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PCB P/N:	1P-009CJ00-8000 (IRIS) 1P-009C500-8000 (HANNSTAR) 1P-009C200-8000 (NANYA)
BT DB P/N:	1P-1098J01-8000 (IRIS) 1P-1098501-8000 (HANNSTAR) 1P-1098201-8000 (NANYA)
LED DB P/N:	1P-1098J00-8000 (IRIS) 1P-1098500-8000 (HANNSTAR) 1P-1098200-8000 (NANYA)
P/B DB P/N:	1P-1098J02-8000 (IRIS) 1P-1098502-8000 (HANNSTAR) 1P-1098202-8000 (NANYA)

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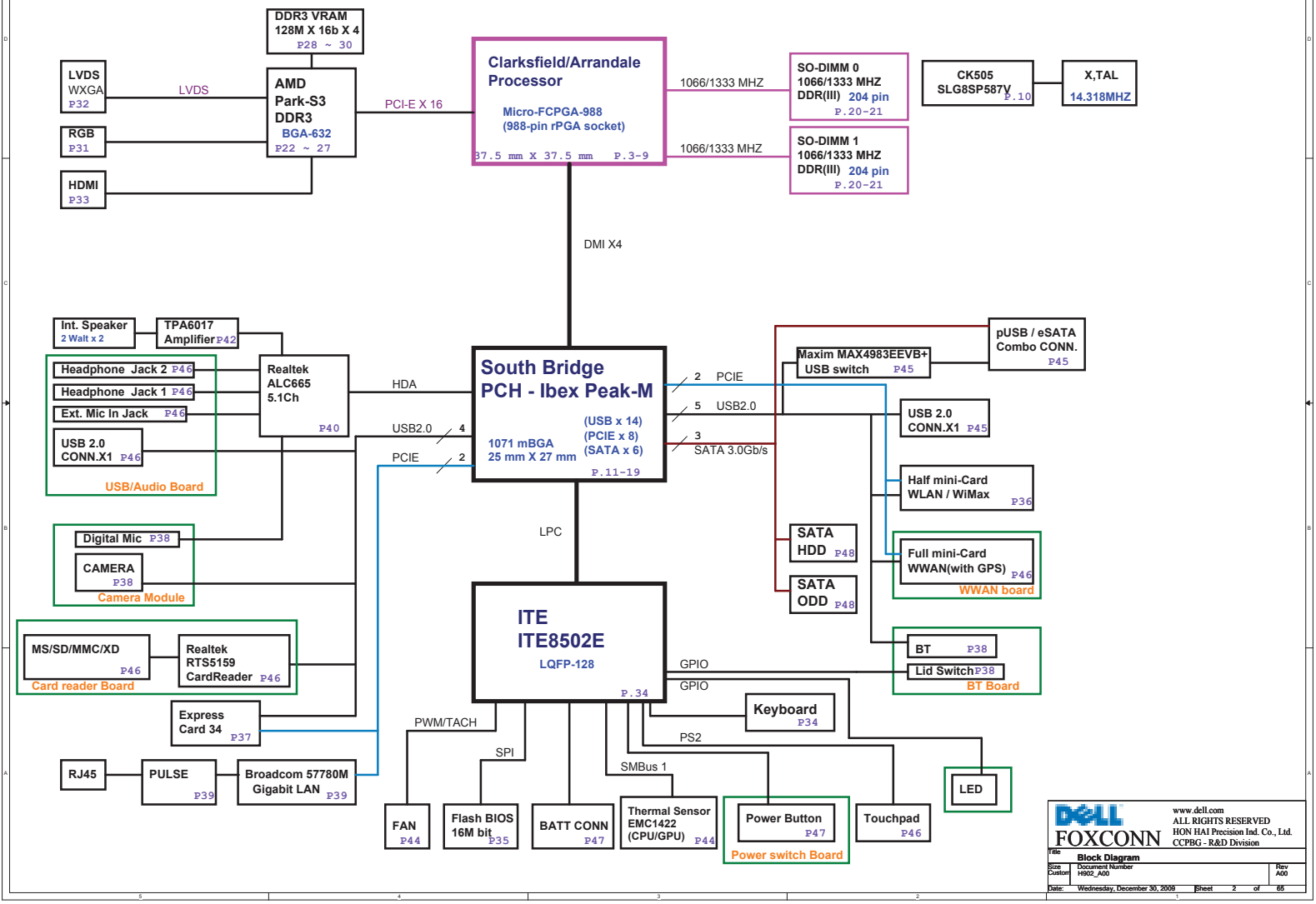
H902 Calpella + Discrete VGA



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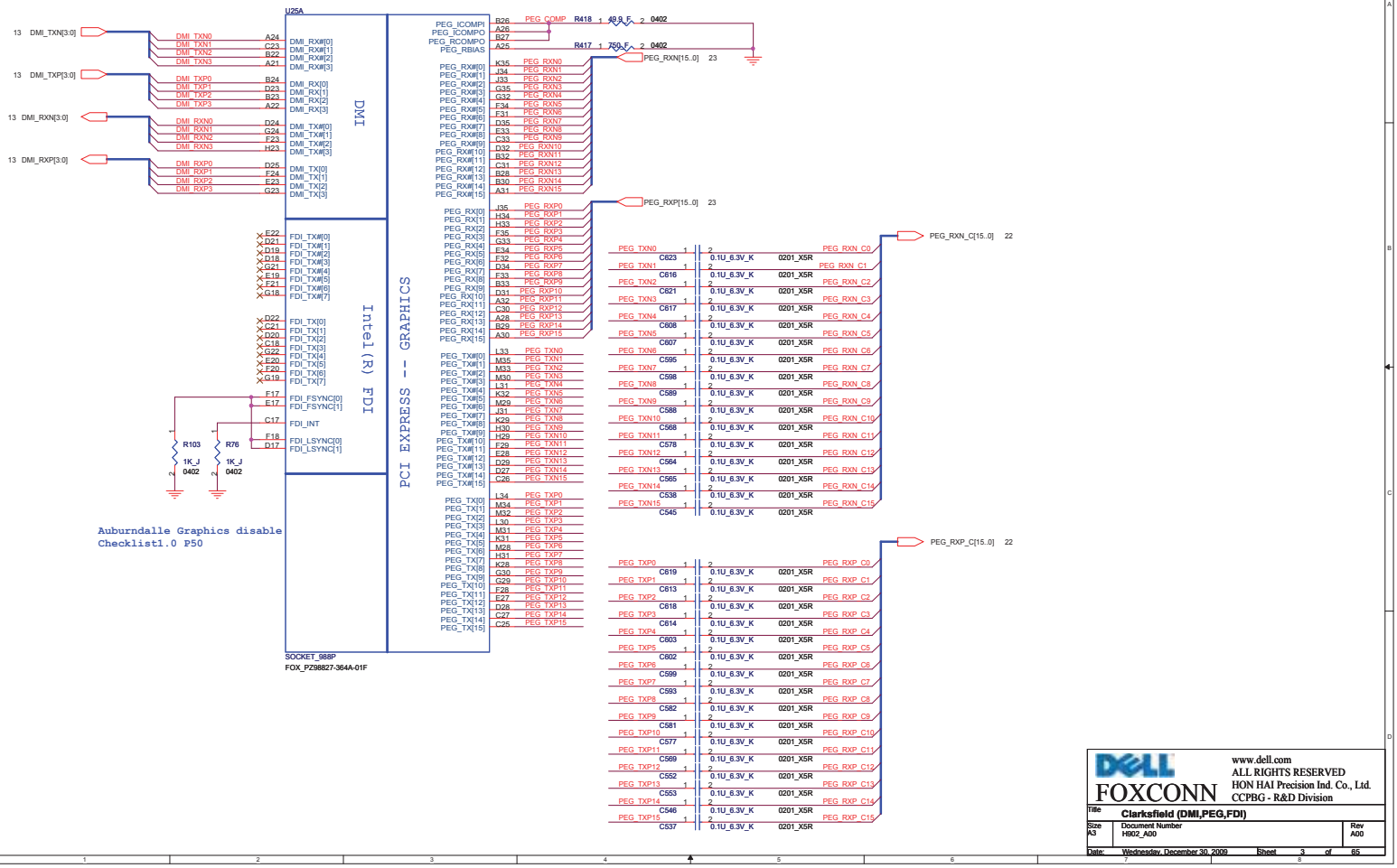

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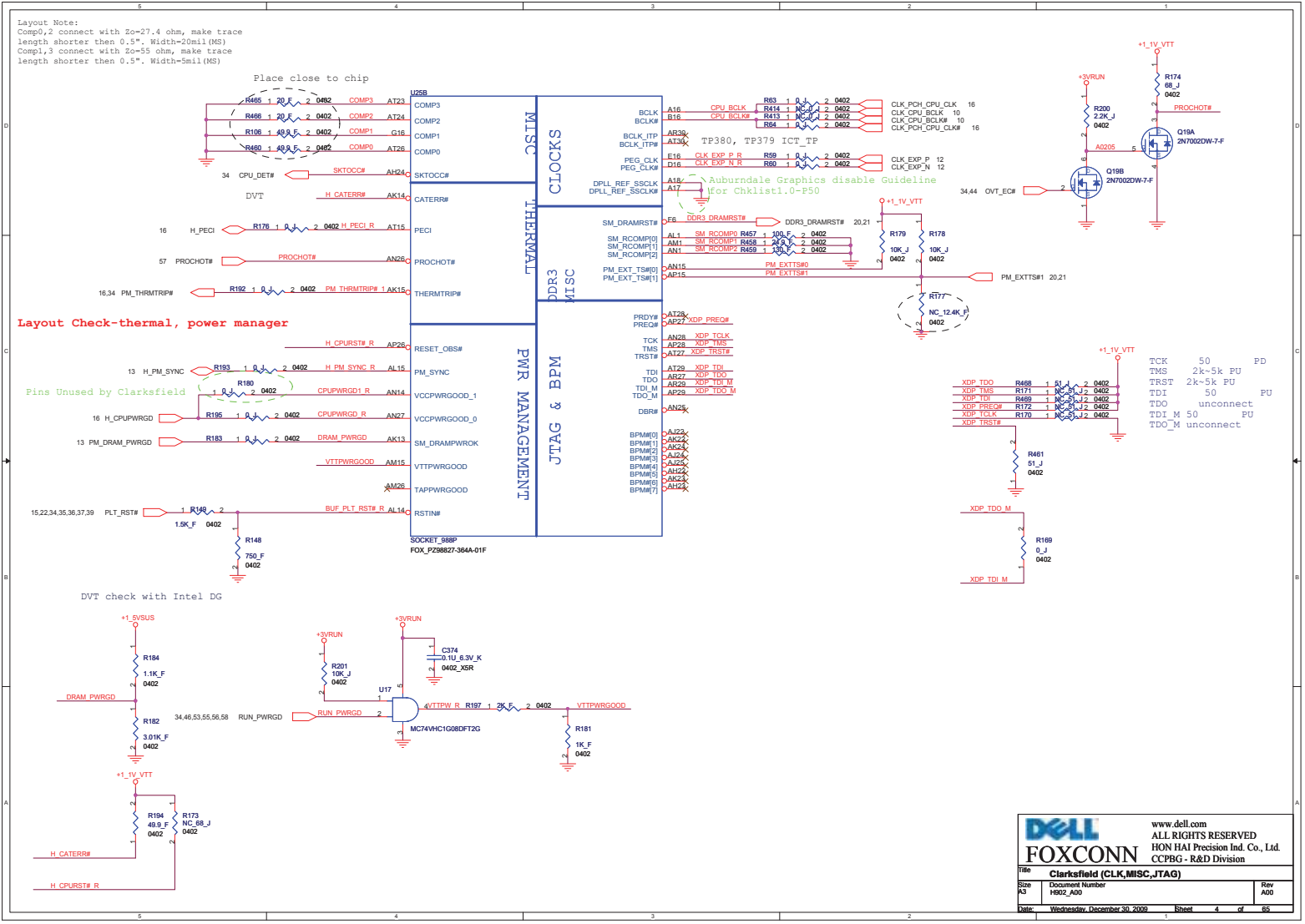

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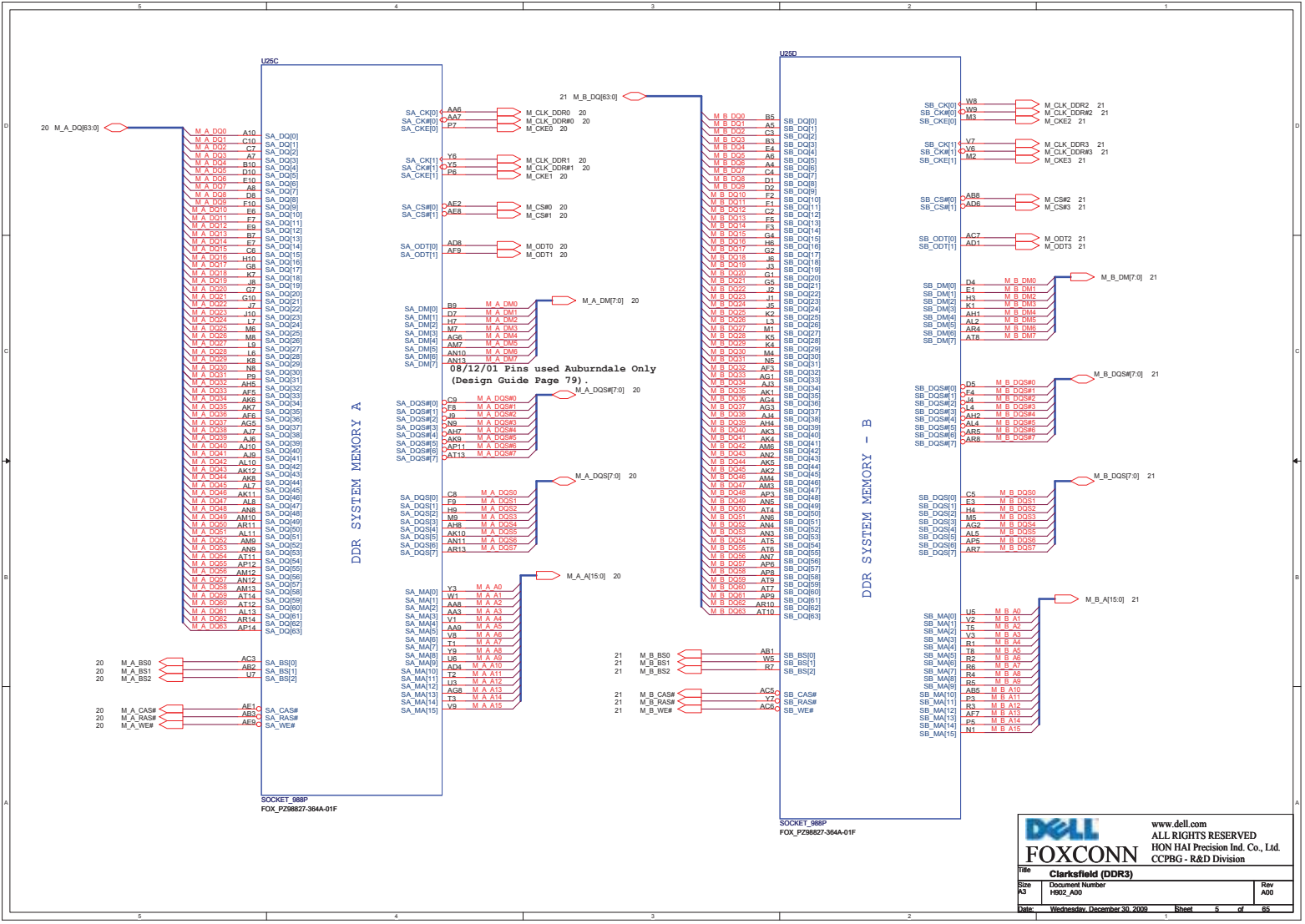

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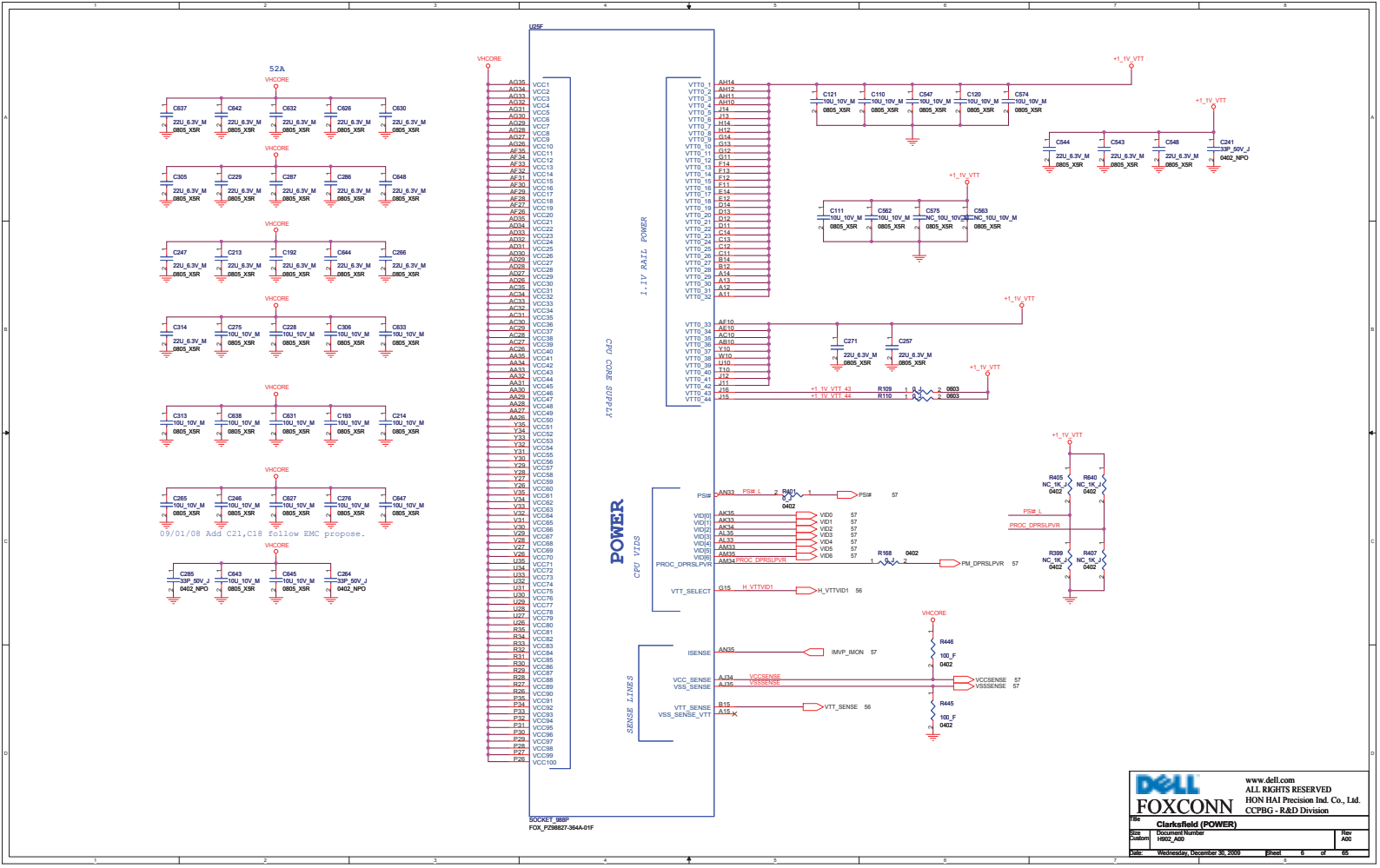

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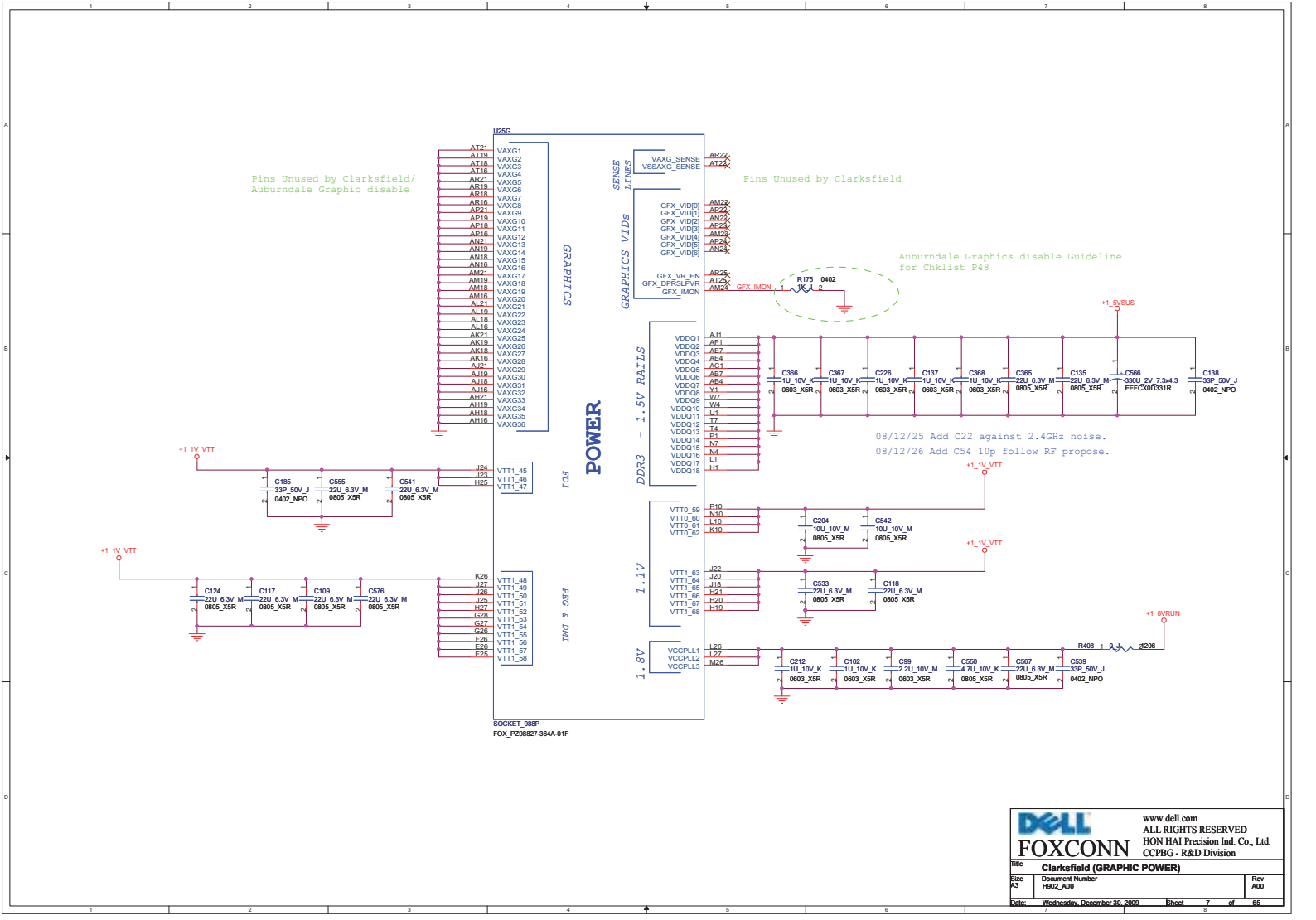

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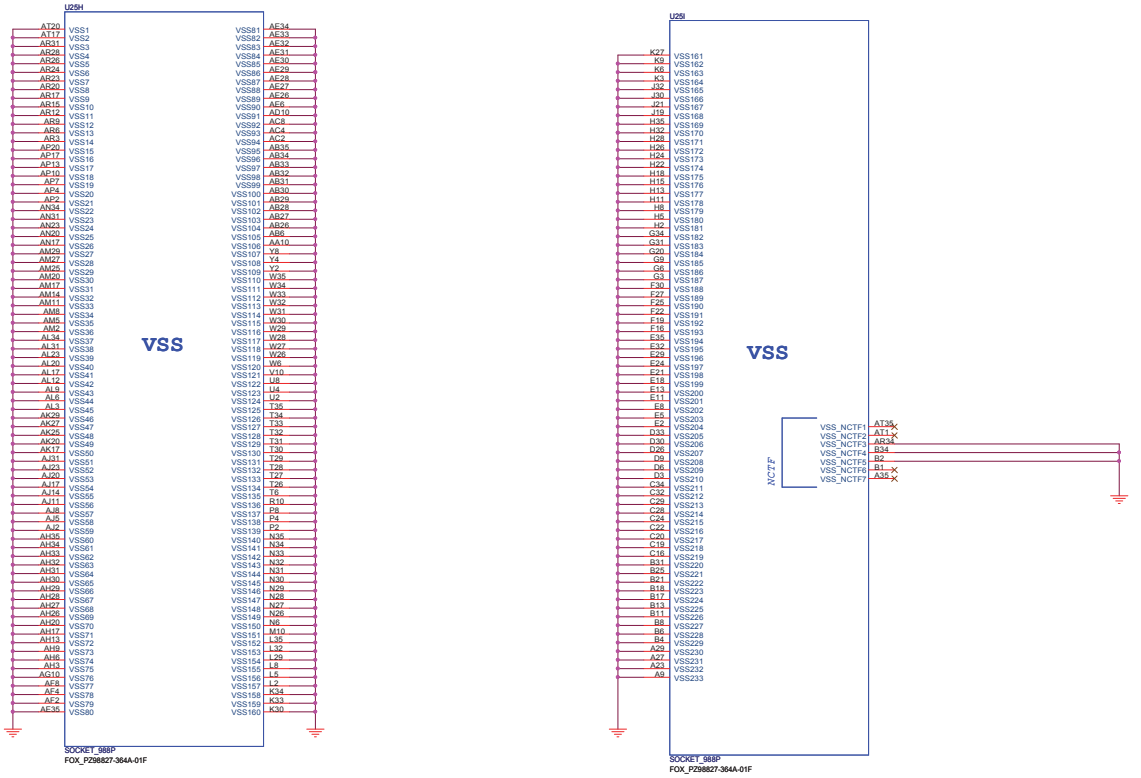

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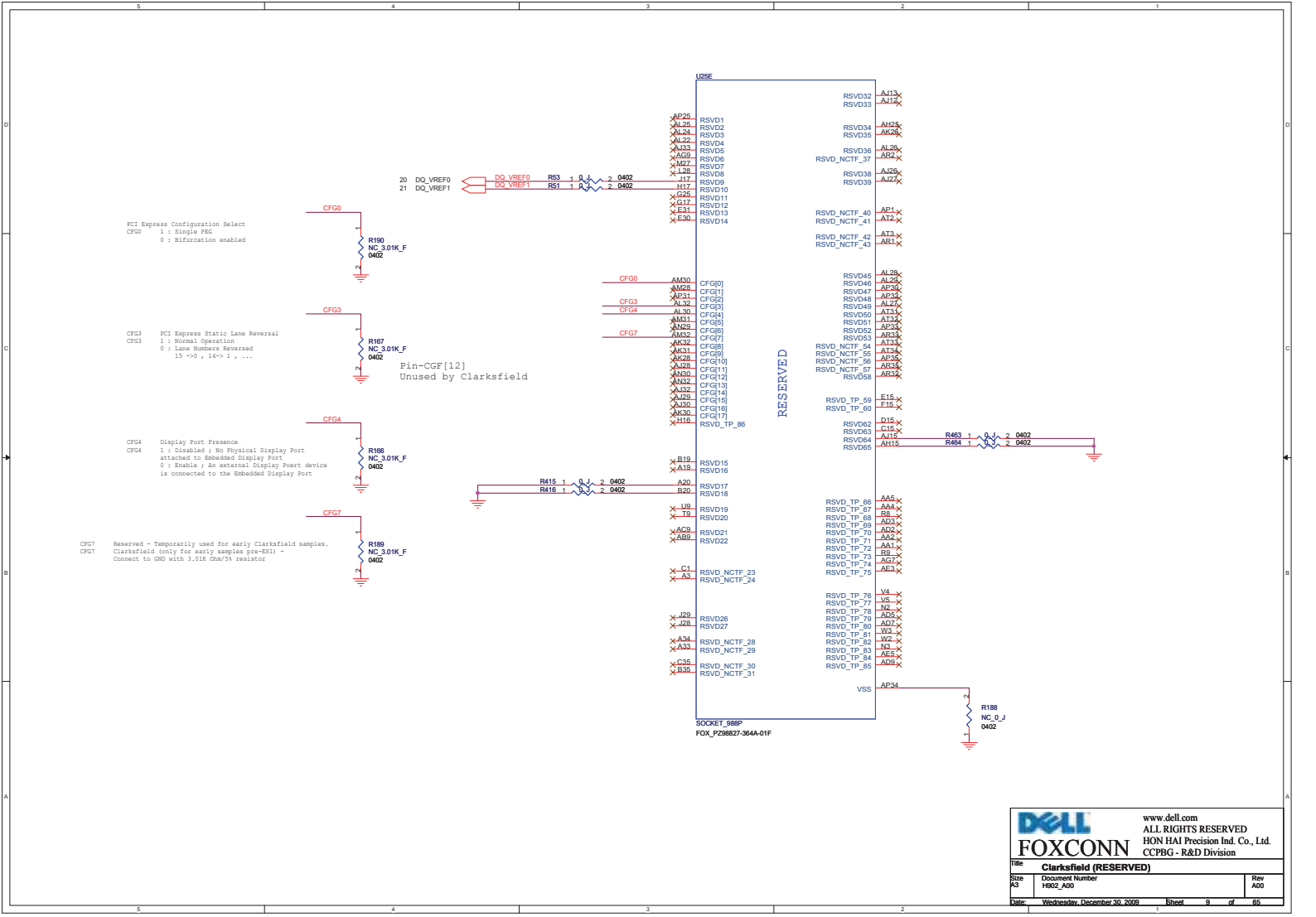

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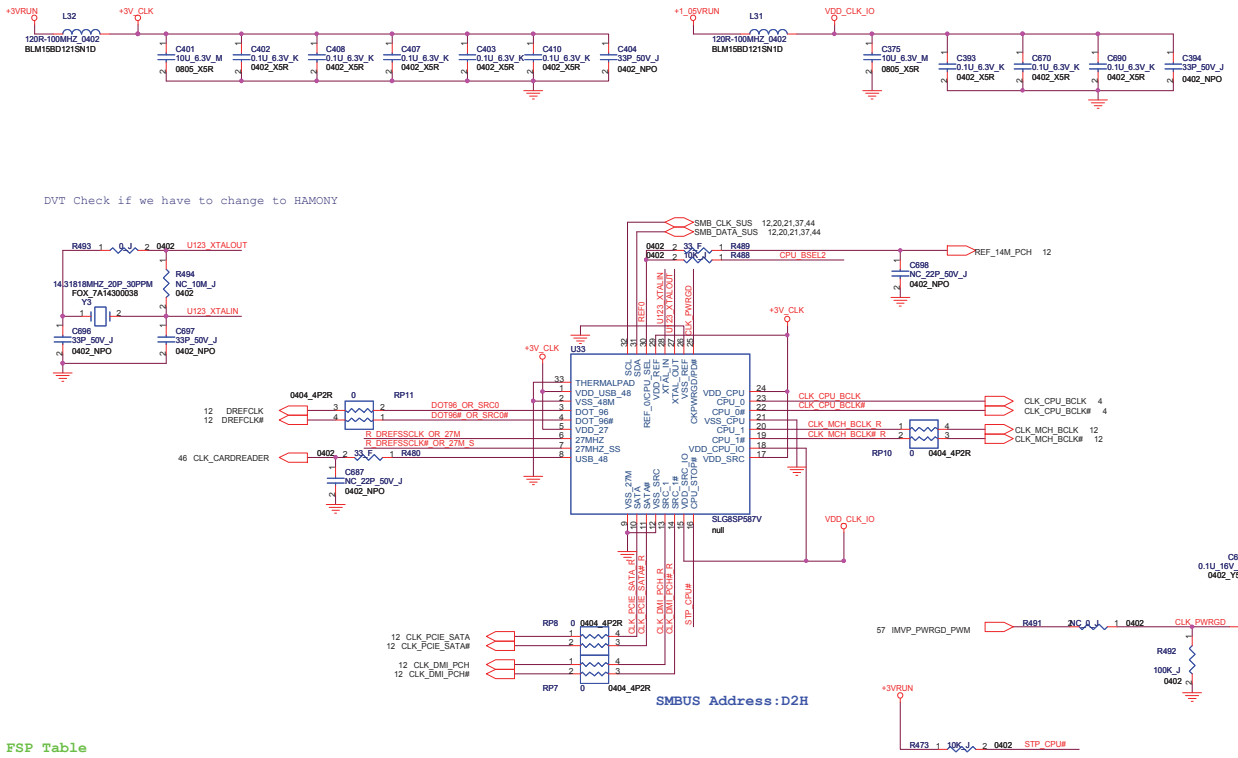

FS	CPU	Power On	SRC	SATA	DOT96	27MHz	REF
0	133MHz	Default	100MHz	100MHz	96MHz	27MHz	14.318MHz
1	100MHz						

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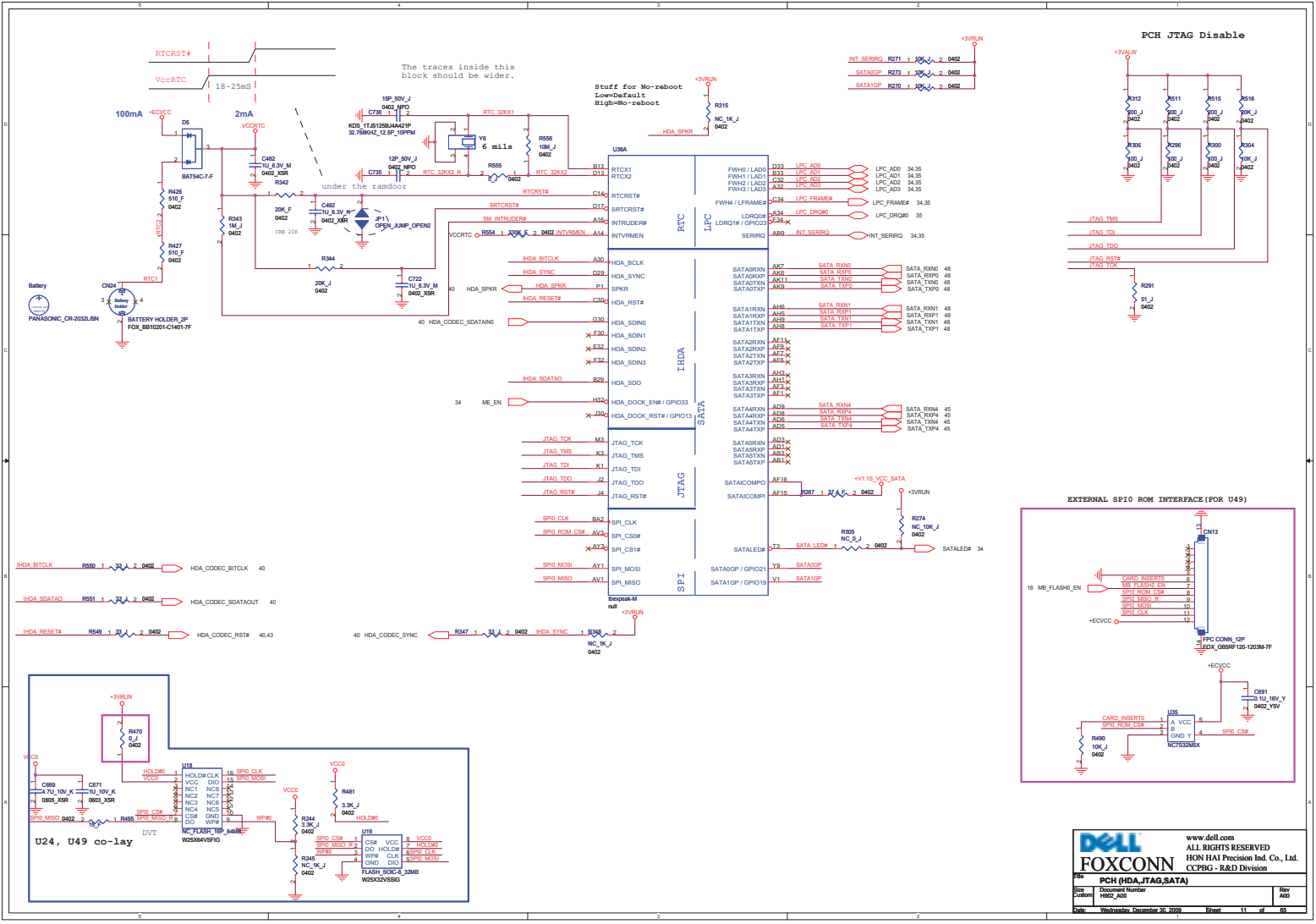

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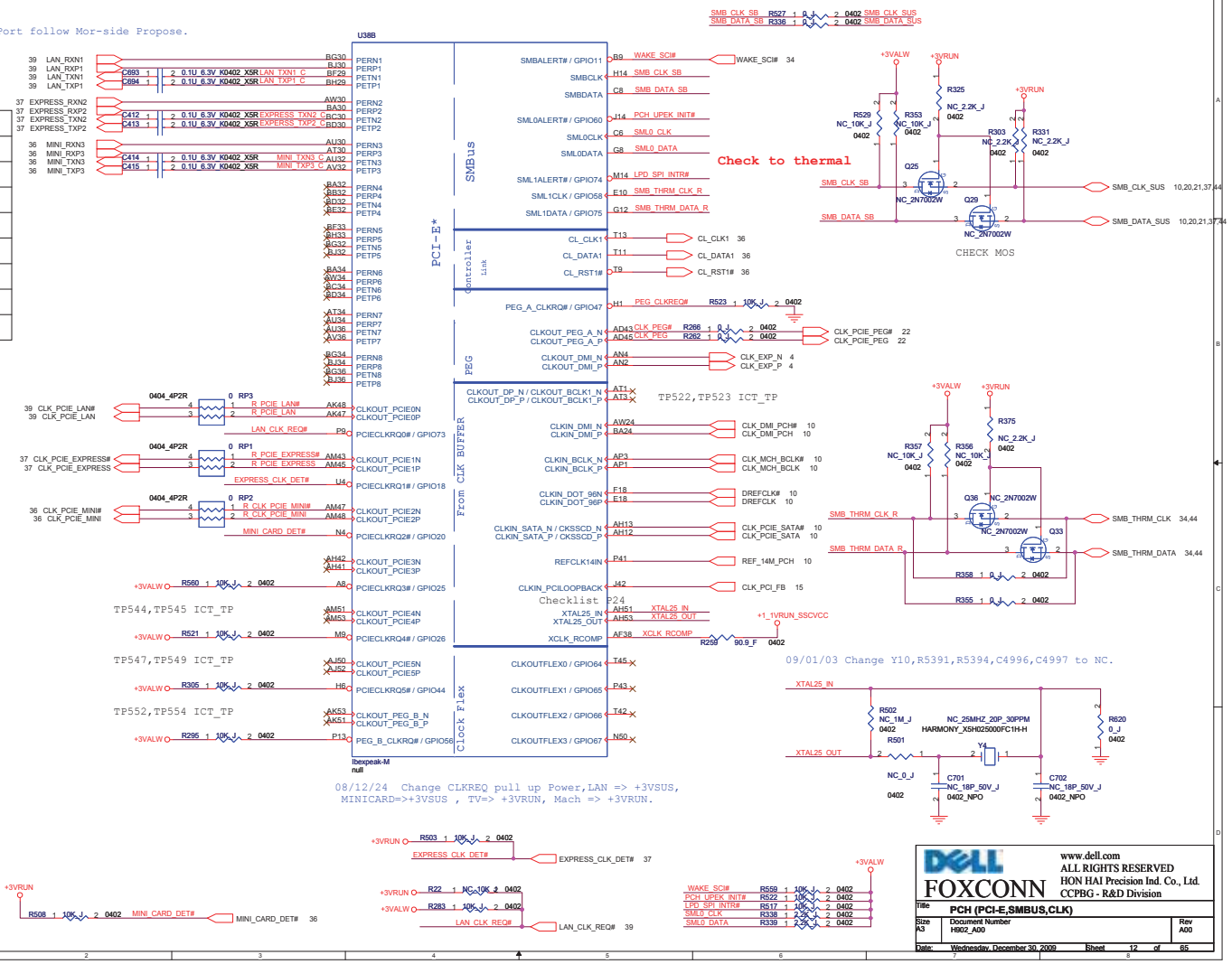
08/12/24 Update PCIE Port follow Mor-side Propose.

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



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Title	PCH (PCI-E,SMBUS,CLK)	
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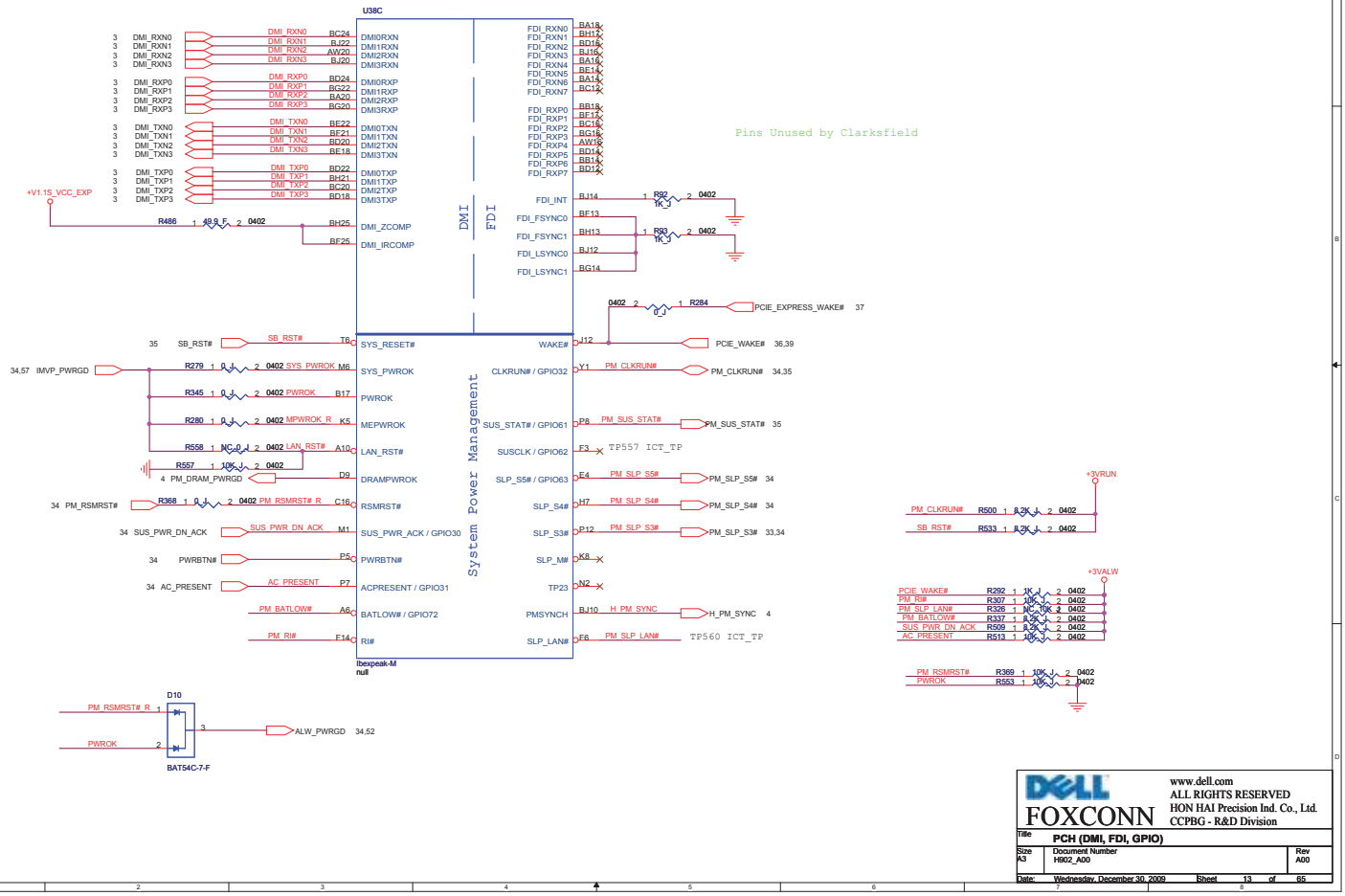

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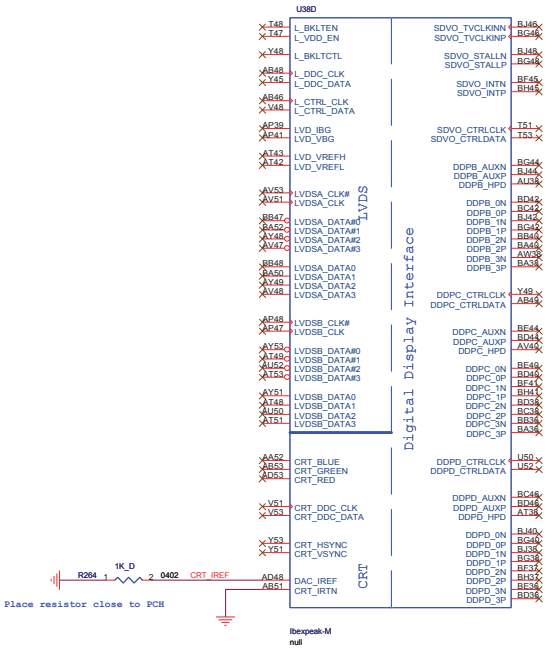
PCH Intergrated Graphics Disable



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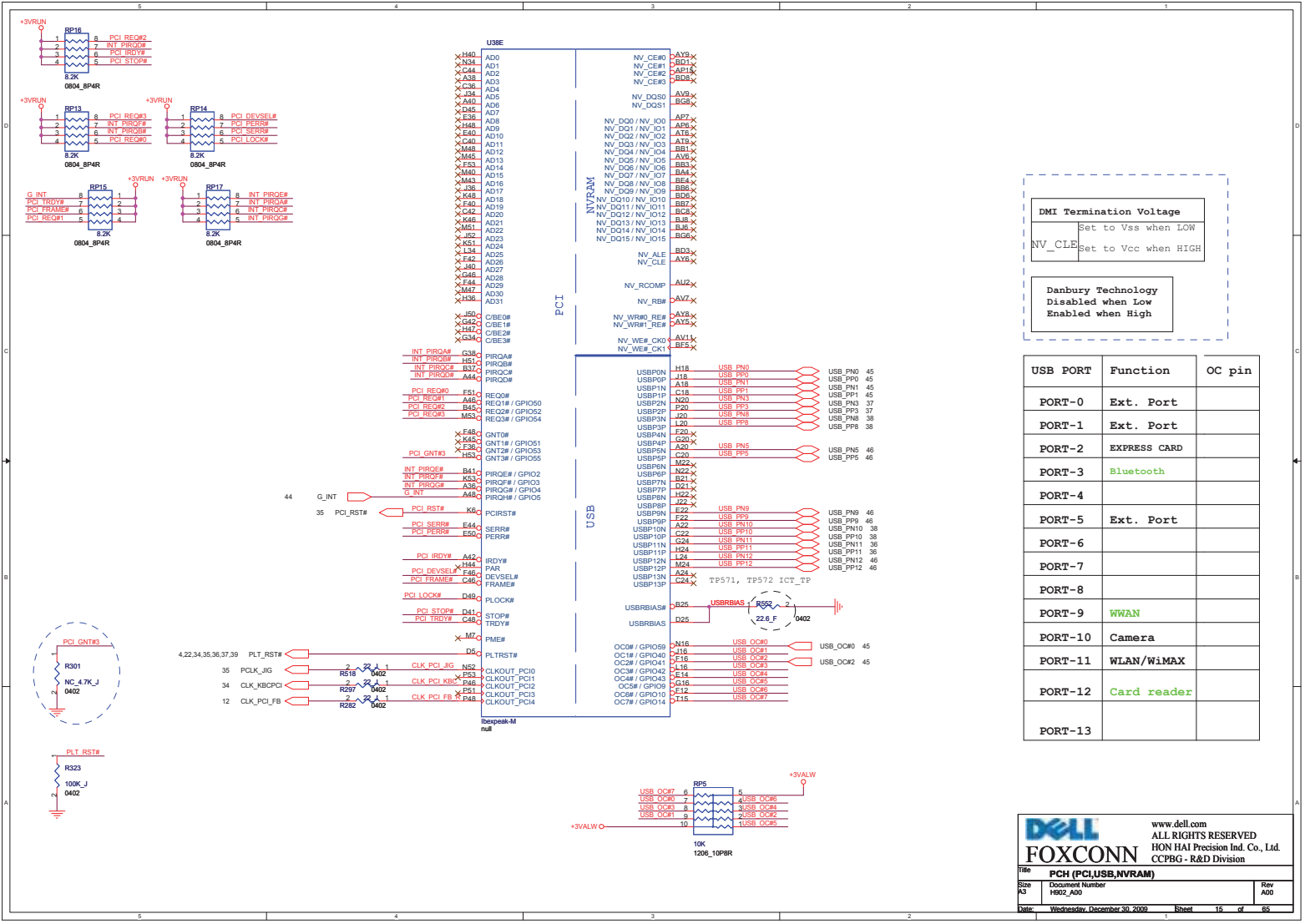

DMI Termination Voltage	
NV_CLE	Set to Vss when LOW
	Set to Vcc when HIGH

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	Bluetooth	
PORT-4		
PORT-5	Ext. Port	
PORT-6		
PORT-7		
PORT-8		
PORT-9	WWAN	
PORT-10	Camera	
PORT-11	WLAN/WiMAX	
PORT-12	Card reader	
PORT-13		

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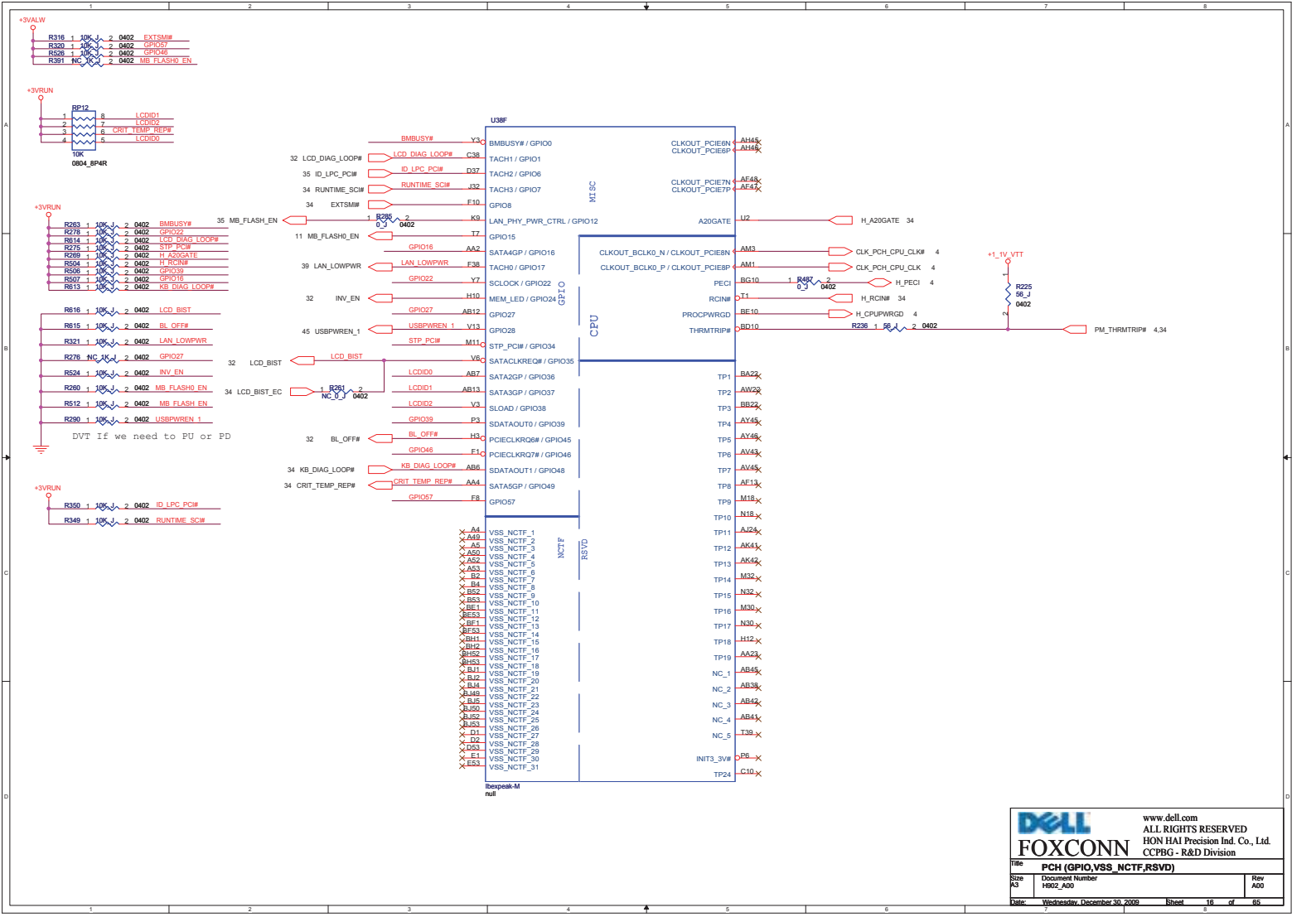

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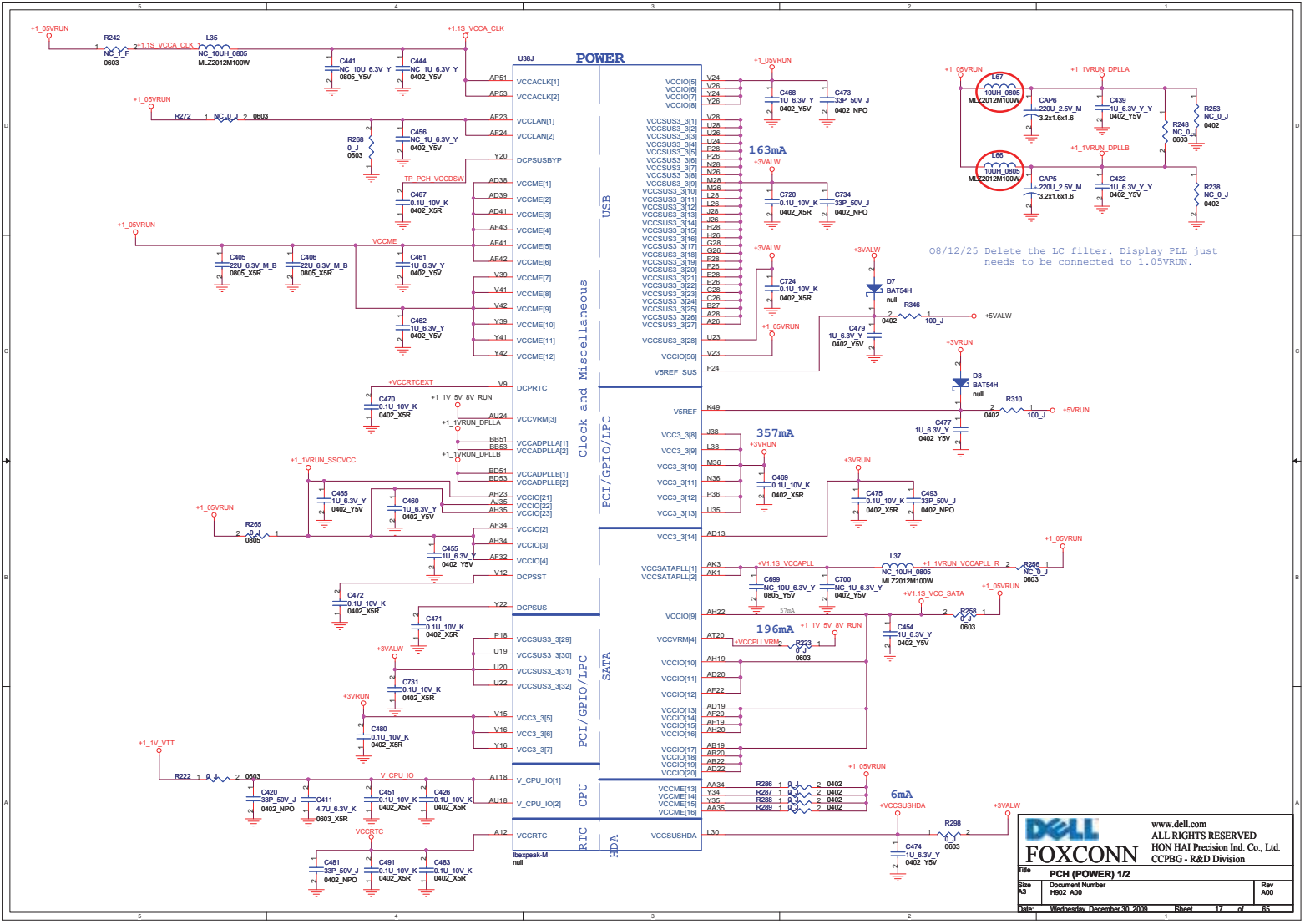

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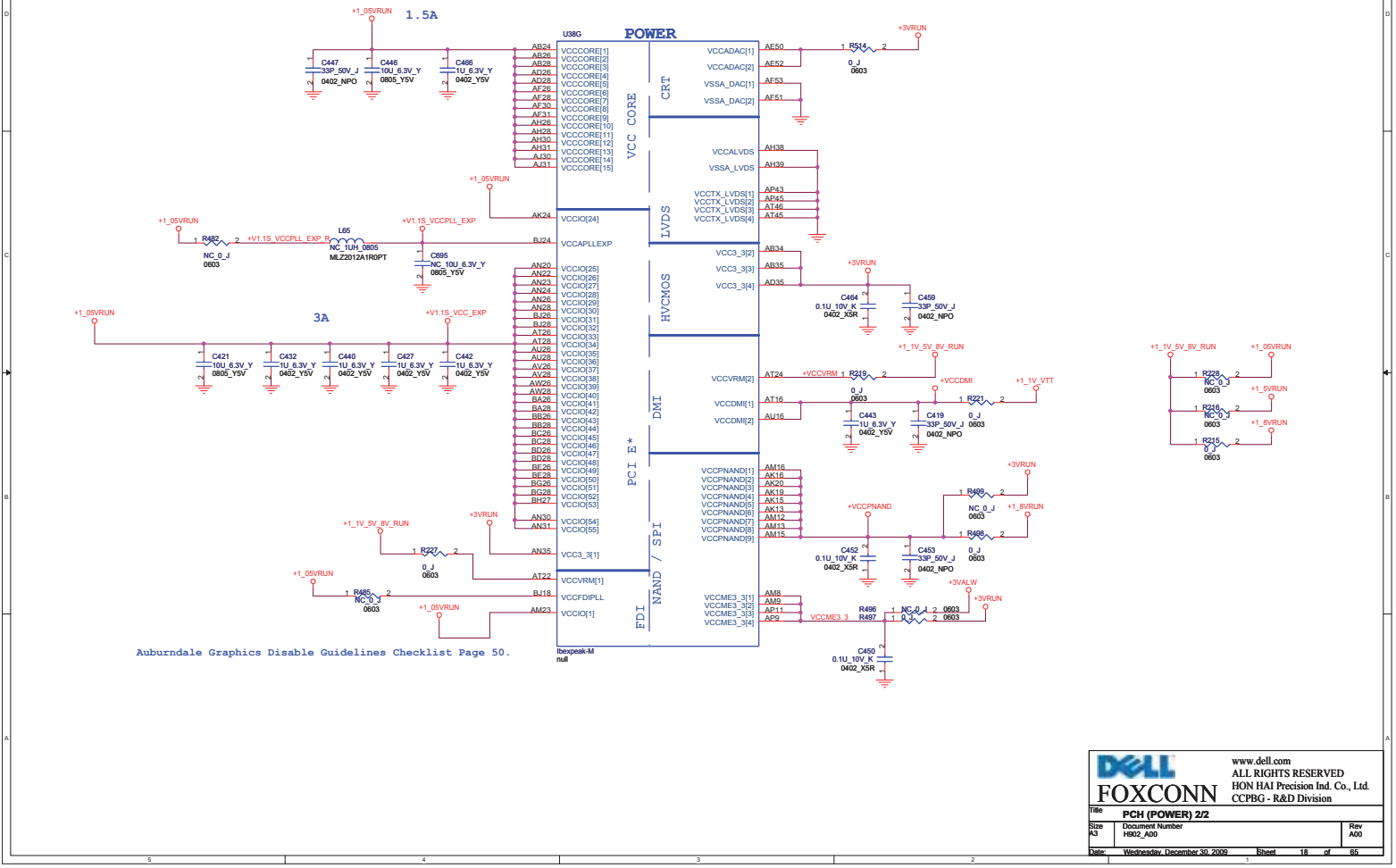

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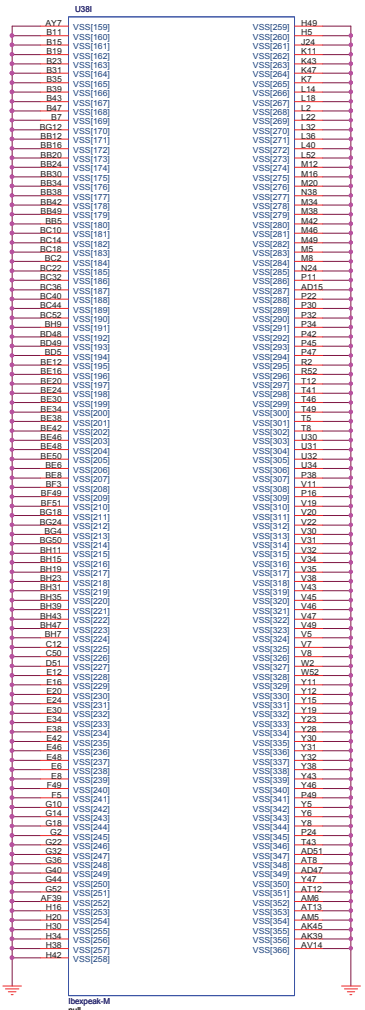

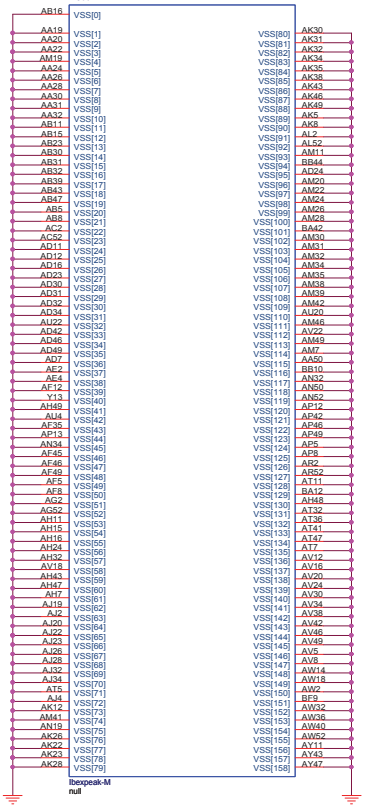

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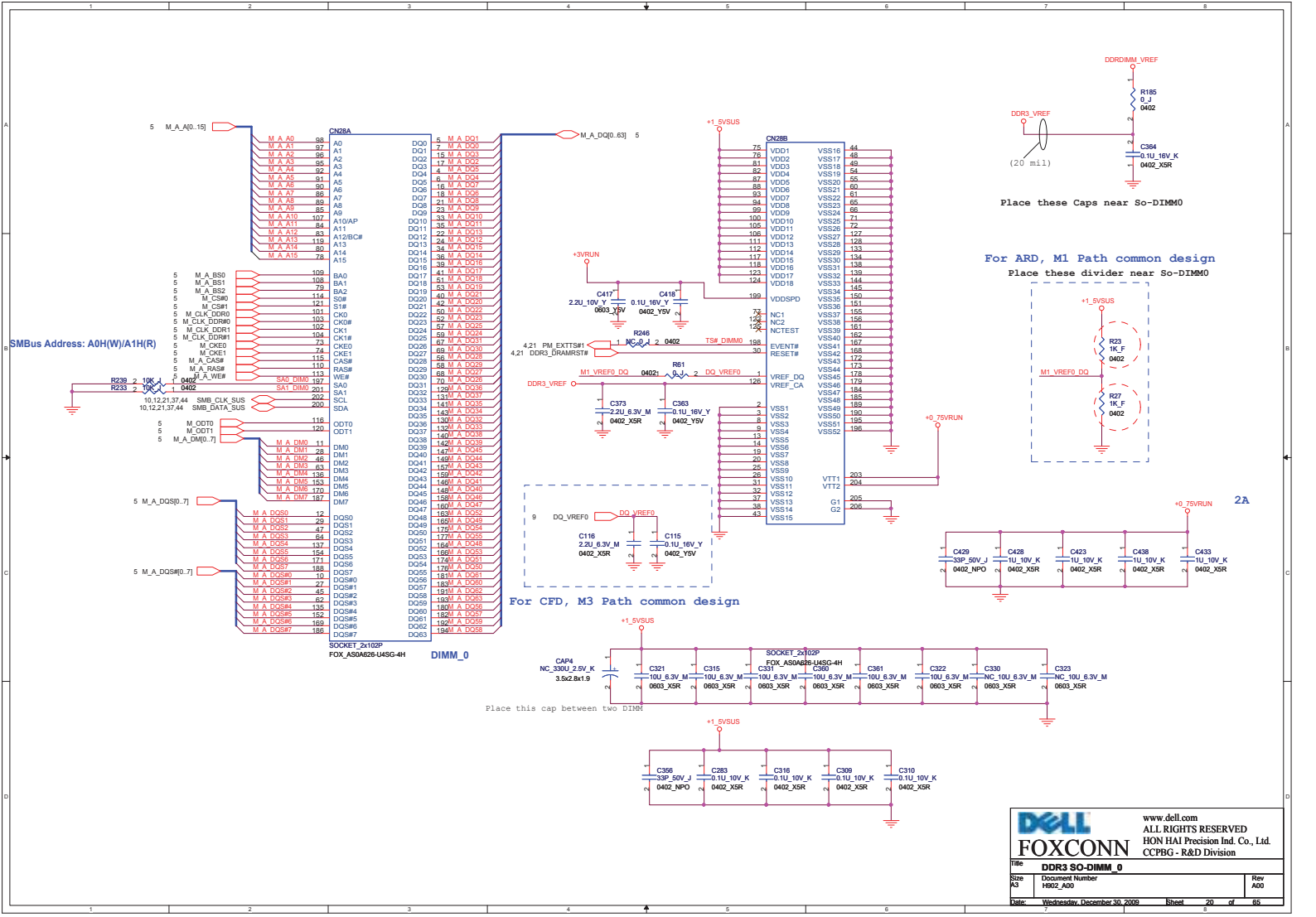

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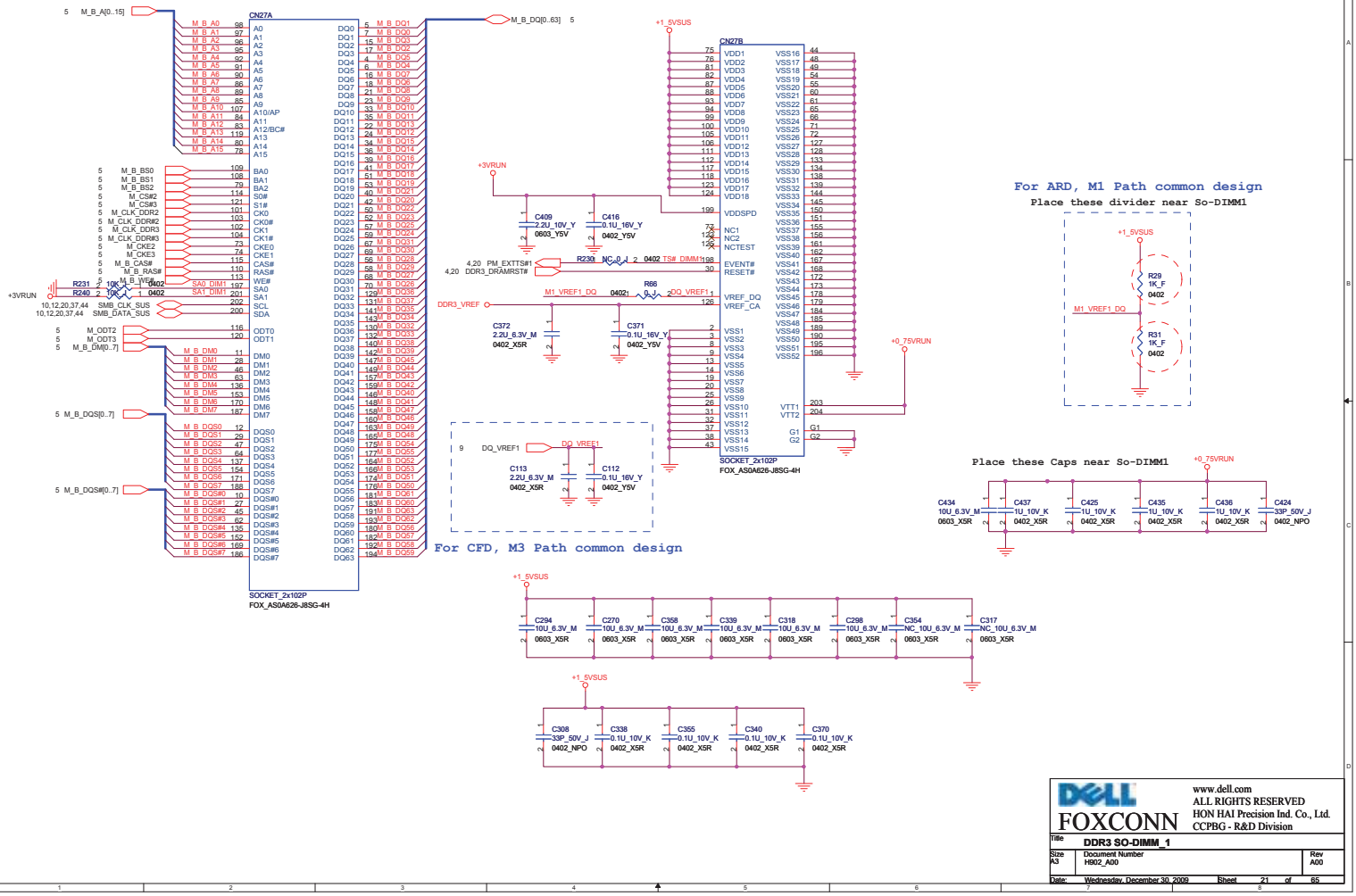

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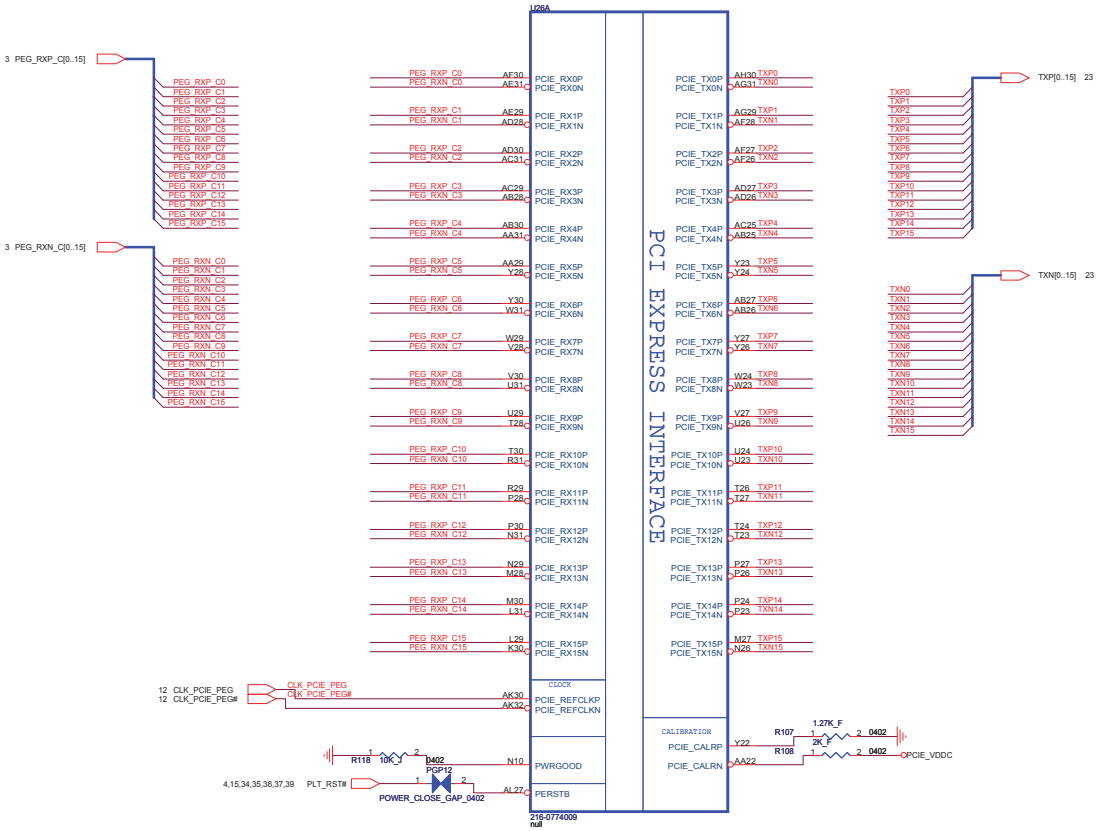

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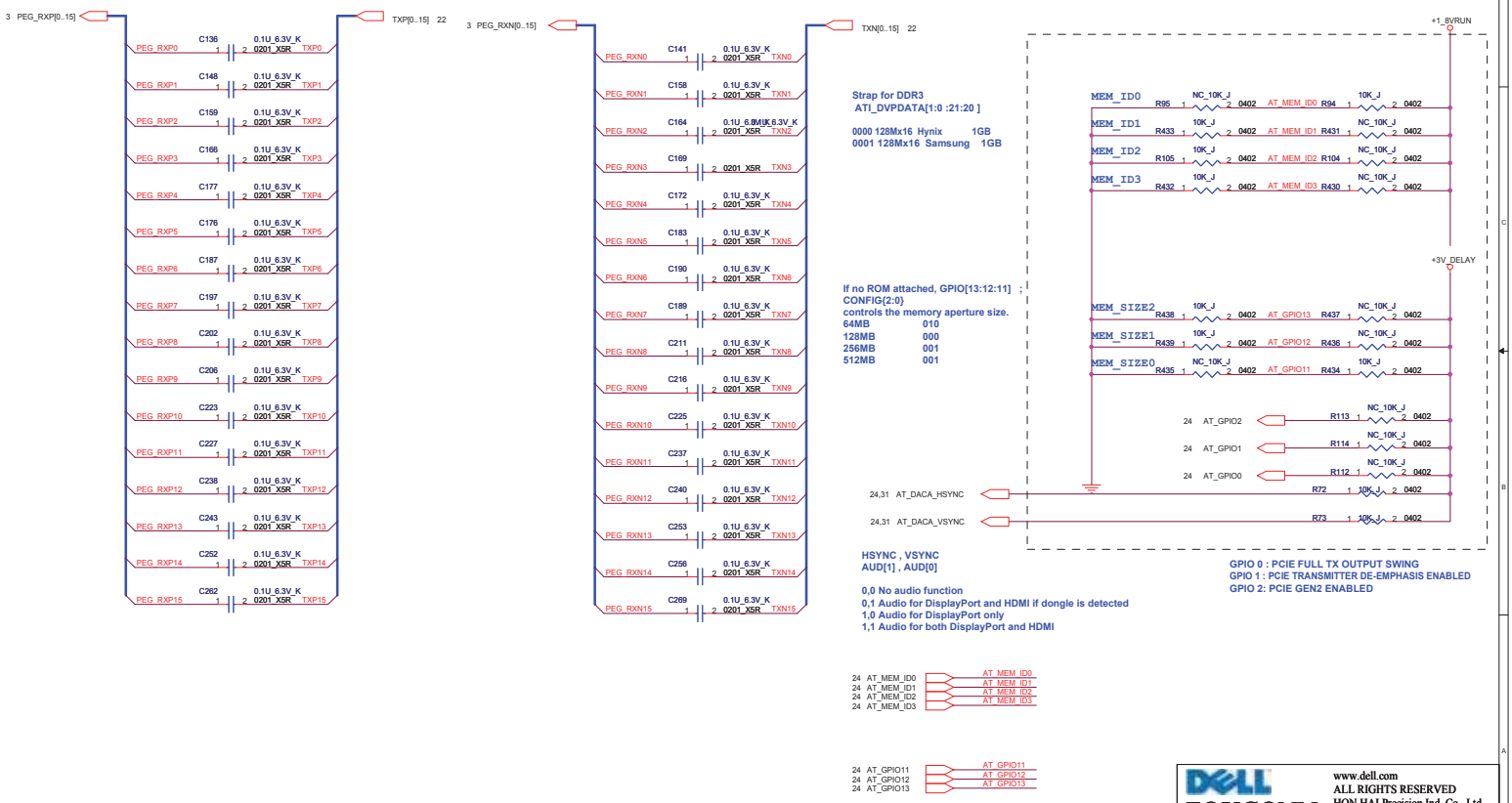
	Mount	NC
Samsung 1GB K4W2G1646B-HC12 P/N: 13-K4W2G16-3000	R432(0),R105(0) R433(0),R94(1)	R430(1),R104(1) R431(1),R95(0)
Hynix 1GB H5TQ2G63BFR-12C P/N: 13-H5T02G6-3000	R432(0),R105(0) R433(0),R95(0)	R430(1),R104(1) R431(1),R94(1)



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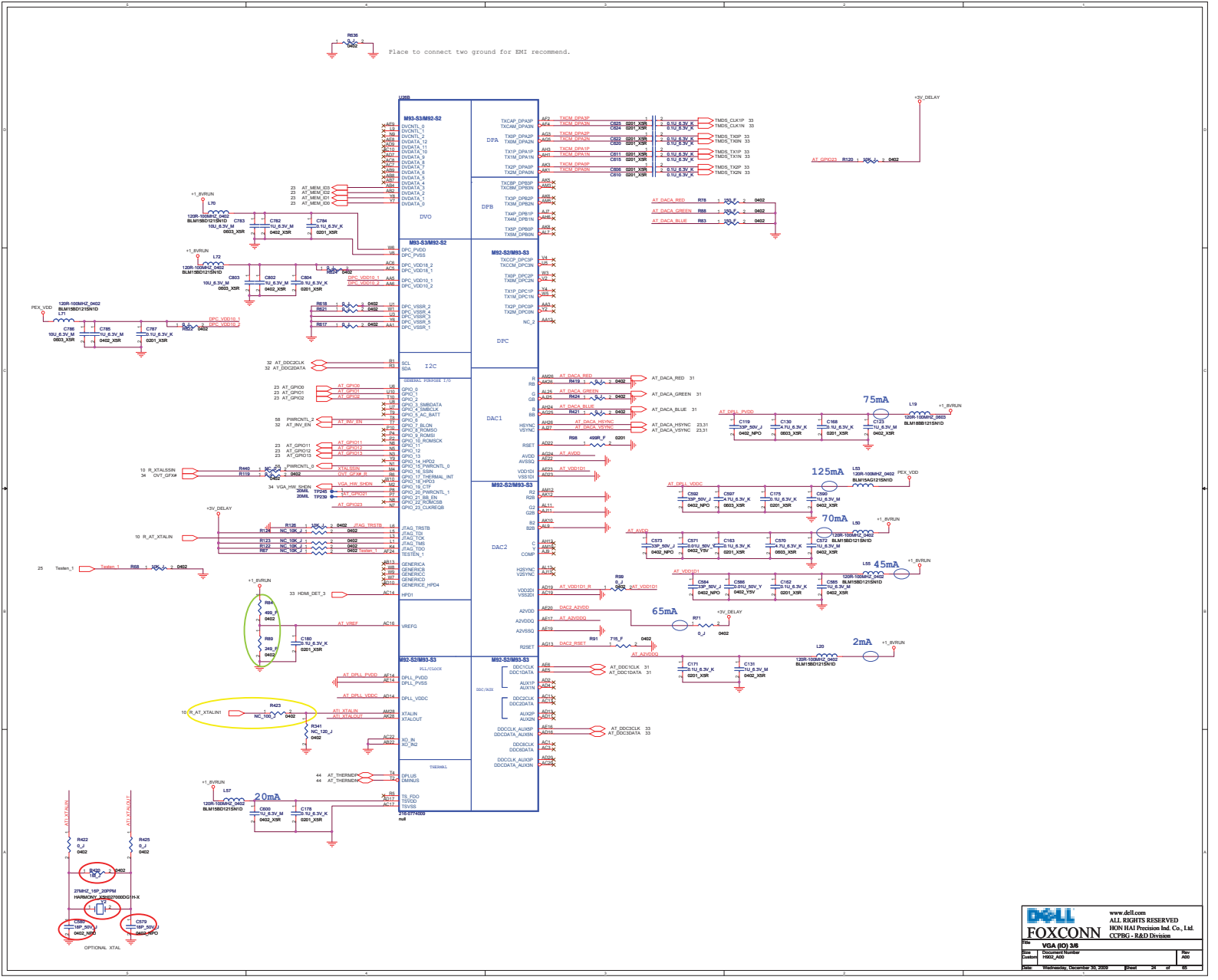

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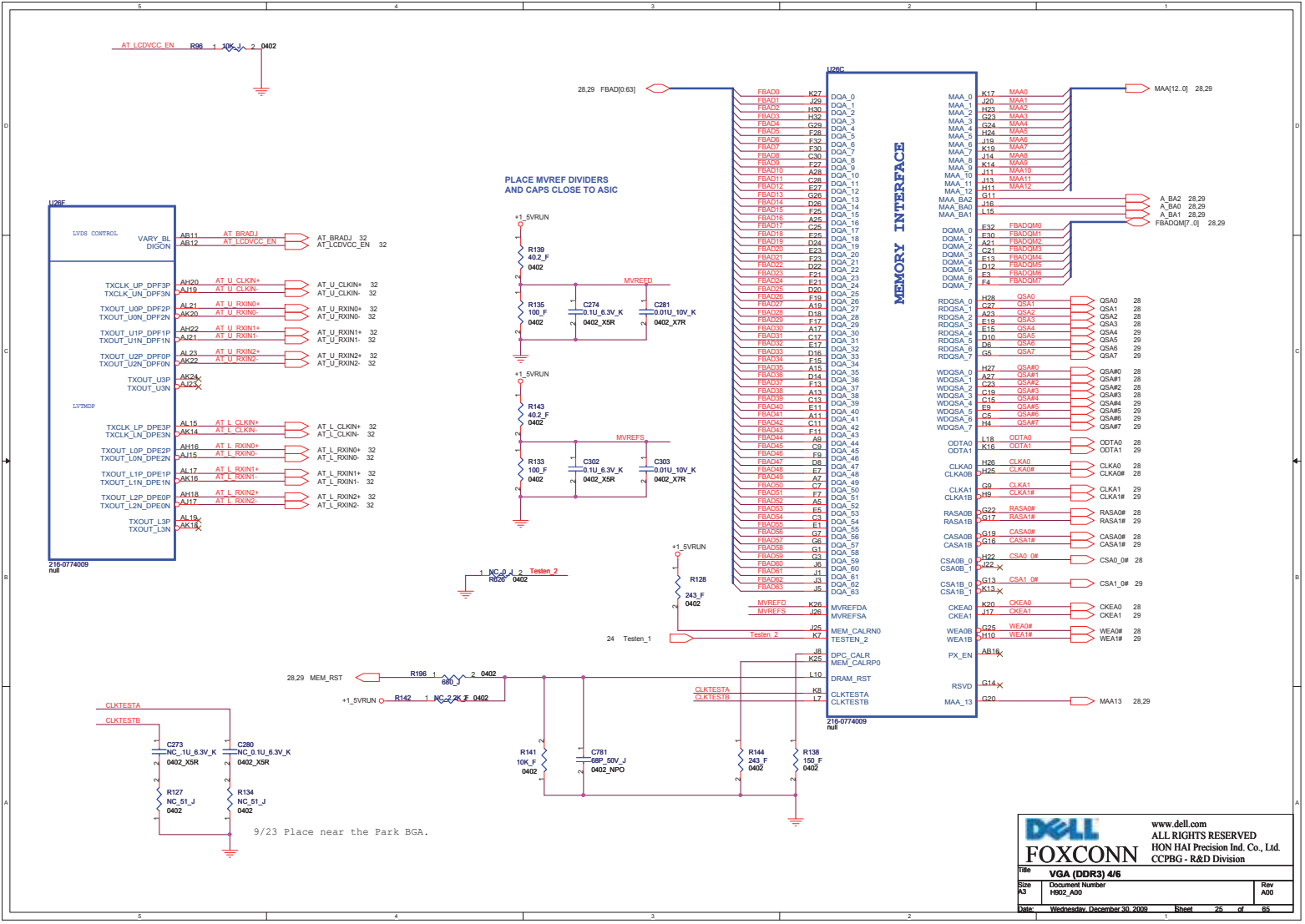

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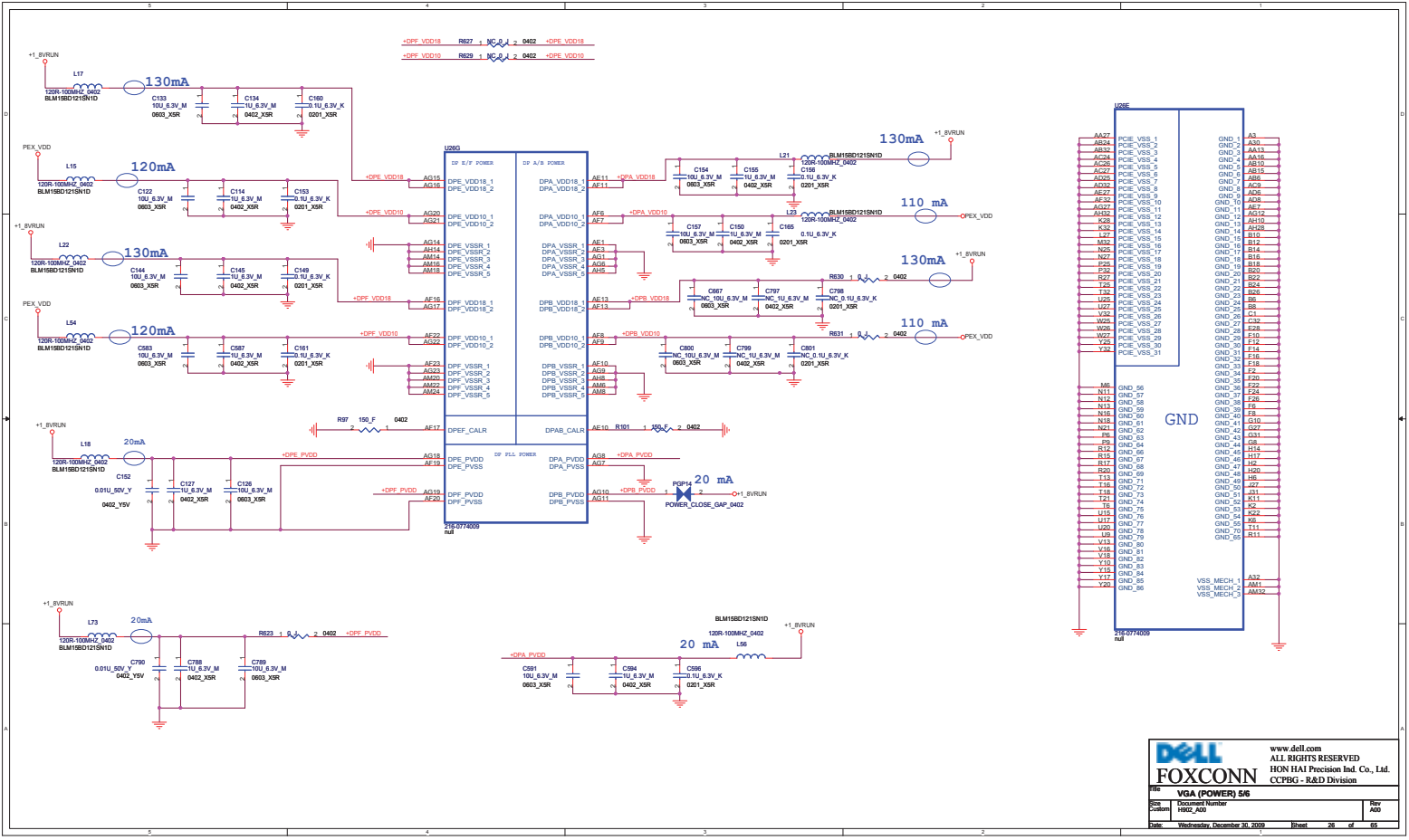

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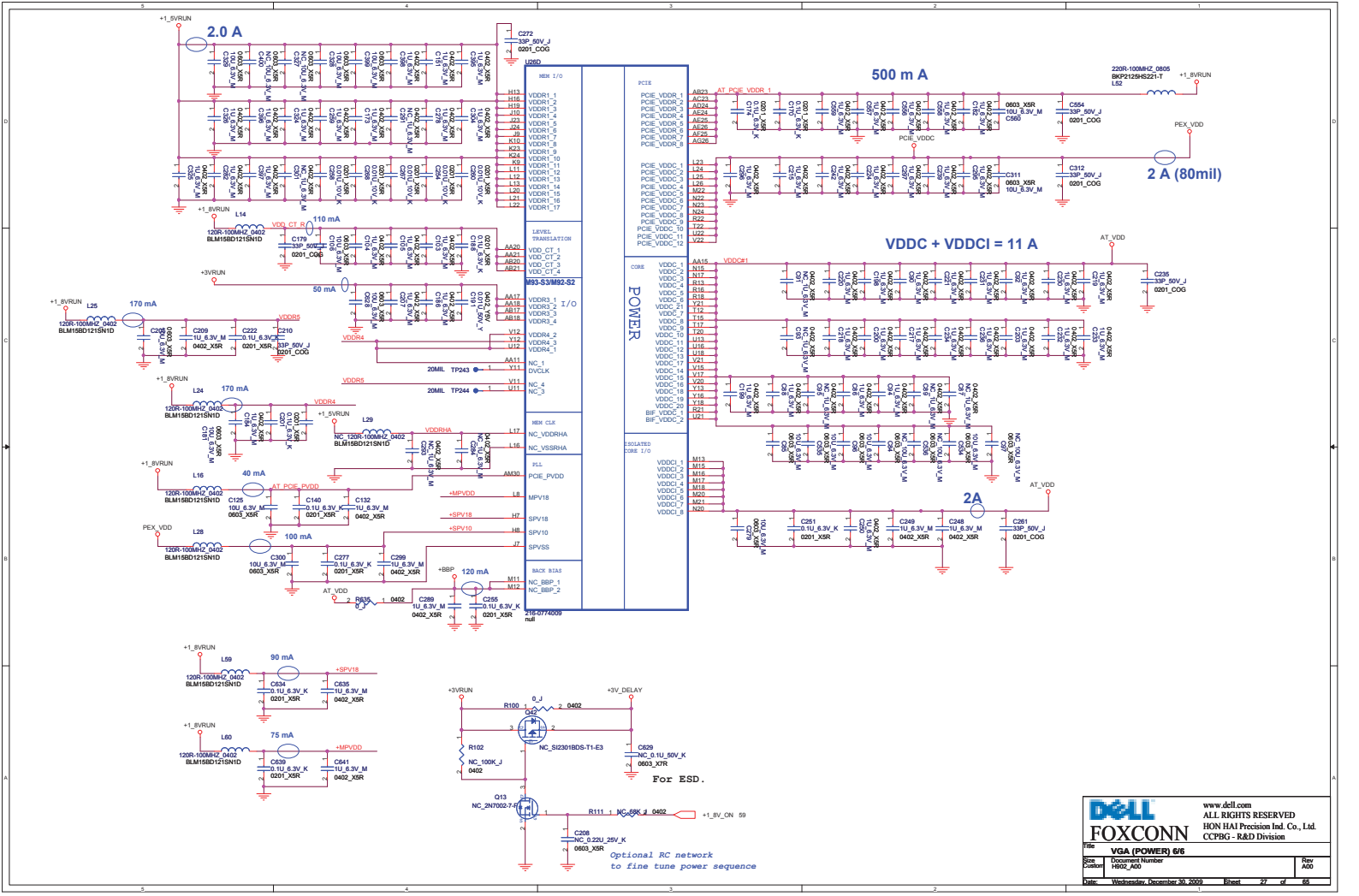

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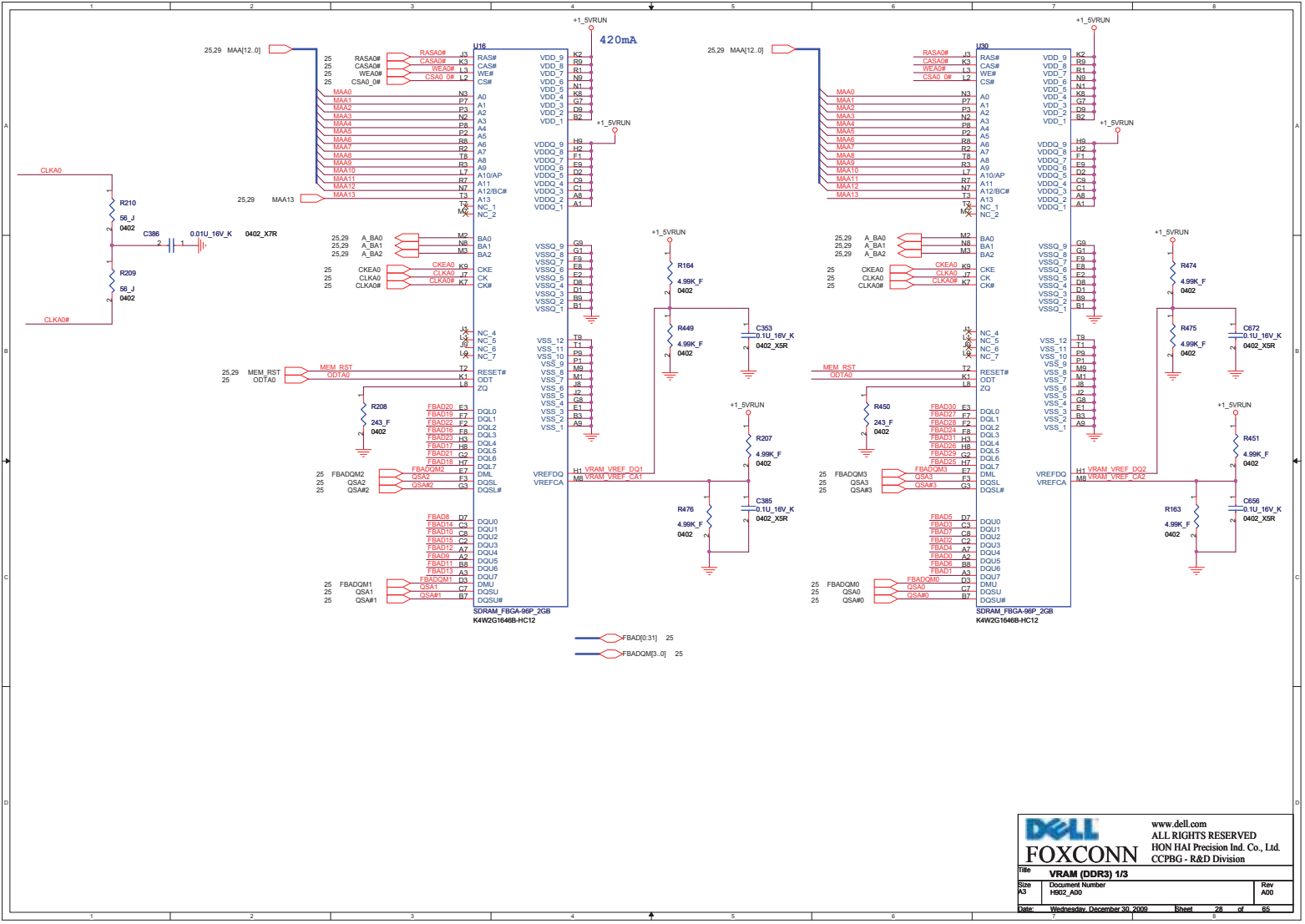

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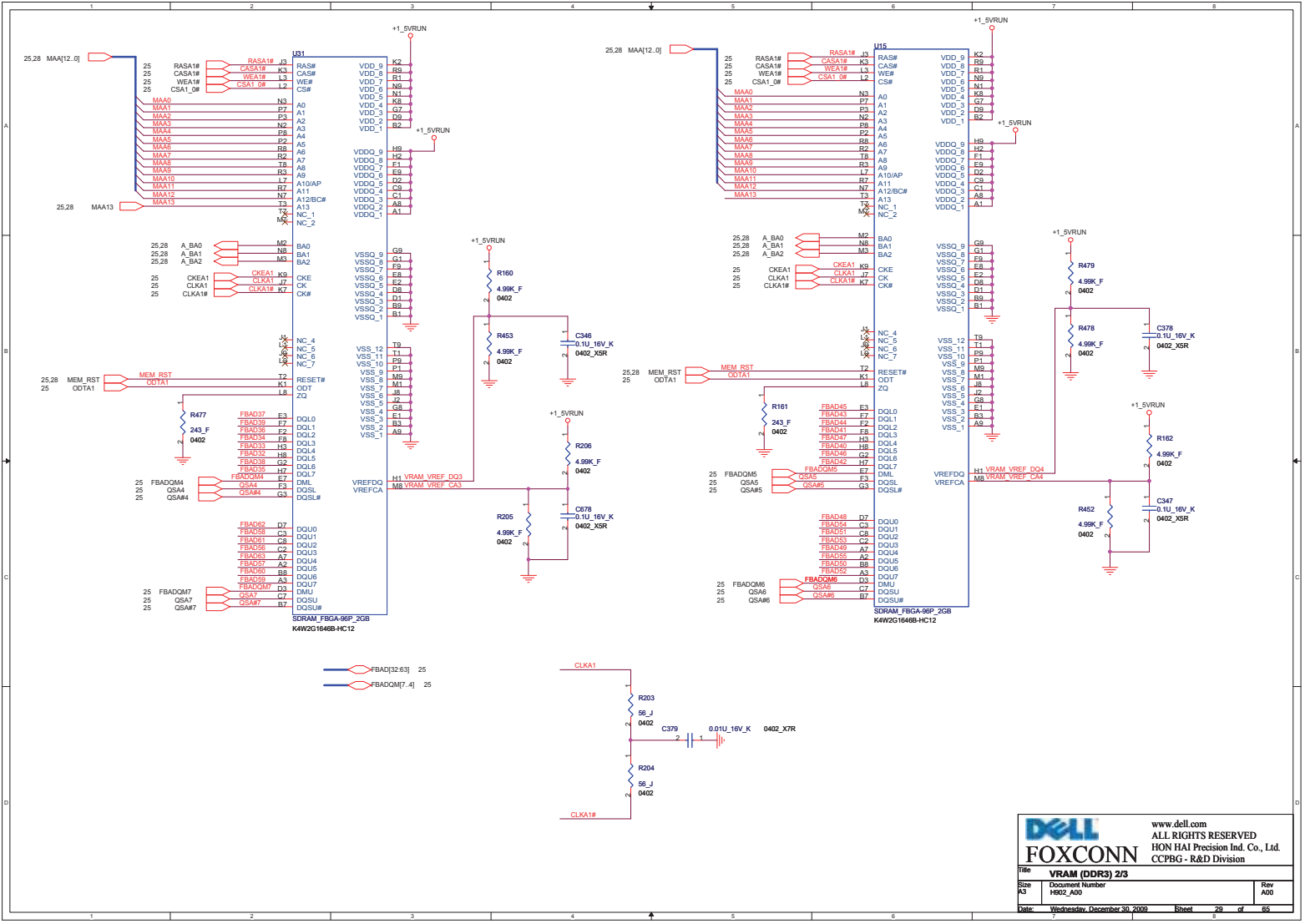

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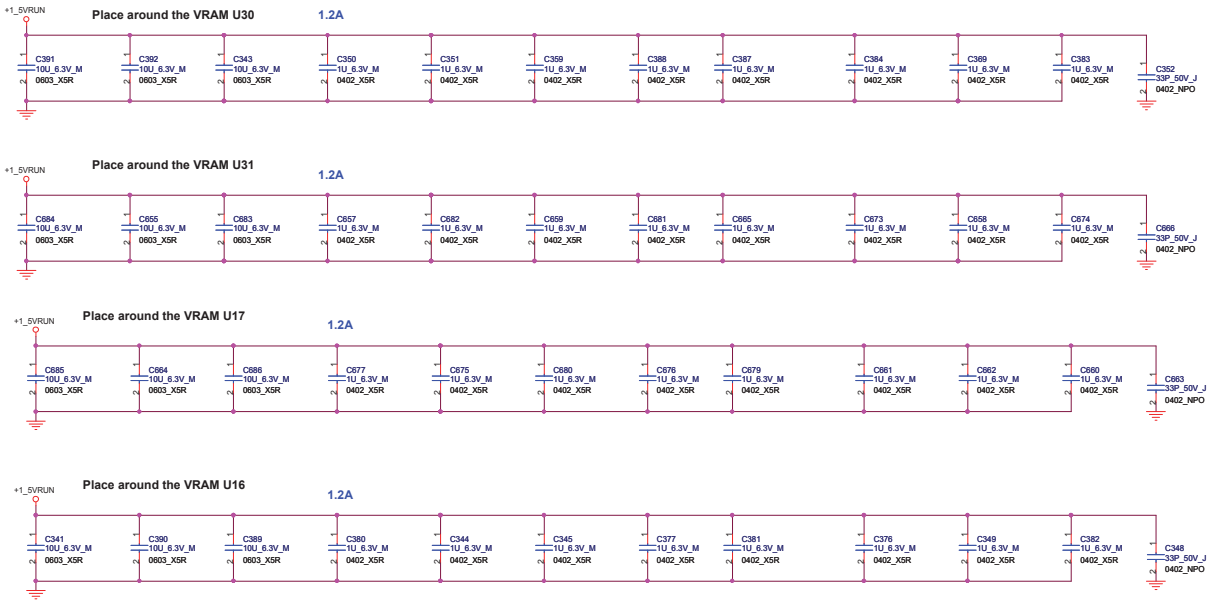

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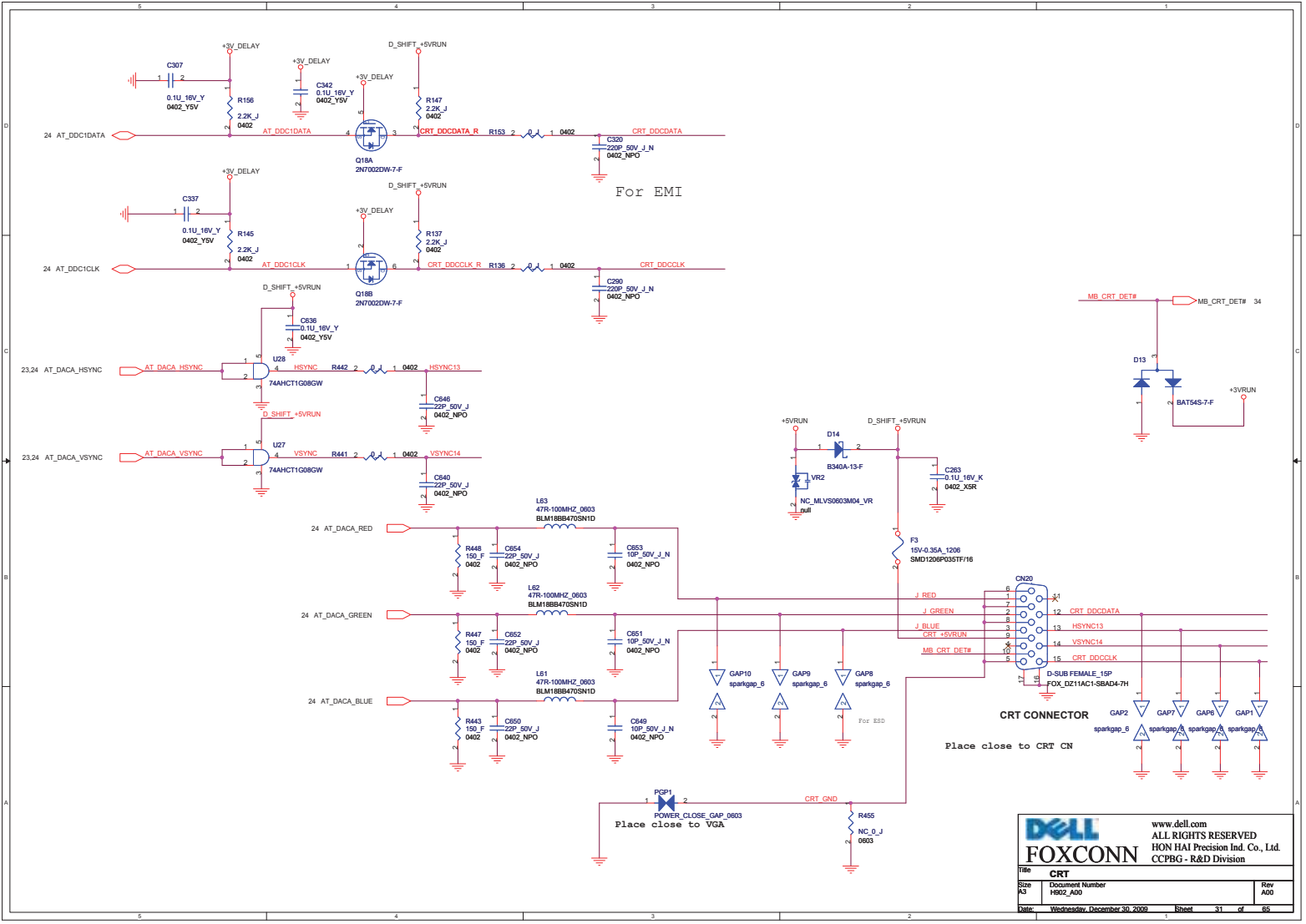

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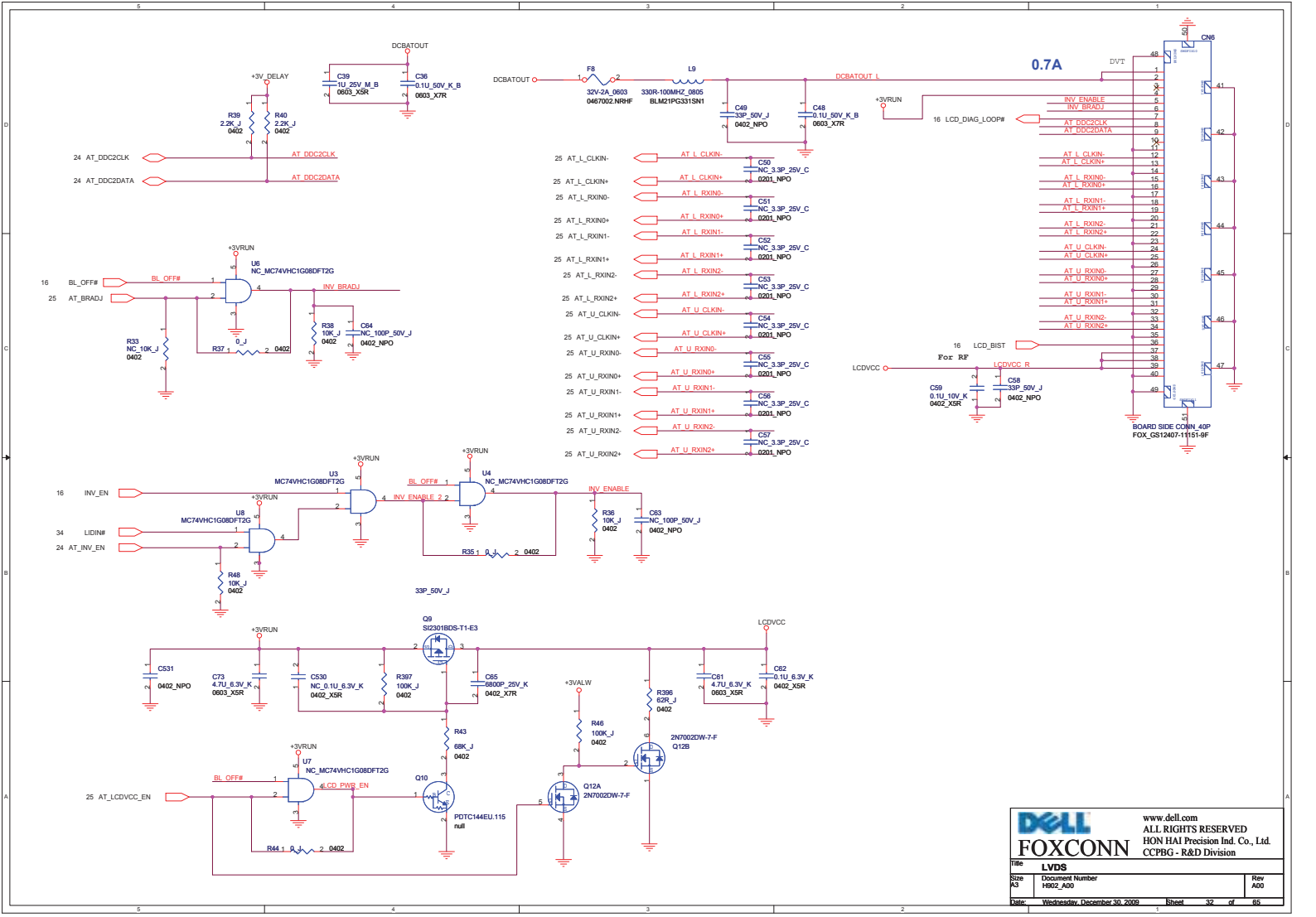

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Title	LVDS	
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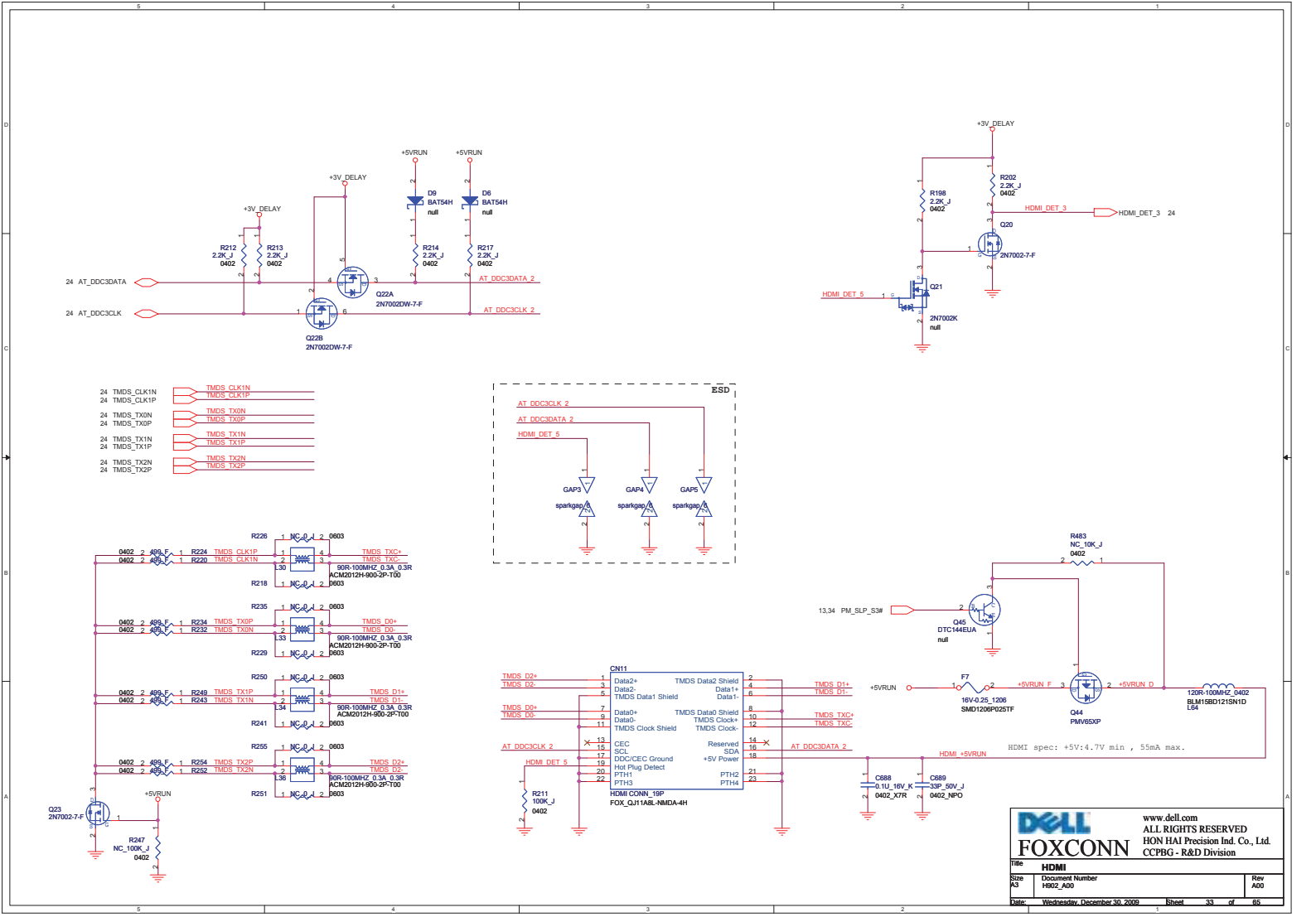

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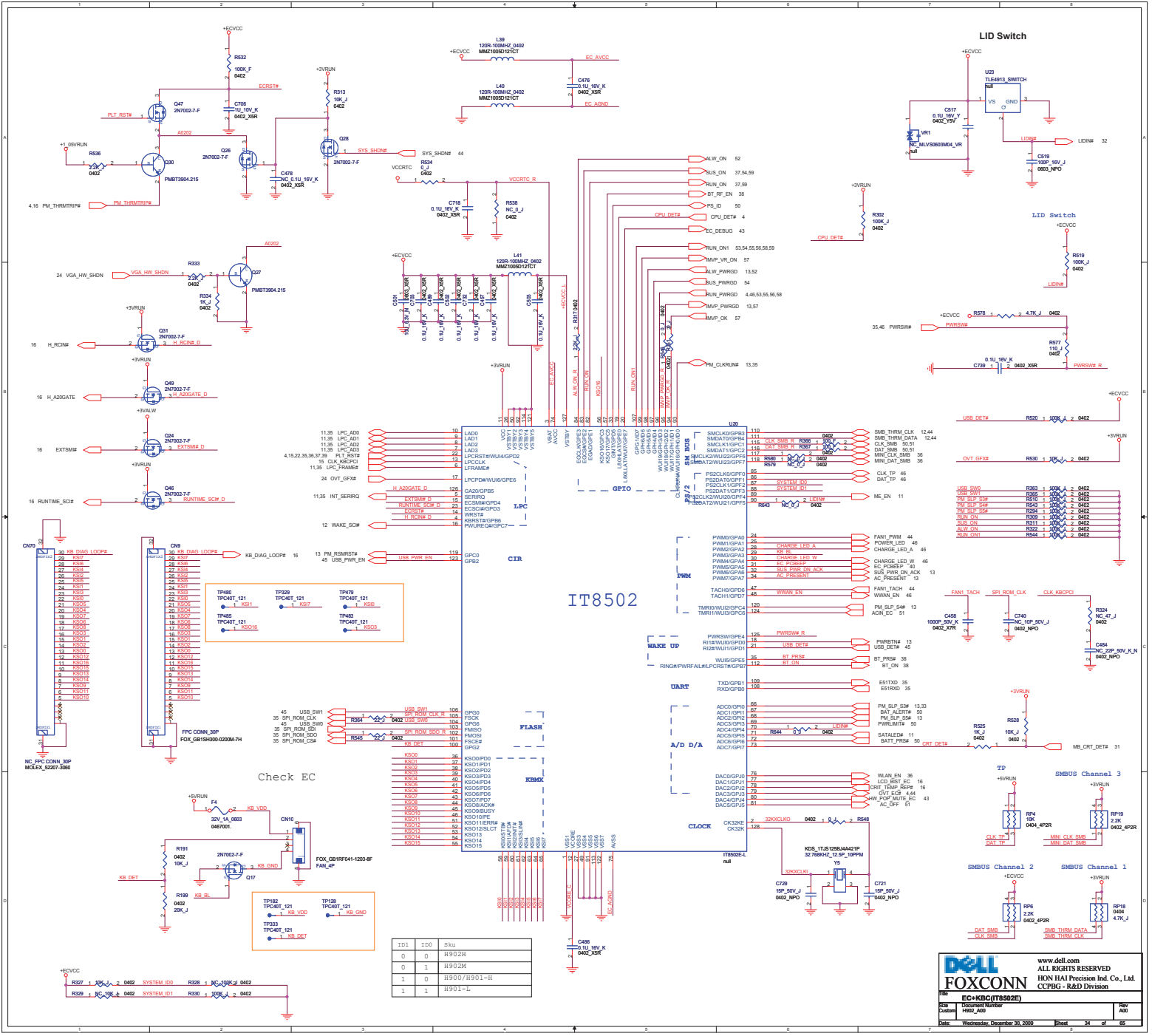

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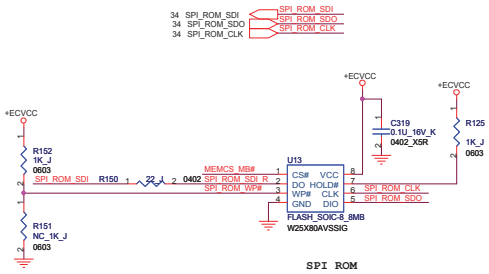
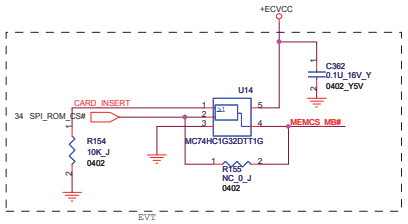


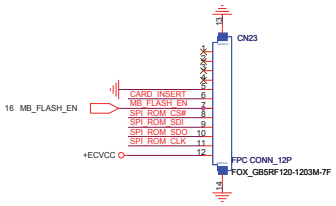
SPI ROM

Discuss with SW about BIOS Capacity

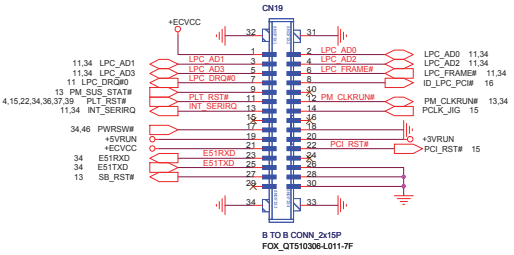


EVT

When MP, change U11 no stuff, R233 stuff



EXTERNAL SPI ROM INTERFACE



JIG-120

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Title	Flash ROM/SPI	
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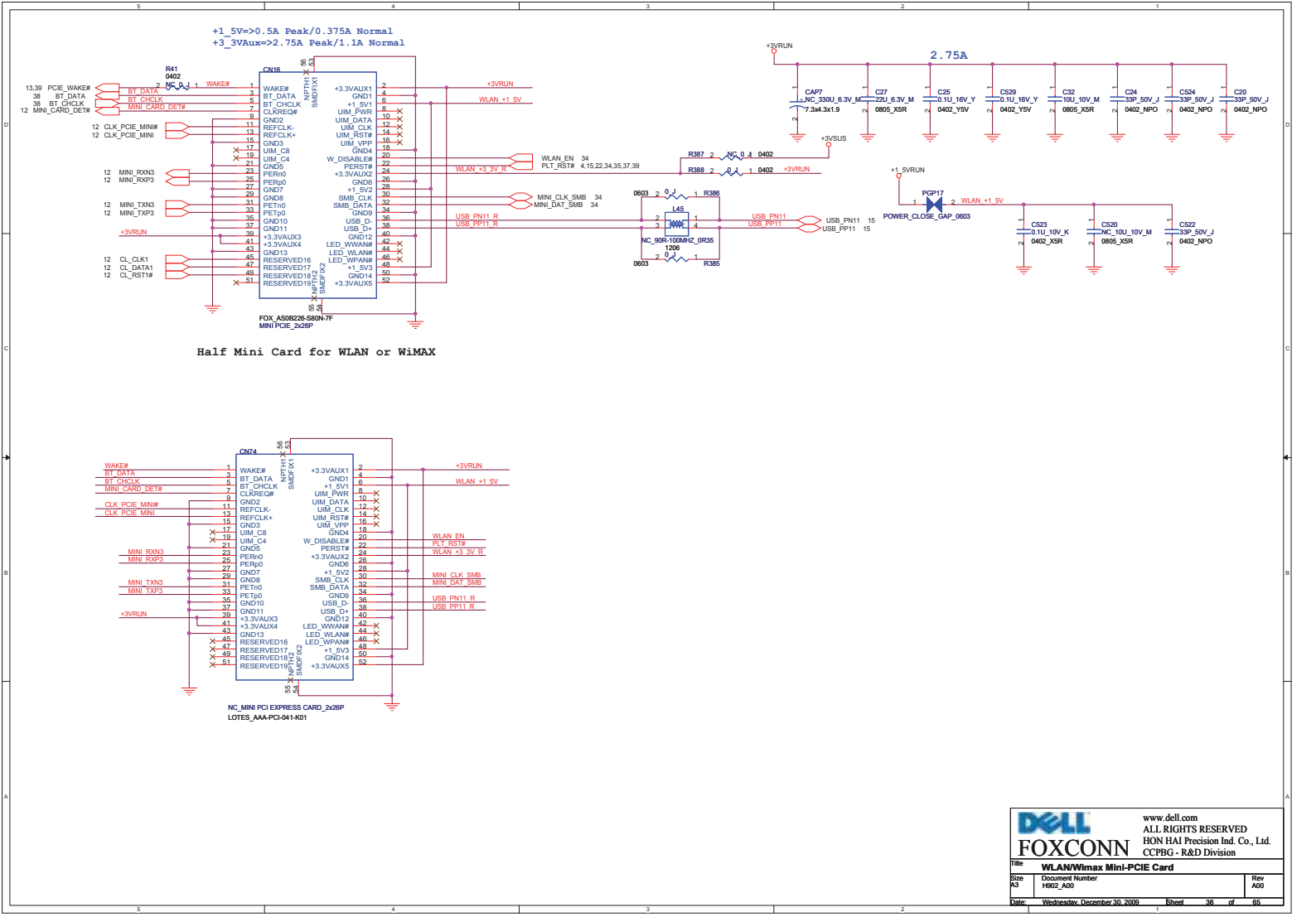

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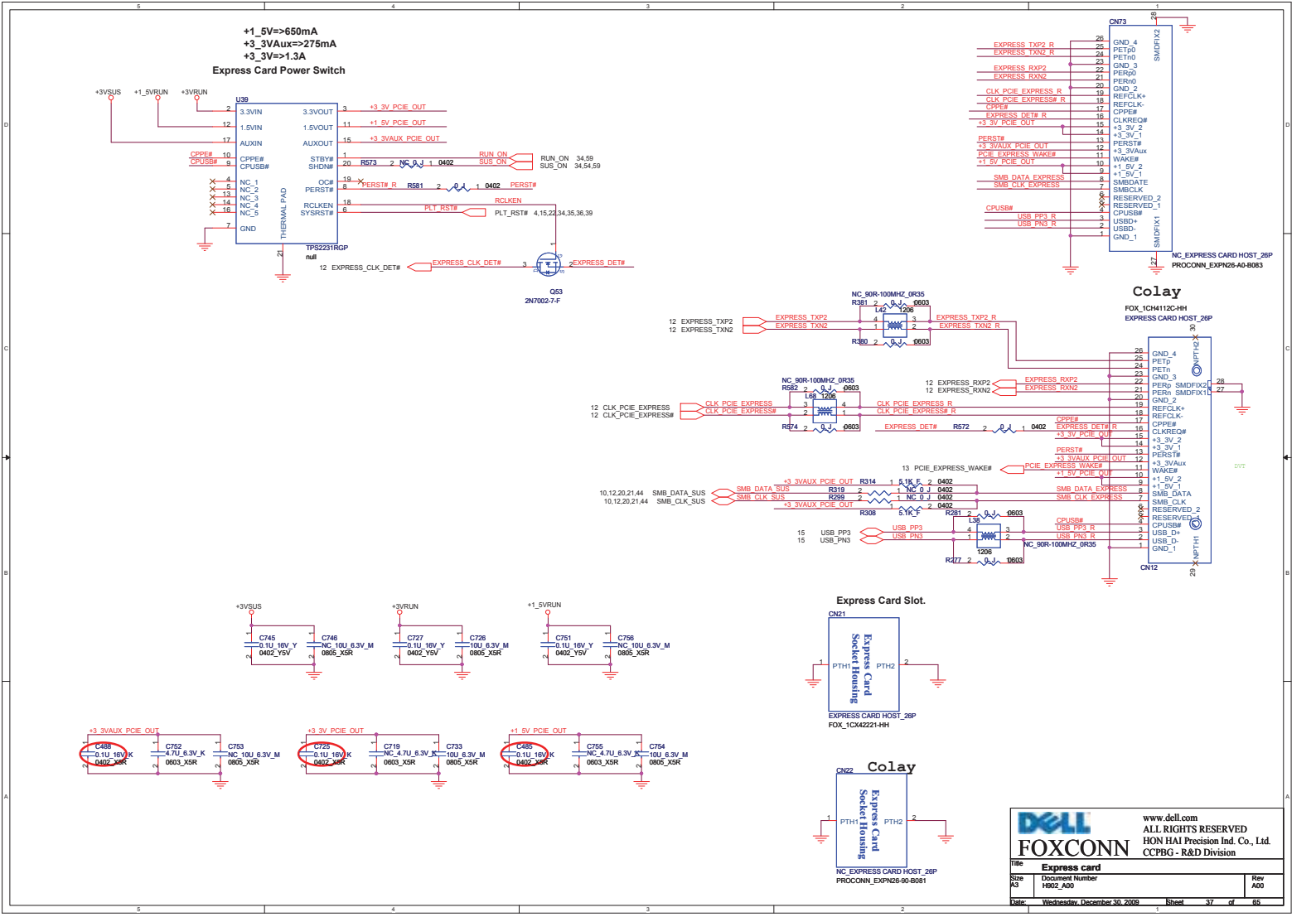

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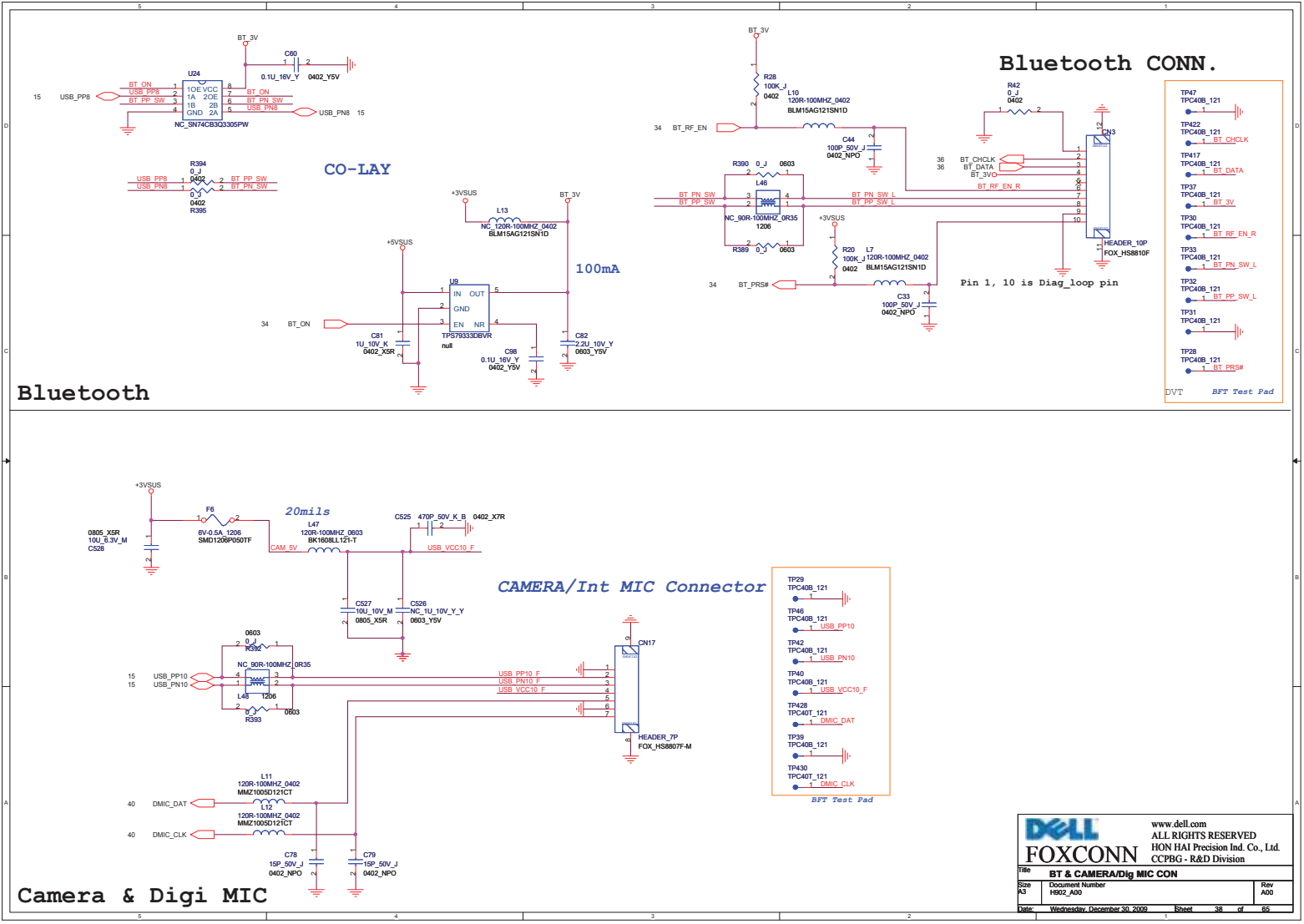

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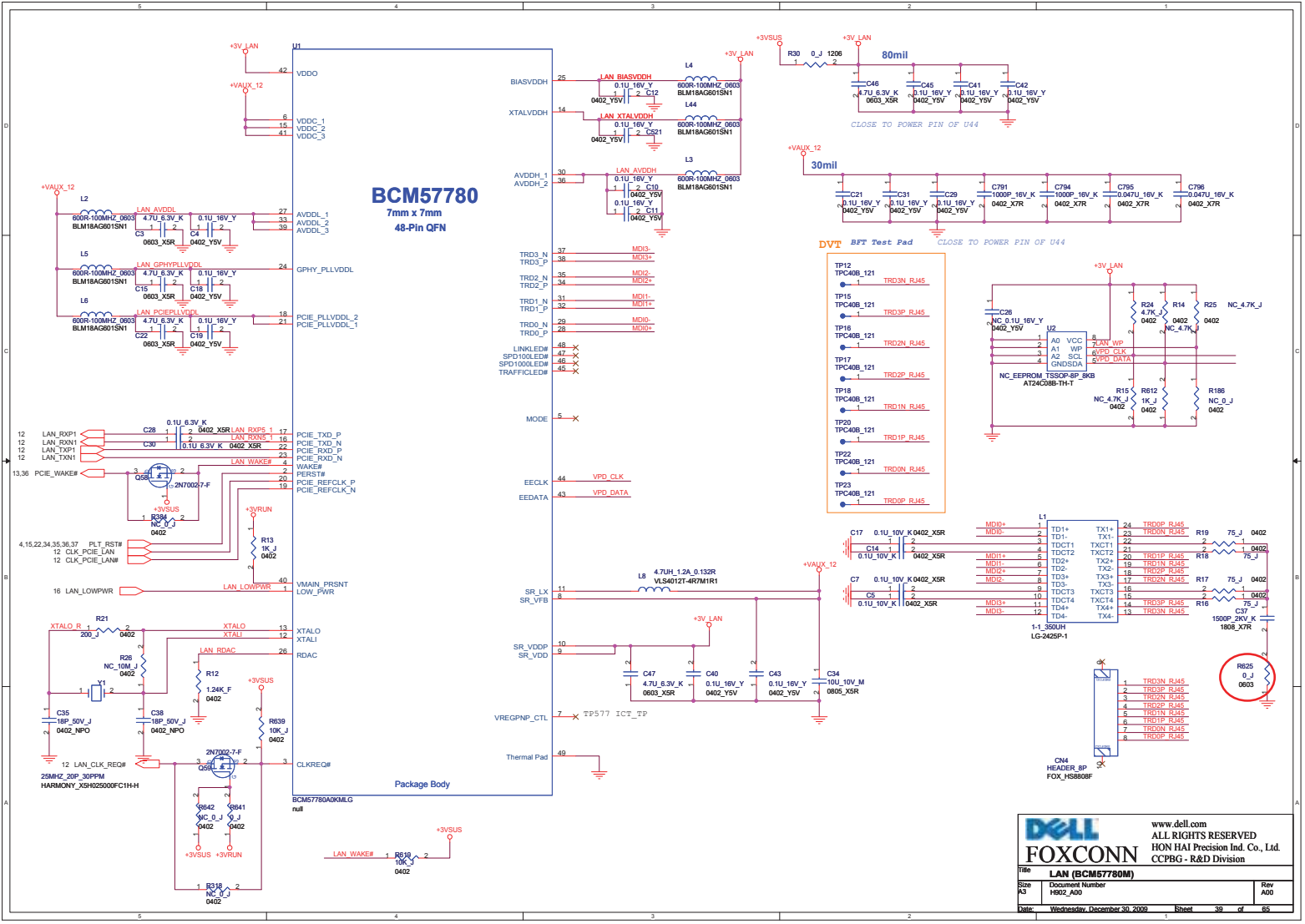

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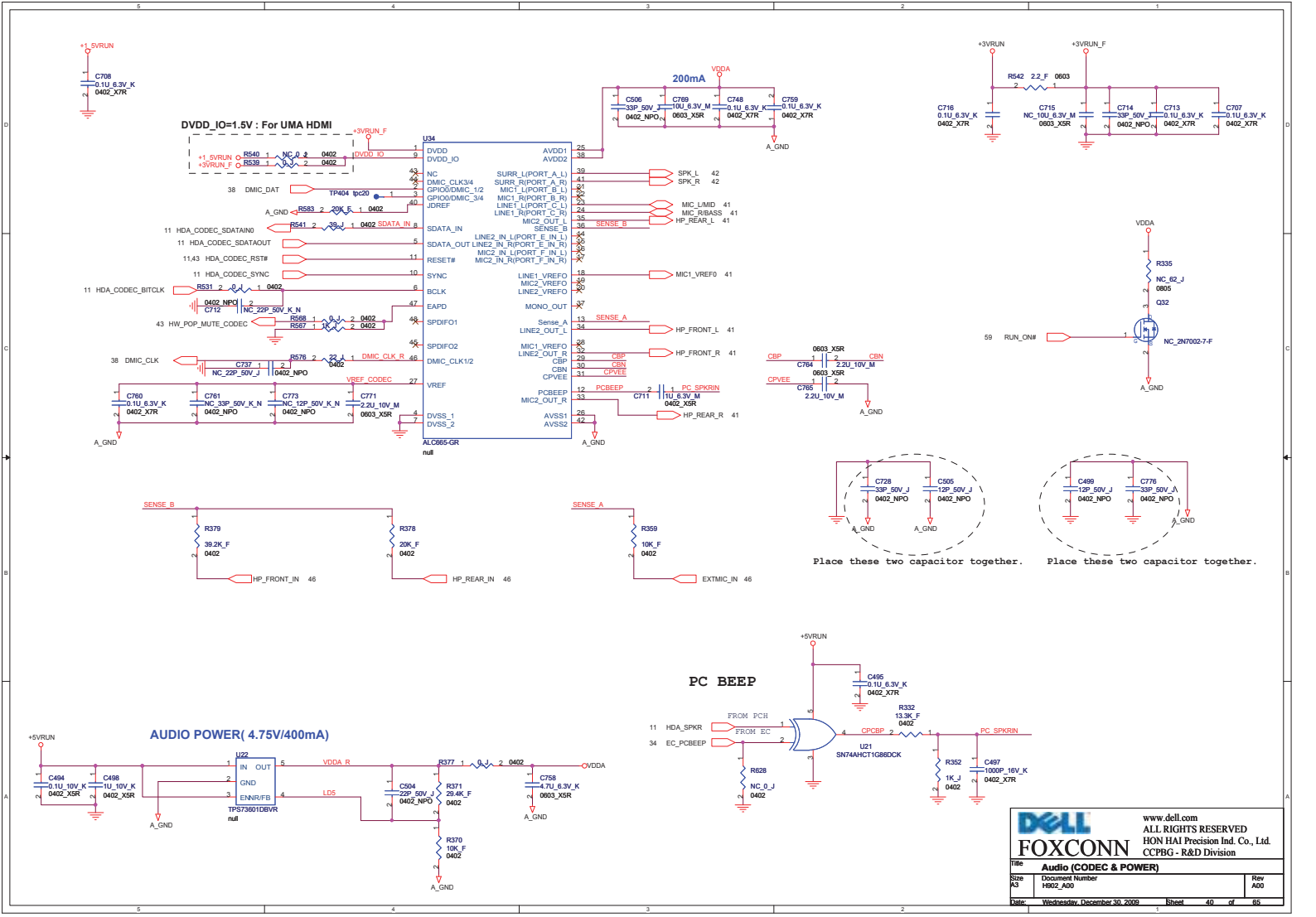

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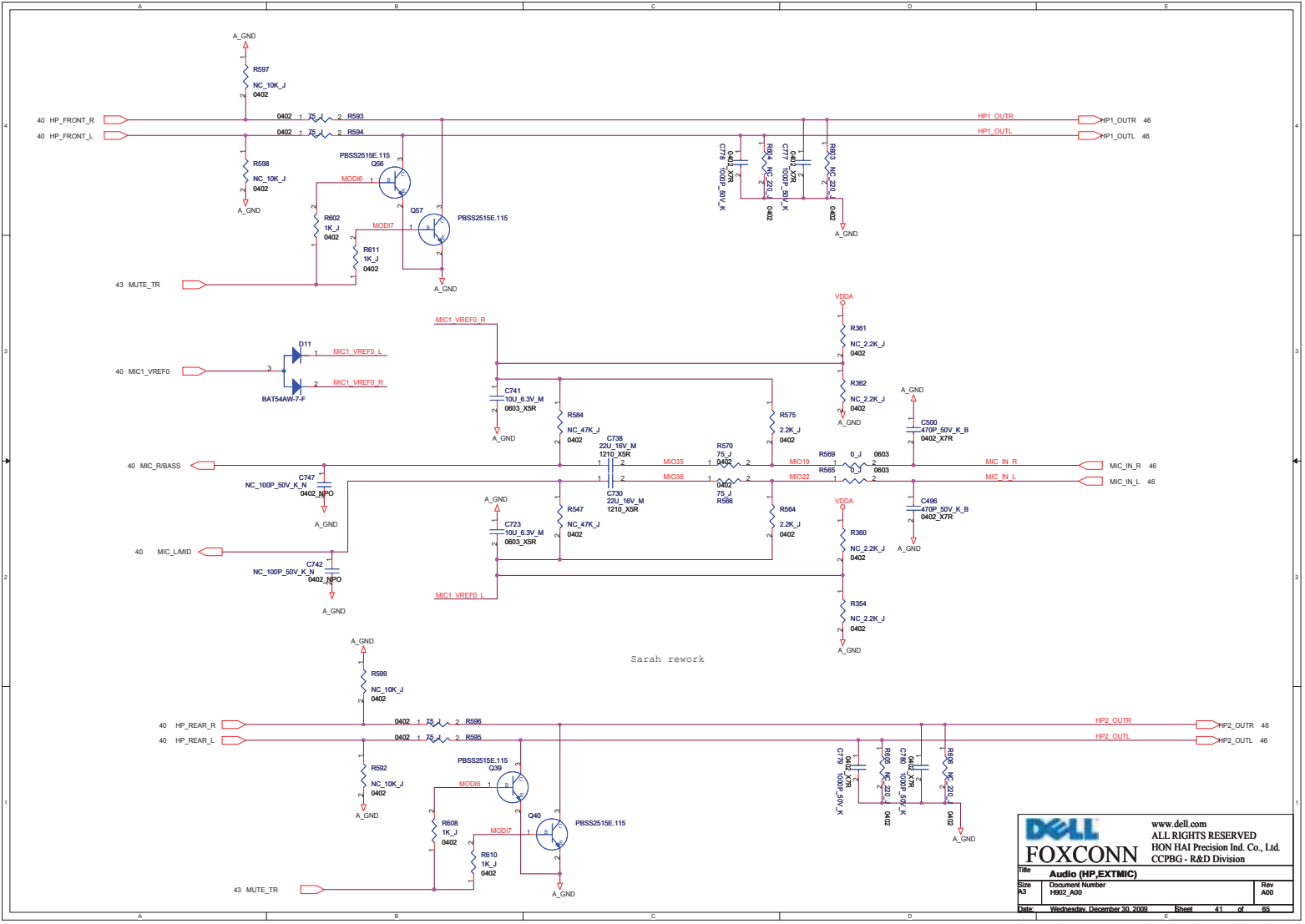

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Title	Audio (HP,EXTMIC)	
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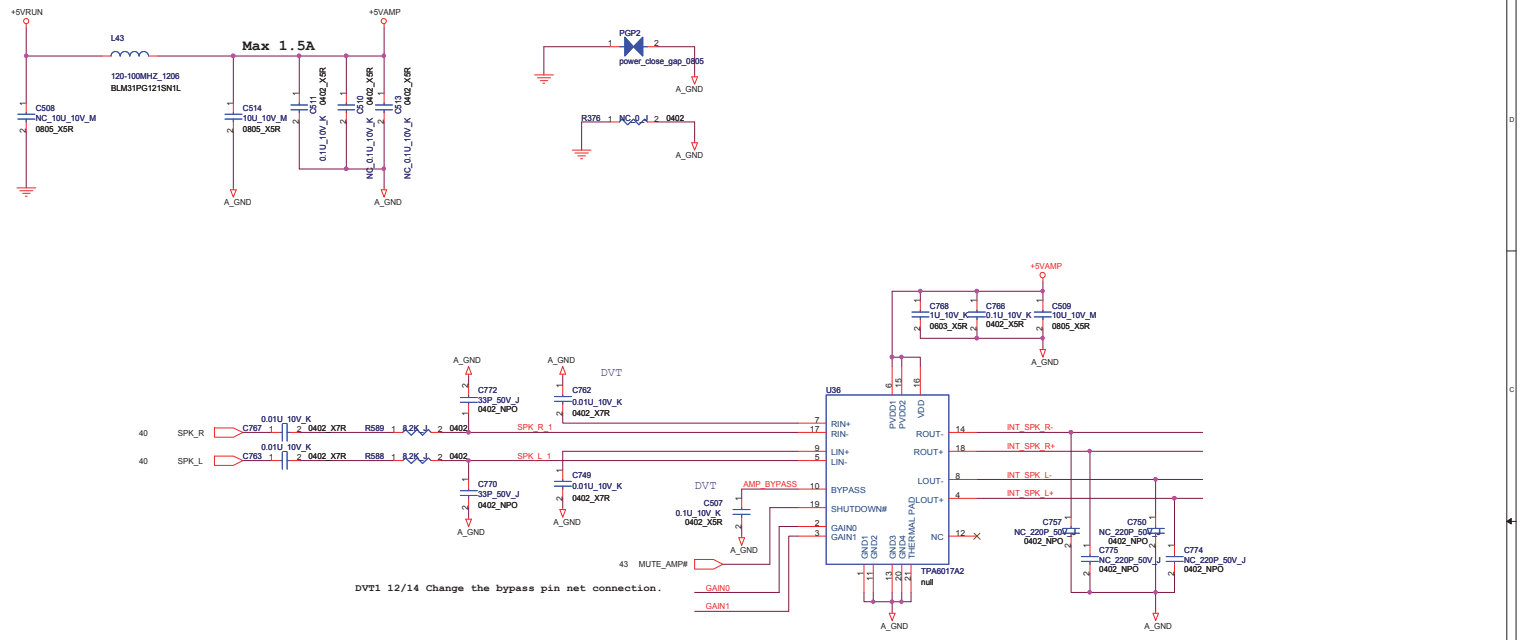
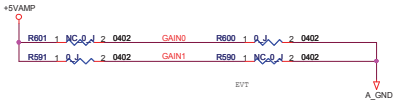


DVT1 12/14 Change the bypass pin net connection.

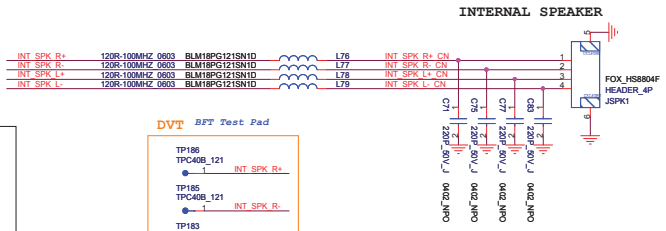


SPEAKER AMP

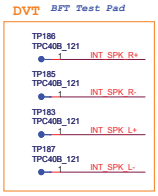
	GAIN0	GAIN1
6 dB	0	0
10 dB	0	1
15.6 dB	1	0
21.6 dB	1	1

dB=20logGain
If set 10dB , gain is 3.162.
Po = {(1.2Vrms * 3.162)^2} / 4 = 3.599 W

INTERNAL SPEAKER



DVT BFT Test Pad



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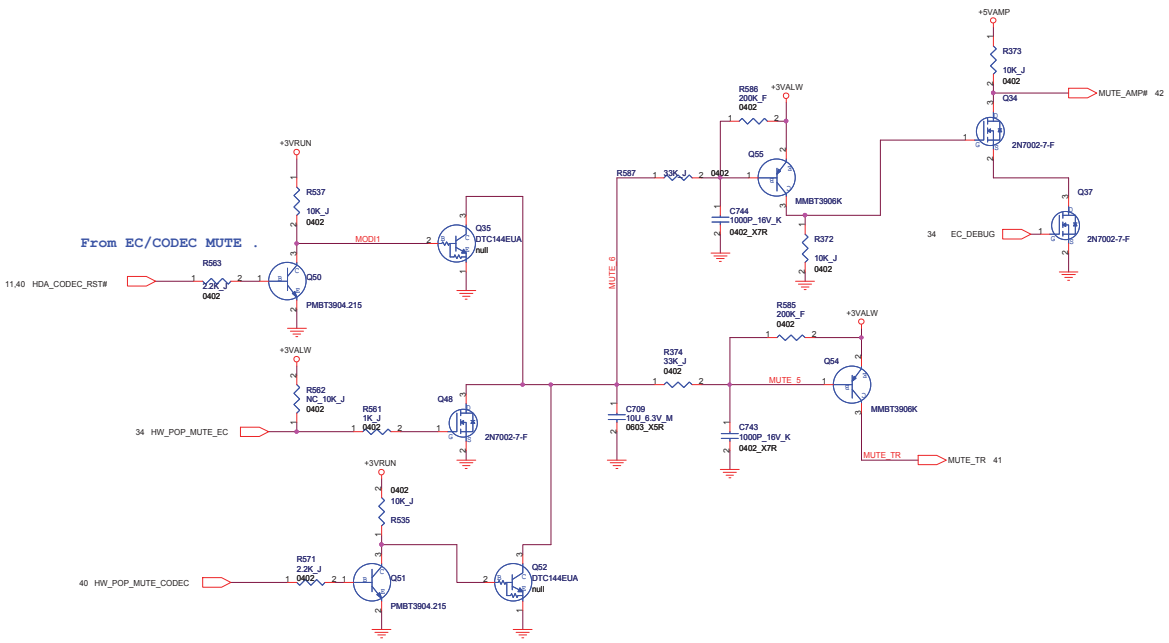

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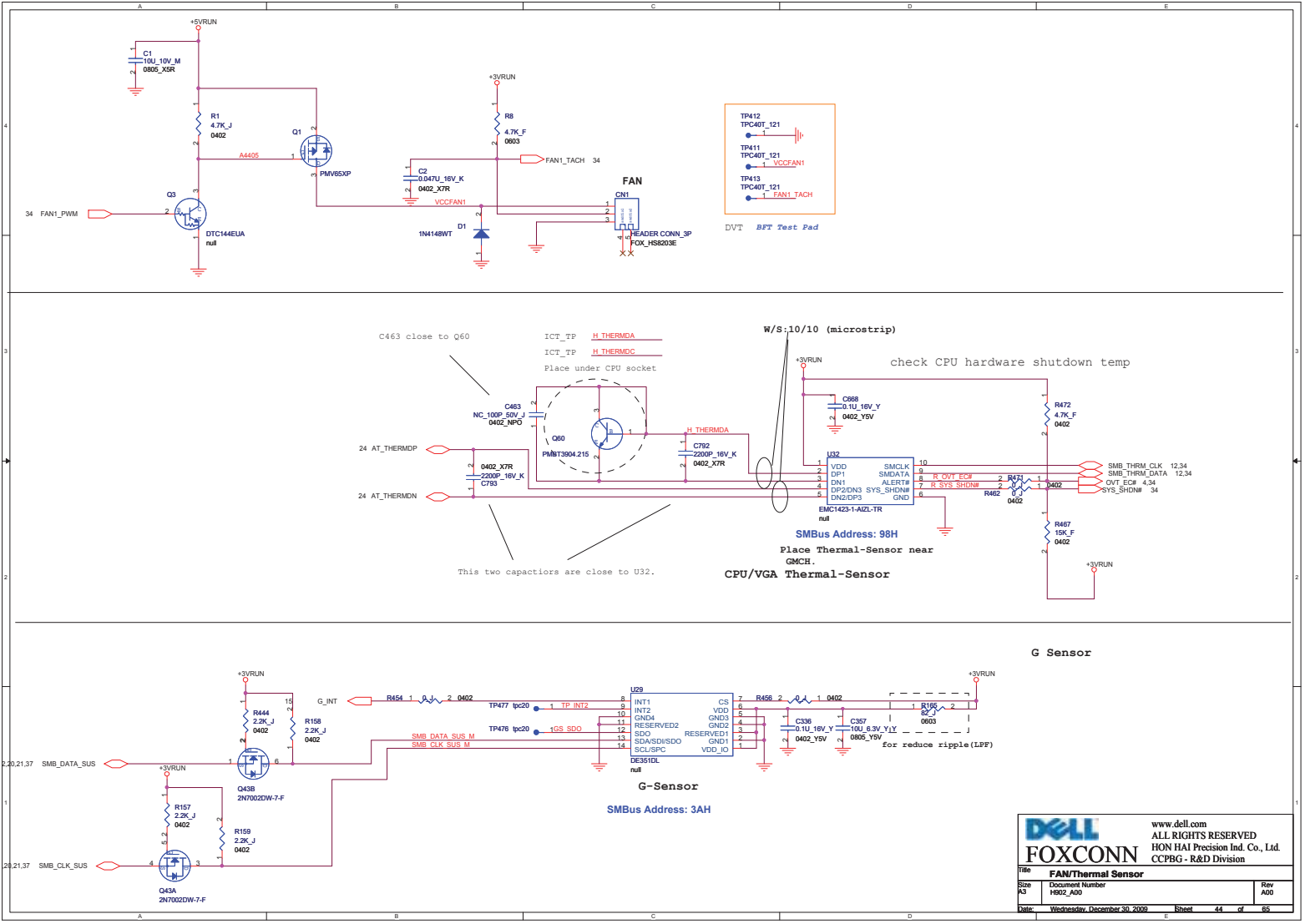

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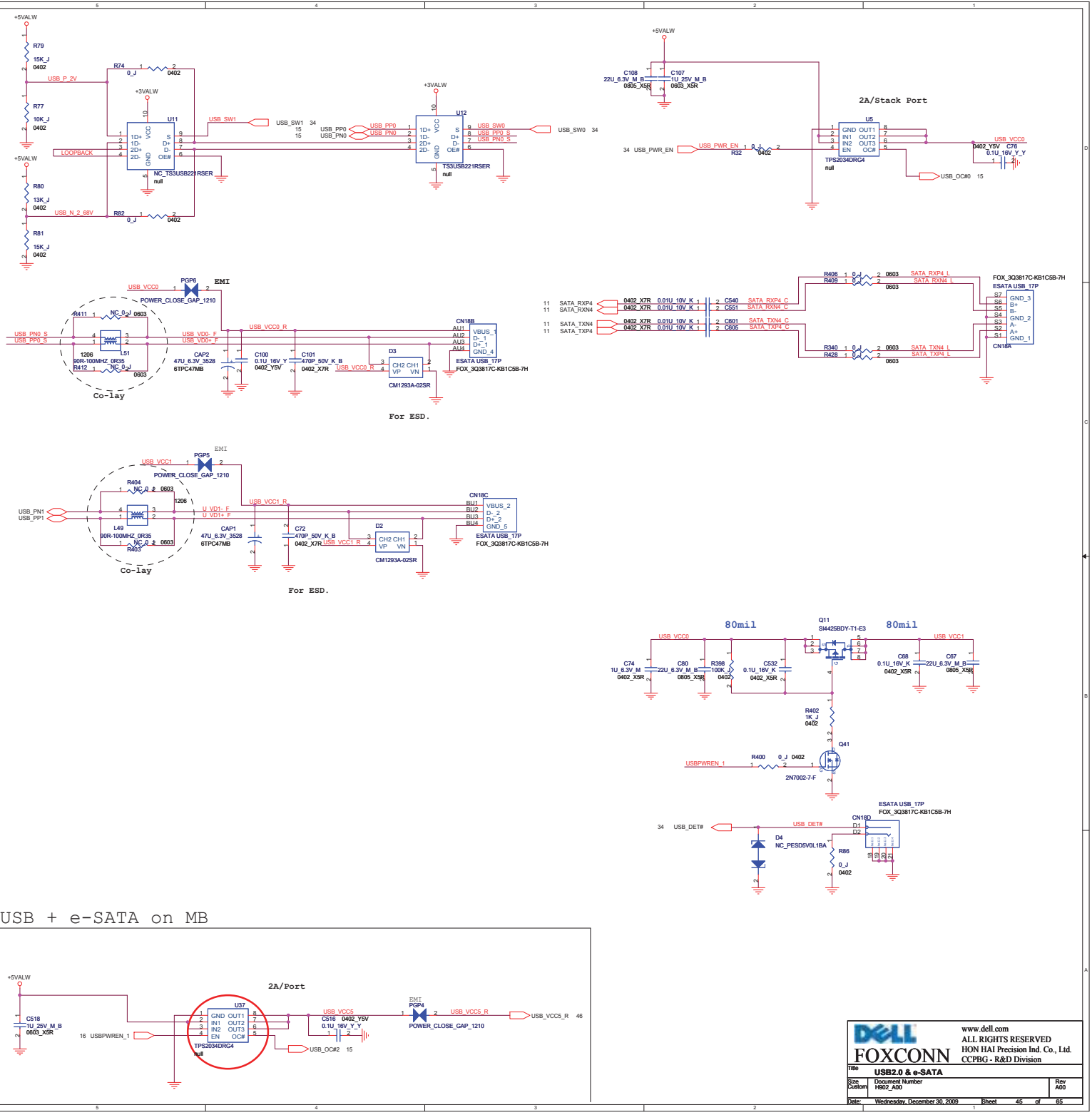

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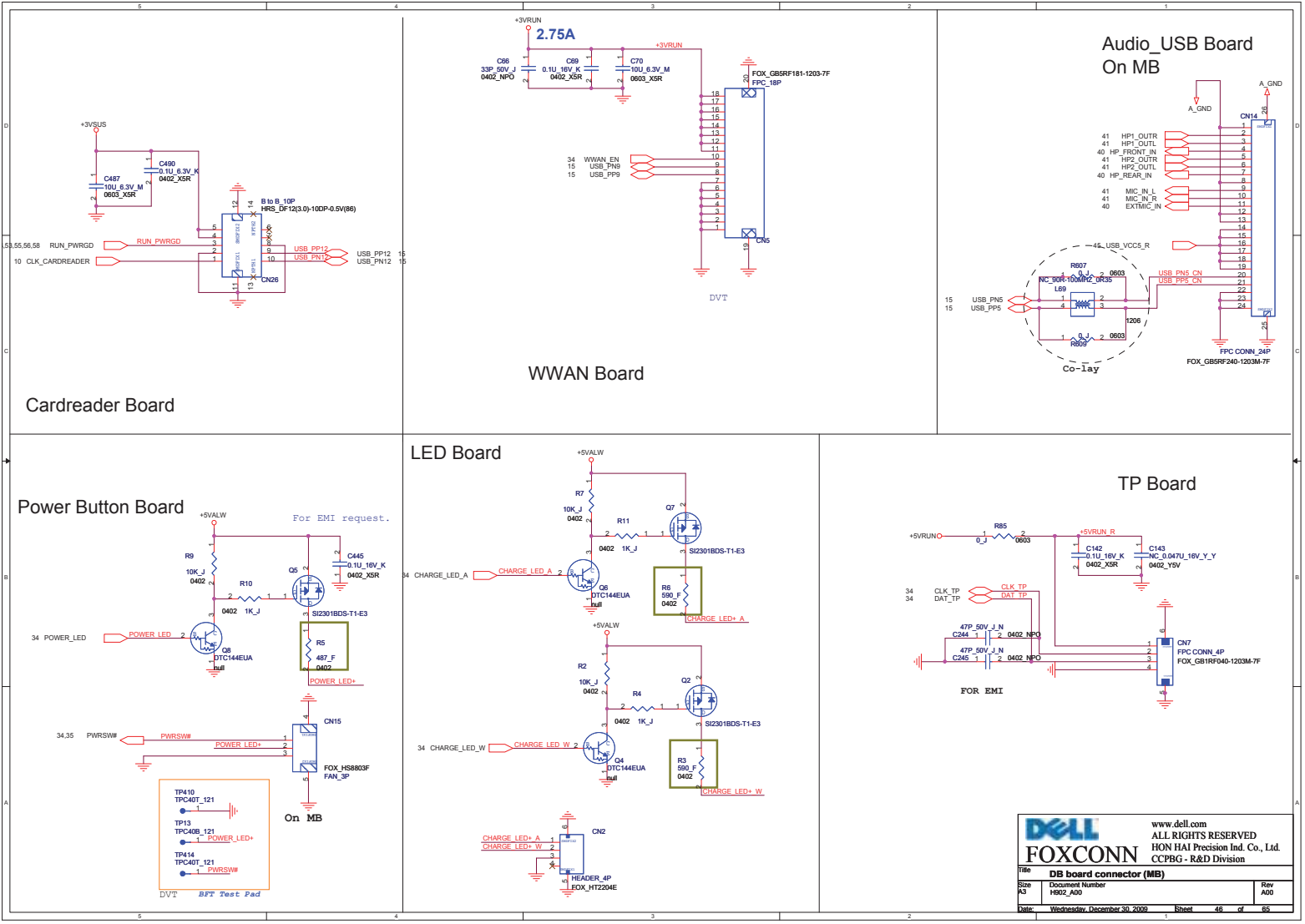

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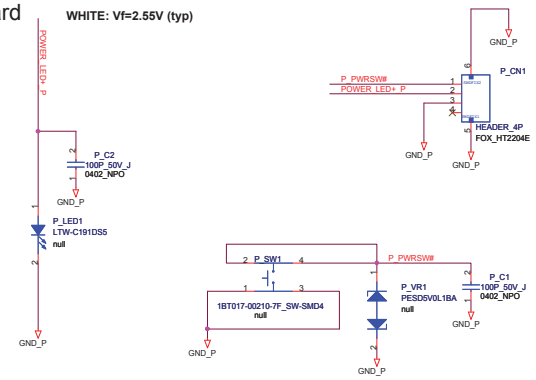
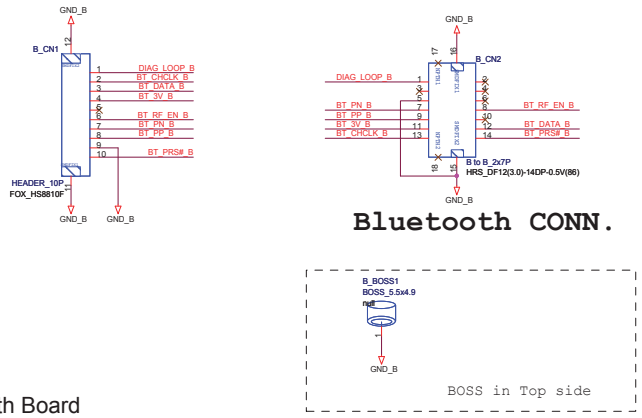
Power Button Board

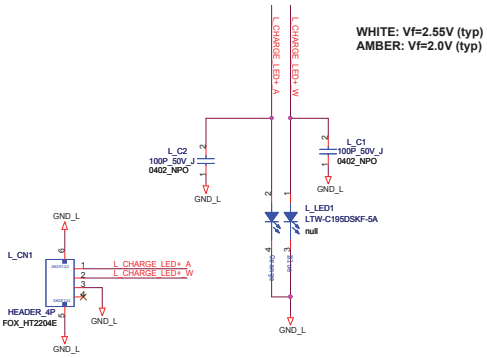


POWER BUTTON

Bluetooth Board



LED Board



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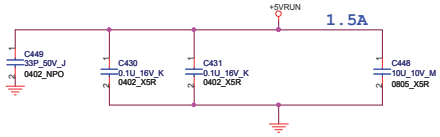
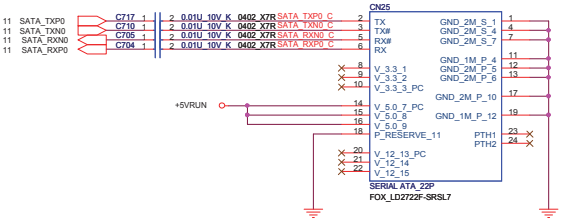


SATA HDD CONN



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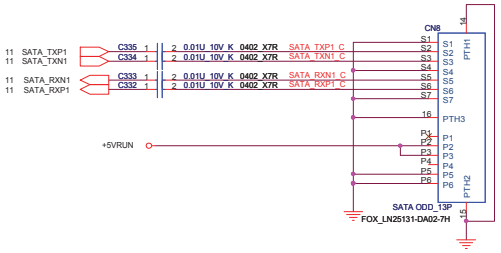

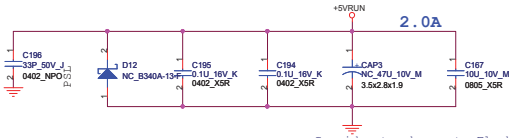

Consider to change to Flash board connector.

ODD CON ADAPTER

Add CN68 need 2N-0013009-FKG0 in BOM

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Title: SATA HDD/ODD		
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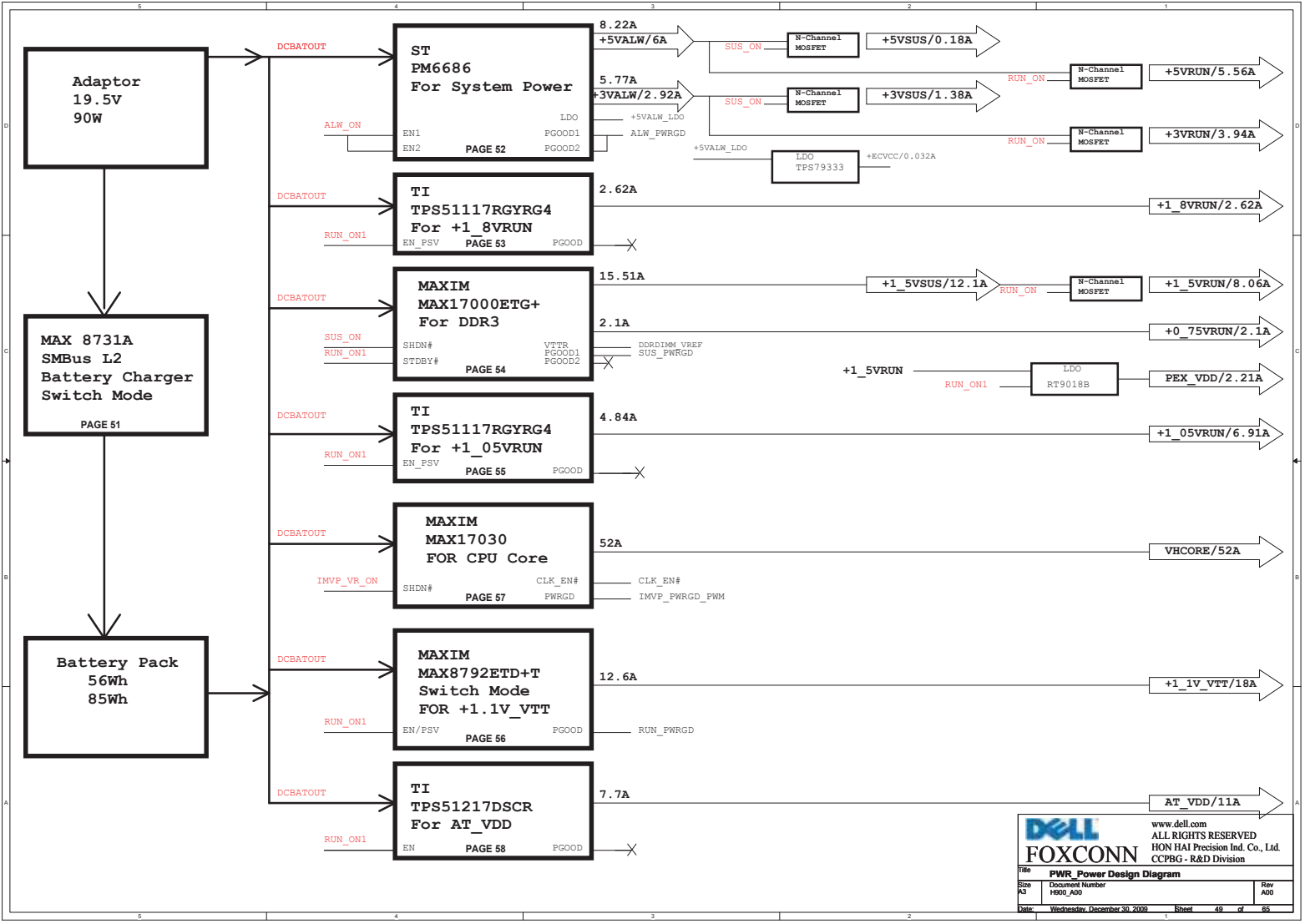

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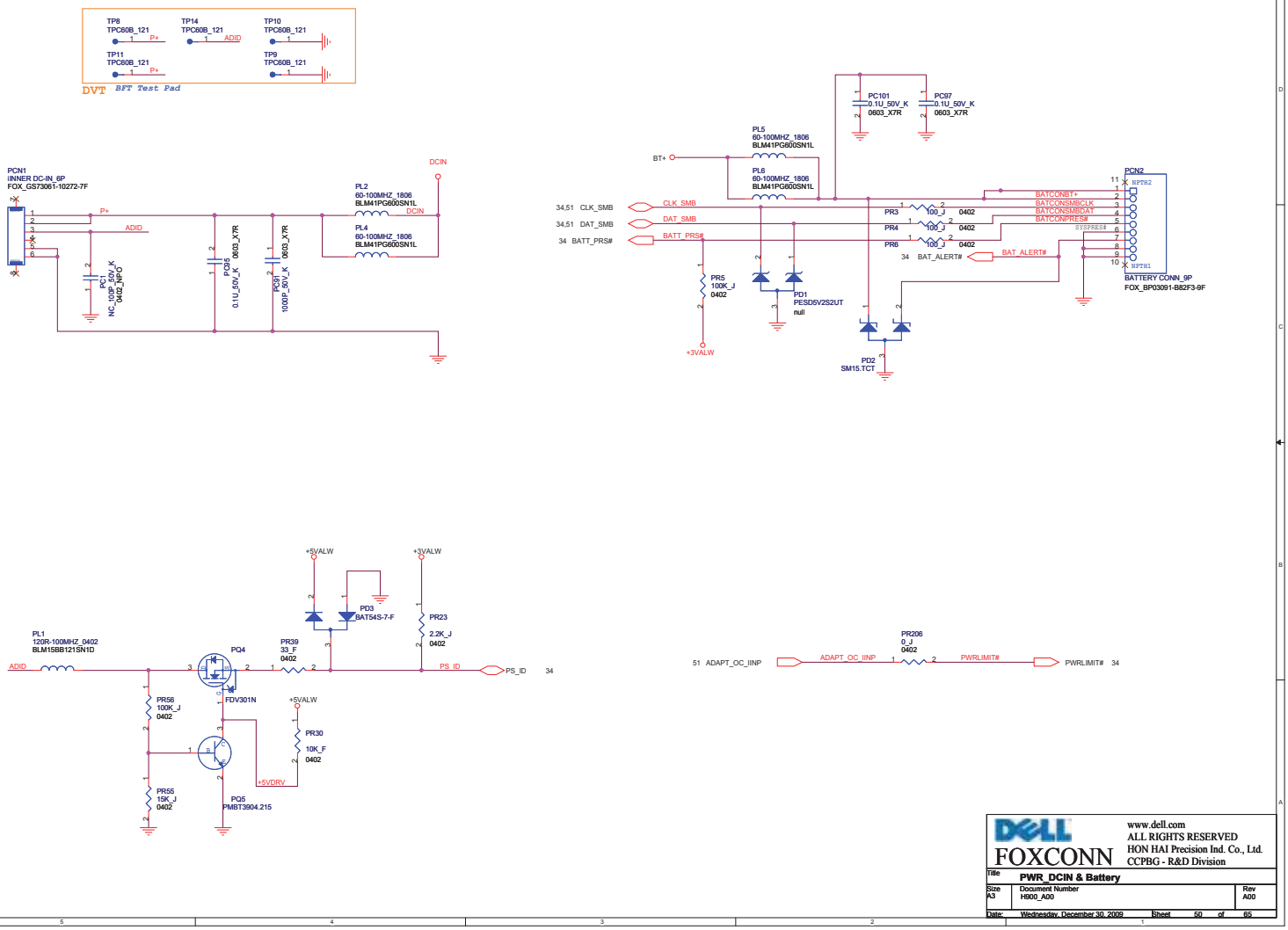

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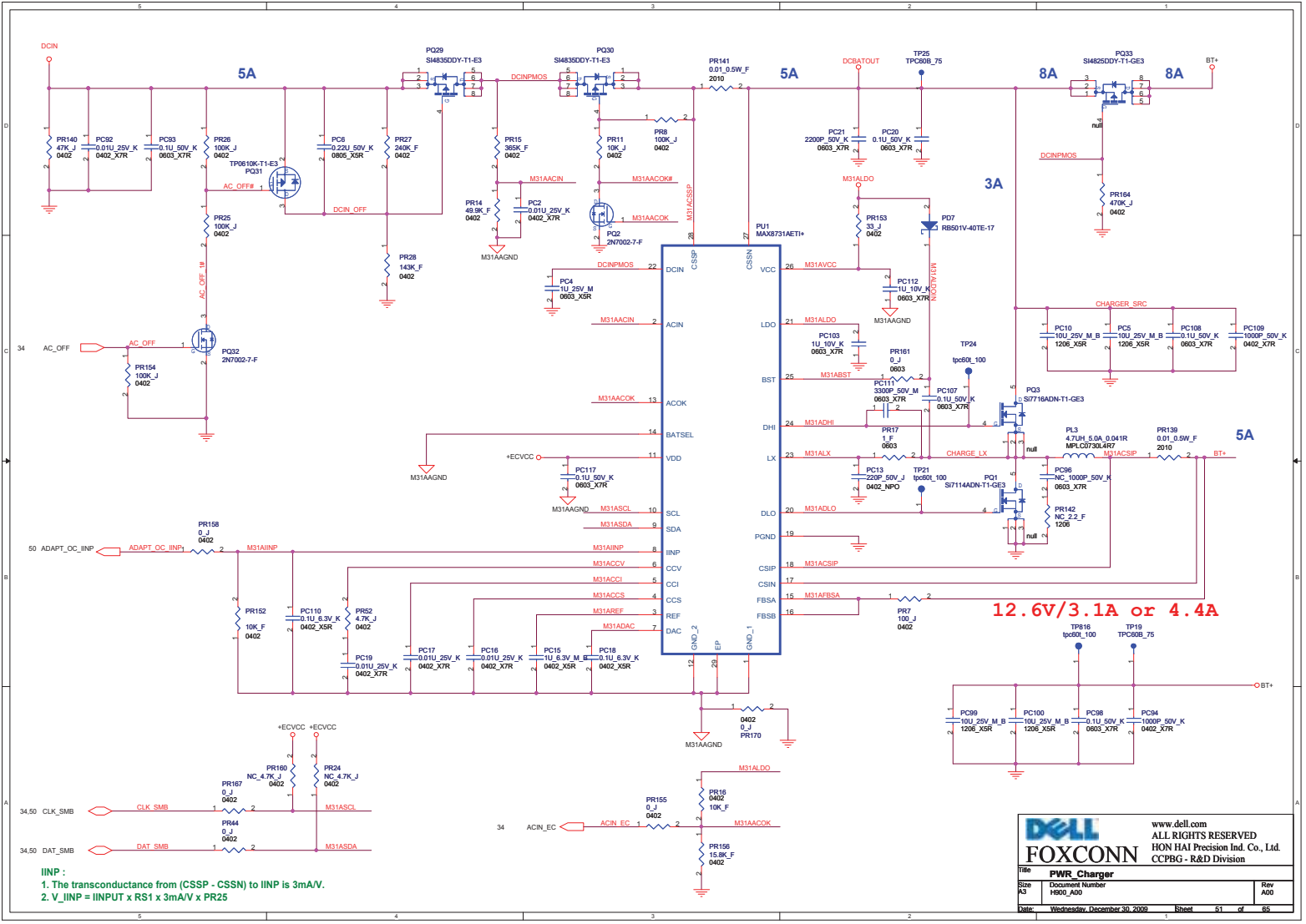

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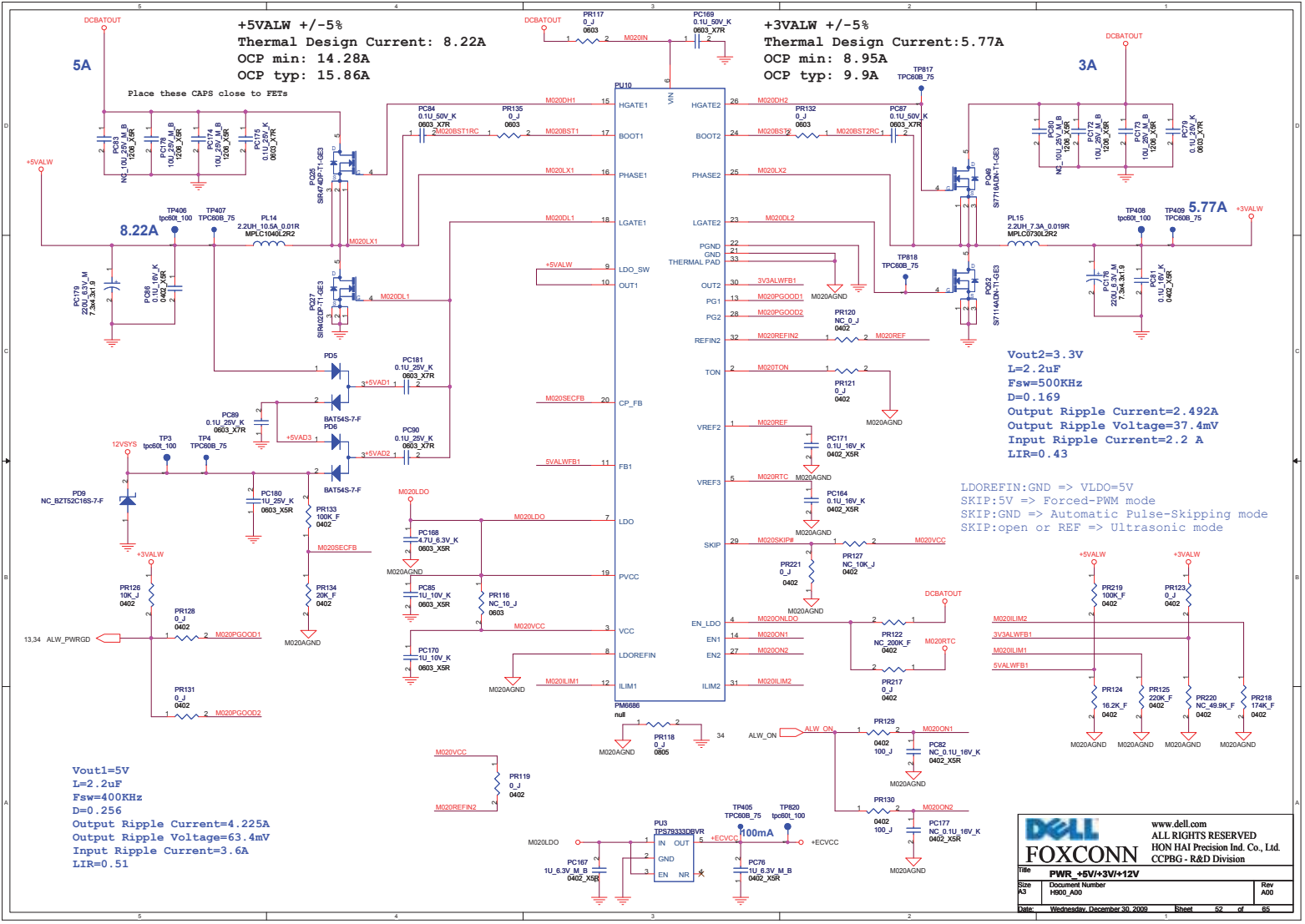

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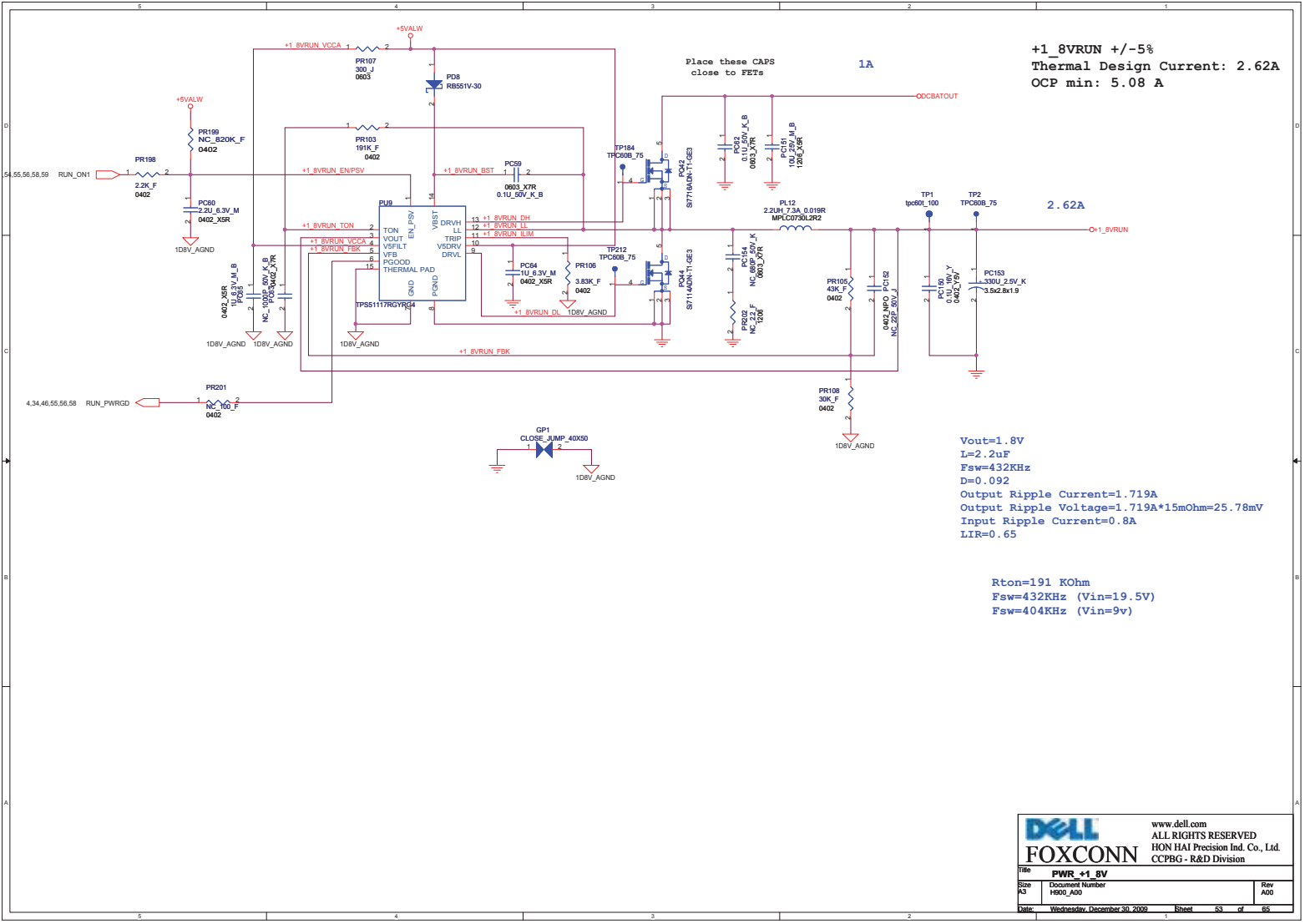

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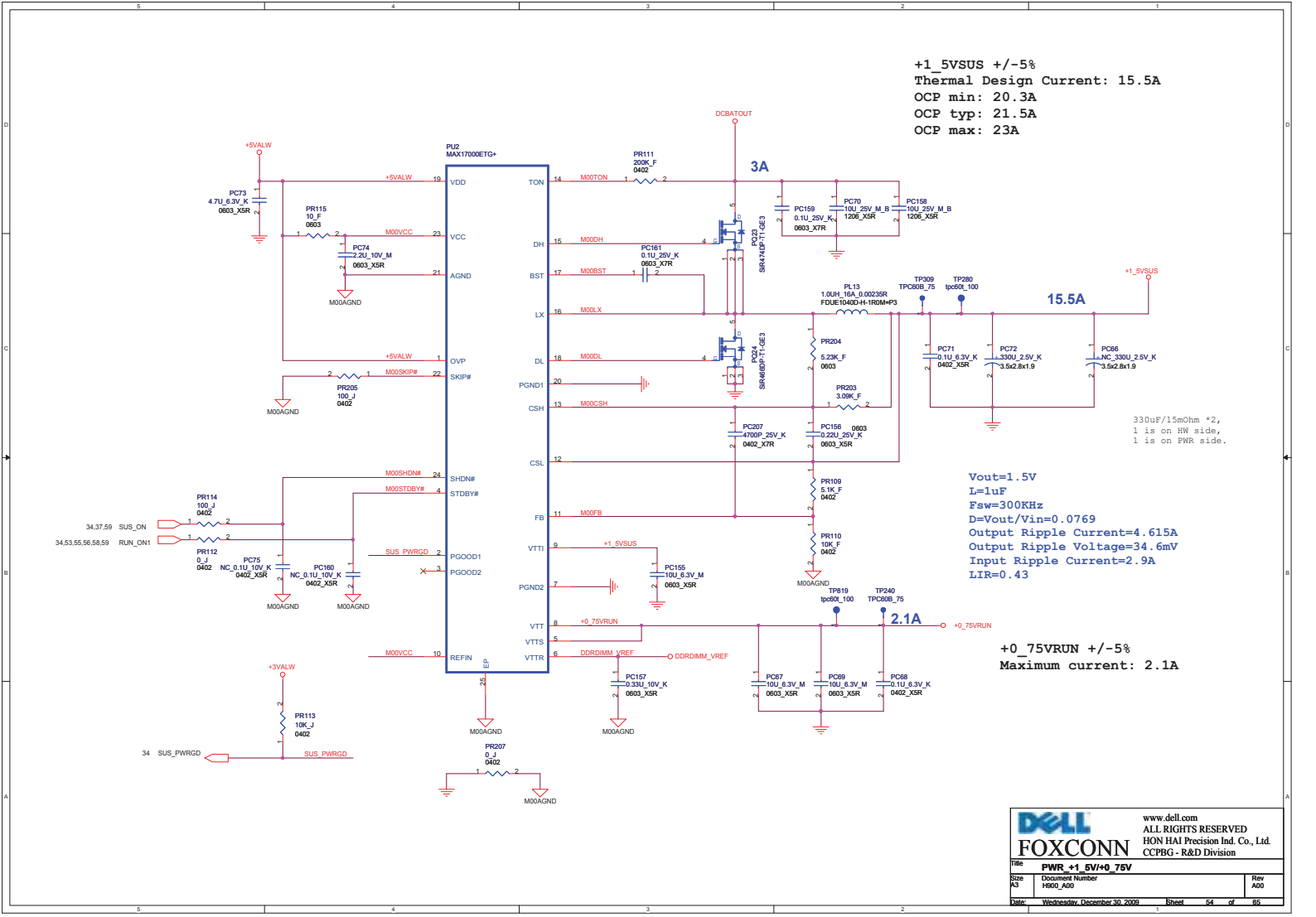

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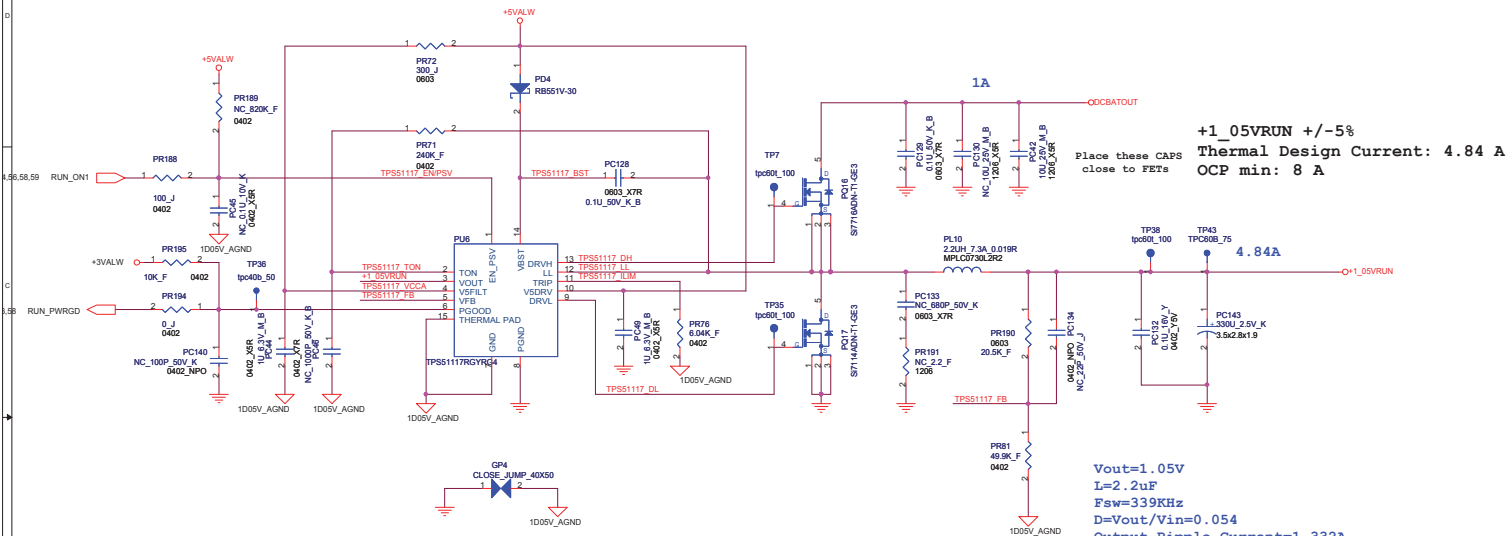

Vout=1.05V
L=2.2uF
Fsw=339KHz
D=Vout/Vin=0.054
Output Ripple Current=1.332A
Output Ripple Voltage=1.332A*15mOhm=19.98mV
Input Ripple Current=0.8 A
LIR=0.38

Rton=240 KOhm
Fsw=339KHz (Vin=19.5V)
Fsw=309KHz (Vin=9v)

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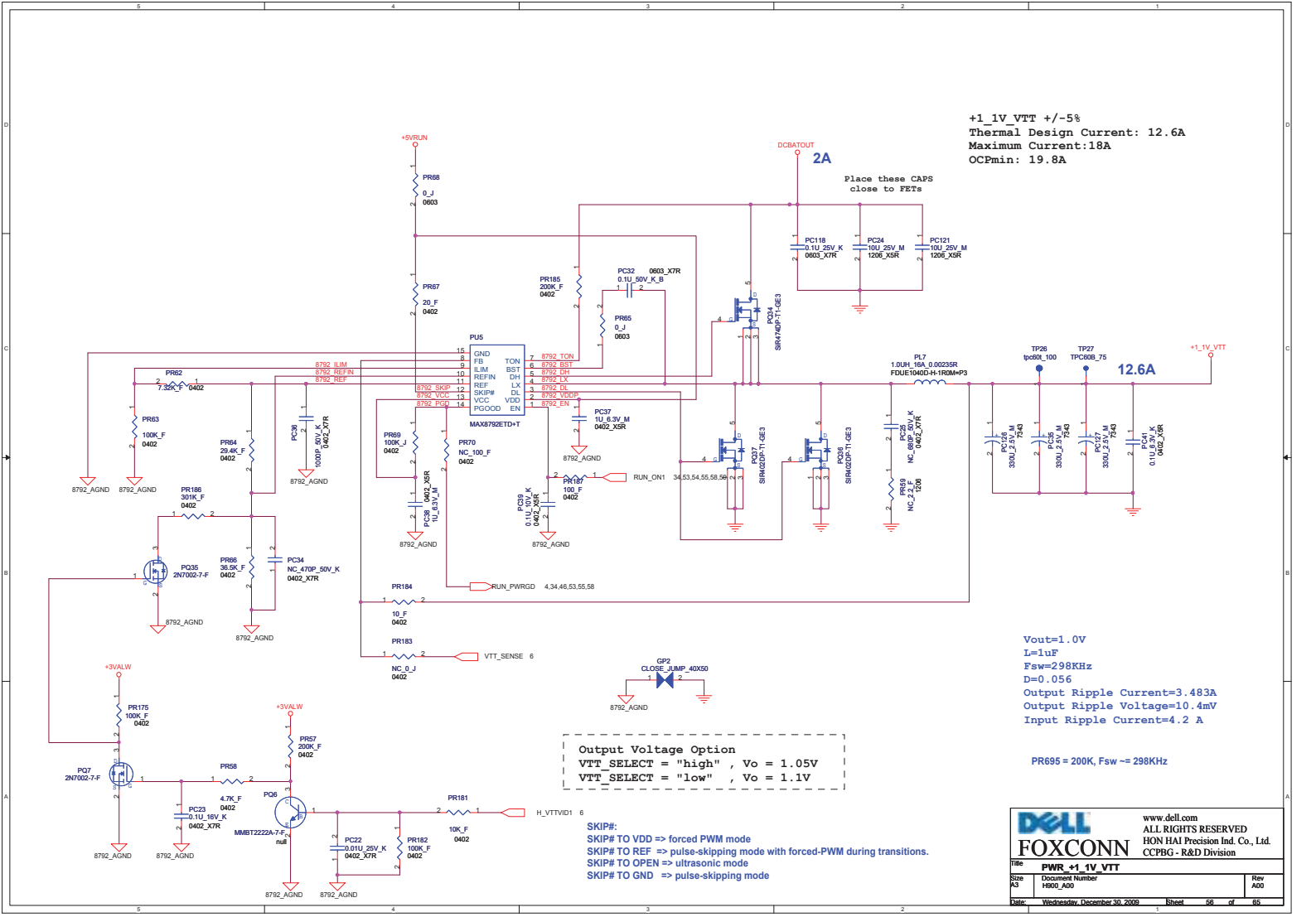

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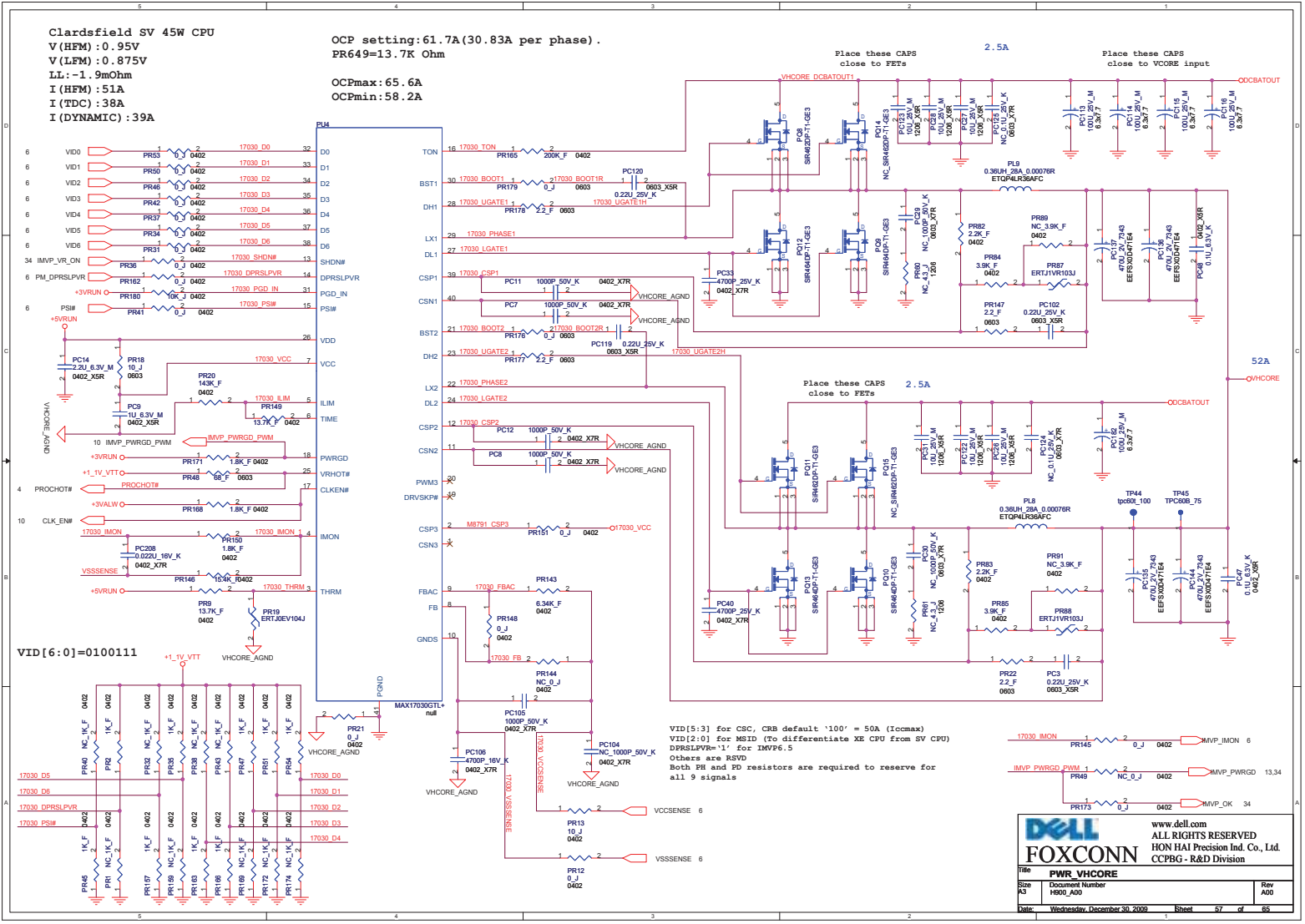

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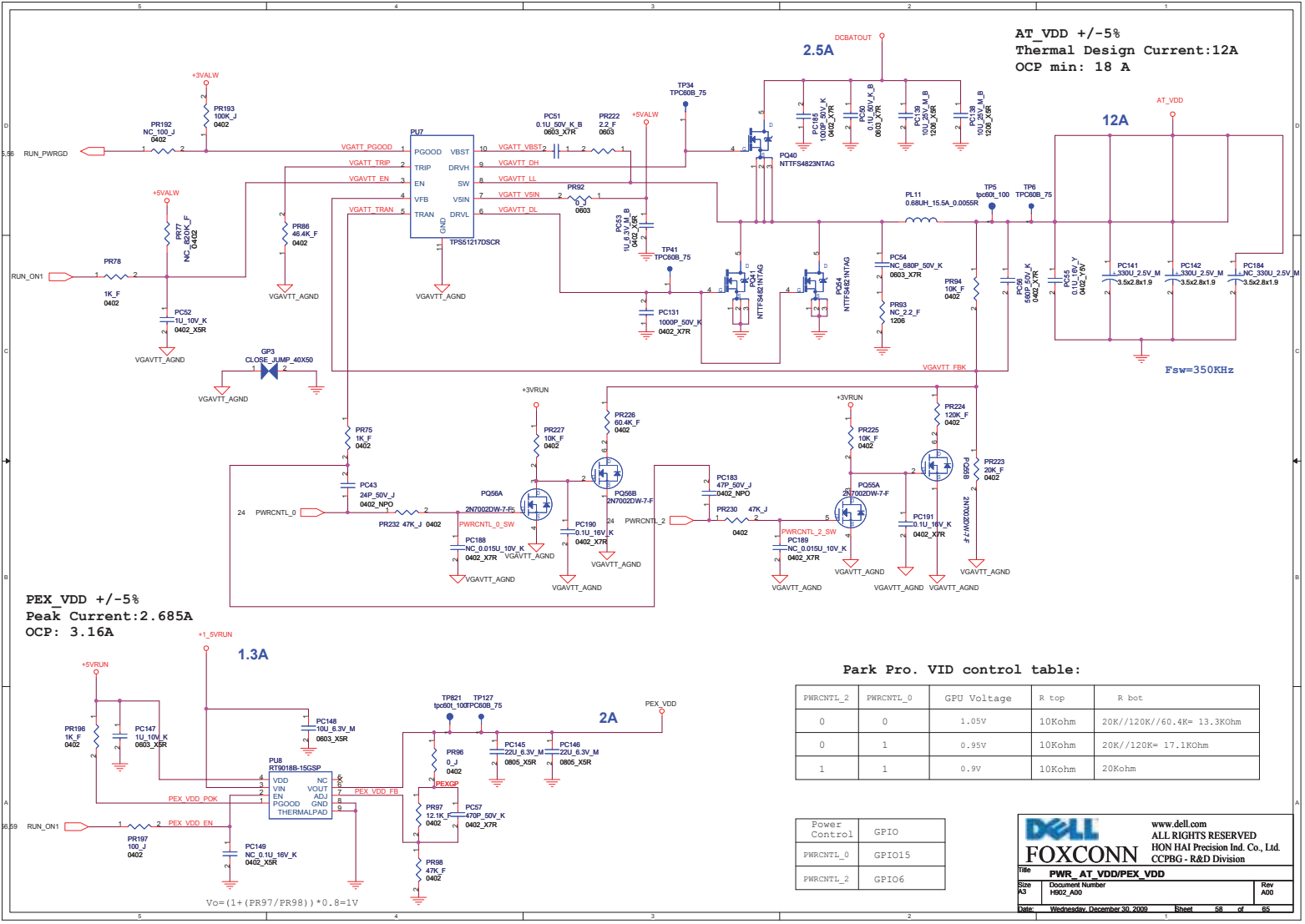

Park Pro. VID control table:

PWRCNTL_2	PWRCNTL_0	GPU Voltage	R top	R bot
0	0	1.05V	10Kohm	20K//120K//60.4K= 13.3KOhm
0	1	0.95V	10Kohm	20K//120K= 17.1KOhm
1	1	0.9V	10Kohm	20Kohm

Power Control	GPIO
PWRCNTL_0	GPIO15
PWRCNTL_2	GPIO6

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Title: PWR_AT_VDD/PEX_VDD
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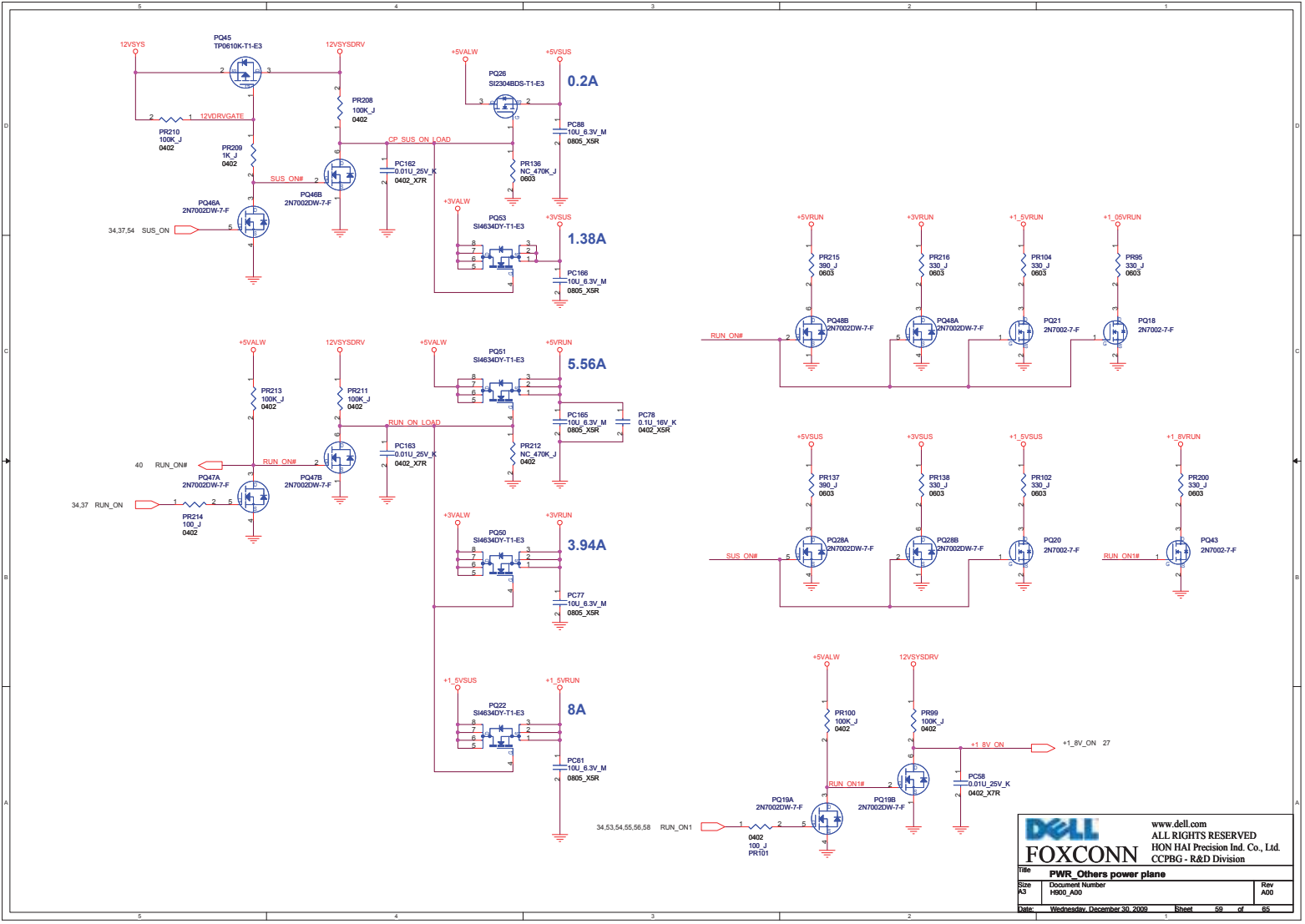

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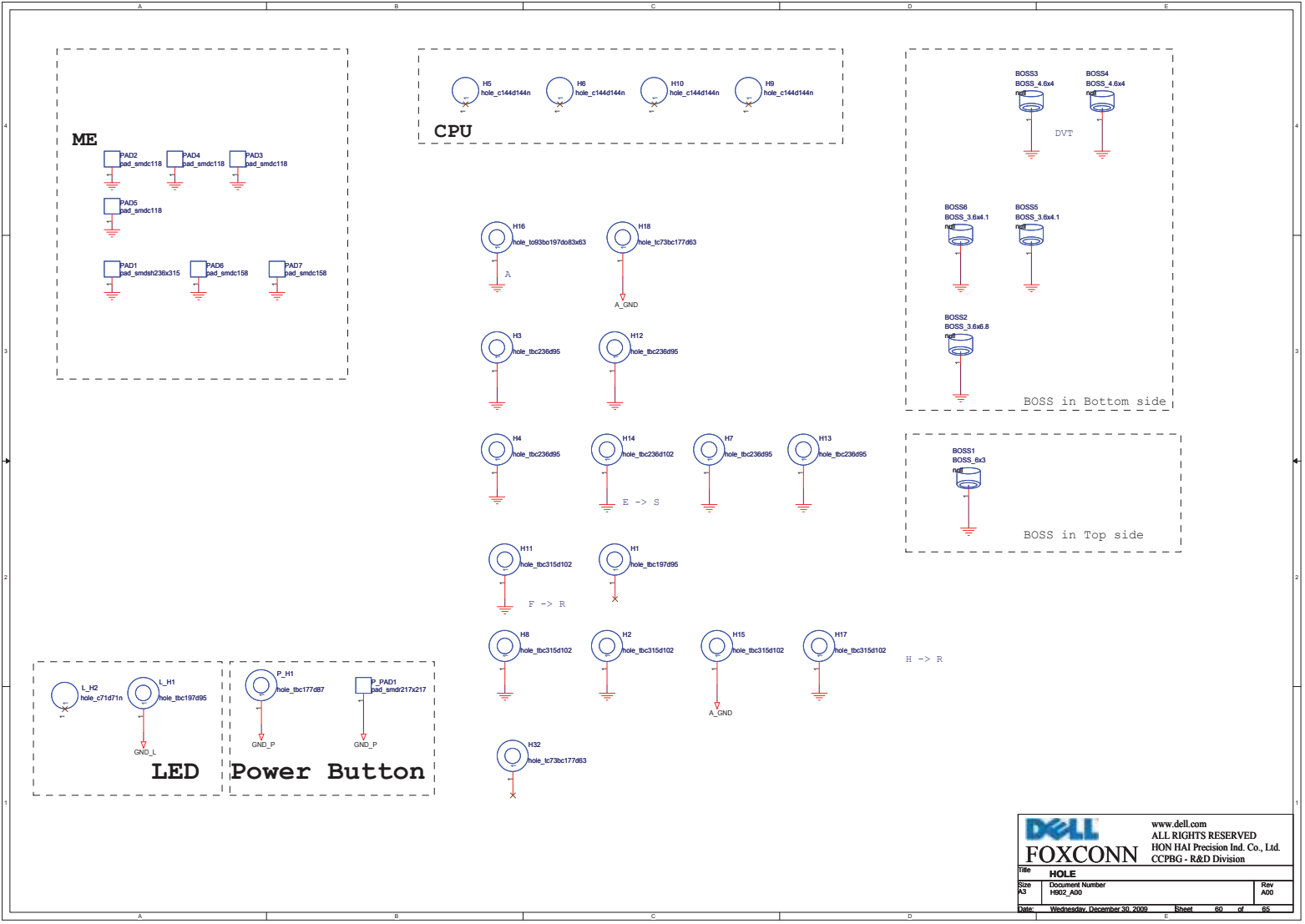

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H902 DVT

(2009/09/25)

P.25 Change R139 & R143 from 100 ohm to 40.2 ohm for AMD recommend.
P.24 Change AT_MEM_ID0~3 connect to DVDATA_0~3.
P.26 Reserve R627 & R629 for reduce DPE/F PLL.
P.26 Add R630 & R631 to replace Bead L74, L75 and NC C667, C797, C798, C800, C799, C801 for AMD recommend.
P.25 NC C273, C280, R127, R134 for AMD recommend.

H902 PVT

(2009/11/03)

P.22-27 Change U26 HHPN to 12-2160774-0002.
P.17 Change L35, L37, L66, L67 to 1L-DML2201-2M00 for PUR recommend.
P.20 Change C364 to 1C-2B20104-K301 for PUR recommend.
P.31 Change C263 to 1C-2B20104-K301 for PUR recommend.
P.34 Change C457, C732, C502, C489, C703, C476, C486, C503, C718 & C739 to 1C-2B20104-K301 for PUR recommend.
P.35 Change C319 to 1C-2B20104-K301 for PUR recommend.
P.37 Change C485 & C488 & C725 to 1C-2B20104-K301 for PUR recommend.
P.45 Change C68 & C532 to 1C-2B20104-K301 for PUR recommend.
P.46 Change C69 & C142 to 1C-2B20104-K301 for PUR recommend.
P.46 Change C194, C195, C430 & C431 to 1C-2B20104-K301 for PUR recommend.

(2009/11/18)

P.46 Add C445 0.1uF for EMI recommend.
P.33 Change CN11 for ME recommend.

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H900 EVT -> DVT

(2009/03/26)

P.47 Add BT2(CSR) BC_BOSS1 NC for reserve.
P.32 Change LVDS connector pin define switch Pin4 and Pin10.
(Pin4 NC, Pin10 +3VRUN)
P.47 Add BT2(CSR) BC_BOSS1 NC for reserve.

(2009/03/27)

P.46 Modify WWAN CN5 pin define.
P.32 LVDS CN, change +3VRUN to pin 4, pin3 to NC prevent DCBATOUT short to +3VRUN.

(2009/03/31)

P.42 Change R588,R589 to 8.2K ohm for 1.5W speaker.

(2009/04/01)

P.40 Change R332 to 13.3K for Realtek recommend.
P.24 Reserve R382, R383, R617 and R293 0 ohm for Park.
P.24 Reserve L71, C785 1uF, C786 10uF, C787 0.1uF, L70, C782 1uF, C783 10uF, C784 0.1uF for Park.
P.24 Reserve R619, R620 0 ohm for Park.
P.27 Add R622 0 ohm for saperate Park schematics.
P.27 Reserve R618 and R621 0ohm, C512 1uF, C515 10uF, and L72 for Park.

(2009/04/02)

P.26 Reserve L73, C788 1uF, C789 10uF, C790 0.1uF and R623 0ohm for Park.

(2009/04/03)

P.27 Reserve R624 150 ohm, R627 0 ohm for Park.
P.27 Add R625,R626 0 ohm for Park.

(2009/04/06)

P.11 Stuff R495 for Flash SPI.

(2009/04/10)

P.11 Change PCH SPI_CS# to SPI_ROM_CS#.
P.34 Change H_PWRGD to H_CPUPWRGD.

(2009/04/13)

P.40 Reserve R628 0 ohm for PC beep.
P.42 Change R45,R47,R49,R50 to bead L76,L77,L78,L79 for EMI request.
P.24 Change L19 to BLM18BB121SN1D to solve AT_DPLL_PVDD Vpp over spec issue.
P.32 Change F8 to 467002 (32V-2A_0603) for LVDS VCC protection.
P.47 Del BC_CN4,BC_CN3,BC_BOSS1,BC_TP1,BC_TP2 for BT2 board is not necessary.
P.42 Change C767,C763,C762,C749 to 0.01uF; C507 to 0.1uF for speaker pop noise.
P.32 Del R29 0ohm for no necessary.
P.36 Del R27 0ohm for no necessary.
P.45 Change R384, R34, R52 to close gap PGP4,PGP5,PGP6.
P.45 Change F5,F1 to close gap PGP7,PGP8 for un-necessary.
P.22 Change R410 0ohm to close gap PGP12.
P.26 Change R92,R93 0ohm to close gap PGP13,PGP14.
P.36 Change R391 0ohm to close gap PGP17.

(2009/04/15)

P.39 Add D15, D16 for solving leakage issue.

(2009/04/23)

P.4 Del R196 0ohm for no necessary.

(2009/04/24)

P.4 Add CPU_DET# for Dell PC Beep.

(2009/04/27)

P.4 Change R184 to 1.1K ohm R182 to 3.01K ohm for Intel recommand.

(2009/04/28)

P.36 Add R27 0 ohm for DVT.
P.41 Change R602, R611, R608, R610 to 1k ohm for Audio headphone noise.
P.45 Add F1 and F5 for protection and del PGP7 and PGP8.

(2009/04/30)

P.6 Del R401, R115 for Vcore power plane.
P.38 Change TP29, TP46, TP42, TP40, TP39, TP428, TP430 to TPC40B_121.
P.50 Change TP8, TP11, TP14, TP10, TP9 to TPC60B_121.
P.44 Change TP412, TP411, TP413 to TPC40T_121.
P.39 Change TP12, TP15, TP16, TP17, TP18, TP20, TP22, TP23 to TPC40B_121.
P.42 Change TP186, TP185, TP183, TP187 to TPC40B_121.
P.34 Change TP480, TP485, TP329, TP479, TP483, TP182, TP333, TP128 to TPC40T_121.
P.46 Change TP414, TP410 to TPC40T_121 and TP13 to TPC40B_121.
P.38 Change TP47, TP422, TP417, TP37, TP30, TP33, TP32, TP31, TP28 to TPC40B_121.
P.11 Change C736 to 15pF for cystal vendor recommand.
P.39 Change C35 and C38 to 18pF for cystal vendor recommand.
P.34 Del Q28 and R318 2.2k ohm for CPU PC Beep solution .

(2009/05/5)

P.32 Change C65 to 6800pF for LVDS sequence.
P.39 Reserve R318 and R384 0 ohm for leakage solution.
P.45 Change F1 and F5 to 1M-F08V05A-0000.

(2009/05/8)

P.16 Reserve R391 1K ohm for following the CRB.
P.7 Del R55 0 ohm for leakage.
P.35 Change U13 to W25X80A.
P.31 Change L61, L62, L63 to 33R100MHz for CRT SI issue.

(2009/05/11)

P.17 Change C479 to 1uF for Intel recommend.
P.24 Reserve R410 and R629 0 ohm for Park.
P.24 Reserve R634, R631, R632, and R633 0 ohm for Park.
P.24 Del R619 and R620 0 ohm for Park NC.
P.25 Change C781 to 1nF for AMD recommend.
P.25 Reserve R630 680 ohm and R115 10K PD for Park.
P.27 Reserve R635 0 ohm for Park.
P.25 Add TP172, TP173, TP174, TP175, TP176 and TP177 for Layout request.
P.60 Change BOSS3 and BOSS4 for ME request.
P.17 Del C445 and C463 33pF for unused.
P.36 Del R27 0 hom for unused.
P.45 Del F1, F5, and R31 0 ohm for unused.
P.46 Del F2 for unused.

(2009/05/12)

P.46 Reserve R637 and R638 0 ohm for WWAN change.
P.46 Add R636 0 ohm for WWAN change.
P.13 Add R92 and R93 1k ohm for Intel recommend.

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(2009/05/13)

P.25 Add R196 0 ohm and change R630 68 ohm to DRAM_RST pin for AMD recommend.

(2009/05/14)

P.12 Add R620 0 ohm to GND in Xtal_in for Intel recommend.
P.7 Del R407, R399, and R405 0 ohm for 1.1VTT power plane.

(2009/05/20)

P.4 Change R173 to NC for un-used.
P.27 Change C208 from 0.22u 10V to 0.22u 16V for derating issue.
P.17 Stuff R268 0 ohm to GND for disable Intel internal LAN.

(2009/05/22)

P.17 Change R237 and R265 from 0603 to 0805 for derating.
P.27 Change R146 from 0805 to 1206 for derating.

(2009/05/25)

P.17 Change CAP5 and CAP6 from 35m ohm ESR to 45m ohm ESR.

(2009/06/06)

P.39 Add Q58, Q59, R619, and R639 10K ohm and del D15 & D16 for leakage issue.
P.6 Add R401 0 ohm and Add R399, R405, R407, R640 1K ohm NC for C-state debugging.

(2009/06/16)

P.6 Add R641 & R642 0 ohm for controling LAN_CLK_REQ# turn on voltage.
P.34 Add R643 & R644 0 ohm for debugging white screen issue.

(2009/06/25)

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

(2009/07/01)

P.60 Add H32 for ME request.

(2009/07/14)

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

(2009/07/20)

P.38 Change C33 and C44 from NPO 10% to 5% for PUR recommend.
P.47 Change P_C1, P_C2, L_C1, L_C2 from 10pF NPO 10% to 5% for PUR recommend.
P.40 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.38 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.46 Change C244 and C245 from 47pF NPO 10% to 5% for PUR recommend.
P.39 Add C445 0.1uF for Hipot test.
P.27 Delete R146 0ohm for derating.
P.18 Delete R257 0ohm for derating.
P.17 Delete R237 0ohm for derating.

(2009/07/22)

P.17 Change C208 0.22uF from 16V to 25V for derating.
P.39 Add C791, C794 1000pF and C795, C796 0.047uF for EMI request.
P.12 Change R303 & R331 from 4.7K to 2.2K ohm NC.

H900 DVT -> PVT

(2009/07/24)

P.34 Add Q28 and NC C478 0.1uF for Sys_shdn#.
P.44 Change R467 from 33K to 10K ohm & R472 from 15K to 6.8Kohm for thermal setting.
P.39 NC C26 0.1uF, R14 1K ohm and U2 24C08.
Add R612 1K ohm for disable external EEPROM.
P.44 Add C463 100p NC for Thermal sensor vendor recommend.

(2009/07/28)

P.9 Change R51 & R53 from NC to introduce.
P.33 Change HDMI conncector from 2N-0019003-FKG0 to 2N-0019002-MKG0

H900 PVT -> X-Build

(2009/08/03)

P.31 Change L61, L62, and L63 from 33R to 47R for CRT debug.
P.33 Change D5 location to D9 for Safety recommend.
P.11 Change D9 location to D5 for Safety recommend.
P.11 Change R340 & R341 location to R427 & R426 for Safety recommend.
P.24 Change R426 location to R341 for Safety recommend.
P.45 Change R427 location to R340 for Safety recommend.
P.32 Change U5 location to U4 for Safety recommend.
P.10 Change U37 location to U40 for Safety recommend.
P.45 Change U4 & U40 location to U5 & U37 for Safety recommend.
P. 4 Change U17 from 14-MC74VHC-1G04 to 14-74AHC1G-1400 for L6 recommend.

(2009/08/07)

P.31 Change C646 & C640 from 47p to 22p.

(2009/08/20)

P.30 Change L1 to LanKom 1T-1LG2425-P100.
P.20 Change R61 to NC for DDR Intel recommend.
P.21 Change R66 to NC for DDR Intel recommend.

(2009/08/22)

P.20 & 21 Del R146 & R237 for customer recommend.
P.20 Reserve R23 & R27 1K ohm for intel DDR3 M1 solution.
P.21 Reserve R29 & R31 1K ohm for intel DDR3 M1 solution.

(2009/08/24)

P.24 Add R636 0 ohm for EMI recommend.
P.24 Add Cap7 330 uF for debugging WLAN issue.

(2009/08/25)

P.44 Add R637, R638, R645 & R646 0 ohm for Intel recommend.

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1	2009/04/10	P.55	+1_05VRUN	1.05V Vripple over spec.	Change PC143 from 220uF 2.5V 35m Ohm(1C-31R0227-MX00) to 330uF 2.5V 15m Ohm(1C-33U0337-KX00).	X01
2	2009/04/13	P.51	Charger	Change PR152 for ADAPT OC function.	Change PR152 from 8.45K 0402 1%(1R-0008451-F200) to 10K 0402 1% (1R-0000103-F200)	X01
3	2009/05/06	P.57	VCORE	Fine tune VCORE setting for loadline, transition and mosfet ring issue.	Add PC7 :470pF 50V X7R 0402(1C-2B20471-K000) Add PC106 :4700pF 16V X7R 0402(1C-2B20472-K002) Add PC29 and PC30 :1000pF 50V X7R(1C-2B3012-MX00) Add PR60 and PR61 :4.3 Ohm 1206 5%(1R-000043X-J600) Del PQ14 and PQ15 SiR462DP-T1-GE3 (17-S1R462D-PT00) Change PR12 from 10 Ohm 0402 5%(1R-0000100-J200) to 0 Ohm 0402 5%(1R-0000000-J200) Change PR143 from 7.15K Ohm 0402 1%(1R-0007151-F200) to 6.34K Ohm 0402 1% (1R-0006341-F200) Change PR82 and PR83 from 2.7K Ohm 0402 1%(1R-0000272-F200) to 2.2K Ohm 0402 1% (1R-0000222-F200) Change PR84 and PR85 from 4.02K Ohm 0402 1%(1R-0004021-F200) to 1.69K Ohm 0402 1% (1R-0001691-F200)	X01
4	2009/05/06	P.58	AT_VDD	Changing H-S,L-S Mosfets and boost resistor for solving ring issue.	Change PQ40 from Si7716ADN(17-S17716A-DN00) to AON7402L(17-A0N7402-L000) Change PQ41 from Si7114ADN(17-S17114A-DN00) to AON7700(17-A0N7700-0000) Change PR222 from 0 Ohm 0603 1%(1R-0000000-J300) to 1 Ohm 0603 1%(1R-000010X-F300)	X01
5	2009/05/07	P.54	+1_5VSUS	Modifying OCP setting for +1_5VSUS.	Change PR204 from 4.87K 0603 1%(1R-0004871-F300) to 5.23K 0603 1%(1R-0005231-F300) Change PR203 from 3.24K 0603 1%(1R-0003241-F300) to 3.09K 0603 1%(1R-0003091-F300)	X01
6	2009/05/11	P.56	+1_1V_VTT	Change remote sense detection from CPU to output Cap.	Add PR184 10 Ohm 0402 1%(1R-0000100-F200) Delete PR183 0 Ohm 0402 5%(1R-0000000-J200)	X01
7	2009/05/12	P.50	PSID	Change PQ4 to high ESD protection (6000KV).	Change PQ4 from 2N7002K(17-2N7002K-0001) to FDV301N(17-FDV301N-0000).	X01
8	2009/05/12	P.55 P.56	+1_05VRUN +1_1V_VTT	Change RUN_PWRGD singal from +1_1V_VTT rail to +1_05VRUN rail.	Delete PR70 100 Ohm 0402 1%(1R-0000101-F200) Add PR195 10 KOhm 0402 1%(1R-0000103-F200) Add PR194 0 Ohm 0402 5%(1R-0000000-J200)	X01
9	2009/05/13	P.57	VCORE	PROCHOT# signal pull-up resistor is 56 ohm in IMVP side.	Change PR48 from 56 Ohm 0603 1%(1R-0000560-J300) to 68 Ohm 0603 1%(1R-0000680-F300)	X01
10	2009/05/20	P.58	PEX_VDD	Modify feedback capacitor for improving loop response.	Change PC57 from 0.01uF 0402 25V X7R(1C-2B20103-M000) to 470pF 0402 50V X7R (1C-2B20471-K000)	X01
11	2009/05/20	P.51	DC_IN	Modify resistor and capacitor for reducing adapeter's inrush current.	Change PR28 from 47KOhm 0402 5%(1R-0000473-J200)to 100KOhm 0402 5%(1R-0000104-J200) Change PC6 from 0.1uF 0603 50V(1C-2B30104-K000) to 0.22uF 0603 25V X5R (1C-2B30224-K400)	X01
12	2009/05/26	P.54	+1_5VSUS	Add a capacitor between CSH and FB for improving jitter issue.	Add PC207 4700pF 25V 0402 X7R 10%(1C-2B20472-K001)	X01

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13	2009/06/18	P.57	V_CORE	Change GND design for C-state issue	Change PR21.1 to PGND. Change PR21.2 to AGND. Change PC14.2 to PGND.	X02
14	2009/07/02	P.57	V_CORE	Change boost resistor to reduce ring of Mosfet. Add feedback capacitor to ruduce ground noise.	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) 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) .	X02
15	2009/07/06	P.51	Charger	Change rating voltage from 25V to 50V and size from 0603 to 0805 for Capacitor(PC6).	Change PC6 from 0.22uF 25V X5R 0603 10%(1C-2B30224-K400) to 0.22uF 50V X5R 0805 10%(1C-2B70224-K600)	
16	2009/07/10	P.57	V_CORE	Modify DCR feedback and IMON setting.	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)	X02
17	2009/07/20	P.59	Other power plane	Add dicharge 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)	X02
18	2009/07/24	P.57	V_CORE	Add AL capacitor to reduce acustic noise.	Add PC113:EEEFK1E101XP,100uF,25V,20%, Φ6.3*7.7,0.34ohm(1C-1XX0107-M400) Add PC182:EEEFK1E101XP,100uF,25V,20%, Φ6.3*7.7,0.34ohm(1C-1XX0107-M400)	X02
19	2009/09/25	P.58	VGA_CORE	Add more GPIO pin for VAG 4 level controller	Add NC_PC187,NC_PC188,NC_PC189 PR230,PR231,PR232, Φ0ohm Remove PR79, PR80	X02
20	2009/09/25	P.58	VGA_CORE	Change AOS MOS to ON MOS for reducing risk of induce voltage	Change PQ40 PQ41 and PQ54 to ON MOS 4823 and 4821.	
21	2009/11/19	P.58	VGA_CORE	EMI request add one cap	Add PC185 1000pF	
22	2009/11/19	P.58	VGA_CORE	Reduce inductor current when VID change	change PR230, PR232, from 0 to 47K. change PC188, PC189, from 0.047uF to 0.015uF. PC56 from 22pF to 560pF NC_PC131, PC141, PC142, from 330uF 15mohm to 330uF 9mohm. Add NC_PC190,NC_PC191 change PR86, to 46.4K for OCP 15A	
23	2009/11/19	P.58	VGA_CORE	TI suggest reducing short through risk	change PR222, from 1 ohm to 2.2 ohm	
24	2009/11/19	P.58	VGA_CORE	Remove unused GPIO pin	Remove PQ57,PD10,PR228,PR229	
24	2009/11/27	P.58	VGA_CORE	R C delay as Dell request	NC_PC188, PC_PC189 and add PC190, PC191 0.1uF	

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