

Compal Confidential

VBA20 LA9303P Schematics Document

INTEL SandyBridge C847/C807 CPU with DDRIII + PCH NM70

AIO M/B

UMA only

REV: 0.1

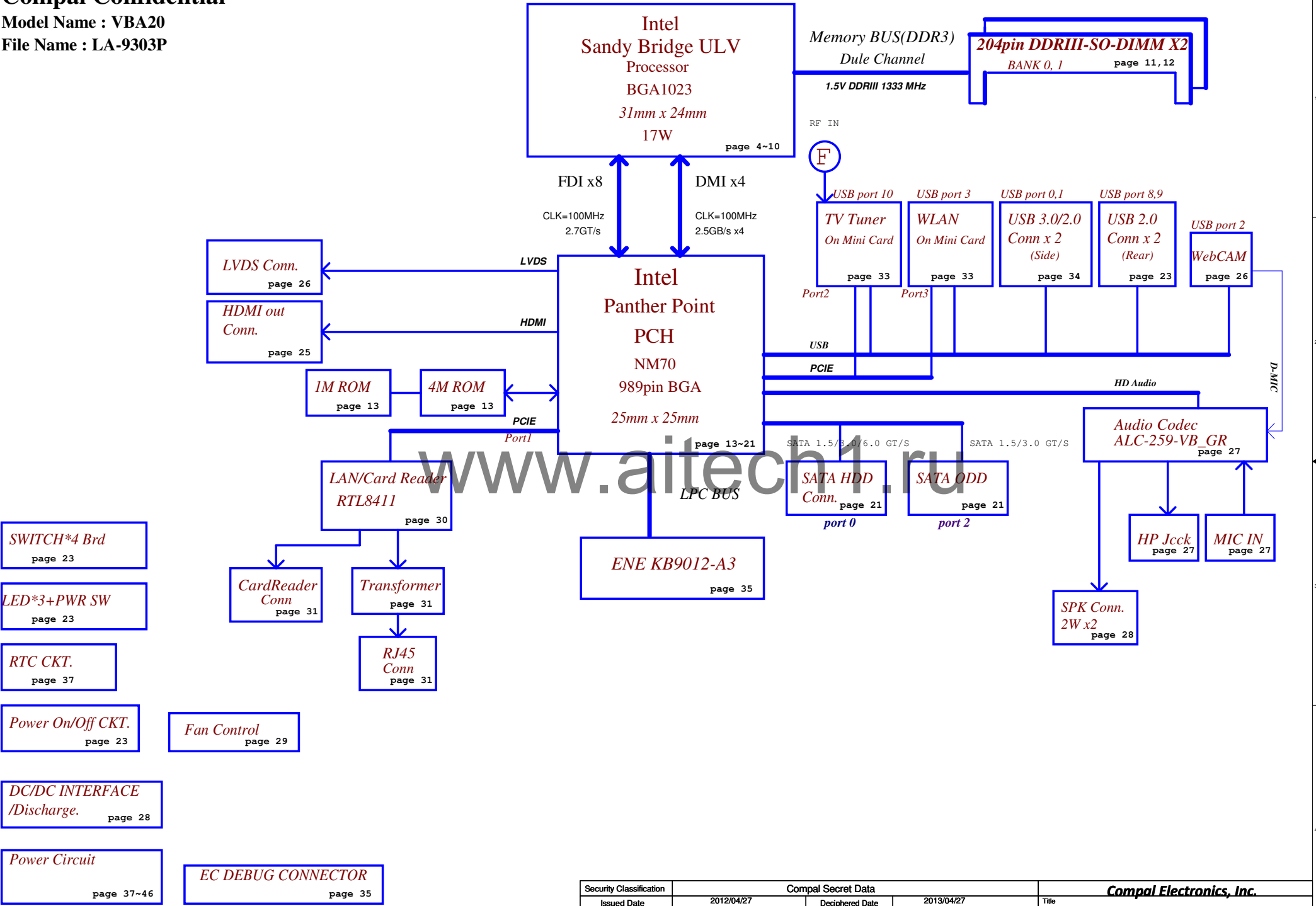
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT WITHOUT AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number VBA20 LA-9303P M/B
				Date Friday, August 10, 2012	Rev 0.2
				Sheet 1	of 49

<http://sualaptop365.edu.vn>

Compal Confidential

Model Name : VBA20

File Name : LA-9303P



<http://sualaptop365.edu.vn>

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Block Diagrams		
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 WITHOUT AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR REPRODUCED IN ANY MANNER OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	VBA20 LA-9303P M/B	0.2
				Date	Friday, August 10, 2012	Sheet 2 of 49

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
+VSB	VSB always on power rail	ON	ON	ON*
+3VALW	3.3V always on power rail	ON	ON	ON*
+5VALW	5V always on power rail	ON	ON	ON*
+VCCSUS3_3	+3VALW to +VCCSUS3_3 power rail for PCH	ON	ON	ON*
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VGFX_CORE	Core voltage for UMA graphic	ON	OFF	OFF
+0.75VS	0.75VS switched power rail for DDR terminator	ON	OFF	OFF
+1.05VS_VTT	+1.05VS_VTT power rail for CPU	ON	OFF	OFF
+1.5V	1.5V power rail for CPU VDDIO and DDR3	ON	ON	OFF
+1.5VS	+1.5V to +1.5VS switched power rail	ON	OFF	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VS	5V switched power rail	ON	OFF	OFF
+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
Full ON	HIGH	HIGH	HIGH	HIGH	HIGH	ON	ON	ON
S1 (Power On Suspend)	LOW	HIGH	HIGH	HIGH	HIGH	ON	ON	ON
S3 (Suspend to RAM)	LOW	LOW	HIGH	HIGH	HIGH	ON	ON	OFF
S4 (Suspend to Disk)	LOW	LOW	LOW	HIGH	HIGH	ON	OFF	OFF
S5 (Soft OFF)	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF

EC SM Bus1 address

EC SM Bus2 address

Device	Address	HEX	Device	Address	HEX
--------	---------	-----	--------	---------	-----

SM Bus Controller 0

Device	Address	HEX
--------	---------	-----

SM Bus Controller 1

Device	Address	HEX
--------	---------	-----

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
R2672	0			
Board ID	Rb / Rd / Rf	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	0 V	0 V	0 V

PCIE(GPP) Port Table

Port	Device
1	LAN/Card reader
2	Mini Card(TV Tuner)
3	Mini Card(WLAN)

SATA Port Table

Port	Device
6G	0 HDD
	1 Disabled on NM70
3G	2 ODD
	3 Disabled on NM70
	4 NC
	5 NC

USB Port Table

USB 2.0	USB 1.1	Port	Device
EHCI	OHCI	0	USB (side I/O)
		1	USB (side I/O)
		2	Web Camera
		3	Mini Card(WLAN)
		4	Disabled on NM70
		5	Disabled on NM70
		6	Disabled on NM70
		7	Disabled on NM70
EHCI	OHCI	8	USB20- (Rear I/O)
		9	USB20 (Rear I/O)
		10	Mini Card(TV Tuner)
		11	NC
		12	Disabled on NM70
		13	Disabled on NM70

BOM Structure Table

BTO Item	BOM Structure
CPU C807	807@
CPU C847	847@
PCH NM70	NM70@
PCH HM70	HM70@
ME components	CONN@
Unpop	@
USB30	USB30@
LA-9303P 6 Layer PCB	
SKU IO Select	GPIO64_H@
	GPIO64_L@
	GPIO65_H@
	GPIO65_L@
PANEL Select	ID0L@
	ID0H@
	ID1L@
	ID1H@

SKU ID(Project) Table

Project_ID2 (GPIO189)	Project_ID1 (GPIO190)	SKU	
0	0	SKU1	807@ NM70@ ID0L@ ID1L@ GPIO64_L@ GPIO65_L@
0	1	SKU2	847@ NM70@ ID0L@ ID1L@ GPIO64_H@ GPIO65_L@
1	0	X	
1	1	X	

BOARD ID Table

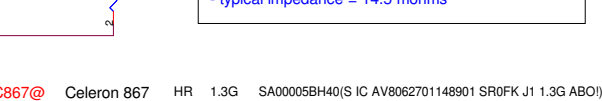
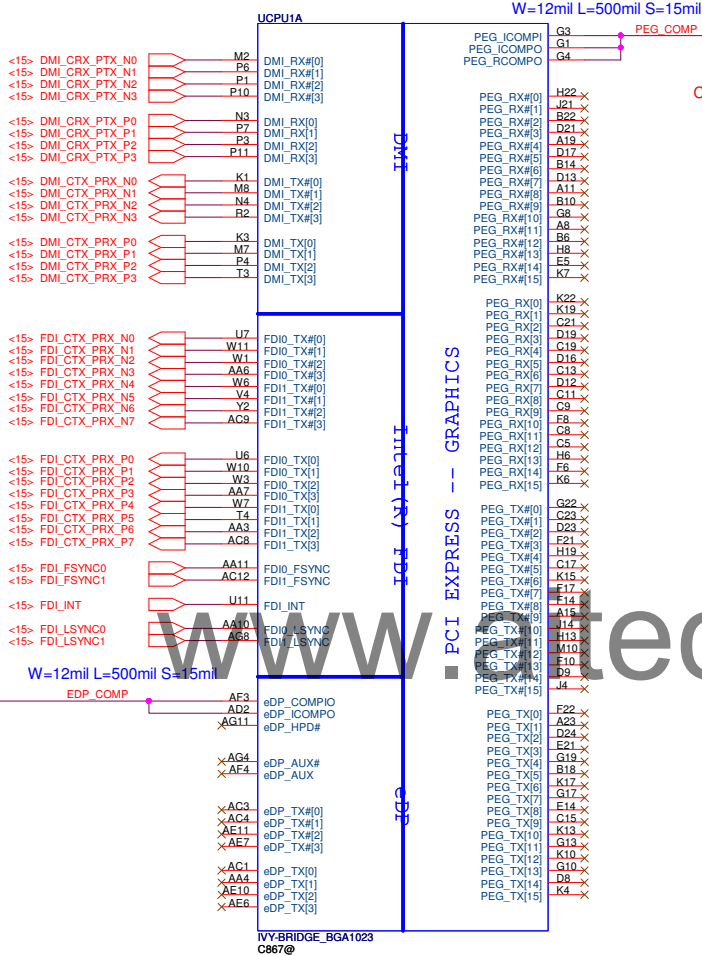
Board ID	PCB Revision
0	0.1
* 1	0.2
2	0.3
3	0.4
4	

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Notes List		
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 WITHOUT AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	VBA20 LA-9303P M/B	0.2
				Date:	Friday, August 10, 2012	Sheet 3 of 49

eDP_COMP0 and ICOMPO signals should be shorted near balls and routed with typical impedance <25 mohms, even if disable eDP function...



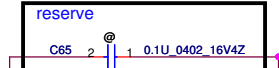
PEG_ICOMP1 and RCOMPO signals should be shorted and routed with - max length = 500 mils - typical impedance = 43 mohms
PEG_ICOMPO signals should be routed with - max length = 500 mils - typical impedance = 14.5 mohms



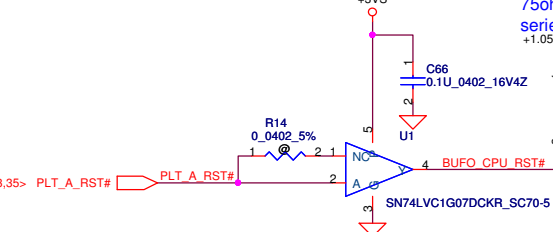
Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date		2011/1/22	Deciphered Date	2012/11/22	Title	PROCESSOR(1/7) DMI,FDI,PEG		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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	VBA20 LA-9303P M/B	0.2
Date:				Friday, August 10, 2012	Sheet	4	of	49

PCH->CPU
UNCOREPWROK:非CORE外的電OK
SM_DRAMPWROK:DRAM power ok
RESET#:都ok後請CPU做reset

Follow DG 1.5& Tacoma_Fall2 1.0

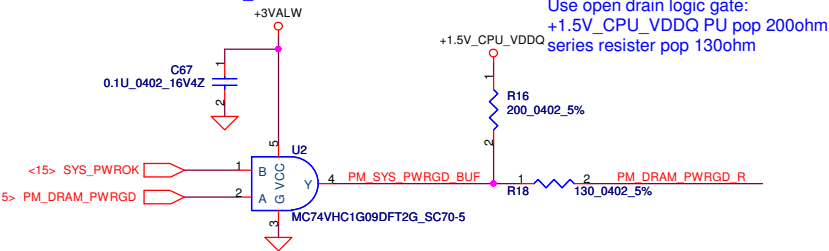


Follow DG 1.5 & Tacoma_Fall2 1.0
Buffered reset to CPU

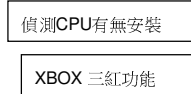


RESET#:都ok後請CPU做reset

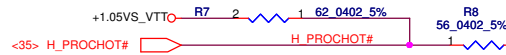
Follow DG 1.5 & Tacoma_Fall2 1.0



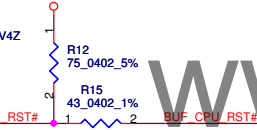
PROC_SELECT#
PH VCPLL and
connect to PCH
DF_TVS



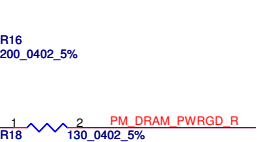
follow Checklist 1.5



Use open drain logic gate:
+1.05VS_VTT PU pop
75ohm
series resistor pop 43ohm
+1.05VS_VTT

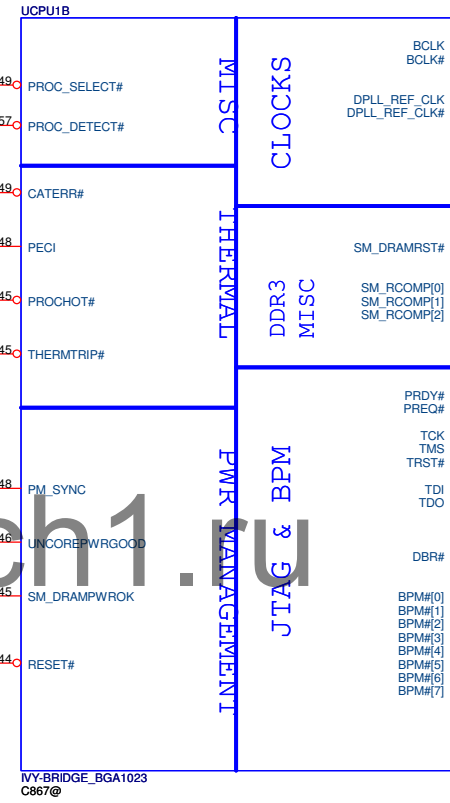
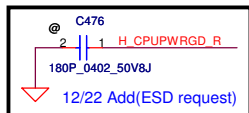
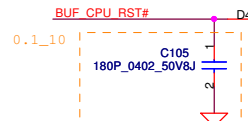


Use open drain logic gate:
+1.5V_CPU_VDDQ PU pop 200ohm
series resistor pop 130ohm

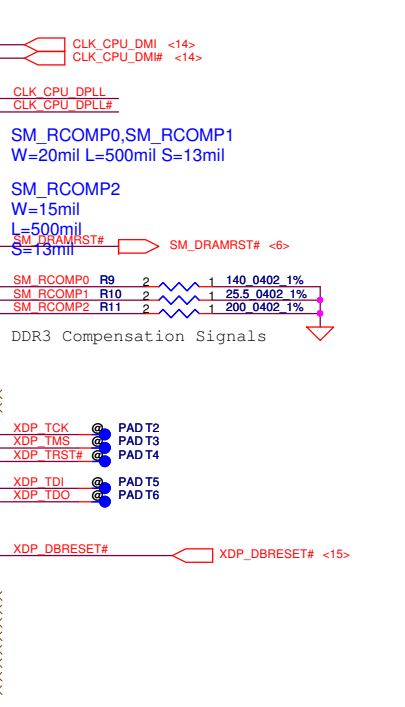


www.aitech1.ru

SM_DRAMPWROK:DRAM power ok



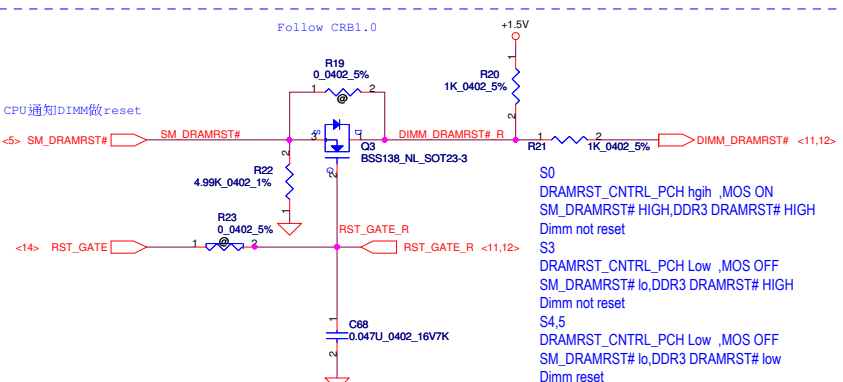
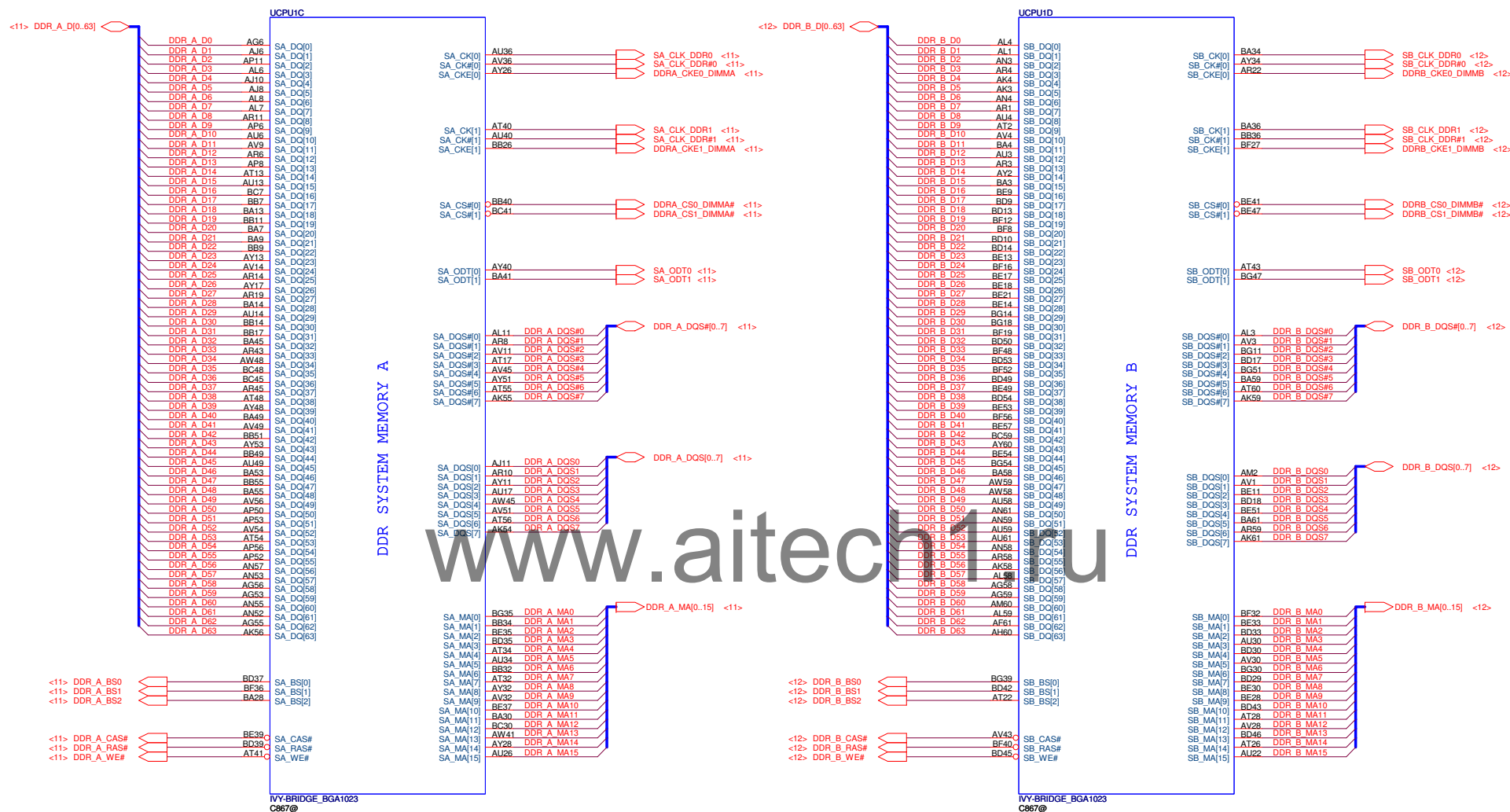
Checklist1.5 P.67 Graphis Disable Guide
eDP disable:
DPLL_REF_SSCLK PD 1K_5% to GND
DPLL_REF_SSCLK# PU 1K_5% to
+1.05VS_VTT



Tacoma_Fall2 1.0 PU 1K +3VS
Check list 1.5 PU 1K +3VS
Debug port DG1.1-1.3 50~5K
ohm

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	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.				PROCESSOR(3/7) DDRIII
Size Custom	Document Number	VBA20 LA-9303P M/B		Rev 0.2
Date:	Friday, August 10, 2012	Sheet	5	of 49

<http://sualaptop365.edu.vn>



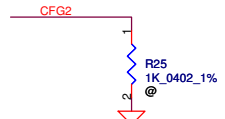
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	PROCESSOR(3/7) DDRIII	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	Rev
				Document Number	0.2
				VBA20 LA-9303P M/B	
				Date: Friday, August 10, 2012	Sheet 6 of 49

<http://sualaptop365.edu.vn>

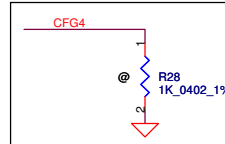


These pins are for solder joint reliability and non-critical to function. For BGA only.

CFG Straps for Processor

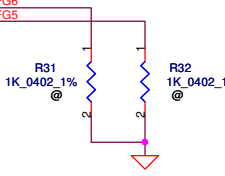


PEG Static Lane Reversal - CFG2 is for the 16x	
CFG2	1: Normal Operation; Lane # definition matches socket pin map definition ★ 0: Lane Reversed

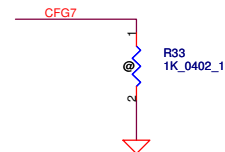


UMA, Optimus eDP 啟動
DISO eDP 關閉

eDP enable	
CFG4	★ 1: Disable 0: Enable



PCIe Port Bifurcation Straps	
CFG[6:5]	11: (Default) 1x16 PCI Express ★ 10: 2x8 PCI Express 01: Reserved 00: 1x8, 2x4 PCI Express



PEG DEFER TRAINING	
CFG7	Tacoma_Fall2 1.0 P.12 1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training

INTEL Recommend VCC
4*470uF, 12*22uF(0805) and 35*2.2uF(0402)
PD0.8
CAP at P.51

ULV type
DC 33A

POWER

8.5A

UCPU1F

+CPU_CORE

VCC[1]
VCC[2]
VCC[3]
VCC[4]
VCC[5]
VCC[6]
VCC[7]
VCC[8]
VCC[9]
VCC[10]
VCC[11]
VCC[12]
VCC[13]
VCC[14]
VCC[15]
VCC[16]
VCC[17]
VCC[18]
VCC[19]
VCC[20]
VCC[21]
VCC[22]
VCC[23]
VCC[24]
VCC[25]
VCC[26]
VCC[27]
VCC[28]
VCC[29]
VCC[30]
VCC[31]
VCC[32]
VCC[33]
VCC[34]
VCC[35]
VCC[36]
VCC[37]
VCC[38]
VCC[39]
VCC[40]
VCC[41]
VCC[42]
VCC[43]
VCC[44]
VCC[45]
VCC[46]
VCC[47]
VCC[48]
VCC[49]
VCC[50]
VCC[51]
VCC[52]
VCC[53]
VCC[54]
VCC[55]
VCC[56]
VCC[57]
VCC[58]
VCC[59]
VCC[60]
VCC[61]
VCC[62]
VCC[63]
VCC[64]
VCC[65]
VCC[66]
VCC[67]
VCC[68]
VCC[69]
VCC[70]
VCC[71]
VCC[72]
VCC[73]
VCC[74]
VCC[75]
VCC[76]

CORE SUPPLY

PEG IO AND DDR IO

VCCIO[1]
VCCIO[2]
VCCIO[3]
VCCIO[4]
VCCIO[5]
VCCIO[6]
VCCIO[7]
VCCIO[8]
VCCIO[9]
VCCIO[10]
VCCIO[11]
VCCIO[12]
VCCIO[13]
VCCIO[14]
VCCIO[15]
VCCIO[16]
VCCIO[17]
VCCIO[18]
VCCIO[19]
VCCIO[20]
VCCIO[21]
VCCIO[22]
VCCIO[23]
VCCIO[24]
VCCIO[25]
VCCIO[26]
VCCIO[27]
VCCIO[28]
VCCIO[29]
VCCIO[30]
VCCIO[31]
VCCIO[32]
VCCIO[33]
VCCIO[34]
VCCIO[35]
VCCIO[36]
VCCIO[37]
VCCIO[38]
VCCIO[39]
VCCIO[40]
VCCIO[41]
VCCIO[42]
VCCIO[43]
VCCIO[44]
VCCIO[45]
VCCIO[46]
VCCIO[47]
VCCIO[48]
VCCIO[49]
VCCIO[50]
VCCIO[51]
VCCIO[52]
VCCIO[53]
VCCIO[54]
VCCIO[55]
VCCIO[56]
VCCIO[57]
VCCIO[58]
VCCIO[59]
VCCIO[60]
VCCIO[61]
VCCIO[62]
VCCIO[63]
VCCIO[64]
VCCIO[65]
VCCIO[66]
VCCIO[67]
VCCIO[68]
VCCIO[69]
VCCIO[70]
VCCIO[71]
VCCIO[72]
VCCIO[73]
VCCIO[74]
VCCIO[75]
VCCIO[76]

INTEL Recommend VCCIO
2*330uF, 10*10uF(0603) and 26*1uF(0402)
PD0.8

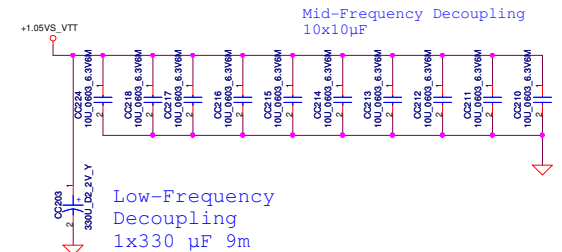
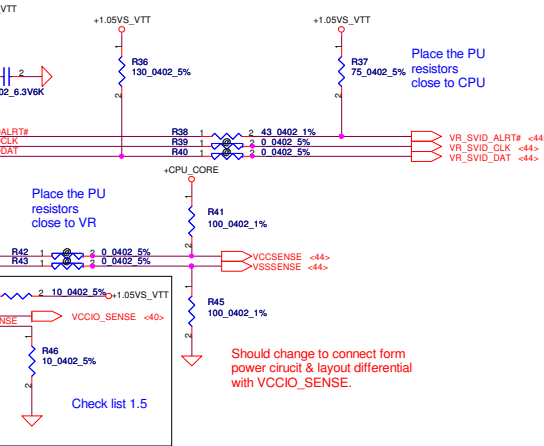
High-Frequency Decoupling
27x1uF

For PEG

www.aitech1.ru

VCCIO_SEL after Ivy bridge ES2 Voltage support

BC22 * 1/NC : (Default) +1.05VS_VTT
0: +1.0VS_VTT



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	Title	PROCESSOR(5/7) PWR.BYPASS
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	Custom	Document Number	VBA20 LA-9303P M/B	Rev	0.2
Date	Friday, August 10, 2012	Sheet	8	of	49

INTEL Recommend VAXG
2*470uF,6*22uF(0805) and 6*10uF(0603)
11*1U(0402)
PD0.8

POWER

GRAPHICS

QUIET RAILS

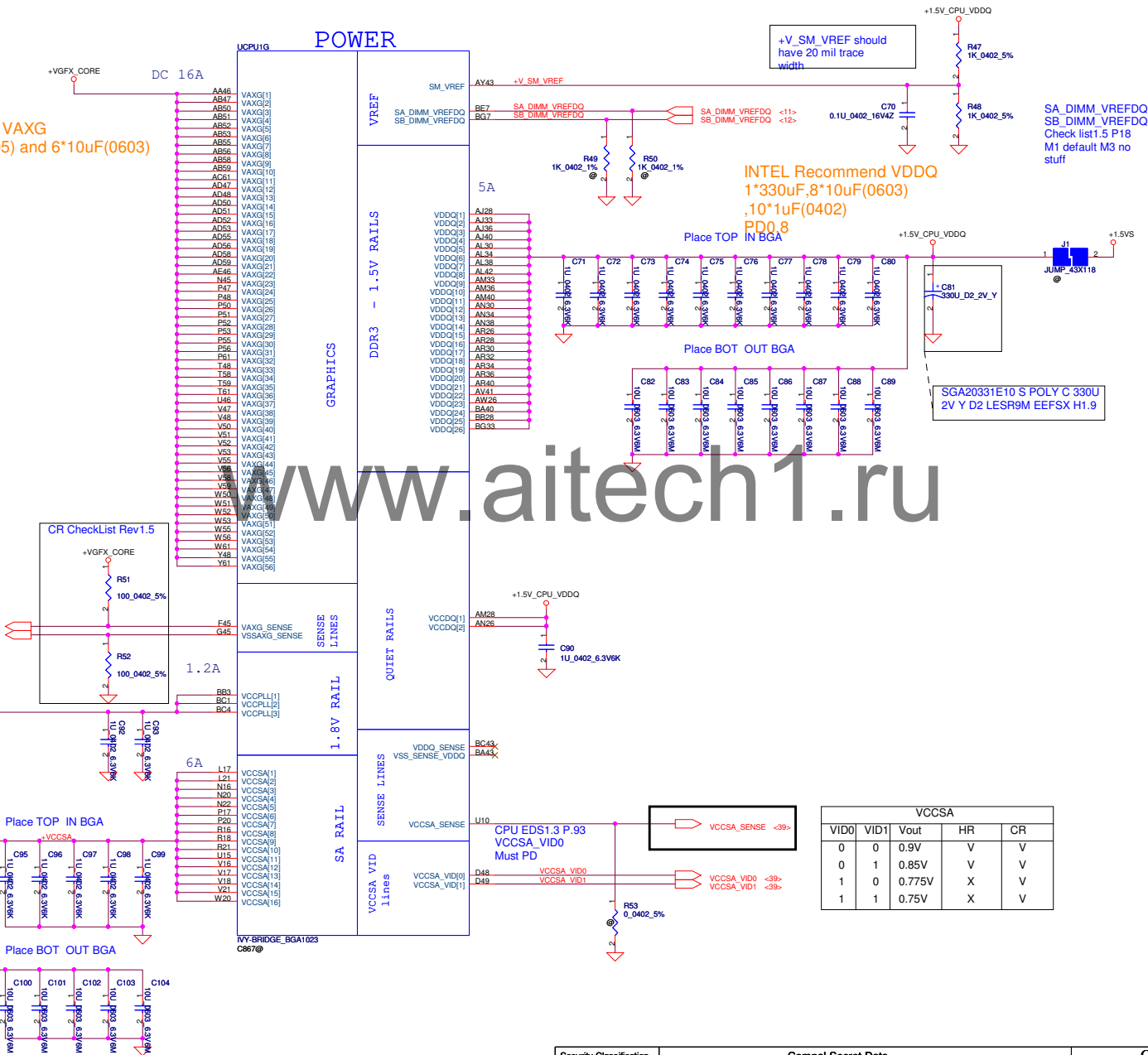
www.aitech1.ru

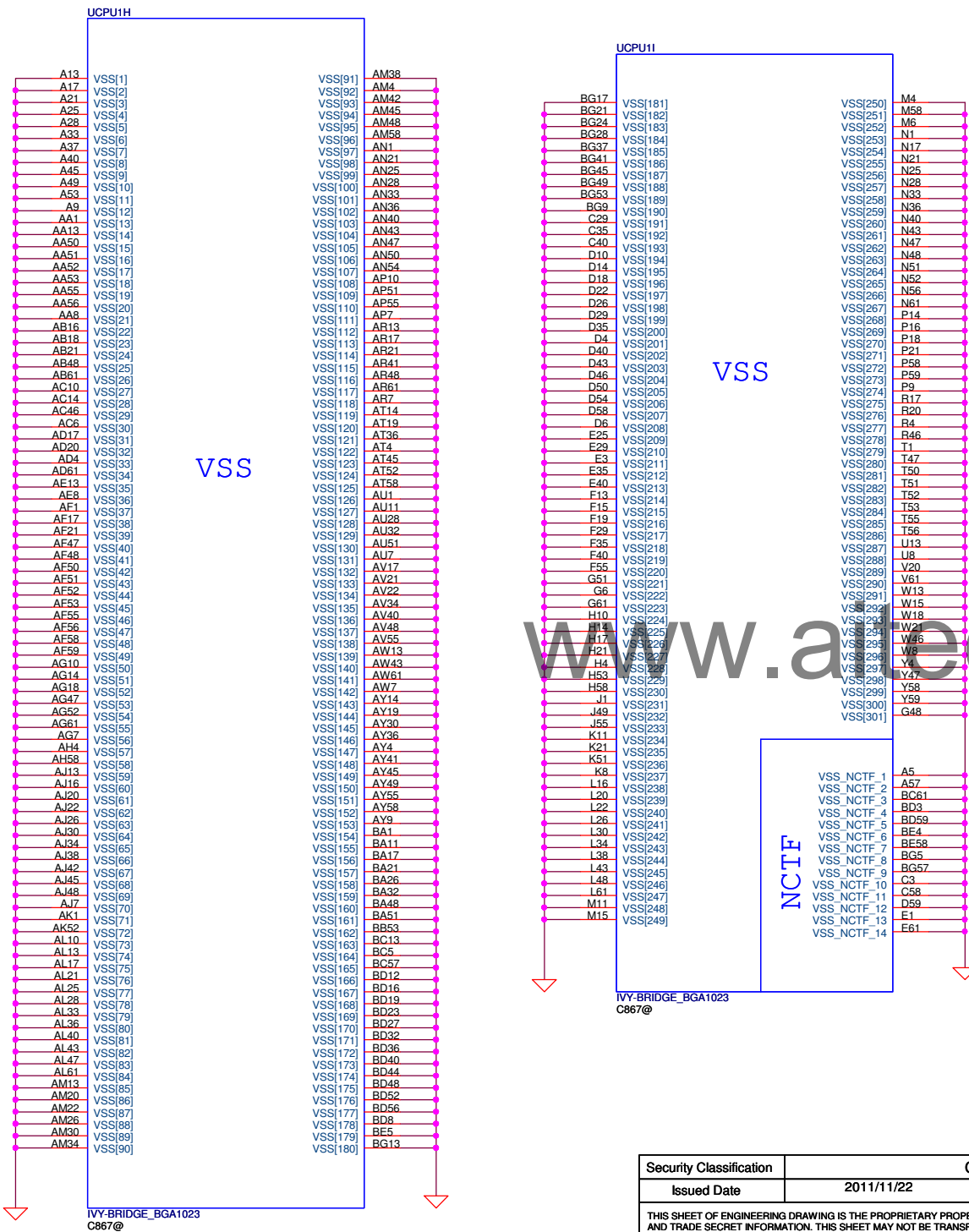
INTEL Recommend VCCPLL
1*330uF,2*1uF(0402)
PD0.8

SGA00001700 S POLY C 220U
220U 2.5V M B2 ESR35 TPE
H1.9

SGA20331E10 S POLY C 330U
2V Y D2 LESR9M EEF5X H1.9

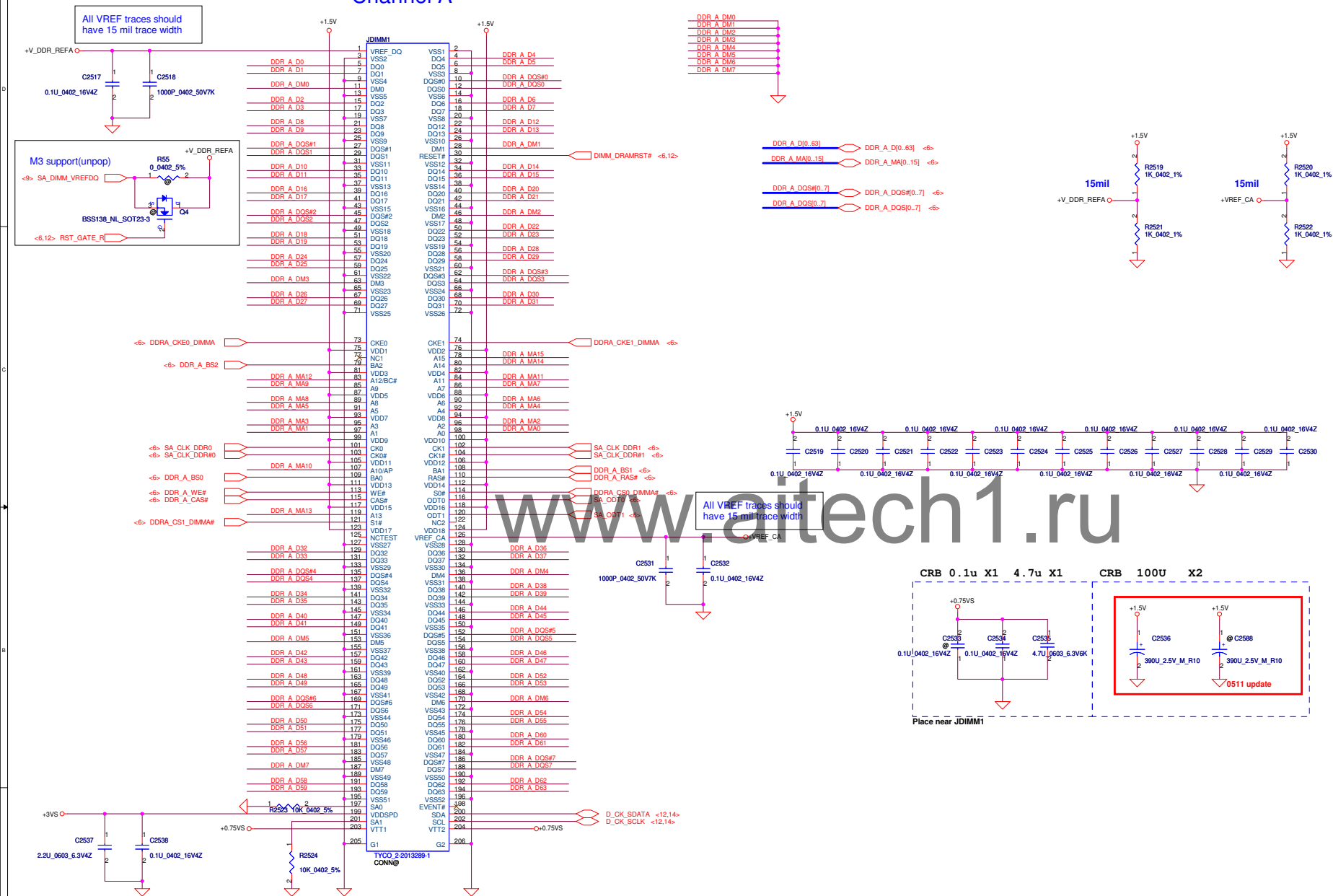
INTEL Recommend VCCSA
1*330uF,5*10uF(0603)
,5*1uF(0402)
PD0.8





Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2011/11/22		Deciphered Date		2012/11/22		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.						PROCESSOR(7/7) VSS					
						Size	Document Number			Rev	
						Custom	VBA20 LA-9303P M/B			0.2	
Date:		Friday, August 10, 2012			Sheet		10	of	49		

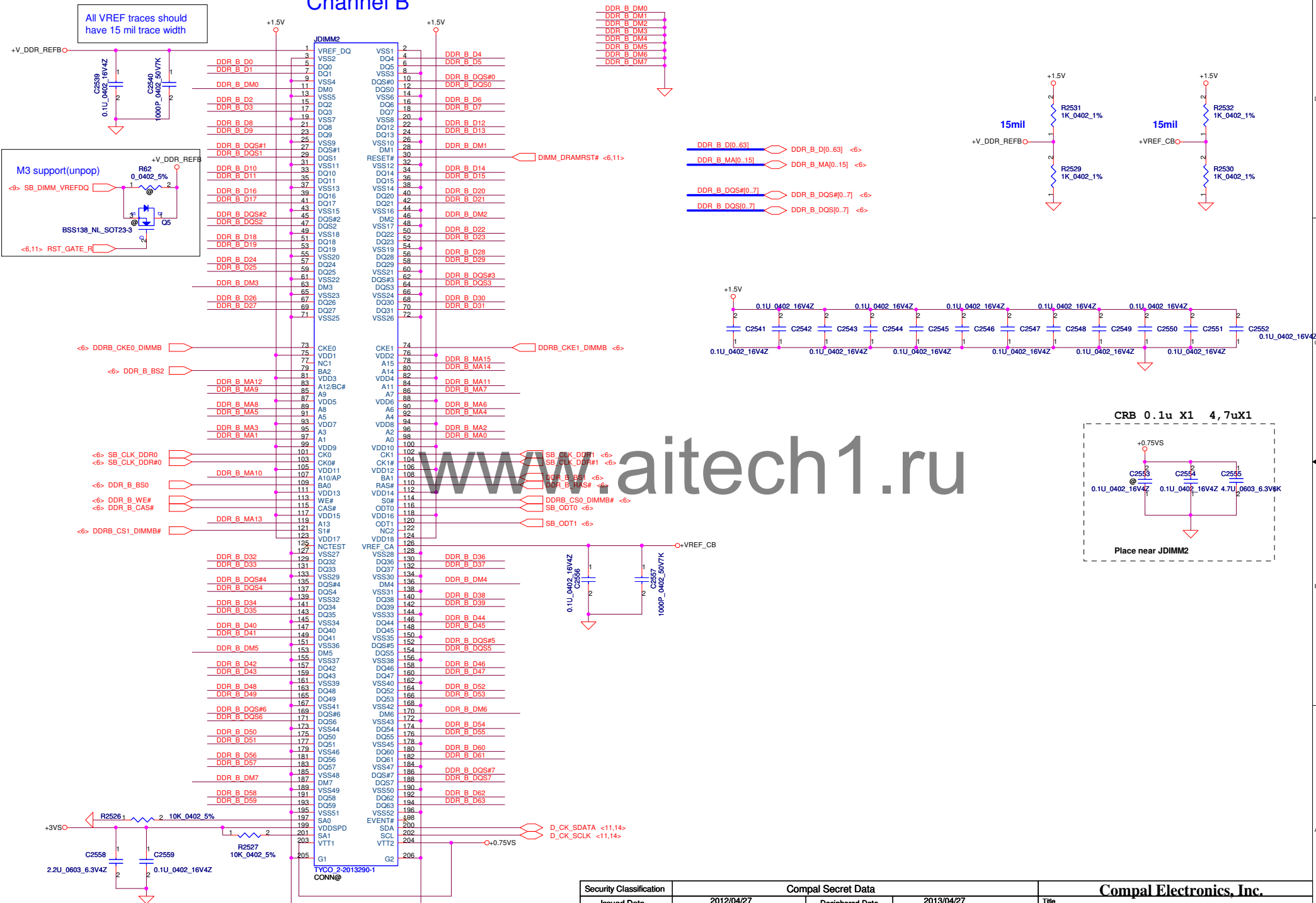
Channel A



<http://sualaptop365.edu.vn>

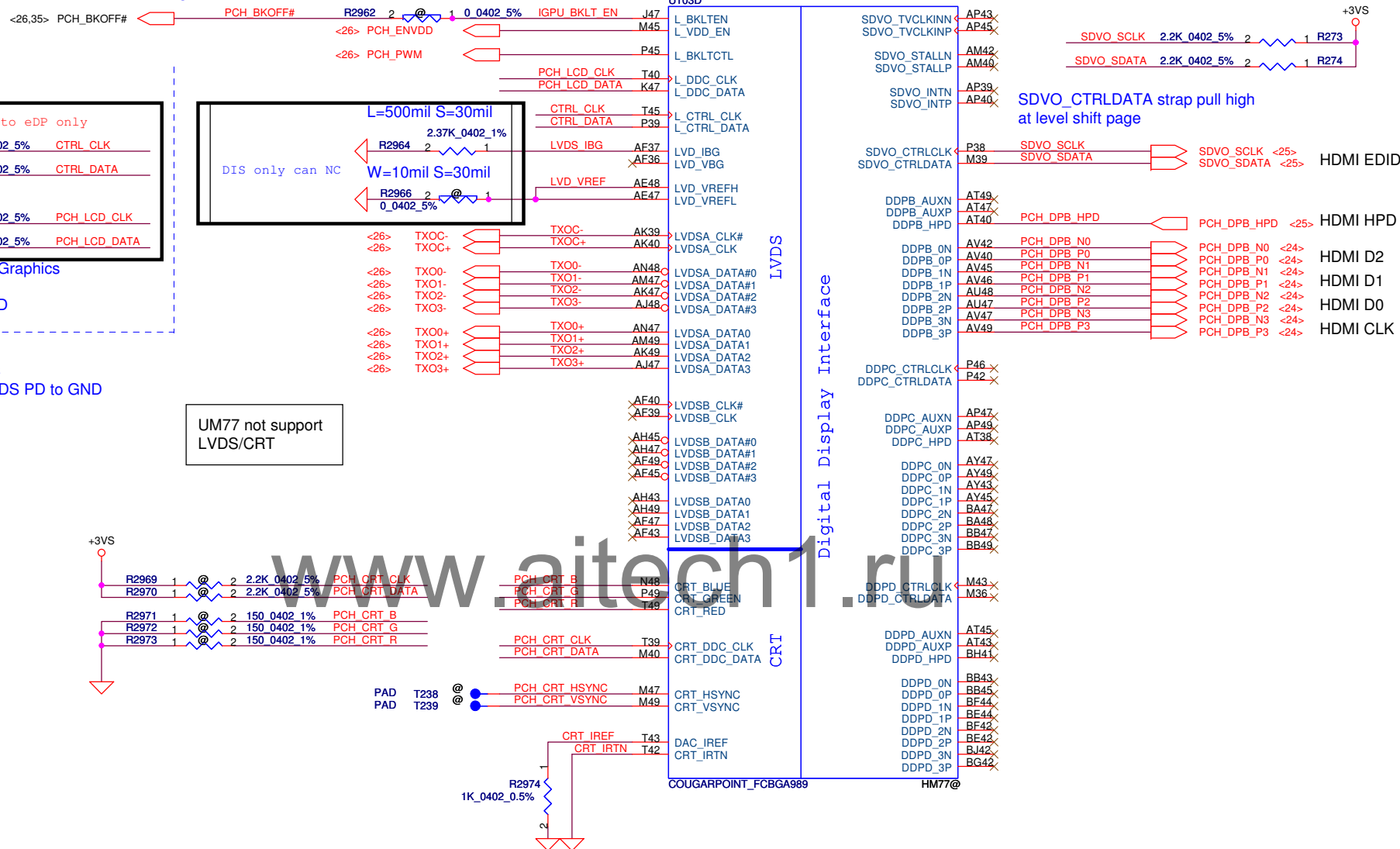
Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date		2012/04/27	Deciphered Date	2013/04/27	Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE 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.					DDR3 SODIMM-I Socket			
					Size C	Document Number	Rev	
					VBA20 LA-9303P M/B			0.2
					Date:	Friday, August 10, 2012	Sheet	11

Channel B



Security Classification		Compal Secret Data		Title	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	DDR3 SODIMM-II Socket	
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 WITHOUT AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR REPRODUCED IN ANY MANNER OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number VBA20 LA-9303P M/B
				Date	Friday, August 10, 2012
				Sheet	12 of 49





Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	Title	PCH (4/9) LVDS,CRT,DP,HDMI
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	Rev
				Custom	0.2
				Document Number	VBA20 LA-9303P M/B
				Date:	Friday, August 10, 2012
				Sheet	16 of 49

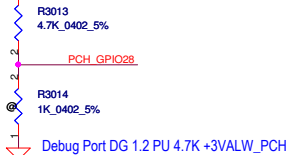
HDA_SYNC PH(PLL =+1.5VS)

GPIO28

On-Die PLL Voltage Regulator

This signal has a weak internal pull up
* On-Die PLL voltage regulator enable
L On-Die PLL Voltage Regulator disable

+VCCSUS3_3



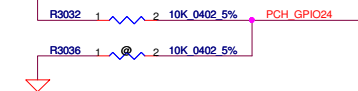
Fan Tachometer Inputs
TACH1~7 only on
server
can insted to GPIO

No use PU 10K +3VS	PCH_GPIO0	T7	BMBUSY# / GPIO0
No use PU 10K +3VS	PCH_GPIO1	A42	TACH1 / GPIO1
No use PU 10K +3VS	PCH_GPIO6	H36	TACH2 / GPIO6
No use PU 10K +3VS	<35> EC_SCI#	E38	TACH3 / GPIO7
No use PU 10K +3VALW	<35> EC_SMI#	C10	GPIO8
No use PU +3VALW	PCH_GPIO12	C4	LAN_PHY_PWR_CTRL / GPIO12
No use PU +3VALW	PCH_GPIO15	G2	GPIO15
No use PU +3VS	PCH_GPIO16	U2	SATA4GP / GPIO16
No use PU +3VS	PCH_GPIO17	D40	TACH0 / GPIO17
No use PU 10K +3VS	PCH_GPIO22	T5	SCLK / GPIO22
No use PU +3VALW	PCH_GPIO24	E8	GPIO24 / MEM_LED
No use PU 10K +3VALW	PCH_GPIO27	E16	GPIO27
No use PU 10K +3VS	PCH_GPIO28	P8	GPIO28
No use can NC	PAD T225@	K1	STP_PCI# / GPIO34
Can't PU	PCH_GPIO35	K4	GPIO35
Can't PU	PCH_GPIO36	V8	SATA2GP / GPIO36
No use PU 10K +3VS	PCH_GPIO37	M5	SATA3GP / GPIO37
No use PU 10K +3VS	PCH_GPIO38	N2	SLOAD / GPIO38
No use PU 10K +3VS	PCH_GPIO39	M3	SDATAOUT0 / GPIO39
No use PU 10K +3VS	PCH_GPIO48	V13	SDATAOUT1 / GPIO48
SATA5GP&TEMP_ALERT# CRB PU 10K +3VS	PCH_GPIO49	V3	SATA5GP / GPIO49
No use PU +3VALW	PCH_GPIO57	D6	GPIO57

9/15 Layout
request remove
Test point
They will route
by itself

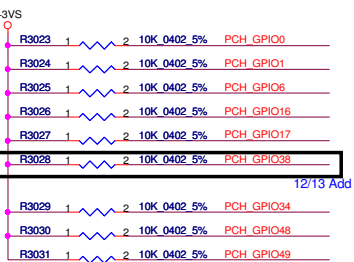
12/13 Add

+VCCSUS3_3

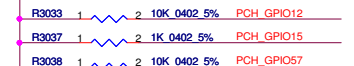


GPIO36/GPIO37 is Strap functionality
that requires internal pull down to be sampled at rising PWROK.
When uses as SATA2GP/SATA3GP for mechanical presence detect
-use a external pull up 150K-200K ohm to Vcc3_3
When used as GP input
-ensure GPI is not driven high during strap sampling window
When Unused as GPIO or SATA*GP
-use 8.2K-10K pull-down
check list page 47

SATA2GP/GPIO36 &
SATA3GP/GPIO37
Sampled at Rising edge of
PWROK.
Weak internal pull-down.
(weak internal pull-down is disabled
after PLTRST# de-asserts)
NOTE: This signal should NOT be
pulled high when strap is sampled

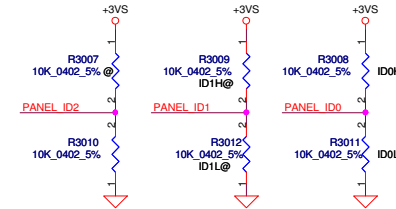


+VCCSUS3_3

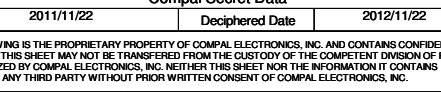
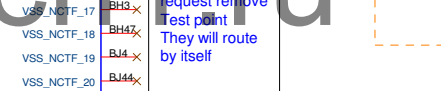
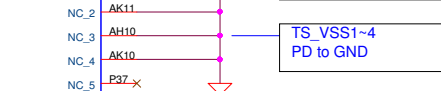
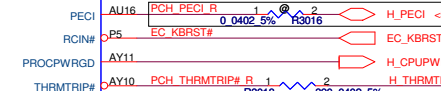
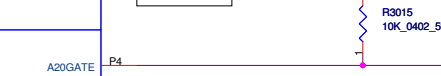
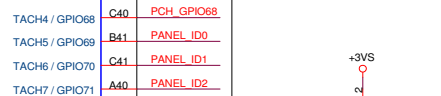


GPIO24 Unmultiplexed
NOTE: GPIO24 configuration
register bits are not cleared by
CF9h reset event.
CRB1.0 PU 10K to +3VALW

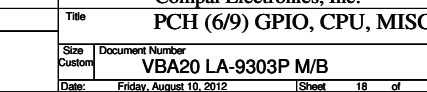
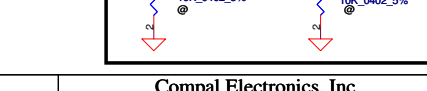
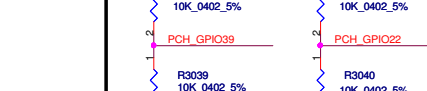
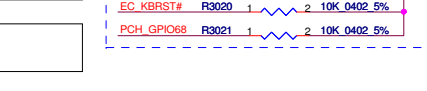
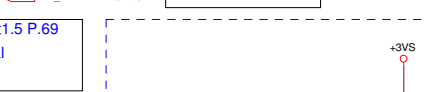
PANEL ID



PANEL_ID2	PANEL_ID1	PANEL_ID0	Panel
0	0	0	CMI M185BGE-L22
0	0	1	AUO M185XTN01.2
0	1	0	LGD LM185WH2-TLK1
0	1	1	

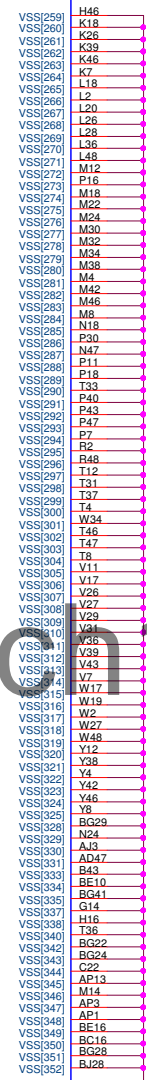
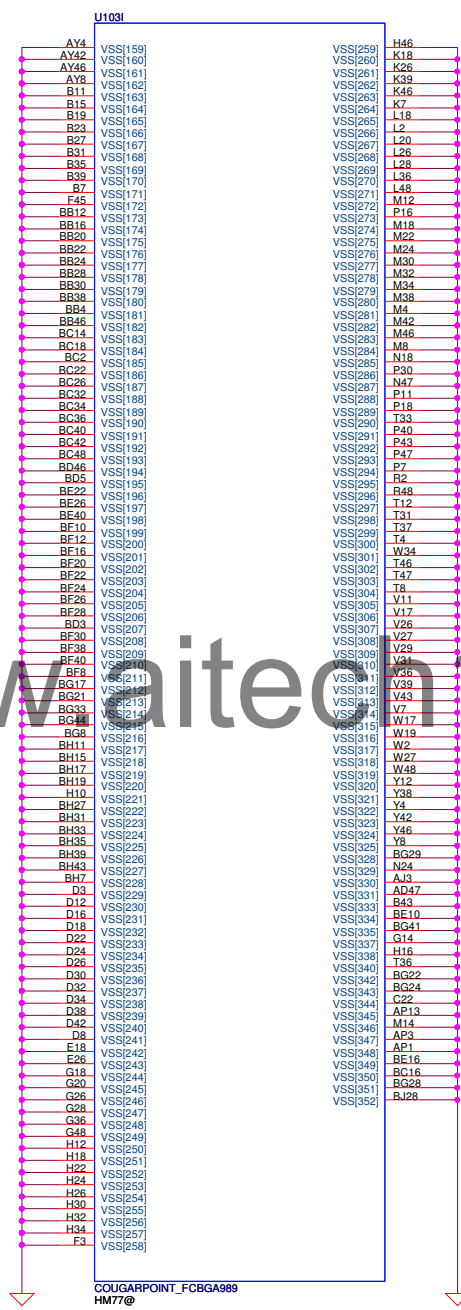
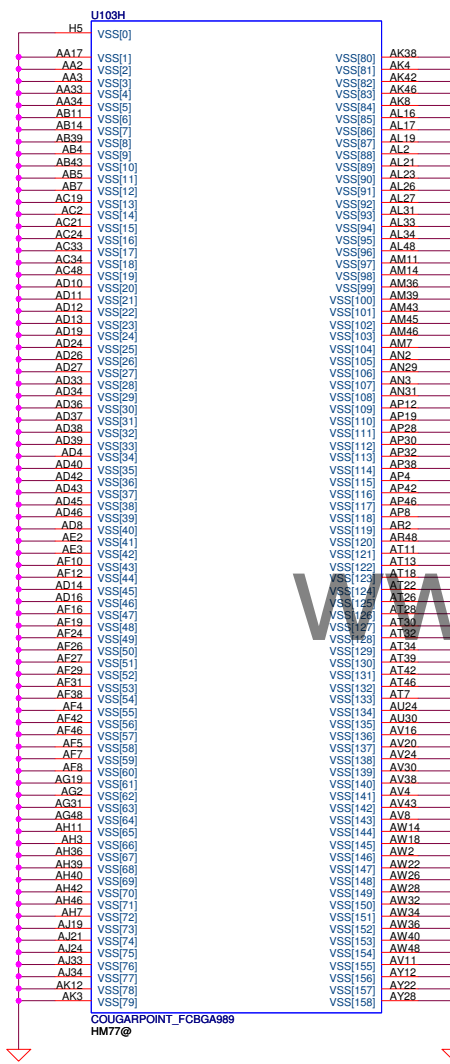


PECI CPU-EC
CTRL+ALT+DEL
non CPU power ok
130c shut down



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	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
				VBA20 LA-9303P M/B
				Rev
				0.2
				Date
				Friday, August 10, 2012
				Sheet
				18 of 49





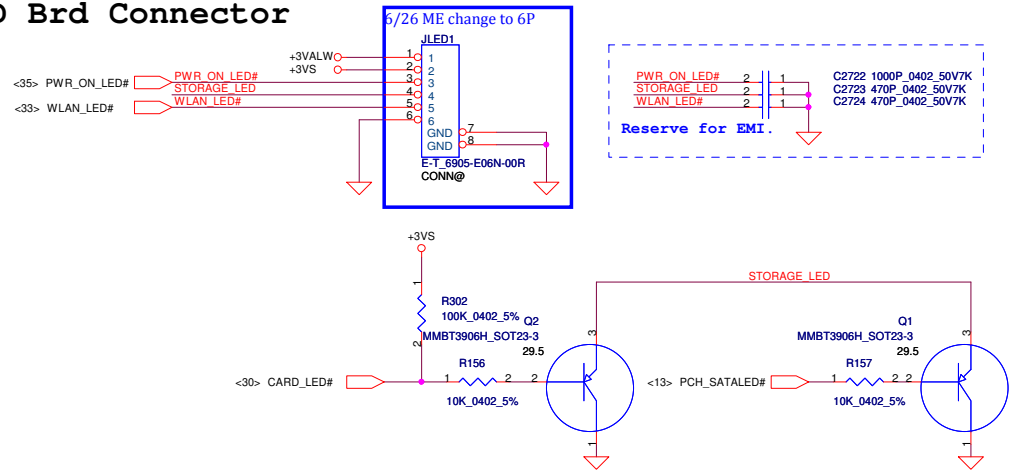
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/11/22	Deciphered Date	2012/11/22	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				PCH (9/9) VSS	
Size	Customer	Document Number	Rev		
		VBA20 LA-9303P M/B	0.2		
Date:	Friday, August 10, 2012	Sheet	21	of	49

www.aitech1.ru

http://sualaptop365.edu.vn

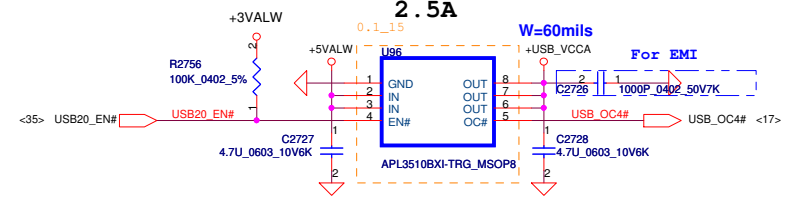
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2012/04/27	Deciphered Date	Reserved	
			2013/04/27		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT. IT IS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED, REPRODUCED, COPIED, DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
					VBA20 LA-9303P M/B
				Date:	Rev
				Friday, August 10, 2012	0.2
				Sheet	22 of 49

LED Brd Connector

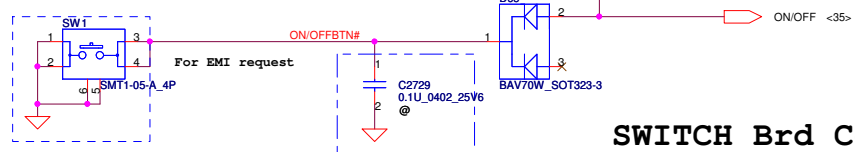


USB2.0 Power

2.5A

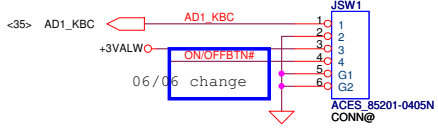


TOP side
For debug



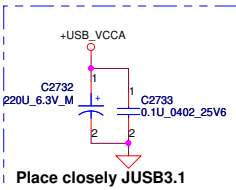
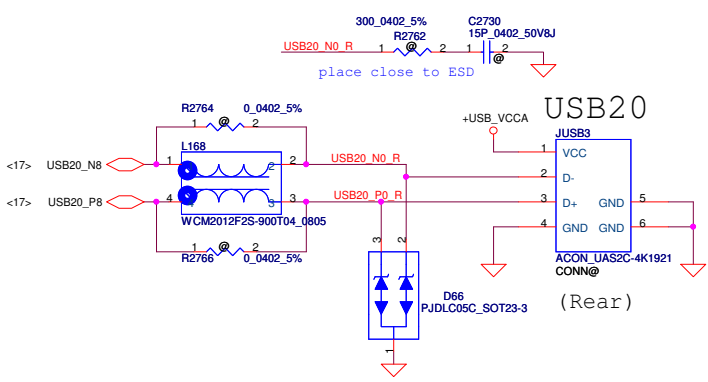
SWITCH Brd Connector

PU 4.7K on EC side

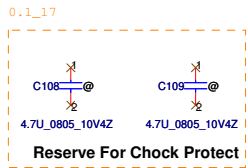
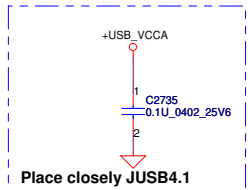
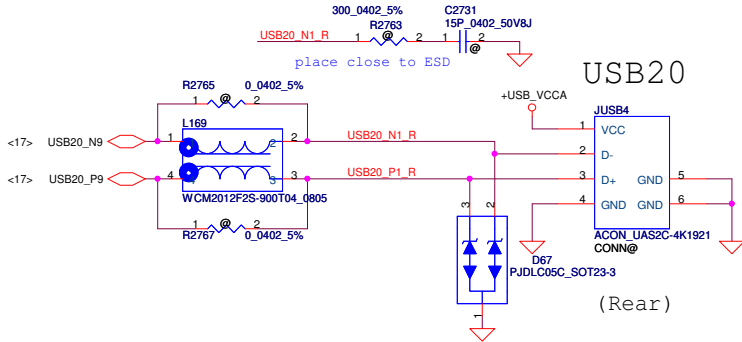


www.aitech1.ru

place close to ESD



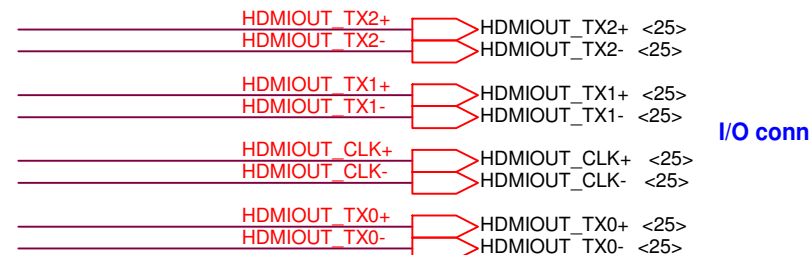
place close to ESD



http://sualaptop365.edu.vn

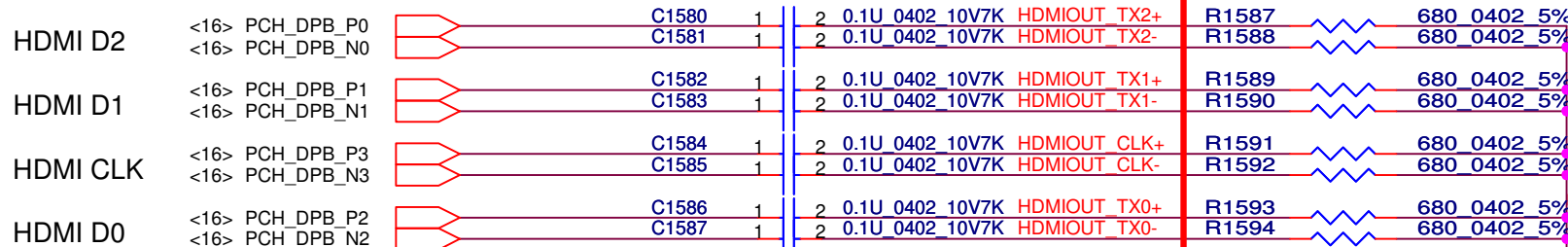
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT. NO PARTS OF THIS SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PRIOR WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED TO DISCLOSE TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				PWR/Switch/USB 2.0	
Size	Custom	Document Number	VBA20 LA-9303P M/B	Rev	0.2
Date:	Friday, August 10, 2012	Sheet	23	of	49

HDMI-OUT Level Shift



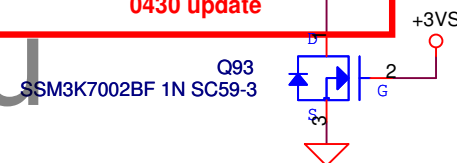
INTEL use 680 Ohm for termination

PCH



www.aitech1.ru

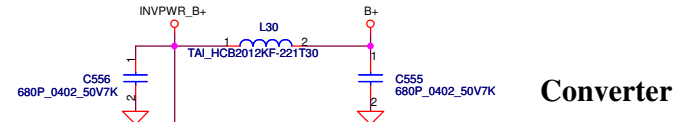
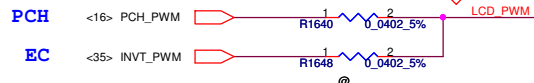
C & R close to J101 as short as possible



BKOFF#

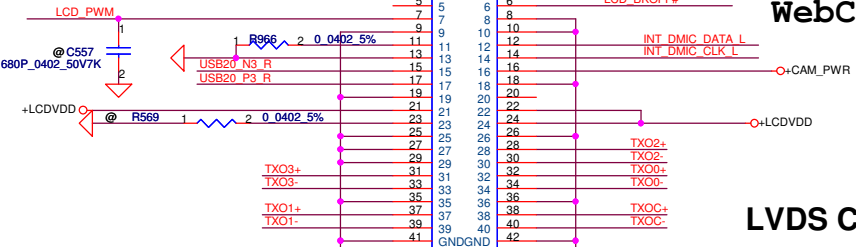


PWM

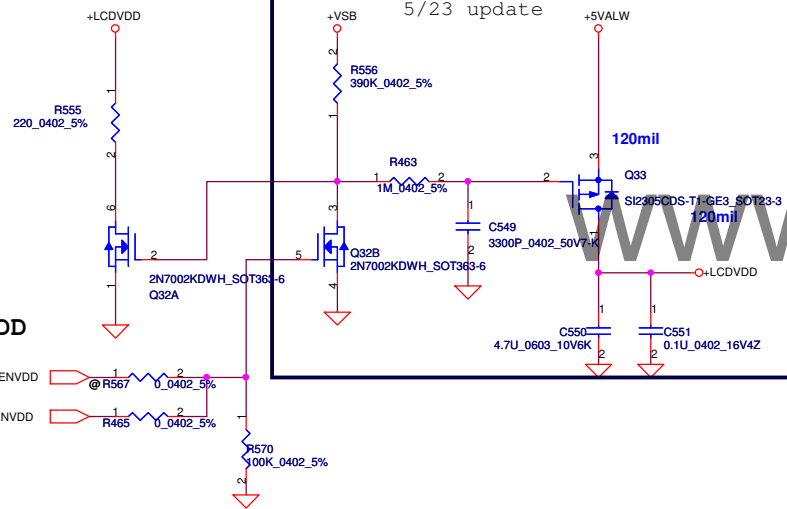


Converter

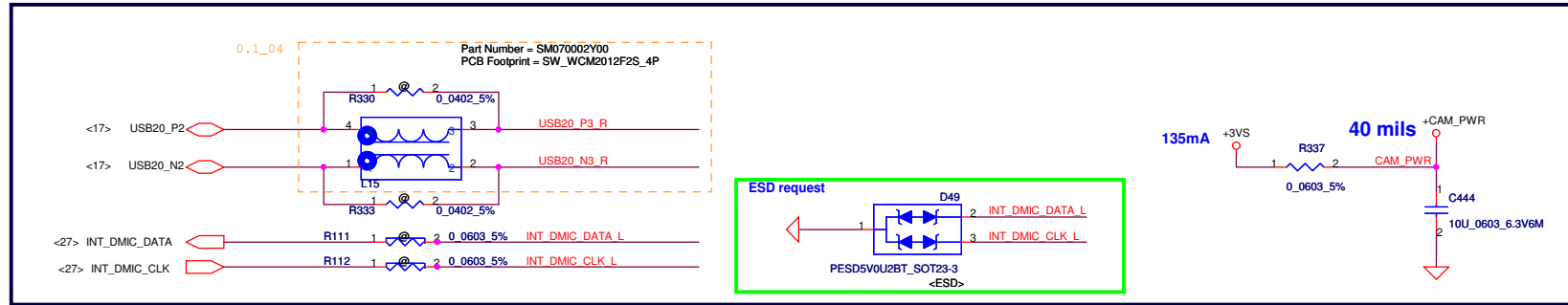
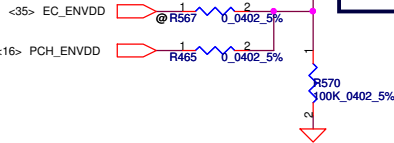
WebCam+DMic



5/23 update

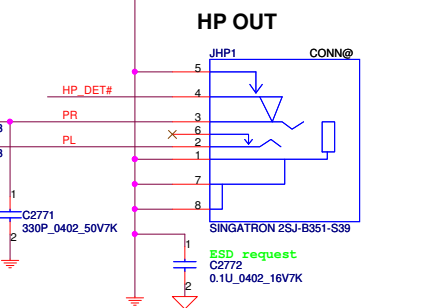
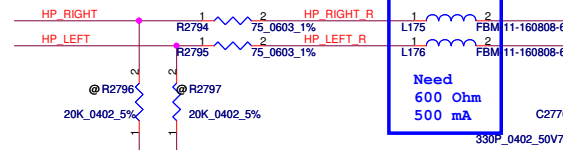
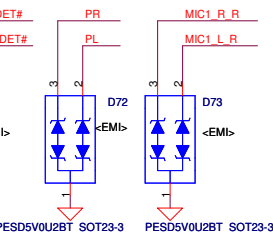
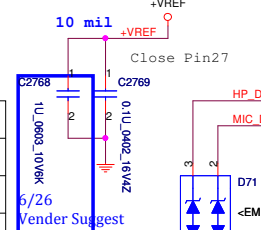
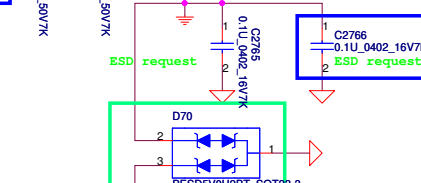
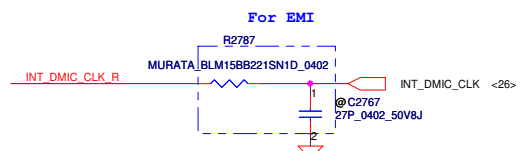
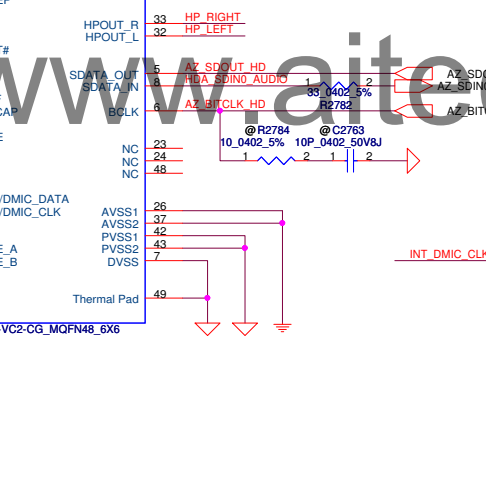
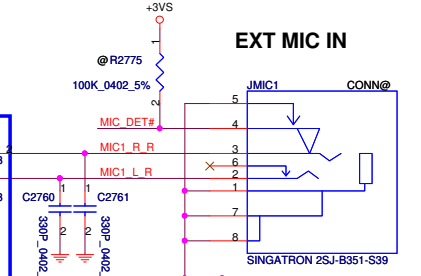
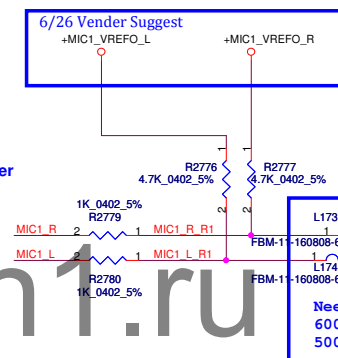
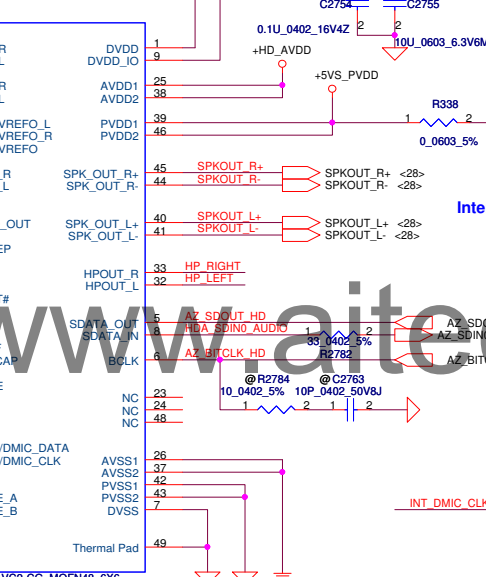
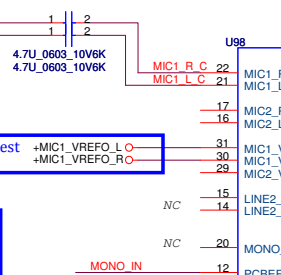
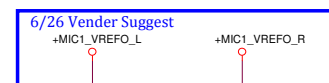
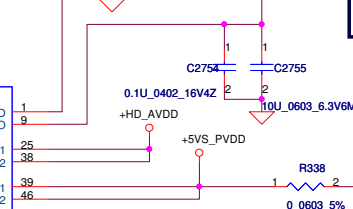
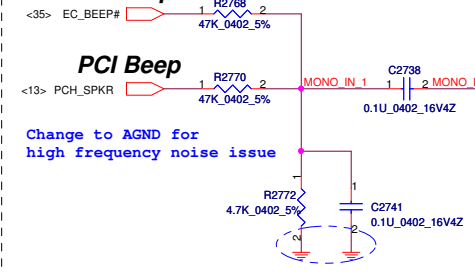
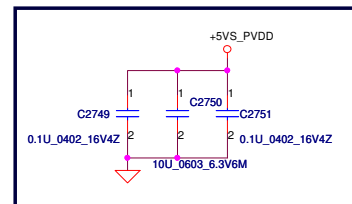
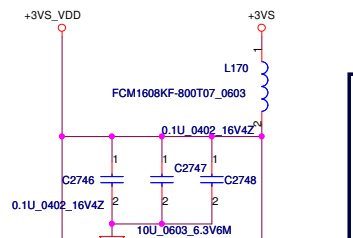
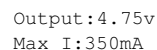


ENVDD



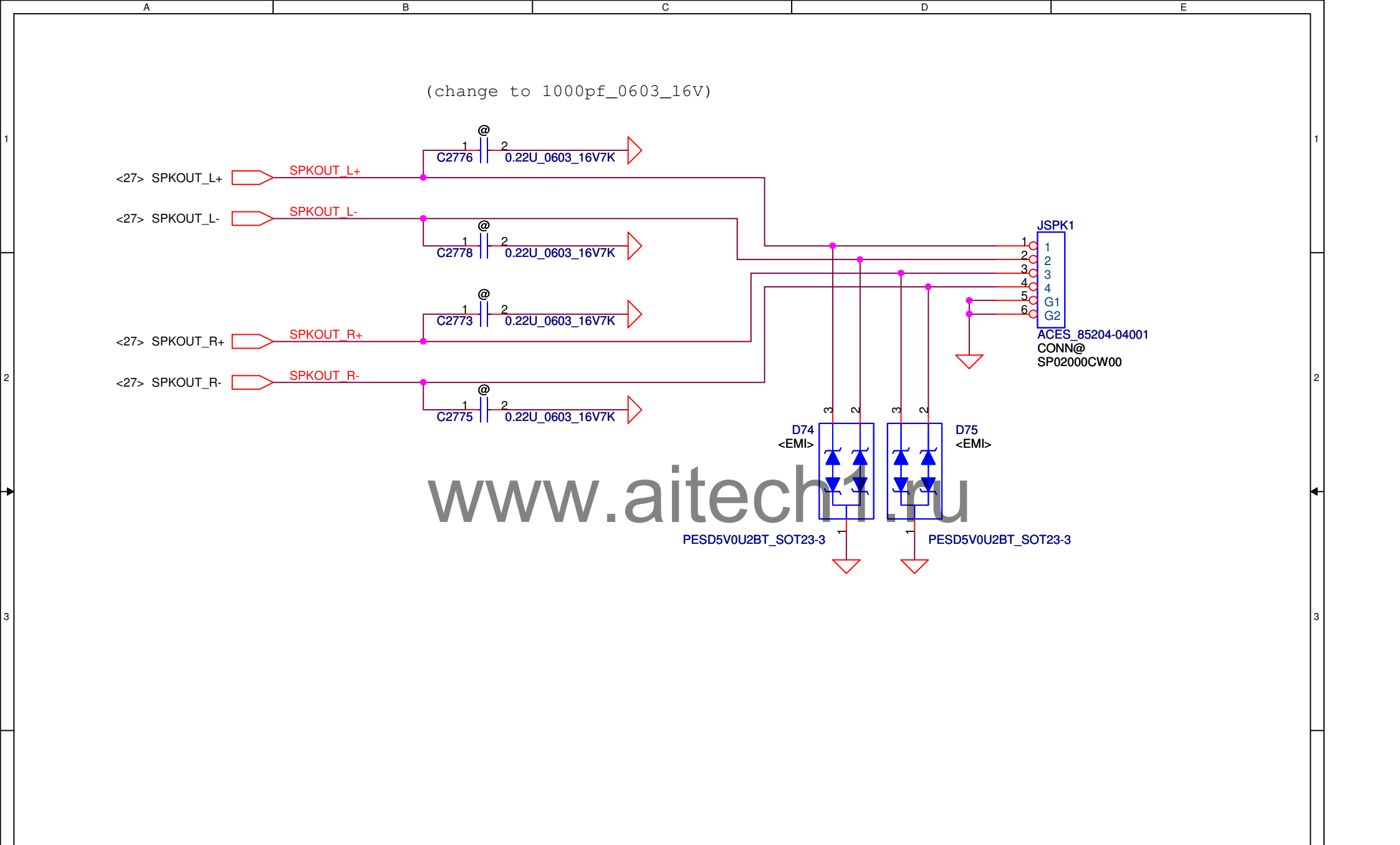
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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, REPRODUCED, COPIED, OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				LVDS	
				Size	Document Number
				Custom	VBA20 LA-9303P M/B
				Date	Friday, August 10, 2012
				Sheet	26 of 49
				Rev	0.2

<http://sualaptop365.edu.vn>



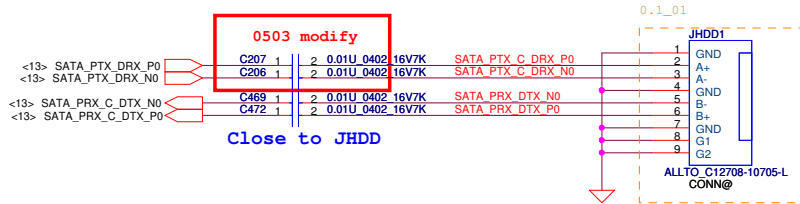
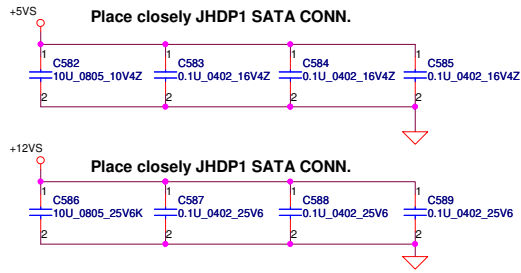
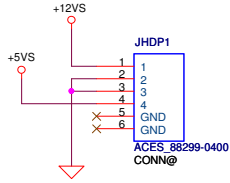
Security Classification		Compal Secret Data		Compal Electronics, Inc. HDA-ALC272/HP/MIC	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN AUTHORIZATION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				VBA20 LA-9303P M/B	
				Date	Friday, August 10, 2012
				Sheet	27 of 49

<http://sualaptop365.edu.vn>

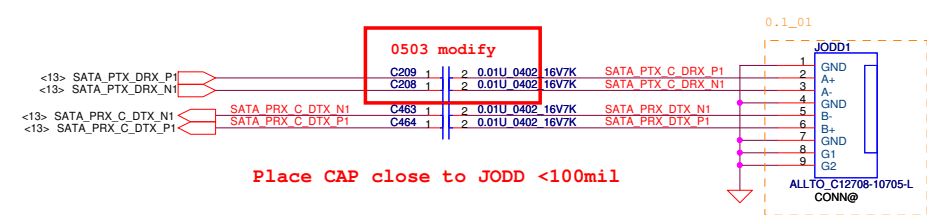
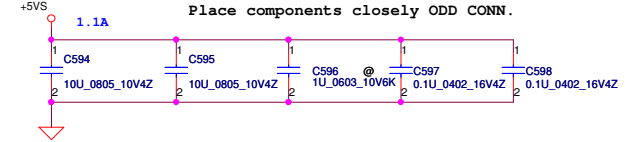
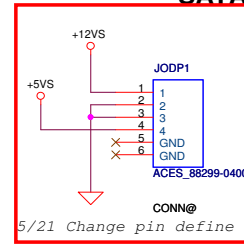


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				AMP	
				Size A	Document Number
				VBA20 LA-9303P M/B	
Date:		Friday, August 10, 2012		Sheet	28 of 49
Rev		0.2			

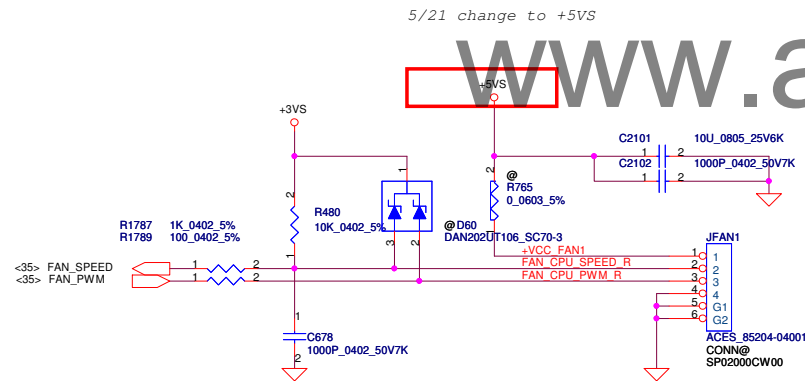
SATA HDD Conn.

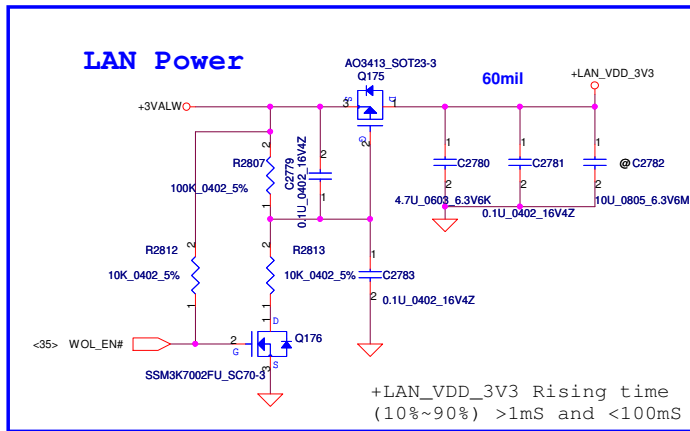


SATA ODD Conn

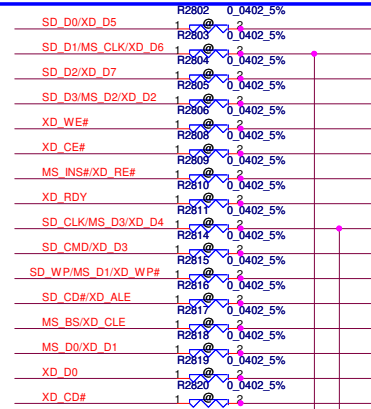


FAN Control Circuit

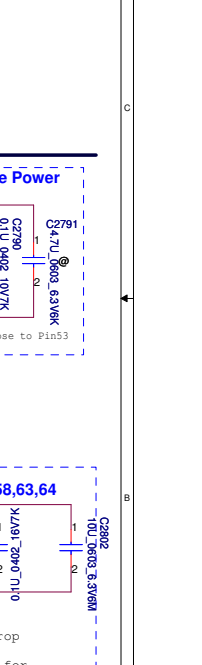
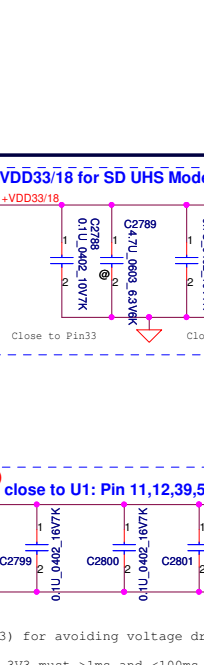
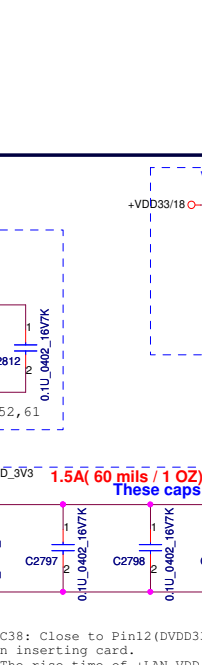
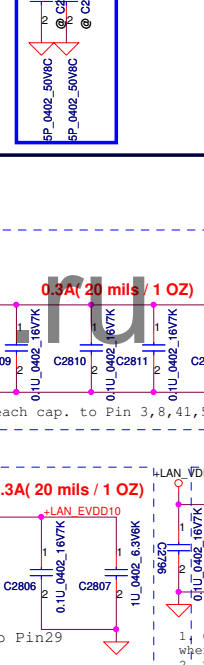
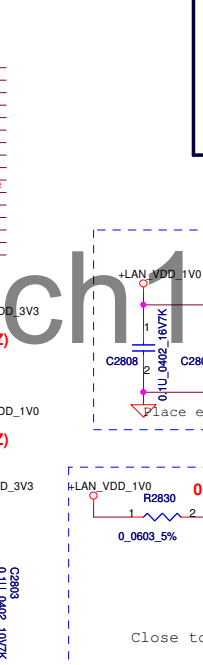
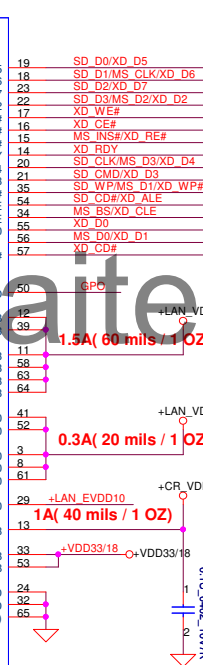
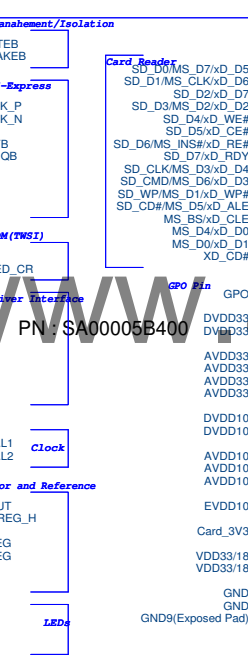
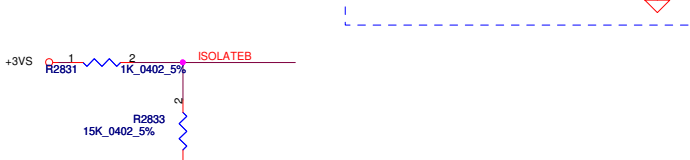
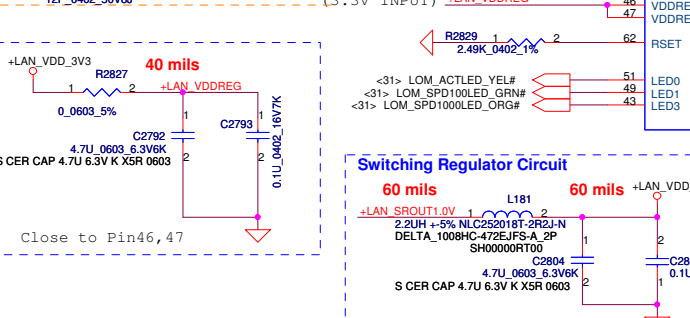
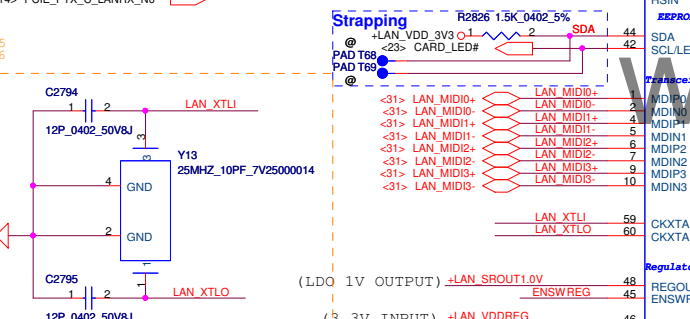
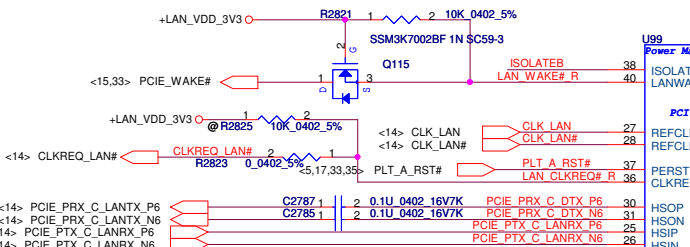
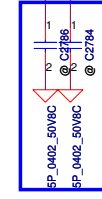




Close to U99



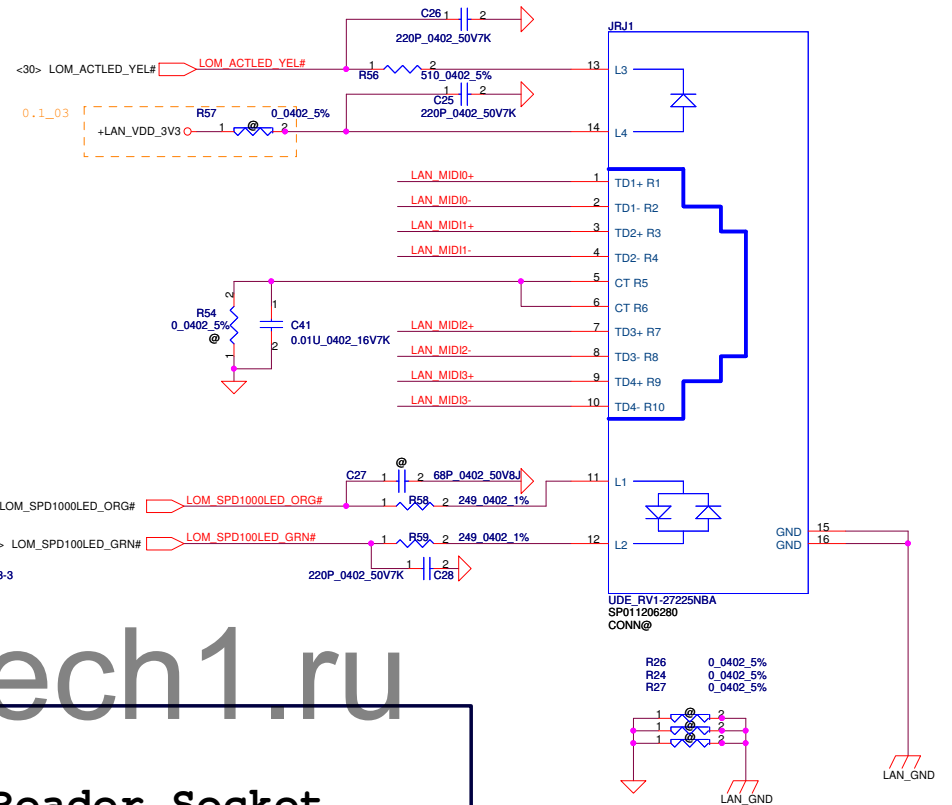
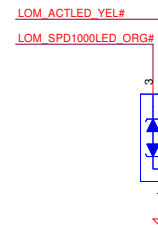
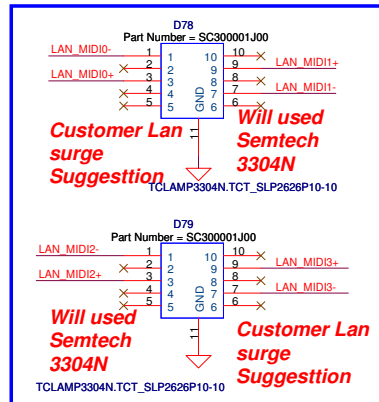
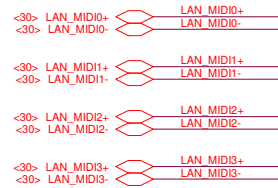
Close to U99



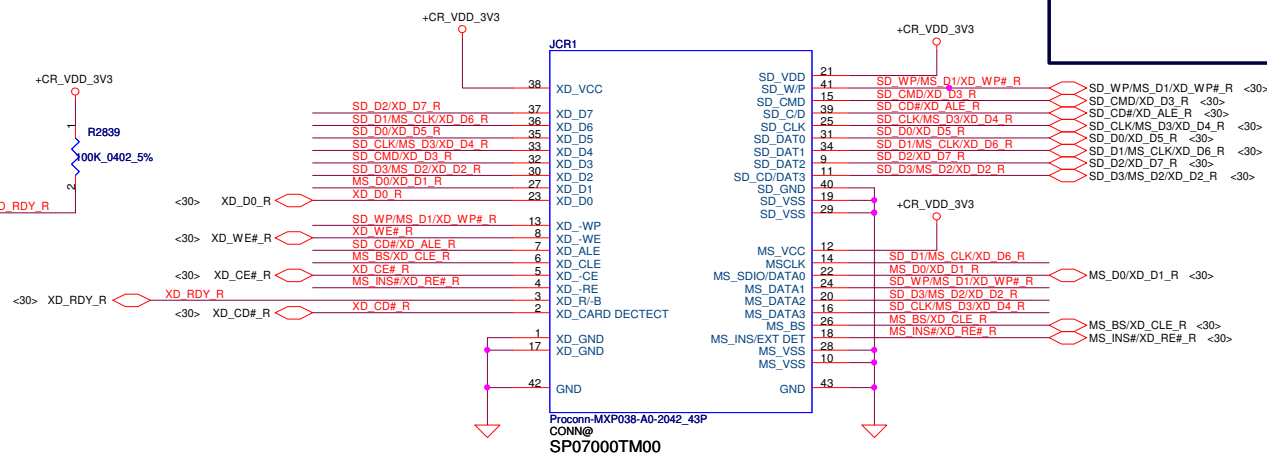
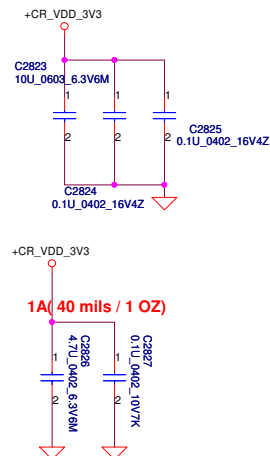
Security Classification			Compal Secret Data			Compal Electronics, Inc.		
Issued Date			Deciphered Date			Title		
2011/06/29			2011/0/03			LAN&CardReader Realtek RTL8411		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D.			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.			Size		
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.			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.			Document Number		
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.			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.			Rev		
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.			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.			0.2		
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.			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.			Date		
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.			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.			Friday, August 10, 2012		
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.			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.			Sheet		
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.			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.			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 R&D.			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.			of		
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.			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.			49		

<http://sualaptop365.edu.vn>

Combine Transformer to RJ45 (0626)

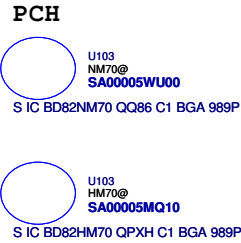
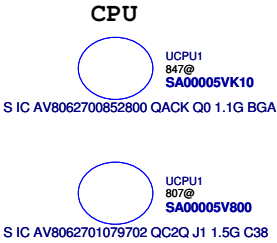


Card Reader Socket

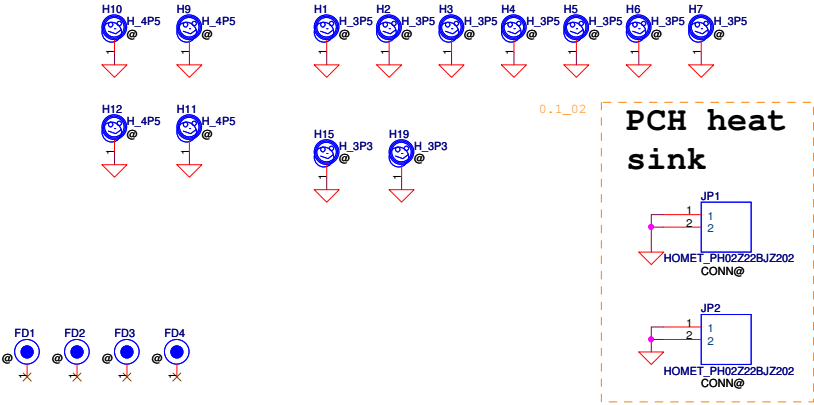


Security Classification		Compal Secret Data		Compal Electronics, Inc. JMB385 Media Card Controller	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE EXPRESS WRITTEN AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED IN ANY MANNER, OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number VBA20 LA-9303P M/B
					Rev 0.2
Date: Friday, August 10, 2012		Sheet 31 of 49			

<http://sualaptop365.edu.vn>



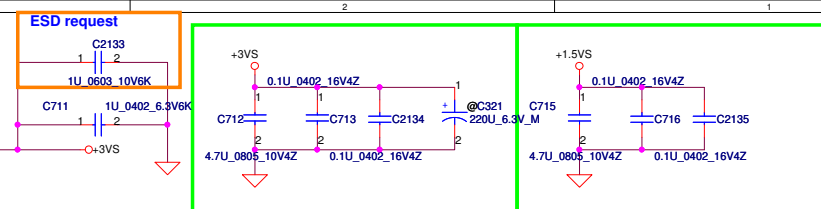
Screw Hole



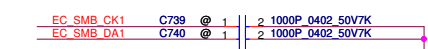
www.aitech1.ru

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	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. IT IS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED, REPRODUCED, COPIED, OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
					VBA20 LA-9303P M/B
				Date:	Friday, August 10, 2012
				Sheet	32 of 49
				Rev	0.2

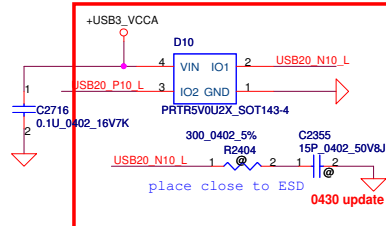
Mini Card Slot 1---TV tuner Current: 3.3 : 2750mA, 1.5: 500mA



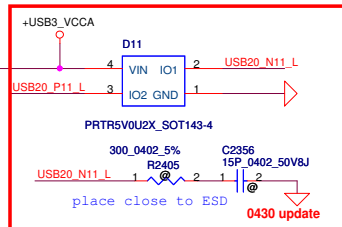
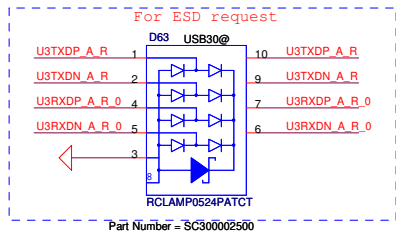
Mini Card Slot 2--- WLAN Current: 3.3 : 800mA,



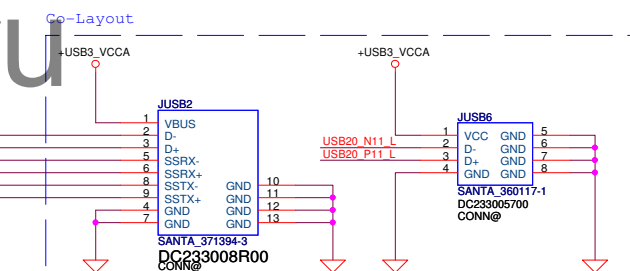
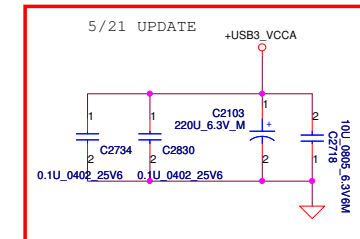
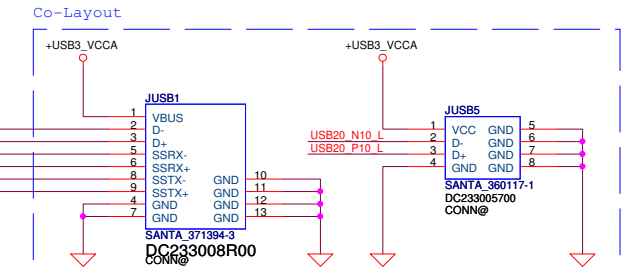
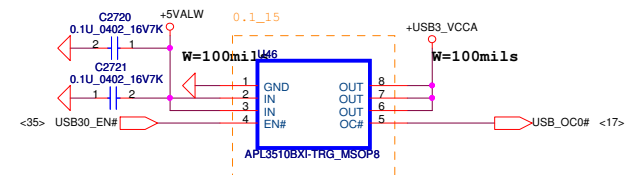
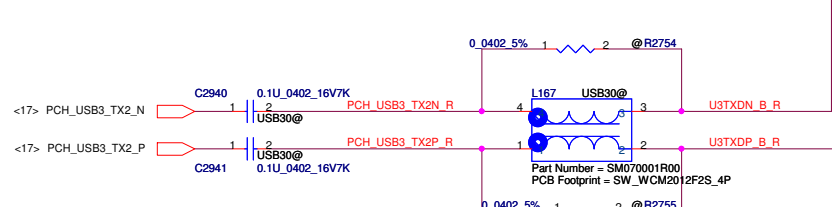
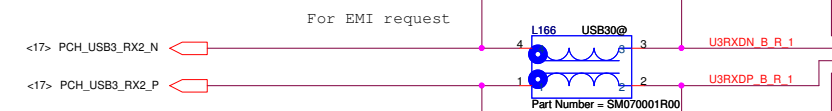
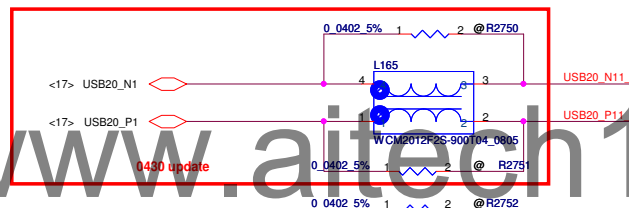
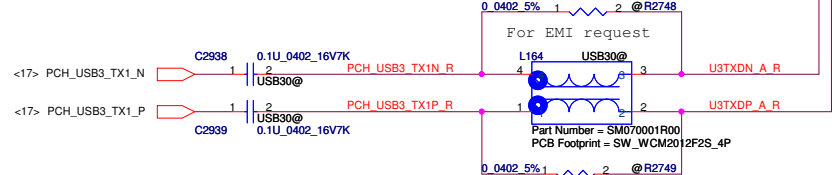
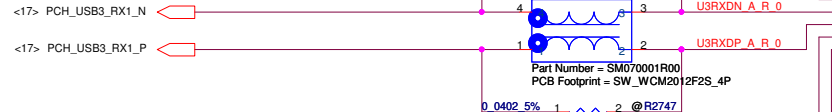
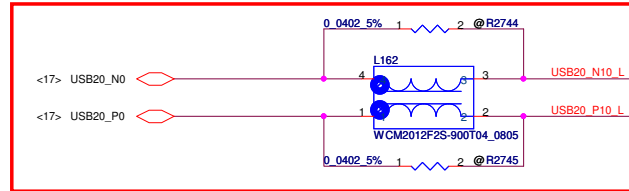
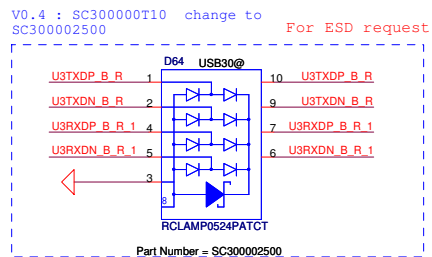
<http://sualaptop365.edu.vn>



V0.4 : SC300000T10 change to SC300002500



20101118 modify
BOM USB30@->
Normal (EMI part)

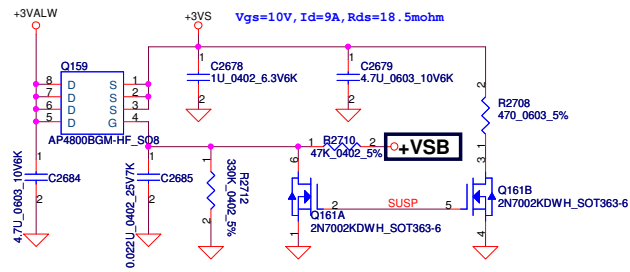


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
				USB 3.0 CONN	
Size		Document Number		Rev	
Custom		VBA20 LA-9303P M/B		0.2	
Date:		Sheet		34 of 49	

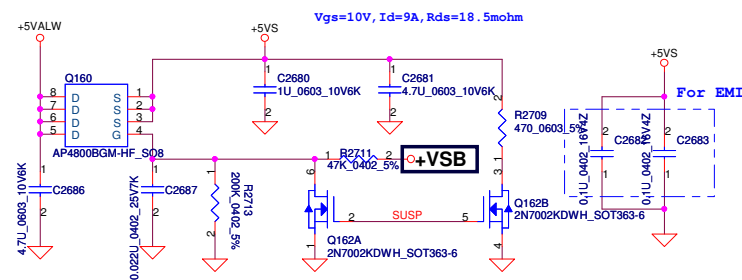
<http://sualaptop365.edu.vn>



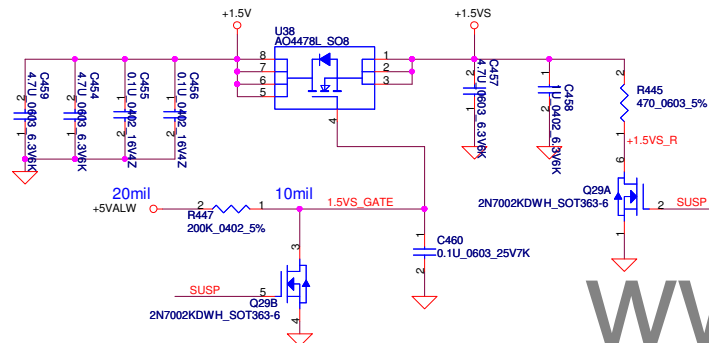
+3VALW TO +3VS



+5VALW TO +5VS

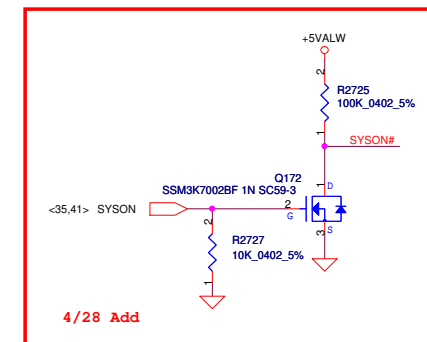
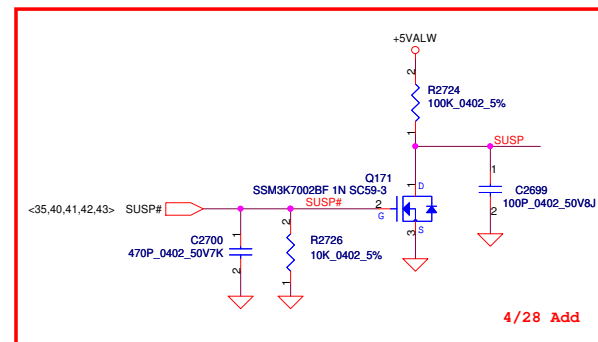
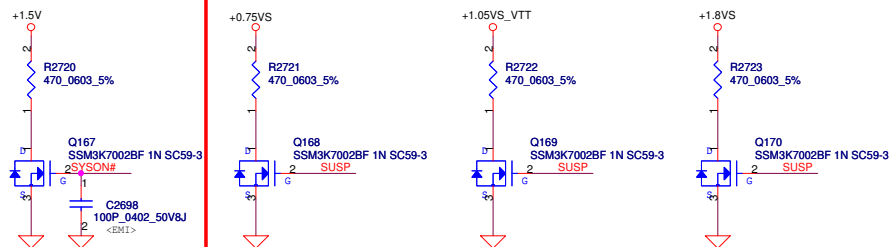


+1.5V to +1.5VS



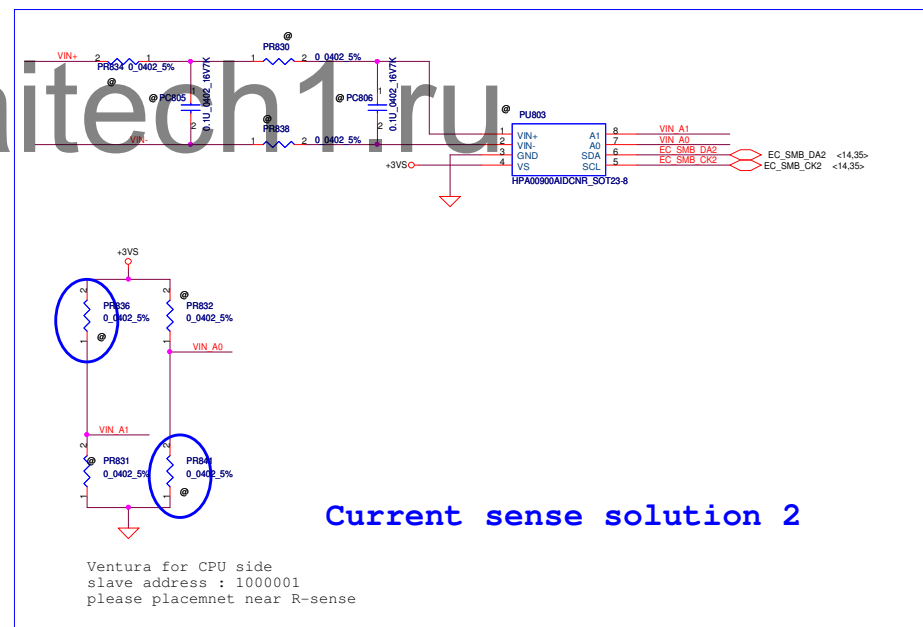
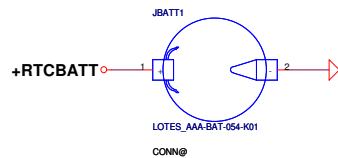
www.aitech1.ru

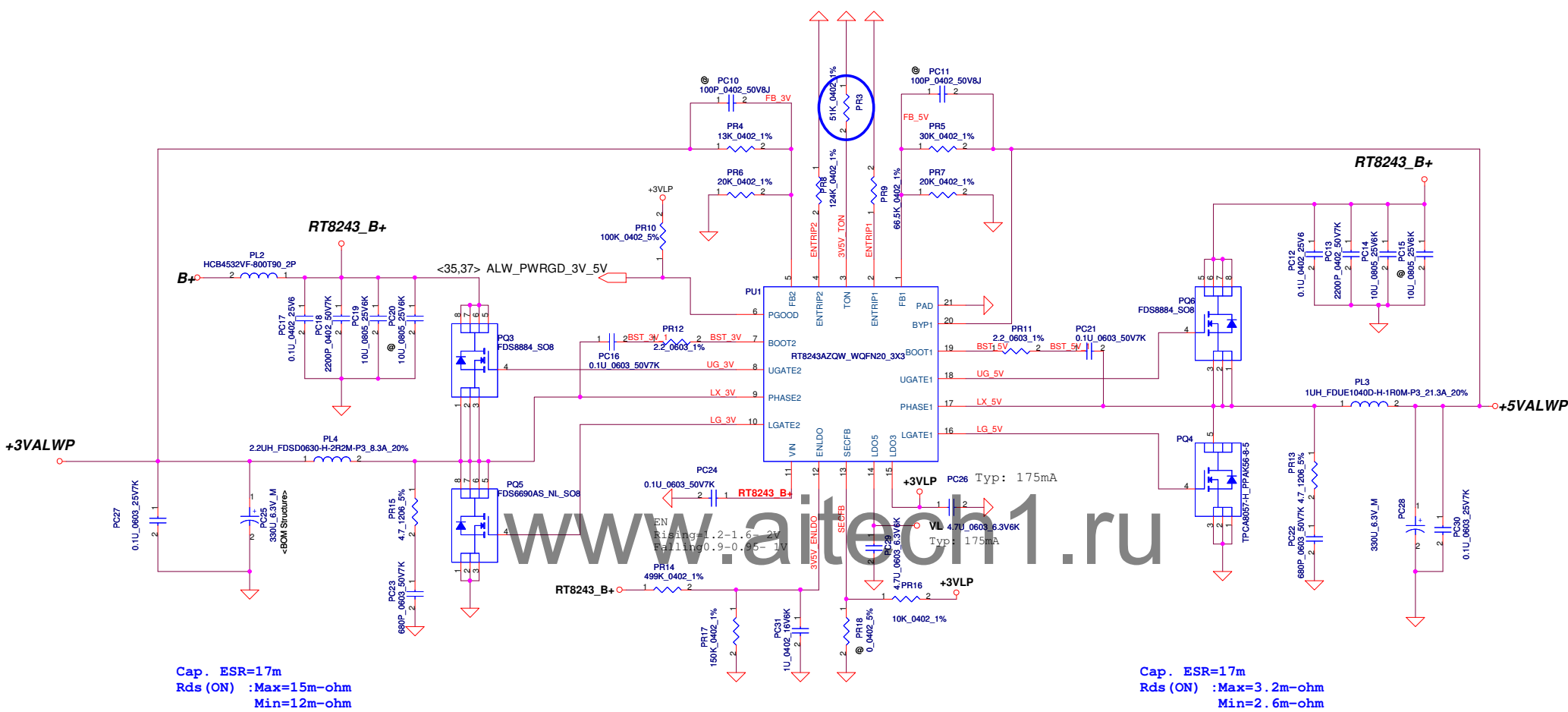
Discharge circuit



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	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. NO PARTS OF THIS SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				DC-DC INTERFACE/Discharge	
Size	Document Number	VBA20 LA-9303P M/B		Rev	0.2
Date	Friday, August 10, 2012	Sheet	36	of	49

<http://sualaptop365.edu.vn>





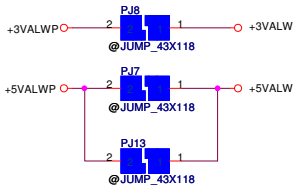
Cap. ESR=17m
Rds (ON) :Max=15m-ohm
Min=12m-ohm

+3VALWP
Ipeak=6.74A ; 1.2Ipeak=8.1A; Imax=4.72A
Fsw=357K,
Iocp=8.18~10.43A

Cap. ESR=17m
Rds (ON) :Max=3.2m-ohm
Min=2.6m-ohm

+5VALWP
Ipeak=16.7A ; 1.2Ipeak=20.1A; Imax=11.72A
Fsw=305K,
Iocp=20.57~25.83A

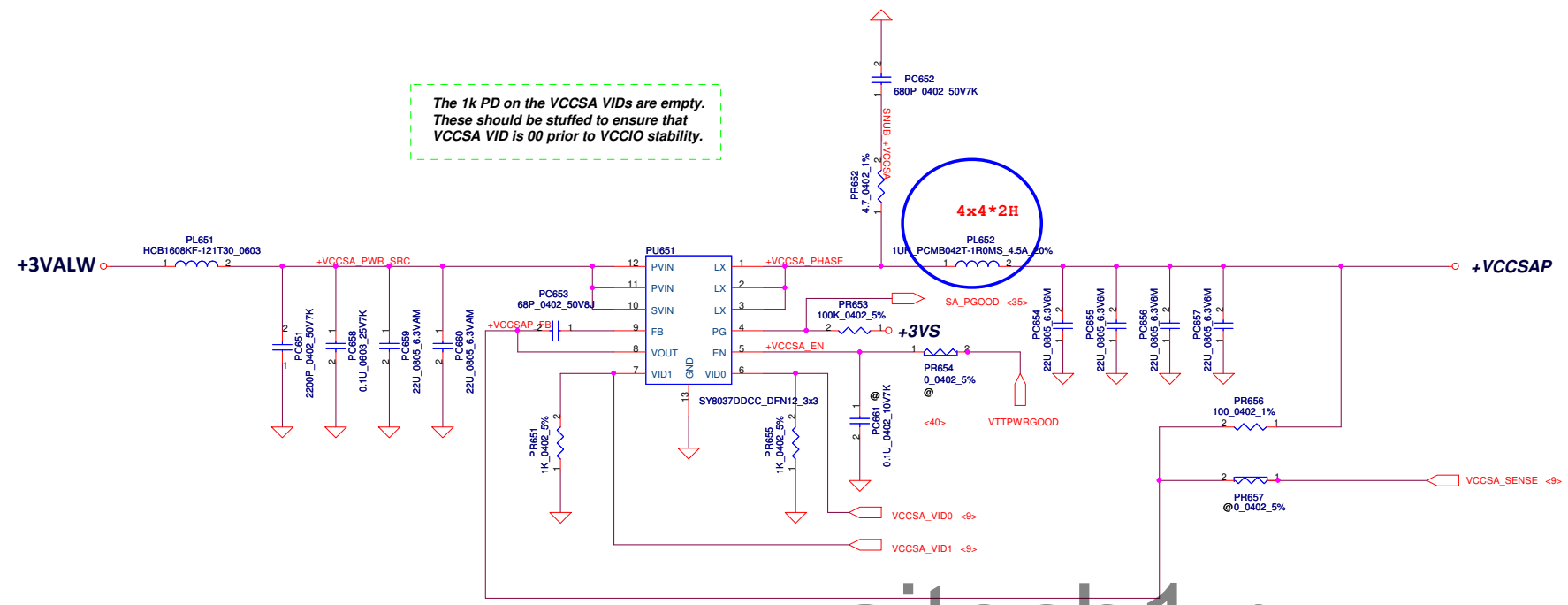
TON (1) SMPS1=428.58KHZ (+5VALWP)
(2) SMPS2=500.2KHZ (+3VALWP)



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2012/04/27				Title			
Deciphered Date				2013/04/27				PWR- 3VALWP/5VALWP			
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 ENGINEER AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR REPRODUCED IN ANY MANNER WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size				Document Number			
				Custor				VBA20 LA-9303P M/B			
				Date				Friday, August 10, 2012			
				Sheet				38 of 48			

<http://sualaptop365.edu.vn>

The 1k PD on the VCCSA VIDs are empty.
These should be stuffed to ensure that
VCCSA VID is 00 prior to VCCIO stability.



www.aitech1.ru

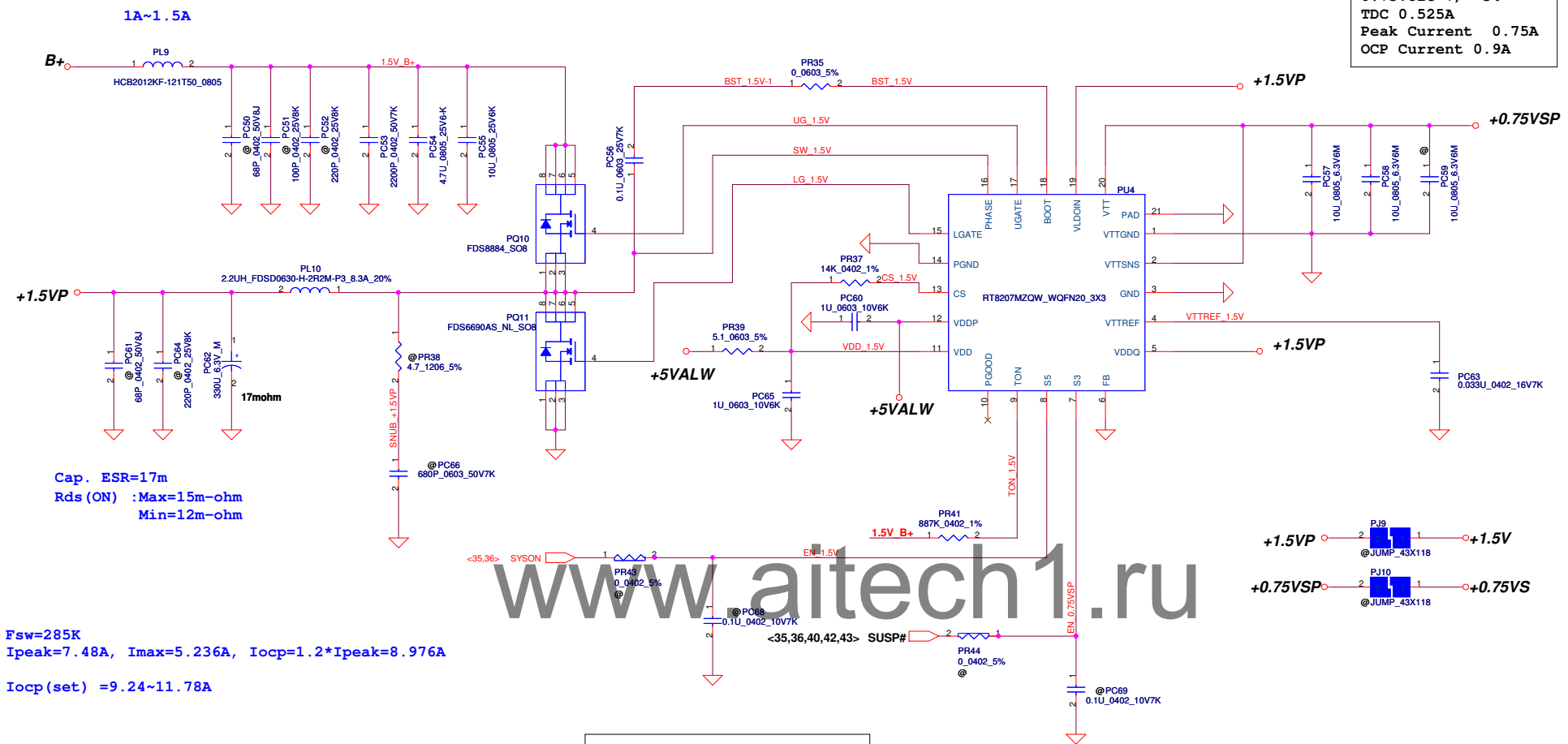
VID [0]	VID[1]	VCCSA Vout (ULV only)
0	0	0.9V
0	1	0.85V
1	0	0.775V
1	1	0.75V

output voltage adjustable network

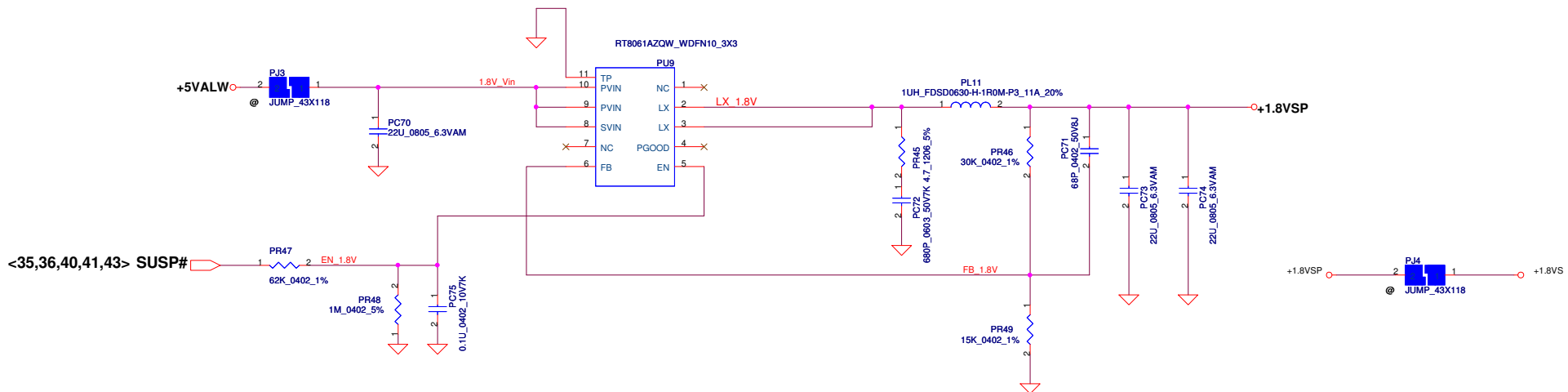
+VCC_SAP
TDC 4.2A
Peak Current 6A
OCP current 7.2A



<http://sualaptop365.edu.vn>



www.aitech1.ru

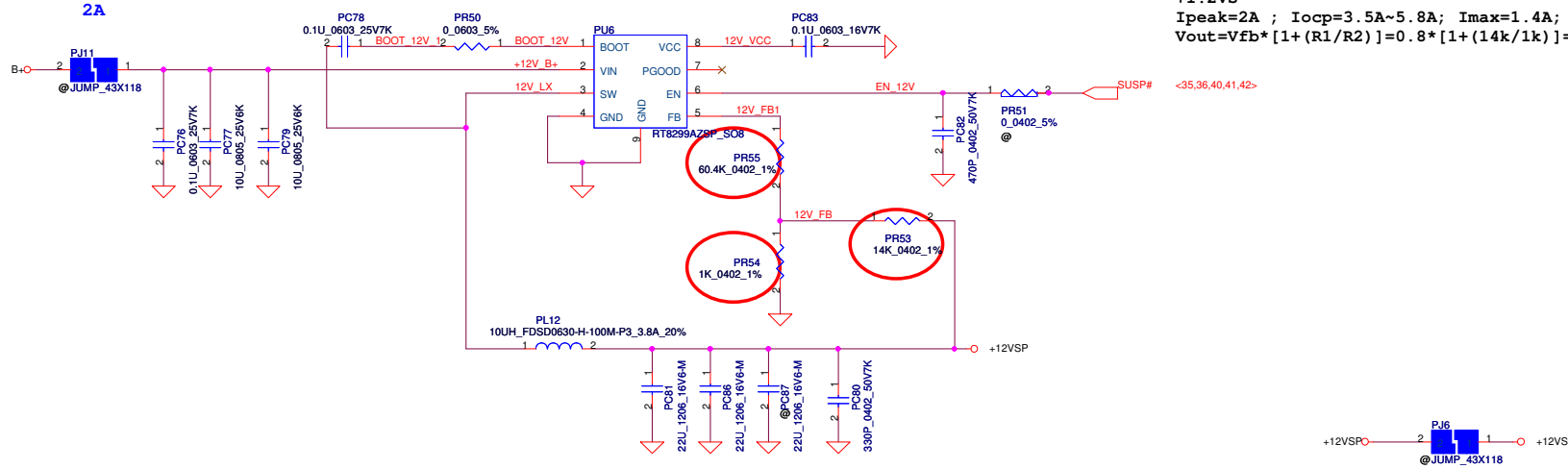


+1.8VSP
 $I_{peak}=1.61A$; $I_{max}=1.127A$; $I_{ocp}>=4A$; $L=1\mu H$
 $V_{out}=V_{fb} * [1 + (R1/R2)] = 0.6 * [1 + (30k/15k)] = 1.8V$

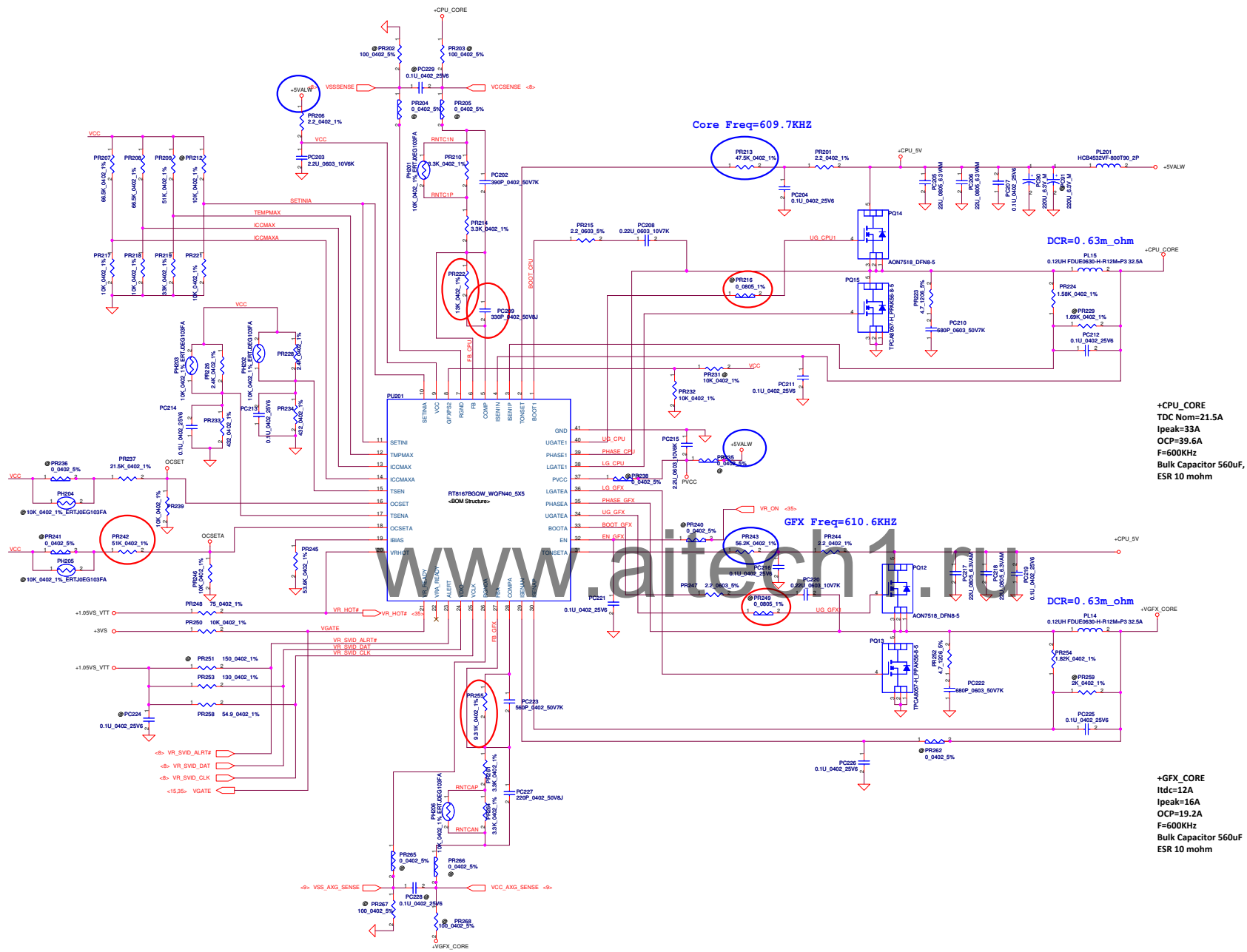
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2012/04/27				Deciphered Date			
2013/04/27				Title				0.75VP/1.8VP			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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 OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size				Document Number			
				PAWGC				Rev			
				Date				Friday, August 10, 2012			
				Sheet				42 of 48			

VFB=0.8V

+1.2VS
 $I_{peak}=2A$; $I_{ocp}=3.5A \sim 5.8A$; $I_{max}=1.4A$; $L=10\mu H$
 $V_{out}=V_{fb} * [1 + (R1/R2)] = 0.8 * [1 + (14k/1k)] = 12V$



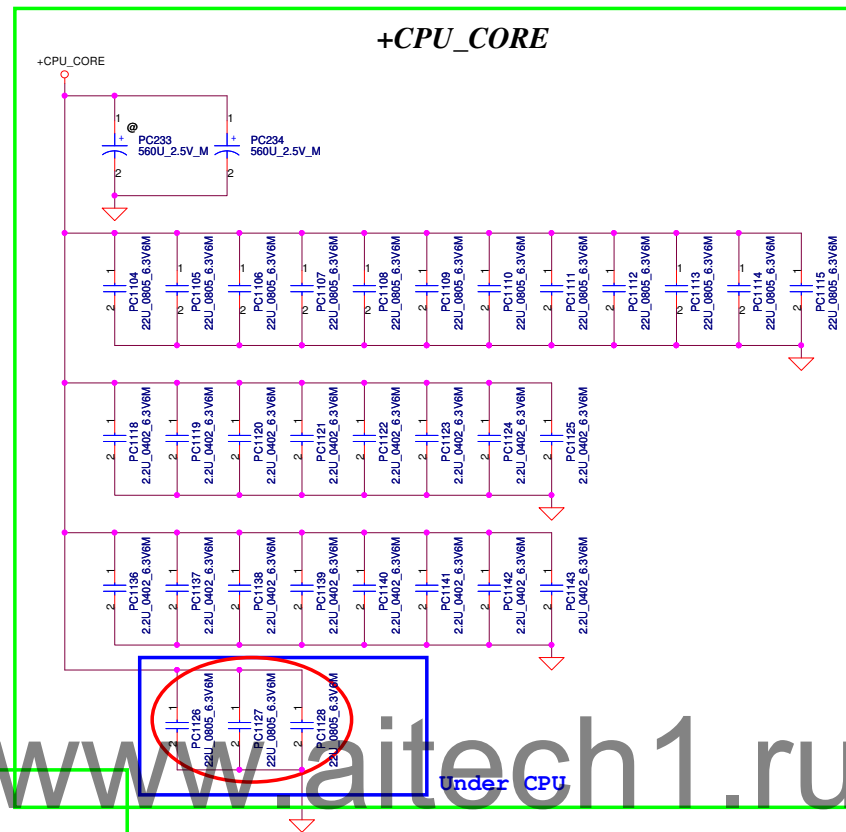
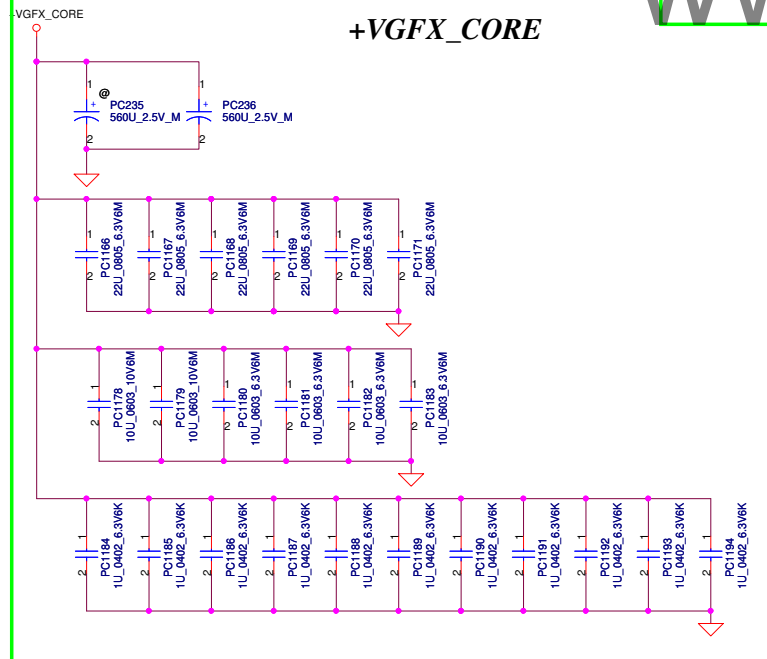
www.aitech1.ru



+CPU_CORE
 TDC Nom=21.5A
 Ipeak=33A
 OCP=39.6A
 F=600KHz
 Bulk Capacitor 560uF,
 ESR 10 mohm

+GFX_CORE
 Itdc=12A
 Ipeak=16A
 OCP=19.2A
 F=600KHz
 Bulk Capacitor 560uF
 ESR 10 mohm

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Declassified Date	2013/04/27	Title	+CPU CORE/VDDNBP
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
				Customer	PAWGC
				Date	Friday, August 10, 2012
				Sheet	44 of 48



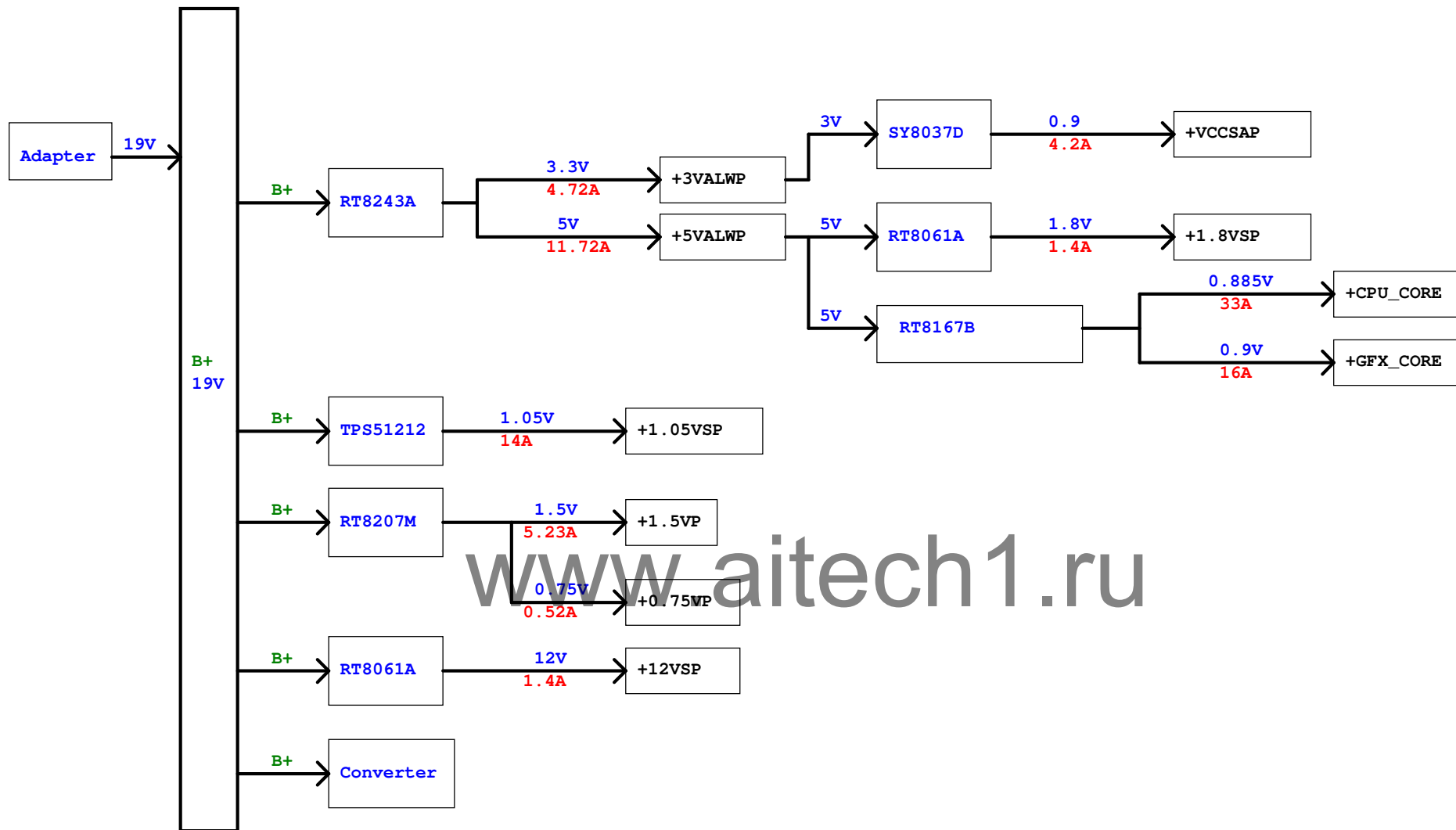
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/04/27	Deciphered Date	2013/04/27	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D OR ANY OTHER DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. IF THIS SHEET IS USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				VGA COREP	
Size	Document Number	PAWGC		Rev	0.1
Date:	Friday, August 10, 2012	Sheet	45	of	48

<http://sualaptop365.edu.vn>

Version Change List (P. I. R. List)for Power Circuit

Page#	Title	Date	Request Owner	Issue Description	Solution Description
P38		2012/06/27		PR3=51k	
P38		2012/07/09		PR4=13K , PR6 =20K	Modify feedback Res
P37		2012/07/19		change JDCN1 PN	
P43		2012/07/20		PR53=620k, PR54=44.2k	
P43		2012/07/26		PR53=14k, PR54=1k, add PR55=60.4k	
P37		2012/07/30		PC8=0.022U	
P44		2012/08/06		PR222=13K, PC209=330P, PR255=9.31K	
P40		2012/08/06		PR30,PR43,PR44,PR51,PR204,PR205,PR235,PR236,PR238,PR240,PR241,PR262,PR265,PR266,PR654,PR657 (共16顆換成short pad)	
P44		2012/08/08		PR216=0ohm, PR249=0ohm	
P44		2012/08/08		PR242=51K	

www.aitech1.ru



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/04/27	Deciphered Date	2013/04/27	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.				Power Rail		
				Size	Document Number	Rev 0.2
				Date:	Friday, August 10, 2012	Sheet 47 of 48

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1		ME request	0.1	PG#29	Change JHDD1/JODD1 from SP011205226 to SP011207176	7/27	PP
2		Thermal request	0.1	PG#32	Add JP1/JP2 for PCH heat sink	7/27	PP
3	+LAN_VDD_3V3 leakage	HW Design	0.1	PG#31	Change R57.1 from +3VALW to +LAN_VDD_3V3	8/03	PP
4		EMI request	0.1	PG#26	Change L15 from SM070001R00 to SM070002Y00	8/06	PP
5		Vender suggest	0.1	PG#30	Change Y13 from SJ10000DJ00 to SJ10000E800	8/06	PP
6		Vender suggest	0.1	PG#30	Change C2794/C2795 from 27pF to 12pF	8/06	PP
7	Board ID update	HW Design	0.1	PG#35	Change R2676 from 0 ohm to 8.2K ohm	8/07	PP
8		EMI request	0.1	PG#17	Delete T223,T224,T248	8/08	PP
9		EMI request	0.1	PG#14	Delete T215,T216	8/08	PP
10		ESD request	0.1	PG#5	Add C105 180pF CAP	8/08	PP
11		ESD request	0.1	PG#18	Add C106 180pF CAP	8/08	PP
12		ESD request	0.1	PG#17	Add C107 180pF CAP	8/08	PP
13	LAN ON/OFF function	BIOS request	0.1	PG#30 PG#35	Add R2835 and EC_PHY_OFF# to EC GPIO40(Pin73)	8/08	PP
14		Vender suggest	0.1	PG#27	Change U97 from SA000001N000 to SA000005N000	8/08	PP
15		HW Design	0.1	PG#23 PG#34	Change U46,U96 from SA000039E00 to SA00003DR00	8/08	PP
16		HW Design	0.1	PG#35	DEL T16,T17,T23,T24,T25,T26,T27,T28	8/09	PP
17		HW Design	0.1	PG#35	Add C108,C109 as DFB request	8/09	PP
18		HW Design	0.1		Change R2891,R2893,R2788,R2802,R2803,R2804,R2805,R2806 ,R2808,R2809,R2810,R2811,R2814,R2815,R2816,R2817 ,R2818,R2819,R2820,R2832,R2685,R2688,R2690,R2691 ,R2694,R2695,R24,R26,R27,R57,R2222,R775,R777,R778, R779,R39,R40,R42,R43,R2951,R2953,R2954,R2956,R2962, R2966,R13,R23,R2874,R2790,R2791,R111,R112 from 0_ohm to 0_ohm_short	8/09	PP
19		HW Design	0.1	PG#35	Add C108,C109 as DFB request	8/09	PP
20	For S5 power consumption reduce	HW Design	0.1	PG#35	Change +VCCSM58_3 SMC BOM	8/09	PP
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							