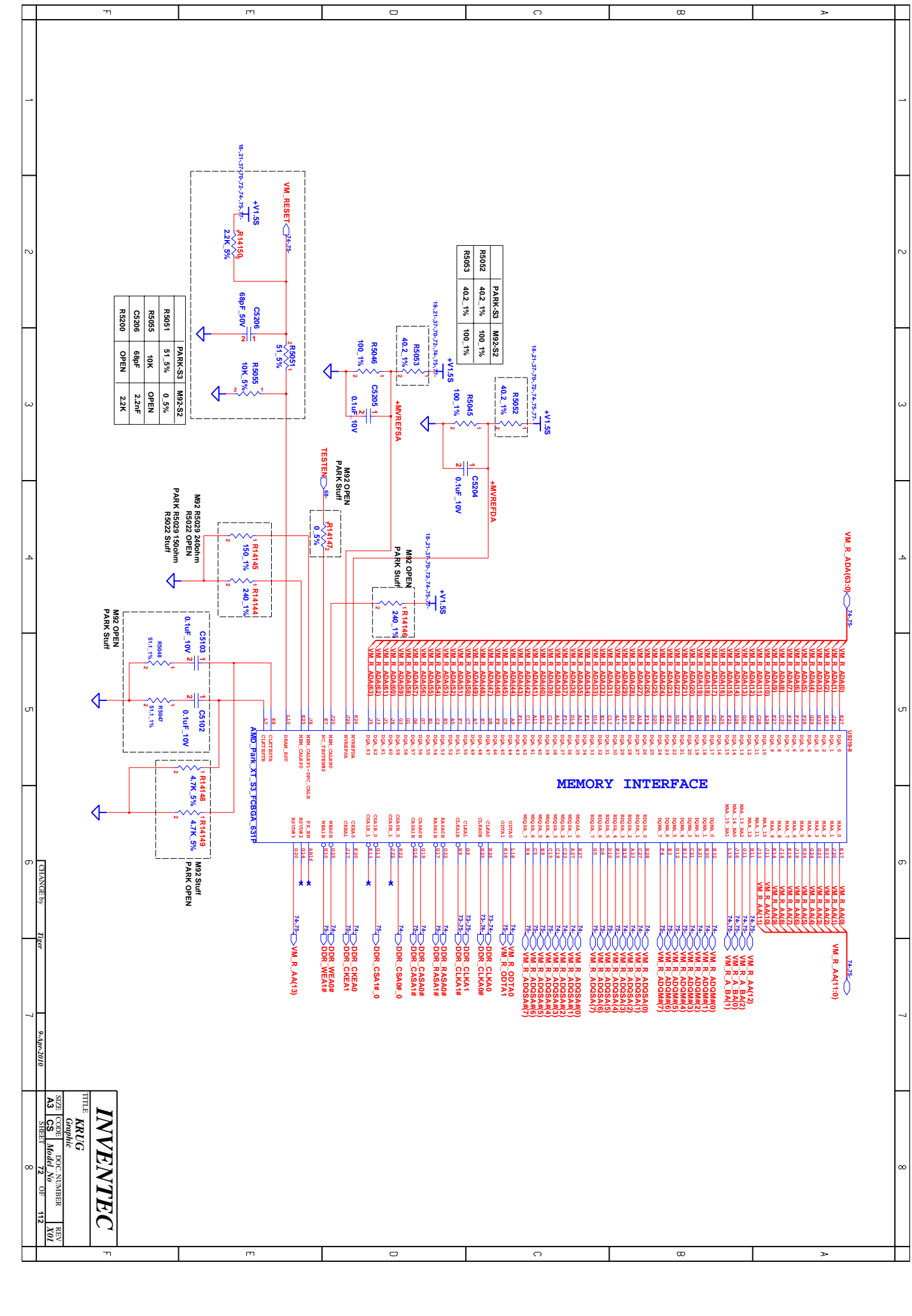


INVENTEC				
TITLE KRUG Graphic				
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01	
SHEET		70	OF	112

CHANGE by *Tiger* 9-Apr-2010



INVENTEC			
TITLE KRUG Graphic			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET 71		OF 112	



MEMORY INTERFACE

PARK-S3	M92-S2
R9052	40.2 1%
R9053	40.2 1%

R5051	51.5%	M92-S3	0.5%
R9055	10K	OPEN	
C5206	689P	2.2nF	
R5200	OPEN	22K	

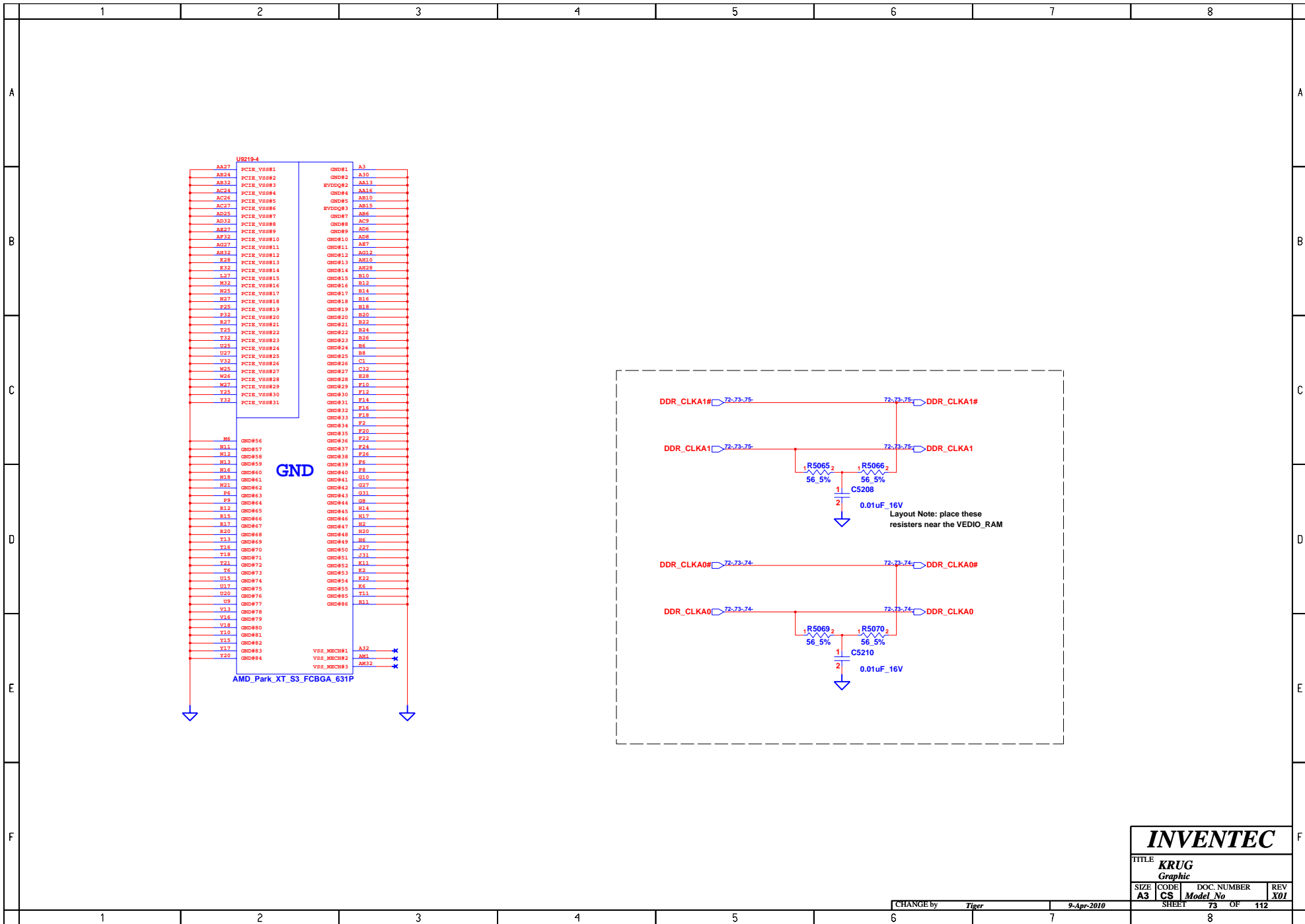
M92 R5029	240ohm
R5022	OPEN
PARK R5029	150ohm
R5022	Stuff

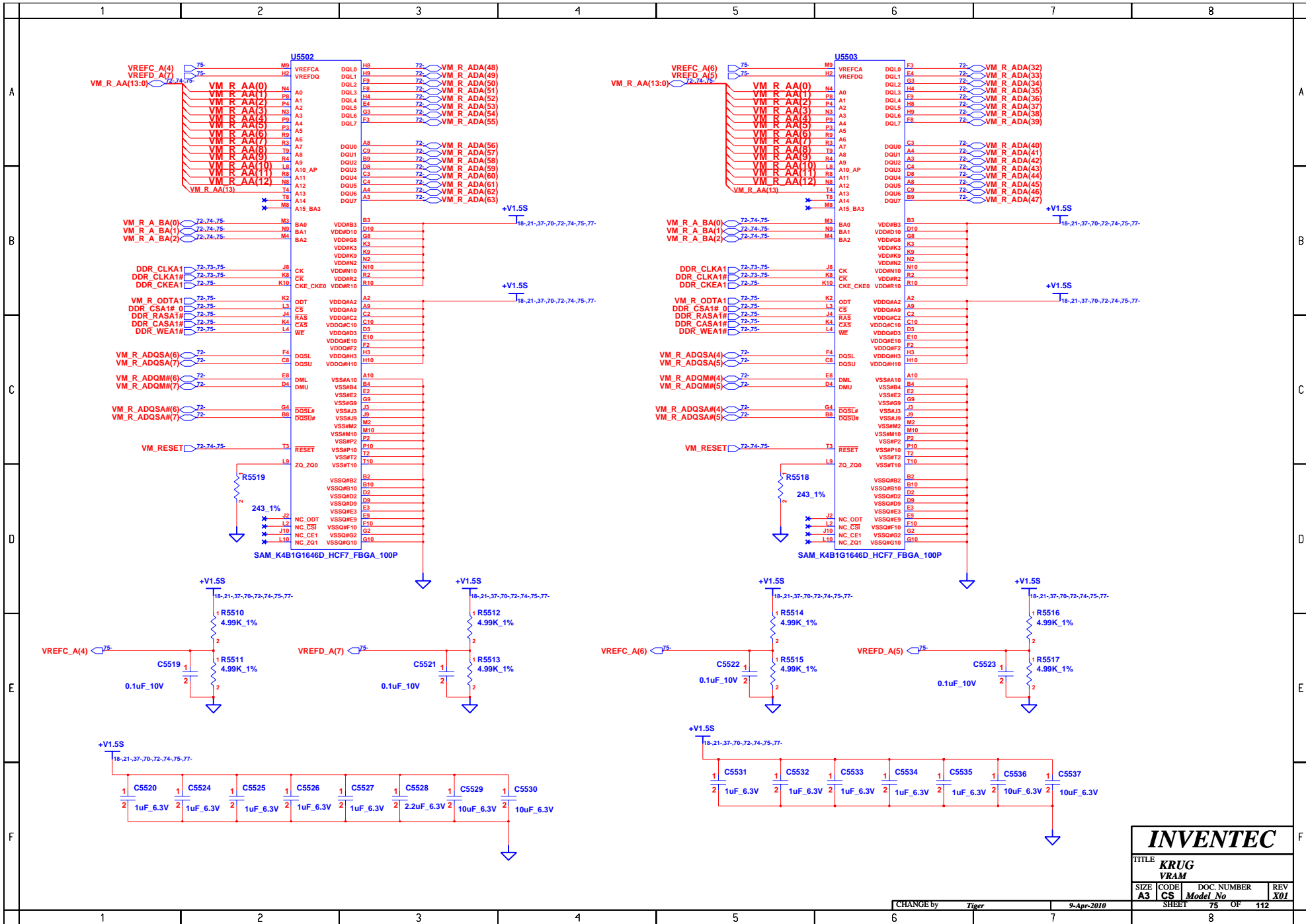
M92 Stuff	
PARK OPEN	

VM R_ADA000	327	500A_0	VM R_AAA0	74	500A_0
VM R_ADA001	328	500A_1	VM R_AAA1	75	500A_1
VM R_ADA002	329	500A_2	VM R_AAA2	76	500A_2
VM R_ADA003	330	500A_3	VM R_AAA3	77	500A_3
VM R_ADA004	331	500A_4	VM R_AAA4	78	500A_4
VM R_ADA005	332	500A_5	VM R_AAA5	79	500A_5
VM R_ADA006	333	500A_6	VM R_AAA6	80	500A_6
VM R_ADA007	334	500A_7	VM R_AAA7	81	500A_7
VM R_ADA008	335	500A_8	VM R_AAA8	82	500A_8
VM R_ADA009	336	500A_9	VM R_AAA9	83	500A_9
VM R_ADA010	337	500A_10	VM R_AAA10	84	500A_10
VM R_ADA011	338	500A_11	VM R_AAA11	85	500A_11
VM R_ADA012	339	500A_12	VM R_AAA12	86	500A_12
VM R_ADA013	340	500A_13	VM R_AAA13	87	500A_13
VM R_ADA014	341	500A_14	VM R_AAA14	88	500A_14
VM R_ADA015	342	500A_15	VM R_AAA15	89	500A_15
VM R_ADA016	343	500A_16	VM R_AAA16	90	500A_16
VM R_ADA017	344	500A_17	VM R_AAA17	91	500A_17
VM R_ADA018	345	500A_18	VM R_AAA18	92	500A_18
VM R_ADA019	346	500A_19	VM R_AAA19	93	500A_19
VM R_ADA020	347	500A_20	VM R_AAA20	94	500A_20
VM R_ADA021	348	500A_21	VM R_AAA21	95	500A_21
VM R_ADA022	349	500A_22	VM R_AAA22	96	500A_22
VM R_ADA023	350	500A_23	VM R_AAA23	97	500A_23
VM R_ADA024	351	500A_24	VM R_AAA24	98	500A_24
VM R_ADA025	352	500A_25	VM R_AAA25	99	500A_25
VM R_ADA026	353	500A_26	VM R_AAA26	100	500A_26
VM R_ADA027	354	500A_27	VM R_AAA27	101	500A_27
VM R_ADA028	355	500A_28	VM R_AAA28	102	500A_28
VM R_ADA029	356	500A_29	VM R_AAA29	103	500A_29
VM R_ADA030	357	500A_30	VM R_AAA30	104	500A_30
VM R_ADA031	358	500A_31	VM R_AAA31	105	500A_31
VM R_ADA032	359	500A_32	VM R_AAA32	106	500A_32
VM R_ADA033	360	500A_33	VM R_AAA33	107	500A_33
VM R_ADA034	361	500A_34	VM R_AAA34	108	500A_34
VM R_ADA035	362	500A_35	VM R_AAA35	109	500A_35
VM R_ADA036	363	500A_36	VM R_AAA36	110	500A_36
VM R_ADA037	364	500A_37	VM R_AAA37	111	500A_37
VM R_ADA038	365	500A_38	VM R_AAA38	112	500A_38
VM R_ADA039	366	500A_39	VM R_AAA39	113	500A_39
VM R_ADA040	367	500A_40	VM R_AAA40	114	500A_40
VM R_ADA041	368	500A_41	VM R_AAA41	115	500A_41
VM R_ADA042	369	500A_42	VM R_AAA42	116	500A_42
VM R_ADA043	370	500A_43	VM R_AAA43	117	500A_43
VM R_ADA044	371	500A_44	VM R_AAA44	118	500A_44
VM R_ADA045	372	500A_45	VM R_AAA45	119	500A_45
VM R_ADA046	373	500A_46	VM R_AAA46	120	500A_46
VM R_ADA047	374	500A_47	VM R_AAA47	121	500A_47
VM R_ADA048	375	500A_48	VM R_AAA48	122	500A_48
VM R_ADA049	376	500A_49	VM R_AAA49	123	500A_49
VM R_ADA050	377	500A_50	VM R_AAA50	124	500A_50
VM R_ADA051	378	500A_51	VM R_AAA51	125	500A_51
VM R_ADA052	379	500A_52	VM R_AAA52	126	500A_52
VM R_ADA053	380	500A_53	VM R_AAA53	127	500A_53
VM R_ADA054	381	500A_54	VM R_AAA54	128	500A_54
VM R_ADA055	382	500A_55	VM R_AAA55	129	500A_55
VM R_ADA056	383	500A_56	VM R_AAA56	130	500A_56
VM R_ADA057	384	500A_57	VM R_AAA57	131	500A_57
VM R_ADA058	385	500A_58	VM R_AAA58	132	500A_58
VM R_ADA059	386	500A_59	VM R_AAA59	133	500A_59
VM R_ADA060	387	500A_60	VM R_AAA60	134	500A_60
VM R_ADA061	388	500A_61	VM R_AAA61	135	500A_61
VM R_ADA062	389	500A_62	VM R_AAA62	136	500A_62
VM R_ADA063	390	500A_63	VM R_AAA63	137	500A_63
VM R_ADA064	391	500A_64	VM R_AAA64	138	500A_64
VM R_ADA065	392	500A_65	VM R_AAA65	139	500A_65
VM R_ADA066	393	500A_66	VM R_AAA66	140	500A_66
VM R_ADA067	394	500A_67	VM R_AAA67	141	500A_67
VM R_ADA068	395	500A_68	VM R_AAA68	142	500A_68
VM R_ADA069	396	500A_69	VM R_AAA69	143	500A_69
VM R_ADA070	397	500A_70	VM R_AAA70	144	500A_70
VM R_ADA071	398	500A_71	VM R_AAA71	145	500A_71
VM R_ADA072	399	500A_72	VM R_AAA72	146	500A_72
VM R_ADA073	400	500A_73	VM R_AAA73	147	500A_73
VM R_ADA074	401	500A_74	VM R_AAA74	148	500A_74
VM R_ADA075	402	500A_75	VM R_AAA75	149	500A_75
VM R_ADA076	403	500A_76	VM R_AAA76	150	500A_76
VM R_ADA077	404	500A_77	VM R_AAA77	151	500A_77
VM R_ADA078	405	500A_78	VM R_AAA78	152	500A_78
VM R_ADA079	406	500A_79	VM R_AAA79	153	500A_79
VM R_ADA080	407	500A_80	VM R_AAA80	154	500A_80
VM R_ADA081	408	500A_81	VM R_AAA81	155	500A_81
VM R_ADA082	409	500A_82	VM R_AAA82	156	500A_82
VM R_ADA083	410	500A_83	VM R_AAA83	157	500A_83
VM R_ADA084	411	500A_84	VM R_AAA84	158	500A_84
VM R_ADA085	412	500A_85	VM R_AAA85	159	500A_85
VM R_ADA086	413	500A_86	VM R_AAA86	160	500A_86
VM R_ADA087	414	500A_87	VM R_AAA87	161	500A_87
VM R_ADA088	415	500A_88	VM R_AAA88	162	500A_88
VM R_ADA089	416	500A_89	VM R_AAA89	163	500A_89
VM R_ADA090	417	500A_90	VM R_AAA90	164	500A_90
VM R_ADA091	418	500A_91	VM R_AAA91	165	500A_91
VM R_ADA092	419	500A_92	VM R_AAA92	166	500A_92
VM R_ADA093	420	500A_93	VM R_AAA93	167	500A_93
VM R_ADA094	421	500A_94	VM R_AAA94	168	500A_94
VM R_ADA095	422	500A_95	VM R_AAA95	169	500A_95
VM R_ADA096	423	500A_96	VM R_AAA96	170	500A_96
VM R_ADA097	424	500A_97	VM R_AAA97	171	500A_97
VM R_ADA098	425	500A_98	VM R_AAA98	172	500A_98
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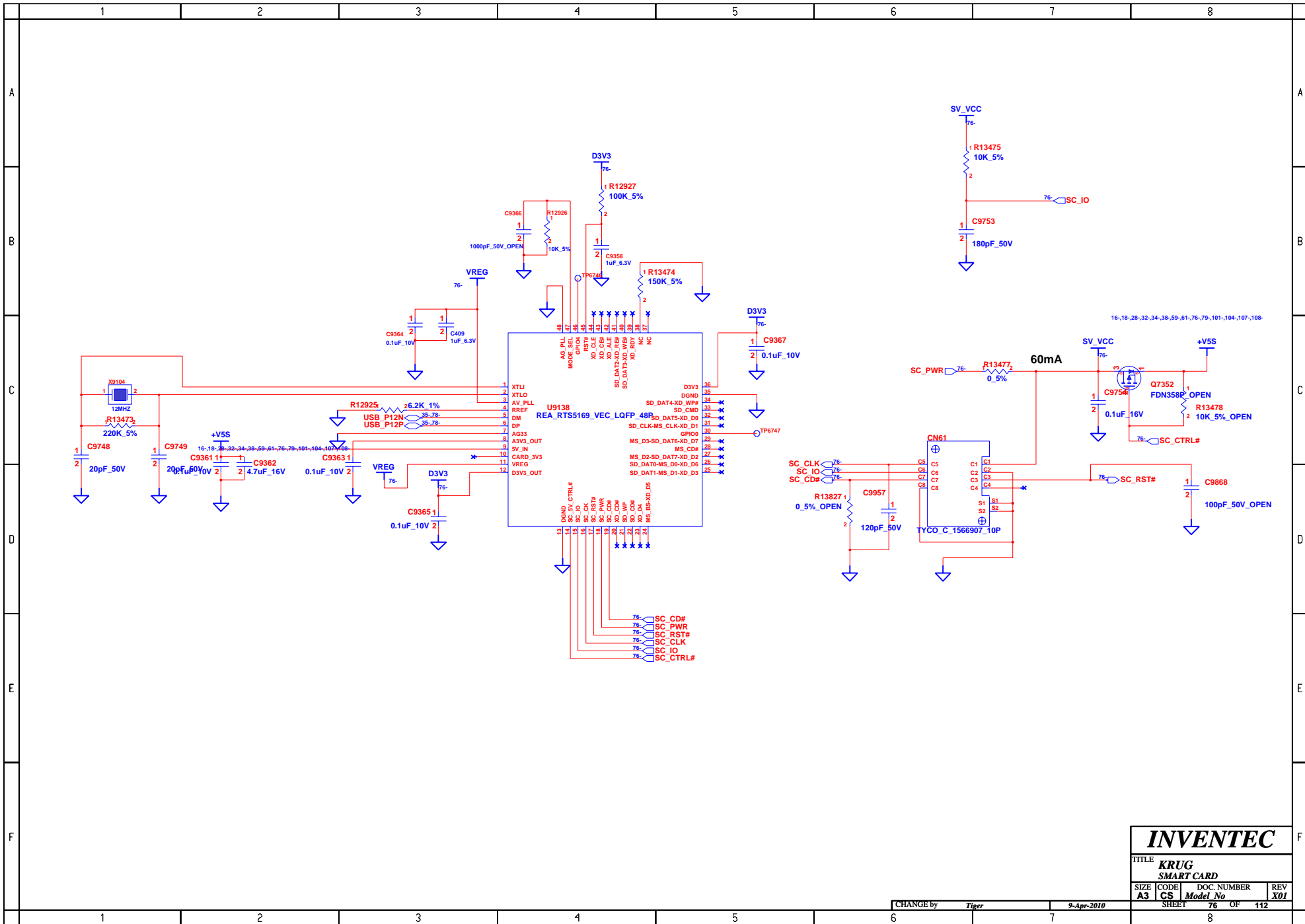
CHANGE BY: *Trig* 9-Apr-2010

TITLE	INVENTEC
SIZE	GRAPHIC
CODE	CS Model No
REV	X01
DOC NUMBER	72-0P-112





INVENTEC			
TITLE KRUG VRAM			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET 75		OF 112	

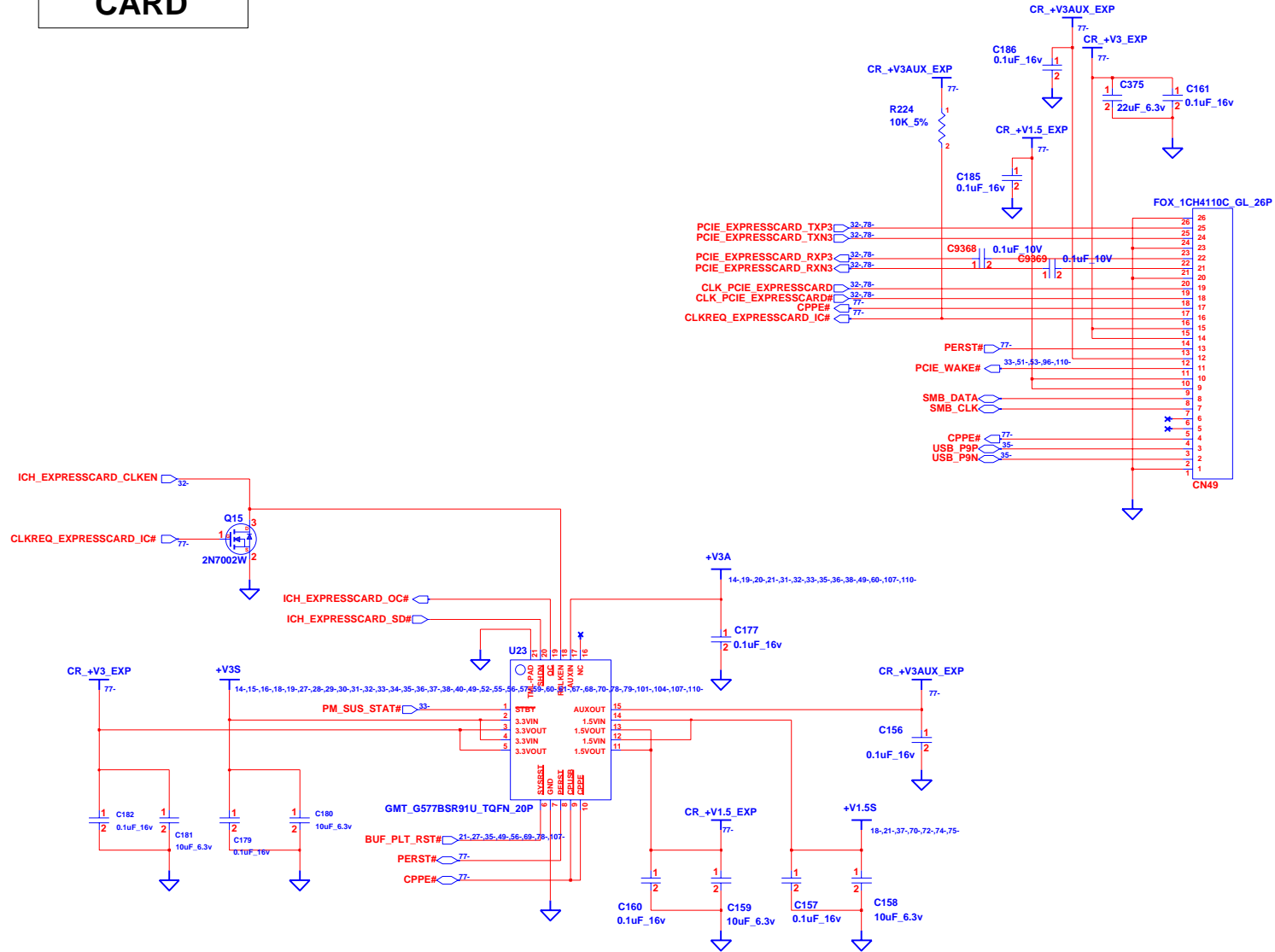


INVENTEC

TITLE			
KRUG			
SMART CARD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		76 OF	112

CHANGE by Tiker 9-Apr-2010

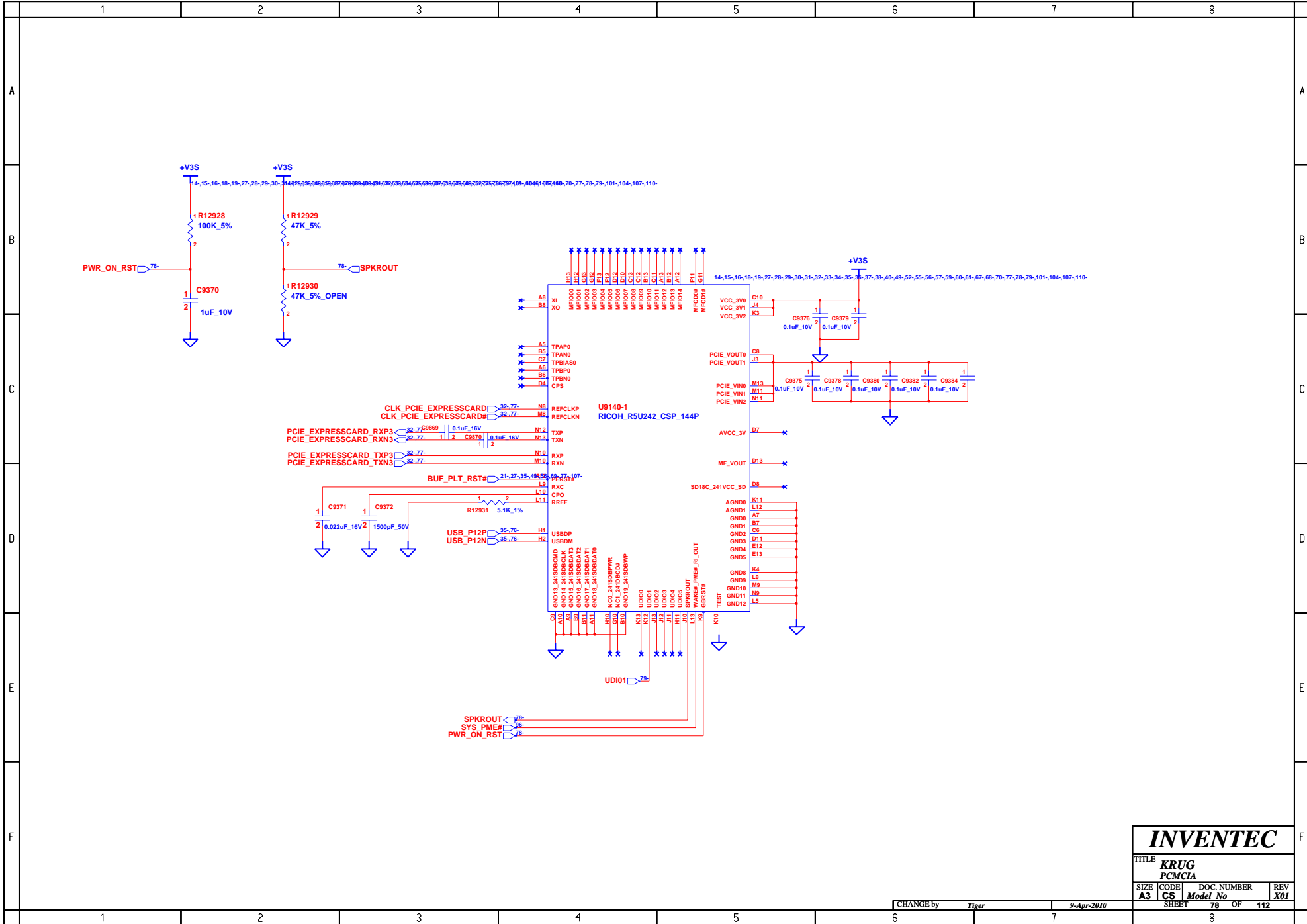
EXPRESS CARD



INVENTEC

TITLE			
KRUG			
Express Card			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01
SHEET		77	OF 112

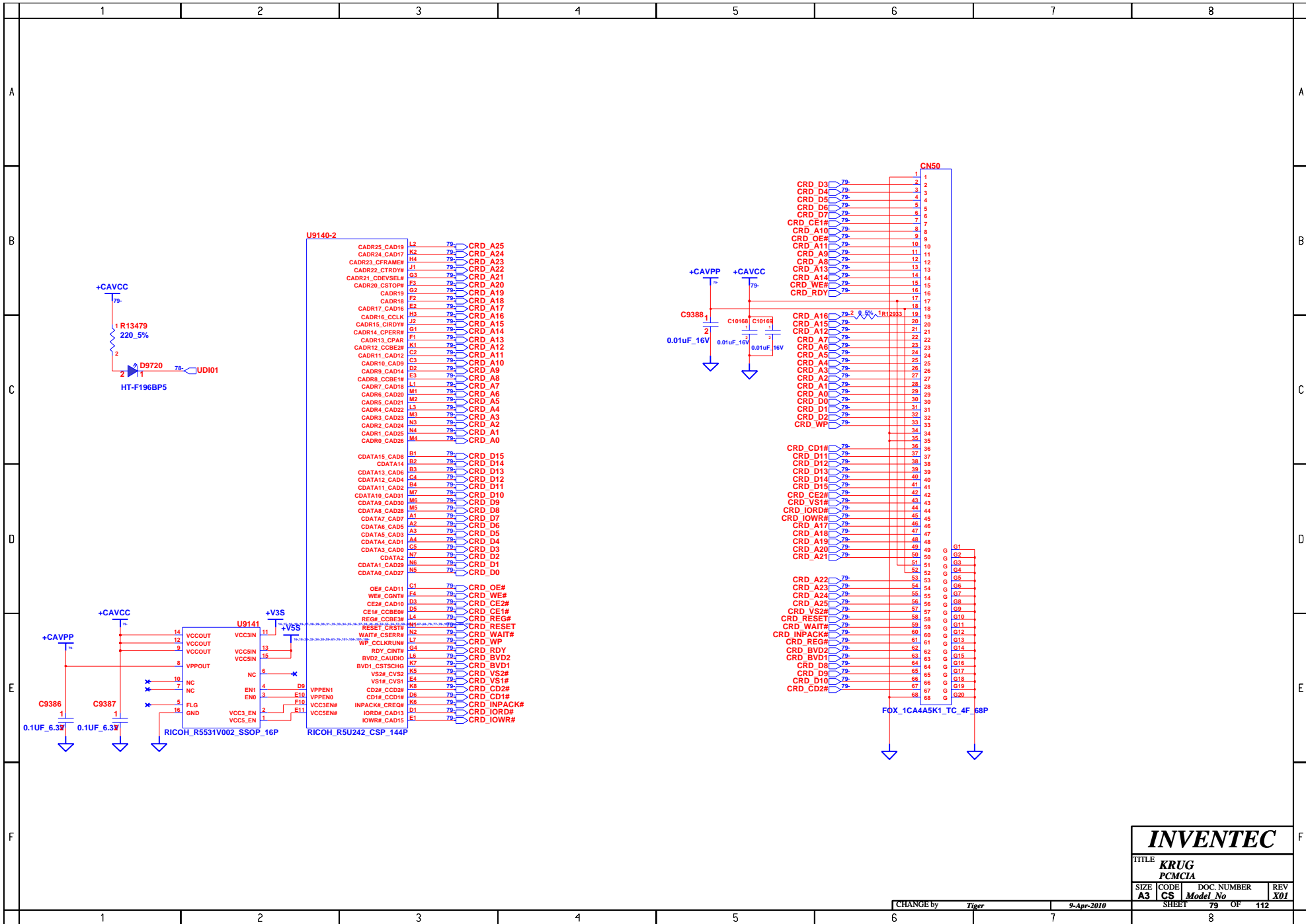
CHANGE by Tiger 27-Apr-2010

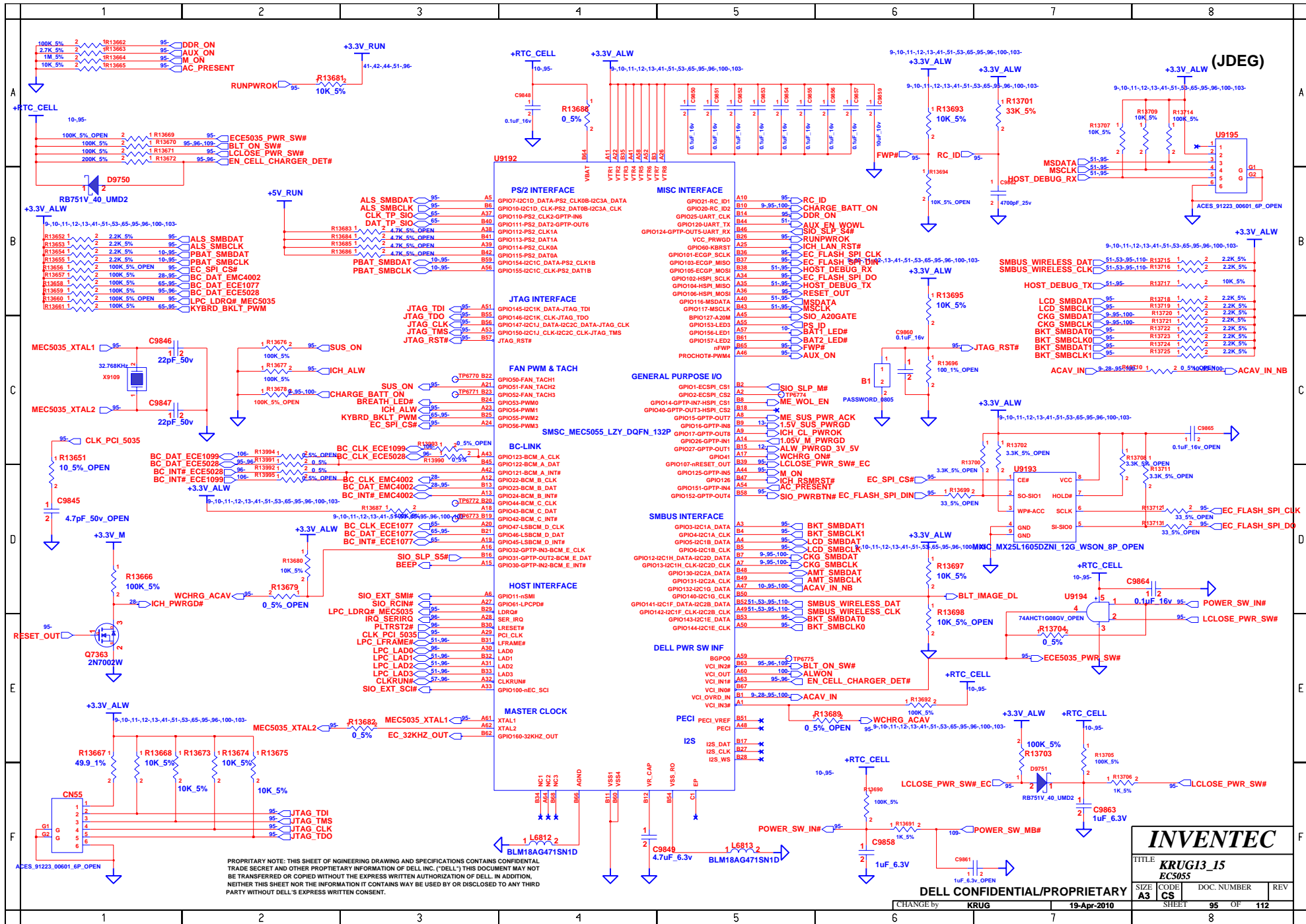


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TITLE			
KRUG			
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SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	X01

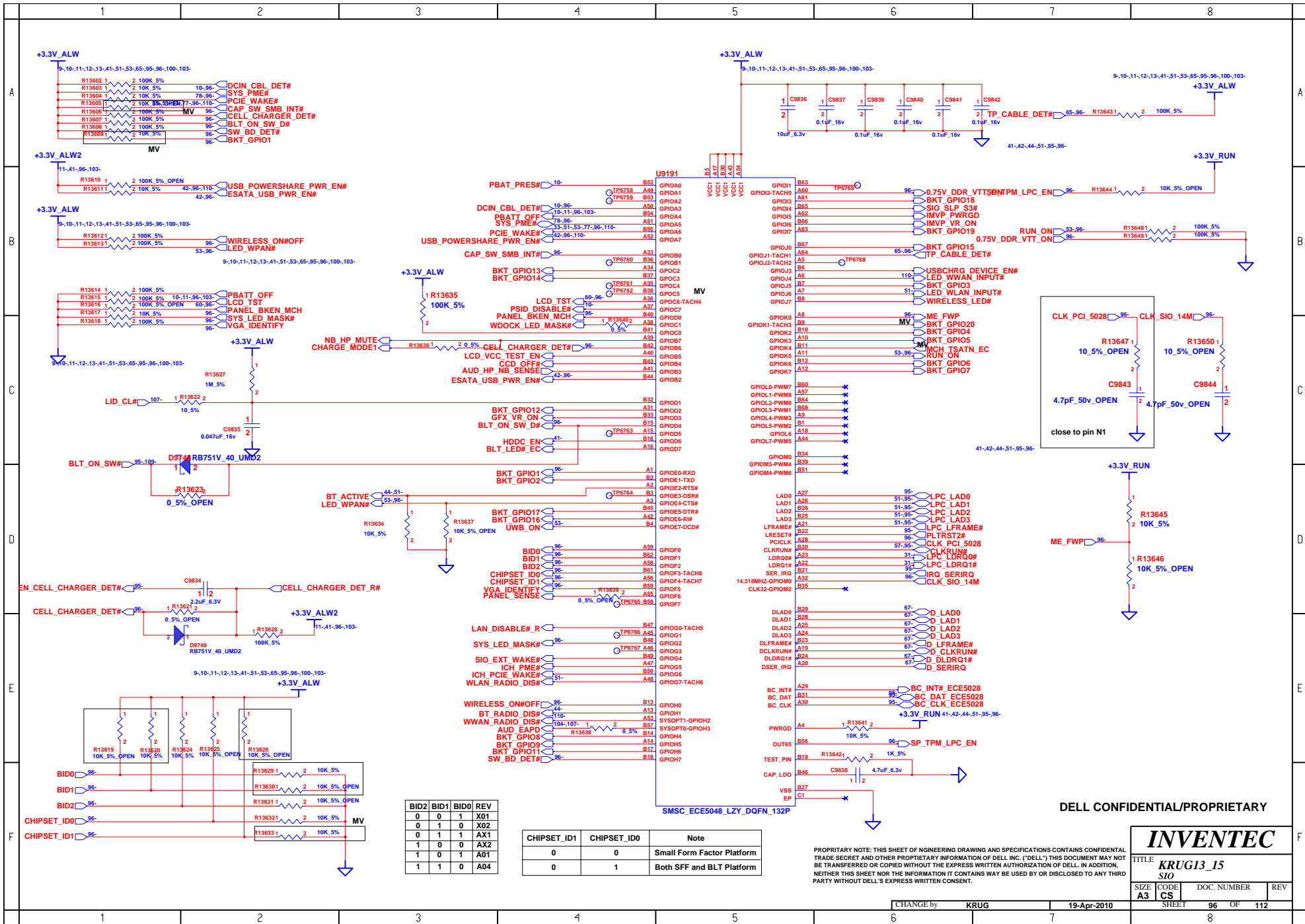
CHANGE by	Tiger	9-Apr-2010	SHEET	78	OF	112
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INVENTEC			
TITLE KRUG13_15			
EC5055			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	95	OF 112
CHANGE BY KRUG		DATE 19-Apr-2010	
SHEET		8	



BID0	BID1	BID2	REV
0	0	0	X01
0	1	0	X02
0	1	1	AX1
1	0	0	AX2
1	0	1	A01
1	1	0	A04

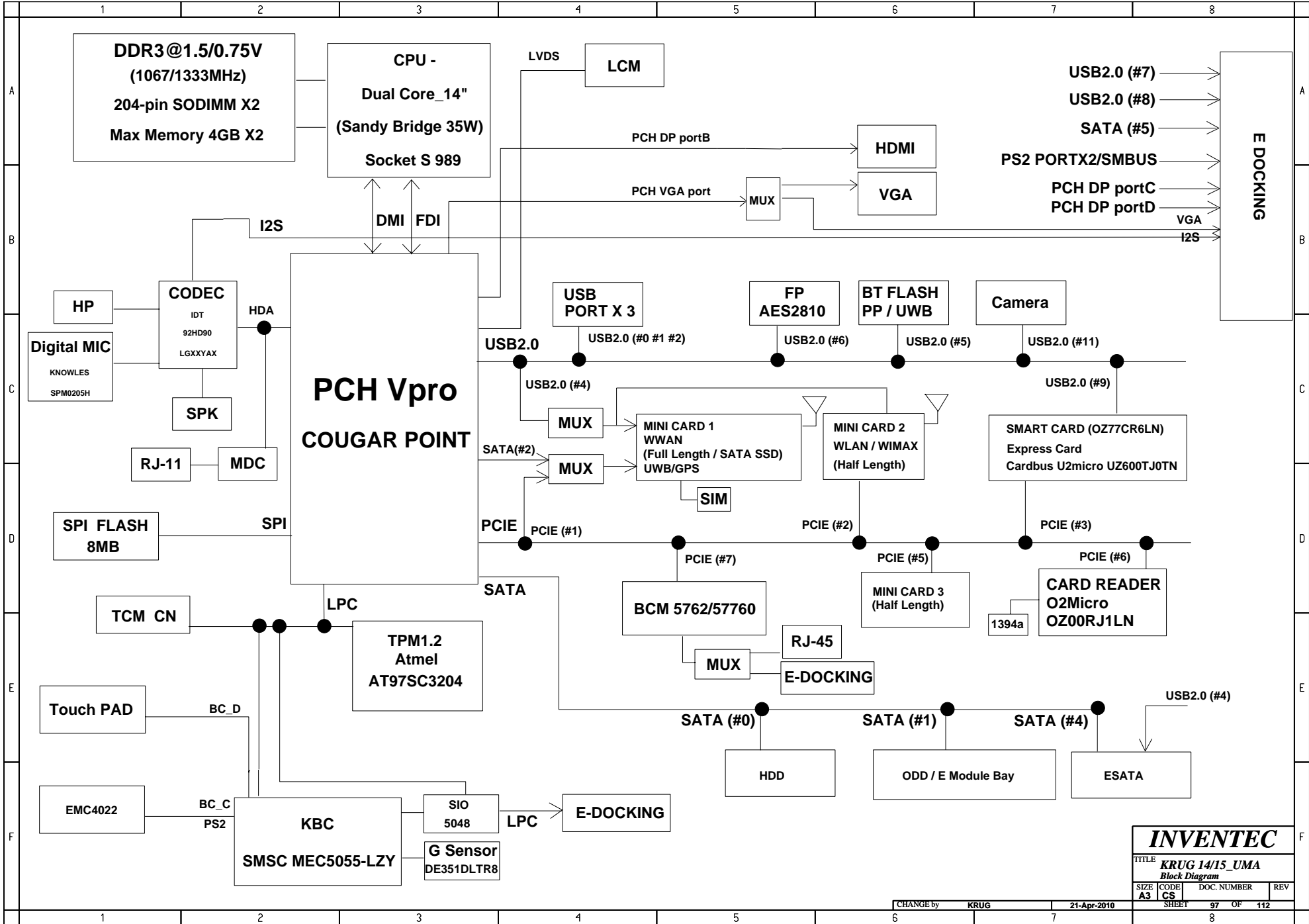
CHIPSET_ID1	CHIPSET_ID0	Note
0	0	Small Form Factor Platform
0	1	Both SFF and BLT Platform

DELL CONFIDENTIAL/PROPRIETARY

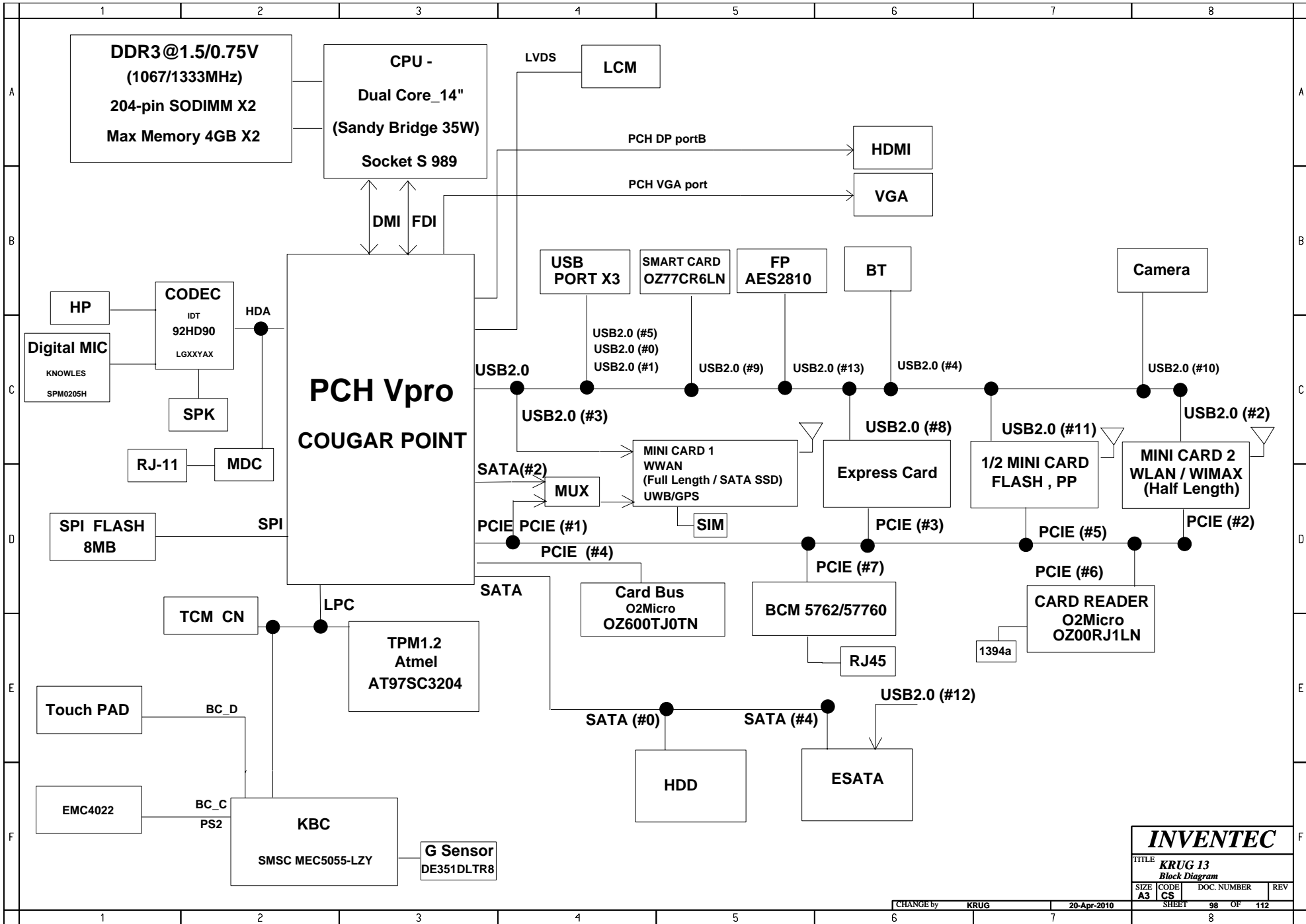
INVENTEC

TITLE: KRUG13_15			
SIO			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	96 OF 112	

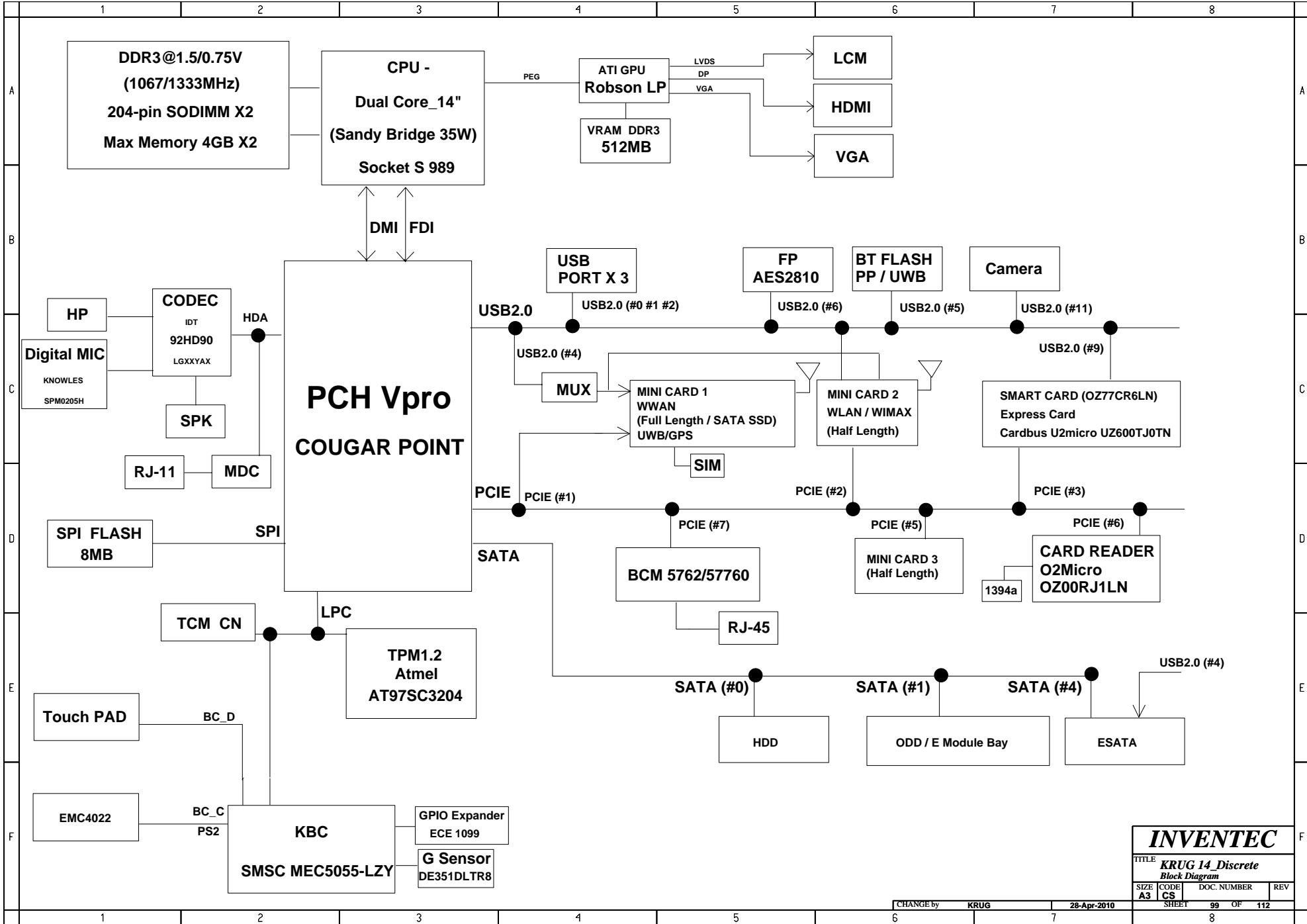
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INVENTEC			
TITLE: KRUG 14/15_UMA			
Block Diagram			
SIZE: A3	CODE: CS	DOC. NUMBER: 97	REV: 112
CHANGE by: KRUG		21-Apr-2010	
SHEET 1		OF 112	



INVENTEC			
TITLE KRUG 13			
Block Diagram			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	98	112
CHANGE by		20-Apr-2010	
KRUG		SHEET 98 OF 112	

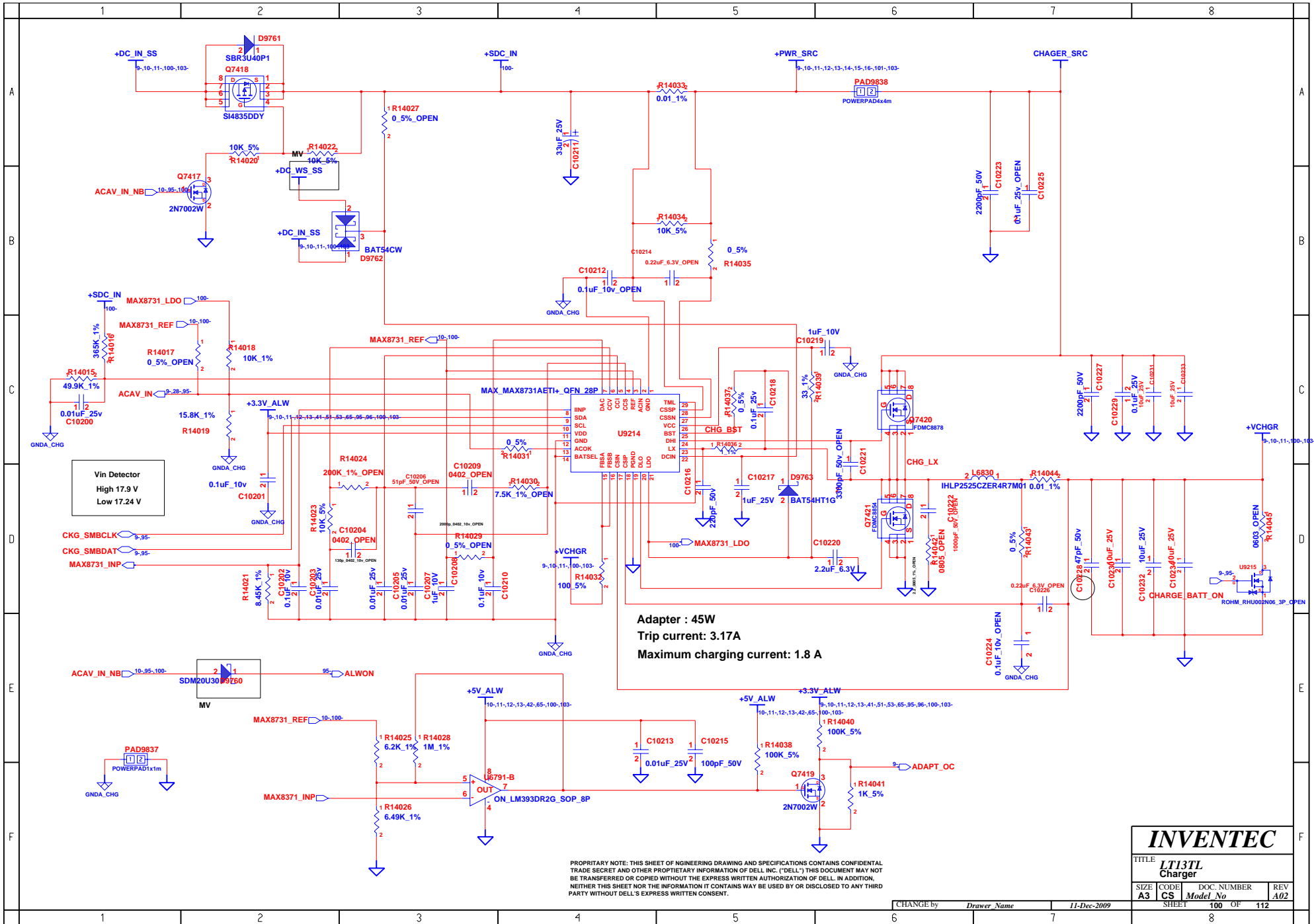


INVENTEC

TITLE **KRUG 14 Discrete**
Block Diagram

SIZE	CODE	DOC. NUMBER	REV
A3	CS	99	OF 112

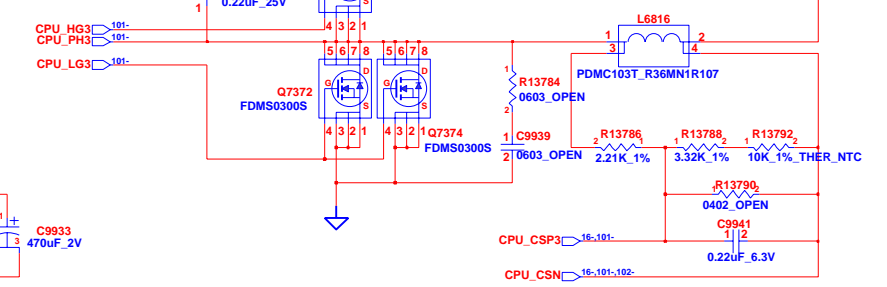
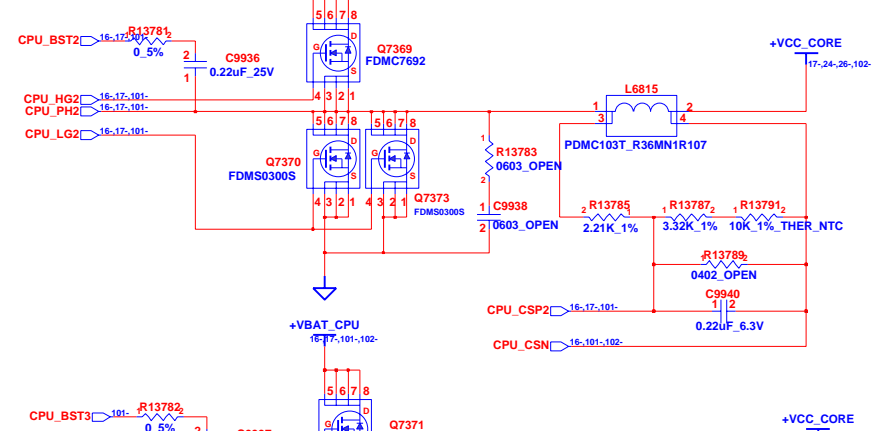
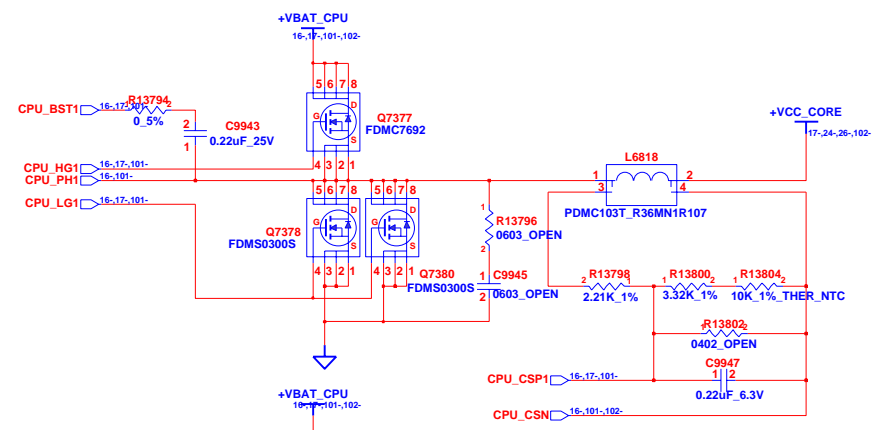
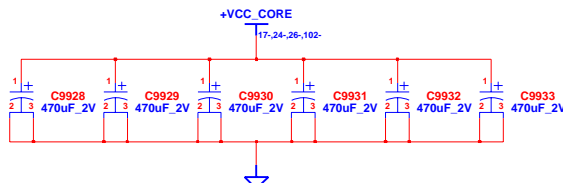
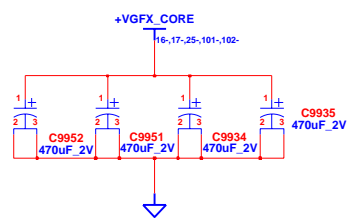
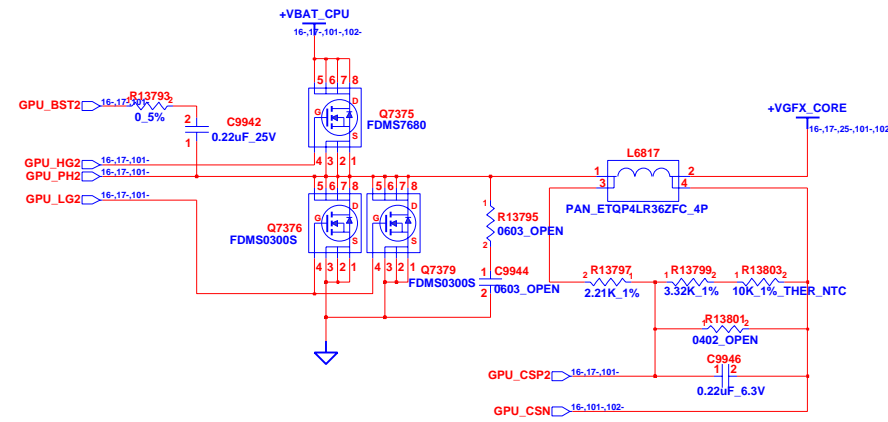
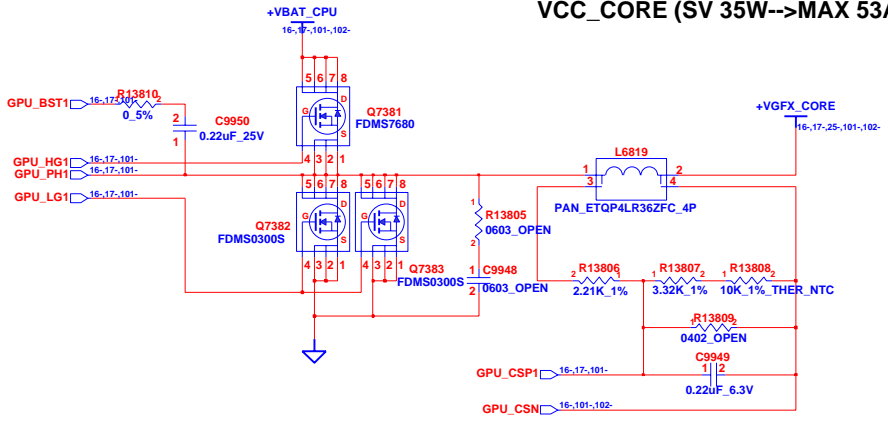
CHANGE by KRUG 28-Apr-2010



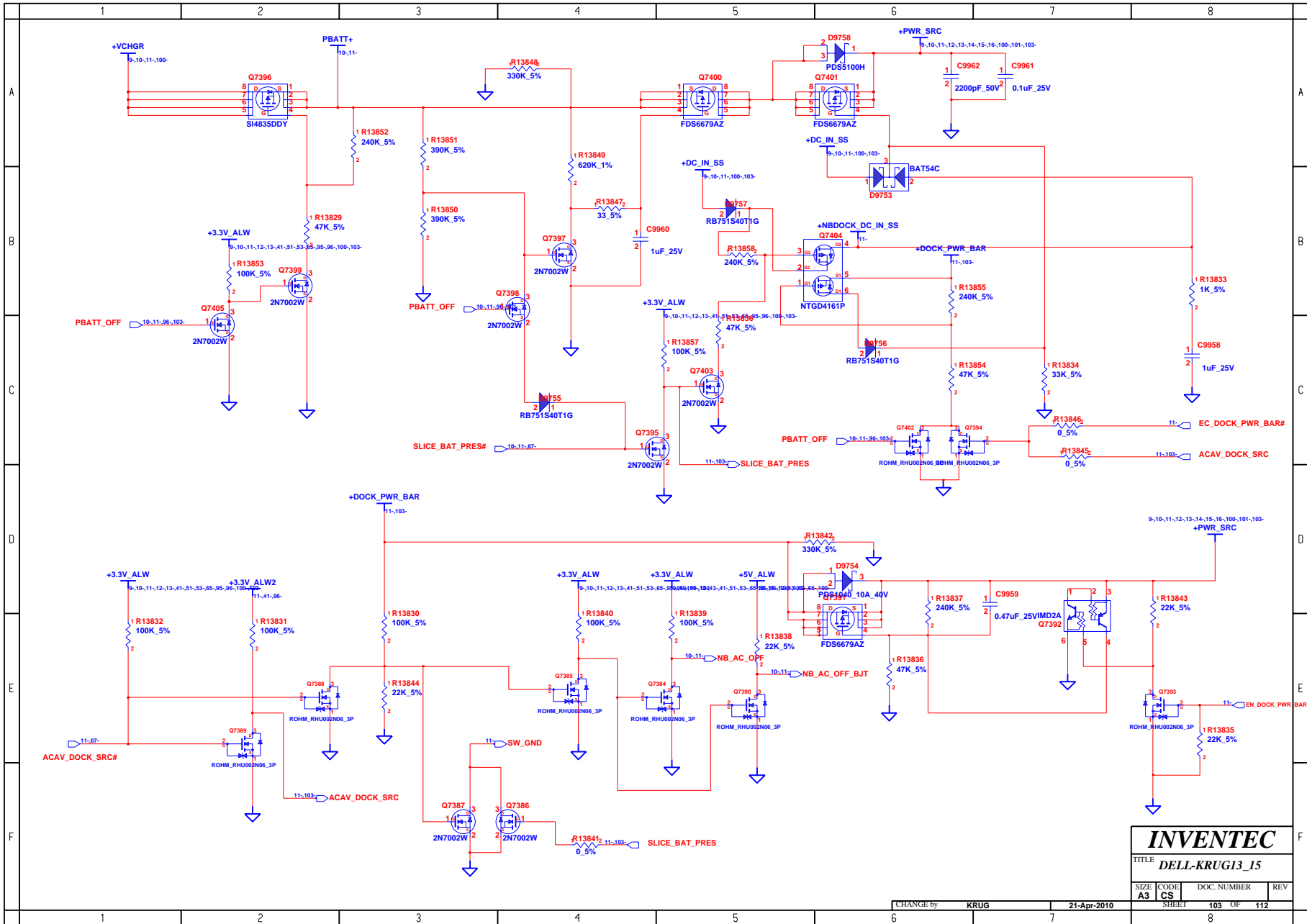
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INVENTEC			
TITLE LT131L Charger			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV A02
CHANGE by <i>Drawer Name</i>		11-Dec-2009	
SHEET		100 OF 112	

VCC_CORE (SV 35W-->MAX 53A)



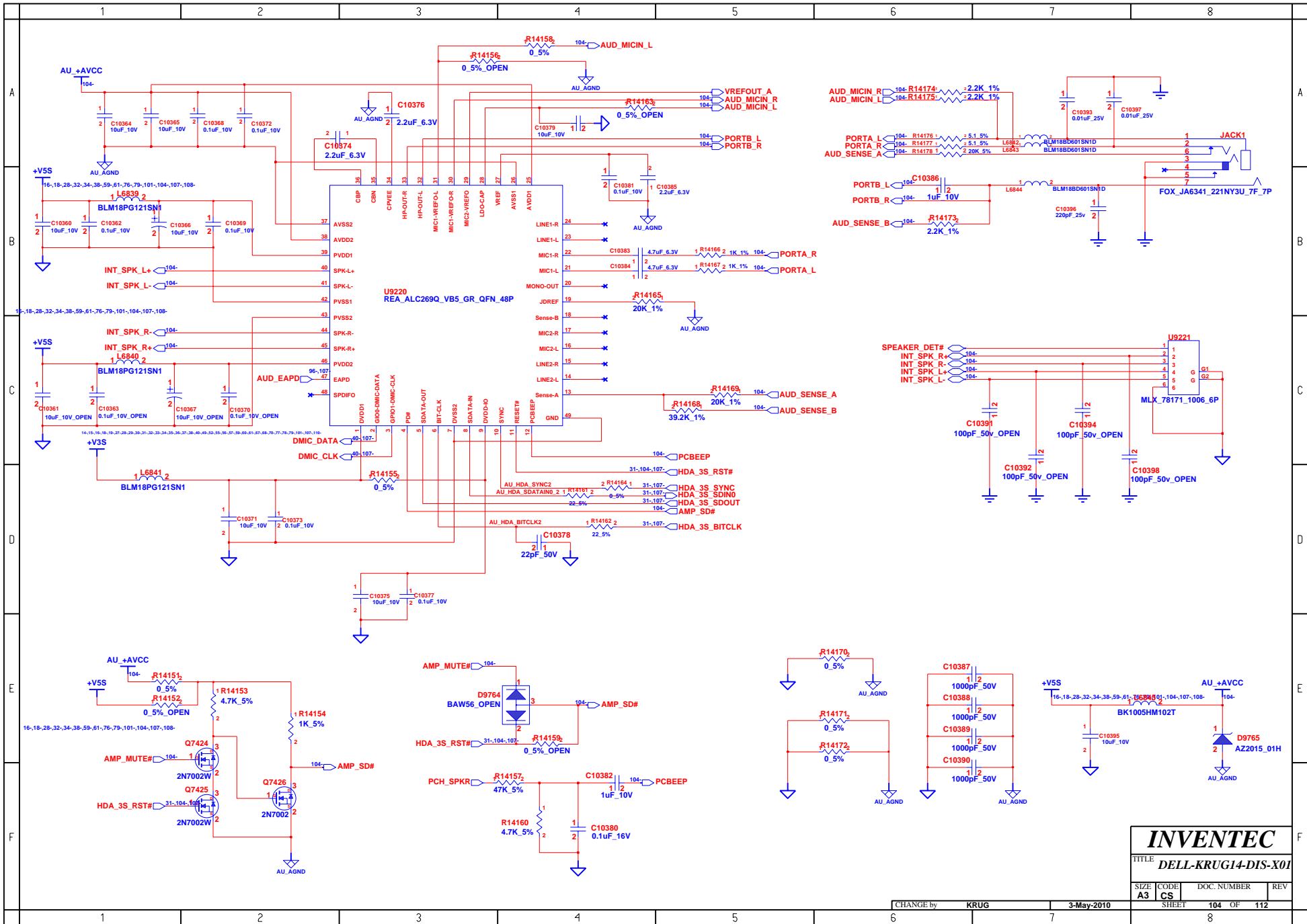
INVENTEC			
TITLE KRUG			
SIZE A3	CODE CS	DOC. NUMBER <i>Model No</i>	REV X01
CHANGE by <i>Tiger</i>		9-Apr-2010	
SHEET 102		OF 112	



INVENTEC

TITLE: **DELL-KRUG13_15**

SIZE A3	CODE CS	DOC. NUMBER 103	REV 112
SHEET		OF	



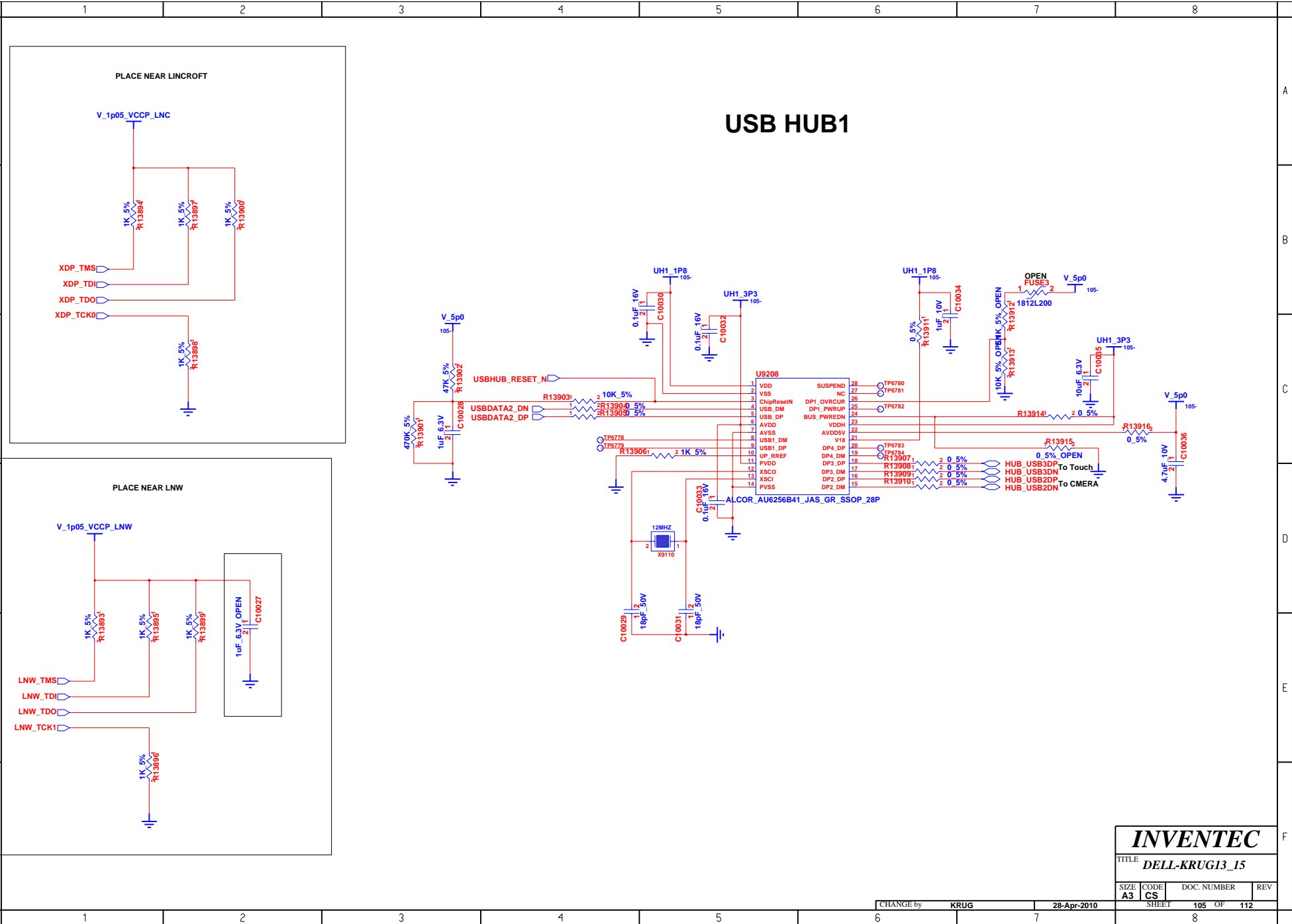
INVENTEC

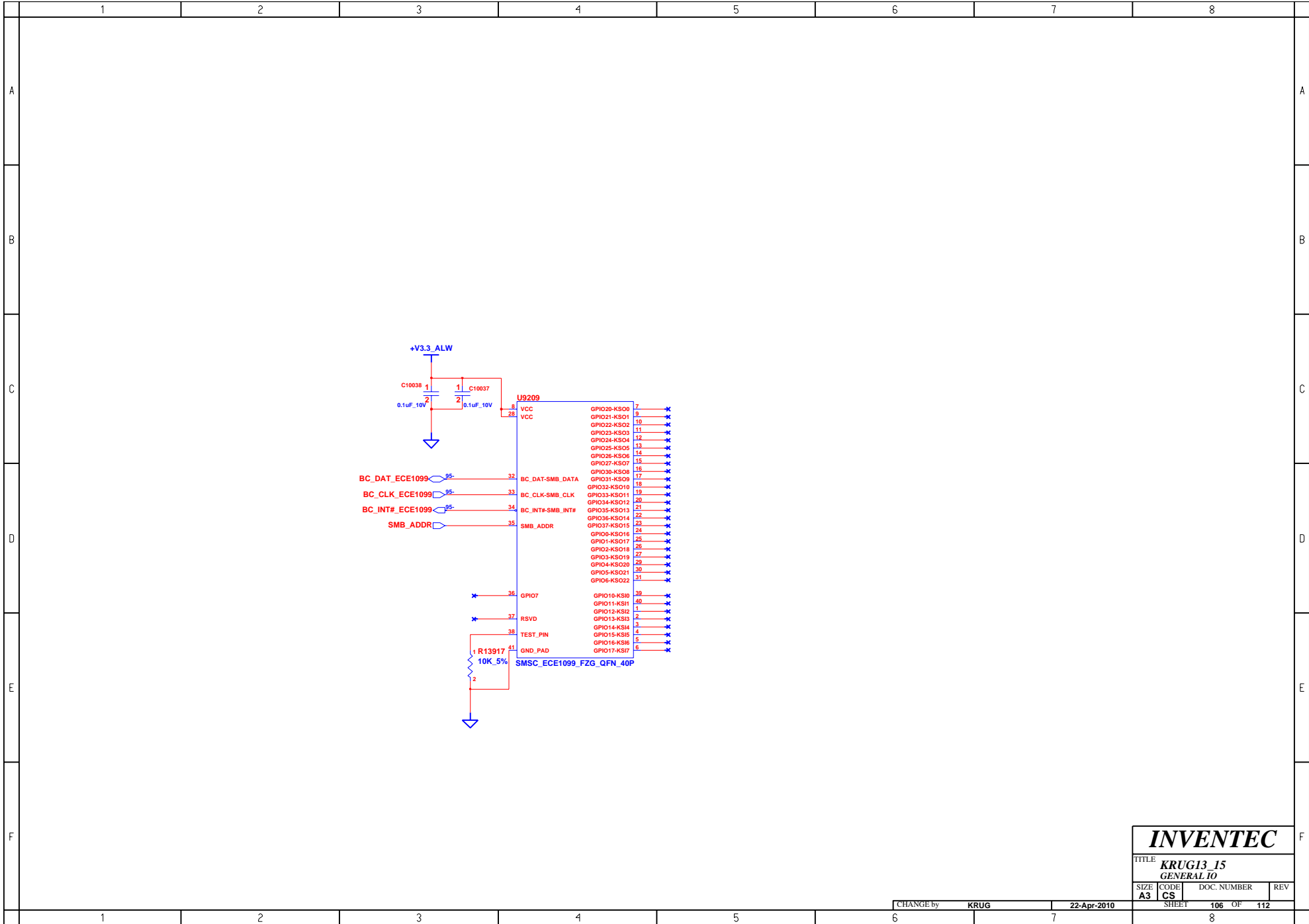
TITLE **DELL-KRUG14-DIS-X01**

SIZE **A3** CODE **CS** DOC. NUMBER **AZ2015_01H** REV

CHANGE by **KRUG** 3-May-2010

SHEET **104** OF **112**





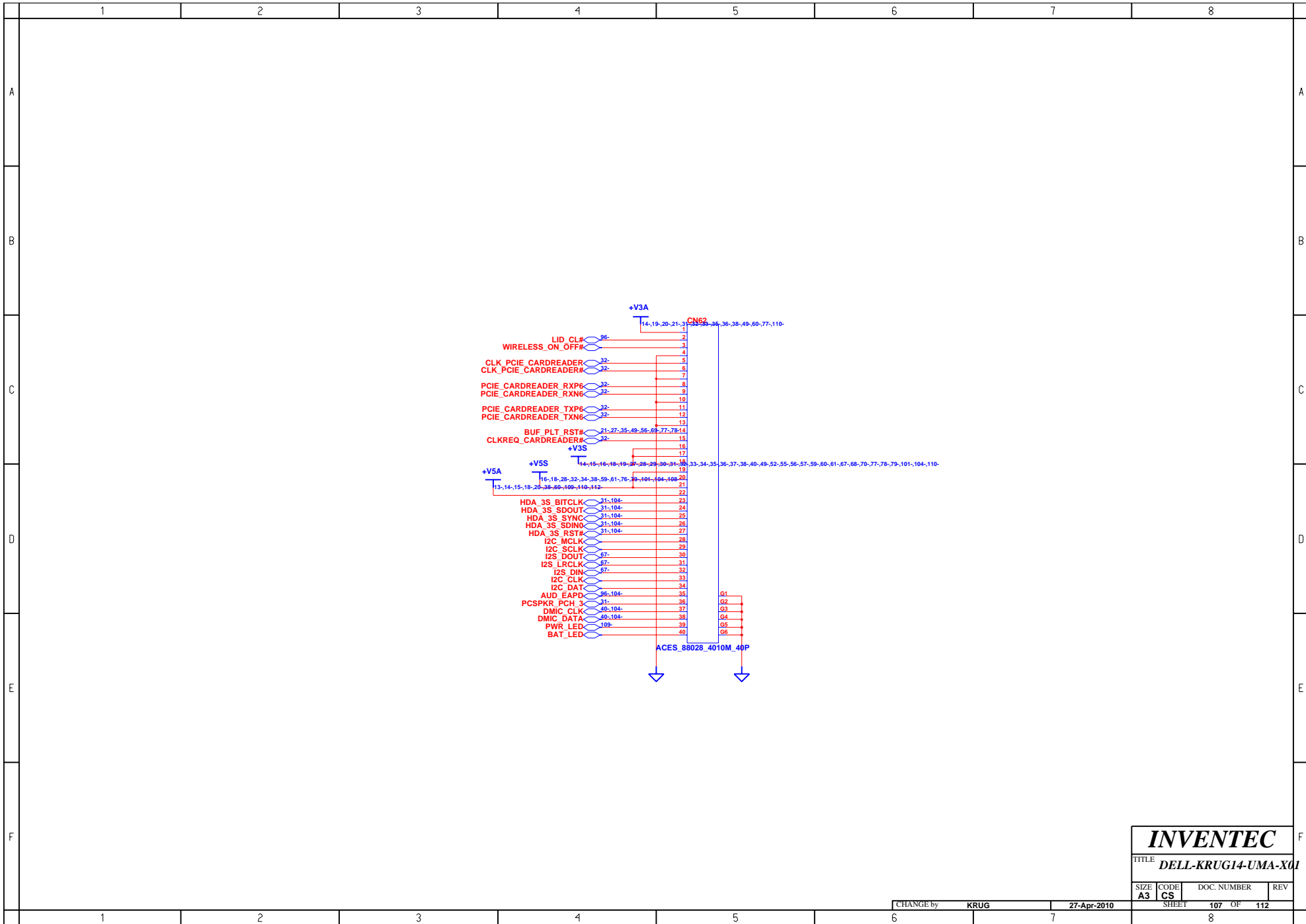
INVENTEC

TITLE **KRUG13_15**
GENERAL IO

SIZE	CODE	DOC. NUMBER	REV
A3	CS	106 OF 112	

SHEET 106 OF 112

CHANGE by **KRUG** 22-Apr-2010



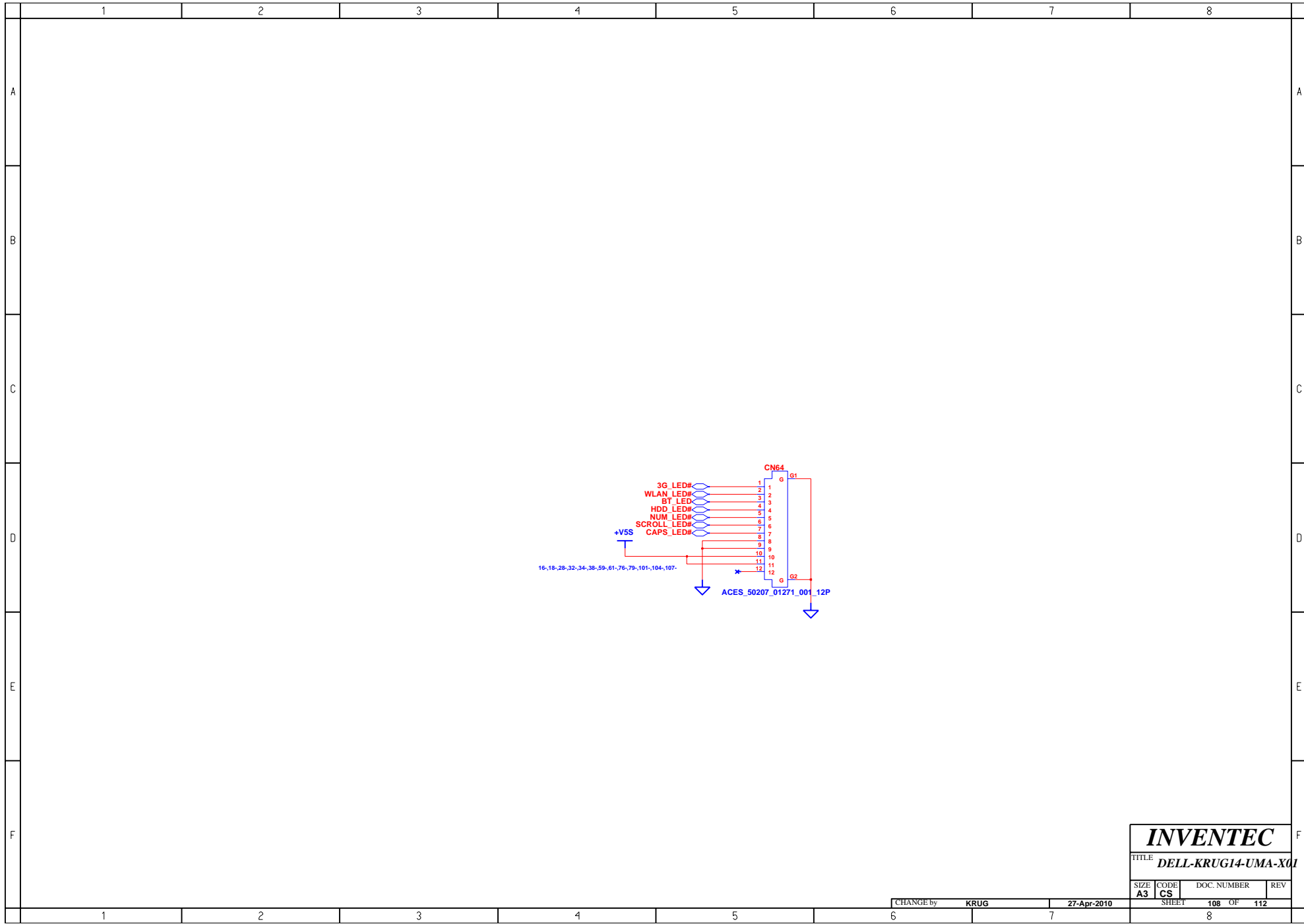
INVENTEC

TITLE **DELL-KRUG14-UMA-X01**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	107 OF 112	

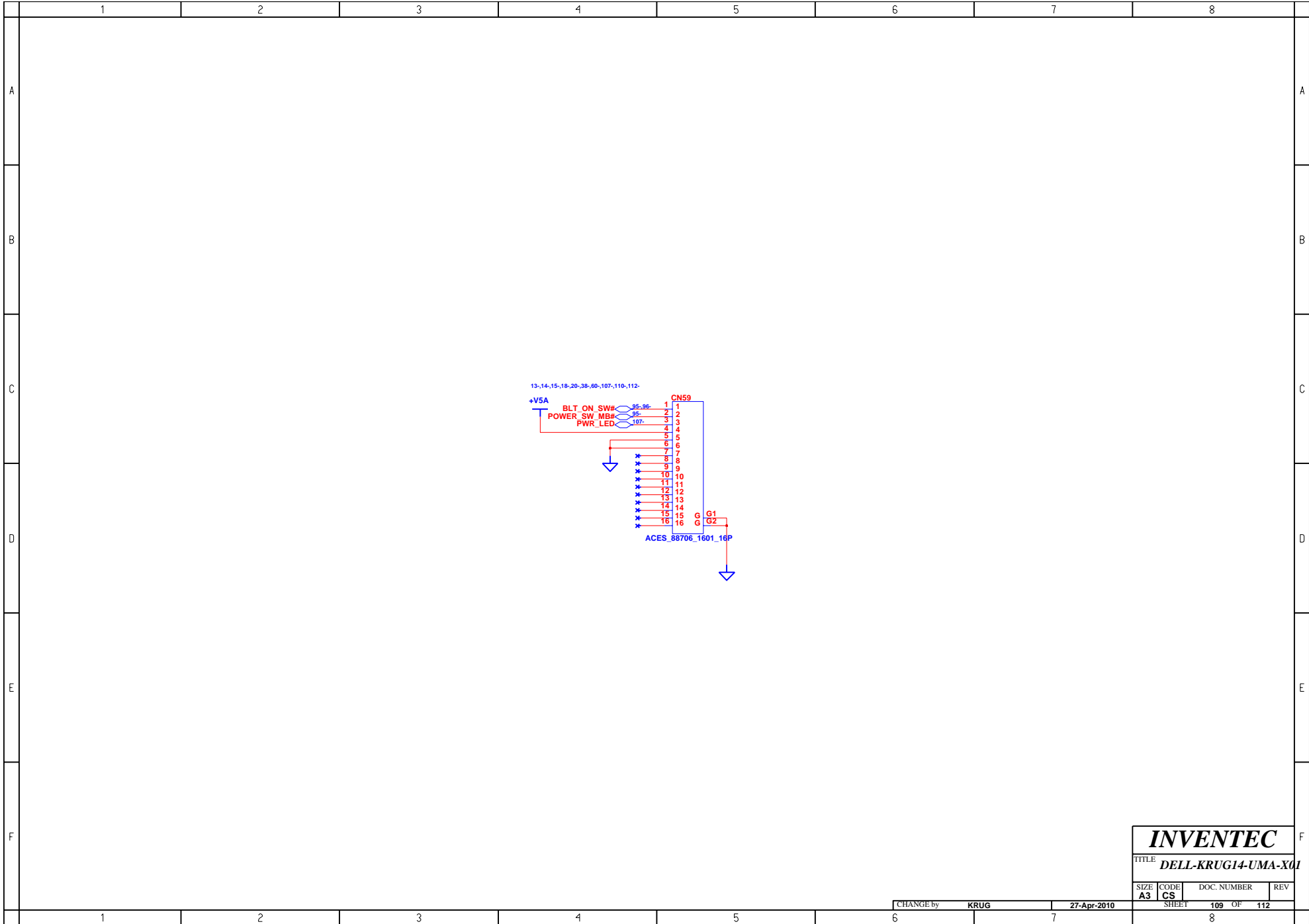
CHANGE by **KRUG** 27-Apr-2010

SHEET 107 OF 112



INVENTEC			
TITLE DELL-KRUG14-UMA-X01			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	108 OF 112	

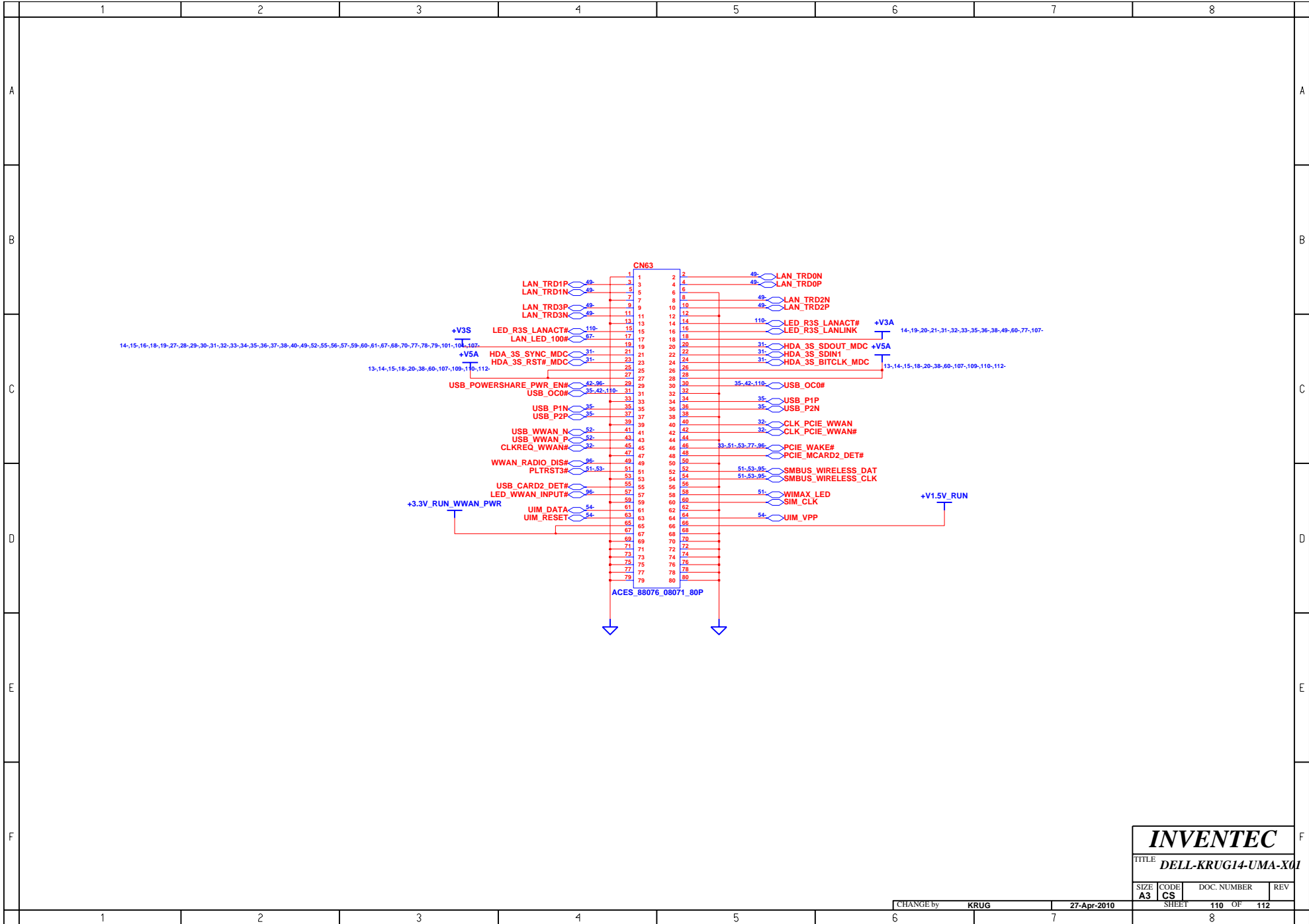
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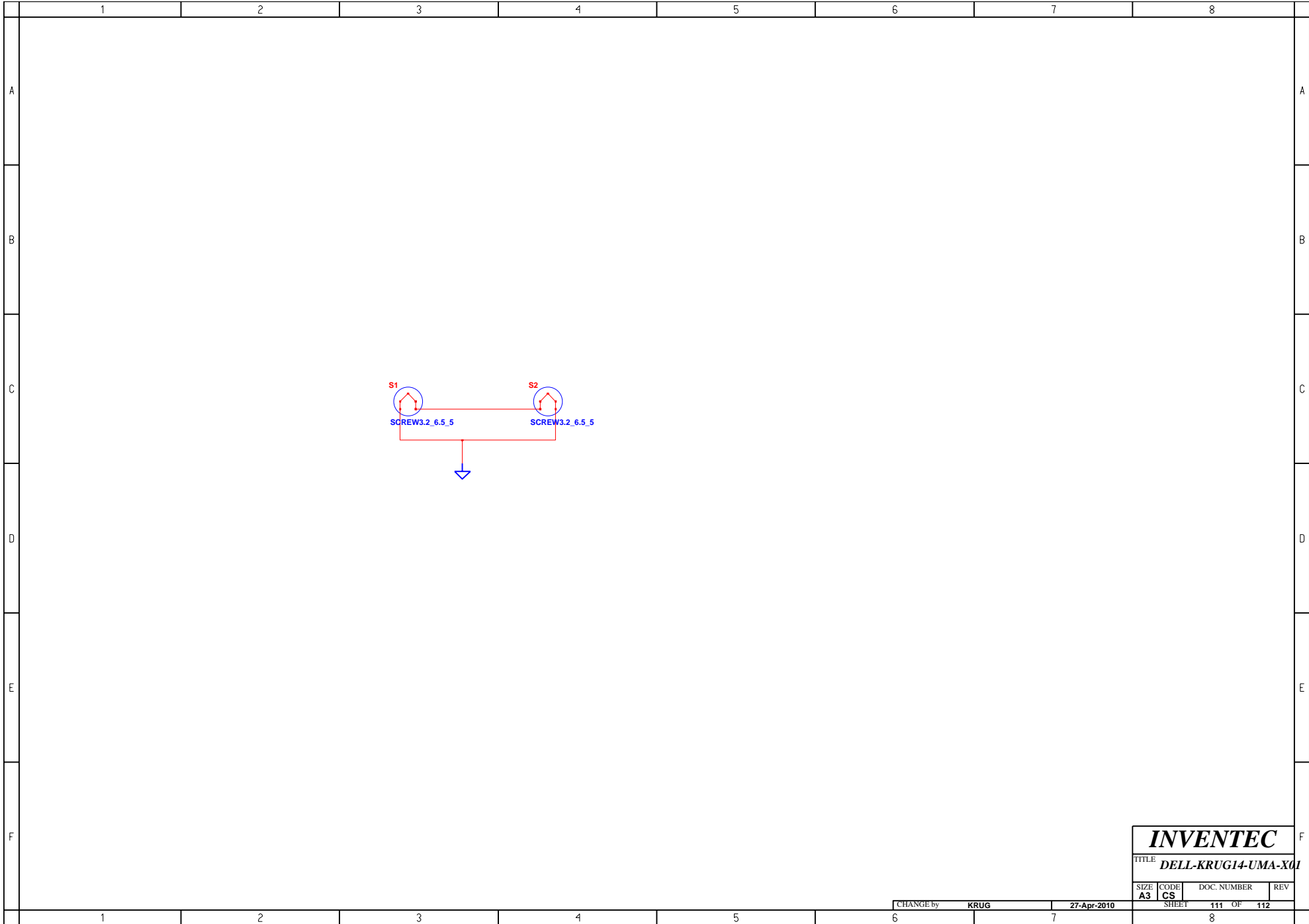


INVENTEC			
TITLE DELL-KRUG14-UMA-X01			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	109 OF 112	

CHANGE by KRUG 27-Apr-2010

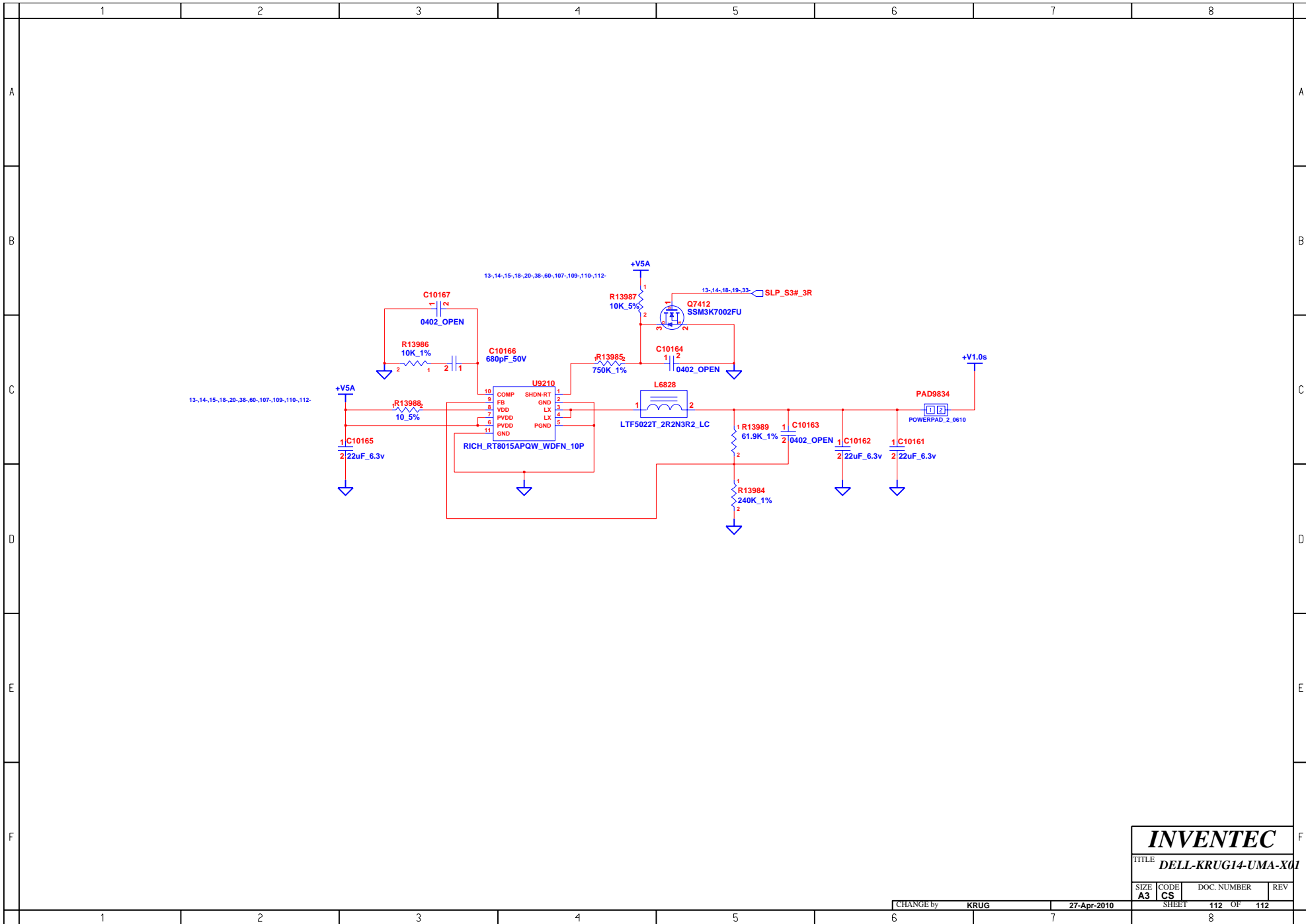
SHEET 109 OF 112





INVENTEC			
TITLE DELL-KRUG14-UMA-X01			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	111	OF 112
SHEET		8	

CHANGE by **KRUG** 27-Apr-2010



INVENTEC			
TITLE DELL-KRUG14-UMA-X01			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	112 OF 112	

CHANGE by **KRUG** 27-Apr-2010

SHEET 112 OF 112