


**Quanta Project Name: XM2**

**Dell Project Name: Reebok**

**A00(QT) Stage**

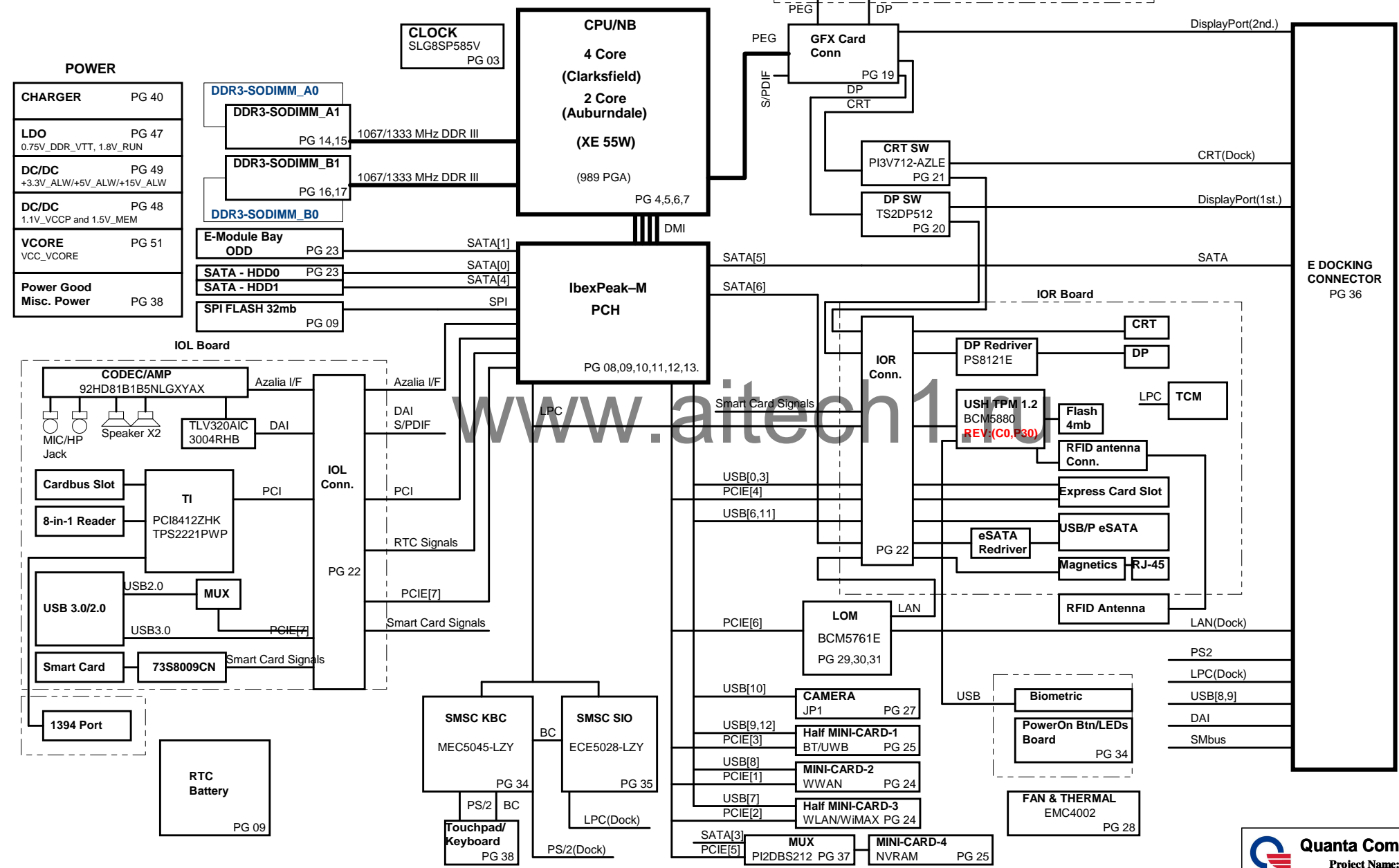
**BOARD REV : E**

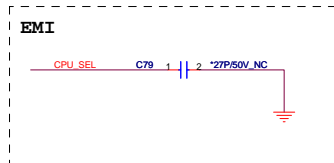
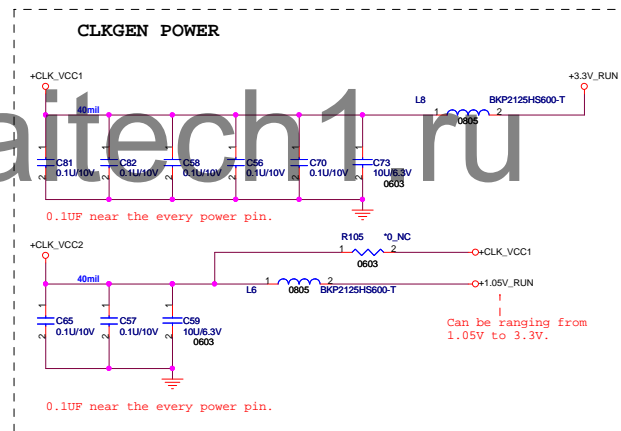
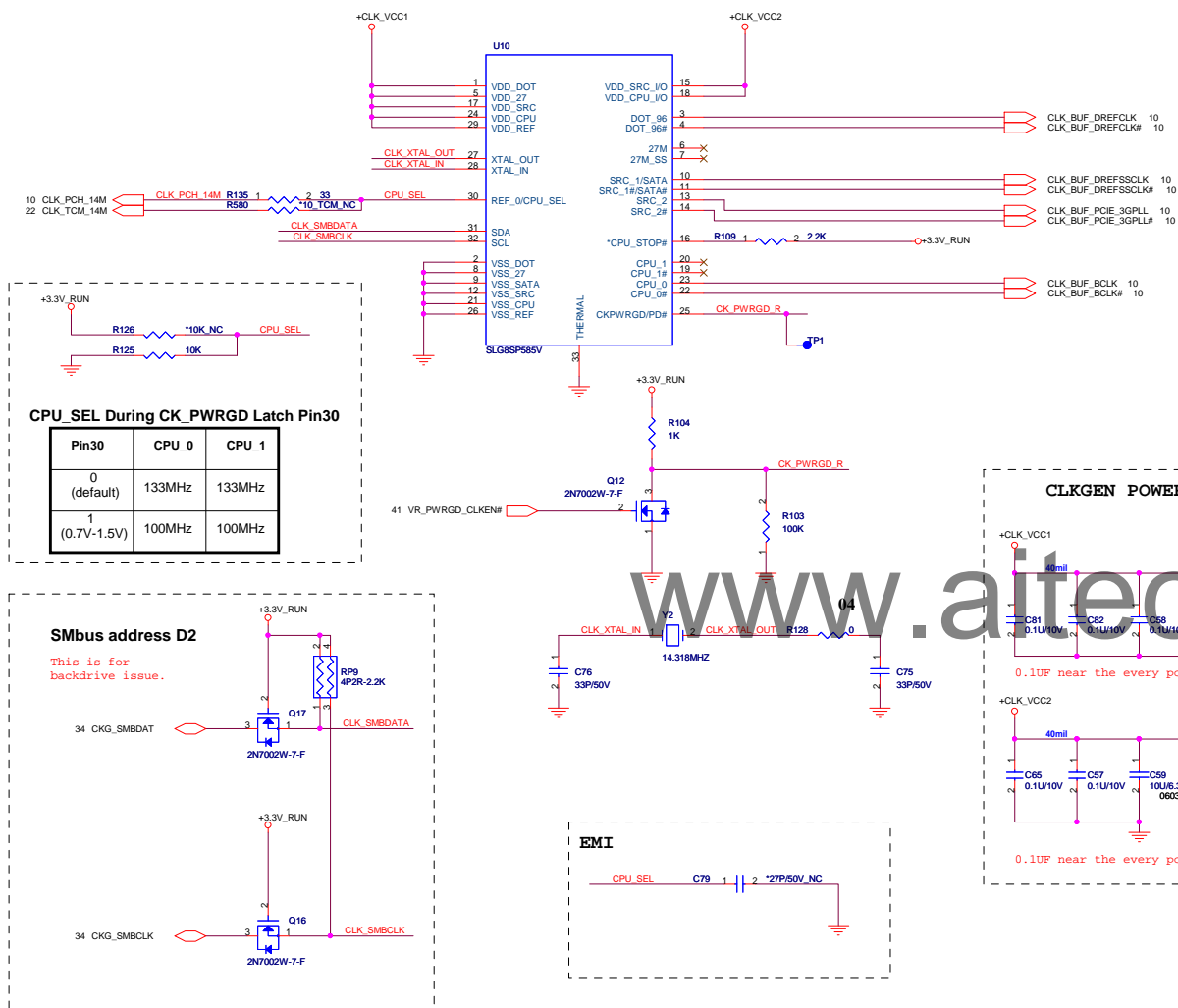
**2009-09-11**  
**www.aitech1.ru**

 <b>Quanta Computer Inc.</b>		
Project Name: <b>XM2</b>		
Title: CoverPage		
Size	Document Number: XM2_MB	Rev: D
Date: Friday, September 11, 2009 1 Sheet 1 of 56		

# System Block Diagram of Reebok

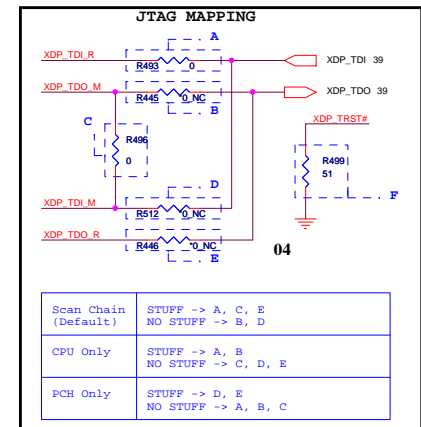
PWA XXX, PWB XXX,  
SCHEM XXX.  
Board Ver : D  
Date:20090716





## AUBURNDALE/CLARKSFIELD PROCESSOR (CLK,MISC,JTAG)

For EMI request, will NC at A00.



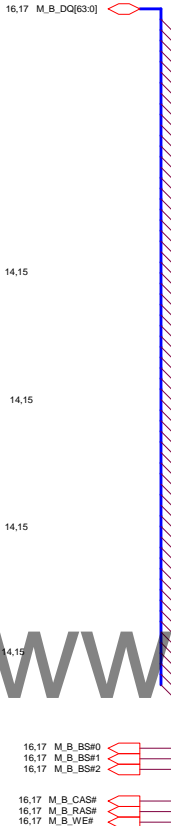
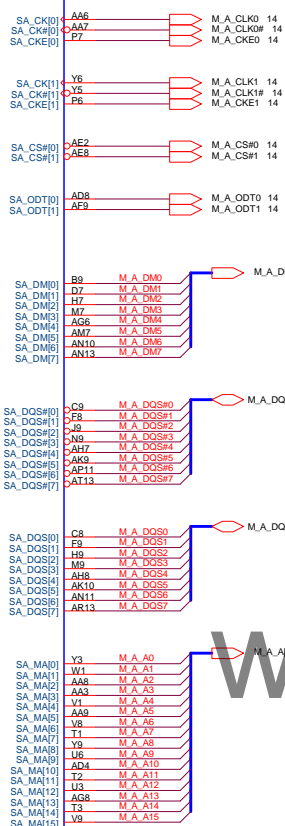
# AUBURNDALE/CLARKSFIELD PROCESSOR (DDR3)

U17C

14,15 M\_A\_DQ[63:0]

M\_A\_DQ0 A10  
M\_A\_DQ1 C10  
M\_A\_DQ2 C7  
M\_A\_DQ3 A7  
M\_A\_DQ4 B10  
M\_A\_DQ5 D10  
M\_A\_DQ6 E10  
M\_A\_DQ7 A8  
M\_A\_DQ8 D8  
M\_A\_DQ9 E10  
M\_A\_DQ10 E8  
M\_A\_DQ11 E7  
M\_A\_DQ12 E9  
M\_A\_DQ13 B7  
M\_A\_DQ14 E7  
M\_A\_DQ15 C6  
M\_A\_DQ16 H10  
M\_A\_DQ17 G8  
M\_A\_DQ18 K7  
M\_A\_DQ19 J8  
M\_A\_DQ20 G7  
M\_A\_DQ21 G10  
M\_A\_DQ22 J7  
M\_A\_DQ23 J7  
M\_A\_DQ24 L7  
M\_A\_DQ25 M6  
M\_A\_DQ26 L8  
M\_A\_DQ27 L9  
M\_A\_DQ28 L6  
M\_A\_DQ29 K6  
M\_A\_DQ30 N8  
M\_A\_DQ31 P9  
M\_A\_DQ32 A8  
M\_A\_DQ33 A5  
M\_A\_DQ34 A6  
M\_A\_DQ35 A7  
M\_A\_DQ36 A8  
M\_A\_DQ37 A9  
M\_A\_DQ38 A10  
M\_A\_DQ39 A11  
M\_A\_DQ40 A12  
M\_A\_DQ41 A13  
M\_A\_DQ42 A14  
M\_A\_DQ43 A15  
M\_A\_DQ44 A16  
M\_A\_DQ45 A17  
M\_A\_DQ46 A18  
M\_A\_DQ47 A19  
M\_A\_DQ48 A20  
M\_A\_DQ49 A21  
M\_A\_DQ50 A22  
M\_A\_DQ51 A23  
M\_A\_DQ52 A24  
M\_A\_DQ53 A25  
M\_A\_DQ54 A26  
M\_A\_DQ55 A27  
M\_A\_DQ56 A28  
M\_A\_DQ57 A29  
M\_A\_DQ58 A30  
M\_A\_DQ59 A31  
M\_A\_DQ60 A32  
M\_A\_DQ61 A33  
M\_A\_DQ62 A34  
M\_A\_DQ63 A35

DDR SYSTEM MEMORY - A

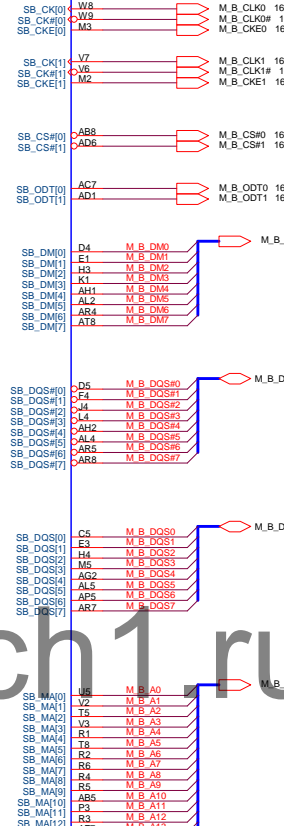


U17D

16,17 M\_B\_DQ[63:0]

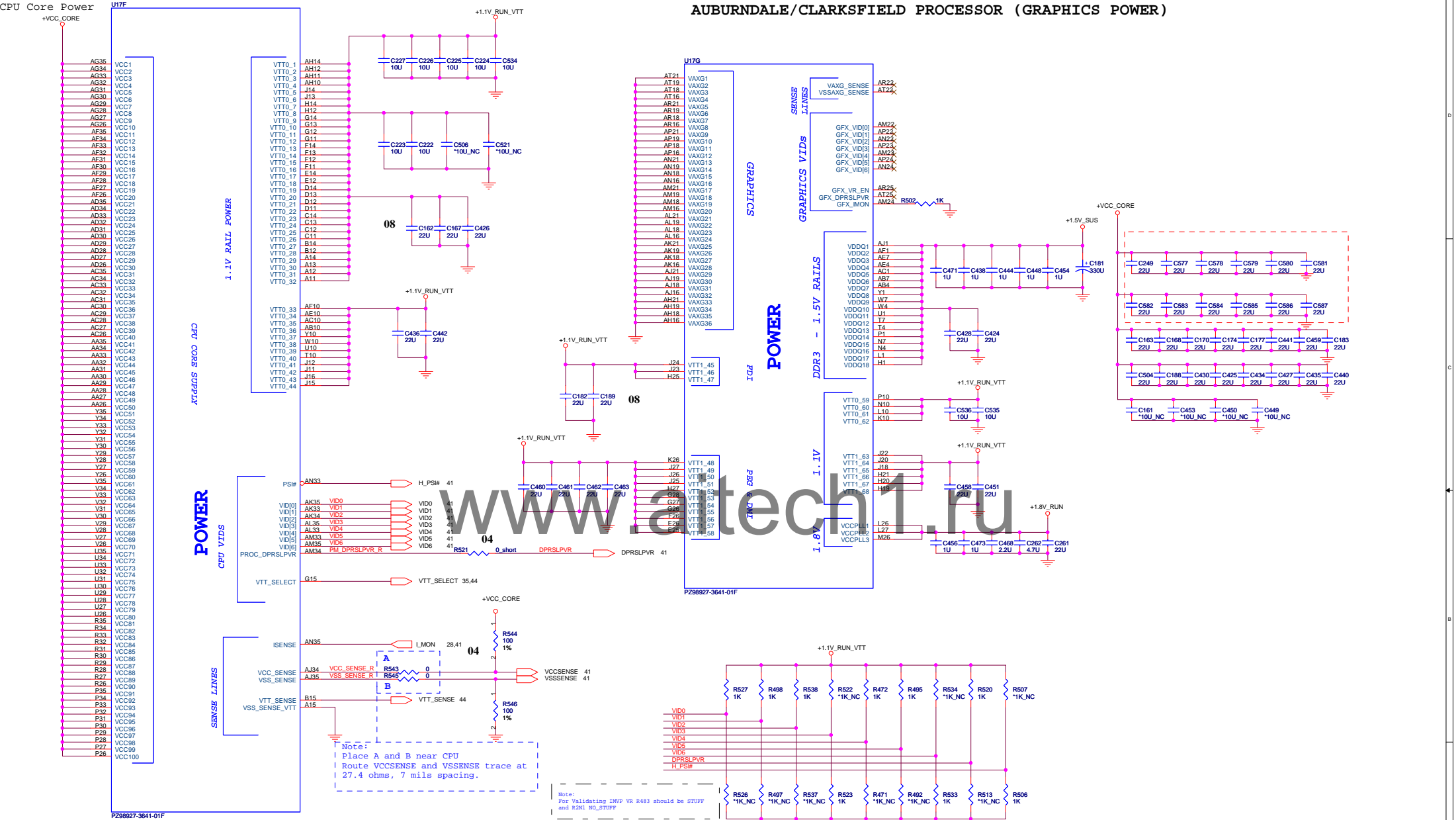
M\_B\_DQ0 B5  
M\_B\_DQ1 A5  
M\_B\_DQ2 C3  
M\_B\_DQ3 B3  
M\_B\_DQ4 E4  
M\_B\_DQ5 A6  
M\_B\_DQ6 A4  
M\_B\_DQ7 C4  
M\_B\_DQ8 D1  
M\_B\_DQ9 D2  
M\_B\_DQ10 E1  
M\_B\_DQ11 F1  
M\_B\_DQ12 C2  
M\_B\_DQ13 E5  
M\_B\_DQ14 E3  
M\_B\_DQ15 G4  
M\_B\_DQ16 G2  
M\_B\_DQ17 G3  
M\_B\_DQ18 J6  
M\_B\_DQ19 J3  
M\_B\_DQ20 G1  
M\_B\_DQ21 G5  
M\_B\_DQ22 J2  
M\_B\_DQ23 J1  
M\_B\_DQ24 J5  
M\_B\_DQ25 L3  
M\_B\_DQ26 M1  
M\_B\_DQ27 K4  
M\_B\_DQ28 M4  
M\_B\_DQ29 N5  
M\_B\_DQ30 A3  
M\_B\_DQ31 A2  
M\_B\_DQ32 A1  
M\_B\_DQ33 A1  
M\_B\_DQ34 A2  
M\_B\_DQ35 A3  
M\_B\_DQ36 A4  
M\_B\_DQ37 A5  
M\_B\_DQ38 A6  
M\_B\_DQ39 A7  
M\_B\_DQ40 A8  
M\_B\_DQ41 A9  
M\_B\_DQ42 A10  
M\_B\_DQ43 A11  
M\_B\_DQ44 A12  
M\_B\_DQ45 A13  
M\_B\_DQ46 A14  
M\_B\_DQ47 A15  
M\_B\_DQ48 A16  
M\_B\_DQ49 A17  
M\_B\_DQ50 A18  
M\_B\_DQ51 A19  
M\_B\_DQ52 A20  
M\_B\_DQ53 A21  
M\_B\_DQ54 A22  
M\_B\_DQ55 A23  
M\_B\_DQ56 A24  
M\_B\_DQ57 A25  
M\_B\_DQ58 A26  
M\_B\_DQ59 A27  
M\_B\_DQ60 A28  
M\_B\_DQ61 A29  
M\_B\_DQ62 A30  
M\_B\_DQ63 A31

DDR SYSTEM MEMORY - B



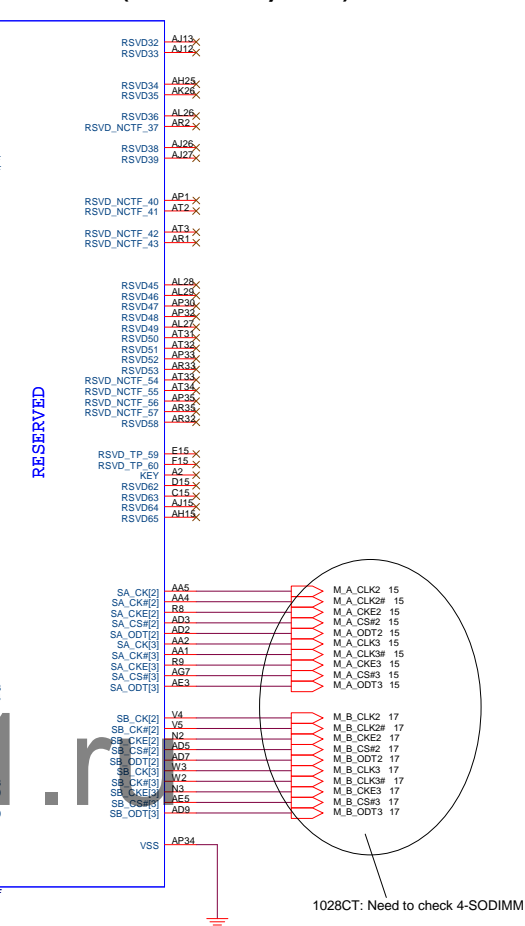
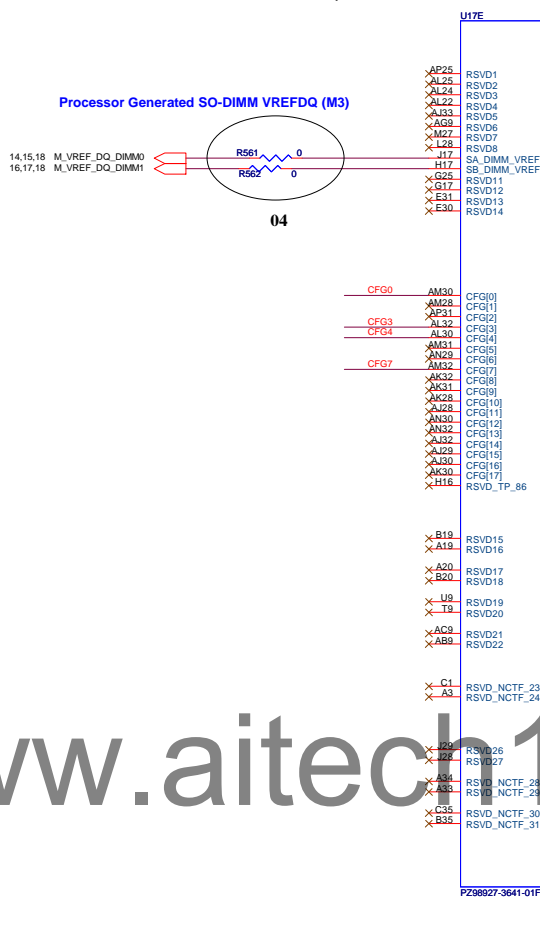
P298927-3641-01F

AUBURNDALE/CLARKSFIELD PROCESSOR (GRAPHICS POWER)



AUBURNDALE/CLARKSFIELD PROCESSOR (POWER)

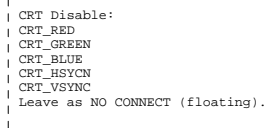
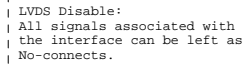
AUBURNDALE/CLARKSFIELD PROCESSOR( RESERVED, CFG)



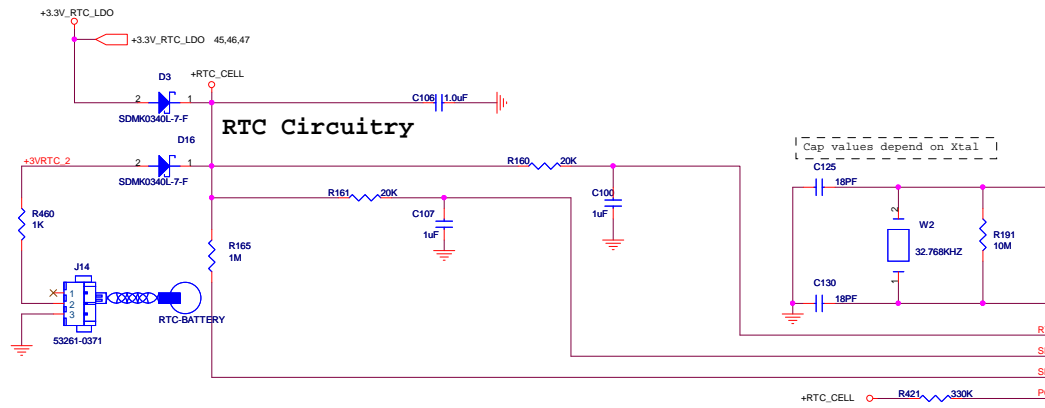
1028CT: Need to check 4-SODIMM

	1	0
CFG4 (Display Port Presence)	Disabled; No Physical Display Port attached to Embedded Display Port	Enabled; An external Display port device is connected to the Embedded Display port
CFG0 (PCI-Epress Configuration Select)	Single PEG	Bifurcation enabled
CFG3 (PCI-Epress Static Lane Reversal)	Normal Operation	Lane Numbers Reversed
CFG7 Clarkfield (only for early samples pre-ES1)	Common motherboard design	For early samples pre-ES1 CFD

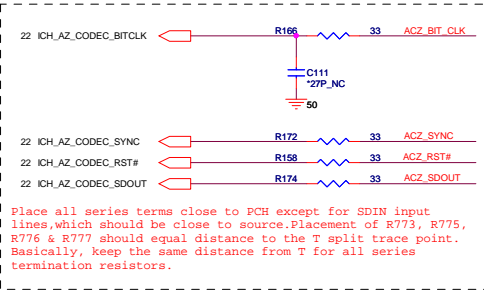
## IBEX PEAK-M (LVDS,DDI)



## RTC Circuitry

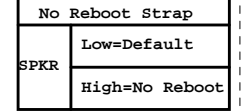
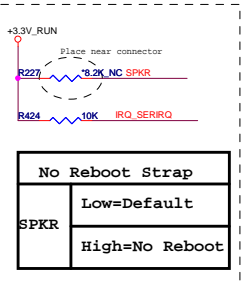
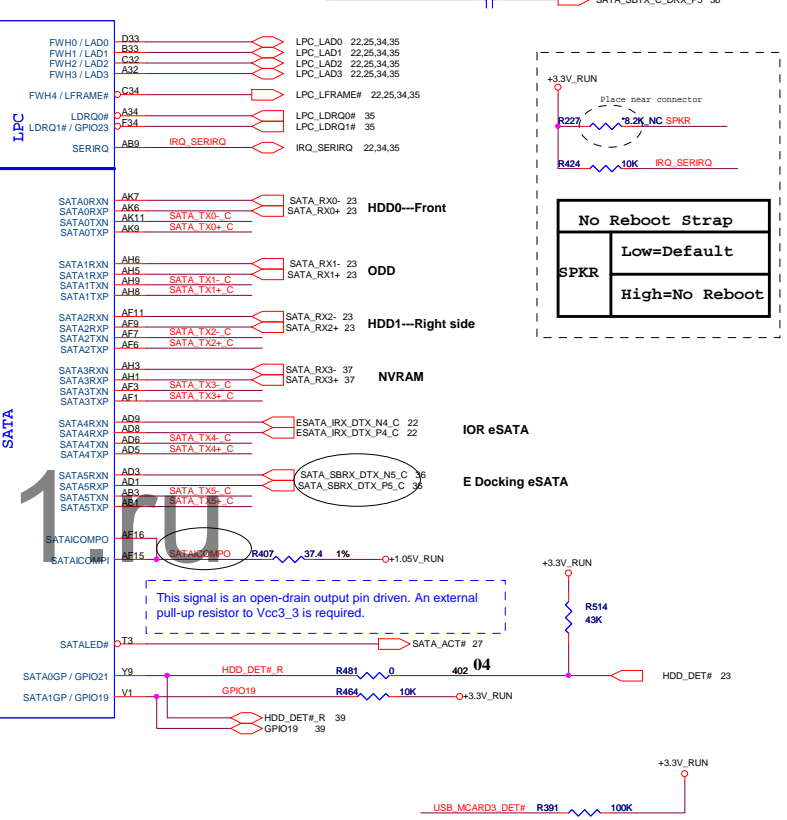
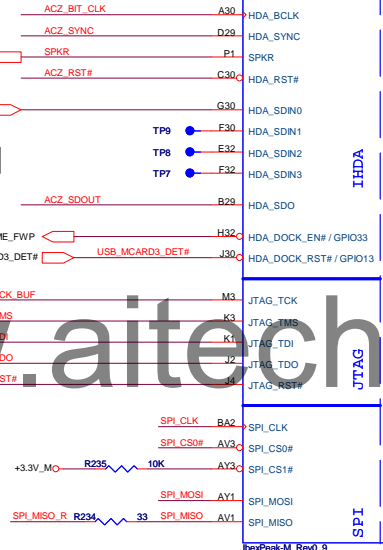
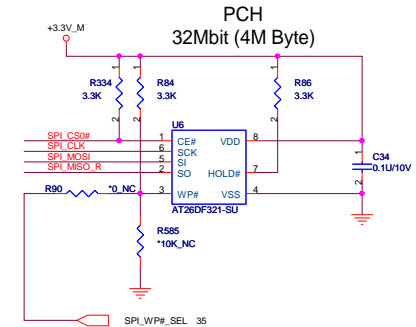
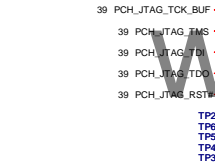


## IBEX PEAK-M (HDA,JTAG,SATA)



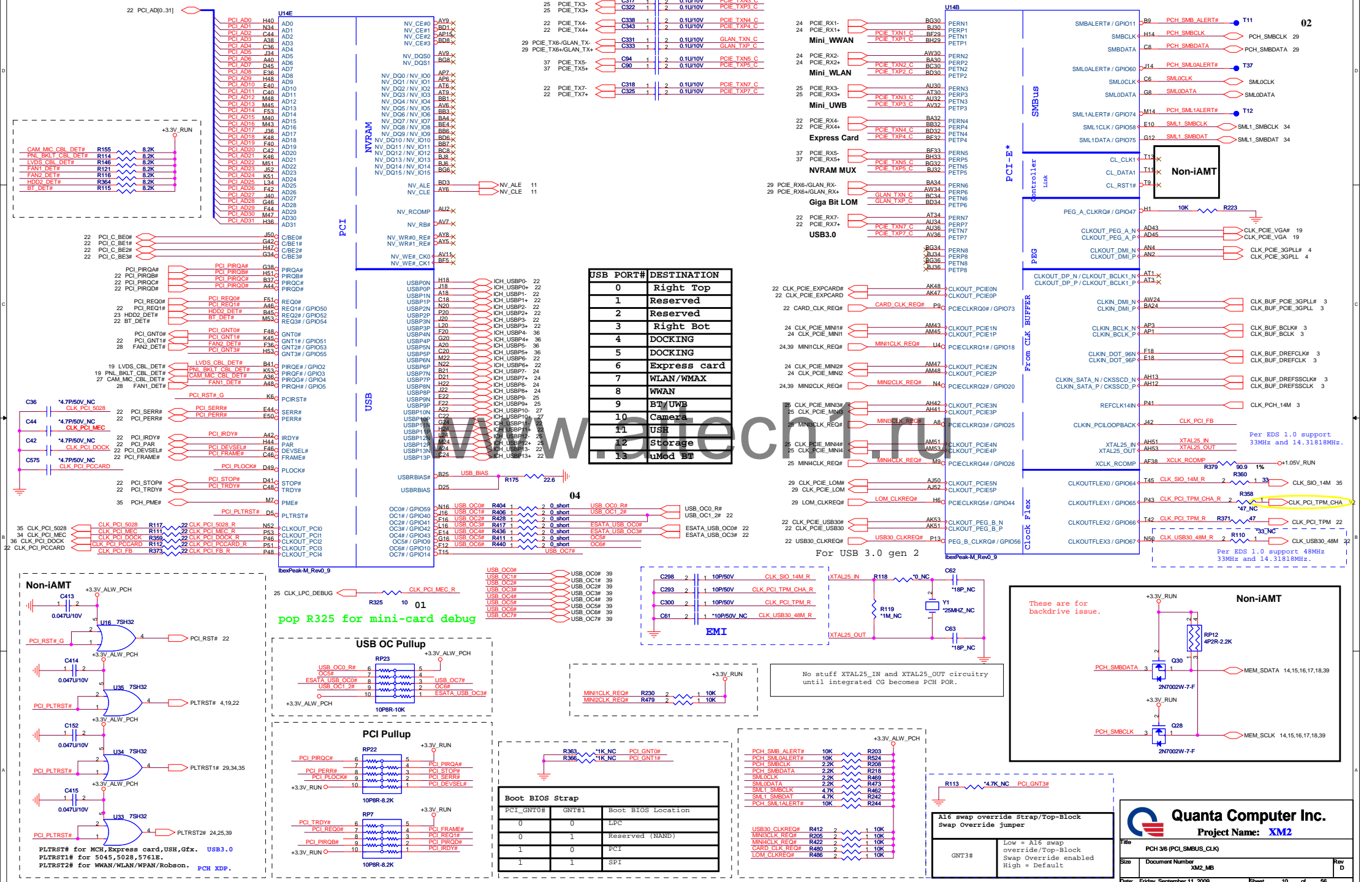
INTVRMEN - Integrated SUS 1.1V VRN Enable  
High - Enable Internal VRs

0 ohm resistor within 0.5 inch of pin

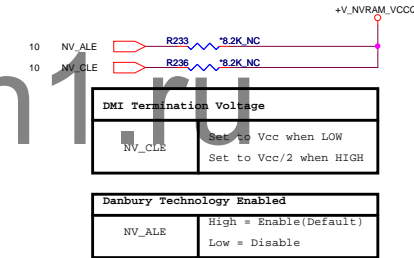


## IBEX PEAK-M (PCI,USB,NVRAM)

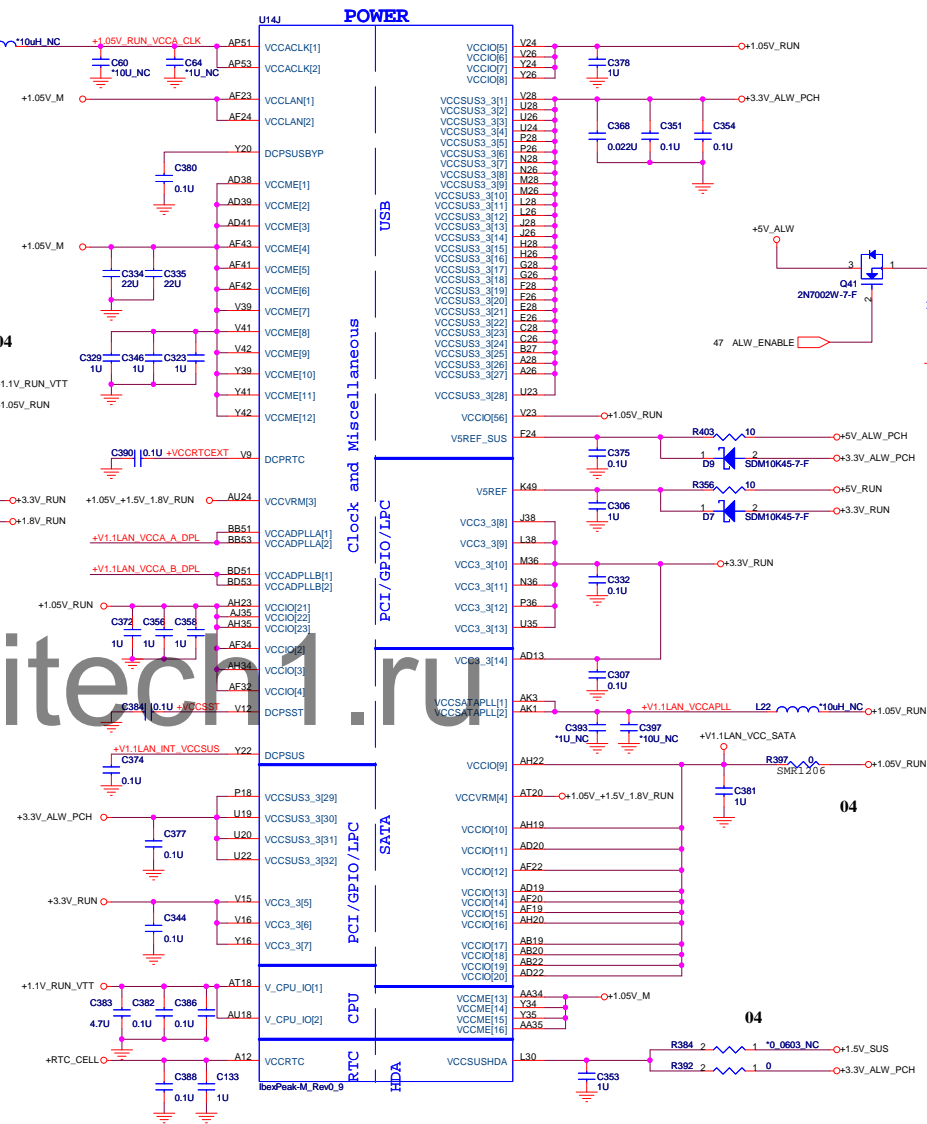
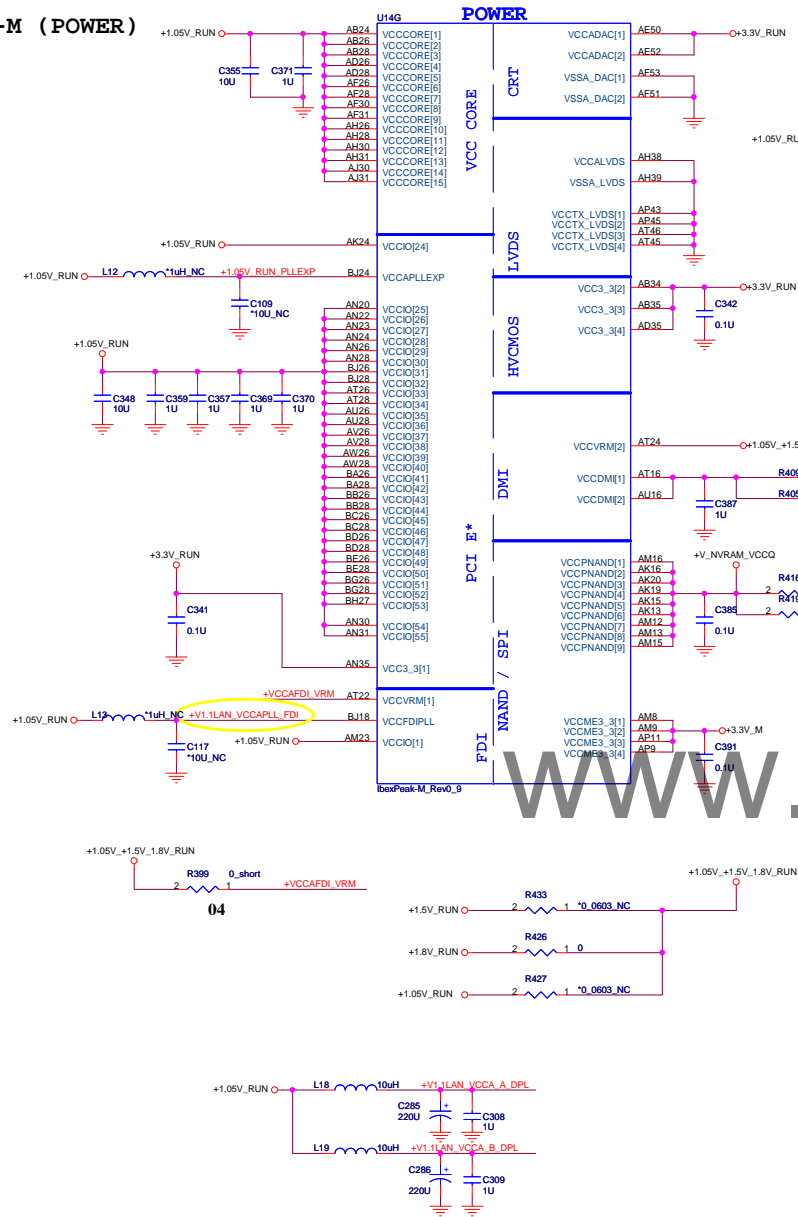
## IBEX PEAK-M (PCI-E,SMBUS,CLK)



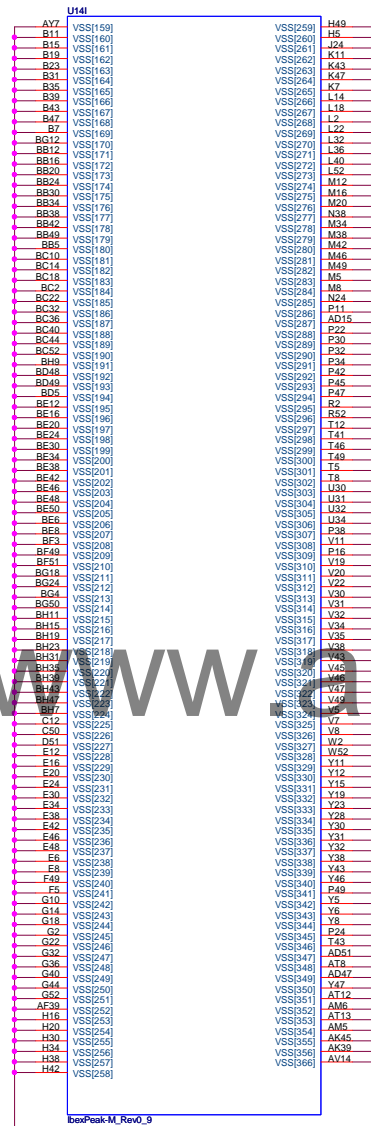
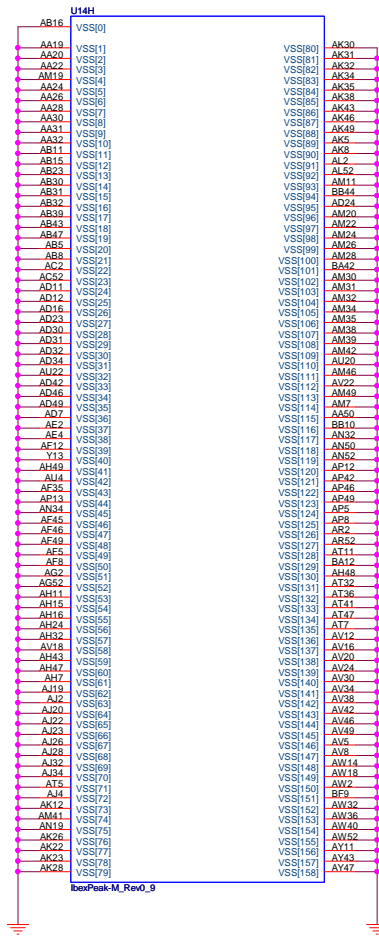
# IBEX PEAK-M (GPIO,VSS\_NCTF,RSVD)

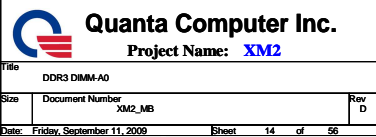


## IBEX PEAK-M (POWER)

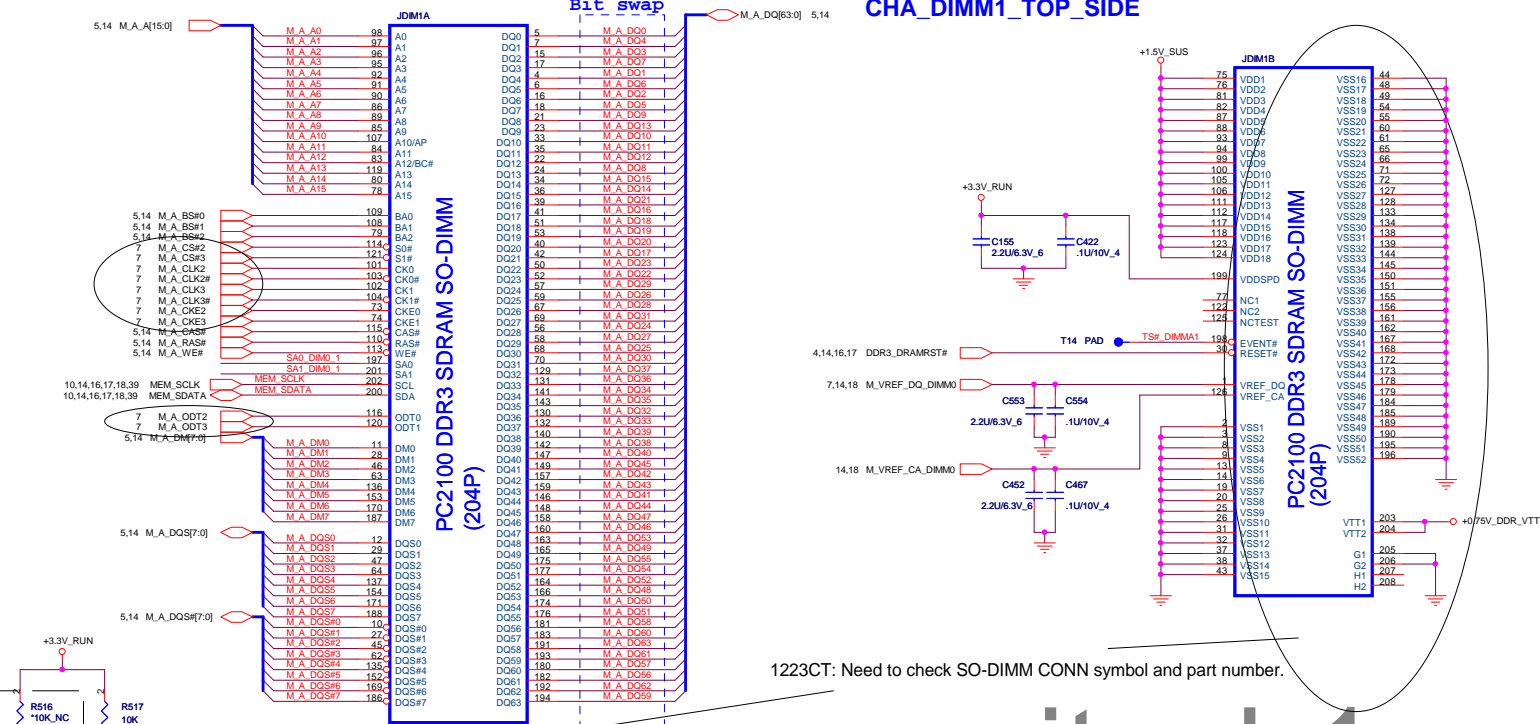


# IBEX PEAK-M (GND)



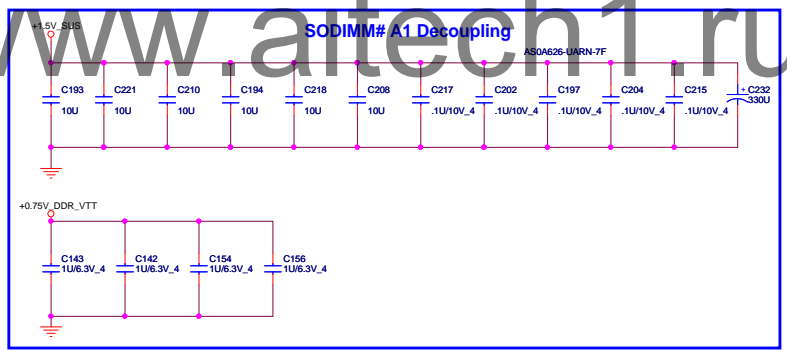


0105CT: Update JDIM1 footprint to 9.2mm, RVS type.

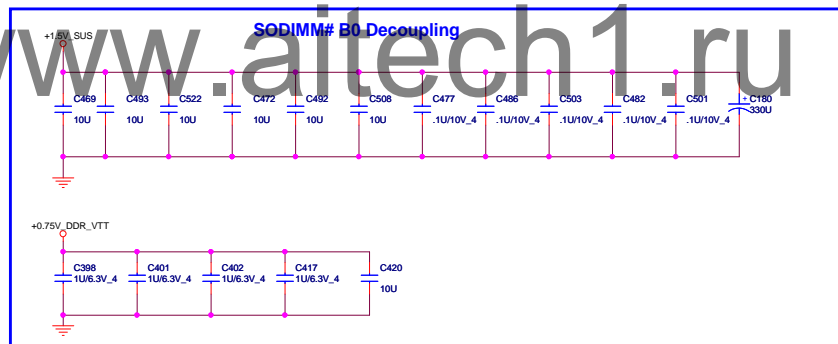
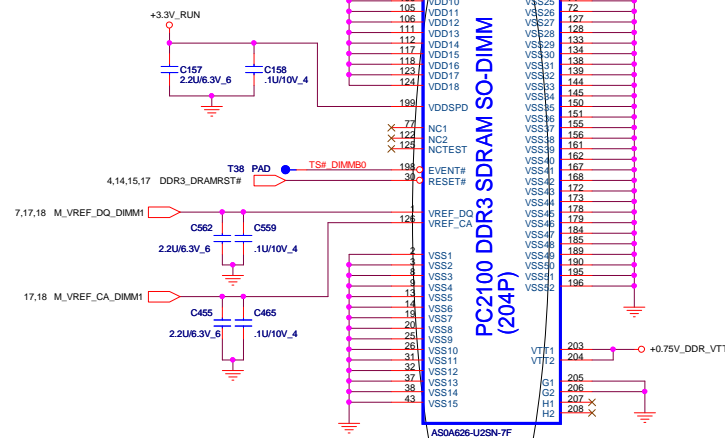
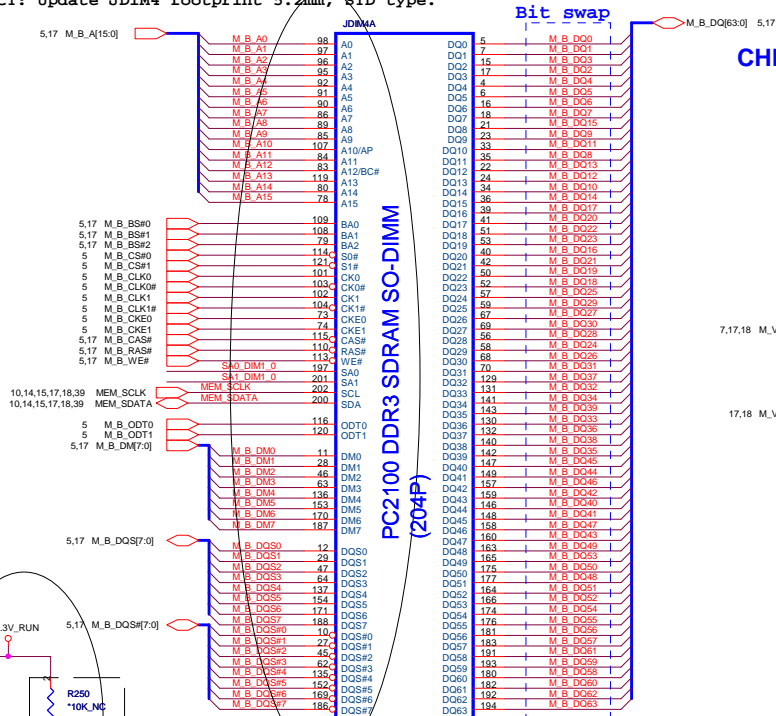


	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:  
SO-DIMMA SPD Address is 0xA2  
SO-DIMMA TS Address is 0xA32

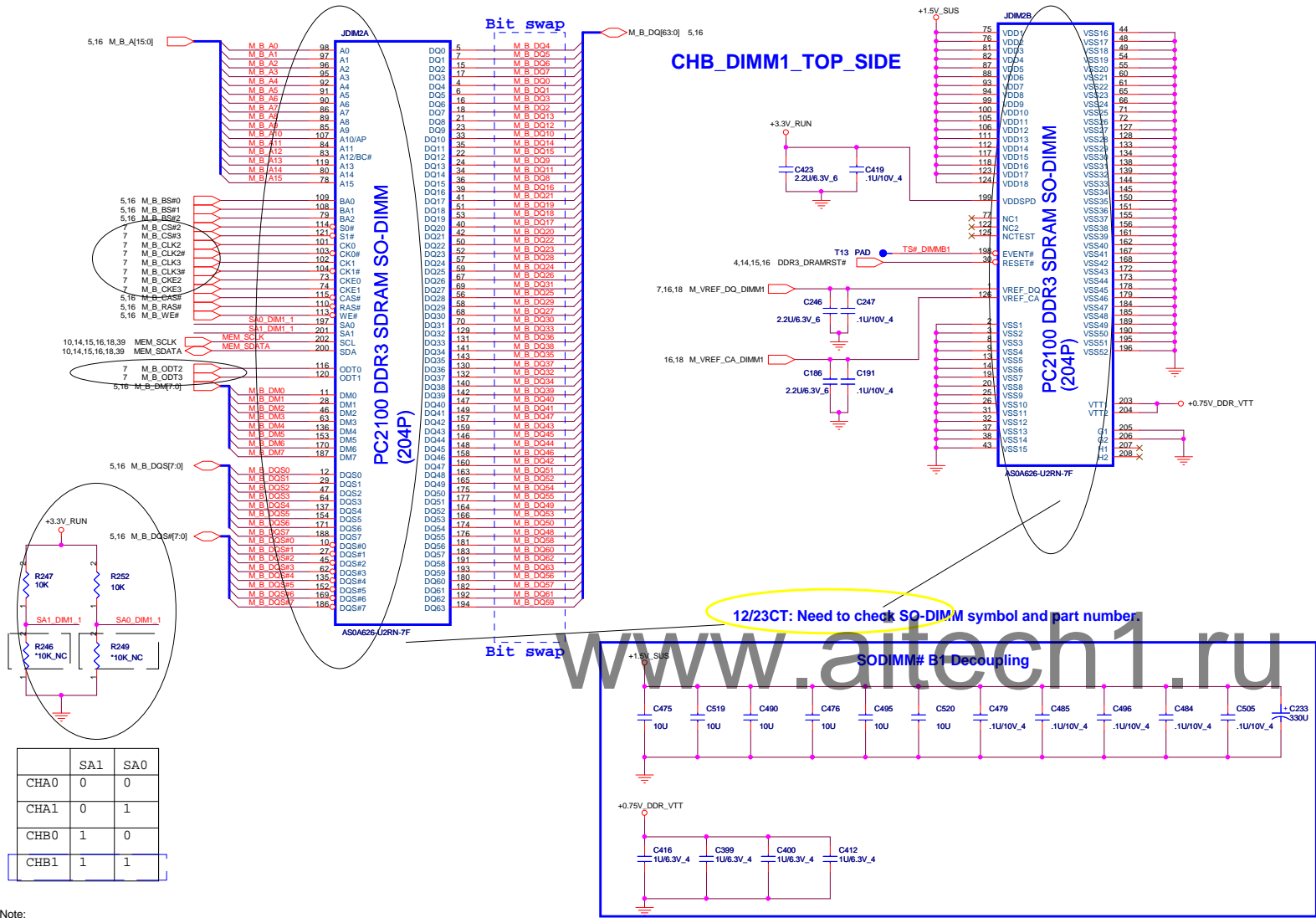


0105CT: Update JDIM4 footprint 5.2mm, STD type.

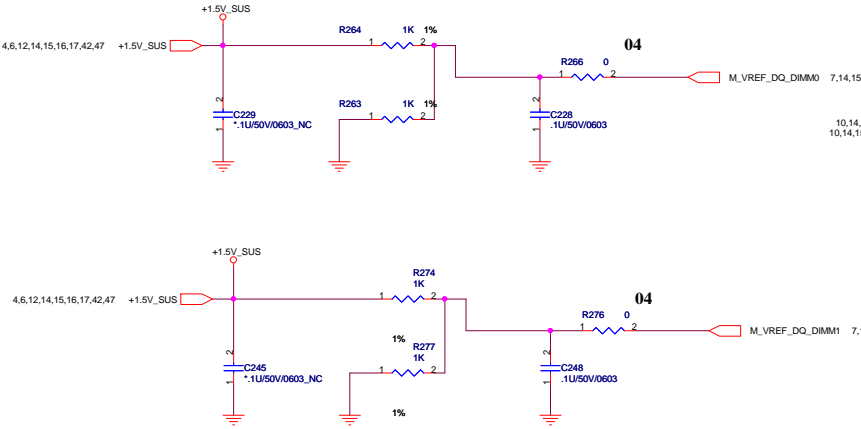


	SA1	SA0
CHA0	0	0
CHA1	0	1
CHB0	1	0
CHB1	1	1

Note:  
SO-DIMMA SPD Address is 0xA4  
SO-DIMMA TS Address is 0x34

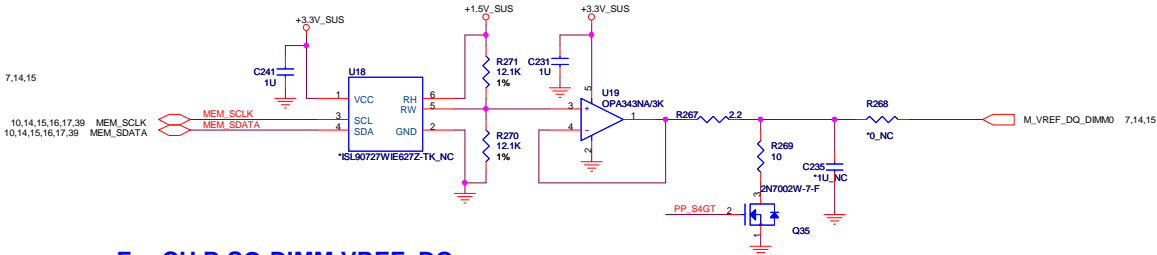


Fixed SO-DIMM VREF\_DQ (M1): Default

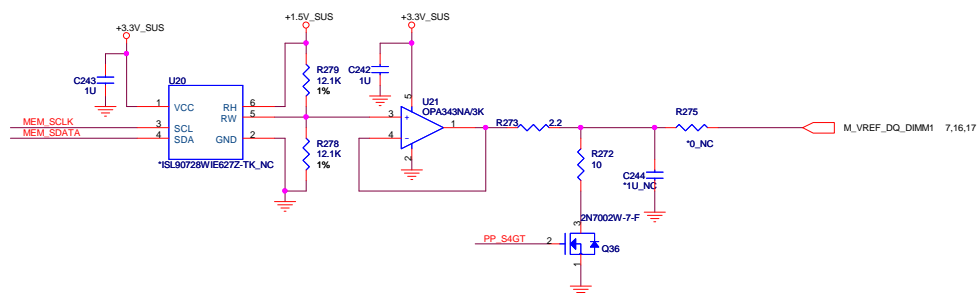


Programmable SO-DIMM VREFDQ (M2).

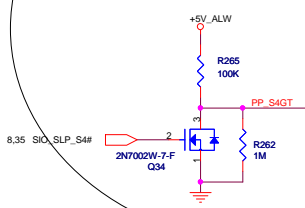
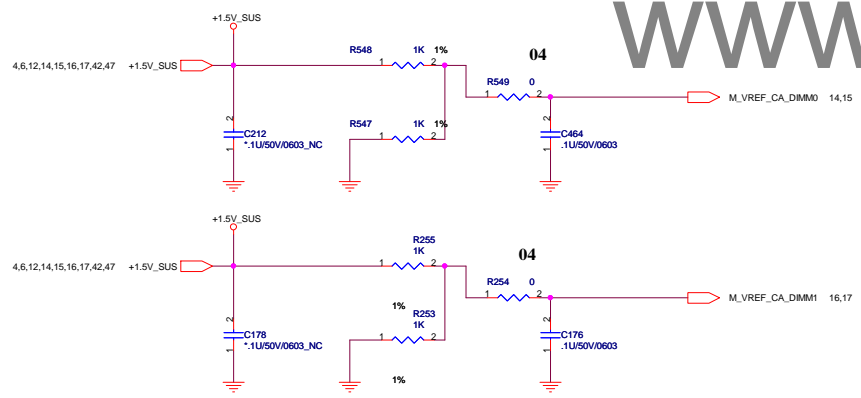
For CH A SO-DIMM VREF\_DQ



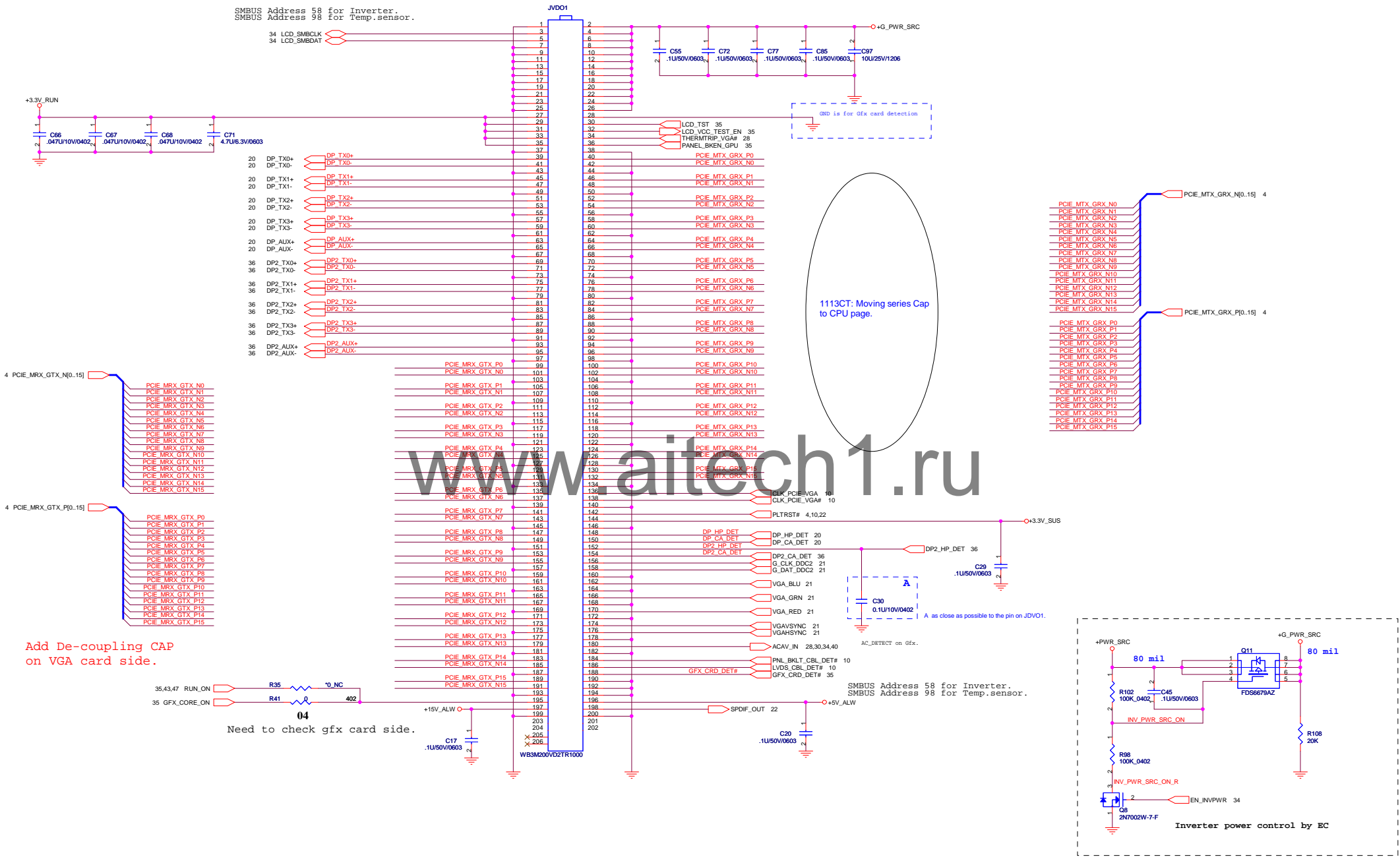
For CH B SO-DIMM VREF\_DQ

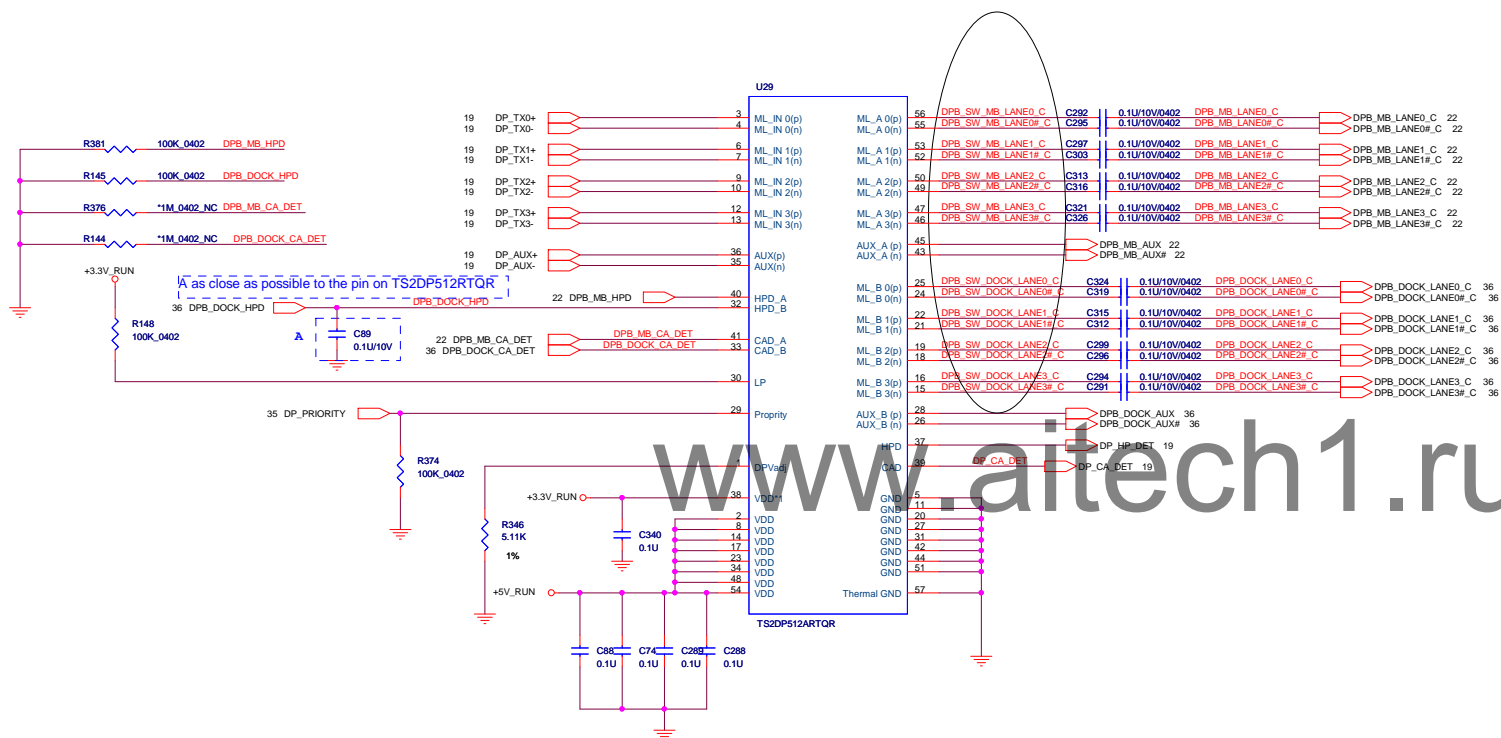


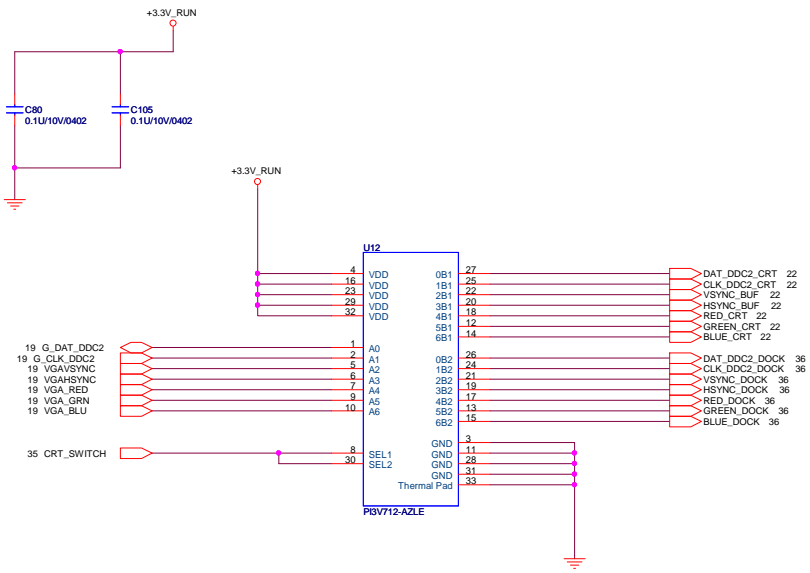
www.aitech1.ru



1203CT: Refer to FM6C

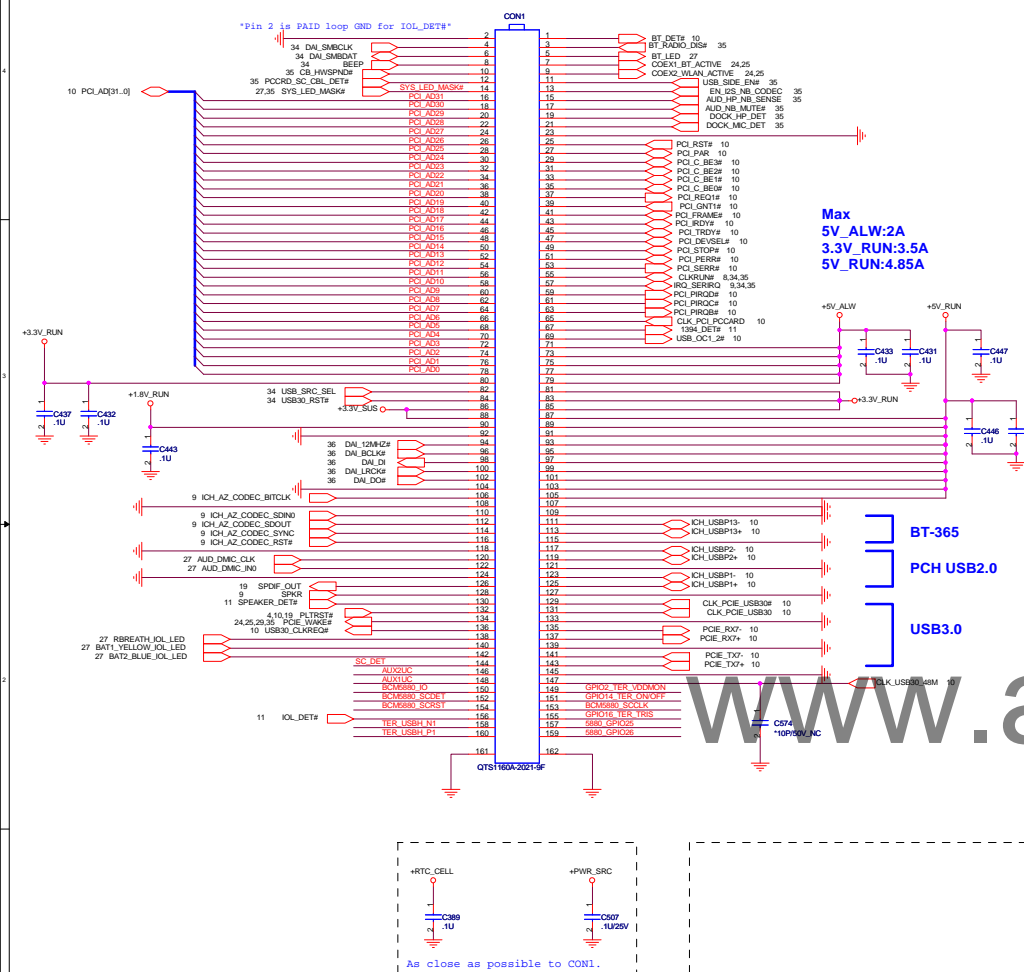




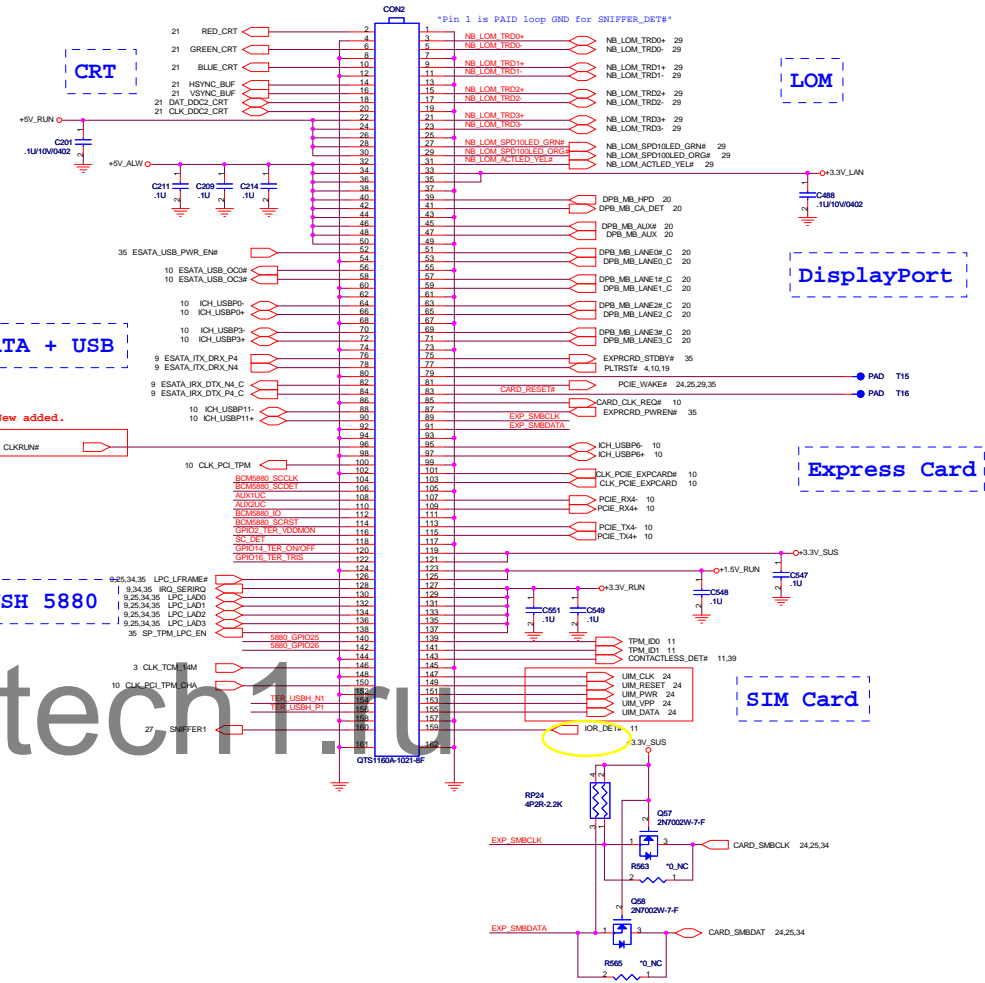


Input SELx	Input/Output An	Function	
L	nB1	An=nB1	nB2 hing impedance mode
H	nB2	An=nB2	nB1 hing impedance mode

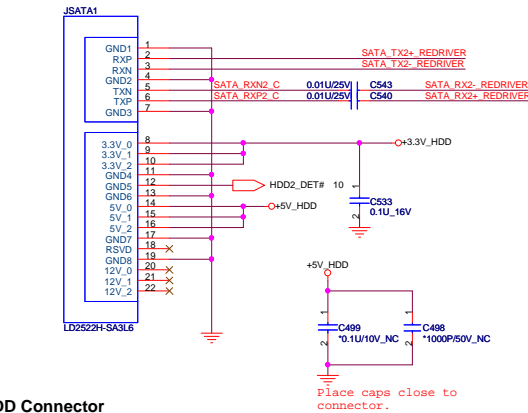
## IOL CONNECTER



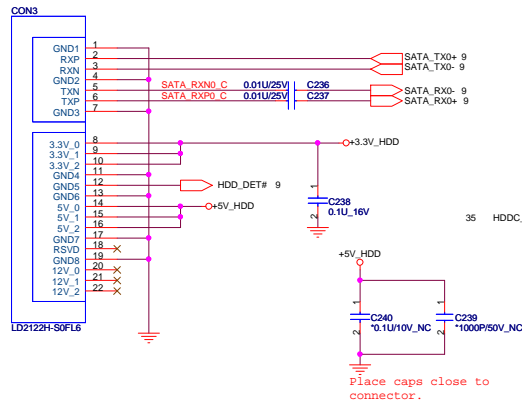
## IOR CONNECTER



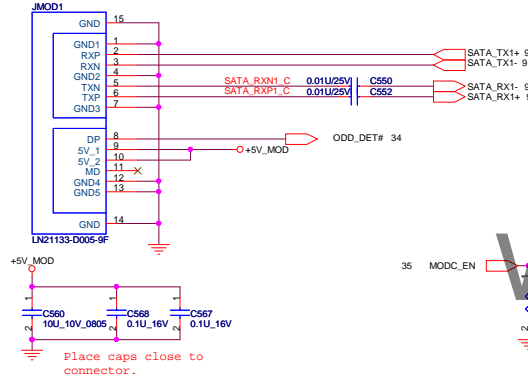
## SATA (HDD1) Connector - side



## SATA (HDD0) Connector - front



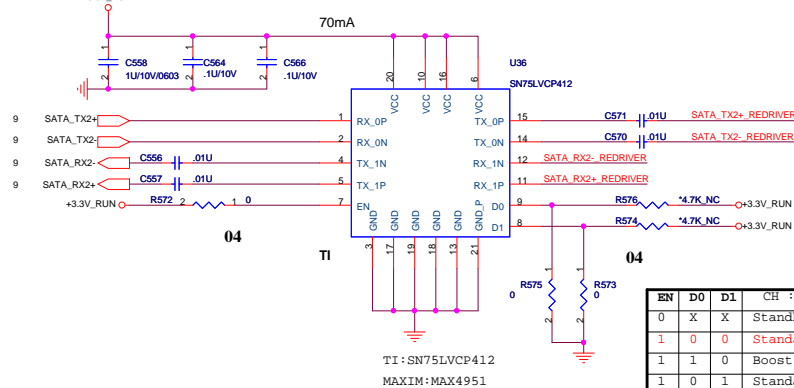
## ODD Connector



Design current: 1050mA  
Max current: 1500mA

www.aitech1.ru

## ESATA Re-driver.(TI-SN75LVCP412RTJR)



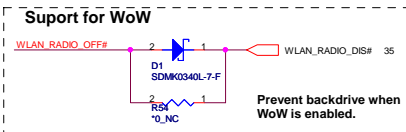
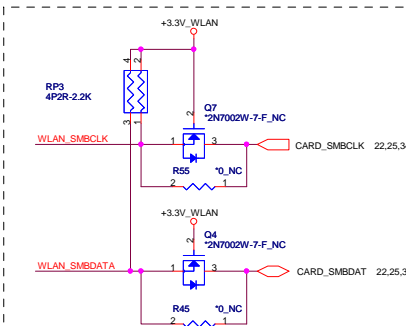
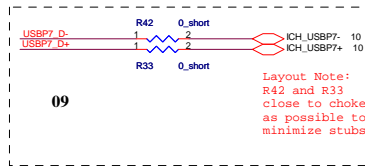
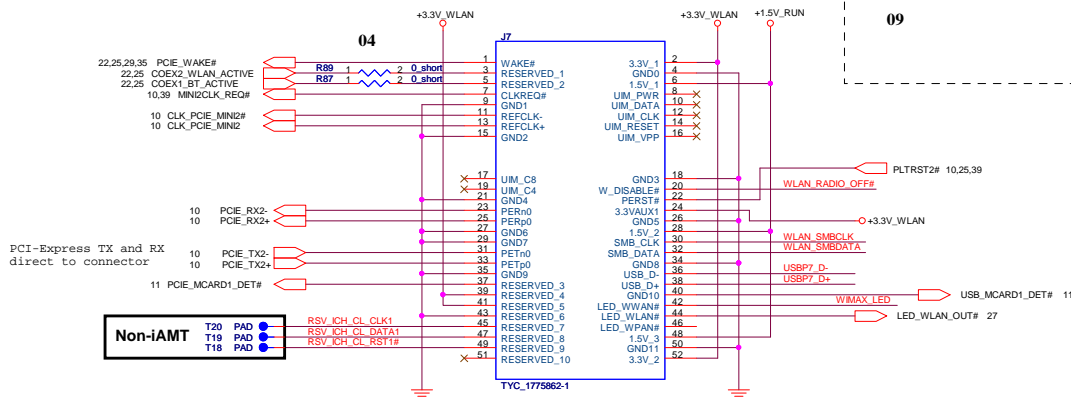
EN	D0	D1	CH : 0	CH : 1
0	X	X	Standby	Standby
1	0	0	Standard SATA	Standard SATA
1	1	0	Boost	Standard SATA
1	0	1	Standard SATA	Boost
1	1	1	Boost	Boost

Symbol:  
2N7002W-7-F

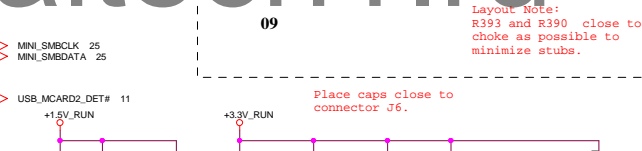
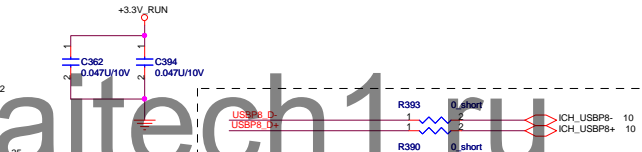
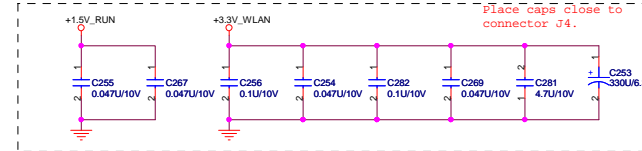
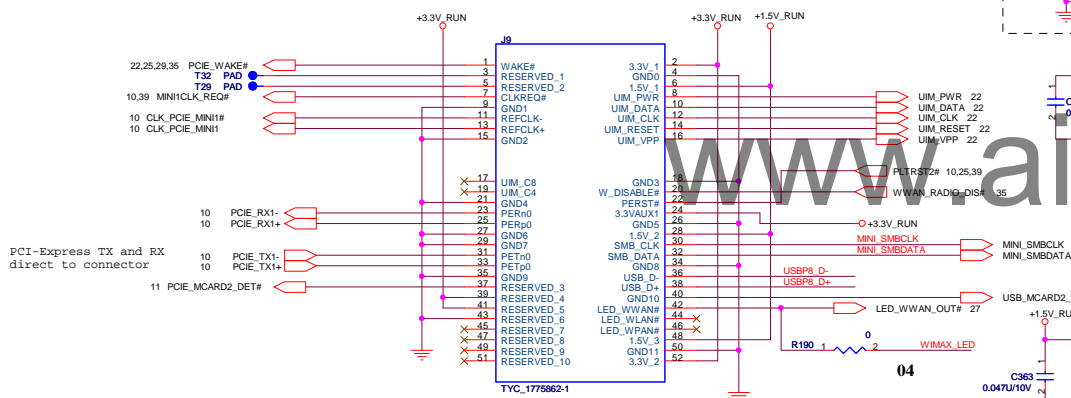


04,10

## MiniCard WLAN connector

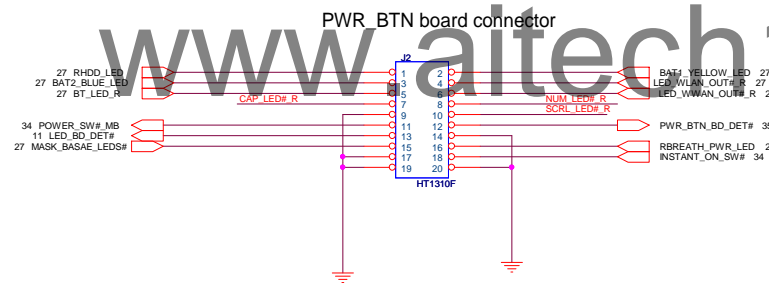
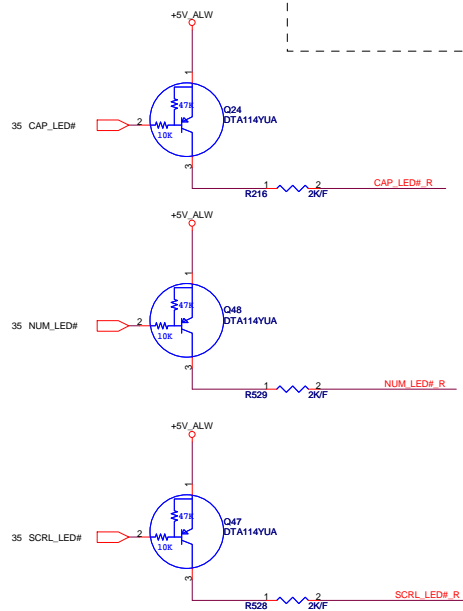
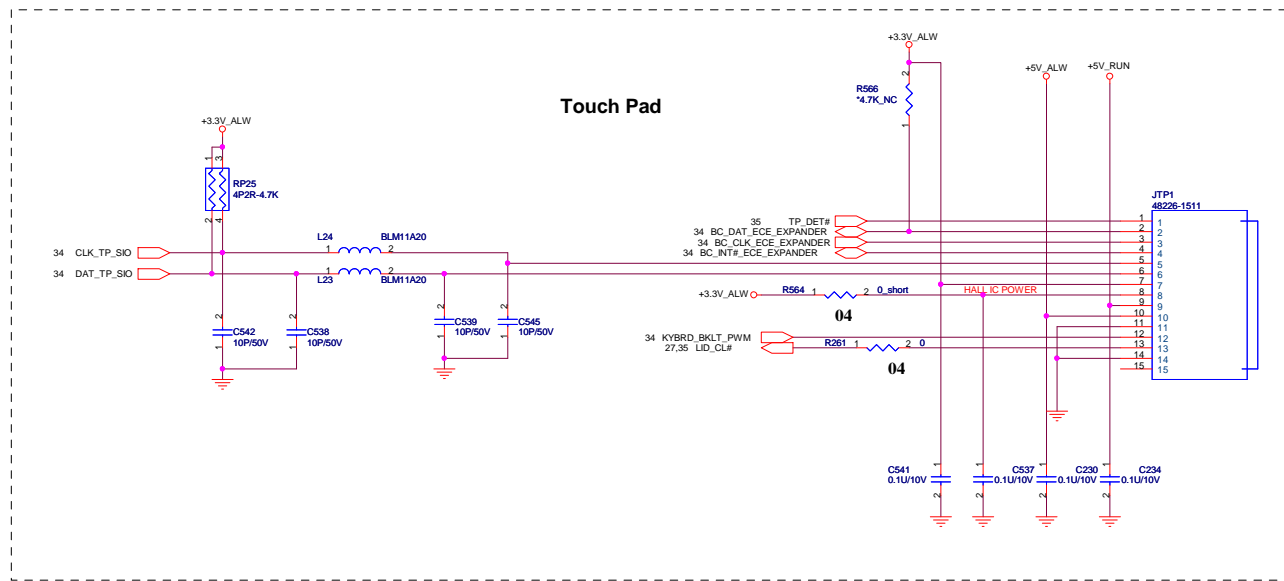


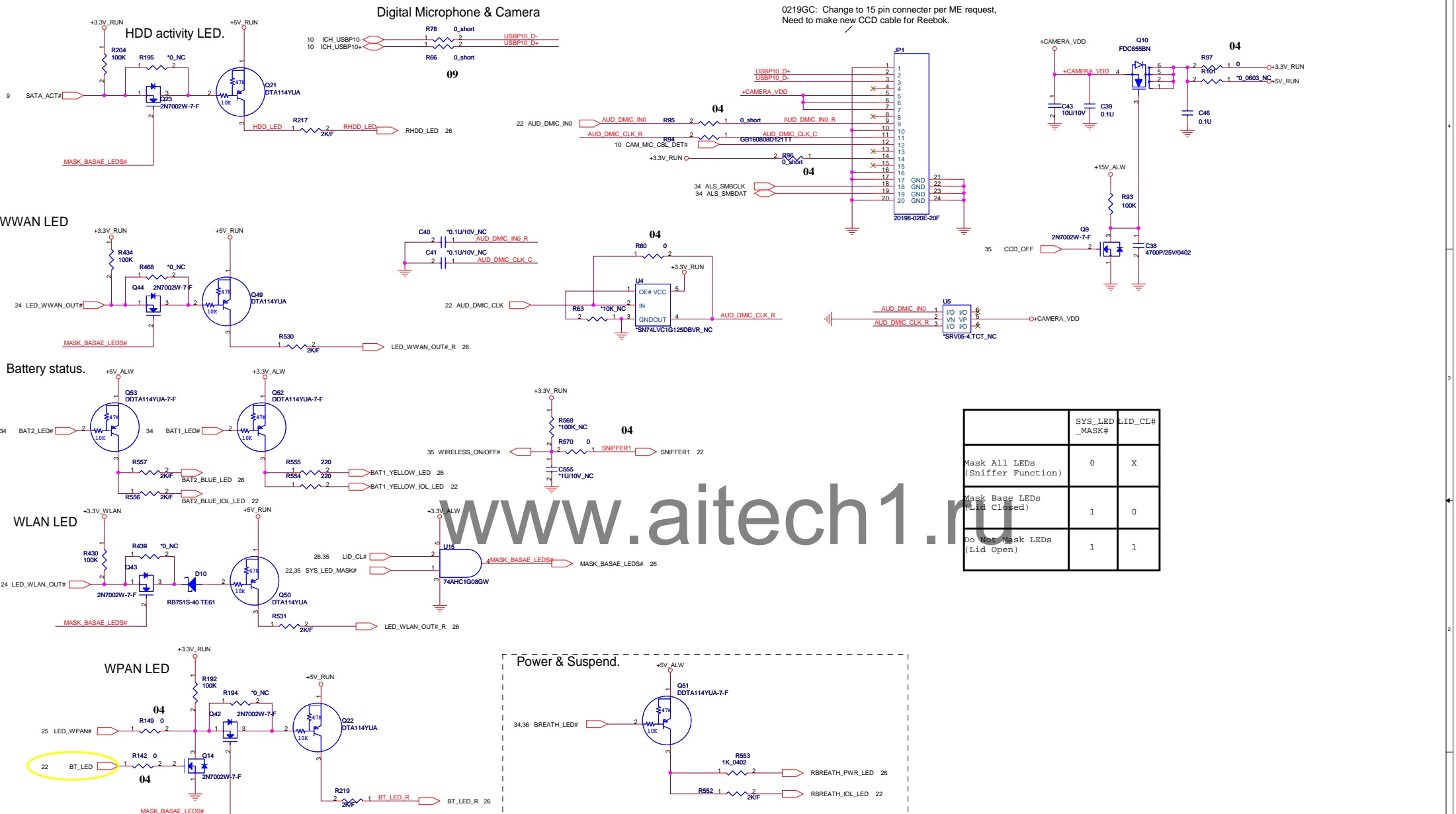
## MiniCard WWAN connector



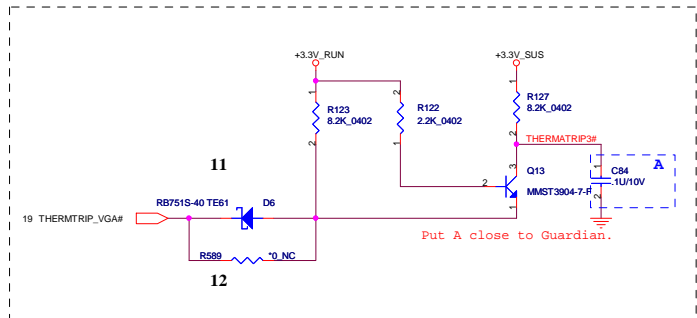
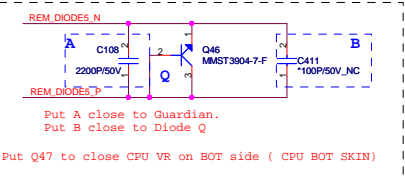
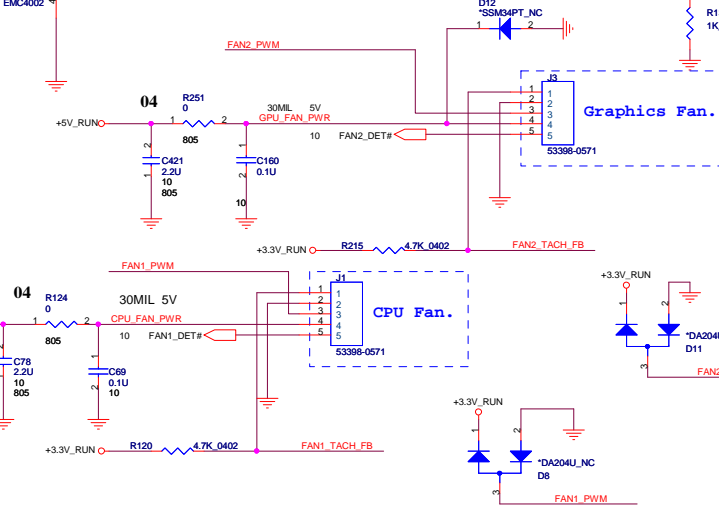
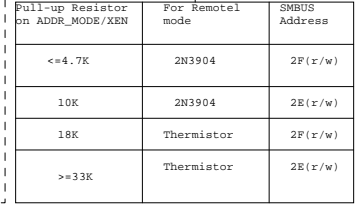
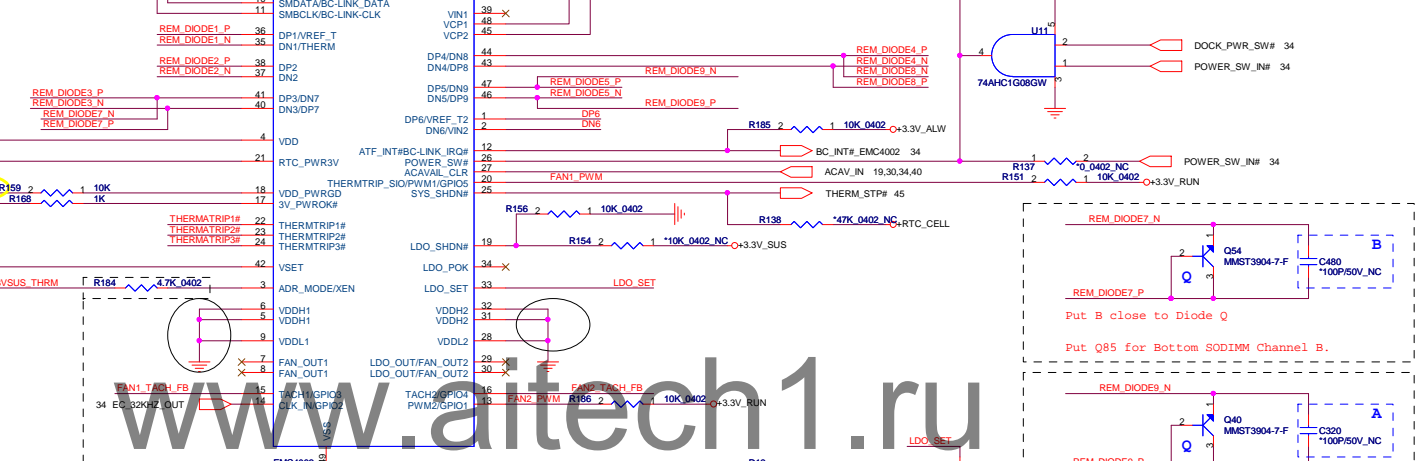
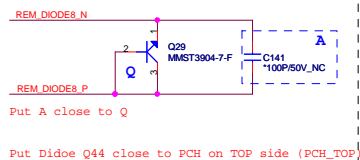
Sim card circuit moves to IOR.



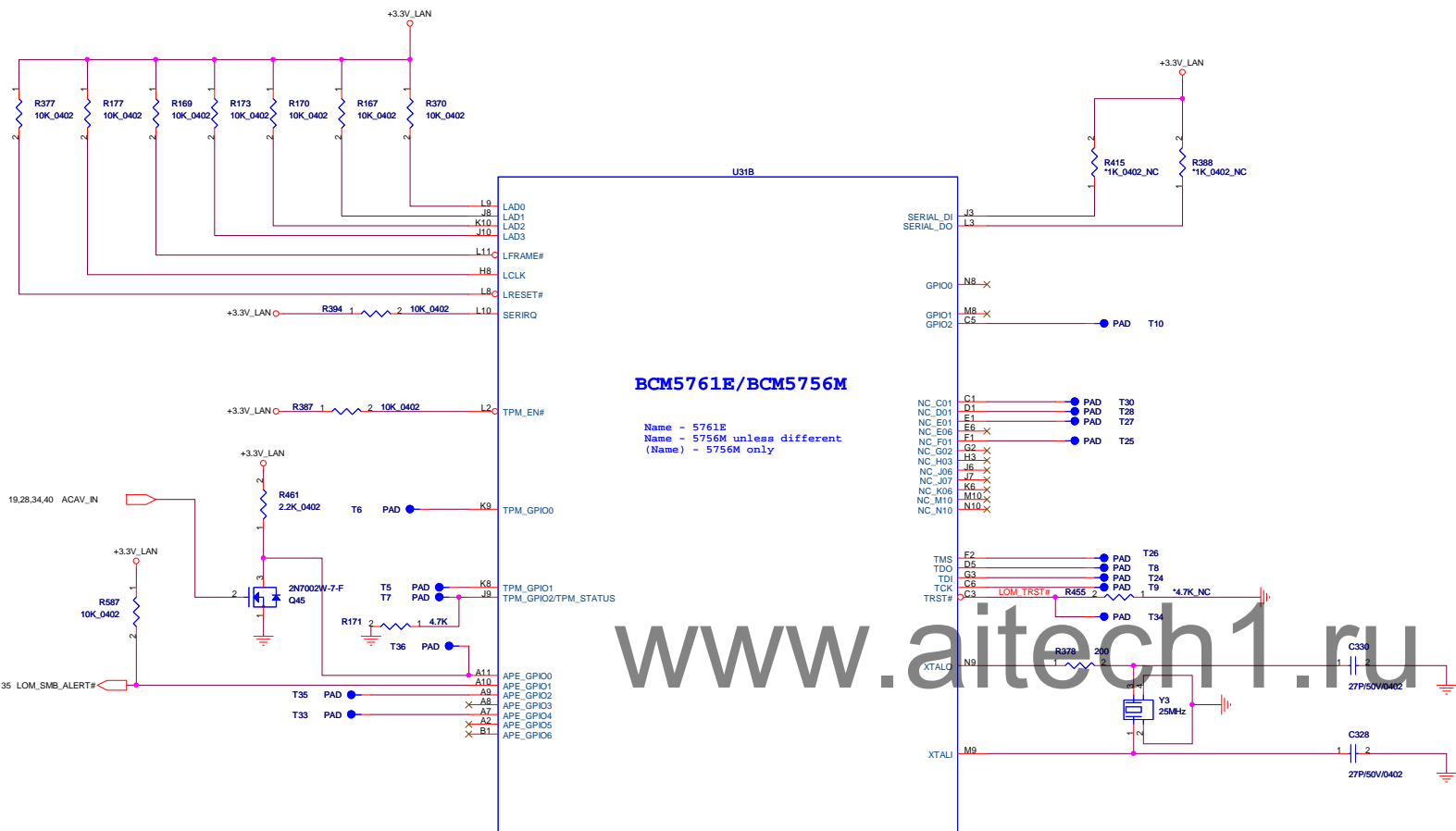




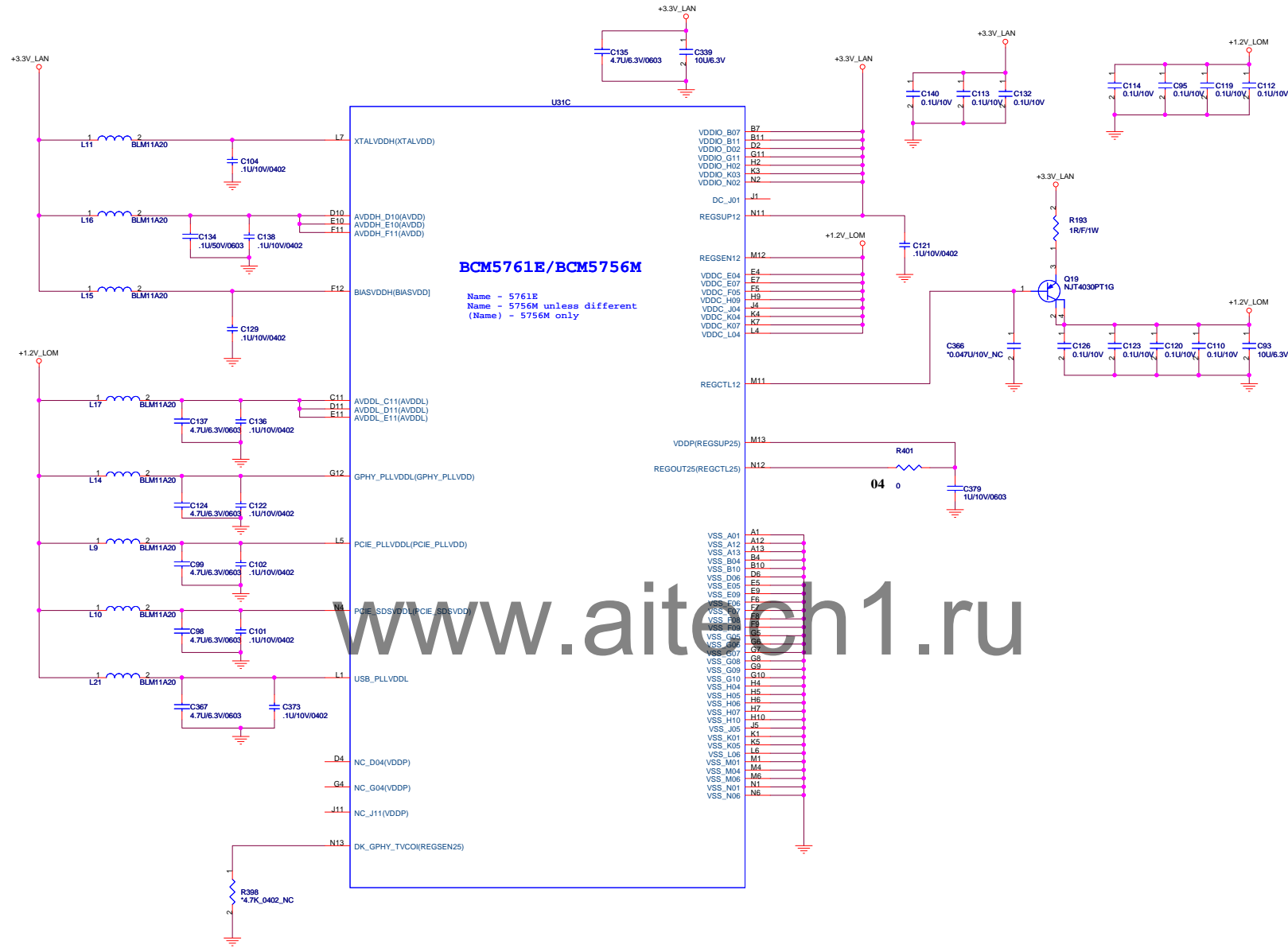
0219GC: Change to 15 pin connector per ME request, Need to make new CCD cable for Reebok.








**BCM5761E/BCM5756M**  
Name - 5761E  
Name - 5756M unless different  
(Name) - 5756M only




www.aitech1.ru

		<b>Quanta Computer Inc.</b>	
		<b>Project Name:</b> XM2	
<b>Title</b> TPM For China			
<b>Size</b>	<b>Document Number</b> XM2_MB		<b>Rev</b> D
<b>Date:</b> Friday, September 11, 2009			
		<b>Sheet</b>	32 of 56

ECE 1099 was deleted

Bluetooth  
www.aitech1.ru

Little Stone moves to IOL.

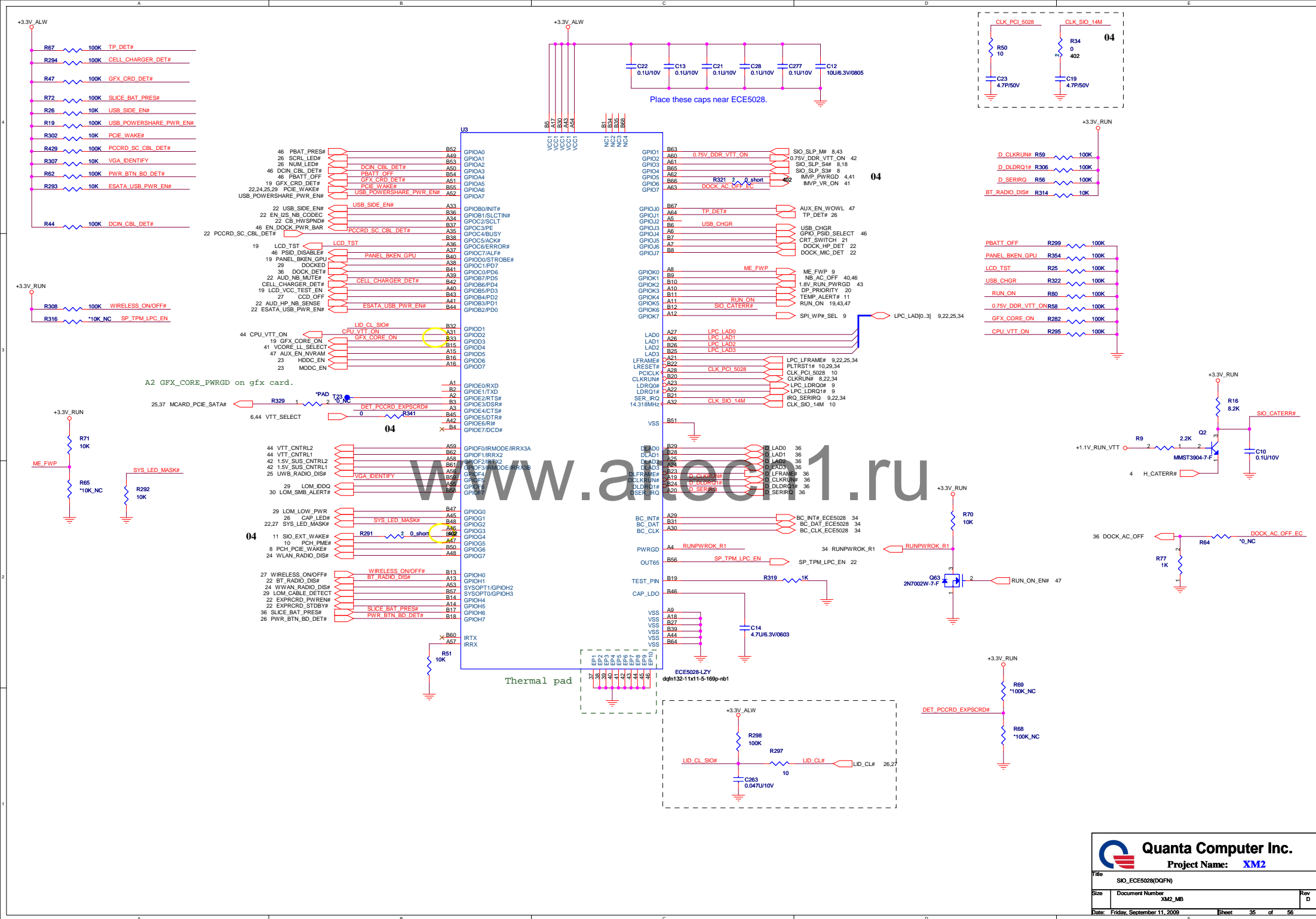


Quanta Computer Inc.

Project Name: XM2

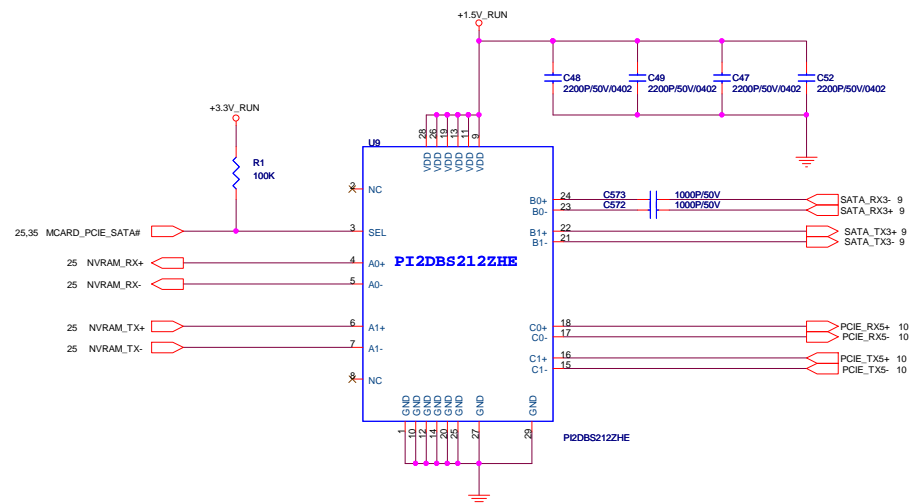
Title		
ECE1099 AND Bluetooth		
Size	Document Number	Rev D
	XM2_MB	
Date: Friday, September 11, 2009		
Sheet 33 of 56		








# NVRAM MUX IC



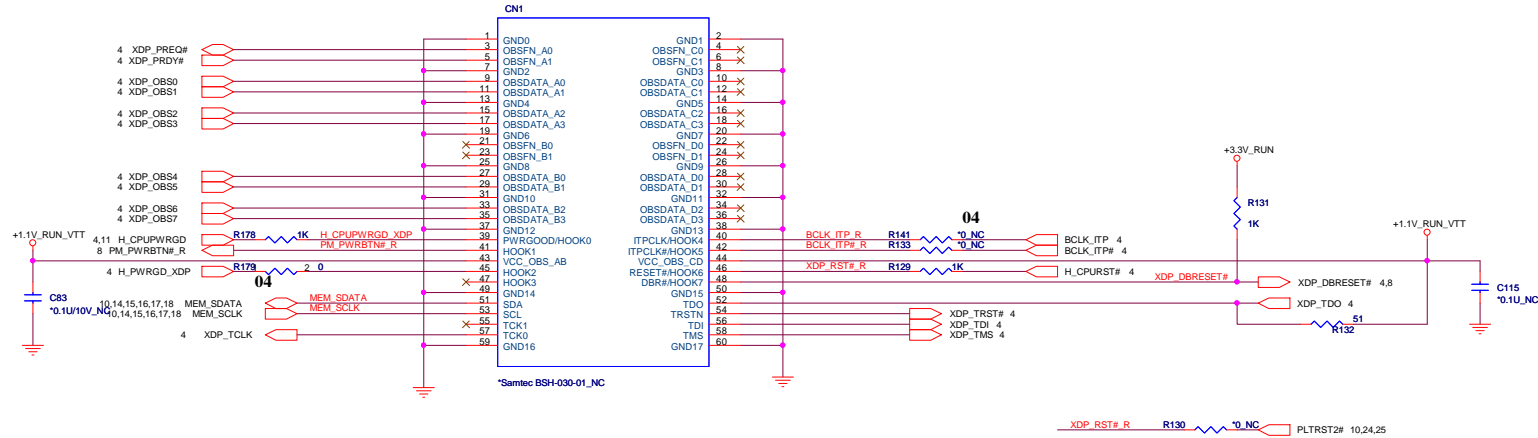
Function	SEL
Port A to Port B	L
Port A to Port C	H

www.aitech1.ru

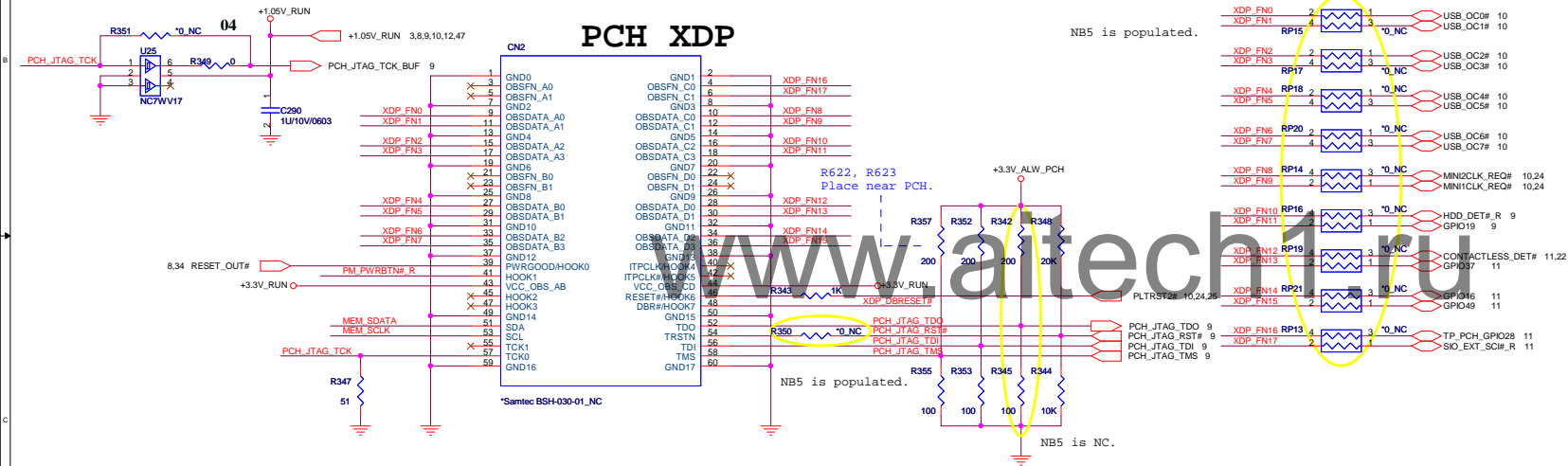
www.aitech1.ru

		
<b>Quanta Computer Inc.</b>		
Project Name: <b>XM2</b>		
Title: System Power Good(Blank)		
Size	Document Number: XM2_MB	Rev: D
Date: Friday, September 11, 2009		
Sheet 38 of 56		

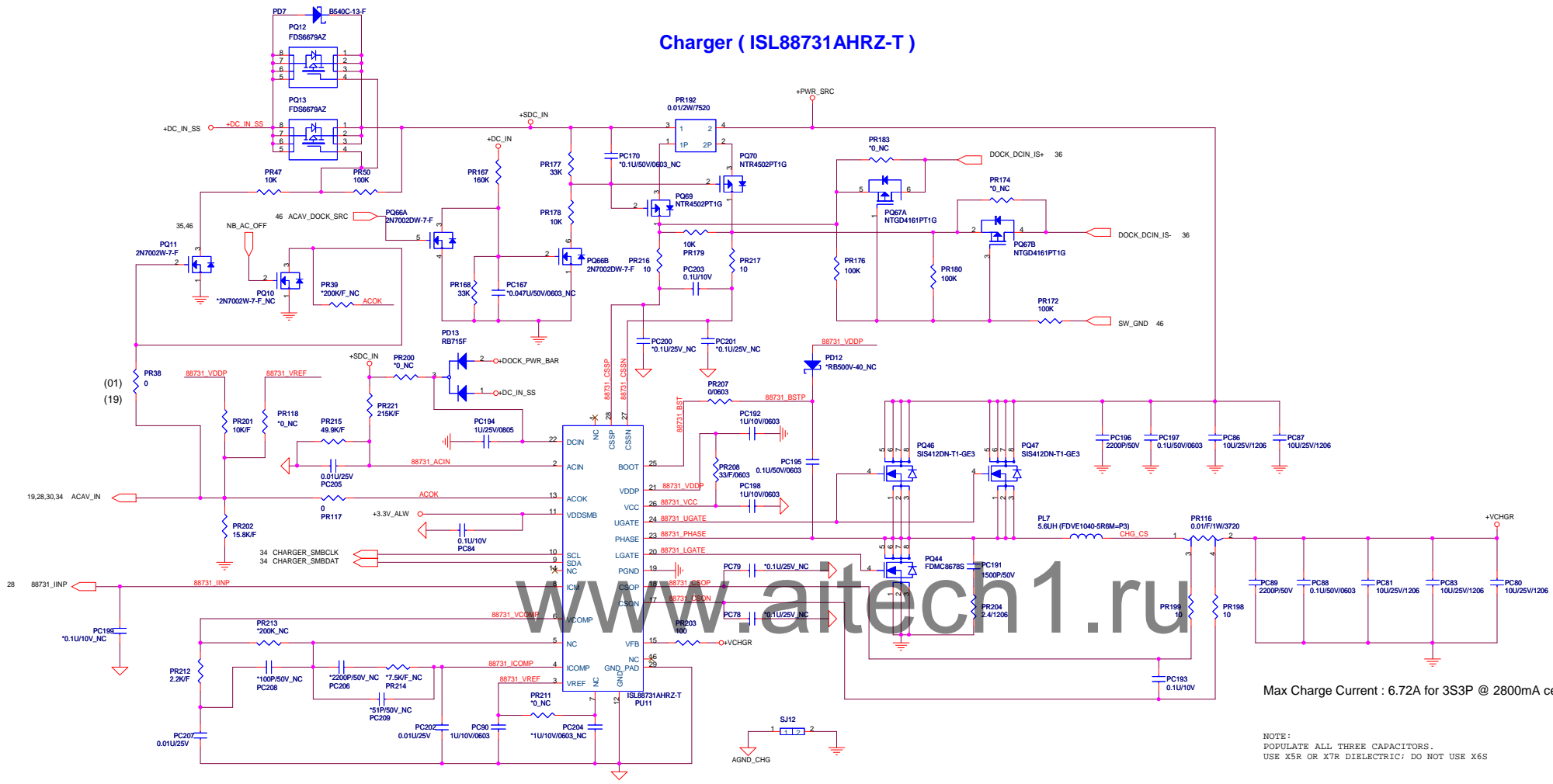
# CPU XDP



# PCH XDP

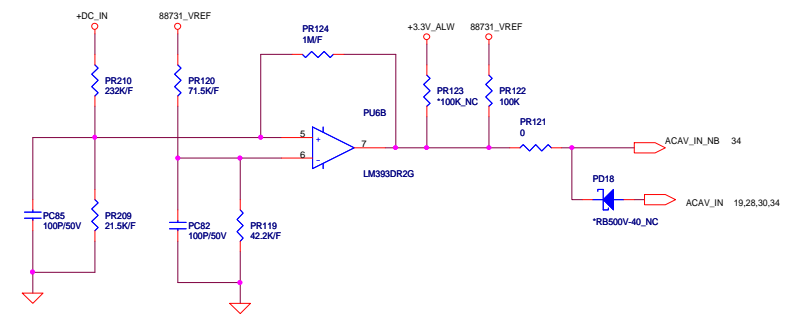
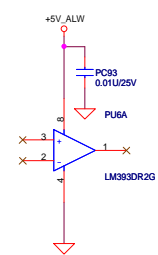


# Charger ( ISL88731AHRZ-T )

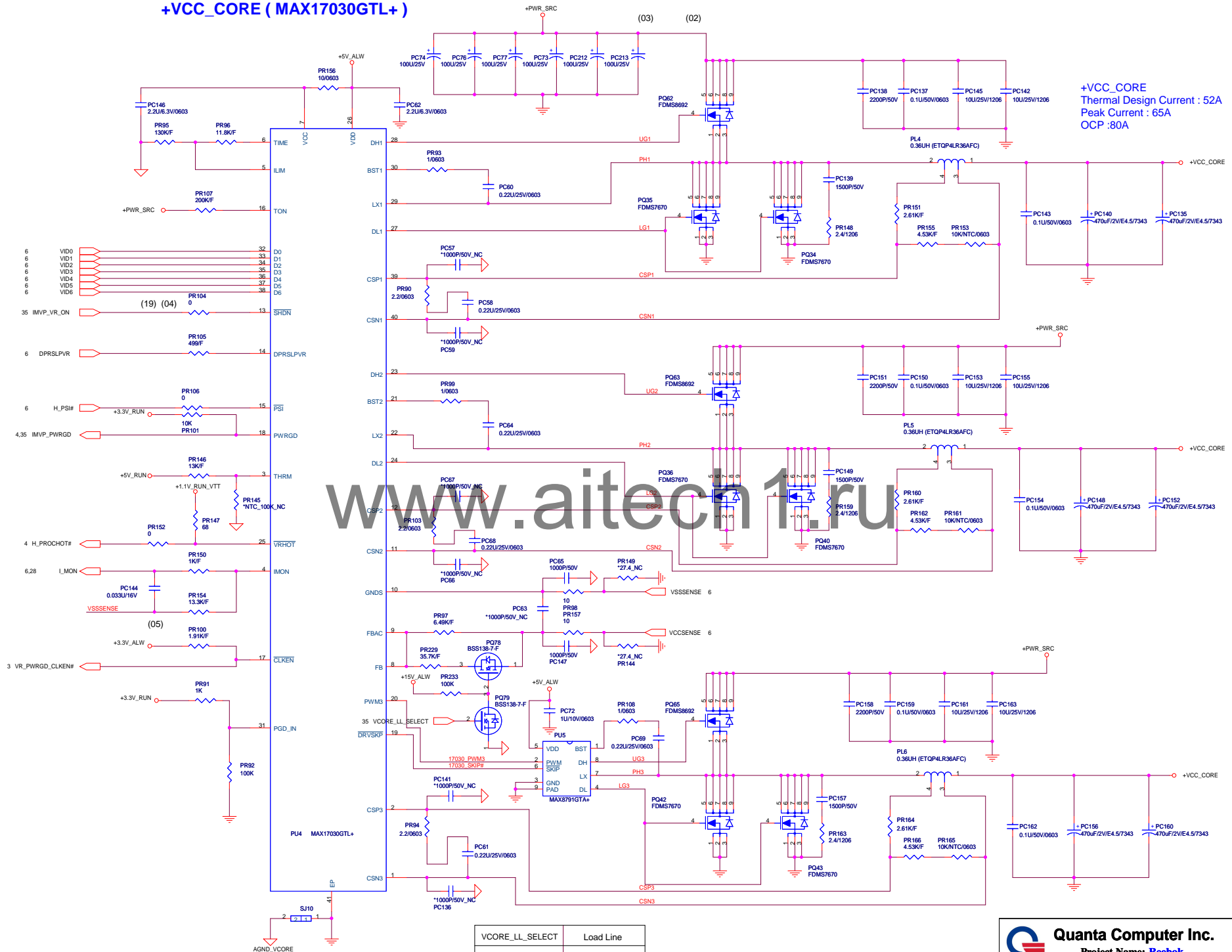


Max Charge Current : 6.72A for 3S3P @ 2800mA cell

NOTE:  
POPULATE ALL THREE CAPACITORS.  
USE X5R OR X7R DIELECTRIC; DO NOT USE X6S

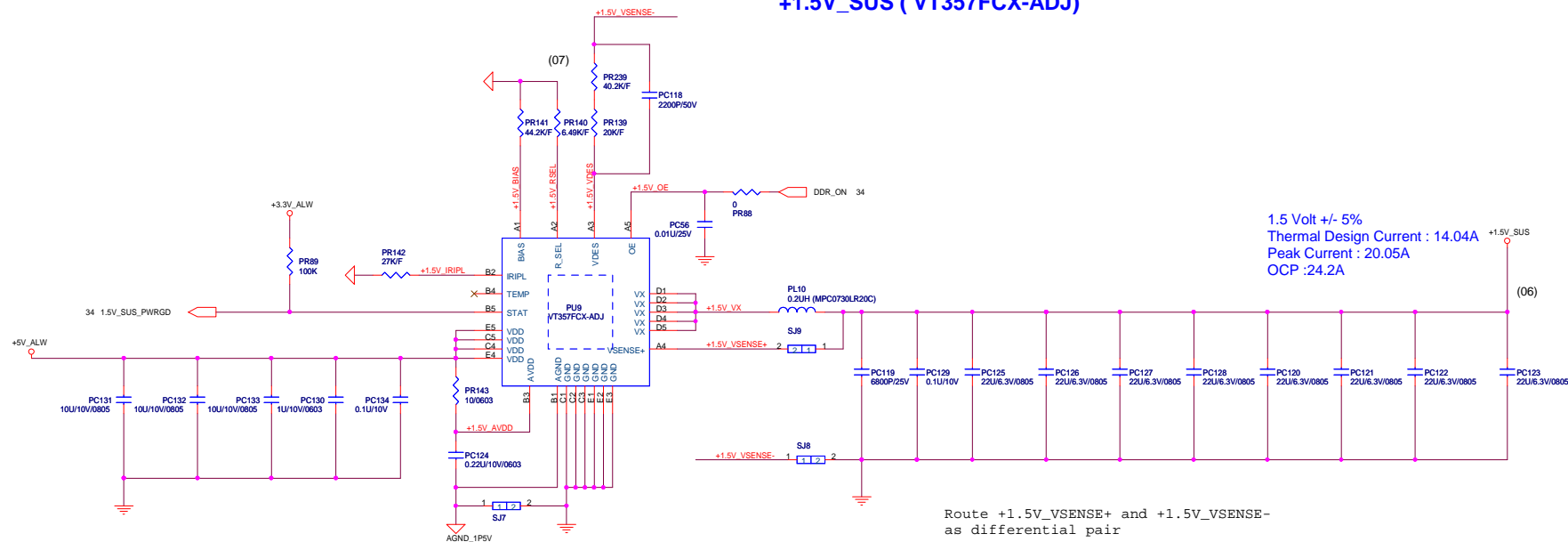


**+VCC\_CORE ( MAX17030GTL+ )**



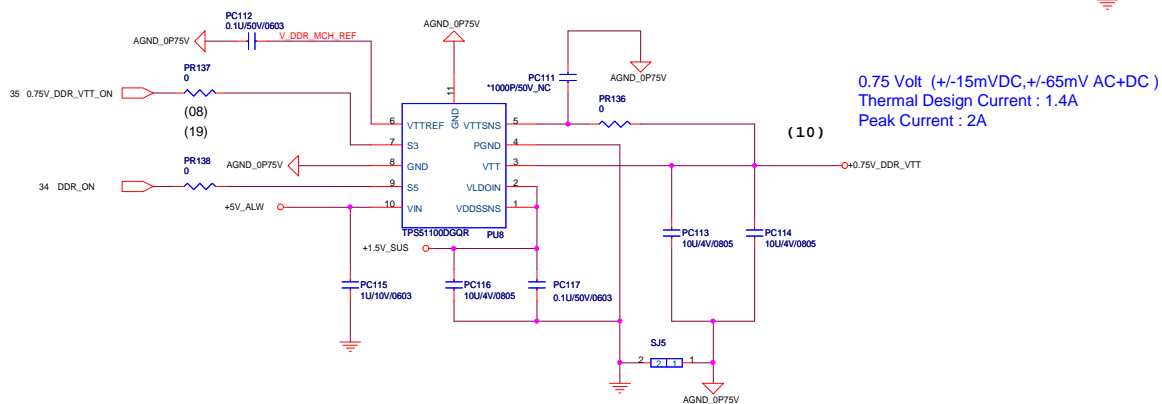
VCORE_LL_SELECT	Load Line
High	-1.9mOhm
Low	-1.6mOhm

## +1.5V\_SUS ( VT357FCX-ADJ)



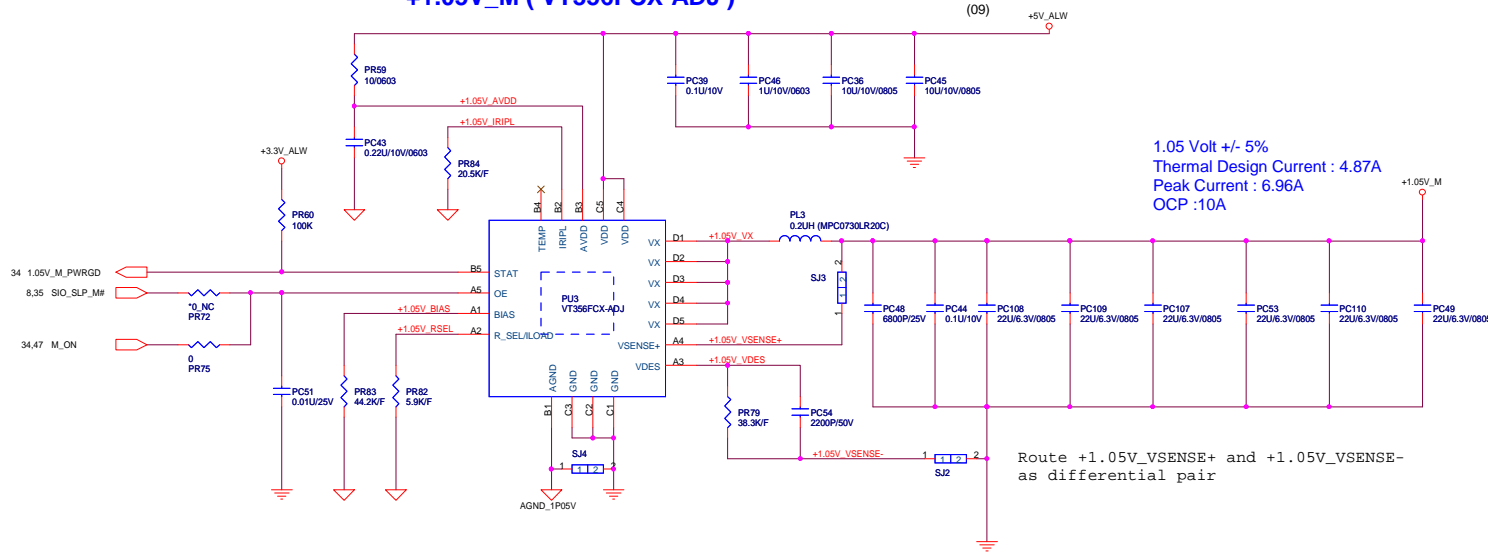
1.5V_SUS_CNTRL1	1.5V_SUS_CNTRL2	+1.5V_SUS
Low	Low	1.65V
High	Low	1.6V
Low	High	1.55V
High	High	1.5V

## +0.75V\_DDR\_VTT ( TPS51100DGQR )

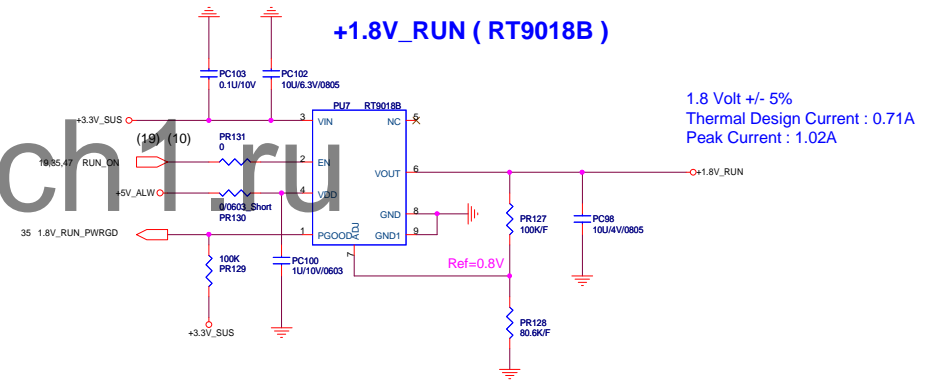


www.aitech.ru

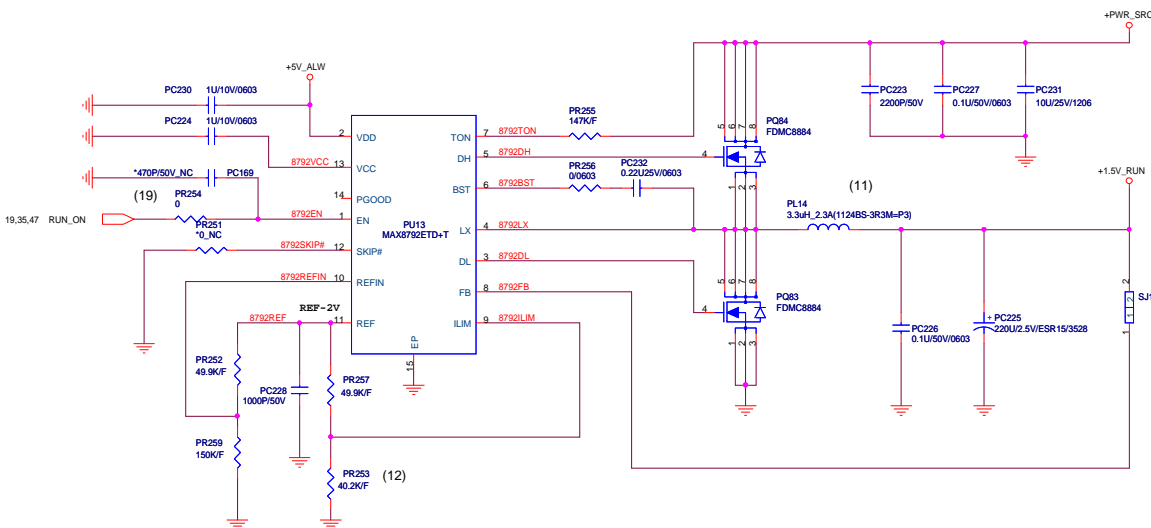
### +1.05V\_M ( VT356FCX-ADJ )



### +1.8V\_RUN ( RT9018B )

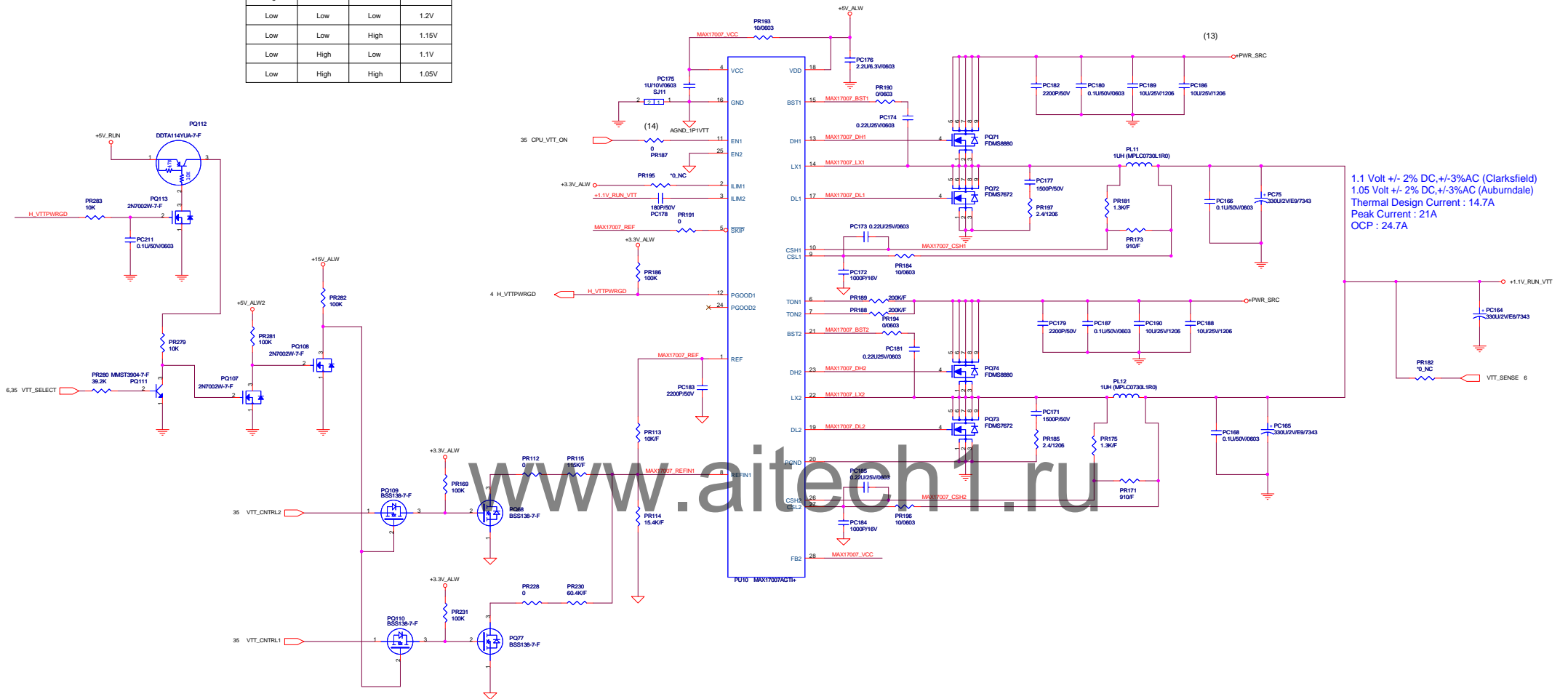


1.5 Volt +/- 5%  
Thermal Design Current : 1.52A  
Peak Current : 2.18A  
OCP : 2.73A



VTT_SELECT	VTT_CNTRL1	VTT_CNTRL2	VTT_RUN
High	X	X	1.05V
Low	Low	Low	1.2V
Low	Low	High	1.15V
Low	High	Low	1.1V
Low	High	High	1.05V

# +1.1V\_VTT/+1.05V\_VTT ( MAX17007AGTI+)



1.1 Volt +/- 2% DC, +/-3%AC (Clarksfield)  
1.05 Volt +/- 2% DC, +/-3%AC (Aubumdale)  
Thermal Design Current : 14.7A  
Peak Current : 21A  
OCP : 24.7A

# +3.3V\_ALW & +5V\_ALW & +15V\_ALW ( MAX17020ETJ+ )

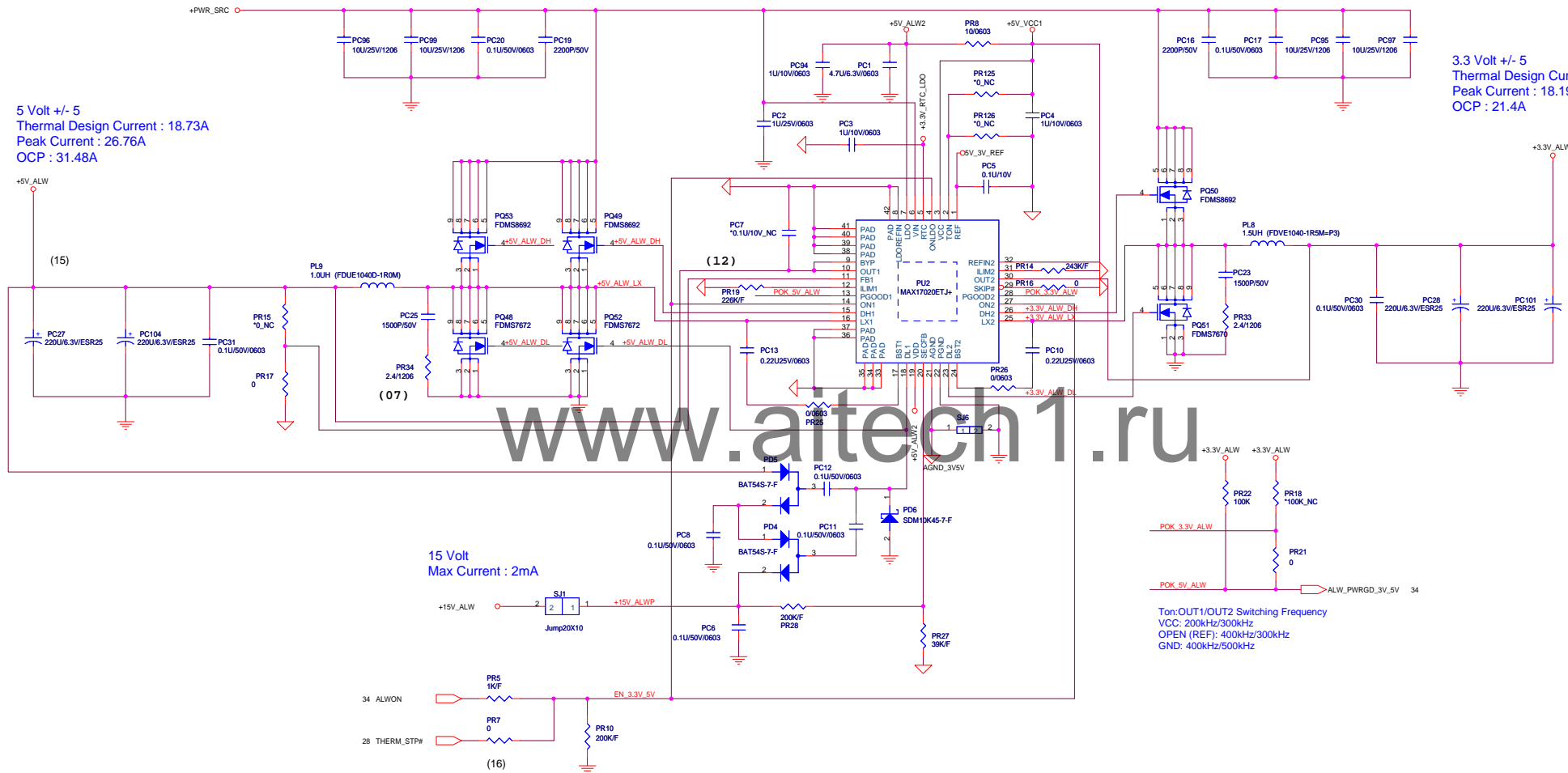
5 Volt +/- 5  
Thermal Design Current : 18.73A  
Peak Current : 26.76A  
OCP : 31.48A

3.3 Volt +/- 5  
Thermal Design Current : 12.73A  
Peak Current : 18.19A  
OCP : 21.4A

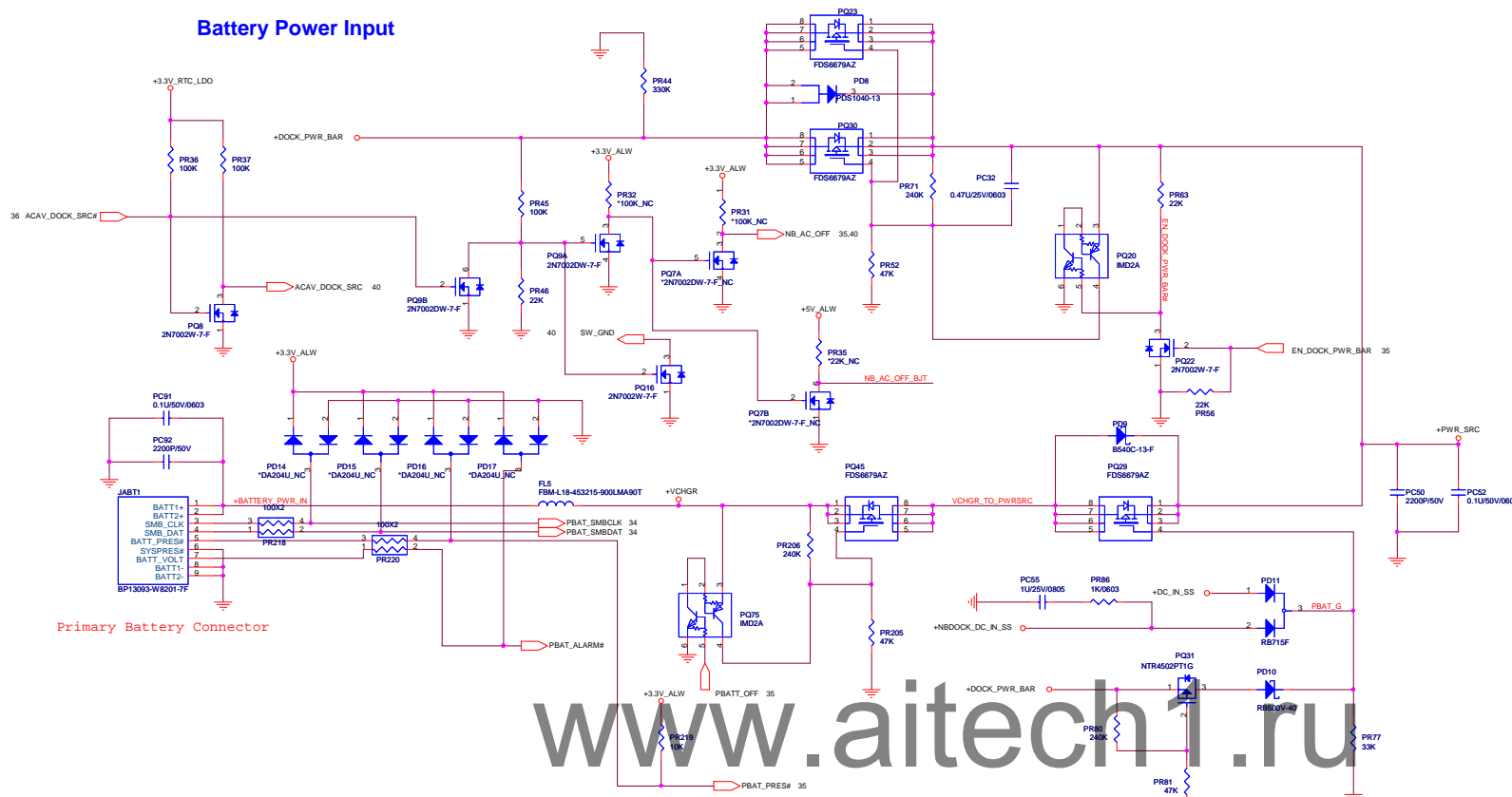
15 Volt  
Max Current : 2mA

Ton:OUT1/OUT2 Switching Frequency  
VCC: 200kHz/300kHz  
OPEN (REF): 400kHz/300kHz  
GND: 400kHz/500kHz

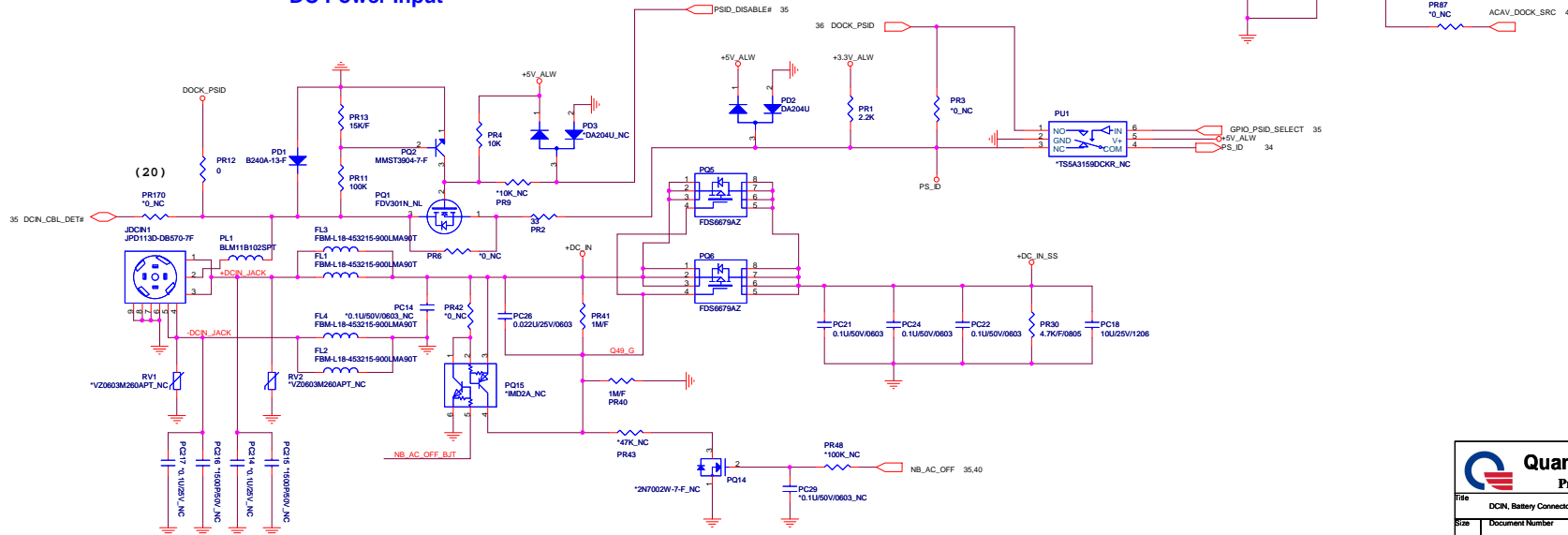
www.aitech1.ru

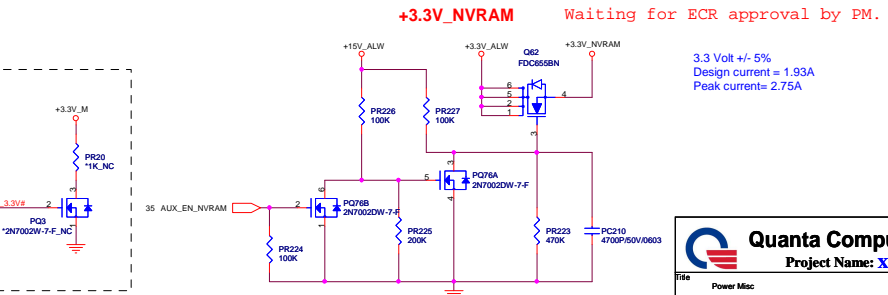
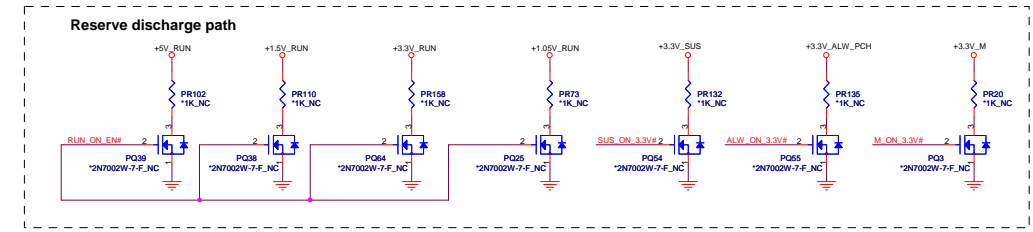
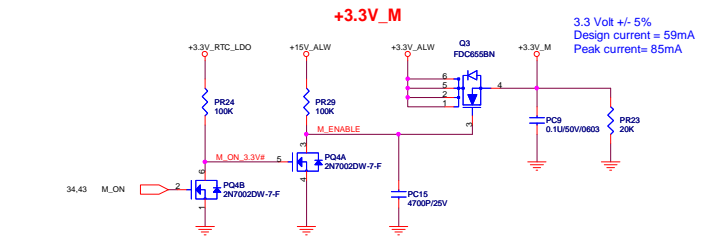
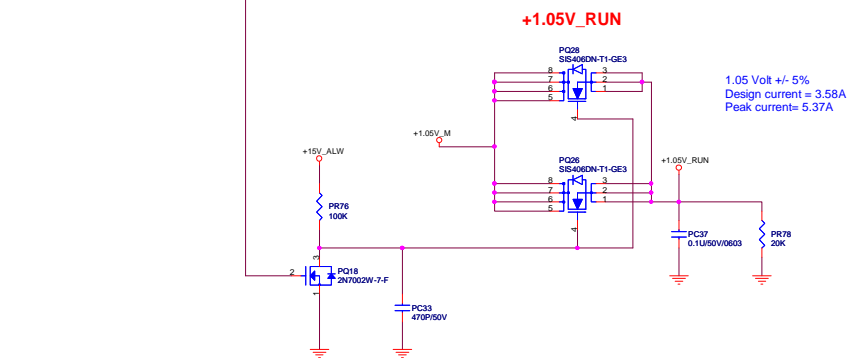
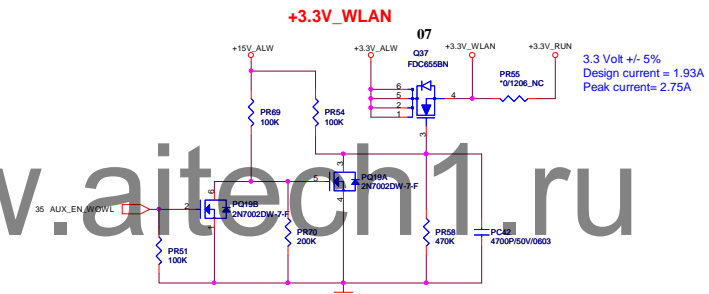
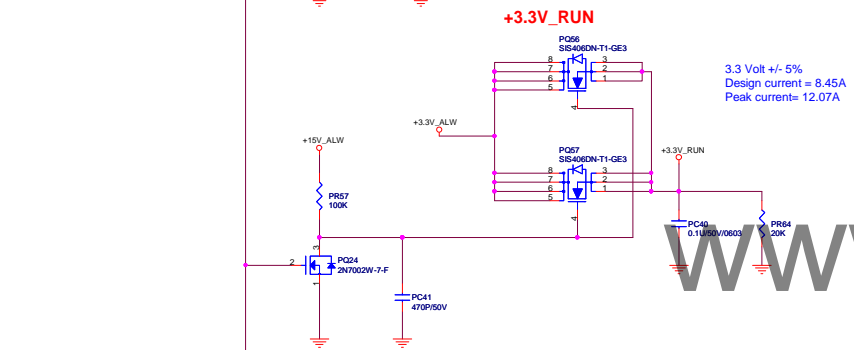
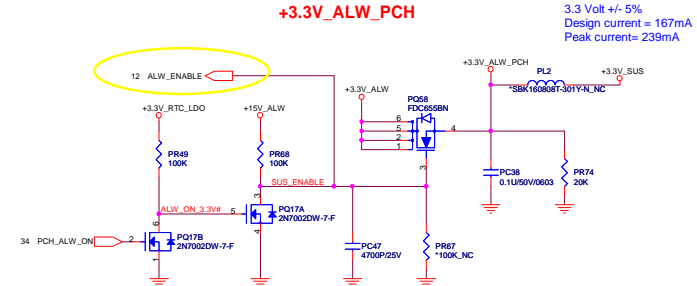
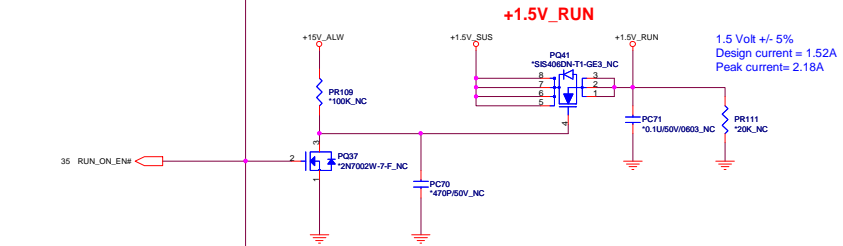
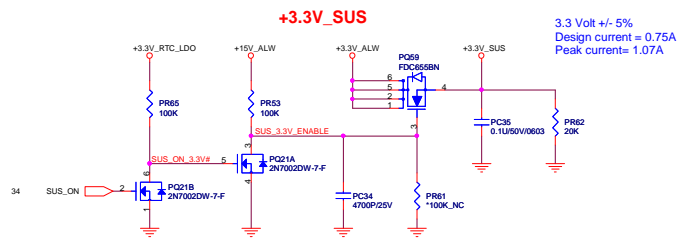
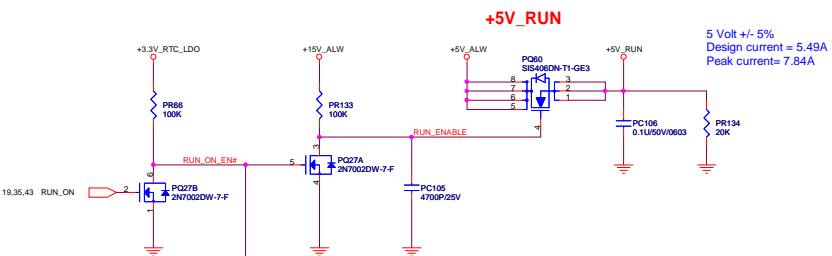


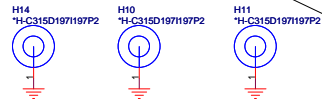
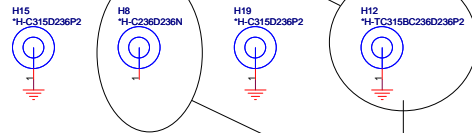
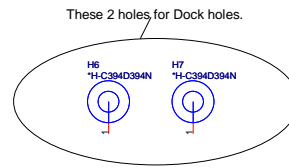
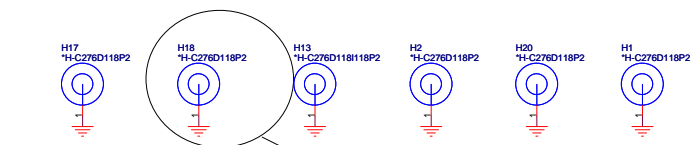
## Battery Power Input



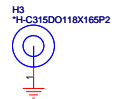
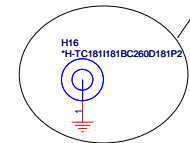
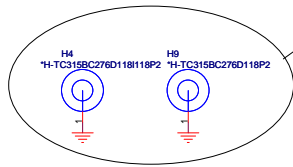
## DC Power Input



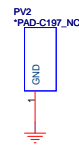
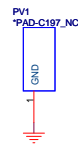
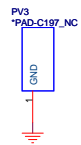




1/23CT: Change Footprint per ME change.



Need update PCB footprint



www.aitech1.ru

