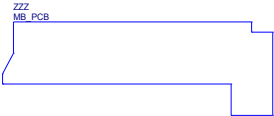


MODEL NAME : ZAU70
PCB NO : LA-B331P (DAA0008K010)
BOM P/N :



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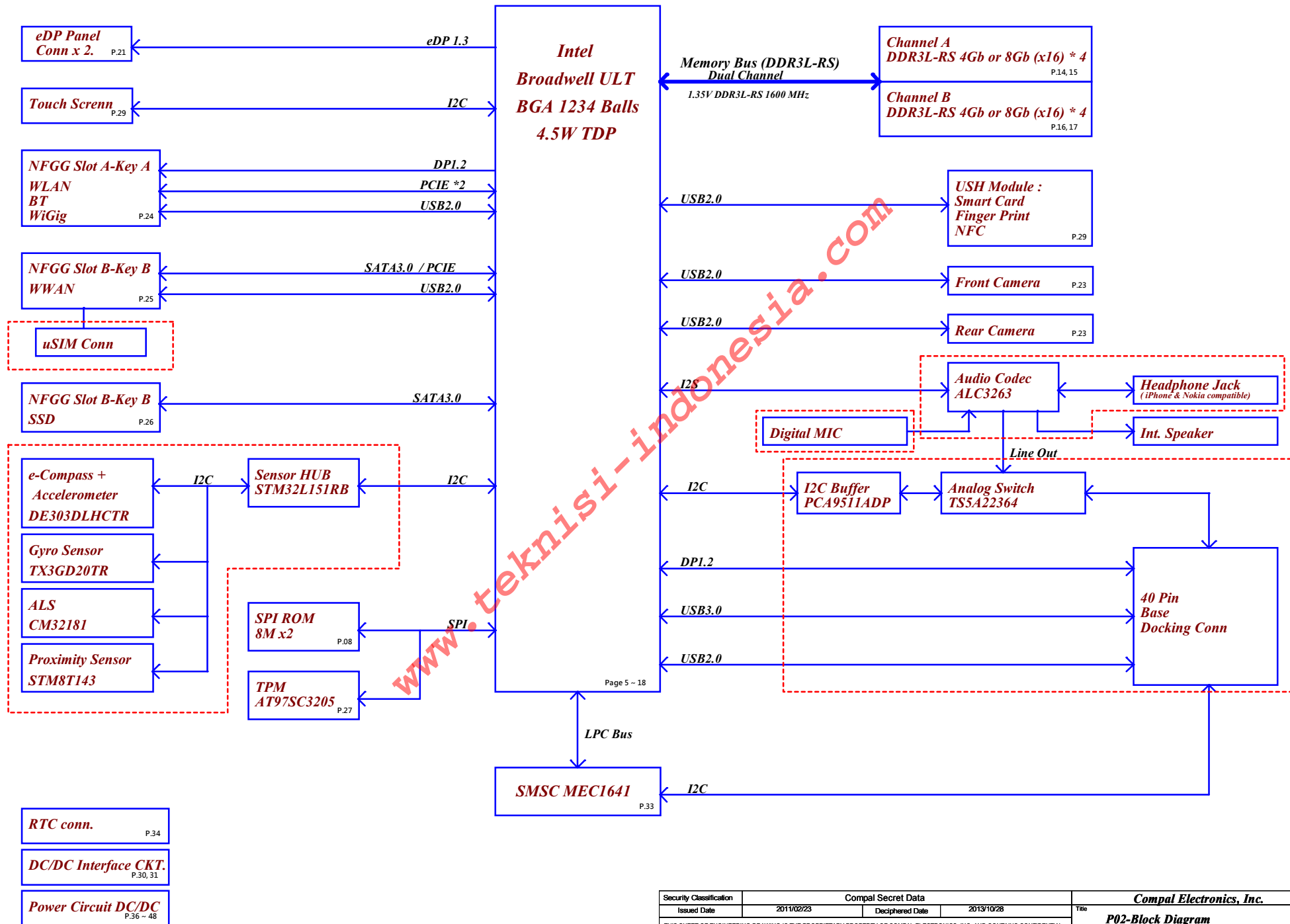
Schematic Document

Crested Butte (Broadwell Y)

2014-08-13

Rev: 1.0

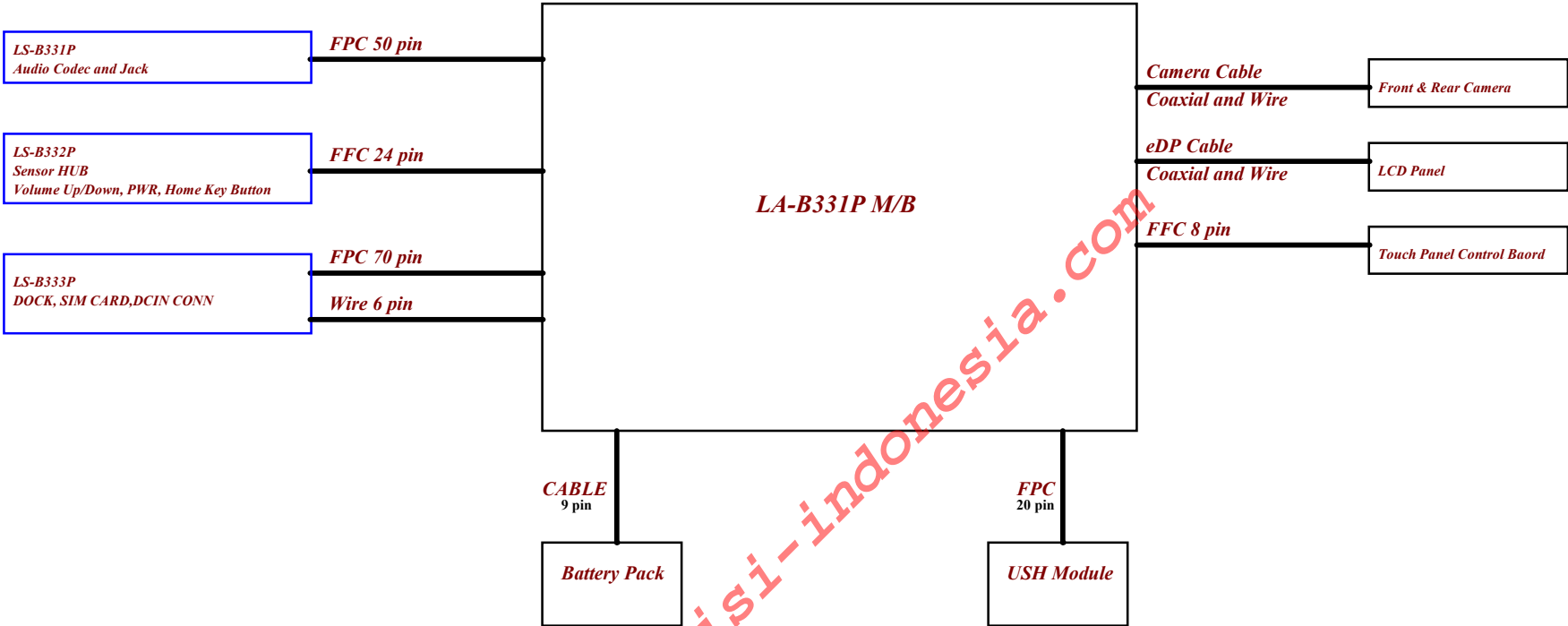
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date		2011/05/02	Deciphered Date		2013/10/28	
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		P01-Cover Page				
		Size	Document Number			Rev
		LA-9262P			1.0	
		Date:	Wednesday, August 13, 2014	Sheet	1	of 51



Compal Confidential

Project Code : ZAU70

File Name : LA-B331P



Board ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra	100K +/- 5%			
Board ID	Rb	V _{AD_BID} min	V _{AD_BID} typ	V _{AD_BID} max
0	0	0 V	0 V	0.155 V
1	8.2K +/- 5%	0.168 V	0.250 V	0.362 V
2	18K +/- 5%	0.375 V	0.503 V	0.621 V
3	33K +/- 5%	0.634 V	0.819 V	0.945 V
4	56K +/- 5%	0.958 V	1.185 V	1.359 V
5	100K +/- 5%	1.372 V	1.650 V	1.838 V
6	200K +/- 5%	1.851 V	2.200 V	2.420 V
7	NC	2.433 V	3.300 V	3.300 V

BOARD ID Table

Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	0.4
4	0.5
5	1.0
6	
7	

SMBUS Control Table

	SOURCE	Base	BATT	Charger	USH	XDP
PCH_SMLCLK PCH_SMLDATA	PCH					
PCH_SML1CLK PCH_SML1DATA	PCH					
MEM_SMBCLK MEM_SMBDATA	PCH					V
EC_SMB00_CLK EC_SMB00_DAT	MEC1641					
EC_SMB01_CLK EC_SMB01_DAT	MEC1641				V	
EC_SMB03_CLK EC_SMB03_DAT	MEC1641		V			
EC_SMB04_CLK EC_SMB04_DAT	MEC1641			V		
EC_SMB05_CLK EC_SMB05_DAT	MEC1641	V				

Link

PCH USB Port Mapping	USB PORT#	DESTINATION
	0	Base
	1	Debug Port
	2	Front Camera
	3	
	4	Rear Camera
	5	NGFF (WWAN)
	6	NGFF (WLAN)
	7	USH

PCH DDI Port Mapping	DDI PORT#	DESTINATION
	B	Base (mini-DP)
	C	NGFF (WiGig)

USB 3.0 PORT#	DESTINATION
1	Base
2	
3	
4	

SATA	DESTINATION
SATA0	
SATA1	NGFF SSD
SATA2	
SATA3	NGFF (WWAN)

CLK	DIFFERENTIAL	DESTINATION
	CLKOUT_PCIE0	
	CLKOUT_PCIE1	
	CLKOUT_PCIE2	NGFF (WLAN)
	CLKOUT_PCIE3	
	CLKOUT_PCIE4	NGFF (WLAN)
	CLKOUT_PCIE5	NGFF (WWAN)

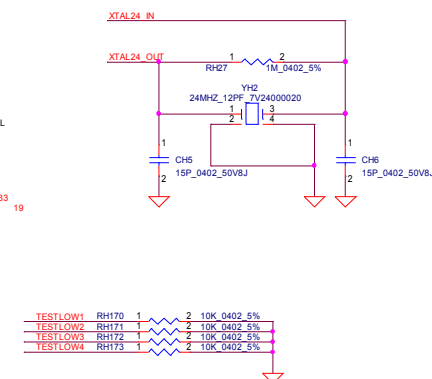
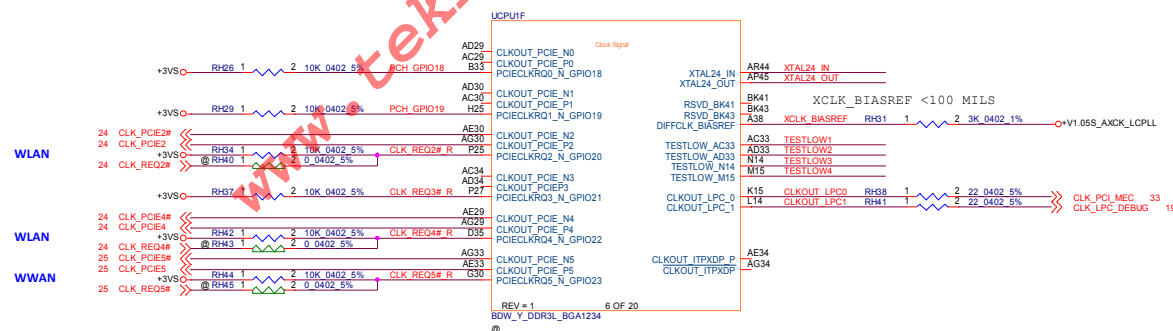
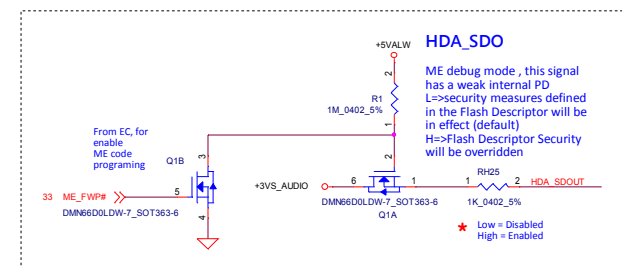
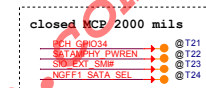
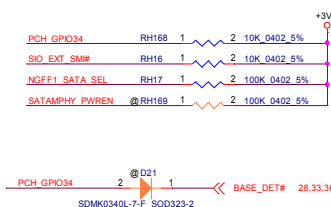
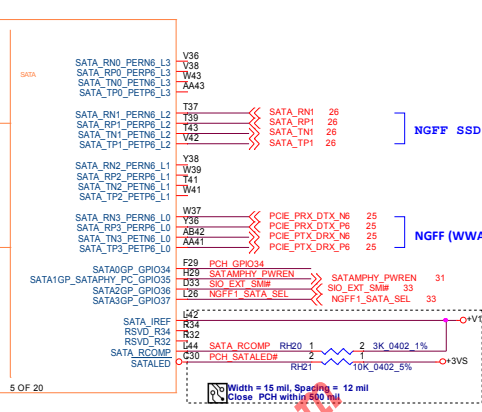
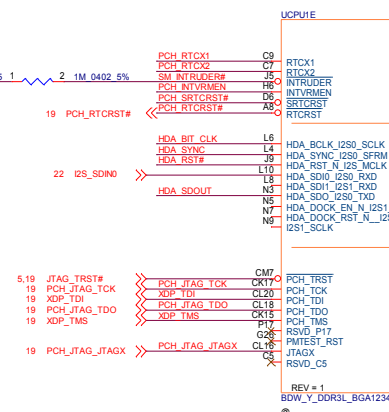
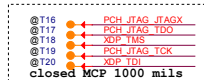
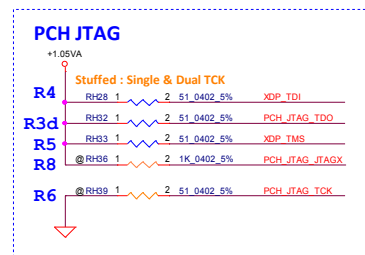
PCI EXPRESS	DESTINATION
Lane 1	
Lane 2	
Lane 3	NGFF (WLAN)
Lane 4	
Lane 5	NGFF (WLAN)
Lane 6	NGFF (WWAN)

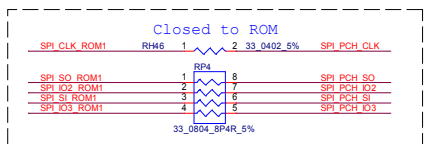
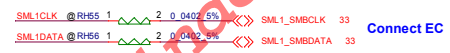
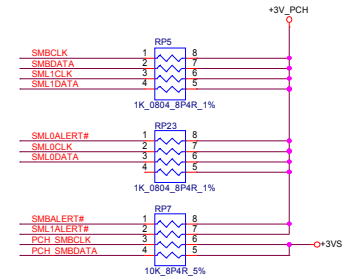
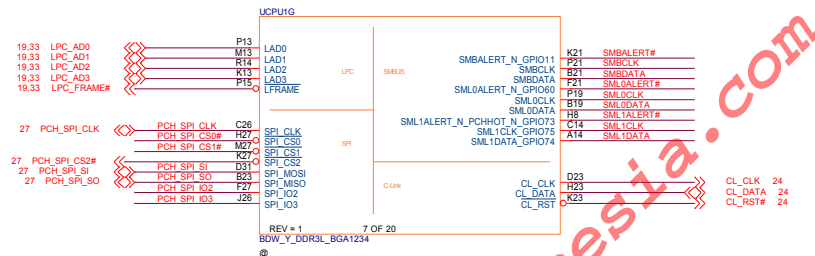
FLEX CLOCKS	DESTINATION
CLKOUT_LPC_0	EC LPC
CLKOUT_LPC_1	Debug

Symbol Note :

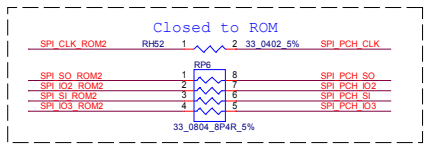
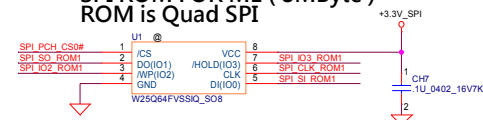
 : means Digital Ground

 : means Analog Ground

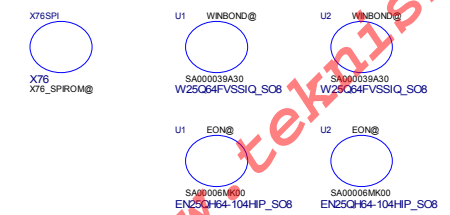
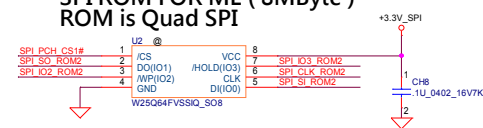




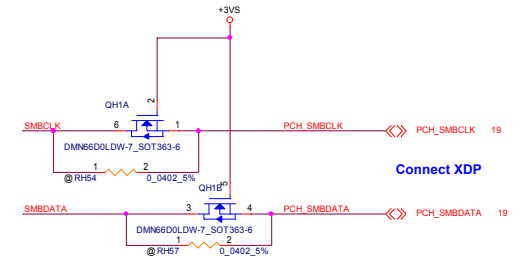
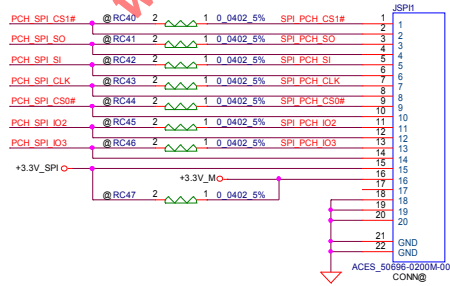
SPI ROM FOR ME (8MByte)
ROM is Quad SPI



SPI ROM FOR ME (8MByte)
ROM is Quad SPI

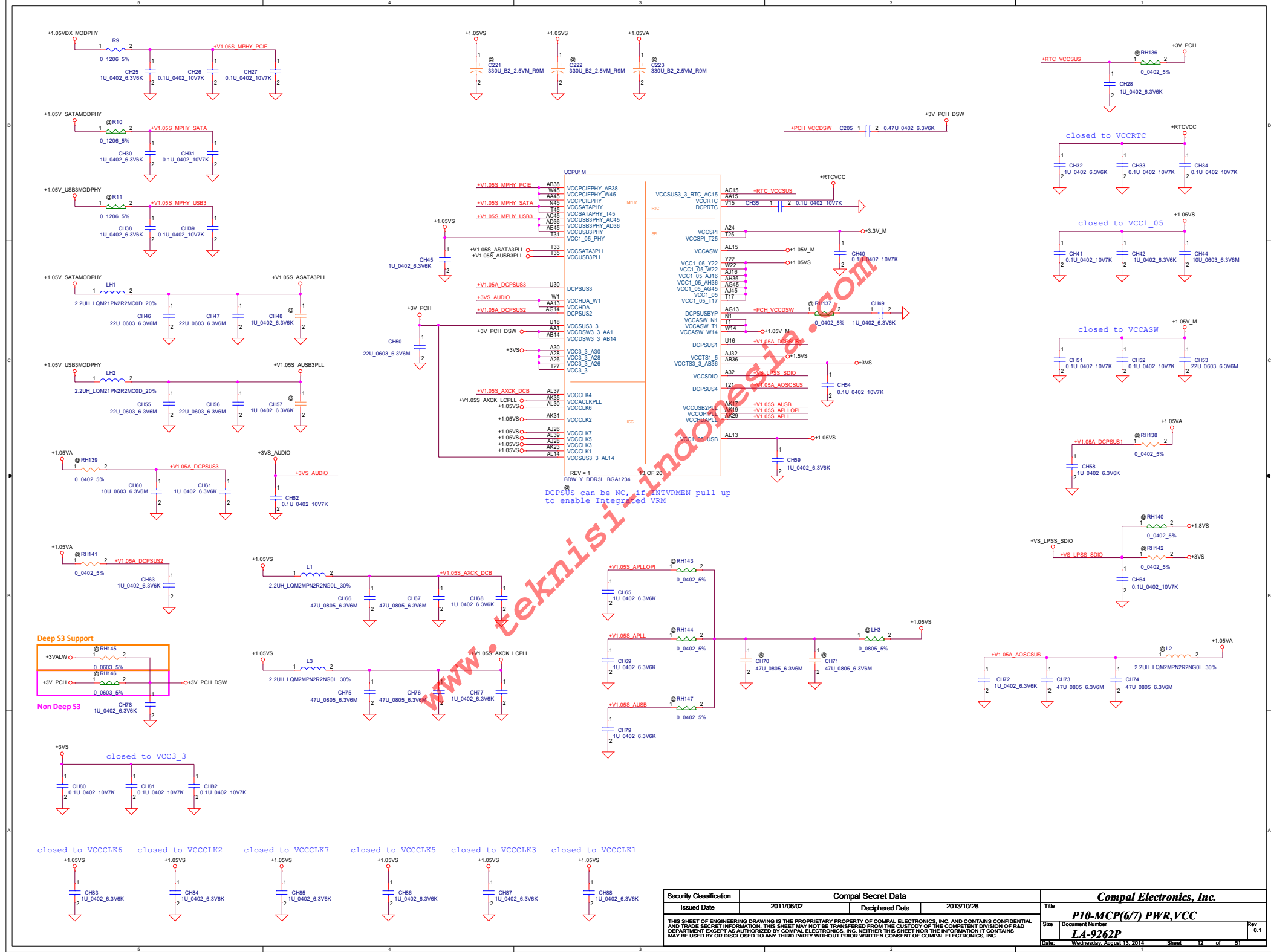


from CPU to SPI ROM



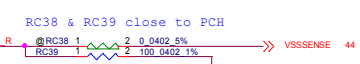
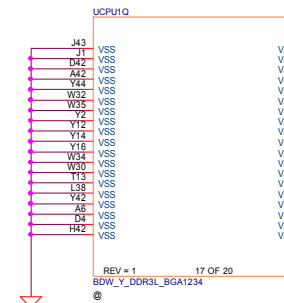
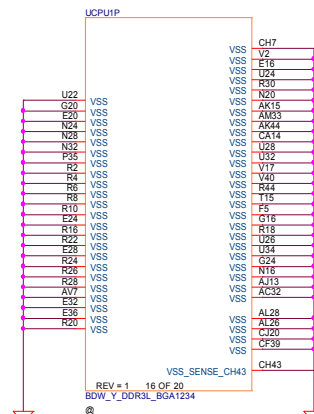
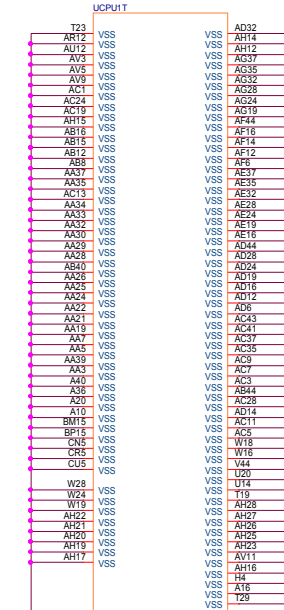
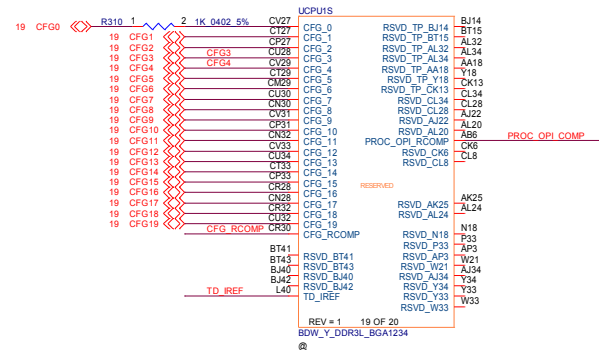
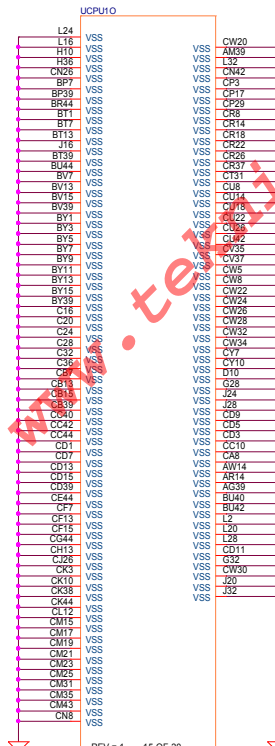
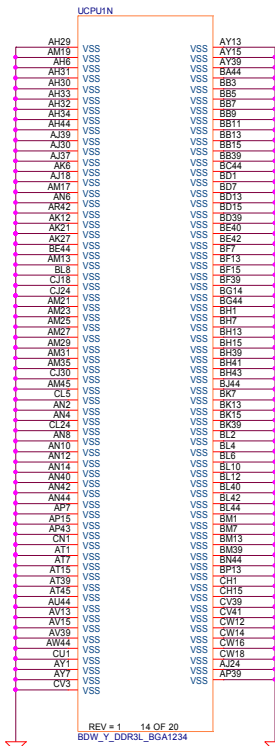
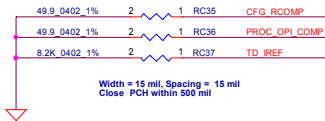
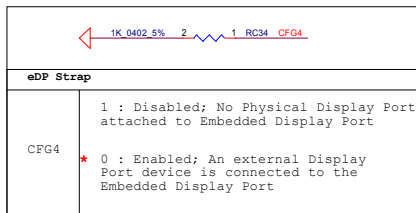
Connect XDP

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		Sheet	8 of 51
		Date	Wednesday, August 13, 2014



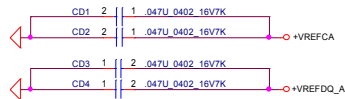
closed MCP 1000 mils

@ T39



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					LA-9262P
				Date	Wednesday, August 13, 2014
				Sheet	13 of 51
				Rev	0.1

follow INTEL PDG

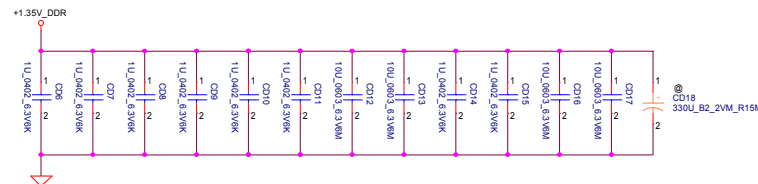
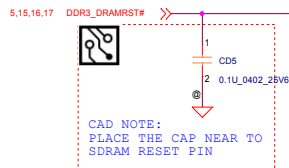


PLACE THESE CAPS
NEAR TO RESPECTIVE DIMM PINS



6.15 DDR_A_DQS#(0..7) <>>
6.15 DDR_A_DQS(0..7) <>>
6.15 DDR_A_D(0..63) <>>
6.15.18 DDR_A_MA(0..15) <>>

All VREF traces should
have 10 mil trace width



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follow INTEL PDG

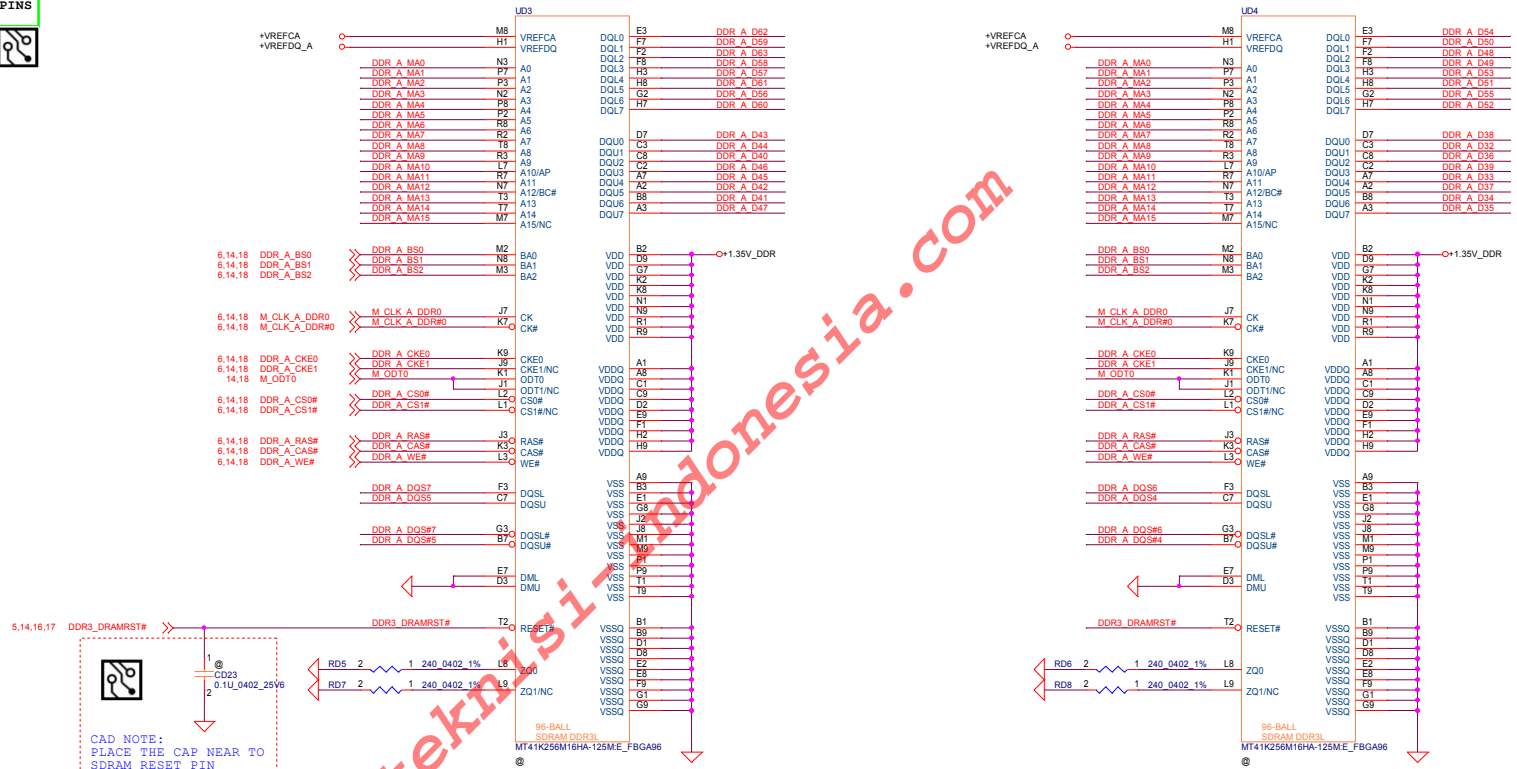


PLACE THESE CAPS
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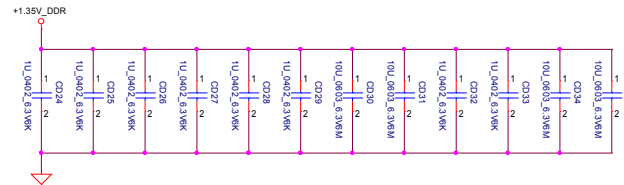


- 6.14 DDR_A_DQS#(0..7)
- 6.14 DDR_A_DQS(0..7)
- 6.14 DDR_A_DQ(0..63)
- 6.14:18 DDR_A_MA(0..15)

All VREF traces should
have 10 mil trace width



CAD NOTE:
PLACE THE CAP NEAR TO
SDRAM RESET PIN



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				Date	Wednesday, August 13, 2014
				Sheet	15 of 51
				Rev	0.1

follow INTEL PDG

The diagram shows four horizontal signal traces. The top two are labeled CD36 and CD37, and the bottom two are labeled CD38 and CD39. Each trace has a vertical bar with a number (1 or 2) and a label (047U_0402_16V7K). To the right of each trace, there is a signal labeled +VREFCA or +VREFD_B. The signals +VREFCA and +VREFD_B are shown as red lines with a small circle at the end, indicating a specific timing point or level.

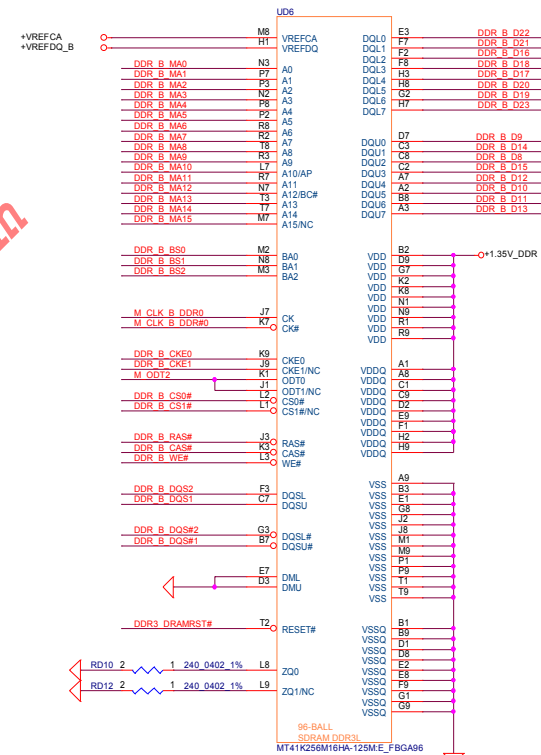
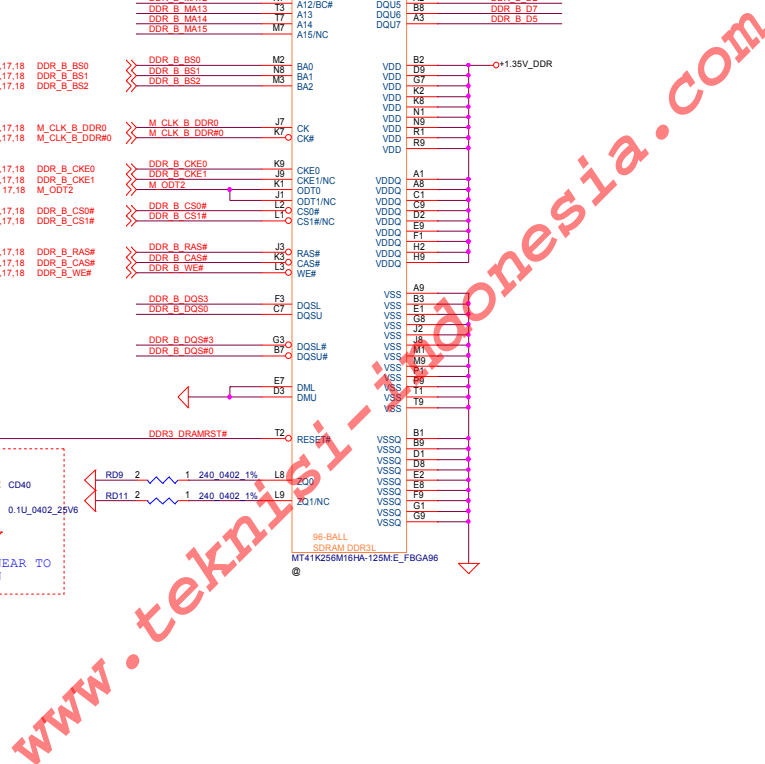
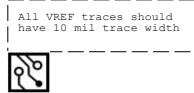
CD36 2 | 1 047U_0402_16V7K

CD37 2 | 1 047U_0402_16V7K +VREFCA

CD38 1 | 2 047U_0402_16V7K

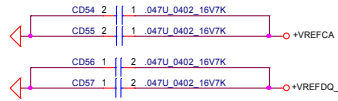
CD39 1 | 2 047U_0402_16V7K +VREFD_B

**PLACE THESE CAPS
NEAR TO RESPECTIVE DIMM PINS**



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					LA-9262P
Date:				Wednesday, August 13, 2014	Sheet 16 of 51

follow INTEL PDG



PLACE THESE CAPS
NEAR TO RESPECTIVE DIMM PINS

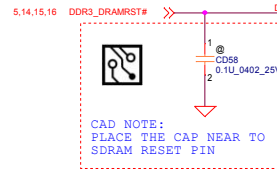


- 6.16 DDR_B_DQS#0..7
- 6.16 DDR_B_DQS#0..7
- 6.16 DDR_B_DQS#0..7
- 6.16.18 DDR_B_MA0..15

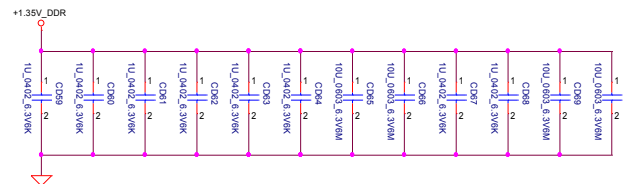
All VREF traces should
have 10 mil trace width



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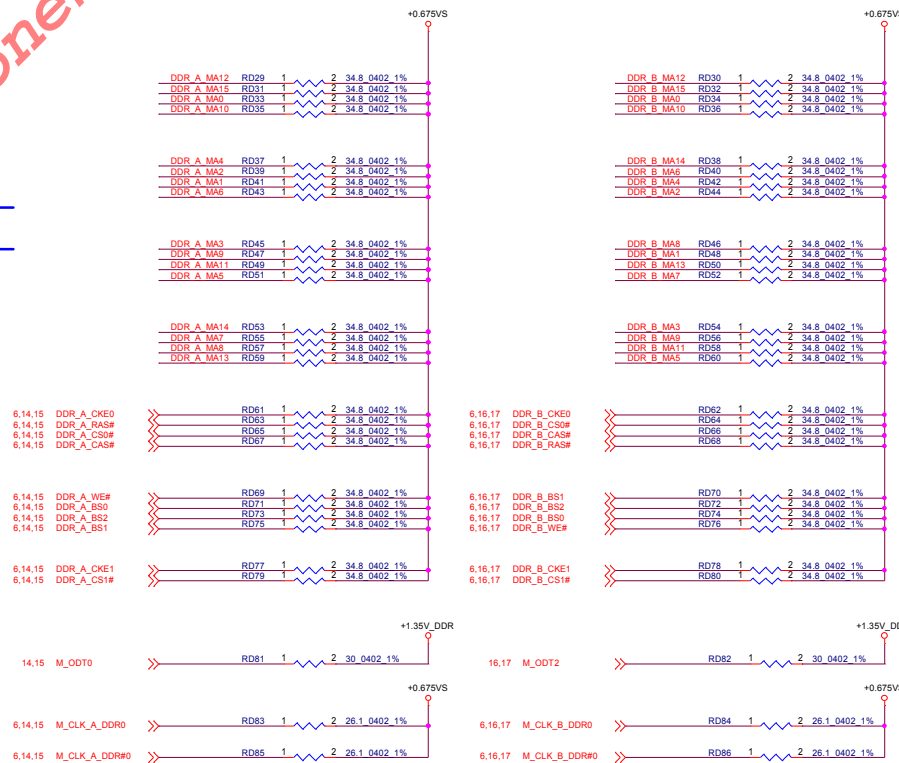
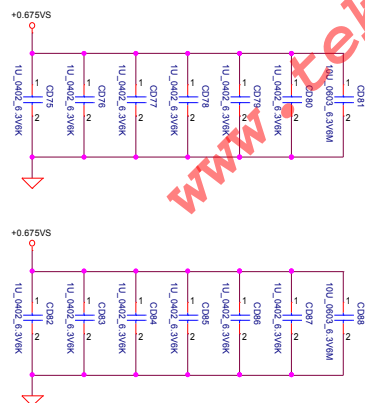
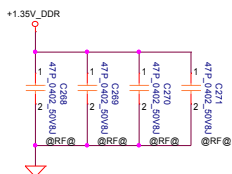
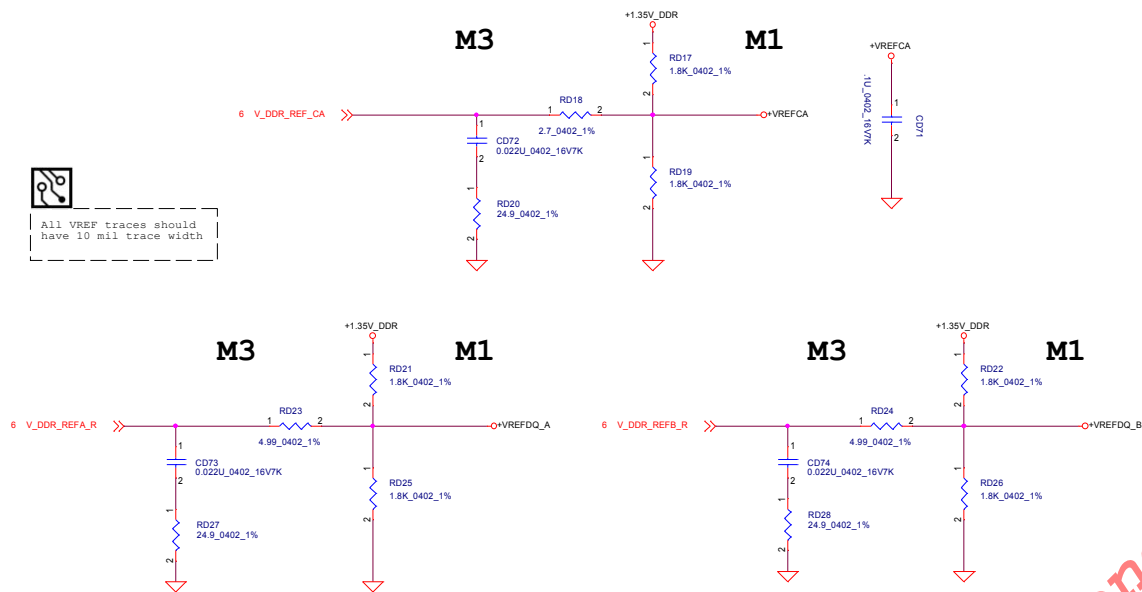


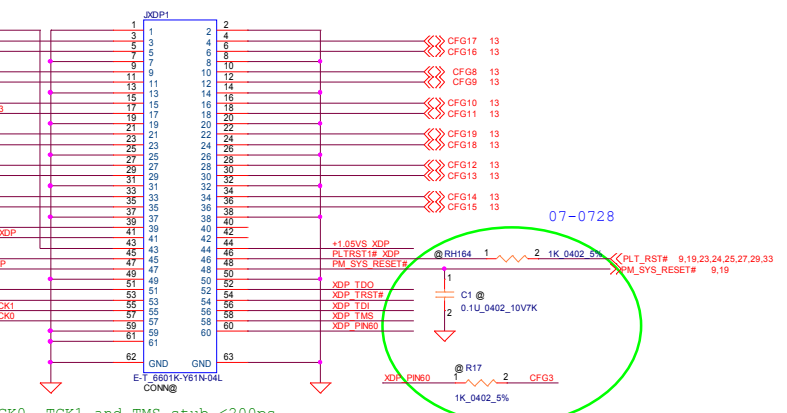
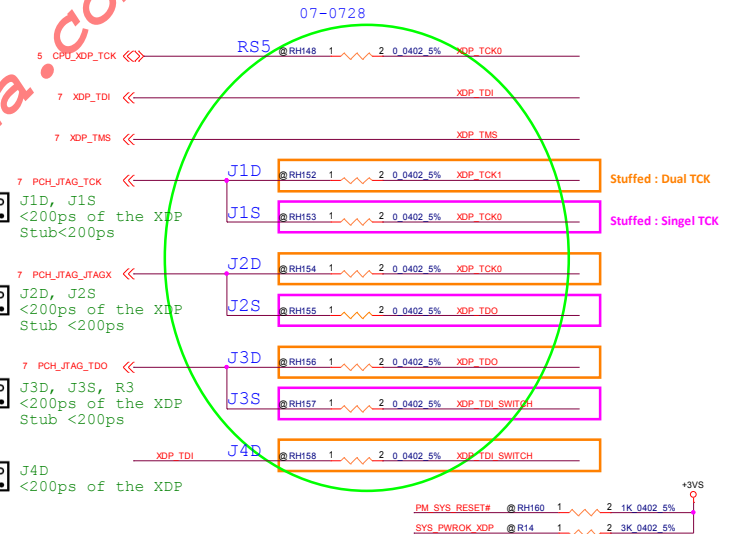
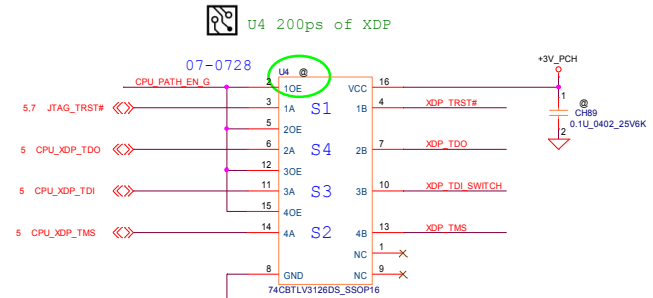
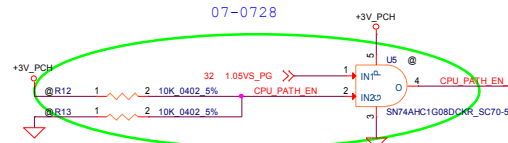
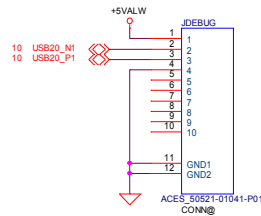
CAD NOTE:
PLACE THE CAP NEAR TO
SDRAM RESET PIN



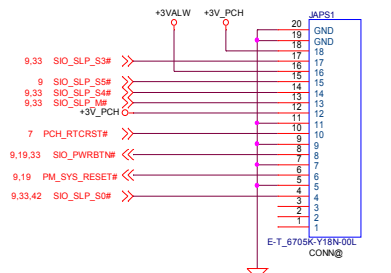
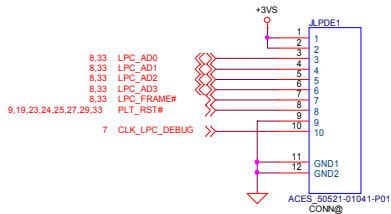


All VREF traces should have 10 mil trace width



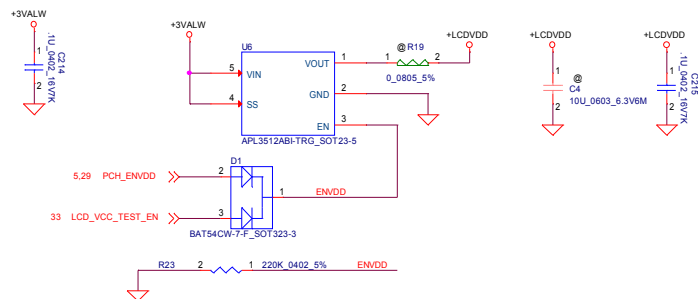


Topolog	Description	Best Use for	Resistors Stuffed	Resistors ufStuffed
Default Setting: Dual TCK S can Chains (also known as "Shared JTAG" in other document)	In this topology, the CPU JTAG chain will be controlled by TCK0 and TCK1 will control the PCH JTAG chain.	- Run control oper. - ME/Sx debug	R1, R2, J1d, J2d, J3d, J4d, R3, R4, R5	J1s, J2s, J3s
Single TCK scan chain (also known as "Common JTAG" in other document)	In this topology, PCH TDI- TDO and CPU TDI-TDO will be chained to form one JTAG scan chain controlled by TCK0	- Boundary Scan/ Manufacturing test	J1s, J2s, J3d, J4d, R2, R3, R4, R5	R1, J1d, J2d, J3d, J4d

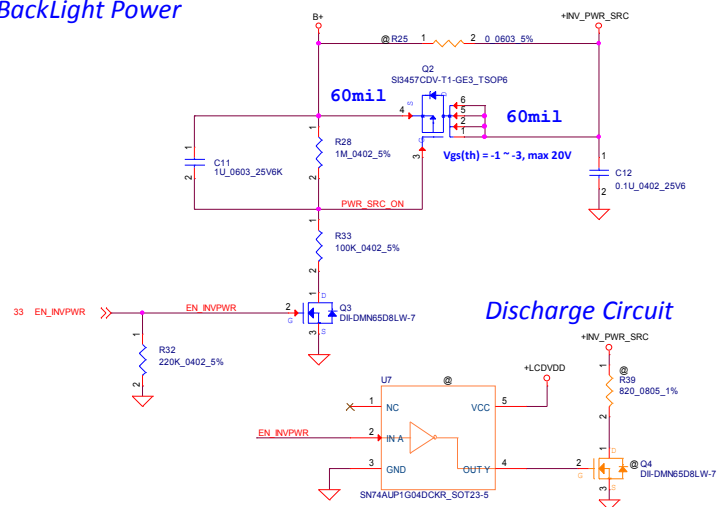


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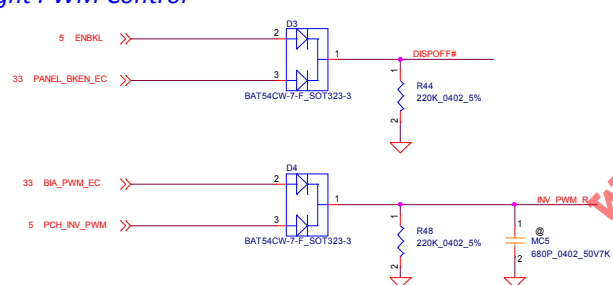




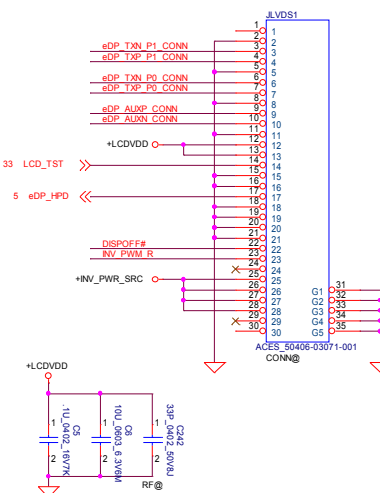
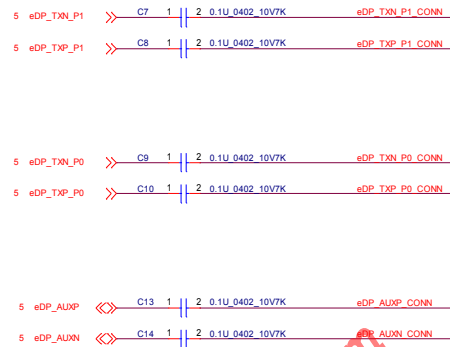
eDP BackLight Power



BackLight PWM Control



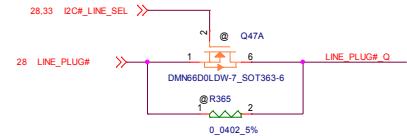
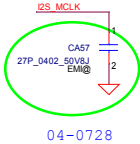
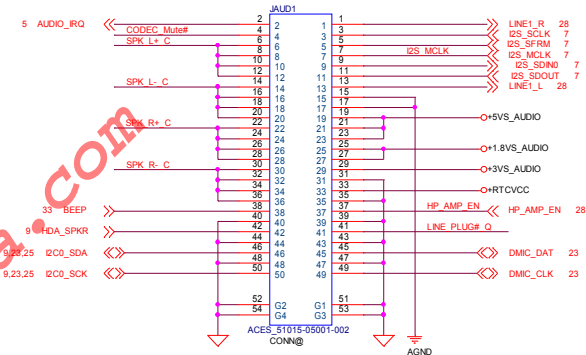
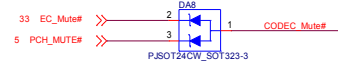
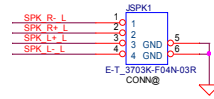
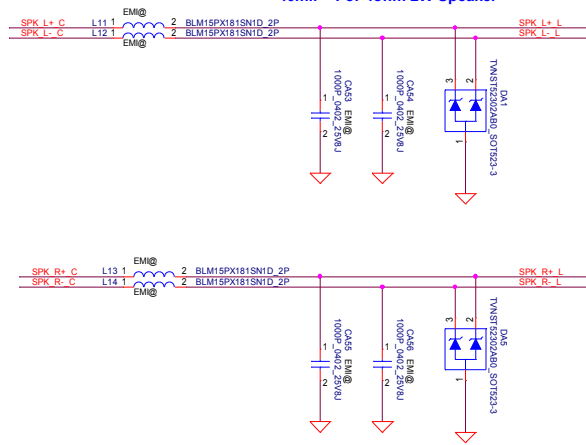
eDP Conn



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LA-9262P				Rev 0.1
Date: Wednesday, August 13, 2014				Sheet 21 of 51

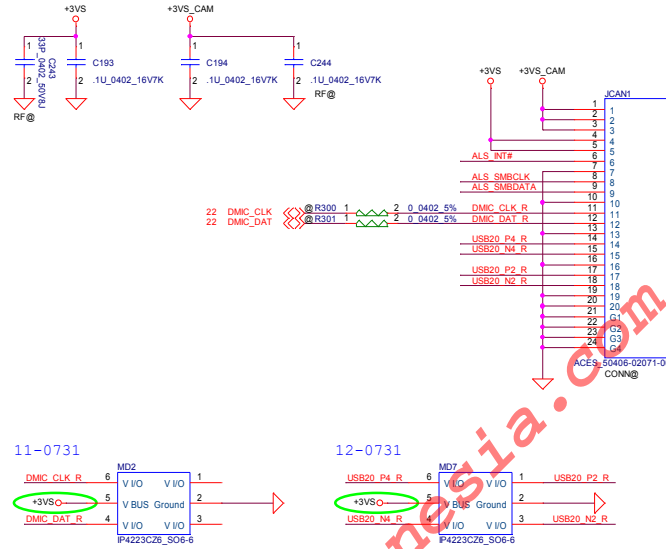
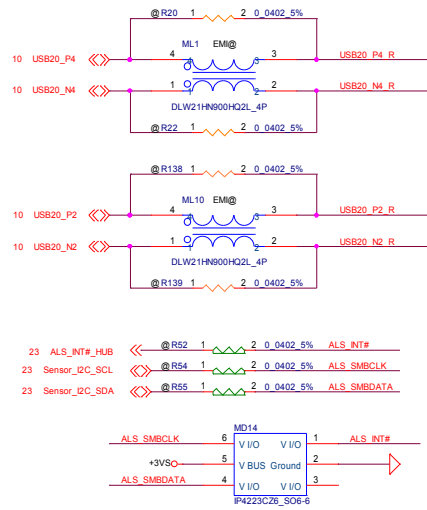
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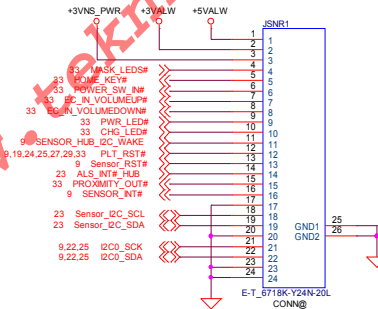
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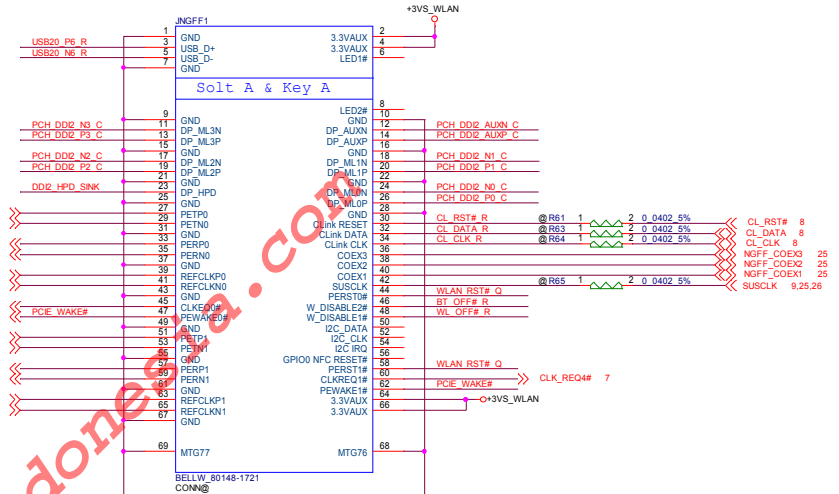
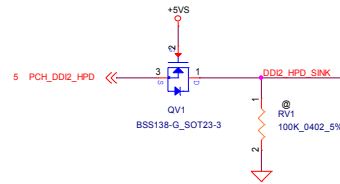
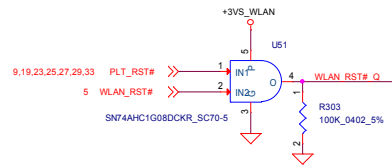
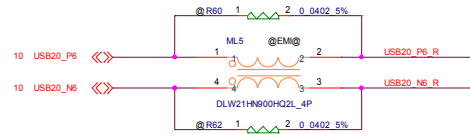
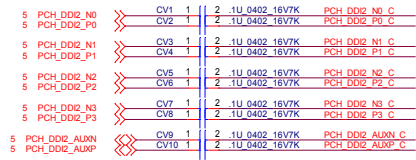
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Date:		Wednesday, August 13, 2014		Sheet	
				22 of 51	

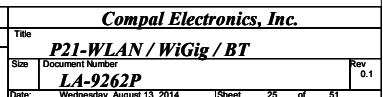


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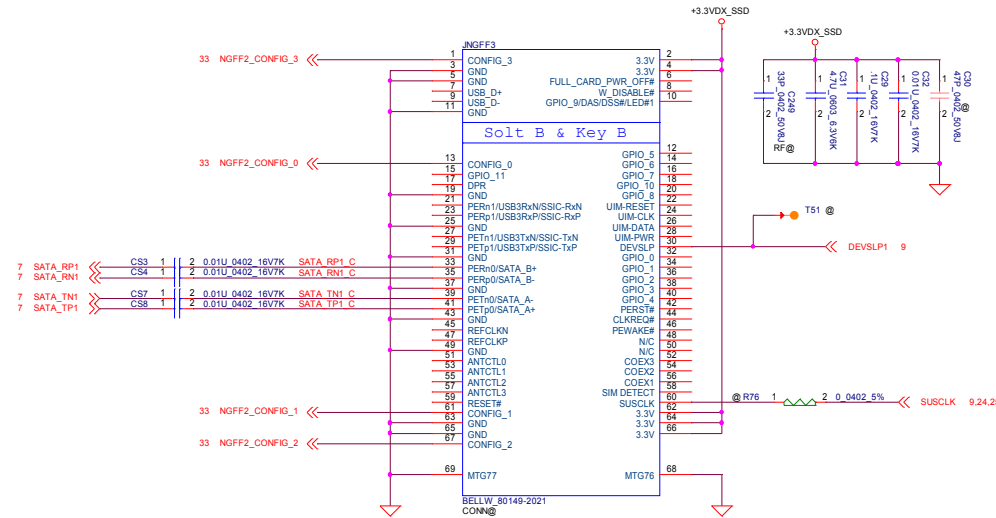
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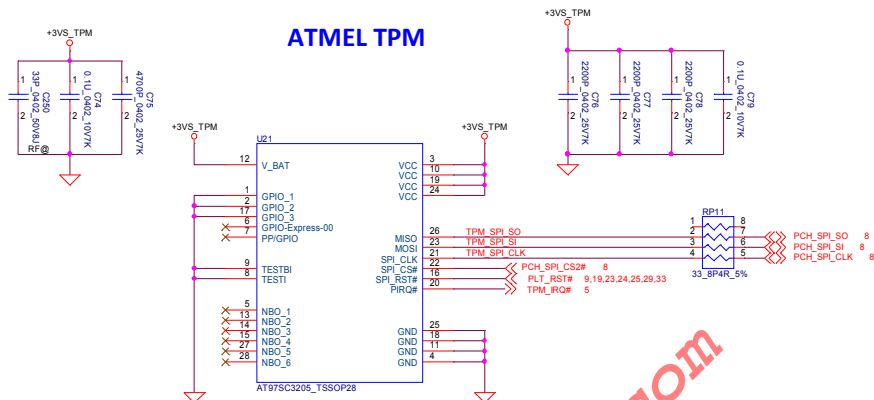
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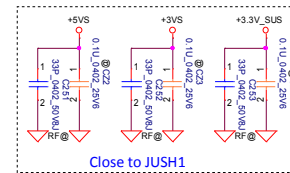
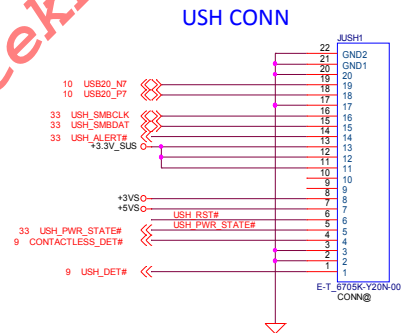
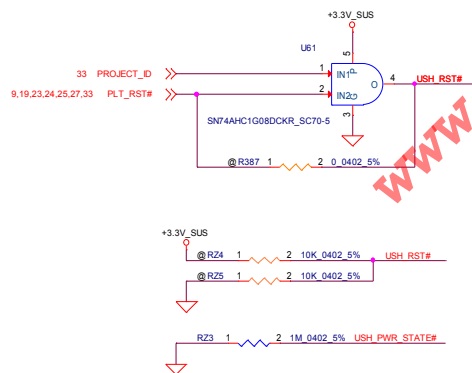
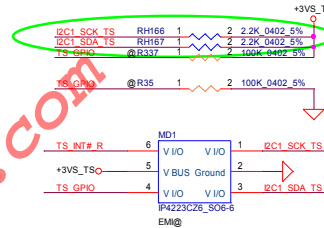
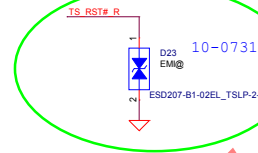
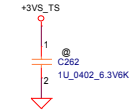
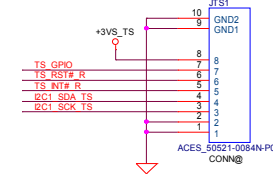
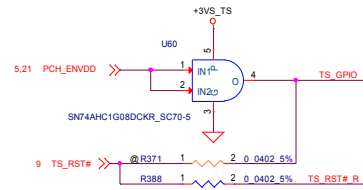
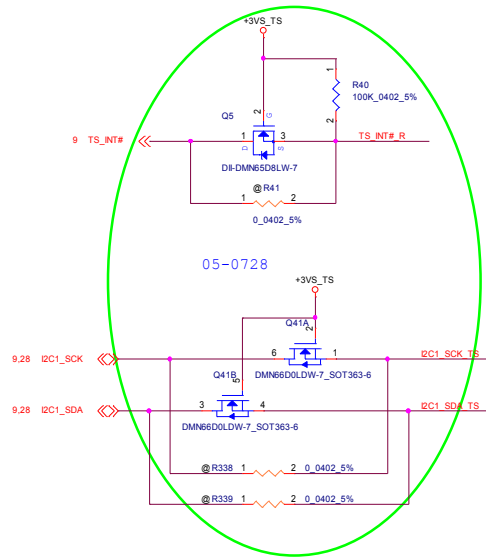
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Title		P22-mSATA / NFC Conn		Rev	
Size		C		0.1	
Document Number		LA-9262P			
Date		Wednesday, August 13, 2014		Sheet	
		26		of	
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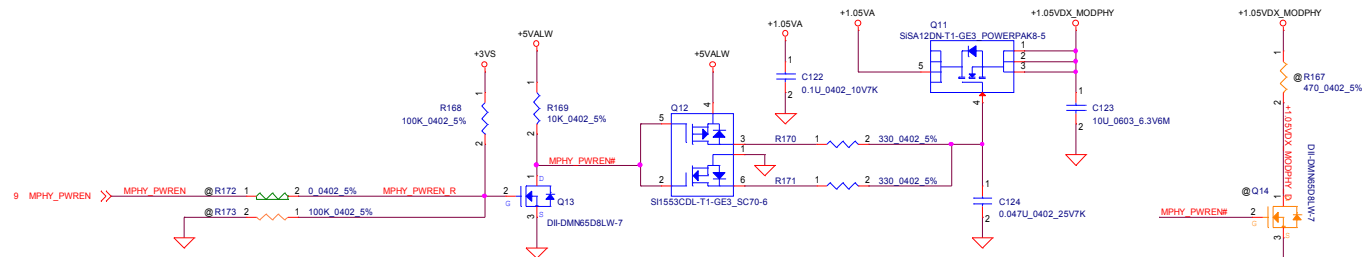
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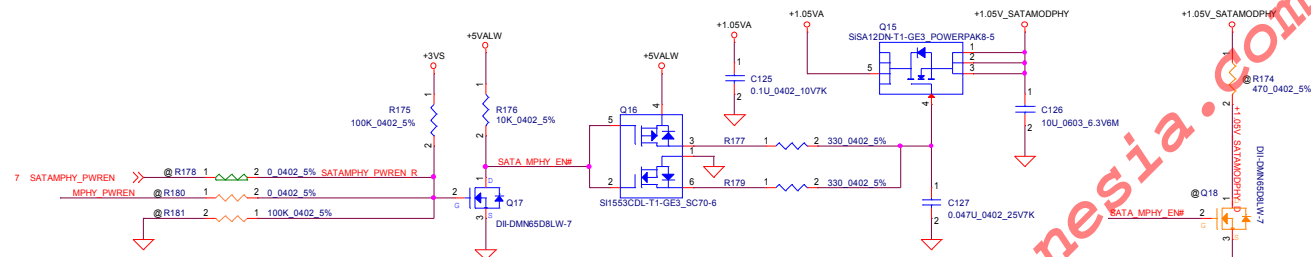
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				Date: Wednesday, August 13, 2014	
				Sheet 27 of 51	
				Rev 0.1	



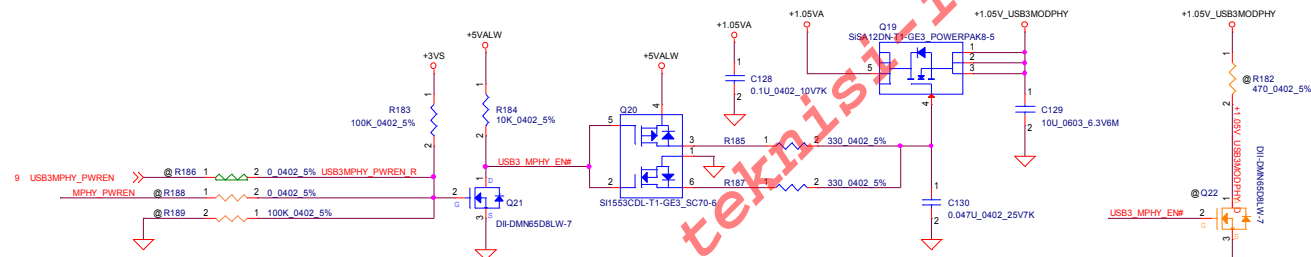
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Size	C	Document Number	LA-A161P	Rev
Date:	Wednesday, August 13, 2014	Sheet	29	of 51



Change circuits design for meet Intel timing, ramp time = 10uS for rising and falling



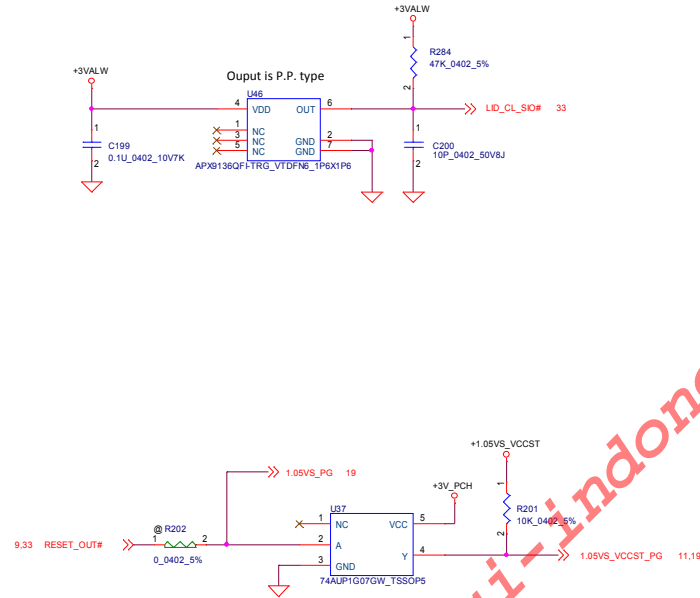
Change circuits design for meet Intel timing, ramp time = 10uS for rising and falling



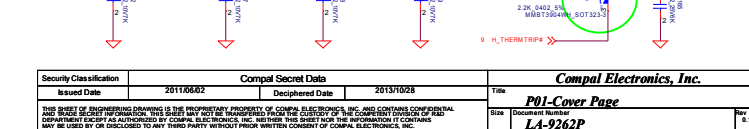
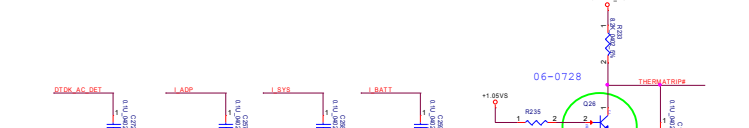
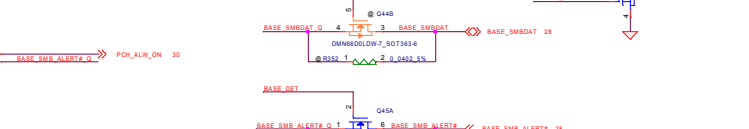
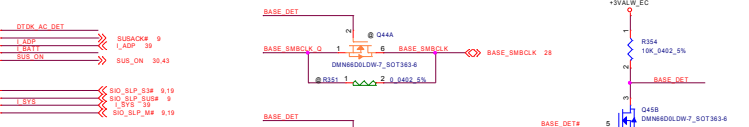
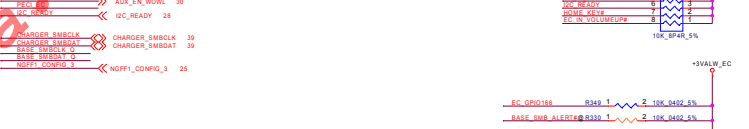
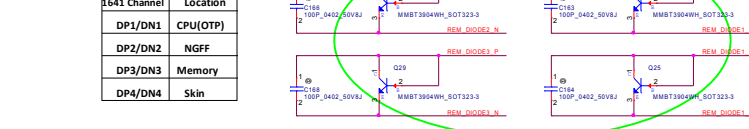
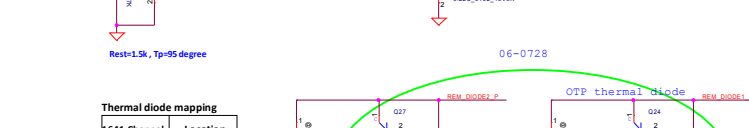
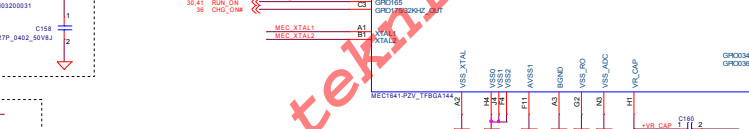
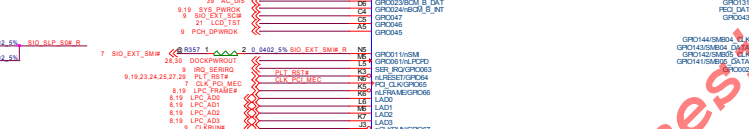
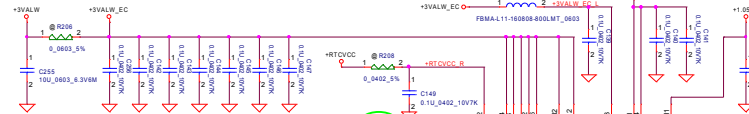
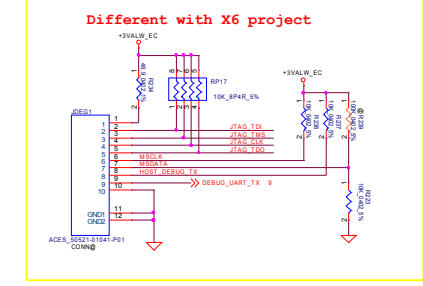
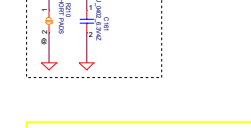
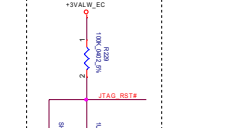
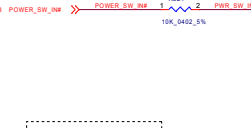
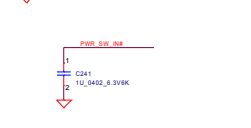
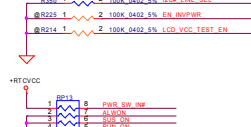
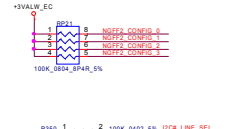
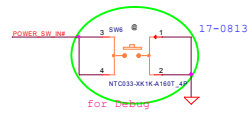
Change circuits design for meet Intel timing, ramp time = 10uS for rising and falling

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				LA-9262P	
				Date: Wednesday, August 13, 2014	
				Sheet 31 of 51	
				Rev 0.1	

LID SW



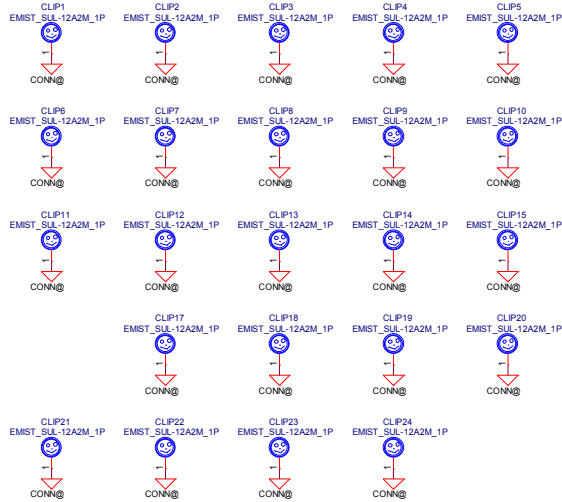
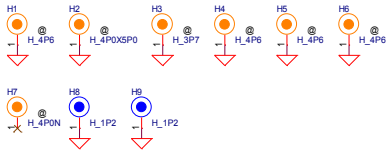
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					LA-9262P
				Date:	Wednesday, August 13, 2014
				Sheet	32 of 51
				Rev	0.1



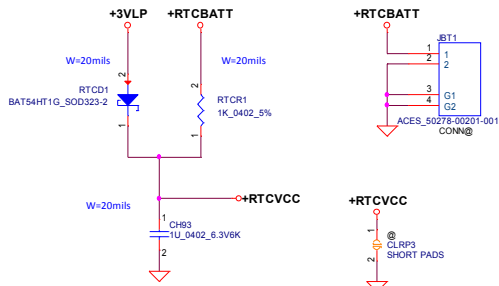
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130K	4700p	EVT1.1
62K	4700p	DVT1
33K	4700p	DVT2
8.2K	4700p	DVT2.1
4.3K	4700p	PVT1
2K	4700p	
1K	4700p	

BOARD ID rise time is measured from 5%-68%.

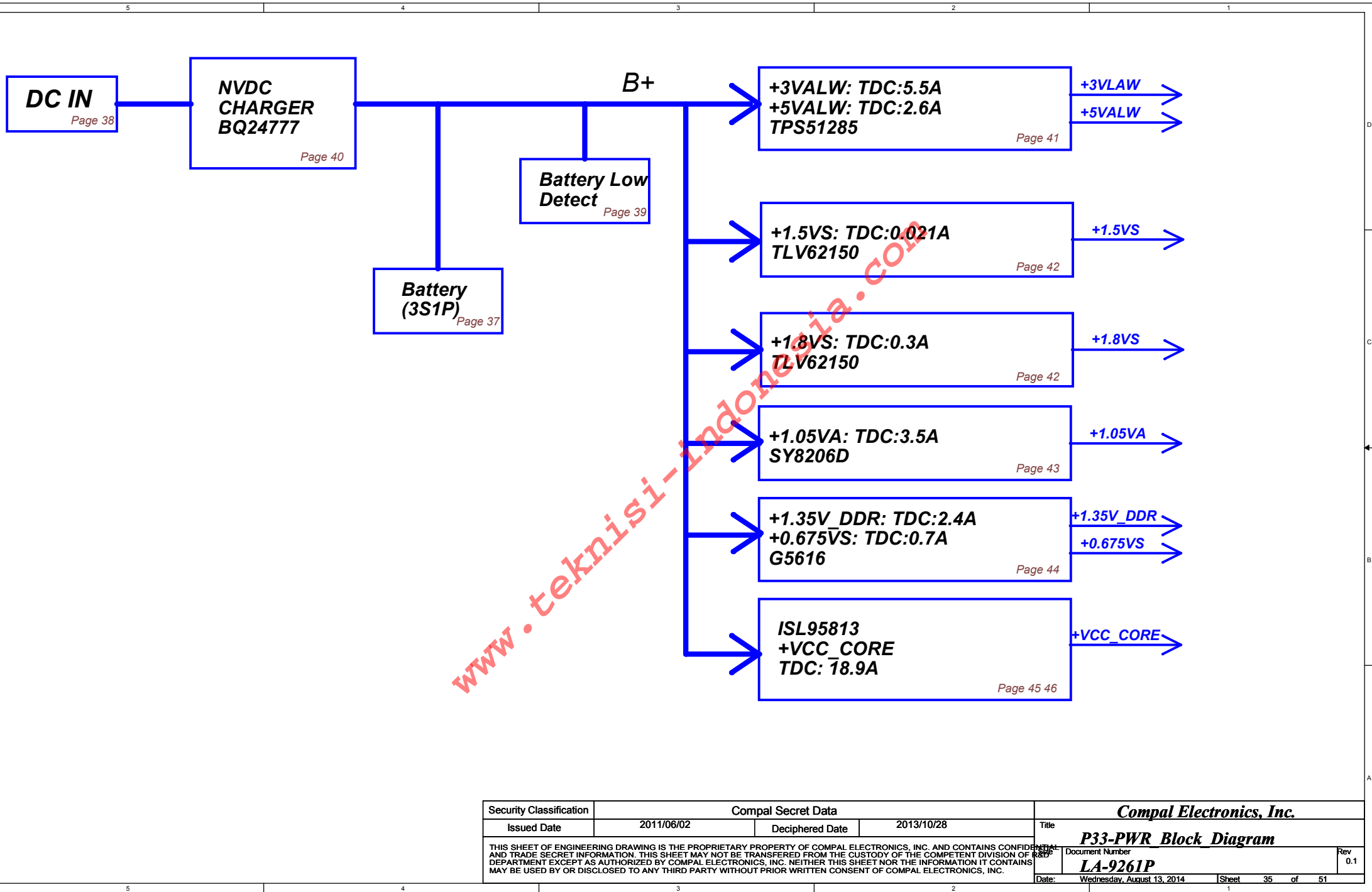
1641 Channel	Location
DP1/DN1	CPU(OTP)
DP2/DN2	NGFF
DP3/DN3	Memory
DP4/DN4	Skin



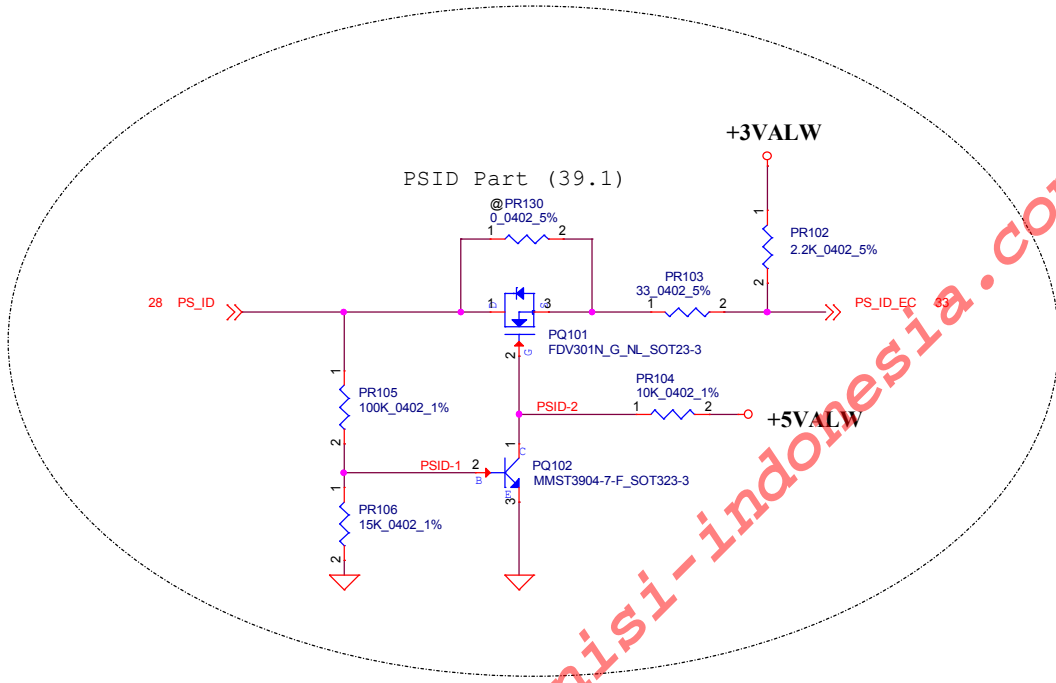
RTC Battery



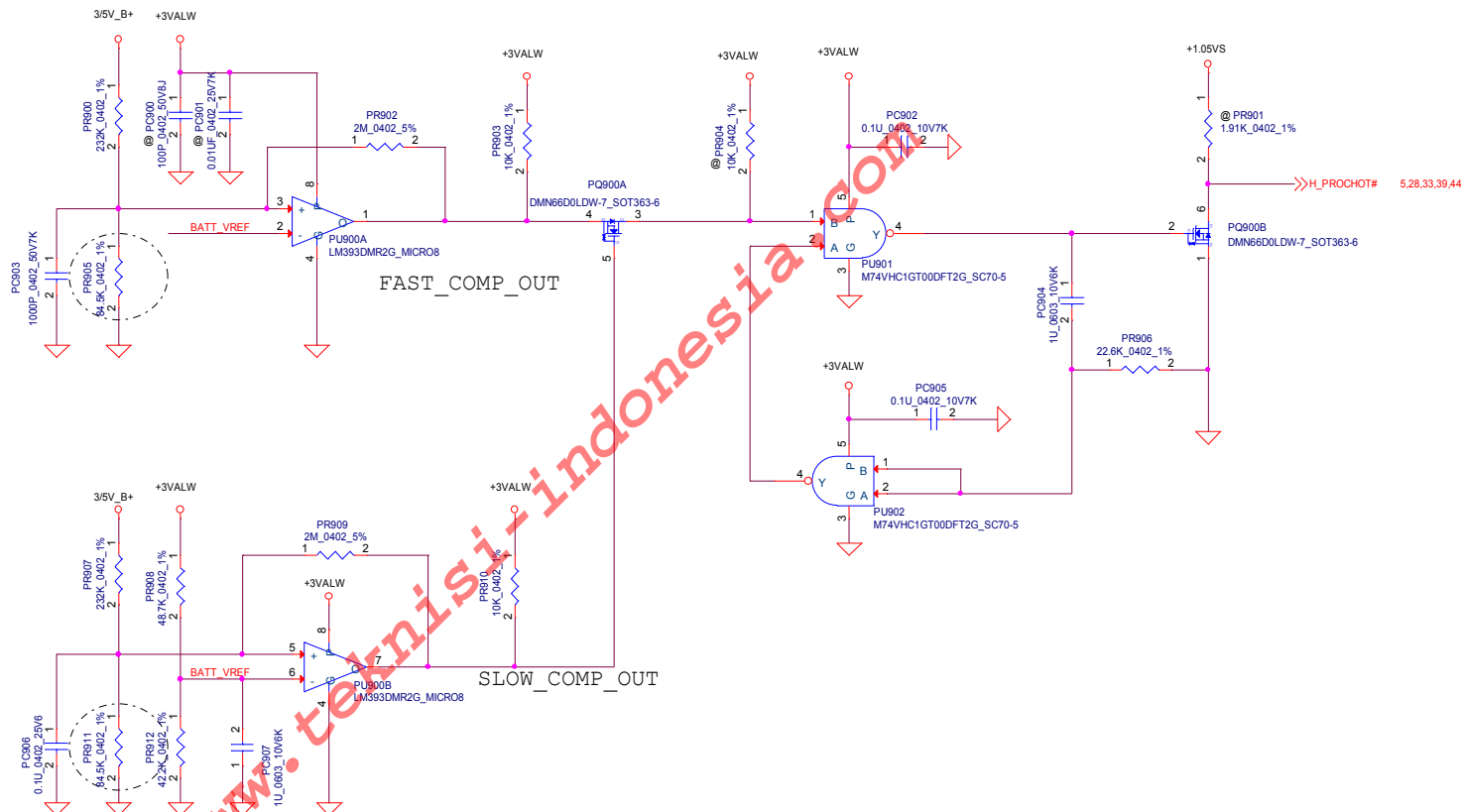
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Size	Document Number LA-9262P			Date	Wednesday, August 13, 2014
		Sheet	34	of	51





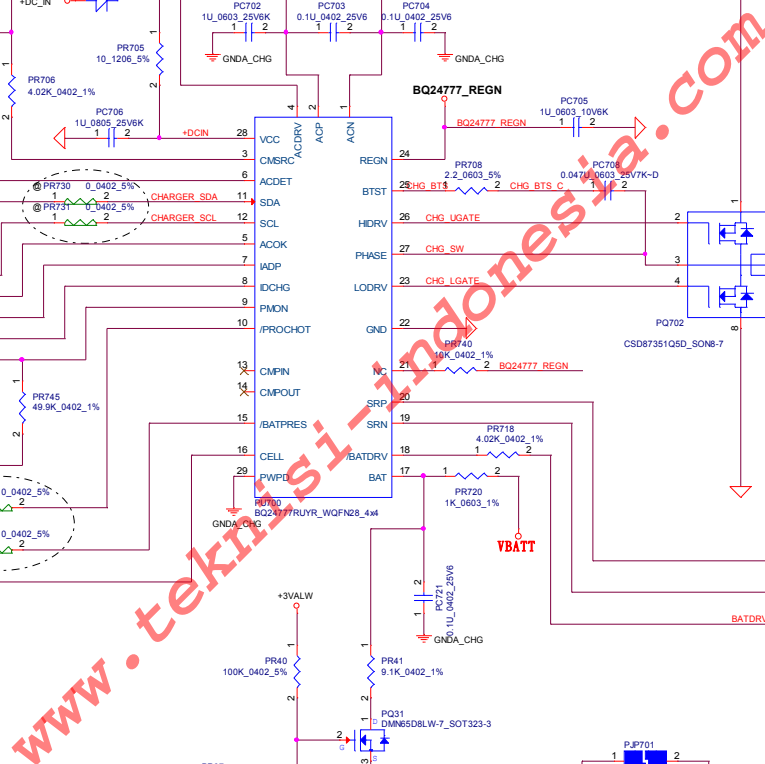


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Date: Wednesday, August 13, 2014		Sheet 37 of 51		Rev 0.4	

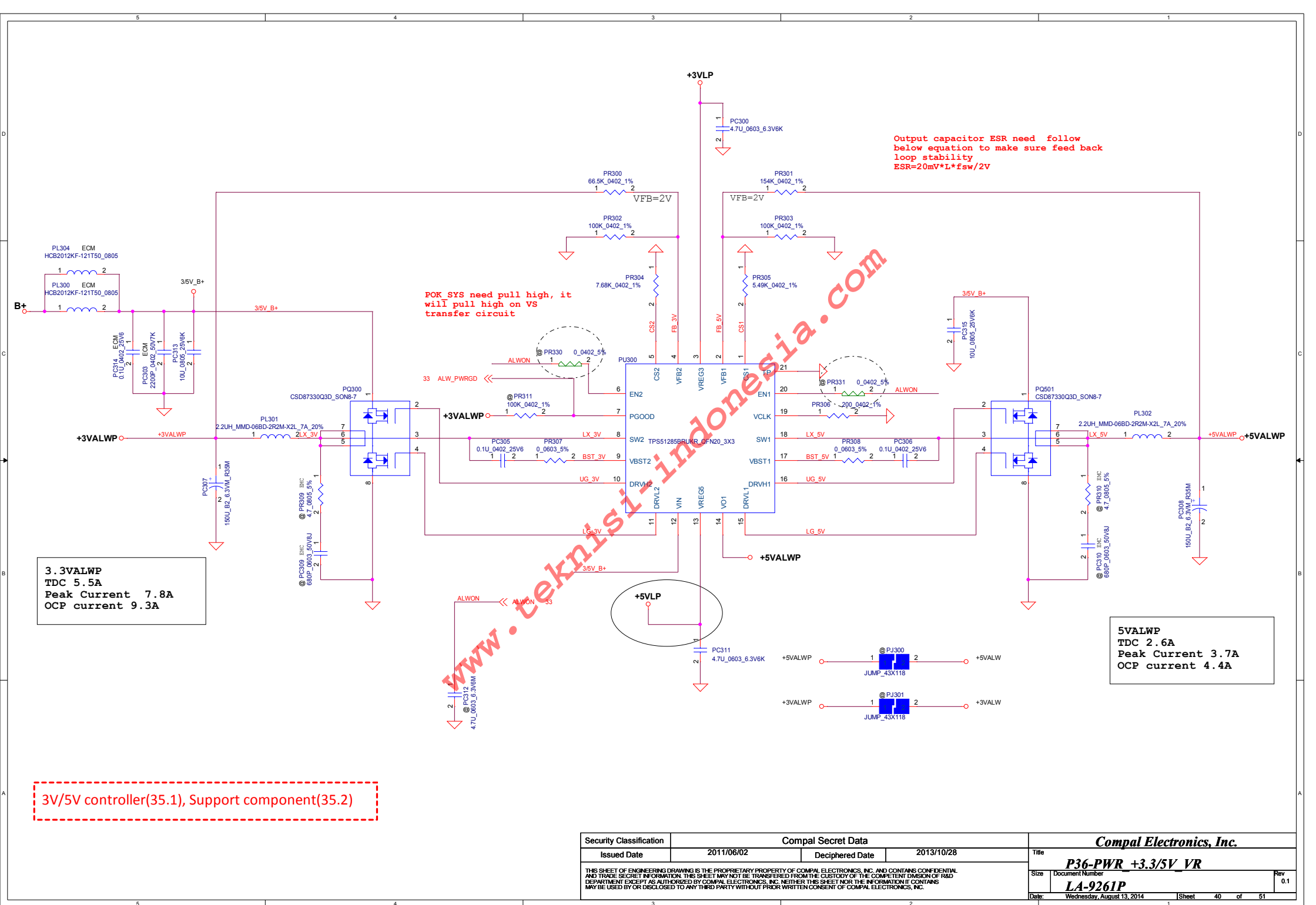


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				Date	Wednesday, August 13, 2014
				Sheet	38 of 51
				Rev	0.1

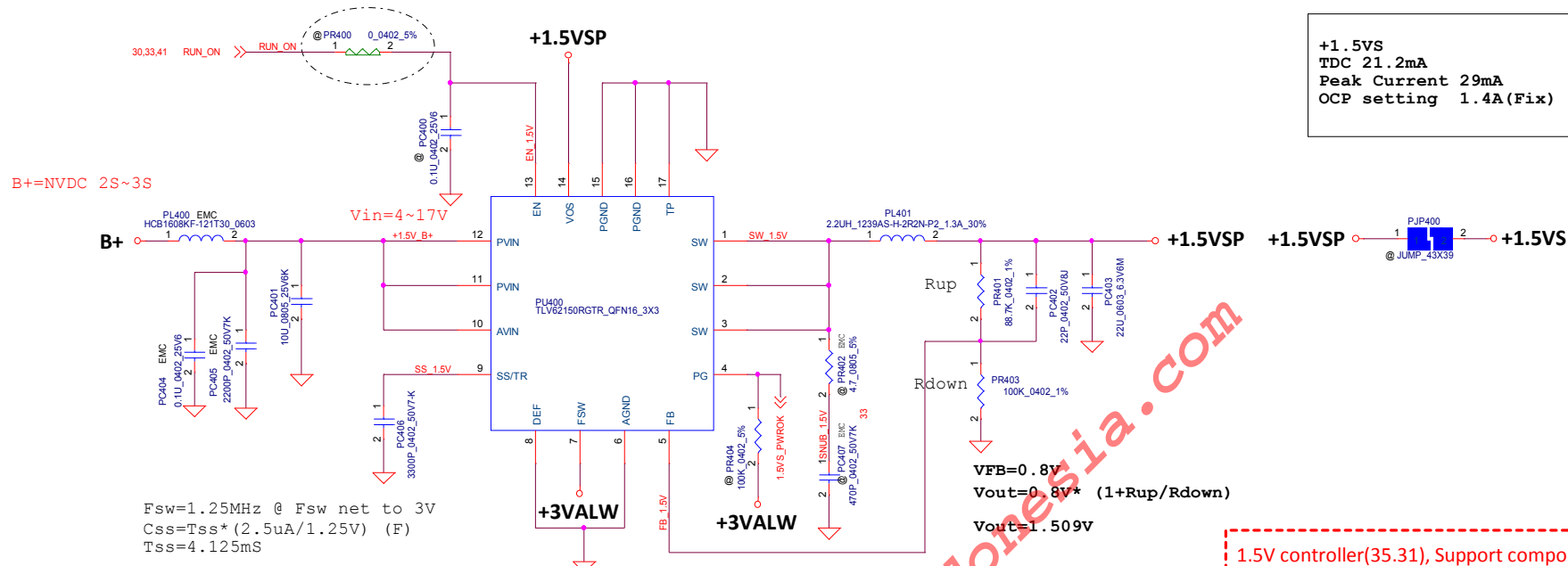
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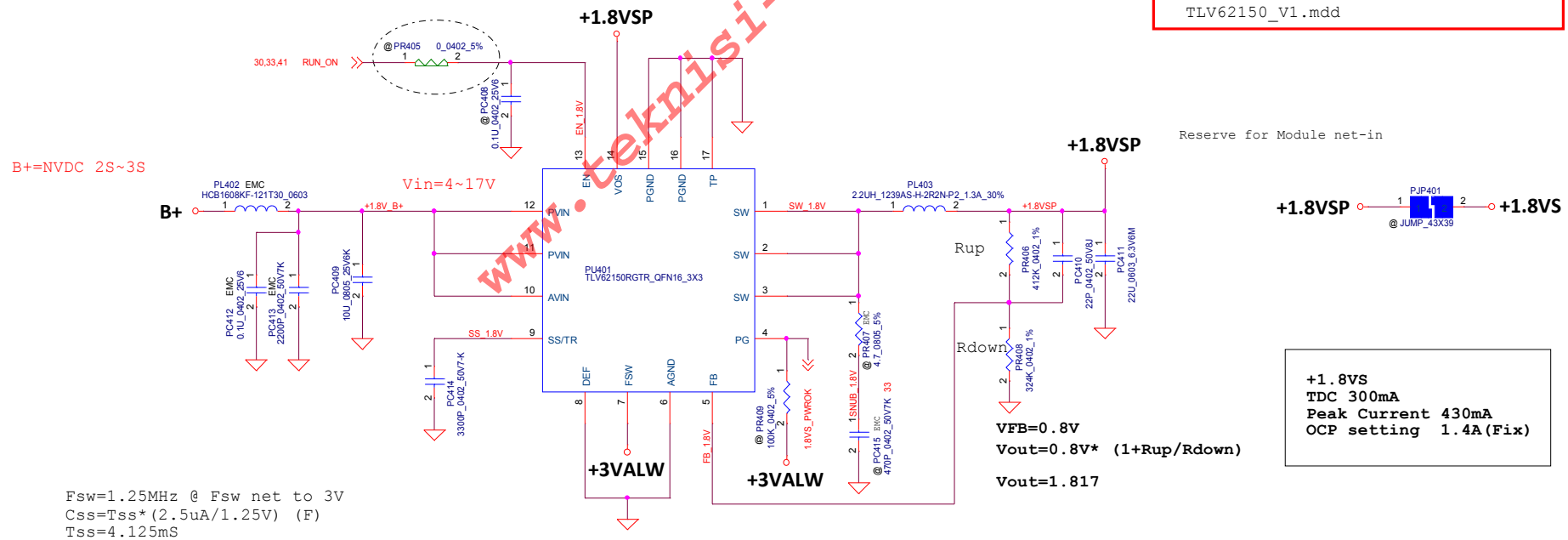


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				Date	Wednesday, August 13, 2014
				Sheet	40 of 51
				Rev	0.1



+1.5VS
TDC 21.2mA
Peak Current 29mA
OCP setting 1.4A(Fix)

Module model information
TLV62150_v1.mdd



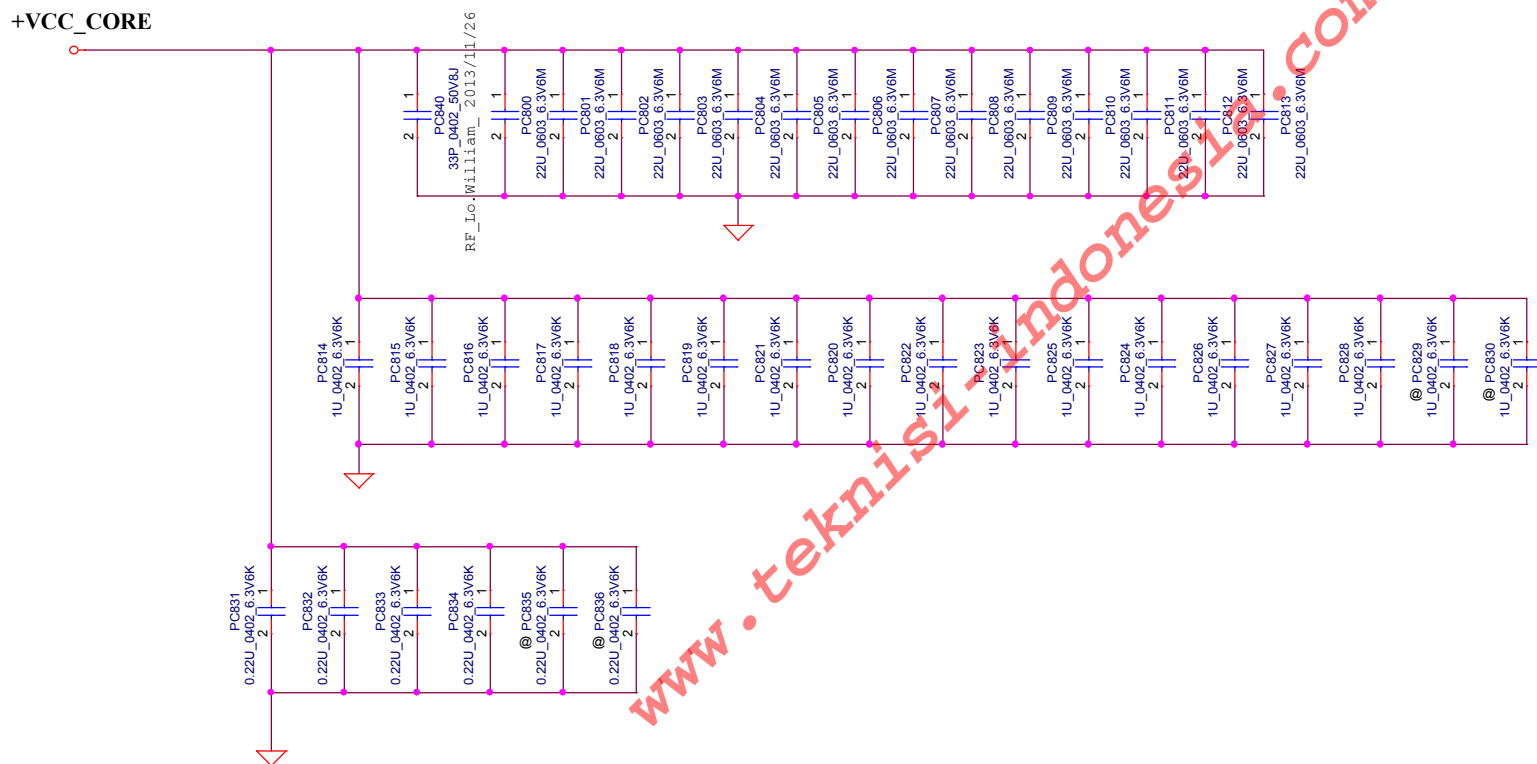
+1.8VS
TDC 300mA
Peak Current 430mA
OCP setting 1.4A(Fix)

1.8V controller(35.15), Support component(35.16)

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Size	Document Number	Date		Sheet	Rev
	LA-9261P	Wednesday, August 13, 2014		41	0.1
				of	51

10U	X	15
47U	X	4
33P	X	1

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for VCORE:1 phase ---> 20pcs
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Issued Date	2011/06/02	Deciphered Date	2013/10/28	Title	P43-PWR PROCESSOR DECOUPLING	
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Date:	Wednesday, August 13, 2014			Sheet	45	of 51

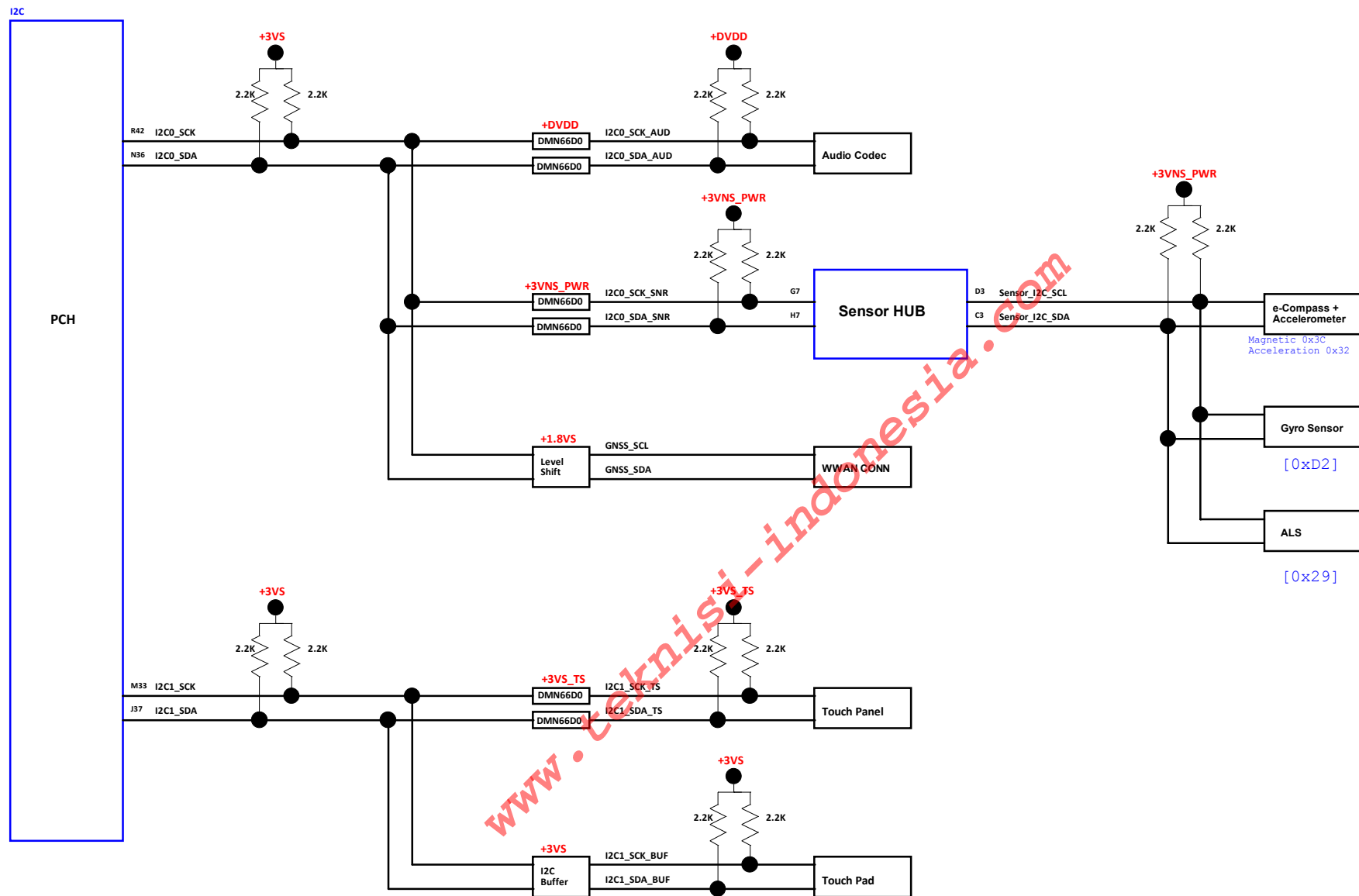
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Page 2

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Discrete Power On Sequence

EC pay attention timing

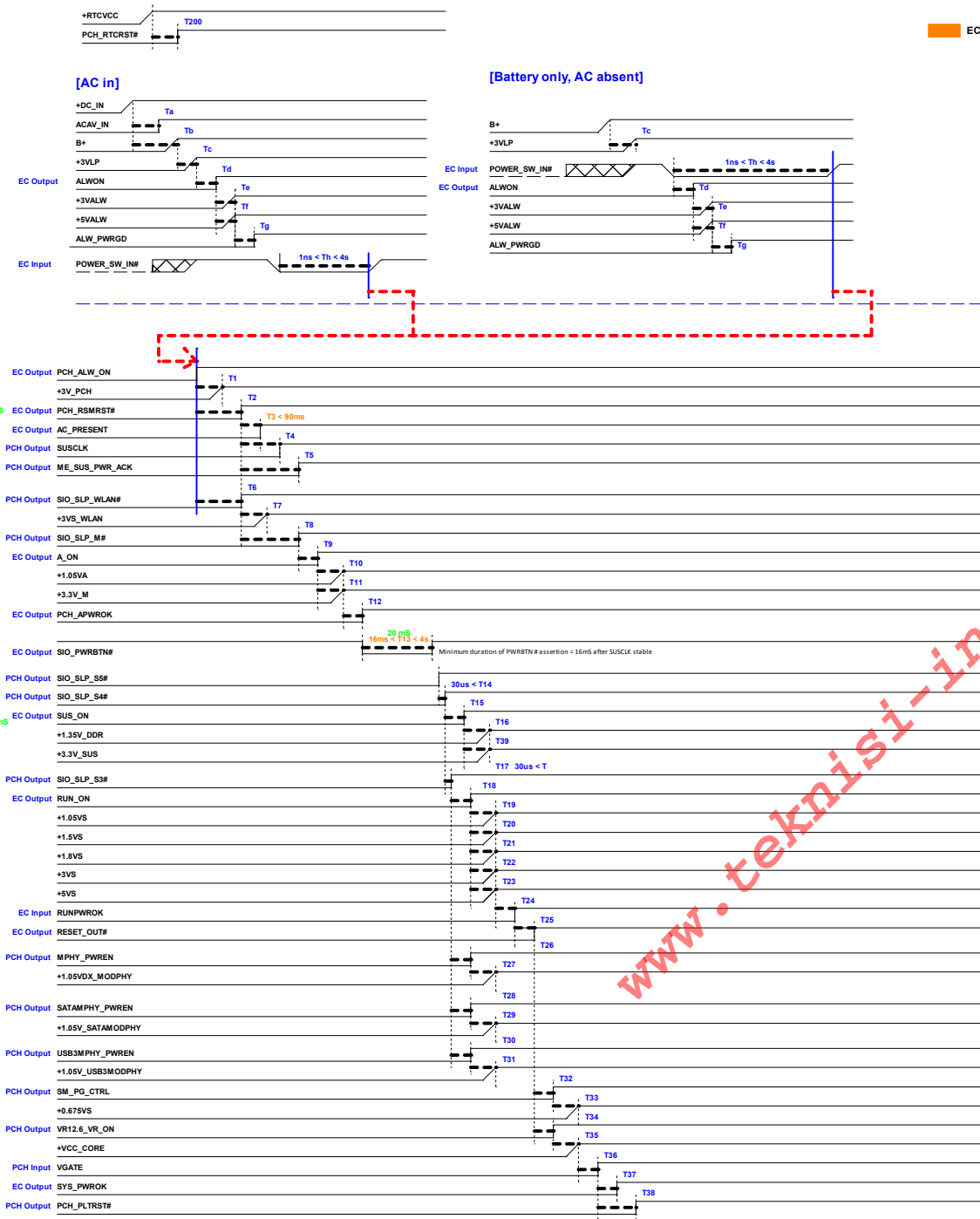
[AC in]

[Battery only, AC absent]

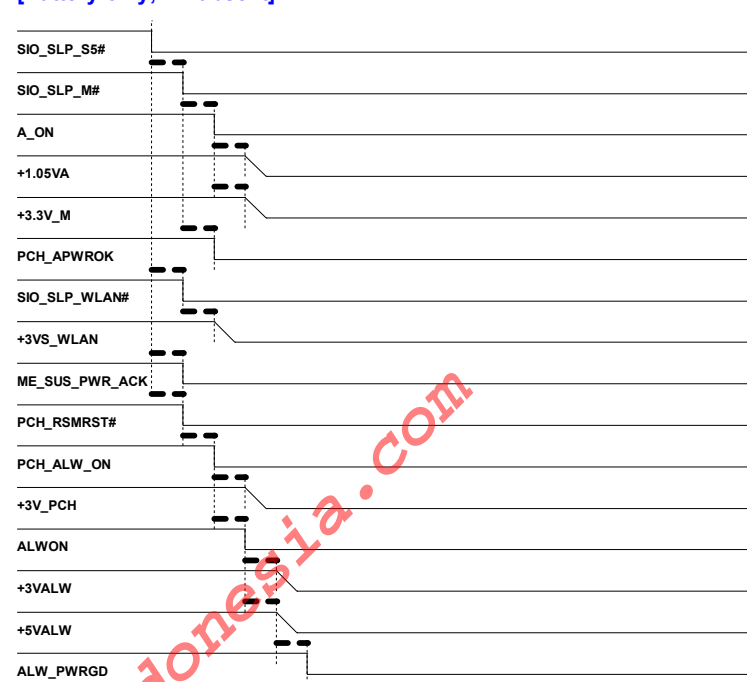
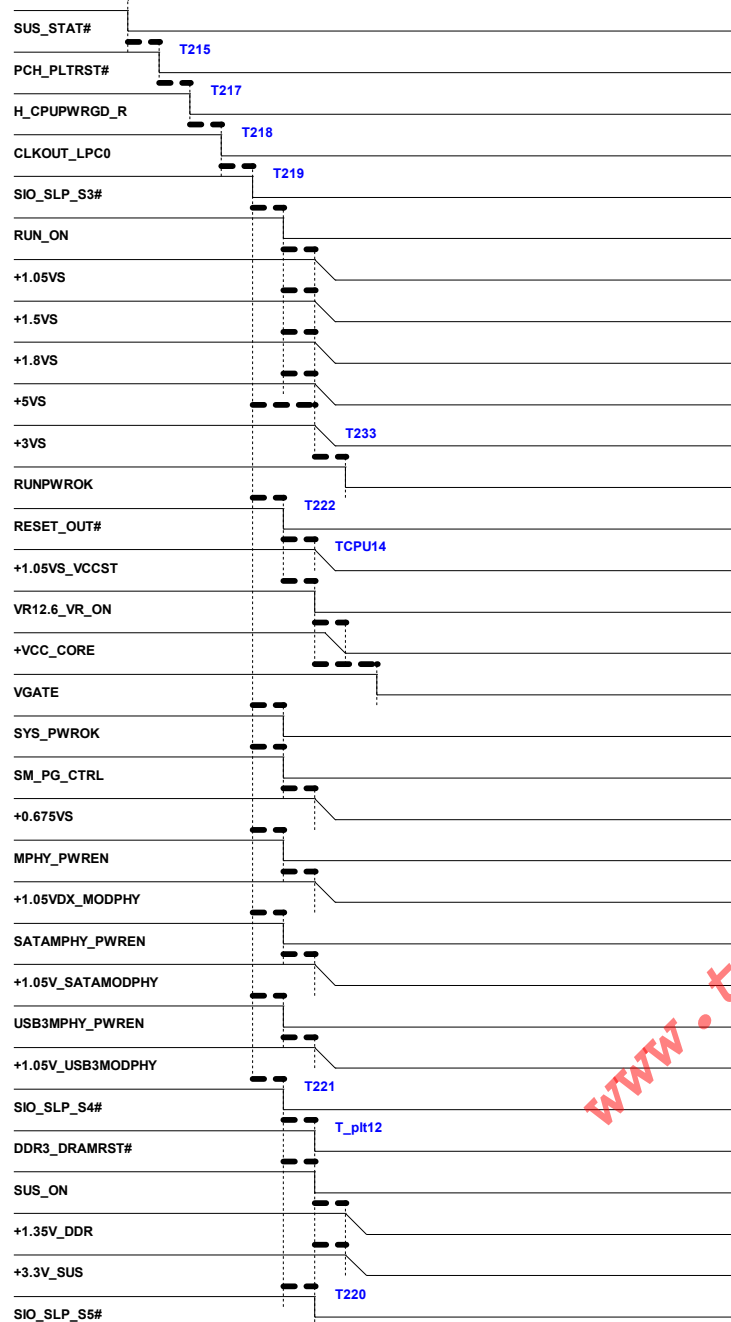
ITEM	Measure Point	Time
Ta	+DC_IN	To
Tb	+DC_IN	To
Tc	B+	To
Td	+3VLP	To
Te	ALWON	To
Tf	ALWON	To
Tg	+5VALW	To
Th	POWER_SW_#	To
		Low pulse width

ITEM	Measure Point	Time
Tc	B+	To
Th	POWER_SW_#	To
Td	POWER_SW_#	To
Te	ALWON	To
Tf	ALWON	To
Tg	+5VALW	To
		Low pulse width

ITEM	Measure Point	Time
T1	PCH_ALW_ON	To
T2	PCH_ALW_ON	To
T3	PCH_RSMRST#	To
T4	PCH_RSMRST#	To
T5	PCH_RSMRST#	To
T6	PCH_ALW_ON	To
T7	SIO_SLP_WLAN#	To
T8	PCH_RSMRST#	To
T9	SIO_SLP_M#	To
T10	A_ON	To
T11	A_ON	To
T12	+3.3V_M	To
T13	SIO_PWRBTN#	To
T14	SIO_SLP_S#	To
T15	SIO_SLP_S#	To
T16	SUS_ON	To
T17	SIO_SLP_S#	To
T18	SIO_SLP_S#	To
T19	RUN_ON	To
T20	RUN_ON	To
T21	RUN_ON	To
T22	RUN_ON	To
T23	RUN_ON	To
T24	+5VS	To
T25	RUNPWROK	To
T26	SIO_SLP_S#	To
T27	MPHY_PWREN	To
T28	SIO_SLP_S#	To
T29	SATAMPHY_PWREN	To
T30	SIO_SLP_S#	To
T31	USB3MPHY_PWREN	To
T32	RESET_OUT#	To
T33	SM_PG_CTRL	To
T34	RESET_OUT#	To
T35	VR12.6_VR_ON	To
T36	+VCC_CORE	To
T37	VGATE	To
T38	VGATE	To
T39	SUS_ON	To
T40	To	
T41	To	
T42	To	



[Battery only, AC absent]



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				Sheet	51 of 51
				Rev	0.1