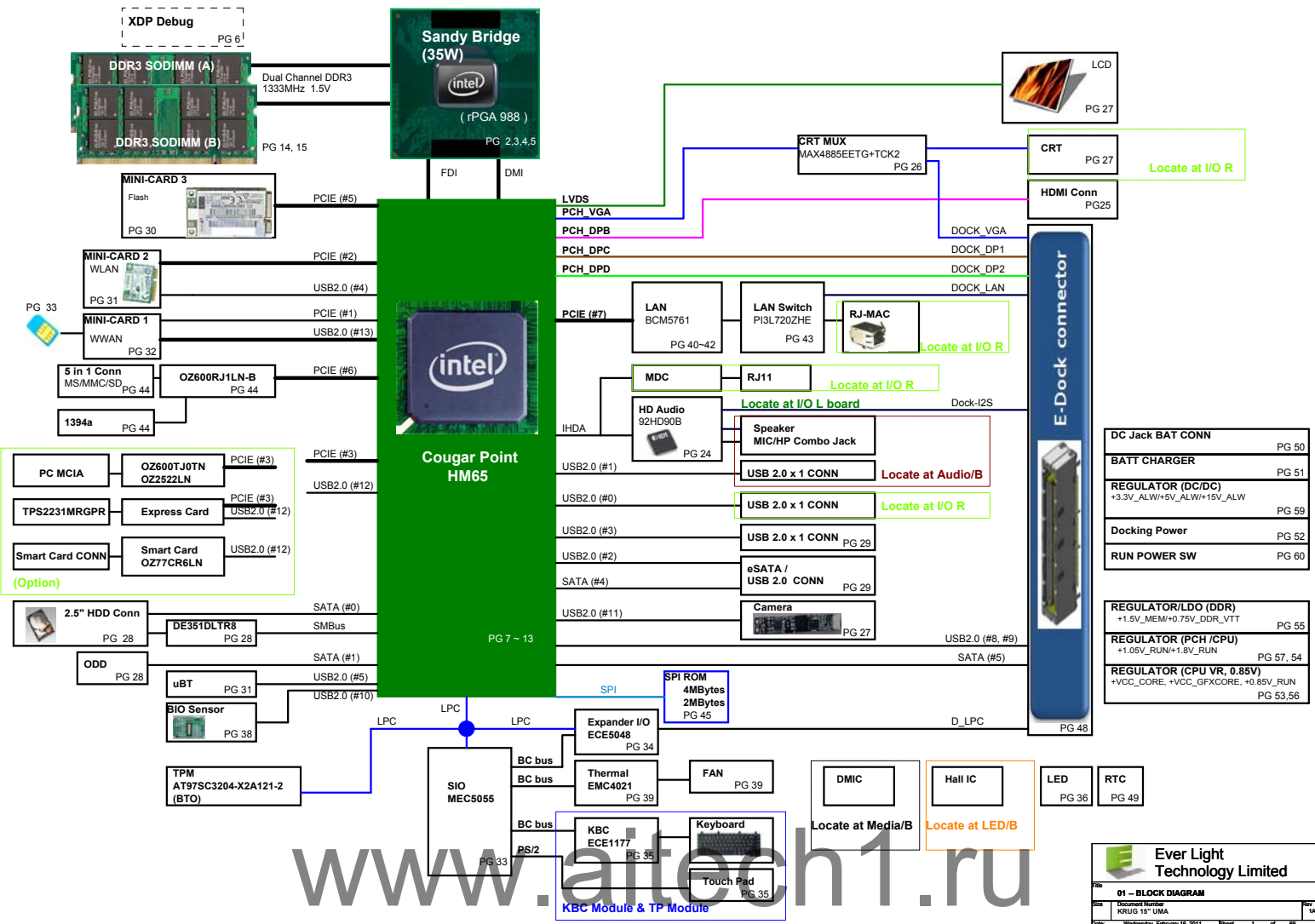
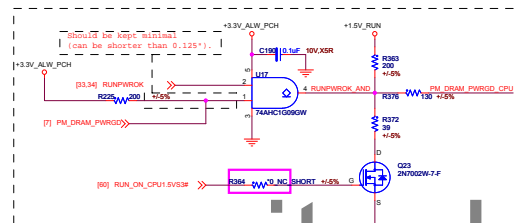
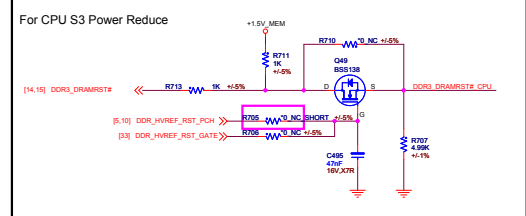
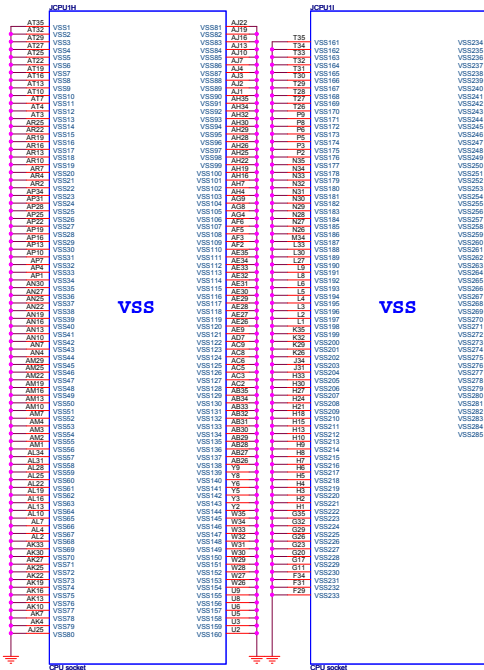


KRUG 15" UMA Block Diagram

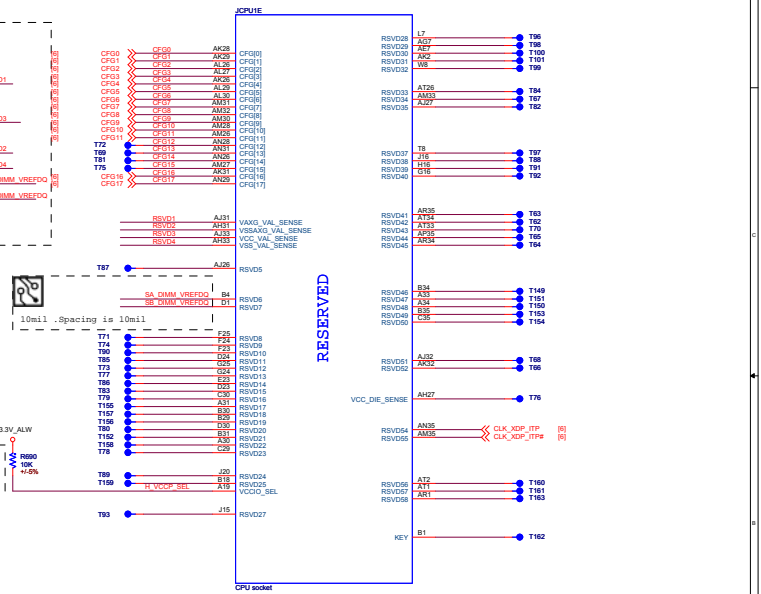




SANDY BRIDGE PROCESSOR (GND)



SANDY BRIDGE PROCESSOR(RESERVED, CFG)



CFG2	1	0
CFG2 (PEG Static Lane Reversal)	Lane# definition matches socket pin map definition (Default Value)	Lane Reversed
CFG4 (Display Port Presence strap)	Disabled; No Physical Display Port attached to Embedded Display Port (Default Value)	Enabled; An external Display port device is connected to the Embedded Display port
CFG7 (PEG Defer Training)	PEG Train immediately following xRESETB de assertion (Default Value)	PEG Wait for BIOS for training

CFG[6:5] (PCIe Port Bifurcation Straps)	11	10	01	00
	x16 - Device 1 functions 1 and 2 disable (Default Value)	x8, x8 - Device 1 function 1 enable; function 2 disable (Default Value)	Reserved - (Device 1 function 1 disable; function 2 enable)	x8, x8, x4 - Device 1 function 1 and 2 enable



Ever Light Technology Limited

File: 05 - SNG (PXA) 4/4(GND)

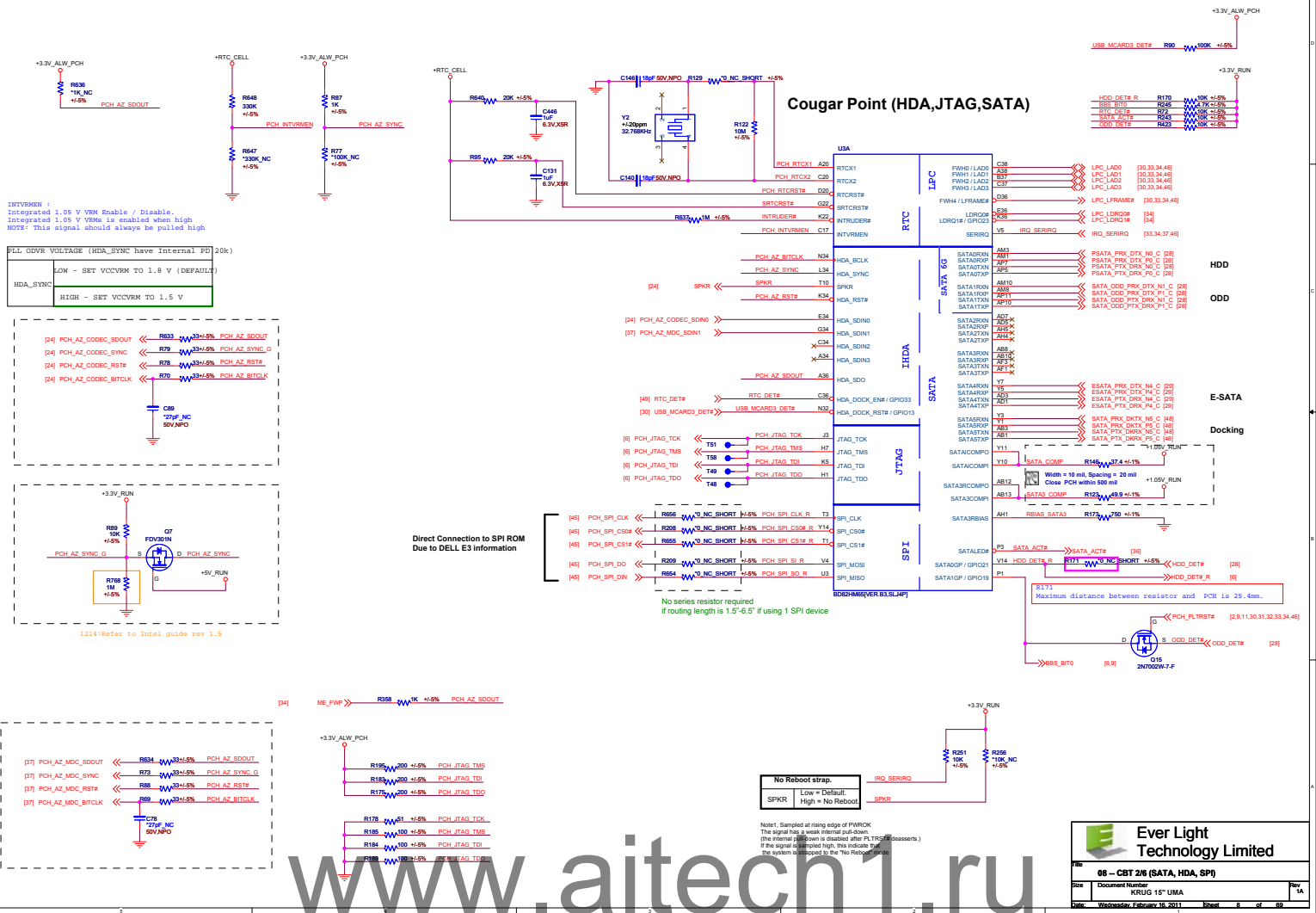
Size: Document Number XRUUG 15" UMA

Date: Wednesday, February 16, 2011

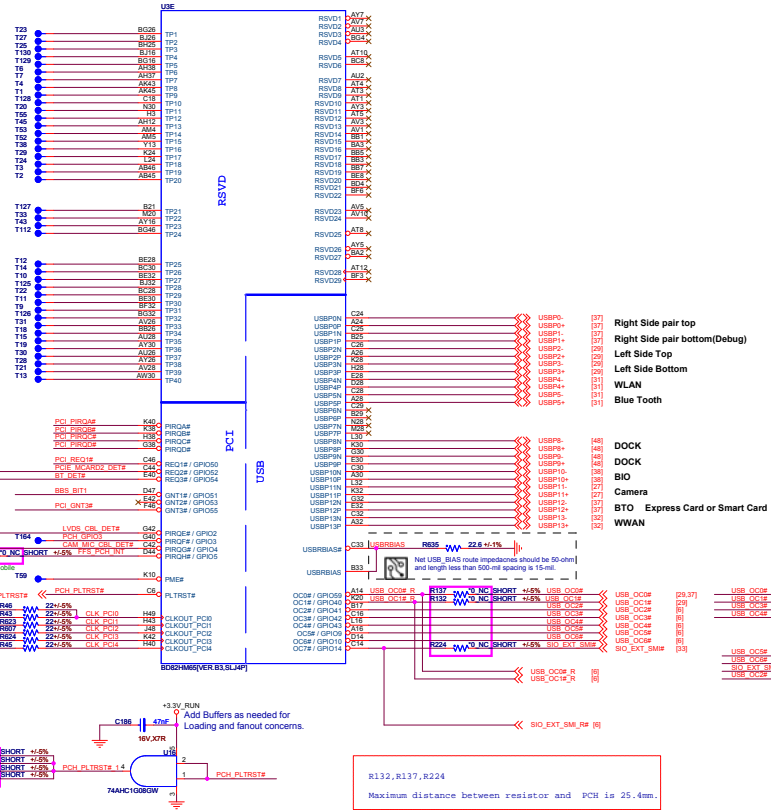
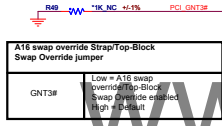
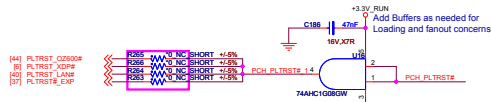
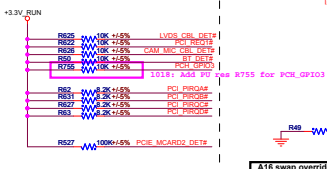
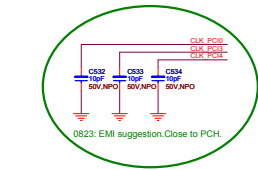
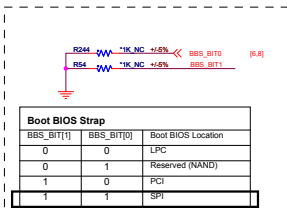
www.altech1.ru

www.aitech1.ru



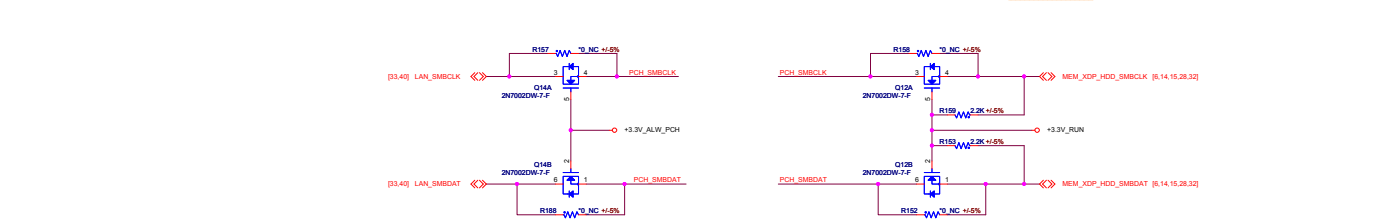


Cougar Point (PCI,USB,NVRAM)



Maximum distance between resistor and PCH is 25.4mm.

U3B



COUGAR POINT (GPIO,VSS_NCTF,RSVD)

R252
Maximum distance between resistor and PCH is 25.4mm

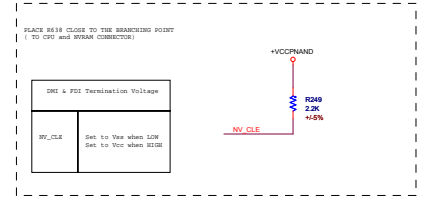
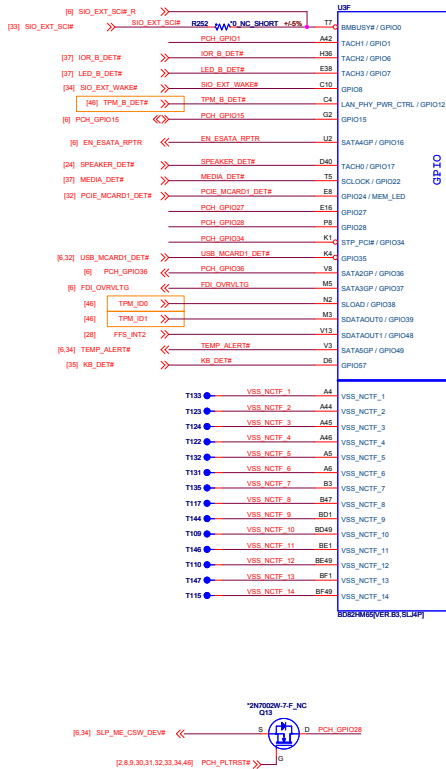
GPIO15 TLD Confidentiality
Low - Intel ME Crypto Transport Layer Security (TLS) cipher suite with no confidentiality
High - Intel ME Crypto Transport Layer Security (TLS) cipher suite with confidentiality

PCI OR C12 VS ENABLE
ENABLED - R208 (R210 UNTERFOLDED) DEFAULT
DISABLED - LOW (R210 FOLDED)

GPIO18 (SIO_EXT_WAKES)
Low - Intel ME Crypto Transport Layer Security (TLS) cipher suite with no confidentiality
High - Intel ME Crypto Transport Layer Security (TLS) cipher suite with confidentiality

PCI TERMINATION VOLTAGE OVERRIDE
GPIO17 (PCI_OVRVLTG)
LOW - Terminate to same voltage (IC Coupling Mode) DEFAULT
HIGH - Pop R257

AUXD2 web table selection
GPIO17 (PCI_OVRVLTG)
LOW - Internal pull down 20K. Default MIC Detection.
High - Pop R257
External MIC Detection

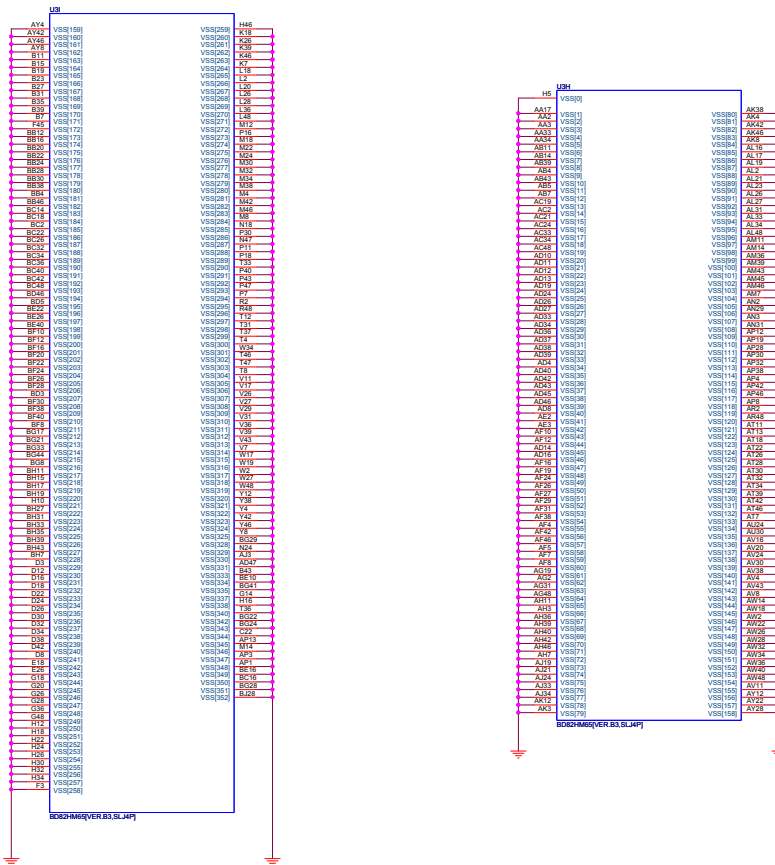


www.aitech1.ru

www.aitech1.ru



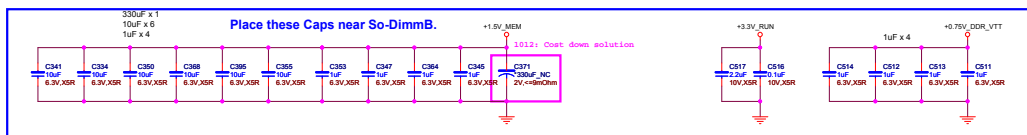
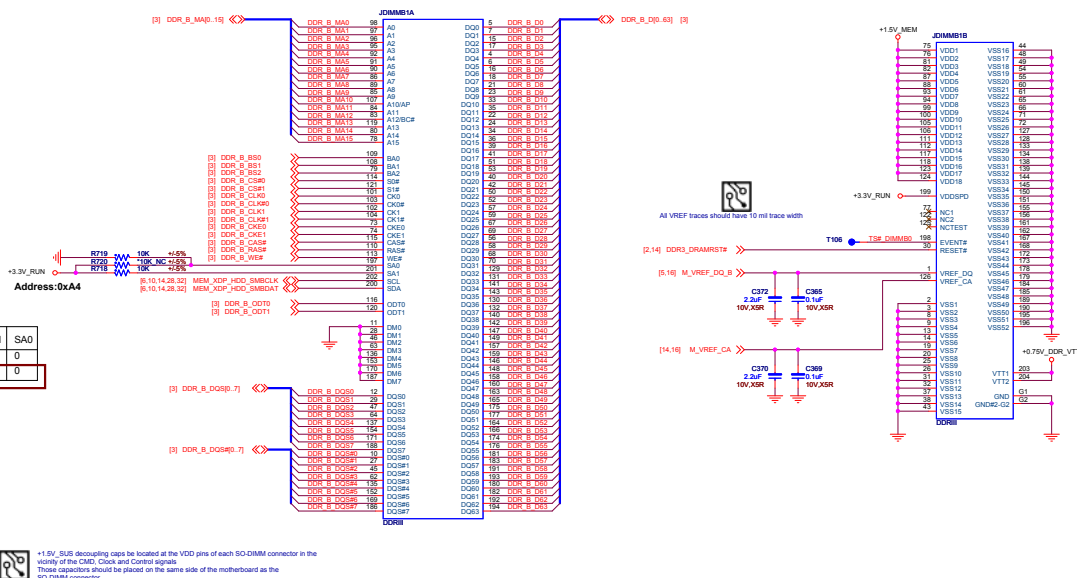
Cougar Point (GND)



www.aitech1.ru

DDR3 Length Matching Formulas

Signal Group	Min Length	Max Length
Control-to-Clock	Clock - 0.5"	Clock - 0.0"
Command-to-Clock	Clock - 0.5"	Clock - 0.5"
Strobe-to-Clock	Clock - 0.5"	Clock - 1.0"
Data-to-Strobe (per byte lane)	Strobe - 20 mils	Strobe + 20 mils



www.aitech1.ru

Ever Light Technology Limited

15 - SODIMM-204P_JDIMMB

Document Number: KRUG 15-UMA

Date: Wednesday, February 16, 2011


M1: Fixed SO-DIMM VREF_DQ (Default)

M2: Programmable SODIMM VREFDQ



Blank Page

www.aitech1.ru


		Ever Light Technology Limited	
File 17 -- Blank Page (GPU)			
Size	Document Number		Rev
	KRUG 15" UMA		1A
Date	Wednesday, February 16, 2011		Sheet 17 of 59

Blank Page

www.aitech1.ru


Blank Page

www.aitech1.ru

		Ever Light Technology Limited	
File 19 – Blank Page (GPU)			
Size	Document Number KRUG 15" UMA		Rev 1A
Date	Wednesday, February 16, 2011		Sheet 19 of 59


Blank Page

www.aitech1.ru

		Ever Light Technology Limited	
File: 20 - Blank Page (GPU)			
Size	Document Number KRUG 15" UMA		Rev 1A
Date: Wednesday, February 16, 2011		Sheet	20 of 20


Blank Page

www.aitech1.ru

		Ever Light Technology Limited	
File: 21 – Blank Page (GPU)			
Size	Document Number KRUG 15" UMA		Rev 1A
Date:	Wednesday, February 16, 2011	Sheet	21 of 89


Blank Page

www.aitech1.ru

		Ever Light Technology Limited	
File: 22 – Blank Page (GPU)			
Size	Document Number KRUG 15" UMA		Rev 1A
Date:	Wednesday, February 16, 2011	Sheet	22 of 69

Blank Page

www.aitech1.ru

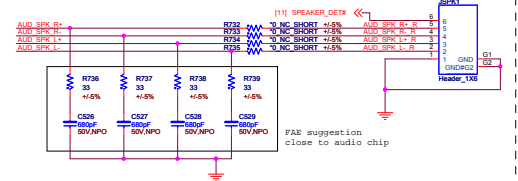
		Ever Light Technology Limited	
File: 23 – Blank Page (GPU)			
Size	Document Number KRUG 15" UMA		Rev 1A
Date	Wednesday, February 16, 2011	Sheet	23 of 89



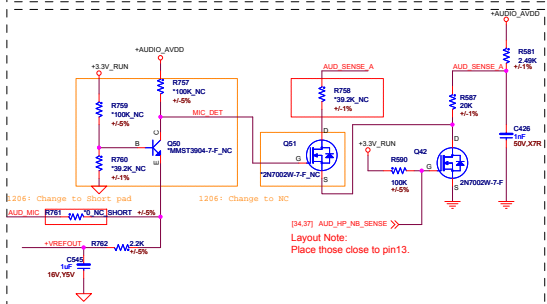
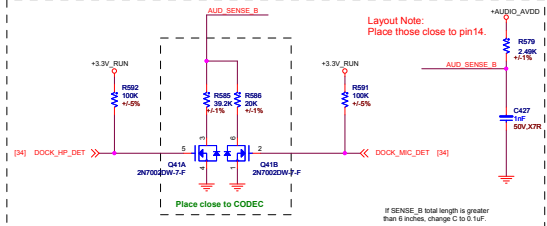
Layout Note:
Place caps close to codec.

Layout Note:
Place caps close to codec.

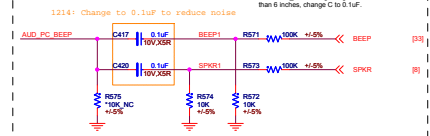
Speaker Connector



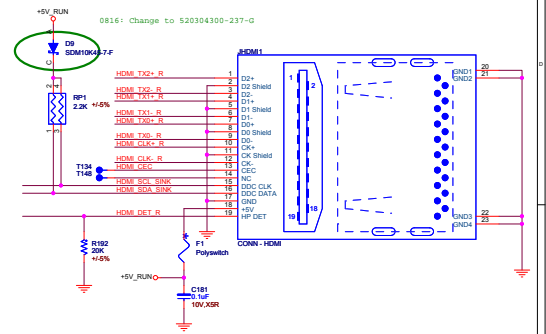
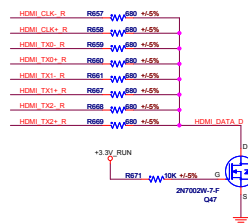
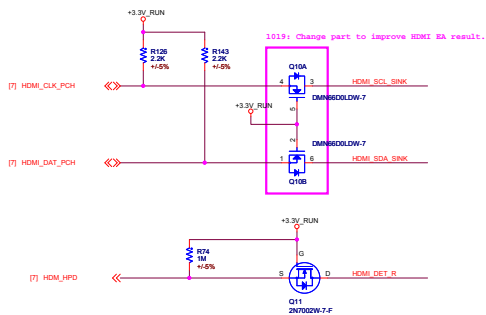
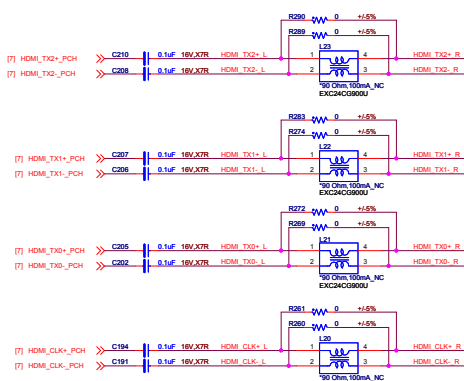
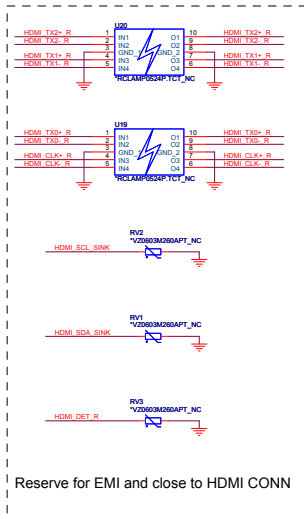
Keep those trace as widely as possible
that will help to decrease the Power Loss

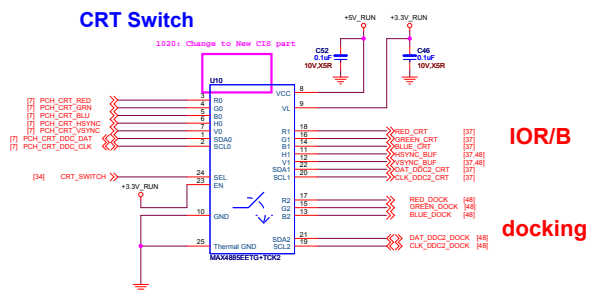


PC BEEP



HDMI CONN





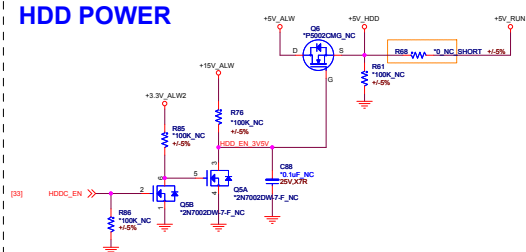
CRT Switch table

SEL	VGA signals	Switch
L	RGB[0] = RGB[1] SDA[0] = SDA[1] SCL[0] = SCL[1]	IOR/B
H	RGB[0] = RGB[2] SDA[0] = SDA[2] SCL[0] = SCL[2]	DOCK

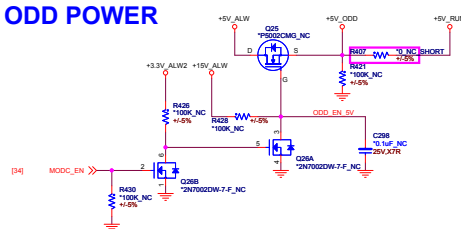
www.aitech1.ru



HDD POWER

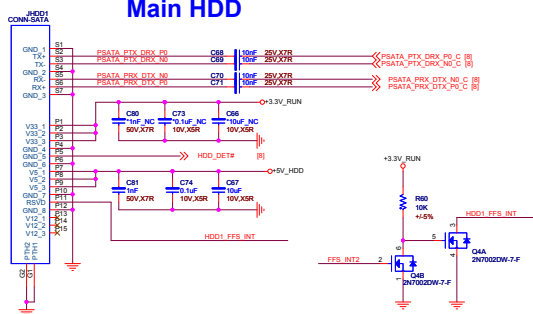


ODD POWER

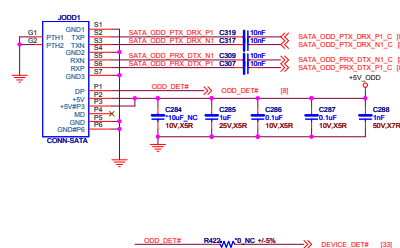


HDD Connector

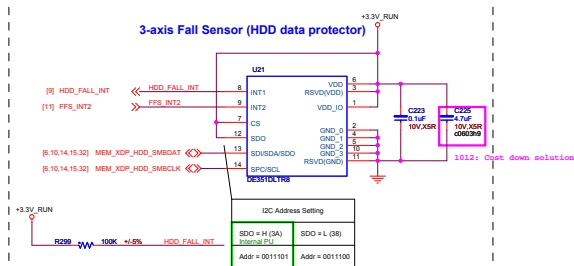
Main HDD



ODD Connector

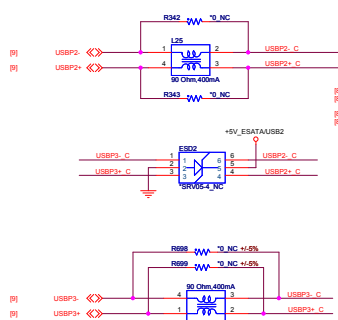


3-axis Fall Sensor (HDD data protector)



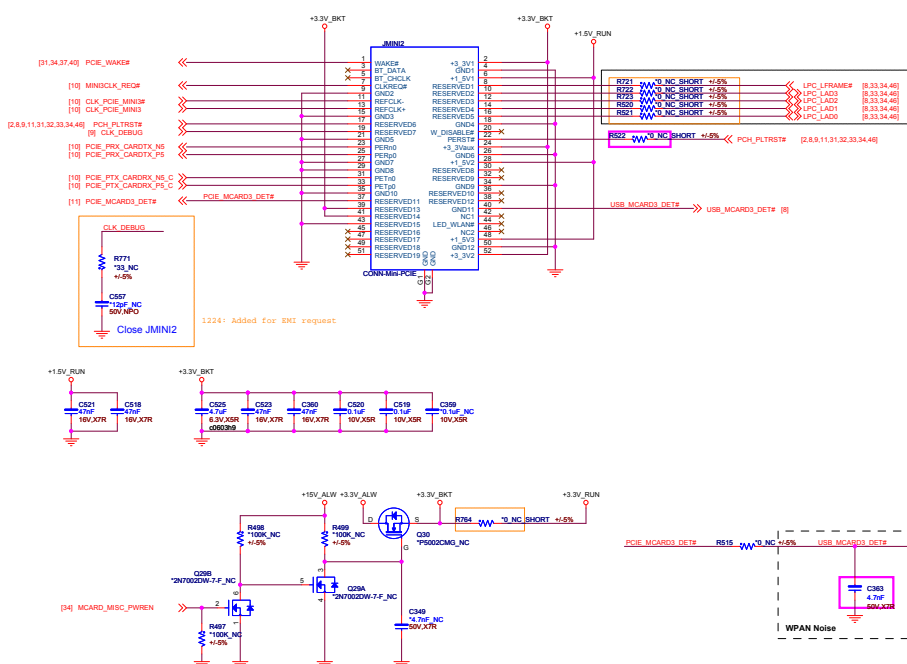
The top diagram shows the connection for U37 (GS46B4P1UT). It features a +5V_ALW supply connected to a network of capacitors (C283, C285, C286) and a 6.3V_XSR diode. The +5V_ESATAUSB2 supply is connected to the EN1 pin. The GND, IN, and EN2 pins are connected to ground. The OC1 and OC2 pins are connected to the USB_OC1# and USB_OC2# signals, respectively. A note indicates that U37 is a 100% Charge U37 to GS46B4P1DE.

The bottom diagram shows the connection for U32 (GS472P11U). It features a +5V_ALW supply connected to a network of capacitors (C388, C390) and a 3.3V_XSR diode. The +5V_USB_RIGHT_PWR supply is connected to the EN pin. The GND, IN1, and IN2 pins are connected to ground. The OUT1 and OUT2 pins are connected to the USB_OCen# and USB_OCen# signals, respectively. A note indicates that U32 is a 100% Charge U32 to GS472P11U.

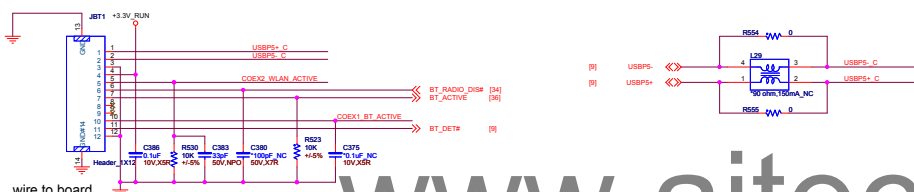
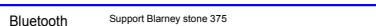
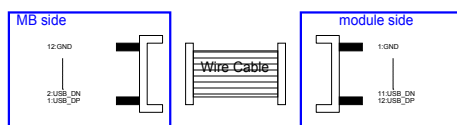
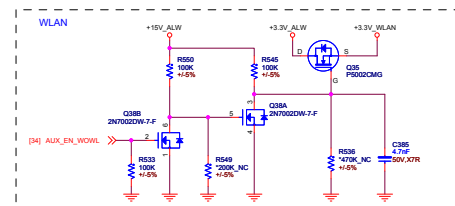
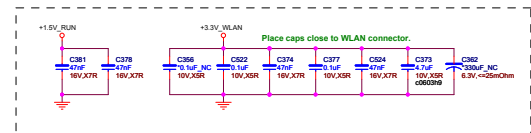
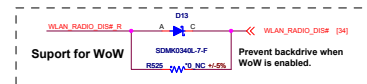
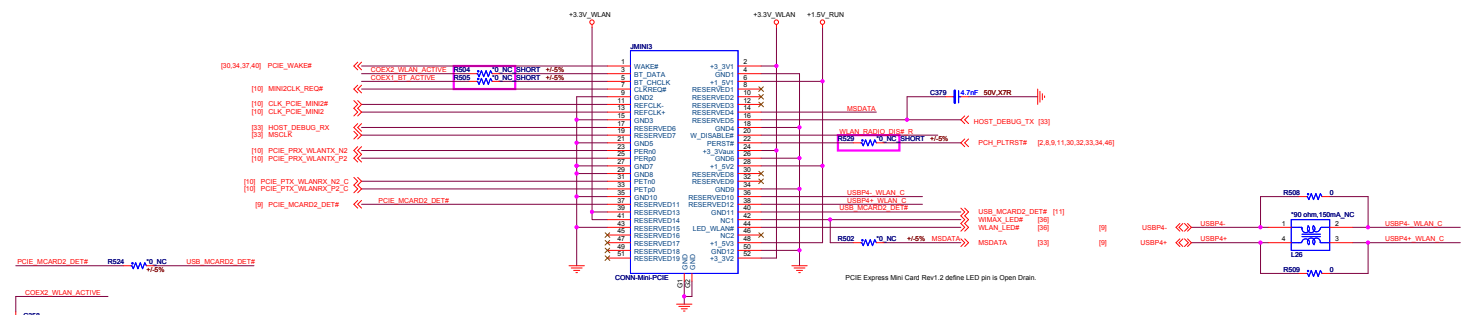


12061: Charge 9/76

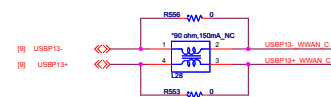
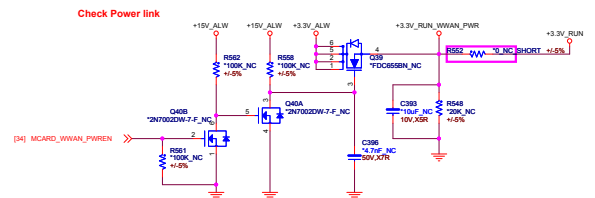
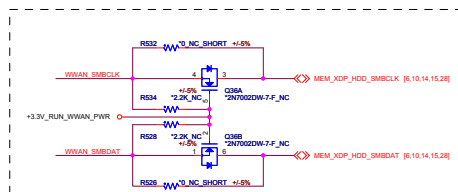
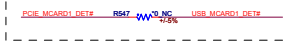
3rd MiniCard connector (Flash, half size)
MiniCard connector

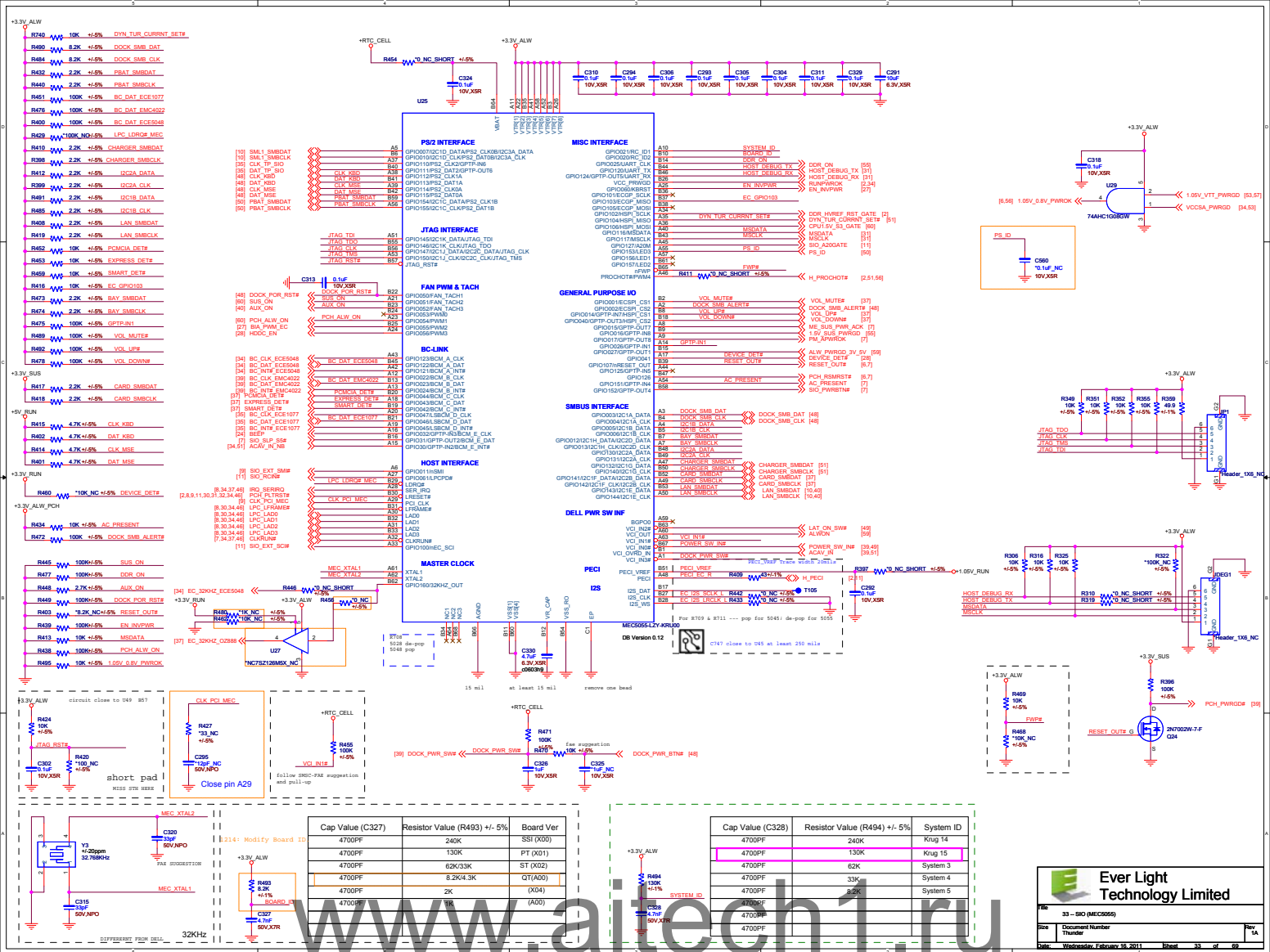


2nd MiniCard connector (WLAN, half size)
MiniCard WLAN connector

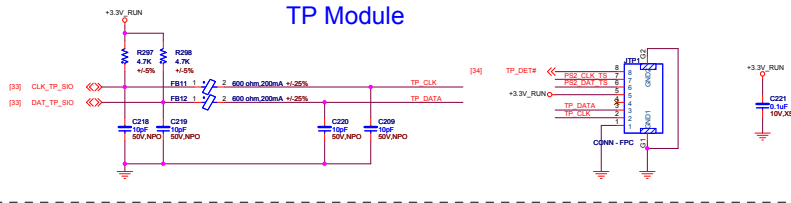


www.aitech1.ru

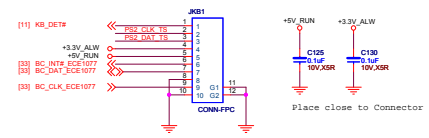




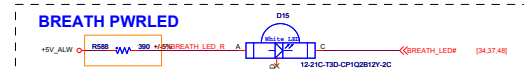
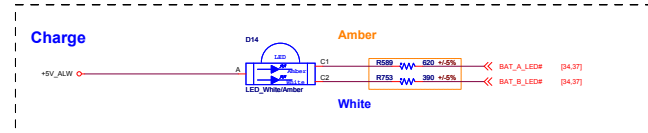
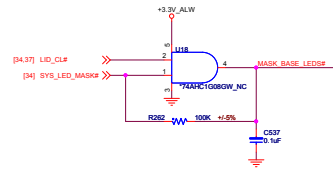
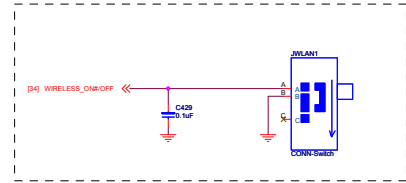
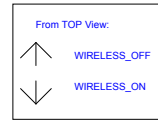
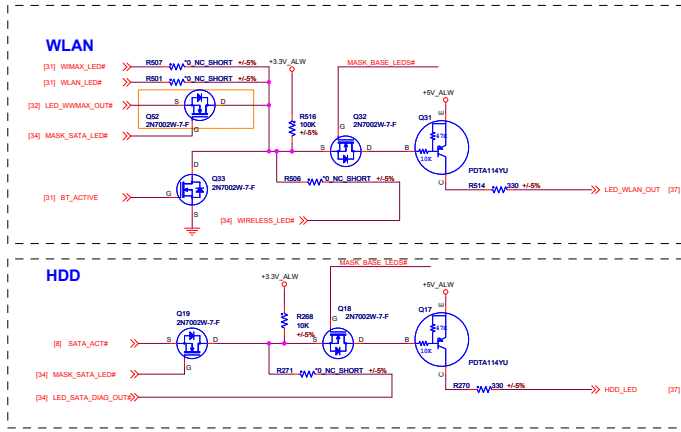
TP Module



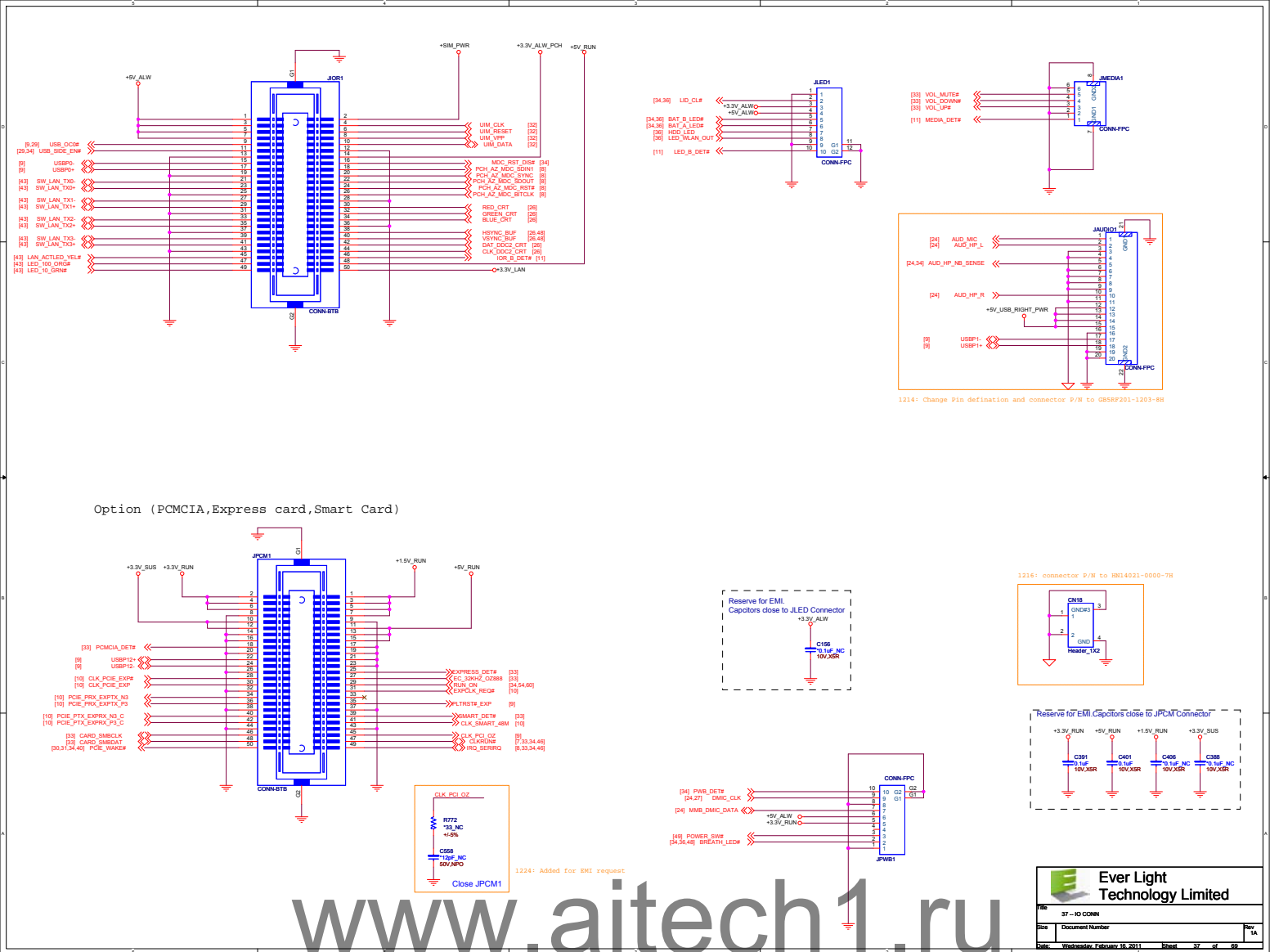
Keyboard Module



www.aitech1.ru

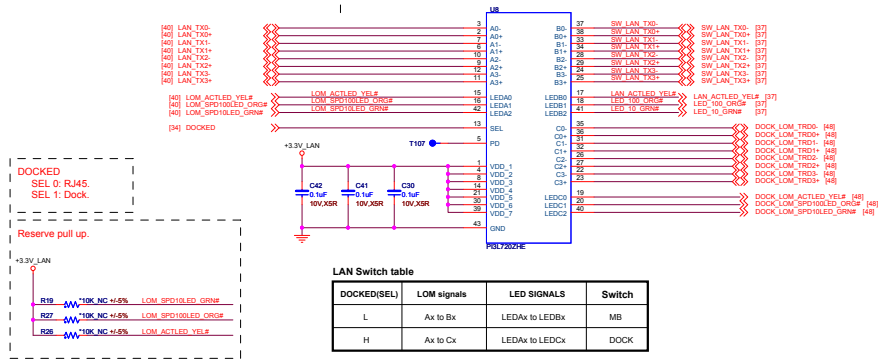


www.aitech1.ru



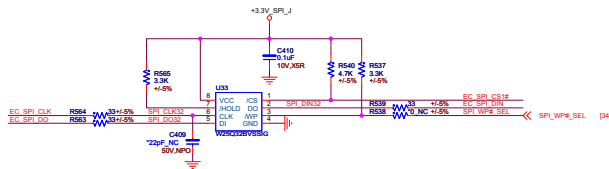


SnRt is a suggested value.
Actual value will be system dependent.
Must use 0603 package for lower DC resistance.

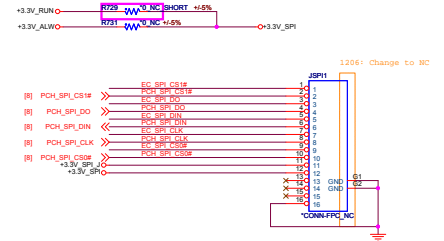
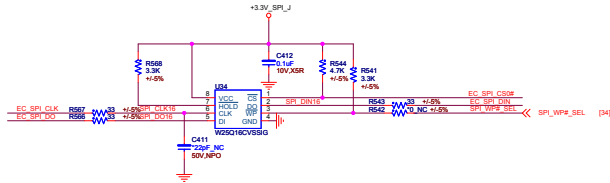


www.aitech1.ru

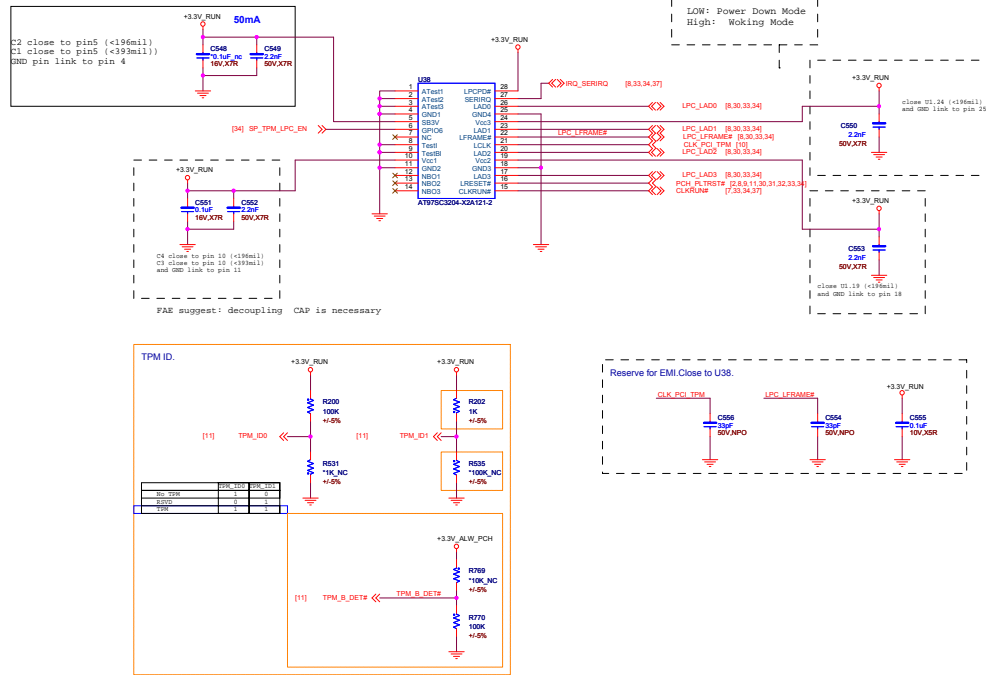
PCH, EC SPI ROM For BIOS (4M Byte)



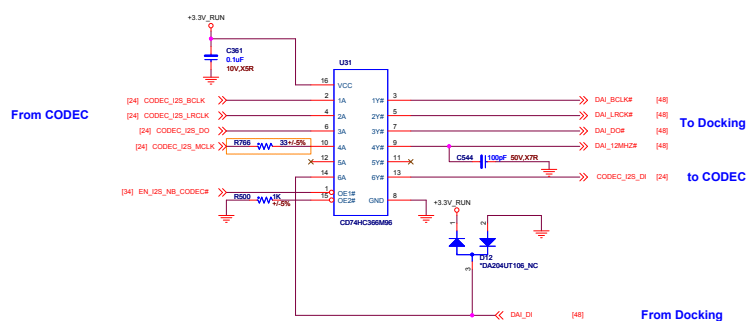
PCH SPI ROM (2M Byte)



China TPM : ATMEL (TEMP SYMBOL)



www.aitech1.ru

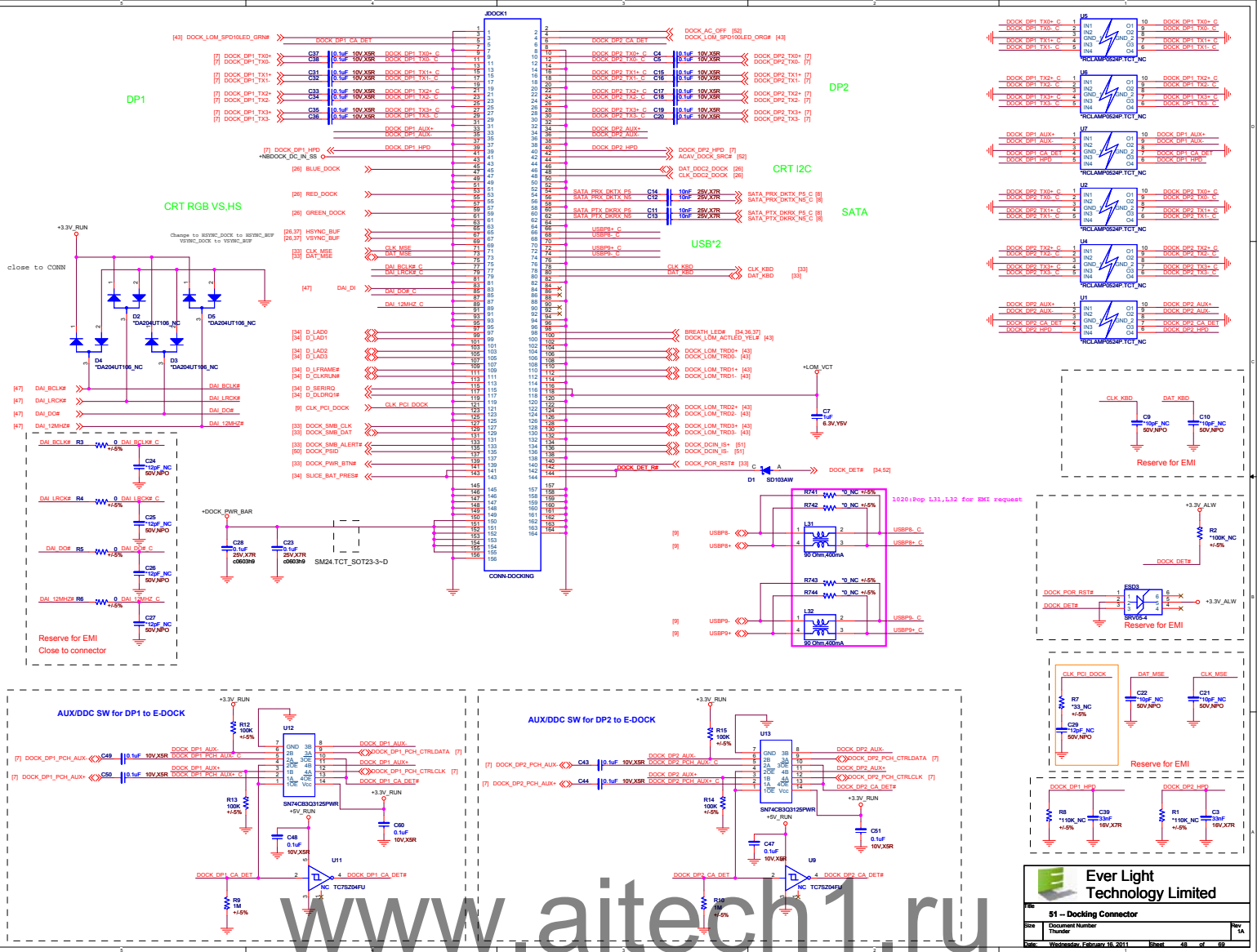


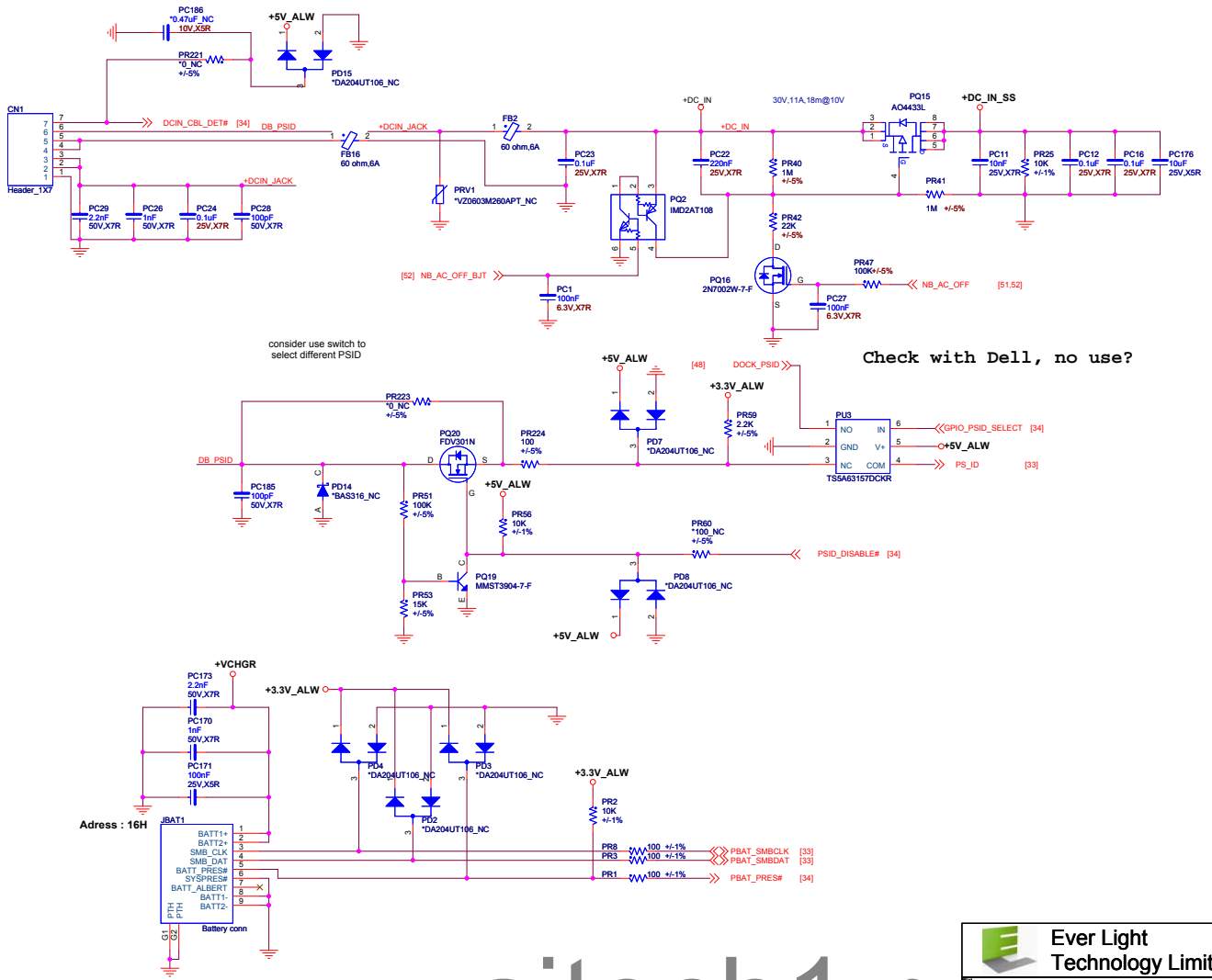
CD74HC366M96 table

INPUTS			OUTPUTS(Y)	
OE1#	OE2#	A	HC366	
L	L	L	H	
L	L	H	L	
X	H	X	Z	
H	X	X	Z	

NOTE:
Z=High impedance (OFF) state

www.aitech1.ru





consider use switch to select different PSID

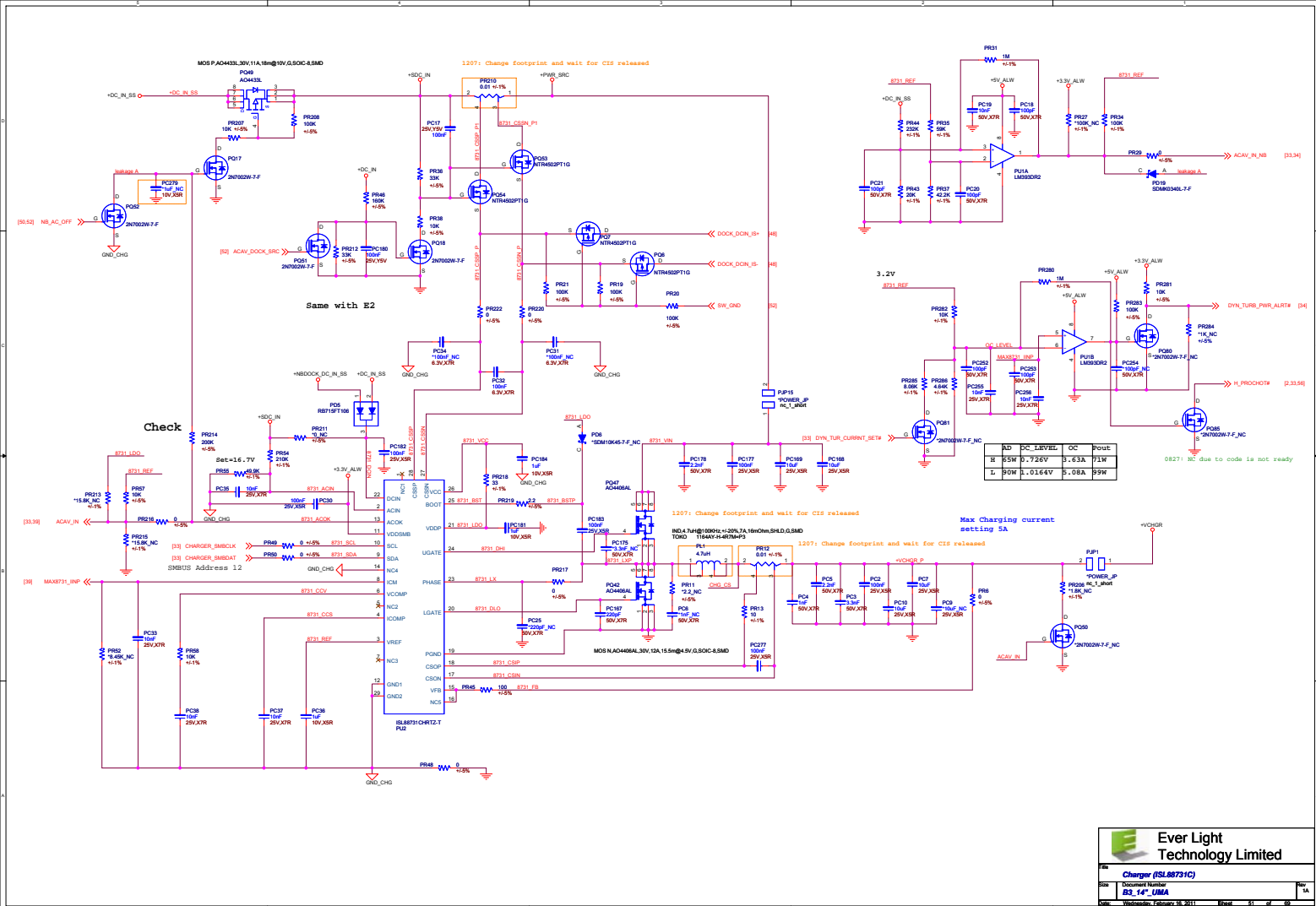
Check with Dell, no use?

www.aitech1.ru

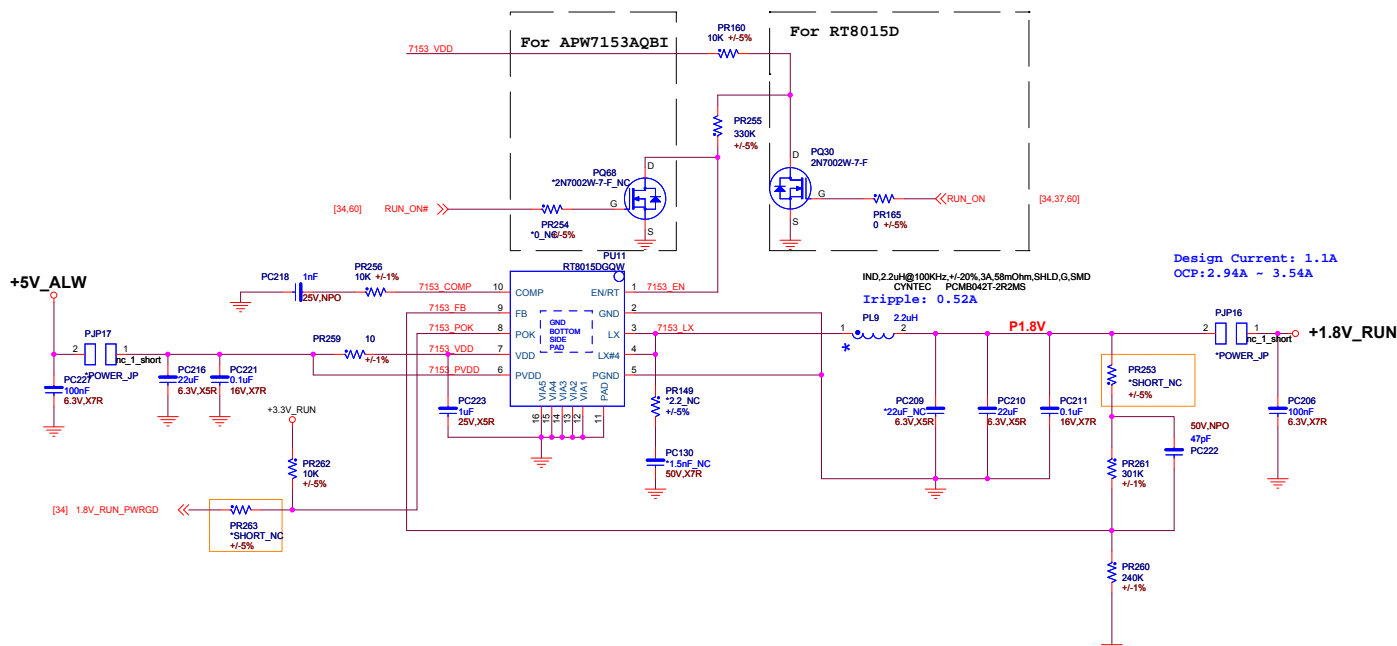
Ever Light Technology Limited

Title: 50 - PW_DCin & Batt		
Size: Document Number	KRUG 15" UMA	
Date: Wednesday, February 16, 2011	Sheet: 50	of 69

Rev: 1A



www.aitech1.ru



Ever Light Technology Limited

File: 54 - PW_SW_+1.8V(APW7153QBI)

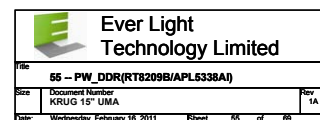
Size: Document Number KRUG 15" UMA

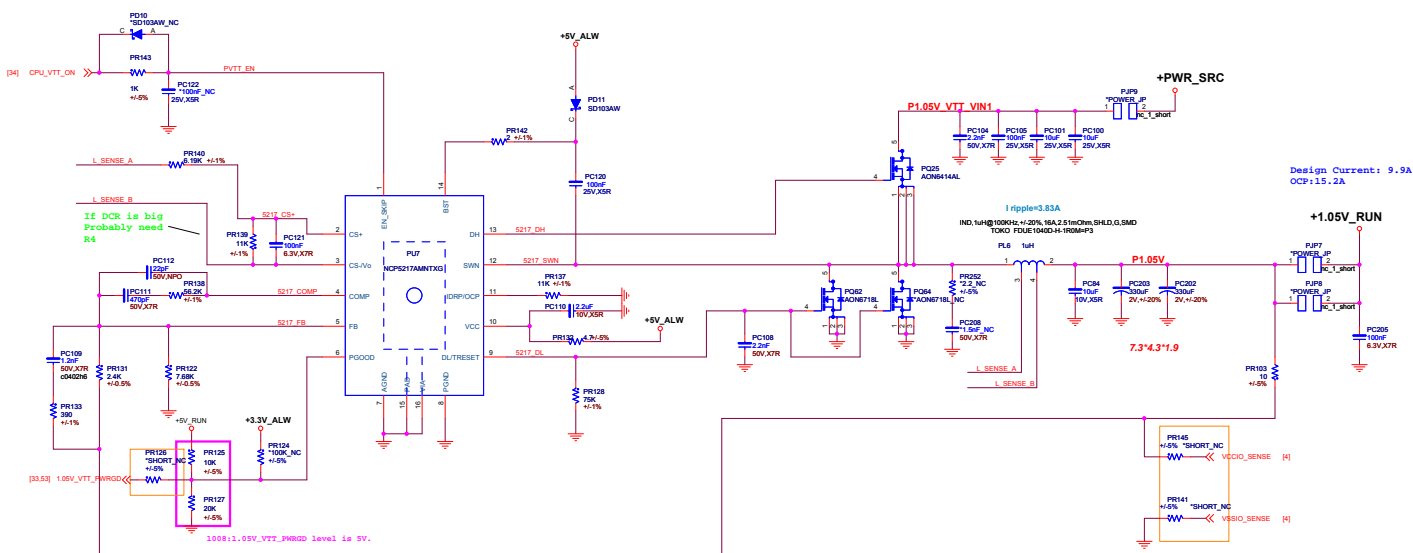
Date: Wednesday, February 16, 2011

Sheet: 54 of 69

Rev: 1A

www.aitech1.ru





www.aitech1.ru

5

4

3

2

1

D

D

C

C

B

B

A

A



Ever Light
Technology Limited

Title		
58 -- PW_Blank for Ext.GPU		
Size	Document Number	Rev
	KRUG 15" UMA	1A
Date:	Wednesday, February 16, 2011	Sheet 58 of 69

www.aitech4u

5

4

3


2

1

Design Current: 6.9A
OCF:10.6A

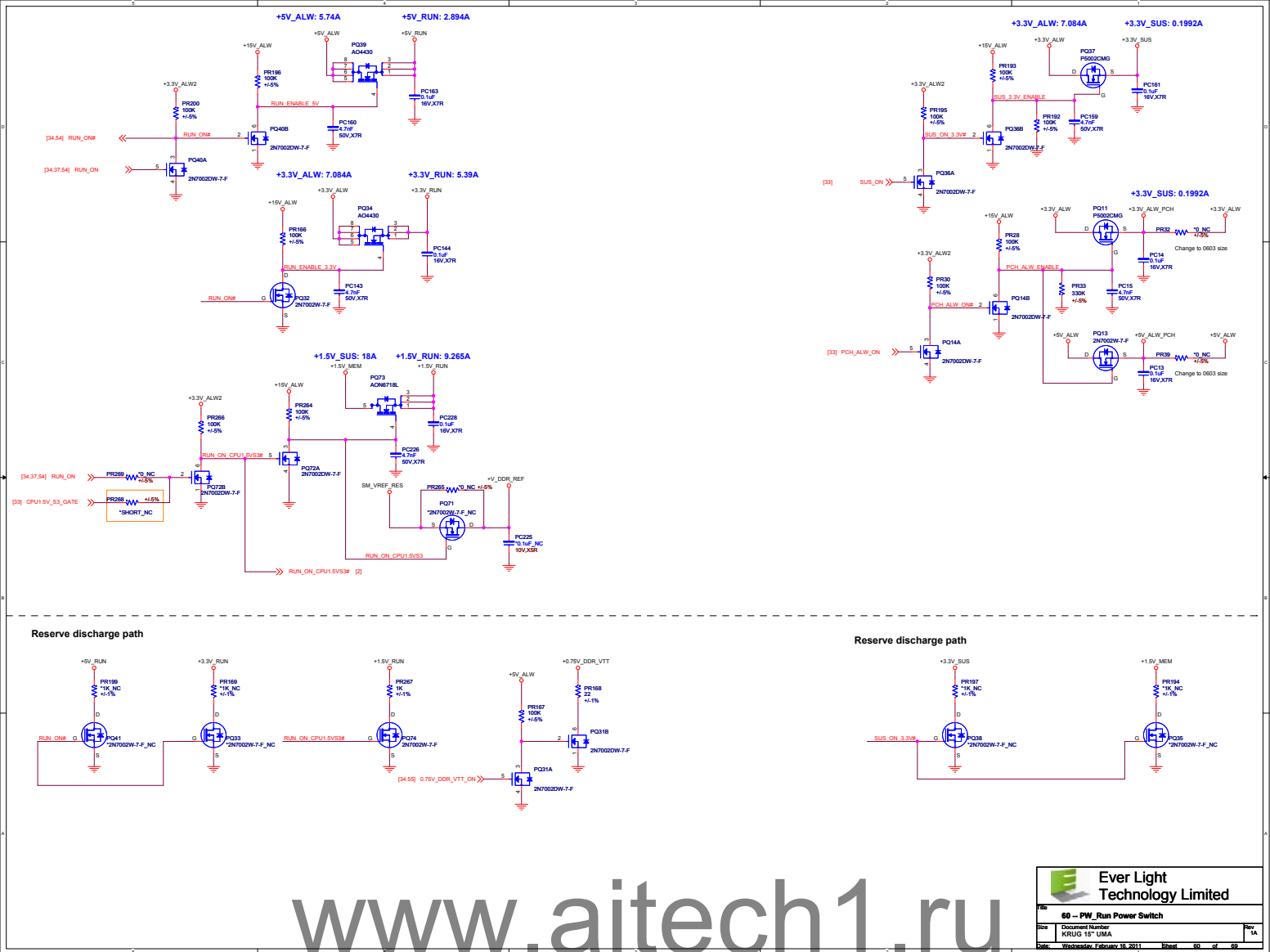
Design Current: 8.0A
OCF:12.3A

www.aitech1.ru



Ever Light
Technology Limited

File	59 - PW_SYSTEM(TPS51125A)	
Size	Document Number	Rev
	KRUG 15" UMA	1A
Date	Wednesday, February 16, 2011	Sheet 59 of 59



www.aitech1.ru

5

4

3

2

1

D

D

C

C

B

B

A

A



Ever Light
Technology Limited

Title		
61 -- PW_Blank		
Size	Document Number	Rev
	KRUG 15" UMA	1A
Date:	Wednesday, February 16, 2011	Sheet 61 of 69

www.aitech.ru


5

4

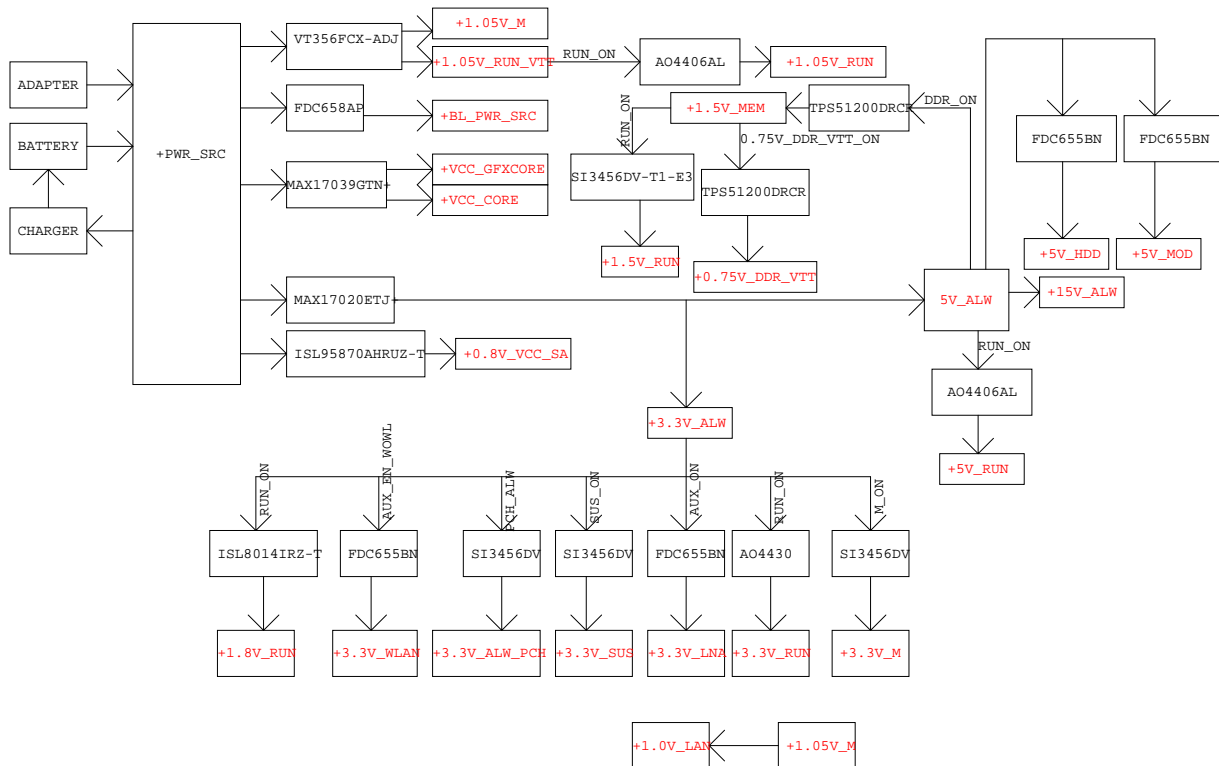
3

2

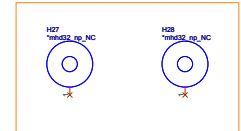
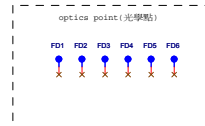
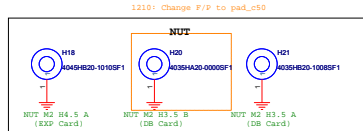
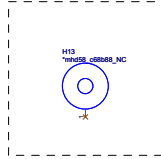
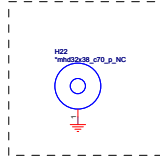
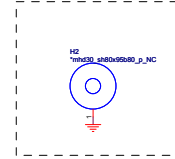
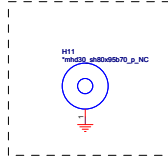
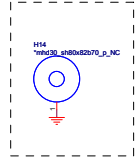
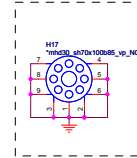
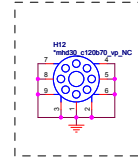
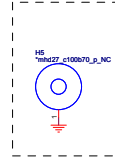
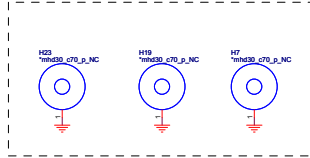
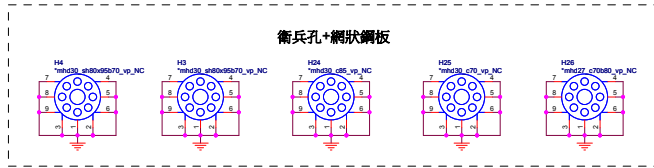
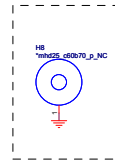
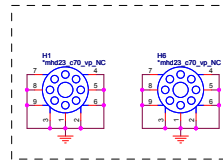
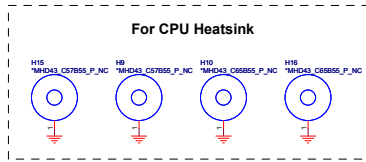
1

 Ever Light Technology Limited	
62 - PW_Blank	
Title	
Size	Document Number KRUG 15" UMA
Date:	Wednesday, February 16, 2011
Sheet	62 of 69
Rev	1A

www.aitech1.ru



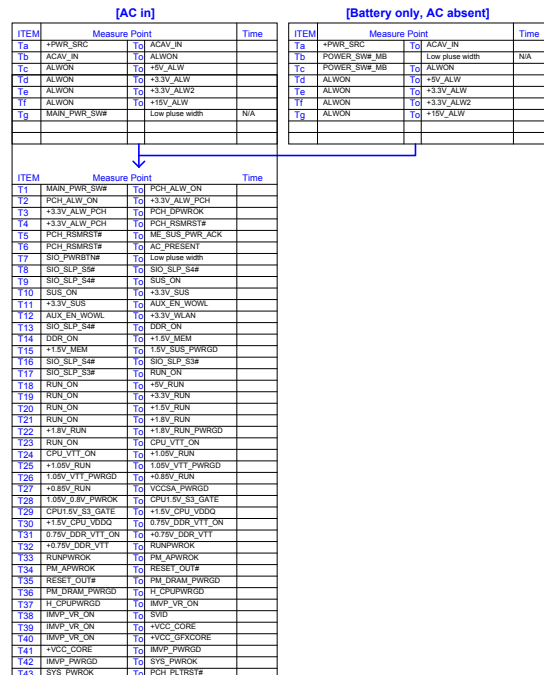
www.aitech1.ru




www.aitech1.ru

[Battery only, AC absent]

UMA Power On Sequence



www.aitech1.ru

 Ever Light Technology Limited		
File 67 - Power Sequence Timing		
Size	Document Number	Rev
	KRUG 15" UMA	1A
Date: Wednesday, February 16, 2011 Sheet 67 of 69		

Item	Date	T	Page#	Issue Description	Solution Description	Rev
				A00		
01		PWR		Delete Power Jump.	Change Power Jump to short pad.	A00
02			P19	Edit thermal diode note.		
03			P40	IEEE test fail.	Change R80 to 1.2K.	
04		EE	P45	SCN Changed	Change R724-R728,R730 to shortpad.De pop J39P11.	
05			P29	Change eSATA connector part number.	Change eSATA connector part number.	
06			P02	SCN Changed	De pop R273,R304,R314,R674-R678,R682,R684	
07			P06	SCN Changed	Remove XDP component.Change R107-R112,R115,R116,R210-R216,RR218-R240 to NC	
08		EE	P06	SCN Changed	Change R284-R286,R302,R303,R307,R311-R313,R105,R106,R113,R114,R237 to NC	
09			P24	SCN Changed	Change R761 to Short pad	
10			P24	SCN Changed	Change R757,R759,R760,Q50,Q51 to NC	
11			P44	Design Changed	CLK damping to 22 ohm (R374) for driving validation	
12			P51	Design Changed	Change P/N and PF for PR12,PR210,PL1 and wait for CIS released.	
13		PWR	P14	Design Changed	ADD R765 100K ohm for power request	
14			P49	Delete Power switch SW1.	Delete Power switch SW1.	
15			P11	TPM only	Pop R202 and De-pop R535	
16			P37	TPM only	Delete J7PW1,C541-C543,C376	
17			P46	Change TPM SCH to MB	Add U38,C548-C556 for TPM SCH changed.	
18			P47	SCN Changed	Add R766 between U31 and Singal "CODEC_12S_MCLK"	
19		EE	P64	Design Changed	Change H20 to new f/p mhd11_c50b_paste	
20			P46	TPM only	Move TPM ID table to Page46.	
21			P51	Power Changed	Reserve IuP(PC279) at leakage A,let it will be low after +3.3V_ALW turn on.	
22			P16, P12	Wlan LED is lighting when WLAN module insert after AC-IN.	Add mosfet (Q52) and Res 100K (R767) to control LED.	
23			P17	Add 2 pin connector (CN18)	Add 2 pin connector (CN18)	
24			P16	LED Current & Brightness adjust	Change R588 & R753 to 110 ohm, R589 to 180 ohm.	
25		PWR	P16	De-rating thermal issue	Change PC41,42,43 to 6201HK00-015-G	
26			P64	Design Changed	Change H20 to new f/p pad_c50	
27			P24	Reduce noise	Change C417 and C420 to 0.0F	
28			P43	IEEE test fail.	Delete R745-R752	
29		EE	P43	Refer Intel guide rev 1.5	Add R768	
30			P12	Pin 42 of WLAN module is open drain .Add PU resistor at LED_WLAN_OUT# .	Add R767(100K ohm) and PU to "+3.3V_RUN_WLAN_PWR" for net'LED_WLAN_OUT#'	
31			P37	Modify Audio board pin define.	Modify Audio board pin define.	
32			P33	Change board ID.	Change board ID R493 to 8.2K.	
33			P33	Design Changed	Depop R456,R480,R462,U27	
34			P52-P40	Cost down	Change 0 ohm to short pad for power portion P52-P40.	
35		PWR	P56	Acoustic test result.	Change PC188,PC189 to 68uF(62110VQ00-024-G)	
36			P56	De-rating thermal issue	Change PC41,42,43 to 62010EL00-015-G	
37			P37	P/N Changed	Change Jaudiol to GHSRF201-1203-8H and CN18 to HN14021-0000-7H	
38		EE	P11	Design Changed	Change R246 to 1K. modify GPIO37 table.	
39			P33	P/N Changed	Change MEC5055 mfg PW to MEC5055-LZY-KRU000.	
40		PWR	P51	P/N Changed	Add PL1 Foxconn PW.	
41			P51	P/N Changed	Change PL1 part number to 1164AY-R-4R7N-P3 and keep footprint.	
42			P46	Add pull down resistor R770 at TPM_B_DET#. Modified TPM selection table.	Add pull down resistor R770 at TPM_B_DET#. Modified TPM selection table.	
43			P33	Add MEC5055 Foxconn part number which the same in ST stage.	Add MEC5055 Foxconn part number which the same in ST stage.	
44			P07-P13	P/N Changed	Update PCR P/N to 21011K000-187-G	
45			P64	Add H27,H28	Add H27,H28	
46		EE	P36	LED Current & Brightness adjust	Change LED RES R753,R588 to 390 ohm and R589 to 620 ohm	
47			P07-P13	P/N Changed	Update PCR P/N to 21011K000-187-G	
48			P04	P/N Changed	Change C249 part number to 622203J00-022-G because part number is error.	
49			P30,P37	RNI Request	Reserve R771,C557 for "CLK_DEBU0" and R772,C558 for "CLK_PCI_02"	
50			P11	Intel feedback	Pop R196 for Intel ME setting.	
51			P07	HDMI Hot plug detect issue	Add C559 (620101600-011-G) to fix	
52			P56	Solve overaboot issue	Change PC69 and PC196 to 620103C00-026-G	
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						

POWER STATES

State \ Signal	SLP S3#	SLP S4#	SLP S5#	S4 STATE#	SLP M#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) / M1	LOW	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M1	LOW	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M1	LOW	LOW	HIGH	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

PM TABLE

	+15V_ALW +3.3V_RTC_LDO +5V_ALW +3.3V_ALW_PCH	+3.3V_SUS +1.5V_ME M	+5V_RUN +1.5V_RUN +1.8V_RUN +3.3V_RUN +0.75V_DDR_VT +VCC_CORE +1.05V_RUN_VT	+3.3V_M +1.05V_M	+3.3V_M +1.05V_M (M-OFF)
S0	ON	ON	ON	ON	ON
S3	ON	ON	OFF	ON	OFF
S5 S4/AC	ON	OFF	OFF	ON	OFF
S5 S4/AC don't exist	OFF	OFF	OFF	OFF	OFF

	USB PORT#	DESTINATION
PCH	0	JUSB1 (Ext Right Side Top)
	1	JUSB1 (Ext Right Side Bottom)
	2	JESA1 (Ext Left Side Top)
	3	JESA1 (Ext Left Side Bottom)
	4	WLAN/WIMAX
	5	MUX: Intel port to WWAN or Blacktop port to WWAN
	6	Bluetooth
	7	USH2-Host port
	8	DOCKING
	9	DOCKING
	10	Express card
	11	Camera1/Camera2
	12	
	13	Mini CARD3

	USB PORT#	DESTINATION
USH	0	BIO
	1	None

SATA	DESTINATION		DIFFERENTIAL	DESTINATION	PCI EXPRESS	DESTINATION
SATA0	HDD	CLK	CLKOUT_PCIE0	MINI CARD-1 WWAN	Lane1	MINI CARD-1 WWAN
SATA1	ODD		CLKOUT_PCIE1	10/100/1G LAN	Lane2	MINI CARD-2 WLAN
SATA2	MINI CARD		CLKOUT_PCIE2	PCMCIA	Lane3	CARD READER
SATA3	None		CLKOUT_PCIE3	MiniWPAN (Mini Card 3)	Lane4	EXPRESS CARD
SATA4	ESATA		CLKOUT_PCIE4	EXPRESS CARD	Lane5	MINI CARD-3 PCIE
SATA5	DOCK		CLKOUT_PCIE5	MINI CARD-2 WLAN	Lane6	USB3.0
			CLKOUT_PCIE6	None	Lane7	
			CLKOUT_PCIE7	USB3.0	Lane8	PCMCIA
			CLKOUT_PEG8	CARD READER		
			CLKOUTFLEX0	SIO_14M		
			CLKOUTFLEX1	PCI_TCM		
			CLKOUTFLEX2	PCI_TPM		
			CLKOUTFLEX3	JETWAY_14M		