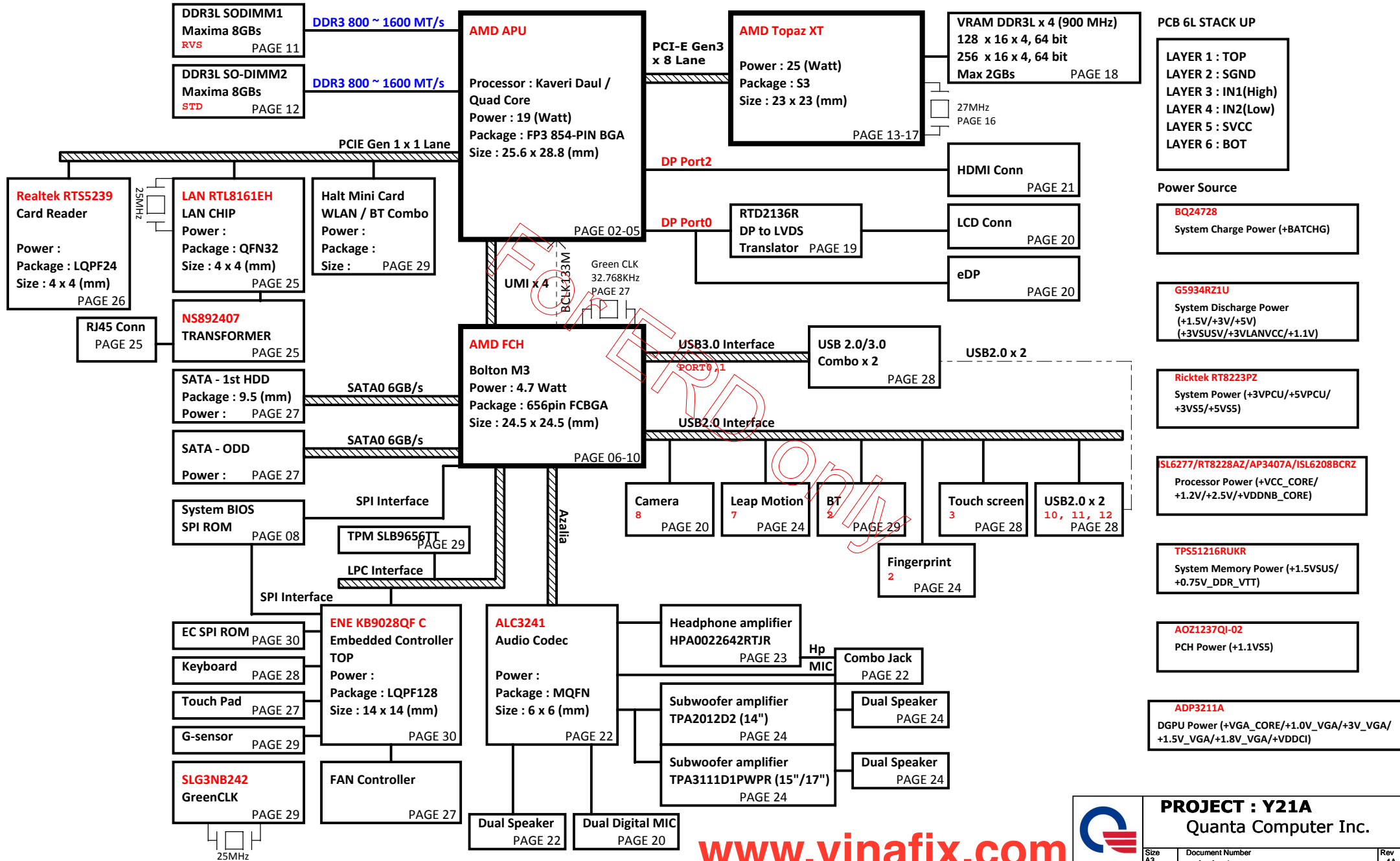
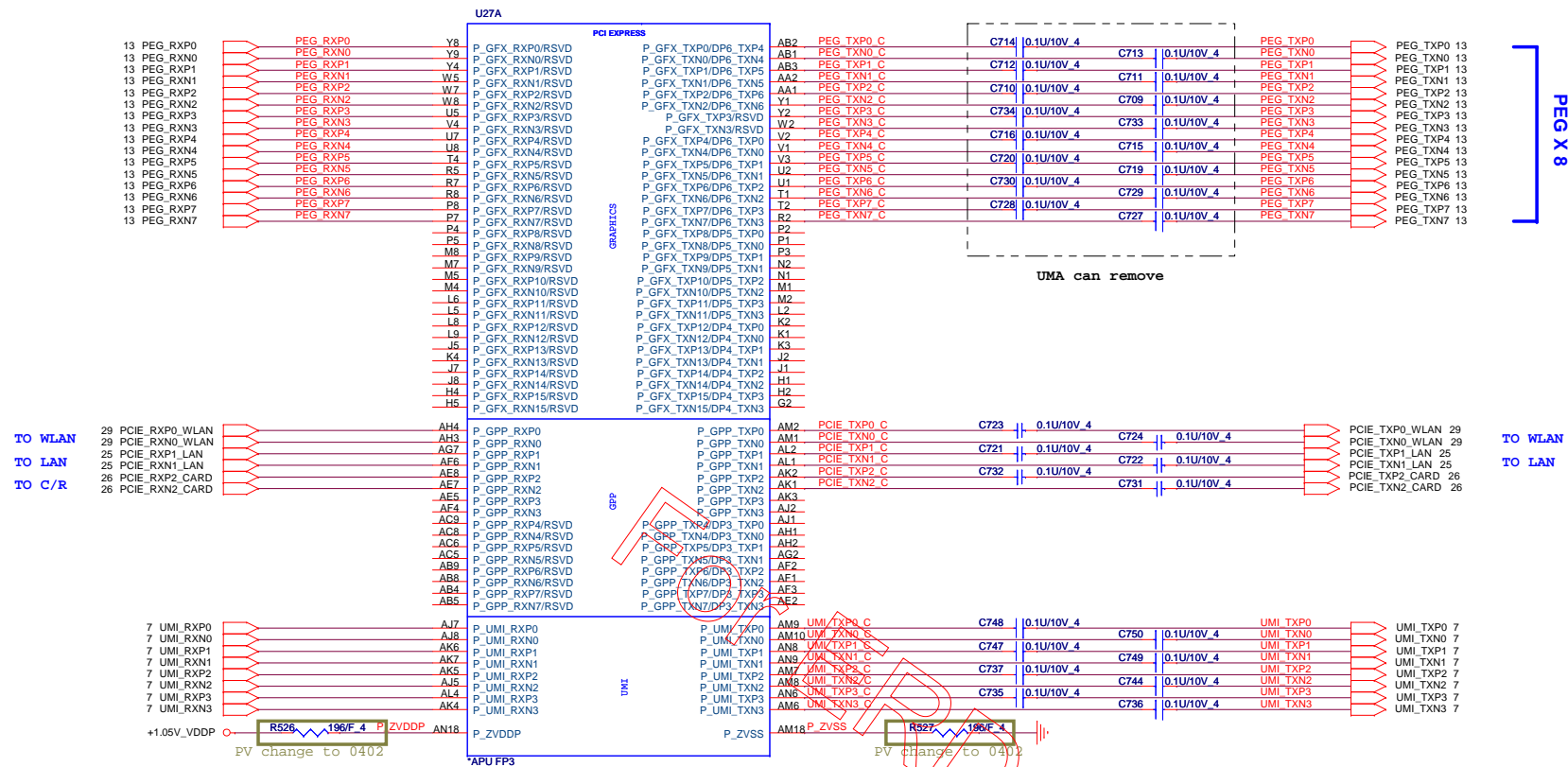
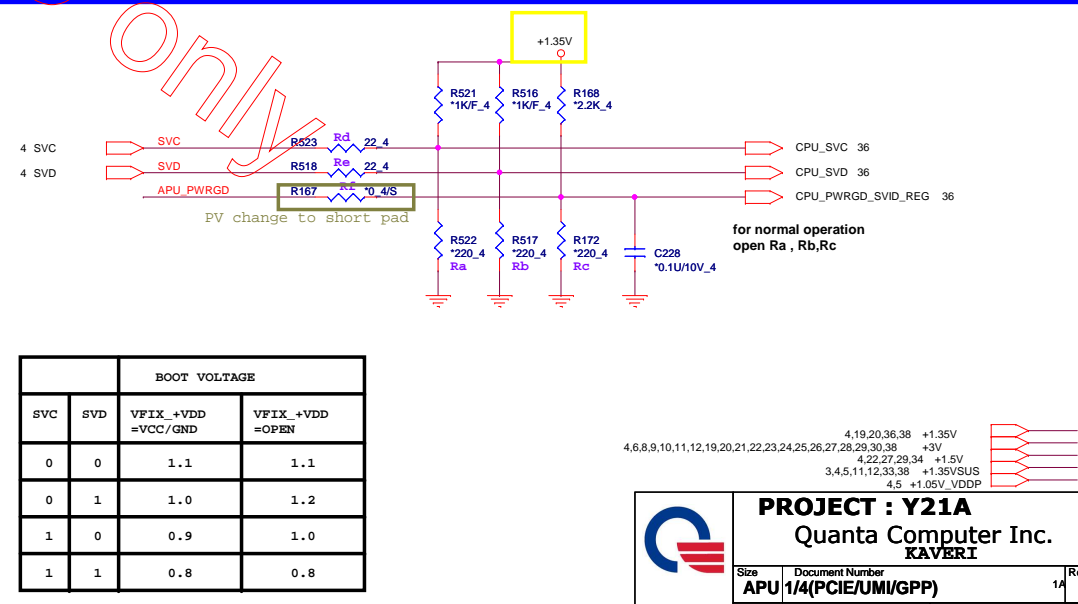
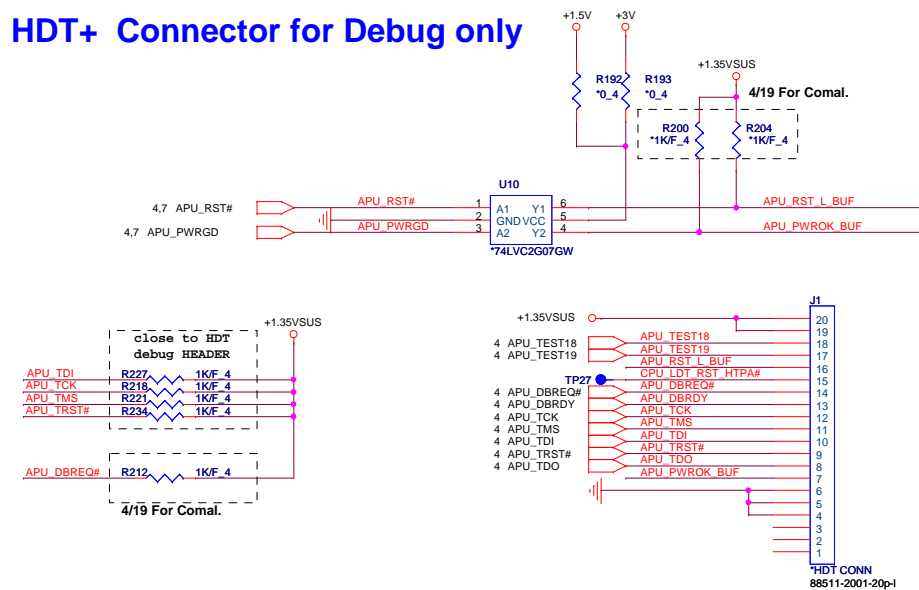


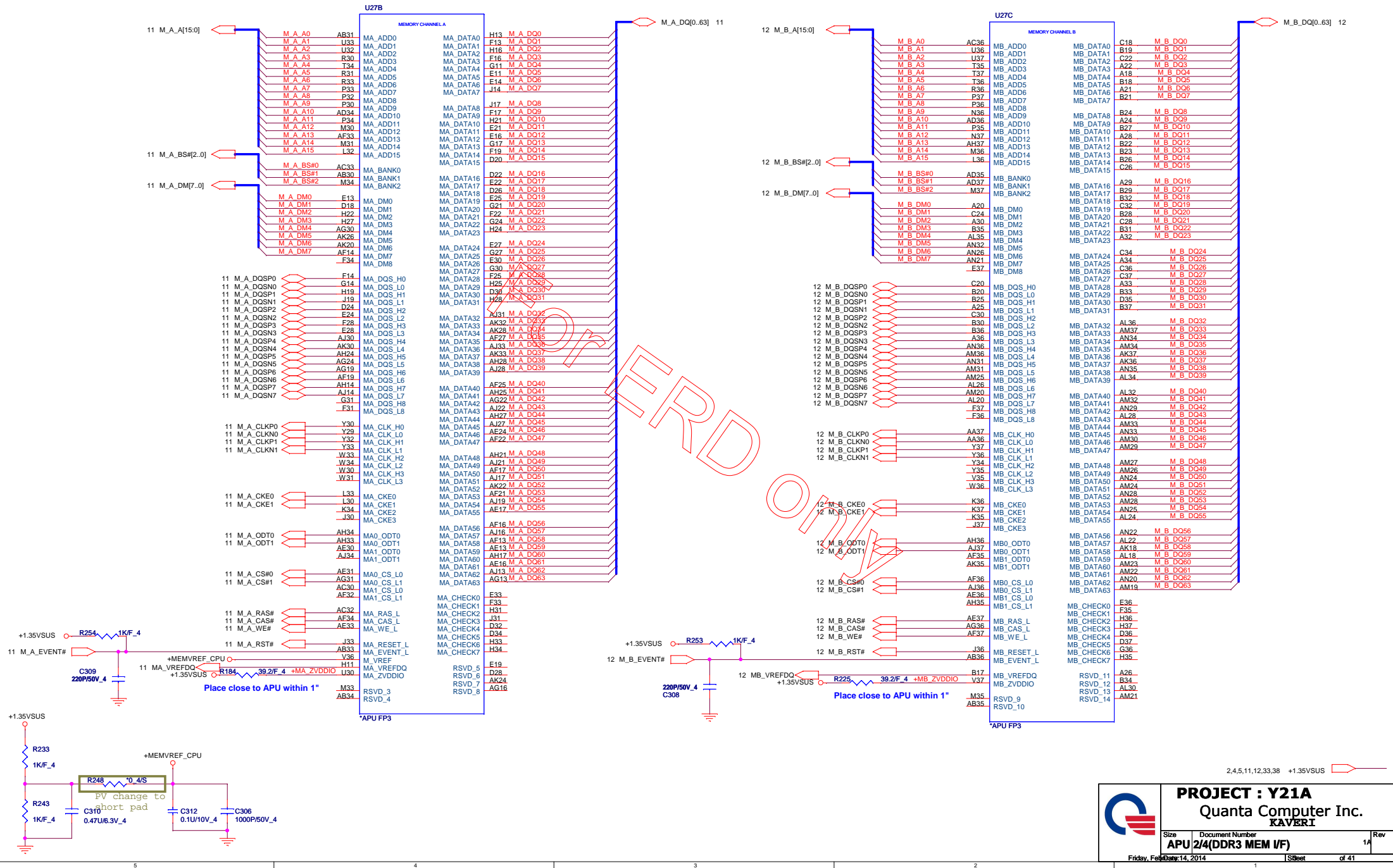
# VINE\_AMD Kaveri DIS/UMA (14"/15.6"/17.3")





## HDT+ Connector for Debug only

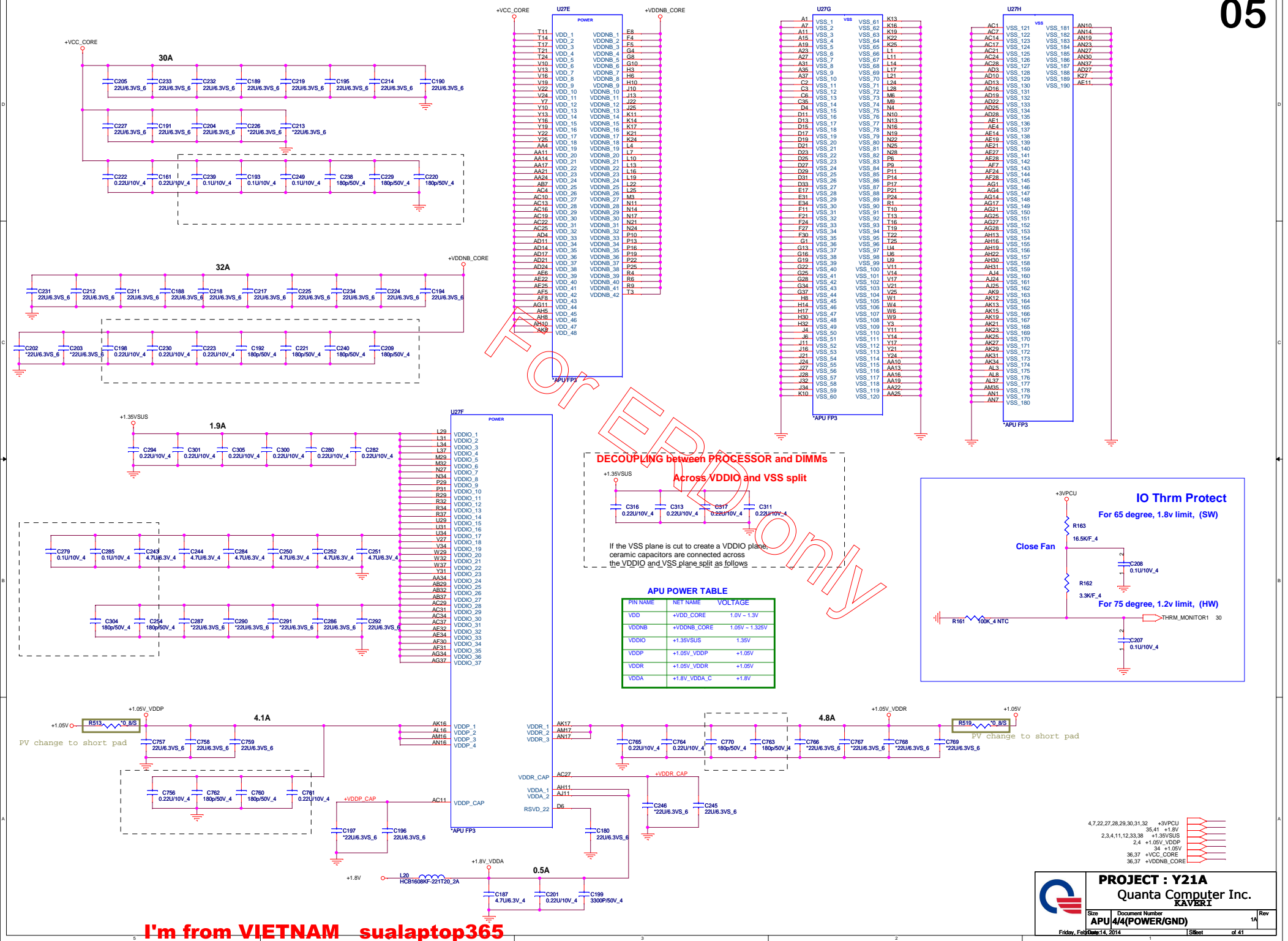




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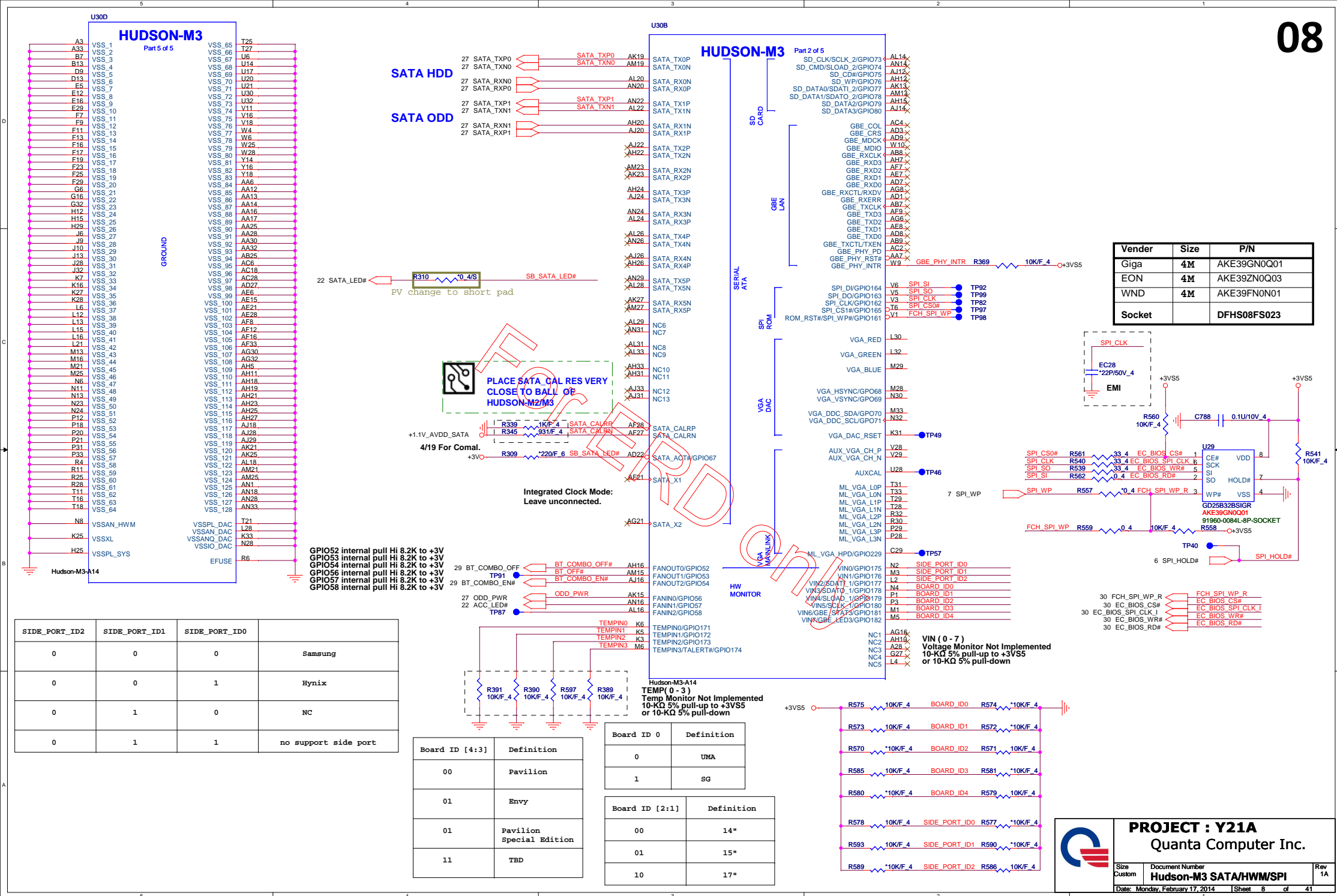
Rev.







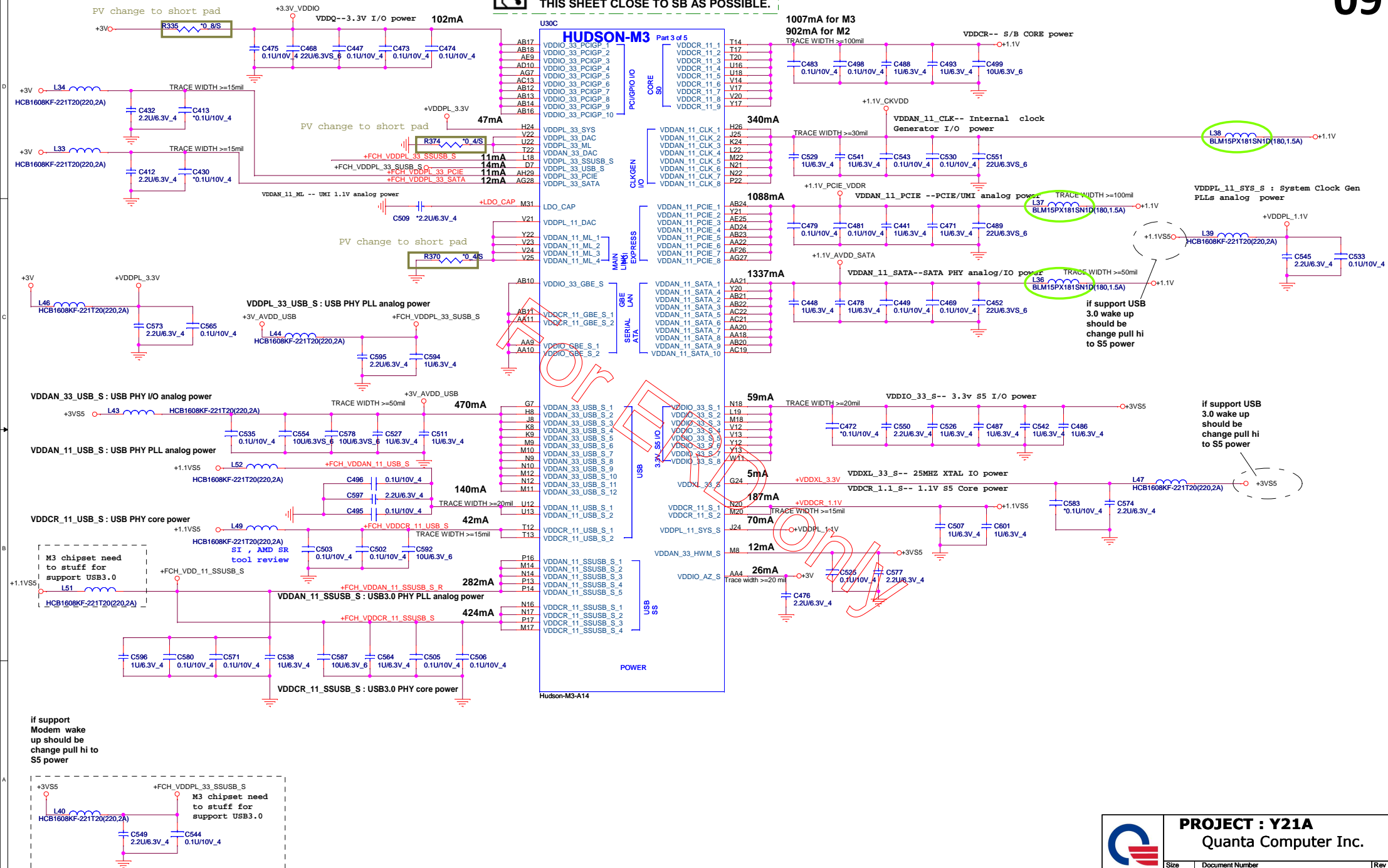






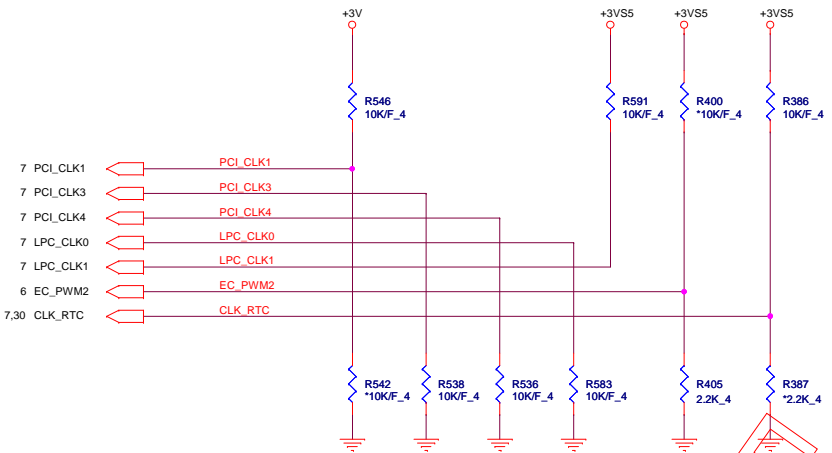


**PLACE ALL THE DECOUPLING CAPS ON THIS SHEET CLOSE TO SB AS POSSIBLE.**



STRAPS PINS

OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

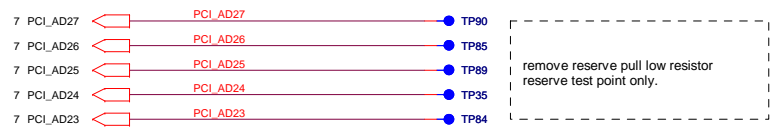


REQUIRED STRAPS

		PCI_CLK1		PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	CLK_RTC
PULL HIGH	-----	ALLOW PCIE Gen2  DEFAULT	-----	USE DEBUG STRAP  DEFAULT	non Fusion CLOCK MODE  DEFAULT	AMD internal EC ENABLED  DEFAULT	CLKGEN ENABLED  DEFAULT	LPC ROM  DEFAULT	S5 PLUS MODE ENABLED  DEFAULT
PULL LOW	-----	FORCE PCIE Gen1	-----	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED DEFAULT	CLKGEN DISABLED	SPI ROM  DEFAULT	S5 PLUS MODE DISABLED

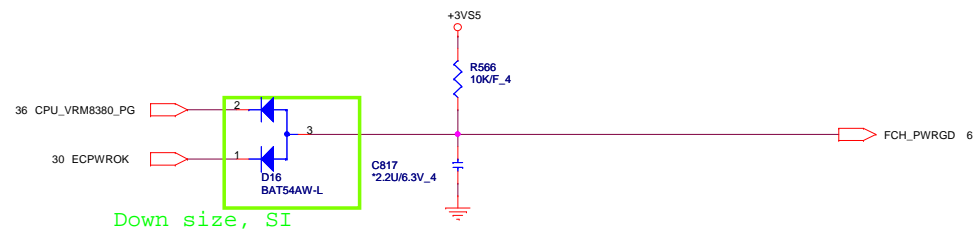
DEBUG STRAPS

FCH has 15K Internal Pull Up for PCI\_AD[27:23]



	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL  DEFAULT	DISABLE ILA AUTORUN  DEFAULT	USE FC PLL  DEFAULT	USE DEFAULT PCIE STRAPS  DEFAULT	DISABLE PCI MEM BOOT  DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

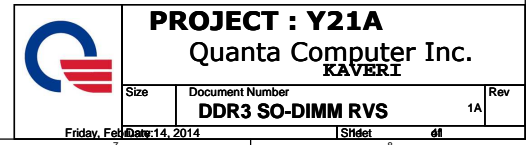
FCH\_PWRGD

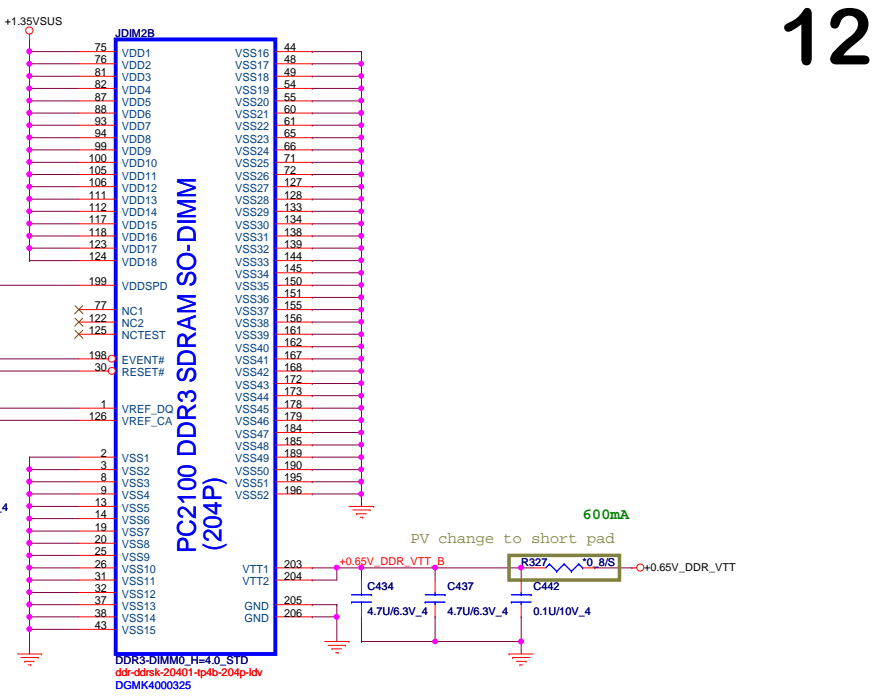
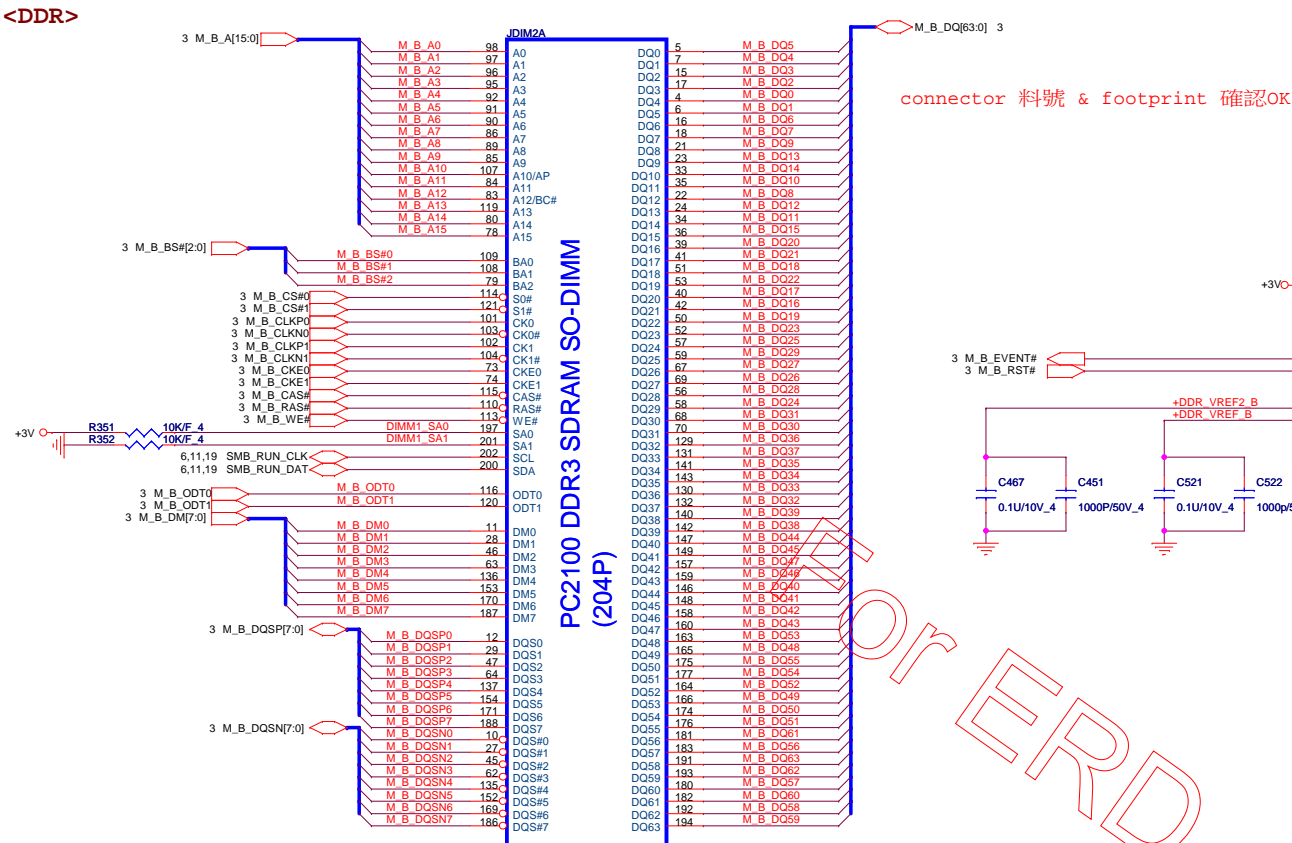


Down size, SI

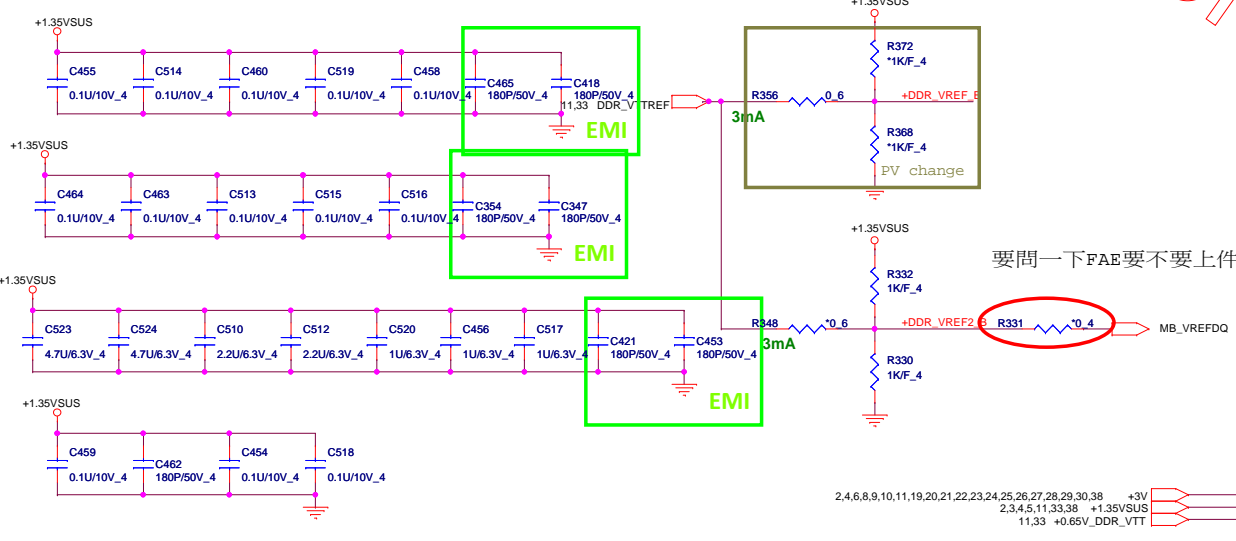
**PROJECT : Y21A**  
Quanta Computer Inc.

Size Custom	Document Number <b>Hudson-M3 STRAP/PWRGD</b>	Rev 1A
Date: Friday, February 14, 2014		Sheet 10 of 41



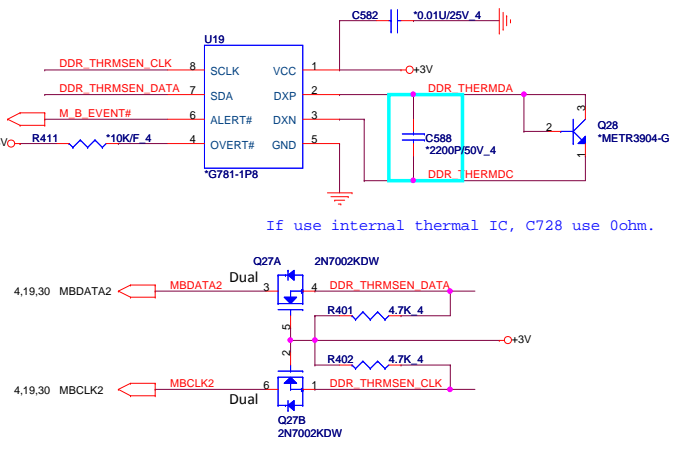


Place these Caps near So-Dimm B




Local Thermal Sensor

DDR3 Thermal Sensor



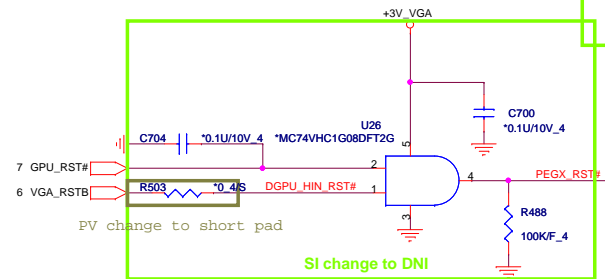
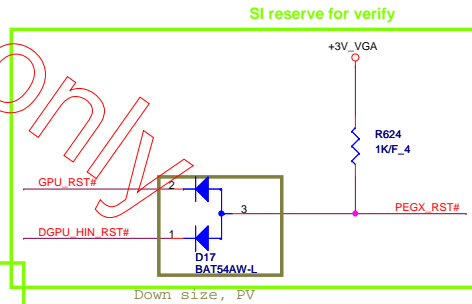
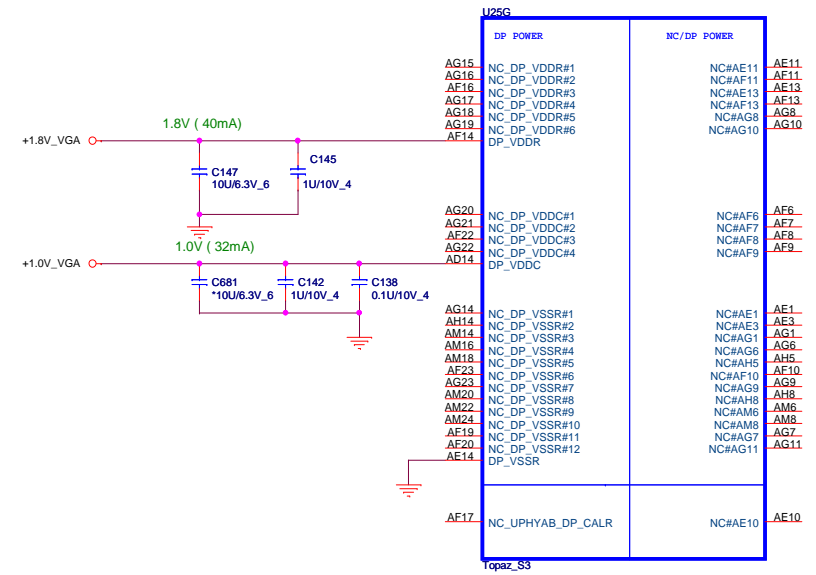
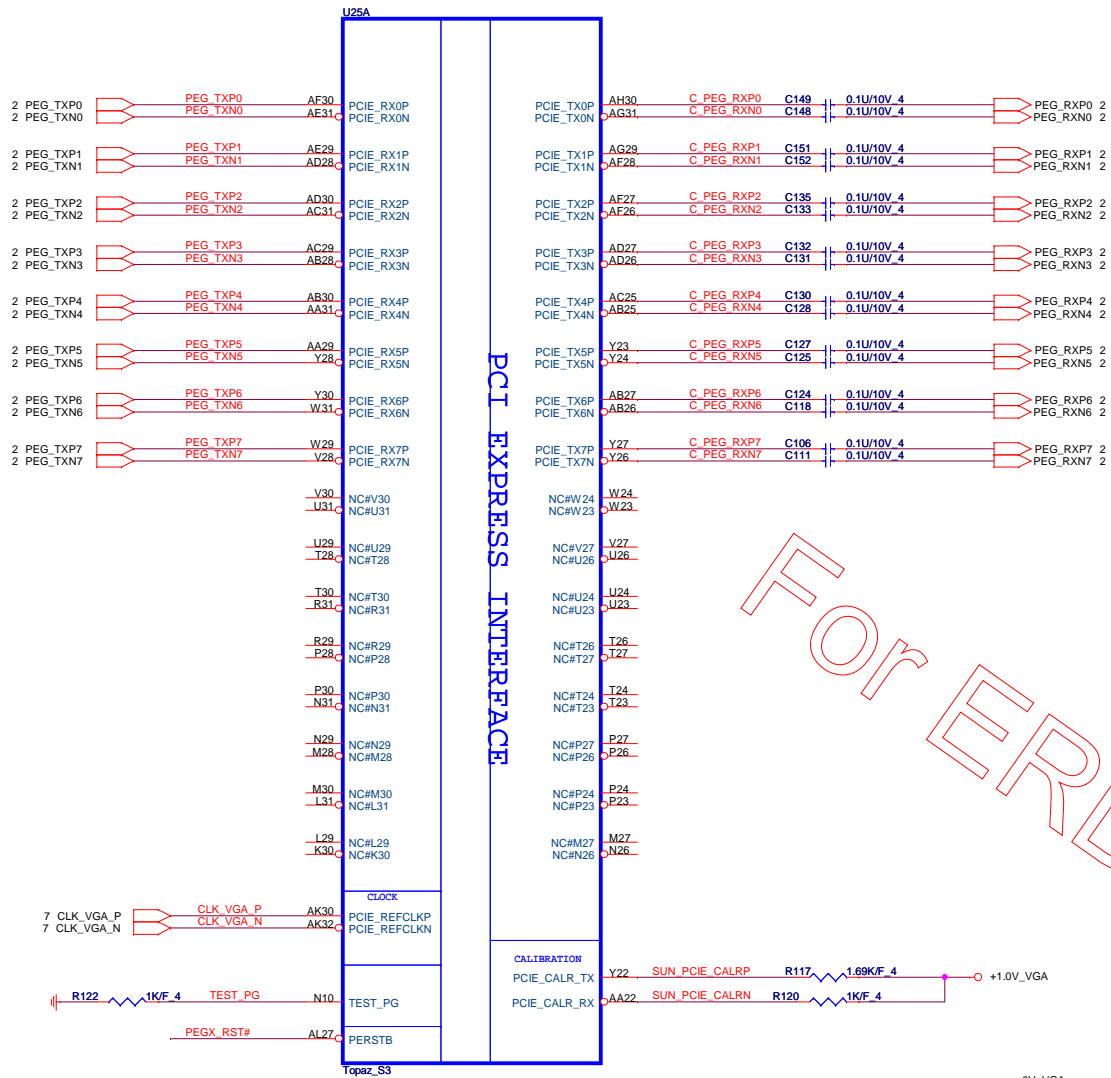
Main:AL000781039	G781-1P8(9Ah)
2nd:AL001412005	EMC1412-2-ACZL-TR(9Ah)
Main:AL001412003	EMC1412-1-ACZL-TR(98h)
2nd:AL000431014	TMP431ADGKR(98h)



**PROJECT : Y21A**  
Quanta Computer Inc.  
KAVERI

Size	Document Number	Rev
	<b>DDR3 SO-DIMM STD</b>	1A

Friday, Feb 14, 2014 15:01 of 41



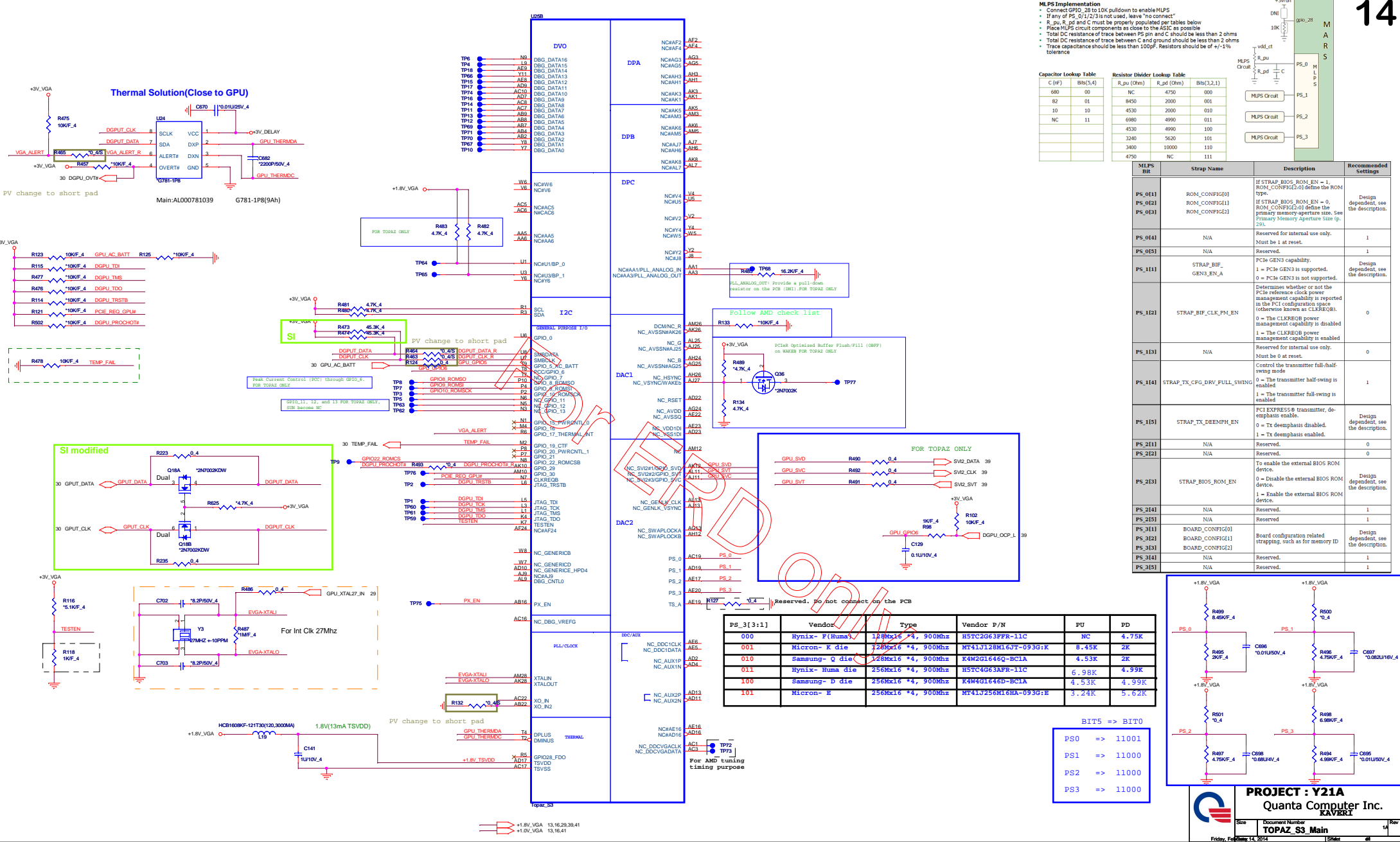
14,16,41 +3V\_VGA  
14,16,29,39,41 +1.8V\_VGA  
16,41 +1.0V\_VGA

PROJECT : Y21A				
Quanta Computer Inc.				
KAVERI				
Size	Document Number	TOPAZ S3 PCIE/DP power		Rev
1A				

Friday, February 14, 2014

Sheet 11 of 11





**MLPS Implementation**

- Connect GPIO\_28 to 10K pull-down to enable MLPS
- If any of PS\_0/1/2/3 is not used, leave "no connect"
- R<sub>pu</sub>, R<sub>pd</sub> and C must be properly populated per table below
- Place MLPS circuit components as close to the ASIC as possible
- Total DC resistance of trace between PS pin and C should be less than 2 ohms
- Total DC resistance of trace between C and ground should be less than 2 ohms
- Trace capacitance should be less than 100pF. Resistors should be of +/-1% tolerance

**Capacitor Lookup Table**

C (pF)	R <sub>pu</sub> (Ohm)	R <sub>pd</sub> (Ohm)	BIN(3,2,1)
680	00	NC	4750
82	01	8450	2000
10	10	4530	2000
NC	11	6980	4990
		4530	4990
		3240	5620
		3400	10000
		4750	NC

**Resistor Divider Lookup Table**

R <sub>pu</sub> (Ohm)	R <sub>pd</sub> (Ohm)	BIN(3,2,1)
NC	NC	4750
8450	2000	001
4530	2000	010
6980	4990	011
4530	4990	100
3240	5620	101
3400	10000	110
NC	NC	111

**MLPS Circuit**

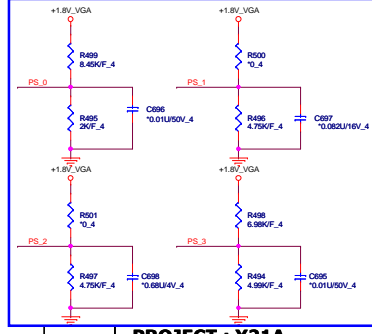
PS\_0

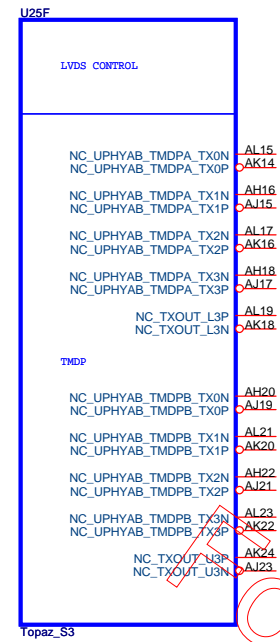
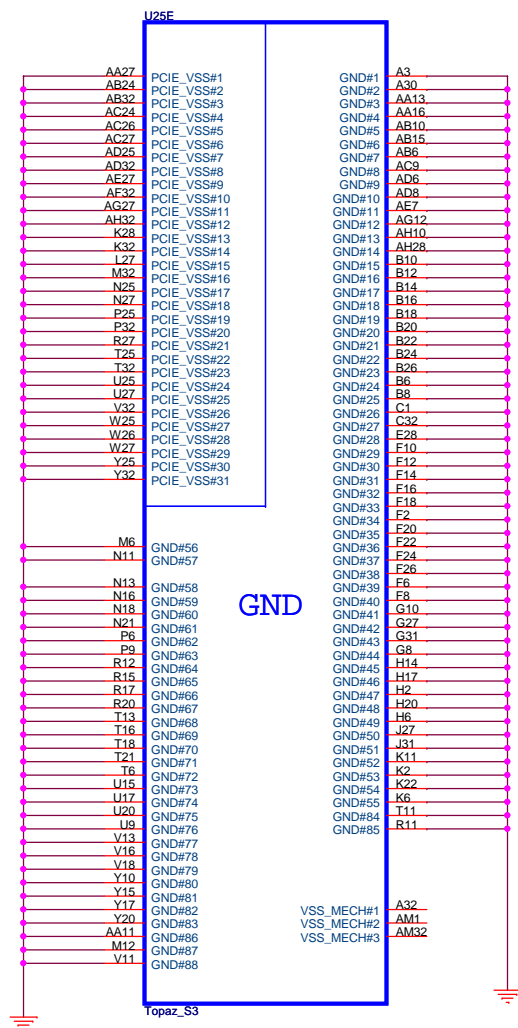
PS\_1

PS\_2

PS\_3

PS_3[3:1]	Vendor	Type	Vendor P/N	PU	PD
000	Hynix- F(Huma	128Mx16 *4, 900Mhz	H5TC2G63FPR-11C	NC	4.75K
001	Micron- K die	128Mx16 *4, 900Mhz	MT41J128M16J7-093G:R	8.45K	2K
010	Samsung- Q die	128Mx16 *4, 900Mhz	K4W2G1646Q-BC1A	4.53K	2K
011	Hynix- Huma die	256Mx16 *4, 900Mhz	H5TC4G63AFR-11C	6.98K	4.99K
100	Samsung- D die	256Mx16 *4, 900Mhz	K4W4G1646D-BC1A	4.53K	4.99K
101	Micron- E	256Mx16 *4, 900Mhz	MT41J256M16HA-093B:E	3.24K	5.62K





### CONFIGURATION STRAPS-- SEE EACH DATABOOK FOR STRAP DETAILS

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

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	RECOMMENDED SETTINGS
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	0
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
RSVD	GPIO2	RESERVED	0
RSVD	GPIO8	RESERVED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RSVD	GPIO21	RESERVED	0
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM	0
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	0 0 1
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS (Removed on Seymour/W/histler)	0
RSVD	H2SYNC	RESERVED	0
AUD[1] AUD[0]	HSYNC VSYNC	SEE DATABOOK FOR DETAIL SEE DATABOOK FOR DETAIL	0 0
RSVD	GENERICC	RESERVED	0

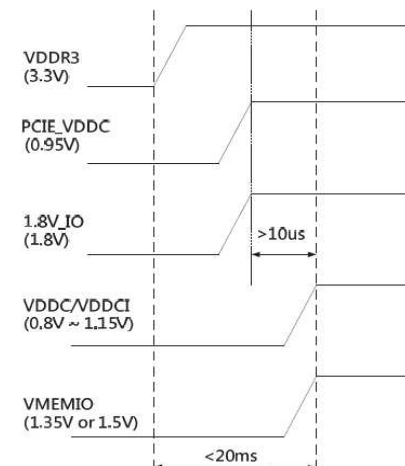
### NOTE1: AMD RESERVED CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS BUT DO NOT INSTALL RESISTOR. IF THESE GPIOS ARE USED, THEY MUST KEEP "LOW" AND NOT CONFLICT DURING RESET.

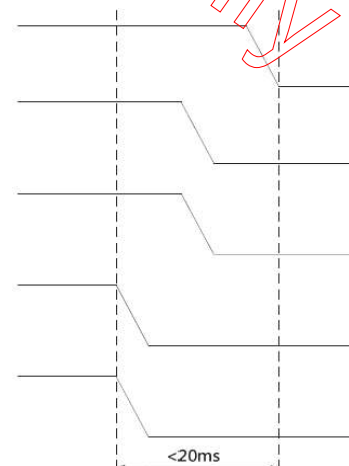
GPIO21 H2SYNC GENERICC GPIO8 GPIO2

### POWER UP / POWER DOWN SEQUENCE

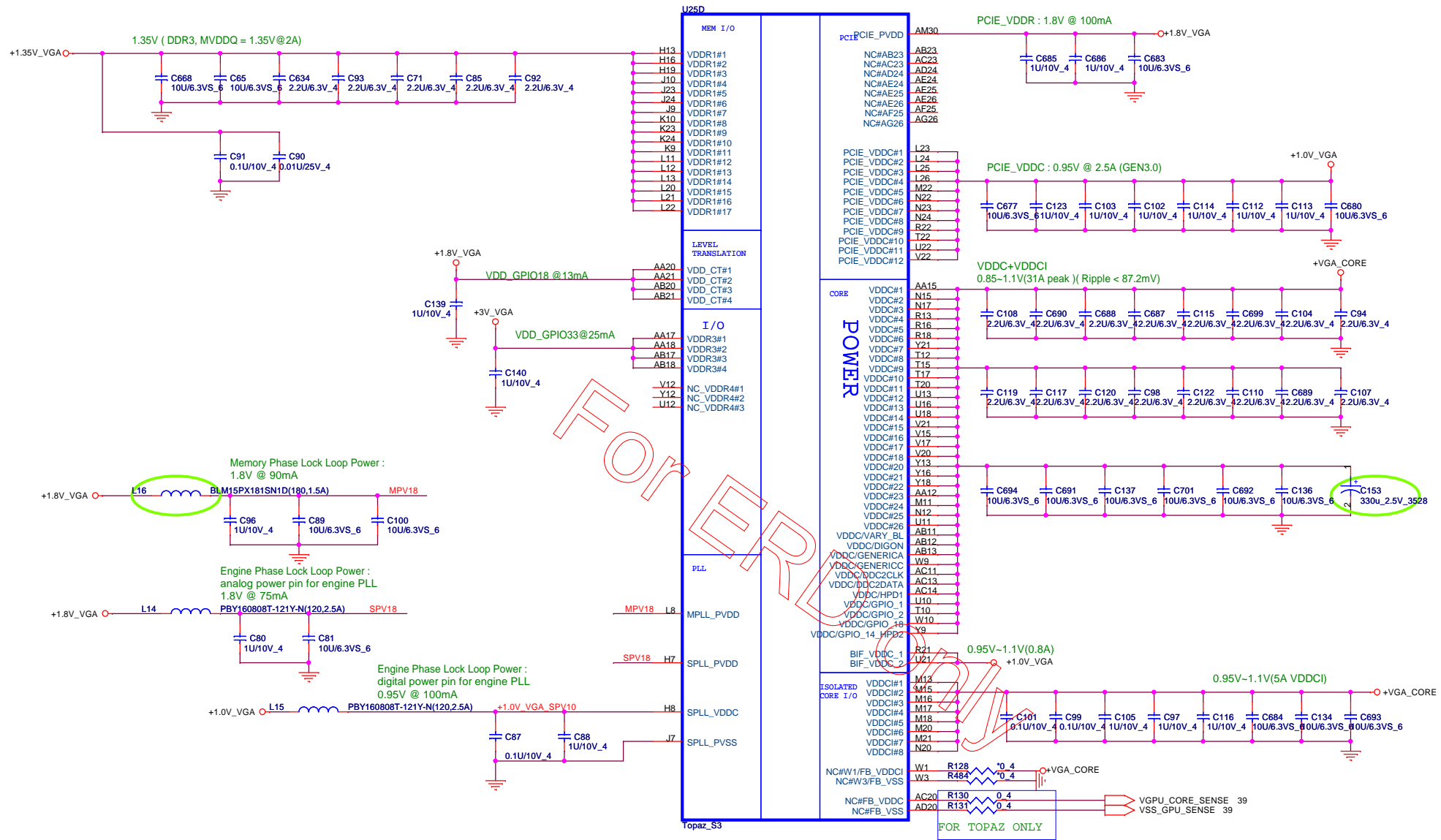
#### POWER UP



#### POWER DOWN

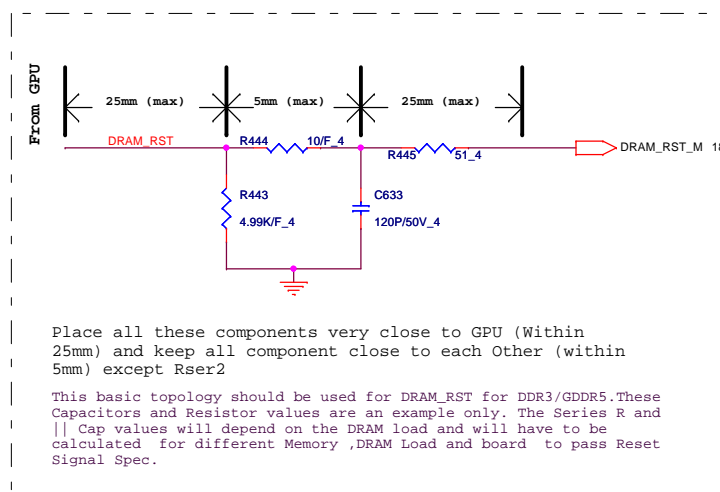
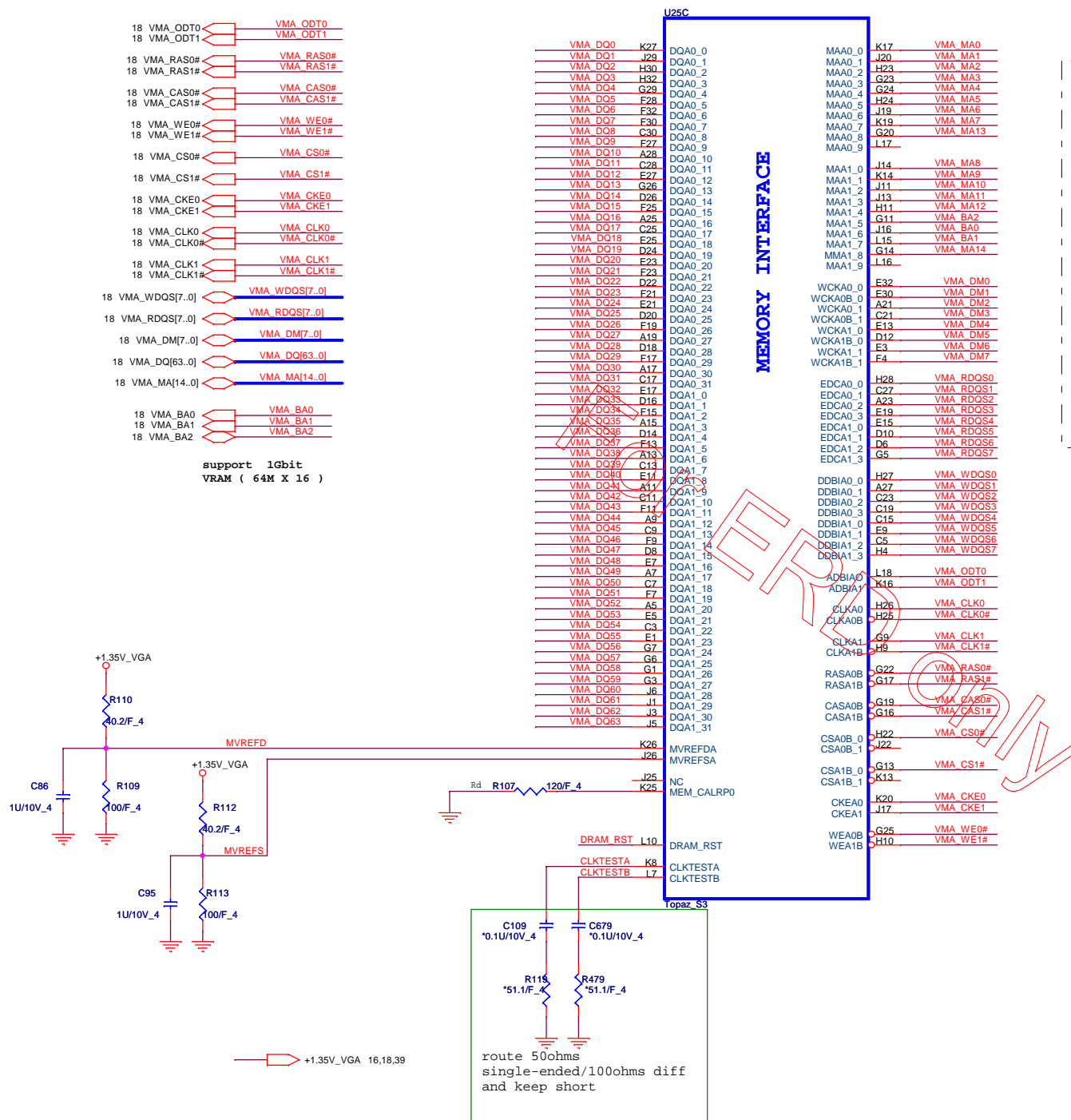


		<b>PROJECT : Y21A</b>	
		Quanta Computer Inc.	
		KAVERI	
Size	Document Number	1A	Rev
	TOPAZ_S3_GND/LVDS/Strap		
Thursday, February 06, 2014	Sheet	41	



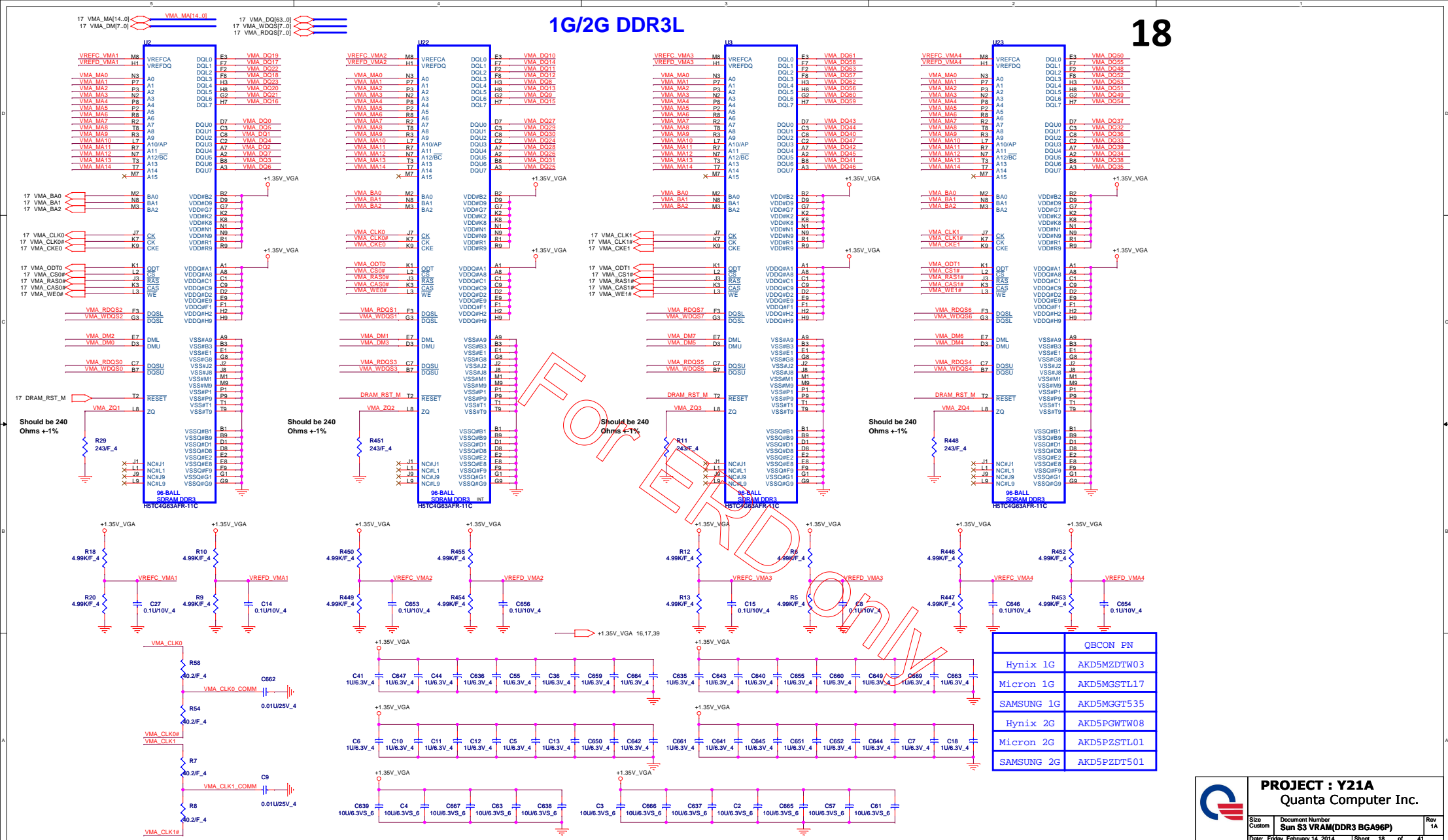
+1.35V\_VGA 17,18,39  
 +1.8V\_VGA 13,14,29,39,41  
 +1.0V\_VGA 13,41  
 +VGA\_CORE 39,40

	<b>PROJECT : Y21A</b>		
	<b>Quanta Computer Inc.</b>		
Size	Document Number		Rev
	<b>TOPAZ S3 Power</b>		1A
Friday, Feb 14, 2014		Sheet	61

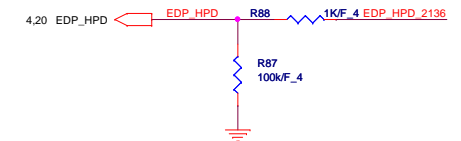


## 1G/2G DDR3L

18







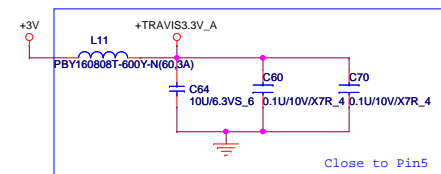
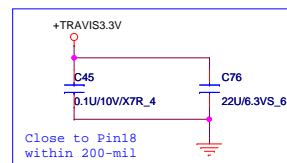
Close to Pin11

Close to Pin17

Close to Pin43

SWR: Stuff L16

LDO: Stuff R58



		MODE_CFG0(PIN47)	
		0	1
MODE_CFG1(PIN48)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

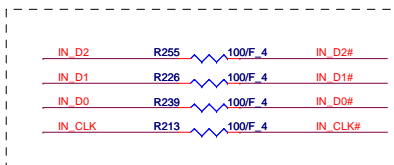
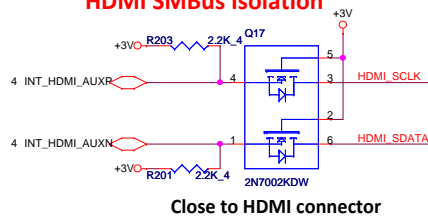
EC SMBUS

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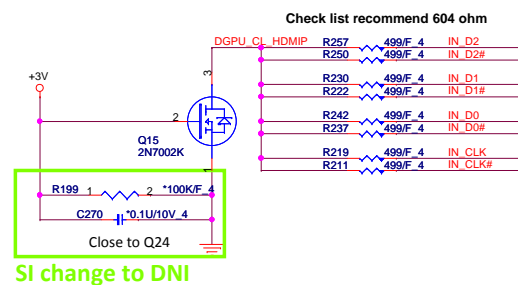


## HDMI Conn.

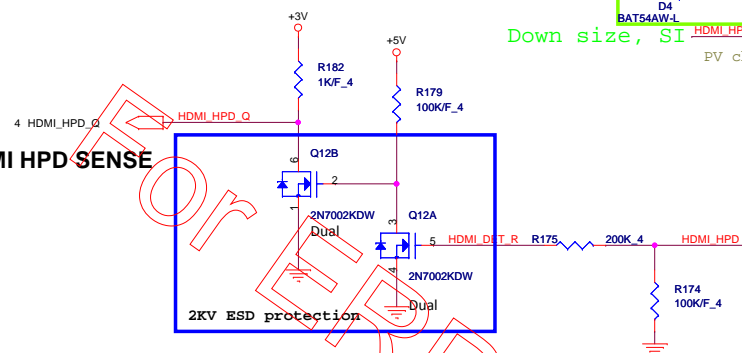
## HDMI SMBus Isolation



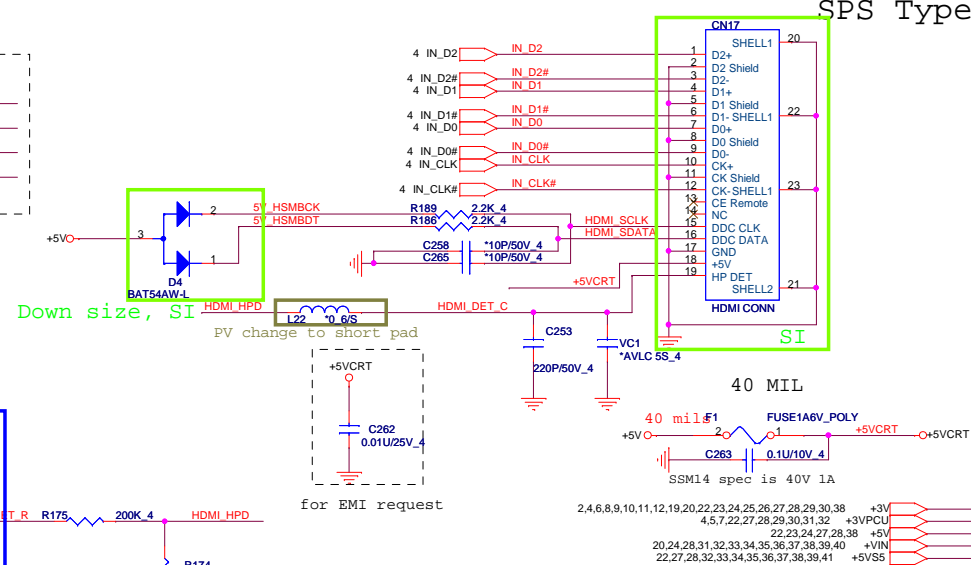
Down size, SI




## HDMI HPD SENSE



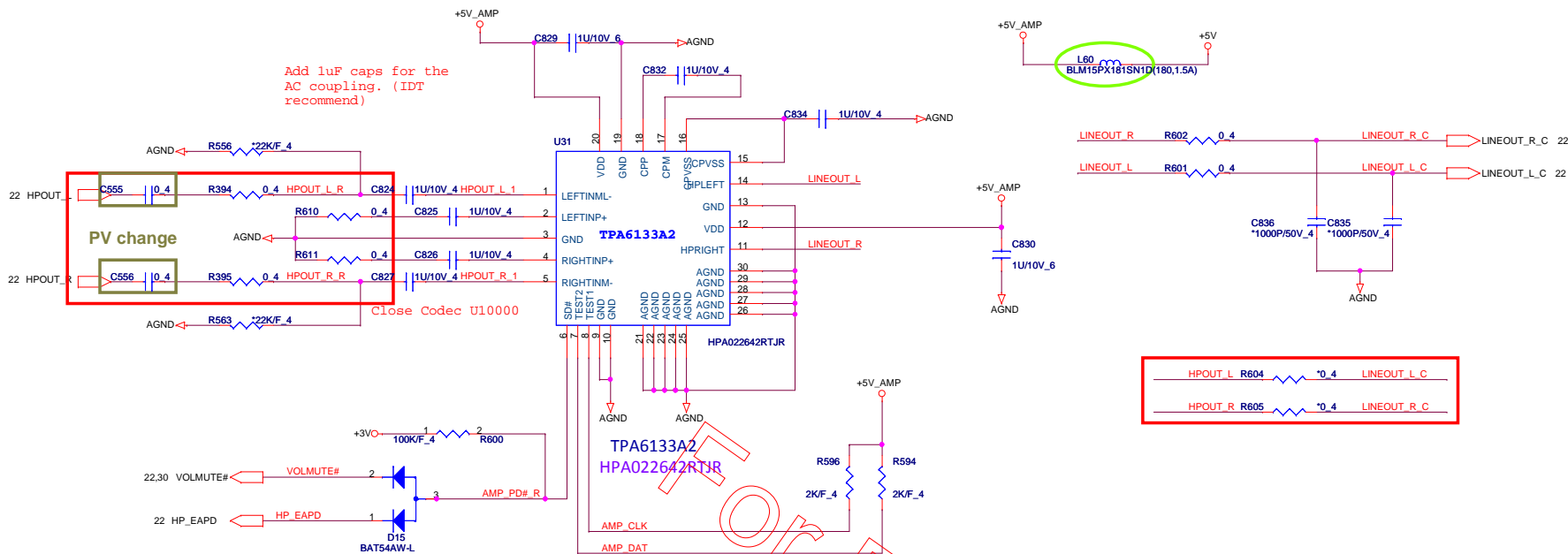
for EMI request



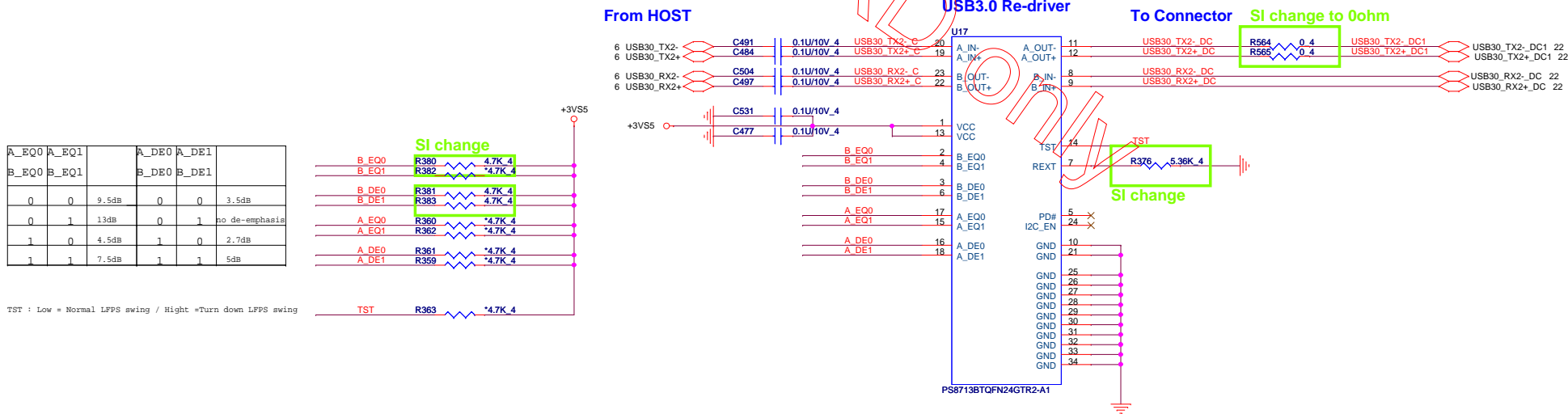
## SPS Type

 <b>PROJECT : Y21A</b> Quanta Computer Inc.		
Size Custom	Document Number <b>LCD Connector (LVDS)</b>	Rev 1A
Date: Friday, February 14, 2014	Sheet 21	of 41





## USB3.0 re-driver



A_EQ0	A_EQ1		A_DE0	A_DE1	
B_EQ0	B_EQ1		B_DE0	B_DE1	
0	0	9.5dB	0	0	3.5dB
0	1	13dB	0	1	no de-emphasis
1	0	4.5dB	1	0	2.7dB
1	1	7.5dB	1	1	5dB

TST : Low = Normal LFPS swing / High =Turn down LFPS swing

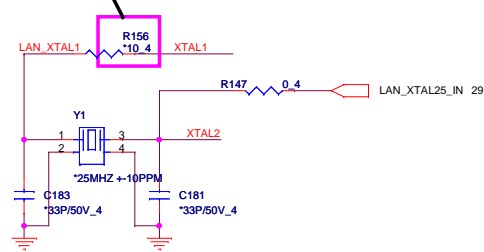
**PROJECT : Y21A**  
Quanta Computer Inc.

Size	Document Number	Rev
Custom	<b>AMP TPA6130A2/USB3 RE-DRIVER</b>	1A
Date: Friday, February 21, 2014	Sheet 23 of 41	



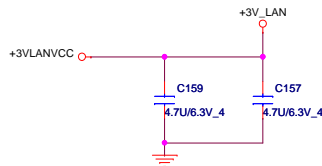
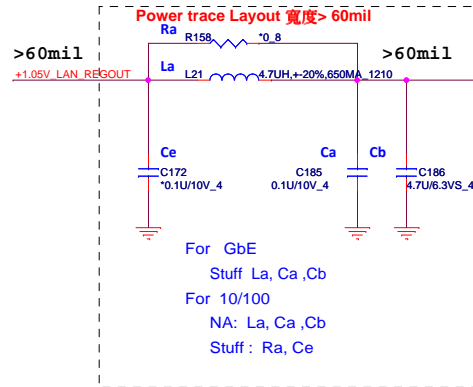


For EMI 0 ~ 22 ohm

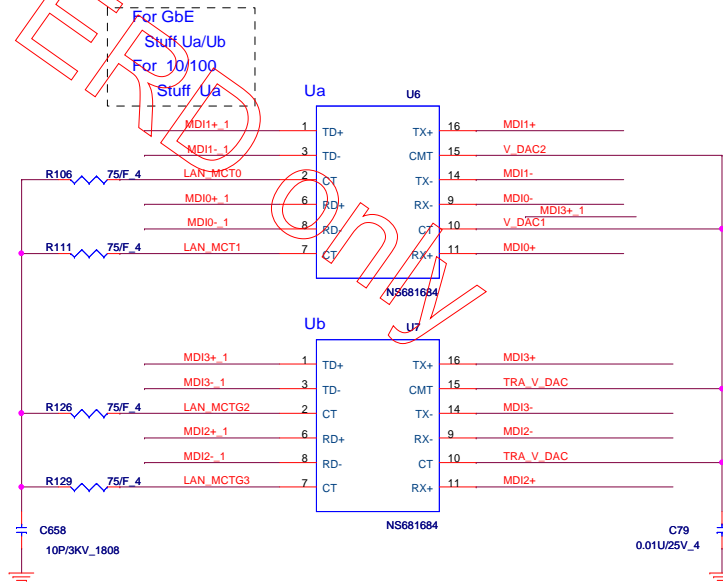
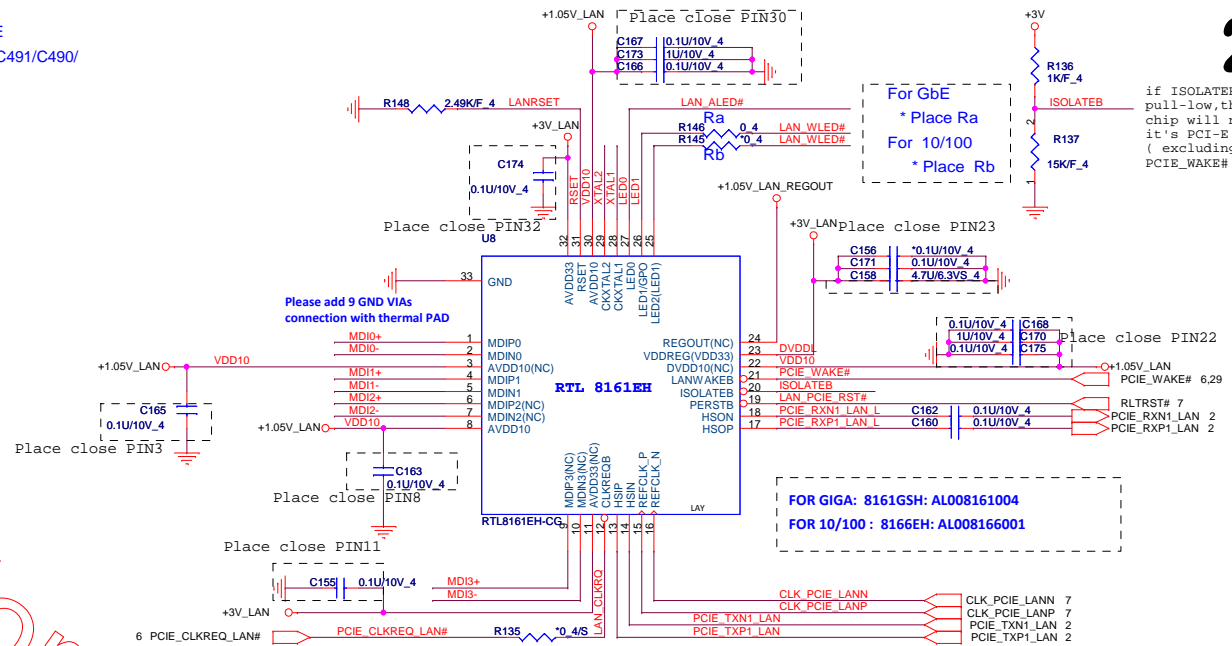
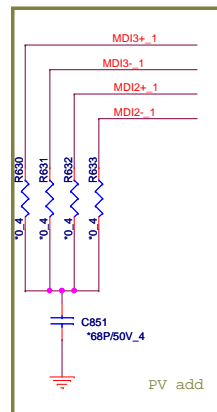


For GbE

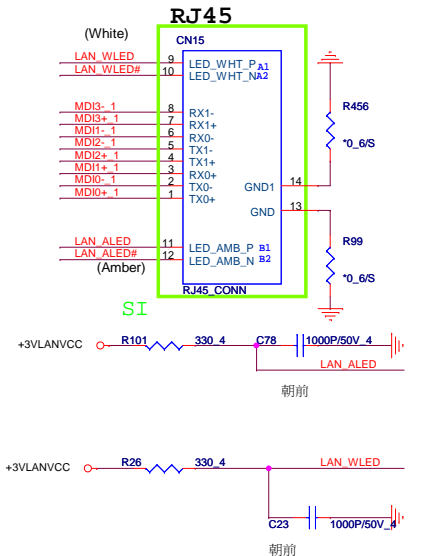
\* Place C491/C490/



For 10/100 stuff only



LAN conn TWD Type

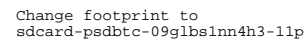


2,4,6,8,9,10,11,12,19,20,21,22,23,24,26,27,28,29,30,38 +3V  
29,38 +3V\_LANVCC Place close PIN23 and PIN32

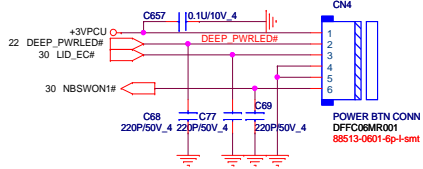
PROJECT : Y21A		
Quanta Computer Inc.		
Size	Document Number	Rev
Custom	RTL 8161EH/8166EH/RJ45	1A
Date: Friday, February 14, 2014	Sheet 25	of 41

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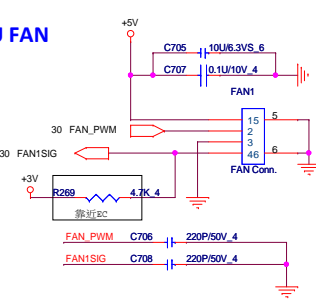
SD D0	EC16	5.6P/16V 4
SD D1	EC15	5.6P/16V 4
SD D2	EC24	5.6P/16V 4
SD D3	EC20	5.6P/16V 4



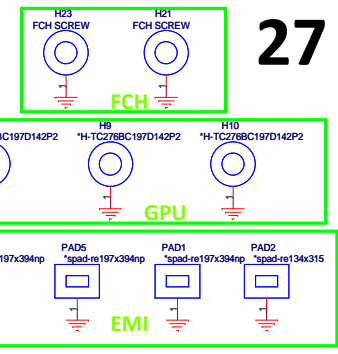
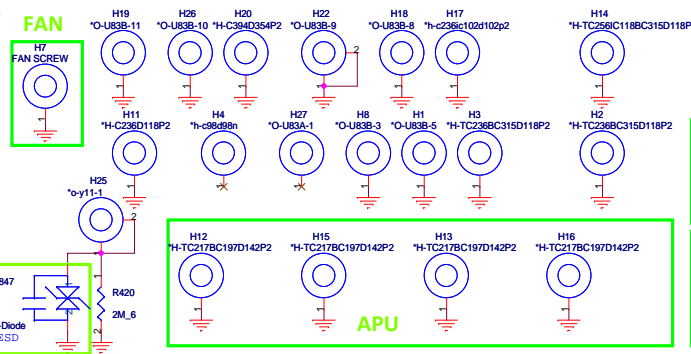
## Power Button Connector



## CPU FAN

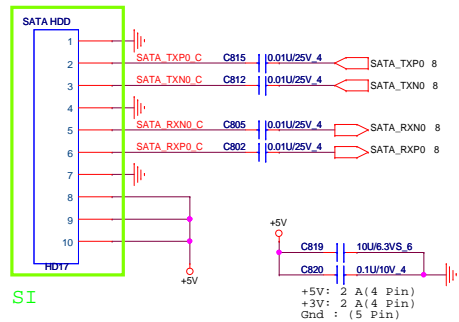


## Hole FAN

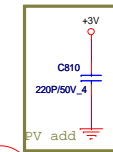
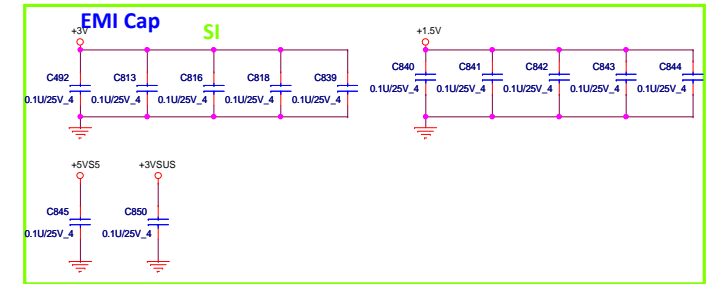
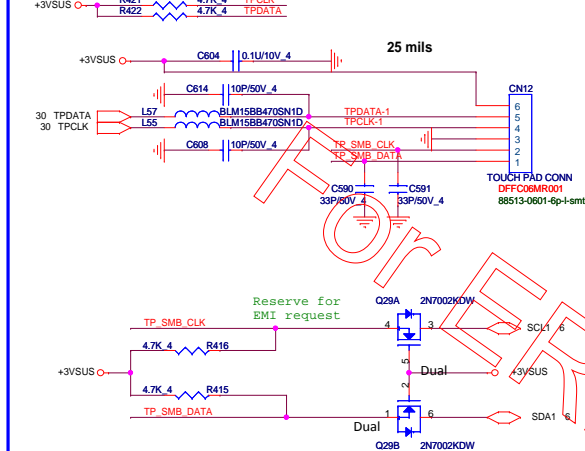


27

## SATA HDD Connector(Cable type)

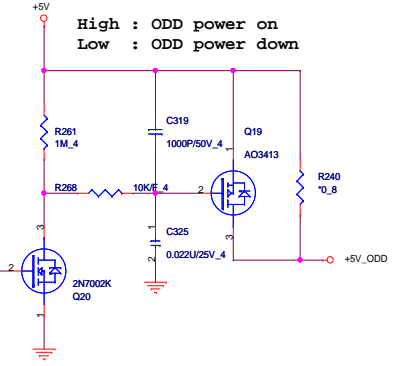
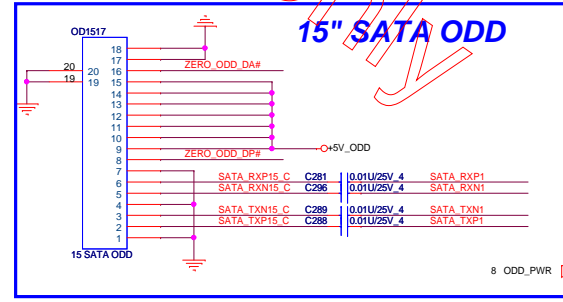
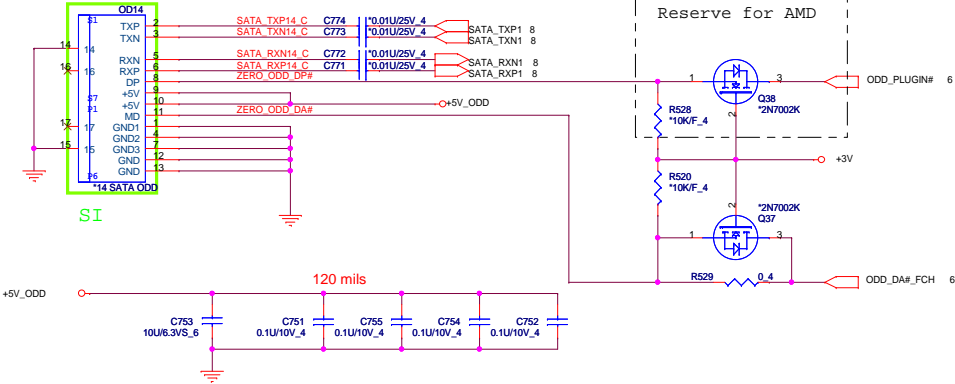


## Touch Pad



## SATA ODD CONNECTOR

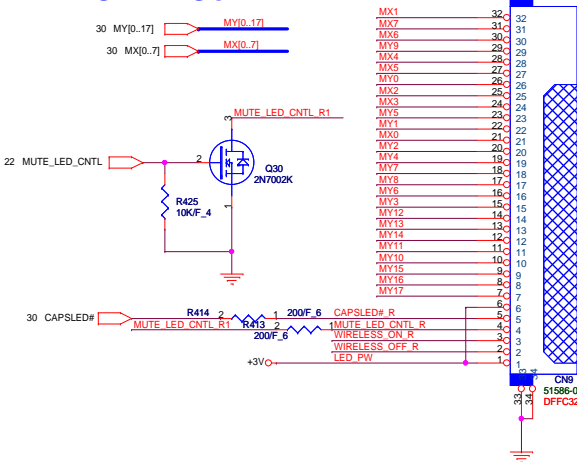
### NEW Type Bypass CAP close conn



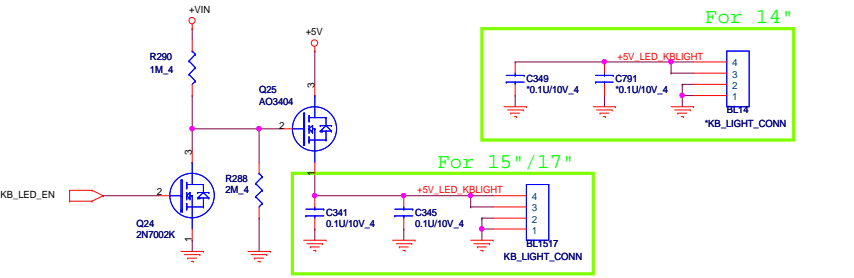
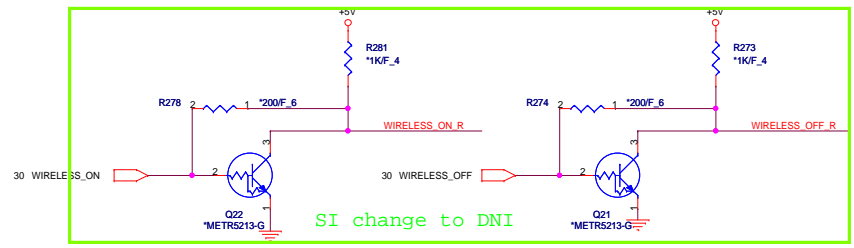
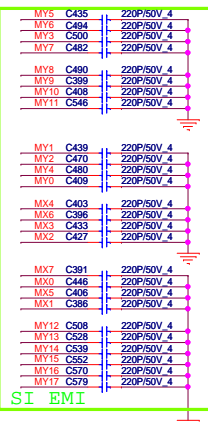
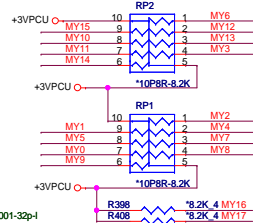
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PROJECT : Y21A Quanta Computer Inc.		
Size Custom	Document Number HDD/ODD/TP/FAN/HOLE/LID	Rev 1A
Date: Friday, February 14, 2014	Sheet 27 of	41

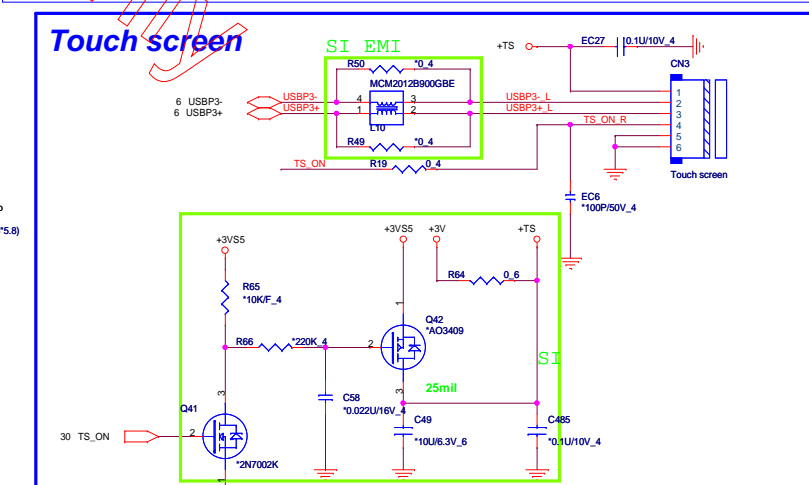
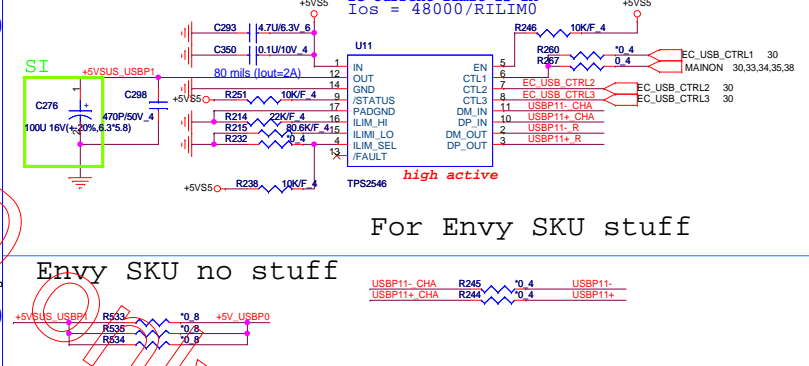
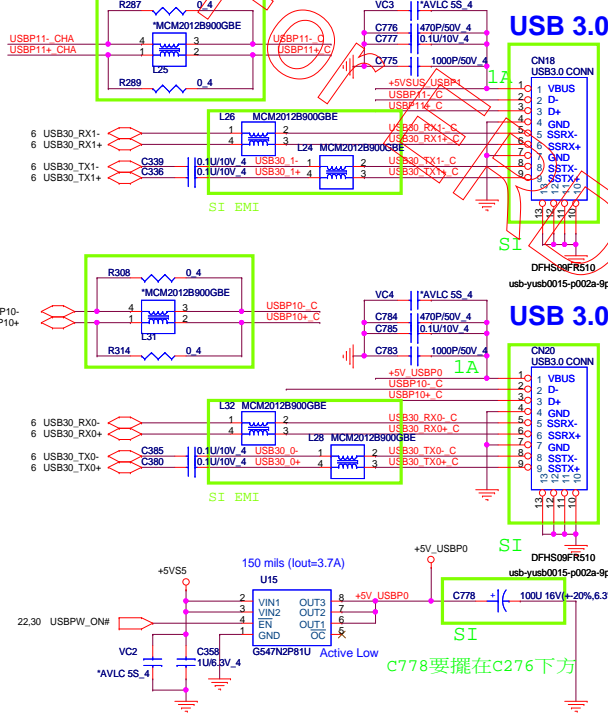
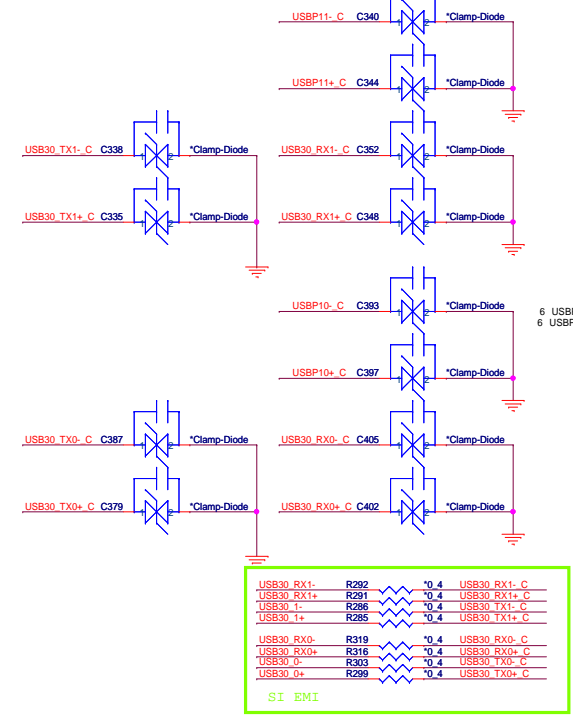
# KEYBOARD Con.



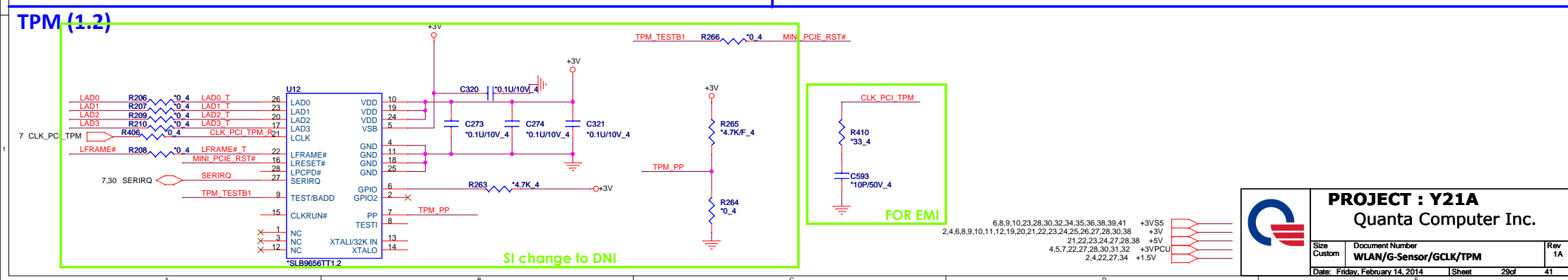
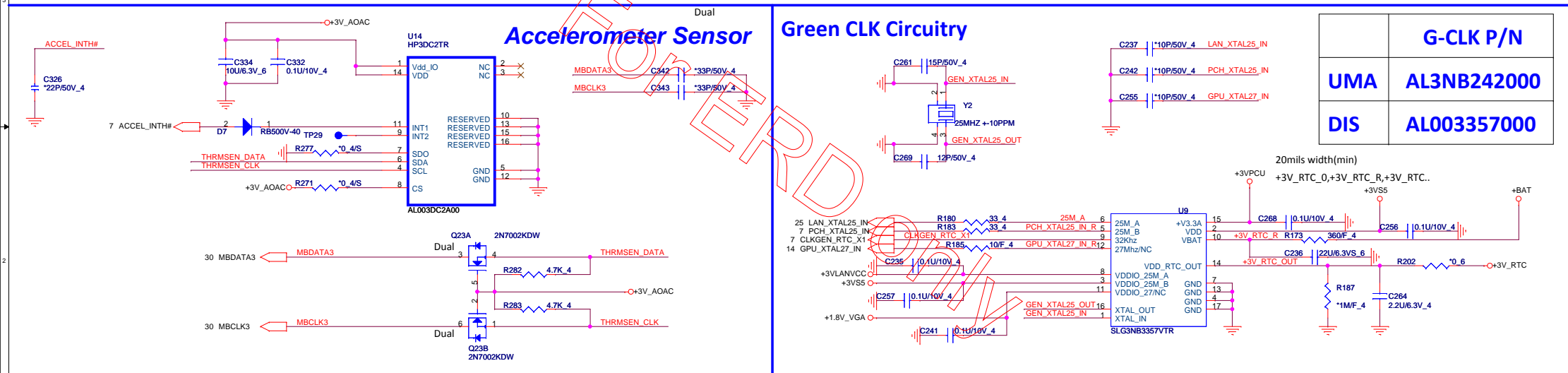
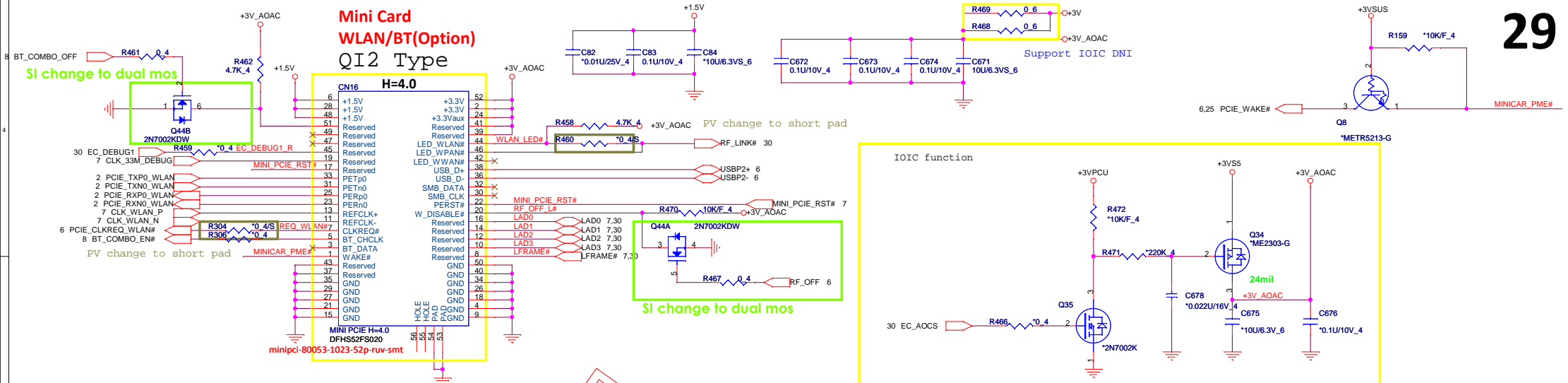
## KEYBOARD PULL-UP



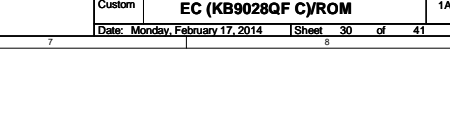
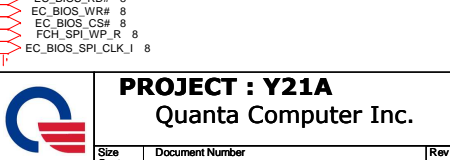
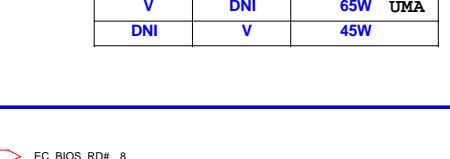
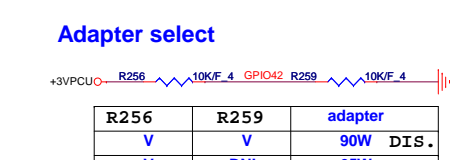
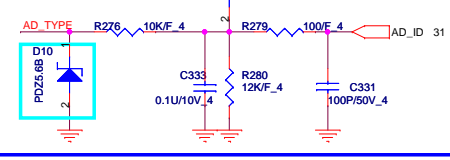
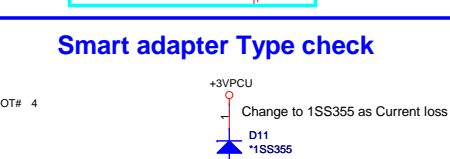
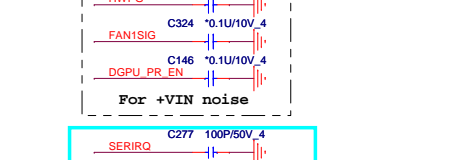
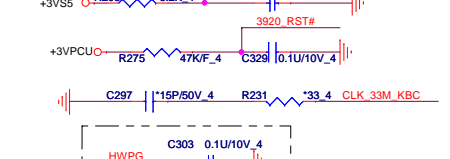
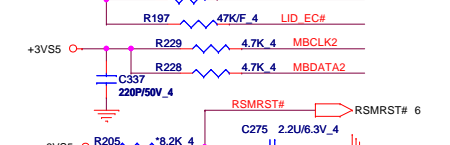
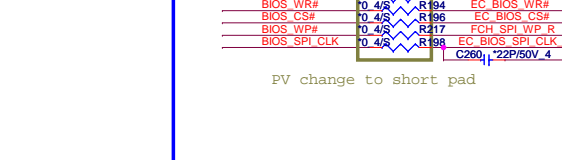
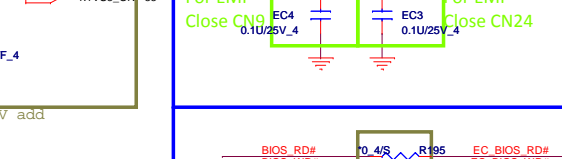
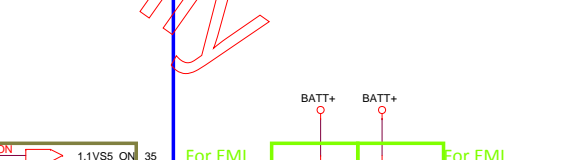
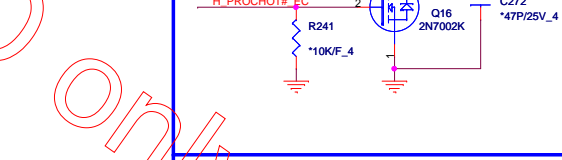
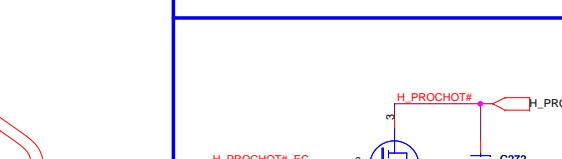
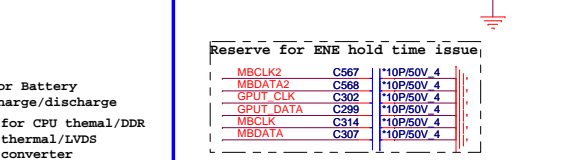
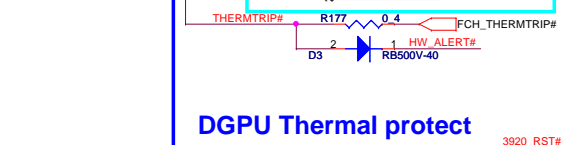
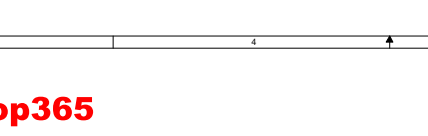
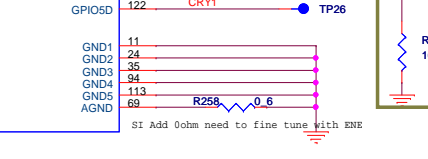
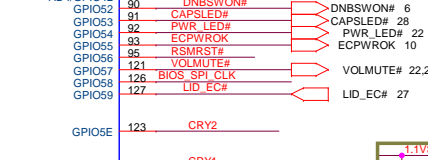
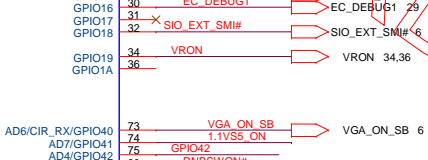
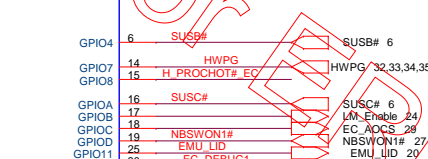
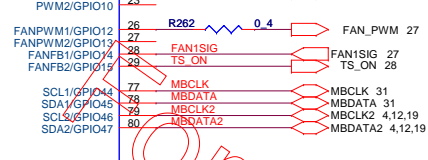
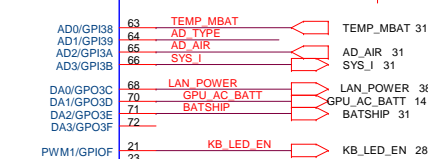
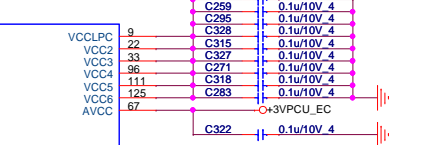
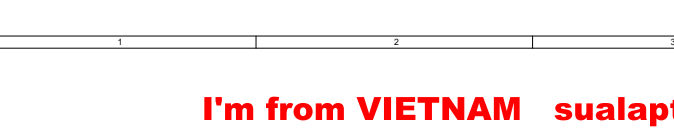
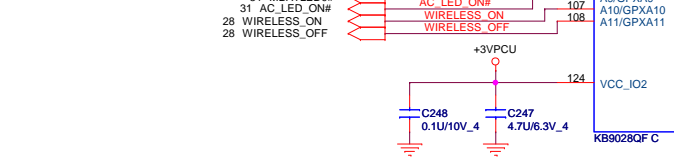
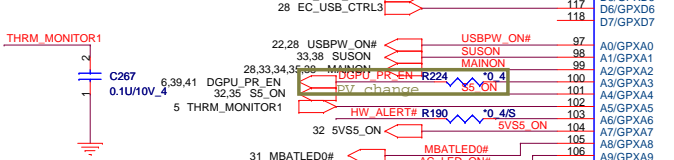
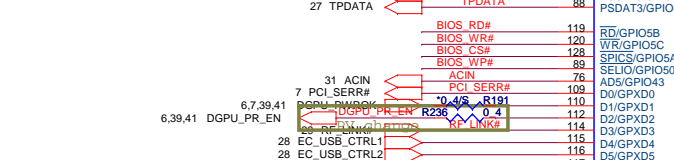
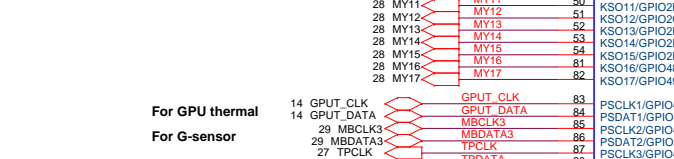
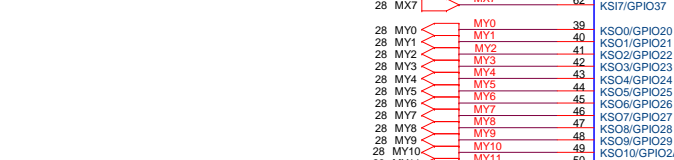
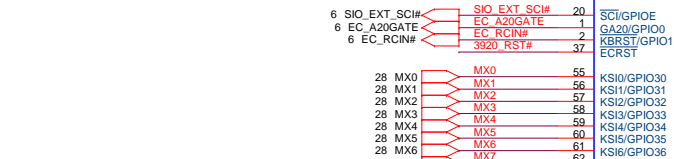
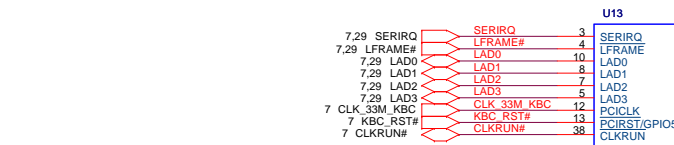
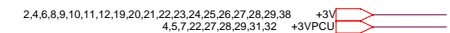
# USB 2.0/3.0 Combo



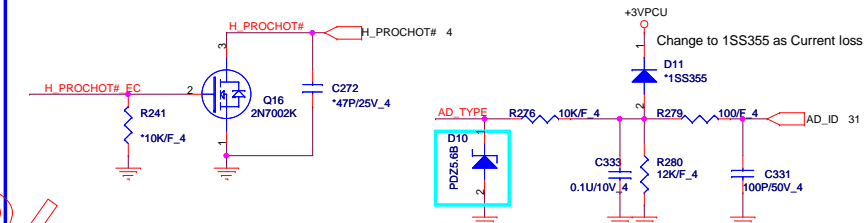




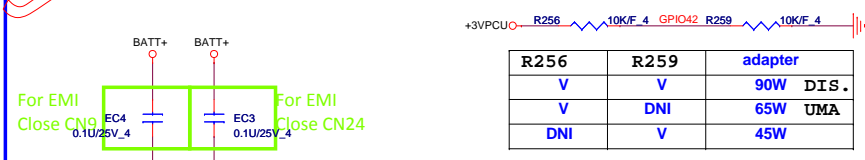
2,4,6,8,9,10,11,12,19,20,21,22,23,24,25,26,27,28,29,38  
4,5,7,22,27,28,29,31,32



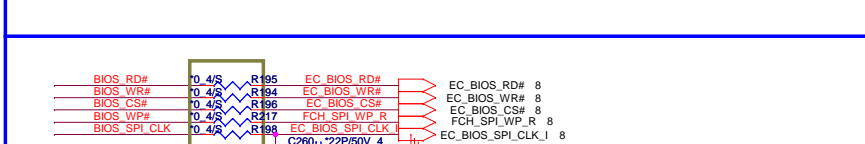
## Smart adapter Type check



## Adapter select

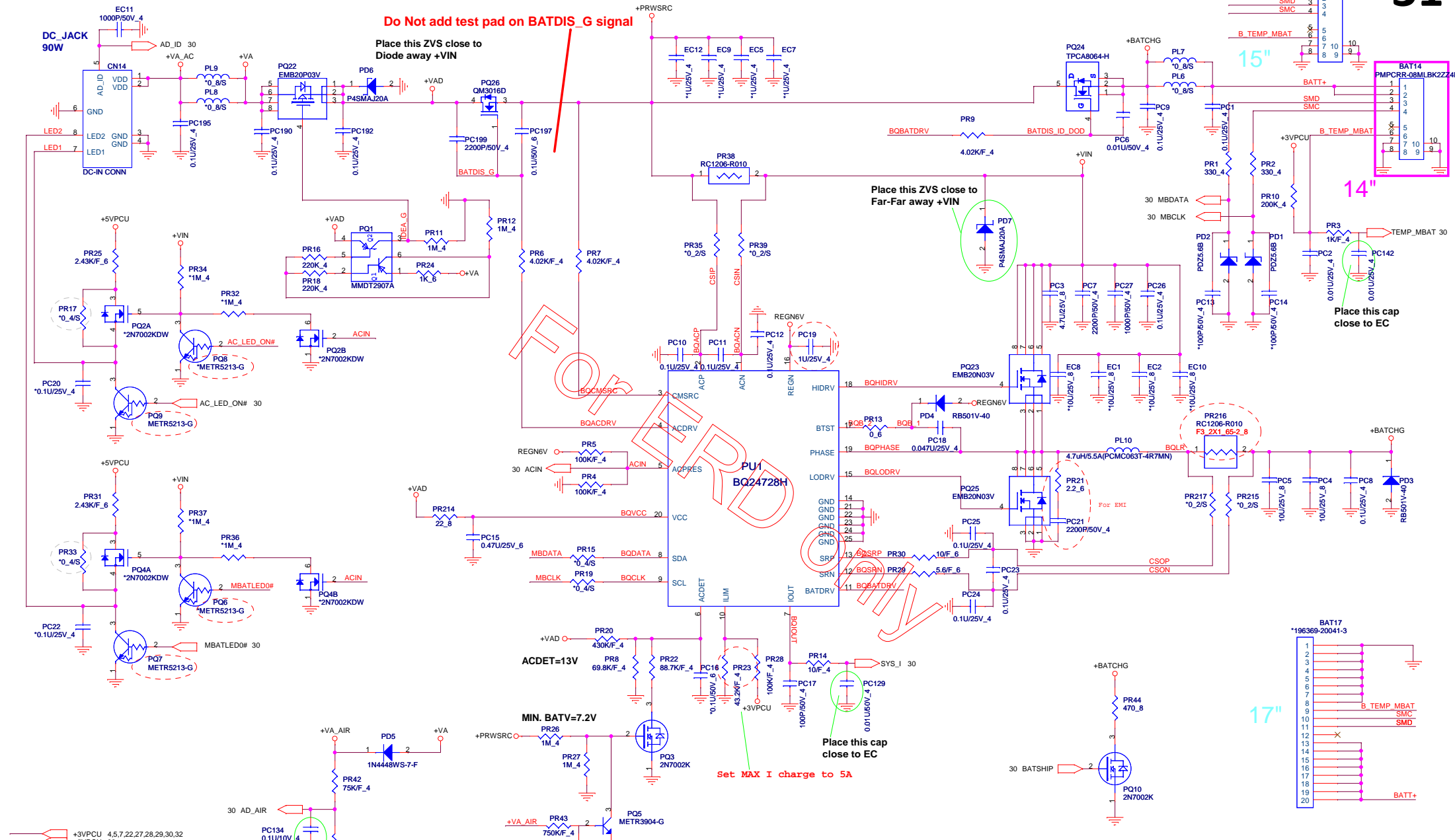


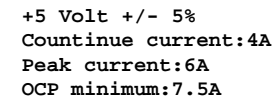
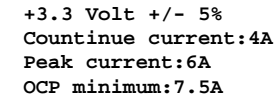
R256	R259	adapter
V	V	90W DIS.
V	DNI	65W UMA
DNI	V	45W



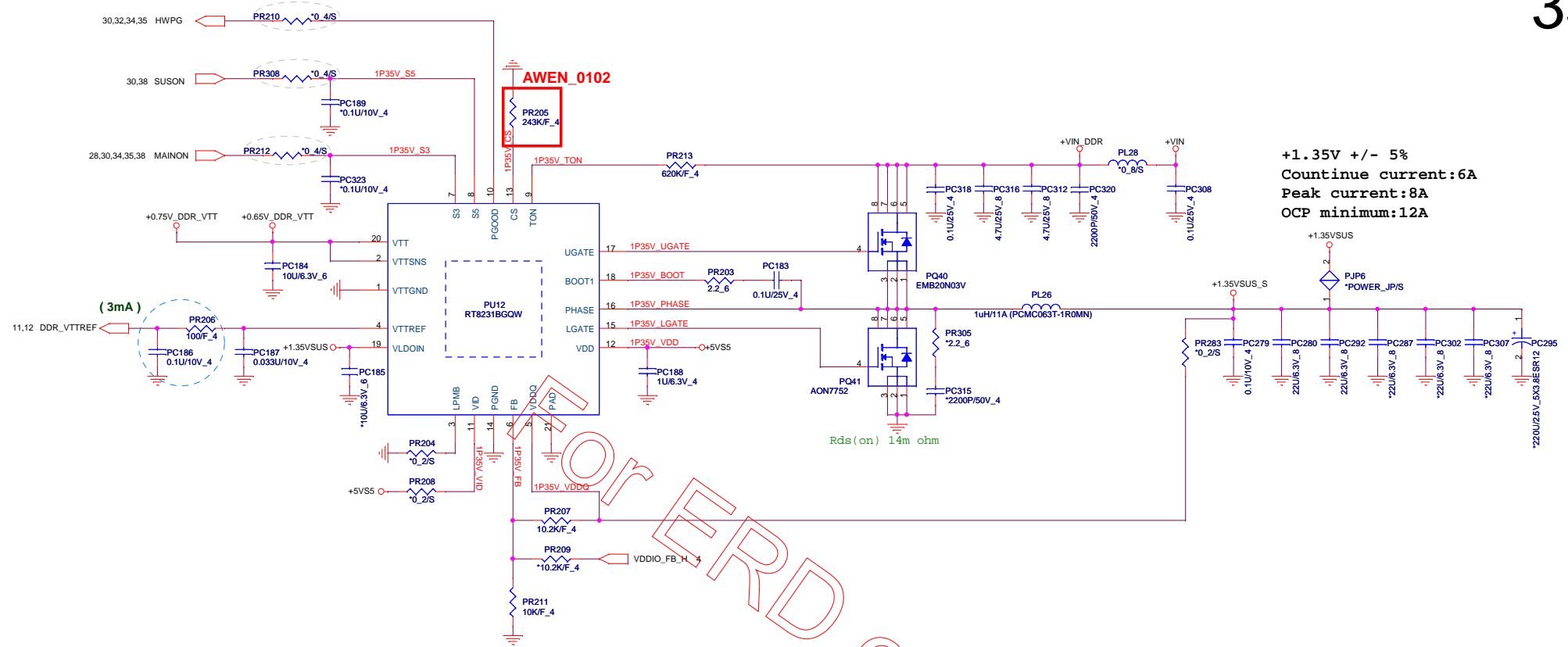
**PROJECT : Y21A**  
**Quanta Computer Inc.**


Size	Document Number	Rev
Custom	EC (KB9028QF C)/ROM	1A
Date: Monday, February 17, 2014	Sheet 30 of 41	





USB Charge support	Ra	Rb
Vine (No support)	Stuff	NA
Envy (Support)	NA	Stuff

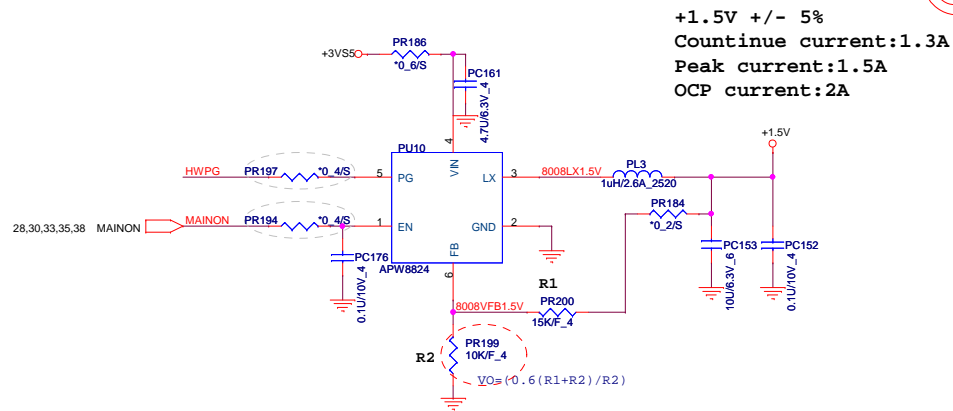
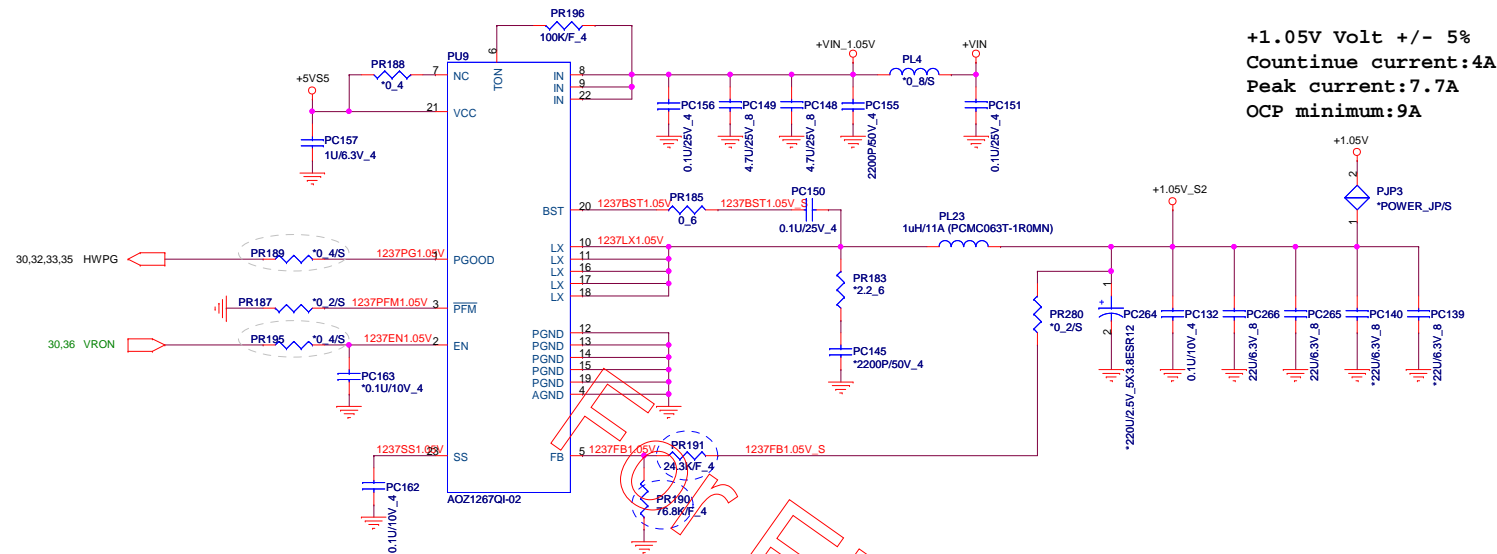


 +1.35VSUS 2,3,4,5,11,12,38




**PROJECT : Y21A**  
Quanta Computer Inc.

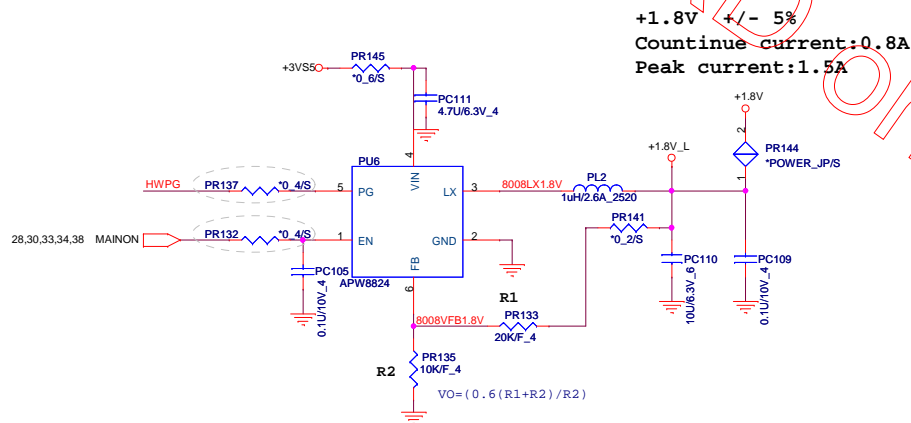
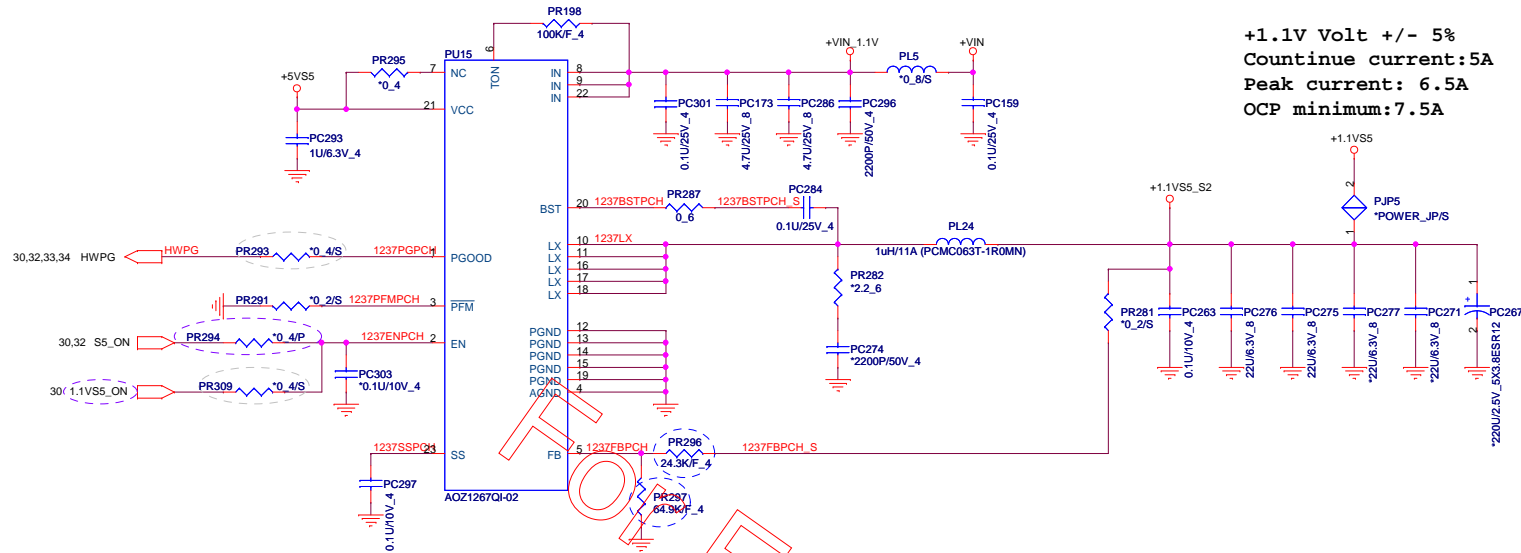
Size Custom	Document Number <b>DDR3 (RT8231A)/1.8VS5</b>	Rev 1A
Date: Friday, February 14, 2014	Sheet 33 of 41	



+VIN 20,24,28,31,32,33,35,36,37,38,39,40  
+3VS5 6,8,9,10,23,28,29,30,32,35,36,38,39,41  
+5VS5 22,27,28,32,33,35,36,37,38,39,41  
+5VPCU 31,32

 <b>PROJECT : Y21A</b> <b>Quanta Computer Inc.</b>		
Size Custom	Document Number <b>+1.1VS5 (RT8228)/2.5V</b>	Rev 1A
Date: Friday, February 14, 2014	Sheet 34	of 41



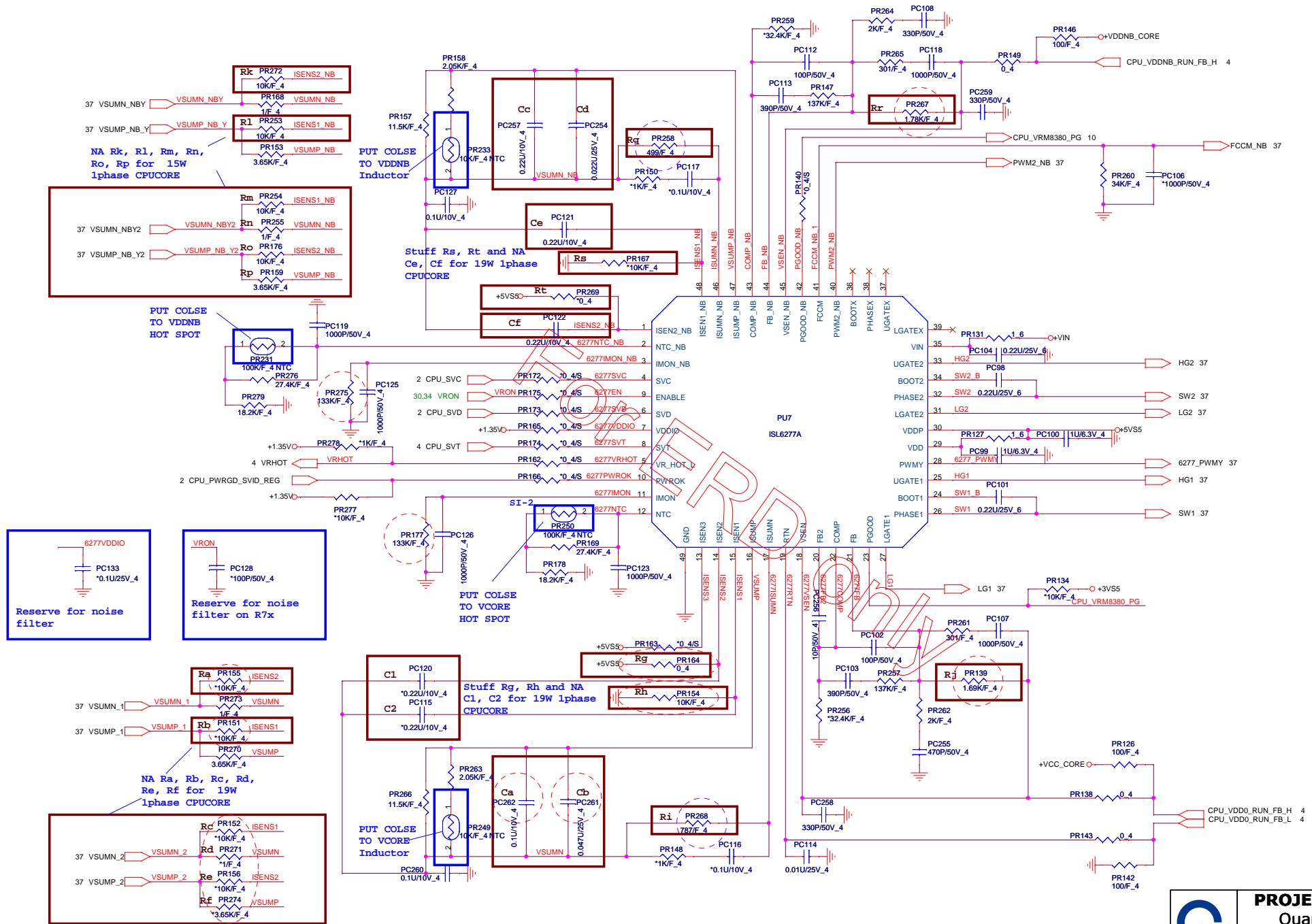


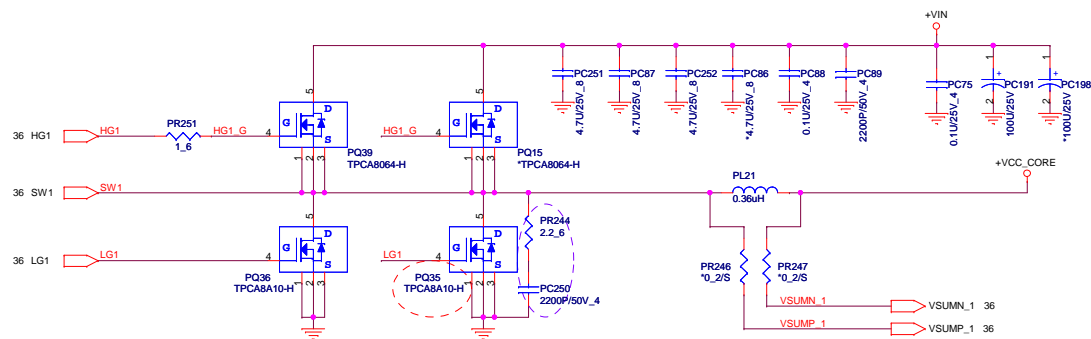
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+3VS5 6,8,9,10,23,28,29,30,32,34,36,38,39,41  
+5VS5 22,27,28,32,33,34,36,37,38,39,41  
+1.1VS5 9,38  
+5VPCU 31,32



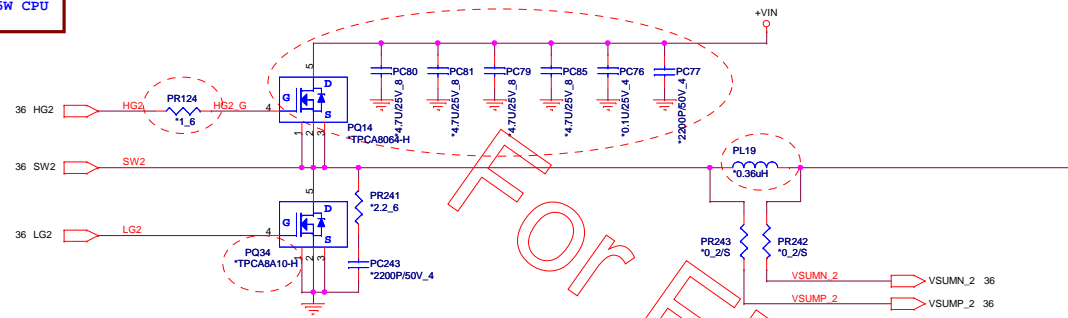
**PROJECT : Y21A**  
**Quanta Computer Inc.**

Size Custom	Document Number <b>+1.1VS5 (RT8228)/2.5V</b>	Rev 1A
Date: Friday, February 14, 2014	Sheet 35	of 41

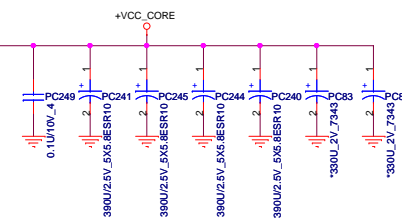




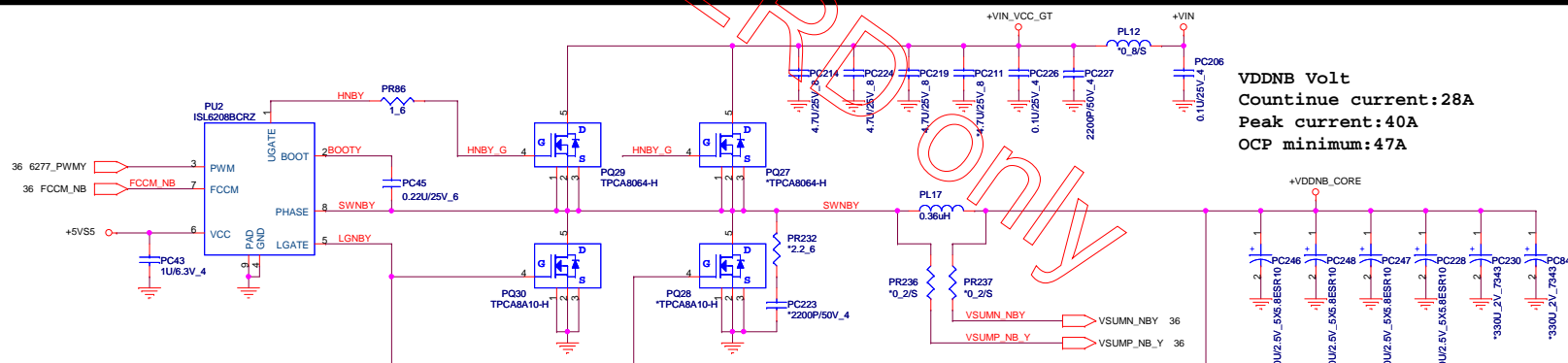
Only for 25W CPU



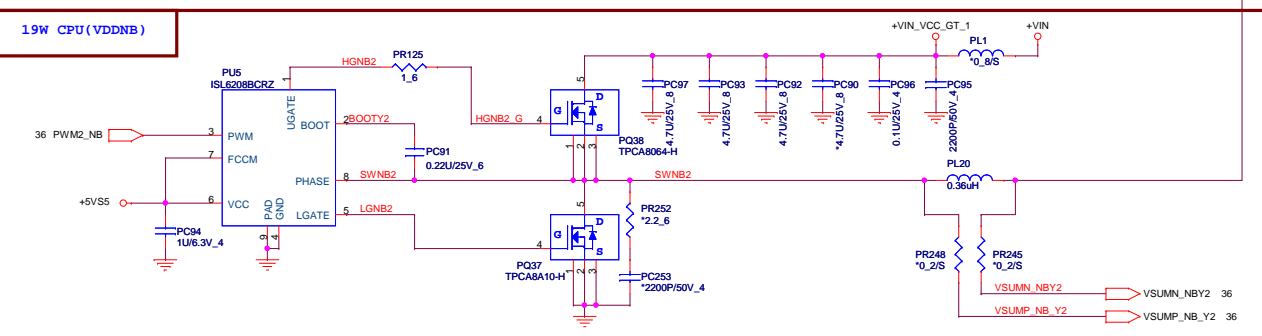
```
CPU CORE Volt (19W)
Continue current:22A
Peak current:38A
OCP minimum:45A
```



CPU TYPE	MOSFET
19W	1H1L/2phase

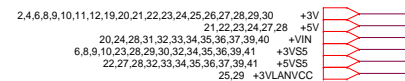


```
VDDNB Volt
Countinue current:28A
Peak current:40A
OCP minimum:47A
```

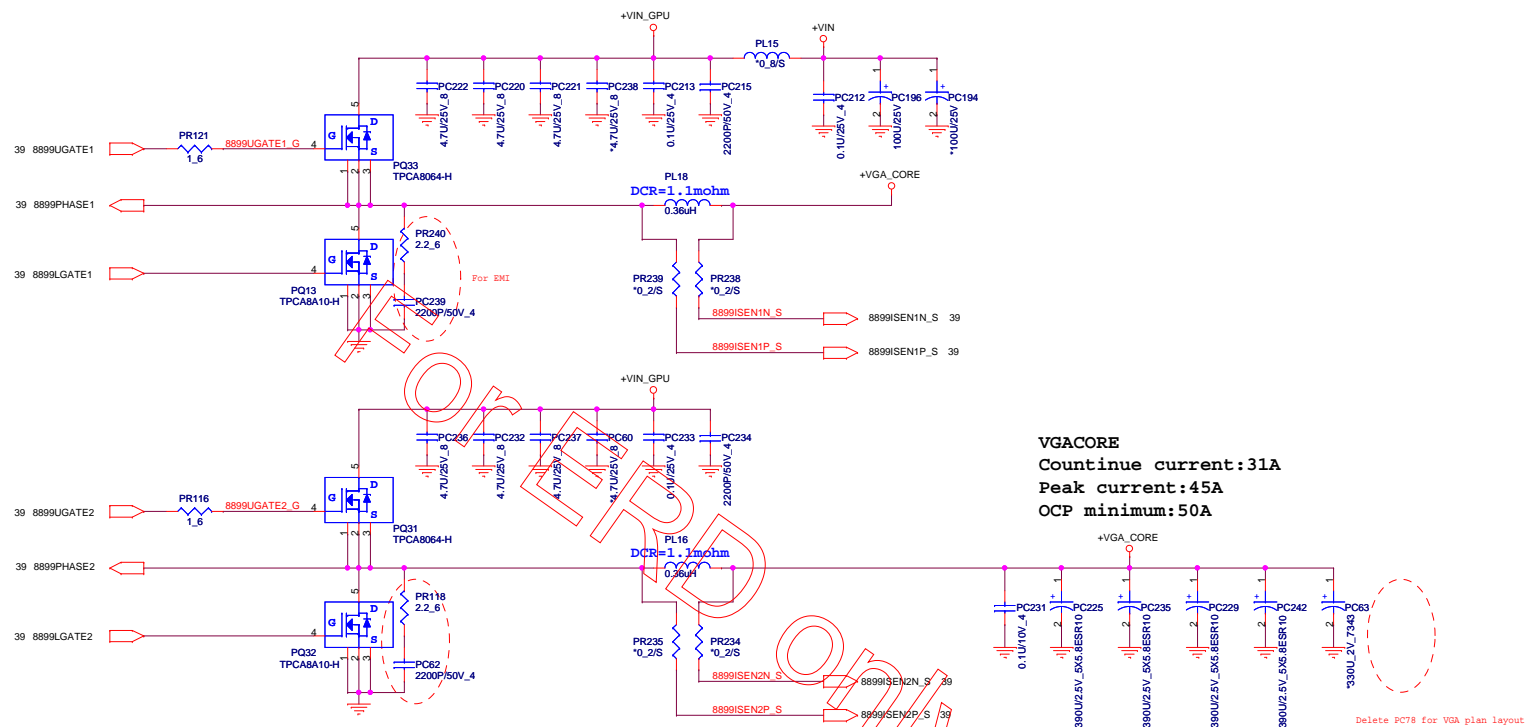



**PROJECT : Y21A**  
Quanta Computer Inc.

Size Custom	Document Number <b>CPU Core2 (ISL6208)</b>	Rev 1.
Date: Friday, February 14, 2014	Sheet 37 of	41

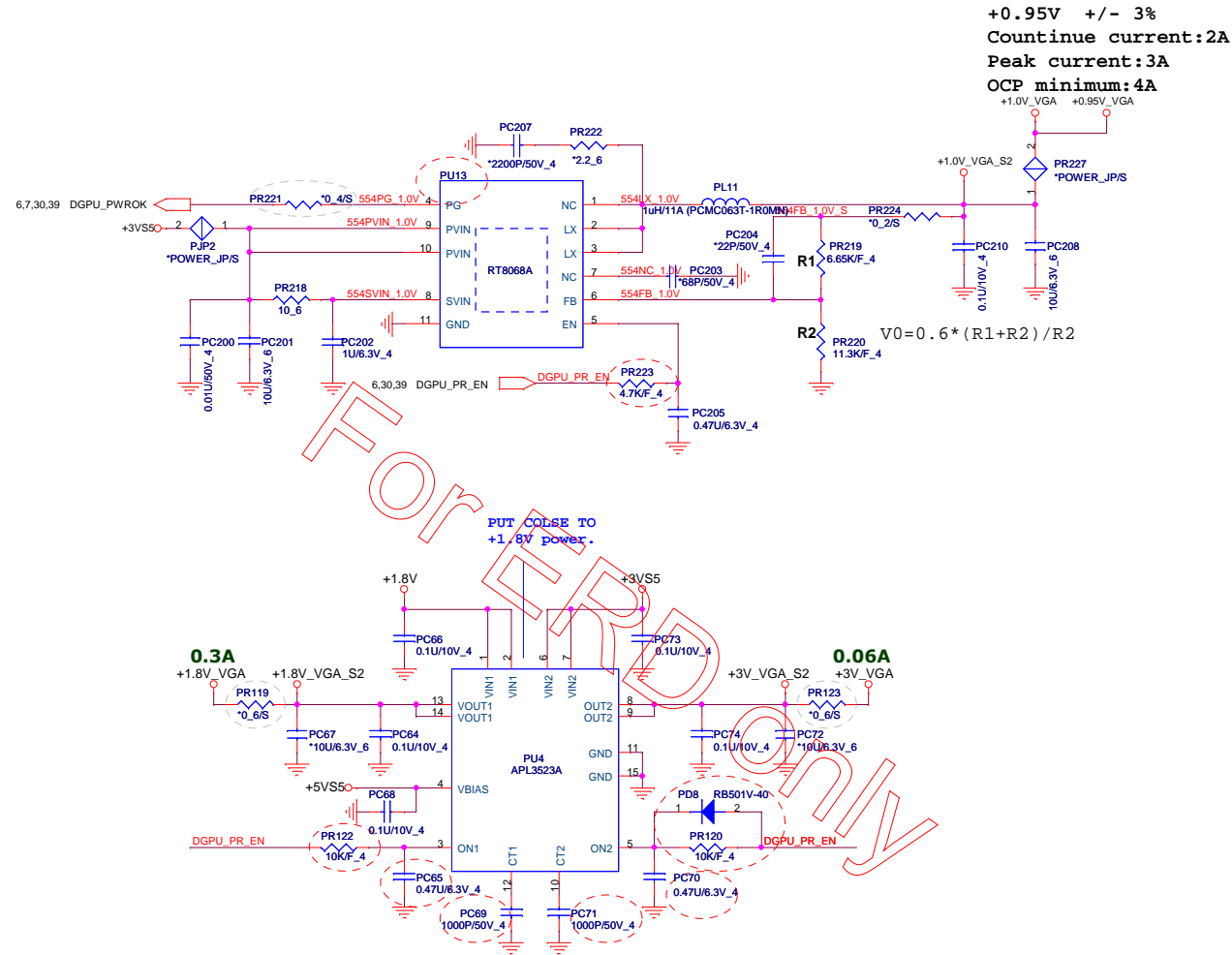







 <b>PROJECT : Y21A</b> Quanta Computer Inc.			
Size Custom	Document Number <b>CPU Core2</b>	Rev 1A	
Date: Friday, February 14, 2014	Sheet 40 of 41		





+3V\_VGA 13,14,16  
+1.0V\_VGA 13,16  
+1.8V\_VGA 13,14,16,29,39

 <b>PROJECT : Y21A</b> Quanta Computer Inc.		
Size Custom	Document Number <b>+VGA POWER</b>	Rev 1A
Date: Friday, February 14, 2014	Sheet 41	of 41