

	1	2	3	4	5	6	7	8																																																																												
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B	<div><div>ROMEO DISCRETE MV BUILD</div><div>2010/04/20</div></div>																																																																																			
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CHANGE by <i>Evan Shih</i>		5-Feb-2010	
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# Inventec Confidential

## Arrandale/ Clarksfield (Socket-rPGA989)

## PCH

HM-55

### DDR3 SO-DIMM 1

800/1066/1333 MHz , 8GB maximum memory P20

### DDR3 SO-DIMM 2

800/1066/1333 MHz , 8GB maximum memory P21

HDMI  
P35

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PCIE

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IDT 92HD80  
AudioCodec  
P42

ITE IT8502E  
KBC  
P31

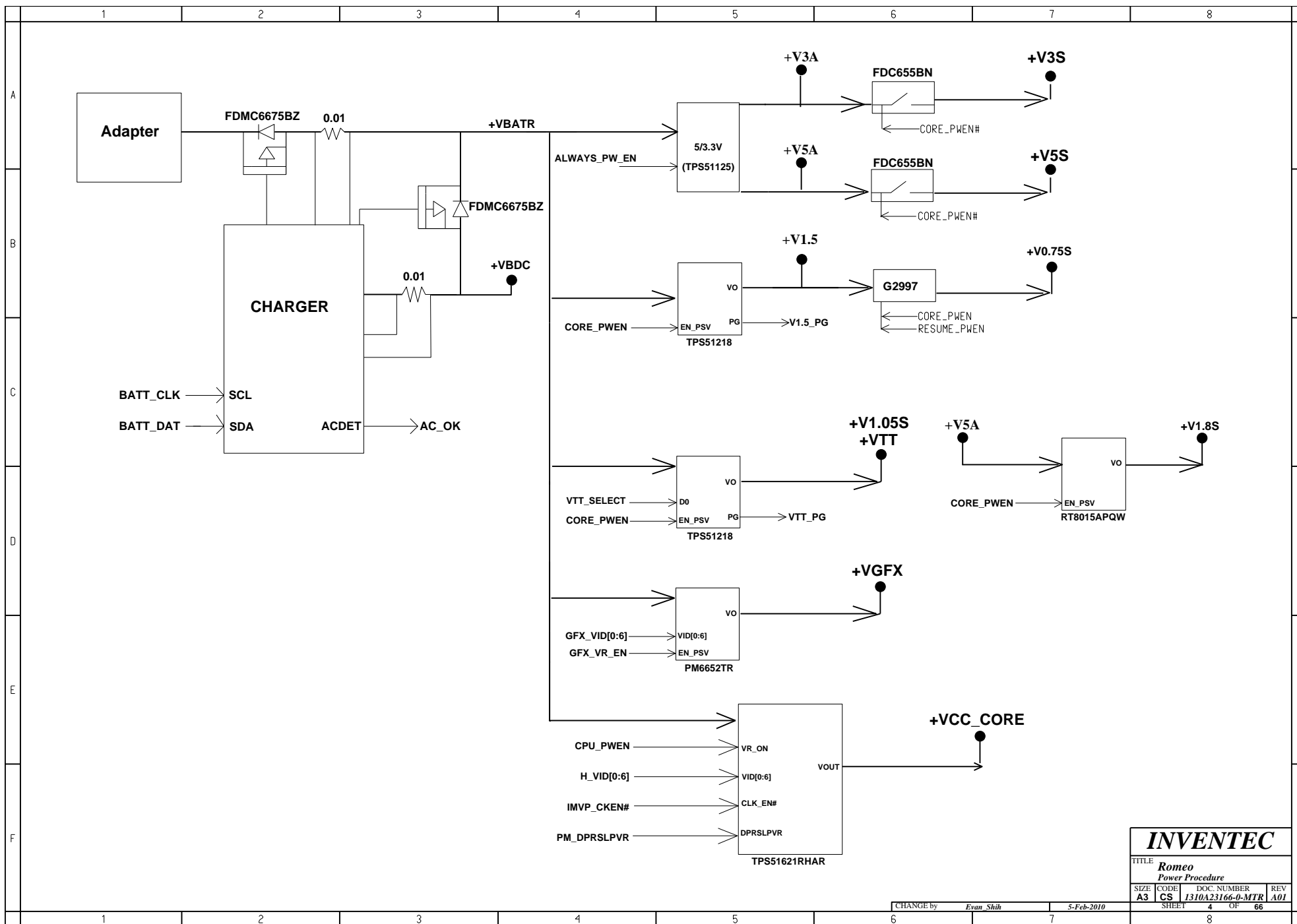
Thermal meter  
TI TMP431A  
P46

Keyboard  
P32

Touchpad  
P32

**INVENTEC**

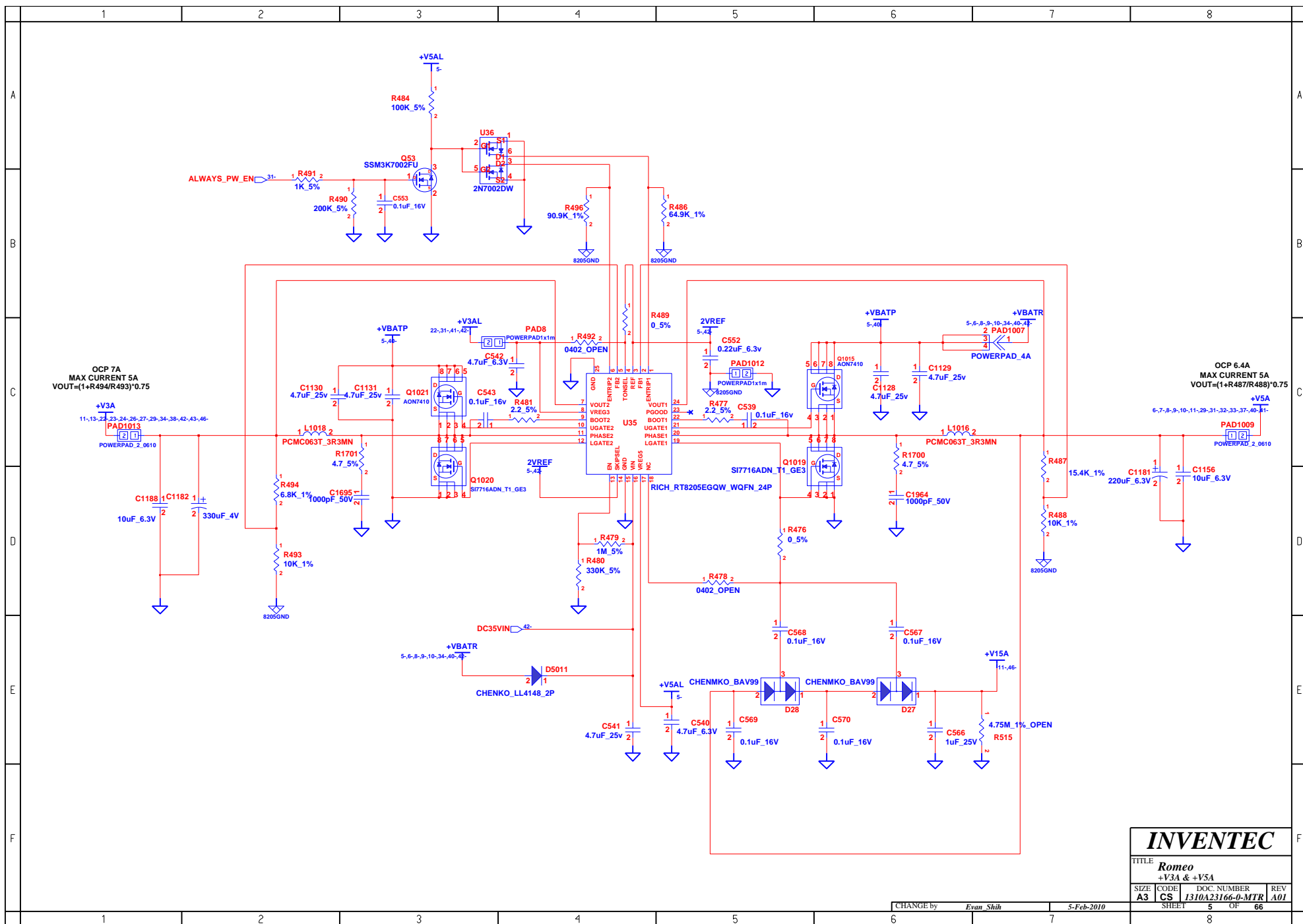
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CHANGE by <i>Evan Shih</i>		5-Feb-2010	
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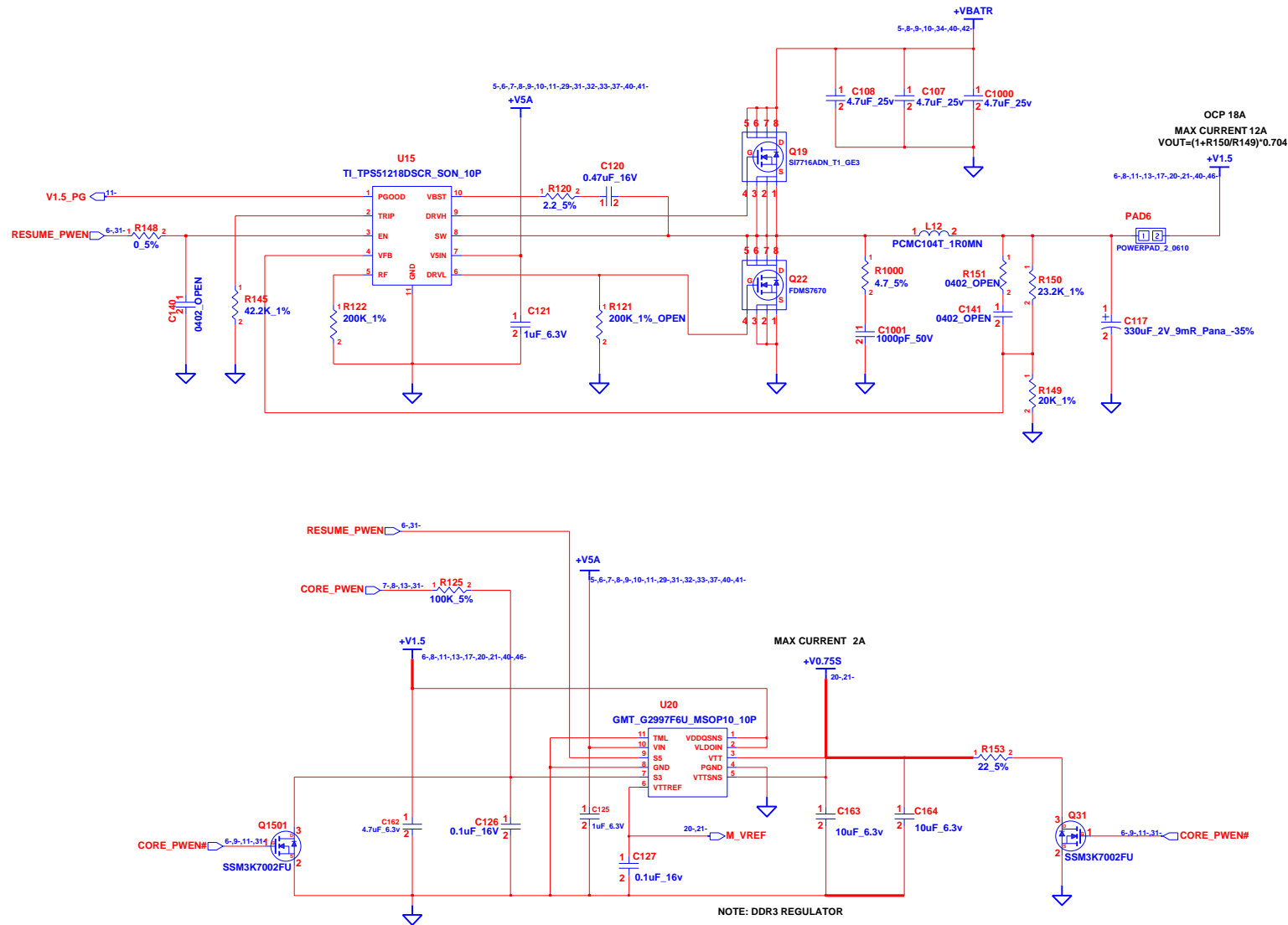


**INVENTEC**

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Romeo			
Power Procedure			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23166-0-MTR	A01
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CHANGE by *Evan Shih* 5-Feb-2010

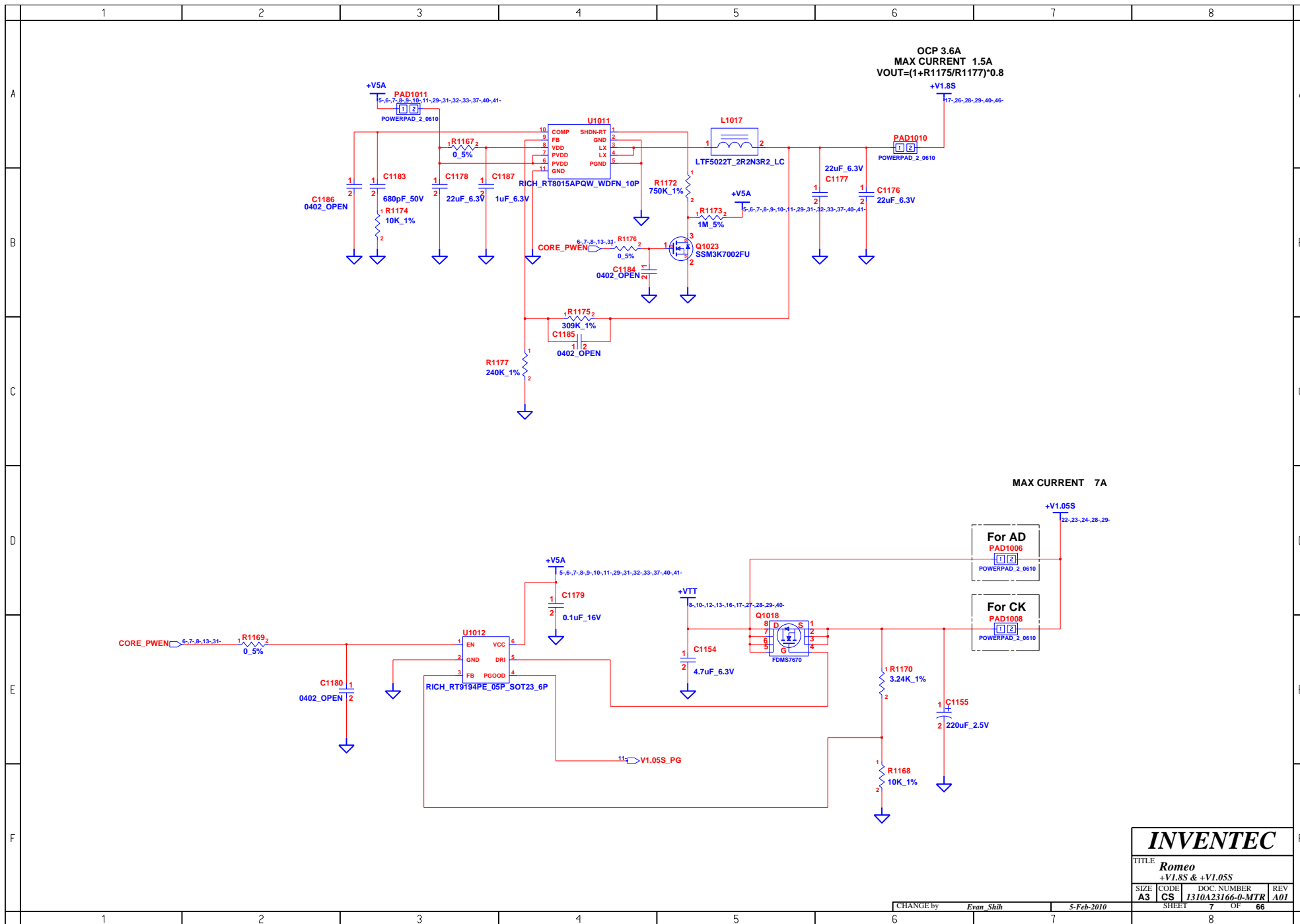


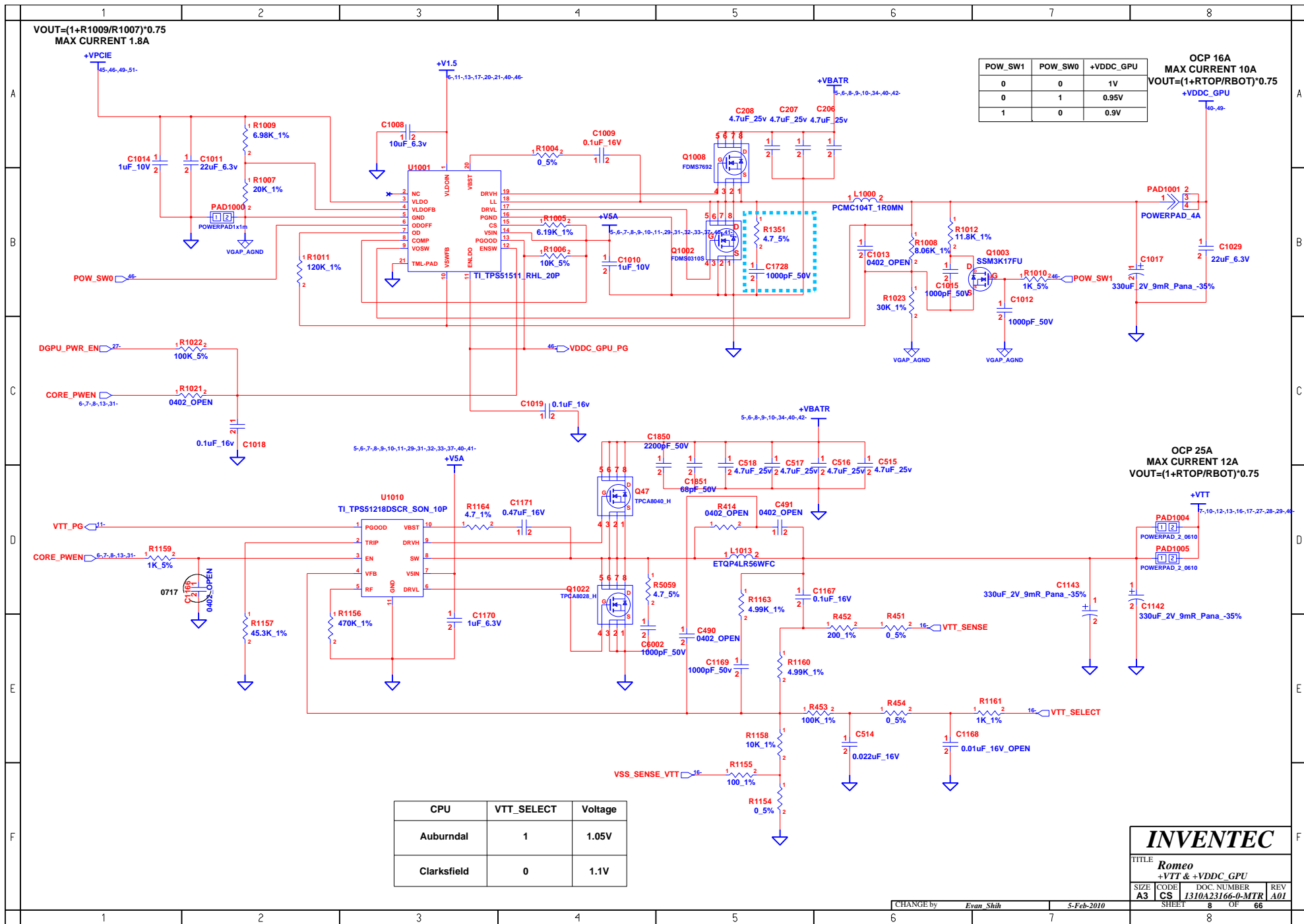


**INVENTEC**

TITLE			
Romeo			
+V1.5 & +V0.75			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23166-0-MTR	A01
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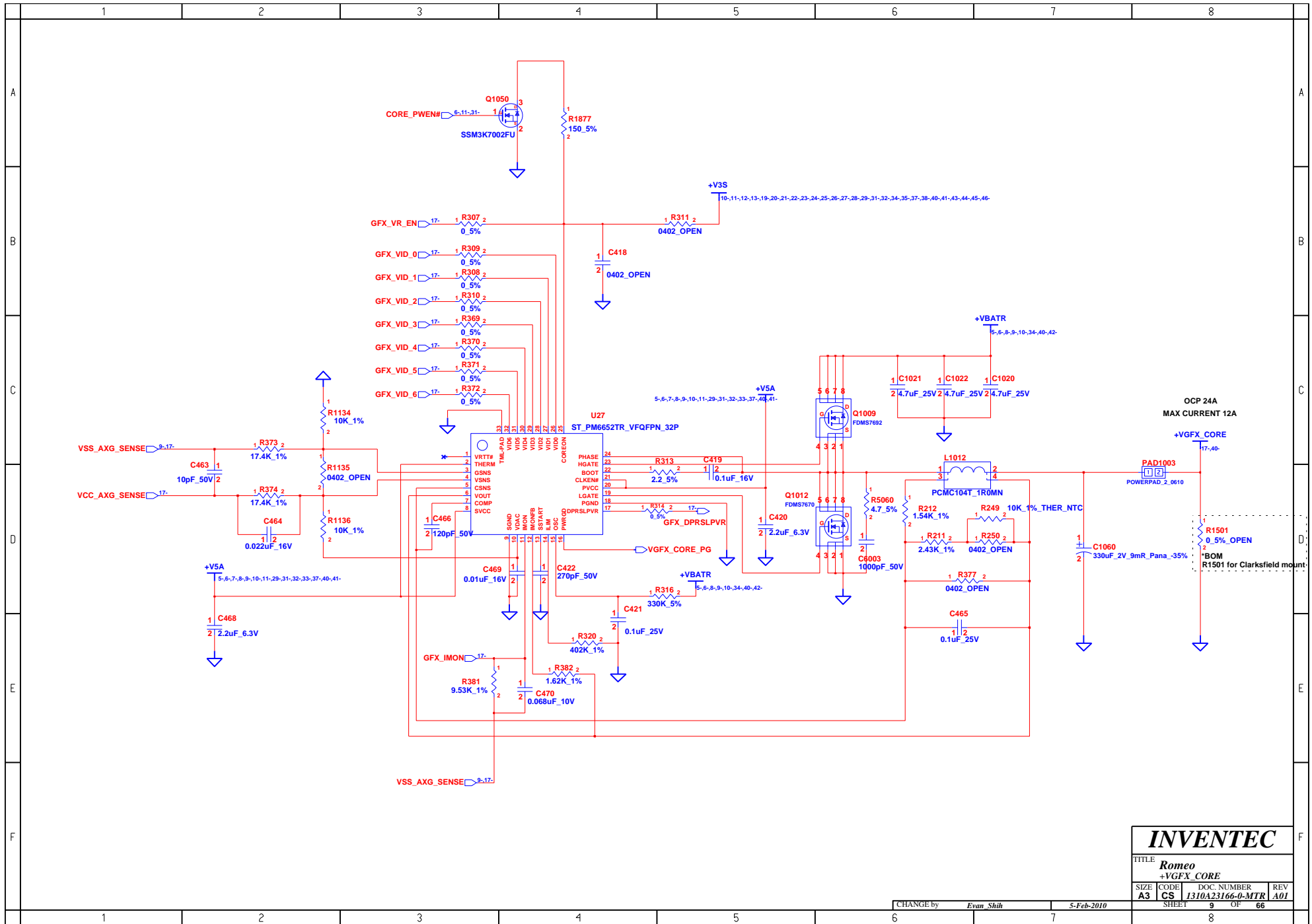
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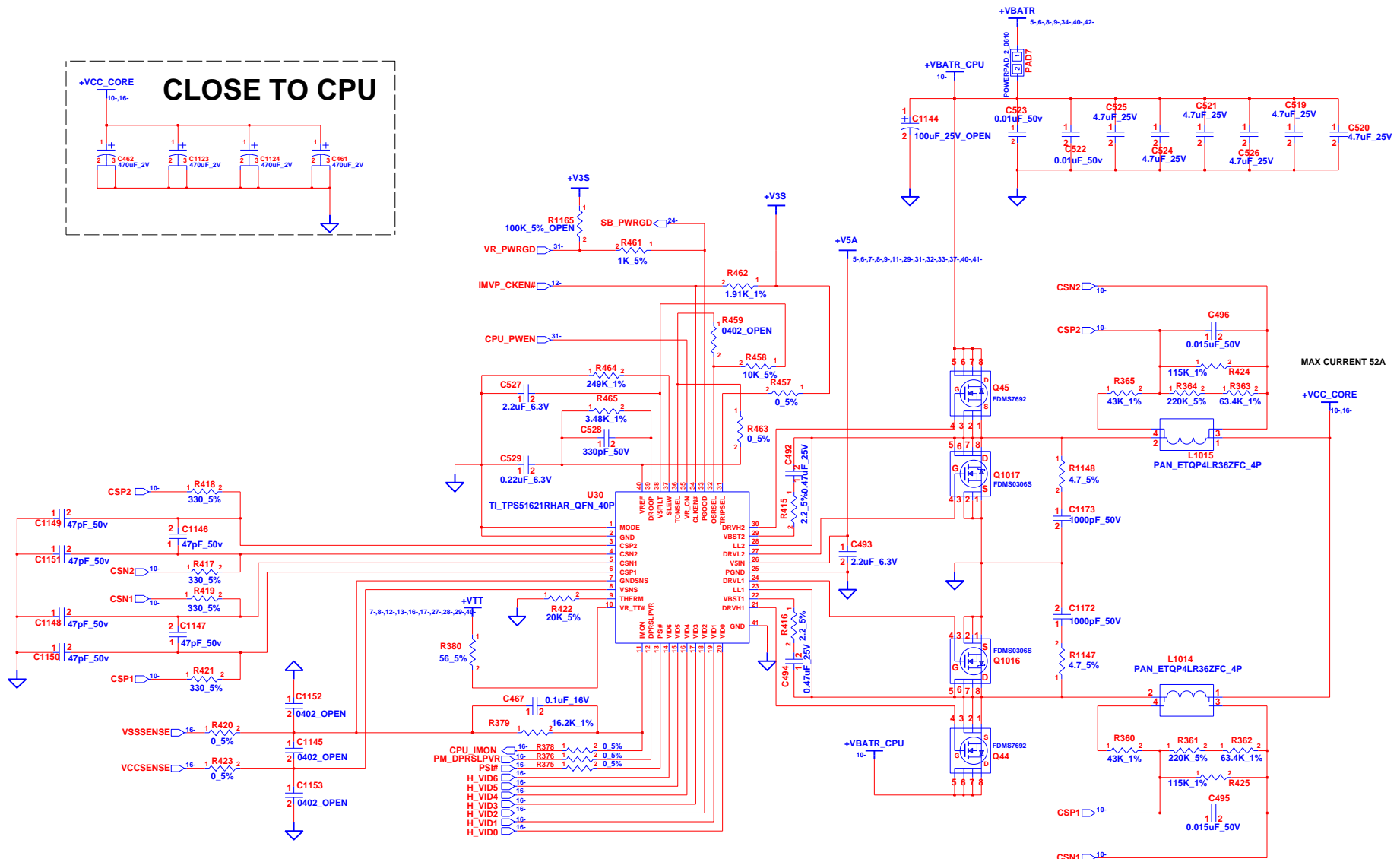
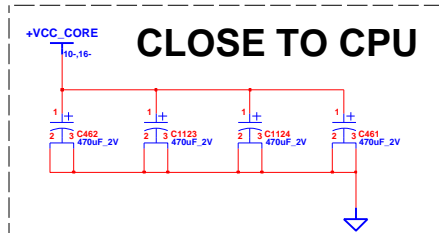
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CHANGE by *Evan Shih* 5-Feb-2010

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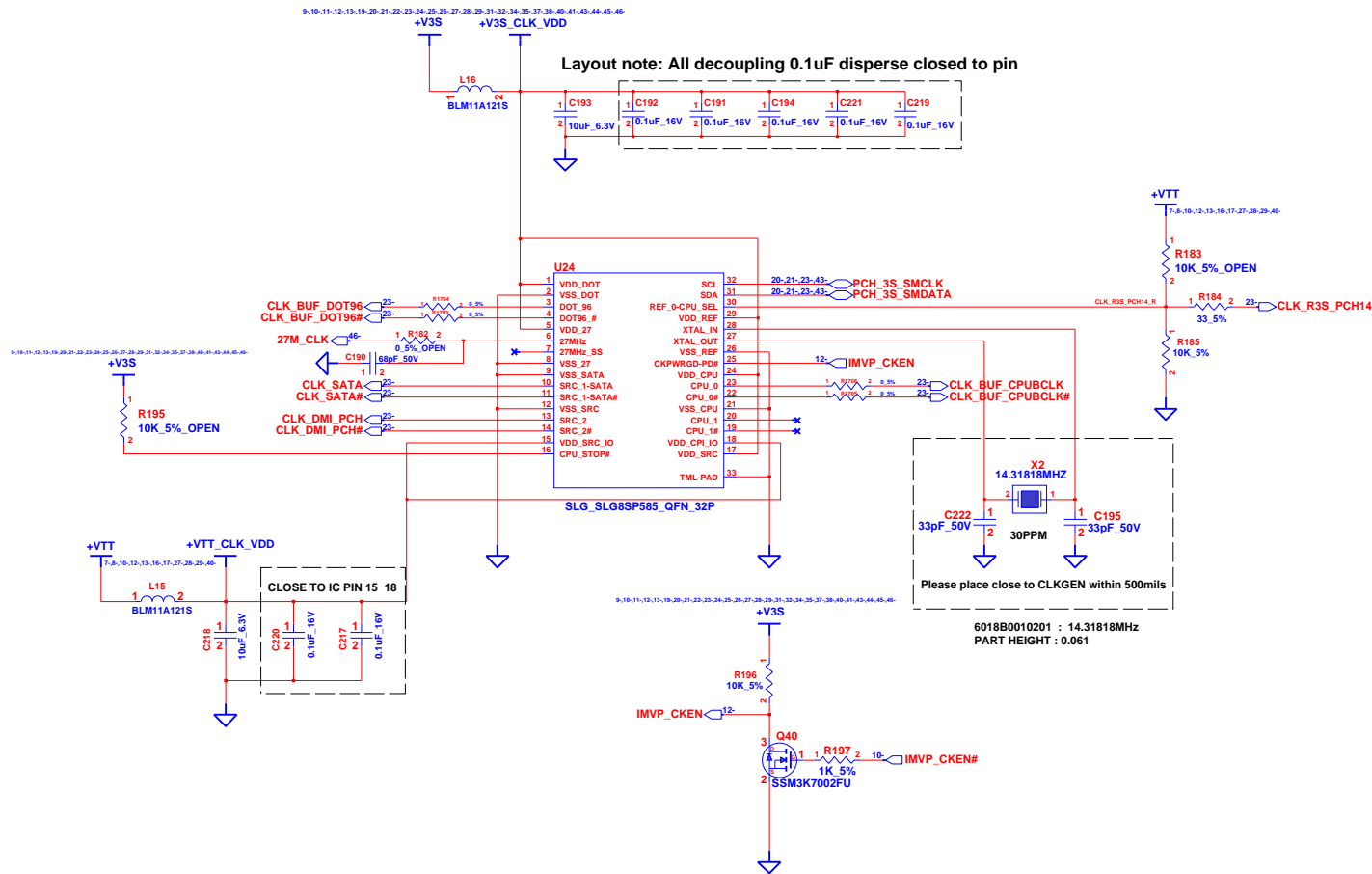






INVENTEC			
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SIZE A3	CODE CS	DOC. NUMBER 1310A23166-0-MTR	REV A01
CHANGE by Evan Shih		5-Feb-2010	
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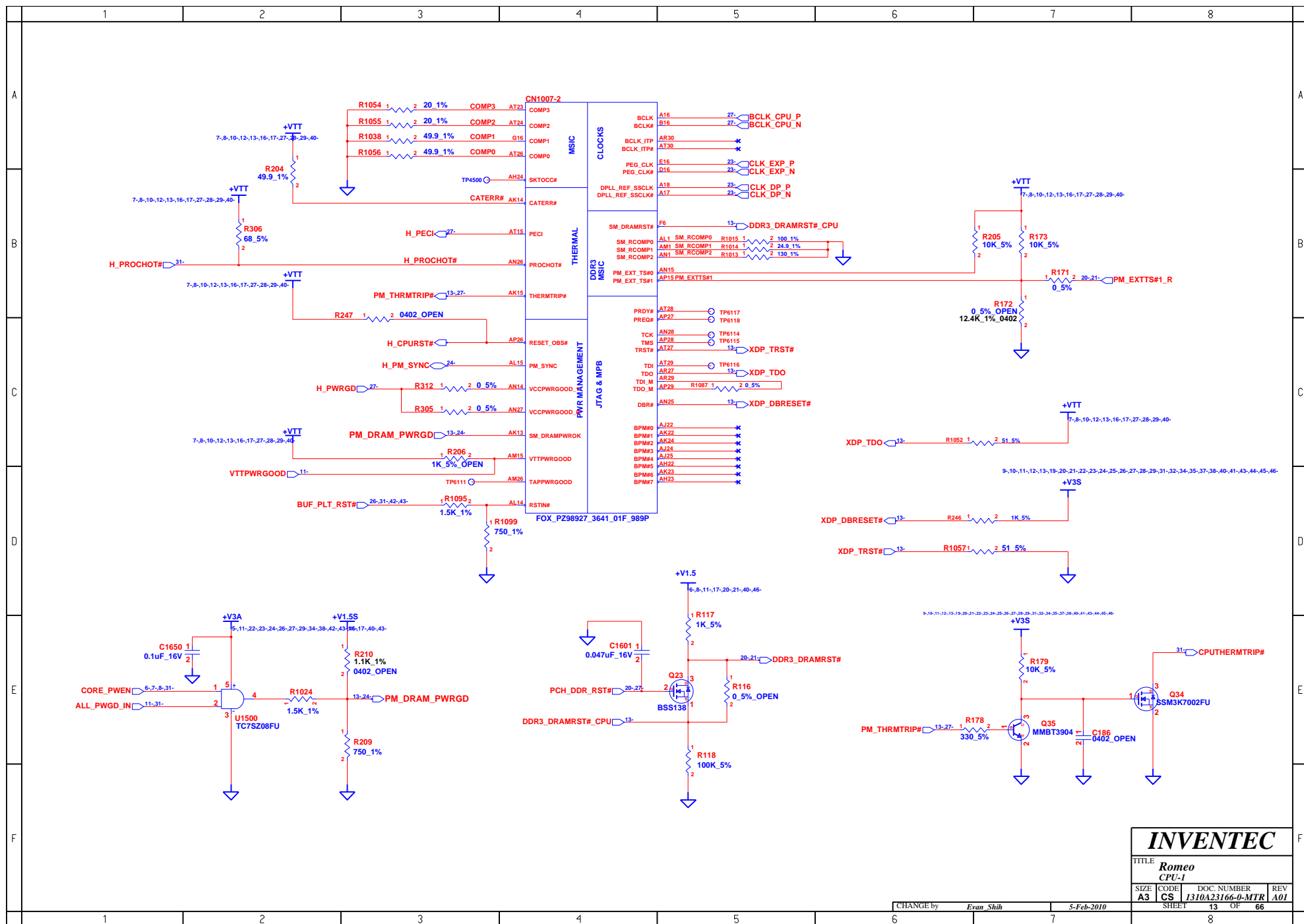


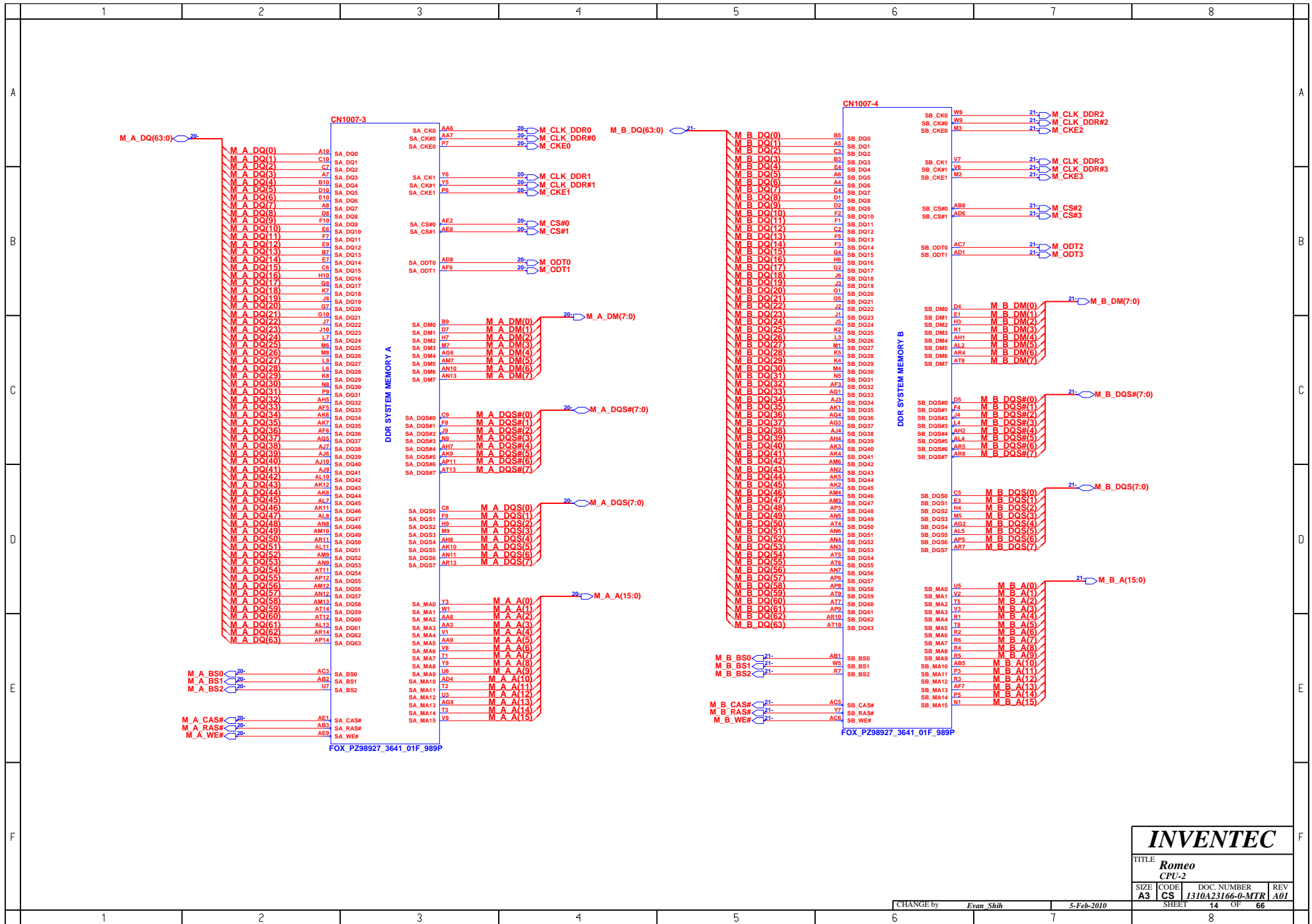


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Romeo CLK GEN			
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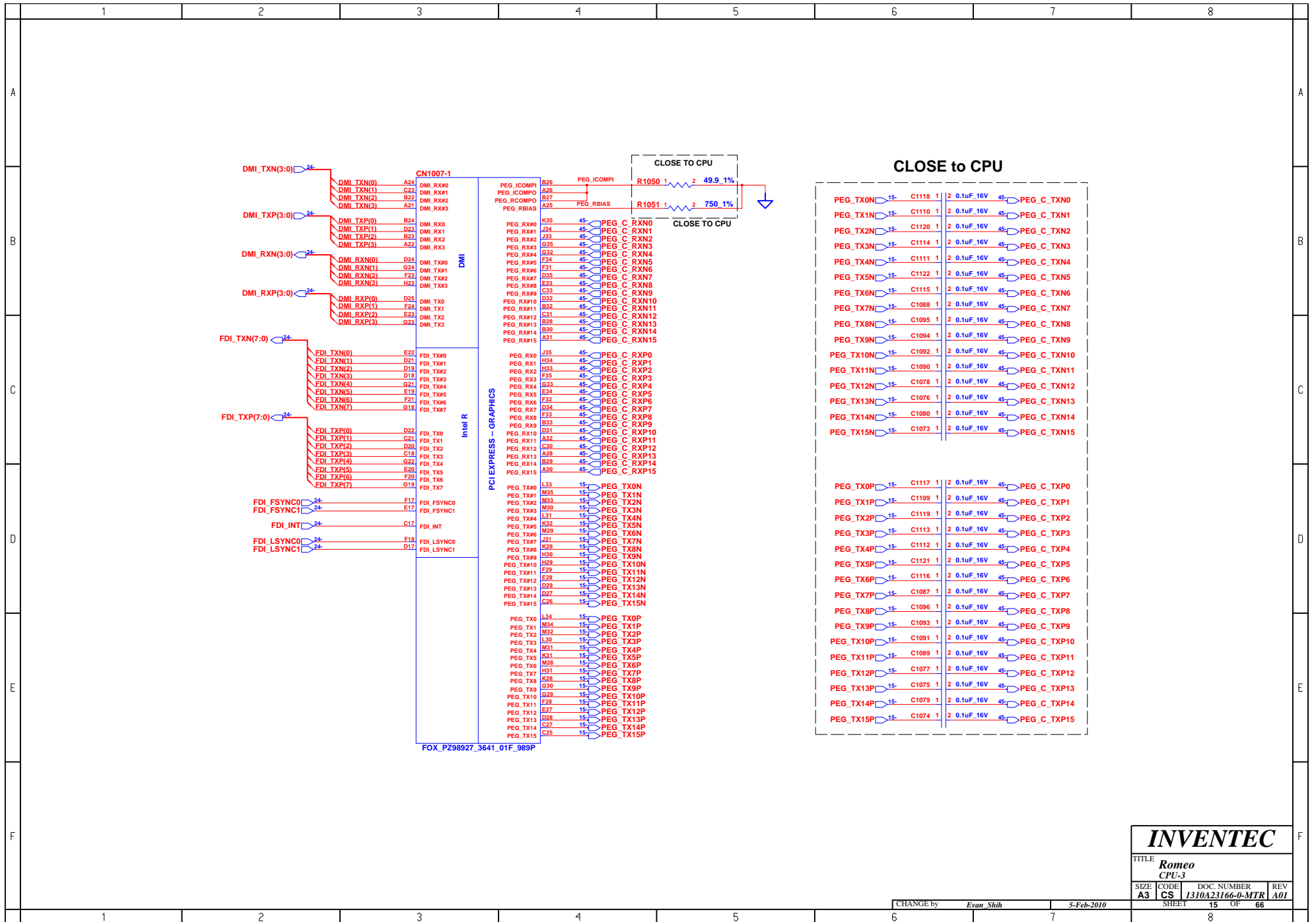
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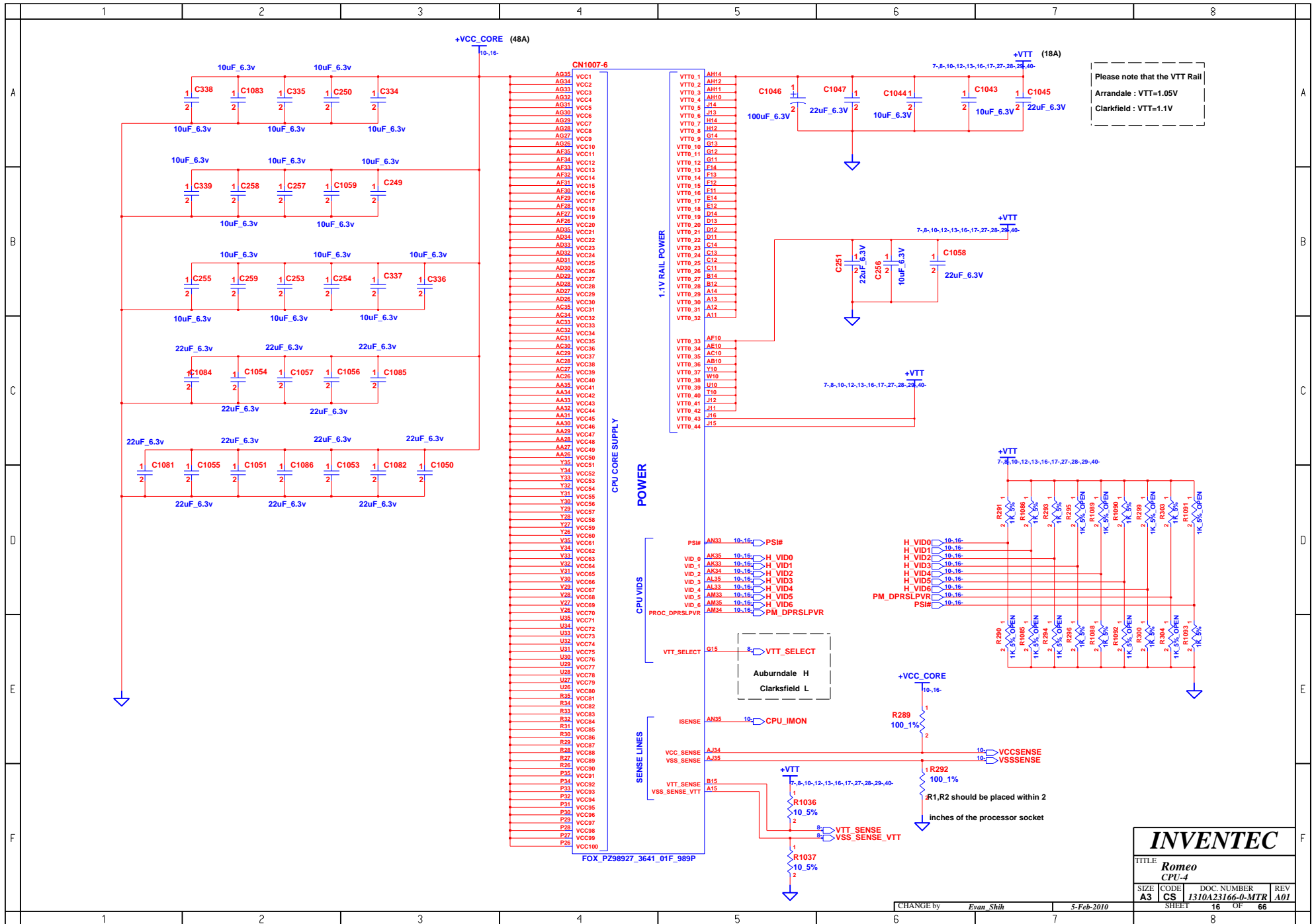
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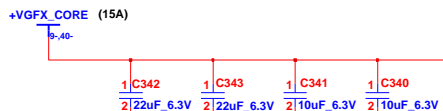
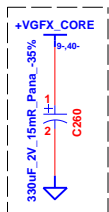
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Romeo CPU-3			
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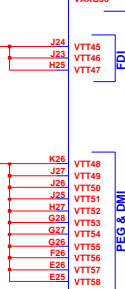
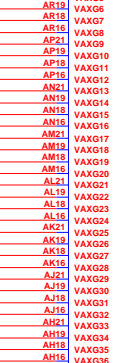
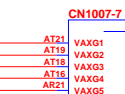
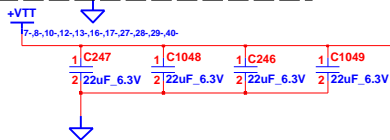
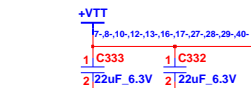
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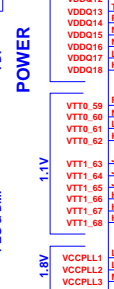
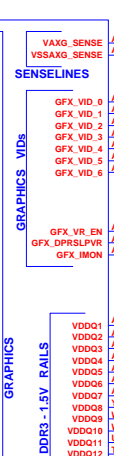




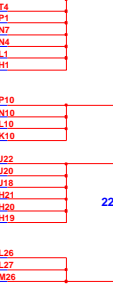
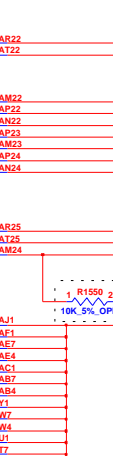
Please note that the VTT Rail Values are  
Auburndale VTT=1.05V  
Clarksfield VTT=1.1V



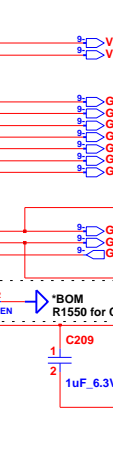
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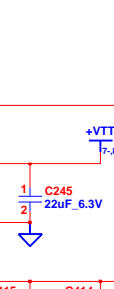
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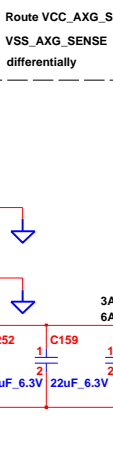
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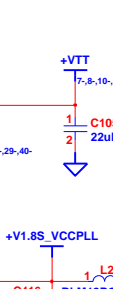
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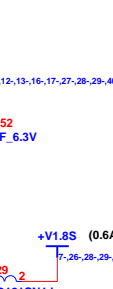
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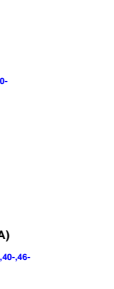
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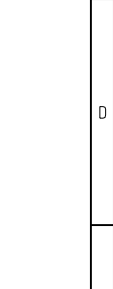
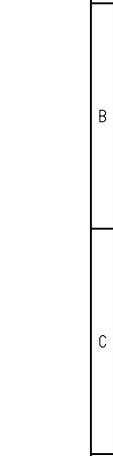
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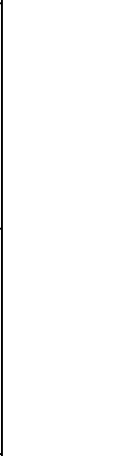
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FOX\_PZ98927\_3641\_01F\_989P



FOX\_PZ98927\_3641\_01F\_989P



+V1.5S

11,13,17,40,43

C1700 0.1uF 16V

C1701 0.1uF 16V

C1702 0.1uF 16V

C1703 0.1uF 16V

+V1.5

6,8,11,13,20,21,40,46

+V1.5S

11,13,17,40,43

C122 22uF 6.3V

C123 100uF 6.3V

+VTT

7,8,10,12,13,16,17,27,28,29,40

C1052 22uF 6.3V

+V1.8S VCCPLL

L29

BLM18PG181SN1J

+V1.8S (0.6A)

7,26,28,29,40,46

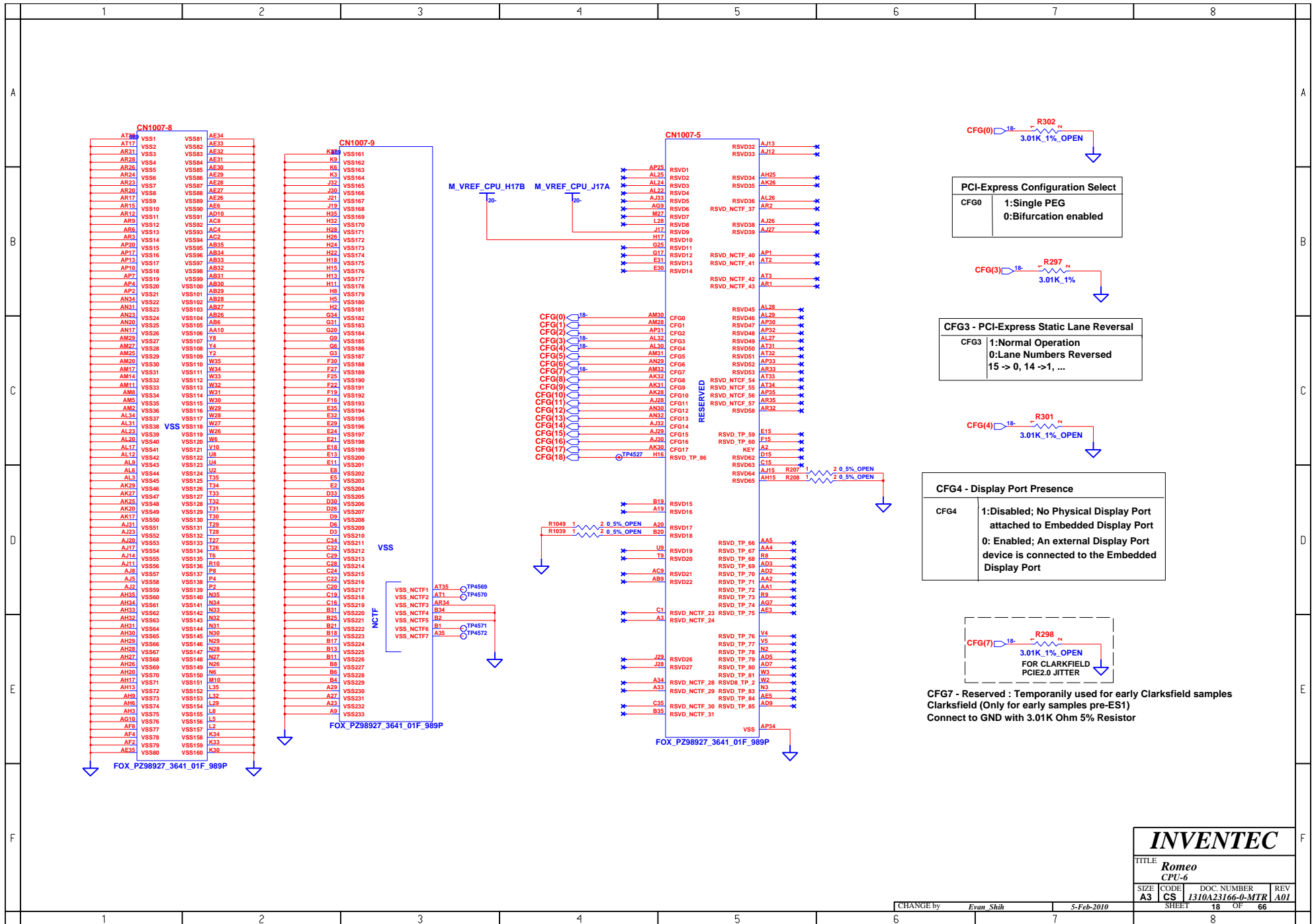
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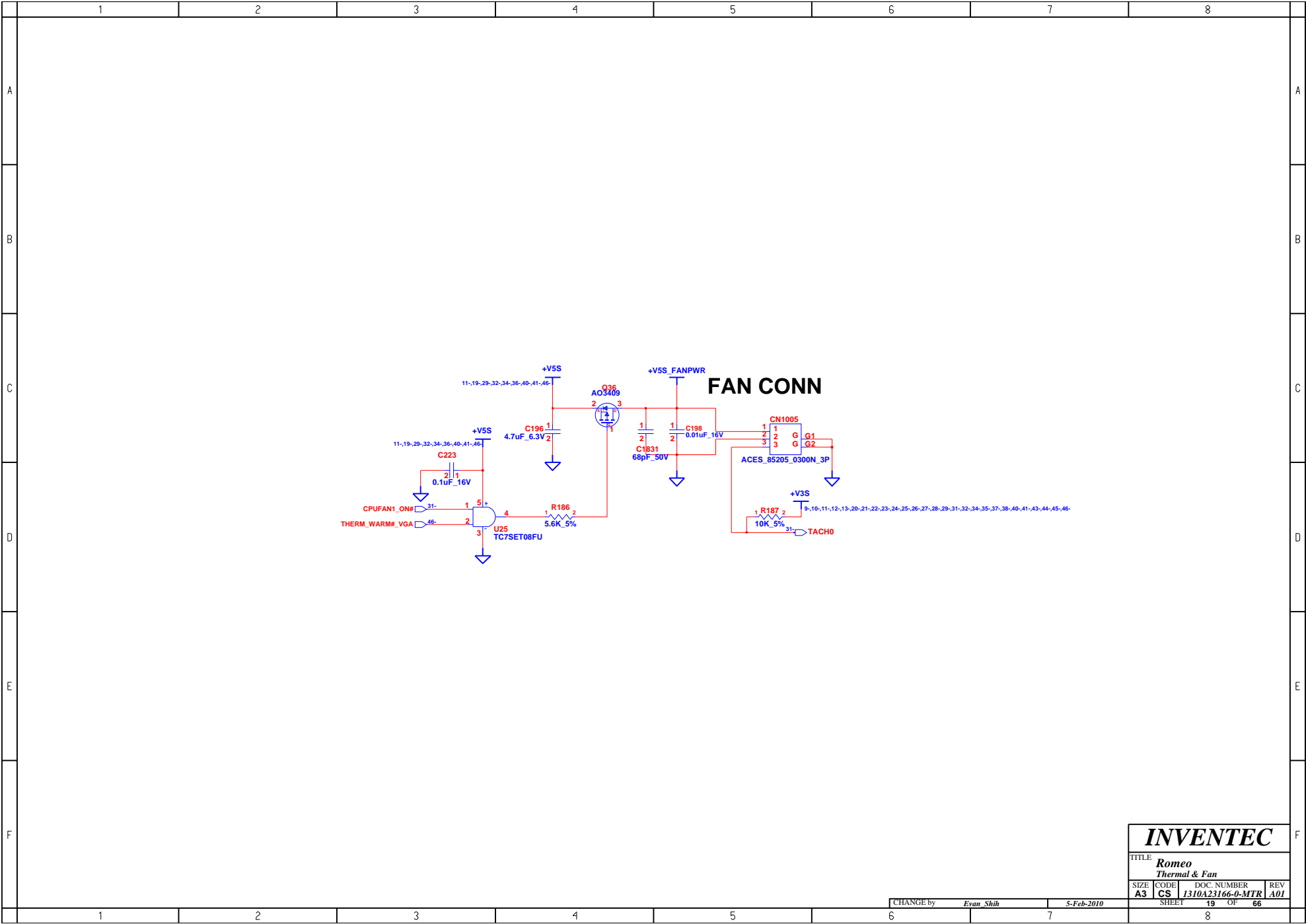
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Romeo  
CPU-5

SIZE CODE A3 CS DOC. NUMBER 1310A23166-0-MTR REV A01

CHANGE by Evan Shih 5-Feb-2010

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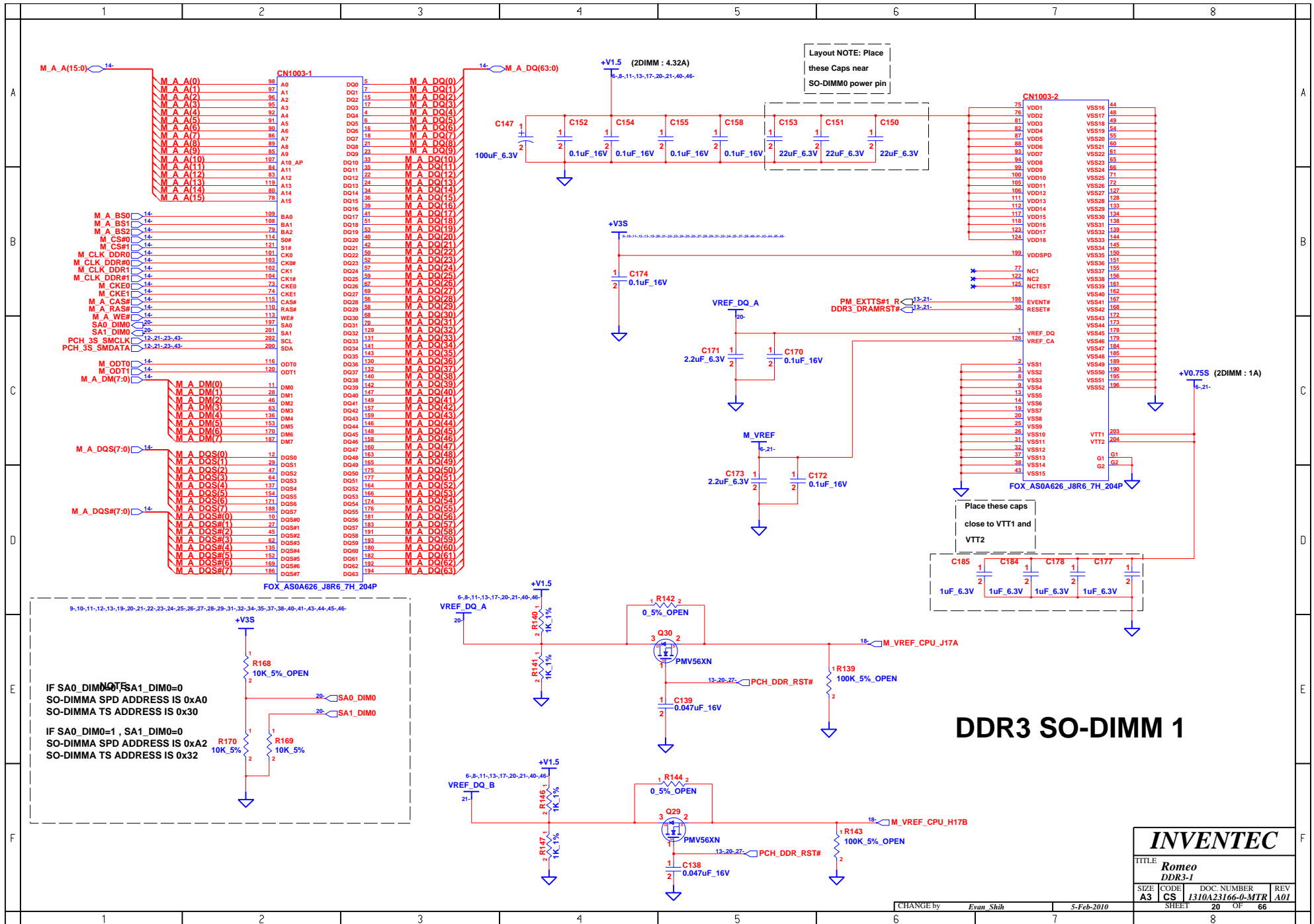


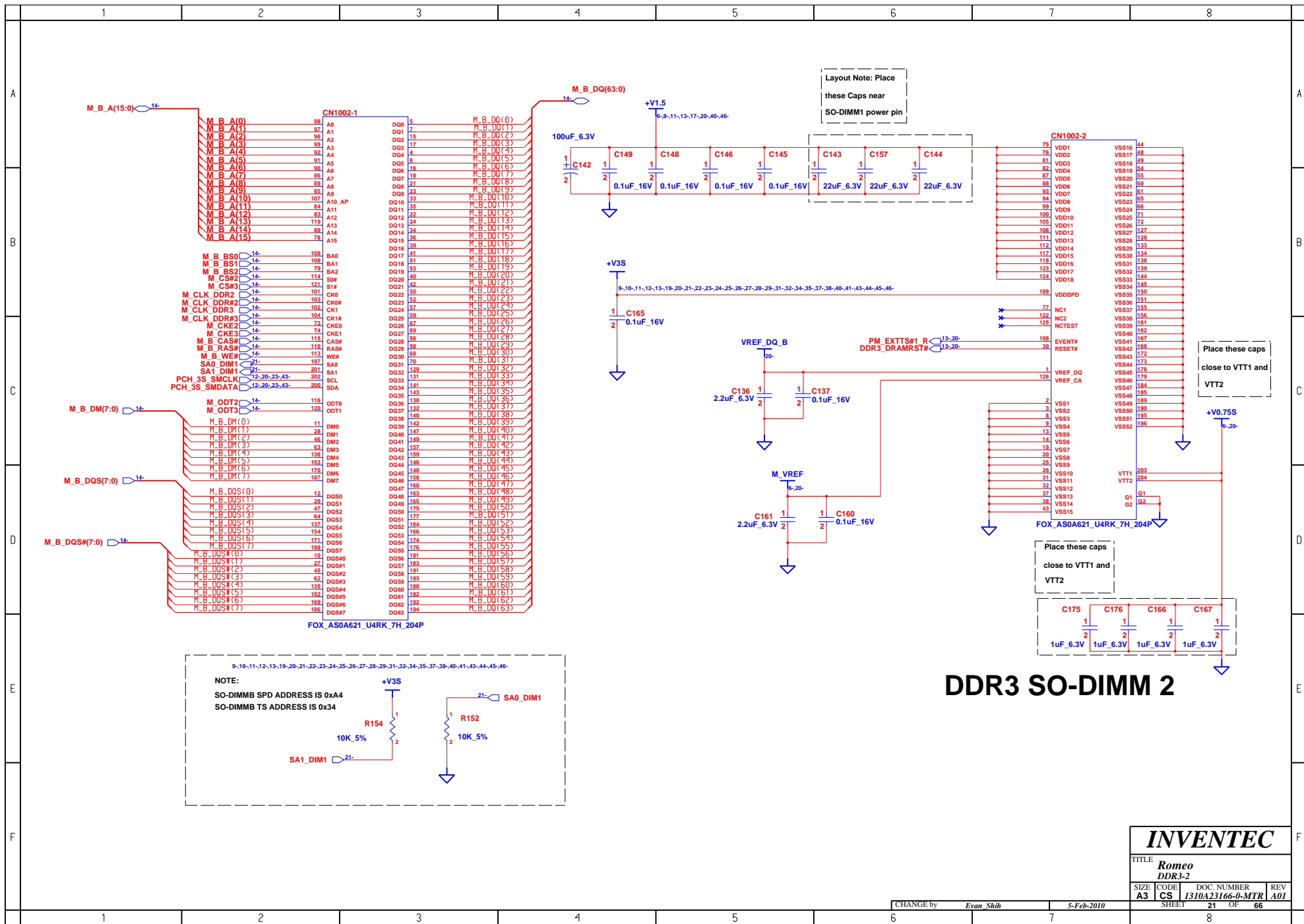
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TITLE			
Romeo Thermal & Fan			
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6 7 8

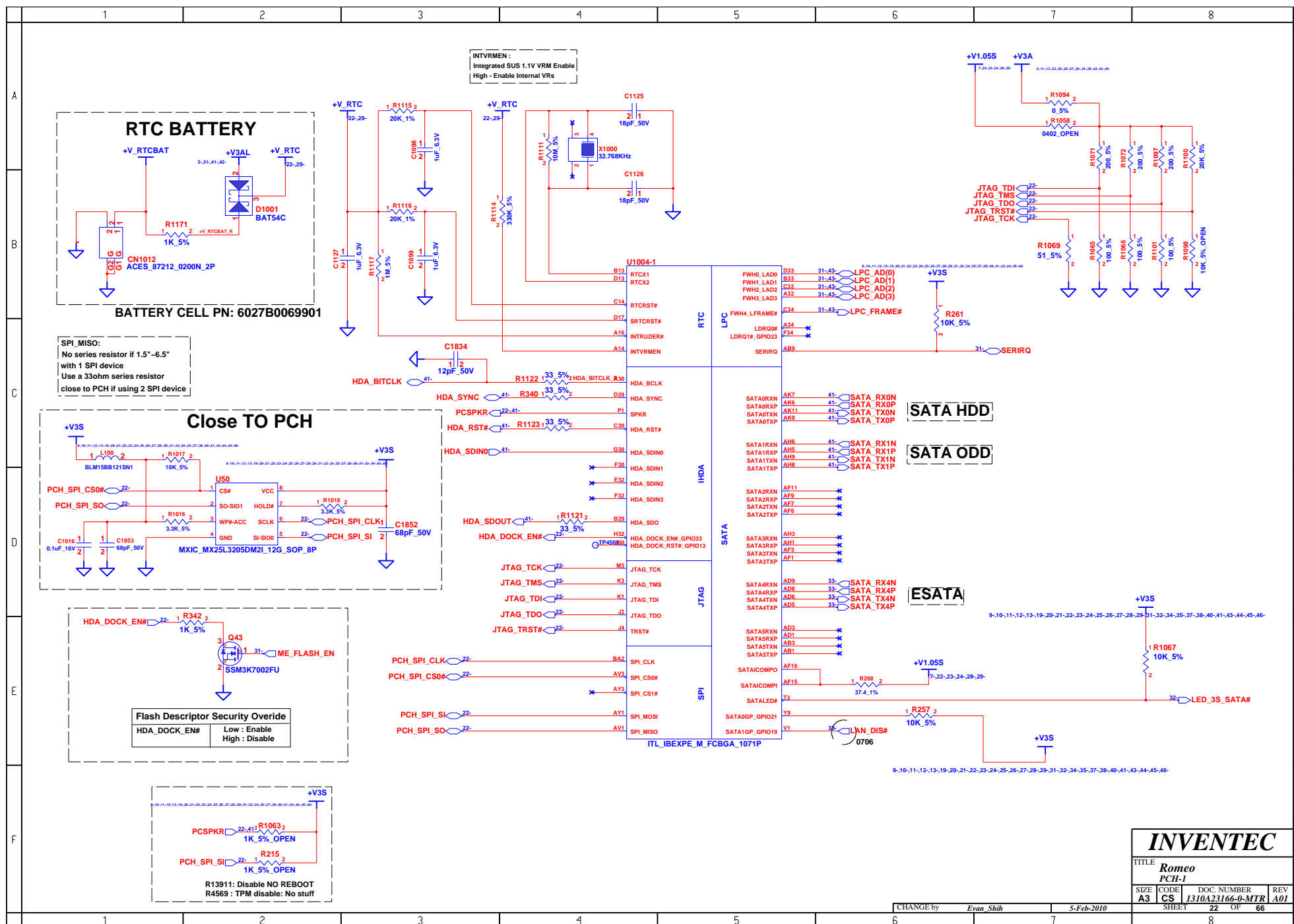




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TITLE			
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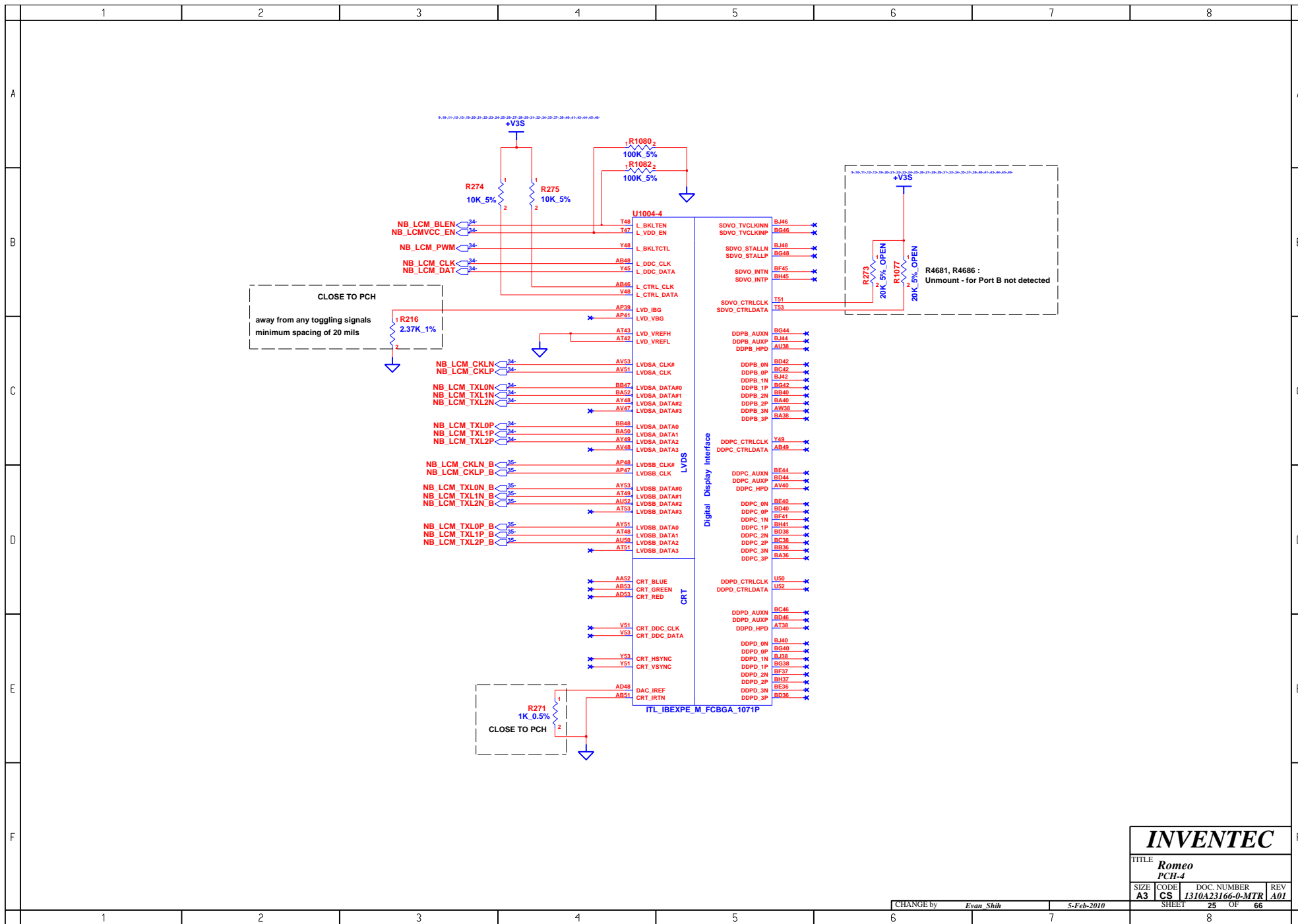
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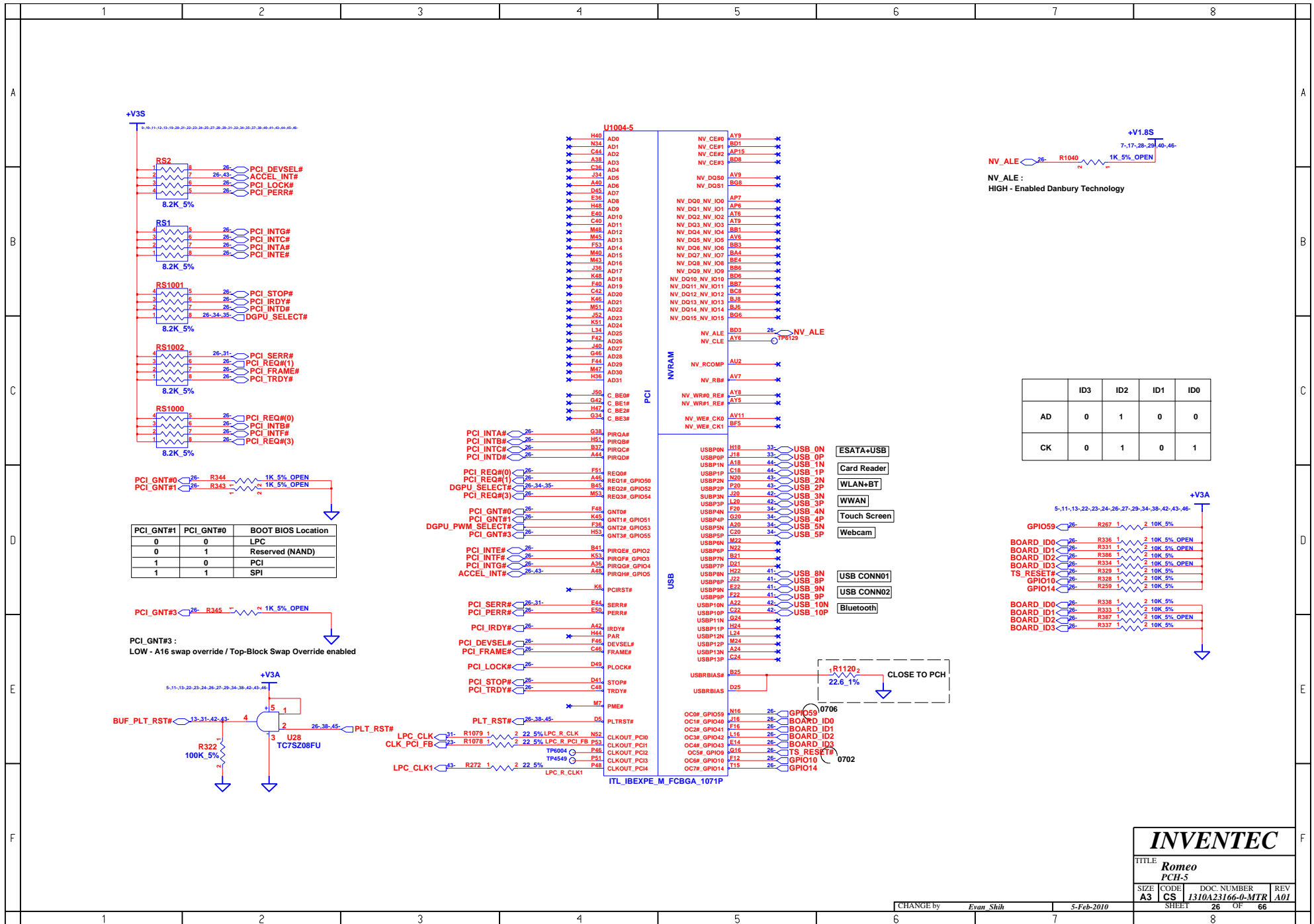


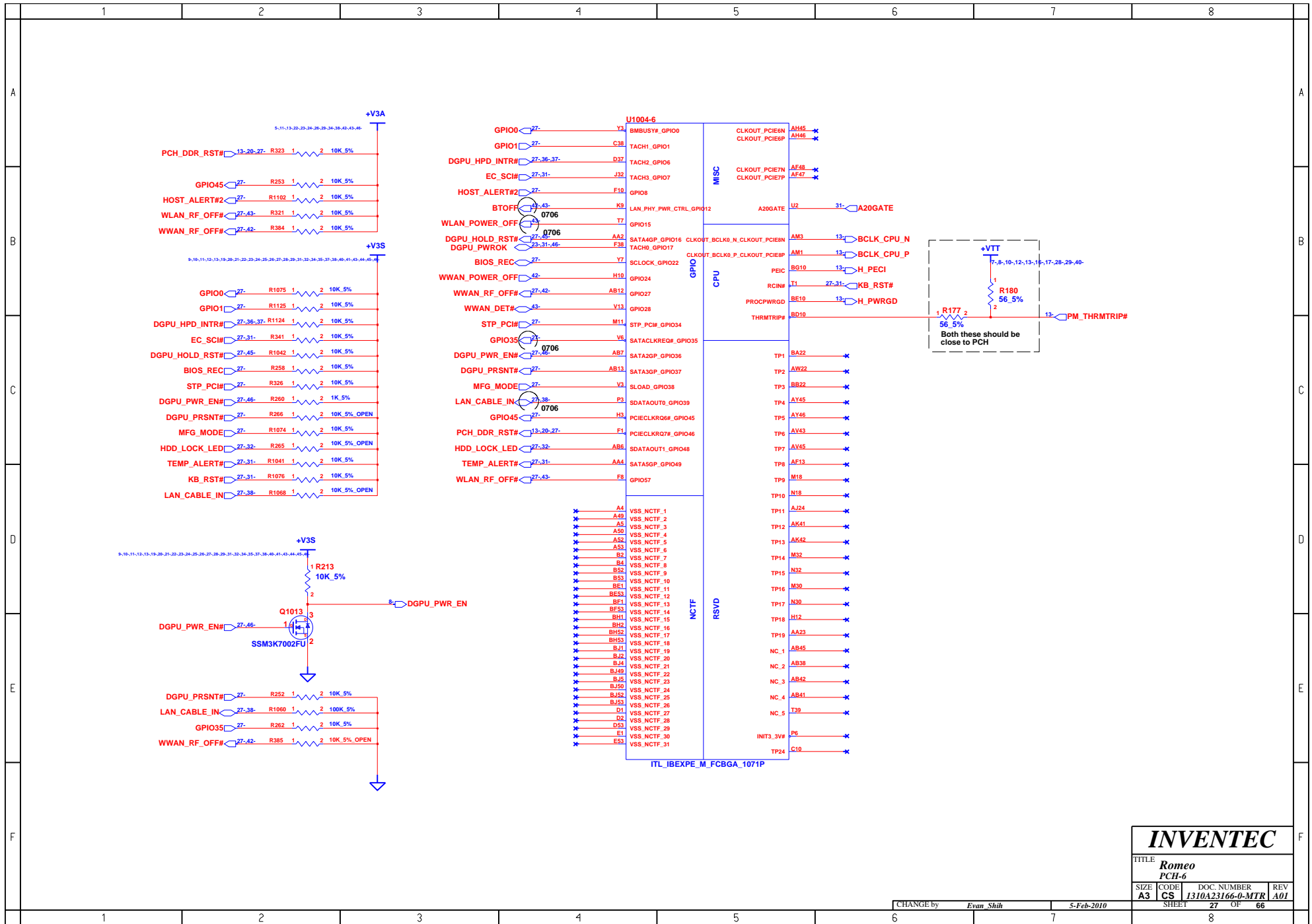


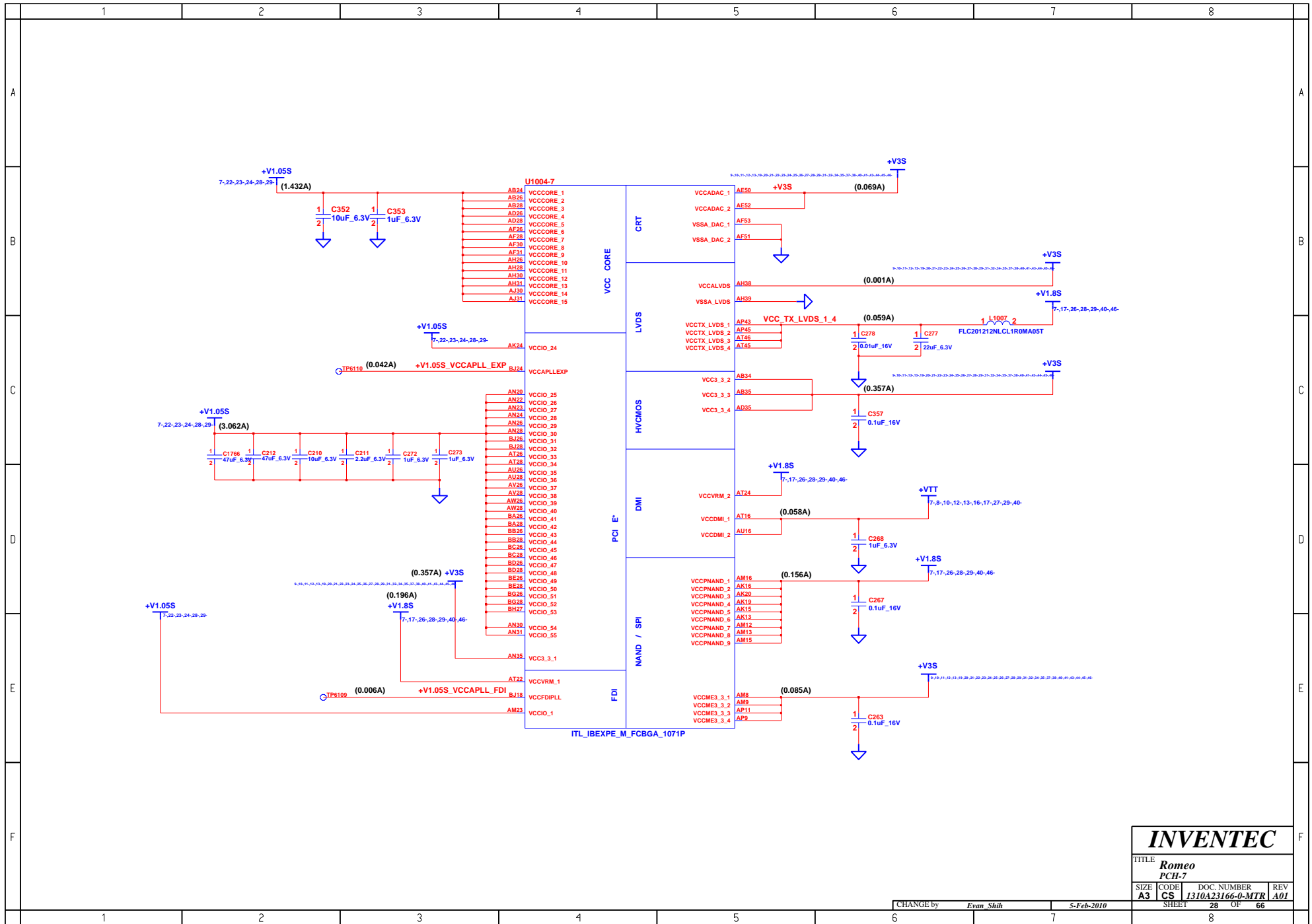
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SHEET <b>25</b>		OF <b>66</b>	

CHANGE by *Evan Shih* 5-Feb-2010







# INVENTEC

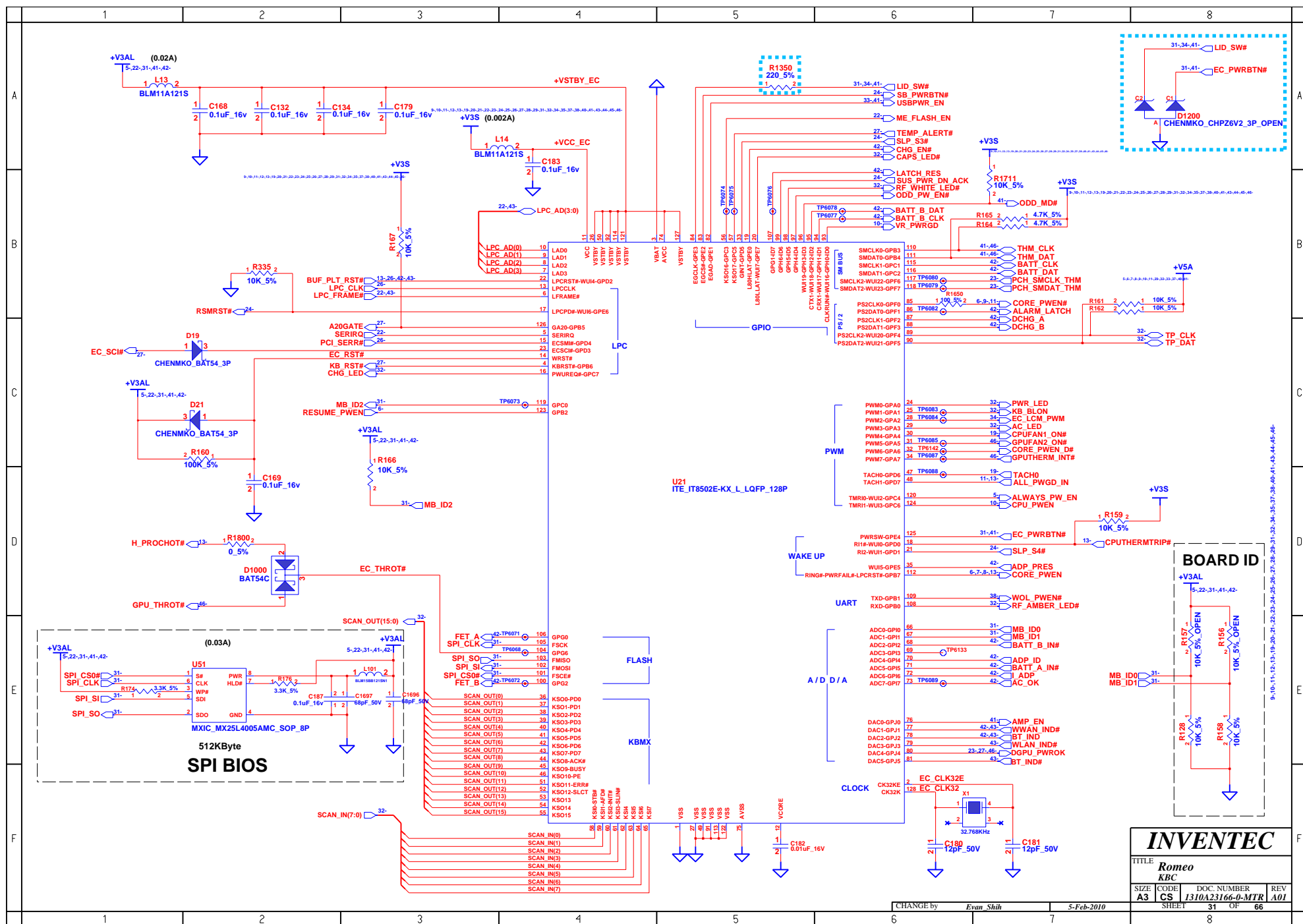
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Romeo PCH-7			
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SHEET		28	OF 66

CHANGE by *Evan Shih* 5-Feb-2010

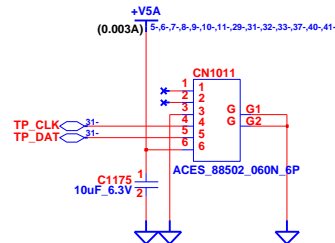


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A								
B								
C								
D								
E								
F								

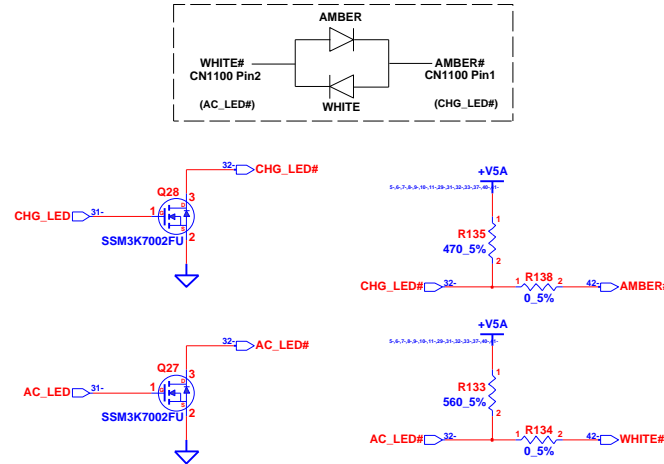
U1004-9		U1004-10	
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AA19	VSS_1	B11	VSS_160
AA20	VSS_2	B15	VSS_161
AA22	VSS_3	B19	VSS_162
AM19	VSS_4	B23	VSS_163
AA24	VSS_5	B31	VSS_164
AA26	VSS_6	B35	VSS_165
AA48	VSS_7	B39	VSS_166
AA30	VSS_8	B43	VSS_167
AA31	VSS_9	B47	VSS_168
AA32	VSS_10	B51	VSS_169
AB11	VSS_11	B55	VSS_170
AB15	VSS_12	B59	VSS_171
AB23	VSS_13	BB12	VSS_172
AB30	VSS_14	BB14	VSS_173
AB31	VSS_15	BB20	VSS_174
AB32	VSS_16	BB24	VSS_175
AB39	VSS_17	BB30	VSS_176
AB43	VSS_18	BB34	VSS_177
AB47	VSS_19	BB38	VSS_178
AB5	VSS_20	BB42	VSS_179
AB8	VSS_21	BB49	VSS_180
AC2	VSS_22	BB5	VSS_181
AC52	VSS_23	BC10	VSS_182
AD11	VSS_24	BC14	VSS_183
AD12	VSS_25	BC18	VSS_184
AD16	VSS_26	BC2	VSS_185
AD22	VSS_27	BC22	VSS_186
AD30	VSS_28	BC24	VSS_187
AD31	VSS_29	BC40	VSS_188
AD32	VSS_30	BC44	VSS_189
AD34	VSS_31	BC52	VSS_190
AU22	VSS_32	BH9	VSS_191
AD42	VSS_33	BD48	VSS_192
AD48	VSS_34	BD49	VSS_193
AD7	VSS_35	BD5	VSS_194
AE2	VSS_36	BE14	VSS_195
AE4	VSS_37	BE15	VSS_196
AF12	VSS_38	BE20	VSS_197
Y13	VSS_39	BE24	VSS_198
AH49	VSS_40	BE30	VSS_199
AU4	VSS_41	BE34	VSS_200
AF35	VSS_42	BE38	VSS_201
AP13	VSS_43	BE42	VSS_202
AN24	VSS_44	BE46	VSS_203
AF45	VSS_45	BE48	VSS_204
AF46	VSS_46	BE50	VSS_205
AF49	VSS_47	BE56	VSS_206
AF5	VSS_48	BE6	VSS_207
AF8	VSS_49	BF3	VSS_208
AQ2	VSS_50	BF49	VSS_209
AQ52	VSS_51	BF51	VSS_210
AH11	VSS_52	BG18	VSS_211
AH15	VSS_53	BG24	VSS_212
AH16	VSS_54	BG4	VSS_213
AH24	VSS_55	BG59	VSS_214
AH32	VSS_56	BH11	VSS_215
AV18	VSS_57	BH15	VSS_216
AH43	VSS_58	BH19	VSS_217
AH7	VSS_59	BH24	VSS_218
AJ19	VSS_60	BH31	VSS_219
AJ2	VSS_61	BH35	VSS_220
AJ20	VSS_62	BH39	VSS_221
AJ22	VSS_63	BH43	VSS_222
AJ26	VSS_64	BH47	VSS_223
AJ28	VSS_65	BH7	VSS_224
AJ32	VSS_66	C12	VSS_225
AJ34	VSS_67	C59	VSS_226
AT5	VSS_68	D51	VSS_227
AJ4	VSS_69	E12	VSS_228
AK12	VSS_70	E16	VSS_229
AM41	VSS_71	E20	VSS_230
AM19	VSS_72	E24	VSS_231
AK26	VSS_73	E30	VSS_232
AK22	VSS_74	E34	VSS_233
AK23	VSS_75	E38	VSS_234
AK28	VSS_76	E42	VSS_235
	VSS_77	E46	VSS_236
	VSS_78	E49	VSS_237
	VSS_79	E5	VSS_238
		E9	VSS_239
		F49	VSS_240
		F5	VSS_241
		G19	VSS_242
		G14	VSS_243
		G18	VSS_244
		G2	VSS_245
		G22	VSS_246
		G32	VSS_247
		G36	VSS_248
		G40	VSS_249
		G44	VSS_250
		G52	VSS_251
		AF39	VSS_252
		H15	VSS_253
		H20	VSS_254
		H30	VSS_255
		H34	VSS_256
		H38	VSS_257
		H42	VSS_258
		H49	VSS_259
		H5	VSS_260
		H24	VSS_261
		K11	VSS_262



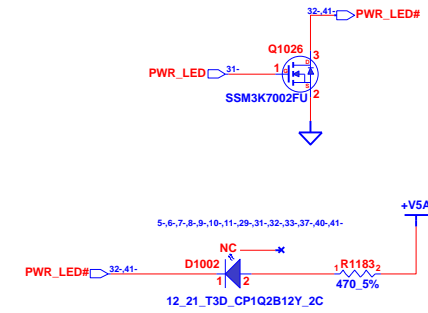
## TouchPad Module CONN



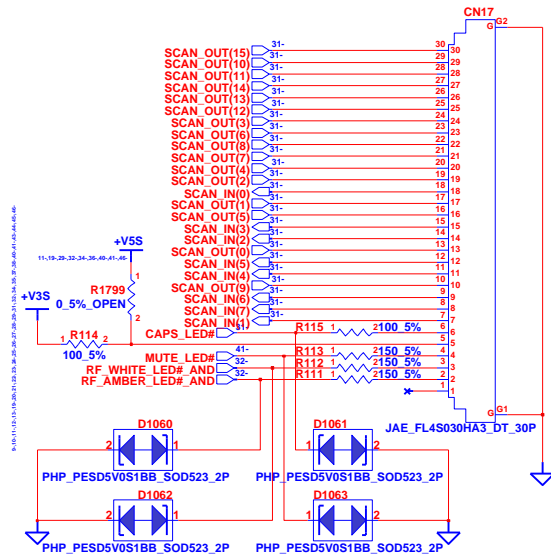
## DC-JACK LED



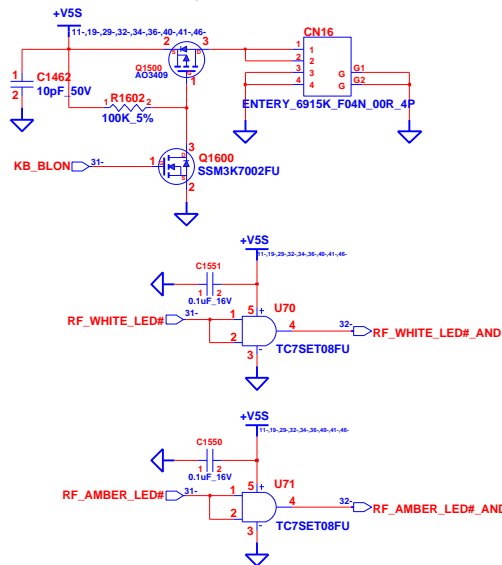
## POWER LED



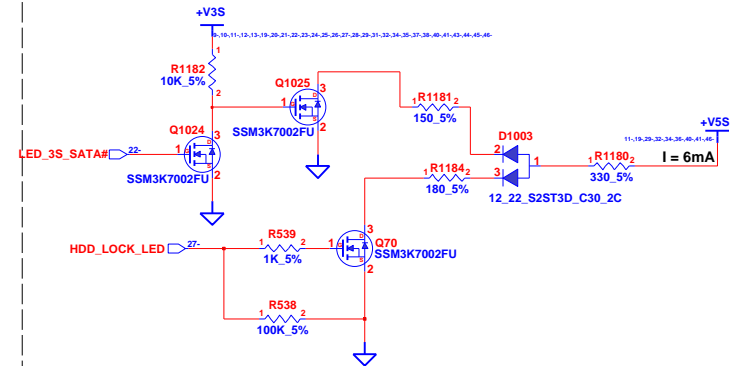
## KeyBoard CONN (30 pin)



## Backlight connector



## SATA LED & HDD-HALTED LED



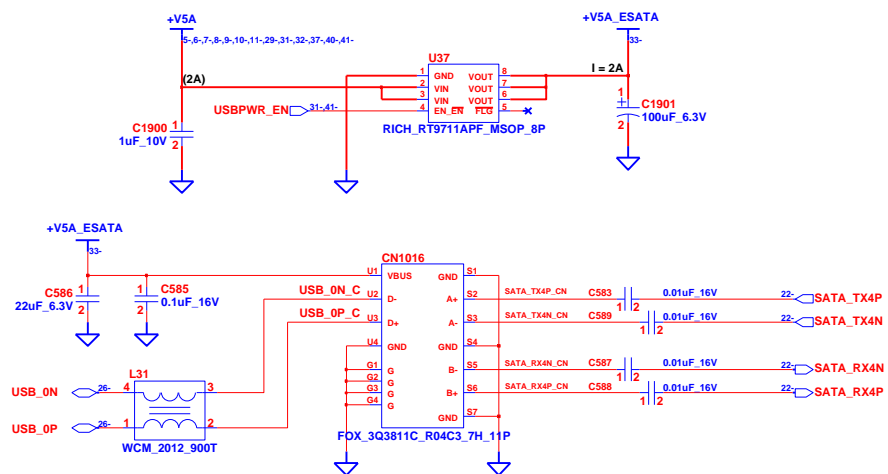
**INVENTEC**

TITLE			
Romeo			
Keyboard & Touchpad			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A23166-0-MTR	A01
SHEET		32	OF 66

CHANGE by Evan Shih 5-Feb-2010



# ESATA CONN (without Re-Driver chip)



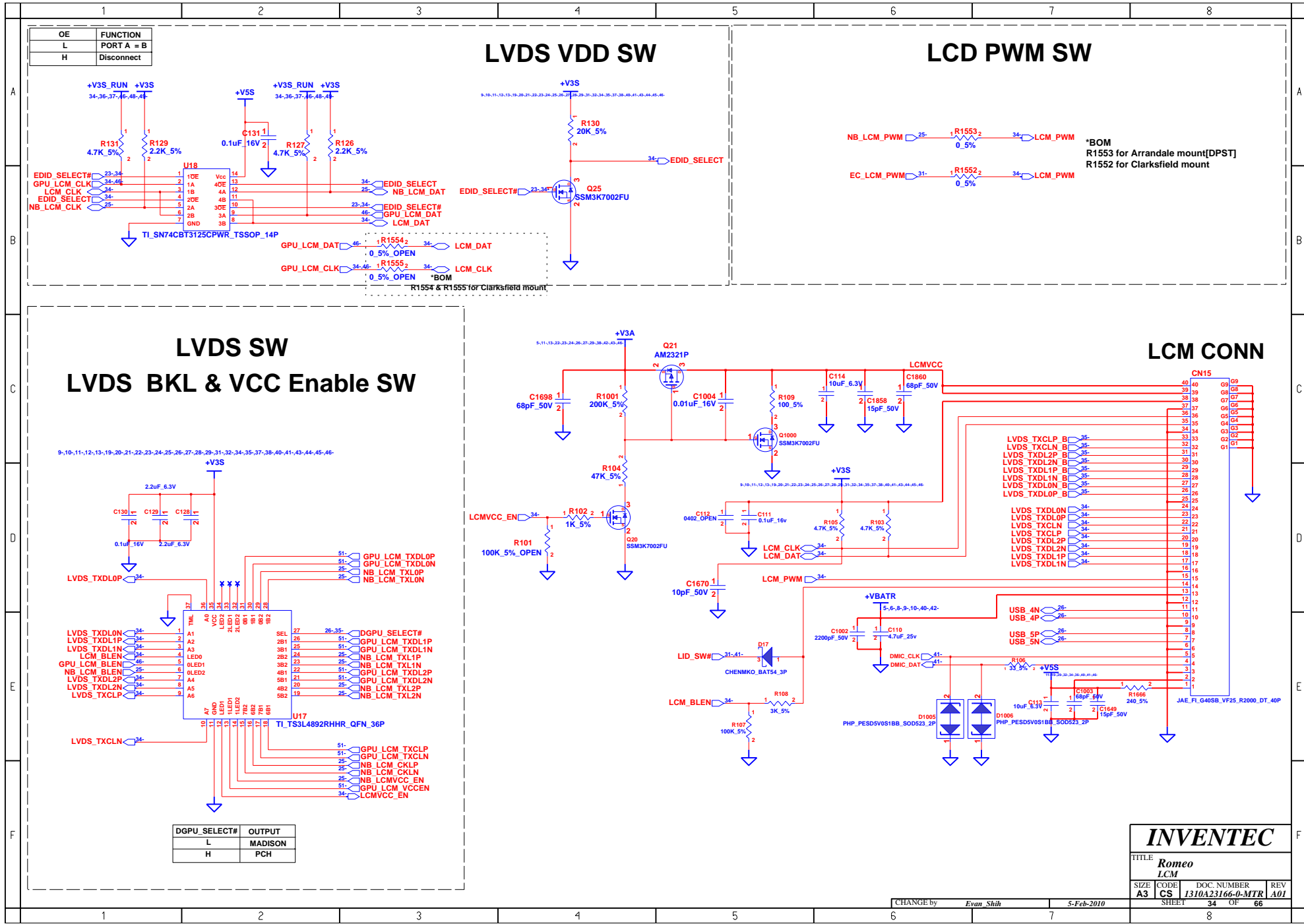
**INVENTEC**

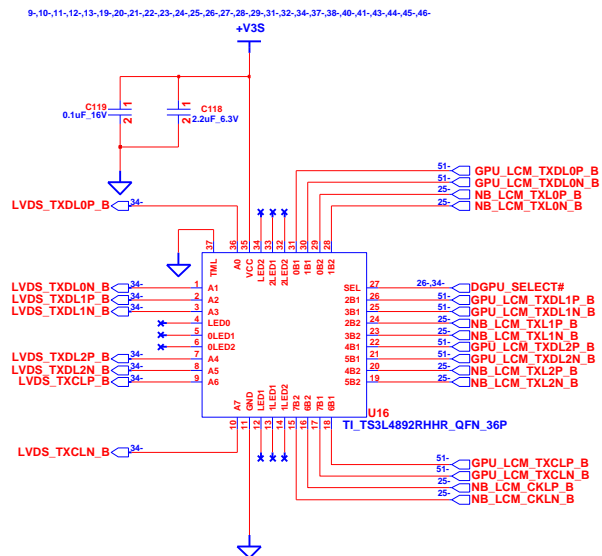
TITLE  
**Romeo  
CRT**

SIZE CODE DOC. NUMBER REV  
**A3 CS 1310A23166-0-MTR A01**

CHANGE by *Evan Shih* 5-Feb-2010

SHEET 33 OF 66

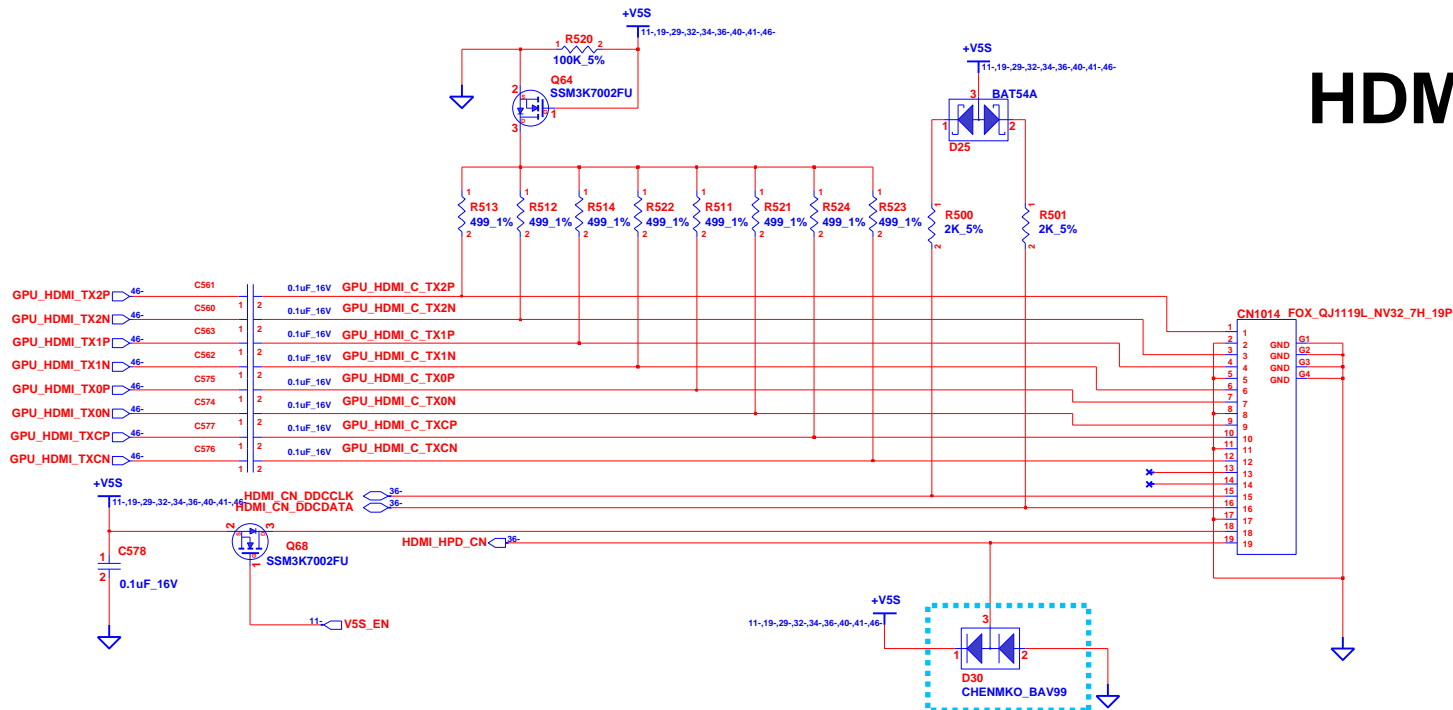




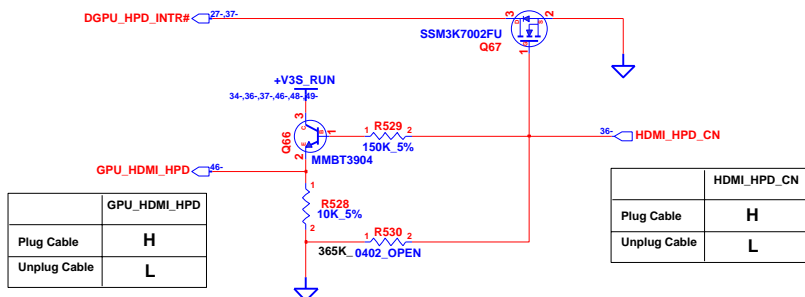
DGPU_SELECT#	OUTPUT
L	MADISON
H	PCH

<b>INVENTEC</b>			
TITLE <b>Romeo</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>
CHANGE by <b>Evan Shih</b>		5-Feb-2010	
SHEET <b>35</b>		OF <b>66</b>	

# HDMI

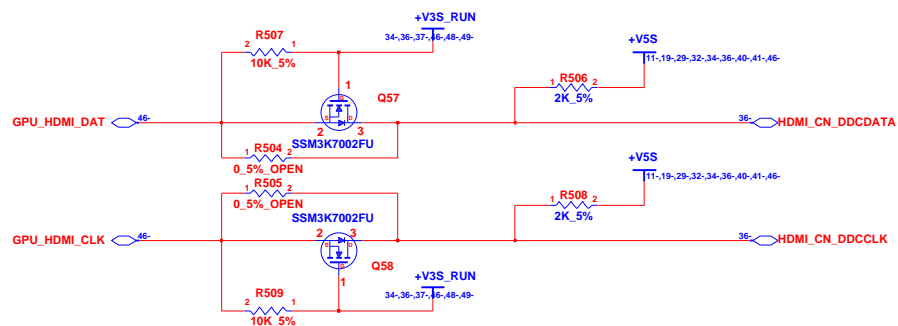


	DGPU_HPD_INTR#
Plug Cable	L
Unplug Cable	H



	GPU_HDMI_HPD
Plug Cable	H
Unplug Cable	L

	HDMI_HPD_CN
Plug Cable	H
Unplug Cable	L



**INVENTEC**

TITLE <b>Romeo HDMI</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>

CHANGE by *Evan Shih* 5-Feb-2010

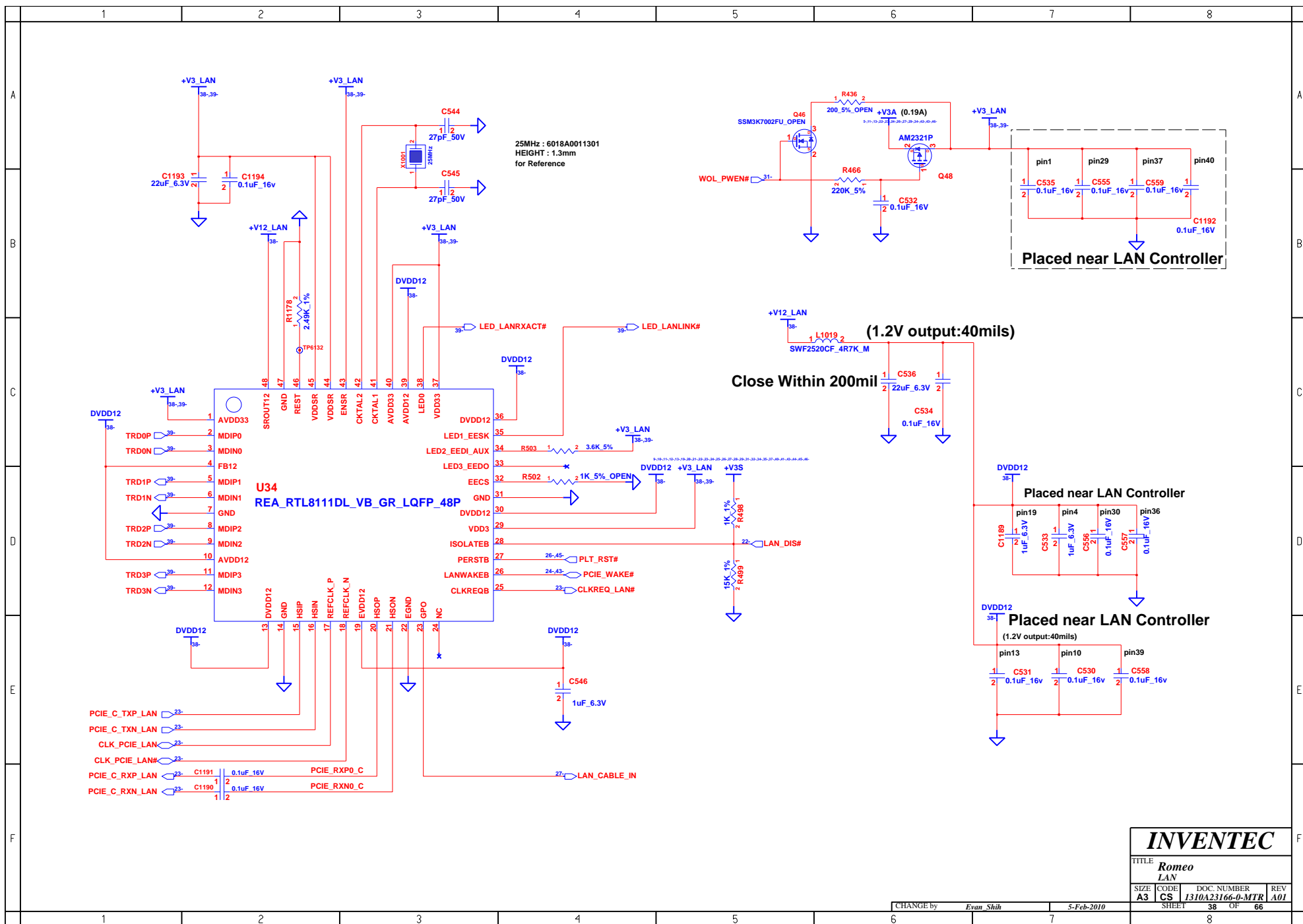
SHEET 36 OF 66

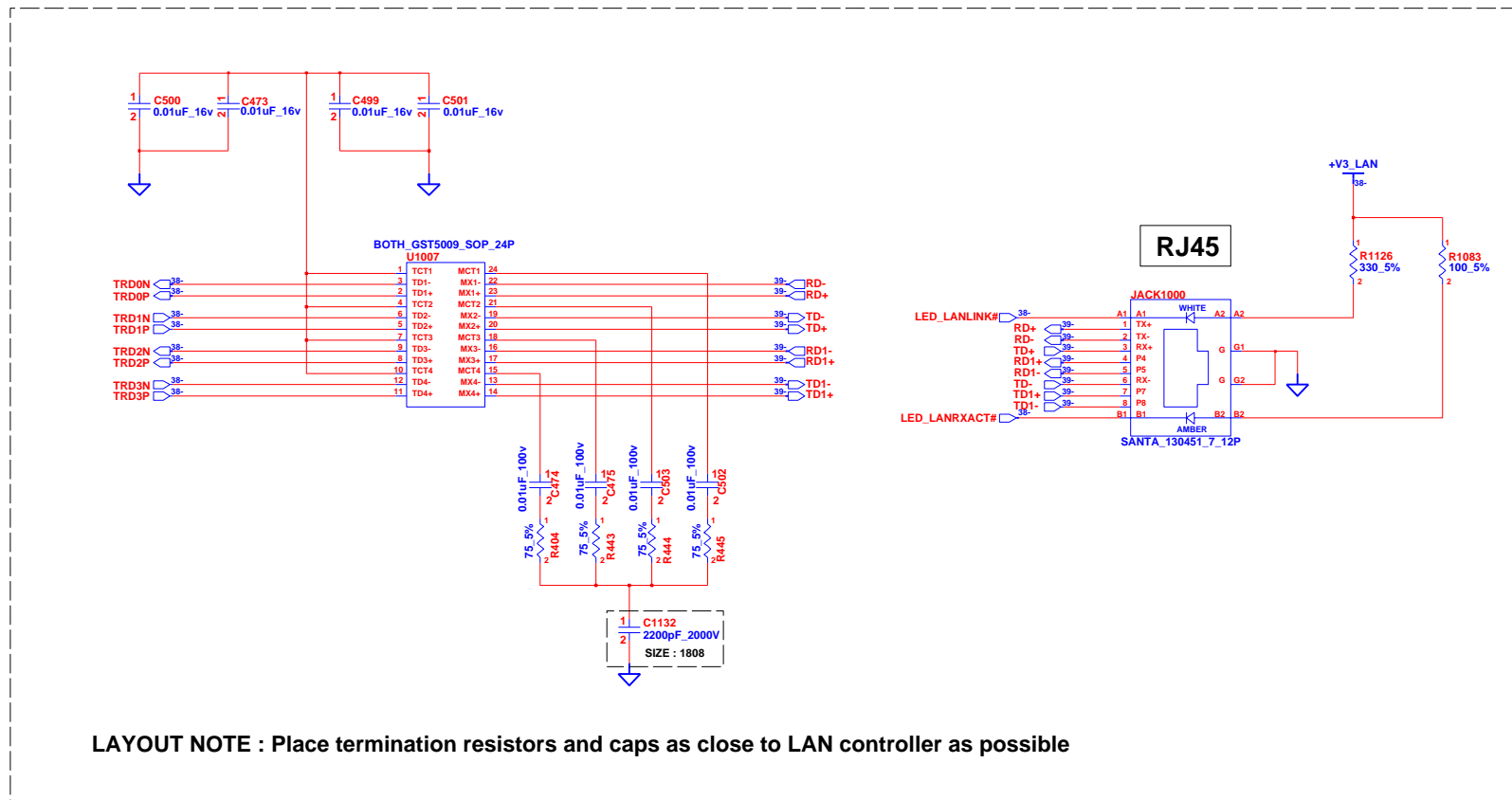
[illegible]

TITLE			
<b>Romeo</b> <b>DisplayPort</b>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<b>1310A23166-0-MTR</b>	<b>A01</b>
SHEET		37	OF 66

CHANGE by	<i>Evan Shih</i>	<i>5-Feb-2010</i>
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CS 1310A23166-0-M1R  
SHEET 37 OF 66

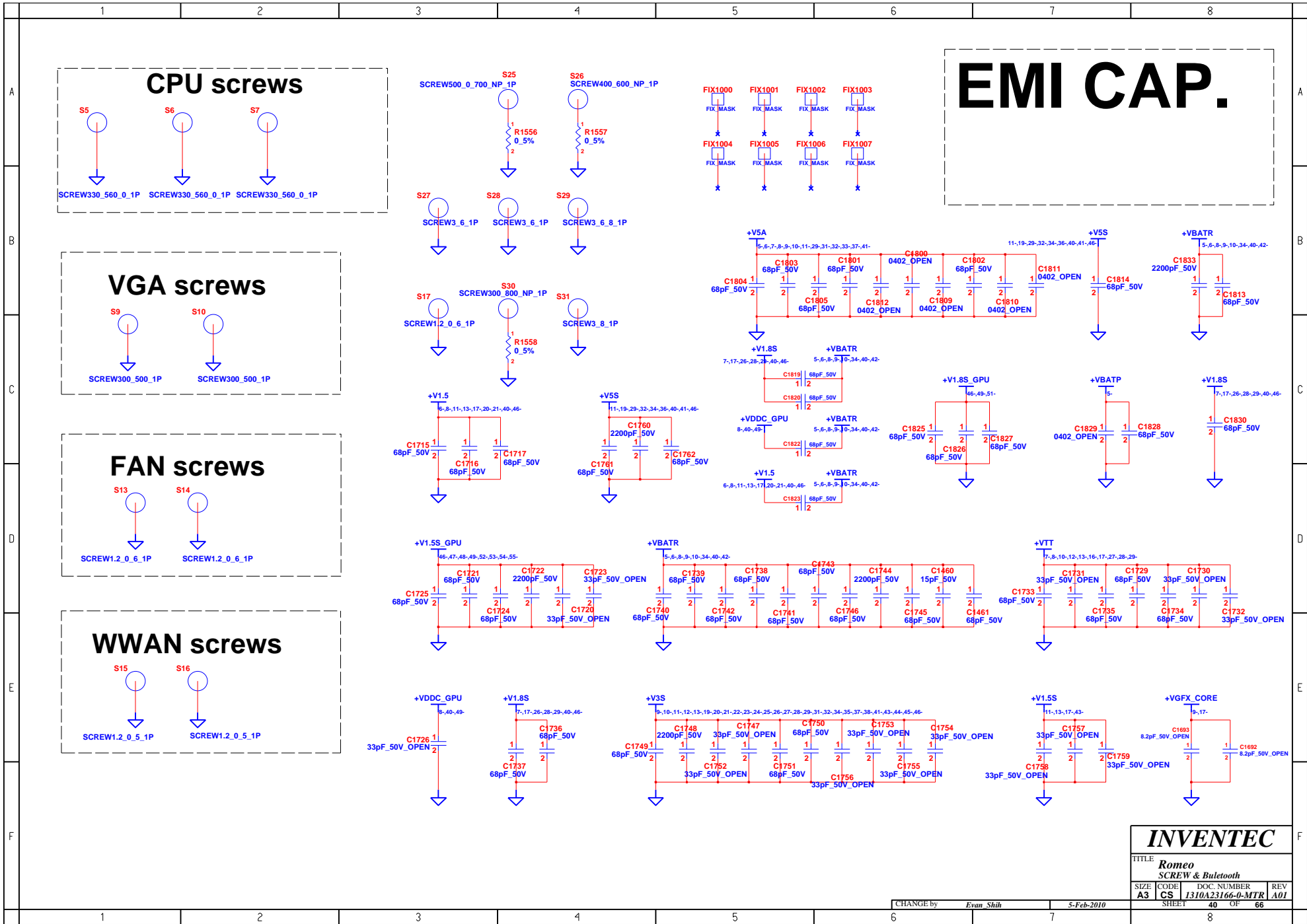




**INVENTEC**

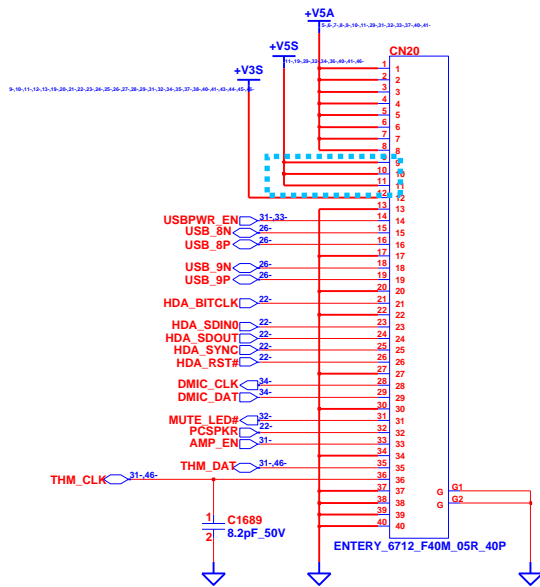
TITLE <b>Romeo</b> <b>RJ-45</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>
SHEET		39	OF 66

CHANGE by *Evan Shih* 5-Feb-2010

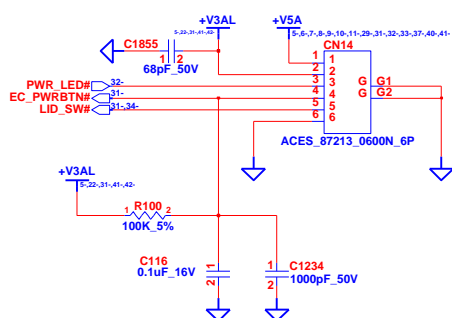




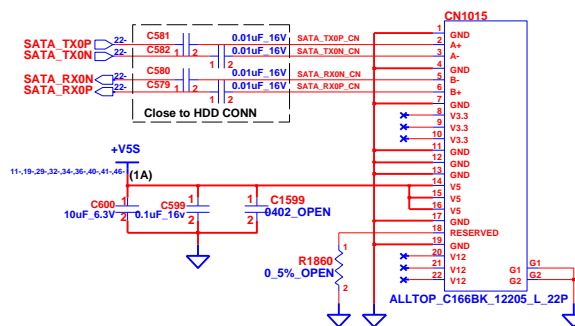
## AU Board CN on MB



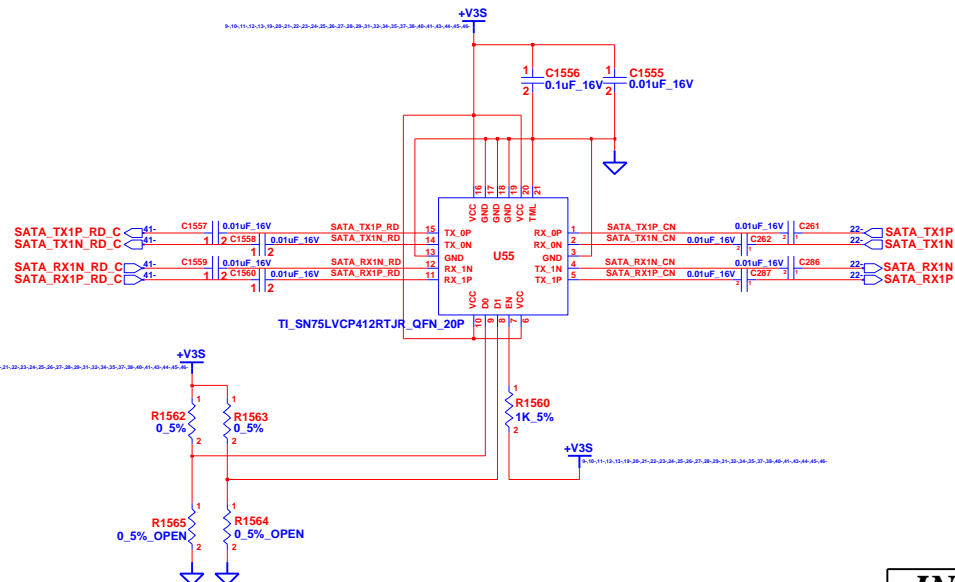
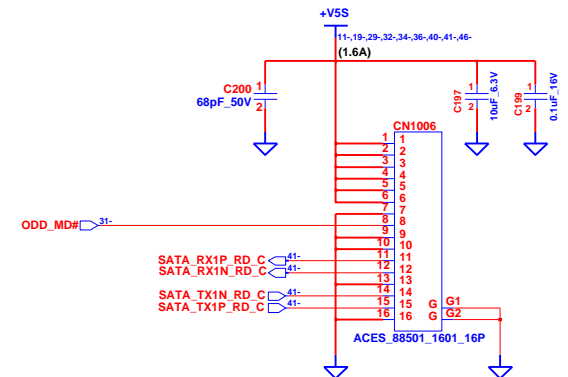
## PBN Cable CN on MB



## SATA HDD CONN



## SATA ODD FFC CONN on MB



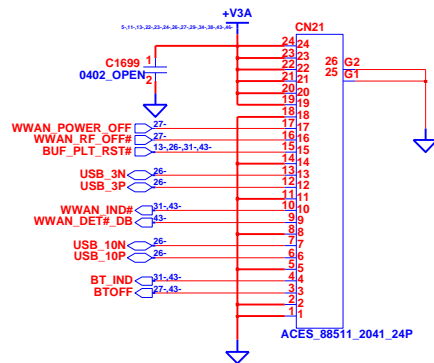
**INVENTEC**

TITLE <b>Romeo Connector-1</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>
SHEET <b>41</b>		OF <b>66</b>	

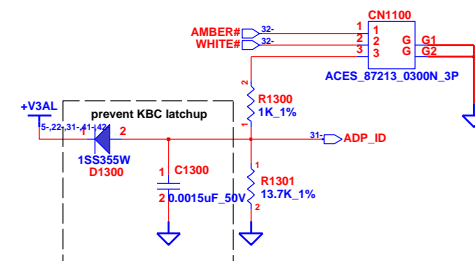
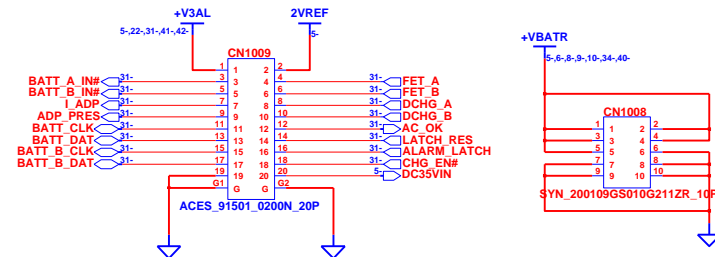
CHANGE by *Evan Shih* 5-Feb-2010

## WC Board CN on MB

### WWAN & BT



## CHG Board CN on MB

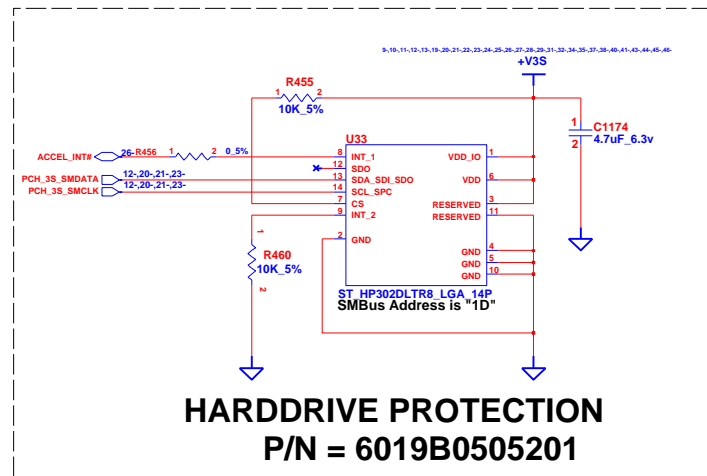
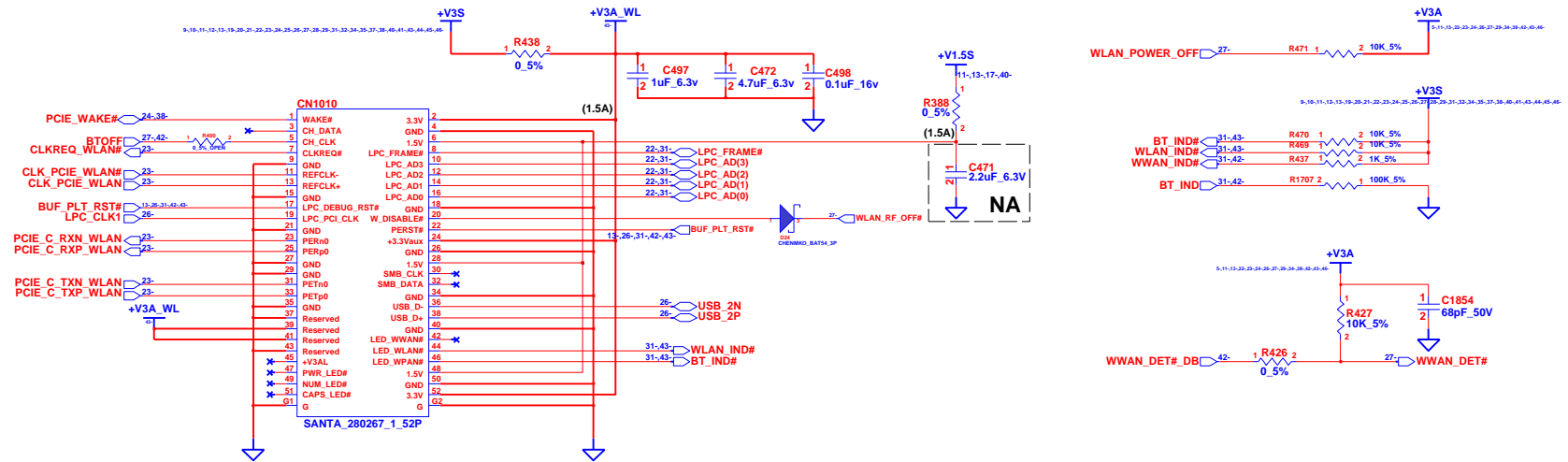


**INVENTEC**

TITLE			
Romeo Connector-2			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23166-0-MTR	A01
SHEET		42	OF 66

CHANGE by Evan Shih 5-Feb-2010

# WLAN CONN (MINICARD)

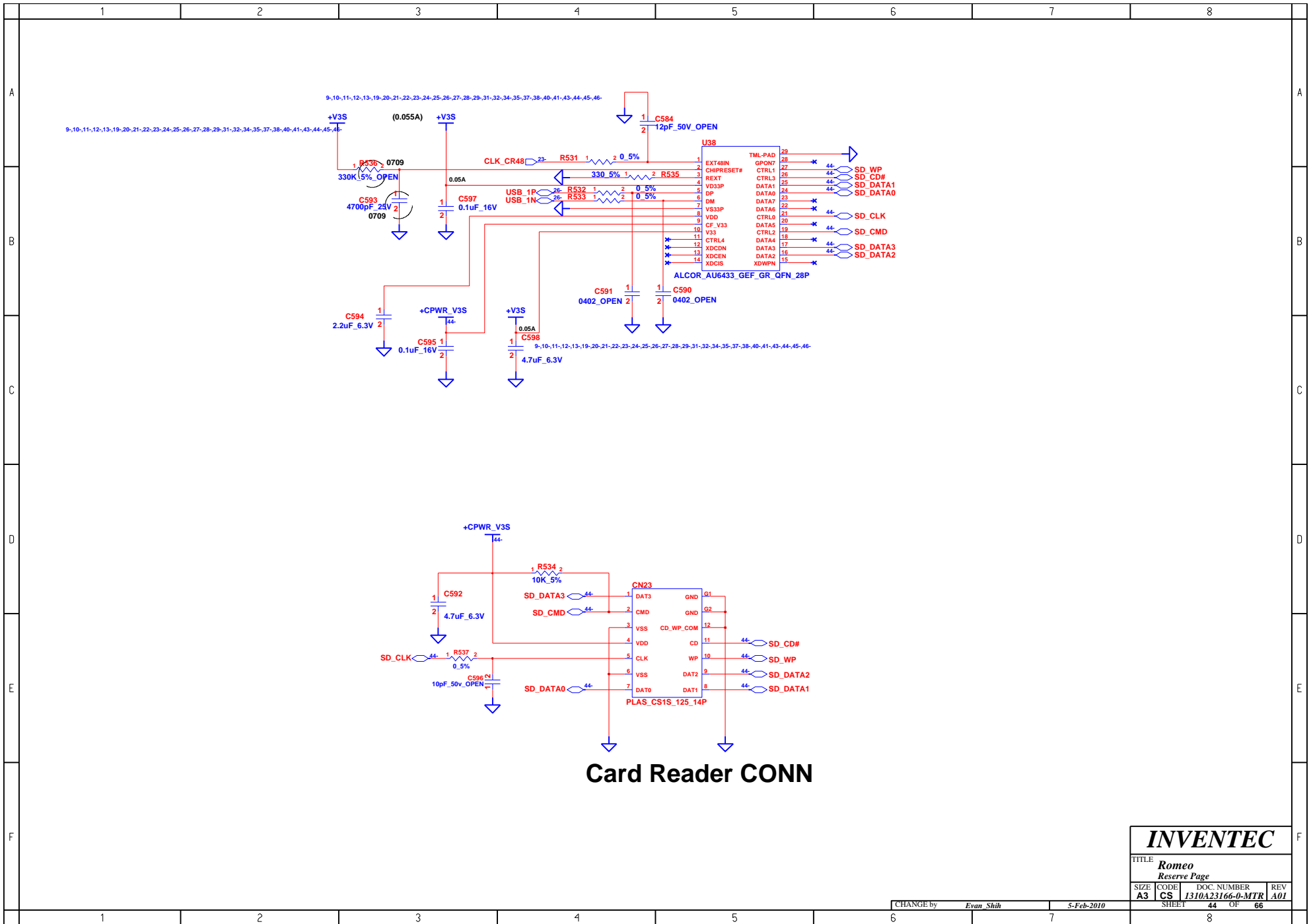


**HARDDRIVE PROTECTION**  
P/N = 6019B0505201

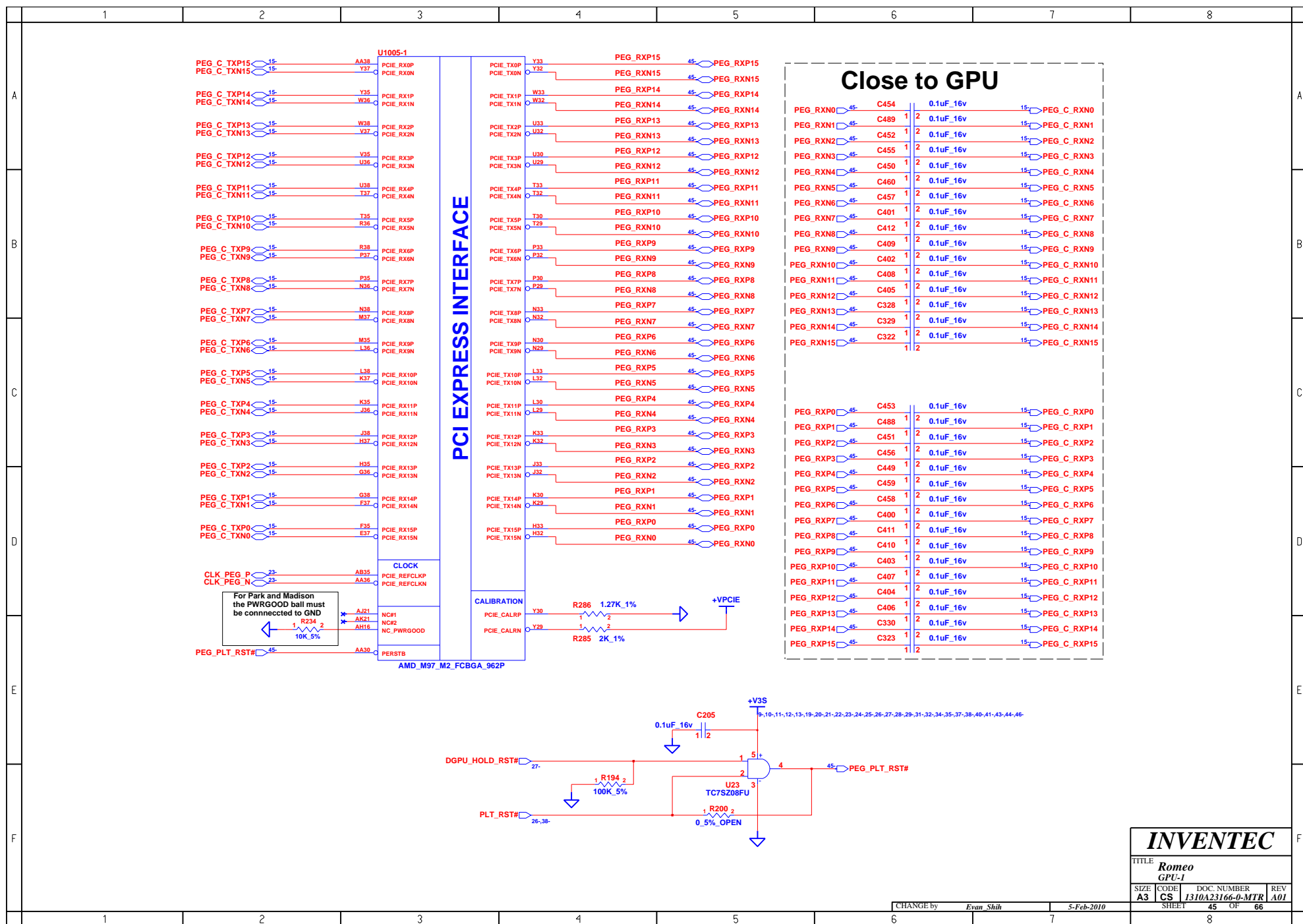
**INVENTEC**

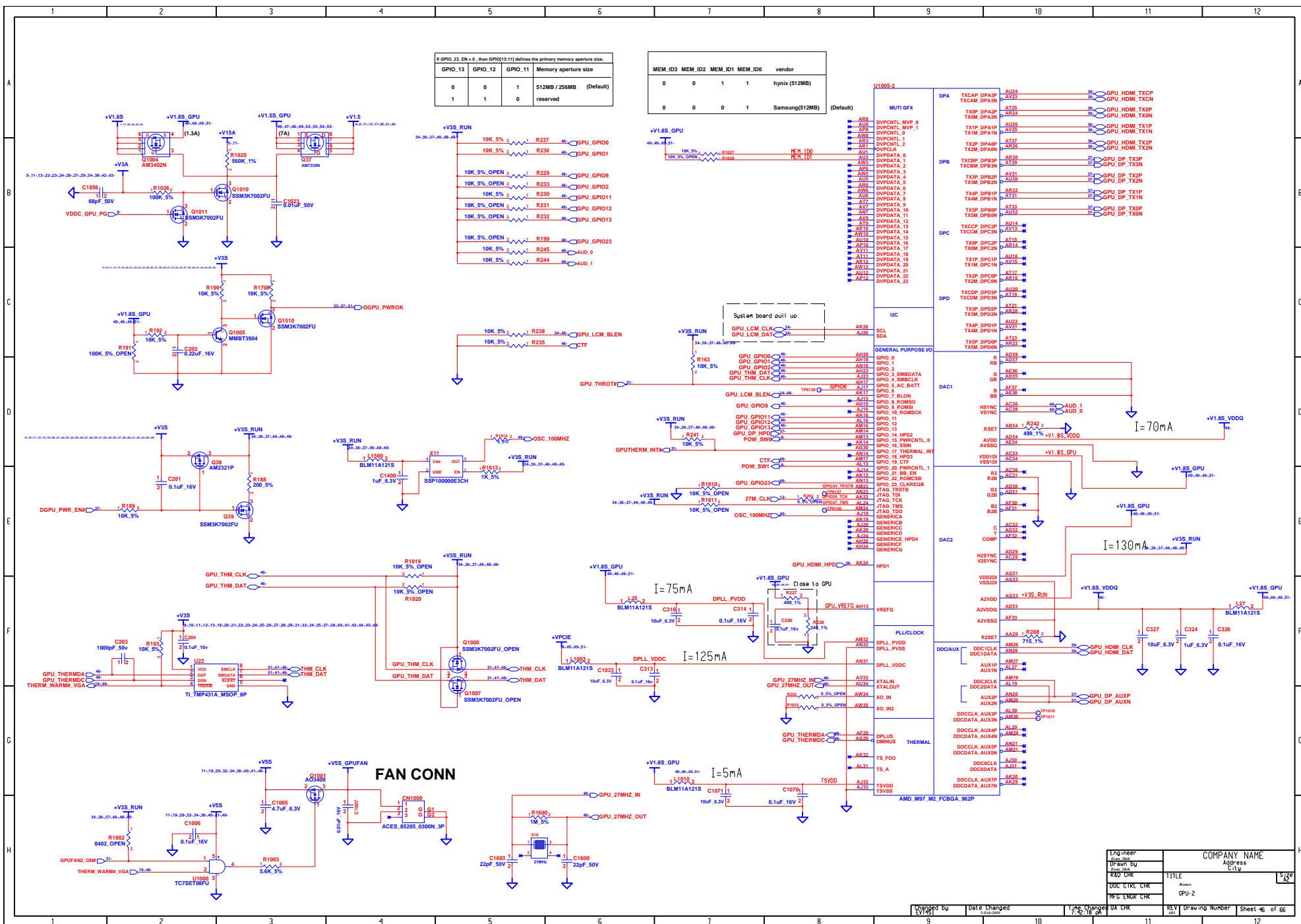
TITLE <b>Romeo</b> WLAN & HDD Lock			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>
SHEET <b>43</b>		OF <b>66</b>	

CHANGE by *Evan Shih* 5-Feb-2010

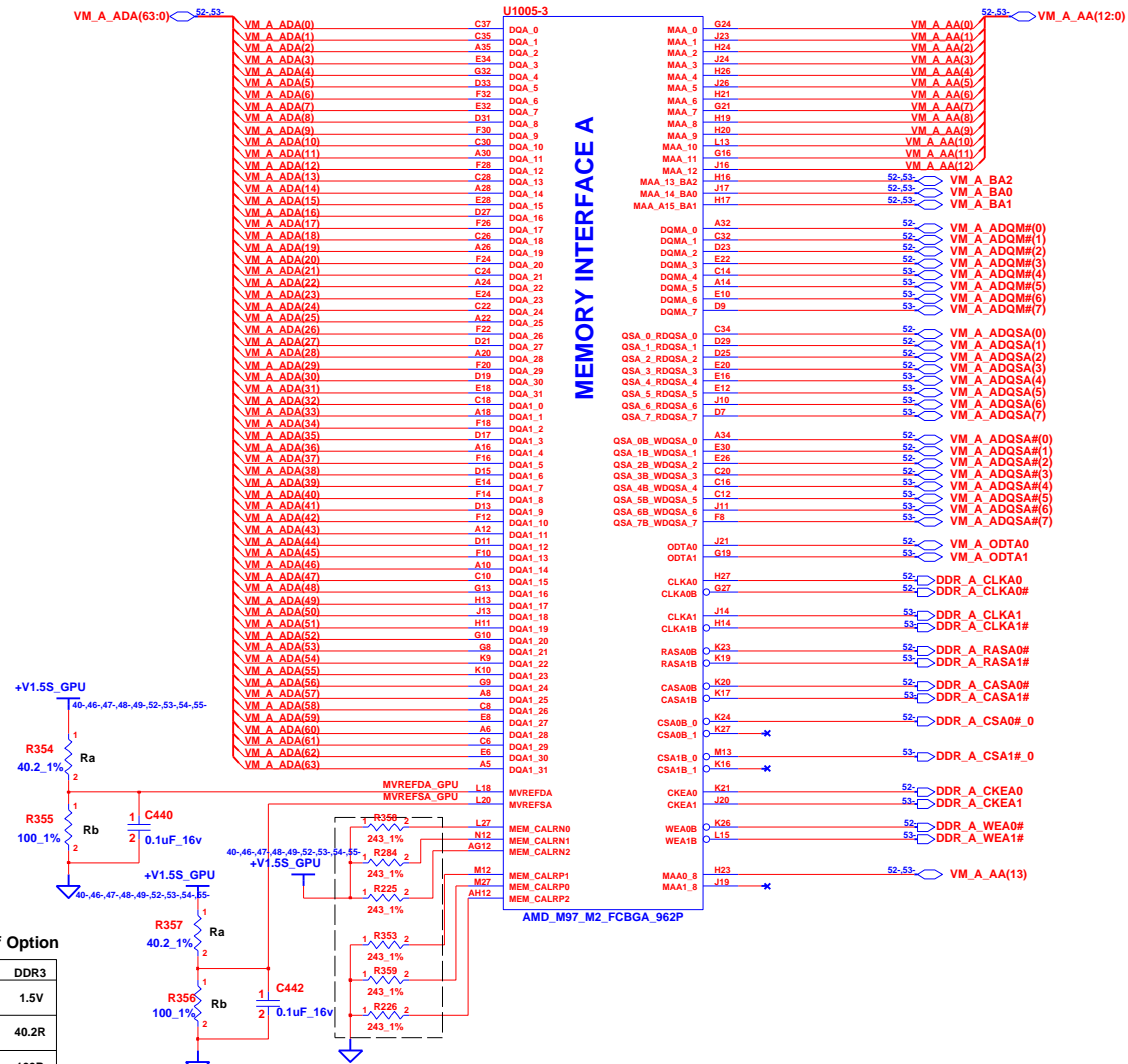


INVENTEC			
TITLE			
Romeo			
Reserve Page			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23166-0-MTR	A01
CHANGE by		5-Feb-2010	
Evan Shih			
SHEET		44	OF 66





# Channel A



DDR3/GDDR3Memory Stuff Option

	GDDR5	GDDR3	DDR3
MVDDQ	1.5V	1.8V/1.5V	1.5V
Ra	40.2R	40.2R	40.2R
Rb	100R	100R	100R

FOR M97,Broadway,Madiso and Park ONLY

**INVENTEC**

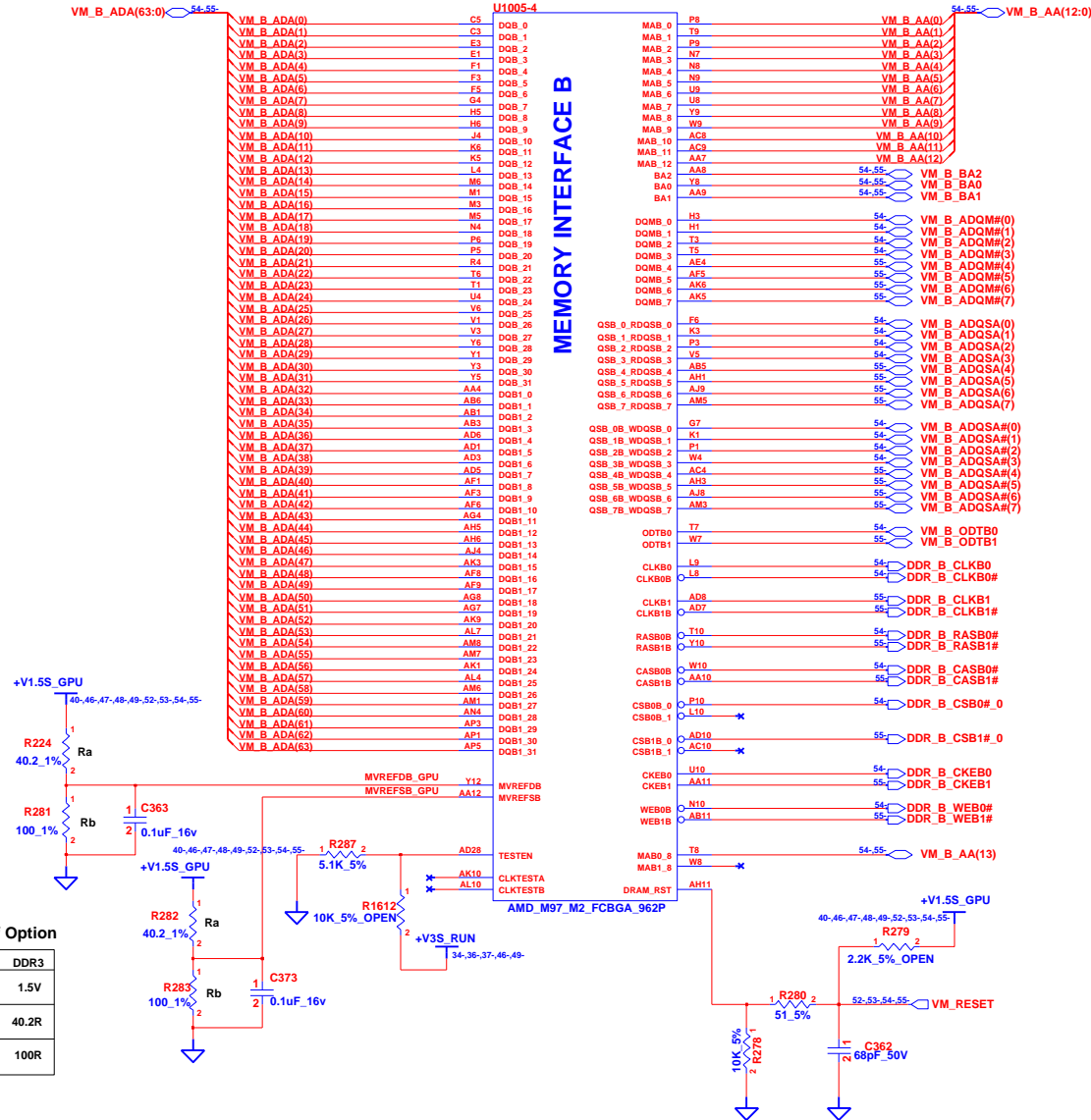
TITLE <b>Romeo GPU-3</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23166-0-MTR</b>	REV <b>A01</b>
SHEET <b>47</b>		OF <b>66</b>	

CHANGE by *Evan Shih* 5-Feb-2010

# Channel B

DDR3/GDDR3Memory Stuff Option

	GDDR5	GDDR3	DDR3
MVDDQ	1.5V	1.8V/1.5V	1.5V
Ra	40.2R	40.2R	40.2R
Rb	100R	100R	100R

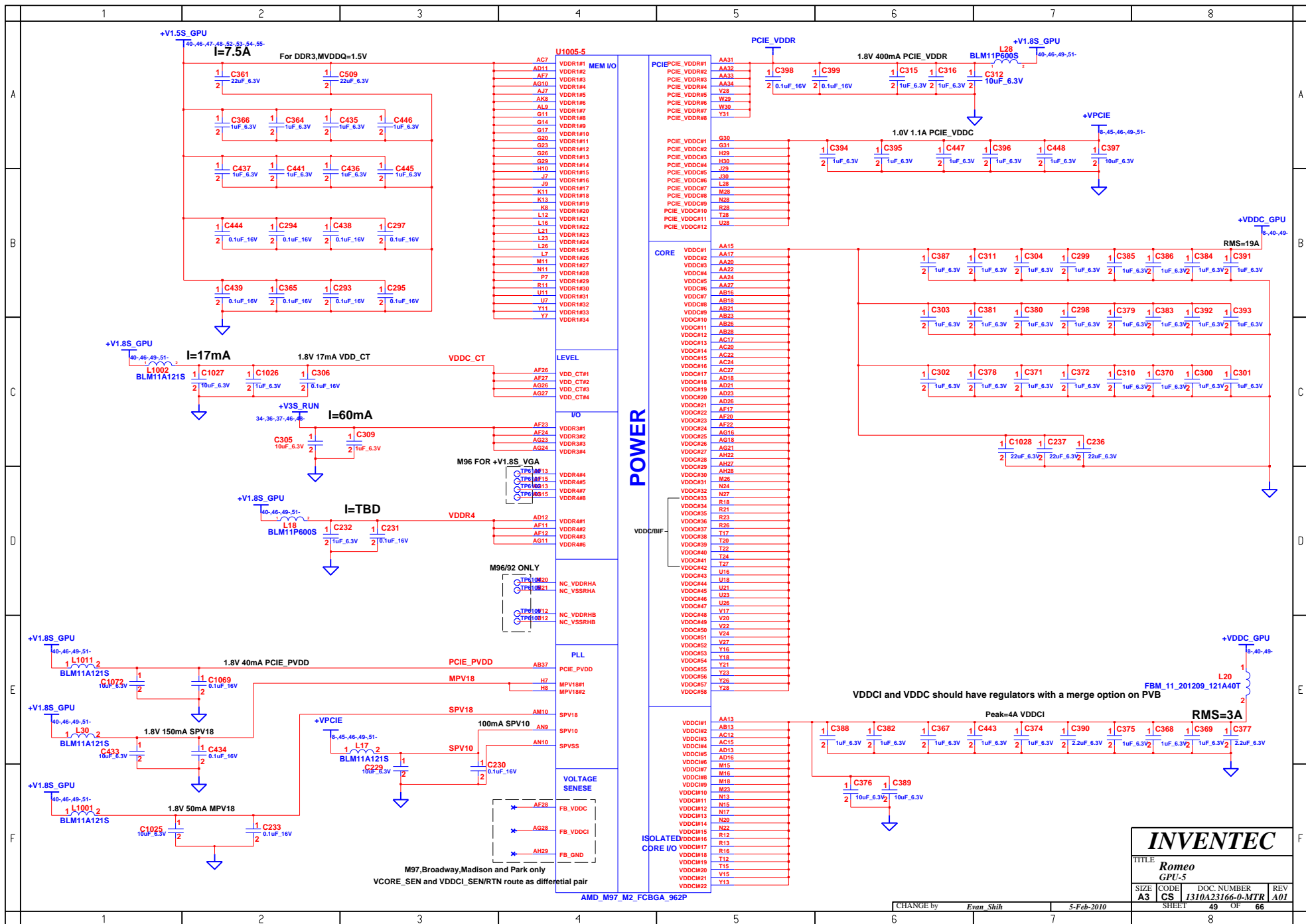


INVENTEC

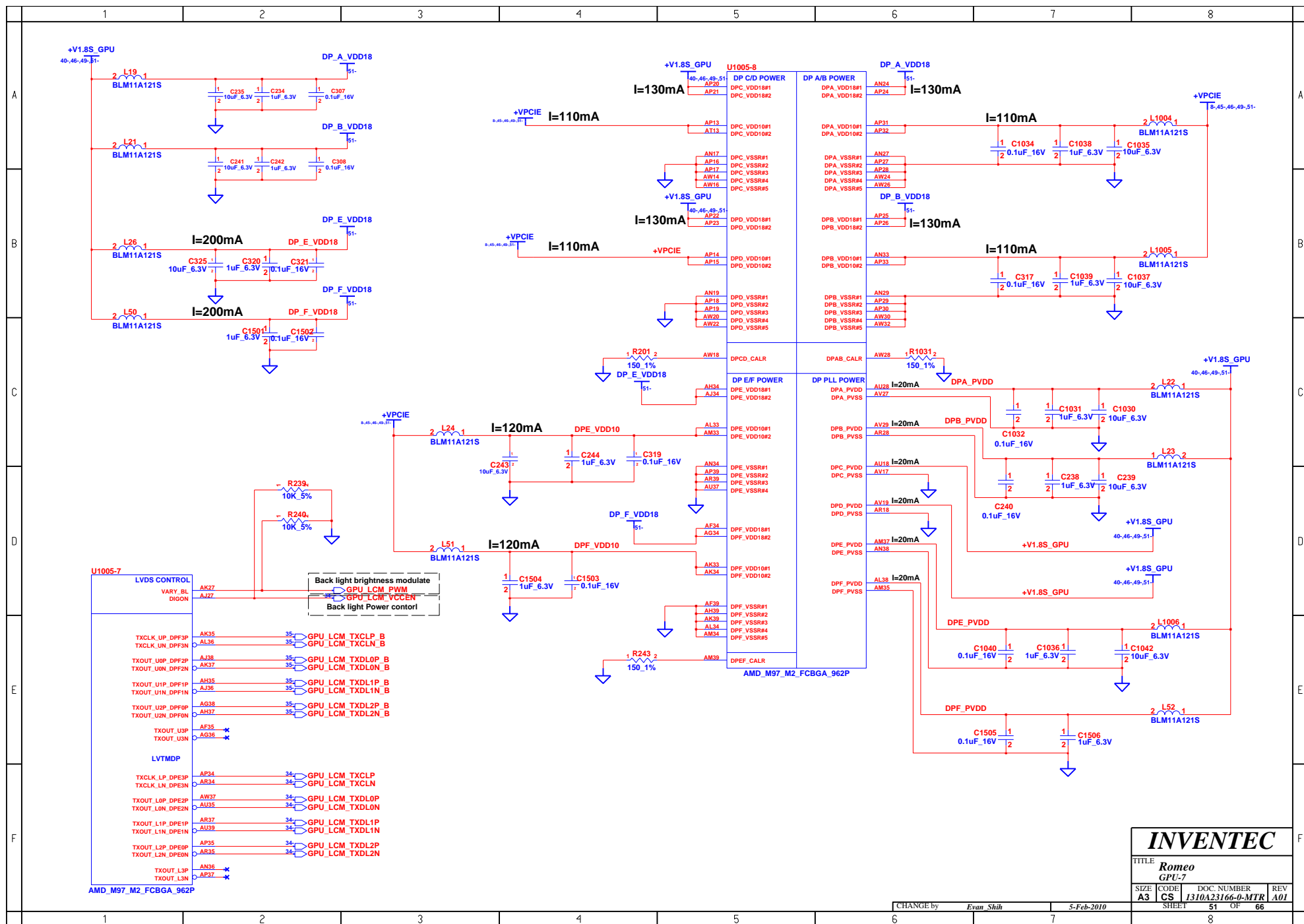
TITLE Romeo GPU-4			
SIZE A3	CODE CS	DOC. NUMBER 1310A23166-0-MTR	REV A01
SHEET 48		OF 66	

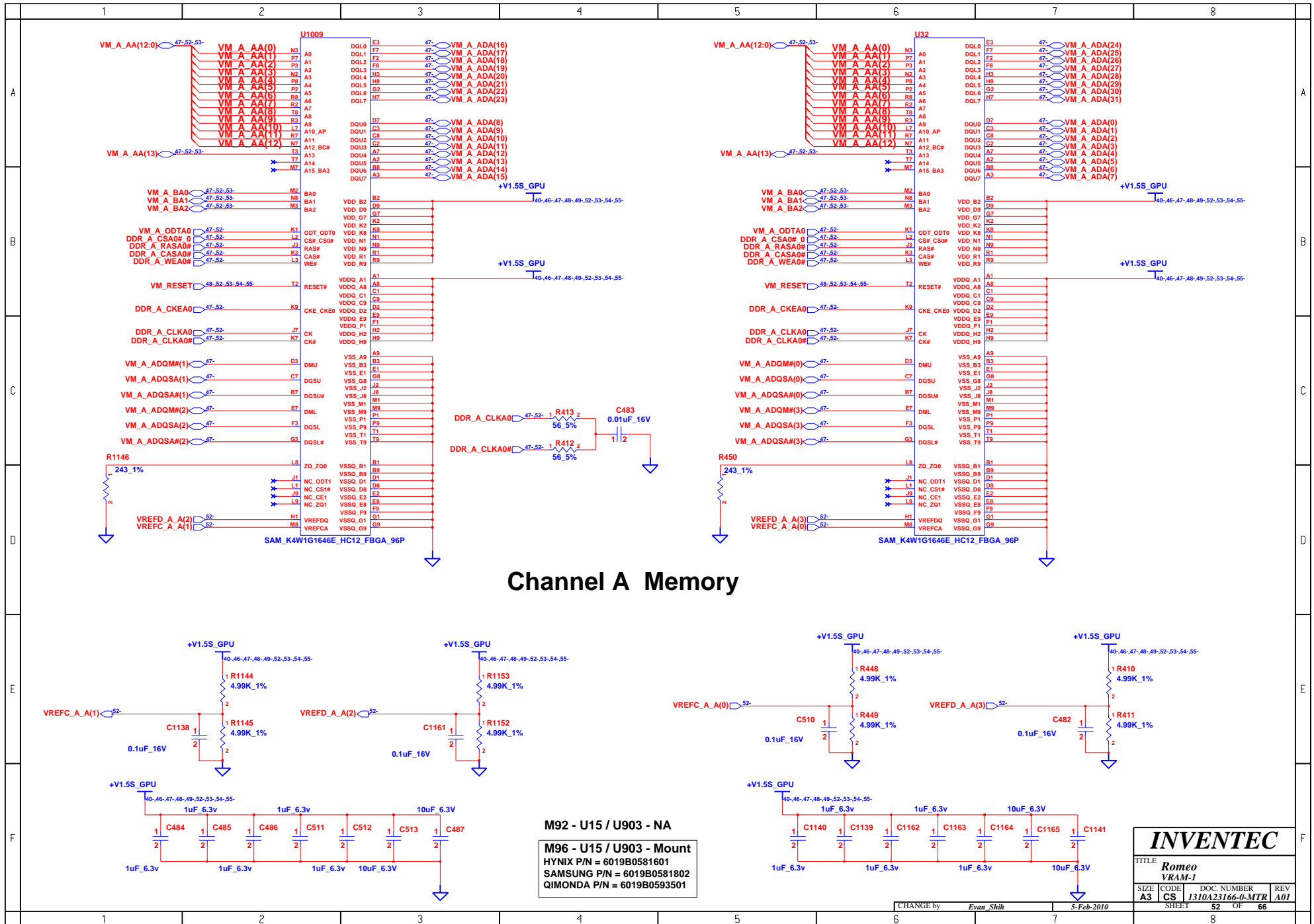
CHANGE by Evan Shih 5-Feb-2010

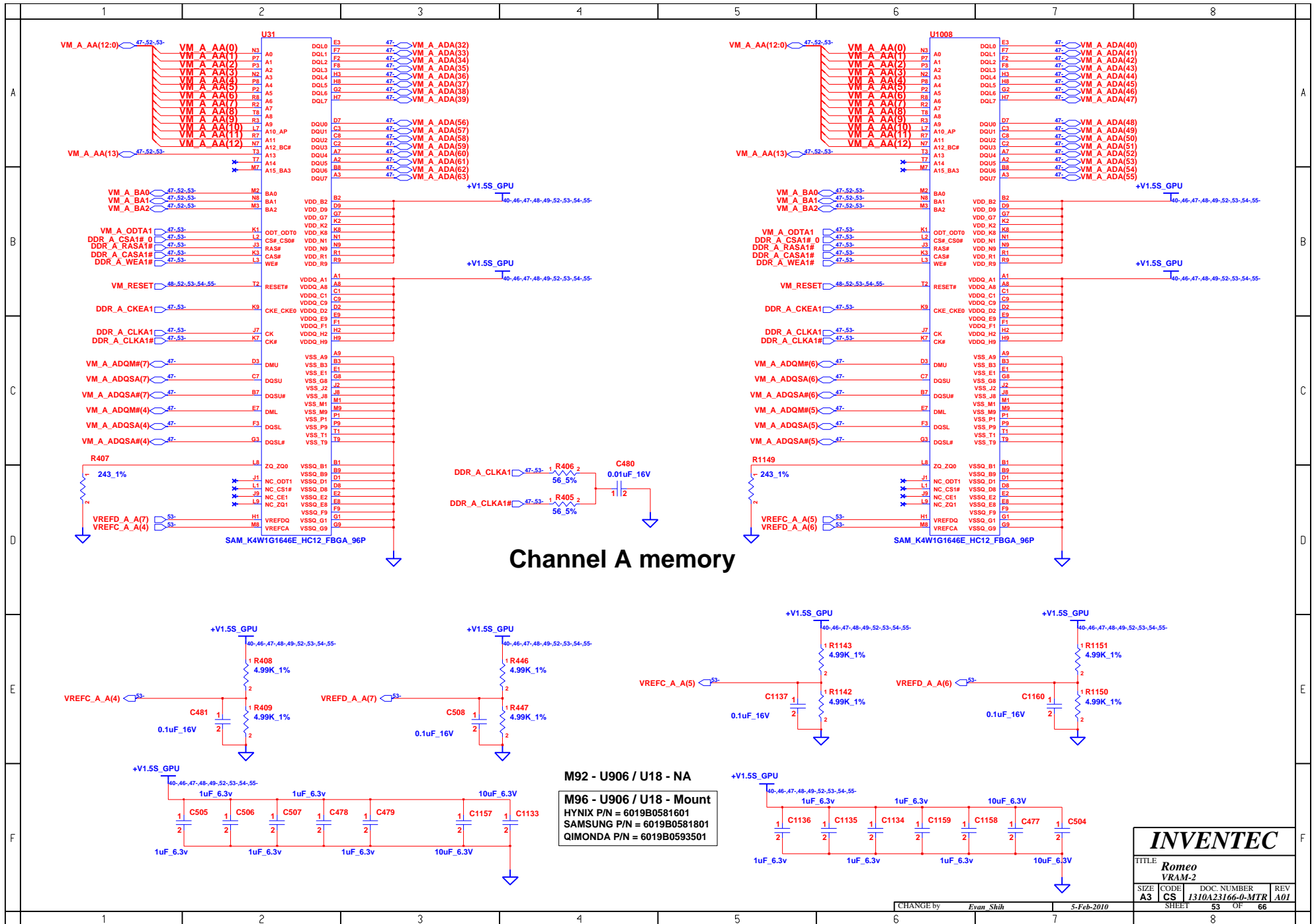


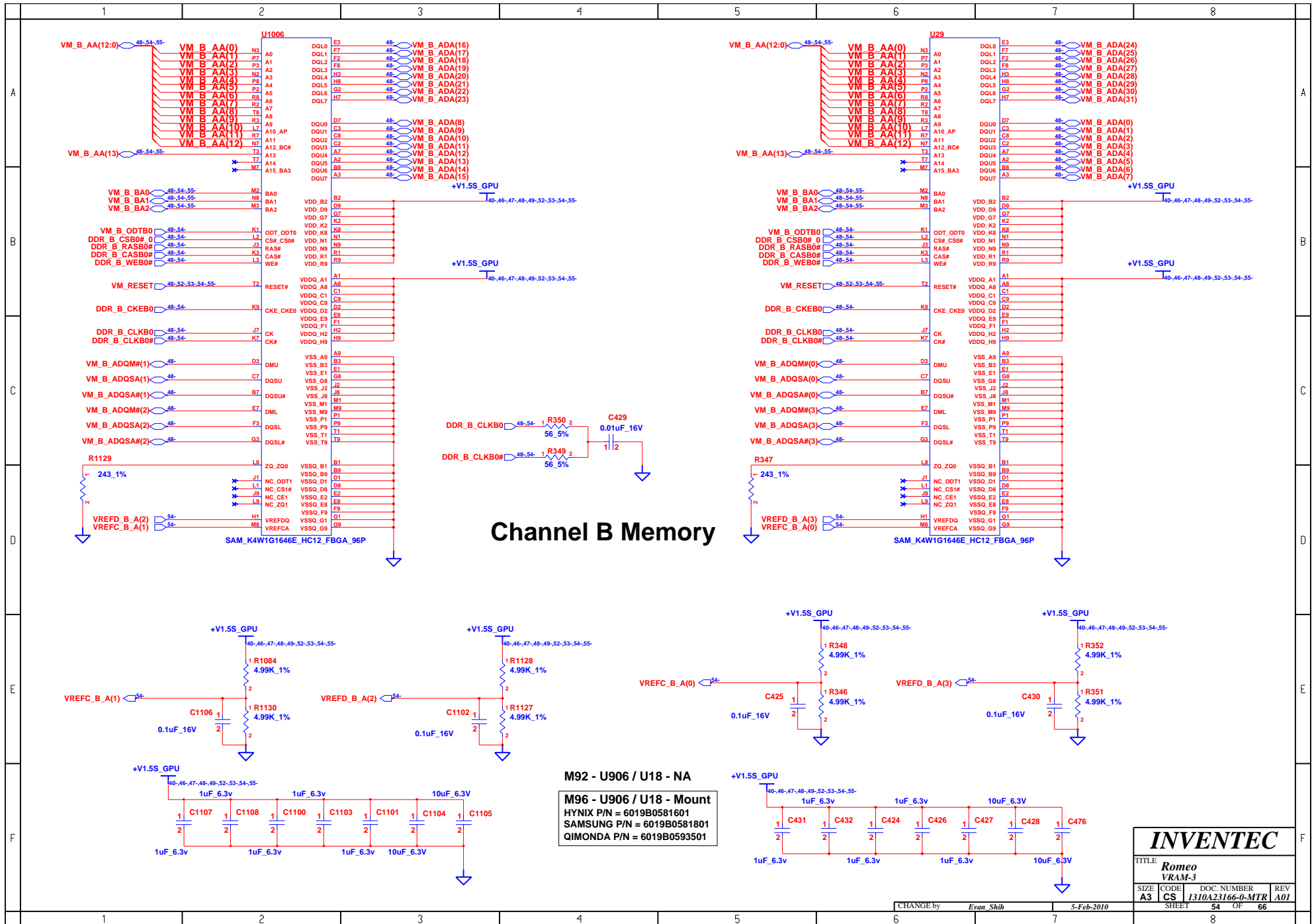


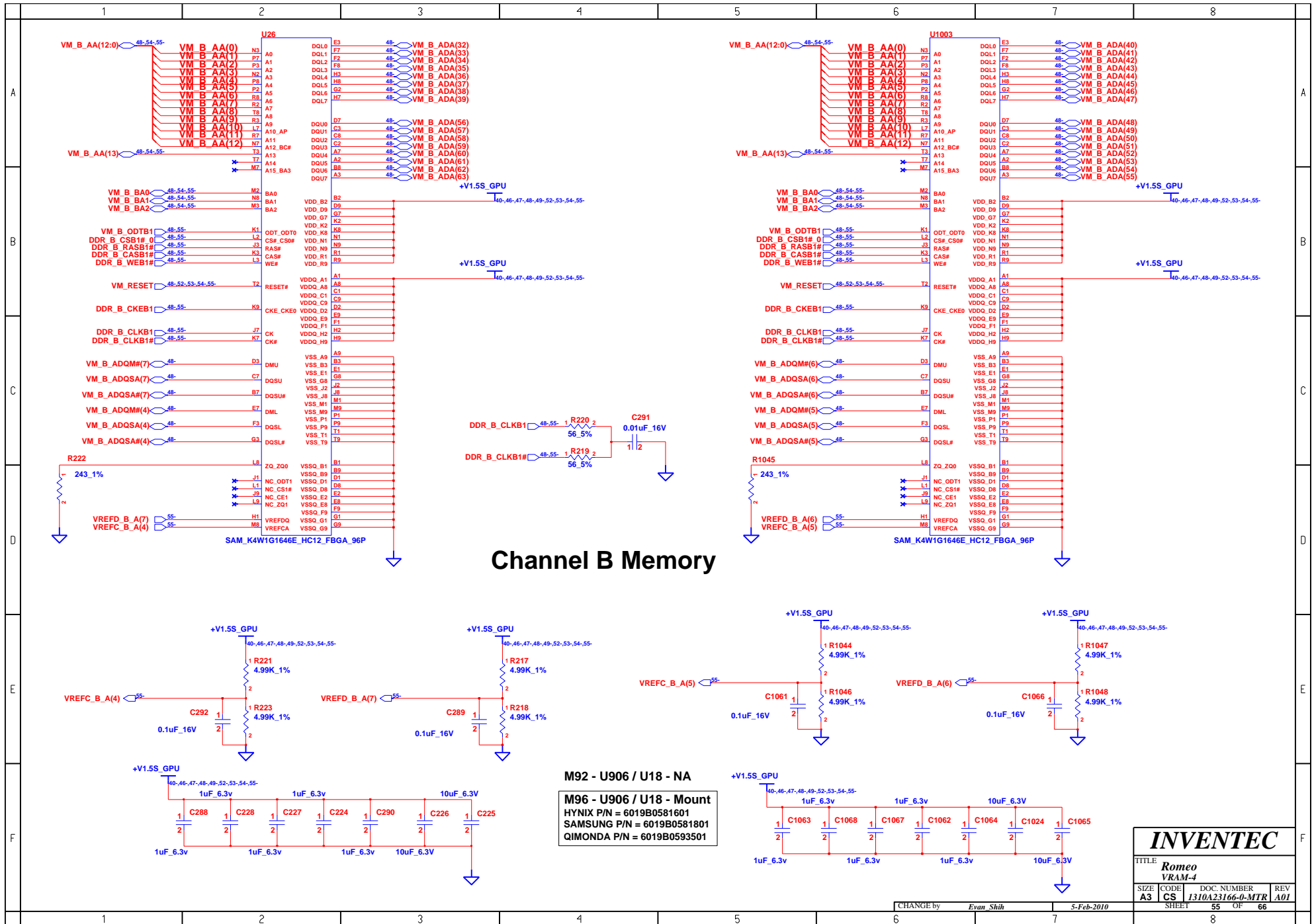
[illegible]





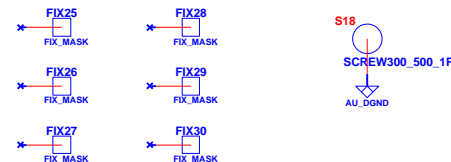
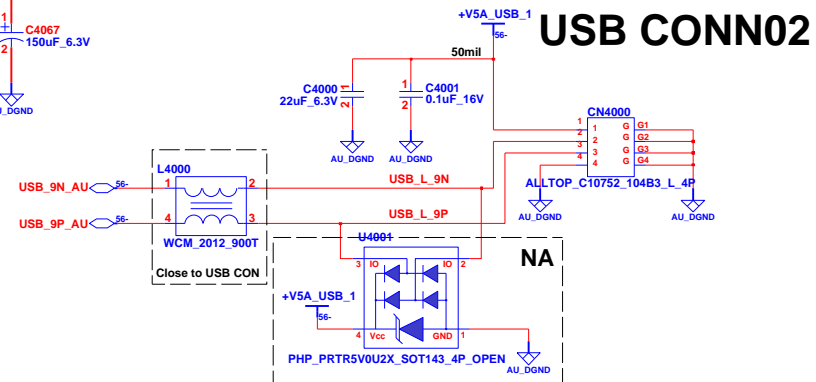
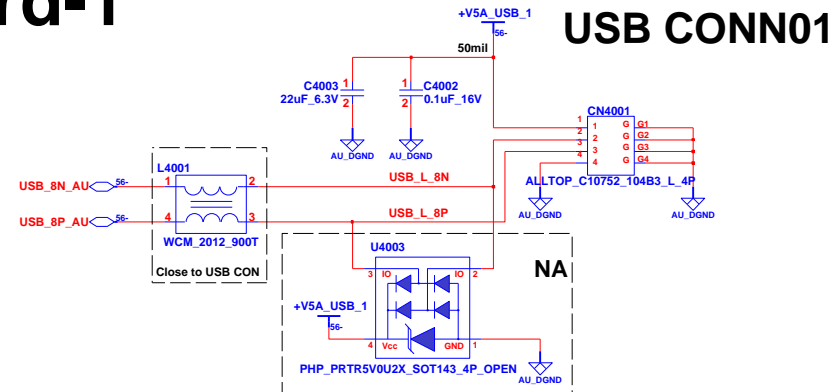
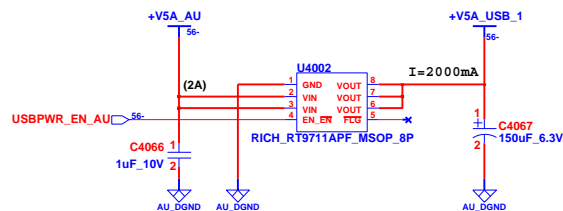
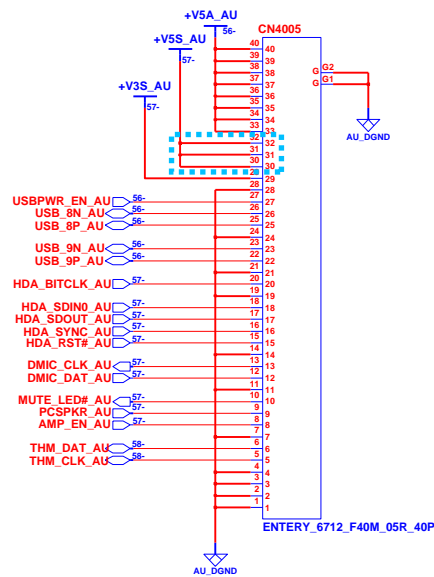






# AU Board-1

## AU Board CN on DB

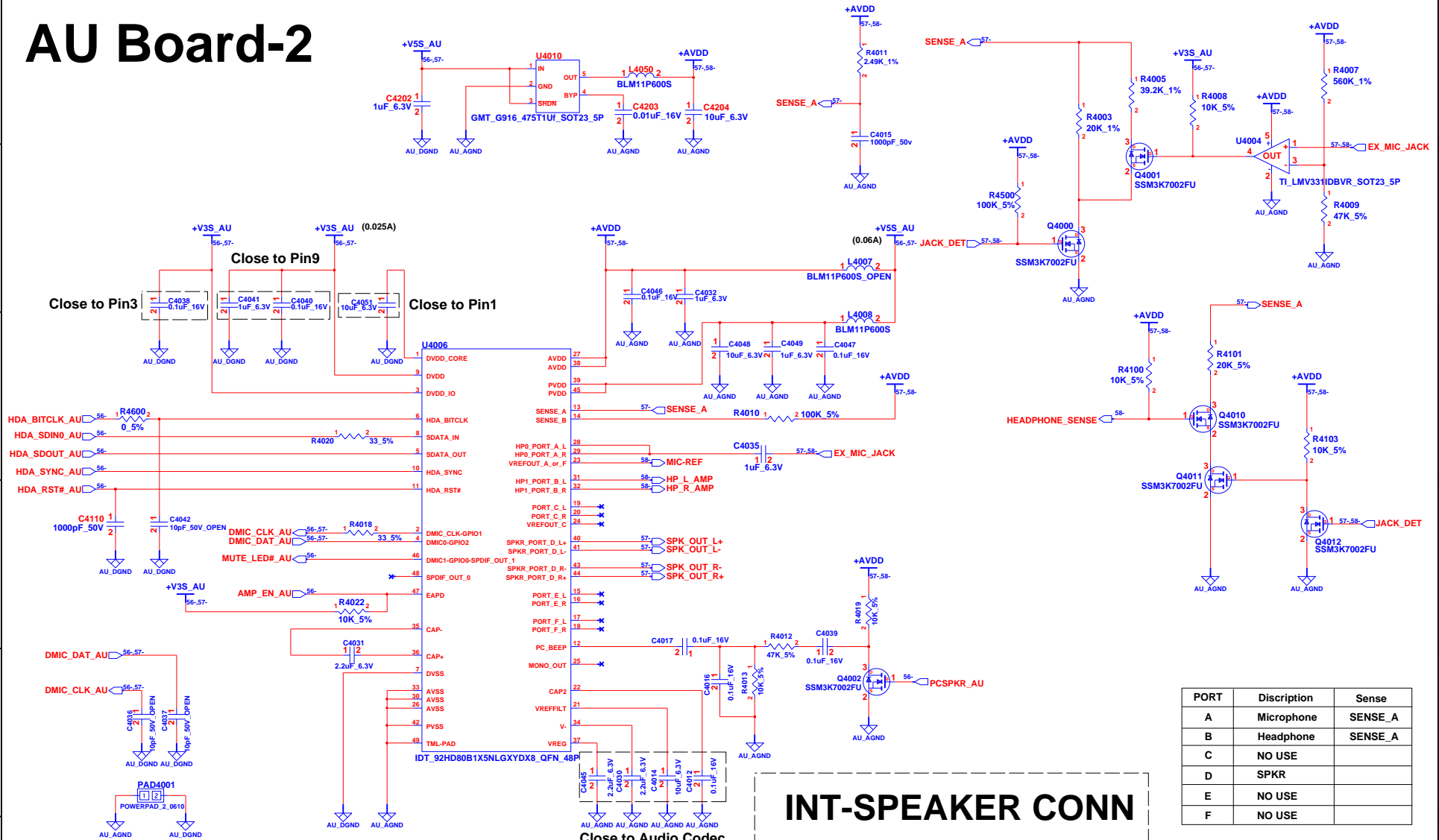


**INVENTEC**

TITLE			
Romeo			
AUDIO & USB Board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23165-0-MTR	A01
CHANGE by		5-Feb-2010	
Evan Shih			
SHEET		56	OF 66

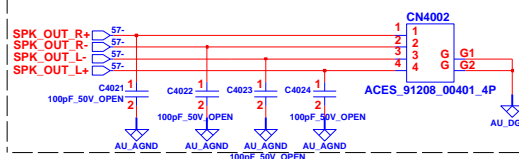


# AU Board-2



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

## INT-SPEAKER CONN



**INVENTEC**

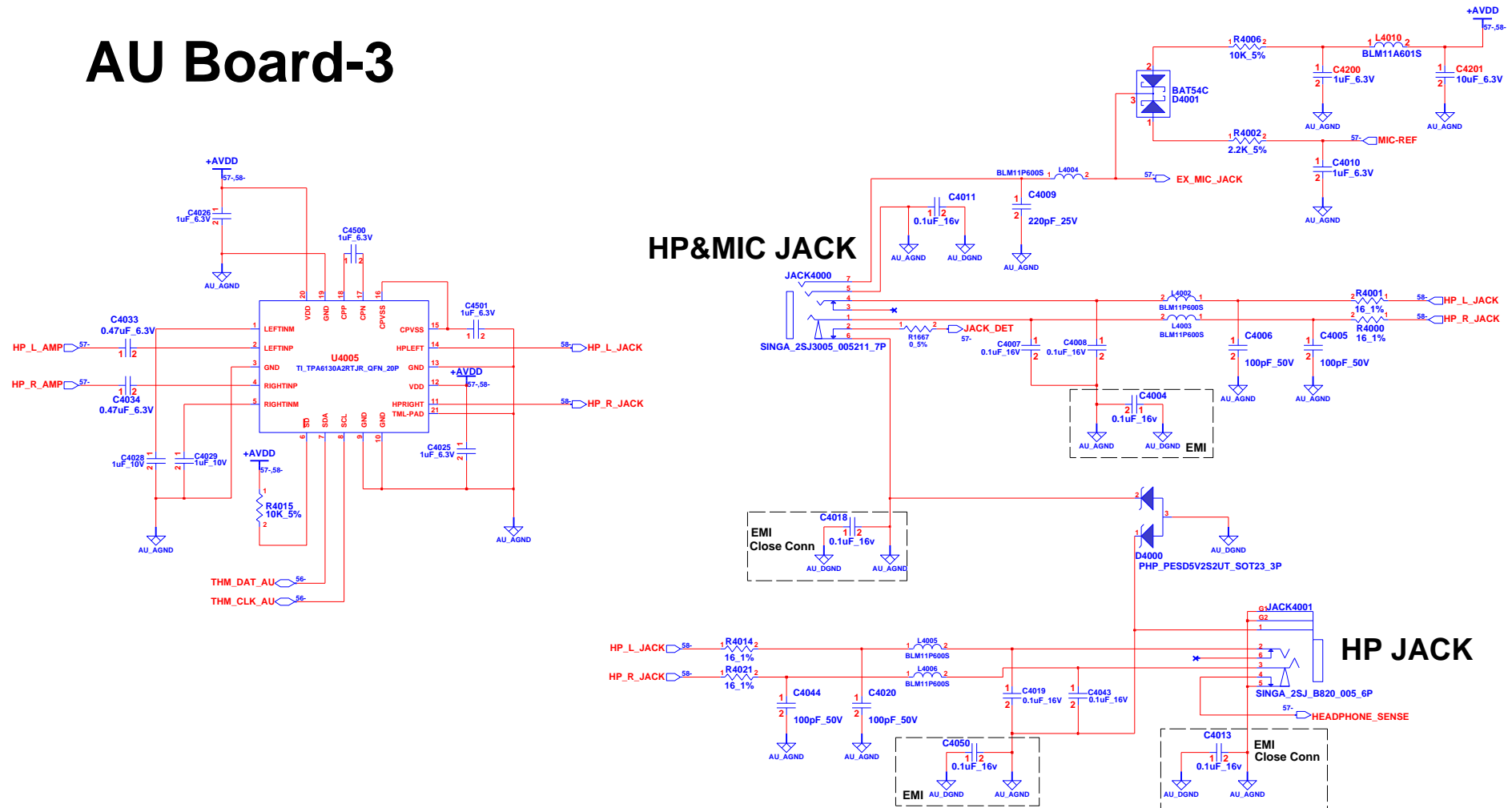
TITLE: <b>Romeo</b> AUDIO & USB Board			
SIZE: <b>A3</b>	CODE: <b>CS</b>	DOC NUMBER: <b>1310A23165-0-MTR</b>	REV: <b>A01</b>
SHEET: <b>57</b>		OF: <b>66</b>	

CHANGE by: *Evan Shih* 10-Feb-2010

# AU Board-3

## HP&MIC JACK

## HP JACK



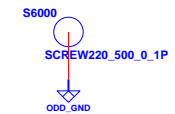
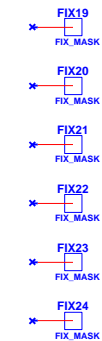
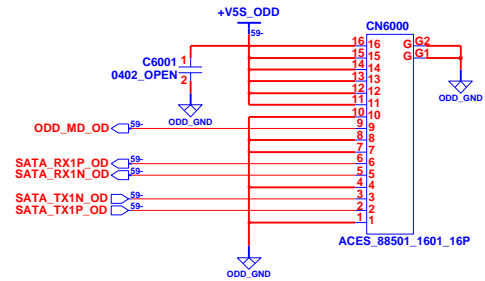
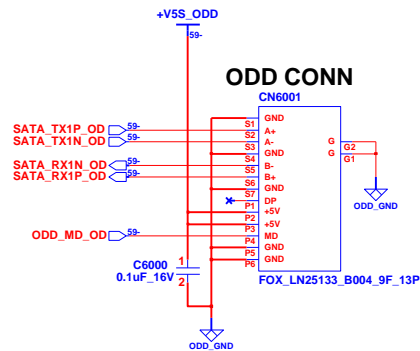
**INVENTEC**

TITLE			
Romeo			
AUDIO & USB Board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	I310A23165-0-MTR	A01
SHEET		58	OF 66

CHANGE by Evan Shih 5-Feb-2010

# SATA ODD

## ODD Board



**INVENTEC**

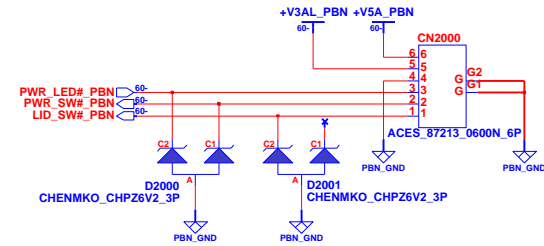
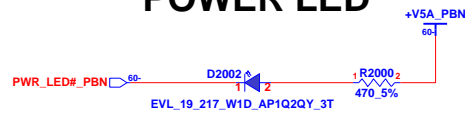
TITLE			
Romeo			
ODD EXT BOARD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23162-0-MTR	A01
SHEET		59	OF 66

CHANGE by *Evan Shih* 5-Feb-2010

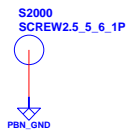
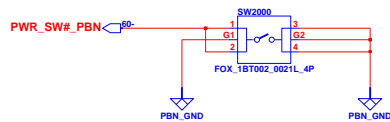
8

# Power Button

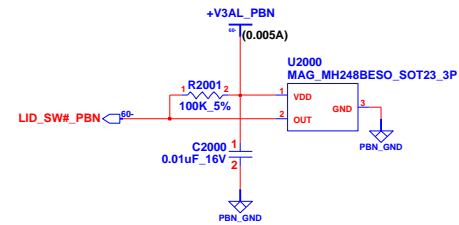
## POWER LED



## POWER BUTTON



## LID SWITCH

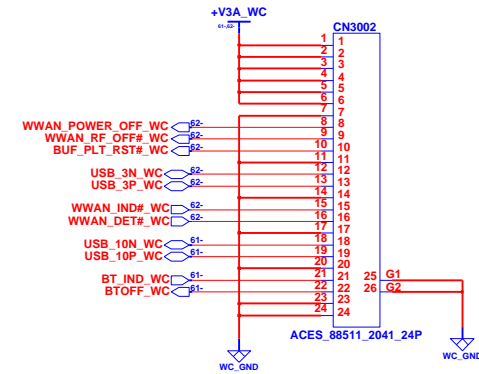
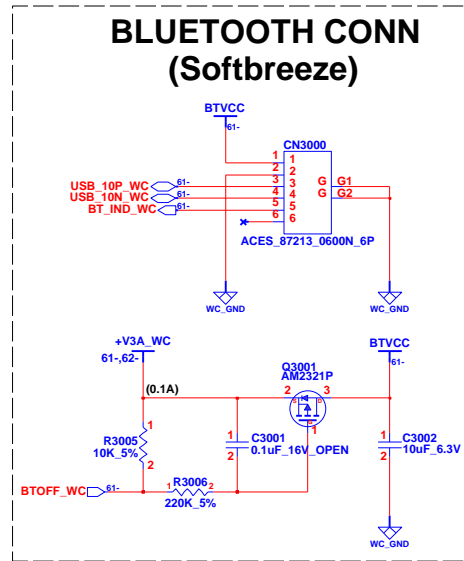


**INVENTEC**

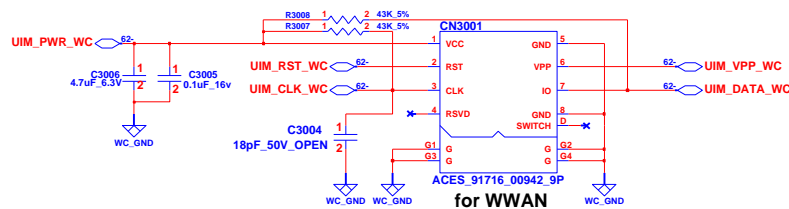
TITLE			
Romeo			
Power SW Board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23174-0-MTR	A01
SHEET		60	OF 66

CHANGE by Evan Shih 5-Feb-2010

# WC Board-1



## SIM CARD CONN



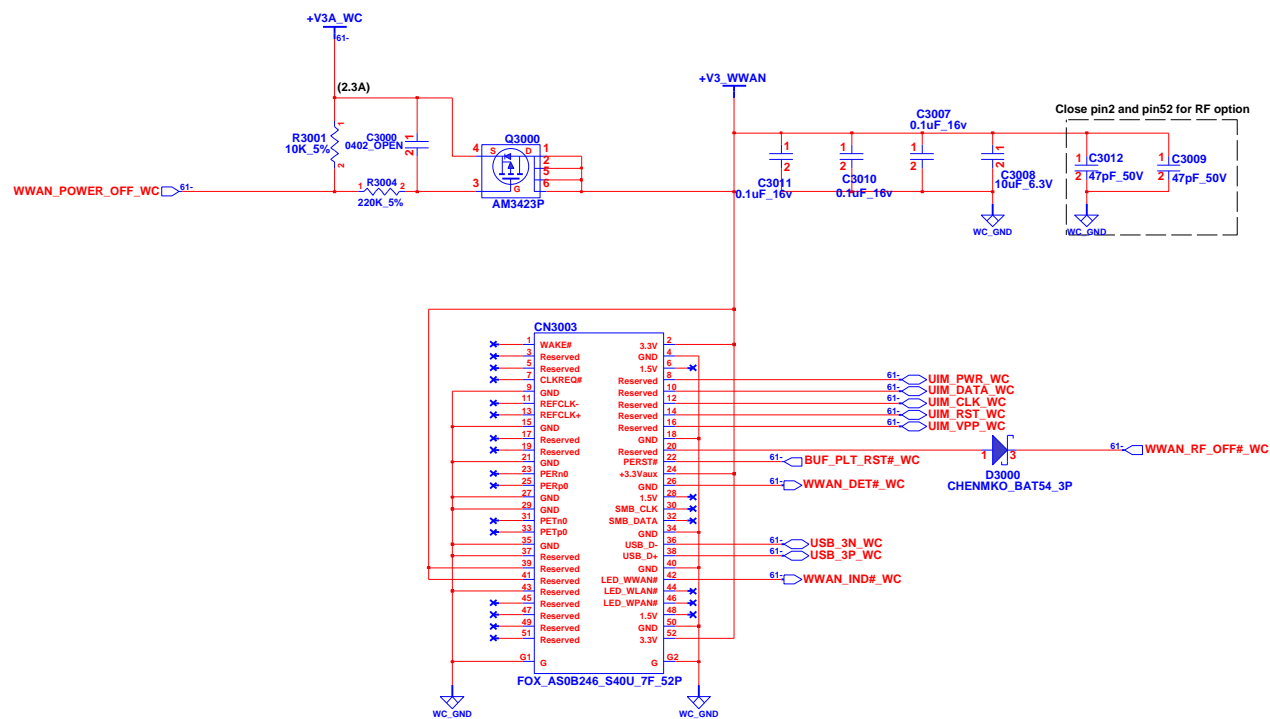
**INVENTEC**

TITLE <b>Romeo WIRELESS Board</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23164-0-MTR</b>	REV <b>A01</b>
SHEET		61	OF 66

CHANGE by *Evan Shih* 5-Feb-2010

# WC Board-2

## WWAN

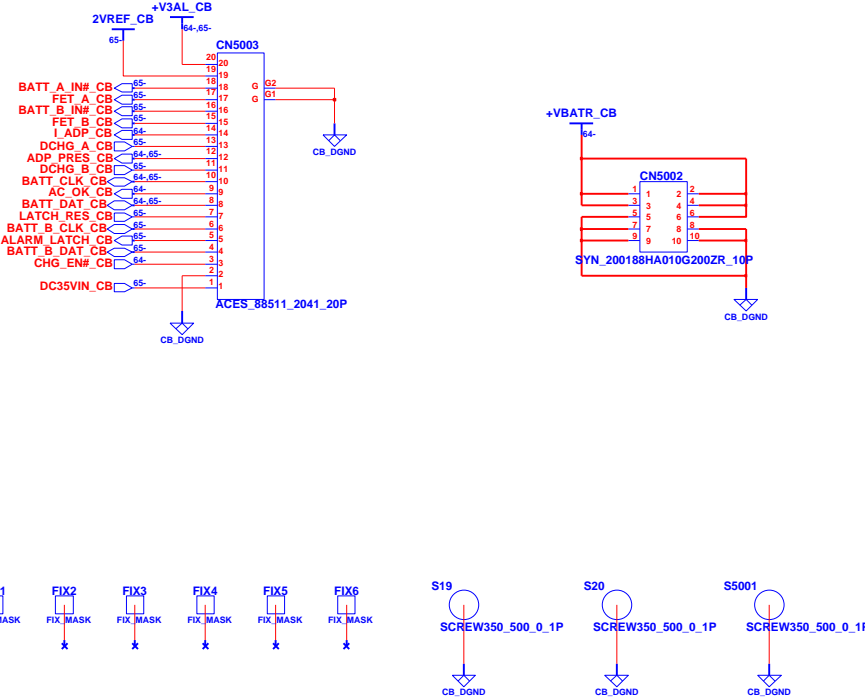


**INVENTEC**

TITLE			
Romeo WIRELESS Board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23164-0-MTR	A01
SHEET		62	OF 66

CHANGE by Evan Shih 5-Feb-2010

# CHG Board-1

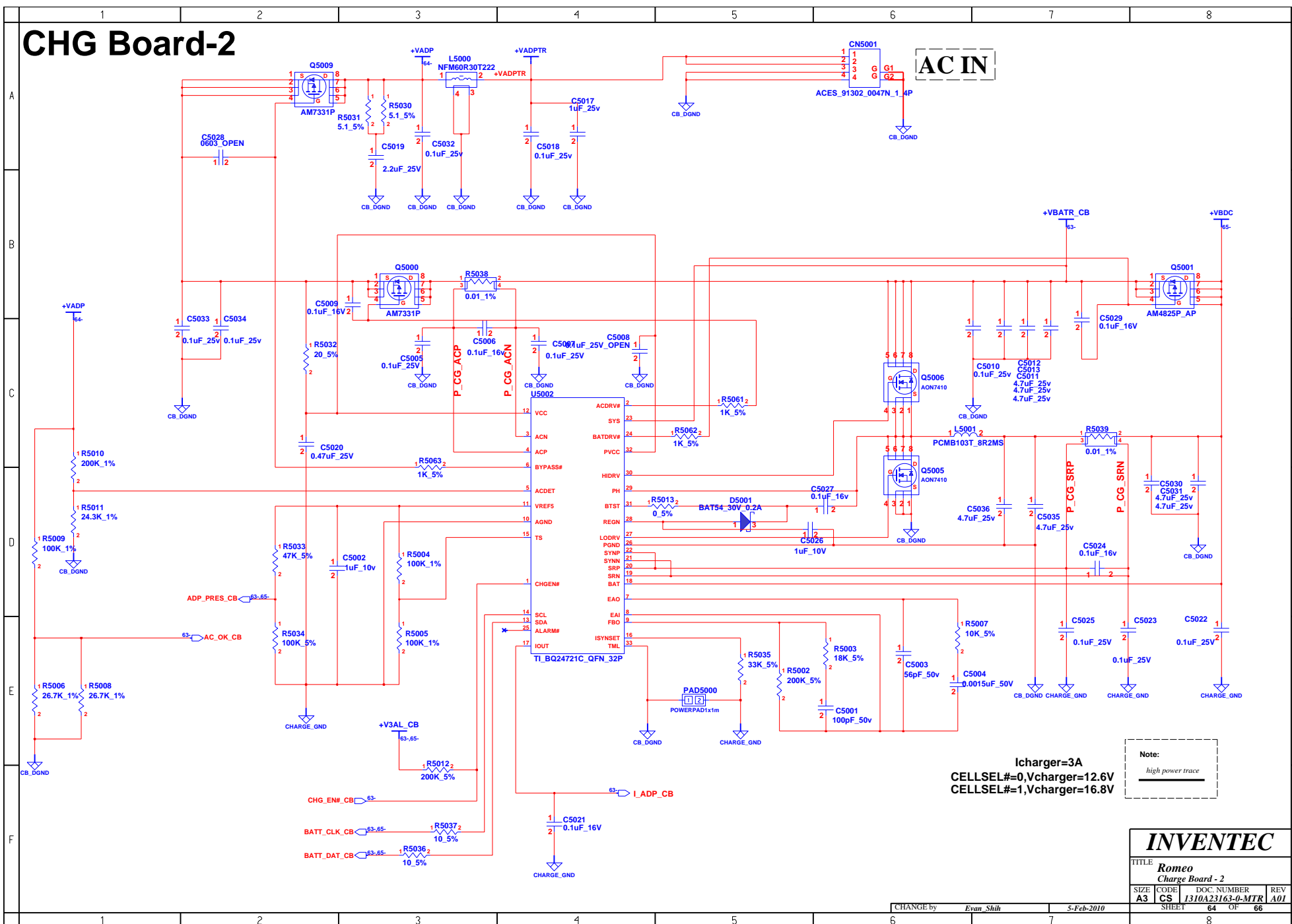


**INVENTEC**

TITLE			
Romeo Charge Board - 1			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23163-0-MTR	A01
SHEET		63	OF 66

CHANGE by Evan Shih 5-Feb-2010

## CHG Board-2





[illegible]

BATT_A_ID_CB	HI	LOW
SERIES	3	4
VOLTAGE	12.6V	16.8V

**INVENTEC**

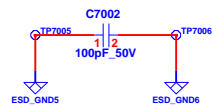
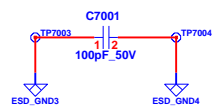
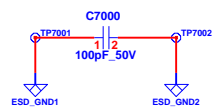
TITLE	<b><i>Romeo</i></b> <b><i>Charge Board - 3</i></b>
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SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23163-0-MTR</b>	REVISION <b>A</b>
SHEET		65	OF 66

CHANGE by *Evan Shih*

3-Feb-2010

# EMC Board



INVENTEC			
TITLE <i>Romeo</i> EMC			
SIZE A3	CODE CS	DOC. NUMBER 1310A23671-0-MTR	REV A01
CHANGE by EV145I		5-Feb-2010	
SHEET 66		OF 66	