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66	History (EVT)		

P. Leader	Check by	Design by

PCB P/N: __-_____-__SA
__-_____-__SA
__-_____-__SA

Project Code & Schematics Subject: MS31/51 Main Board

FOXCONN HON HAI PRECISION IND. CO., LTD.
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Title: ***Index Page***

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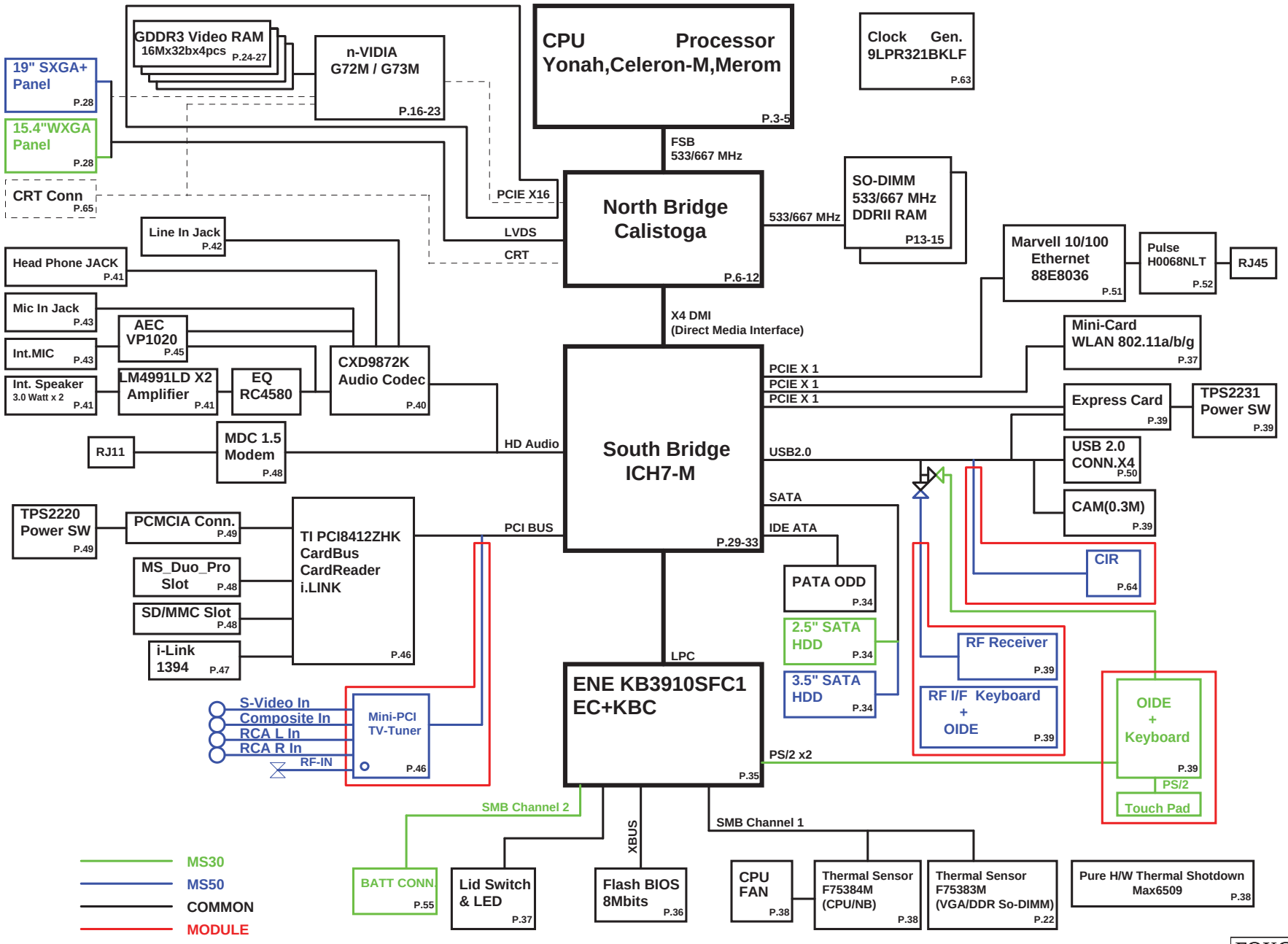
MBX-152(CALISTOGA PM/GM+Gfx Block Diagram



SYSTEM DC/DC MAX8734A P.56

INPUTS	OUTPUTS
DCBATOUT	+5VALW +5VALW_LDO +3VALW +ECVCC

SYSTEM DC/DC MAX8743

INPUTS	OUTPUTS
DCBATOUT	+1_5VRUN +1_05VRUN

SC486

DCBATOUT	+1_8VSUS +0_9VRUN

CPU DC/DC MAX8771 P.59

INPUTS	OUTPUTS
DCBATOUT	VHCORE

AMP DC/DC MAX668 P.60

INPUTS	OUTPUTS
+5VALW	+12VRUN

SYSTEM DC/DC SC1470/GMT966 (external VGA Core) P.63

INPUTS	OUTPUTS
DCBATOUT	PEX_VDD NV_VDD

MAXIM CHARGER MAX1909 P.54

INPUTS	OUTPUTS
AD+	BT+ DCBATOUT

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Title: *Block Diagram (All)*

Size: C | Document Number: MS51(MBX-152) | Rev: 0.30

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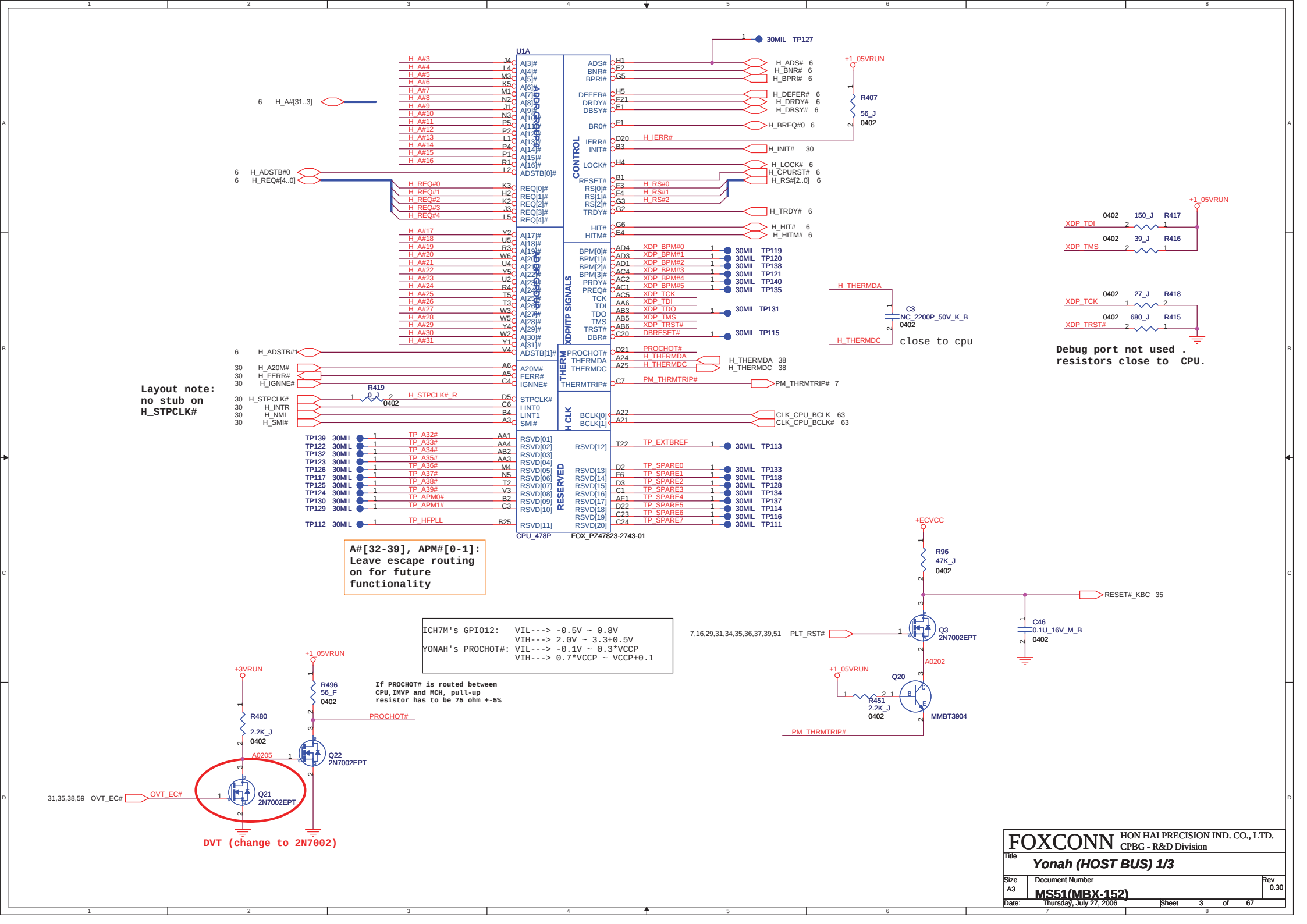
U1A
CPU_478P
FOX_PZ47823-2743-01
ADDR GROUP
CONTROL
XDP/ITP SIGNALS
THERM
H CLK
RESERVED
Layout note:
no stub on
H_STPCLK#
A#[32-39], APM#[0-1]:
Leave escape routing
on for future
functionality
ICH7M's GPIO12: VIL---> -0.5V ~ 0.8V
VIH---> 2.0V ~ 3.3+0.5V
YONAH's PROCHOT#: VIL---> -0.1V ~ 0.3*VCCP
VIH---> 0.7*VCCP ~ VCCP+0.1
If PROCHOT# is routed between
CPU,IMVP and MCH, pull-up
resistor has to be 75 ohm +-5%
close to cpu
Debug port not used .
resistors close to CPU.
DVT (change to 2N7002)
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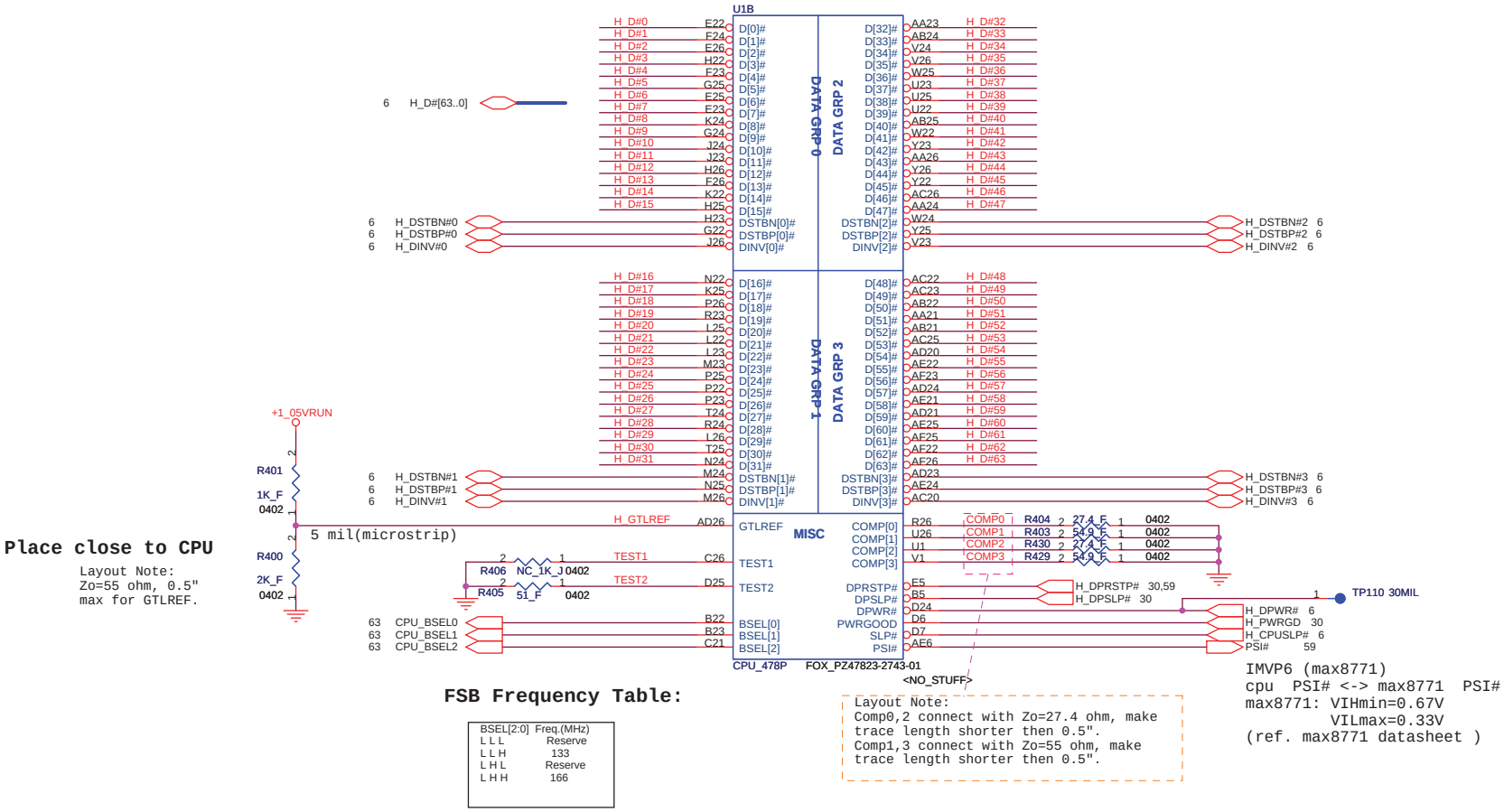
CPBG - R&D Division
Yonah (HOST BUS) 1/3
MS51(MBX-152)
Thursday, July 27, 2006



Place close to CPU

Layout Note:
Zo=55 ohm, 0.5"
max for GTLREF.

FSB Frequency Table:

BSEL[2:0]	Freq.(MHz)
L L L	Reserve
L L H	133
L H L	Reserve
L H H	166

Layout Note:
Comp0,2 connect with Zo=27.4 ohm, make trace length shorter then 0.5".
Comp1,3 connect with Zo=55 ohm, make trace length shorter then 0.5".

IMVP6 (max8771)
cpu PSI# <-> max8771 PSI#
max8771: VIHmin=0.67V
VILmax=0.33V
(ref. max8771 datasheet)

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Title: *Yonah (HOST BUS) 2/3*

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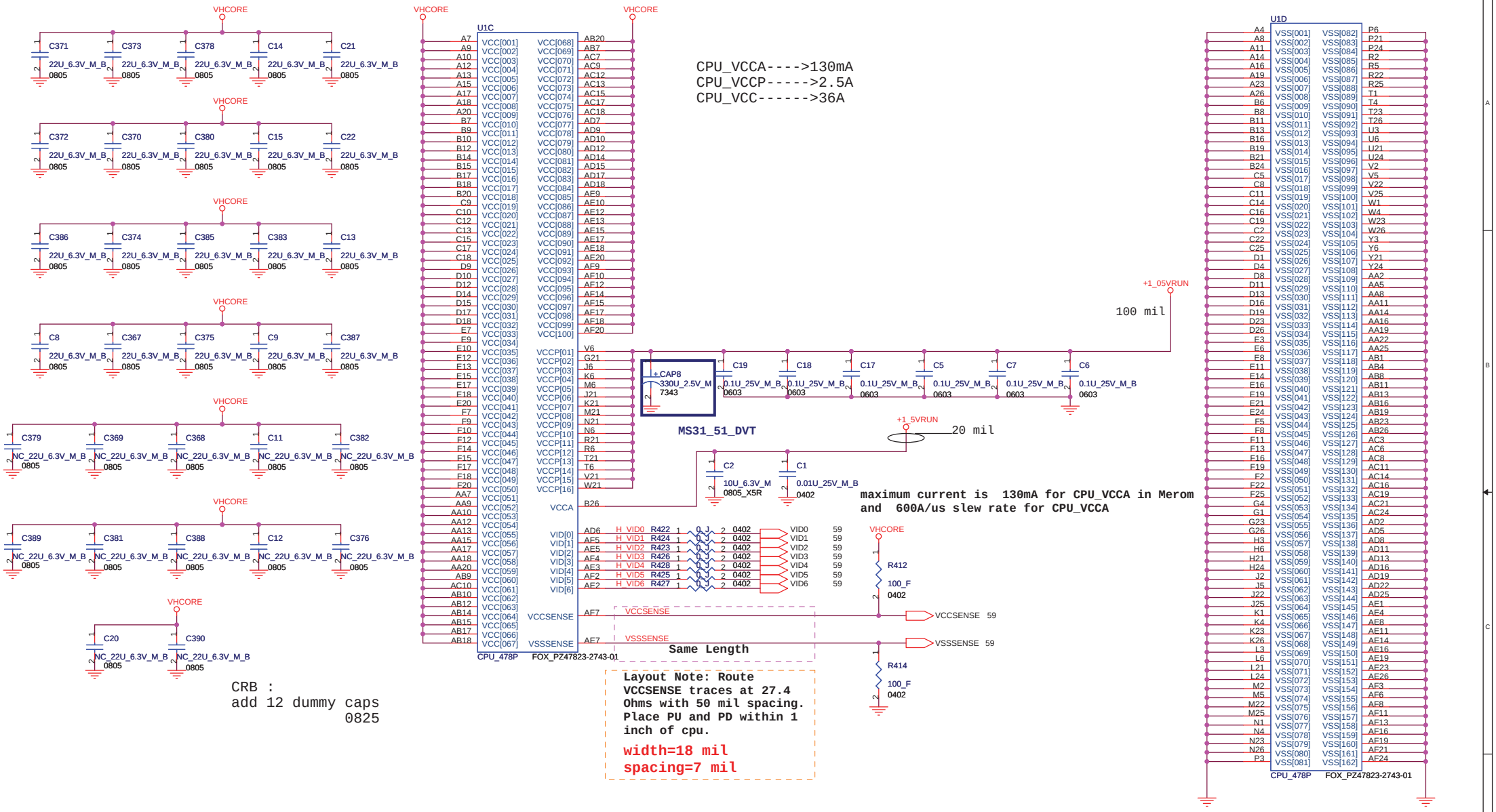

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Title: *Yonah (POWER/GROUND) 3/3*

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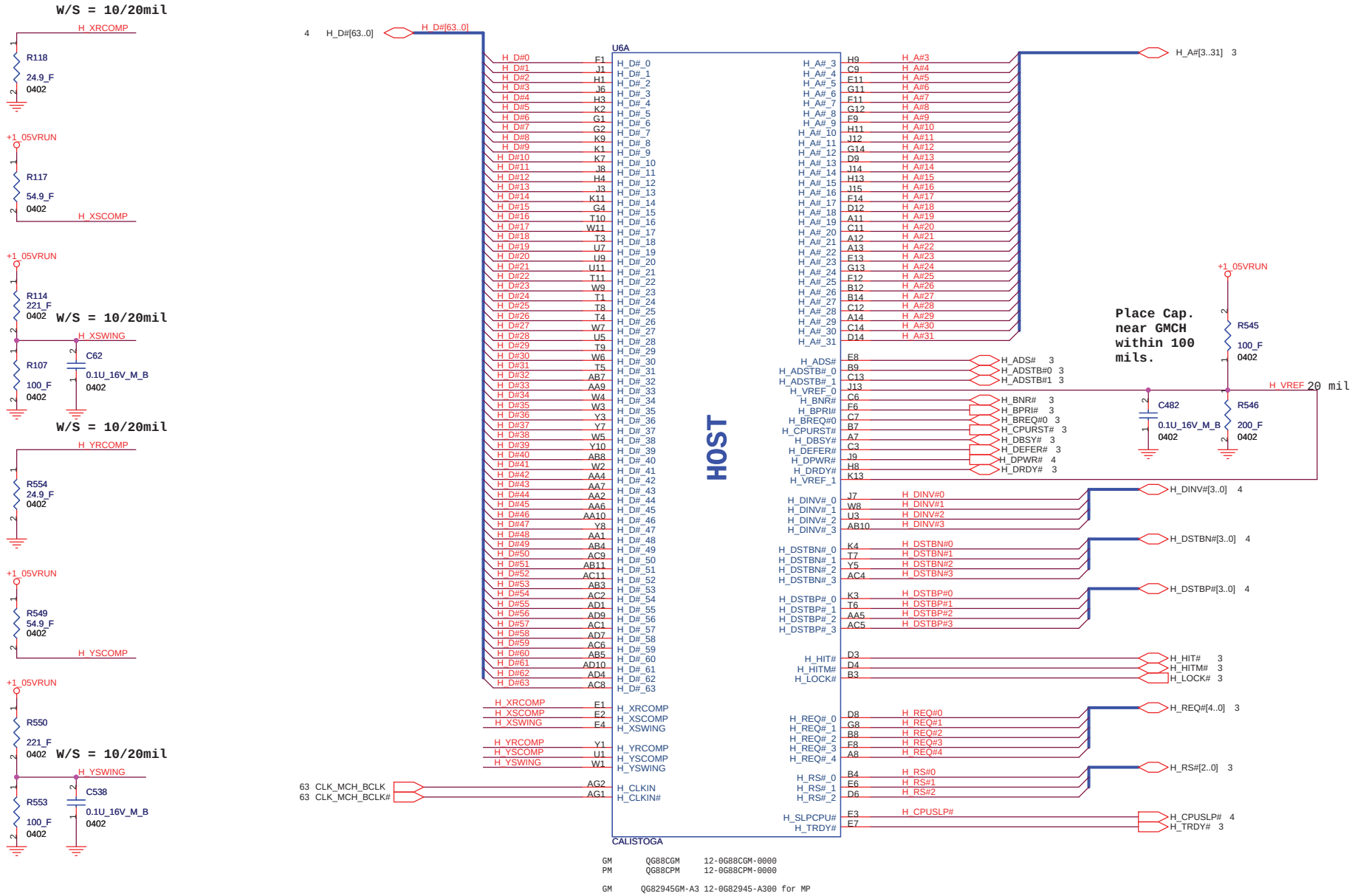

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	CALISTOHA (HOST)	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
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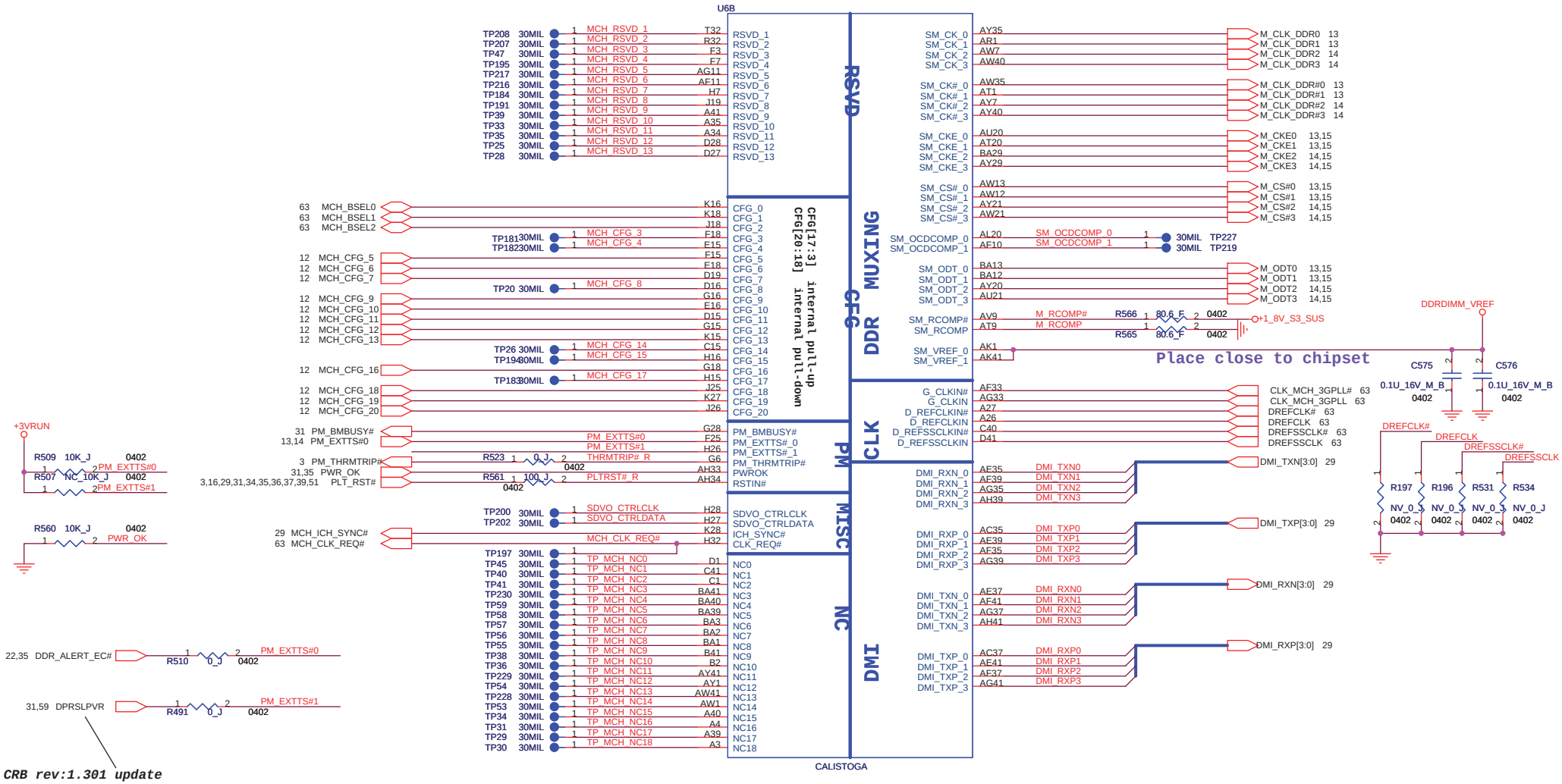

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	CALISTOGA (DMI) 2 of 7
Size A3	Document Number MS51(MBX-152)
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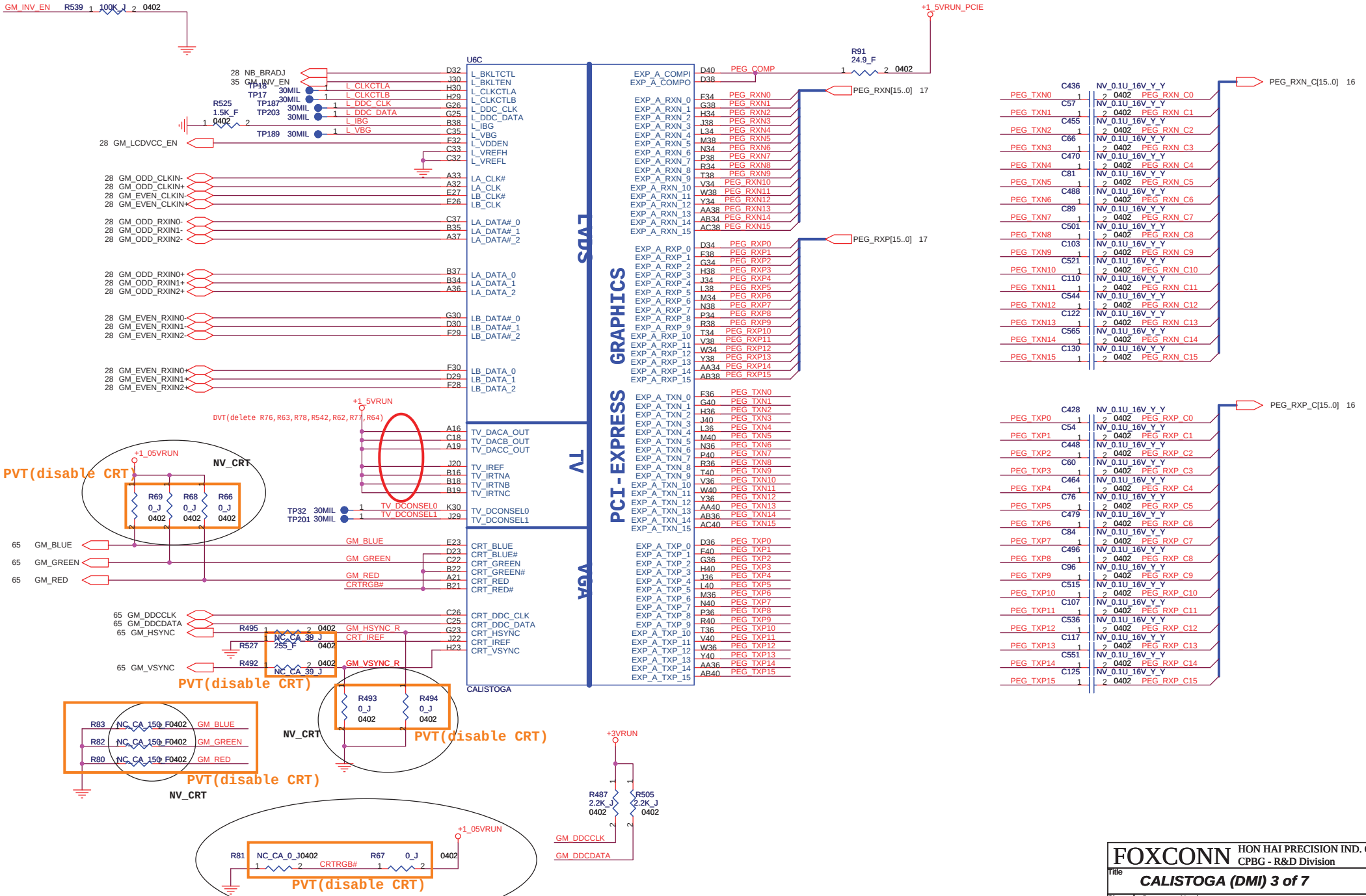

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	CALISTOGA (DMI) 3 of 7
Size A3	Document Number MS51(MBX-152)
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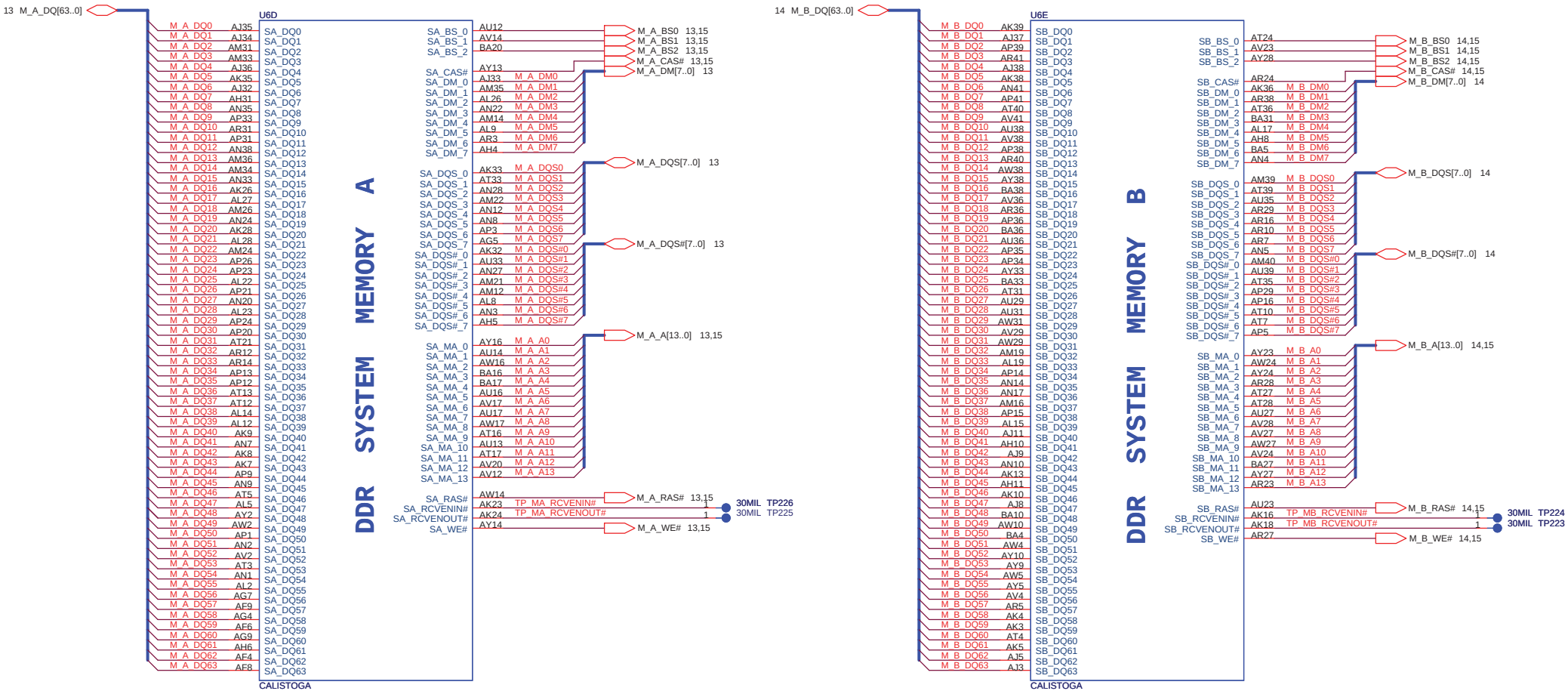

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Title: CALISTOGA (DDRII) 4 of 7

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

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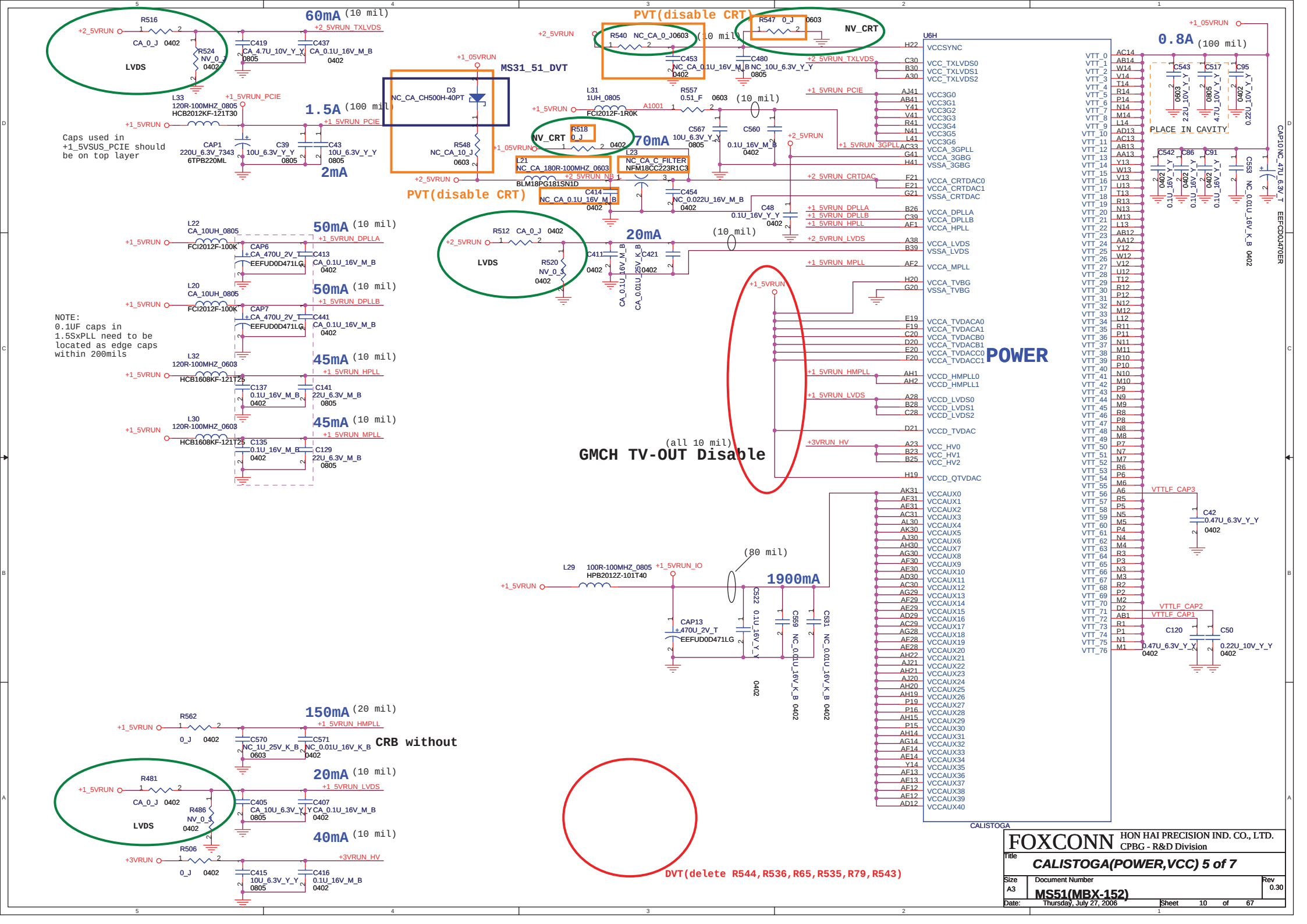
60mA (10 mil)
1.5A (100 mil)
2mA
PVT(disable CRT)
MS31_51_DVT
70mA
20mA
50mA (10 mil)
50mA (10 mil)
45mA (10 mil)
45mA (10 mil)
150mA (20 mil)
20mA (10 mil)
40mA (10 mil)
0.8A (100 mil)
1900mA
(80 mil)
POWER
GMCH TV-OUT Disable
(all 10 mil)
CRB without
DVT(delete R544,R536,R65,R535,R79,R543)
NV_CRT
LVDS
PLACE IN CAVITY
Caps used in +1_5VSUS_PCIE should be on top layer
NOTE: 0.1UF caps in 1.5SxPLL need to be located as edge caps within 200mils
U6H
CALISTOGA
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
CALISTOGA(POWER,VCC) 5 of 7
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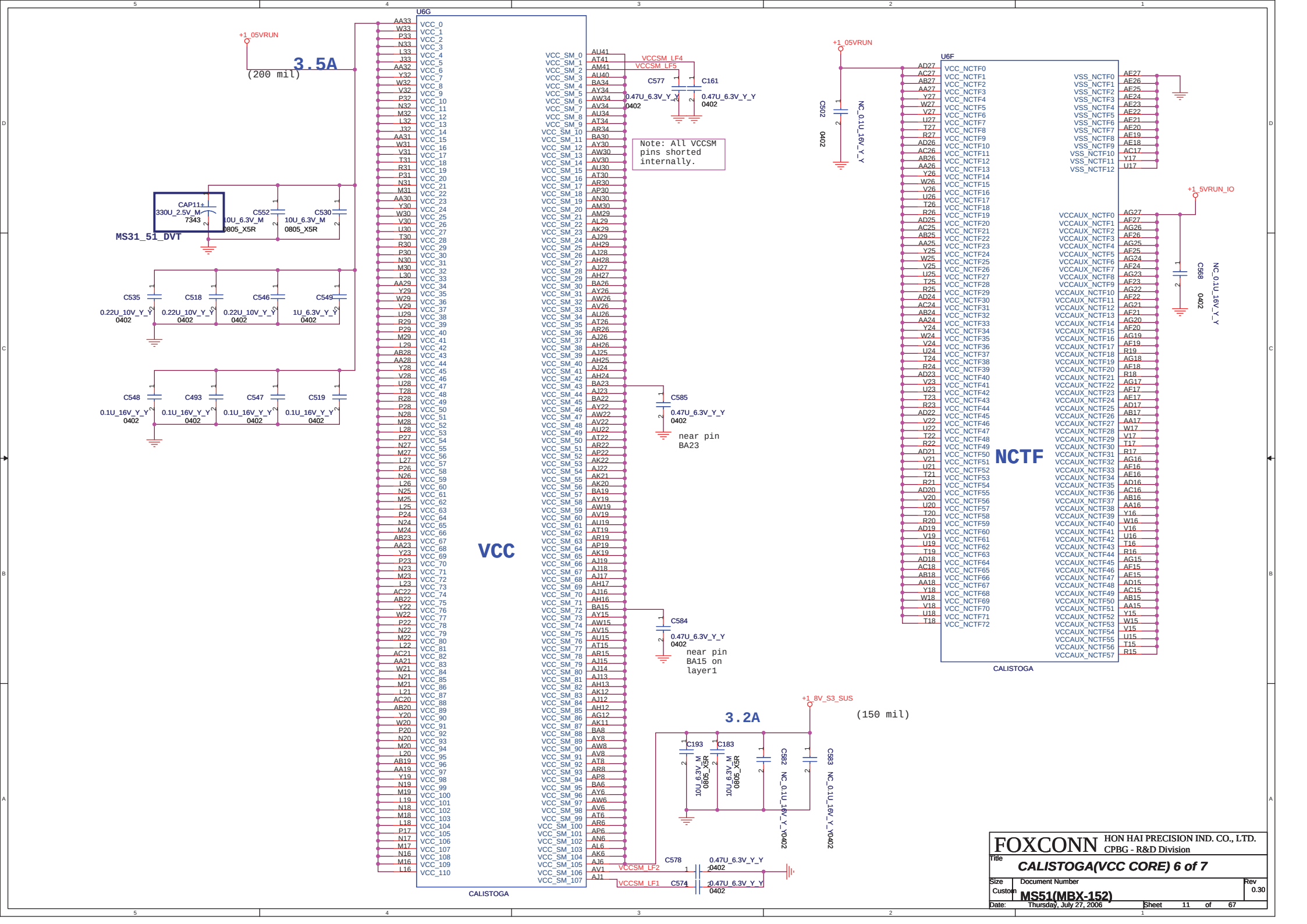
U6G
VCC
CALISTOGA
3.5A
(200 mil)
+1_05VRUN
MS31_51_DVT
CAP11±
330U_2.5V_M
7343
C552
10U_6.3V_M
0805_X5R
C530
10U_6.3V_M
0805_X5R
C535
0.22U_10V_Y_Y
0402
C518
0.22U_10V_Y_Y
0402
C546
0.22U_10V_Y_Y
0402
C549
1U_6.3V_Y_Y
0402
C548
0.1U_16V_Y_Y
0402
C493
0.1U_16V_Y_Y
0402
C547
0.1U_16V_Y_Y
0402
C519
0.1U_16V_Y_Y
0402
VCCSM_LF4
VCCSM_LF5
C577
0.47U_6.3V_Y_Y
0402
C161
0.47U_6.3V_Y_Y
0402
Note: All VCCSM pins shorted internally.
C585
0.47U_6.3V_Y_Y
0402
near pin BA23
C584
0.47U_6.3V_Y_Y
0402
near pin BA15 on layer1
+1_8V_S3_SUS
3.2A
(150 mil)
C193
10U_6.3V_M
0805_X5R
C183
10U_6.3V_M
0805_X5R
C582
NC_0.1U_16V_Y_Y
0402
C583
NC_0.1U_16V_Y_Y
0402
C578
0.47U_6.3V_Y_Y
0402
VCCSM_LF2
VCCSM_LF1
C574
0.47U_6.3V_Y_Y
0402
U6F
NCTF
CALISTOGA
+1_05VRUN
C502
NC_0.1U_16V_Y_Y
0402
+1_5VRUN_IO
C568
NC_0.1U_16V_Y_Y
0402
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HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
CALISTOGA(VCC CORE) 6 of 7
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7 MCH_CFG_5 — 1 — 30MIL TP193

MCH_CFG_5	Low = DMIx2 High = DMIx4

7 MCH_CFG_6 — 1 — 30MIL TP180

MCH_CFG_6	Low = Moby Dick High = Calistoga

DDR2 select (default high)

7 MCH_CFG_7 — 1 — 30MIL TP15

MCH_CFG_7 (CPU Strap)	Low = RSVD High = Mobile Yonah processor

7 MCH_CFG_9 — 1 — 30MIL TP250

DVT (delete R514,add TP)

MCH_CFG_9 (PCIE Graphics Lane)	Low = Reverse Lane High = Normal operation

For layout convenience

7 MCH_CFG_10 — 1 — 30MIL TP192

MCH_CFG_10 (HOST PLL VCC SELECT)	Low = RESERVED High = MOBILITY

7 MCH_CFG_11

MCH_CFG_11 (PSB 4x CLK ENABLE)	Low = Reserved High= Calistoga

R85 NC_2.2K_J 0402

7 MCH_CFG_12 — 1 — 30MIL TP185
7 MCH_CFG_13 — 1 — 30MIL TP205

MCH_CFG_[13:12] (XOR/ALLZ)	00=Partial Clock Gating Disable 01=XOR Mode Enable 10=All-Z Mode Enable 11=Normal Operation(Default)

7 MCH_CFG_16 — 1 — 30MIL TP178

MCH_CFG_16 (FSB Dynamic ODT)	Low = Dynamic ODT Disabled High = Dynamic ODT Enable

MCH_CFG_18 (VCC_CORE Select)	Low = 1.05V(default) High = 1.5V

7 MCH_CFG_18 — 1 — 30MIL TP248

DVT (delete R508,add TP)

MCH_CFG_19 (DMI LANE REVERSAL)	Low = Normal(default) High = LANES REVERSED

7 MCH_CFG_19 — 1 — 30MIL TP249

DVT (delete R541,add TP)

MCH_CFG_20 (PCIe Backward Interpoerability mode)	Low = Only SDVO or PCIE x1 is operational (defaults)) High = SDVO and PCIE x1 are operating simultaneously via the PEG port

7 MCH_CFG_20 — 1 — 30MIL TP204

Layout Noe:
Location of all MCH_CFG strap resistors needs to be close to trace to minimize stub

Check CALISTOGA version , after A2 version , if systec can't boot up then NC the pull low R

U6I

VSS

CALISTOGA

U6J

VSS

CALISTOGA

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Title: CALISTOGA(VSS) 7 of 7

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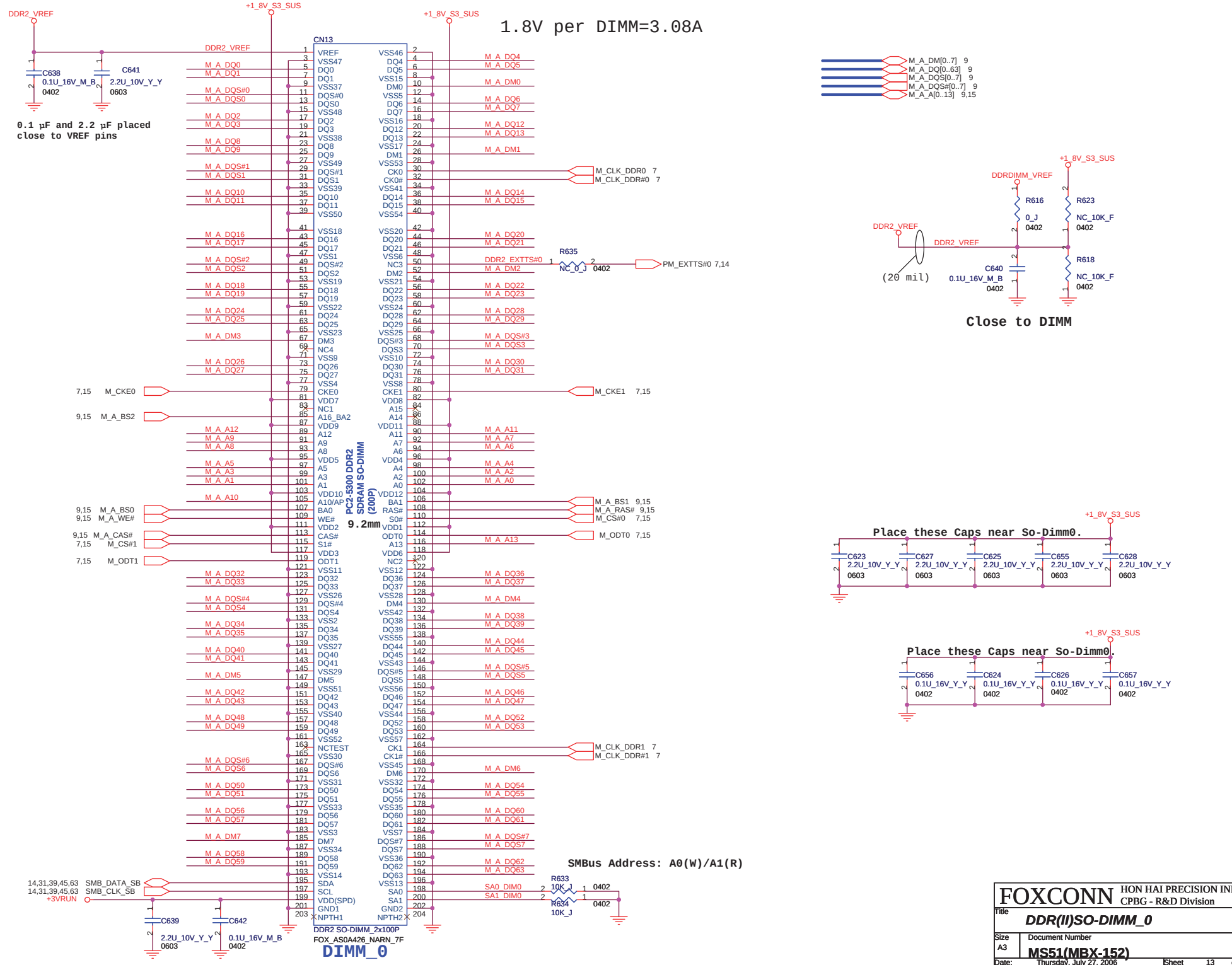
1.8V per DIMM=3.08A
DDR2_VREF
+1_8V_S3_SUS
C638 0.1U_16V_M_B 0402
C641 2.2U_10V_Y_Y 0603
0.1 µF and 2.2 µF placed close to VREF pins
CN13
PC2-5300 DDR2 SDRAM SO-DIMM (200P)
9.2mm
DDR2 SO-DIMM_2x100P
FOX_AS0A426_NARN_7F
DIMM_0
M_A_DM[0..7] 9
M_A_DQ[0..63] 9
M_A_DQS[0..7] 9
M_A_DQS#[0..7] 9
M_A_A[0..13] 9,15
M_CLK_DDR0 7
M_CLK_DDR#0 7
M_CLK_DDR1 7
M_CLK_DDR#1 7
DDR2_EXTTS#0
R635 NC_0_J 0402
PM_EXTTS#0 7,14
M_CKE0 7,15
M_CKE1 7,15
M_A_BS2 9,15
M_A_BS0 9,15
M_A_BS1 9,15
M_A_WE# 9,15
M_A_RAS# 9,15
M_A_CAS# 9,15
M_CS#0 7,15
M_CS#1 7,15
M_ODT0 7,15
M_ODT1 7,15
14,31,39,45,63 SMB_DATA_SB
14,31,39,45,63 SMB_CLK_SB
+3VRUN
C639 2.2U_10V_Y_Y 0603
C642 0.1U_16V_M_B 0402
SMBus Address: A0(W)/A1(R)
R633 10K_J 0402
R634 10K_J 0402
SA0_DIM0
SA1_DIM0
DDRDIMM_VREF
R616 0_J 0402
R623 NC_10K_F 0402
R618 NC_10K_F 0402
C640 0.1U_16V_M_B 0402
(20 mil)
Close to DIMM
Place these Caps near So-Dimm0.
C623 2.2U_10V_Y_Y 0603
C627 2.2U_10V_Y_Y 0603
C625 2.2U_10V_Y_Y 0603
C655 2.2U_10V_Y_Y 0603
C628 2.2U_10V_Y_Y 0603
Place these Caps near So-Dimm0.
C656 0.1U_16V_Y_Y 0402
C624 0.1U_16V_Y_Y 0402
C626 0.1U_16V_Y_Y 0402
C657 0.1U_16V_Y_Y 0402
FOXCONN
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Title
DDR(II)SO-DIMM_0
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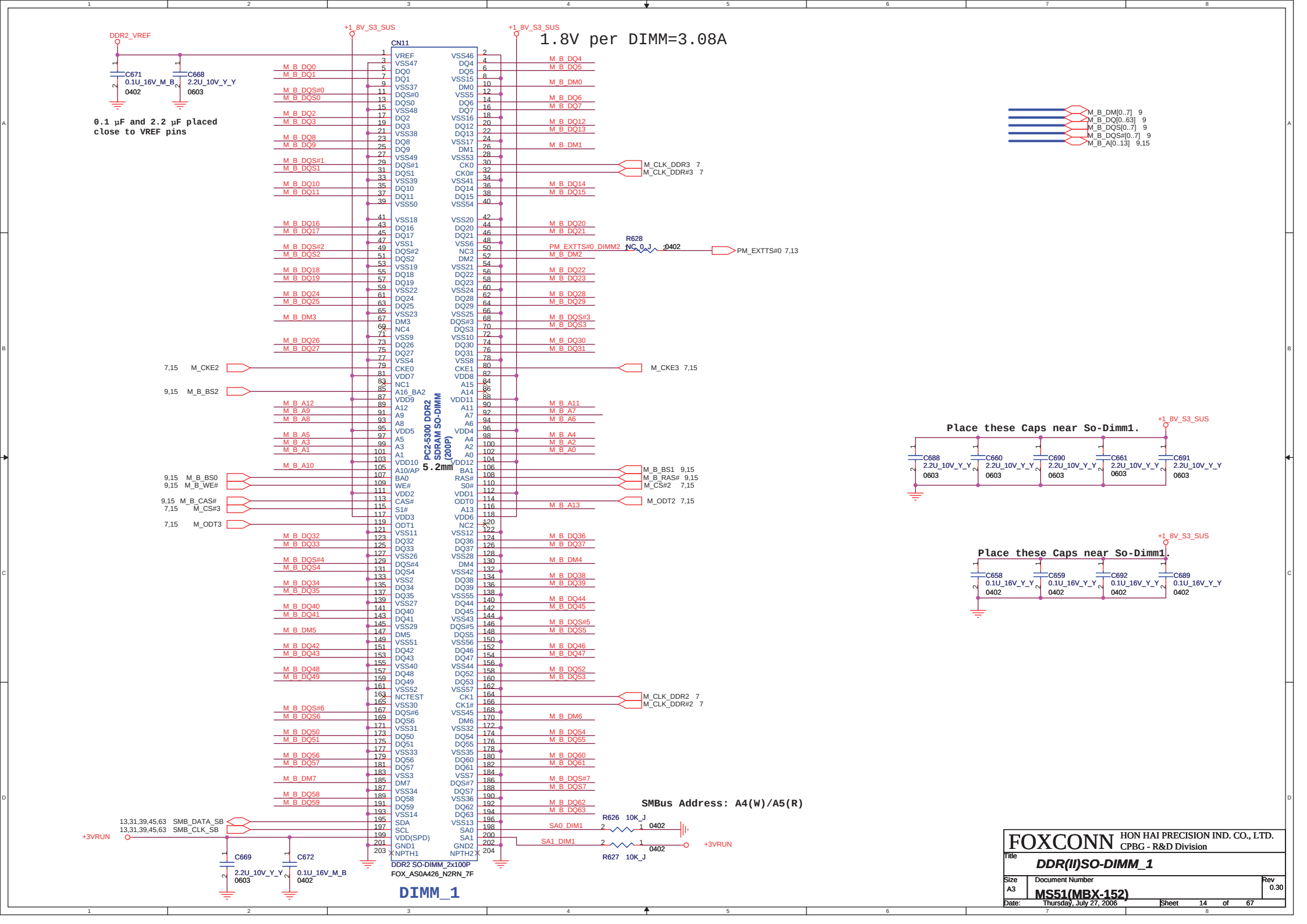
1.8V per DIMM=3.08A
DDR2_VREF
+1_8V_S3_SUS
C671 0.1U_16V_M_B 0402
C668 2.2U_10V_Y_Y 0603
0.1 µF and 2.2 µF placed close to VREF pins
CN11
DDR2 SO-DIMM_2x100P
FOX_AS0A426_N2RN_7F
DIMM_1
PC2-5300 DDR2 SDRAM SO-DIMM (200P)
5.2mm
R628 NC_0_J 0402
PM_EXTTS#0_DIMM2
PM_EXTTS#0 7,13
M_B_DM[0..7] 9
M_B_DQ[0..63] 9
M_B_DQS[0..7] 9
M_B_DQS#[0..7] 9
M_B_A[0..13] 9,15
Place these Caps near So-Dimm1.
C688 2.2U_10V_Y_Y 0603
C660 2.2U_10V_Y_Y 0603
C690 2.2U_10V_Y_Y 0603
C661 2.2U_10V_Y_Y 0603
C691 2.2U_10V_Y_Y 0603
Place these Caps near So-Dimm1.
C658 0.1U_16V_Y_Y 0402
C659 0.1U_16V_Y_Y 0402
C692 0.1U_16V_Y_Y 0402
C689 0.1U_16V_Y_Y 0402
SMBus Address: A4(W)/A5(R)
R626 10K_J 0402
R627 10K_J 0402
+3VRUN
C669 2.2U_10V_Y_Y 0603
C672 0.1U_16V_M_B 0402
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
DDR(II)SO-DIMM_1
Size A3
Document Number
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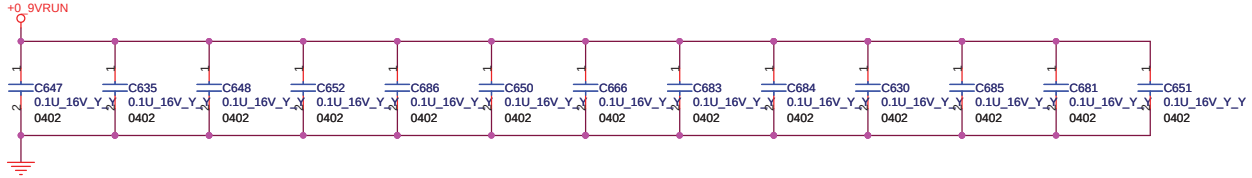
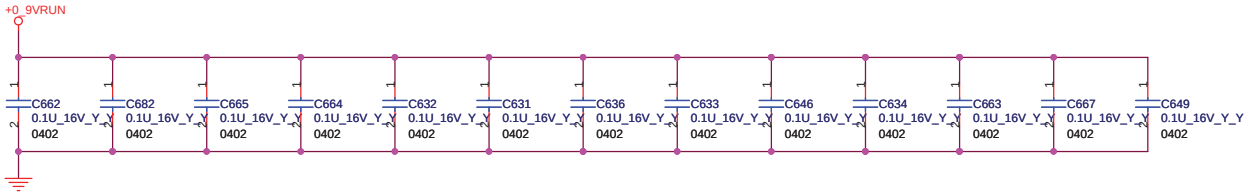
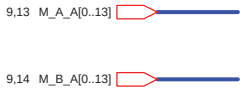
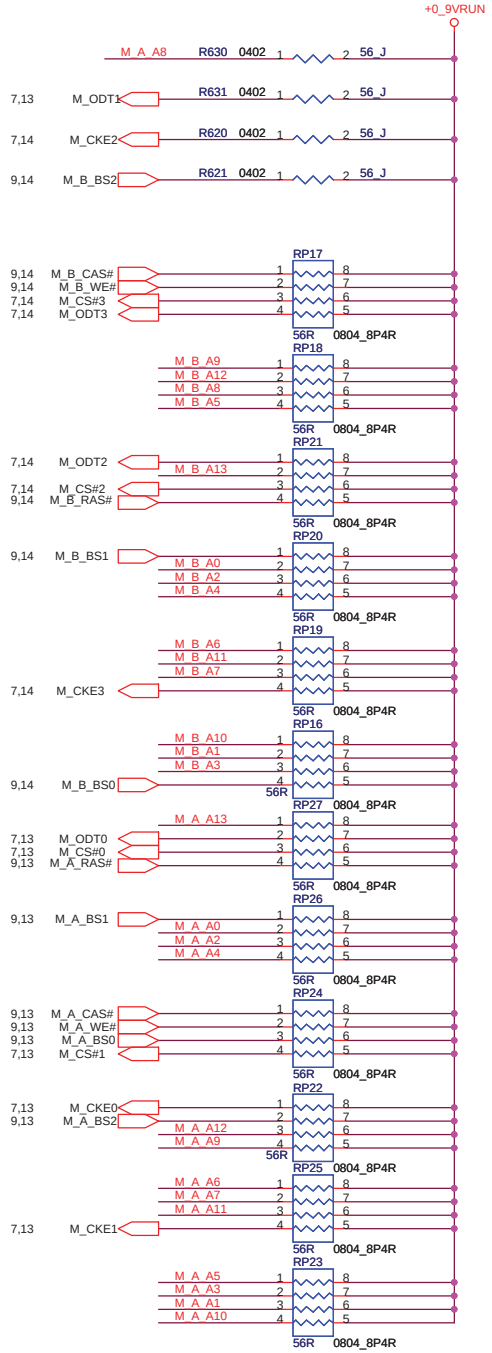


Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VRUN



Layout note: Place 1 cap close to every 1 R-pack terminated to +0_9VRUN





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Title: ***DDR(II)Termination***

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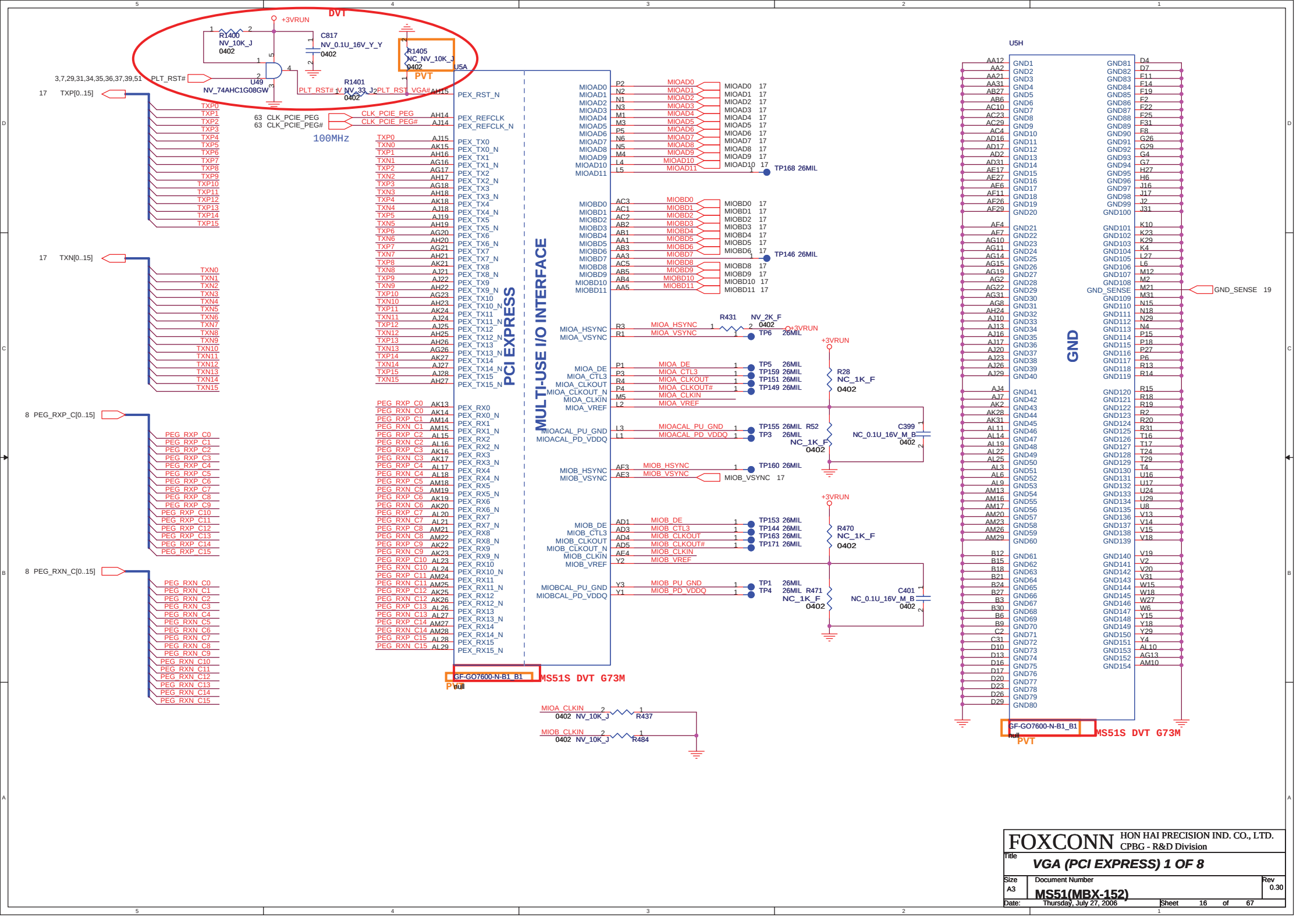

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	VGA (PCI EXPRESS) 1 OF 8
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8 PEG_RXP[0..15]

C450	NV_0.1U_16V_Y_Y	PEG_RXP0	1 2 0402	TXP0
C51	NV_0.1U_16V_Y_Y	PEG_RXP1	1 2 0402	TXP1
C465	NV_0.1U_16V_Y_Y	PEG_RXP2	1 2 0402	TXP2
C61	NV_0.1U_16V_Y_Y	PEG_RXP3	1 2 0402	TXP3
C478	NV_0.1U_16V_Y_Y	PEG_RXP4	1 2 0402	TXP4
C75	NV_0.1U_16V_Y_Y	PEG_RXP5	1 2 0402	TXP5
C495	NV_0.1U_16V_Y_Y	PEG_RXP6	1 2 0402	TXP6
C85	NV_0.1U_16V_Y_Y	PEG_RXP7	1 2 0402	TXP7
C506	NV_0.1U_16V_Y_Y	PEG_RXP8	1 2 0402	TXP8
C98	NV_0.1U_16V_Y_Y	PEG_RXP9	1 2 0402	TXP9
C529	NV_0.1U_16V_Y_Y	PEG_RXP10	1 2 0402	TXP10
C109	NV_0.1U_16V_Y_Y	PEG_RXP11	1 2 0402	TXP11
C550	NV_0.1U_16V_Y_Y	PEG_RXP12	1 2 0402	TXP12
C118	NV_0.1U_16V_Y_Y	PEG_RXP13	1 2 0402	TXP13
C566	NV_0.1U_16V_Y_Y	PEG_RXP14	1 2 0402	TXP14
C128	NV_0.1U_16V_Y_Y	PEG_RXP15	1 2 0402	TXP15

TXP[0..15] 16

8 PEG_RXN[0..15]

C456	NV_0.1U_16V_Y_Y	PEG_RXN0	1 2 0402	TXN0
C55	NV_0.1U_16V_Y_Y	PEG_RXN1	1 2 0402	TXN1
C471	NV_0.1U_16V_Y_Y	PEG_RXN2	1 2 0402	TXN2
C67	NV_0.1U_16V_Y_Y	PEG_RXN3	1 2 0402	TXN3
C483	NV_0.1U_16V_Y_Y	PEG_RXN4	1 2 0402	TXN4
C80	NV_0.1U_16V_Y_Y	PEG_RXN5	1 2 0402	TXN5
C498	NV_0.1U_16V_Y_Y	PEG_RXN6	1 2 0402	TXN6
C90	NV_0.1U_16V_Y_Y	PEG_RXN7	1 2 0402	TXN7
C516	NV_0.1U_16V_Y_Y	PEG_RXN8	1 2 0402	TXN8
C104	NV_0.1U_16V_Y_Y	PEG_RXN9	1 2 0402	TXN9
C539	NV_0.1U_16V_Y_Y	PEG_RXN10	1 2 0402	TXN10
C111	NV_0.1U_16V_Y_Y	PEG_RXN11	1 2 0402	TXN11
C563	NV_0.1U_16V_Y_Y	PEG_RXN12	1 2 0402	TXN12
C123	NV_0.1U_16V_Y_Y	PEG_RXN13	1 2 0402	TXN13
C569	NV_0.1U_16V_Y_Y	PEG_RXN14	1 2 0402	TXN14
C133	NV_0.1U_16V_Y_Y	PEG_RXN15	1 2 0402	TXN15

TXN[0..15] 16

TVMODE
NTSC (01)

MIOAD10	MIOAD7	TVMODE
0	0	SECAM
0	1	NTSC
1	0	PAL
1	1	CRT

Strap for GDDR3-136ball

0001	16Mx32	Infineon
0010	16Mx32	Hynix
0011	16Mx32	Samsung
0101	8Mx32	Infineon
0110	8Mx32	Hynix
0111	8Mx32	Samsung

SUBVENDOR

0 (USE SYSTEM BIOS)
1 (USE EXTERNAL ROM)

PANEL ID CONFIG
NC

MIOAD0 is used to set the PCI Express PLL termination enable.
DEFAULT "0"

3GIO_PADCFG[2:0]
001 for G7X

DVT change to 001

G72M/G73M
PCI_DEVID[3:0]="1000"->8

CRYSTAL
10 (27M Hz)

MIOBD6	MIOBD2	Crystal
1	0	27MHz
0	1	14.318MHz
0	0	13.5MHz
1	1	Preserved

ROM_TYPE NC

00 PARALLEL
01 SERIAL_AT25F
10 SERIAL_SST45VF
11 LPC

MIOAD0 MIOAD1 MIOAD2 MIOAD3 MIOAD4 MIOAD5 MIOAD6 MIOAD7 MIOAD8 MIOAD9 MIOAD10 → MIOAD0 16 … MIOAD10 16

MIOBD0 MIOBD1 MIOBD2 MIOBD3 MIOBD4 MIOBD5 MIOBD6 MIOBD8 MIOBD9 MIOBD10 MIOBD11 → MIOBD0 16 … MIOBD11 16

MIOB_VSYNC → MIOB_VSYNC 16

+3VRUN

MS51S DVT for G73M 256MBVram In

MIOAD7	R461 NC_2K_J 0402	R441 NV_2K_J 0402		
MIOAD10	R436 NV_2K_J 0402	R457 NC_2K_J 0402		
RAM_CFG0	MIOBD0	R473 NC_2K_J 0402	R446 NV_2K_J 0402	
RAM_CFG1	MIOBD1	R36 NV_2K_J 0402	R15 NC_2K_J 0402	
RAM_CFG2	MIOBD8	R472 NV_2K_J 0402	R445 NC_NV_2K_J 0402	
RAM_CFG3	MIOBD9	R40 NV_2K_J 0402	R19 NC_2K_J 0402	
SUBVENDOR	MIOAD1	R47 NV_2K_J 0402	R23 NC_2K_J 0402	
USER0	MIOAD2	R48 NC_10K_J 0402	R24 NC_10K_J 0402	
USER1	MIOAD3	R49 NC_10K_J 0402	R25 NC_10K_J 0402	
USER2	MIOAD4	R51 NC_10K_J 0402	R27 NC_10K_J 0402	
USER3	MIOAD5	R50 NC_10K_J 0402	R26 NC_10K_J 0402	
PEX_PLL_EN_TERM	MIOAD0	R46 NV_2K_J 0402	R22 NC_2K_J 0402	
3GIO_PADCFG0	MIOAD6	R462 NC_NV_2K_J 0402	R442 NV_2K_J 0402	
3GIO_PADCFG1	MIOAD8	R460 NV_2K_J 0402	R440 NC_NV_2K_J 0402	
3GIO_PADCFG2	MIOAD9	R459 NV_2K_J 0402	R438 NC_2K_J 0402	
PCI_DEVID 0	MIOBD4	R39 NV_2K_J 0402	R18 NC_2K_J 0402	
PCI_DEVID 1	MIOBD5	R42 NV_2K_J 0402	R21 NC_2K_J 0402	
PCI_DEVID 2	MIOBD3	R38 NV_2K_J 0402	R17 NC_2K_J 0402	
PCI_DEVID 3	MIOBD11	R41 NC_2K_J 0402	R20 NV_2K_J 0402	
CRYSTAL 0	MIOBD2	R34 NV_2K_J 0402	R13 NC_2K_J 0402	
CRYSTAL 1	MIOBD6	R37 NC_2K_J 0402	R16 NV_2K_J 0402	
ROM_TYPE 0	MIOBD10	R35 NC_2K_J 0402	R14 NC_2K_J 0402	
ROM_TYPE 1	MIOB_VSYNC	R474 NC_2K_J 0402	R447 NC_2K_J 0402	

STRAP PIN for G72M/G73M

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: VGA (PCI-EXPRESS/STRAP) 2 OF 8

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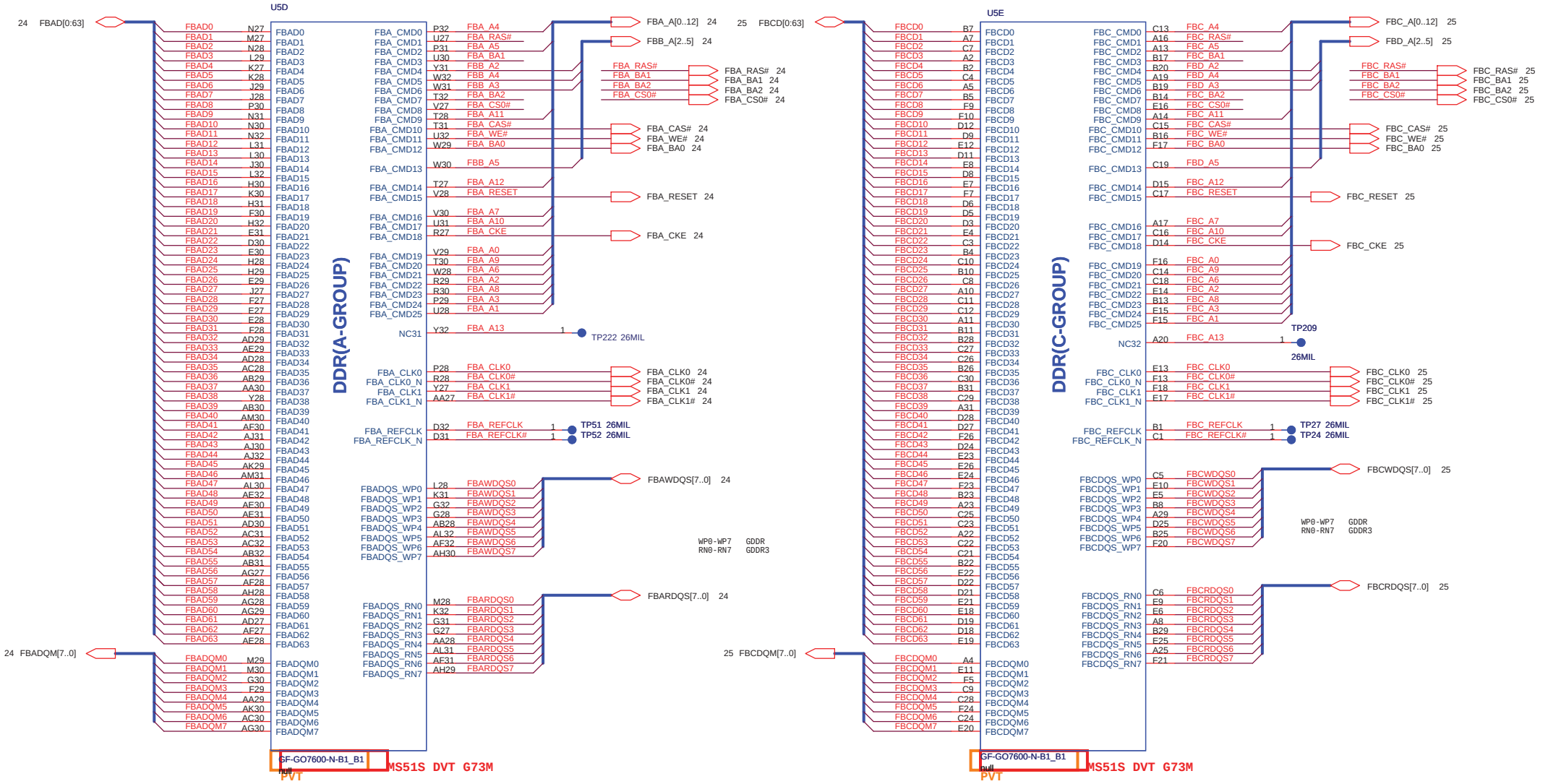

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	VGA (GDDR) 3 OF 8	
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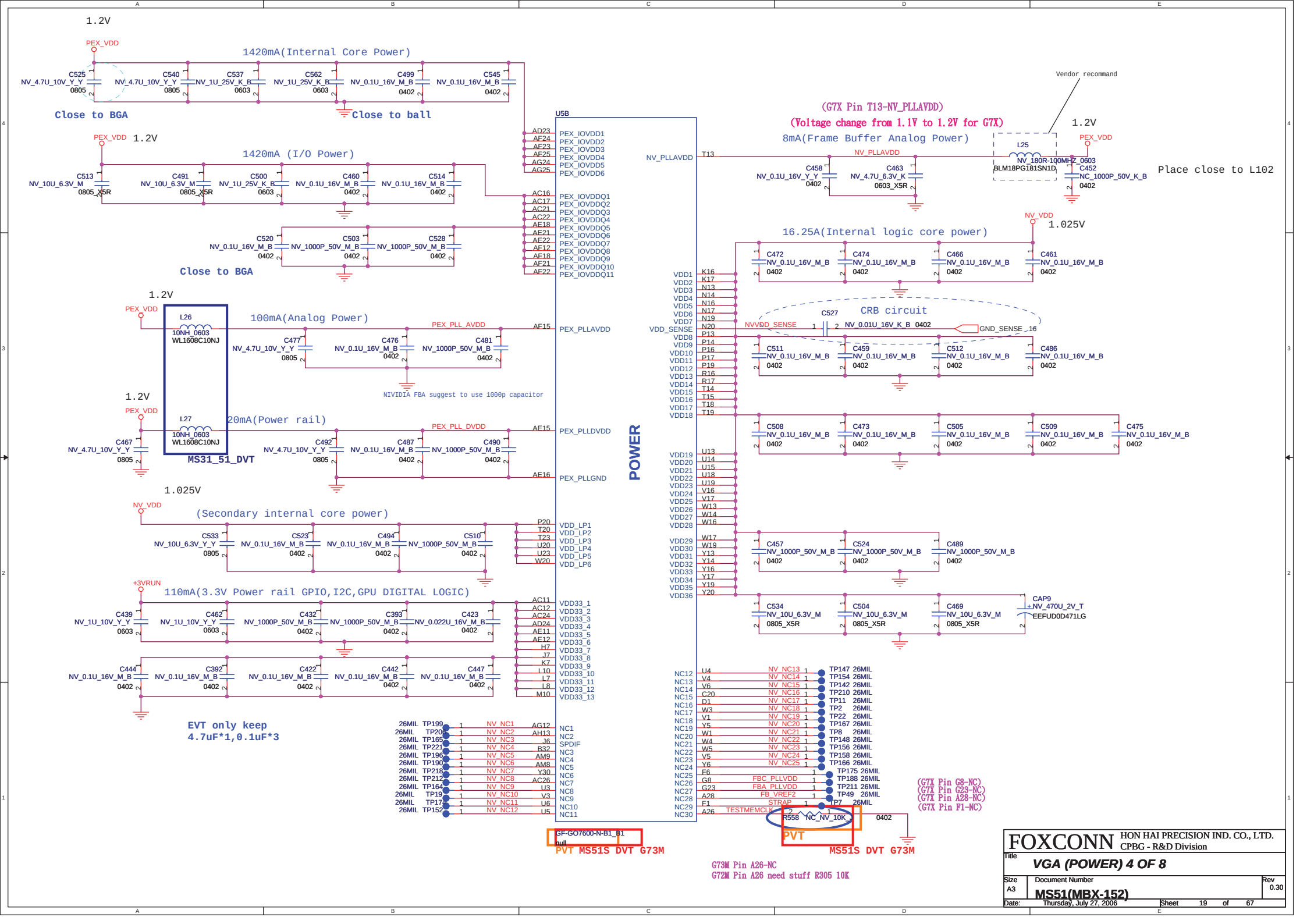
1.2V
PEX_VDD
1420mA(Internal Core Power)
C525 NV_4.7U_10V_Y_Y 0805
C540 NV_4.7U_10V_Y_Y 0805
C537 NV_1U_25V_K_B 0603
C562 NV_1U_25V_K_B 0603
C499 NV_0.1U_16V_M_B 0402
C545 NV_0.1U_16V_M_B 0402
Close to BGA
Close to ball
1420mA (I/O Power)
C513 NV_10U_6.3V_M 0805_X5R
C491 NV_10U_6.3V_M 0805_X5R
C500 NV_1U_25V_K_B 0603
C460 NV_0.1U_16V_M_B 0402
C514 NV_0.1U_16V_M_B 0402
C520 NV_0.1U_16V_M_B 0402
C503 NV_1000P_50V_M_B 0402
C528 NV_1000P_50V_M_B 0402
Close to BGA
100mA(Analog Power)
L26 10NH_0603 WL1608C10NJ
PEX_PLL_AVDD
C477 NV_4.7U_10V_Y_Y 0805
C476 NV_0.1U_16V_M_B 0402
C481 NV_1000P_50V_M_B 0402
NIVIDIA FBA suggest to use 1000p capacitor
20mA(Power rail)
L27 10NH_0603 WL1608C10NJ
PEX_PLL_DVDD
C467 NV_4.7U_10V_Y_Y 0805
C492 NV_4.7U_10V_Y_Y 0805
C487 NV_0.1U_16V_M_B 0402
C490 NV_1000P_50V_M_B 0402
MS31_51_DVT
1.025V
NV_VDD
(Secondary internal core power)
C533 NV_10U_6.3V_Y_Y 0805
C523 NV_0.1U_16V_M_B 0402
C494 NV_0.1U_16V_M_B 0402
C510 NV_1000P_50V_M_B 0402
+3VRUN
110mA(3.3V Power rail GPIO,I2C,GPU DIGITAL LOGIC)
C439 NV_1U_10V_Y_Y 0603
C462 NV_1U_10V_Y_Y 0603
C432 NV_1000P_50V_M_B 0402
C393 NV_1000P_50V_M_B 0402
C423 NV_0.022U_16V_M_B 0402
C444 NV_0.1U_16V_M_B 0402
C392 NV_0.1U_16V_M_B 0402
C422 NV_0.1U_16V_M_B 0402
C442 NV_0.1U_16V_M_B 0402
C447 NV_0.1U_16V_M_B 0402
EVT only keep
4.7uF*1,0.1uF*3
U5B
POWER
PEX_IOVDD1
PEX_IOVDD2
PEX_IOVDD3
PEX_IOVDD4
PEX_IOVDD5
PEX_IOVDD6
PEX_IOVDDQ1
PEX_IOVDDQ2
PEX_IOVDDQ3
PEX_IOVDDQ4
PEX_IOVDDQ5
PEX_IOVDDQ6
PEX_IOVDDQ7
PEX_IOVDDQ8
PEX_IOVDDQ9
PEX_IOVDDQ10
PEX_IOVDDQ11
PEX_PLLAVDD
PEX_PLLDVDD
PEX_PLLGND
VDD_LP1
VDD_LP2
VDD_LP3
VDD_LP4
VDD_LP5
VDD_LP6
VDD33_1
VDD33_2
VDD33_3
VDD33_4
VDD33_5
VDD33_6
VDD33_7
VDD33_8
VDD33_9
VDD33_10
VDD33_11
VDD33_12
VDD33_13
NC1
NC2
SPDIF
NC3
NC4
NC5
NC6
NC7
NC8
NC9
NC10
NC11
NC12
NC13
NC14
NC15
NC16
NC17
NC18
NC19
NC20
NC21
NC22
NC23
NC24
NC25
NC26
NC27
NC28
NC29
NC30
VDD1
VDD2
VDD3
VDD4
VDD5
VDD6
VDD7
VDD_SENSE
VDD8
VDD9
VDD10
VDD11
VDD12
VDD13
VDD14
VDD15
VDD16
VDD17
VDD18
VDD19
VDD20
VDD21
VDD22
VDD23
VDD24
VDD25
VDD26
VDD27
VDD28
VDD29
VDD30
VDD31
VDD32
VDD33
VDD34
VDD35
VDD36
(G7X Pin T13-NV_PLLAVDD)
(Voltage change from 1.1V to 1.2V for G7X)
Vendor recommand
8mA(Frame Buffer Analog Power)
NV_PLLAVDD
C458 NV_0.1U_16V_Y_Y 0402
C463 NV_4.7U_6.3V_K 0603_X5R
L25 NV_180R-100MHZ_0603 BLM18PG181SN1D
C452 NC_1000P_50V_K_B 0402
Place close to L102
16.25A(Internal logic core power)
NV_VDD
1.025V
C472 NV_0.1U_16V_M_B 0402
C474 NV_0.1U_16V_M_B 0402
C466 NV_0.1U_16V_M_B 0402
C461 NV_0.1U_16V_M_B 0402
CRB circuit
C527 NV_0.01U_16V_K_B 0402
NVVDD_SENSE
GND_SENSE_16
C511 NV_0.1U_16V_M_B 0402
C459 NV_0.1U_16V_M_B 0402
C512 NV_0.1U_16V_M_B 0402
C486 NV_0.1U_16V_M_B 0402
C508 NV_0.1U_16V_M_B 0402
C473 NV_0.1U_16V_M_B 0402
C505 NV_0.1U_16V_M_B 0402
C509 NV_0.1U_16V_M_B 0402
C475 NV_0.1U_16V_M_B 0402
C457 NV_1000P_50V_M_B 0402
C524 NV_1000P_50V_M_B 0402
C489 NV_1000P_50V_M_B 0402
C534 NV_10U_6.3V_M 0805_X5R
C504 NV_10U_6.3V_M 0805_X5R
C469 NV_10U_6.3V_M 0805_X5R
CAP9 NV_470U_2V_T EEFUD0D471LG
NV_NC13
NV_NC14
NV_NC15
NV_NC16
NV_NC17
NV_NC18
NV_NC19
NV_NC20
NV_NC21
NV_NC22
NV_NC23
NV_NC24
NV_NC25
FBC_PLLVDD
FBA_PLLVDD
FB_VREF2
STRAP
TESTMEMCLK
R558 NC_NV_10K
(G7X Pin G8-NC)
(G7X Pin G23-NC)
(G7X Pin A28-NC)
(G7X Pin F1-NC)
GF-GO7600-N-B1_B1
PVT MS51S DVT G73M
PVT
MS51S DVT G73M
G73M Pin A26-NC
G72M Pin A26 need stuff R305 10K
FOXCONN
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CPBG - R&D Division
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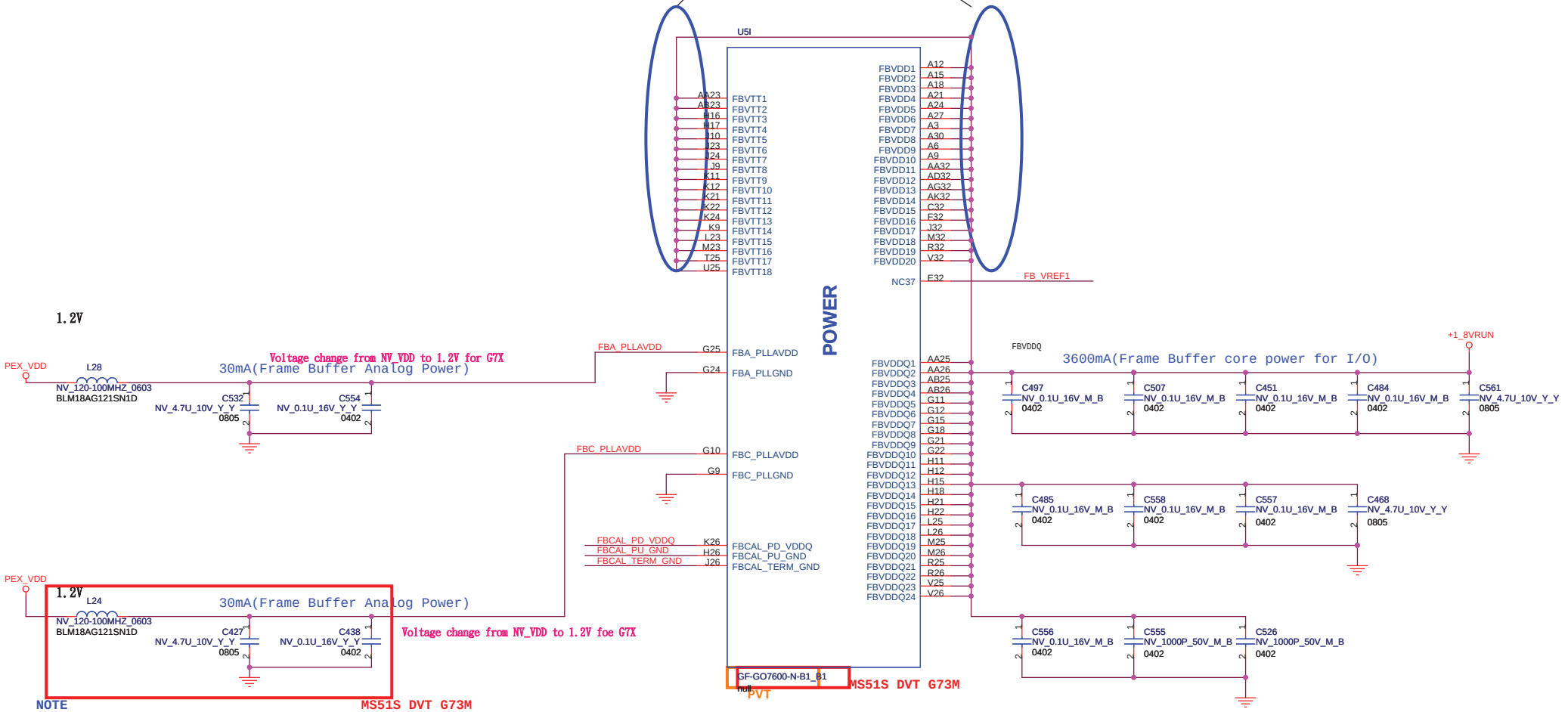
Follow FAE suggest the design guide table 4-4 and 4-5.
DDR1 underminated solution,so FBVTT/FBVDDQ/FBVDD can connect together.
for the power rails decoupling,FBVTT/FBVDD do not require caps decoupling.
only FVDDQ power rail required.



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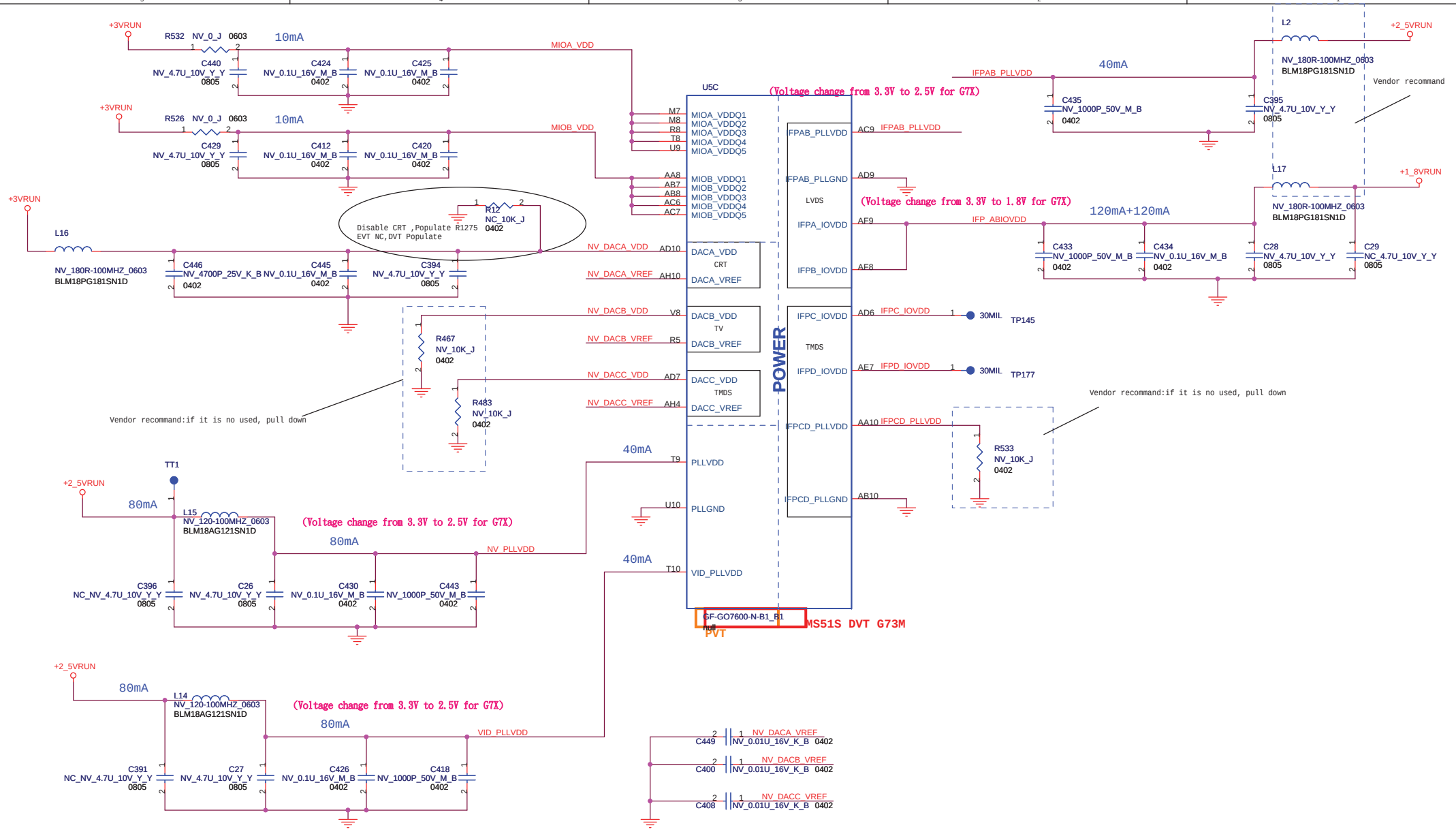

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SM bus Address :
1001100(EC)
For F75383M

U8 close to DDR SO-DIMM

Disable DVI

+3VRUN

HDCP_SCL R53 NV_10K_J 0402
HDCP_SDA R30 NV_10K_J 0402
NV_I2CC_SCL R54 NV_2.2K_J 0402
NV_I2CC_SDA R31 NV_2.2K_J 0402
NV_I2CB_SCL R453 NV_2.2K_J 0402
NV_I2CB_SDA R454 NV_2.2K_J 0402
NV_I2CA_SCL R435 NV_2.2K_J 0402
NV_I2CA_SDA R434 NV_2.2K_J 0402

ROM interface can be NC if not use.
FAE Suggest

C409,C402 unstuffed for G7X

TSTCLK_OUT and TSTCLK_OUT# can be NC for G7X,FAE suggest

U5F

HDCP: HDCP_SCL G3, HDCP_SDA H3
EDID: NV_I2CC_SCL G2, NV_I2CC_SDA G1
NV_I2CB_SCL H4, NV_I2CB_SDA J4
NV_I2CA_SCL K2, NV_I2CA_SDA J3
65 NV_I2CA_SCL
65 NV_I2CA_SDA

I2C: I2CH_SCL, I2CH_SDA; I2CC_SCL, I2CC_SDA; TMDS I2CB_SCL, I2CB_SDA; CRT DDC I2CA_SCL, I2CA_SDA

ROM: ROMCS_N, ROM_SO, ROM_SI, ROM_SCLK

TP157 ROMCS# AA4
TP141 ROM_SO AA6
TP13 ROM_SI W2
TP143 ROM_SCLK AA7

IFPAB_VPROBE AM4
IFPCD_VPROBE AK3

TP43 PEX_TSTCLK_OUT AM12
TP42 PEX_TSTCLK_OUT_N AM11

TP214 FBA_DEBUG AC27
TP198 FBC_DEBUG F12
R29 TESTMODE H2

R537 NV_10K_J 0402
R528 NV_10K_J 0402
R538 NV_10K_J 0402
TP44 JTAG_TDO AL12
NV_JTAG_TCK AJ11
NV_JTAG_TMS AK11
NV_JTAG_TDI AK12
NV_JTAG_TRST# AL13

R113 NV_10K_J 0402
Vendor recommand

GF-GO7600-N-B1_B1
null
PVT MS51S DVT G73M

GENERAL SIGNALS: THERMDN J1, THERMDP K1, BUFRST_N F3, STEREO T3, SWAPRDY_A M6
NC33 NC34 NC35 NC36

NV_THERMDN C406 NC_2200P_50V_K_B 0402 close to VGA
NV_THERMDP
D19 CA_CH520S-30PT
C586 NV_2200P_50V_K_B 0402 DVT close to thermal IC

BUFRST# TP12 26MIL
STEREO TP14 26MIL
SWAPRDY R439 NC_NV_10K_J 0402 +3VRUN

MEMSTRAPSEL3 AE26 TP215 26MIL
MEMSTRAPSEL2 AD26 TP213 26MIL
MEMSTRAPSEL1 AH31 TP220 26MIL
MEMSTRAPSEL0 AH32 TP50 26MIL

THERM# GND
D- ALERT#
D+ SDA
VCC SCL
U9 F75383M(VERISION:0.28P)
F75383_Alert# SMB_THRM_DATA SMB_THRM_CLK
R162 0_J 0402
PH in page 7
DDR_ALERT_EC# 7,35
SMB_THRM_DATA 35,38
SMB_THRM_CLK 35,38
Update New version

+3VRUN
R178 0_J 0402
R170 2.2K_J 0402
C581 0.1U_16V_M_B 0402
THERM_ALERT#GPIO8

NV_DVI_DET R458 NV_100K_J 0402

Check Spec.

GPIO TABLE	I/O	Inter pull low	
GPIO0	I	Yes	DVI Hot Plug Detect 0 (HPD0)
GPIO1	I	Yes	Hot Plug Detect 1 (HPD1)
GPIO2	O	Yes	Panel Brightness (PWM) **Active High**
GPIO3	O	No	Panel Power **Active Low**
GPIO4	O	Yes	Panel Backlight On/Off **Active High**
GPIO5	O	Yes	GPU Voltage CTL0 H: NVDD=1.1V
GPIO6	O	Yes	GPU Voltage CTL1 H: NVDD=1.0V
GPIO7	O	Yes	MEM VID
GPIO8	I	No	Thermal Alert **Active Low**
GPIO9	O	No(Low)	Fan control. Support either PWM or on/off
GPIO10	I/O	No	Available for general use.
GPIO11	O	No(Low)	Rset switch control. H:SVIDEO(69.8) L:HDTV(88.7)
GPIO12	O	No	Available for general use.

NV_PWR_MIZER R1422 NV_2K_J 0402 MS51S DVT G73M

GPIO: GPIO0 K3, GPIO1 H1, GPIO2 K5, GPIO3 G5, GPIO4 E2, GPIO5 J5, GPIO6 G6, GPIO7 K6, GPIO8 E1, GPIO9 D2, GPIO10 H5, GPIO11 F4, GPIO12 E3

NV_DVI_DET TP136 26MIL TP10 26MIL
NV_GPIO1
NV_LCDVCC_EN# NV_BRADJ 28, NV_LCDVCC_EN# 28
NV_INV_EN NV_INV_EN 35
VGA_GPIO5 VGA_GPIO5_62
VGA_GPIO6 TP176 26MIL
NV_GPIO7 TP173 26MIL
THERM_ALERT#GPIO8 35
NV_GPIO9 TP16 NV_PWR_MIZER
NV_RSET_CTL TP169 26MIL
NV_GPIO12 TP9 26MIL
R1406 NV_2K_J 0402 MS51S DVT G73M
MS31_51_DVT

CRYSTAL: XTALSSIN T1, XTALOUTBUFF T2, XTALIN U1, XTALOUT U2

R465 0402 NV_0_J 27MHz_spread 63
R43 NV_0_J 0402
27MHz_non_spread_1D2
R468 27MHz_non_spread 63
R469 NV_150_F 0402
NV_301_F 0402
Y1 NC_27MHZ_20P_30PPM ITTI_L5030-27.000-20
NV_XTALOUT
C32 0402 NC_18P_50V_K_N
C31 0402 NC_18P_50V_K_N
Vendor recommand

PVT(DUMMY)
R10 NC_NV_0_J 0402
C23 NC_NV_4.7U_10V_Y 0805
C25 NC_NV_0.1U_16V_M_B 0402
C24 0402 NC_NV_1000P_50V_M_B
R5 R4 R3 R2 NC_NV_0_J 0402
PVT(DUMMY)

Shortest stub.
Place near GPU

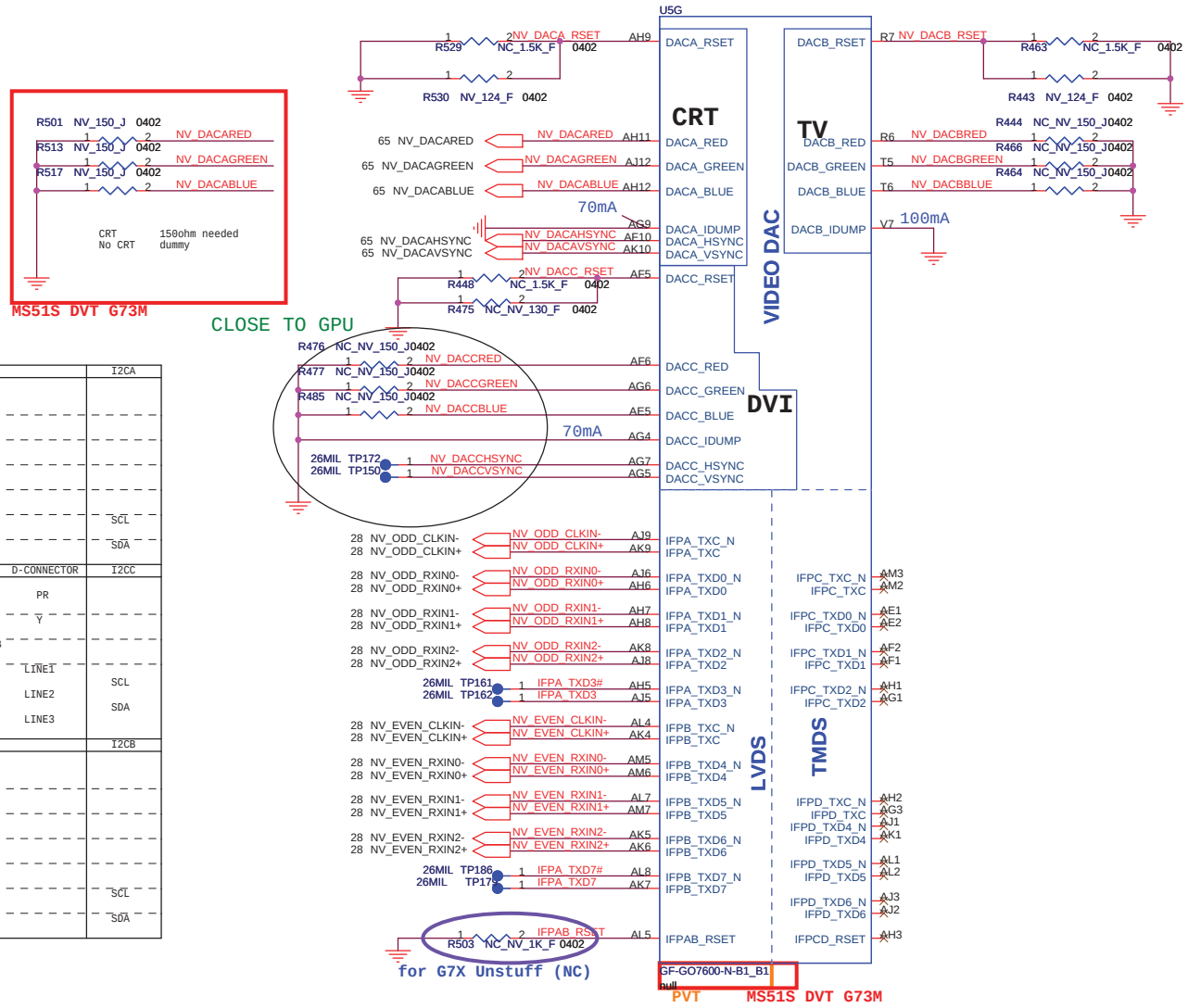
XPD_1 FREQ0_1 FREQ1_1 ENS
U26 NC_NV_MB88153PNF-G-111-JN-ERE1
XPD CKIN FREQ0 VDD FREQ1 VSS ENS CKOUT
XTALOUTBUFF_R VGA_SSCLK_VCC VGA27MSSOUT
R11 NC_NV_10K_J 0402
NC_22_J R45 0402
Place near SSCK IC (U9)
XTALSSIN R44 NC_10K_J 0402
XTALOUTBUFF R421 NC_22_J 0402
R420 NC_10K_J 0402
R9 R8 R7 R6 NC_0_J 0402
PVT(DUMMY)

FREQ0	FREQ1	Input FREQ. Range
L	L	20~40 MHz
L	H	66~134 MHz
H	L	33~67 MHz
H	H	40~80 MHz

ENS : H->SS ON
L->SS OFF
XPD : H->Normal
L->Power Down

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: VGA (POWER) 7 OF 8
Size: A3
Document Number: MS51(MBX-152)
Rev: 0.30
Date: Thursday, July 27, 2006
Sheet 22 of 67



DACA	VGA-CRT			I2CA
DACA-RED	R			
DACA-GREEN	G			
DACA-BLUE	B			
DACA-HSYNC	HSYNC			
DACA-VSYNC	VSYNC			
	VGA-DDCCLK			SCL
	VGA-DDCDATA			SDA

DACB	S-VIDEO	COMPOSITE	D-CONNECTOR	I2CC
DACB-RED	C		PR	
DACB-GREEN	Y		Y	
DACB-BLUE		COMPOSITE		
			LINE1	SCL
			LINE2	SDA
			LINE3	

DACC	DVI-I			I2CB
DACC-RED	R			
DACC-GREEN	G			
DACC-BLUE	B			
DACC-HSYNC	HSYNC			
DACC-VSYNC	VSYNC			
	DVI-DDCCLK			SCL
	DVI-DDCDATA			SDA

FOXCONN HON HAI PRECISION IND. CO., LTD.
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Title: VGA (POWER) 8 OF 8

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

Date: Thursday, July 27, 2006 | Sheet 23 of 67

Address / Command on Die termination is set to 120 ohm.

DLL POWER --- Add decoupling C and L ?

Minimum 200us delay required prior to applying any executable command after stable power and clock.

VRAM_VREF is 70%FBVDDQ for GDDR3

VRAM_VREF is 70%FBVDDQ for GDDR3 1.26V

For 16Mx32 Bit stuff
8Mx32 Bit no stuff

For 8Mx32 Bit Stuff
16Mx32 Bit no stuff

FAE suggestion on 8/16==>120 ohm
For garbage display ===>80.6 ohm
Demo circuit ===>40.2 ohm
FAE suggestion in DVT ===>240 ohm

MS51S DVT G73M

MS31_51_DVT

DVT

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	VRAM (GDDR3) 1 OF 4
Size A3	Document Number MS51(MBX-152)
Rev	0.30
Date:	Thursday, July 27, 2006
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Address / Command on Die termination is set to 120 ohm.

MS51S DVT G73M

U28

U29

Minimum 200us delay required prior to applying any executable command after stable power and clock.

HYB18H512321AFL16

VRAM_VREF is 70% FBVDDQ for GDDR3 1.26V

VRAM_VREF is 70% FBVDDQ for GDDR3

For 16Mx32 Bit stuff
8Mx32 Bit no stuff

For 8Mx32 Bit Stuff
16Mx32 Bit no stuff

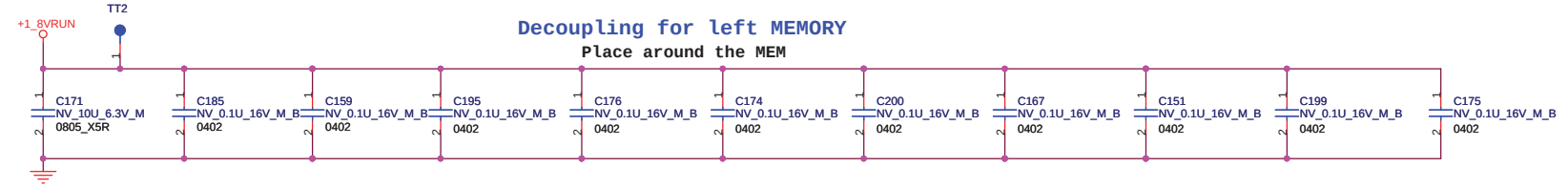
FAE suggestion on 8/16==>120 ohm
For garbage display ===>80.6 ohm
nvidia demo circuit for G72 ==>40.2_F
FAE suggestion in DVT ==>240 ohm

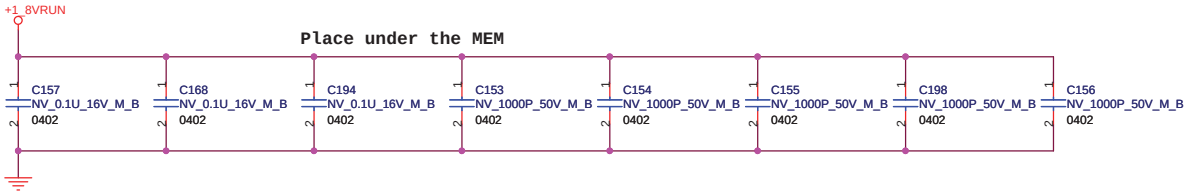
FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

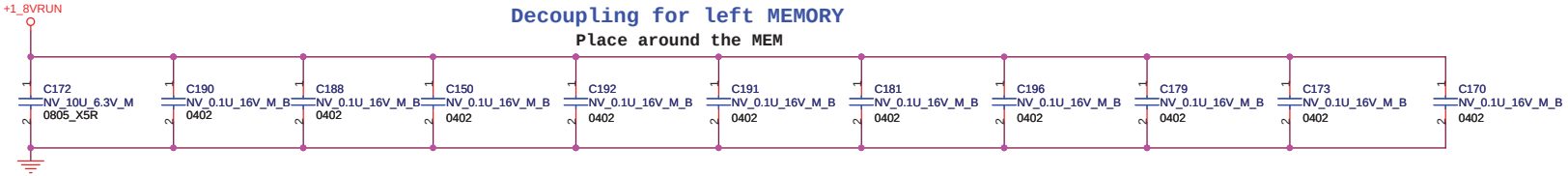
Title: VRAM (GDDR3) 2 OF 4

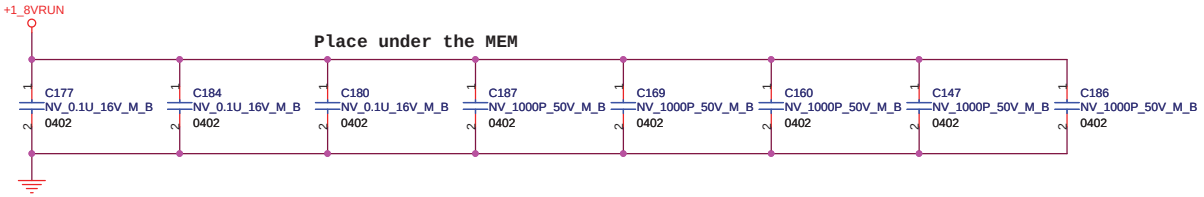
Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

Date: Thursday, July 27, 2006 | Sheet 25 of 67





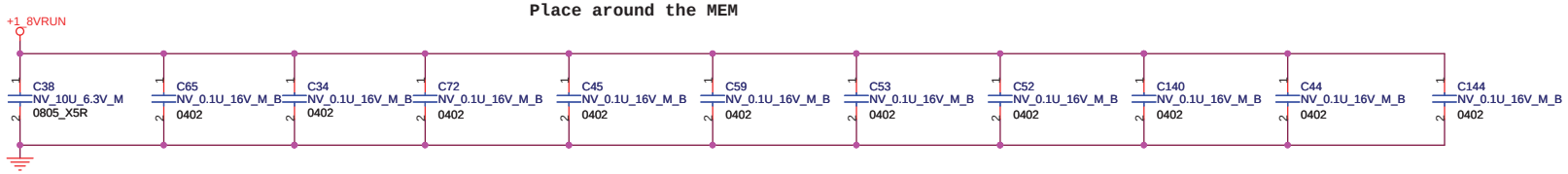




FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	***VRAM (GDDR) 3 OF 4***	
Size A3	Document Number **MS51(MBX-152)**	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 26 of 67	

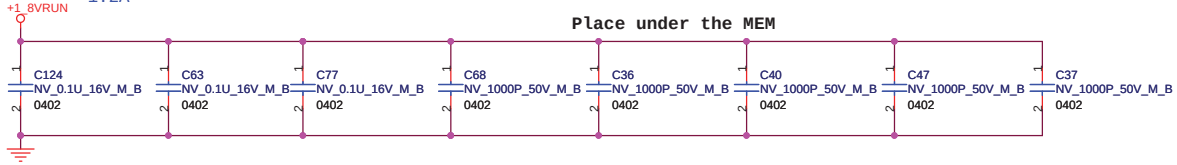
Decoupling for right MEMORY

Place around the MEM



1.2A

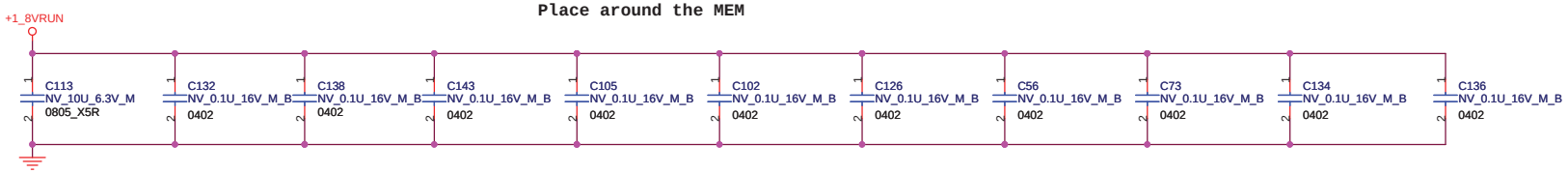
Place under the MEM



NO USE

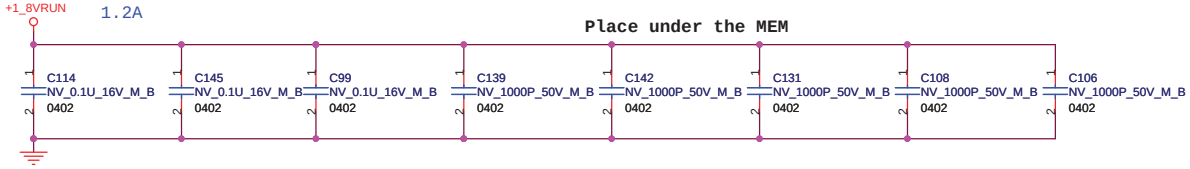
Decoupling for right MEMORY

Place around the MEM



1.2A

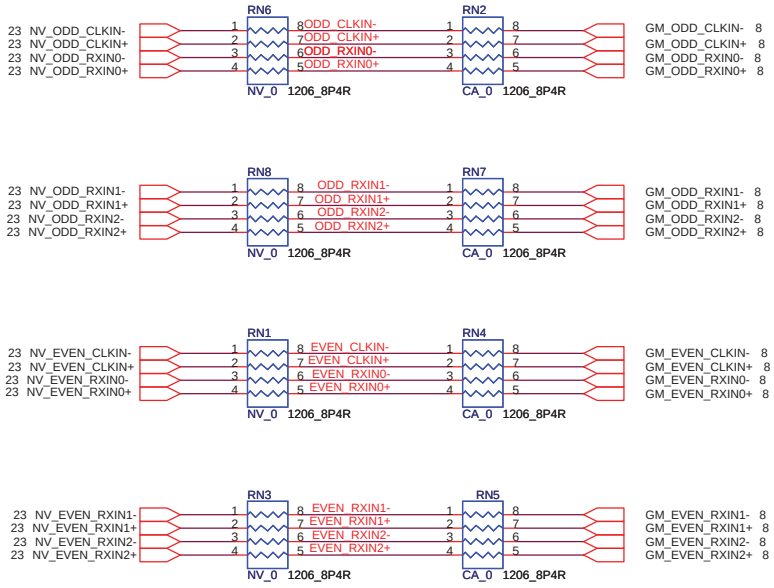
Place under the MEM

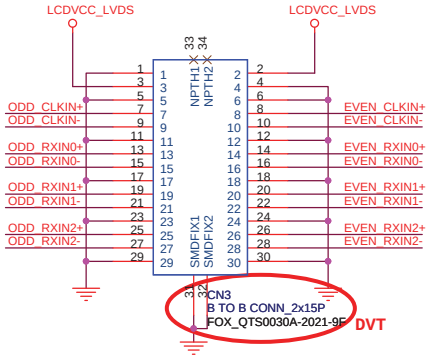


MS51S DVT G73M

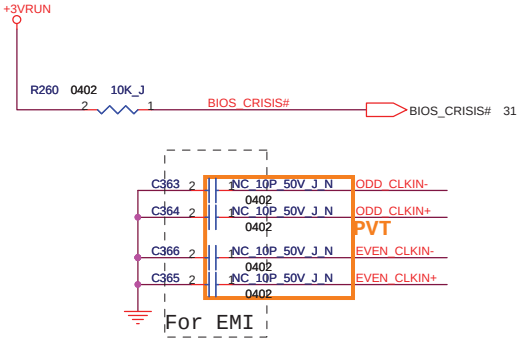
FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title: *VRAM (POWERBYPASS) 4 OF 4*		
Size: A3	Document Number: MS51(MBX-152)	Rev: 0.30
Date: Thursday, July 27, 2006	Sheet 27 of 67	

LVDS

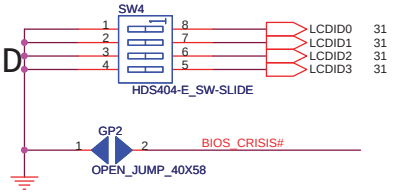




LVDS CONNECTOR

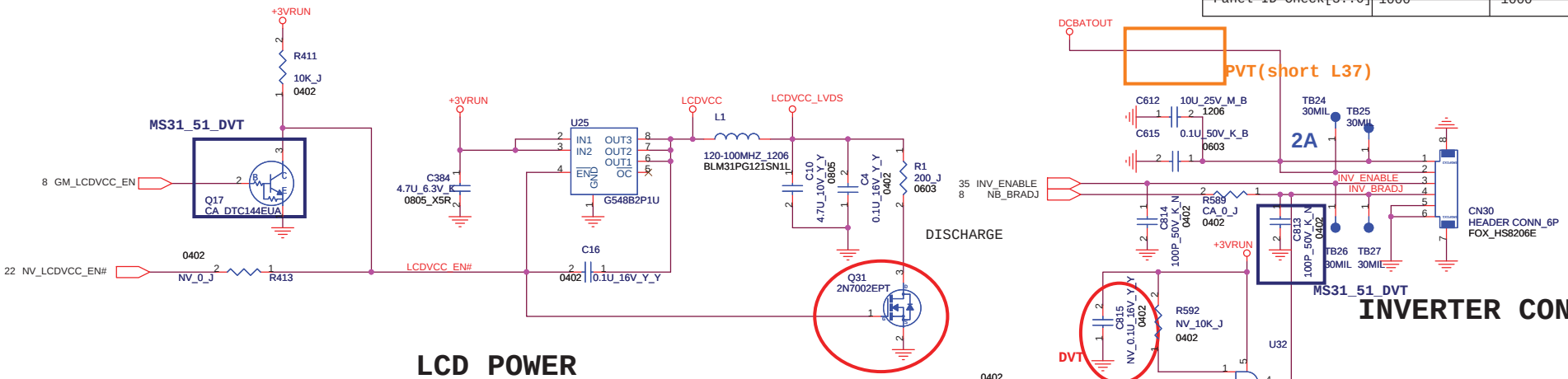


PANEL ID



ON=0

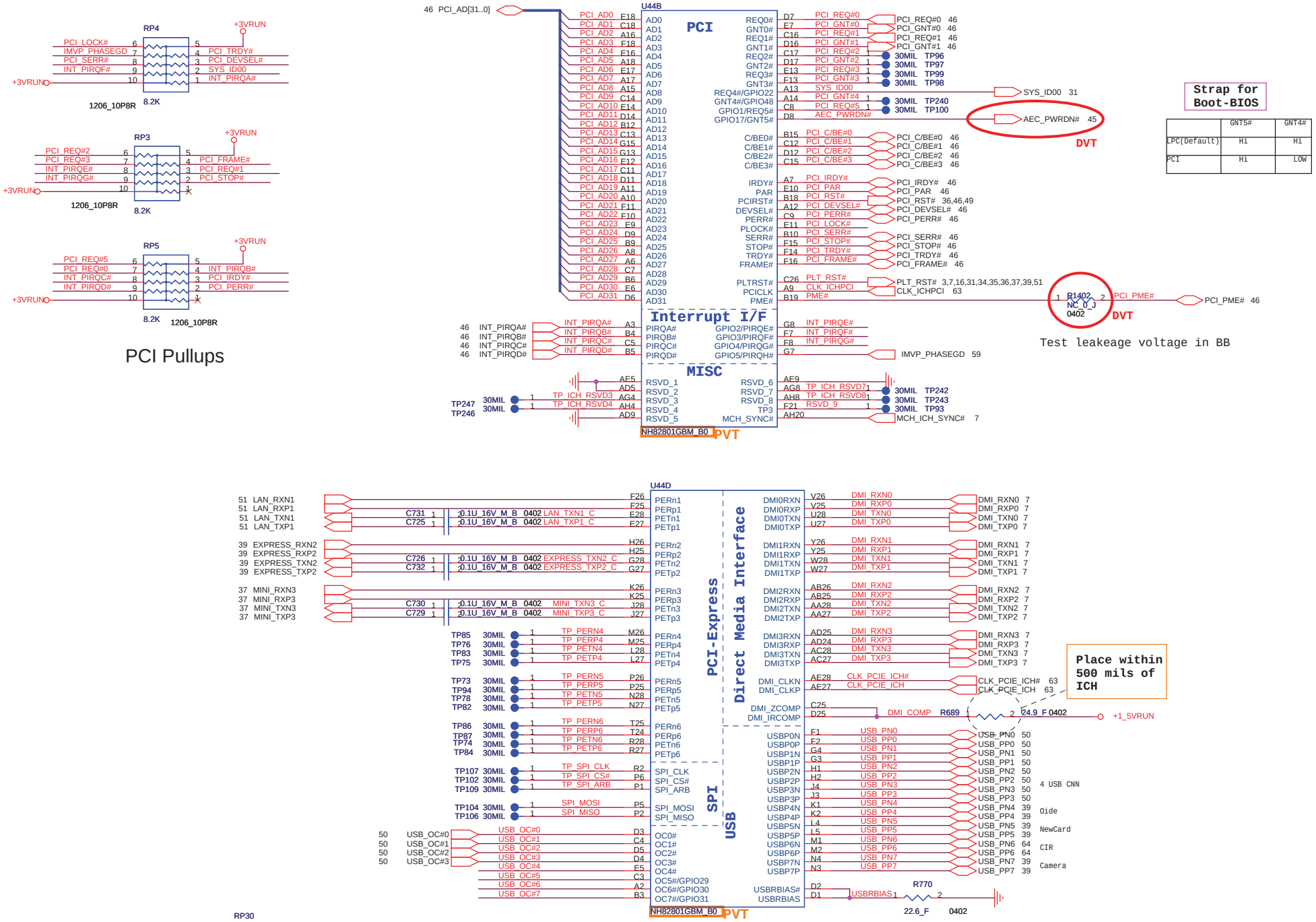
Type	WXGA	WXGA-HC	WSXGA+
Size	15.4" wide	15.4" wide	15.4" wide
Vender	Hitach	Hitachi	Hitachi
Device Name	TX39D81VC1AAA	TX39D80VC1GAA	TX39D90VC1GAA
Panel ID Check[3..0]	1000	1000	1100



LCD POWER

INVERTER CONNECTOR

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title: LVDS			
Size: A3	Document Number: MS51(MBX-152)		Rev: 0.30
Date: Thursday, July 27, 2006	Sheet 28 of 67		


RP4
+3VRUN
PCI_LOCK#
IMVP_PHASEGD
PCI_SERR#
INT_PIRQF#
PCI_TRDY#
PCI_DEVSEL#
SYS_ID00
INT_PIRQA#
1206_10P8R
8.2K
RP3
PCI_REQ#2
PCI_REQ#3
INT_PIRQE#
INT_PIRQG#
PCI_FRAME#
PCI_REQ#1
PCI_STOP#
RP5
PCI_REQ#5
PCI_REQ#0
INT_PIRQC#
INT_PIRQD#
INT_PIRQB#
PCI_IRDY#
PCI_PERR#
PCI Pullups
46 PCI_AD[31..0]
U44B
PCI
Interrupt I/F
MISC
NH82801GBM_B0
PVT
REQ4#/GPIO22
GNT4#/GPIO48
GPIO1/REQ5#
GPIO17/GNT5#
SYS_ID00 31
AEC_PWRDN# 45
DVT
Strap for Boot-BIOS
GNT5#
GNT4#
LPC(Default)
PCI
R1402
NC_0_J
0402
PCI_PME# 46
Test leakeage voltage in BB
IMVP_PHASEGD 59
MCH_ICH_SYNC# 7
U44D
PCI-Express
Direct Media Interface
USB
SPI
Place within 500 mils of ICH
Place within 500 mils of ICH and don't routing next to high speed signals
R689
24.9_F
0402
+1_5VRUN
R770
22.6_F
USBRBIAS
4 USB CNN
Oide
NewCard
CIR
Camera
RP30
+3VALW
USB_OC#5
USB_OC#7
USB_OC#6
USB_OC#3
USB_OC#4
USB_OC#1
USB_OC#2
USB_OC#0
10K
1206_10P8R
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
ICH7-M(PCI/DMI/USB/PCIE) 1/5
Size
A3
Document Number
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0.30
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29
of
67

RTCRST#

VccRTC

Min : 5ms

The traces inside this block should be wider. No digital signals routed under XTAL

MS31_51_DVT

+ECVCC D14 CH500H-40PT VCCRTC

C805 1U_6.3V_M_B 0402

32.768KHZ_12.5P_10PPM Q13MC3061001800 Y7

C799 0402 15P_50V_K_N CLK_32KX1

C802 0402 15P_50V_K_N CLK_32KX2

6 mils

R765 10M_J 0402

R378 20K_J 0402

C353 1U_25V_K_B 0603

R379 1M_J 0402

R784 510_F 0402

R785 510_F 0402

OPEN_JUMP_OPEN2 PJ31

PVT

RTCRST#

SM_INTRUDER#

INTVRMEN

A3504

CN23 HEADER_2P FOX_HS8102E

U44A

RTCX1 RTCX2 RTCRST# INTRUDER# INTVRMEN — RTC

EE_CS EE_SHCLK EE_DOUT EE_DIN — LPC

LAN_CLK LAN_RSTSYNC LAN_RXD0 LAN_RXD1 LAN_RXD2 LAN_TXD0 LAN_TXD1 LAN_TXD2 — LAN

CPU

ACZ_BIT_CLK ACZ_SYNC ACZ_RST# ACZ_SDIN0 ACZ_SDIN1 ACZ_SDIN2 ACZ_SDOUT — AC-97/AZALIA

SATALED# SATA0RXN SATA0RXP SATA0TXN SATA0TXP SATA2RXN SATA2RXP SATA2TXN SATA2TXP SATA_CLKN SATA_CLKP SATARBIASN SATARBIASP — SATA

DIOR# DIOW# DDACK# IDEIRQ IORDY DDREQ — IDE

NH82801GBM_B0

PVT

LAD0 LAD1 LAD2 LAD3 — LPC_AD0 LPC_AD1 LPC_AD2 LPC_AD3

LDRQ0# LDRQ1#/GPIO23 — LPC_DRQ#0 SYS_ID01

LFRAME# — LPC_FRAME#

A20GATE A20M# — H_A20GATE H_A20M#

CPUSLP# — TP_CPUSLP# 30MIL TP80

TP1/DPRSTP# TP2/DPSLP# — H_DPRSTP# H_DPSLP#

DVT (delete R702,R697 and short)

R690 56_J 0402 +1_05VRUN

FERR# — H_FERR#

GPIO49/CPUPWRGD — H_PWRGD

IGNNE# INIT3_3V# INIT# INTR — H_IGNNE# FWH_INIT# H_INIT# H_INTR

RCIN# — H_RCIN#

NMI SMI# — H_NMI H_SMI#

STPCLK# — H_STPCLK#

THERMTRIP# — PM_THRMTRIP#

DD0 DD1 DD2 DD3 DD4 DD5 DD6 DD7 DD8 DD9 DD10 DD11 DD12 DD13 DD14 DD15 — IDE_PDD0 IDE_PDD1 IDE_PDD2 IDE_PDD3 IDE_PDD4 IDE_PDD5 IDE_PDD6 IDE_PDD7 IDE_PDD8 IDE_PDD9 IDE_PDD10 IDE_PDD11 IDE_PDD12 IDE_PDD13 IDE_PDD14 IDE_PDD15

IDE_PDD[0..15] → IDE_PDD[0..15] 34

DA0 DA1 DA2 — IDE_PDA0 IDE_PDA1 IDE_PDA2

DCS1# DCS3# — IDE_PDCS1# IDE_PDCS3#

+3VRUN

R370 10K_J 0402

R706 10K_J 0402 H_RCIN#

R294 8.2K_J 0402 H_A20GATE

+1_05VRUN

R692 56_J 0402

R715 NC_10K_J 0402

IAC_BITCLK IAC_SYNC IAC_RESET# ACZ_SDATAIN0 ACZ_MDC_SDATAIN1 IAC_SDATAO

TP108 30MIL

SATA_LED#

C787 C788 C792 C790 3900P_25V_K_B 0603

SATA_RXN0_C SATA_RXP0_C SATA_TXN0_C SATA_TXP0_C

SATA_RXN0 SATA_RXP0 SATA_TXN0 SATA_TXP0

TP245 30MIL TP244 30MIL SATA_TXN2 SATA_TXP2

CLK_PCIE_SATA# CLK_PCIE_SATA

R745 24.9_F 0402 R1175 0402 NC_MS50_20_F A3502

DVT for MS50 sata cable

PVT

IDE_PDIOR# IDE_PDIOW# IDE_PDDACK# INT_IRQ14 IDE_PDIORDY IDE_PDDREQ

VCCRTC R380 332K_F 0402 INTVRMEN

Distance between the ICH-7M and C on the "P" signal should be identical distance between the ICH-7M and C on the "N" signal for same pair

Pull-up to enable internal VccSus1_05 regular
Pull-Low to disable

MS51 PVT

R763 22_J0402 ACZ_BITCLK 48

IAC_BITCLK

EC1 10P_50V_J_N 0402

R383 39_J 0402 IAC_BITCLK_AUDIO 40

DVT for EMI

MS51 PVT

R762 22_J0402 ACZ_SDATAOUT 48

IAC_SDATAO

R385 39_J 0402 IAC_SDATAO_AUDIO 40

DVT

R389 47_J 0402 ACZ_RST# 48

IAC_RESET#

R776 47_J 0402 IAC_RESET#_AUDIO 40,43

MS51 PVT

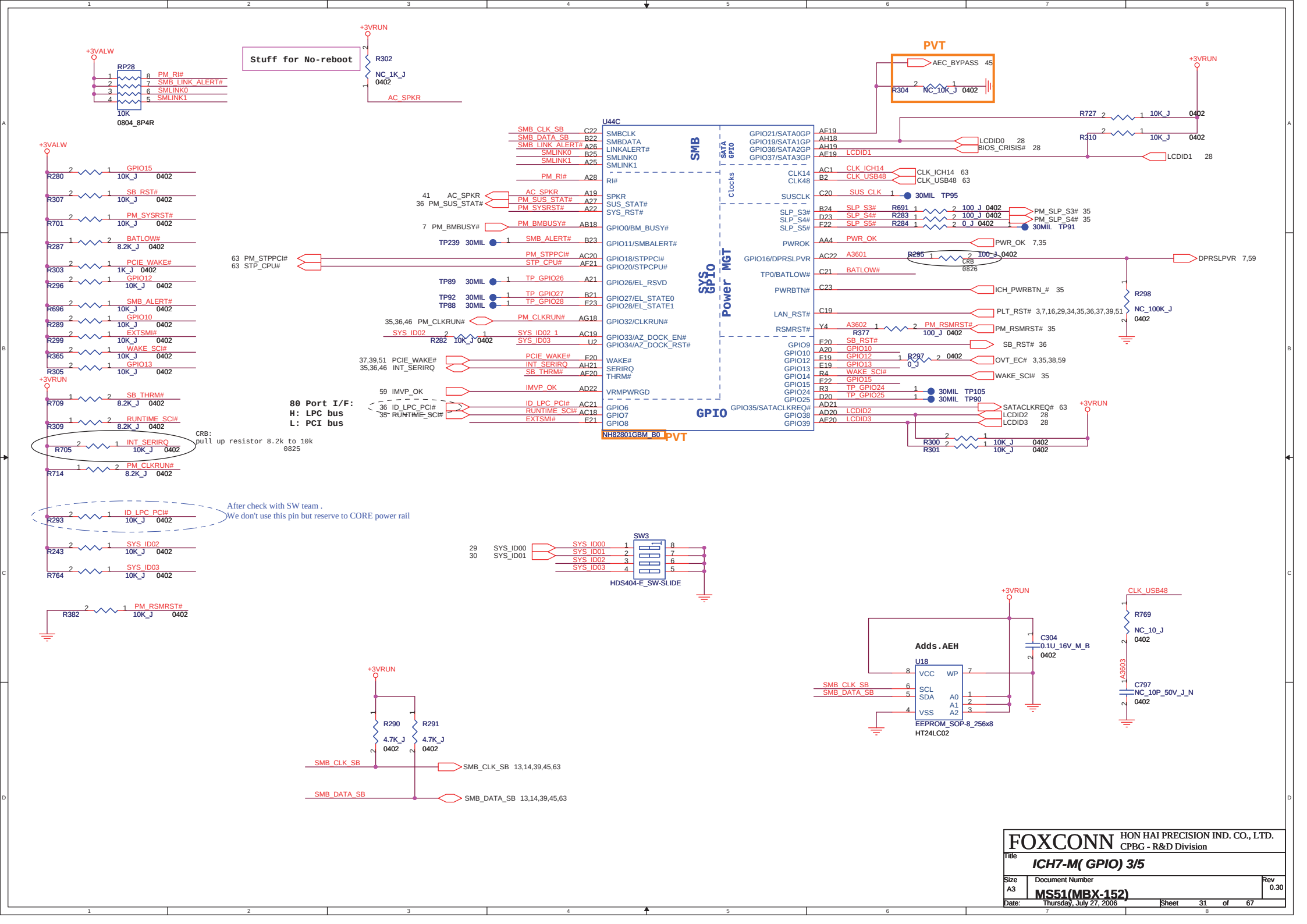
48 ACZ_SYNC

R761 22_J0402 IAC_SYNC

40 IAC_SYNC_AUDIO

R384 39_J 0402

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	ICH7-M(LPC,IDE,SATA) 2/5	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 30 of 67	

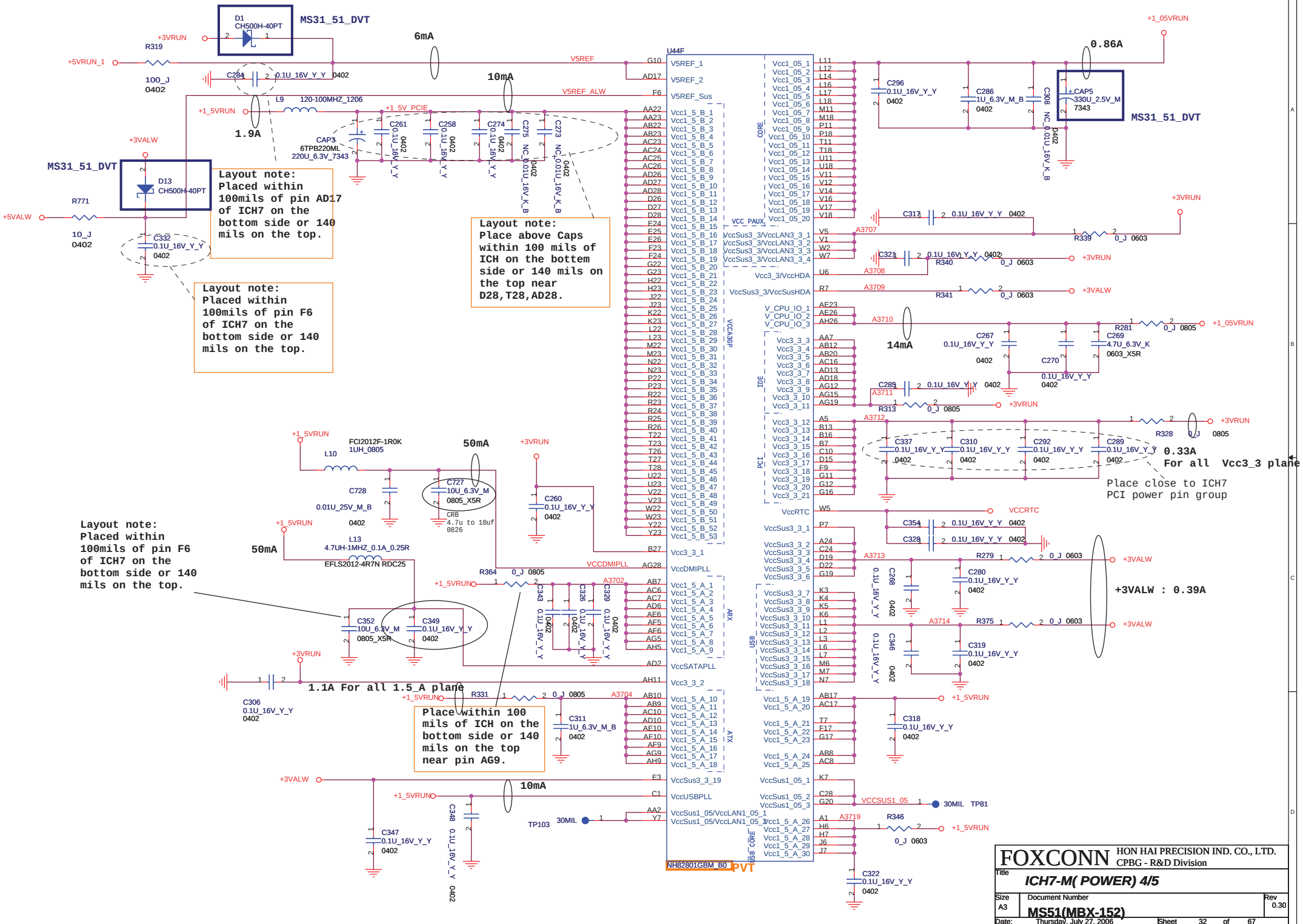


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

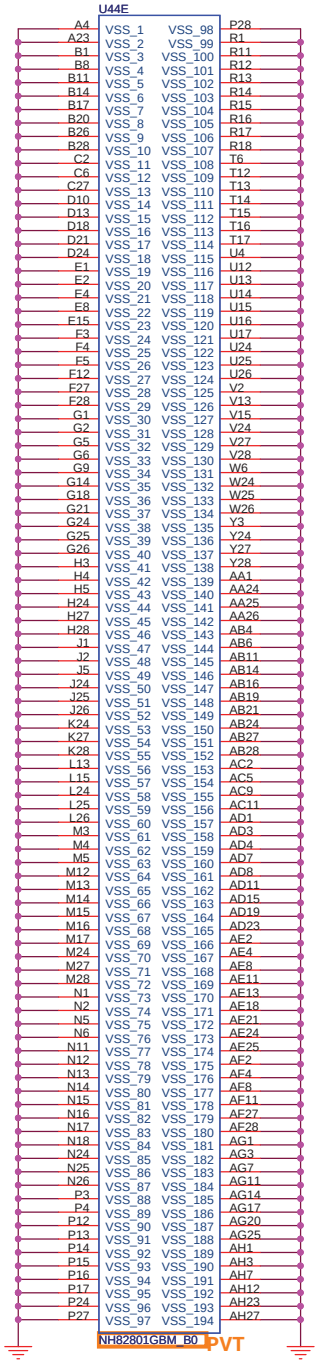
Title: ICH7-M(GPIO) 3/5

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

Date: Thursday, July 27, 2006 | Sheet 31 of 67



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	ICH7-M(POWER) 4/5	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 32 of 67	



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	*ICH7-M(GND) 5/5*	
Size A3	Document Number **MS51(MBX-152)**	Rev 0.30
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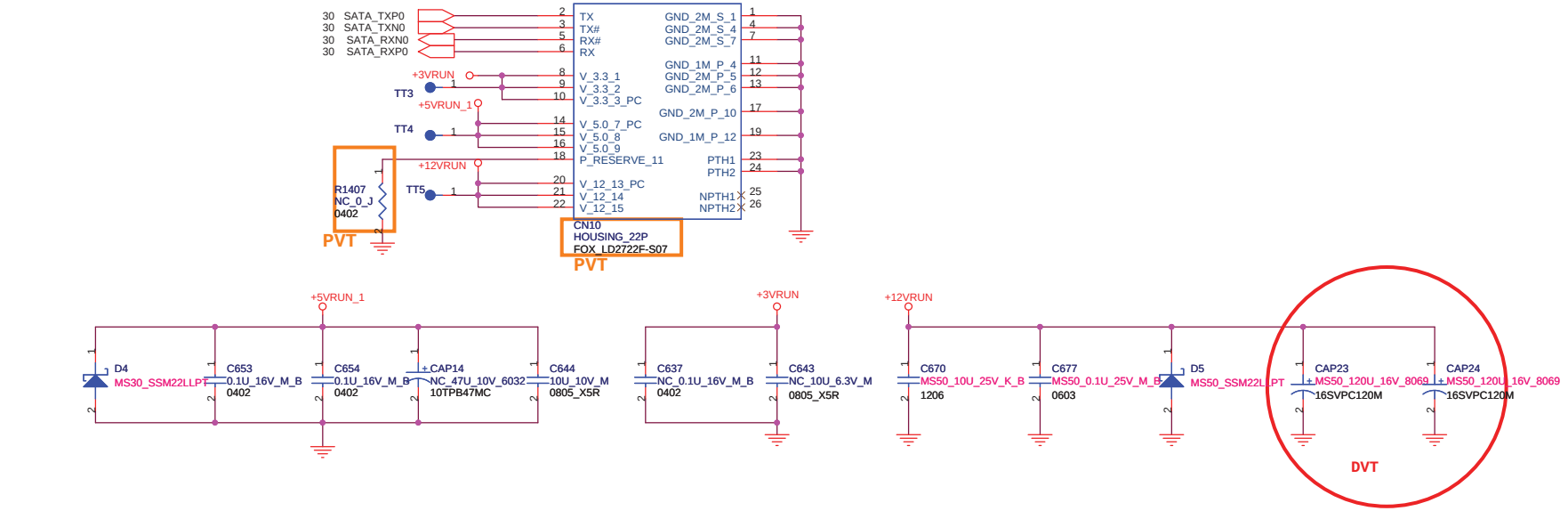
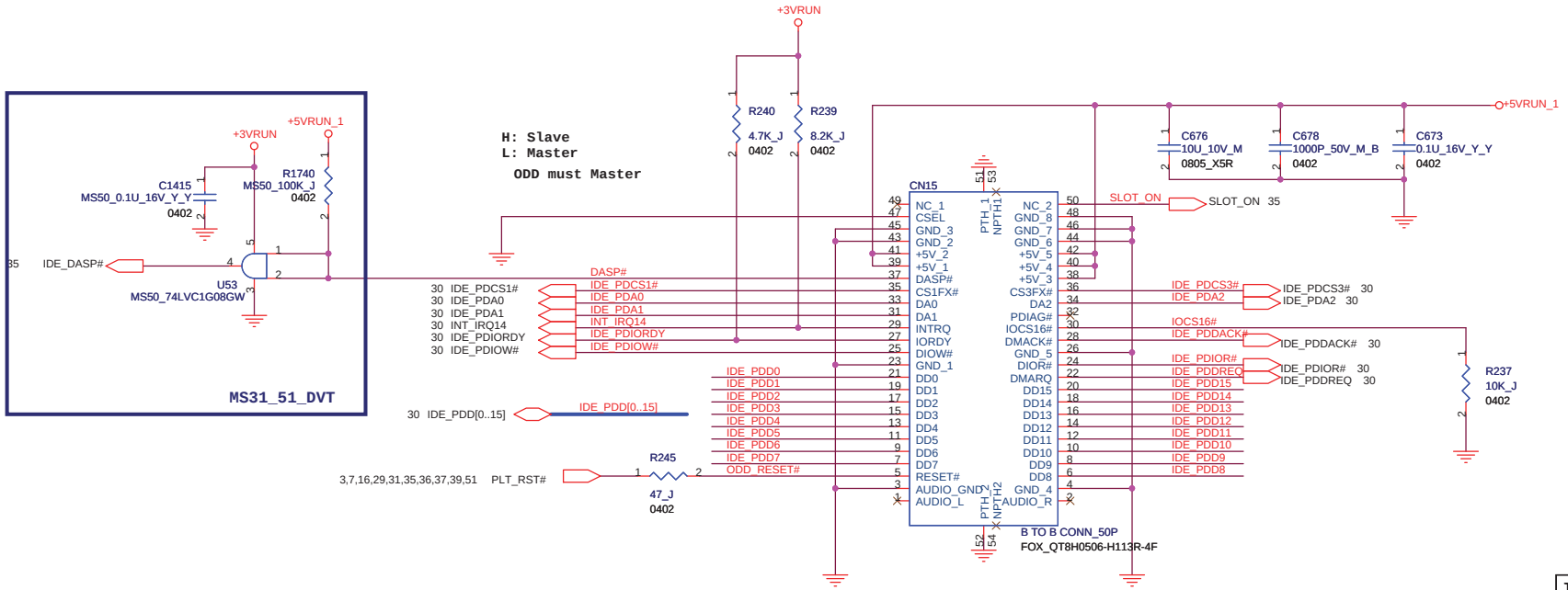
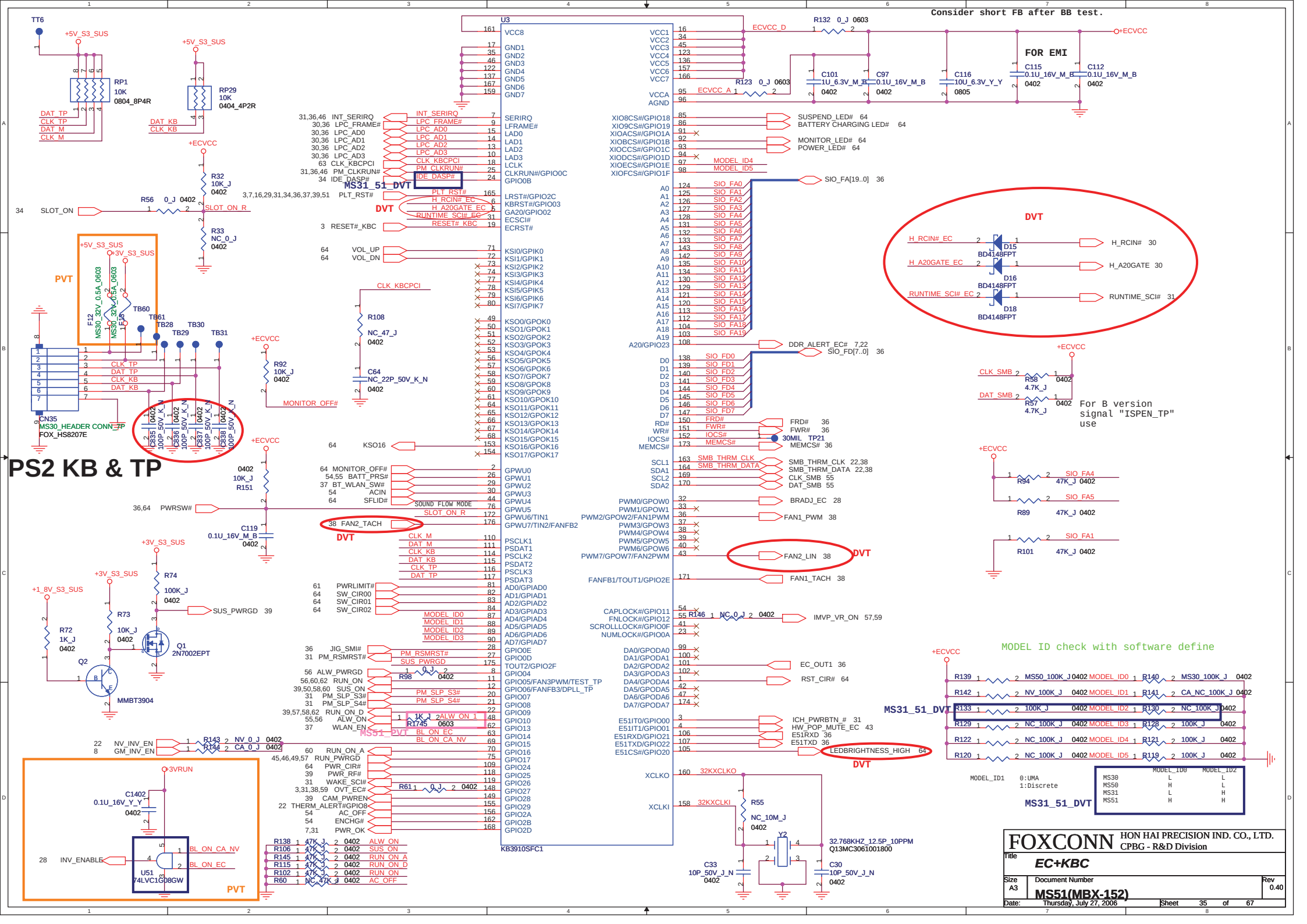
SATA HDD CONN





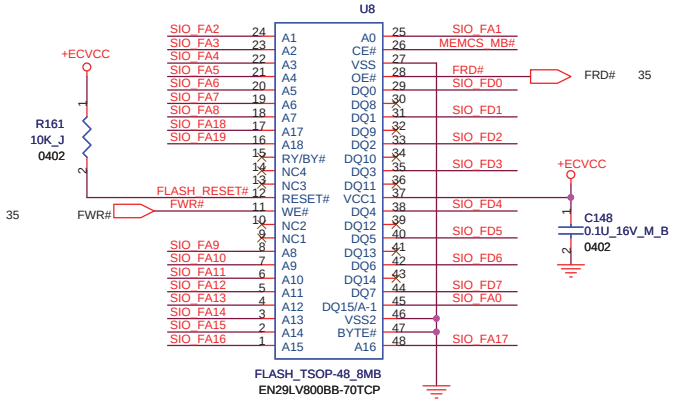
CD-ROM CONN

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title: *SATA HDD/CD-ROM*		
Size: A3	Document Number: MS51(MBX-152)	Rev: 0.30
Date: Thursday, July 27, 2006	Sheet 34 of 67	

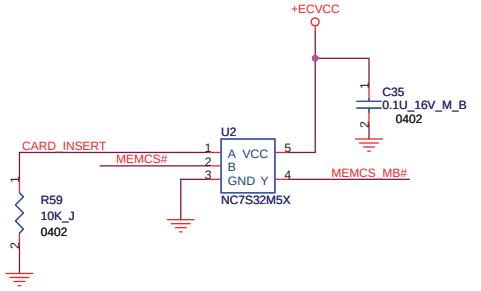

Consider short FB after BB test.
PS2 KB & TP
U3
KB3910SFC1
FOR EMI
DVT
PVT
MS31_51_DVT
MODEL ID check with software define
For B version signal "ISPEN_TP" use
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
EC+KBC
MS51(MBX-152)
Thursday, July 27, 2006
Sheet 35 of 67

35 SIO_FA[19..0]

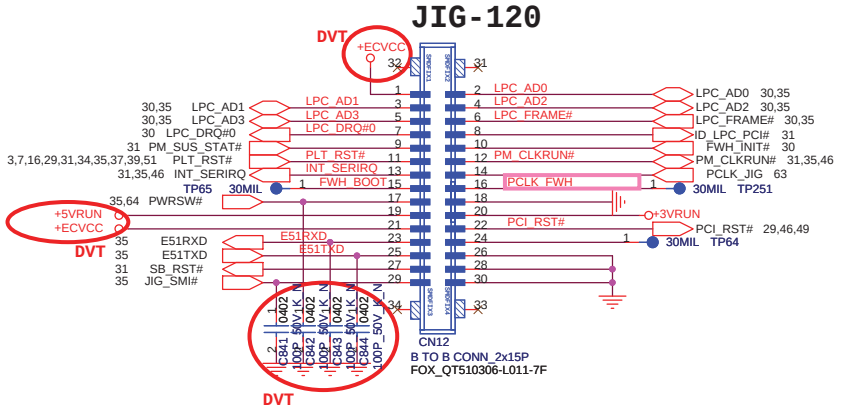
35 SIO_FD[7..0]

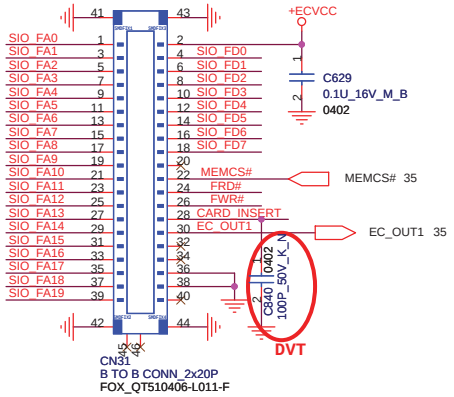


BIOS ROM



JIG-120



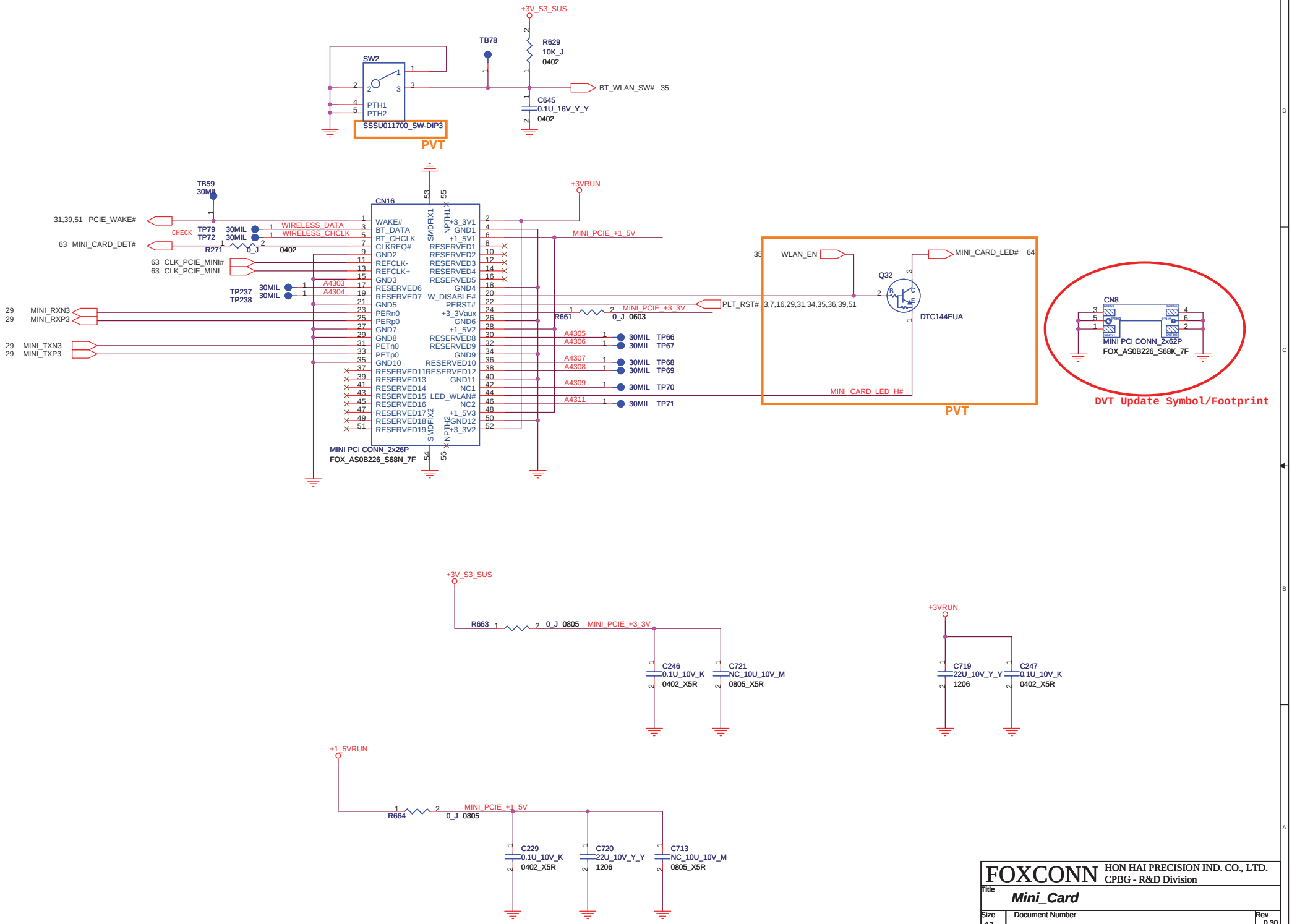


FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *Flash ROM/X-Bus CONN*

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.40

Date: Thursday, July 27, 2006 | Sheet 36 of 67



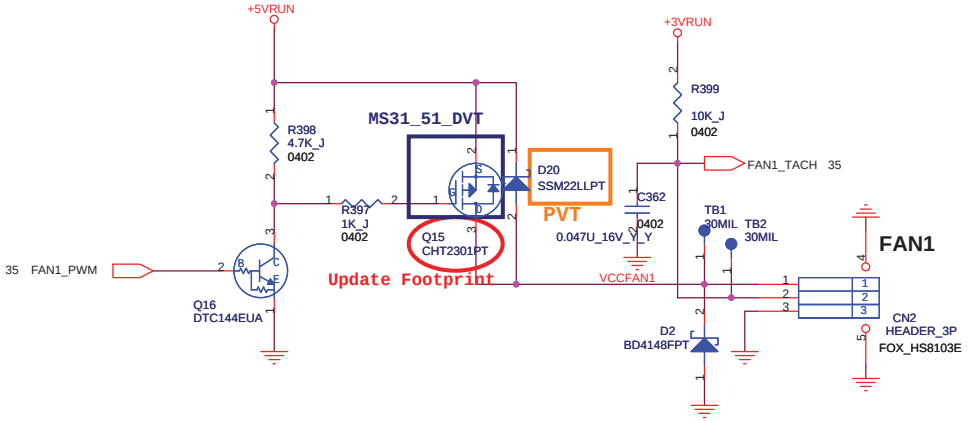
FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *Mini_Card*

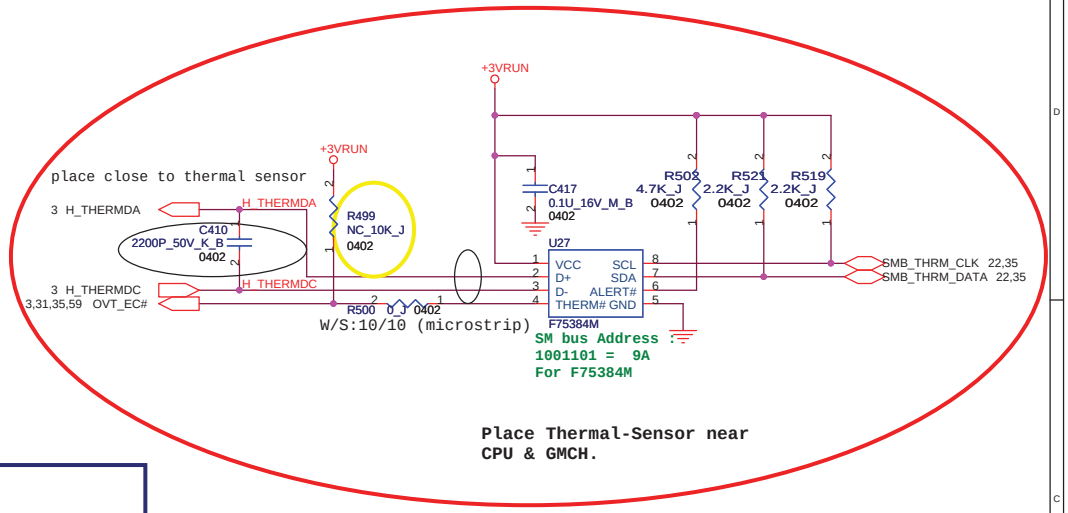
Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

Date: Thursday, July 27, 2006 | Sheet 37 of 67

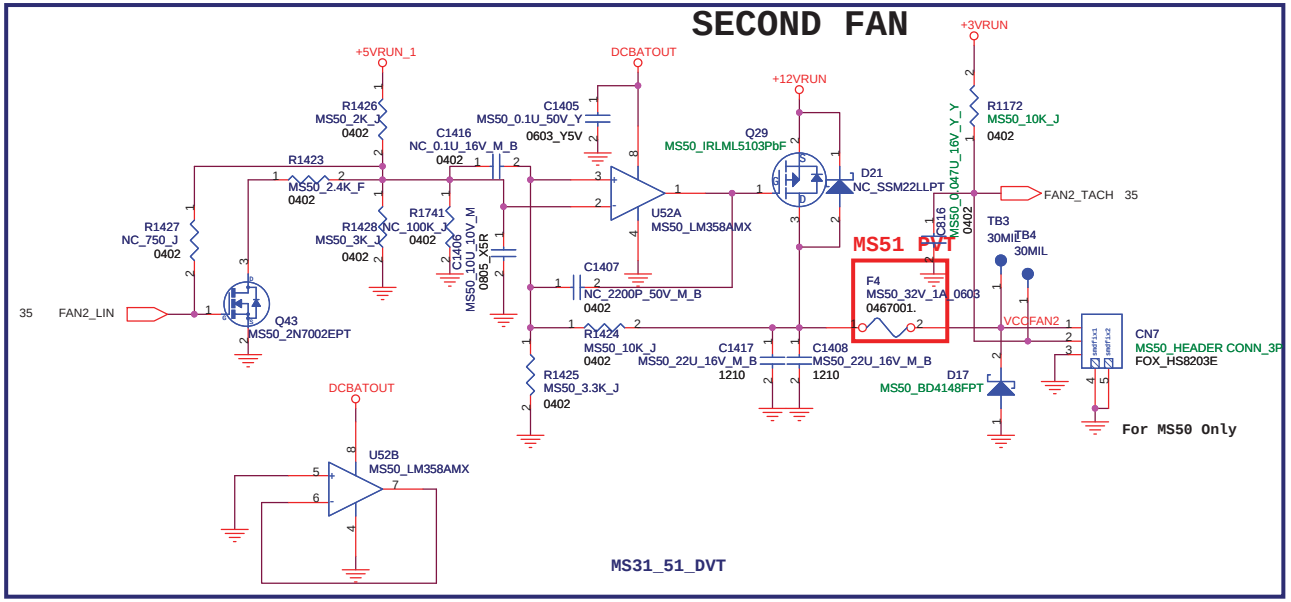
FAN



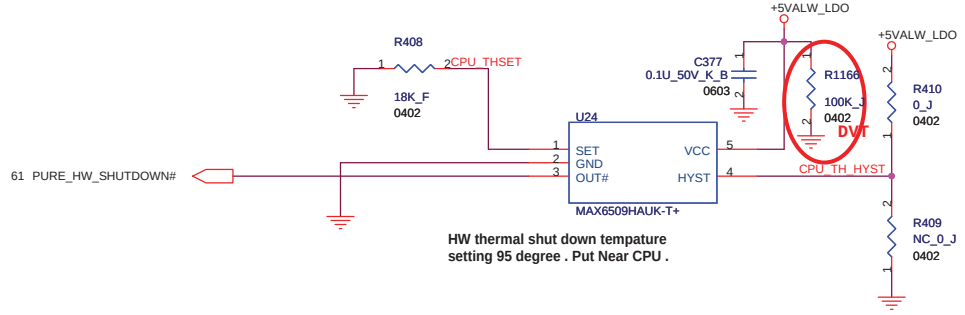
CPU SENSOR



SECOND FAN



HW THERMAL PROTECTION



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	FAN/HW THERMAL PROTECT	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
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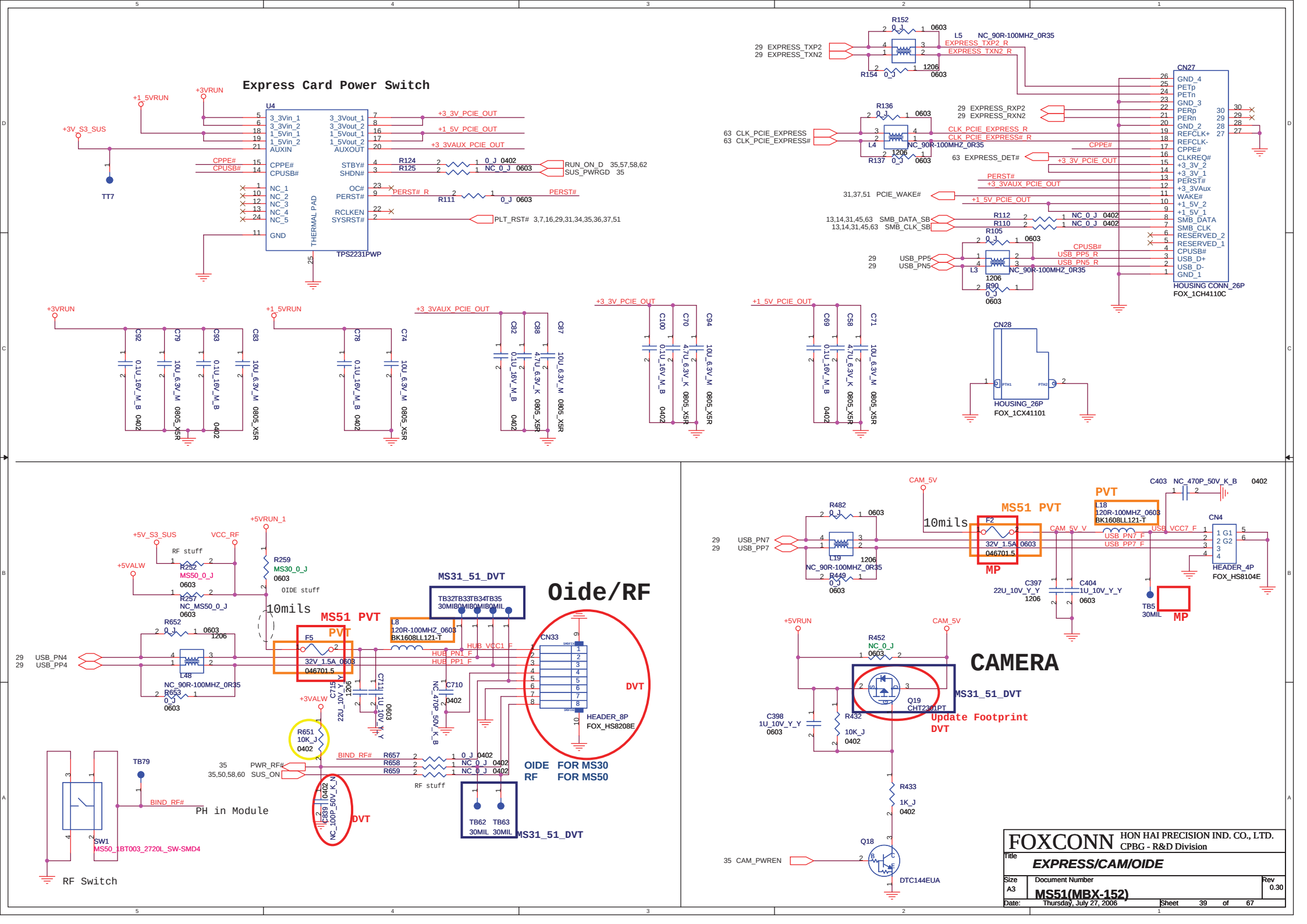
Express Card Power Switch
U4
TPS2231PWP
THERMAL PAD
+3VRUN
+1_5VRUN
+3V_S3_SUS
+3_3V_PCIE_OUT
+1_5V_PCIE_OUT
+3_3VAUX_PCIE_OUT
CPPE#
CPUSB#
PERST#
PERST# R
RUN_ON_D 35,57,58,62
SUS_PWRGD 35
PLT_RST# 3,7,16,29,31,34,35,36,37,51
TT7
CN27
HOUSING CONN_26P
FOX_1CH4110C
CN28
HOUSING_26P
FOX_1CX41101
EXPRESS_TXP2_R
EXPRESS_TXN2_R
CLK_PCIE_EXPRESS_R
CLK_PCIE_EXPRESS# R
PCIE_WAKE#
SMB_DATA_SB
SMB_CLK_SB
USB_PP5_R
USB_PN5_R
Oide/RF
MS51 PVT
PVT
MS31_51_DVT
DVT
OIDE RF
FOR MS30
FOR MS50
HEADER_8P
FOX_HS8208E
PH in Module
RF Switch
SW1
MS50_1BT003_2720L_SW-SMD4
CAMERA
Q19
CHT2301PT
Update Footprint
Q18
DTC144EUA
HEADER_4P
FOX_HS8104E
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
EXPRESS/CAM/OIDE
MS51(MBX-152)
Thursday, July 27, 2006
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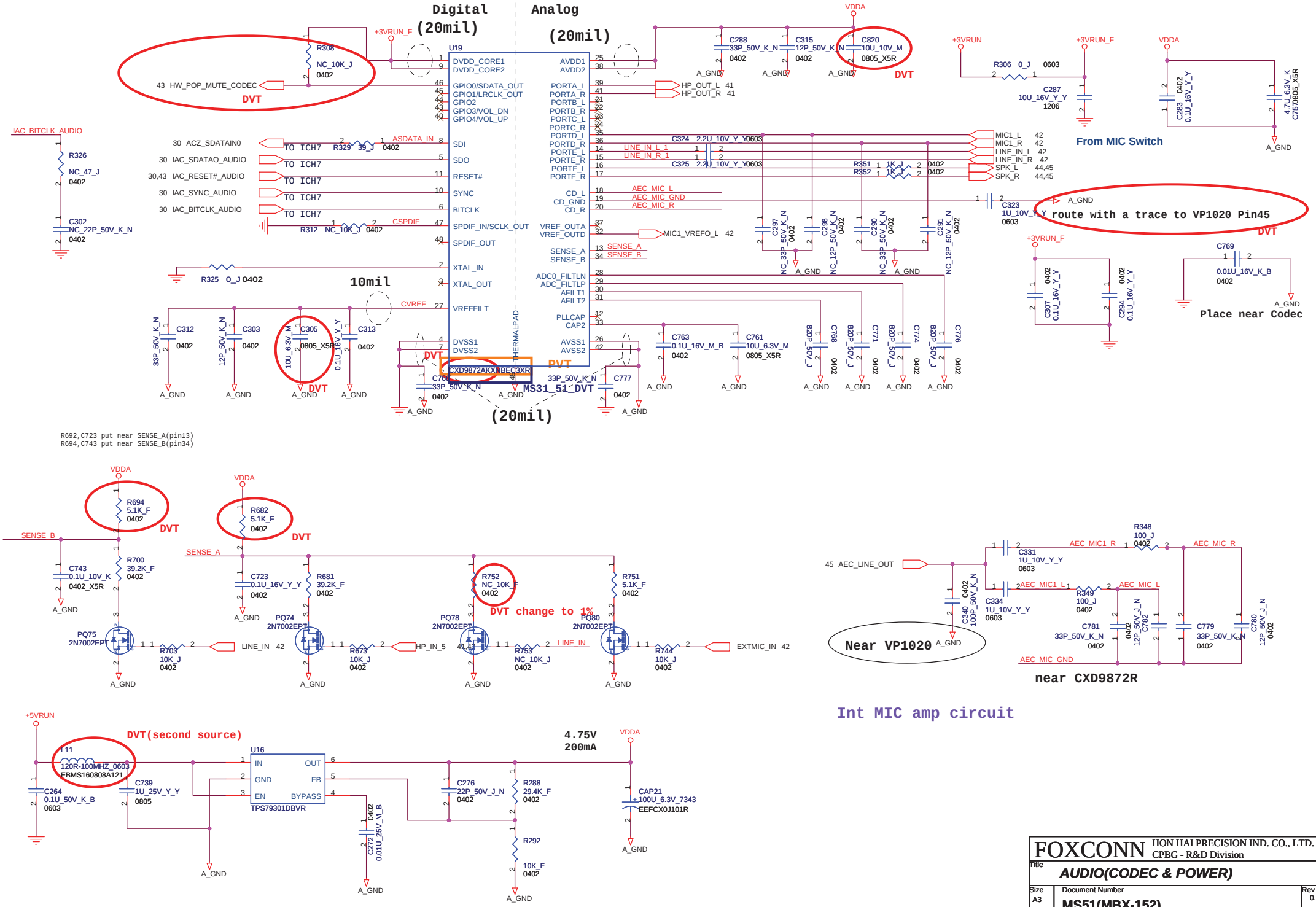

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	AUDIO(CODEC & POWER)
Size	A3
Document Number	MS51(MBX-152)
Rev	0.30
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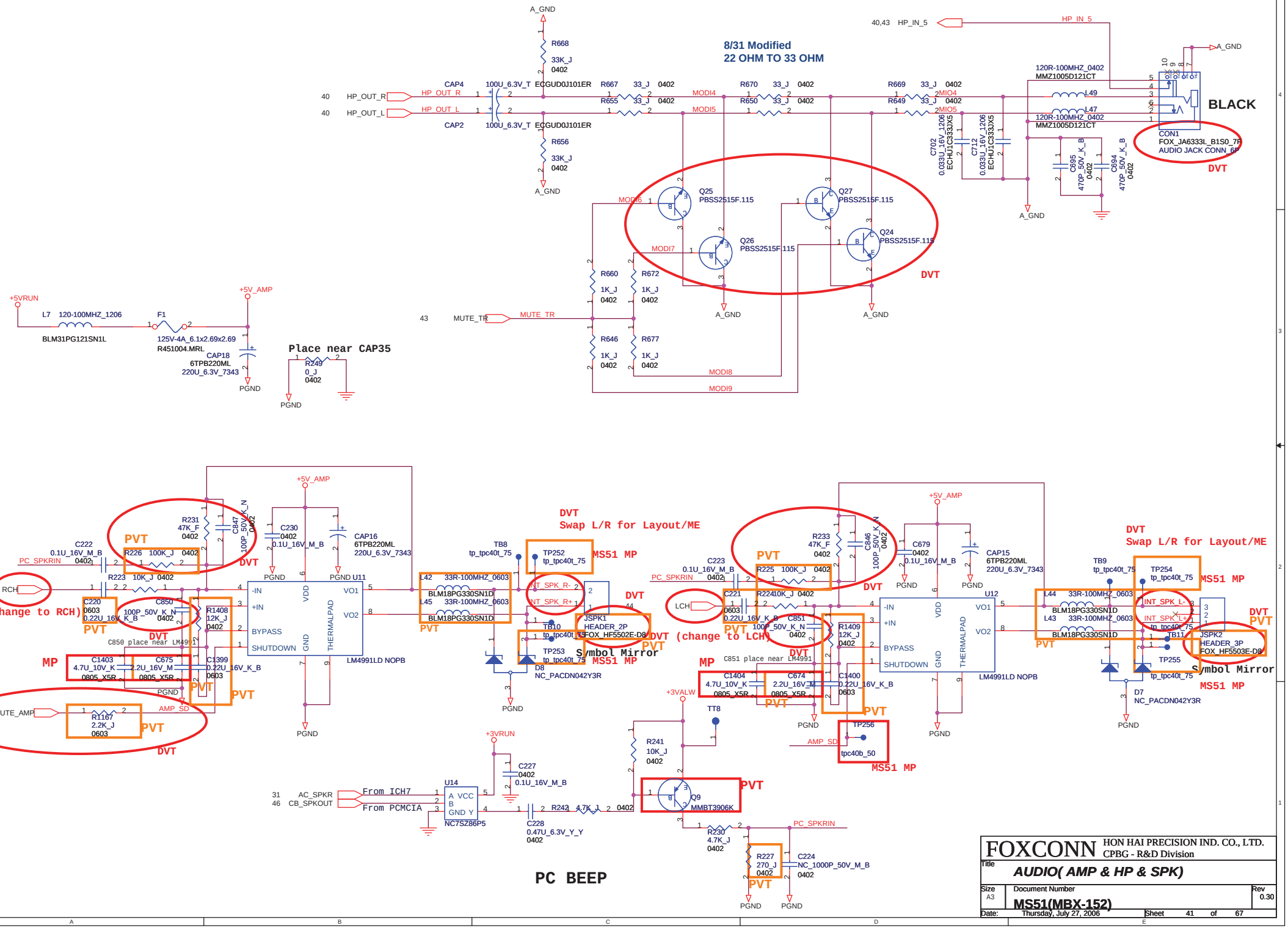
8/31 Modified
22 OHM TO 33 OHM
BLACK
DVT
PVT
MP
MS51 MP
Swap L/R for Layout/ME
DVT (change to RCH)
DVT (change to LCH)
Symbol Mirror
PC BEEP
Place near CAP35
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
AUDIO(AMP & HP & SPK)
MS51(MBX-152)
Rev 0.30
Thursday, July 27, 2006
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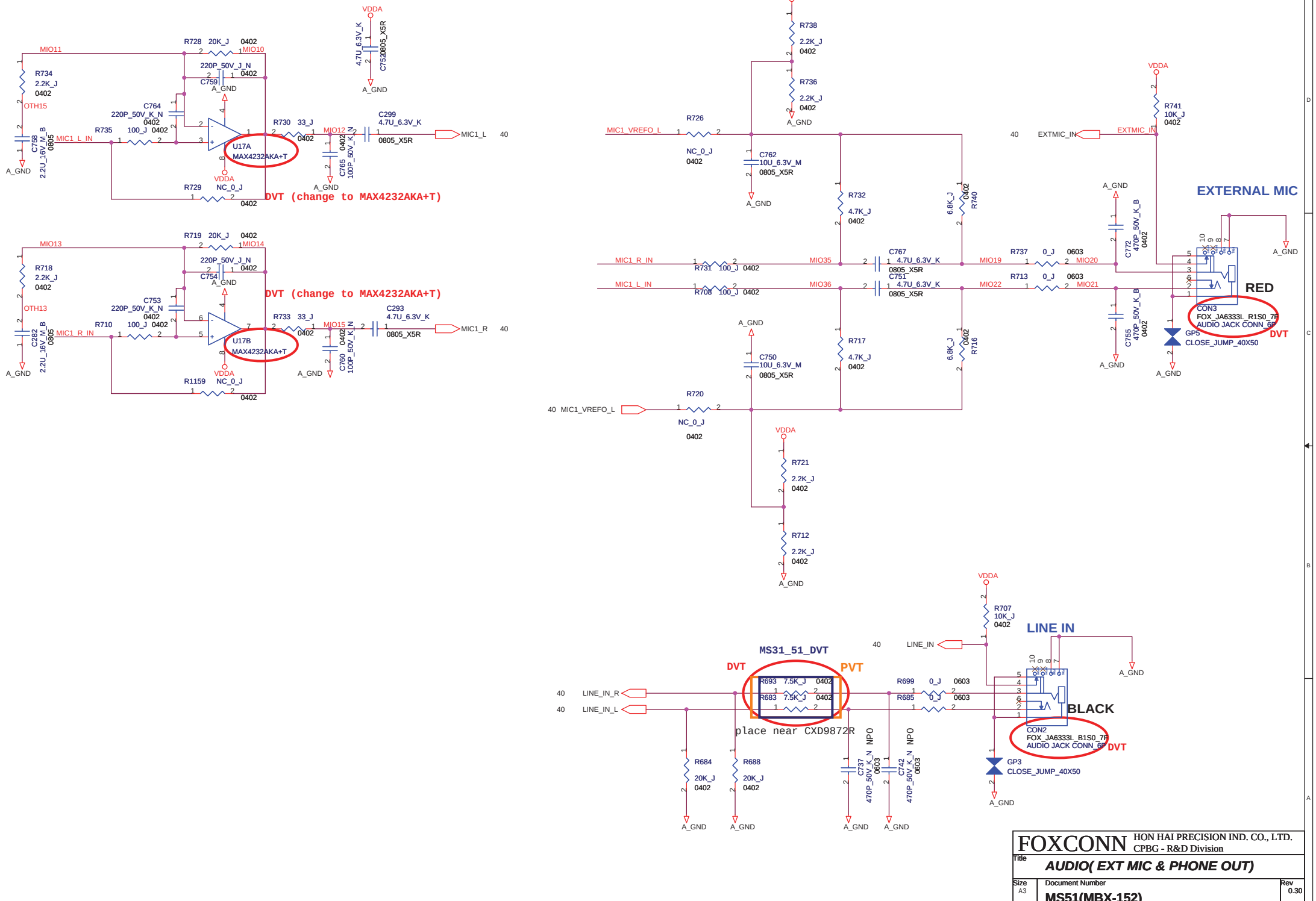
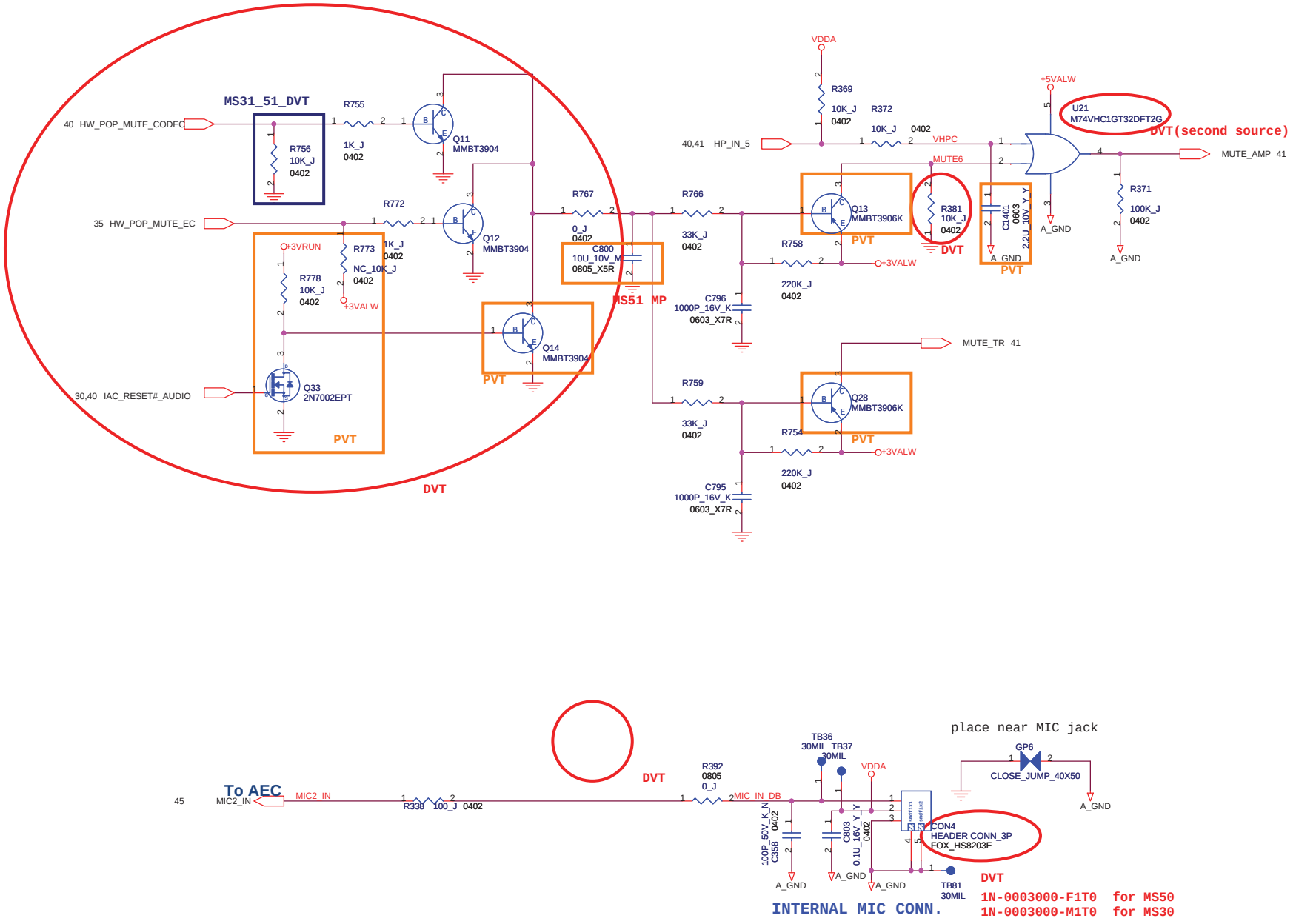
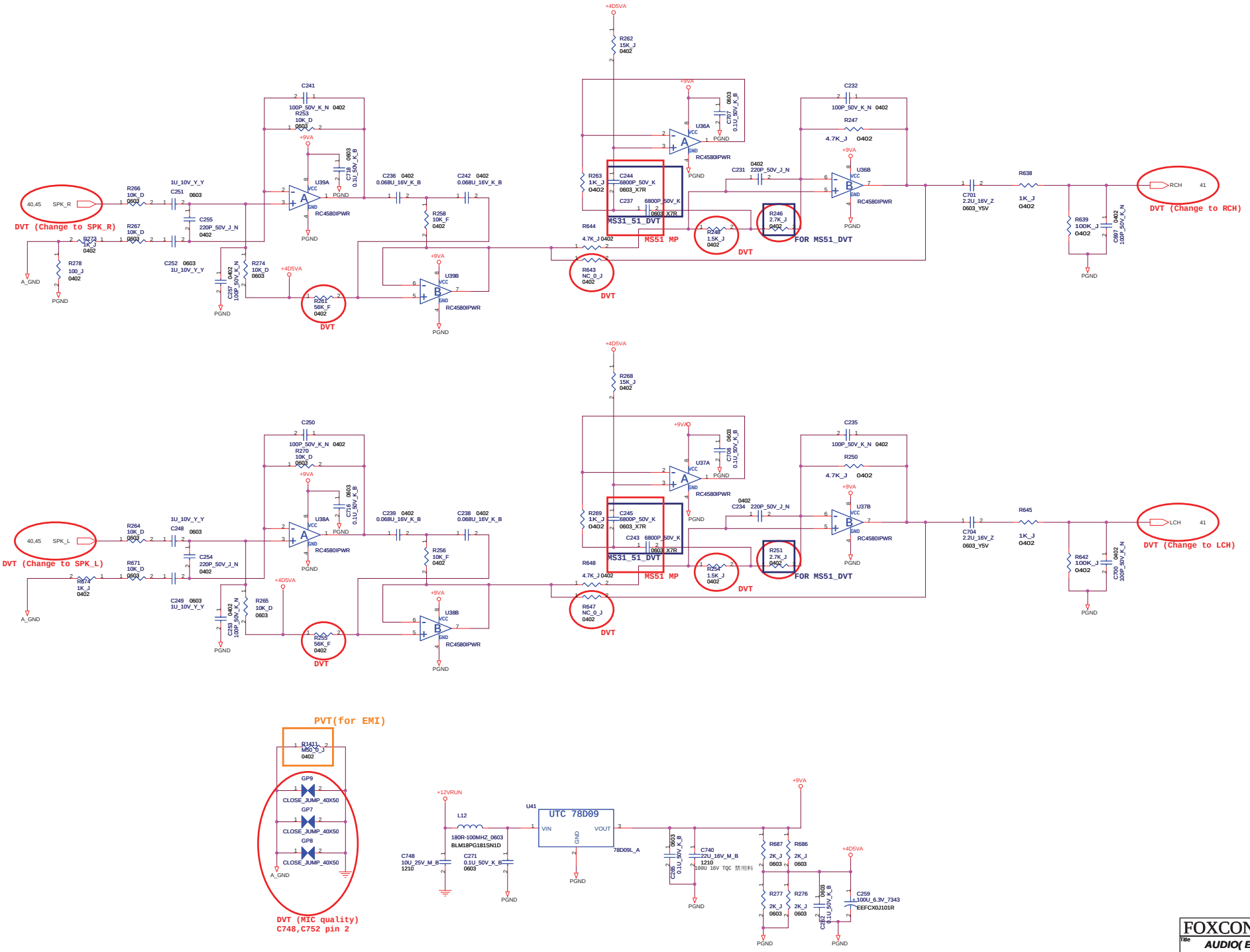


FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	AUDIO(EXT MIC & PHONE OUT)	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 42 of 67	



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	AUDIO (MUTE & INTMIC)	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 43 of 67	



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title	AUDIO(EQ)
Size	A2
Document Number	MS51(MBX-152)
Rev	0.30
Date:	Thursday, July 27, 2006
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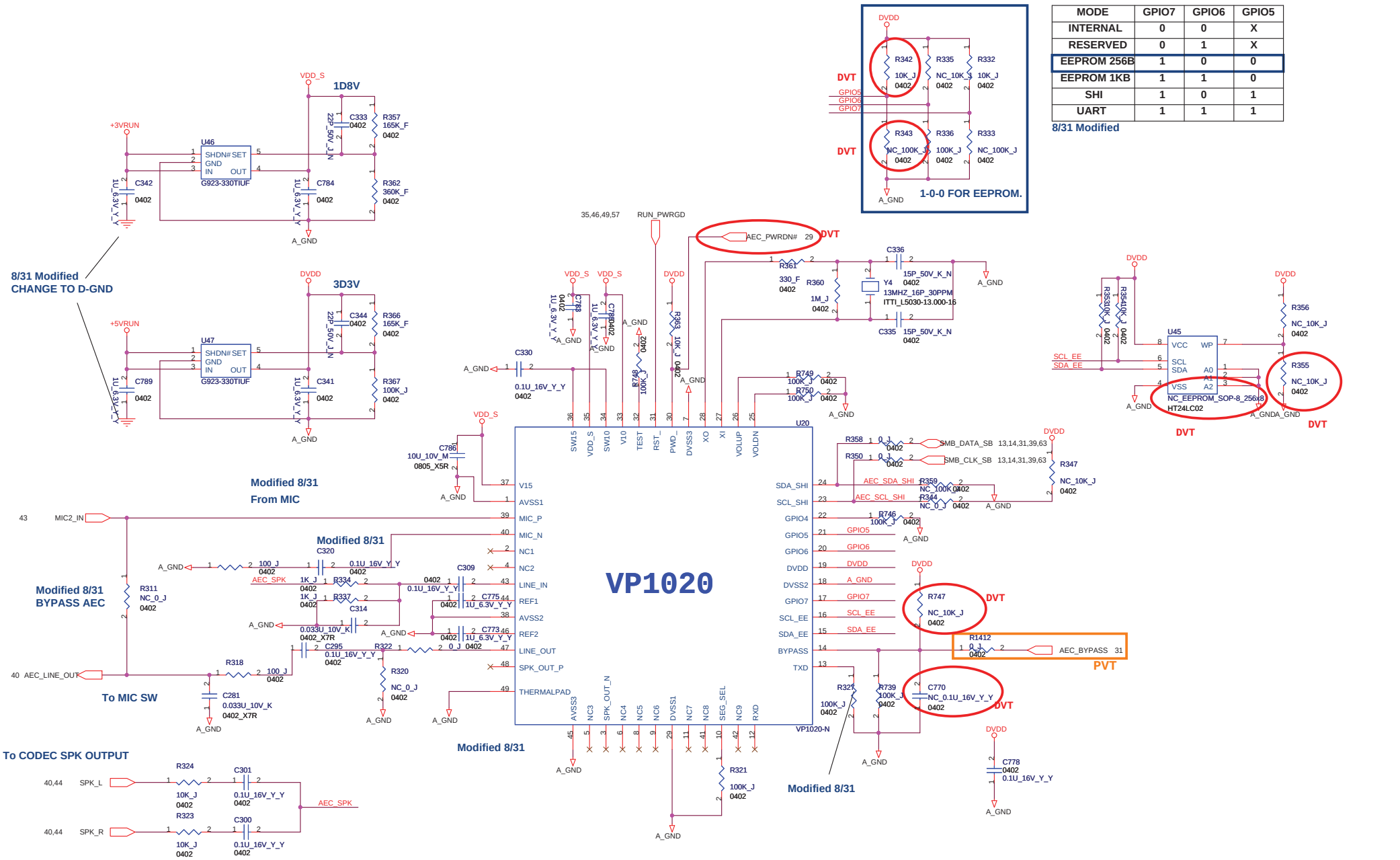
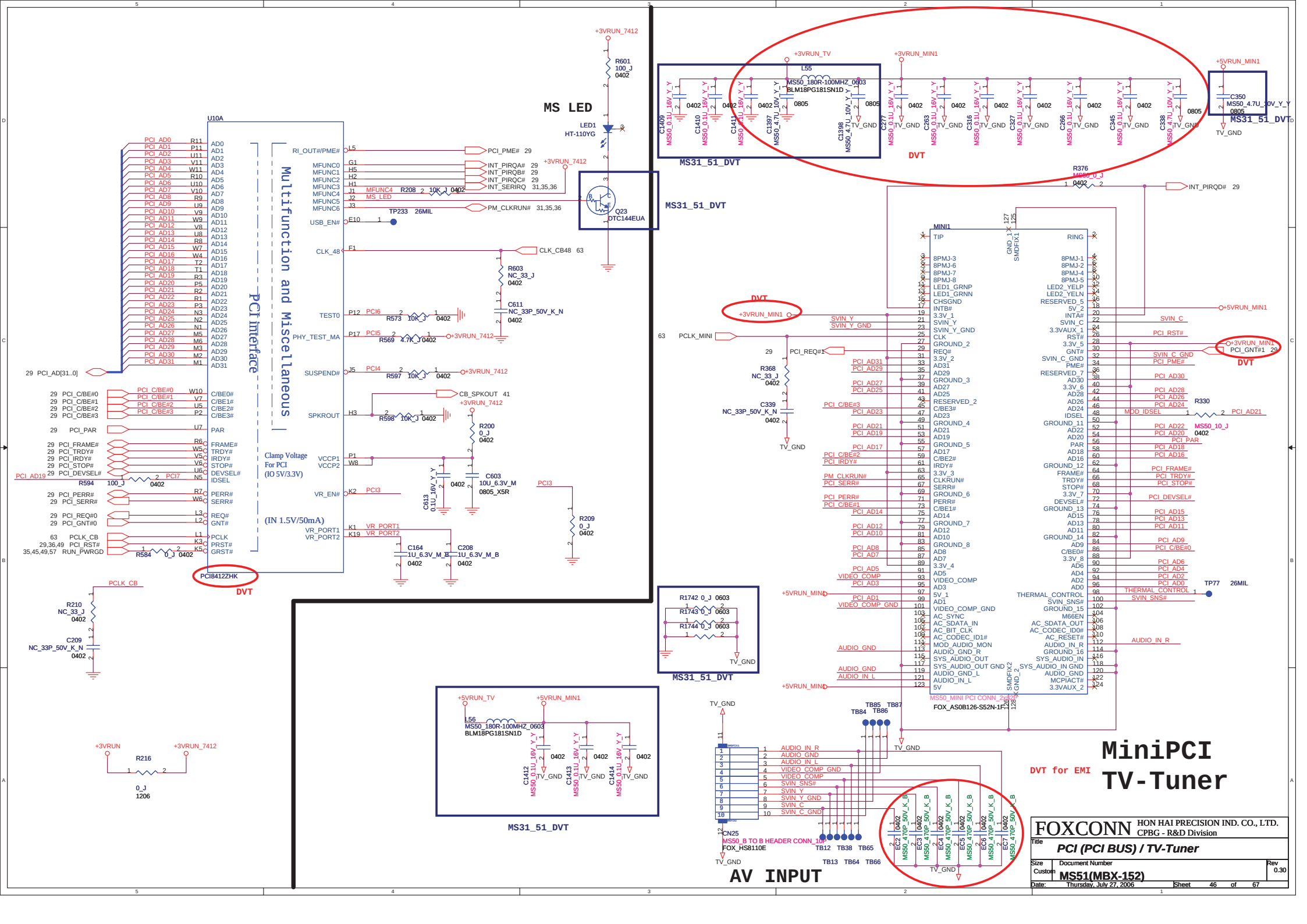


MODE	GPIO7	GPIO6	GPIO5
INTERNAL	0	0	X
RESERVED	0	1	X
EEPROM 256B	1	0	0
EEPROM 1KB	1	1	0
SHI	1	0	1
UART	1	1	1

8/31 Modified

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title	AUDIO (PHONE OUT)		
Size: Custom	Document Number: MS51(MBX-152)		Rev: 0.30
Date: Thursday, July 27, 2006	Sheet 45 of 67		


MS LED
LED1
HT-110YG
R601
100_J
0402
Q23
DTC144EUA
U10A
PCI interface
Multifunction and Miscellaneous
PCI8412ZHK
DVT
Clamp Voltage
For PCI
(IO 5V/3.3V)
(IN 1.5V/50mA)
MS31_51_DVT
+3VRUN_7412
+3VRUN_TV
+3VRUN_MIN1
+5VRUN_MIN1
L55
MS50_180R-100MHZ_0603
BLM18PG181SN1D
L56
C350
MS50_4.7U_10V_Y_Y
0805
TV_GND
MINI1
TIP
RING
MS50_MINI PCI CONN_2x42x2
FOX_AS0B126-S52N-1F
TP77
26MIL
R376
MS50_0_J
INT_PIRQD#
PCLK_MINI
PCI_REQ#1
CN25
MS50_B TO B HEADER CONN_10P
FOX_HS8110E
AV INPUT
DVT for EMI
MiniPCI
TV-Tuner
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
PCI (PCI BUS) / TV-Tuner
MS51(MBX-152)
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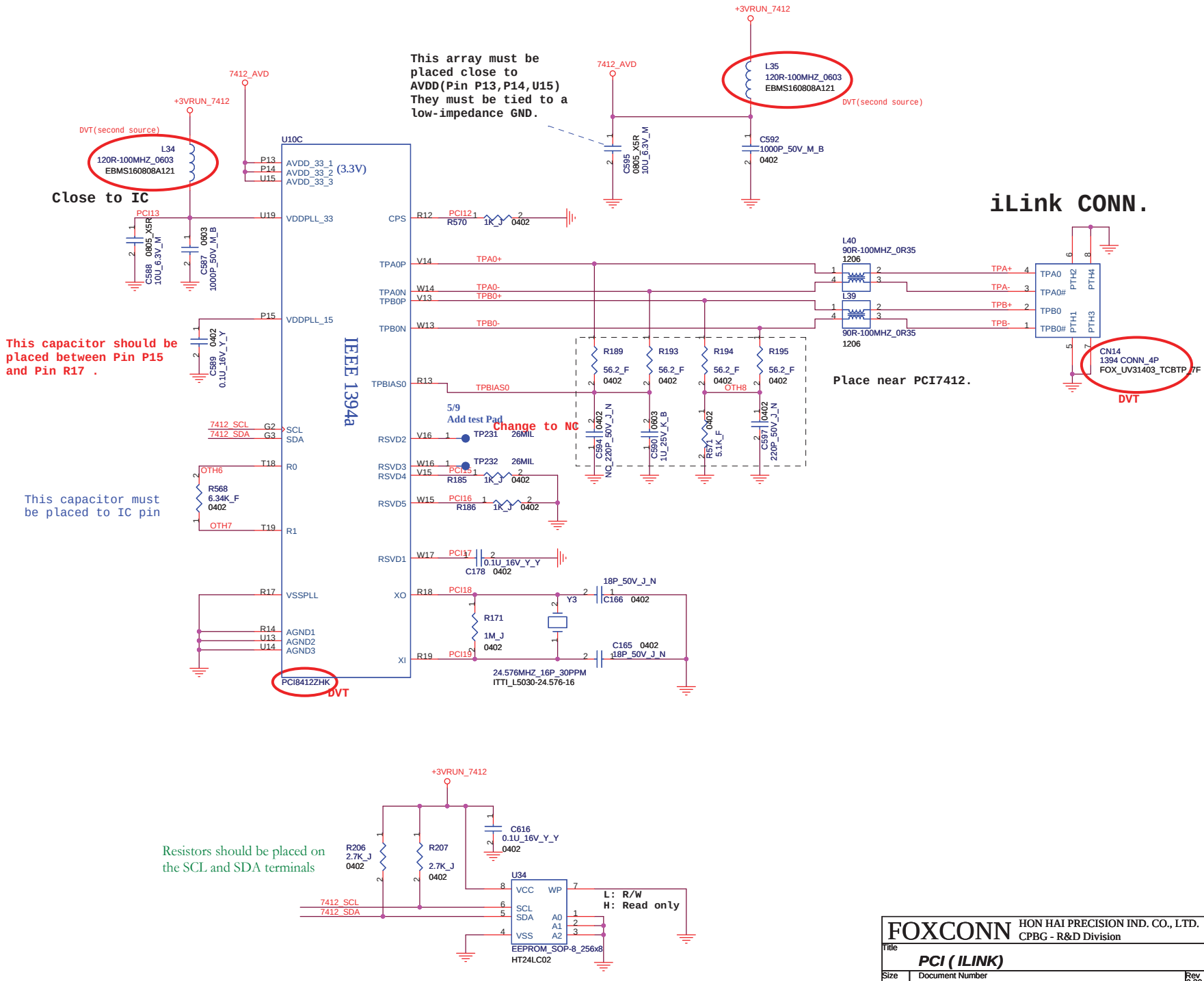
This array must be placed close to AVDD(Pin P13,P14,U15) They must be tied to a low-impedance GND.
Close to IC
iLink CONN.
This capacitor should be placed between Pin P15 and Pin R17 .
This capacitor must be placed to IC pin
Place near PCI7412.
Change to NC
5/9 Add test Pad
Resistors should be placed on the SCL and SDA terminals
L: R/W
H: Read only
DVT(second source)
DVT
U10C
IEEE 1394a
PCI8412ZHK
+3VRUN_7412
7412_AVD
L34 120R-100MHZ_0603 EBMS160808A121
L35 120R-100MHZ_0603 EBMS160808A121
L40 90R-100MHZ_0R35 1206
L39 90R-100MHZ_0R35 1206
CN14 1394 CONN_4P FOX_UV31403_TCBTP_7F
24.576MHZ_16P_30PPM ITTI_L5030-24.576-16
EEPROM_SOP-8_256x8 HT24LC02
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
PCI (ILINK)
MS51(MBX-152)
Thursday, July 27, 2006
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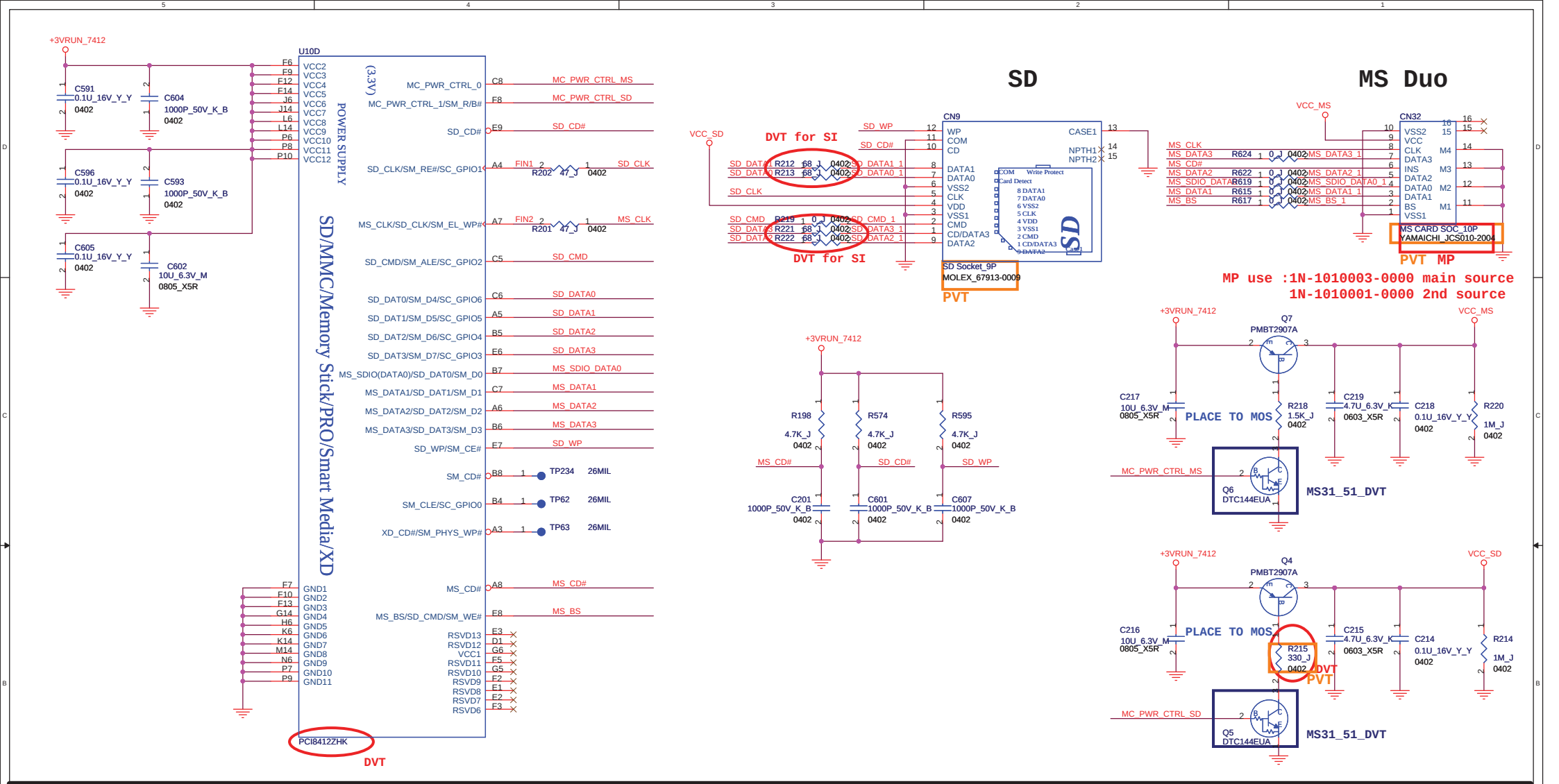

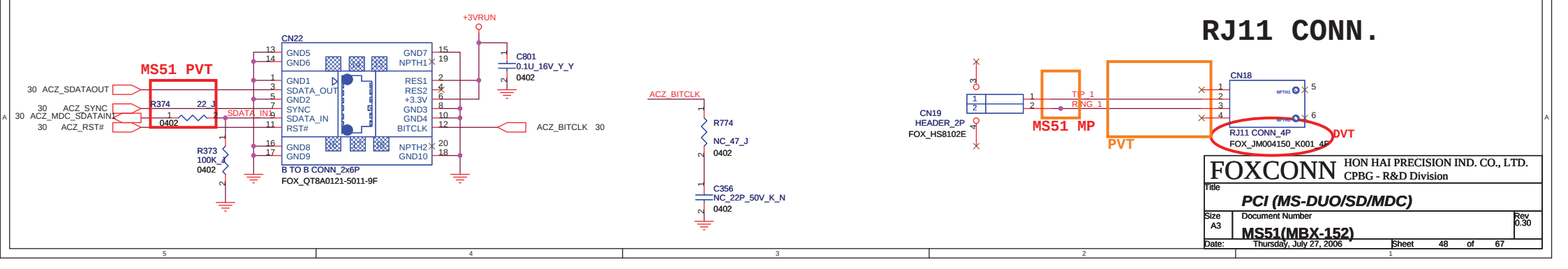

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: PCI (MS-DUO/SD/MDC)

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

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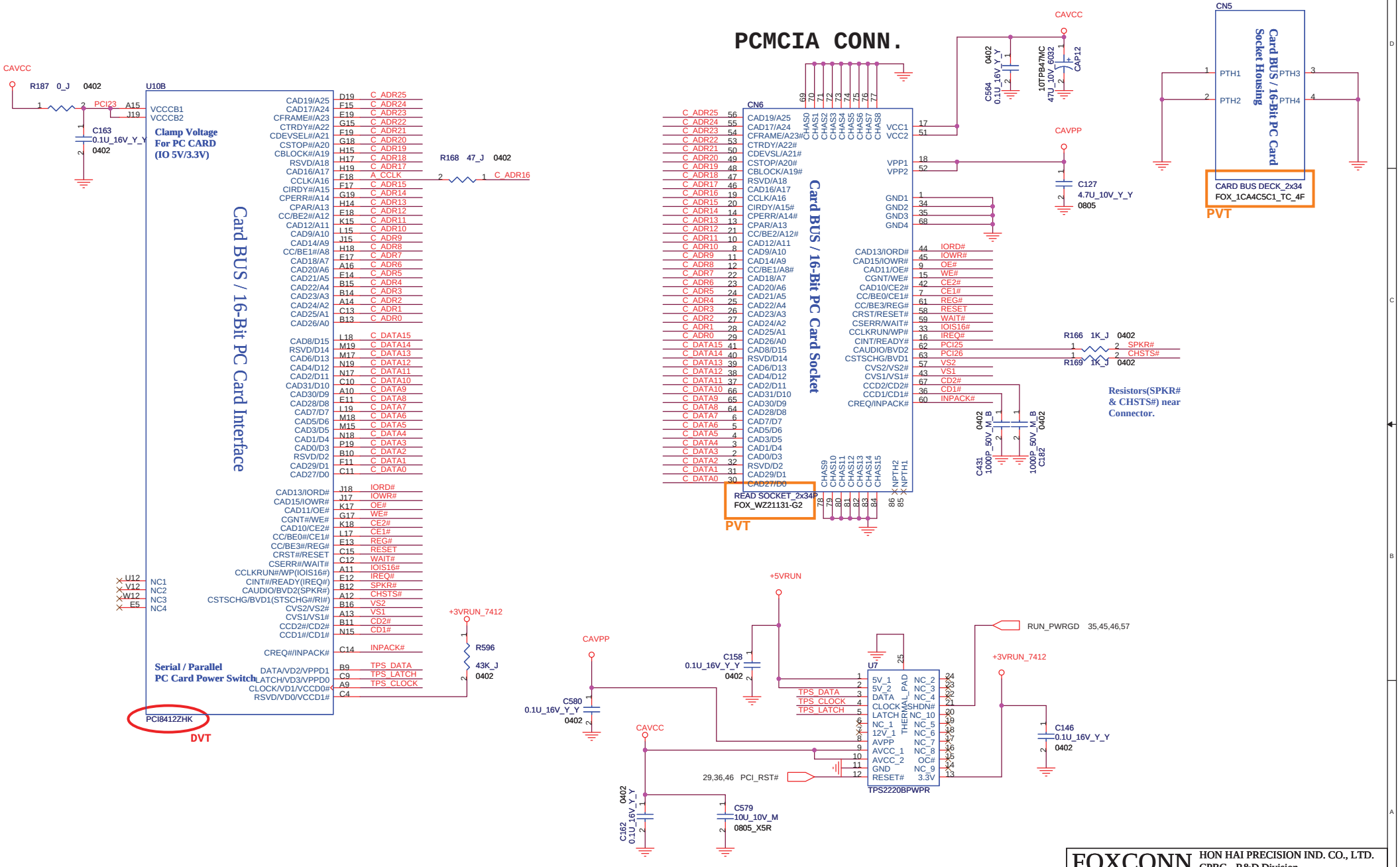
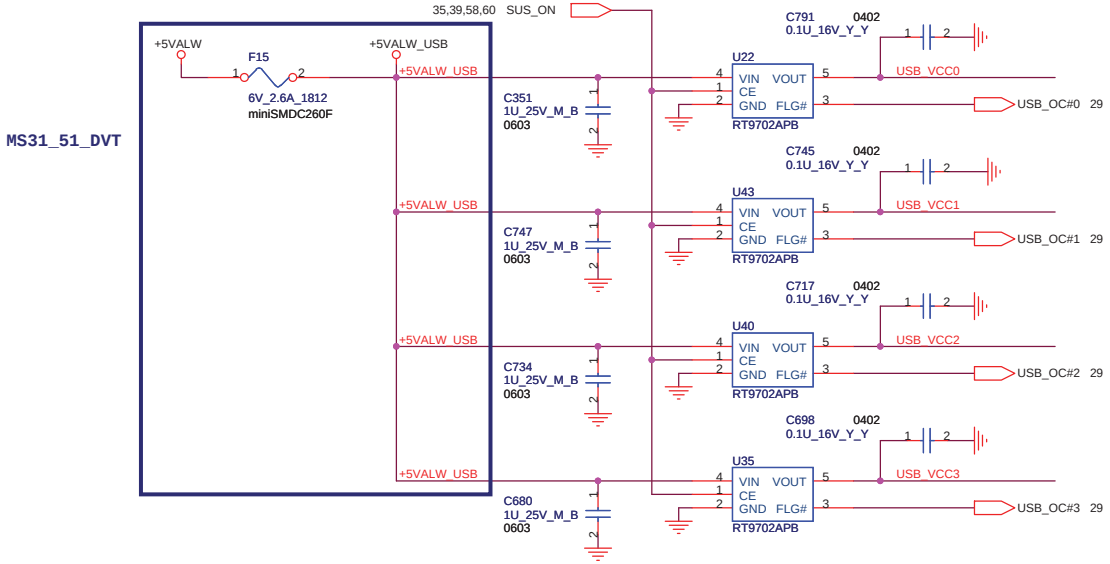
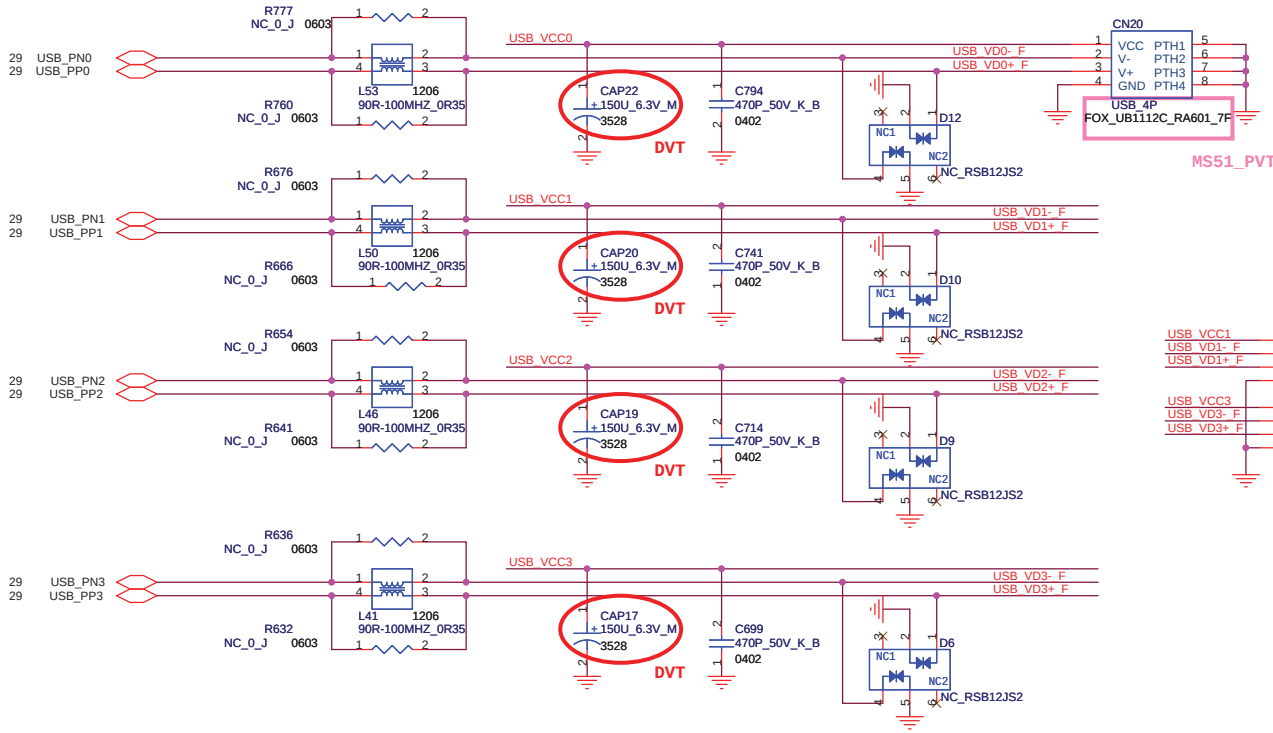
PCMCIA CONN.



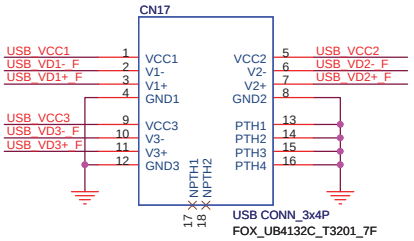
FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title	PCI (PCMCIA)		
Size A3	Document Number MS-30/50(MBX-152)		Rev 0.30
Date: Thursday, July 27, 2006	Sheet 49 of 67		



Use Power Switch



USB CONN X 4



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	*USB2.0/DOCKING CONN.*	
Size A3	Document Number **MS51(MBX-152)**	Rev 0.40
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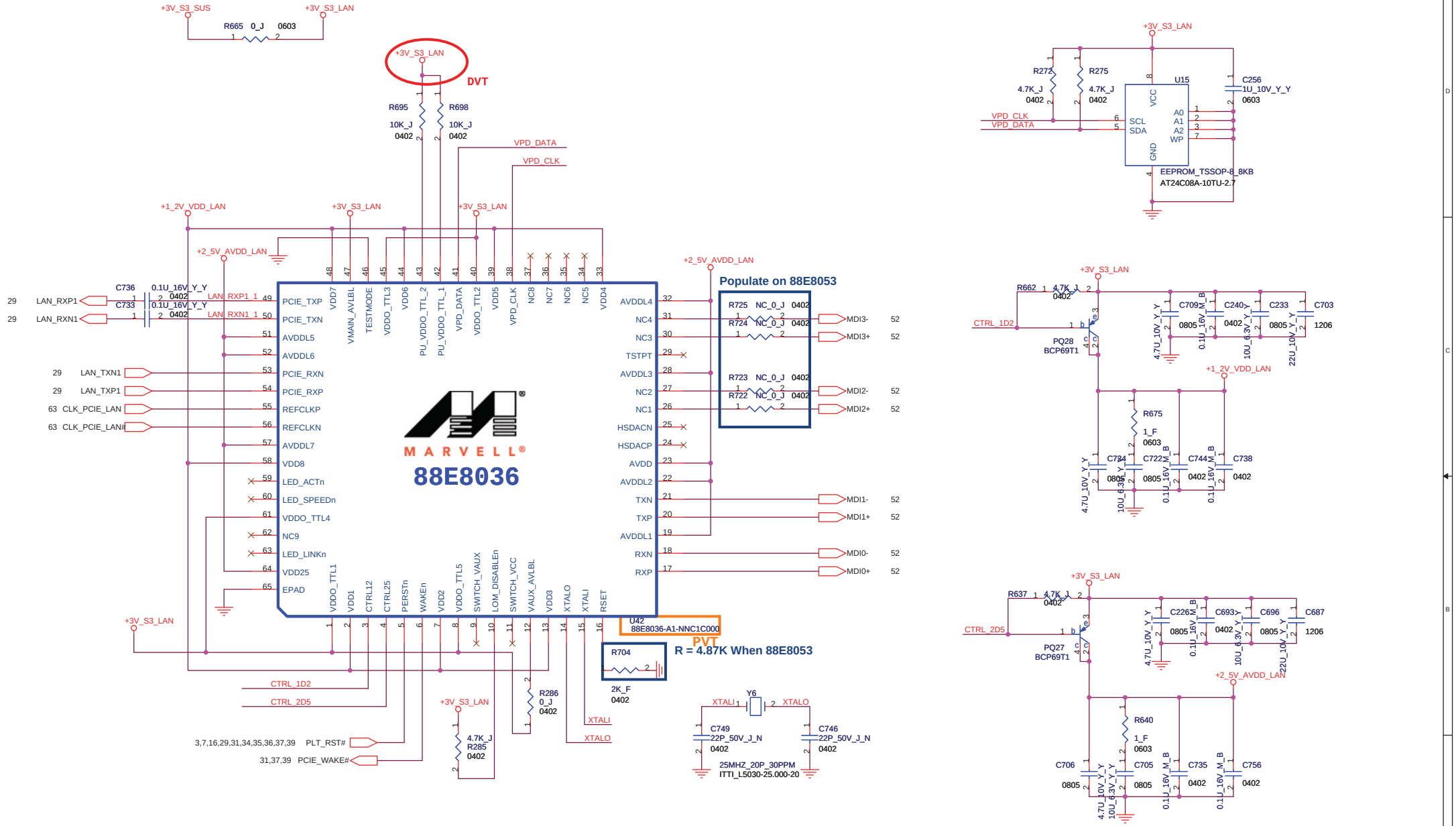
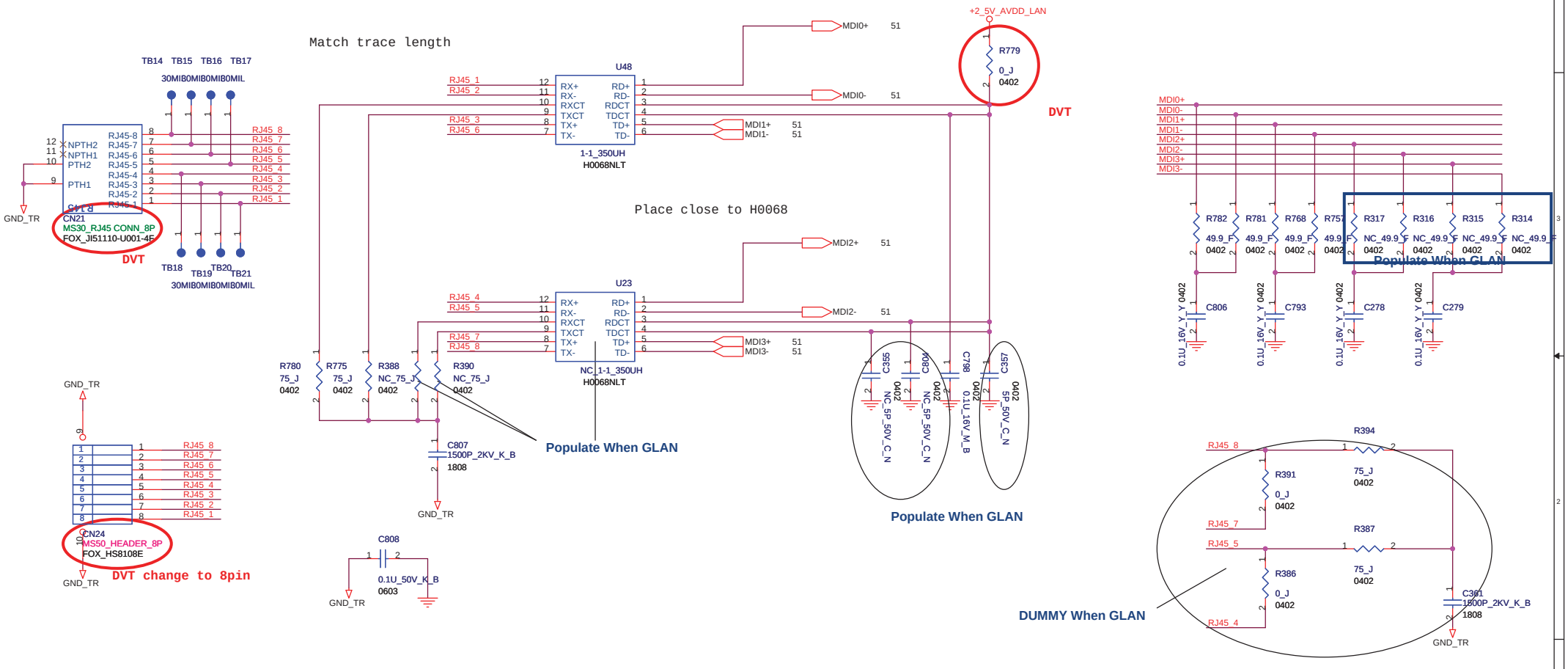
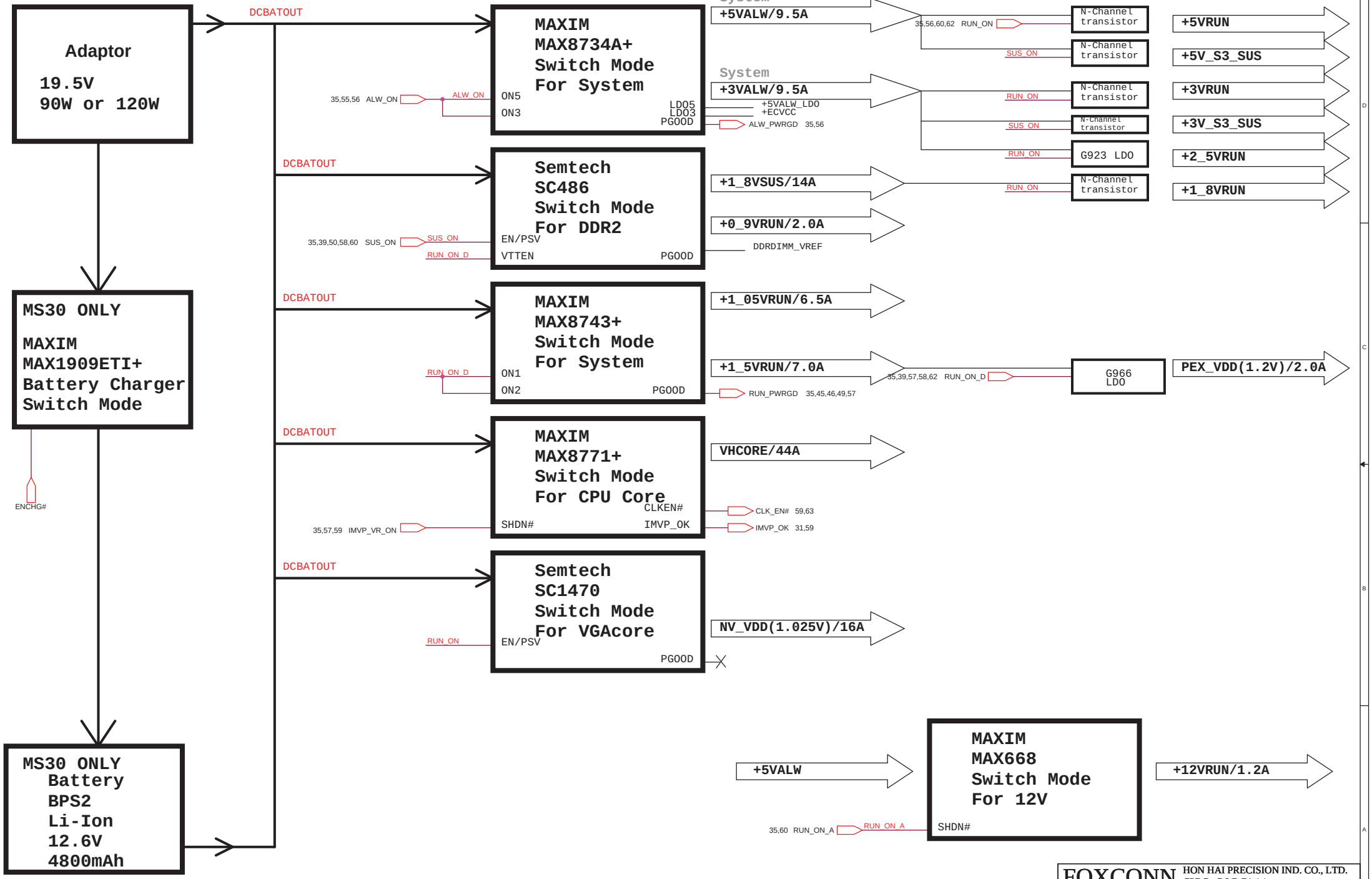


FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division		
Title	*Marvell_LAN (1/2)*		
Size A3	Document Number **MS51(MBX-152)**		Rev 0.30
Date: Thursday, July 27, 2006	Sheet 51 of 67		



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	*Marvell_LAN (2/2)*	
Size A3	Document Number **MS51(MBX-152)**	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 52 of 67	



FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *Power Design Diagram-ZG*

Size: A3 | Document Number: MS51(MBX-152) | Rev: 0.30

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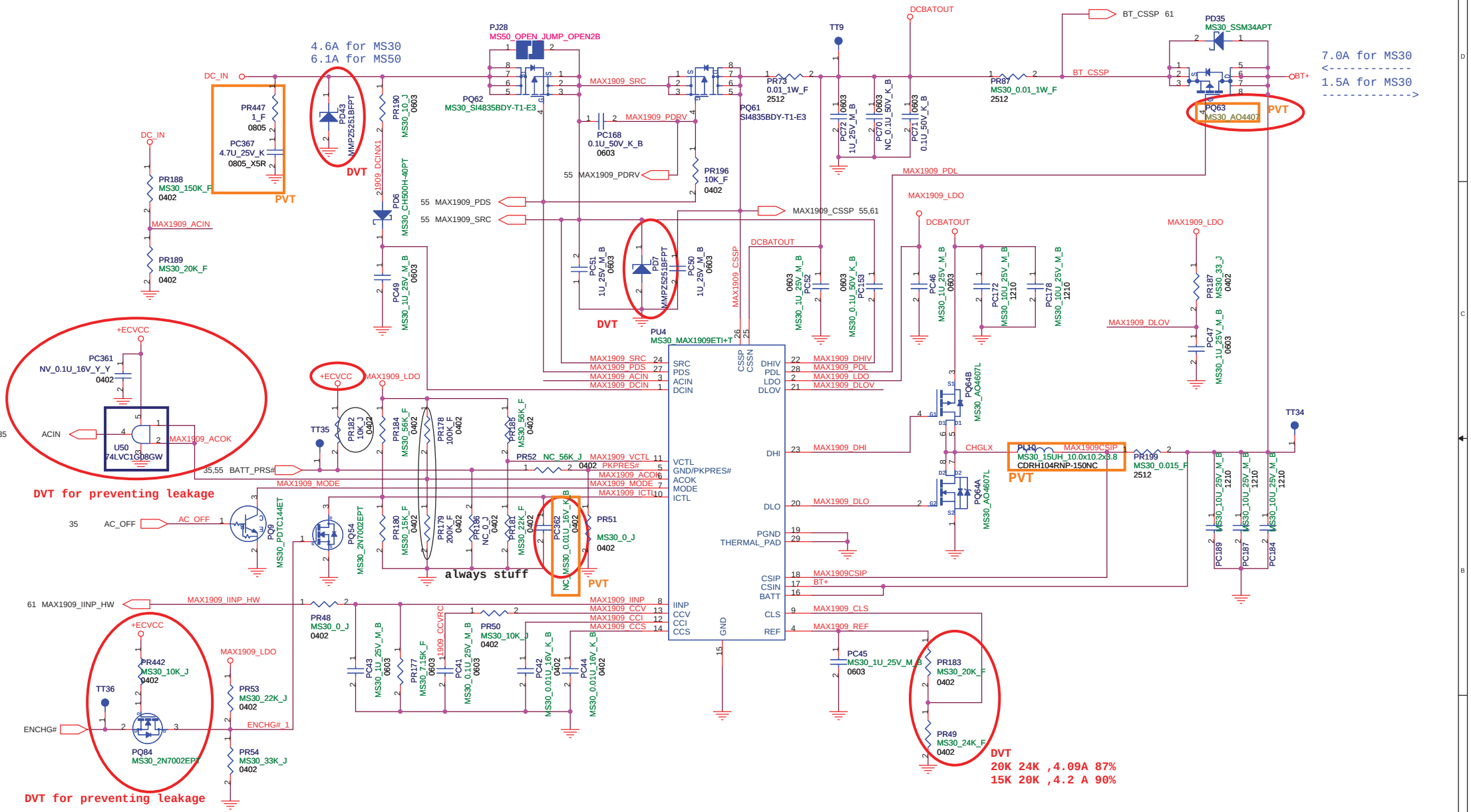
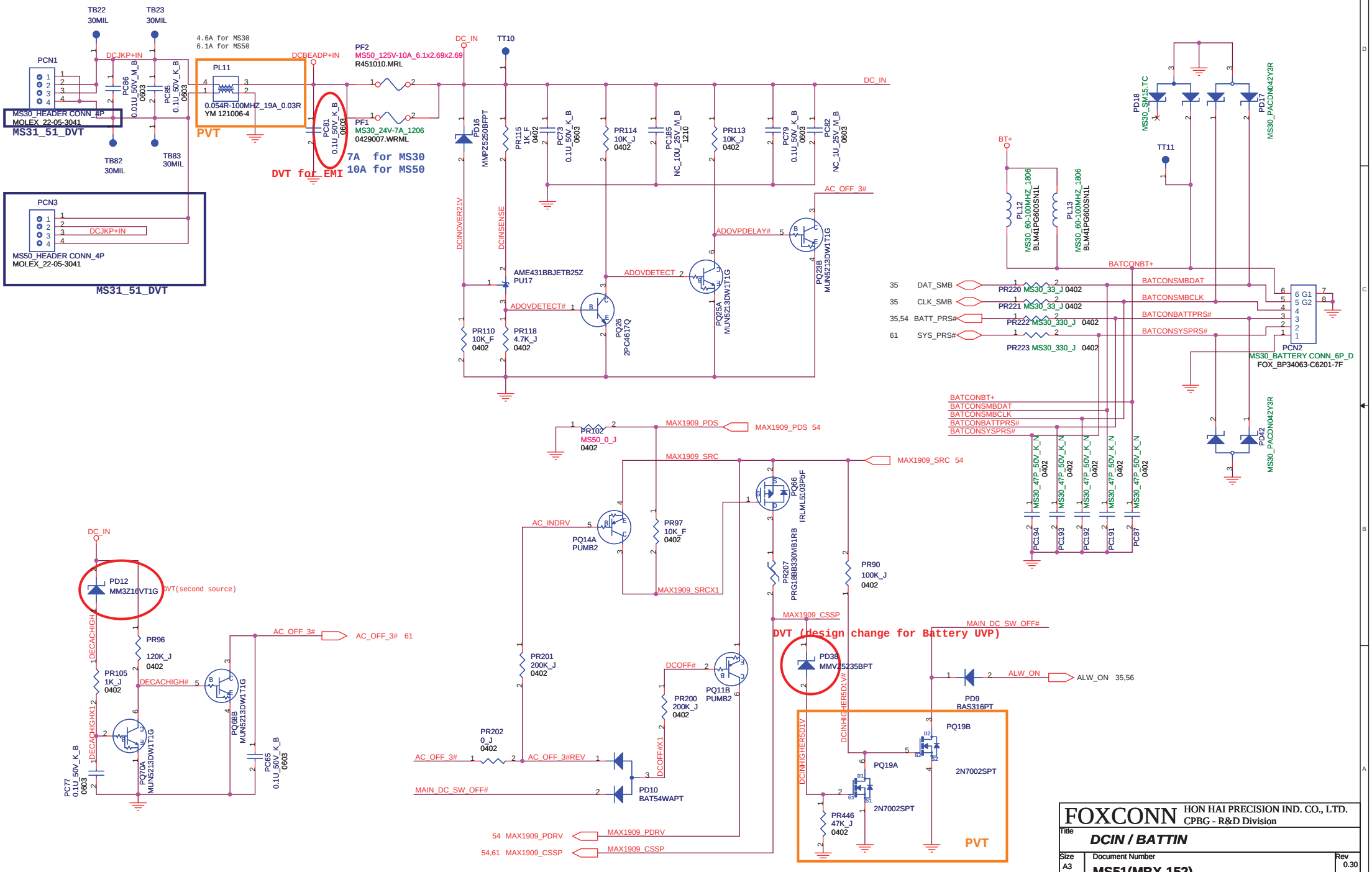


FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	Charger Max1909	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 54 of 67	


TB22
30MIL
TB23
30MIL
4.6A for MS30
6.1A for MS50
PCN1
DCJKP+IN
PC86
0.01U_50V_M_B
0603
PC85
0.1U_50V_K_B
0603
PL11
0.054R-100MHZ_19A_0.03R
YM 121006-4
DCBEADP+IN
PF2
MS50_125V-10A_6.1x2.69x2.69
R451010.MRL
DC_IN
TT10
MS30_HEADER CONN_4P
MOLEX_22-05-3041
MS31_51_DVT
PVT
TB82
30MIL
TB83
30MIL
PC81
0.1U_50V_K_B
0603
DVT for EMI
PF1
MS30_24V-7A_1206
0429007.WRML
7A for MS30
10A for MS50
PD16
MMPZ5250BPPT
PR115
1K_F
0402
PC73
0.1U_50V_K_B
0603
PR114
10K_J
0402
PC185
NC_10U_25V_M_B
1210
PR113
10K_J
0402
PC79
0.1U_50V_K_B
0603
PC82
NC_1U_25V_M_B
0603
DCINOVER21V
DCINSENSE
AC_OFF_3#
ADOVPDELAY#
PQ23B
MUN5213DW1T1G
AME431BBJETB25Z
PU17
ADOVDETECT
ADOVDETECT#
PQ26
2PC4617Q
PQ25A
MUN5213DW1T1G
PR110
10K_F
0402
PR118
4.7K_J
0402
PCN3
DCJKP+IN
MS50_HEADER CONN_4P
MOLEX_22-05-3041
MS31_51_DVT
BT+
PL12
MS30_60-100MHZ_1806
BLM41PG600SN1L
PL13
MS30_60-100MHZ_1806
BLM41PG600SN1L
TT11
PD18
MS30_SM15.TC
PD17
MS30_PACDN042Y3R
BATCONBT+
35 DAT_SMB
35 CLK_SMB
35,54 BATT_PRS#
61 SYS_PRS#
PR220 MS30_33_J 0402
PR221 MS30_33_J 0402
PR222 MS30_330_J 0402
PR223 MS30_330_J 0402
BATCONSMBDAT
BATCONSMBCLK
BATCONBATTPRS#
BATCONSYSPRS#
PCN2
MS30_BATTERY CONN_6P_D
FOX_BP34063-C6201-7F
PD42
MS30_PACDN042Y3R
MS30_47P_50V_K_N
0402
PC194
PC193
PC192
PC191
PC87
PR102
MS50_0_J
0402
MAX1909_PDS
MAX1909_PDS 54
MAX1909_SRC
MAX1909_SRC 54
PQ66
IRLML5103PbF
AC_INDRV
PQ14A
PUMB2
PR97
10K_F
0402
MAX1909_SRCX1
PR207
PRG18BB330MB1RB
PR90
100K_J
0402
MAX1909_CSSP
DVT (design change for Battery UVP)
MAIN_DC_SW_OFF#
PD38
MMV25235BPT
DCINHIGHER5D1V#
PD9
BAS316PT
ALW_ON
ALW_ON 35,56
PQ19B
PQ19A
2N7002SPT
2N7002SPT
PR446
47K_J
0402
PVT
DC_IN
PD12
MM3Z16VT1G
DVT(second source)
DECACHIGH
PR96
120K_J
0402
PR105
1K_J
0402
DECACHIGH#
AC_OFF_3#
AC_OFF_3# 61
DECACHIGHX1
PQ68B
MUN5213DW1T1G
PQ70A
MUN5213DW1T1G
PC77
0.1U_50V_K_B
0603
PC65
0.1U_50V_K_B
0603
PR201
200K_J
0402
PR202
0_J
0402
AC_OFF_3#
AC_OFF_3#REV
MAIN_DC_SW_OFF#
PD10
BAT54WAPT
DCOFF#
PQ11B
PUMB2
PR200
200K_J
0402
DCOFF#X1
54 MAX1909_PDRV
MAX1909_PDRV
54,61 MAX1909_CSSP
MAX1909_CSSP
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
DCIN / BATTIN
Size
A3
Document Number
MS51(MBX-152)
Rev
0.30
Date:
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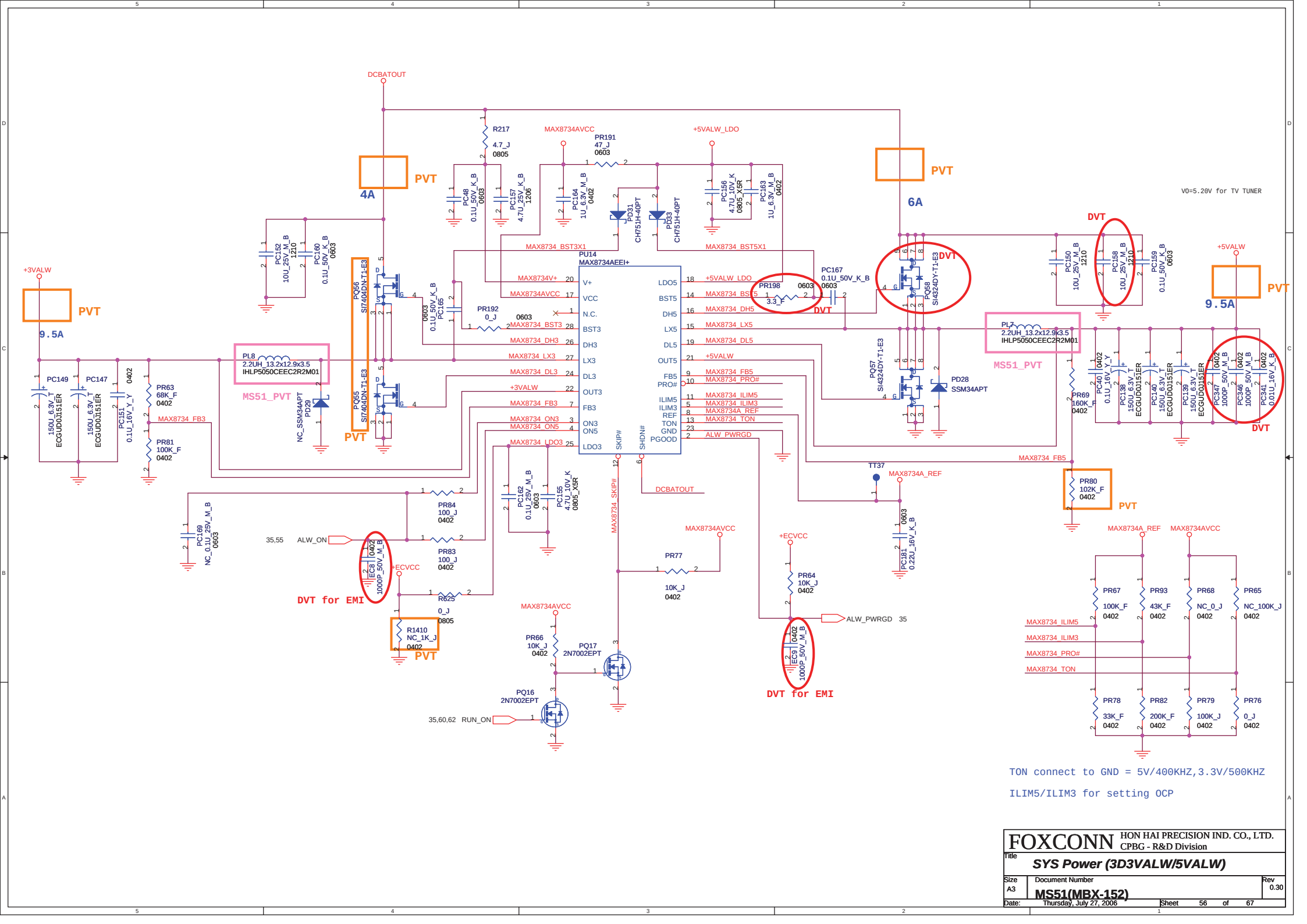
67


DCBATOUT
PU14
MAX8734AEEI+
+3VALW
9.5A
PVT
4A
6A
MS51_PVT
DVT
DVT for EMI
VO=5.20V for TV TUNER
TON connect to GND = 5V/400KHZ,3.3V/500KHZ
ILIM5/ILIM3 for setting OCP
ALW_ON
ALW_PWRGD
RUN_ON
+ECVCC
+5VALW_LDO
MAX8734AVCC
MAX8734A_REF
MAX8734_SKIP#
MAX8734_FB5
MAX8734_FB3
MAX8734_ILIM5
MAX8734_ILIM3
MAX8734_PRO#
MAX8734_TON
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
SYS Power (3D3VALW/5VALW)
MS51(MBX-152)
Thursday, July 27, 2006
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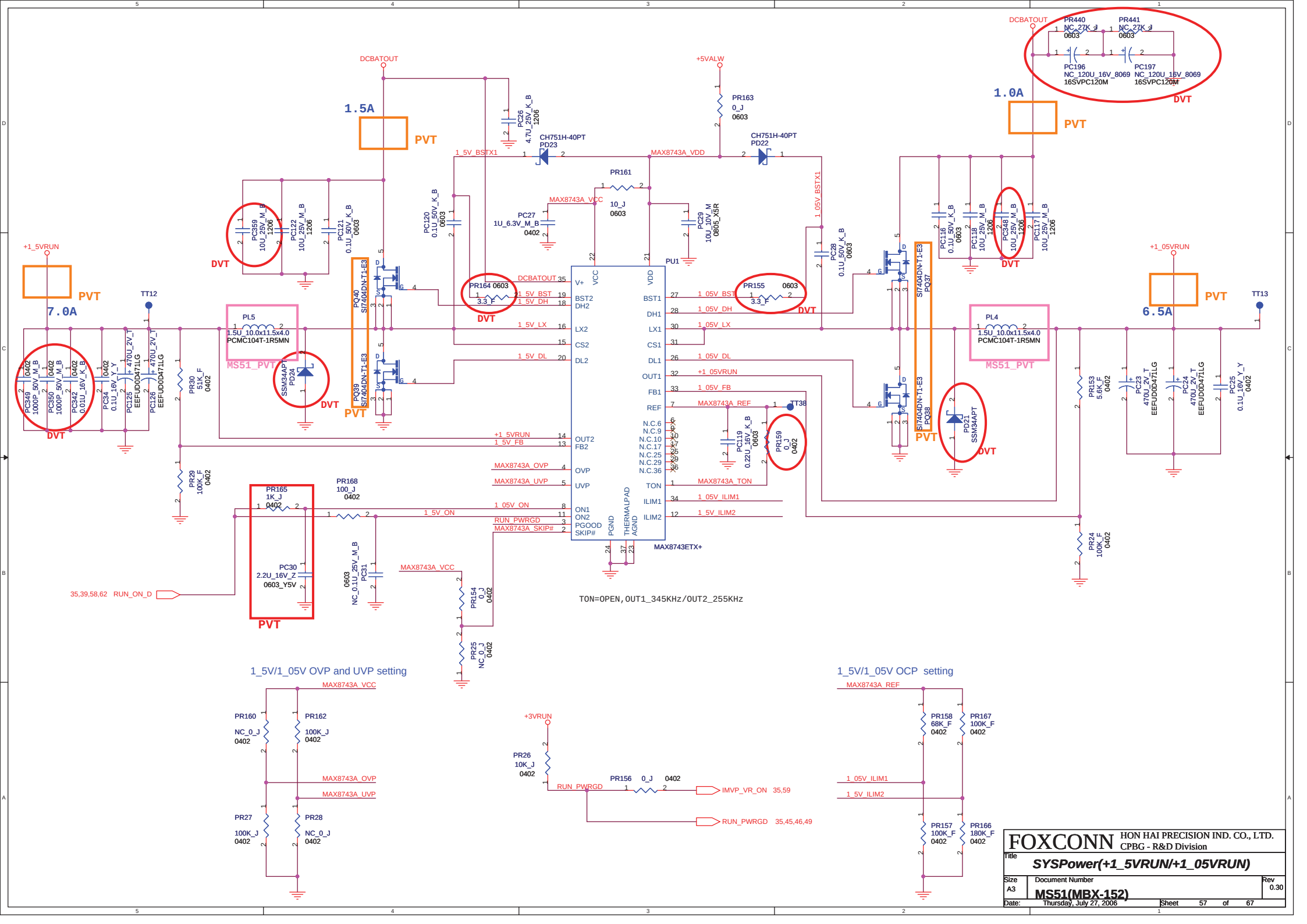
DCBATOUT
+5VALW
+1_5VRUN
+1_05VRUN
1.5A
1.0A
7.0A
6.5A
PVT
DVT
MAX8743ETX+
PU1
TON=OPEN,OUT1_345KHz/OUT2_255KHz
1_5V/1_05V OVP and UVP setting
1_5V/1_05V OCP setting
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
SYSPower(+1_5VRUN/+1_05VRUN)
MS51(MBX-152)
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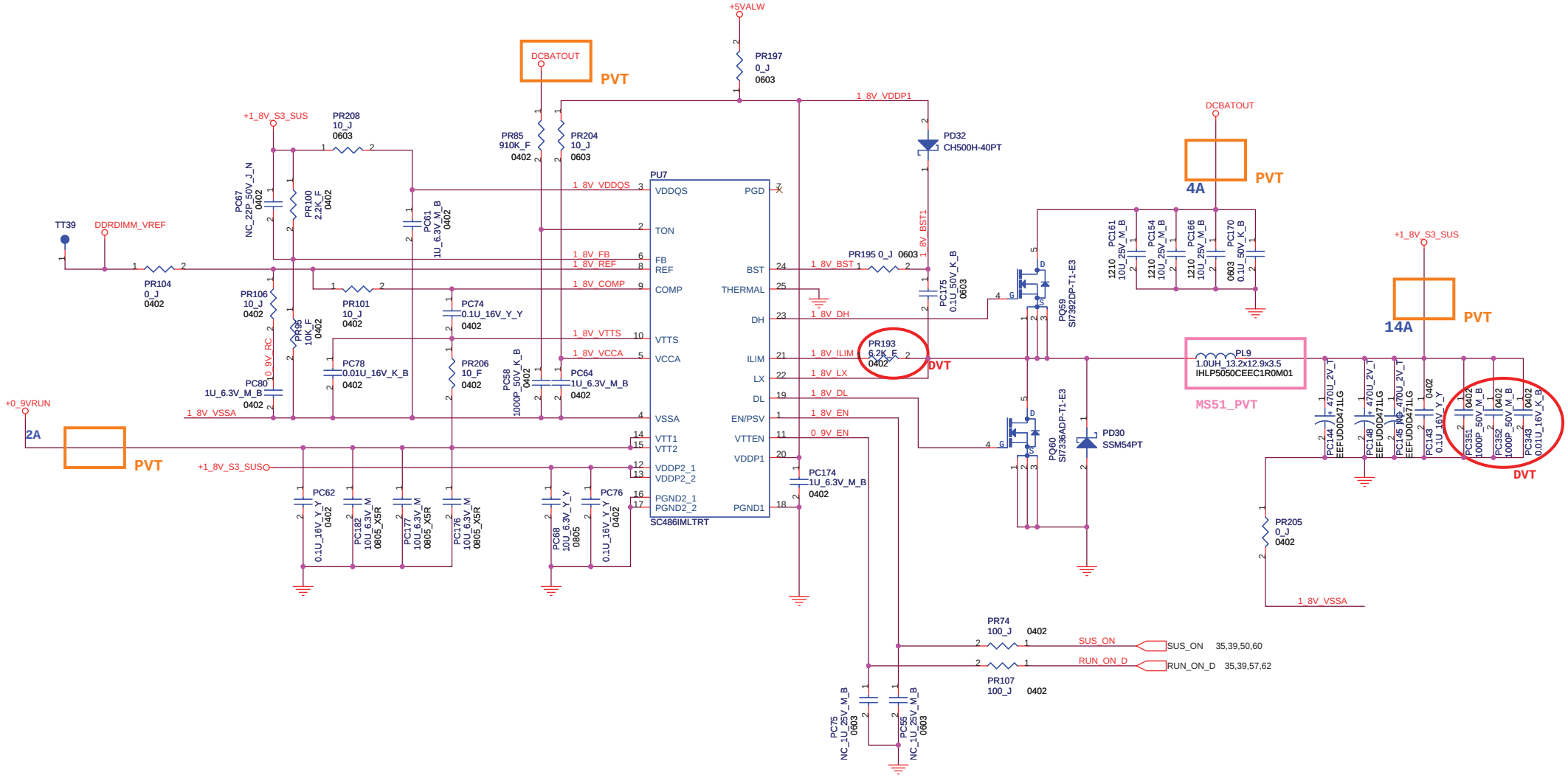
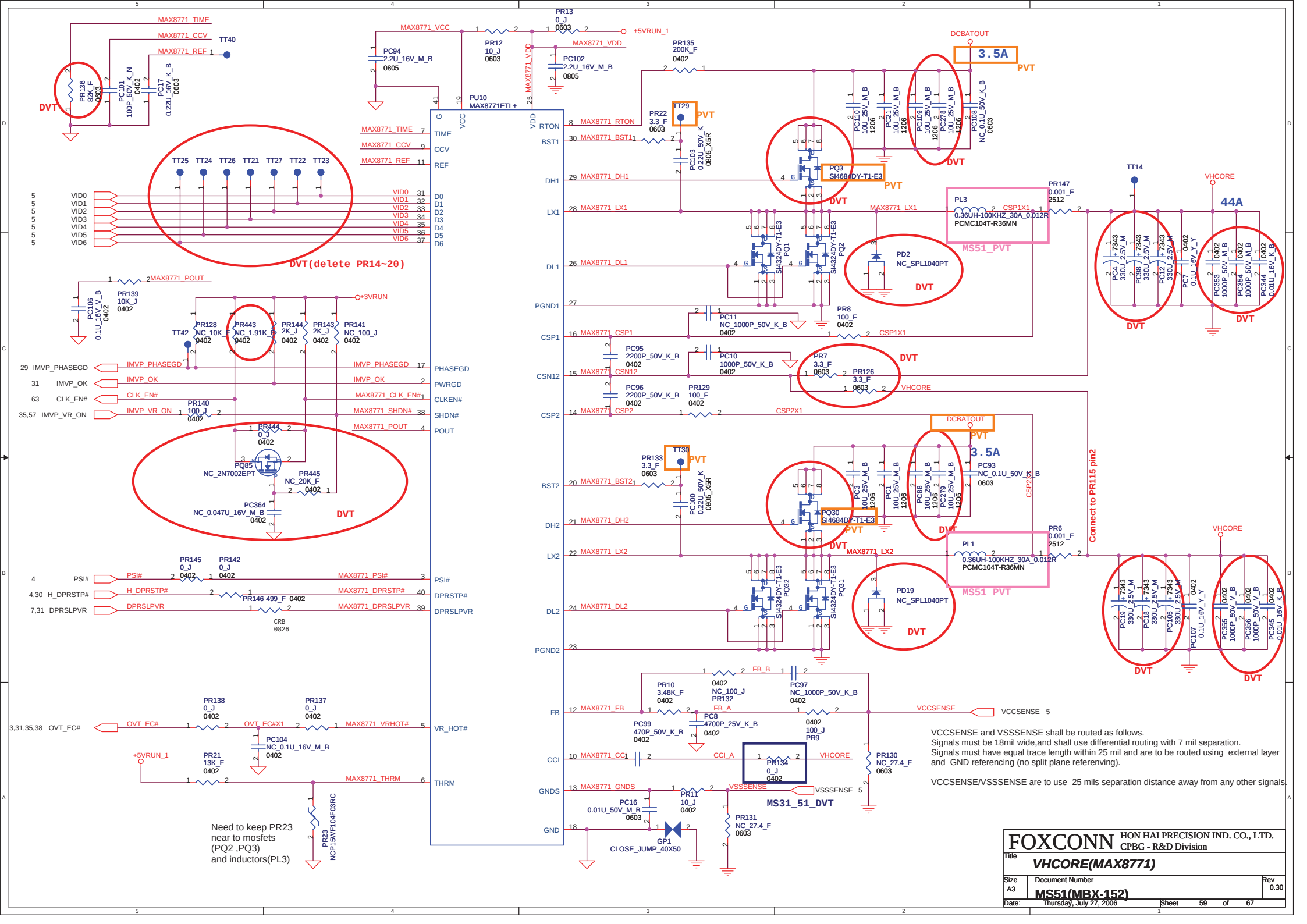
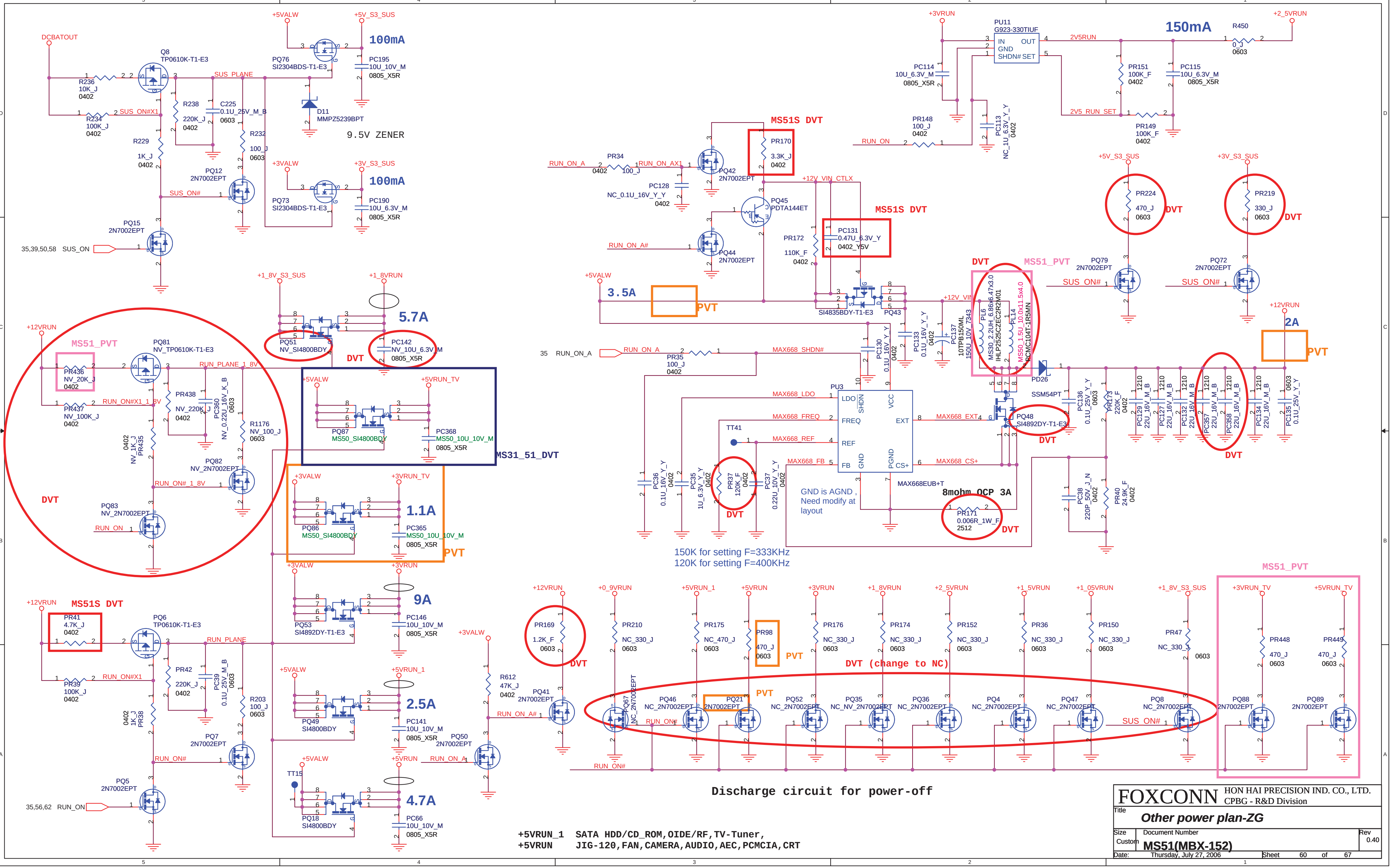
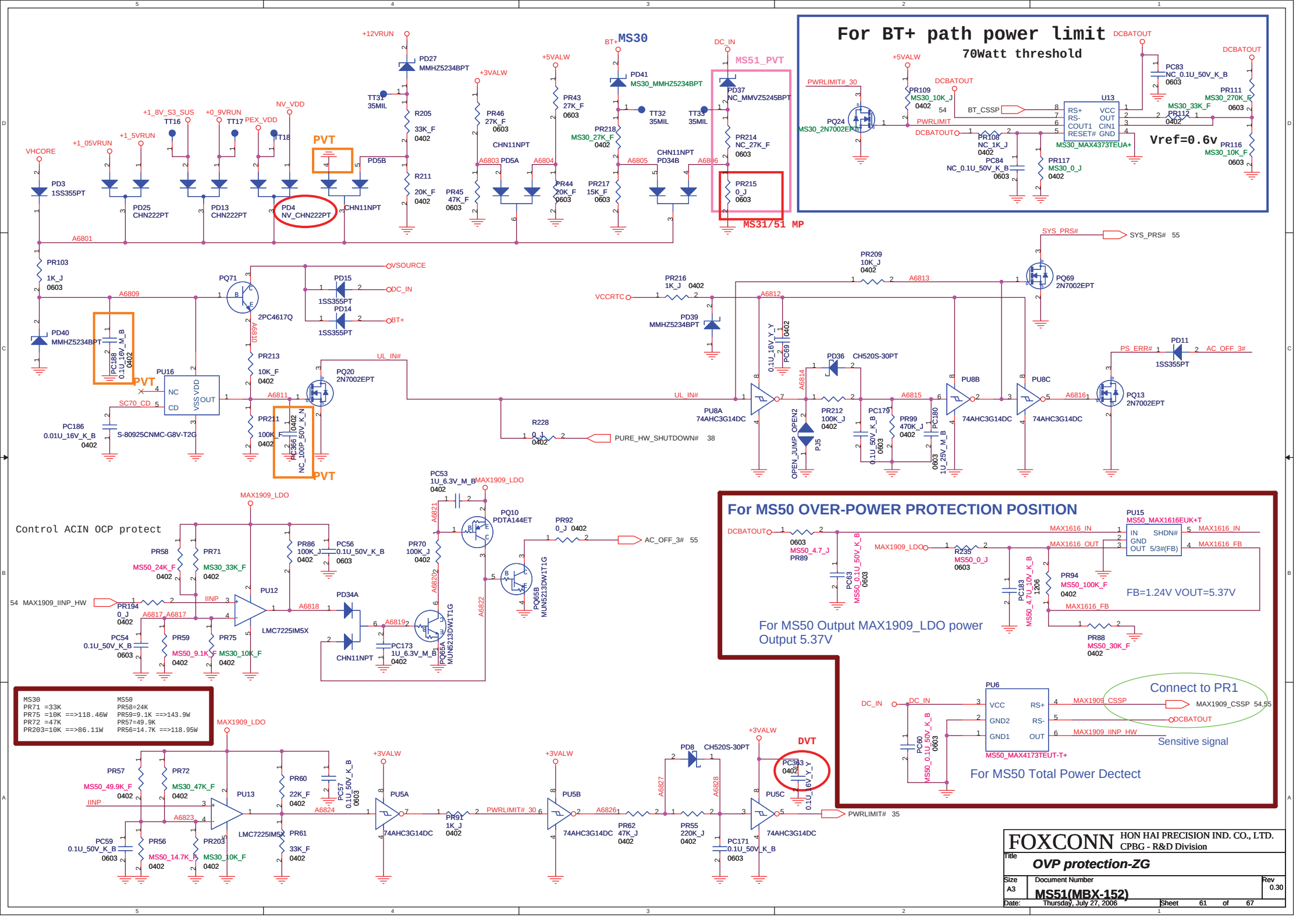


FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title	DDR2Power(+1_8V_S3_SUS/+0_9VRUN)	
Size A3	Document Number MS51(MBX-152)	Rev 0.30
Date: Thursday, July 27, 2006	Sheet 58 of 67	


MAX8771_TIME
MAX8771_CCV
MAX8771_REF
TT40
PR136 82K_F 0603
PC101 100P_50V_K_N 0402
PC17 0.22U_16V_K_B 0603
DVT
PR13 0_J 0603
MAX8771_VCC
PR12 10_J 0603
+5VRUN_1
MAX8771_VDD
PC94 2.2U_16V_M_B 0805
PC102 2.2U_16V_M_B 0805
PR135 200K_F 0402
PU10 MAX8771ETL+
DCBATOUT
3.5A
PVT
PC110 10U_25V_M_B 1206
PC21 10U_25V_M_B 1206
PC109 10U_25V_M_B 1206
PC278 10U_25V_M_B 1206
PC108 NC_0.1U_50V_K_B 0603
TT25 TT24 TT26 TT21 TT27 TT22 TT23
VID0 VID1 VID2 VID3 VID4 VID5 VID6
DVT(delete PR14~20)
TT29
PR22 3.3_F 0603
PC103 0.22U_50V_K 0805_X5R
PQ3 SI4684DY-T1-E3
PR147 0.001_F 2512
PL3 0.36UH-100KHZ_30A_0.012R PCMC104T-R36MN
MS51_PVT
TT14
VHCORE
44A
PC4 330U_2.5V_M
PC98 330U_2.5V_M
PC12 330U_2.5V_M
PC7 0.1U_16V_Y
PC353 1000P_50V_M_B
PC354 1000P_50V_M_B
PC344 0.01U_16V_K_B
PD2 NC_SPL1040PT
PR8 100_F 0402
PC11 NC_1000P_50V_K_B 0402
PC106 0.1U_16V_M_B 0402
PR139 10K_J 0402
MAX8771_POUT
+3VRUN
TT42
PR128 NC_10K_F 0402
PR443 NC_1.91K_F 0402
PR144 2K_J 0402
PR143 2K_J 0402
PR141 NC_100_J 0402
IMVP_PHASEGD
IMVP_OK
CLK_EN#
IMVP_VR_ON
PR140 100_J 0402
PR444 0_J 0402
PQ85 NC_2N7002EPT
PR445 NC_20K_F 0402
PC364 NC_0.047U_16V_M_B 0402
DVT
PC95 2200P_50V_K_B 0402
PC10 1000P_50V_K_B 0402
PR7 3.3_F 0603
PR126 3.3_F 0603
PC96 2200P_50V_K_B 0402
PR129 100_F 0402
CSP1X1
CSP2X1
VHCORE
TT30
PR133 3.3_F 0603
PC100 0.22U_50V_K 0805_X5R
PQ30 SI4684DY-T1-E3
PC3 10U_25V_M_B 1206
PC1 10U_25V_M_B 1206
PC88 10U_25V_M_B 1206
PC279 10U_25V_M_B 1206
PC93 NC_0.1U_50V_K_B 0603
Connect to PR115 pin2
PR6 0.001_F 2512
PL1 0.36UH-100KHZ_30A_0.012R PCMC104T-R36MN
PC19 330U_2.5V_M
PC18 330U_2.5V_M
PC105 330U_2.5V_M
PC107 0.1U_16V_Y
PC355 1000P_50V_M_B
PC356 1000P_50V_M_B
PC345 0.01U_16V_K_B
PD19 NC_SPL1040PT
PR145 0_J 0402
PR142 0_J 0402
PSI#
H_DPRSTP#
DPRSLPVR
PR146 499_F 0402
CRB 0826
PR138 0_J 0402
PR137 0_J 0402
OVT_EC#
OVT_EC#X1
PC104 NC_0.1U_16V_M_B 0402
PR21 13K_F 0402
+5VRUN_1
MAX8771_THRM
PR23 NCP15WF104F03RC
Need to keep PR23 near to mosfets (PQ2 ,PQ3) and inductors(PL3)
PR10 3.48K_F 0402
PR132 NC_100_J 0402
PC97 NC_1000P_50V_K_B 0402
FB_A
FB_B
PC8 4700P_25V_K_B 0402
PC99 470P_50V_K_B 0402
PR9 100_J 0402
CCI_A
PR134 0_J 0402
PR130 NC_27.4_F 0603
PR131 NC_27.4_F 0603
PR11 10_J 0402
PC16 0.01U_50V_M_B 0603
GP1 CLOSE_JUMP_40X50
MS31_51_DVT
VCCSENSE
VSSSENSE
VCCSENSE and VSSSENSE shall be routed as follows.
Signals must be 18mil wide,and shall use differential routing with 7 mil separation.
Signals must have equal trace length within 25 mil and are to be routed using external layer and GND referencing (no split plane referenving).
VCCSENSE/VSSSENSE are to use 25 mils separation distance away from any other signals.
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
VHCORE(MAX8771)
Size A3
Document Number
MS51(MBX-152)
Rev 0.30
Date: Thursday, July 27, 2006
Sheet 59 of 67



DCBATOUT
Q8 TP0610K-T1-E3
SUS_PLANE
+5VALW
+5V_S3_SUS
PQ76 SI2304BDS-T1-E3
100mA
PC195 10U_10V_M 0805_X5R
D11 MMPZ5239BPT
9.5V ZENER
+3VALW
+3V_S3_SUS
PQ73 SI2304BDS-T1-E3
PC190 10U_6.3V_M 0805_X5R
35,39,50,58 SUS_ON
+1_8V_S3_SUS
+1_8VRUN
5.7A
PQ51 NV_SI4800BDY
PC142 NV_10U_6.3V_M 0805_X5R
DVT
MS51_PVT
PQ81 NV_TP0610K-T1-E3
RUN_PLANE_1_8V
+5VRUN_TV
PQ87 MS50_SI4800BDY
PC368 MS50_10U_10V_M 0805_X5R
MS31_51_DVT
+3VRUN_TV
1.1A
PQ86 MS50_SI4800BDY
PC365 MS50_10U_10V_M 0805_X5R
PVT
+3VRUN
9A
PQ53 SI4892DY-T1-E3
PC146 10U_10V_M 0805_X5R
MS51S DVT
PQ6 TP0610K-T1-E3
RUN_PLANE
+5VALW
+5VRUN_1
2.5A
PQ49 SI4800BDY
PC141 10U_10V_M 0805_X5R
+5VRUN
4.7A
PQ18 SI4800BDY
PC66 10U_10V_M 0805_X5R
35,56,62 RUN_ON
+3VRUN
PU11 G923-330TIUF
150mA
+2_5VRUN
2V5RUN
2V5_RUN_SET
MS51S DVT
PR170 3.3K_J 0402
PQ42 2N7002EPT
PQ45 PDTA144EET
PC131 0.47U_6.3V_Y 0402_Y5V
PQ44 2N7002EPT
+12V_VIN_CTLX
3.5A
SI4835BDY-T1-E3 PQ43
DVT
MS51_PVT
MS30_2.2UH_6.86x6.47x3.0
MS50_1.5U_10.0x11.5x4.0
PD26
SSM54PT
PQ48 SI4892DY-T1-E3
+12VRUN
2A
RUN_ON_A
MAX668_SHDN#
PU3
MAX668_LDO
MAX668_FREQ
MAX668_REF
MAX668_FB
MAX668_EXT
MAX668_CS+
MAX668EUB+T
GND is AGND , Need modify at layout
8mohm OCP 3A
PR171 0.006R_1W_F 2512
150K for setting F=333KHz
120K for setting F=400KHz
DVT (change to NC)
Discharge circuit for power-off
+5VRUN_1 SATA HDD/CD_ROM,OIDE/RF,TV-Tuner,
+5VRUN JIG-120,FAN,CAMERA,AUDIO,AEC,PCMCIA,CRT
FOXCONN HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division
Title: Other power plan-ZG
Size: Custom
Document Number: MS51(MBX-152)
Rev 0.40
Date: Thursday, July 27, 2006
Sheet 60 of 67


For BT+ path power limit
70Watt threshold
Vref=0.6v
MS30_MAX4373TEUA+
MS51_PVT
MS31/51 MP
PVT
DVT
Control ACIN OCP protect
For MS50 OVER-POWER PROTECTION POSITION
For MS50 Output MAX1909_LDO power Output 5.37V
FB=1.24V VOUT=5.37V
For MS50 Total Power Dectect
Connect to PR1
Sensitive signal
MS50_MAX4173TEUT-T+
MS30 PR71 =33K PR75 =10K ==>118.46W PR72 =47K PR203=10K ==>86.11W
MS50 PR58=24K PR59=9.1K ==>143.9W PR57=49.9K PR56=14.7K ==>118.95W
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
OVP protection-ZG
MS51(MBX-152)
Rev 0.30
Thursday, July 27, 2006
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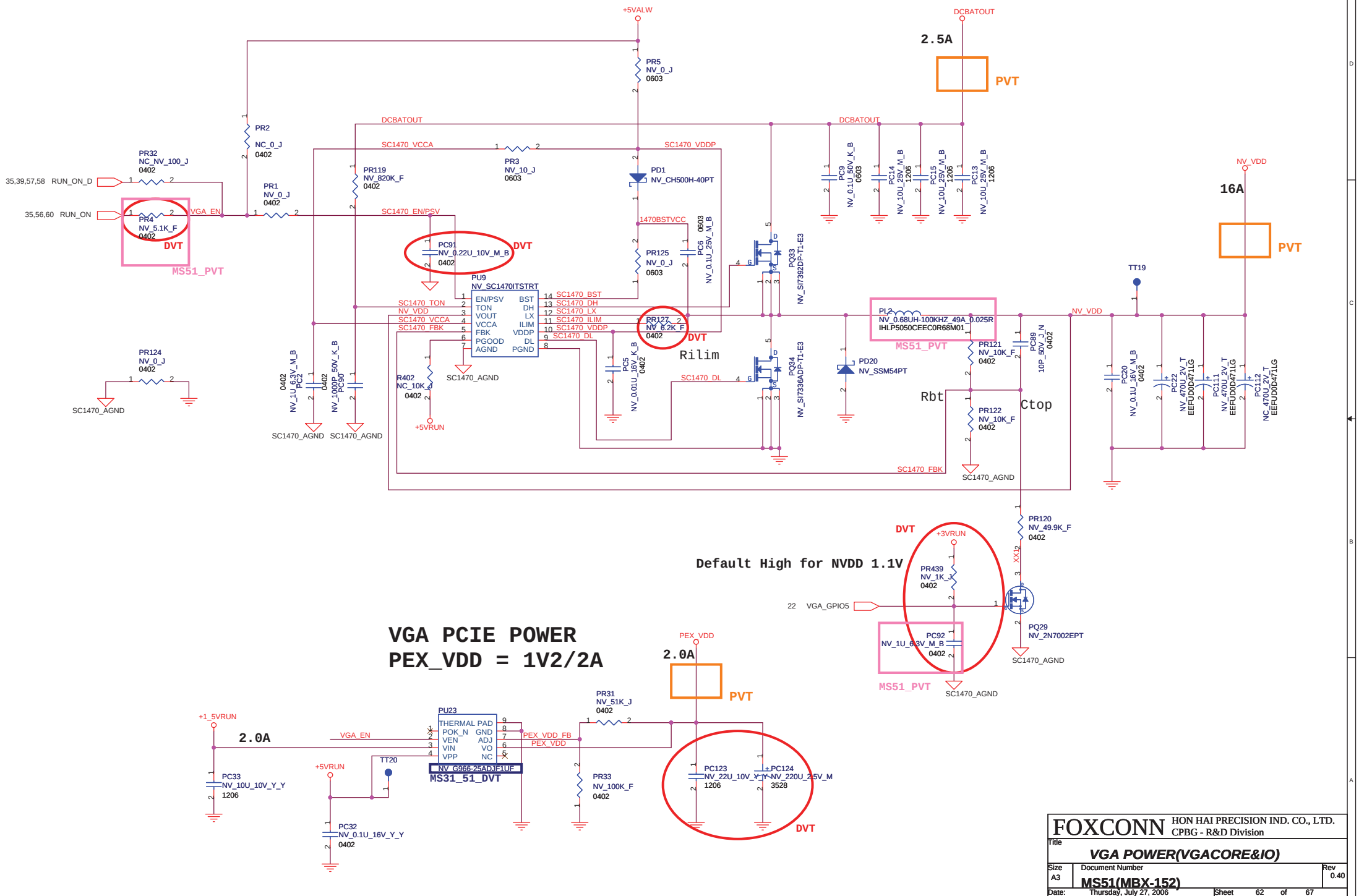
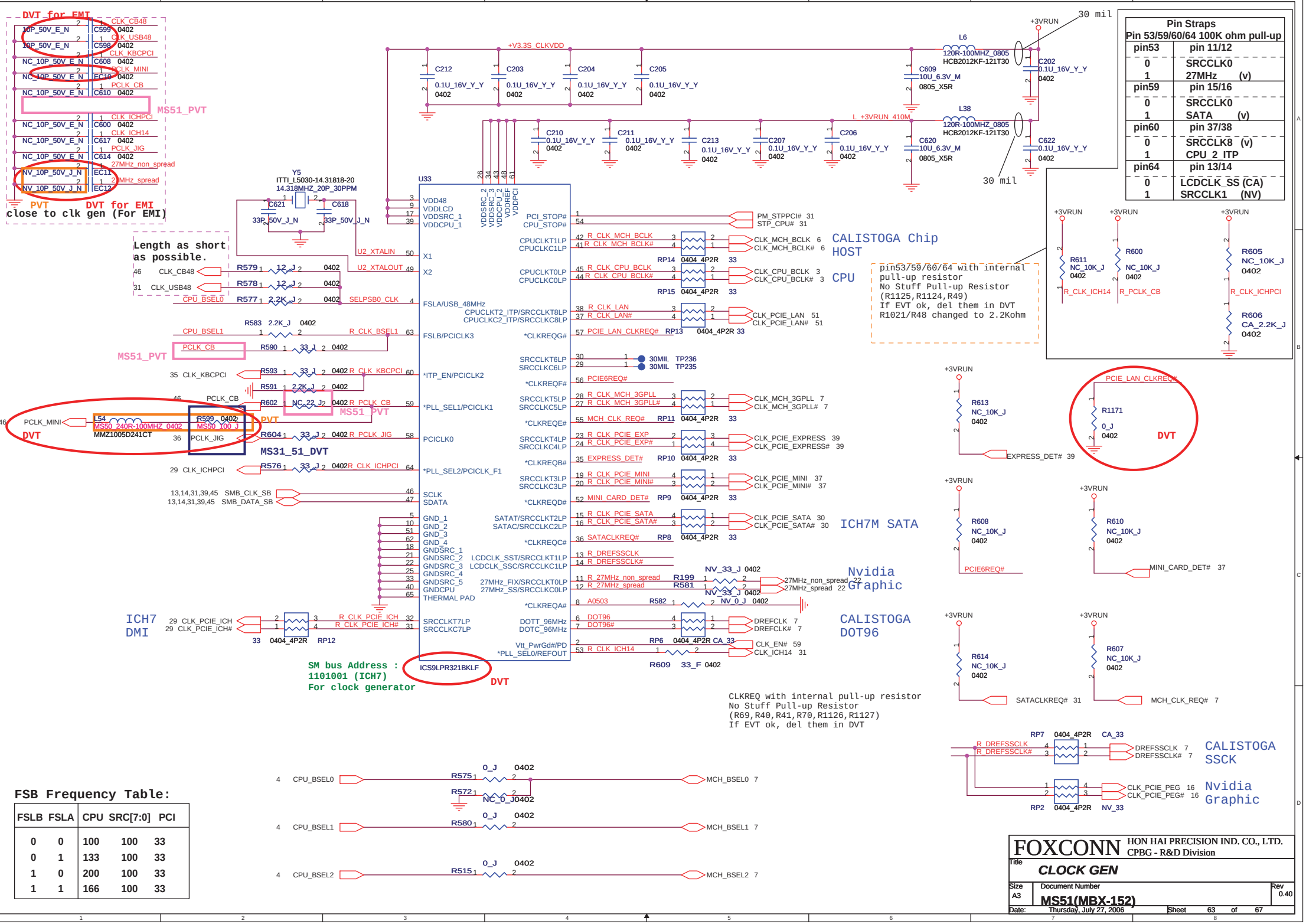

VGA PCIE POWER
PEX_VDD = 1V2/2A
Default High for NVDD 1.1V
2.5A
16A
2.0A
2.0A
PVT
DVT
MS51_PVT
MS31_51_DVT
Rilim
Rbt
Ctop
+5VALW
DCBATOUT
NV_VDD
PEX_VDD
+3VRUN
+5VRUN
+1_5VRUN
SC1470_AGND
SC1470_VCCA
SC1470_VDDP
SC1470_EN/PSV
SC1470_BST
SC1470_DH
SC1470_LX
SC1470_ILIM
SC1470_VDDP
SC1470_DL
SC1470_FBK
SC1470_TON
SC1470_VCCA
SC1470_FBK
1470BSTVCC
VGA_EN
PEX_VDD_FB
PU9
NV_SC1470ITSTRT
EN/PSV
TON
VOUT
VCCA
FBK
PGOOD
AGND
BST
DH
LX
ILIM
VDDP
DL
PGND
PU23
THERMAL PAD
POK_N
VEN
VIN
VPP
GND
ADJ
VO
NC
NV_G966-25ADJF1UF
PR1 NV_0_J 0402
PR2 NC_0_J 0402
PR3 NV_10_J 0603
PR4 NV_5.1K_F 0402
PR5 NV_0_J 0603
PR32 NC_NV_100_J 0402
PR119 NV_820K_F 0402
PR120 NV_49.9K_F 0402
PR121 NV_10K_F 0402
PR122 NV_10K_F 0402
PR124 NV_0_J 0402
PR125 NV_0_J 0603
PR127 NV_6.2K_F 0402
PR31 NV_51K_J 0402
PR33 NV_100K_F 0402
PR439 NV_1K_J 0402
R402 NC_10K_J 0402
PC91 NV_0.22U_10V_M_B 0402
PC92 NV_1U_6.3V_M_B 0402
PC5 NV_0.01U_16V_K_B 0402
PC6 NV_0.1U_25V_M_B 0603
PC9 NV_0.1U_50V_K_B 0603
PC13 NV_10U_25V_M_B 1206
PC14 NV_10U_25V_M_B 1206
PC15 NV_10U_25V_M_B 1206
PC20 NV_0.1U_16V_M_B 0402
PC22 NV_470U_2V_T EEFUD0D471LG
PC89 10P_50V_J_N 0402
PC111 NV_470U_2V_T EEFUD0D471LG
PC112 NC_470U_2V_T EEFUD0D471LG
PC123 NV_22U_10V_Y_Y 1206
PC124 NV_220U_2.5V_M 3528
PC32 NV_0.1U_16V_Y_Y 0402
PC33 NV_10U_10V_Y_Y 1206
PD1 NV_CH500H-40PT
PD20 NV_SSM54PT
PL2 NV_0.68UH-100KHZ_49A_0.025R IHLP5050CEEC0R68M01
PQ29 NV_2N7002EPT
PQ33 NV_SI7392DP-T1-E3
PQ34 NV_SI7336ADP-T1-E3
TT19
TT20
RUN_ON_D
RUN_ON
VGA_GPIO5
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
VGA POWER(VGACORE&IO)
Size A3
Document Number MS51(MBX-152)
Rev 0.40
Date: Thursday, July 27, 2006
Sheet 62 of 67



FSB Frequency Table:

FSLB	FSLA	CPU	SRC[7:0]	PCI
0	0	100	100	33
0	1	133	100	33
1	0	200	100	33
1	1	166	100	33

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: CLOCK GEN

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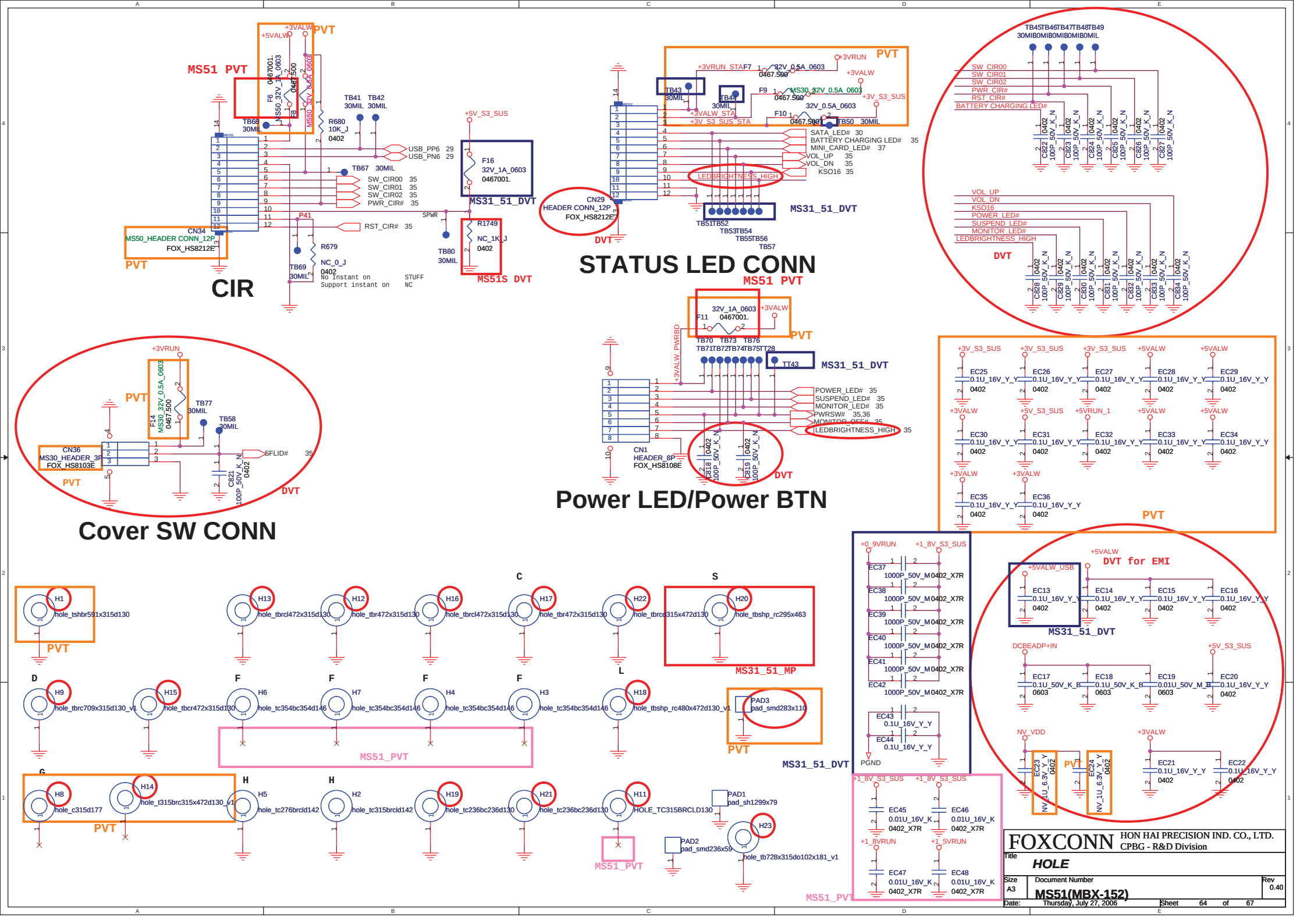
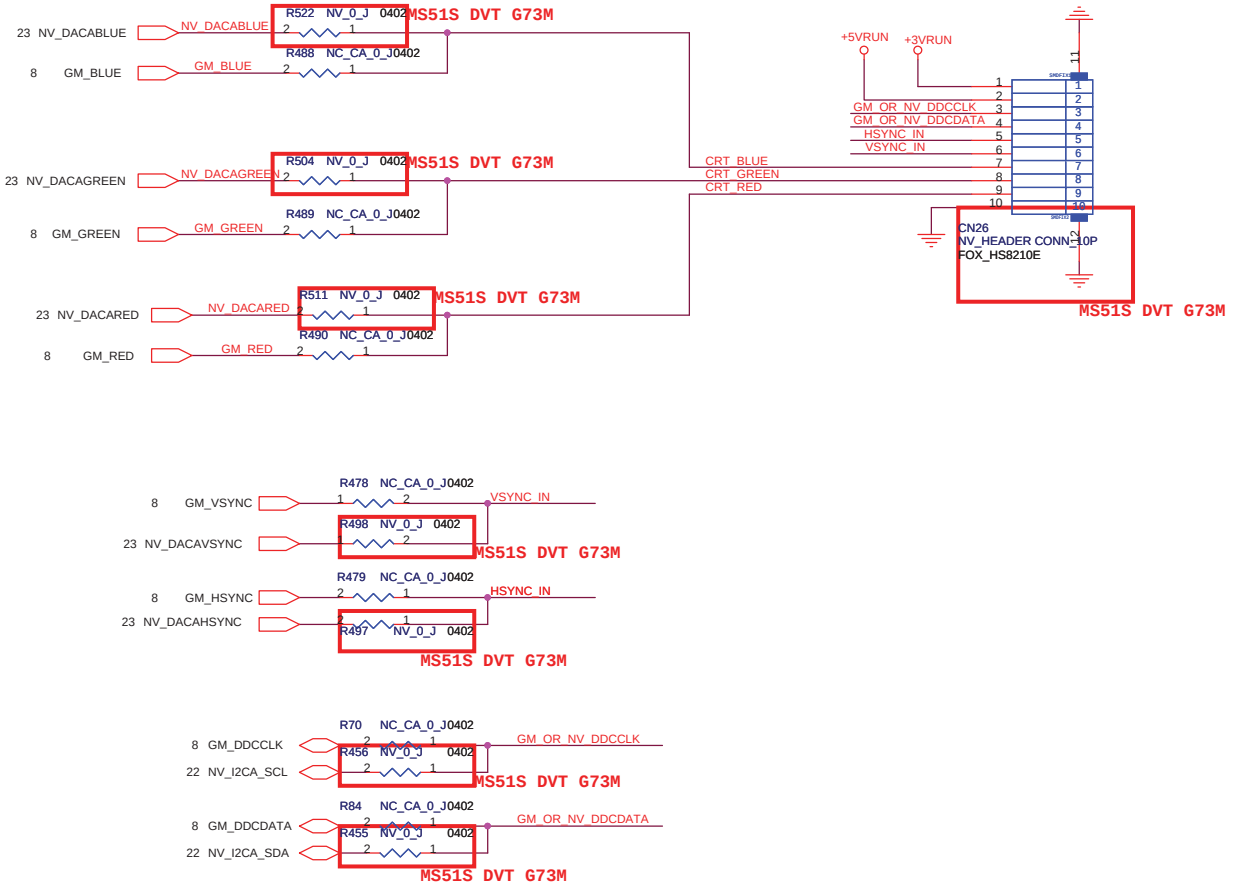

MS51 PVT
+5VALW
+3VALW
F6 0467001.
MS50_32V_1A_0603
F8 0467.500
MS50_32V_0.5A_0603
TB68 30MIL
TB41 30MIL
TB42 30MIL
R680 10K_J 0402
USB_PP6 29
USB_PN6 29
TB67 30MIL
SW_CIR00 35
SW_CIR01 35
SW_CIR02 35
PWR_CIR# 35
+5V_S3_SUS
F16 32V_1A_0603 0467001.
MS31_51_DVT
SPWR
P41
RST_CIR# 35
R679
TB69 30MIL
NC_0_J 0402
No Instant on
Support instant on
STUFF
NC
R1749
NC_1K_J 0402
TB80 30MIL
MS51S DVT
CN34
MS50_HEADER CONN_12P
FOX_HS8212E
PVT
CIR
+3VRUN
PVT
+3VRUN_STA
F7 32V_0.5A_0603 0467.500
+3VALW
TB43 30MIL
TB44 30MIL
F9 MS30_32V_0.5A_0603 0467.500
+3V_S3_SUS
+3VALW_STA
+3V_S3_SUS_STA
F10 32V_0.5A_0603 0467.500
TB50 30MIL
SATA_LED# 30
BATTERY CHARGING LED# 35
MINI_CARD_LED# 37
VOL_UP 35
VOL_DN 35
KSO16 35
LEDBRIGHTNESS_HIGH
MS31_51_DVT
TB51TB52
TB53TB54
TB55TB56
TB57
CN29
HEADER CONN_12P
FOX_HS8212E
DVT
STATUS LED CONN
TB45TB46TB47TB48TB49
30MIB0MIB0MIB0MIB0MIL
SW_CIR00
SW_CIR01
SW_CIR02
PWR_CIR#
RST_CIR#
BATTERY CHARGING LED#
C822 100P_50V_K_N 0402
C823 100P_50V_K_N 0402
C824 100P_50V_K_N 0402
C825 100P_50V_K_N 0402
C826 100P_50V_K_N 0402
C827 100P_50V_K_N 0402
VOL_UP
VOL_DN
KSO16
POWER_LED#
SUSPEND_LED#
MONITOR_LED#
LEDBRIGHTNESS_HIGH
DVT
C828 100P_50V_K_N 0402
C829 100P_50V_K_N 0402
C830 100P_50V_K_N 0402
C831 100P_50V_K_N 0402
C832 100P_50V_K_N 0402
C833 100P_50V_K_N 0402
C834 100P_50V_K_N 0402
+3VRUN
PVT
F14 MS30_32V_0.5A_0603 0467.500
TB77 30MIL
TB58 30MIL
CN36
MS30_HEADER_3P
FOX_HS8103E
SFLID# 35
C821 100P_50V_K_N 0402
PVT
DVT
Cover SW CONN
MS51 PVT
32V_1A_0603 0467001.
F11
+3VALW
PVT
+3VALW_PWRBD
TB70 TB73 TB76
TB71TB72TB74TB75TT28
TT43
MS31_51_DVT
POWER_LED# 35
SUSPEND_LED# 35
MONITOR_LED# 35
PWRSW# 35,36
MONITOR_OFF# 35
LEDBRIGHTNESS_HIGH 35
CN1
HEADER_8P
FOX_HS8108E
C818 100P_50V_K_N 0402
C819 100P_50V_K_N 0402
DVT
Power LED/Power BTN
+3V_S3_SUS
+5VALW
+5V_S3_SUS
+5VRUN_1
EC25 0.1U_16V_Y_Y 0402
EC26 0.1U_16V_Y_Y 0402
EC27 0.1U_16V_Y_Y 0402
EC28 0.1U_16V_Y_Y 0402
EC29 0.1U_16V_Y_Y 0402
EC30 0.1U_16V_Y_Y 0402
EC31 0.1U_16V_Y_Y 0402
EC32 0.1U_16V_Y_Y 0402
EC33 0.1U_16V_Y_Y 0402
EC34 0.1U_16V_Y_Y 0402
EC35 0.1U_16V_Y_Y 0402
EC36 0.1U_16V_Y_Y 0402
PVT
H1 hole_tshbr591x315d130
PVT
H13 hole_tbrcl472x315d130
H12 hole_tbr472x315d130
H16 hole_tbrcl472x315d130
C
H17 hole_tbr472x315d130
H22 hole_tbrcl315x472d130
S
H20 hole_tbshp_rc295x463
MS31_51_MP
D
H9 hole_tbrc709x315d130_v1
H15 hole_tbcr472x315d130
F
H6 hole_tc354bc354d146
F
H7 hole_tc354bc354d146
F
H4 hole_tc354bc354d146
F
H3 hole_tc354bc354d146
L
H18 hole_tbshp_rc480x472d130_v1
PAD3 pad_smd283x110
PVT
MS51_PVT
MS31_51_DVT
G
H8 hole_c315d177
H14 hole_t315brc315x472d130_v1
PVT
H
H5 hole_tc276brcld142
H
H2 hole_tc315brcld142
H19 hole_tc236bc236d130
H21 hole_tc236bc236d130
H11 HOLE_TC315BRCLD130
MS51_PVT
PAD1 pad_sh1299x79
H23
PAD2 pad_smd236x59
hole_tb728x315do102x181_v1
MS51_PVT
+0_9VRUN
+1_8V_S3_SUS
EC37 1000P_50V_M 0402_X7R
EC38 1000P_50V_M 0402_X7R
EC39 1000P_50V_M 0402_X7R
EC40 1000P_50V_M 0402_X7R
EC41 1000P_50V_M 0402_X7R
EC42 1000P_50V_M 0402_X7R
EC43 0.1U_16V_Y_Y
EC44 0.1U_16V_Y_Y
PGND
+1_8V_S3_SUS
+1_8V_S3_SUS
EC45 0.01U_16V_K 0402_X7R
EC46 0.01U_16V_K 0402_X7R
+1_8VRUN
+1_5VRUN
EC47 0.01U_16V_K 0402_X7R
EC48 0.01U_16V_K 0402_X7R
MS51_PVT
+5VALW
DVT for EMI
+5VALW_USB
EC13 0.1U_16V_Y_Y 0402
EC14 0.1U_16V_Y_Y 0402
EC15 0.1U_16V_Y_Y 0402
EC16 0.1U_16V_Y_Y 0402
MS31_51_DVT
DCBEADP+IN
+5V_S3_SUS
EC17 0.1U_50V_K_B 0603
EC18 0.1U_50V_K_B 0603
EC19 0.01U_50V_M_B 0603
EC20 0.1U_16V_Y_Y 0402
NV_VDD
+3VALW
EC23 NV_1U_6.3V_Y 0402
PVT
EC24 NV_1U_6.3V_Y 0402
EC21 0.1U_16V_Y_Y 0402
EC22 0.1U_16V_Y_Y 0402
FOXCONN
HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division
Title
HOLE
Size A3
Document Number
MS51(MBX-152)
Rev 0.40
Date: Thursday, July 27, 2006
Sheet 64 of 67



FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title: CRT		
Size: A3	Document Number: MS51(MBX-152)	Rev: 0.30
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P50 Connect U67,U63,U64,U114 pin 1 from RST_SUS# to SUS_

FOXCONN HON HAI PRECISION IND. CO., LTD.
CPBG - R&D Division

Title: *History*

Size: Custom | Document Number: MS51(MBX-152) | Rev: 0.30

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DVT
P64 CN1 pin1 change to +3VALW for leakage
P52 mount R779 for lan get ip fail
P40 net name HW_POP_MUTE_CODEC# change to
HW_POP_MUTE_CODEC
P43 (1)net name HW_POP_MUTE_CODEC# change to
HW_POP_MUTE_CODEC
(2)change Q11 from MMBT3906 to MMBT3904
P60 mount PR224 for +5V_S3_SUS discharge too slow
P57 (1)change PR155,PR164 from 0ohm to 3.3 ohm for
decrease 1.5V/1.05 noise
(2)mount PD21,PD24 for decrease 1.5V/1.05 noise
P59 mount PC278,PC279; mount PC88,PC109 for
decrease Vcore noise
P62 mount PC92 for decrease VGA power noise
P40 (1)mount R682,R694 for sense_B,sense_A detect
(2)NC R308
P44 NC R643,R647
P43 mount R381 for amp abnormal be mute
P41 change JSPK1,JSPK2 from 2N-0002000-M0N0 to
2N-0002001-M1T0
P39 change CN33 from 1N-0008000-M1T0 to
1N-0008001-M1T0
P64 change CN36 from 1N-0002001-M1T0 to
1N-0002000-M1T0
P46~49 change U10 to PCI8412ZHK
P59 change PQ3,PQ30 to 17-S14324D-YT00
P40 U19 change to CXD9872AR
P29~P33 for EVT2 U6 is 12-CALIST0-A300(GML)
P41,P42 CON1,2,3 change to 2N-0006002-FKX0
P22 R567 change to 16-CH5205S-0P00
P59 PQ58 change to 17-S14324D-YT00
P58 PR193 change to 6.2K_F,PR136 change to 82K_F
P62 PR127 change to 6.2K_F
P60 PR37 change to 120K_F,PR171 change to 6mohm,
PL6 change to 2.2uH
P24,P25 Change R99,R148,R165,R167 from 120 Ohm to
80.6Ohm 1%
P60 change PQ51,PC142,PQ35 value to NV_
P43 add Q12,R772,R773 for adding EC to control
mute function
P45 (1)add R342,NC R343 for Change VP1020
initialization to SHI mode
(2)NC U45,R355
P59 NC PD2,PD19
P60 add PR219,PR169
P24 change R165 to 40.2_F and add R1160,C809,
R1163,C810 for nvidia latest demo board for G72
P25 change R148,R99 to 40.2_F and add R1164,R1165,
C811,C812 for nividia latest demo board for G72
P43 change U21 to M74VHC1GT32DFT2G for shortage of
toshiba parts
P41 change Q24,Q25,Q26,Q27 to PBSS2515F.115 for toshiba
parts shortage
P16 add U49 for PLT_RST# to VGA
P28 add C815,C813,C814
P29,45 connect GPIO17 to AEC pin30 powerdown
P35 (1)add D15,D16,D17 for preventing leakage
from EC before power on
(2)reserved U3 pin 176 for second fan FB,pin43
for second fan PWM
(3)add U3 P105 as EC_LED to control LED brightness
P36 change CN12 pin1,pin21 to +ECVCC
P38 (1)add R1166 for discharge path of +5VALW_LDO
P39 update Q19 footprint
P43 change Q11 to MMT3904
P34 add CAP23,CAP24
P62 add PR439,delete PR123,NC PC92 for preventing
VGA_GPIO5 floating
P63 delete R204,add R1171 for PCIE_LAN_CLKREQ# pull low
P45 delete PQ77
P48 change CN18 to smaller size
P47 change CN14 to 1394 normal type
P42 change CON3 to Red color
P41 JSKP1 change to 3 pin for manufacture
P43 delete R396,R393,C359,R395,C360
P54 add PC340
P55 change PD38 to MMVZ5235BPT for battery in UVP fail
P38 change second fan to adjustable
P56 add PC347,PC346,PC341,PC158 for +5VALW
P57 add PC349,PC350,PC342 for +1_5VRUN
P58 add PC351,PC352,PC343 for +1_8V_S3_SUS
P59 add PC353,PC354,PC344,PC355,PC356,PC345,PC278,
PC279 for VGCORE
P57 add PC348,PC196,PC197,PC359
P59 change PD2,PD19 to NC_SPL1040PT (10A)
P60 (1)change PQ48 to SI4892DY-T1-E3
(2)add PL14 for MS50,PL6 for MS30
(3)add PC357,PC358 for +12VRUN
P34 add CAP23,CAP24 for MS50 HDD
P30 add R1175 for MS50 SATA Cable
P64 (1) delete R783
(2) CN1 add EC_LED to control LED brightness
(3)CN1 pin 1 change to +5VALW
P60 add Pr436,PR437,PQ81,PR435,PQ83,PR438,
PC360,PQ82,R1176 for +1_8VRUN timing
P54 (1)add PR442,PQ84,U50 and connect PR182 pin2 to
+ECVCC for preventing leakage of charger LDO
P56,57,58,59,60 Update PL6,PL9,PL7,PL8,PL2,PL4
PL5,PL14,PL1,PL3 footprint for shaking test

1201
P40,41 Swap SPK_L,SPK_R at source and speaker cnn side
P64 add C818,C819 for ESD
P40 CN19 change to CXD9872AK

1202
P40 Follow FAE suggestions
(1)add C820(10U_10V_M) for AVDD
(2)change C305 to 10U_6.3V for VREFFILT
(3)change R752 to 1% tolerence

1205
P29 change GP4 to R1402
P51 add R1403,NC R665 for LAN S4 wake up
P54 add PC362
P57 add PR440,PR441 for balence 2 caps voltage
P22 U9 update new version

1206
P22 rename R567 to D19
P45 NC C770
P51 change R665 value to MS30_0_J,R1403 value to MS50_0_J
P60 NC PQ67,PQ46,PQ21,PQ52,PQ35,PQ36,PQ4,PQ47,PQ8
P62 change PC123 to 22U_10V_Y_Y,PC124 to 220U_2.5V_M
for reduce PEX_VDD ripple
P64 add C821~C834 for protecting EC from ESD
P35 add C835~C838 for protecting EC from ESD
P39 add C839 for protecting EC from ESD
P36 add C840~C844 for protecting EC from ESD
P41 change R233,R231 to 47K_F,addC850,C847
C851,C846
P44 (1)R261,R255 change to 56K_F
(2)R248,R254 change to 2.4K_F
(3)R246,R251 change to 2.2K_J
Add TB1~TP77,TT1~20 for manufacture TE test
P44 add GP7.GP8.GP9 for MIC quality
P57 mount PR159

1206_1
P3 change Q21 to 2N7002
1206_2
P59 PC4,PC12,PC18,PC19,PC98,PC105 change to
330U_2.5V_M

1207
P28 change CN3 to 1N-0030000-FWG0
P42 change R693,R683 from 11K_F to 7.5K_F
P38 change second fan(CN7) source(R1173,Q29) to +12VRUN

1208
P52 CN24 chnage fron 10pin to 8pin
P51 change R665 value to 0_J,delete R1403

1209
P59 add TT21~TT27 for manufacture
P61 add PC363 for PU5 power bypass
P38 add R1403 for reserve 12V path to second fan
P42 update U17 to MAX4232AKA+T
P59 delete PR14~PR20 ,and short
P08 delete R76,R63,R78,R542,R62,R77,R64,and short
P10 delete R544,R536,R65,R535,R79,R543 ,and short
P12 delete R514,R508,R541,add TP248,TP249,TP250
P30 delete R702,R697 and short
P41 (1)change R225,R226 from 22K_J to 47K_J
(2)change TB8~TB11 to 40mil
P46 (1)add R1404,C1397(NC),C1398(NC) for separate power
for reduce
noise of tv-tuner
P60 add R1415,C1400(NC),C1401(NC) for separate power
for reduce
noise of tv-tuner
P63 change R599 to 100_J,add L54 for PCLK_MIN1
P57 change PR440,PR441 from 2.2K_J to 100K_J
P54 (1)PQ63 change to SI4825
(2)mount PD7

1212
P63 mount C598,C599 for EMI
P55 mount PC81 for EMI
P30,P46,P56,P63,P64 Add EC1~EC24 for EMI solution
P59 reserve PR444,PQ85,PR445,PC364,PR443 for
max8771 CLKEN# abnormal
P29 change R389,R776 from 39_J to 47_J for SI

1213
P28 add Q31 for LCD_VDD discharge path
P46 change EC2~EC7 value to MS50_*
P43 mount R778,Q14
P44 (1)change R248,R254 from 2.4K_F to 1.5K_J
(2)change R246,R251 from 2.2K_J to 2.4K_F
P48 (1)change R212,R213,R221,R222 from 0_J to 68_J for SI
(2)change R215 from 1.5K_J to 1K_J from customer suggestion
P54 (1)change PR183 from 15.4K_F to 20K_F
(2)change PR49 from 20K_F to 24K_F
to set constant power to 4.09A(87%)
P57 (1)NC PC196,PC197
(2)change PR440,PR441 to NC_27K_J

1214
P50 change CAP17,CAP19,CAP20,CAP22 to 100U_6.3V_M for vendor shortage
P54 add PD43
P59 change PR7,PR126 to 3.3_J

1215
P61 change PD4 value to NV_*

1219
P54 change PD7,PD43 from 16-MMP2525-3B00 to 16-MMP2525-1B00
P63 change EC11,EC12 to 10P_50V_J_N
P51 change CN21 to MS30_*

1227
P42,P59 Update c282,C758,PC94,PC102

0110 for PVT BOM
P50 change CAP17,CAP19,CAP20,CAP22 to 150U_6.3V_M(NEC/TOKIN)
P54 (1)change PQ63 to AO4407
(2)NC PC362 for battery issue
P41 change L42,L43,L44,L45 to BLM18PG330SN1D
P20 (1)change R555 to 49.9 ohm 1%
(2)mount R556
P24 (1)change R165,R1160,R1163,R167 to 240_F
(2)change C809,C810 to 0.01U
P25 (1)change R148,R1164,R1165,R99 to 240_F
(2)change C811,C812 to 0.01u
P16~23 update U6 P/N to 12-G73NA20-A200
P43 NC R773 for +5VRUN leakage
P64 (1)change EC23,EC24 value to NV_*
(2)change CN36 value to MS30_*
P60 mount PR98,PQ21 for +5VRUN leakage
P56 change PR80 to 102K_F for meet TV-tuner power spec
P59 change PQ3,PQ30 for better VHcore design

0120
P37 add Q32 for wireless led always on
P38 add D20,D21 for fan reverse current to damage Q5
P49 update CN6,CN5 footprint
P55 add PR446,combine PQ22A/PQ19B to PQ19(2N7002DW) for abnormal ALW_ON
P60 add PQ86 for improve rf quality
P43 add Q33,and change Q14 to MMBT3904 for leakage
P37 change SW2 to SSSU011700_SW-DIP3
P48 change CN9 to MOLEX_67913-0009 for factory repair

0121
P64 change CIR connector value to MS50_* for ms50 only
P39 change L8,L18 to 120R-100MHZ_0603 for curren rating
P8 mount R69,R68,R66,R493,R494 ;NC R83,R82,R80 for disable CRT
P10 mount R547,R518,C454 ;NC R540,C453,D3,R548,L21,L23,C414 for disable CRT

0123
P8 change R67 value to 0_J,dummy R495,R492,R81 for CRT disable
P65 dummy R488,R489,R490,R478,R479,R70,R84 for CRT disable
P19 dummy R558 for G73M
P61 change PC188 to X5R type
P22 dummy R5,R2,R8,R7,R10,C23,C25,C24,U26,R11
P63 change R599 to 100ohm 0402 1%
P30 add PJ31 for RTCRST#
P61 add PC366 for reserve ;PD5B pin 4 connect to GND for preventing floating

0125
P64 change PAD3 to pad_smd283x110
P54 update PL10,PL11 footprint for cold solder issue
P63 update L54 vendor to TDK
P28 delete L37 and short for inverter fuse current rating
P60 change PQ86,PC365 value to MS50_*
P56~62 delete PJ1~PJ4,PJ6~PJ27,PJ29,PJ30 and shot
P54,P56~61 add TT29~41 for power test

0207
P48 change CN32 to 1N-1010003-0000
P34 change CN10 to 2N-0022000-MKG0(shorter pin length)
P41 (1)change JSPK1 to 2N-0002002-M1T0(shorter pin length)
(2)change JSPK2 to 2N-0003001-M1T0(shorter pin length)
P39 add F2 for protection
P16 reserve R1405 for new G73M
P22 reserve R1406 for new G73M

0208
P38 mount R1403,dummy Q30,R1173,R1174,Q29,D21 for fix mode by
cusomer suggeston
P50 update U42 part number to 12-88E8036-A100 for manufacture
P64 change H1,H9,H14 footprint
P59 add TT42 for power test
P63 change R599 from 100ohm to 47ohm(1R-0000470-J200)
P39 change F2 to 1M-F24V0A2-0000(24V-0.2A_1206)
P34 reserve R1407 for Staggered spin-up disable by customer suggestion
P43 add C1401 by customer suggestion
P41 (1)change C220,C221 from 0.47u to 0.22u
(2)change C675,C674 from 1u to 6.8u
(3)change R1167 from 1K to 2.2K
(4)add R1403,C1399,R1409,C1400 by customer suggestion
P48 NC CN18 pin1,4 and remove R742,R743,L51,L52 by customer suggestion
P22 mount R1406
P40 change U19 to CXD9872K

0209
P56 reserve R1410 for discharge path

0210
P28 mount C363,C364,C365,C366 for EMI
P41 (1)change R225,R226 from 47K to 100K,
(2)change R227 from 2.2k t 270 ohm
P65 add EC25~EC36 for EMI
P44 add GP10 for EMI
P35 add U51,C1402 by customer suggestion
P55 change PQ19 to 17-2N7002S-PT00
P30 (1)change R745 value from MS30_24.9_F to 24.9_F
(2)dummy R1175
P48 change R215 from 1K_J to 330_J for SD card power drop

0213
P44 change GP10 to R1411(MS50_0_J) for EMI
P38 add F3,F4 for cable short protection
P39 add F5 for cable short protection
P64 add F6~F11 fo cable short protection
P31 (1)connect GPIO21 to U20 pin14 for bypass AEC
(2)dummy R304 for double pull low
P45 connect U20 pin14 to SB GPIO21 for bypass AEC
P54 add PR447,PC367(snubber circuit) for dc_in inrush voltage/current

0214
P38 delete F3,F4
P64 add F14 for cable short protection
P35 add F12,F13 for cable short protection
P45 add R1412 for hardware disable

0214_1
P38 add F4
P60 correct PQ6,PQ81,Q8 part number(TP610K-T1-E3) to TP0610K-T1-E3
P56 correct PQ55,PQ56 value to SI7404DN-T1-E3
P57 correct PQ37.PQ38,PQ39,PQ40 to SI7404DN-T1-E3

0215
P39,P38,P35,P64 change F2,F4~F14 size from 1206 to 0603
P60 correct PQ6,PQ81,Q8 vendor part number(TP610K-T1-E3) to TP0610K-T1-E3

0216
P39,P38,P35,P64 change F2,F4~F14 to 1M-F32VA75-F001 FUSE,Littelfuse,0467.750,32V, 0.75A

0223_SMT
P28 dummy C363,C364,C365,C366 for LVDS timing by customer
P42 change R693,R683 from 7.5K to 13.7K for Line in FSIV
P39 change F5 to 32V_1A_0603,F2 to 32V_0.5A_0603
P29~P33 update U44 part number to NH82801GBM_B0
P54 update PR447 to 1_F 0805,1R-0000010-F500
P39,P38,P35,P64 change F2,F4~F14 to 1M-F32V0A5-F000 FUSE Littelfuse,0467.500,32V, 0.5A

MP

0302
P48 change CN32 to Yamaichi_JCS010_2005_1 for vendor shortage

0303
P41 (1)change C675,C674 to 1C-2B70225-M000 for 6.8U_6.3V_M shortage
(2)add C1403,C1404(1C-2B70475-K201) for 6.8U_6.3V_M shortage
P39 remove TB6,TB7 for manufacture test issue

0311
P39 change F2 to 32V_1A_0603 for cureent rating
P41,43 Change Q9,Q13,Q28 from 17-MMBT390-6000 to 17-MMBT390-6K00
P57 change PR165 to 1K_F,PC30 to 2.2uF,16V for adjusting 1D05V power on/off sequence

MS31_51_DVT
04/20
P19 change L26,L27 to 10uH inductor(CS0603-10NJ-S) by vendor suggestion
P24 add GPIO NV_PWR_MIZER
(1)add R1416,Q37,R1415,R1414,Q35,R1417,Q38,Q36
P25 add GPIO NV_PWR_MIZER
(1)add R1420,Q41,R1419,Q40,R1418,Q39,R1421,Q42
P20 add GPIO NV_PWR_MIZER
(1)change R563 to NV_4.3K_F,R564 to NV_10K_F
(2)add Q34,R1413
P22 add GPIO NV_PWR_MIZER
(1) add USF GPIO10 to NV_PWR_MIZER and PL R1412
P64 replace R678 with F16(32V_1A_0603)
P63 change R599 to 100_J for tv-tuner quality
P64 add EC37~EC44 for EMI
P50 add F15 for USB EU standard

0427 for G72M
P20 change R555 to 60.4_F by vendor suggestion for G72M
P24 (1)dummy R184,R181,R176,R160,R179,R177,R172,R159 for G72M
(2)change R165,R167,R1160,R1163 to 60.4_F for G72M
(3)change C809,C810 to 0_J for G72M
P24,P25 cahnge U28,U29,U30,U31 to HYB18H256321AFL20(256Mbit) for G72M
P25 dummy all parts for G72M
P27 dummy all parts for G72M
P28 dummy L24,C427,C438 for G72M
P19 mount R558 for G72M
P16~23 change U5 to G72M (12-GFG0740-A300)

0428
P64 EC13 power rail change to +5VALW_USB
P35,34 connect CN15 pin 37 to U3 pin 24 to detect ODD operation for 2nd fan control

0502
P38 (1)delete Q30,R1173,R1174,R1403,D21
(2)add R1426,R1428,R1423,R1427,Q43,C1406,C1405,C1407,C1425,R1424,U52,C1408 for
2nd fan control

0503
P42 change R693,R683 to 7.5K for CXD9872AK_4TH+ Line in FSIV
P24 mount R163,add R1737,dummy R174,R164 for 8M X32 Vram
P25 reserve R1739 for 8M X 32 Vram support
P35 change netname FAN2_PWM to FAN2_LIN
P60 add PQ87,PC368 for TV
P46 add C1409,C1410,C1411,R1738,C1412,C1413,C1414 for TV
P55 reserve PCN3 for new TV card ME interference
0504
P55 change PCN1 value to MS30_*

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