


## Schematics Page Index (Title / Revision / Change Date)

Page	Title of Schematics Page	Rev.	Date	Page	Title of Schematics Page	Rev.	Date
01	Schematics Page Index	A00	09'09'07	36	FAN/Thermal/G Sensor	A00	
02	Block Diagram	A00		37	USB2.0 & e-SATA	A00	
03	Arrandale (DMI,PEG,FDI)	A00		38	DB board connector (MB)	A00	
04	Arrandale (CLK,MISC,JTAG)	A00		39	PWR BTN & BT & LED DB	A00	
05	Arrandale (DDR3)	A00		40	Power Design Diagram	A00	
06	Arrandale (POWER)	A00		41	DCIN & Battery	A00	
07	Arrandale (GRAPHICS POWER)	A00		42	MAX8731A_Smart_Charger	A00	
08	Arrandale (GND)	A00		43	MAX17020 (+3_3V/+5V)	A00	
09	Arrandale (RESERVED)	A00		44	SYS Power+1_1VTT/+1_05V	A00	
10	CLOCK GEN	A00		45	DDR3 Power(+1_5V/+0_75V)	A00	
11	PCH (HDA,JTAG,SAT)	A00		46	CPU Power_VHCORE	A00	
12	PCH (PCI-E,SMBUS,CLK)	A00		47	CPU Power_DRV-PHASE3	A00	
13	PCH (DMI,FDI,GPIO)	A00		48	VGA Power(ATI VDD)	A00	
14	PCH (LVDS,DDI)	A00		49	SYS Power +1_8V	A00	
15	PCH (PCI,USB,NVRAM)	A00		50	Others power plane	A00	
16	PCH (GPIO,VSS_NCTF,RSVD)	A00		51	HOLE	A00	
17	PCH (POWER) 1/2	A00		52	History (1)	A00	
18	PCH (POWER) 2/2	A00		53	PWR History (1)	A00	
19	PCH (VSS)	A00		54	PWR History (2)	A00	
20	DDR3(SO-DIMM_0) 1/2	A00					
21	DDR3(SO-DIMM_1) 2/2	A00					
22	CRT	A00					
23	LVDS	A00					
24	HDMI	A00					
25	SATA HDD/ODD	A00					
26	EC+KBC(IT8502E)	A00					
27	Flash ROM/SPI	A00					
28	WLAN/WiMAX Mini-PCIECard	A00					
29	EXPRESS CARD	A00					
30	BT & CAMERA/Dig MIC CON	A00					
31	Broadcom LAN(BCM57780M)	A00					
32	Audio (CODEC & POWER)	A00					
33	Audio (HP,EXT MIC)	A00					
34	Audio (SPKR)	A00					
35	Audio (MUTE)	A00					

Project Code &amp; Schematics Subject: H901 Main Board\_6L

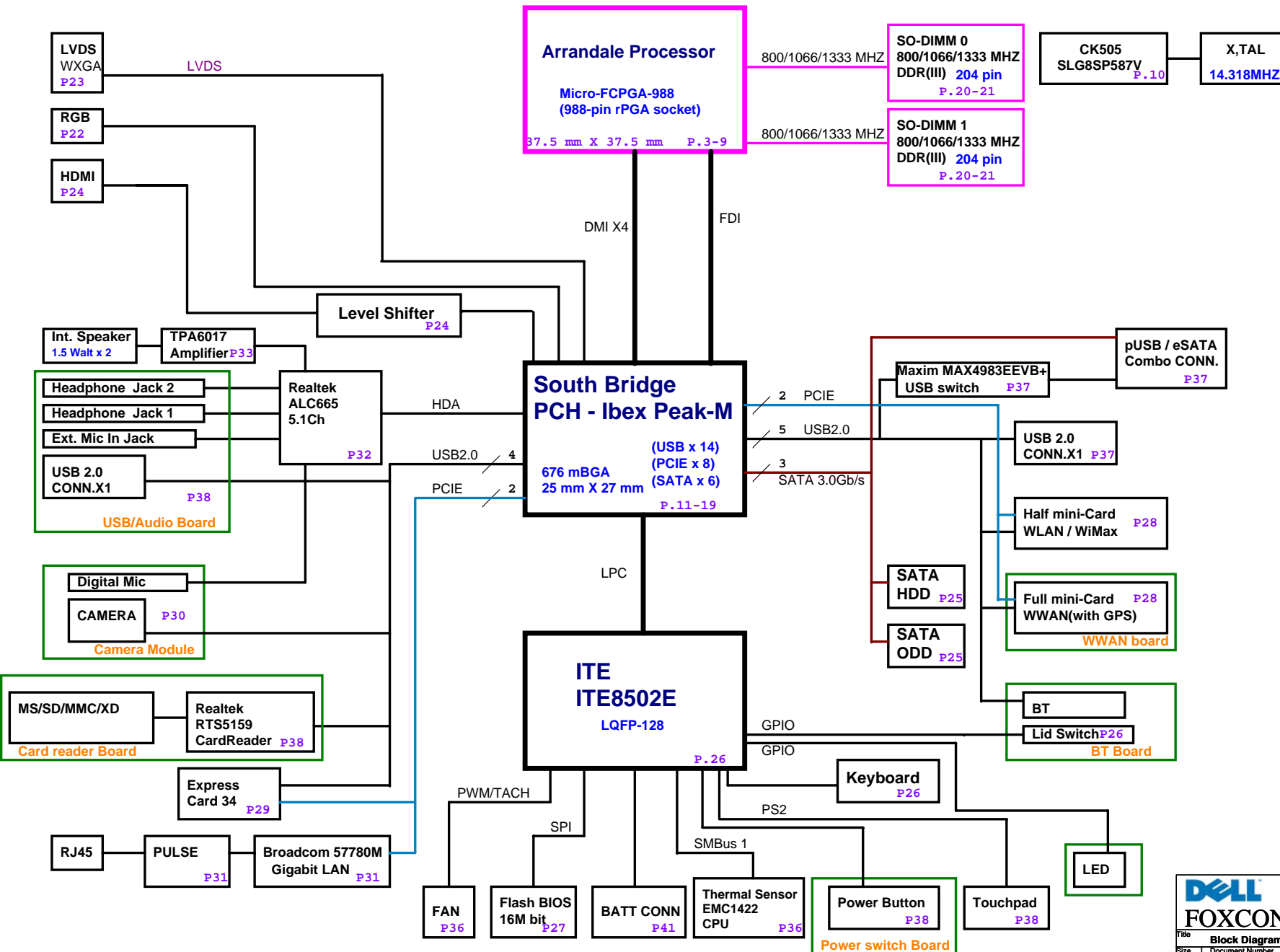
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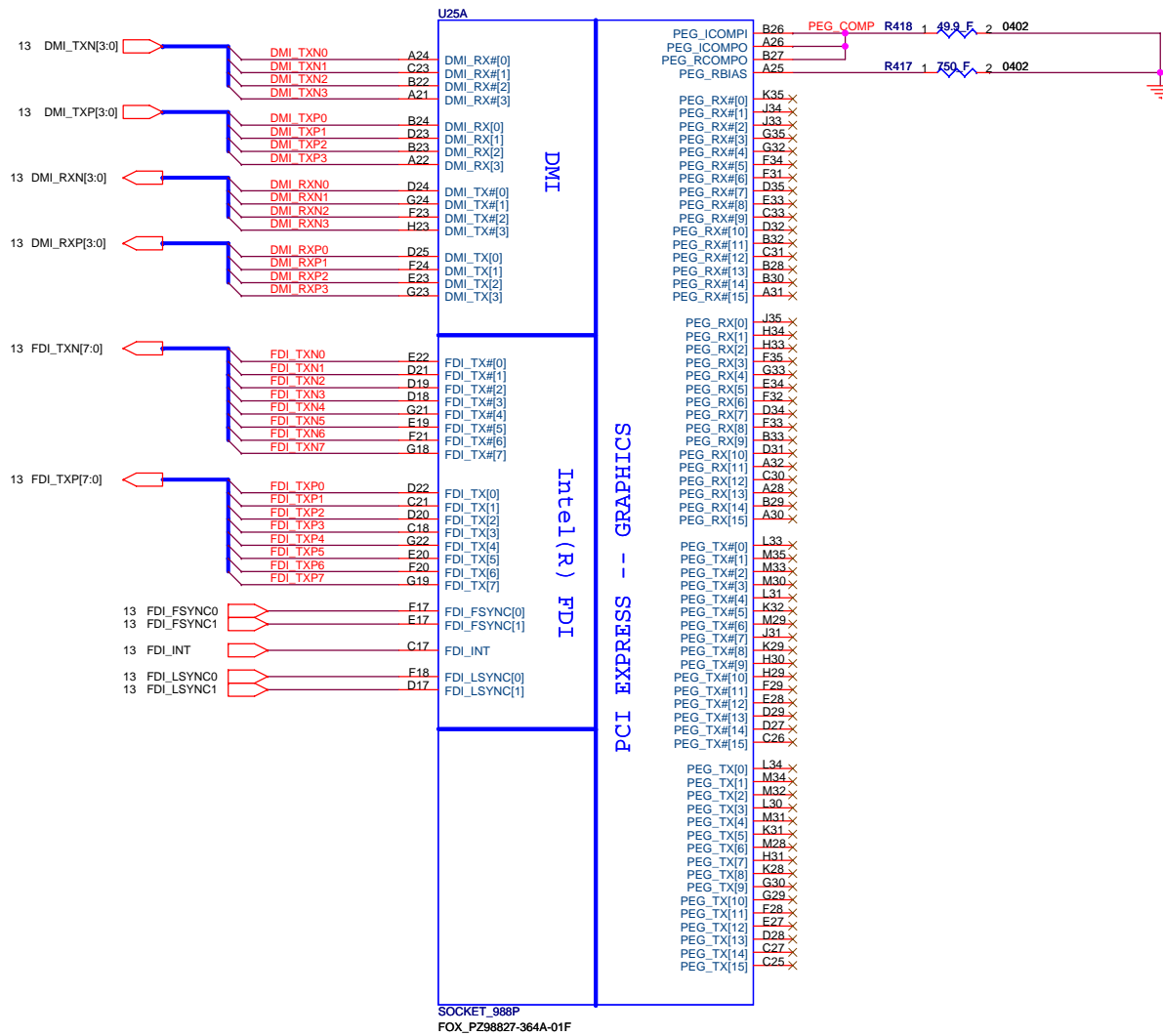
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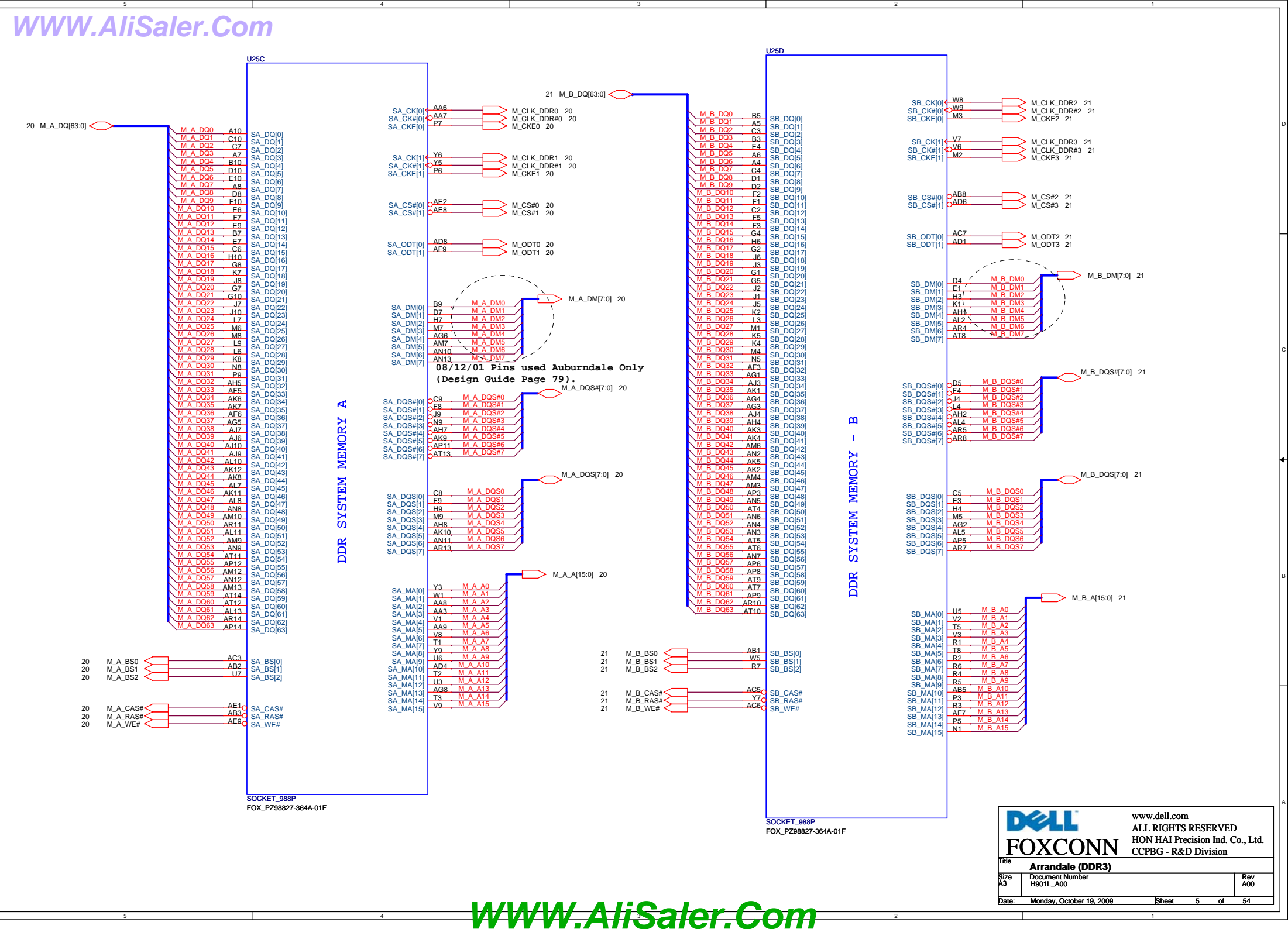
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Size	Document Number	Rev
A3	H901L_A00	A00
Date:	Friday, October 30, 2009	Sheet 1 of 54

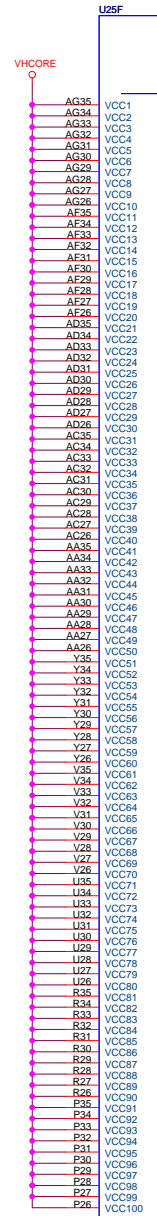
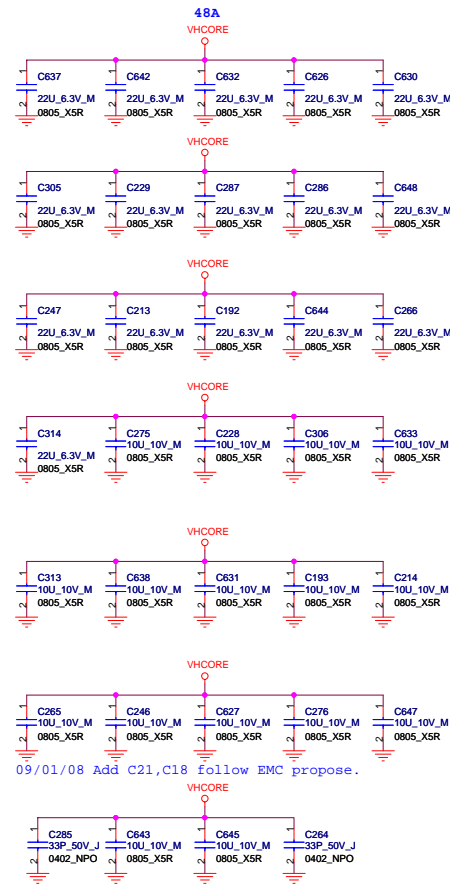
# H901L Arrandale











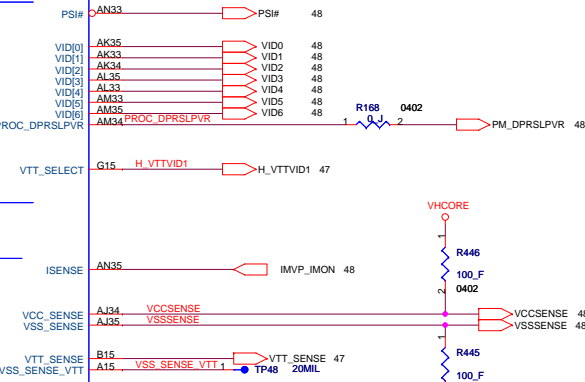
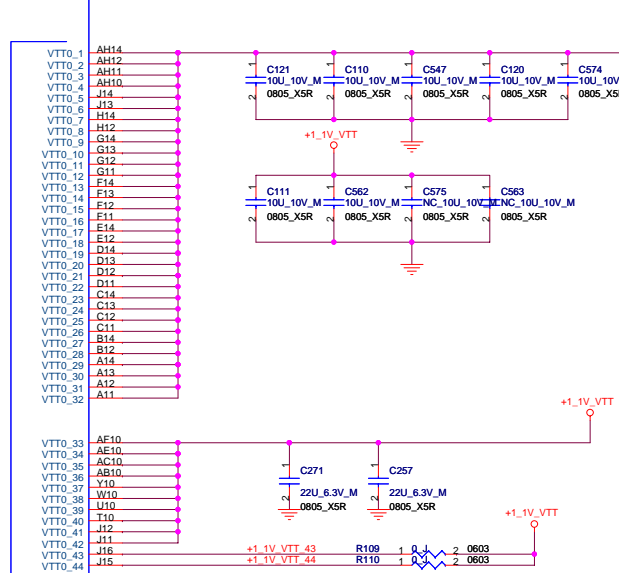
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POWER

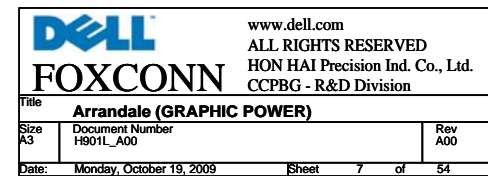
CFU VIDS

SENSE SENSE

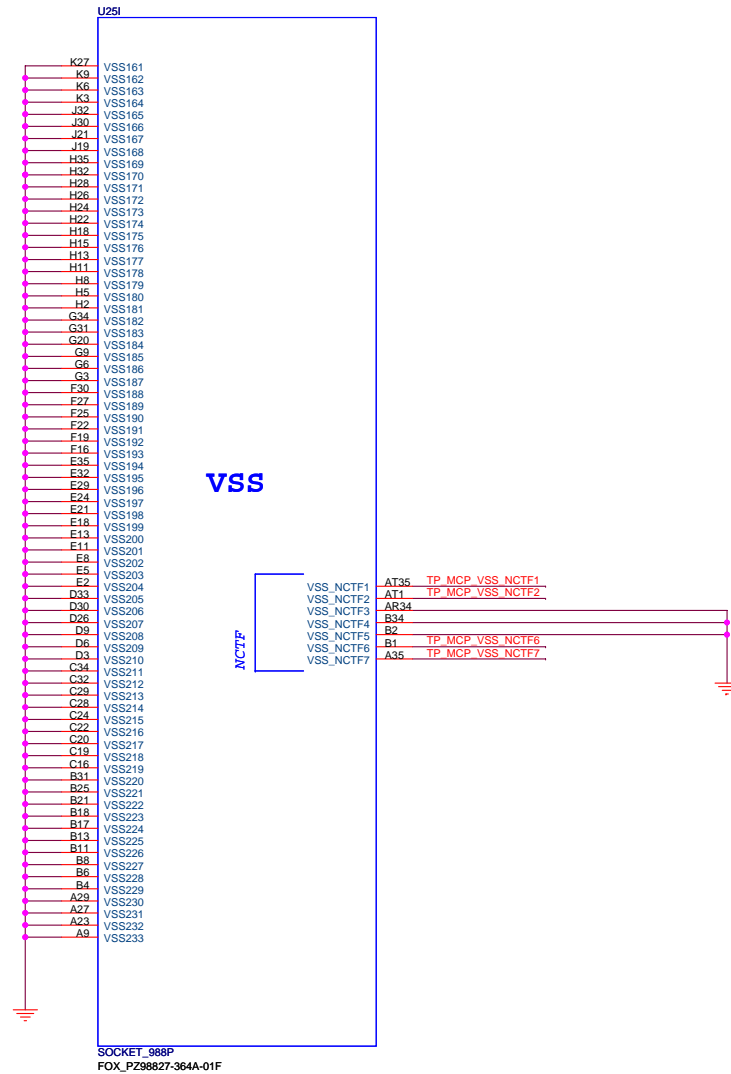
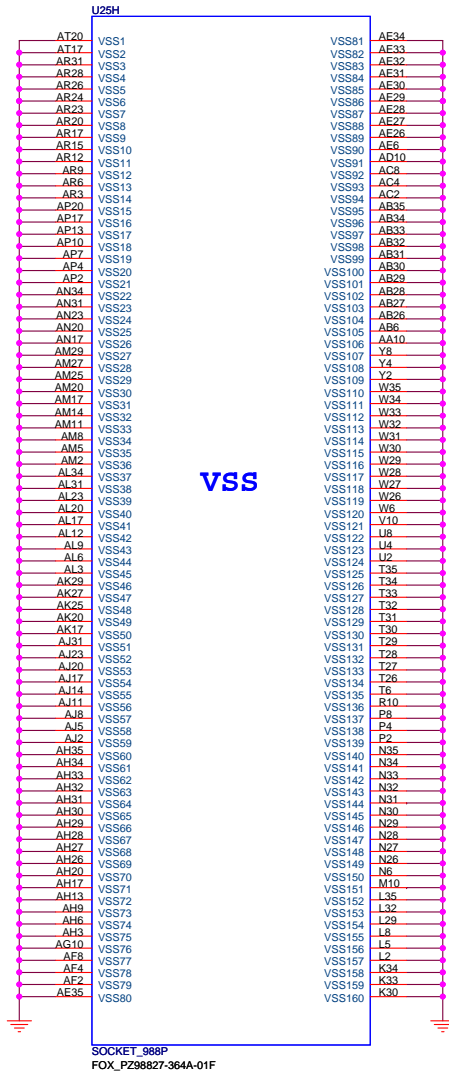
1.1V RAIL POWER



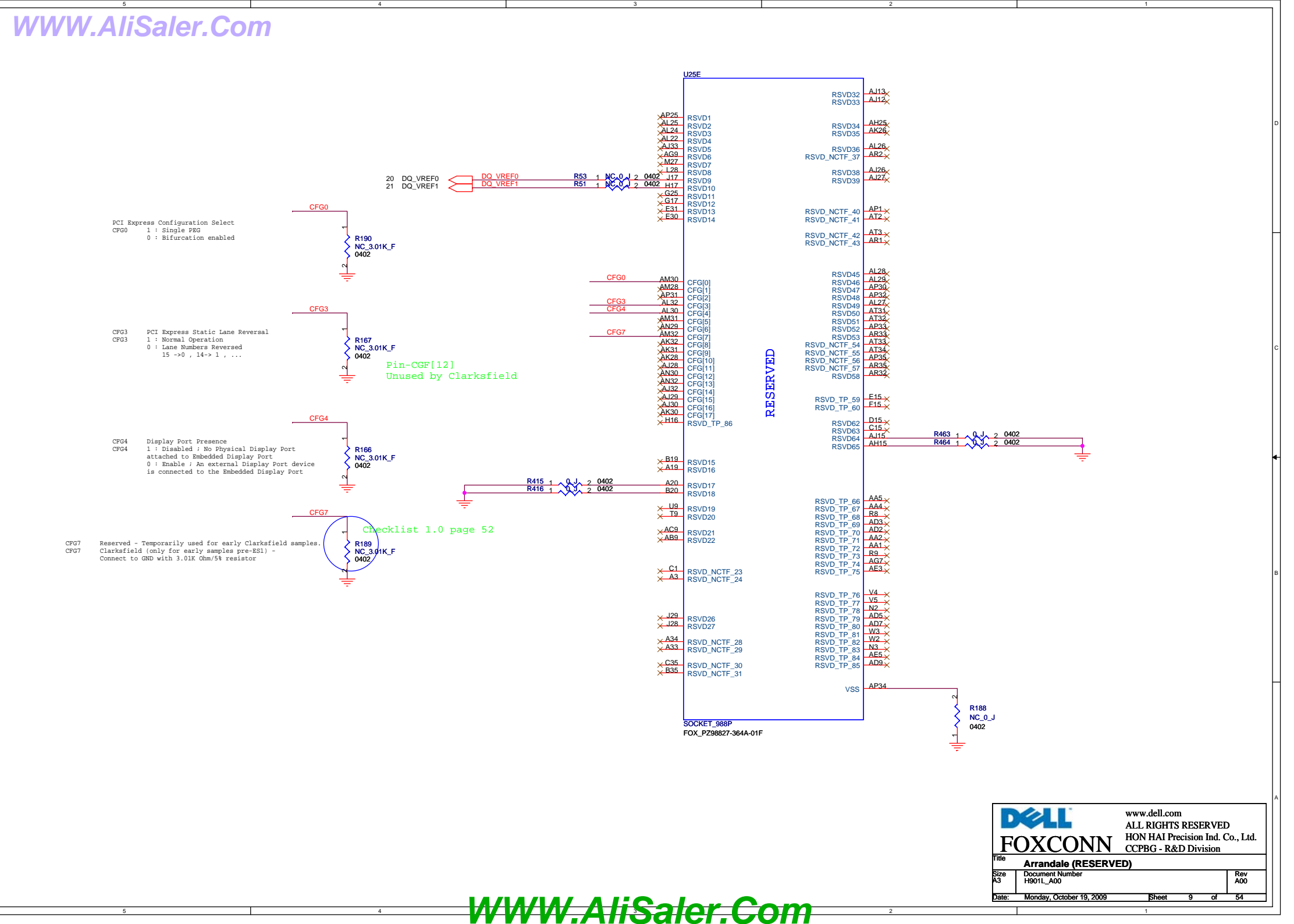
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Date:		Monday, October 19, 2009	Sheet 6 of 54

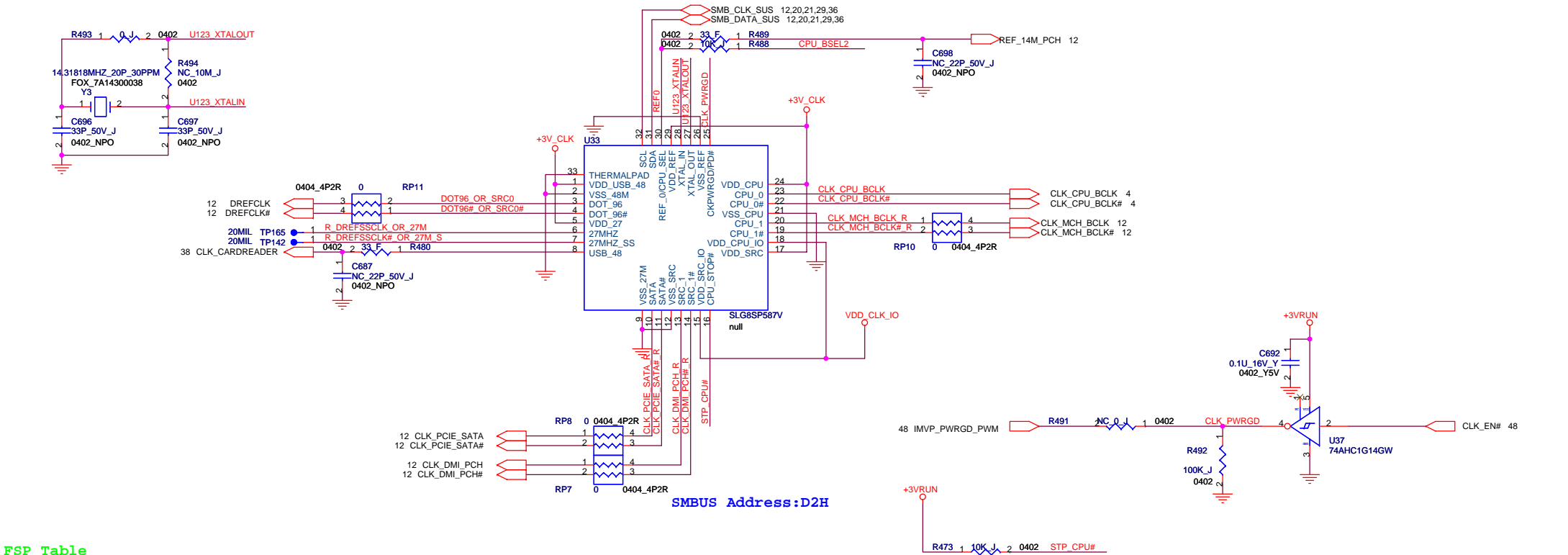




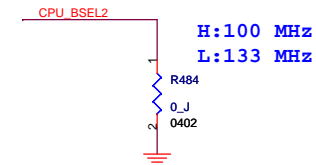


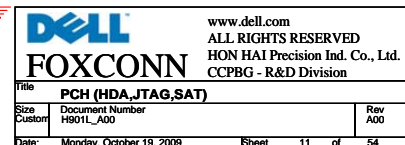






FS	CPU	Power On	SRC	SATA	DOT96	27MHz	REF
0	133MHz	Default	100MHz	100MHz	96MHz	27MHz	14.318MHz
1	100MHz						

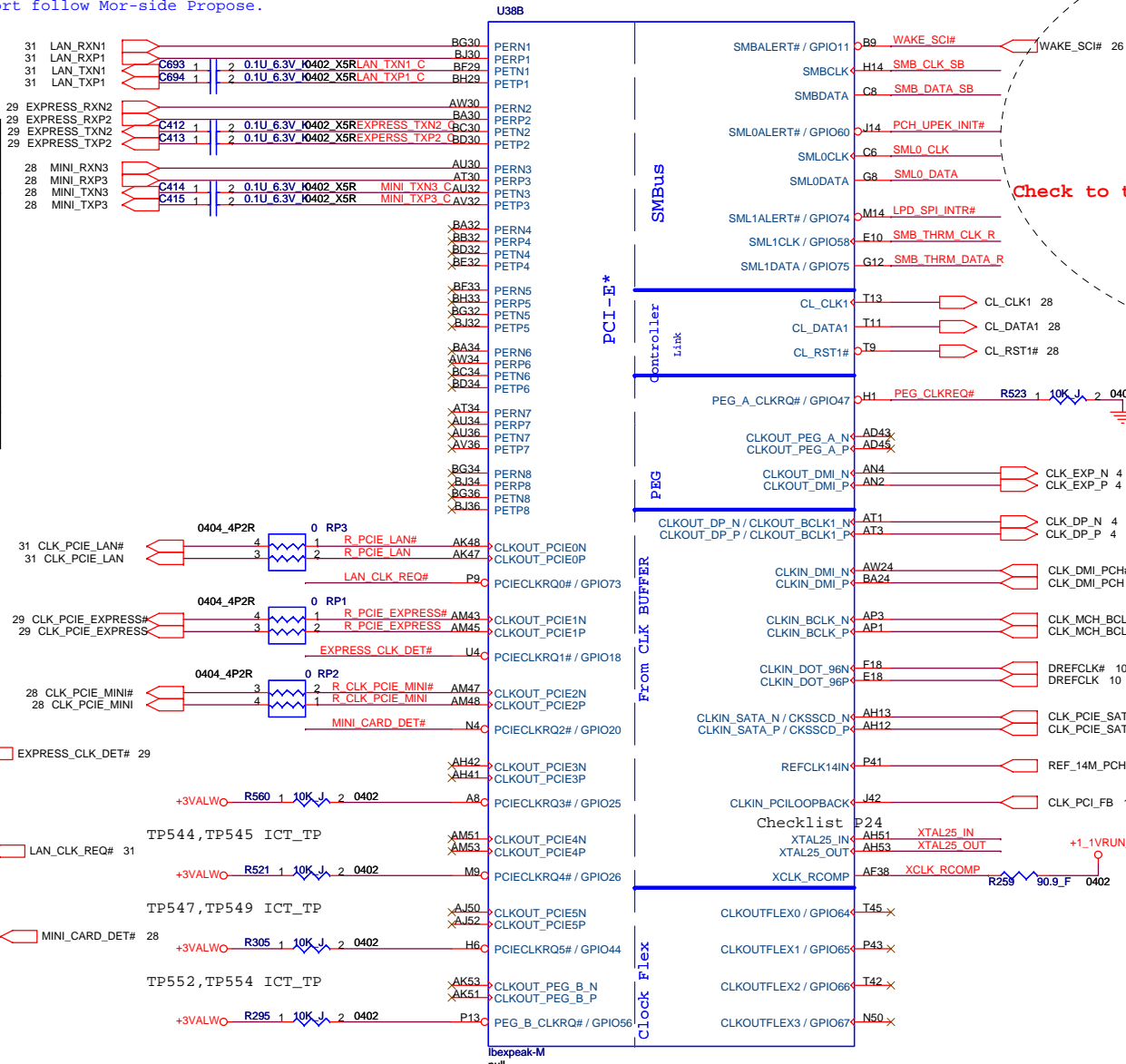




08/12/24 Update PCIE Port follow Mor-side Propose.

PCI-E Port Table

Port	Function
Port1	LAN
Port2	Express Card
Port3	WLAN
Port4	Un-used
Port5	Un-used
Port6	Un-used
Port7	Un-used
Port8	Un-used



08/12/24 Change CLKREQ pull up Power, LAN => +3VSUS, MINICARD=>+3VSUS , TV=> +3VRUN, Mach => +3VRUN.

SMB\_CLK\_SB R527 1 0 1 0402 SMB\_CLK\_SUS  
SMB\_DATA\_SB R336 1 0 1 0402 SMB\_DATA\_SUS

Check to thermal

Confirm with Intel

09/01/03 Change Y10,R5391,R5394,C4996,C4997 to NC.

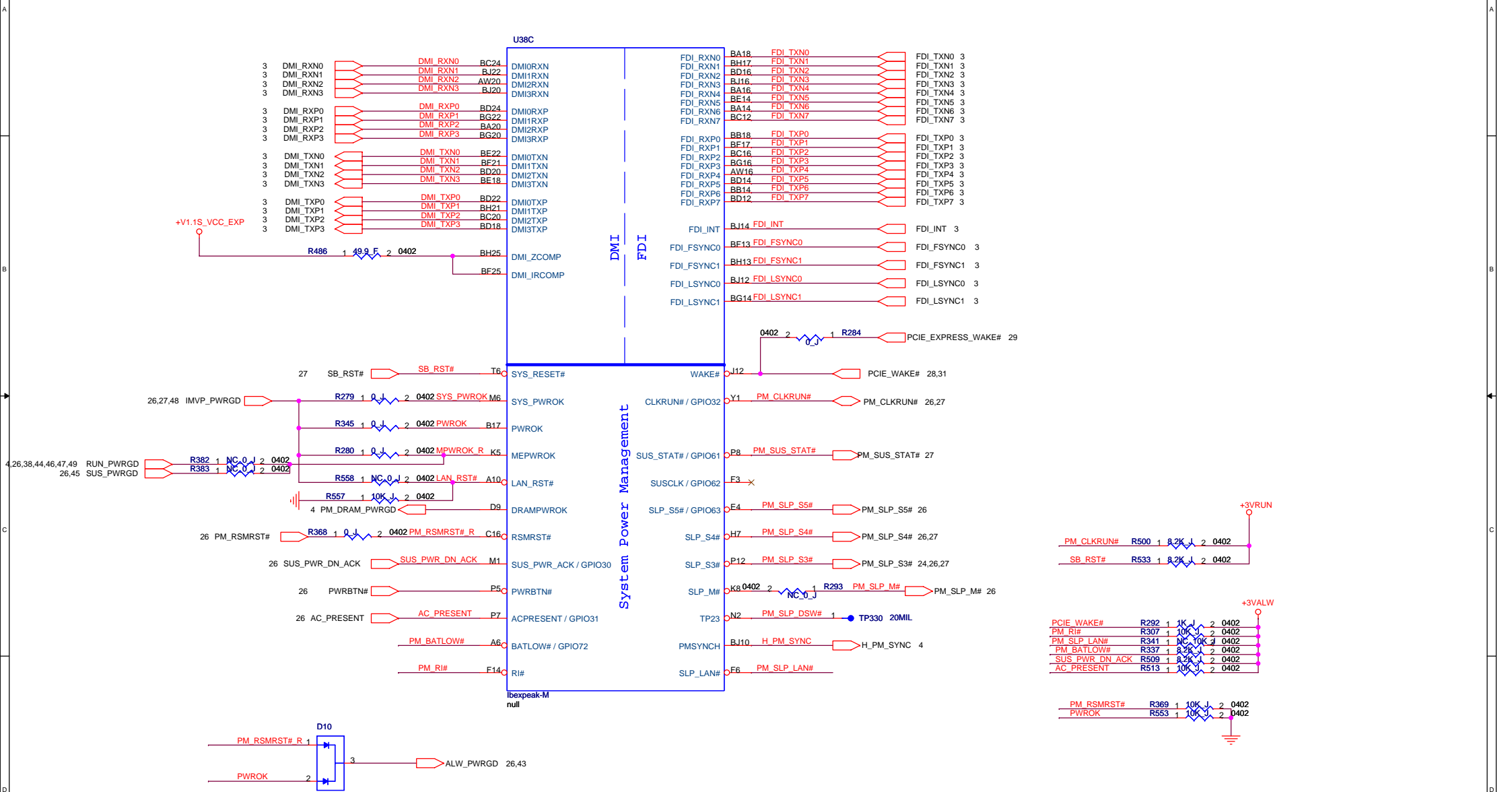
WAKE\_SCI# R559 1 10K J 2 0402  
PCH\_UPEK\_INIT# R522 1 10K J 2 0402  
LPD\_SPI\_INTR# R517 1 10K J 2 0402  
SML0\_CLK R338 1 2K J 2 0402  
SML0\_DATA R339 1 2K J 2 0402

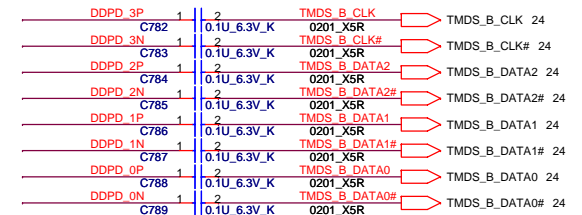
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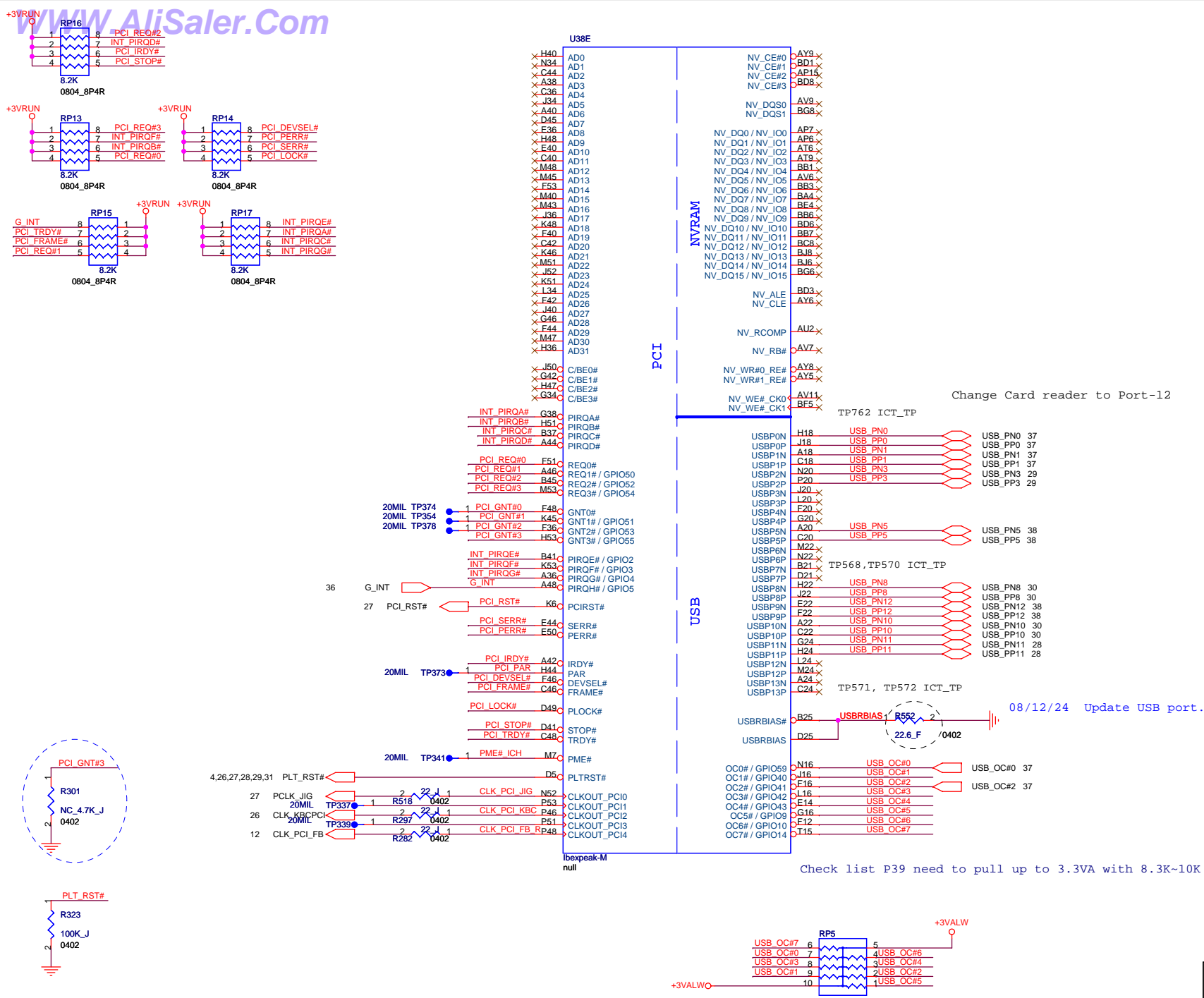
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Title: **PCH (PCI-E,SMBUS,CLK)**  
Size: A3  
Document Number: I901L\_A00  
Rev: A00

Date: Monday, October 19, 2009 Sheet 12 of 54







DMI Termination Voltage

NV_CLE	Set to Vss when LOW
	Set to Vcc when HIGH

Danbury Technology  
Disabled when Low  
Enabled when High

USB PORT	Function	OC pin
PORT-0	Ext. Port	
PORT-1	Ext. Port	
PORT-2	EXPRESS CARD	
PORT-3		
PORT-4		
PORT-5	Ext. Port	
PORT-6		
PORT-7		
PORT-8	Bluetooth	
PORT-9	Card reader	
PORT-10	Camera	
PORT-11	WLAN/WiMAX	
PORT-12		
PORT-13		

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Title

PCH (PCI,USB,NVRAM)

Size

A3

Document Number

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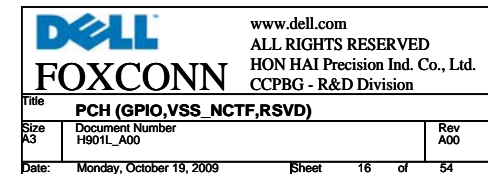
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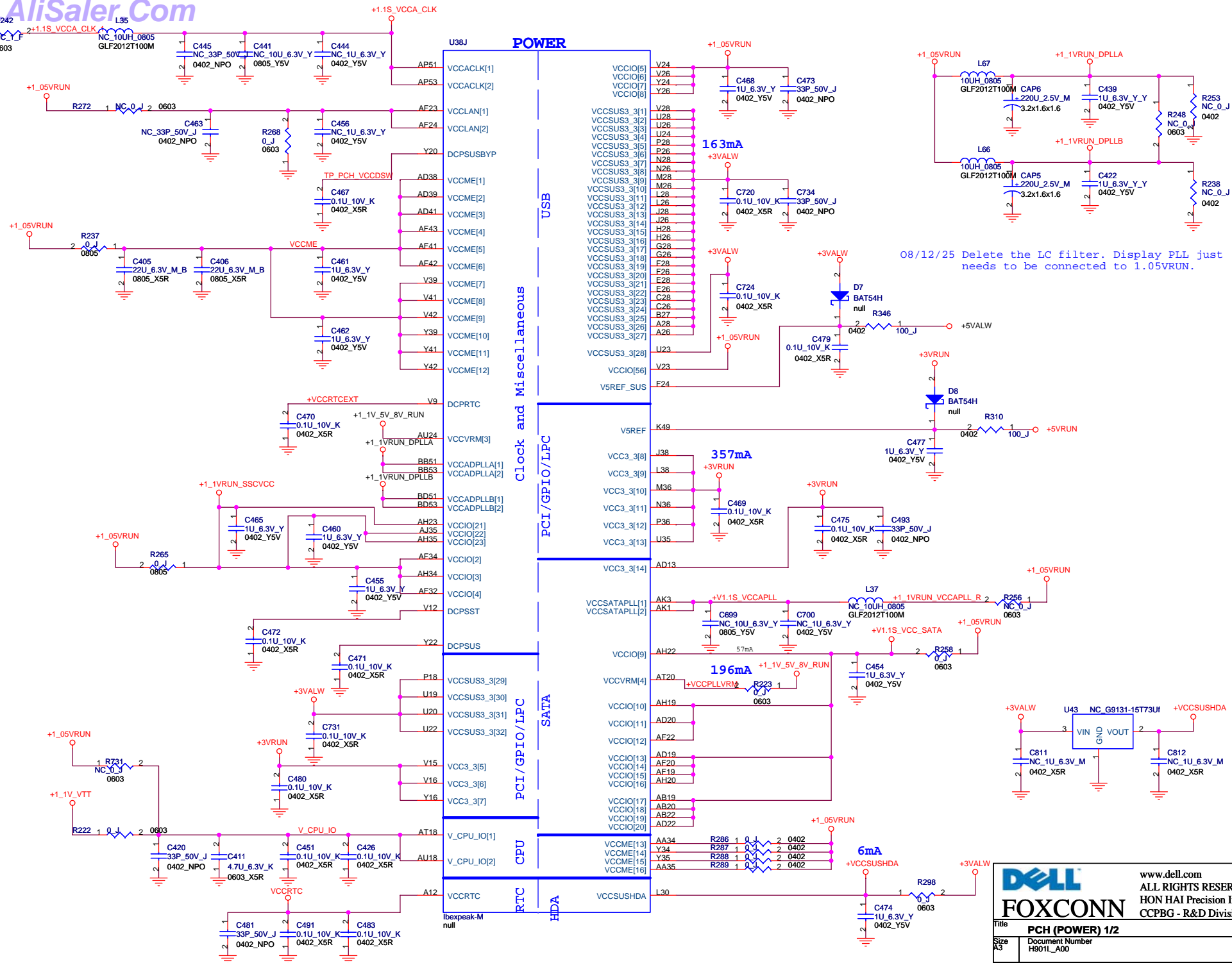
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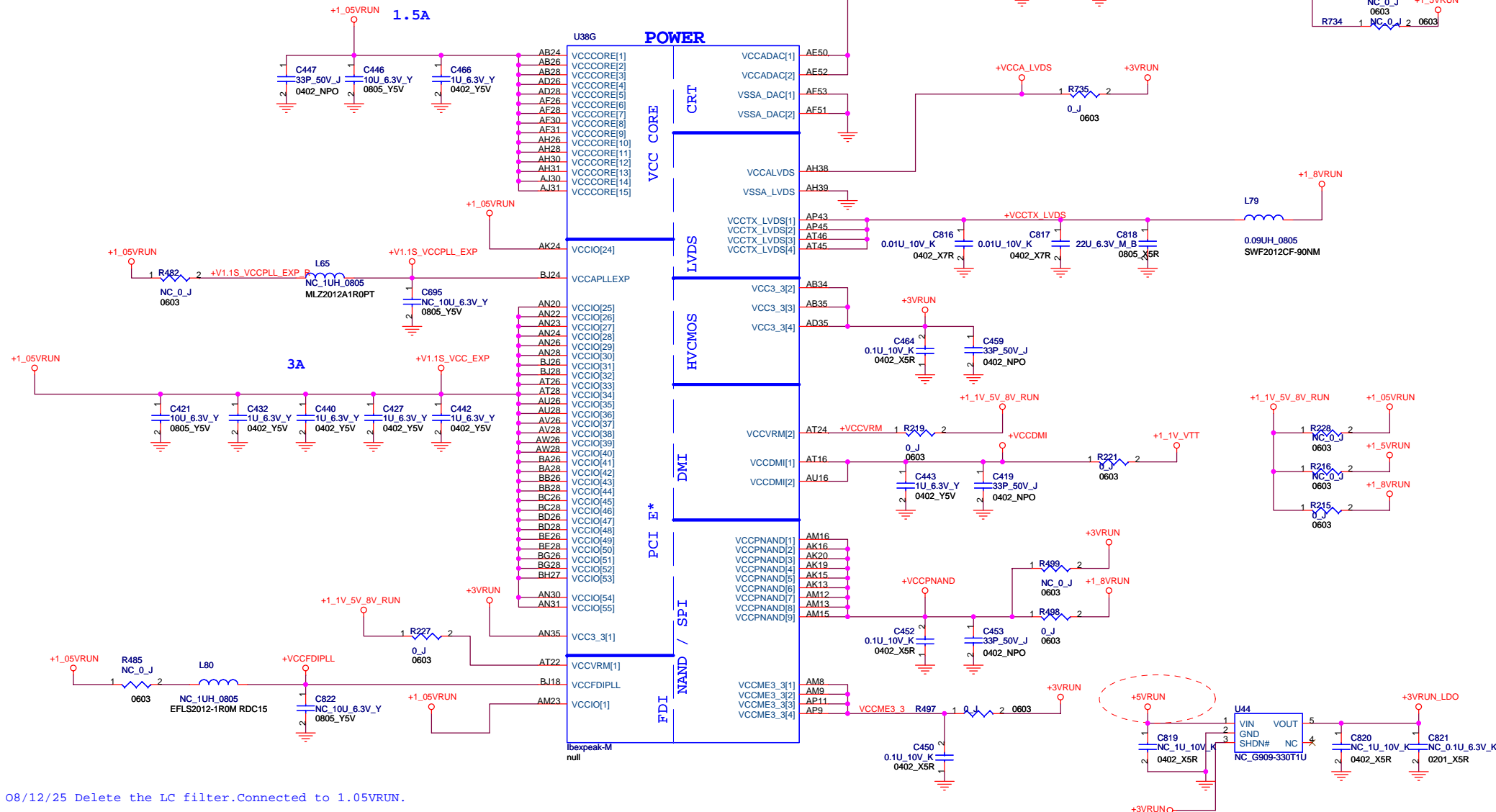
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54









08/12/25 Delete the LC filter.Connected to 1.05VRUN.  
Auburndale Graphics Disable Guidelines Checklist Page 50.

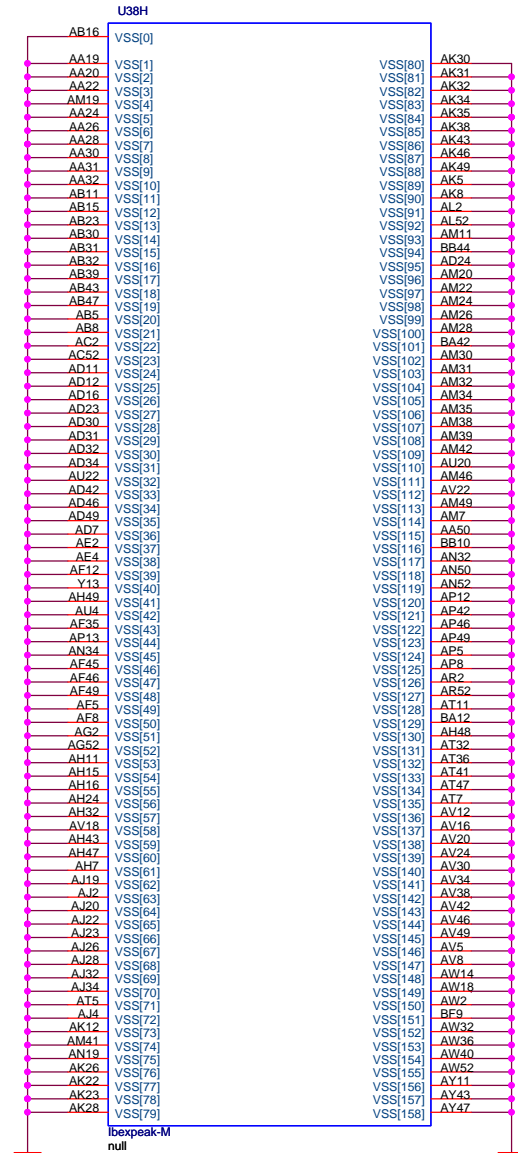
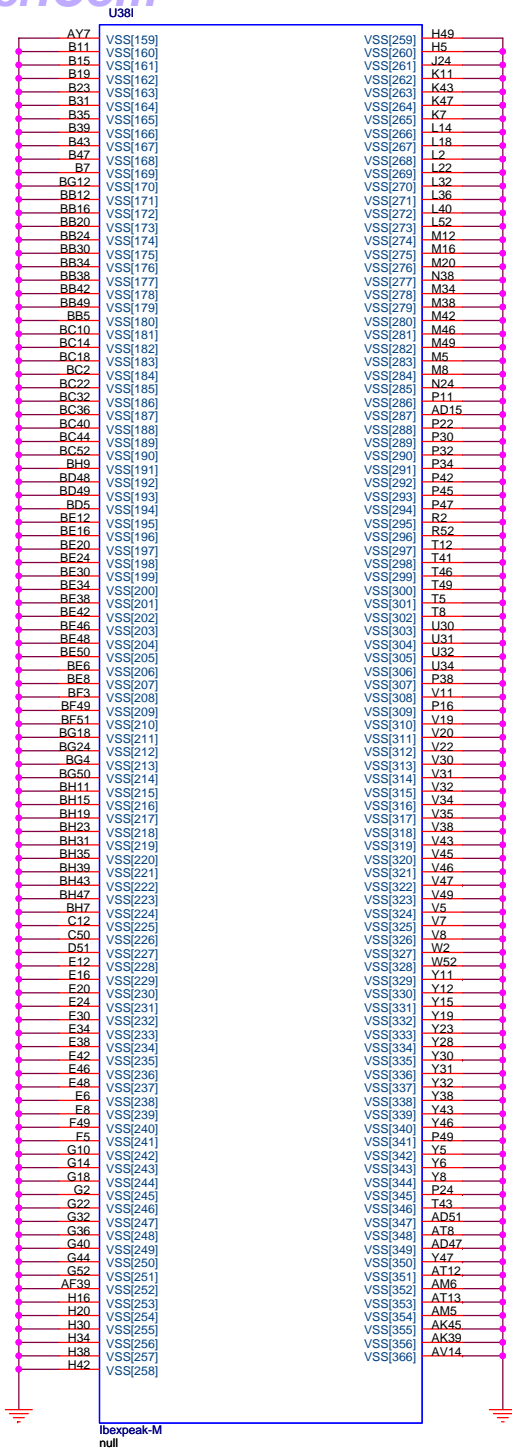
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Rev: A00

Date: Monday, October 19, 2009 Sheet 18 of 54

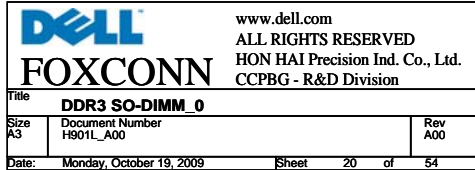


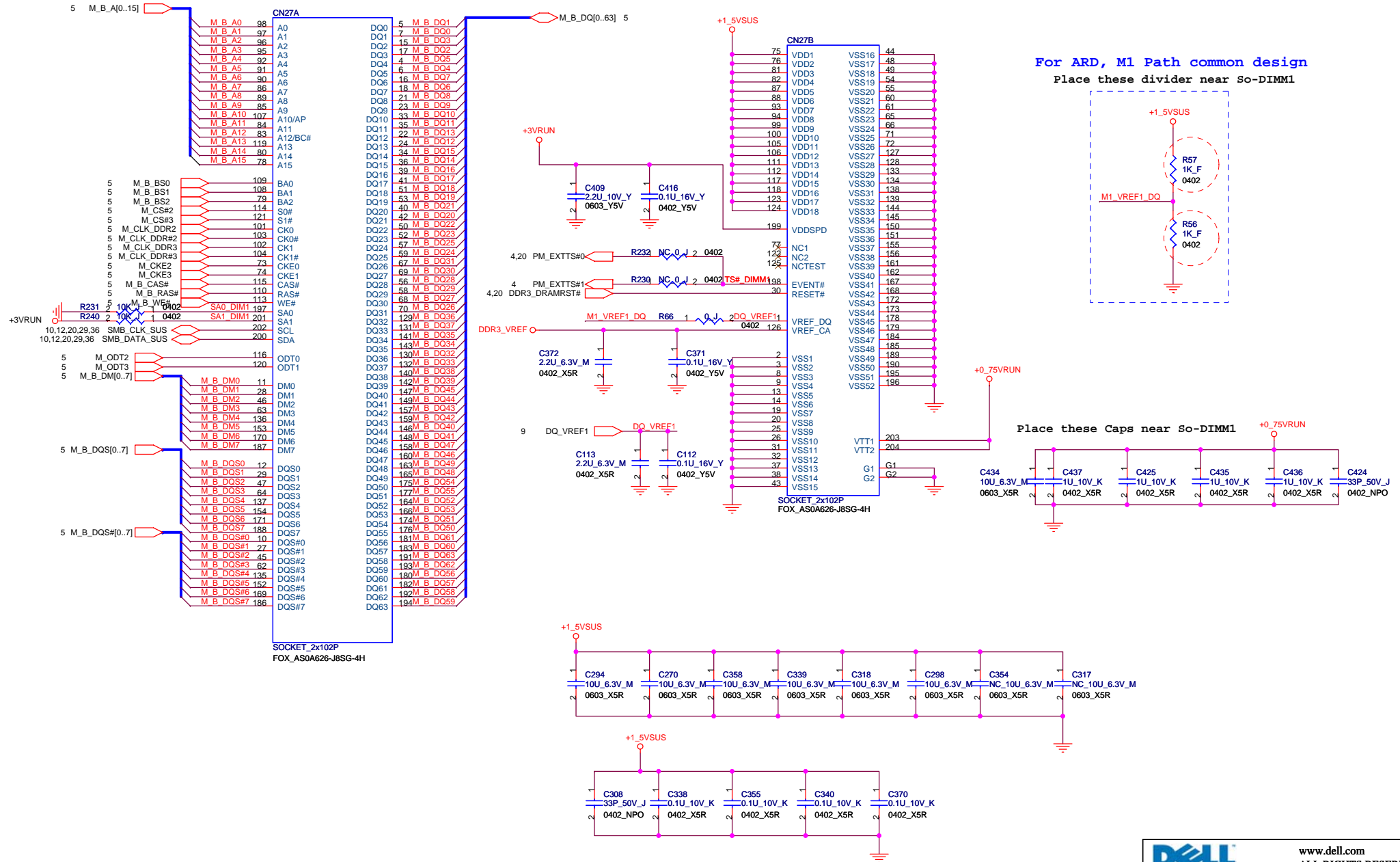
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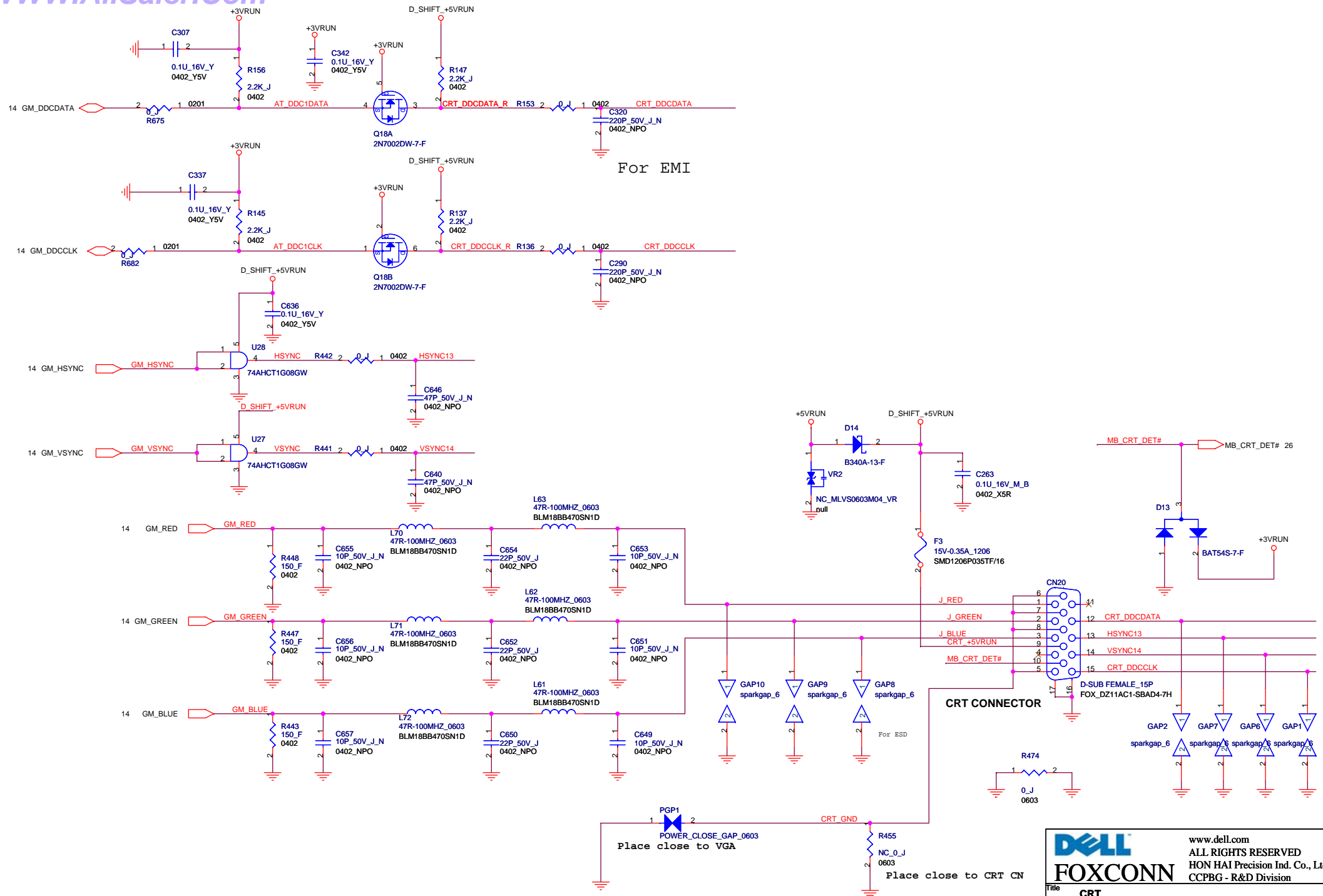
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File: **PCH (VSS)**  
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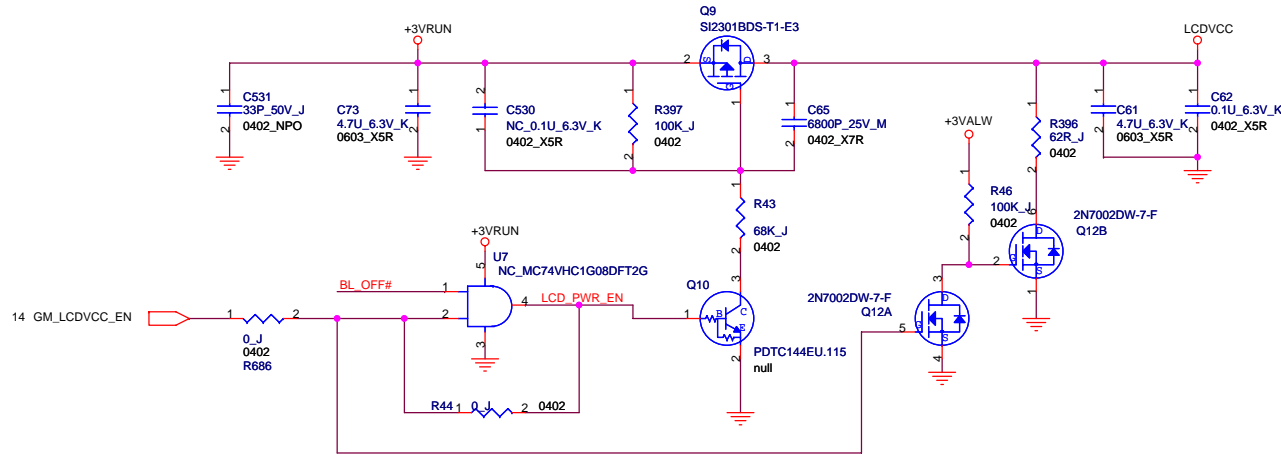
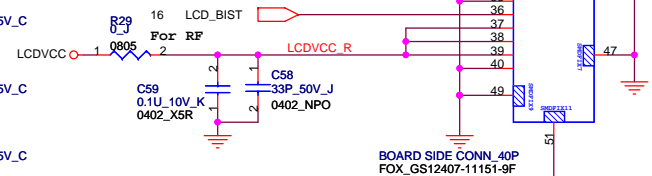
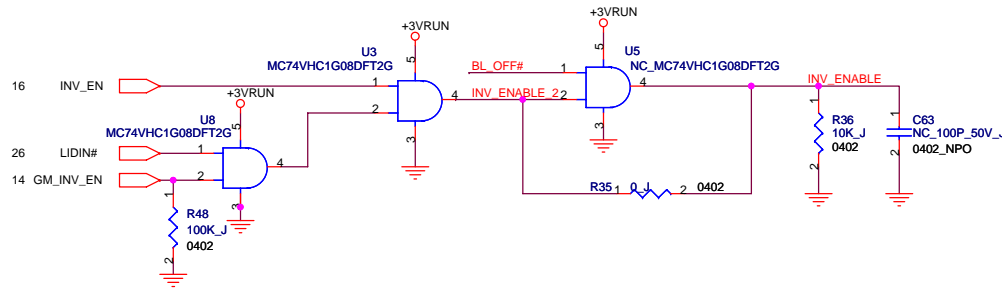
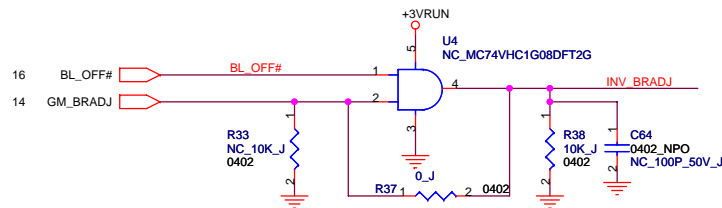
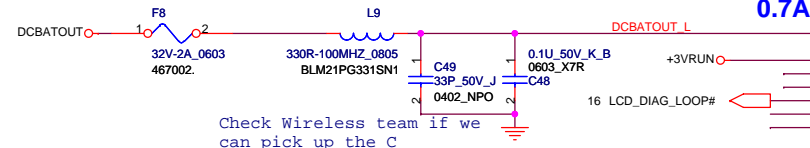
Date: Monday, October 19, 2009 Sheet 19 of 54

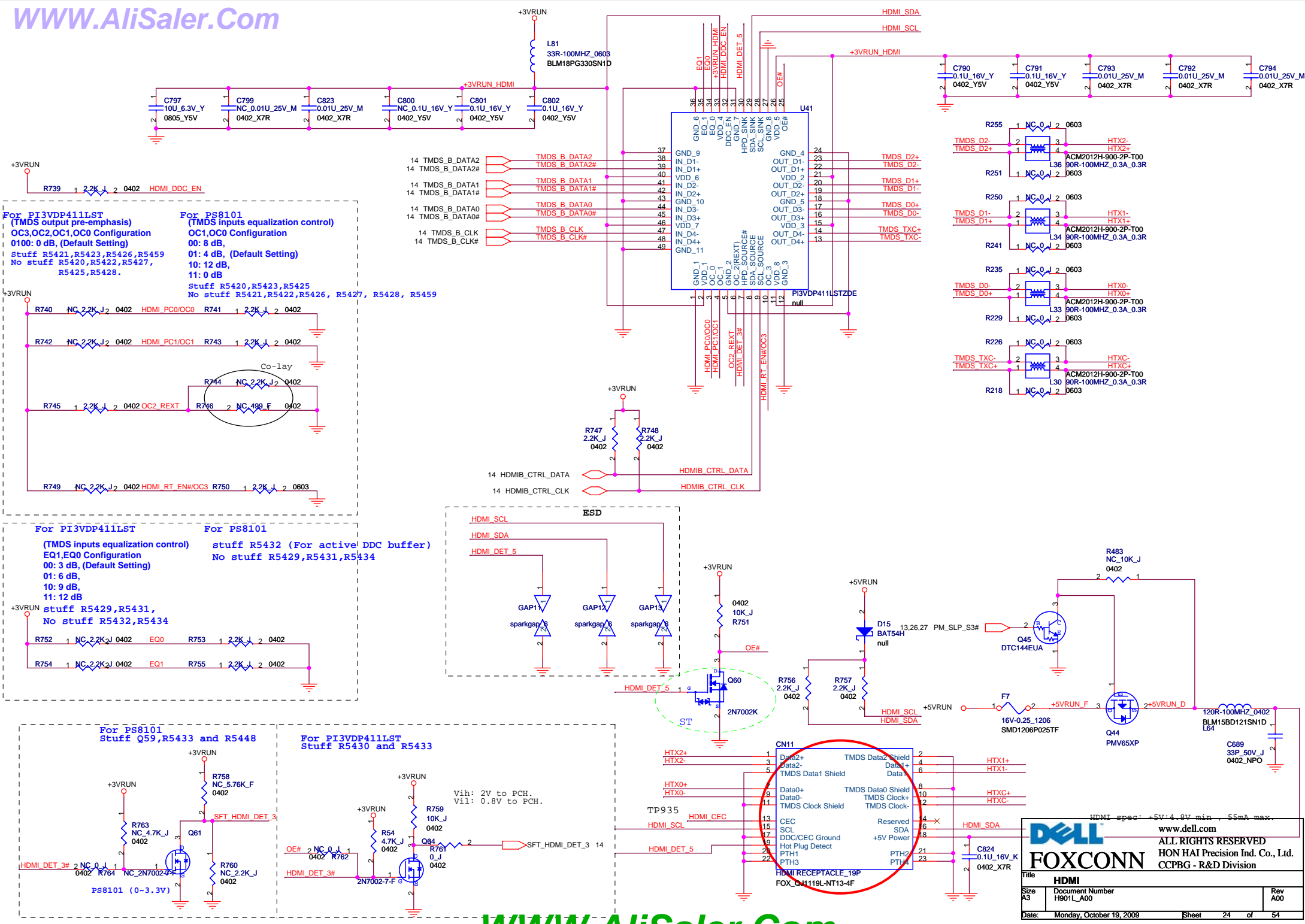


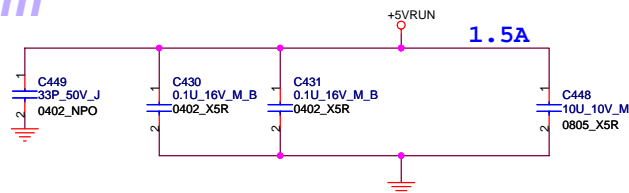




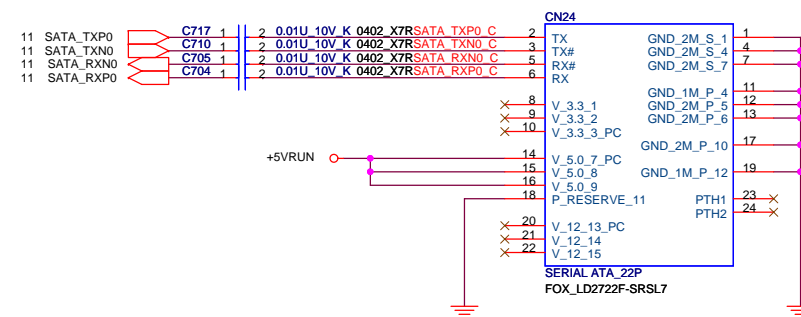




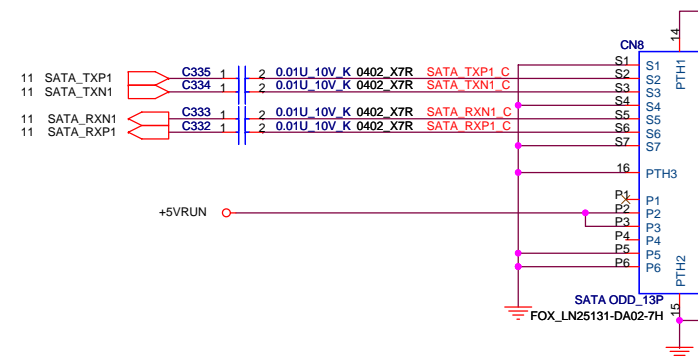




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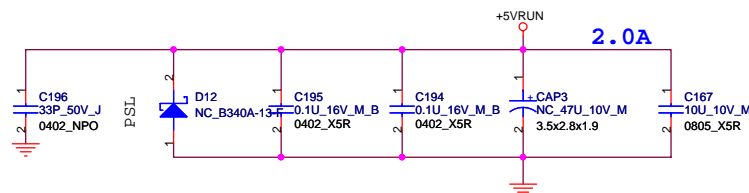


## SATA ODD CONN



## ODD CON ADAPTER

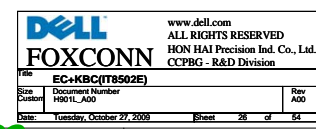
Add CN68 need 2N-0013009-FKG0 in BOM

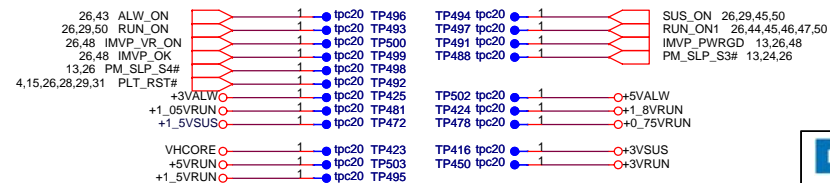
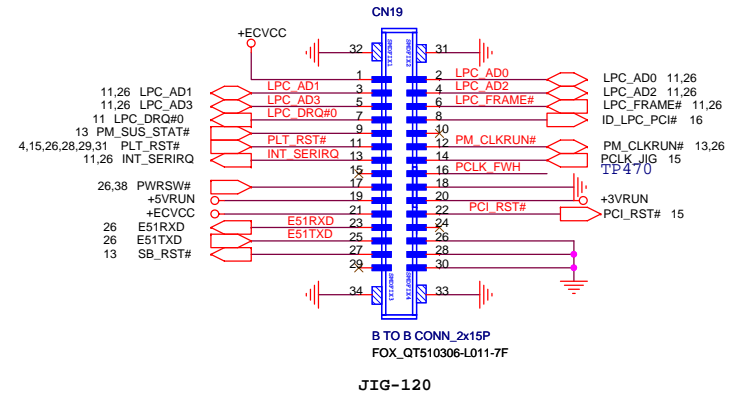
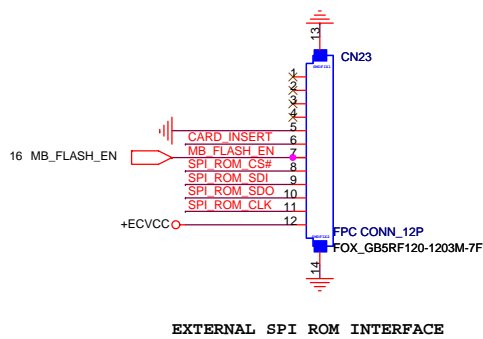
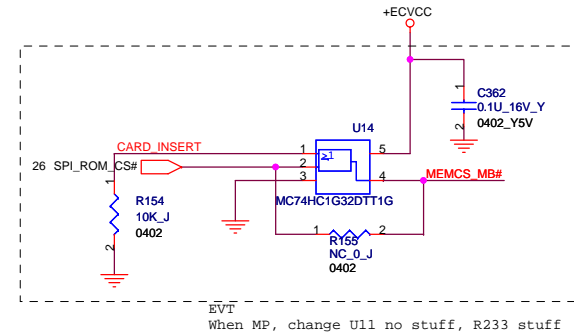
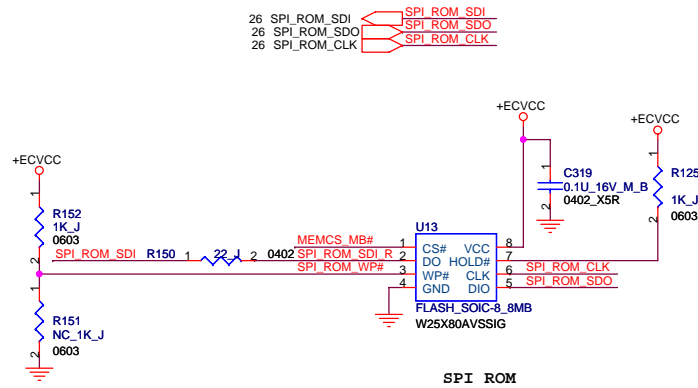


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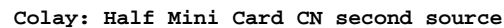
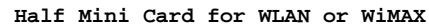
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Size A3	Document Number H901L_A00	Rev A00
Date: Monday, October 19, 2009	Sheet 25	of 54



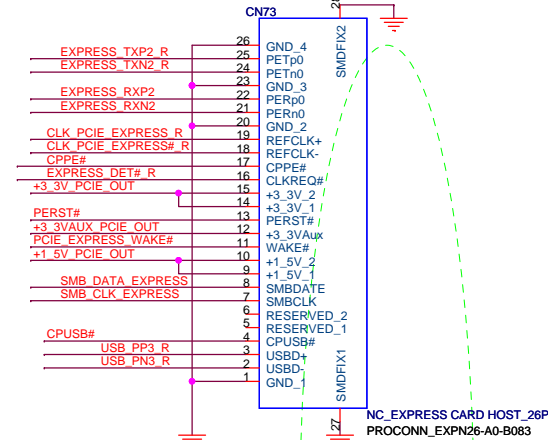
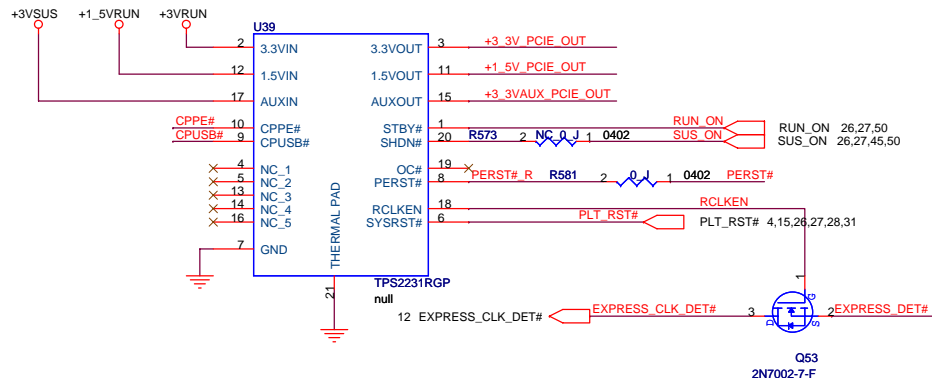


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Date: Monday, October 19, 2009	Sheet 27 of 54	



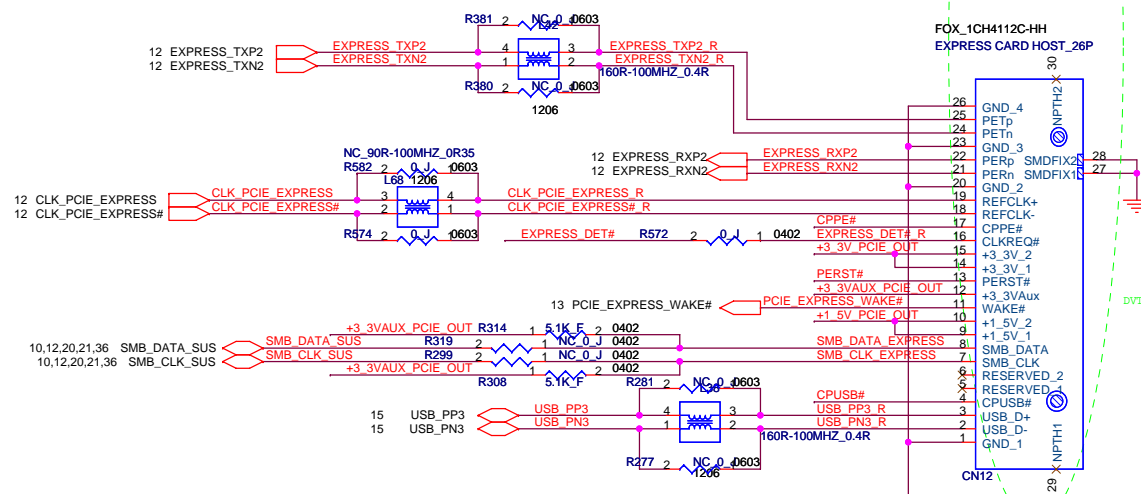
+1.5V=>650mA  
+3.3VAux=>275mA  
+3.3V=>1.3A

### Express Card Power Switch

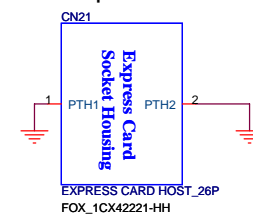


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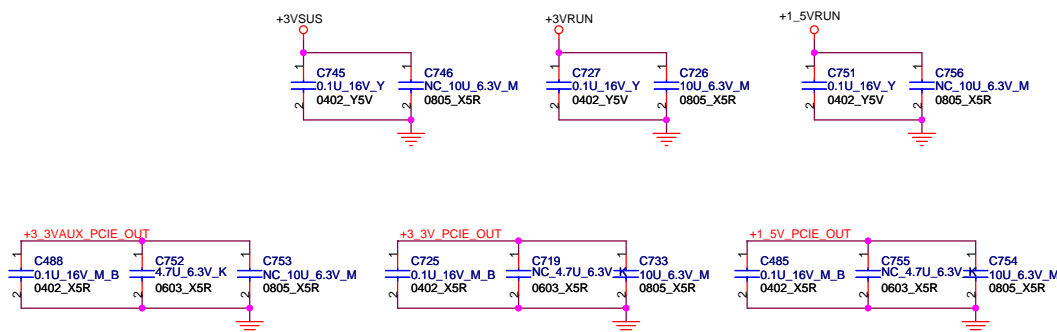
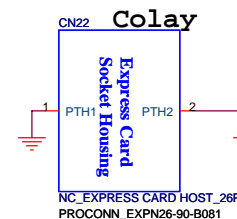
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EXPRESS CARD HOST\_26P



### Express Card Slot.

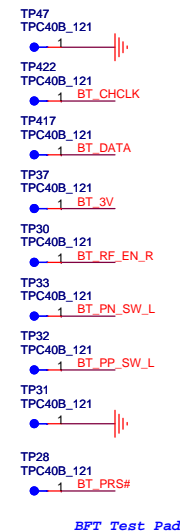
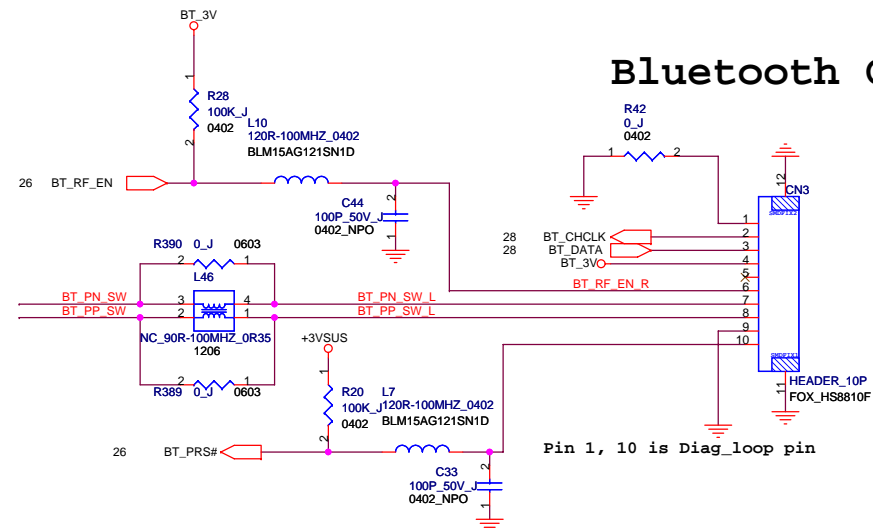
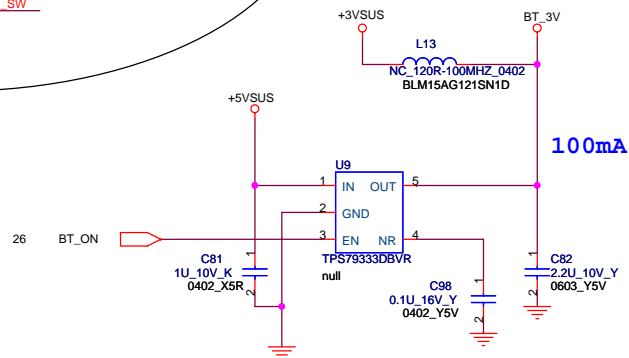
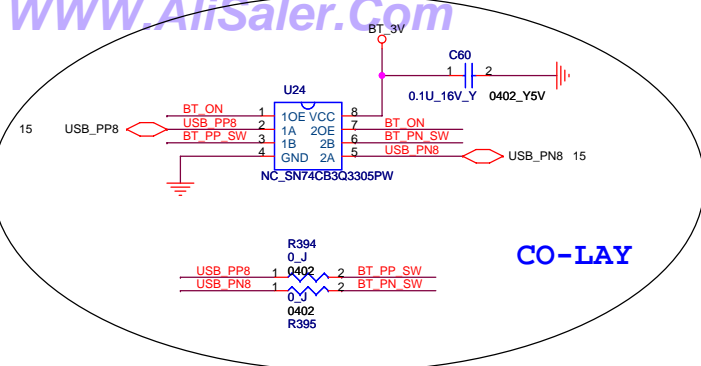


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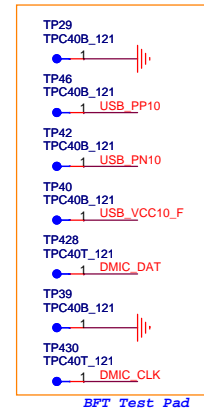
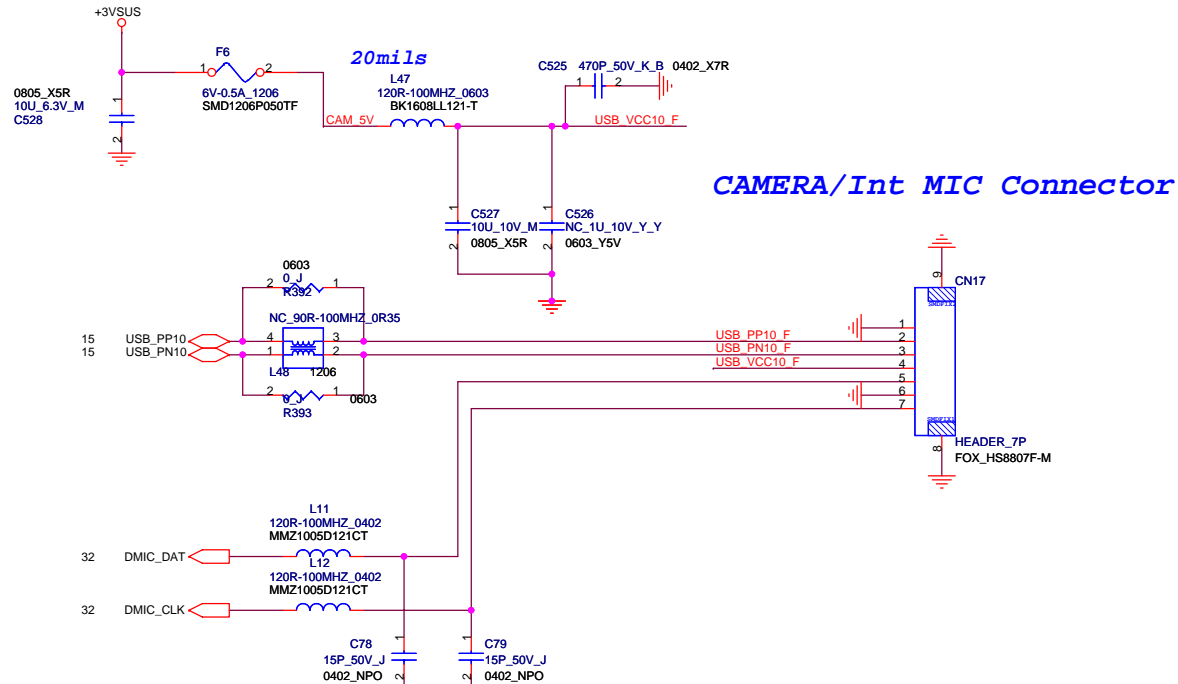


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Date: Friday, October 30, 2009	Sheet 29	of 54	





# Bluetooth



DVT

# Camera & Digi MIC

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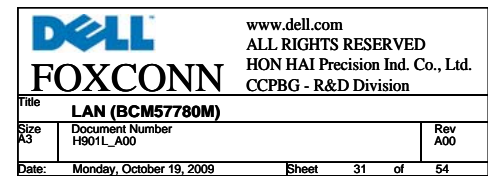
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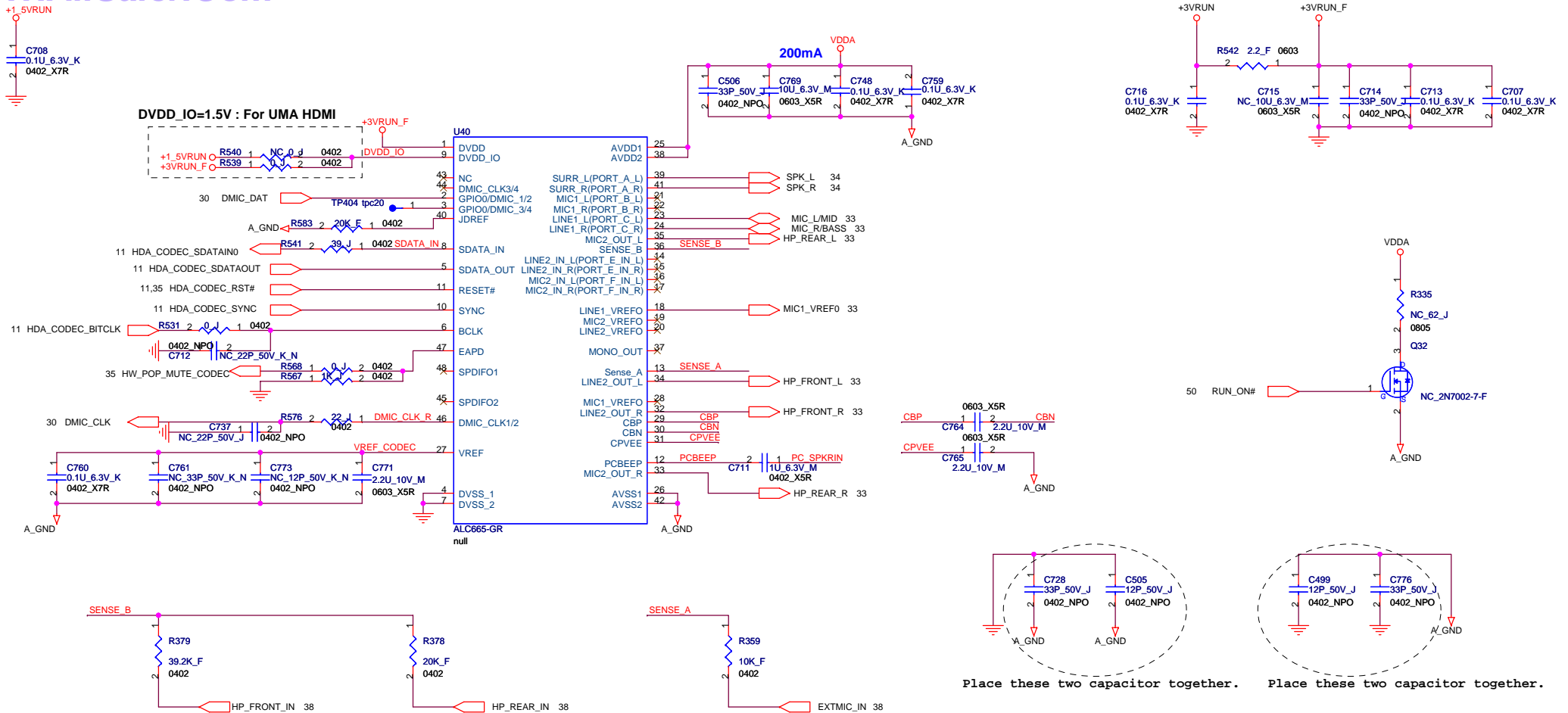
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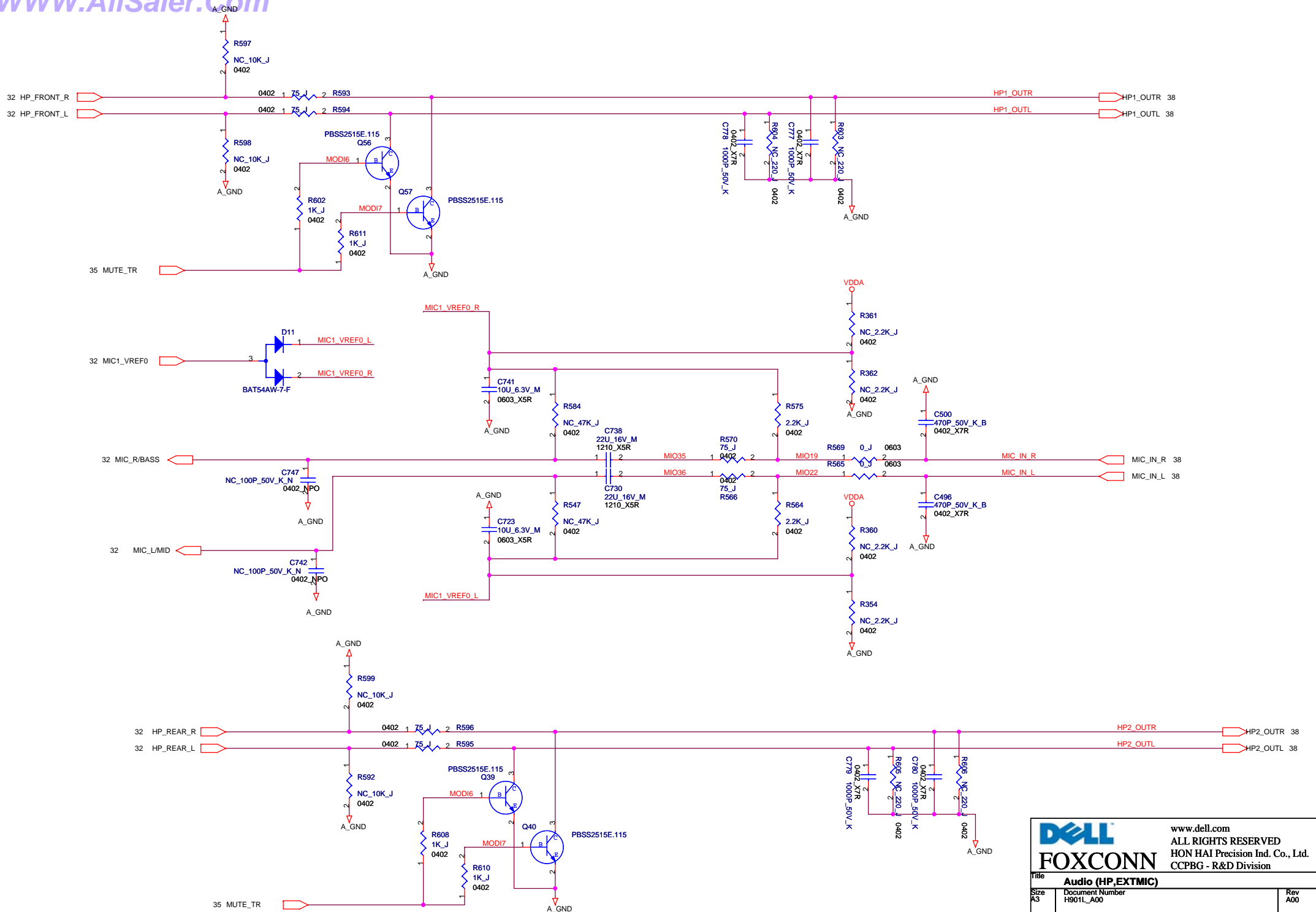
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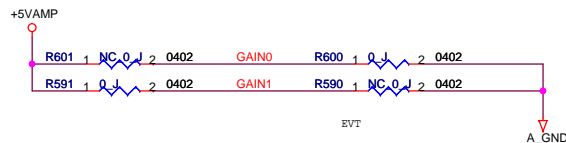
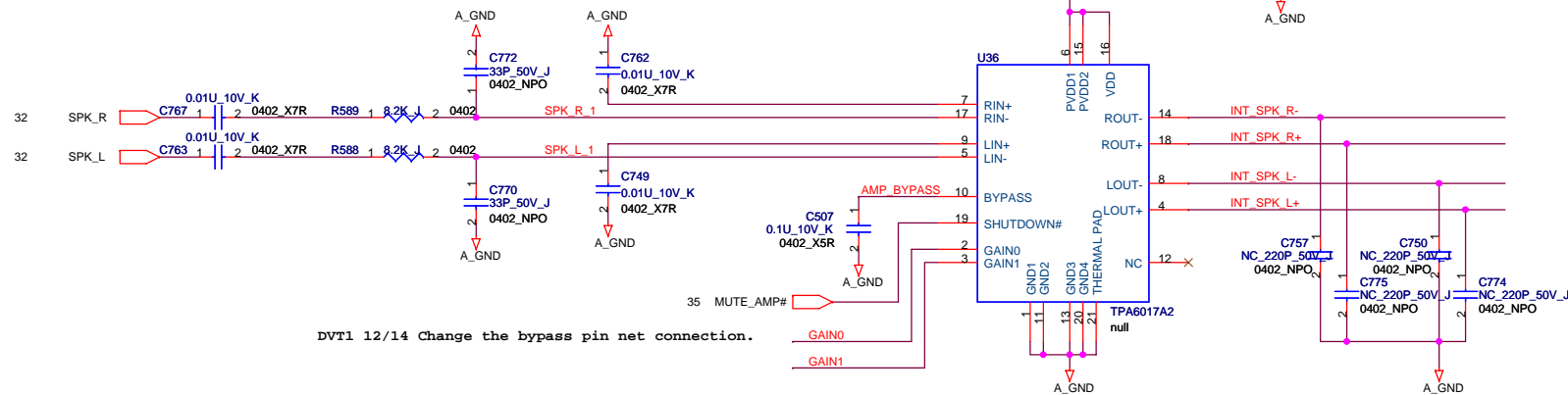
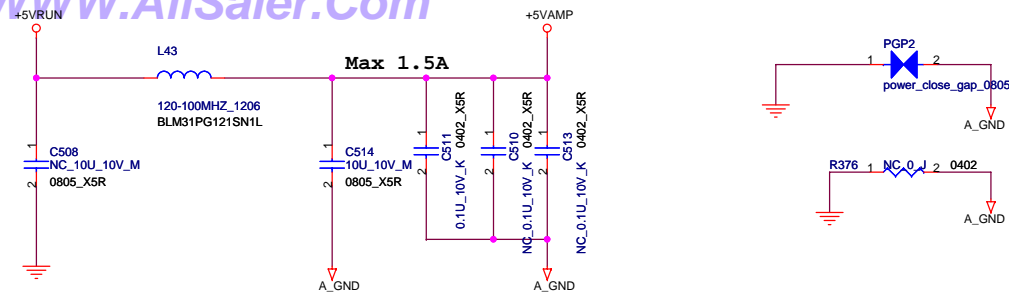
Date: Monday, October 19, 2009 Sheet 30 of 54







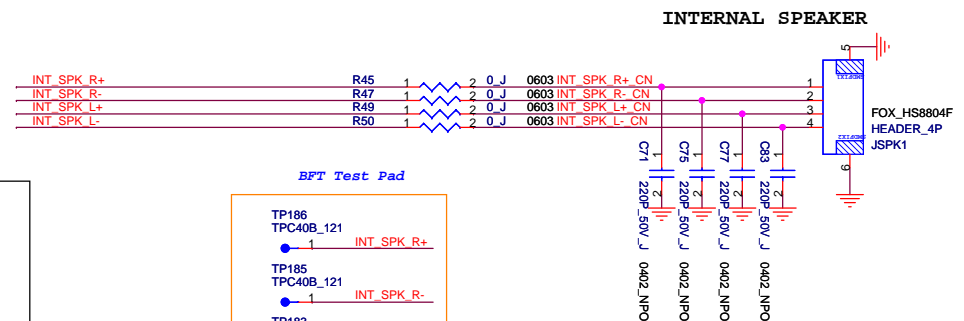
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<b>Size</b> A3	<b>Document Number</b> H901L_A00	<b>Rev</b> A00
<b>Date:</b> Monday, October 19, 2009		<b>Sheet</b> 33 of 54



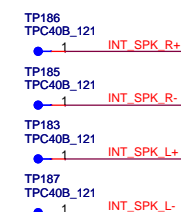
### SPEAKER AMP

	GAIN0	GAIN1
6 dB	0	0
10 dB	0	1
15.6 dB	1	0
21.6 dB	1	1

$dB=20\log\text{Gain}$   
 If set 10dB , gain is 3.162.  
 $P_o = \{(1.2V_{rms} * 3.162)^2\} / 4 = 3.599 \text{ W}$



### BFT Test Pad



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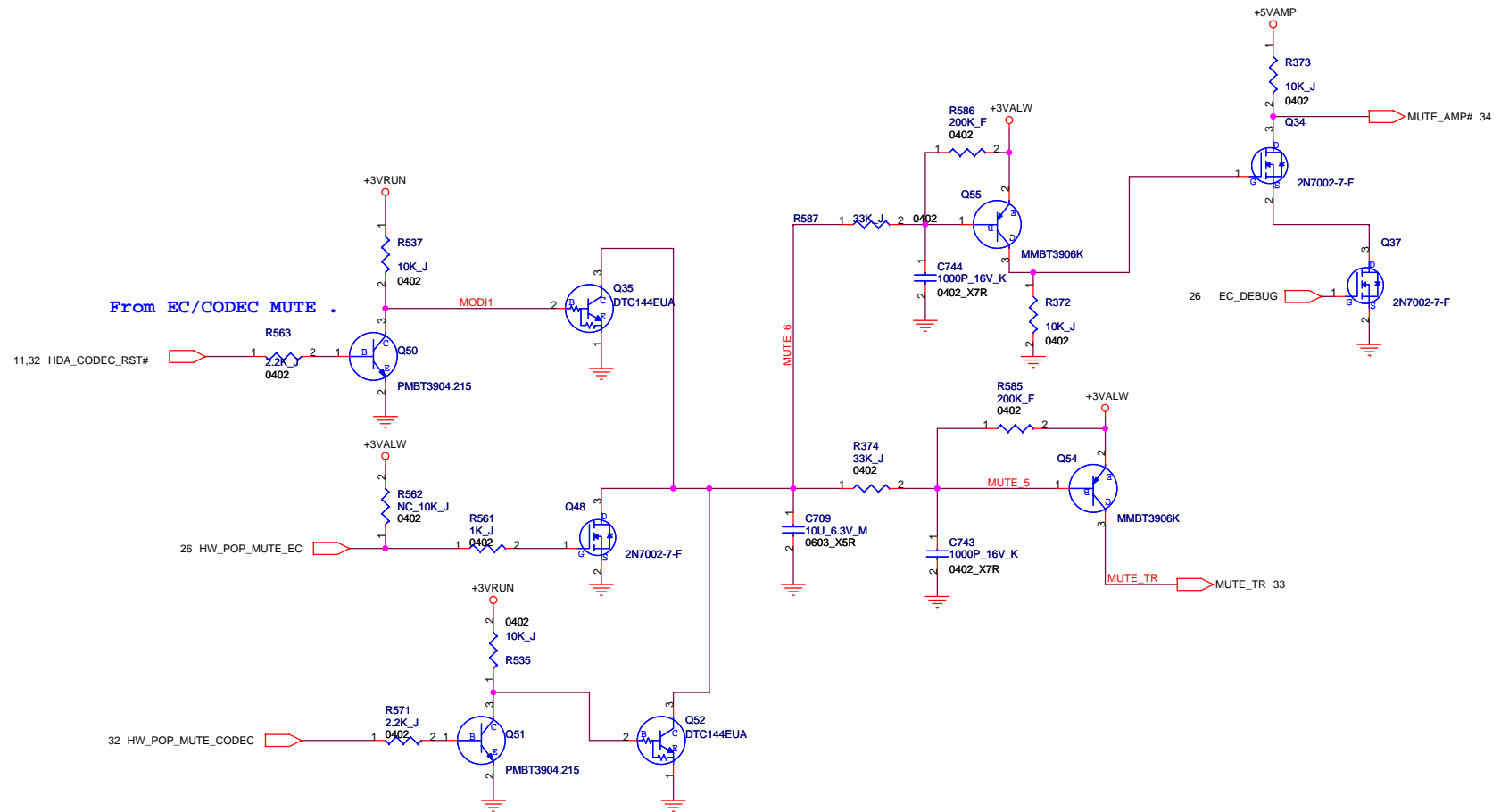
**FOXCONN**

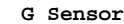
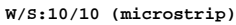
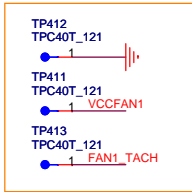
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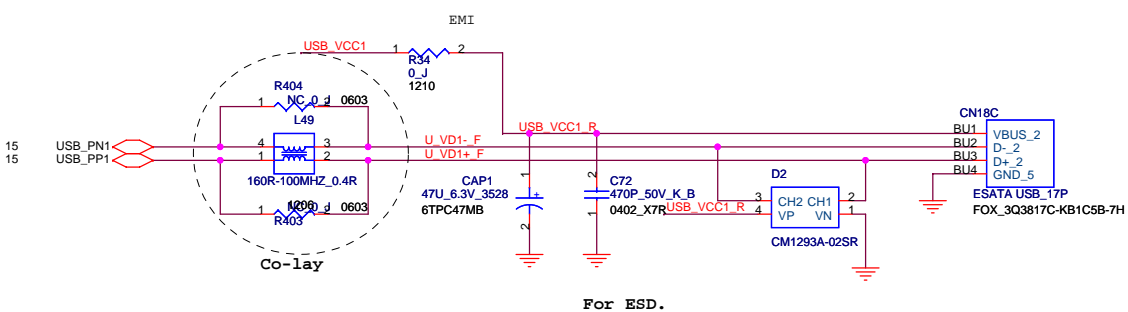
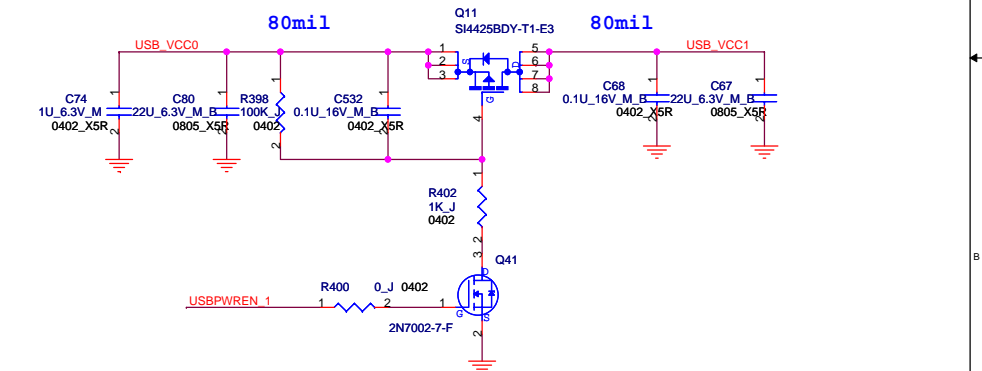
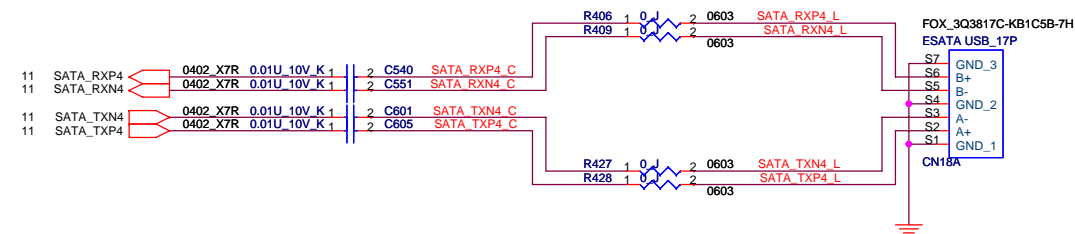
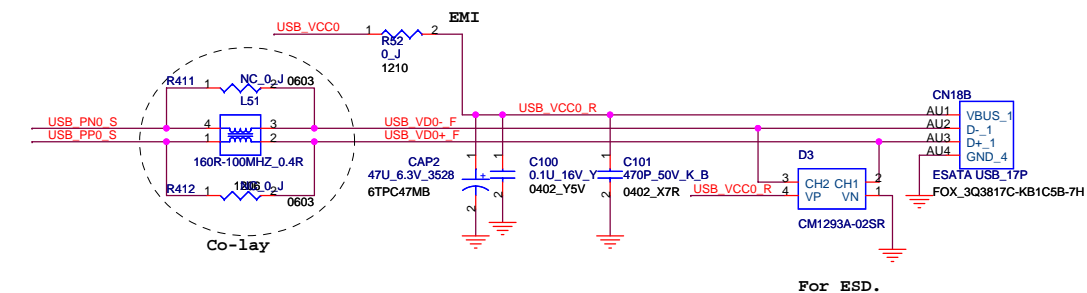
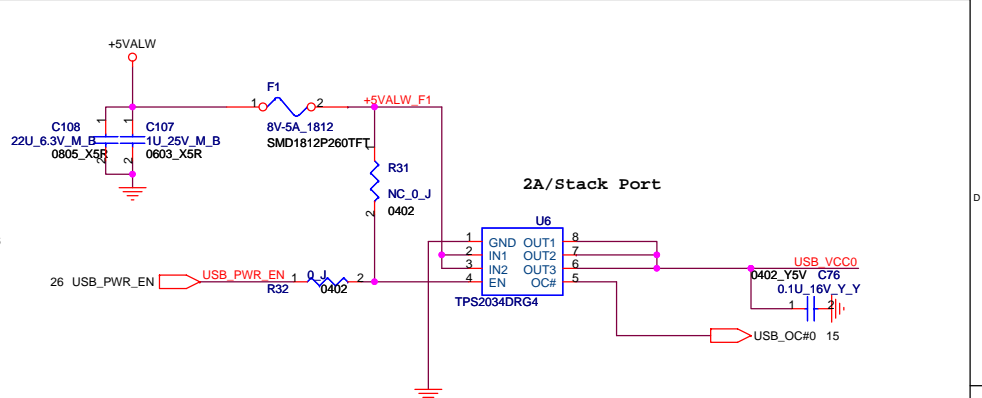
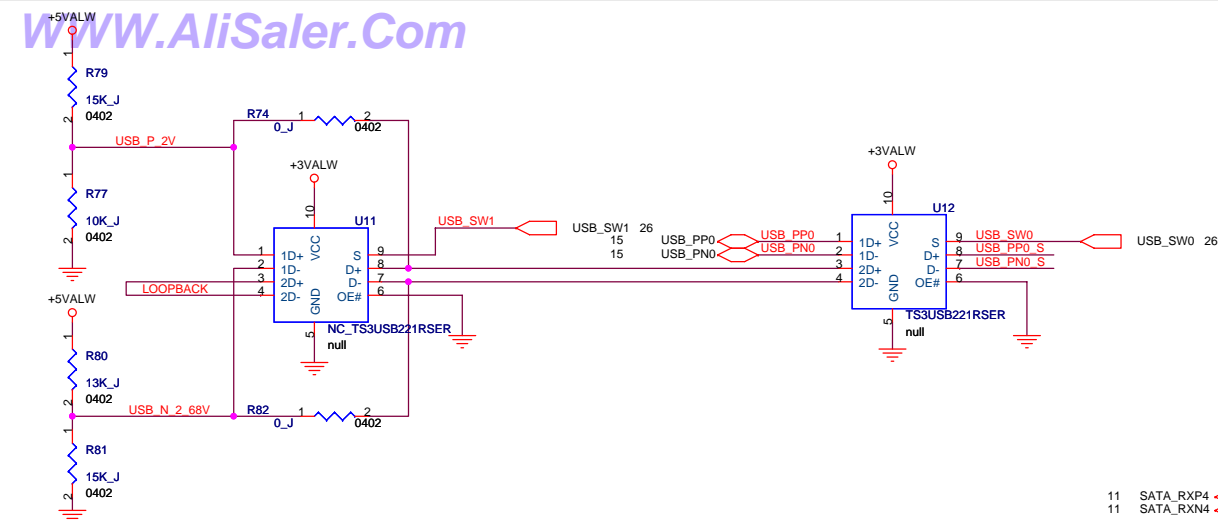
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File: <b>Audio (SPKR)</b>		
Size: A3	Document Number: H901L_A00	Rev: A00
Date: Monday, October 19, 2009	Sheet: 34	of 54

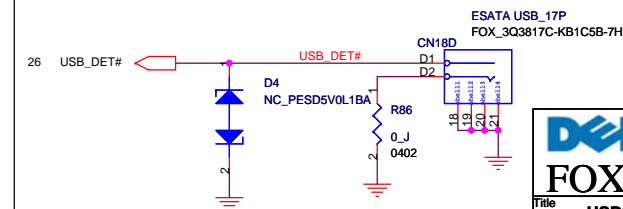
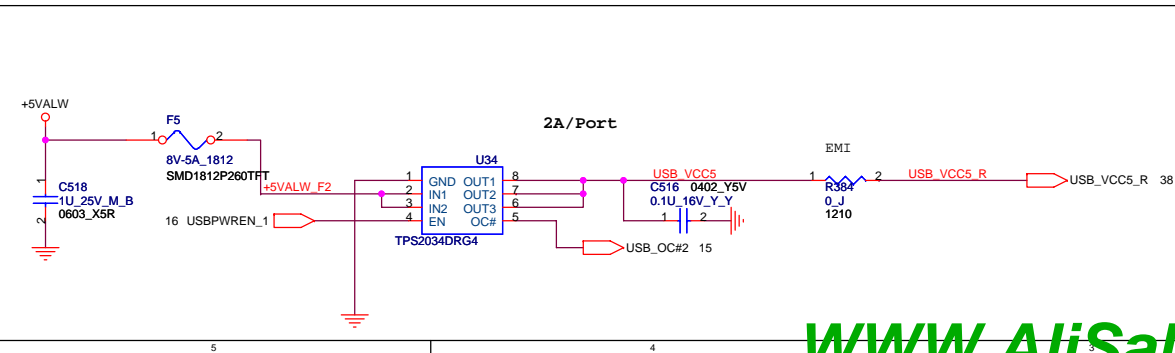





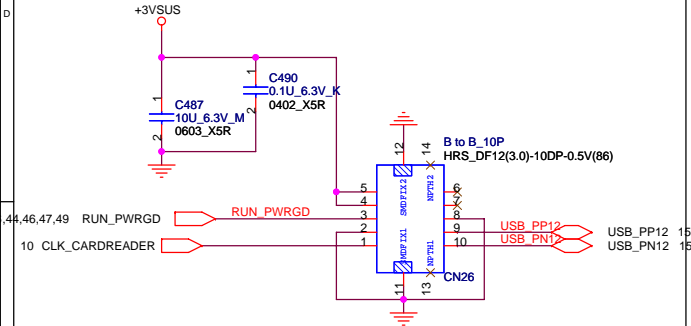




## USB + e-SATA on MB

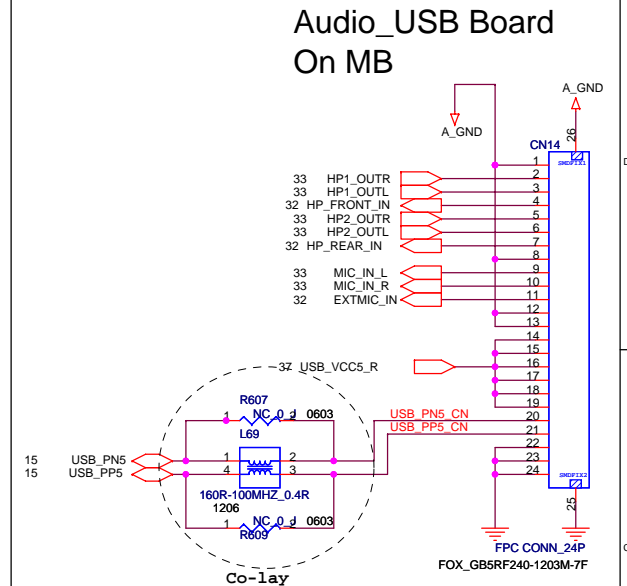


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<b>FOXCONN</b>			
<b>USB2.0 &amp; e-SATA</b>			
<b>Title</b>		<b>Rev</b>	
<b>Size</b>		<b>Document Number</b>	
<b>A3</b>		<b>H9011_A00</b>	
<b>Date</b>		<b>Sheet</b>	
<b>Monday, October 19, 2009</b>		<b>37 of 54</b>	

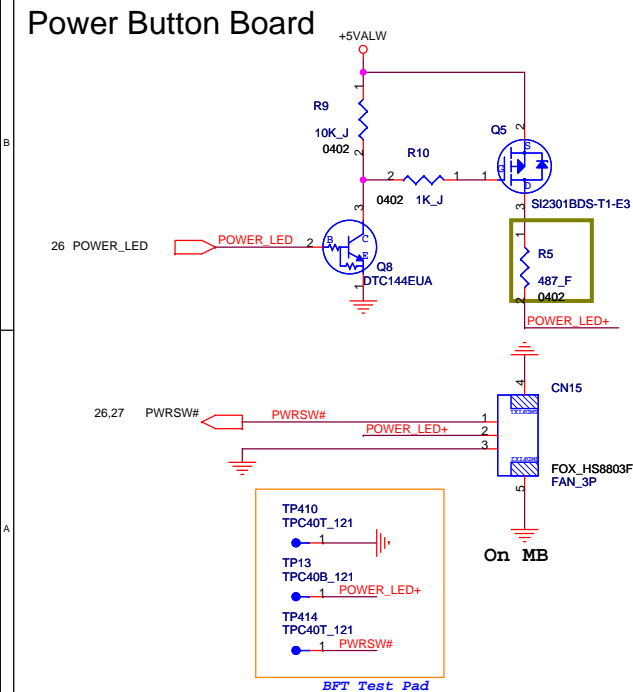


Cardreader Board

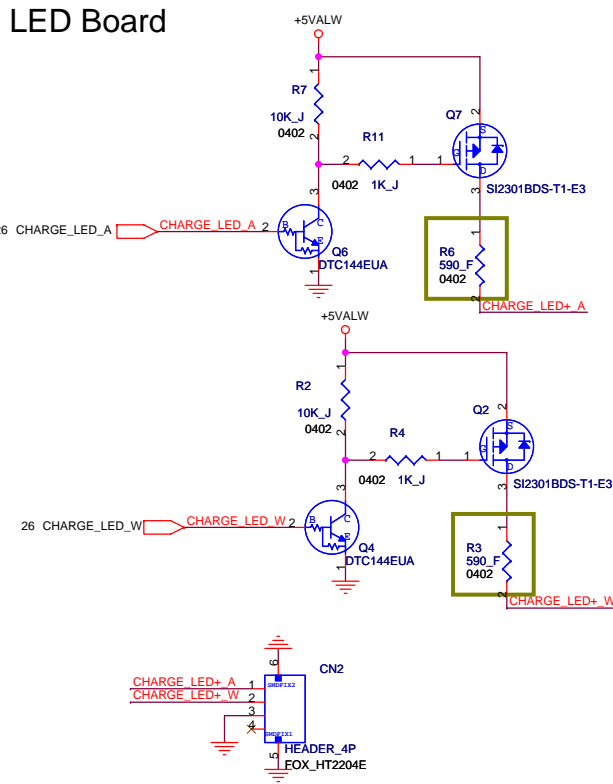
WWAN Board



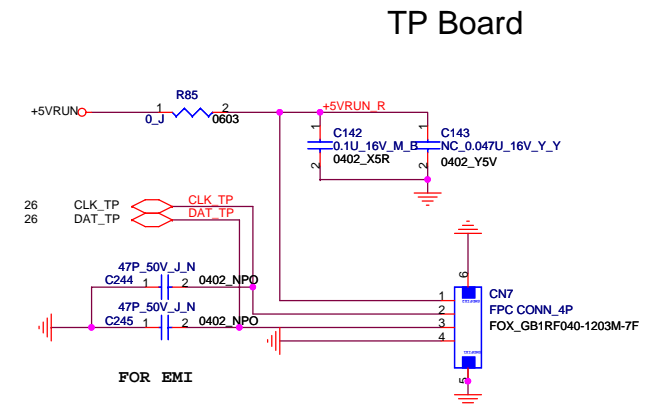
Audio\_USB Board On MB



Power Button Board



LED Board



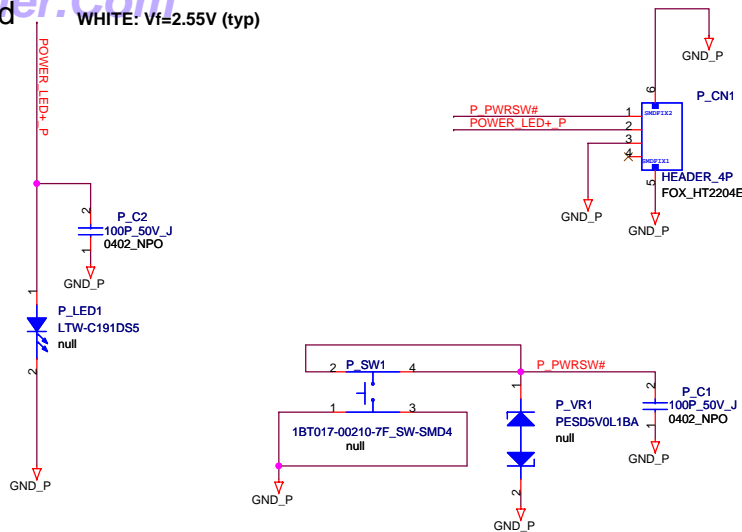
TP Board

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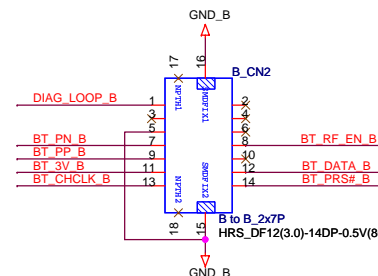
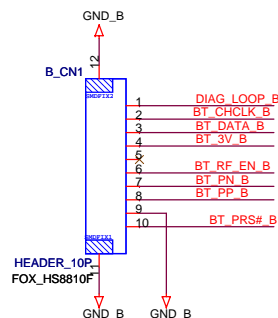
Title: DB board connector (MB)		
Size: A3	Document Number: H901L_A00	Rev: A00
Date: Monday, October 19, 2009	Sheet: 38	of: 54

## Power Button Board

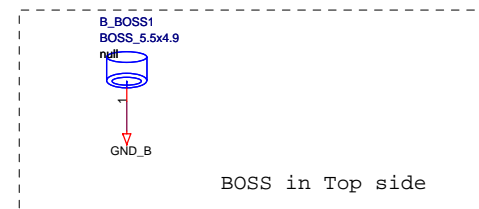
**WHITE:  $V_f=2.55V$  (typ)**



## POWER BUTTON



Bluetooth CONN.



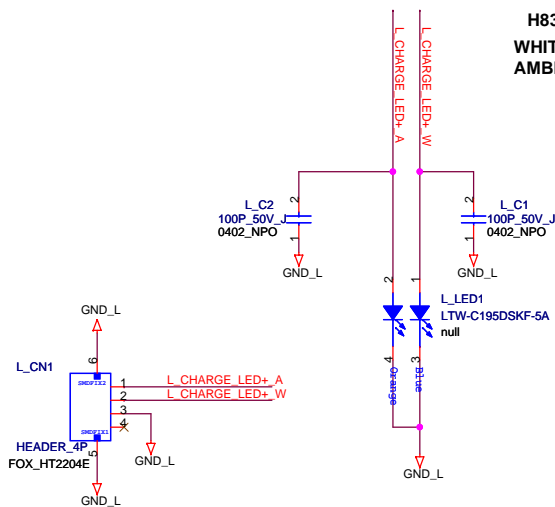
## Bluetooth Board

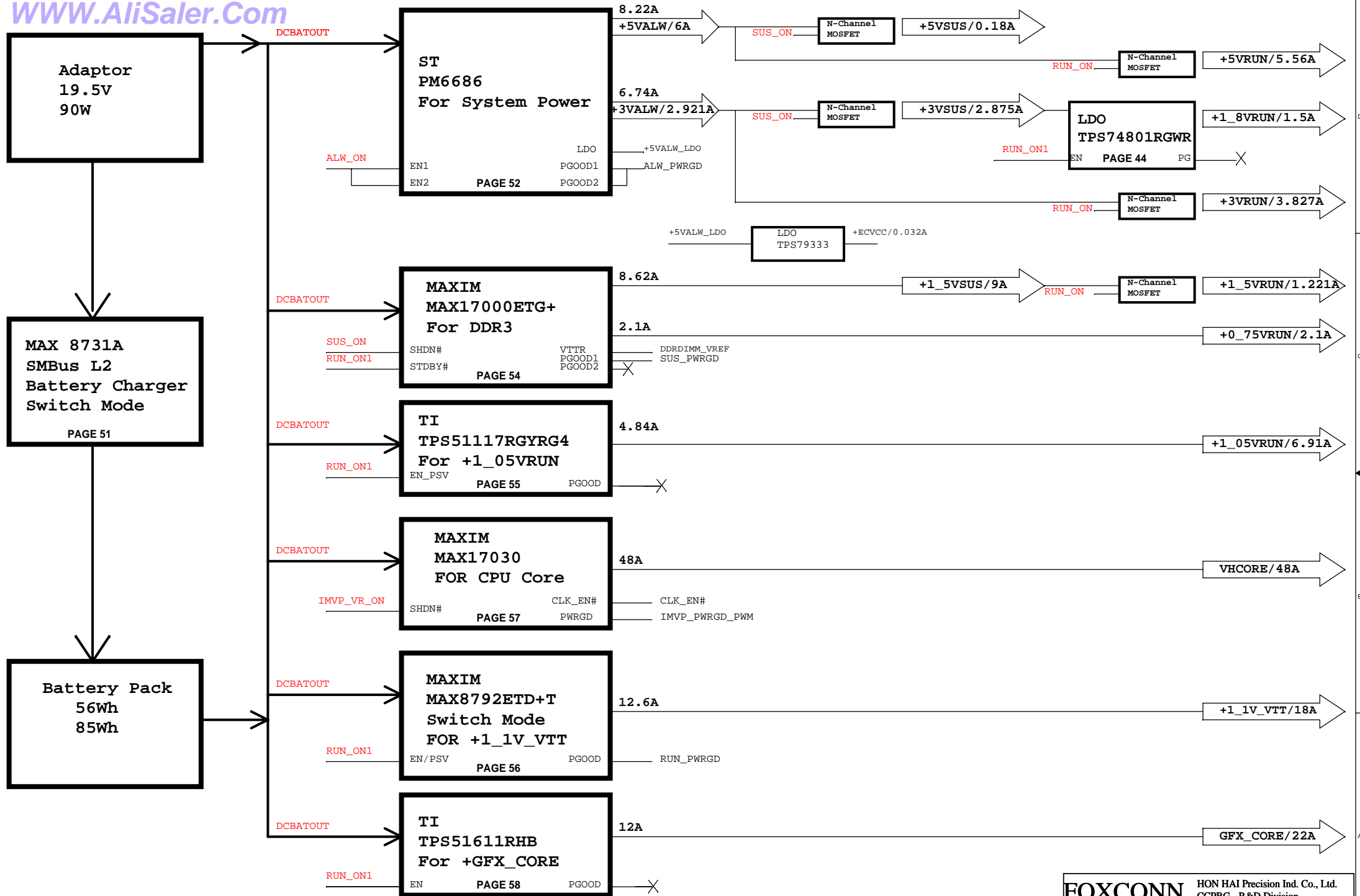
## LED Board

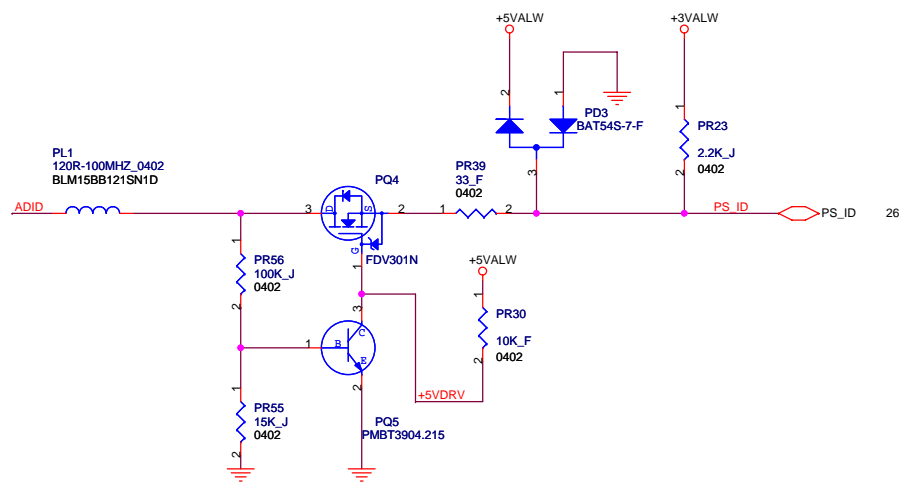
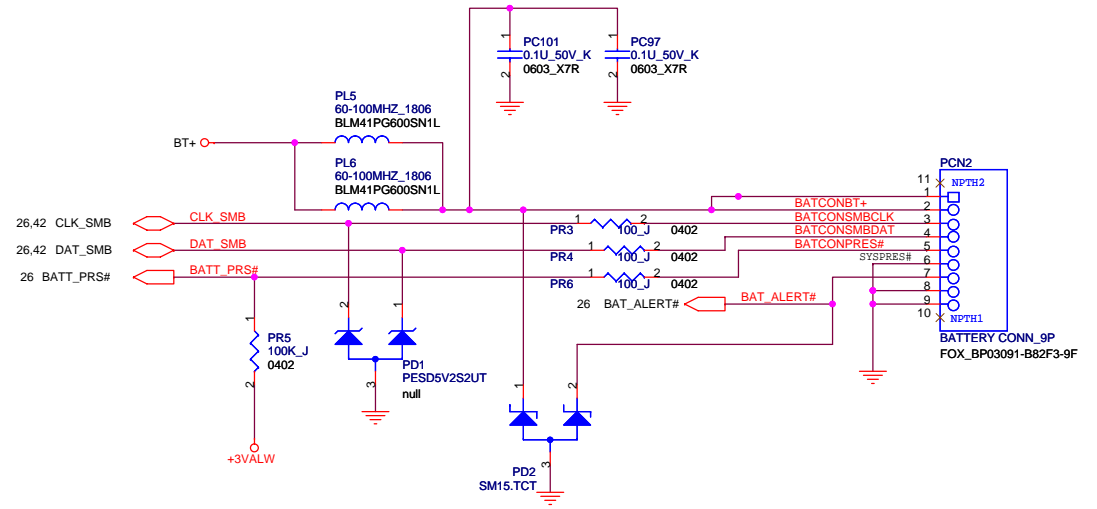
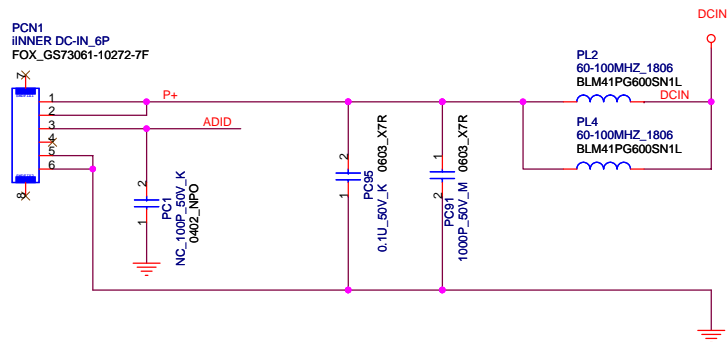
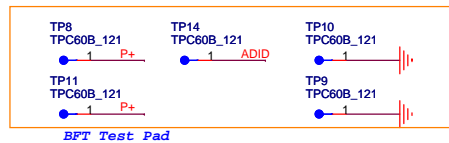
## H830

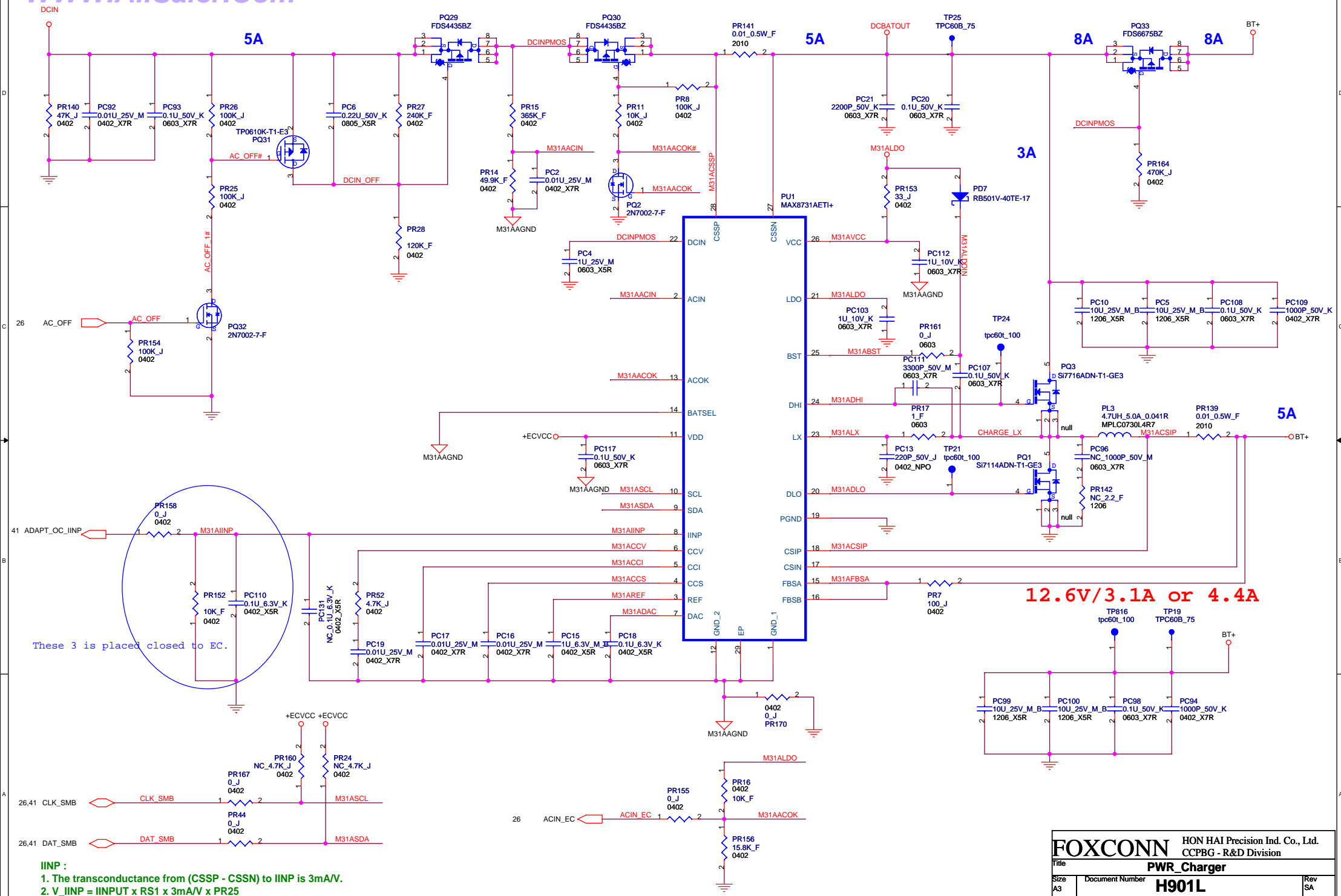
**WHITE: Vf=2.55V (typ)**

AMBER: Vf=2.0V (typ)

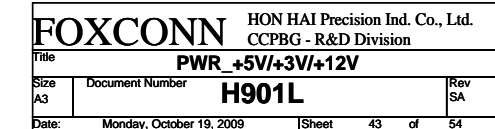




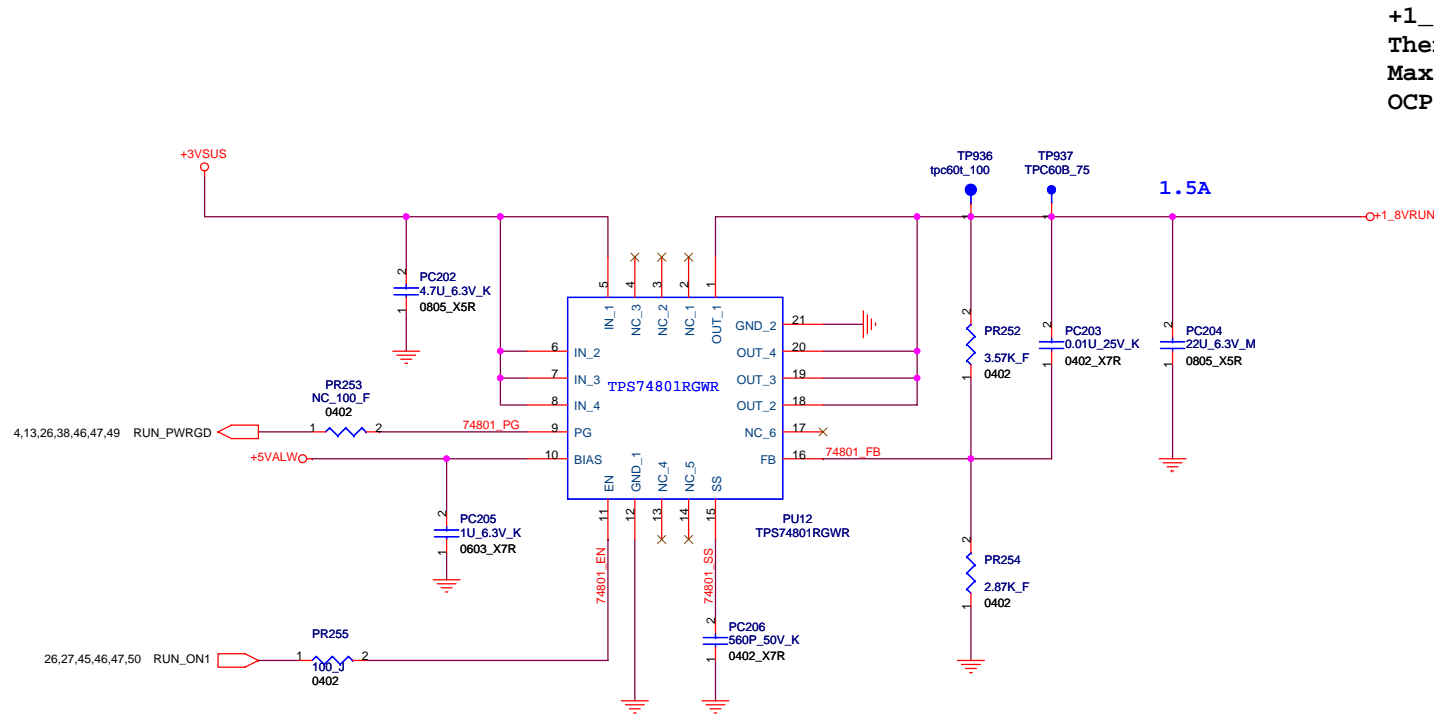




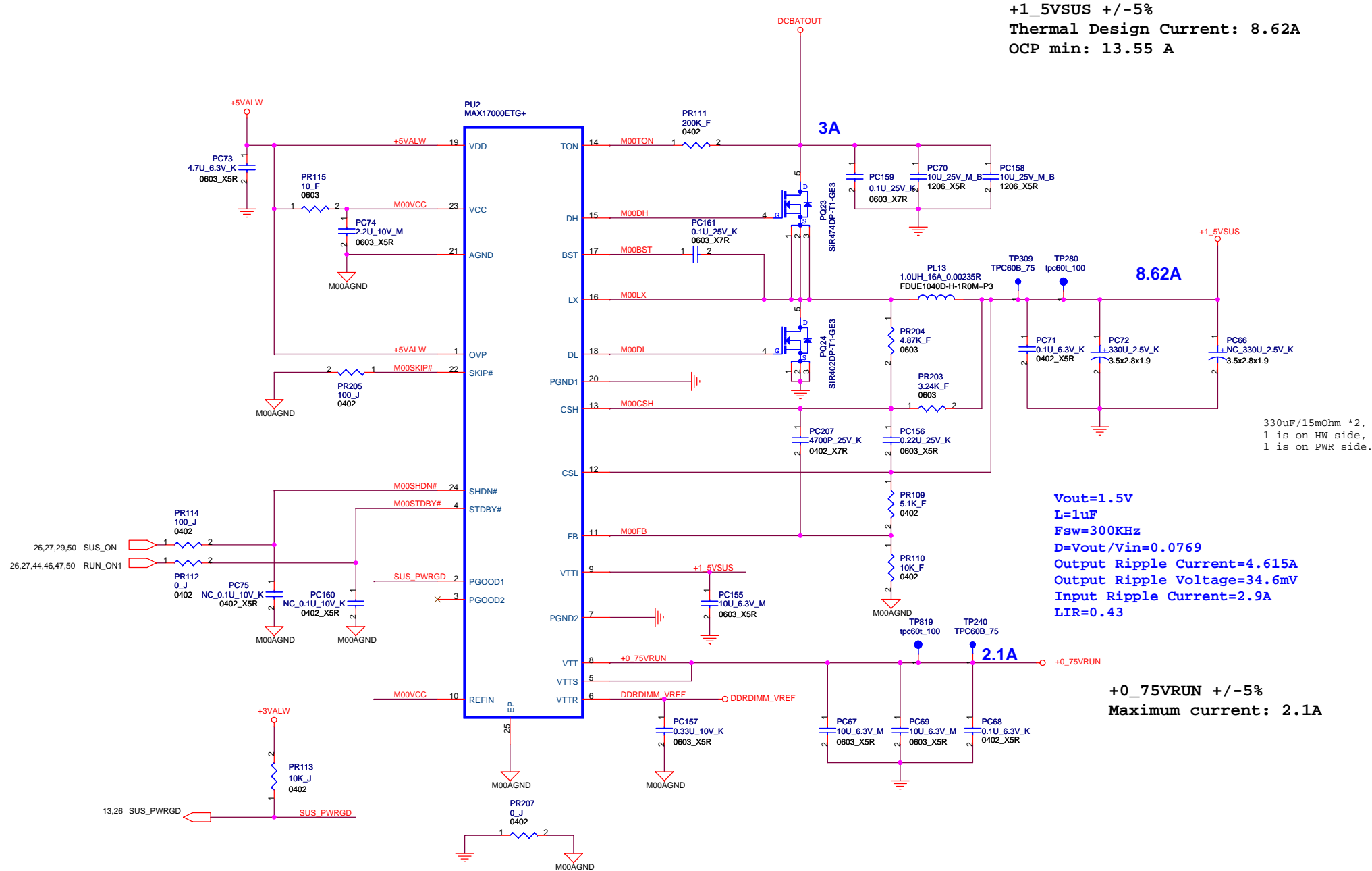
+3VALW +/-5%  
Thermal Design Current:6.74A  
OCP min: 10.59 A

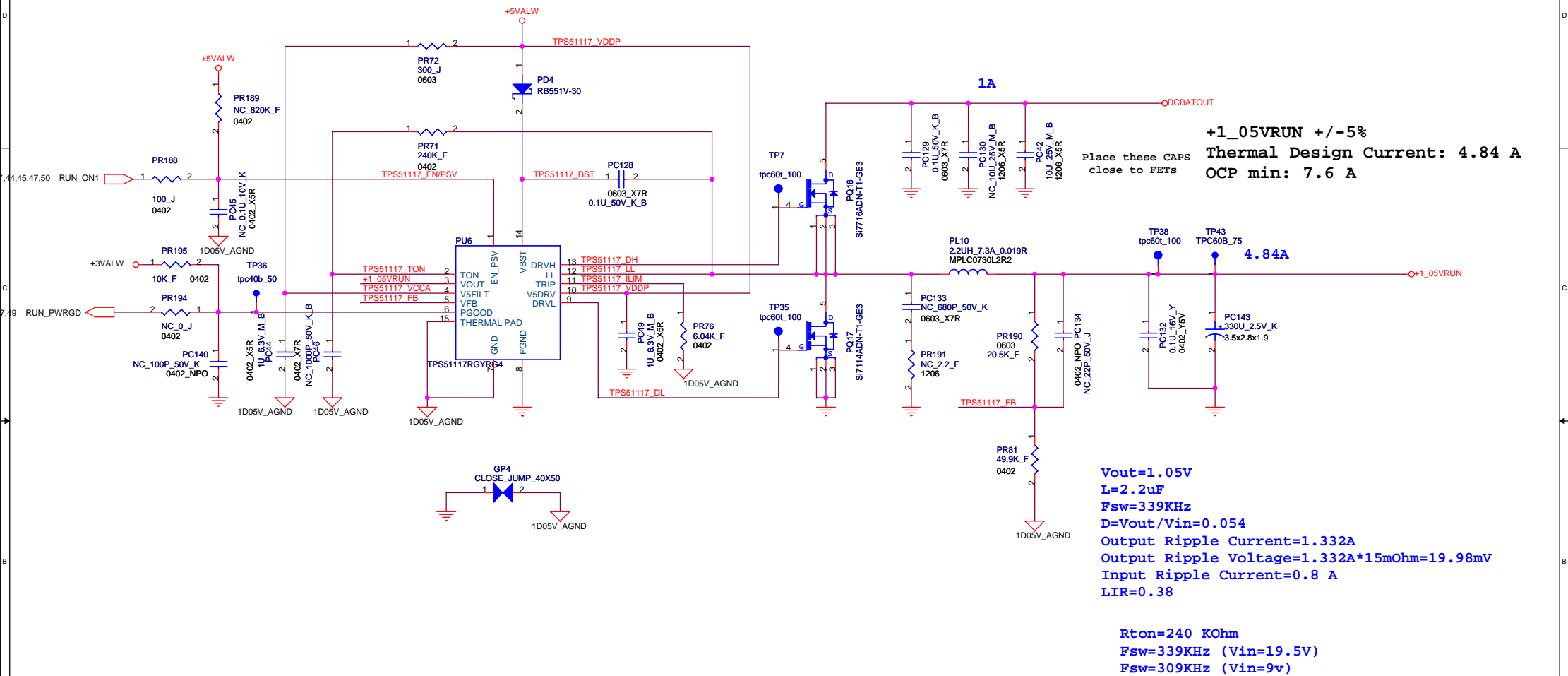


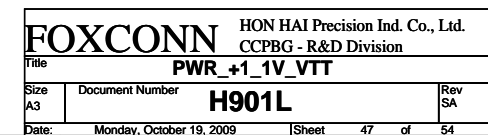




+1\_8VRUN +/-5%  
Thermal Design Current: 1.05A  
Maximum Current:1.5A  
OCP : 2~5 A

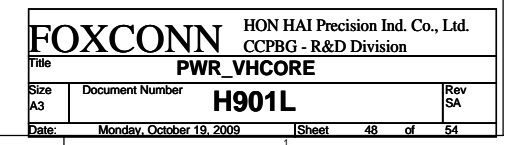




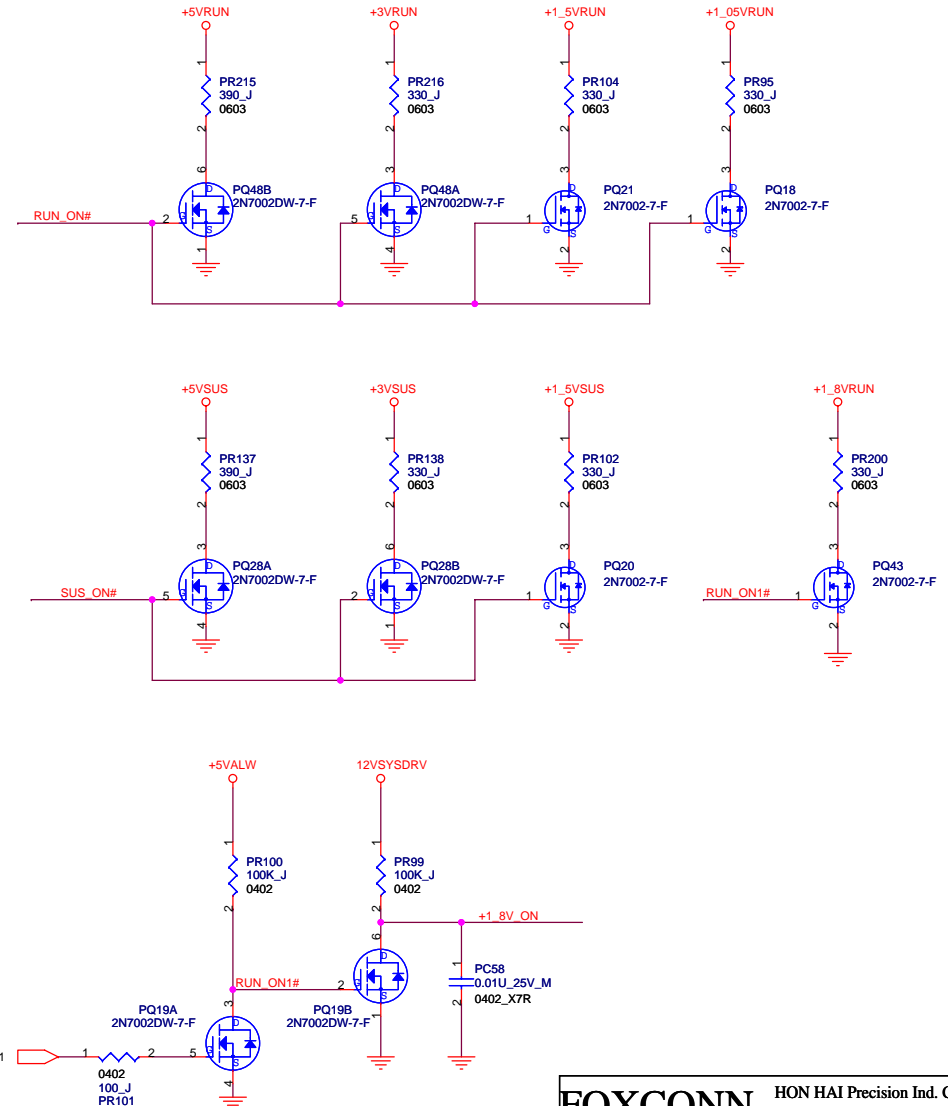


VID[5:3] for CSC, CRB default '100' = 50A (Iccmax)  
VID[2:0] for MSID (To differentiate XE CPU from SV CPU)  
DPRSLPVR='1' for IMVP6.5  
Others are RSVD  
Both PH and PD resistors are required to reserve for all 9 signals

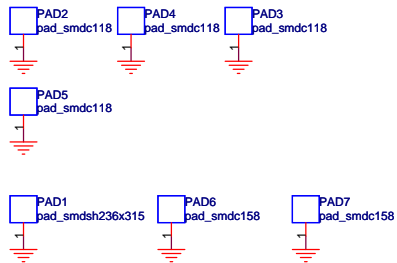
OCP setting: 60A (30A per phase).  
PR149=13.7K Ohm



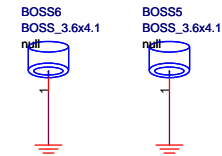
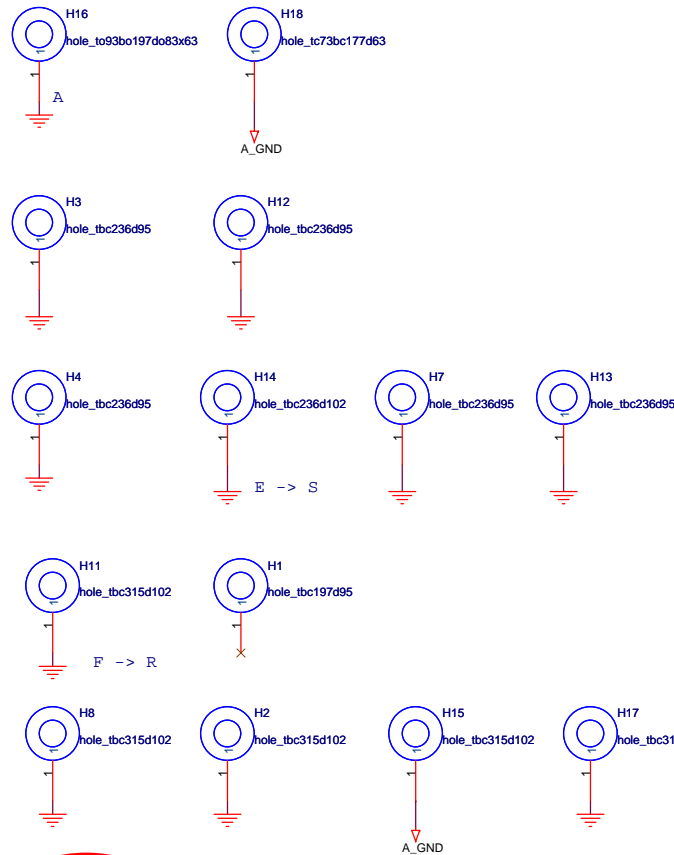




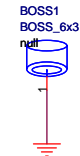
# ME



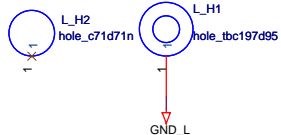
# CPU



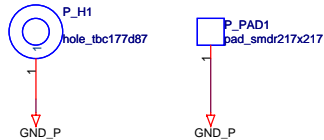
BOSS in Bottom side



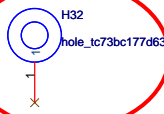
BOSS in Top side




LED



Power Button



For ME request.

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Title			
<b>HOLE</b>			
Size	Document Number	Rev	
A3	H901L_A00	A00	
Date:	Monday, October 19, 2009	Sheet	51 of 54



H901L EVT

(2009/06/08)

P.39 Add Q62, Q63, R619, and R639 10K ohm and del D16 & D17 for leakage issue.

(2009/06/23)

P. 4 NC R712 0 ohm for DDR\_alert# noise.

(2009/06/25)

P.11 Change RTC battery P/N from 1M-BCR2032-LB00 to 1M-BCR2032-LB01.

(2009/07/01)

P.51 Add H32 for ME request.

(2009/07/14)

P.12 Add R645 & R646 2.2K ohm for SMBUS PH.

P.31 Change C35 & C38 from 18pF to 15pF for Crystal vendor recommend.

(2009/07/15)

P.22 Add C655, C656, C657 10pF, and L70, L71, L72 47R, change L61, L62, L63 from 33R to 47R for CRT.

(2009/07/16)

P.13 Add R293 0 ohm NC for SLP\_M#.

P.30 Change C33 and C44 from NPO 10% to 5% for PUR recommend.

P.39 Change P\_C1, P\_C2, L\_C1, L\_C2 from 10pF NPO 10% to 5% for PUR recommend.

P.32 Change C499 and C505 from 12pF NPO 10% to 5% for PUR recommend.

P.11 Change C735 from 12pF NPO 10% to 5% for PUR recommend.

P.30 Change C78 and C79 from 15pF NPO 10% to 5% for PUR recommend.

P.11 Change C736 from 15pF NPO 10% to 5% for PUR recommend.

P.38 Change C244 and C245 from 47pF NPO 10% to 5% for PUR recommend.

(2009/07/17)

P.13 Add R763 10K ohm PH for HDMI.

P.31 Add C512 0.1uF for Hipot test.

H901L DVT

(2009/07/23)

P.36 Change R467 from 33K to 15K ohm and R472 from 15K to 4.7K ohm for Thermal recommend.

(2009/07/28)

P.24 Change HDMI connector from 2N-0019003-FKG0 to 2N-0019002-MKG0

(2009/08/20)

P.28 Delete R27

P.31 Change L1 to LANKOM.

P.18 Delete R257

H901L PVT

(2009/09/3)

P. 20 & 21 Change CN27 & CN28 to tray for L6 recommend.

P. 25 Change CN25 & CN8 to tray for L6 recommend.

P. 29 Change CN73 Part number for CIS recommend.

P. 20 Add R27 & R55 1K ohm for Intel M1 DDR solution.

P. 21 Add R56 & R57 1K ohm for Intel M1 DDR solution.

H901L X-Build

(2009/09/16)

P.12 Change C701 & C702 from 18pF to 12pF for Crystal vendor recommend.

P.22 Add R474 0 ohm for EMI solution.

H901L X-Build

(2009/09/18)

P.31 Add R612 1K ohm .

P.31 Delete C26

P.31 Delete U2


P.31 Delete R14

P.31 Delete R186

(2009/10/14)

P.29 Add L38 , L42 & L69

P.29 Delete R277, R281, R380, R381, R607, R609 for EMI



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Title History (1)		
Size A3	Document Number H901L_A00	Rev A00
Date: Monday, October 19, 2009	Sheet 52	of 54

# H900 Power Change History

Number	Date	Page	Title	Issue	Description	Version
1	2009/07/02	P.48	V_CORE	Chage exposed GND and VDD capacitor of VCORE to PGND.	Change PC14.2 from AGND to PGND. Change PU4.41 from AGND to PGND. Change PR21.2 from PGND to AGND.	X01
2	2009/07/02	P.48	V_CORE	Add feedback capacitor to improve GND noise for system with battery only can't power ON issue.	Add PC7: 1000pF 16V X7R(1C-2B20102-K001) . Add PC8: 1000pF 16V X7R(1C-2B20102-K001) . Add PC11: 1000pF 16V X7R(1C-2B20102-K001) . Add PC12: 1000pF 16V X7R(1C-2B20102-K001) .	X01
3	2009/07/02	P.48	V_CORE	Change boost resistor to reduce ring of Mosfet.	Change PR178 from 0 Ohm 0603 5%(1R-0000000-J300) to 2.2 Ohm 0603 1%(1R-000022X-F300) Change PR177 from 0 Ohm 0603 5%(1R-0000000-J300) to 2.2 Ohm 0603 1%(1R-000022X-F300)	X01
4	2009/07/08	P.49	+GFX_CORE	Delete some capacitors from TI suggestion. Fine tune load line and IMON setting.	Del PC190,PC192,PC189,PC199,PC201. Change PR223 from 3K 0402 1%(1R-0000302-F200) to 1.2K 0402 1%(1R-0000122-F200) Change PR232 from 10K 0402 1%(1R-0000103-F200) to 45.3K 0402 1%(1R-0004532-F200) Change PC198 from 3300P 50V 0402 10%(1C-2B20332-K000) to 0.47uF 6.3V 0402 10%(1C-2B20474-K000)	X01
5	2009/07/08	P.48	V_CORE	Modify DCR feedback and IMON setting. Change L-S Mosfet to SIR464 to improve efficiency.	Change PR84 and PR85 from 1.69K 0402 1%(1R-0001691-F200) to 3.9K 0402 1%(1R-0003901-F200) Change PR150 from 10K 0402 1%(1R-0000103-F200)to 1.8K 0402 1%(1R-0000182-F200) Change PC208 from 0.1uF 6.3V 0402(1C-2B20104-K101) to 0.022uF 16V 0402 X7R (1C-2B20223-K000) Change PR146 from 12K 0402 1%(1R-0000123-F200) to 15.4K 0402 1%(1R-0001542-F200) Change PQ9,PQ10,PQ12,PQ13 from SIR466(17-S1R466D-PT00) to SIR464(17-S1R464D-PT00)	X01
6	2009/07/10	P.42	Charger	Slow down P-Mos turn on to reduce inrush current of AC adapter.	Change PR28 from 100K 0402 5%(1R-0000104-J200) to 120K 0402 1%(1R-0000124-F200)	X01
7	2009/07/16	P.49	+GFX_CORE	Add a L-S Mosfet for GFX_CORE	Add PQ56:FDMS7670 (17-FDMS767-0000)	X01
8	2009/07/16	P.49	+GFX_CORE	Change GFX_CORE setting from vender's suggestion	Change PR224 from 124K 0402 1%(1R-0001243-F200) to 249K 0402 1%(1R-0002493-F200) Change PU11.33 to PGND. Change PU11.1 to AGND. Add a reserve PR258 between PU11.26 to AGND. Change PR234 from 82.5K 0402 1%(1R-0008252-F200) to 52.3K 0402 1%(1R-0005232-F200) Change PR242 from 63.4K 0402 1%(1R-0006342-F200) to 62K 0402 1%(1R-0000623-F200) Change PR239 from 51K 0402 1%(1R-0000513-F200) to 68K 0402 1%(1R-0000683-F200) Change PR223 from 1.2K 0402 1% (1R-0000122-F200) to 910 0402 1%(1R-0000911-F200)	X01
9	2009/07/20	P.50	Other power plane	Add discharge path for 1_5VRUN and 1_05VRUN	Add PR104:330 Ohm 0603 5%(1R-0000331-J300) Add PR95:330 Ohm 0603 5%(1R-0000331-J300) Add PQ21:2N7002-7-F SOT-23(17-2N70027-F000) Add PQ18:2N7002-7-F SOT-23(17-2N70027-F000)	X01

<b>FOXCONN</b>		HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title <b>History (1)</b>			
Size A3	Document Number <b>H901L</b>		Rev SB
Date:	Monday, October 19, 2009		Sheet 53 of 54

## H900 Power Change History

[illegible]