

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

ST145i - (PELE)

MV BUILD

2010/03/22

DATE	CHANGE NO.	REV
1	2	

DRAWER	EE	DATE	POWER	DATE	INVENTEC			
DESIGN	Justin Chen	1/05						
CHECK	Justin Chen	1/05						
RESPONSIBLE								
SIZE = 3					SIZE	CODE	DOC. NUMBER	REV
FILE NAME : XXXX-XXXXXX-XX					A3	CS	1310A23133-0-MTR	A04
P/N XXXXXXXXXXXX					SHEET 1 OF 49			

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- 02. INDEX
- 03. Block Diagram
- 04. POWER Procedure
- 05. DC & CHARGE Circuit
- 06. Battery CONN
- 07. +V3A & +V5A
- 08. +V1.5 & +V0.75
- 09. +V1.8S & +V1.05S
- 10. +VCC_CORE
- 11. +VGFX_CORE
- 12. Reserve & Page
- 13. +V5S & +V3S
- 14. CLK GEN
- 15. CPU-1
- 16. CPU-2
- 17. CPU-3
- 18. CPU-4
- 19. CPU-5
- 20. CPU-6
- 21. Thermal, Fan & XDP
- 22. DDR3-1
- 23. DDR3-2
- 24. PCH-1
- 25. PCH-2
- 26. PCH-3
- 27. PCH-4
- 28. PCH-5
- 29. PCH-6
- 30. PCH-7

PAGE

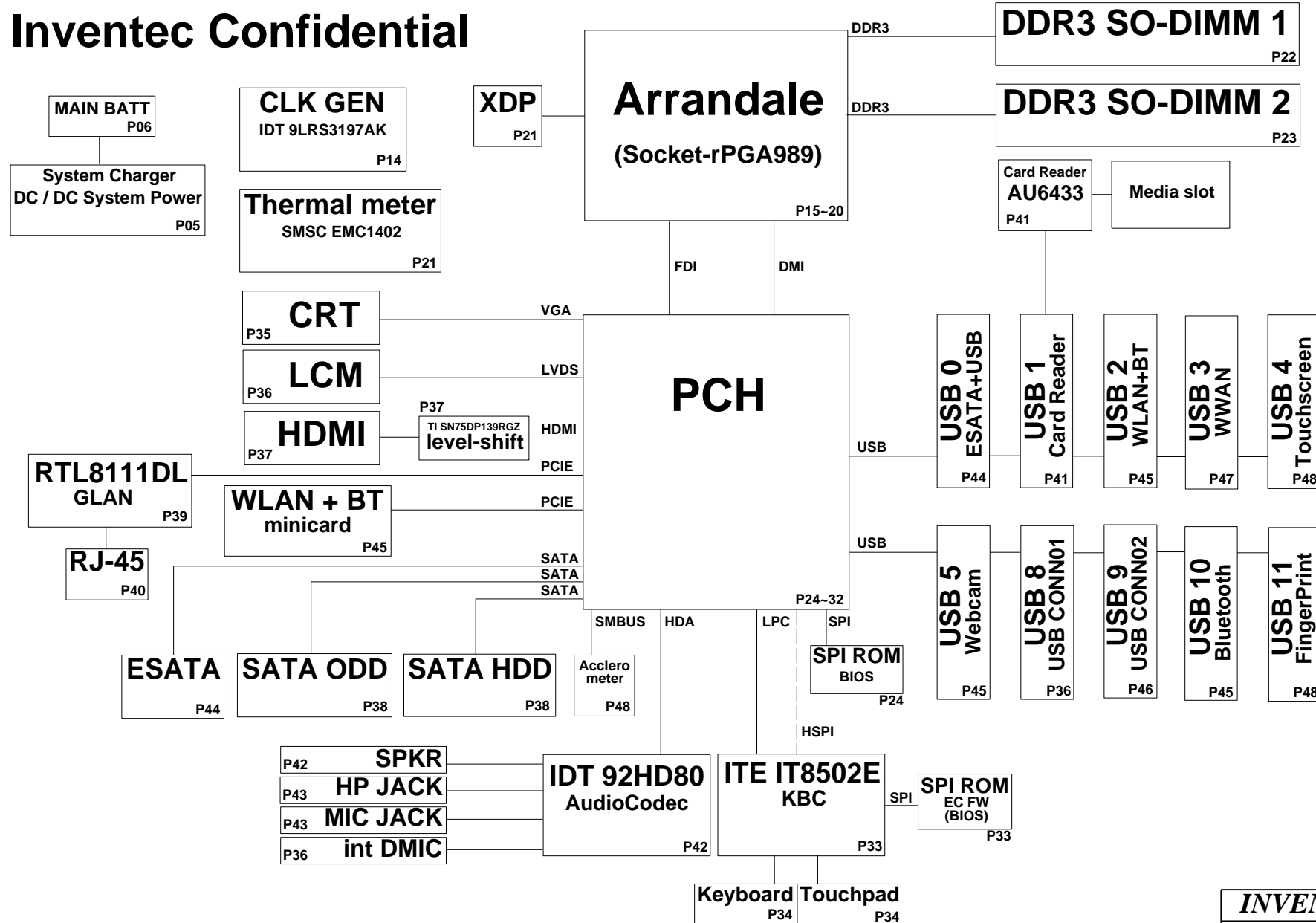
- 31. PCH-8
- 32. PCH-9
- 33. KBC
- 34. Keyboard & TouchPad
- 35. CRT CONN
- 36. LCM CONN
- 37. HDMI Level-Shift
- 38. SATA HDD & ODD
- 39. LAN
- 40. RJ-45
- 41. Card Reader
- 42. Audio Codec
- 43. HP JACK & MIC JACK
- 44. ESATA, SCREW
- 45. WLAN & BlueTooth
- 46. USB, PowerButton(DB)
- 47. WWAN(Optional)
- 48. TouchScreen, FP & HD LOCK(Optional)

INVENTEC

TITLE PELE <i>Index</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>1310A2313301-0-MTR</i>	REV A
SHEET		2	OF 49

CHANGE by *Justin Chen* 5-Jan-2010

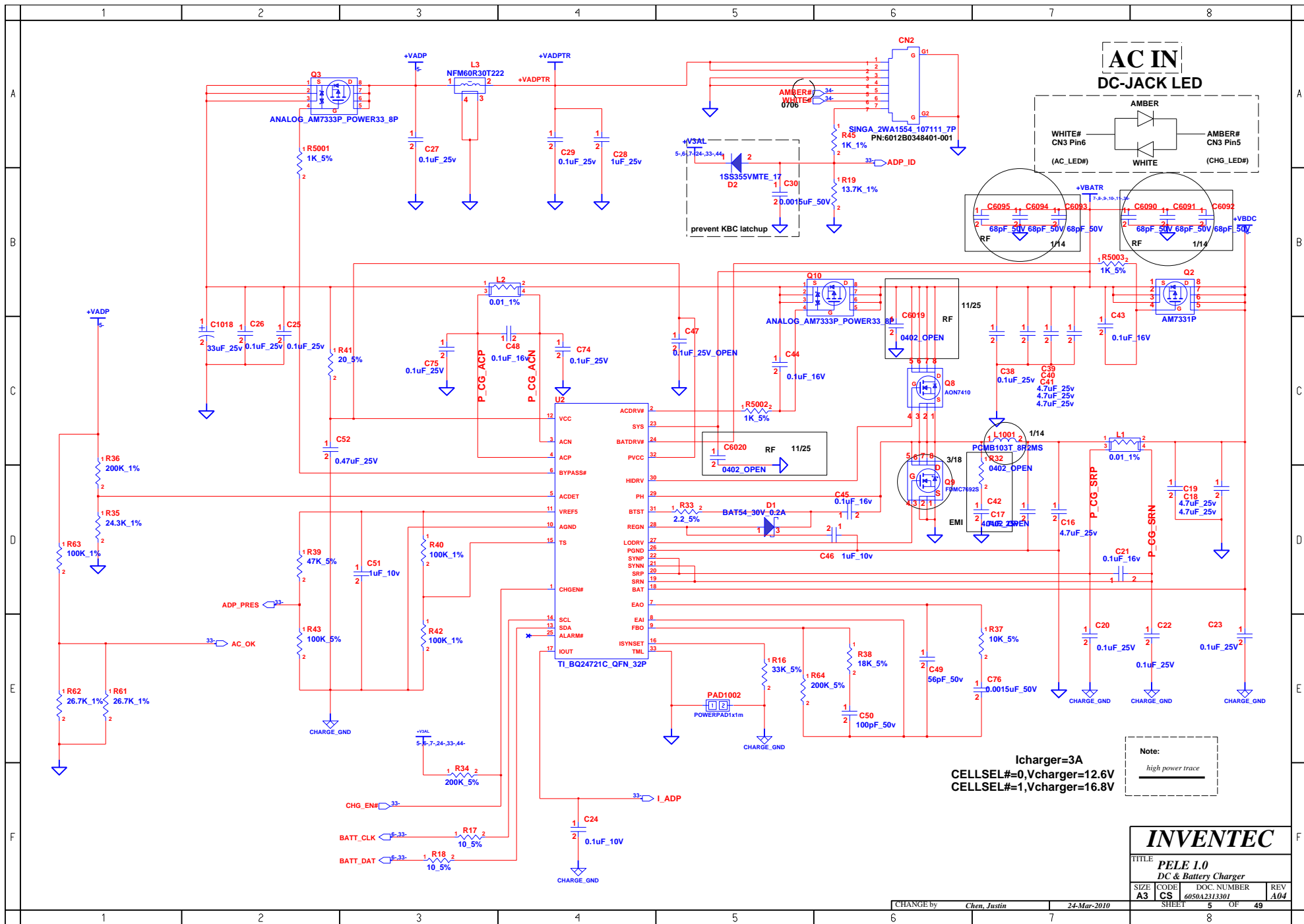
Inventec Confidential



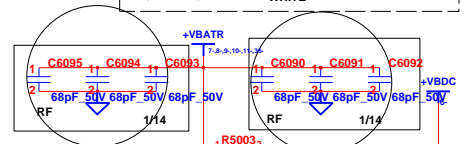
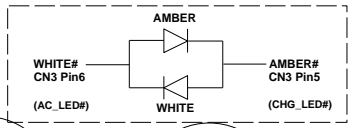
INVENTEC

TITLE PELE Block Diagram			
SIZE A3	CODE CS	DOC. NUMBER 1310A2313301-0-MTR	REV A
SHEET		3	OF 49

CHANGE by *Justin Chen* 5-Jan-2010



AC IN DC-JACK LED



Note:
high power trace

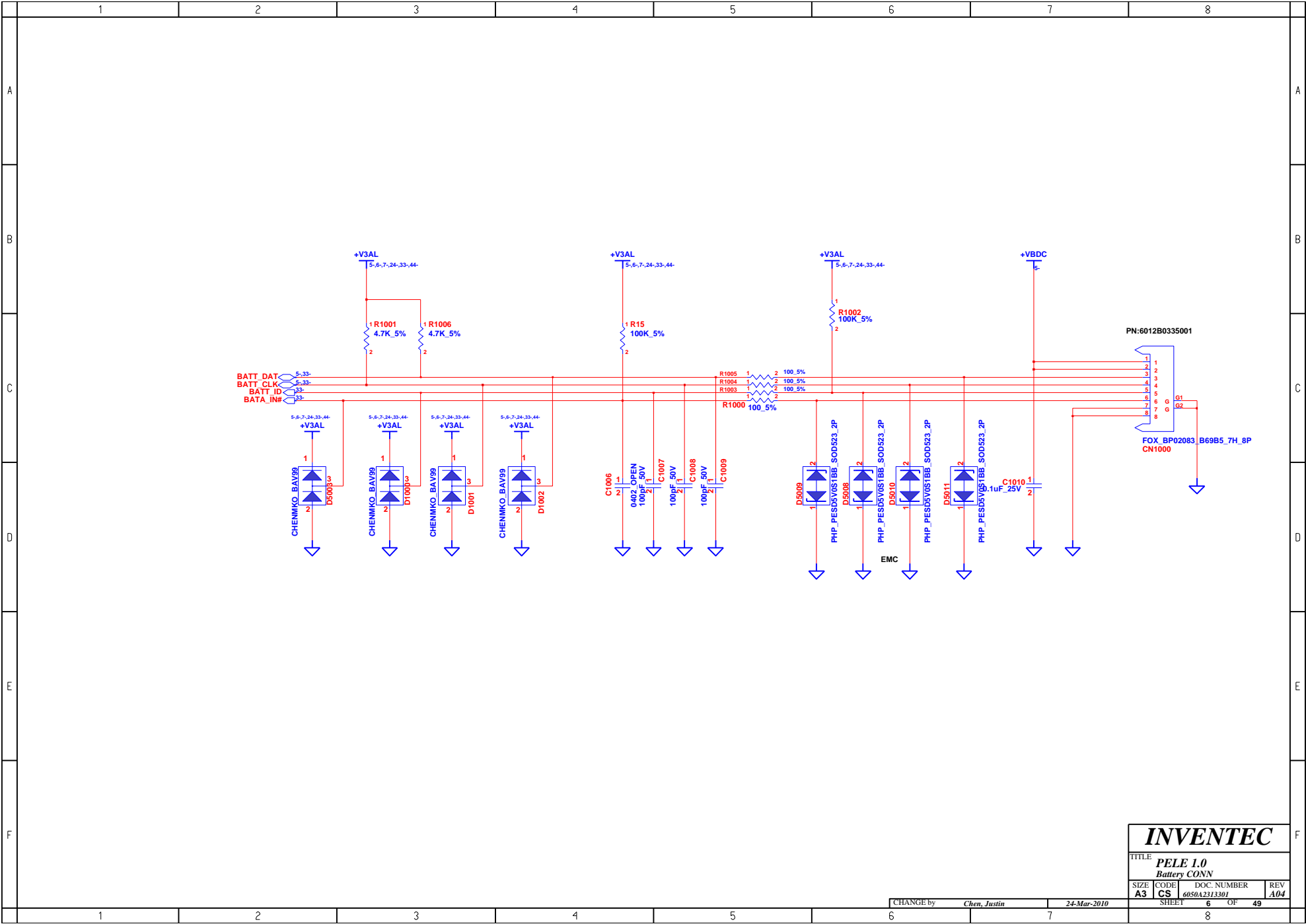
Icharger=3A
CELLSEL#=0,Vcharger=12.6V
CELLSEL#=1,Vcharger=16.8V

INVENTEC

TITLE PELE 1.0 DC & Battery Charger			
SIZE A3	CODE CS	DOC. NUMBER 6050A2313301	REV A04

CHANGE by: Chen, Justin 24-Mar-2010

SHEET 5 OF 49



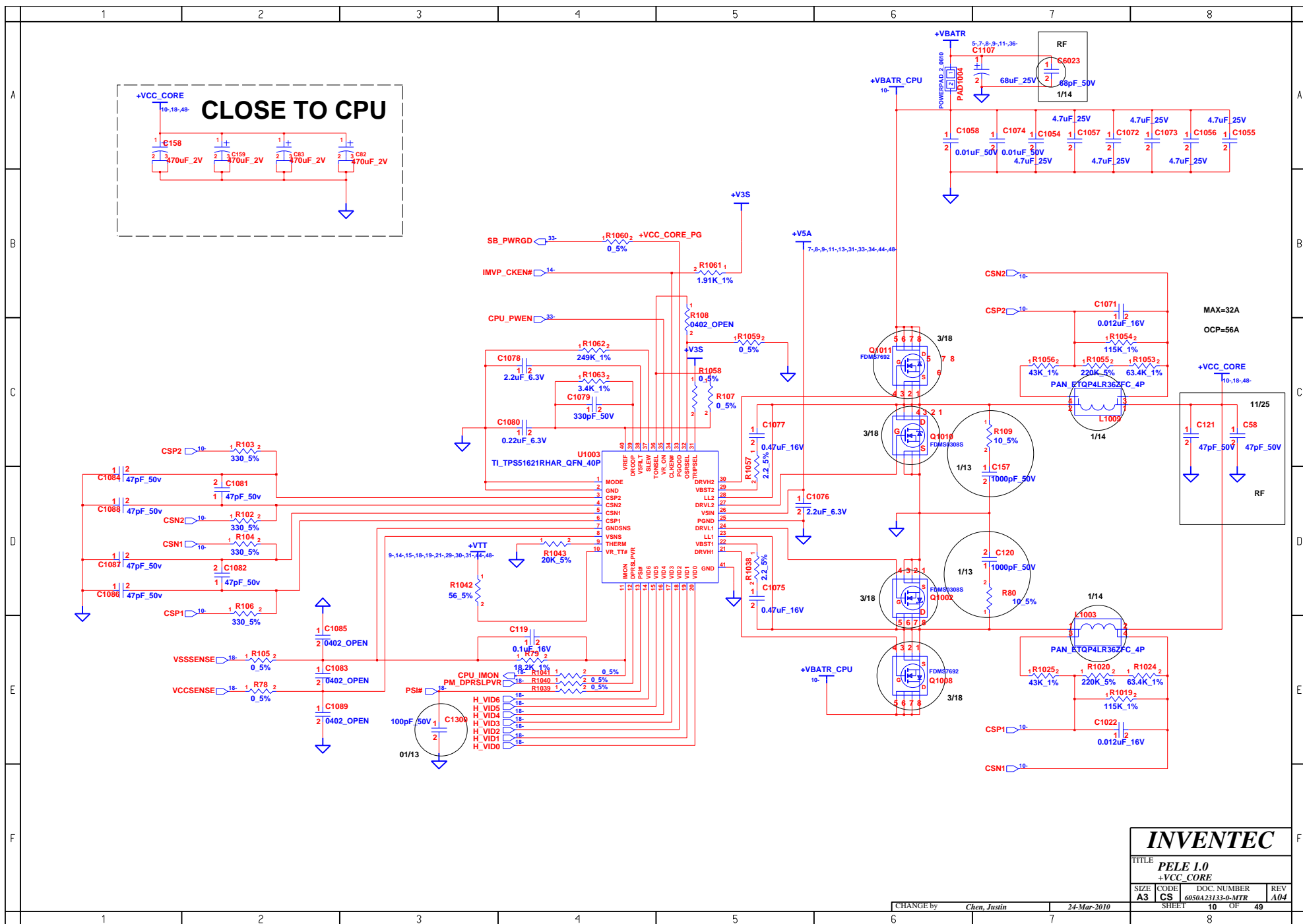
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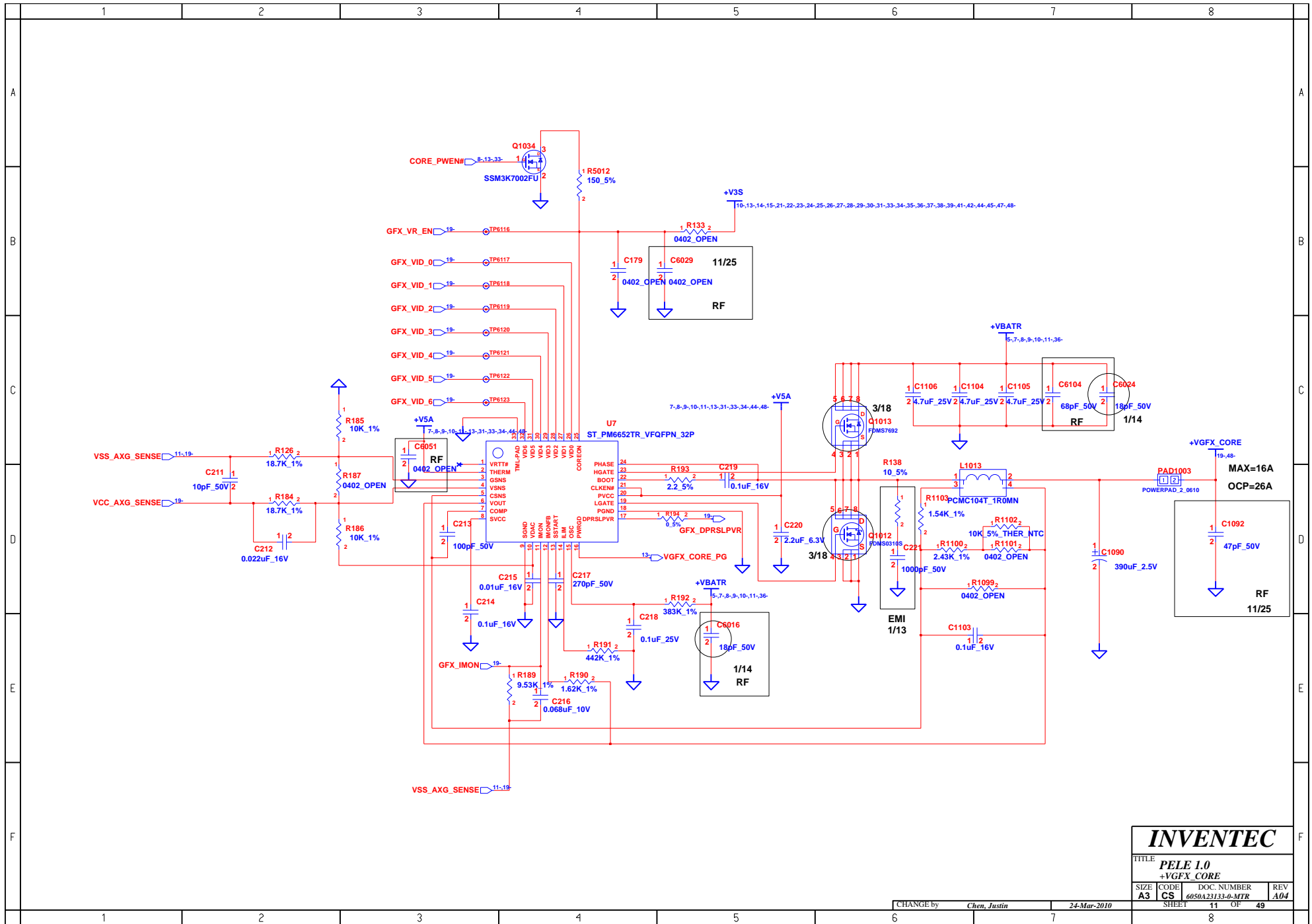
TITLE
PELE 1.0
Battery CONN

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2313301	A04

CHANGE by *Chen, Justin* 24-Mar-2010

SHEET 6 OF 49

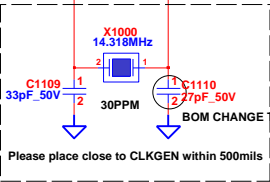




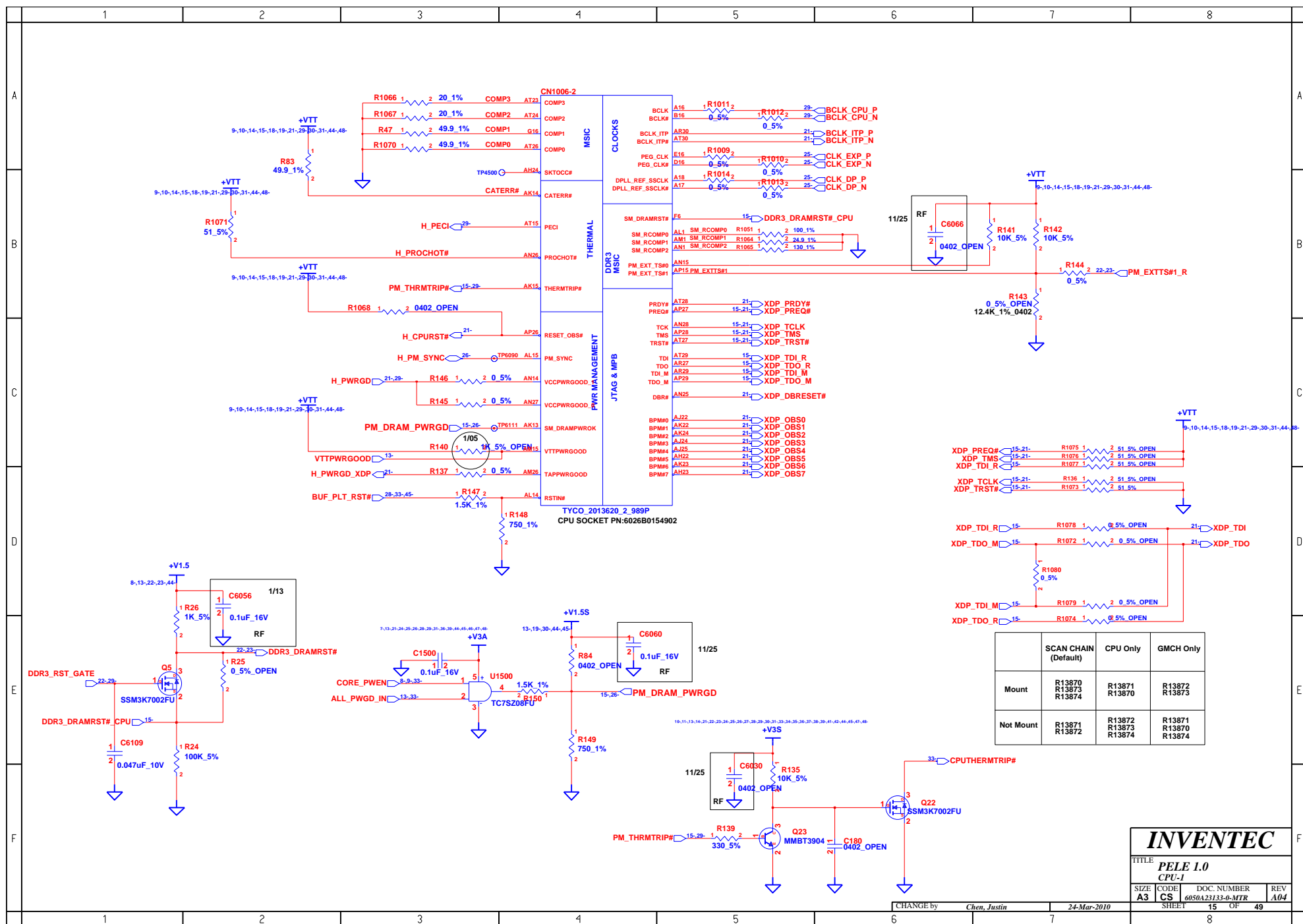
	1	2	3	4	5	6	7	8	
A									A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

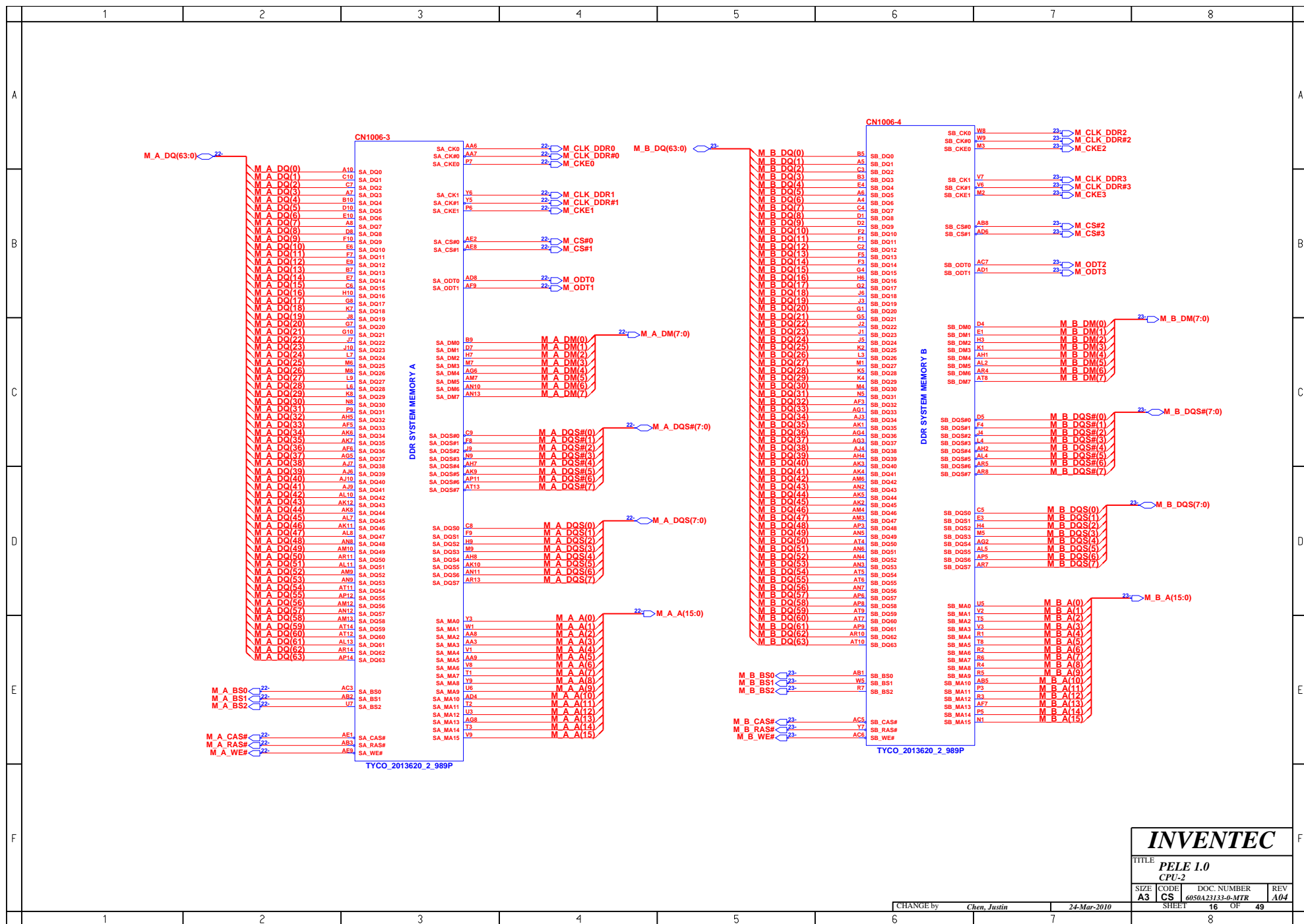
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TITLE PELE 1.0 <i>Reserve Page</i>			
SIZE A3	CODE CS	DOC. NUMBER <i>6050A231/33-0-MTR</i>	REV <i>A04</i>
CHANGE by <i>Chen, Justin</i>		24-Mar-2010	
SHEET		12	OF 49

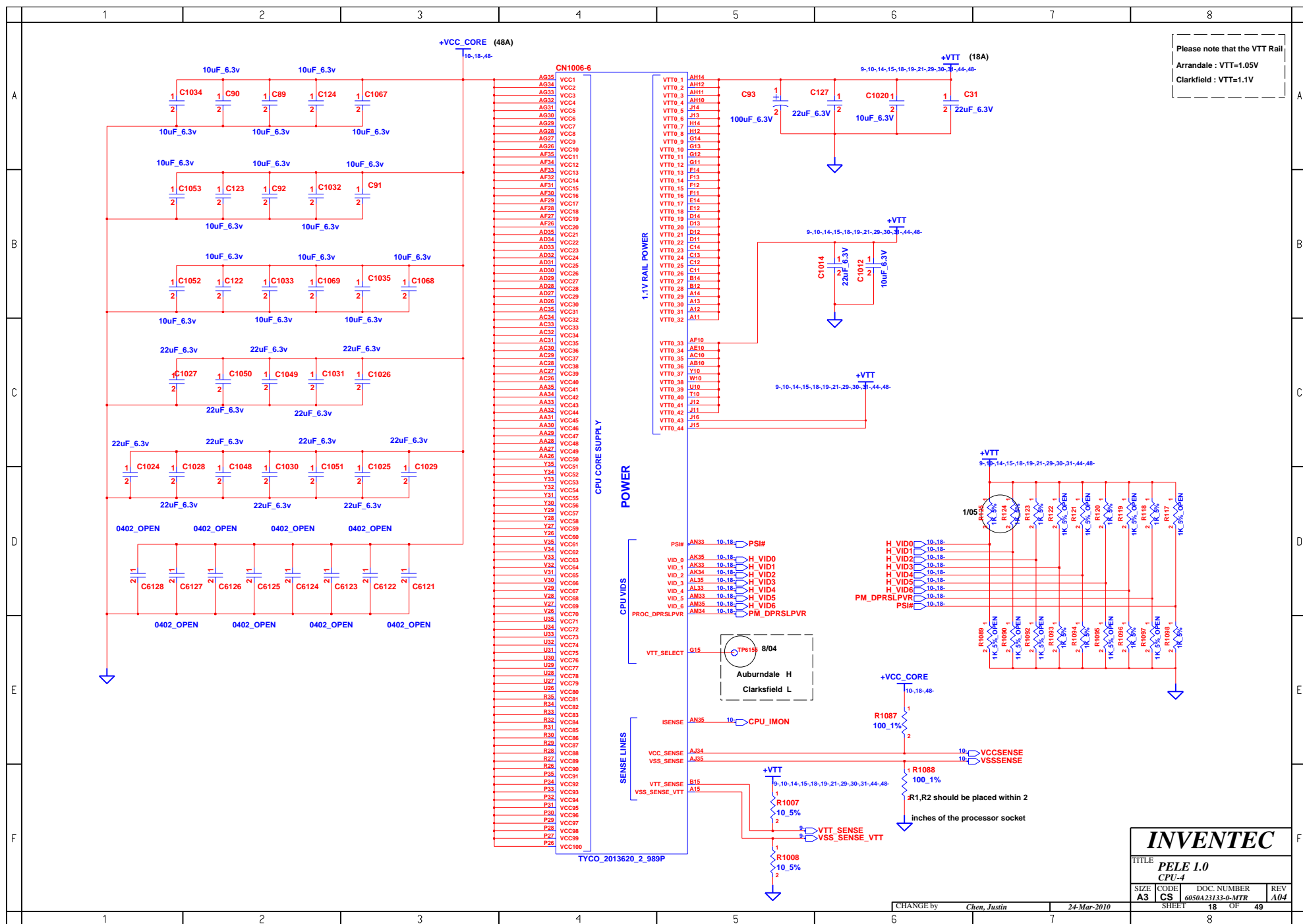
Layout note: All decoupling 0.1uF disperse closed to pin

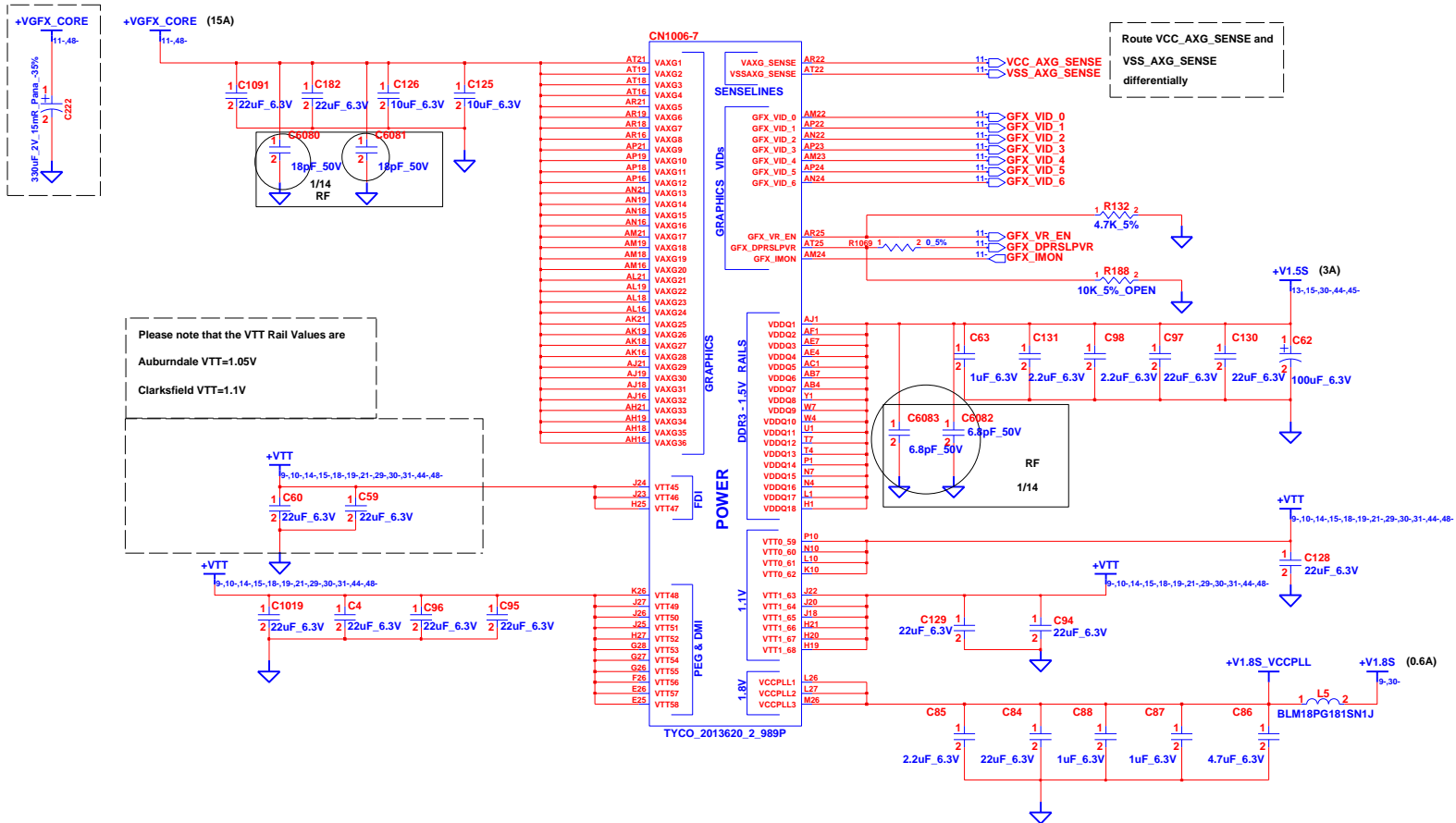


CHANGE by	<i>Chen, Justin</i>	<i>24-Mar-2010</i>
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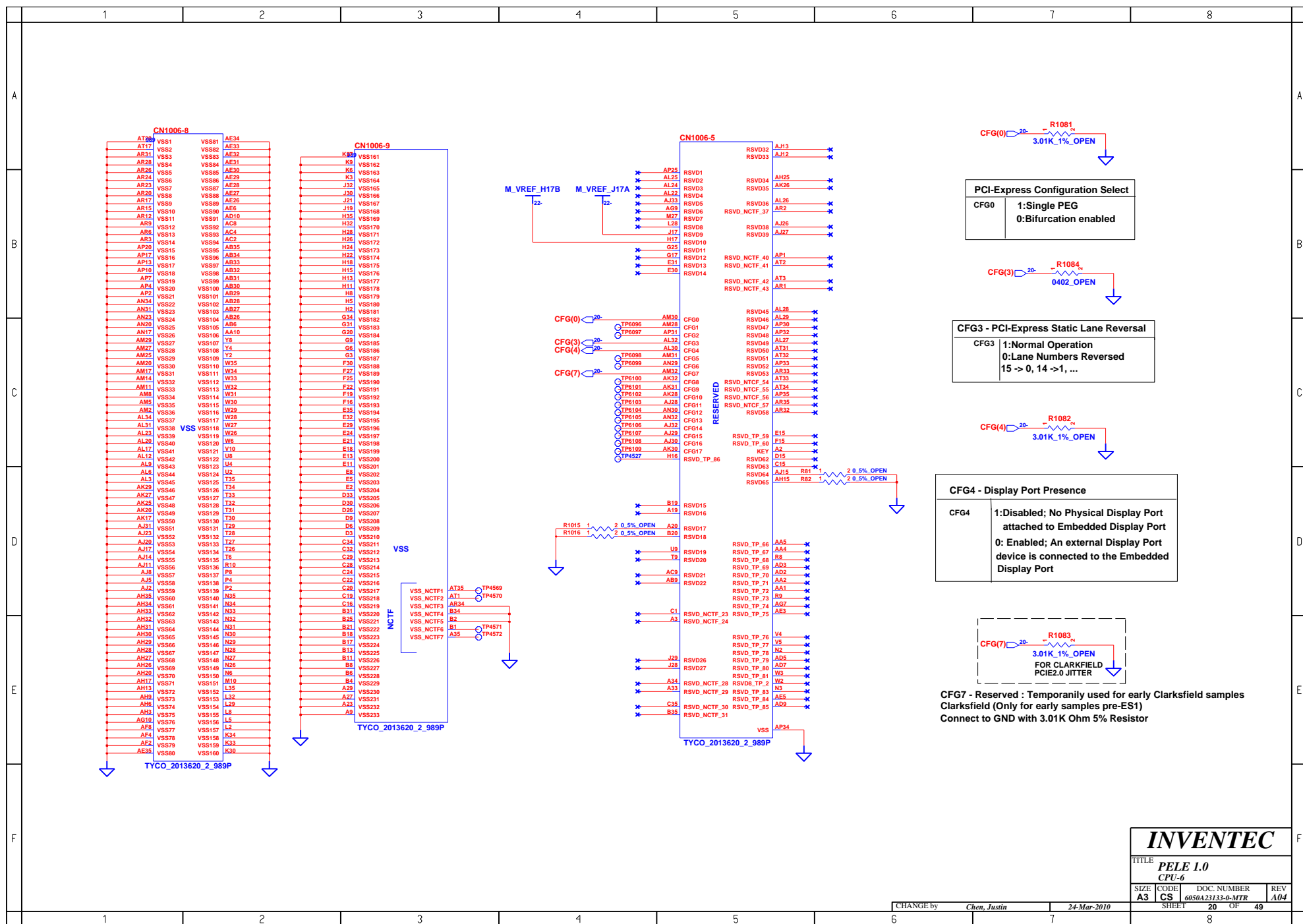


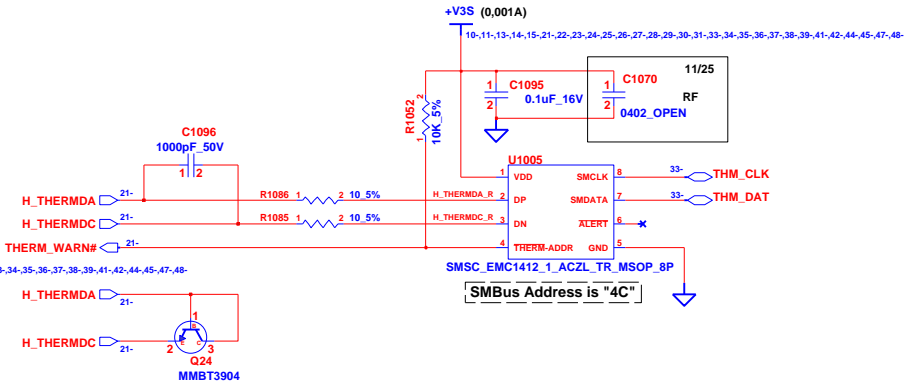


INVENTEC

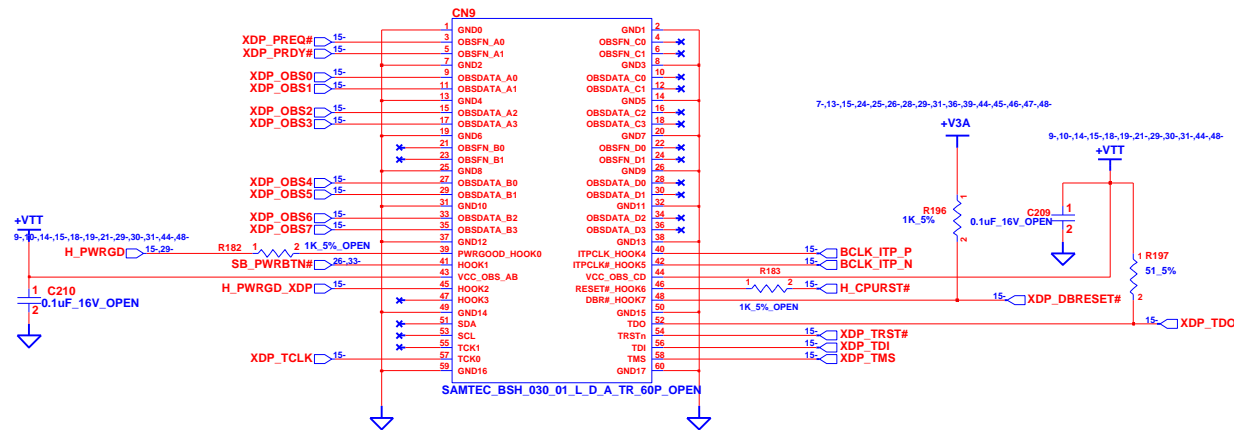
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PELE 1.0			
CPU-5			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
SHEET		19	OF 49

CHANGE by Chen, Justin 24-Mar-2010

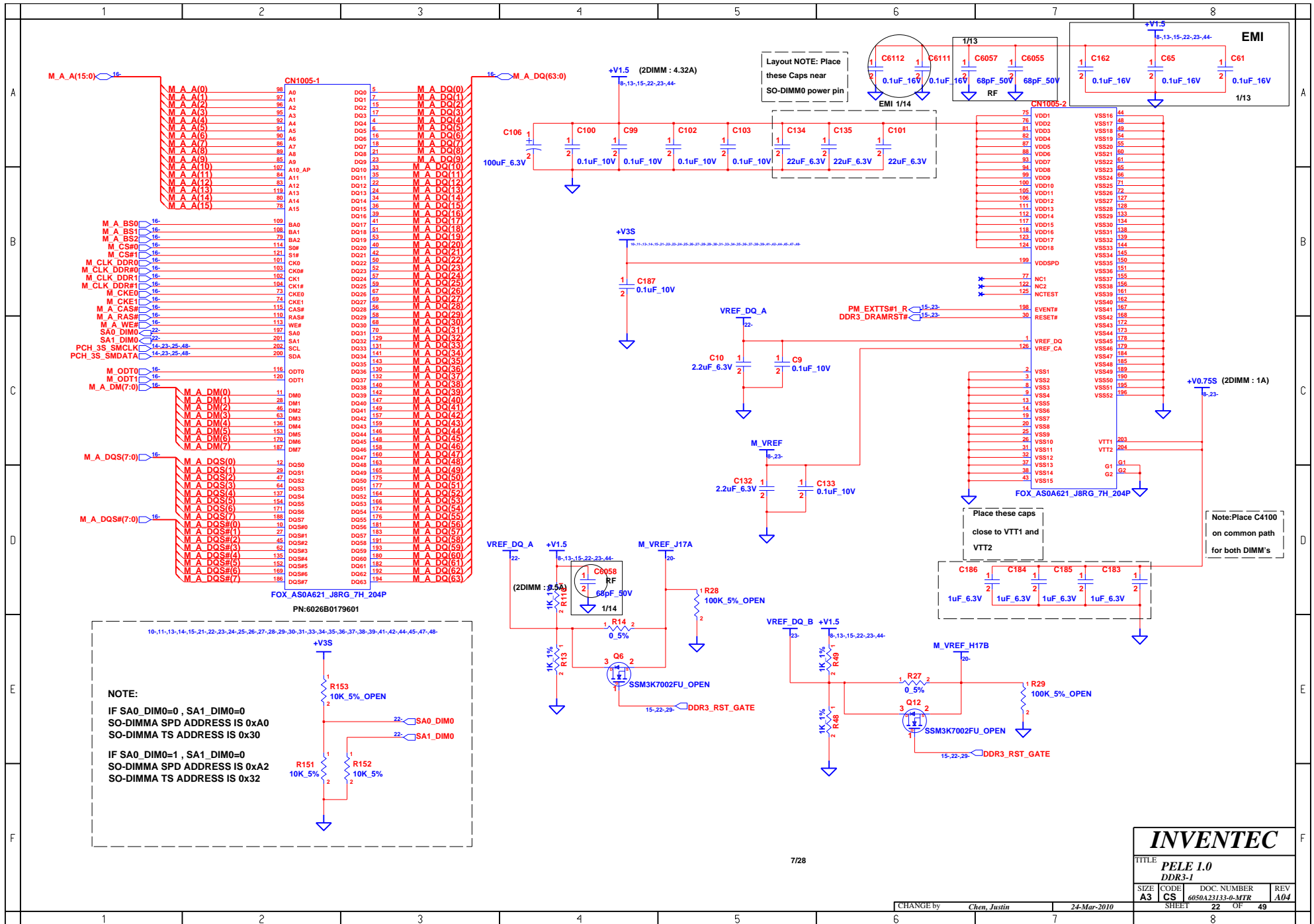


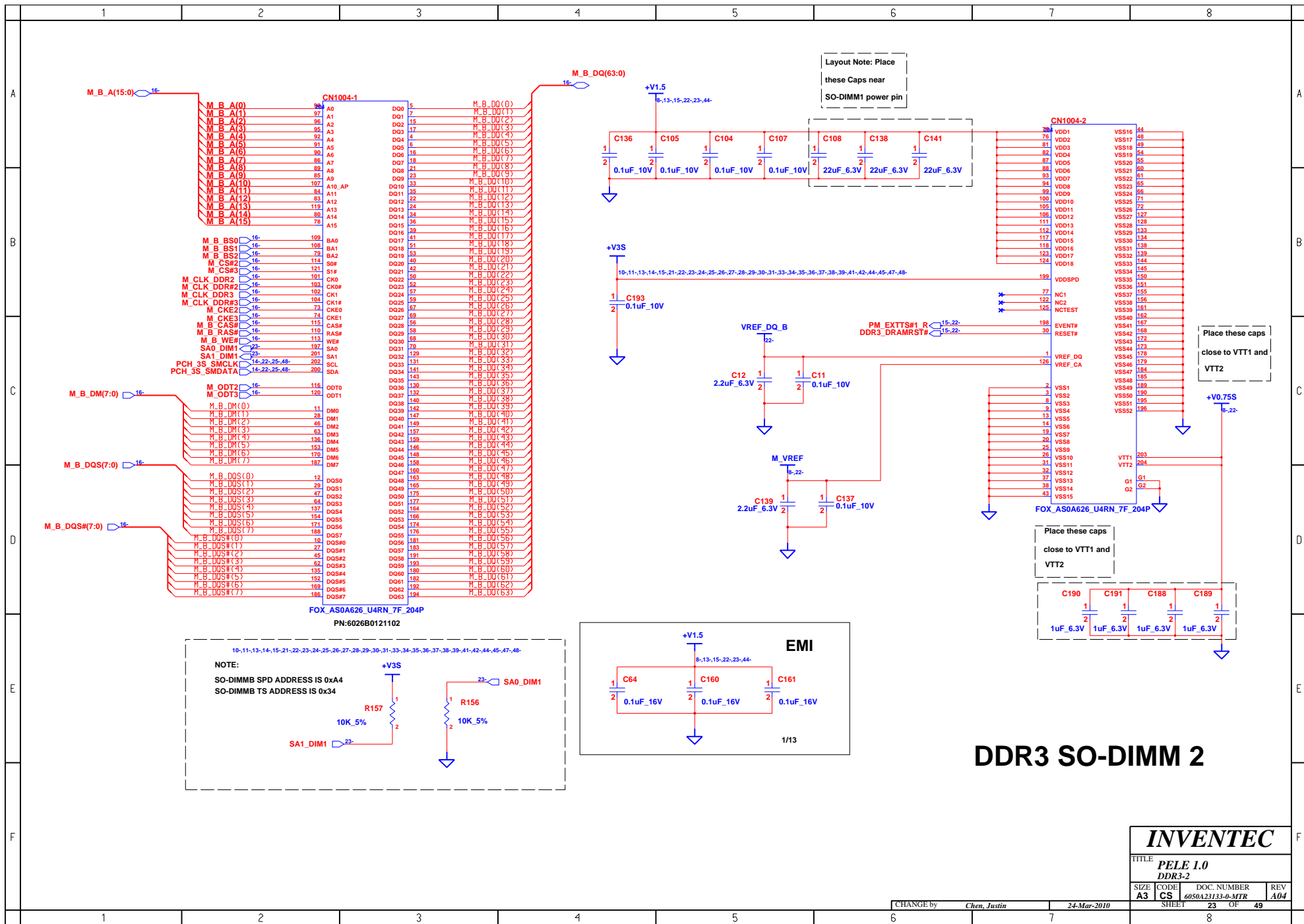


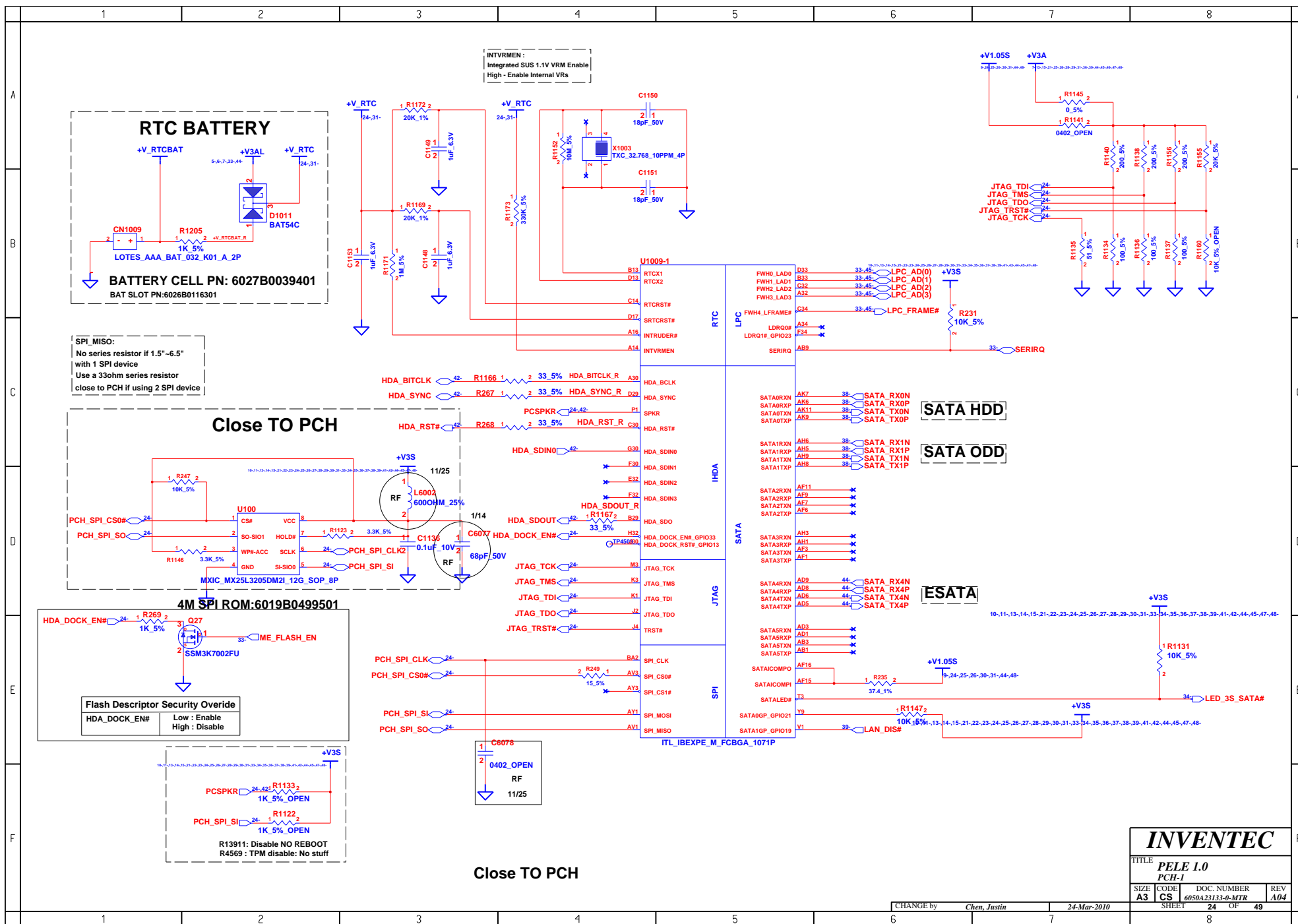
XDP CONNECTOR



TITLE			
PELE 1.0 <i>Thermal, Fan & XDP</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
SHEET		21	OF 49

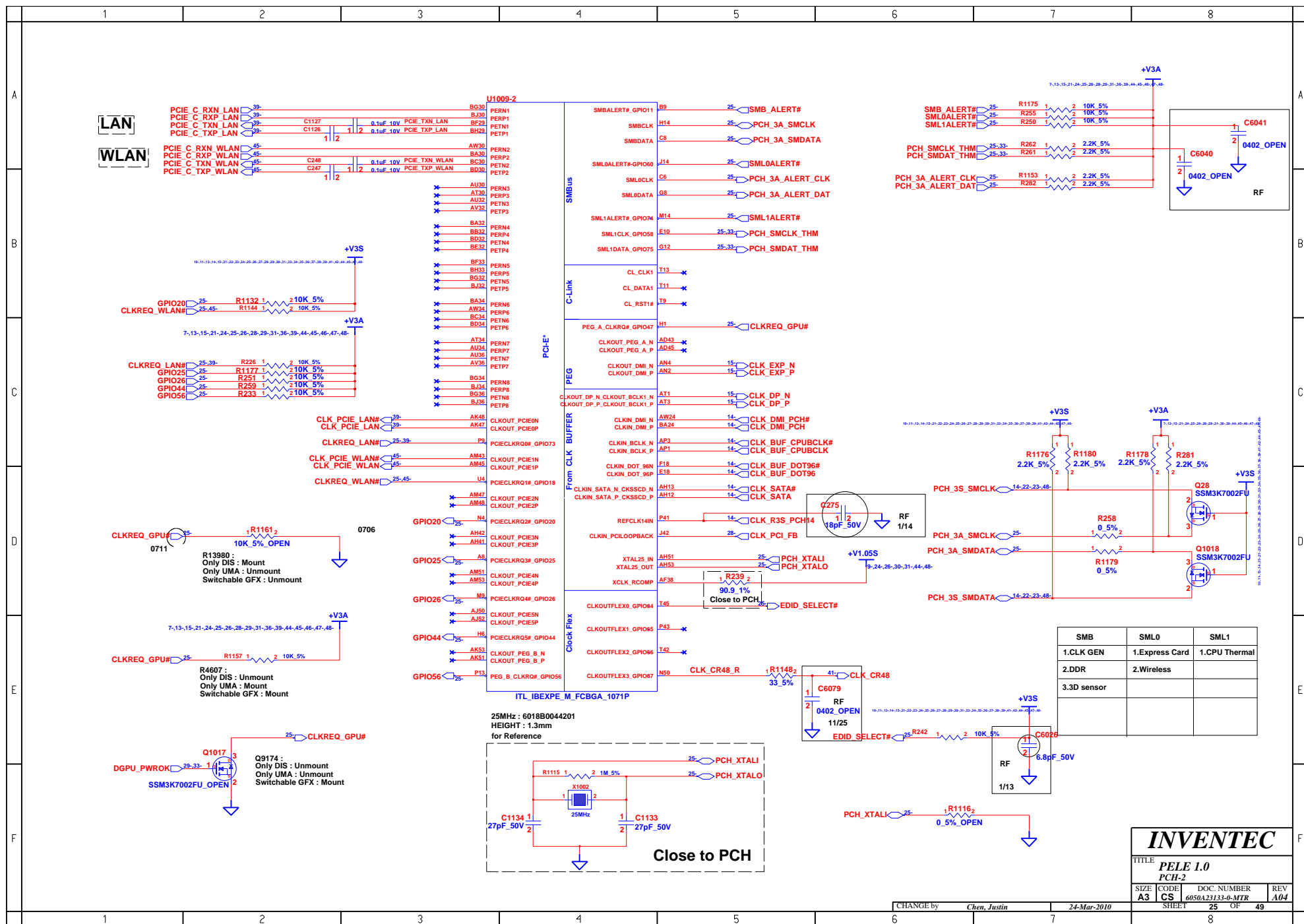


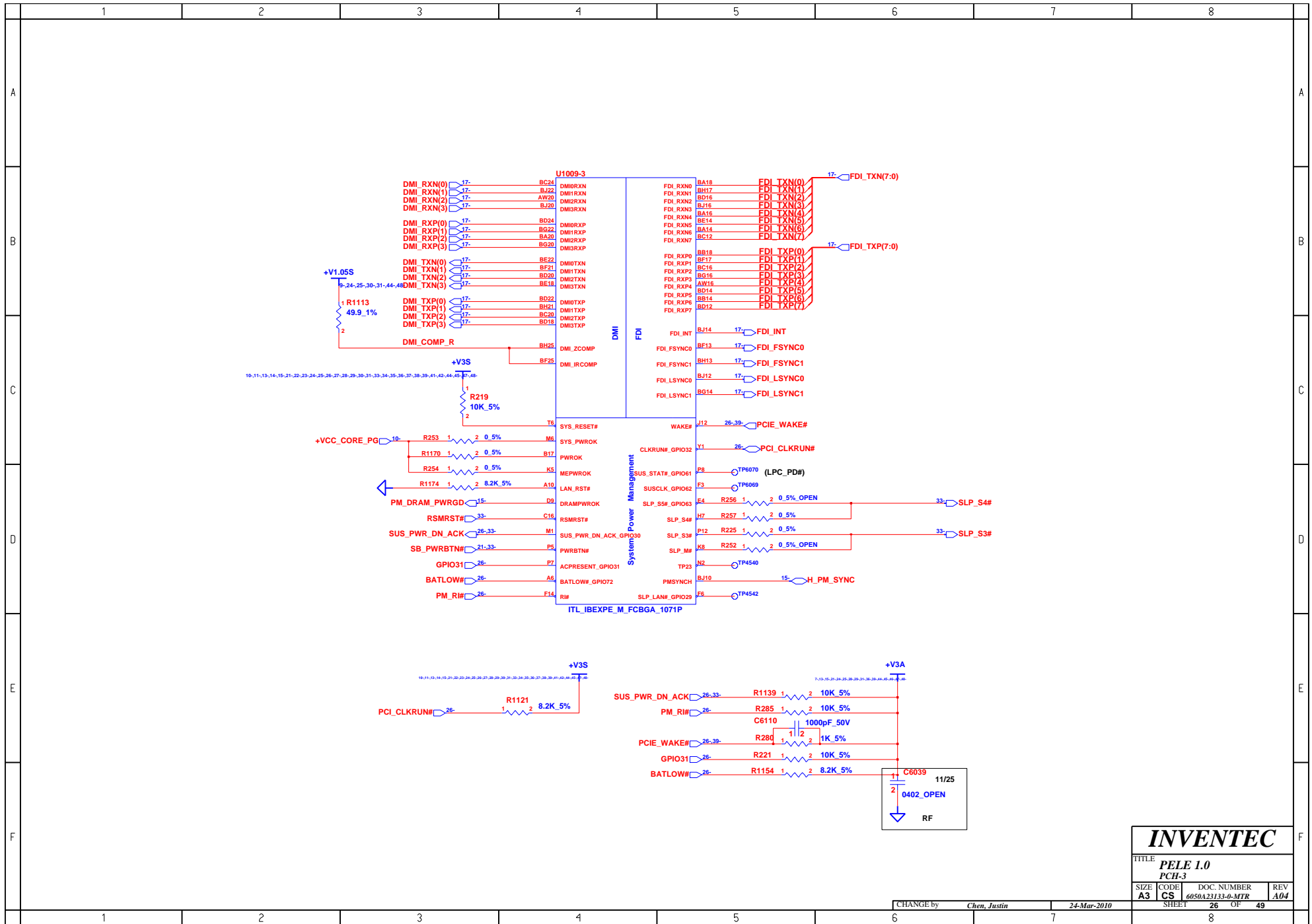




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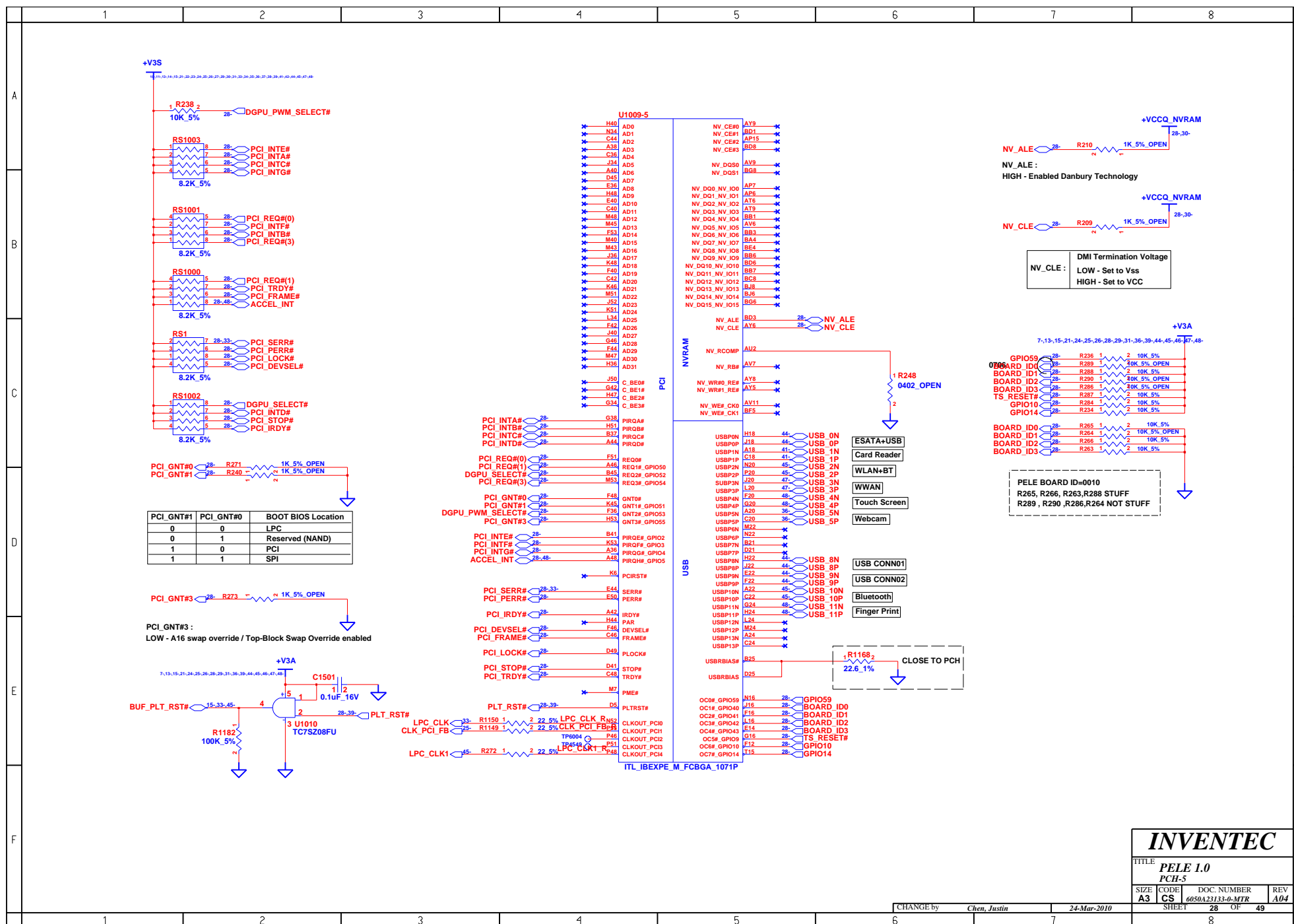
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SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
SHEET		24	OF 49

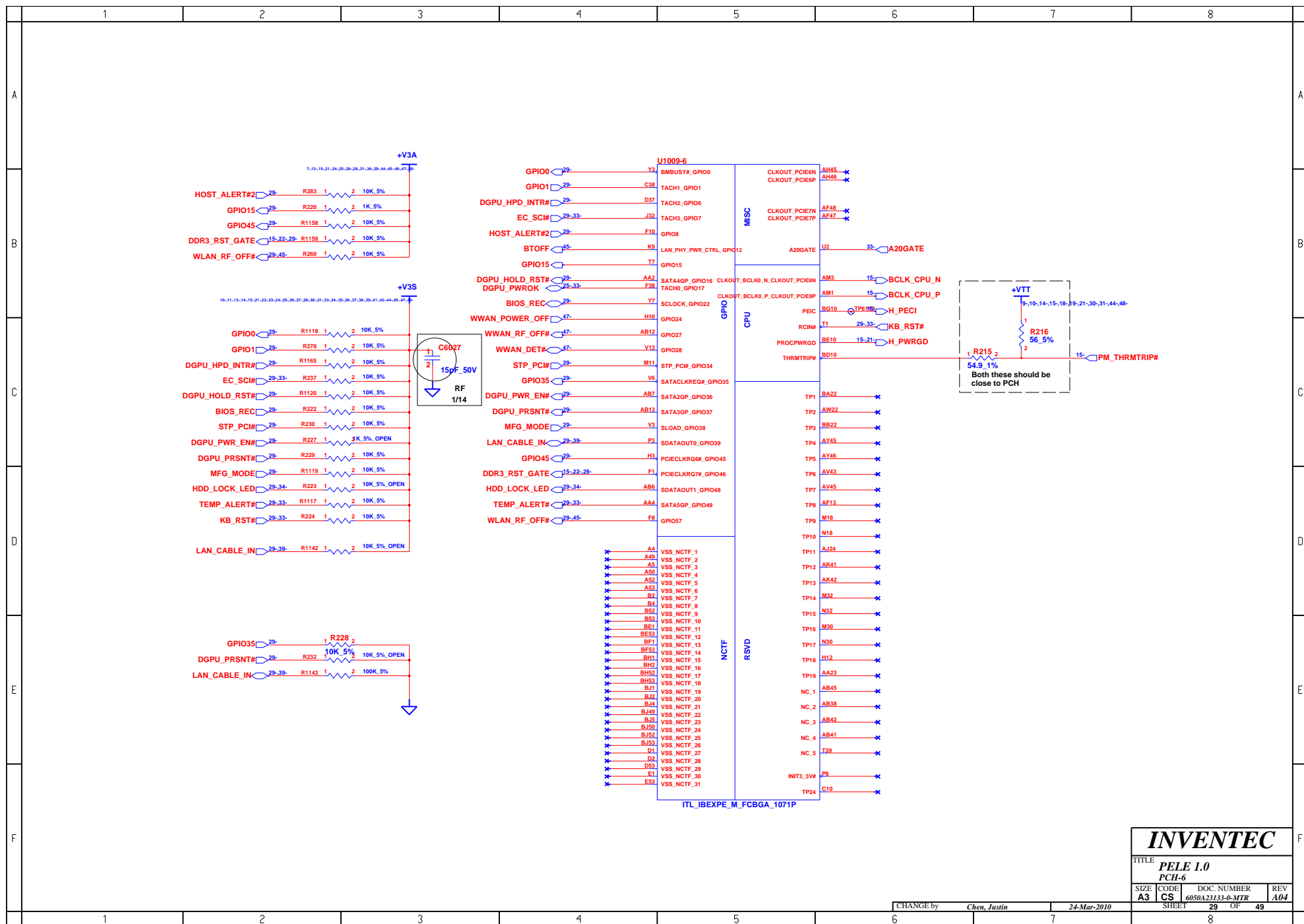


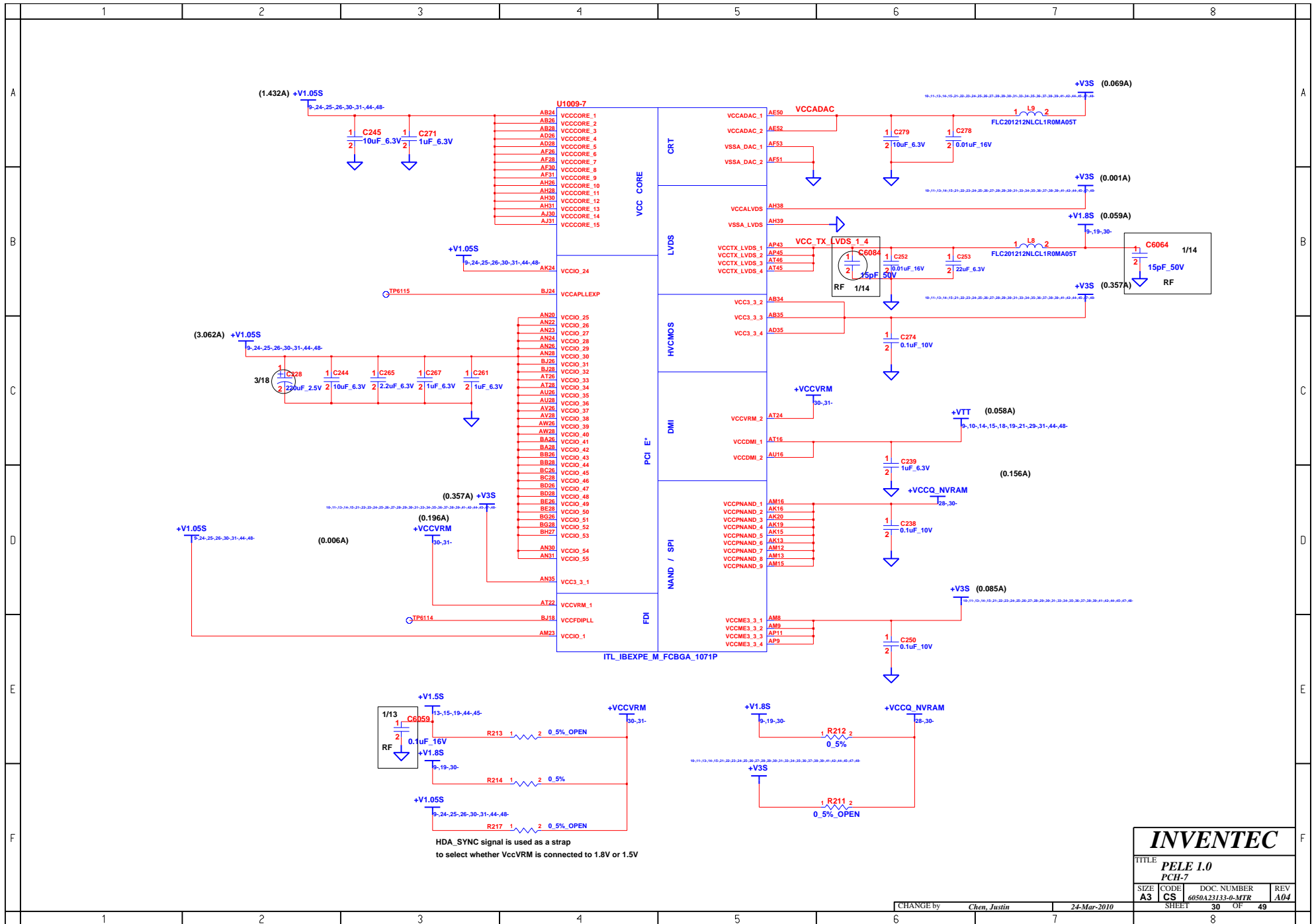


INVENTEC

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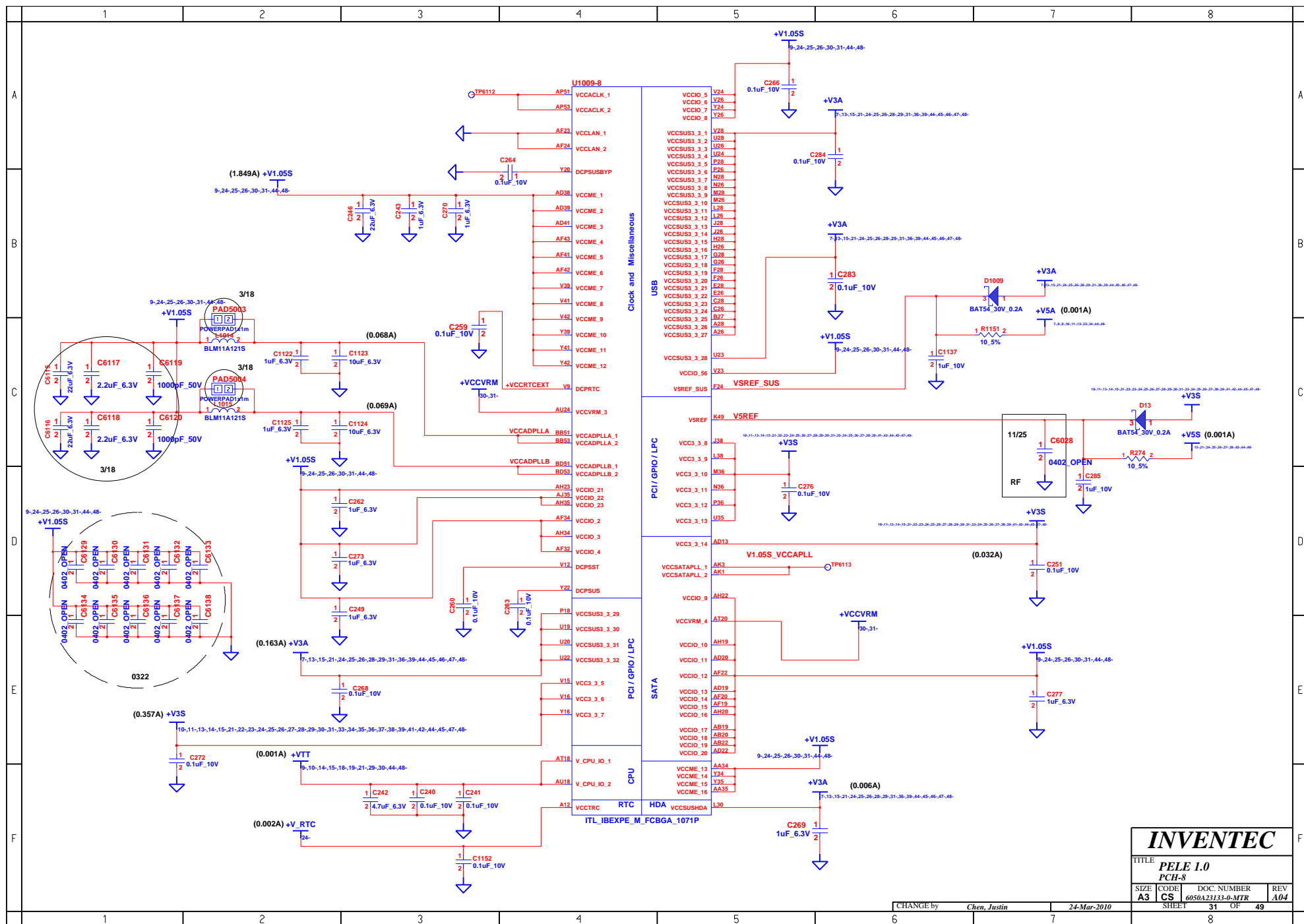


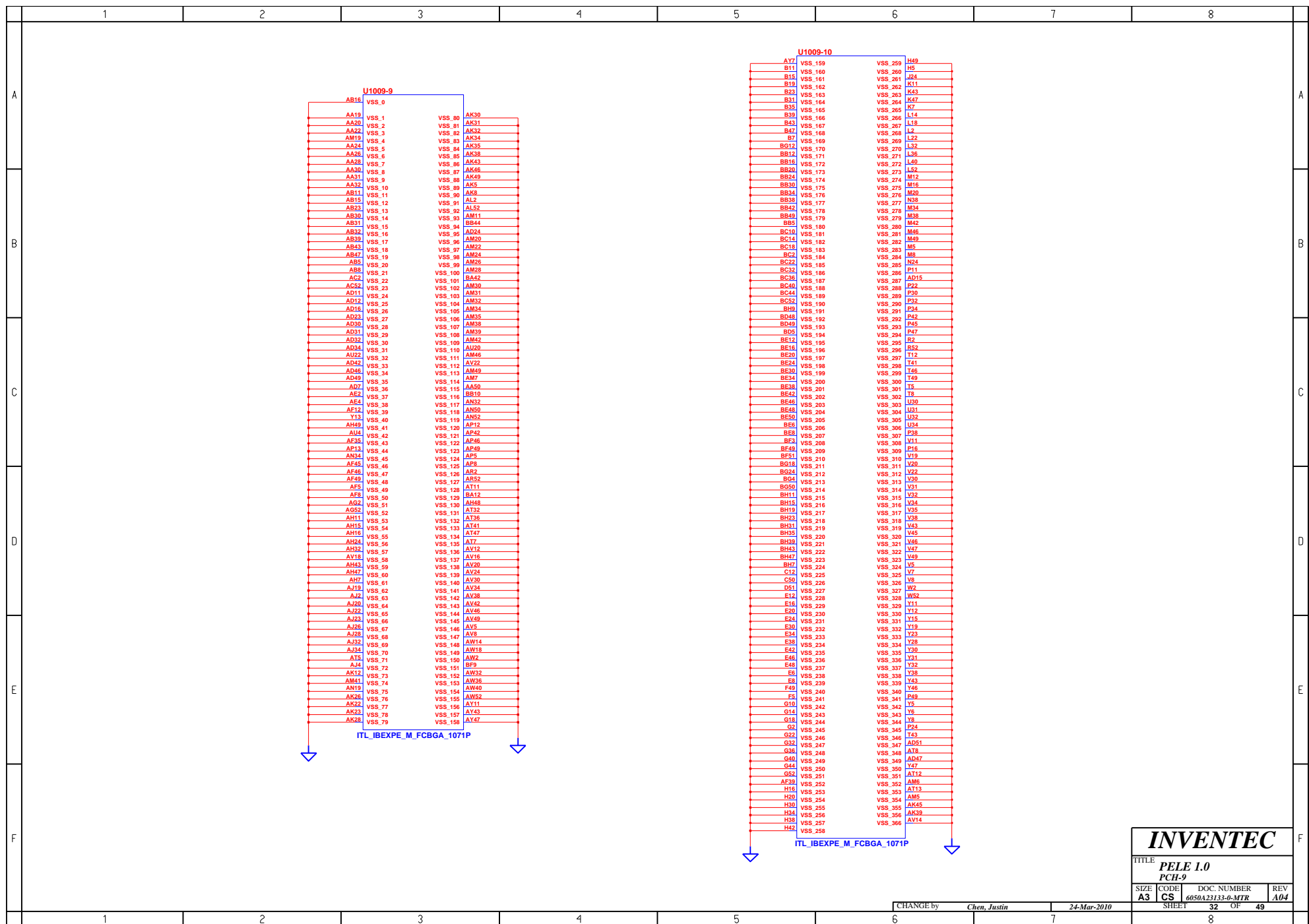


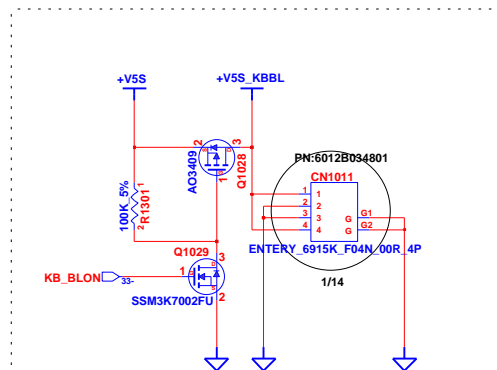
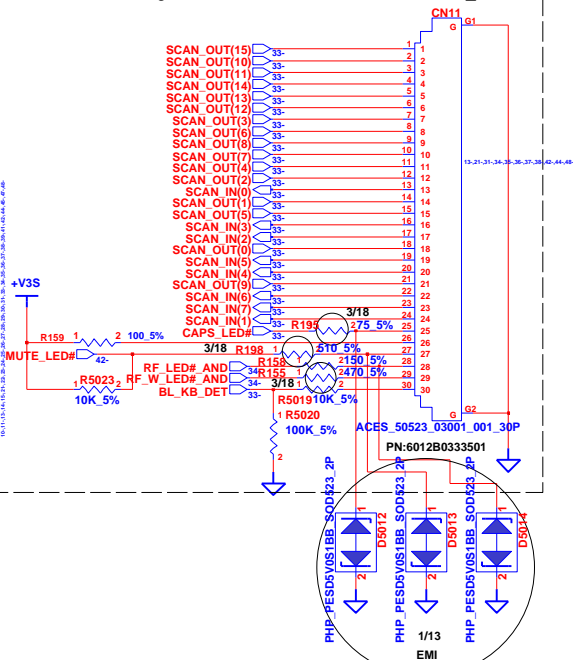
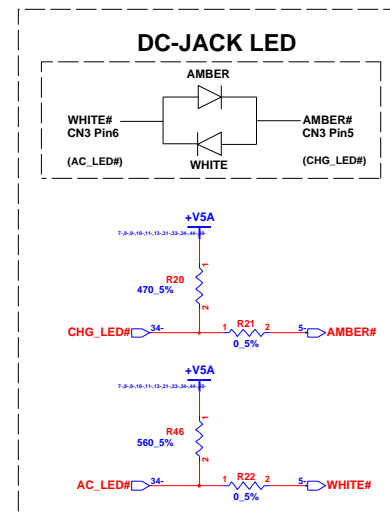
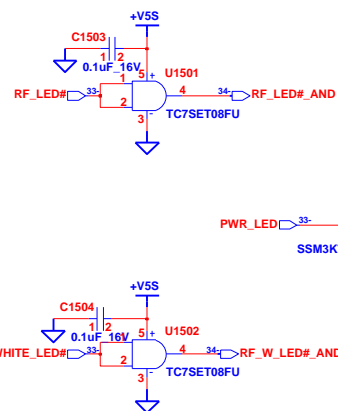
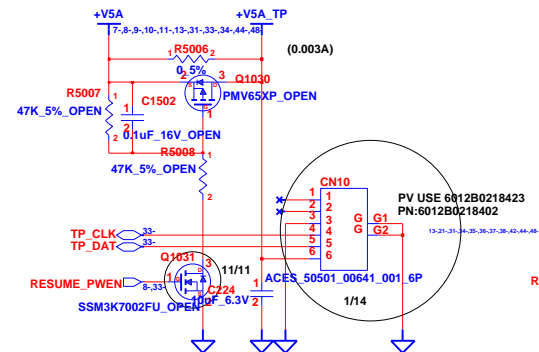


INVENTEC

TITLE PELE 1.0 PCH-7			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 30		OF 49	





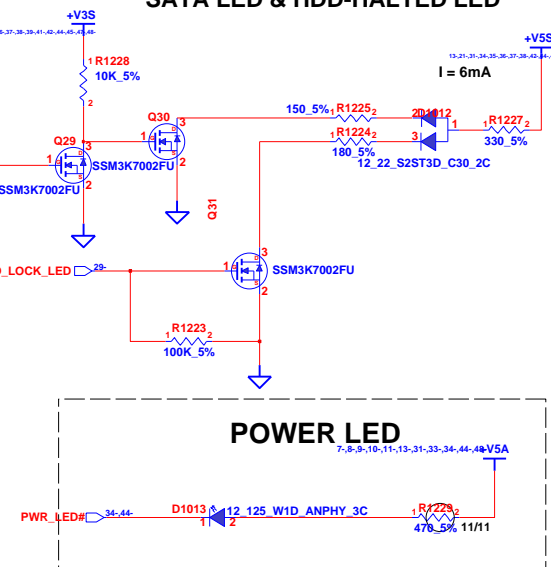


The schematic diagram illustrates the LED control circuit for the SATA and HDD LEDs. It features two NPN transistors, Q29 and Q30, both SSM3K7002FU, which act as switches for the LEDs. The circuit is powered by a +V3S supply (3.3V) and a +V5S supply (5V).

SATA LED Control: The SATA LED is controlled by the Q29 transistor. Its base is connected to the LED_3S_SATA# signal (pin 24) through a 10K 5% resistor (R1228). The emitter is grounded, and the collector is connected to the LED. The LED is connected to the +V5S supply through a series of resistors: R1224 (180 5%), R1225 (150 5%), and R1227 (330 5%). The current through the LED is specified as I = 6mA.

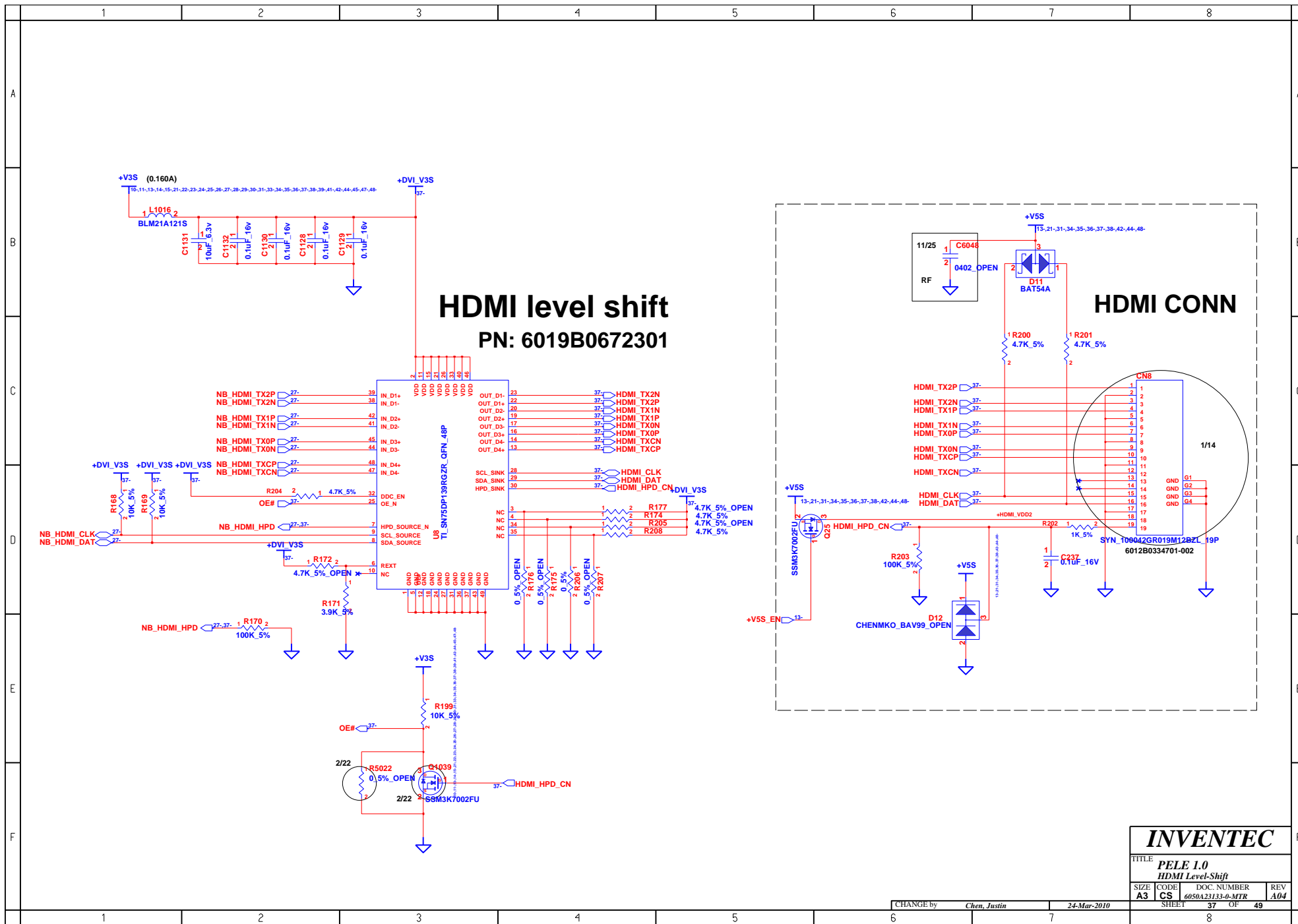
HDD LOCK LED Control: The HDD LOCK LED is controlled by the Q30 transistor. Its base is connected to the HDD_LOCK_LED signal (pin 29) through a 100K 5% resistor (R1223). The emitter is grounded, and the collector is connected to the LED. The LED is connected to the +V5S supply through a series of resistors: R1223 (100K 5%), R1224 (180 5%), R1225 (150 5%), and R1227 (330 5%).

POWER LED: The POWER LED is controlled by the D1013 transistor (pin 12). Its base is connected to the PWR_LED# signal (pin 34) through a 470 5% resistor (R1223). The emitter is grounded, and the collector is connected to the LED. The LED is connected to the +V5A supply (5V).



POWER LED

TITLE			
PELE 1.0 <i>Keyboard & TouchPad</i>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
SHEET		34 OF 49	



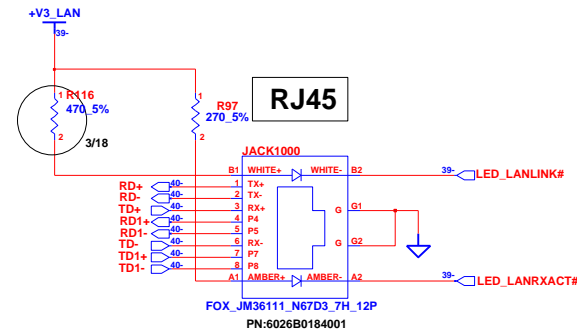
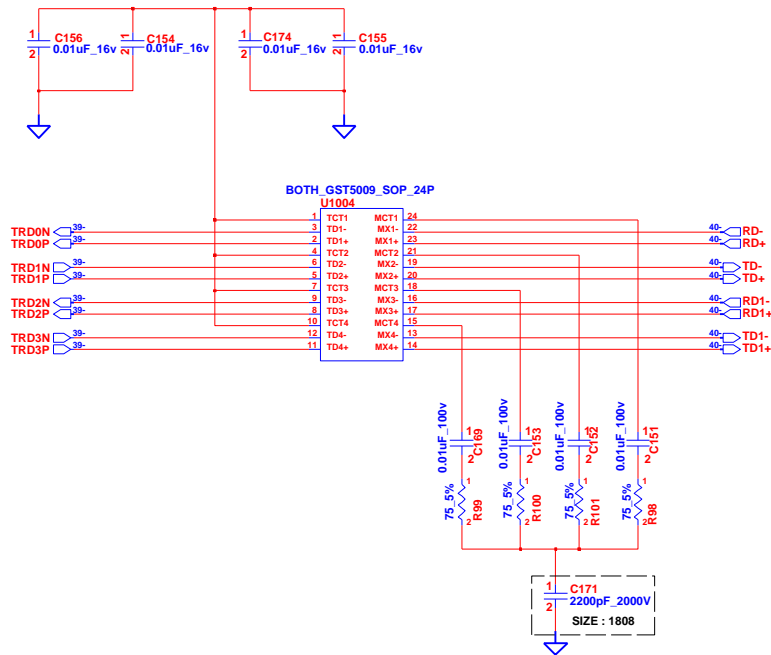
A



A

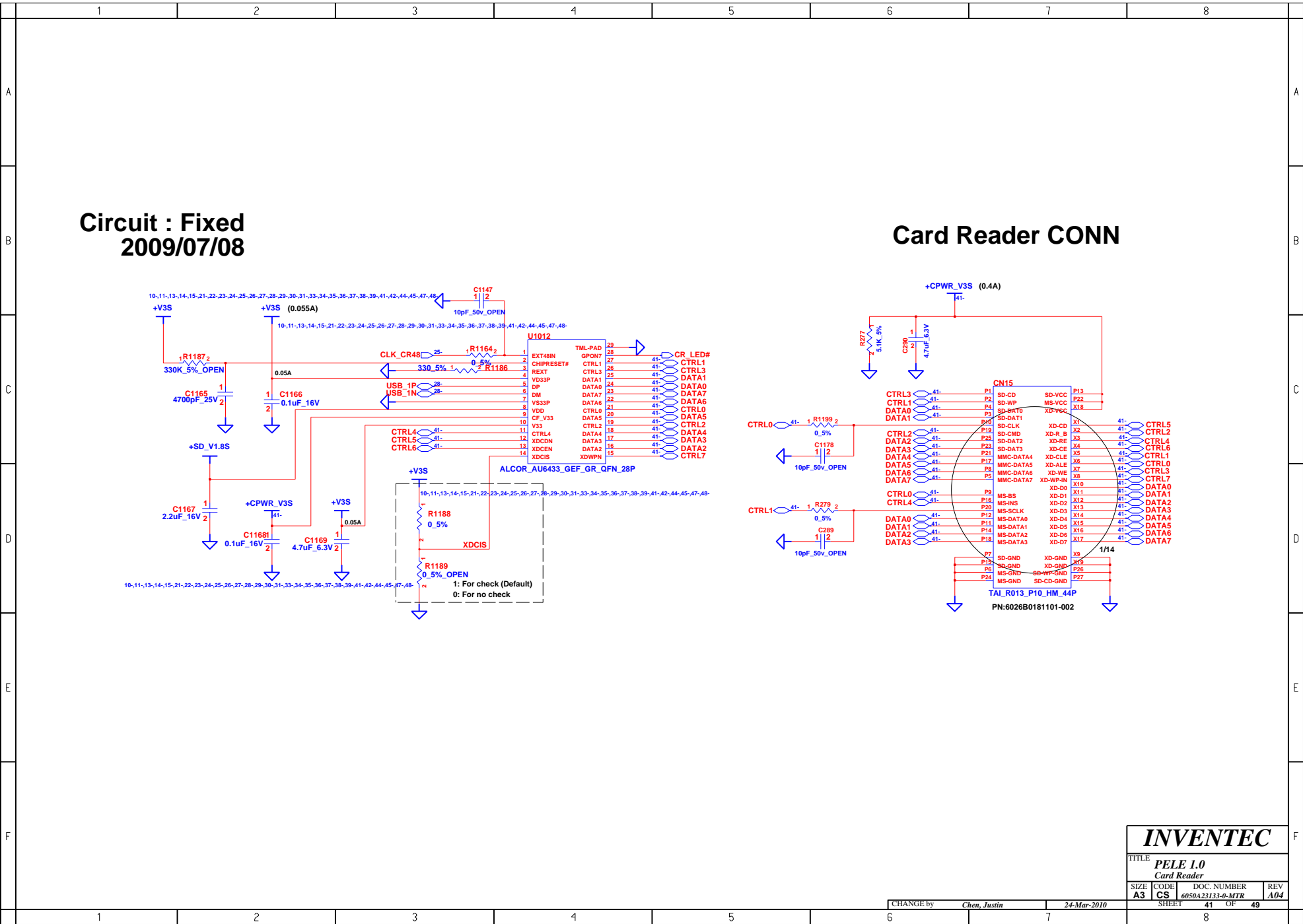
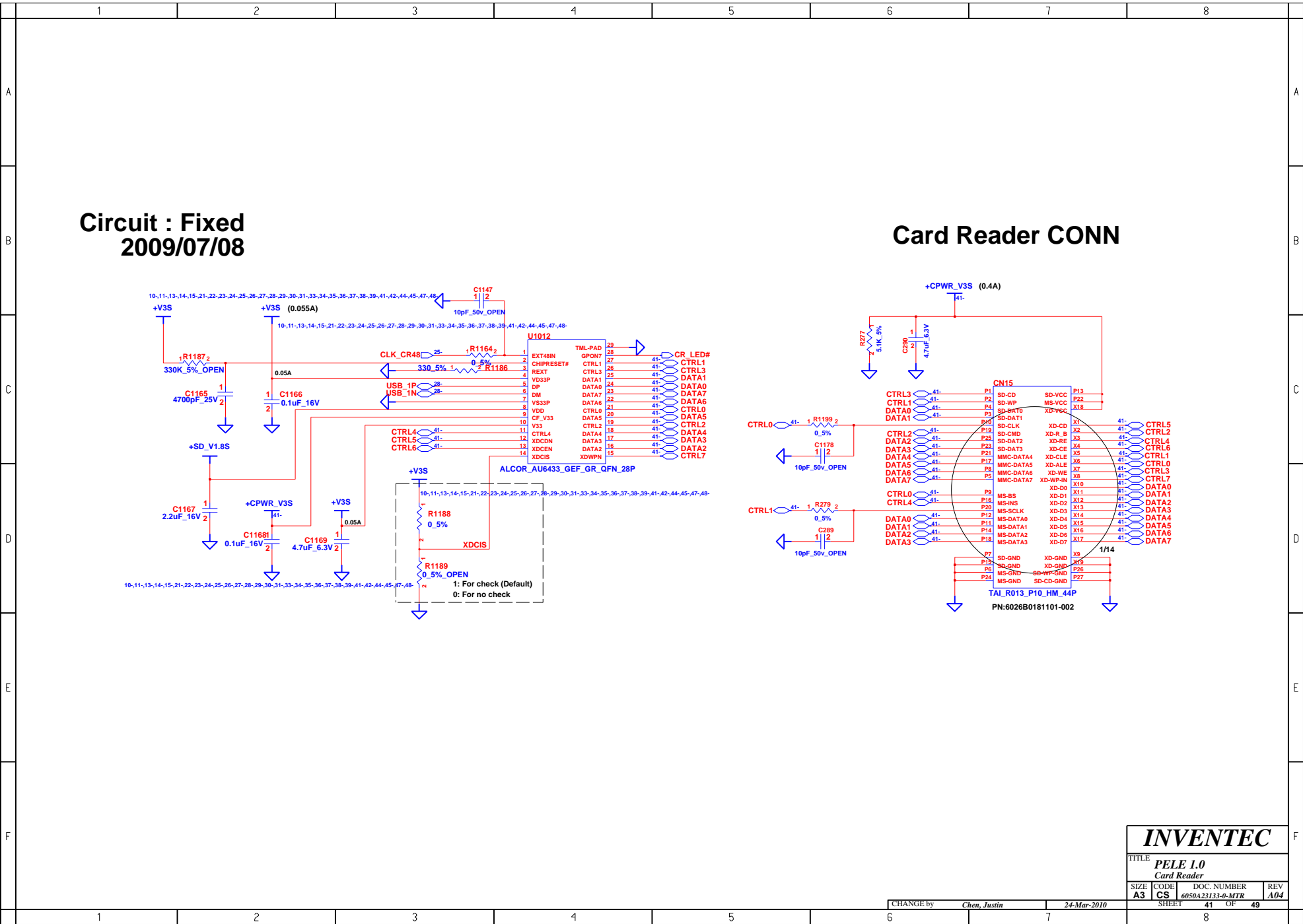
C

Circuit : Fixed 2009/06/29



LAYOUT NOTE : Place termination resistors and caps as close to LAN controller as possible

INVENTEC			
TITLE			
PELE I.0			
RJ-45			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
CHANGE by		24-Mar-2010	
Chen, Justin			
SHEET		40	OF 49

[illegible][illegible][illegible][illegible][illegible]

Circuit : Fixed
2009/07/08

Card Reader CONN

INVENTEC

TITLE PELE 1.0
Card Reader

SIZE A3 CODE CS DOC NUMBER 6050A23133-0-MTR REV A04

SHEET 41 OF 49

CHANGE by Chen, Justin 24-Mar-2010

Circuit : Fixed
2009/07/08

Card Reader CONN

INVENTEC

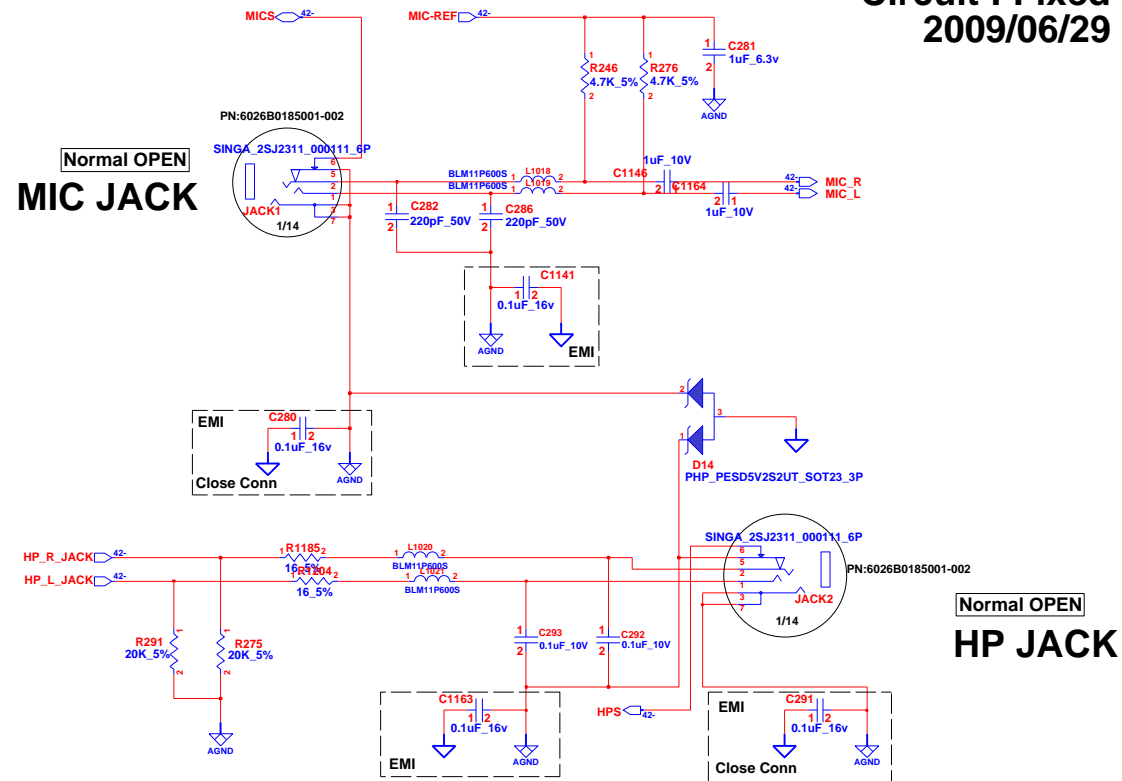
TITLE PELE 1.0
Card Reader

SIZE A3 CODE CS DOC NUMBER 6050A23133-0-MTR REV A04

SHEET 41 OF 49

CHANGE by Chen, Justin 24-Mar-2010

Circuit : Fixed
2009/06/29

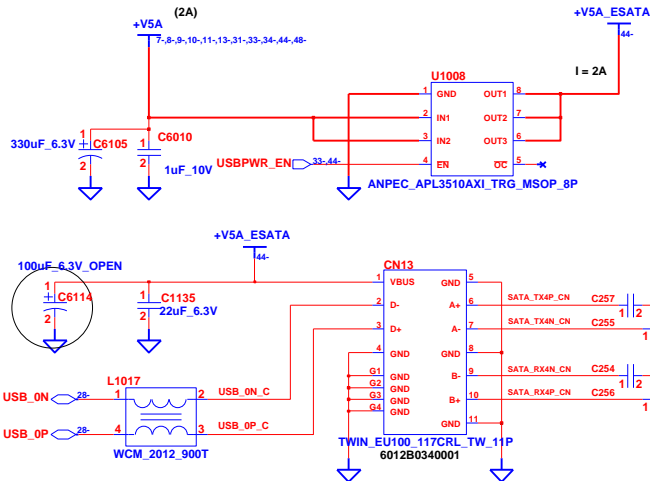


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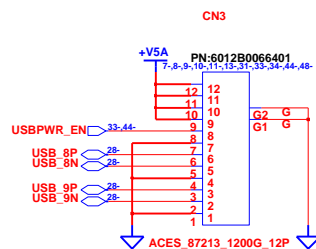
TITLE			
PELE I.0			
HP JACK & MIC JACK			
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A3	CS	6050A23133-0-MTR	A04
SHEET		43	OF 49

CHANGE by Chen, Justin 24-Mar-2010

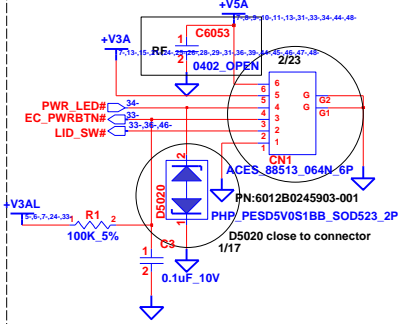
ESATA CONN (without Re-Driver chip)



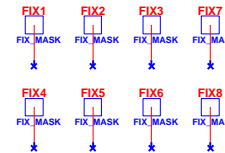
USB BOARD Cable on MB



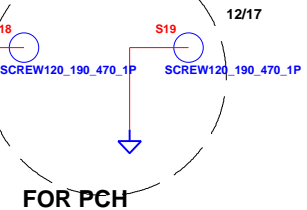
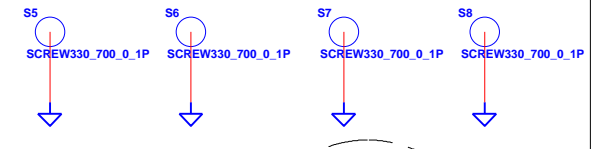
PBN Cable CN on MB



Circuit : Fixed
2009/06/29



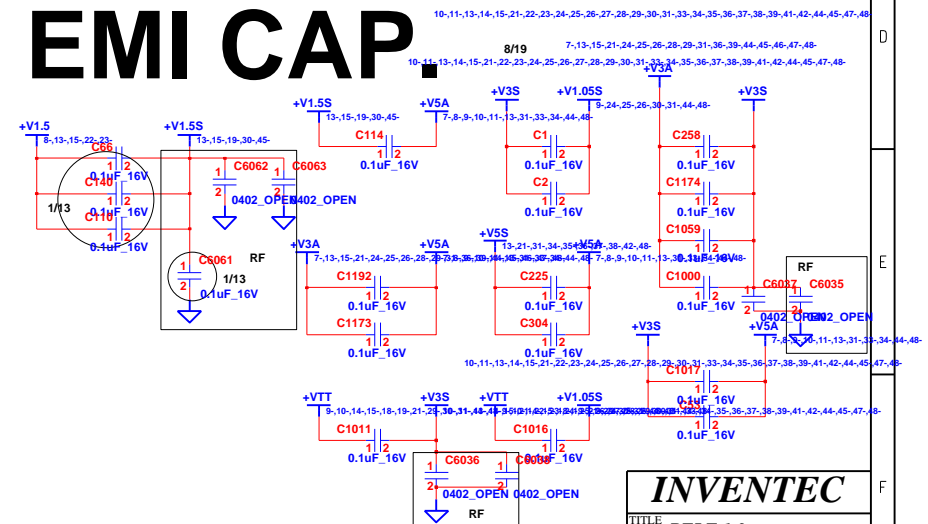
CPU's screws



FOR PCH

FOR MB

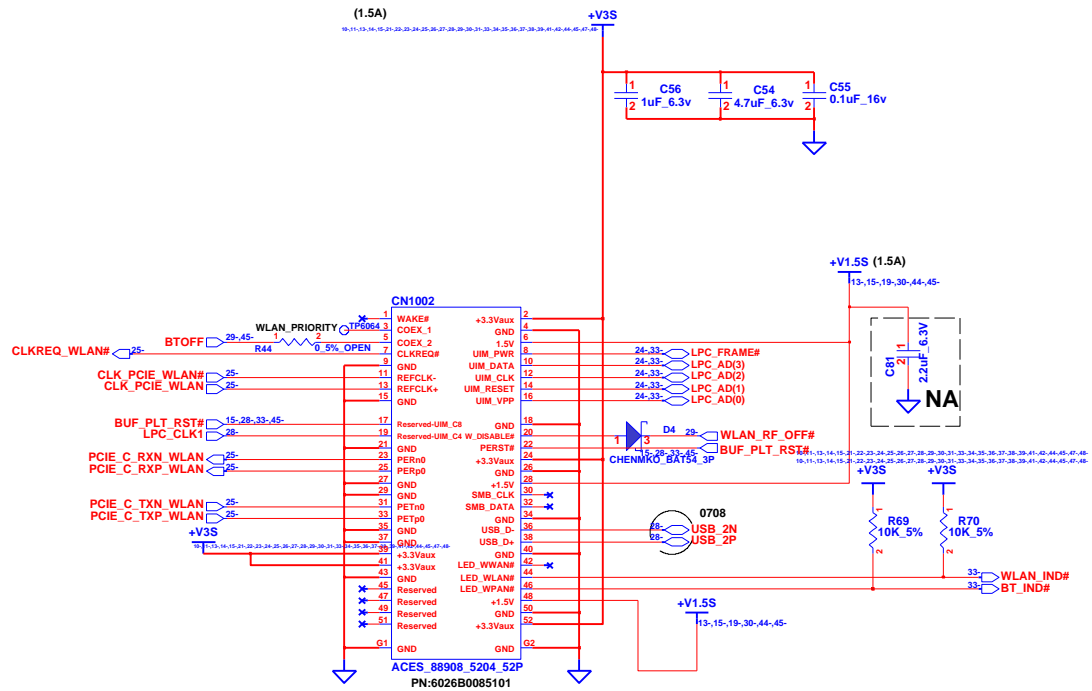
EMI CAP.



INVENTEC

TITLE PELE I.0 ESATA, SCREW & LID			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 44		OF 49	

Circuit : Fixed
2009/07/08



	PCH	SB800\820
WLAN_RF_OFF#	GPIO57	GPIO12
WLAN_POWER_OFF	GPIO35	GPIO176

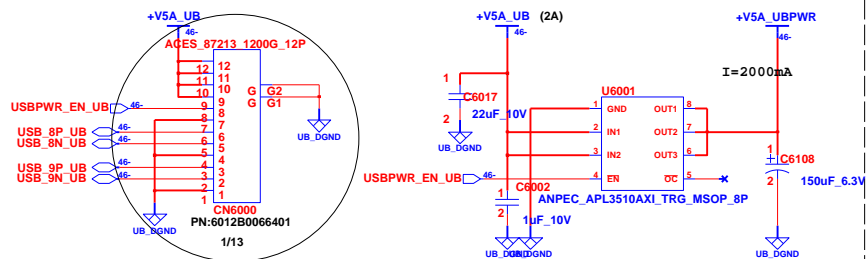
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PELE 1.0 WLAN, BT			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A2313301	A04
SHEET		45	OF 49

CHANGE by	<i>Chen, Justin</i>	<i>24-Mar-2010</i>
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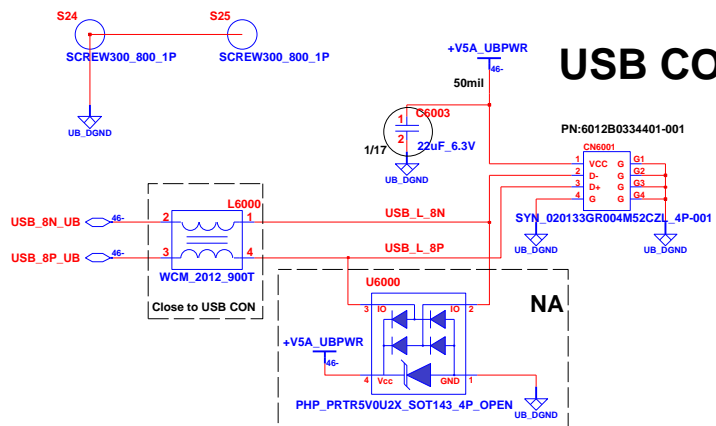
USB BOARD

USB BOARD Cable ON UB

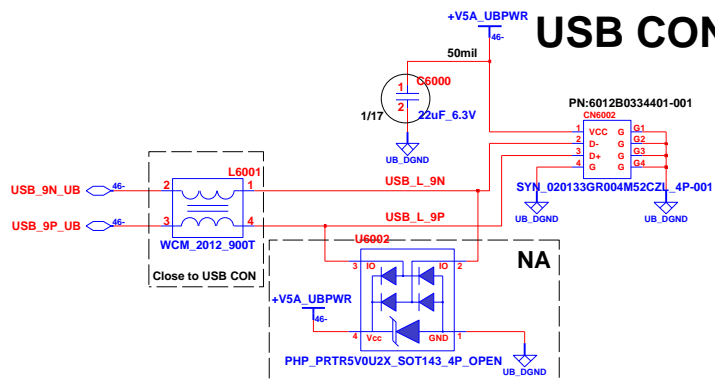
Circuit : Fixed
2009/06/29



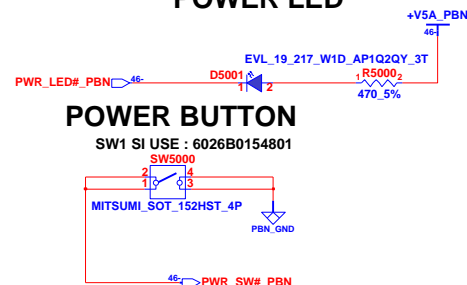
USB CONN01



USB CONN02



POWER LED

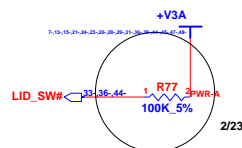


POWER BUTTON

SW1 SI USE : 6026B0154801

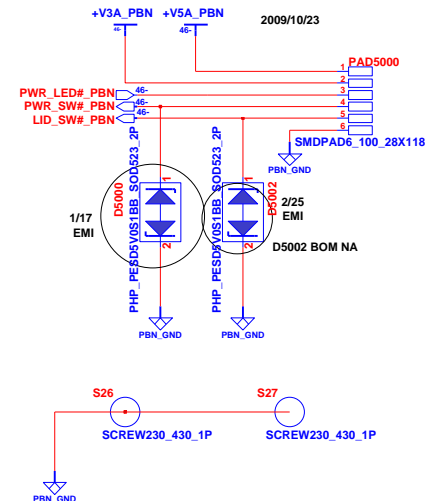
Circuit : Fixed
2009/06/29

POWER BOTTON BOARD



PBN Cable CN on PBN

2009/10/23



INVENTEC

TITLE			
PELE 1.0			
USB, PowerButton (DB)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
SHEET		46	OF 49

CHANGE by Chen, Justin 24-Mar-2010

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

WWAN

Close pin2 and pin52 for RF option

SIM CARD CONN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

for WWAN

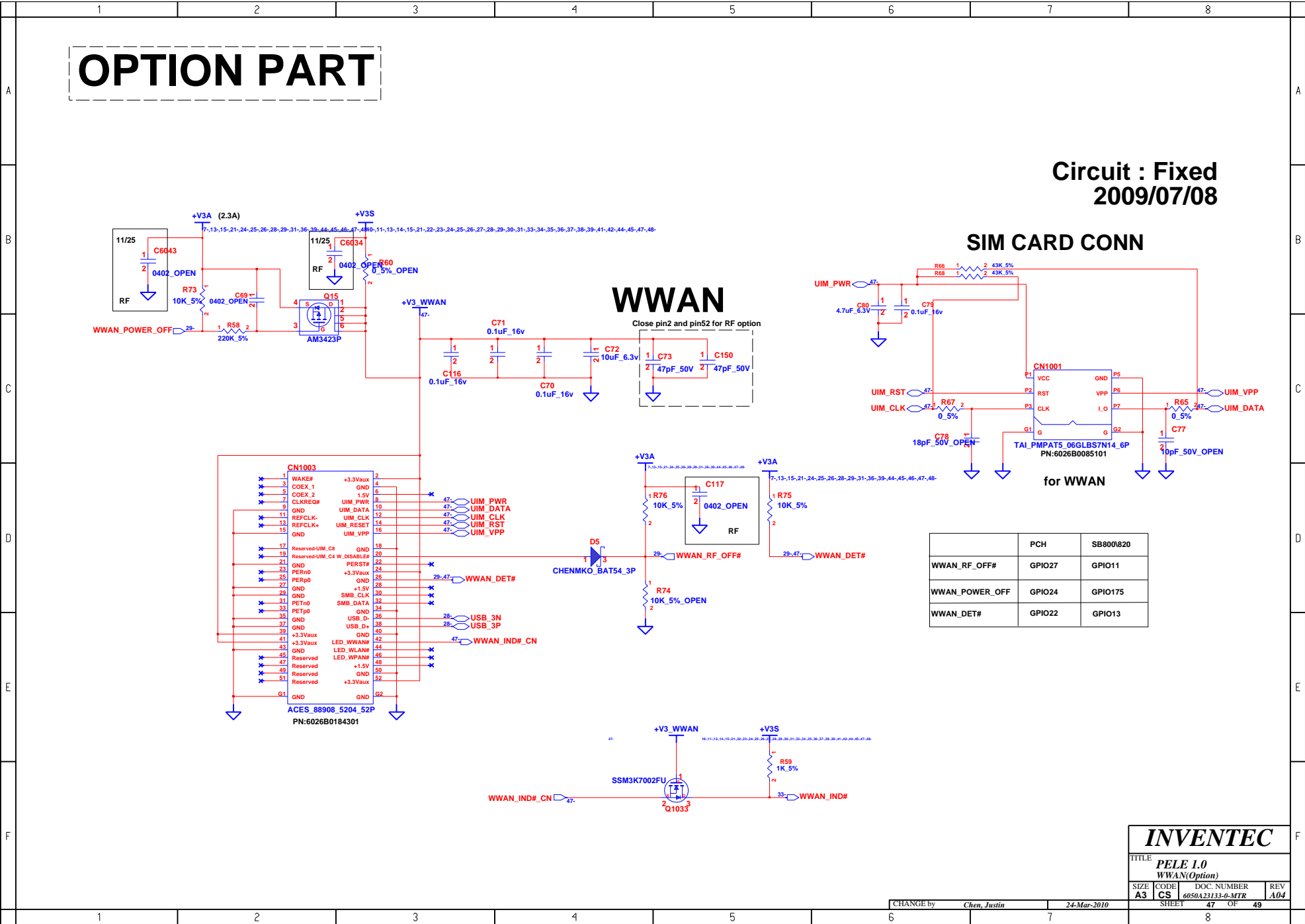
WWAN_DET#

WWAN_IND#_CN

WWAN_IND#

INVENTEC

TITLE			
PELE 1.0			
WWAN(Optional)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
CHANGE by		24-Mar-2010	
SHEET		47	OF 49



OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

WWAN

Close pin2 and pin52 for RF option

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

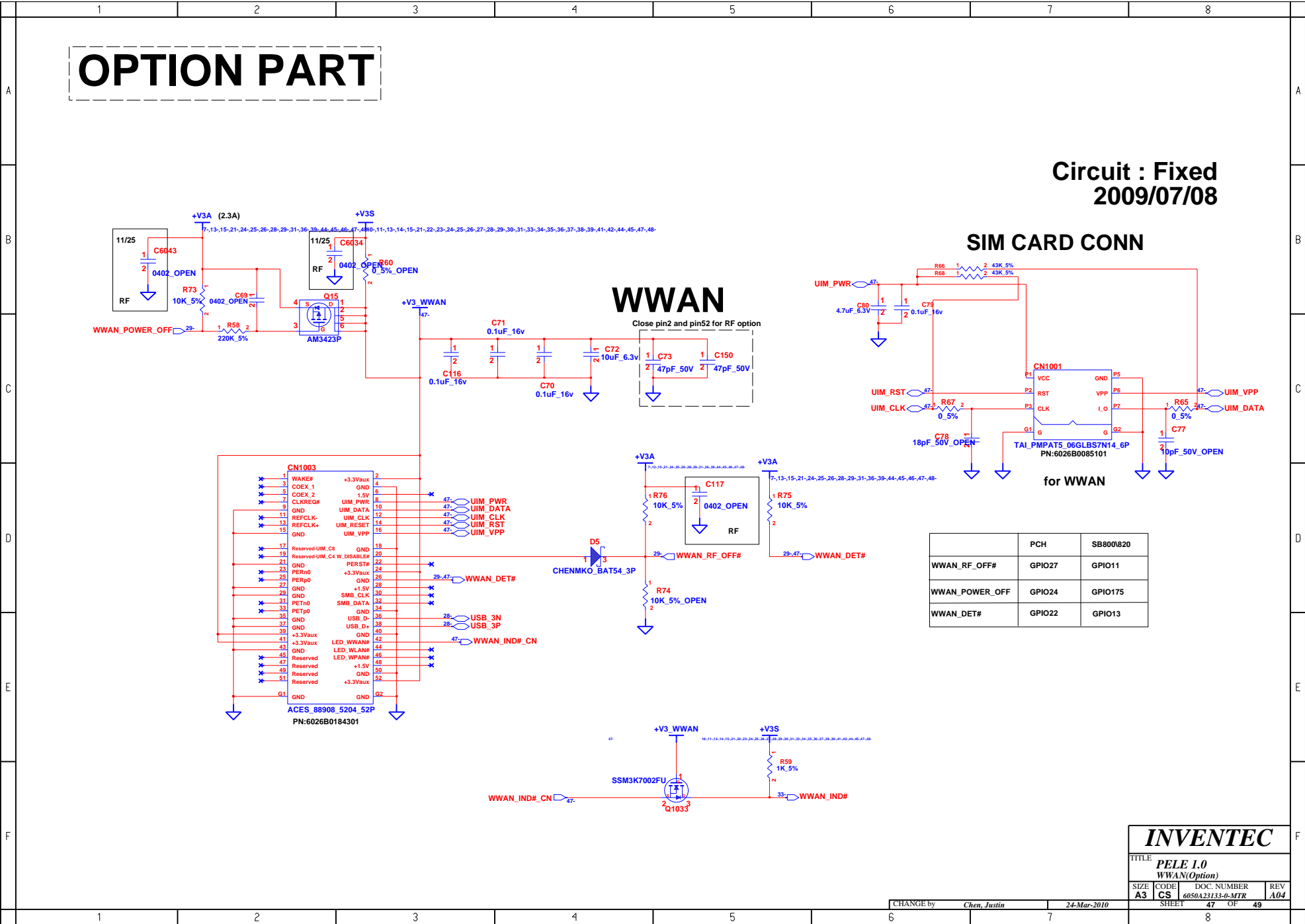
INVENTEC

TITLE: PELE 1.0
WWAN(Optional)

SIZE: A3 CODE: CS DOC. NUMBER: 6050A23133-0-MTR REV: A04

CHANGE by: Chen, Justin 24-Mar-2010

SHEET 47 OF 49



OPTION PART

Circuit : Fixed
2009/07/08

WWAN

Close pin2 and pin52 for RF option

SIM CARD CONN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE: PELE 1.0
WWAN(Optional)

SIZE: A3 CODE: CS DOC. NUMBER: 6050A23133-0-MTR REV: A04

CHANGE by: Chen, Justin 24-Mar-2010

SHEET 47 OF 49

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by <i>Chen, Justin</i>		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by <i>Chen, Justin</i>		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

Circuit : Fixed
2009/07/08

SIM CARD CONN

for WWAN

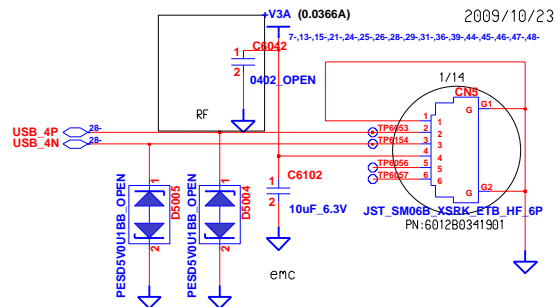
	PCH	SB800/820
WWAN_RF_OFF#	GPIO27	GPIO11
WWAN_POWER_OFF	GPIO24	GPIO175
WWAN_DET#	GPIO22	GPIO13

INVENTEC

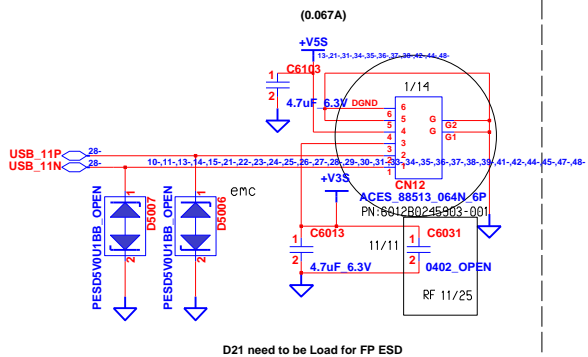
TITLE PELE 1.0 WWAN(Optional)			
SIZE A3	CODE CS	DOC. NUMBER 6050A23133-0-MTR	REV A04
CHANGE by Chen, Justin		24-Mar-2010	
SHEET 47		OF 49	

OPTION PART

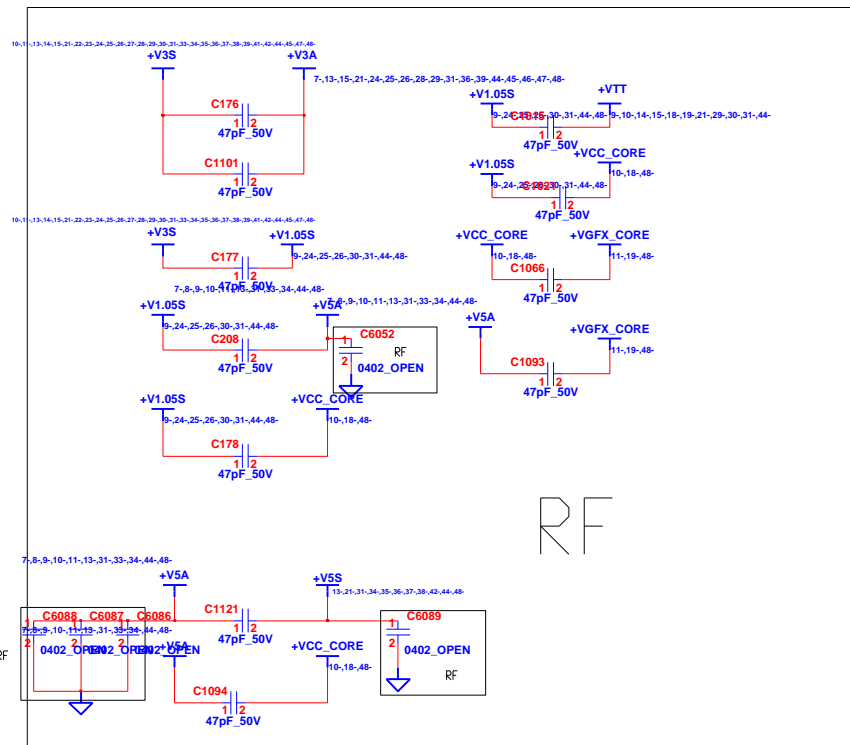
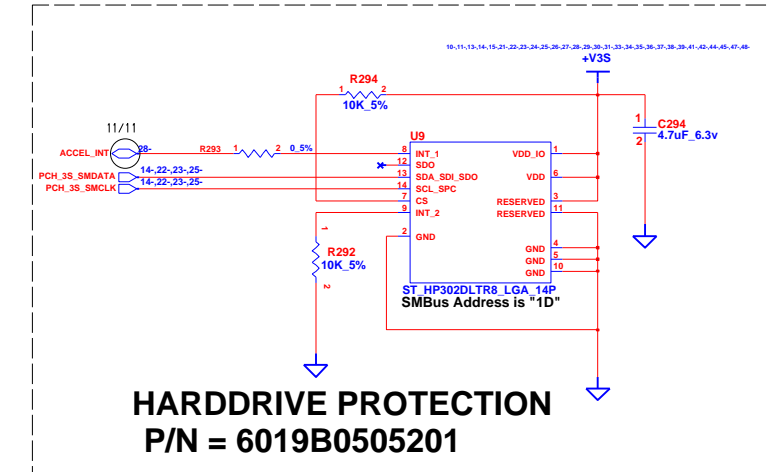
TOUCH SCREEN



FingerPrint



HARDDRIVE PROTECTION P/N = 6019B0505201



INVENTEC			
TITLE			
PELE 1.0			
Touchscreen, FP & HD LOCK(Option)			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23133-0-MTR	A04
SHEET		48	OF 49

CHANGE by Chen, Justin 24-Mar-2010

