

Compal Confidential

Huayra UMA (QCL51) Schematics Document

AMD Comal Platform

AMD Trinity APU / Hudson FCH / ATI Thames XT M2

Muxless/UMA / PX 5.0

TEKNISI INDONESIA

2012-01-04

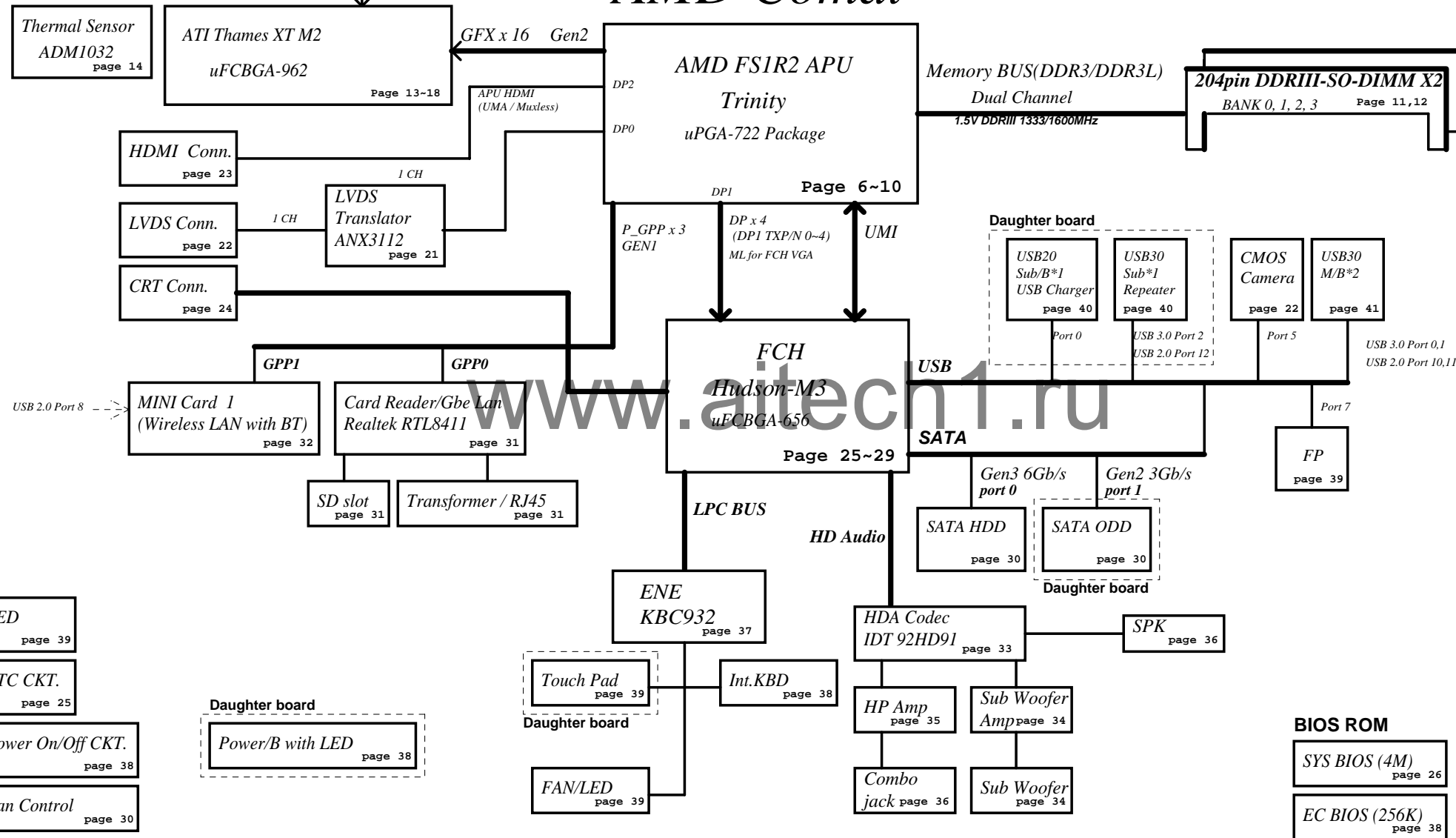
LA-8714P REV: 0.3

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	Document Number	Rev
				8	40191F	A
				Date:	Tuesday, January 10, 2012	Sheet 1 of 54

Model Name : QCL51 AMD
Board Name : LA-8712P

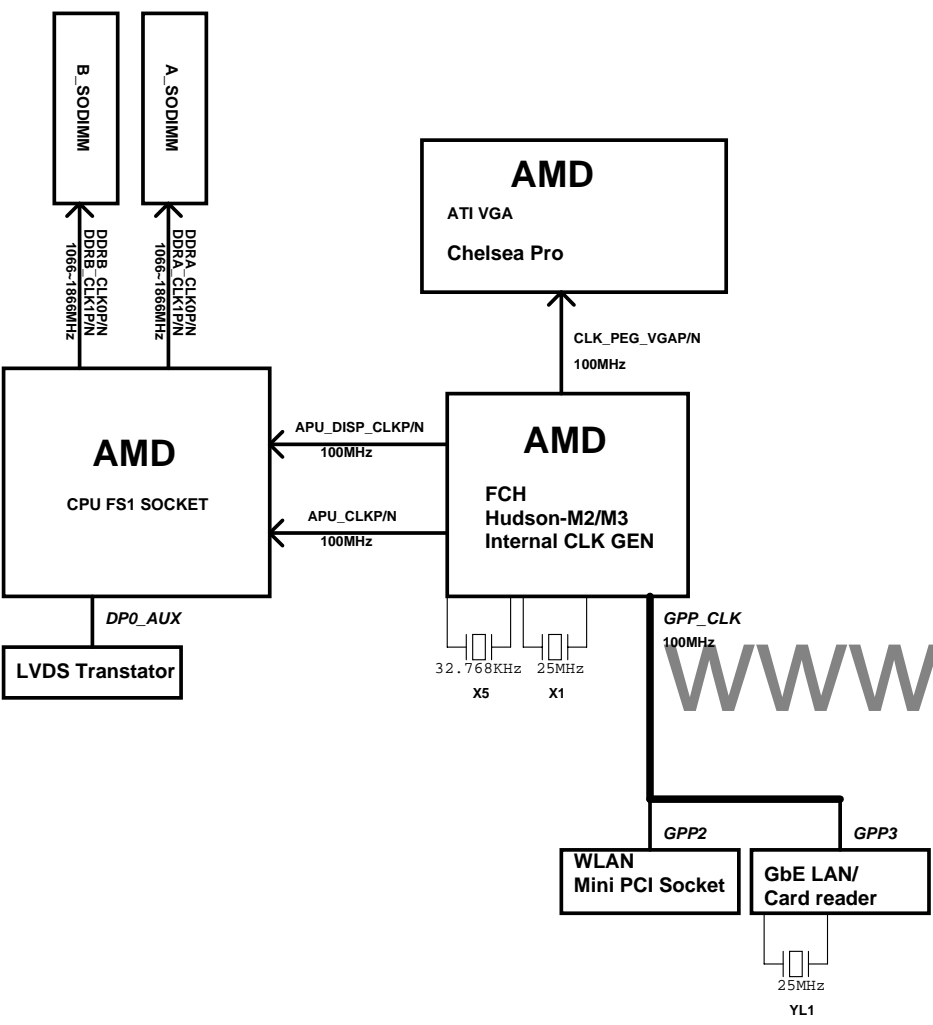
64M x16
128M x 16
VRAM DDR3

DDR3

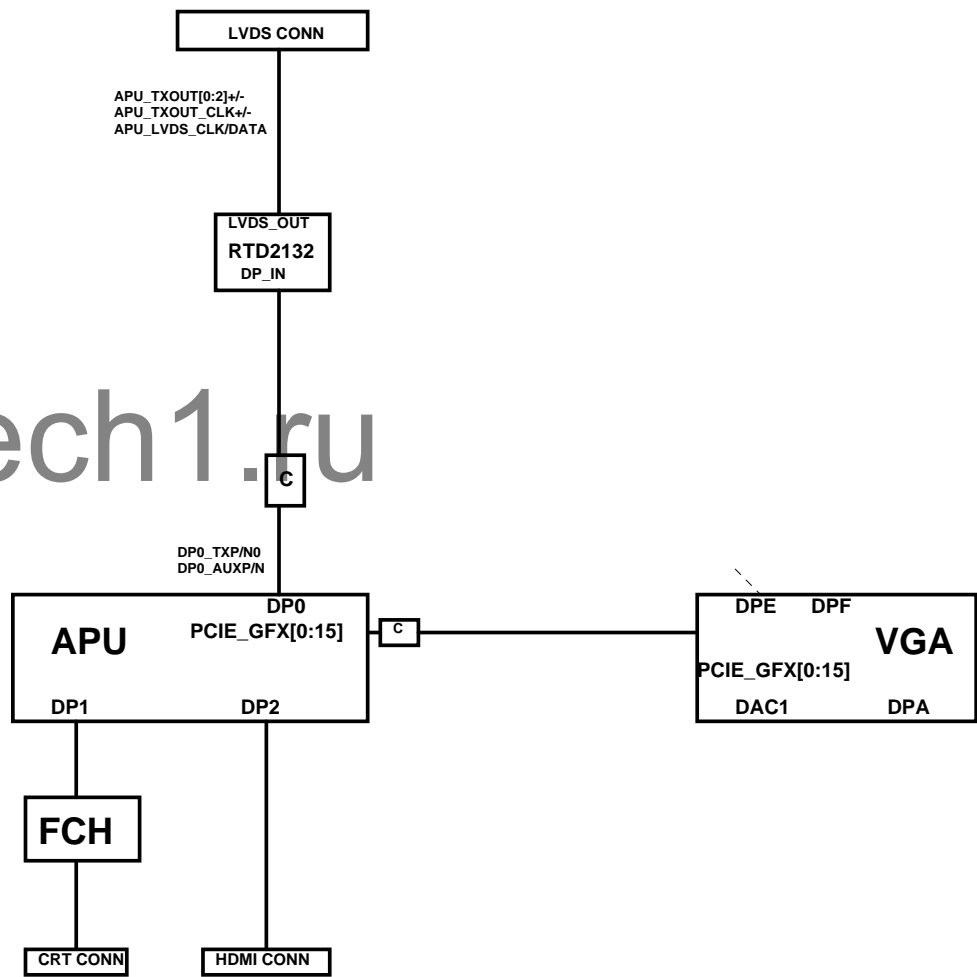


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Page	Rev
				B	A
				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	2 of 54

CLOCK DISTRIBUTION



DISPLAY OUTPUT



Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+APU_CORE	Core voltage for CPU	ON	OFF	OFF
+APU_CORE_NB	Voltage for On-die VGA of APU	ON	OFF	OFF
+VGA_CORE	0.95-1.2V switched power rail	ON	OFF	OFF
+VDDCI	0.95-1.2V switched power rail	ON	OFF	OFF
+0.75VS	0.75V switched power rail for DDR terminator	ON	ON	OFF
+0.935VGS	0.935V switched power rail for VGA	ON	OFF	OFF
+1.1ALW	1.1V switched power rail for FCH	ON	ON	ON*
+1.1VS	1.1V switched power rail for FCH	ON	OFF	OFF
+1.2VS	1.2V switched power rail for APU	ON	OFF	OFF
+1.5V	1.5V power rail for CPU VDDIO and DDR	ON	ON	OFF
+1.5V_PCIE	1.5V switched power rail	ON	OFF	OFF
+1.8VGS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V for CPU_VDDA	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+LAN_VDD_3V3	3.3V power rail for LAN	ON	ON	ON
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+VSB	VSB always on power rail	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

STATE	SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON		HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1(Power On Suspend)		LOW	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)		LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)		LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)		LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rb	100K +/- 5%			
Board ID	Ra / Rb	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V



PCB
Part Number = DA80000SH00
PCB 00H LA-8712P REV0 M/B



PCB
Part Number = DA60000T500
PCB 00H LA-8712P REV0 M/B

BOARD ID Table

Board ID	PCB Revision
0	DB
1	SI

BOM Option Table

BOM Structure	Description	DIS	PX@ DIS@ Tha@
PX@	PX function	UMA	UMA@
DIS@			
UMA@			
Tha@			

BOM Config

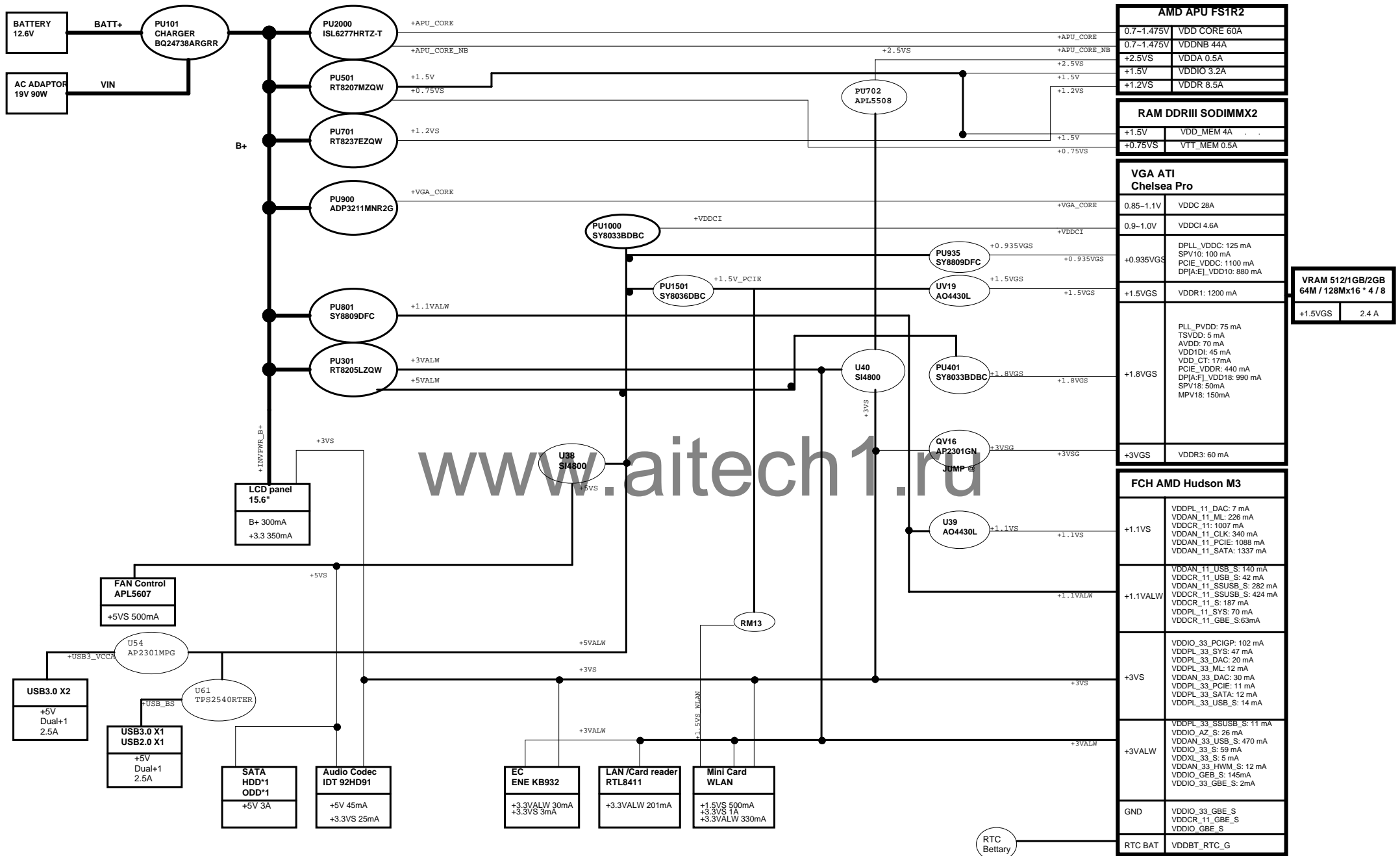
x = 1 is read cmd, x= 0 is write cmd.

Device	IDSEL#	REQ#/GNT#	Interrupts

EC SM Bus1 address			EC SM Bus2 address		
Device	Address	HEX	Device	Address	HEX
Smart Battery	0001 011X b	16H	ADI ADM1032 (GPU)	1001 101X b	9AH
			SB-TSI (APU)	1001 100X b	98H
			LVDS TR	1010 100X b	A8H
			VGA Internal Thermal	1000 001X b	82H

FCH (S0) SM Bus 0 address			FCH (S0~S5) SM Bus 1 address		
Device	Address	HEX	Device	Address	HEX
DDR DIMM1	1010 000X b	A0	Touch pad		
DDR DIMM2	1010 001X b	A2			
Amplifier					

Security Classification	Compal Secret Data	Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Title	SCHEMATICS, MB A8714
		Document Number	40191F
		Date:	Tuesday, January 10, 2012
		Sheet	4 of 54



GPU

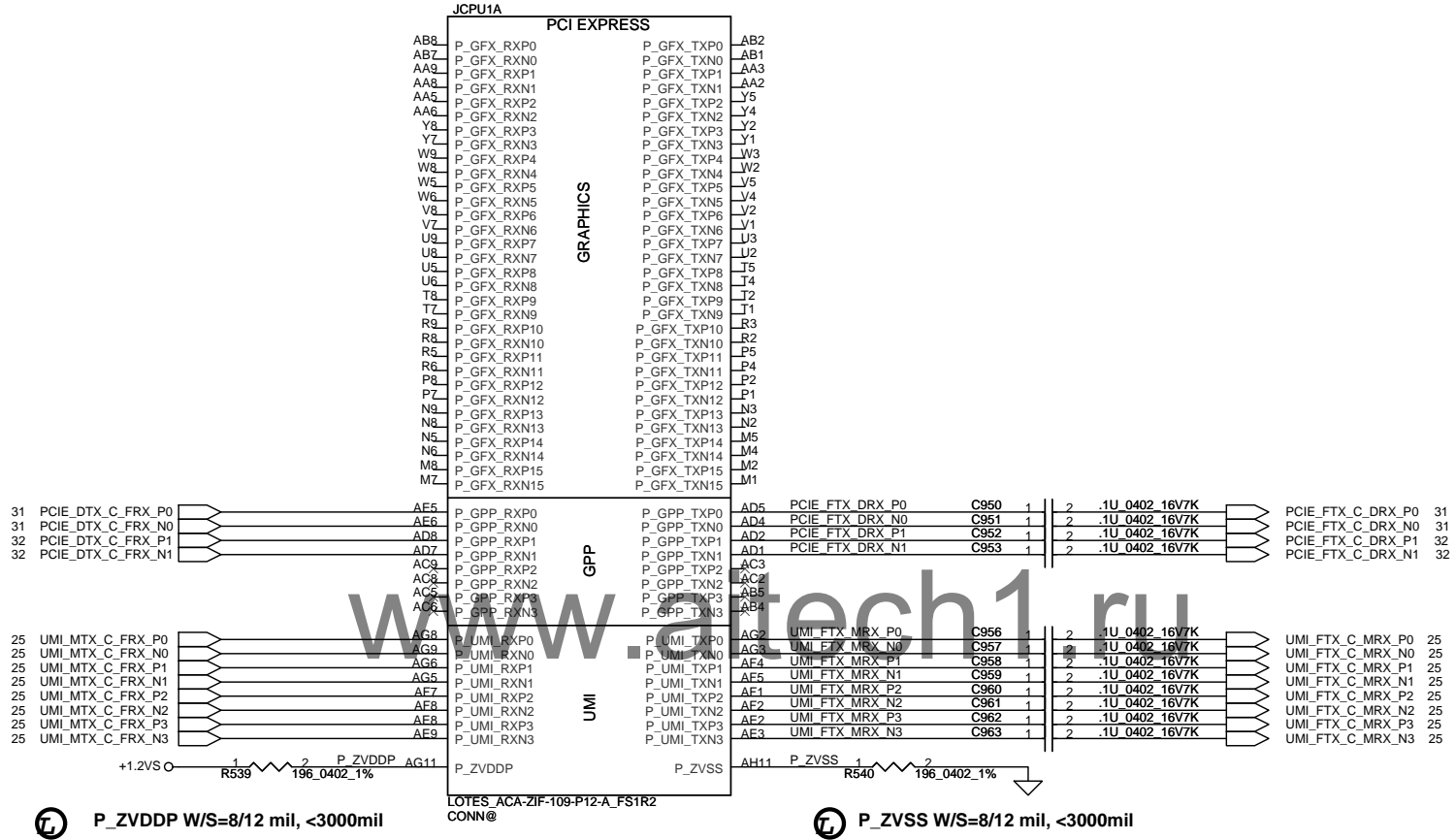
GLAN/Card reader
WLAN

UMI

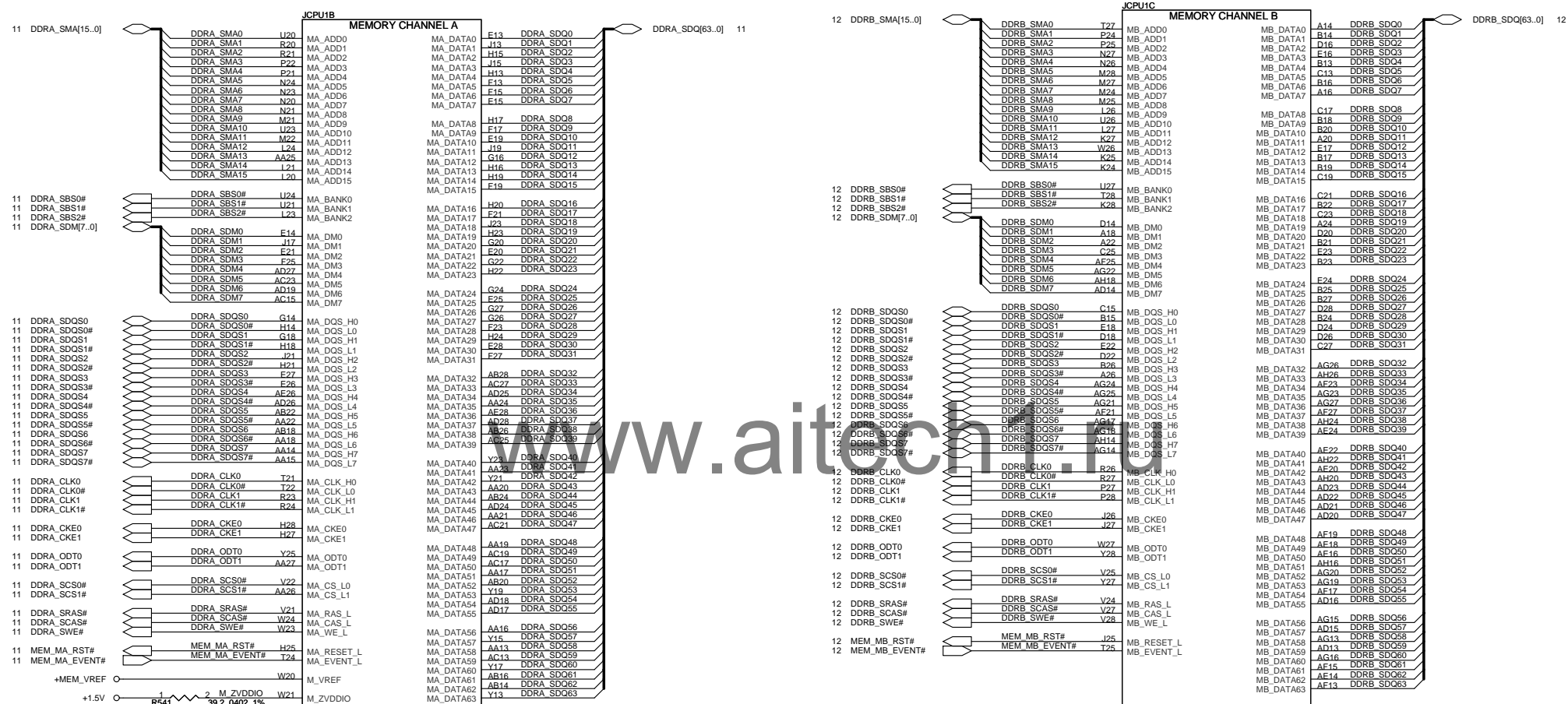
GPU

GLAN/Card reader
WLAN

UMI

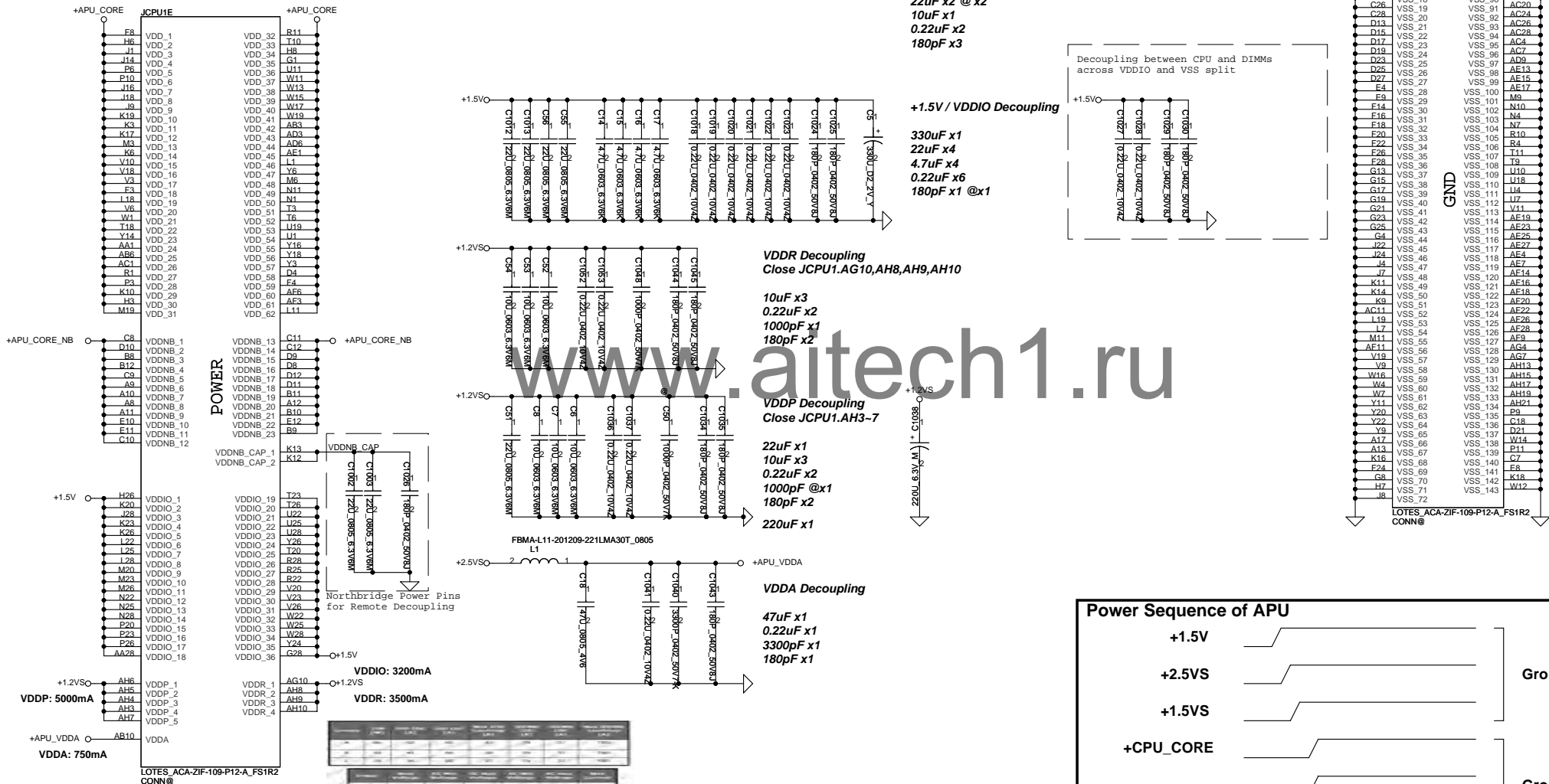


Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2011/07/08		Deciphered Date		2015/07/08		Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								SCHEMATICS, MB A8714			
								Document Number		Rev	
								4019IF		A	
								Date:		Tuesday, January 10, 2012	
								Sheet 6 of 54			



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	A
				Document Number	40191F
				Date	Tuesday, January 10, 2012
				Sheet	7 of 54

Power Name	Consumption
VDD +CPU_CORE	60A
VDDNB +CPU_CORE_NB	37A
VDDIO	3.2A
VDDP / VDDR	5A / 3.5A
VDDA	
+2.5VS	0.75A



Decoupling Caps.

Pop / @	330uF	220uF	47uF	22uF	10uF	4.7uF	0.22uF	0.01uF	3300pF	1nF	180pF
Pumori 2.0			0	19/11	7	5	17	3	1	1 / 1	13/3
Comal	7 / 2	1	1	19/11	7	4	17	3	1	1 / 1	14/2
P5WS5	7 / 2	1	1	13	3	8	19	3	1	4	16

Security Classification

Compal Secret Data

Issued Date

2011/07/08

Deciphered Date

2015/07/08

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Title

Schematics, MB A8714

Document Number

40191F

Rev

A

Date:

Tuesday, January 10, 2012

Sheet

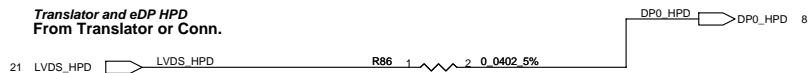
9

of

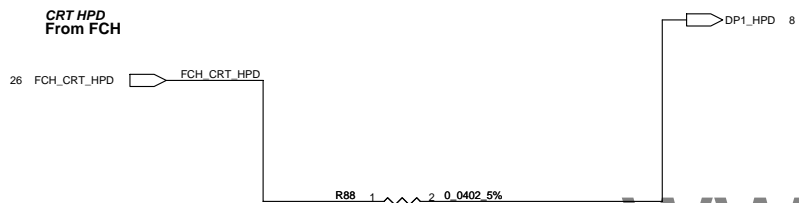
54

HPD

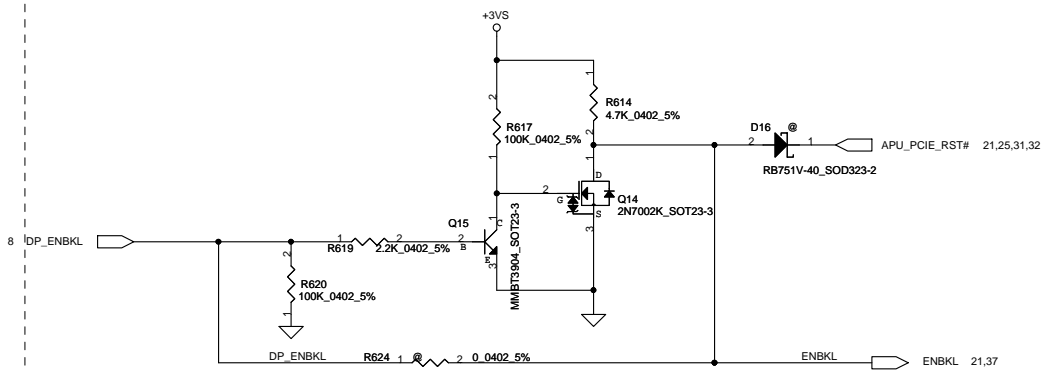
Translator and eDP HPD
From Translator or Conn.



CRT HPD
From FCH

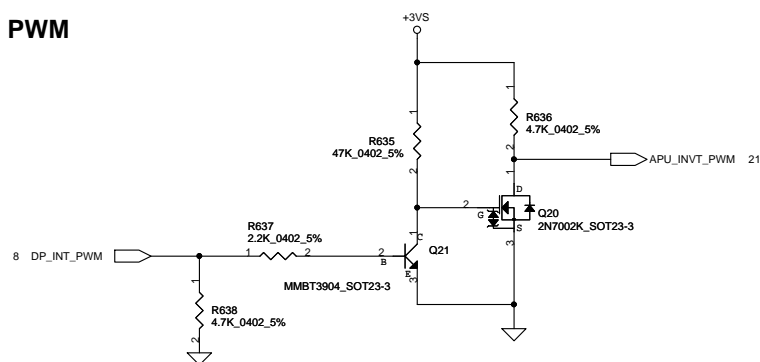


Panel ENBKL

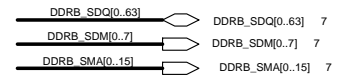
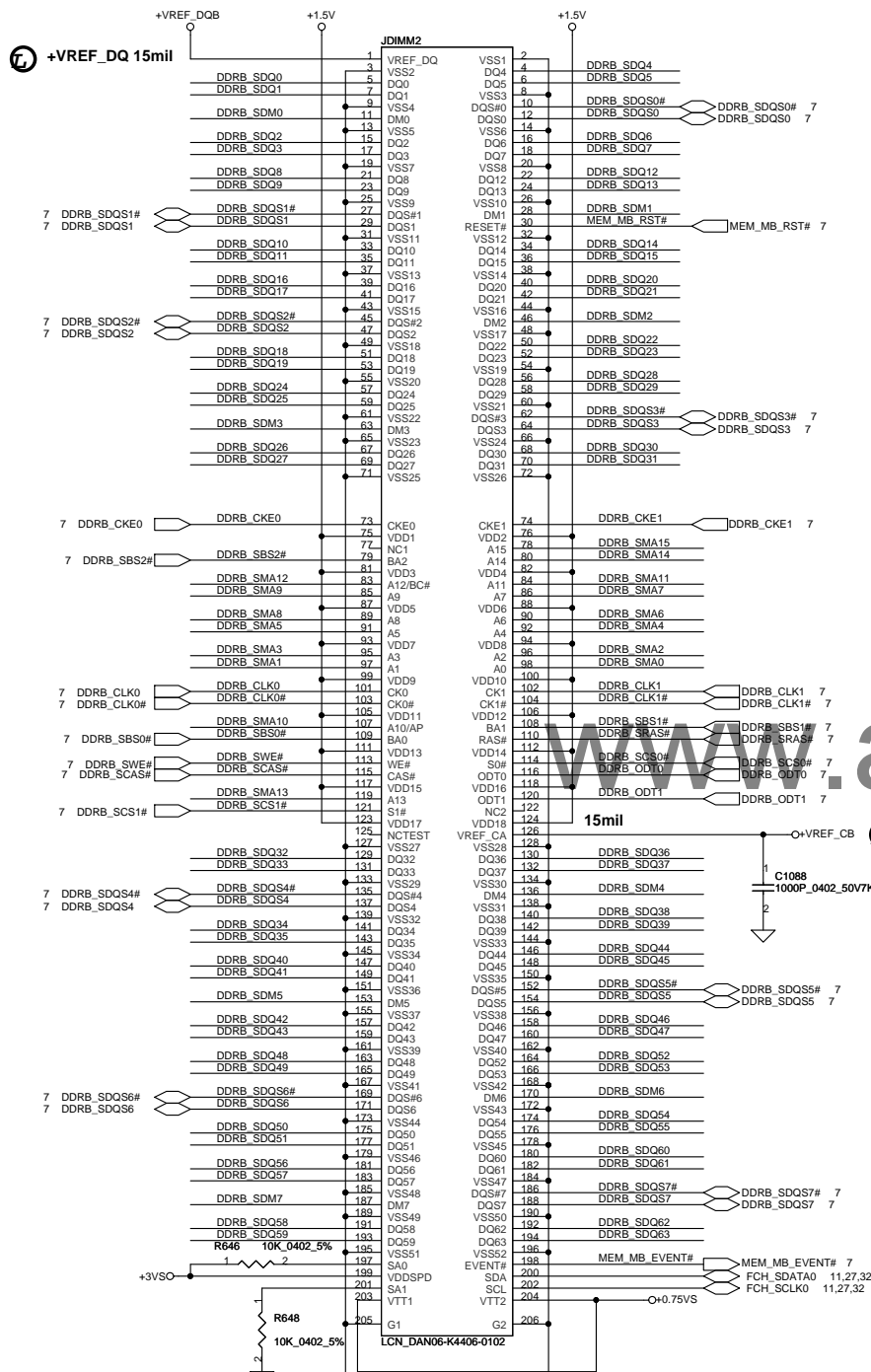


eDP Panel ENVDD

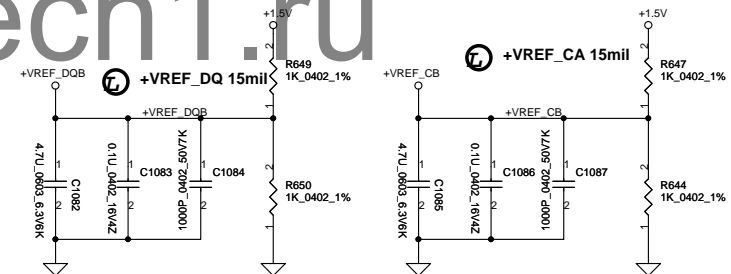
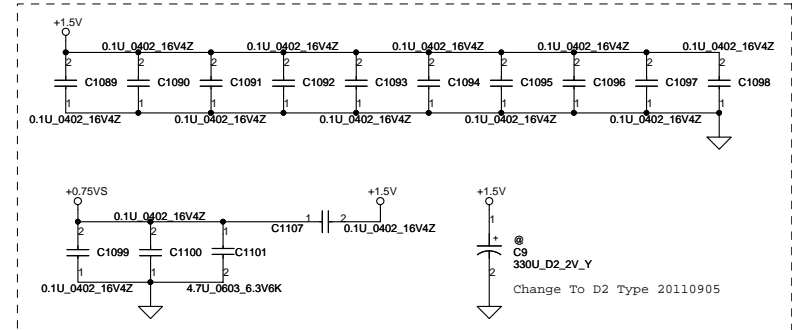
Panel PWM



Security Classification		Compal Secret Data					
Issued Date		2011/07/08		Deciphered Date		2015/07/08	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						Title	
						SCHEMATICS, MB A8714	
						Document Number	
						4019IF	
						Customer	Rev A
						Date: Tuesday, January 10, 2012	Sheet 10 of 54



Place near DIMM2



DIMM_B REV H:8mm

<Address: 01>

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev A	4019IF
				Date:	Tuesday, January 10, 2012
				Sheet	12 of 54

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size C	Document Number 40191F	Rev A
				Date: Tuesday, January 10, 2012	Sheet 13 of 54	

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				C	4019IF	A
				Date:	Tuesday, January 10, 2012	Sheet 14 of 54

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				C	4019IF	A
				Date:	Tuesday, January 10, 2012	Sheet 15 of 54

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size C	Document Number 4019IF	Rev A
				Date: Tuesday, January 10, 2012	Sheet 16 of 54	

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				C	4019IF	A
				Date:	Tuesday, January 10, 2012	Sheet 17 of 54

www.aitech1.ru

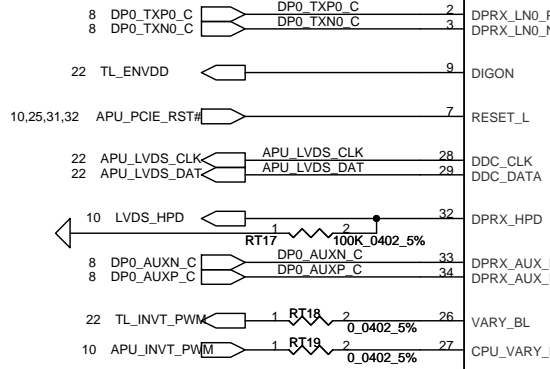
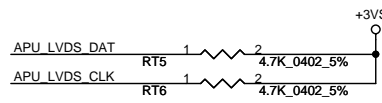
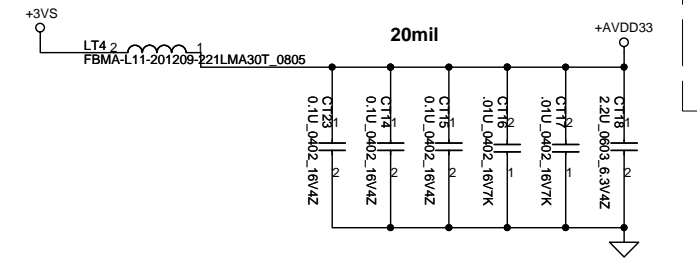
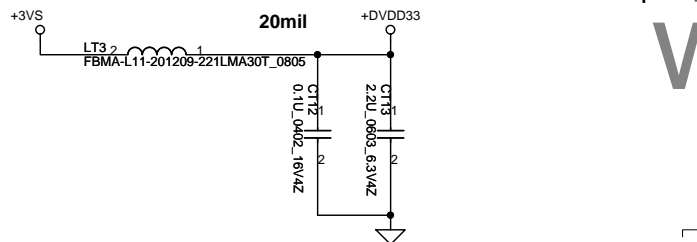
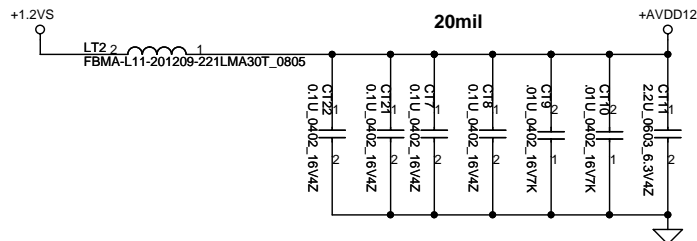
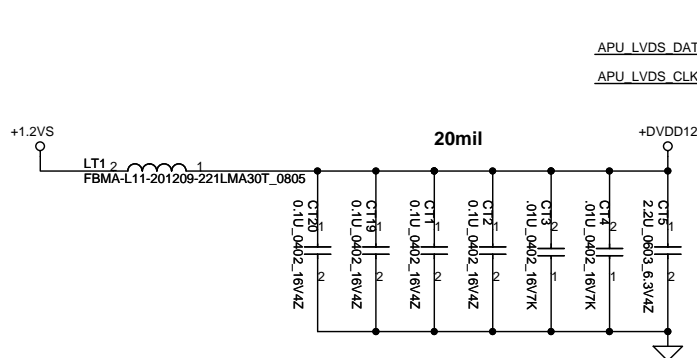
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size C	Document Number 40191F	Rev A
				Date: Tuesday, January 10, 2012	Sheet 18 of 54	

www.aitech1.ru

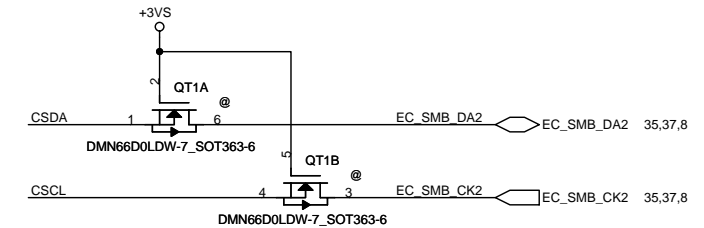
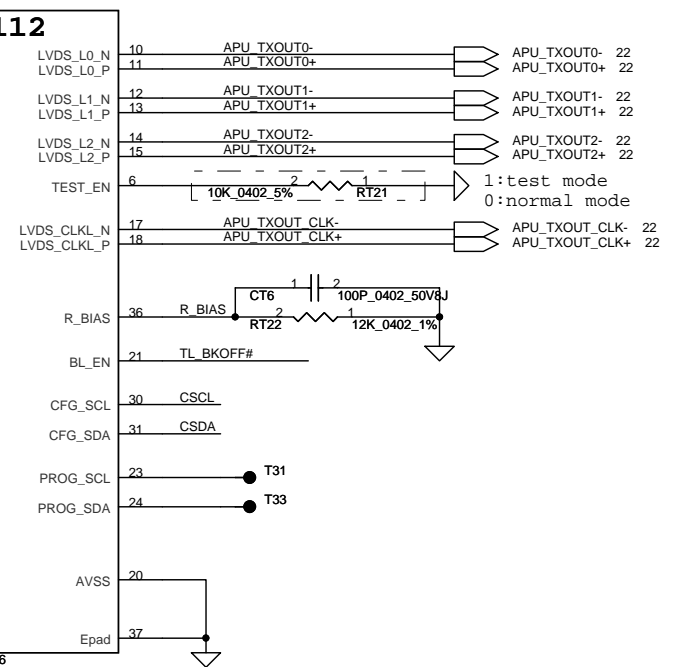
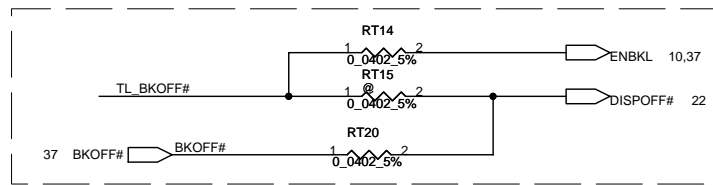
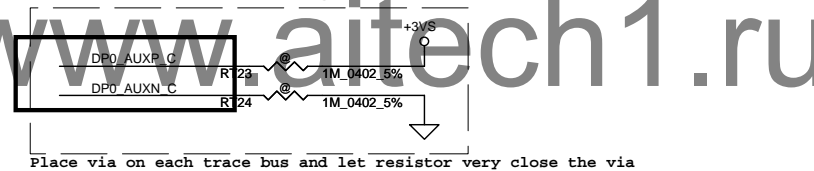
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2011/06/30		2013/06/30			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				C	4019IF
				Date:	Rev
				Tuesday, January 10, 2012	A
				Sheet	19 of 54

www.aitech1.ru

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/30	Deciphered Date	2013/06/30	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RAD DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size C	Document Number 4019IF	Rev A
				Date: Tuesday, January 10, 2012	Sheet 20 of 54	1

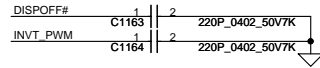
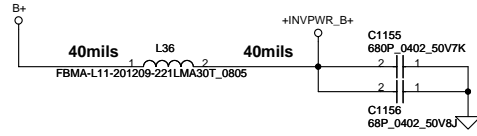
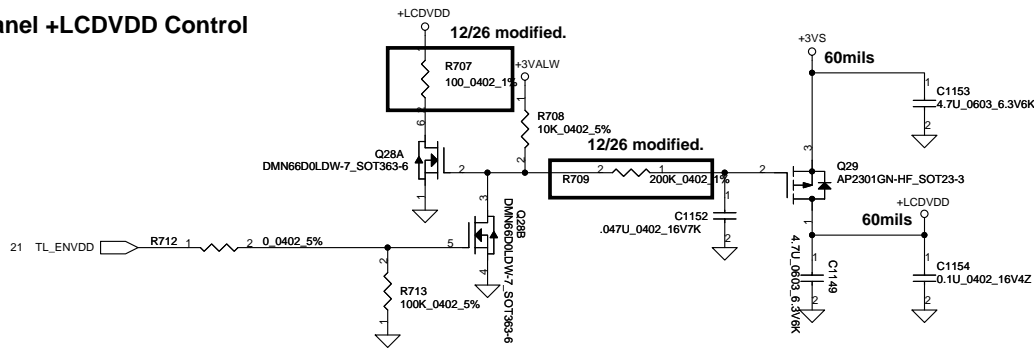


12/01 Swap DP0_AUXP_C/DP0_AUXN_C for vender guideline

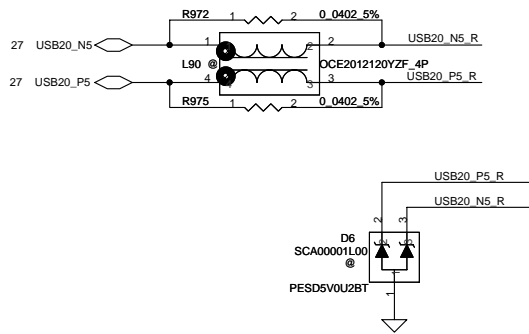
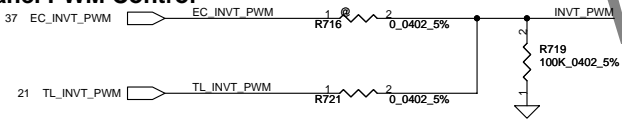


Security Classification		Compal Secret Data		Title	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev A
				40191F	
				Date: Tuesday, January 10, 2012	Sheet 21 of 54

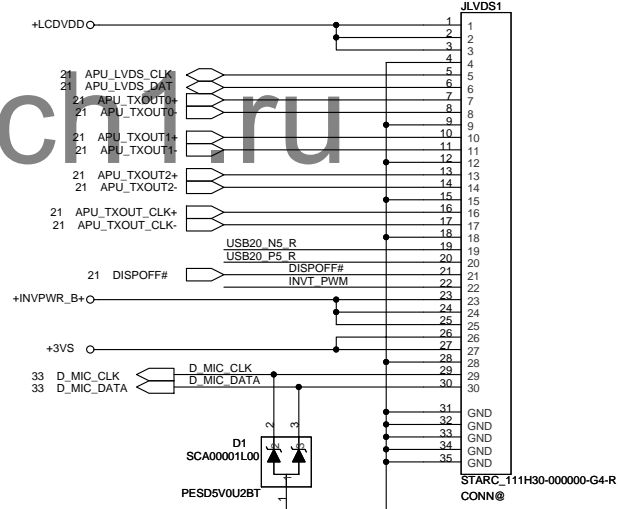
Panel +LCDVDD Control



Panel PWM Control

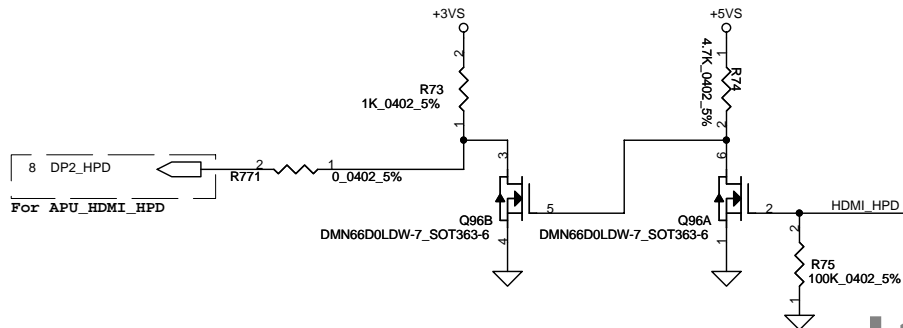
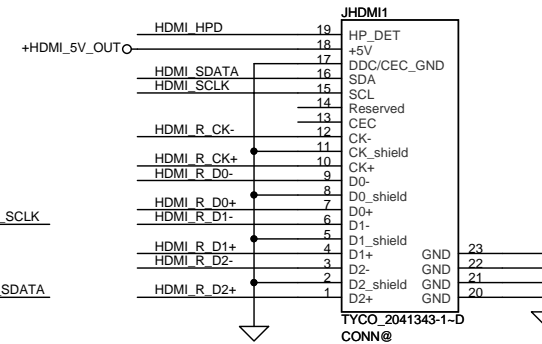
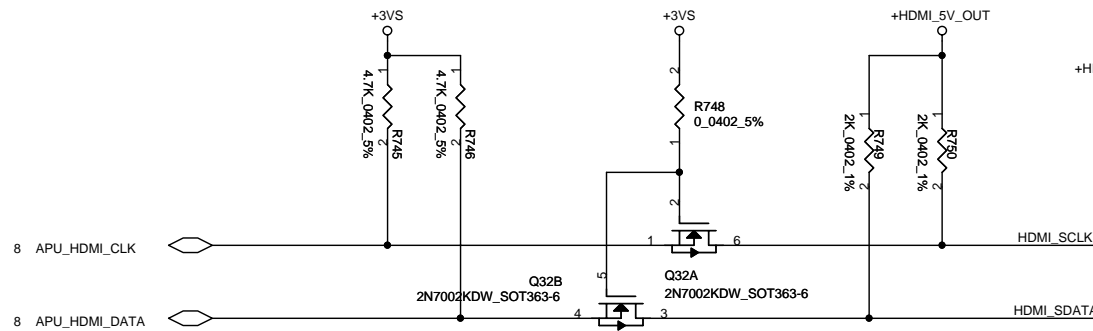


LVDS Connector

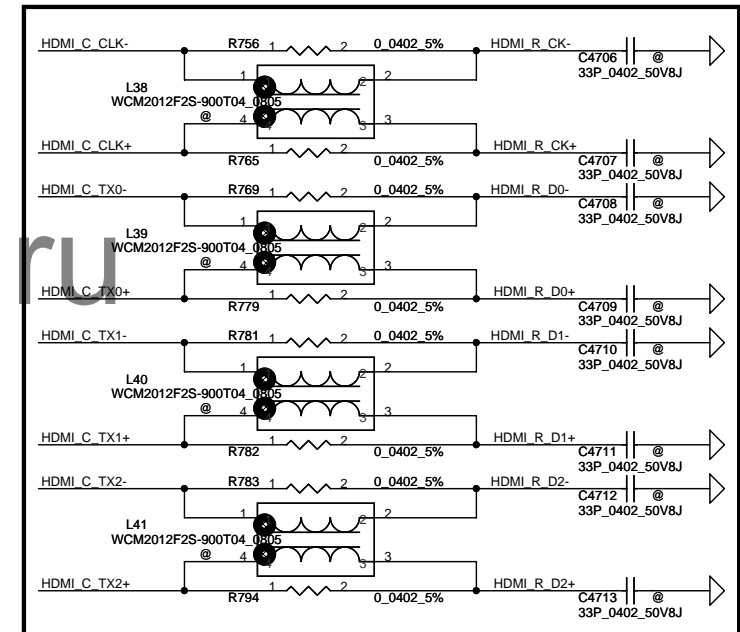


no updated.
11/10 follow QCL50

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	22 of 54

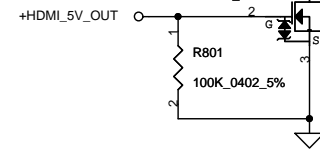


12/7 Swap signals for routing smoothly

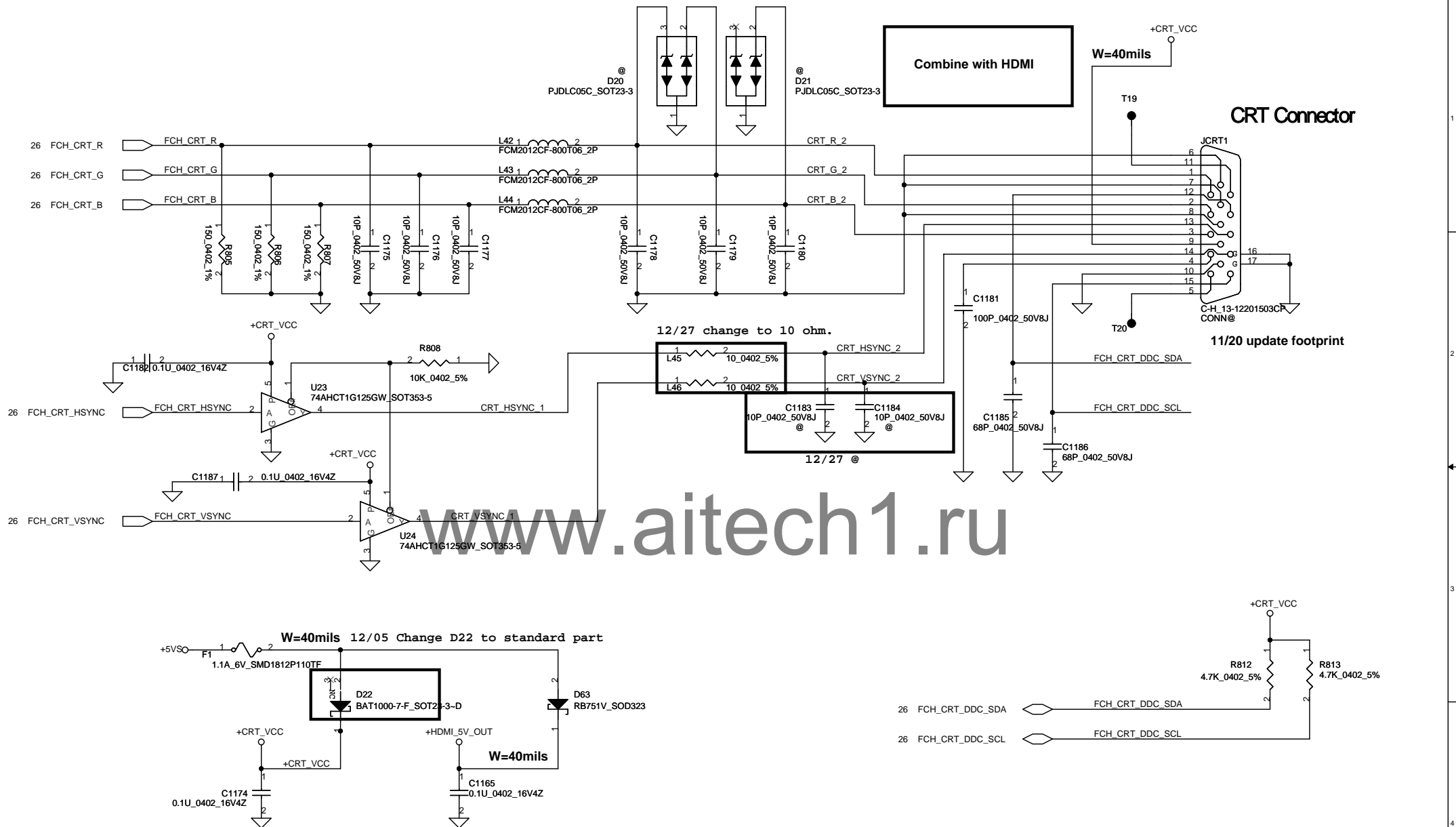


Close to HDMI conn

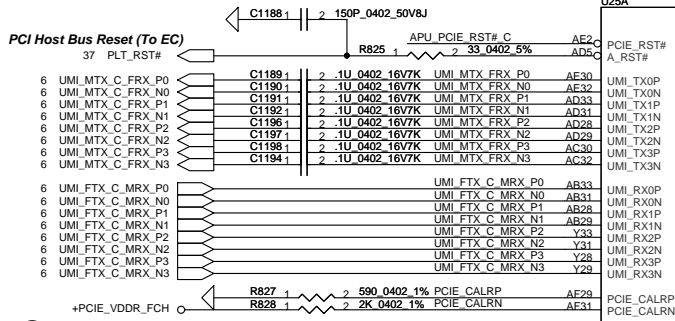
8 APU_HDMI_TXD2-	C1166	1 .1U 0402 16V7K	HDMI C TX2-	R784	1 604 0402 1%
8 APU_HDMI_TXD2+	C1167	1 .1U 0402 16V7K	HDMI C TX2+	R786	1 604 0402 1%
8 APU_HDMI_TXD1-	C1168	1 .1U 0402 16V7K	HDMI C TX1-	R788	1 604 0402 1%
8 APU_HDMI_TXD1+	C1169	1 .1U 0402 16V7K	HDMI C TX1+	R790	1 604 0402 1%
8 APU_HDMI_TXD0-	C1170	1 .1U 0402 16V7K	HDMI C TX0-	R792	1 604 0402 1%
8 APU_HDMI_TXD0+	C1171	1 .1U 0402 16V7K	HDMI C TX0+	R795	1 604 0402 1%
8 APU_HDMI_TXC-	C1172	1 .1U 0402 16V7K	HDMI C CLK-	R797	1 604 0402 1%
8 APU_HDMI_TXC+	C1173	1 .1U 0402 16V7K	HDMI C CLK+	R799	1 604 0402 1%



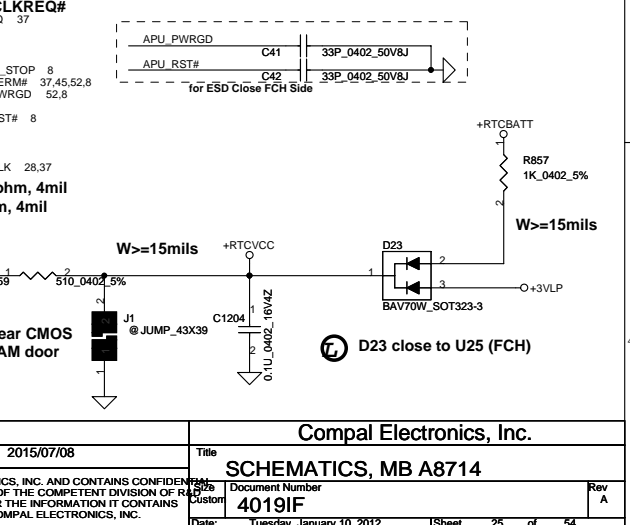
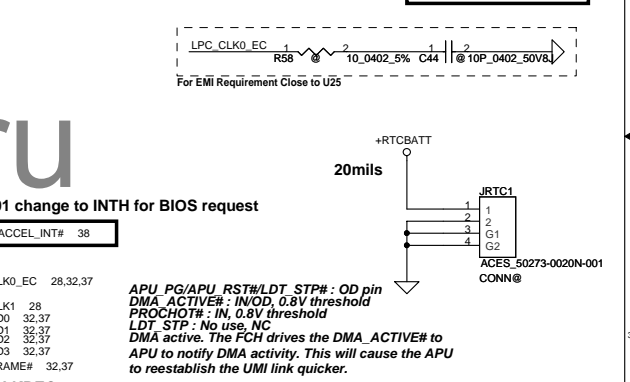
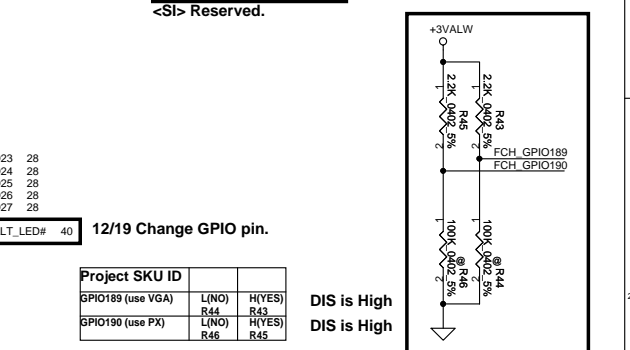
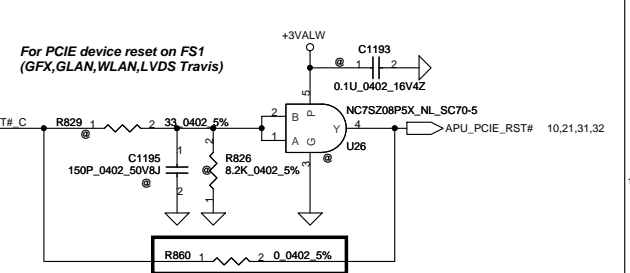
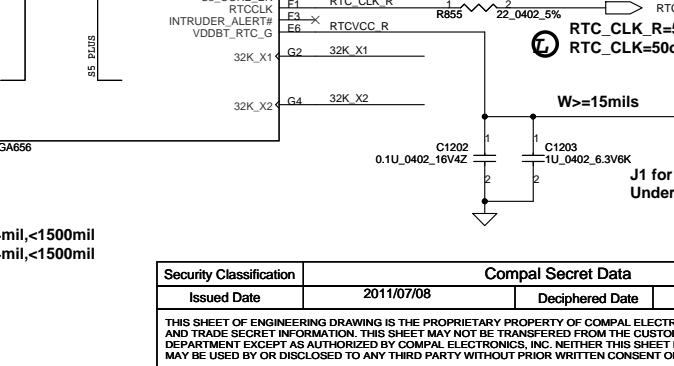
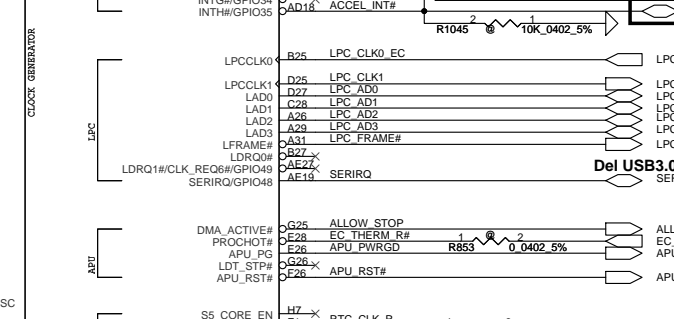
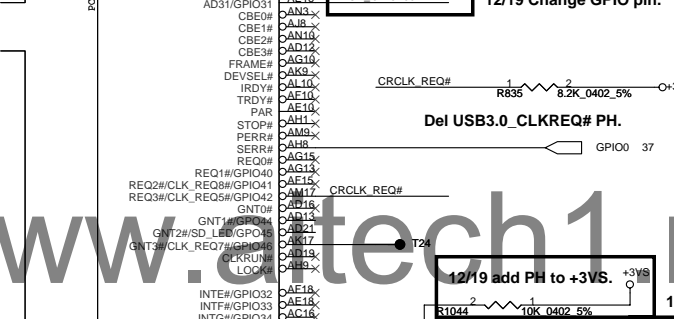
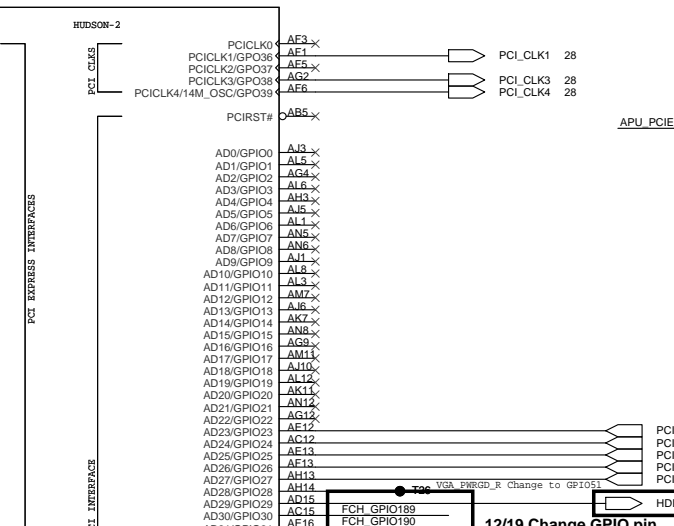
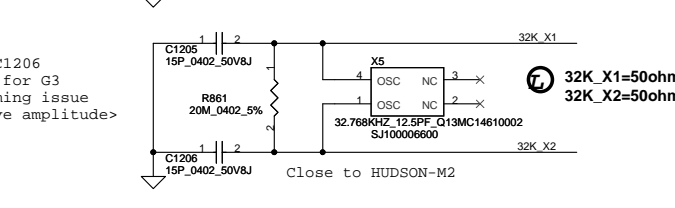
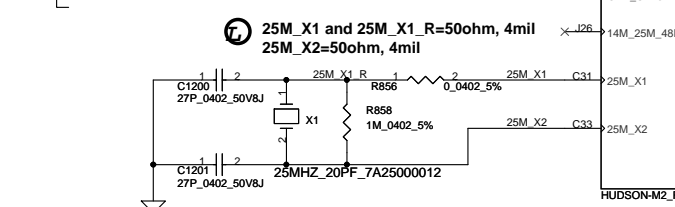
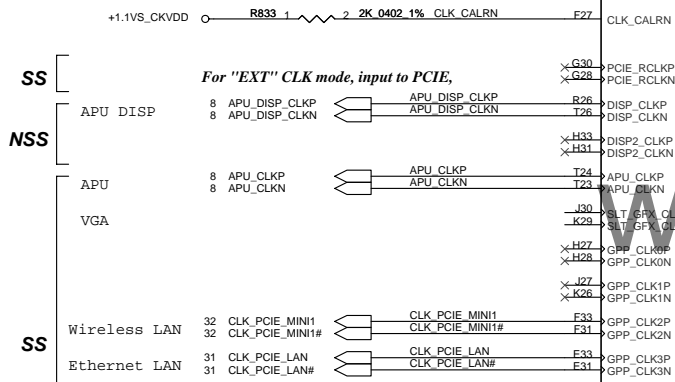
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	4019IF
				Date:	Tuesday, January 10, 2012
				Sheet	23 of 54



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	4019IF
				Date:	Tuesday, January 10, 2012
				Sheet	24 of 54



PCI CALRP R=50ohm, 4mil,<1000mil
PCI CALRN R=50ohm, 4mil,<1000mil



C1205, C1206
Change for G3
RTC timing issue
<improve amplitude>

Close to HUDSON-M2

32K_X1=50ohm, 4mil,<1500mil
32K_X2=50ohm, 4mil,<1500mil

Close to HUDSON-M2

Project SKU ID	L(N)O	H(Y)ES
GPIO189 (use VGA)	R44	R43
GPIO190 (use PX)	L(N)O	H(Y)ES
	R46	R45

DIS is High
DIS is High

For EMI Requirement Close to U25

12/19 add PH to +3VS.

12/01 change to INTH for BIOS request

APU PG/APU_RST#/LDT_STP#: OD pin
DMA_ACTIVE#: IN/OD, 0.8V threshold
PROCHOT#: IN, 0.8V threshold
LDT_STP: No use, NC
DMA active. The FCH drives the DMA_ACTIVE# to APU to notify DMA activity. This will cause the APU to reestablish the UMI link quicker.

for ESD Close FCH Side

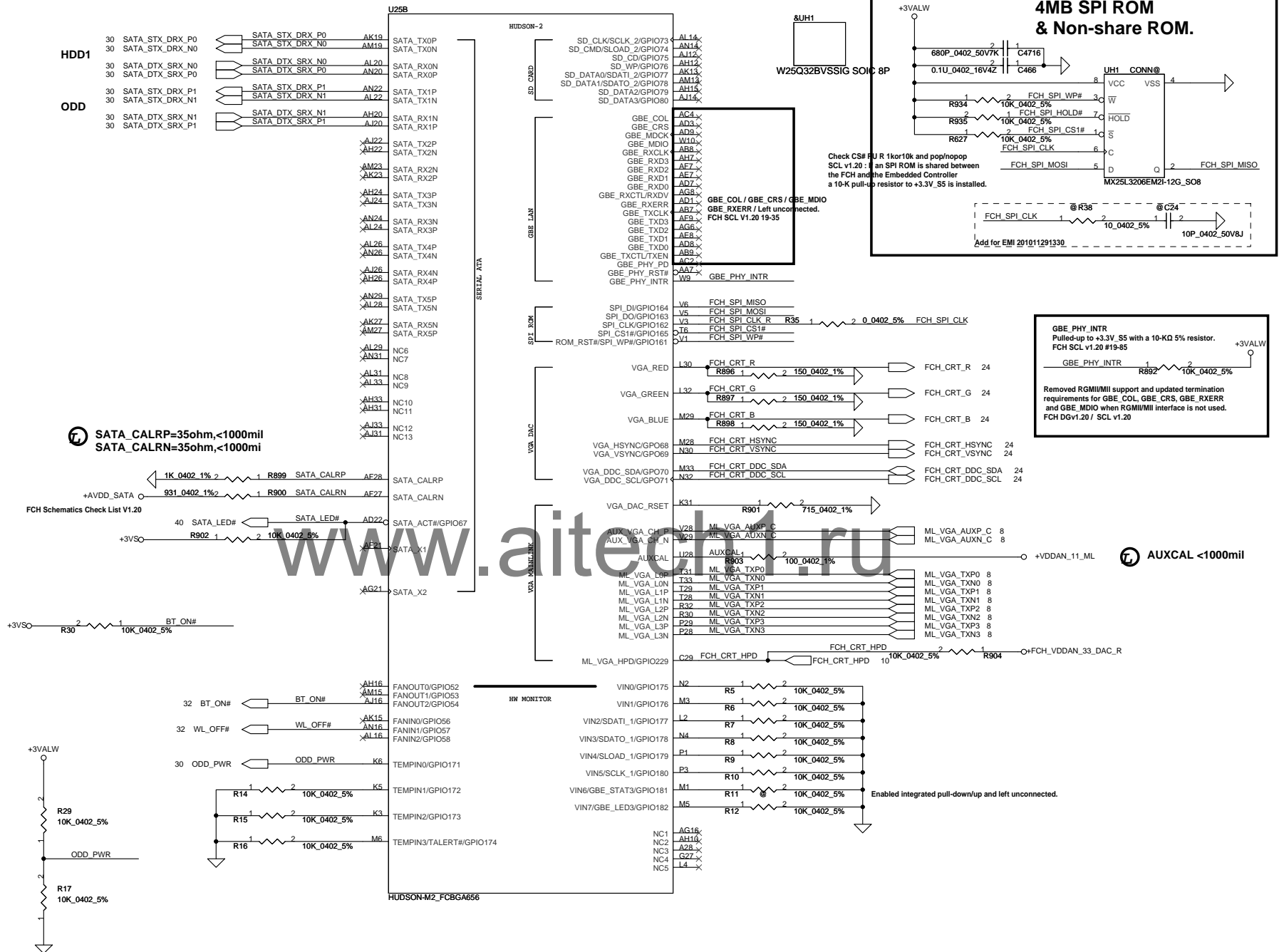
W>=15mils

W>=15mils

W>=15mils

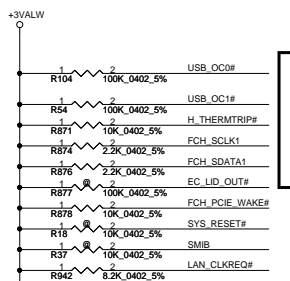
J1 for Clear CMOS Under RAM door

D23 close to U25 (FCH)



ThermTrip:
Need level shift from +3VALW to +1.5V
Note: Ensure FCH internal pull-up resistor
to +3.3V S5 is disabled to prevent leakage
when APU is powered down.

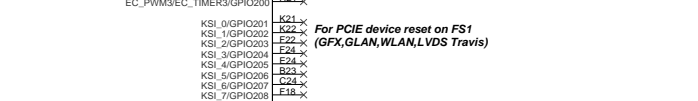
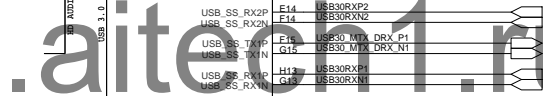
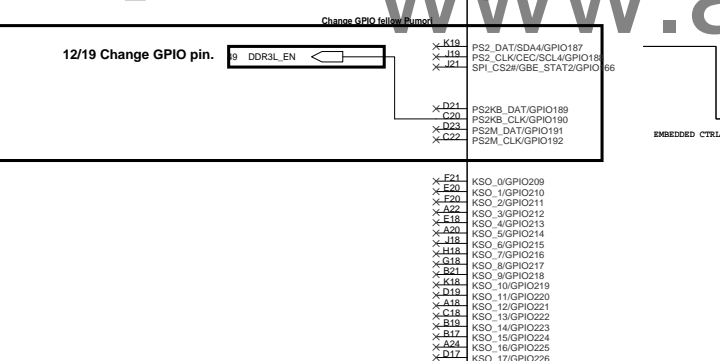
FCH GEVENT (S5 domain)
with isolation circuit to avoid leakage



1 2 TEST0
R887 2.2K_0402_5%

1 2 TEST1
R889 2.2K_0402_5%

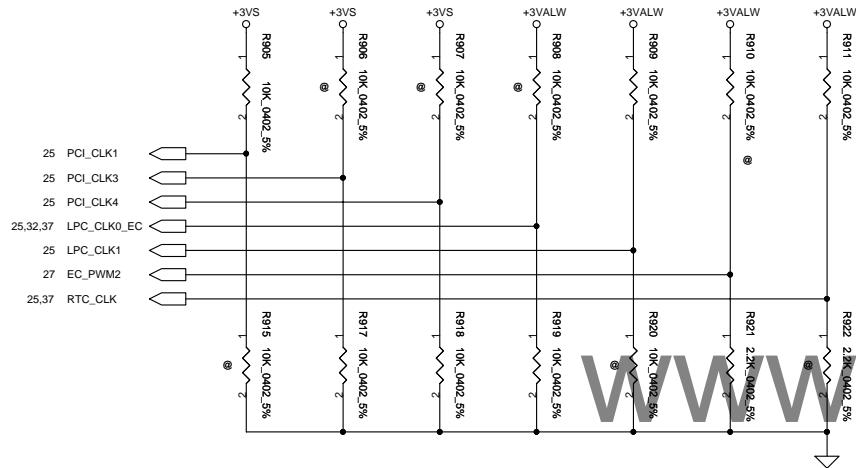
1 2 TEST2
R890 2.2K_0402_5%



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION WITHOUT THE AUTHORIZATION OF THE COMPETENT DIVISION. IT IS REQUESTED THAT YOU DO NOT DISCLOSE OR CONTAIN ANY INFORMATION AUTHORIZED BY COMPAL ELECTRONICS, INC. HEREIN TO ANY OTHER PERSON OR ENTITY. ANY INFORMATION CONTAINED HEREIN MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Schematics, MB A8714	
Size	Document Number			Rev	A
	4019IF				
Created		Issued		Rev	
10/2013		10/2013		10/2013	

STRAP PINS

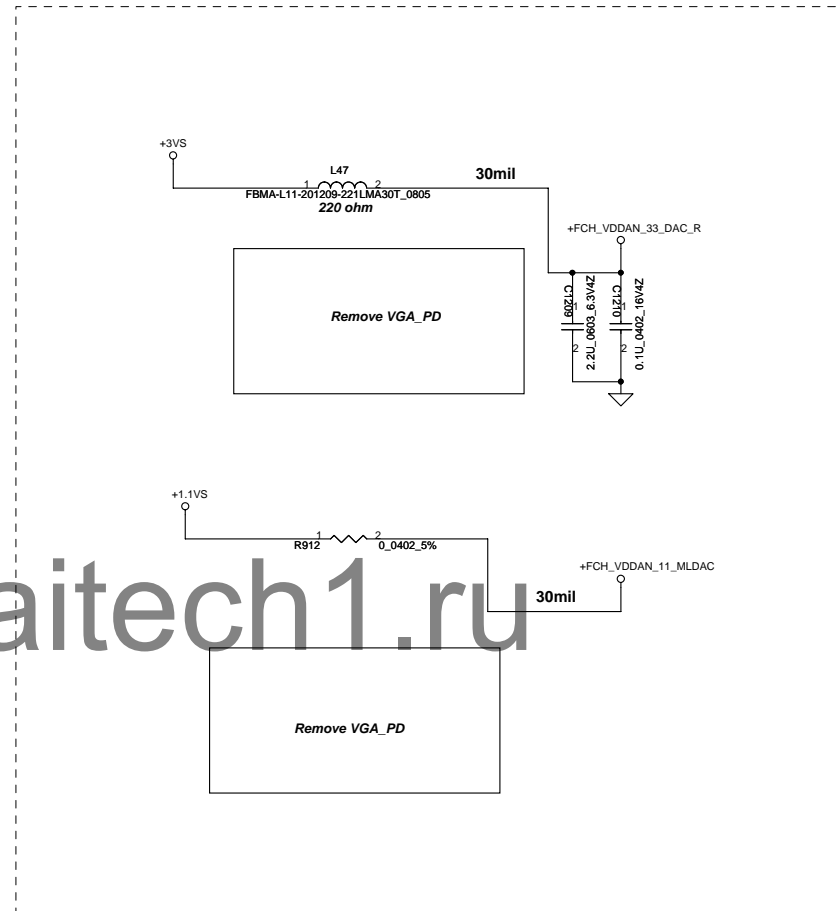
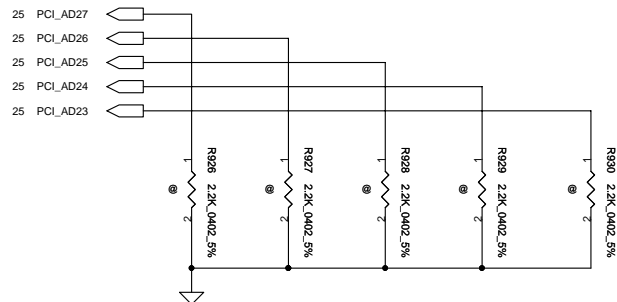
	PCI_CLK1	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2	RTC_CLK
PULL HIGH	ALLOW PCIE GEN2 DEFAULT	USE DEBUG STRAPS	NON_FUSION CLOCK MODE	EC ENABLED	CLKGEN ENABLED	LPC ROM	S5 PLUS MODE DISABLED DEFAULT
PULL LOW	FORCE PCIE GEN1	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE DEFAULT	EC DISABLED	CLKGEN DISABLE	SPI ROM DEFAULT	S5 PLUS MODE ENABLED



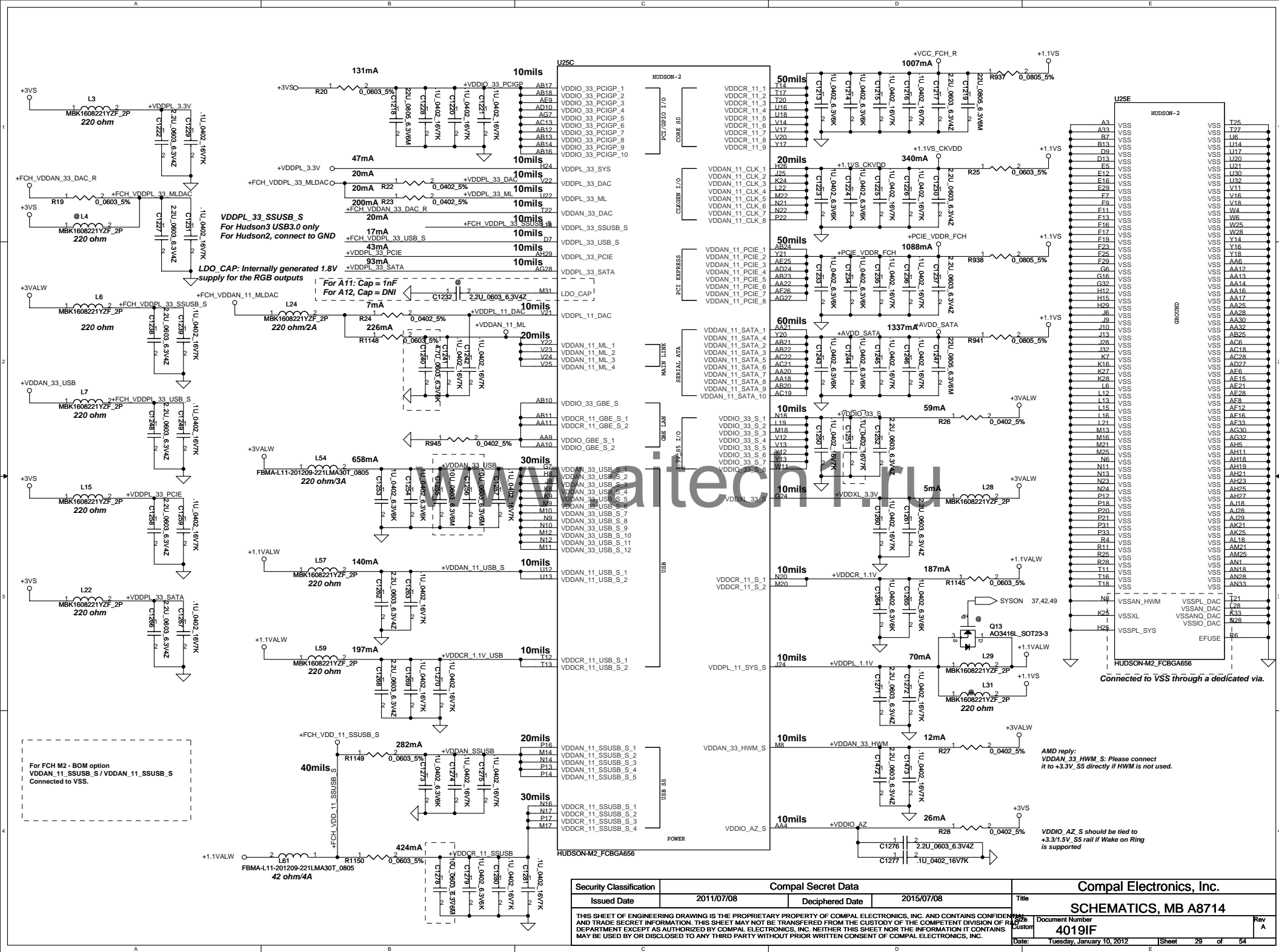
DEBUG STRAPS

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

	PCI_AD27	PCI_AD25	PCI_AD24	PCI_AD23
No external R	USE PCI PLL DEFAULT	Normal REFCLK termination DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	Inverted REFCLK termination	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT



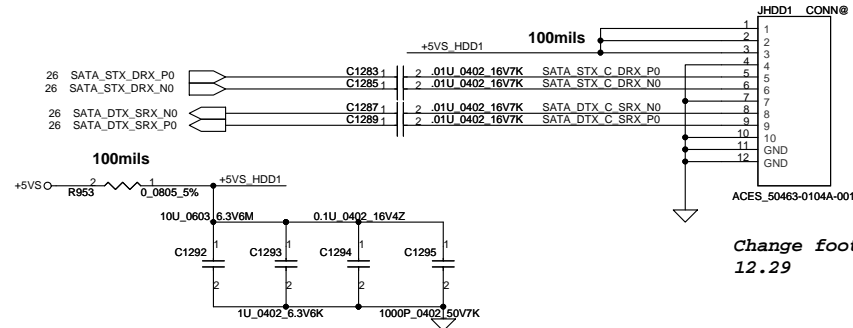
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	4019IF
				Date:	Tuesday, January 10, 2012
				Sheet	28 of 54



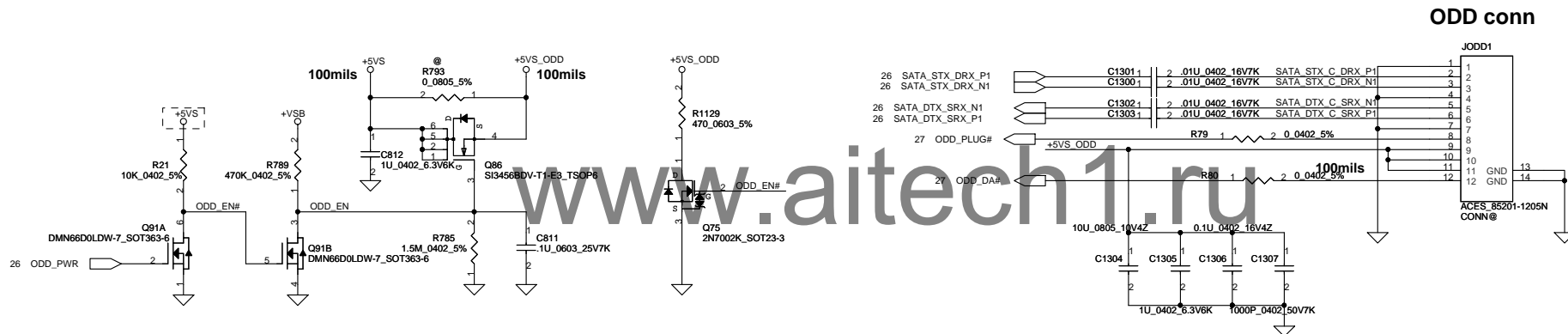
Security Classification		Compal Secret Data	
Issued Date	2011/07/08	Deciphered Date	2015/07/08
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.			

Compal Electronics, Inc.	
SCHEMATICS, MB A8714	
Document Number	40191F
Date	Tuesday, January 10, 2012
Sheet	29 of 54

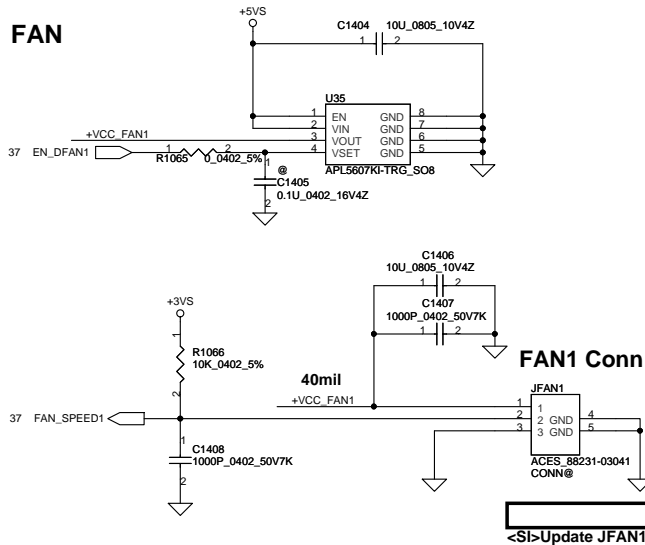
SATA HDD1 Conn.



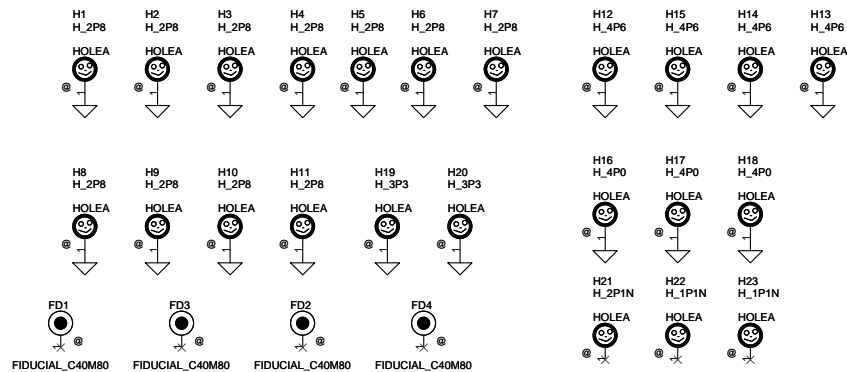
Change footprint to Starconn (PAD is bigger)
12.29



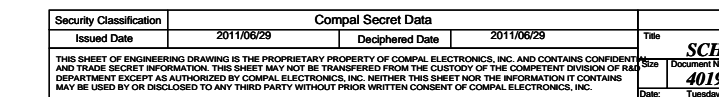
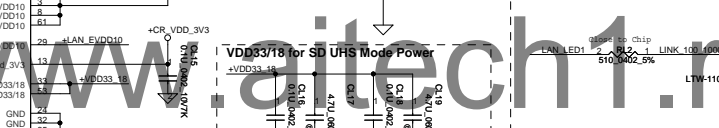
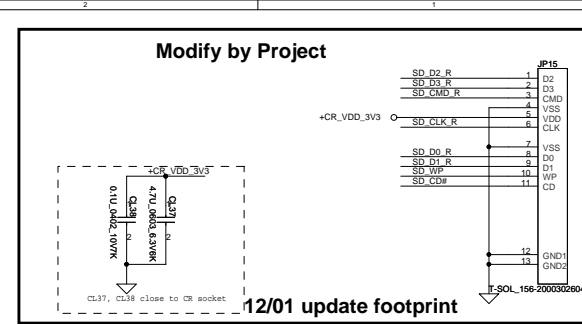
FAN



Screw Hole

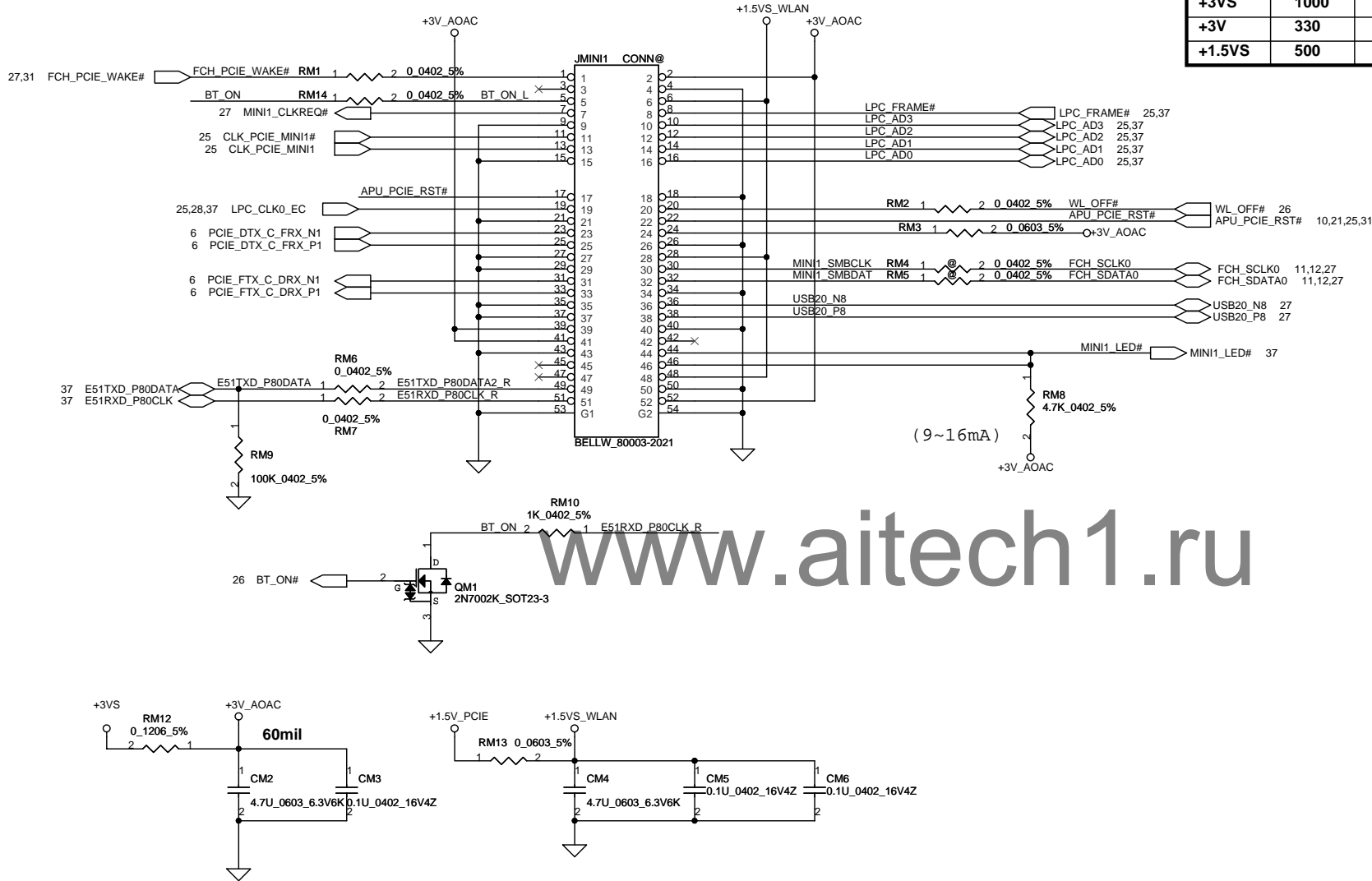


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev A
				4019F	
Date	Tuesday, January 10, 2012	Sheet	30	of	54



Security Classification		Compal Secret Data		Title	
Issued Date	2011/06/29	Deciphered Date	2011/06/29	SCHEMATICS, MB A8714	
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR RAG GROUP OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF THE COMPETENT DIVISION OR RAG GROUP. THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>				<p>Size: Document Number: 40191F</p>	
Date:	1999/01/01 to 2012	Sheet:	31	of 54	

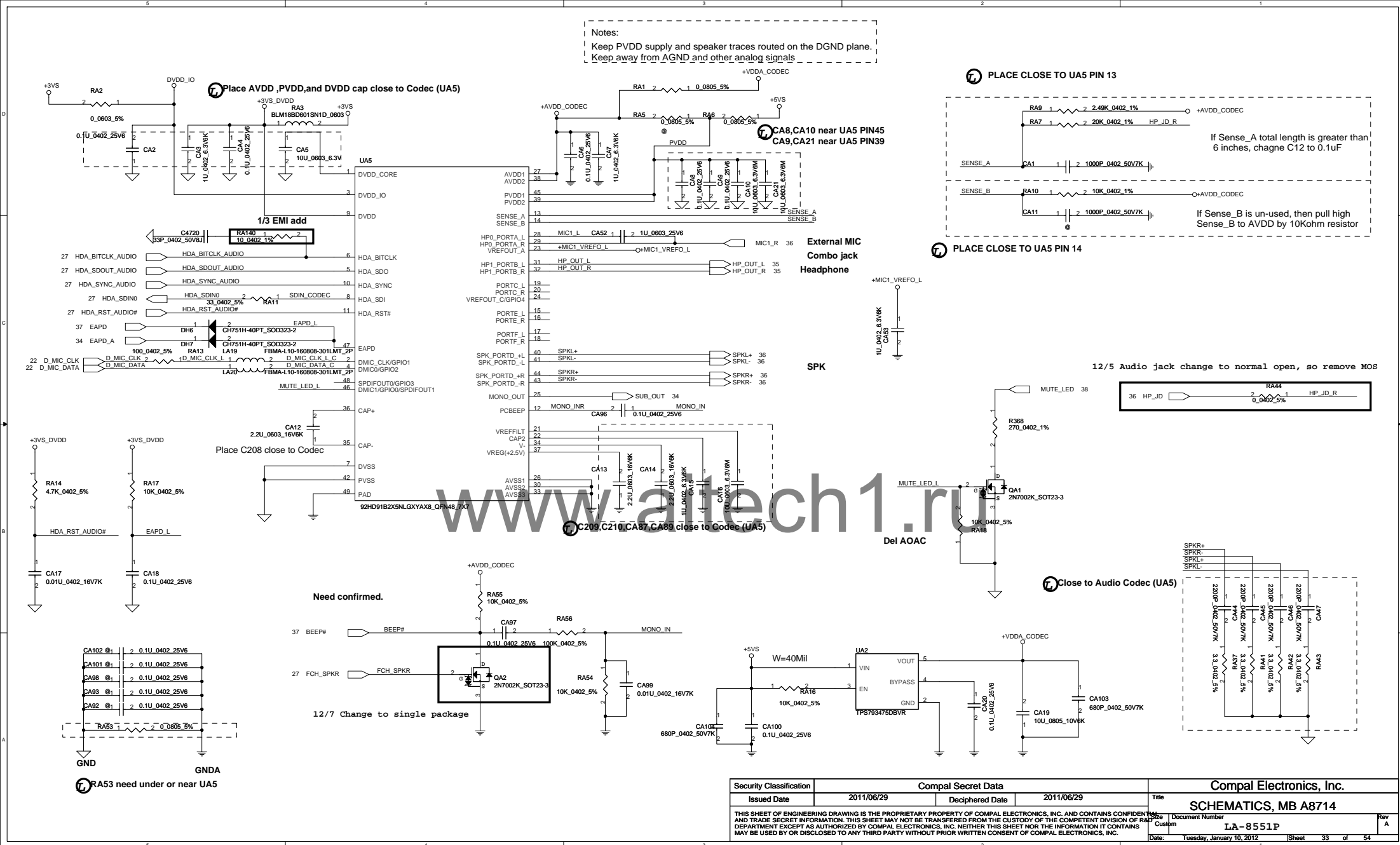
WLAN



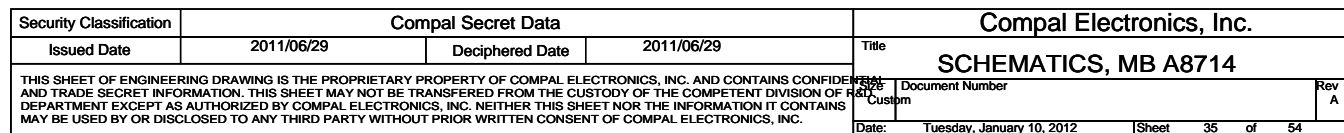
Mini Card Power Rating			
Power	Primary Power (mA)		Auxiliary Power (mA)
	Peak	Normal	Normal
+3VS	1000	750	
+3V	330	250	250 (wake enable)
+1.5VS	500	375	5 (Not wake enable)

www.aitech1.ru

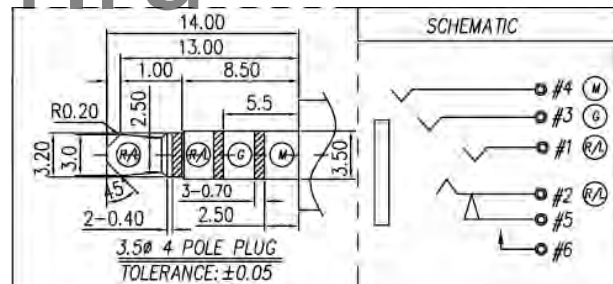
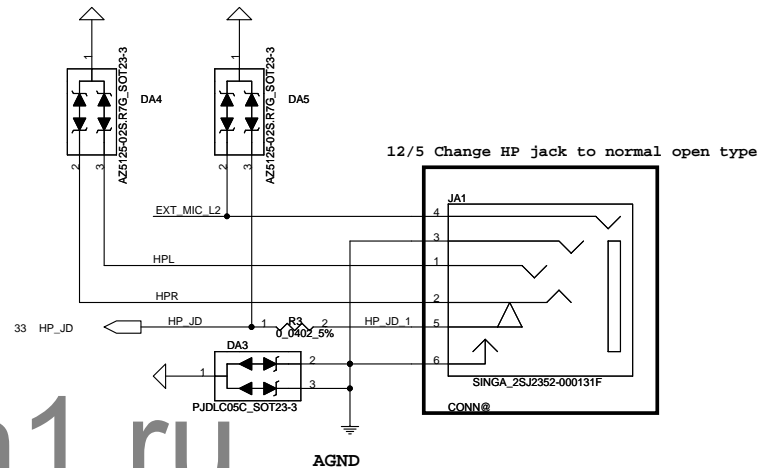
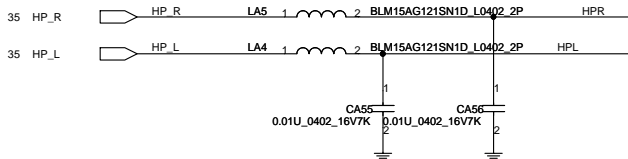
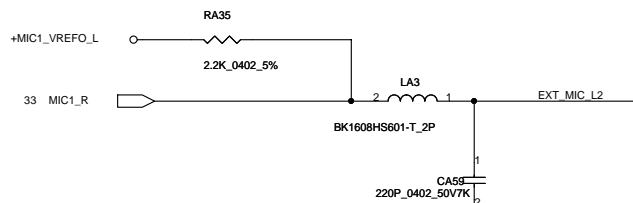
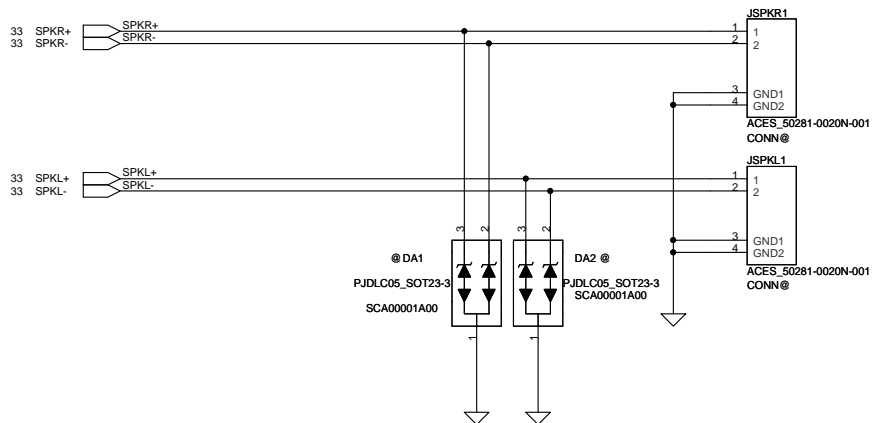
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	32 of 54



12/05 Add LPF for HP requirement

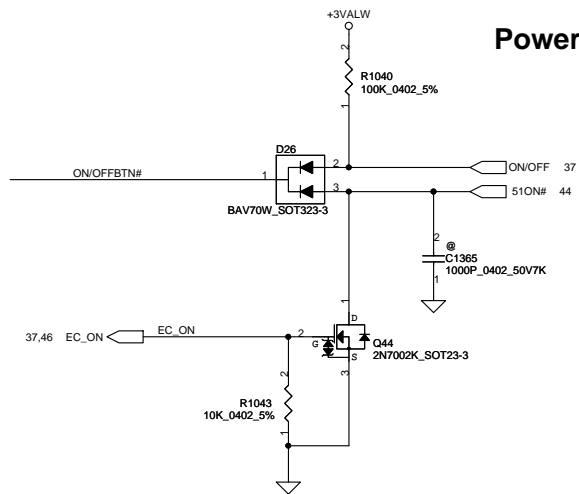


SPK conn

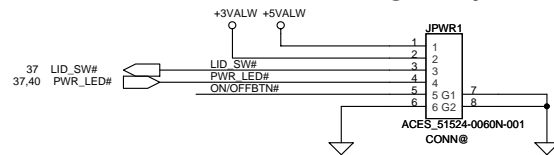


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2009/04/07	Deciphered Date	2012/10/21	Title	SCHEMATICS, MB A8714	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	40191F	A
				Date:	Tuesday, January 10, 2012	Sheet 36 of 54

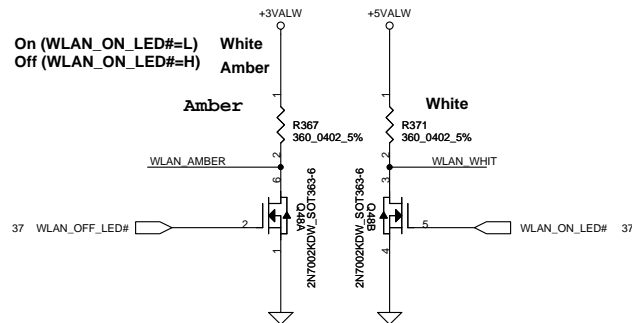
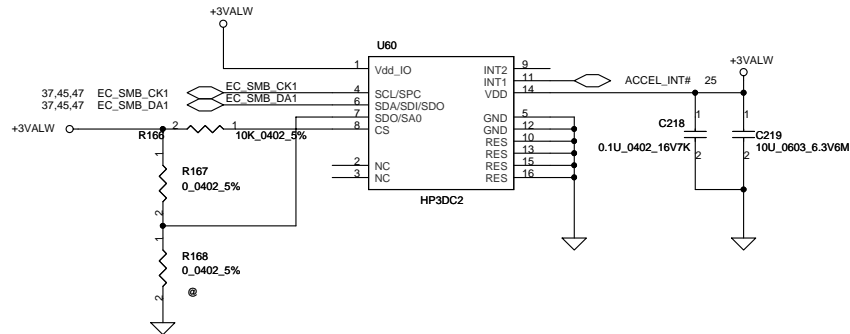
Power Button



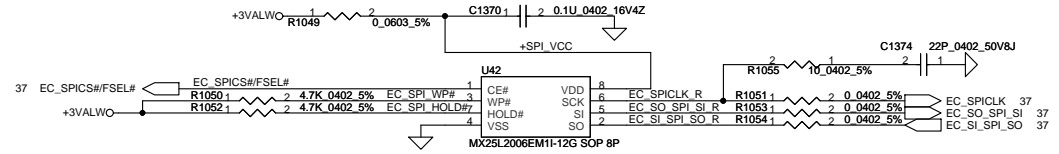
POWER/B



ACCELEROMETER

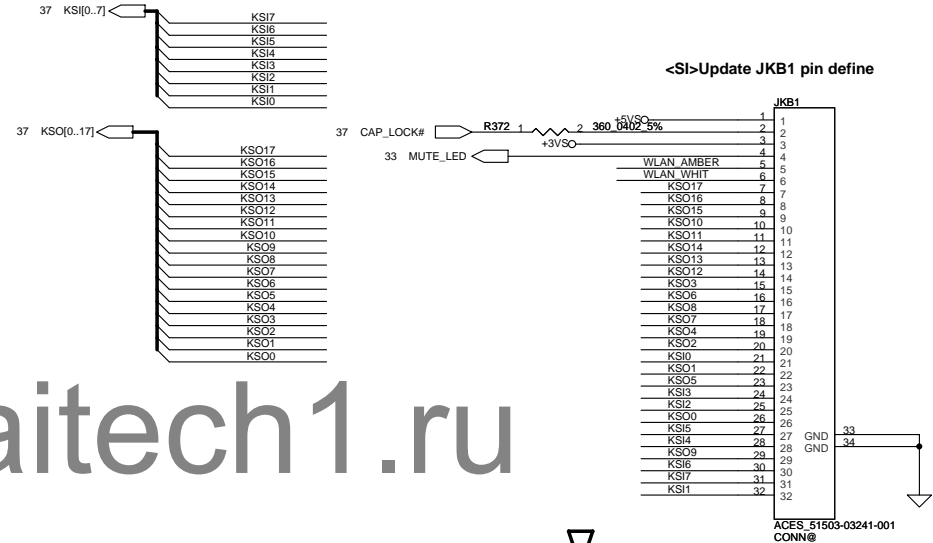


EC BIOS ROM

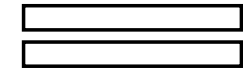


KB conn

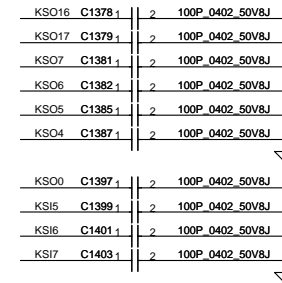
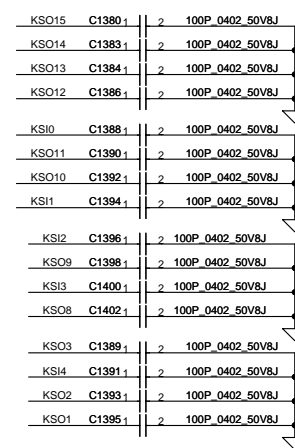
<SI>Update JKB1 pin define



Membrane
Down contact



The KB pin define must opposite



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS, MB A8714	
Document Number		Rev A		Date	
4019IF		Tuesday, January 10, 2012		Sheet 38 of 54	

The schematic diagram illustrates the electrical connections for the ACES_51524-0060N-001 connector. The following components and connections are shown:

- TP Signals:** TP_CLK and TP_DATA signals are connected to the FCH_SCLK1_R and FCH_SDAT1_R pins of the connector.
- Power Supply:** A +3VALW power supply is connected to the JTP1 connector.
- Capacitors:** Capacitors C116 (100P_0402_50V8J) and C117 (100P_0402_50V8J) are connected to the TP_CLK and TP_DATA lines, respectively.
- Diode:** A diode D7 (AZ5125-02S.RVG_S0725-3) is connected to the TP_CLK line.
- Connector:** The connector is labeled ACES_51524-0060N-001 and has pins 1 through 8.
- Other Components:** A capacitor C220 (0.1U_0402_16V7K) is connected to the +3VALW supply.

27 FCH_SCLK1 R190 ② 2 1 0 0402 5% FCH_SCLK1 R
27 FCH_SDAT1 R210 ② 2 1 0 0402 5% FCH_SDAT1 R

For multi-touch function

<SI>Update JP14 pin define

ACES_50578-0040N-001_4P-T

CONN8 JP14

+5V_KBL

AO3413L_SOT23-3

Q153

R369 1K_0402_5%

R4742 100K_0402_5%

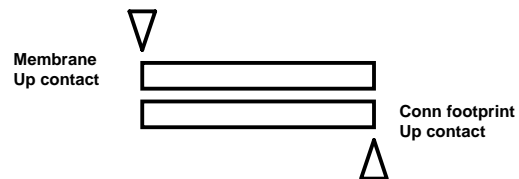
+5V_ALVW

Q49 2N7002K_SOT23-3

KBL_OFF#

KBL_OFF#=H, Power ON
KBL_OFF#=L, Power off

12/06 Change keyboard back light conn



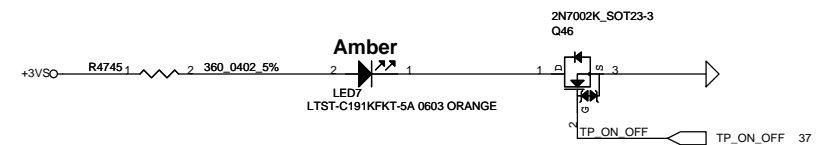
The JP14 pin define must opposite

Finger printer

12/06 Change FPR pin define

12/06 Change FPR pin define

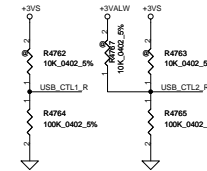
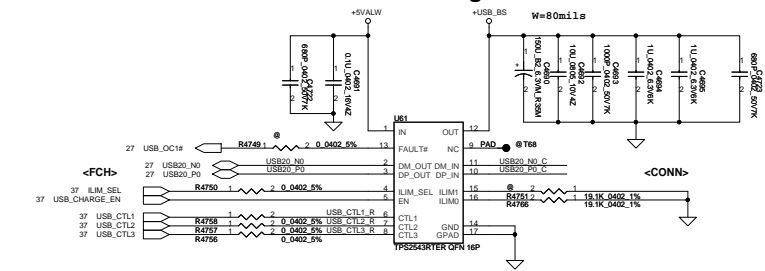
T/P On/Off LED



EC pin

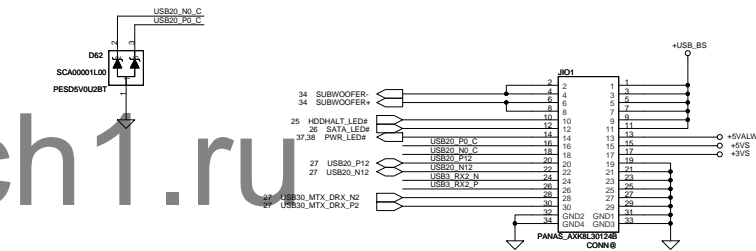
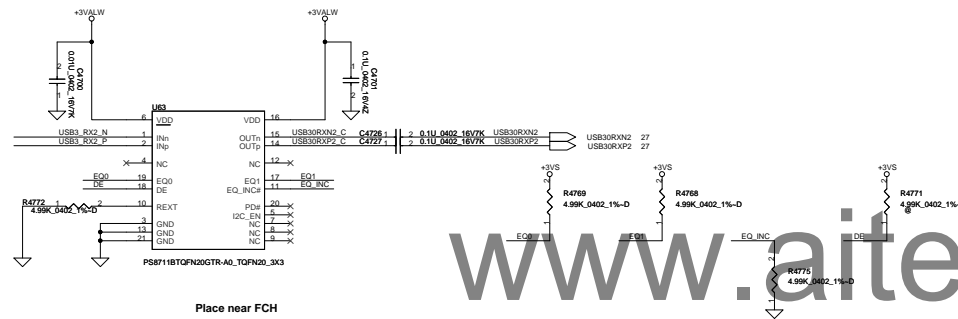
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc No	Rev A
				Document Number	
				4019IF	
				Date	Tuesday, January 10, 2012
				Sheet	39 of 54

USB Charger



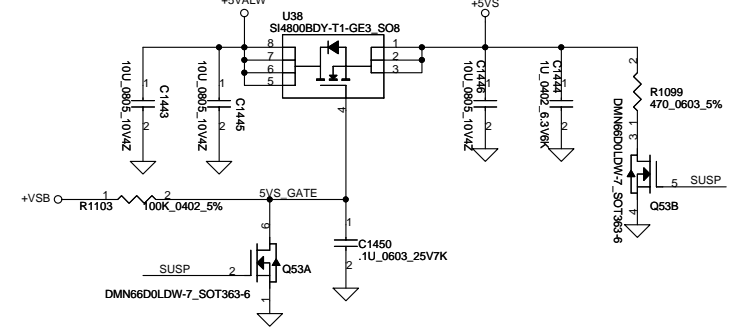
State	S0				S3, S4, S5			
Mode	CDP				DCP			
Control pin	CTL1	CTL2	CTL3	ILM_SEL	CTL1	CTL2	CTL3	ILM_SEL
	1	1	1	1	0	0	1	1

USB3.0 Repeater

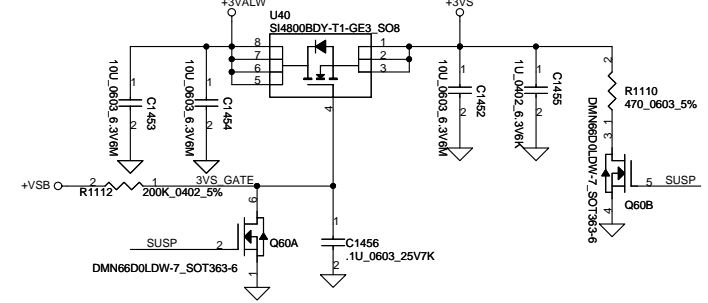


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size B	Document Number
					40191F
Date:		Tuesday, January 10, 2012		Sheet	41 of 54

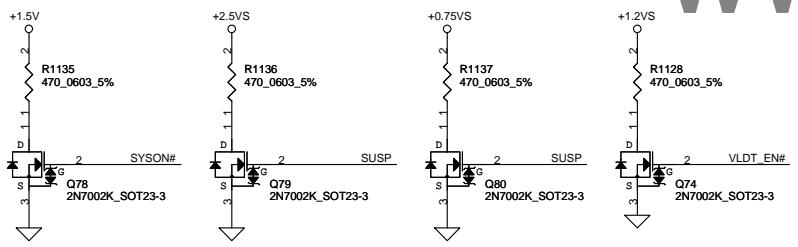
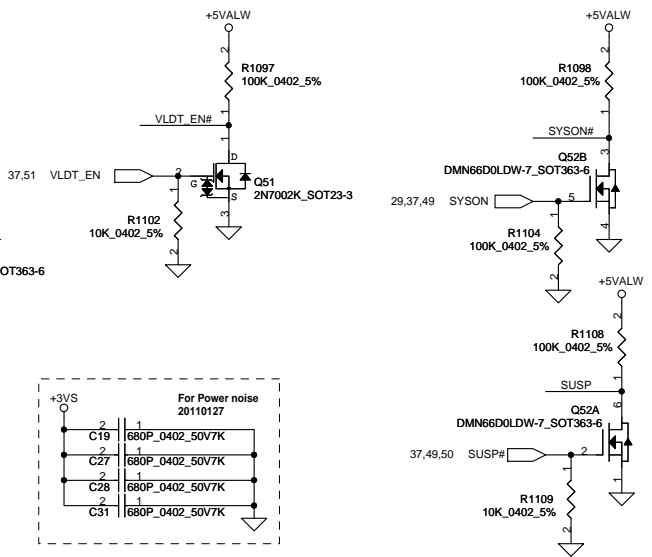
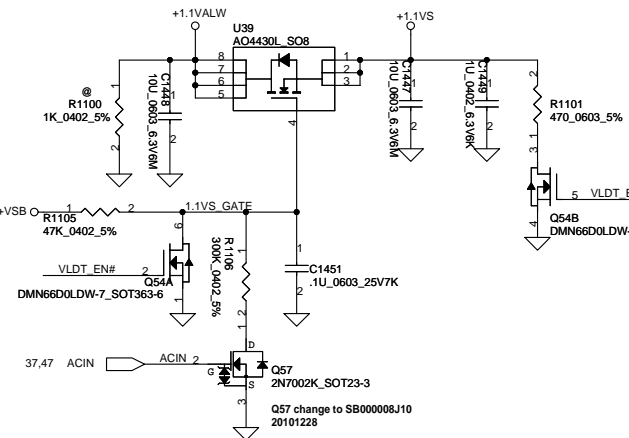
+5VALW TO +5VS (5A)



+3VALW TO +3VS (3.3A)

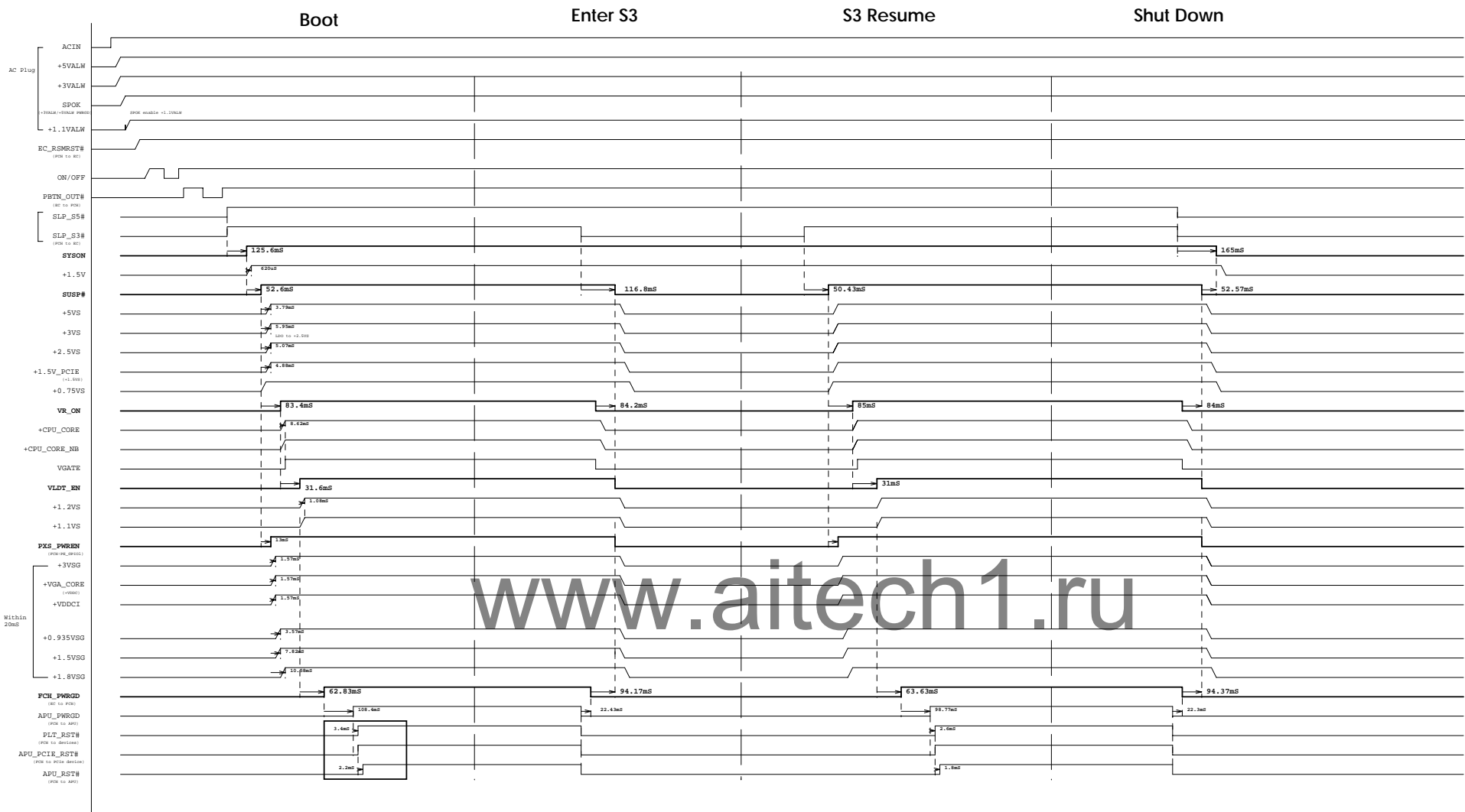


+1.1VALW TO +1.1VS (1.1A)

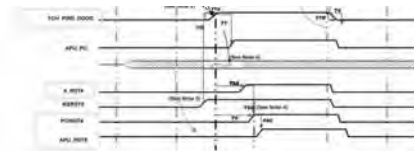


www.aitech1.ru

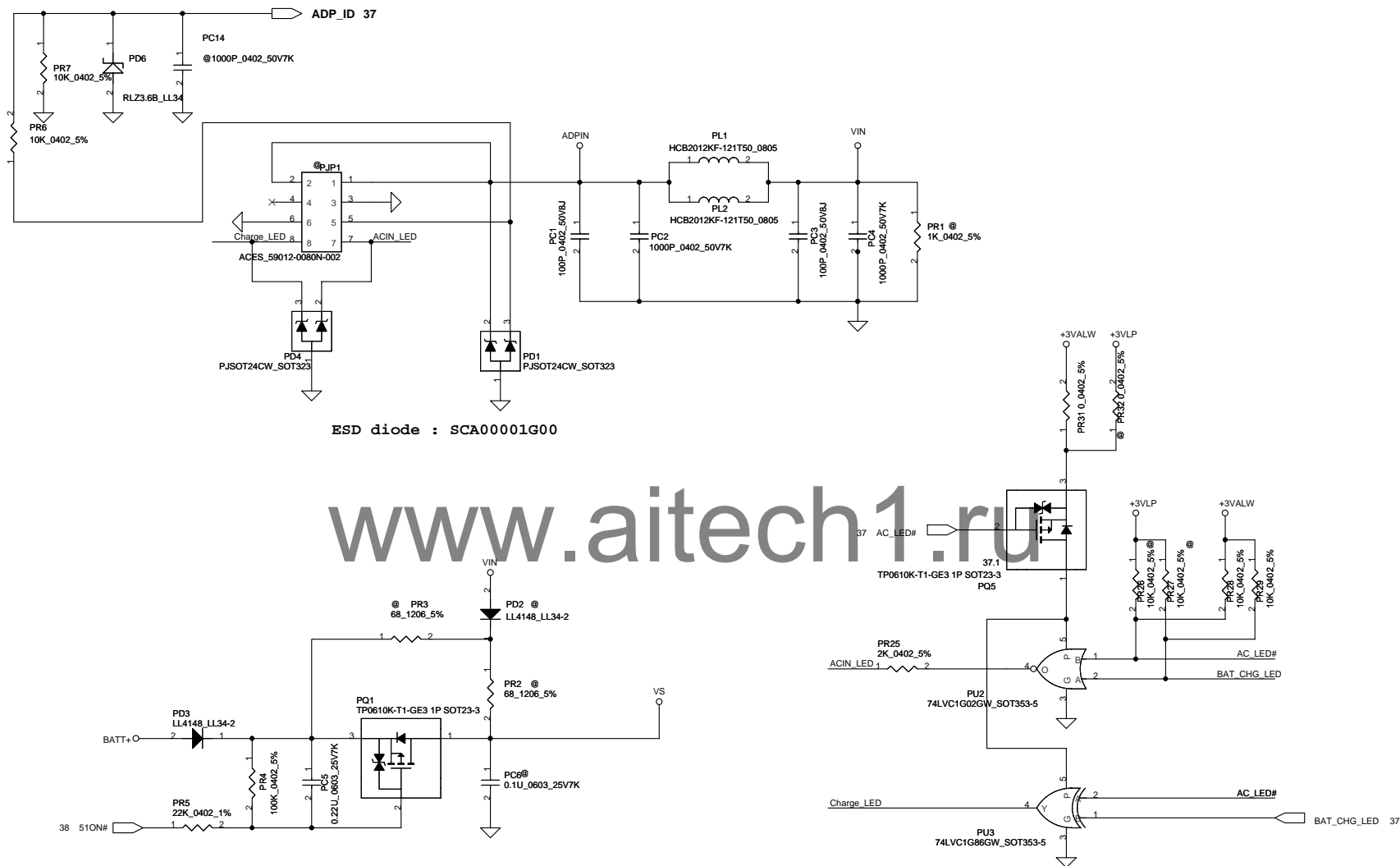
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Deciphered Date	2015/07/08	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS, MB A8714
Size		Document Number		Rev
Custom		4019IF		A
Date:		Tuesday, January 10, 2012		Sheet 42 of 54



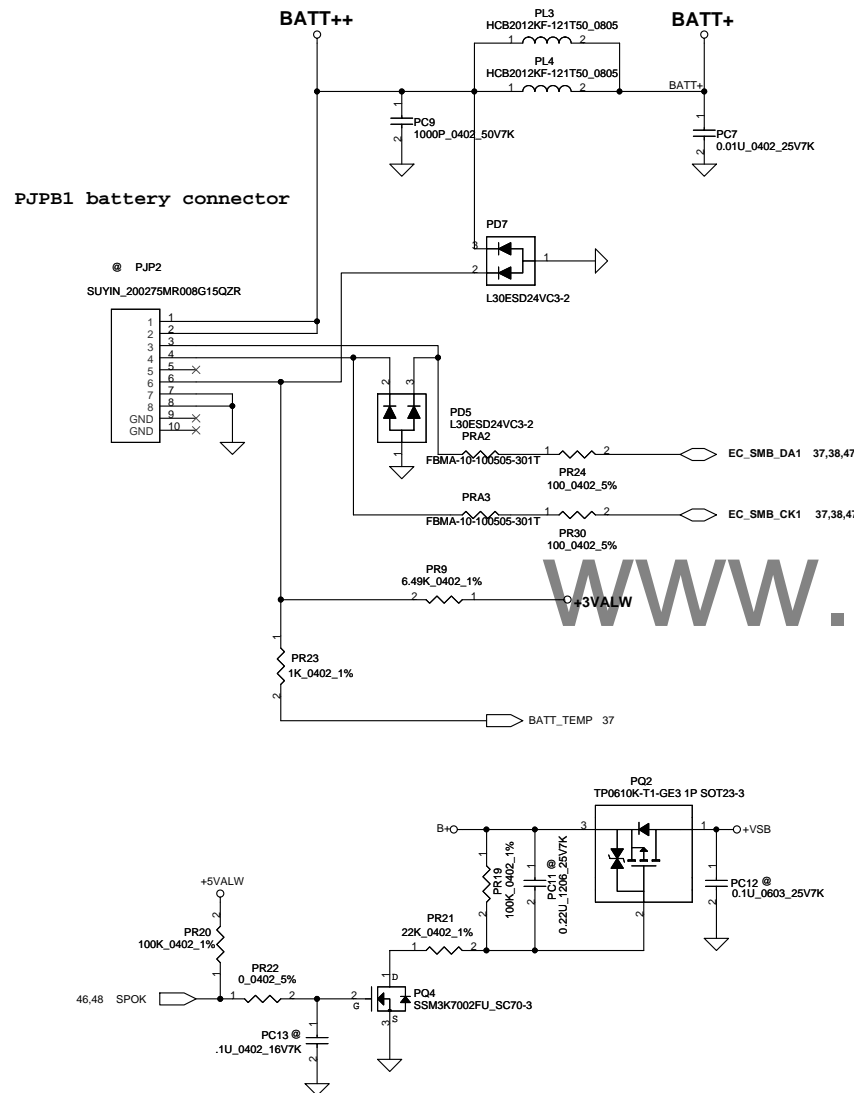
www.aitech1.ru



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/08	Designated Date	2015/07/08	Doc No.	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAI ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF COMPAI ELECTRONICS, INC.					
Doc No.	4019IF	Rev.	1	Page	41 of 41



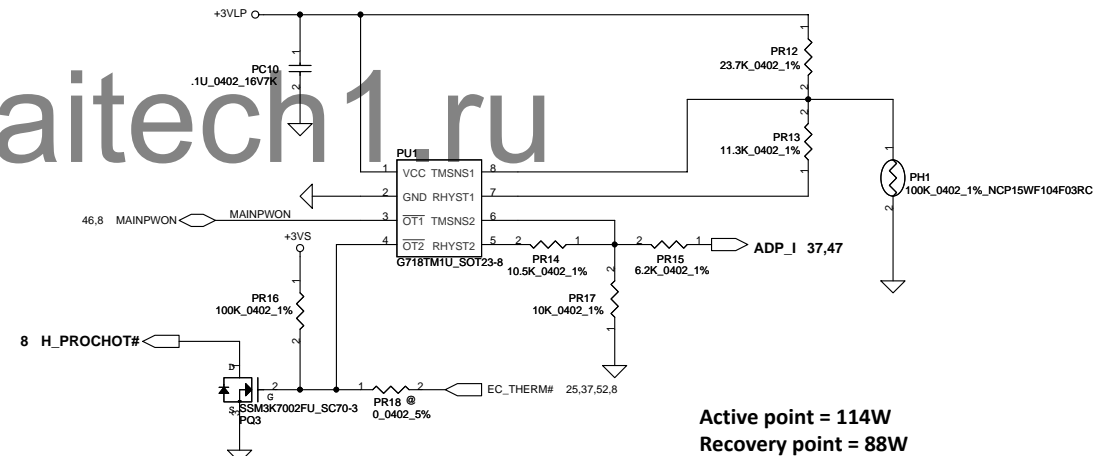
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date	Tuesday, January 10, 2012
				Sheet	44 of 54
				Rev	A



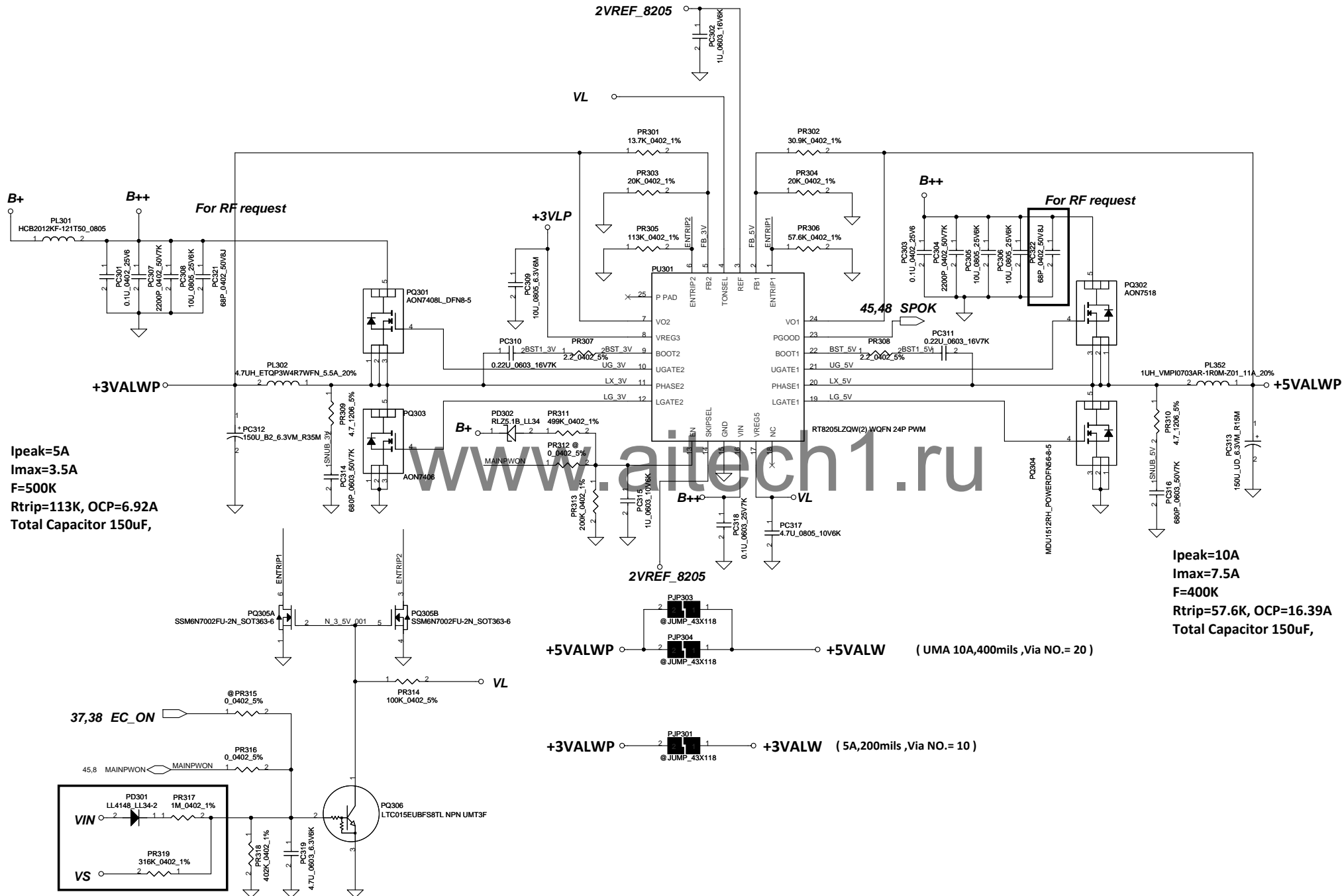
For KB930 --> Keep PU1 circuit
(Vth = 0.825V)

PH1 under CPU bottom side :
CPU thermal protection at 90 +/-3 degree C
Recovery at 56 +/-3 degree C

$R_{set} = 3 * R_{tmh}$
 $R_{hyst} = (R_{set} * R_{tml}) / (3 * R_{tml} - R_{set})$
 $R_{tmh} \text{ at } 90C = 7.8K, R_{tml} \text{ at } 56C = 26.1K$
 $R_{set} = 3 * 7.8K = 23.4K \Rightarrow 23.7K$
 $R_{hyst} = (23.4K * 26.1K) / (3 * 26.1K - 23.4K) = 11.12K \Rightarrow 11.3K$



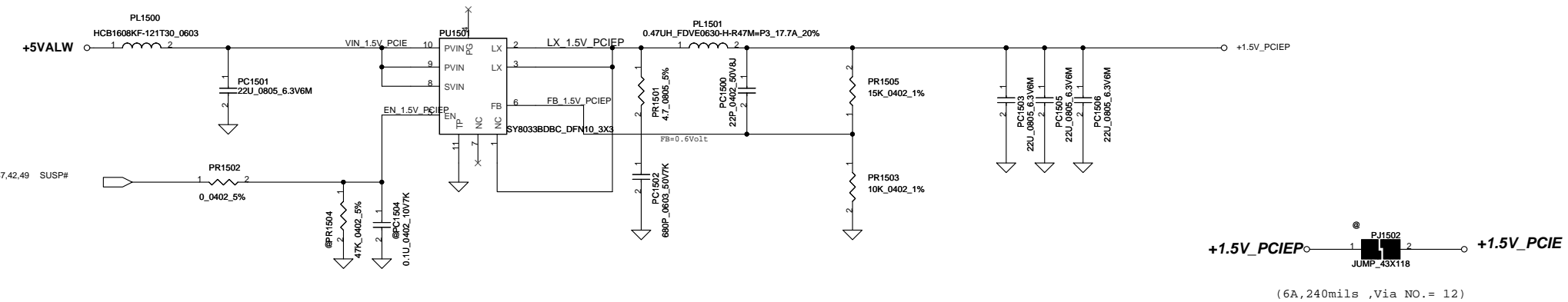
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date	Tuesday, January 10, 2012
				Sheet	45 of 54
				Rev	A



ILIM and external DPM
4.36A

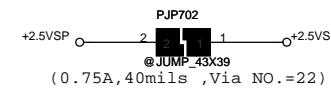
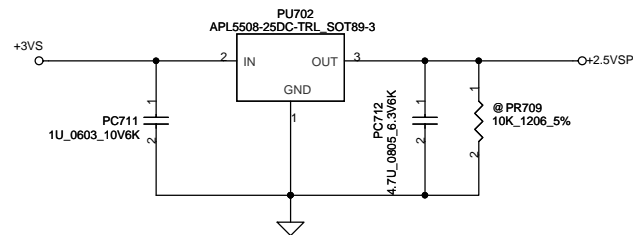
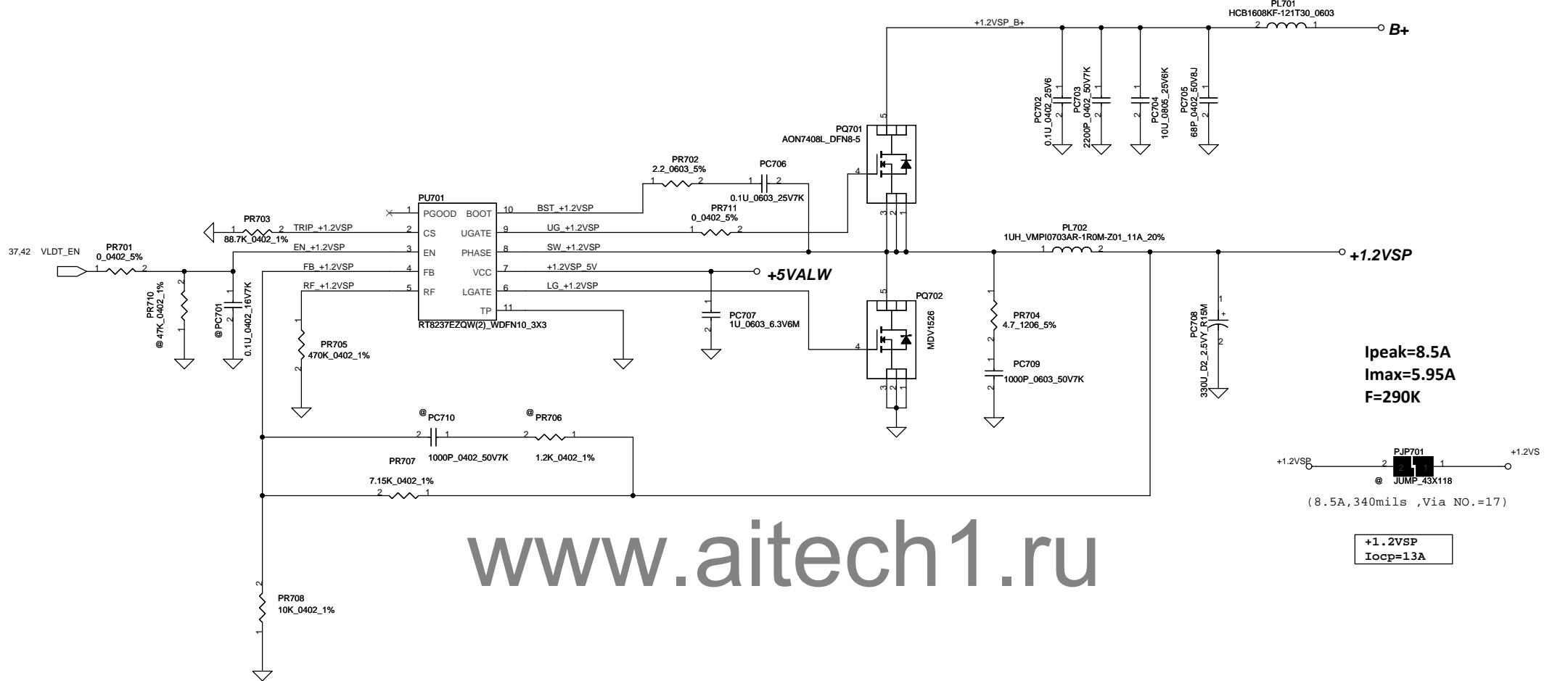
Security Classification		Compal Secret Data		Compal Electronics, Inc. SCHEMATICS, MB A8714	
Issued Date	2011/10/03	Deciphered Date	2014/12/31	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev A
				LA-8712P	
Date:	Tuesday, January 10, 2012	Sheet	47 of 54		

1.5VPCIEP
Peak Current 6A
OCP current 6A

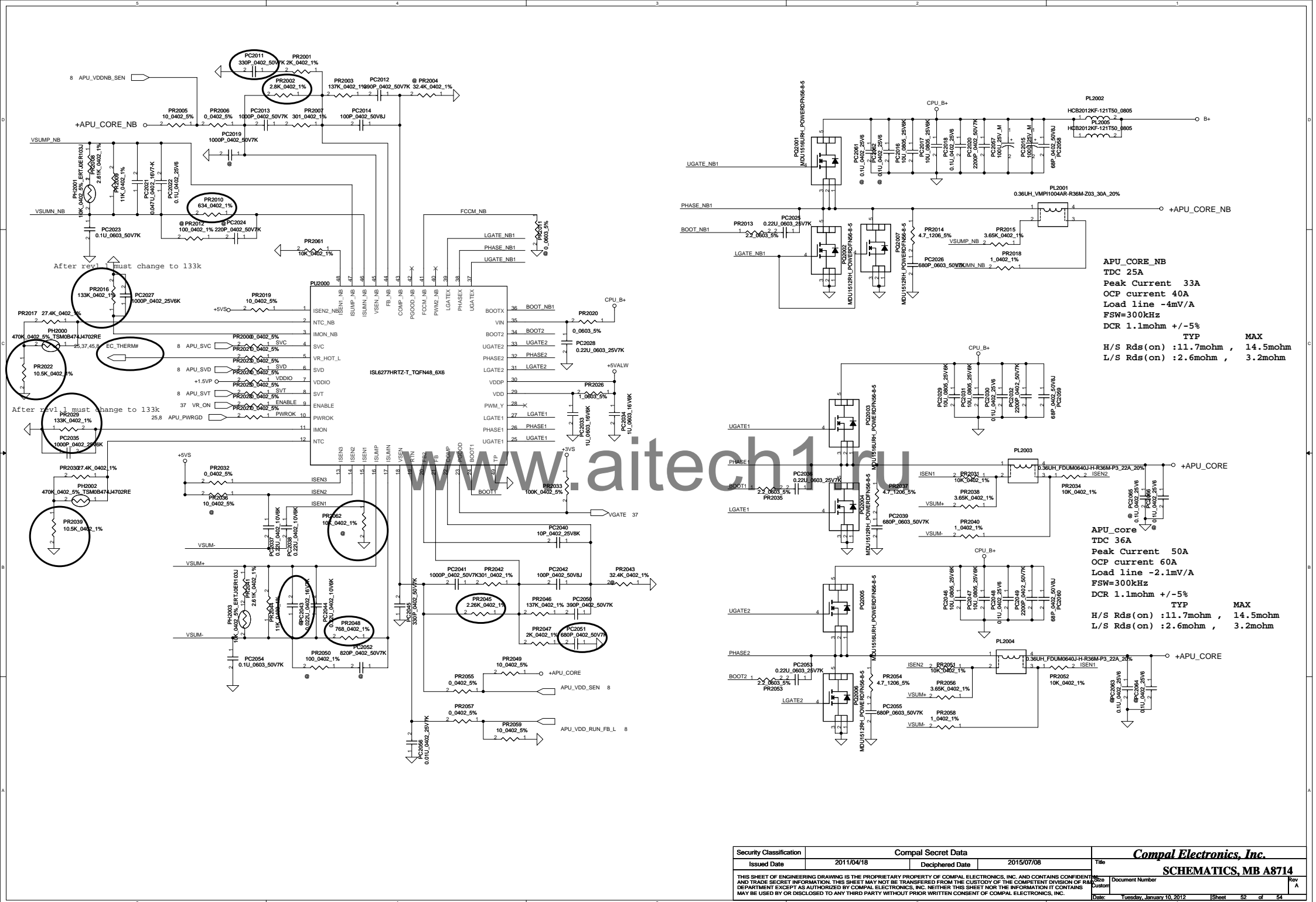


www.aitech1.ru

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/08/16	Deciphered Date	2012/08/15	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	40191F
				Date:	Tuesday, January 10, 2012
				Sheet	50 of 54
				Rev	A



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/29	Deciphered Date	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Size	Document Number
			LA-8712P	Rev A
			Date: Tuesday, January 10, 2012	Sheet 51 of 54



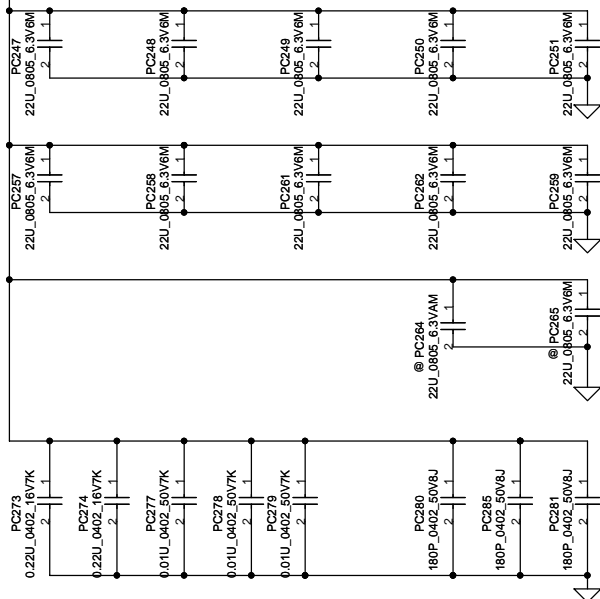
APU_CORE_NB
TDC 25A
Peak Current 33A
OCP current 40A
Load line -4mV/A
FSW=300KHz
DCR 1.1mohm +/-5%
TYP
H/S Rds(on) : 11.7mohm , 14.5mohm
L/S Rds(on) : 2.6mohm , 3.2mohm

APU_core
TDC 36A
Peak Current 50A
OCP current 60A
Load line -2.1mV/A
FSW=300KHz
DCR 1.1mohm +/-5%
TYP
H/S Rds(on) : 11.7mohm , 14.5mohm
L/S Rds(on) : 2.6mohm , 3.2mohm

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/04/18	Deciphered Date	2015/07/08	Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Document Number	Custom	Rev	A	Sheet	82 of 54
Date	Tuesday, January 10, 2012	Sheet	82	of	54

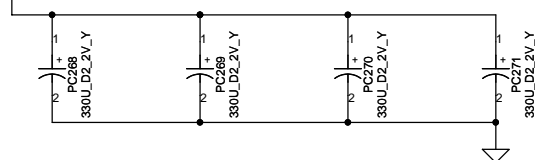
+APU_CORE

+APU_CORE



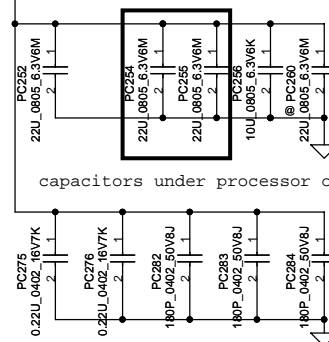
+APU_CORE

Local



+APU_CORE_NB

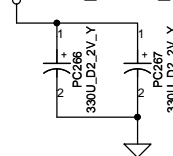
+APU_CORE_NB



capacitors under processor on bottom side of board

+APU_CORE_NB

Local



www.aitech1.ru

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/29	Deciphered Date		Title	SCHEMATICS, MB A8714
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size A3	Document Number LA-8714P
				Date: Tuesday, January 10, 2012	Sheet 53 of 54

DB-2(12/2)	P44-PWR-DCIN / Vin Detector	Change to PJP1 pine define	DC-IN jack buy and sale define does not change
DB-2(12/8)	P45-PWR-BATTERY CONN	Pin 7 power source change +3VLP to +3VALW	EC command
DB-2(12/8)	P52-PWR-+1.5VPCIE/0.935V	PC11506 loaction change to PC1156	CIC SMT command
DB-2(12/12)	P52-PWR-+1.5VPCIE/1V	Change PR9352 11.3K to 13.3K (0.935V to 1V)	HW comand
DB-2(12/13)	P50-PWR-1.1VALNP	Add PR803 =10K	SY8809 enbale pin issue

www.aitech1.ru