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05	Penryn (Power/Gnd) 3/3	1.0	08'07'03	40	LED & T/P & LID	1.0	08'07'03
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09	Cantiga (GRAPHIC) 3/7	1.0	08'07'03	44	SYS Power (+3_3V/+5V)	1.0	08'07'03
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11	Cantiga (POWER,VCC) 5/7	1.0	08'07'03	46	DDR2 Power(+1_8V/+0_9V)	1.0	08'07'03
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15	DDRII(SO-DIMM_1) 2/2	1.0	08'07'03	50	HOLE	1.0	08'07'03
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Project Code & Schematics Subject:	**M790 Main Board_6L**

PCB P/N:	**1P-0086J01-6010(IRIS)**
U/B P/N:	**1P-1086J02-6010(IRIS)**
P/B P/N:	**1P-1086J03-6010(IRIS)**
R/B P/N:	**1P-1086J01-6010(IRIS)**

P. Leader	Check by	Design by

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Title: **Index Page**

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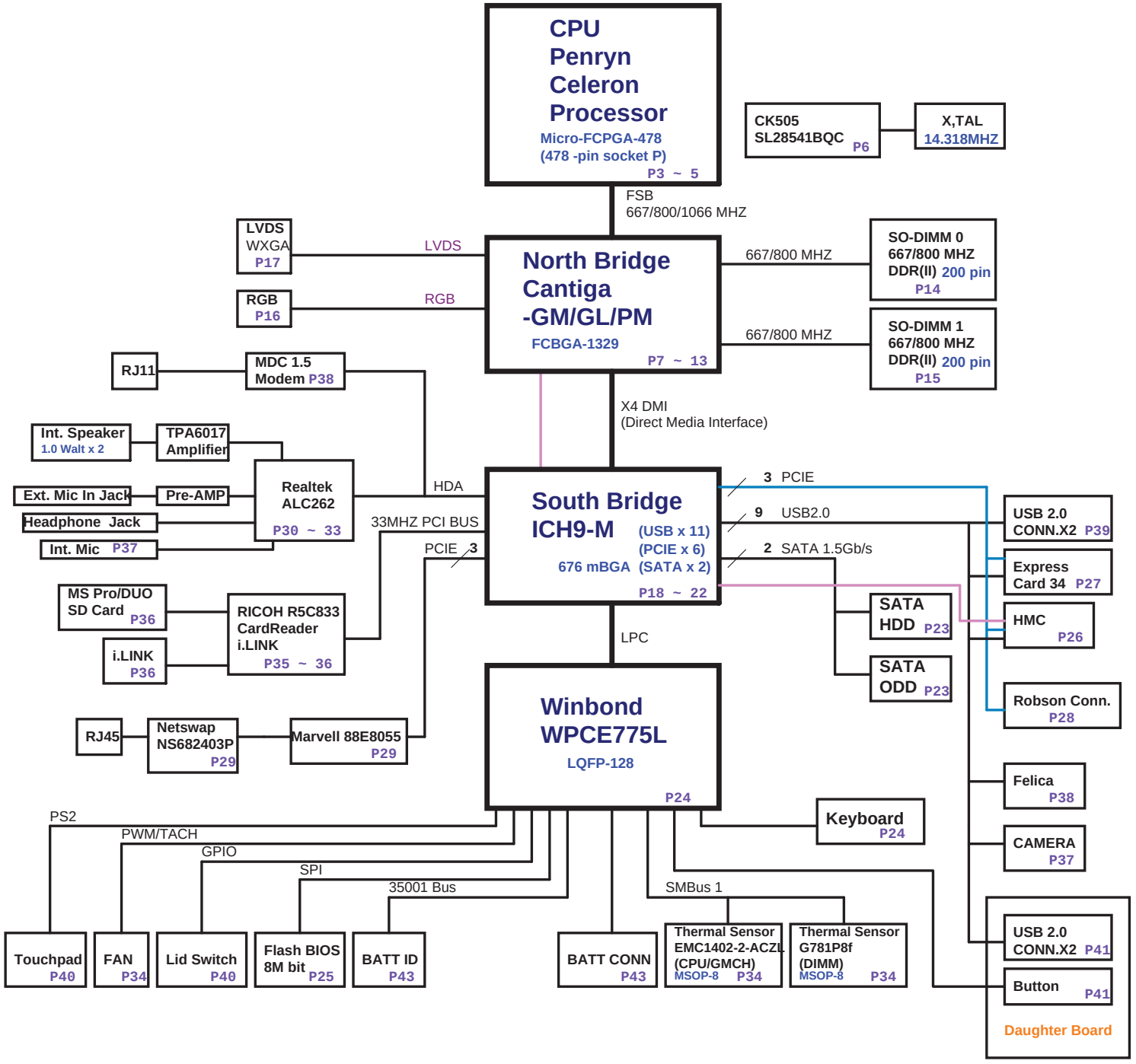
EC+KBC(WPC8763L)

M790(Montevina)



TI CHARGER BQ24751 P.63

INPUTS	OUTPUTS
DC_IN	BT+ DCBATOUT

SYSTEM DC/DC TPS51125RGER P.64

INPUTS	OUTPUTS
DCBATOUT	+5VALW +5VALW_LDO +3VALW +ECVCC +15V_ALW

SYSTEM DC/DC SC411 P.65

INPUTS	OUTPUTS
DCBATOUT	+1_5VRUN +1_05VM

SYSTEM DC/DC TPS51116RGER P.66

INPUTS	OUTPUTS
DCBATOUT	+1_8VSUS +0_9VSUS

CPU DC/DC ISL6262A P.67

INPUTS	OUTPUTS
DCBATOUT	VHCORE

SYSTEM DC/DC APL5912 P.70

INPUTS	OUTPUTS
+1_5VRUN	PEX_VDD

SYSTEM DC/DC TPS51117 P.70

INPUTS	OUTPUTS
DCBATOUT	NV_VDD

SYSTEM DC/DC MAX8776 P.71

INPUTS	OUTPUTS
DCBATOUT	+VGFX_CORE

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Title: Block Diagram		
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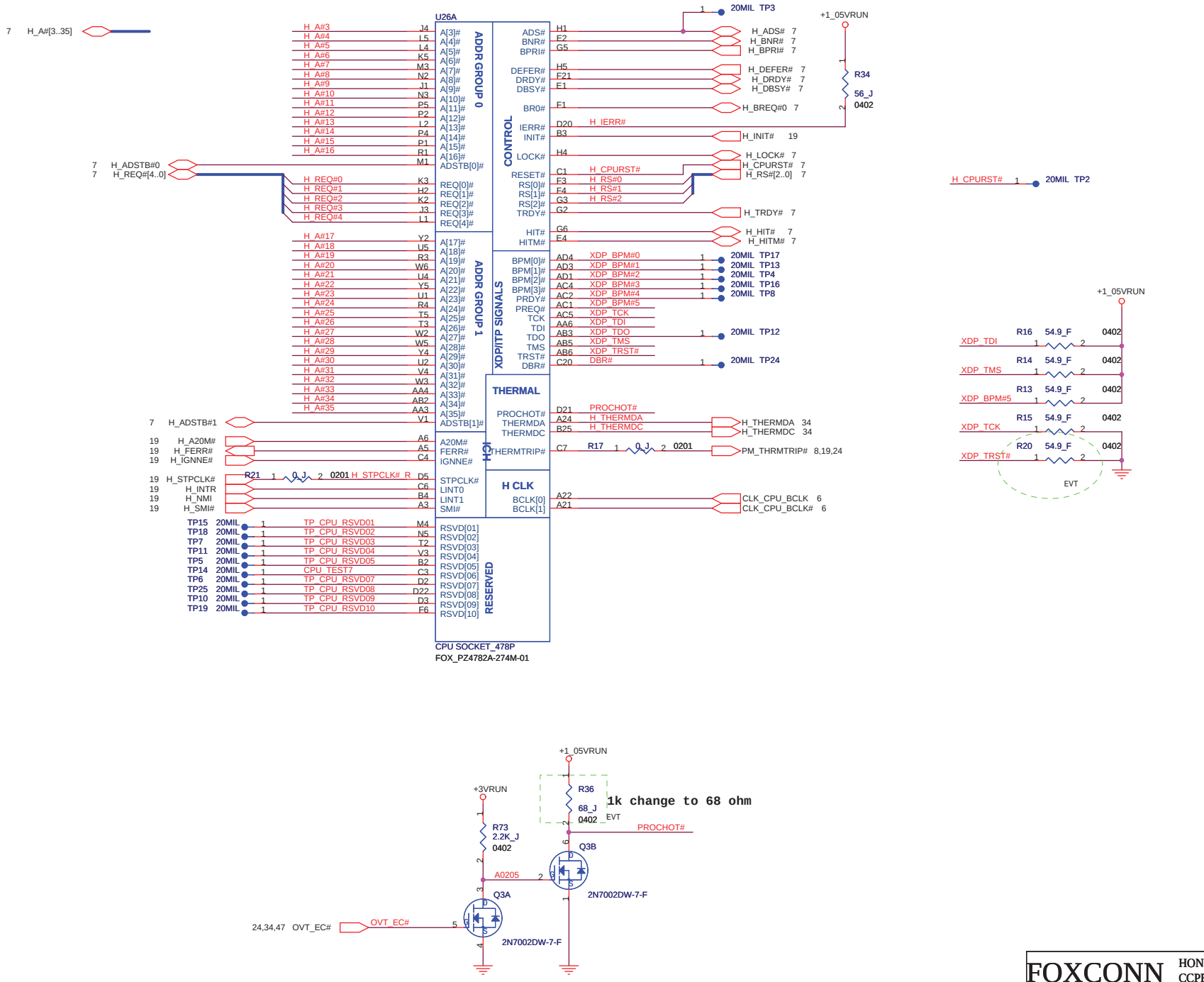

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division
Title	Penryn (HOST BUS) 1/3
Size A3	Document Number M790-1-01
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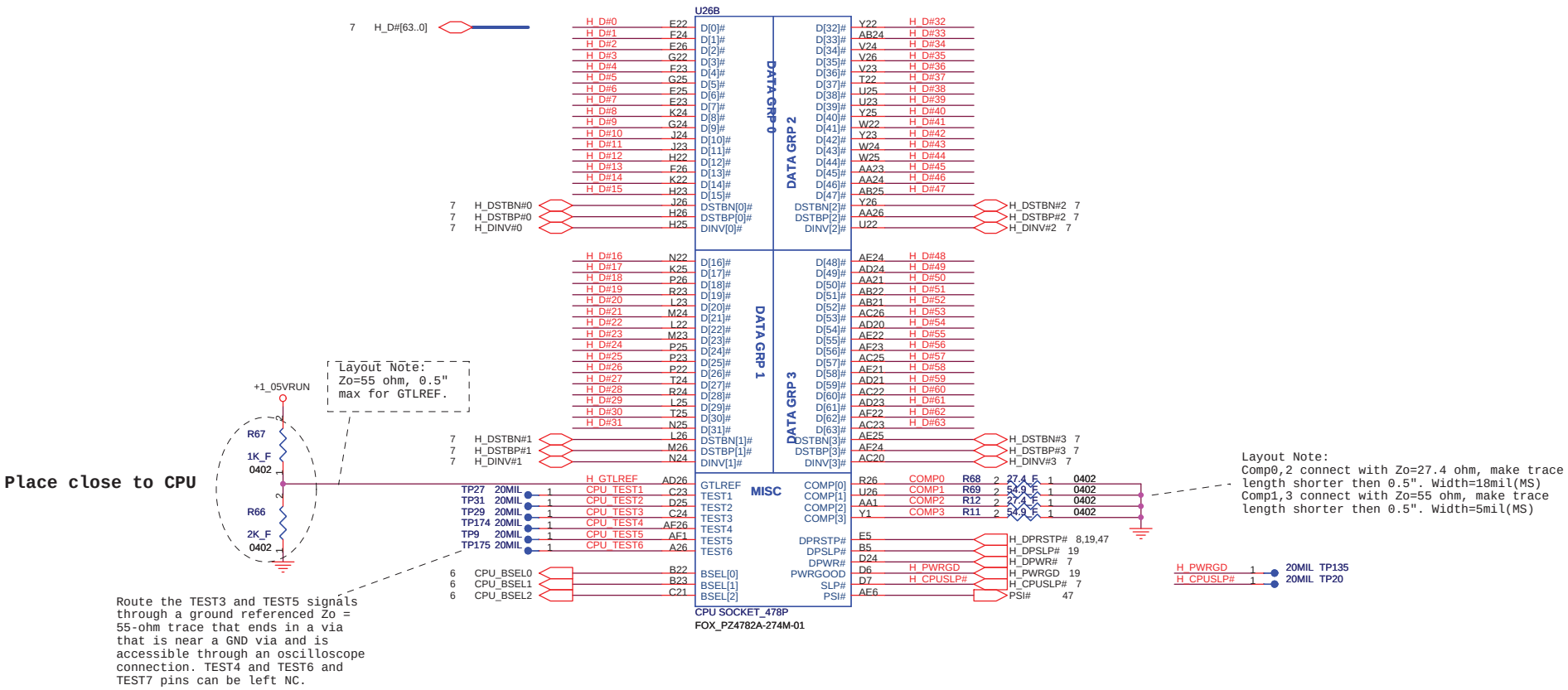

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	Penryn (HOST BUS) 2/3		
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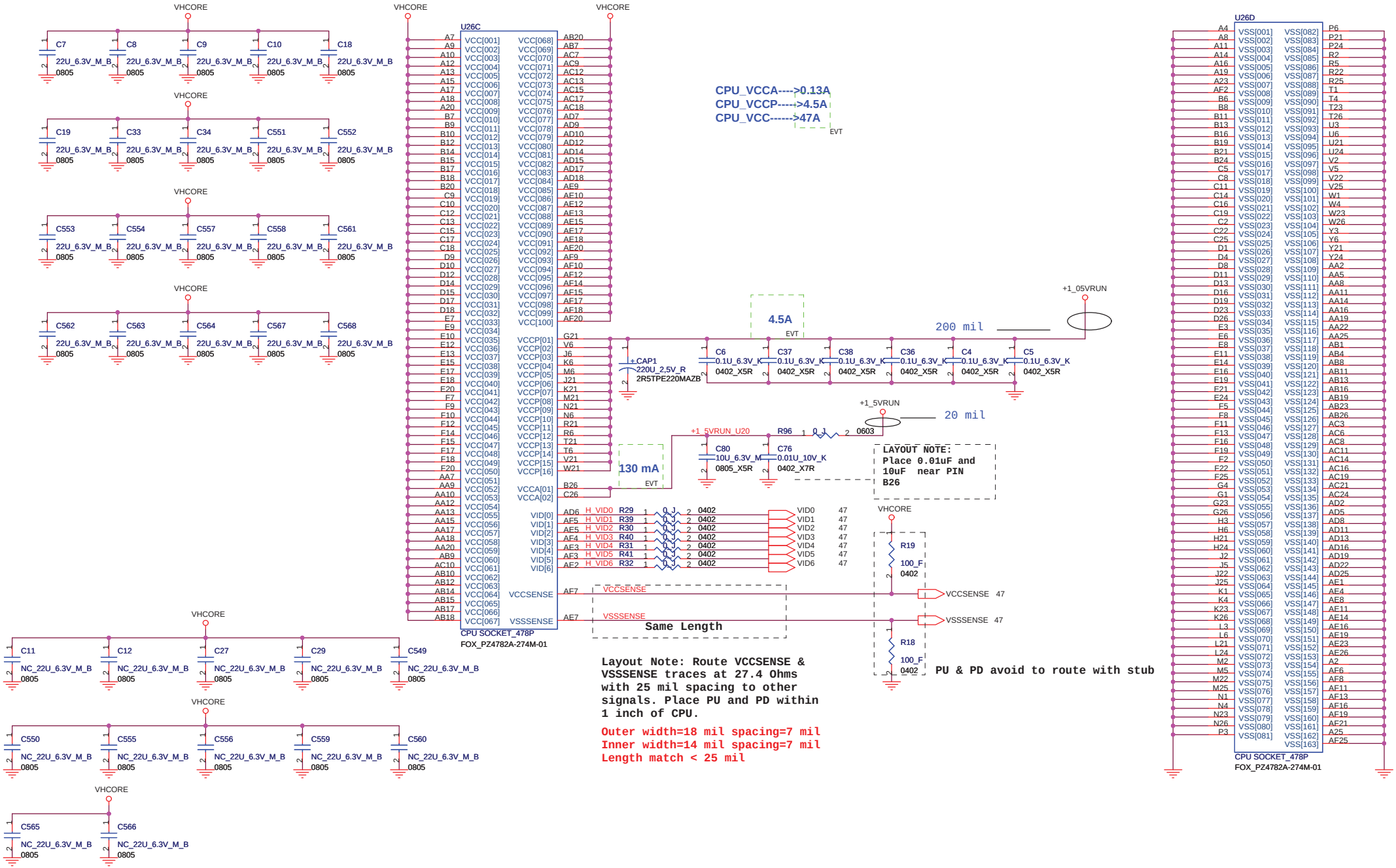

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Penryn (POWER/GROUND) 3/3	
Size A3	Document Number M790-1-01	Rev 1.0
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Clock Request	Clock Request Function
CR#A	SATACLKREQ#
CR#B	NC
CR#C	NC
CR#D	NC
CR#E	MINI_CARD_DET#
CR#F	EXPRESS_CLK_DET#
CR#G	MCH_CLK_REQ#
CR#H	ROBSON_CLK_DET#

SMBus Address: D2H

(For EMI request)

close to clk gen (For EMI)

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

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Title: CLOCK GEN

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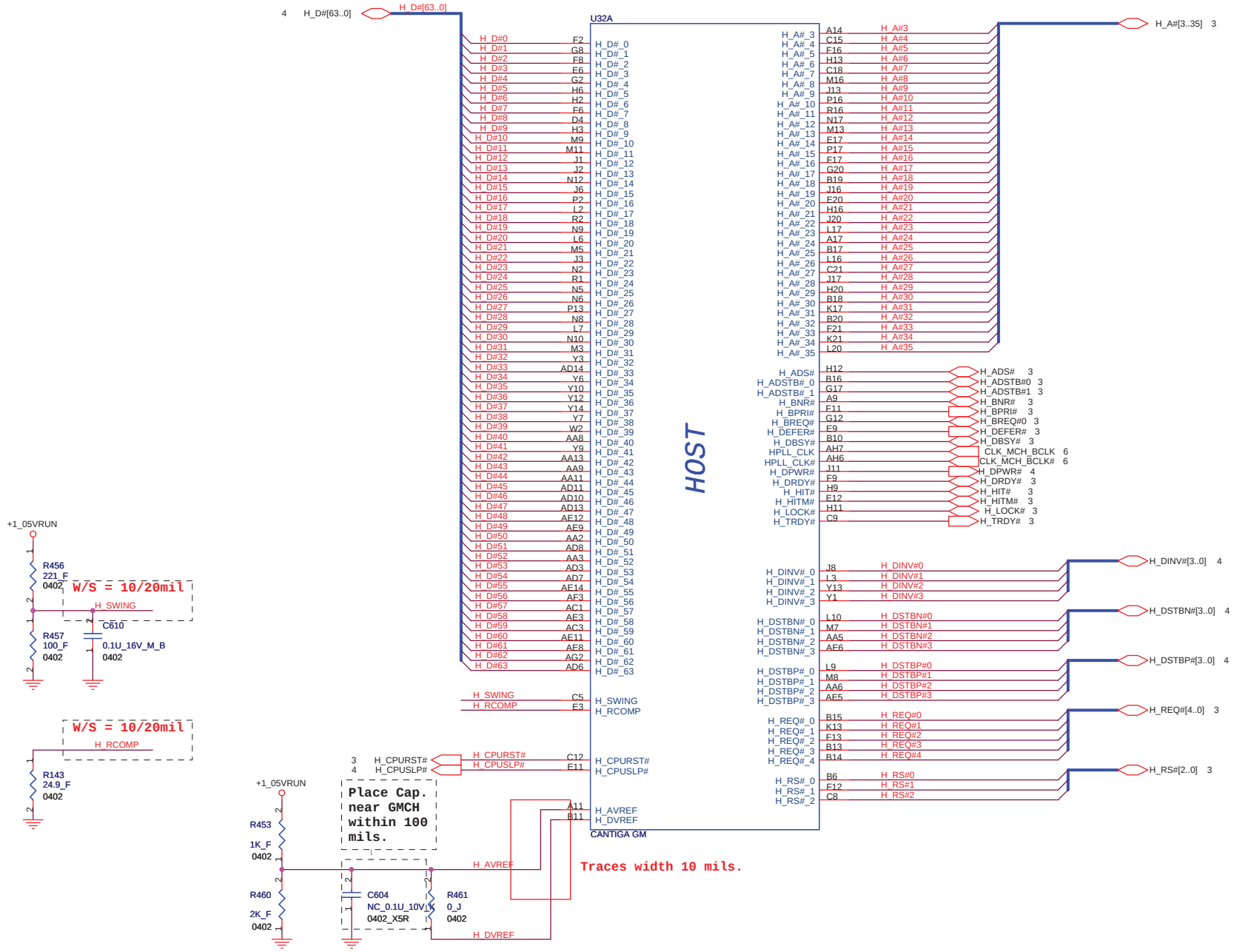

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	Cantiga (HOST) 1/7		
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MCH_CFG_0~2 FSB Frequency	000 = FSB1066 ; 010 = FSB800; 011 = FSB667 ; Others = Reserved
MCH_CFG_3~4	Reserved
MCH_CFG_5 DMI X2 Select	Low = DMI X2 High = DMI X4 (Default)
MCH_CFG_6 ITPM Host Interface	Low =The ITPM Host Interface is enabled2 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 = Reverse Lane High = Normal operation (default)
MCH_CFG_10 PCIE Loopback enable	Low = Enabled3 High = Disabled (default)
MCH_CFG_11	Reserved
MCH_CFG_12 ALLZ	Low = ALLZ mode enabled3 High = Disabled (default)
MCH_CFG_13 XOR	Low = XOR mode enabled3 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) 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

U32B

CFG[17:3] internal pull-up
CFG[20:18] internal pull-down

CANTIGA GM

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Title: Cantiga (DMI) 2/7

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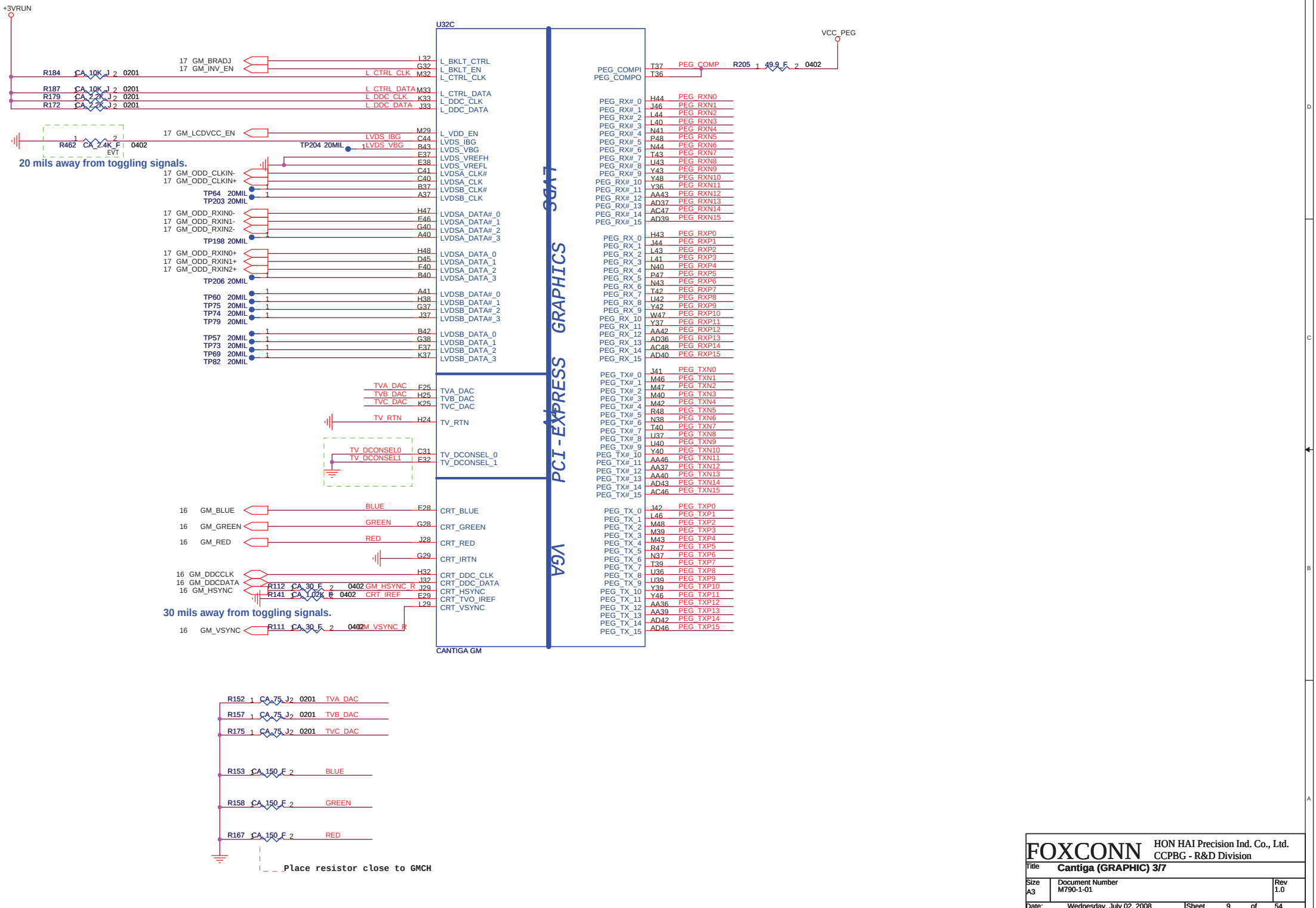

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Title	Cantiga (GRAPHIC) 3/7	
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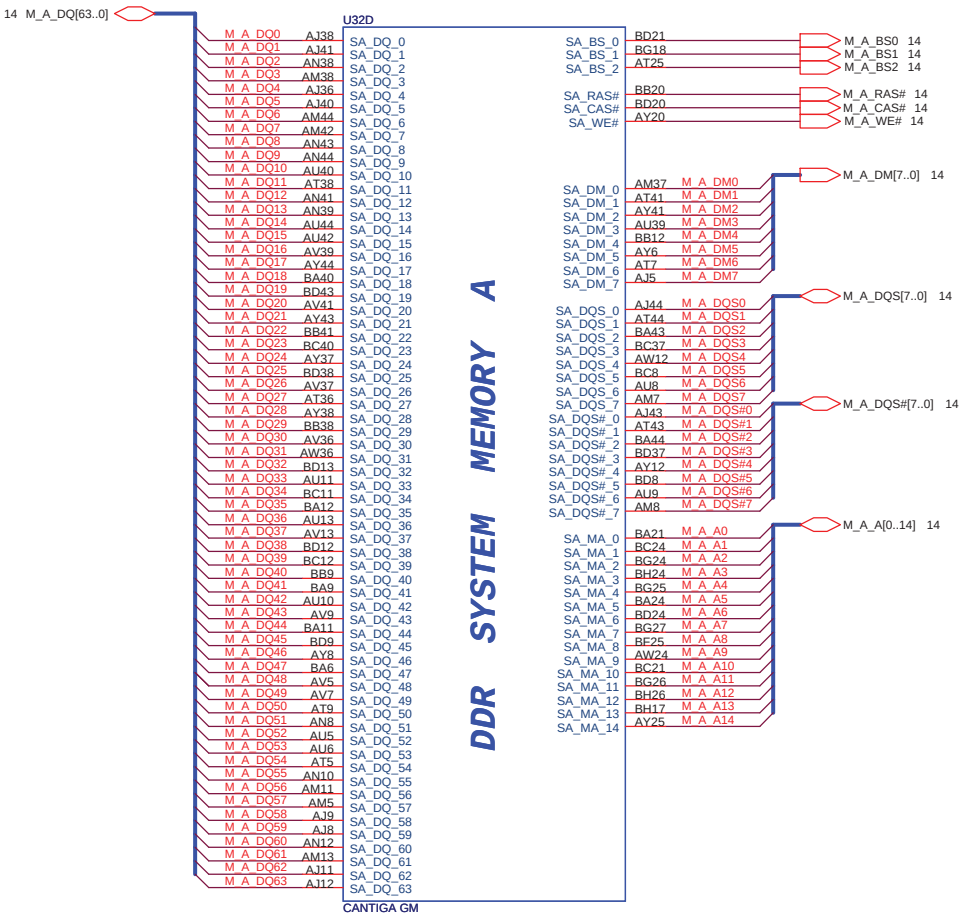

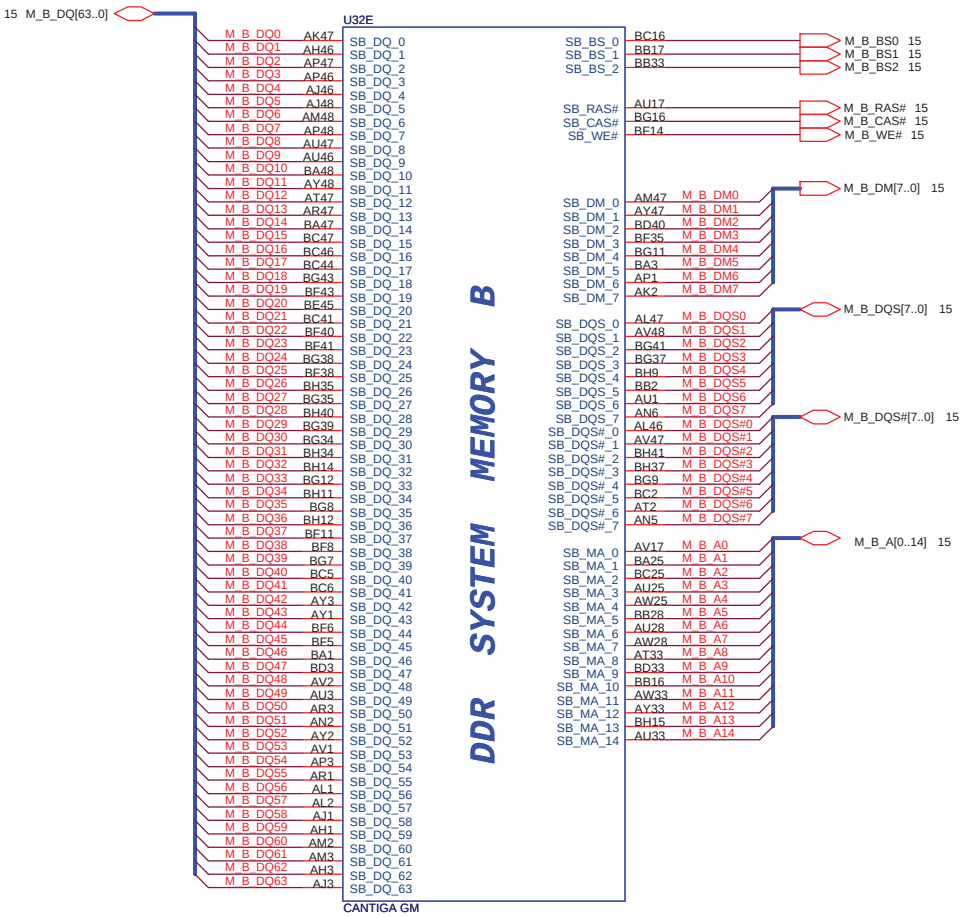

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Title	Cantiga (DDRII) 4/7	
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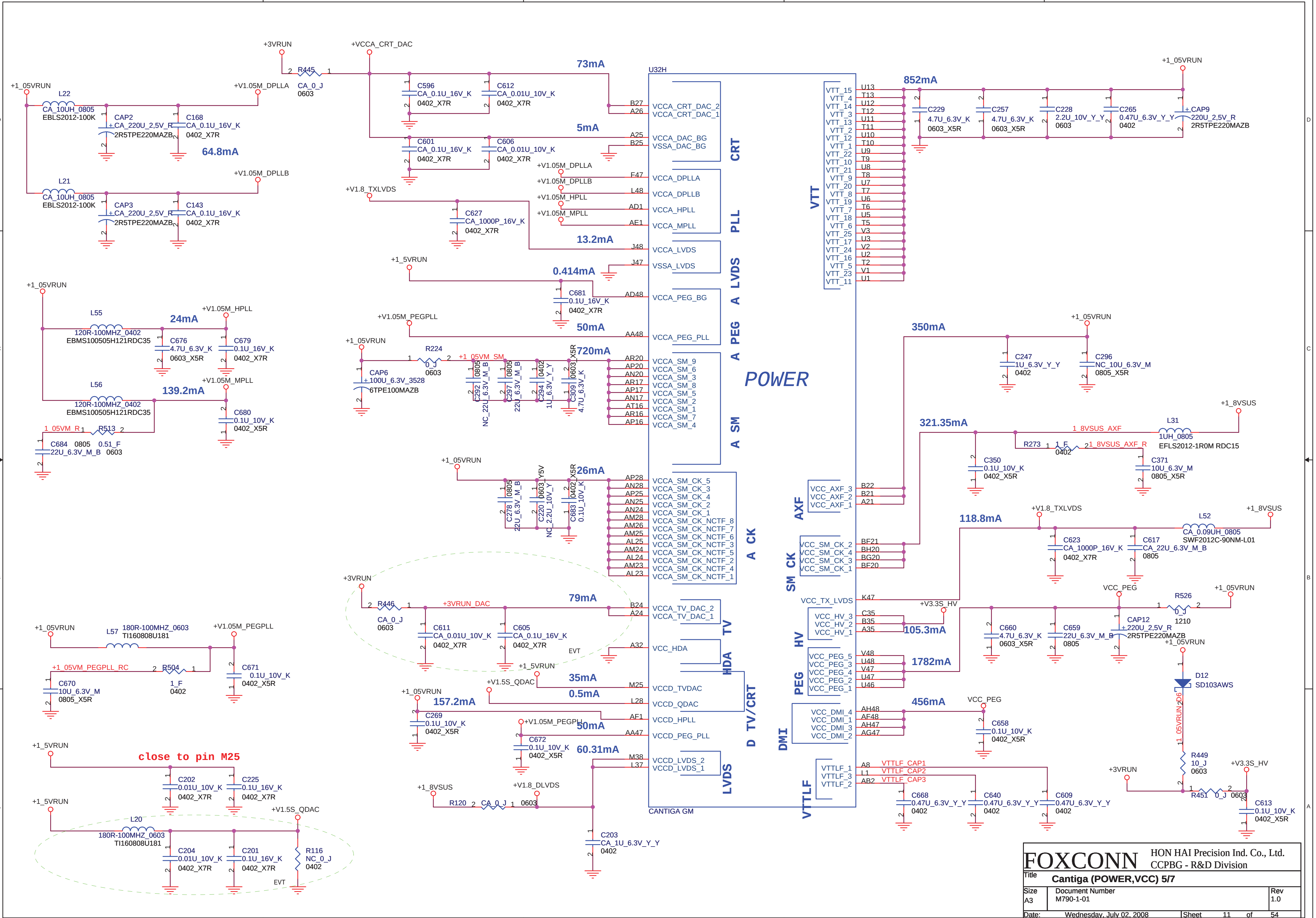

FOXCONN HON HAI Precision Ind. Co., Ltd.
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Title	Cantiga (POWER,VCC) 5/7	
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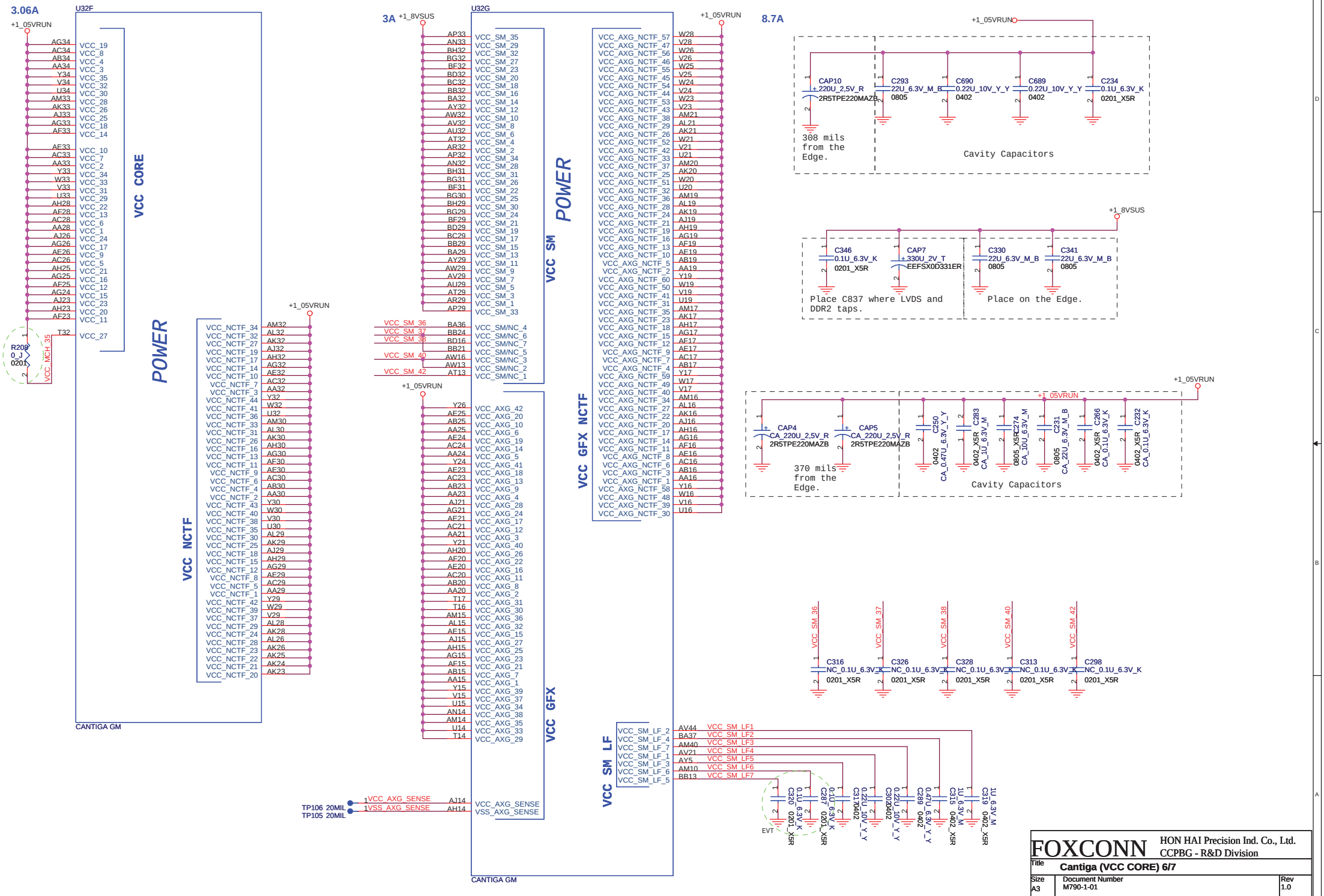
3.06A
U32F
+1_05VRUN
VCC_CORE
POWER
VCC_NCTF
CANTIGA GM
3A
+1_8VSUS
U32G
VCC_SM
VCC_GFX_NCTF
VCC_GFX
VCC_SM_LF
8.7A
CAP10
220U_2_5V_R
2R5TPE220MAZB
C293
22U_6.3V_M_B
0805
C690
0.22U_10V_Y_Y
0402
C689
0.22U_10V_Y_Y
0402
C234
0.1U_6.3V_K
0201_X5R
308 mils from the Edge.
Cavity Capacitors
C346
0.1U_6.3V_K
0201_X5R
CAP7
330U_2V_T
EEFSX0D331ER
C330
22U_6.3V_M_B
0805
C341
22U_6.3V_M_B
0805
Place C837 where LVDS and DDR2 taps.
Place on the Edge.
CAP4
CA_220U_2_5V_R
2R5TPE220MAZB
CAP5
CA_220U_2_5V_R
2R5TPE220MAZB
370 mils from the Edge.
C316
NC_0.1U_6.3V_K
0201_X5R
C326
NC_0.1U_6.3V_K
0201_X5R
C328
NC_0.1U_6.3V_K
0201_X5R
C313
NC_0.1U_6.3V_K
0201_X5R
C298
NC_0.1U_6.3V_K
0201_X5R
R208
0_J
0201
VCC_MCH_35
TP106 20MIL
TP105 20MIL
VCC_AXG_SENSE
VSS_AXG_SENSE
EVT
FOXCONN
HON HAI Precision Ind. Co., Ltd.
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Title
Cantiga (VCC CORE) 6/7
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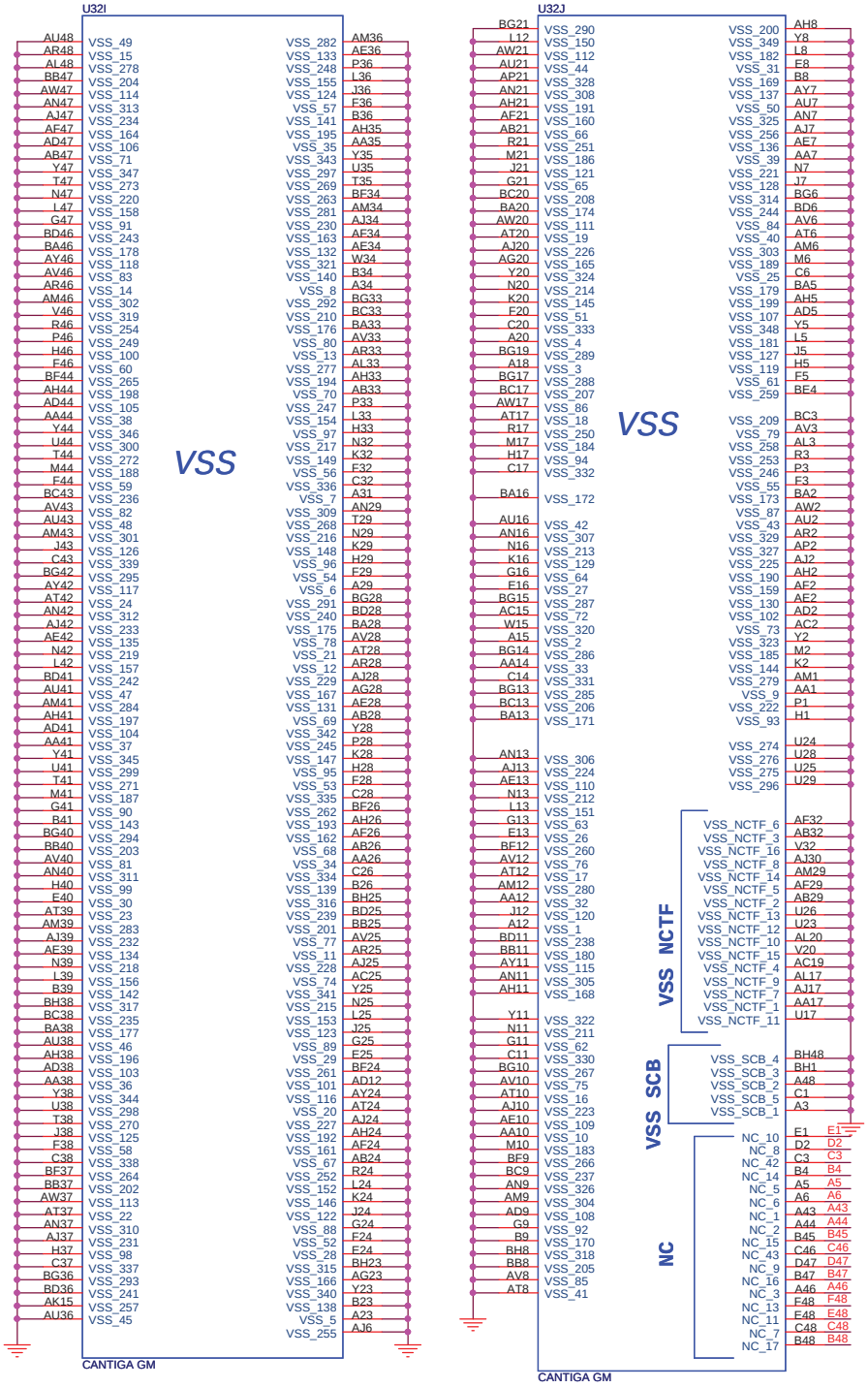

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Title	Cantiga (VSS) 7/7	
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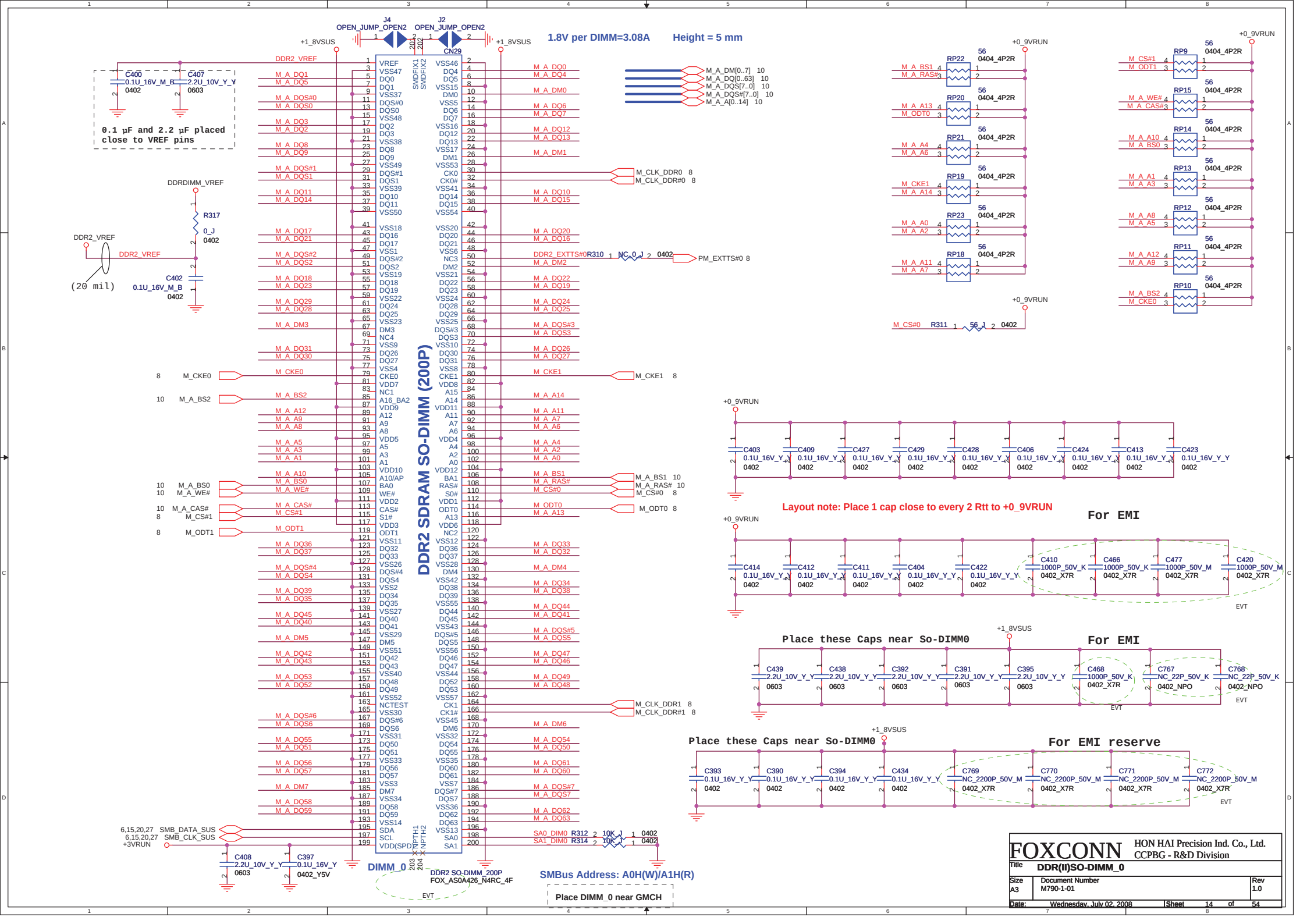

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division
Title	DDR(II)SO-DIMM_0
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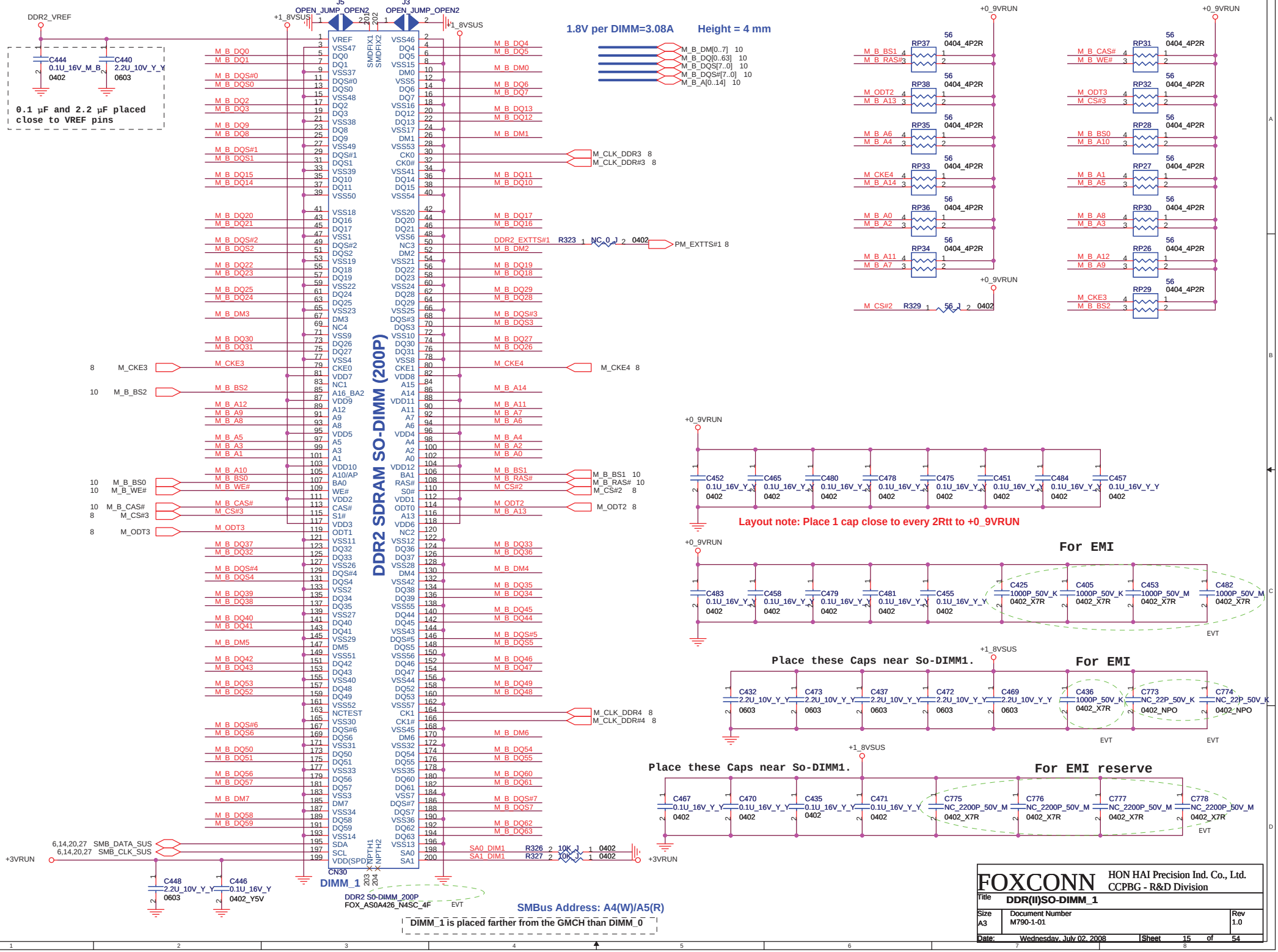

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division		
Title	DDR(II)SO-DIMM_1		
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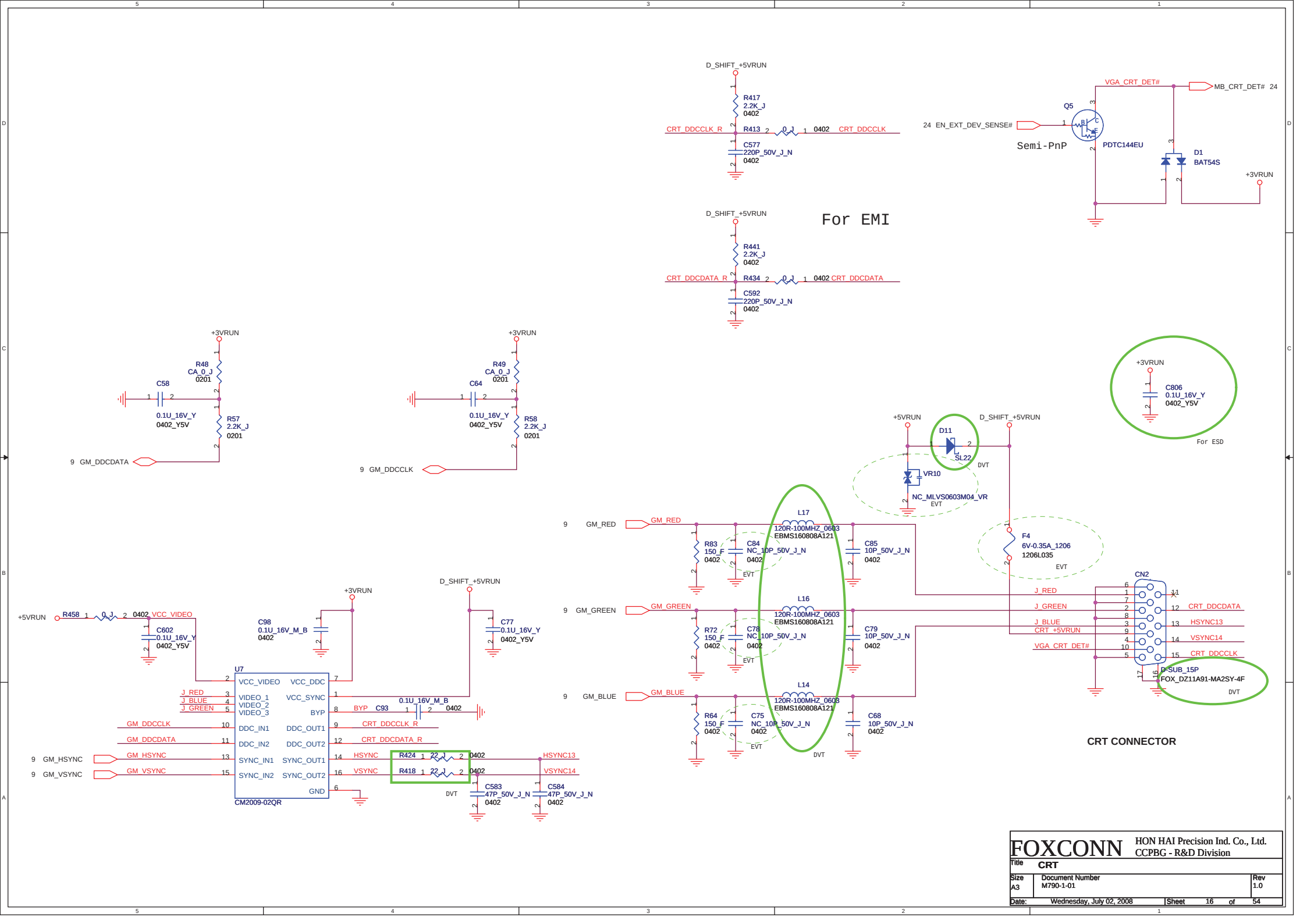

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Title	CRT	
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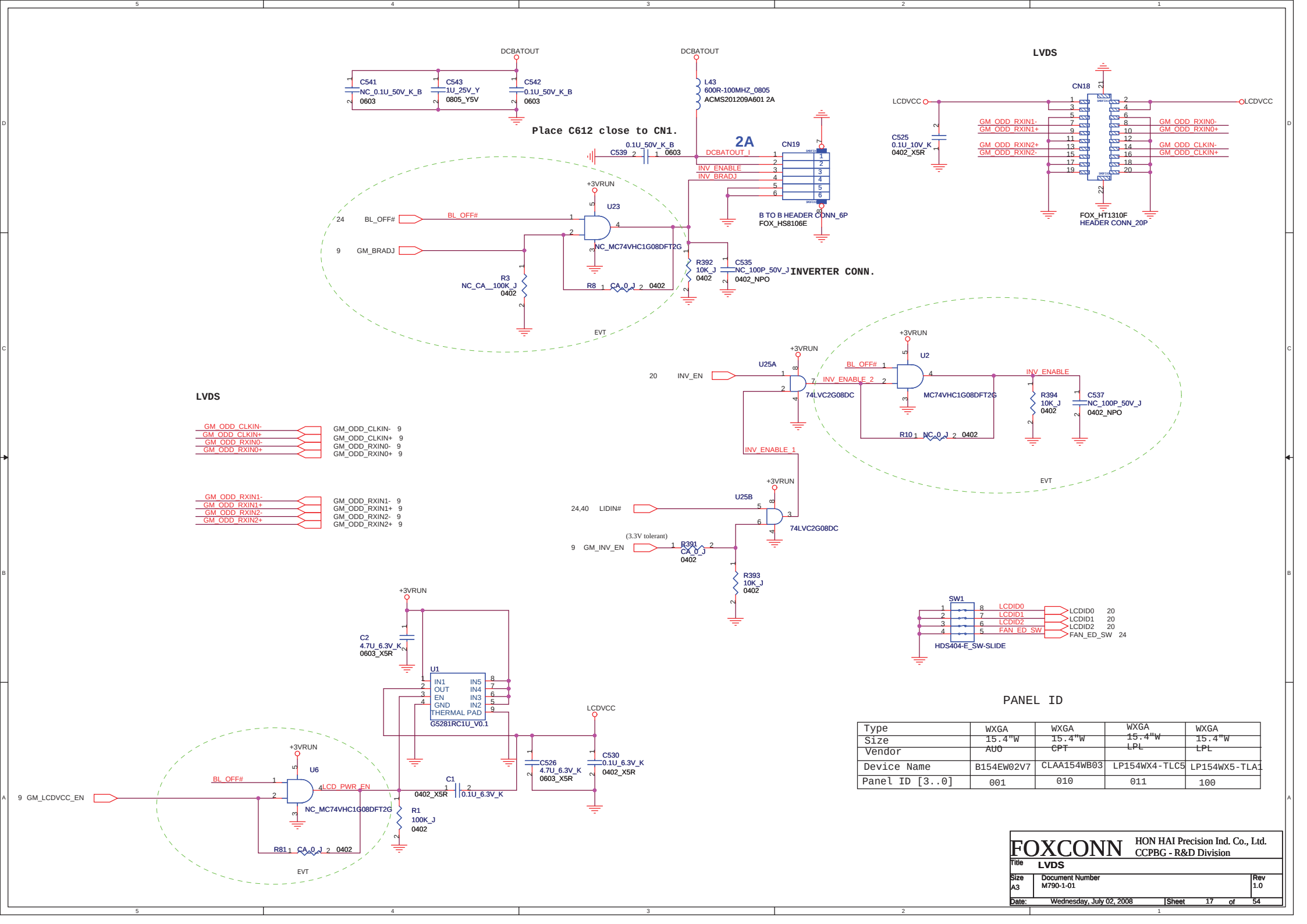

PANEL ID

Type	WXGA	WXGA	WXGA	WXGA
Size	15.4"W	15.4"W	15.4"W	15.4"W
Vendor	AUO	CPT	LPL	LPL
Device Name	B154EW02V7	CLAA154WB03	LP154WX4-TLC5	LP154WX5-TLA1
Panel ID [3..0]	001	010	011	100

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Title: LVDS		
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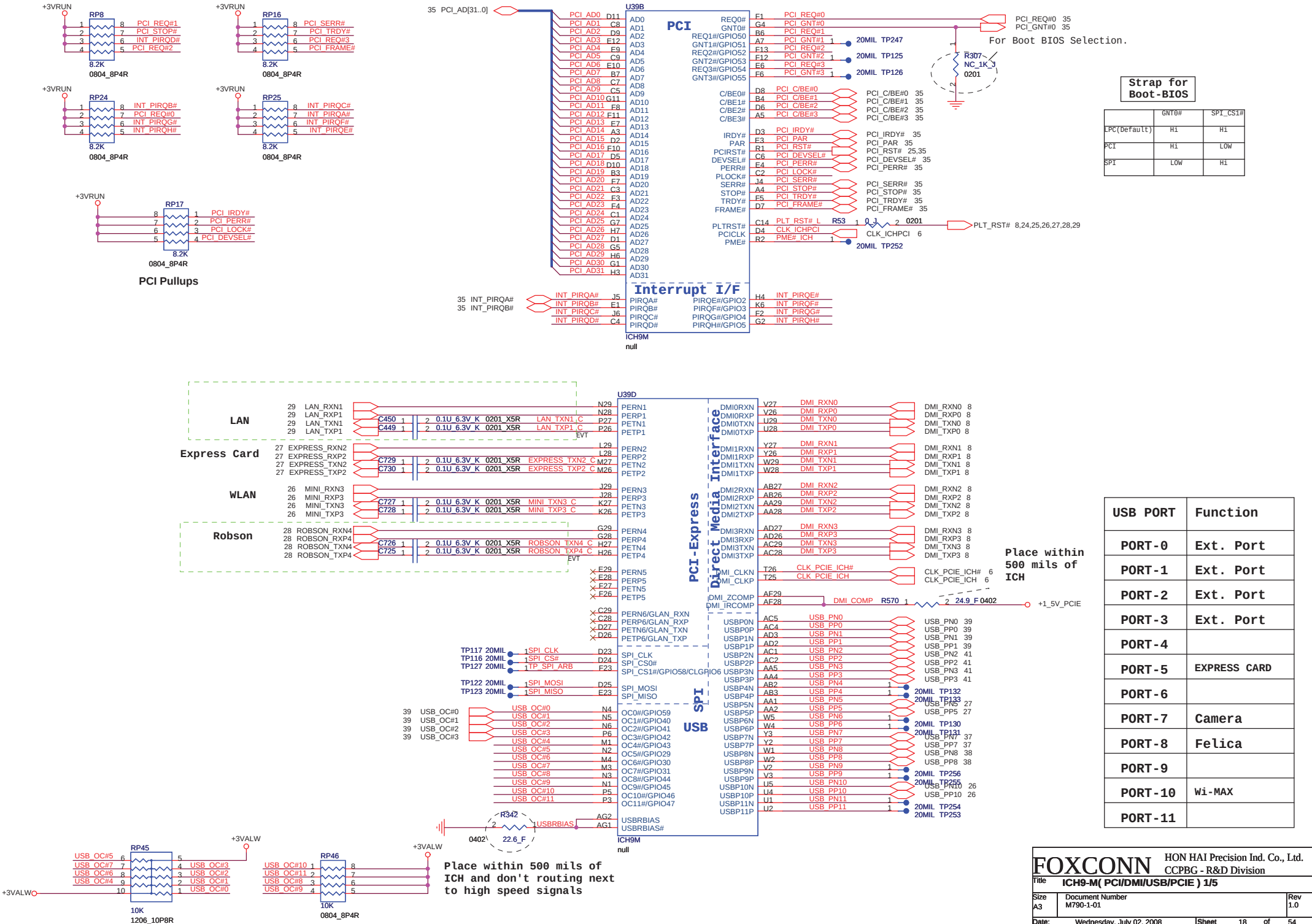

USB PORT	Function
PORT-0	Ext. Port
PORT-1	Ext. Port
PORT-2	Ext. Port
PORT-3	Ext. Port
PORT-4	
PORT-5	EXPRESS CARD
PORT-6	
PORT-7	Camera
PORT-8	Felica
PORT-9	
PORT-10	Wi-MAX
PORT-11	

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Title	ICH9-M(PCI/DMI/USB/PCIE) 1/5	
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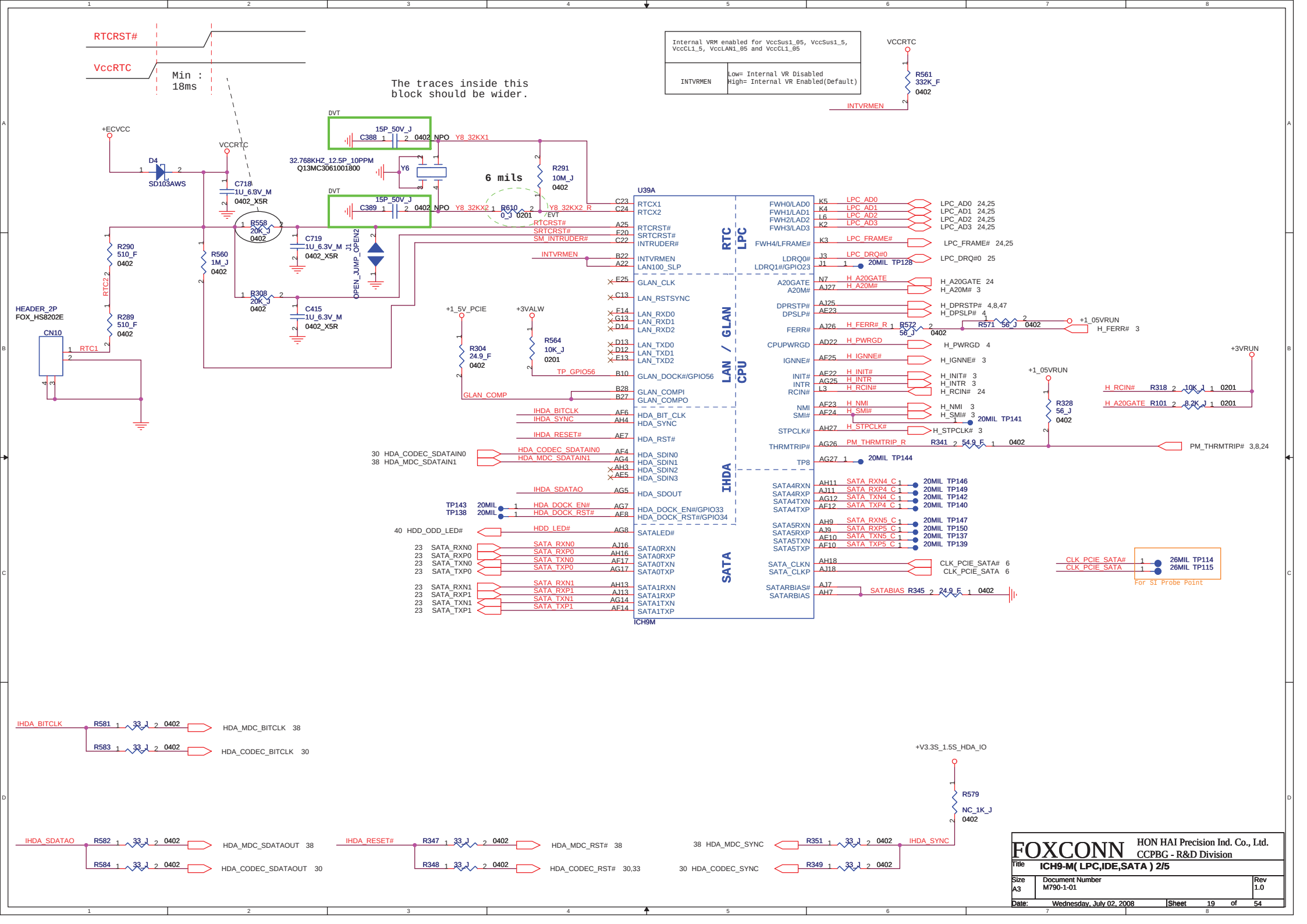
RTCRST#
VccRTC
Min : 18ms
The traces inside this block should be wider.
Internal VRM enabled for VccSus1_05, VccSus1_5, VccCL1_5, VccLAN1_05 and VccCL1_05
INTVRMEN
Low= Internal VR Disabled
High= Internal VR Enabled(Default)
VCCRTC
R561 332K_F 0402
INTVRMEN
+ECVCC
D4 SD103AWS
C718 1U_6.3V_M 0402_X5R
32.768KHZ_12.5P_10PPM Q13MC3061001800
Y6
DVT
C388 15P_50V_J 0402 NPO
C389 15P_50V_J 0402 NPO
Y8_32KX1
Y8_32KX2
R610 0_J 0201 /EVT
R291 10M_J 0402
6 mils
R558 20K_J 0402
R560 1M_J 0402
R290 510_F 0402
R289 510_F 0402
RTC2
RTC1
CN10
HEADER_2P FOX_HS8202E
C719 1U_6.3V_M 0402_X5R
R308 20K_J 0402
C415 1U_6.3V_M 0402_X5R
J1 OPEN_JUMP_OPEN2
RTCRST#
SRTCRST#
SM_INTRUDER#
INTVRMEN
U39A
RTCX1
RTCX2
RTCRST#
SRTCRST#
INTRUDER#
INTVRMEN
LAN100_SLP
RTC
LPC
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
FWH4/LFRAME#
LDRQ0#
LDRQ1#/GPIO23
LPC_AD0
LPC_AD1
LPC_AD2
LPC_AD3
LPC_FRAME#
LPC_DRQ#0
20MIL TP128
GLAN_CLK
LAN_RSTSYNC
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
GLAN_DOCK#/GPIO56
GLAN_COMPI
GLAN_COMPO
LAN / GLAN
CPU
A20GATE
A20M#
DPRSTP#
DPSLP#
FERR#
CPUPWRGD
IGNNE#
INIT#
INTR
RCIN#
NMI
SMI#
STPCLK#
THRMTRIP#
TP8
H_A20GATE
H_A20M#
H_DPRSTP#
H_DPSLP#
H_FERR#
H_PWRGD
H_IGNNE#
H_INIT#
H_INTR
H_RCIN#
H_NMI
H_SMI#
H_STPCLK#
PM_THRMTRIP#
20MIL TP141
20MIL TP144
R572 56_J 0402
R571 56_J 0402
R328 56_J 0402
R341 54.9_F 0402
+1_05VRUN
+3VRUN
+1_5V_PCIE
+3VALW
R304 24.9_F 0402
R564 10K_J 0201
TP_GPIO56
GLAN_COMP
IHDA_BITCLK
IHDA_SYNC
IHDA_RESET#
IHDA_SDATAO
HDA_BIT_CLK
HDA_SYNC
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDOUT
HDA_DOCK_EN#/GPIO33
HDA_DOCK_RST#/GPIO34
IHDA
HDA_CODEC_SDATAIN0
HDA_MDC_SDATAIN1
30 HDA_CODEC_SDATAIN0
38 HDA_MDC_SDATAIN1
TP143 20MIL
TP138 20MIL
HDA_DOCK_EN#
HDA_DOCK_RST#
40 HDD_ODD_LED#
HDD_LED#
SATALED#
SATA
SATA_RXN0
SATA_RXP0
SATA_TXN0
SATA_TXP0
SATA_RXN1
SATA_RXP1
SATA_TXN1
SATA_TXP1
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
23 SATA_RXN0
23 SATA_RXP0
23 SATA_TXN0
23 SATA_TXP0
23 SATA_RXN1
23 SATA_RXP1
23 SATA_TXN1
23 SATA_TXP1
SATA4RXN
SATA4RXP
SATA4TXN
SATA4TXP
SATA5RXN
SATA5RXP
SATA5TXN
SATA5TXP
SATA_CLKN
SATA_CLKP
SATABIAS#
SATABIAS
SATABIAS R345 24.9_F 0402
20MIL TP146
20MIL TP149
20MIL TP142
20MIL TP140
20MIL TP147
20MIL TP150
20MIL TP137
20MIL TP139
CLK_PCIE_SATA#
CLK_PCIE_SATA
26MIL TP114
26MIL TP115
For SI Probe Point
ICH9M
IHDA_BITCLK
R581 33_J 0402
R583 33_J 0402
HDA_MDC_BITCLK 38
HDA_CODEC_BITCLK 30
IHDA_SDATAO
R582 33_J 0402
R584 33_J 0402
HDA_MDC_SDATAOUT 38
HDA_CODEC_SDATAOUT 30
IHDA_RESET#
R347 33_J 0402
R348 33_J 0402
HDA_MDC_RST# 38
HDA_CODEC_RST# 30,33
38 HDA_MDC_SYNC
30 HDA_CODEC_SYNC
R351 33_J 0402
R349 33_J 0402
IHDA_SYNC
+V3.3S_1.5S_HDA_IO
R579 NC_1K_J 0402
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH9-M(LPC,IDE,SATA) 2/5
Size A3
Document Number M790-1-01
Rev 1.0
Date: Wednesday, July 02, 2008
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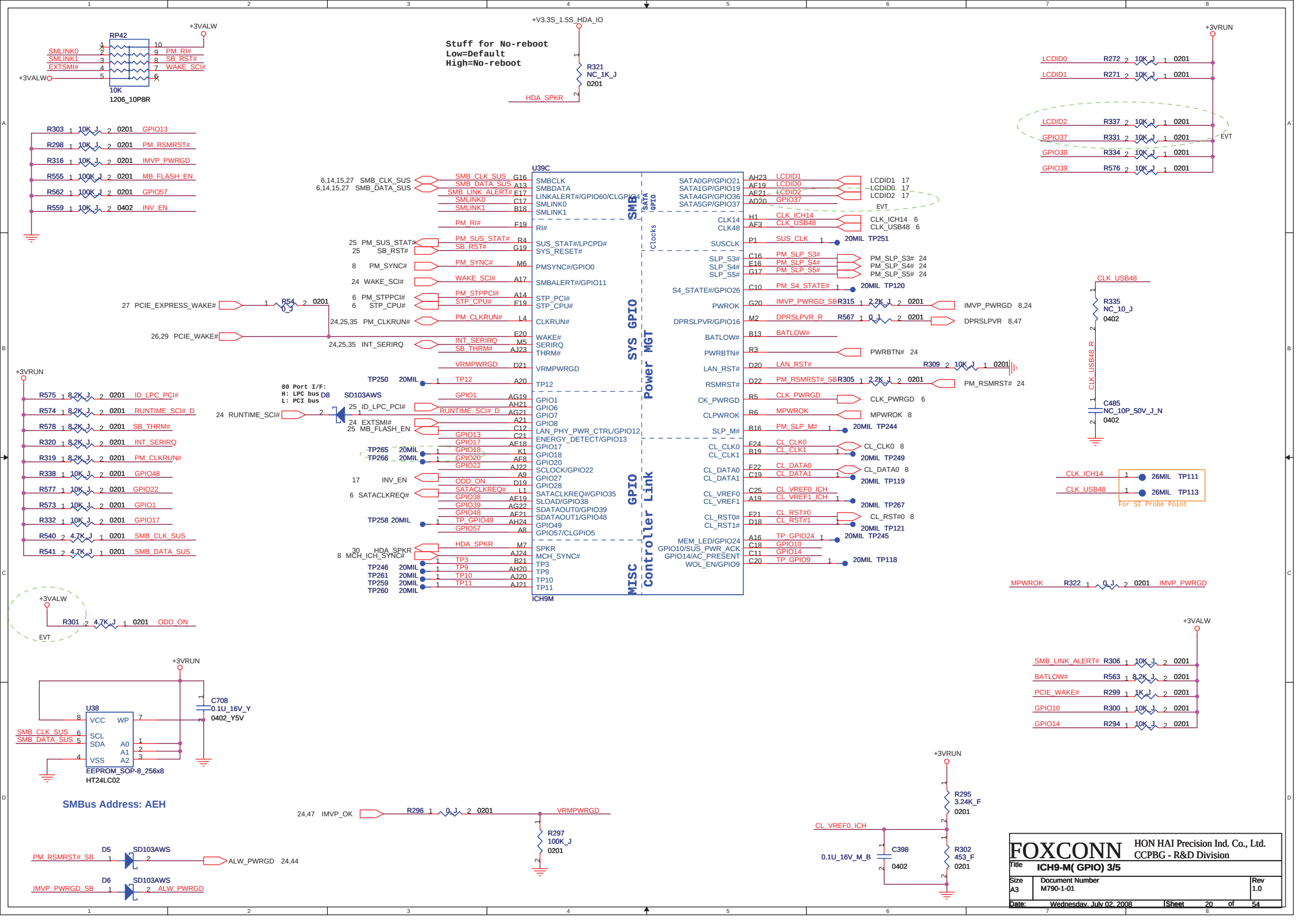
RP42
+3VALW
SMLINK0
SMLINK1
EXTSMI#
PM_RI#
SB_RST#
WAKE_SCI#
10K
1206_10P8R
Stuff for No-reboot
Low=Default
High=No-reboot
+V3.3S_1.5S_HDA_IO
R321
NC_1K_J
0201
HDA_SPKR
+3VRUN
LCDID0
LCDID1
LCDID2
GPIO37
GPIO38
GPIO39
R272
R271
R337
R331
R334
R576
EVT
R303
R298
R316
R555
R562
R559
GPIO13
PM_RSMRST#
IMVP_PWRGD
MB_FLASH_EN
GPIO57
INV_EN
U39C
ICH9M
SMB
SATA GPIO
CLocks
SYS GPIO
Power MGT
GPIO
Controller Link
MISC
SMB_CLK_SUS
SMB_DATA_SUS
SMB_LINK_ALERT#
SMLINK0
SMLINK1
PM_RI#
PM_SUS_STAT#
SB_RST#
PM_SYNC#
WAKE_SCI#
PM_STPPCI#
STP_CPU#
PM_CLKRUN#
INT_SERIRQ
SB_THRM#
VRMPWRGD
TP12
GPIO1
RUNTIME_SCI#_D
EXTSMI#
MB_FLASH_EN
GPIO13
GPIO17
GPIO18
GPIO20
ODD_ON
SATACLKREQ#
GPIO38
GPIO39
GPIO48
TP_GPIO49
GPIO57
HDA_SPKR
TP3
TP9
TP10
TP11
SATA0GP/GPIO21
SATA1GP/GPIO19
SATA4GP/GPIO36
SATA5GP/GPIO37
CLK14
CLK48
SUSCLK
SLP_S3#
SLP_S4#
SLP_S5#
S4_STATE#/GPIO26
PWROK
DPRSLPVR/GPIO16
BATLOW#
PWRBTN#
LAN_RST#
RSMRST#
CK_PWRGD
CLPWROK
SLP_M#
CL_CLK0
CL_CLK1
CL_DATA0
CL_DATA1
CL_VREF0
CL_VREF1
CL_RST0#
CL_RST1#
MEM_LED/GPIO24
GPIO10/SUS_PWR_ACK
GPIO14/AC_PRESENT
WOL_EN/GPIO9
TP_GPIO24
TP_GPIO9
LCDID1
LCDID0
LCDID2
GPIO37
CLK_ICH14
CLK_USB48
SUS_CLK
PM_SLP_S3#
PM_SLP_S4#
PM_SLP_S5#
PM_S4_STATE#
IMVP_PWRGD_SB
DPRSLPVR_R
PWRBTN#
PM_RSMRST#_SB
CK_PWRGD
MPWROK
PM_SLP_M#
CL_CLK0
CL_CLK1
CL_DATA0
CL_DATA1
CL_RST#0
CL_RST#1
TP_GPIO24
GPIO10
GPIO14
TP_GPIO9
20MIL TP251
20MIL TP120
20MIL TP244
20MIL TP249
20MIL TP119
20MIL TP267
20MIL TP121
20MIL TP245
20MIL TP118
R315
R567
R309
R305
R335
NC_10_J
0402
C485
NC_10P_50V_J_N
CLK_USB48_R
26MIL TP111
26MIL TP113
For SI Probe Point
R575
R574
R578
R320
R319
R338
R577
R573
R332
R540
R541
ID_LPC_PCI#
RUNTIME_SCI#_D
SB_THRM#
INT_SERIRQ
PM_CLKRUN#
GPIO48
GPIO22
GPIO1
GPIO17
SMB_CLK_SUS
SMB_DATA_SUS
80 Port I/F:
H: LPC bus
L: PCI bus
D8
SD103AWS
TP250 20MIL
TP265 20MIL
TP266 20MIL
TP258 20MIL
TP246 20MIL
TP261 20MIL
TP259 20MIL
TP260 20MIL
R54
0_J
0201
PCIE_EXPRESS_WAKE#
PCIE_WAKE#
INV_EN
SATACLKREQ#
HDA_SPKR
MCH_ICH_SYNC#
R301
4.7K_J
ODD_ON
EVT
MPWROK
R322
IMVP_PWRGD
SMB_LINK_ALERT#
BATLOW#
PCIE_WAKE#
GPIO10
GPIO14
R306
R563
R299
R300
R294
U38
EEPROM_SOP-8_256x8
HT24LC02
C708
0.1U_16V_Y
0402_Y5V
SMBus Address: AEH
IMVP_OK
R296
VRMPWRGD
R297
100K_J
D5
D6
PM_RSMRST#_SB
IMVP_PWRGD_SB
ALW_PWRGD
R295
3.24K_F
CL_VREF0_ICH
C398
0.1U_16V_M_B
R302
453_F
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH9-M(GPIO) 3/5
Size
A3
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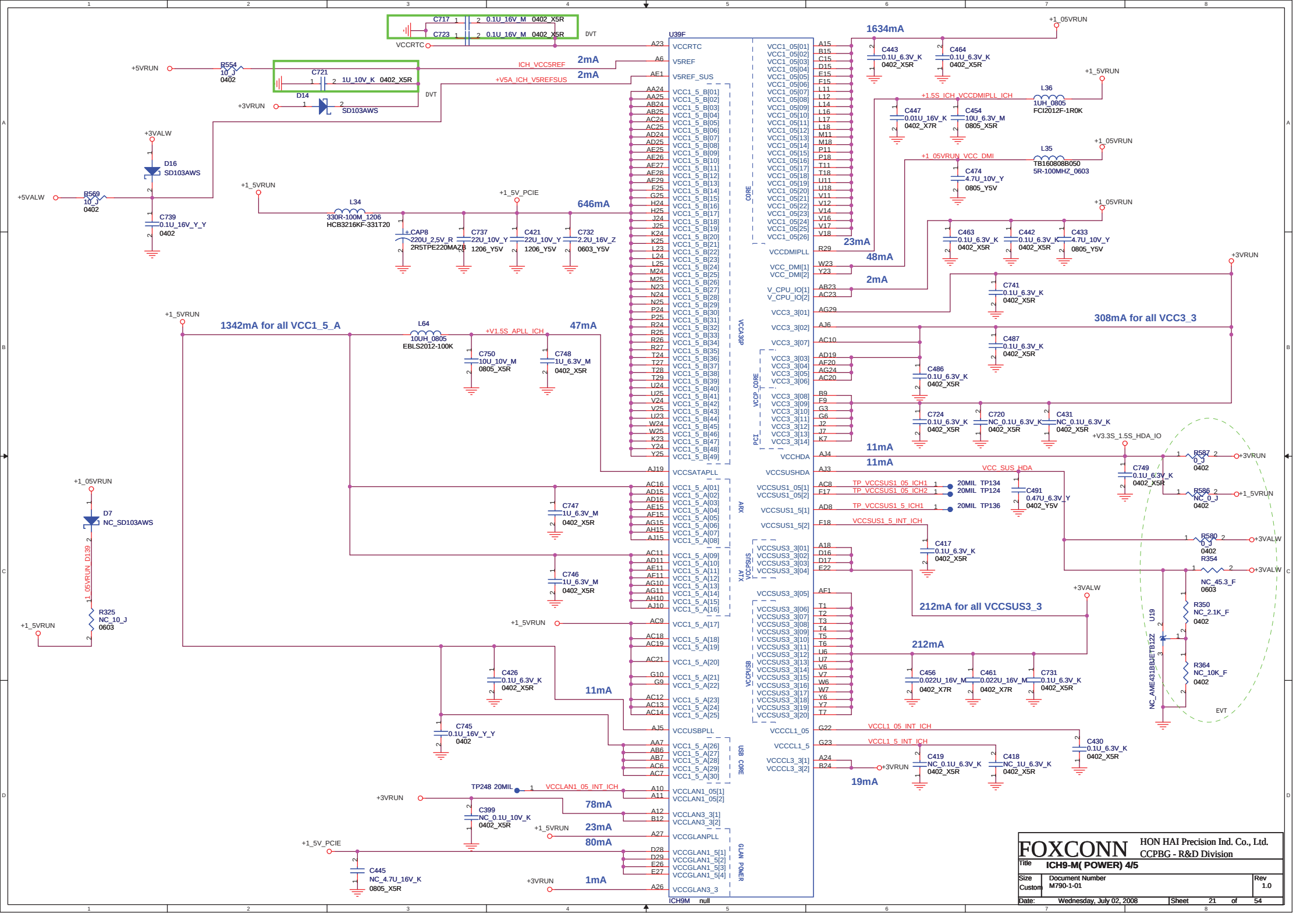
U39F
ICH9M
null
VCCRTC
V5REF
V5REF_SUS
CORE
VCA36P
VCCP CORE
PCI
ARX
VCCPSUS
AYT
USB CORE
GLAN POWER
VCCSATAPLL
VCCUSBPLL
VCCGLANPLL
VCCDMIPLL
VCCHDA
VCCSUSHDA
VCCSUS1_5
VCCSUS3_3
VCCPUSB
VCCL1_05
VCCL1_5
VCCL3_3
VCCGLAN3_3
1634mA
23mA
48mA
2mA
308mA for all VCC3_3
11mA
11mA
212mA for all VCCSUS3_3
212mA
19mA
1342mA for all VCC1_5_A
47mA
11mA
78mA
23mA
80mA
1mA
646mA
2mA
2mA
+1_05VRUN
+1_5VRUN
+3VRUN
+3VALW
+5VRUN
+5VALW
+1_5V_PCIE
+3V3S_1.5S_HDA_IO
+1.5S_ICH_VCCDMIPLL_ICH
+1_05VRUN_VCC_DMI
ICH_VCC5REF
+V5A_ICH_V5REFSUS
+V1.5S_APLL_ICH
VCCL1_05_INT_ICH
VCCL1_5_INT_ICH
VCC_SUS_HDA
TP_VCCSUS1_05_ICH1
TP_VCCSUS1_05_ICH2
TP_VCCSUS1_5_ICH1
VCCSUS1_5_INT_ICH
VCCLAN1_05_INT_ICH
L36
1UH_0805
FCI2012F-1R0K
L35
TB160808B050
5R-100MHZ_0603
L34
330R-100M_1206
HCB3216KF-331T20
L64
10UH_0805
EBLS2012-100K
D16
SD103AWS
D14
SD103AWS
D7
NC_SD103AWS
R554
10_J
0402
R569
10_J
0402
R325
NC_10_J
0603
C721
1U_10V_K_0402_X5R
C717
0.1U_16V_M_0402_X5R
C723
0.1U_16V_M_0402_X5R
C739
0.1U_16V_Y_Y
0402
+CAP8
220U_2.5V_R
2R5TPE220MAZB
C737
22U_10V_Y
1206_Y5V
C421
22U_10V_Y
1206_Y5V
C732
2.2U_16V_Z
0603_Y5V
C443
0.1U_6.3V_K
0402_X5R
C464
0.1U_6.3V_K
0402_X5R
C447
0.01U_16V_K
0402_X7R
C454
10U_6.3V_M
0805_X5R
C474
4.7U_10V_Y
0805_Y5V
C463
0.1U_6.3V_K
0402_X5R
C442
0.1U_6.3V_K
0402_X5R
C433
4.7U_10V_Y
0805_Y5V
C741
0.1U_6.3V_K
0402_X5R
C487
0.1U_6.3V_K
0402_X5R
C486
0.1U_6.3V_K
0402_X5R
C724
0.1U_6.3V_K
0402_X5R
C720
NC_0.1U_6.3V_K
0402_X5R
C431
NC_0.1U_6.3V_K
0402_X5R
C749
0.1U_6.3V_K
0402_X5R
C491
0.47U_6.3V_Y
0402_Y5V
C417
0.1U_6.3V_K
0402_X5R
C456
0.022U_16V_M
0402_X7R
C461
0.022U_16V_M
0402_X7R
C731
0.1U_6.3V_K
0402_X5R
C430
0.1U_6.3V_K
0402_X5R
C419
NC_0.1U_6.3V_K
0402_X5R
C418
NC_1U_6.3V_K
0402_X5R
C750
10U_10V_M
0805_X5R
C748
1U_6.3V_M
0402_X5R
C747
1U_6.3V_M
0402_X5R
C746
1U_6.3V_M
0402_X5R
C426
0.1U_6.3V_K
0402_X5R
C745
0.1U_16V_Y_Y
0402
C399
NC_0.1U_10V_K
0402_X5R
C445
NC_4.7U_16V_K
0805_X5R
R587
0_J
0402
R586
NC_0_J
0402
R580
0_J
0402
R354
NC_45.3_F
0603
R350
NC_2.1K_F
0402
R364
NC_10K_F
0402
U19
NC_AME431BAJETB122
EVT
TP134
TP124
TP136
20MIL
TP248 20MIL
D139
1_05VRUN
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
ICH9-M(POWER) 4/5
Size
Custom
Document Number
M790-1-01
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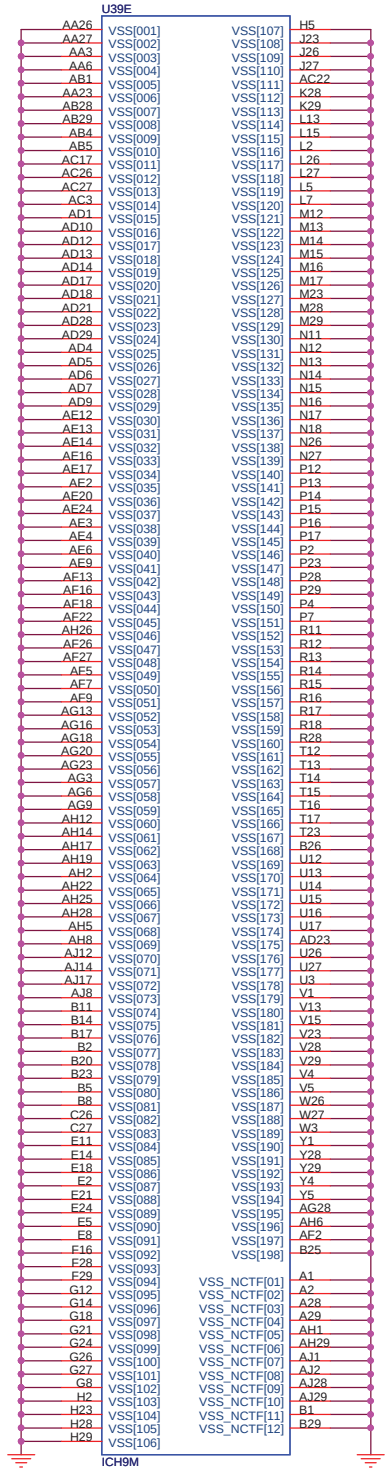

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	ICH9-M(GND) 5/5	
Size A3	Document Number M790-1-01	Rev 1.0
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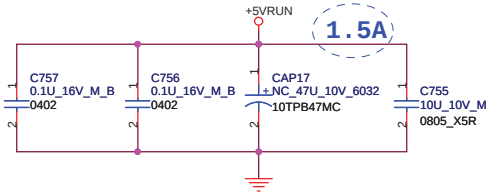
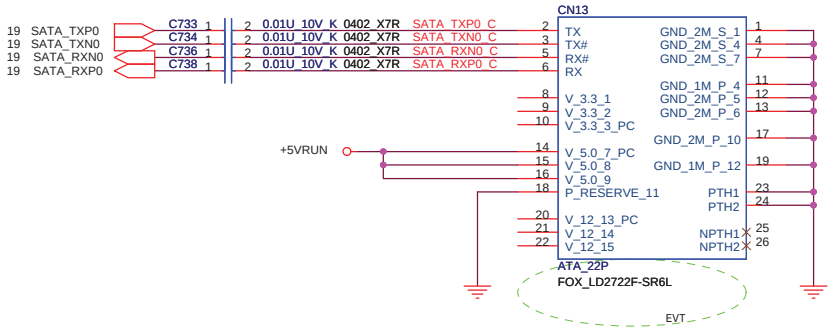
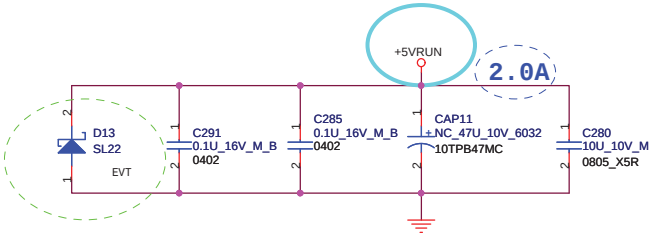
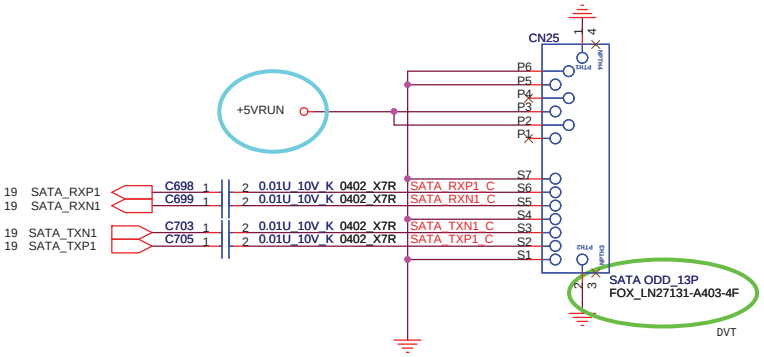
SATA HDD CONN

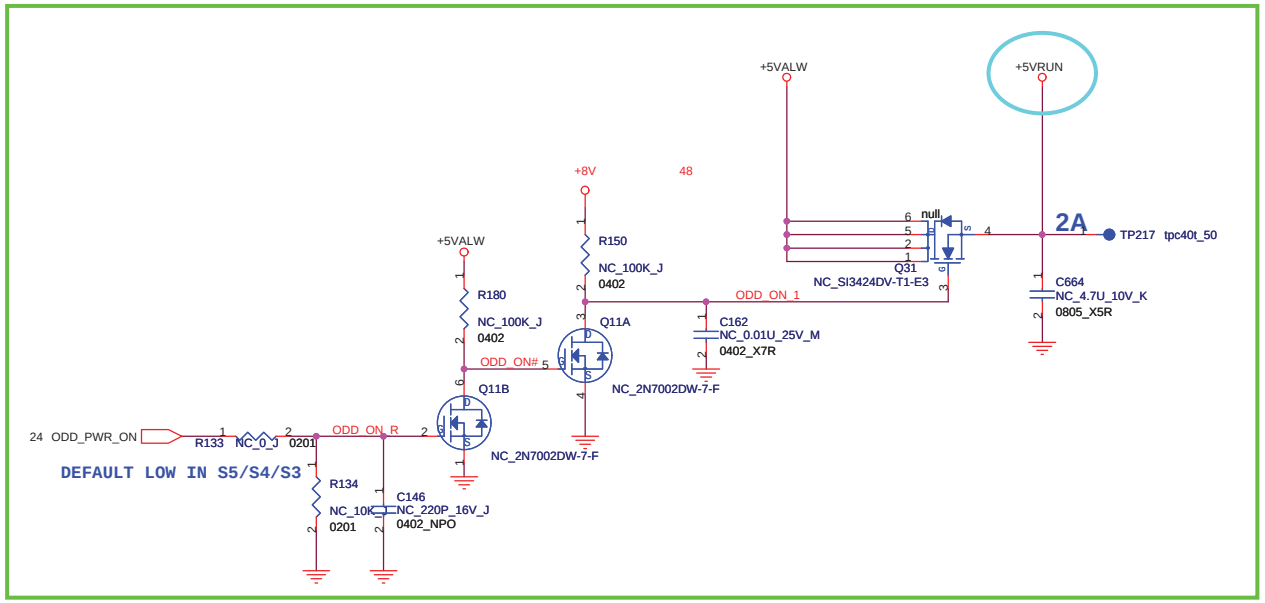




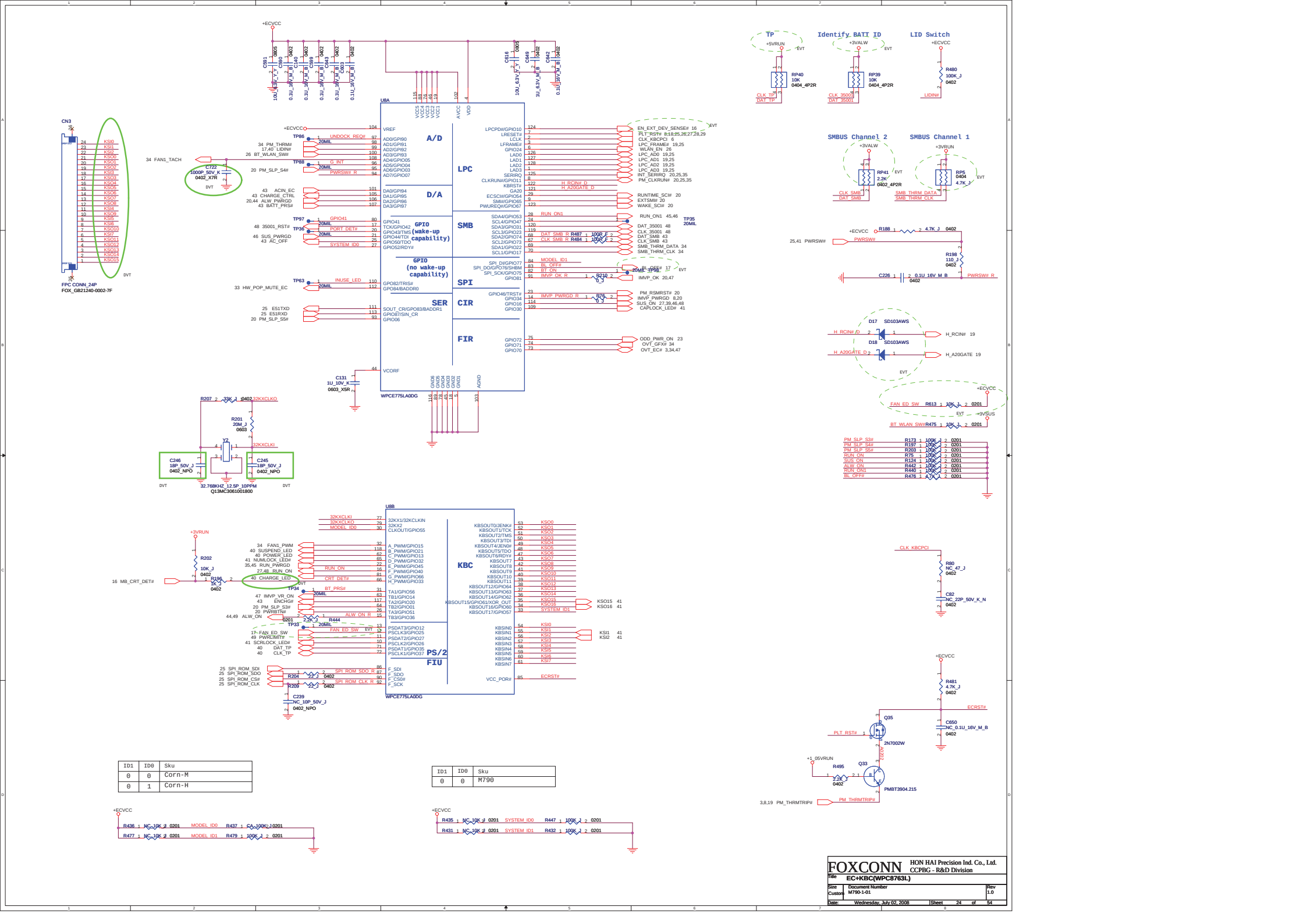


SATA ODD CONN





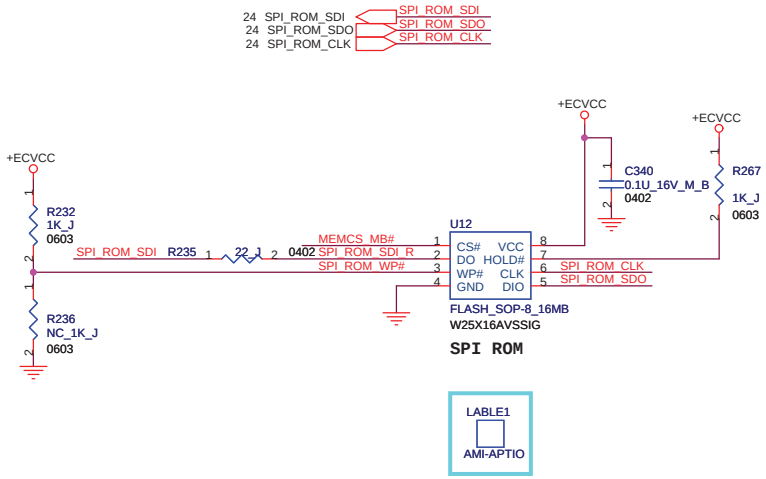
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	SATA HDD/ODD	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 23 of 54	

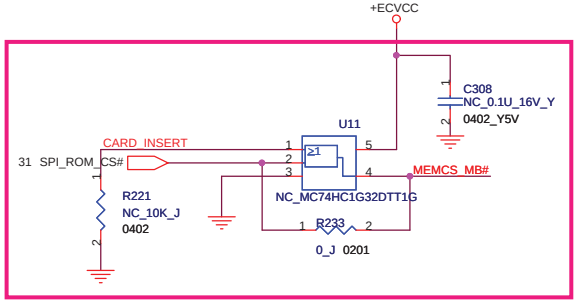


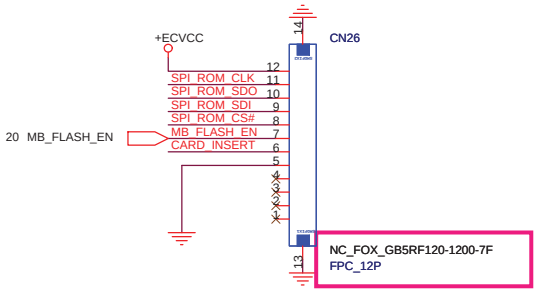
ID1	ID0	Sku
0	0	Corn-M
0	1	Corn-H

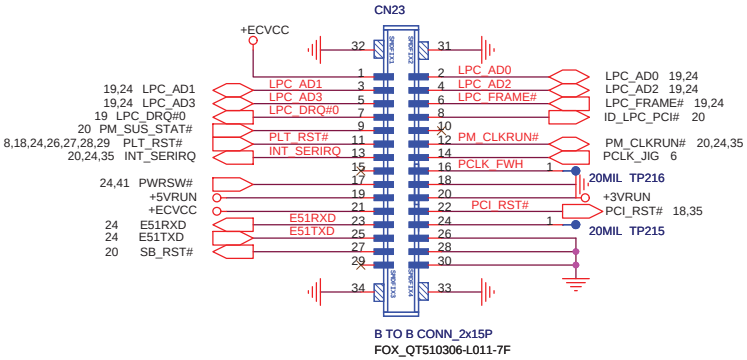
ID1	ID0	Sku
0	0	M790

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: EC+KBC(WPC8763L)		
Size: Custom	Document Number: M790-1-01	Rev: 1.0
Date: Wednesday, July 02, 2008	Sheet 24 of 54	

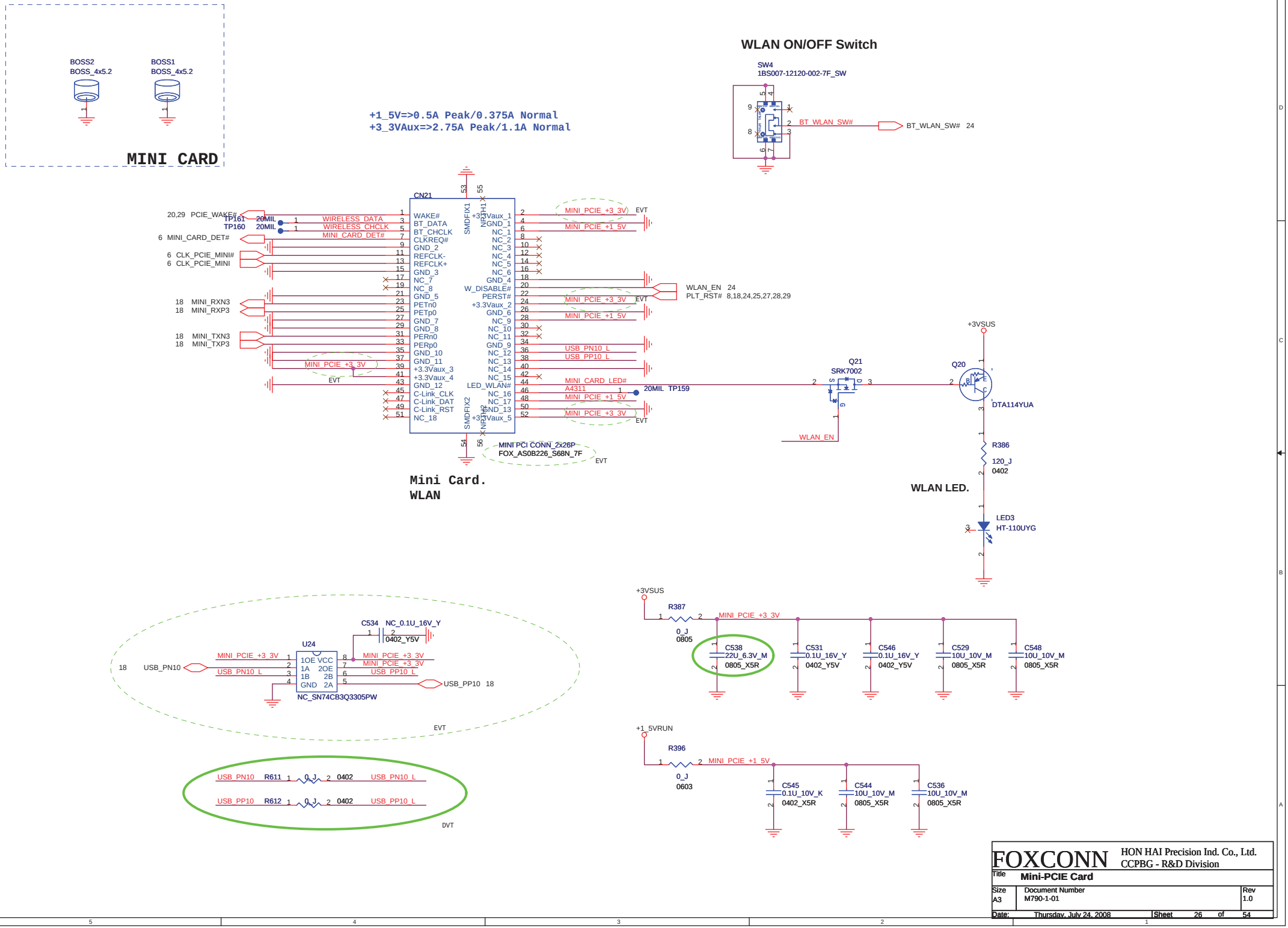








FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: Flash ROM/SPI		
Size: A3	Document Number: M790-1-01	Rev: 1.0
Date: Friday, July 25, 2008	Sheet 25 of 54	


BOSS2
BOSS_4x5.2
BOSS1
BOSS_4x5.2
MINI CARD
+1_5V=>0.5A Peak/0.375A Normal
+3_3VAux=>2.75A Peak/1.1A Normal
WLAN ON/OFF Switch
SW4
1BS007-12120-002-7F_SW
BT_WLAN_SW#
BT_WLAN_SW# 24
CN21
SMDFIX1
SMDFIX2
20,29 PCIE_WAKE#
TP161 20MIL
TP160 20MIL
WIRELESS_DATA
WIRELESS_CHCLK
MINI_CARD_DET#
6 MINI_CARD_DET#
6 CLK_PCIE_MINI#
6 CLK_PCIE_MINI
18 MINI_RXN3
18 MINI_RXP3
18 MINI_TXN3
18 MINI_TXP3
WAKE#
BT_DATA
BT_CHCLK
CLKREQ#
GND_2
REFCLK-
REFCLK+
GND_3
NC_7
NC_8
GND_5
PETn0
PETp0
GND_7
GND_8
PERn0
PERp0
GND_10
GND_11
+3.3Vaux_3
+3.3Vaux_4
GND_12
C-Link_CLK
C-Link_DAT
C-Link_RST
NC_18
+3.3Vaux_1
GND_1
NC_1
NC_2
NC_3
NC_4
NC_5
NC_6
GND_4
W_DISABLE#
PERST#
+3.3Vaux_2
GND_6
NC_9
NC_10
NC_11
GND_9
NC_12
NC_13
NC_14
NC_15
LED_WLAN#
NC_16
NC_17
GND_13
+3.3Vaux_5
MINI_PCIE_+3_3V
MINI_PCIE_+1_5V
EVT
WLAN_EN 24
PLT_RST# 8,18,24,25,27,28,29
USB_PN10_L
USB_PP10_L
MINI_CARD_LED#
A4311
20MIL TP159
MINI PCI CONN_2x26P
FOX_AS0B226_S68N_7F
Mini Card.
WLAN
Q21
SRK7002
WLAN_EN
Q20
DTA114YUA
+3VSUS
R386
120_J
0402
WLAN LED.
LED3
HT-110UYG
U24
NC_SN74CB3Q3305PW
C534 NC_0.1U_16V_Y
0402_Y5V
18 USB_PN10
USB_PP10 18
USB_PN10 R611 0_J 0402 USB_PN10_L
USB_PP10 R612 0_J 0402 USB_PP10_L
DVT
R387
0_J
0805
C538
22U_6.3V_M
0805_X5R
C531
0.1U_16V_Y
0402_Y5V
C546
0.1U_16V_Y
0402_Y5V
C529
10U_10V_M
0805_X5R
C548
10U_10V_M
0805_X5R
+1_5VRUN
R396
0_J
0603
C545
0.1U_10V_K
0402_X5R
C544
10U_10V_M
0805_X5R
C536
10U_10V_M
0805_X5R
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
Mini-PCIE Card
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A3
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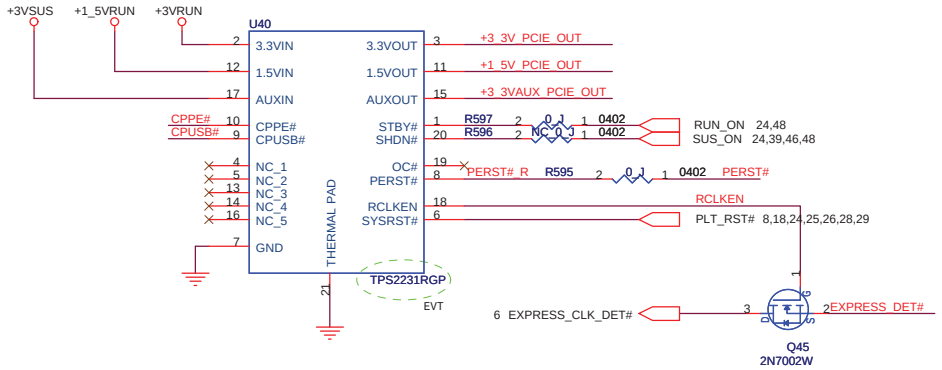
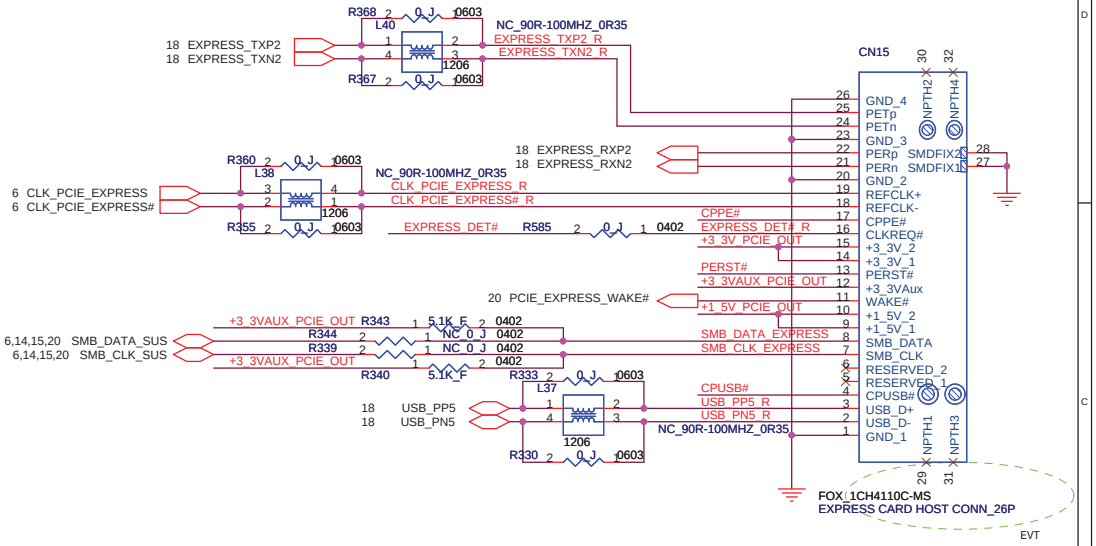
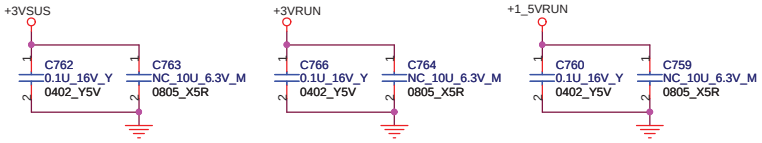
+1_5V=>1.3A
+3_3VAux=>0.6A
+3_3V=>2.5A

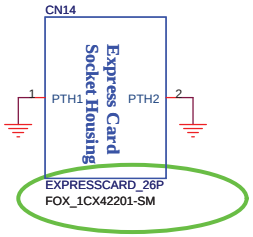
Express Card Power Switch

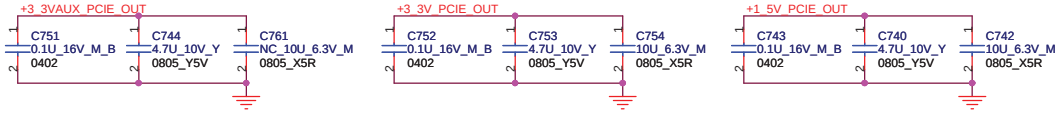




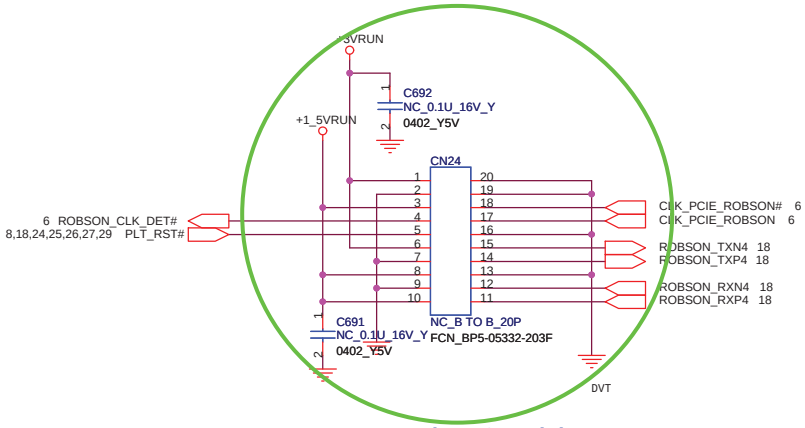
Express Card Slot.





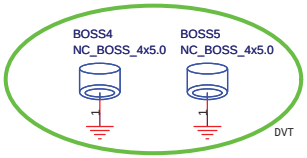


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title: EXPRESS CARD		
Size: A3	Document Number: M790-1-01	Rev: 1.0
Date: Wednesday, July 02, 2008	Sheet 27 of 54	



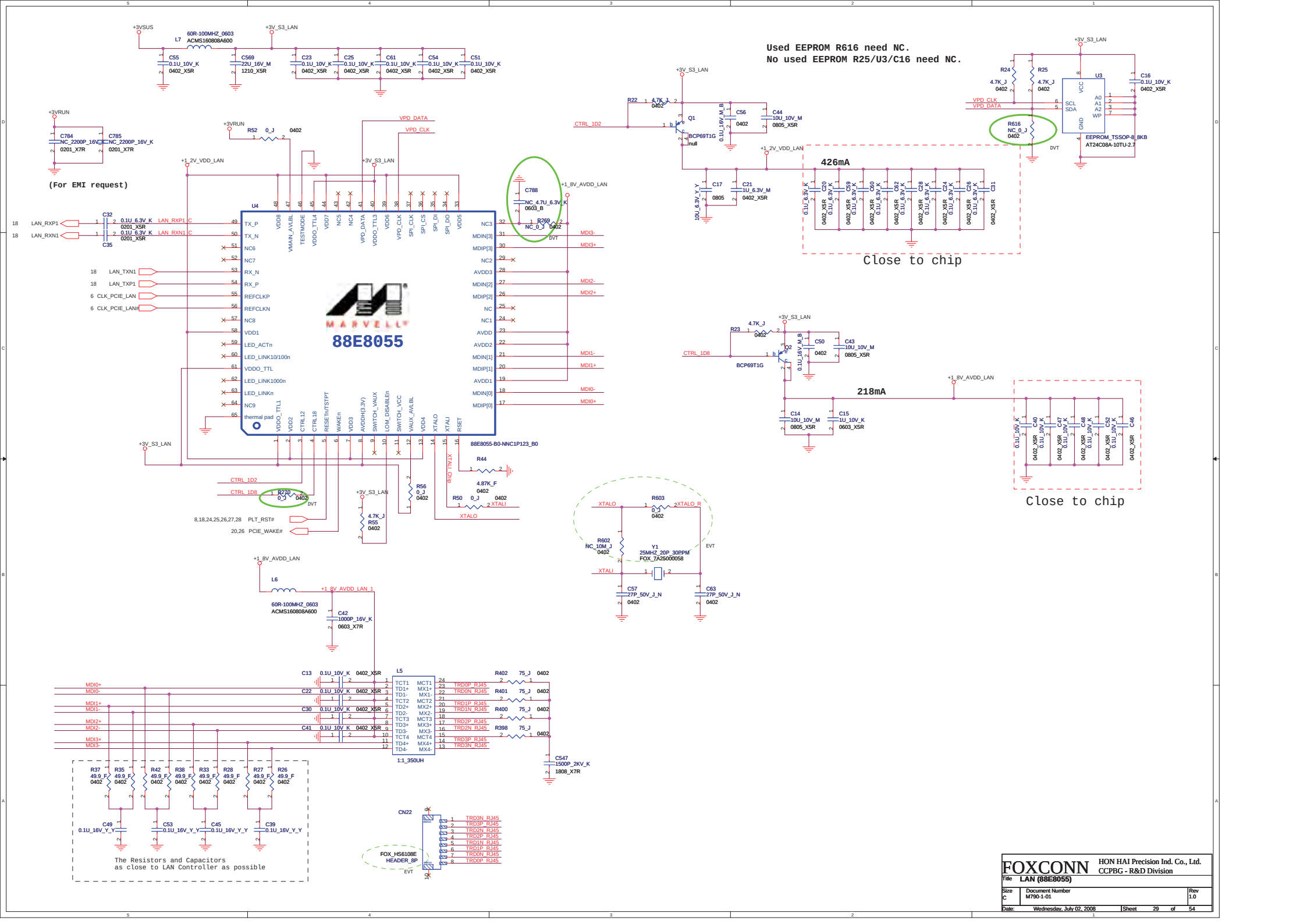
Robson2 Module

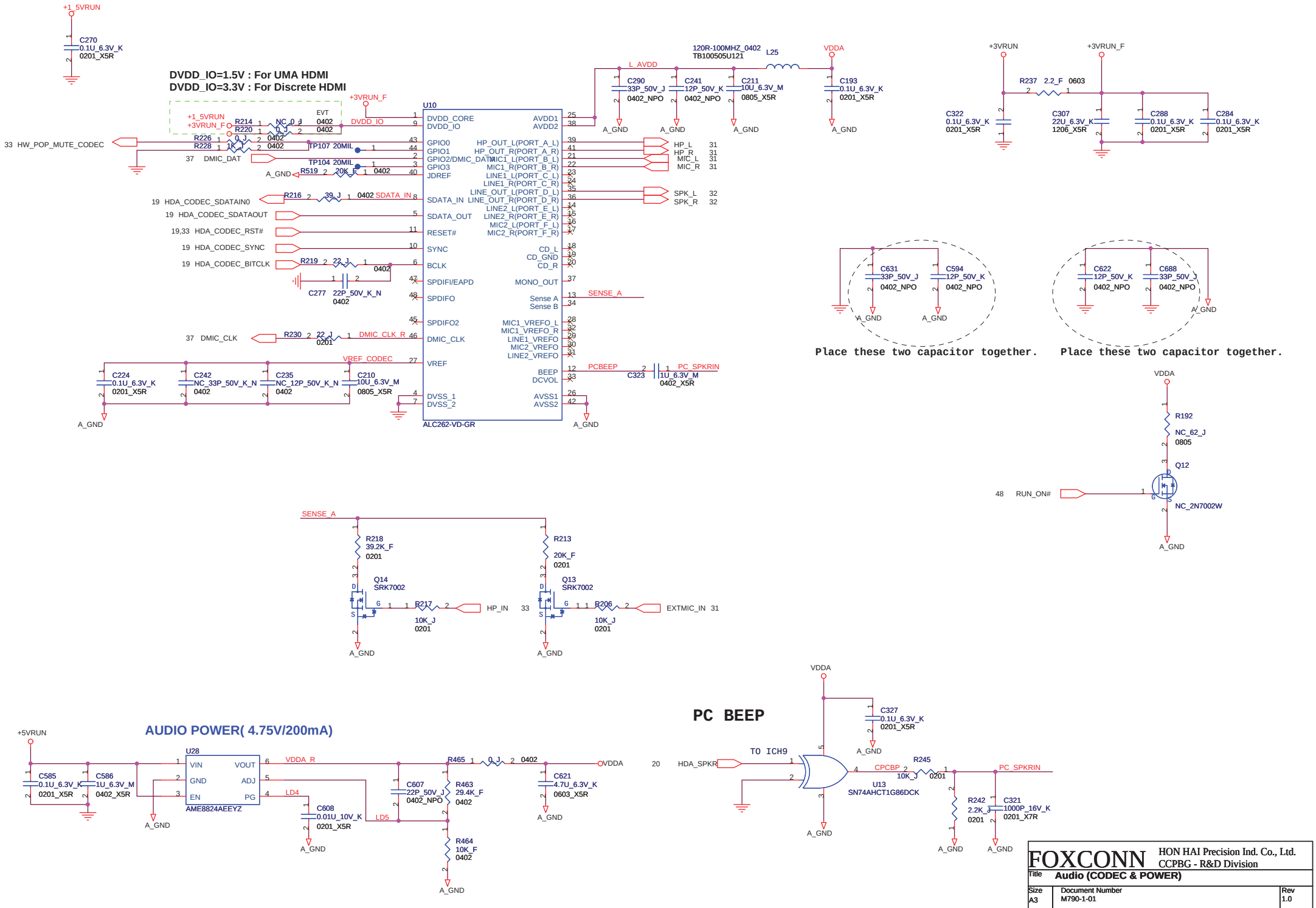
EVT2 11/6 Need to update new connector.



ROBSON

FOXCONN	HON HAI PRECISION IND. CO., LTD. CPBG - R&D Division	
Title: ***ROBSON CONNECTOR***		
Size: A3	Document Number: **M790-1-01**	Rev: 1.0
Date: Wednesday, July 02, 2008	Sheet 28 of 54	


Used EEPROM R616 need NC.
No used EEPROM R25/U3/C16 need NC.
(For EMI request)
88E8055
426mA
218mA
Close to chip
Close to chip
The Resistors and Capacitors
as close to LAN Controller as possible
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title LAN (88E8055)
Size C
Document Number M790-1-01
Rev 1.0
Date: Wednesday, July 02, 2008
Sheet 29 of 54


DVDD_IO=1.5V : For UMA HDMI
DVDD_IO=3.3V : For Discrete HDMI
U10
ALC262-VD-GR
Place these two capacitor together.
Place these two capacitor together.
AUDIO POWER(4.75V/200mA)
U28
AME8824AEEYZ
PC BEEP
TO ICH9
U13
SN74AHCT1G86DCK
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
Audio (CODEC & POWER)
Size
A3
Document Number
M790-1-01
Rev
1.0
Date:
Wednesday, July 02, 2008
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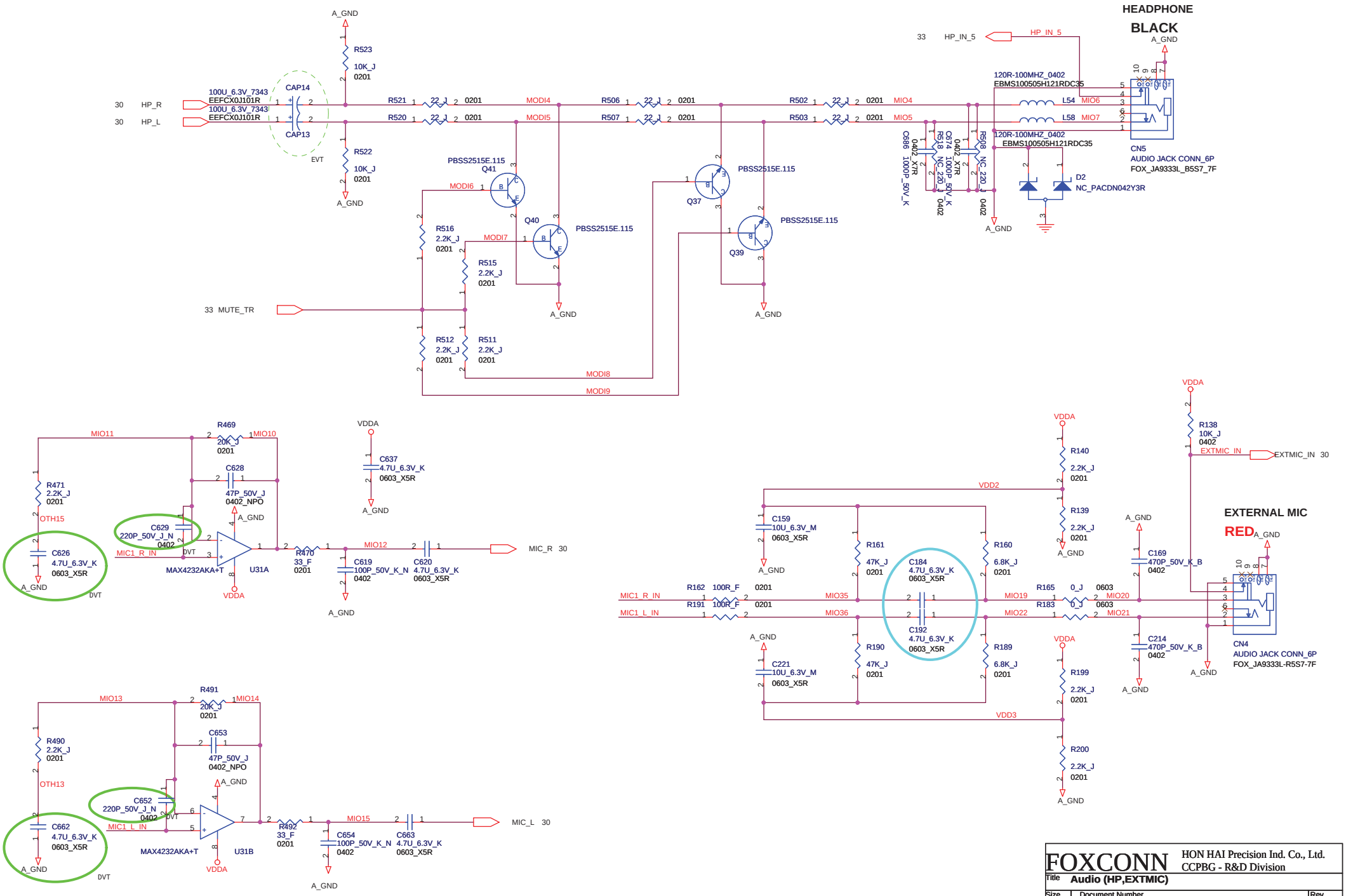
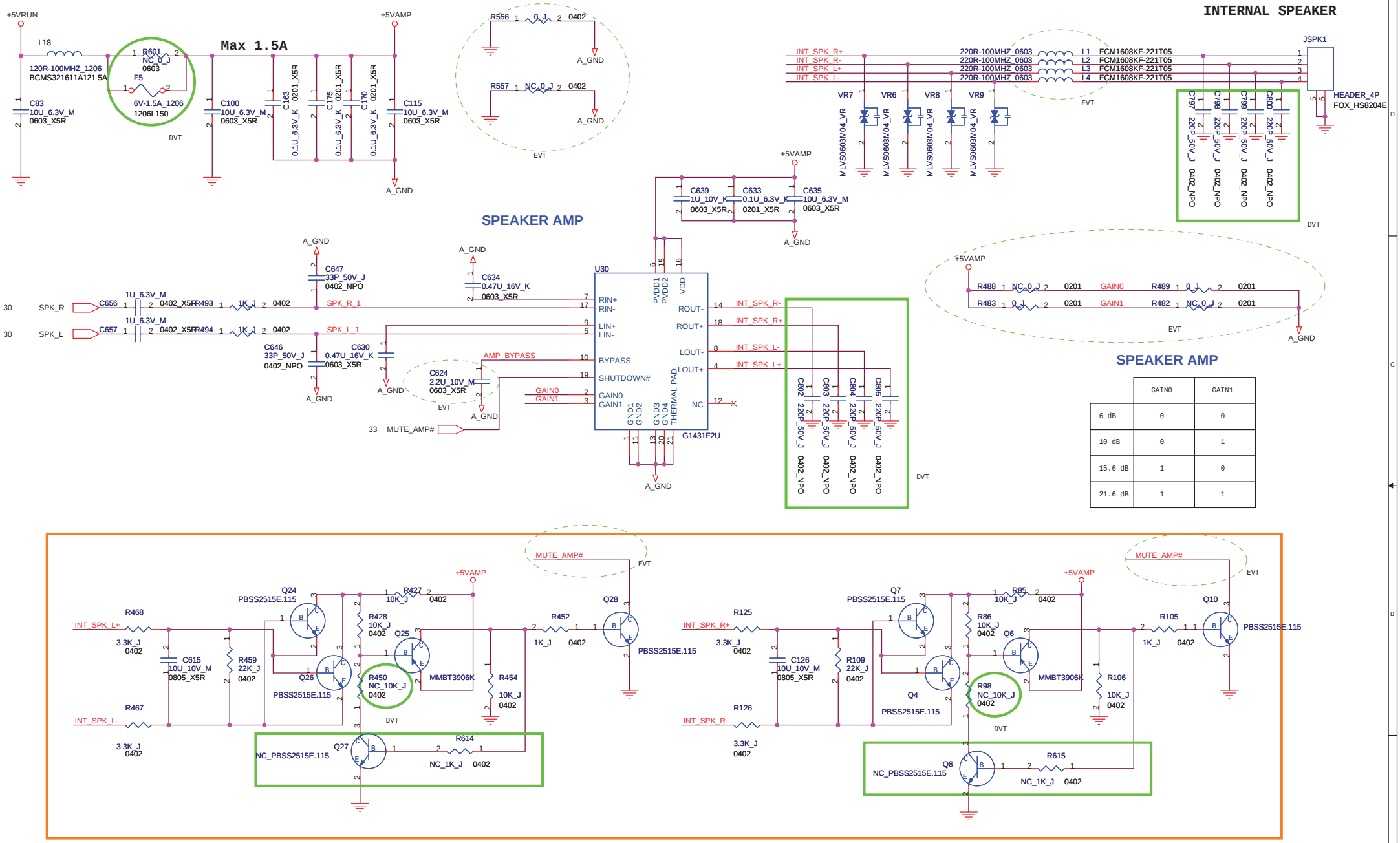
30
of
54



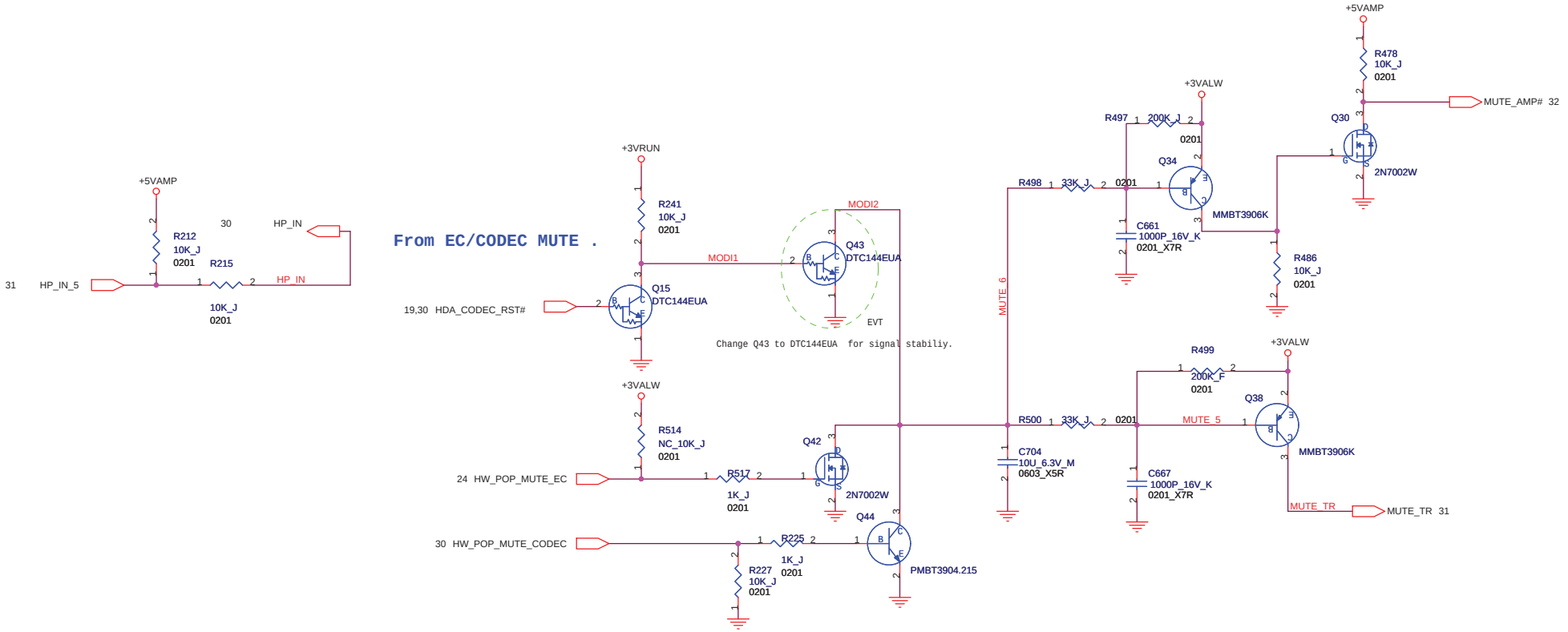
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	Audio (HP,EXTMIC)	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 31 of 54	

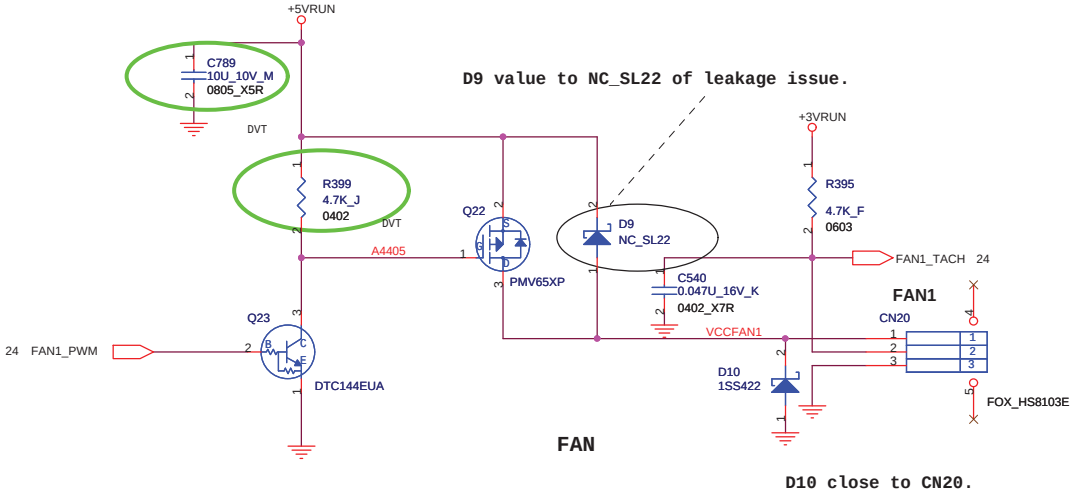


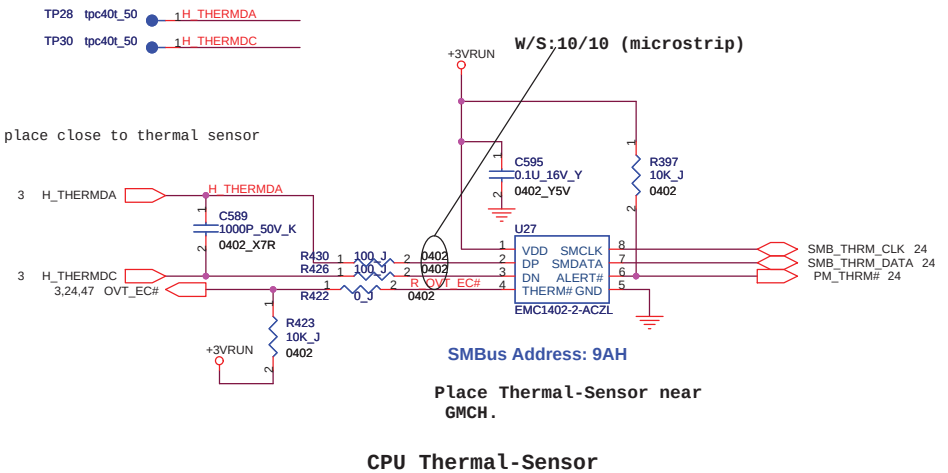
	GAIN0	GAIN1
6 dB	0	0
10 dB	0	1
15.6 dB	1	0
21.6 dB	1	1

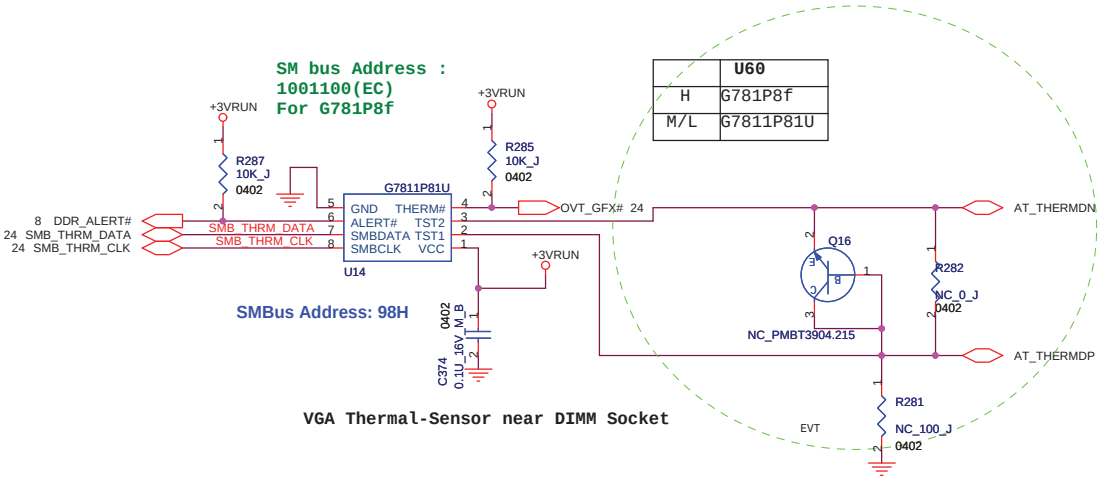
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division
Title	Audio (SPKR & MUTE)
Size A3	Document Number M790-1-01
Rev	1.0
Date:	Wednesday, July 02, 2008
Sheet	32 of 54



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Audio (SPKR & MUTE)	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 33 of 54	

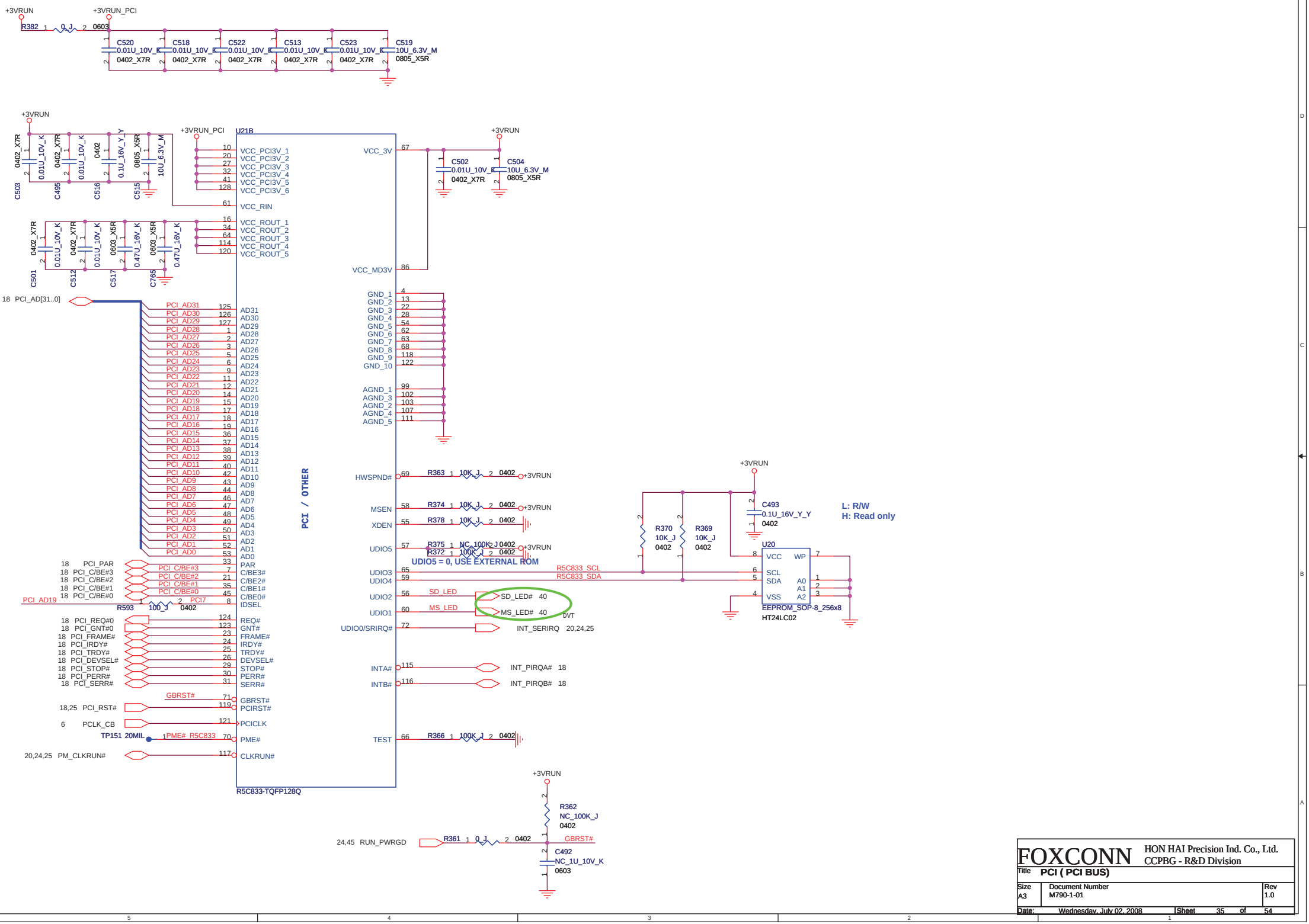


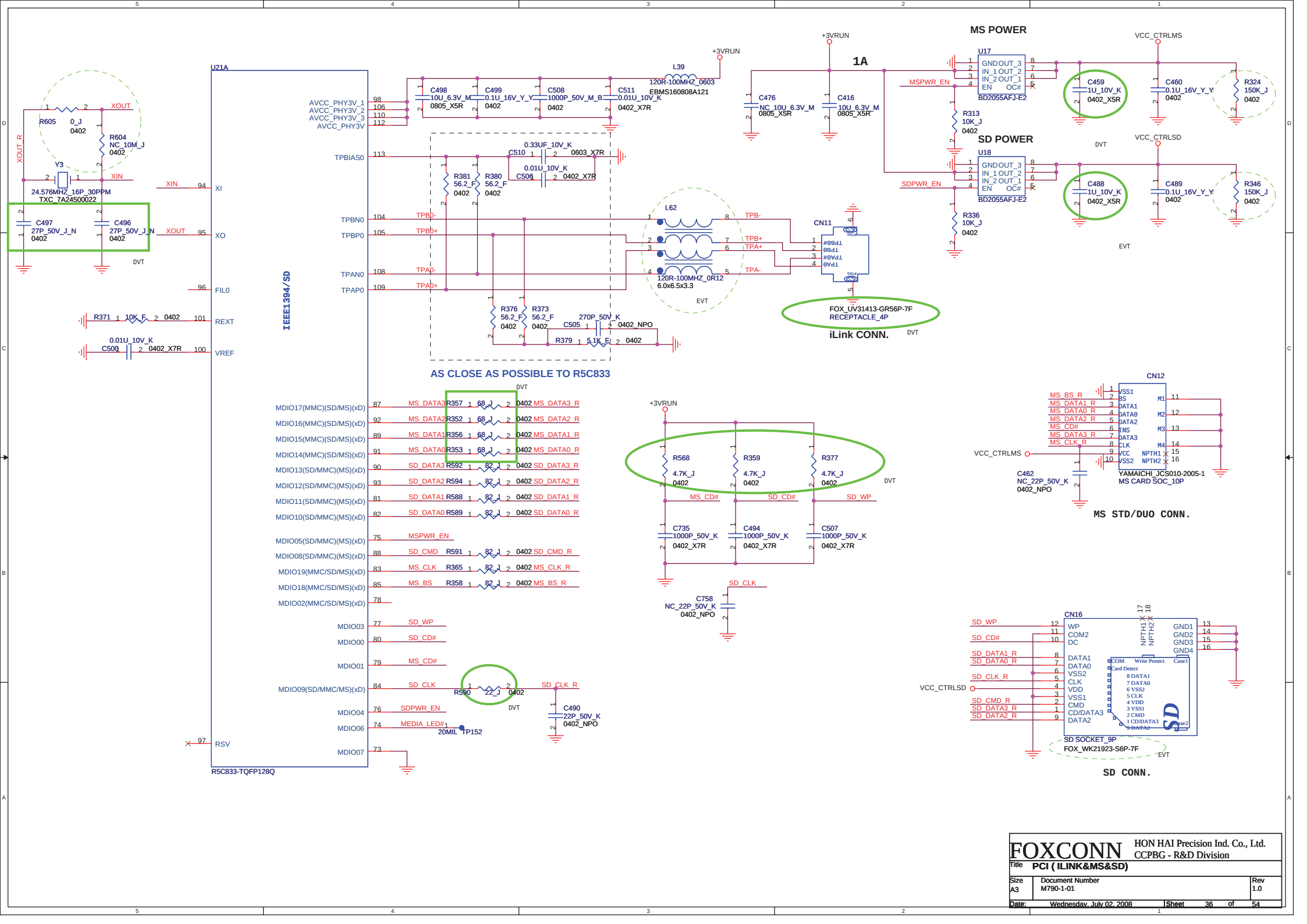


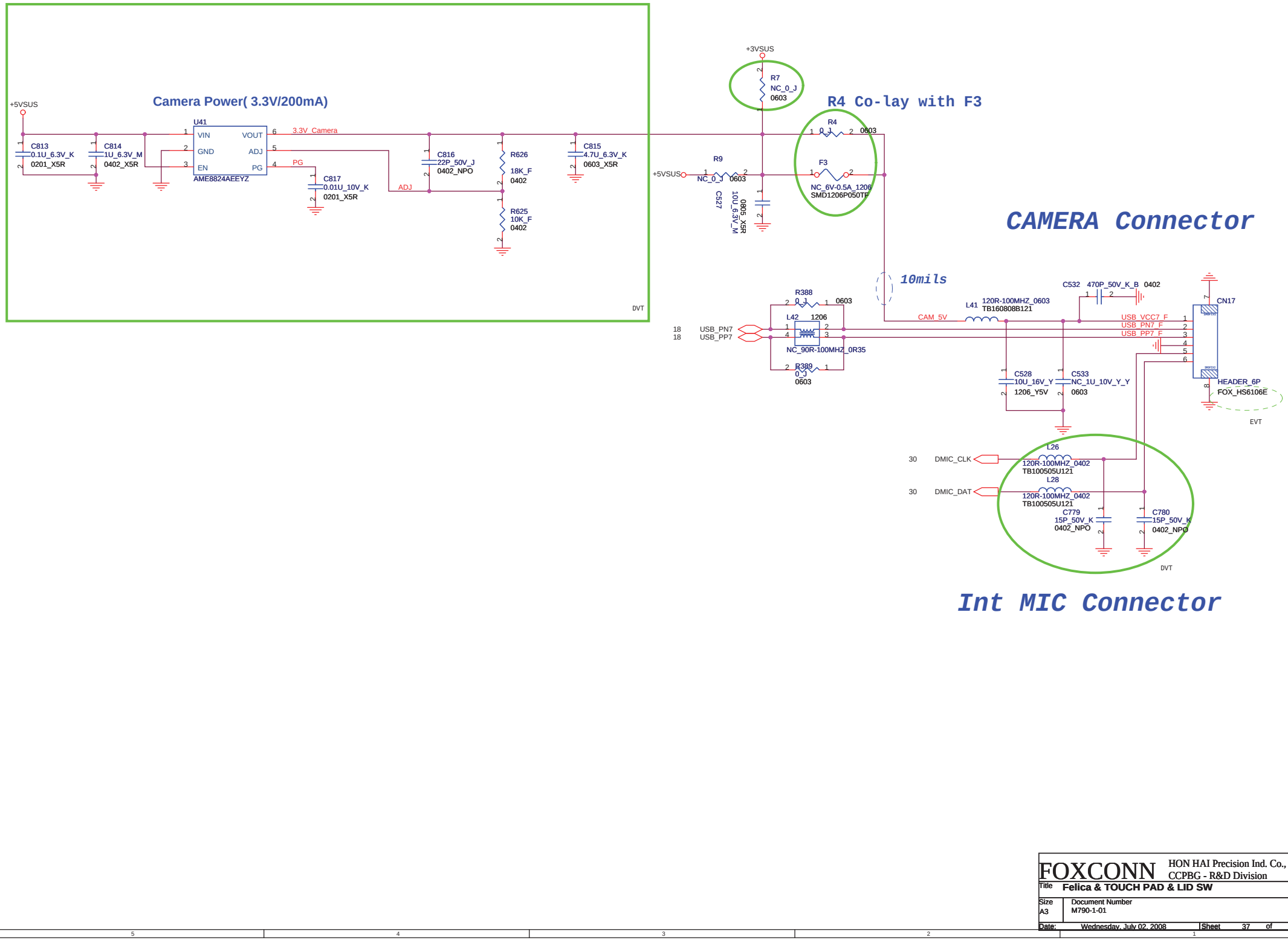


FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title	FAN/Thermal	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 34 of 54	

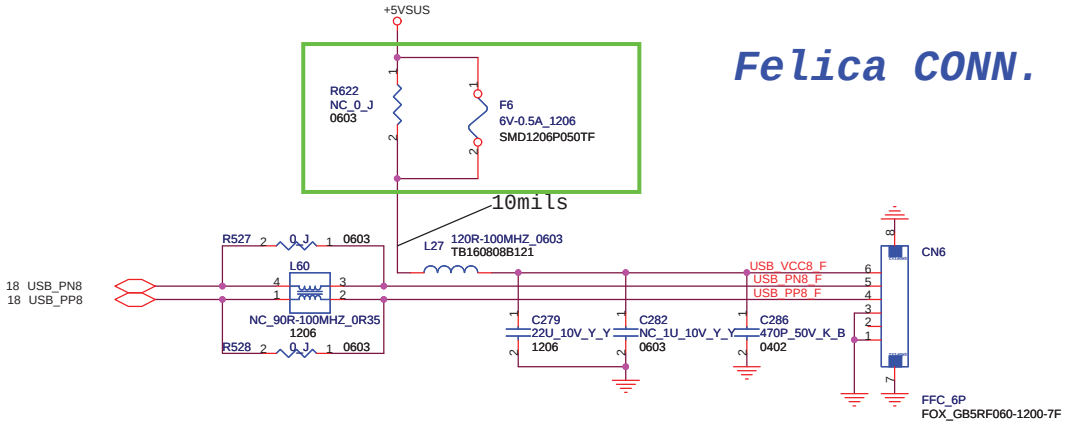

+3VRUN
+3VRUN_PCI
R382 1 0_J 2 0603
C520 0.01U_10V_K 0402_X7R
C518 0.01U_10V_K 0402_X7R
C522 0.01U_10V_K 0402_X7R
C513 0.01U_10V_K 0402_X7R
C523 0.01U_10V_K 0402_X7R
C519 10U_6.3V_M 0805_X5R
U21B
PCI / OTHER
VCC_PCI3V_1
VCC_PCI3V_2
VCC_PCI3V_3
VCC_PCI3V_4
VCC_PCI3V_5
VCC_PCI3V_6
VCC_RIN
VCC_ROUT_1
VCC_ROUT_2
VCC_ROUT_3
VCC_ROUT_4
VCC_ROUT_5
VCC_3V
VCC_MD3V
C502 0.01U_10V_K 0402_X7R
C504 10U_6.3V_M 0805_X5R
C503 C495 C516 C515
C501 C512 C517 C765
GND_1
GND_2
GND_3
GND_4
GND_5
GND_6
GND_7
GND_8
GND_9
GND_10
AGND_1
AGND_3
AGND_2
AGND_4
AGND_5
18 PCI_AD[31..0]
PCI_AD31
PCI_AD30
PCI_AD29
PCI_AD28
PCI_AD27
PCI_AD26
PCI_AD25
PCI_AD24
PCI_AD23
PCI_AD22
PCI_AD21
PCI_AD20
PCI_AD19
PCI_AD18
PCI_AD17
PCI_AD16
PCI_AD15
PCI_AD14
PCI_AD13
PCI_AD12
PCI_AD11
PCI_AD10
PCI_AD9
PCI_AD8
PCI_AD7
PCI_AD6
PCI_AD5
PCI_AD4
PCI_AD3
PCI_AD2
PCI_AD1
PCI_AD0
AD31
AD30
AD29
AD28
AD27
AD26
AD25
AD24
AD23
AD22
AD21
AD20
AD19
AD18
AD17
AD16
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
18 PCI_PAR
18 PCI_C/BE#3
18 PCI_C/BE#2
18 PCI_C/BE#1
18 PCI_C/BE#0
PAR
C/BE3#
C/BE2#
C/BE1#
C/BE0#
PCI_AD19
R593 100_J 0402
PCI7
IDSEL
18 PCI_REQ#0
18 PCI_GNT#0
18 PCI_FRAME#
18 PCI_IRDY#
18 PCI_TRDY#
18 PCI_DEVSEL#
18 PCI_STOP#
18 PCI_PERR#
18 PCI_SERR#
REQ#
GNT#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PERR#
SERR#
GBRST#
18,25 PCI_RST#
GBRST#
PCIRST#
6 PCLK_CB
PCICLK
TP151 20MIL
PME#_R5C833
PME#
20,24,25 PM_CLKRUN#
CLKRUN#
R5C833-TQFP128Q
HWSPND#
R363 10K_J 0402
MSEN
R374 10K_J 0402
XDEN
R378 10K_J 0402
UDIO5
R375 NC_100K_J 0402
R372 100K_J 0402
UDIO5 = 0, USE EXTERNAL ROM
UDIO3
UDIO4
R5C833_SCL
R5C833_SDA
UDIO2
SD_LED
SD_LED# 40
UDIO1
MS_LED
MS_LED# 40
DVT
UDIO0/SRIRQ#
INT_SERIRQ 20,24,25
INTA#
INT_PIRQA# 18
INTB#
INT_PIRQB# 18
TEST
R366 100K_J 0402
R370 10K_J 0402
R369 10K_J 0402
C493 0.1U_16V_Y_Y 0402
U20
VCC
WP
SCL
SDA
A0
A1
A2
VSS
EEPROM_SOP-8_256x8
HT24LC02
L: R/W
H: Read only
R362 NC_100K_J 0402
24,45 RUN_PWRGD
R361 0_J 0402
GBRST#
C492 NC_1U_10V_K 0603
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title PCI (PCI BUS)
Size A3
Document Number M790-1-01
Rev 1.0
Date: Wednesday, July 02, 2008
Sheet 35 of 54


MS POWER
SD POWER
1A
U21A
IEEE1394/SD
R5C833-TQFP128Q
AS CLOSE AS POSSIBLE TO R5C833
iLink CONN.
MS STD/DUO CONN.
SD CONN.
SD SOCKET_9P
FOX_WK21923-S6P-7F
FOX_UV31413-GR56P-7F
RECEPTACLE_4P
120R-100MHZ_0603
EBMS160808A121
120R-100MHZ_0R12
6.0x6.5x3.3
24.576MHZ_16P_30PPM
TXC_7A24500022
BD2055AFJ-E2
YAMAICHI_JCS010-2005-1
MS CARD SOC_10P
DVT
EVT

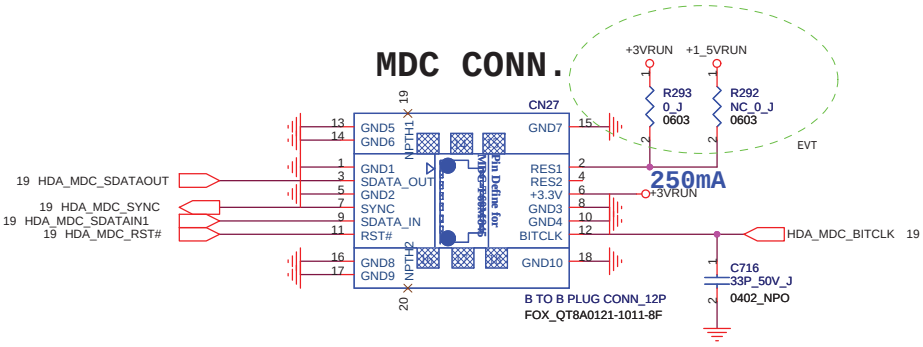


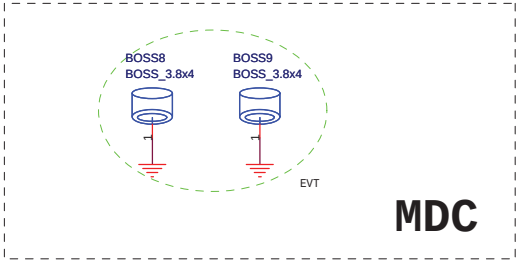
FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Felica & TOUCH PAD & LID SW	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 37 of 54	

Felica CONN.



MDC CONN.





FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Felica & TOUCH PAD & LID SW	
Size A3	Document Number M790-1-01	Rev 1.0
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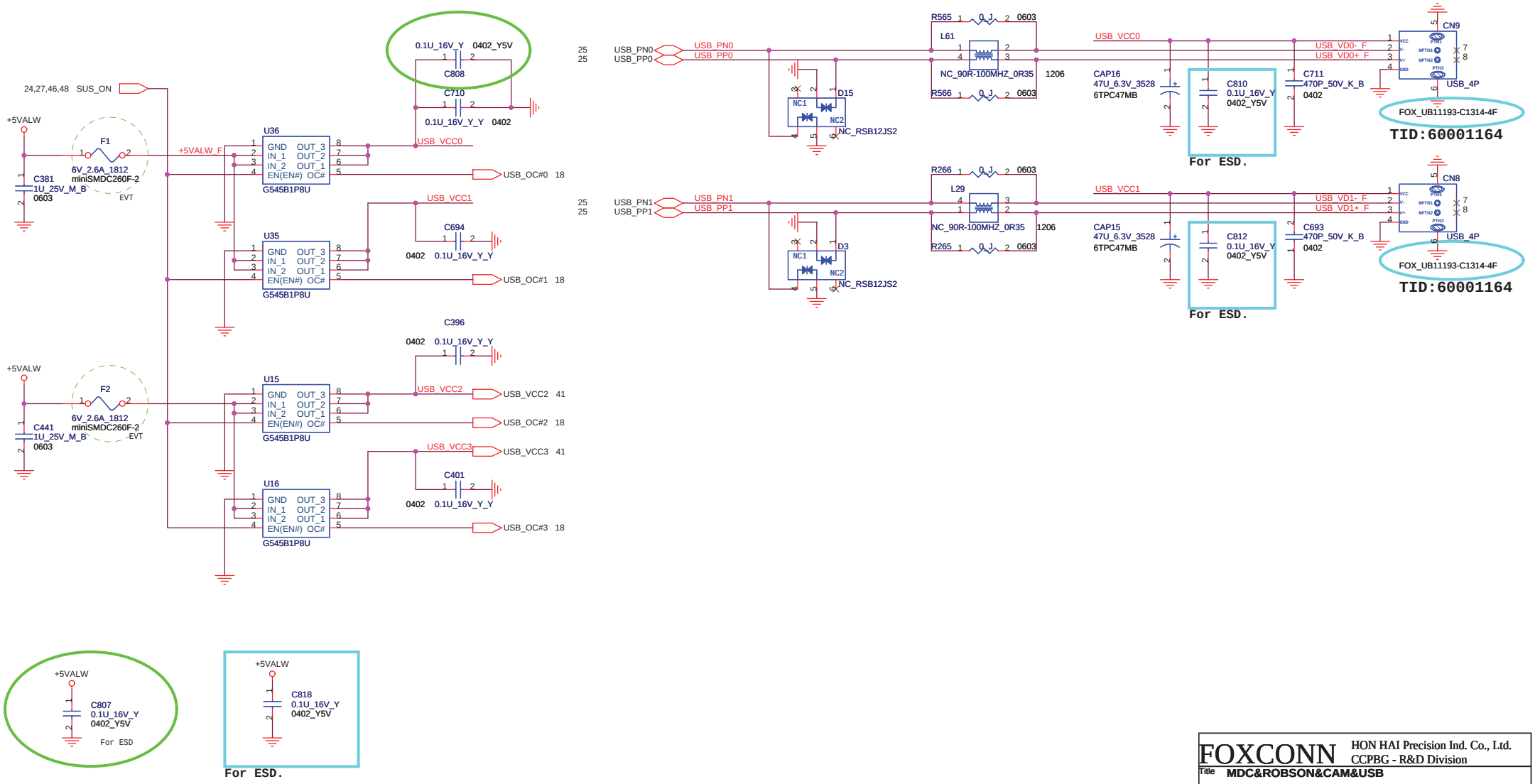

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	MDC&ROBSON&CAM&USB	
Size A3	Document Number M790-1-01	Rev 1.0
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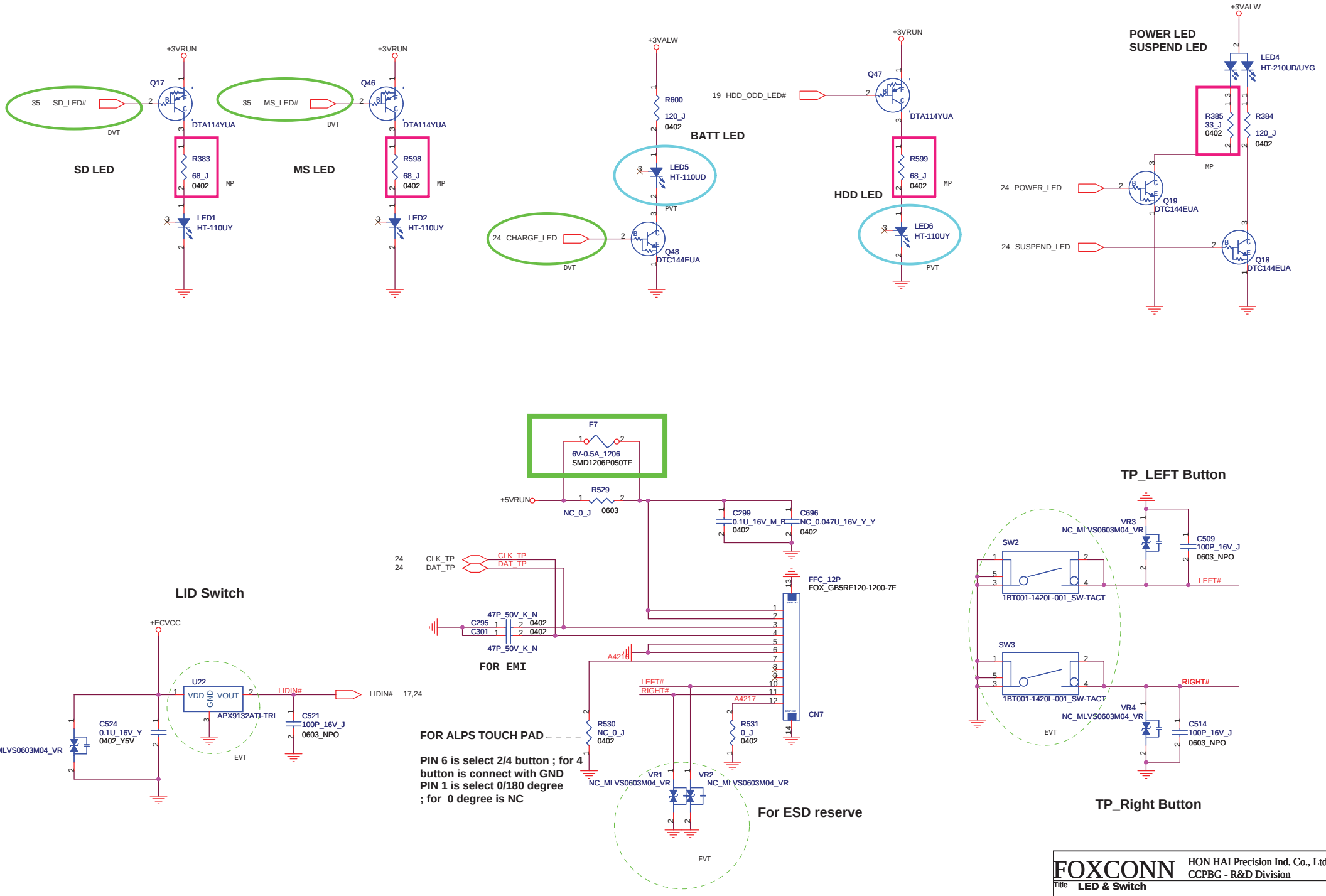
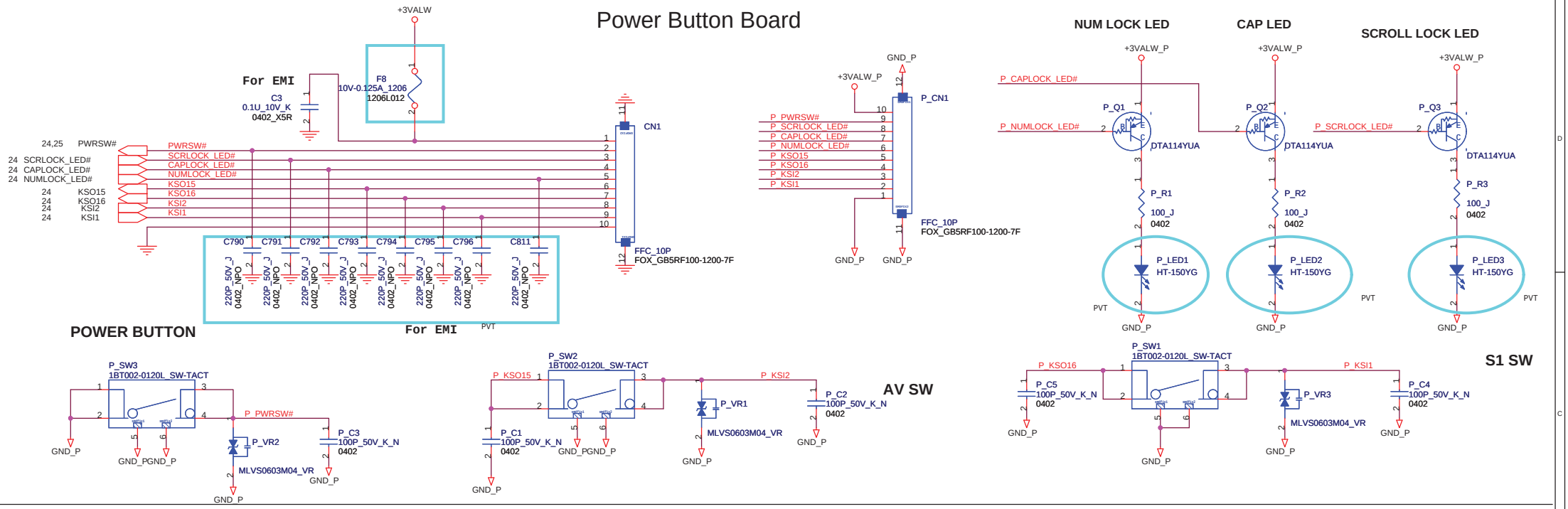
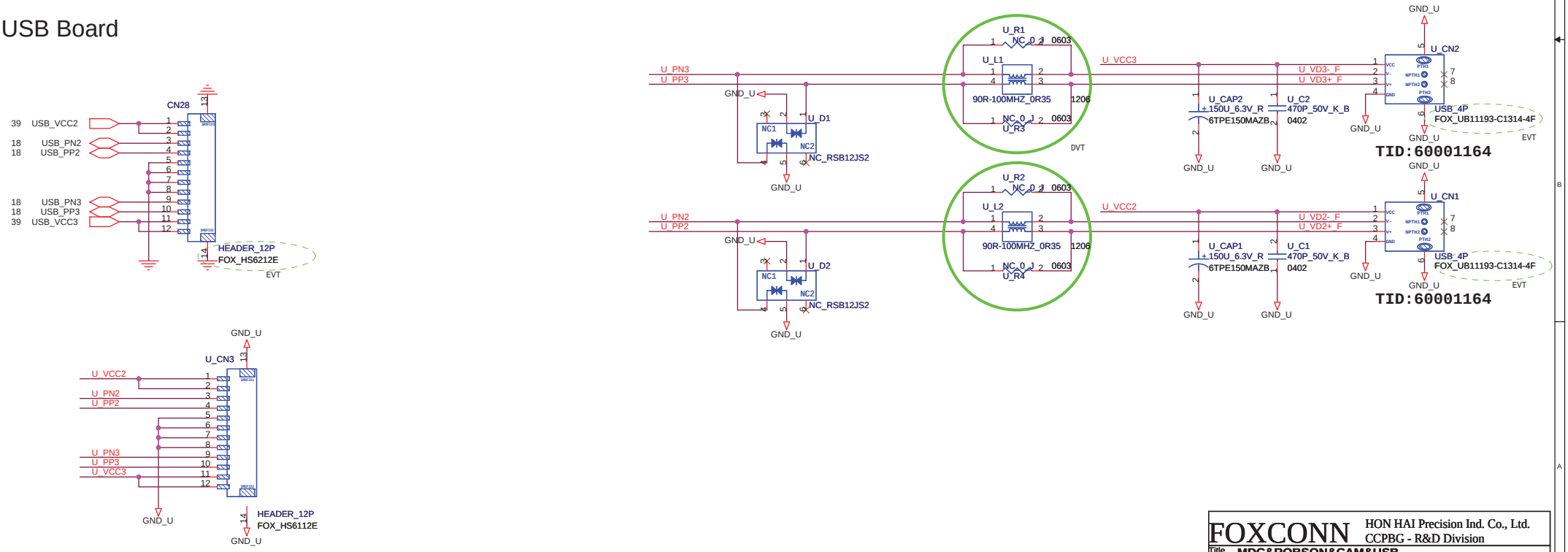

SD LED
MS LED
BATT LED
HDD LED
POWER LED
SUSPEND LED
LID Switch
FOR EMI
FOR ALPS TOUCH PAD
PIN 6 is select 2/4 button ; for 4 button is connect with GND
PIN 1 is select 0/180 degree ; for 0 degree is NC
For ESD reserve
TP_LEFT Button
TP_Right Button
+3VRUN
+3VALW
+ECVCC
+5VRUN
DTA114YUA
DTC144EUA
HT-110UY
HT-110UD
HT-210UD/UYG
APX9132ATI-TRL
FFC_12P
FOX_GB5RF120-1200-7F
1BT001-1420L-001_SW-TACT
NC_MLVS0603M04_VR
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
LED & Switch
M790-1-01
Wednesday, July 23, 2008

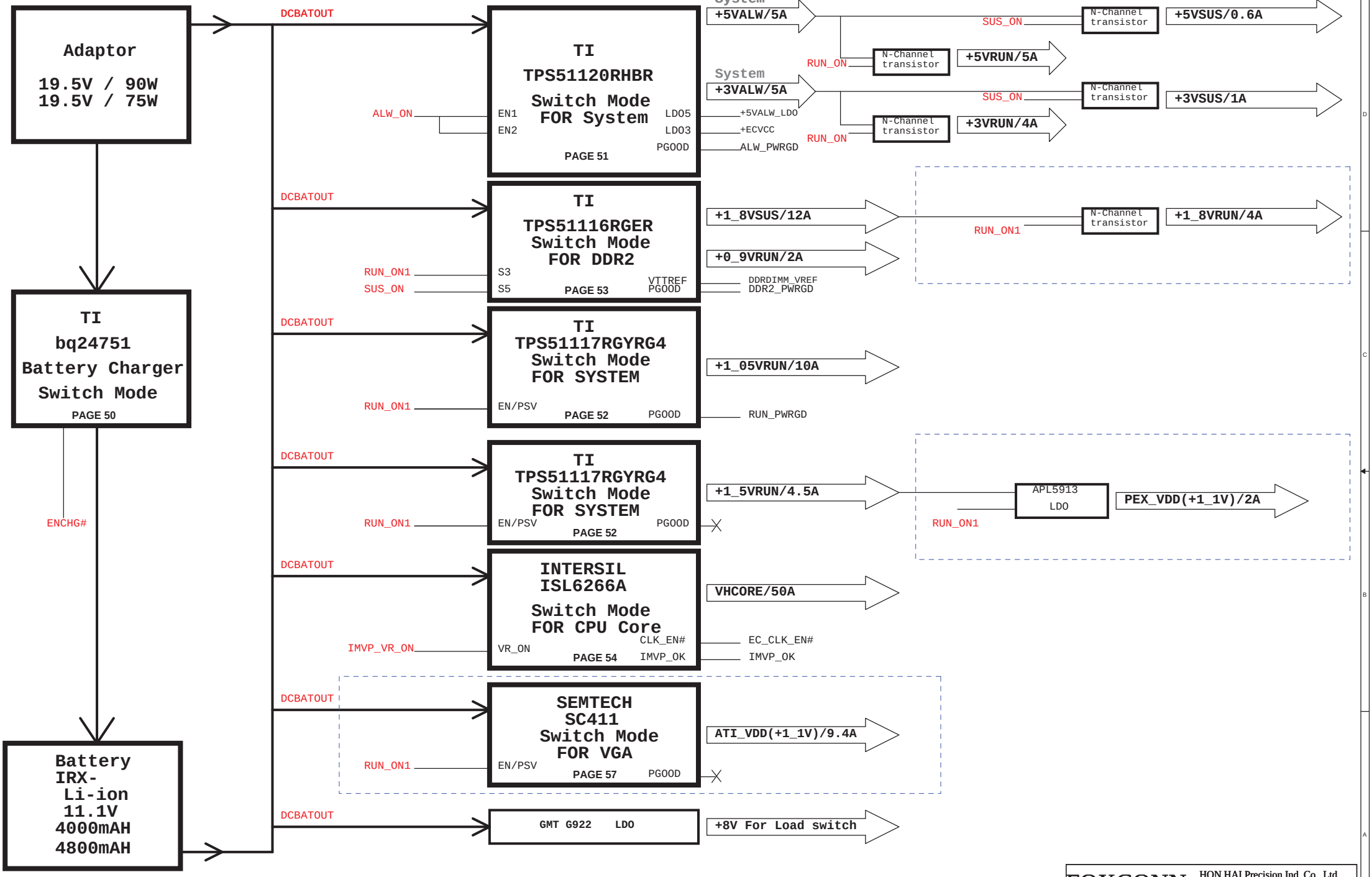
Power Button Board



USB Board

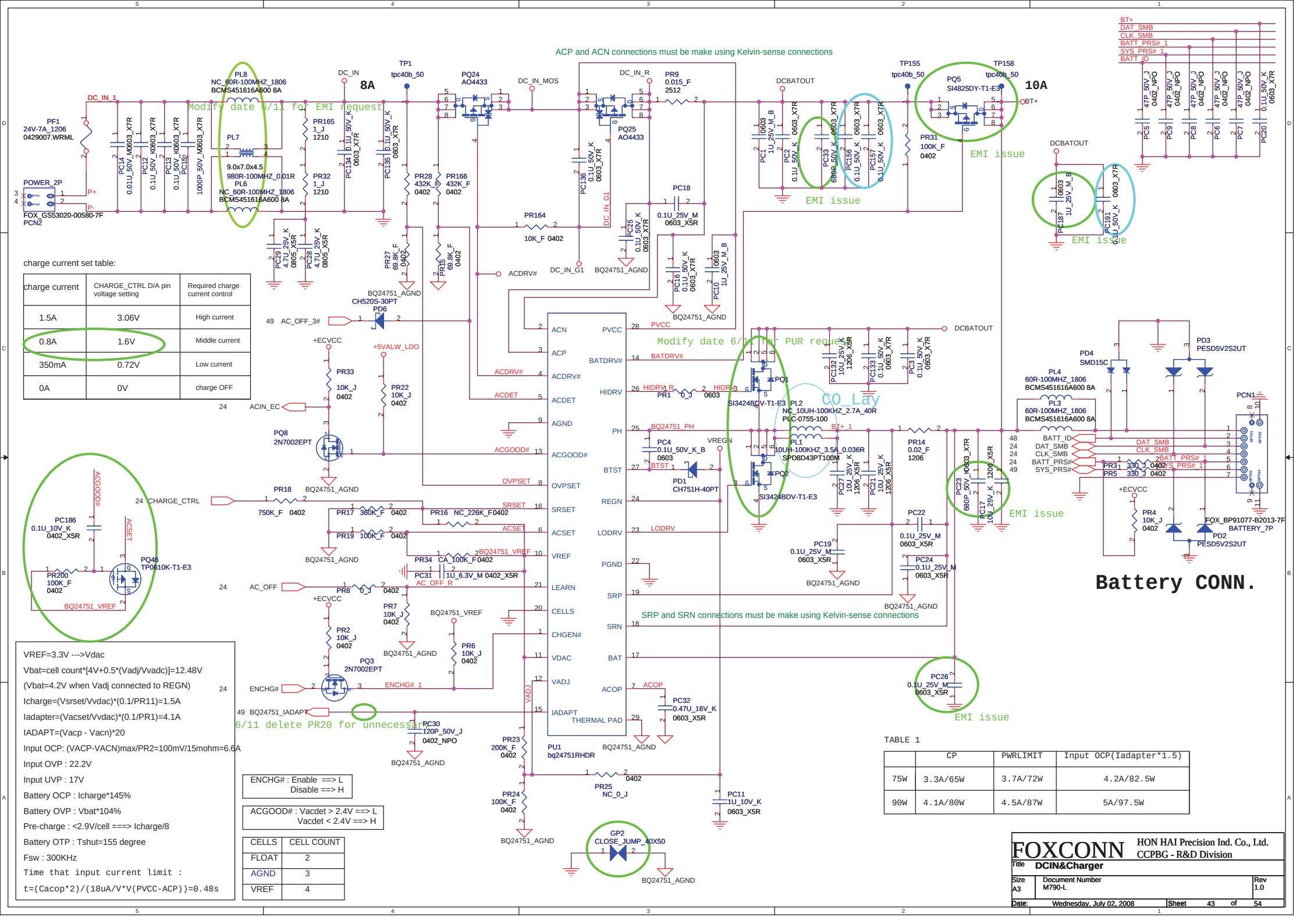


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	MDC&ROBSON&CAM&USB	
Size A3	Document Number M790-1-01	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 41 of 54	



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

Title	Power Design Diagram	
Size A3	Document Number M790-L	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 42 of 54	


ACP and ACN connections must be make using Kelvin-sense connections
Modify date 6/11 for EMI request
8A
10A
DC_IN
DC_IN_1
TP1
tpc40b_50
PF1
24V-7A_1206
0429007.WRML
POWER_2P
FOX_GS53020-00580-7F
PCN2
PL8
NC_60R-100MHZ_1806
BCMS451616A600 8A
PL7
9.0x7.0x4.5
980R-100MHZ_0.01R
PL6
NC_60R-100MHZ_1806
BCMS451616A600 8A
PQ24
AO4433
PQ25
AO4433
DC_IN_MOS
DC_IN_R
PR9
0.015_F
2512
DCBATOUT
TP155
tpc40b_50
TP158
tpc40b_50
PQ5
SI4825DY-T1-E3
BT+
EMI issue
DCBATOUT
EMI issue
BT+
DAT_SMB
CLK_SMB
BATT_PRS#_1
SYS_PRS#_1
BATT_ID
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
ACDRV#
DC_IN_G1
BQ24751_AGND
CH520S-30PT
PD6
49 AC_OFF_3#
+ECVCC
+5VALW_LDO
24 ACIN_EC
PQ8
2N7002EPT
ACDET
ACGOOD#
OVPSET
SRSET
ACSET
VREF
LEARN
CELLS
CHGEN#
VDAC
VADJ
IADAPT
THERMAL PAD
ACN
ACP
ACDRV#
ACDET
AGND
ACGOOD#
OVPSET
SRSET
ACSET
VREF
LEARN
CELLS
CHGEN#
VDAC
VADJ
IADAPT
PVCC
BATDRV#
HIDRV
PH
BTST
REGN
LODRV
PGND
SRP
SRN
BAT
ACOP
THERMAL PAD
PU1
bq24751RHDR
PVCC
BATDRV#
HIDRV
PH
BTST
REGN
LODRV
PGND
SRP
SRN
BAT
ACOP
Modify date 6/11 for PUR request
PQ1
SI3424BDV-T1-E3
PQ2
SI3424BDV-T1-E3
PL2
NC_10UH-100KHZ_2.7A_40R
PLC-0755-100
PL1
10UH-100KHZ_3.5A_0.036R
SPD8D43PT100M
PD1
CH751H-40PT
CO_Lay
PD3
PESD5V2S2UT
PD4
SMD15C
PL4
60R-100MHZ_1806
BCMS451616A600 8A
PL3
60R-100MHZ_1806
BCMS451616A600 8A
PCN1
FOX_BP91077-B2013-7F
BATTERY_7P
PD2
PESD5V2S2UT
Battery CONN.
SRP and SRN connections must be make using Kelvin-sense connections
6/11 delete PR20 for unnecessary
24 CHARGE_CTRL
24 AC_OFF
24 ENCHG#
49 BQ24751_IADAPT
VREF=3.3V ---->Vdac
Vbat=cell count*[4V+0.5*(Vadj/Vvadc)]=12.48V
(Vbat=4.2V when Vadj connected to REGN)
Icharge=(Vsrset/Vvdac)*(0.1/PR11)=1.5A
Iadapter=(Vacset/Vvdac)*(0.1/PR1)=4.1A
IADAPT=(Vacp - Vacn)*20
Input OCP: (VACP-VACN)max/PR2=100mV/15mohm=6.6A
Input OVP : 22.2V
Input UVP : 17V
Battery OCP : Icharge*145%
Battery OVP : Vbat*104%
Pre-charge : <2.9V/cell ===> Icharge/8
Battery OTP : Tshut=155 degree
Fsw : 300KHz
Time that input current limit :
t=(Cacop*2)/(18uA/V*V(PVCC-ACP))=0.48s
ENCHG# : Enable ==> L
Disable ==> H
ACGOOD# : Vacdet > 2.4V ==> L
Vacdet < 2.4V ==> H
CELLS
CELL COUNT
FLOAT
2
AGND
3
VREF
4
TABLE 1
CP
PWRLIMIT
Input OCP(Iadapter*1.5)
75W
3.3A/65W
3.7A/72W
4.2A/82.5W
90W
4.1A/80W
4.5A/87W
5A/97.5W
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title
DCIN&Charger
Size
A3
Document Number
M790-L
Rev
1.0
Date:
Wednesday, July 02, 2008
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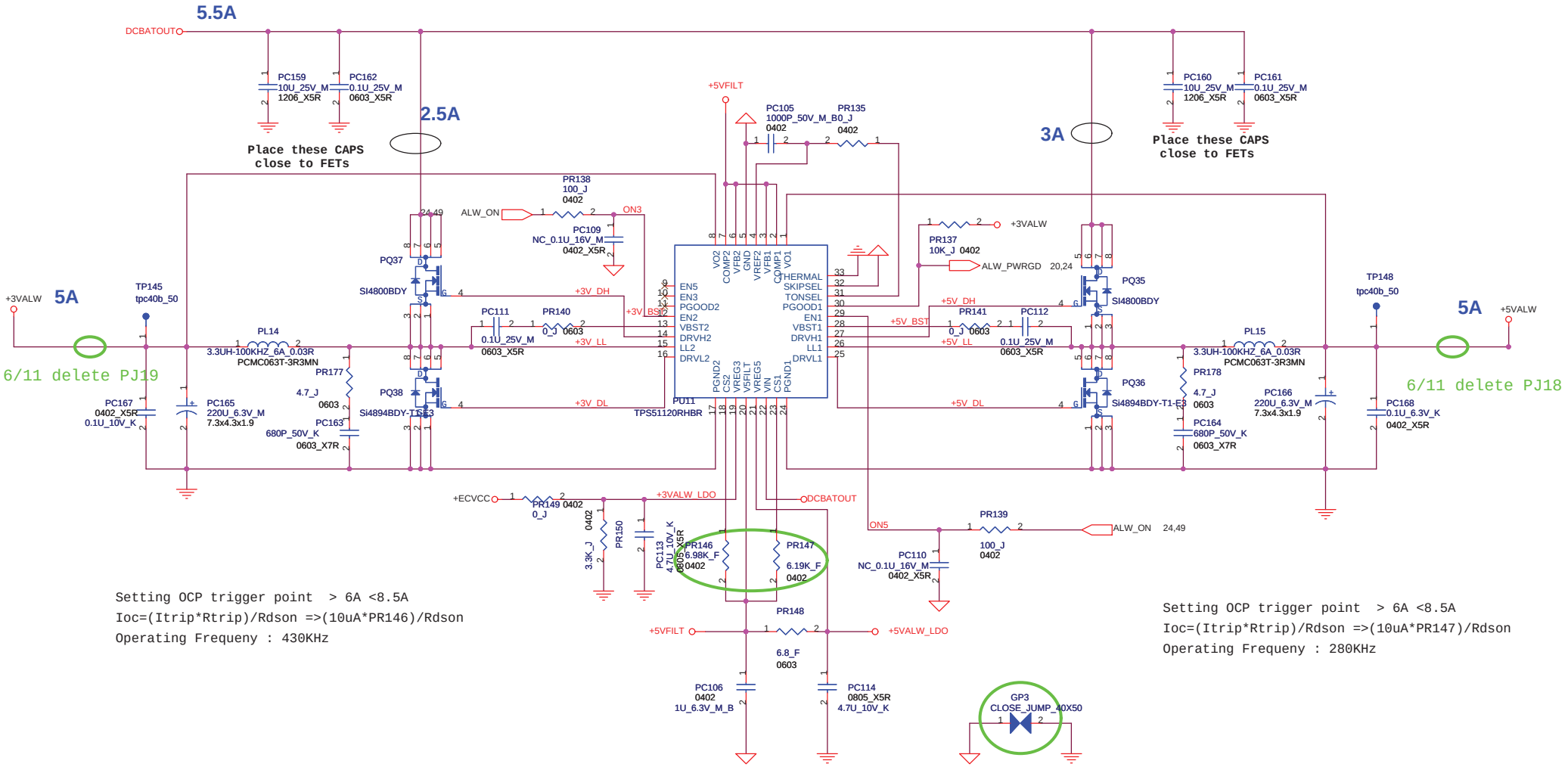
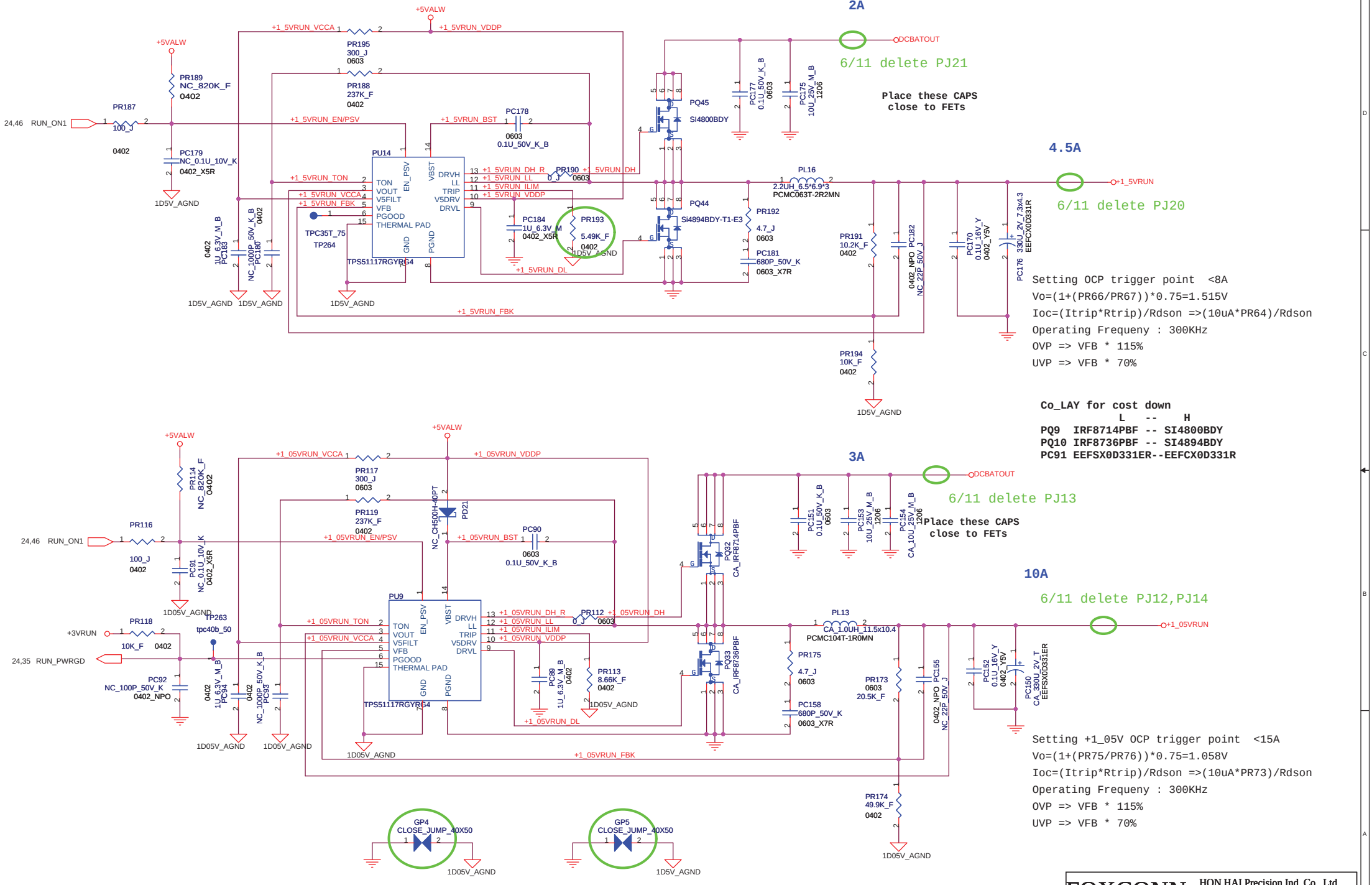
of
54



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	SYS Power (+3_3V/+5V)	
Size A3	Document Number M790-L	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 44 of 54	


2A
DCBATOUT
6/11 delete PJ21
Place these CAPS close to FETs
4.5A
+1_5VRUN
6/11 delete PJ20
Setting OCP trigger point <8A
Vo=(1+(PR66/PR67))*0.75=1.515V
Ioc=(Itrip*Rtrip)/Rdson =>(10uA*PR64)/Rdson
Operating Frequeny : 300KHz
OVP => VFB * 115%
UVP => VFB * 70%
Co_LAY for cost down
L -- H
PQ9 IRF8714PBF -- SI4800BDY
PQ10 IRF8736PBF -- SI4894BDY
PC91 EEFSX0D331ER--EEFCX0D331R
3A
DCBATOUT
6/11 delete PJ13
Place these CAPS close to FETs
10A
+1_05VRUN
6/11 delete PJ12,PJ14
Setting +1_05V OCP trigger point <15A
Vo=(1+(PR75/PR76))*0.75=1.058V
Ioc=(Itrip*Rtrip)/Rdson =>(10uA*PR73)/Rdson
Operating Frequeny : 300KHz
OVP => VFB * 115%
UVP => VFB * 70%
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title SYS Power(+1_5V/+1_05V)
Size A3
Document Number M790-L
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Date: Wednesday, July 02, 2008
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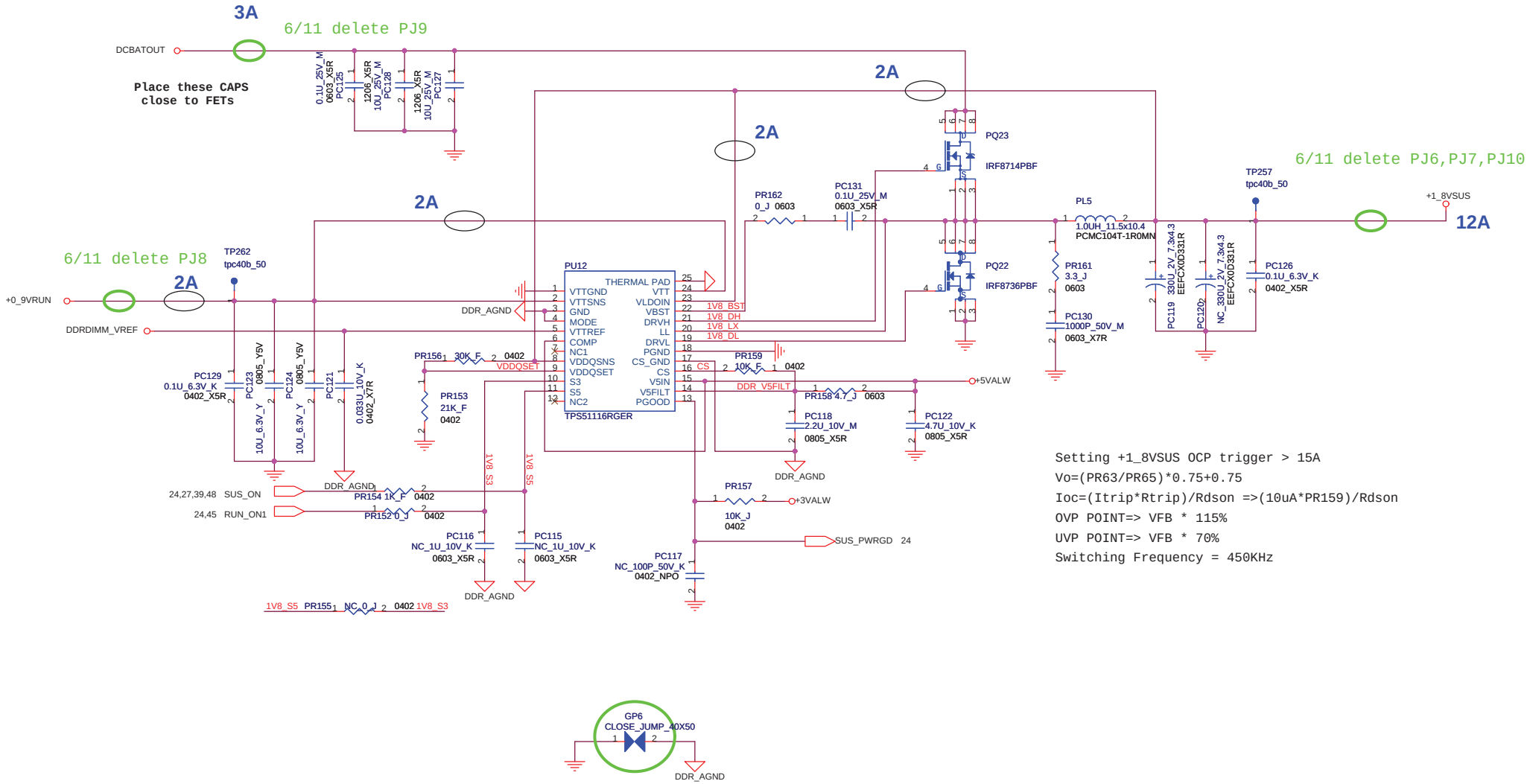
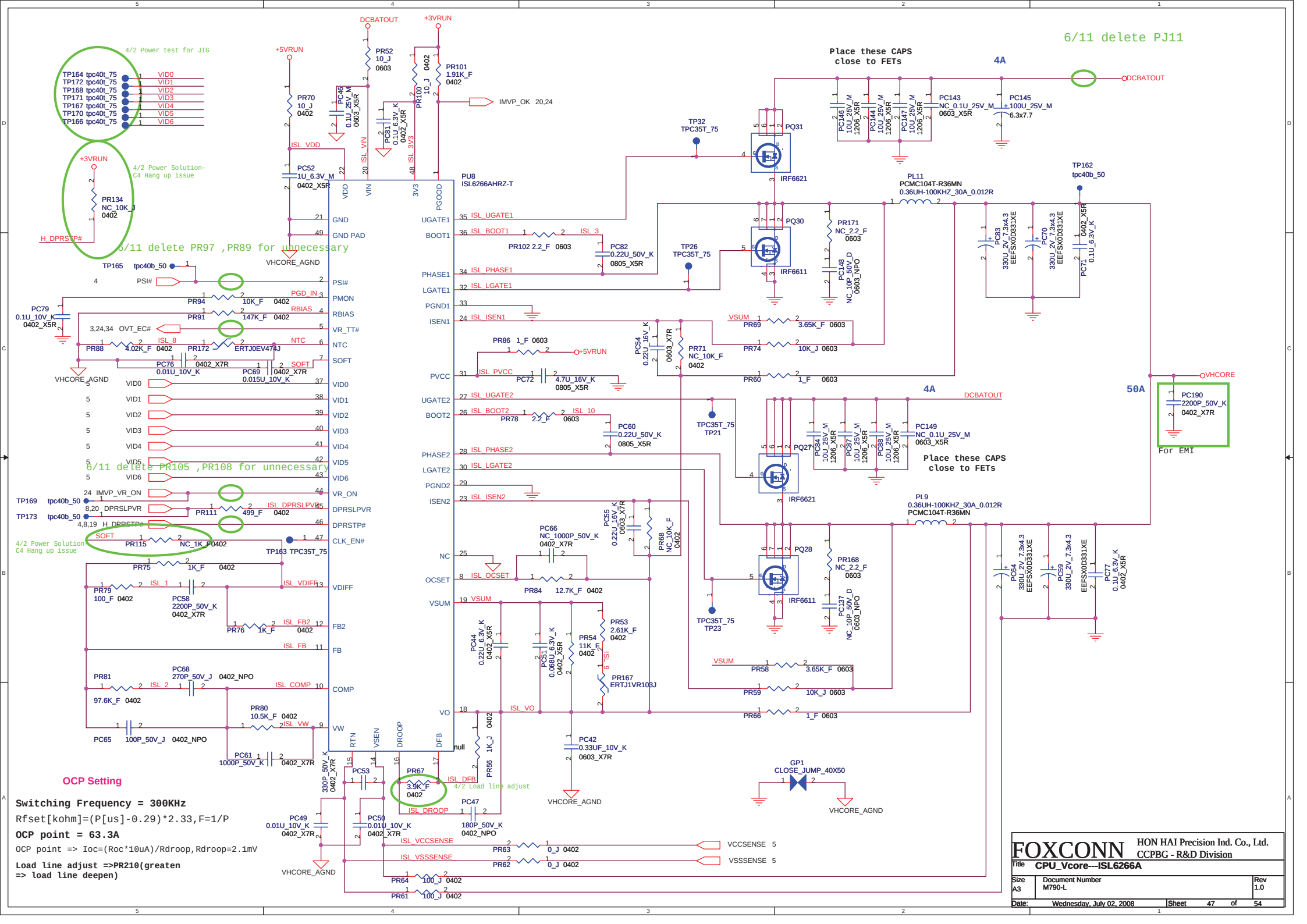


FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	DDR2 Power(+1_8V/+0_9V)	
Size A3	Document Number M790-L	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 46 of 54	


6/11 delete PJ11
Place these CAPS close to FETs
4A
DCBATOUT
50A
VHCORE
For EMI
4/2 Power test for JIG
4/2 Power Solution- C4 Hang up issue
6/11 delete PR97 ,PR89 for unnecessary
6/11 delete PR105 ,PR108 for unnecessary
PU8 ISL6266AHRZ-T
PL11 PCMC104T-R36MN 0.36UH-100KHZ_30A_0.012R
PL9 0.36UH-100KHZ_30A_0.012R PCMC104T-R36MN
IRF6621
IRF6611
OCP Setting
Switching Frequency = 300KHz
Rfset[kohm]=(P[us]-0.29)*2.33,F=1/P
OCP point = 63.3A
OCP point => Ioc=(Roc*10uA)/Rdroop,Rdroop=2.1mV
Load line adjust =>PR210(greaten => load line deepen)
4/2 Load line adjust
VHCORE_AGND
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title CPU_Vcore---ISL6266A
Size A3
Document Number M790-L
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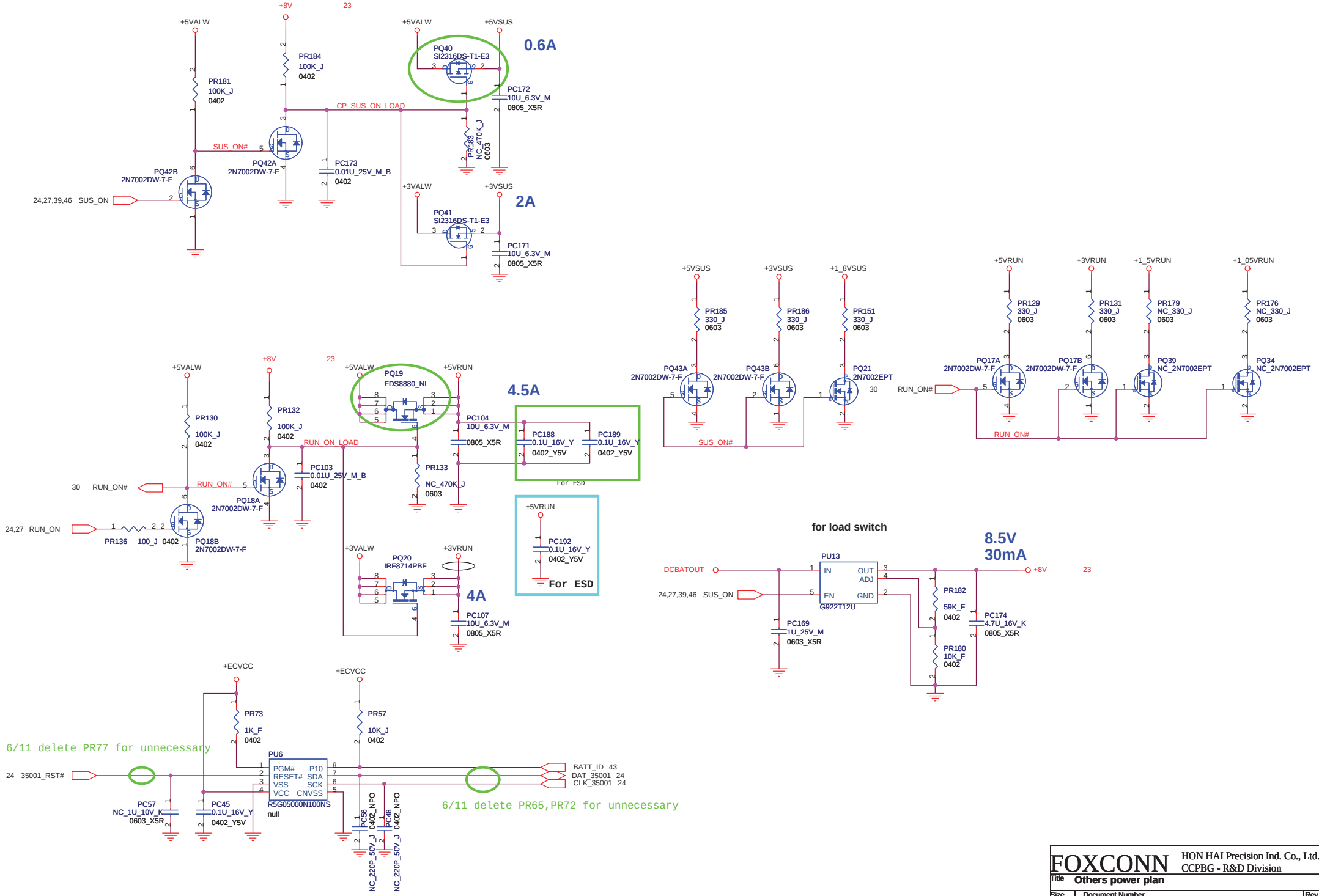

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	Others power plan	
Size A3	Document Number M790-L	Rev 1.0
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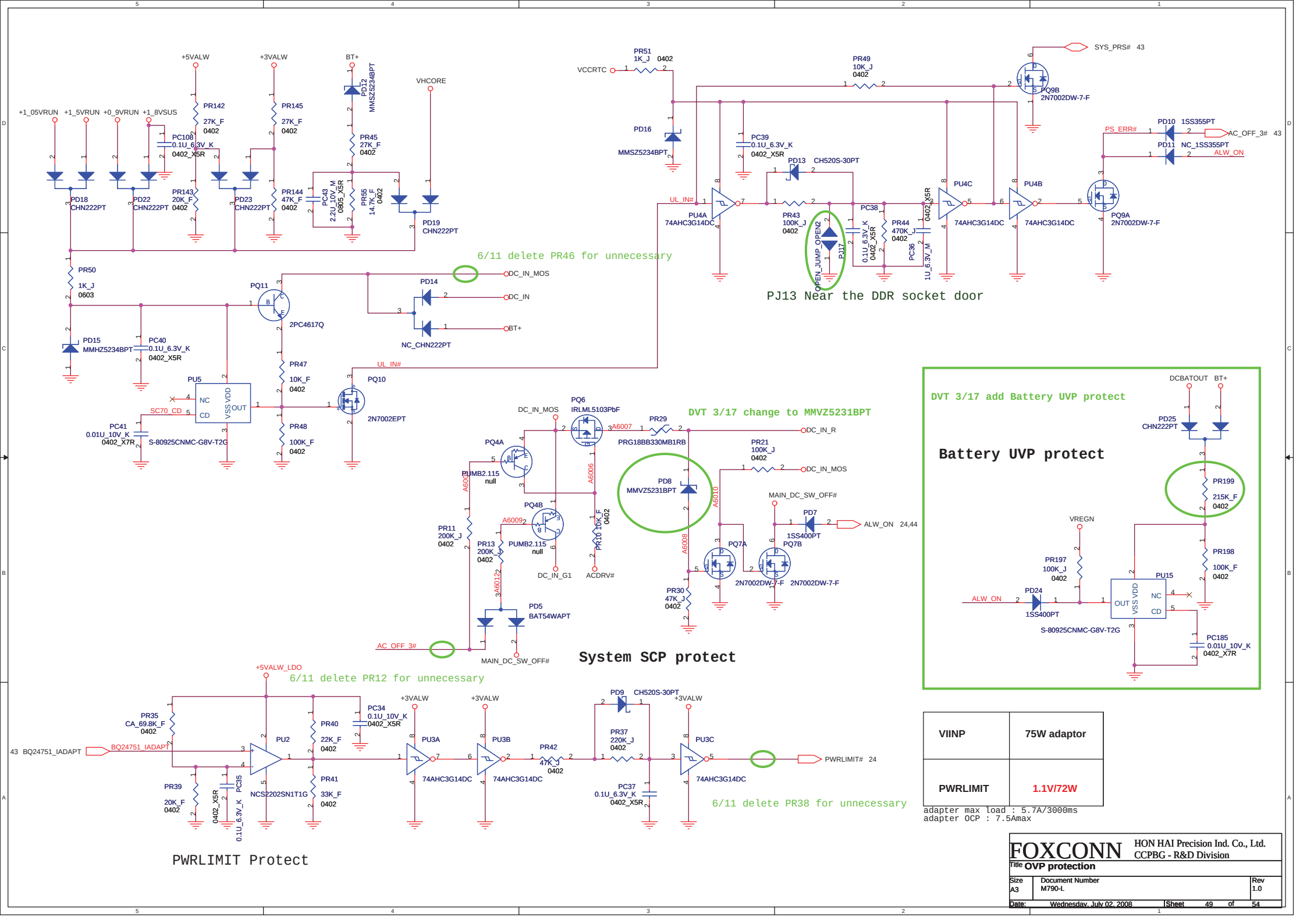
+5VALW
+3VALW
BT+
VHCORE
+1_05VRUN
+1_5VRUN
+0_9VRUN
+1_8VSUS
PR142 27K_F 0402
PR145 27K_F 0402
PD12 MMSZ5234BPT
PR45 27K_F 0402
PC108 0.1U_6.3V_K 0402_X5R
PR143 20K_F 0402
PR144 47K_F 0402
PC43 2.2U_10V_M 0805_X5R
PR55 14.7K_F 0402
PD18 CHN222PT
PD22 CHN222PT
PD23 CHN222PT
PD19 CHN222PT
PR50 1K_J 0603
PD15 MMHZ5234BPT
PC40 0.1U_6.3V_K 0402_X5R
PQ11 2PC4617Q
PD14 NC_CHN222PT
DC_IN_MOS
DC_IN
BT+
6/11 delete PR46 for unnecessary
PU5
NC
CD
VSS
VDD
OUT
SC70_CD
PC41 0.01U_10V_K 0402_X7R
S-80925CNMC-G8V-T2G
PR47 10K_F 0402
PR48 100K_F 0402
PQ10 2N7002EPT
UL_IN#
PR51 1K_J 0402
VCCRTC
PD16 MMSZ5234BPT
PR49 10K_J 0402
SYS_PRS# 43
PQ9B 2N7002DW-7-F
PD10 1SS355PT
PD11 NC_1SS355PT
PS_ERR#
AC_OFF_3# 43
ALW_ON
PC39 0.1U_6.3V_K 0402_X5R
PD13 CH520S-30PT
PU4A 74AHC3G14DC
PR43 100K_J 0402
OPEN_JUMP_OPEN2
PJ17
PC38 0.1U_6.3V_K 0402_X5R
PR44 470K_J 0402
PC36 1U_6.3V_M
PU4C 74AHC3G14DC
PU4B 74AHC3G14DC
PQ9A 2N7002DW-7-F
PJ13 Near the DDR socket door
PQ6 IRLML5103PbF
PR29 PRG18BB330MB1RB
DVT 3/17 change to MMVZ5231BPT
PD8 MMVZ5231BPT
PR21 100K_J 0402
DC_IN_R
PQ4A PUMB2.115 null
PQ4B PUMB2.115 null
PR11 200K_J 0402
PR13 200K_J 0402
PR10 10K_F 0402
A6006
A6007
A6009
A6012
A6010
A6008
DC_IN_G1
ACDRV#
MAIN_DC_SW_OFF#
PD7 1SS400PT
ALW_ON 24,44
PQ7A PQ7B 2N7002DW-7-F
PR30 47K_J 0402
PD5 BAT54WAPT
AC_OFF_3#
System SCP protect
DVT 3/17 add Battery UVP protect
Battery UVP protect
DCBATOUT
PD25 CHN222PT
PR199 215K_F 0402
VREGN
PR197 100K_J 0402
PR198 100K_F 0402
PU15
PD24 1SS400PT
PC185 0.01U_10V_K 0402_X7R
+5VALW_LDO
6/11 delete PR12 for unnecessary
PR35 CA_69.8K_F 0402
PR40 22K_F 0402
PC34 0.1U_10V_K 0402_X5R
PU2 NCS2202SN1T1G
PU3A 74AHC3G14DC
PU3B 74AHC3G14DC
PU3C 74AHC3G14DC
PR42 47K_J 0402
PD9 CH520S-30PT
PR37 220K_J 0402
PC37 0.1U_6.3V_K 0402_X5R
43 BQ24751_IADAPT
PR39 20K_F 0402
PC35 0.1U_6.3V_K 0402_X5R
PR41 33K_F 0402
PWRLIMIT# 24
6/11 delete PR38 for unnecessary
PWRLIMIT Protect
VIINP
75W adaptor
PWRLIMIT
1.1V/72W
adapter max load : 5.7A/3000ms
adapter OCP : 7.5Amax
FOXCONN
HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division
Title OVP protection
Size A3
Document Number M790-L
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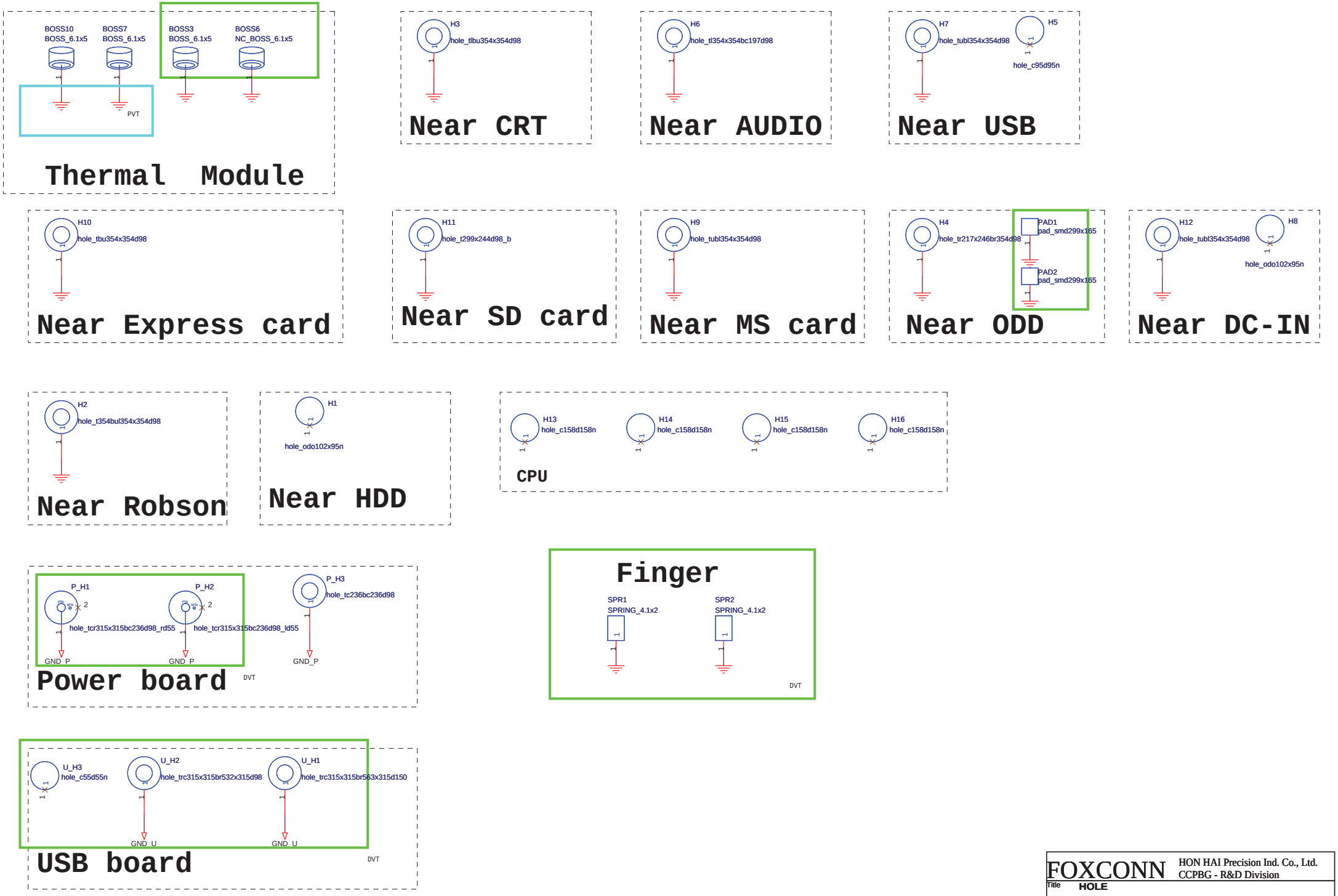

FOXCONN HON HAI Precision Ind. Co., Ltd.
CCPBG - R&D Division

Title: HOLE		
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LAYOUT NOTE:
Place as close as possible to AVDDL pins of Diamond Lake

LAYOUT NOTE:
Place as close as possible to AVDDT pins of Diamond Lake

LAYOUT NOTE:
Place as close as possible to AVDD pins of Diamond Lake

LAYOUT NOTE:
Place as close as possible to VDD_1.2V pins of Diamond Lake

+1_5VRUN_R — R_L1 NC_75R-100MHZ_0603 EBMS160808B750 — different — AVDDL
R_C3 NC_0.1U_10V_K 0402_X5R
R_C5 NC_0.01U_25V_K 0402_X7R
R_C4 NC_0.1U_10V_K 0402_X5R
R_C6 NC_1U_6.3V_M 0402_X5R
GND_R

+1_5VRUN_R — R_L2 NC_75R-100MHZ_0603 EBMS160808B750 — different — AVDDT
R_C8 NC_0.1U_10V_K 0402_X5R
R_C10 NC_0.01U_25V_K 0402_X7R
R_C9 NC_0.1U_10V_K 0402_X5R
R_C11 NC_1U_6.3V_M 0402_X5R
GND_R

+3VRUN_R — R_L3 NC_75R-100MHZ_0603 EBMS160808B750 — different — AVDD
R_C12 NC_0.1U_10V_K 0402_X5R
R_C14 NC_0.01U_25V_K 0402_X7R
R_C13 NC_0.1U_10V_K 0402_X5R
R_C15 NC_1U_6.3V_M 0402_X5R
GND_R

VDD_1.2V
R_C30 NC_1U_6.3V_M 0402_X5R
R_C29 NC_0.1U_10V_K 0402_X5R
R_C23 NC_0.1U_10V_K 0402_X5R
R_C22 NC_0.01U_25V_K 0402_X7R
GND_R

Intel sch use 70ohm /100MHZ

+3VRUN_R
R_C31 NC_0.1U_10V_K 0402_X5R
R_C7 NC_0.01U_25V_K 0402_X7R
R_C21 NC_0.1U_10V_K 0402_X5R
R_C2 NC_0.1U_10V_K 0402_X5R
GND_R

change

LAYOUT NOTE:
Place as close as possible to +3VRUN pins of Diamond Lake

+3VRUN_R
R_R28 NC_1K_F 0402

LAYOUT NOTE:
Close to NAND Flash

AVDDL AVDDT AVDD VDD_1.2V

R_U2

18	AVDD	VDD1	3
24	AVDDT	VDD2	8
27	AVDDL	VDD3	13
		VDD4	41
2	VDDO1	VDD5	45
15	VDDO2	VDD6	47
38	VDDO3		
52	VDDO4	VDDR1	46
61	VDDO5	VDDR2	48
69	GND_PAD	DIS_REG12	44
	Power		
54	NF_WE0#	NF_IO0	57
55	NF_WE1#	NF_IO1	59
		NF_IO2	62
39	NF_RE0#	NF_IO3	64
40	NF_RE1#	NF_IO4	66
		NF_IO5	68
42	NF_CE0#	NF_IO6	4
43	NF_CE1#	NF_IO7	6
49	NF_CE2#	NF_IO8	58
50	NF_CE3#	NF_IO9	60
		NF_IO10	63
51	NF_CLE	NF_IO11	65
53	NF_ALE	NF_IO12	67
56	NF_WP#	NF_IO13	1
37	NF_RB	NF_IO14	5
33	BUSY	NF_IO15	7
	NAND Interface		
9	RSVD02	RSVD07	31
10	RSVD03	RSVD08	32
11	RSVD04		
12	RSVD05	RSVD09	28
14	RSVD06	RSVD10	21
		RSVD11	20
19	ISET	RSVD12	24
	Reserved		
30	CLKP	RSVD00	16
29	CLKN	RSVD01	17
	CLOCK		
26	RXP	TXP	23
25	RXN	TXN	22
35	CLKREQ#		
36	PERST#		
	MiniPCIe Interface		

NC_Diamond Lake

52 WE#[0] — R_R14 NC_33_J 0402 — WE#[0]_L
52 RE#[0] — R_R13 NC_33_J 0402 — RE#[0]_L
52 CE#[0] — R_R12 NC_33_J 0402 — CE#[0]_L
52 CE#[1] — CE#[1]_L
52 CLE — R_R11 NC_33_J 0402 — CLE_L
52 ALE — R_R9 NC_33_J 0402 — ALE_L
52 WP# — R_R15 NC_33_J 0402
52 READY_BUSY — R_R16 NC_330_J 0402

NF_IO0 NF_IO1 NF_IO2 NF_IO3 NF_IO4 NF_IO5 NF_IO6 NF_IO7 NF_IO8 NF_IO9 NF_IO10 NF_IO11 NF_IO12 NF_IO13 NF_IO14 NF_IO15 — 52

+1_5VRUN_R
R_C25 NC_0.1U_10V_K 0402_X5R
R_C24 NC_1U_6.3V_M 0402_X5R
GND_R

LAYOUT NOTE:
Place as close as possible to VDDR1 and VDDR2 pins of Diamond Lake

LAYOUT NOTE:
Close to Diamond Lake

52 CLK_PCIE_ROBSON_R
52 CLK_PCIE_ROBSON#_R
52 ROBSON_TXP4_R
52 ROBSON_TXN4_R
52 ROBSON_DET#_R
52 PLT_RST#_R

R_C27 NC_0.1U_10V_K 0402_X5R — ROBSON_RXP4_R 52
R_C28 NC_0.1U_10V_K 0402_X5R — ROBSON_RXN4_R 52
NF_IO0_L 52

R_R10 NC_1K_F 0402
R_R26 NC_10K_J 0402
GND_R

R_LED1 NC_HT-110Y
R_R29 NC_6.04K_F 0402
Ultra Bright Yellow Green
GND_R

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

Title	Diamond Lake		
Size A3	Document Number M790		Rev 1.0
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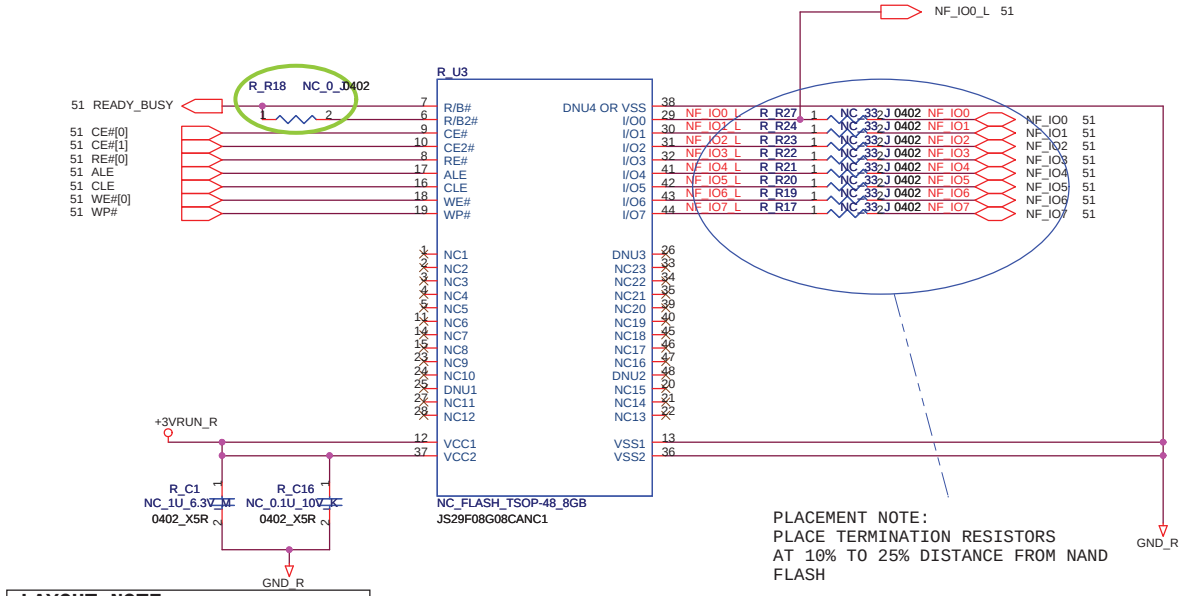
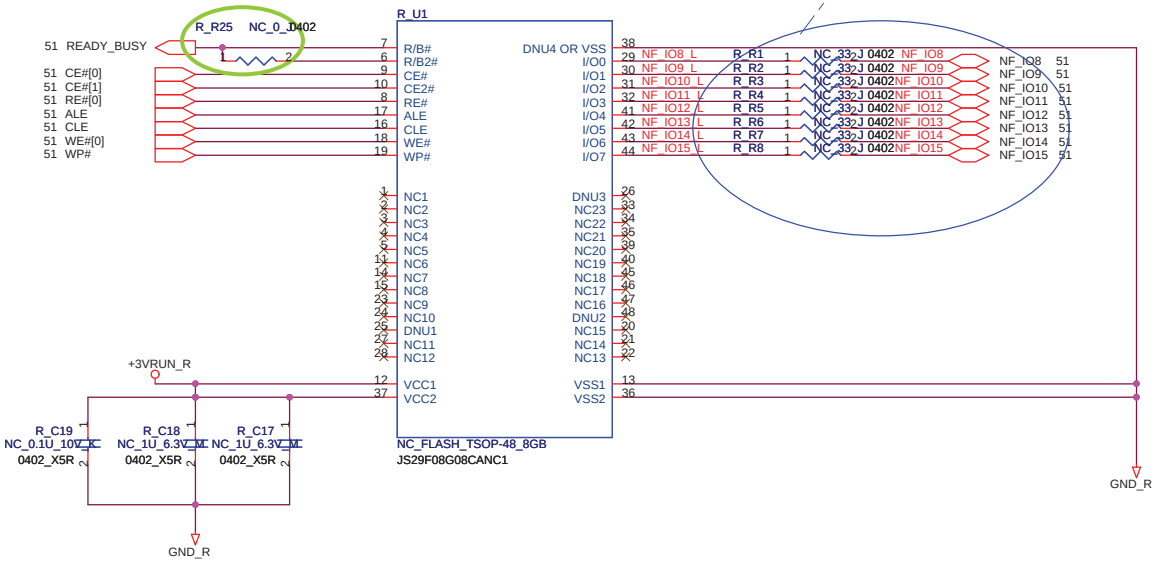


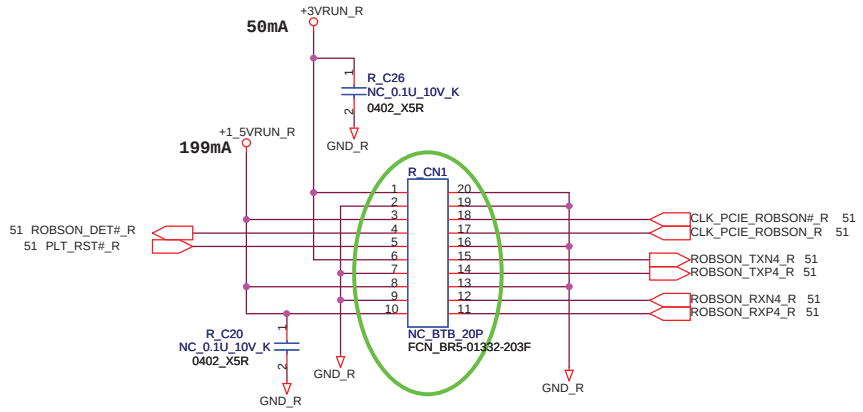
PLACEMENT NOTE:
PLACE TERMINATION RESISTORS
AT 10% TO 25% DISTANCE FROM NAND
FLASH

LAYOUT NOTE:
Place as close as possible to +3VRUN pins of R_U3



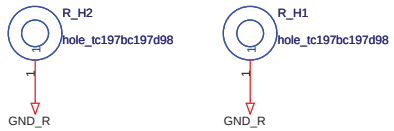
LAYOUT NOTE:
Place as close as possible to +3VRUN pins of R_U1

LAYOUT NOTE:
ANY VIA ADDED BENEATH THE NAND
FLASH NEEDS TO HAVE A SOLDERMASK
ON IT



will change the connector type to bluetooth connector

ROBSON Board CONN



FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	NAND Flash	
Size A3	Document Number M790	Rev 1.0
Date: Wednesday, July 02, 2008	Sheet 52 of 54	

M790 EVT

(2008/01/23)
Update 8Layer H/L versio to 6Layer L version.

(2008/01/24)
Page 6. Change Clock to B version.
Page 25. Change SPI rom to new version.
Page 36. Change L62,delete L63 same as M760.

(2008/01/28)
Page 14/15. Add C767~C778 for EMI reserve.
Page 19. Add R610 damping resistor for adjustment for MOR request.
Page 20. Change GPIO18,20 to GPIO36,37 and delete R269,R270.
Page 23. Change D13 to mount.
Page 24. Change RP39,RP41 to +3VALW.Add D17,D18 for EC leakage current issue.
Page 29. Add R602,R603 damping resistor for adjustment for MOR request.
Page 32. Add R601 for MOR request.
Page 36. Add R604,R605 damping resistor for adjustment for MOR request.
Page 37. Add R611,R612,C779,C780 for EMI reserve.
Page 48. Change PQ40 from SI2304BDS-T1-E3 to SI2316DS-T1-E3 and Change PQ19 from IRF8714PBF to FDS8880_NL for MOR request.

(2008/01/29)
Page 50. Add H13~H16,P_H3.

(2008/01/30)
Page 50. Update H4,U_H1,U_H2.

(2008/01/31)
Page 20. Not AMT support,so delete R556, R557 and C722.
Page 32. Change GP2,GP3 to R556,R557.
Page 33. Change R486 connect to D_GND.
Page 50. Add Boss10.

(2008/02/01)
Page 49. Change PJ17 from PD13 pin1 to pin2.

(2008/02/02)
Page 17/24. Add FAN error detect function in panel switch pin4.
Page 32. Change C624 to 2.2uF for pop noise issue.

(2008/02/14)
Update some error discription for MOR request.

(2008/02/18)
Page 32. Mount Audio cable short components for EVT test.

(2008/02/20)
Page 32. Change U30 from TI(TPA6017) to GMT(G1431F2U) for pop noise issue.

(2008/02/21)
Page 17. Update Panel ID table.
Page 24. Update R447 CA to Mount,R437 Mount to CA.
Page 46. Add PJ10.
Page 14/15.Add J2/J3 for EMI request.
Page 6. Add resverve C781,C782,C783 for EMI request.
Page 29. Add resverve C784,C785 for EMI request.

(2008/02/22)
Page 14/15.Add J4/J5 for EMI request.
Page 6. Add resverve C786,C787 for EMI request.

(2008/02/26)
Page 5. Change C76 from 6.3V to 10V for PUR request.
Page 11. Change C201,C225,C679,C681,C143,C168,C596,C601,C605 from 10V to 16V for PUR request.
Page 18/29. Change C32,C35,C449,C450,C725,C726,C727,C728,C729,C730 to 0.1uF,6.3V,10% for PUR request.
Page 31. Change R202 for PUR request.
Page 31. Change Q37,Q39,Q40,Q41 to PBSS2515E.115 for PUR request.
Page 32/33. Change Q6,Q25,Q34,Q38 to MMBT3906K for PUR request.
Page 33. Change Q33/Q44 to MMBT3904 for PUR request.

M790 DVT

(2008/02/28)
Page 33. Change Q33/Q44 to PMBT3904.215 for PUR request.

(2008/03/03)
Page 52. Change R_U1,R_U3 to 8Gbit size and change R_R11,R_R18,R_R25 to mount.

(2008/03/05)
Page 24. Mirror CN3 for Int. keyboard issue.

(2008/03/06)
Page 38. Mirror CN6 for easy A'ssy.
Page 44. Change PR146 to 6.8K,PR147 to 5.49K for OCP current adjust.
Page 45. Change PR193 to 5.49K for OCP current adjust.

(2008/03/24)
For PUR request change C624 2.2uF(1.25mm) to (0.8mm),C510/PC42 0.33uF(X5R) to (X7R).
Page 38. SWAP L60 for CN6 mirror issue.
Page 24/40. Change CHARGE_LED# low enable to H enabe same as M750/M760.

(2008/03/28)
Page 24. Add C722(1000pF) for FAN speed stable.

(2008/04/02)
Page 28/51/52. Change Robson function to no mount.

(2008/04/07)
Page 23. Del PJ4 Change PJ3 type for JIG.
Page 43. Add for charger ocp improve.
Page 43~46,48. A_GND and P_GND change to GP2~6.
Page 47. Add PR134,PR115 for Power Solution- C4 Hang up issue.
Page 47. tpc40b_50 Change to tpc40t_75 power point part for JIG.
Page 49. Add Battery UVP protect for power issue.

(2008/04/08)
Page 29. Add C733,R269,R270/R616(no mount),Change R44 to 4.99Kohm and NC CTRL_1D8 circuit for 88E8057.
Page 32. Change R98,R450,Q8,Q27 to NC and Add R614,R615 no mount for speaker cable short protection circuit.
Page 35/40. Change MS/SD LED to Low active.

(2008/04/11)
Page 31. Change C182,C194 to 0.1uF for MIC THD+N issue
Page 49.Change PR199 to 215Kohm for Battery UVP adjust.

(2008/04/14)
Page 31. Change C626,C662 to 4.7uF for MIC FSIV isssue.
Page 29. Design for 88E8055.

FOXCONN	HON HAI Precision Ind. Co., Ltd. CCPBG - R&D Division	
Title	History (1)	
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(2008/04/14)
Page 16. Change L14,L16,L17 to 120ohm/100Mhz bead for CRT EMI issue.
Page 32. Add C797~C800(220pF)for Speaker EMI issue.
Page 37. Change R611,R612 to L26,L28 120ohm/100Mhz bead and C779,C780 to 15pF for Camera EMI issue.
Page 41. Add C790~C79(2200pF)for power board EMI issue.

(2008/04/15)
Page 50. Change Boss7 pin2 connect to RC for EMI reserve and Add Finger SPR1,SPR2 for EMI issue.
Page 32. Add C802~C805(220pF)for Speaker EMI issue.

(2008/04/18)
Page 23. Update ODD connector for MOR request.
Page 26. Add R611,R612 and Change U24,C534 to no mount for MOR request.

(2008/04/21)
Page 19. Change C388,C389 to 15pF for Y6 test fail.
Page 24. Change C245,C246 to 18pF for Y2 test fail.
Page 31. Change C629,C652 to 220pF same as M760.
Page 36. Change C496,C497 to 27pF for Y3 test fail.Change R352,R353,R356,R357 to 100ohm,R590 to 33ohm for MS/SD fail items.

(2008/04/23)
Page 16. Update CN2 VGA connector type.

(2008/04/24)
Page 41. Change U_R1~R4 to NC,U_L1,L2 to mount.
Page 43. Add PC187,and Change PC23,PC33 to 680P for EMI request.

(2008/04/25)
Page 16. Update D11 to SL22 for CRT ripple noise.

(2008/04/28)
Add C806~C808,PC188,PC189(0.1uF) for ESD solution.
Page 27. Change CN14 to FOX_1CX42201-SM for ME requset.
Page 36. Change CN11 to Gray color,C459,C488 to X5R and R568,R359,R377 to mount for MOR request.

(2008/04/29)
Page 21. Change C717,C723 to X5R.

(2008/04/30)
Page 26. Change C538 to mount for ripple noise.
Page 37. Change R7/F3 to mount,R9/R4 to NC for 3.3V Camera.
Page 50. Change BOSS3,6,7,10 to 1M-1F50M20-5000 and NC BOSS6.

(2008/05/02)
For MOR request,add F5,F6,F7.
Page 6. Add R618~R621 475ohm for CR# issue.
Page 21. Change C721 to 1uF for Intel design change.

(2008/05/06)
Page 16. Change R418,R424 to 30 ohm for Graphic test fail item.
Page 50. Update PAD1,2 size.

(2008/05/07)
Page 36. Change R590 to 22ohm for SD card clock issue.
Page 37. Add resver regulater IC for Camera power.
Page 41. Add C811 for ESD issue.
Page 50. Add resver C812,R623 for EMI issue.
Page 43. Change PQ5 from AO4433 to SI4825DY-T1-E3 for EMI issue.
Page 47. Add PC190 for EMI issue.

(2008/05/08)
Page 6. Add TP153,TP154 for FSB easy measure.

BOM Change
Change CN25 to LN27131-A403-4F.
Change R352,R353,R356,R357 to 68ohm.
Change R601 to mount,F5 to NC.
Change U41,C813~C817,R626,R625,R4 to mount,R7,F3 to NC.

(2008/05/14)
Page 16. Change R418,R424 to 22ohm for CRT issue.
Page 43. Change PL6,PL8 to no mount,Change PL7 to 1000R-100MHZ_0.015R for EMI issue.
Page 47. Change PR115 to no mount.

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(2008/06/03)
Page 25. Add lable1 for BIOS.
Page 39. Change CN8,CN9 to grey color.

(2008/06/11)
Page 23. Delete PJ3 for unnecessary
Page 43. Change PL7 to 1L-FPWC090-7H01 for EMI request.
Page 43. Change PQ1,PQ2 from17-S134240-VT00 to 17-S13424B-DV00 for PUR request.
Page 43. Delete PR20 for unnecessary
Page 44. Delete PJ18,PJ19 for unnecessary
Page 45. Delete PJ12,PJ13,PJ14,PJ20 ,PJ21for unnecessary
Page 46. Delete PJ6,PJ7,PJ8,PJ9 ,PJ10 for unnecessary
Page 47. Delete PJ11,PR97,PR89,PR105,PR108 for unnecessary
Page 48. Delete PR77,PR72,PR65 for unnecessary
Page 49. Delete PR12,PR38,PR46 for unnecessary

(2008/06/16)
Page 32. Change F5 to 1.5A and to mount for MOR request.

(2008/06/23)
Page 41. Change C790~C796,C811 to 220pF for EMI and Hotkey issue.
Page 41. Add Fuse(F8) in power source on power board for short test.
Page 43. Mount PC156,PC157 and Add PC191 for EMI issue.
Page 50. Change BOSS7,10 connect to GND.

(2008/06/24)
Page 40. Change LED1,LED2,LED6 to HT-110UY,LED5 to HT-110UD.R383,R598 to 120ohm for MOR request.
Page 41. Change P_LED1~P_LED3 to HT-150YG.P_R1~P_R3 to 100 ohm for MOR request.

(2008/07/02)
Page 31. Change C184,C192 to 4.7uf 0603 for MIC THD+N issue this change same as M761.
Add ESD solution C810,C812,C818,PC192(0.1uF).

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(2008/07/24)
Page 25. Change CN26,U11,C308,R221 to no mount,R233 to mount.
Page 40. Change R385 to 33ohm,R383,R598,R599 to 68ohm for LED bright issue.

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