

Rotterdam 10ARG

Pre MP BUILD (A02)

2009.04.09

18-MAR-2009	2009-ECO-004656	A
DATE	CHANGE NO.	REV

	EE	DATE	POWER	DATE	INVENTEC		
DRAWER	EDDY CHEN	18-MAR-2009	JEFFERY TAN	18-MAR-2009	TITLE RT10ARG		
DESIGN	EDDY CHEN	18-MAR-2009	JEFFERY TAN	18-MAR-2009			
CHECK	EDDY CHEN	18-MAR-2009	BO-YUAN SHIH	18-MAR-2009			
RESPONSIBLE	ROGER TSAI	18-MAR-2009	TOMMY LIANG	18-MAR-2009			
SIZE = 3					SIZE	CODE	DOC. NUMBER
FILE NAME RT10ARG-6050A2350601-MB-A02					VER: A02		
P/N	6050A2350601	CHANGE by	ERRD	9-Apr-2009	A3	0030A2350601-MB-A02	REV

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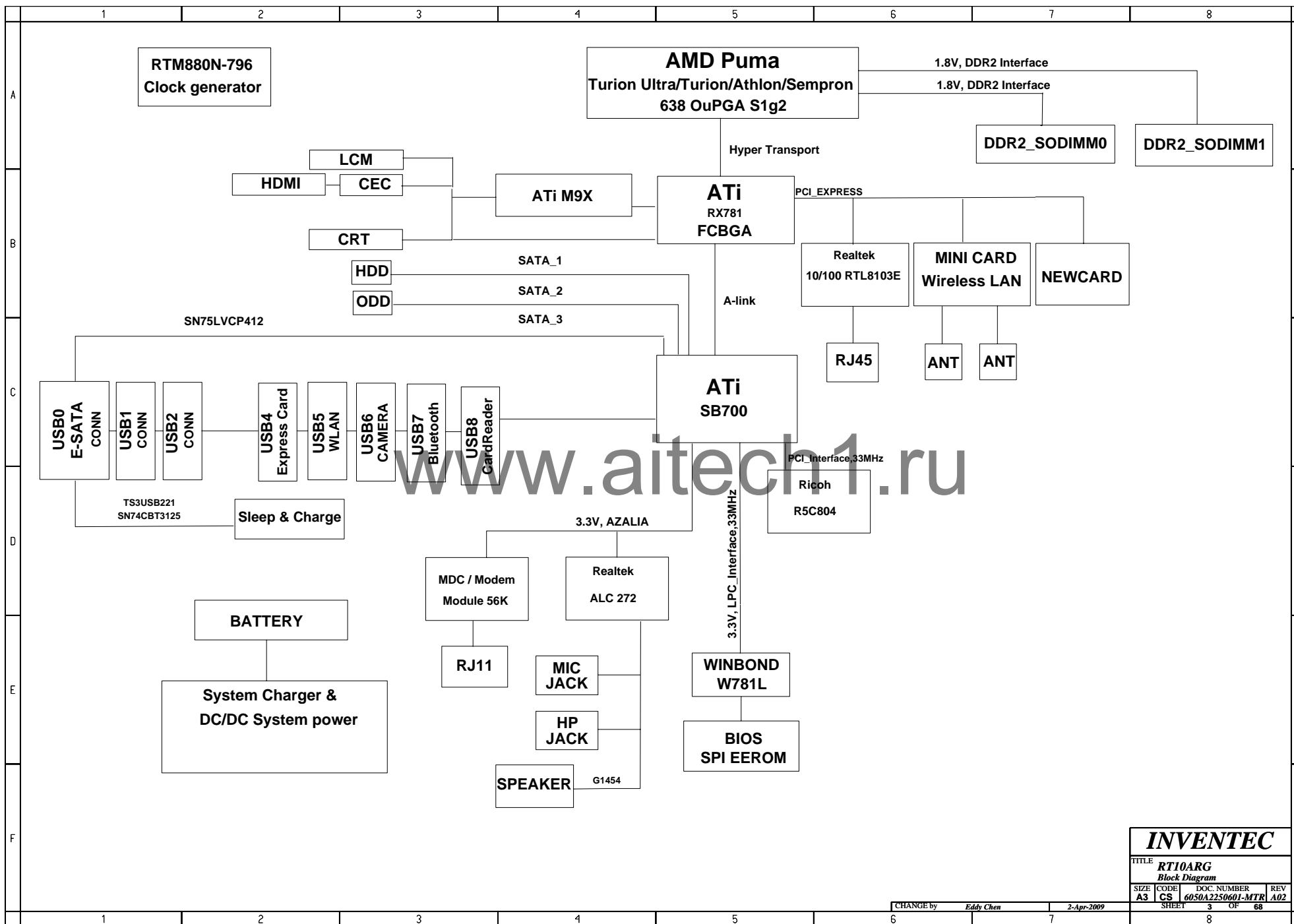
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INVENTEC			
TITLE RT10ARG			
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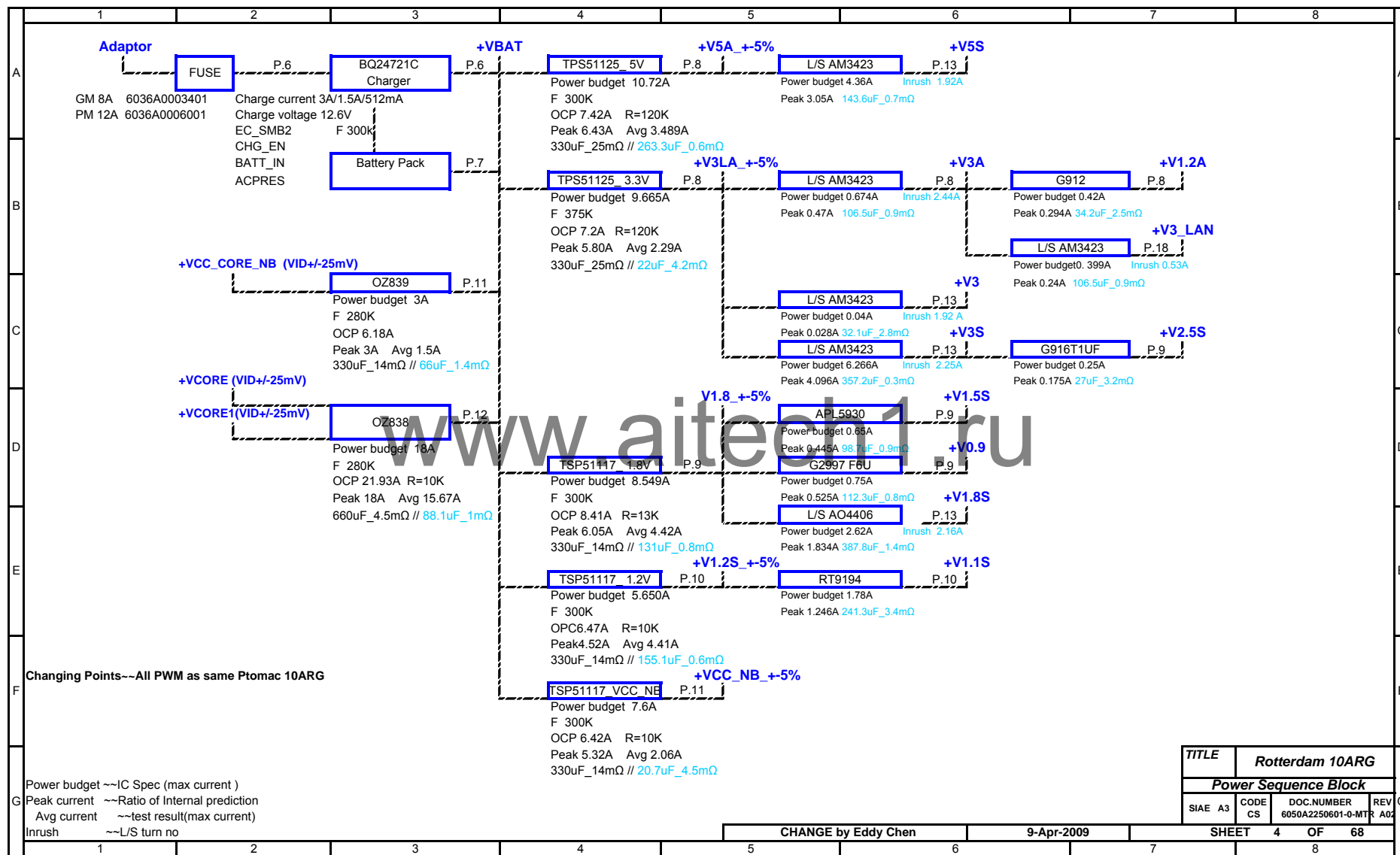
CHANGE by **Eddy Chen** 2-Apr-2009

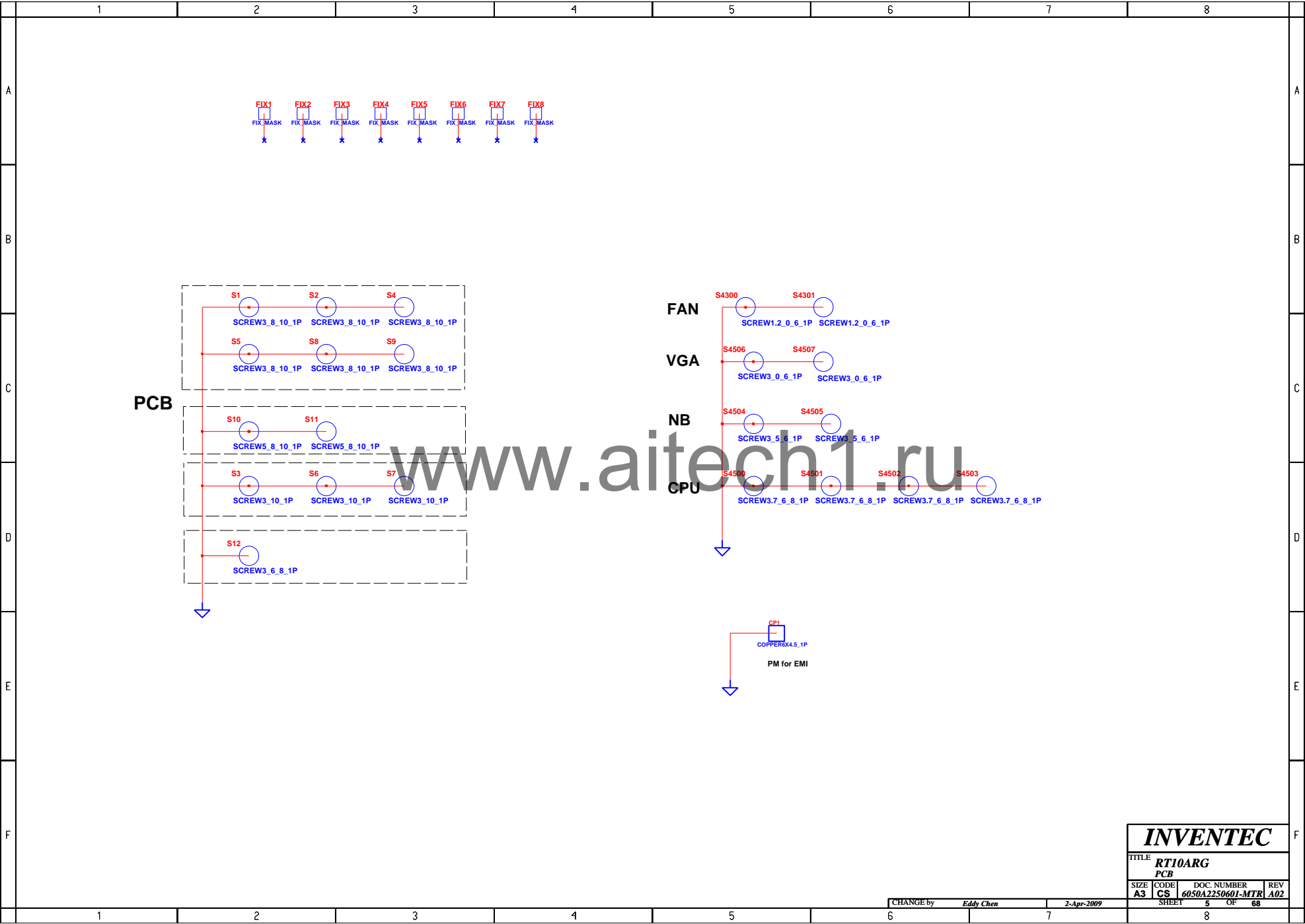


INVENTEC

TITLE RT10ARG Block Diagram			
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CHANGE by **Eddy Chen** 2-Apr-2009



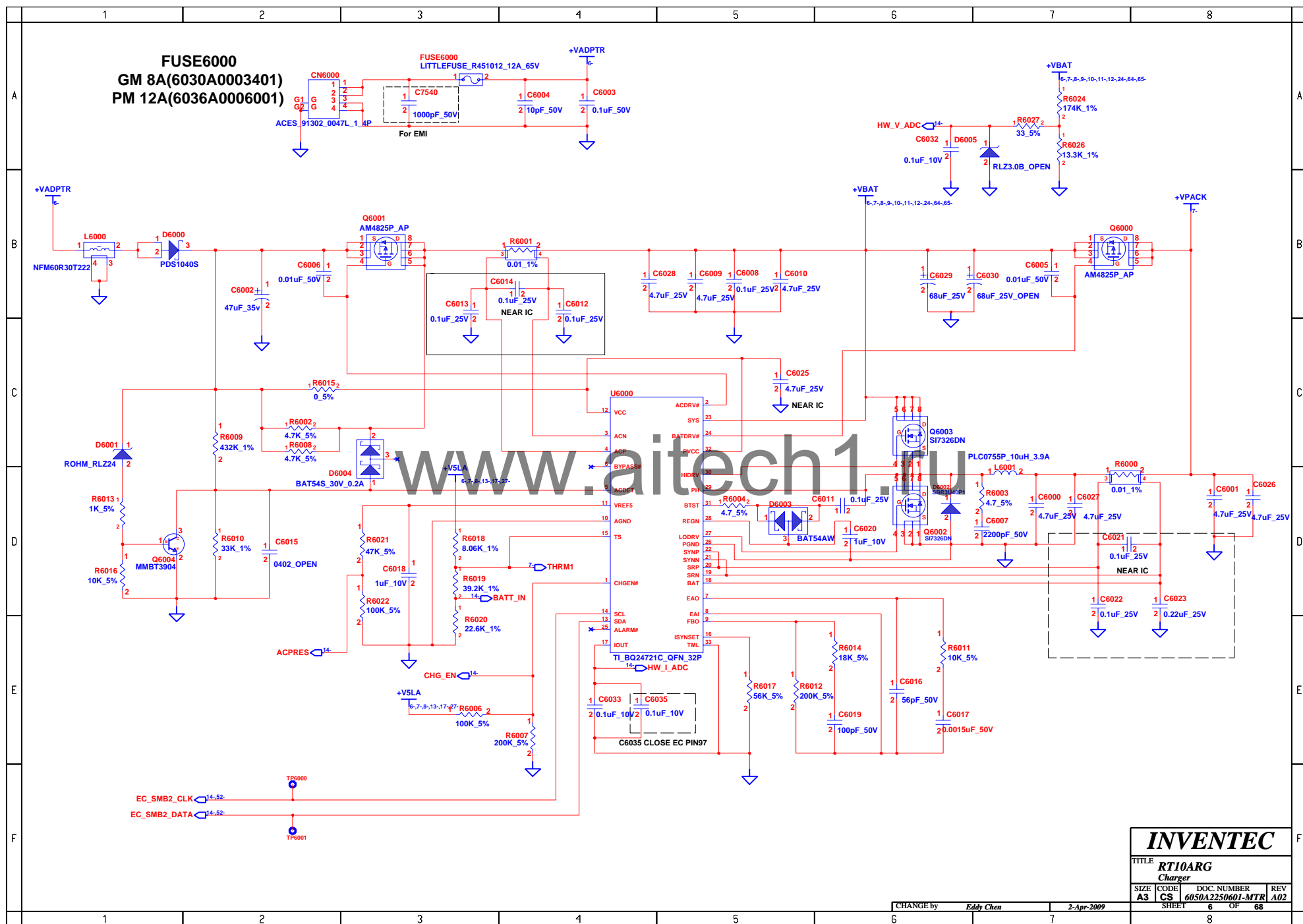


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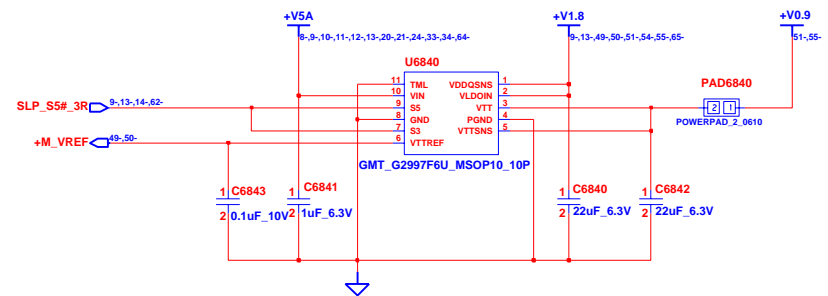
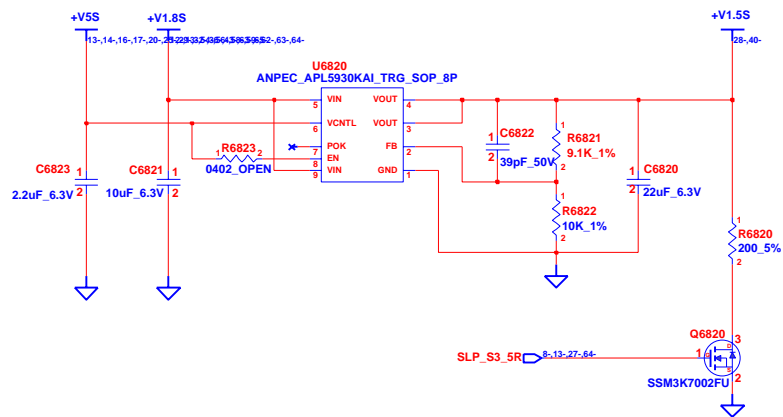
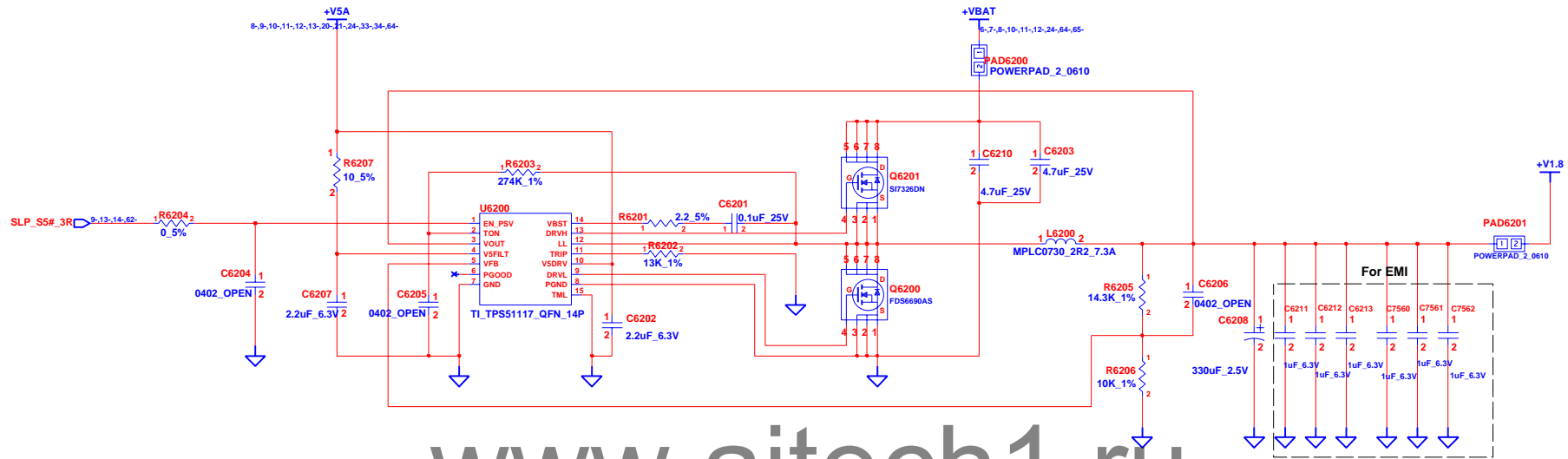
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RT10ARG
PCB

SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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+V1.8 +V0.9 +V1.5S



INVENTEC

TITLE
RT10ARG
+V1.8, +V0.9, +V1.5S

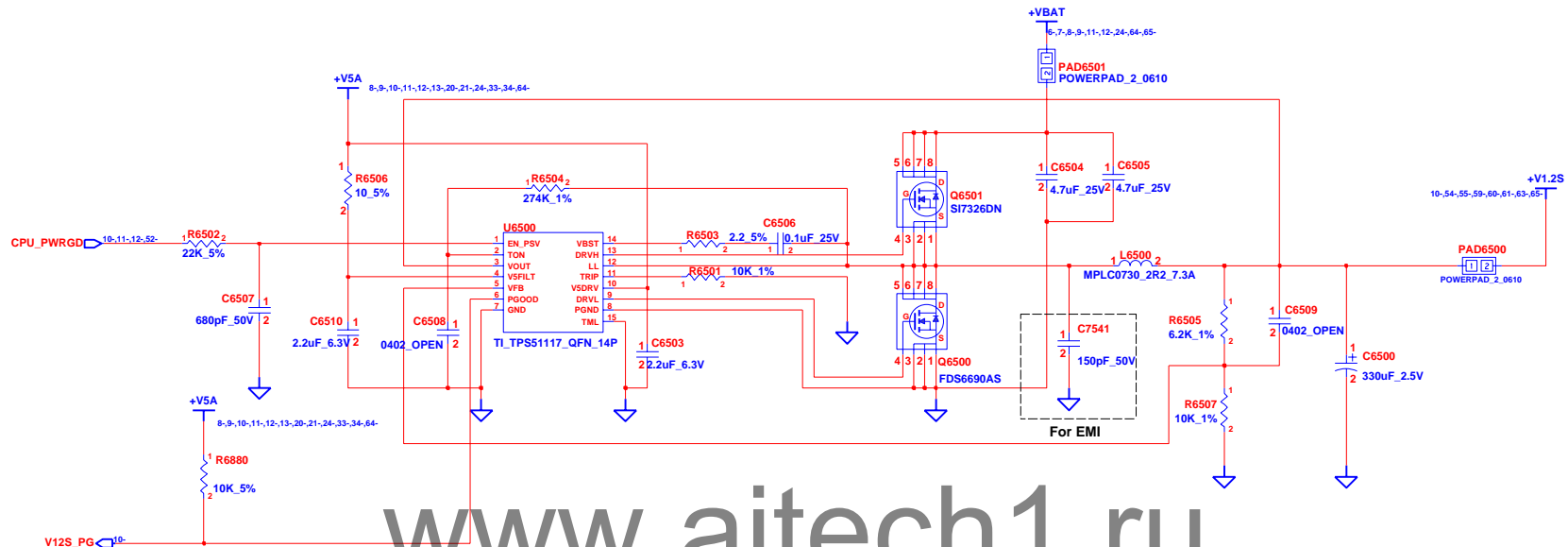
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CHANGE by **Eddy Chen**

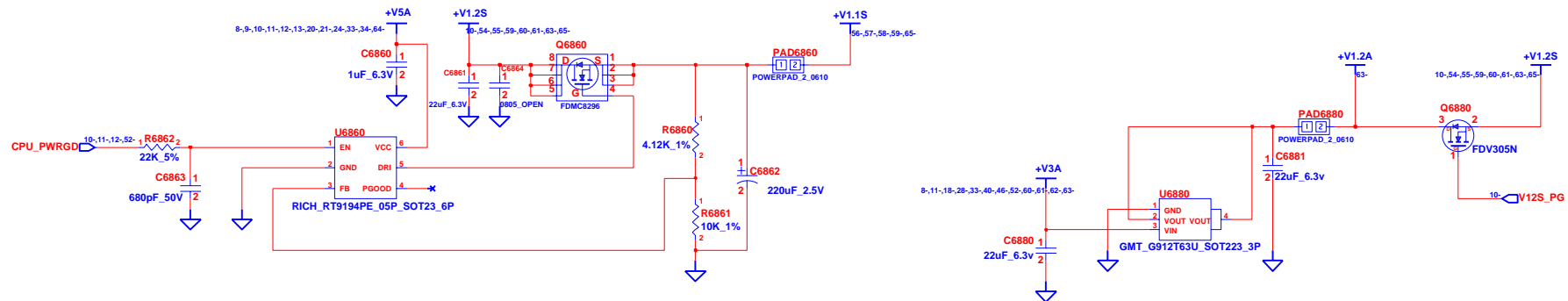
2-Apr-2009

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+V1.2A +V1.2S +V1.1S



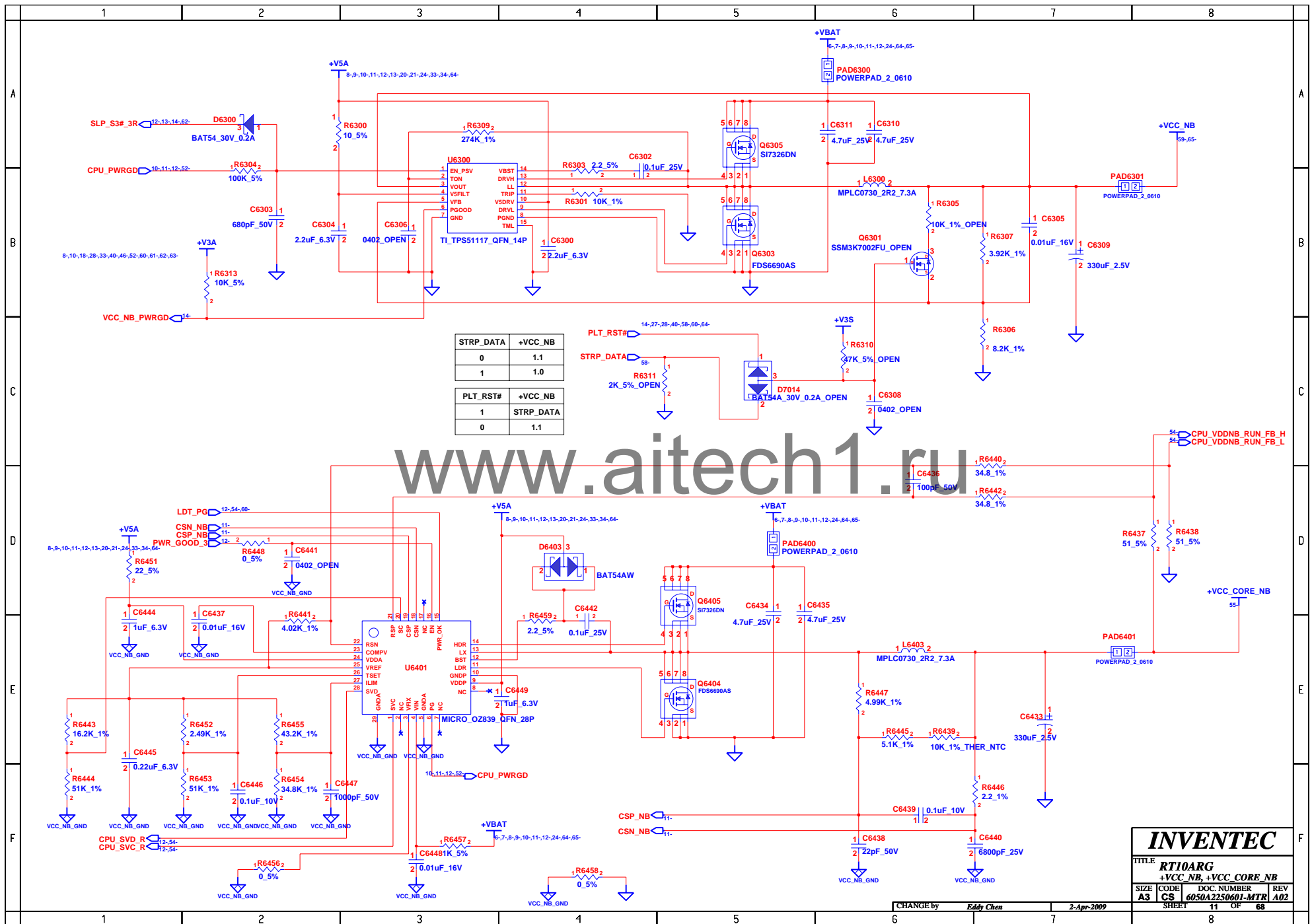
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INVENTEC

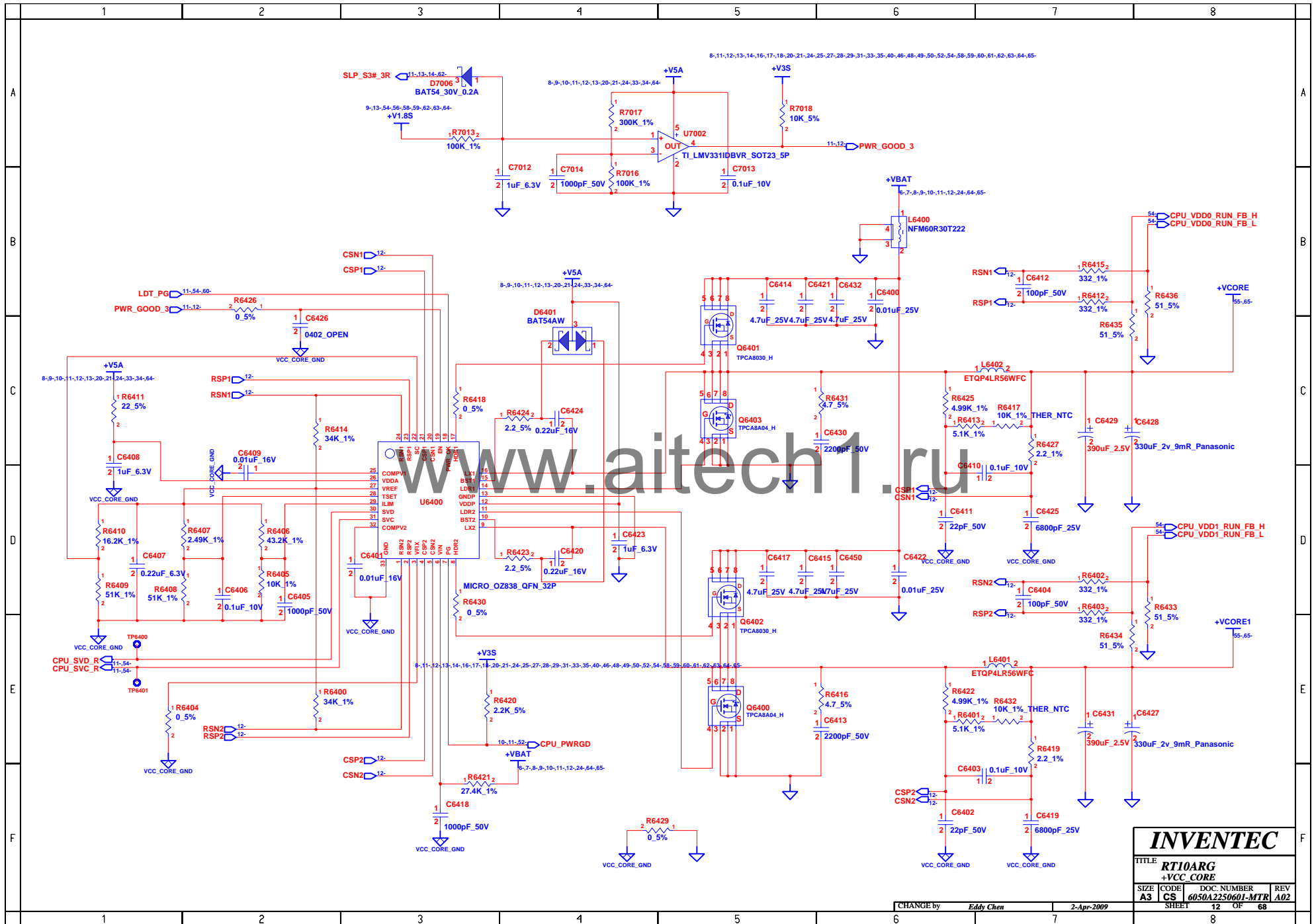
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RT10ARG			
+V1.2A, +V1.1S			
SIZE	CODE	DOC. NUMBER	REV
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INVENTEC			
TITLE: RT10ARG			
+VCC_NB, +VCC_CORE_NB			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A22S0601-MTR	REV: A02
CHANGE by: Eddy Chen		2-Apr-2009	
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INVENTEC

TITLE
**RT10ARG
+VCC_CORE**

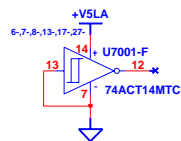
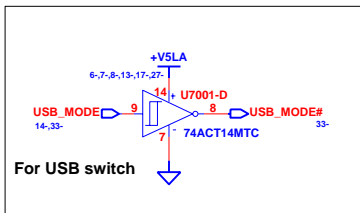
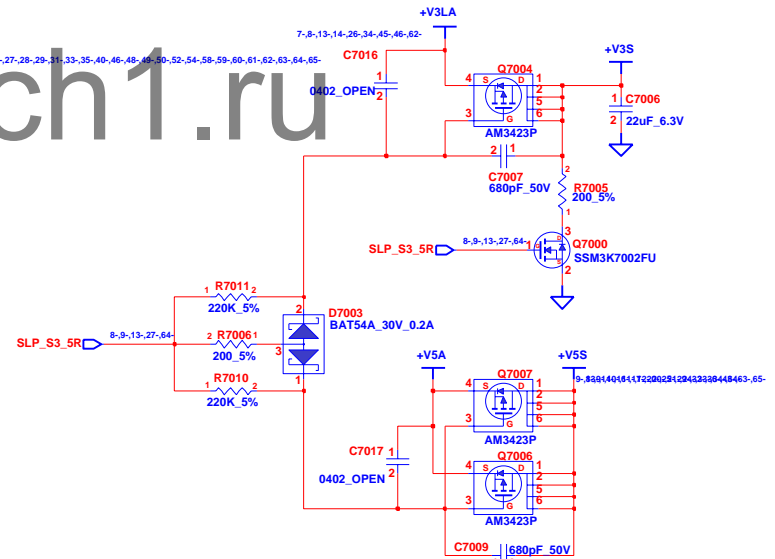
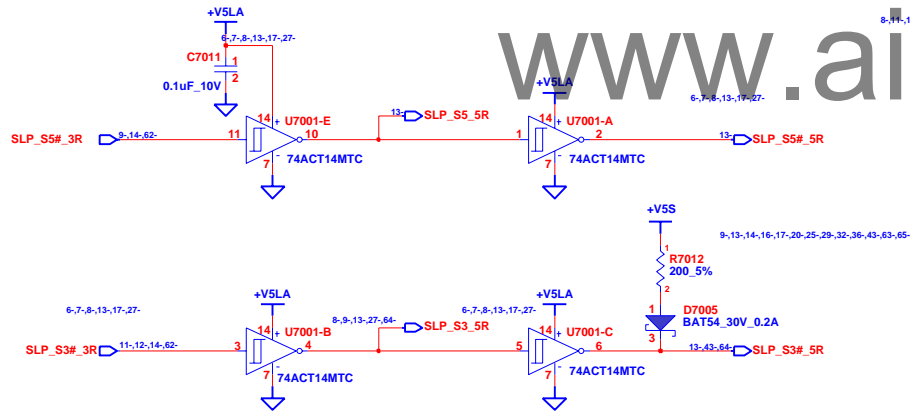
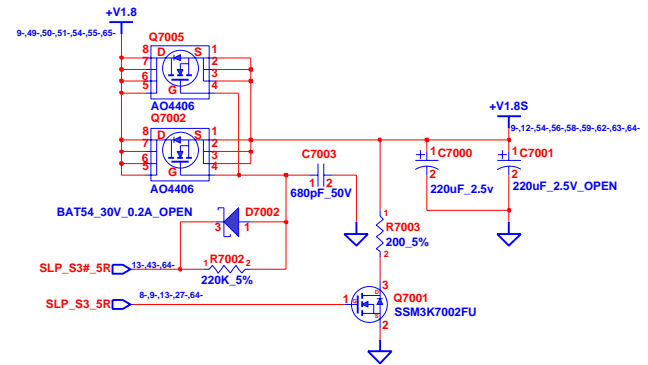
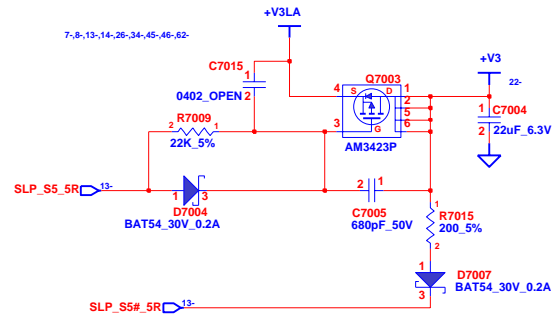
SIZE CODE DOC. NUMBER REV
A3 CS 6050A2250601-MTR A02

CHANGE by **Eddy Chen**

2-Apr-2009

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+V3 +V5S +V3S +V1.8S



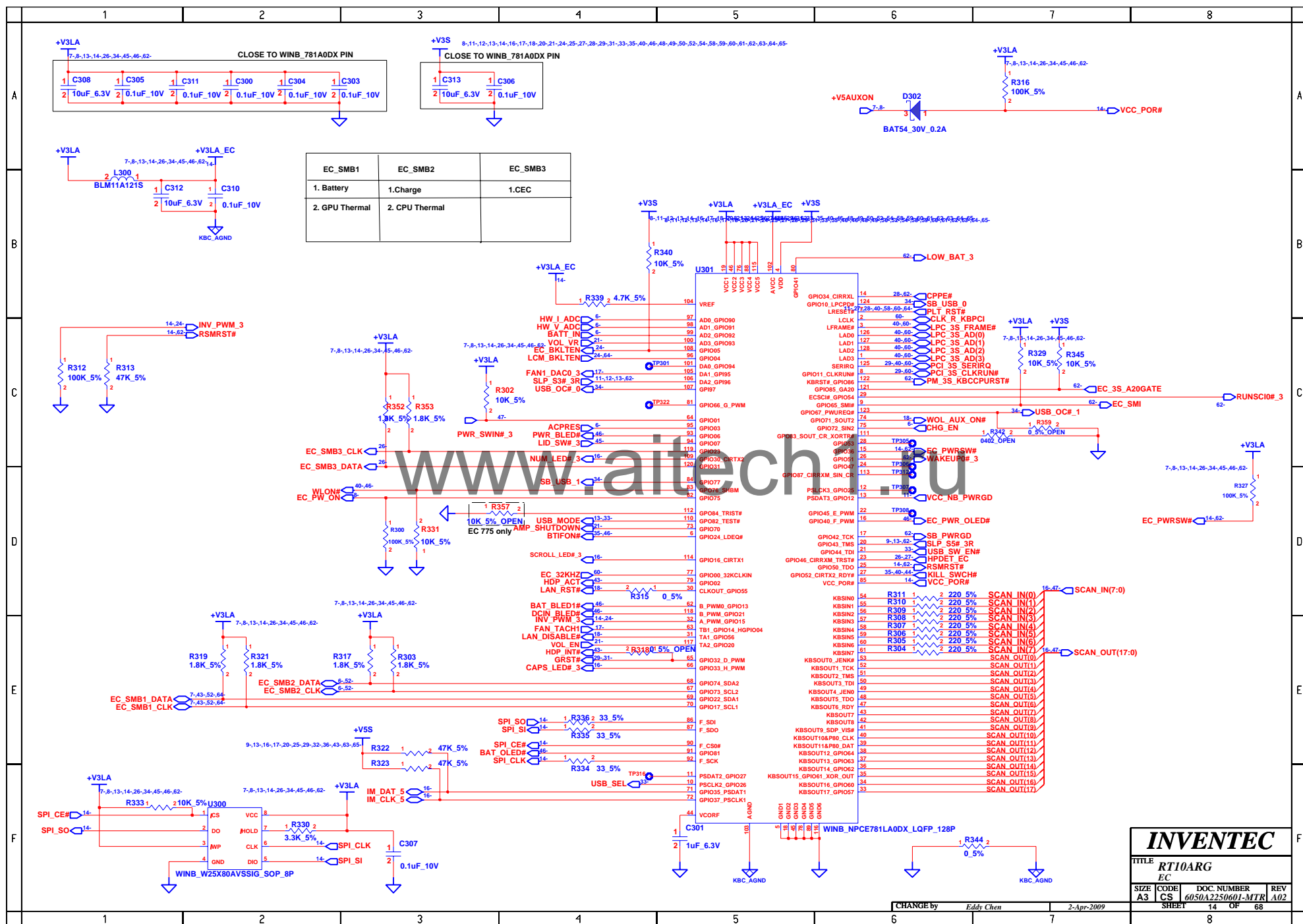
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+V3 +V5S +V3S +V1.8S +V1.2S
SIZE CODE DOC. NUMBER REV
A3 CS 6050A2250601-MTR A02

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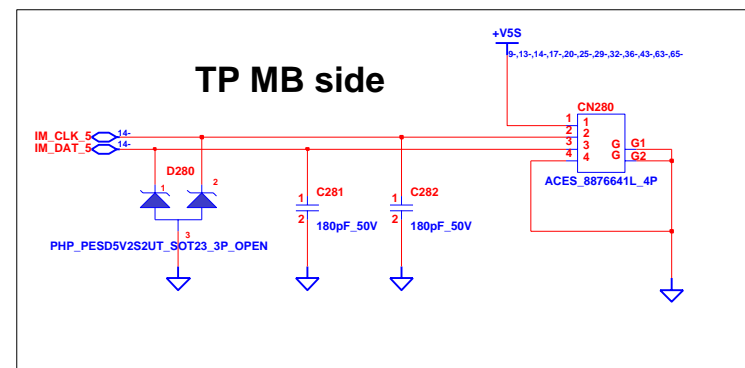
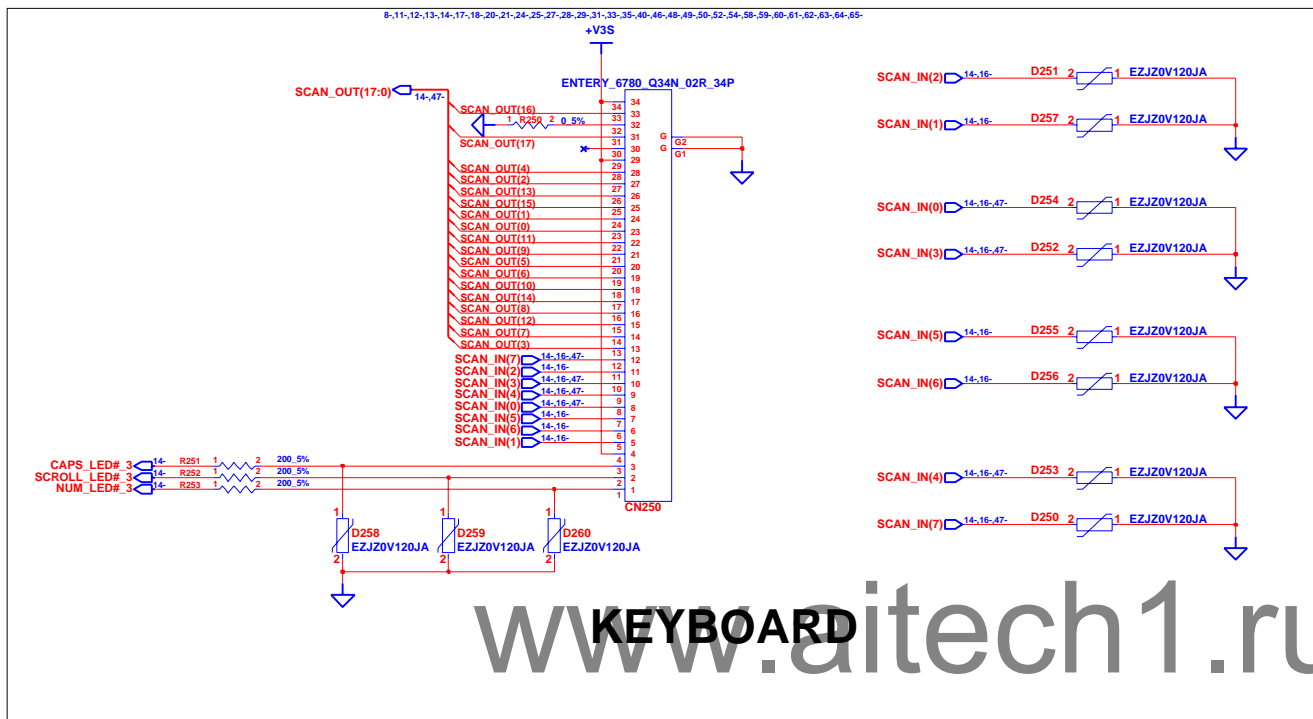
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B									B
C									C
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E									E
F									F
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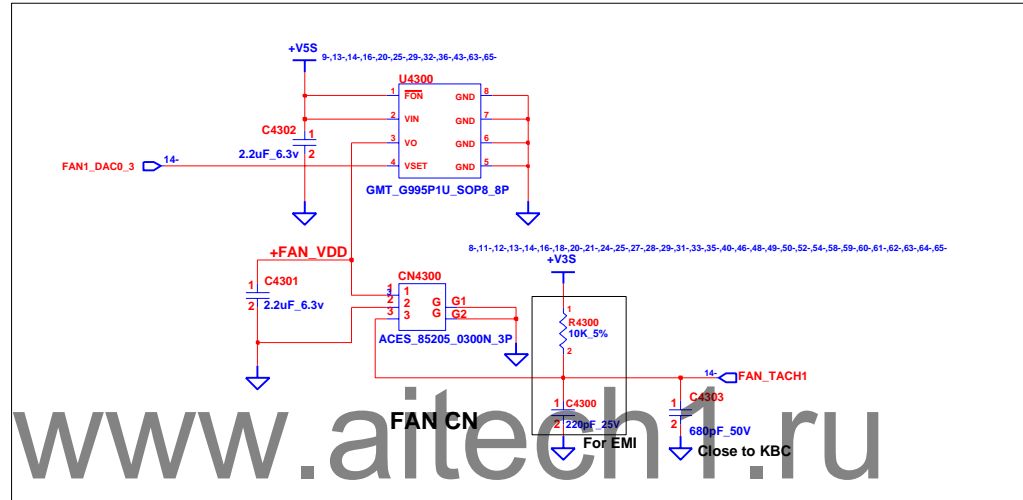
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SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A22S0601-MTR	A02
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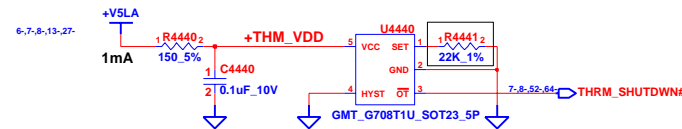


INVENTEC			
TITLE			
RT10ARG			
Keyboard, Touch PAD			
SIZE	CODE	DOC. NUMBER	REV
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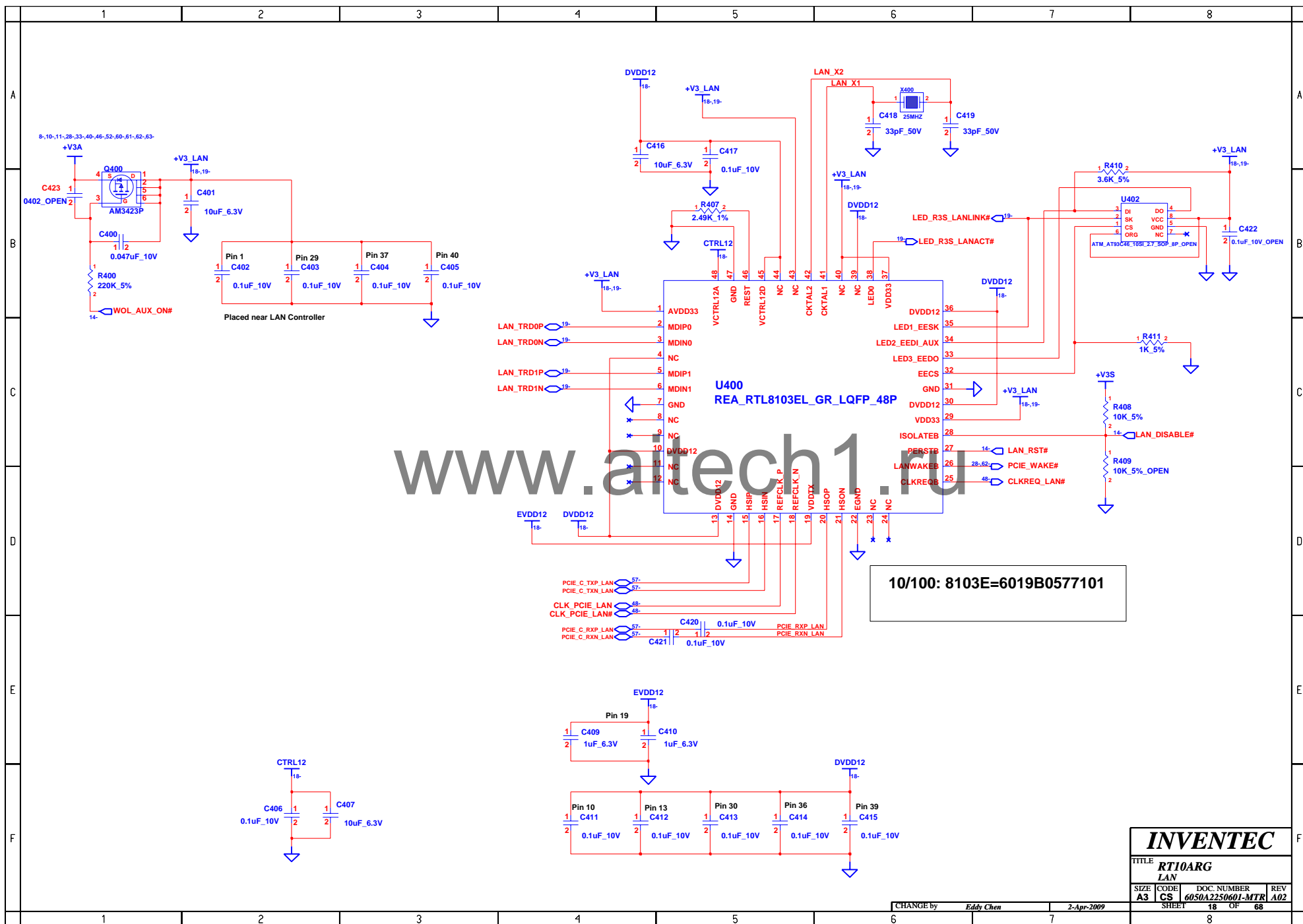
Board Thermal Sensor

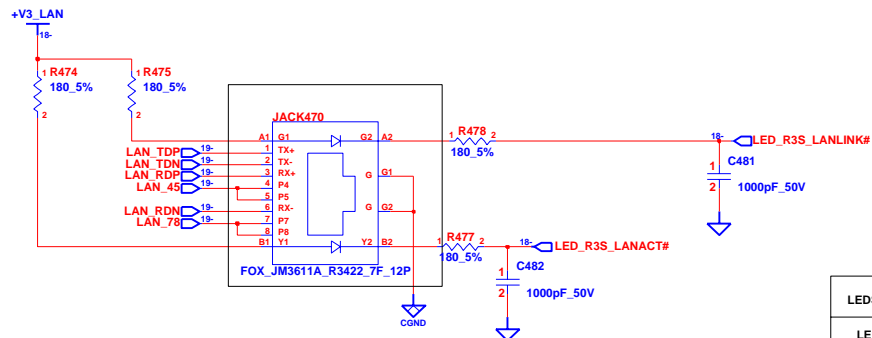
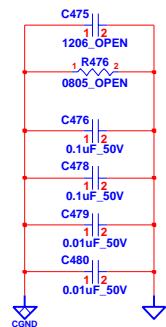


PM Thermal shutdown at $90^{\circ}\text{C} \pm 3^{\circ}\text{C}$ from 60°C to 100°C
 $RSET = 0.0012 \cdot T^2 - 0.9308 \cdot T + 96.147$
Hysteresis is 30C

INVENTEC			
TITLE			
RT10ARG			
FAN, Thermal controller			
SIZE	CODE	DOC. NUMBER	REV
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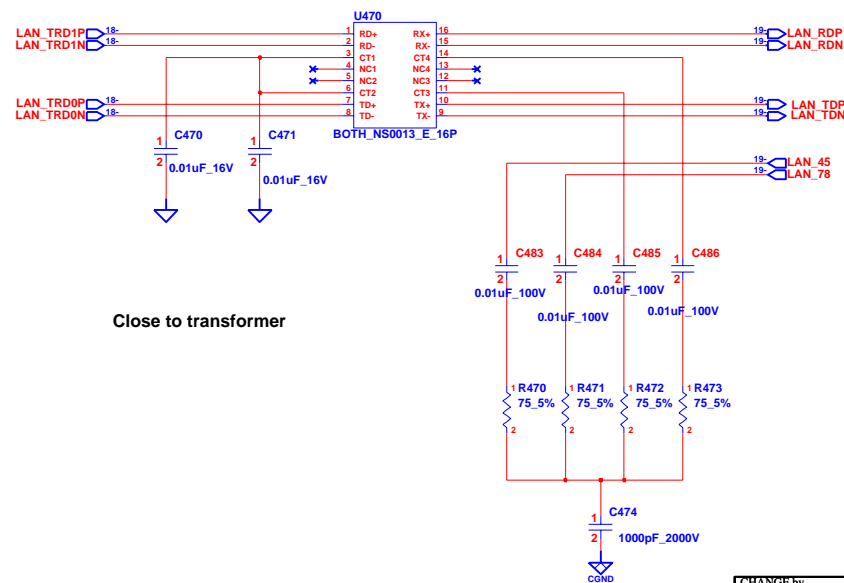
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LEDS1-0	00	* 01	10	11
LED0	Tx/Rx	Tx/Rx	Tx	LINK10 ACT
LED1	LINK100	LINK 10/100/1000	LINK	LINK100 ACT
LED2	LINK10	LINK10/100	Rx	ULL
LED3	LINK1000	LINK1000	ULL	LINK1000 ACT

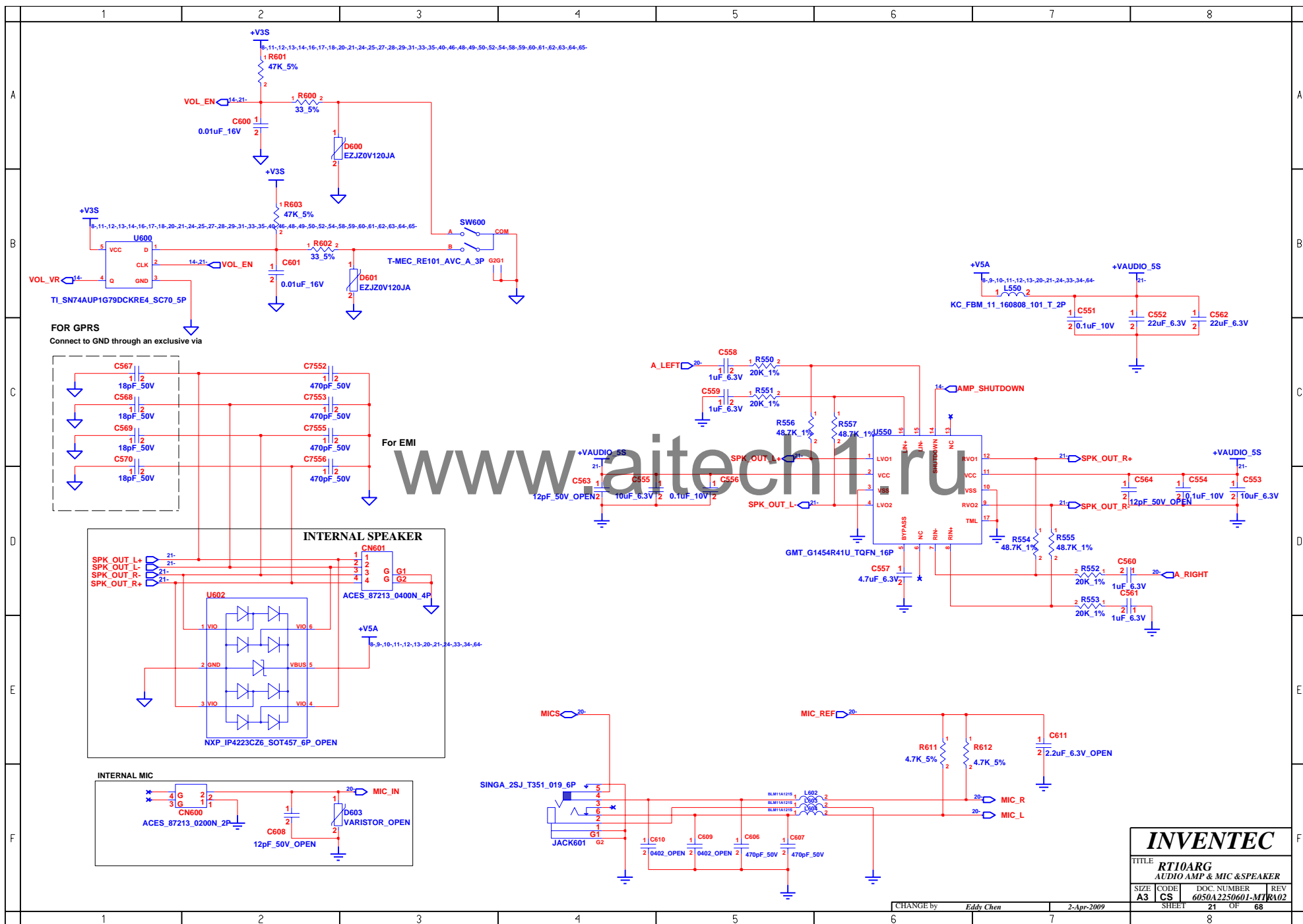
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INVENTEC

TITLE			
RT10ARG			
Transformer, RJ45			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A22S0601-MTR	A02
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1 2 3 4 5 6 7 8

A

B

C

D

E

F

MDC

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The diagram shows a PCB layout for an MDC (Microcontroller Development Circuit). The central component is the MC97_3S microcontroller, which is connected to various peripheral components. Key components include:

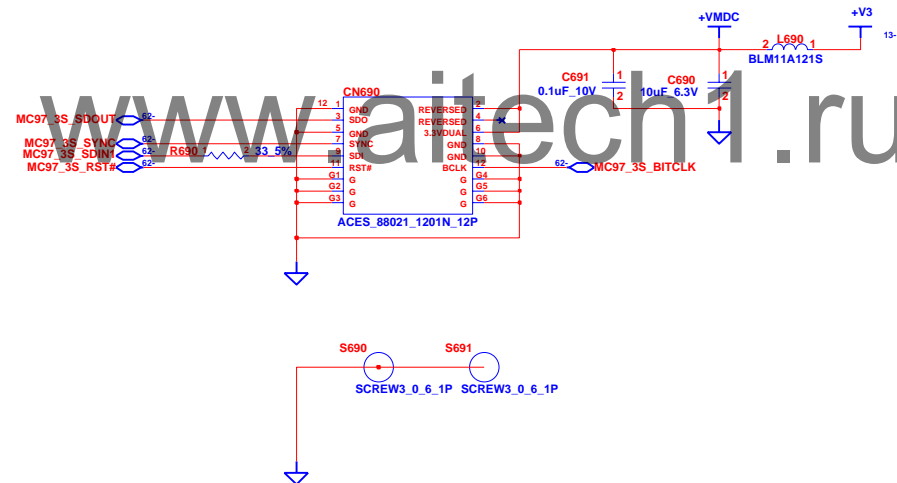
- MC97_3S**: The main microcontroller, with pins labeled for SDOUT, SYNC, SDINT, RST#, BITCLK, and various GND pins.
- ACES_88021_1201N_12P**: A connector or interface component.
- C691**: A 0.1uF 10V capacitor.
- C690**: A 10uF 6.3V capacitor.
- L690**: An inductor.
- BLM11A121S**: A surface-mount component, likely a capacitor or inductor.
- S690** and **S691**: Connectors or test points labeled SCREW3_0_6_1P.

The layout includes power planes for +VMDC and +V3. The board is labeled with a title block in the bottom right corner.

INVENTEC			
TITLE RT10ARG			
MDC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
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1 2 3 4 5 6 7 8



TITLE			
RT10ARG			
MDC			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
SHEET		22	OF 68

CHANGE by	<i>Eddy Chen</i>	<i>2-Apr-2009</i>
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B									B
C									C
D									D
E									E
F									F
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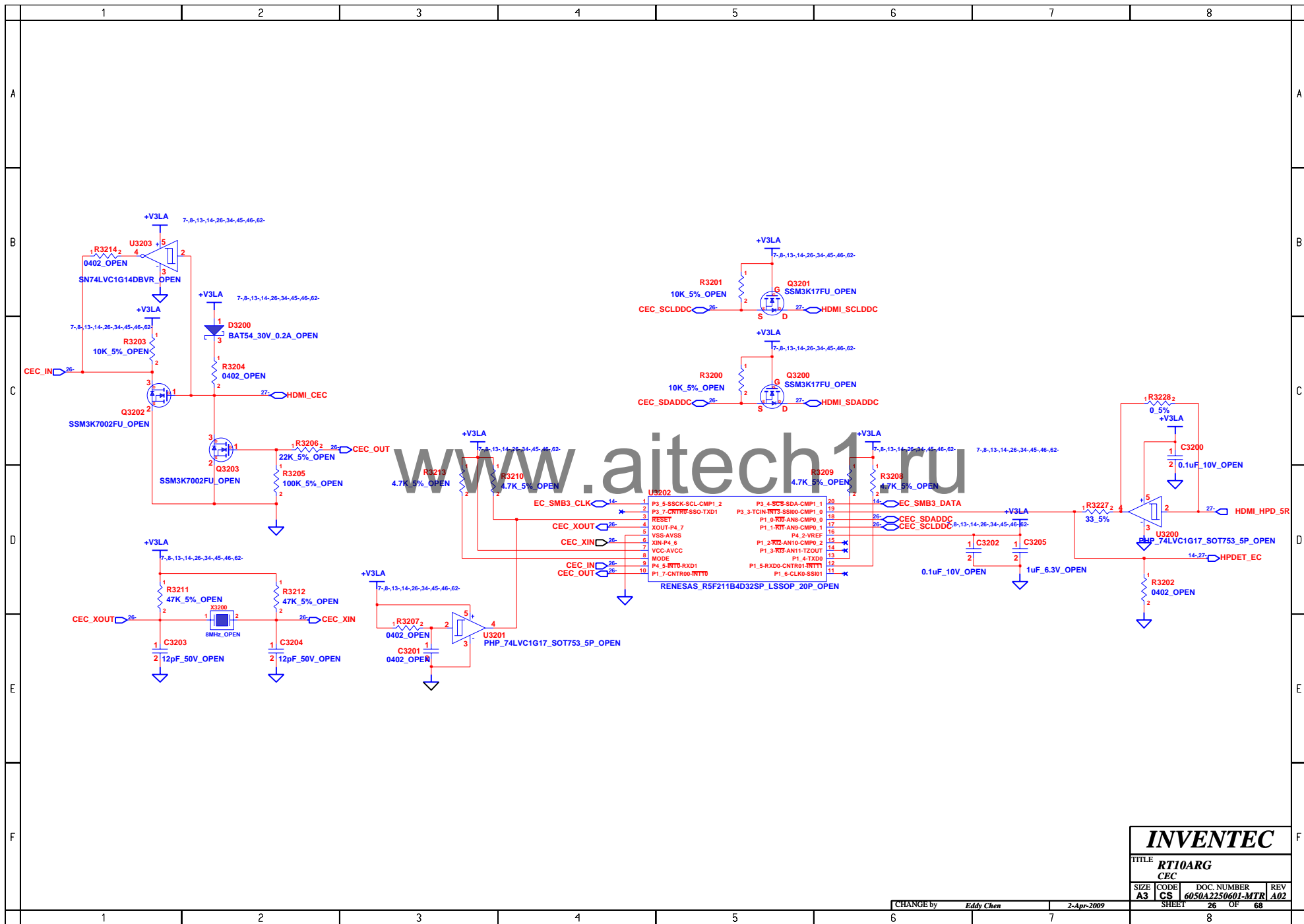
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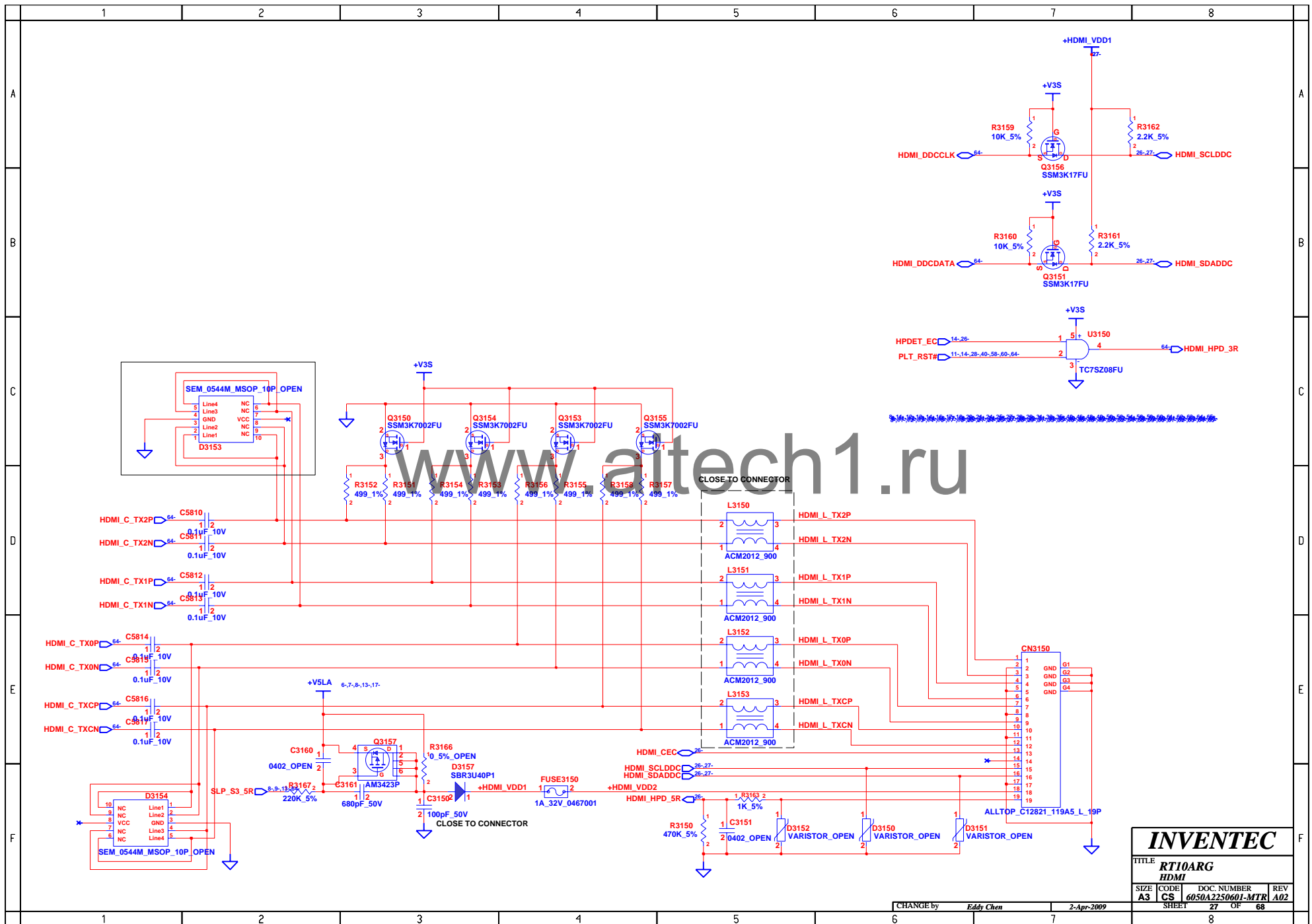
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SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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CHANGE by **Eddy Chen** 2-Apr-2009



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NEW CARD

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INVENTEC

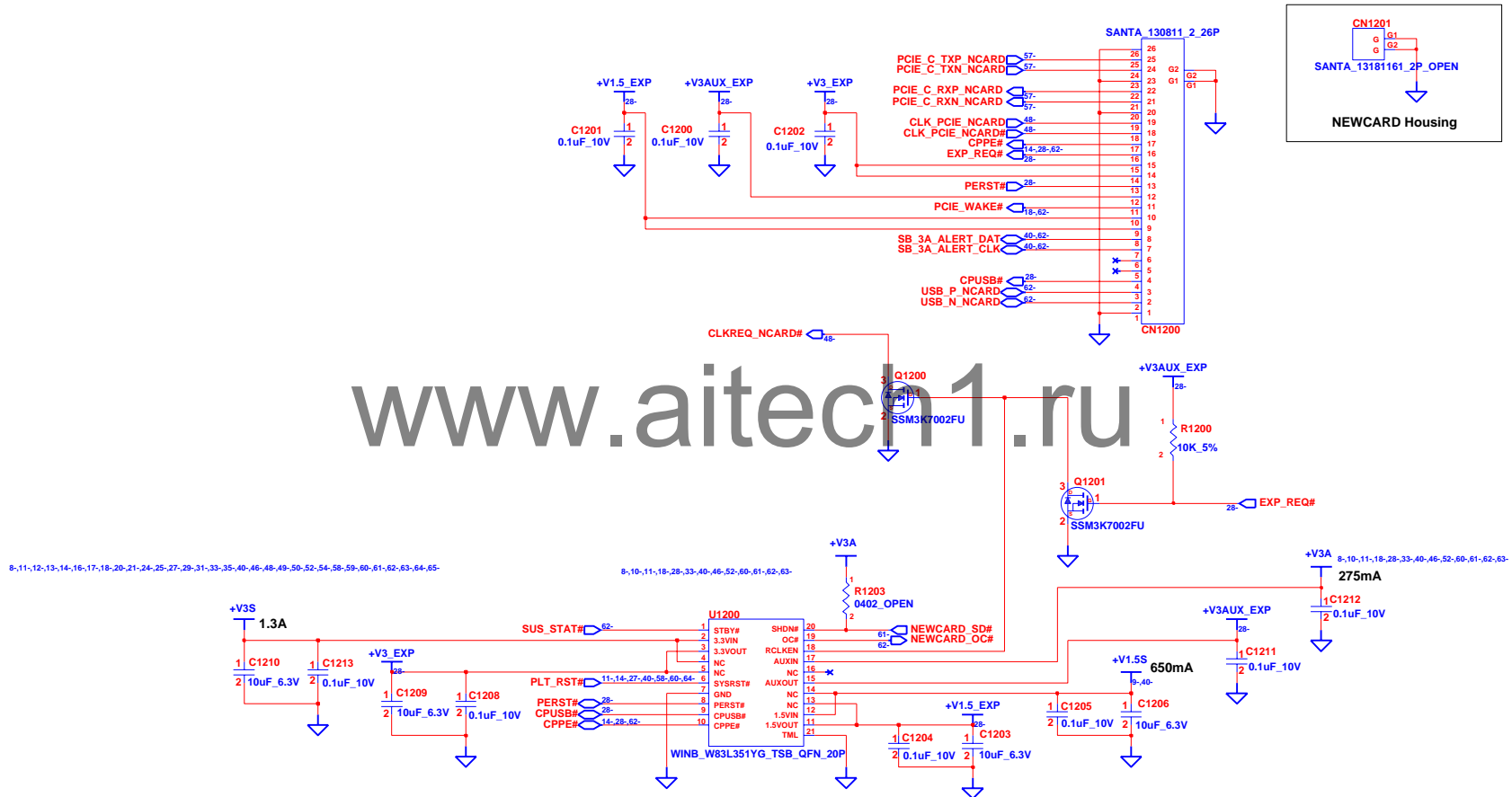
RT10ARG

Express Card

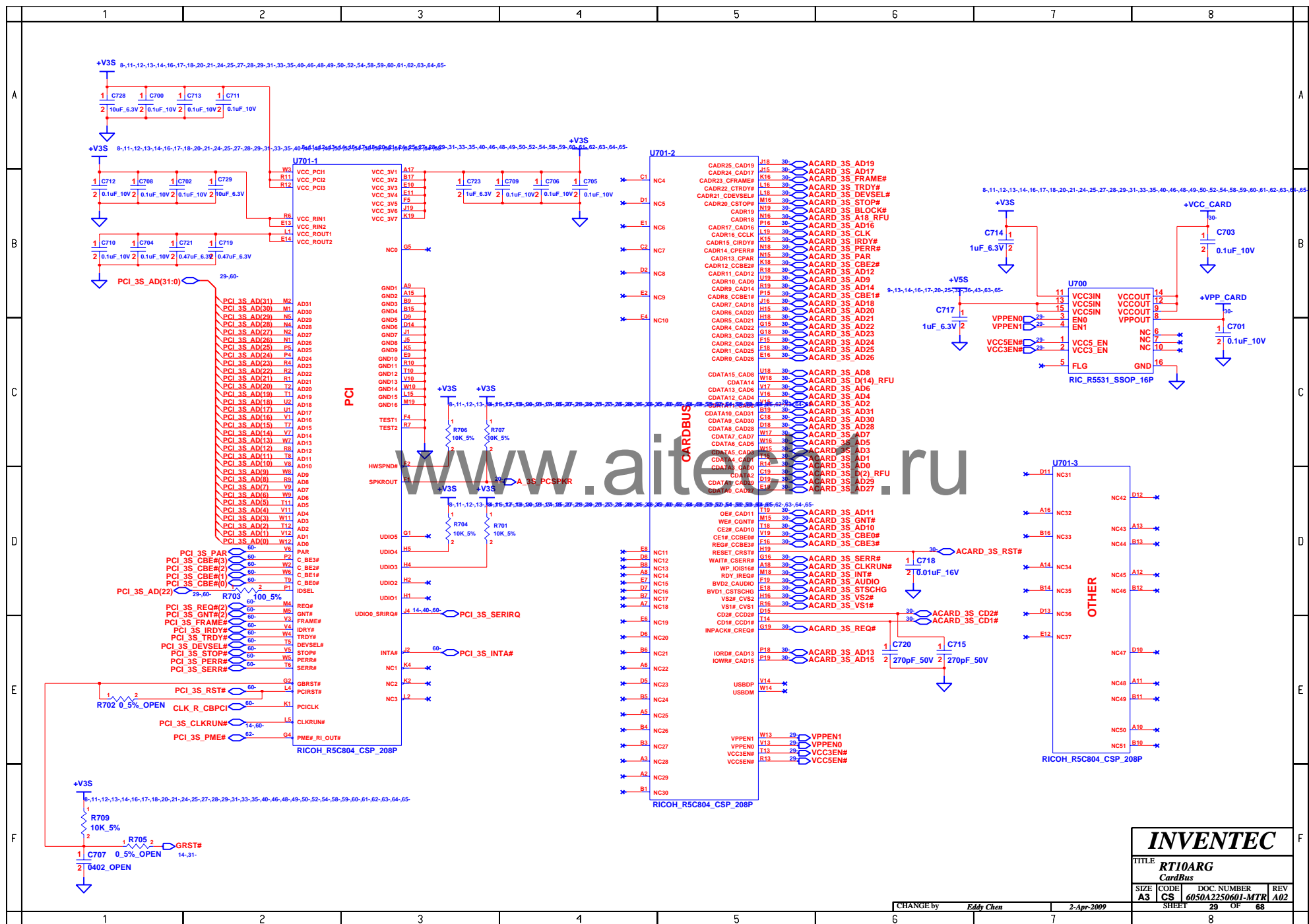
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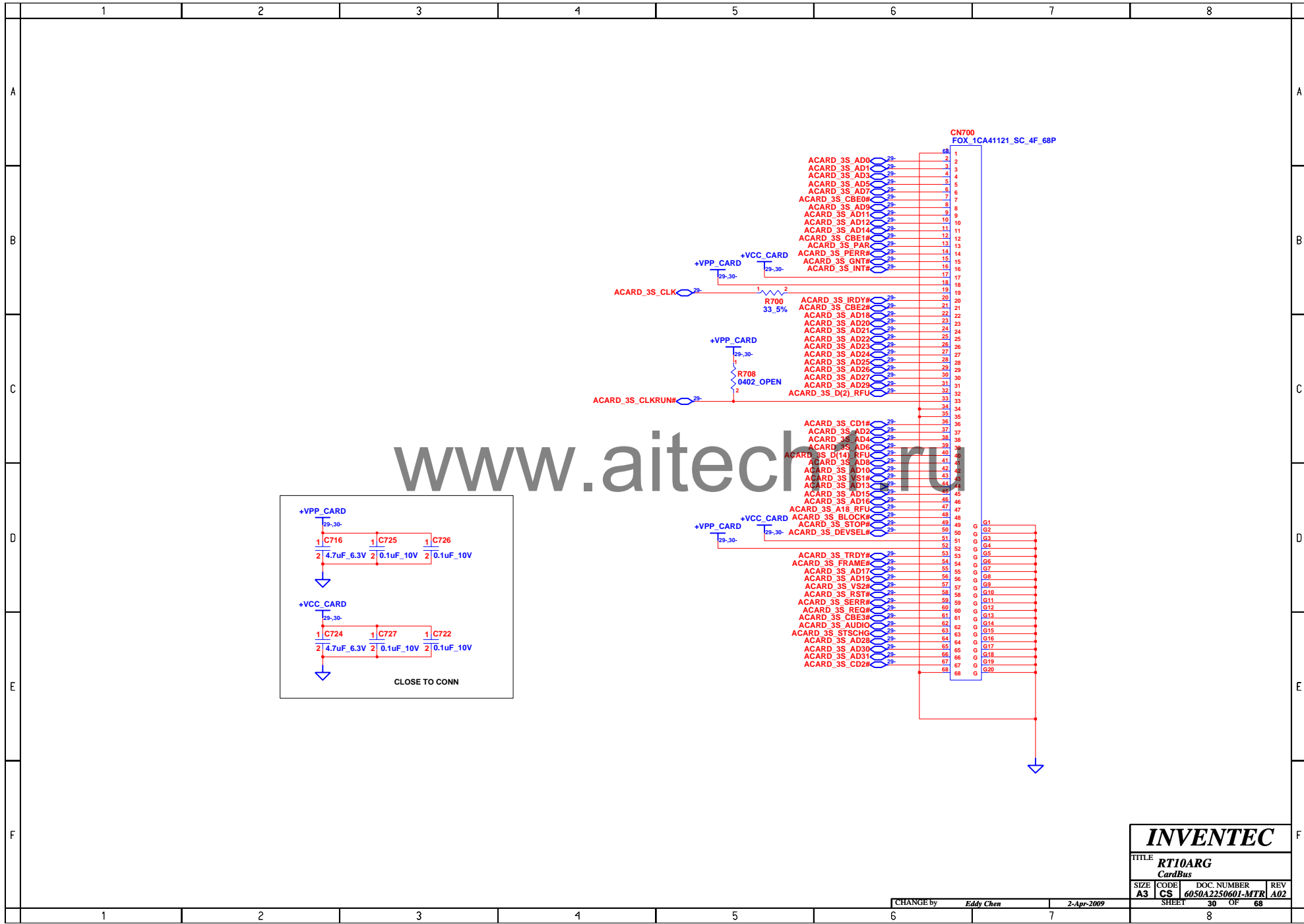
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TITLE			
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SIZE	CODE	DOC. NUMBER	REV
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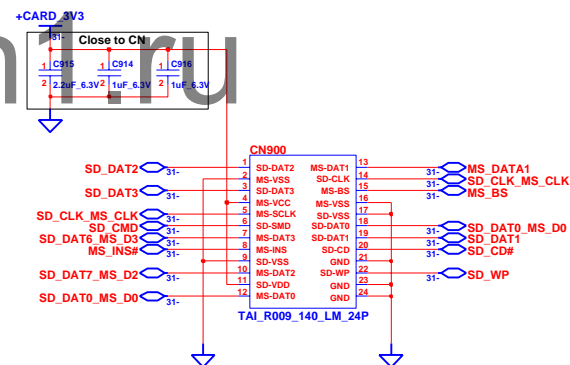
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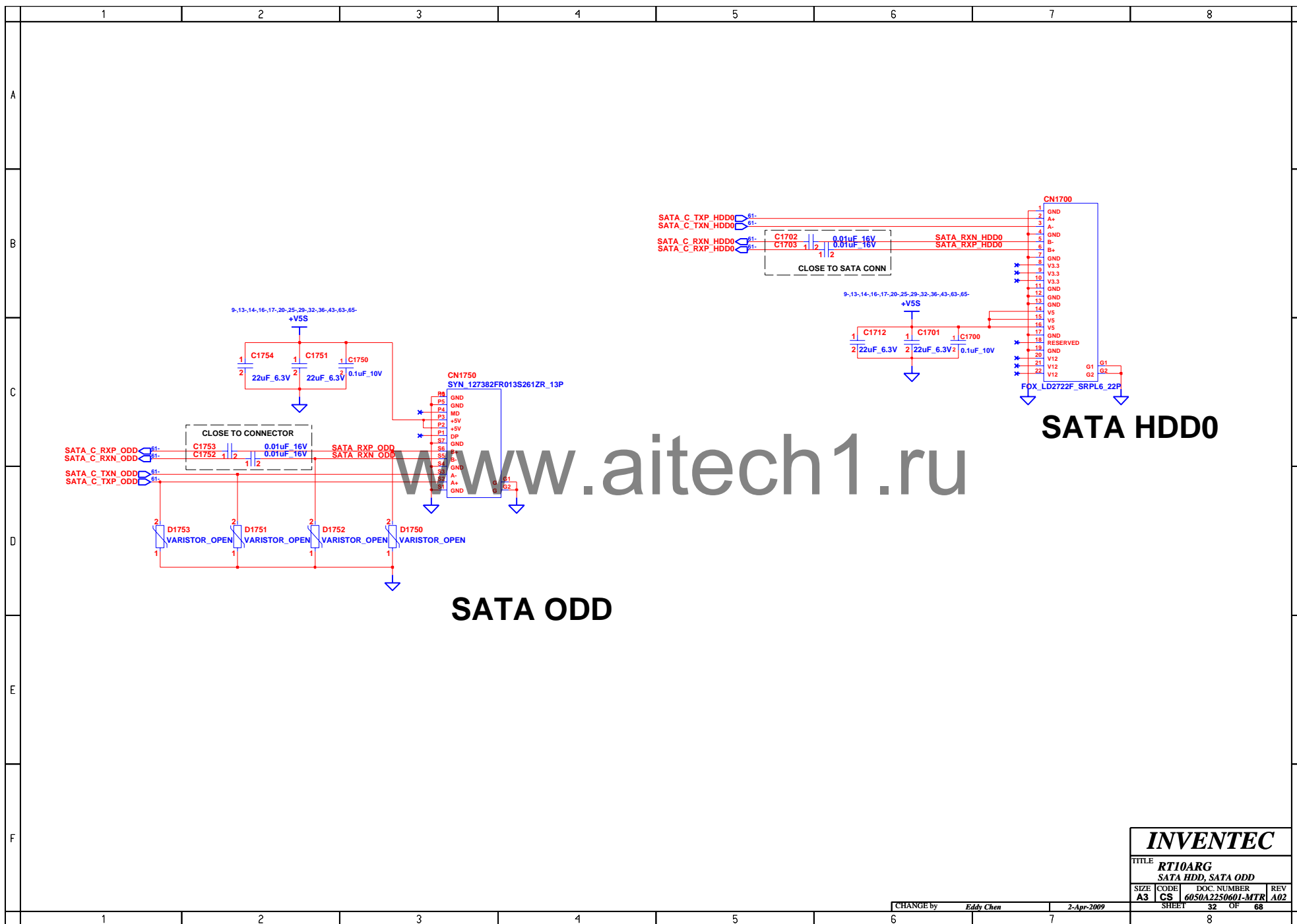
TITLE
RT10ARG
CardBus

SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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CHANGE by **Eddy Chen** 2-Apr-2009

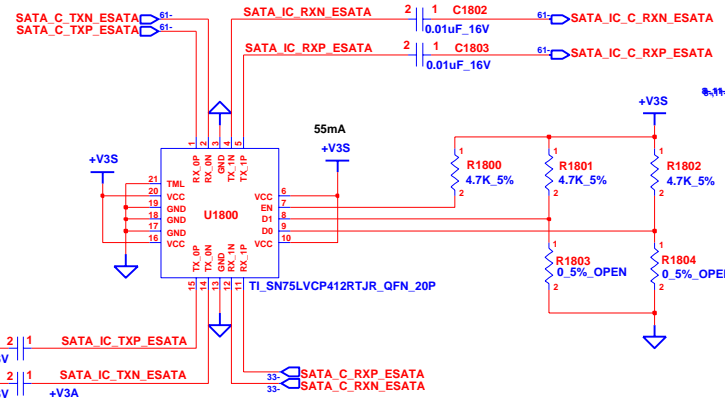
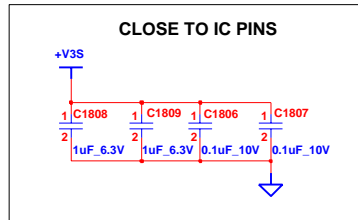
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INVENTEC			
TITLE			
RT10ARG			
SATA HDD, SATA ODD			
SIZE	CODE	DOC. NUMBER	REV
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CHANGE by		2-Apr-2009	
Eddy Chen		SHEET	
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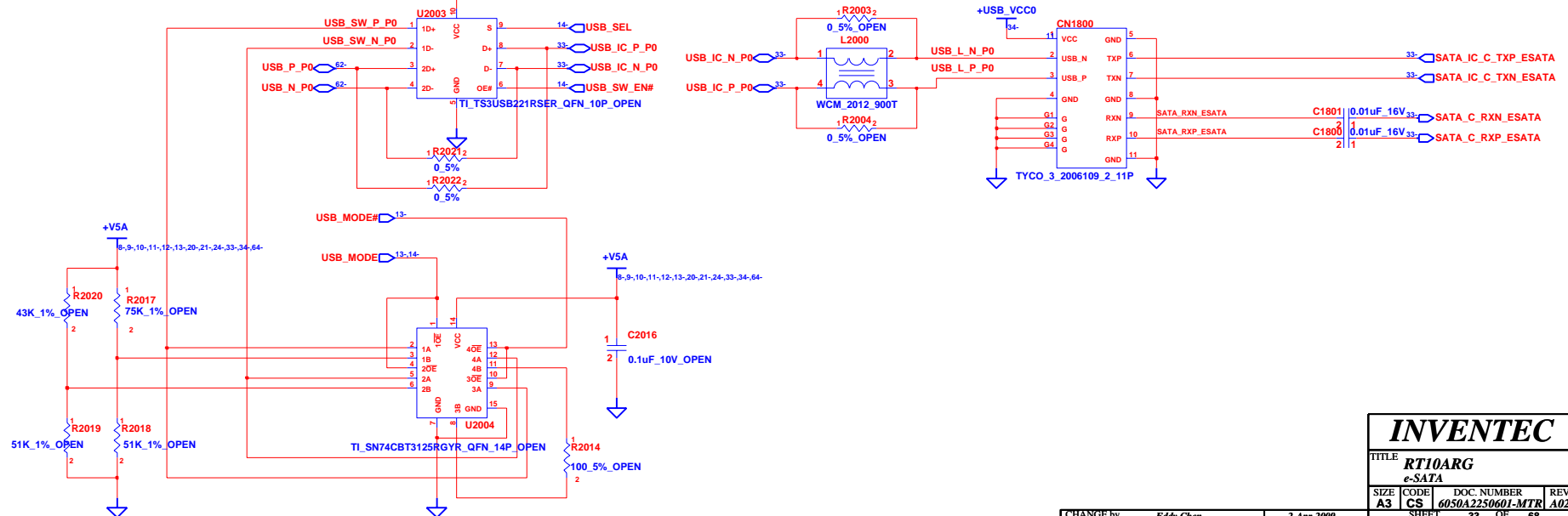
E-SATA



EN	D0	D1	FUNCTION
0	X	X	STANDBY
1	0	0	DEFAULT
1	1	0	CH0->5DB
1	0	1	CH1->5DB
1	1	1	CH0,1->5DB

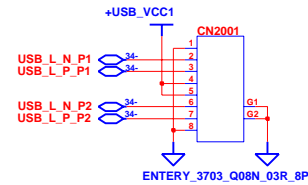
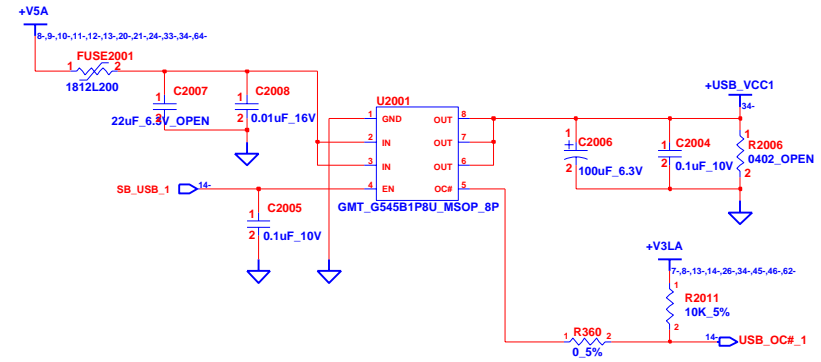
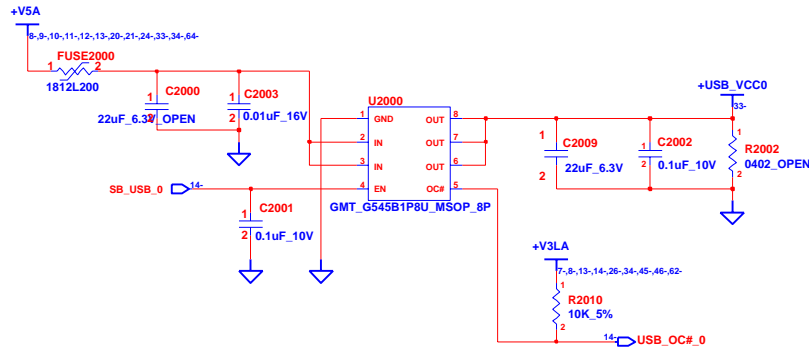
Layout Note:
USB SIGNAL SWITCH
With 40-50 mm of SB
Within 150 mm of connector

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INVENTEC			
TITLE RT10ARG e-SATA			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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USB

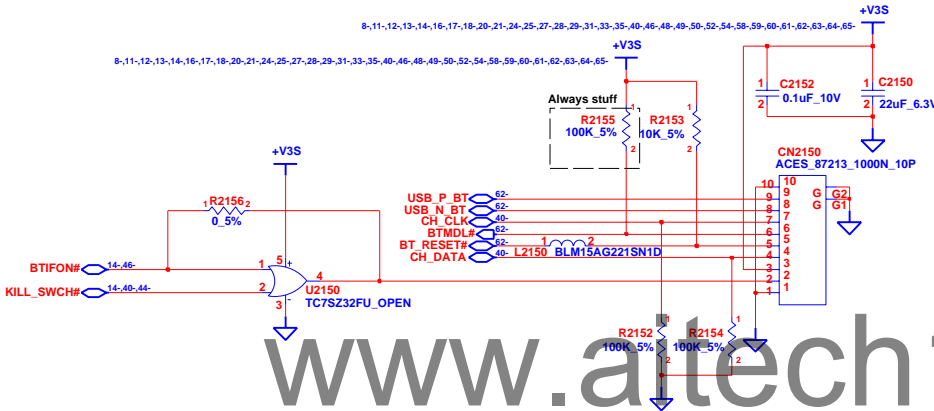


INVENTEC

TITLE RT10ARG USB			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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BLUEBOOTH

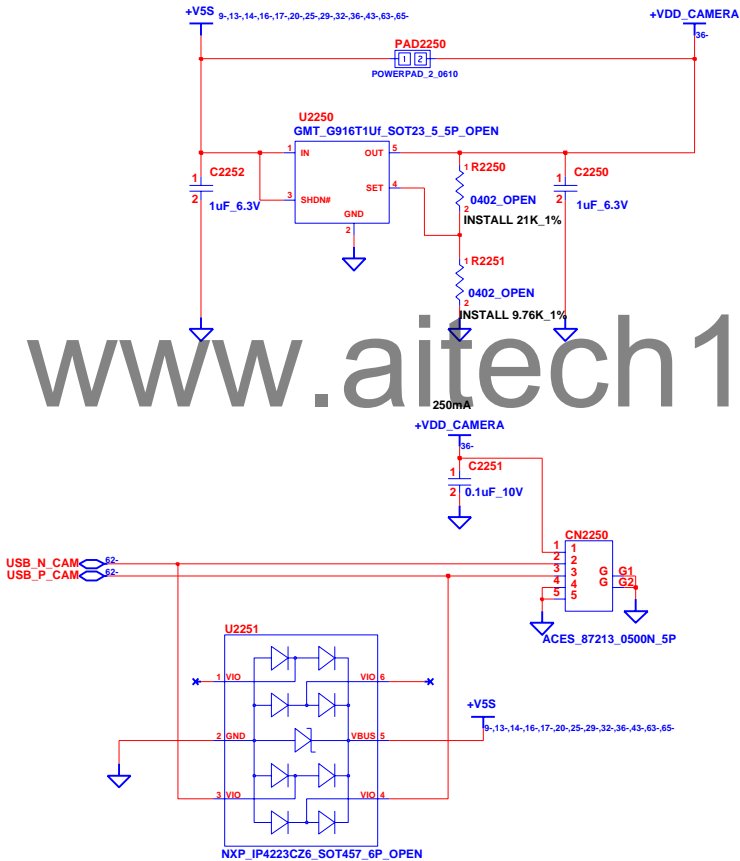


INVENTEC

TITLE RT10ARG <i>BlueTooth</i>			
SIZE A3	CODE CS	DOC. NUMBER 6050A22S0601-MTR	REV A02
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CHANGE by *Eddy Chen* 2-Apr-2009

WEBCAM

**INVENTEC**

TITLE ***RT10ARG***
Camera

SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REVISION A0
SHEET		36	OF 68

CHANGE by	<i>Eddy Chen</i>	2-Apr-20
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	1	2	3	4	5	6	7	8	
A	BLANK								A
B									B
C									C
D	www.aitech1.ru								D
E									E
F									F
	1	2	3	4	5	6	7	8	

INVENTEC			
TITLE RT10ARG BLANK			
SIZE A3	CODE CS	DOC. NUMBER 6050A22S0601-MTR	REV A02
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A	BLANK								A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

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INVENTEC			
TITLE RT10ARG			
BLANK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
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B									B
C									C
D									D
E									E
F									F
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INVENTEC			
TITLE RT10ARG			
BLANK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
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CHANGE by *Eddy Chen* 2-Apr-2009

[illegible]

TITLE			
RT10ARG			
WLAN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02

A3	CS	6050A2250601-M1R	A02
SHEET		40	OF 68
		8	

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

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SHEET		41	OF 68

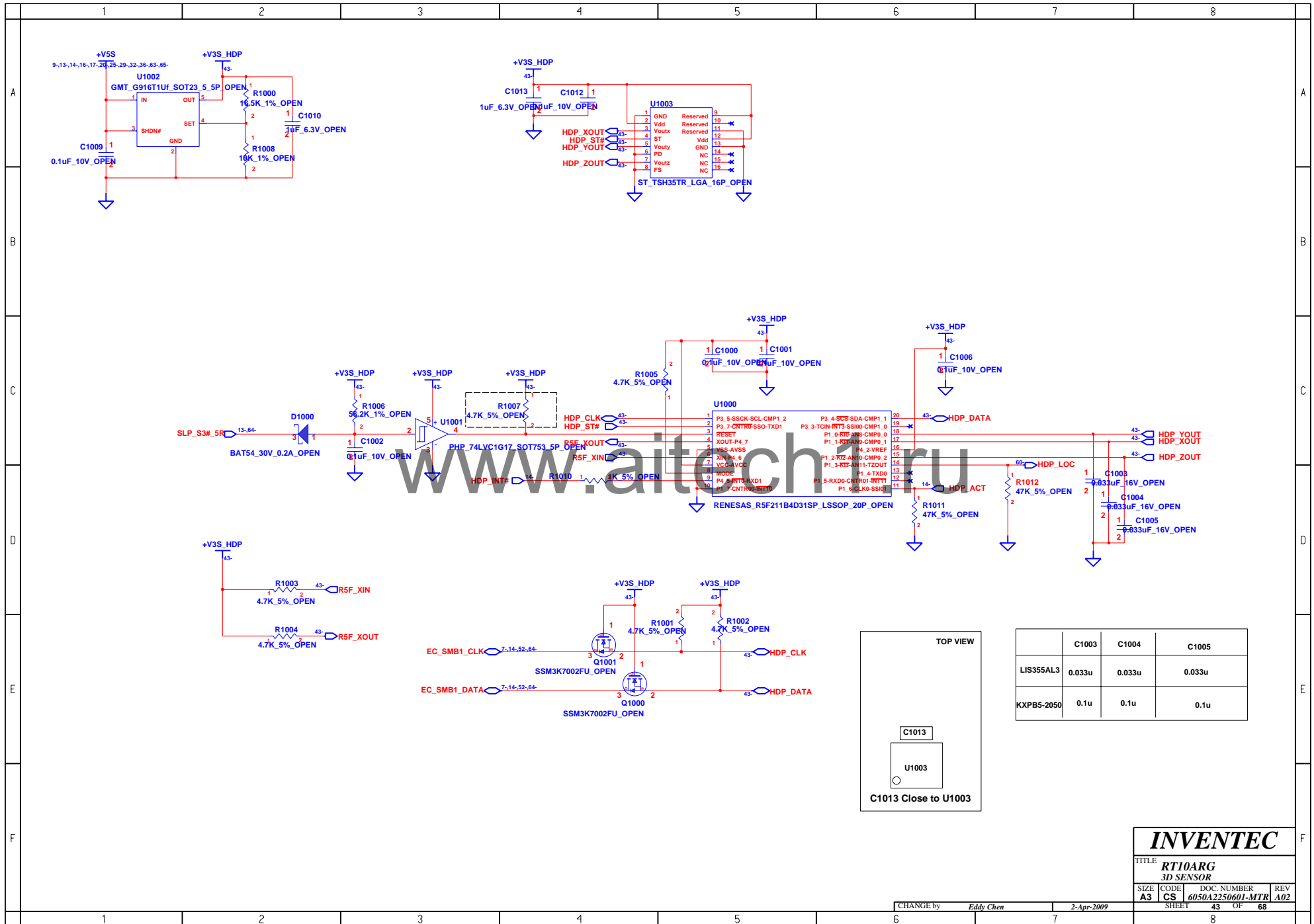
CHANGE by *Eddy Chen* 2-Apr-2009

	1	2	3	4	5	6	7	8	
A	BLANK								A
B									B
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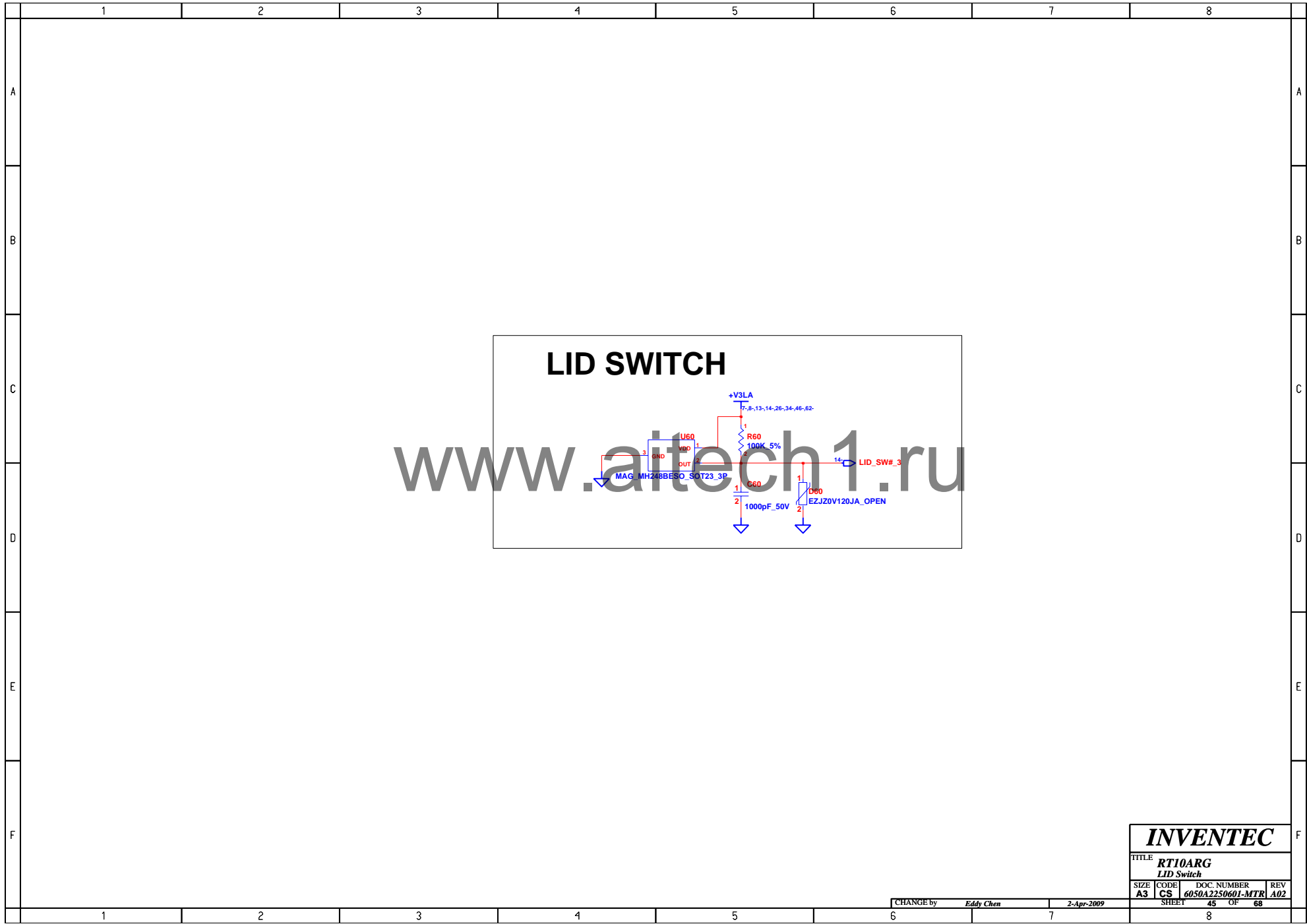
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TITLE RT10ARG			
BLANK			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A22S0601-MTR	A02
SHEET		42	OF 68

CHANGE by *Eddy Chen* 2-Apr-2009





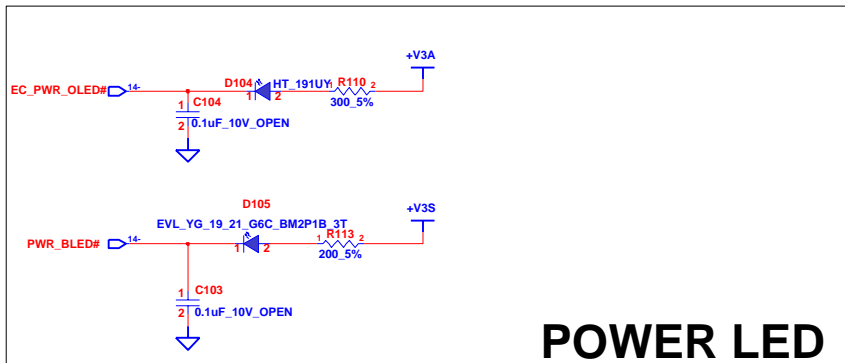
INVENTEC			
TITLE RT10ARG Kill Switch			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
SHEET 44		OF 68	



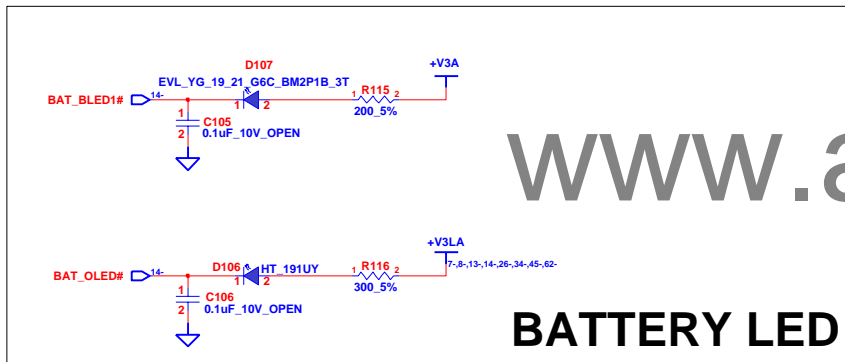
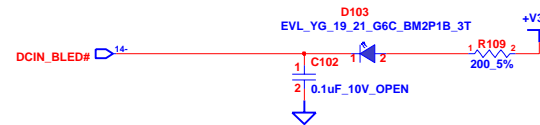
INVENTEC

TITLE
RT10ARG
LID Switch

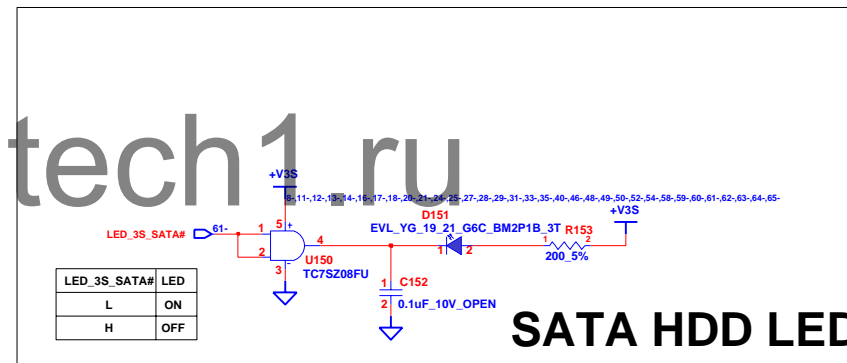
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A22S0601-MTR	A02



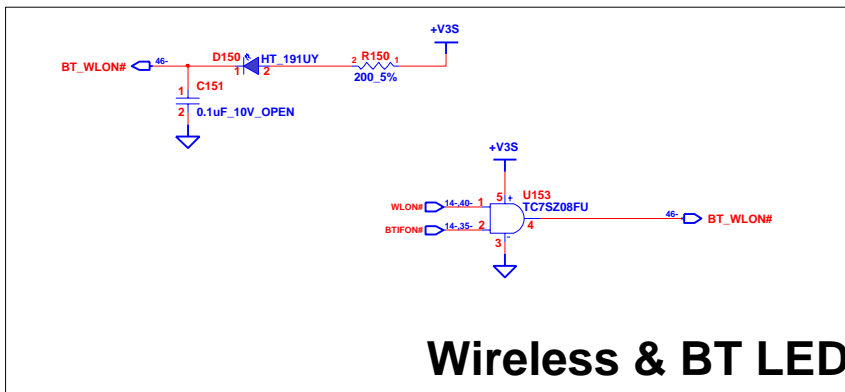
POWER LED



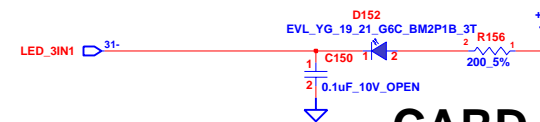
BATTERY LED



SATA HDD LED



Wireless & BT LED



CARD READER LED

LED_3IN1	LED
L	ON
H	OFF

INVENTEC

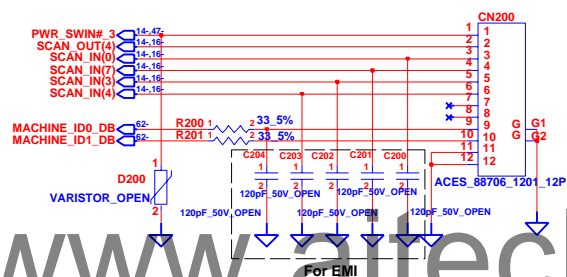
TITLE: **RT10ARG**
LED

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02

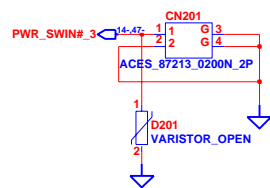
CHANGE by: Eddy Chen 2-Apr-2009

SHEET 46 OF 68

HOTKEY & PWR BTN



RESERVE FOR BTO



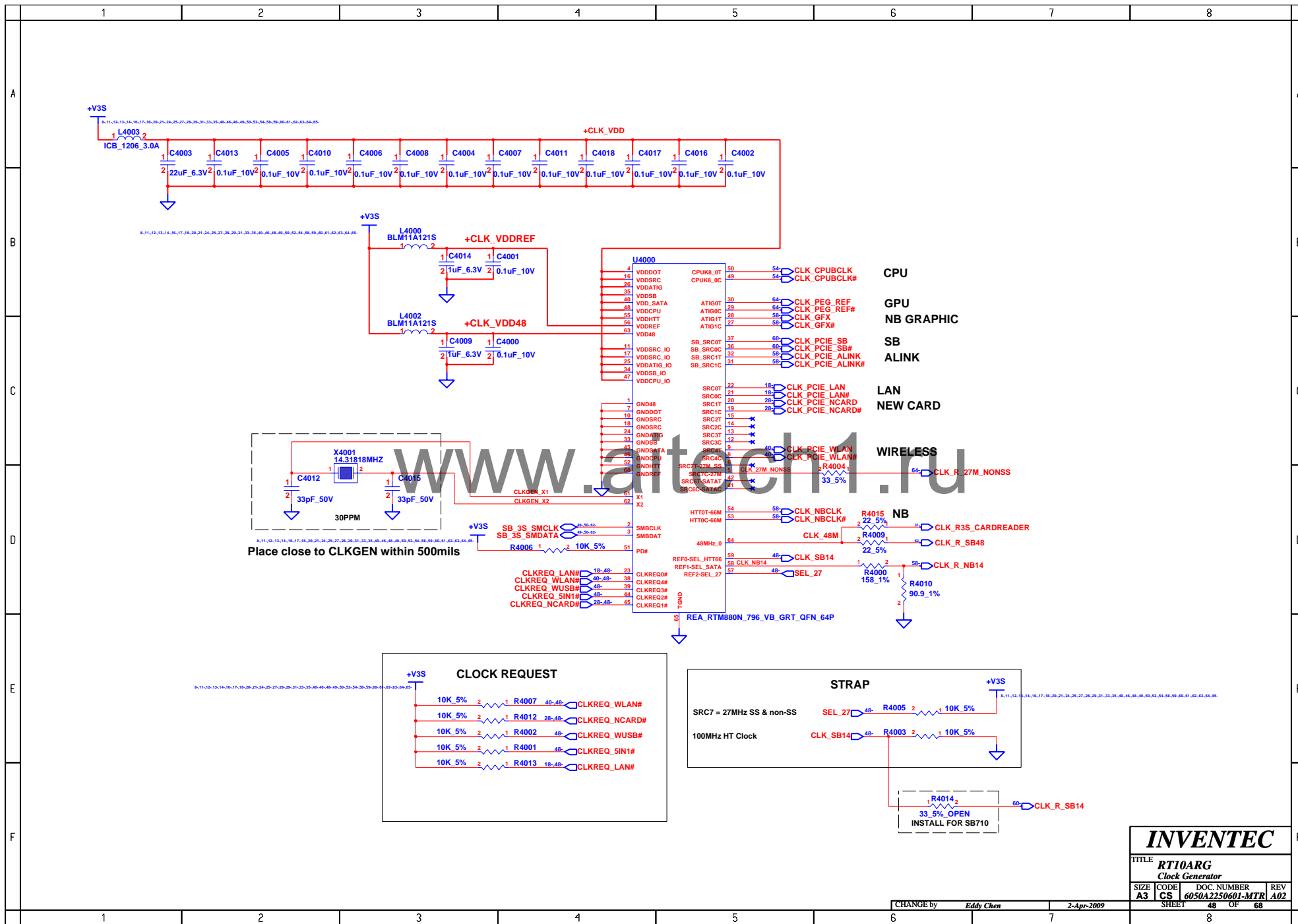
INVENTEC

TITLE
RT10ARG
HOTKEY

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A22S0601-MTR	A02

CHANGE by **Eddy Chen** 2-Apr-2009

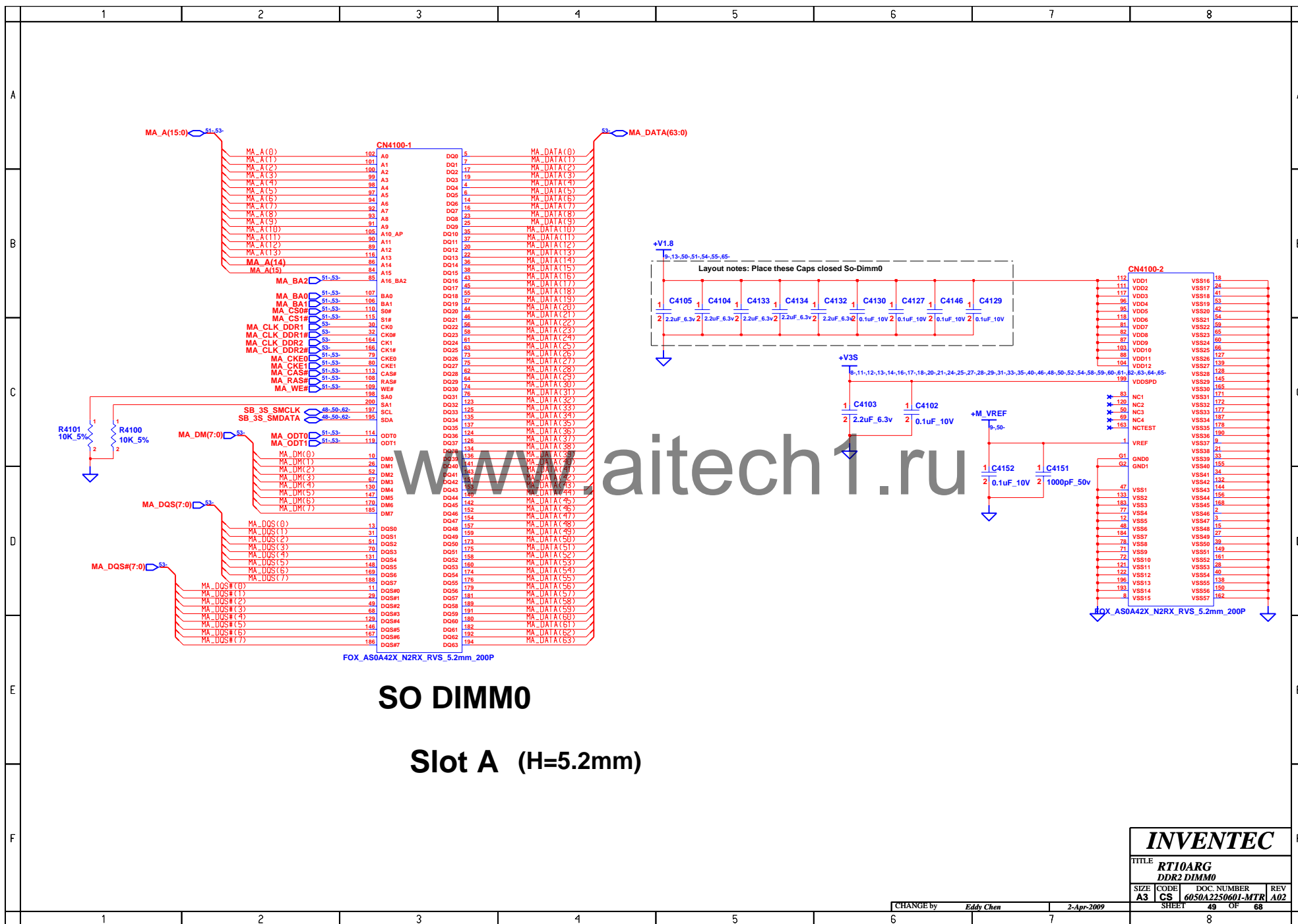
SHEET 47 OF 68

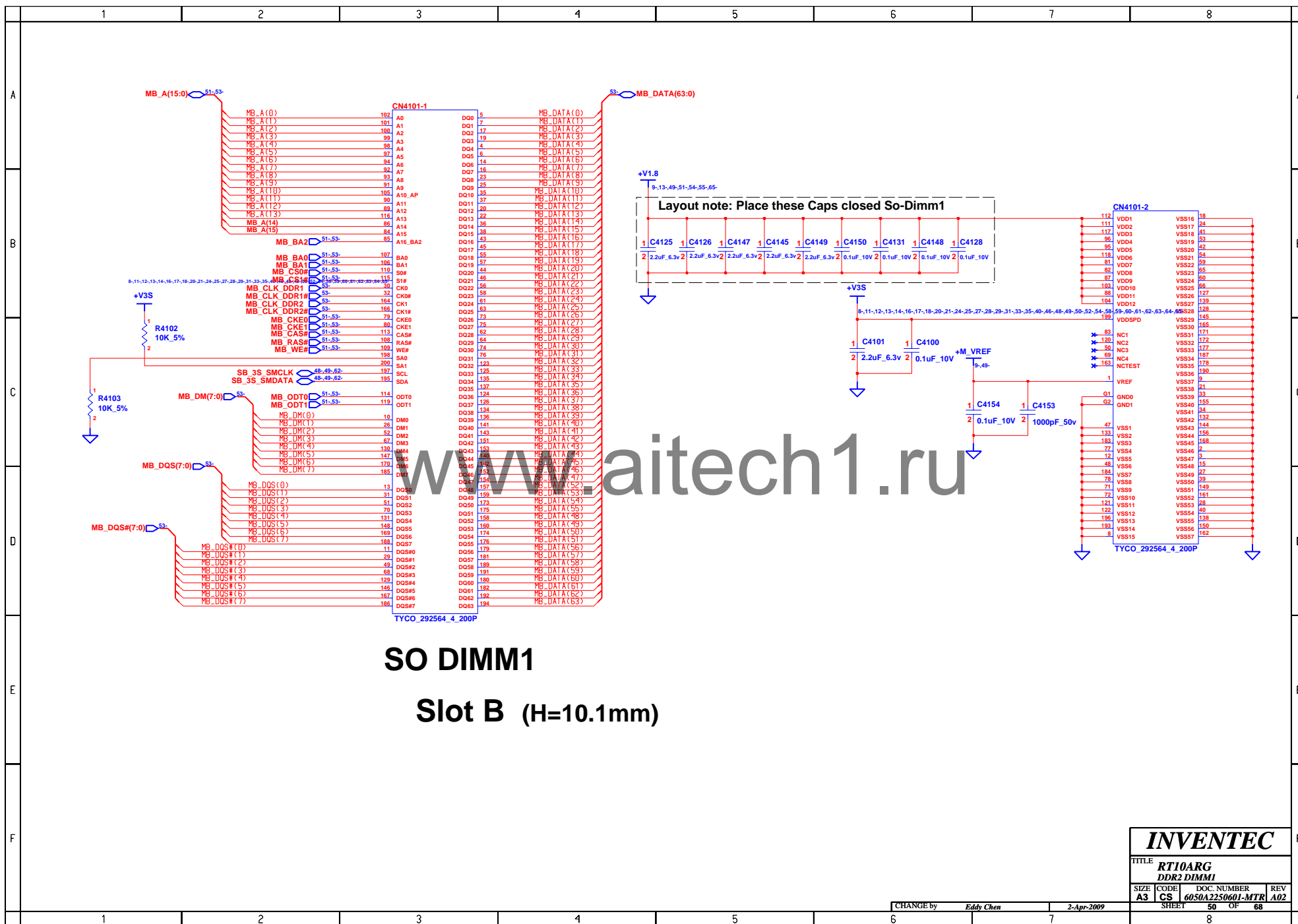


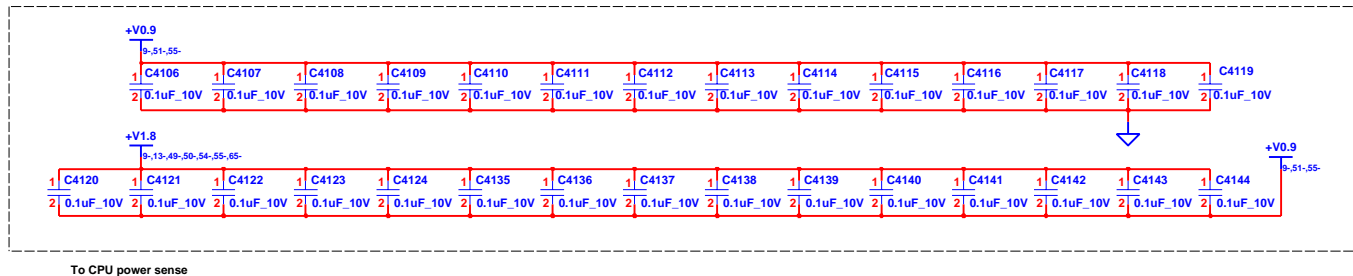
INVENTEC

TITLE RT10ARG Clock Generator			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
SHEET 48		OF 68	

CHANGE by **Eddy Chen** 2-Apr-2009





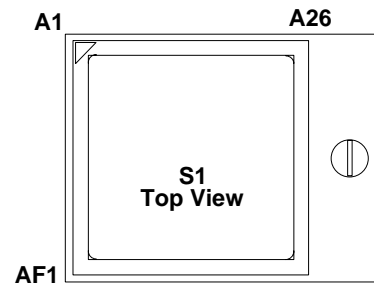
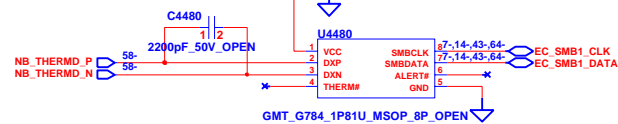


Place CAPs close to DIMM

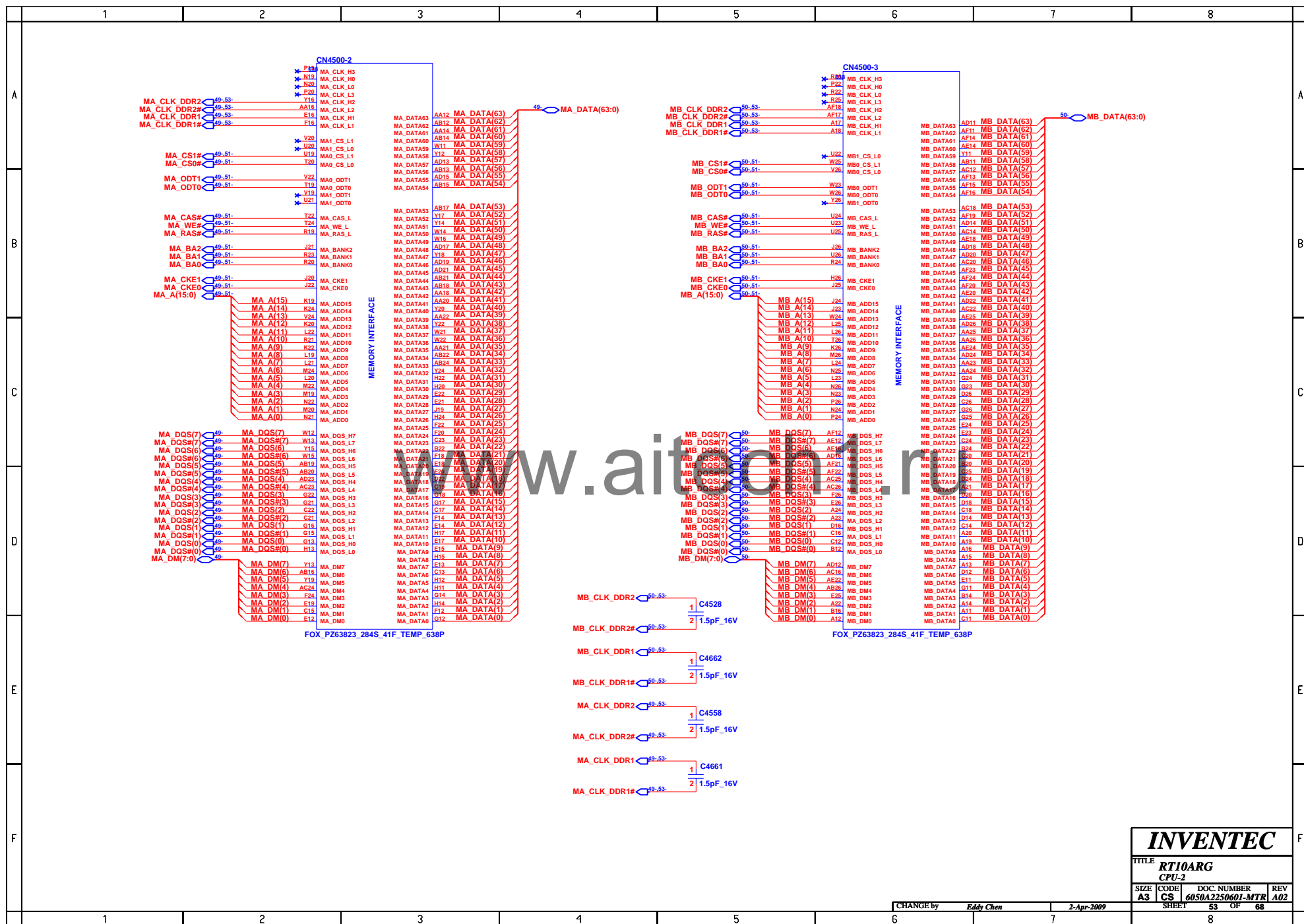


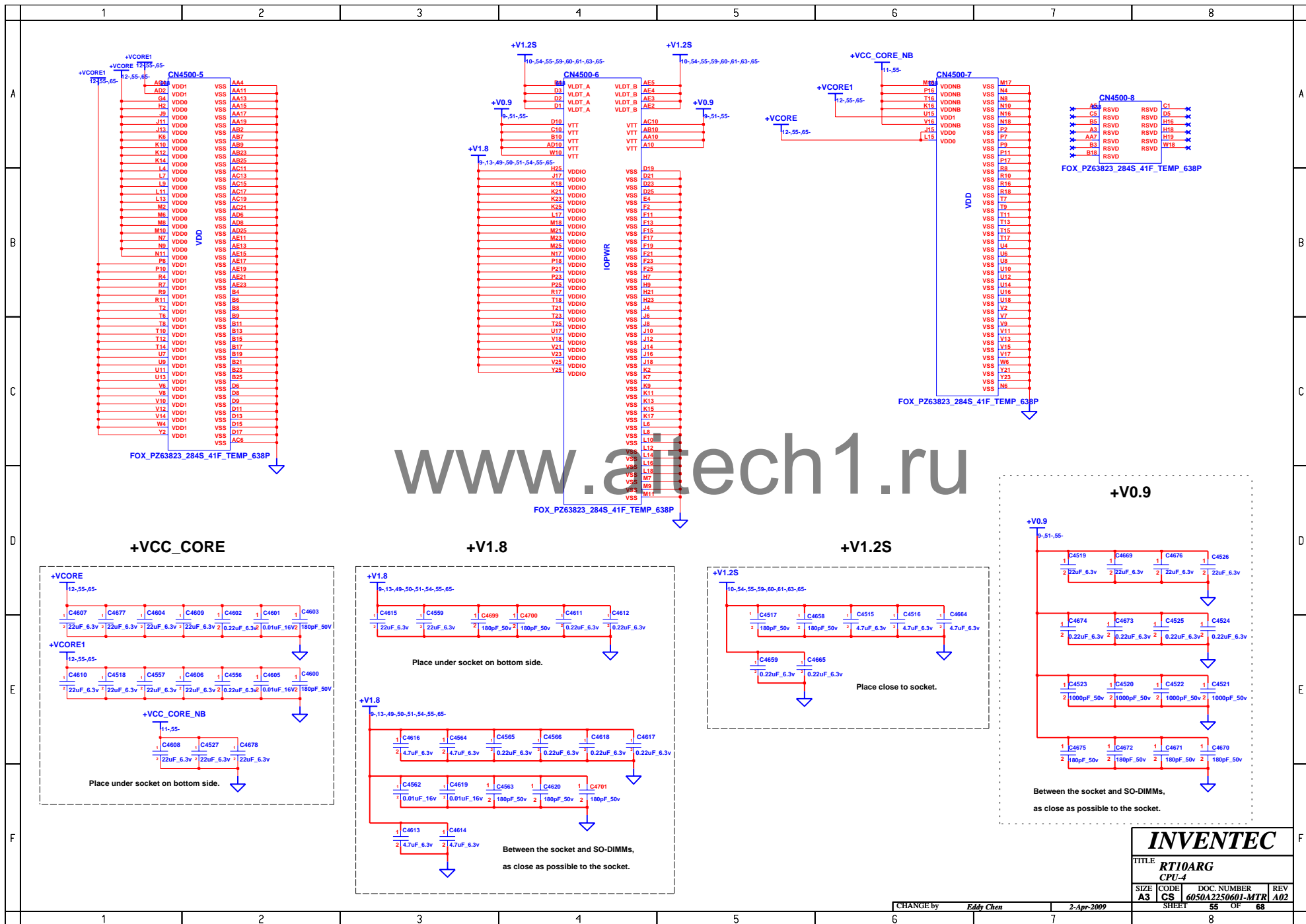
INVENTEC			
TITLE RT10ARG DDR2 Damping			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
SHEET		51	OF 68

CHANGE by Eddy Chen 2-Apr-2009



TITLE			
RT10ARG CPU-1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
SHEET		52	OF 68





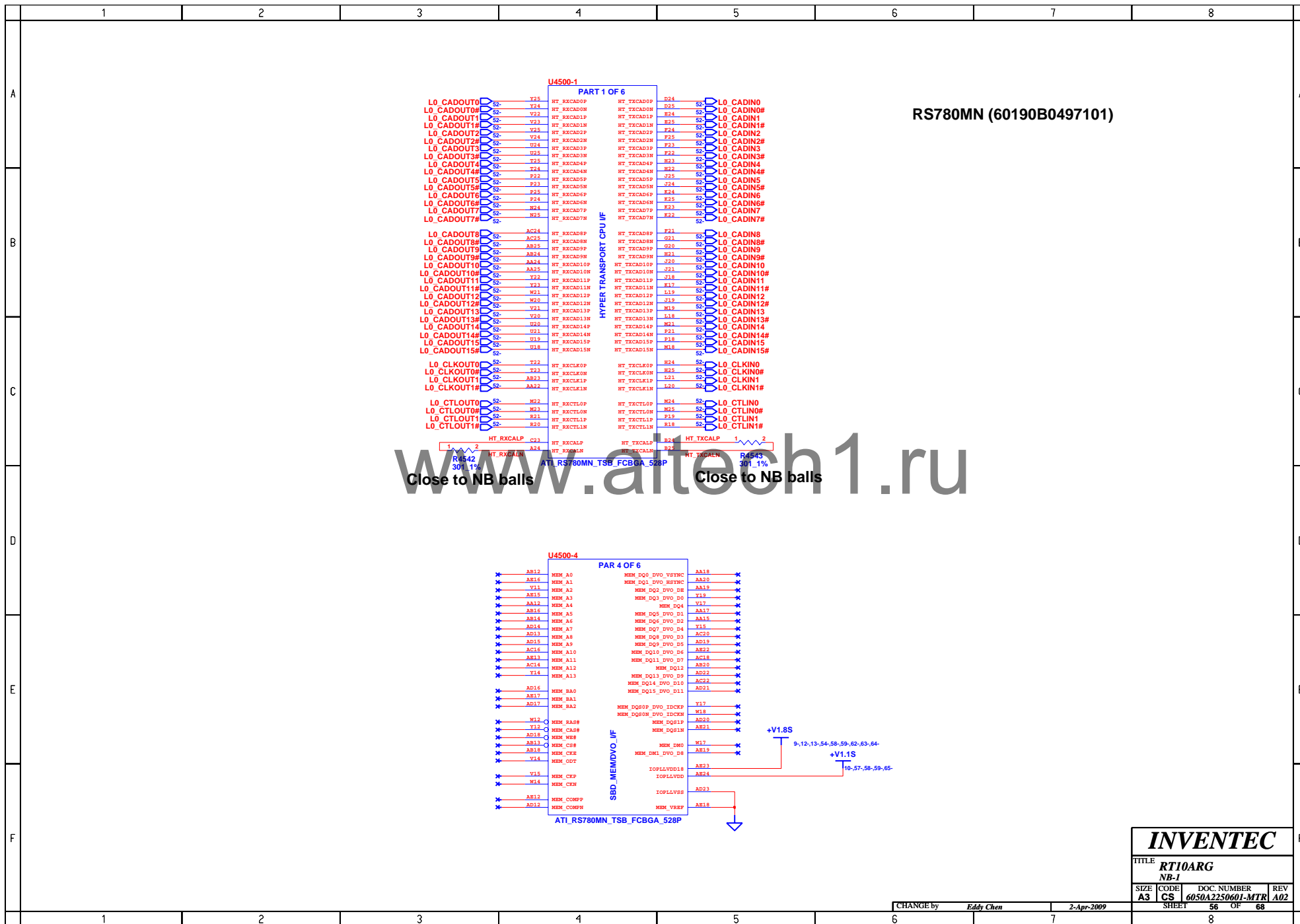
www.aitech1.ru

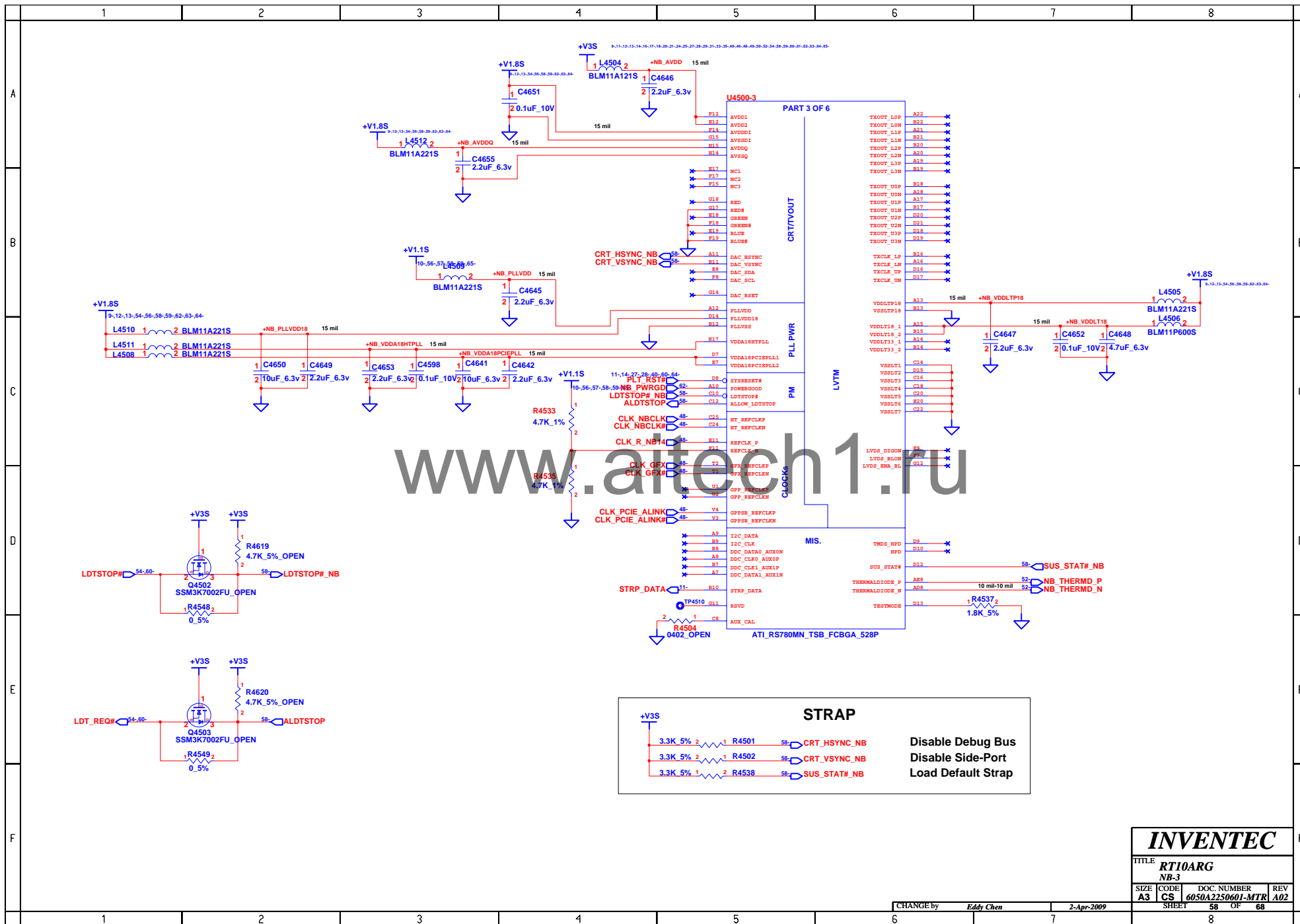
INVENTEC

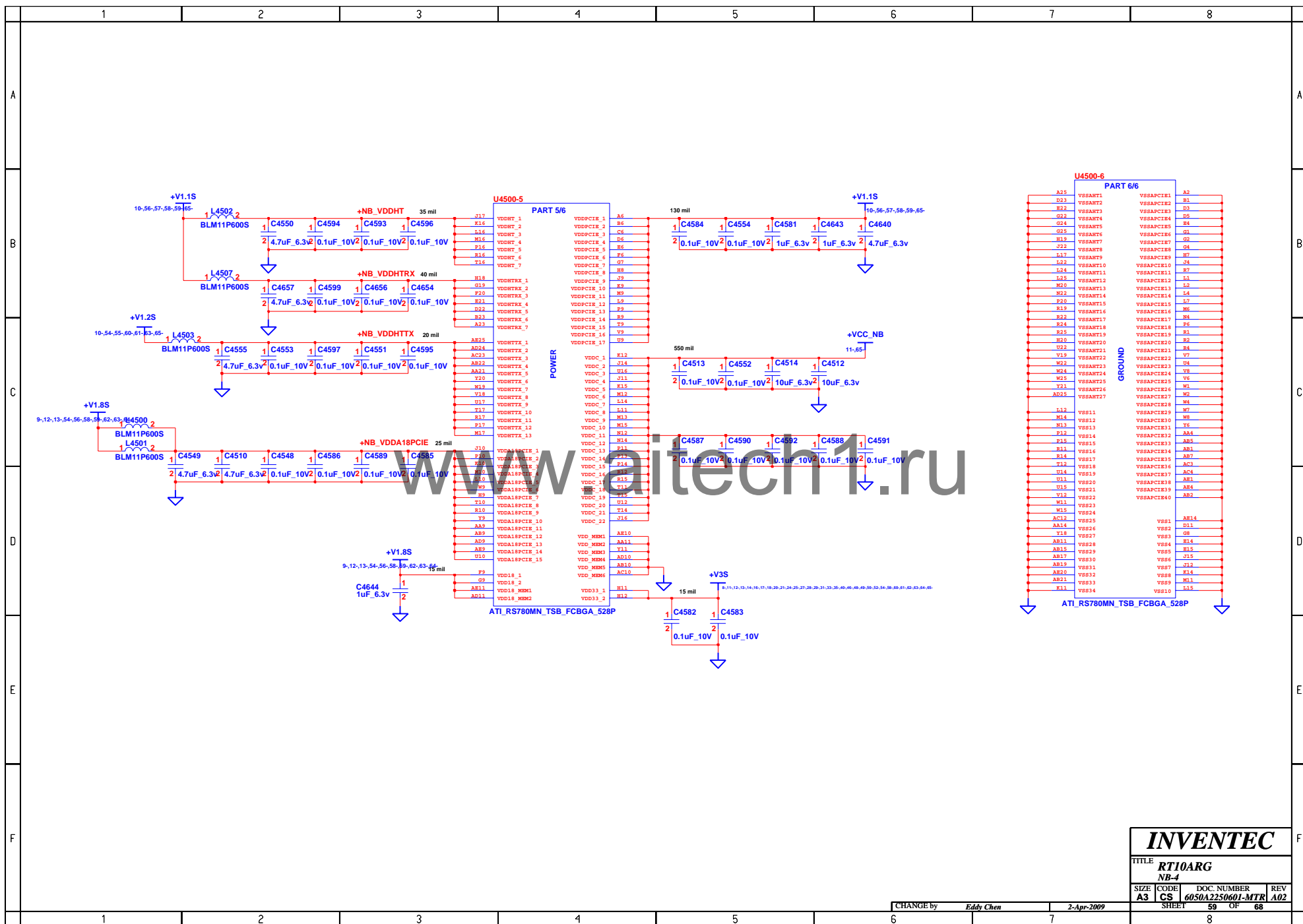
TITLE
RT10ARG
CPU-4

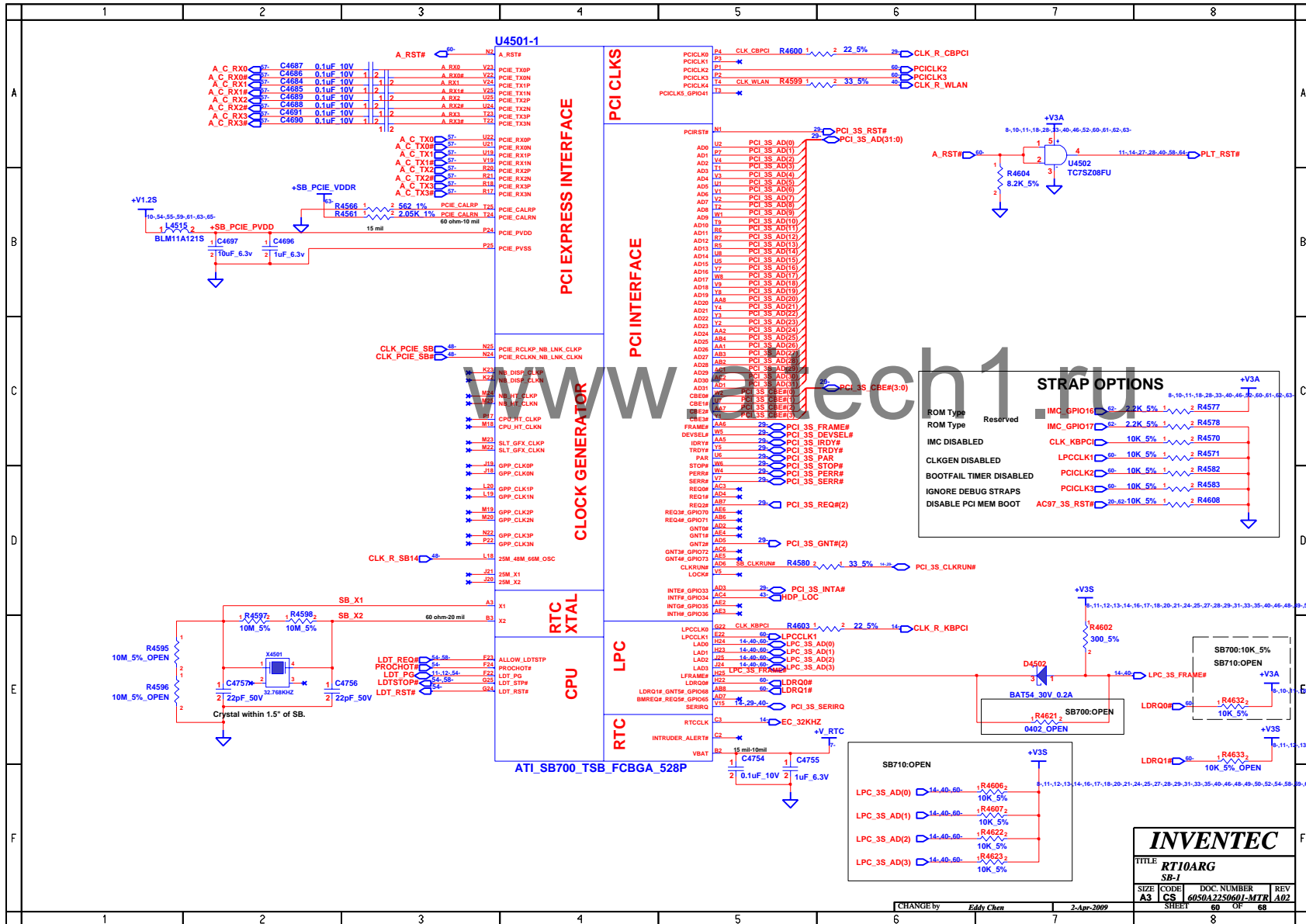
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
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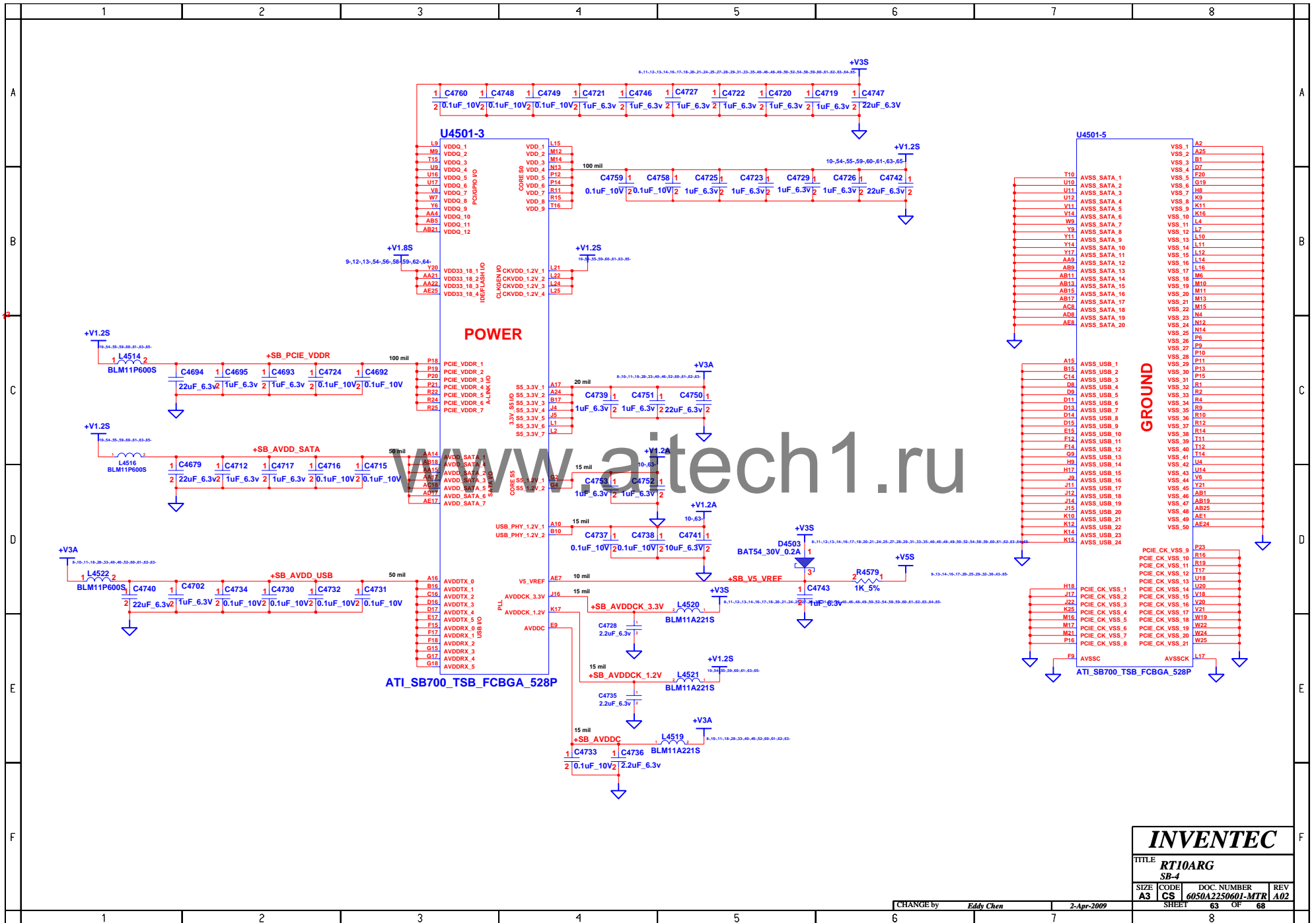
CHANGE by **Eddy Chen** 2-Apr-2009
SHEET **55** OF **68**

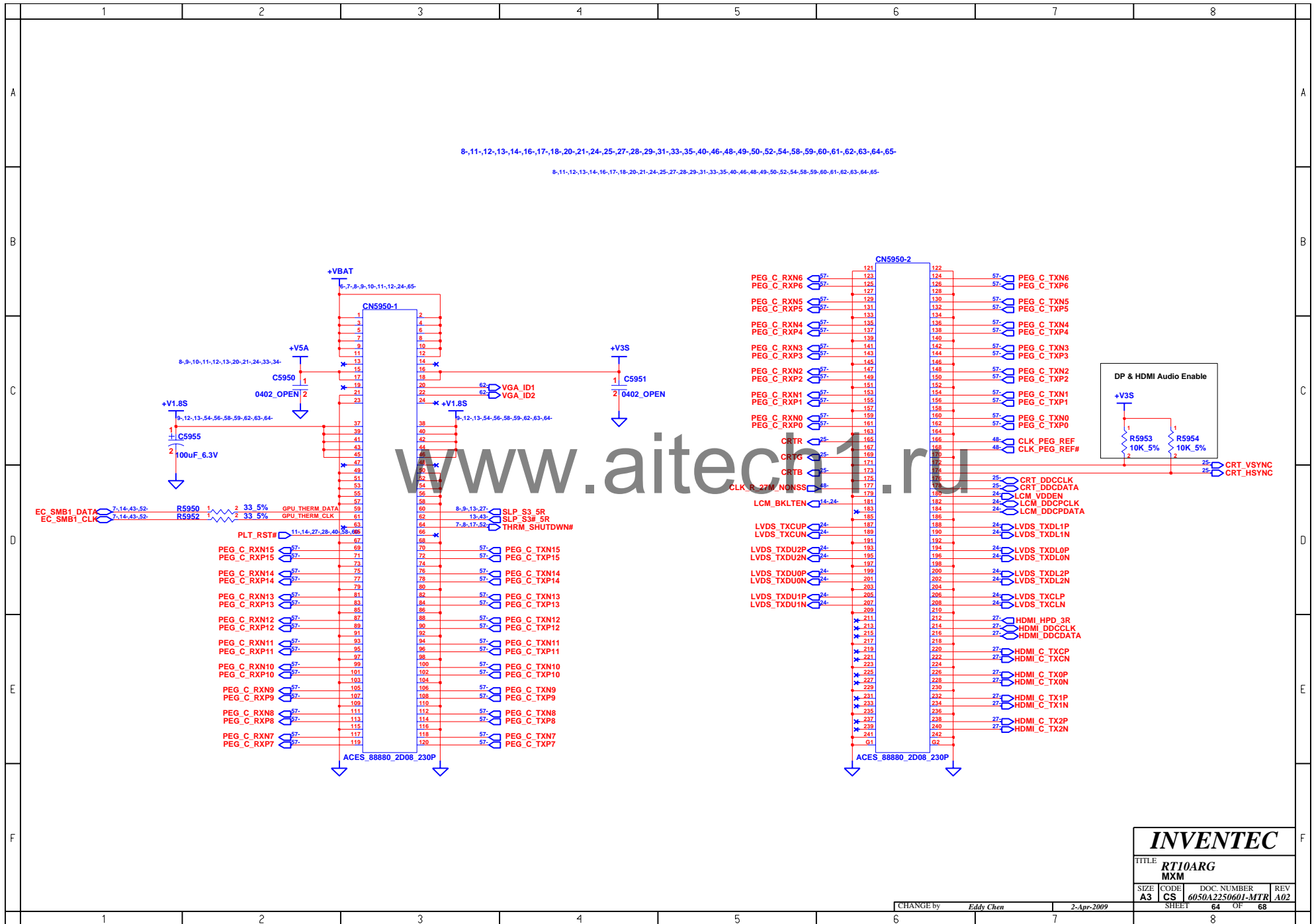












INVENTEC

TITLE			
RT10ARG			
MXM			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
SHEET		64	OF 68

CHANGE by Eddy Chen 2-Apr-2009

EMI

The diagram illustrates the placement of EMI filter components across various power planes of a PCB. The components are organized as follows:

- +V3S:** C7500, C7501, C7503, C7504, C7505, C7506, C7507 (all 0.01uF_16V).
- +V5S:** No components.
- +V3S:** C7510, C7511 (both 0.01uF_16V).
- +AVCC:** C7518, C7519 (both 0.01uF_16V).
- +V3S:** C7512, C7513, C7514, C7515, C7516, C7517 (all 0.01uF_16V).
- +V1.2S:** C7522, C7523 (both 0.01uF_16V).
- +V3S:** C7524 (0.01uF_16V).
- +VCORE:** C7525, C7526 (both 0.01uF_16V).
- +V3S:** C7527 (0.01uF_16V).
- +VCORE1:** C7529, C7530, C7531, C7532, C7533, C7534, C7535, C7536 (all 220pF_25V).
- +V1.8:** C7547 (1uF_6.3V), C7548 (1uF_6.3V), C7549 (1uF_6.3V).
- +VBAT:** C7537, C7538 (both 0.01uF_16V).
- +V1.2S:** C7543, C7544, C7545, C7546 (all 470pF_50V).
- +V1.1S:** C7542 (470pF_50V).

A large watermark "www.aitech1.ru" is visible across the center of the diagram.

INVENTEC			
TITLE RT10ARG EMI			
SIZE A3	CODE CS	DOC NUMBER 6050A2250601-MTR	REV A02
CHANGE by Eddy Chen		2-Apr-2009	
SHEET 65 OF 68			

EMI

The diagram illustrates the placement of EMI filter components across various power planes of a PCB. The components are organized as follows:

- +V3S:** C7500, C7501, C7503, C7504, C7505, C7506, C7507 (all 0.01uF_16V).
- +V5S:** No components.
- +V3S:** C7510, C7511 (both 0.01uF_16V).
- +AVCC:** C7518, C7519 (both 0.01uF_16V).
- +V3S:** C7512, C7513, C7514, C7515, C7516, C7517 (all 0.01uF_16V).
- +V1.2S:** C7522, C7523 (both 0.01uF_16V).
- +V3S:** C7524 (0.01uF_16V).
- +VCORE:** C7525, C7526 (both 0.01uF_16V).
- +V3S:** C7527 (0.01uF_16V).
- +VCORE1:** C7529, C7530, C7531, C7532, C7533, C7534, C7535, C7536 (all 220pF_25V).
- +V1.8:** C7547 (1uF_6.3V), C7548 (1uF_6.3V), C7549 (1uF_6.3V).
- +VBAT:** C7537, C7538 (both 0.01uF_16V).
- +V1.2S:** C7543, C7544, C7545, C7546 (all 470pF_50V).
- +V1.1S:** C7542 (470pF_50V).

A large watermark "www.aitech1.ru" is visible across the center of the diagram.

INVENTEC			
TITLE RT10ARG EMI			
SIZE A3	CODE CS	DOC NUMBER 6050A2250601-MTR	REV A02
CHANGE by Eddy Chen		SHEET 65 OF 68	2-Apr-2009

TITLE			
<i>RT10ARG</i>			
<i>EMI</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
SHEET		65	OF 68

SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
SHEET 65 OF 68			

HOTKEY BOARD

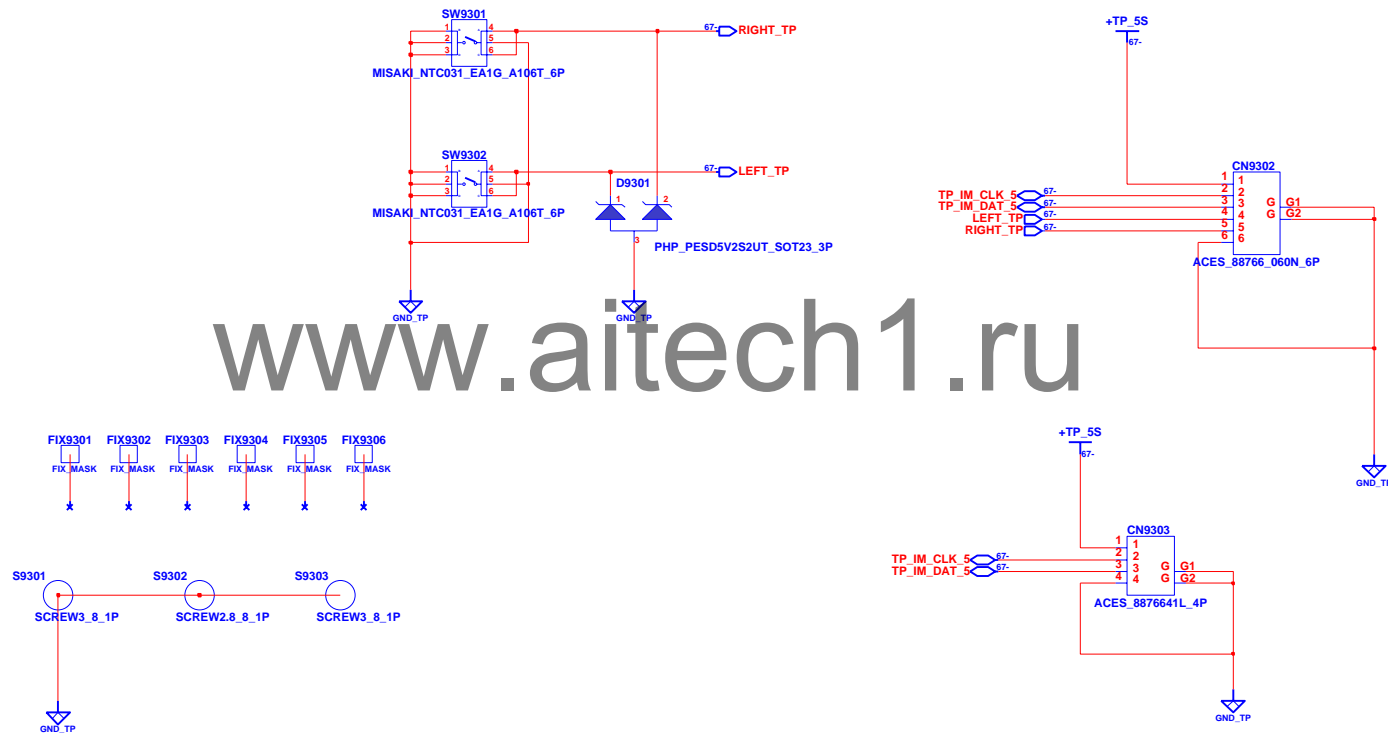
www.aitech1.ru

INVENTEC			
TITLE RT10ARG HOTKEY BOARD DB			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2250601-MTR	A02
CHANGE by Eddy Chen		2-Apr-2009	SHEET 66 OF 68

INVENTEC			
TITLE RT10ARG			
HOTKEY BOARD DB			
SIZE A3	CODE CS	DOC. NUMBER 6050A2250601-MTR	REV A02
SHEET 66		OF 68	

TOUCH PAD BOARD

www.aitech1.ru



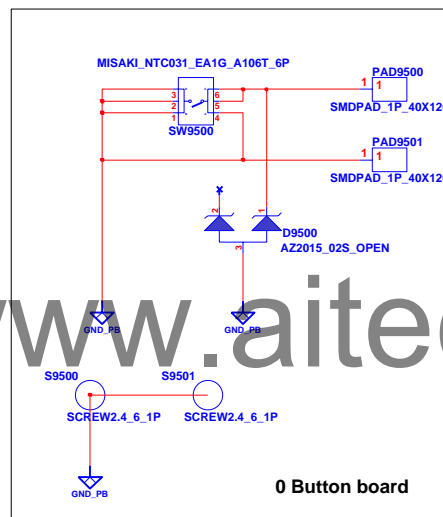
INVENTEC

TITLE
RT10ARG
TOUCH PAD (DB)

SIZE CODE DOC. NUMBER REV
A3 CS 6050A22S0601-MTR A02

CHANGE by **Eddy Chen** 2-Apr-2009

SHEET 67 OF 68



INVENTEC			
TITLE RT10ARG POWER BOARD			
SIZE A3	CODE CS	DOC. NUMBER 6050A22S0601-MTR	REV A02
CHANGE by Eddy Chen		2-Apr-2009	
SHEET 68		OF 68	