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BOM Control Table						
Value Prefix	CA_	AT_	DS_	ND_	LND_	HD_
UMA (W/ Dock)	v		v			
UMA (W/O Dock)	v			v	v	
M82 (W/ Dock)		v	v			
M82 (W/O Dock HDMI)		v		v		
M82 (w/dock W/ HDMI )		v	v			v

Project Code & Schematics Subject: M750 Main Board      PCB P/N:

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7 H\_AA#[3..35]

7 H\_ADSTB#0  
7 H\_REQ#[4..0]

7 H\_ADSTB#1  
28 H\_A20M#  
28 H\_FERR#  
28 H\_IGNNE#  
28 H\_STPCLK#  
28 H\_INTR#  
28 H\_NMI#  
28 H\_SMI#

TP98 26MIL -1 TP CPU RSVD01 M4  
TP102 26MIL -1 TP CPU RSVD02 N5  
TP86 26MIL -1 TP CPU RSVD03 T2  
TP99 26MIL -1 TP CPU RSVD04 V3  
TP78 26MIL -1 TP CPU RSVD05 B2  
TP91 26MIL -1 CPU TEST7 C3  
TP94 26MIL -1 TP CPU RSVD07 D2  
TP121 26MIL -1 TP CPU RSVD08 D22  
TP93 26MIL -1 TP CPU RSVD09 D3  
TP105 26MIL -1 TP CPU RSVD10 F6  
RSVD[01]  
RSVD[02]  
RSVD[03]  
RSVD[04]  
RSVD[05]  
RSVD[06]  
RSVD[07]  
RSVD[08]  
RSVD[09]  
RSVD[10]

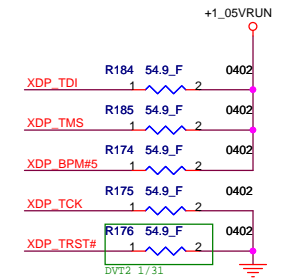
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H\_A#5 L4 A[5]#  
H\_A#6 K5 A[6]#  
H\_A#7 M3 A[7]#  
H\_A#8 N2 A[8]#  
H\_A#9 J1 A[9]#  
H\_A#10 N3 A[10]#  
H\_A#11 P5 A[11]#  
H\_A#12 P2 A[12]#  
H\_A#13 L2 A[13]#  
H\_A#14 P4 A[14]#  
H\_A#15 P1 A[15]#  
H\_A#16 R1 A[16]#  
M1 ADSTB[0]#

H\_A#17 Y2 A[17]#  
H\_A#18 U5 A[18]#  
H\_A#19 R3 A[19]#  
H\_A#20 W6 A[20]#  
H\_A#21 U4 A[21]#  
H\_A#22 Y5 A[22]#  
H\_A#23 U1 A[23]#  
H\_A#24 R4 A[24]#  
H\_A#25 T5 A[25]#  
H\_A#26 T3 A[26]#  
H\_A#27 W2 A[27]#  
H\_A#28 W5 A[28]#  
H\_A#29 U2 A[29]#  
H\_A#30 U2 A[30]#  
H\_A#31 V4 A[31]#  
H\_A#32 W3 A[32]#  
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H\_A#34 AB2 A[34]#  
H\_A#35 AA3 A[35]#  
V1 ADSTB[1]#

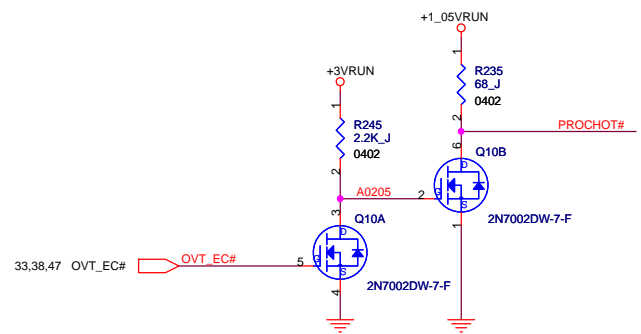
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ADDR GROUP 1  
XDP/TDP SIGNALS  
THERMAL  
H CLK  
RESERVED

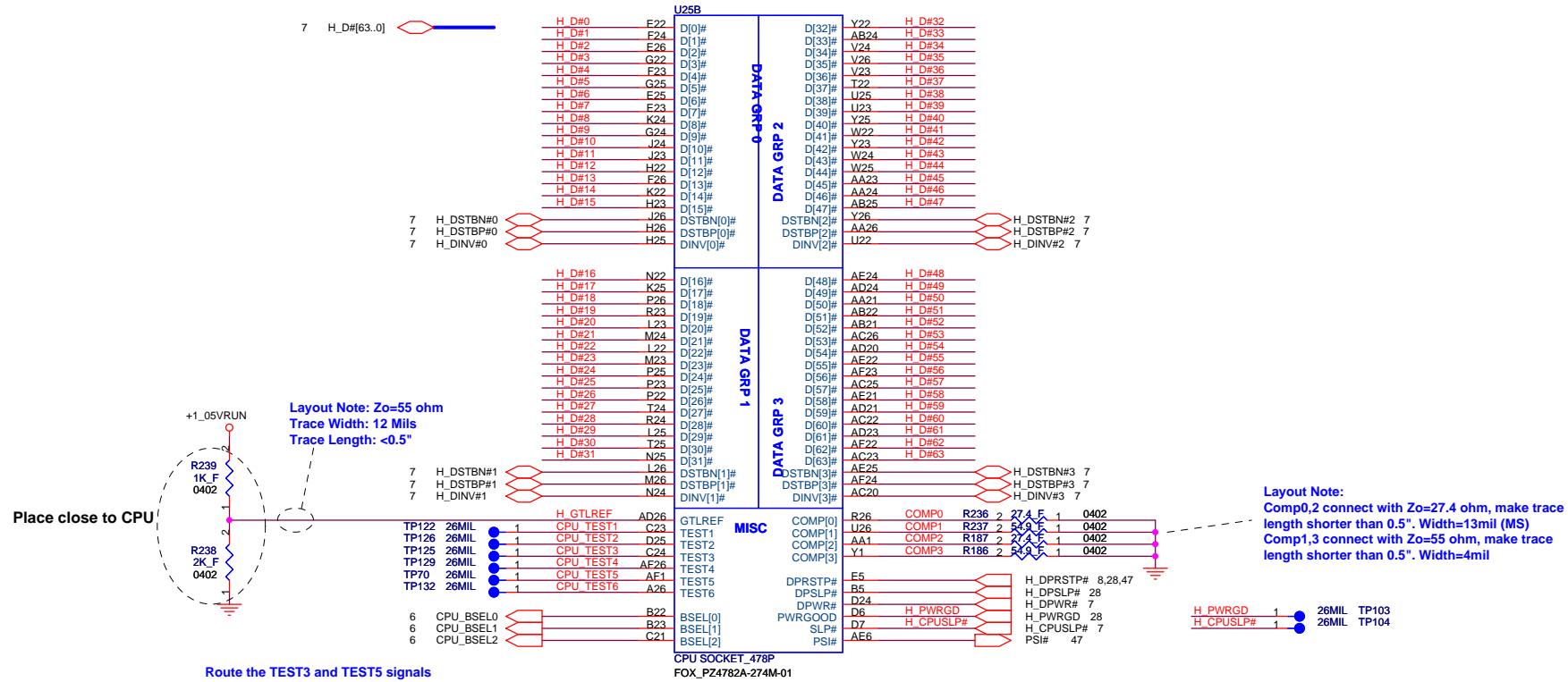
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BNR# E2 H\_BNR# 7  
BPR# G5 H\_BPR# 7  
DEFER# H5 H\_DEFER# 7  
DRDY# F21 H\_DRDY# 7  
DBSY# E1 H\_DBSY# 7  
BR0# F1 H\_BREQ#0 7  
D20 H\_IERR#  
IERR# B3 H\_INIT# 28  
INIT#  
LOCK# H4 H\_LOCK# 7  
H\_CPURST# 7  
H\_RS#[2..0] 7  
RESET# C1 H\_RS#0  
RS[0]# E3 H\_RS#1  
RS[1]# F4 H\_RS#2  
RS[2]# G3 H\_RS#2  
TRDY# G2 H\_TRDY# 7  
HIT# G6 H\_HIT# 7  
HITM# E4 H\_HITM# 7  
AD4 XDP\_BPM#0 1 26MIL TP100  
AD3 XDP\_BPM#1 1 26MIL TP92  
AD1 XDP\_BPM#2 1 26MIL TP89  
AC4 XDP\_BPM#3 1 26MIL TP97  
AC2 XDP\_BPM#4 1 26MIL TP87  
AC1 XDP\_BPM#5 1  
AC5 XDP\_TCK  
TCK  
AA6 XDP\_TDI  
AB3 XDP\_TDO 1 26MIL TP95  
AB5 XDP\_TMS  
AB6 XDP\_TRST#  
C20 DBR# 1 26MIL TP118  
D21 PROCHOT#  
A24 H\_THERMDA  
B25 H\_THERMDC  
H\_THERMDA 38  
H\_THERMDC 38  
C7 THRMTRIP# CPU R171 1 0 J 2 PM\_THRMTRIP# 8,28,33  
A22 CLK\_CPU\_BCLK 6  
A21 CLK\_CPU\_BCLK# 6

H\_CPURST# 1 26MIL TP85

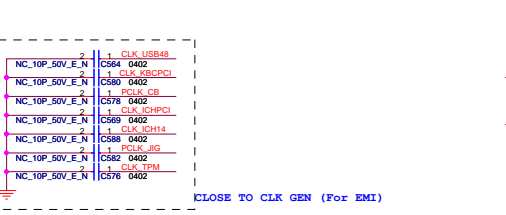
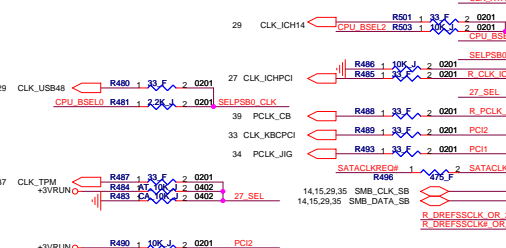
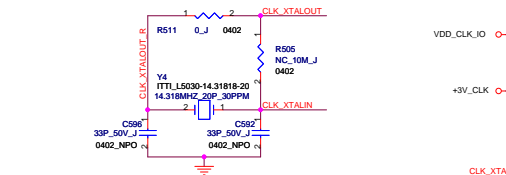
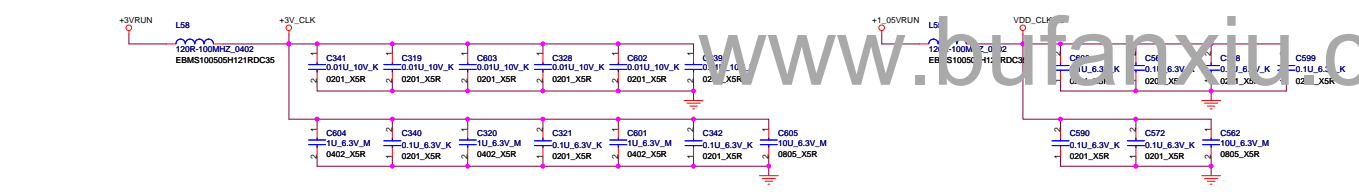


CPU SOCKET\_478P  
FOX\_P24782A-274M-01



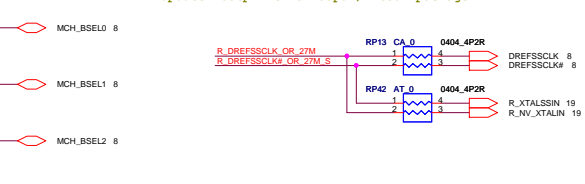
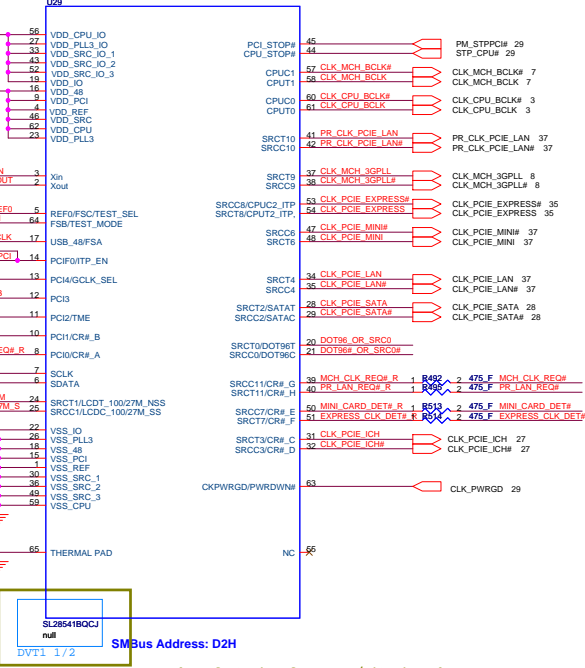




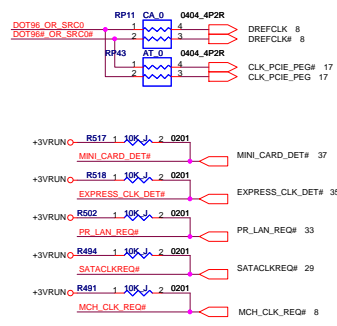


**FSB Frequency Table:**

FSLC	FSLB	FSLA	CPU	SRC	PCI
0	0	0	266.66	100	33
0	0	1	133.33	100	33
0	1	0	200	100	33
0	1	1	166.66	100	33
1	0	0	333.33	100	33
1	0	1	100	100	33
1	1	0	400	100	33



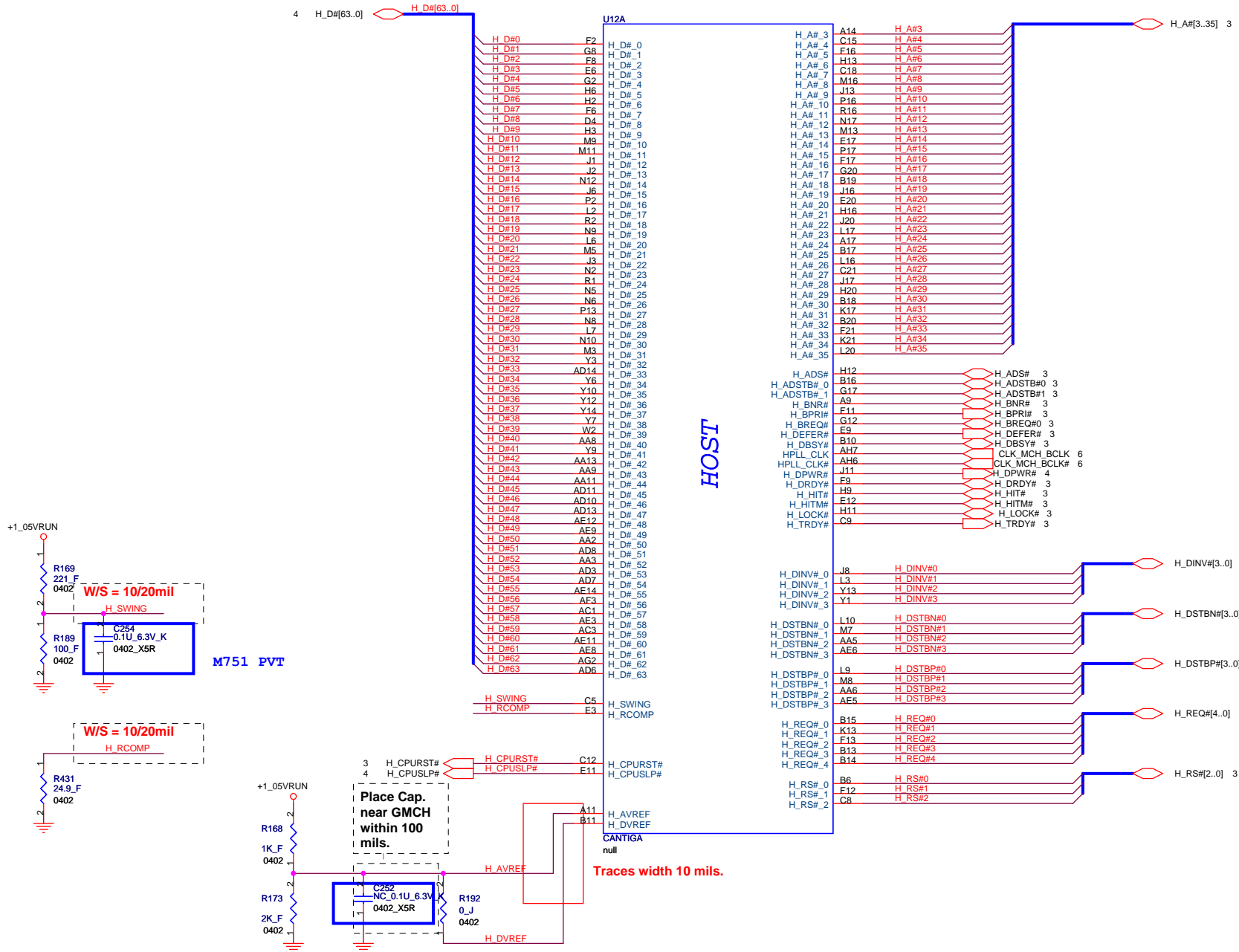
Clock Request	Clock Request Function
CR#A	SRC0, 2
CR#B	SRC1, 4
CR#C	SRC0, 2
CR#D	SRC1, 4
CR#E	SRC6
CR#F	SRC8
CR#G	SRC9
CR#H	SRC10



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**CLOCK GEN**

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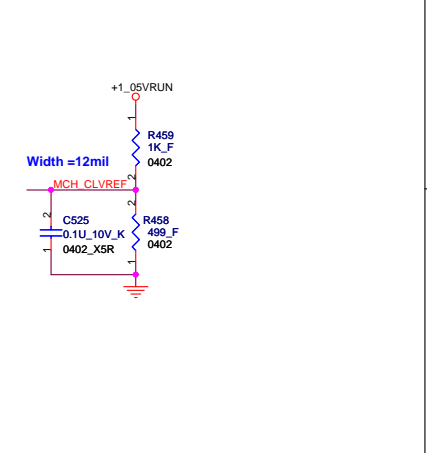
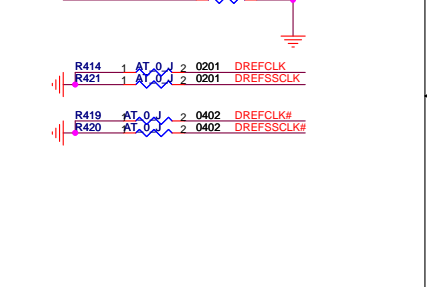
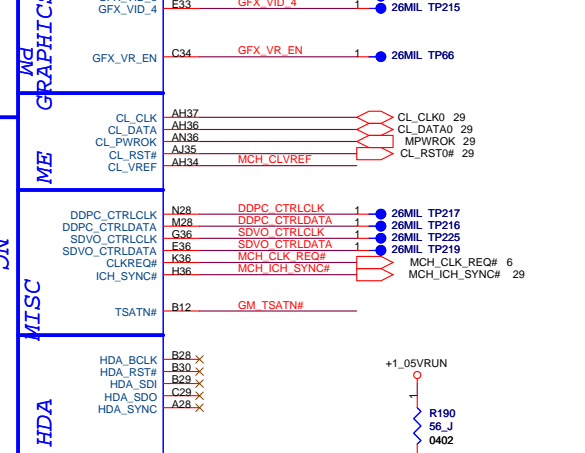
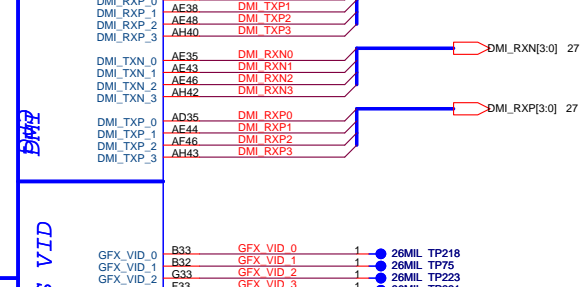
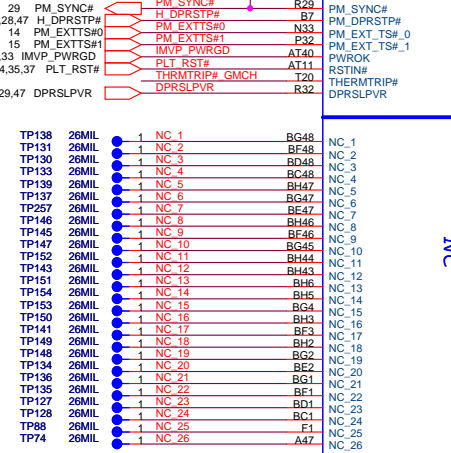
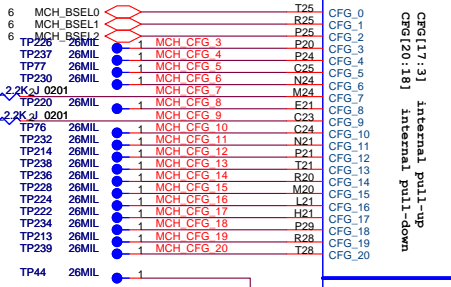
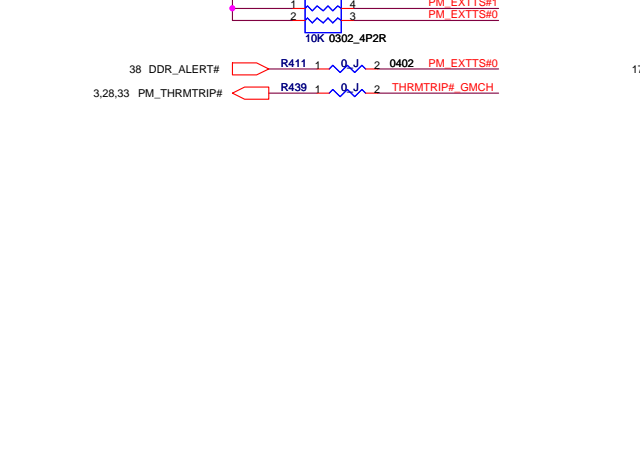
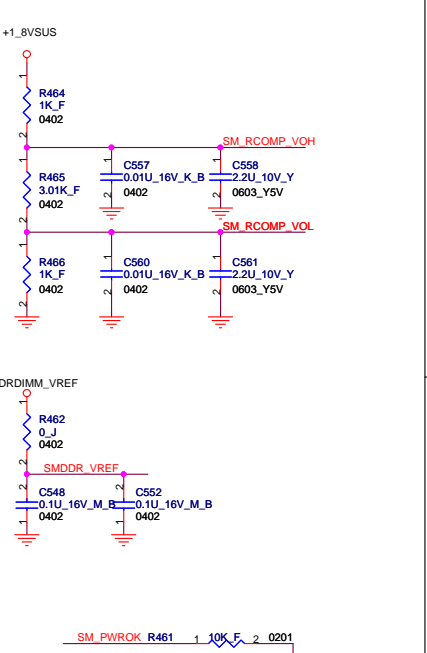
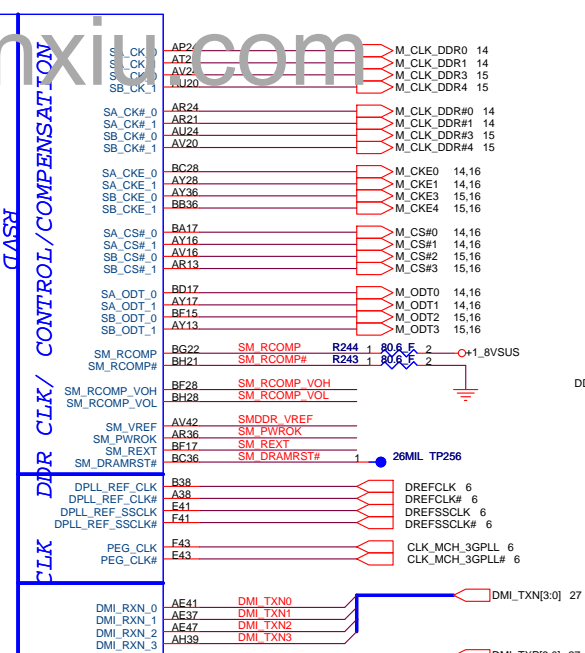
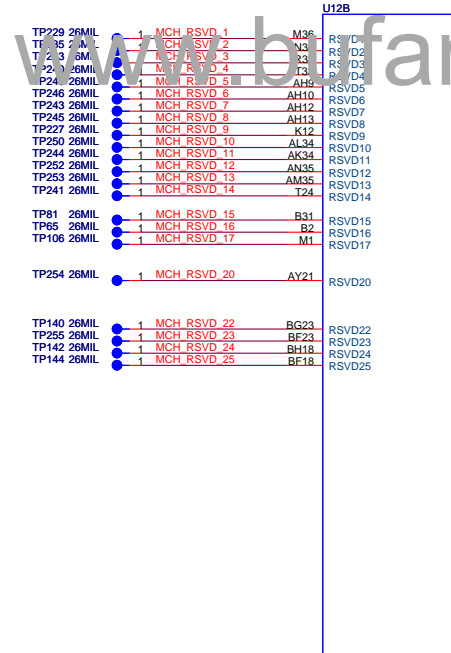
HOST

Place Cap. near GMCH within 100 mils.

Traces width 10 mils.



MCH_CFG_0-2 FSB Frequency	000 = FSB1066 ; 010 = FSB800 ; 011 = FSB667 ; Others = Reserved
MCH_CFG_3-4	Reserved
MCH_CFG_5 DMI X2 Select	Low = DMI X2 High = DMI X4 (Default)
MCH_CFG_6 ITPM Host Interface	Low = The ITPM Host Interface is enabled High = The ITPM Host Interface is disabled (default)
MCH_CFG_7 Intel Management Engine Crypto Strap	Low = Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality High = Intel Management Engine Crypto TLS cipher suite with confidentiality (default)
MCH_CFG_8	Reserved
MCH_CFG_9 PCIe Graphics Lane	Low = Lane Reversed High = Normal operation
MCH_CFG_10 PCIe Loopback enable	Low = Enabled High = Disabled (default)
MCH_CFG_11	Reserved
MCH_CFG_12 ALLZ	Low = ALLZ mode enabled High = Disabled (default)
MCH_CFG_13 XOR	Low = XOR mode enabled High = Disabled (default)
MCH_CFG_14-15	Reserved
MCH_CFG_16 FSB Dynamic ODT	Low = Dynamic ODT disabled High = Dynamic ODT enabled (default)
MCH_CFG_17-18	Reserved
MCH_CFG_19 DMI Lane Reversal	Low = Normal operation (Default): Lane Numbered in Order High = Reverse Lanes DMI x4 mode [(G)MCH->ICH]: (3->0, 2->1, 1->2 and 0->3) DMI x2 mode [(G)MCH->ICH]: (3->0, 2->1)
MCH_CFG_20 Digital Display Port (SDVO/DP/iHDMI) or Concurrent with PCIe	Low = Only digital display port (SDVO/DP/iHDMI) or PCIe is operational (default) High = Digital display port (SDVO/DP/iHDMI) and PCIe are operating simultaneously via the PEG port



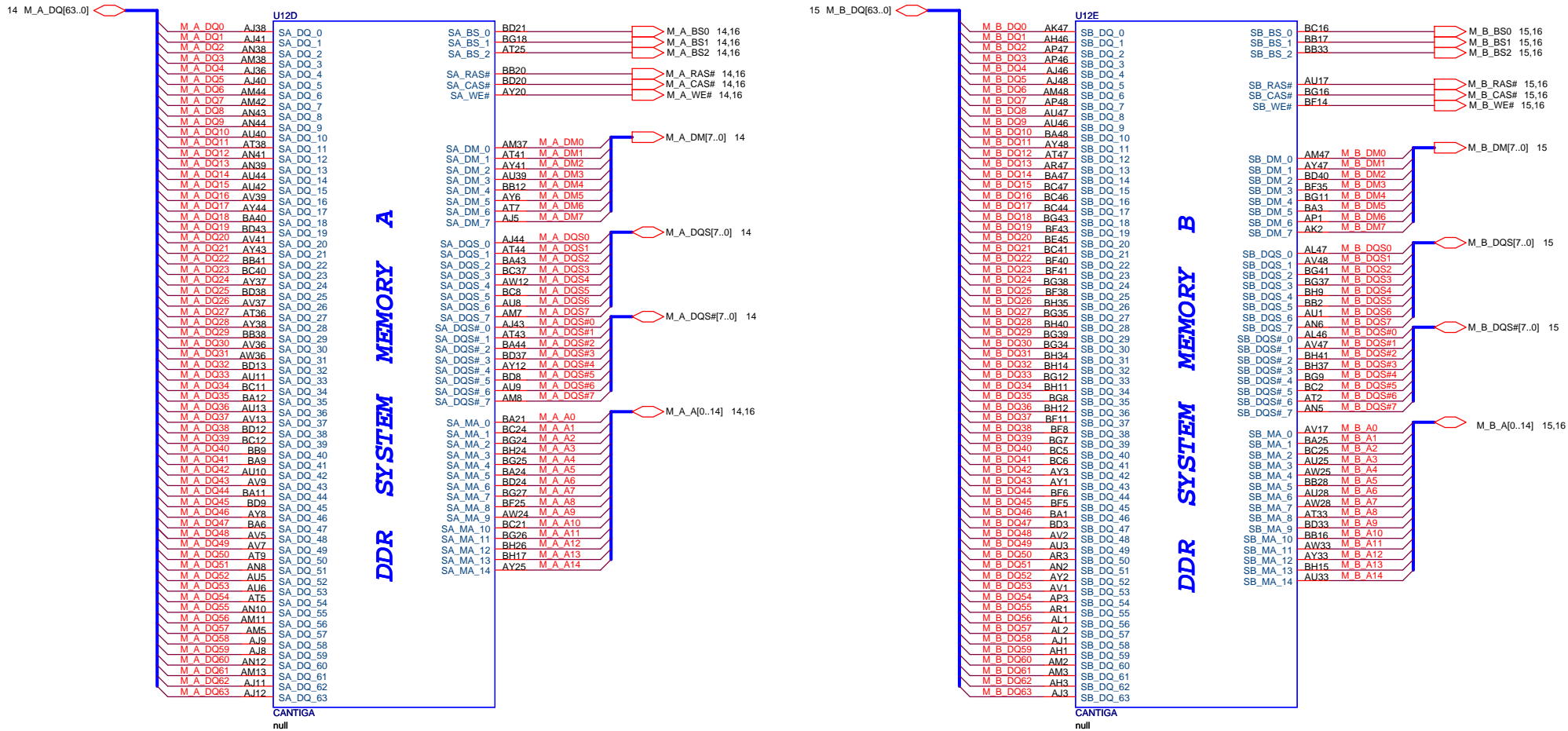
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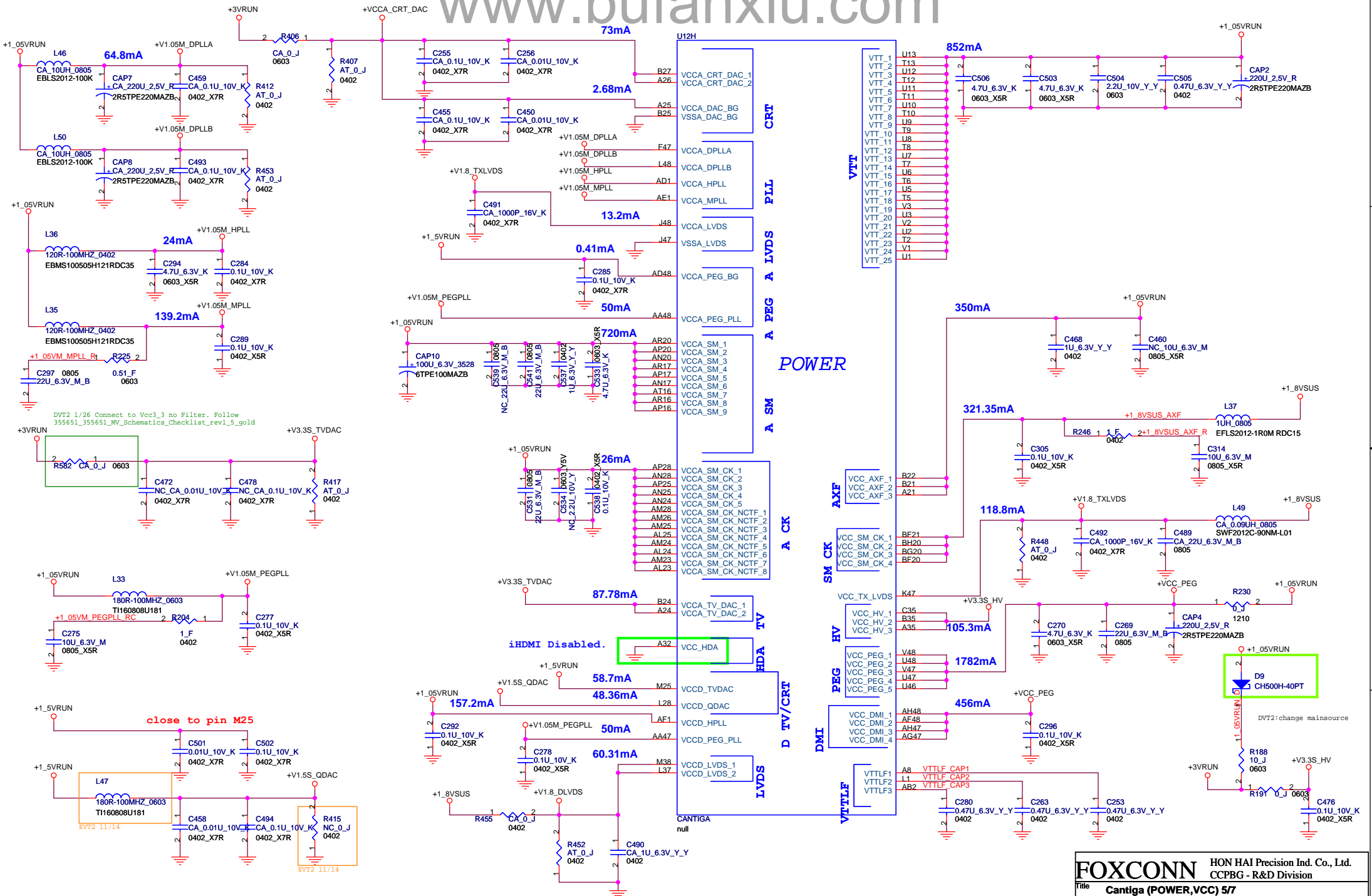
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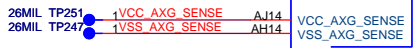
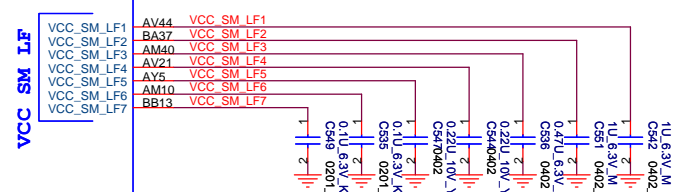
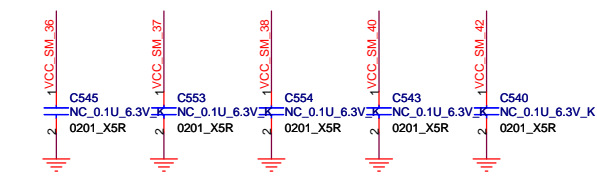
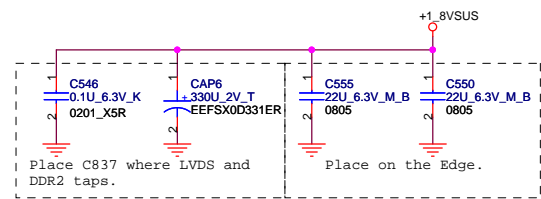
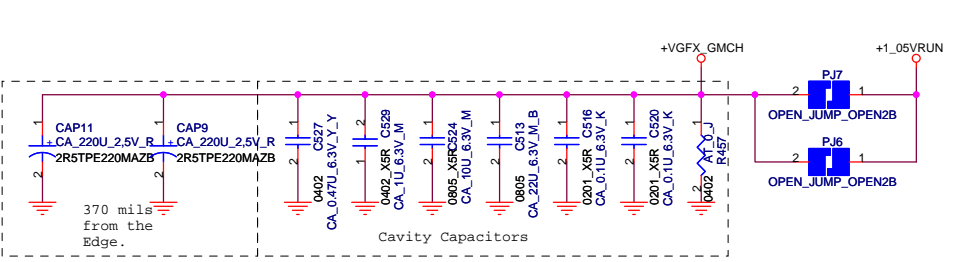
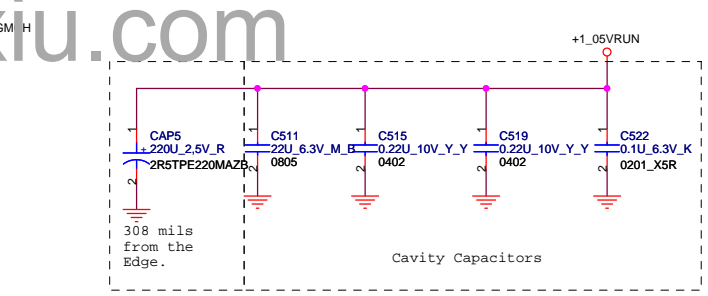
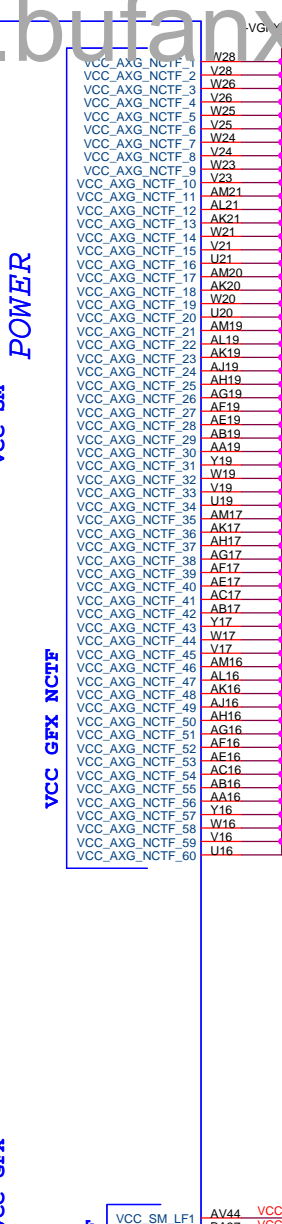
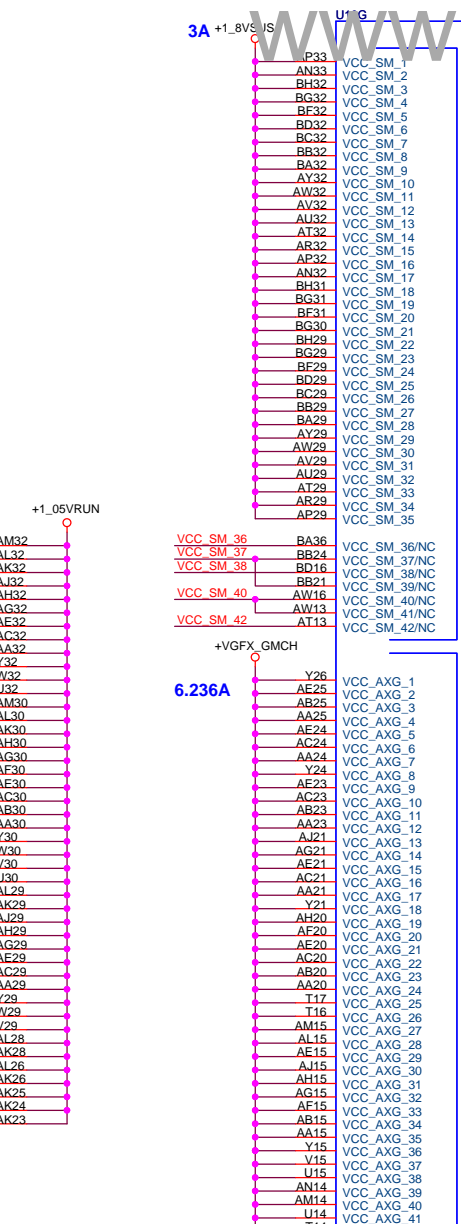
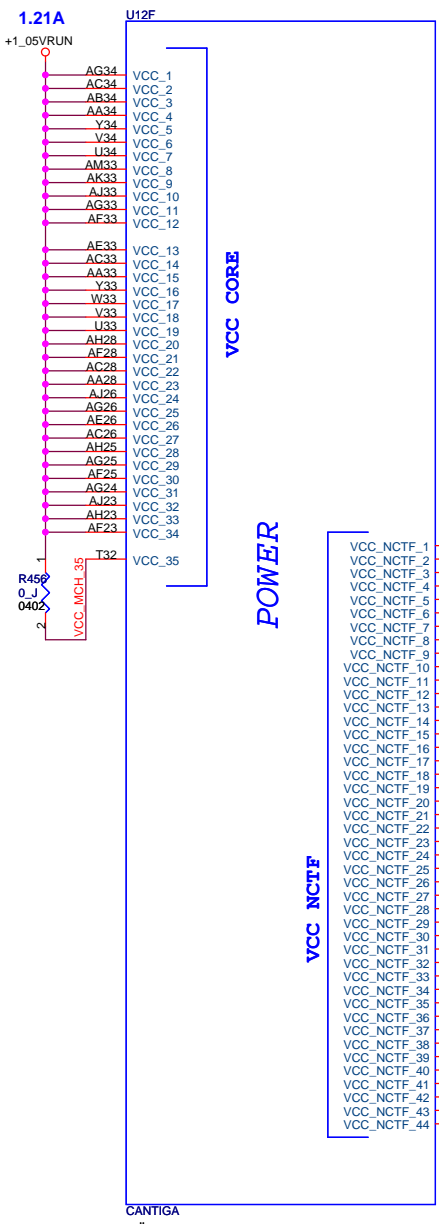
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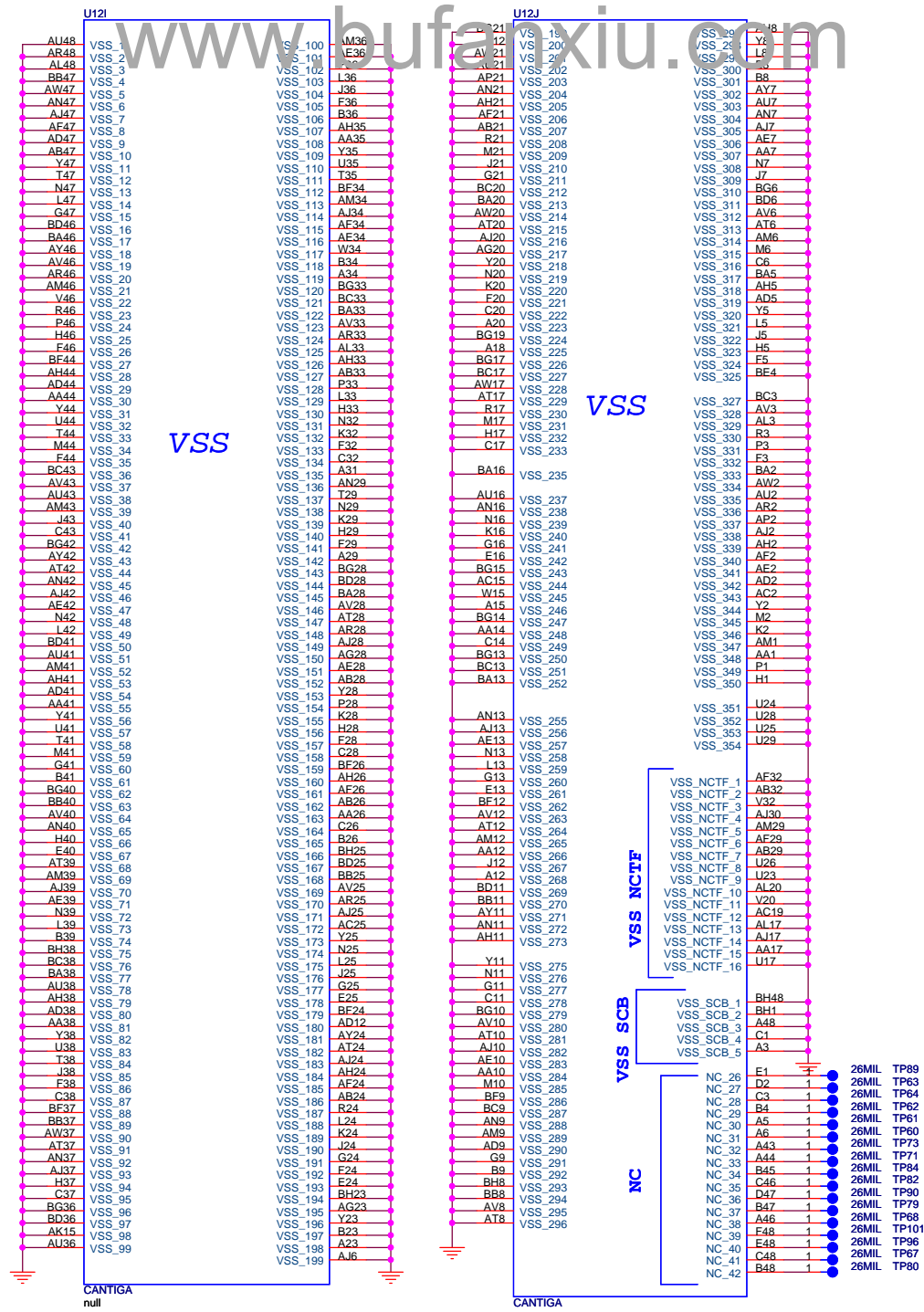












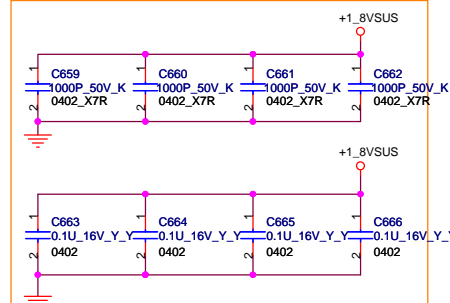
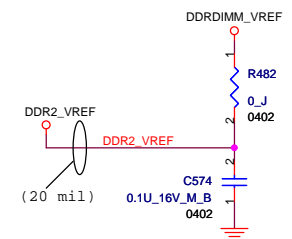
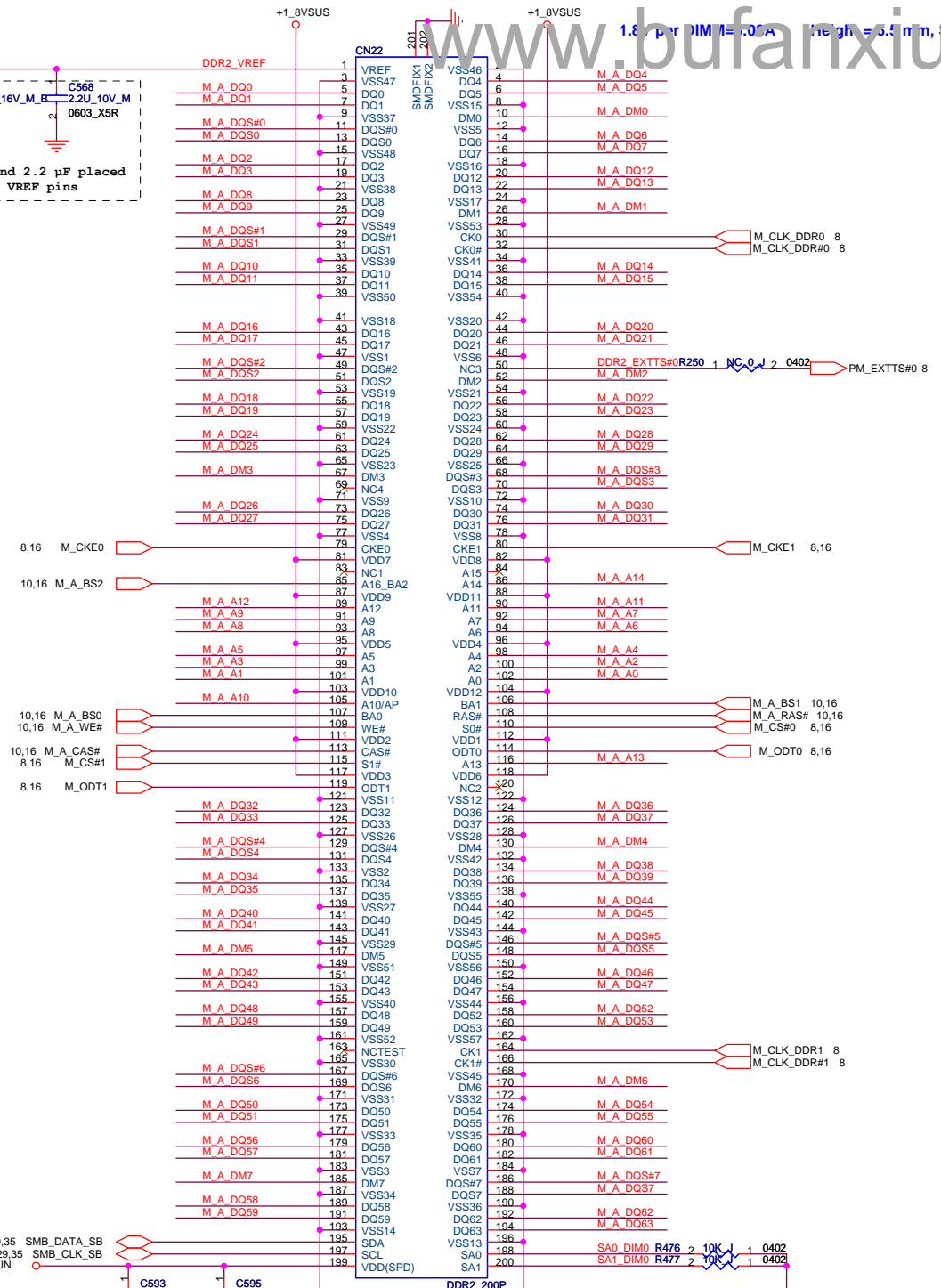
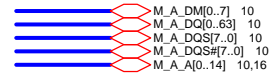
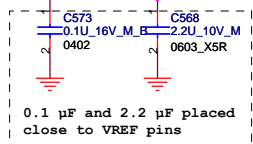
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Title: **Cantiga (VSS) 777**

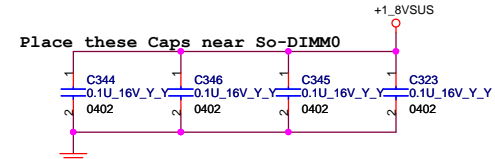
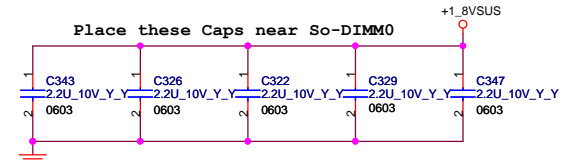
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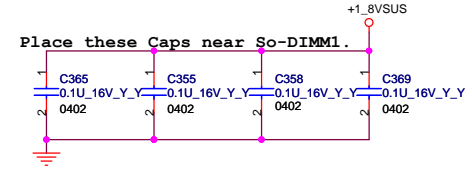
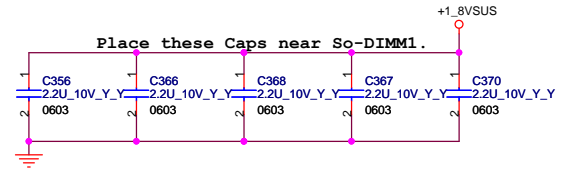
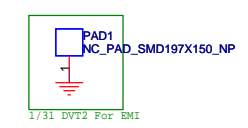
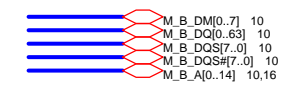
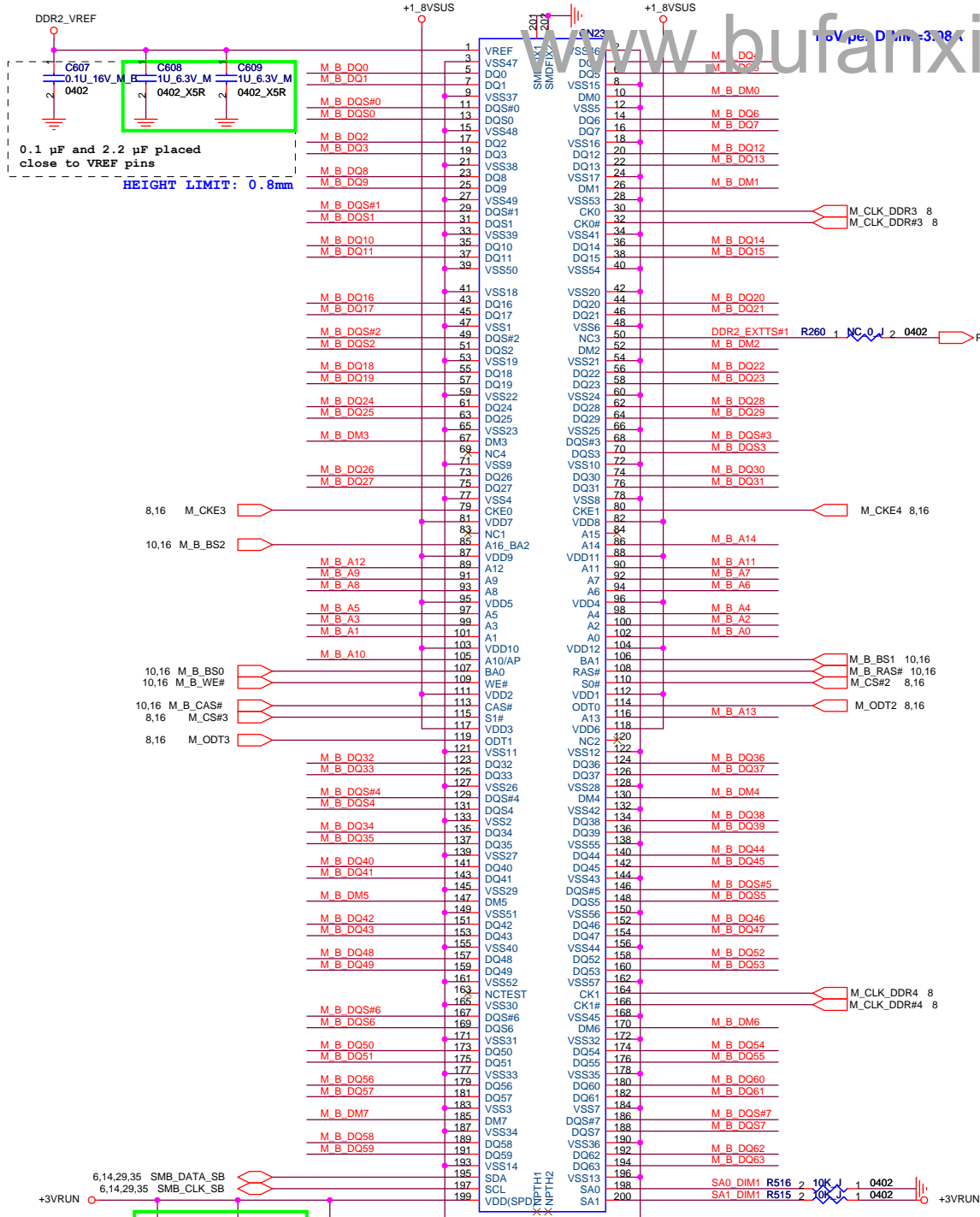


EVT2 11/09 Reserved For EMI. Place around +1.8VSUS plane.



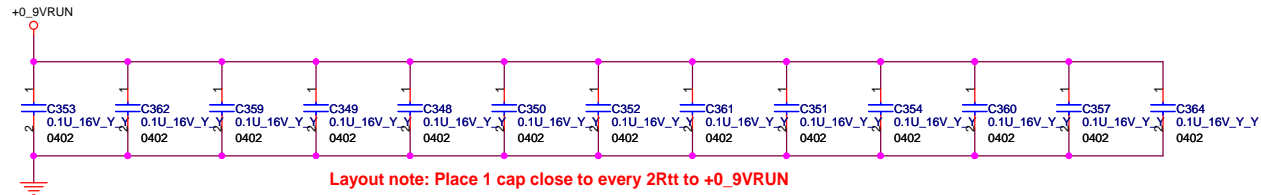
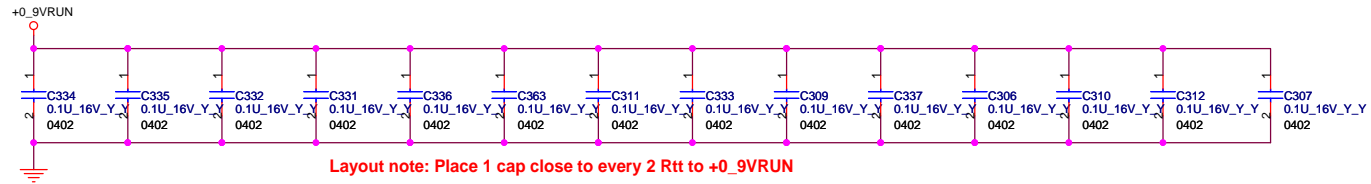
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Place DIMM\_0 near GMCH



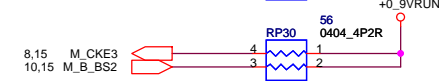
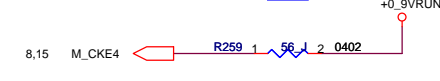
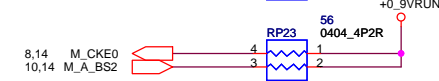
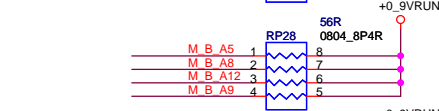
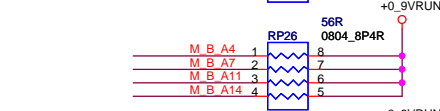
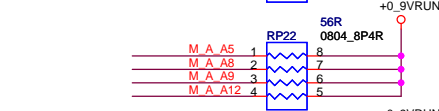
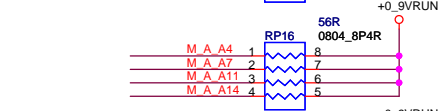
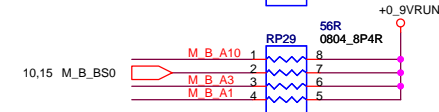
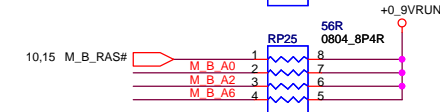
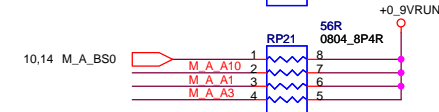
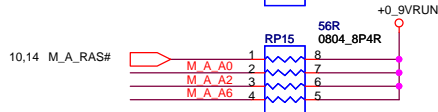
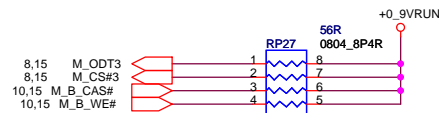
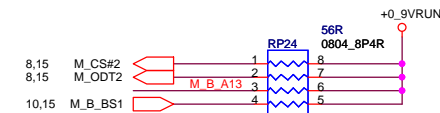
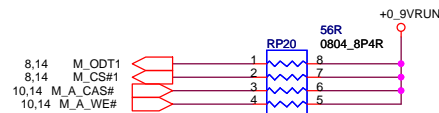
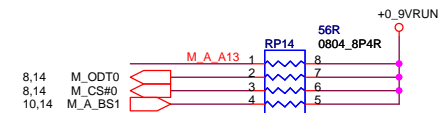
SMBus Address: A4(W)/A5(R)  
DIMM\_1 is placed farther from the GMCH than DIMM\_0

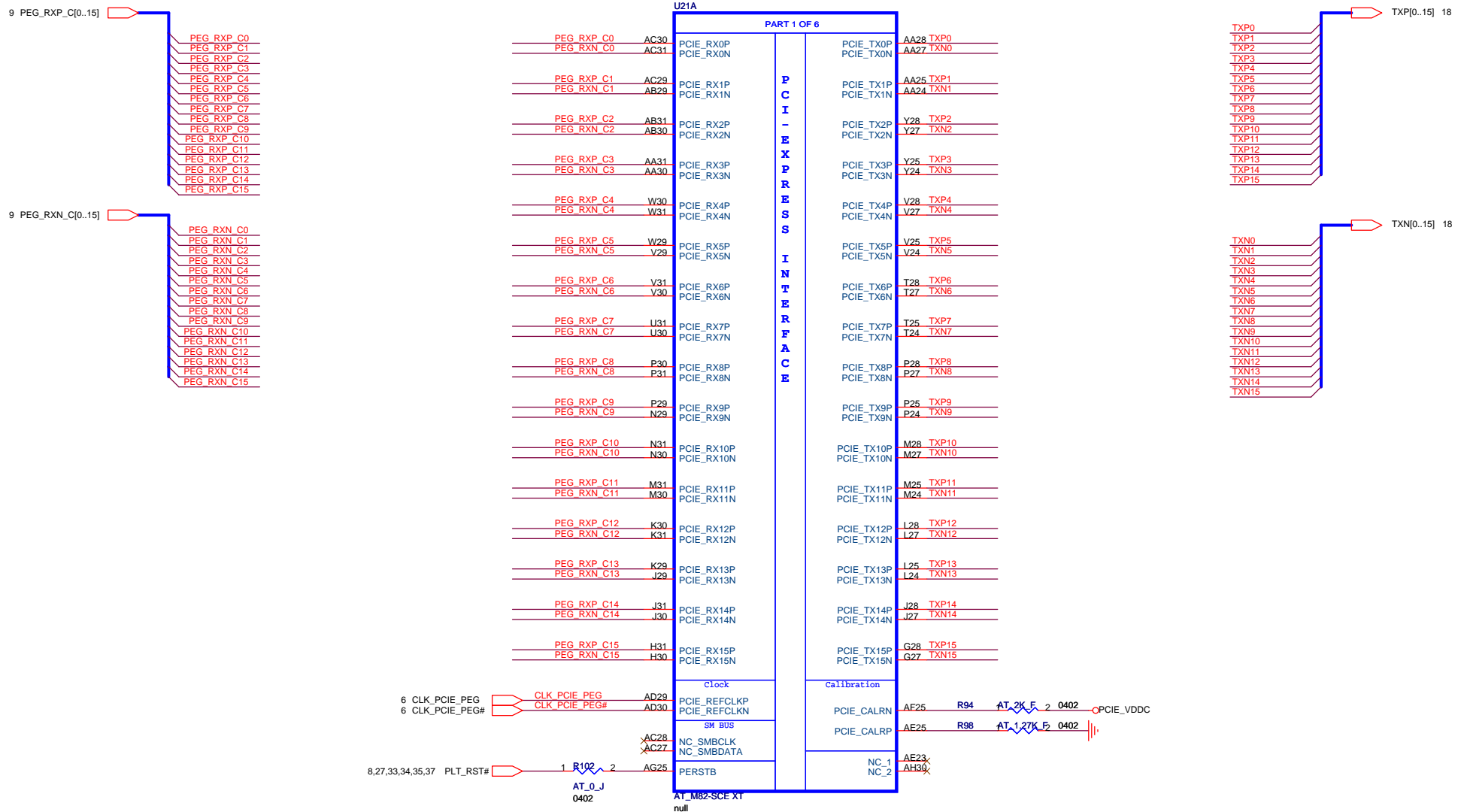




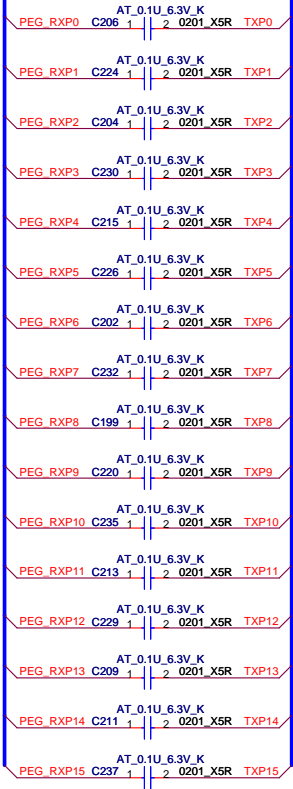
10,14 M\_A\_A[0..14]

10,15 M\_B\_A[0..14]

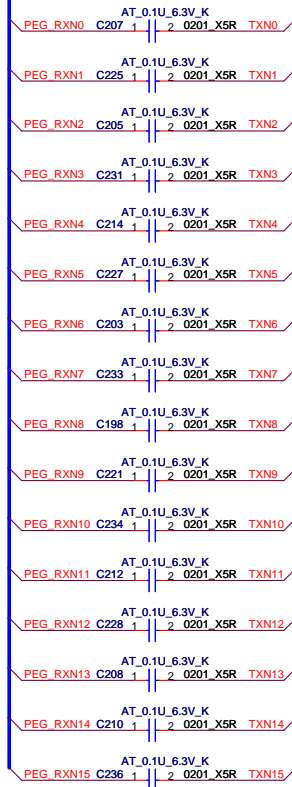




9 PEG\_RXP[0..15] TXP[0..15] 17



9 PEG\_RXN[0..15] TXN[0..15] 17

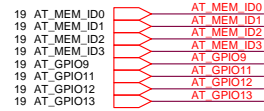
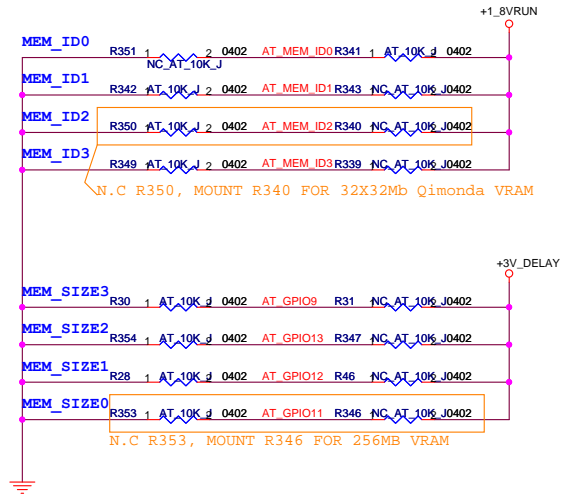


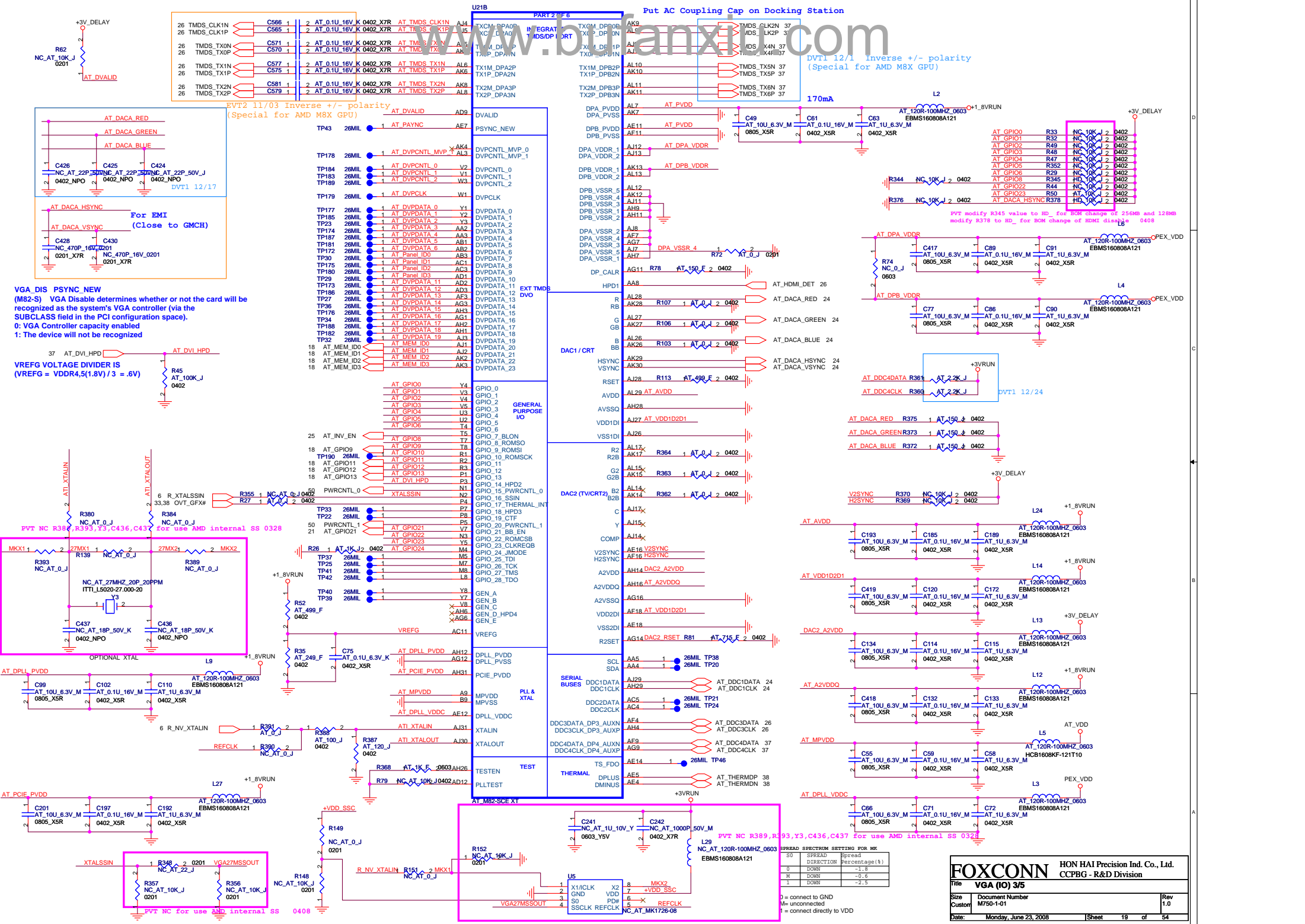
Strap for GDDR3-136ball  
ATL\_DVPDATA[23 : 20]

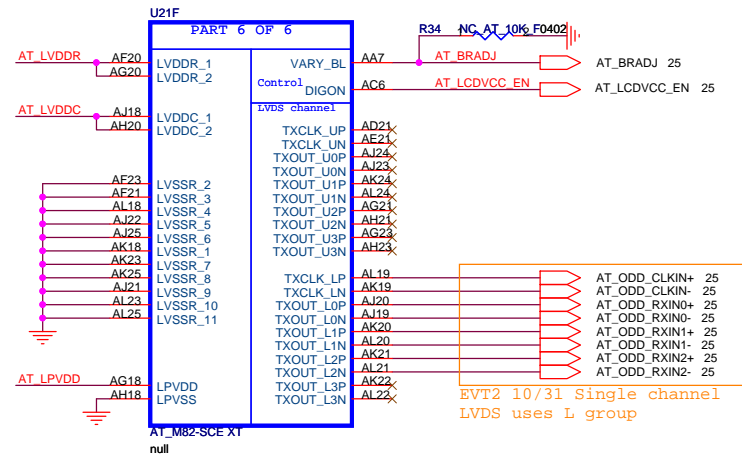
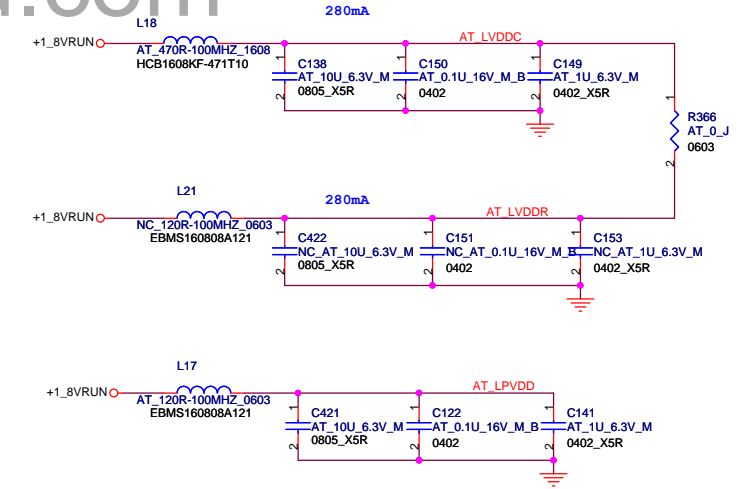
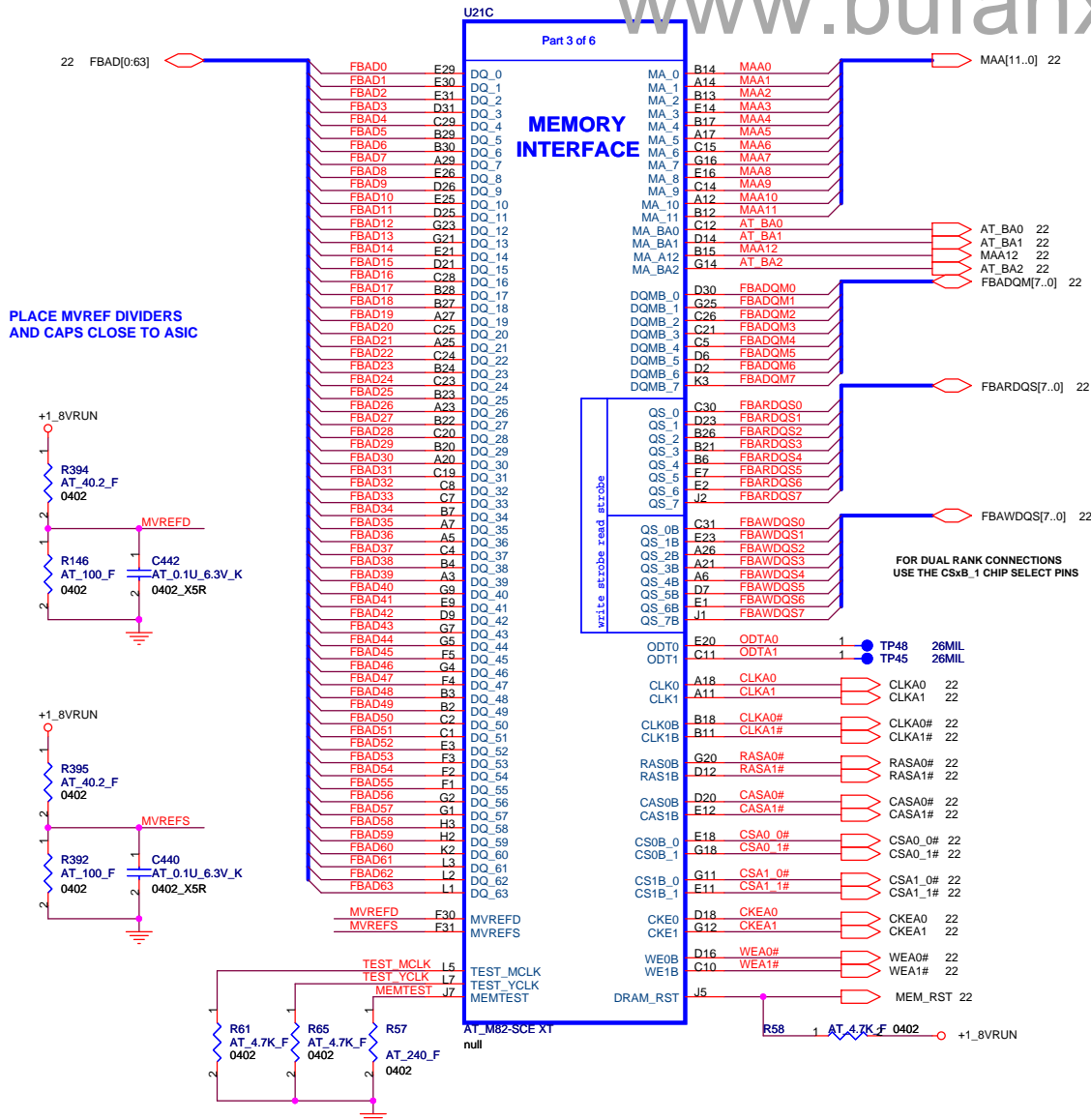
- 0001 16Mx32 Qimonda
- 0010 16Mx32 Hynix
- 0011 16Mx32 Samsung
- 0101 32Mx32 Qimonda
- 0110 32Mx32 Hynix
- 0111 32Mx32 Samsung

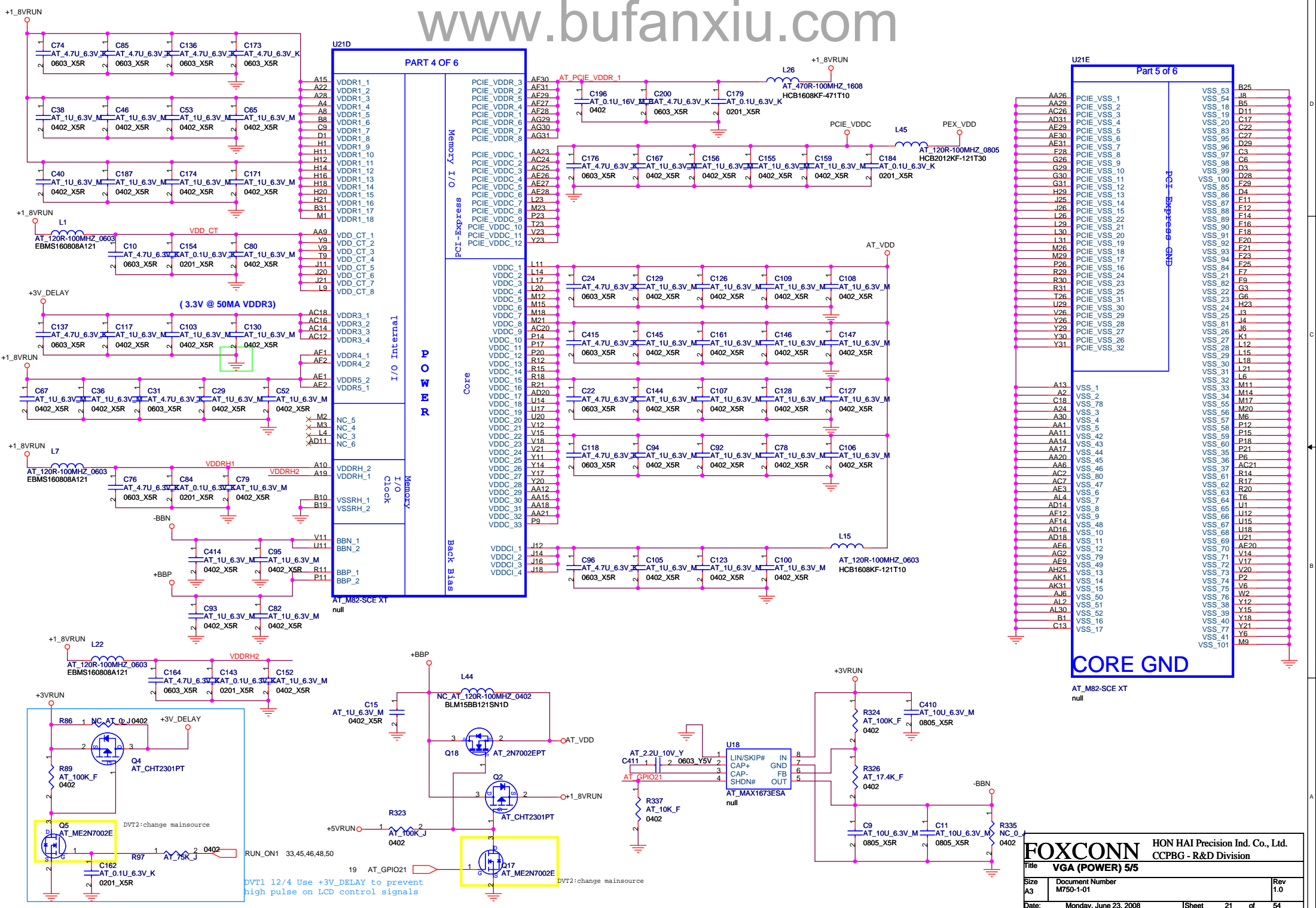
If no ROM attached, GPIO[9:13:12:11]  
CONFIG(3:0)  
controls the memory aperture size.

- 128MB X000
- 256MB X001
- 64MB X010
- 32MB X011
- 512MB X100
- 1GB X101
- 2GB X110
- 4GB X111









**FOXCONN** HON HAI Precision Ind. Co., Ltd.  
CCPBG - R&D Division

Title: **VGA (POWER) 5/5**

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Date: Monday, June 23, 2008	Sheet: 21	of 54

DVT1 12/4 Use +3V\_DELAY to prevent high pulse on LCD control signals

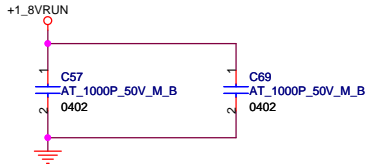
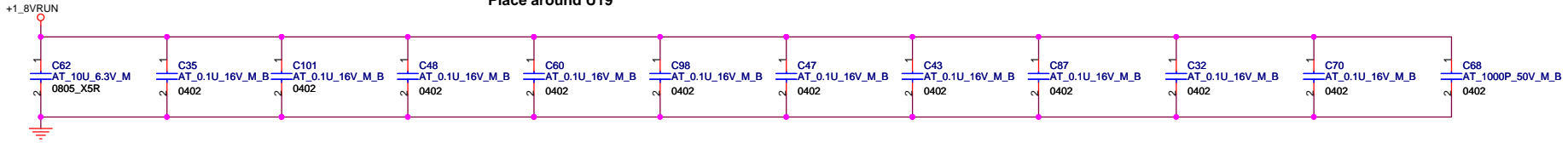
DVT2:change mainsource



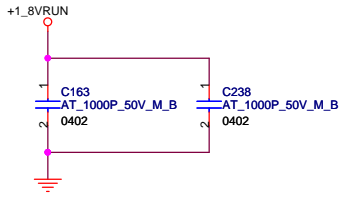
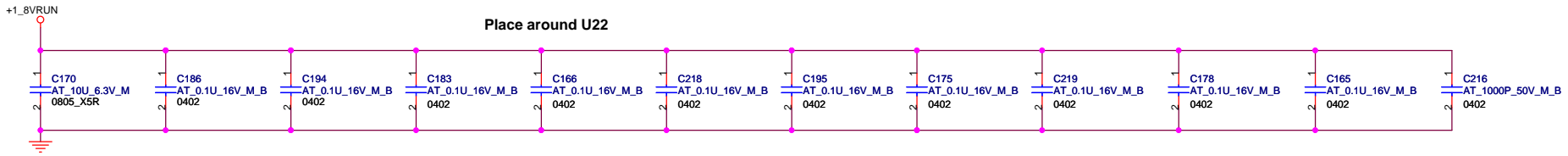


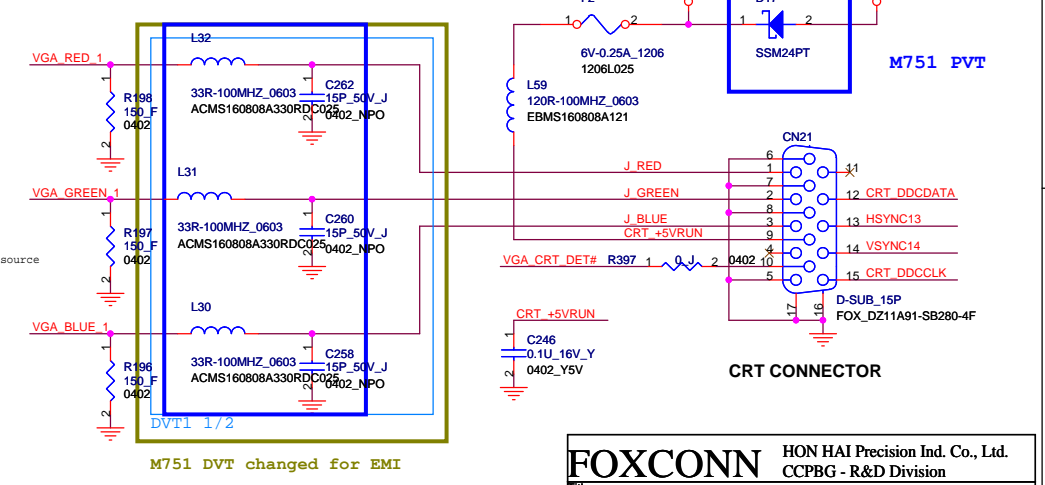
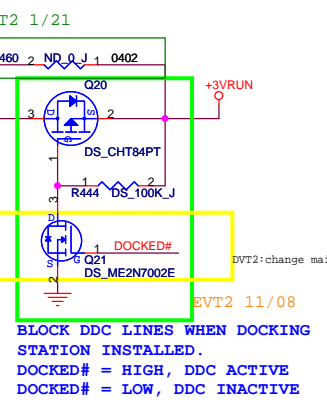
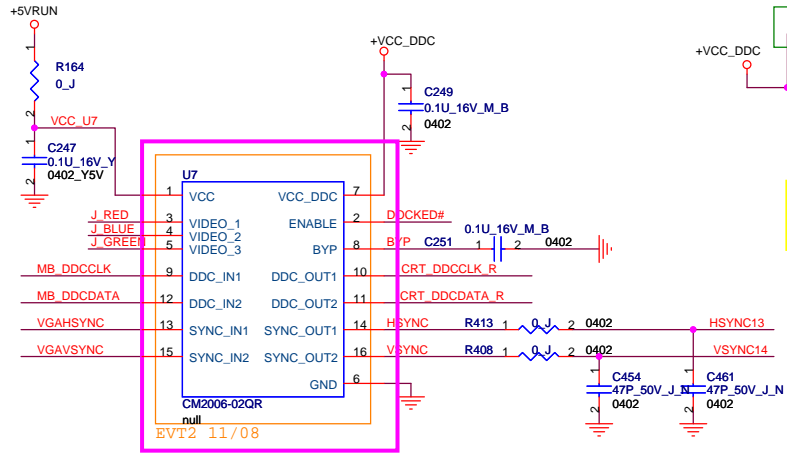
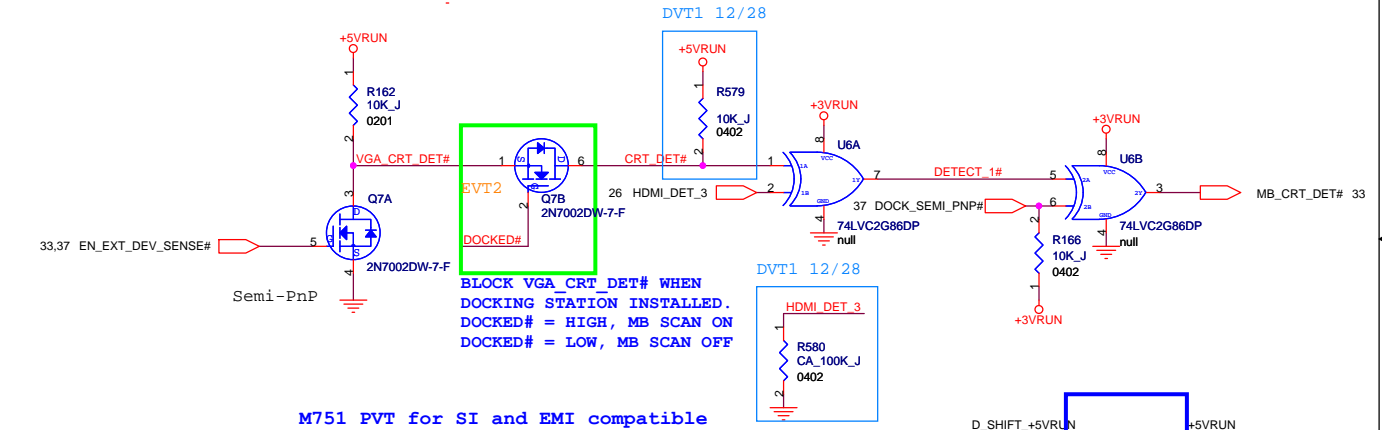
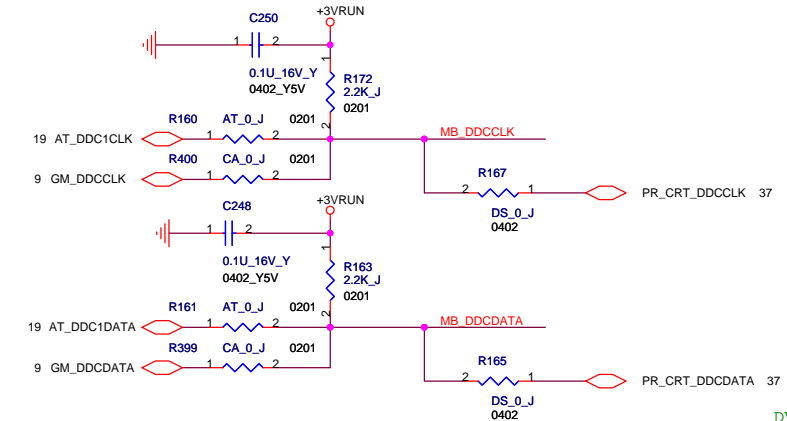
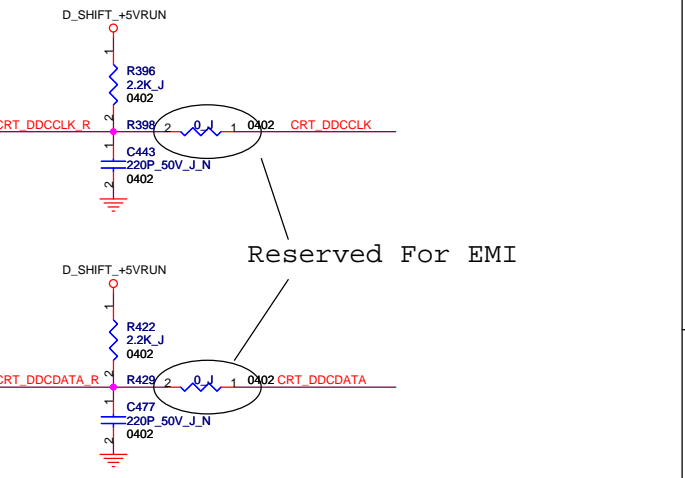
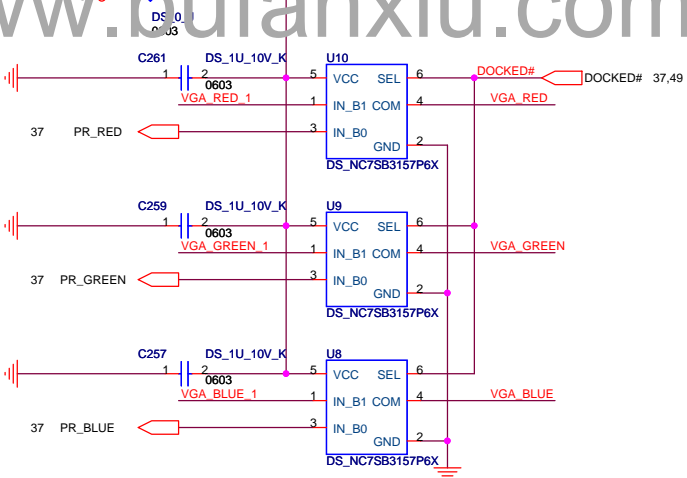
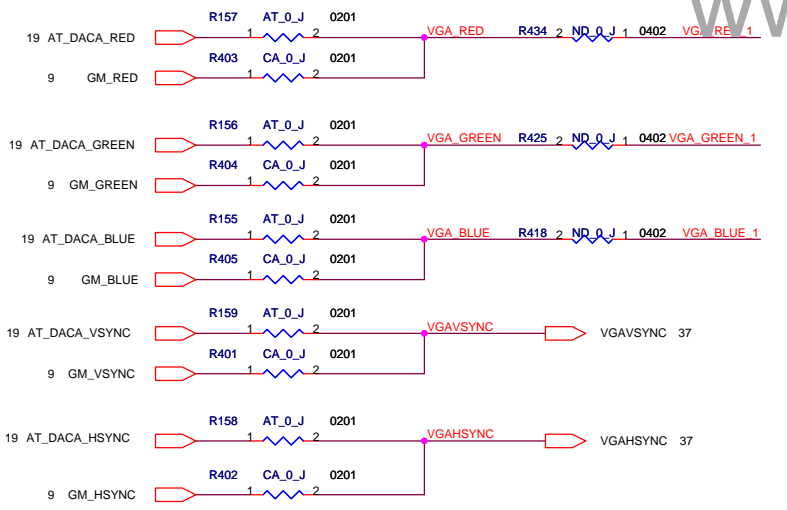


Place around U19



Place around U22

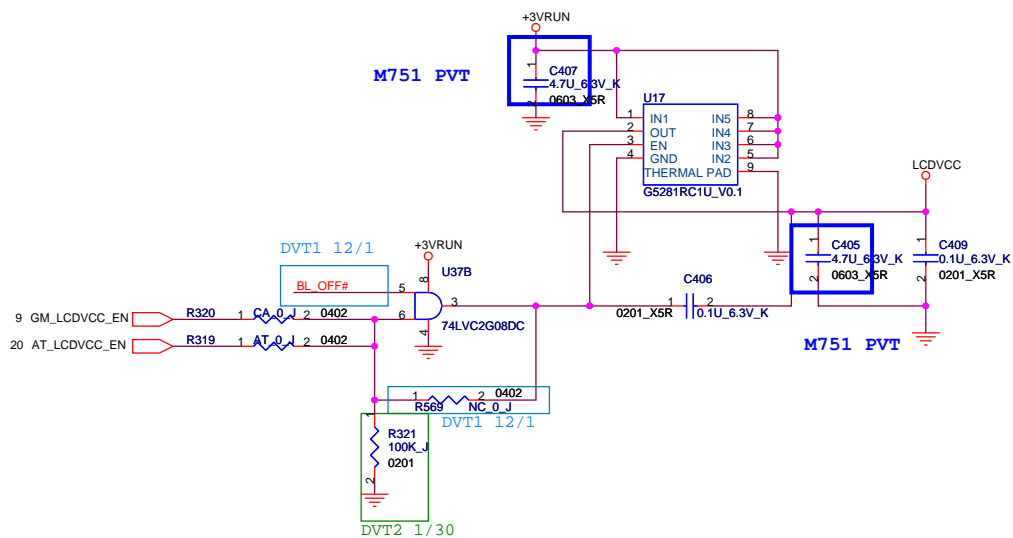
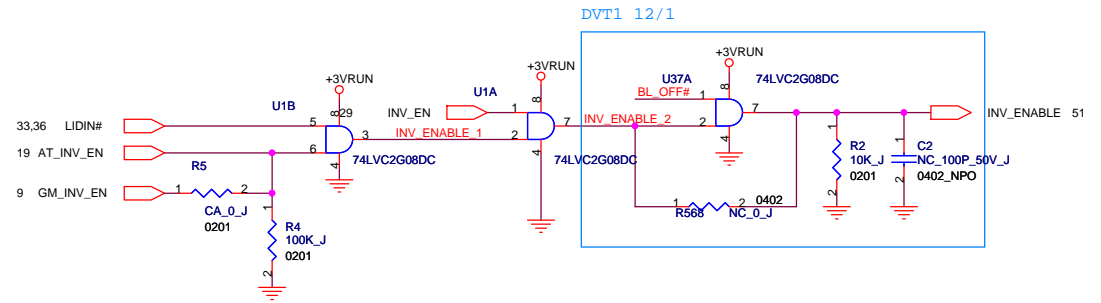
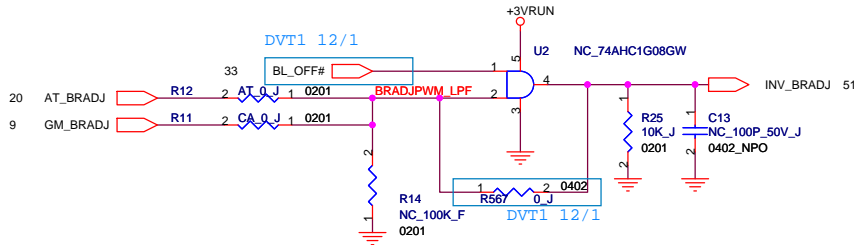
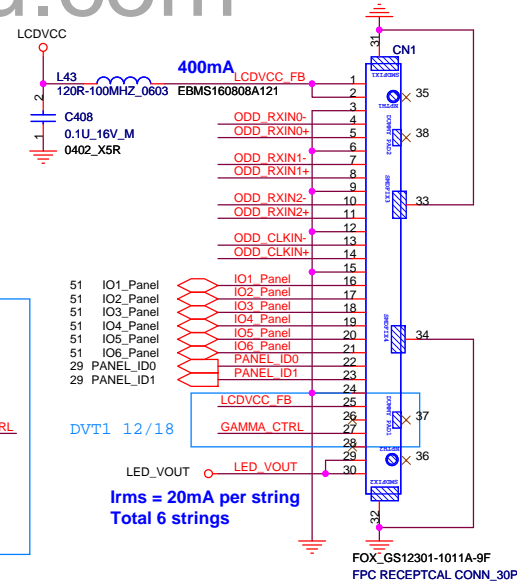
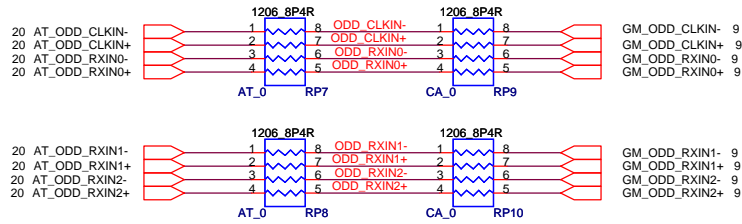


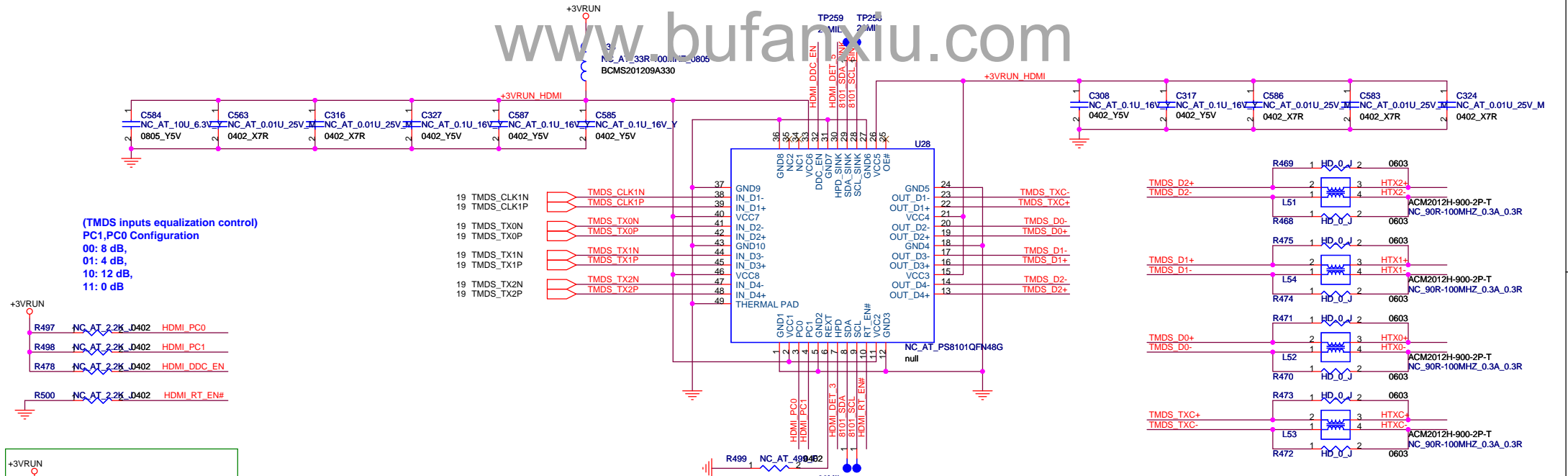


PVT update symbol to CM2006-02QR

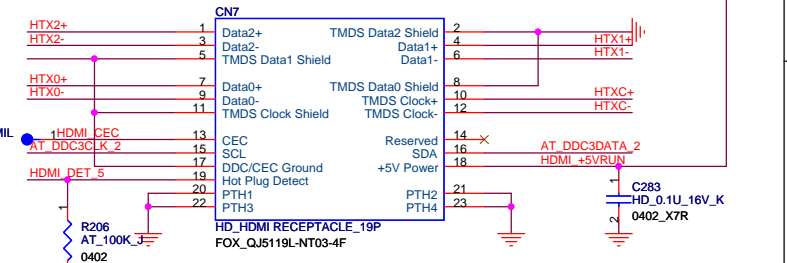
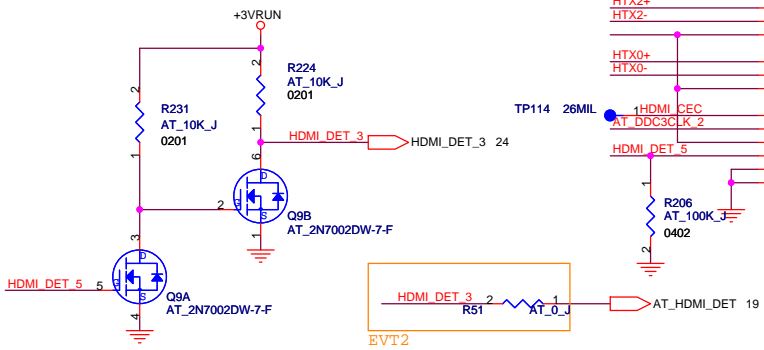
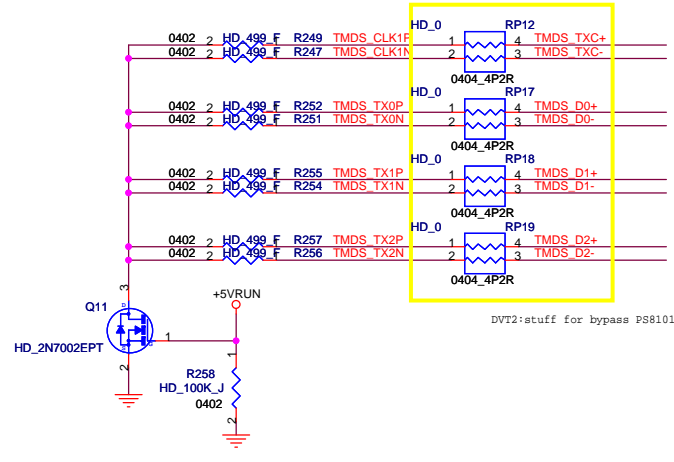
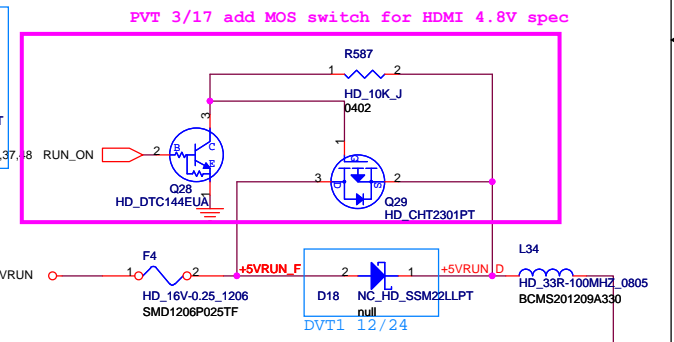
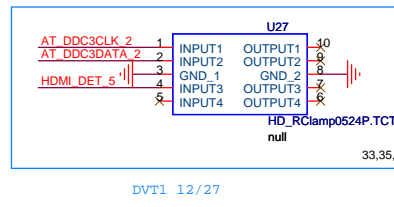
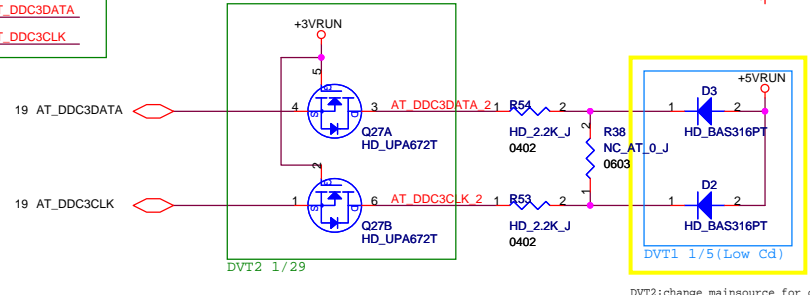
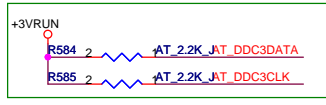
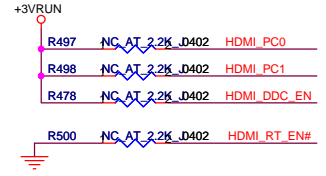
<b>FOXCONN</b> HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
File	<b>CRT</b>	
Size	Document Number	Rev
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Date:	Thursday, June 26, 2008	Sheet 24 of 54

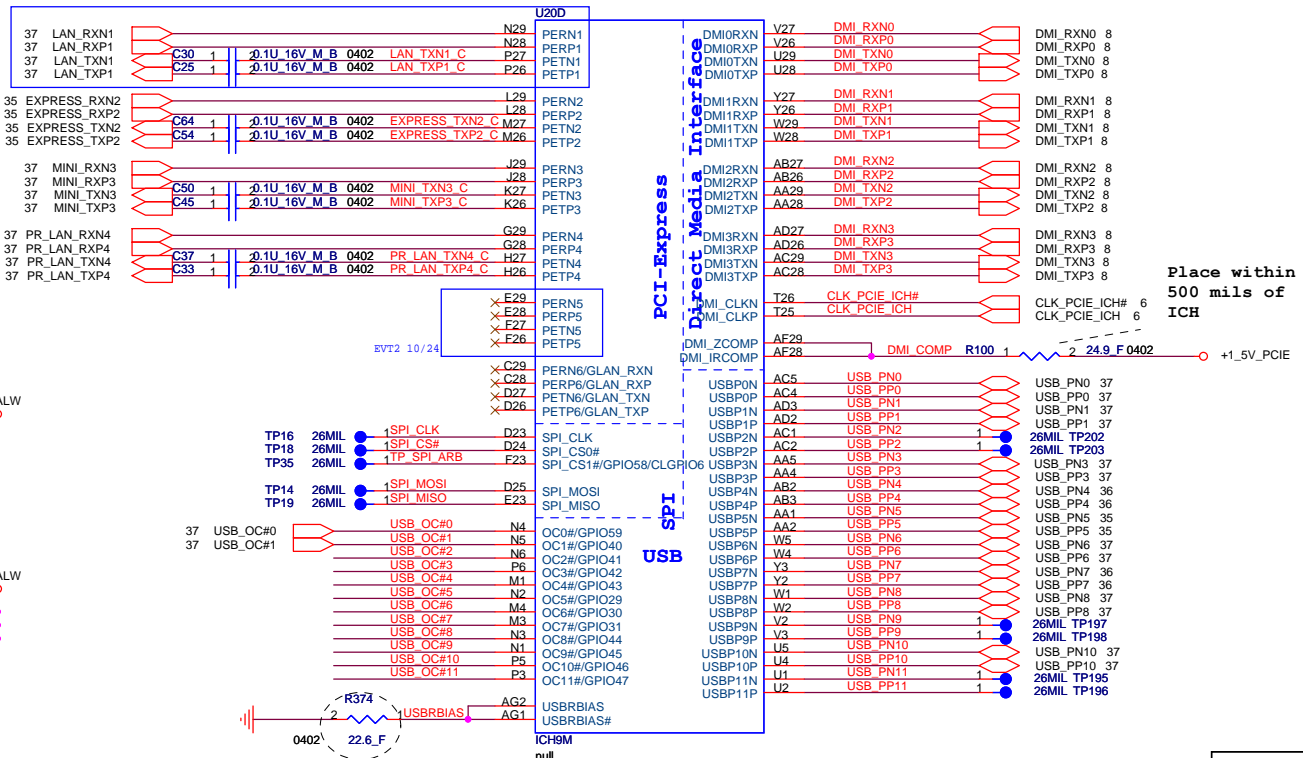
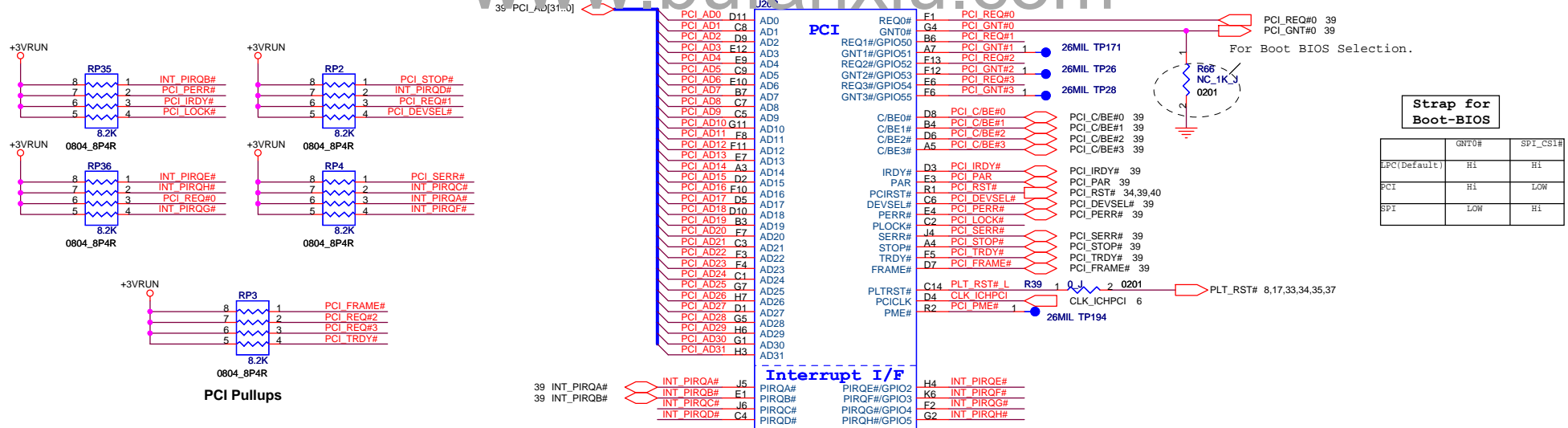
## LVDS





(TMDS inputs equalization control)  
**PC1,PC0 Configuration**  
 00: 8 dB,  
 01: 4 dB,  
 10: 12 dB,  
 11: 0 dB

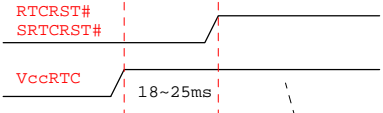




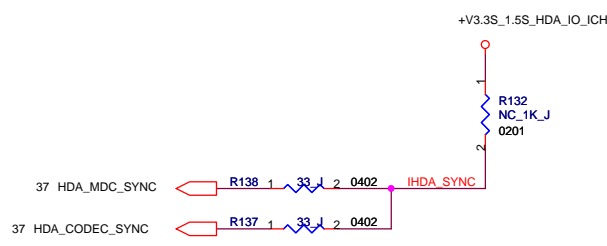
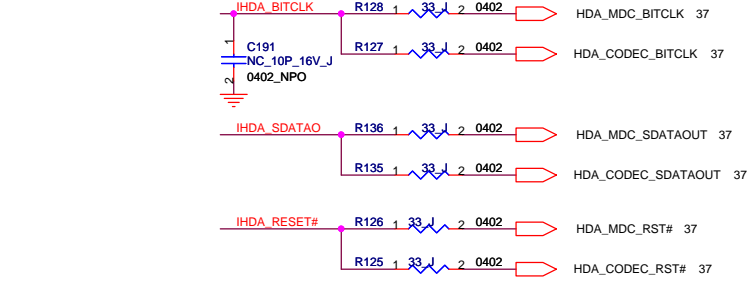
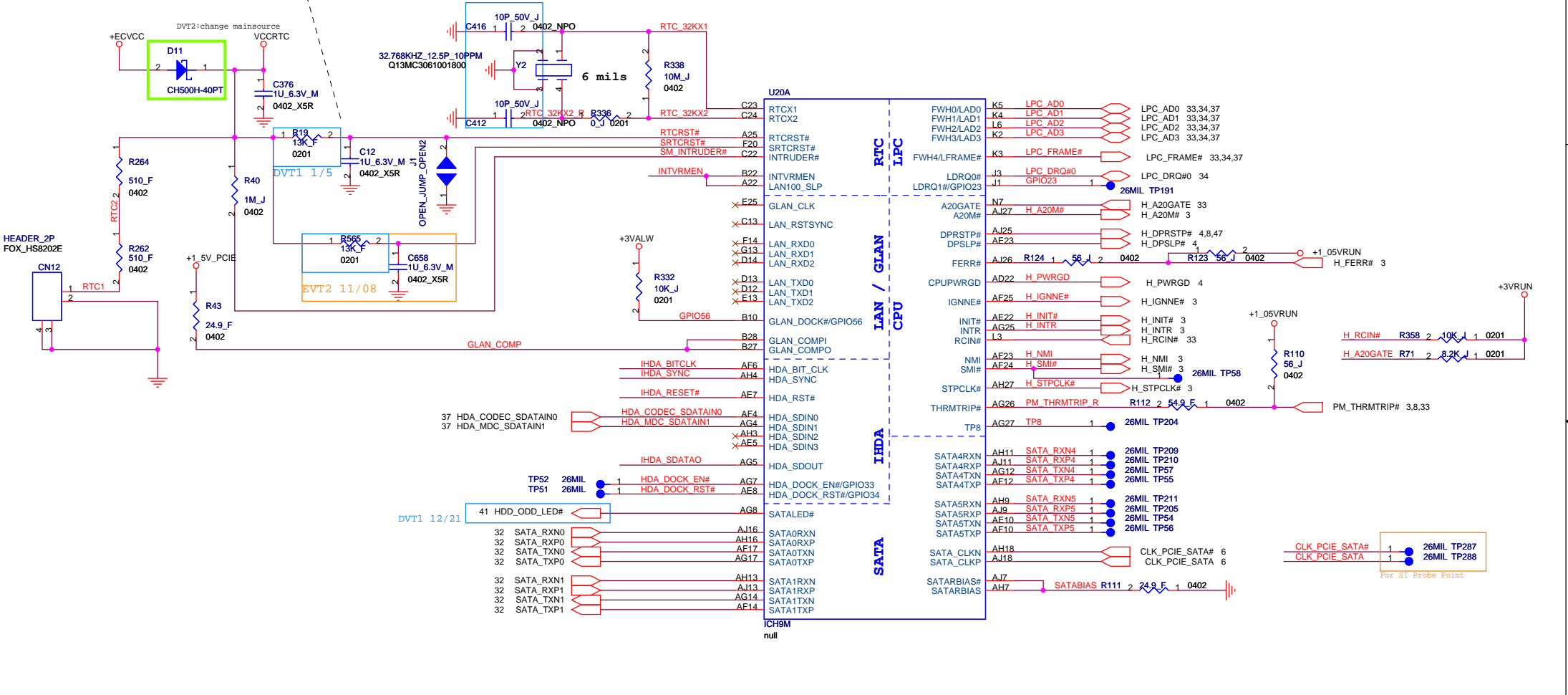
USB PORT	Function
PORT-0	SIDE-1
PORT-1	SIDE-2
PORT-2	x
PORT-3	Docking Hub
PORT-4	Bluetooth
PORT-5	ExpressCard
PORT-6	FingerPrint
PORT-7	Camera
PORT-8	Felica
PORT-9	x
PORT-10	Wimax
PORT-11	x

Internal VR enabled for VccSu\_1.05, VccSu\_1.5  
Vcc1\_1.5, VccL1\_1.5 and VccL1\_0.5

INTVRMEN	Low= Internal VR Disabled High= Internal VR Enabled(Default)
----------	---



The traces inside this block should be wider.  
DVT1 12/23

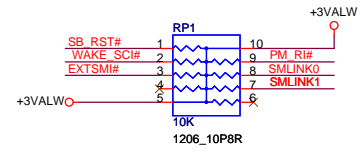


SW1: DISPLAY OUTOUT SELECTION  
(FOR DEBUG ONLY)

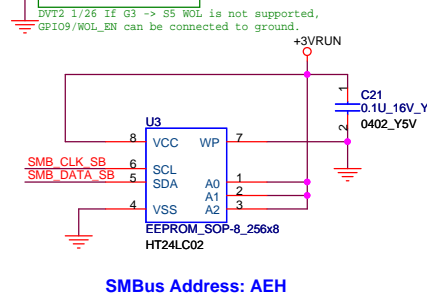
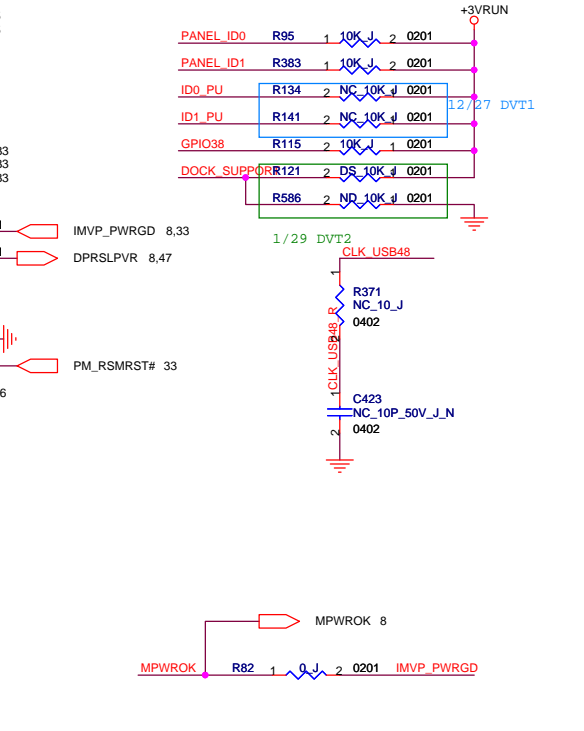
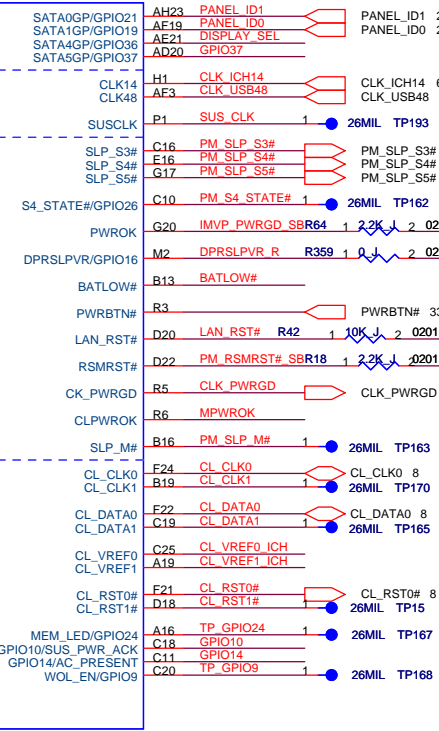
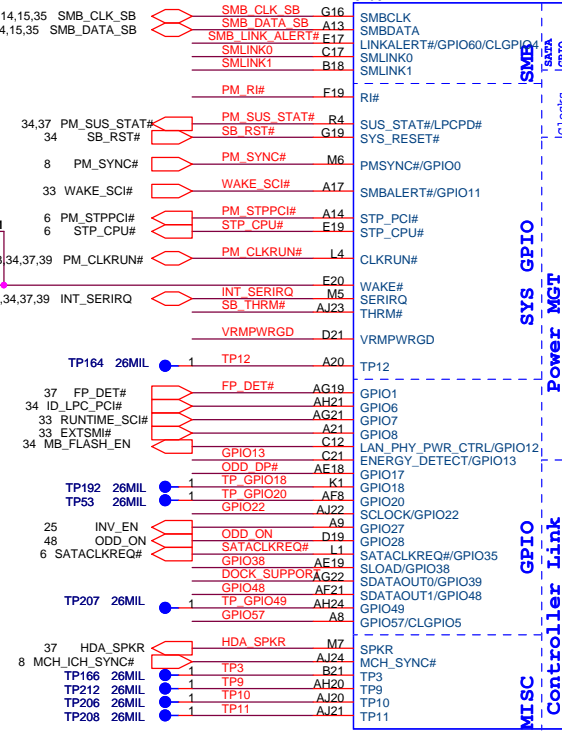
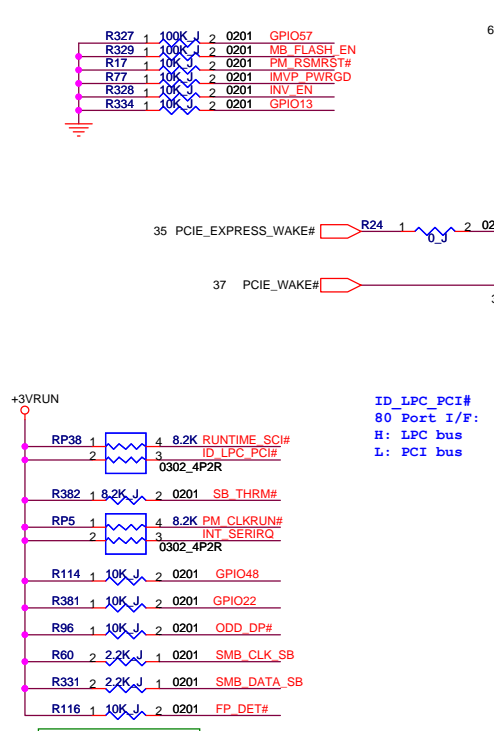
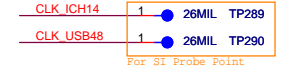
Dock Support Selection

DISPLAY_SEL	
0	CRT
1	LVDS

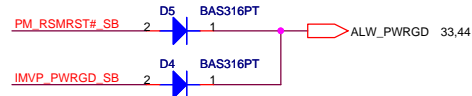
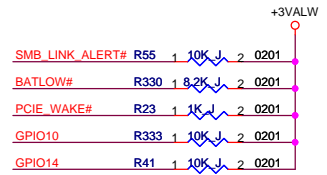
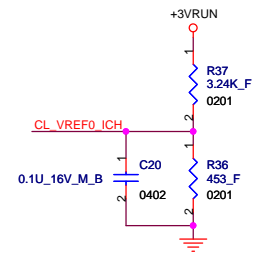
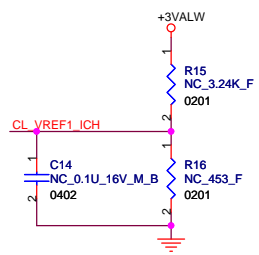
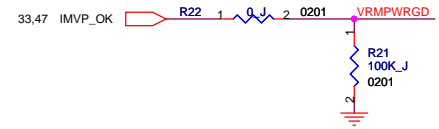
	Dock Support
0	Not Support
1	Support



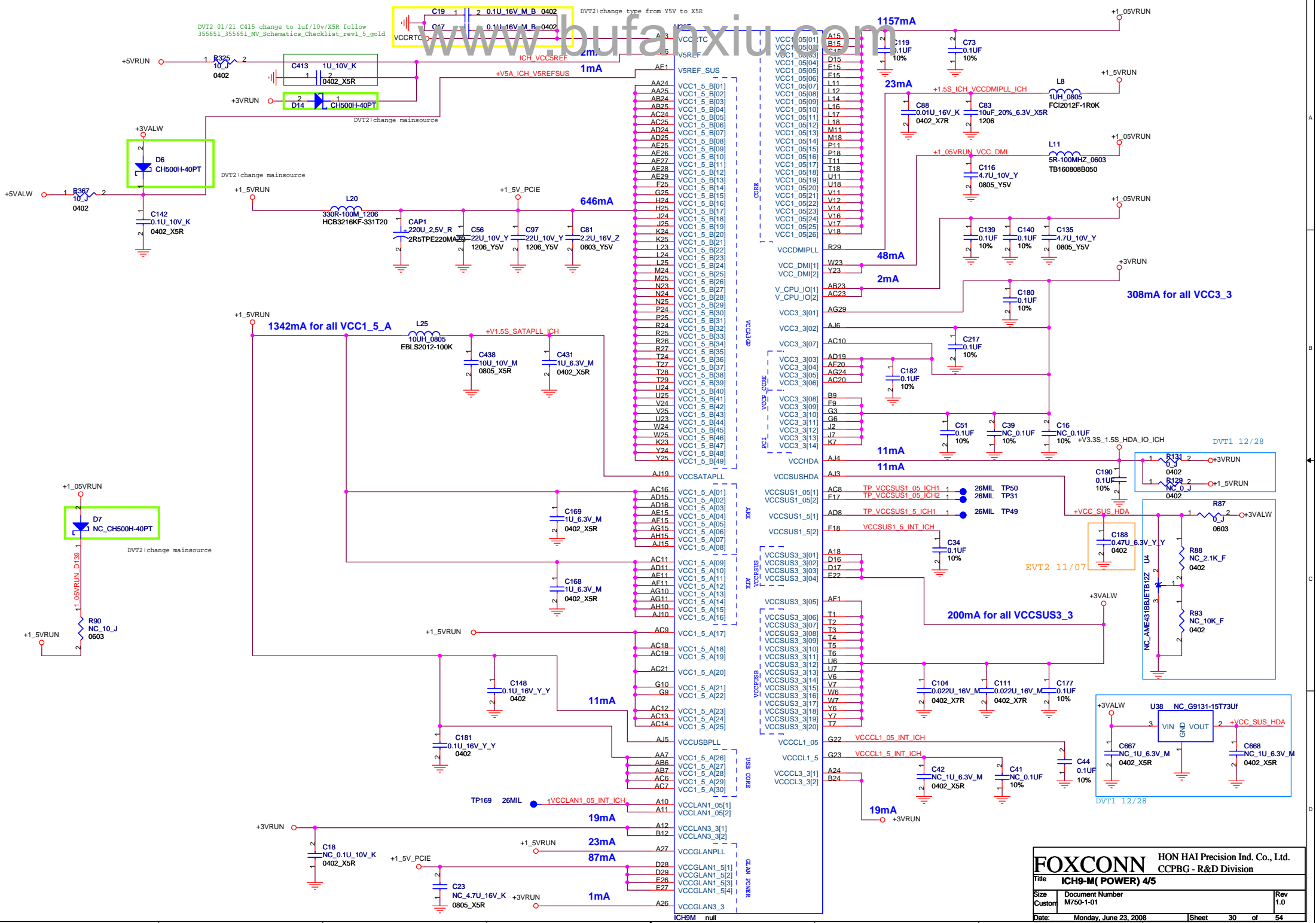
SW1: No-reboot  
Low=Default  
High=No-reboot



SMBus Address: AEH



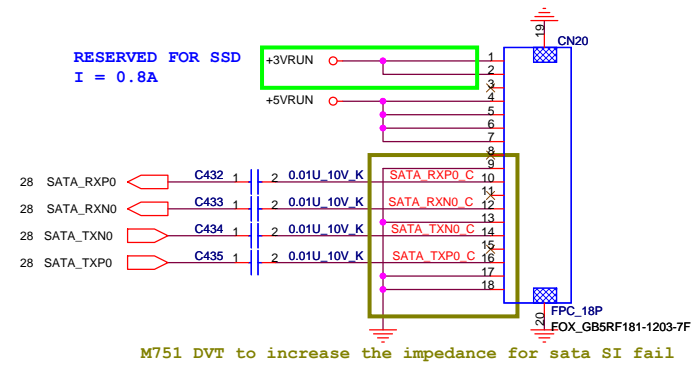
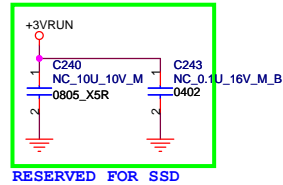
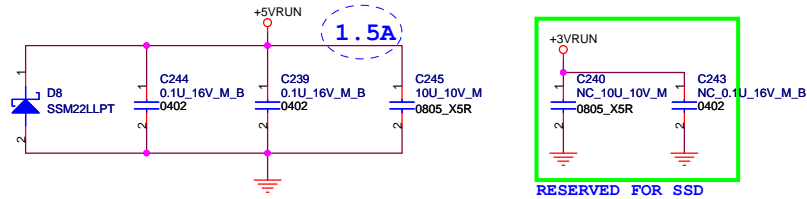




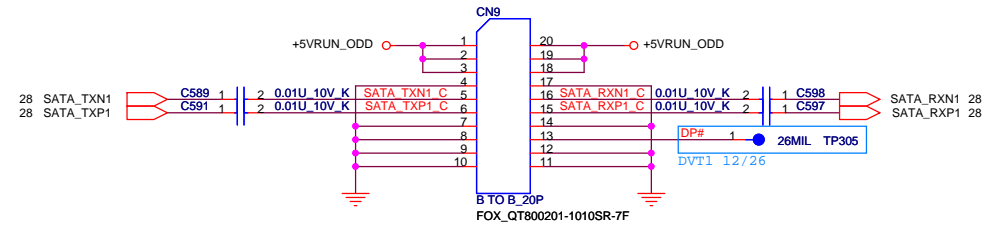
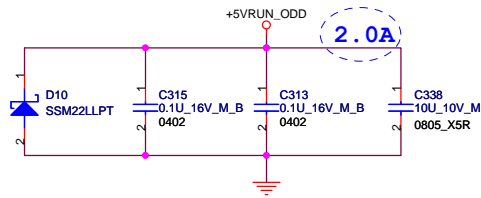
Pin	Label	Signal	Signal
A26	VSS[011]	VSS[10]	V23
A27	VSS[012]	VSS[11]	V26
AA3	VSS[013]	VSS[116]	V27
AA	VSS[004]	VSS[110]	AC22
AB1	VSS[005]	VSS[111]	K28
AA23	VSS[006]	VSS[112]	K29
AB28	VSS[007]	VSS[113]	L13
AB29	VSS[008]	VSS[114]	L15
AB4	VSS[009]	VSS[115]	L2
AB5	VSS[010]	VSS[116]	L26
AC17	VSS[011]	VSS[117]	L27
AC26	VSS[012]	VSS[118]	L5
AC27	VSS[013]	VSS[119]	L7
AC3	VSS[014]	VSS[120]	M12
AD1	VSS[015]	VSS[121]	M13
AD10	VSS[016]	VSS[122]	M14
AD12	VSS[017]	VSS[123]	M15
AD13	VSS[018]	VSS[124]	M16
AD14	VSS[019]	VSS[125]	M17
AD17	VSS[020]	VSS[126]	M23
AD21	VSS[021]	VSS[127]	M28
AD28	VSS[022]	VSS[128]	M29
AD29	VSS[023]	VSS[129]	N11
AD29	VSS[024]	VSS[130]	N12
AD4	VSS[025]	VSS[131]	N13
AD5	VSS[026]	VSS[132]	N14
AD6	VSS[027]	VSS[133]	N15
AD7	VSS[028]	VSS[134]	N16
AD9	VSS[029]	VSS[135]	N17
AE12	VSS[030]	VSS[136]	N18
AE13	VSS[031]	VSS[137]	N26
AE14	VSS[032]	VSS[138]	N27
AE16	VSS[033]	VSS[139]	P12
AE17	VSS[034]	VSS[140]	P13
AE2	VSS[035]	VSS[141]	P14
AE20	VSS[036]	VSS[142]	P15
AE24	VSS[037]	VSS[143]	P16
AE3	VSS[038]	VSS[144]	P17
AE4	VSS[039]	VSS[145]	P2
AE6	VSS[040]	VSS[146]	P23
AE9	VSS[041]	VSS[147]	P28
AF13	VSS[042]	VSS[148]	P29
AF16	VSS[043]	VSS[149]	P4
AF18	VSS[044]	VSS[150]	P7
AF22	VSS[045]	VSS[151]	R11
AH26	VSS[046]	VSS[152]	R12
AF26	VSS[047]	VSS[153]	R13
AF27	VSS[048]	VSS[154]	R14
AF5	VSS[049]	VSS[155]	R15
AF7	VSS[050]	VSS[156]	R16
AF9	VSS[051]	VSS[157]	R17
AG13	VSS[052]	VSS[158]	R19
AG18	VSS[053]	VSS[159]	R28
AG18	VSS[054]	VSS[160]	T12
AG20	VSS[055]	VSS[161]	T13
AG23	VSS[056]	VSS[162]	T14
AG3	VSS[057]	VSS[163]	T15
AG6	VSS[058]	VSS[164]	T16
AG9	VSS[059]	VSS[165]	T17
AH12	VSS[060]	VSS[166]	T23
AH14	VSS[061]	VSS[167]	B26
AH17	VSS[062]	VSS[168]	U12
AH19	VSS[063]	VSS[169]	U13
AH2	VSS[064]	VSS[170]	U14
AH22	VSS[065]	VSS[171]	U15
AH25	VSS[066]	VSS[172]	U16
AH28	VSS[067]	VSS[173]	U17
AH5	VSS[068]	VSS[174]	AD23
AH8	VSS[069]	VSS[175]	U26
AJ12	VSS[070]	VSS[176]	U27
AJ14	VSS[071]	VSS[177]	U3
AJ17	VSS[072]	VSS[178]	V1
AJ8	VSS[073]	VSS[179]	V13
B11	VSS[074]	VSS[180]	V15
B14	VSS[075]	VSS[181]	V23
B17	VSS[076]	VSS[182]	V28
B2	VSS[077]	VSS[183]	V29
B20	VSS[078]	VSS[184]	V4
B23	VSS[079]	VSS[185]	V5
B5	VSS[080]	VSS[186]	W26
B8	VSS[081]	VSS[187]	W27
C26	VSS[082]	VSS[188]	W3
C27	VSS[083]	VSS[189]	Y1
E11	VSS[084]	VSS[190]	Y28
E14	VSS[085]	VSS[191]	Y29
E18	VSS[086]	VSS[192]	Y4
E2	VSS[087]	VSS[193]	Y5
E21	VSS[088]	VSS[194]	AG28
E24	VSS[089]	VSS[195]	AH6
E5	VSS[090]	VSS[196]	AF2
E8	VSS[091]	VSS[197]	B25
F16	VSS[092]	VSS[198]	
F28	VSS[093]		
F29	VSS[094]	VSS_NCTF[01]	A1
G12	VSS[095]	VSS_NCTF[02]	A2
G14	VSS[096]	VSS_NCTF[03]	A28
G18	VSS[097]	VSS_NCTF[04]	A29
G21	VSS[098]	VSS_NCTF[05]	AH1
G24	VSS[099]	VSS_NCTF[06]	AH29
G26	VSS[100]	VSS_NCTF[07]	AJ1
G27	VSS[101]	VSS_NCTF[08]	AJ2
G8	VSS[102]	VSS_NCTF[09]	AJ28
H2	VSS[103]	VSS_NCTF[10]	AJ29
H23	VSS[104]	VSS_NCTF[11]	B1
H28	VSS[105]	VSS_NCTF[12]	B29
H29	VSS[106]		

ICH9M  
null

<b>FOXCONN</b>		HON HAI Precision Ind. Co., Ltd.	
		CCPBG - R&D Division	
Title <b>ICH9-M (GND) 5/5</b>			
Size	Document Number	Rev	
A3	M750-1-01	1.0	
Date:	Monday, June 23, 2008	Sheet	31 of 54

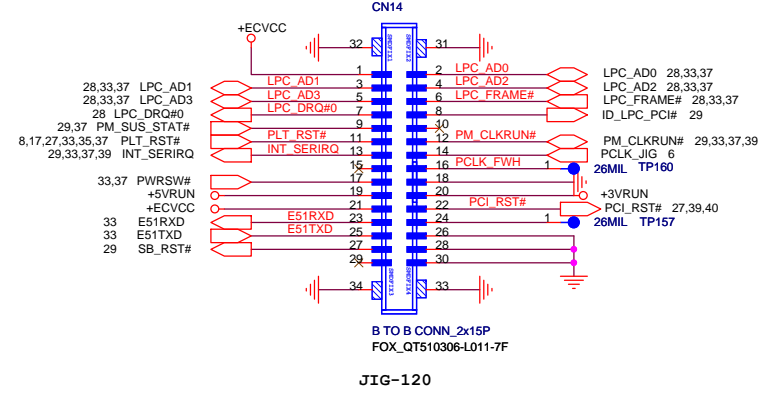
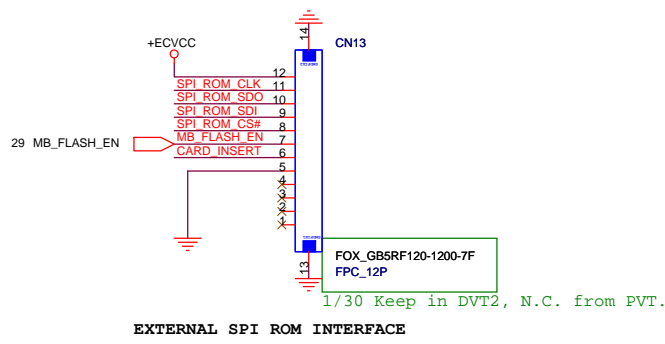
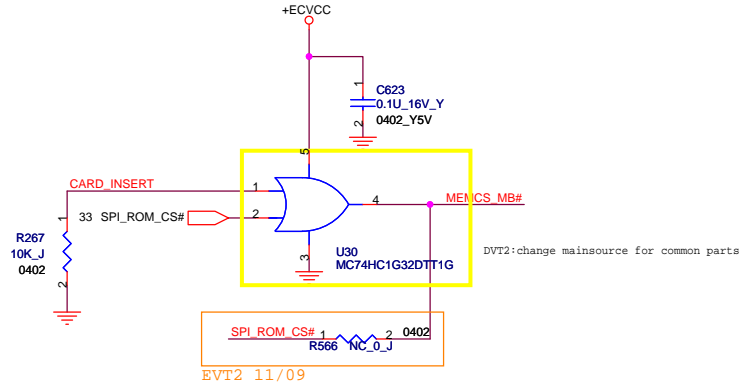
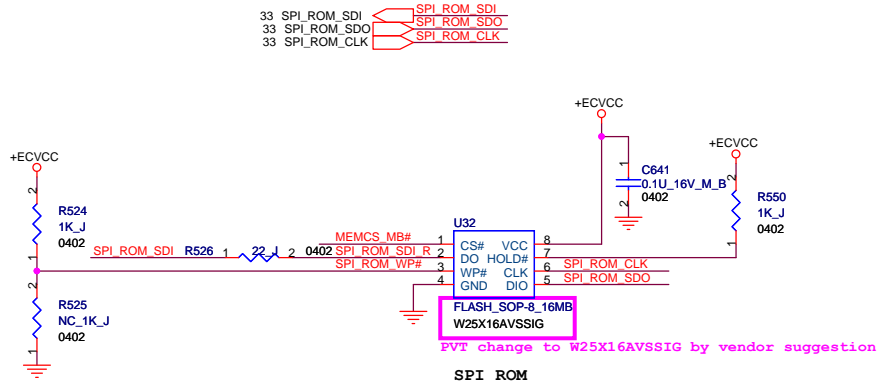


### SATA HDD CONN



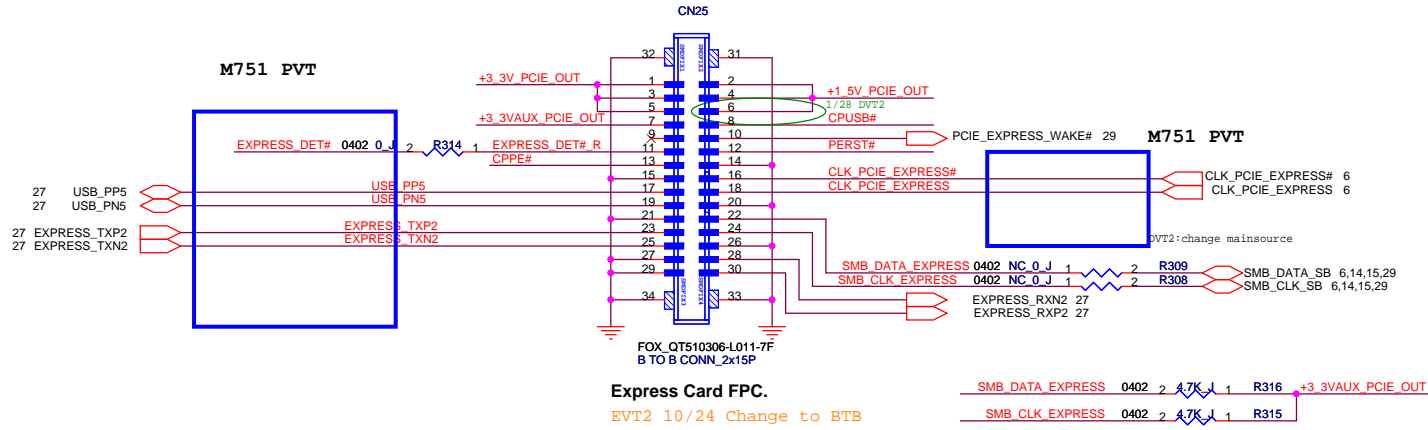
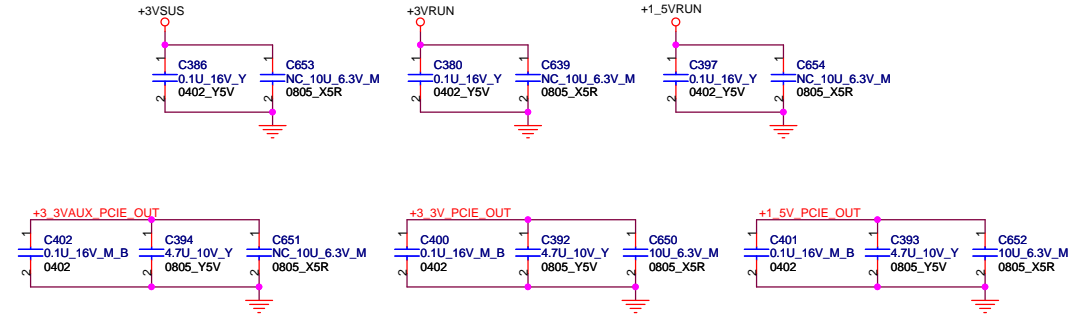
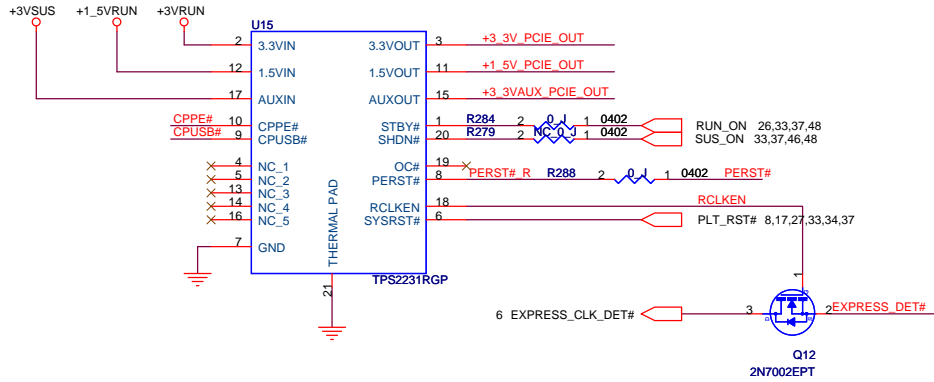
### SATA ODD CONN





+1.5V=>0.65A  
 +3.3VAux=>0.275A  
 +3.3V=>1.3A

Express Card Power Switch

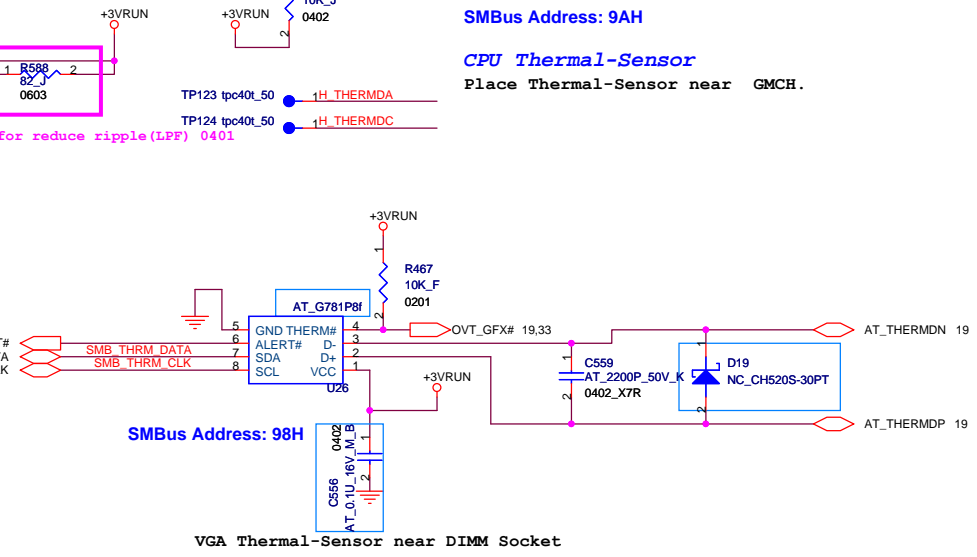
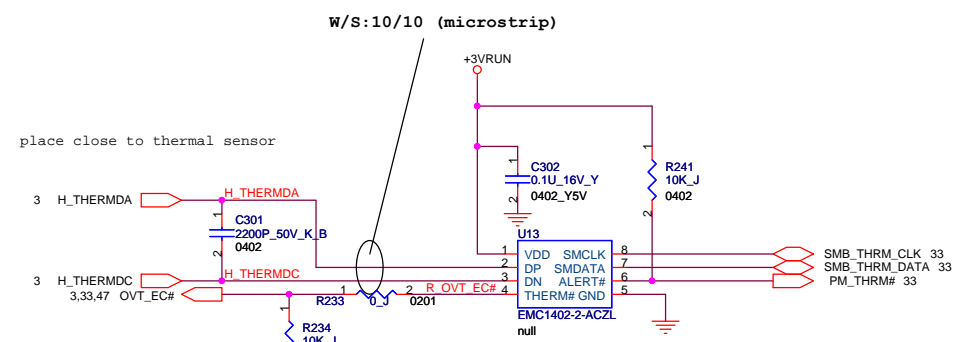
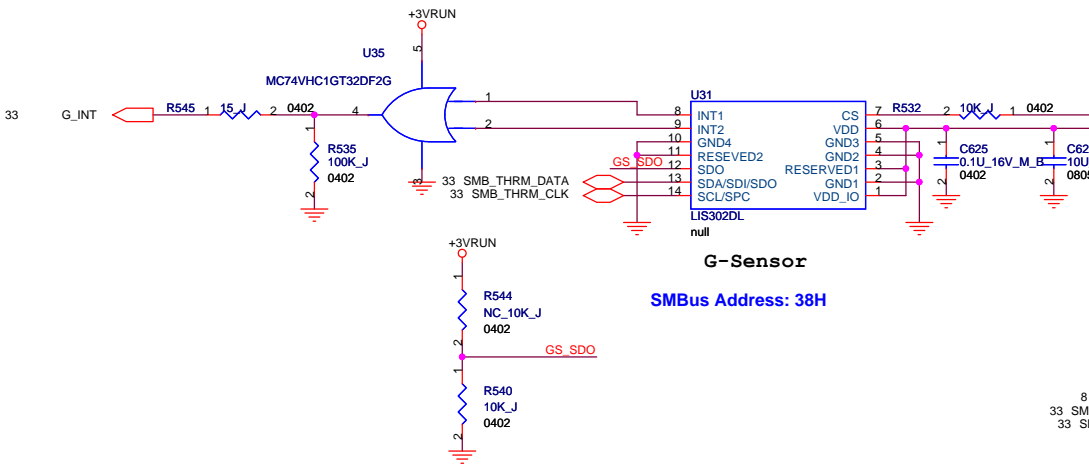
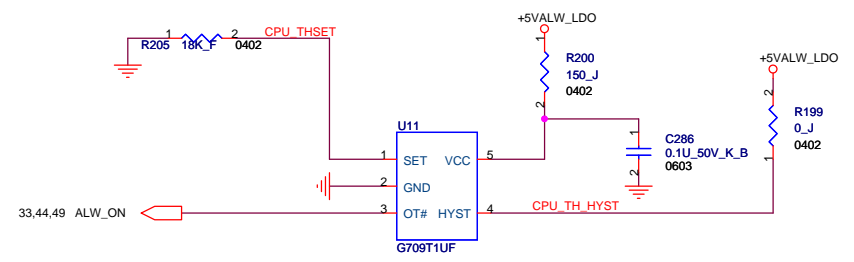
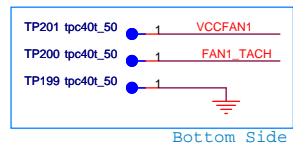
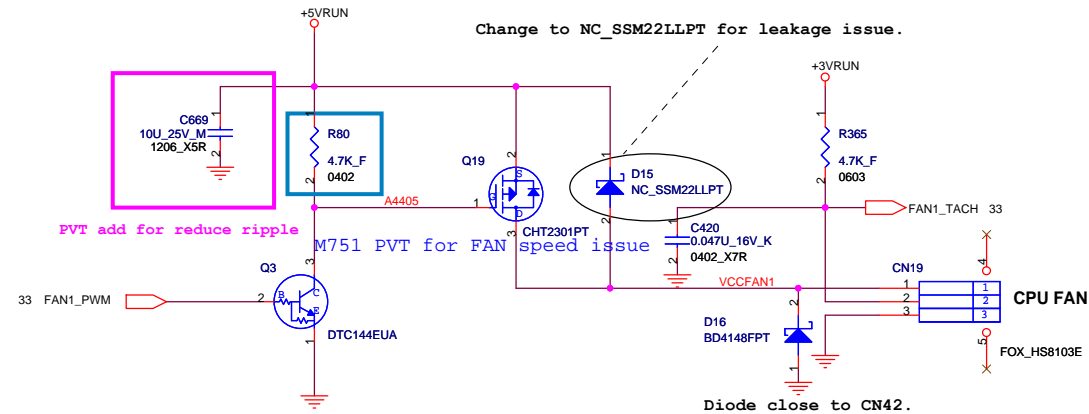


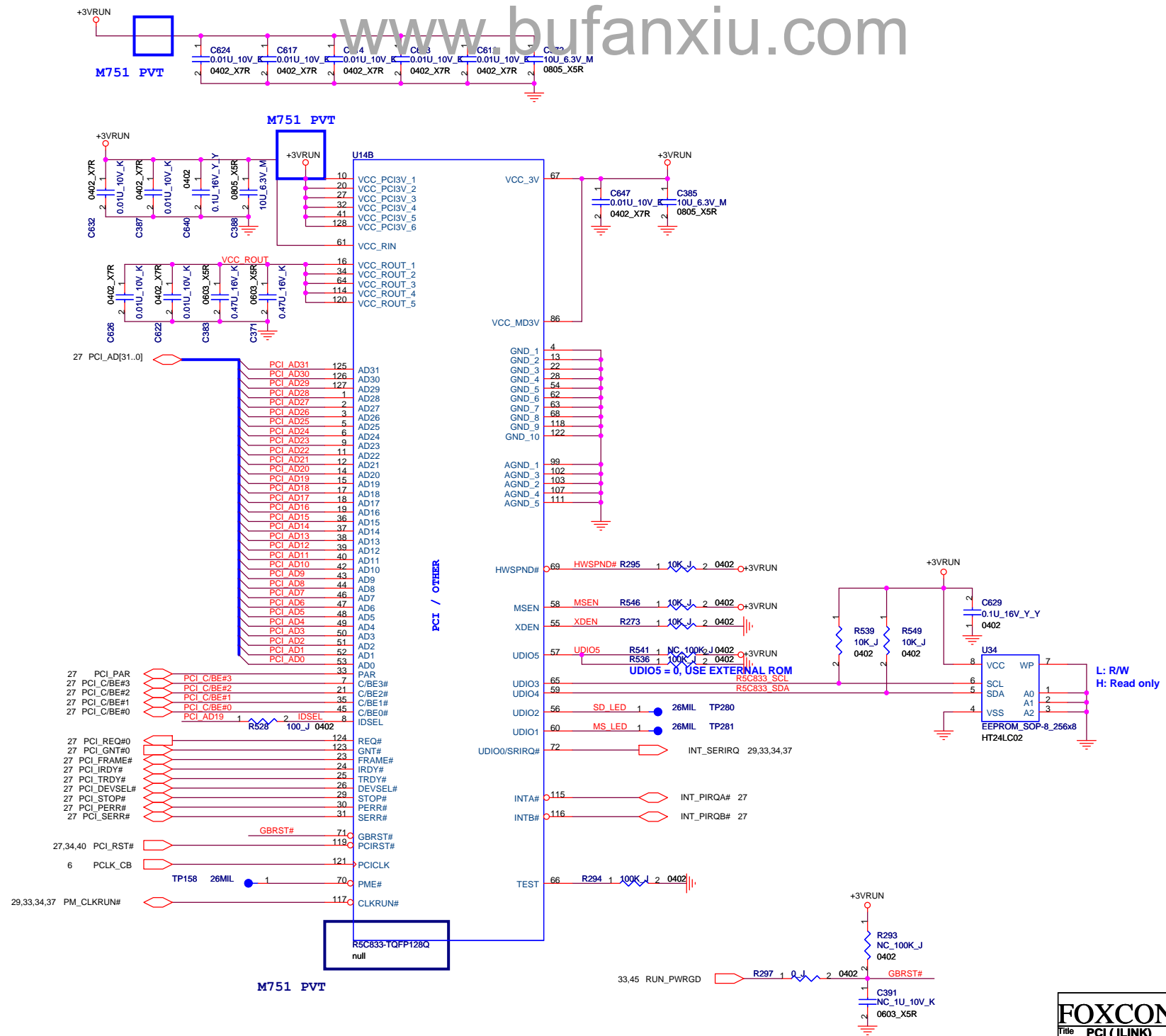
Express Card FPC.  
 EVT2 10/24 Change to BTB

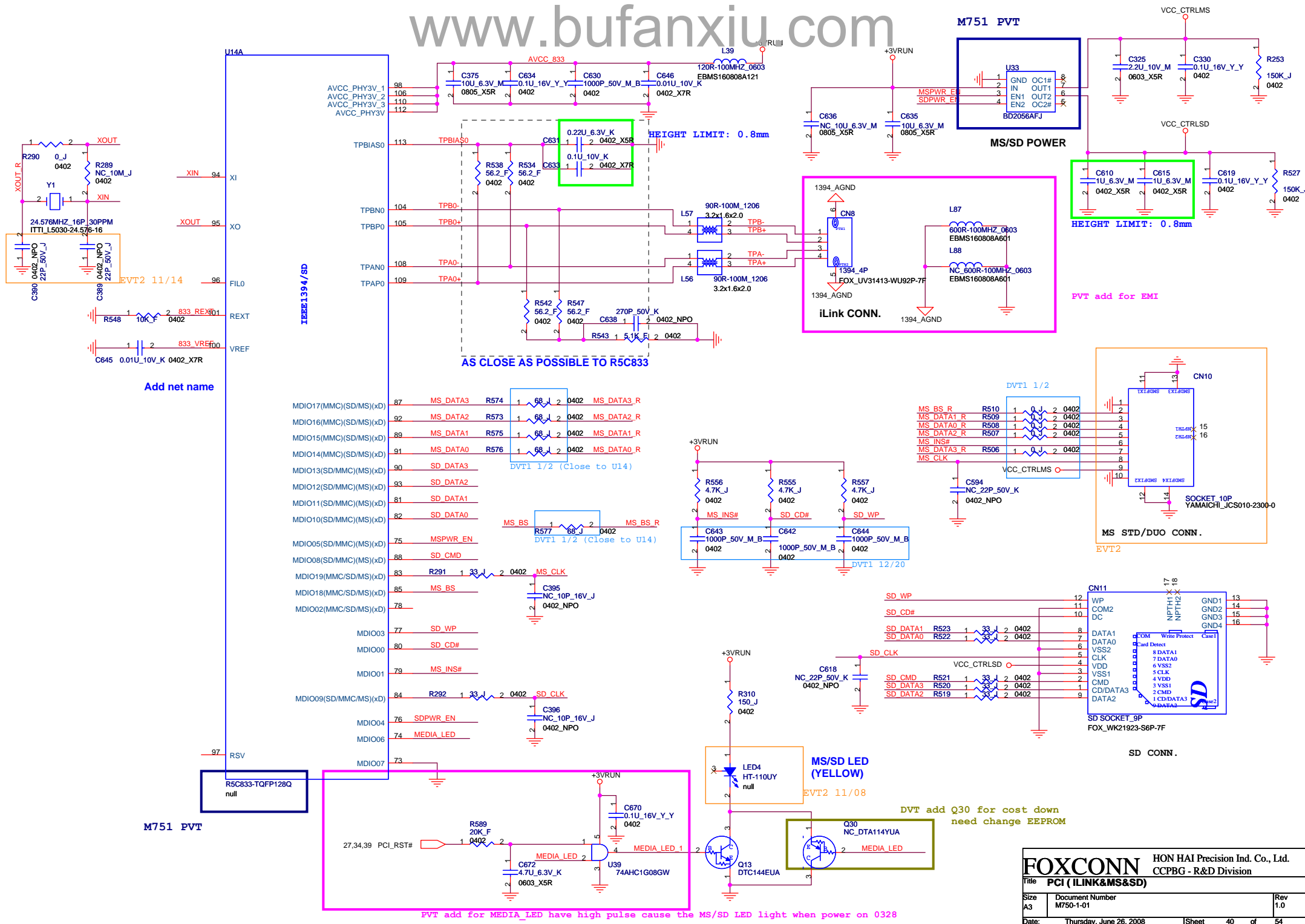












Add net name

AS CLOSE AS POSSIBLE TO R5C833

HEIGHT LIMIT: 0.8mm

HEIGHT LIMIT: 0.8mm

PVT add for EMI

SOCKET\_10P YAMAICHI\_JCS010-2300-0

MS STD/DUO CONN.

SD CONN.

DVT add Q30 for cost down need change EEPROM

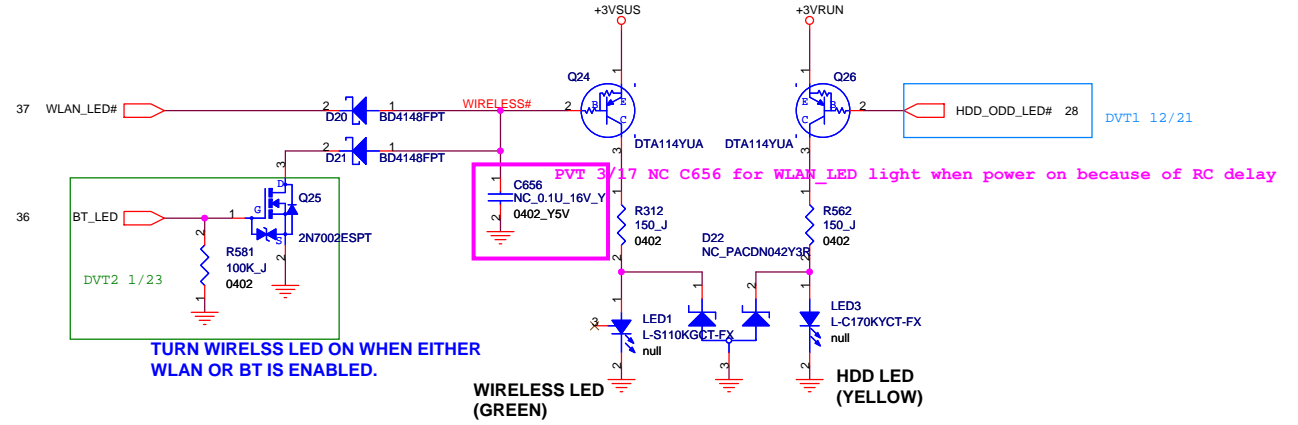
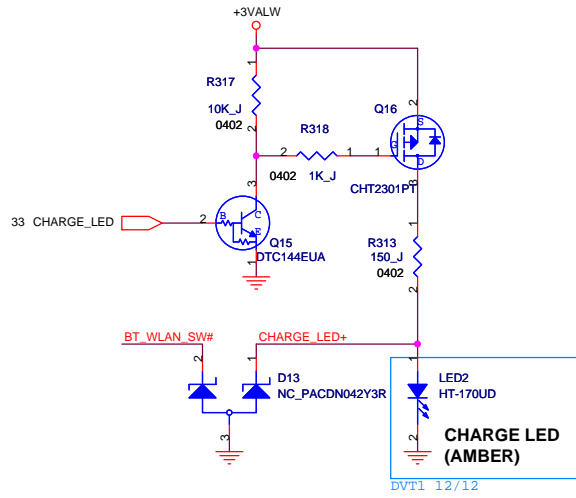
PVT add for MEDIA\_LED have high pulse cause the MS/SD LED light when power on 0328

M751 PVT

**FOXCONN** HON HAI Precision Ind. Co., Ltd.  
CCPBG - R&D Division

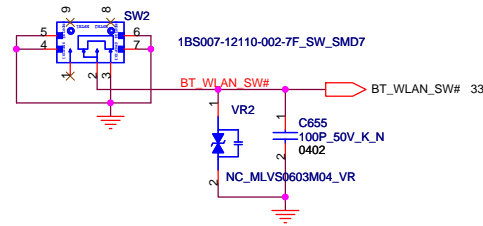
Title: **PCI (I LINK&MS&SD)**

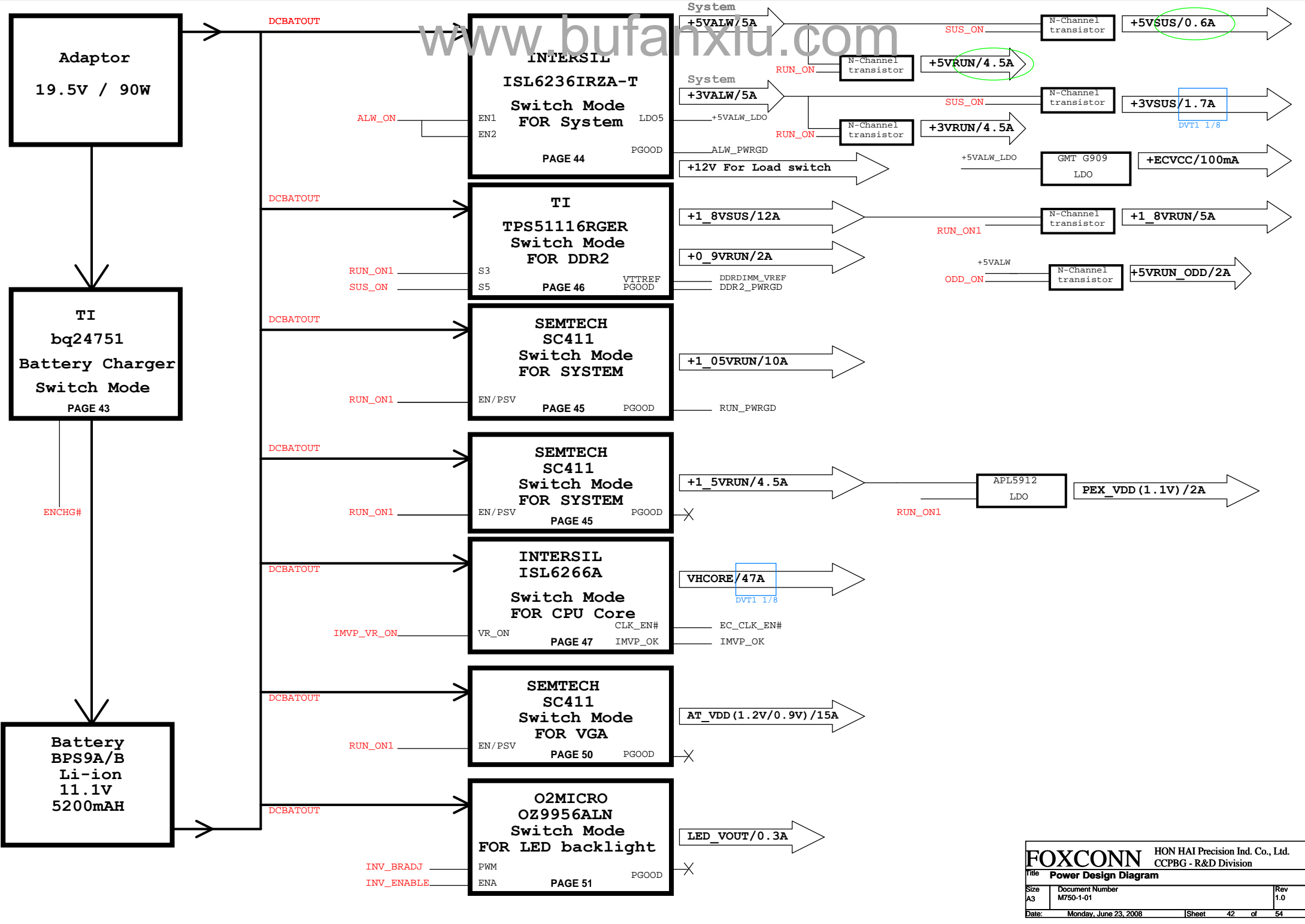
Size A3	Document Number M750-1-01	Rev 1.0
Date: Thursday, June 26, 2008	Sheet 40	of 54



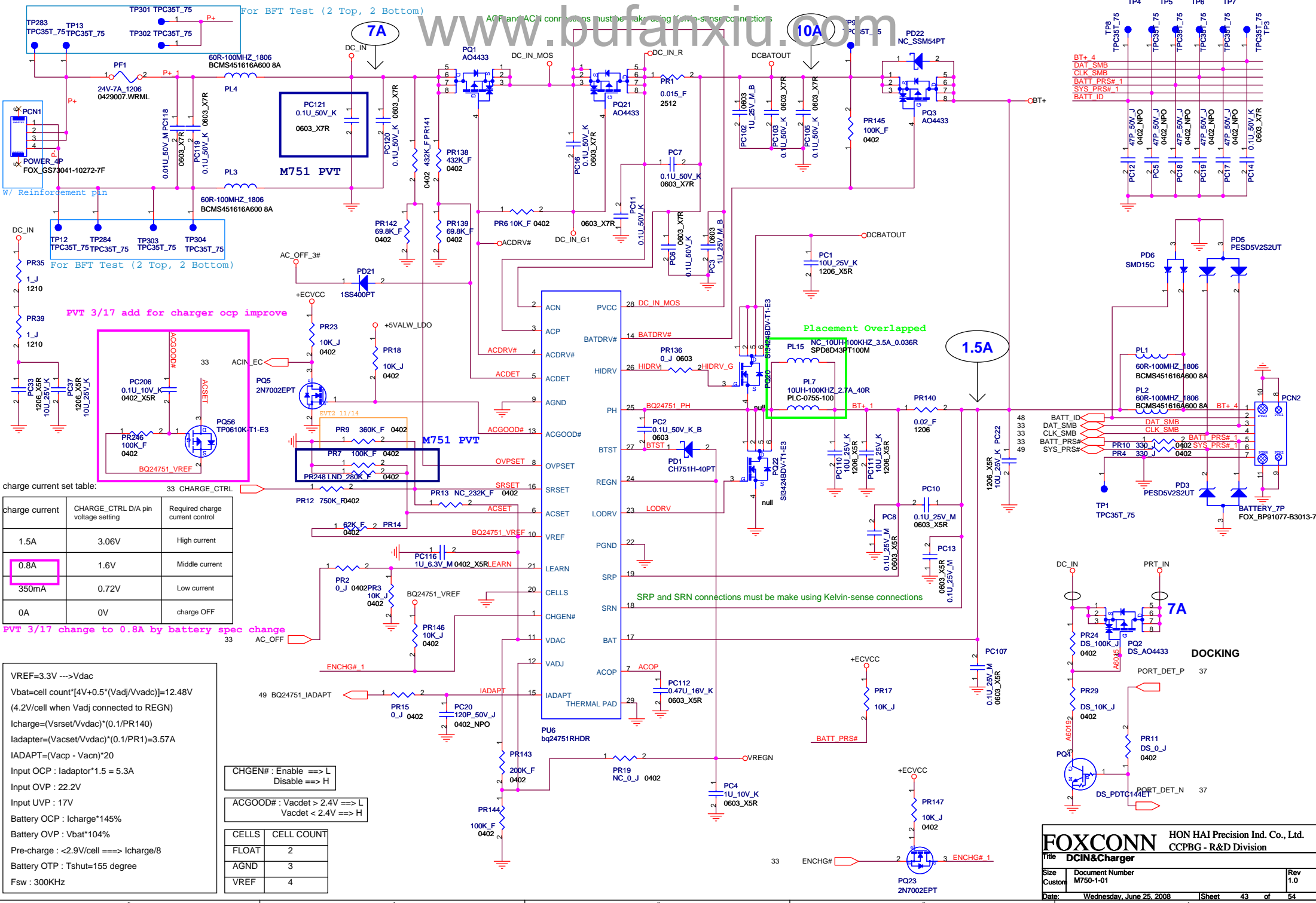
TURN WIRELESS LED ON WHEN EITHER WLAN OR BT IS ENABLED.

**WLAN/BT ON/OFF SWITCH**









charge current set table:

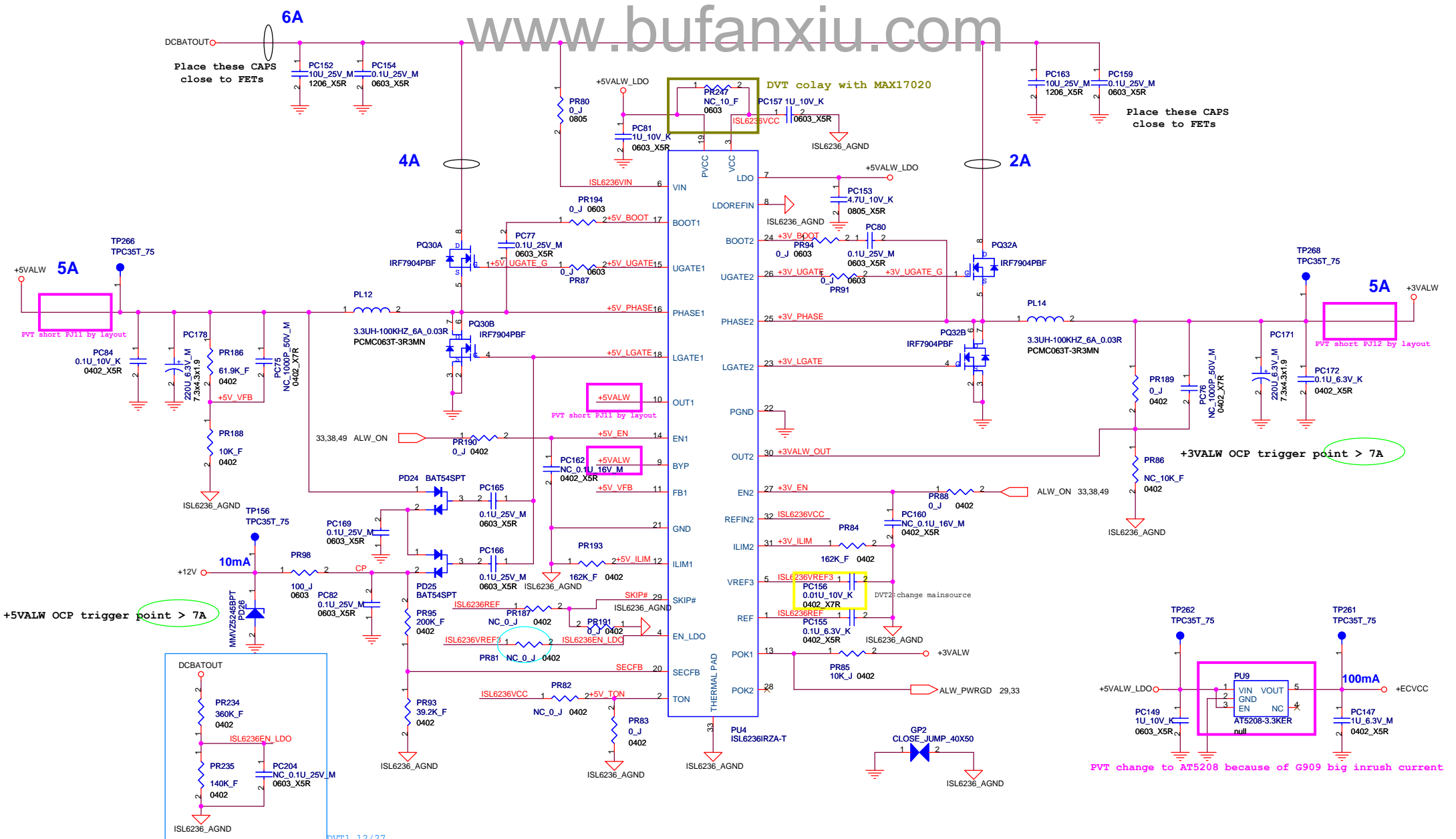
charge current	CHARGE_CTRL D/A pin voltage setting	Required charge current control
1.5A	3.06V	High current
0.8A	1.6V	Middle current
350mA	0.72V	Low current
0A	0V	charge OFF

VREF=3.3V ---> Vdac  
 $V_{bat} = cell\ count * [4V + 0.5 * (V_{adj} / V_{vdac})] = 12.48V$   
 (4.2V/cell when Vadj connected to REGN)  
 $I_{charge} = (V_{srset} / V_{vdac}) * (0.1 / PR140)$   
 $I_{adaptor} = (V_{acset} / V_{vdac}) * (0.1 / PR1) = 3.57A$   
 $IADAPT = (V_{acp} - V_{vacn}) * 20$   
 Input OCP :  $I_{adaptor} * 1.5 = 5.3A$   
 Input OVP : 22.2V  
 Input UVP : 17V  
 Battery OCP :  $I_{charge} * 145\%$   
 Battery OVP :  $2.9V * 104\%$   
 Pre-charge :  $< 2.9V / cell ==> I_{charge} / 8$   
 Battery OTP :  $T_{shut} = 155\ degree$   
 $F_{sw} = 300KHz$

CHGEN# : Enable ==> L  
 Disable ==> H

ACGOOD# : V<sub>acdet</sub> > 2.4V ==> L  
 V<sub>acdet</sub> < 2.4V ==> H

CELLS	CELL COUNT
FLOAT	2
AGND	3
VREF	4



+5VALW OCP trigger point > 7A

+3VALW OCP trigger point > 7A

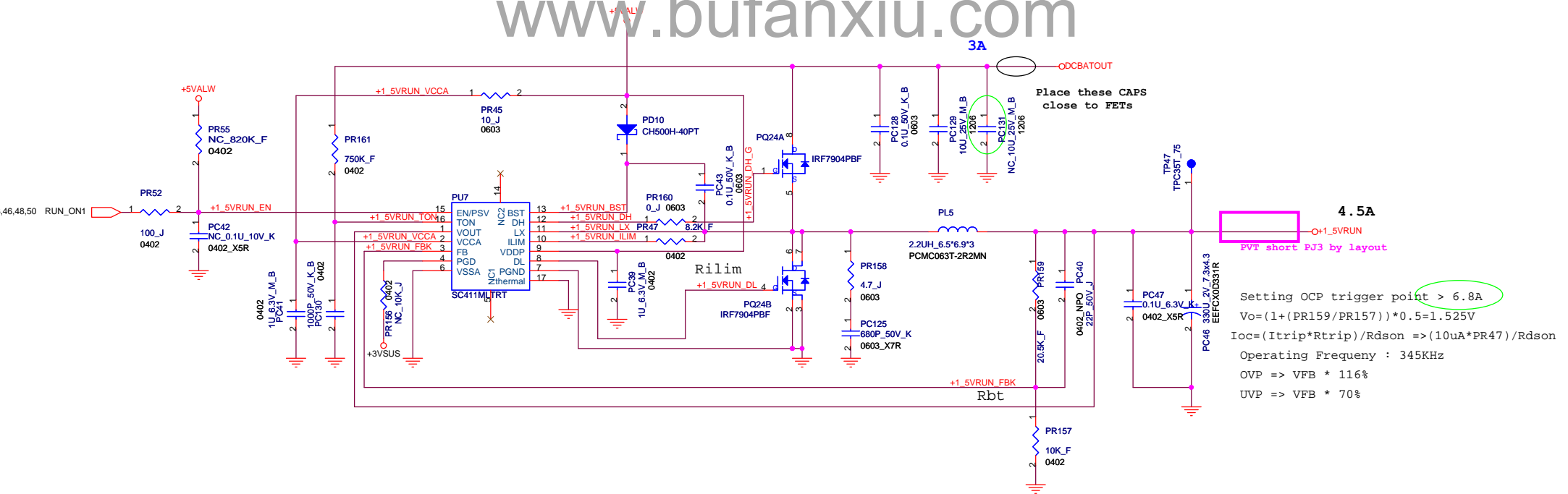
TON	Operating Freqence (+5VALW/+3VALW)
VCC	200KHz/300KHz
REF (OPEN)	400KHz/300KHz
GND	400KHz/500KHz

SKIP#	Operating Mode
GND	Pulse-Skipping
REF	Ultrasonic-Skip
VCC	PWM

$$L = VOUT(VIN - VOUT) / (VIN * F * ILIR * ILOAD(MAX))$$

$$Rocp = (Iocp - Iripple/2) * (10 * Rds(on)) / 5u$$

$$+5VALW = ((PR186 / PR188) + 1) * VFB1$$



**4.5A**

PVT short PJ3 by layout

Setting OCP trigger point > 6.8A

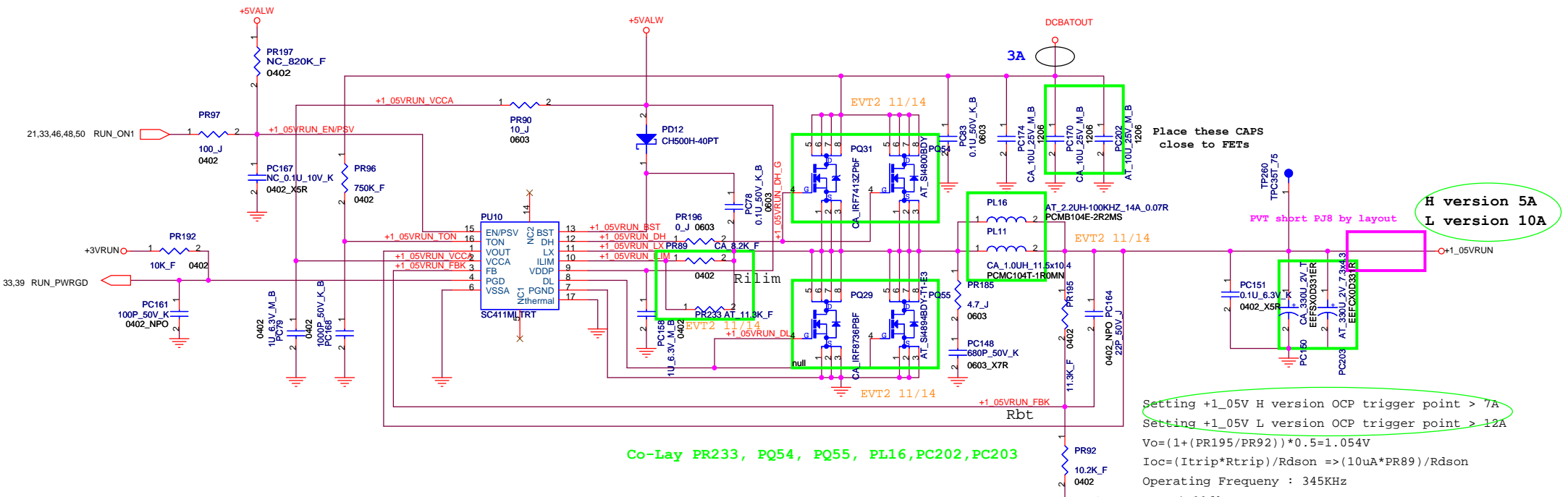
$$V_o = (1 + (PR159/PR157)) * 0.5 = 1.525V$$

$$I_{oc} = (I_{trip} * R_{trip}) / R_{dson} = (10\mu A * PR47) / R_{dson}$$

Operating Frequency : 345KHz

OVP => VFB \* 116%

UVP => VFB \* 70%



**H version 5A**  
**L version 10A**

PVT short PJ8 by layout

Setting +1.05V H version OCP trigger point > 7A

Setting +1.05V L version OCP trigger point > 12A

$$V_o = (1 + (PR195/PR92)) * 0.5 = 1.054V$$

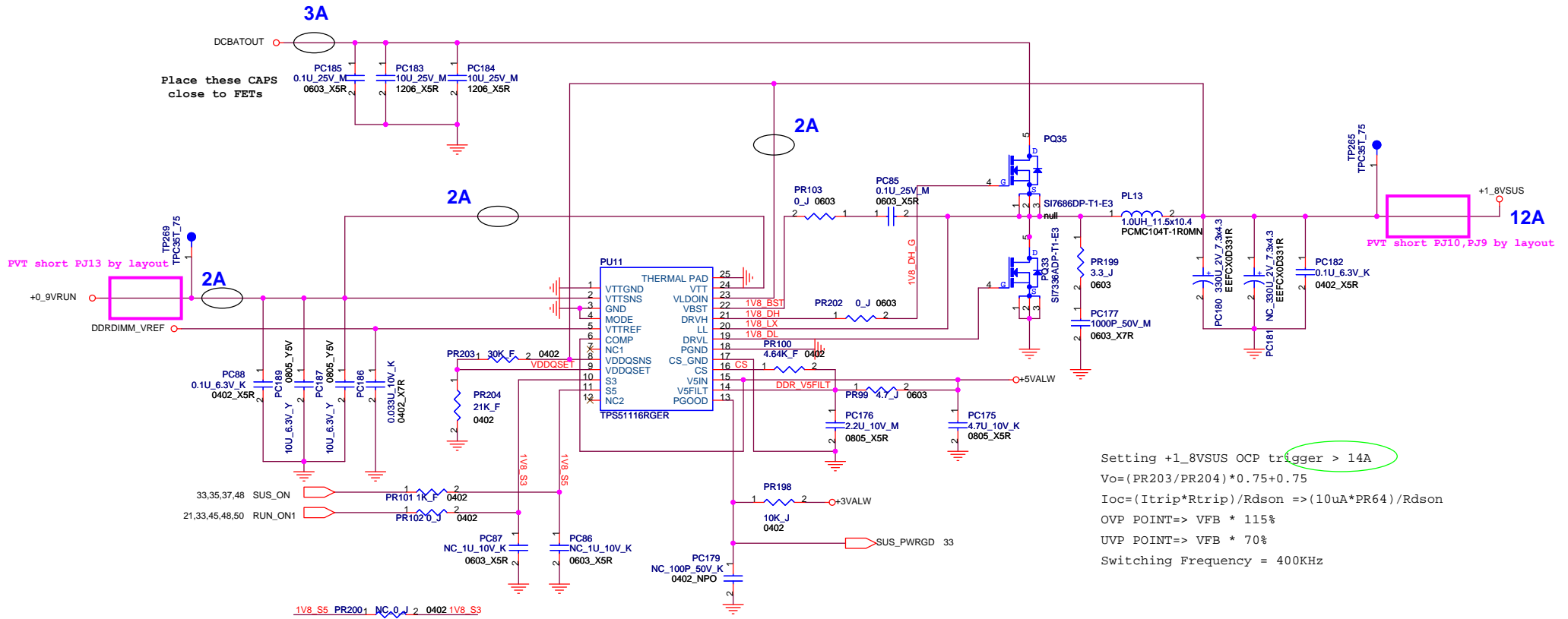
$$I_{oc} = (I_{trip} * R_{trip}) / R_{dson} = (10\mu A * PR89) / R_{dson}$$

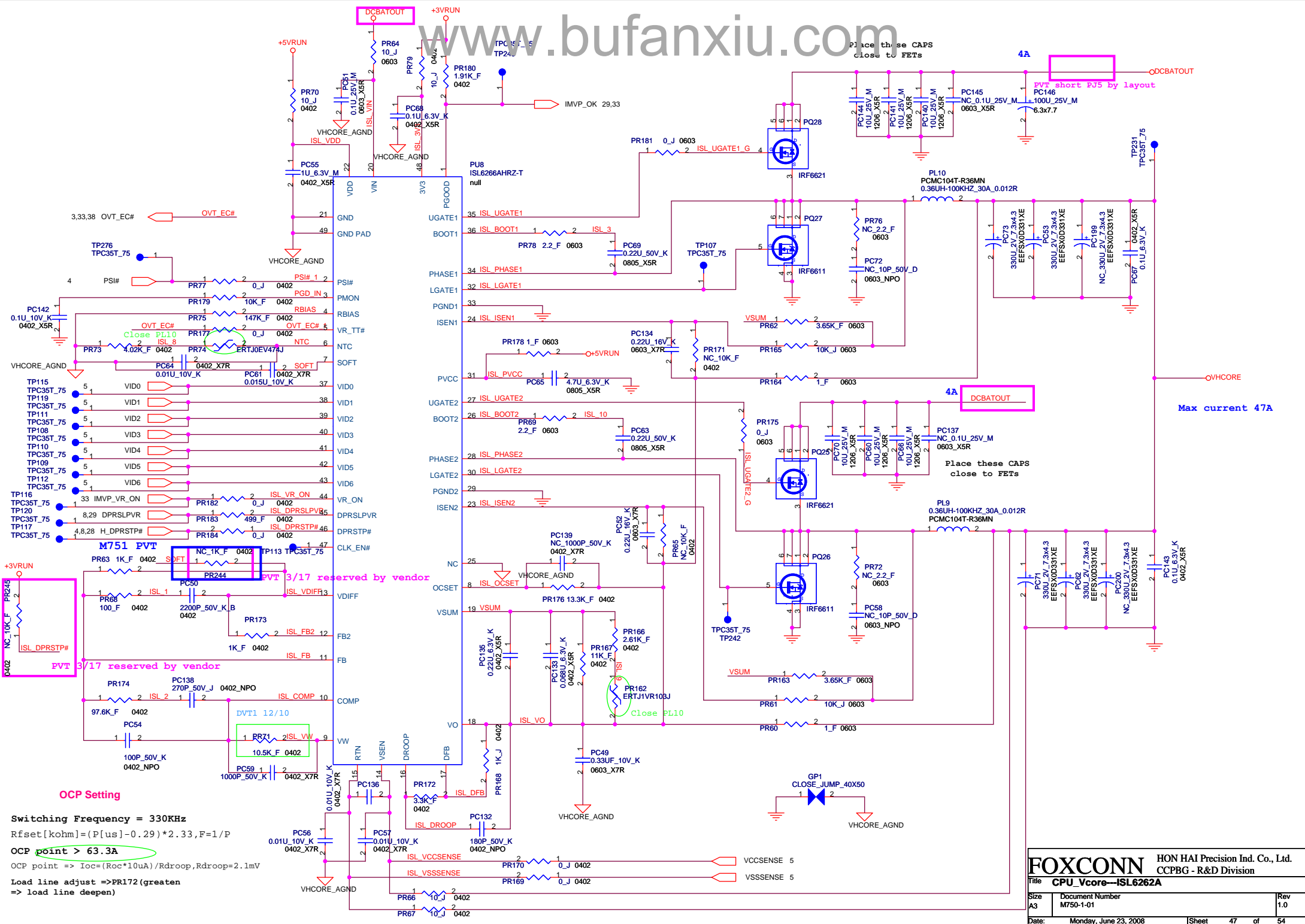
Operating Frequency : 345KHz

OVP => VFB \* 116%

UVP => VFB \* 70%

Co-Lay PR233, PQ54, PQ55, PL16, PC202, PC203





3.33,38 OVT\_EC#

TP276 TPC35T\_75

4 PSI#

PC142 0.1U\_10V\_K 0402\_X5R

PC64 0.01U\_10V\_K

TP115 TPC35T\_75

TP119 TPC35T\_75

TP111 TPC35T\_75

TP108 TPC35T\_75

TP110 TPC35T\_75

TP109 TPC35T\_75

TP112 TPC35T\_75

TP116 TPC35T\_75

TP120 TPC35T\_75

TP117 TPC35T\_75

TP118 TPC35T\_75

TP119 TPC35T\_75

TP120 TPC35T\_75

TP121 TPC35T\_75

TP122 TPC35T\_75

TP123 TPC35T\_75

TP124 TPC35T\_75

TP125 TPC35T\_75

**OCP Setting**

Switching Frequency = 330KHz

$$R_{fset}[kohm] = (P_{us} - 0.29) * 2.33, F = 1/P$$

OCP point > 63.3A

OCP point =>  $I_{oc} = (R_{oc} * 10uA) / R_{droop}, R_{droop} = 2.1mV$

Load line adjust => PR172 (greaten => load line deepen)

Place these CAPS close to FETs

4A

PVT short PJ5 by layout

PC145 NC 0.1U\_25V\_M 0603\_X5R

PC146 100U\_25V\_M 6.3x7.7

PC147 100U\_25V\_M 6.3x7.7

PC148 100U\_25V\_M 6.3x7.7

PC149 100U\_25V\_M 6.3x7.7

PC150 100U\_25V\_M 6.3x7.7

PC151 100U\_25V\_M 6.3x7.7

PC152 100U\_25V\_M 6.3x7.7

PC153 100U\_25V\_M 6.3x7.7

PC154 100U\_25V\_M 6.3x7.7

PC155 100U\_25V\_M 6.3x7.7

PC156 100U\_25V\_M 6.3x7.7

PC157 100U\_25V\_M 6.3x7.7

PC158 100U\_25V\_M 6.3x7.7

PC159 100U\_25V\_M 6.3x7.7

PC160 100U\_25V\_M 6.3x7.7

PC161 100U\_25V\_M 6.3x7.7

PC162 100U\_25V\_M 6.3x7.7

PC163 100U\_25V\_M 6.3x7.7

PC164 100U\_25V\_M 6.3x7.7

PC165 100U\_25V\_M 6.3x7.7

PC166 100U\_25V\_M 6.3x7.7

PC167 100U\_25V\_M 6.3x7.7

Max current 47A

Place these CAPS close to FETs

PC168 100U\_25V\_M 6.3x7.7

PC169 100U\_25V\_M 6.3x7.7

PC170 100U\_25V\_M 6.3x7.7

PC171 330U\_2V\_7.3x4.3 EEF5X0D331XE

PC172 330U\_2V\_7.3x4.3 EEF5X0D331XE

PC173 330U\_2V\_7.3x4.3 EEF5X0D331XE

PC174 330U\_2V\_7.3x4.3 EEF5X0D331XE

PC175 330U\_2V\_7.3x4.3 EEF5X0D331XE

PC176 100U\_25V\_M 6.3x7.7

PC177 100U\_25V\_M 6.3x7.7

PC178 100U\_25V\_M 6.3x7.7

PC179 100U\_25V\_M 6.3x7.7

PC180 100U\_25V\_M 6.3x7.7

PC181 100U\_25V\_M 6.3x7.7

PC182 100U\_25V\_M 6.3x7.7

PC183 100U\_25V\_M 6.3x7.7

PC184 100U\_25V\_M 6.3x7.7

PC185 100U\_25V\_M 6.3x7.7

PC186 100U\_25V\_M 6.3x7.7

PC187 100U\_25V\_M 6.3x7.7

PC188 100U\_25V\_M 6.3x7.7

PC189 100U\_25V\_M 6.3x7.7

PC190 100U\_25V\_M 6.3x7.7

PC191 100U\_25V\_M 6.3x7.7

PC192 100U\_25V\_M 6.3x7.7

PC193 100U\_25V\_M 6.3x7.7

PC194 100U\_25V\_M 6.3x7.7

PC195 100U\_25V\_M 6.3x7.7

PC196 100U\_25V\_M 6.3x7.7

PC197 100U\_25V\_M 6.3x7.7

PC198 100U\_25V\_M 6.3x7.7

PC199 100U\_25V\_M 6.3x7.7

PC200 100U\_25V\_M 6.3x7.7

PC201 100U\_25V\_M 6.3x7.7

PC202 100U\_25V\_M 6.3x7.7

PC203 100U\_25V\_M 6.3x7.7

PC204 100U\_25V\_M 6.3x7.7

PC205 100U\_25V\_M 6.3x7.7

PC206 100U\_25V\_M 6.3x7.7

PC207 100U\_25V\_M 6.3x7.7

PC208 100U\_25V\_M 6.3x7.7

PC209 100U\_25V\_M 6.3x7.7

PC210 100U\_25V\_M 6.3x7.7

PC211 100U\_25V\_M 6.3x7.7

PC212 100U\_25V\_M 6.3x7.7

PC213 100U\_25V\_M 6.3x7.7

PC214 100U\_25V\_M 6.3x7.7

PC215 100U\_25V\_M 6.3x7.7

PC216 100U\_25V\_M 6.3x7.7

PC217 100U\_25V\_M 6.3x7.7

PC218 100U\_25V\_M 6.3x7.7

PC219 100U\_25V\_M 6.3x7.7

PC220 100U\_25V\_M 6.3x7.7

PC221 100U\_25V\_M 6.3x7.7

PC222 100U\_25V\_M 6.3x7.7

PC223 100U\_25V\_M 6.3x7.7

PC224 100U\_25V\_M 6.3x7.7

PC225 100U\_25V\_M 6.3x7.7

PC226 100U\_25V\_M 6.3x7.7

PC227 100U\_25V\_M 6.3x7.7

PC228 100U\_25V\_M 6.3x7.7

PC229 100U\_25V\_M 6.3x7.7

PC230 100U\_25V\_M 6.3x7.7

PC231 100U\_25V\_M 6.3x7.7

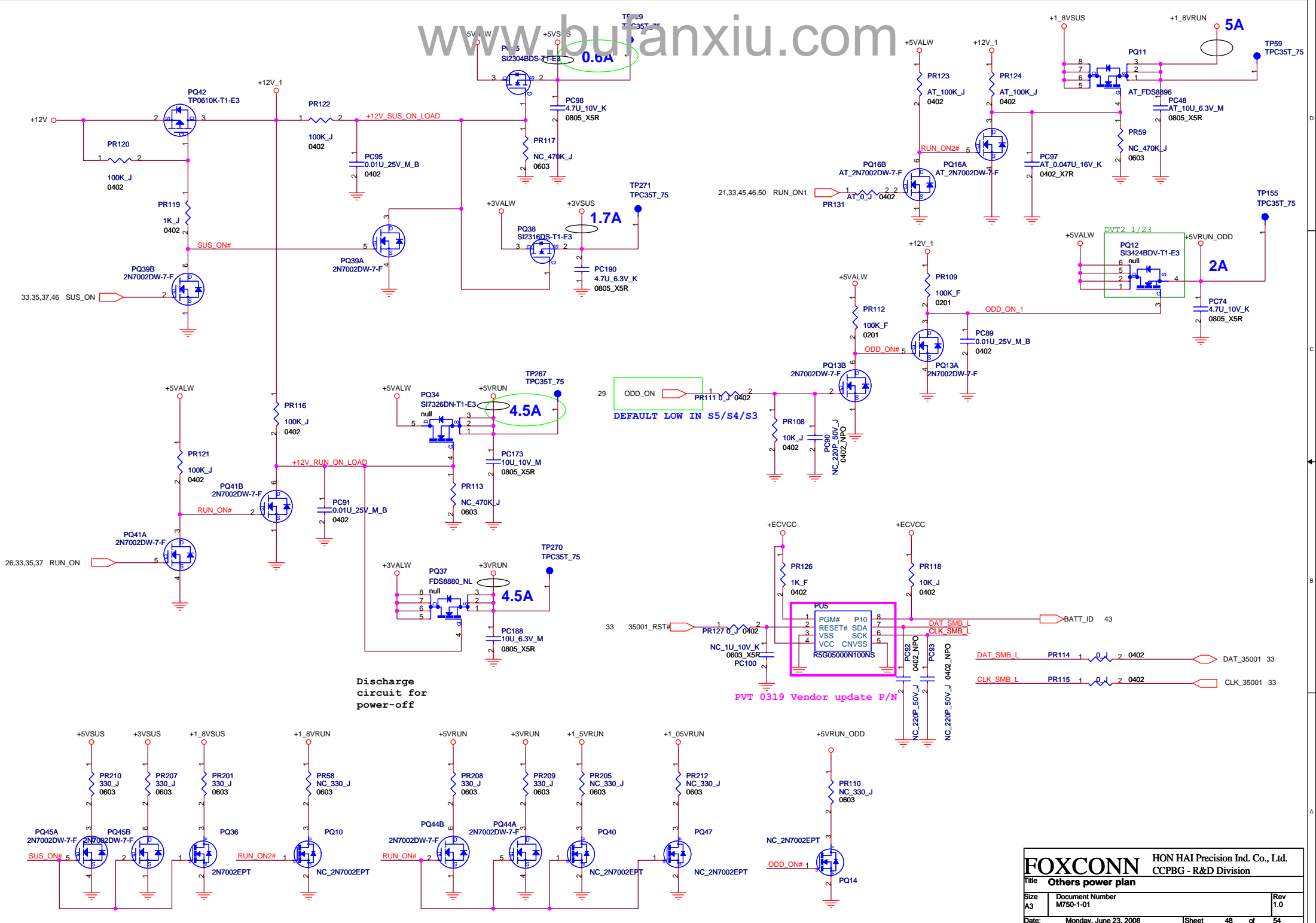
PC232 100U\_25V\_M 6.3x7.7

PC233 100U\_25V\_M 6.3x7.7

PC234 100U\_25V\_M 6.3x7.7

PC235 100U\_25V\_M 6.3x7.7

</



Discharge circuit for power-off

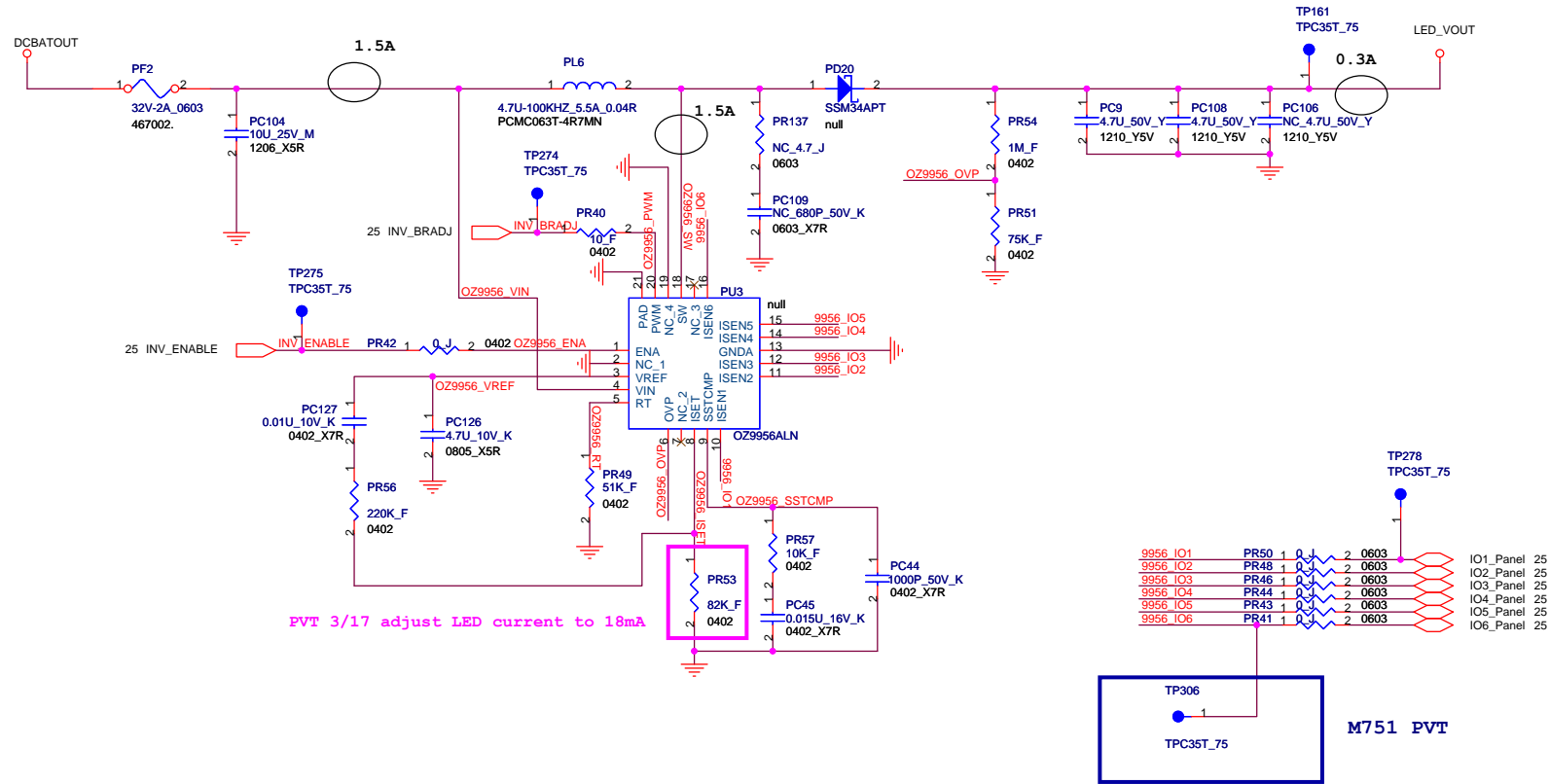
DEFAULT LOW IN S5/S4/S3

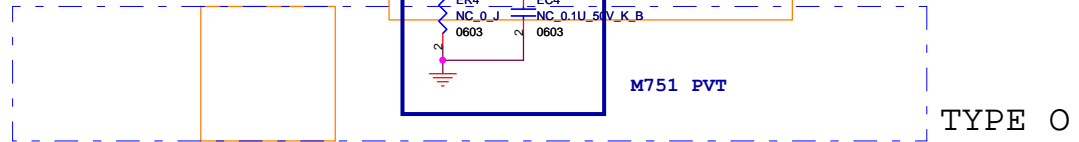
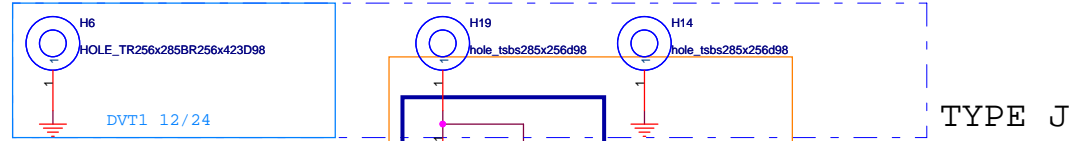
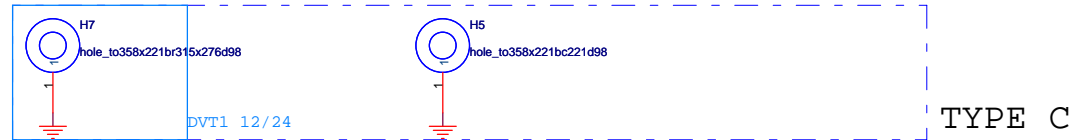
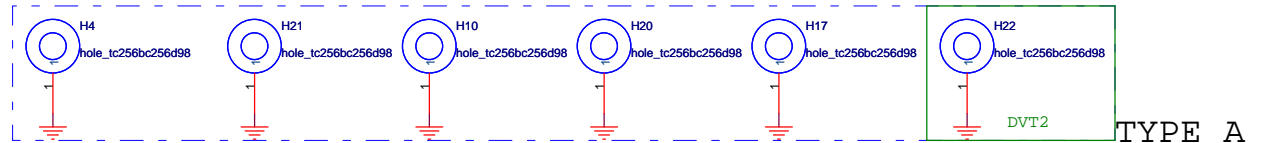
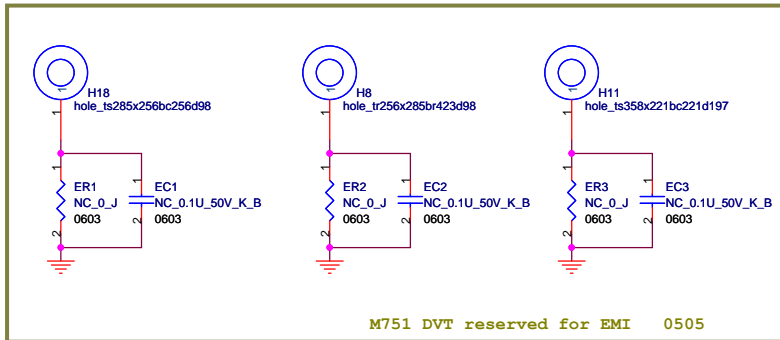
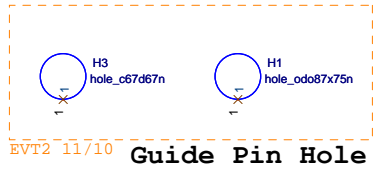
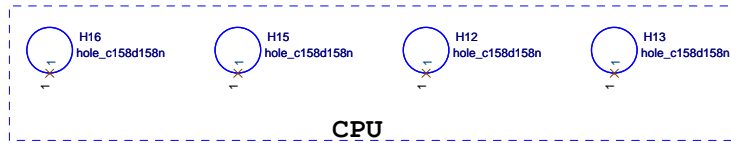
PVT 0319 Vendor update P/N











**Mainboard**

10/12  
Change color of MS/SD/HDD LED.  
Mount R419, R414, R420, R421.  
10/13  
SYSTEM\_ID, MODEL\_ID definition update.  
10/20  
CPU 22uP CAP N.C. parts location change.  
N.C. R101 For EVT2 (Use +5V type camera module)  
10/24  
Move PCI Express pair of LAN from port5 to port1.  
10/29  
Change FR9 to 422K.  
Add PL15 and PL7 co-lay.  
Modify charge current setting table.  
Mount PR83.  
PL11 change to 1uH.  
Add TP276 test point.  
Add PC201 0.1uF and close to PD27 pin1.  
Change PL6 to 4.7uH and add TP274,TP275 test points.  
10/30  
Refer to PUR suggestoin to change component source.  
Add NC\_PR232  
Change PR30 to 10K and PR31 to 1K.  
Mount PC30  
Add TP278 test point.  
10/31  
Refer to PUR suggestoin to change component source.  
Swap LVDS group of ATI M82.  
11/02  
Change "\*" to net "EN\_EXT\_DEV\_SENSE" for low active.  
Modify MB Semi-PNP circuit.  
11/03  
Inverse HDMI pairs polarity(DVI pairs inversed on docking side).  
11/04  
Change USB board connector.  
Combine MS/SD LED to one(MEDIA\_LED).  
11/05  
N.C. R377, Mount F3.  
Change INUSE\_LED to GPIO72.  
Change MS slot to YAMAICHI JCS010-2300-0.  
11/06  
Change part of CN16/CN26.(Height Change)  
Change netname of "SD\_WP#" to "SD\_WP".  
Change PR143 to 200kohm.  
Update charge current setting table.  
Reserve BATT\_WOL\_EN for LAN wake up enable/disable in battery mode.  
11/07  
C453, C452, C451,C426, C425, C424 change size to 0402.  
Mount PR158, PC125 and PR185, PC148 and PR199, PC177 and PR16, PC21.  
N.C. PR36.  
Change C188 from 0.1uF to 0.47uF.  
11/08  
Swap USB\_PP8/PN8 for ease of routing.  
Change button board connector to WBF31326-F04TR.  
Change MS/SD LED to side view, yellow color.  
Change U7 from CM2009 to CM2006.  
Update VCC\_DDC power isolation circuit.  
Add R565,C658 for SRTCIRST#.  
11/09  
Change PC31 from 22p to 100p.  
Reserve R566 for removal of Ext. SPI Conn on DVT.  
Reverse Button Brd CN pin assignment.  
Add EMI Cap C659-C666 on +1\_8VSUS.  
11/10  
Delete guide pin hole H9, H22.  
N.C. F3, mount P1. (Use +3VSUS for camera power on EVT2).  
11/11  
Change pin assignment of Express CN.

12/17  
Change PTH hole size. (H11)  
Add TP283,TP284.  
Change net name "ISL\_VSSSENSE\_" to "ISL\_VSSSENSE"  
11/13  
Add TP285-290 for SI probe point.  
Change type of H14,H19.  
Change PR22=51K, PR232=200k.  
11/14  
Tune crystal accuracy, change C390/C389/C416/C412 to 22PF,C648/C649 to 18PF.  
Change PR6=360K.(Charge Current Control)  
Co-Lay PR233, PQ54, PQ55, PL16.  
Change RP34 to 2.2K for SI.  
N.C. R415, mount L47 on H model.  
11/19  
N.C. R559 (Double pull up on BT\_PRS#)  
11/23  
Change camera power to +5VSUS.  
DVT1 12/01  
Swap DVI bus polarity.  
Route RUN\_ON to docking station CN.  
Add logic gate(U37) to prevent panel flash when boot up.  
Add R567, bypass brightness control signal.  
Use +3V\_DELAY(Q4) to prevent M82 high pulse on LCD control signals.  
12/07  
Change DC-IN CN(PCN1, With Reinforcement Pin).  
Swap TPM Nut (BOSS1).  
Change Button Board CN (CN3) to 15 pin.  
Add R570 for power consumption measurement.  
12/12  
Change U6 from Quad to Dual XOR gate.  
Change EMI Caps C424-C426, C451-453 to 10pF.  
Change color of LED2(Charge LED) to Amber.  
Change U16 from MR-sensor to Hall-sensor. (N.C. R263)  
12/13  
Change damping resistors of keyboard matrix to 120ohm Ferrite bead.(For EMI)  
12/17  
Change C451,C452,C453,C424,C425,C451 to 22pF. (For EMI)  
Add one more +3VSUS (CN26) for WLAN module to cover 1500mA(peak)/1100mA(normal) requirement.  
12/18  
Add one more LCDVCC pin (CN1) for panel to improve voltage drop.  
Add optional resistors(R571,R572) for gamma control.  
Reduce LED\_VOUT from 6 pins to 2 pins.  
12/20  
Change net "BL\_OFF" to "BL\_OFF#".  
Add R573-577 to improve MS signal overshoot/undershoot.  
Mount C642-644.  
Change F3 to 0.25A.  
12/21  
Change Net "HDD\_LED#" to "HDD\_ODD\_LED#"  
12/23  
Change C412/C416 from 22pF to 10pF.  
Change C648,C649 from 18pF to 15pF.  
Mount U26(VGA Thermal Sensor) on H model only.  
Add 75 ohm bead, 10pF capacitor on HDA\_MDC\_BITCLK/HDA\_CODECD\_BITCLK for EMI.  
12/24  
Update H2/H6/H7/H8 footprint.  
Delete R563, R564 (CR1\_GND).  
Change D17, D18 to SSM22 to reduce voltage drop.  
Change pull up voltage of R360/R361 to +3VRUN. (Only Strap/GPIO pin connected to +3V\_DELAY)  
N.C. C403 (Not necessary for ESD)  
12/26  
Delete ODD\_DP# connection to ICH9M.

0218  
M750  
change U30 from NCS335X(14-NC7532M-5X00) to MC74HC1G32DTT1G(14-MC74HC1-G300)  
change D2, F from BAS36(16-BAS3160-0000) to BAS316PT(16-BAS316P-T000) for common parts  
change C6, F, D1, D12, D14, D23, D24 from 16-SC5500V-4000 to CH500H-40PT(16-CH500H-0P00) for common parts  
change C1, C5, U17, U21, U22 from 17-2N7002P-T000 to ME2N7002E(17-ME2N700-2E00) for common parts  
change Q23 from 17-MMBT390-4001 to PMBT3904.215(17-PMBT390-4200) for common parts  
change C303,PC156 from 0.01u,6.3V\_K(1C-2B20103-R100) to 0.01u\_10V\_K(1C-2B20103-K200) for common parts  
change L23,L28,L40,L41,L42 from 90R-100MHZ\_0R35(1L-FDLW315-N900) to 90R-100M\_1206(1L-FWCM321-6F00) for common parts  
change C19,C17 from Y5V to X5R tolerance  
change PR32 to 11K, PR33 to 19.6k to set the battery mode voltage to 0.95V by AMD for battery mode dual display  
0318 PVT  
NC C656 for WLAN\_LED light when power on because of RC delay  
update battery identify (CPUF5) P/N to R500500DN100NS by vendor  
update U7 symbol to CM2006-02QR  
modify R345 value to HD for BOM change of disable HDAudio in 128MB SKU  
remove PU11,PU12,PU3,PU8,PU10,PU9,PU13,PU5 and short by layout  
correct U36 vendor P/N to WPCB775LA0DG  
change U32 to W25X16AVSSIG by vendor suggestion  
add PQ56,PC206,PR246 for charger ocp improve by M760 battery OCP issue  
modify P43 charge current table ,middle current change from 1A to 0.8A  
add PR244 and PR245(dummy directly) for intersil ISL6266A found C4 hang at the other company  
change PD18 to MMW5231BPT for SCP circuit  
add UVP circuit (PU17,PR238,PD32,PC205,PR242,PR241,PD33)  
change PR236 to 120kohm for power limit point improved  
change PQ50,PQ51,PQ49,PR221 value title to DS.  
change PR53 to 82kohm for LED backlight current modify  
add R587,Q28,Q29 for improve HDMI voltage drop  
0326  
Short R31,R12,R14 by layout  
add C669 for reduce fan power source ripple  
add L87,L88 for EMI  
add U39,C670 for MS/SD abnormal behavior  
0327  
change PU9 to AT5208 because of G909 big inrush current  
0328  
NC R389,R393,Y3,C436,C437,C241,C242,L29,U5,R152 for use AMD internal SS  
add R589,C672 for MS/SD led abnormal when power on  
NC R389,R393,Y3,C436,C437,C241,C242,L29,U5,R152 for use AMD internal SS  
add R589,C672 for MS/SD led abnormal when power on  
reserve R588 for reduce G-sensor power ripple  
0402  
add F5-F11 for power short  
0403  
change PR241 from 232K to 215K for UVP circuit improve  
0408  
NC R348,R356,R357 for using AMD internal SS  
change R378 value to HD for HDMI disable

M751 DVT  
0505  
Reserve EC1,EC2,EC3, ER1,ER2,ER3 for Hynix 1GB EMI  
change HDD sata CN20 pin define to increase the impedance for SATA SI

0506  
reserve PR247 for colay with MAX17020  
Update U29 footprint for Japan/Mitsui package  
change L85 to 60ohm for EMI  
NC C5 for EMI

0508  
add Q30 for MS/SD LED cost down  
M751 PVT

0618  
Page 24:Change L30,L31,L32 to 33ohm and change C258,C260,C262 to 15PF for SI issue  
Page 25:chang C405 C407 to 1C-2B30475-K100 for PUR request  
Page 33:NC R561,Mount R560 ,keep system ID the same as M750  
Page 36:NC F1 ,mount F3,for 5v Camera moudle  
Page 38:Change R80 to 4.7k from 10k , for FAN speed issue  
Page 40 :NC Q30 ,Mount U39 Q13 C672 C670 R589 for mor Request  
Page 47:NC PR244 ,Vendor suggestion and it is related with DC4  
Page 43,49:1.FR14 change to 62Kohm , co-lay PR248 LND 56.6Kohm with PR7.  
2.FR215 205Kohm change to 280Kohm  
3.PR223 154Kohm change to 280Kohm  
Page 24: change D17 to 16-SSM24AP-T000' for leakage issue  
Page 7:Change C254,C252 rating to 6.3v for cost down  
Page 35:del R301,R302,R303,R304,R305,R306,L40,L41,L42 for cost down  
Page36:del R147 H150 L28 for cost down  
Page 39:del R261 for cost down,change U14 version  
Page 33:Change CN6 to 1N-0024000-F1T0 for pur request  
Page 52:add ER4 EC4 for EMI Issue

0625  
Page 43:.PC121 change from 0.1uF/25V to 0.1uF/50V(1C-2B30104-K000)  
Page 52 : change ER4 EC4 to 0603 for EMI request  
Page 40:modify the U33 F/N to 15-BD2056A-FJ00 for CE update component library  
Page 35:resume CN6 main source 1N-0024000-M1T0, for 2nd source layout issue  
Page 24:change D17 to 16-SSM24PT-0000 For design change  
Page 51:add one test point in PR41 pin1.