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The diagram illustrates the hardware architecture of the RKY15HR laptop. At the top center is the **Sandy Bridge** processor (Socket-rPGA989, 37.5mm x 37.5mm) connected to two **DDR3 SO-DIMM** modules (P22 and P23). Below the processor is the **COUGAR POINT** chipset (25mm x 25mm). The processor connects to the chipset via FDI and DMI. The chipset connects to the Sandy Bridge via PCI-E-G. The chipset is connected to various peripherals:

- Discrete Graphic ATI Seymour** (P49~54) via PCI-E-G.
- DDR III VRAM** (64M X 16) modules (P49~54) connected to the discrete graphic.
- HDMI** (P37), **CRT** (P35), and **LCM** (P36) via HDMI, VGA, and LVDS.
- Card Reader** (RTL5219-GR, P41) via PCIE.
- LAN** (REA-RTL8165EH, P39) and **RJ-45** (P40) via PCIE.
- WLAN + BT minicard** (P45) via PCIE.
- SATA ODD** (P38) and **SATA HDD** (P38) via SATA.
- SPKR** (P42), **HP JACK** (P43), **MIC JACK** (P43), and **int DMIC** (P36) via HDA.
- Thermal meter** (TI TMP431A, P21) via LPC.
- Keyboard** (P34) and **Touchpad** (P34) via LPC.
- SPI ROM** (4MB BIOS, P24) via SPI.
- SPI ROM** (EC FW 512KB (BIOS), P33) via SPI.
- USB 0** (USB CONN03, P44), **USB 1** (WLAN+BT, P45), and **USB 5** (Webcam, P45) via USB.
- USB 8** (USB CONN01, P47), **USB 9** (USB CONN02, P47), and **USB 10** (Bluetooth, P45) via USB.
- MAIN BATT** (P06) and **System Charger** (DC / DC System Power, P05) via a connection to the **System Charger** block.

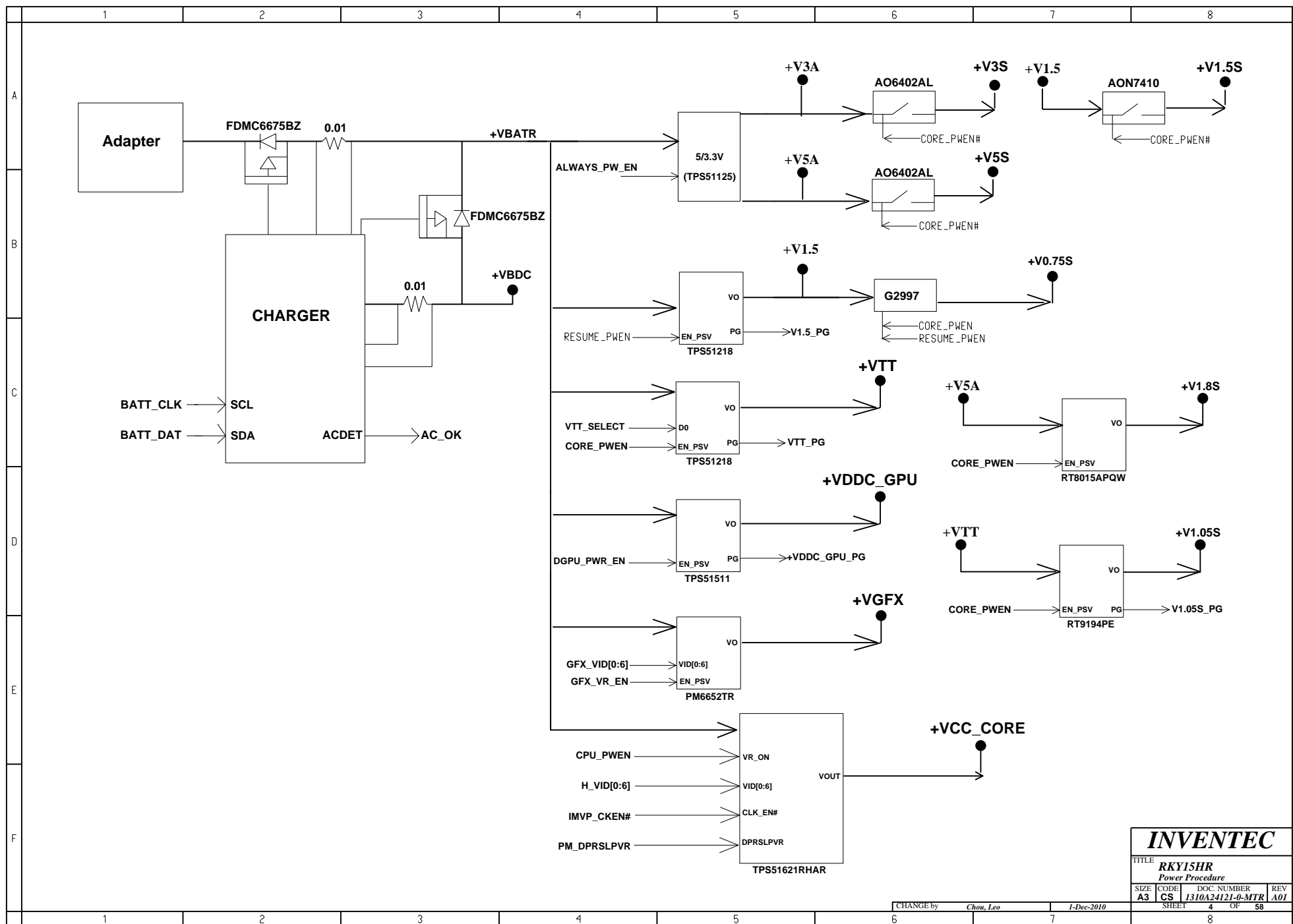
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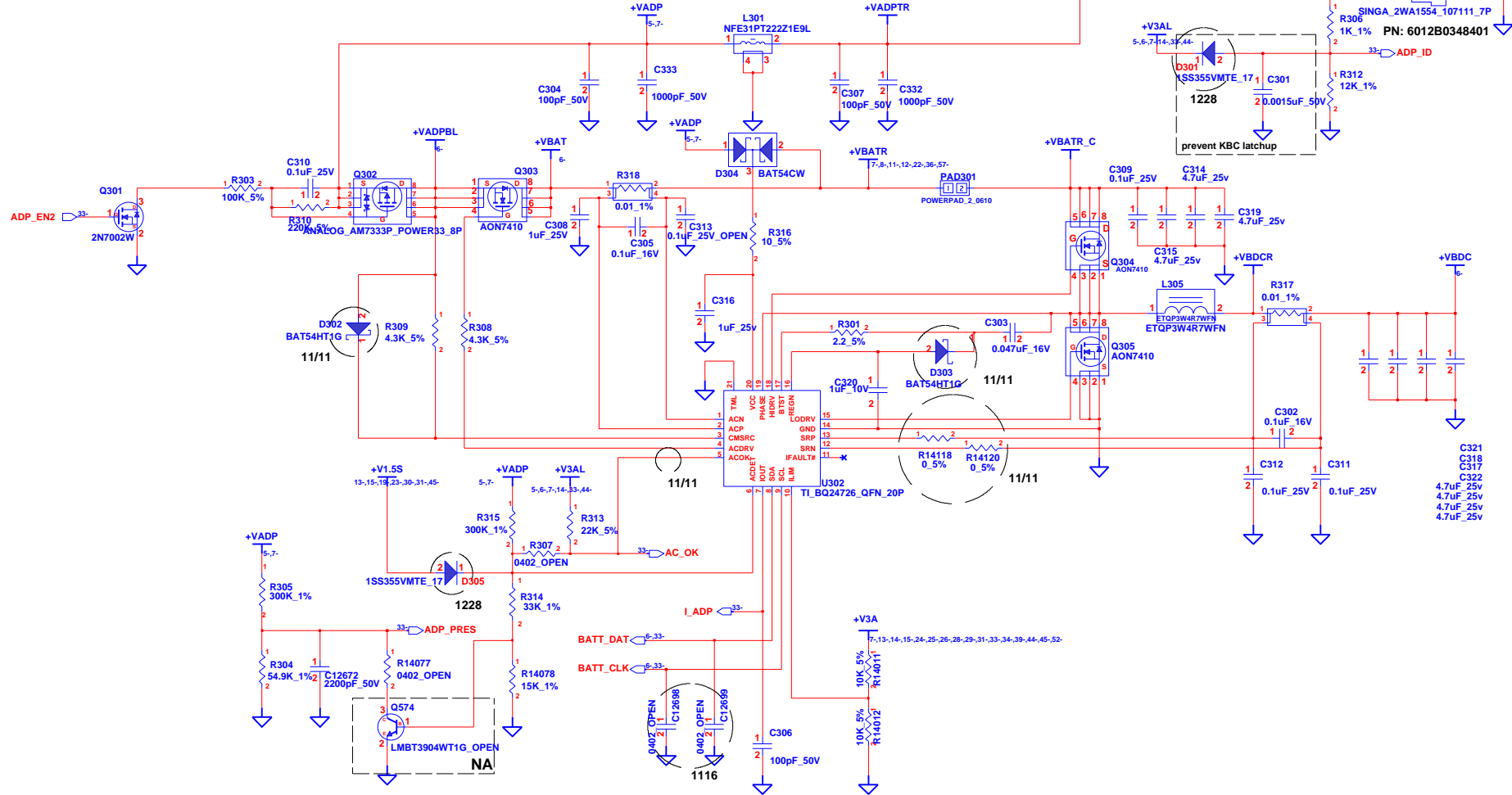
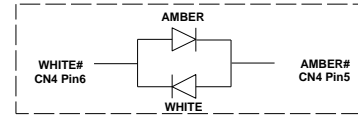
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<i>RKY15HR</i> <i>Block Diagram</i>			
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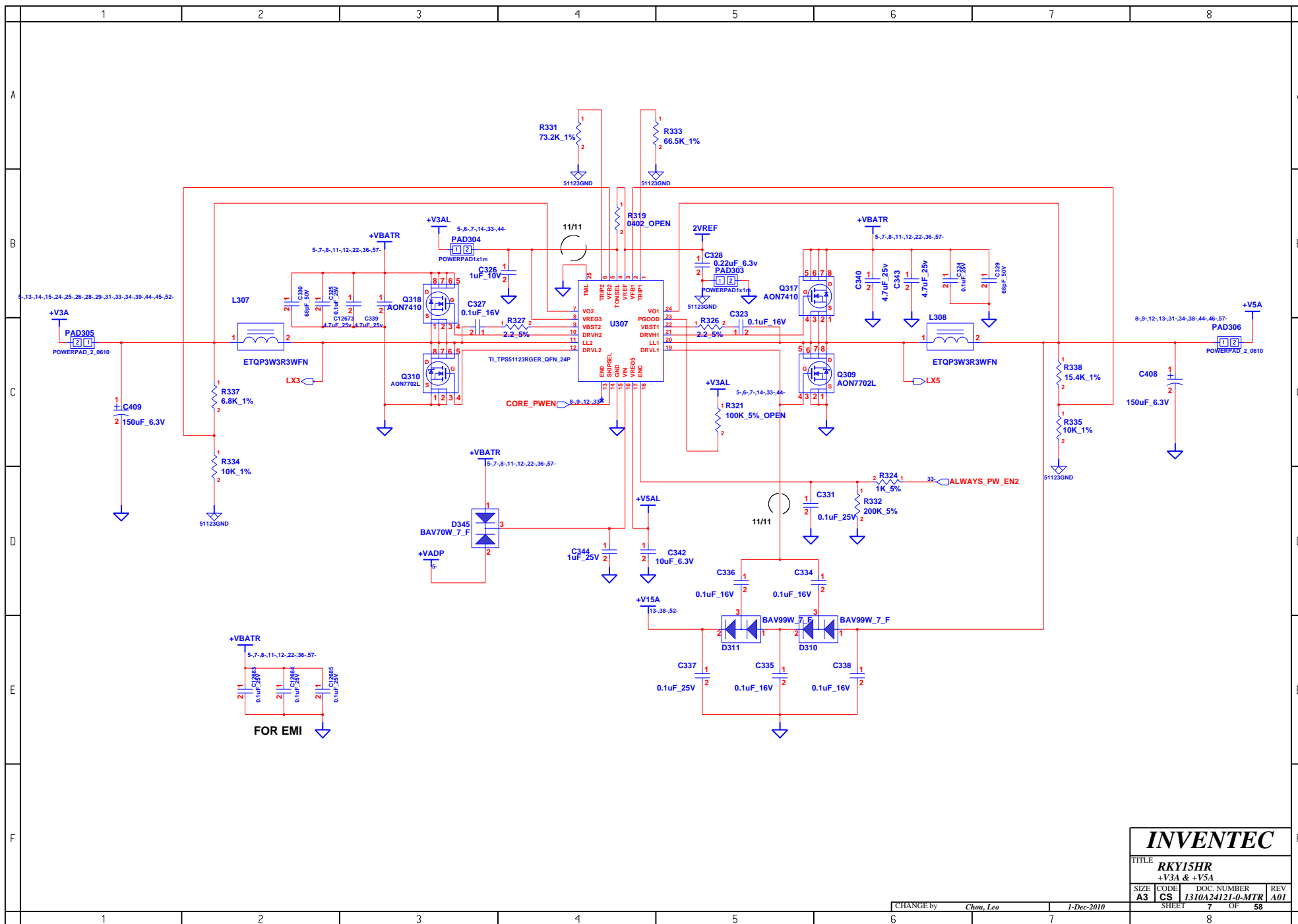
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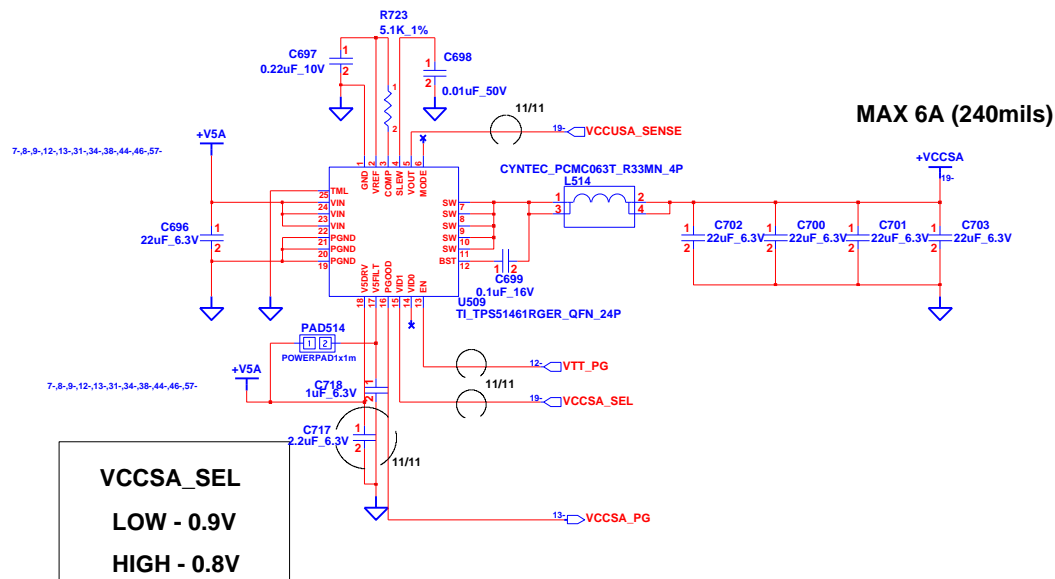
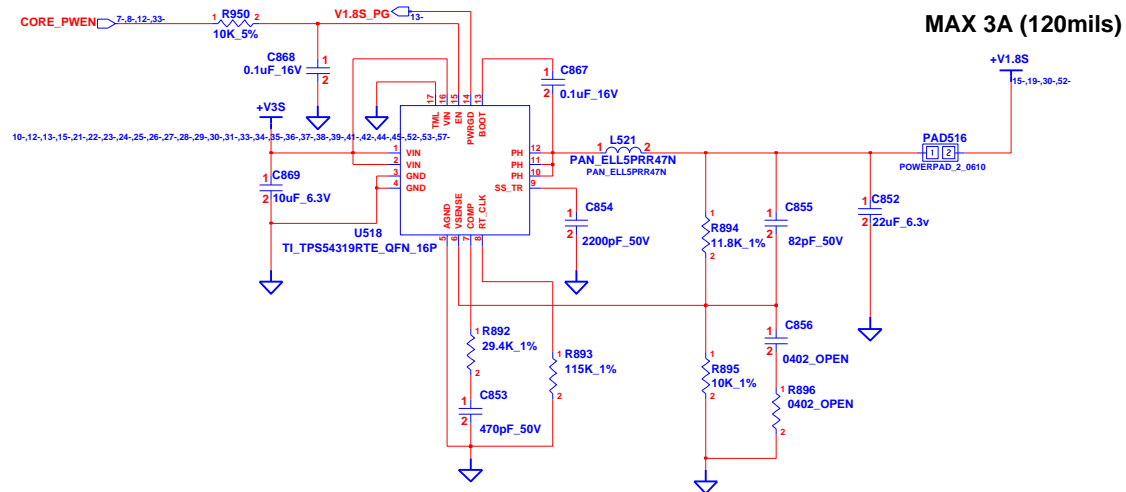
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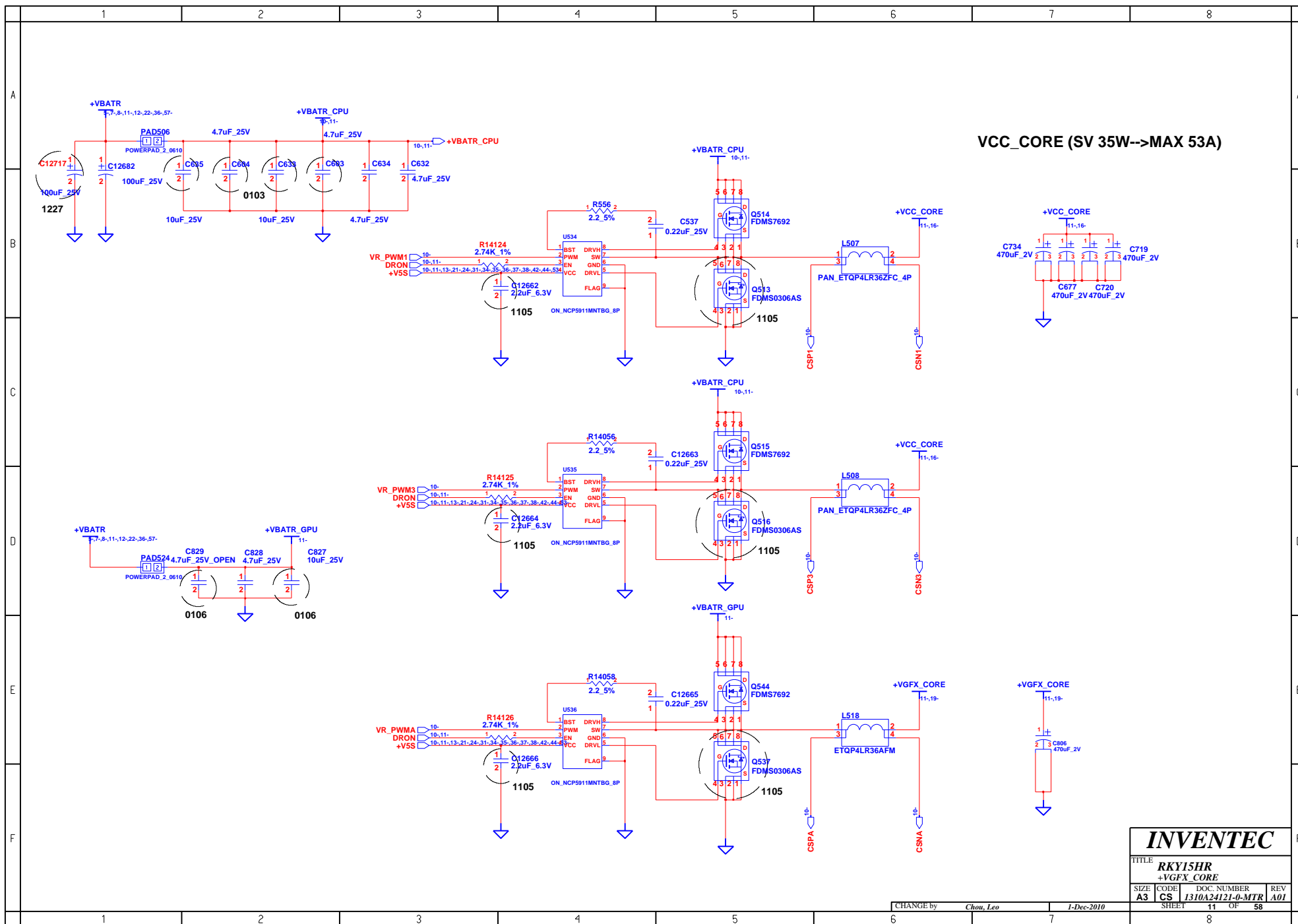
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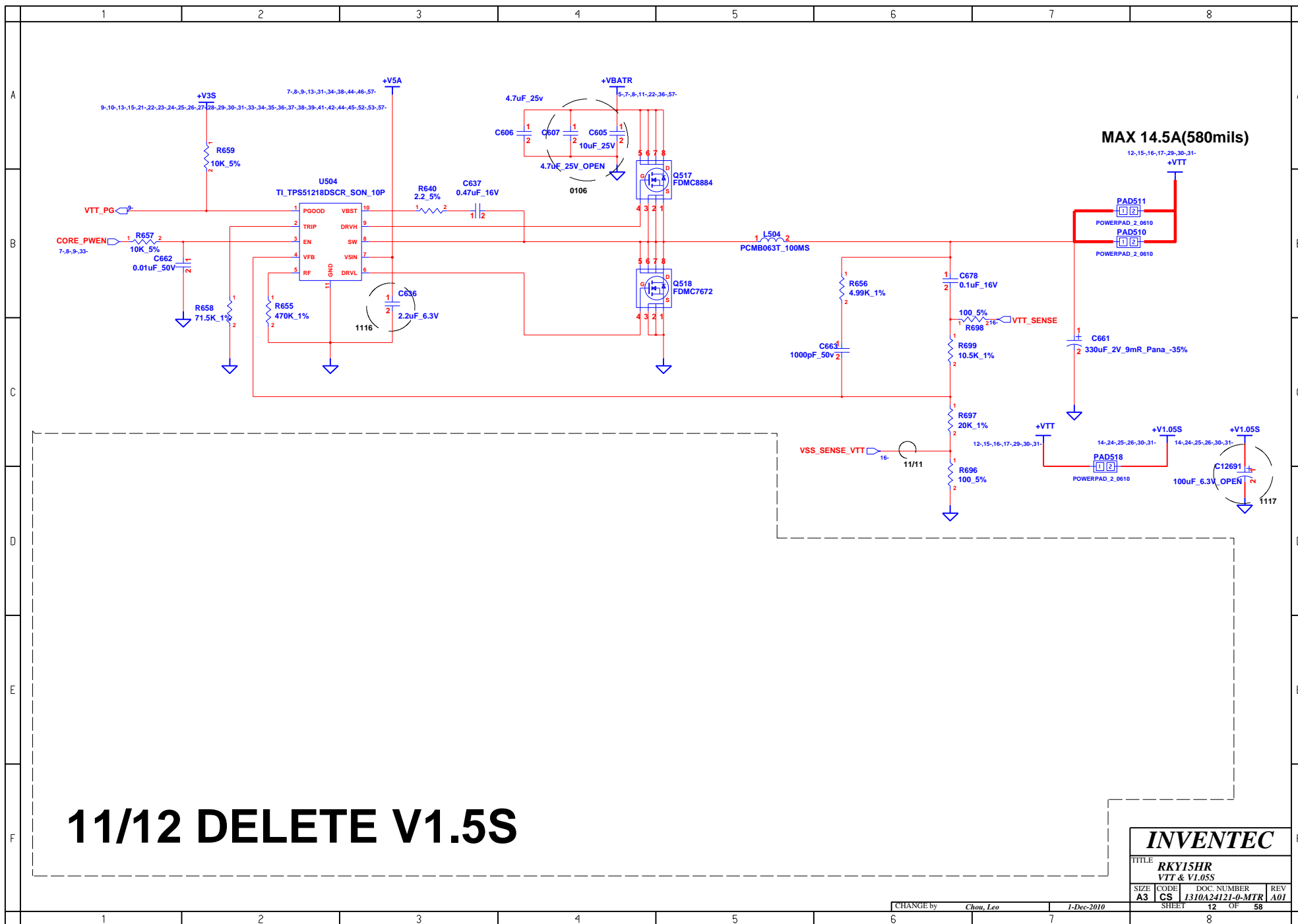
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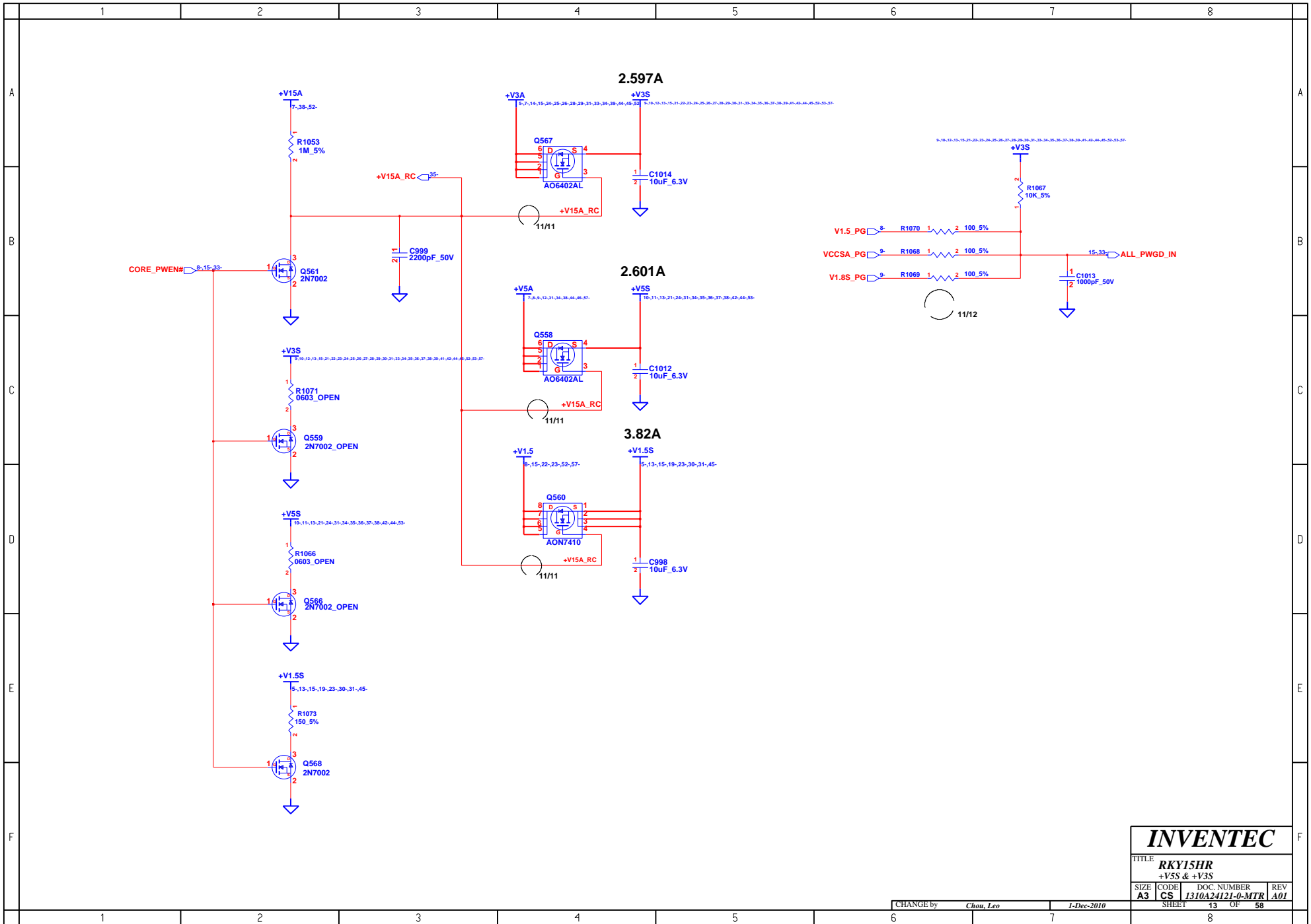
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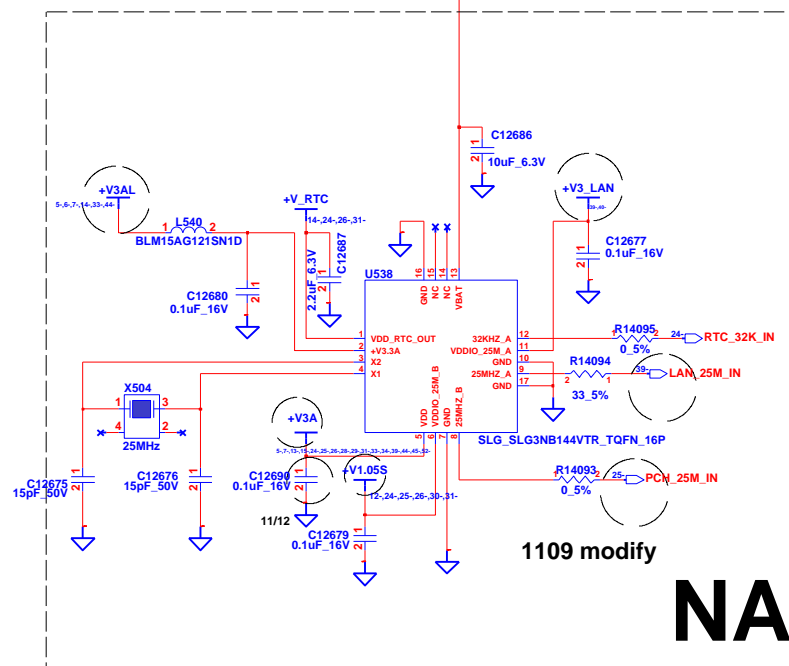
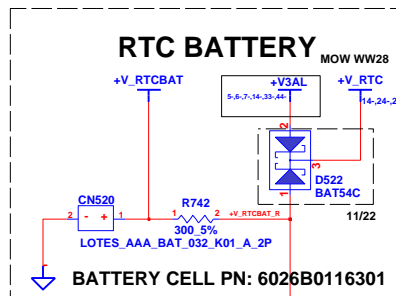
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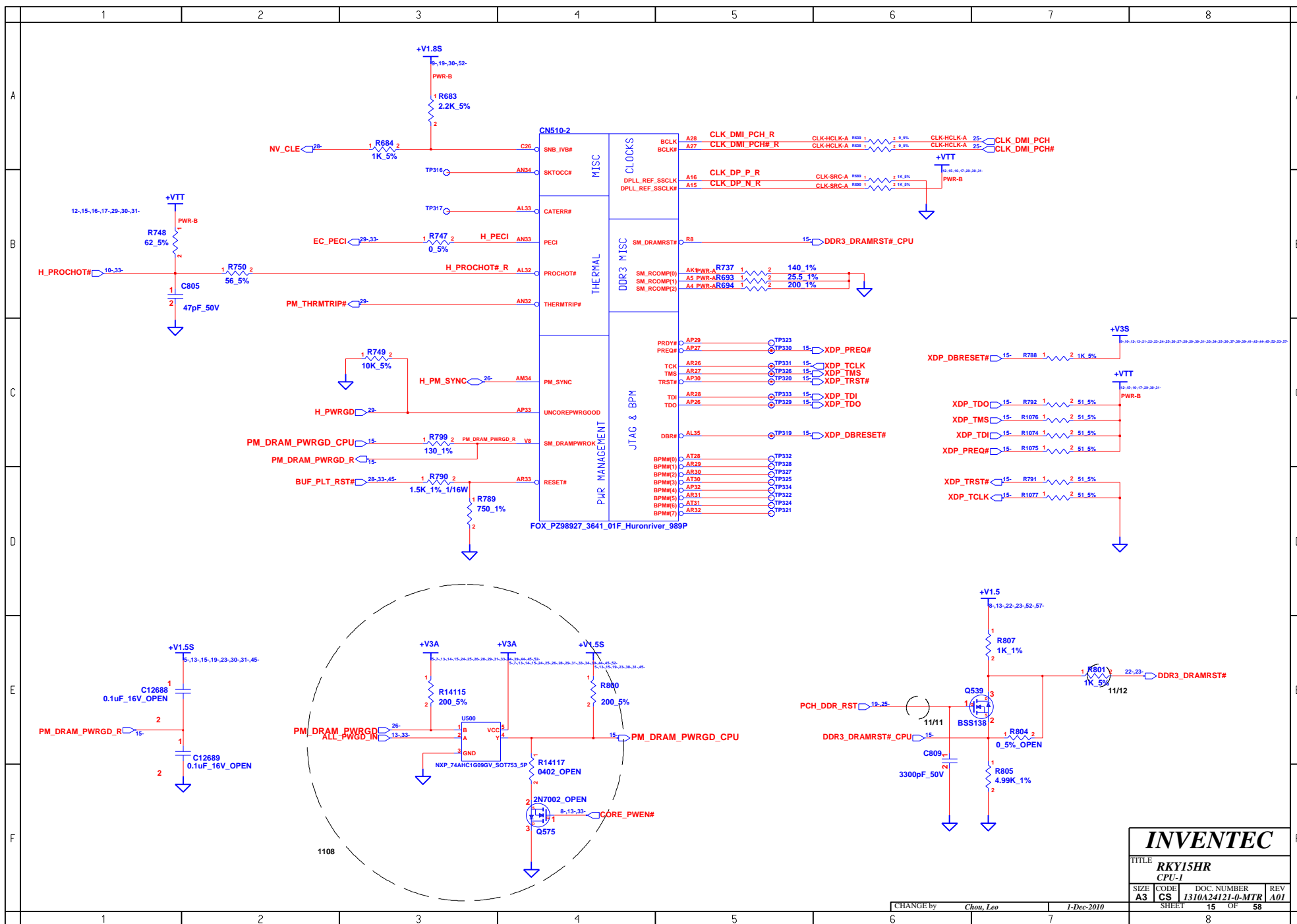
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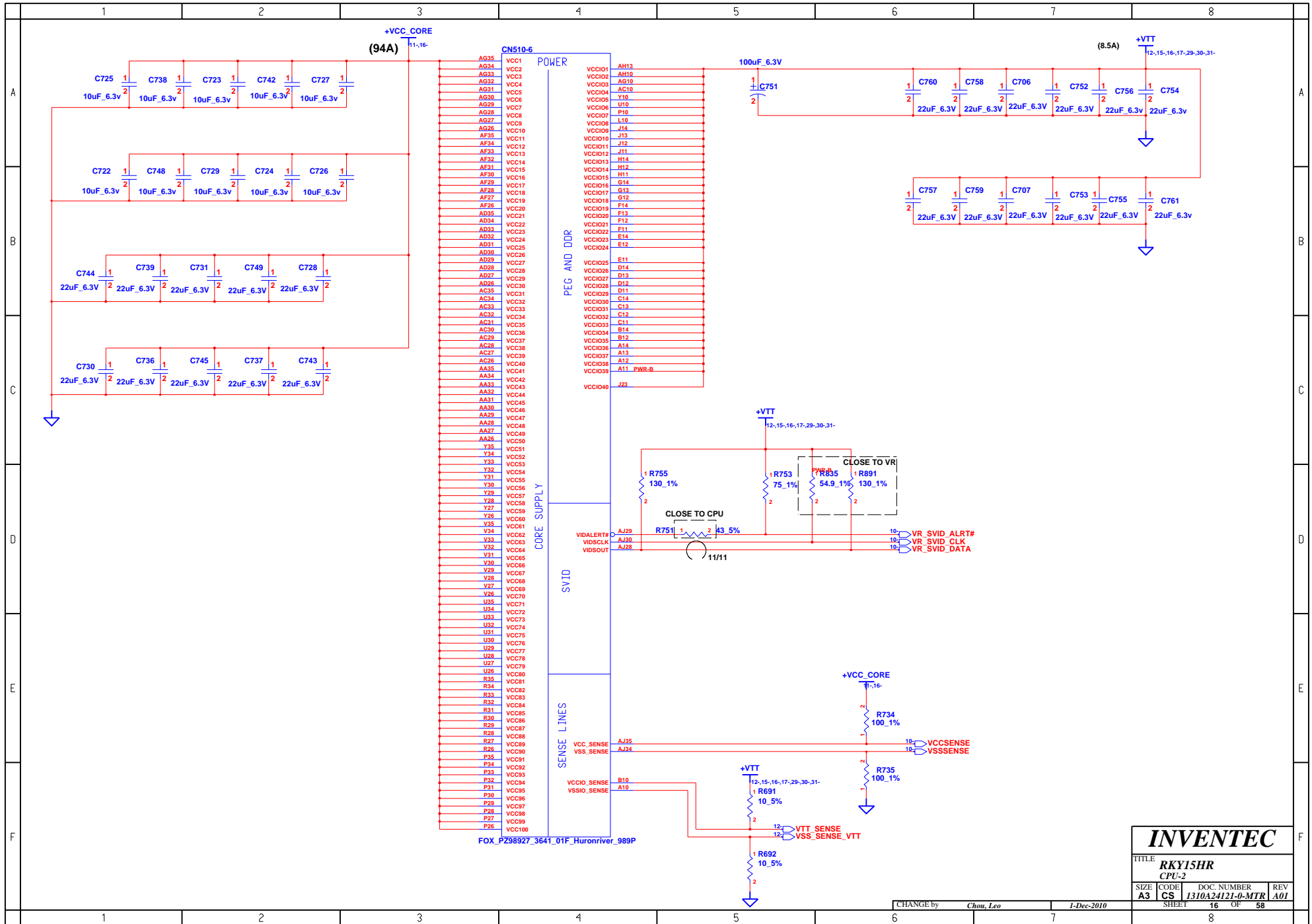


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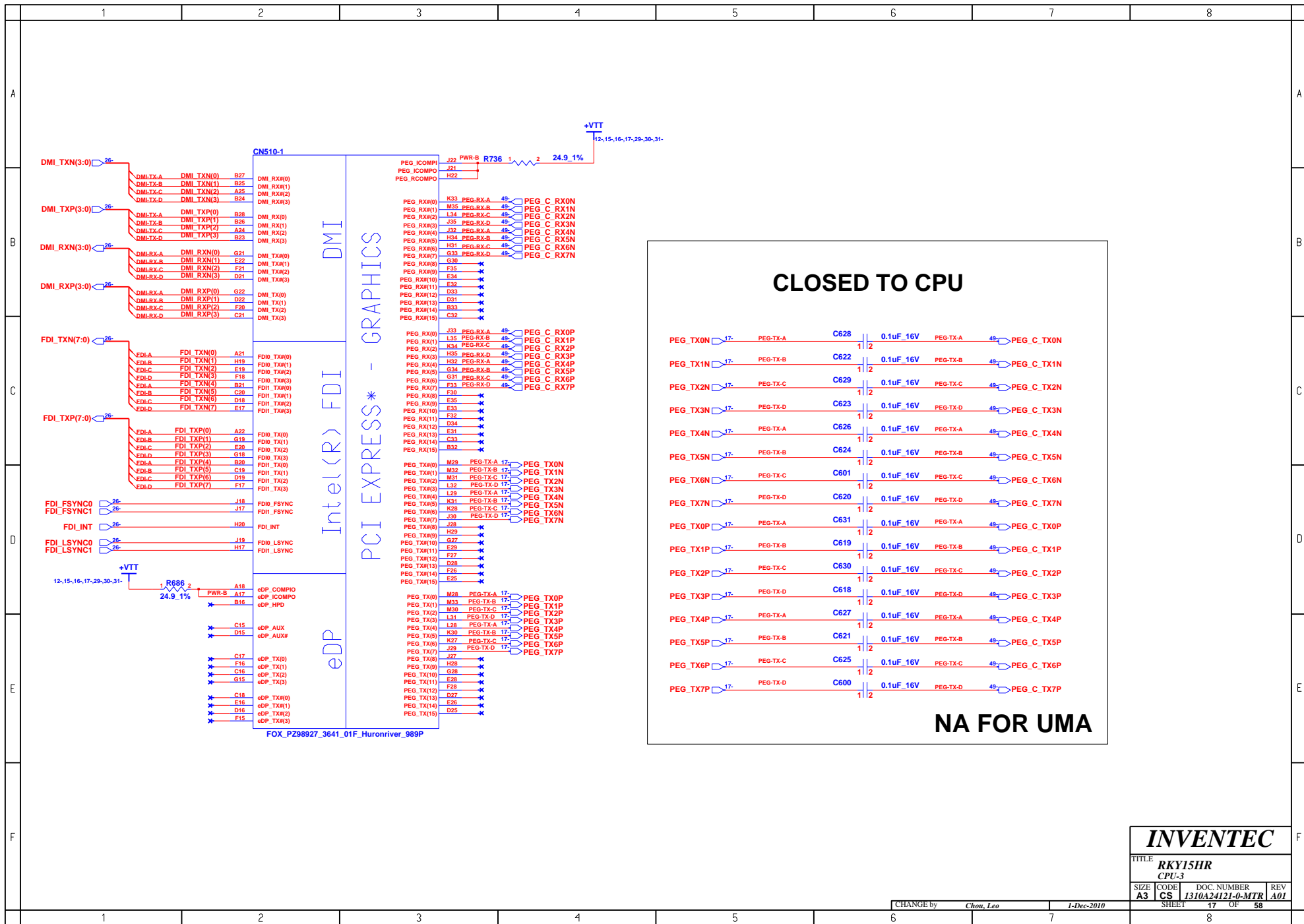
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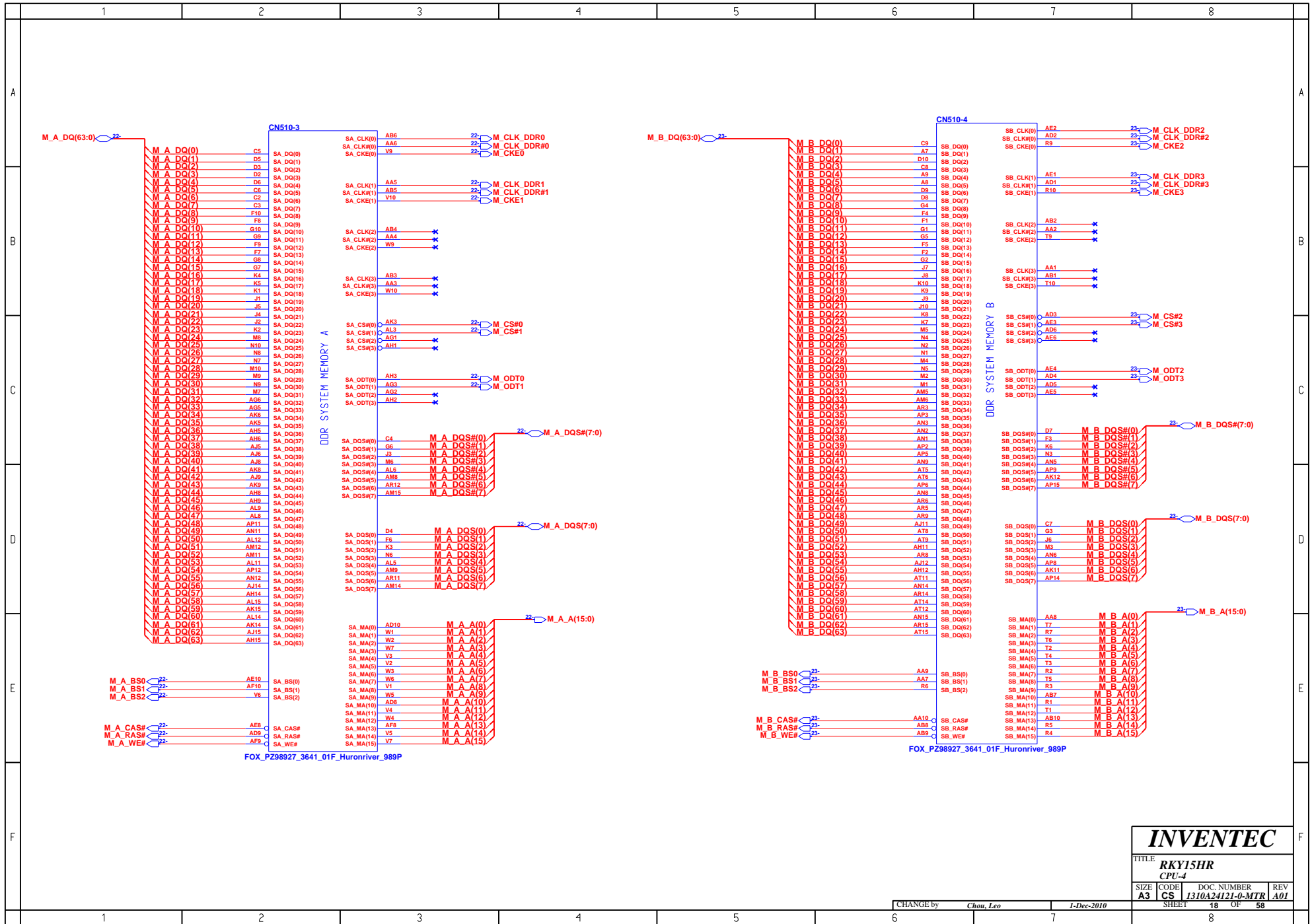
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INVENTEC

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RKY15HR			
CPU-3			
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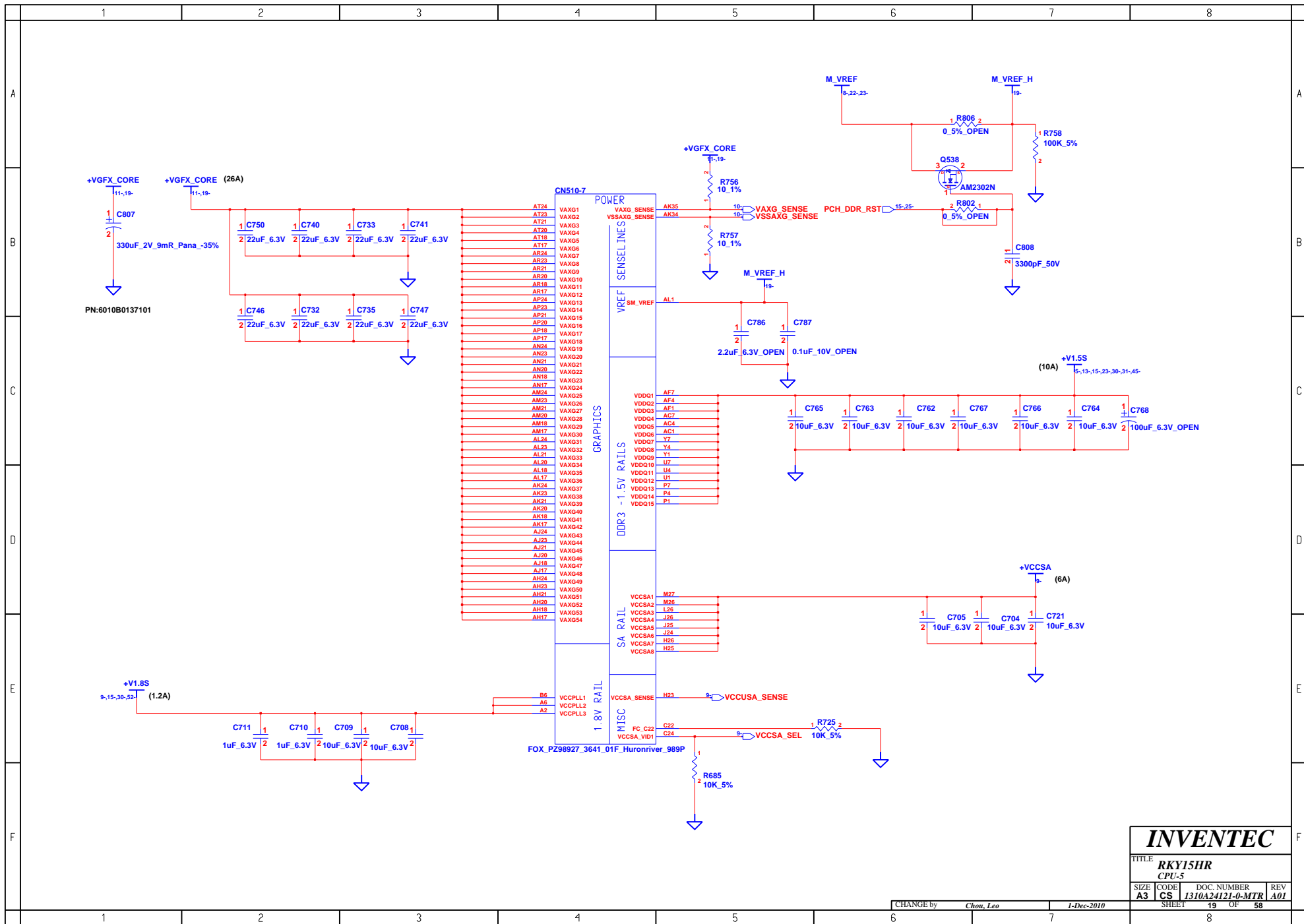
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RKY15HR
CPU-4

SIZE CODE DOC. NUMBER REV
A3 CS 1310A24121-0-MTR A01

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INVENTEC

TITLE			
RKY15HR			
CPU-5			
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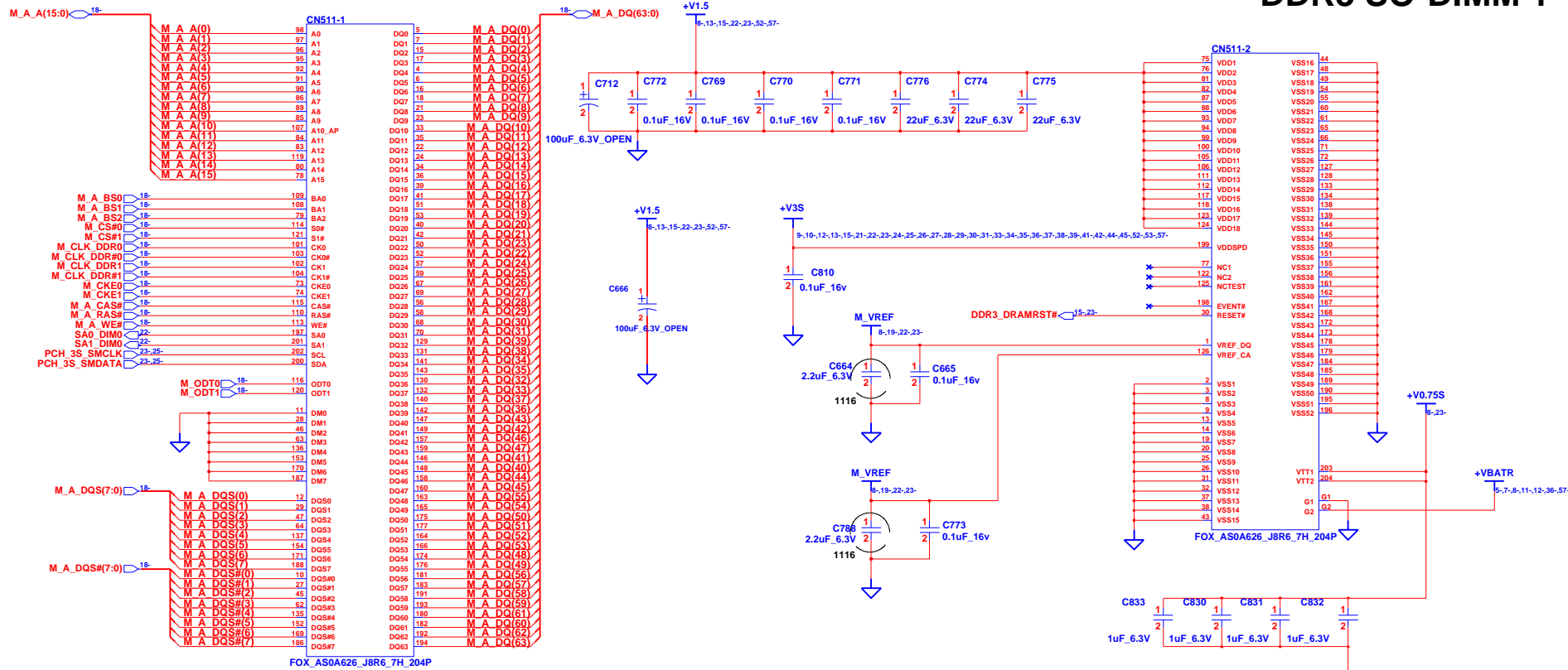
***BOM**
CN500 : 6012A0081607
FAN CONN

QTY	REF	DESCRIPTION	VALUE	UNIT
1	CN500	6012A0081607		

Thermal Management Unit (U510):
 U510: TI_TMP302CDRLR_SOT_6P
 U7002: GMT_G708T1U_SOT23_5P_OPEN
 R598: 4.7K_5%
 R631: 4.7K_5%
 R1018: 10K_5%
 R14123: 10K_5% OPEN
 C530: 220pF_25V_OPEN
 C574: 0.1uF_16V
 C619: 2.2uF_6.3V
 CA02: 4.7uF_25V
 TACH0: CPUFAN1_ON#
 THRMTrip#

TITLE			
<i>RKY15HR</i> <i>Thermal, Fan & XDP</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24121-0-MTR	A01
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DDR3 SO-DIMM 1



NOTE:

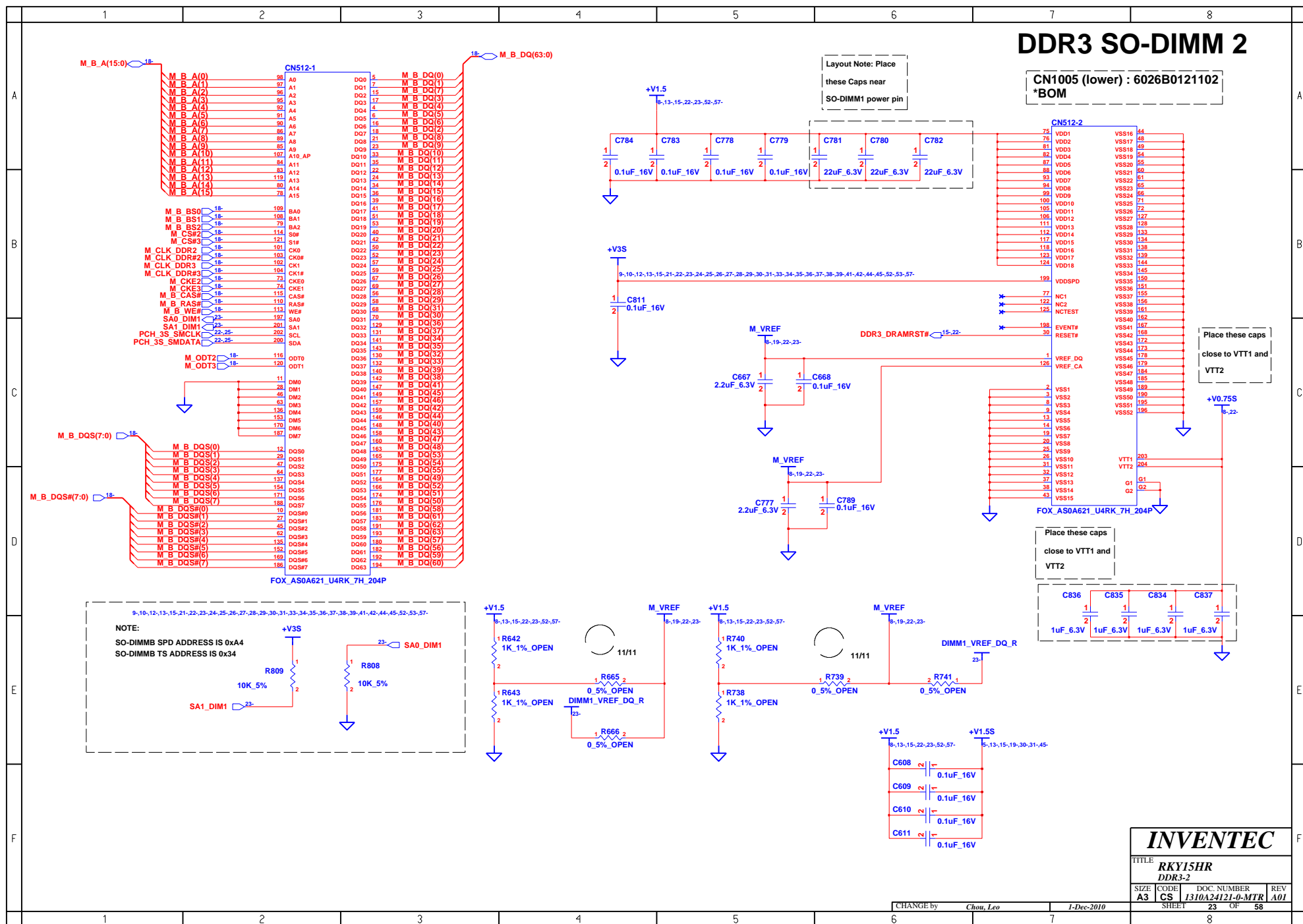
IF SA0_DIM0=0, SA1_DIM0=0
SO-DIMMA SPD ADDRESS IS 0xA0
SO-DIMMA TS ADDRESS IS 0x30

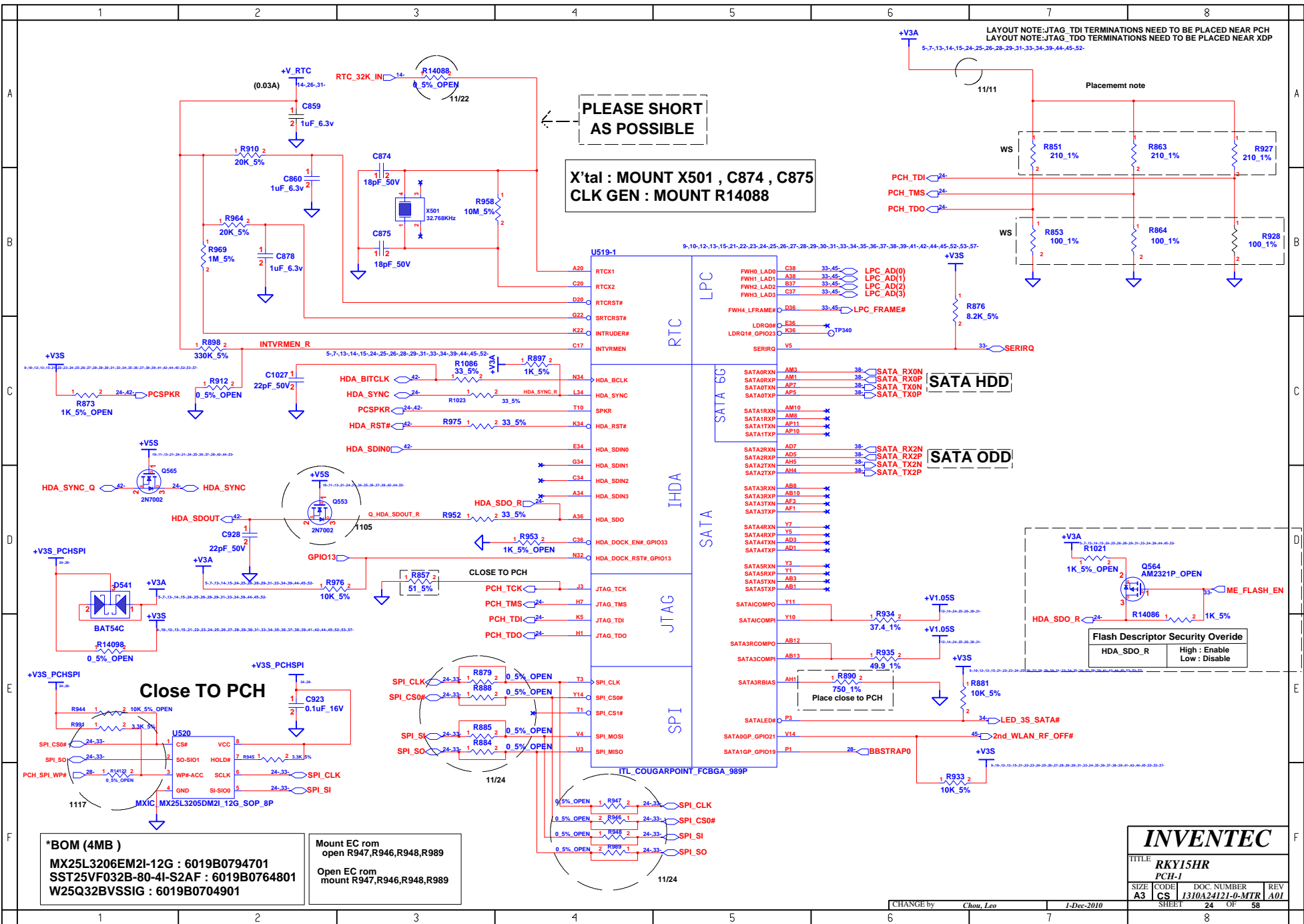
IF SA0_DIM0=1, SA1_DIM0=0
SO-DIMMA SPD ADDRESS IS 0xA2
SO-DIMMA TS ADDRESS IS 0x32

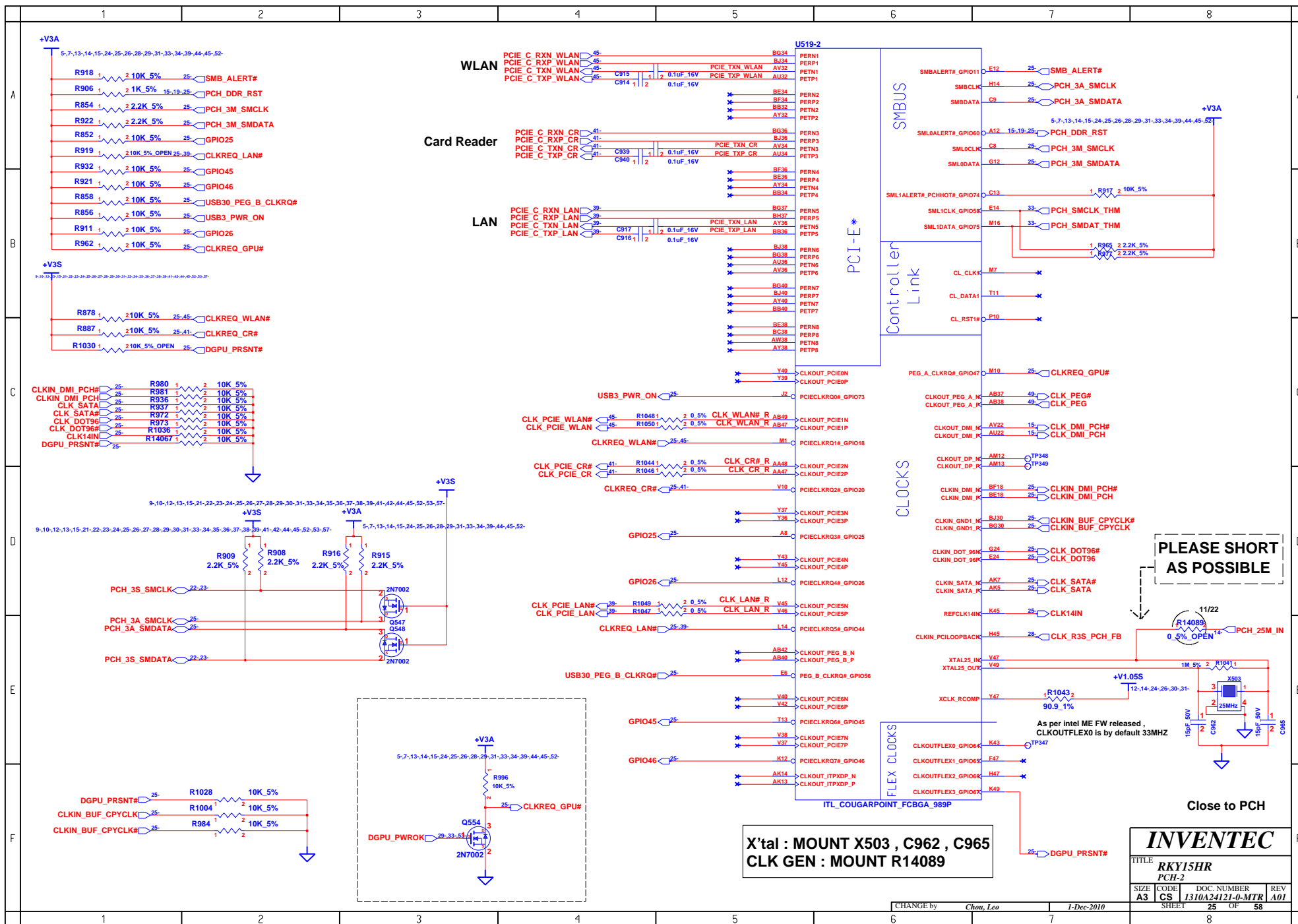
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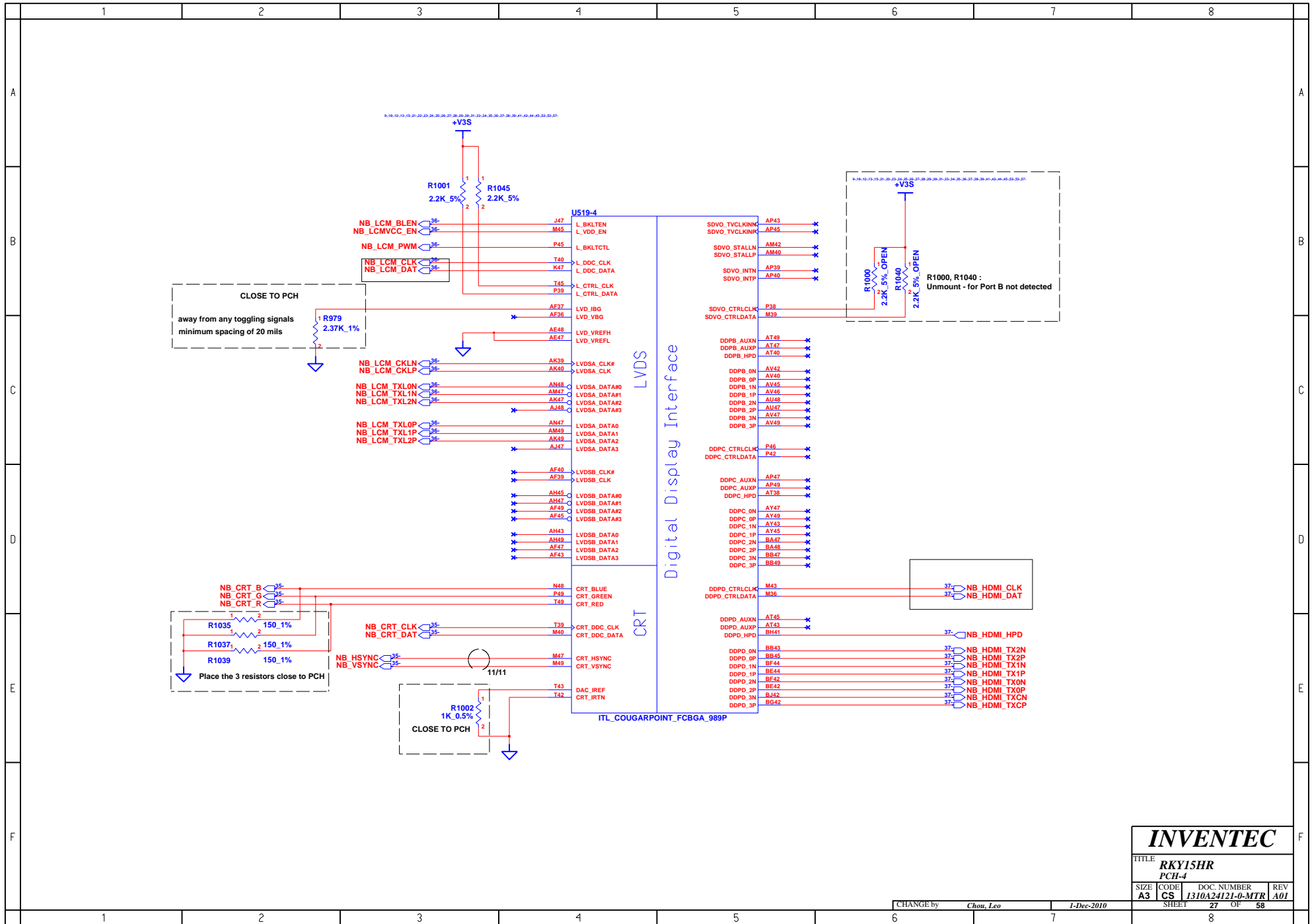


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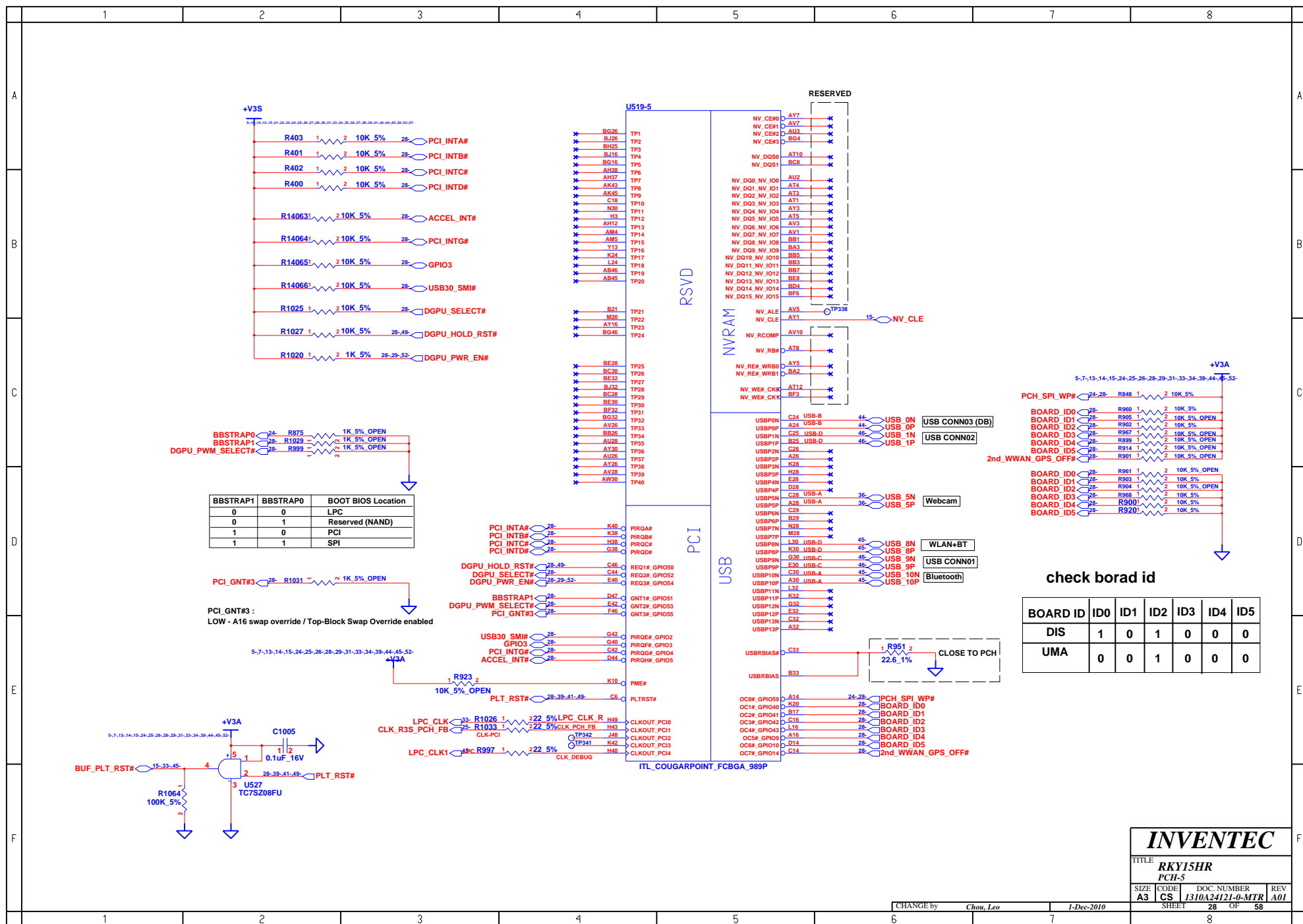
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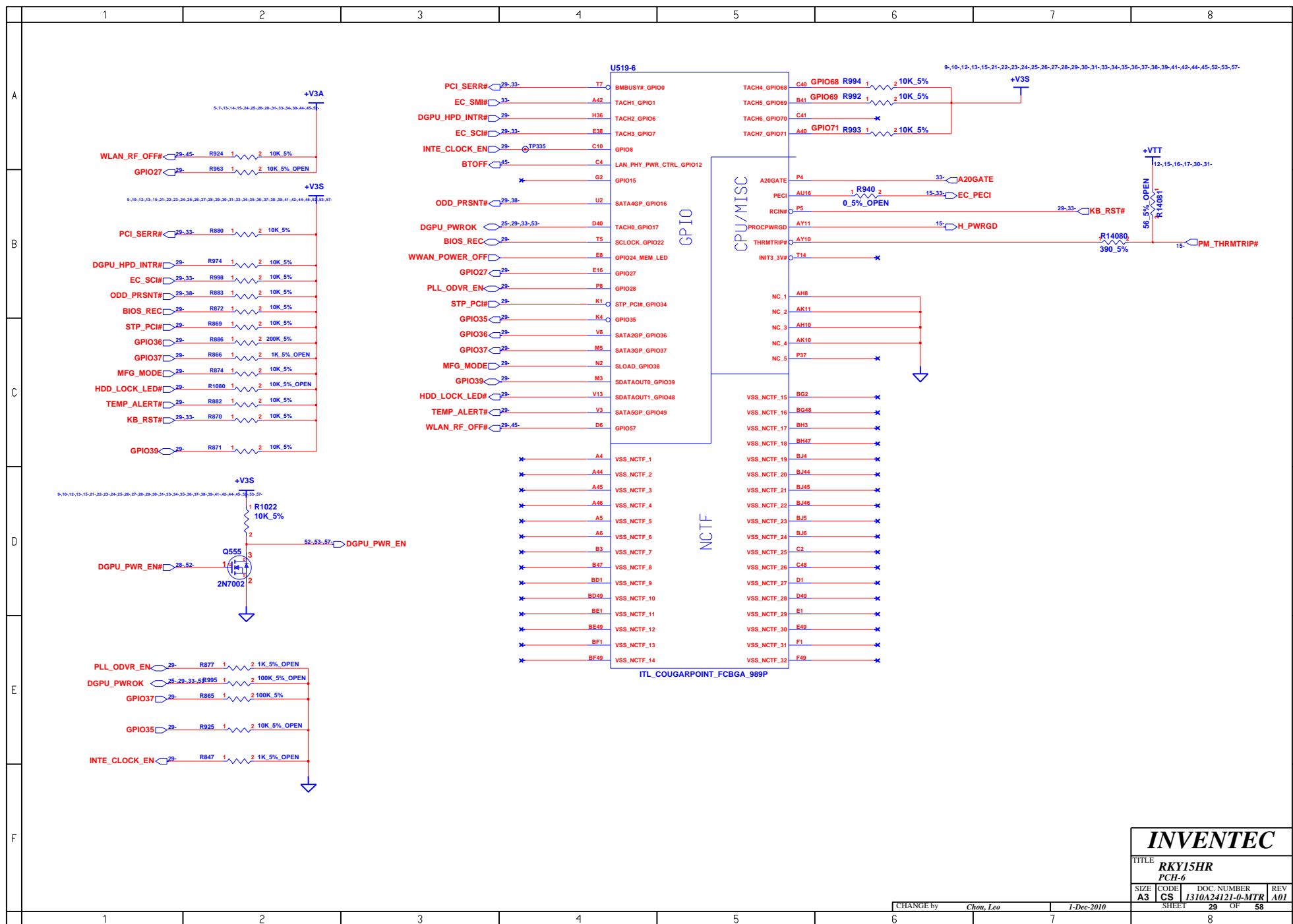


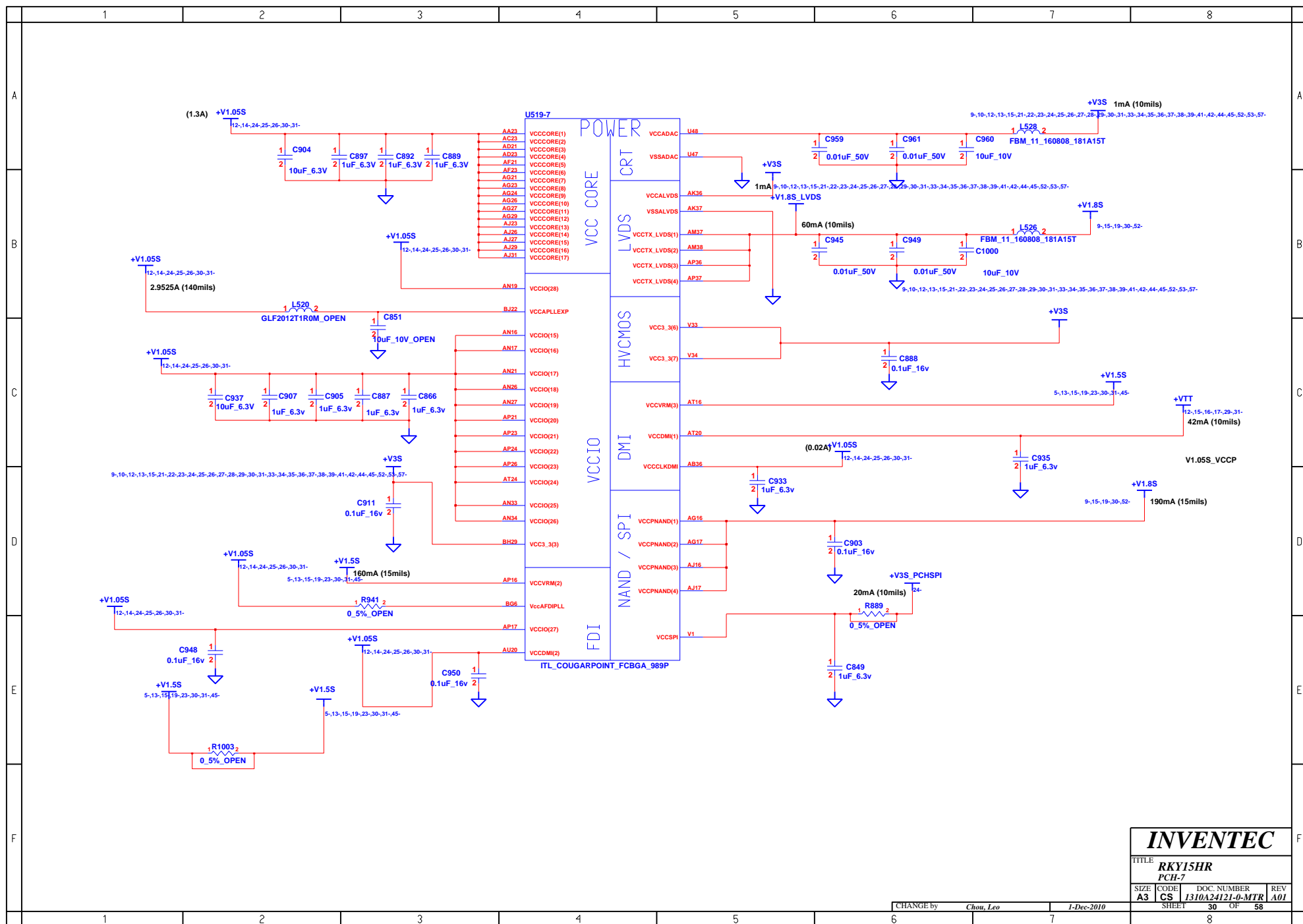
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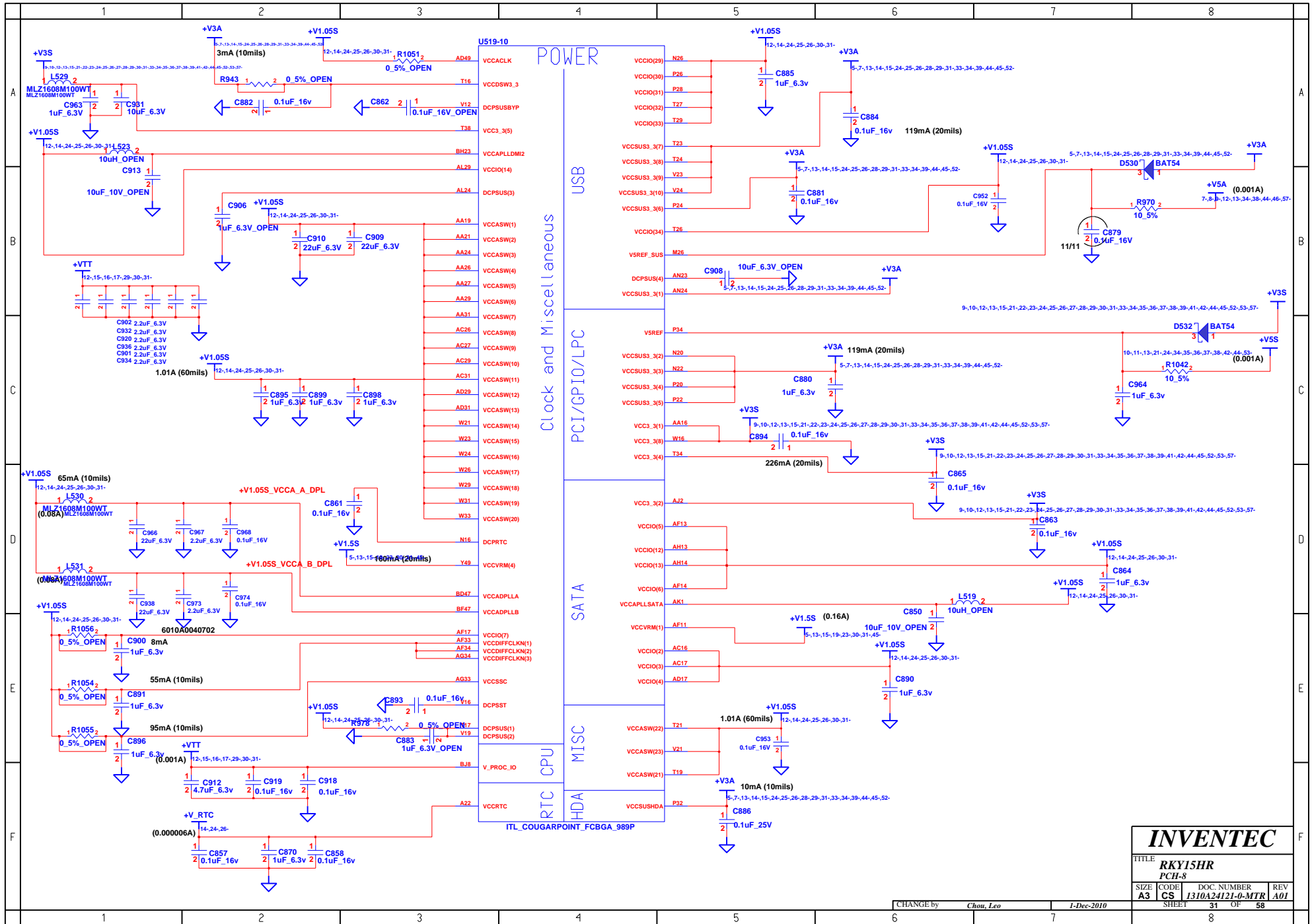
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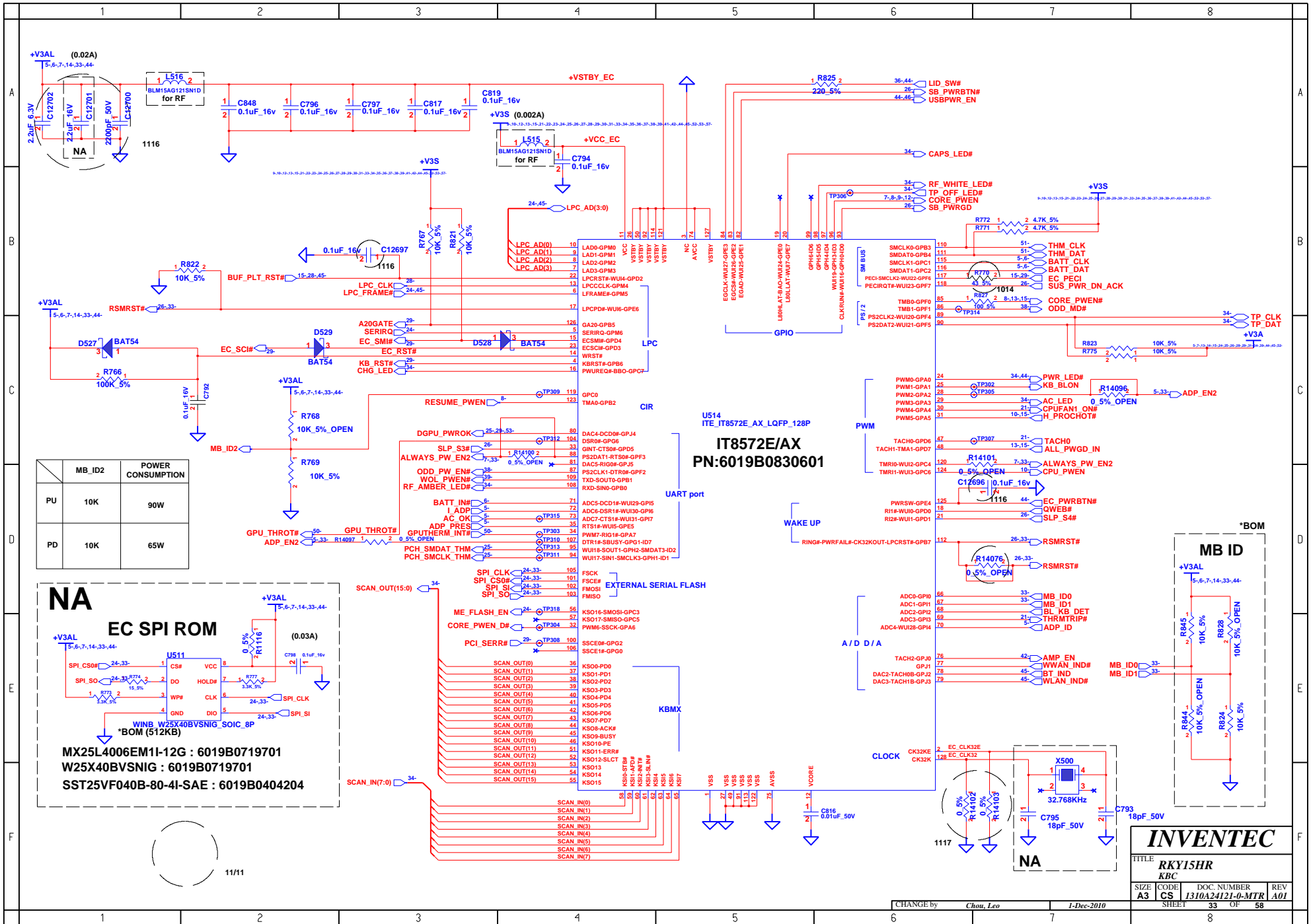
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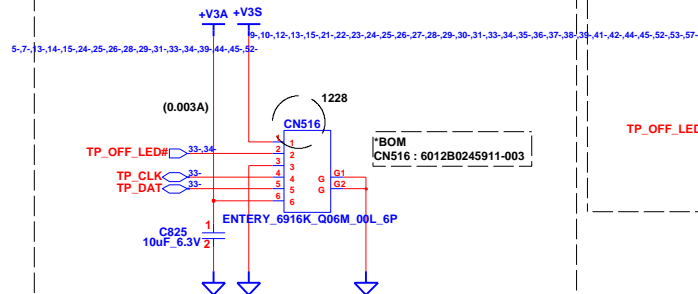




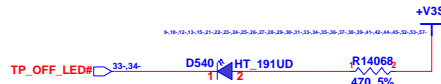




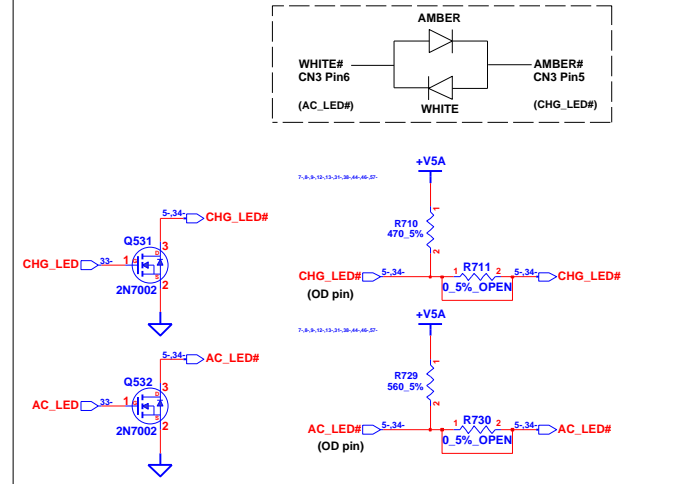
TouchPad Module CONN



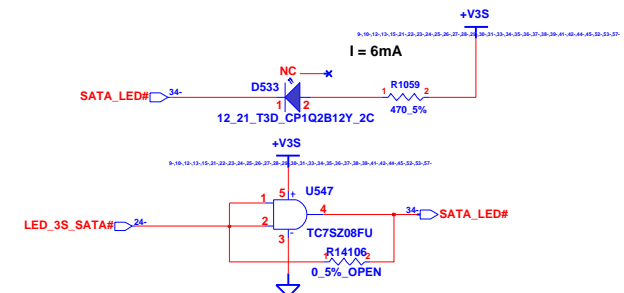
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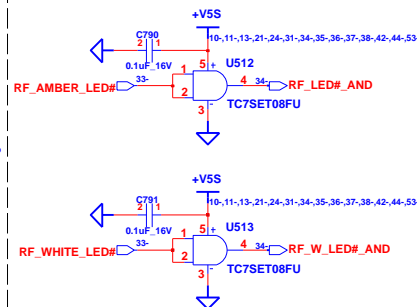
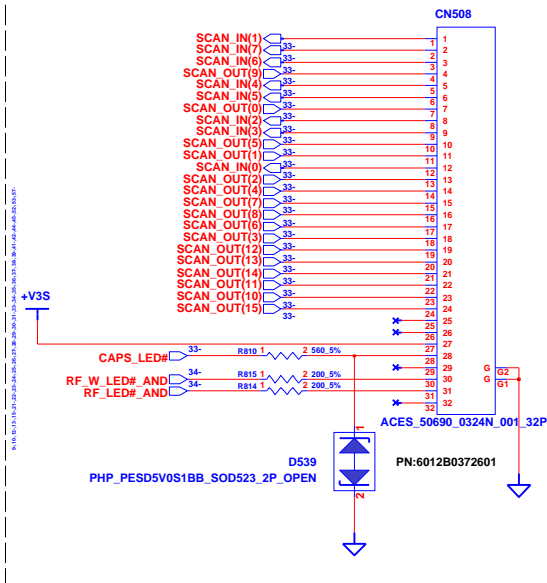
DC-JACK LED



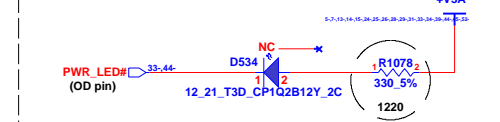
SATA LED & HDD-HALTED LED



KeyBoard CONN (30 pin)



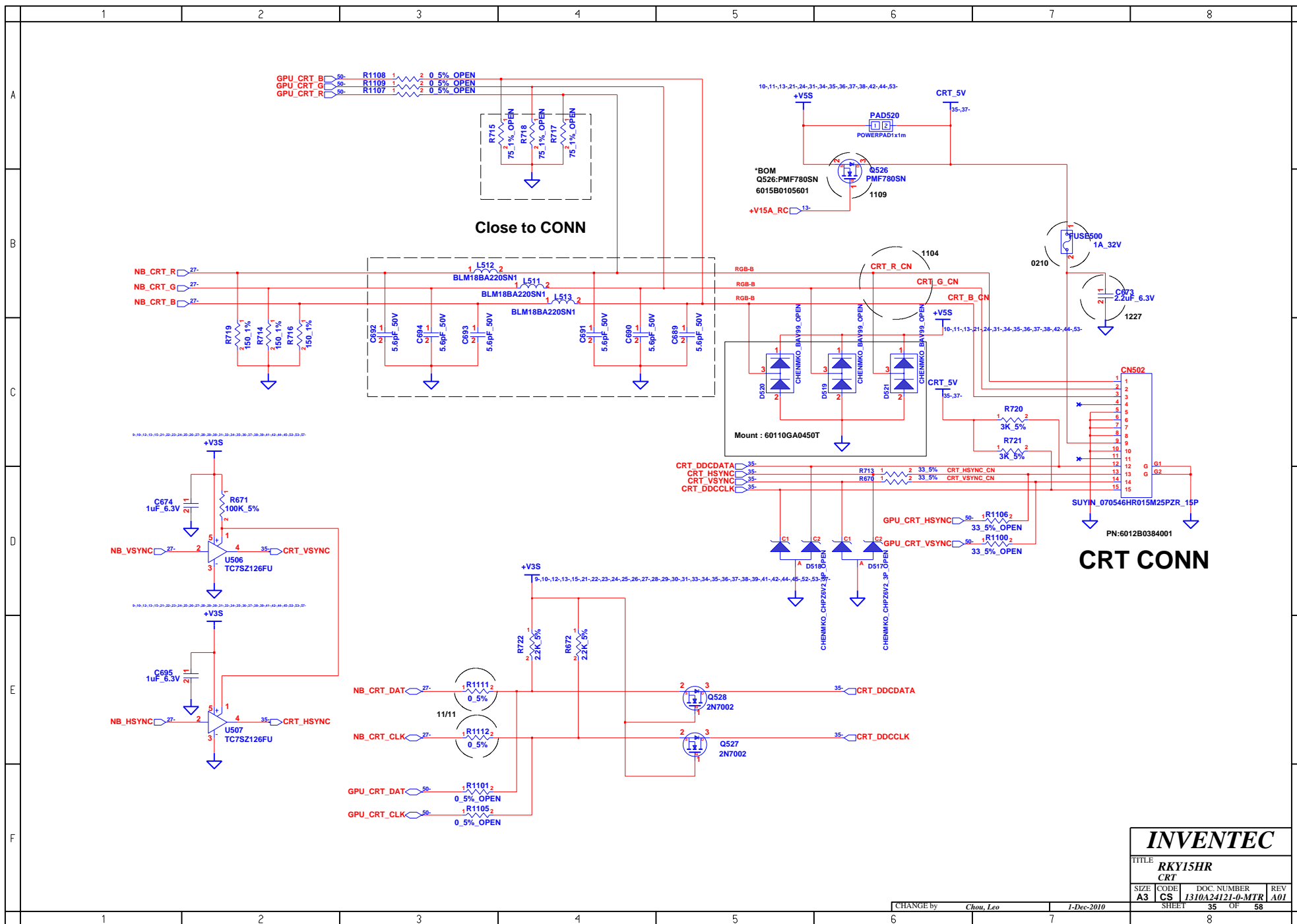
POWER LED

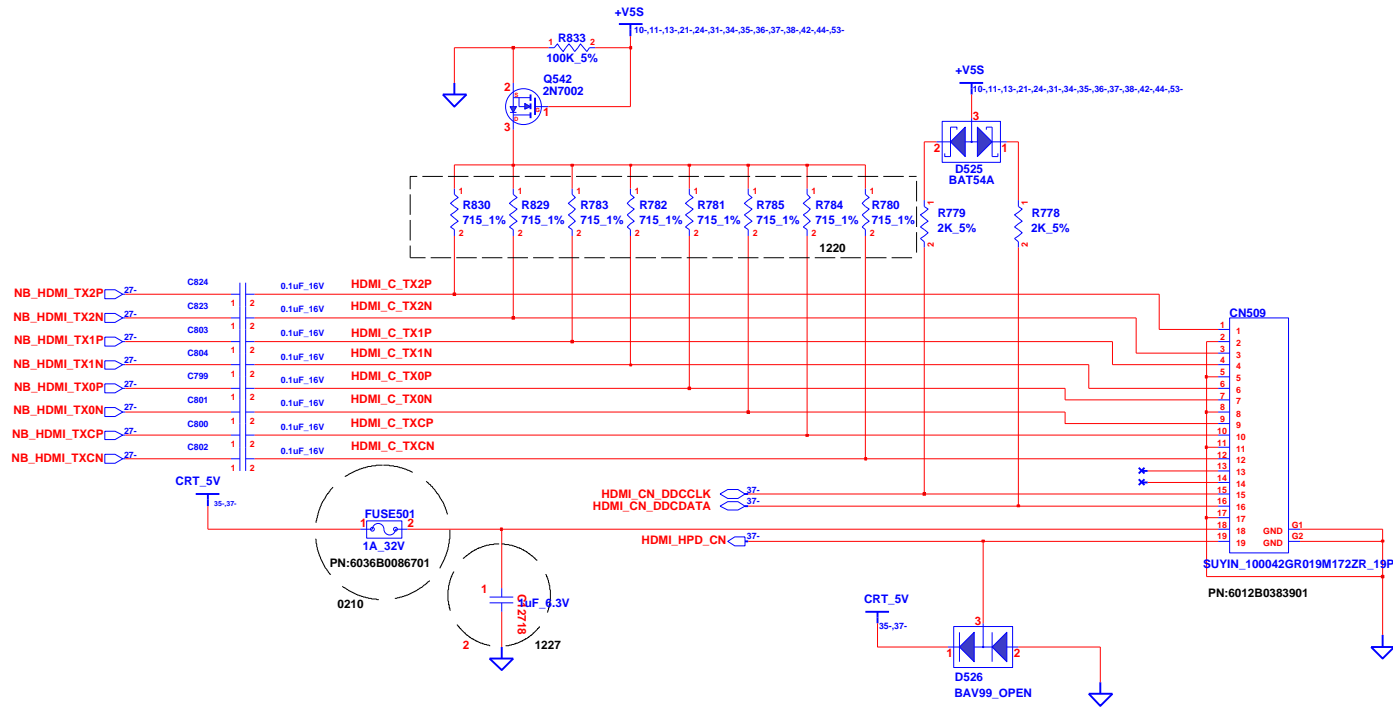


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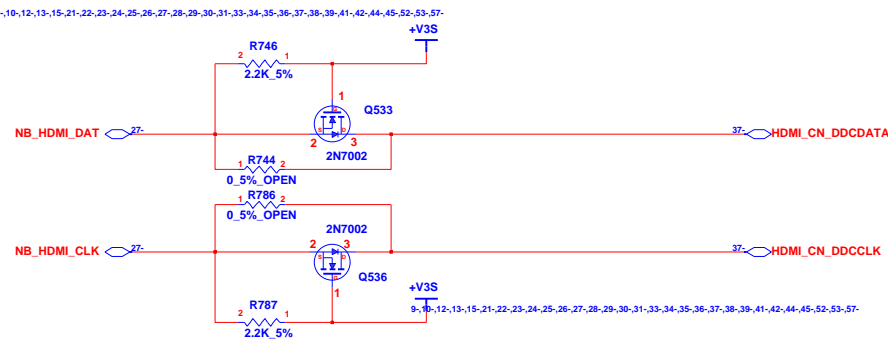
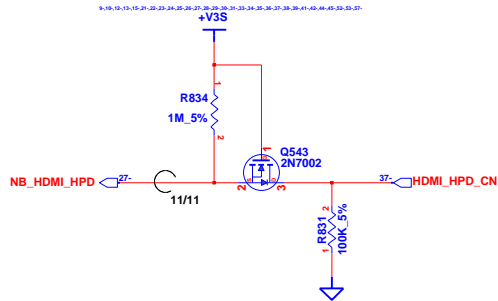
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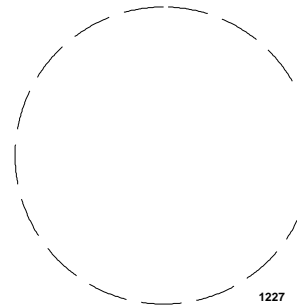
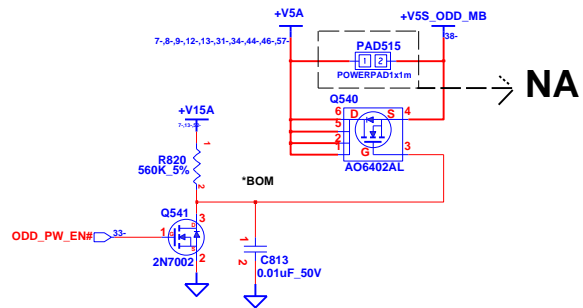
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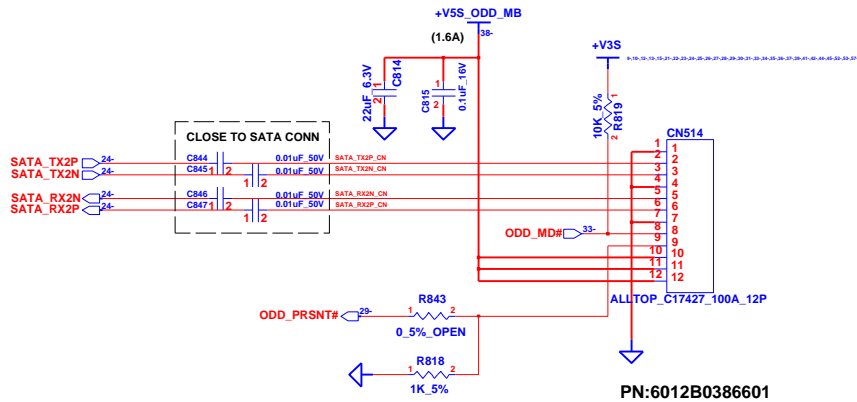
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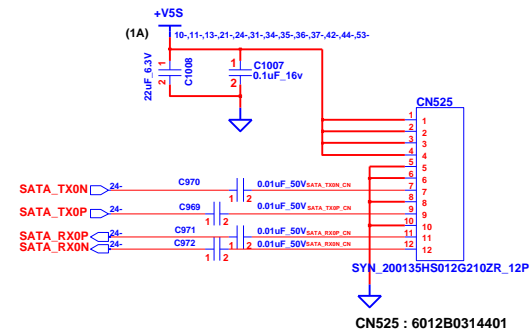
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SATA ODD CONN on MB

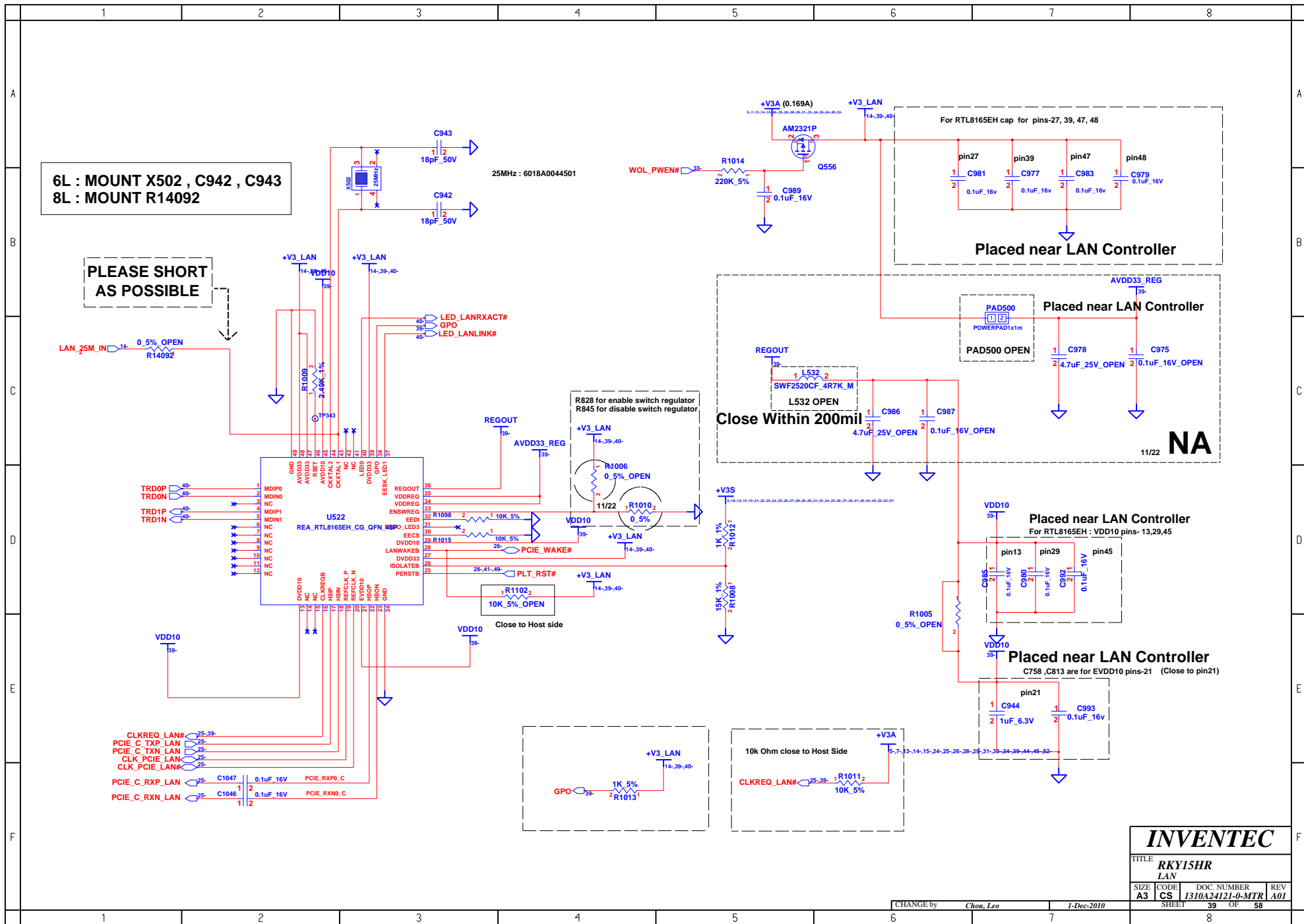


SATA HDD FPC CONN on MB



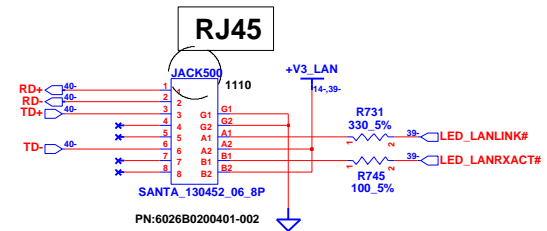
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TITLE			
RKY15HR			
LAN			
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SHEET		39	OF 58

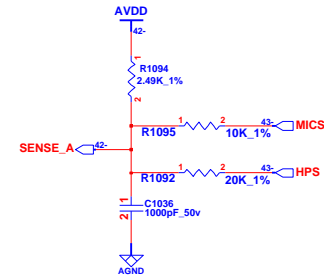
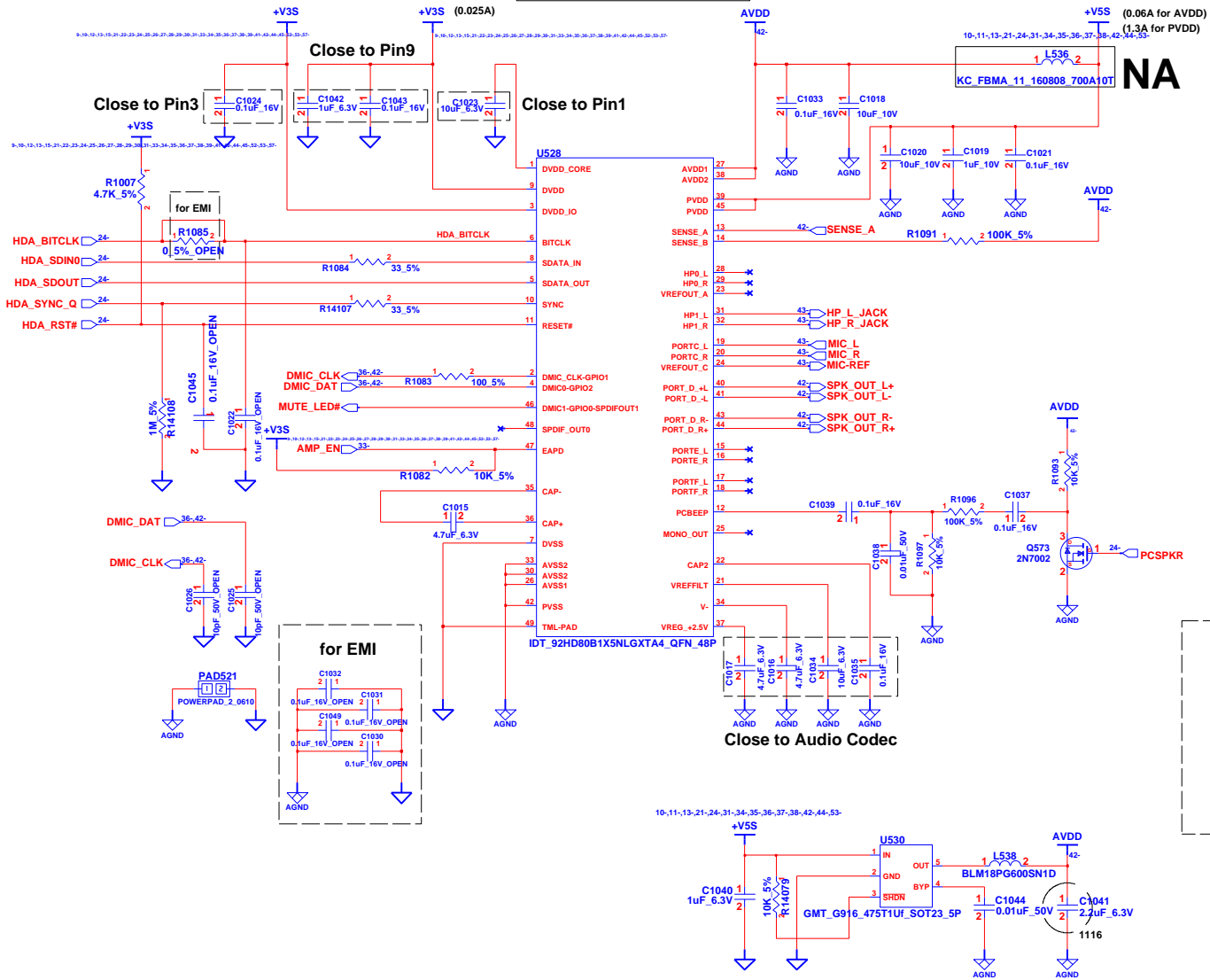


INVENTEC			
TITLE RKY15HR RJ-45			
SIZE A3	CODE CS	DOC. NUMBER 1310A24121-0-MTR	REV A01
SHEET		40	OF 58

CHANGE by		<i>Chou, Leo</i>	<i>1-Dec-2010</i>	SHEET		40	OF	58
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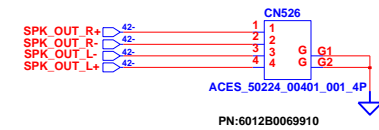
***BOM**

6019B0824101



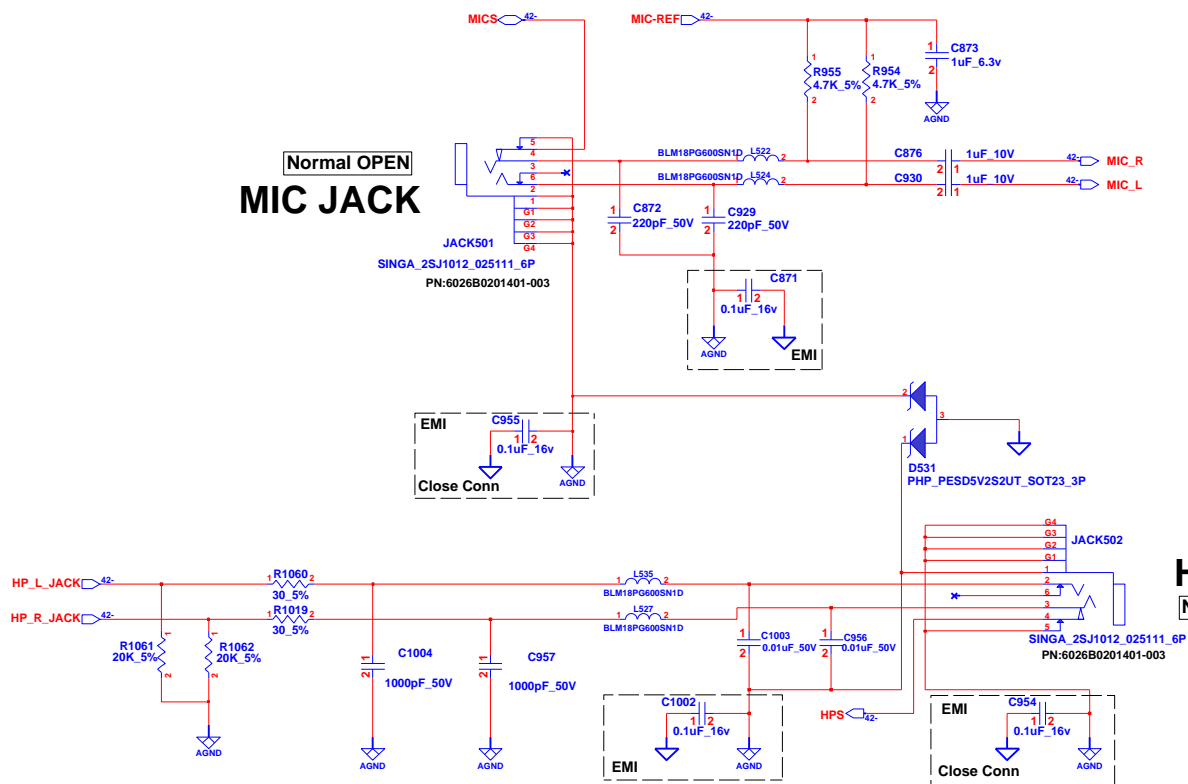
PORT	Discription	Sense
A	NO USE	
B	Headphone	HPS
C	Microphone	MICS
D	SPKR	
E	NO USE	
F	NO USE	

INT-SPEAKER CONN

**INVENTEC**

TITLE	<i>RKY15HR</i> <i>Audio Codec</i>
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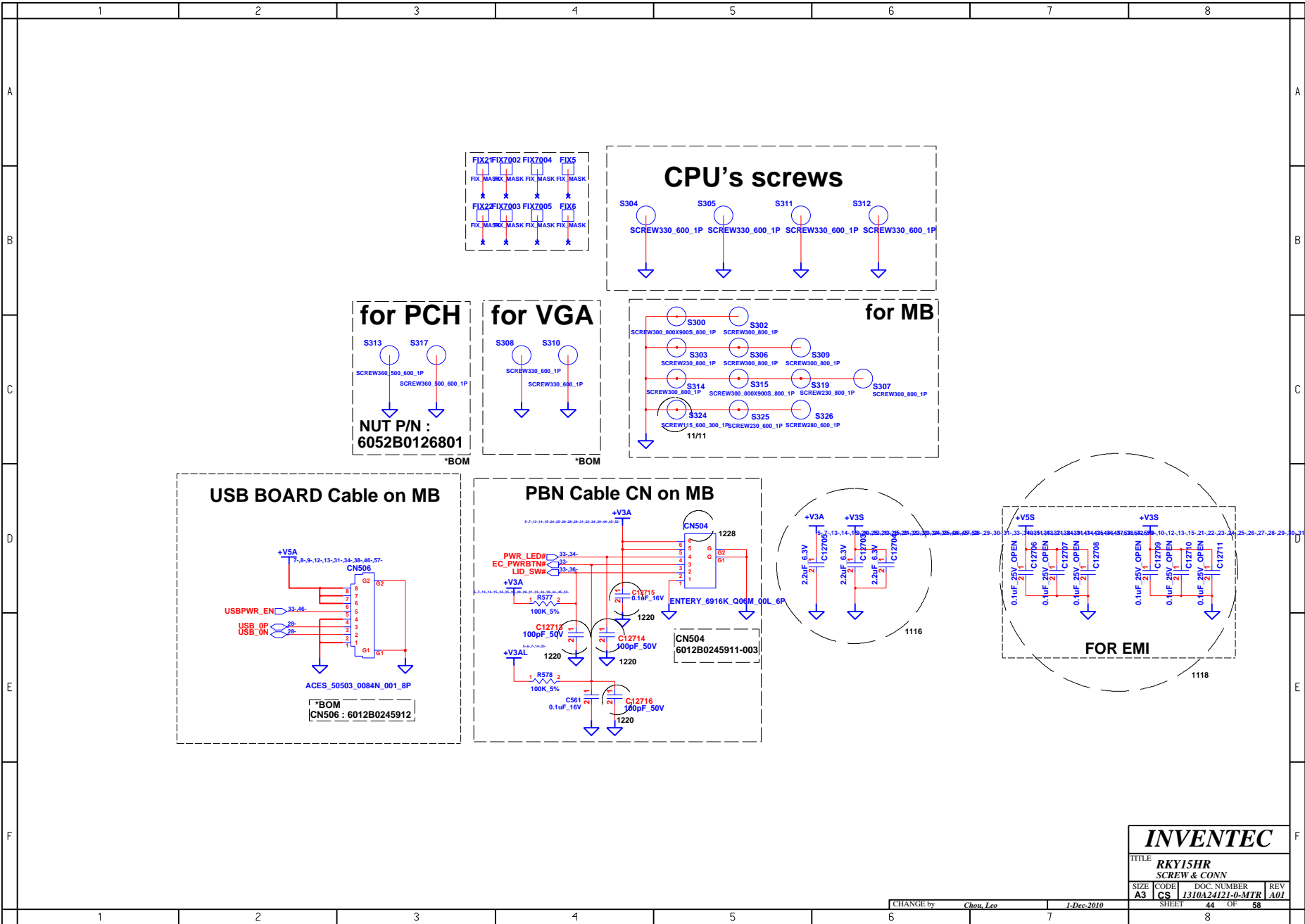
SIZE A3	CODE CS	DOC. NUMBER 1310A24121-0-MTR	REV A01
SHEET		42	OF 58



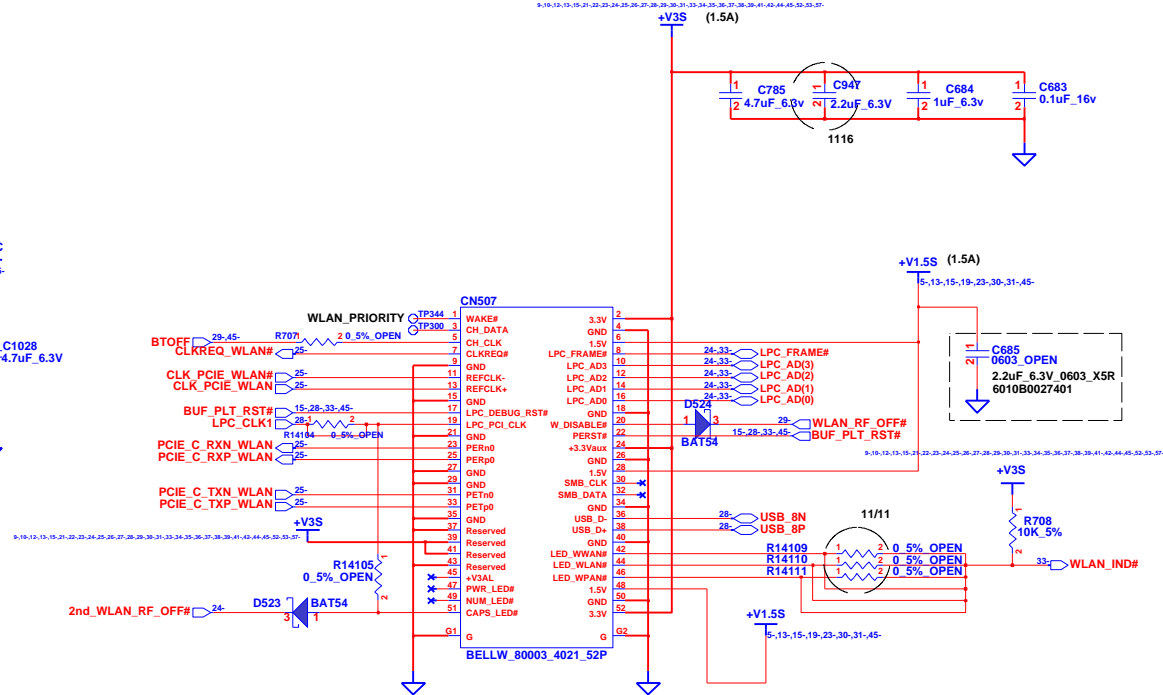
INVENTEC

TITLE			
RKY15HR			
HP JACK & MIC JACK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24121-0-MTR	A01
SHEET		43	OF 58

CHANGE by Chou, Leo 1-Dec-2010

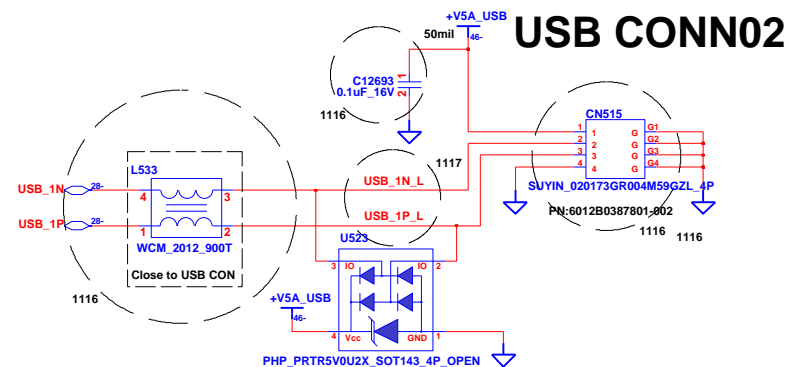
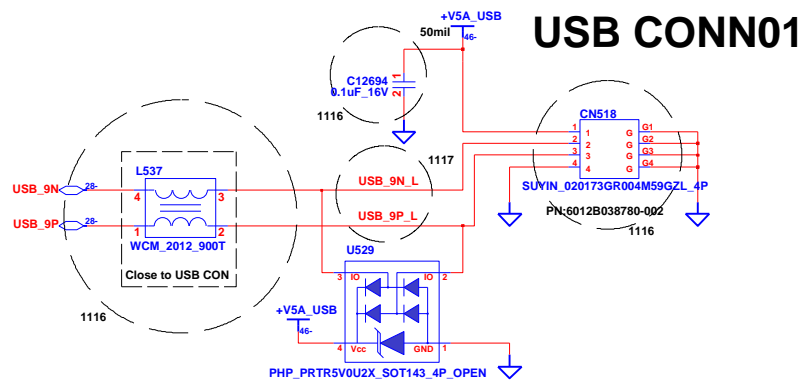
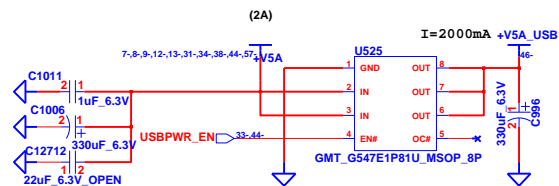


WLAN CONN (MINICARD)

**INVENTEC**

TITLE			
<i>RKY15HR</i> <i>WLAN, BT & WebCAM</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24121-0-MTR	A01
SHEET		45 OF	58

CHANGE by	<i>Chou, Leo</i>	<i>1-Dec-2010</i>
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INVENTEC

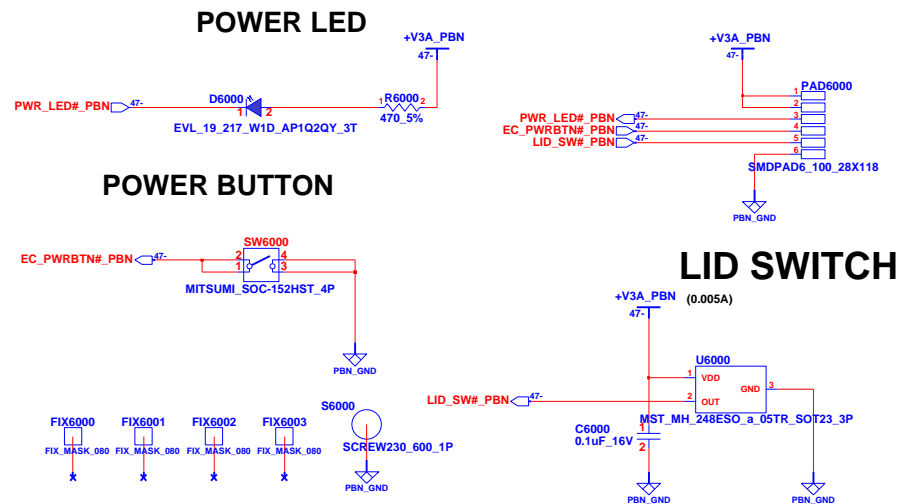
TITLE
RKY15HR
USB CONN

SIZE A3	CODE CS	DOC. NUMBER 1310A24121-0-MTR	REV A01
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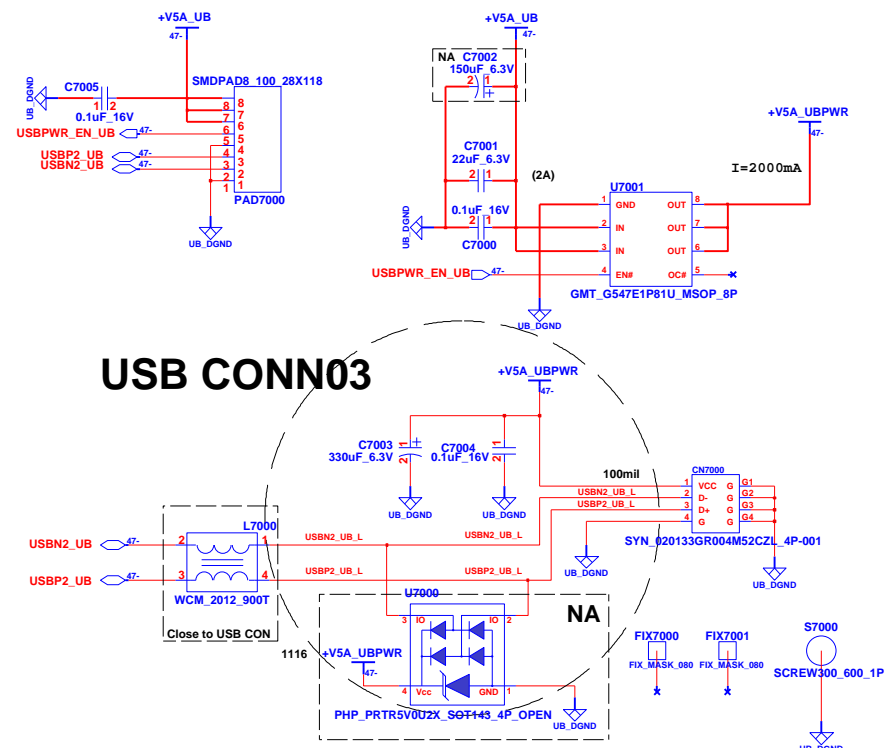
CHANGE by *Chou, Leo* 1-Dec-2010

SHEET 46 OF 58

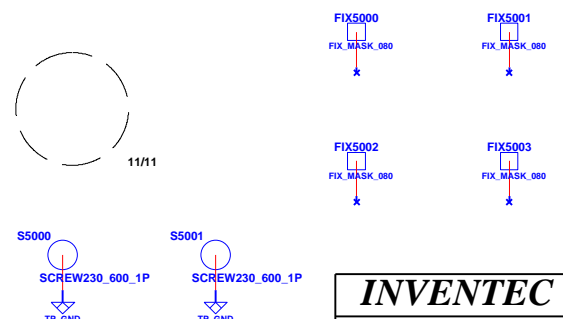
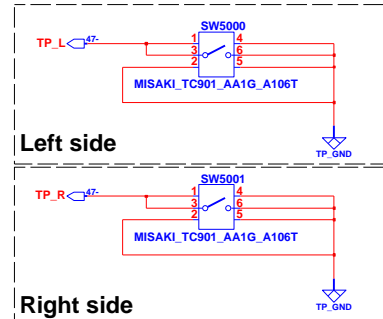
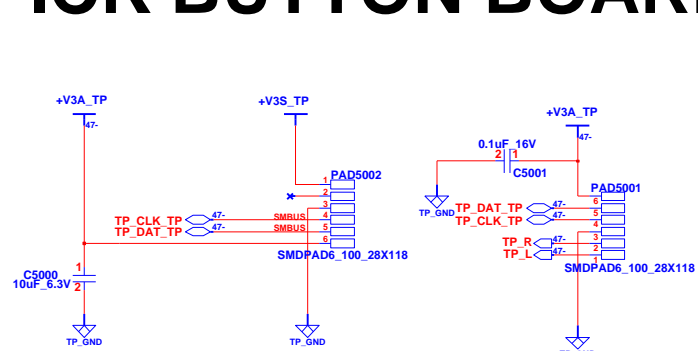
POWER BUTTON BOARD



USB BOARD



PICK BUTTON BOARD

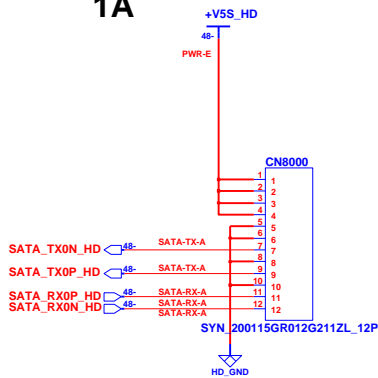


INVENTEC			
TITLE: RKY15HR			
USB, PowerButton (DB)			
SIZE: A3	CODE: CS	DOC. NUMBER: 1310A24121-0-MTR	REV: A01
SHEET: 47		OF: 58	

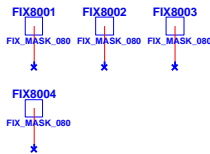
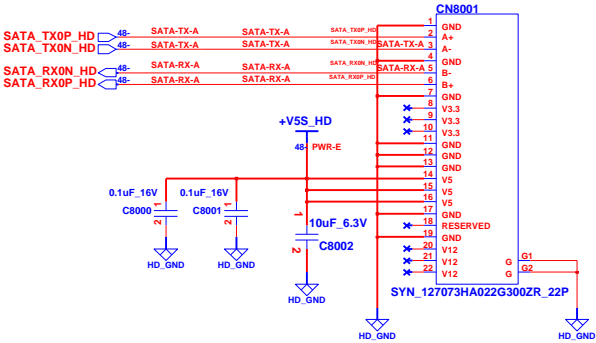
CHANGE by: Chou, Leo 1-Dec-2010

SATA HDD BOARD

SATA HDD BTB CONN on HDD/B 1A



HDD CONN



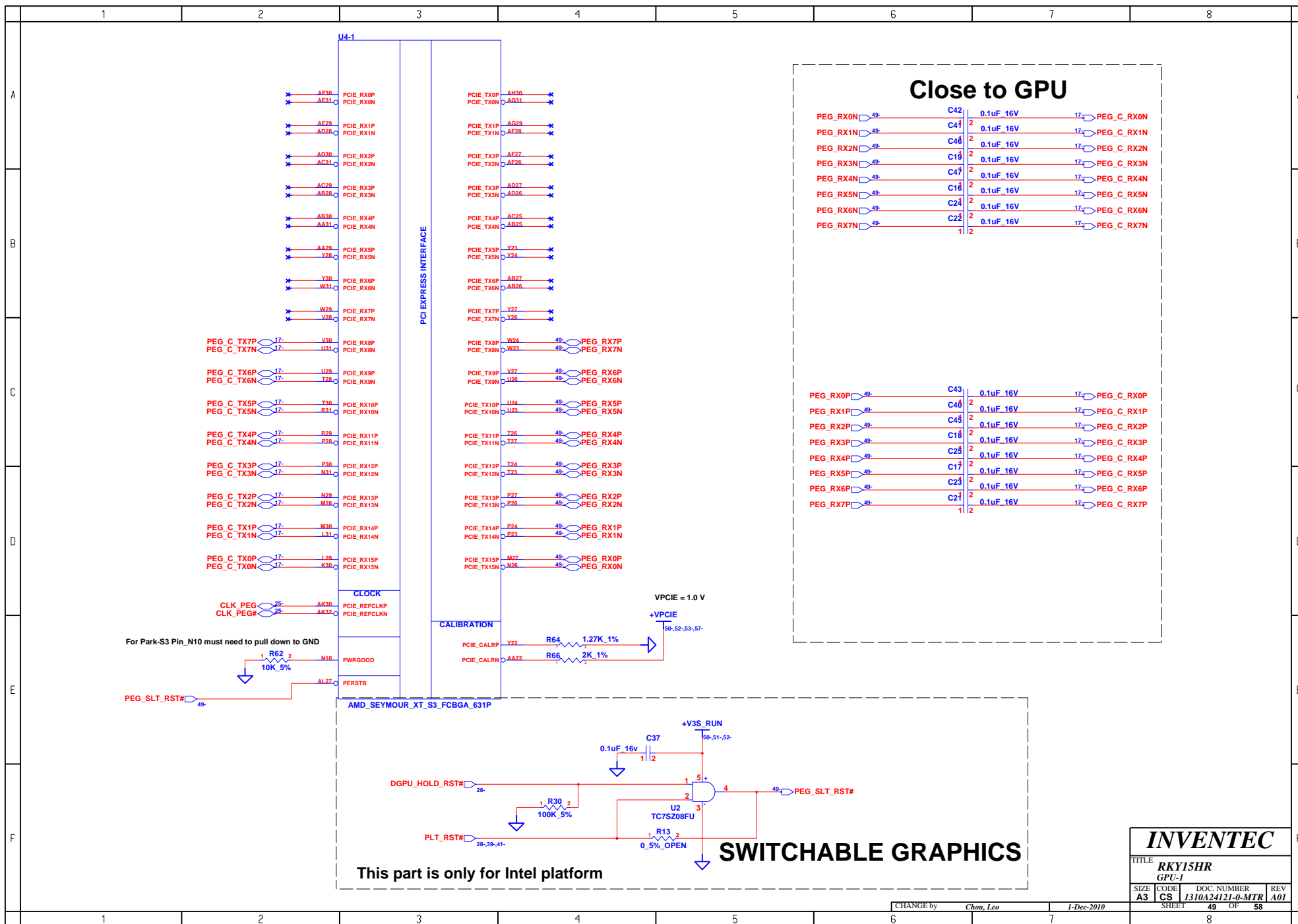
INVENTEC

TITLE
RKY15HR
HDD CONN

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24121-0-MTR	A01

CHANGE by Chou, Leo 1-Dec-2010

SHEET 48 OF 58



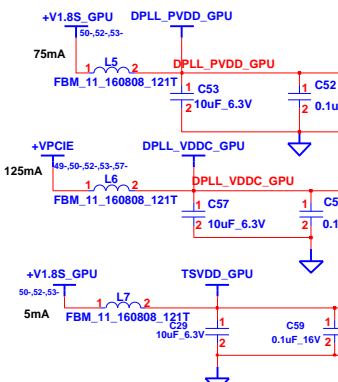
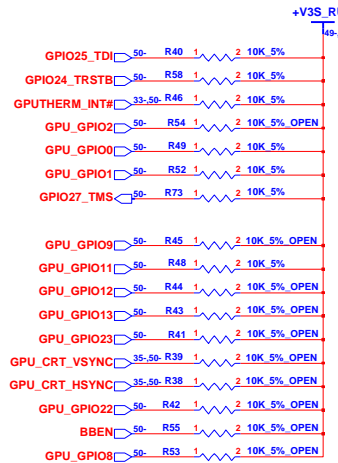
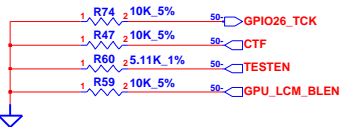
MEM_ID3 R61	MEM_ID2 R33	MEM_ID1 R50	MEM_ID0 R51	vendor
0	0	0	1	Samsung(512MB)
0	0	1	1	hynix (512MB)
0	0	0	0	Samsung(1G)
0	0	1	0	hynix (1G)
0	1	1	0	TBD

(Default)

STRAPS	PIN	Description of default settings
TX_PWRS_ENB	GPIO0	PCIe full TX output swing.
TX_DEEMPH_EN	GPIO1	PCIe transmitter de-emphasis enabled.
BIF_GEN2_EN_A	GPIO2	PCIe GEN2 enabled
BIF_DEBUG_ACCESS	GPIO4	Debug signals muxed out.
BIF_VGA_DIS	GPIO7_BLON	Control Backlight On / Off
BIF_VGA_DIS	GPIO9	VGA ENABLED
ROMIDCFG(2:0)	GPIO[13:11]	Memory aperture size select.

If GPIO_22_EN = 0, then GPIO[13:11] defines the primary memory aperture size.

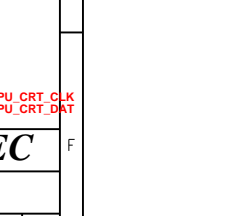
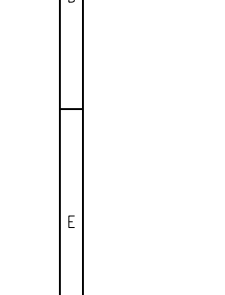
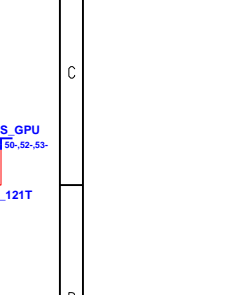
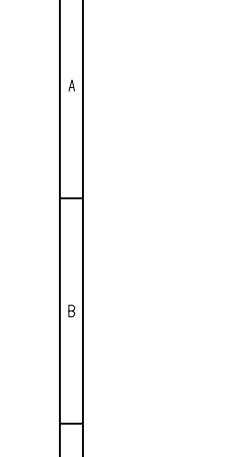
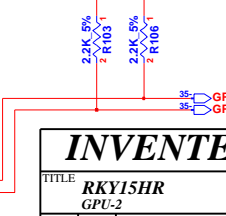
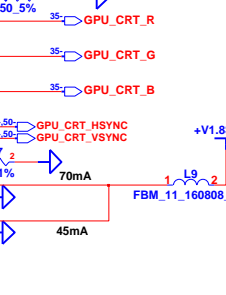
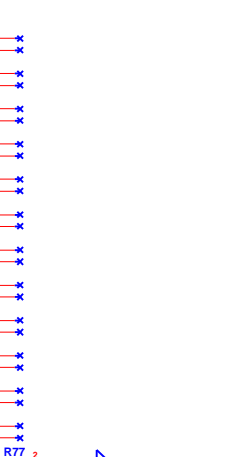
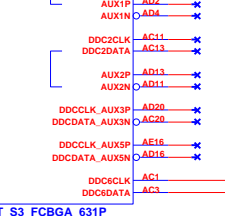
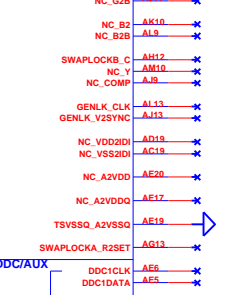
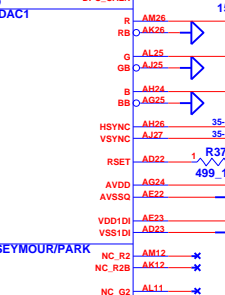
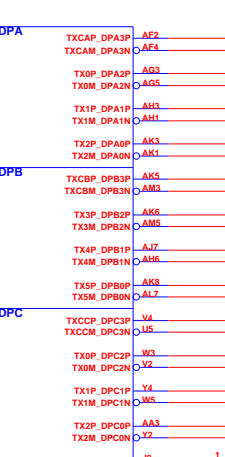
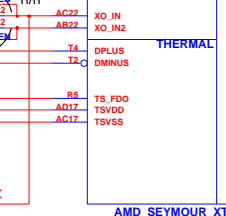
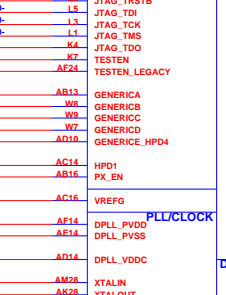
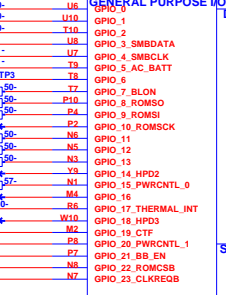
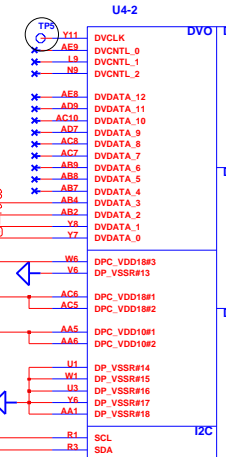
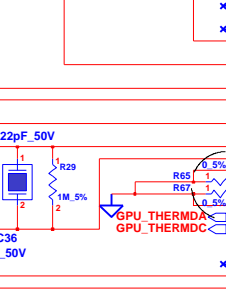
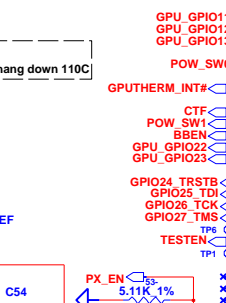
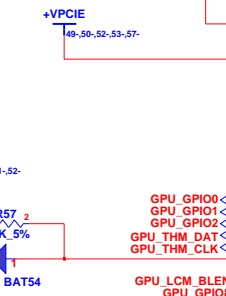
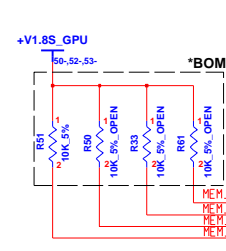
GPIO_13	GPIO_12	GPIO_11	Memory aperture size
0	0	1	512MB / 256MB (Default)
1	1	0	reserved



POW_SW1	POW_SW0	+VDDC_GPU
0	0	1.1V
0	1	1V
1	0	0.95V
1	1	0.9V

Place TP344 out of GPU for calpella co-lay

CHANGE TO 6018B0046201(5+3.2)



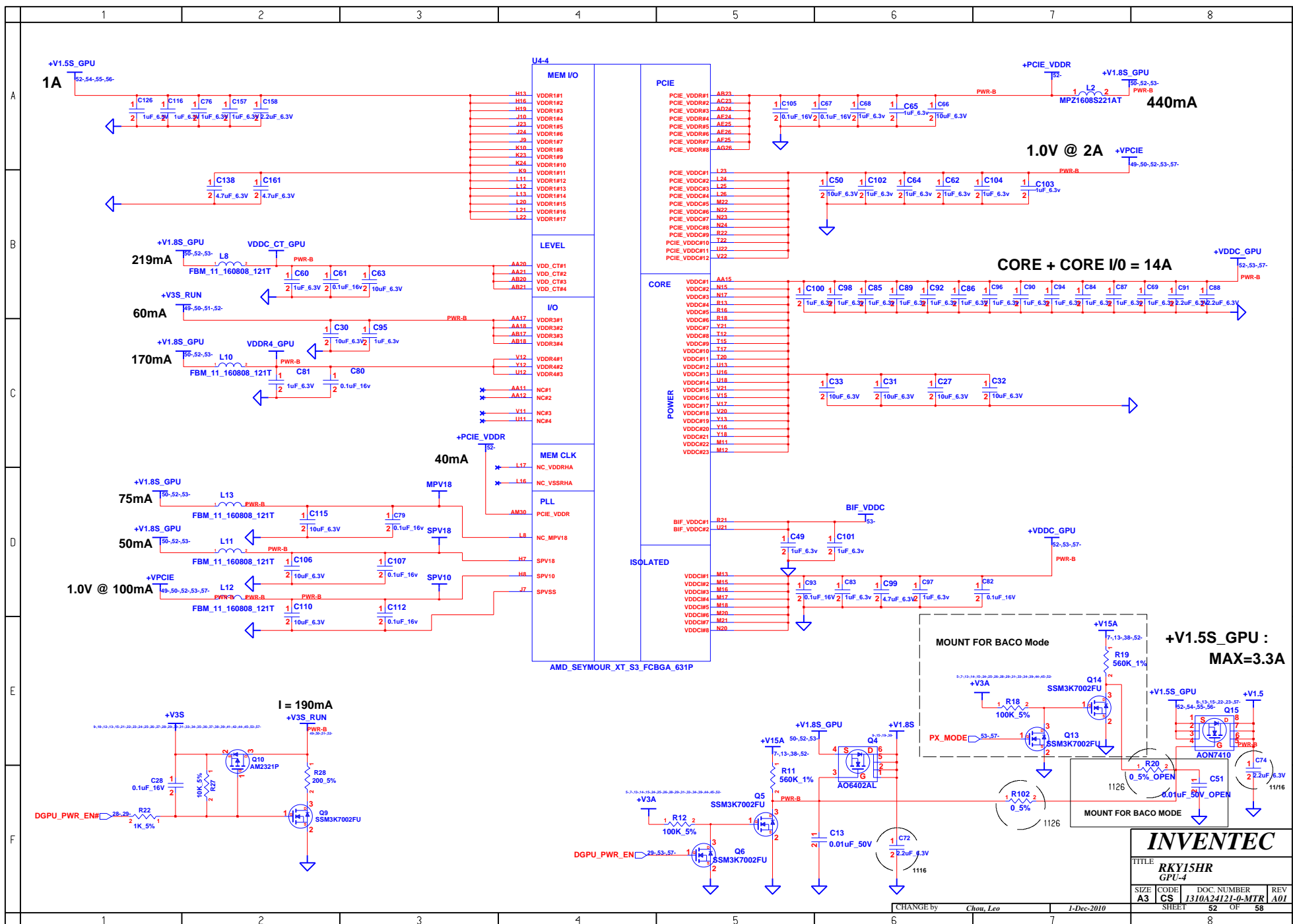
INVENTEC

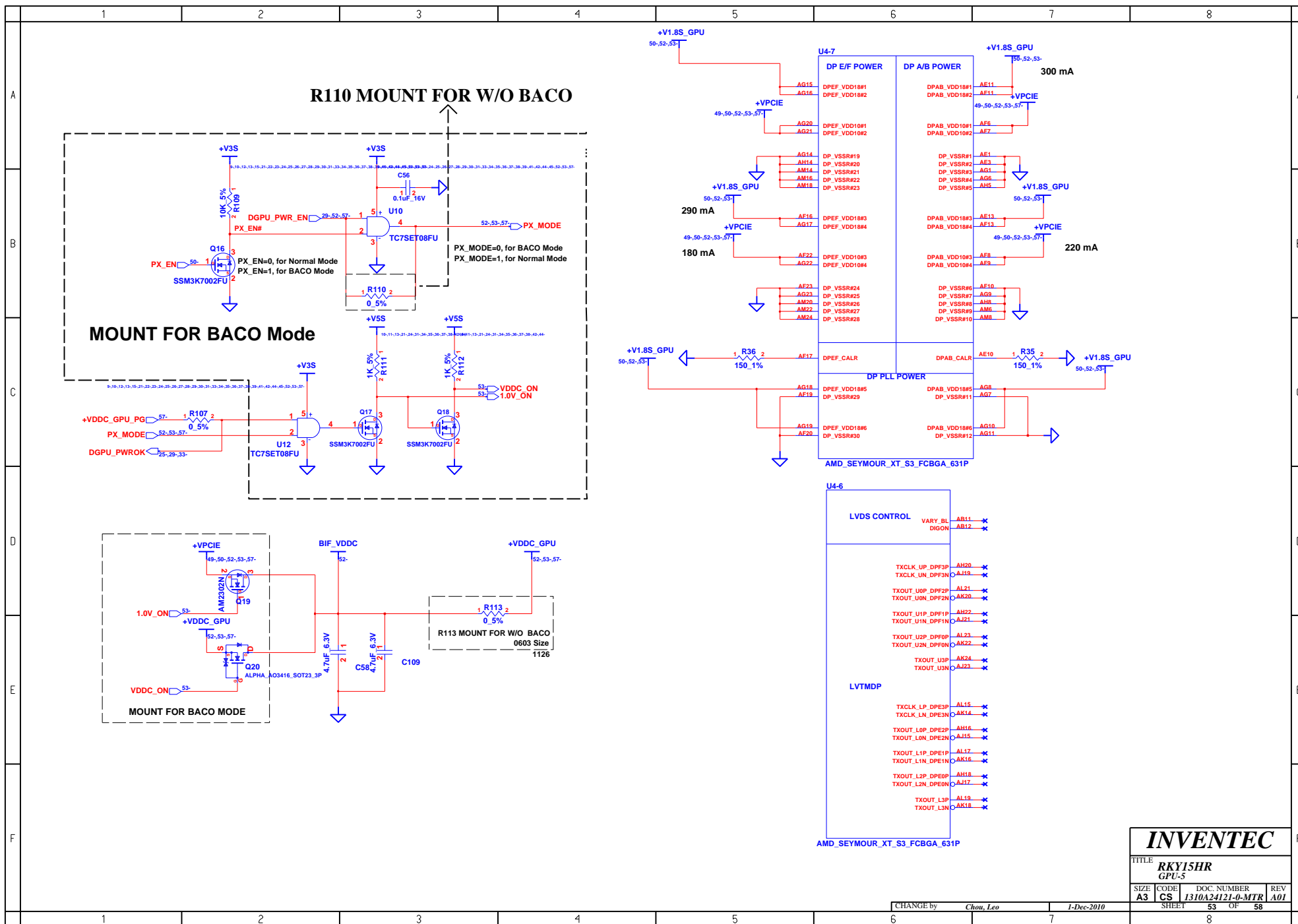
TITLE: **RKY15HR GPU-2**

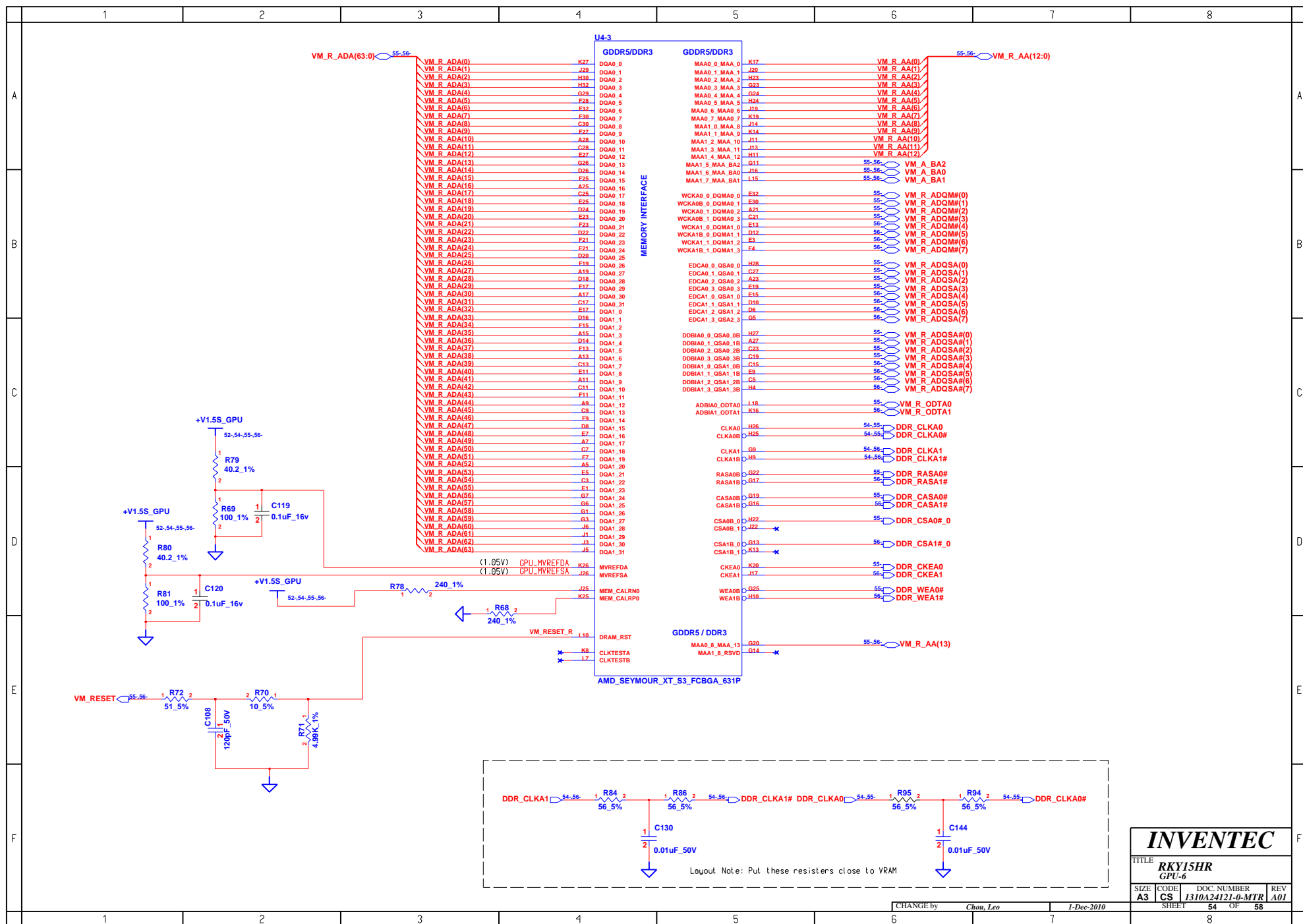
SIZE: **A3** CODE: **CS** DOC. NUMBER: **1310A24121-0-MTR** REV: **A01**

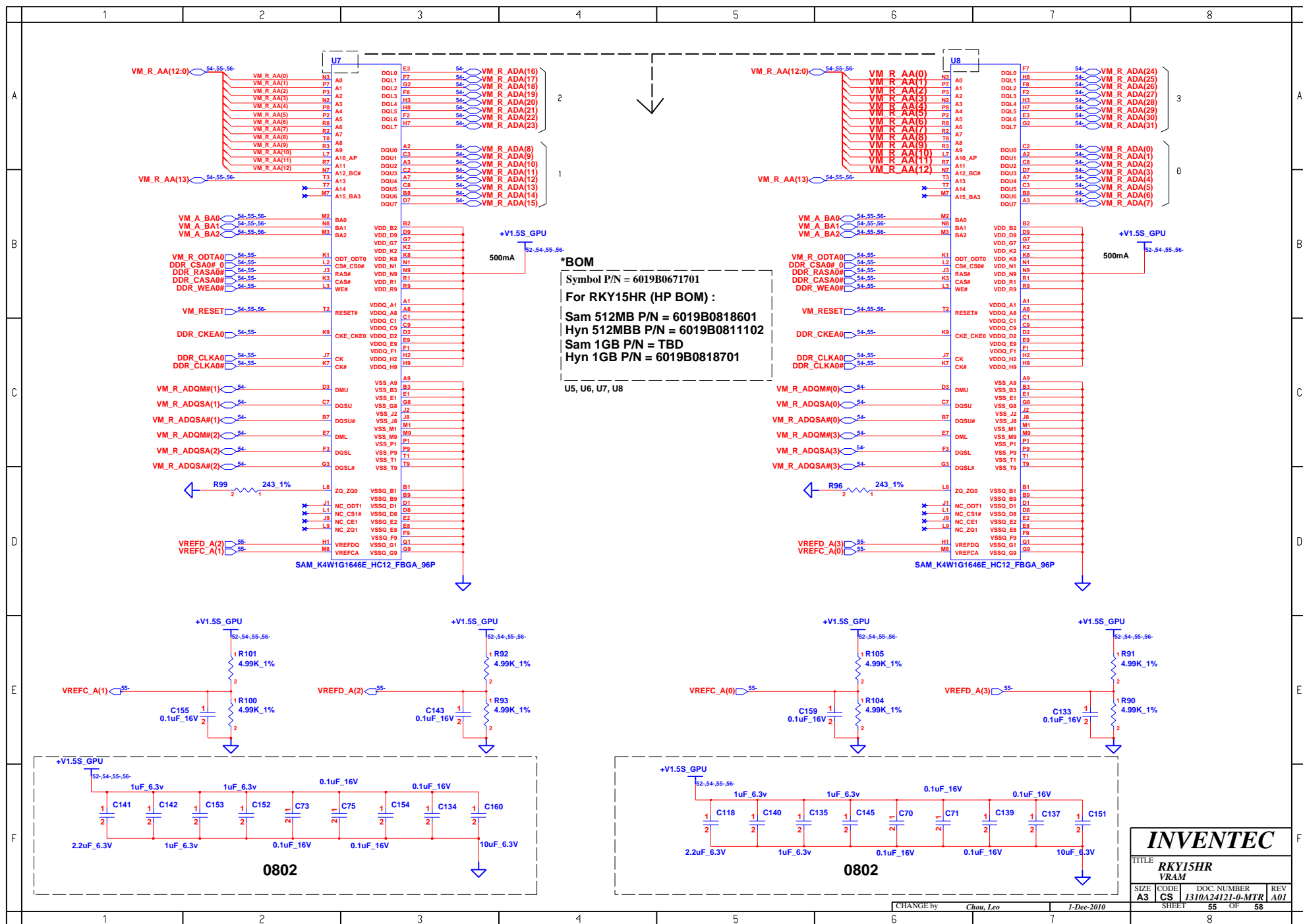
SHEET: **50** OF: **58**

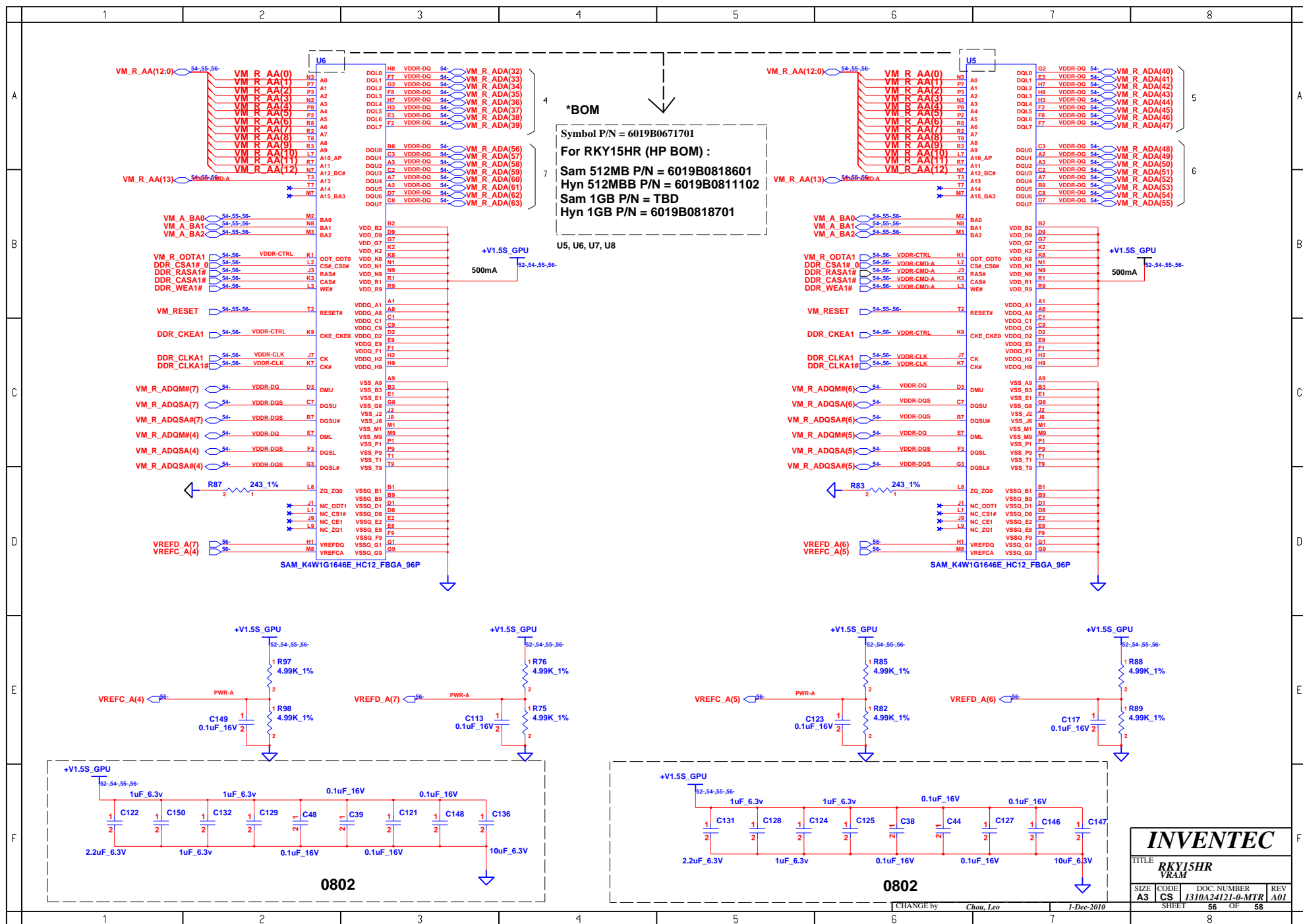
CHANGE by: **Chou, Leo** 1-Dec-2010











	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
						CHANGE by <i>Chou, Leo</i>		<i>1-Dec-2010</i>	
1	2	3	4	5	6	7	8		

INVENTEC			
TITLE RKY15HR			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24121-0-MTR	A01
SHEET		58	OF 58