Schematics Page Index (Title / Revision / Change Date)

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15	PCH (GPIO,VSS NCTF,RSVD)	PV	10'11'22	50	PWR Power Design Diagram	PV	10'11'22
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17	PCH (POWER) 2/2	PV	10'11'22	52	PWR Battery Conn.	PV	10'11'22
18	PCH (VSS)	PV	10'11'22	53	PWR Charger	PV	10'11'22
19	CLOCK GEN	PV	10'11'22	54	PWR +5V/+3V/+12V	PV	10'11'22
20	DDR3(SO-DIMM 0) 1/2	PV	10'11'22	55	PWR +1 05V	PV	10'11'22
21	DDR3(SO-DIMM 1) 2/2	PV	10'11'22	56	PWR +1 5V/+0 75V/1.8V	PV	10'11'22
22	CRT	PV	10'11'22	57	PWR VHCORE	PV	10'11'22
23	LVDS	PV	10'11'22	58	PWR GFXCORE	PV	10'11'22
24	HDMI	PV	10'11'22	59	PWR AT VDD/PEX VDD	PV	10'11'22
25	EC+KBC(ITE8518)	PV	10'11'22	60	PWR Others power plane	PV	10'11'22
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30	FAN/Accelerometer/Thermal	PV	10'11'22	65	BTB Conn& LED& Hole/Boss	PV	10'11'22
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Project Code & Schematics Subject: Rains Main Board_10L

PCB P/N:	
LED DB P/N:	
P/B DB P/N:	

P. Leader	Check by	Design by

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Title: **Index page**

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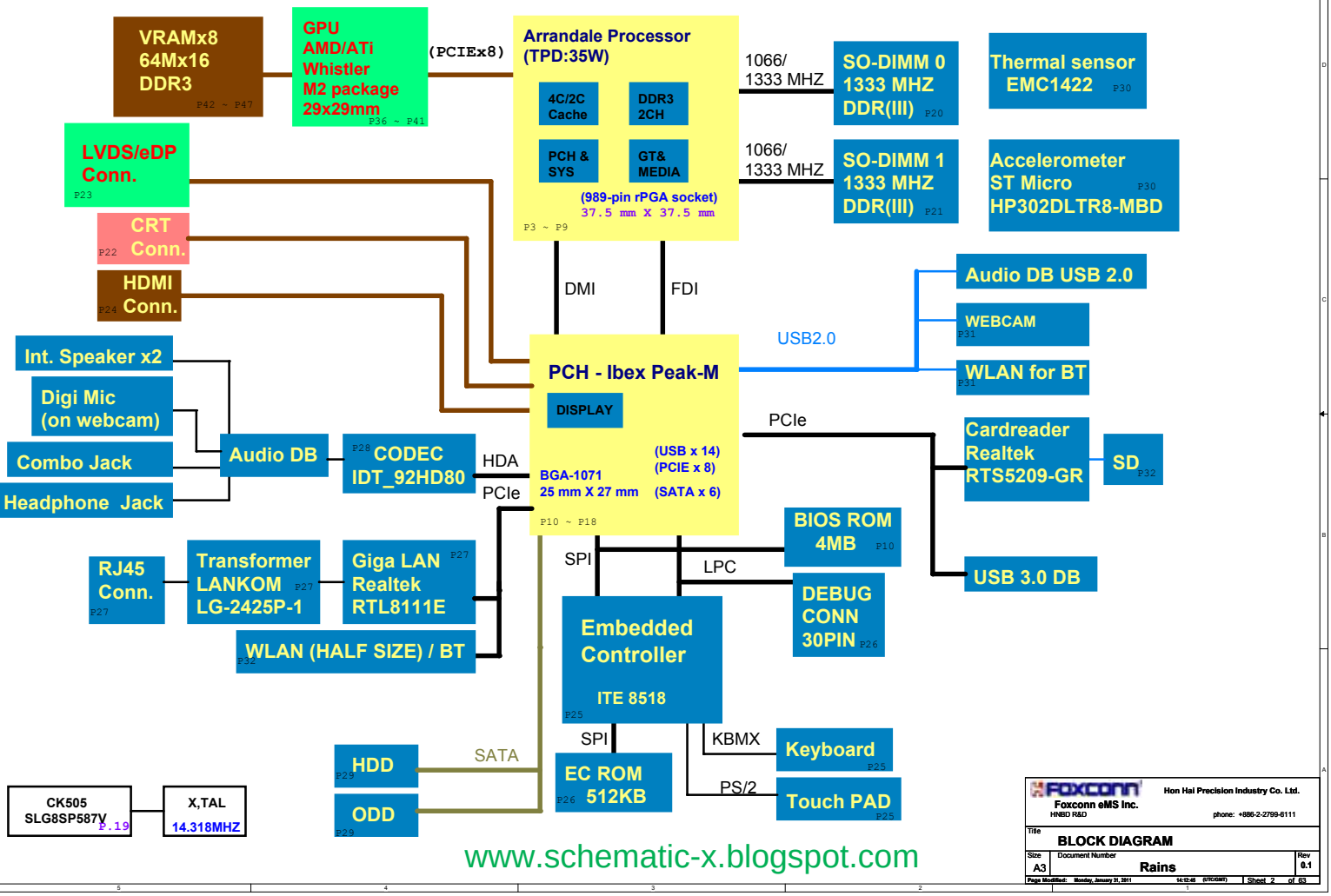
Rains Capella Platform+ AMD Whistler M2 Discrete Graphic



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Title: BLOCK DIAGRAM
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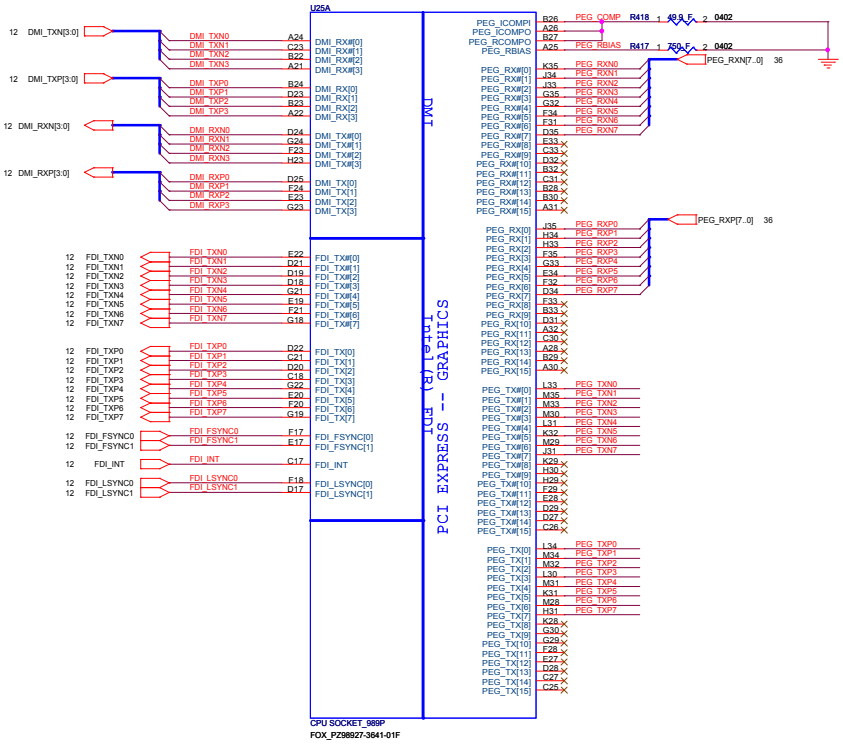
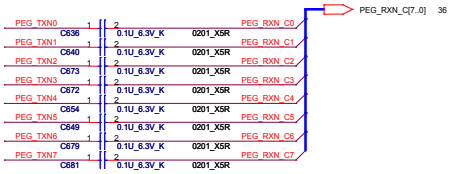
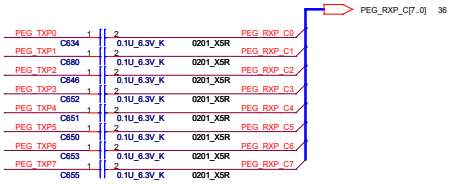


If PCIe Graphics is not implemented,
the TX/RX pairs can be left as No Connect.





For Disable Arrandale Graphic
In addition, FDI_RXN_[7:0] and FDI_RXP_[7:0] can be left floating on the PCH.
FDI_TX[7:0] and FDI_TX#[7:0] can be left floating on the Arrandale. The
GFX_IMON,FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1], and FDI_INT
signals on the Arrandale side should be tied to GND (through 1-k ± 5% resistors).
FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1] can be ganged together with
one resistor.

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Title	ARD (DMI,PEG,FDI)
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Layout Note:
Comp0,1 connect with Zo=49.9 ohm,
Comp2,3 connect with Zo=20 ohm,
In order to minimize resistance,
use thick traces to route all
COMP signals, use 10-mils
(0.254-mm) wide trace for
routing less than 500 mils (12.7
mm), or 20-mils (0.508-mm)
wide trace for routing between
500 mils (12.7 mm) and
1000 mils (25.4 mm). Keep 20-mils
(0.508-mm) spacing to
any other signals in order to
minimize crosstalk.

U25B

MISC
CLOCKS
THERMAL
DDR3 MISC
JTAG & BPM
PWR MANAGEMENT

COMP3 COMP2 COMP1 COMP0 SKTOCC# CATERR# PECI PROCHOT# THERMTRIP# RESET_OBS# PM_SYNC VCCPWRGOOD_1 VCCPWRGOOD_0 SM_DRAMPWROK VTTPWRGOOD TAPPWRGOOD RSTIN#

CPU SOCKET_989P
FOX_PZ98927-3641-01F

For Disable Arrandale Graphic
DPLL_REF_SSCLK and DPLL_REF_SSCLK# can be connected to GND on
Arrandale directly if motherboard only supports discrete graphics.

JTAG Mapping -Scan Chain (Default)

For Intel S3 Power Reduction issue

For Intel S3 Power Reduction issue

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Title: ARD (CLK,MISC,JTAG)		
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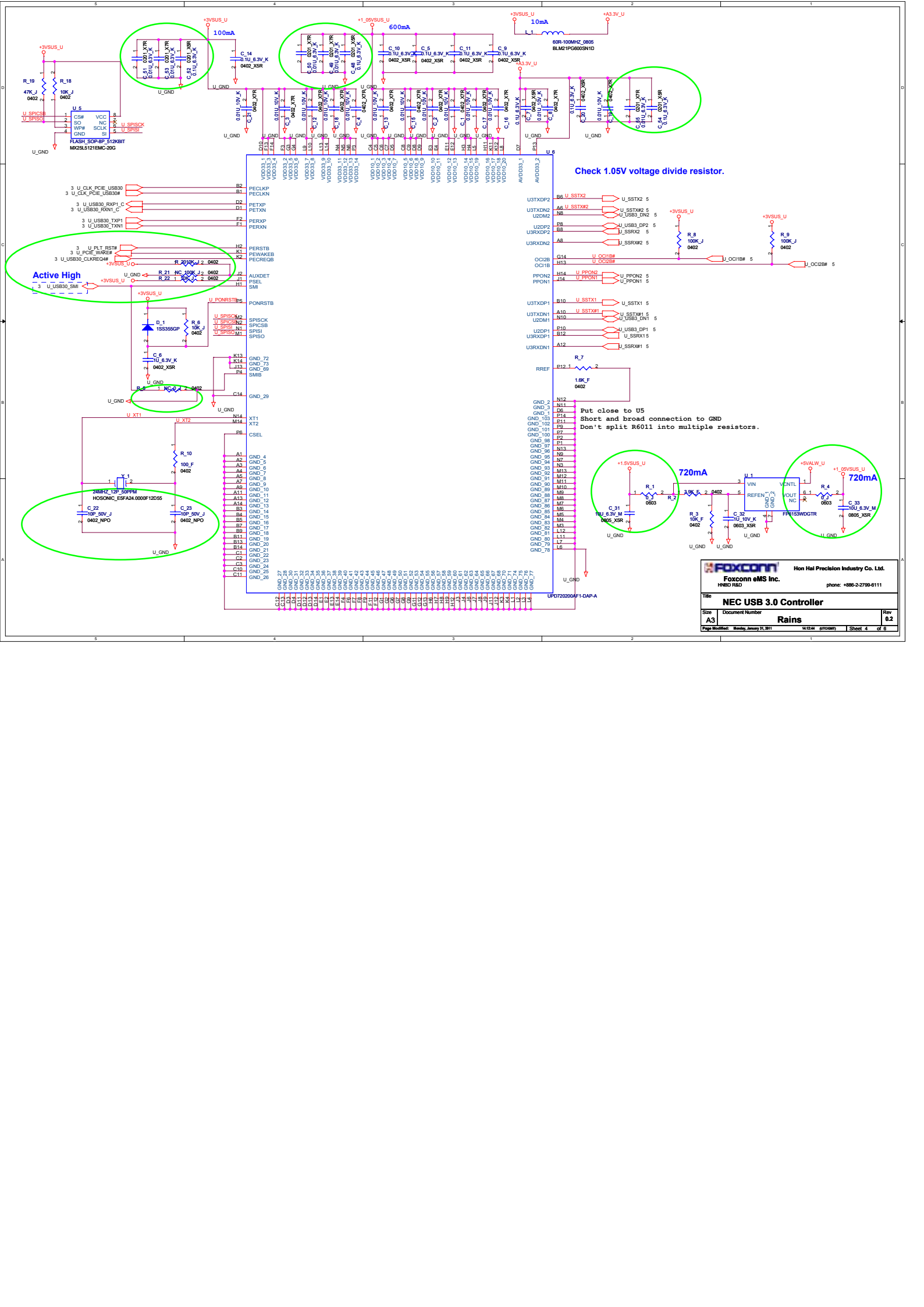
100mA
600mA
10mA
60R-100MHZ_0805
BLM21PG600SN1D
U_5
FLASH_SOP-8P_512KBIT
MX25L5121EMC-20G
U_6
Check 1.05V voltage divide resistor.
Active High
Put close to U5
Short and broad connection to GND
Don't split R6011 into multiple resistors.
720mA
720mA
UPD720200AF1-DAP-A
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NEC USB 3.0 Controller
Rains
A3
0.2
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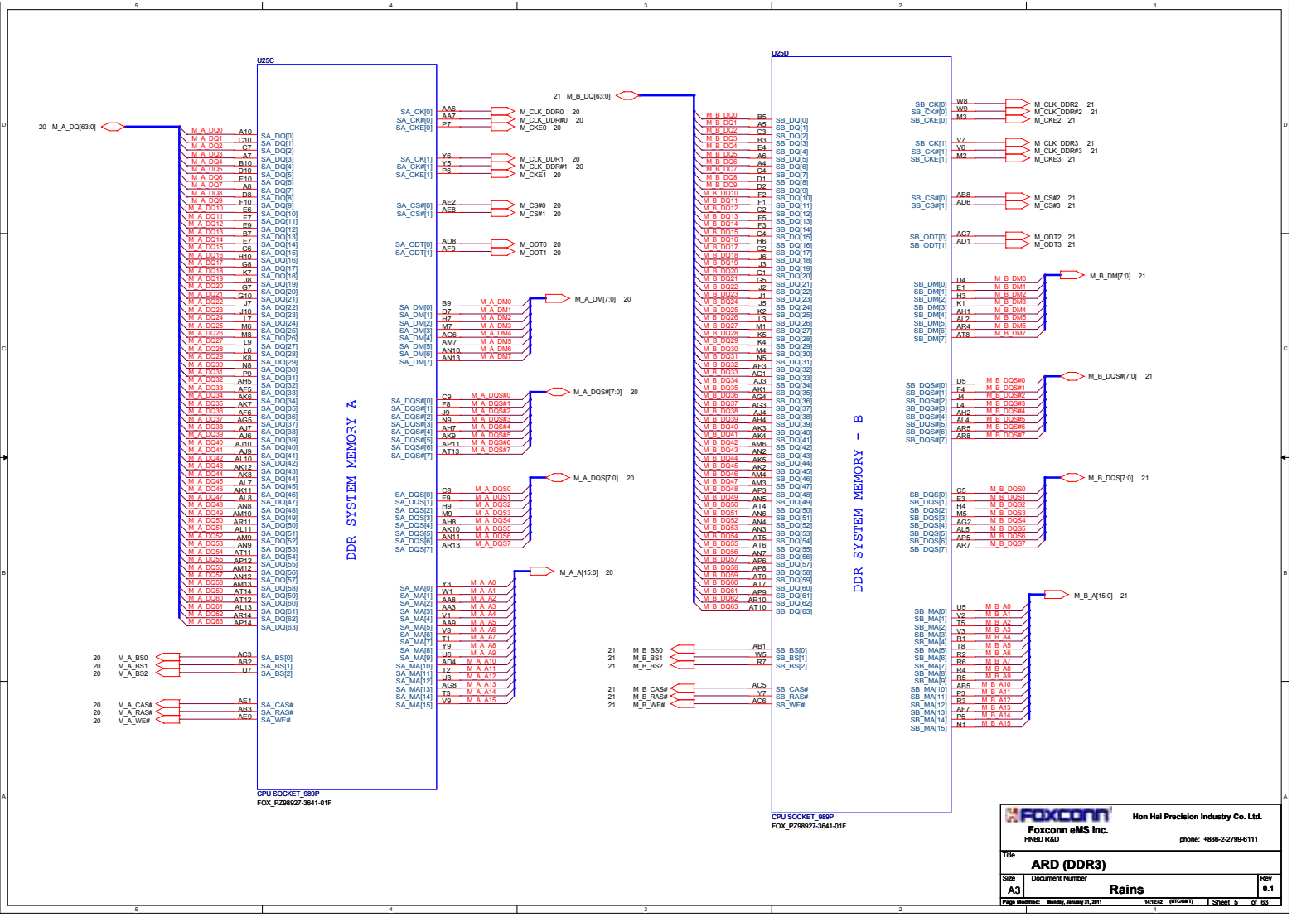
U25C
DDR SYSTEM MEMORY A
CPU SOCKET_989P
FOX_PZ98927-3641-01F
U25D
DDR SYSTEM MEMORY - B
CPU SOCKET_989P
FOX_PZ98927-3641-01F
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Title
ARD (DDR3)
Size
A3
Document Number
Rains
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0.1
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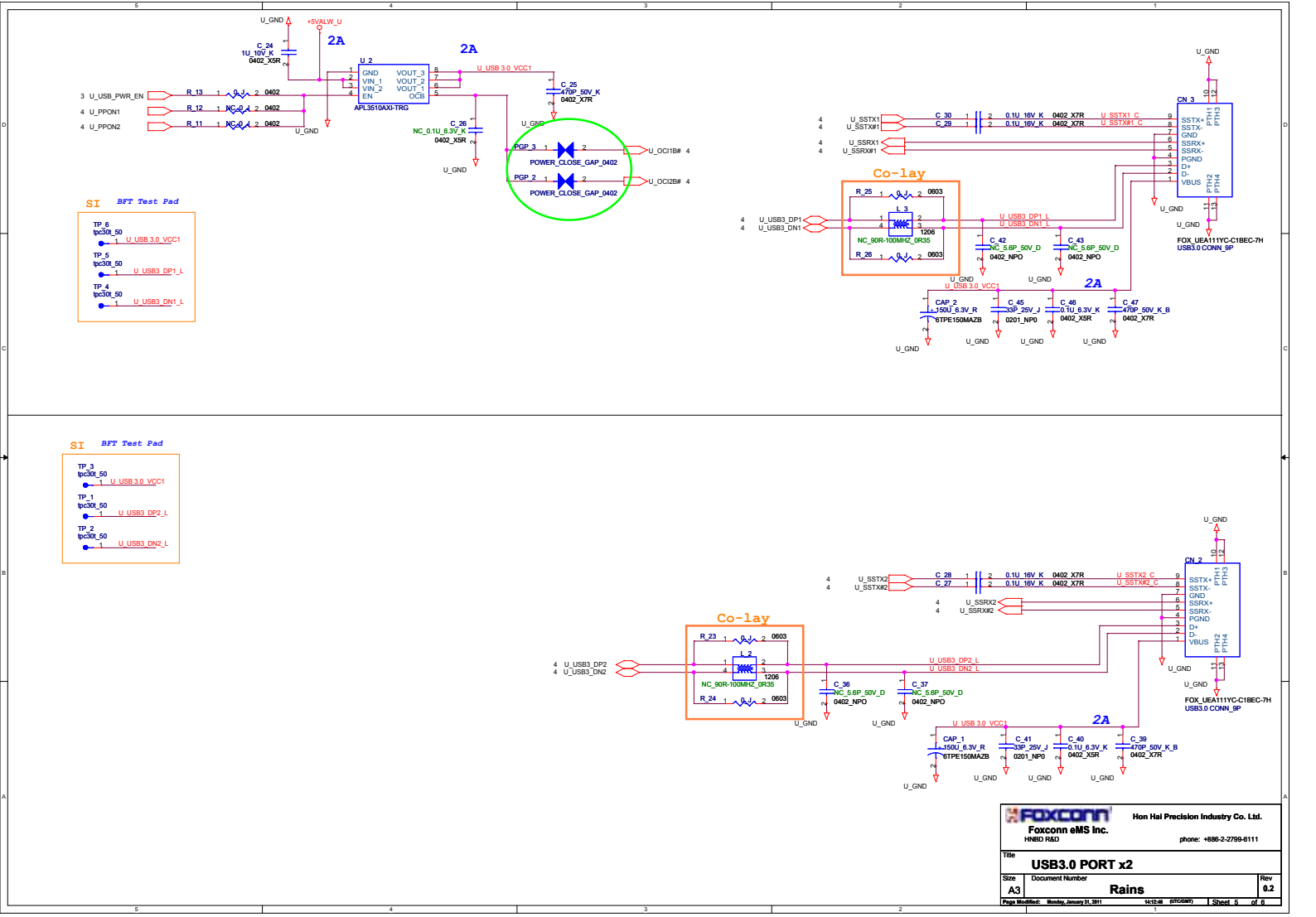

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Title: USB3.0 PORT x2

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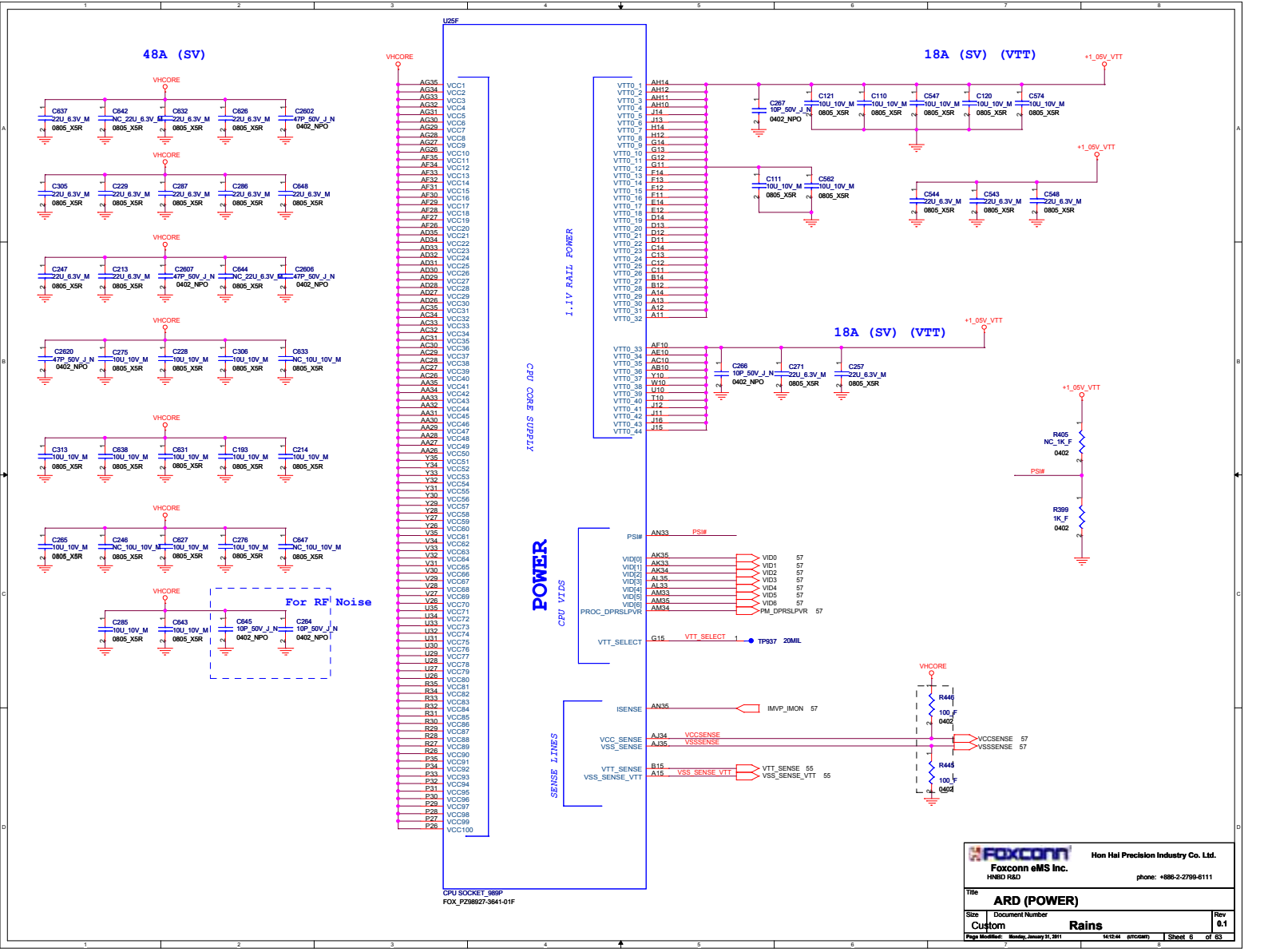
48A (SV)
18A (SV) (VTT)
18A (SV) (VTT)
For RF Noise
POWER
CPU VIDS
SENSE LINES
CPU CORE SUPPLY
1.1V RAIL POWER
U25F
CPU SOCKET_989P
FOX_PZ98927-3641-01F
VHCORE
+1_05V_VTT
PSI#
ISENSE
VCC_SENSE
VSS_SENSE
VTT_SENSE
VSS_SENSE_VTT
VTT_SELECT
PROC_DPRSLPVR
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ARD (POWER)
Custom
Rains
Rev 0.1
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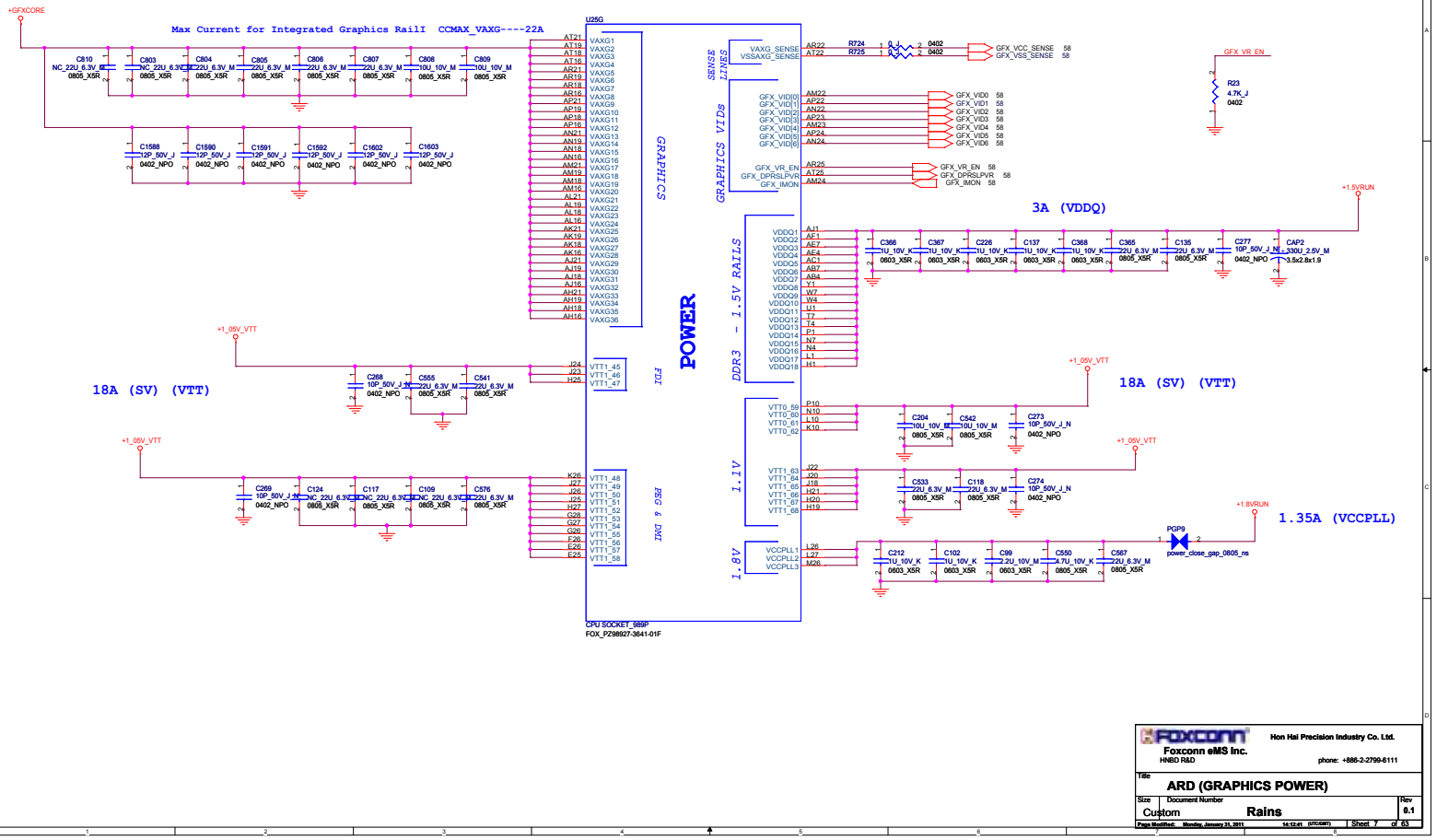
For Disable Arrandale Graphic
VAXG_SENSE and VSSAXG_SENSE on Arrandale can be left as no connect.



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Title: ARD (GRAPHICS POWER)		
Size: Custom	Document Number: Rains	Rev: 0.1
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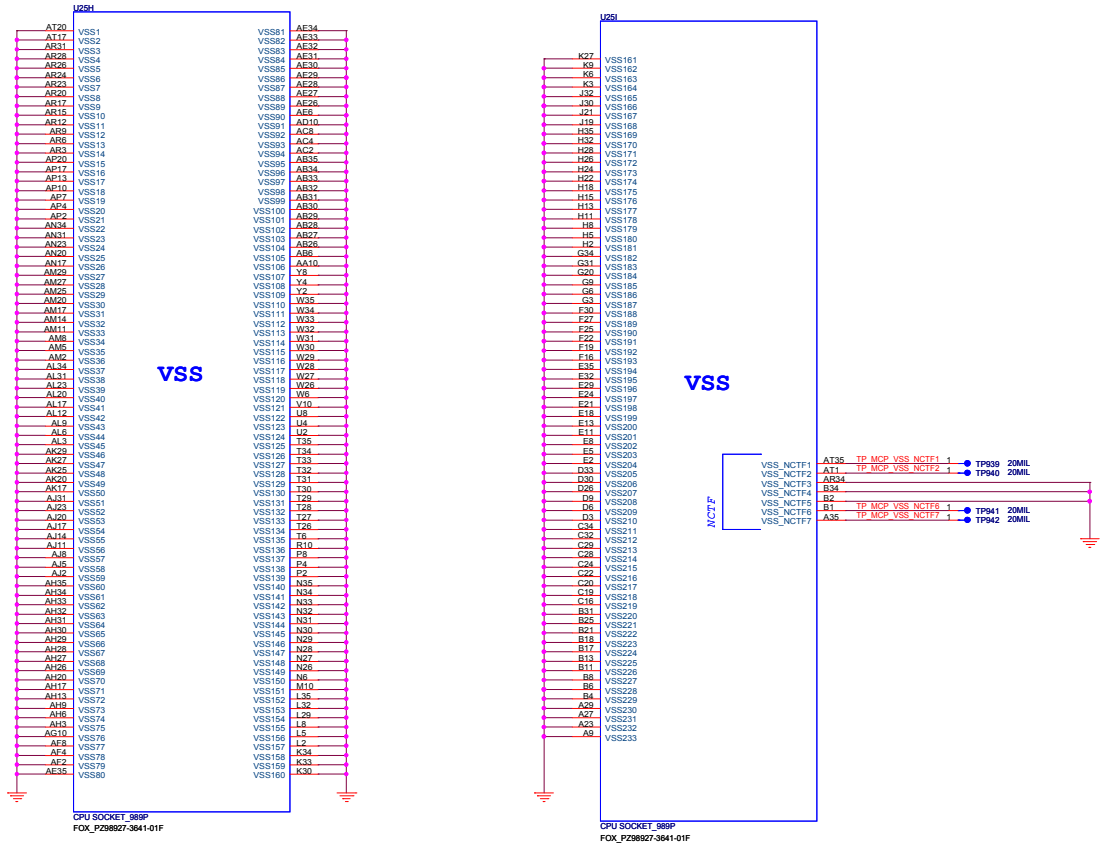

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Title: ARD (GND)

Size: A3 | Document Number: Rains | Rev: 0.1

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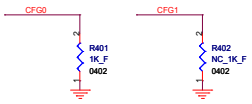
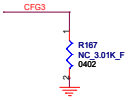
PCI Express Configuration Select
CFG0 1 : Single PEG
0 : Bifurcation enable

3393727 The VIL Voltage DC Specification for CFG[0] Pin is in Violation of the EDS Value by a Large Amount
The Clarksfield EDS Vol1 documents the CFG[1:0] pins for PCI Express Port Bifurcation, the straps may not work correctly when using a pull down resistor of value other than 250 Ohms to drive a value of zero on the CFG[0] pin. When left floating a value of one is sensed and there is no impact in this case.

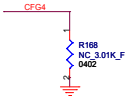
CFG[1:0] - PCI Express* Port Bifucation:
11 = 1 x16 PEG
10 = 2 x8 PEG

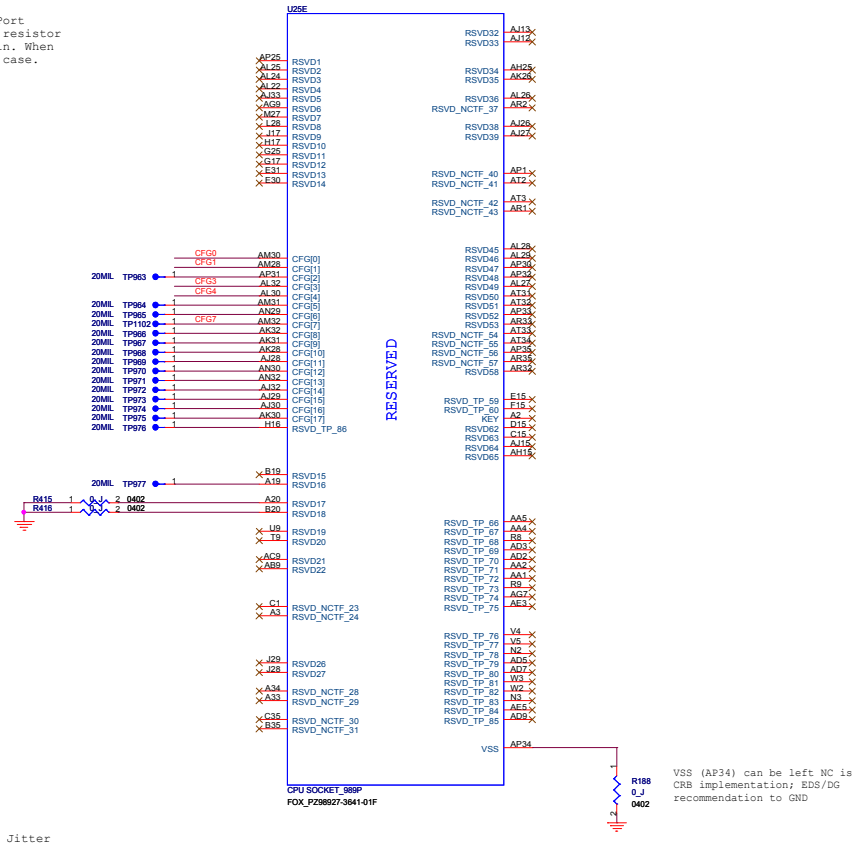


CFG3 PCI Express Static Lane Reversal
CFG3 1 : Normal Operation
0 : Lane Numbers Reversed
15 ->0 , 14-> 1 , ...



CFG4 Display Port Presence
CFG4 1 : Disabled ; No Physical Display Port attached to Embedded Display Port
0 : Enable ; An external Display Port device is connected to the Embedded Display Port





2611030 PCI Express Interface May Not Meet PCI Express 2.0 Jitter Specifications

Intel has determined that the workaround (3.01K pull down to Vss on signal CFG[7]) is not robust. Intel recommends not implementing this workaround at this time (CFG[7] should not be pulled down).
Intel recommends not to test for PCI-E Express 2.0 Jitter specification compliance for the affected steppings.

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Title: ARD (RESERVED)
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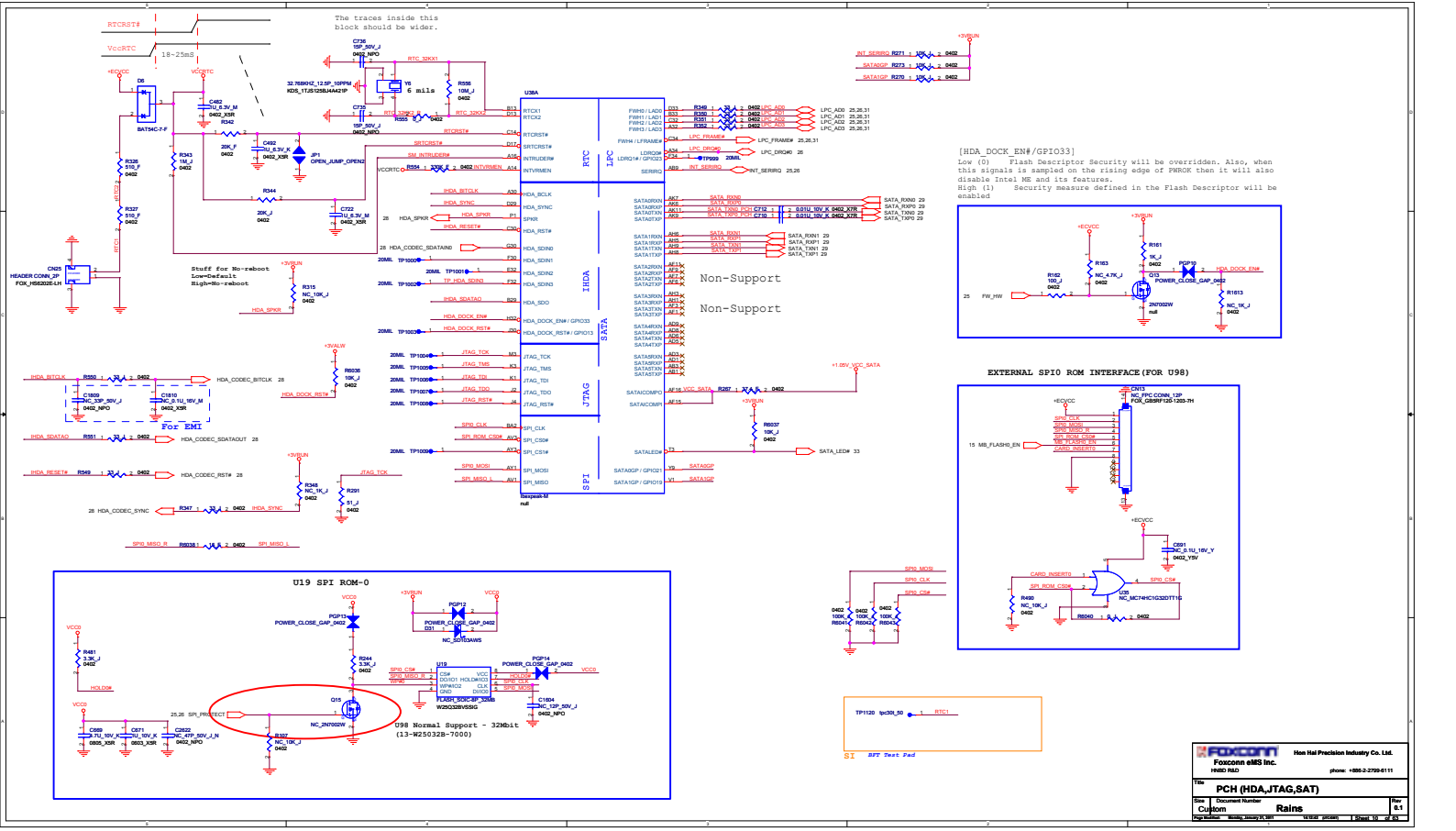
The traces inside this block should be wider.
RTCRST#
VccRTC
18-25mS
Stuff for No-reboot
Low=Default
High=No-reboot
For EMI
Non-Support
Non-Support
[HDA_DOCK_EN#/GPIO33]
Low (0) Flash Descriptor Security will be overridden. Also, when this signals is sampled on the rising edge of PWROK then it will also disable Intel ME and its features.
High (1) Security measure defined in the Flash Descriptor will be enabled
EXTERNAL SPI0 ROM INTERFACE(FOR U98)
U19 SPI ROM-0
U98 Normal Support - 32Mbit (13-W25032B-7000)
SPI Test Pad
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phone: +886-2-2709-5111
PCH (HDA,JTAG,SAT)
Custom
Rains
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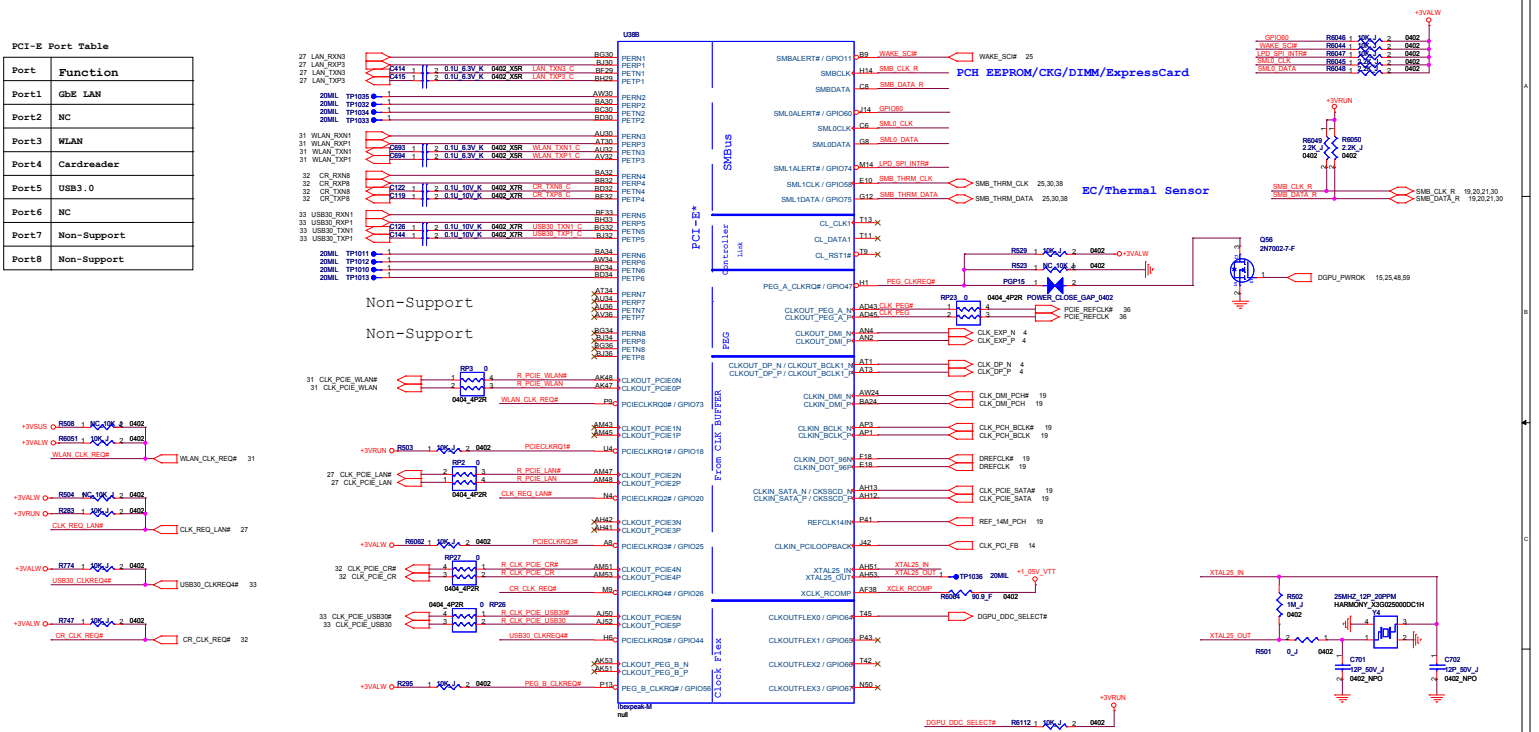
PCI-E Port Table

Port	Function
Port1	GbE LAN
Port2	NC
Port3	WLAN
Port4	Cardreader
Port5	USB3.0
Port6	NC
Port7	Non-Support
Port8	Non-Support



Calpella Platform Design Guide - Addendum / Update Rev. 1.52 (Doc #414044).).
XTAL_IN should be pulled to GND via a 0ohm by default.
This pull-down resistor on XTAL_IN should only be un-stuffed when 25MHz crystal is used.

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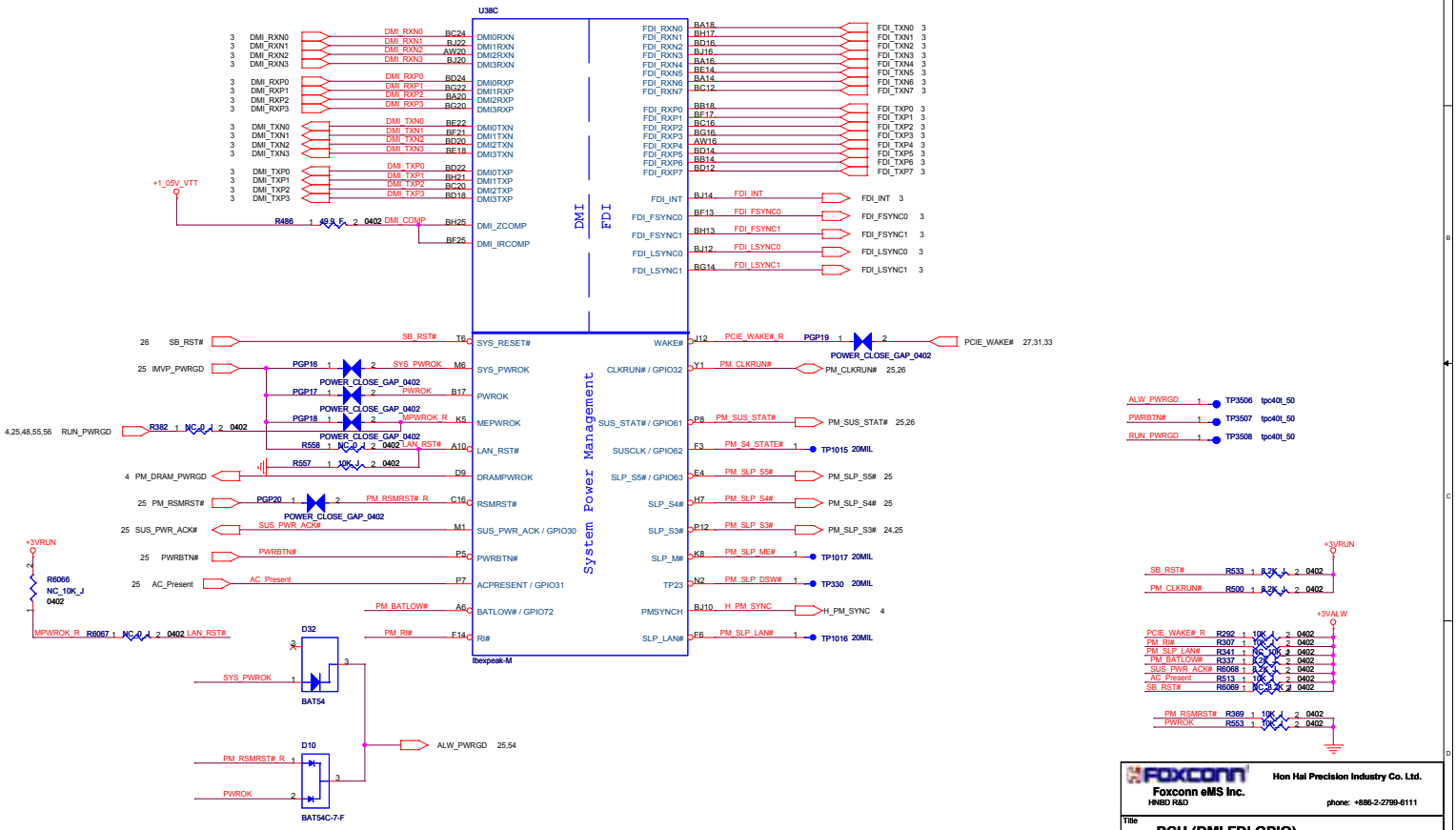
Title	PCH (PCI-E,SMBUS,CLK)
Size: Custom	Document Number: Rains
Rev	0.1
Page Modified: Monday, January 24, 2011 14:12:47 (UTC/GMT)	Sheet 11 of 63

For Disable Arrandale Graphic
In addition, FDI_RXN_[7:0] and FDI_RXP_[7:0] can be left floating on the PCH.
FDI_TX[7:0] and FDI_TX#[7:0] can be left floating on the Arrandale. The
GFX_IMON,FDI_FSYNC[0], FDI_FSYNC[1], FDI_LSYNC[0], FDI_LSYNC[1], and FDI_INT
signals on the Arrandale side should be tied to GND (through 1-k ±5% resistors).



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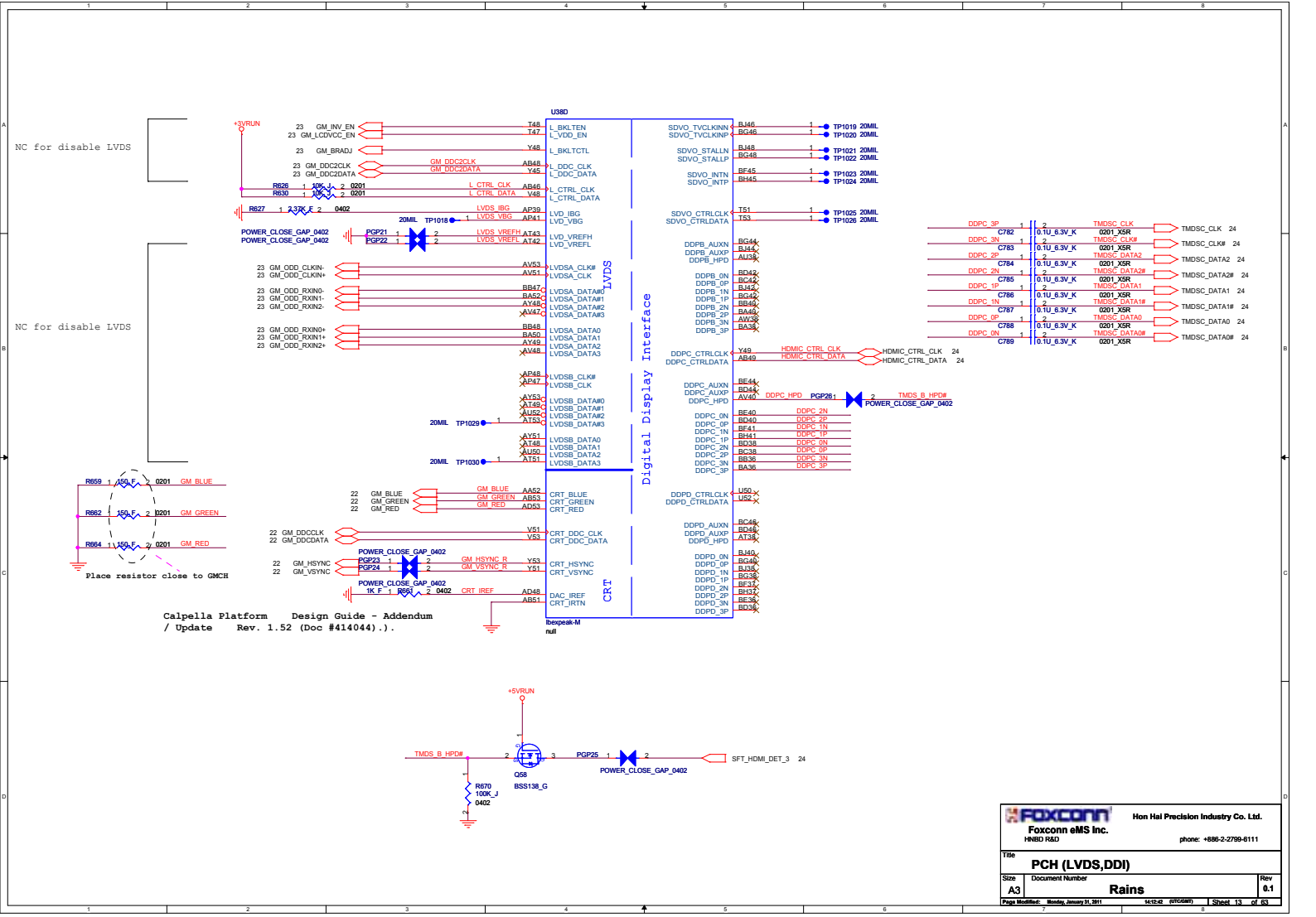
Title	PCH (DMI,FDI,GPIO)
Size: A3	Document Number: Rains
Rev: 0.1	
Page Modified: Monday, January 31, 2011 14:12:48 (UTC/GMT)	Sheet 12 of 63


NC for disable LVDS
NC for disable LVDS
U38D
LVDS
Digital Display Interface
CRT
Place resistor close to GMCH
Calpella Platform Design Guide - Addendum
/ Update Rev. 1.52 (Doc #414044).).
Q58
BSS138_G
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PCH (LVDS,DDI)
Rains
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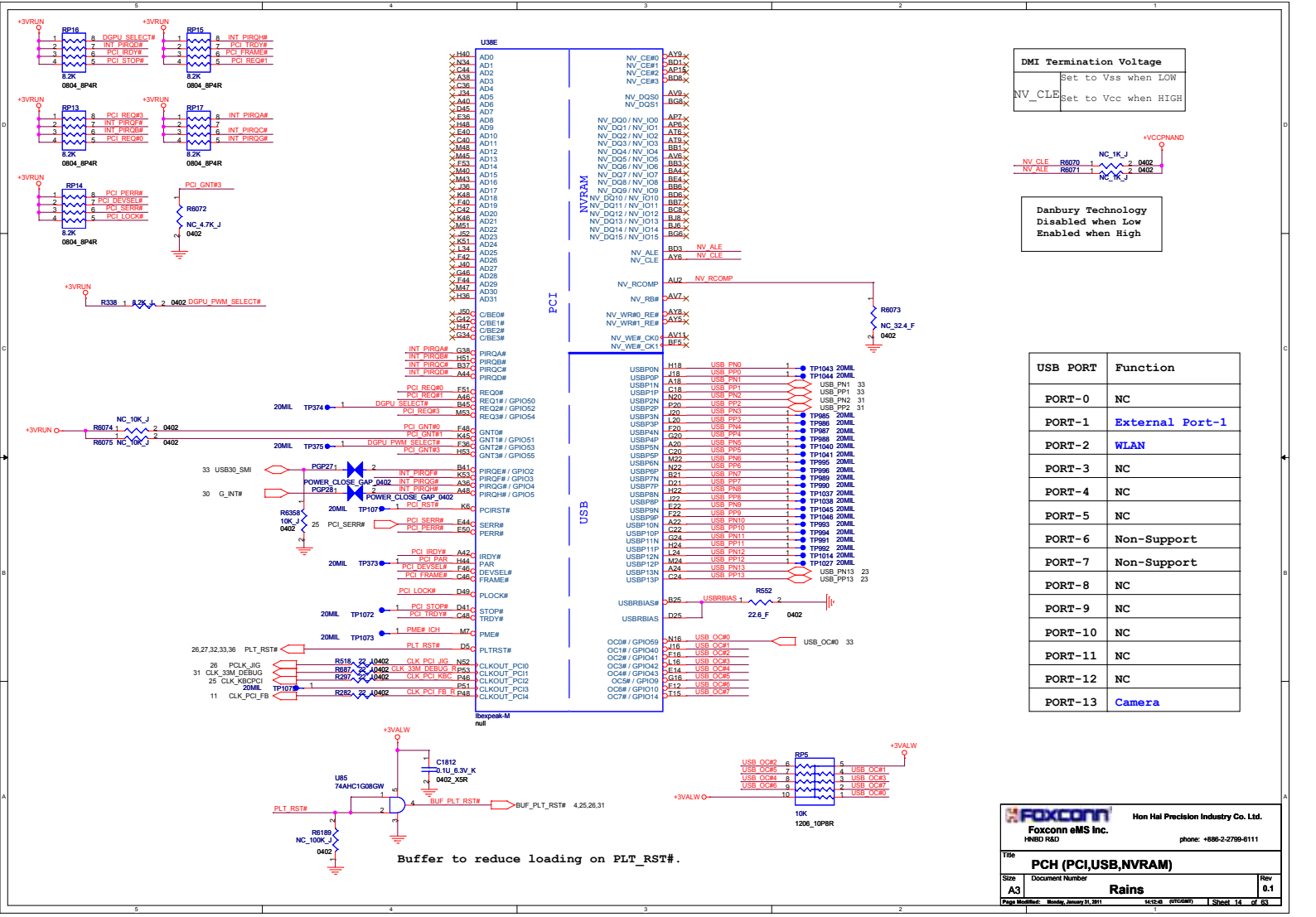

USB PORT	Function
PORT-0	NC
PORT-1	External Port-1
PORT-2	WLAN
PORT-3	NC
PORT-4	NC
PORT-5	NC
PORT-6	Non-Support
PORT-7	Non-Support
PORT-8	NC
PORT-9	NC
PORT-10	NC
PORT-11	NC
PORT-12	NC
PORT-13	Camera

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Title: PCH (PCI,USB,NVRAM)

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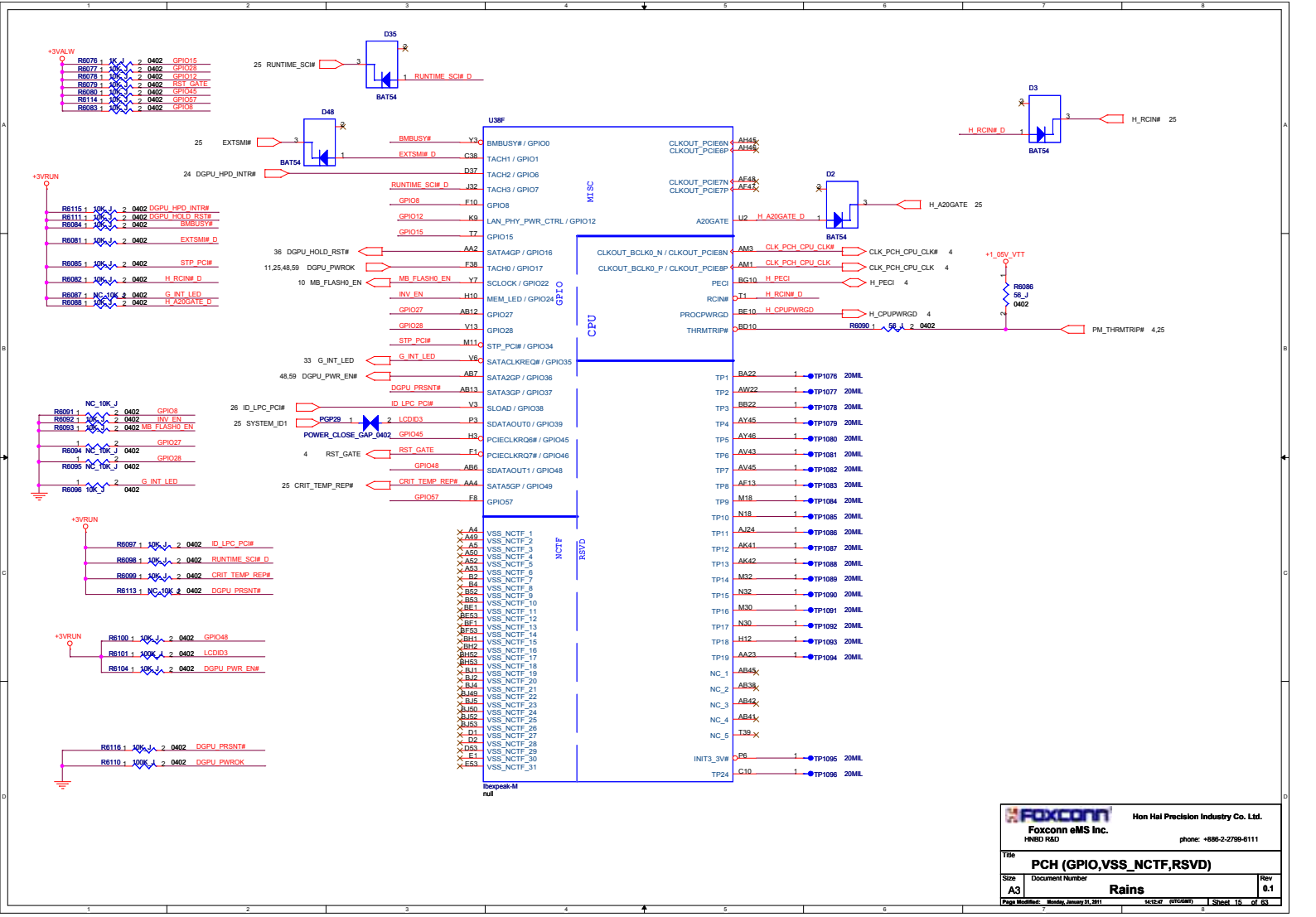

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Title	PCH (GPIO,VSS_NCTF,RSVD)
Size: A3	Document Number: Rains
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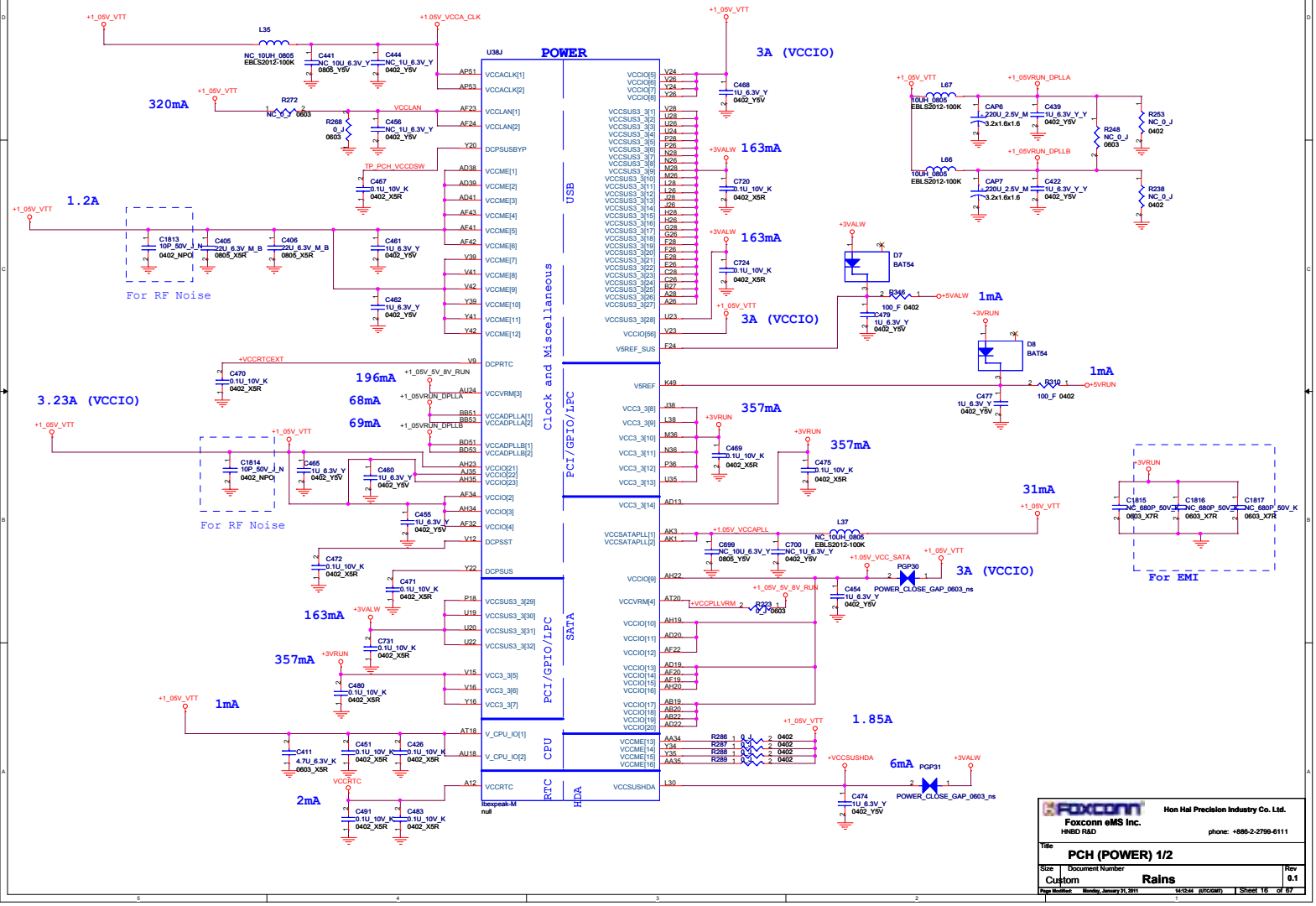
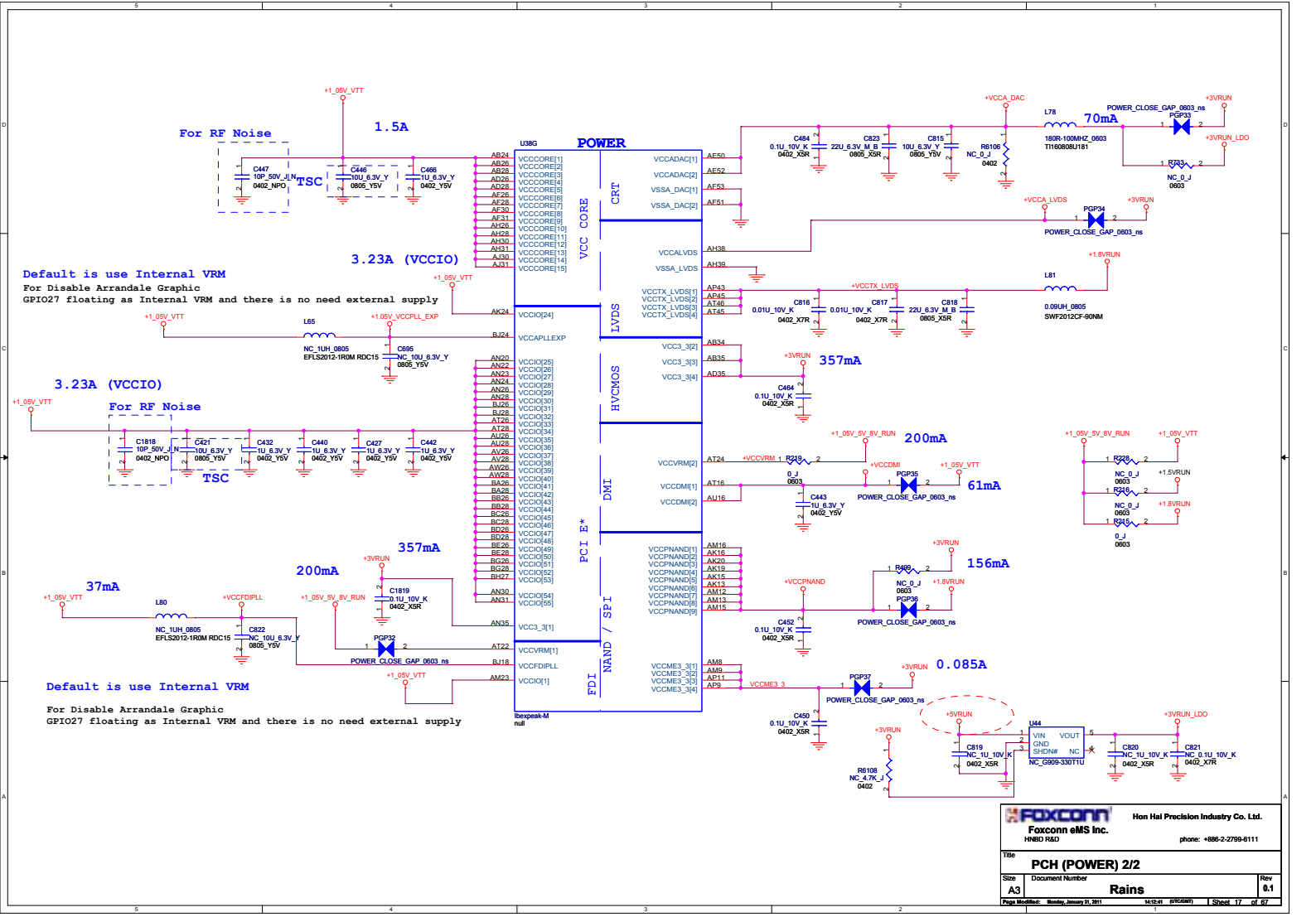
Default is use Internal VRM

For Disable Arrandale Graphic
GPIO27 floating as Internal VRM and there is no need external supply





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Title: PCH (POWER) 2/2

Size	Document Number	Rev
A3	Rains	0.1

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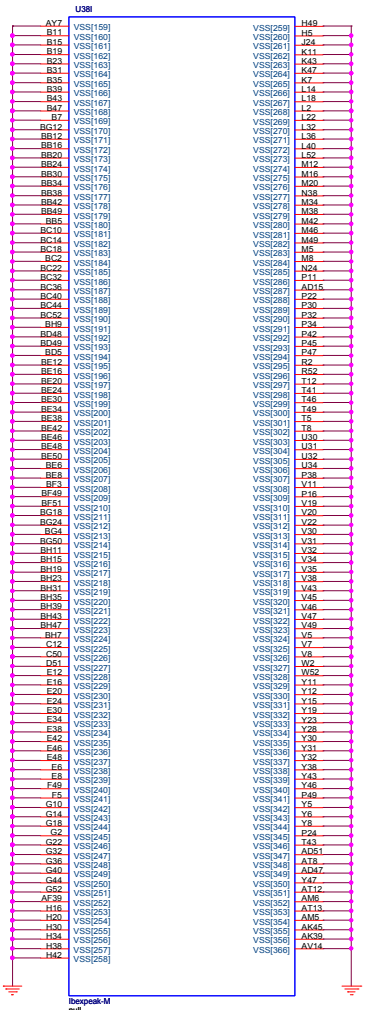

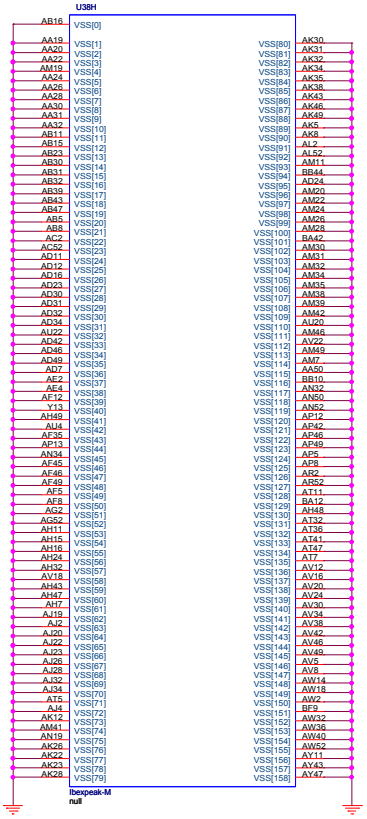

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Title: **PCH (VSS)**

Size	Document Number	Rev
A3	Rains	0.1

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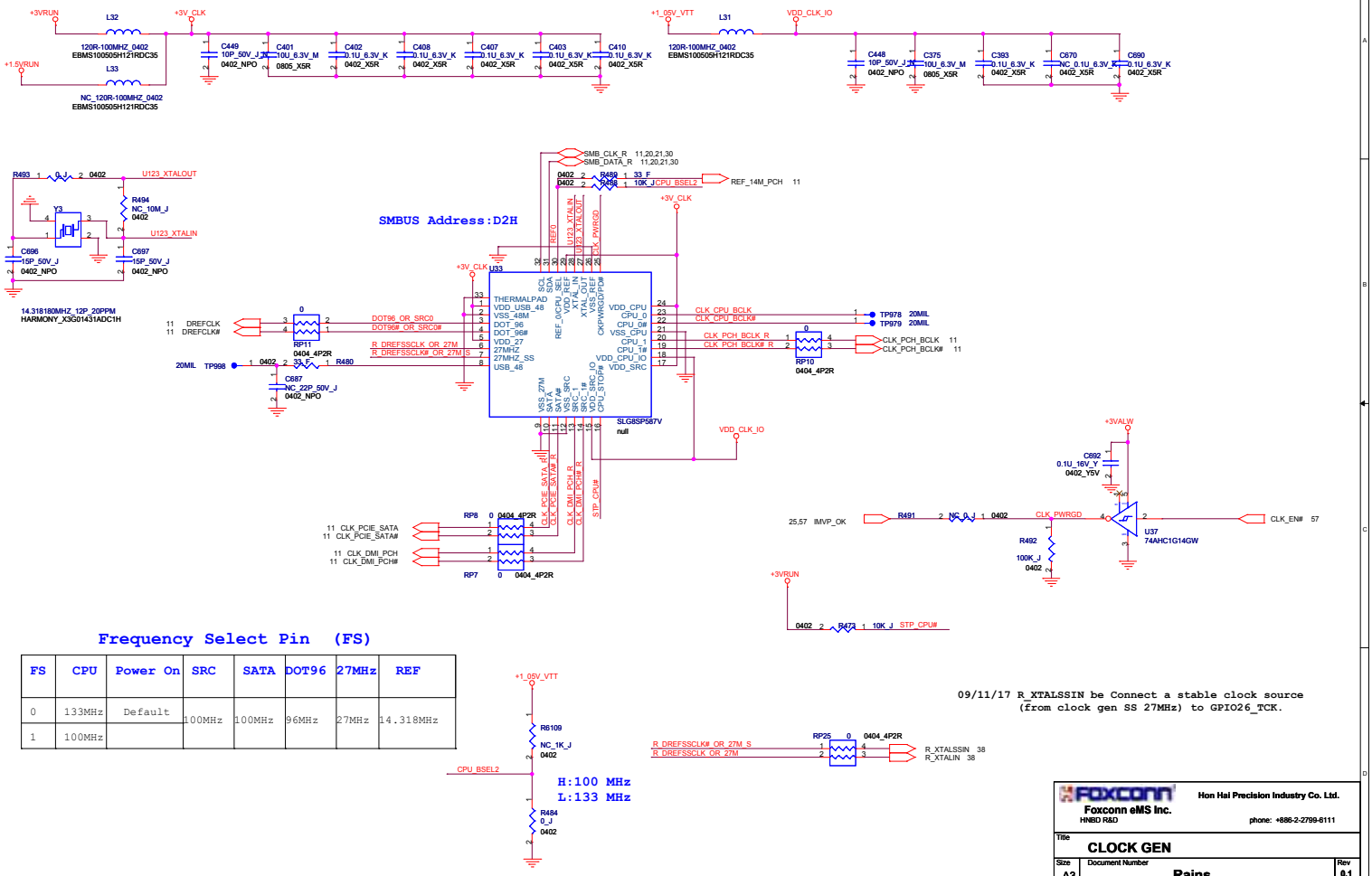

Frequency Select Pin (FS)

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

H:100 MHz
L:133 MHz

09/11/17 R_XTALSSIN be Connect a stable clock source (from clock gen SS 27MHz) to GPIO26_TCK.

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Title	CLOCK GEN
Size: A3	Document Number: Rains
Rev	0.1
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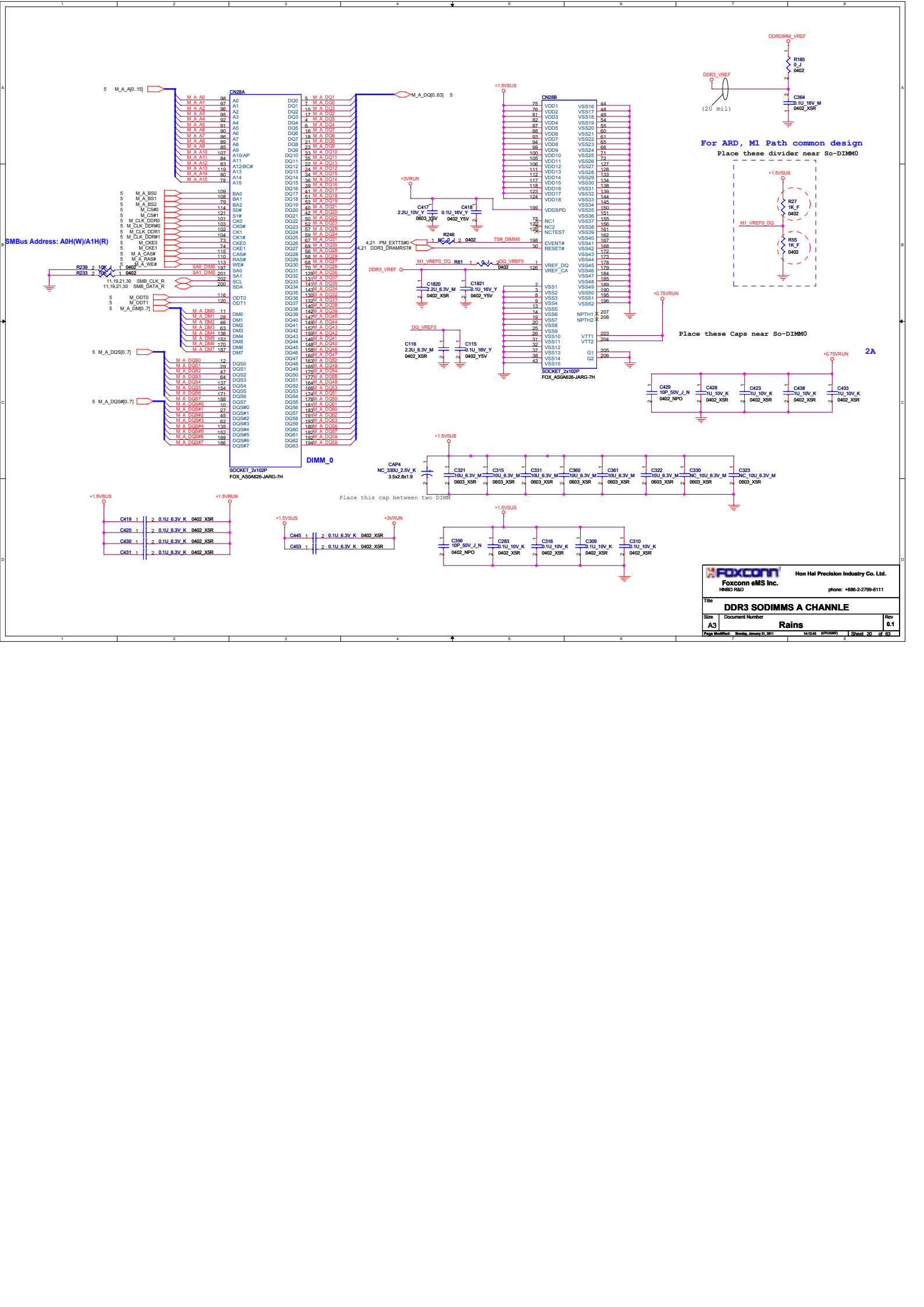
DDRDIMM_VREF
R185
0_J
0402
DDR3_VREF
(20 mil)
C364
0.1U_16V_M
0402_X5R
For ARD, M1 Path common design
Place these divider near So-DIMM0
+1.5VSUS
R27
1K_F
0402
M1_VREF0_DQ
R55
1K_F
0402
SMBus Address: A0H(W)/A1H(R)
CN28A
M_A_A[0..15]
M_A_DQ[0..63]
M_A_BS0
M_A_BS1
M_A_BS2
M_CS#0
M_CS#1
M_CLK_DDR0
M_CLK_DDR#0
M_CLK_DDR1
M_CLK_DDR#1
M_CKE0
M_CKE1
M_A_CAS#
M_A_RAS#
M_A_WE#
SA0_DIM0
SA1_DIM0
SMB_CLK_R
SMB_DATA_R
M_ODT0
M_ODT1
M_A_DM[0..7]
M_A_DQS[0..7]
M_A_DQS#[0..7]
R239 10K_J 0402
R233 10K_J 0402
SOCKET_2x102P
FOX_AS0A626-JARG-7H
DIMM_0
CN28B
+1.5VSUS
+3VRUN
C417
2.2U_10V_Y
0603_X5V
C418
0.1U_16V_Y
0402_Y5V
R246
NC_0_J 0402
TS#_DIMM0
4.21 PM_EXTTS#0
4.21 DDR3_DRAMRST#
M1_VREF0_DQ
R61
0_J
+DQ_VREF0
0402
DDR3_VREF
C1820
2.2U_6.3V_M
0402_X5R
C1821
0.1U_16V_Y
0402_Y5V
DQ_VREF0
C116
2.2U_6.3V_M
0402_X5R
C115
0.1U_16V_Y
0402_Y5V
SOCKET_2x102P
FOX_AS0A626-JARG-7H
+0.75VRUN
Place these Caps near So-DIMM0
2A
C429
10P_50V_J_N
0402_NPO
C428
1U_10V_K
0402_X5R
C423
1U_10V_K
0402_X5R
C438
1U_10V_K
0402_X5R
C433
1U_10V_K
0402_X5R
CAP4
NC_330U_2.5V_K
3.5x2.8x1.9
C321
10U_6.3V_M
0603_X5R
C315
10U_6.3V_M
0603_X5R
C331
10U_6.3V_M
0603_X5R
C360
10U_6.3V_M
0603_X5R
C361
10U_6.3V_M
0603_X5R
C322
10U_6.3V_M
0603_X5R
C330
NC_10U_6.3V_M
0603_X5R
C323
NC_10U_6.3V_M
0603_X5R
Place this cap between two DIMM
+1.5VRUN
C419 0.1U_6.3V_K 0402_X5R
C420 0.1U_6.3V_K 0402_X5R
C430 0.1U_6.3V_K 0402_X5R
C431 0.1U_6.3V_K 0402_X5R
+3VRUN
C445 0.1U_6.3V_K 0402_X5R
C453 0.1U_6.3V_K 0402_X5R
C356
10P_50V_J_N
0402_NPO
C283
0.1U_10V_K
0402_X5R
C316
0.1U_10V_K
0402_X5R
C309
0.1U_10V_K
0402_X5R
C310
0.1U_10V_K
0402_X5R
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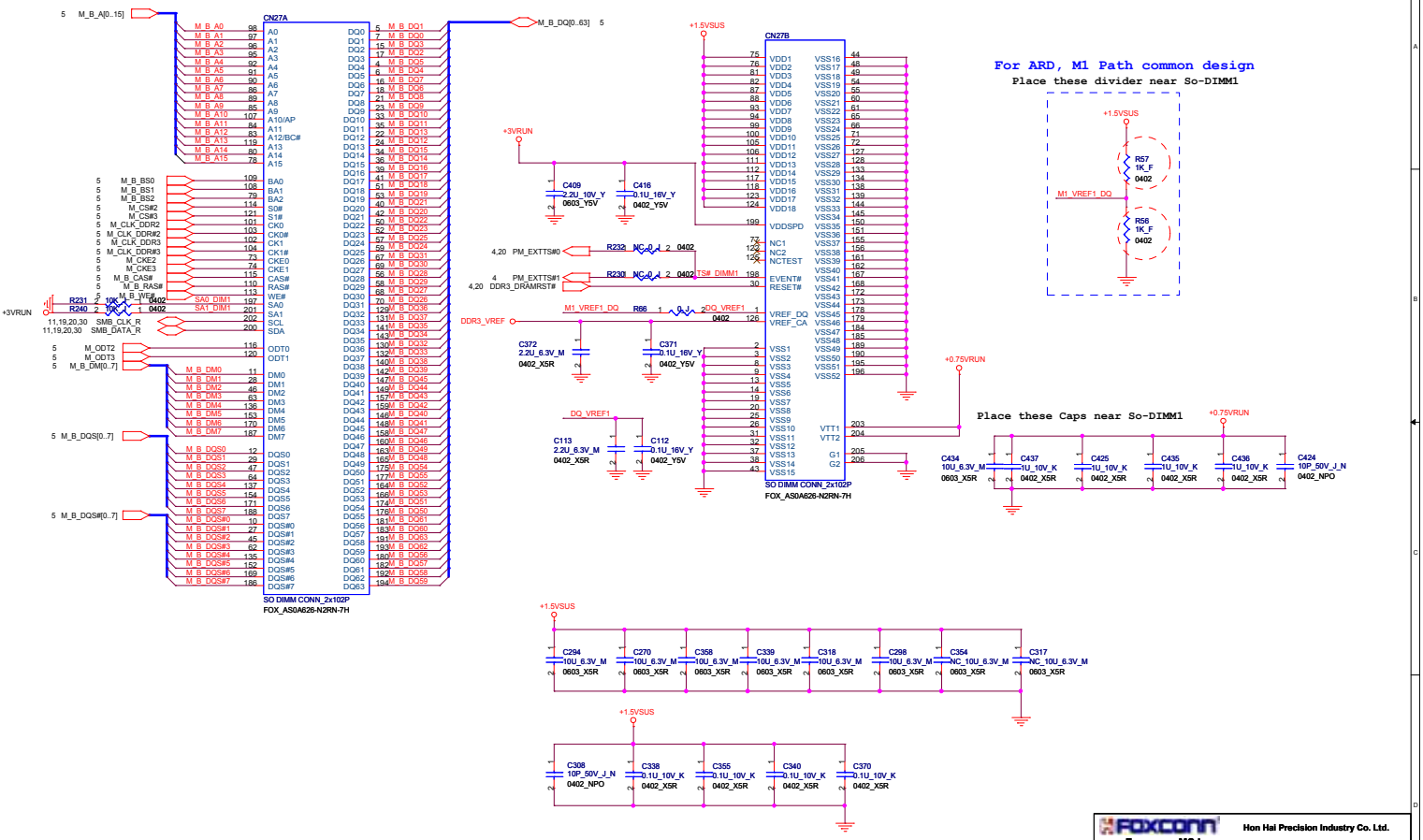
Title
DDR3 SODIMMS A CHANNLE
Size
A3
Document Number
Rains
Rev
0.1
Page Modified: Monday, January 31, 2011 14:12:48 (UTC/GMT)
Sheet 20 of 63



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Title	DDR3 SODIMMS B CHANNLE
Size	A3
Document Number	Rains
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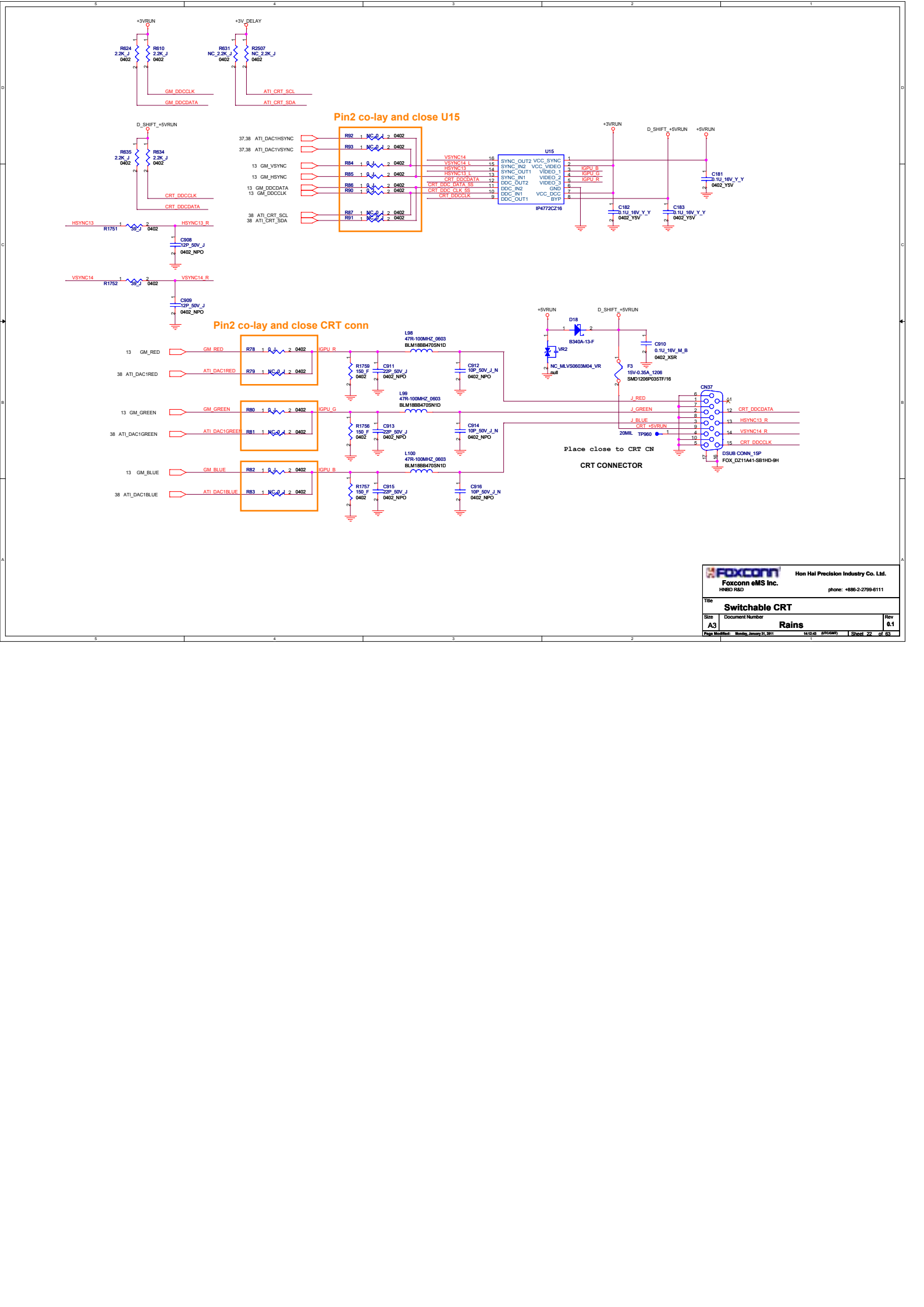

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Title: **Switchable CRT**

Size: A3 | Document Number: **Rains** | Rev: 0.1

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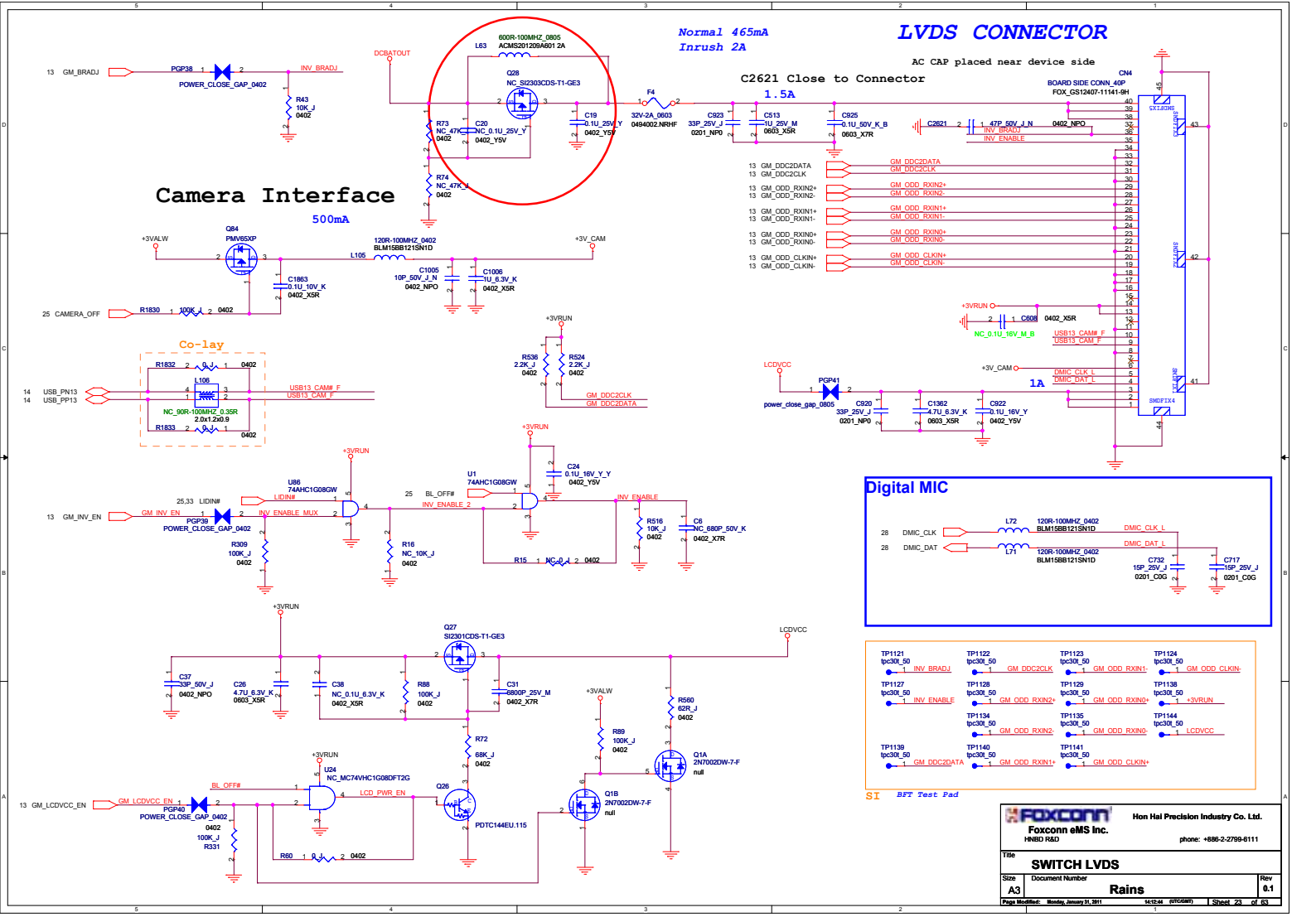
LVDS CONNECTOR
Normal 465mA
Inrush 2A
AC CAP placed near device side
C2621 Close to Connector
1.5A
Camera Interface
500mA
Co-lay
Digital MIC
1A
CN4
BOARD SIDE CONN_40P
FOX_GS12407-11141-9H
600R-100MHZ_0805
ACMS201209A601 2A
NC_SI2303CDS-T1-GE3
32V-2A_0603
0494002.NRHF
PMV65XP
120R-100MHZ_0402
BLM15BB121SN1D
74AHC1G08GW
NC_MC74VHC1G08DFT2G
2N7002DW-7-F
PDTC144EU.115
SI2301CDS-T1-GE3
NC_90R-100MHZ_0.35R
2.0x1.2x0.9
POWER_CLOSE_GAP_0402
power_close_gap_0805
SMDFIX4
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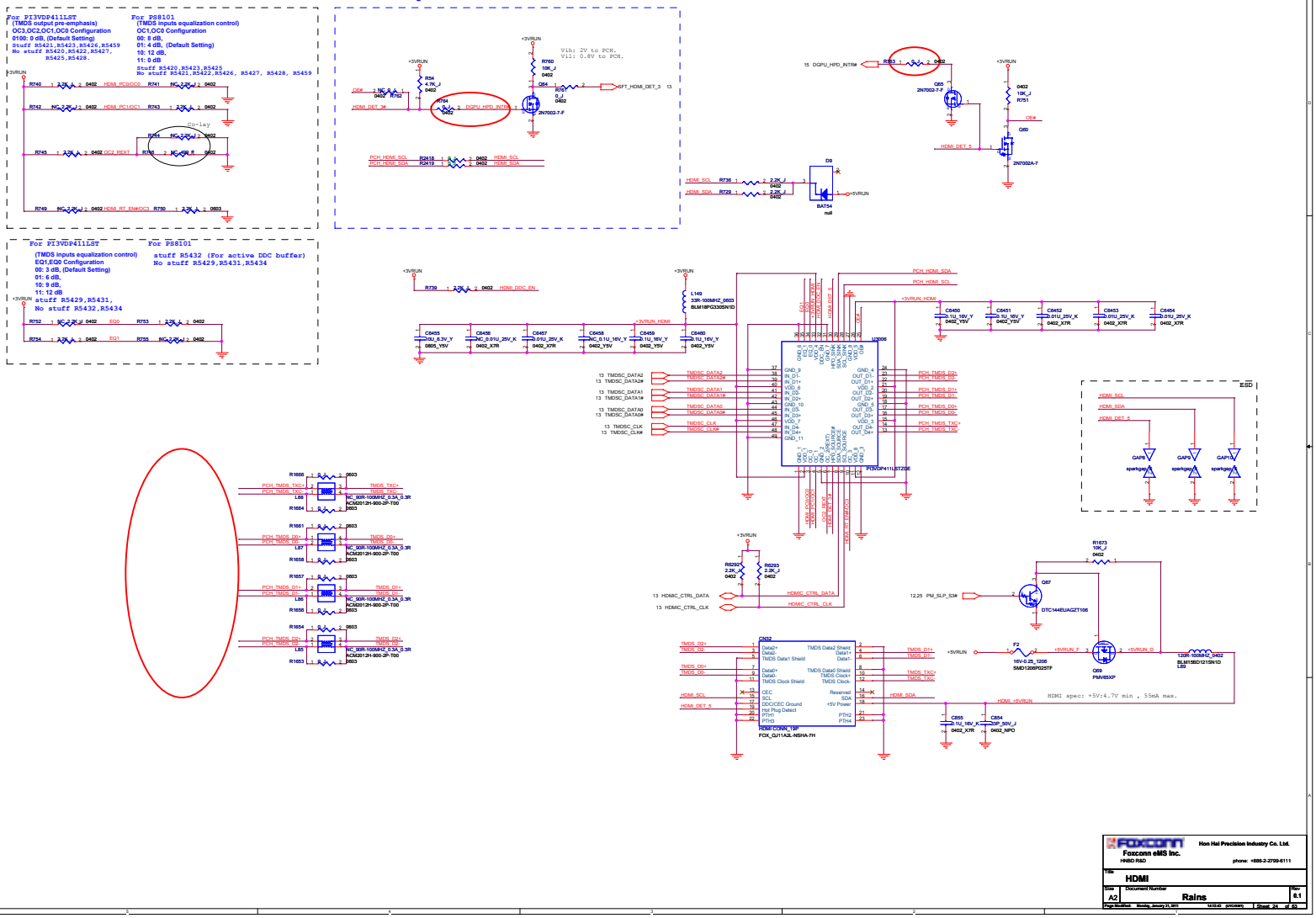
SWITCH LVDS
Rains
A3
0.1
Sheet 23 of 63

Dual Mode HDMI Signals 1 -- PCH



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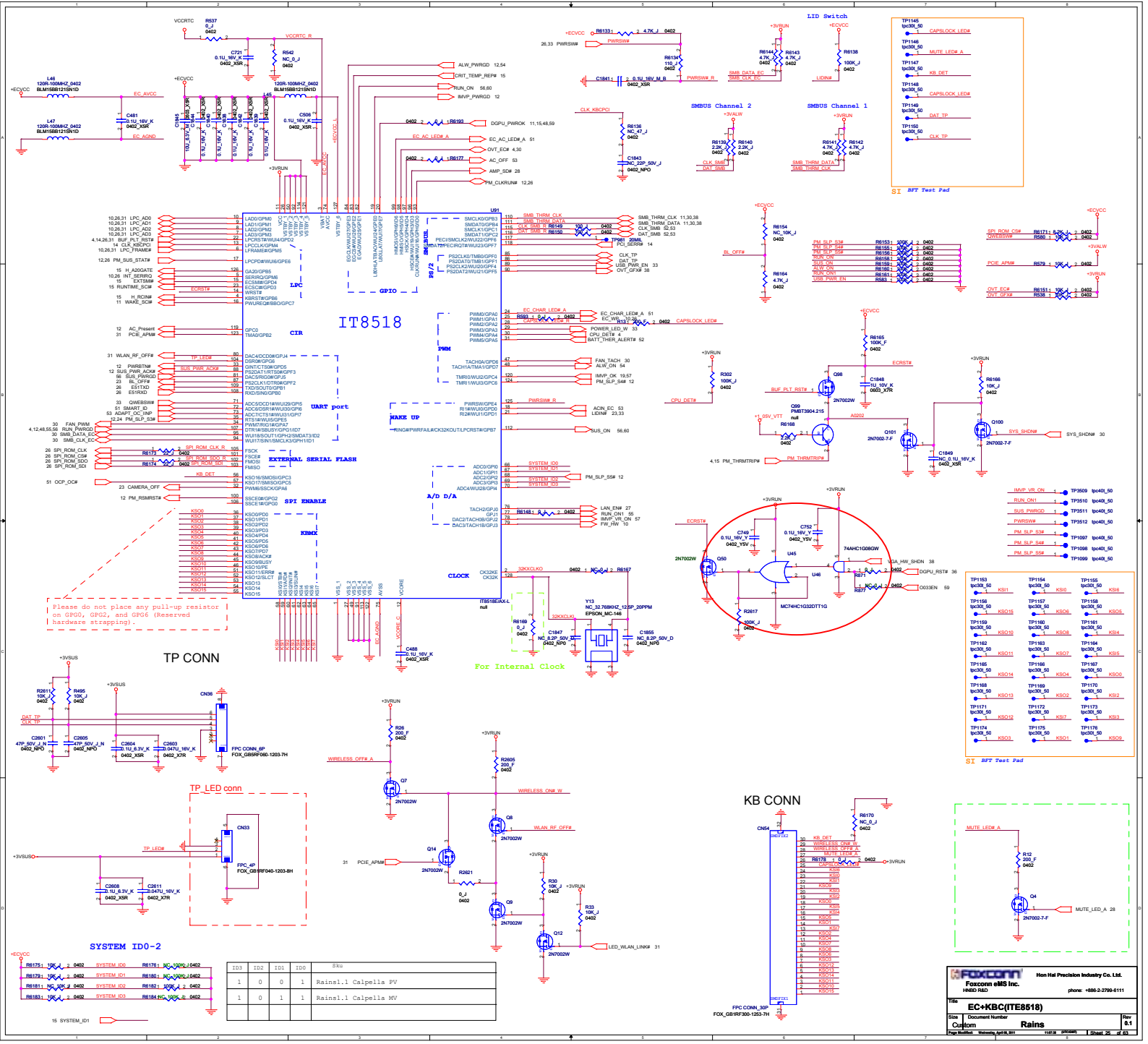
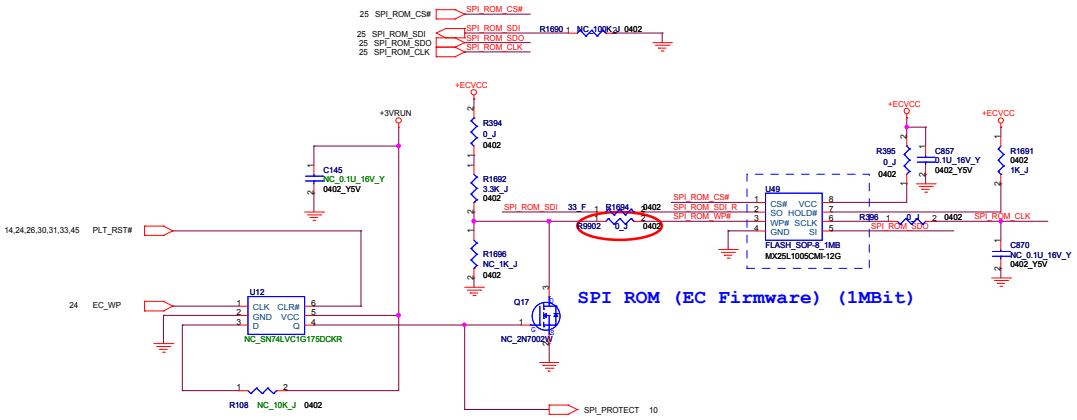
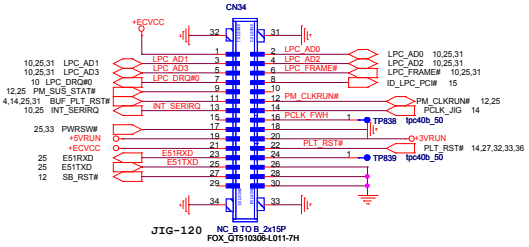
Title	HDMI	
Size	Document Number	Rev
A2	Rains	0.1
Page Modified: Monday, January 21, 2013	10:53:43 (unicode)	Sheet 24 of 43


IT8518
LPC
GPIO
CIR
UART port
EXTERNAL SERIAL FLASH
SPI ENABLE
KBMX
PWM
WAKE UP
A/D D/A
CLOCK
SMBUS
PS/2
LID Switch
SMBUS Channel 2
SMBUS Channel 1
Please do not place any pull-up resistor on GPG0, GPG2, and GPG6 (Reserved hardware strapping).
TP CONN
TP_LED conn
KB CONN
SYSTEM ID0-2
For Internal Clock
SI BFT Test Pad
Foxconn eMS Inc.
Hon Hai Precision Industry Co. Ltd.
EC+KBC(ITE8518)
Rains





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Title: **EC SPI ROM & DEBUG PORT**

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A3	Rains	0.1

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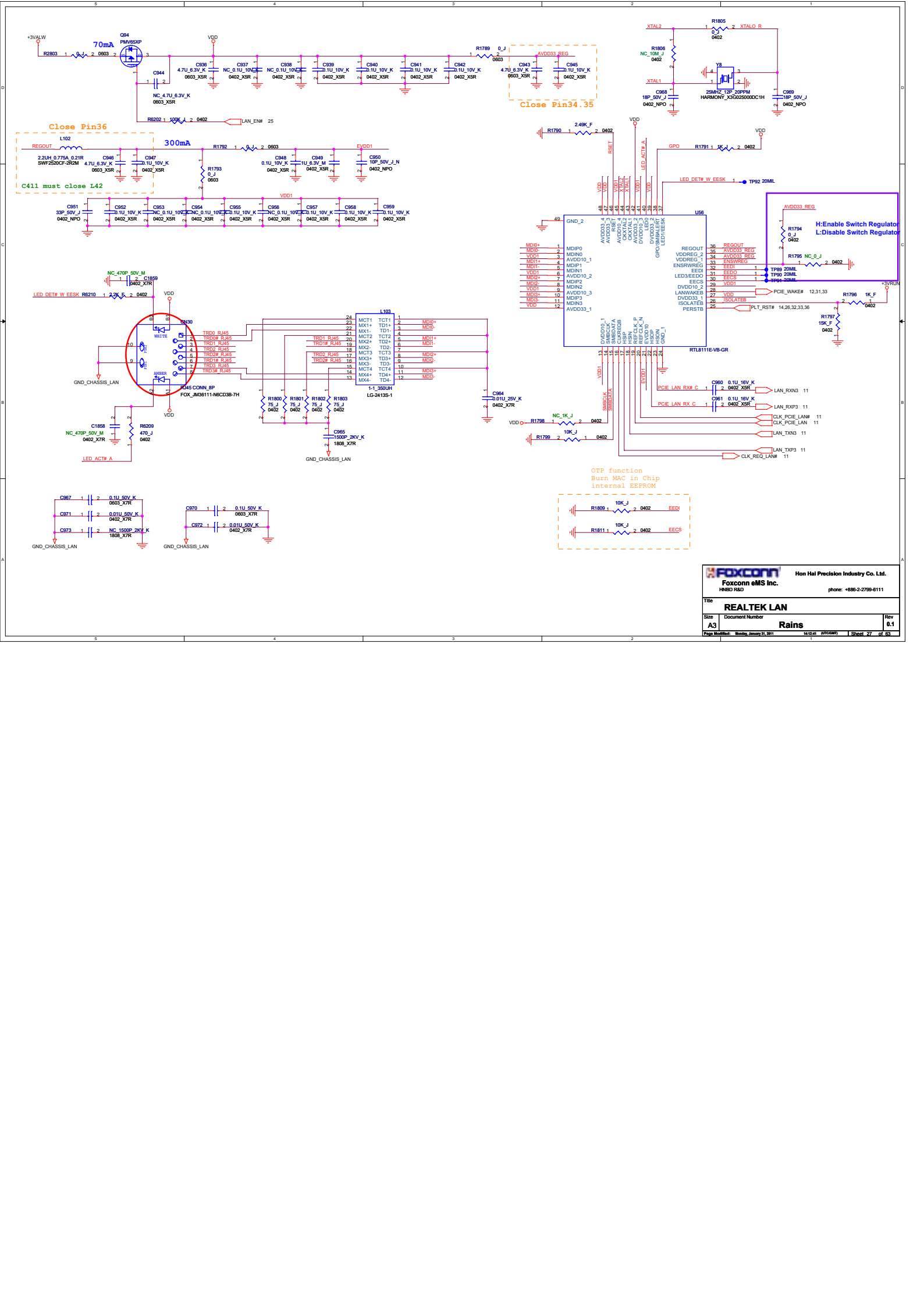
70mA
300mA
Close Pin36
C411 must close L42
Close Pin34.35
AVDD33_REG
H:Enable Switch Regulator
L:Disable Switch Regulator
OTP function
Burn MAC in Chip
internal EEPROM
RTL8111E-VB-GR
FOX_JM36111-N8CD3B-7H
LG-2413S-1
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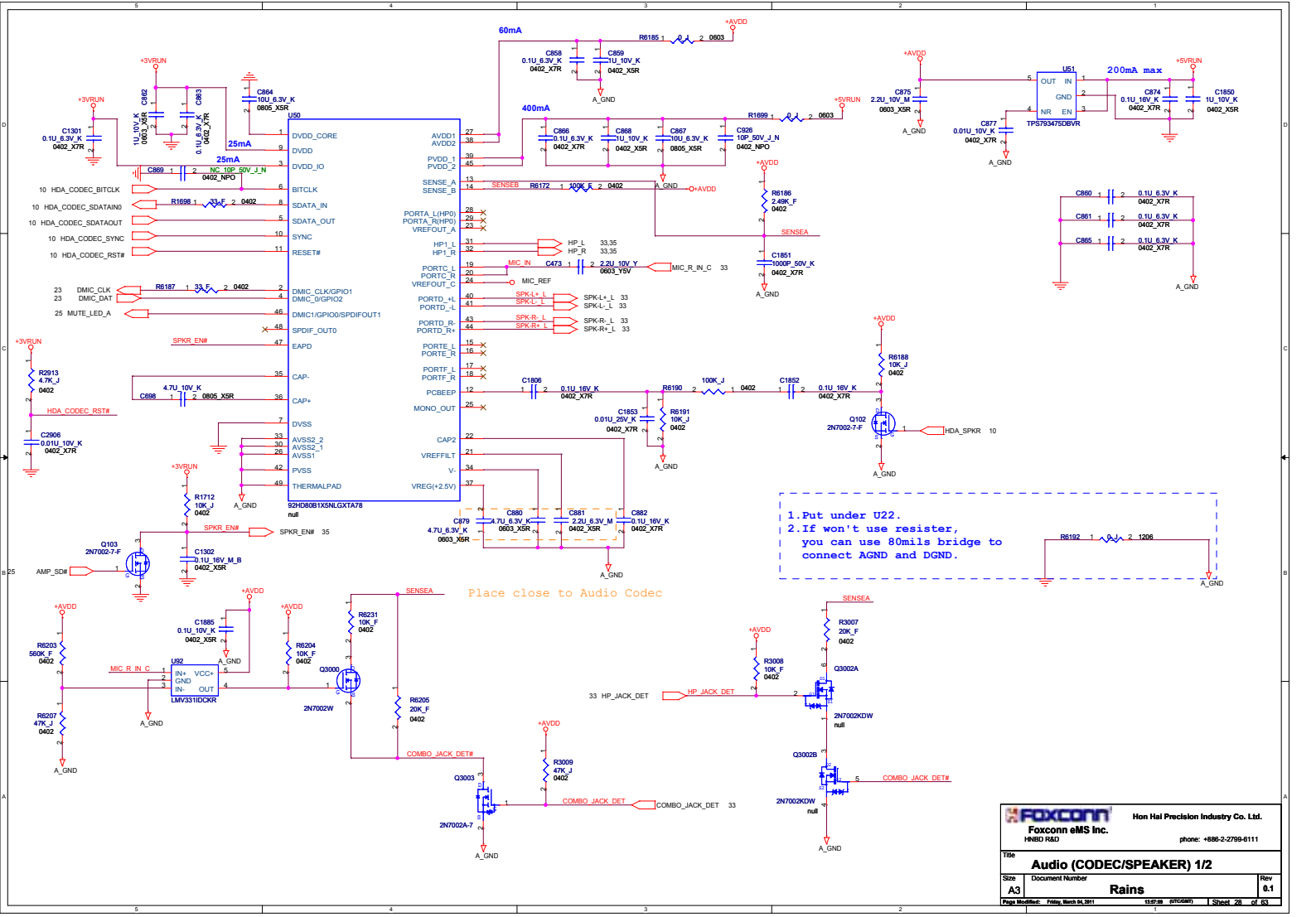
REALTEK LAN
Rains
A3
0.1
Sheet 27 of 63


60mA
400mA
25mA
25mA
200mA max
U50
92HD80B1X5NLGXTA78
null
U51
TPS793475DBVR
U92
LMV331IDCKR
Place close to Audio Codec
1.Put under U22.
2.If won't use resister,
you can use 80mils bridge to
connect AGND and DGND.
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Audio (CODEC/SPEAKER) 1/2
Rains
A3
0.1
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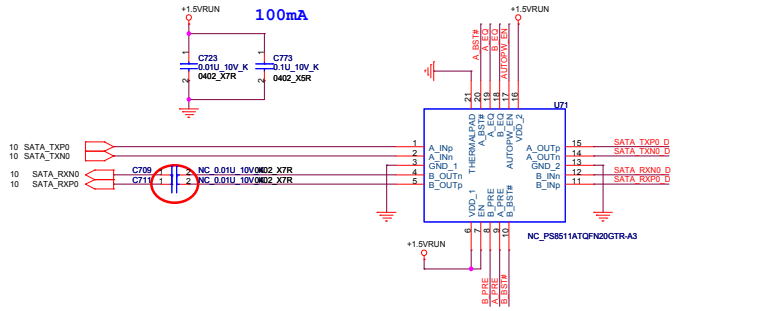
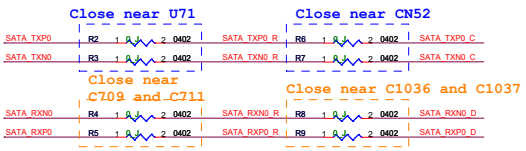
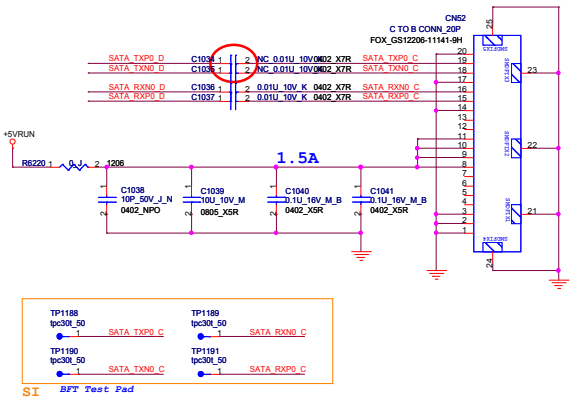




SATA HDD CONN

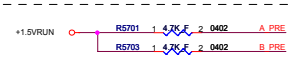


Input Equalization setting:Internal pull down 150k ohm
A_EQ/B_EQ = LOW:For short and medium length PCB traces

A_EQ/B_EQ = HIGH:For long length PCB traces

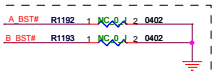
Output Pre-emphasis setting:Internal pull down 150k ohm
A_PRE/B_PRE = LOW:Pre-emphasis disabled

A_PRE/B_PRE = High:Pre-emphasis enabled



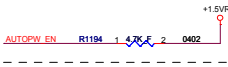
Output Level Boot setting:Internal pull up 150k ohm
A_BST#/B_BST# = LOW:SATAx output level 800~1200mVpp

A_BST#/B_BST# = HIGH:SATAx output level 400~700mVpp

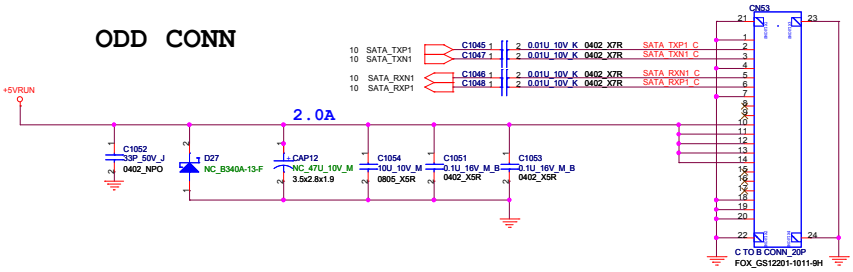


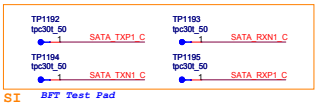
Automatic Power Saving Enable:Internal pull down 150k ohm
AUTOPW_EN = LOW:automatic power saving disable

AUTOPW_EN = HIGH:automatic power saving enable



ODD CONN





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Title: SATA HDD/ODD

Size	Document Number	Rev
A3	Rains	0.1

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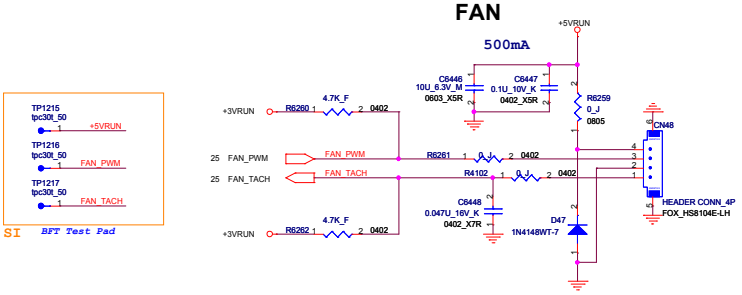
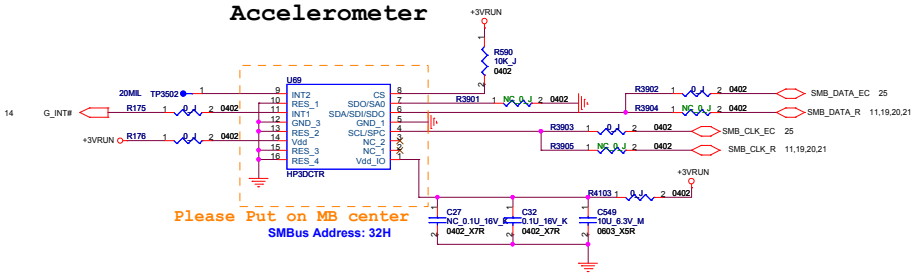
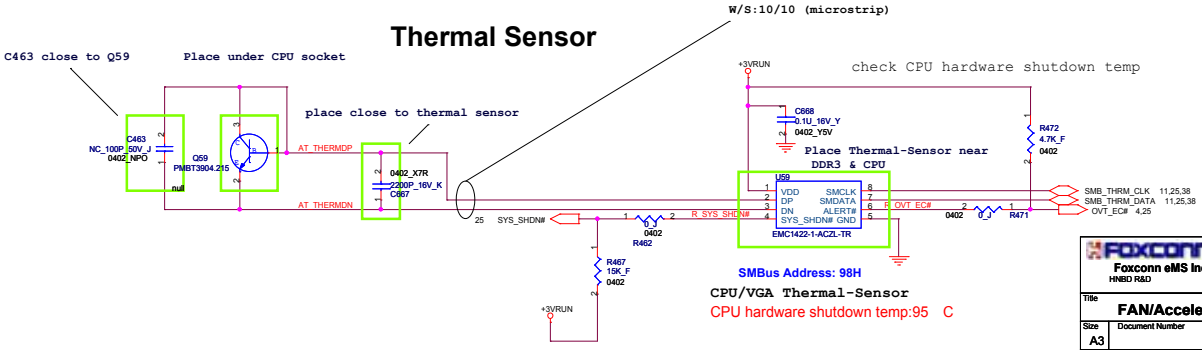
FAN



Accelerometer



Thermal Sensor



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Title: **FAN/Accelerometer**

Size	Document Number	Rev
A3	Rains	0.1

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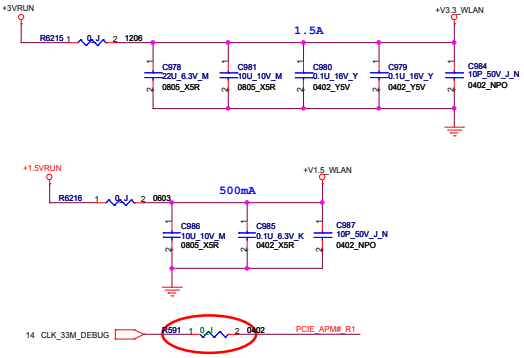
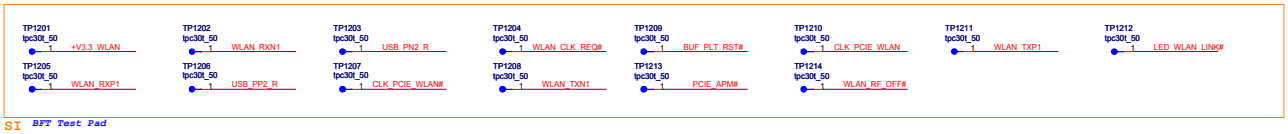
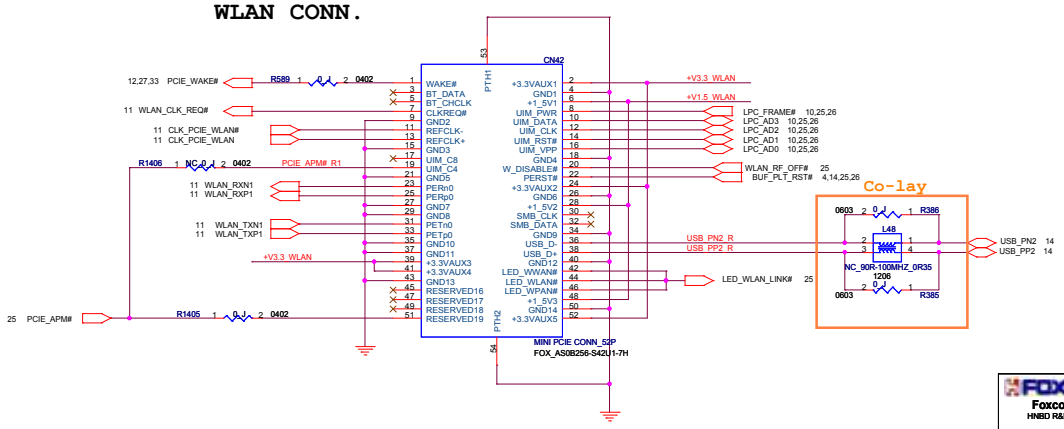




SI BFT Test Pad

WLAN CONN.



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Title: WLAN MB

Size	Document Number	Rev
A3	Rains	0.1

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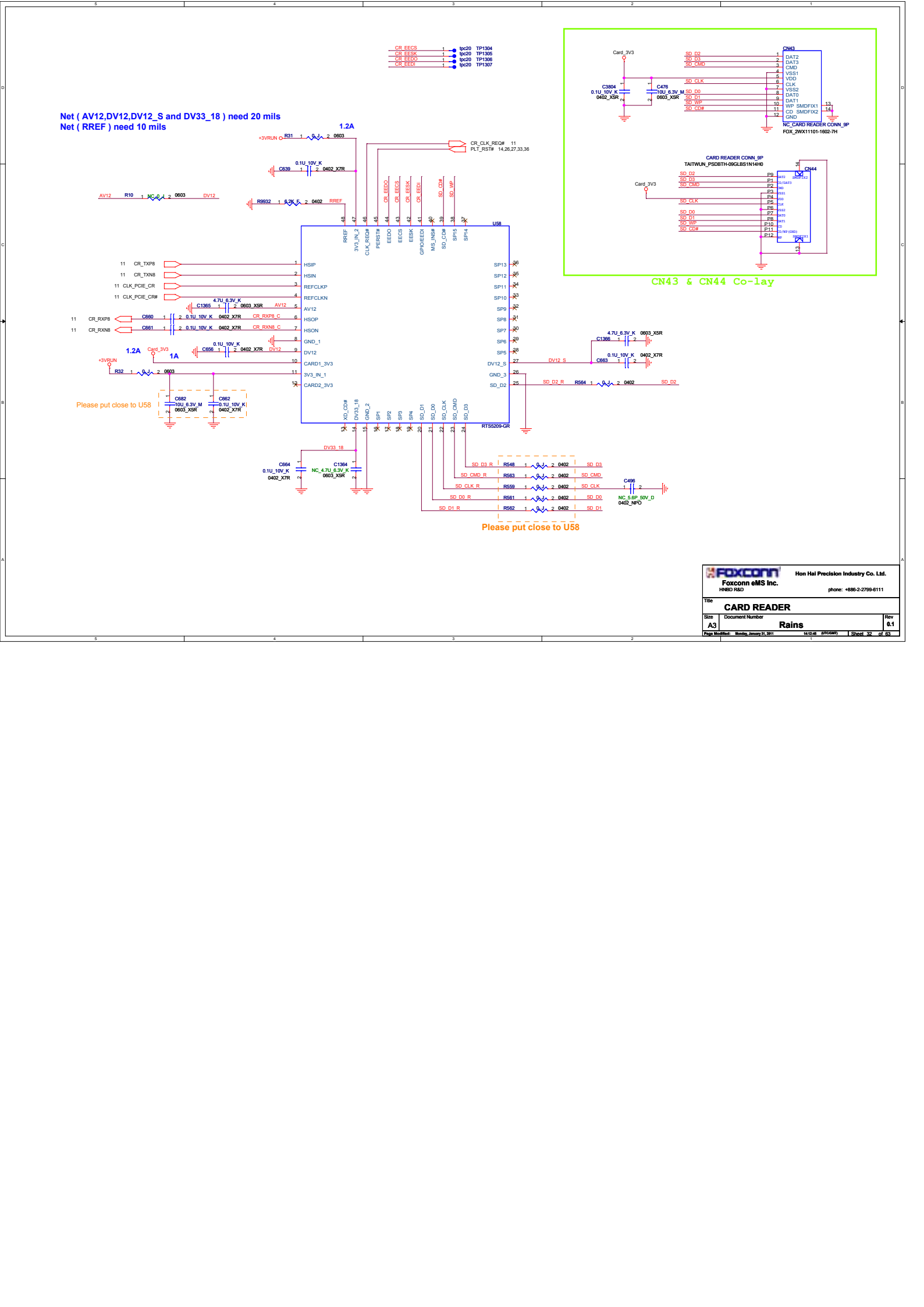
CR_EECS 1 tpc20 TP1304
CR_EESK 1 tpc20 TP1305
CR_EEDO 1 tpc20 TP1306
CR_EEDI 1 tpc20 TP1307
Net (AV12,DV12,DV12_S and DV33_18) need 20 mils
Net (RREF) need 10 mils
1.2A
+3VRUN
R31 0_J 0603
CR_CLK_REQ# 11
PLT_RST# 14,26,27,33,36
C839 0.1U_10V_K 0402_X7R
AV12 R10 NC_0_J 0603 DV12
R9932 6.2K_F 0402 RREF
U58
RREF 3V3_IN_2 CLK_REQ# PERST# EEDO EECS EESK GPIO/EEDI MS_INS# SD_CD# SP15 SP14
HSIP HSIN REFCLKP REFCLKN AV12 HSOP HSON GND_1 DV12 CARD1_3V3 3V3_IN_1 CARD2_3V3
SP13 SP12 SP11 SP10 SP9 SP8 SP7 SP6 SP5 DV12_S GND_3 SD_D2
XD_CD# DV33_18 GND_2 SP1 SP2 SP3 SP4 SD_D1 SD_D0 SD_CLK SD_CMD SD_D3
RTS5209-GR
11 CR_TXP8
11 CR_TXN8
11 CLK_PCIE_CR
11 CLK_PCIE_CR#
11 CR_RXP8
11 CR_RXN8
C1365 4.7U_6.3V_K 0603_X5R AV12
C660 0.1U_10V_K 0402_X7R CR_RXP8_C
C661 0.1U_10V_K 0402_X7R CR_RXN8_C
C656 0.1U_10V_K 0402_X7R DV12
1.2A Card_3V3 1A
+3VRUN
R32 0_J 0603
Please put close to U58
C682 10U_6.3V_M 0603_X5R
C662 0.1U_10V_K 0402_X7R
DV33_18
C664 0.1U_10V_K 0402_X7R
C1364 NC_4.7U_6.3V_K 0603_X5R
C1366 4.7U_6.3V_K 0603_X5R
C663 0.1U_10V_K 0402_X7R
DV12_S
SD_D2_R R564 0_J 0402 SD_D2
SD_D3_R R548 0_J 0402 SD_D3
SD_CMD_R R563 0_J 0402 SD_CMD
SD_CLK_R R559 0_J 0402 SD_CLK
SD_D0_R R561 0_J 0402 SD_D0
SD_D1_R R562 0_J 0402 SD_D1
C496 NC_5.6P_50V_D 0402_NPO
Please put close to U58
Card_3V3
C3804 0.1U_10V_K 0402_X5R
C476 10U_6.3V_M 0603_X5R
SD_D2 SD_D3 SD_CMD SD_CLK SD_D0 SD_D1 SD_WP SD_CD#
CN43
DAT2 DAT3 CMD VSS1 VDD CLK VSS2 DAT0 DAT1 WP SMDFIX1 CD SMDFIX2 GND
NC_CARD READER CONN_9P
FOX_2WX11101-1602-7H
CARD READER CONN_9P
TAITWUN_PSDBTH-09GLBS1N14H0
CN44
CN43 & CN44 Co-lay
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CARD READER
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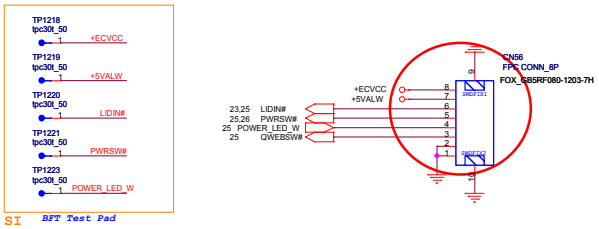
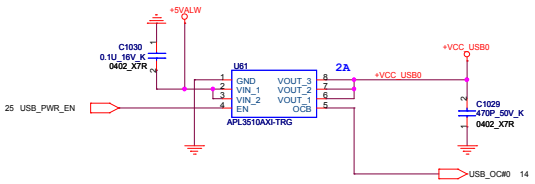
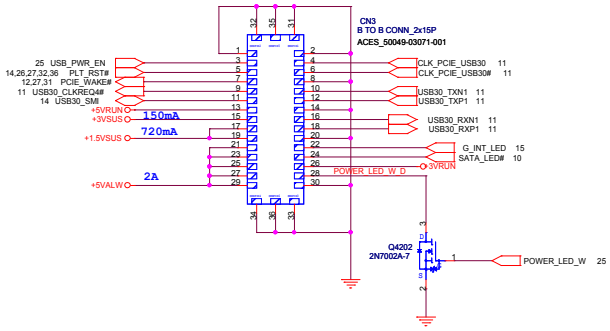
POWER BUTTON BOARD CONNECTOR



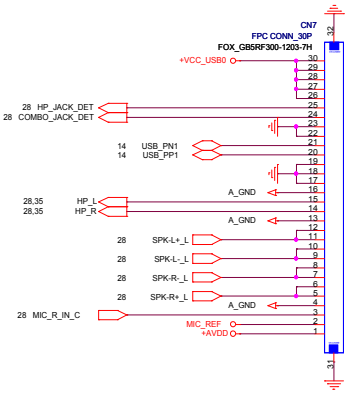
USB 2.0 POWER SWITCH



USB3.0 DB CONN



AUDIO jack + USB2.0 port X1



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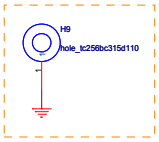
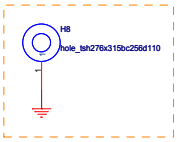
B+C Type



R+U Type



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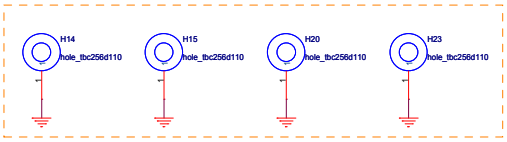
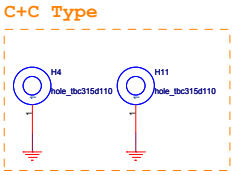
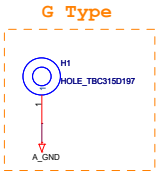


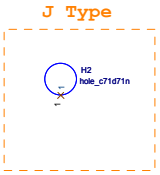
C+C Type



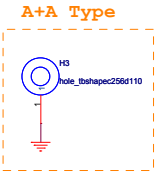
G Type



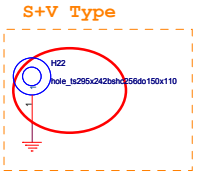
J Type



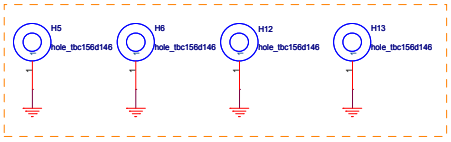
A+A Type



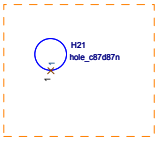
S+V Type



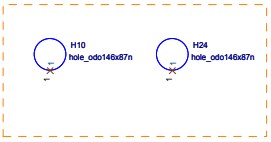
L Type

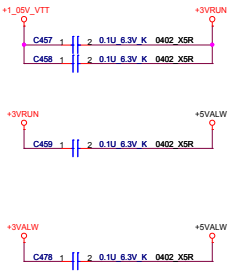


M Type



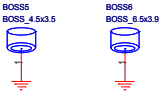
N Type



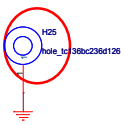


TOP SIDE BOSE

Bottom SIDE



Co-lay with BOSS5



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Size: A3	Document Number: Rains	Rev: 0.1
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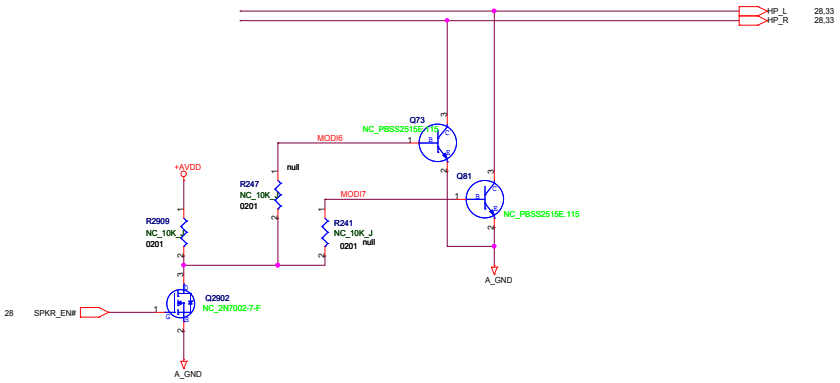

de-pop noise schematic

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Size: A3	Document Number: Rains	Rev: 0.1
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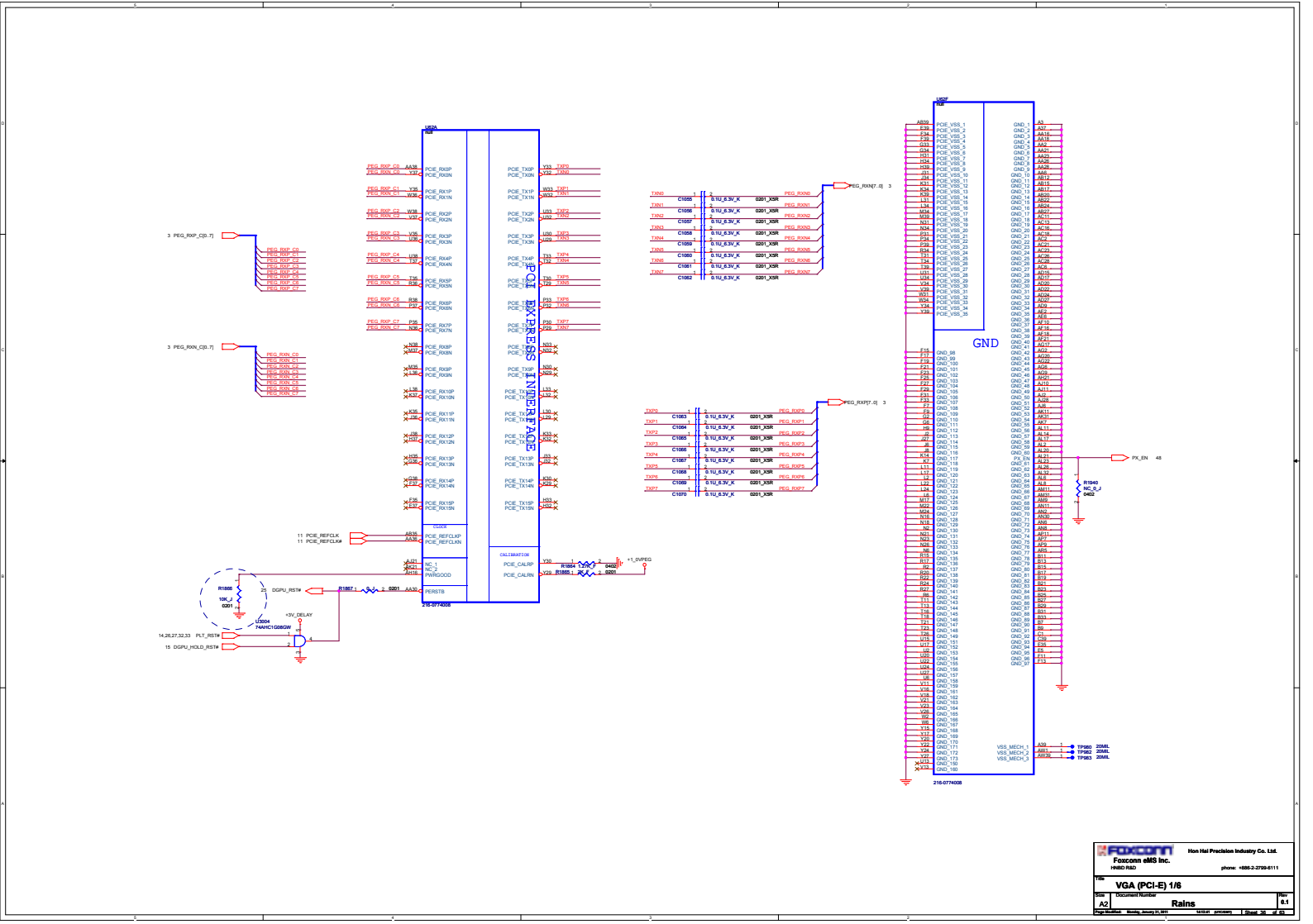

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GPIO21 MUST BE LOW DURING PERSTB WHEN BEING USED TO CONTROL MVDDQ

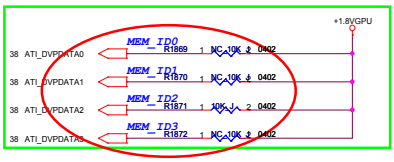
PIN STRAPS

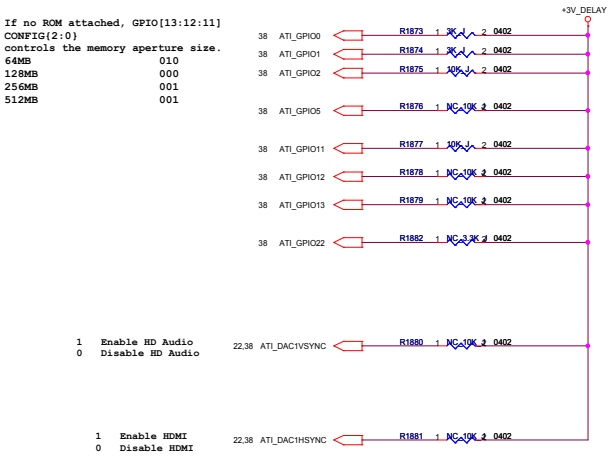
Strap for DDR3 VRAM
ATI_DVPDATA[3 : 0]

For Wistler-Pro

0001 64Mx16	*Hynix (800MHz)*	*x8pcs*
0010 64Mx16	*Samsung (800MHz)*	*x8pcs*
0100 64Mx16	*Hynix (900MHz)**	*x8pcs*
1000 64Mx16	*Samsung (900MHz)*	*x8pcs*
0011 128Mx16	*Hynix (800MHz)*	*x8pcs*
0110 128Mx16	*Samsung (800MHz)*	*x8pcs*
1100 128Mx16	*Hynix (900MHz)*	*x8pcs*
1001 128Mx16	*Samsung (900MHz)*	*x8pcs*

**means the schematic implemented*





CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

RECOMMENDED SETTINGS
0= DO NOT INSTALL RESISTOR
1 = INSTALL 10K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

STRAPS	PIN name	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO_0	Transmitter Power Savings Enable 0: 50% Tx output swing 1: Full Tx output swing	
TX_DEEMPH_EN	GPIO_1	PCI Express Transmitter De-emphasis Enable 0: Tx de-emphasis disabled 1: Tx de-emphasis enabled	
AC_BATT	GPIO_5	AC (Performance mode) = 3.3 V Battery saving mode = 0.0 V	
PWRCNTL_0 PWRCNTL_1	GPIO_6 GPIO_15 GPIO_16 GPIO_20	Power Control signals control the core voltage regulator. At Reset, these signals will be inputs with weak internal pull-down resistors. VBIOS can define these signals to be either 3.3-V outputs or open drain outputs. The output state (high/low) of these signals is programmable for each PowerPlay state.	
BB_EN	GPIO_21	Voltage control signal for memory vlotage regulator:	
BLON	GPIO_7	Controls Backlight On/Off. Active high. If not needed as the backlight enable signal, it can alternatively be used as a GPIO or an open drain type output. Note: External pull-down recommended	
VGA_DIS	GPIO_9	0: VGA Controller capacity enabled 1: The device will not be recognized as the system`s VGA controller	
CONFIG[0] CONFIG[1] CONFIG[2]	GPIO_11 GPIO_12 GPIO_13	If BIOS_ROM_EN = 0, then Config[2:0] defines the primary memory aperture size.	
BIOS_ROM_EN	GPIO_22	Enable external BIOS ROM device 0: Disable external BIOS ROM device 1: Enable external BIOS ROM device	
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS (Removed on Seymour/Whistler)	
RSVD	H2SYNC	RESERVED	
THERMAL_INT	GPIO_17	Thermal monitor interrupt 1) An input from an external temperature sensor (ALERTb)	
CLKREQB	GPIO_23	Reserve	
AUD[1] AUD[0]	HSYNC VSYNC	AUD[1:0]: 00 - No audio function; 01 - Audio for DisplayPort only; 10 - Audio for DisplayPort and HDMI if dongle is detected; 11 - Audio for both DisplayPort and HDMI. HDMI must only be enabled on systems that are legally entitled. It is the responsibility of the system designer to ensure that the system is entitled to support this feature.	
RSVD	GENERICC	RESERVED	

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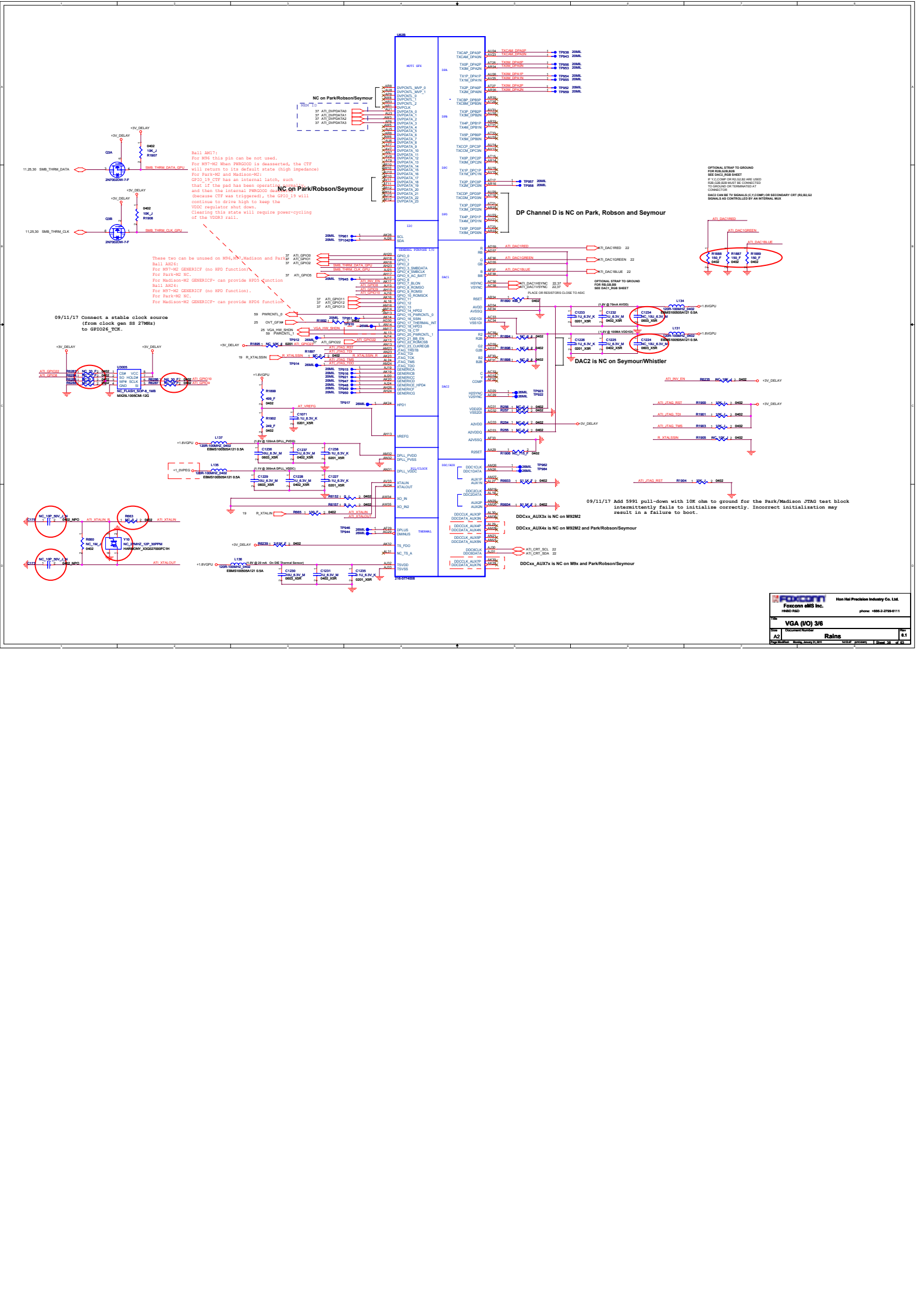
NC on Park/Robson/Seymour
NC on Park/Robson/Seymour
DP Channel D is NC on Park, Robson and Seymour
DAC2 is NC on Seymour/Whistler
09/11/17 Connect a stable clock source (from clock gen SS 27MHz) to GPIO26_TCK.
09/11/17 Add 5991 pull-down with 10K ohm to ground for the Park/Madison JTAG test block intermittently fails to initialize correctly. Incorrect initialization may result in a failure to boot.
DDCxx_AUX3x is NC on M92M2
DDCxx_AUX4x is NC on M92M2 and Park/Robson/Seymour
DDCxx_AUX7x is NC on M9x and Park/Robson/Seymour
Ball AM17:
For M96 this pin can be not used.
For M97-M2 When PWRGOOD is deasserted, the CTF will return to its default state (high impedance) For Park-M2 and Madison-M2: GPIO_19_CTF has an internal latch, such that if the pad has been operating normally, and then the internal PWRGOOD deasserts (because CTF was triggered), the GPIO_19 will continue to drive high to keep the VDDC regulator shut down. Clearing this state will require power-cycling of the VDDR3 rail.
These two can be unused on M96,M97,Madison and Park
Ball AR26:
For M97-M2 GENERICF (no HPD function).
For Park-M2 NC.
For Madison-M2 GENERICF- can provide HPD5 function
Ball AR24:
For M97-M2 GENERICF (no HPD function).
For Park-M2 NC.
For Madison-M2 GENERICF- can provide HPD6 function
OPTIONAL STRAP TO GROUND FOR R2B,G2B,B2B SEE DAC2_RGB SHEET
If Y_C_COMP OR R2,G2,B2 ARE USED R2B,G2B,B2B MUST BE CONNECTED TO GROUND OR TERMINATED AT CONNECTOR
DAC2 CAN BE TV SIGNALS (C,Y,COMP) OR SECONDARY CRT (R2,B2,G2 SIGNALS AS CONTROLLED BY AN INTERNAL MUX
OPTIONAL STRAP TO GROUND FOR R2B,G2B,B2B SEE DAC1_RGB SHEET
PLACE CR RESISTORS CLOSE TO ASIC
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VGA (I/O) 3/6
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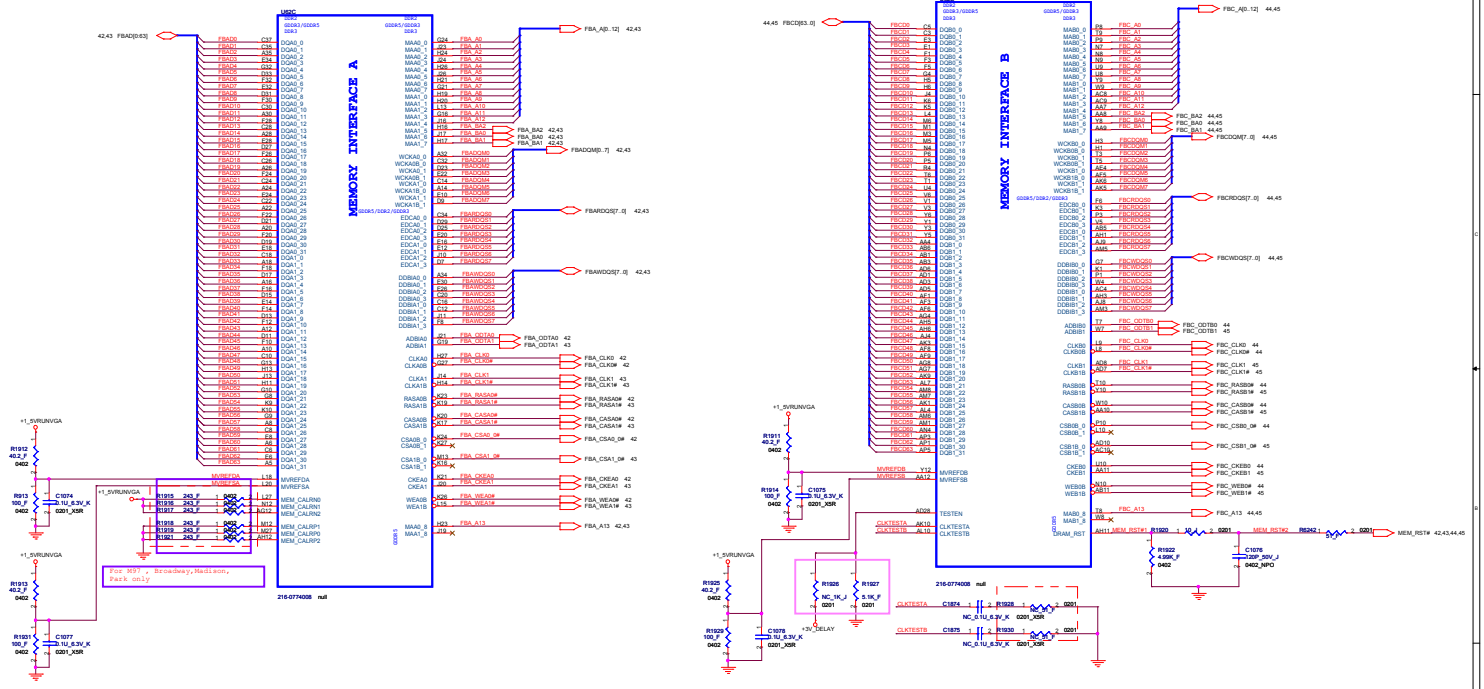

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Title	VGA (Memory BUS) 4/6
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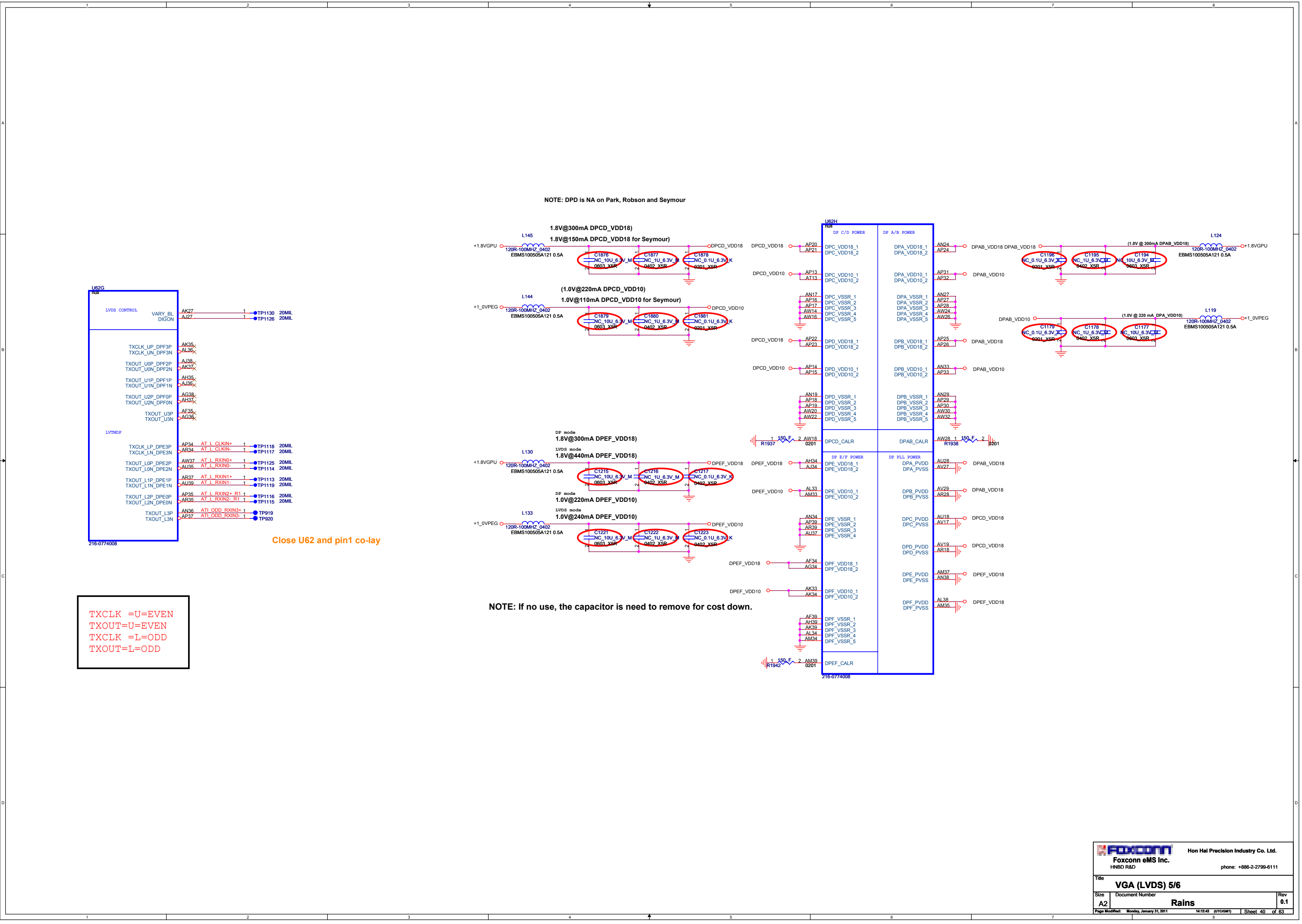
NOTE: DPD is NA on Park, Robson and Seymour
1.8V@300mA DPCD_VDD18)
1.8V@150mA DPCD_VDD18 for Seymour)
(1.0V@220mA DPCD_VDD10)
1.0V@110mA DPCD_VDD10 for Seymour)
1.8V@440mA DPEF_VDD18)
1.0V@220mA DPEF_VDD10)
1.0V@240mA DPEF_VDD10)
Close U62 and pin1 co-lay
TXCLK =U=EVEN
TXOUT=U=EVEN
TXCLK =L=ODD
TXOUT=L=ODD
NOTE: If no use, the capacitor is need to remove for cost down.
LVDS CONTROL
DP C/D POWER
DP A/B POWER
DP E/F POWER
DP PLL POWER
216-0774008
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VGA (LVDS) 5/6
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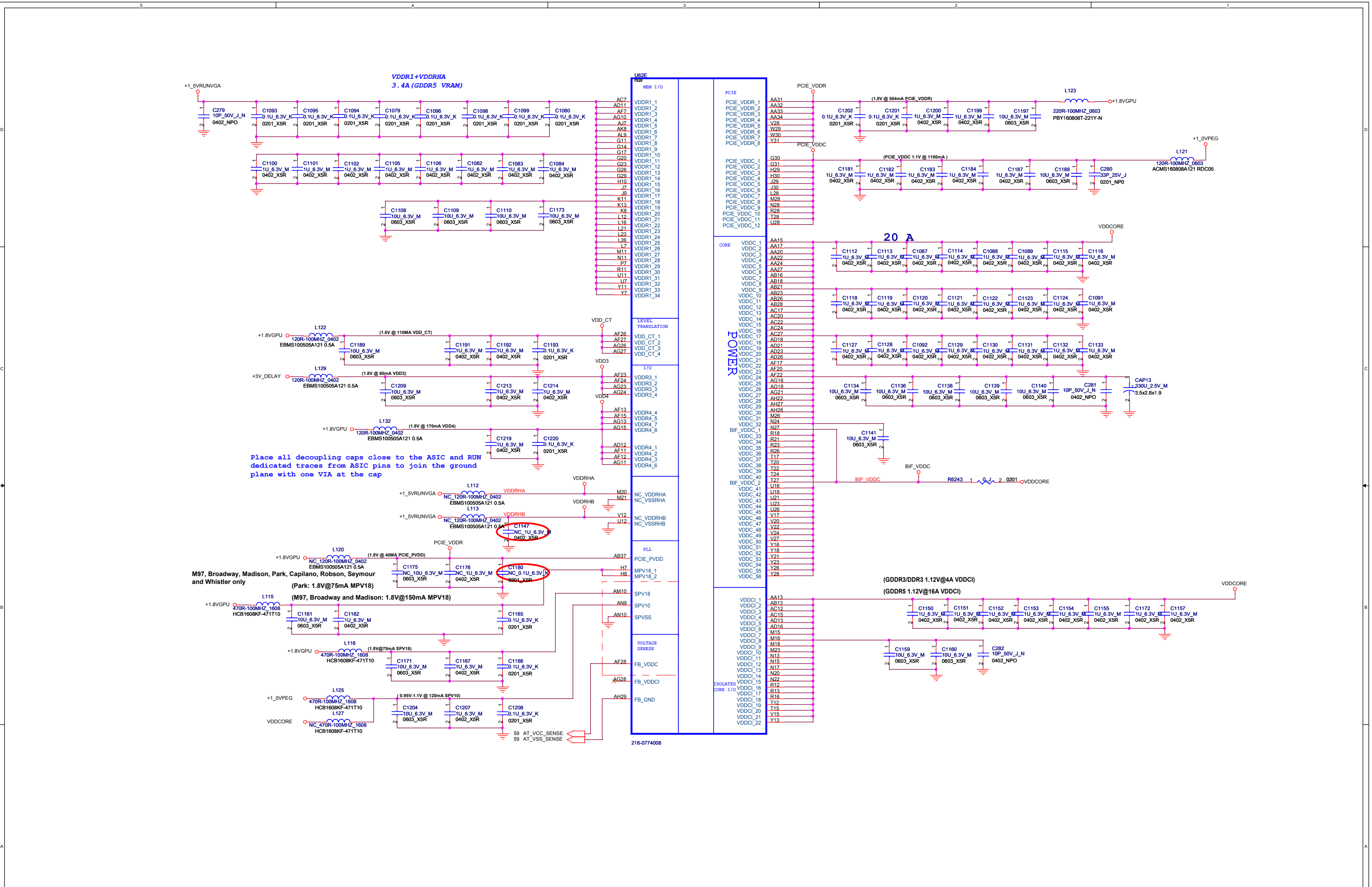

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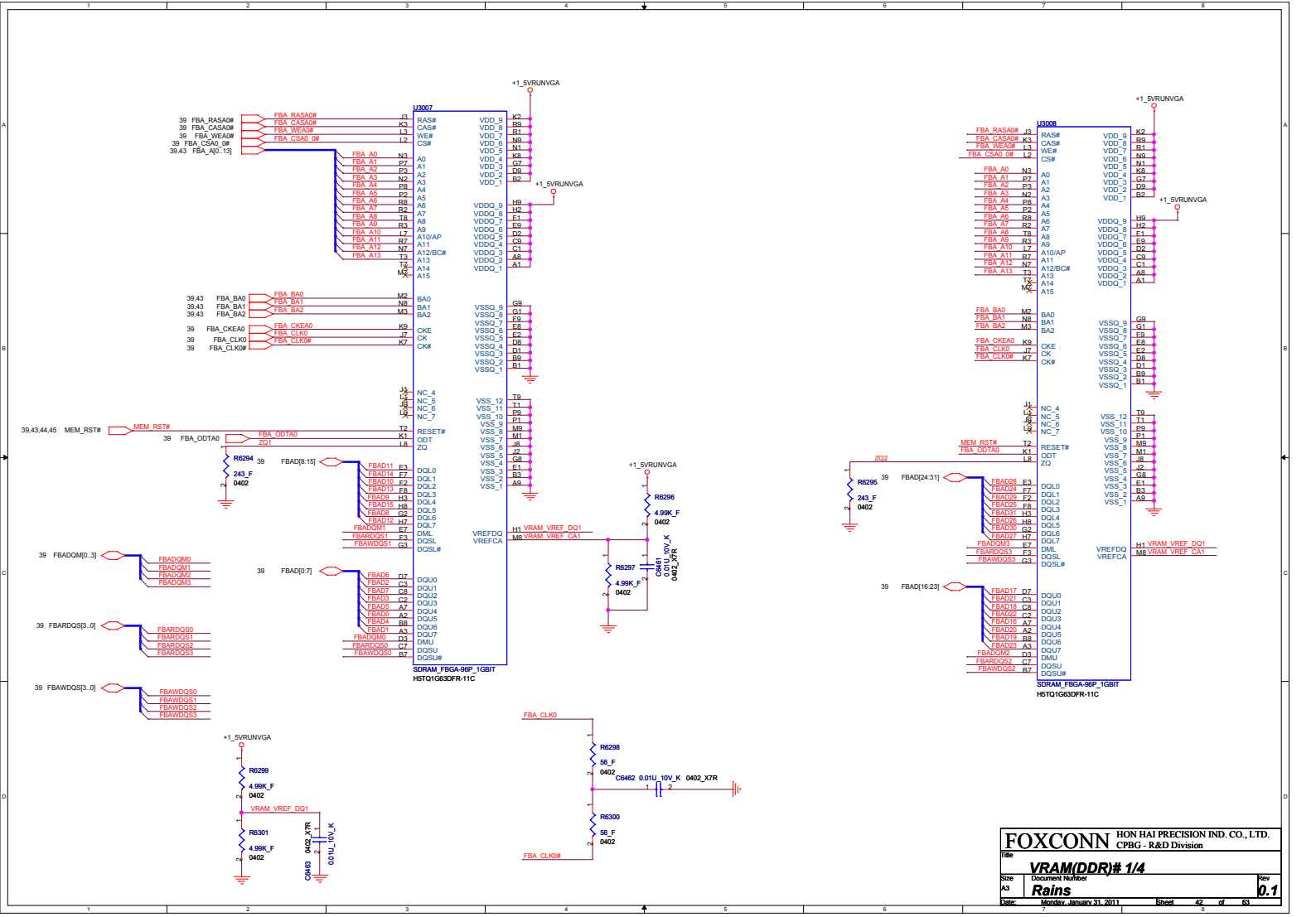

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Title	VRAM(DDR)# 1/4
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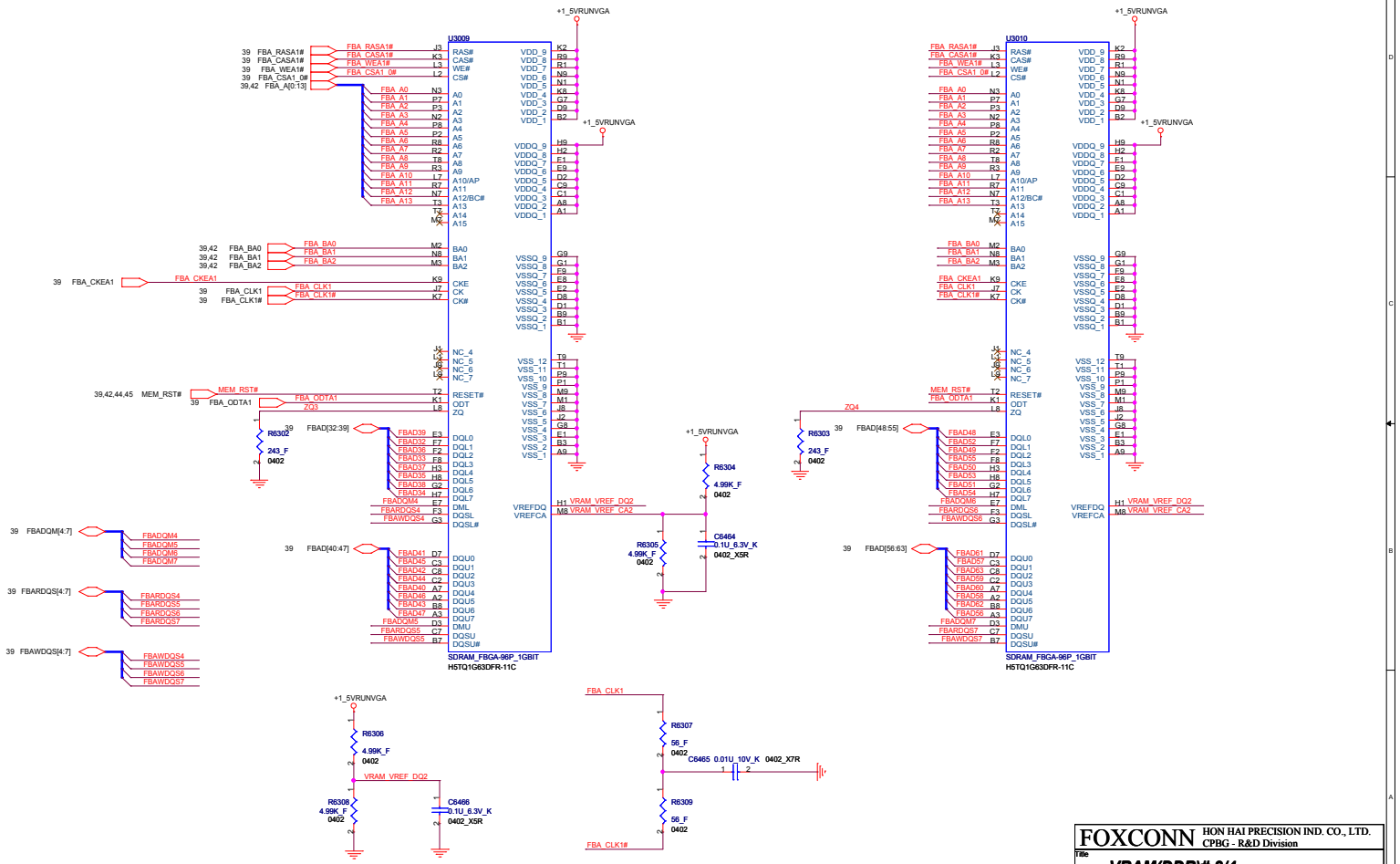

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Title: **VRAM(DDR)# 2/4**

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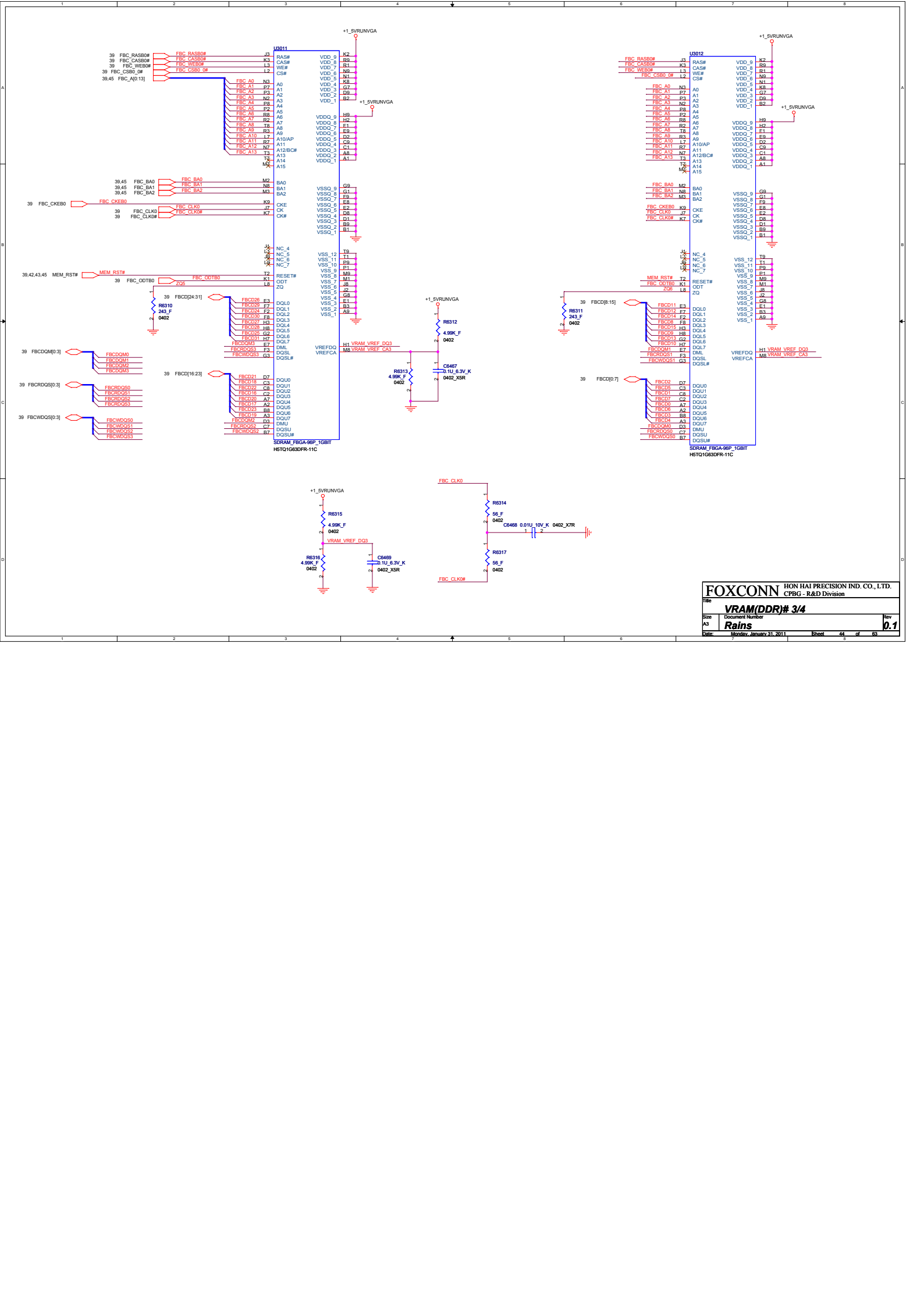
U3011
SDRAM_FBGA-96P_1GBIT
H5TQ1G63DFR-11C
U3012
SDRAM_FBGA-96P_1GBIT
H5TQ1G63DFR-11C
+1_5VRUNVGA
FBC_RASB0#
FBC_CASB0#
FBC_WEB0#
FBC_CSB0_0#
FBC_A[0:13]
FBC_BA0
FBC_BA1
FBC_BA2
FBC_CKEB0
FBC_CLK0
FBC_CLK0#
MEM_RST#
FBC_ODTB0
ZQ5
FBCD[24:31]
FBCD[16:23]
FBCD[8:15]
FBCD[0:7]
FBCDQM[0:3]
FBCRDQS[0:3]
FBCWDQS[0:3]
R6310 243_F 0402
R6311 243_F 0402
R6312 4.99K_F 0402
R6313 4.99K_F 0402
C6467 0.1U_6.3V_K 0402_X5R
R6314 56_F 0402
C6468 0.01U_10V_K 0402_X7R
R6315 4.99K_F 0402
R6316 4.99K_F 0402
C6469 0.1U_6.3V_K 0402_X5R
R6317 56_F 0402
VRAM_VREF_DQ3
VRAM_VREF_CA3
FOXCONN
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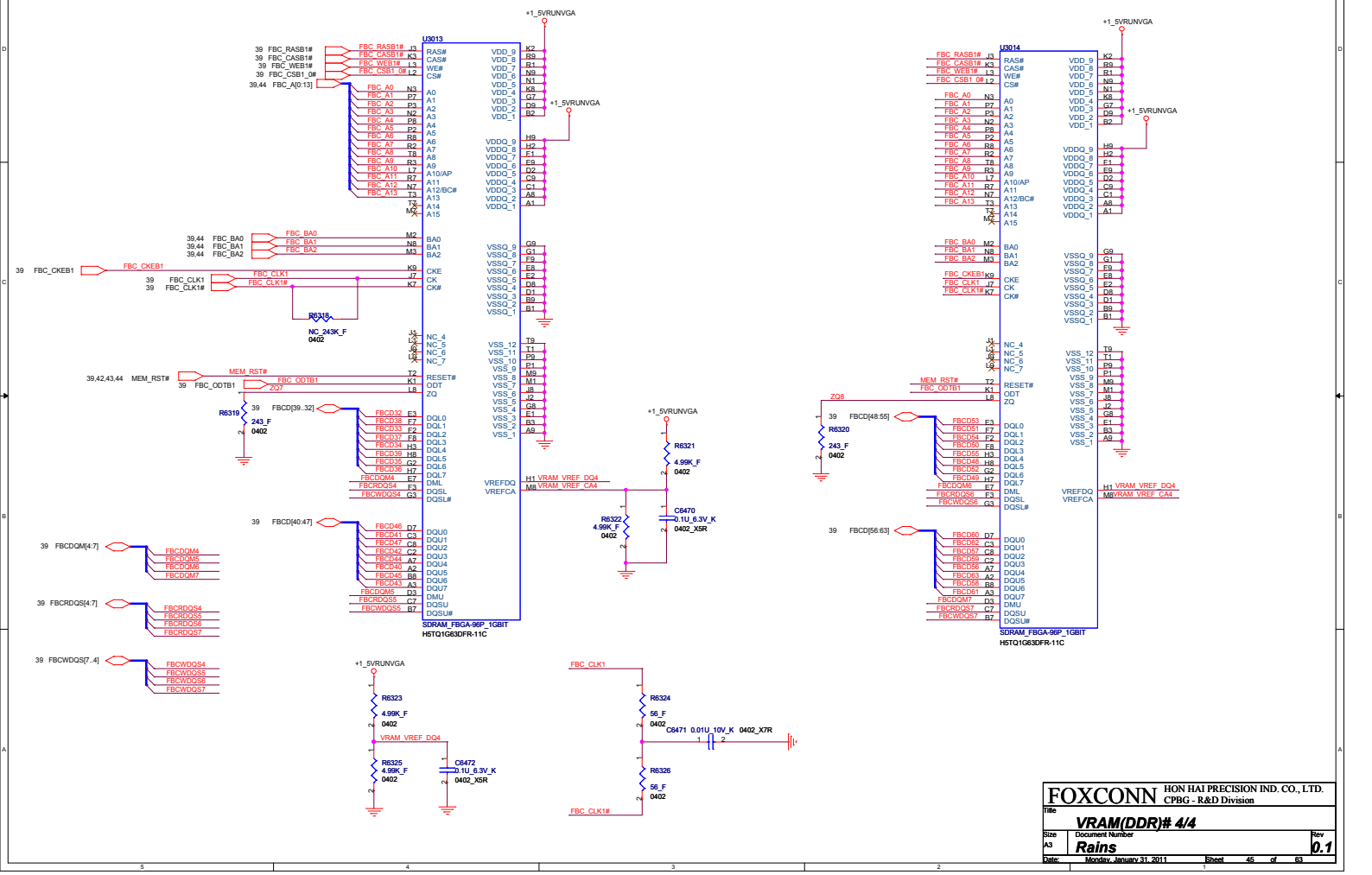

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Title: VRAM(BYPASS) 1/2

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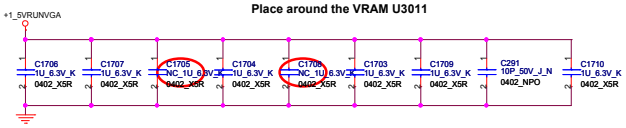
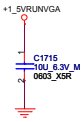
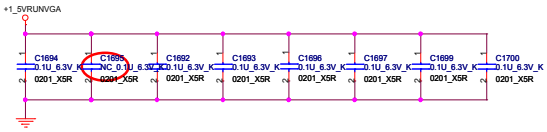
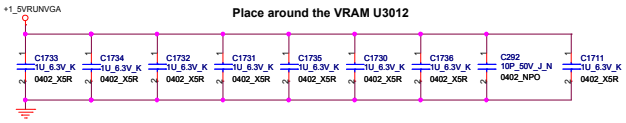
Place around the VRAM U3011

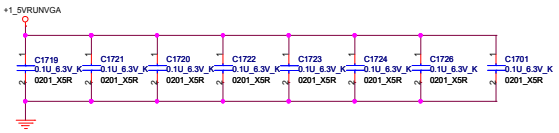




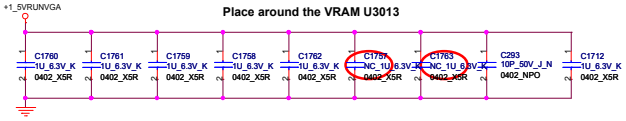


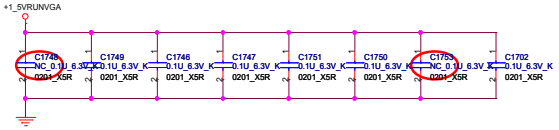
Place around the VRAM U3012



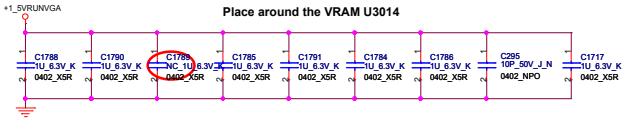


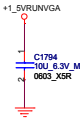
Place around the VRAM U3013

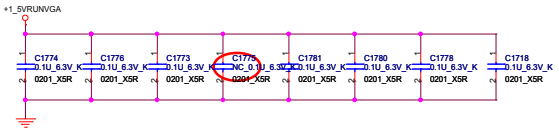




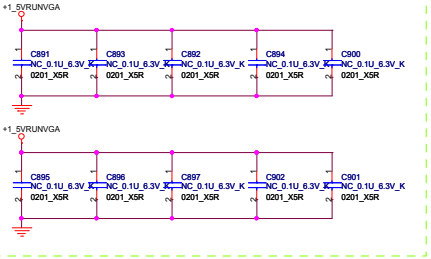
Place around the VRAM U3014







Stitching Caps



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Title: **VRAM(BYPASS) 2/2**

Size	Document Number	Rev
A3	Rains	0.1

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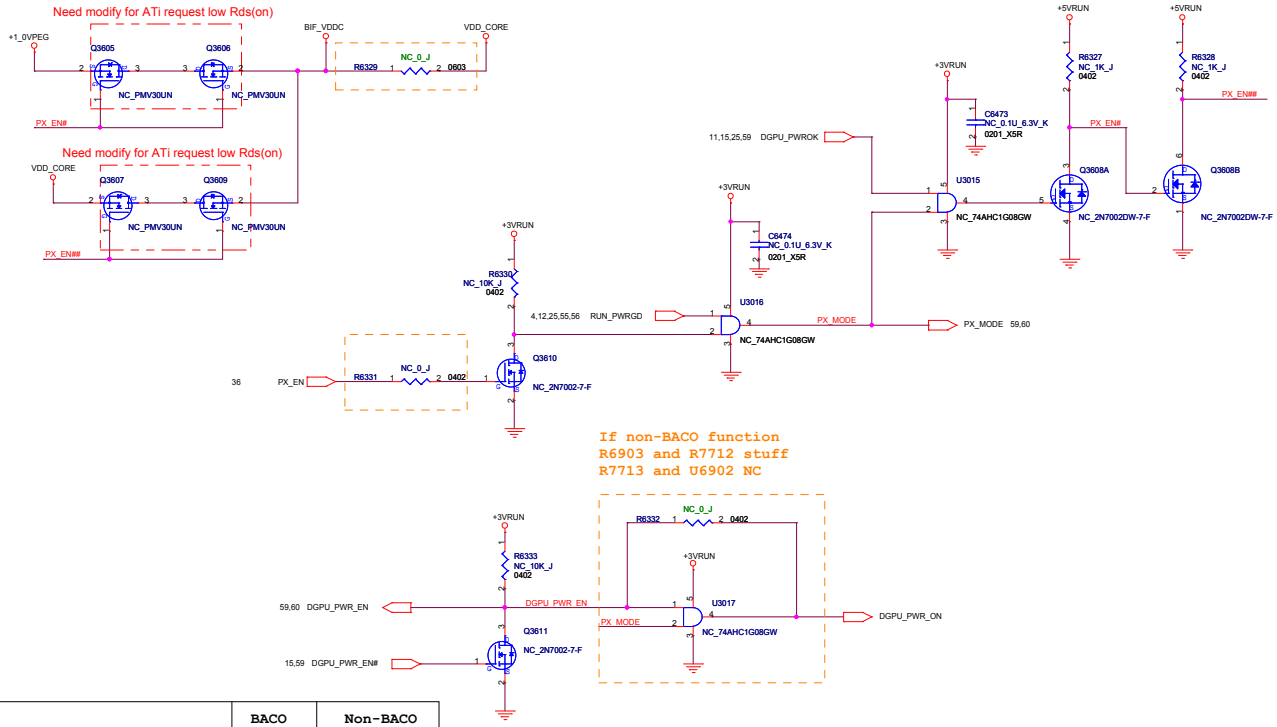
BACO circuit



	BACO	Non-BACO
R6903,R7712,PR387,PR256	NC	Stuff
Q7703,Q6903,Q7705,Q7706, R7713,R27,Q7707,U7705, C7716,U7702,C7715,R7710, Q6801,R7711,U6902	Stuff	NC
U6902	NC	NC

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Title: VGA (BACO)

Size: A3 | Document Number: Rains | Rev: 0.1

Page Modified: Monday, January 31, 2011 14:12:48 (UTC/GMT) | Sheet 48 of 63

SI Stage Power Modify
9/9
P56. PU12 Footprint Change to QFN_11P_20_118X118_TH62x95 for SMT issue

9/11
P59,P60 +5VSUS change to +5VALW for Quiescent current

9/13
P51. DC_IN connector PCN1 change to 1N-000400A-MKG0 GS73071-10272-7H

9/15
P57. PL19 change to CTX17-18765-R

9/16
P60. PQ49 Footprint change to QFN_5P_26_130 X 130

9/23
P57. PR190,PR195,PR255,PR256 13.7K 0402 1% change to 19.1K 0402 1% for loadline
PR196 change to 8.06K 1% 0402 for 5V(48A) IMON
P54. PR301 change to 51.1K 1% 0402 for USB Voltage Drop

9/28
P59. Del PJ27 for space issue.

9/29
P58. PR184 change to 5.36K 1% 0402 for GFX_IMON

10/4
P51. Add PJ20 close jump for test reserve
P52. Add PJ27 close jump for test reserve

10/6
P54. Add PR119,PR120,PC103,PC109 2.2ohm & 680p for EMC request

10/8
P59. PR240 change to 100K_F for sequence
P54. PR306 change to 232K for 5VALW OCP point
PR308 change to 301K for 3VALW OCP point

SI2 Stage Power Modify
10/30
P53. Add PJ17,PJ32,PJ33,PJ34,PJ35 for IINP accuracy issue

PV Stage Power Modify
11/16
P59. PR241 change to 2.67K for output voltage drop

PV Stage Power Modify
11/17
P51. Del PJ20 close jump,PL1 PL2 change to stuff for EMC request
P52. Del PJ27 close jump,PL3 PL4 change to stuff for EMC request
P53. Add PC421 for acoustic issue

PV Stage Power Modify
11/19
P51. PR2 change to 1.47K ohm
PR3 change to 604 ohm for LED lighting issue
PR4,PR8,PU1A,PR6,PR7,PQ1 change to no stuff

MV Stage Power Modify
12/15
P59. PR240 From vendor YEAGO to TA-I for buyer request
Add PD49 BAT54 for abnormal waveform issue

MV Stage Power Modify
12/25
Del P53.PJ2,P54.PJ18 PJ19, P56.PJ9, P59.PJ24 for L6 require

MV Stage Power Modify
12/30
P58. PC420 change to 220U/6.3V
P53. PC421 change to 47U/25V

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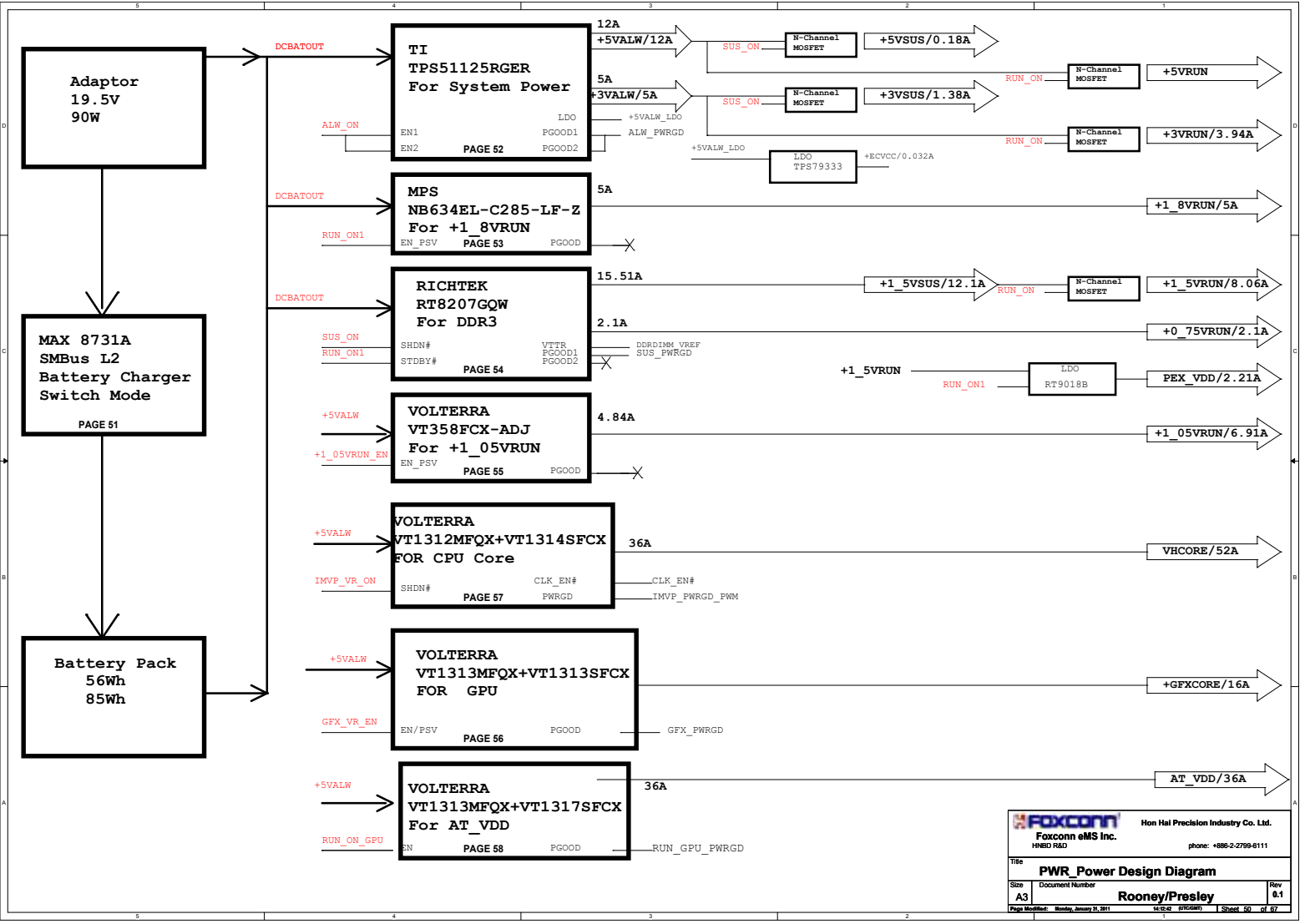
Title: Power History

Size	Document Number	Rev
A3	Rains	0.1


Adaptor
19.5V
90W
MAX 8731A
SMBus L2
Battery Charger
Switch Mode
PAGE 51
Battery Pack
56Wh
85Wh
DCBATOUT
TI
TPS51125RGER
For System Power
EN1
EN2
PAGE 52
LDO
PGOOD1
PGOOD2
ALW_ON
12A
+5VALW/12A
5A
+3VALW/5A
SUS_ON
N-Channel MOSFET
+5VSUS/0.18A
+3VSUS/1.38A
RUN_ON
+5VRUN
+3VRUN/3.94A
+5VALW_LDO
ALW_PWRGD
LDO
TPS79333
+ECVCC/0.032A
MPS
NB634EL-C285-LF-Z
For +1_8VRUN
EN_PSV
PAGE 53
PGOOD
RUN_ON1
5A
+1_8VRUN/5A
RICHTEK
RT8207GQW
For DDR3
SHDN#
STDBY#
PAGE 54
VTTR
PGOOD1
PGOOD2
DDRDIMM_VREF
SUS_PWRGD
15.51A
+1_5VSUS/12.1A
+1_5VRUN/8.06A
2.1A
+0_75VRUN/2.1A
+1_5VRUN
RT9018B
PEX_VDD/2.21A
VOLTERRA
VT358FCX-ADJ
For +1_05VRUN
PAGE 55
+1_05VRUN_EN
4.84A
+1_05VRUN/6.91A
VOLTERRA
VT1312MFQX+VT1314SFCX
FOR CPU Core
PAGE 57
IMVP_VR_ON
CLK_EN#
PWRGD
IMVP_PWRGD_PWM
36A
VHCORE/52A
VOLTERRA
VT1313MFQX+VT1313SFCX
FOR GPU
EN/PSV
PAGE 56
GFX_VR_EN
GFX_PWRGD
+GFXCORE/16A
VOLTERRA
VT1313MFQX+VT1317SFCX
For AT_VDD
EN
PAGE 58
RUN_ON_GPU
RUN_GPU_PWRGD
AT_VDD/36A
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PWR_Power Design Diagram
Size
A3
Document Number
Rooney/Presley
Rev
0.1
Sheet 50 of 67

DC_JACK
Wire to Board
CONNECTOR

DC Jack Pin Defination:
pin1:DC_INP (3.5A)
pin2:DC_INP (3.5A)
pin3:DC_ID (3.5A)
pin4:GND (3.5A)
pin5:GND (3.5A)
pin6:LED for AC present (3.5A)
pin7:LED for Charging (3.5A)

7A

PCN1
C TO B CONN_7P
FOX_GS73071-10272-7H

DC_INP
DC_ID

PD1
NC_BZT52C8V8-7-F

PC2
0.1U_50V_K
0603_X7R

PC3
1000P_50V_K
0402_X7R

PL1
60-100MHZ_1806
BLM41PG600SN1L

PL2
60-100MHZ_1806
BLM41PG600SN1L

DCIN

TP1238 tpc30t_50 DC_INP
TP1239 tpc30t_50 DC_ID
TP1240 tpc30t_50 AC_LED
TP1241 tpc30t_50 CHAR_LED

SI BFT Test Pad

PC4
NC_0.1U_50V_K
0603_X7R

+3VALW

PR2
1.47K_F
0402

PR3
604_F
0402

AC_LED
CHAR_LED

PC5
0.01U_25V_M
0402_X7R

PC6
0.01U_25V_M
0402_X7R

PQ2
2N7002-7-F

EC_CHAR_LED#_A 25

PQ3
2N7002-7-F

EC_AC_LED#_A 25

PR4
NC_75K_F
0402

PR5
130K_F
0402

PR1
NC_0_J
0402

PR8
NC_120K_F
0402

PR9
24.3K_F
0402

PC7
0.1U_25V_Y
0402_Y5V

PU1A
NC_LM393DR
null

PR6
NC_10K_F
0402

PR7
NC_10K_F
0402

OCP_OC# 25

PQ1
NC_MMBT2222A-7-F
null

PR37
0_J
0402

SMART_ID 25

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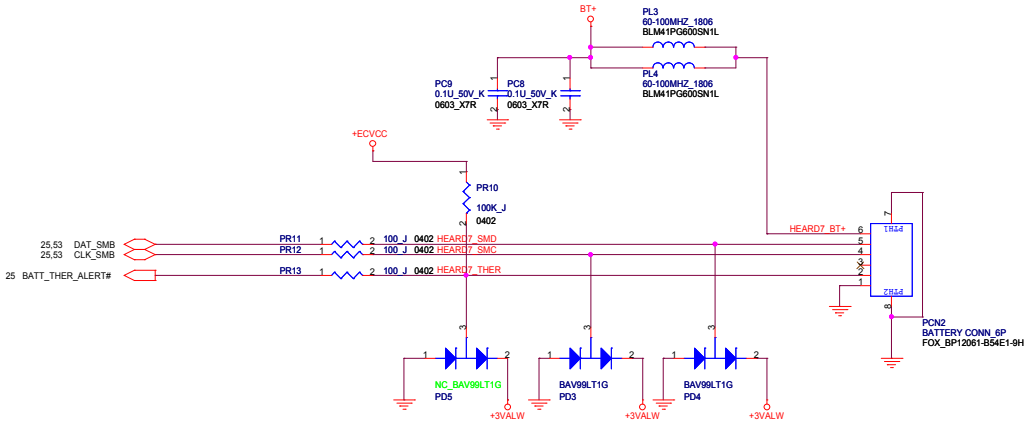
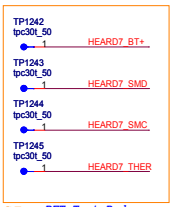
Title	PWR_DCIN
Size: A3	Document Number: Rooney/Presley	Rev: 0.1
Page Modified: Monday, January 31, 2011 14:12:42 (UTC/GMT)	Sheet 51 of 67





SI BFT Test Pad

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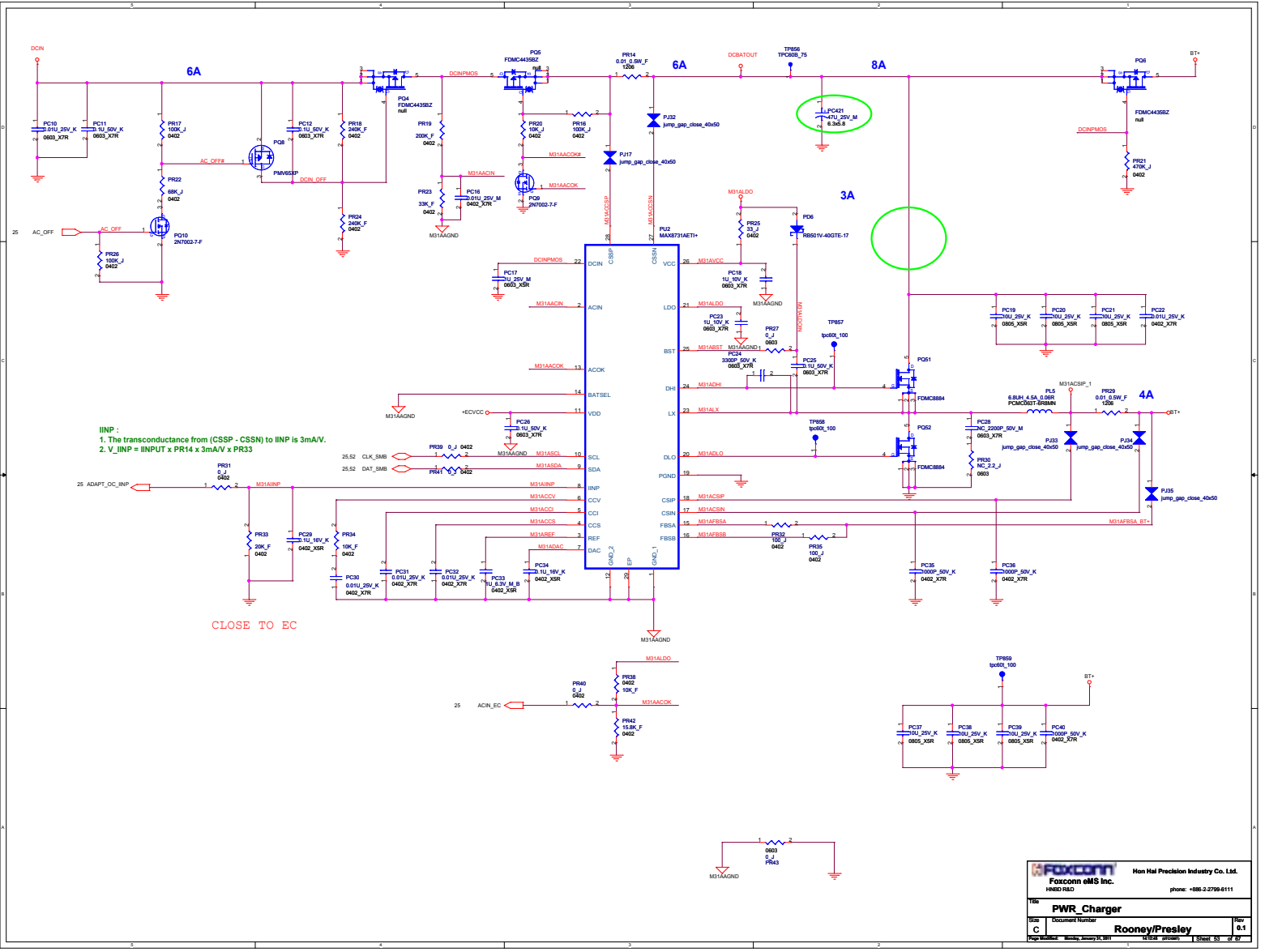
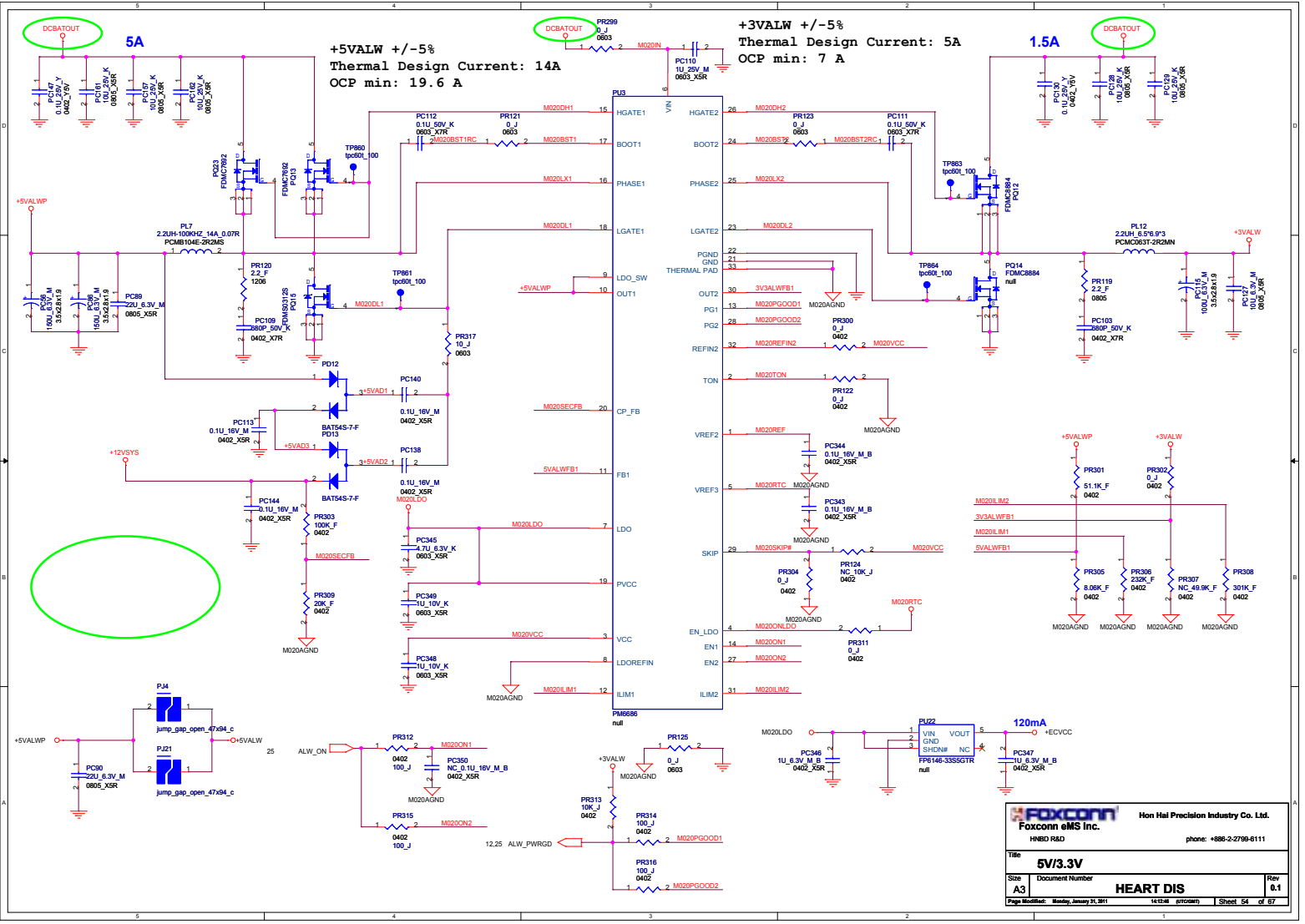
Title	PWR_Battery Conn.
Size: B	Document Number: Rooney/Presley
Rev: 0.1	
Page Modified: Monday, January 31, 2011 14:12:42 (UTC/GMT)	Sheet 52 of 67



Foxconn eMS Inc. HNBD R&D	Hon Hai Precision Industry Co. Ltd. phone: +886-2-2799-8111		
Title: PWR_Charger			
Size: C	Document Number: Rooney/Presley		Rev: 0.1
Page Modified: Monday, January 04, 2010	10:53:48	Sheet 53 of 67	



Foxconn eMS Inc.
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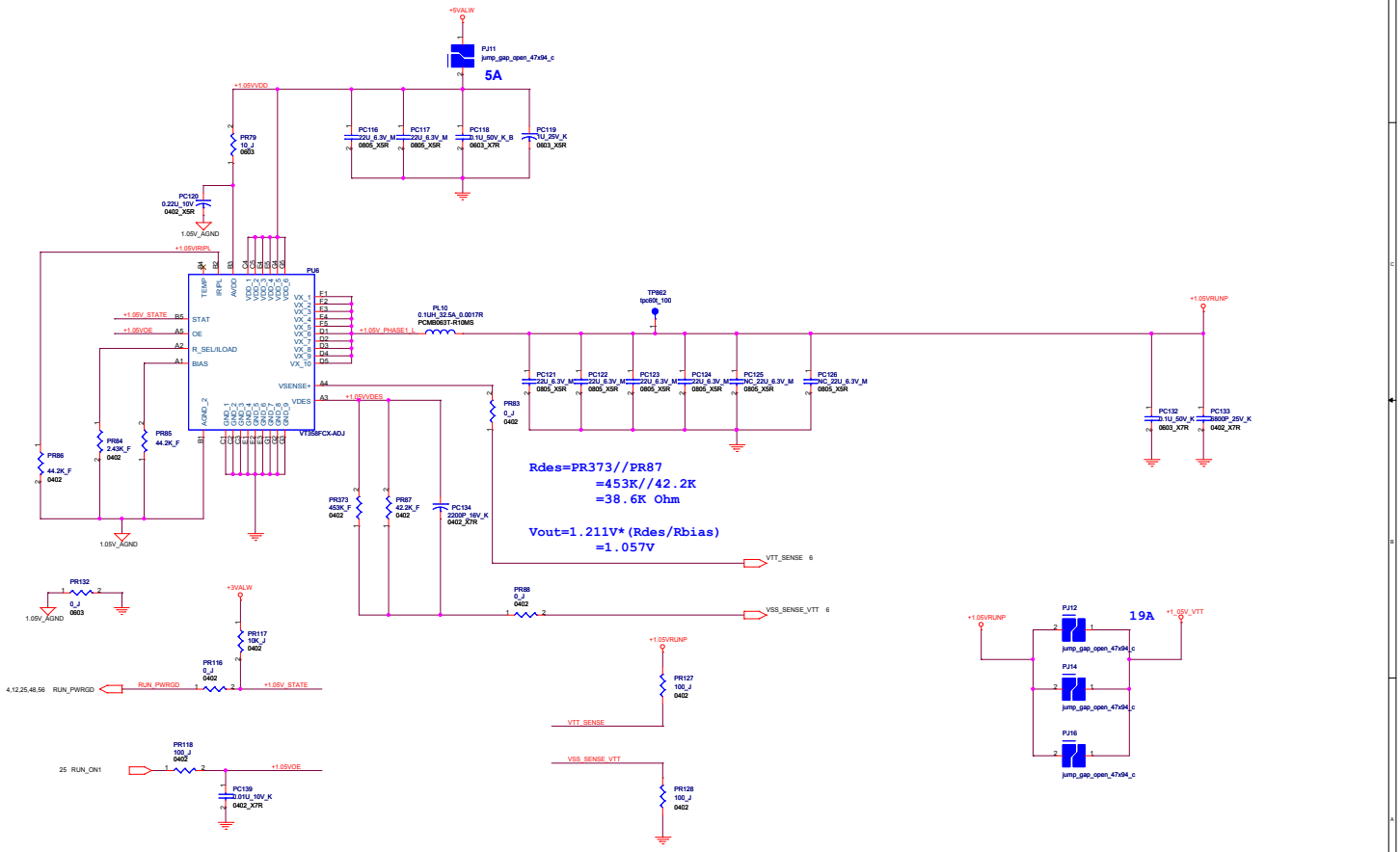
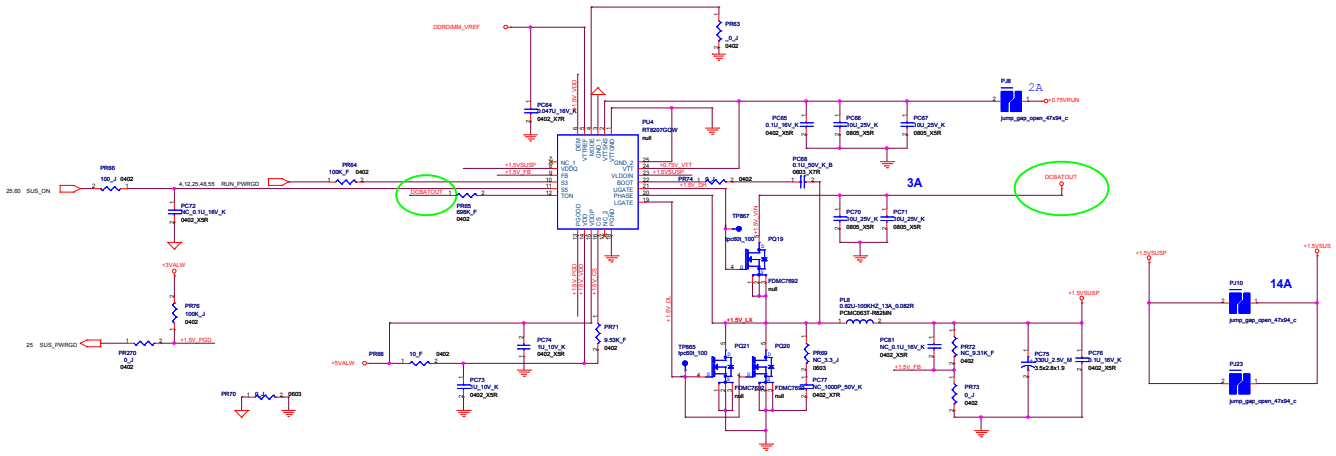
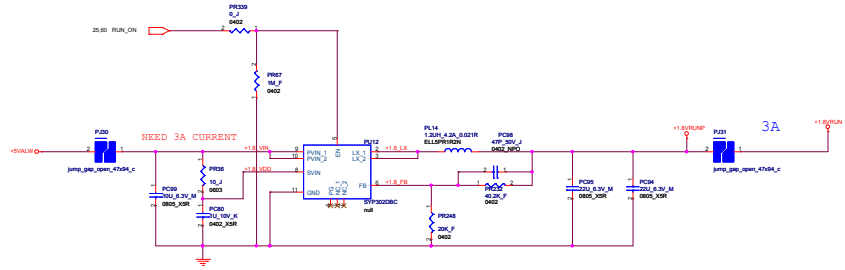
phone: +886-2-2799-8111

Title: 5V/3.3V
Size: A3
Document Number: HEART DIS
Rev: 0.1
Page Modified: Monday, January 31, 2011 14:12:48 (UTC/GMT)
Sheet 54 of 67



Foxconn eMS Inc. HNBD R&D	Hon Hai Precision Industry Co. Ltd. phone: +886-2-2799-8111	
Title: PWR_+1_05V		
Size: C	Document Number: Rooney/Presley	Rev: 0.1
Page Modified: Monday, January 04, 2010	10:53:48 pm(GMT)	Sheet 55 of 67





+1.8VRUN +/-5%
Thermal Design Current: 2.5A
OCP min: 4.5 A

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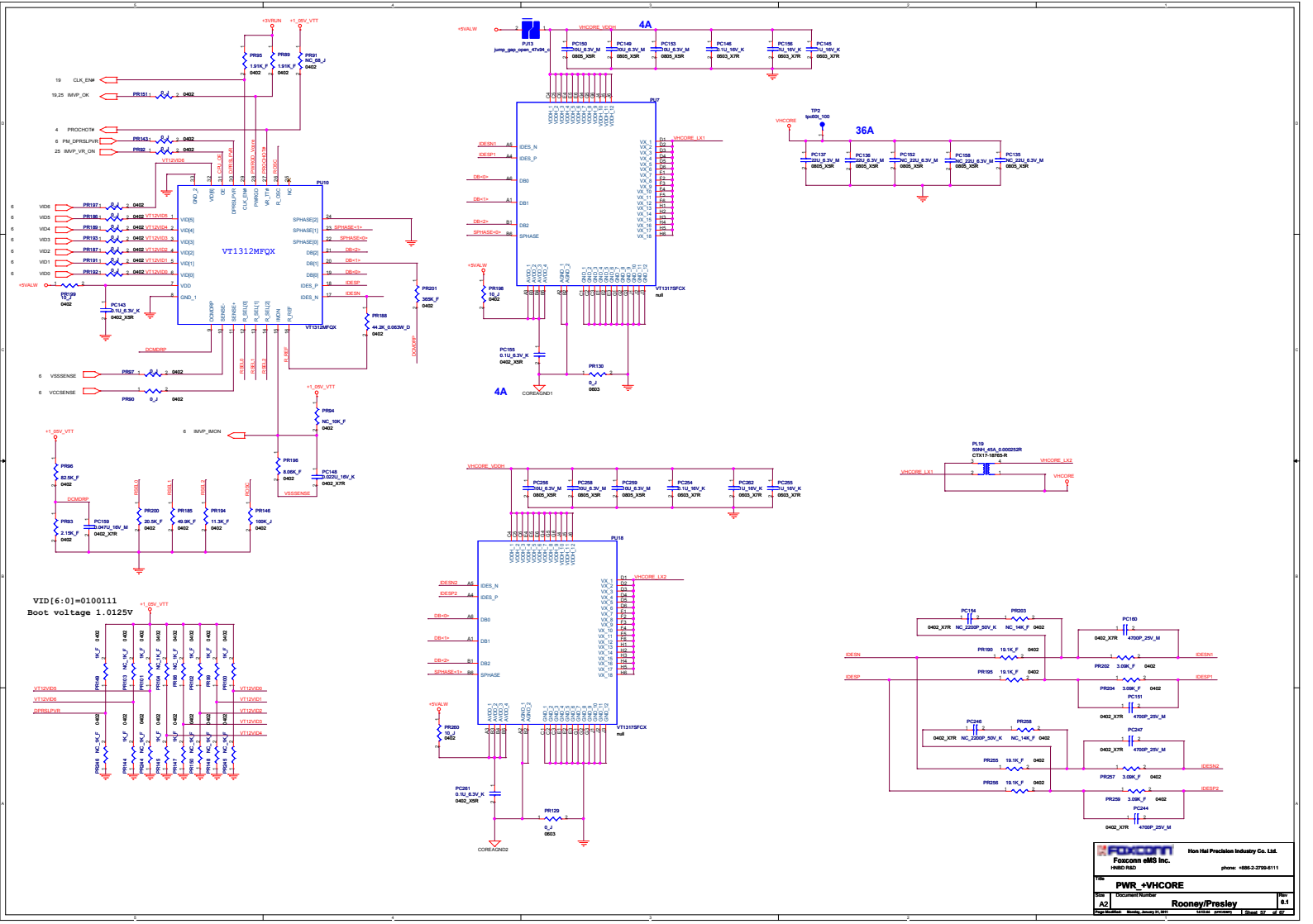
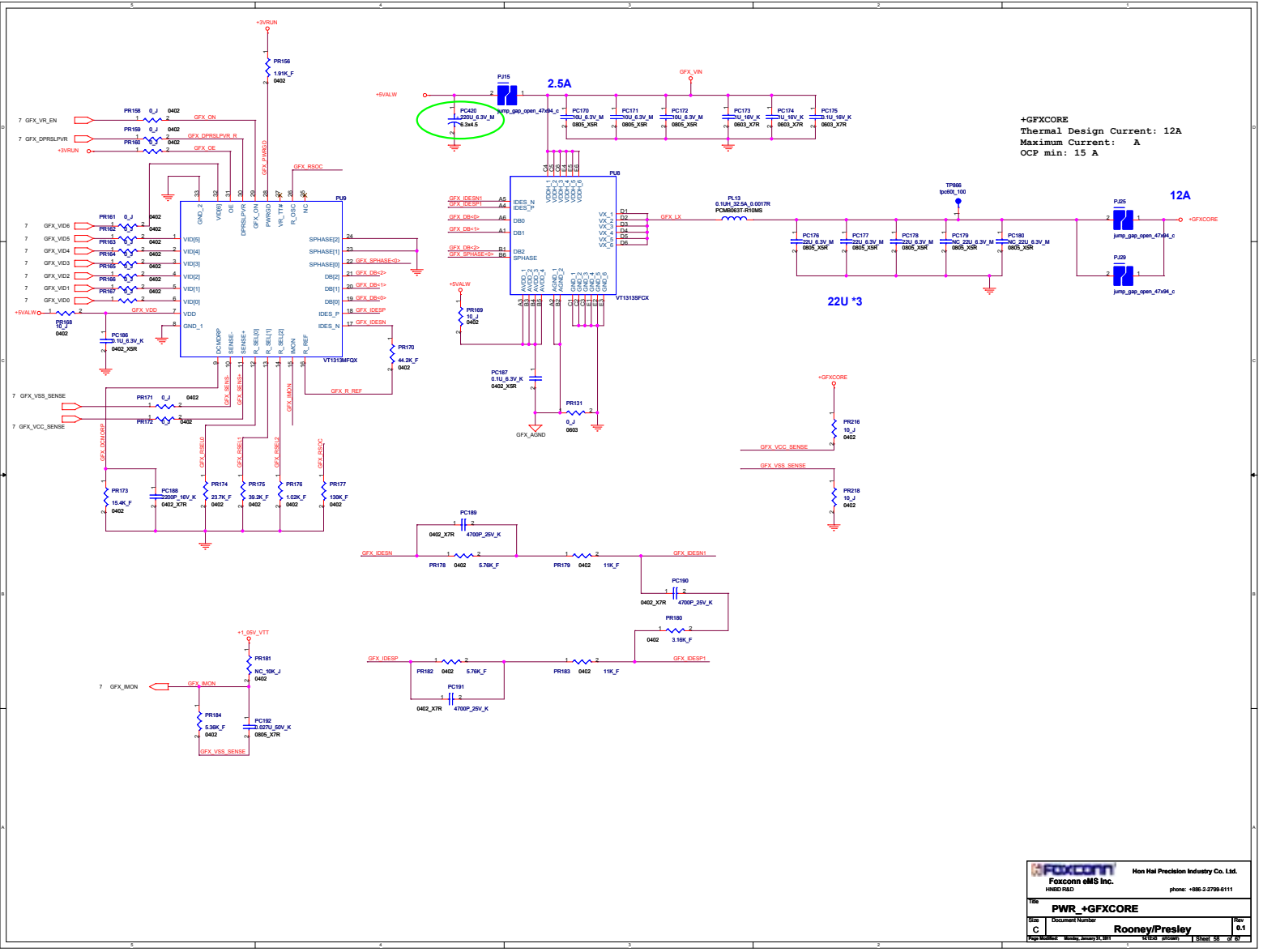
Title: PWR_+1_5V/+0_75V		
Size: A2	Document Number: Rooney/Presley	Rev: 0.1
Page Modified: Monday, January 31, 2011	Sheet 56 of 57	


VT1312MFQX
PU10
PU7
PU16
VT1317SFCX
null
4A
36A
VID[6:0]=0100111
Boot voltage 1.0125V
Foxconn eMS Inc.
Hon Hai Precision Industry Co. Ltd.
PWR_+VHCORE
Rooney/Presley
Monday, January 31, 2011


+GFXCORE
Thermal Design Current: 12A
Maximum Current: A
OCP min: 15 A
2.5A
12A
22U *3
VT1313MFQX
VT1313SFCX
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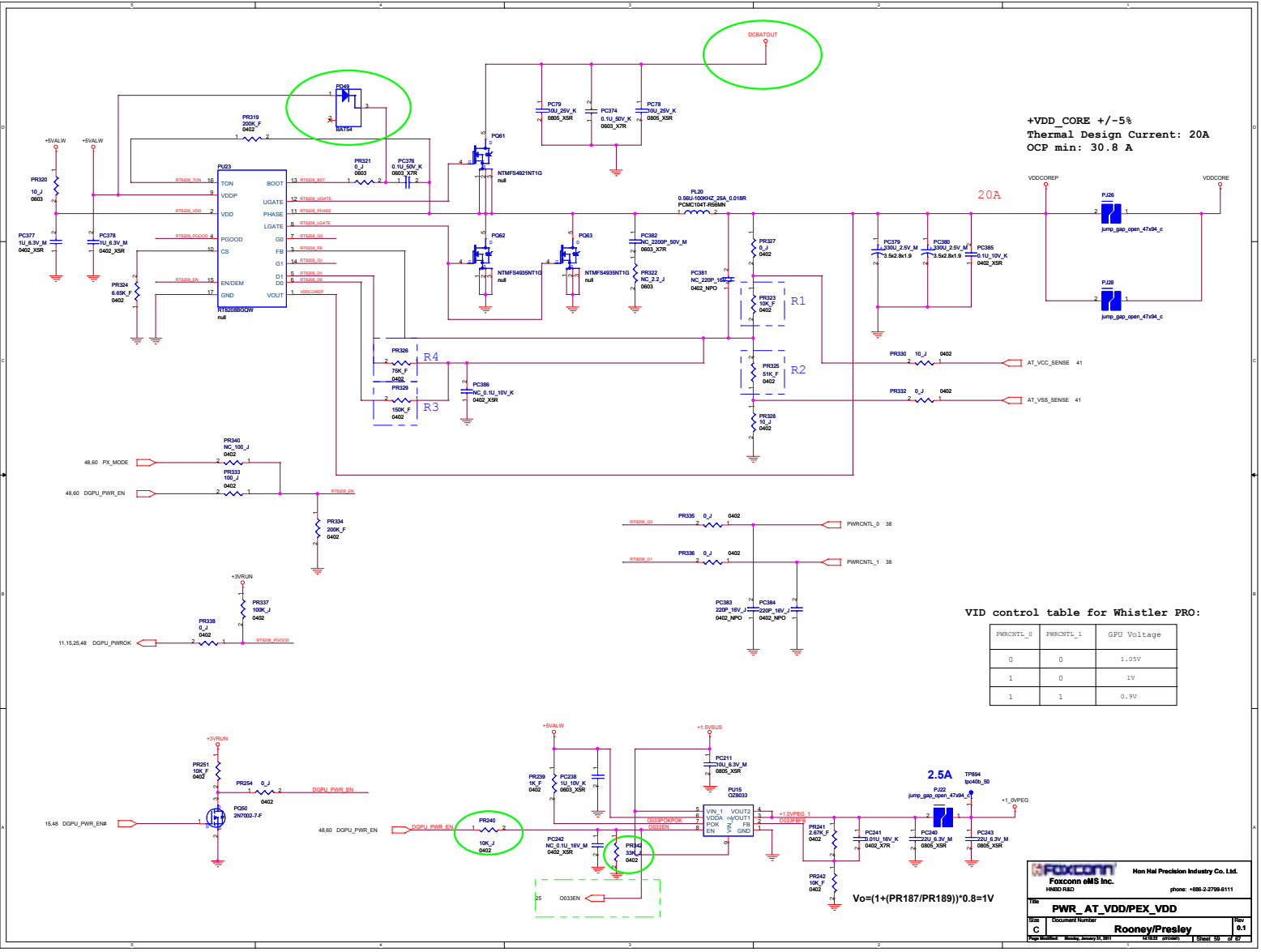
phone: +886-2-2799-8111
PWR_+GFXCORE
Rooney/Presley



VID control table for Whistler PRO:

PWRCNTL_0	PWRCNTL_1	GPU Voltage
0	0	1.05V
1	0	1V
1	1	0.9V

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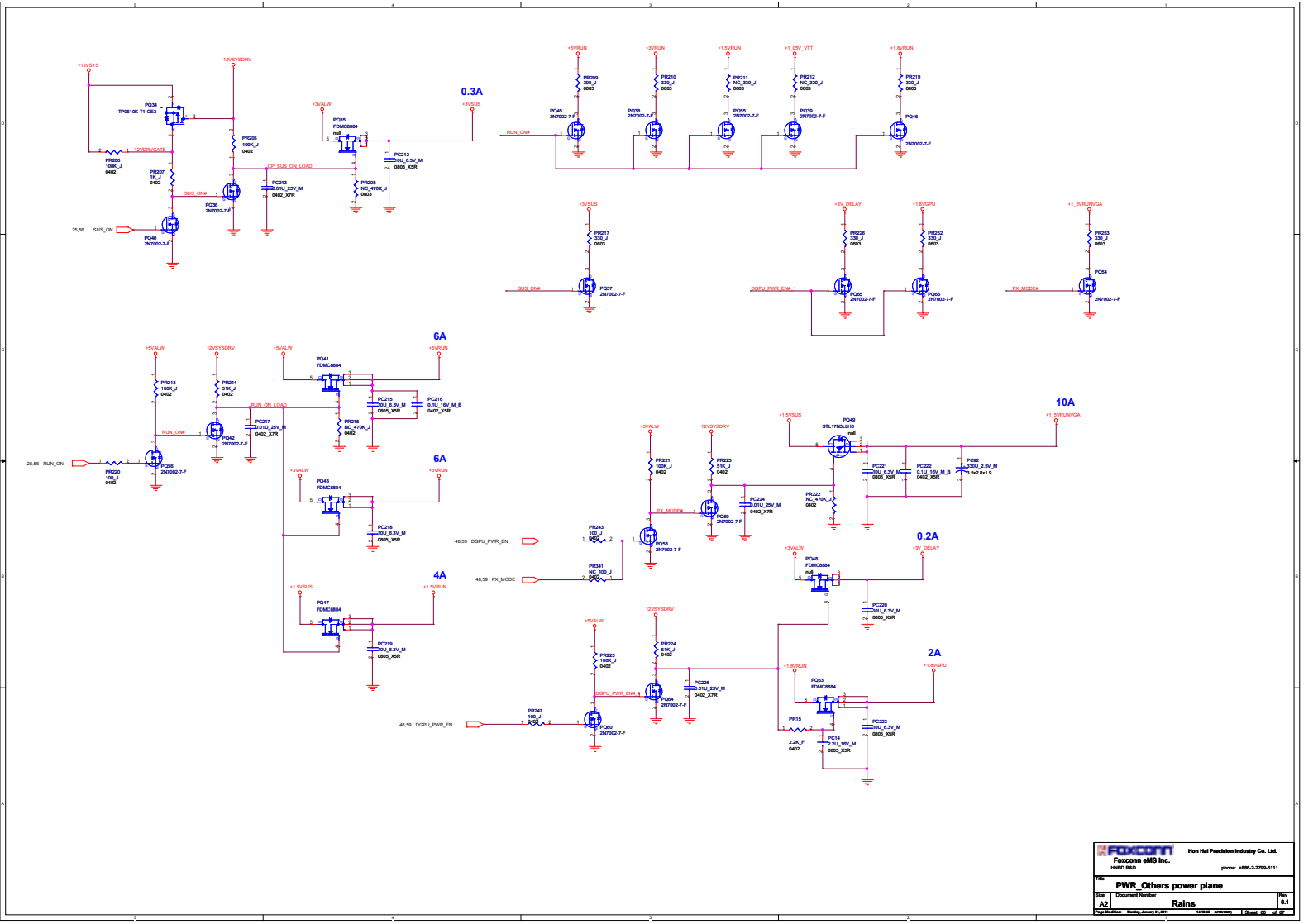
Title: PWR_AT_VDD/PEX_VDD
Size: C
Document Number: Rooney/Presley
Rev: 0.1
Page Modified: Monday, January 14, 2008 10:18:58 pm(user)
Sheet 59 of 67



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YINBO R&D	phone: +886-3-2700-6111	
Title: PWR_Others power plane		
Size: A2	Document Number: Rains	Rev: 0.1
Page Modified: Monday, January 31, 2011 10:55:40	Sheet 60 of 67	

Rains DB

(2010/07/29)

P.25, 28 Del WWAN and KB Backlit for Customer request.
P.20,21 Swap CN27, CN28 DDR connector.
P.74 Change Cardreader schematics for customer request.
P.62 Del RF Solution for RF recommend.
P.42,43,44,45 Swap VRAM data signals for layout request.

(2010/07/30)

P.27 Del U57, C966 for unused EEPROM.
P.61 Del PWR_RF Solution for RF request.
P.11 Swap LAN & WLAN TX, RX for BIOS request.

(2010/08/02)

P.29 Change input to SATA Re-Driver U71 net name to SATA_TXP0_R,SATA_TXN0_R, SATA_RXP0_R,SATA_RXN0_R
P.42~45 Change +1.5VRUN to +1.5VRUNVGA for VRAM part.
P.38 NC R1894, R1896, R1898, R254 and Reserve R255, R256, R257 for DAC2.
P.36 NC U62.U13 and U62.V13 for AMD recommend.
P.38 Add R9933, R9934 51.1K for AMD recommend.

(2010/08/03)

P.28 Connect CN42(WLAN) pin 42, 44, 46 together for BIOS request.
P.46 Add C1605, C1606, C1607, C1608, C1609, C1610, C1617, C1618 for AMD request.
P.47 Add C1700, C1701, C1702, C1710, C1711, C1712, C1717, C1718 for AMD request.
P.46 Del C1168, C1169, C1144, C1212, C1203, C1205, C1662, C1659, C1661, C1689, C1686, C1688, C1690, C1903 for AMD request.
P.47 Del C1716, C1713, C1714, C1743, C1740, C1742, C1793, C1782, C1792, C1797, C1795, C1796 for AMD request.
P.14 Add R687 to connect CLK_33M_Debug for customer debug card.
P.28 Reserve R591 for customer debug card.
P.27 Add R2803 to +3VALW for EE debug.
P.23 Del R65, R67, R68, R75 for PDD drop.
P.35 Del Bluetooth and LED board connector CN57 for customer drop.
P.35 Add CN3 USB3.0 connector.
P.25 Add PCIE_APM# in U91.123 and R579 for BIOS request.
P.14 Del R397 for BIOS request.
P.31 Del Bluetooth power Q85 and relative schematics for PDD drop.
P.25 Del Q2602 and Add Q2601 for Bluetooth and wireless LED feature.

(2010/08/05)

P.25 Add R583 and U91.89 to USB_PWR_EN for BIOS recommend.
P.35 Change CN3.28 form SUS_ON to USB_PWR_EN.
P.32 Add R31, R548, R563, R559, R561, R562, R564, C464 for vendor recommend.
P.31 Add CN6 Camera connector for customer recommend.
P.28 Add R589, LPC_AD0~3 and LPC FRAME# for HP debug card.
P.30 Change C6447 & C6448 from 0201 to 0402.
P.38 Add Q3 for SMBUS level shift.
P.23 Change CN38 to 30pin and del camera relative schematics.

(2010/08/06)

P.65 Change R6199 from 47K to 10K ohms
P.33 Del R6193 for vondor suggestion
P.33 Change C1853 from 0.1u to 0.01u for vendor suggestion
P.33 Change R6190 from 150k to 100k for vendor suggestion
P.30 CN3 pin 30 connect to SUS_PWRGD

(2010/08/10)

P.10 Add R349, R350, R351, R352 33 ohm for LPC_A0~3 debug.
P.66 Modify U61 relative schematics and del U3200 and D3200.
P.14 Del USB Port 0 & Port 9 NC for unused.
P.66 Add CN7 Audio MB to DB connector.
P.33 Change internal speaker net name to SPK-L+_L, SPK-L-_L, SPK-R+_L , SPK-R-_L.
P.61 Del all of PWR RF solution for unused WWAN.

(2010/08/11)

P.49 Add Screw Hole.
P.23 Change C925 from 0402 to 0603 for derating issue.
P.11 Del R622 for unused.
P.7~47 Change C645, C264, C267, C266, C268, C269, C277, C273, C274, C1813, C1814, C447, C1818, C449, C448, C429, C356, C424, C308, C950, C984, C987, C1038, C1005, C926, C279, C282, C281, C284, C288, C289, C290, C291, C292, C293, C295 from 33p to 10p for RF recommend.
P.32 Change CN43 cardreader connector for ME request.

(2010/08/12)

P.15 Change Net Name LCDID1 to GPIO37, LCDID4 to GPIO48.
P.15 Del R6105, R6103 and change R6113, R6100 to connect with +3VRUN.
P.11 Change CLK_PCIE_CR and CR_CLK_REQ# to PCIECLKRQ4#.
P.14 Del INT_PIRQE# and RP17.7, JP6, JP7.
P.15 Del JP2, JP3, JP4 for unused.
P.11 Del JP5 for unused.
P.15 Change GPIO37 net name to DGPU_PRSNT# and Add R6116.
P.25 Connect U91.118 to PCI_SERR# for Debug request.
P.11 Add TP374, TP375 for reserve DGPU select.

(2010/08/13)

P.25 Add R3, R4, R5, R6 for reserving TP power.
P.25 Add R580, Net QWEBSW# and TP_LED_A for customer request.
P.25 Add CN33, C2608, C2611 for TP LED.
P.35 Change CN56, CN3 Power board and USB3.0 connector to DB.
P.35 Add Q4202 for PWR_LED.
P.34 Change CN7 Audio DB connector for ME request.
P.31 Change CN42 WLAN connector for ME request.
P.24 Change CN32 HDMI connector.
P.22 Change CN37 CRT connector.

(2010/08/16)

P.34 Change CN7 pin define.
P.10 Swap CN25 pin 1 & 2 for ME request.
P.29 Change CN52 SATA HDD connector.
P.06 Add R403, R404 for EE measurement.
P.07 Add R400, R406, R407, R408 for EE measurement.
P.16 Add R409, R265 for EE measurement.
P.17 Add R410 for EE measurement.

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Title: **History**

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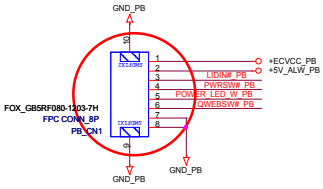
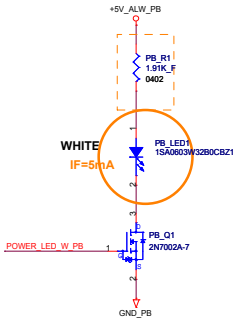
A3	Rains	0.1

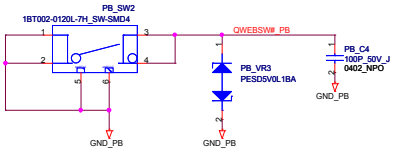
DB To MB Conn.



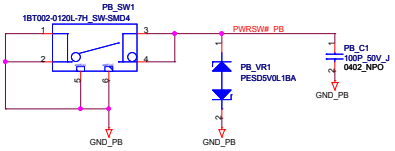
Power LED



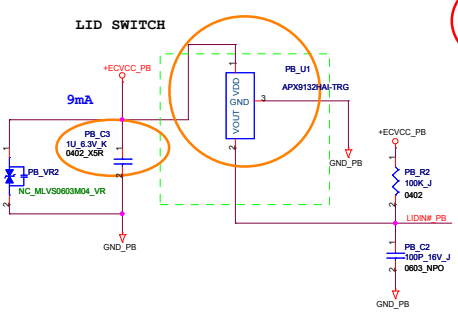
QuickWeb Button



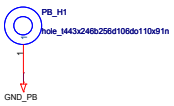
Power Button



LID SWITCH

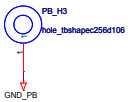


A +C + D Type



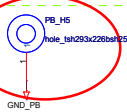
G Type

A + A Type



B Type

F + E Type



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Rains DB

(2010/08/17)

P.46 Add Stitching Caps C883~C890, C898, C899 for AMD request.
P.47 Add Stitching Caps C891~C897, C900~C902 for AMD request.
P.23 Modify CN38 LVDS pin dinfine.

(2010/08/18)

P.32 Change cardreader GND Power to GND.
P.25 Del R3, R4, R5, R6 for unused reserve.
P.25 Add R2620, R2621 for Wireless LED debug.
P.25 Change CN33 and EC pin name to TP_LED#.
P.34 Change H1 GND to A_GND.
P.27 Swap CN30 LAN connector A1, A2 and B1,B2 for vendor recommend.
P.33 Add SW1 and C5 for Power button and change CN56.2 to +5VALW.
P.23 Change CN38.27 to +5VRUN and add C608.
P.34 Add Boss1~6 for ME request.

(2010/08/19)

P.25 Del TP1151 for unused.
P.07 Del R408 for release space.
P.34 Connect H5, H6, H12, H13 to GND.
P.20 Add C445, C453 for power plane.
P.34 Add C457, C458, C459, C478 for power plane.
P.29 Add R2~R9 for reserving remove SATA redriver.

(2010/08/20)

P.34 Change H9, Boss1~7 for ME request.

Rains SI

(2010/09/03)

P.11 Change CR_RXN8, CR_RXP8, CR_TXN8, CR TXP8 to U38 PCIE port4 for EE debug.
P.29 Change U71 power pin name to 1.5VRUN for EE debug.
P.27 Change CN30 LAN connector pin define for EE debug.
P.28 Change R3007 to connect with SENSEA and Q3002A.6 for EE debug.

(2010/09/09)

P.33 Change CN3 pin 12 & 27 define to +3VRUN and USB30_SMI for EE request.

(2010/09/12)

P.23 Change LVDS connector pin define for ME request.
P.27 Change L103 LAN Transformer for EE debug.

(2010/09/13)

P.23 Rotate LVDS connector pin define for ME request.
P.28 Change SENSEA and COMBO_JACK_DET# in Q3000, R6205 for EE debug.

(2010/09/15)

P.10 Change CN25 RTC pin define for ME request.
P.25 Change CN52 HDD pin define for ME request.
P.31 Del CN6, L73, L74, C733, C718 Camera connector for ME request.

(2010/09/20)

P.33 Change CN3 USB3.0 connector pin define +3VRUN and USB30_SMI.

(2010/09/24)

P.22 Change CRT connector CN37 for ME request.
P.24 Change HDMI connector CN32 for ME request.
P.25 Change KB connector CN54 for ME request.
P.27 Change LAN connector CN30 for ME request.
P.29 Change HDD connector CN52 for ME request.
P.31 Add WLAN BTB connector CN17 for ME request.
P.32 Change Cardreader connector CN43 for ME request.
P.33 Change USB3.0 BTB connector CN3 for ME request.
P.35 Add WLAN DB schematics for ME request.
P.25 Change Y13 for cost down.

(2010/09/28)

P.41 Add CAP13 in VDDCore for Power request.
P.33 Change CN3.2 to GND for EE request.
P.25 Add R12, Q4 for Mute LED debug.
P.28 Change U50.46 net name to MUTE_LED_A.
P.25 Add R13 for CAPSLOCK_LED# and CAPSLOCK_LED#_R.
P.35 Change GND to W_GND for DB.
P.23 Change C1006 from 0603 to 0402 1u and C1863 for EE debug.
P.23 Change R12 to connect to MUTE_LED#_A.

(2010/09/29)

P.28 Del D12 and Add Q103 for Audio Mute debug.

(2010/09/30)

P.23 Del R67~R77 and chang the LVDS net name for EE recommend.

(2010/10/04)

P.15 Change G_INT#_LED net name to G_INT_LED for high active.
P.33 Change G_INT#_LED net name to G_INT_LED for high active.
P.25 Del Q2601, Q3604, R2620 and Add Q7, Q8, Q9, Q12, Q14, R30, R33 for EE debug WLAN LED.
P.17 Add C823 22uF for EE solve CRT water wave issue.

(2010/10/05)

P.31 Del CN17 WLAN DB BTB connector for ME request.
P.35 Del W_CN1 & W_CN2 for ME request.
P.17 Add C484 0.1uF for reserving CRT water wave issue.

(2010/10/07)

P.32 Co-lay CN44 cardreader connector for introducing 2nd source
P.34 Update all of the screw hole.

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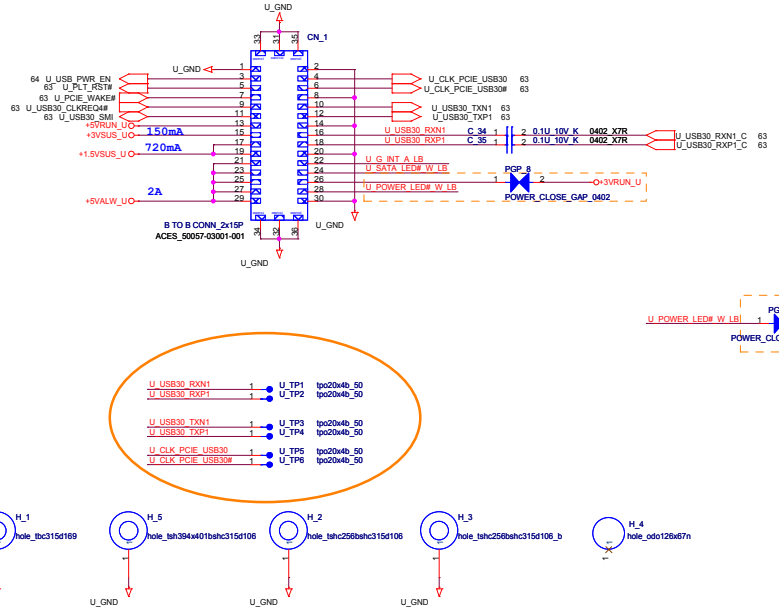
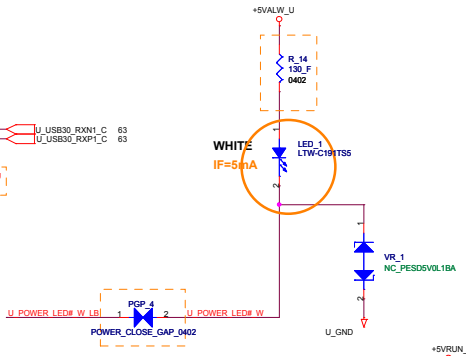
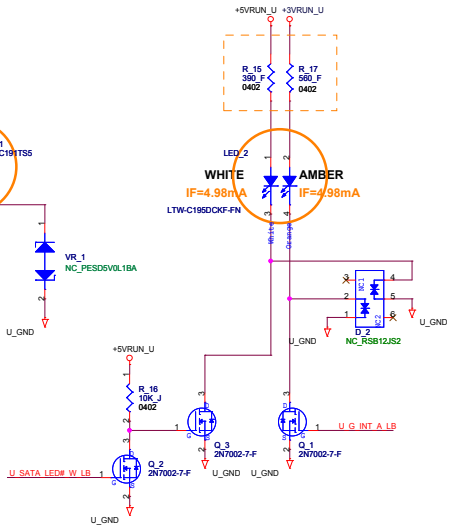
DB To MB Conn.



Power LED



HDD LED



1.Add Q1 ,Q2 and Q3
2.Change net name from G_INT#_A_LB to G_INT_A_LB

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Rains PV

(2010/10/28)

P.4 Change R192, R180, R195, R63, R64, R708, R709, R969 to close gap.
P.7 Change R407 to PGP9 for EE cost down.
P.10 Change R160, R6039, R6052, R6065 to PGP10~13 for EE cost down.
P.11 Change R623 to PGP15 for EE cost down.
P.12 Change R279, R345, R280, R370, R368 to PGP16~20 for EE cost down.
P.13 Change R628, R629, R657, R658, R669, R655 to PGP21~26 for EE cost down.
P.14 Change R1403, R398 to PGP27~28 for EE cost down.
P.15 Change R393 to PGP 29 for EE cost down.
P.16 Change R258, R298 to PGP 30~31 for EE cost down.
P.17 Change R227, R514, R735, R221, R498, R497 to PGP 32~37 for EE cost down.
P.23 Change R527, R65, R62, R266 to PGP 38~41 for EE cost down.
P.24 Del R2409~R2416 for EE cost down.
P.33 Del R6229, R596 for EE cost down.

(2010/11/02)

P.4 Add CPU_DET# for EC request.
P.25 Add R6193, R302, DGPU_PWROK, CPU_DET# for EC request.

(2010/11/17)

P.64 Change PB_CN1 pin define for ME request.
P.24 Del R333,Q28, R334 for changing VGA HW_SD.
P.24 Add U45, U46, Q50, C749, C752, R2617, R871, R877 for VGA HW Shut down.

(2010/11/18)

P.24 Del TP997 and add R593 connect to EC_WP# for Flash Write Protect.
P.10 Add R226 to connect EC_WP# for Flash Write Protect.

(2010/11/19)

P.33 Swap CN56 Power board connector for ME request.
P.64 Recover PB_CN1 pin define for ME request.
P.10 Del R245 and add Q15, R107 for EC_WP#.
P.26 Add Q17 and R108, R9902 for EC_WP#.
P.35 Add Q73, Q81, R247, R241, R2909, Q2902 for Headphone jack mute.
P.24 Del R6123~R6130 and Q97, R6132 for HDMI quality.

(2010/11/22)

P.23 Add R73, R74, C19, C20, L63, Q28 for LVDS DCBATOUT.

Rains MV

(2010/12/3)

P.24 Add R763,R764 and connect DGPU_HPD_INTR# to Q64.1 pin for HDMI debug.

(2010/12/16)

P.33 Del SW1 & C5 for EE cost down.
P.10 NC CN13, U35, R490, C691 and stuff R6040 for EE cost down.

(2010/12/17)

P.29 Del R6357 for EE cost down.

(2010/12/28)

P.29 Add TP960 for L6 request.

(2010/12/30)

P.26 Change EC_WP# to EC_WP and add U12, C145, R108 latch for HP request.
P.10 Change EC_WP# to SPI_PROTECT.

Rains1.1 PV

(2011/1/31)

P.25 Change PCB ID to ID[3..0]:1001, stuff R6175 and no-stuff R6176.
P.59 Change PR240 to 10K and PR342 to 33K for VGA loss issue

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