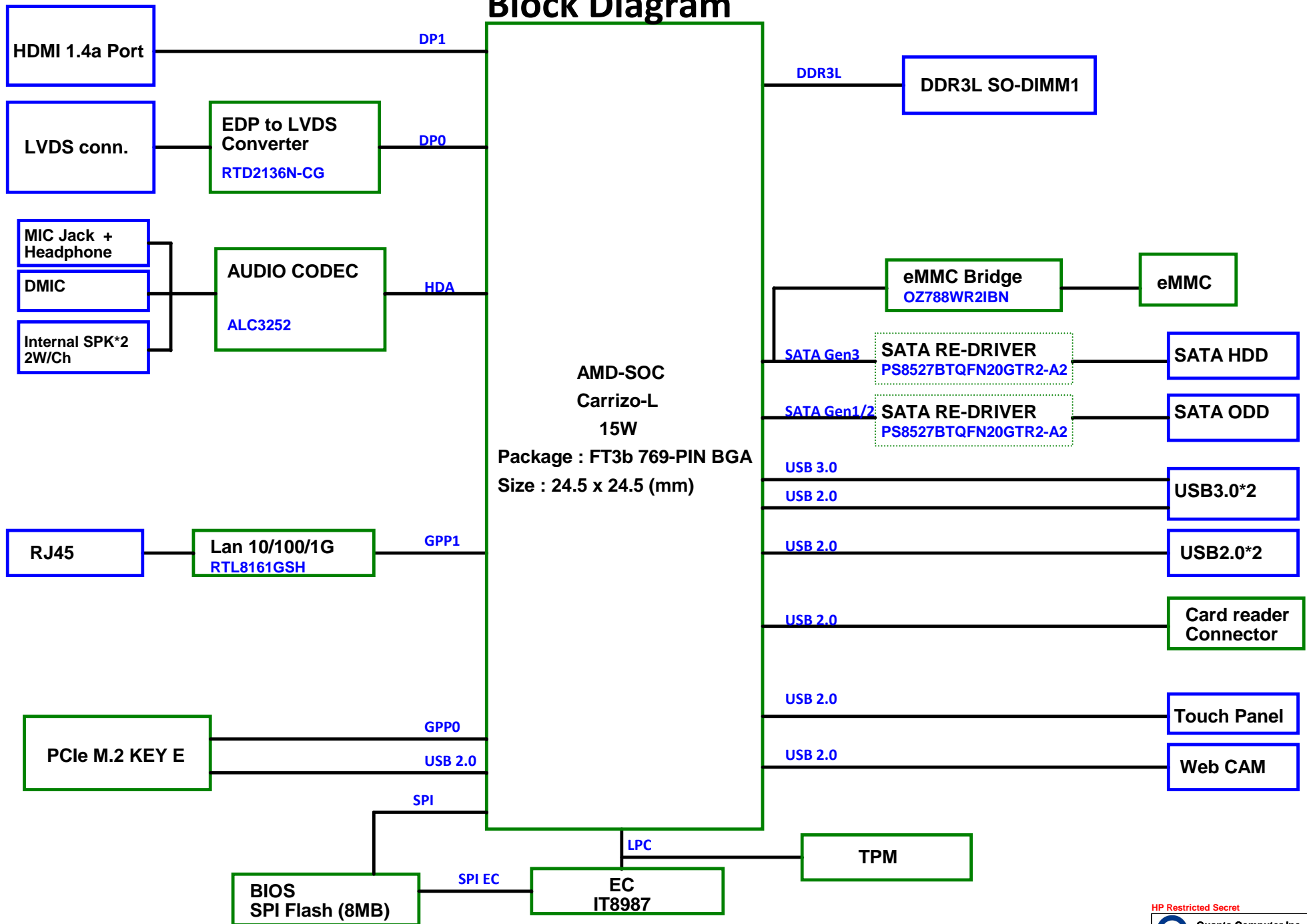


Block Diagram



www.schematic-x.blogspot.com

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08	APU- STRAP
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10	LVDS converter RTD2136
11	LCD CONN / CCD / TouchPanel
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13	Audio Codec(ALC3252)
14	RTL8161/RJ45
15	SATA RE-DEIVER
16	eMMC Bridge(OZ788)
17	eMMC
18	WLAN(NGFF) / HDD / ODD
19	USB3.0X2 / USB2.0X2 / Hole
20	EC (IT8987)
21	Thermal / FAN / LEDs / Card / SW
22	TPM2.0 / LPCHeader
23	POWER DC-IN
24	POWER +3VS5 / +5VS5 (RT6575AGQW)
25	POWER +VDDQ (RT8231B)
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27	POWER +VDDP_S5 (TPSS51211)
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29	POWER CPU_CORE (ISL62771)
30	POWER CPU / VDDNB CORE
31	POWER Load switch
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37	Power Delivery Map
38	
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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

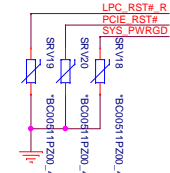
***Board ID by manual control

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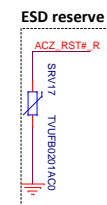
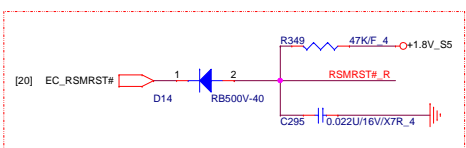
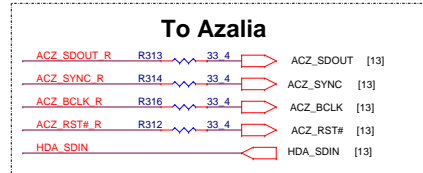
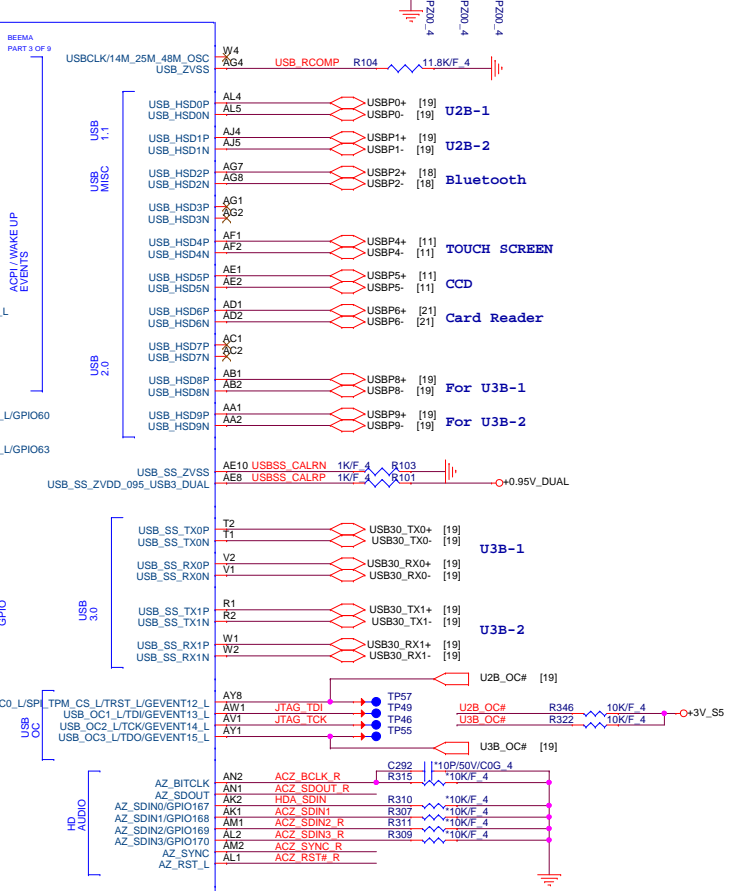
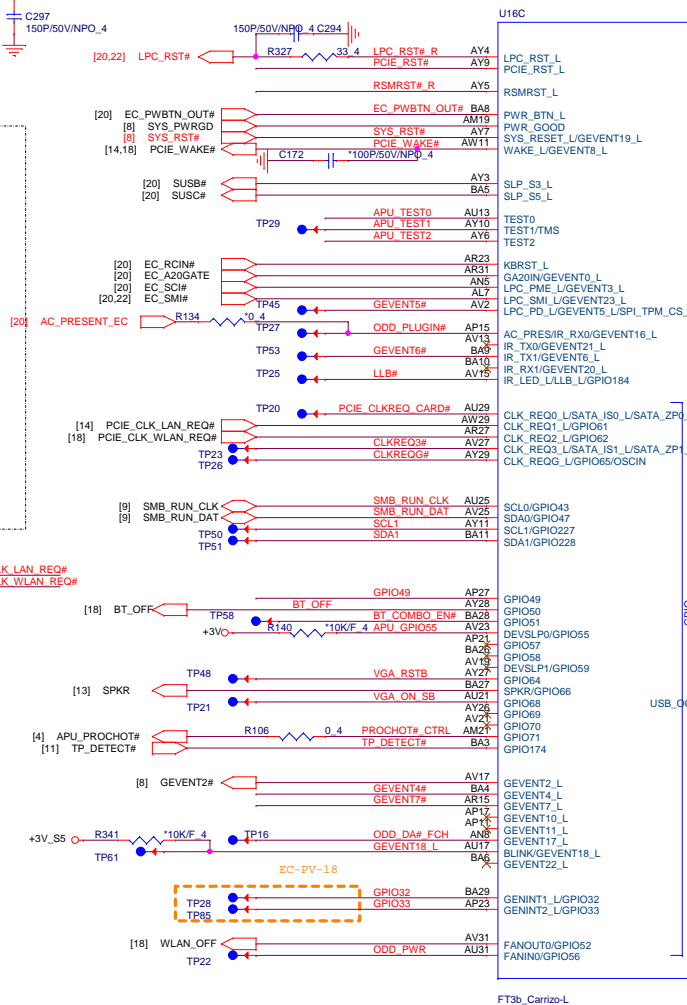
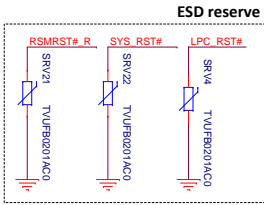
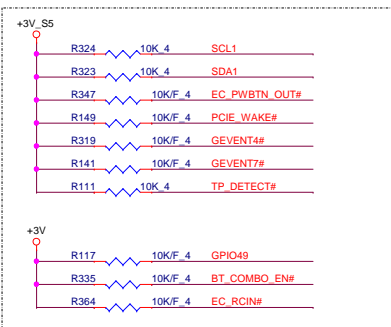
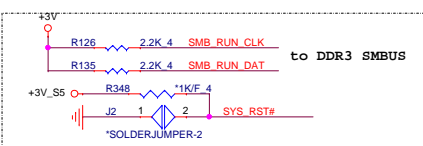
PROJECT HP-Bali

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NC, no install by default

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



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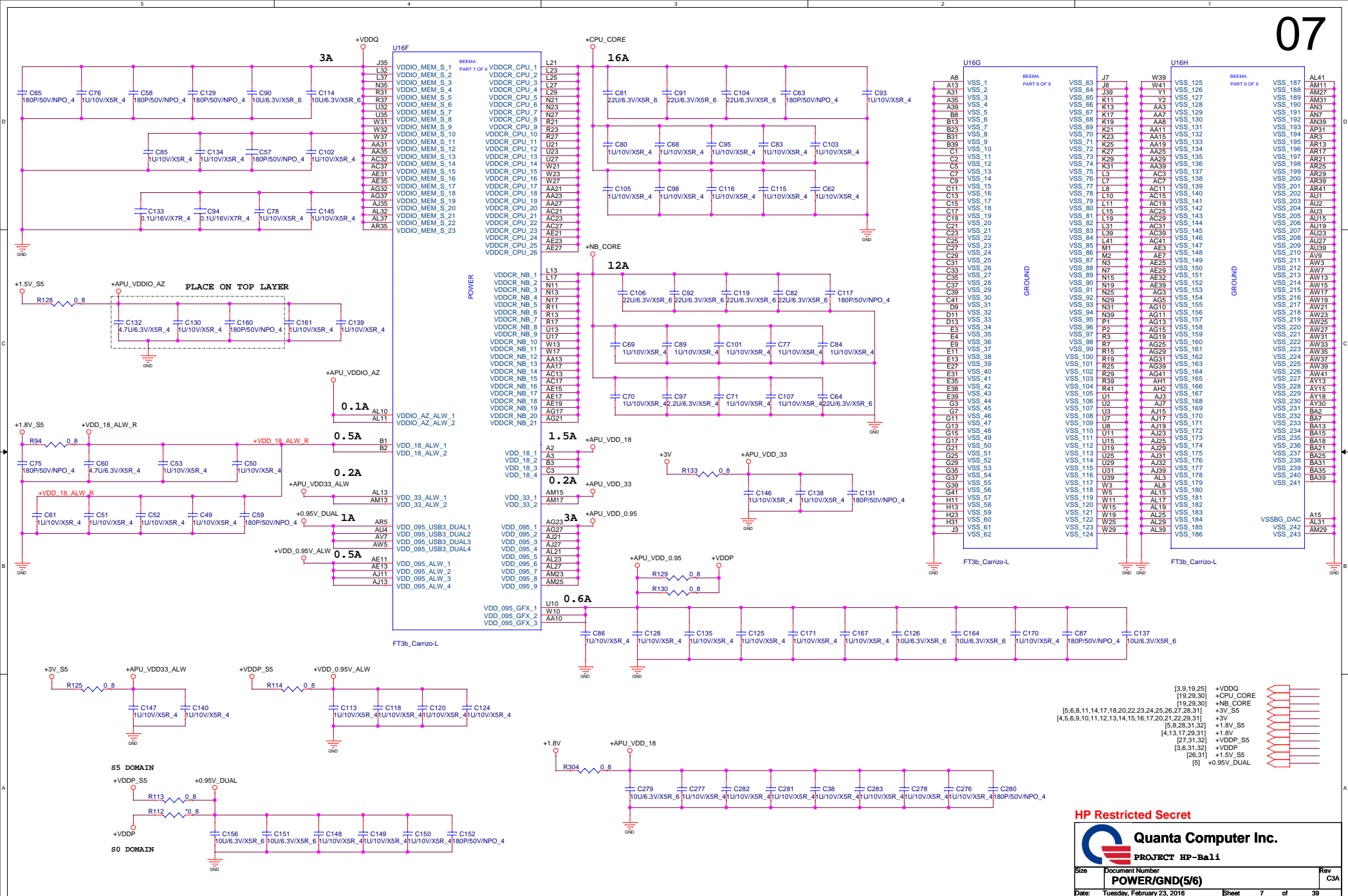
Quanta Computer Inc.

PROJECT HP-Bali

Size	Document Number	Rev
	POWER/GND(5/6)	C3A
Date:	Tuesday, February 23, 2016	Sheet 7 of 39

Date: Tuesday, February 23, 2016 Sheet 7 of 39

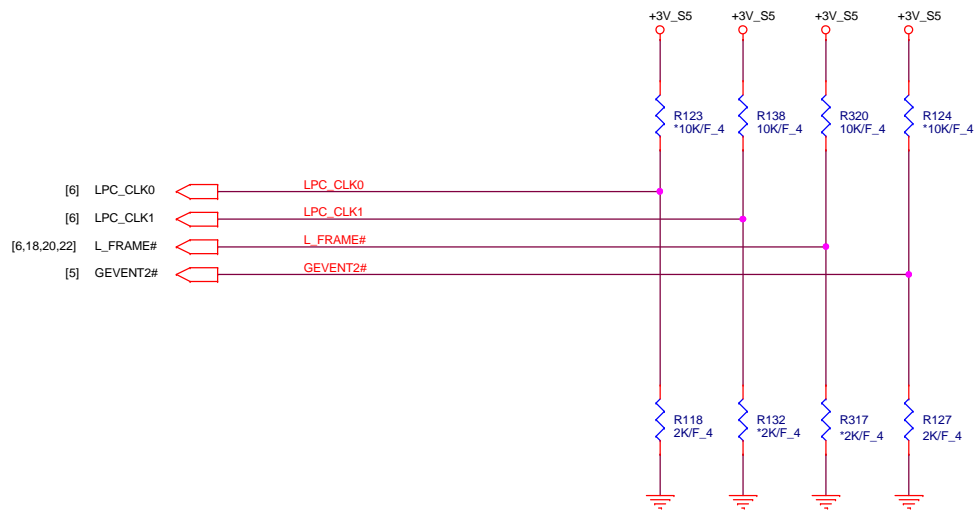
	1
--	---





STRAPS PINS

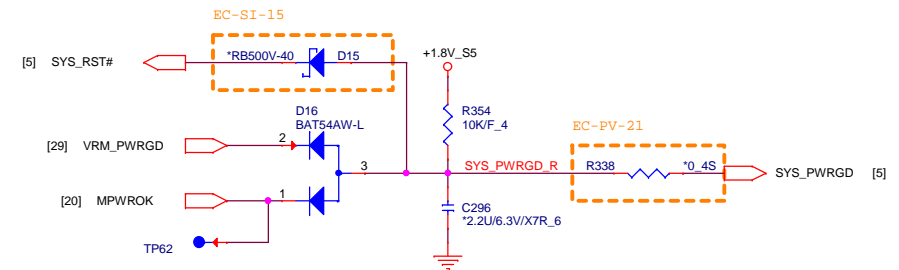
OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.



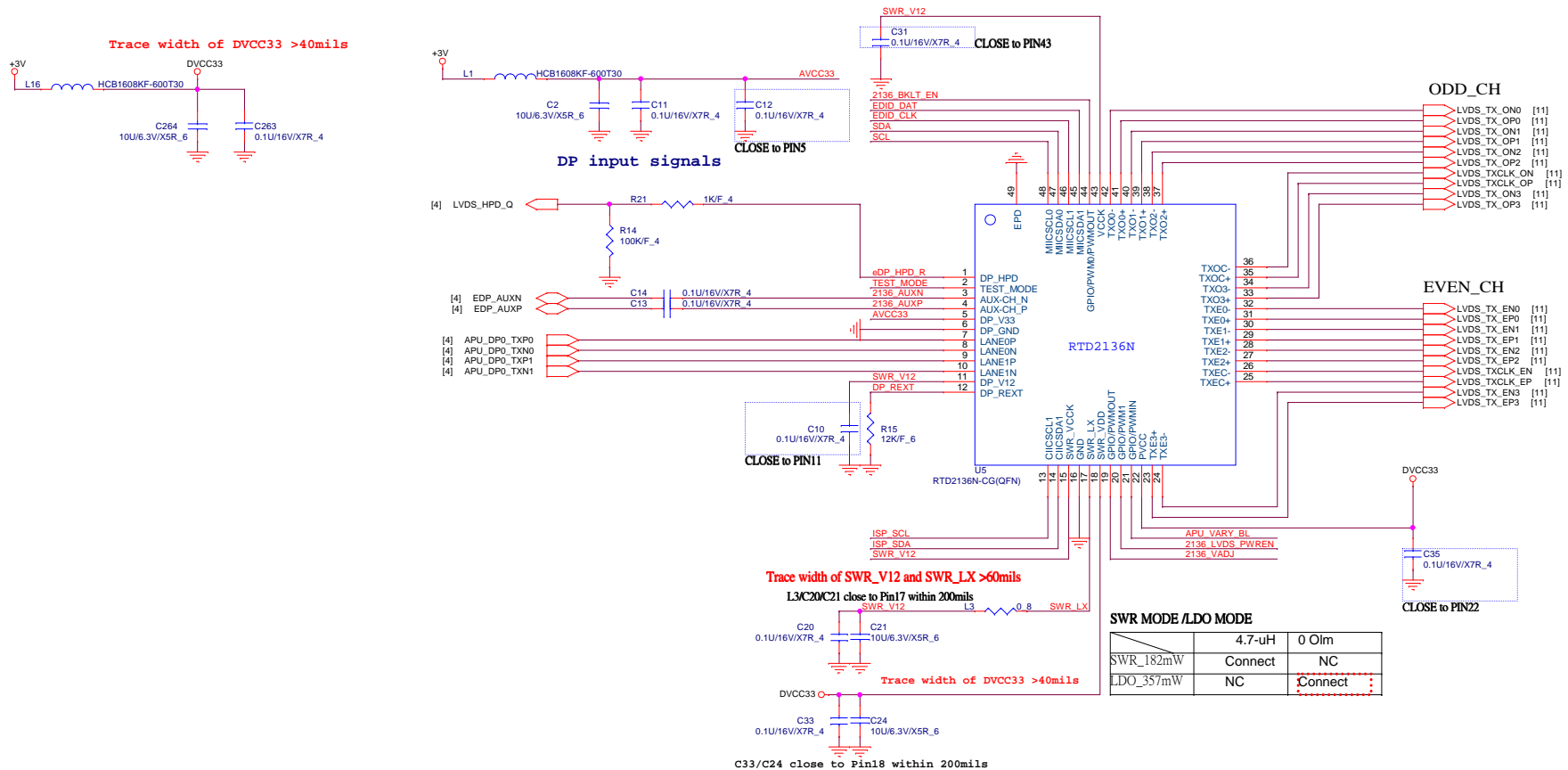
REQUIRED STRAPS

	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

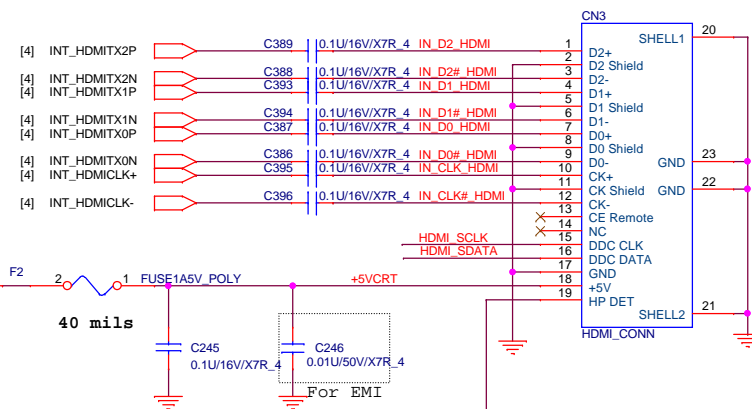
SYS_PWRGD



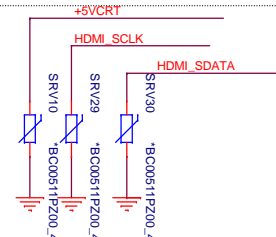
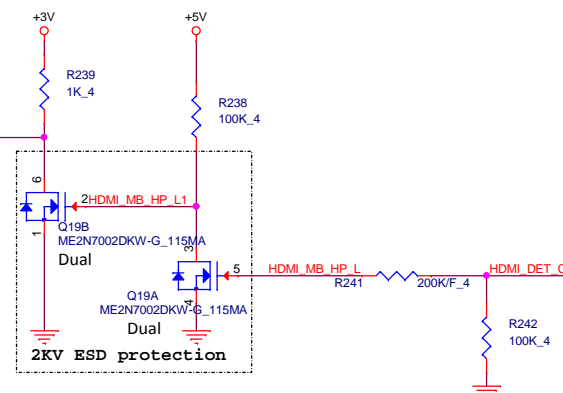
HP Restricted Secret



12



Close to HDMI connector



Layout note:Place close to HDMI Conn

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



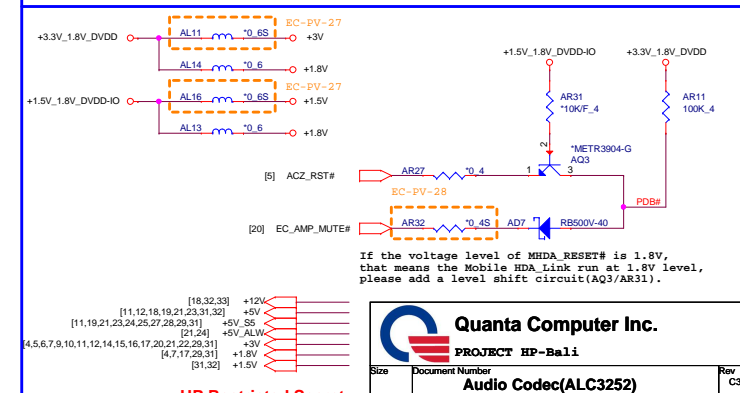
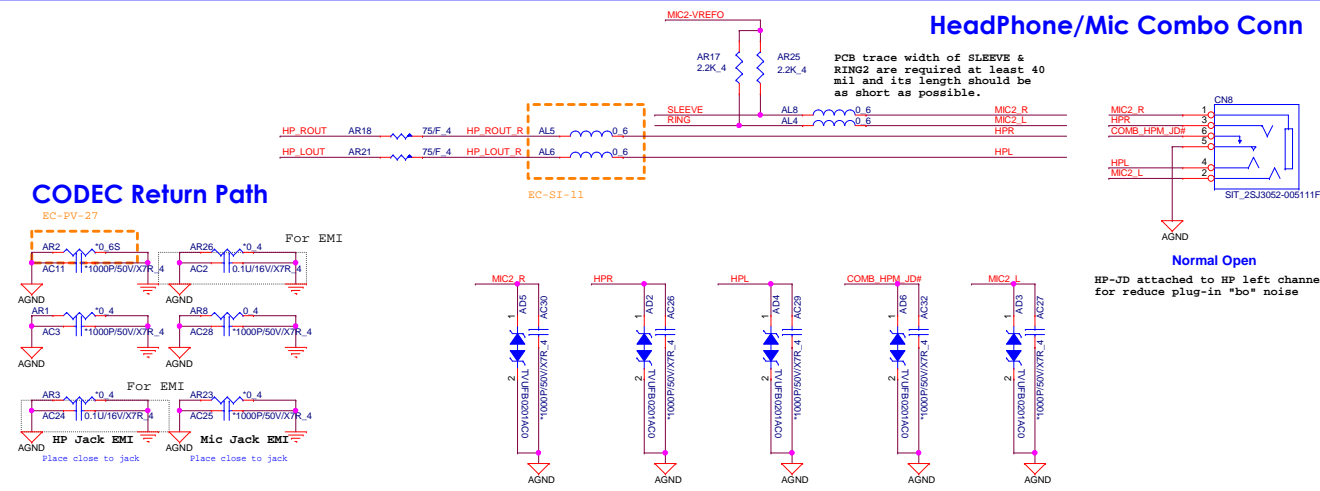
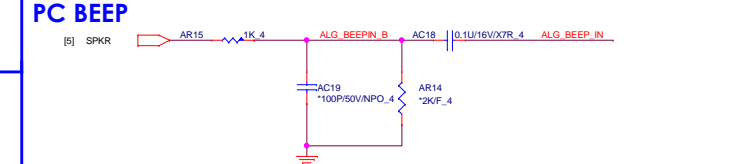
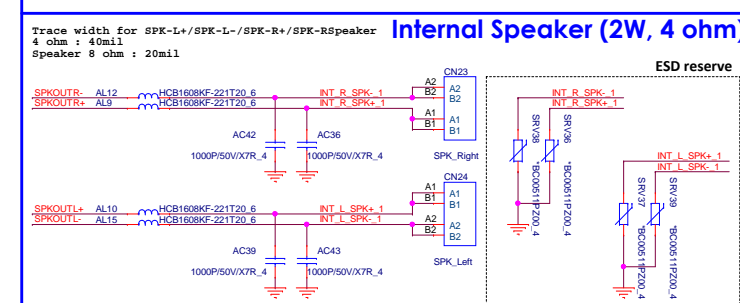
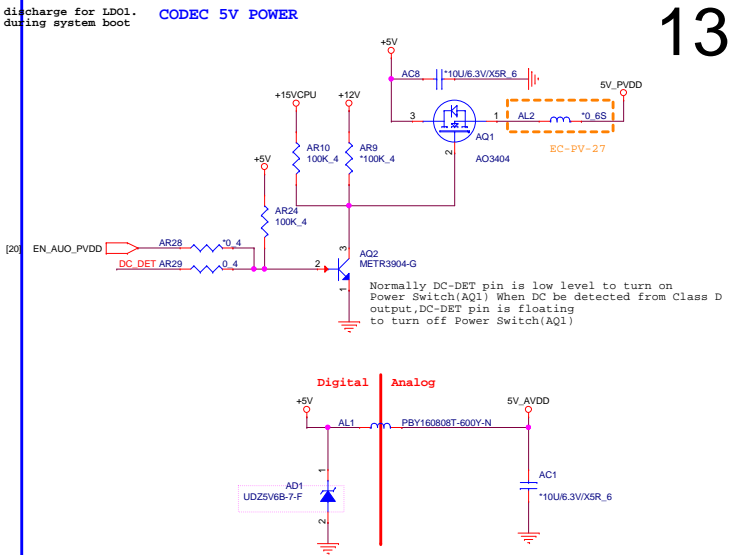
HP Restricted Secret

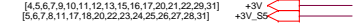
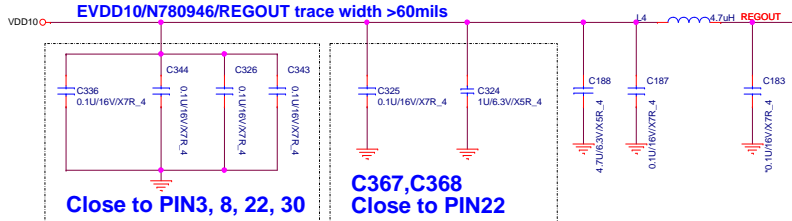
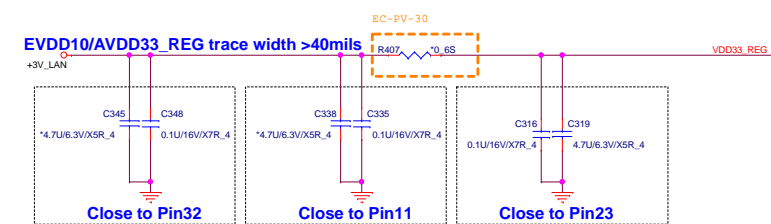
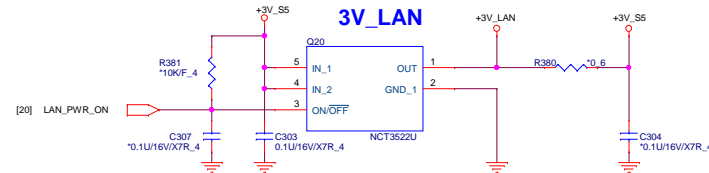


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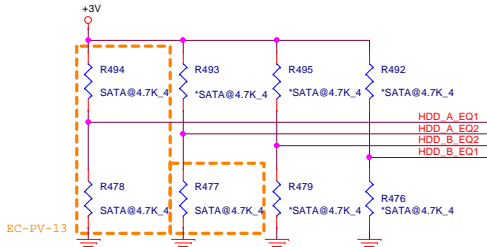
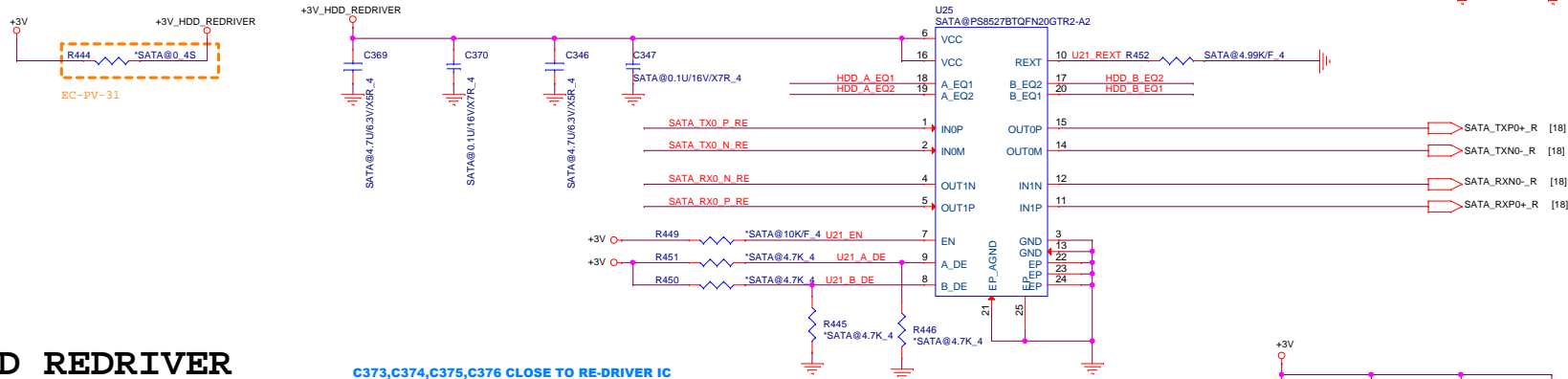
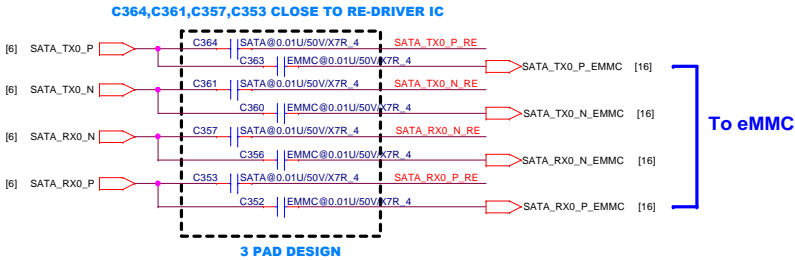
Size	Document Number	Rev
	HDMI	C3A
Date:	Tuesday, February 23, 2016	Sheet 12 of 39



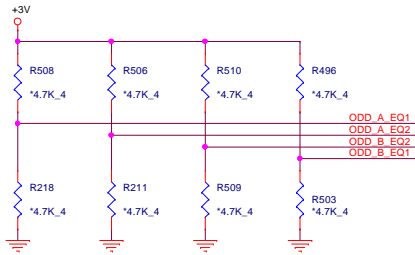
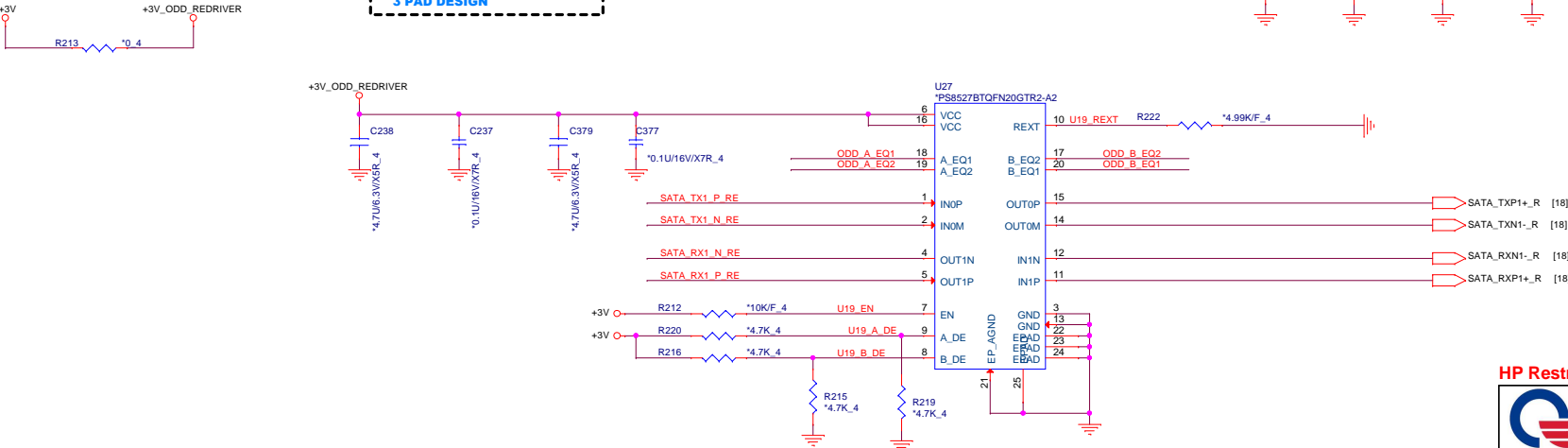
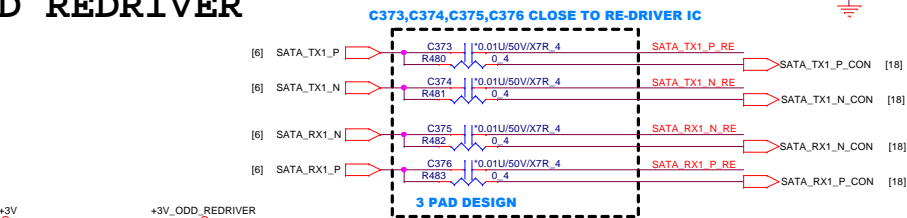


HDD REDRIVER

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



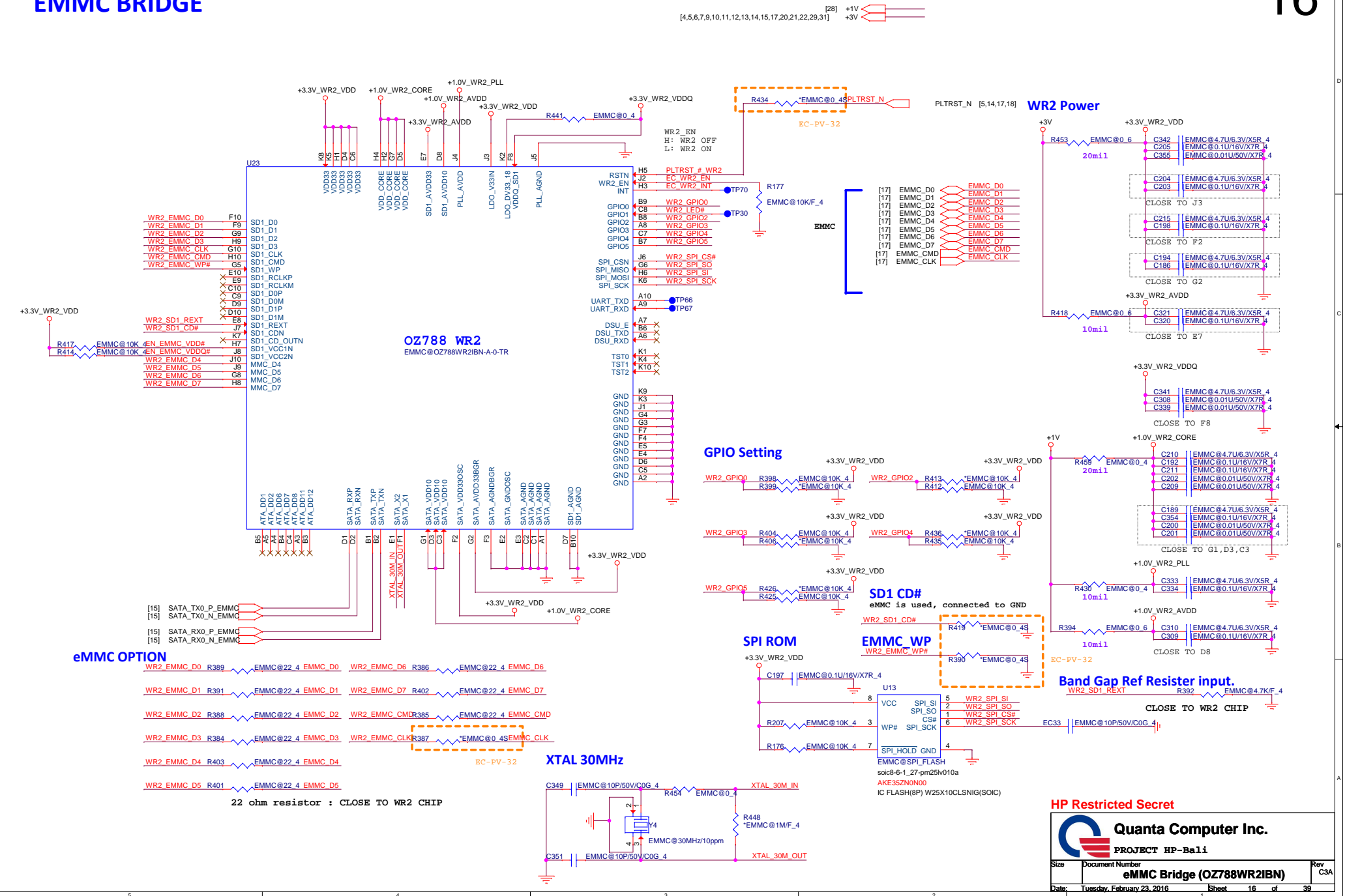
ODD REDRIVER

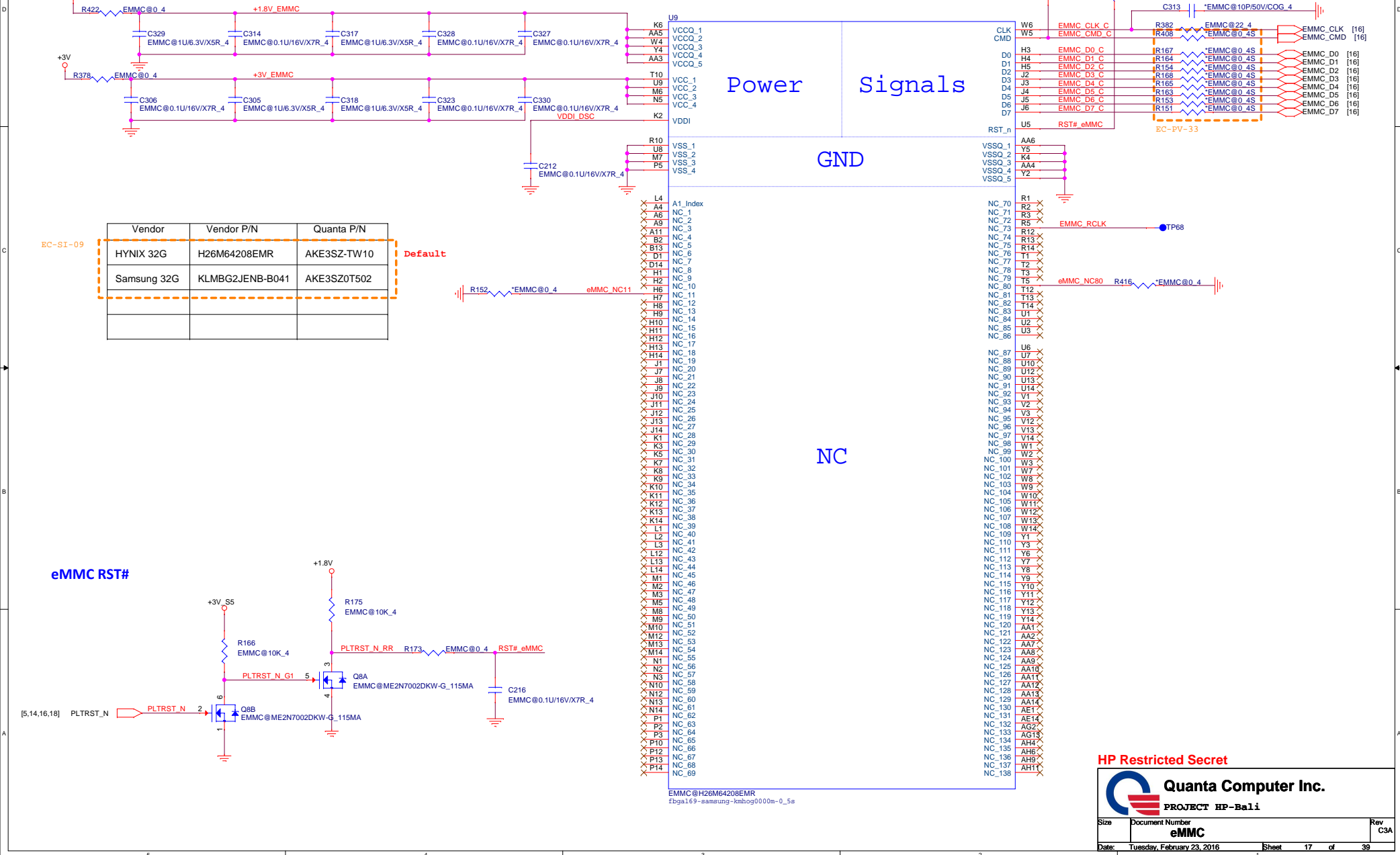


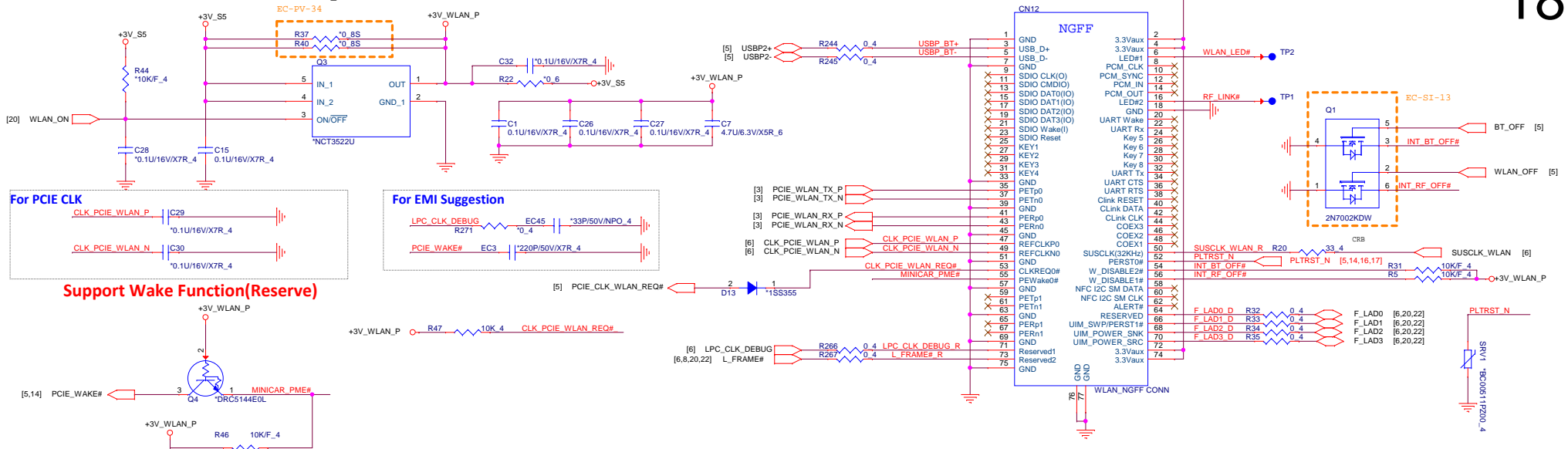
HP Restricted Secret



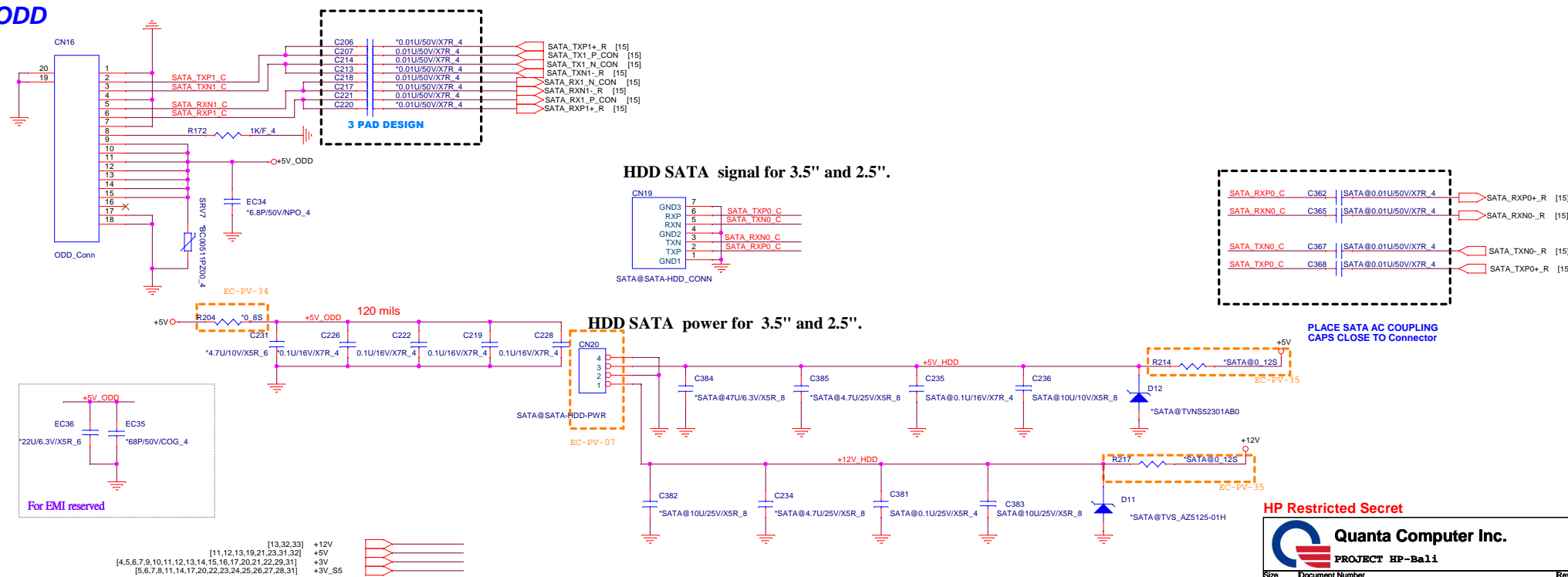
Size	Document Number	Rev
	SATA RE-DEIVER	C3A
Date:	Tuesday, February 23, 2016	Sheet 15 of 39





Mini Card WLAN/BT(Optional)PCIe M.2_power(S5)

ODD



HP Restricted Secret

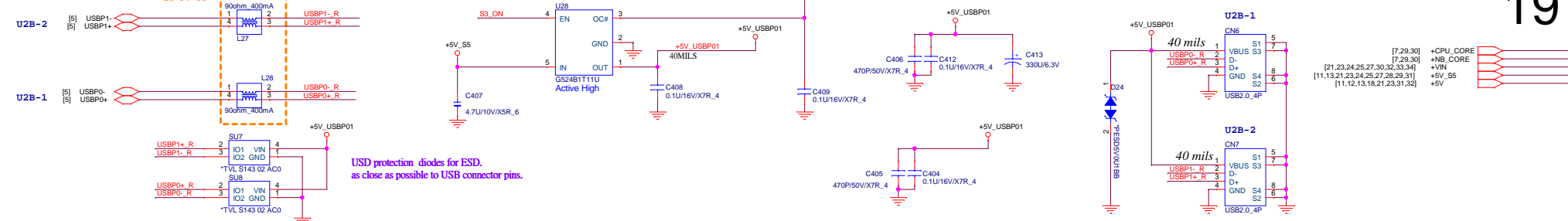

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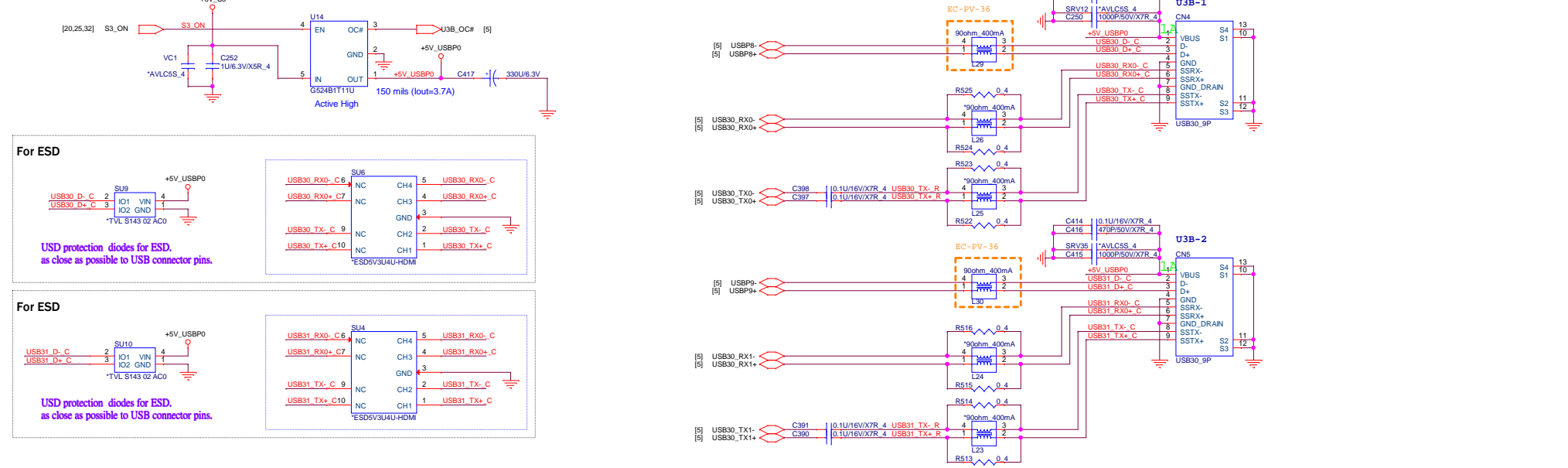
Size	Document Number WLAN(NGFF)/HDD/ODD	Rev C3A
Date:	Tuesday, February 23, 2016	Sheet 18 of 39

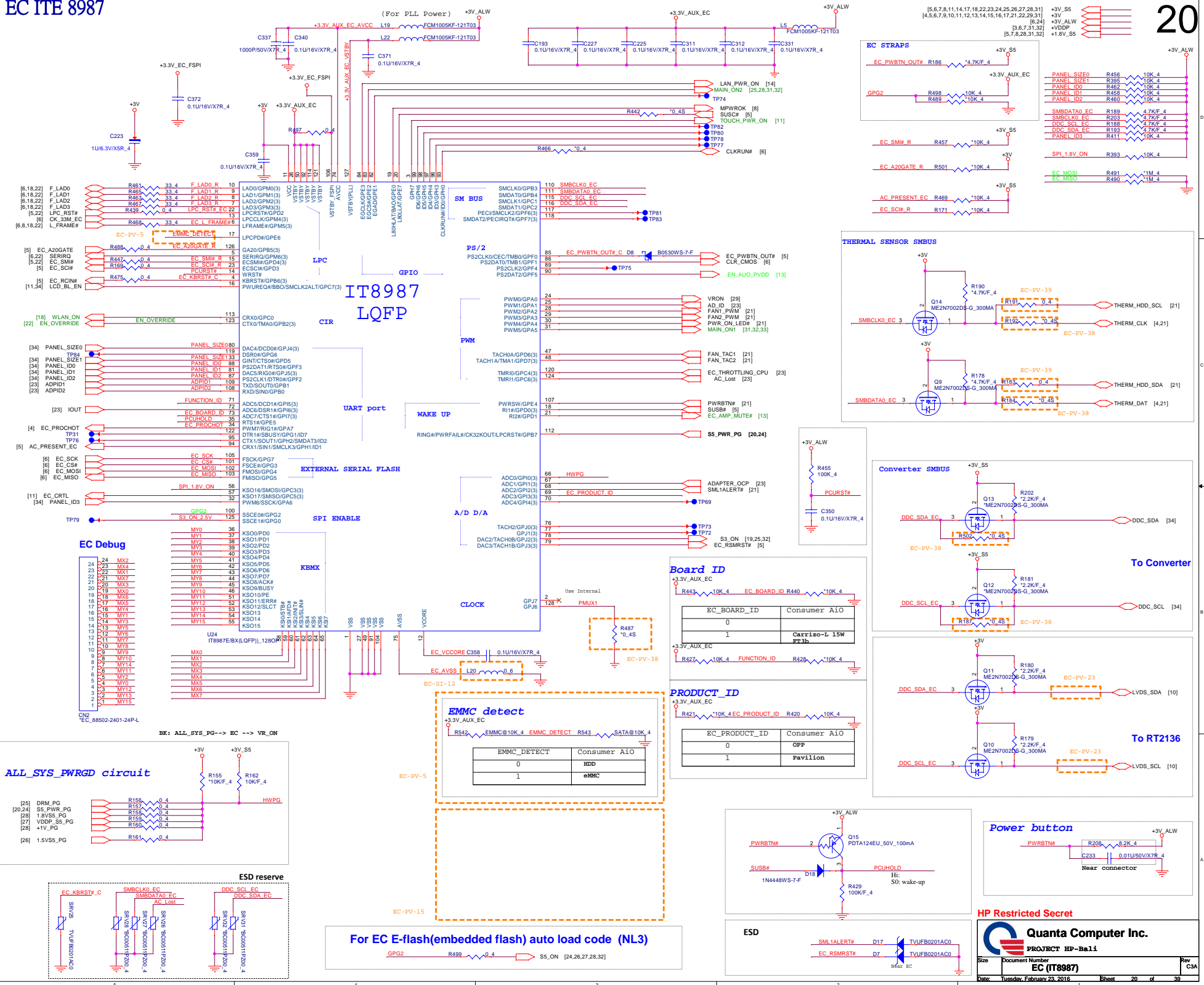
Date: Tuesday, February 23, 2016 Sheet 18 of 39

USB 2.0

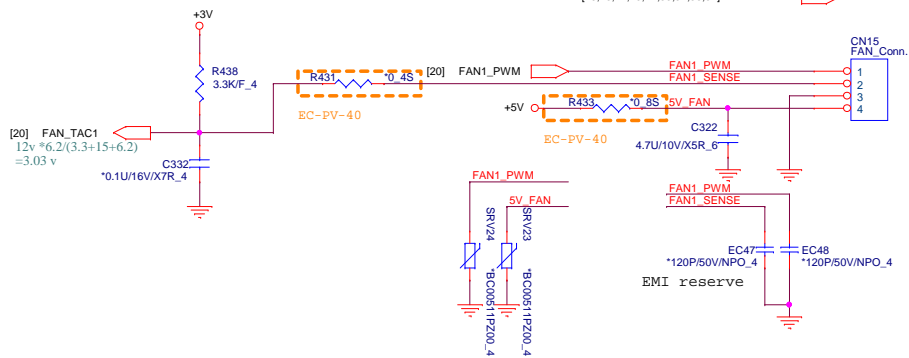


USB 2.0/3.0 Combo

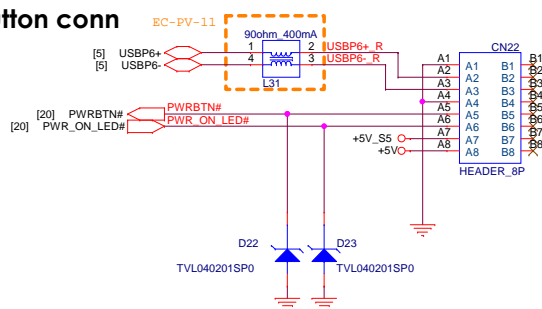
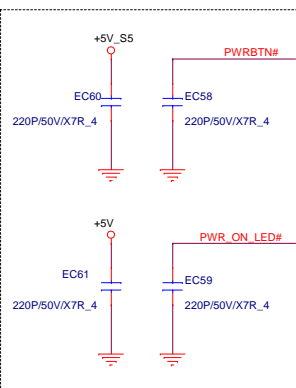
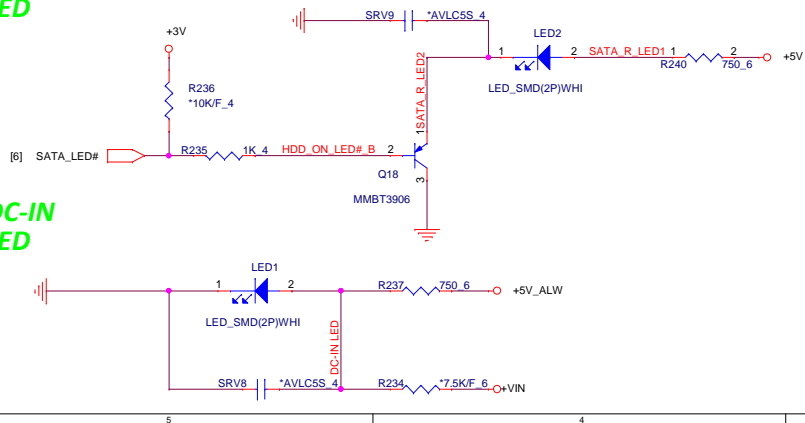




[4,5,6,7,9,10,11,12,13,14,15,16,17,20,22,29,31]	+3V	
[11,12,13,18,19,23,31,32]	+5V	
[11,13,19,23,24,25,27,28,29,31]	+5V_S5	
[13,24]	+5V_ALW	
[19,23,24,25,27,30,32,33,34]	+VIN	

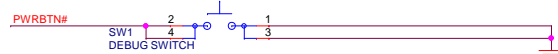
[illegible]

**SATA
LED**

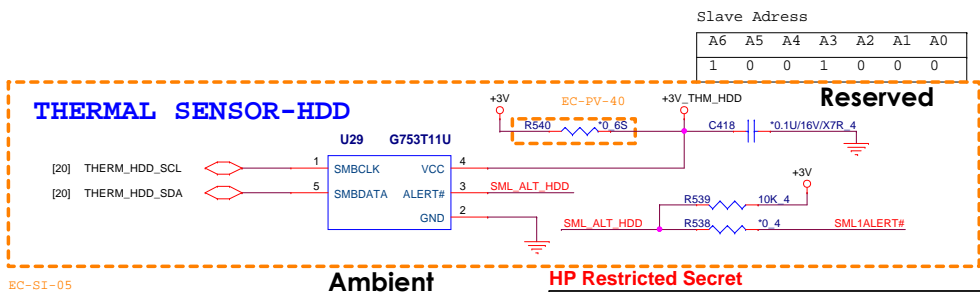



21

SW1 For Debug.MP will remove it.

[illegible]

THERMAL SENSOR-HDD



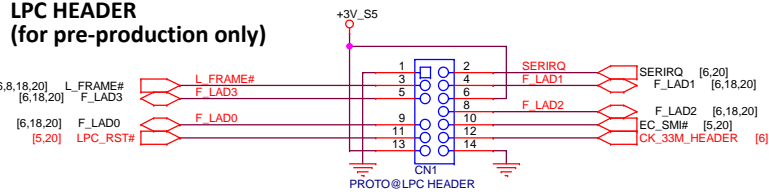
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Size	Document Number	Rev	
Thermal/FAN/LEDs/Card/SW		C3	
Date:	Tuesday, February 23, 2016	Sheet	21 of 39

LPC HEADER (for pre-production only)

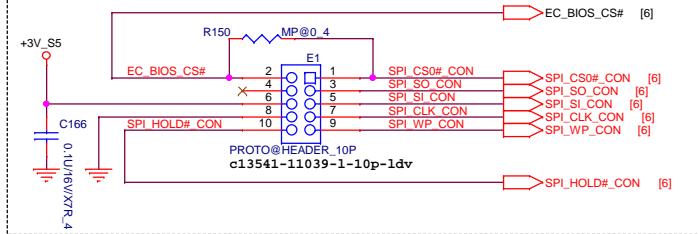
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[4,5,6,7,9,10,11,12,13,14,15,16,17,20,21,29,31]

+3V_S5
+3V

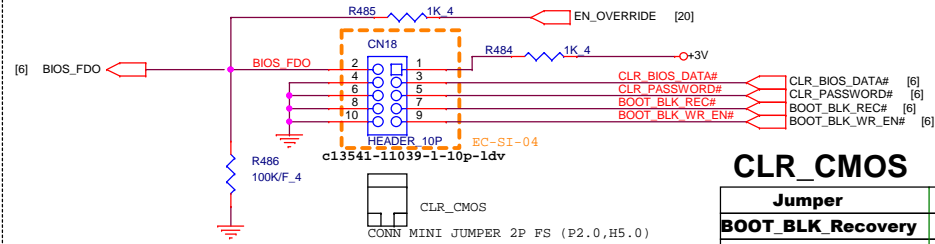
22



ROM recovery (for pre-production only)



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



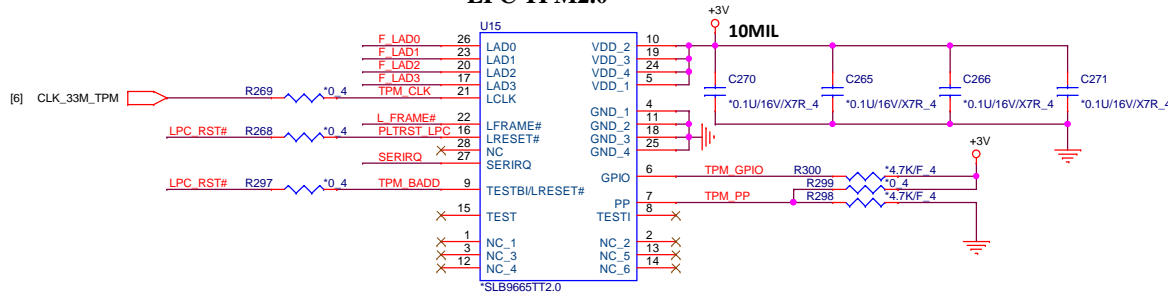
CLR CMOS

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

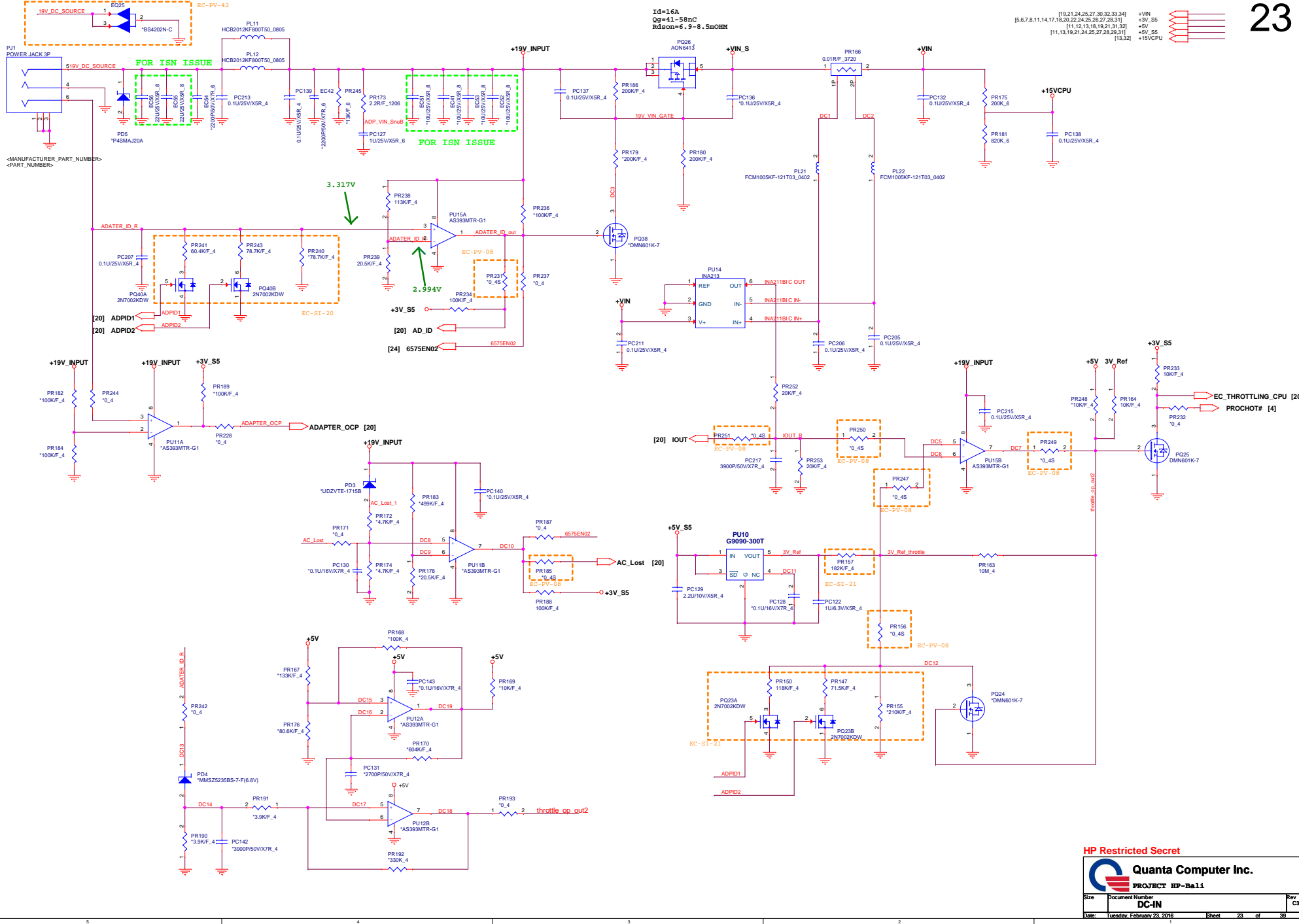
TPM2.0

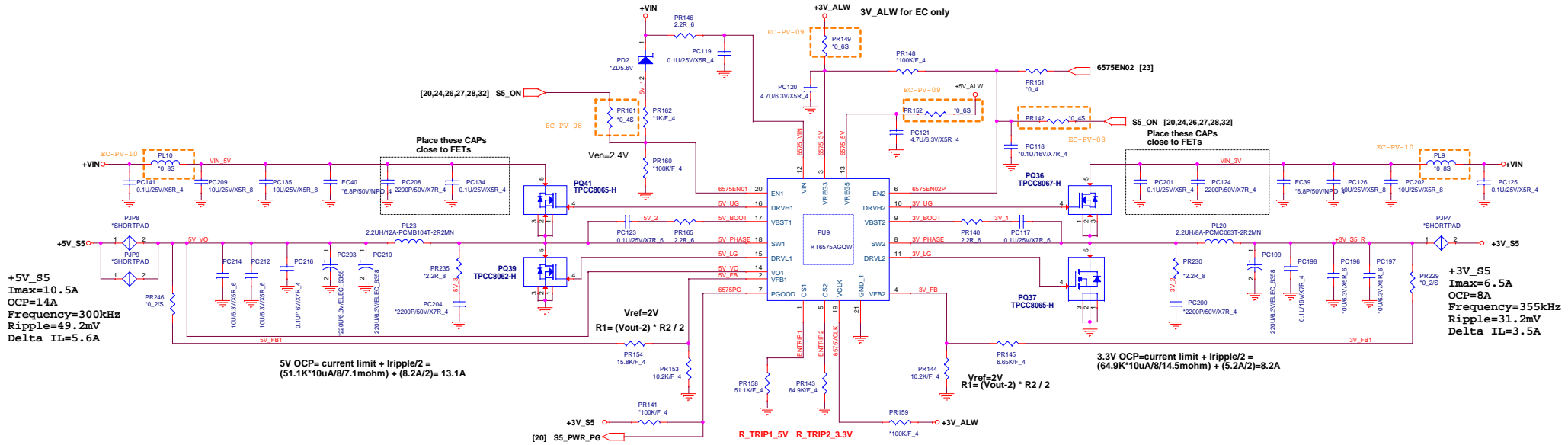
LPC TPM2.0



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PROJECT HP-Bali		
Size	Document Number	Rev
	TPM 2.0 / LPCHeader	C3A
Date:	Tuesday, February 23, 2016	Sheet 22 of 39

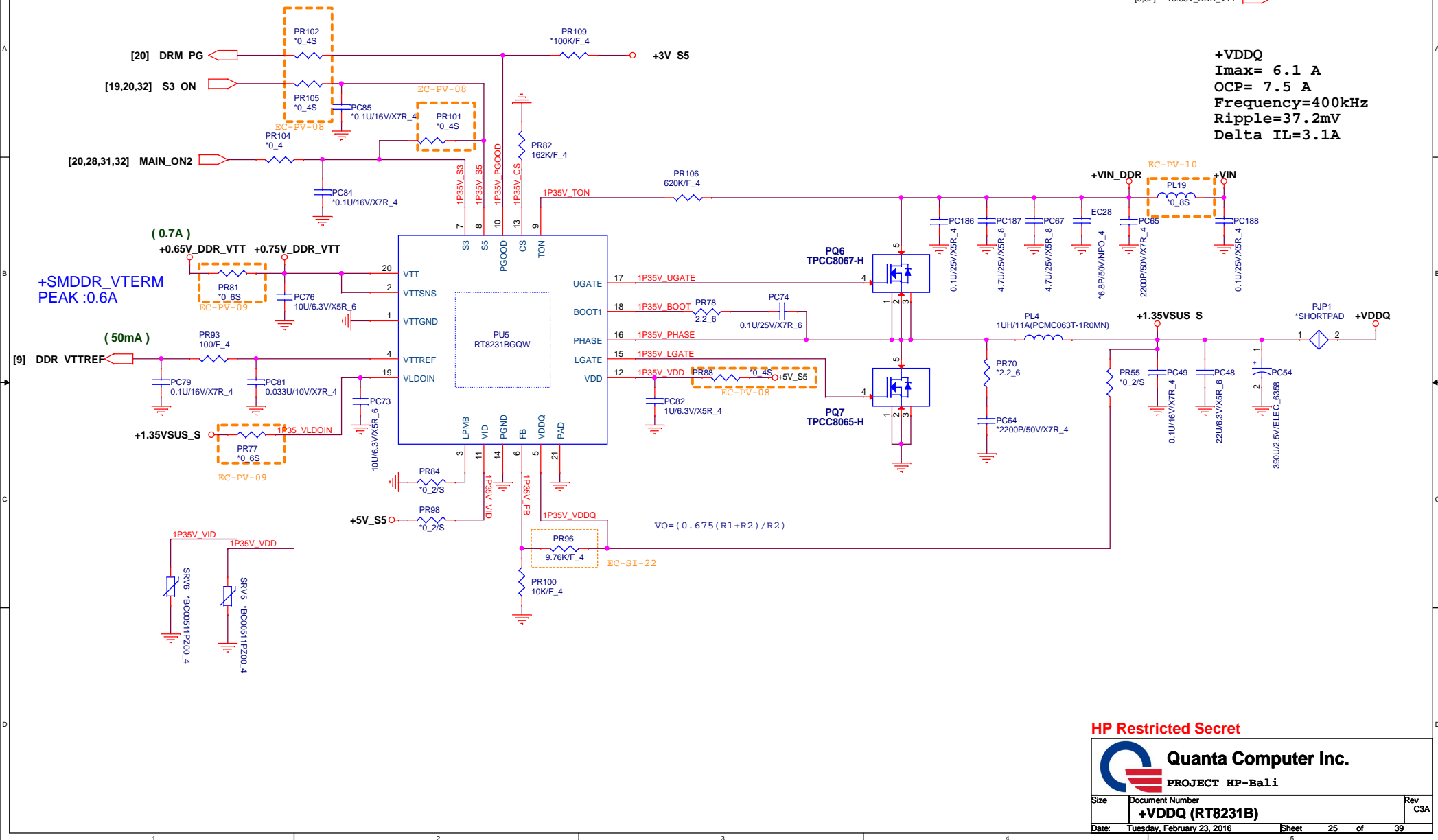




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[19,21,23,24,27,30,32,33,34] +VIN
[3,7,9,19] +VDDQ
[5,6,7,8,11,14,17,18,20,22,23,24,26,27,28,31] +3V_S5
[11,13,19,21,23,24,27,28,29,31] +5V_S5
[9,32] +0.65V_DDR_VTT

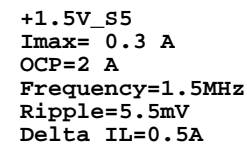
+VDDQ
Imax= 6.1 A
OCP= 7.5 A
Frequency=400kHz
Ripple=37.2mV
Delta IL=3.1A




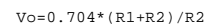
HP Restricted Secret

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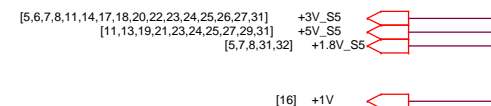
Size	Document Number	Rev
	+VDDQ (RT8231B)	C3A
Date:	Tuesday, February 23, 2016	Sheet 25 of 39

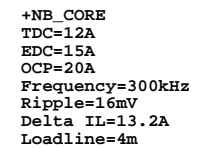
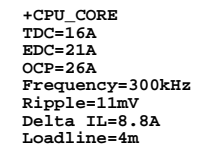


 Quanta Computer Inc. PROJECT HP-Bali			
Size	Document Number	Rev	
	+1.5V_S5 (APW8826CI)	C3A	
Date:	Tuesday, February 23, 2016	Sheet	26 of 39

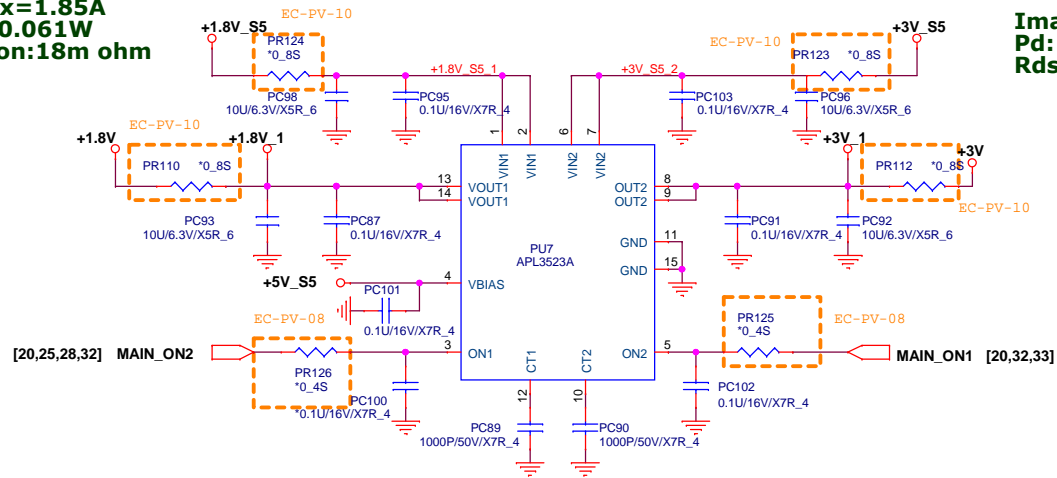


```
+VDDP_S5
Imax= 4.5 A
OCP= 6.5 A
Frequency=300kHz
Ripple=32mV
Delta IL=3.2A
```

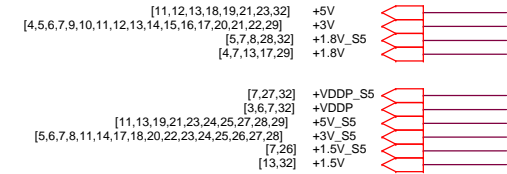




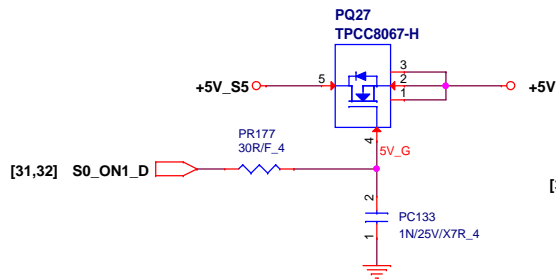
$I_{max}=1.85A$
 $P_d: 0.061W$
 $R_{dson}:18m\ ohm$



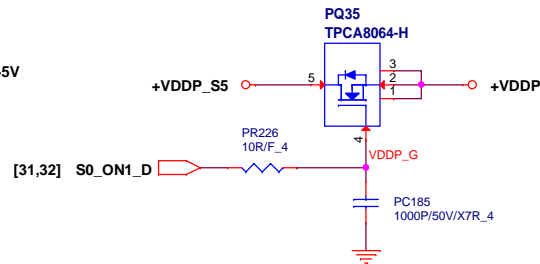
$I_{max}=2.85A$
 $P_d: 0.146W$
 $R_{dson}:18m\ ohm$



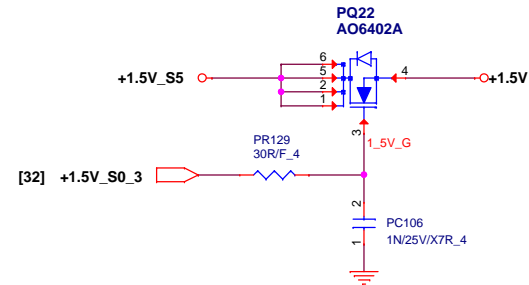
TPCC8067-H
 $R_{dson}=20m@10V\ V_{gs}$
 $I_{max}=7A$
 $P_d: 0.98W$



TPCA8064-H
 $R_{dson}=6m@10V\ V_{gs}$
 $I_{max}=4A$
 $P_d: 0.096W$



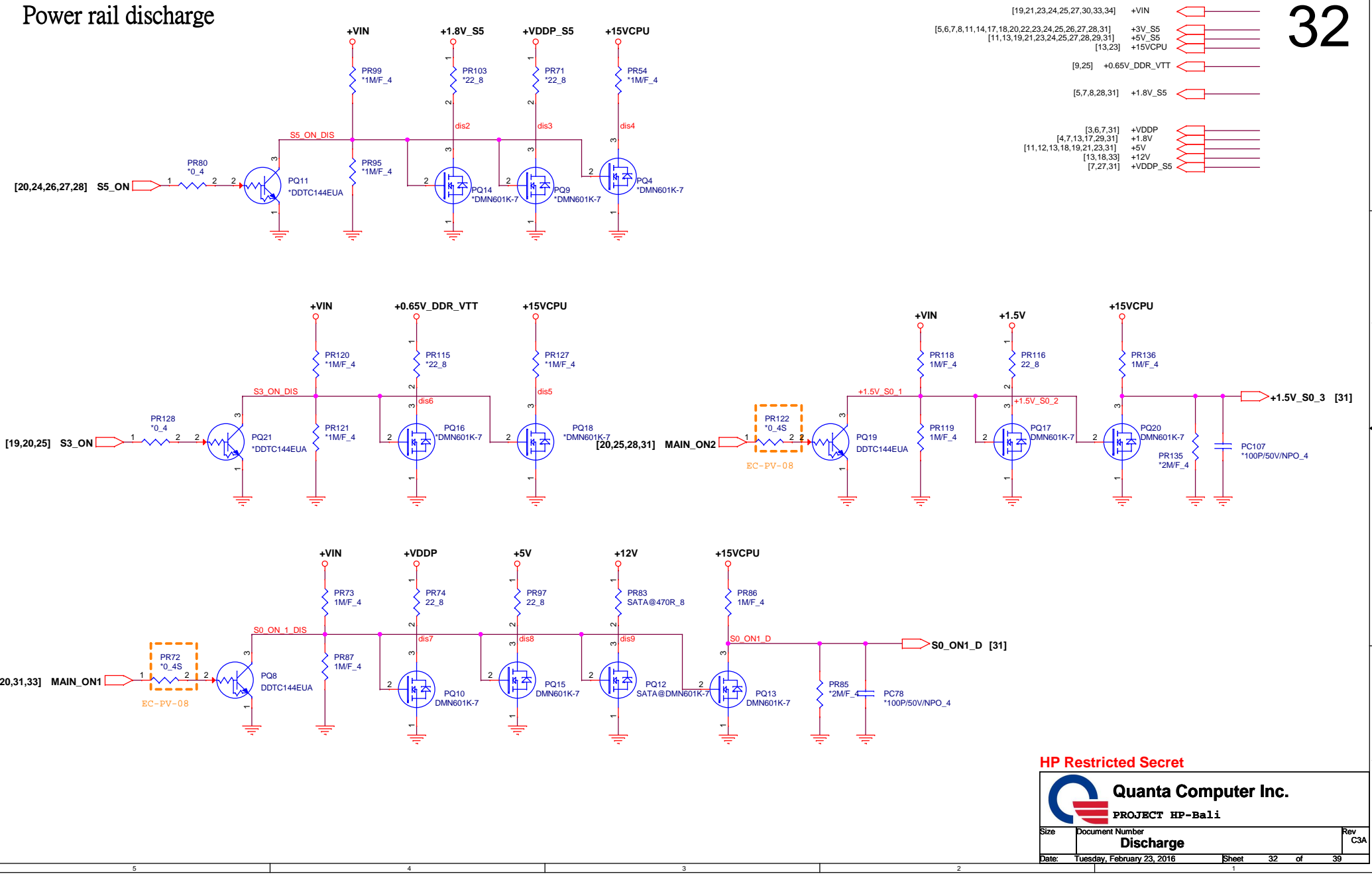
AO6402A
 $R_{dson}=24m@10V\ V_{gs}$
 $I_{max}=0.2A$
 $P_d: 0.001W$



HP Restricted Secret

Power rail discharge

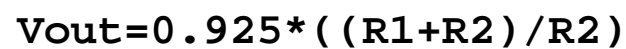
32



12V +VIN

+VIN

+12V
I_{max}=2A
OCP=4A
Frequency=357kHz
Ripple=75mV
Delta IL=1.9A



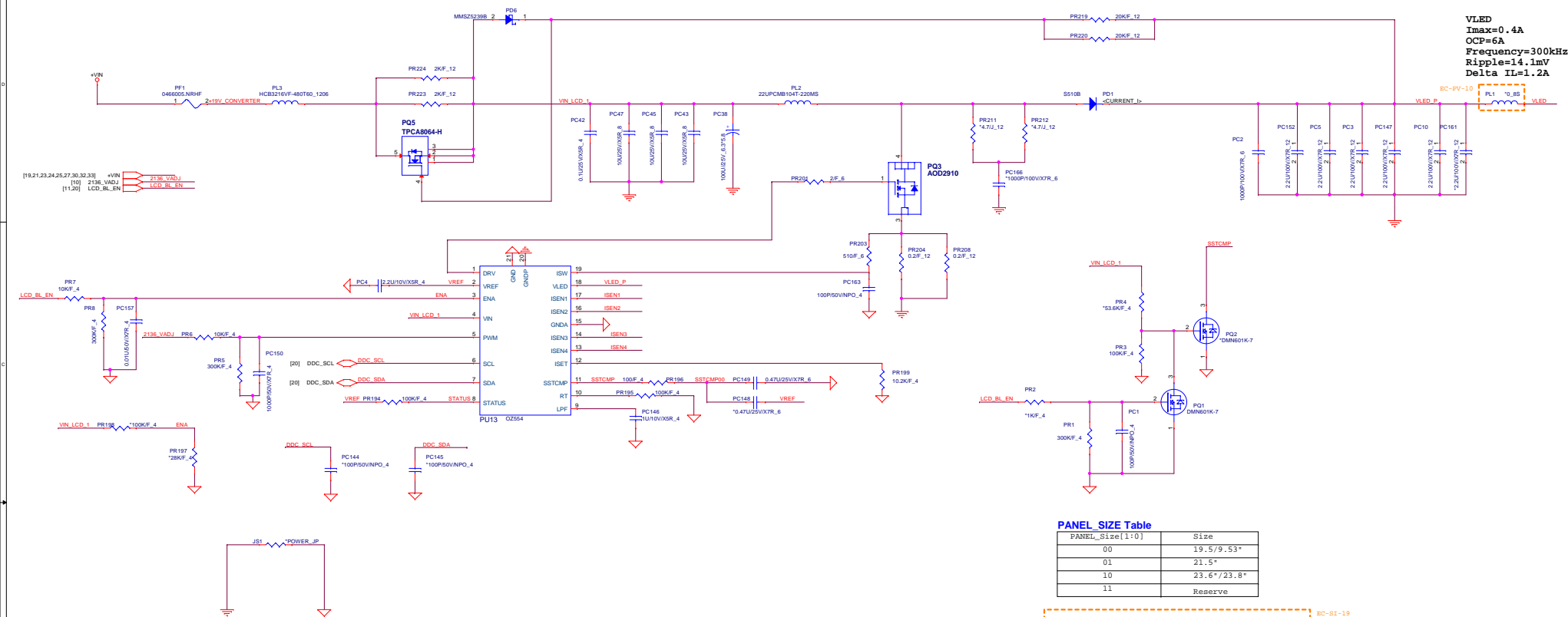
HP Restricted Secret



Quanta Computer Inc.

PROJECT HP-Bali

Size	Document Number	Rev
	+12V	C3A
Date:	Tuesday, February 23, 2016	Sheet 33 of 39



PANEL_SIZE Table

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

19.45"/9.53" PANEL_ID Table

PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M195FGR-L20_CK
1101	AUG M195RTN01.0 HD+
1100	LGD LM195WD1-TLA1 HD+
1011	INX M200HJ-L20_FHD
1010	Reserve

21.5" PANEL_ID Table

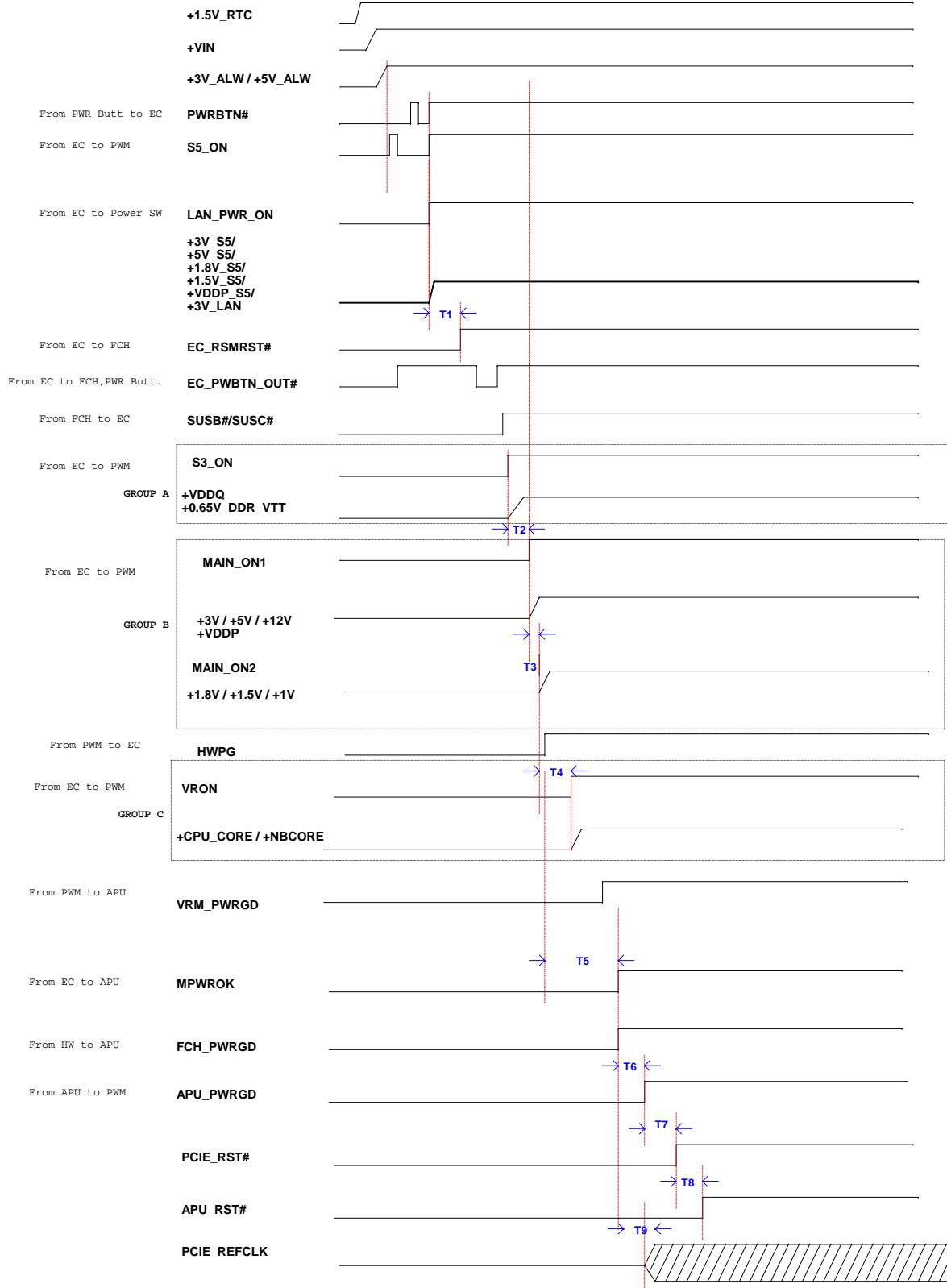
PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M215HJX-L38_FHD eDP
1101	SDC LTM215HL01_FHD
1100	LGD LM215WF3-SLN1_FHD
1011	Reserve

23.6"/23.8" PANEL_ID Table

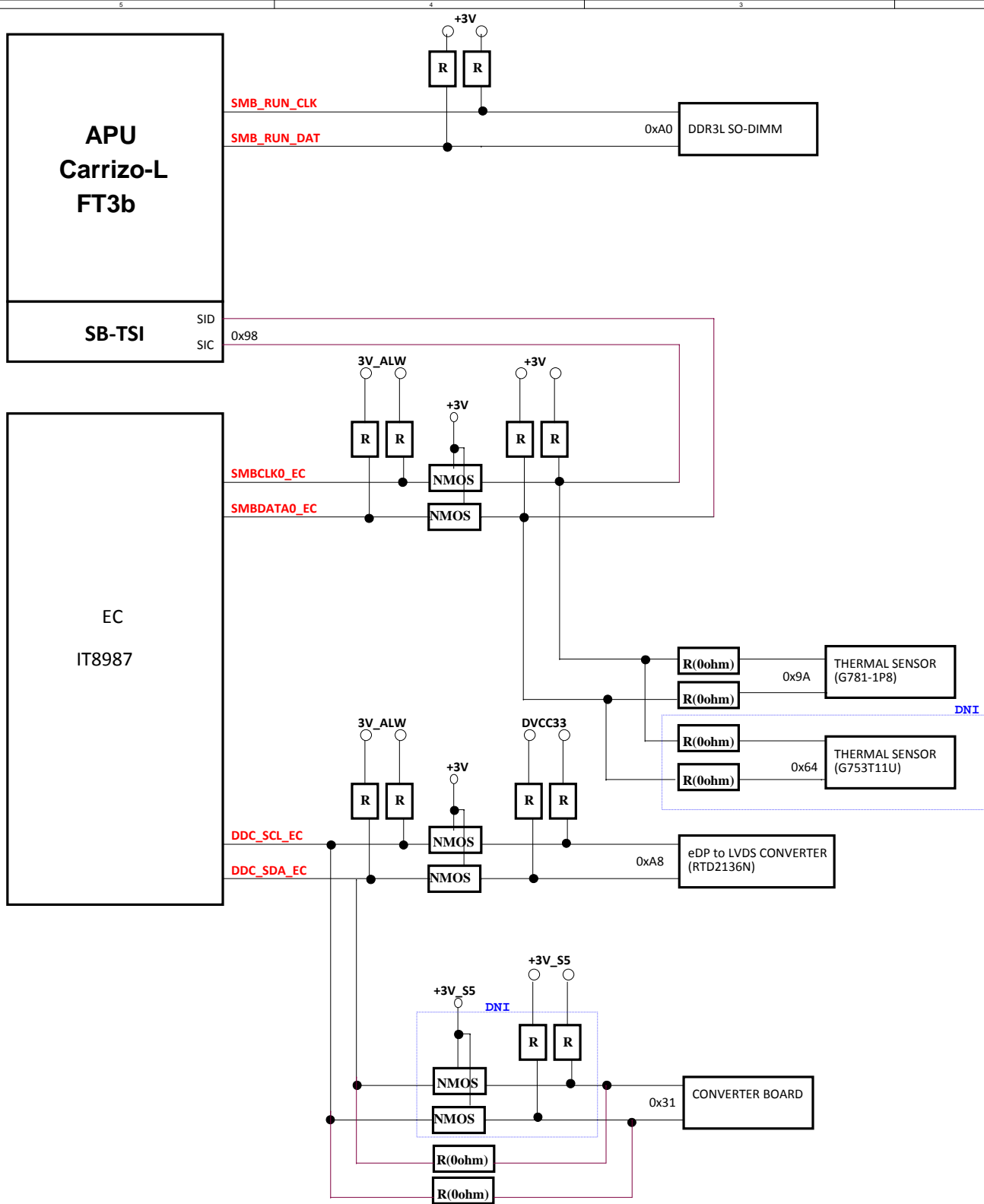
PANEL_ID[3:0]	Panel model
1111	No Connect
1110	INX M236HJX-L58_FHD eDP
1101	AUG M238HAN01.0_FHD
1100	LGD LM238WF1-SLE1_FHD
1011	SDC LTM238HL02_FHD
1010	Reserve

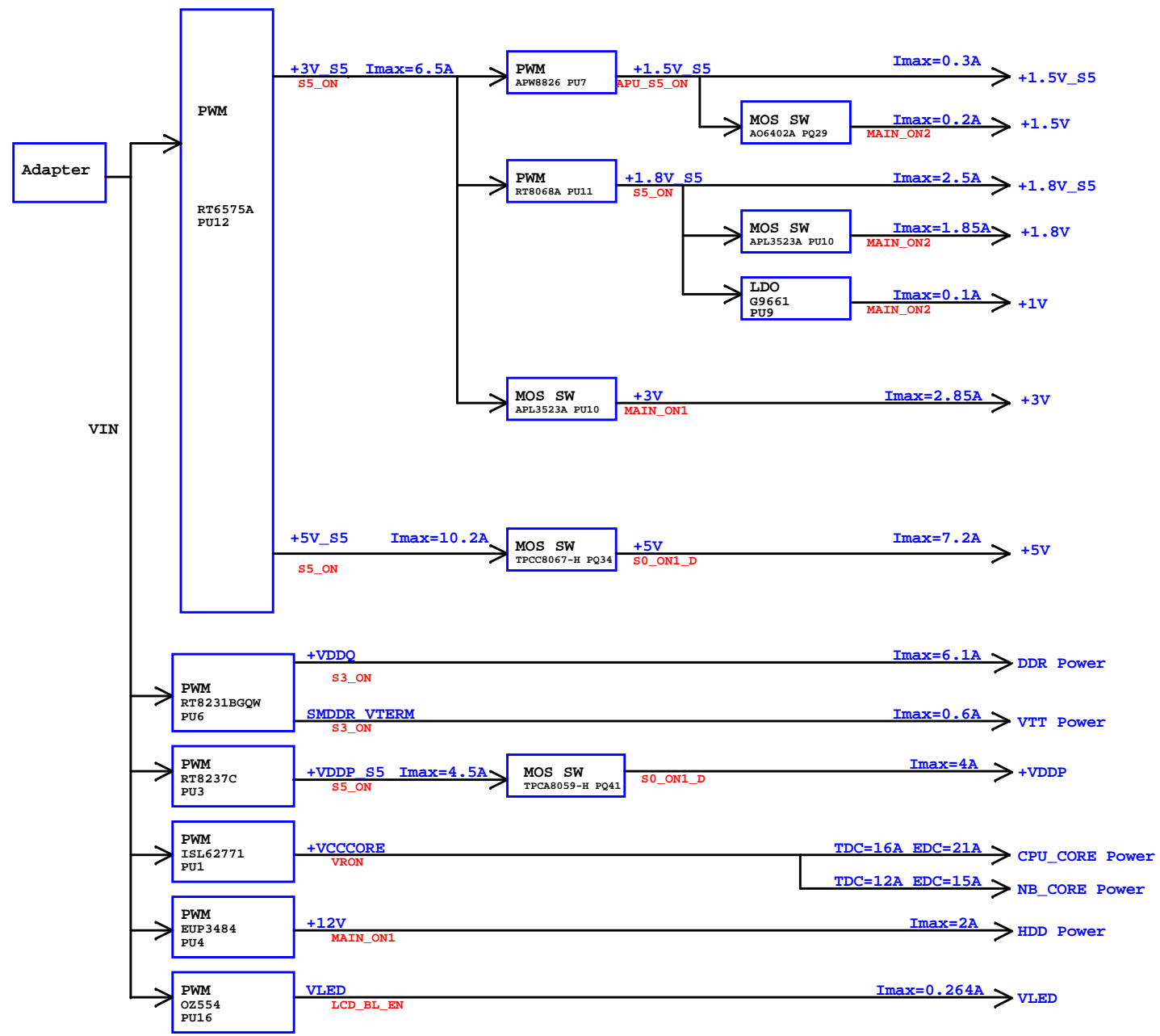
Panel_ID[3:0] = 1111 & Panel_Size[1:0] = 11 is reserved for cabling detection by "No connection".

HP Restricted Secret



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	





[illegible]

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.	