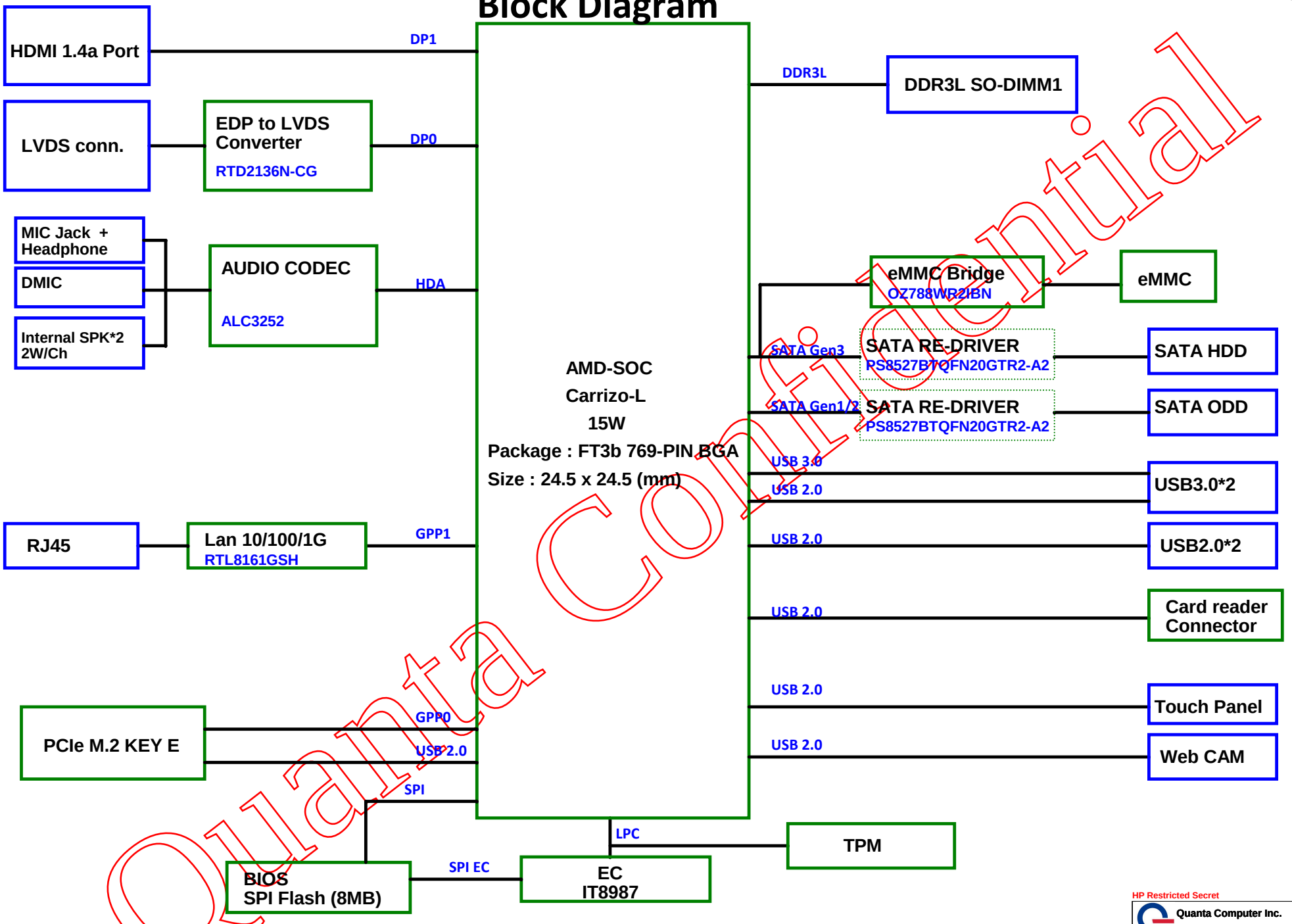
Block Diagram



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Quanta Computer Inc.
PROJECT HP-Bali
System Block Diagram
Rev C3A
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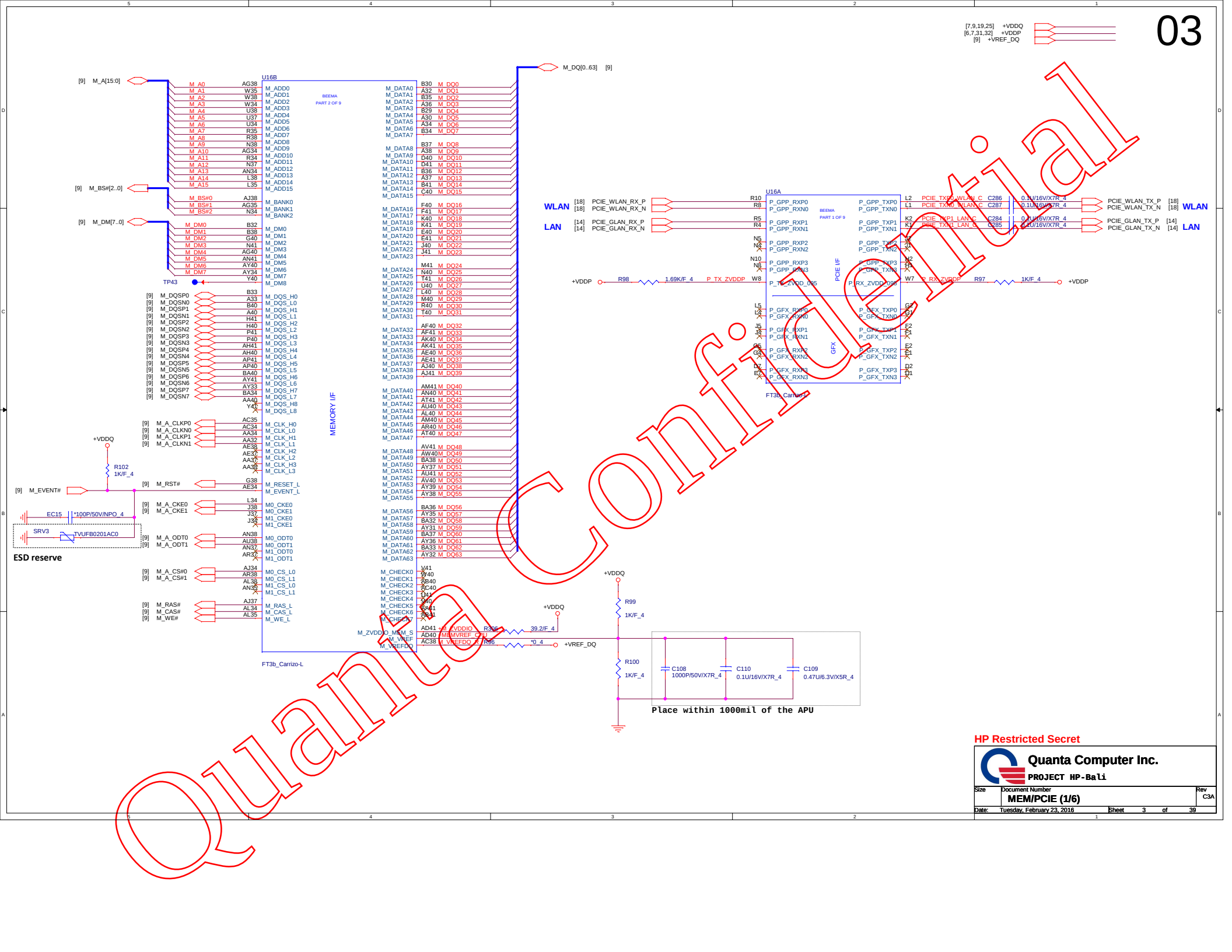
Table of Contents

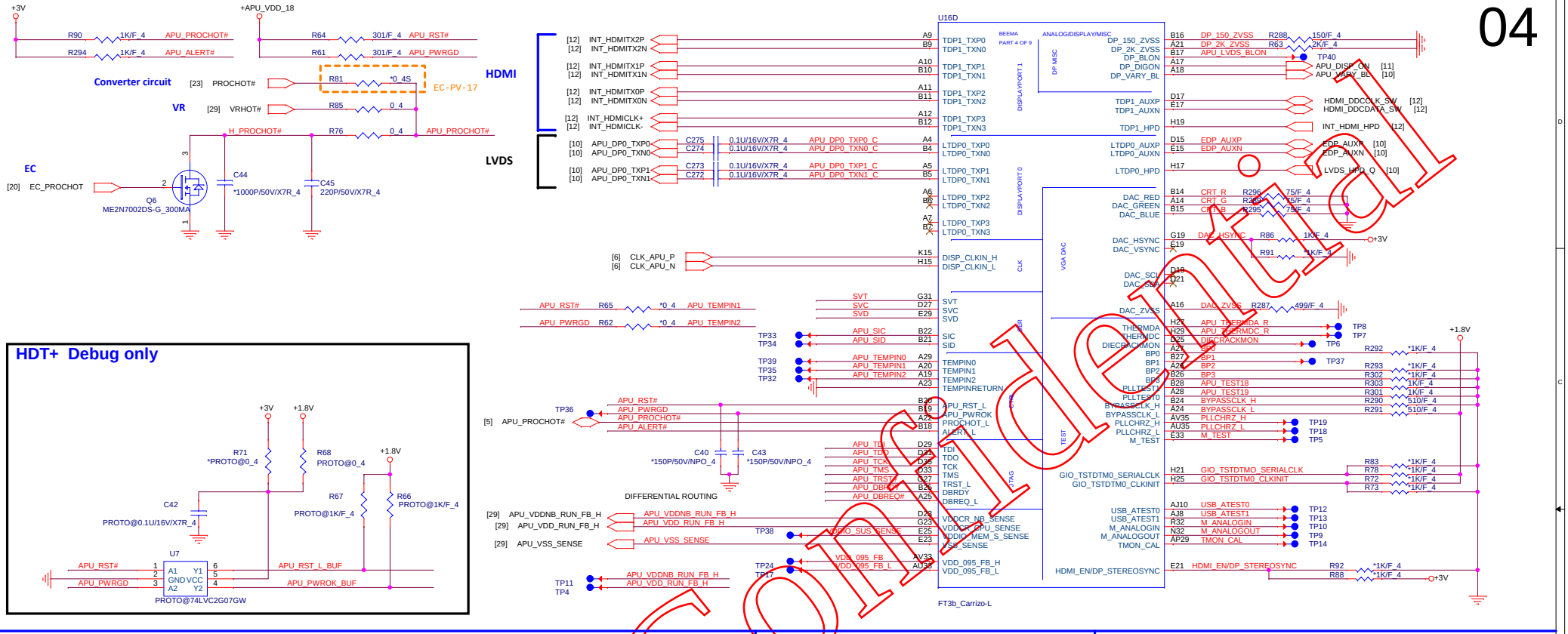
POWER PLANE	VOLTAGE	CONTROL SIGNAL	Power States ACTIVE IN
+VIN	+19V		Always
+1.5V_RTC	+1.5V		Always
+3V	+3.3V	MAIN_ON1	S0
+3V_S5	+3.3V	S5_ON	S0~S5
+3V_ALW	+3.3V	AC/DC Insert enable	Always (LDO)
+5V	+5V	MAIN_ON1	S0
+5V_S5	+5V	S5_ON	S0~S5
+5V_ALW	+5V	AC/DC Insert enable	Always (LDO)
+3V_WLAN_P	+3.3V	WLAN_ON	S0~S5
+3V_LAN	+3.3V	LAN_PWR_ON	S0~S5
+VDDQ	+1.35V	S3_ON	S0~S3
+1.8V_S5	+1.8V	S5_ON	S0~S5
+1.8V	+1.8V	MAIN_ON2	S0
+1.5V_S5	+1.5V	S5_ON	S0~S5
+VDDP_S5	+0.95V	S5_ON	S0~S5
+VDDP	+0.95V	S0_ON1_D	S0
CPU_CORE	~	VRON	S0
NB_CORE	~	VRON	S0
+12V	+12V	MAIN_ON1	S0
+0.65V_DDR_VTT	+0.65V	S3_ON	S3
+1V	+1V	MAIN_ON2	S0
+1.5V	+1.5V	+1.5V_S0_3	S0

Schematic “Value” Definition

Pavilion AMD Platform Bali		DB/SI/PV Stage			MP	
By Value format	Description	Auto BOM Control	Bali-HDD	Bali-eMMC	Bali-HDD	Bali-eMMC
XX	Install	V	V	V	V	V
*XX	Non-Install	V				
SATA@XX	Install SATA HDD (include 2.5";3.5"HDD)	V	V		V	
EMMC@XX	Install EMMC	V		V		V
PROTO@XX	Install in pre-production only	V	V	V		
MP@XX	Install in MP only	V			V	V

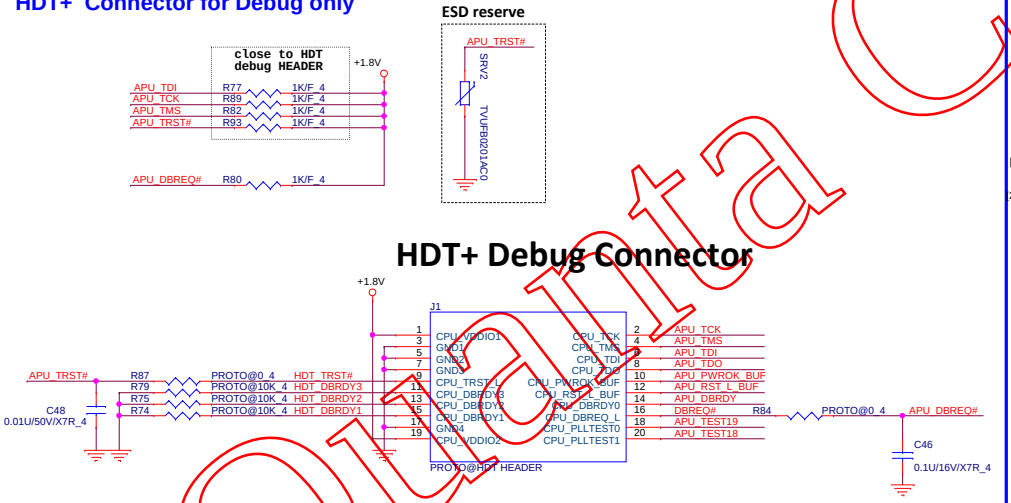
***Board ID by manual control



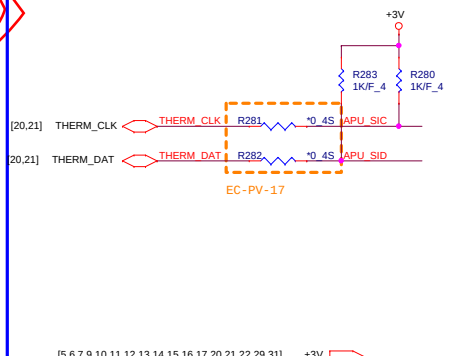


HDT+ Debug only

HDT+ Connector for Debug only



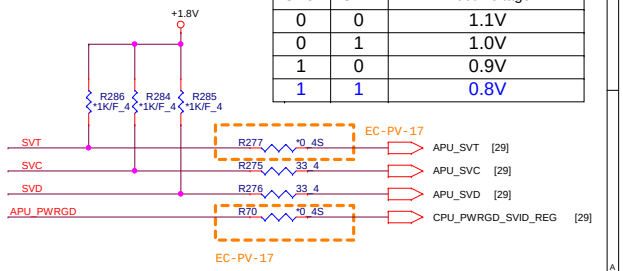
Thermal Sensor



Serial VID

VFIX MODE — VID Override table (VDD)

SVC	SVD	Boot Voltage
0	0	1.1V
0	1	1.0V
1	0	0.9V
1	1	0.8V



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Quanta Computer Inc.
PROJECT HP-Bali

Size	Document Number	Rev
	DIS/MI (2/6)	C3A
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EC-PV-14

U17 *TC7SH08FU

R355 *4.7K_4

[14,16,17,18] PLTRST_N → PLTRST_N → PCIE_RST#_R R342 33_4 PCIE_RST#

C297 150P/50V/NPO_4

R361 *0_4S

EC-PV-18

[6,7,8,11,14,17,18,20,22,23,24,25,26,27,28,31] +3V_S5
[4,6,7,9,10,11,12,13,14,15,16,17,20,21,22,29,31] +3V
[7] +0.95V_DUAL
[7,8,28,31,32] +1.8V_S5

LPC_RST#_R
PCIE_RST#
SYS_PWRGD

SRV19 *BC0051P2Z0_4
SRV20 *BC0051P2Z0_4
SRV18 *BC0051P2Z0_4

NC,no install by default

R137	*1K/F_4	APU_TEST0	R142	15K/F_4	
R148	*1K/F_4	APU_TEST1	R147	15K/F_4	
R328	*1K/F_4	APU_TEST2	R321	15K/F_4	

TEST2	TEST1	TEST0	Description
0	0	0	FCH TAP accessible from APU when TAPEN is asserted FCH JTAG pins are overloaded for multiple functions, in this configuration the FCH JTAG are used as non-JTAG pins
0	0	1	Reserved
0	1	X	Reserved
1	TMS	0	FCH JTAG multi-function pins are configured as JTAG pins, in this configuration the FCH TAP can be accessed from FCH JTAG pins
1	TMS	1	Use on ATE only Yuba JTAG enabled

to DDR3 SMBUS

R126 2.2K_4 SMB_RUN_CLK
R135 2.2K_4 SMB_RUN_DAT
R348 *1K/F_4
J2 *SOLDERJUMPER-2 SYS_RST#

R340 10K/F_4 PCIE_CLK_LAN_REQ#
R339 10K/F_4 PCIE_CLK_WLAN_REQ#

R324 10K_4 SCL1
R323 10K_4 SDA1
R347 10K/F_4 EC_PWBTN_OUT#
R149 10K/F_4 PCIE_WAKE#
R319 10K/F_4 GEVENT4#
R141 10K/F_4 GEVENT7#
R111 10K_4 TP_DETECT#

R117 10K/F_4 GPIO49
R335 10K/F_4 BT_COMBO_EN#
R364 10K/F_4 EC_RCIN#

ESD reserve

RSMRST#_R SYS_RST# LPC_RST#
SRV21 SRV22 SRV23
TVUFB0201AC0 TVUFB0201AC0 TVUFB0201AC0

U16C

BEEMA PART 3 OF 9

LPC_RST_L
PCIE_RST_L
RSMRST_L
PWR_BTN_L
PWR_GOOD
SYS_RESET_L/GEVENT19_L
WAKE_L/GEVENT8_L
SLP_S3_L
SLP_S5_L
TEST0
TEST1/TMS
TEST2
KBRST_L
GA20IN/GEVENT0_L
LPC_PME_L/GEVENT3_L
LPC_SMI_L/GEVENT23_L
LPC_PD_L/GEVENT5_L/SPI_TPM_CS_L
AC_PRES/IR_RX0/GEVENT16_L
IR_TX0/GEVENT21_L
IR_TX1/GEVENT6_L
IR_RX1/GEVENT20_L
IR_LED_L/LLB_L/GPIO184
CLK_REQ0_L/SATA_IS0_L/SATA_ZP0_L/GPIO60
CLK_REQ1_L/GPIO61
CLK_REQ2_L/GPIO62
CLK_REQ3_L/SATA_IS1_L/SATA_ZP1_L/GPIO63
CLK_REQ4_L/GPIO65/OSCIN
SCL0/GPIO46
SDA0/GPIO47
SCL1/GPIO227
SDA1/GPIO228
GPIO49
GPIO50
GPIO51
DEVSLP0/GPIO55
GPIO57
GPIO58
DEVSLP1/GPIO59
GPIO64
SPKR/GPIO66
GPIO68
GPIO69
GPIO70
GPIO71
GPIO174
GEVENT2_L
GEVENT4_L
GEVENT7_L
GEVENT10_L
GEVENT11_L
GEVENT17_L
BLINK/GEVENT18_L
GEVENT22_L
GENINT1_L/GPIO32
GENINT2_L/GPIO33
FANOUT0/GPIO52
FANIN0/GPIO56
USBCLK/14M_25M_48M_OSC
USB_ZVSS
USB_HSD0P
USB_HSD0N
USB_HSD1P
USB_HSD1N
USB_HSD2P
USB_HSD2N
USB_HSD3P
USB_HSD3N
USB_HSD4P
USB_HSD4N
USB_HSD5P
USB_HSD5N
USB_HSD6P
USB_HSD6N
USB_HSD7P
USB_HSD7N
USB_HSD8P
USB_HSD8N
USB_HSD9P
USB_HSD9N
USB_SS_ZVSS
USB_SS_ZVDD_095_USB3_DUAL
USB_SS_TX0P
USB_SS_TX0N
USB_SS_RX0P
USB_SS_RX0N
USB_SS_TX1P
USB_SS_TX1N
USB_SS_RX1P
USB_SS_RX1N
USB_OC0_L/SPI_TPM_CS_L/TRST_L/GEVENT12_L
USB_OC1_L/TDI/GEVENT13_L
USB_OC2_L/TCK/GEVENT14_L
USB_OC3_L/TDO/GEVENT15_L
AZ_BITCLK
AZ_SDOUT
AZ_SDIN0/GPIO167
AZ_SDIN1/GPIO168
AZ_SDIN2/GPIO169
AZ_SDIN3/GPIO170
AZ_SYNC
AZ_RST_L
ACPI / WAKE UP EVENTS
USB 1.1
USB MISC
USB 2.0
USB 3.0
USB OC
GPIO
HD AUDIO

USB_RCOMP R104 11.8K/F_4

USBP0+ [19] USBP0- [19] U2B-1
USBP1+ [19] USBP1- [19] U2B-2
USBP2+ [18] USBP2- [18] Bluetooth
USBP4+ [11] USBP4- [11] TOUCH SCREEN
USBP5+ [11] USBP5- [11] CCD
USBP6+ [21] USBP6- [21] Card Reader
USBP8+ [19] USBP8- [19] For U3B-1
USBP9+ [19] USBP9- [19] For U3B-2

AE10 USBSS_CALRN 1K/F_4 R103
AE8 USBSS_CALRP 1K/F_4 R101
+0.95V_DUAL

USB30_TX0+ [19] USB30_TX0- [19] U3B-1
USB30_RX0+ [19] USB30_RX0- [19]
USB30_TX1+ [19] USB30_TX1- [19] U3B-2
USB30_RX1+ [19] USB30_RX1- [19]

U2B_OC# [19]
U3B_OC# [19]
U2B_OC# R346 10K/F_4 +3V_S5
U3B_OC# R322 10K/F_4

JTAG_TDI TP57 TP49
JTAG_TCK TP46 TP55

ACZ_BCLK_R R315 *10K/F_4
ACZ_SDOUT_R R310 *10K/F_4
HDA_SDIN R307 *10K/F_4
ACZ_SDIN1 R311 *10K/F_4
ACZ_SDIN2_R R309 *10K/F_4
ACZ_SDIN3_R
ACZ_SYNC_R
ACZ_RST#_R

C292 *10P/50V/C0G_4

To Azalia

ACZ_SDOUT_R	R313	33_4	ACZ_SDOUT	[13]
ACZ_SYNC_R	R314	33_4	ACZ_SYNC	[13]
ACZ_BCLK_R	R316	33_4	ACZ_BCLK	[13]
ACZ_RST#_R	R312	33_4	ACZ_RST#	[13]
HDA_SDIN			HDA_SDIN	[13]

[20,22] LPC_RST# R327 33_4 LPC_RST#_R
PCIE_RST#_R
RSMRST#_R
[20] EC_PWBTN_OUT# EC_PWBTN_OUT#
[8] SYS_PWRGD
[8] SYS_RST# SYS_RST#
[14,18] PCIE_WAKE# PCIE_WAKE#
C172 *100P/50V/NPO_4
[20] SUSB#
[20] SUSC#
APU_TEST0
TP29
APU_TEST1
APU_TEST2
[20] EC_RCIN#
[20] EC_A20GATE
[20] EC_SCI#
[20,22] EC_SMI#
TP45 GEVENT5#
[20] AC_PRESENT_EC R134 *0_4
TP27 ODD_PLUGIN#
TP53 GEVENT6#
TP25 LLB#
TP20 PCIE_CLKREQ_CARD#
[14] PCIE_CLK_LAN_REQ#
[18] PCIE_CLK_WLAN_REQ#
TP23 CLKREQ3#
TP26 CLKREQ0#
[9] SMB_RUN_CLK SMB_RUN_CLK
[9] SMB_RUN_DAT SMB_RUN_DAT
TP50 SCL1
TP51 SDA1
[18] BT_OFF BT_OFF
TP58 BT_COMBO_EN#
R140 *10K/F_4 APU_GPIO55
[13] SPKR TP48 VGA_RSTB
TP22 VGA_ON_SB
[4] APU_PROCHOT# R106 0_4 PROCHOT#_CTRL
[11] TP_DETECT# TP_DETECT#
[8] GEVENT7# GEVENT4#
GEVENT7#
R341 *10K/F_4 ODD_DA#_FCH
TP61 GEVENT18_L
EC-PV-18
TP28 GPIO32
TP65 GPIO33
[18] WLAN_OFF ODD_PWR
TP22

FT3b_Carrizo-L

ESD reserve

ACZ_RST#_R
SRV17
TVUFB0201AC0

[20] EC_RSMRST# D14 RB500V-40 RSMRST#_R
R349 47K/F_4 +1.8V_S5
C295 0.022U/16V/X7R_4

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Quanta Computer Inc.
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[5,7,8,11,14,17,18,20,22,23,24,25,26,27,28,31] +3V_S5
[4,5,7,9,10,11,12,13,14,15,16,17,20,21,22,29,31] +3V
[3,7,31,32] +VDDP

EC-PV-06

+3V
R356 10K/F_4 BOOT_BLK_REC#
R352 10K/F_4 CLR_PASSWORD#
R144 10K/F_4 BOOT_BLK_WR_EN#
R357 10K/F_4 CLR_BIOS_DATA#
R146 *10K/F_4 BOARD_ID0
R359 10K/F_4 BOARD_ID1
R360 10K/F_4 BOARD_ID2
R358 SATA@10K/F_4 BOARD_ID3
R343 *10K/F_4
R353 *10K/F_4
R136 *10K/F_4
R344 *10K/F_4
R145 10K/F_4
R350 *10K/F_4
R351 *10K/F_4
R345 EMMC@10K/F_4

Board REV ID1	ID0	Model
0	0	All EVT
0	1	All DVT
1	0	PVT1
1	1	PVT2+
0	0	MVB, A
0	1	1st Major ECN
1	0	2nd Major ECN
1	1	3rd Major ECN

PCA ID ID2	Model
1	AMD Carrizo-L FT3b (15W)
0	

PCA ID ID3	Model
1	HDD
0	eMMC

SATA HDD

SATA ODD

U16E
BEEMA PART 5 OF 9

[15] SATA_TX0_P BA14 SATA_TX0P
[15] SATA_TX0_N AY14 SATA_TX0N
[15] SATA_RX0_N BA16 SATA_RX0N
[15] SATA_RX0_P AY16 SATA_RX0P
[15] SATA_TX1_P AY19 SATA_TX1P
[15] SATA_TX1_N BA19 SATA_TX1N
[15] SATA_RX1_N AY17 SATA_RX1N
[15] SATA_RX1_P BA17 SATA_RX1P

SERIAL ATA

+VDDP R120 1K/F_4 SATA_CALRN AR19
R119 1K/F_4 SATA_CALRP AP19
SATA_ZVSS
SATA_ZVDD_095

+3V R362 560/F_4 SB_SATA_LED# BA30 SATA_ACT_L/GPIO67

Use with external clock generator only
Integrated Clock Mode: Leave unconnected.
TP47 AY12 SATA_X1
TP52 BA12 SATA_X2

SD_PWR_CTRL BA23
SD_CLK/GPIO73 AY22 CLR_BIOS_DATA# CLR_BIOS_DATA# [22]
SD_CMD/GPIO74 AY23 BOOT_BLK_REC# BOOT_BLK_REC# [22]
SD_CD/GPIO75 AY20 CLR_PASSWORD# CLR_PASSWORD# [22]
SD_WP/GPIO76 BA20 BIOS_FDO BIOS_FDO [22]
SD_DATA0/GPIO77 BA22 BOARD_ID3 TP59
SD_DATA1/GPIO78 AY21 BOARD_ID0
SD_DATA2/GPIO79 AY24 BOARD_ID1
SD_DATA3/GPIO80 BA24 BOARD_ID2
SD_LED/GPIO45 AY25 BOOT_BLK_WR_EN# BOOT_BLK_WR_EN# [22]

SD CARD

To LPC Header

R374 *0_4 SPI_CLK_CON [22]
R329 *0_4 SPI_CS0#_CON [22]
R371 *0_4 SPI_SO_CON [22]
R326 *0_4 SPI_SI_CON [22]
R375 *0_4 SPI_HOLD#_CON [22]
R334 *0_4 SPI_WP_CON [22]

ROM recovery (for pre-production only)

SPI_CLK/GPIO162 AU7 SPI_CLK TP65
SPI_CS1_L/GPIO165 AW9 SPI_CS0# TP60
SPI_CS2_L/GPIO166 AR4 MEM_1V35 TP15
SPI_DO/GPIO163 AR11 SPI_SO TP64
SPI_DI/GPIO164 AR7 SPI_SI TP54
SPI_HOLD_L/GEVENT9_L AU11 SPI_HOLD# TP63
SPI_WP_L/GPIO161 AU9 SPI_WP TP56

SPI ROM

Caps closed to APU

C169 *10P/50V/C0G_4

LPCCLK0 AY2 LPC_CLK0 R139 22_4 R131 22_4 CK_33M_HEADER
LPCCLK1 AW2 LPC_CLK1 R143 33_4 R318 *33_4

LPC_CLK0 [8]
CK_33M_HEADER [22]
CK_33M_EC [20]
LPC_CLK1 [8]
LPC_CLK_DEBUG [18]
CLK_33M_TPM [22]

LAD0 AT2 F_LAD0 [18,20,22]
LAD1 AT1 F_LAD1 [18,20,22]
LAD2 AR2 F_LAD2 [18,20,22]
LAD3 AR1 F_LAD3 [18,20,22]
LFRAME_L AP2 L_FRAME# [8,18,20,22]
LDRQ0_L AP1 LDRQ#0 TP44
SERIRQ/GPIO48 AV29 SERIRQ [20,22]
LPC_CLKRUN_L AP25 CLKRUN# [20]

C165 *10P/50V/C0G_4
C163 *10P/50V/C0G_4
C166 15P/50V/C0G_4
C165 15P/50V/C0G_4
C293 *15P/50V/C0G_4

USE GROUND GUARD FOR 32K_X1 AND 32K_X2

32K_X1 AJ2
32K_X2 AJ1
C290 18P/50V/C0G_4
R308 20M_4
Y3 32.768KHz
EC-PV-03
C291 18P/50V/C0G_4

RTCCLK AV11 SM_RTC R116 10K/F_4 +3V_S5
R110 22_4 SUSCLK_WLAN [18]
VDDBT_RTC_G AN4 +1.5V_RTC_R R105 10K_4 +1.5V_RTC
20MIL 20MIL
G1 C142 0.22U/10V/X5R_4
*SHORT_PAD1
Place C8263 close to PIN

GFX_CLKP
GFX_CLKN
GPP_CLK0P
GPP_CLK0N
GPP_CLK1P
GPP_CLK1N
GPP_CLK2P
GPP_CLK2N
GPP_CLK3P
GPP_CLK3N

[14] CLK_PCIE_LAN_P RP3 2 4 1 3 0X2 CLK_PCIE_LANP_R AE4
[14] CLK_PCIE_LAN_N CLK_PCIE_LANN_R AE5
[18] CLK_PCIE_WLAN_P RP2 4 2 3 1 0X2 CLK_PCIE_WLAN_R AC4
[18] CLK_PCIE_WLAN_N CLK_PCIE_WLAN#_R AC5
[4] CLK_APU_P RP1 2 4 1 3 *0X2 CLK_APU_P_R AA5
[4] CLK_APU_N CLK_APU_N_R AA4

Integrated Clock Mode: Leave unconnected.

X14M_25M_48M_OSC
TP42
C289 5.6P/50V/COG_4
Y2 48MHZ +-15PPM
R305 1M_4
48M_X1 N2 X48M_X1
48M_X2 N1 X48M_X2
TP41
C288 5.6P/50V/COG_4

FT3b_Carrizo-L

APU SPI ROM 8M SPI EC ROM

Vender	Size	P/N
GGD	8M	AKE2EZN0Q00
WND	8M	AKE3EFP0N07
Socket		DFHS08FS023

SPI_CLK
For EMI
EC46 *22P/50V/NPO_4

ROM recovery (for pre-production only)
[22] EC_BIOS_CS#
R325 10K/F_4
C301 0.1U/16V/X7R_4
+3V_S5

SPI_CS0# R330 33_4 EC_BIOS_CS#
SPI_CLK R373 33_4 EC_BIOS_SPI_CLK_I
SPI_SO R370 33_4 EC_BIOS_WR#
SPI_SI R331 0_4 EC_BIOS_RD#
SPI_WP R333 0_4 EC_SPI_WP_R
R332 10K/F_4
+3V_S5
SPI_HOLD# R369 0_4 SPI_HOLD#_L

U18 CE# VDD SCK SI SO HOLD# WP# VSS
R366 10K/F_4
GD25B64CSIGR
AKE2EZN0Q00
SOIC8-P-1.27
EC-SI-07

EC_BIOS_WR# R368 15/F_4 EC_MOSI [20]
EC_BIOS_CS# R337 15/F_4 EC_CS# [20]
EC_BIOS_SPI_CLK_I R367 15/F_4 EC_SCK [20]
EC_BIOS_RD# R336 15/F_4 EC_MISO [20]

To EC

LAYOUT: CLOSE TO EC U24

+3V_RTC_0 20MIL +3V_RTC_0 R95 470/F_4 +VCCRTC D6 BAT54CW-7-F 20MIL +3VRTC
+3V_ALW 20MIL
CN17 RTC CONN GND
C122 0.1U/16V/X7R_4
C123 1U/10V/X5R_4
U8 GND VIN VOUT YB1264ST23X150
+1.5V_RTC 20MIL
C136 10U/6.3V/X5R_6

+3V
C299 *0.1U/16V/X7R_4
U20 *TC7SH08FU
[21] SATA_LED#
SB_SATA_LED#
R363 *0_4
EC-PV-19

[20] CLR_CMOS
Q7 DDTC144EUA
+1.5V_RTC_R

SPI ROM Socket

U19 CE# VDD SCK SI SO HOLD# WP# VSS
EC_BIOS_CS# EC_BIOS_SPI_CLK_I EC_BIOS_WR# EC_BIOS_RD# EC_SPI_WP_R SPI_HOLD#_L
+3V_S5
*A25LQ32AM-F/Q
DFHS08FS023
91960-0084L-8P-SOCKET
EC-SI-07

U19 & U18 footprint 要重畫

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PROJECT HP-Bali

Size	Document Number	Rev
	SATA/CLK (4/6)	C3A

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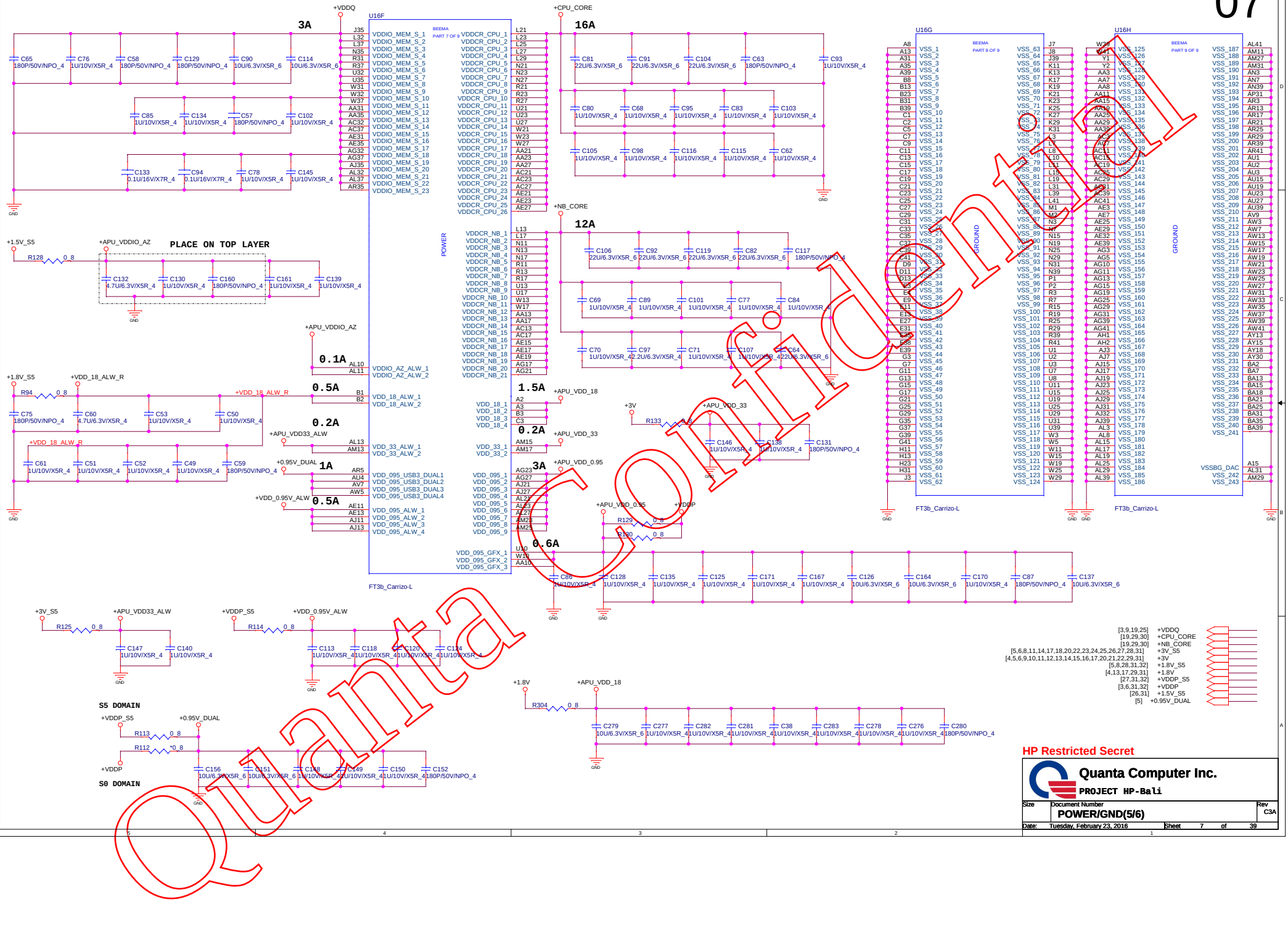

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PROJECT HP-Bali

Size	Document Number	Rev
	POWER/GND(5/6)	C3A

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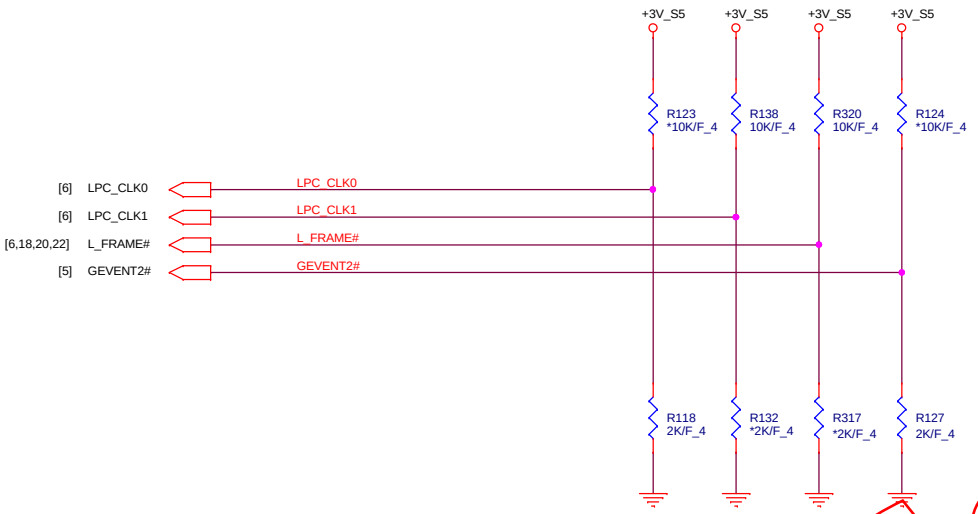
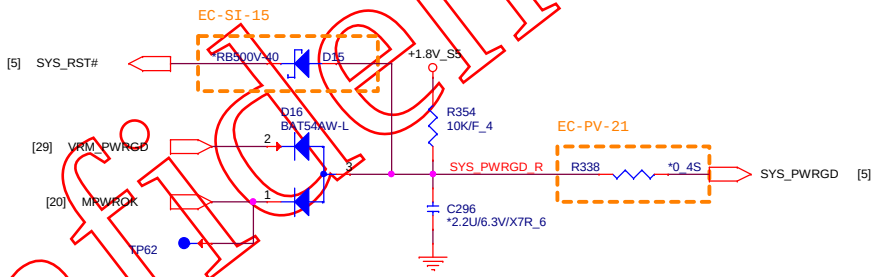
STRAPS PINS

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.



SYS PWRGD



REQUIRED STRAPS

	LPC_CLK0	LPC_CLK1	LFRAME#	GEVENT2#
PULL HIGH	BOOT FAIL TIMER ENABLED	CLKGEN ENABLED DEFAULT	SPI ROM DEFAULT	1.8V SPI ROM
PULL LOW	BOOT FAIL TIMER DISABLED DEFAULT	CLKGEN DISABLED	LPC ROM	3.3V SPI ROM DEFAULT

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	STRAP (6/6)	C3A

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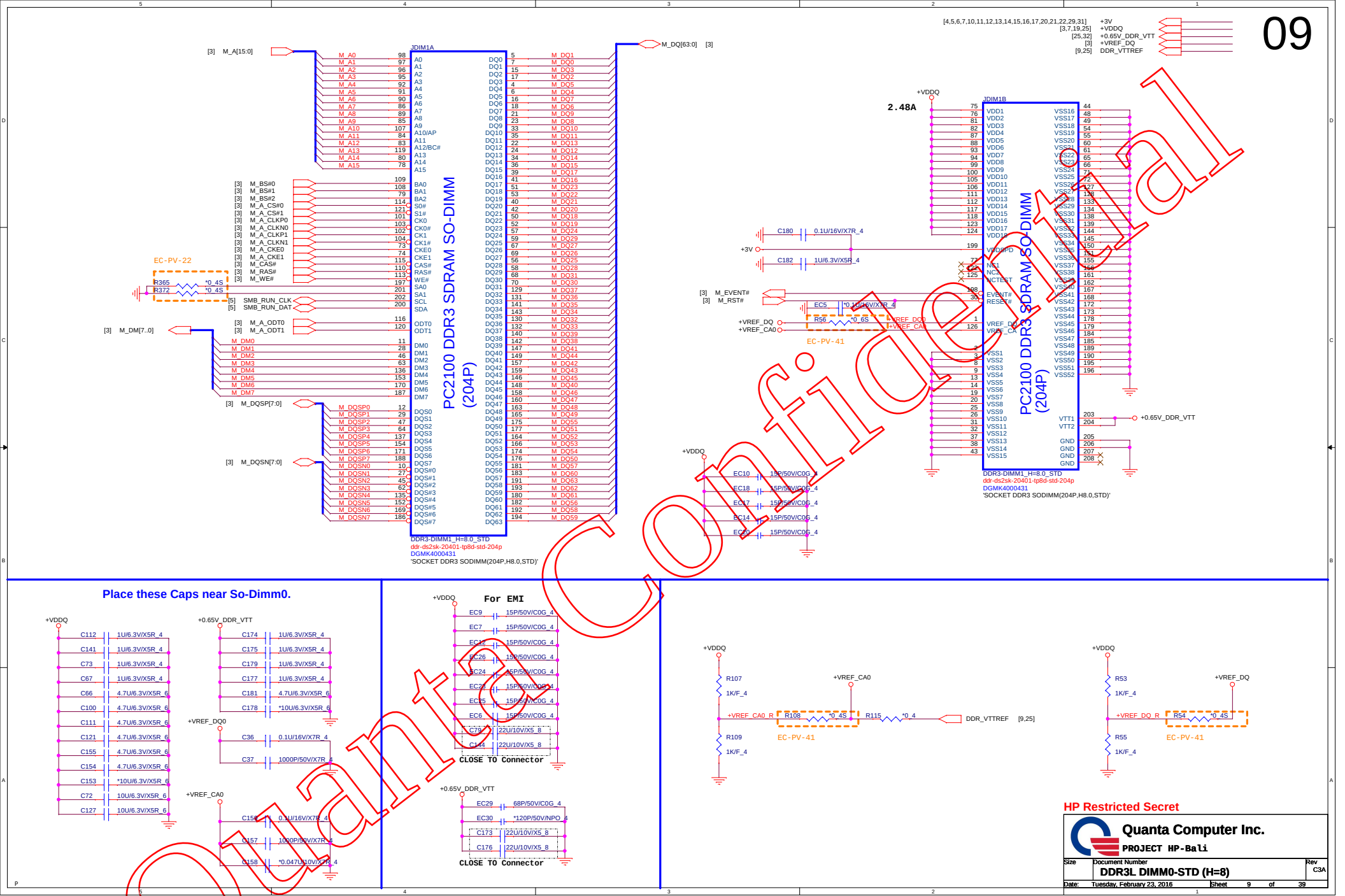

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PROJECT HP-Bali

Size	Document Number	Rev
	DDR3L DIMM0-STD (H=8)	C3A
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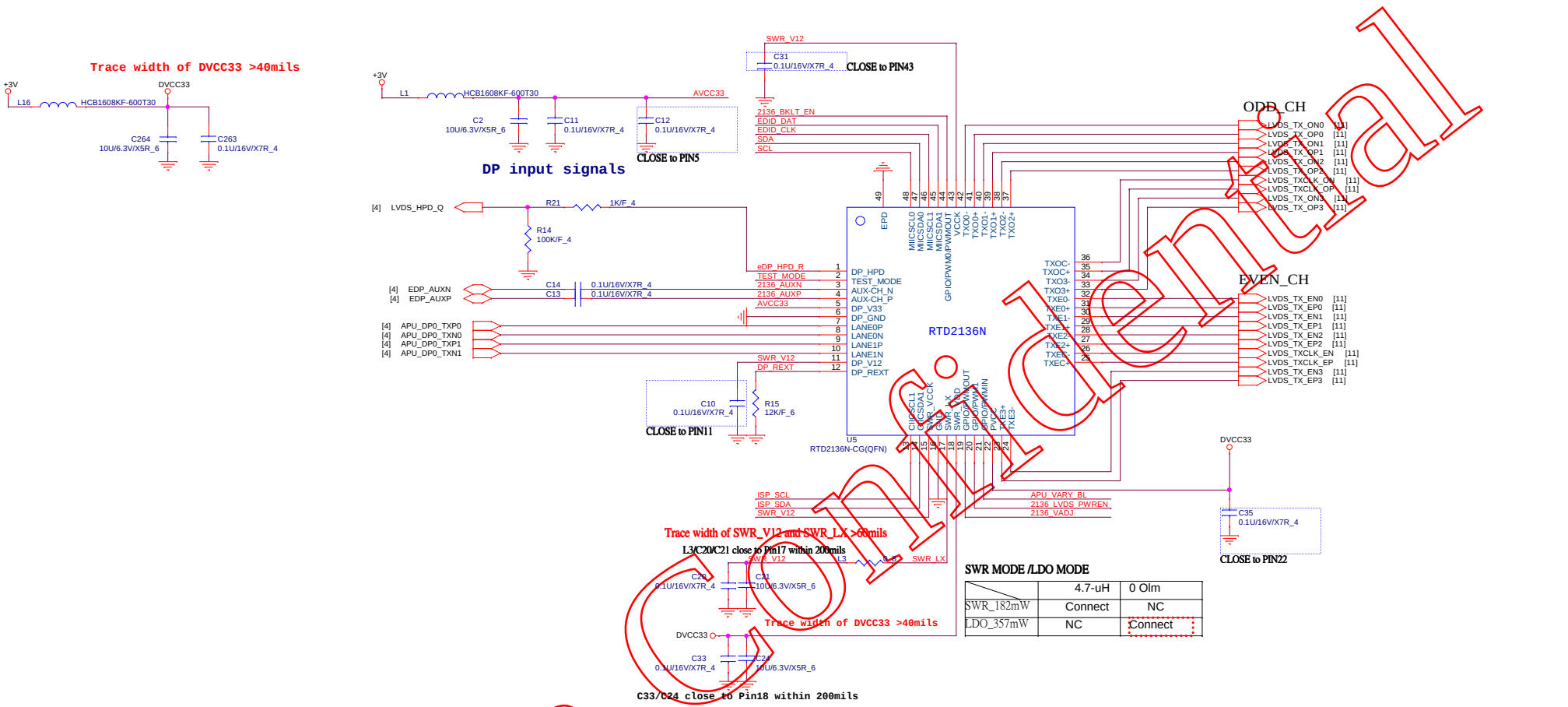
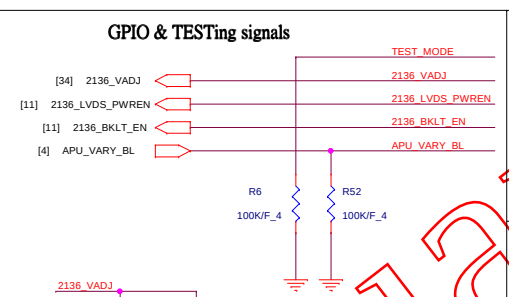
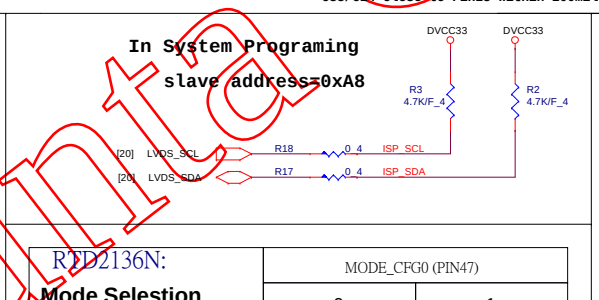
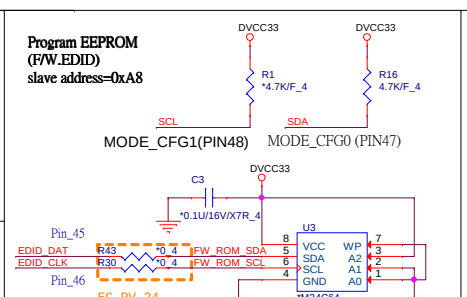
eDP to LVDS (RTD2136N-CG)

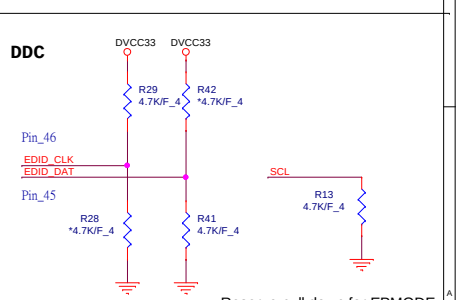






RTD2136N: Mode Selestion		MODE_CFG0 (PIN47)	
		0	1
MODE_CFG1(PIN48)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE





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PROJECT HP-Bali

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	LVDS converter RTD2136	C3A

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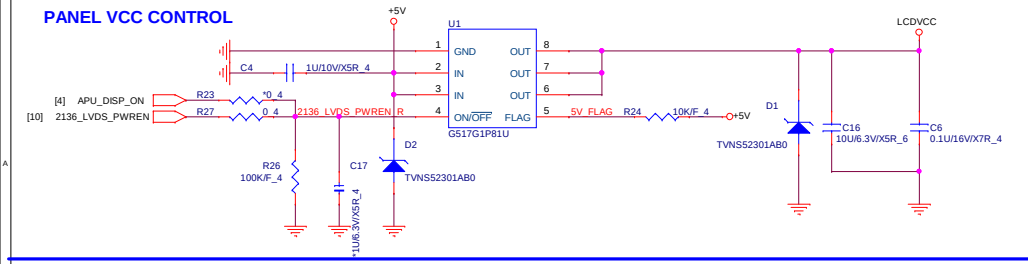
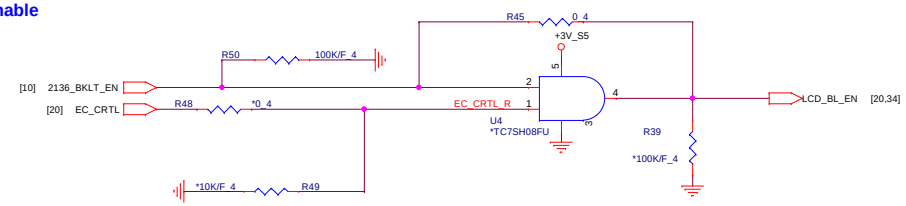
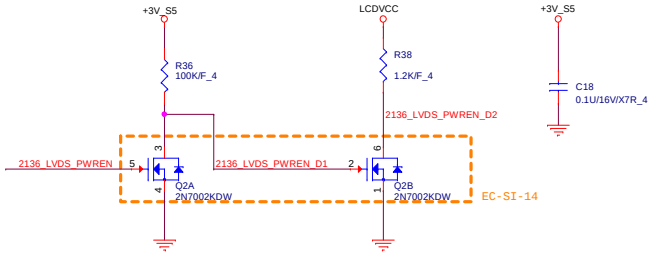
PANEL VCC CONTROL



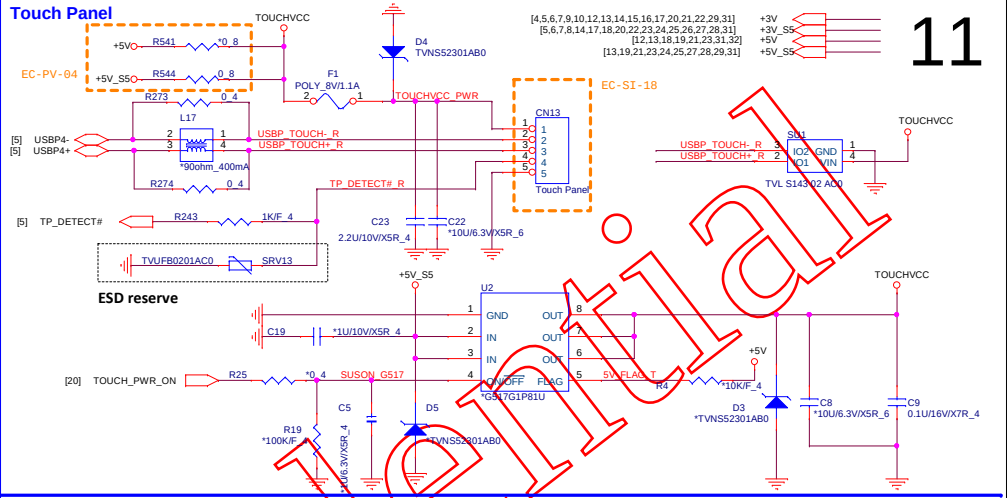
BackLight Enable



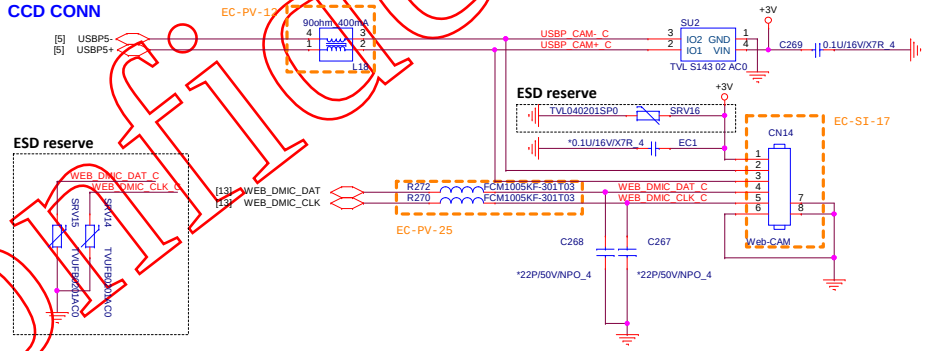
LCDVCC Discharge Circuit



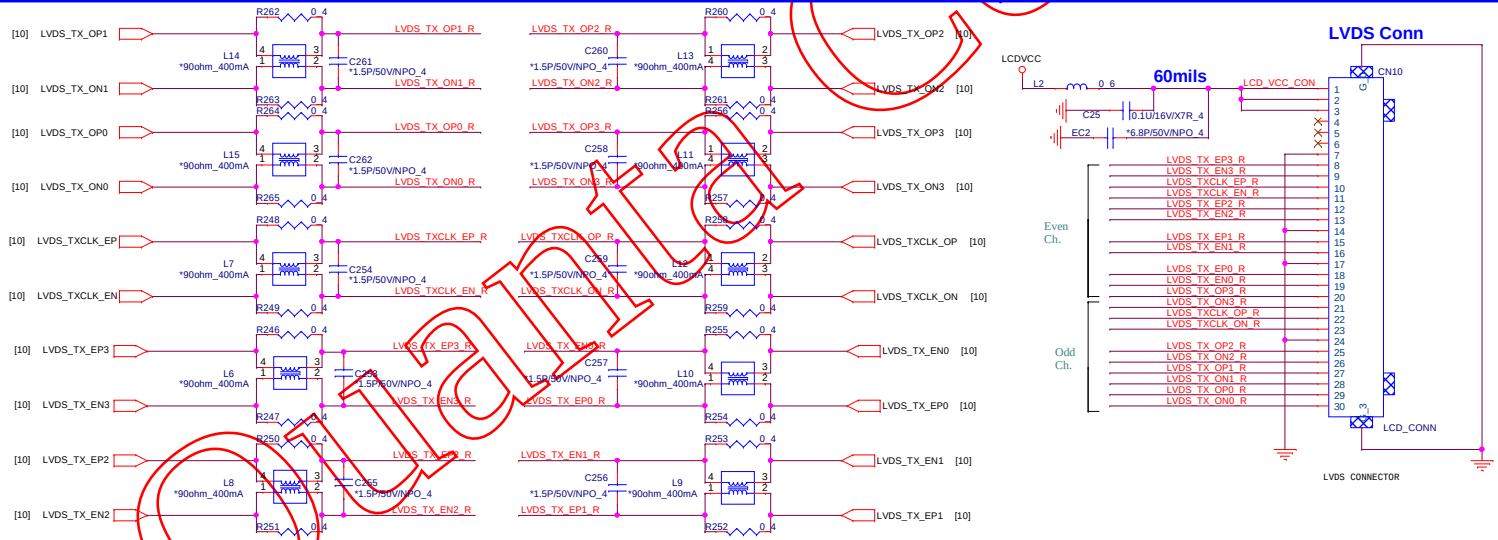
Touch Panel



CCD CONN



LVDS Conn



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	LCD CONN/CCD/TouchPanel	C3A
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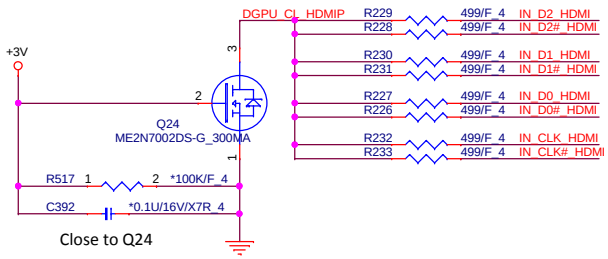
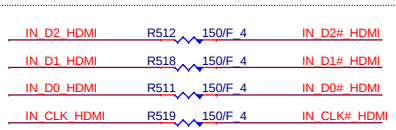
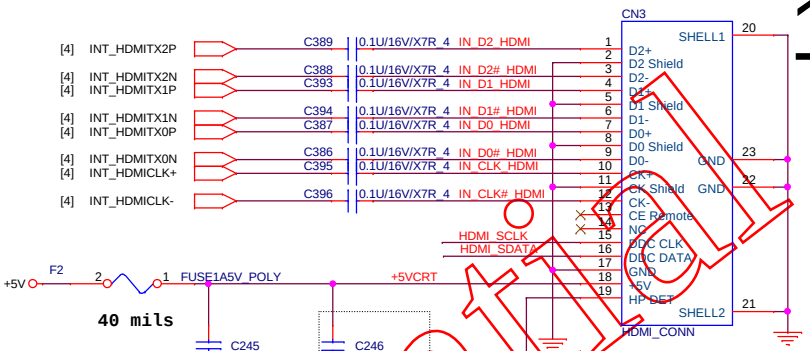
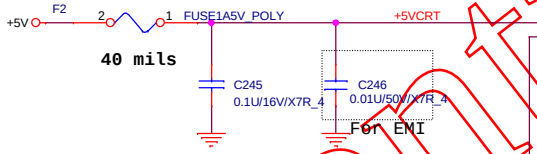
HDMI CONN



For EMI

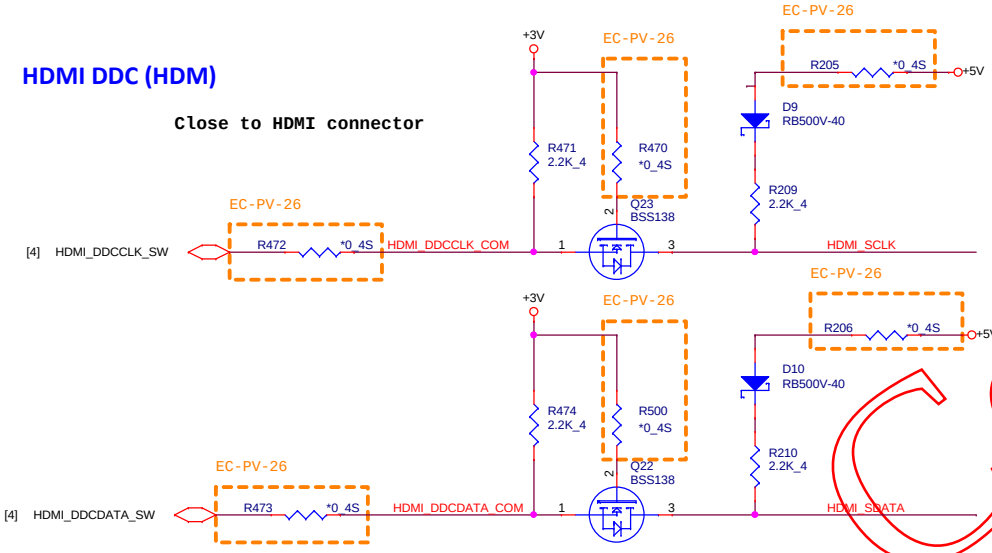




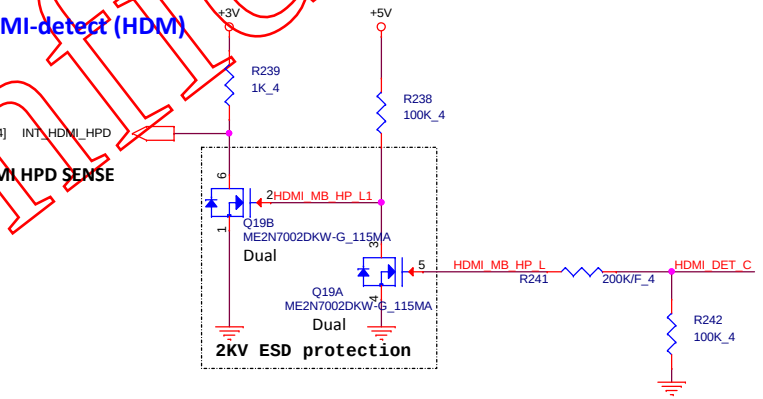


HDMI DDC (HDM)

Close to HDMI connector

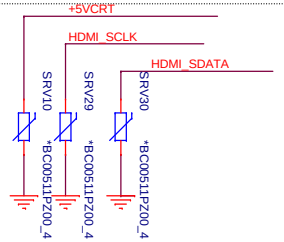


HDMI-detect (HDM)



For ESD

Layout note:Place close to HDMI Conn



[4,5,6,7,9,10,11,13,14,15,16,17,20,21,22,29,31] +3V
[11,13,18,19,21,23,31,32] +5V

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	HDMI	C3A
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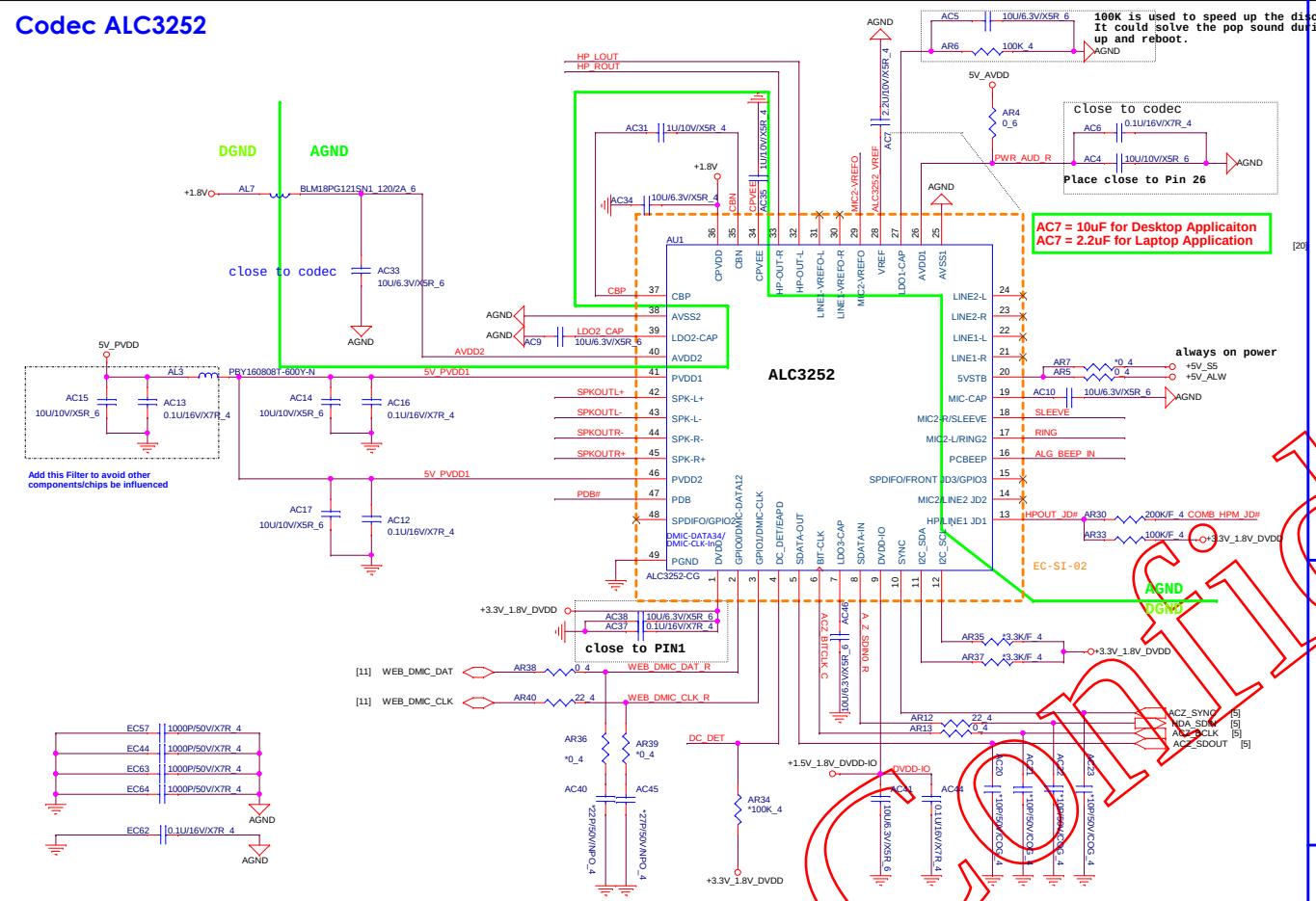
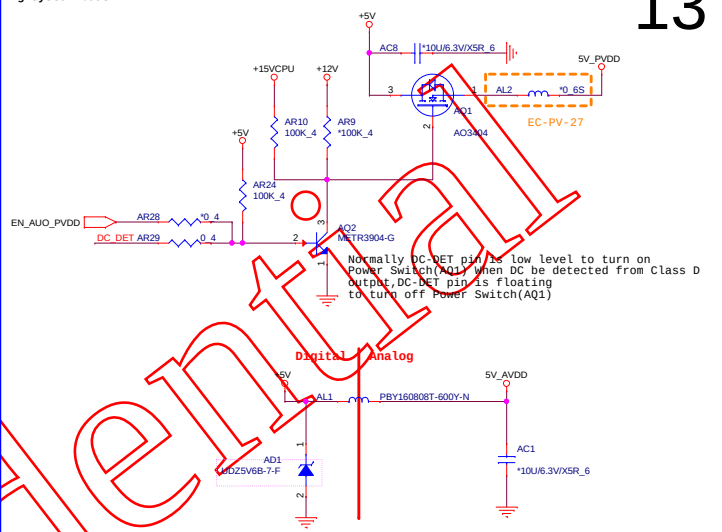
Codec ALC3252



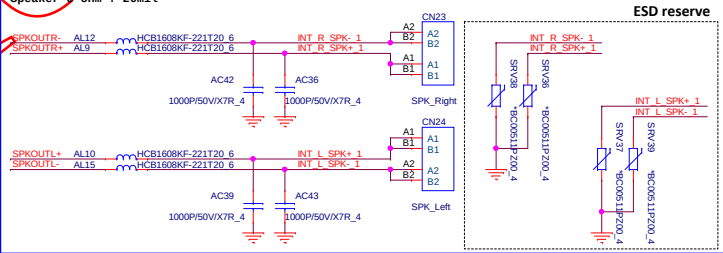
100K is used to speed up the discharge for LDO1. It could solve the pop sound during system boot up and reboot.

CODEC 5V POWER

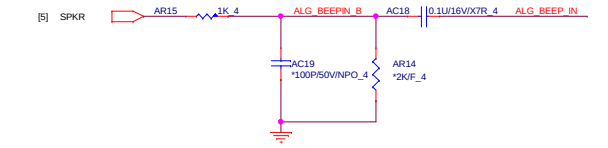


Internal Speaker (2W, 4 ohm)

Trace width for SPK-L+/SPK-L-/SPK-R+/SPK-RSpeaker 4 ohm : 40mil
Speaker 8 ohm : 20mil

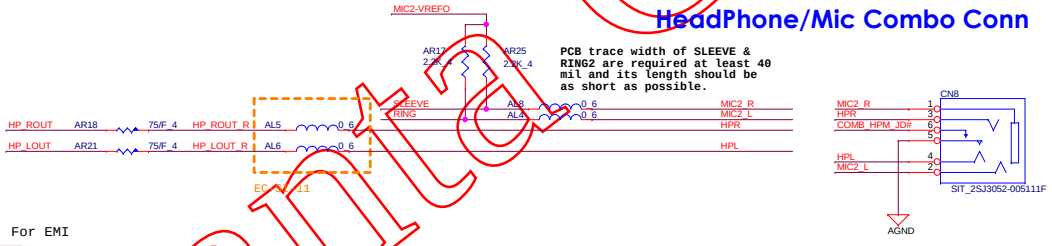


PC BEEP

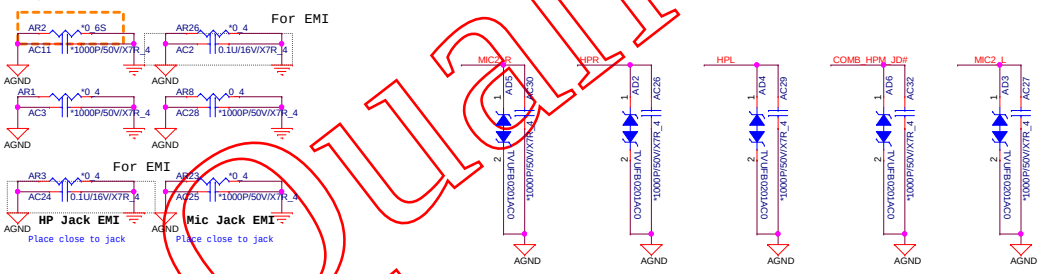


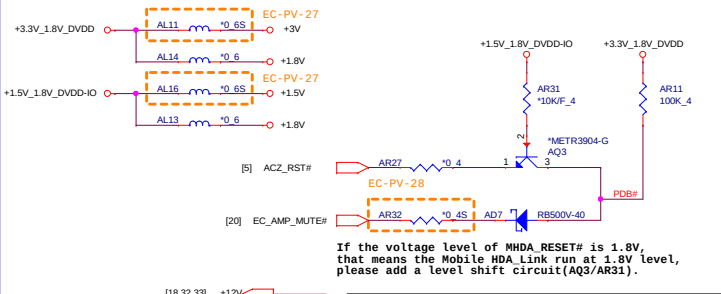
HeadPhone/Mic Combo Conn

PCB trace width of SLEEVE & RING2 are required at least 40 mil and its length should be as short as possible.



CODEC Return Path





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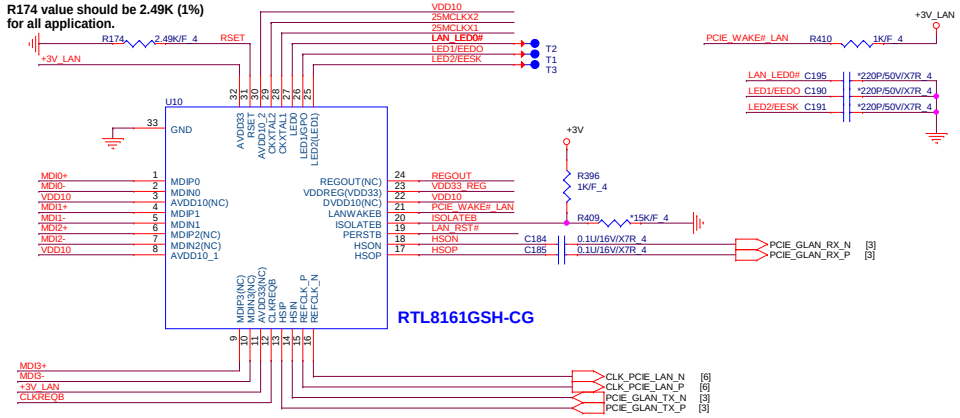
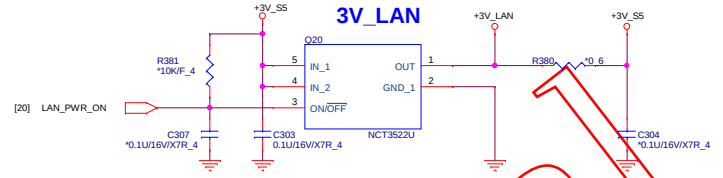
13

R174 value should be 2.49K (1%)
for all application.

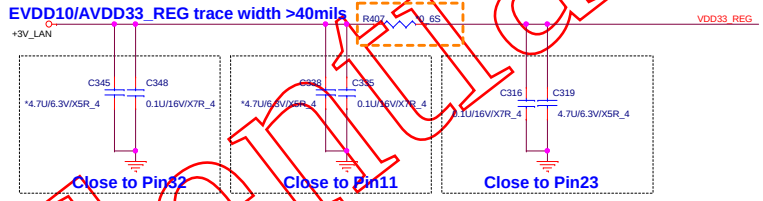


3V_LAN

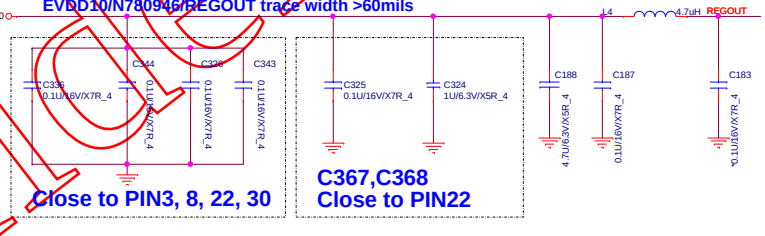


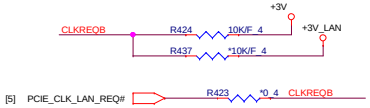
EC-PV-30

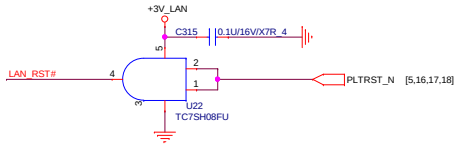
EVDD10/AVDD33_REG trace width >40mils

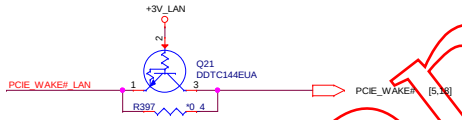


EVDD10/N780946/REGOUT trace width >60mils

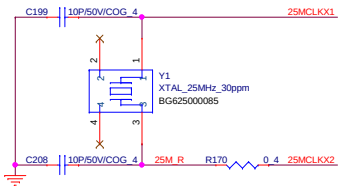


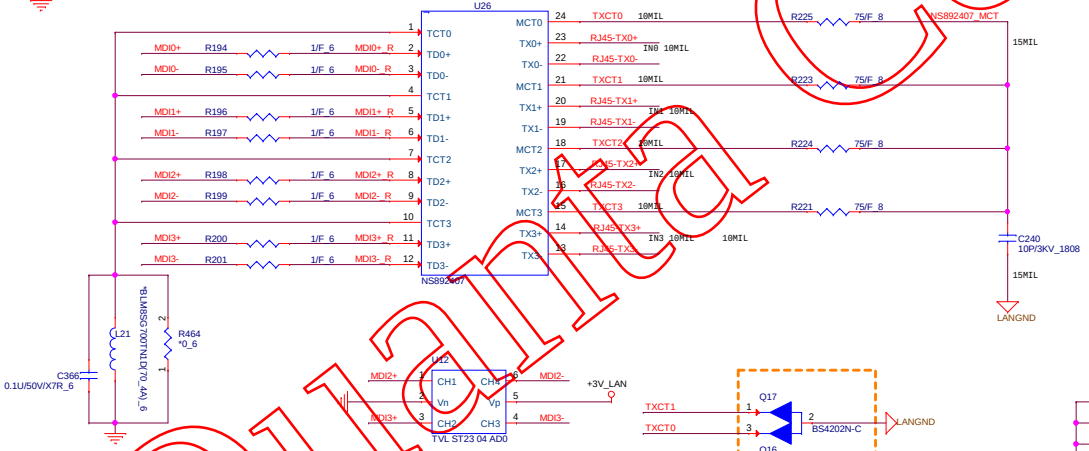


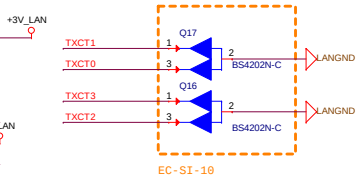


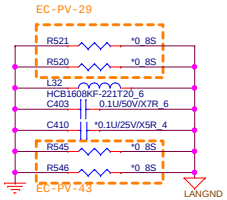


X'tal 25MHz

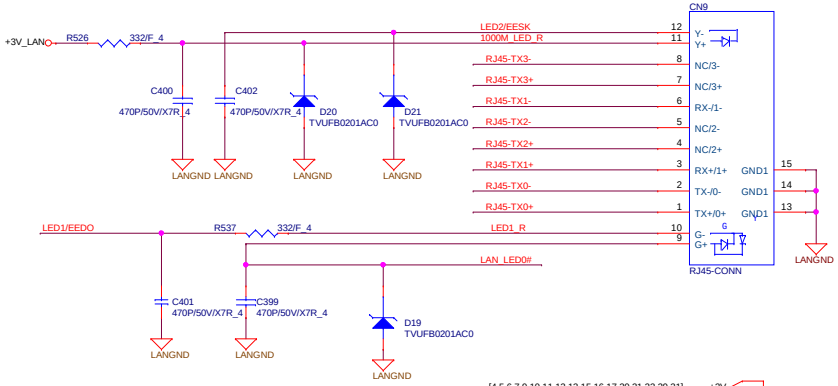








LAN Conn



[4,5,6,7,9,10,11,12,13,15,16,17,20,21,22,29,31]
[5,6,7,8,11,17,18,20,22,23,24,25,26,27,28,31]
+3V
+3V_S5

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HDD REDRIVER

[4,5,6,7,9,10,11,12,13,14,16,17,20,21,22,29,31] +3V

C364,C361,C357,C353 CLOSE TO RE-DRIVER IC

[6] SATA_TX0_P — C364 SATA@0.01U/50V/X7R_4 — SATA_TX0_P_RE — C363 EMMC@0.01U/50V/X7R_4 — SATA_TX0_P_EMMC [16]

[6] SATA_TX0_N — C361 SATA@0.01U/50V/X7R_4 — SATA_TX0_N_RE — C360 EMMC@0.01U/50V/X7R_4 — SATA_TX0_N_EMMC [16]

[6] SATA_RX0_N — C357 SATA@0.01U/50V/X7R_4 — SATA_RX0_N_RE — C356 EMMC@0.01U/50V/X7R_4 — SATA_RX0_N_EMMC [16]

[6] SATA_RX0_P — C353 SATA@0.01U/50V/X7R_4 — SATA_RX0_P_RE — C352 EMMC@0.01U/50V/X7R_4 — SATA_RX0_P_EMMC [16]

To eMMC

3 PAD DESIGN

+3V — R494 SATA@4.7K_4 — R493 *SATA@4.7K_4 — R495 *SATA@4.7K_4 — R492 *SATA@4.7K_4

HDD_A_EQ1 HDD_A_EQ2 HDD_B_EQ2 HDD_B_EQ1

R478 SATA@4.7K_4 — R477 SATA@4.7K_4 — R479 *SATA@4.7K_4 — R476 *SATA@4.7K_4

EC-PV-13

+3V — R444 *SATA@0_4S — +3V_HDD_REDRIVER

EC-PV-31

+3V_HDD_REDRIVER

C369 SATA@4.7U/6.3V/X5R_4 — C370 SATA@0.1U/16V/X7R_4 — C346 SATA@4.7U/6.3V/X5R_4 — C347 SATA@0.1U/16V/X7R_4

U25 SATA@PS8527BTQFN20GTR2-A2

VCC (6, 16) — REXT (10) U21_REXT R452 SATA@4.99K/F_4

A_EQ1 (18) HDD_A_EQ1 — A_EQ2 (19) HDD_A_EQ2 — B_EQ2 (17) HDD_B_EQ2 — B_EQ1 (20) HDD_B_EQ1

SATA_TX0_P_RE (1) IN0P — SATA_TX0_N_RE (2) IN0M — OUT0P (15) SATA_TXP0+_R [18] — OUT0M (14) SATA_TXN0-_R [18]

SATA_RX0_N_RE (4) OUT1N — SATA_RX0_P_RE (5) OUT1P — IN1N (12) SATA_RXN0-_R [18] — IN1P (11) SATA_RXP0+_R [18]

+3V R449 *SATA@10K/F_4 U21_EN — EN (7)

+3V R451 *SATA@4.7K_4 U21_A_DE — A_DE (9)

R450 *SATA@4.7K_4 U21_B_DE — B_DE (8)

GND (3, 13) — EP (22, 23, 24) — EP_AGND (21, 25)

R445 *SATA@4.7K_4 — R446 *SATA@4.7K_4

ODD REDRIVER

C373,C374,C375,C376 CLOSE TO RE-DRIVER IC

[6] SATA_TX1_P — C373 *0.01U/50V/X7R_4 — R480 0_4 — SATA_TX1_P_RE — SATA_TX1_P_CON [18]

[6] SATA_TX1_N — C374 *0.01U/50V/X7R_4 — R481 0_4 — SATA_TX1_N_RE — SATA_TX1_N_CON [18]

[6] SATA_RX1_N — C375 *0.01U/50V/X7R_4 — R482 0_4 — SATA_RX1_N_RE — SATA_RX1_N_CON [18]

[6] SATA_RX1_P — C376 *0.01U/50V/X7R_4 — R483 0_4 — SATA_RX1_P_RE — SATA_RX1_P_CON [18]

3 PAD DESIGN

+3V — R213 *0_4 — +3V_ODD_REDRIVER

+3V R508 *4.7K_4 — R506 *4.7K_4 — R510 *4.7K_4 — R496 *4.7K_4

ODD_A_EQ1 ODD_A_EQ2 ODD_B_EQ2 ODD_B_EQ1

R218 *4.7K_4 — R211 *4.7K_4 — R509 *4.7K_4 — R503 *4.7K_4

+3V_ODD_REDRIVER

C238 *4.7U/6.3V/X5R_4 — C237 *0.1U/16V/X7R_4 — C379 *4.7U/6.3V/X5R_4 — C377 *0.1U/16V/X7R_4

U27 *PS8527BTQFN20GTR2-A2

VCC (6, 16) — REXT (10) U19_REXT R222 *4.99K/F_4

A_EQ1 (18) ODD_A_EQ1 — A_EQ2 (19) ODD_A_EQ2 — B_EQ2 (17) ODD_B_EQ2 — B_EQ1 (20) ODD_B_EQ1

SATA_TX1_P_RE (1) IN0P — SATA_TX1_N_RE (2) IN0M — OUT0P (15) SATA_TXP1+_R [18] — OUT0M (14) SATA_TXN1-_R [18]

SATA_RX1_N_RE (4) OUT1N — SATA_RX1_P_RE (5) OUT1P — IN1N (12) SATA_RXN1-_R [18] — IN1P (11) SATA_RXP1+_R [18]

+3V R212 *10K/F_4 U19_EN — EN (7)

+3V R220 *4.7K_4 U19_A_DE — A_DE (9)

R216 *4.7K_4 U19_B_DE — B_DE (8)

GND (3, 13) — EP (22, 23, 24) — EP_AGND (21, 25)

R215 *4.7K_4 — R219 *4.7K_4

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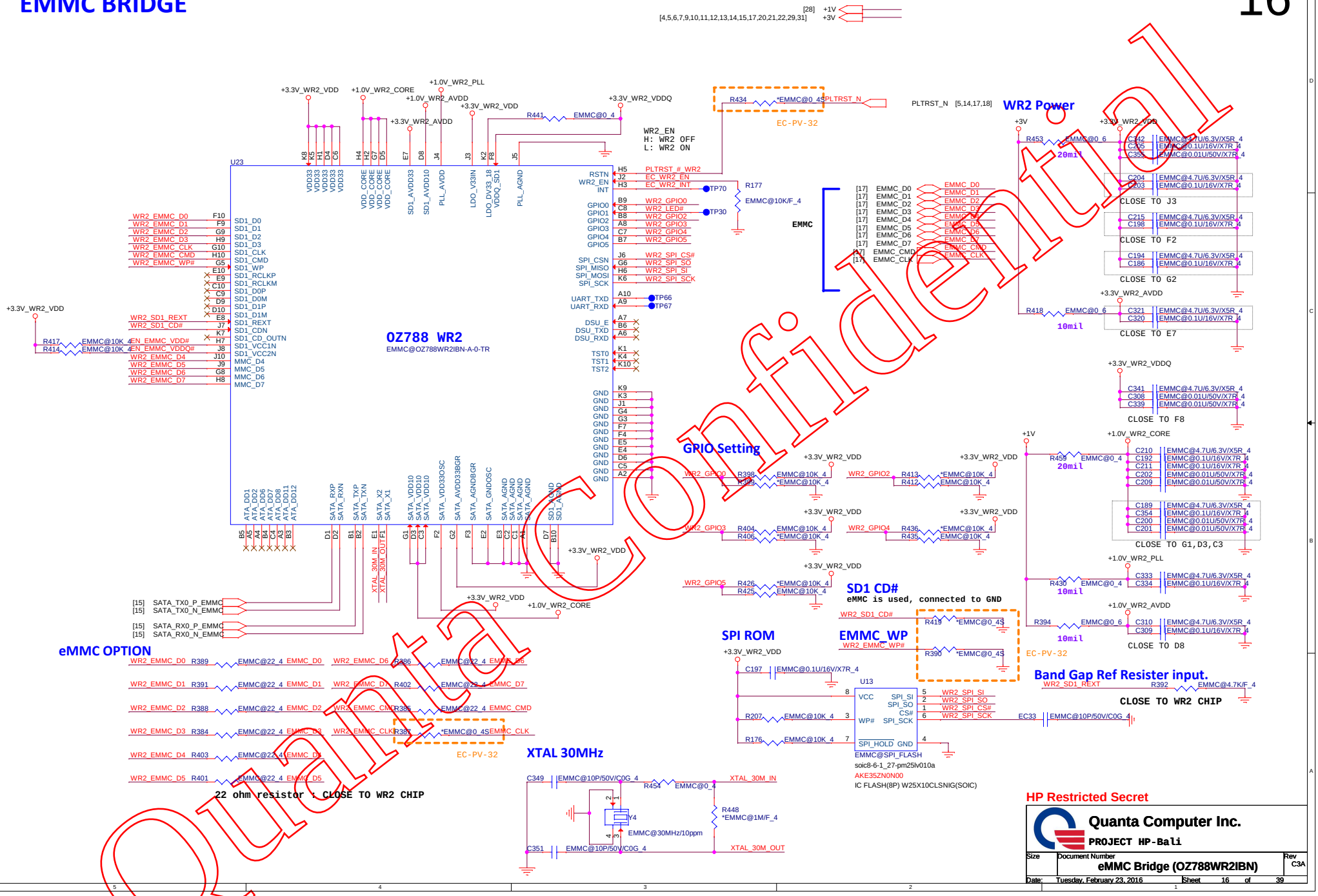
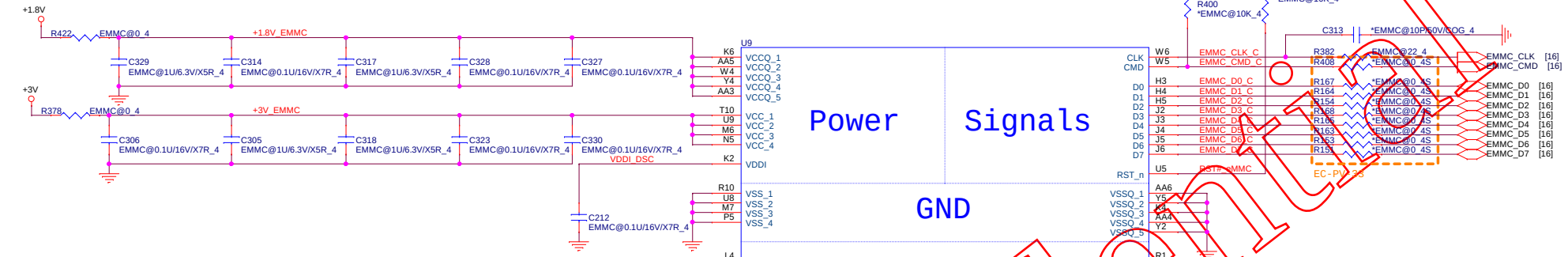
EMMC BRIDGE



eMMC

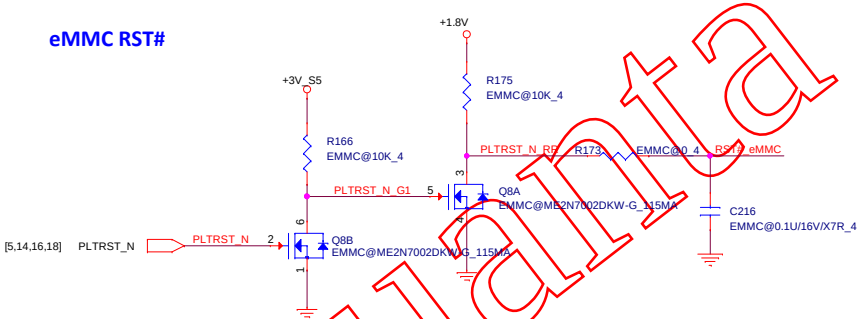


EC-SI-09

Vendor	Vendor P/N	Quanta P/N
HYNIX 32G	H26M64208EMR	AKE3SZ-TW10
Samsung 32G	KLMBG2JENB-B041	AKE3SZ0T502

Default

eMMC RST#



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Quanta Computer Inc.
PROJECT HP-Bali

Size	Document Number	Rev
	eMMC	C3A
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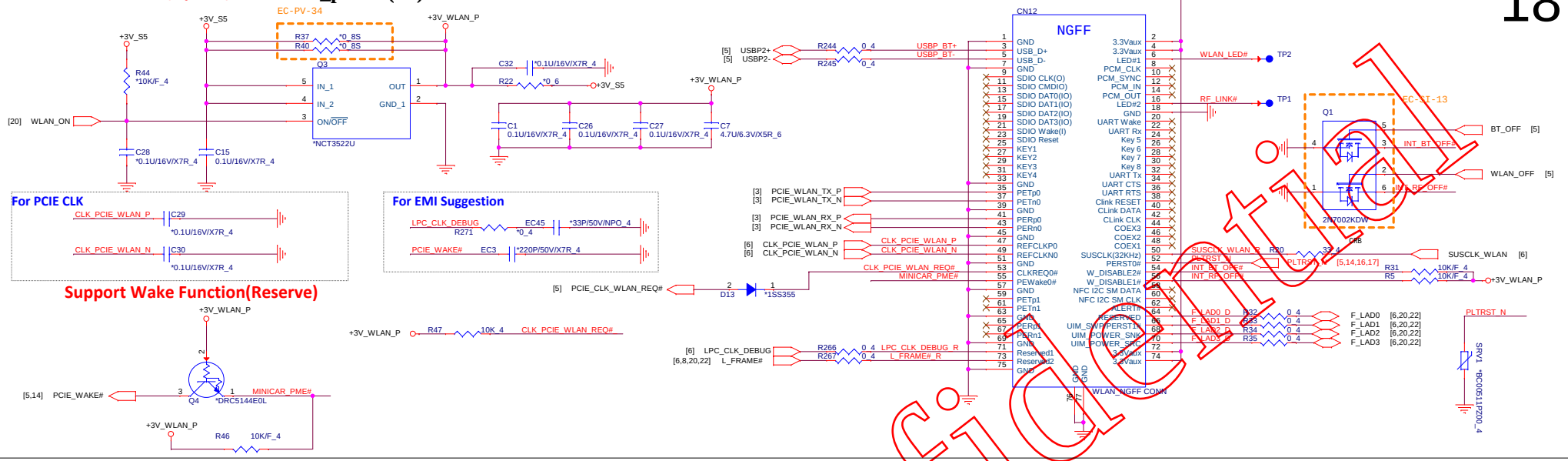
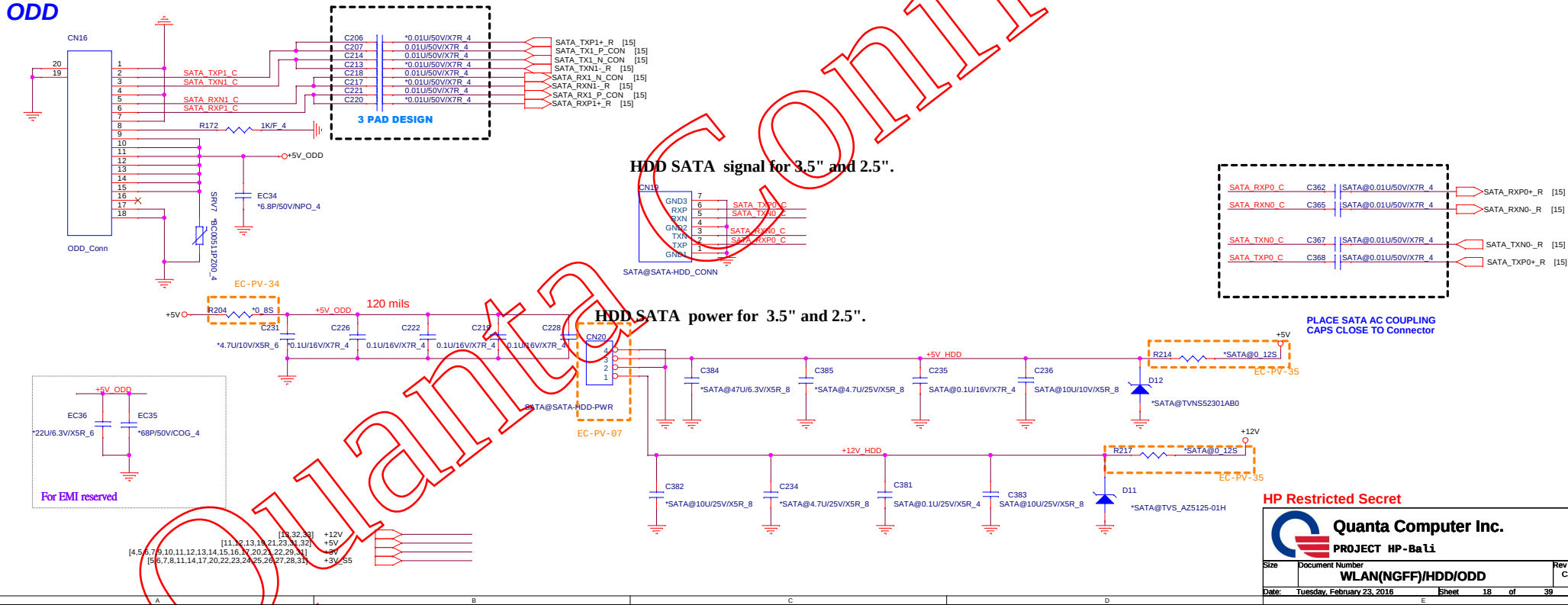
Mini Card WLAN/BT(Option) PCIe M.2_power(S5)



ODD



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Quanta Computer Inc.

PROJECT HP-Bali

Size	Document Number	Rev
	WLAN(NGFF)/HDD/ODD	C3A
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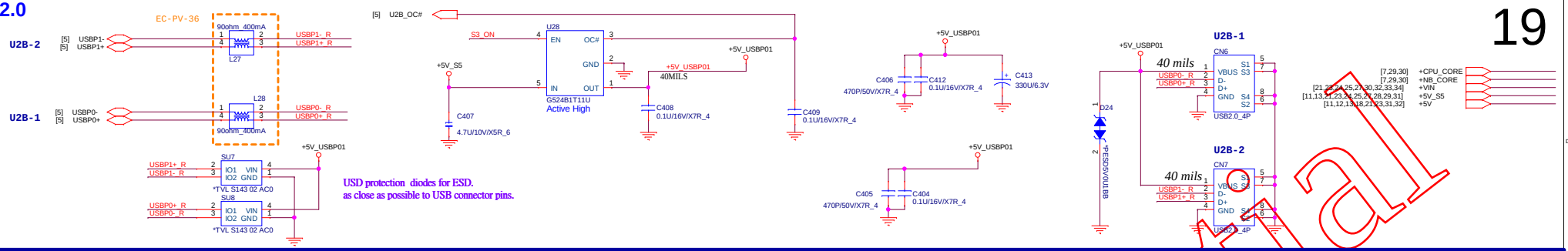
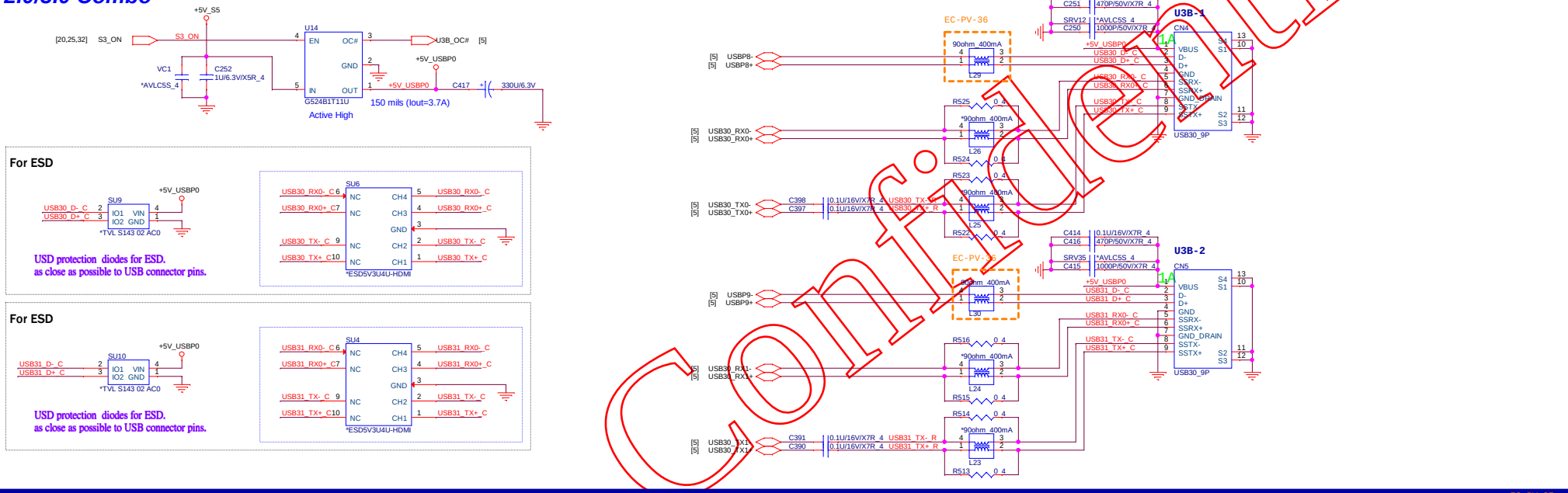
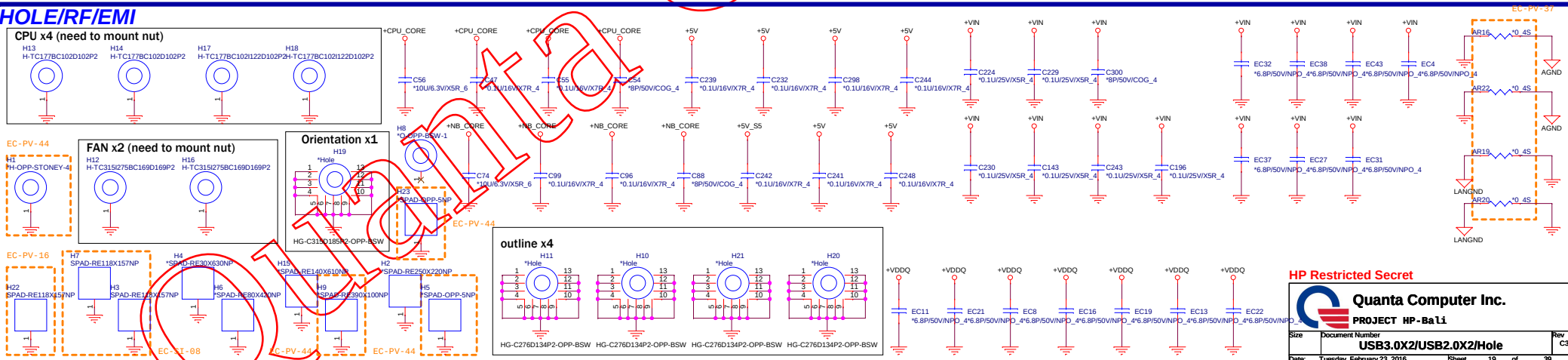
USB 2.0



USB 2.0/3.0 Combo



HOLE/RF/EMI



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Quanta Computer Inc.
PROJECT HP-Bali

Size	Document Number	Rev
	USB3.0X2/USB2.0X2/Hole	C3A
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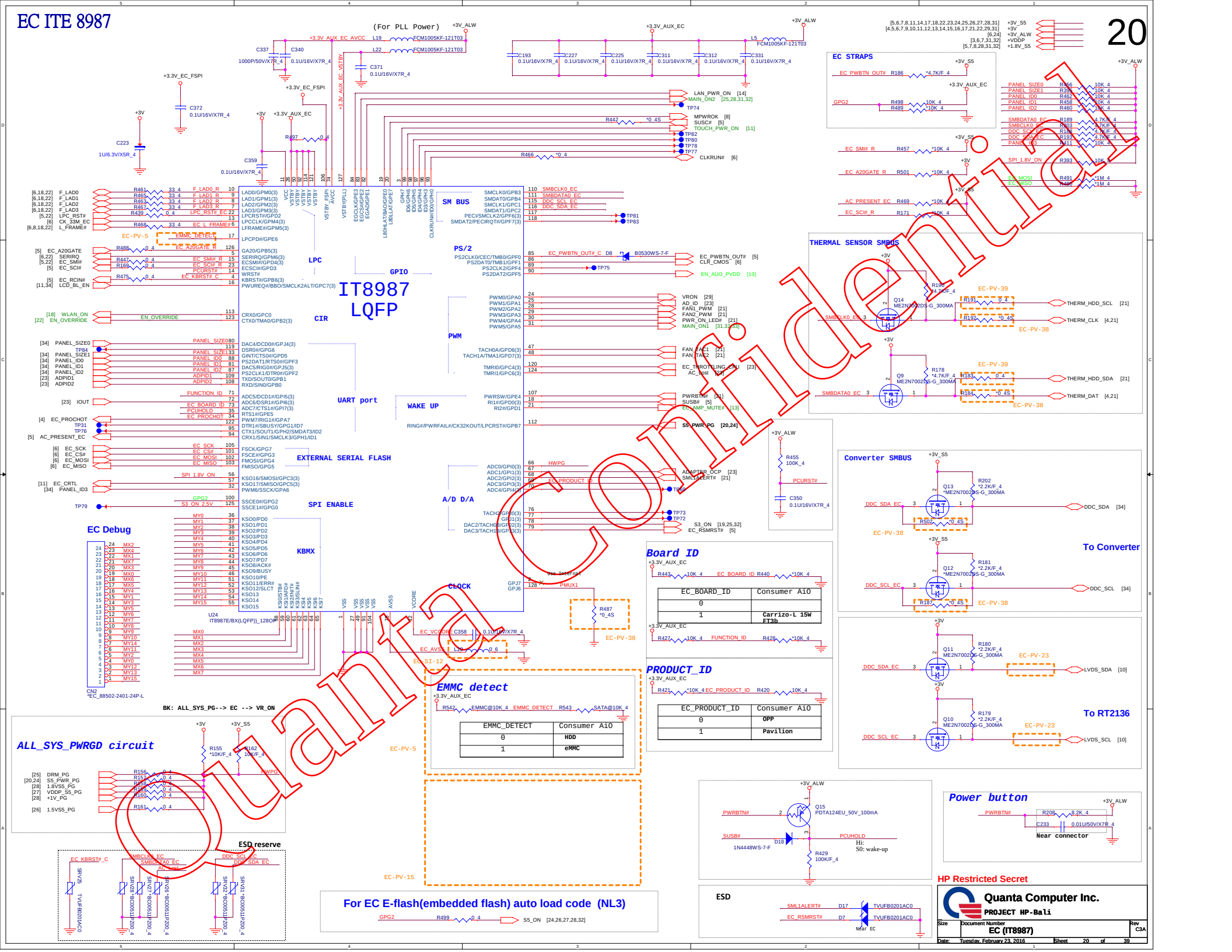
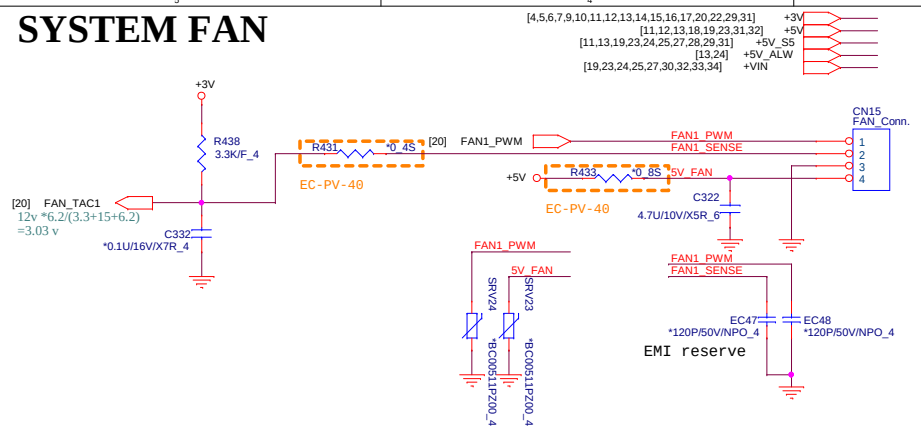
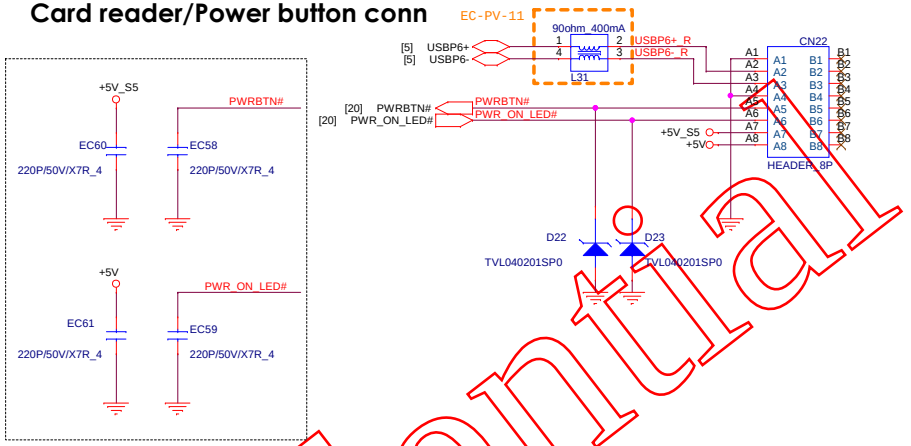
EC ITE 8987



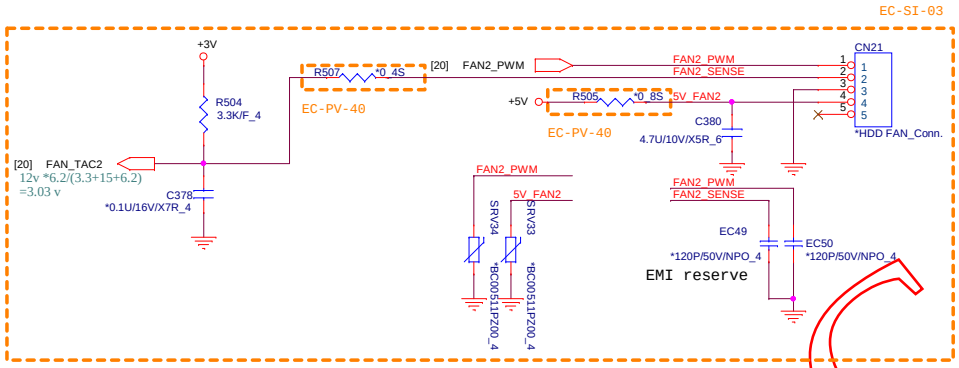
SYSTEM FAN



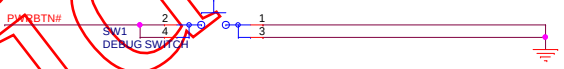
Card reader/Power button conn



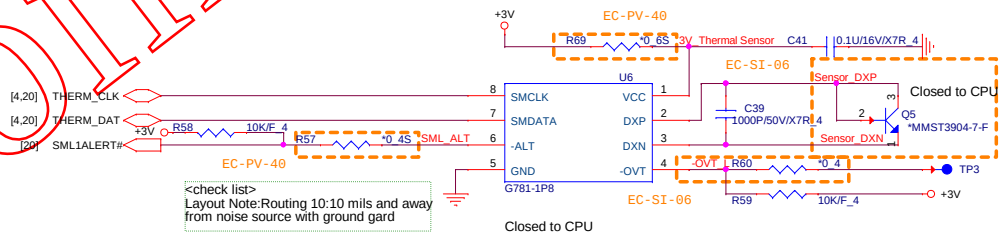
3.5" HDD FAN



SW1 For Debug.MP will remove it.

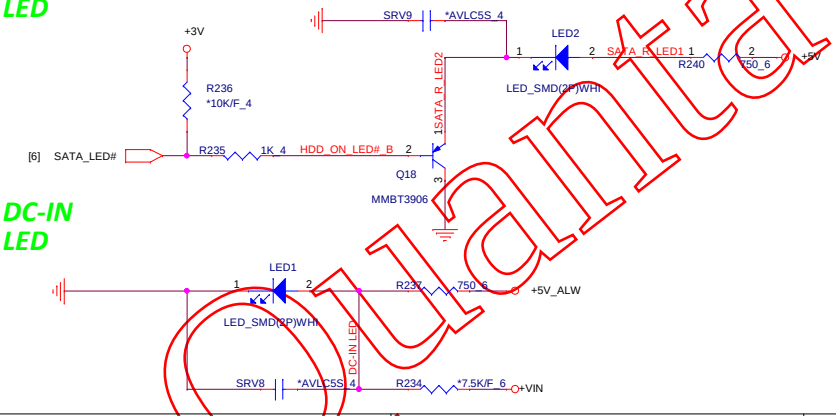


THERMAL SENSOR



LEDs

SATA LED

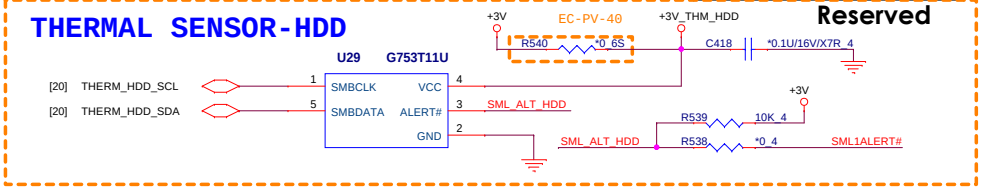


DC-IN LED

Slave Adress

A6	A5	A4	A3	A2	A1	A0
1	0	0	1	0	0	0

THERMAL SENSOR-HDD



Reserved

EC-SI-05

Ambient

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Size	Document Number	Rev
	Thermal/FAN/LEDs/Card/SW	C3A

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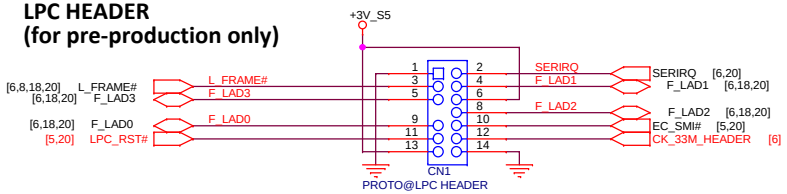
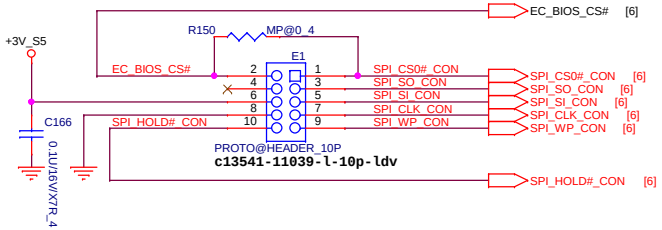
LPC HEADER
(for pre-production only)

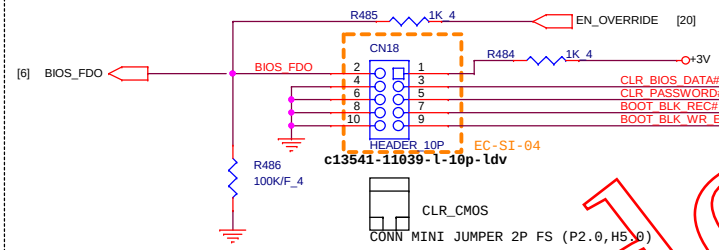


[5,6,7,8,11,14,17,18,20,23,24,25,26,27,28,31] +3V_S5
[4,5,6,7,9,10,11,12,13,14,15,16,17,20,21,29,31] +3V

ROM recovery
(for pre-production only)



MINI_JUMP_2P_FM_2.54MM_BLACK
PROTO
Pinrex 202-H71-01GU0B



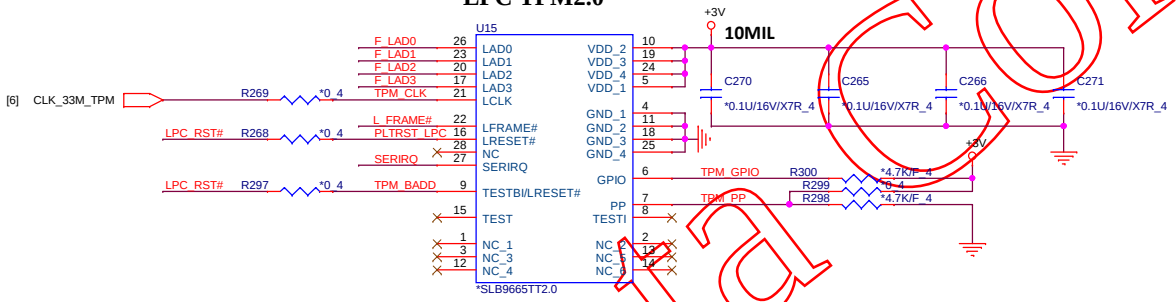
CLR_CMOS

Jumper	Pre-production	Production
BOOT_BLK_Recovery	X	X
BOOT_BLK_Enable	O	X

Jumper	Type
Pop	CLR_BIOS_DAT
Pop	CLR_PASSWD
Pop	BOOT_BLK_Recovery
Pop	BOOT_BLK_Enable

TPM2.0

LPC TPM2.0



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PROJECT HP-Bali

Size	Document Number	Rev
	TPM 2.0 / LPCHeader	C3A
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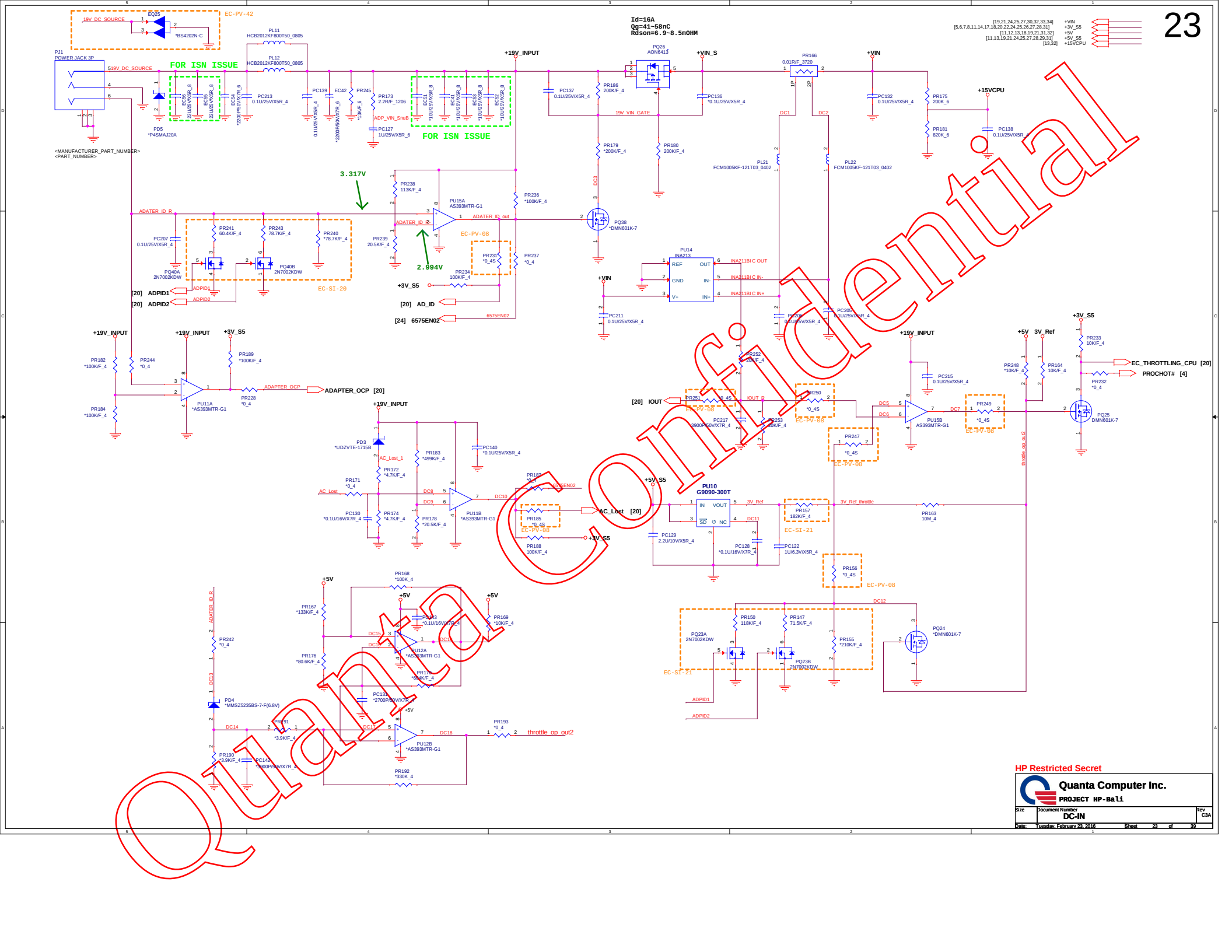
Id=16A
Qg=41~58nC
Rdson=6.9~8.5mOHM
23
FOR ISN ISSUE
FOR ISN ISSUE
+19V_INPUT
+VIN_S
+VIN
+15VCPU
3.317V
2.994V
ADAPTER_OCP [20]
EC_THROTTLING_CPU [20]
PROCHOT# [4]
AC_Lost [20]
throttle_op_out2
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Quanta Computer Inc.
PROJECT HP-Bali
DC-IN
Tuesday, February 23, 2016
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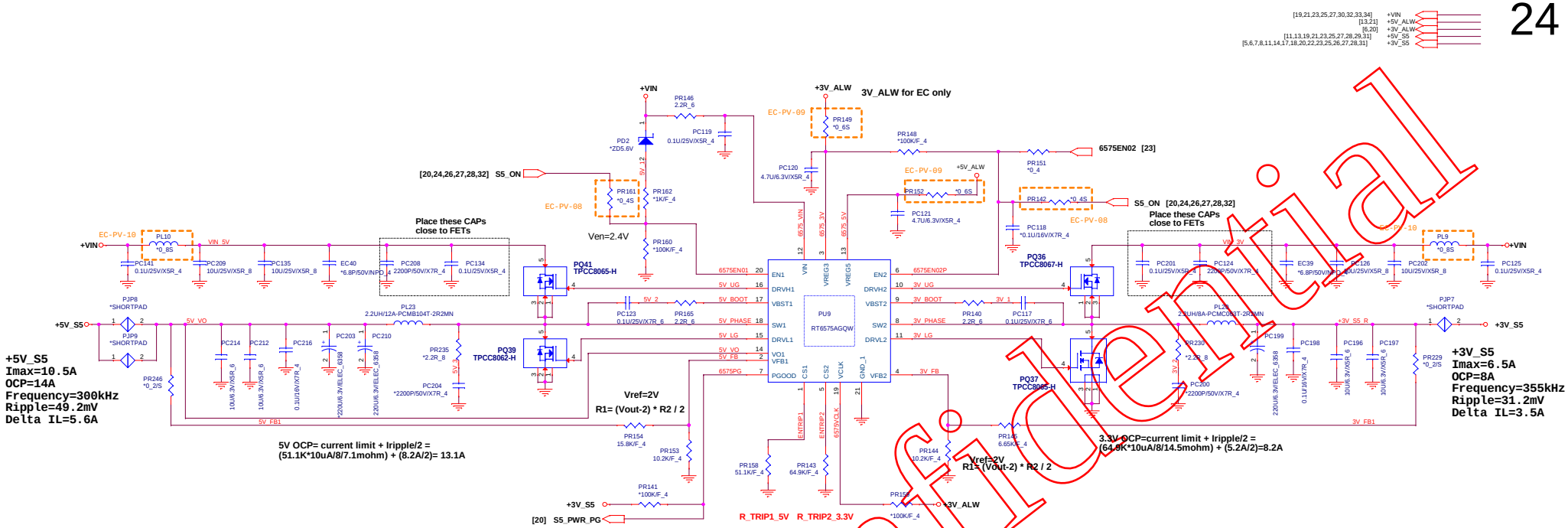
Confidential
Quanta Confidential



L/S Mosfet parameter

MOSFET	Package	ID (Ta=25C)	Rds_on_max
TPCC8065-H	DFN3x3	13A	14.5m
TPCC8062-H	DFN3x3	27A	7.1m

Power On sequencing

EN0	ENC	REF	VREG3	VREG5	SMPS1	SMPS2
LOW	LOW	OFF	OFF	OFF	OFF	OFF
> 2.4V	LOW	ON	ON	ON	OFF	OFF
> 2.4V	> 2.4V	ON	ON	ON	ON	ON

Quanta Computer Inc.
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Size	Document Number	Rev
	+3VS5/+5VS5(RT6575AGQW)	C3A

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[19,21,23,24,27,30,32,33,34] +VIN
[3,7,9,19] +VDDQ
[5,6,7,8,11,14,17,18,20,22,23,24,26,27,28,31] +3V_S5
[11,13,19,21,23,24,27,28,29,31] +5V_S5
[9,32] +0.65V_DDR_VTT

+VDDQ
Imax= 6.1 A
OCP= 7.5 A
Frequency=400kHz
Ripple=37.2mV
Delta IL=3.1A

[20] DRM_PG
[19,20,32] S3_ON
[20,28,31,32] MAIN_ON2
[9] DDR_VTTREF

PR102 *0_4S
PR105 *0_4S
PR104 *0_4
PR109 *100K/F_4
PR101 *0_4S
PR82 162K/F_4
PR106 620K/F_4
PC85 *0.1U/16V/X7R_4
PC84 *0.1U/16V/X7R_4
EC-PV-08

+3V_S5
1P35V_TON
1P35V_S3
1P35V_S5
1P35V_PGOOD
1P35V_CS

(0.7A)
+0.65V_DDR_VTT +0.75V_DDR_VTT
PR81 *0_6S
PC76 10U/6.3V/X5R_6
EC-PV-09

+SMDDR_VTERM
PEAK :0.6A

(50mA)
PR93 100/F_4
PC79 0.1U/16V/X7R_4
PC81 0.033U/10V/X7R_4
PC73 10U/6.3V/X5R_6

+1.35VSUS_S
1P35_VLDOIN
PR77 *0_6S
EC-PV-09

PU5
RT8231BGQW
VTT
VTTSNS
VTTGND
VTTREF
VLDOIN
S3
S5
PGOOD
CS
TON
UGATE
BOOT1
PHASE
LGATE
VDD
LPMB
VID
PGND
FB
VDDQ
PAD

1P35V_UGATE
1P35V_BOOT
1P35V_PHASE
1P35V_LGATE
1P35V_VDD
PR78 2.2_6
PC74 0.1U/25V/X7R_6
PR88 *0_4S
+5V_S5
EC-PV-08
PC82 1U/6.3V/X5R_4

PQ6
TPCC8067-H
PQ7
TPCC8065-H

+VIN_DDR
EC-PV-10
PL19 *0_8S
+VIN
PC186 0.1U/25V/X5R_4
PC187 4.7U/25V/X5R_8
PC67 4.7U/25V/X5R_8
EC28 *6.8P/50V/NPO_4
PC65 2200P/50V/X7R_4
PC188 0.1U/25V/X5R_4

PL4
1UH/11A(PCMC063T-1R0MN)
+1.35VSUS_S
PR70 *2.2_6
PC64 *2200P/50V/X7R_4
PR55 *0_2S
PC49 0.1U/16V/X7R_4
PC48 22U/6.3V/X5R_6
PC54 390U/2.5V/ELEC_6358
PJP1 *SHORTPAD
+VDDQ

PR84 *0_2S
PR98 *0_2S
+5V_S5
1P35V_VID
1P35V_VDD
SRV6 *BC00511PZ00_4
SRV5 *BC00511PZ00_4

1P35V_VDDQ
VO=(0.675(R1+R2)/R2)
PR96 9.76K/F_4
EC-SI-22
PR100 10K/F_4

Quanta Computer Inc.
PROJECT HP-Bali

Size	Document Number	Rev
	+VDDQ (RT8231B)	C3A

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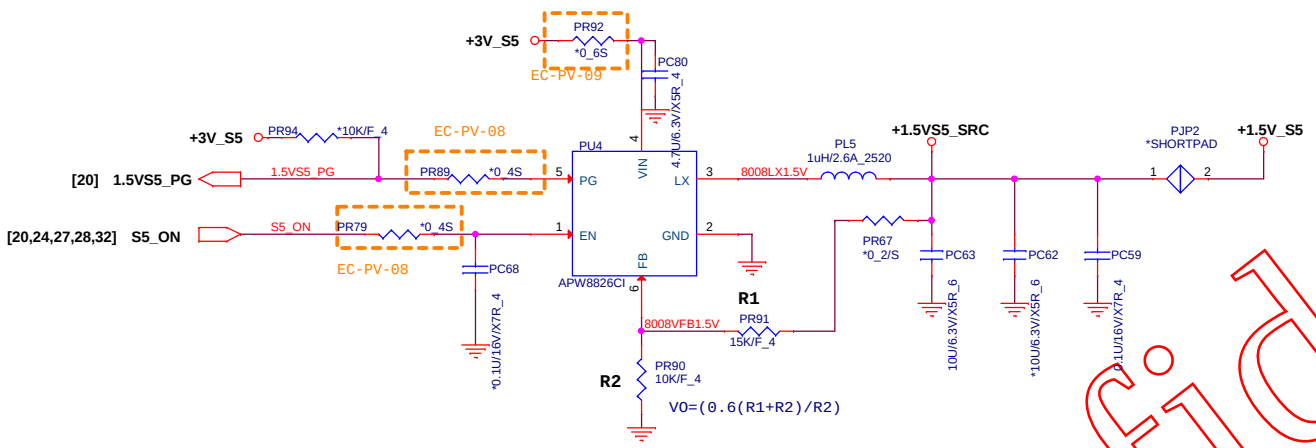
[5,6,7,8,11,14,17,18,20,22,23,24,25,27,28,31] +3V_S5
[11,13,19,21,23,24,25,27,28,29,31] +5V_S5
[19,21,23,24,25,27,30,32,33,34] +VIN



+1.5V_S5
Imax= 0.3 A
OCP=2 A
Frequency=1.5MHz
Ripple=5.5mV
Delta IL=0.5A

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PROJECT HP-Bali

Size	Document Number	Rev
	+1.5V_S5 (APW8826CI)	C3A
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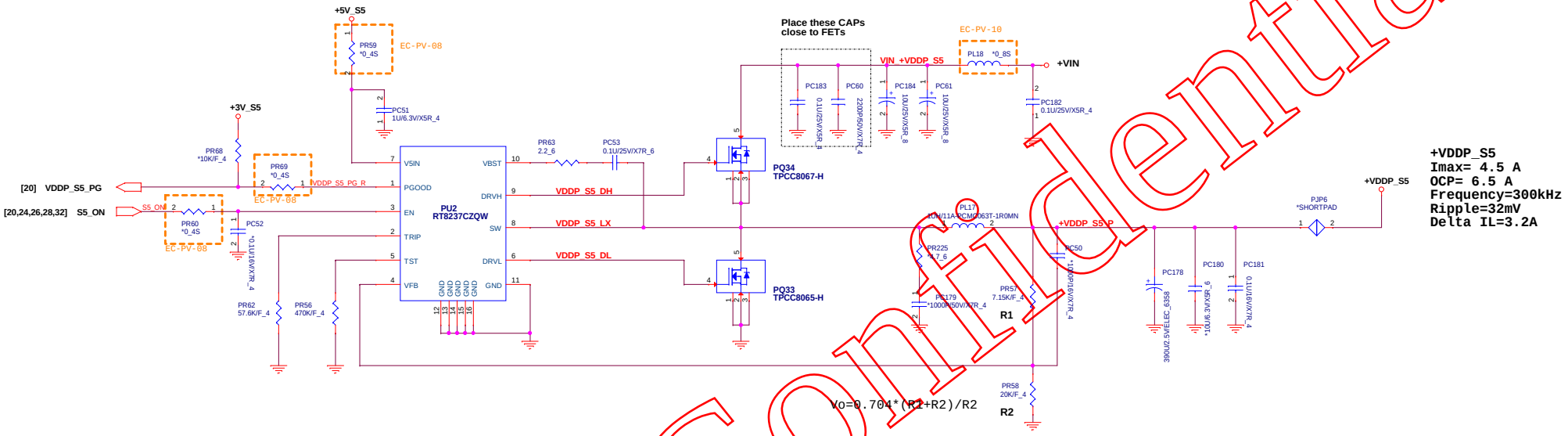
[5,6,7,8,11,14,17,18,20,22,23,24,25,26,28,31] +3V_S5
[11,13,19,21,23,24,25,28,29,31] +5V_S5
[19,21,23,24,25,30,32,33,34] +VIN
[7,31,32] +VDDP_S5



Vo=0.704*(R1+R2)/R2

+VDDP_S5
Imax= 4.5 A
OCP= 6.5 A
Frequency=300kHz
Ripple=32mV
Delta IL=3.2A

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Size	Document Number	Rev
	+VDDP_S5 (RT8237C)	C3A
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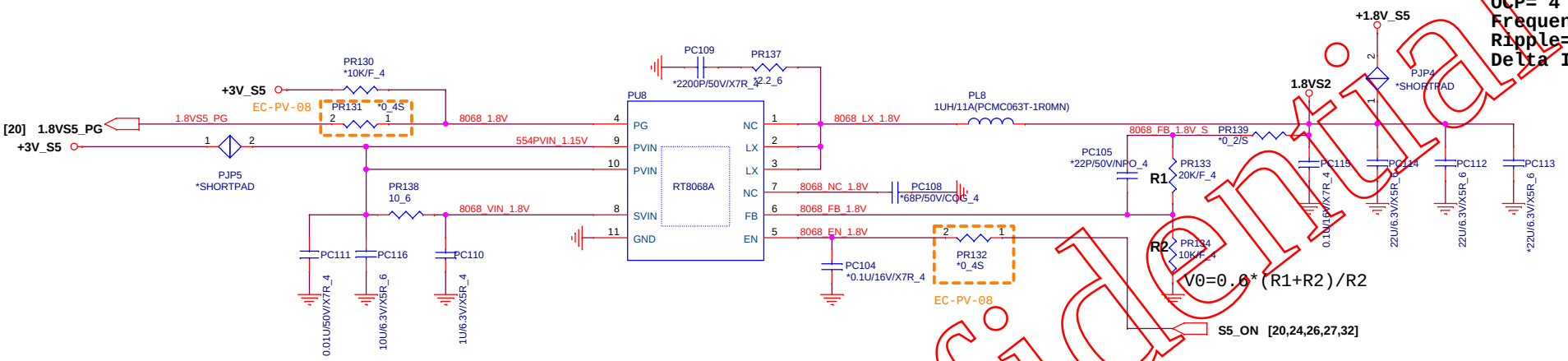
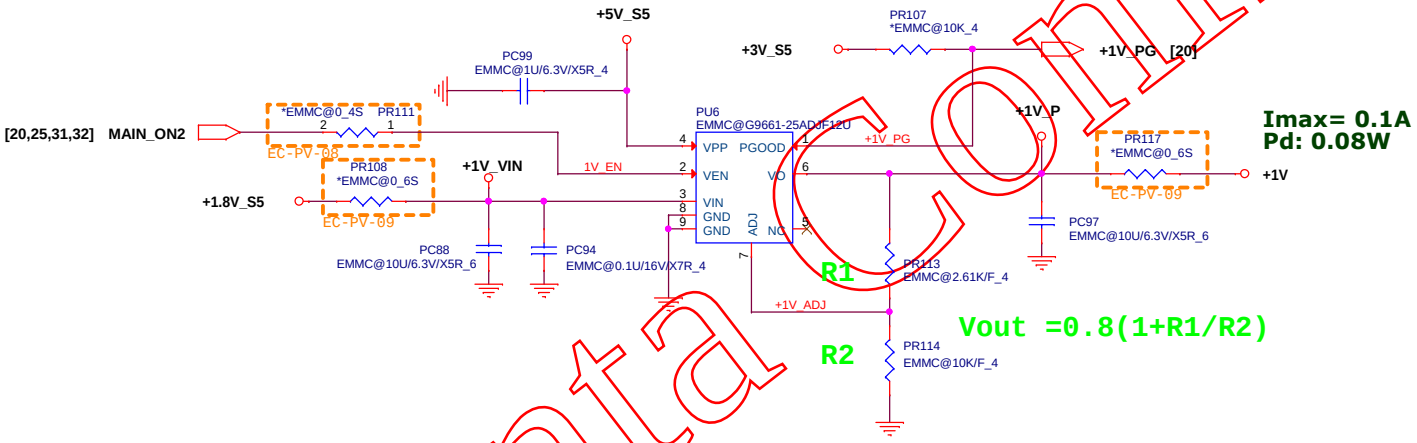
+1.8V_S5
Imax= 2.5 A
OCP= 4 A
Frequency=1MHz
Ripple=12mV
Delta IL=0.8A





[5,6,7,8,11,14,17,18,20,22,23,24,25,26,27,31] +3V_S5
[11,13,19,21,23,24,25,27,29,31] +5V_S5
[5,7,8,31,32] +1.8V_S5

[16] +1V

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Size	Document Number	Rev
	+1.8V_S5 / +1V	C3A
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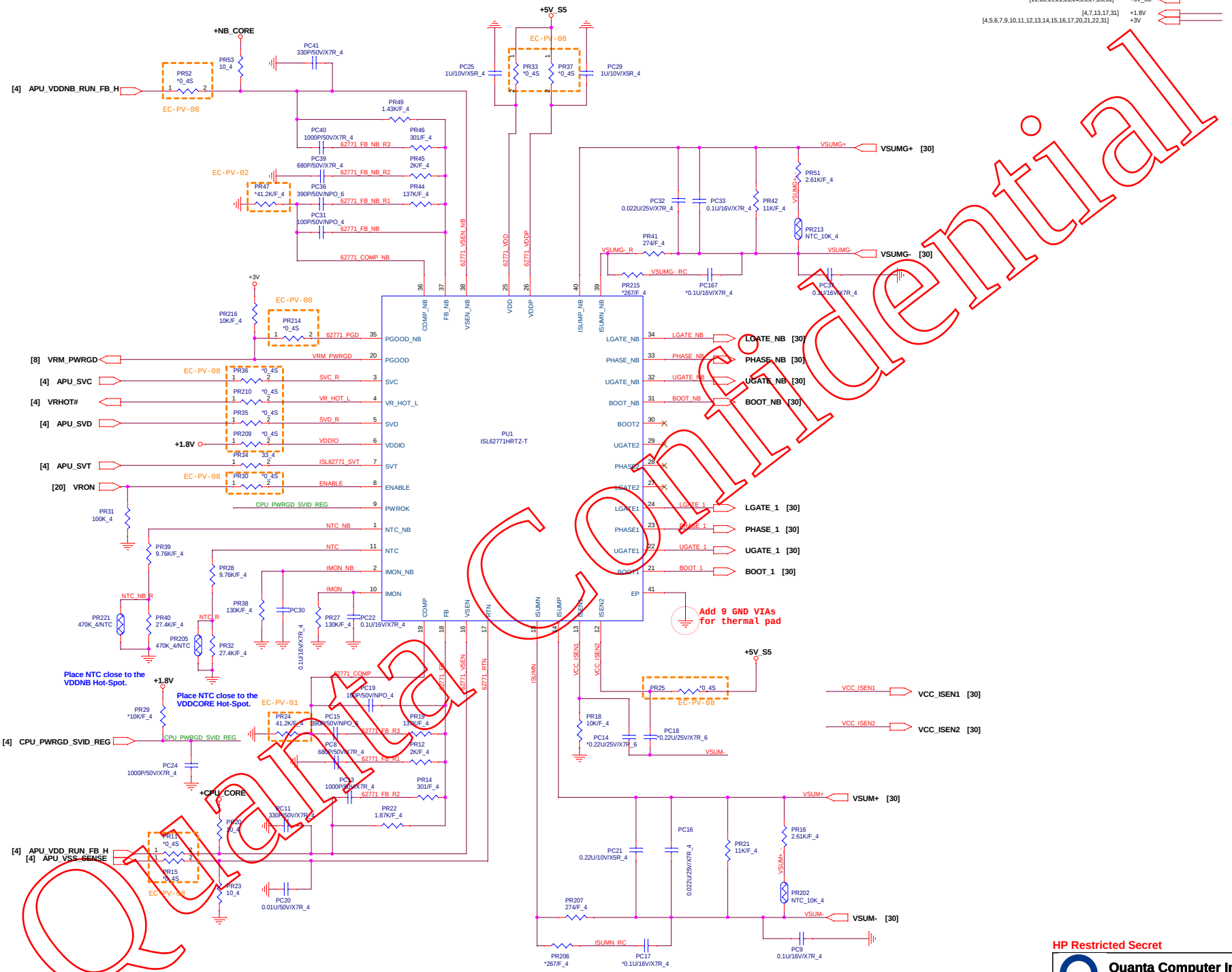
[7,19,30] +CPU_CORE
[7,19,30] +NB_CORE
[11,13,19,21,23,24,25,27,28,31] +5V_S5
[4,7,13,17,31] +1.8V
[4,5,6,7,9,10,11,12,13,14,15,16,17,20,21,22,31] +3V



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PROJECT HP-Bali

Size	Document Number	Rev
	CPU_CORE (ISL62771)	C3A

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[7,19,29] +CPU_CORE
[7,19,29] +NB_CORE
[19,21,23,24,25,27,32,33,34] +VIN

+CPU_CORE
TDC=16A
EDC=21A
OCP=26A
Frequency=300kHz
Ripple=11mV
Delta IL=8.8A
Loadline=4m

+NB_CORE
TDC=12A
EDC=15A
OCP=20A
Frequency=300kHz
Ripple=16mV
Delta IL=13.2A
Loadline=4m

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Size	Document Number	Rev
	CPU / VDDNB CORE	C3A
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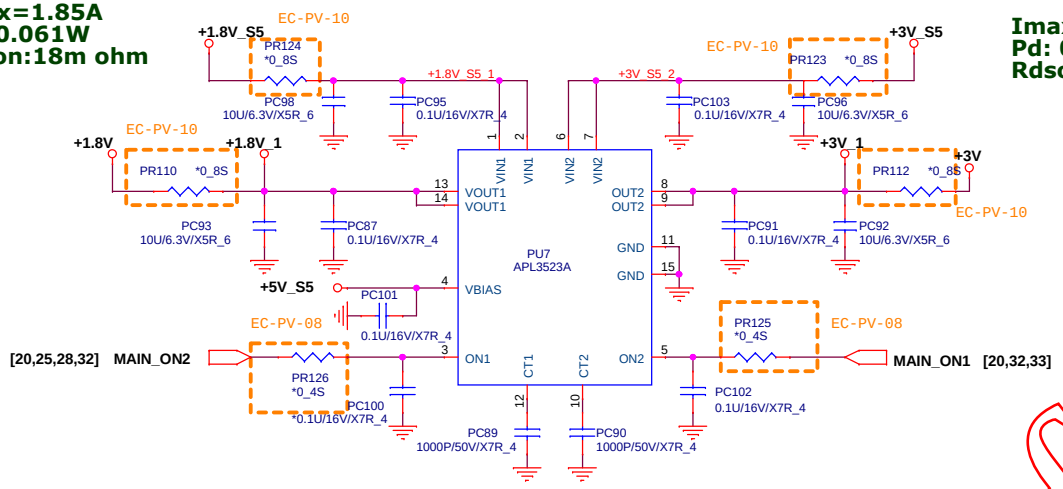
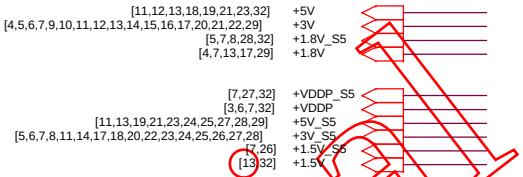
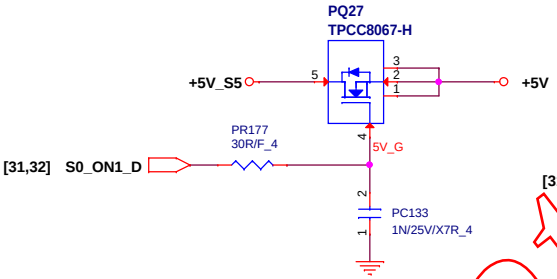
Imax=1.85A
Pd: 0.061W
Rdson:18m ohm



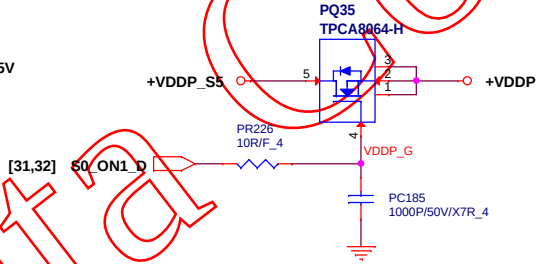
Imax=2.85A
Pd: 0.146W
Rdson:18m ohm



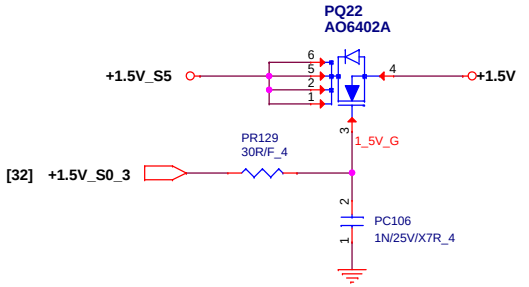
TPCC8067-H
Rdson=20m@10V Vgs
Imax=7A
Pd: 0.98W



TPCA8064-H
Rdson=6m@10V Vgs
Imax=4A
Pd: 0.096W



AO6402A
Rdson=24m@10V Vgs
Imax=0.2A
Pd: 0.001W



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	Load Switch	C3A
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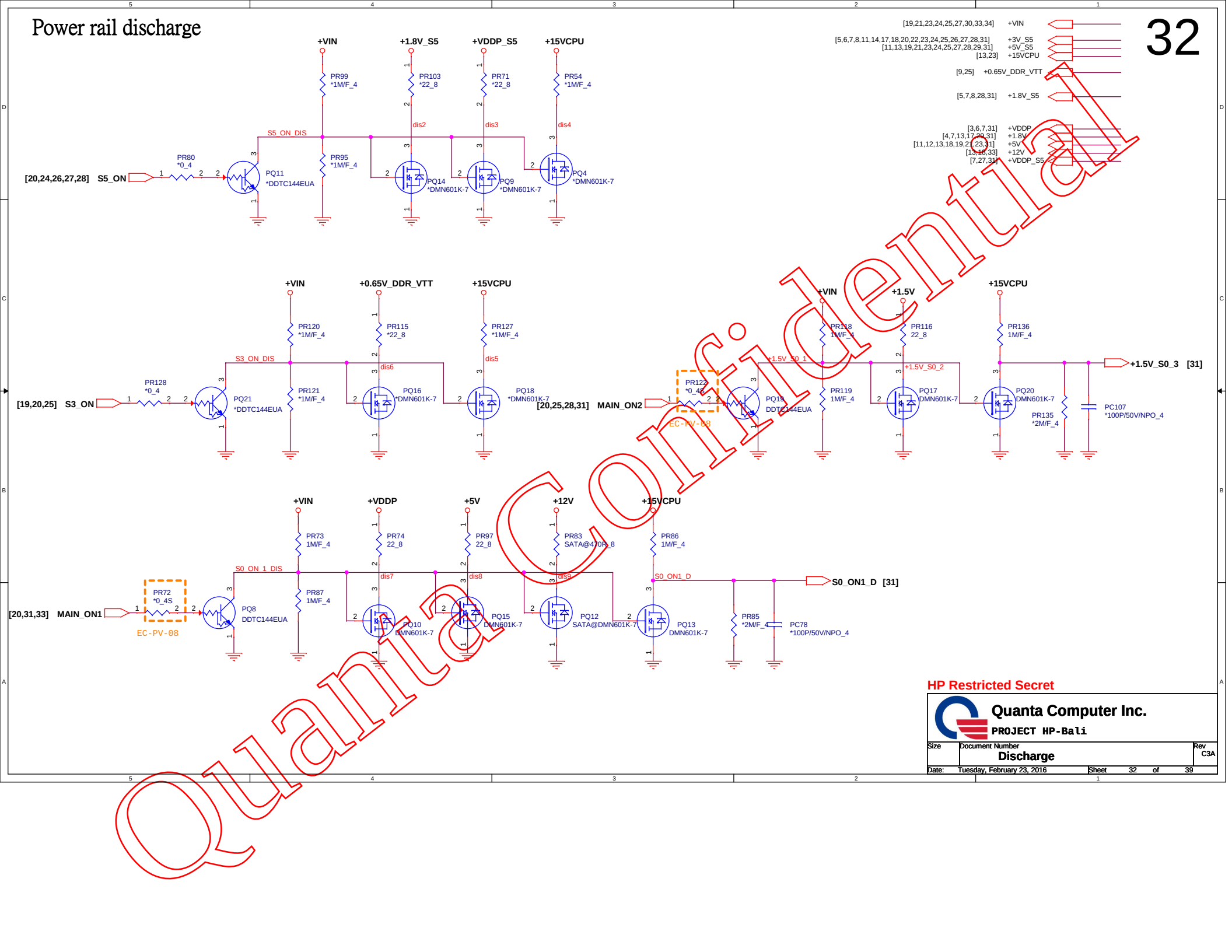
Power rail discharge



Quanta Computer Inc.		
PROJECT HP-Bali		
Size	Document Number: Discharge	Rev: C3A
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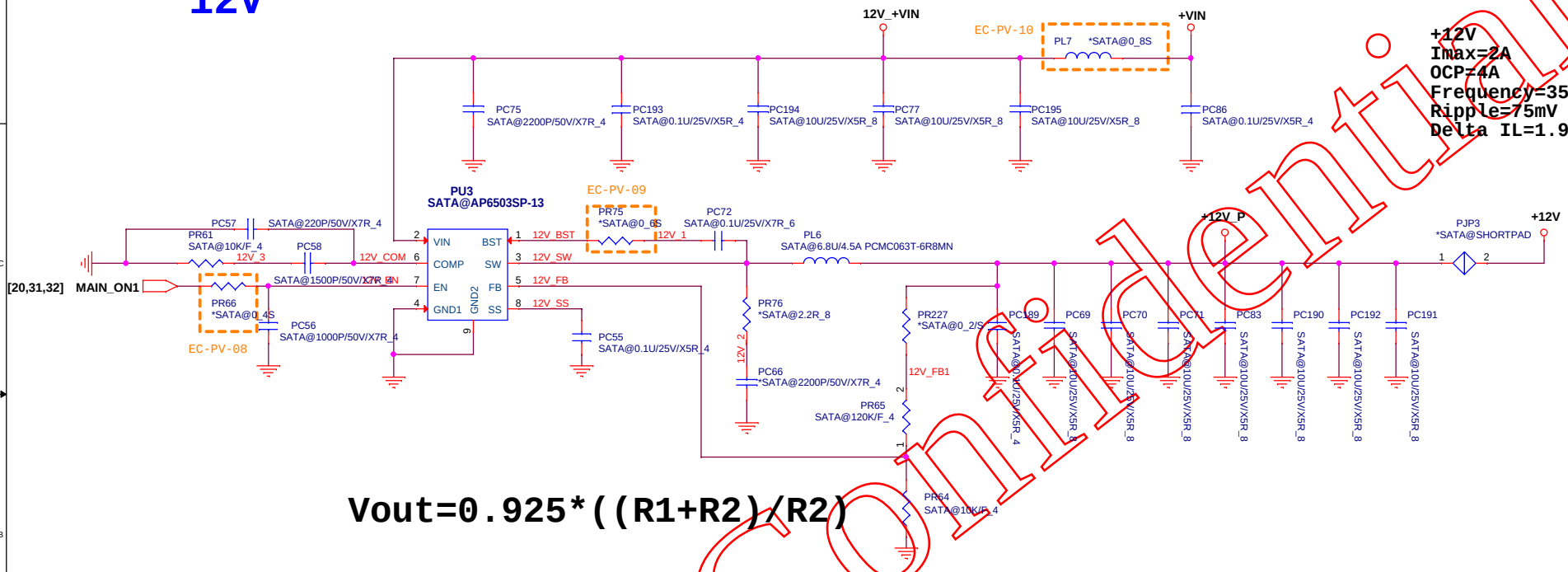
[19,21,23,24,25,27,30,32,34] +VIN
[13,18,32] +12V

12V



Vout=0.925*((R1+R2)/R2)

+12V
Imax=2A
OCP=4A
Frequency=357kHz
Ripple=75mV
Delta IL=1.9A

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	+12V	C3A
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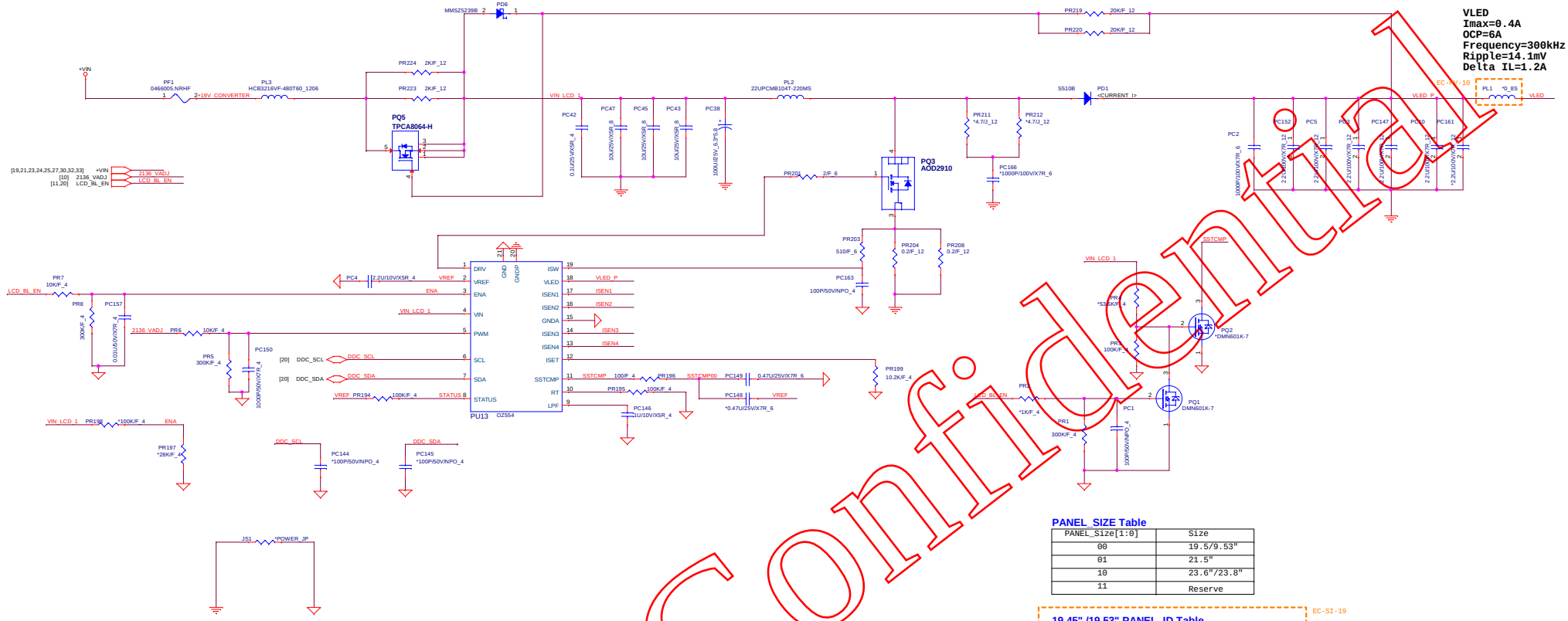

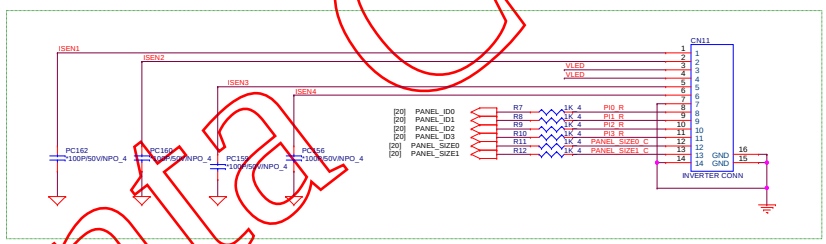

PANEL_SIZE Table

PANEL_Size[1:0]	Size
00	19.5/9.53"
01	21.5"
10	23.6"/23.8"
11	Reserve

EC-SI-19

19.45" /19.53" PANEL_ID Table

PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M195FGE_L20_CE
1101	AUO M195RTN01.0 HD+
1100	LGD LM195WD1-TLA1 HD+
1011	INX M200HJJ-L20 FHD
1010	Reserve

21.5" PANEL_ID Table

PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M215HJK-L3B FHD eDP
1101	SDC LTM215HL01 FHD
1100	LGD LM215WF3-SLN1 FHD
1011	Reserve

23.6" /23.8" PANEL_ID Table

PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M236HJK-L5B FHD eDP
1101	AUO M238HAN01.0 FHD
1100	LGD LM238WF1-SLE1 FHD
1011	SDC LTM238HL02 FHD
1010	Reserve

Panel_ID[3:0] = 1111 & Panel_Size[1:0] = 11 is reserved for cabling detection by "No connection".

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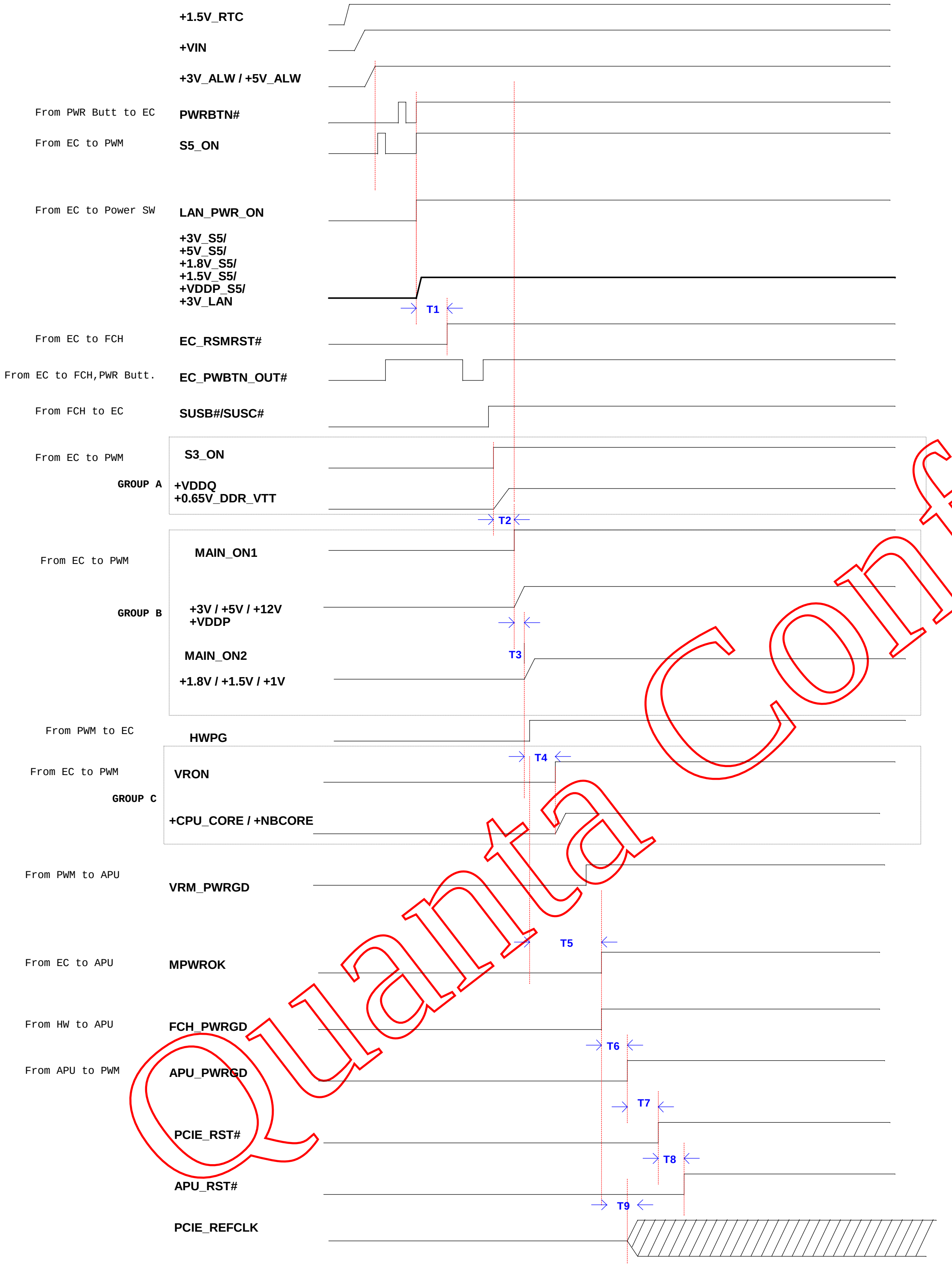
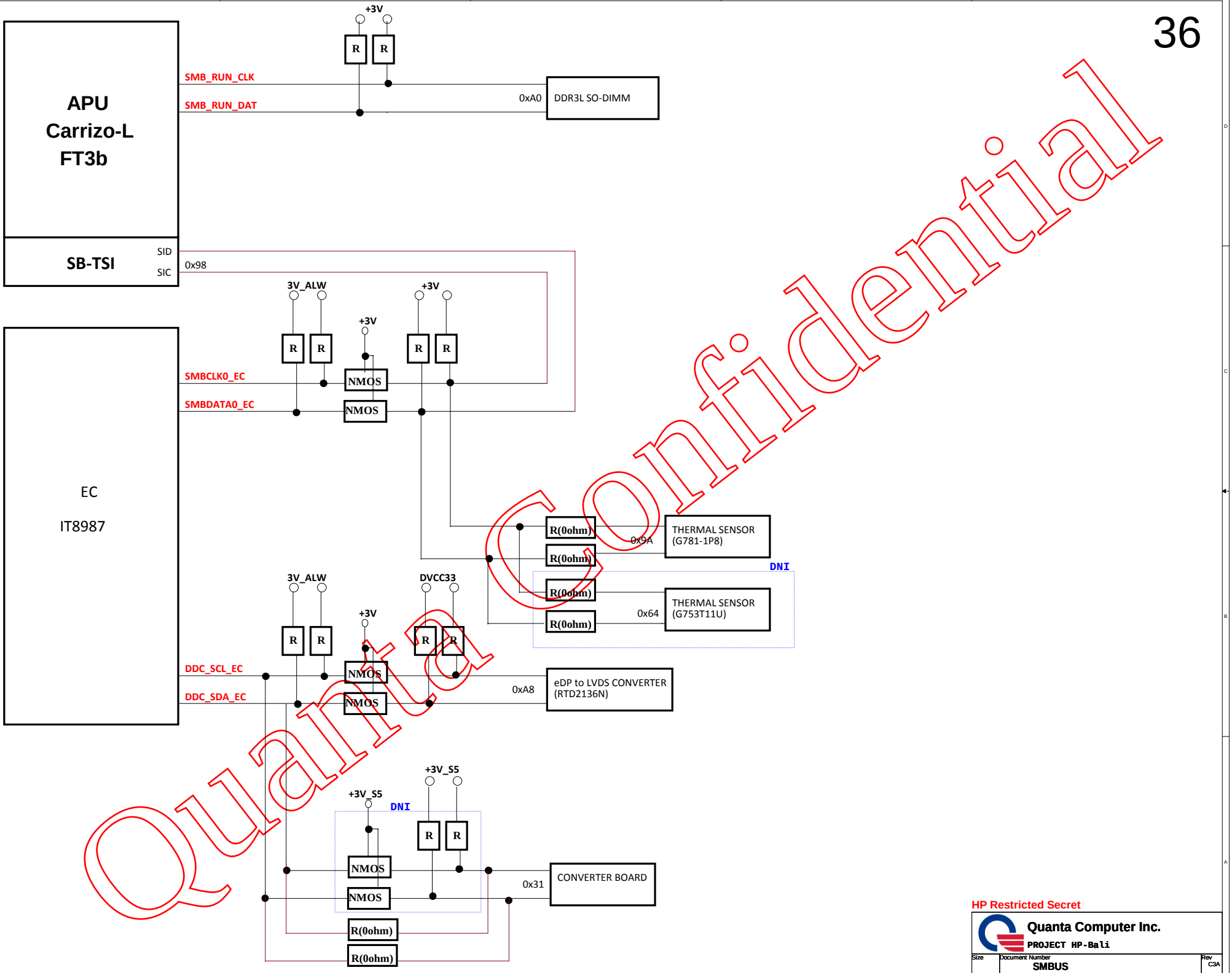


System Power Sequence

EC Control:
T1: S5_ON TO EC_RSMRST# = 20ms
T2: S3_ON TO MAIN_ON1=10ms
T3: MAIN_ON1 TO MAIN_ON2 = 1ms
T4: MAIN_ON2 TO VRON = 10ms
T5: HWPG TO MPWROK =99ms

Timing spec:
T1 Spec:10ms min
Power Up Spec:
Group A > Group B > Group C
T6: FCH_PWRGD TO APU_PWRGD = 108.6~118.6 ms
T7: APU_PWRGD TO PCIE_RST# = 114.2~124.2 ms
T8: PCIE_RST# TO APU_RST# = 111.9~121.9 ms
T9: FCH_PWRGD TO PCIE_REFCLK = 37.6~47.6 ms



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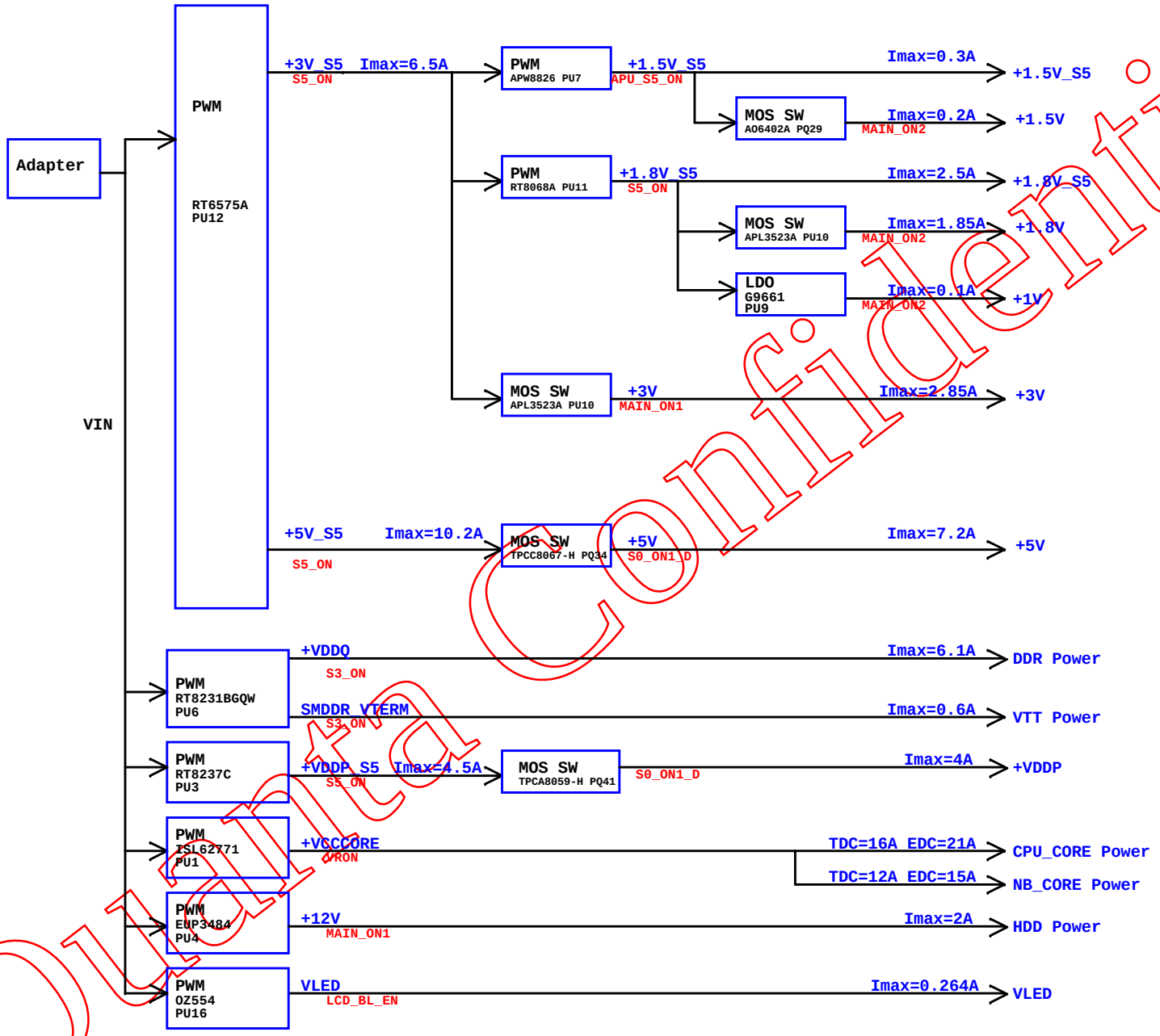
Power Delivery Map



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	Power Delivery Map	C3A
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Blai EE Schematic DB to SI version

EC #	Page	Description	Part Affected
EC-SI-01	6	Stuff R146 and unStuff R145 for Board ID0.	R146, R145
EC-SI-02	13	AU1 change Quanta P/N to AL003252001.	AU1
EC-SI-03	21	Stuff R504, R505, R507, C380 for Second FAN control.	R504, R505, R507, C380
EC-SI-04	22	CN18 change Quanta P/N to DFHD10MS257.	CN18
EC-SI-05	21	Stuff U29, R539, R540 for Ambientl sensor.	U29, R539, R540
EC-SI-06	21	Unstuff Q5, R60 for Thermal sensor.	Q5, R60
EC-SI-07	6	Unstuff U19 and Stuff U18 for BIOS ROM.	U19, U18
EC-SI-08	19	Stuff H3, H7 for EMI.	H3, H7
EC-SI-09	17	U9 eMMC chip change Quanta P/N to AKE3SZ-TW10 for Hynix 32G and AKE3SZ0T502 for Samsung 32G.	U9
EC-SI-10	14	Stuff Q16, Q17 for Surge.	Q16, Q17
EC-SI-11	13	AL5, AL6 change to 0 ohm for Realtek suggestion.	AL5, AL6
EC-SI-12	20	L20 change to 0 ohm for EC.	L20
EC-SI-13	18	Q1 change Quanta P/N to BAM70020047.	Q1
EC-SI-14	11	Q2 change Quanta P/N to BAM70020047.	Q2
EC-SI-15	8	D15 change to RB500V-40.	D15
EC-SI-16	11	R270, R272 change Quanta P/N to CX5AG221104.	R270, R272
EC-SI-17	11	CN14 change Quanta P/N to DFHD06MS151.	CN14
EC-SI-18	11	CN13 change Quanta P/N to DFHD05MS093.	CN13
EC-SI-19	34	Update PANEL ID Table.	
EC-SI-20	23	Unstuff PR240 and Stuff PQ40,PR241,PR243 for Smart Adapter ID pin setting.	PR240, PQ40, PR241, PR243
EC-SI-21	23	Unstuff PR155 and Stuff PQ23,PR147,PR150 and PR157 change to 182Kohm for Smart Adapter ID pin setting.	PR155, PQ23, PR147, PR150, PR157
EC-SI-22	25	PR96 change to 9.76K for r +VDDQ output voltage adjust.	PR96

Blai EE Schematic SI to PV version

EC #	Page	Description	Part Affected
EC-PV-01	30	+CPU_CORE Add PC220, PC224, PC218, PC219, PC221, PC222, PC223, PC232, PC233 ,PR24 for Stardust test.	PC220, PC224, PC218, PC219, PC221, PC222, PC223, PC232, PC233, PR24
EC-PV-02	29,30	+NB_CORE Stuff PC35, Add PC231, PC225, PC227, PC228, PC229, PC230 for Stardust test.	PC35, PC231, PC225, PC227, PC228, PC229, PC230
EC-PV-03	6	Y3 change Quanta P/N to BG3327680A8.	Y3
EC-PV-04	11	Add R541 and R544 for Touch screen.	R541, R544
EC-PV-05	20	Add R542, R543 for eMMC detect.	R542, R543
EC-PV-06	6	Stuff R145 and unStuff R146 for Board ID0, Stuff R359 and unStuff R350 for Board ID1	R145, R146, R359, R350
EC-PV-07	18	Change CN20 footprint.	CN20
EC-PV-08	23~34	Change footprint R0402 0R to S0402 shortpad.	
EC-PV-09	23~34	Change footprint R0603 0R to S0603 shortpad.	
EC-PV-10	23~34	Change footprint R0805 0R to S0805 shortpad.	
EC-PV-11	21	Remove R531, R536 and Stuff L31 for EMI.	L31
EC-PV-12	11	Remove R278, R279.	
EC-PV-13	15	Stuff R477, R478, R494 for SATA redriver vendor suggest.	R477, R478, R494
EC-PV-14	5	U17 pin3 change connect to GND, pin5 change connect to +3V_S5.	U17
EC-PV-15	20	Remove EC share ROM R432, R383, R379, R377, R405, U21, R376, C302.	
EC-PV-16	19	Add H22 for EMI.	H22
EC-PV-17	4	R70, R81, R281, R282, R277 change footprint R0402 0R to S0402 shortpad.	R70, R81, R281, R282, R277
EC-PV-18	5	R361 change footprint R0402 0R to S0402 shortpad.	R361
EC-PV-19	6	R363 change footprint R0402 0R to S0402 shortpad.	R363
EC-PV-20	5	Remove R121, R122, Add TP85 .	TP85
EC-PV-21	8	R338 change footprint R0402 0R to S0402 shortpad.	R338
EC-PV-22	9	R365, R372 change footprint R0402 0R to S0402 shortpad.	R365, R372
EC-PV-23	20	Remove R182, R185.	
EC-PV-24	10	Unstuff R30, R43	R30, R43
EC-PV-25	11	R270, R272 change to CX301T03000	R270, R272
EC-PV-26	12	R205, R206, R470, R472, R473, R500 change footprint R0402 0R to S0402 shortpad.	R205, R206, R470, R472, R473, R500
EC-PV-27	13	AL11, AL16, AL2, AR2 change footprint R0603 0R to S0603 shortpad.	AL11, AL16, AL2, AR2
EC-PV-28	13	AR32 change footprint change footprint R0402 0R to S0402 shortpad.	AR32
EC-PV-29	14	R521, R520 change footprint change footprint R0805 0R to S0805 shortpad.	R521, R520
EC-PV-30	14	R407 change footprint change footprint R0603 0R to S0603 shortpad.	R407
EC-PV-31	15	R444 change footprint change footprint R0402 0R to S0402 shortpad.	R444
EC-PV-32	16	R434, R419, R390, R387 change footprint change footprint R0402 0R to S0402 shortpad.	R434, R419, R390, R387
EC-PV-33	17	R408, R167, R164, R154, R168, R165, R163, R153, R151 change footprint change footprint R0402 0R to S0402 shortpad.	R408, R167, R164, R154, R168, R165, R163, R153, R151
EC-PV-34	18	R37, R40, R204 change footprint change footprint R0805 0R to S0805 shortpad.	R37, R40, R204
EC-PV-35	18	R214, R217 change footprint change footprint R1206 0R to S1206 shortpad.	R214, R217
EC-PV-36	19	Remove R527, R528, R529, R530, R533, R532, R534, R535	
EC-PV-37	19	AR16, AR22, AR19, AR20 change footprint change footprint R0402 0R to S0402 shortpad.	AR16, AR22, AR19, AR20
EC-PV-38	20	R487, R502, R187, R192, R184 change footprint change footprint R0402 0R to S0402 shortpad.	R487, R502, R187, R192, R184
EC-PV-39	20	Stuff R191, R183 for HDD ambient sensor.	R191, R183
EC-PV-40	21	R431, R433, R507,R505, R540, R57, R69 change footprint change footprint to shortpad.	R431, R433, R507,R505, R540, R57, R69
EC-PV-41	9	R54, R56, R108 change footprint change footprint to shortpad.	R54, R56, R108
EC-PV-42	39	Reserve EQ25 for EMC.	EQ25
EC-PV-43	14	Add R545, R546 for EMC.	R545, R546
EC-PV-44	19	H1, H5, H9 change footprint and add H23 for EMC.	