

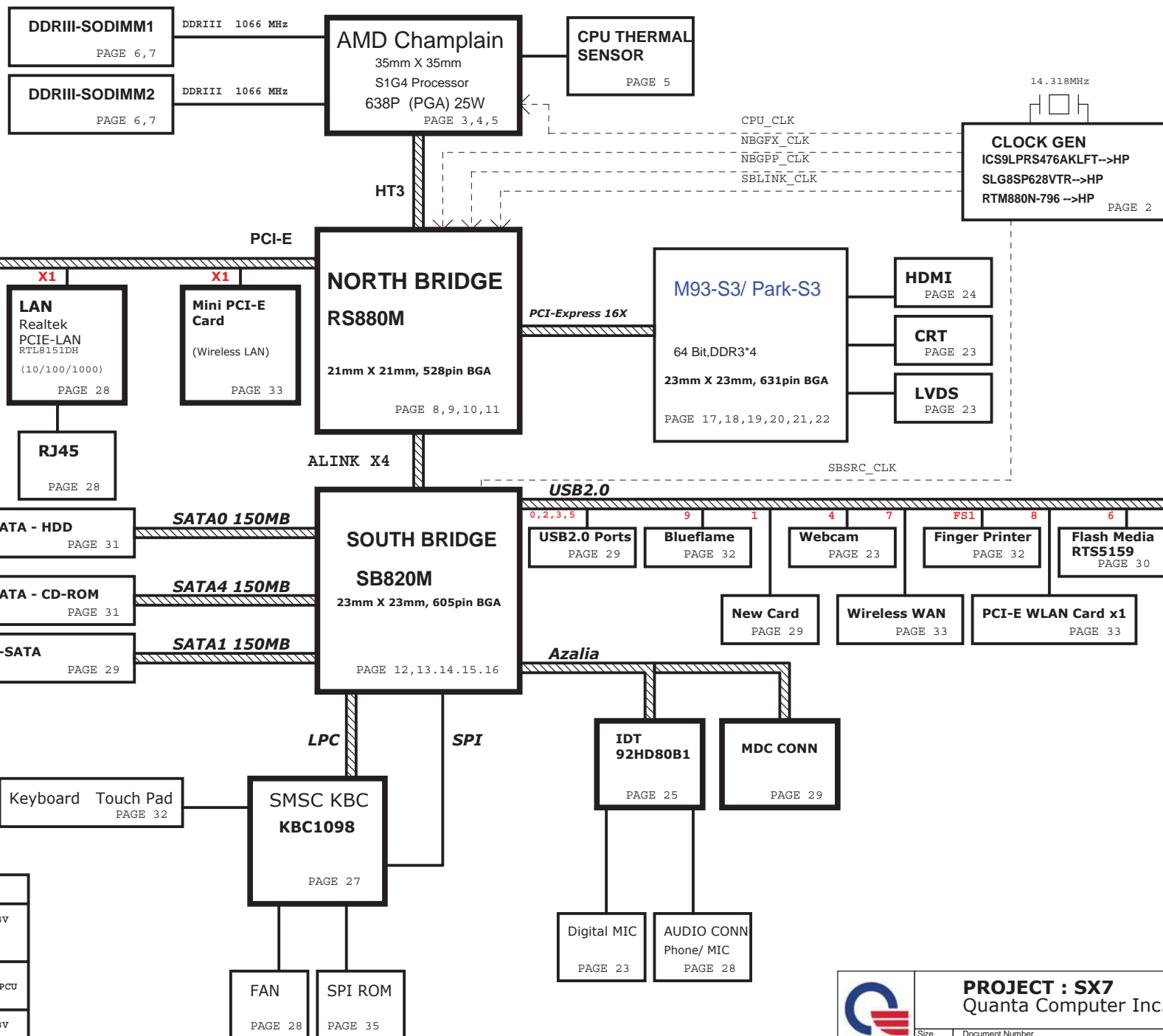
SX7 SYSTEM DIAGRAM



01

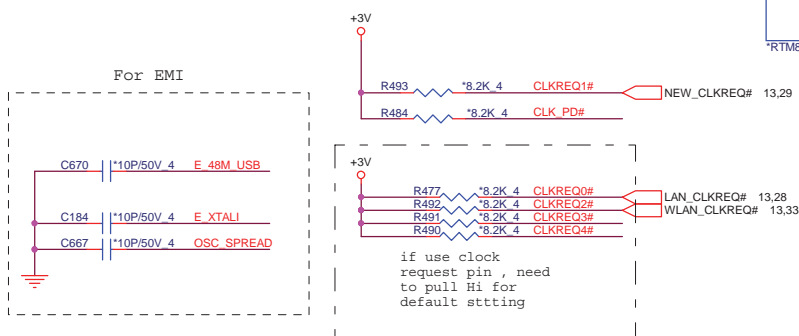
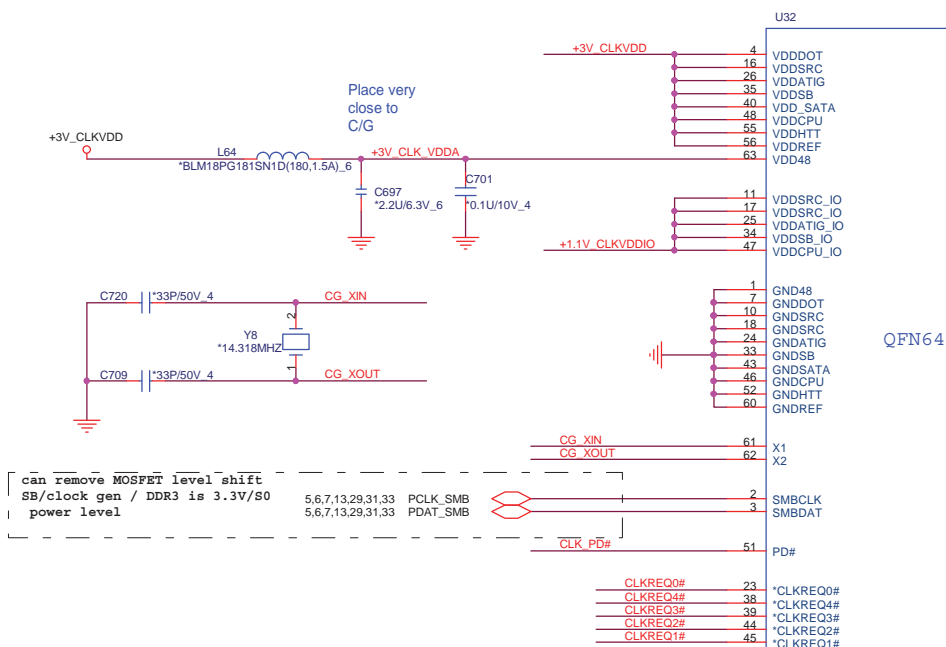
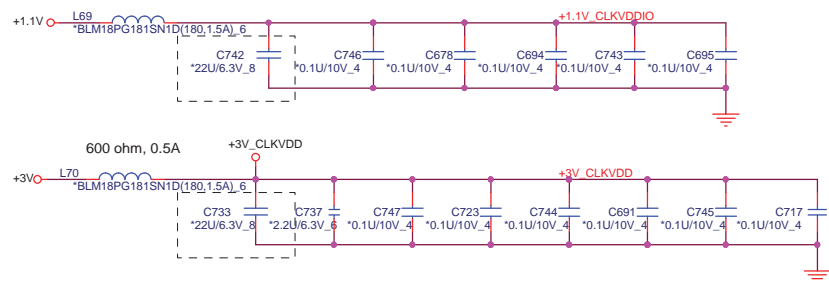
PCB STACK UP

LAYER 1 : TOP
LAYER 2 : GND
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : BOT



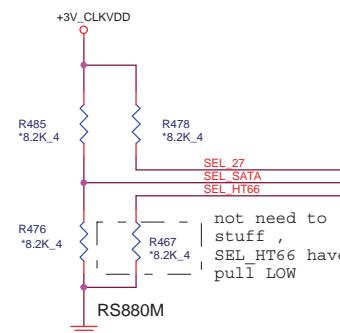
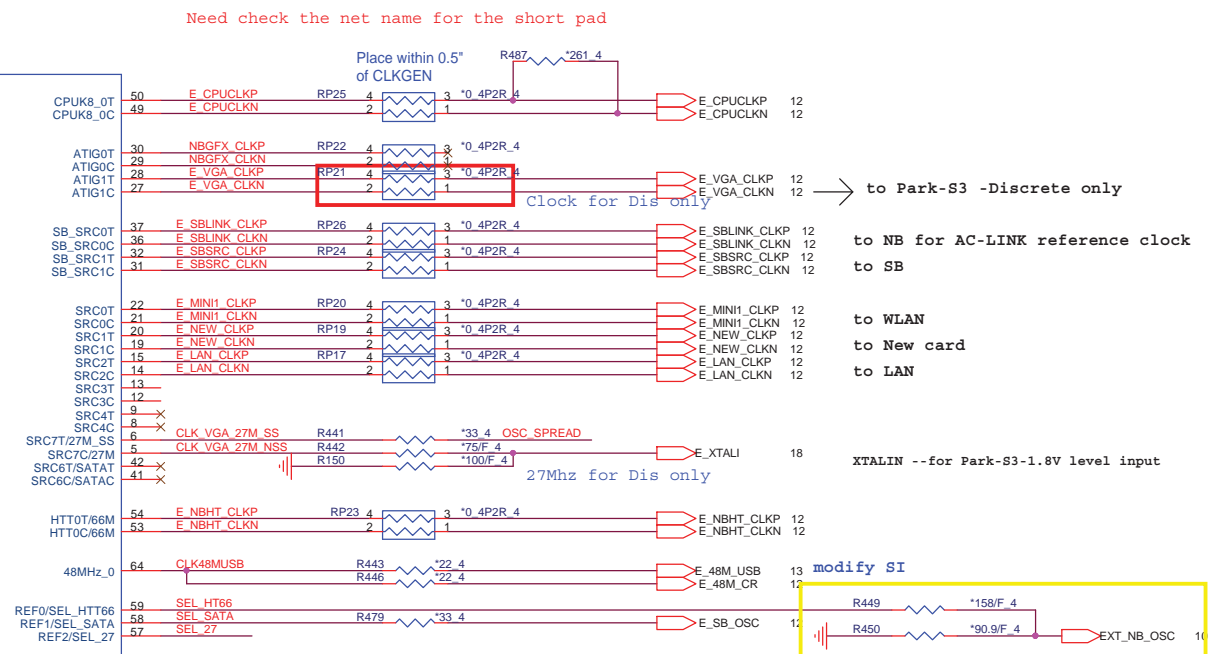
PROJECT : SX7
Quanta Computer Inc.

Size Custom Document Number Block Diagram Rev 3A
Date: Monday, March 15, 2010 Sheet 1 of 43



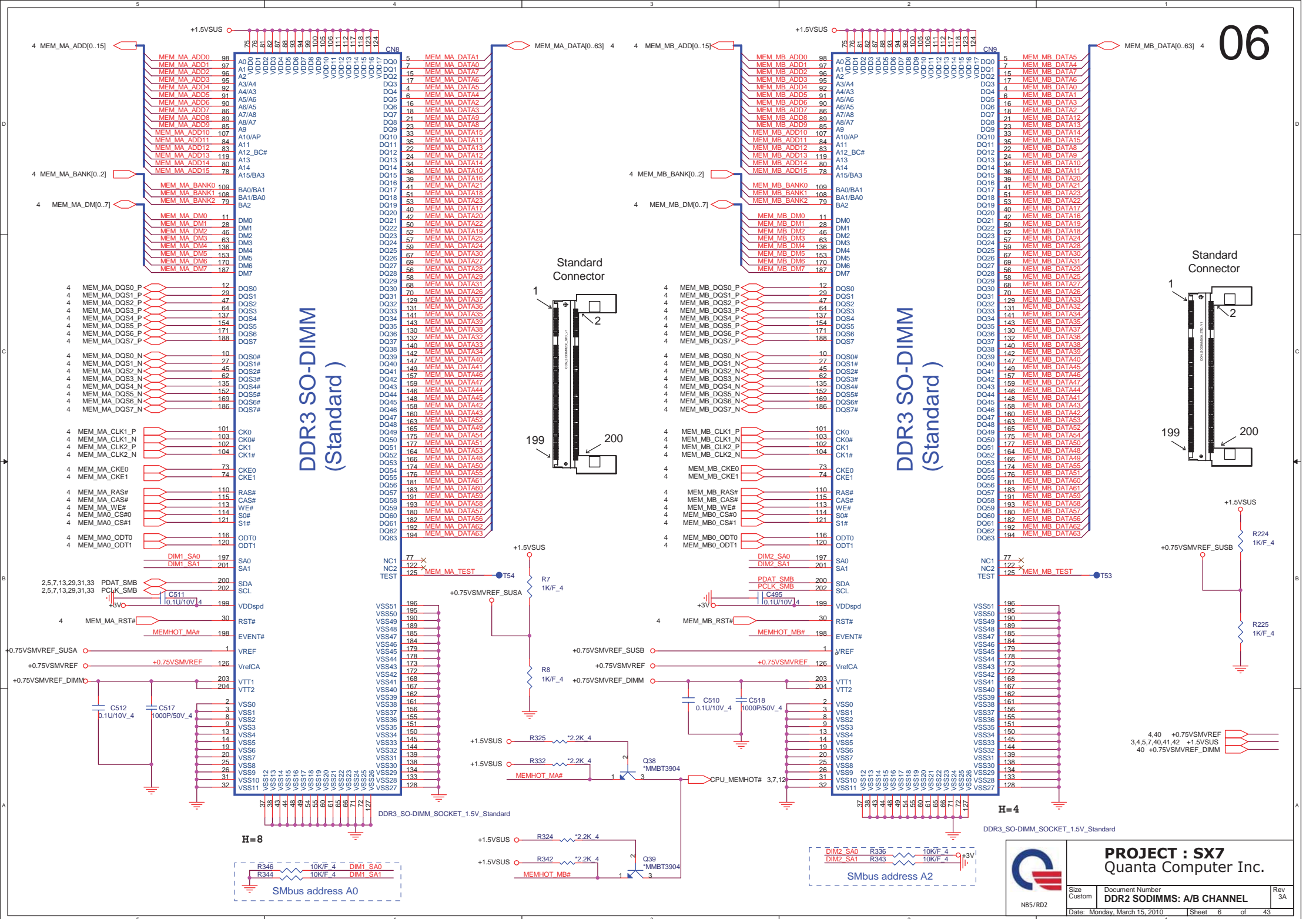
IDT ICS9LPRS480AKLFT--ALPRS480000
SLG SLG8SP628VTR--AL8SP628000
RTL RTM880N-796-- AL000880001

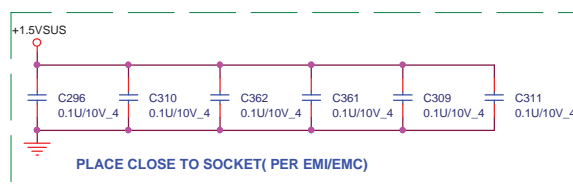
SEL_HTT66	1	66 MHz 3.3V single ended HTT clock
	0*	100 MHz differential HTT clock
SEL_SATA	1	100 MHz non-spreading differential SRC clock
	0*	100 MHz spreading differential SRC clock
SEL_27	1*	27MHz non-spreading singled clock
	0	100 MHz spreading differential SRC clock



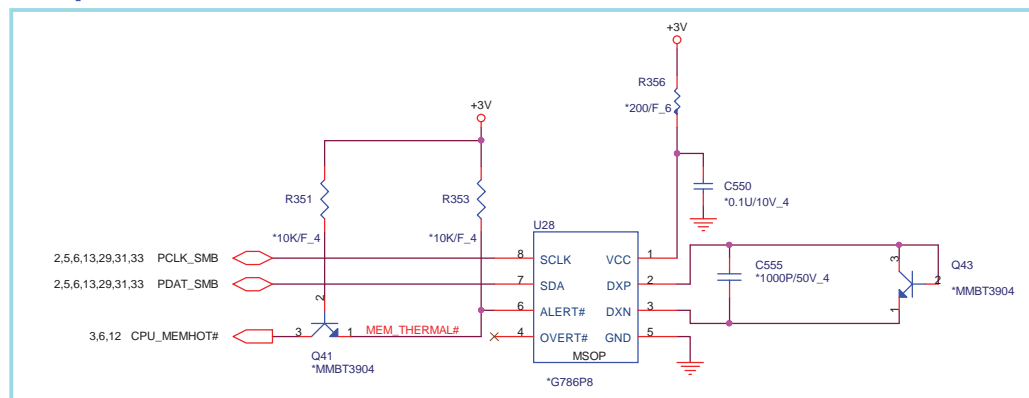
- Clock chip has internal serial terminations for differential pairs, external resistors are reserved for debug purpose.







modify PV



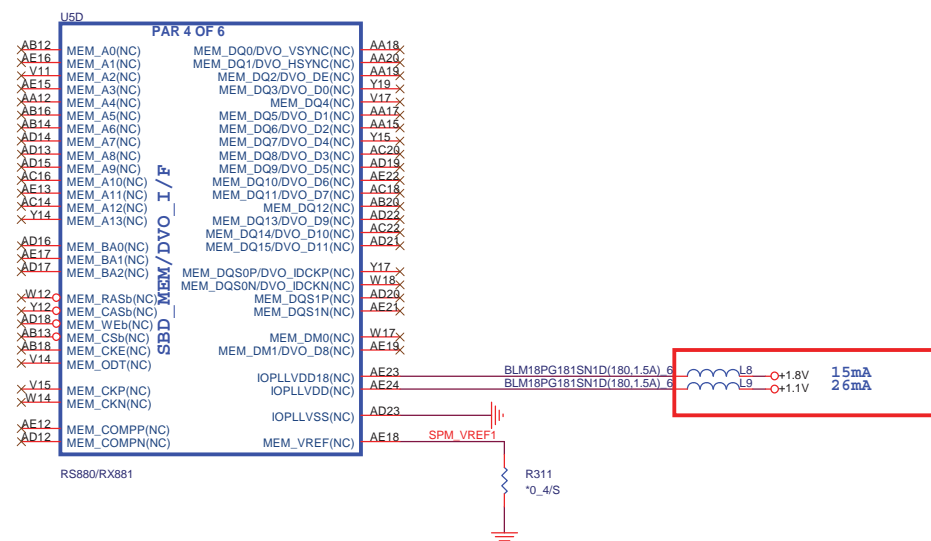
PROJECT : SX7
Quanta Computer Inc.

Size Custom	Document Number DDR2 SODIMMS TERMINATIONS	Rev 3A
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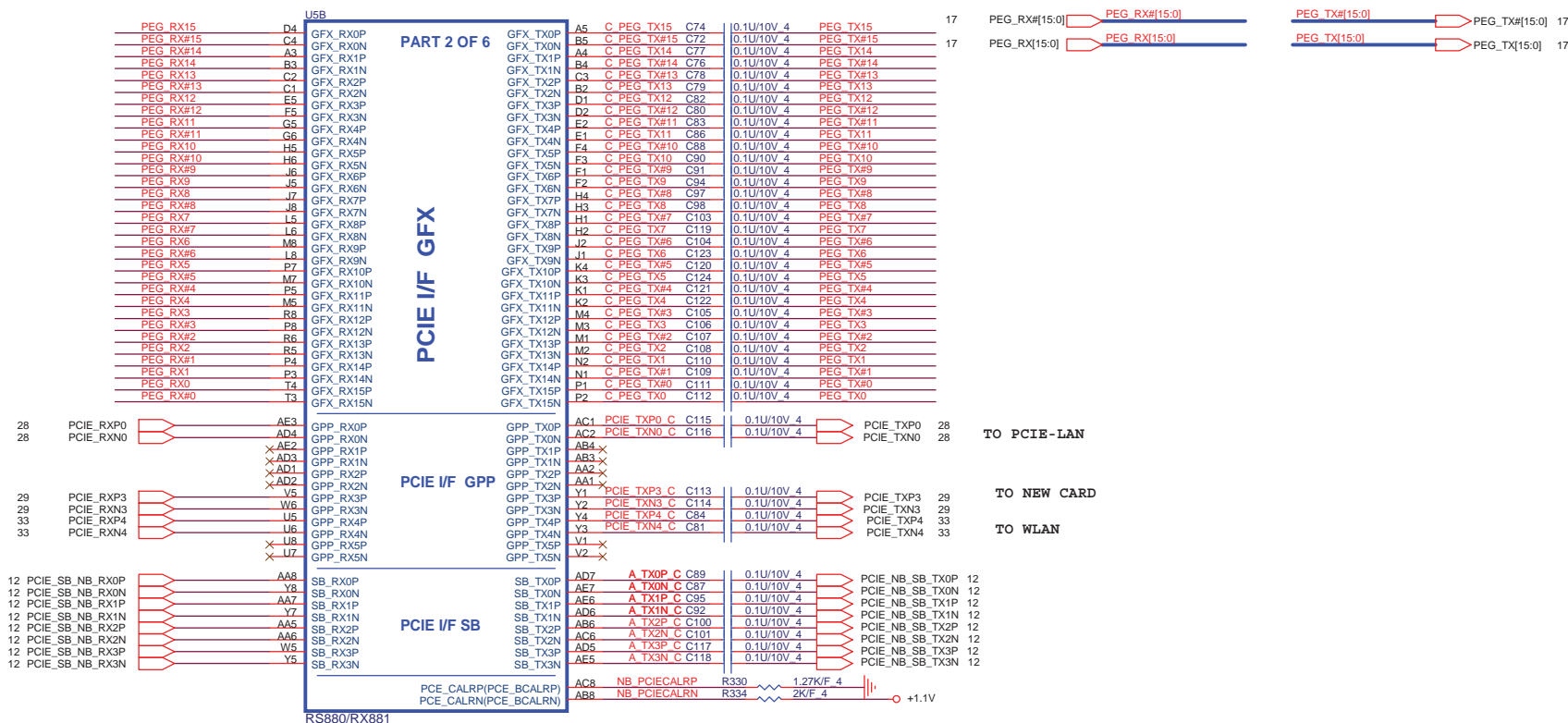
signals	RS880M
HT_TXCALP	R430 301 ohm 1%
HT_TXCALN	
HT_RXCALP	R434 301 ohm 1%
HT_RXCALN	

This block is for UMA only , Discrete can remove all component



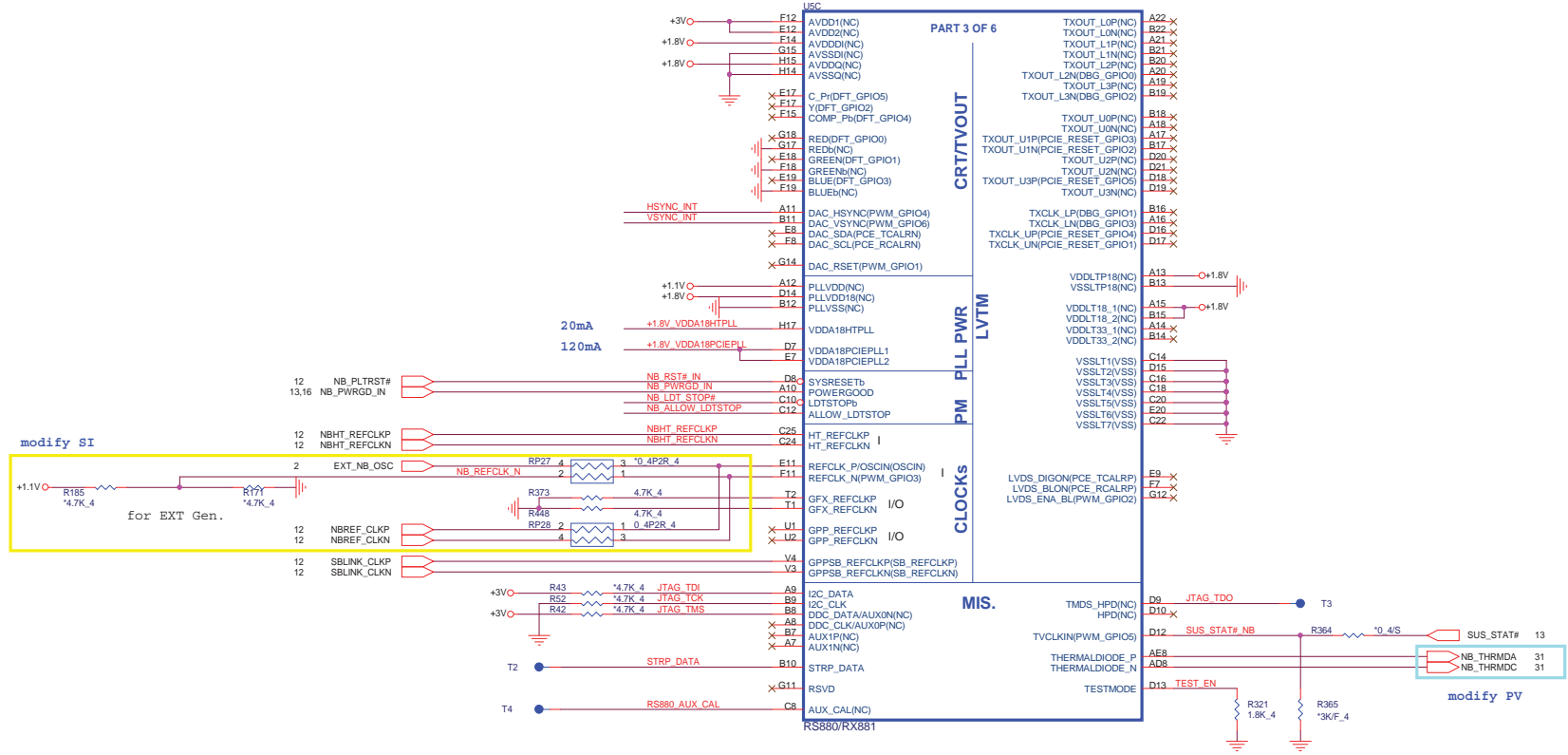
PROJECT : SX7
Quanta Computer Inc.

Size Custom	Document Number RS880M-HT LINK I/F 1/5	Rev 3A
Date: Monday, March 15, 2010	Sheet 8 of 43	



PROJECT : SX7
Quanta Computer Inc.

Size Custom	Document Number RS880M-PCIE I/F 2/5	Rev 3A
Date: Monday, March 15, 2010	Sheet 9 of 43	

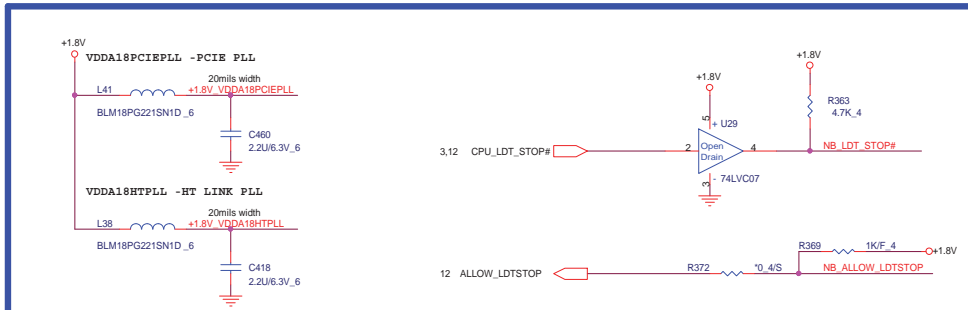


Discrete

Enables Debug Bus access through memory I/O pads and GPIO.
 0 : Enable RS880M, Default
 1 : Disable RS880M (RX881 use DAC_VSYNC)

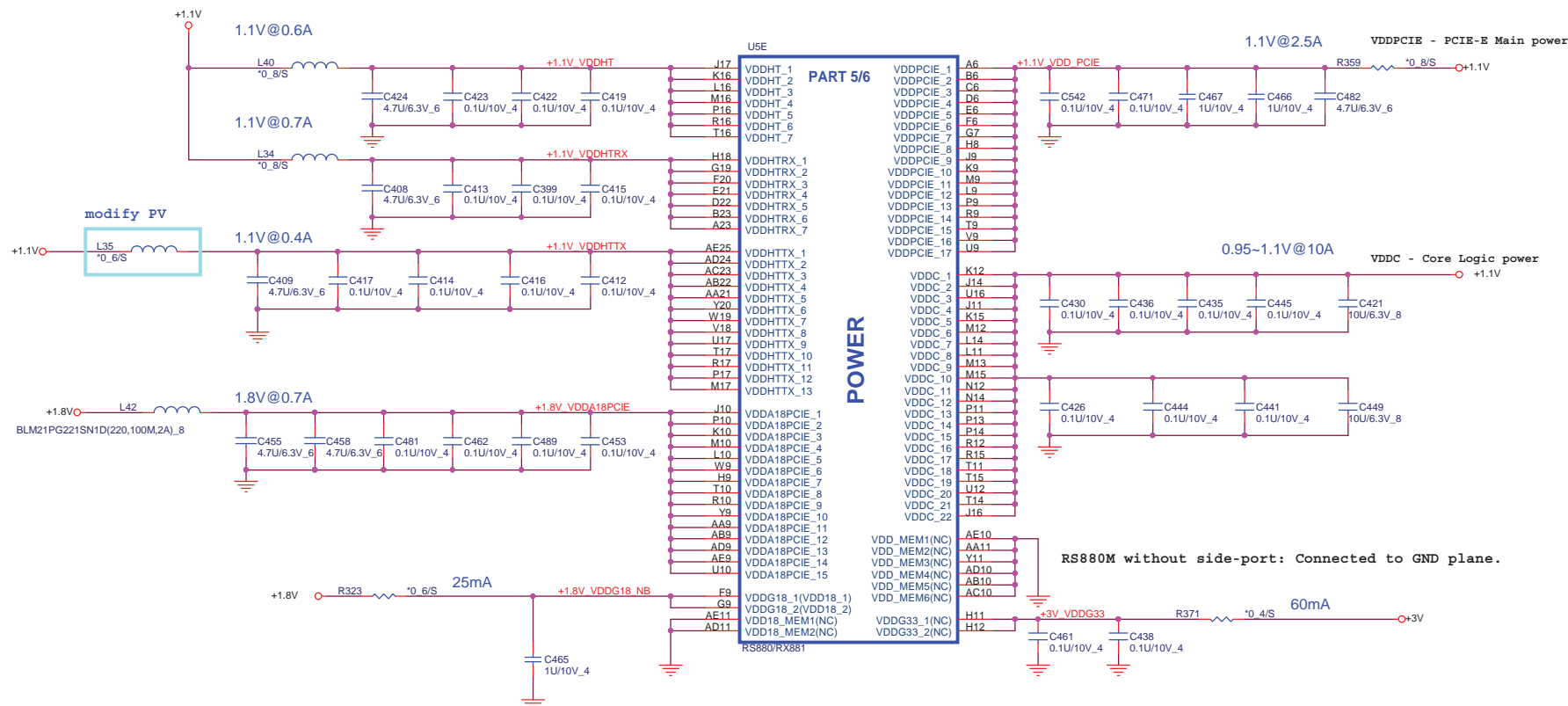
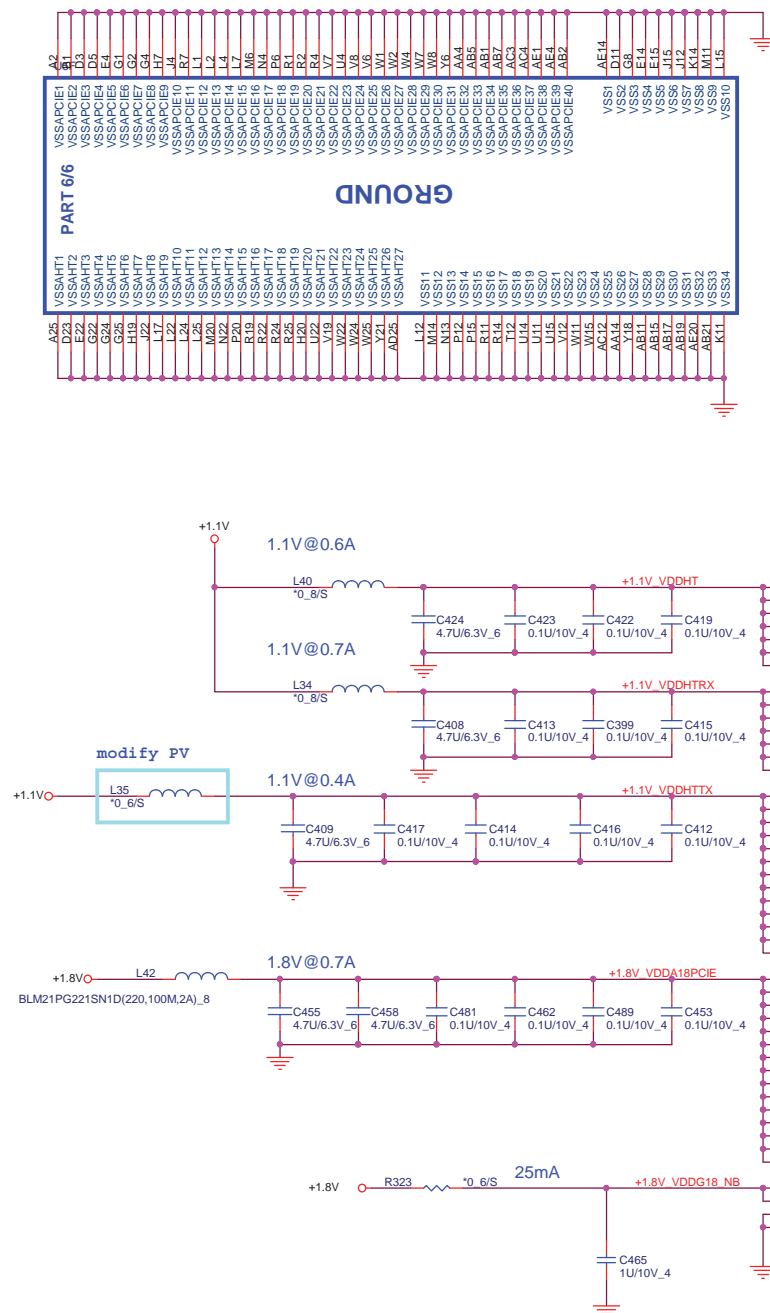
Discrete

Indicates if memory Side port is available or not
 0: Reserved
 1: Required setting. Select with a pull-up resistor on the strap
 (RX881 use DAC_HSYNC)



RX881/RS880 POWER DIFFERENCE TABLE

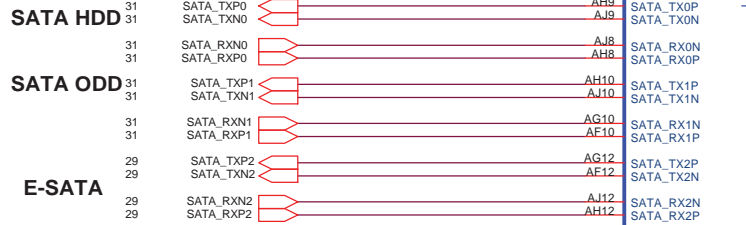
PIN NAME	RX881	RS880	PIN NAME	RX881	RS880
VDDHT	+1.1V	+1.1V	IOPLLVD	+1.1V	+1.1V
VDDHTRX	+1.1V	+1.1V	AVDD	GND	+3.3V
VDDHTTX	+1.2V	+1.2V	AVDDI	GND	+1.8V
VDDA18PCIE	+1.8V	+1.8V	AVDDQ	GND	+1.8V
VDDG18	+1.8V	+1.8V	PLLVD	GND	+1.1V
VDD18_MEM	GND	+1.8V	PLLVD18	GND	+1.8V
VDDPCIE	+1.1V	+1.1V	VDDA18PCIEPLL	+1.8V	+1.8V
VDDC	+1.1V	+1.1V	VDDA18HTPLL	+1.8V	+1.8V
VDD_MEM	GND	+1.8V/1.5V	VDDLTP18	GND	+1.8V
VDDG33	+3.3V	+3.3V	VDDL18	GND	+1.8V
IOPLLVD18	+1.8V	+1.8V	VDDL33	NC	NC



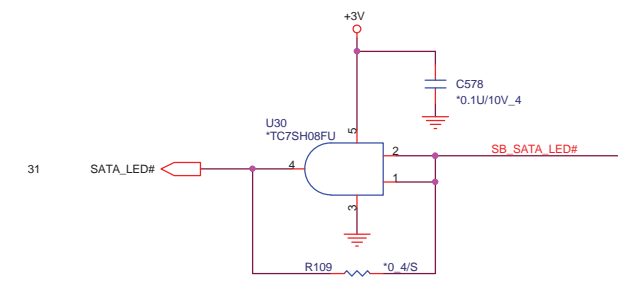
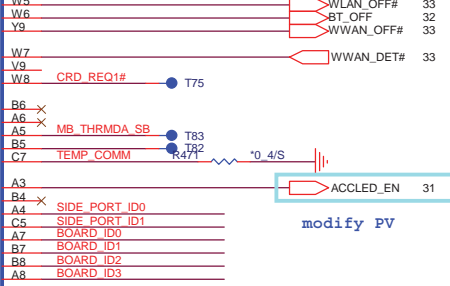
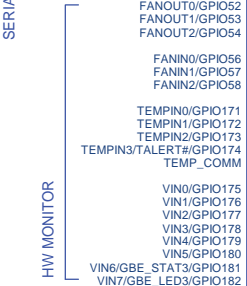
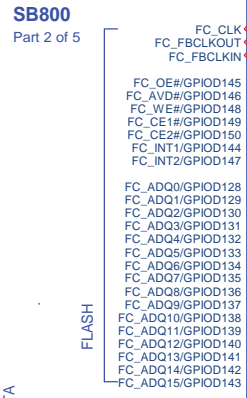
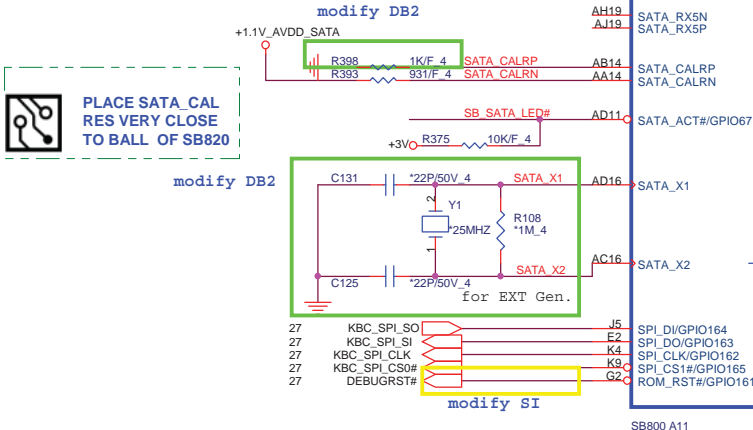
PROJECT : SX7
Quantas Computer Inc.



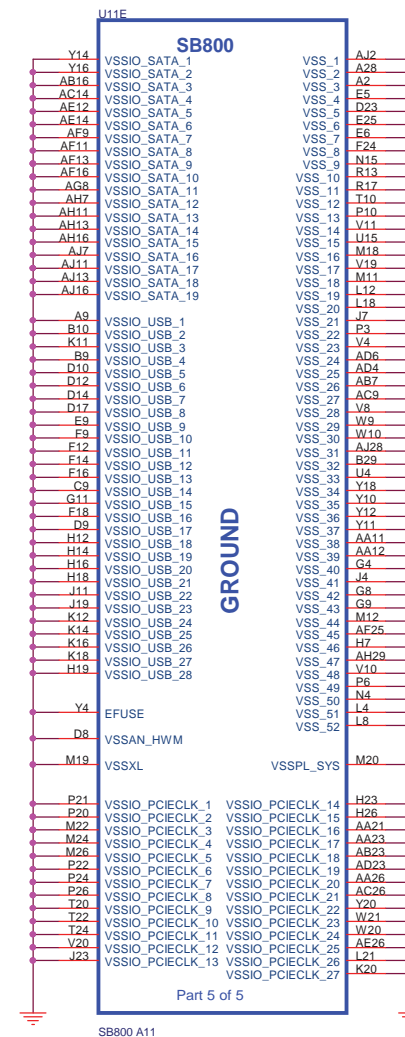
SATA PORT 0,1,2,3
can support AHCI
mode



PLACE SATA_CAL
RES VERY CLOSE
TO BALL OF SB820



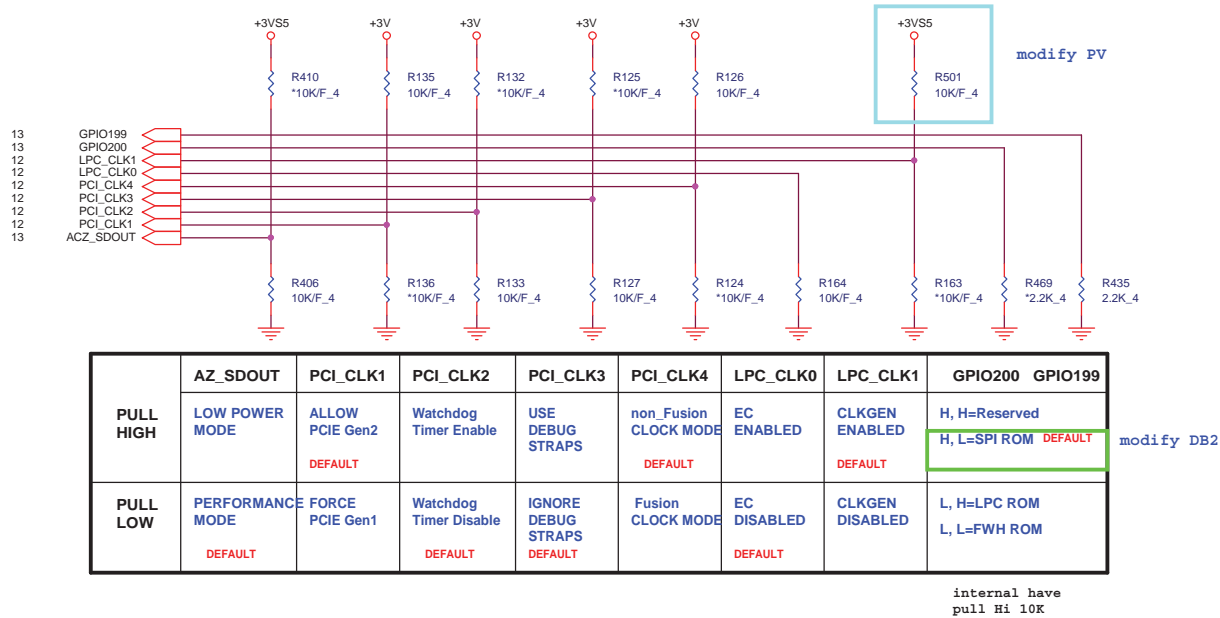
ID3	ID2	ID1	ID0	
0	0	0	0	SX7 UMA
0	0	0	1	SX7 UMA
0	0	1	0	SX7 Dis
0	0	1	1	SX7 Dis
0	1	0	0	SX7 UMA DF
0	1	0	1	SX7 UMA DF
0	1	1	0	SX7 Dis DF
0	1	1	1	SX7 Dis DF



REQUIRED STRAPS

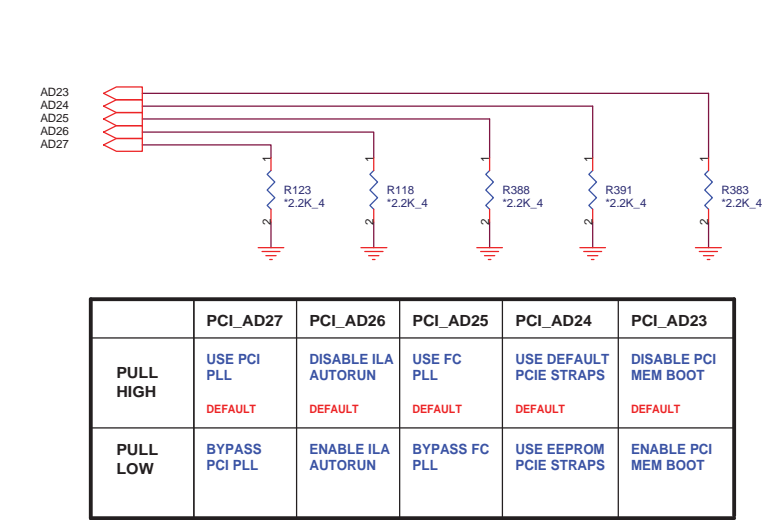


OVERLAP COMMON PADS WHERE POSSIBLE FOR DUAL-OP RESISTORS.

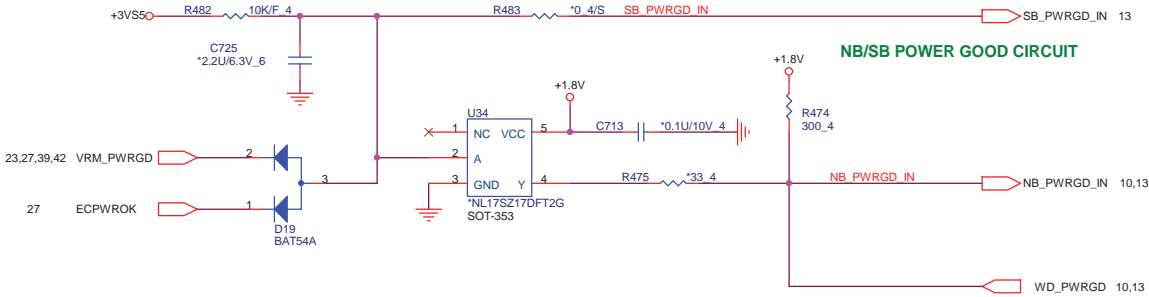


DEBUG STRAPS

SB800 HAS 15K INTERNAL PU FOR PCI_AD[27:23]



NB_PWRGD_IN:
RS880/RX881 = 1.8V;
Do NOT share it with SB_PWRGD when use Internal Clk Gen (Need SB PLL initialize firstly)

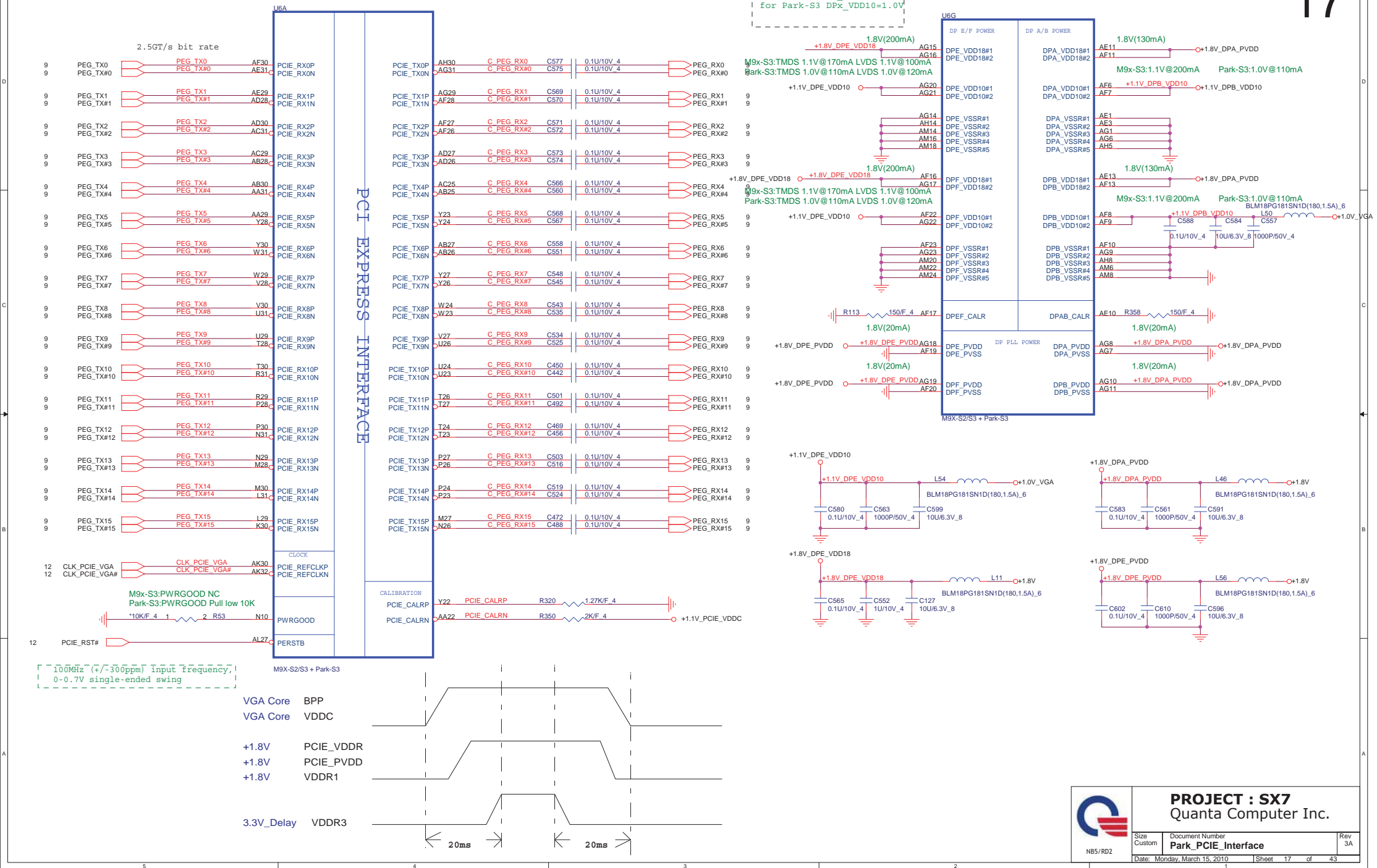


AL17SZ17000 IC(5P) NL17SZ17DFT2G(SOT-353) SOT-353
ALUC1G17000 IC OTHER(5P) SN74AUC1G17DBVR(SOT23-5) SOT23-5

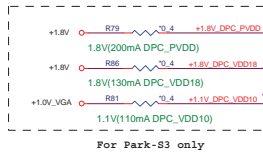
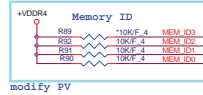


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Quanta Computer Inc.

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MEM_ID[2:0]	Vendor	Type	Vendor P/N
000	Samsung E-die	54M*16-800MHZ	4W1G1646E-HC12
100	Hynix Orion-die	54M*16-800MHZ	5TQ1G63BFR-12C
010	Samsung E-die	128M*16-800MHZ	
110	Hynix Orion-die	128M*16-800MHZ	

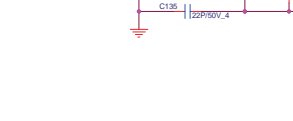
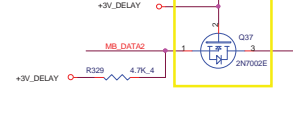
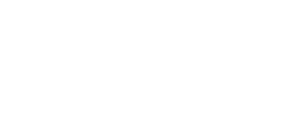
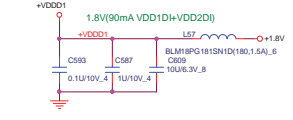
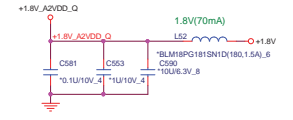
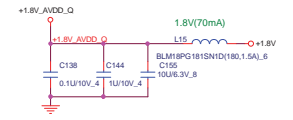
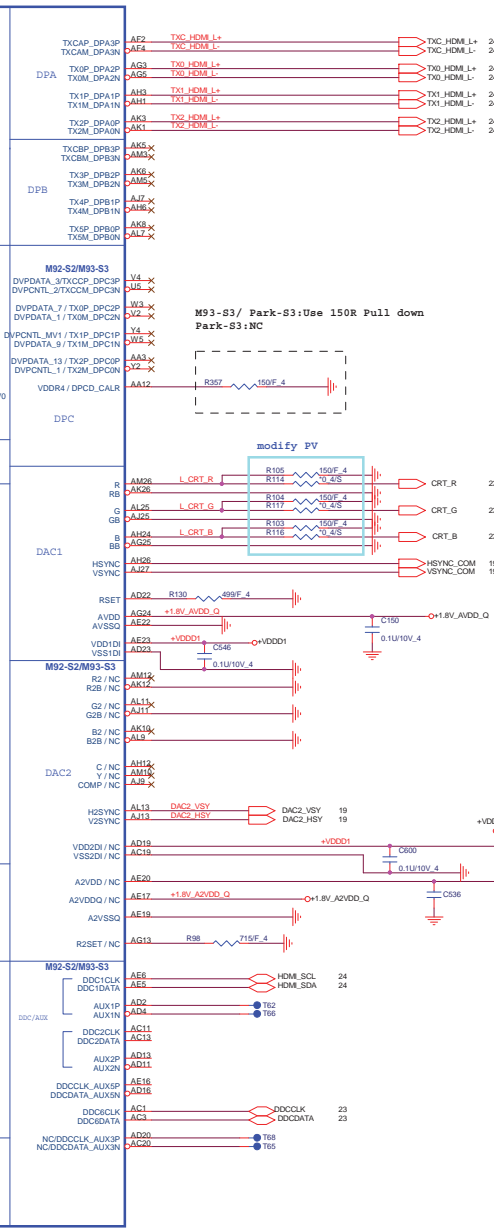
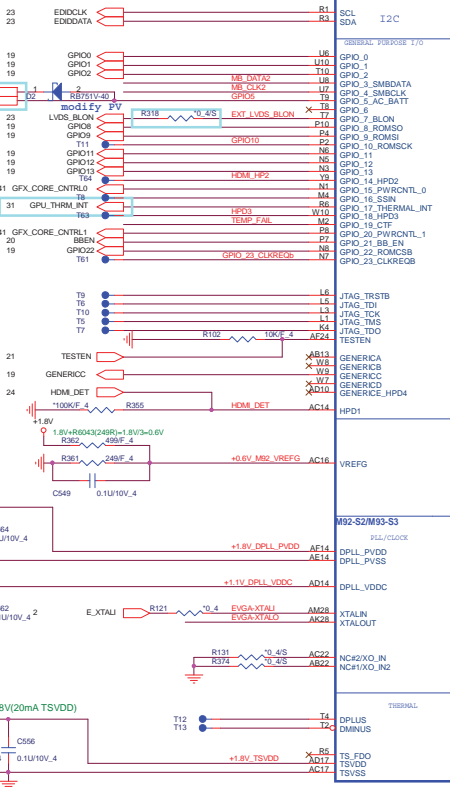
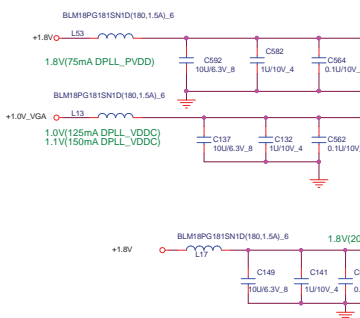
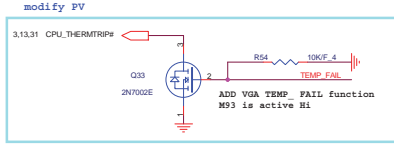


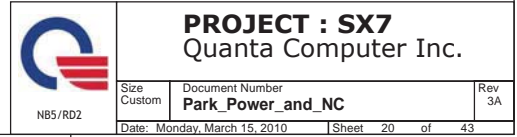
PWRCNTL1	PWRCNTL0	V-CORE
1	1	0.9V
1	0	0.95V
0	1	1.05V
0	0	1.1V

BBEN	BBP
L	0
H	1

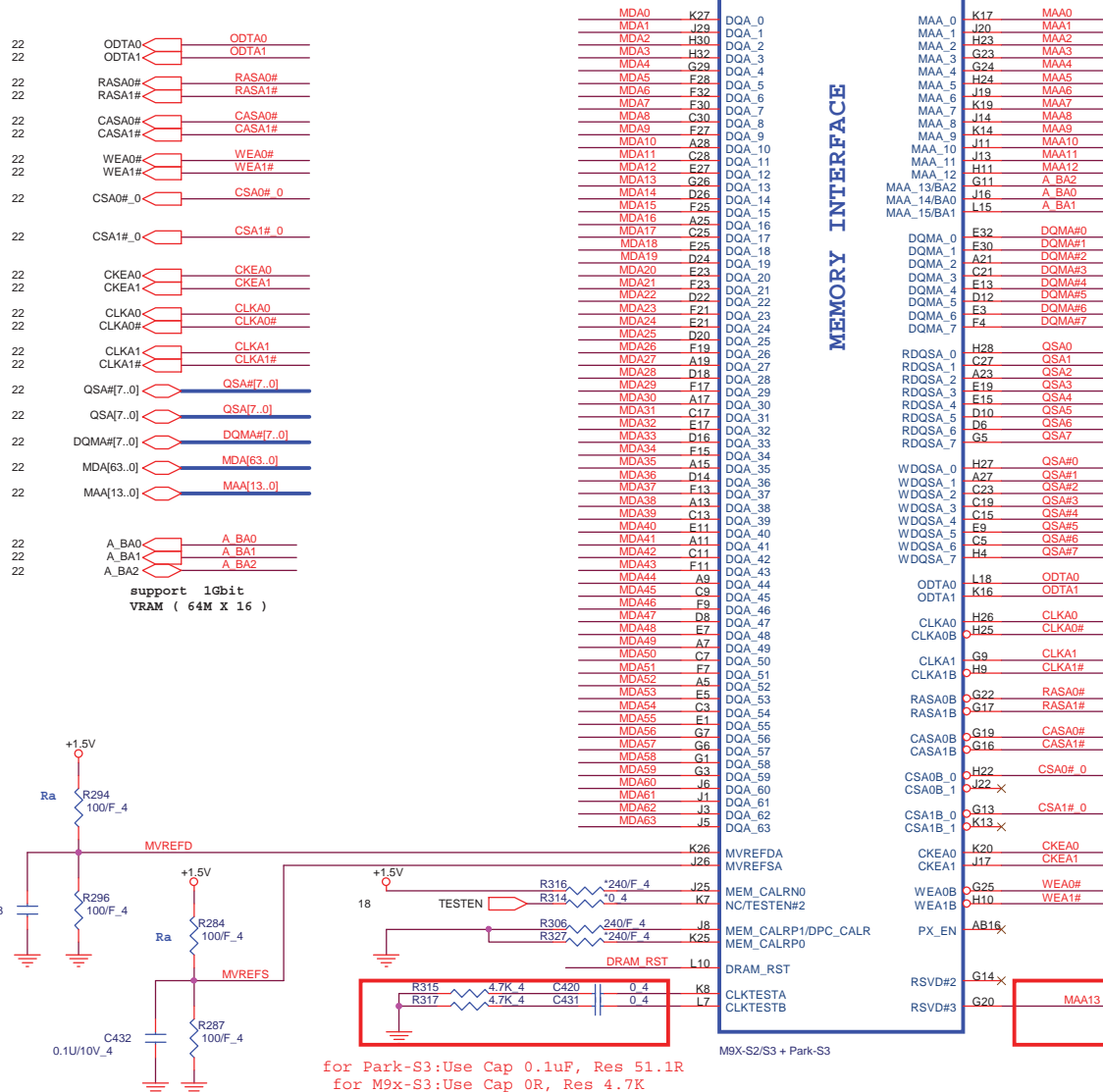
No need
CLK_27M_SS
connect to GPIO_16,
since M9x chip
support memory SS
function in VBIOS

modify PV





MEMORY INTERFACE

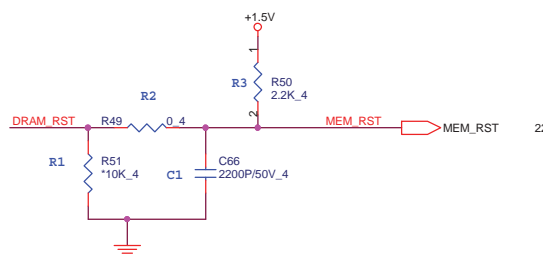


	M9x-S2/S3	Park-S3
MEM_CALRN0 (J25)	NC	240R
MEM_CALRP0 (K25)	NC	0R
MEM_CALRP1 (J8)	240R	150R
TESTEN2#2 (K7)	NC	10K
R1	NC	51R
R2	0R	NC
R3	2.2K	NC
C1	2.2nF	68pF

240R:CS12402FB03
150R:CS11502FB21

0R:CS00002JB38
680R:CS16802JB27

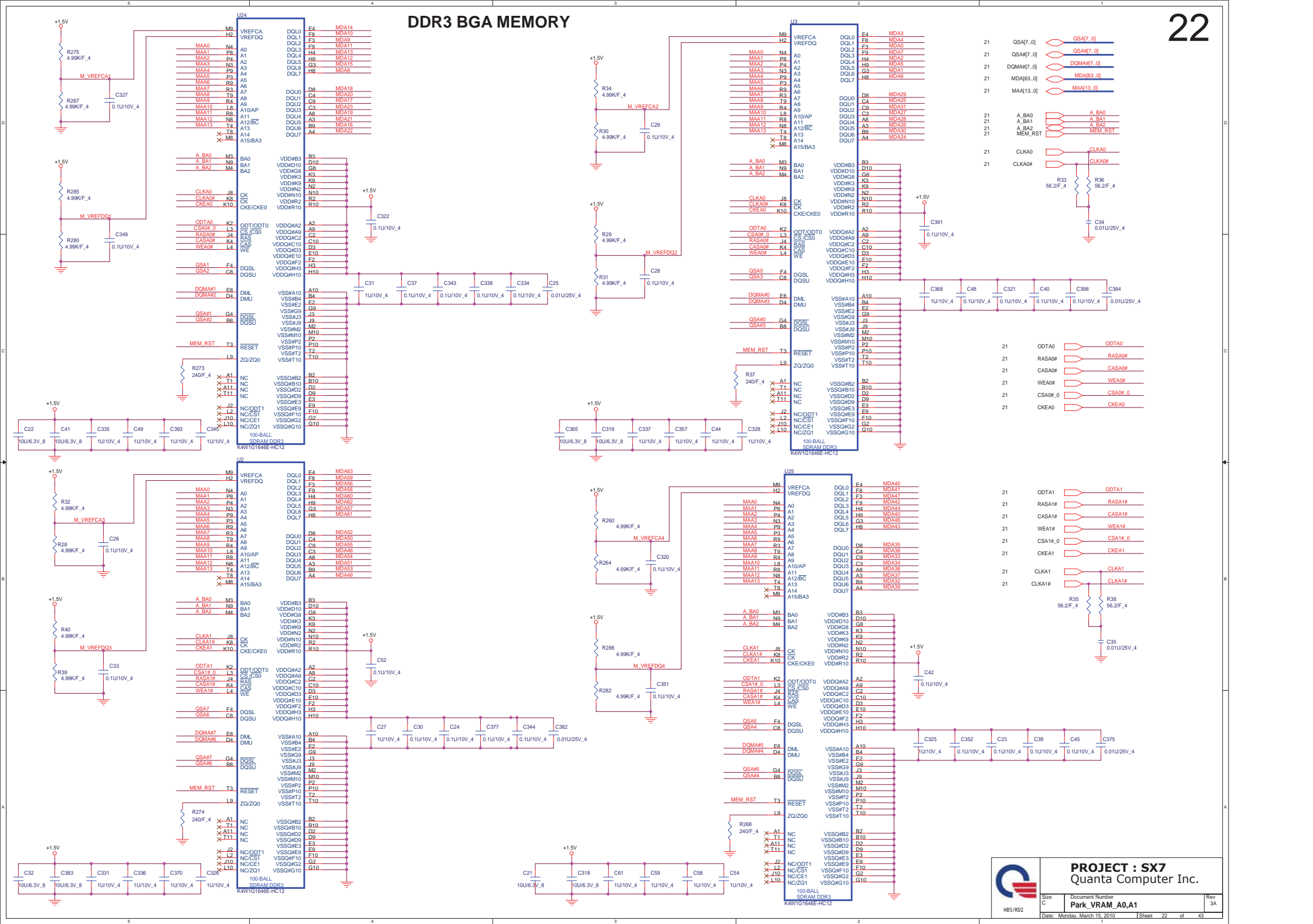
2.2nF:CH22206KB16
68pF:CH06806JB01

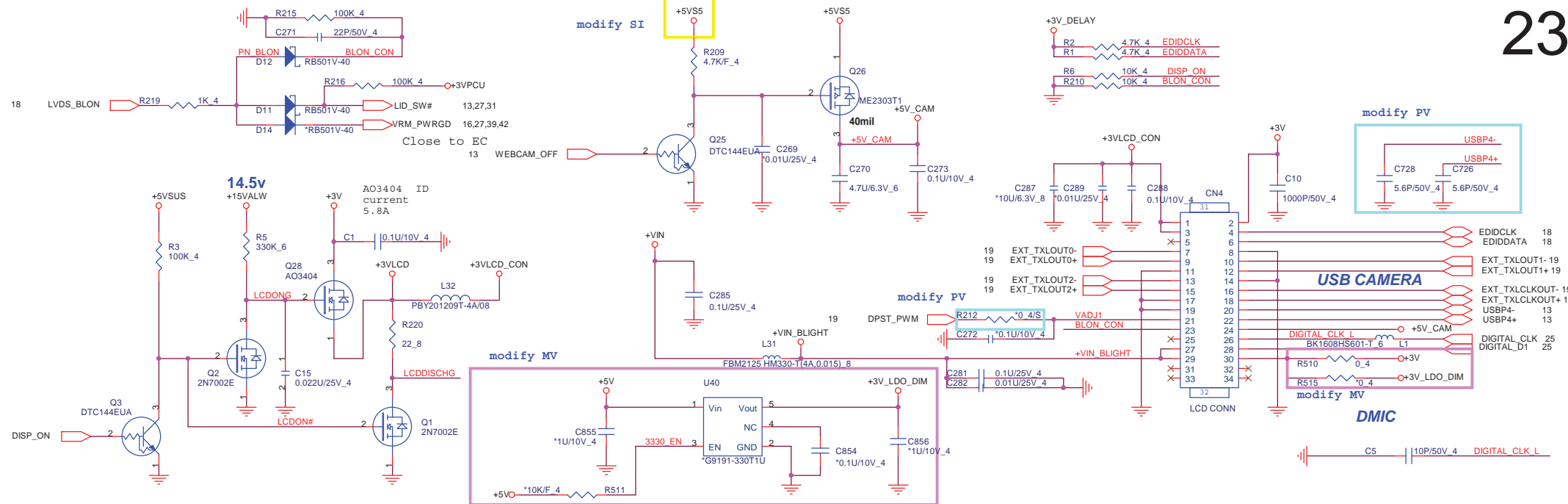


PROJECT : SX7
Quanta Computer Inc.

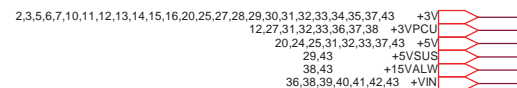
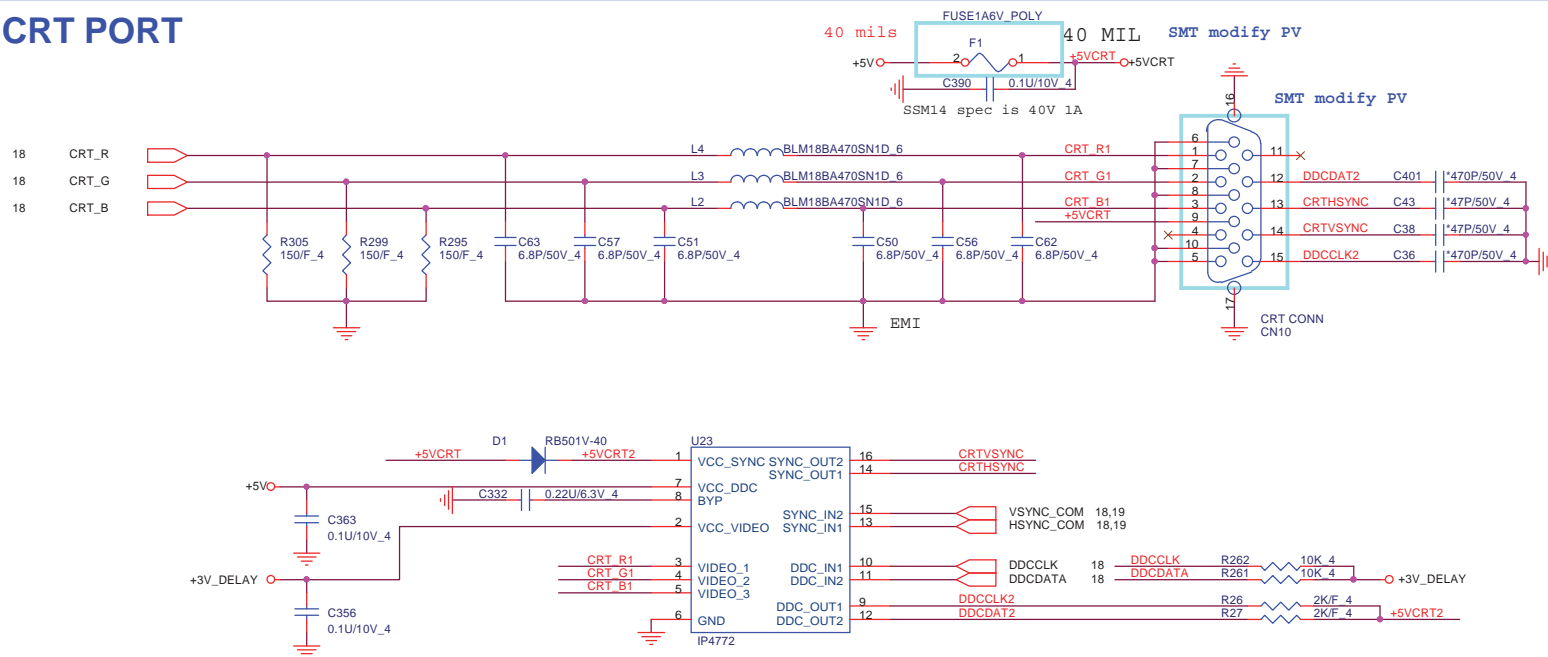
Size	Document Number	Rev
Custom	Park_MEM_Interface	3A
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DDR3 BGA MEMORY



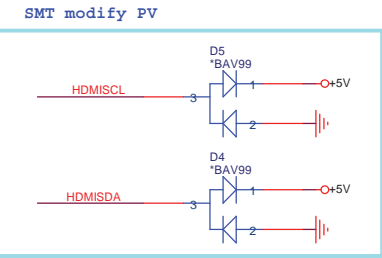
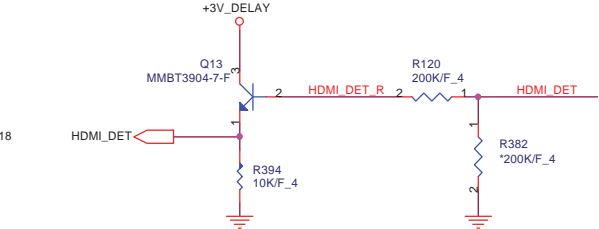
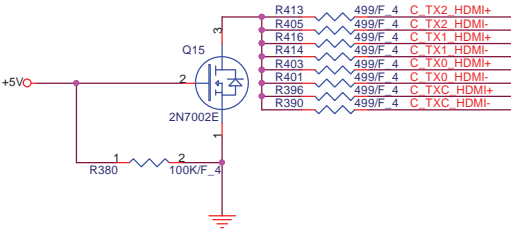
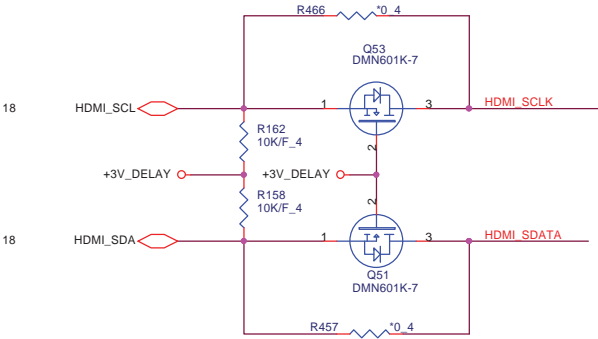
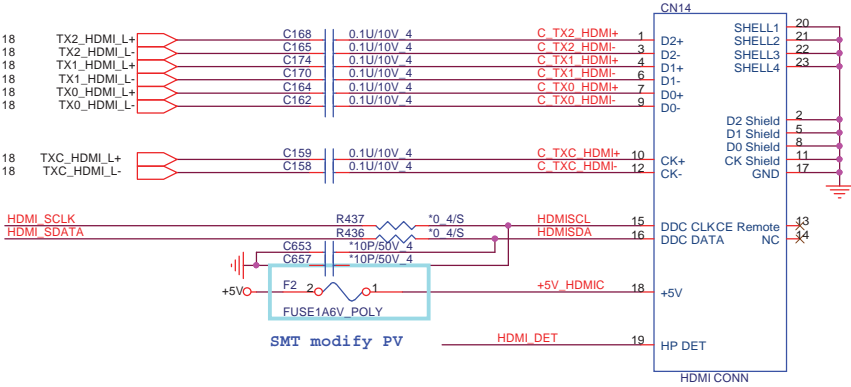
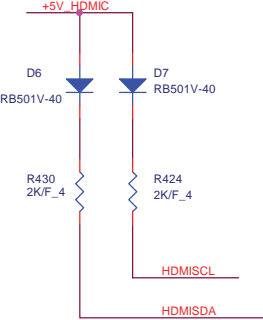


CRT PORT



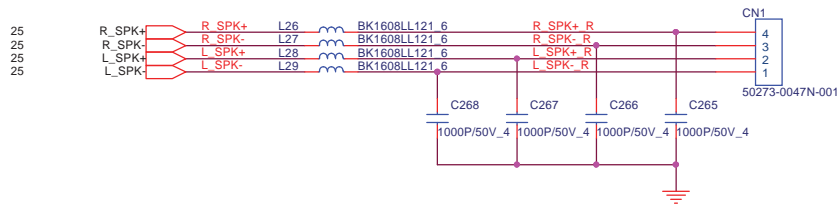
PROJECT : SX7
Quanta Computer Inc.

Size Custom	Document Number LCD CONN/LID function	Rev 3A
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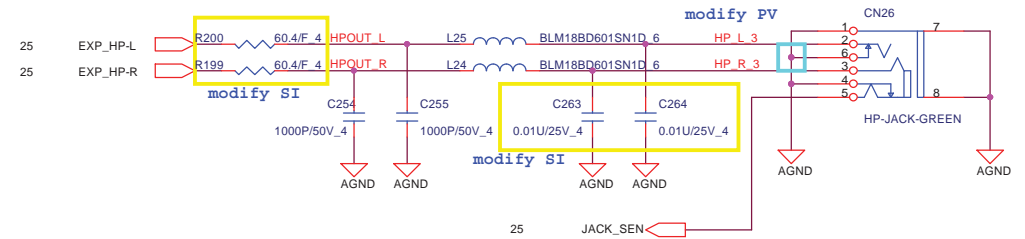


Note: JACK_SEN# is electrically floating when no jack is inserted and shorted to ground when jack is present.

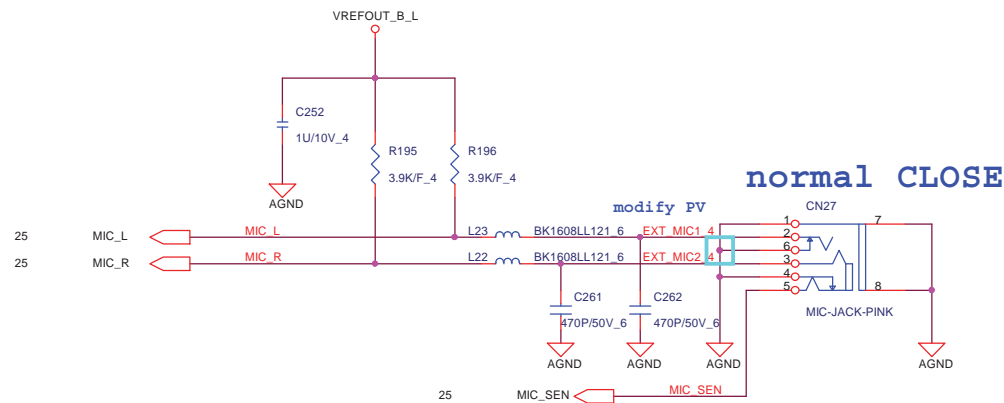
INT. SPEAKER



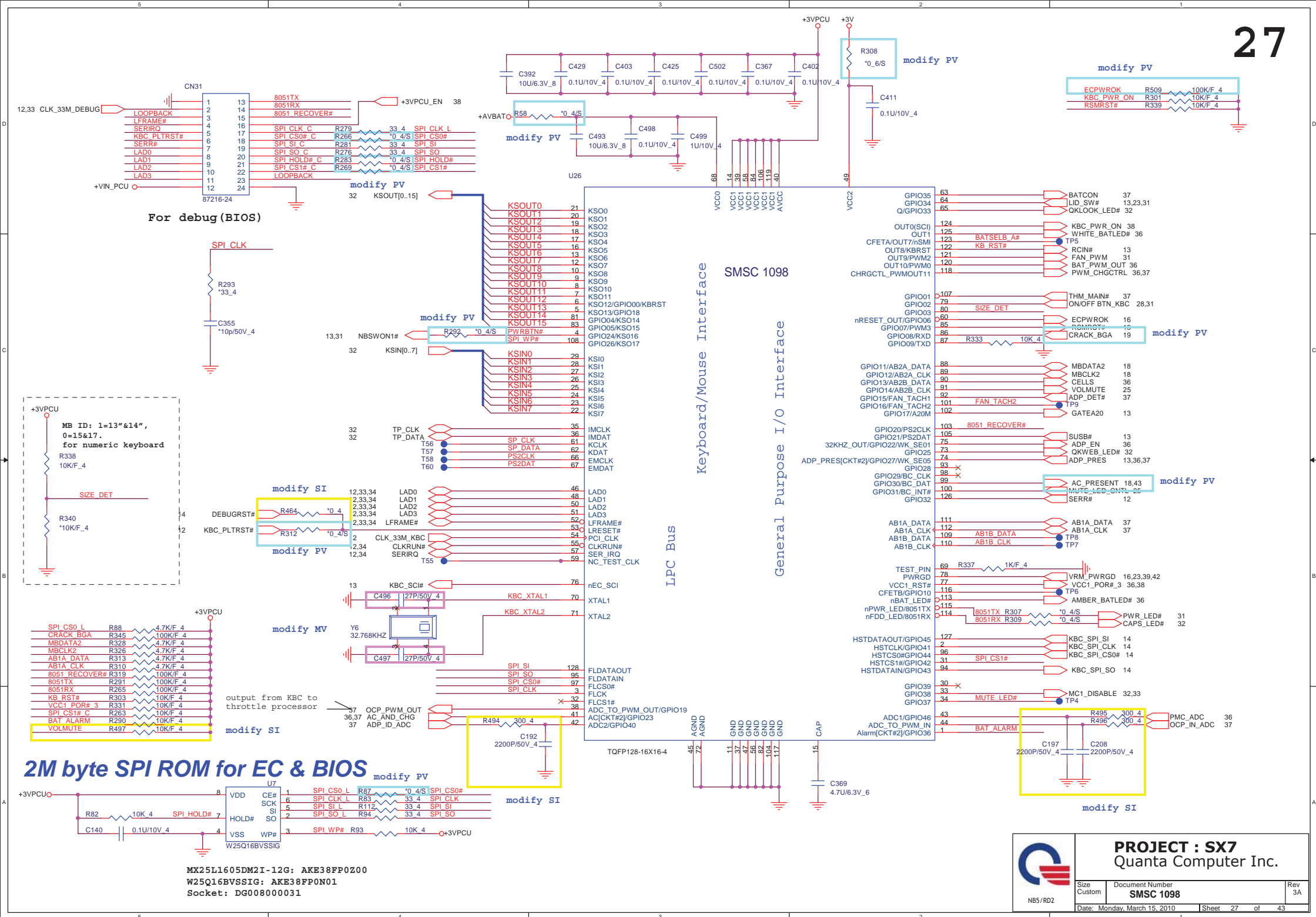
Headphone Jack

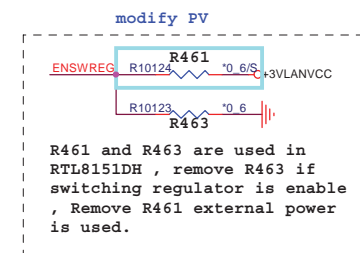
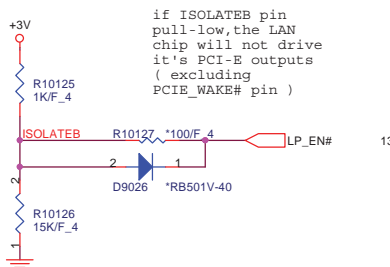
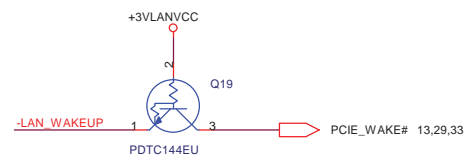


EXT Mic Jack

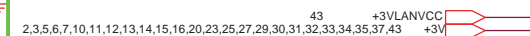
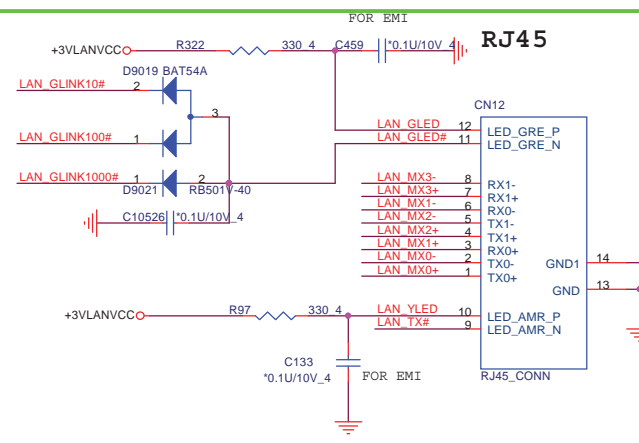


Note: MIC_SEN# is electrically floating when no jack is inserted and shorted to ground when jack is present.

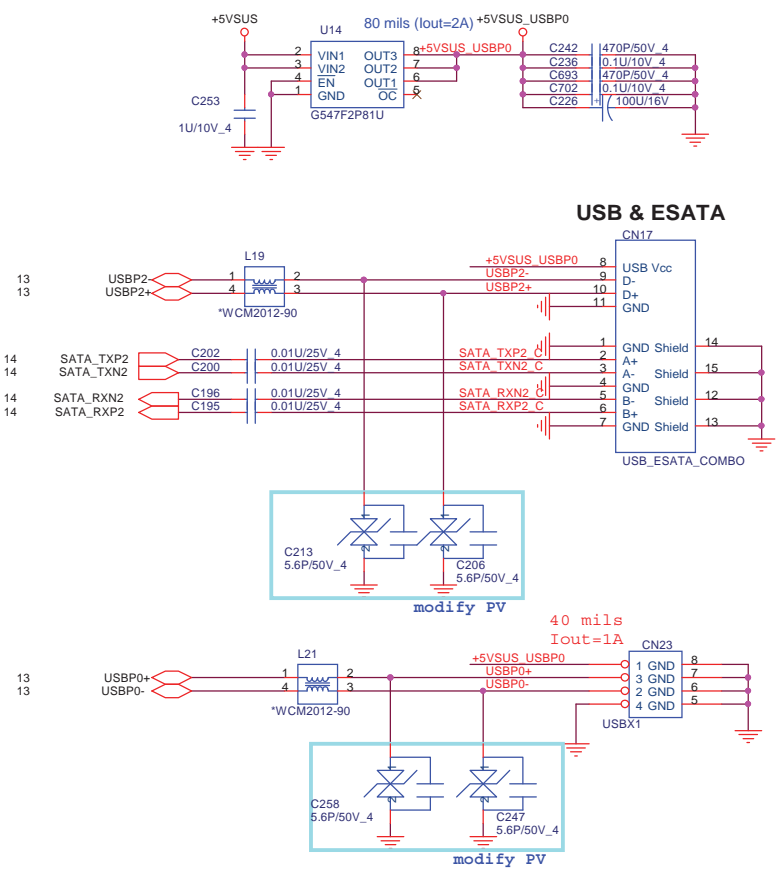




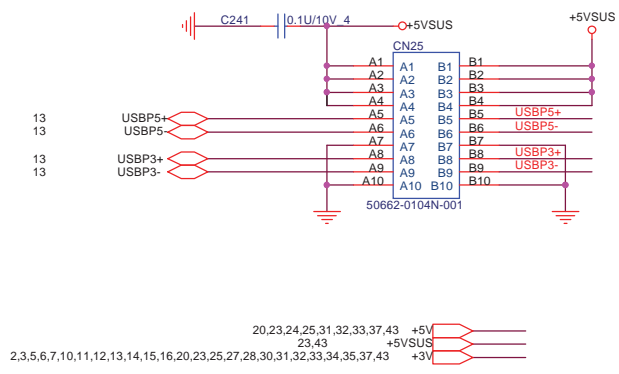
Lan Con.



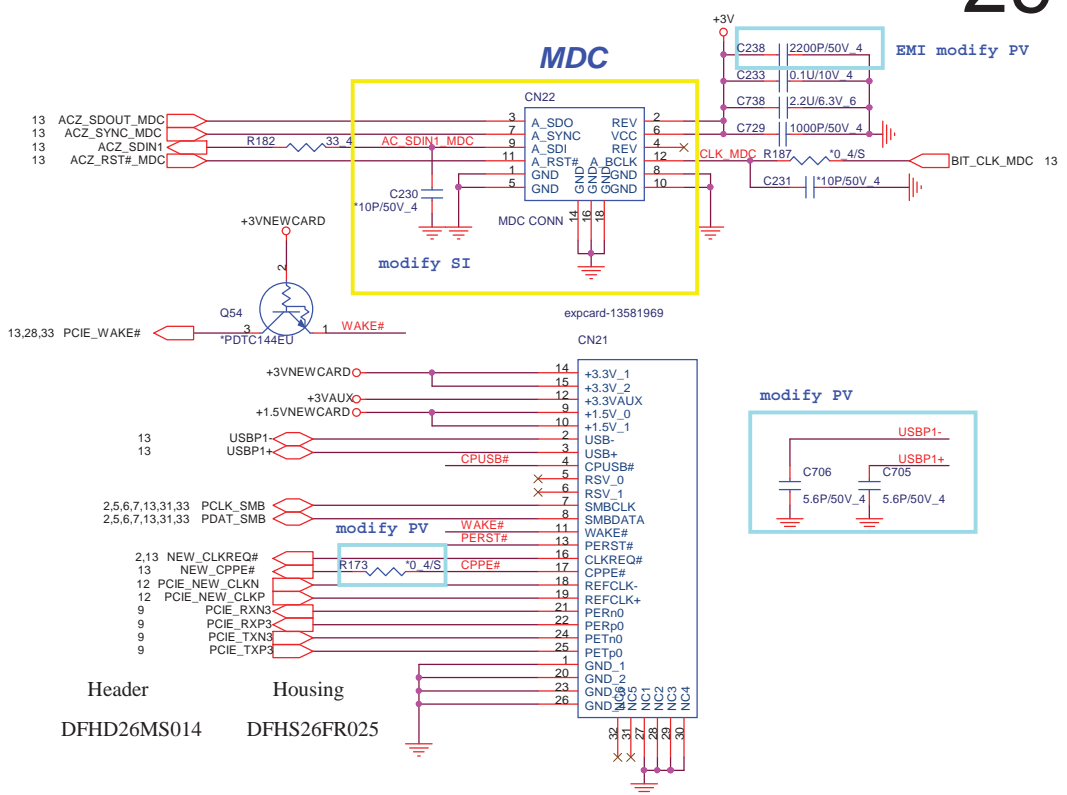
LEFT SIDE USBX1 and E-SATA/USB COMBO



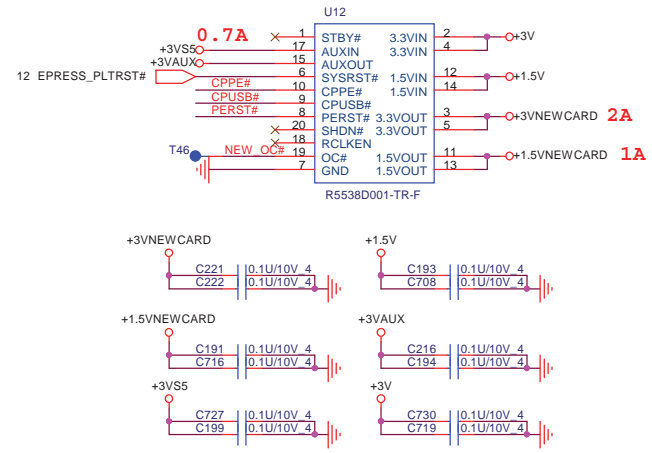
RIGHT SIDE USBX2



Modem CONN

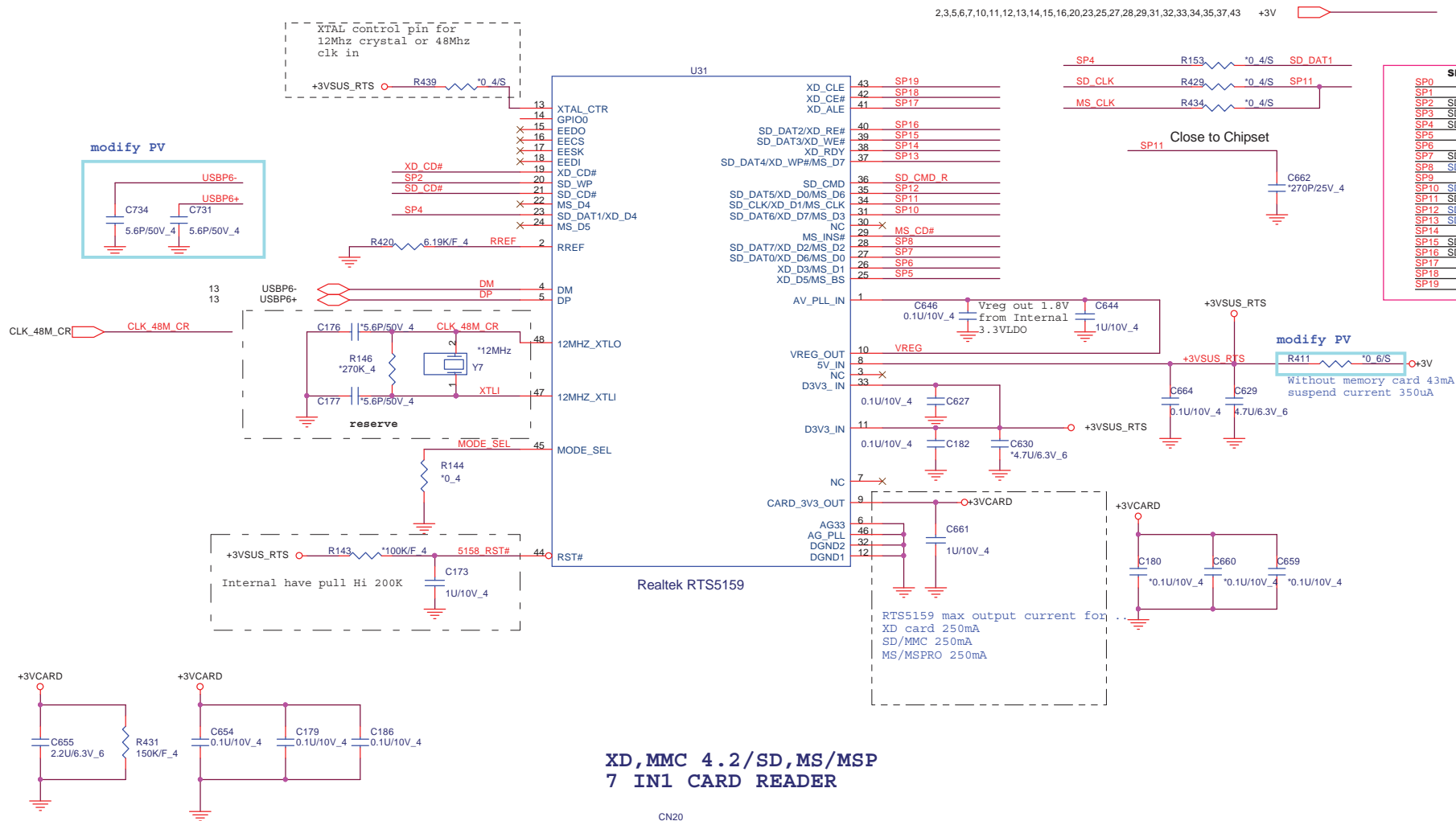


NEWCARD (PCIEXPRESS*1 + USB*1)

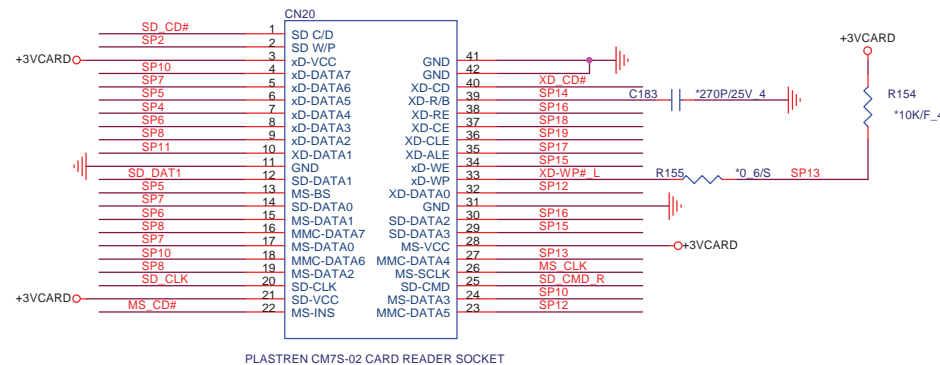


Note:

SD/MMC 4.2	MS	XD
SP0		XD CD#
SP1	SD WP	
SP2	SD CD#	
SP3	SD DAT1	XD D4
SP4		XD D5
SP5	MS BS	XD D3
SP6	MS D1	XD D2
SP7	MS D0	XD D6
SP8	MS D2	XD D7
SP9	MS INS#	XD D1
SP10	MS D3	XD D0
SP11	MS SCLK	XD WP#
SP12	MS D4	XD R/B#
SP13	MS D5	XD WE#
SP14	MS D6	XD RE#
SP15	MS D7	XD ALE
SP16	MS D8	XD CE#
SP17		
SP18		
SP19		XD CLE



XD, MMC 4.2 / SD, MS / MSP 7 IN1 CARD READER



PLASTREN CM7S-02 CARD READER SOCKET



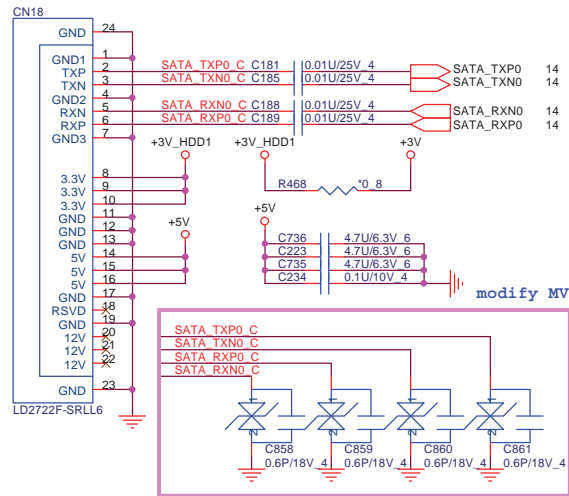
PROJECT : SX7
Quanta Computer Inc.

Size Custom Document Number
RTS5159 & CR SOCKET

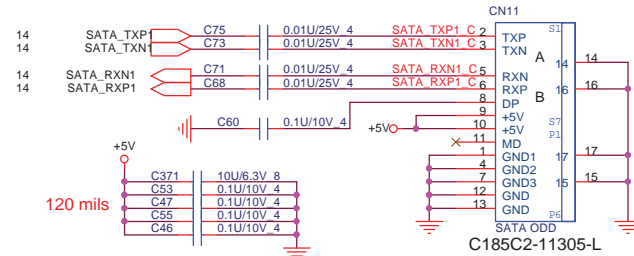
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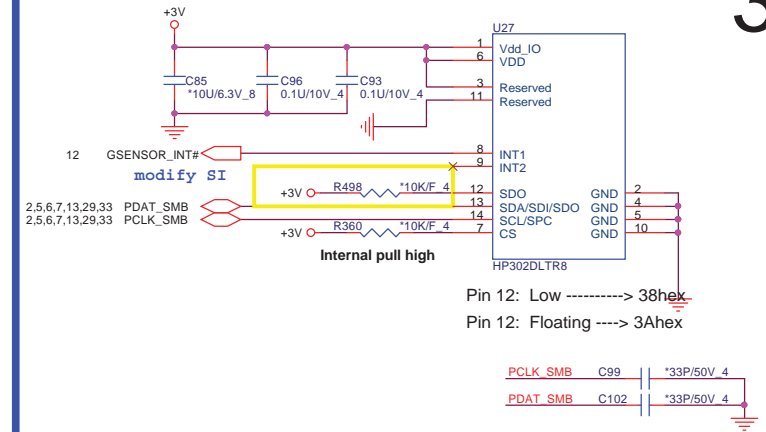
SATA HDD CONNECTOR



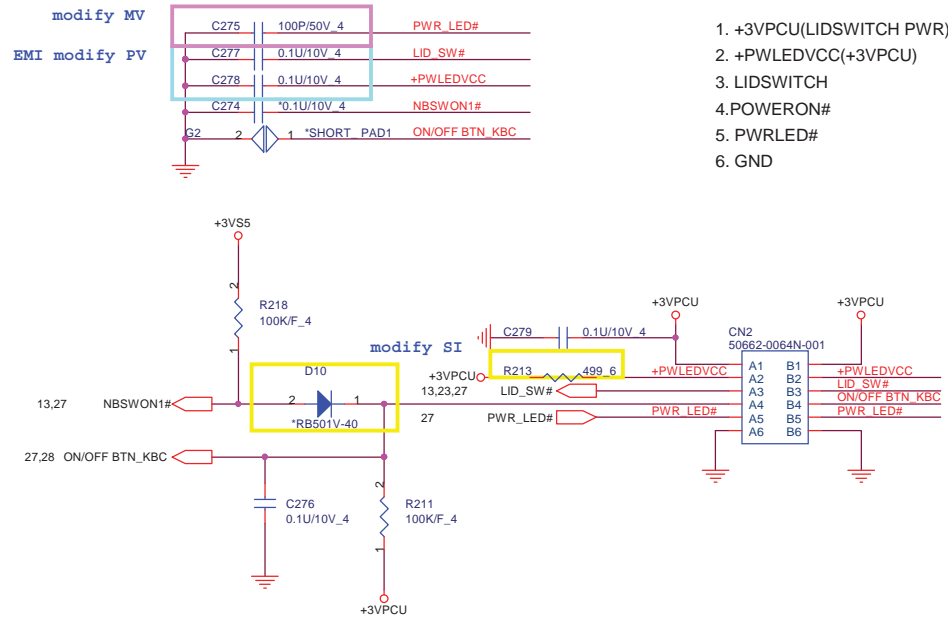
SATA CD-ROM



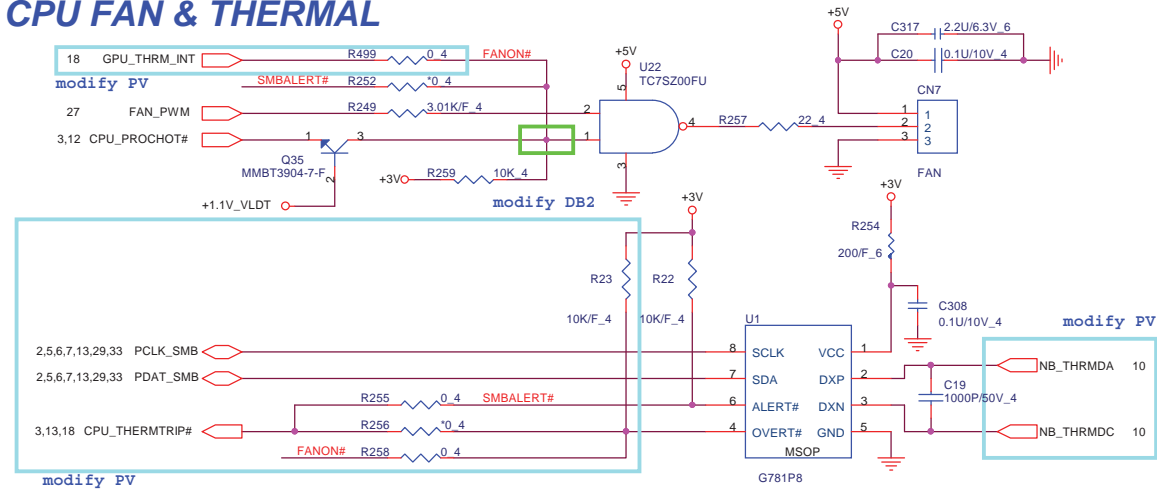
Accelerometer Sensor



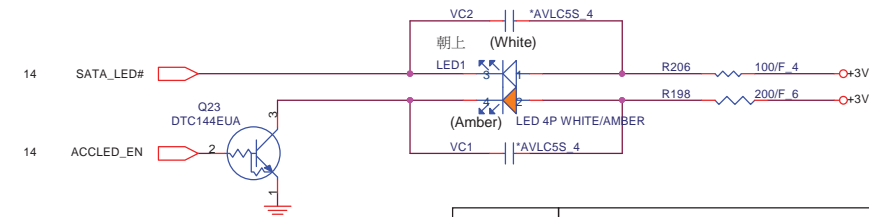
POWER BUTTON CONNECT



CPU FAN & THERMAL

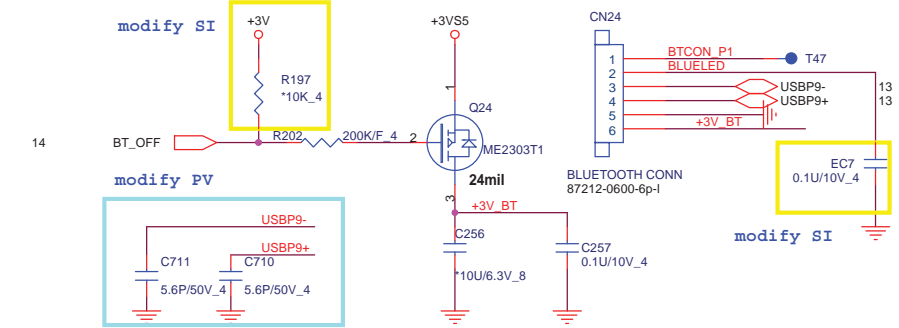


LED

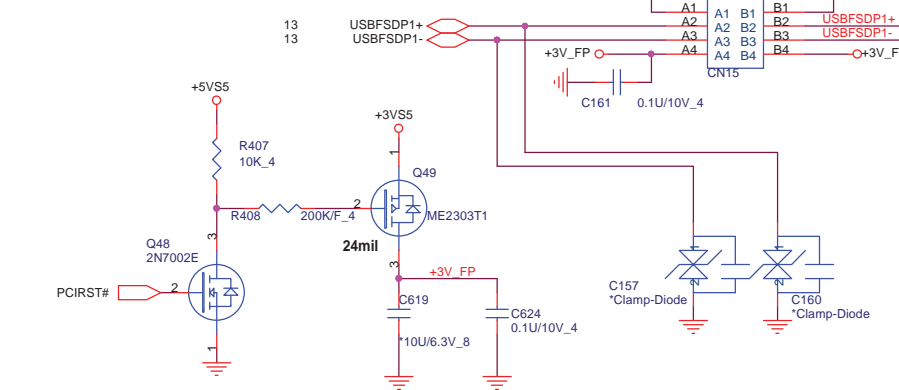


2,3,5,6,7,10,11,12,13,14,15,16,20,23,25,27,28,29,30,32,33,34,35,37,43 +3V
12,23,27,32,33,36,37,38 +3VPCU
5,12,13,14,15,16,28,29,32,33,38,39,41,42,43 +3VSS
20,23,24,25,32,33,37,43 +5V
23,38,43 +15VALW

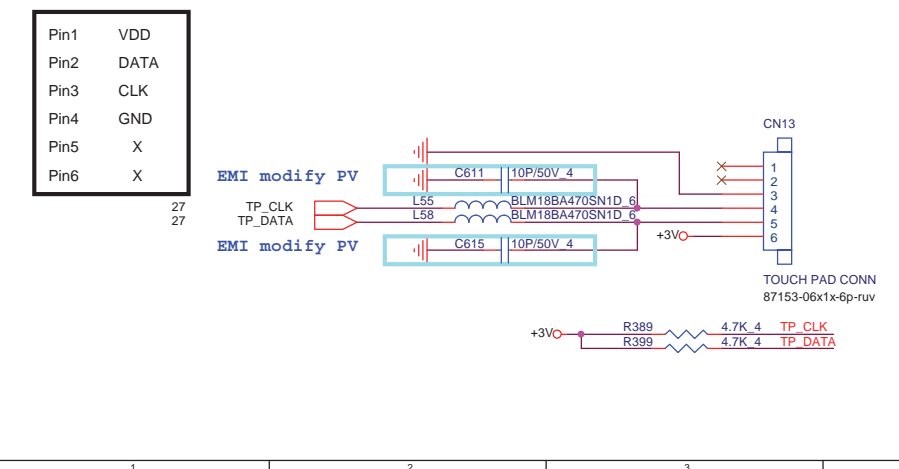
BLUETOOTH



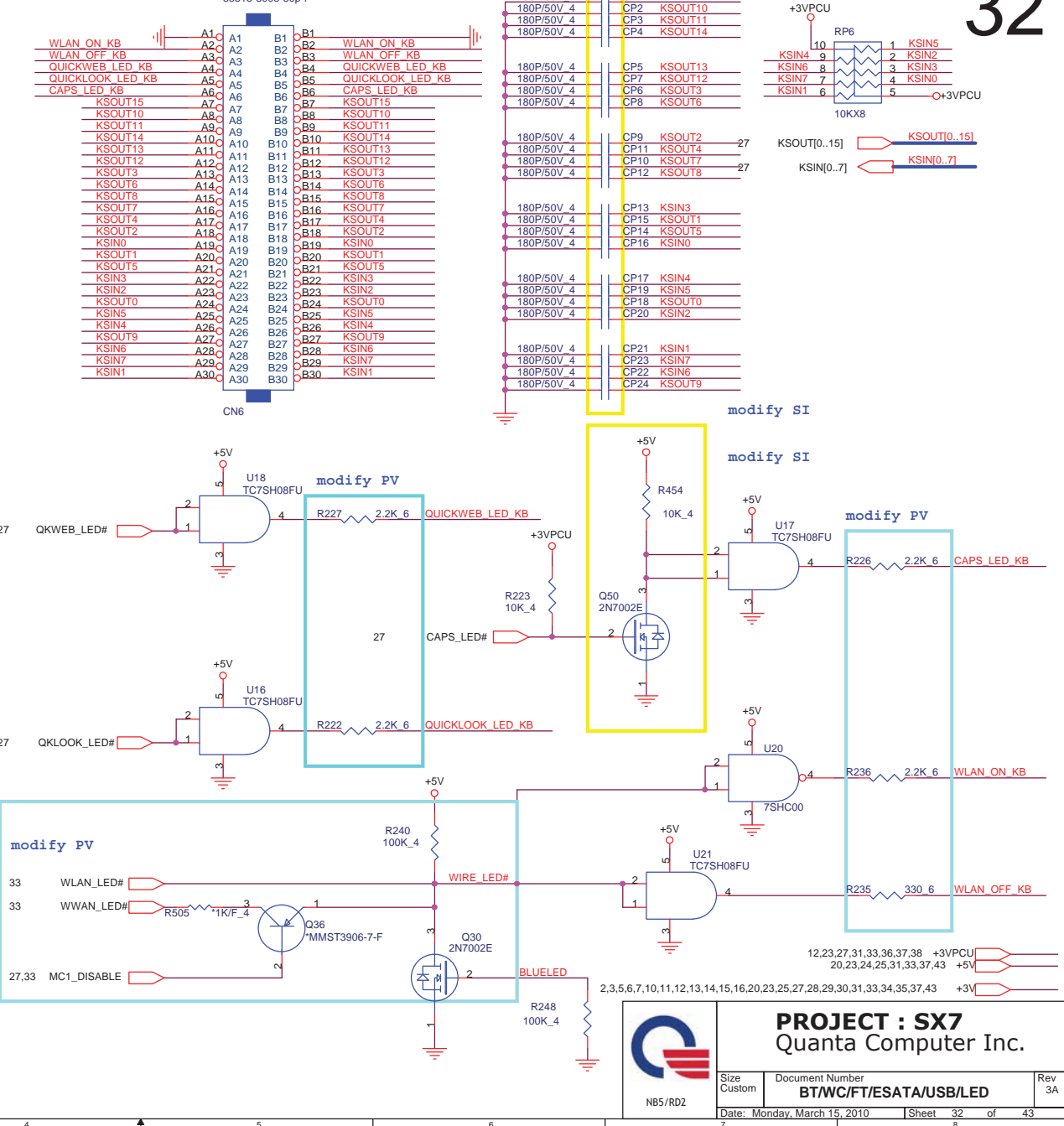
USB fingerprint CON



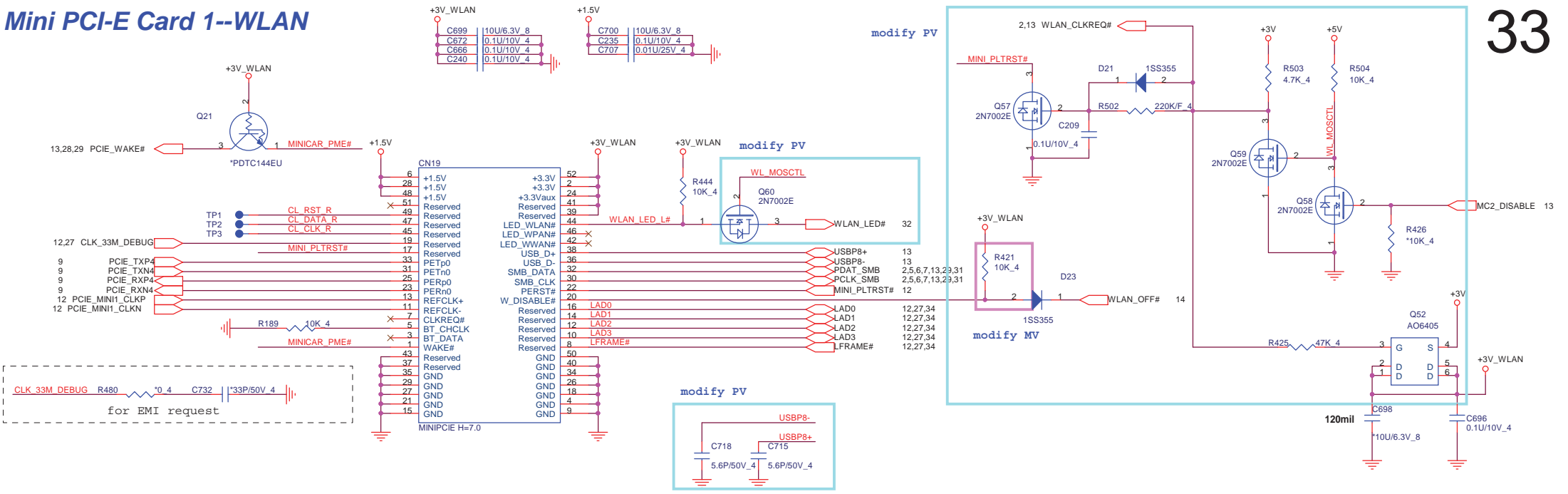
TOUCH PAD CONNECTOR



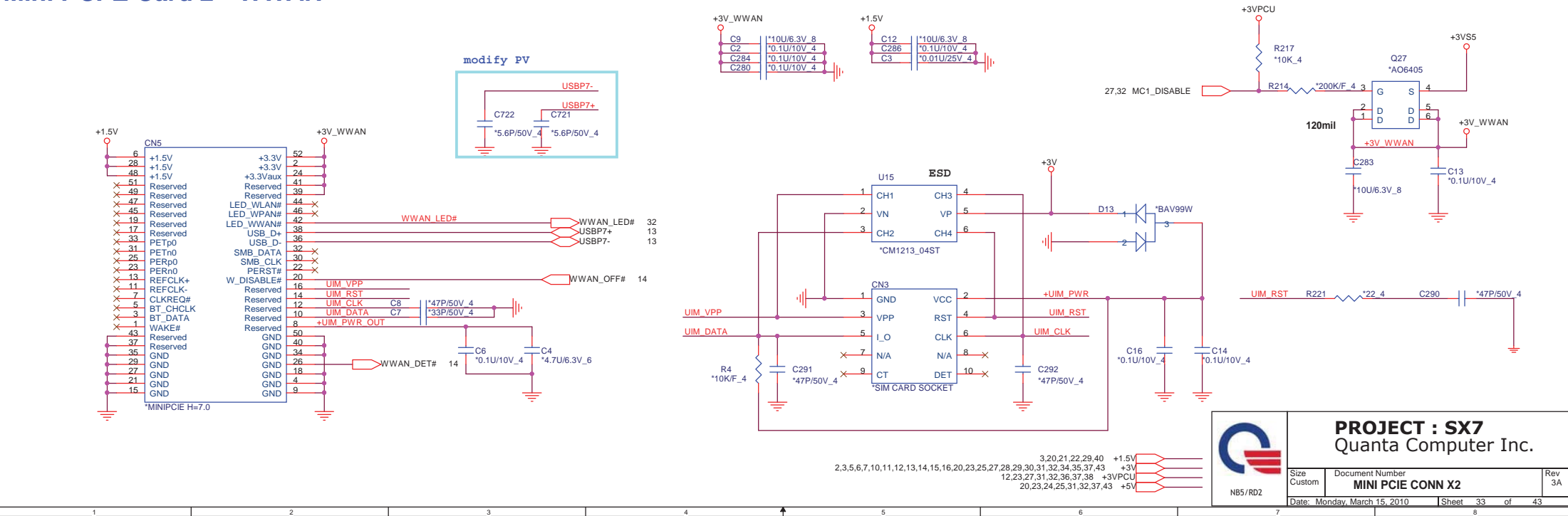
KEYBOARD CONNECTOR.




Mini PCI-E Card 1--WLAN



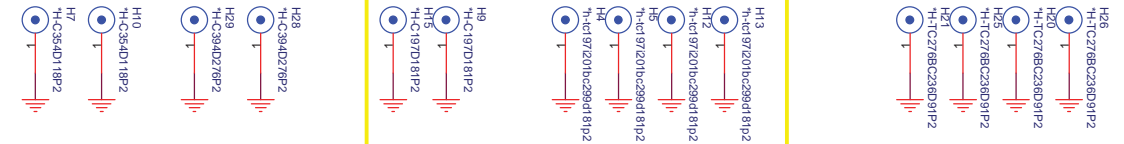
Mini PCI-E Card 2 --WWAN



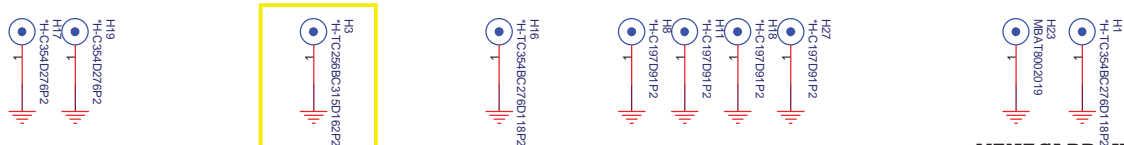


PROJECT : SX7
Quanta Computer Inc.

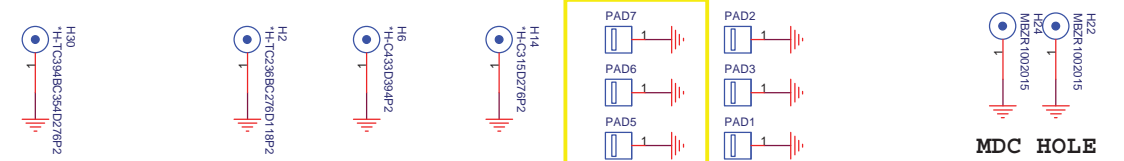
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Custom	MINI PCIE CONN X2	3A
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modify SI
VGA HOLE CPU HOLE

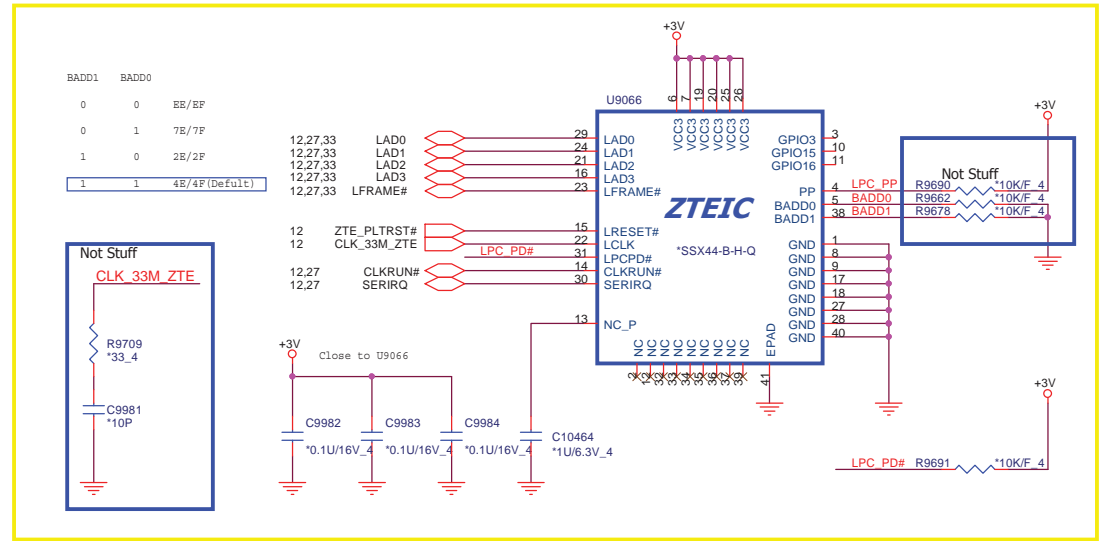


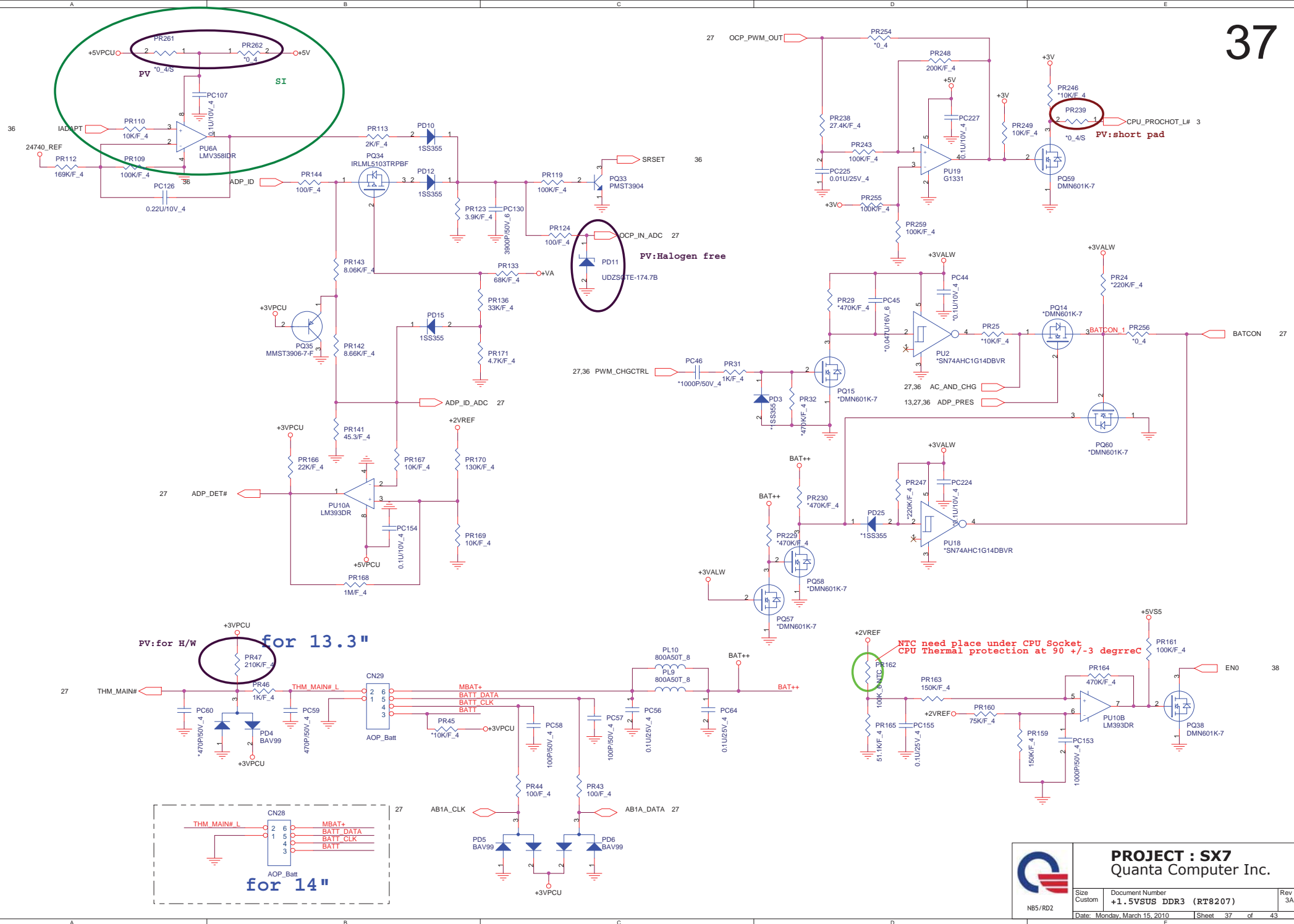
MINICARD HOLE

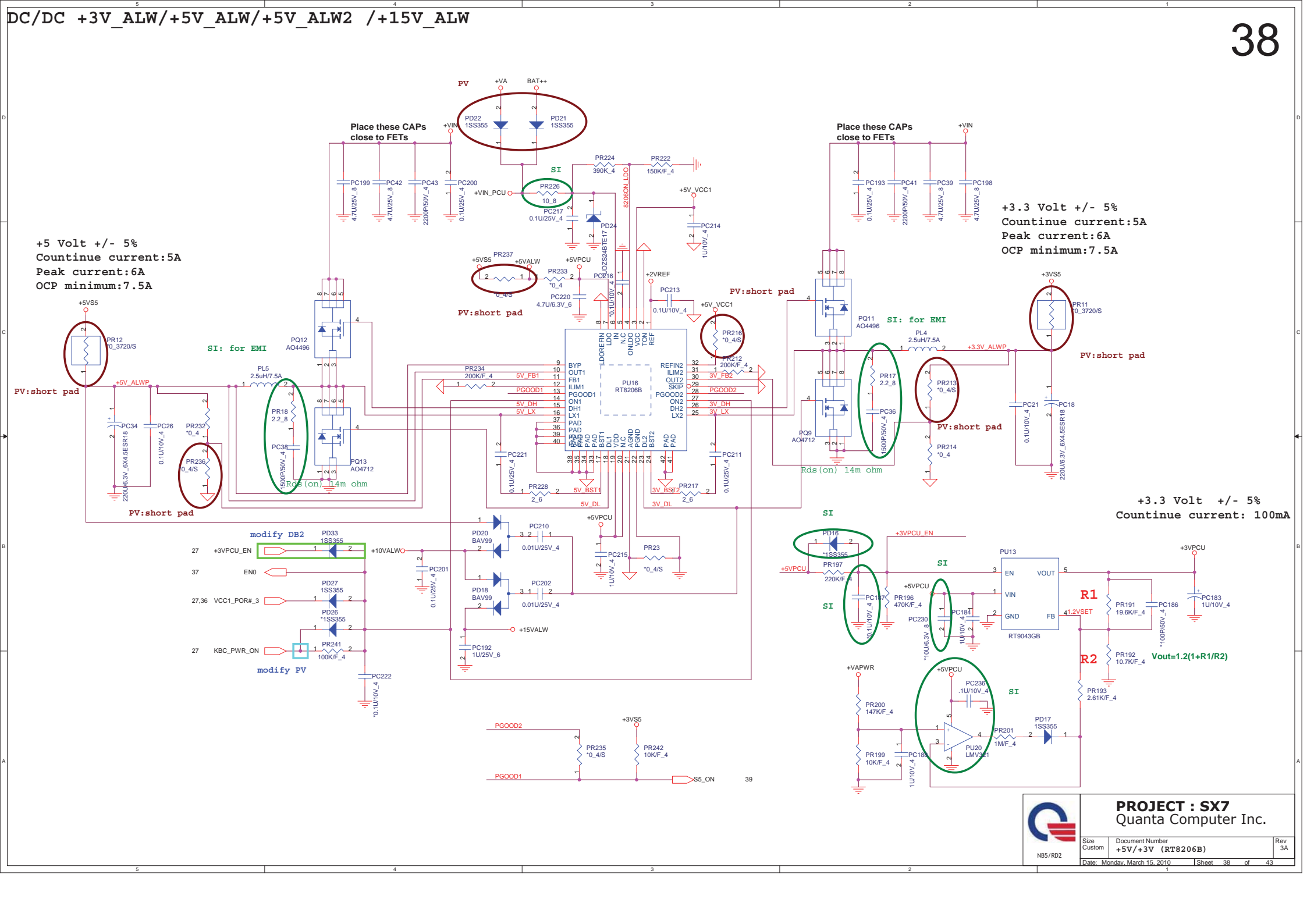


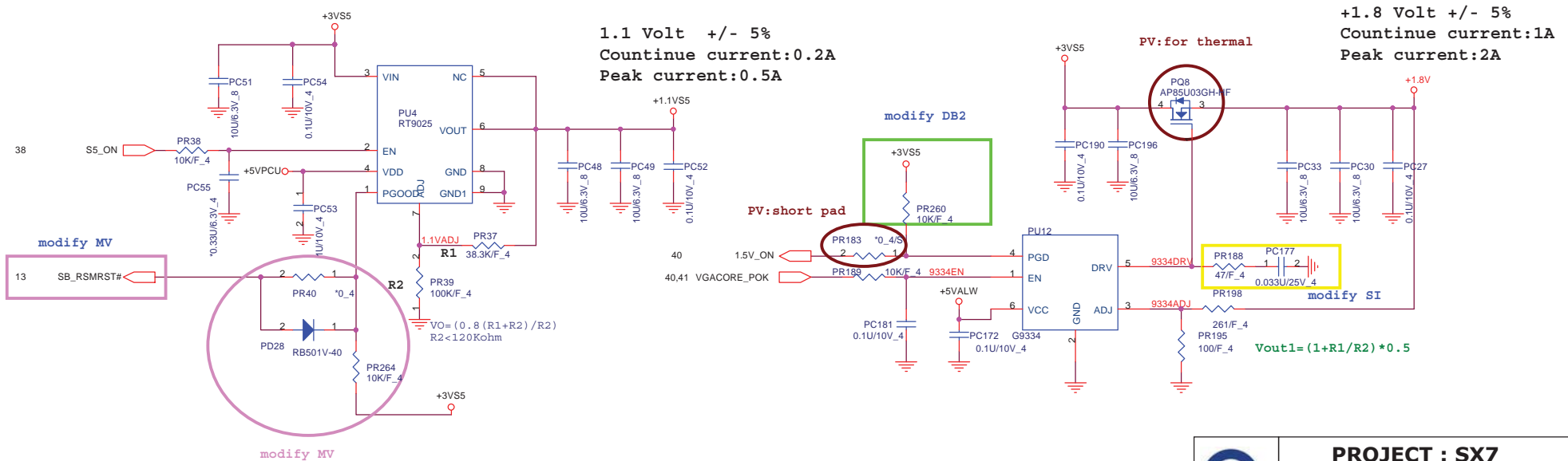
MDC HOLE

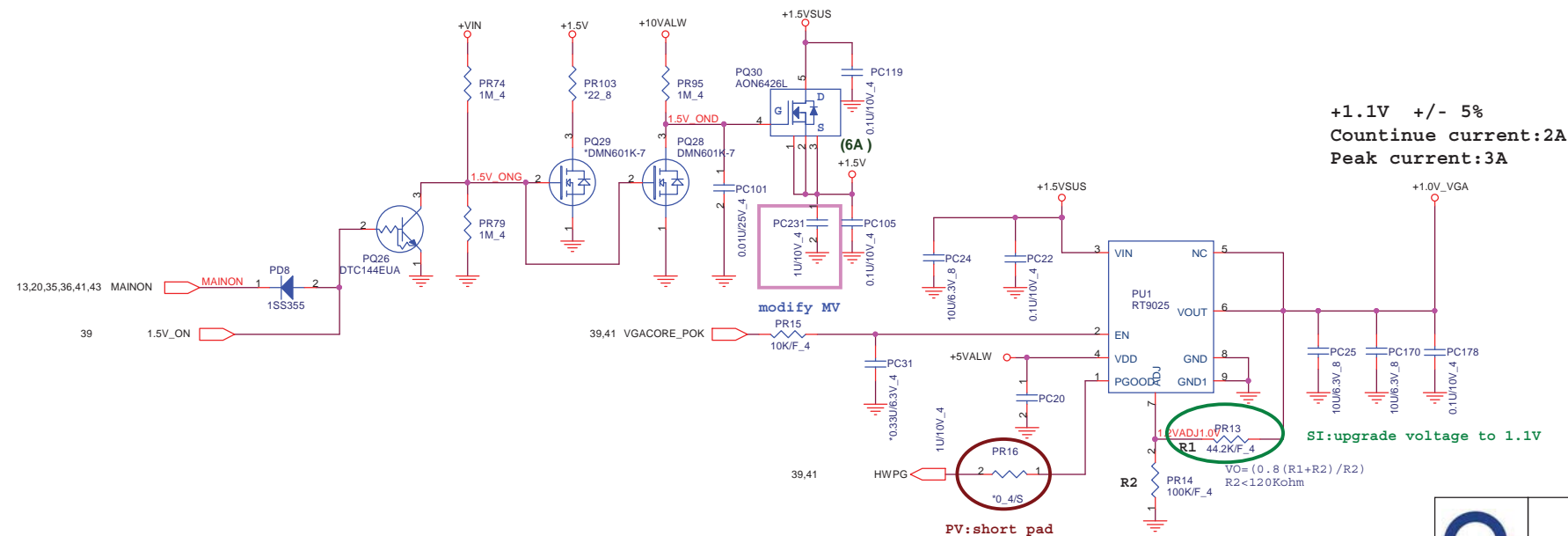
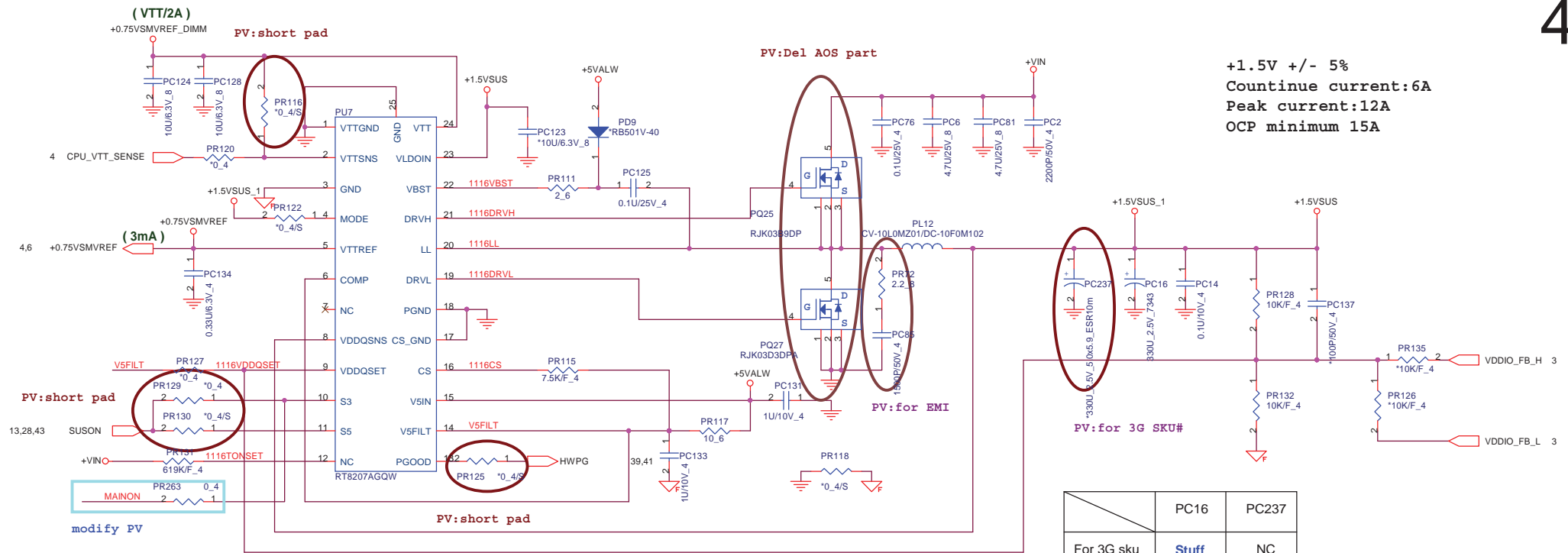
modify SI









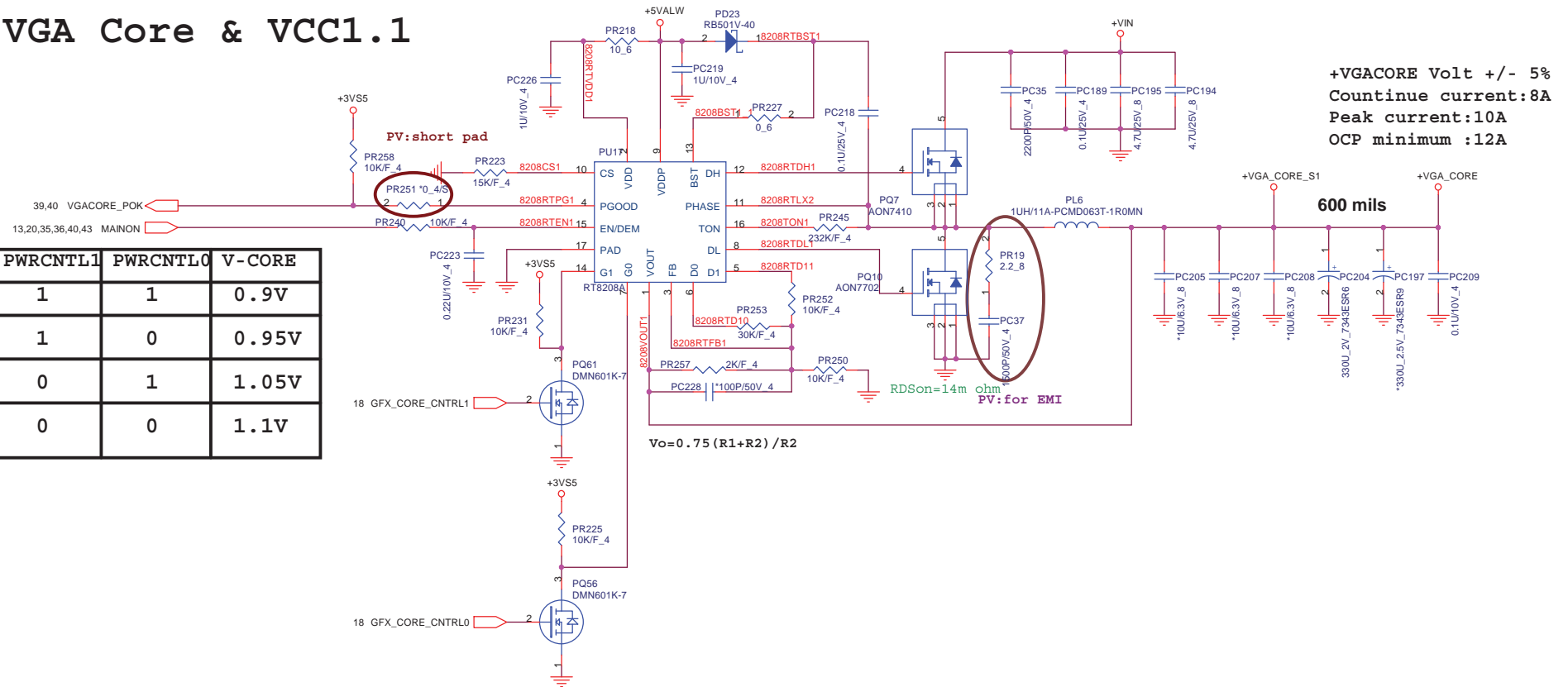


PROJECT : SX7
Quantas Computer Inc.

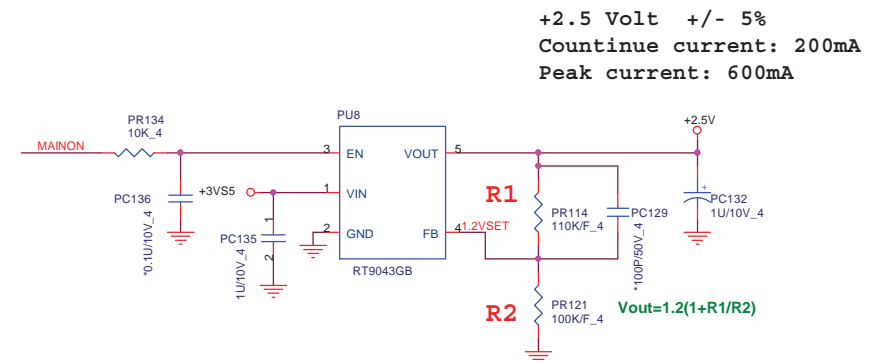
Size Custom Document Number
DDR3 (RT8207) Rev 3A
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VGA Core & VCC1.1

	PWRCNTL1	PWRCNTL0	V-CORE
	1	1	0.9V
	1	0	0.95V
	0	1	1.05V
	0	0	1.1V



+0.9V +/- 5%
Continue current:1.5A
Peak current:2A



+2.5 Volt +/- 5%
Countinue current: 200mA
Peak current: 600mA

