

vinafix

MODEL NAME : VBW11
PROJECT CODE : ANRVBW0100
PCB NO : DA8000WN000 LA-9984P M/B
DA40001FP00 LS-9102P USB/B
DA40001FR00 LS-9104P ODD/B
DA40001G400 LS-9105P POWER BUTTON/B
DA40001FQ00 LS-9106P TP BUTTON/B

Dell / Compal Confidential

Schematic Document

Intel Shark Bay ULT
OAK Mainstream2
UMA/DIS AMD Venus XT

2013-05-17 Rev: 1.0

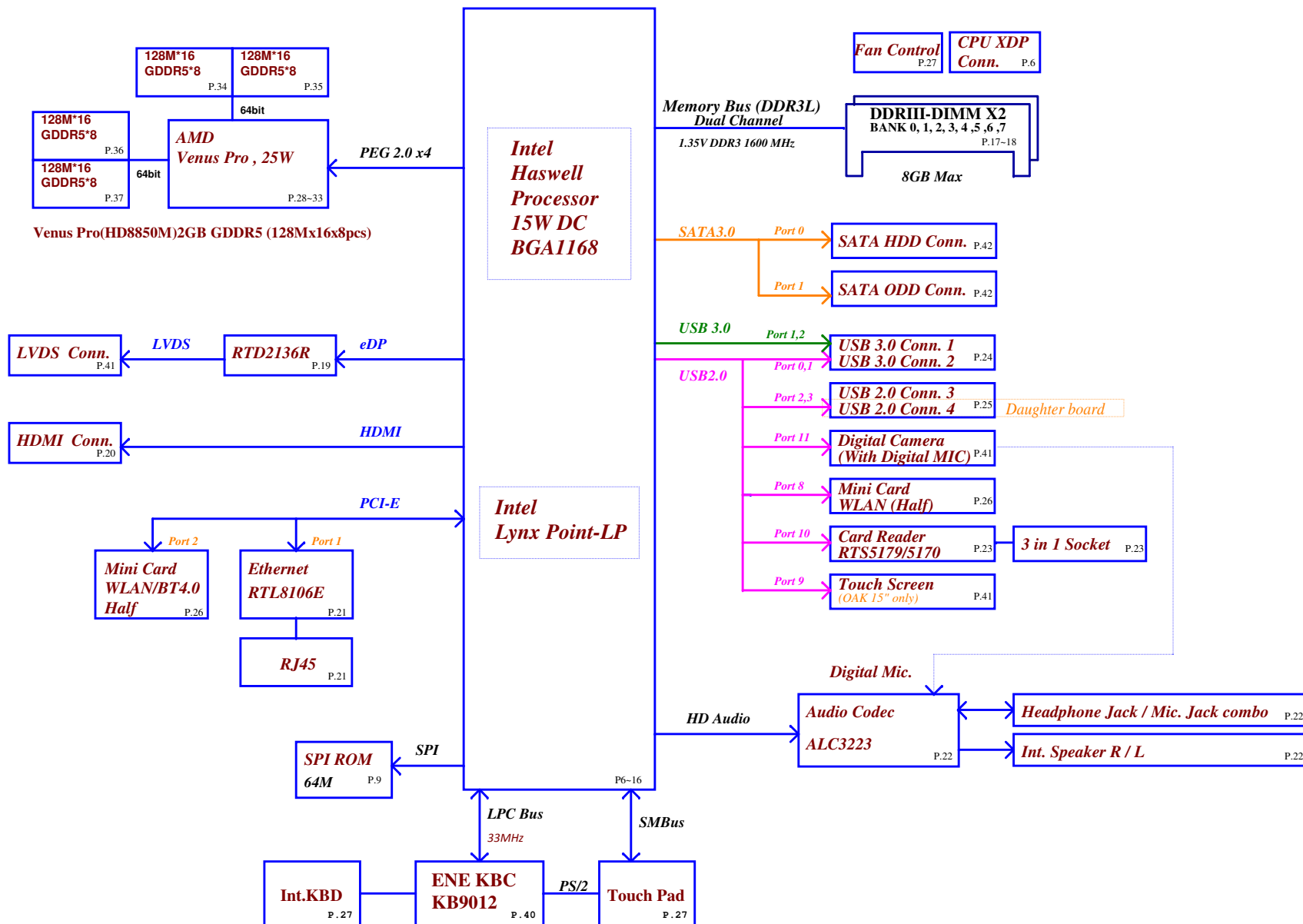
X76@ : 76 level
46@ : 46 level
@ : Nopop component
CONN@ : Connector component
XDP@ : XDP function
UMA@ : Only for UMA
DIS@ : Only for Discrete
VENUS@ : VENUS Pro,VENUS XT
VENUSXT@ : VENUS XT
VENUSPRO@ : VENUS Pro
@VENUS@ : VENUS nopop component
EMI@ : EMI parts
@EMI@ : Reserve EMI parts
ESD@ : ESD parts
RF@ : RF parts

BOM config
UMA : UMA@,EMI@,ESD@,RF@,XDP@
DIS VENUS : VENUS@,VENUSXT@,DIS@,EMI@,ESD@,RF@,XDP@

ZZZ1 R1@
PCB VBW11 LA9984P/LS9102P/LS9104P/LS9105P/LS9106P
DA8000WN000

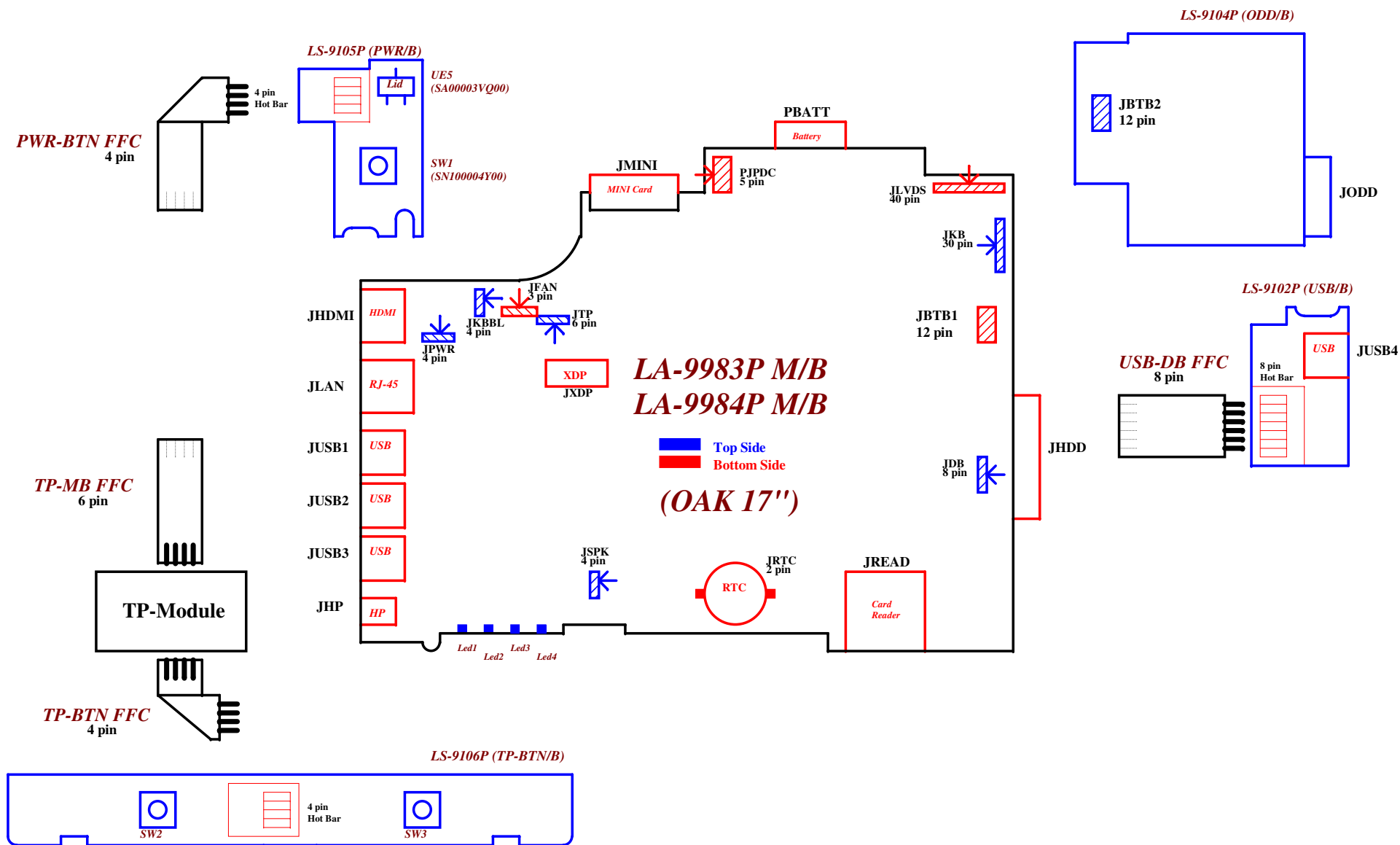
<http://vinafix.vn>

Security Classification		Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Compal Electronics, Inc.	
THIS IS A SET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RESEARCH AND DEVELOPMENT TO ANY OTHER DEPARTMENT OR TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Customer	Rev
				Document Number	1.0
				LA-9984P	
				Date	Wednesday, May 22, 2013
				Sheet	1 of 57



vinafix

Compal Confidential
Project Code : VAW10 / VAW11
File Name : LA-9983P / LA-9984P



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Title	DB block diagram
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF F&E TO ANY OTHER DIVISION OR TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-9984P
				Date	Wednesday, May 22, 2013
				Sheet	3 of 57
				Rev	1.0

<http://vinafix.vn>

vinafix

Board ID Table for AD channel

Vcc	3.3V +/- 1%				
Ra	100K +/- 1%				
Board ID	Rb	V _{AD_BID min}	V _{AD_BID typ}	V _{AD_BID max}	EC AD3
0	0	0.000V	0.000V	0.300V	0x00 - 0x0B
1	12K +/- 1%	0.347V	0.354V	0.360V	0x0C - 0x1C
2	15K +/- 1%	0.423V	0.430V	0.438V	0x1D - 0x26
3	20K +/- 1%	0.541V	0.550V	0.559V	0x27 - 0x30
4	27K +/- 1%	0.691V	0.702V	0.713V	0x31 - 0x3B
5	33K +/- 1%	0.807V	0.819V	0.831V	0x3C - 0x46
6	43K +/- 1%	0.978V	0.992V	1.006V	0x47 - 0x54
7	56K +/- 1%	1.169V	1.185V	1.200V	0x55 - 0x64
8	75K +/- 1%	1.398V	1.414V	1.430V	0x65 - 0x76
9	100K +/- 1%	1.634V	1.650V	1.667V	0x77 - 0x87
10	130K +/- 1%	1.849V	1.865V	1.881V	0x88 - 0x96
11	160K +/- 1%	2.015V	2.031V	2.046V	0x97 - 0xA3
12	200K +/- 1%	2.185V	2.200V	2.215V	0xA4 - 0xAD
13	240K +/- 1%	2.316V	2.329V	2.343V	0xAE - 0xB7
14	270K +/- 1%	2.395V	2.408V	2.421V	0xB8 - 0xC0
15	330K +/- 1%	2.521V	2.533V	2.544V	0xC1 - 0xC9
16	430K +/- 1%	2.667V	2.677V	2.687V	0xCA - 0xD3
17	560K +/- 1%	2.791V	2.800V	2.808V	0xD4 - 0xDC
18	750K +/- 1%	2.905V	2.912V	2.919V	0xDD - 0xE6
19	NC	3.000V	3.300V	3.300V	0xE7 - 0xFF

SMBUS Control Table

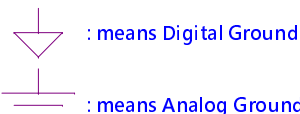
	SOURCE	BATT	Charger	RTD2136S	VGA	DDR3L	XP	WLAN mini card	Touch pad
EC_SMB_CK1 EC_SMB_DA1	KB9012	V	V						
EC_SMB_CK2 EC_SMB_DA2	KB9012			V	V				
SMBCLK SMBDATA	ULT					V	V	V	V
SML0CLK SML0DATA	ULT								
SML1CLK SML1DATA	ULT								

Link

Board ID TABLE

ID	PCB Revision			
	UMA	Sun XT	VenusPro	VenusXT
0	SSI&A02			
1		SSI&A02		
2			SSI&A02	
3				SSI&A02
4	PT			
5		PT		
6			PT	
7				PT
8	ST			
9		ST		
10			ST	
11				ST
12	XB			
13		XB		
14			XB	
15				XB
16	A01			
17		A01		
18			A01	
19				A01

Symbol Note:



CLOCK SIGNAL	
CLKOUT_PCIE0	
CLKOUT_PCIE1	
CLKOUT_PCIE2	10/100 LAN
CLKOUT_PCIE3	MINI Card (WLAN)
CLKOUT_PCIE4	dGPU
CLKOUT_PCIE5	

ULT	USB3.0	
	Port1	USB connector 2
	Port2	USB connector 1
	Port3	
	Port4	
	USB2.0	
	Port0	USB connector 2
	Port1	USB connector 1
	Port2	USB connector 3
	Port3	USB connector 4 (DB)
	Port4	MINI Card (WLAN)
	Port5	Touch Screen Panel
	Port6	Card Reader
	Port7	Camera
	PCI EXPRESS	
	Lane 1	
	Lane 2	
	Lane 3	10/100 LAN
	Lane 4	MINI Card (WLAN)
	Lane 5	PEG (N14P)
	Lane 6	PEG (N14P)
	SATA	
	SATA0	HDD
	SATA1	ODD
	SATA2	
	SATA3	

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Notes List
Document Number				Rev
LA-9984P				1.0
Date: Wednesday, May 22, 2013				Sheet 4 of 57

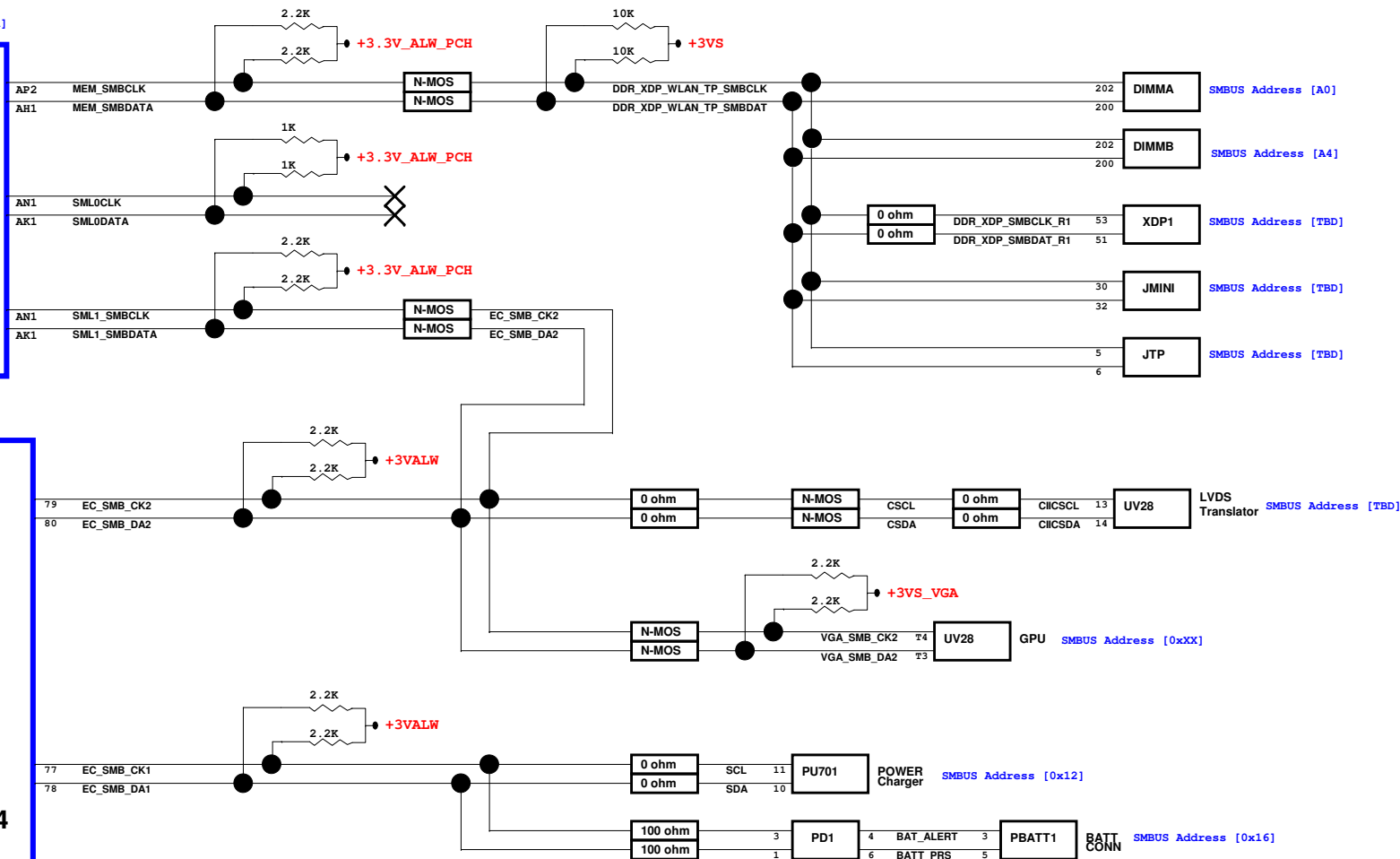
<http://vinafix.vn>

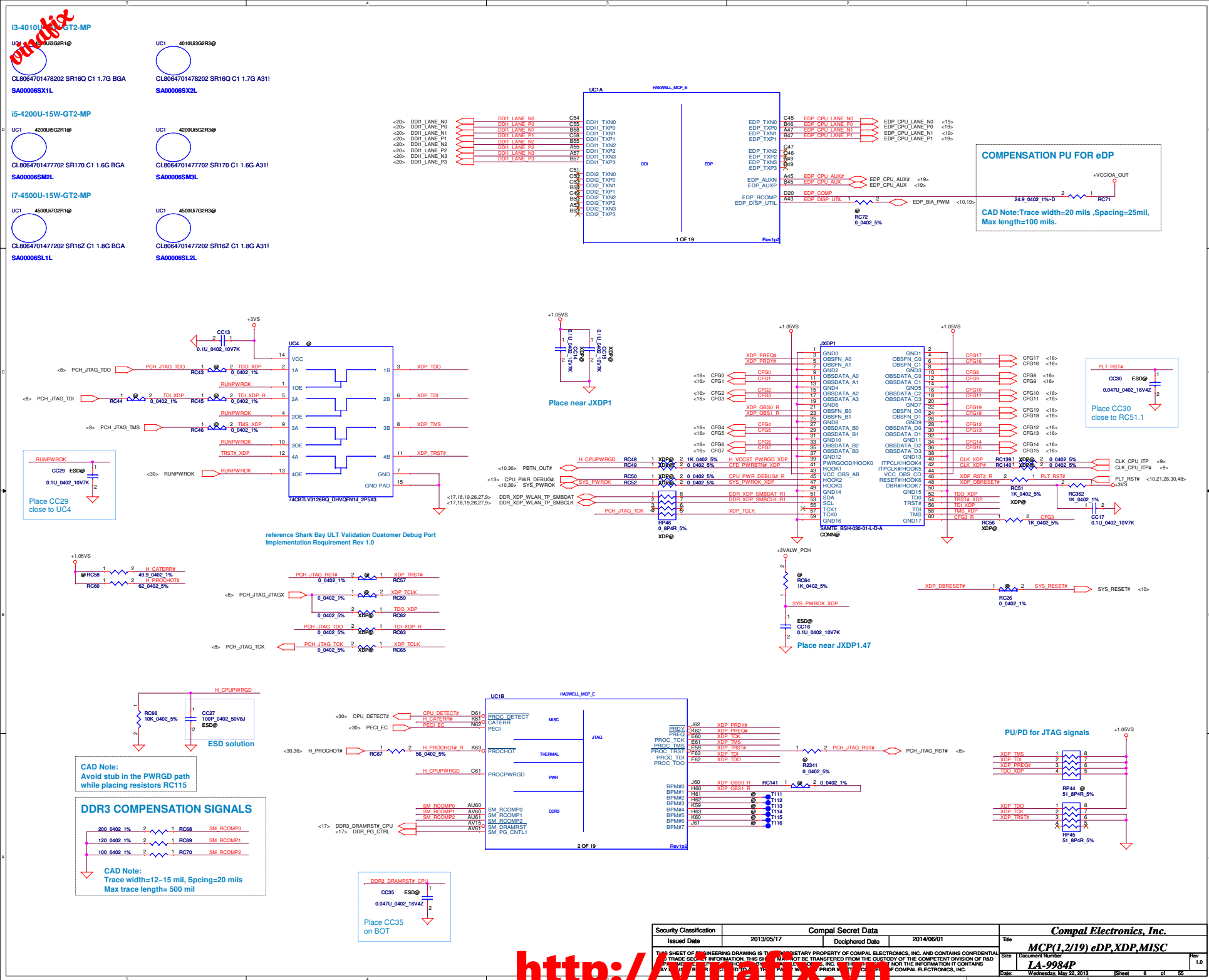
vinafix

SMBUS Address [0x9a]

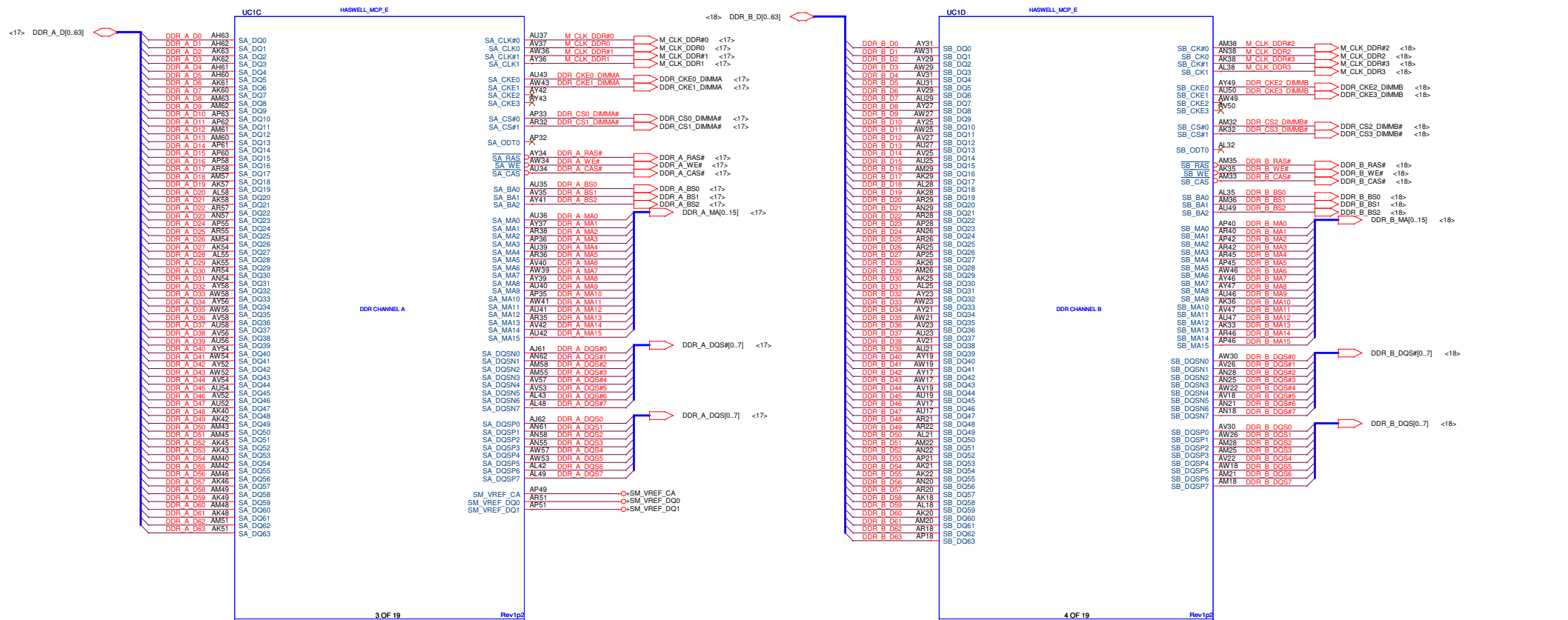
MCH
Shark bay

KBC
KB9012A4





vinafix

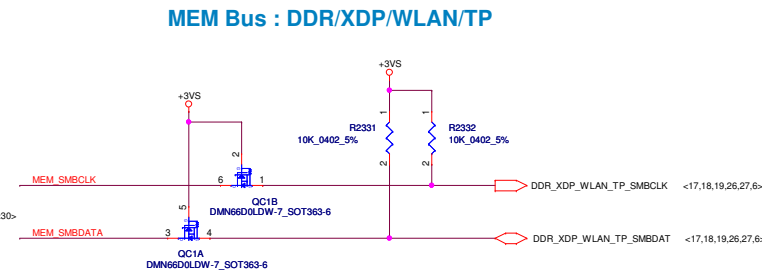


http://vinafix.vn

Security Classification		Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	MCP(3,4/19) DDR3	
THIS DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-9984P	1.0
				Date	Wednesday, May 22, 2013
				Sheet	7 of 57

<http://vinafix.vn>

<http://vinafix.vn>



The diagram shows the pin configuration for the DMN66D0LDW-7_SOT363-6 LED package. The package is a 6-pin SOT363-6. The pins are labeled as follows:

- Pin 1: QH1B, connected to +3VALW_PCH
- Pin 2: SML1_SMBCLK
- Pin 3: SML1_SMBDATA
- Pin 4: QH1A
- Pin 5: EC_SMB_DA2
- Pin 6: EC_SMB_CK2

The package is identified as DMN66D0LDW-7_SOT363-6.

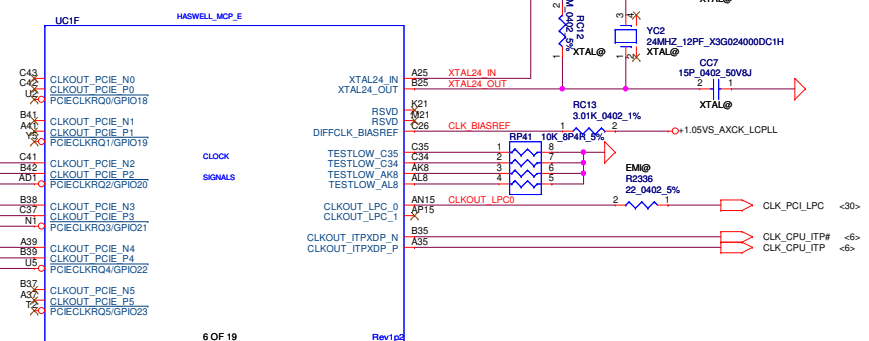
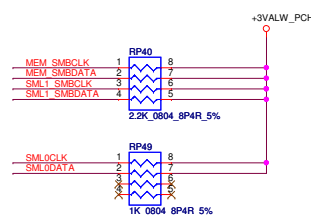
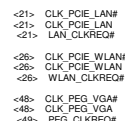
SPI ROM (8MByte)

Pin	Signal	Microcontroller Pin
1	PCH SPI CS0#	1
2	PCH SPI MISO_1	2
3	PCH SPI WPI#	3
4	CS267 (0.1u, 0.02, 10V7)	4
5	PCH SPI HOLD1#	5
6	PCH SPI CLK_R	6
7	PCH SPI CS0_R	7
8	PCH SPI CS1_R	8

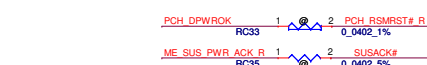
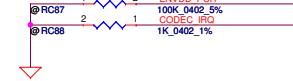
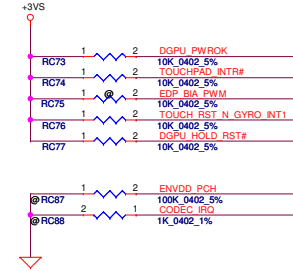
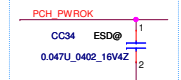
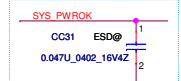
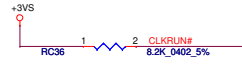
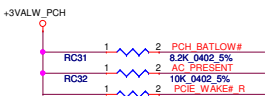
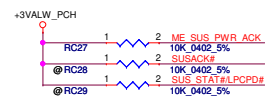
ROM: 25Q64-10HP SOP 8P

<30> EC_SPL_MOSI_1 → PAD-D T183 @
 <30> EC_SPL_MISO_1 → PAD-D T184 @
 <30> EC_SPL_CLK_R → PAD-D T185 @
 <30> EC_SPL_CS0# → PAD-D T186 @

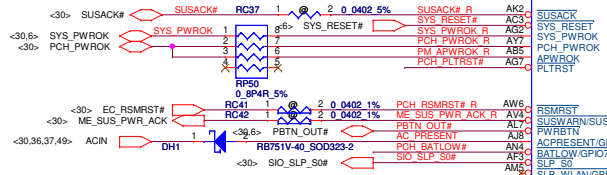
Place T183, T184, T185, T186 close to
 PCH_SPL_MOSI_1
 PCH_SPL_MISO_1
 PCH_SPL_CLK_R
 PCH_SPL_CS0#
 near U2302



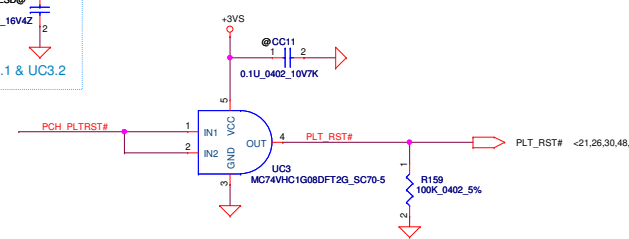
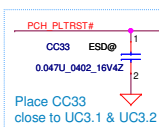
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/05/17		Deciphered Date	
		2014/06/01		Title	
				MCP(6,7/19) CLK,SMB,SPI,LPC	
THIS DRAWING OR ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OR EXTERNAL PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size		Document Number	
a7x11		LA-9984P		Rev 1.0	
Date: Wednesday, May 22, 2013		Sheet		9 of 57	



Note: SUSACK# and SUSWARN# can be tied together if EC does not want to involve in the handshake mechanism for the Deep Sleep state entry and exit CAN be NC, if not support Deep Sx

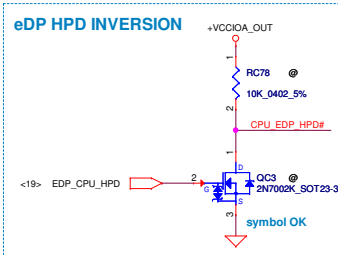
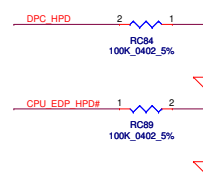
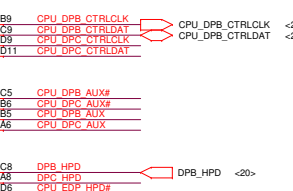
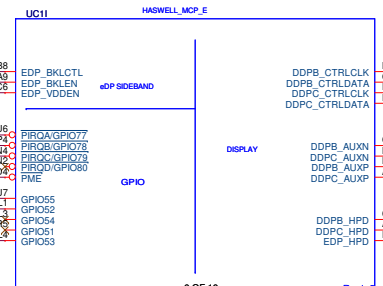


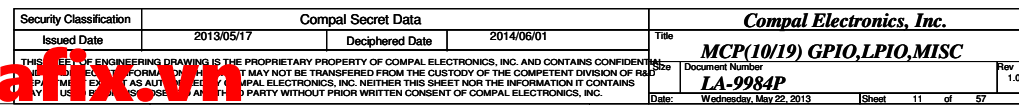
PCH_BATLOW# Need pull high to VCCDSW3_3 (If no deep Sx, connect to VCCSUS3_3)



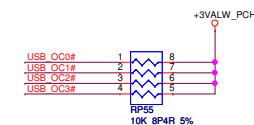
DSWODVREN - On Die DSW VR Enable
* H : Enable(DEFAULT)
L : Disable

DSWODVREN - ON DIE DSW VR ENABLE
HIGH = ENABLED (DEFAULT)
LOW = DISABLED



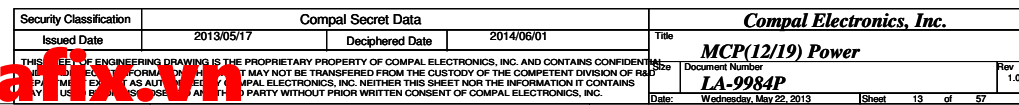


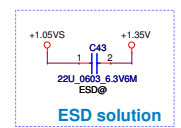
<http://vinafix.vn>



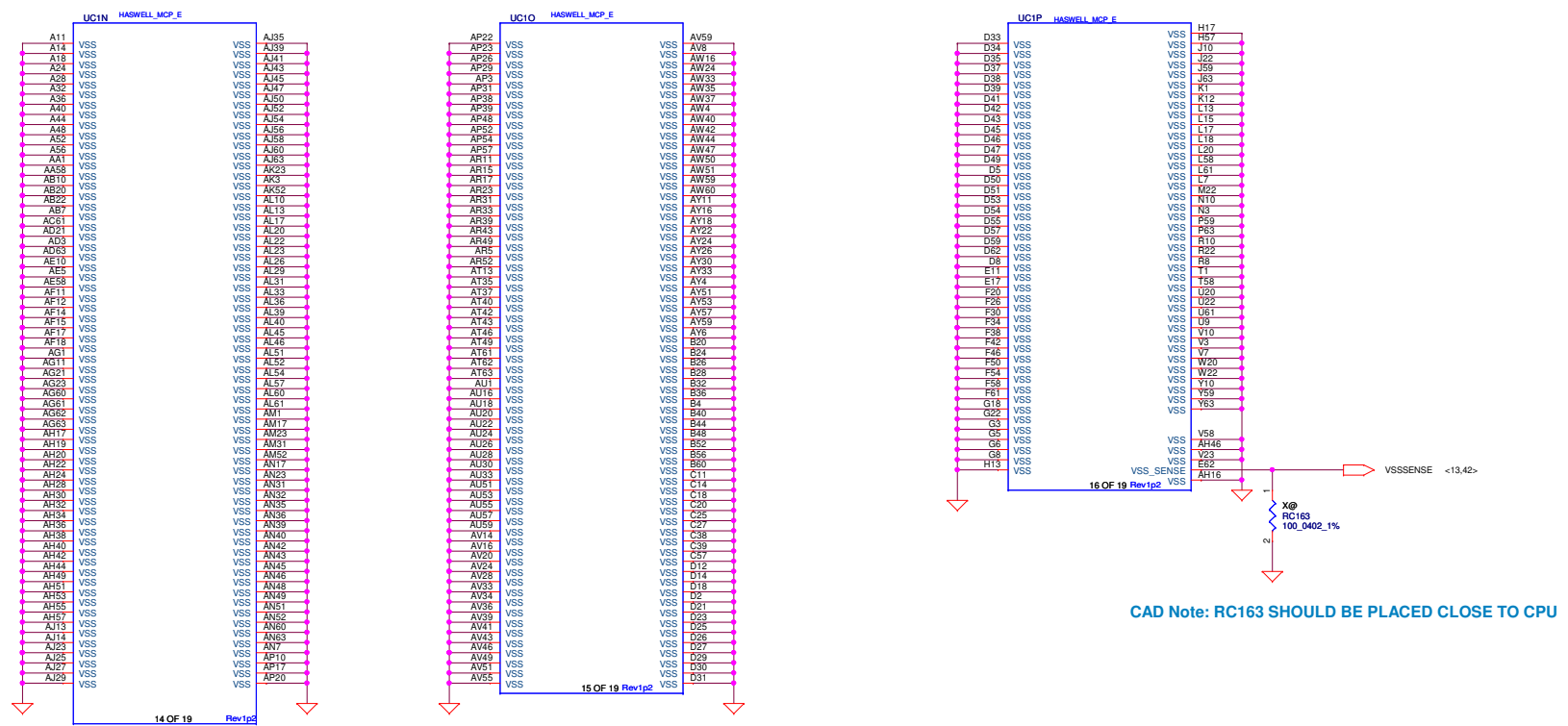
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2013/05/17		2014/06/01		MCP(11/19) PCIE,USB	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE LOANED, REPRODUCED, COPIED, OR IN ANY MANNER DISCLOSED TO ANY PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	
				LA-9984P	
Date: Wednesday, May 22, 2013				Sheet 12 of 57	

A horizontal number line is shown, starting at 0 and ending at 1. A point labeled 'a' is marked on the line, with a vertical line segment extending upwards from it. A bracket below the line spans from 0 to 'a' and is labeled 'a'.





Close to AH14



<http://vinafix.vn>

Display Port Presence Strap	
CFG4	1: Disabled; No Physical Display Port attached to Embedded Display Port 0: Enabled; An external Display Port device is connected to the Embedded Display Port

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/05/17		Title	
Deciphered Date		2014/06/01		MCP(17,18,19/19) CFG,RSVD	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED IN ANY MANNER BY ANY PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number LA-9984P	
				Rev 1.0	
				Date: Wednesday, May 22, 2013	
				Sheet 16 of 57	

H=4mm

2-3A to 1 DIMMs/channel

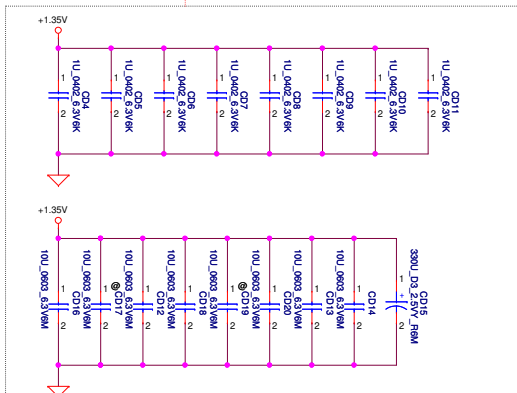
Populate RD1, De-Populate RD7 for Intel DDR3
VREFDQ multiple methods M1
Populate RD7, De-Populate RD1 for Intel DDR3
VREFDQ multiple methods M3

<7> DDR_A_DQ# [0..7]
<7> DDR_A_DQ [0..63]
<7> DDR_A_DQS [0..7]
<7> DDR_A_MA [0..15]

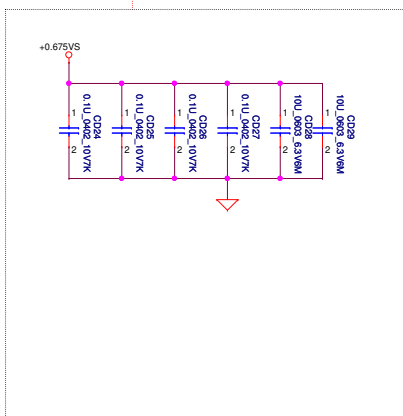
All VREF traces should
have 10 mil trace width

Layout Note:
Place near JDIMM1

Note:
Check voltage tolerance of
VREF_DQ at the DIMM socket

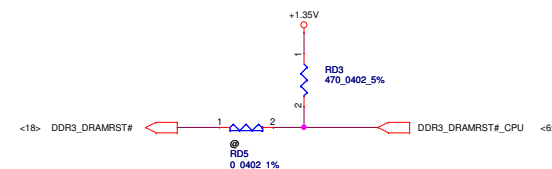


Layout Note:
Place near JDIMM1. 203, 204

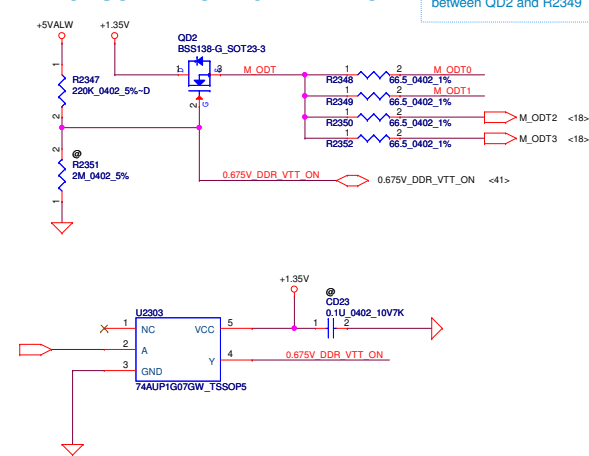


<http://vinafix.vn>

CAD NOTE
PLACE THE CAP NEAR TO
DIMM RESET PIN

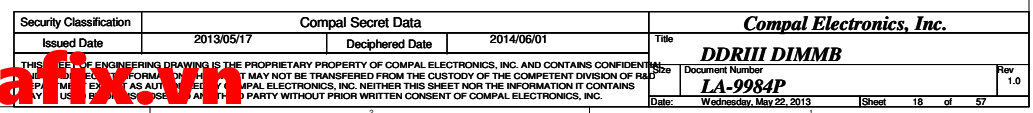


DDR3L SODIMM ODT GENERATION

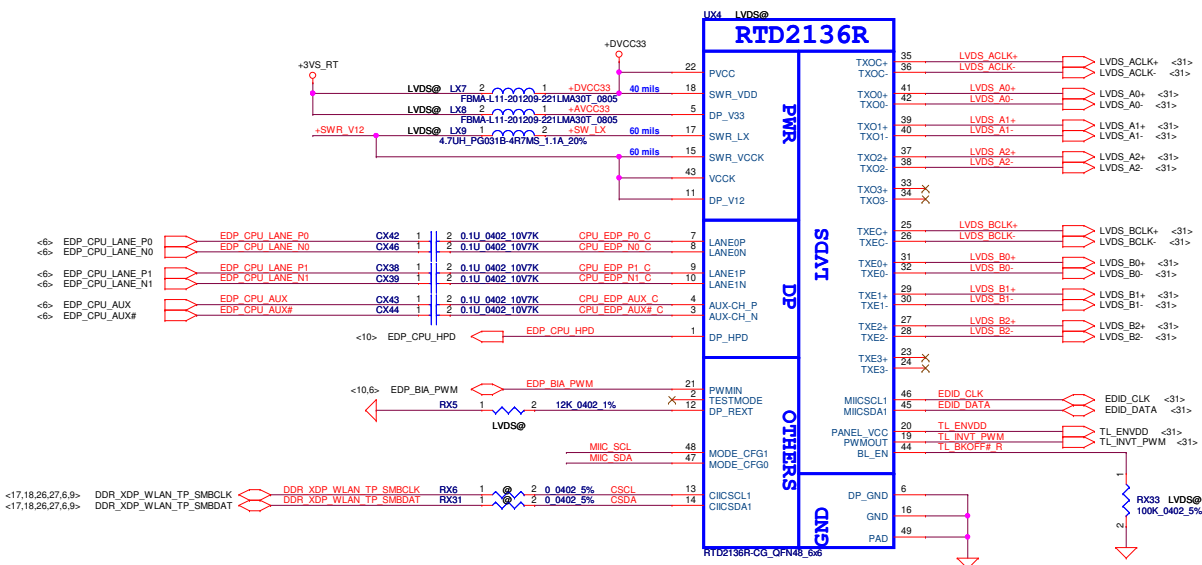
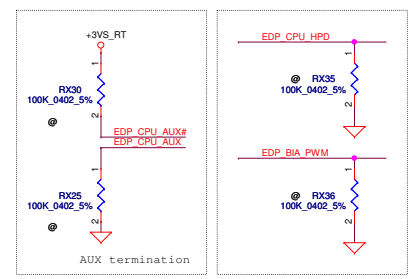
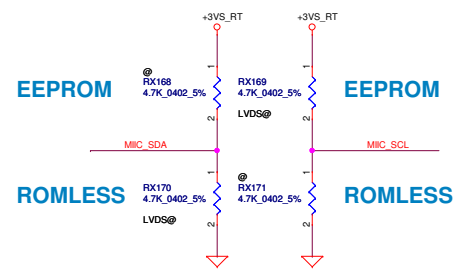
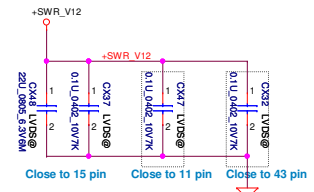
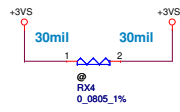
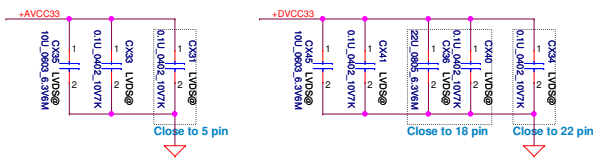


Security Classification		Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Document Number	LA-9984P
THIS DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR ANY OTHER PURPOSES WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Date		Wednesday, May 22 2013	Sheet 17 of 57

H=4mm **+1.35V** **2-3A to 1 DIMMs/channel**

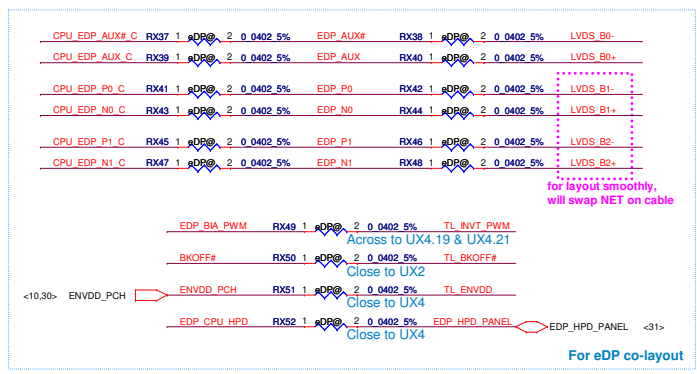
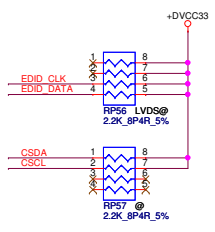
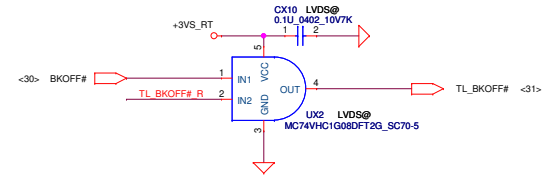


vinafix



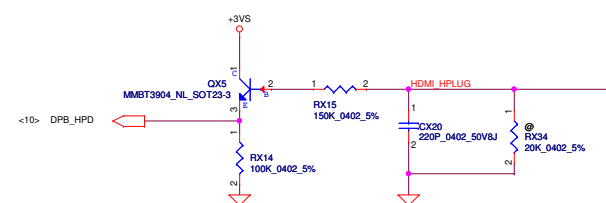
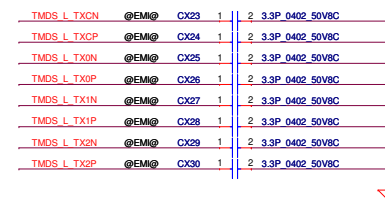
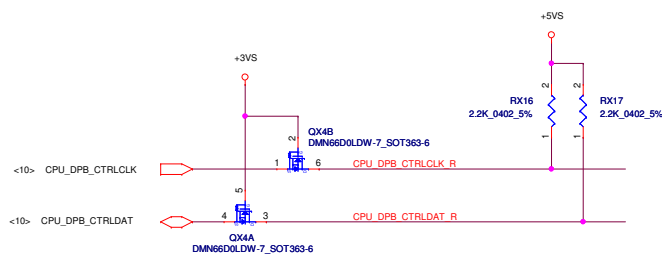
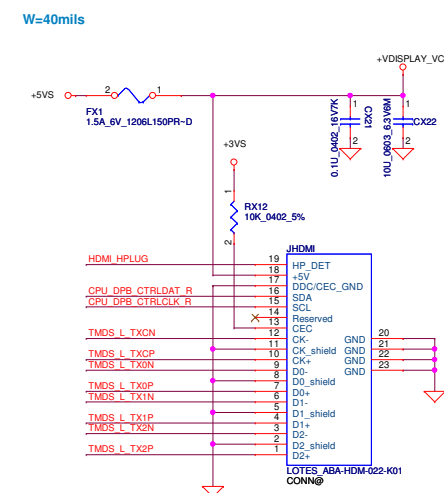
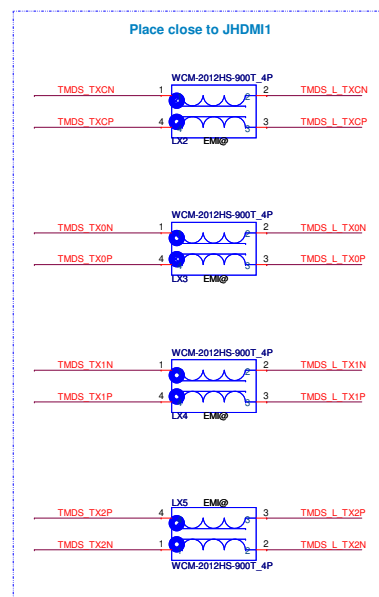
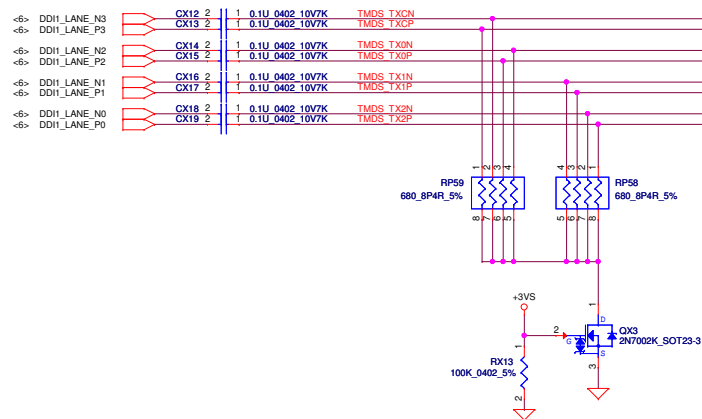
RTD2136S : SA00004NW10
RTD2136R : SA000067100

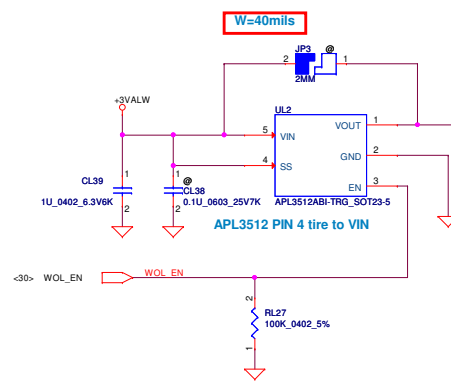
Vendor advise reserve it



http://vinafix.vn

vinafix



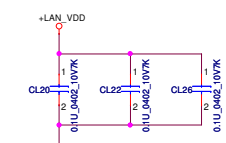


SS table

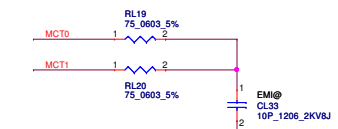
Css	Tss
0.1uF	100mS
10nF	10mS
1nF	1mS
Open or tied to VIN	1mS



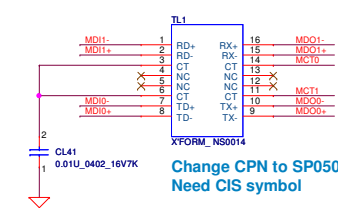
These caps close to Pin 23,32
For 8106E pop the capacitor close pin 23,32



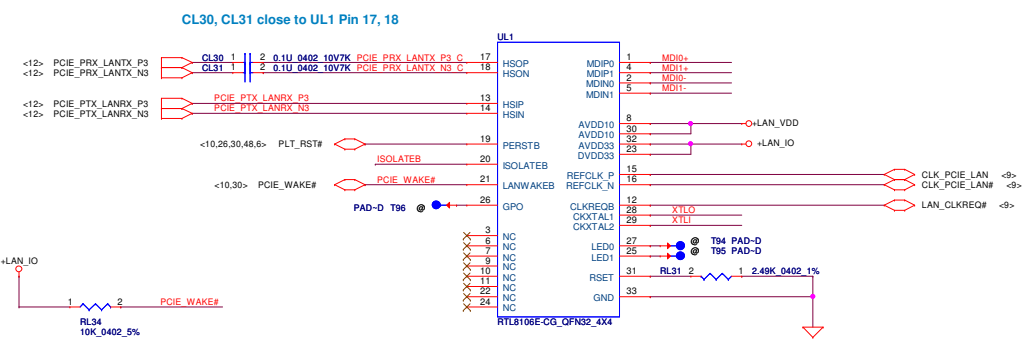
These caps close to Pin 8,30
For 8106E pop capacitor close to pin 8,30



Place close to TCT pin

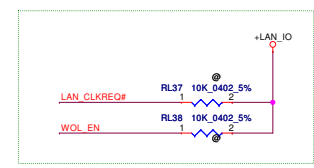
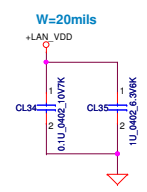
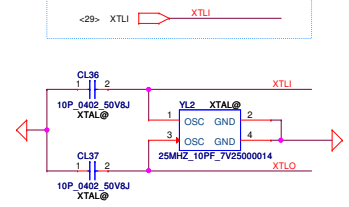


Change CPN to SP050007J00 only
Need CIS symbol

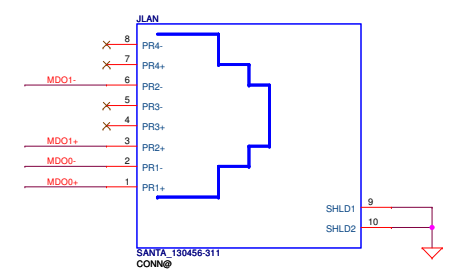


CL30, CL31 close to UL1 Pin 17, 18

For GCLK



Reserve 10K pull LAN_IO



Security Classification	Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	LAN RTL8106E
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	1.0	
Date	Wednesday, May 22, 2013	Sheet	21	of 57

vinafix

Reserve for HDA ISSUE

CA71, CA51 place close to Pin 26

CA53, CA55 change Value
from 100U_0603_6.3V6M~D to
4.7U_0603_6.3V6K

CA57,CA58 close
to UA1 pin1

RA51, RA33 place close to UA1

JACK_PLUG Delay circuitis

Reserve for cancel Delay circuitis

Place on the moat between GND & GNDA.

SM01000BV00
need CIS symbol

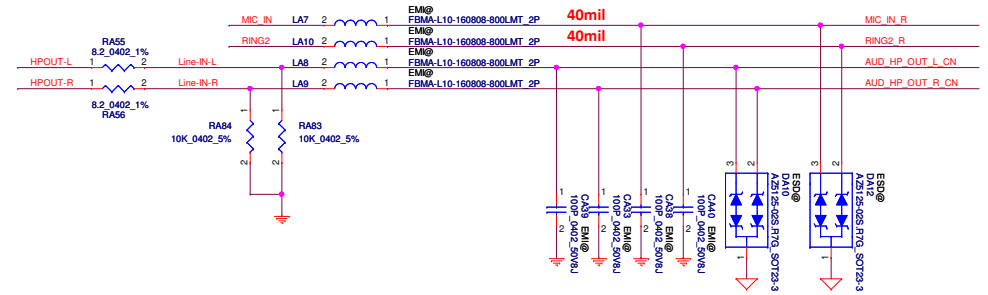
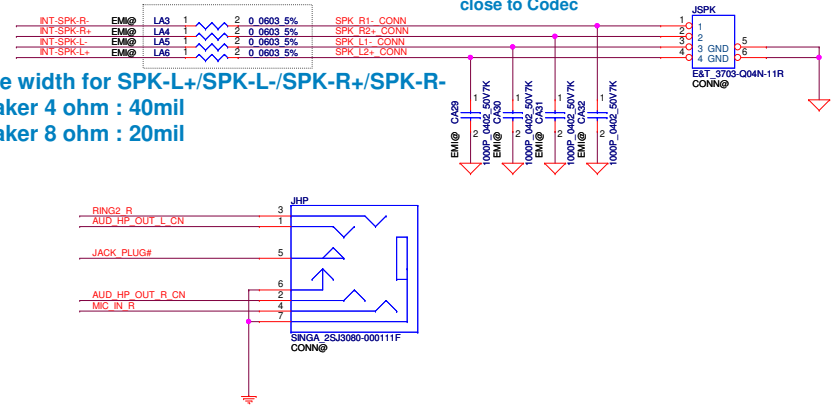
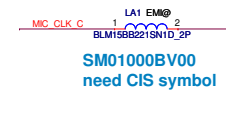
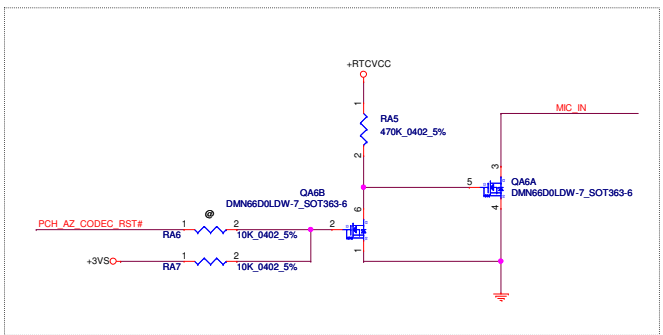
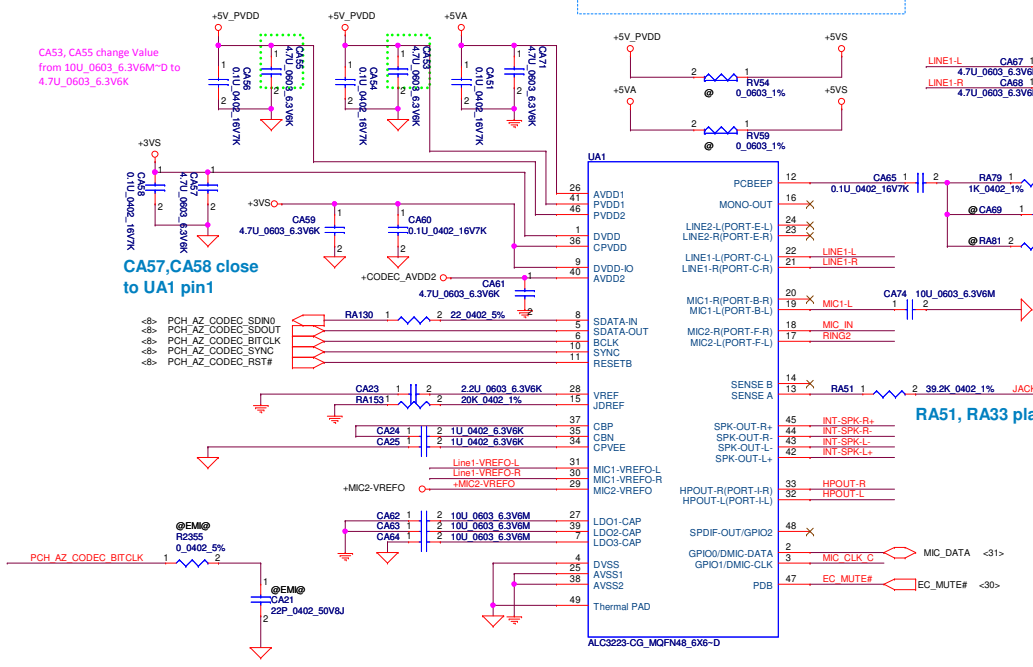
Close to UA1
Pin11,13,14,16

close to Codec

Trace width for SPK-L+/SPK-L-/SPK-R+/SPK-R-
Speaker 4 ohm : 40mil
Speaker 8 ohm : 20mil

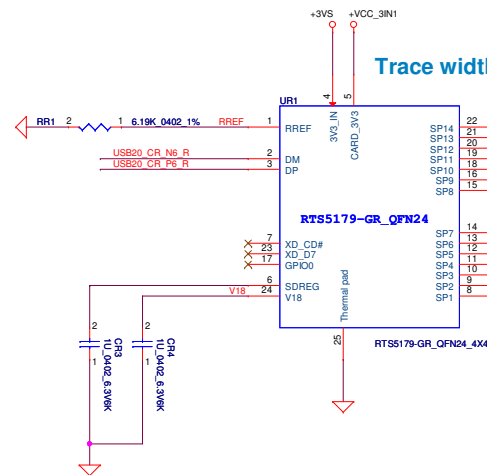
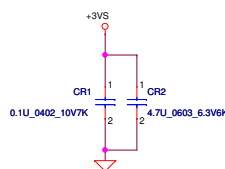
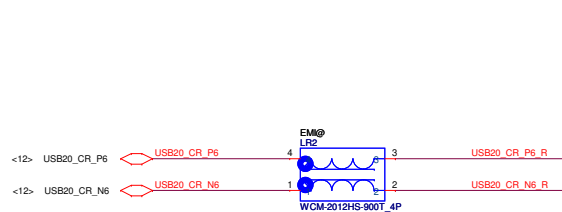
iPhone and Nokia type Combo Jack

http://vinafix.vn

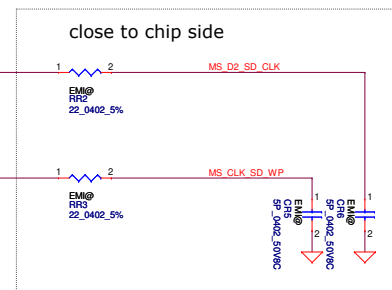
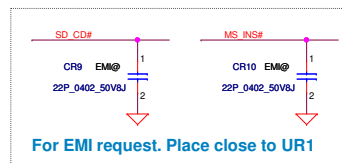


Security Classification	Compal Secret Data	Title	Compal Electronics, Inc.
Issued Date	2013/05/17	Deciphered Date	2014/06/01
THIS IS A CONFIDENTIAL ENGINEERING DRAWING AND IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PRIOR WRITTEN PERMISSION FROM COMPAL ELECTRONICS, INC. ANY UNAUTHORIZED DISCLOSURE OR USE OF THIS INFORMATION IS STRICTLY PROHIBITED.	Document Number	LA-9984P	Rev 1.0
Date	Wednesday, May 22, 2013	Sheet	22 of 57

vinafix

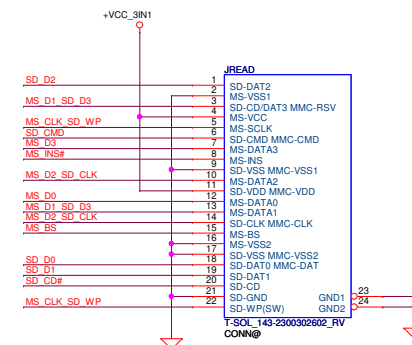
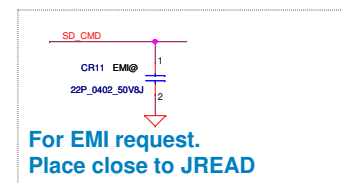
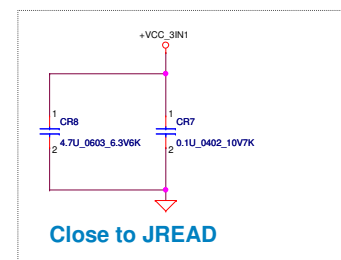


Trace width:40mil

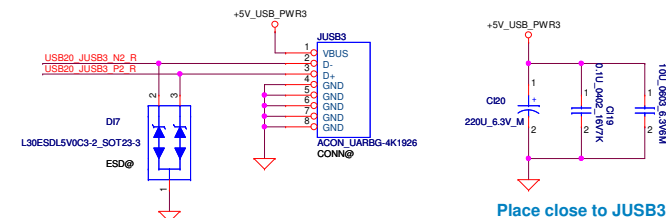
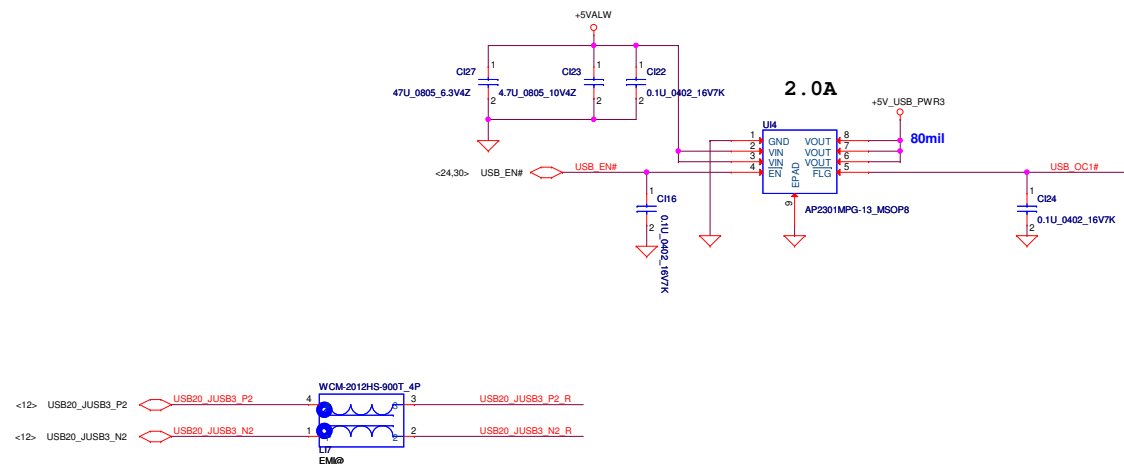


拉MS_D2_SD_CLK到Conn pin 13 SD_CLK
再打Via拉到pin 10 MS_D2

拉MS_CLK_SD_WP到Conn pin 5 MS_CLK
再打Via拉到pin 20 SD_W



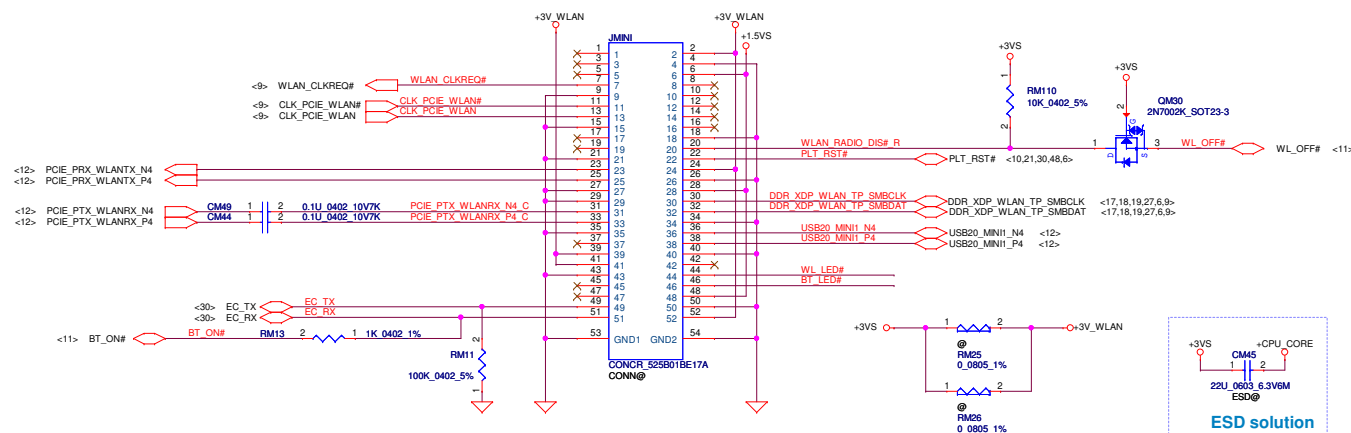
vinafix



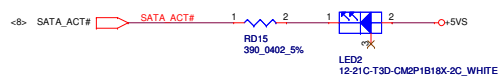
<http://vinafix.vn>

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		MB to USB2.0 DB	
2013/05/17		2014/06/01		Document Number	
				LA-9984P	
				Date: Wednesday, May 22 2013	
				Sheet 25 of 57	
				Rev 1.0	

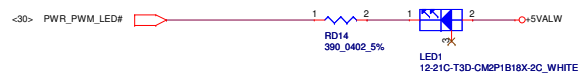
Mini WLAN/WIMAX H=6.7



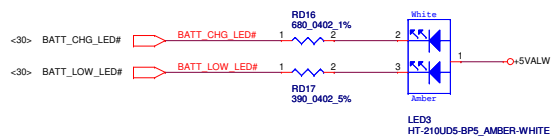
HDD LED



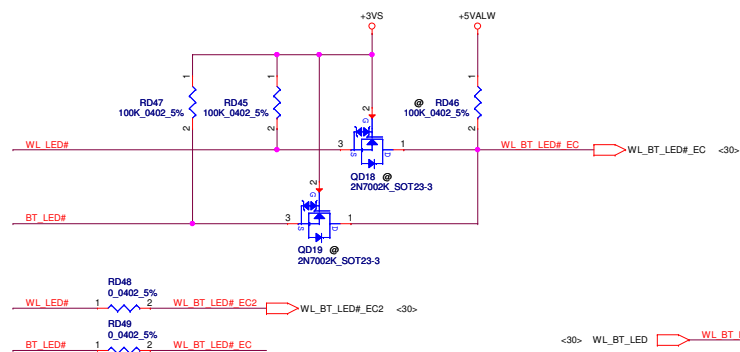
Power LED



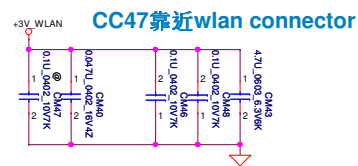
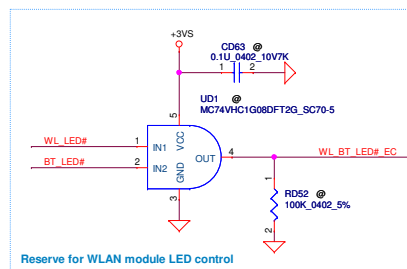
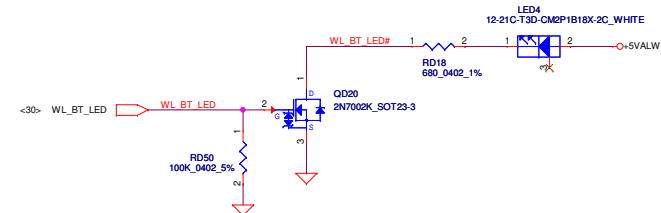
Battery LED



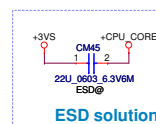
10mils, All pins



Wireless LED



CC47靠近wlan connector



ESD solution

Reserve for WLAN module modified

LED4
12-21C-T3D-CM2P1R18X-2C WHITE

LED4
12-21C-T3D-CM2P1R18X-2C WHITE

RD18
C00 0400 10%

680_0402_1%

SOT23-3

Compal Electronics, Inc.

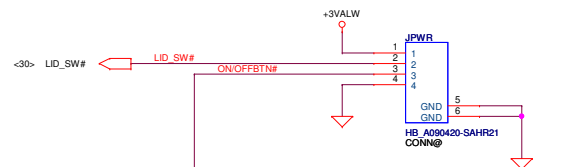
Mini Card/LED

Document Number
LA-9984P

Wednesday, May 22, 2013	Sheet	26	c
-------------------------	-------	----	---

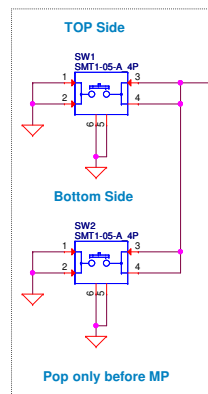
vinafix

POWER/B

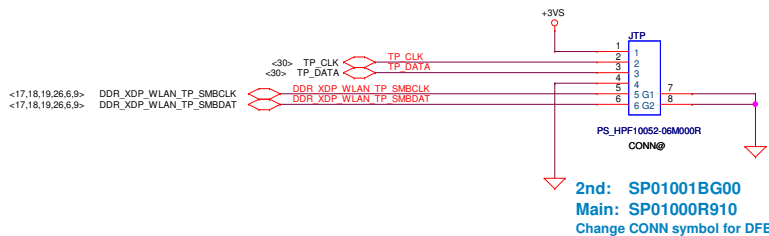


Power ON Circuit

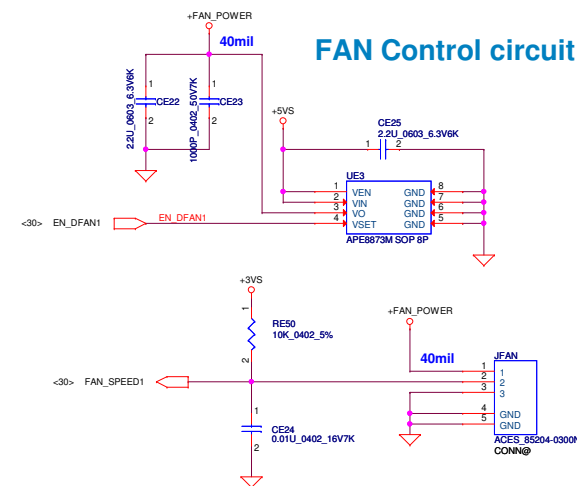
ON/OFF switch



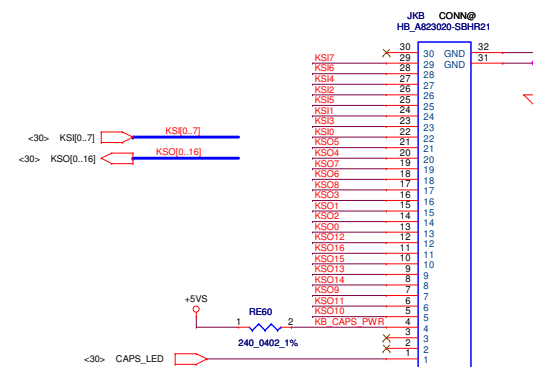
Touch pad



FAN Control circuit



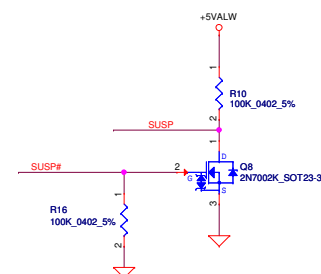
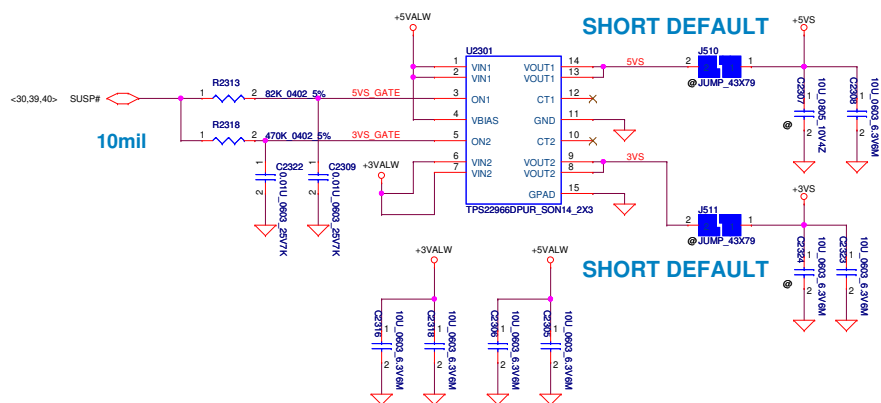
INT_KBD Connector



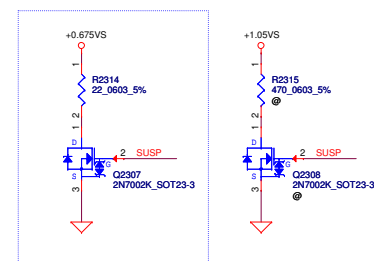
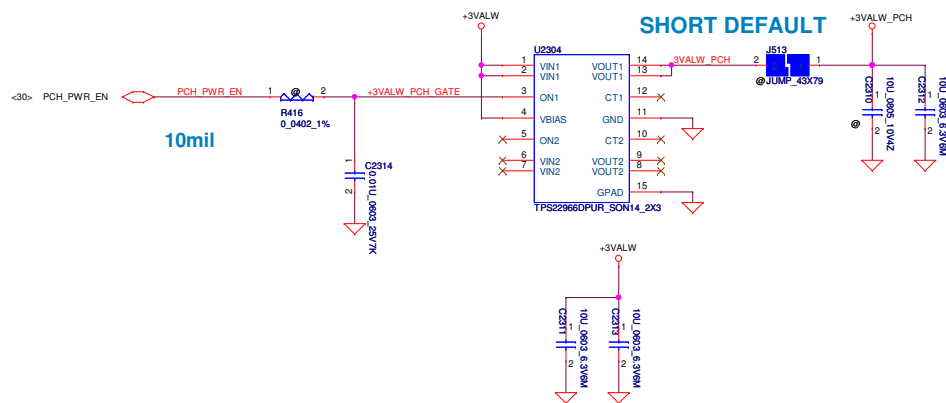
Security Classification	Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Compal Electronics, Inc.
THIS IS A CONFIDENTIAL ENGINEERING DRAWING AND IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, OR DISCLOSED TO ANY OTHER PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				LA-9984P
				Rev 1.0
				Date: Wednesday, May 22, 2013 Sheet 27 of 57

vinafix

+5VS and +3VS switch



+3VALW_PCH switch

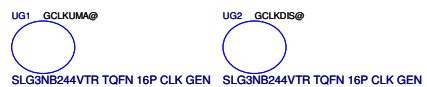
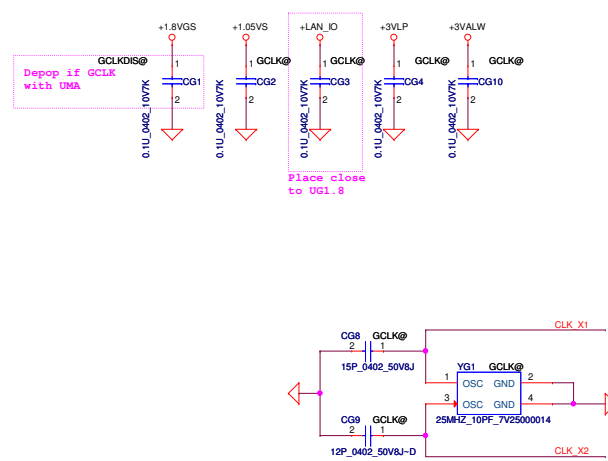


For Intel S3 Power Reduction

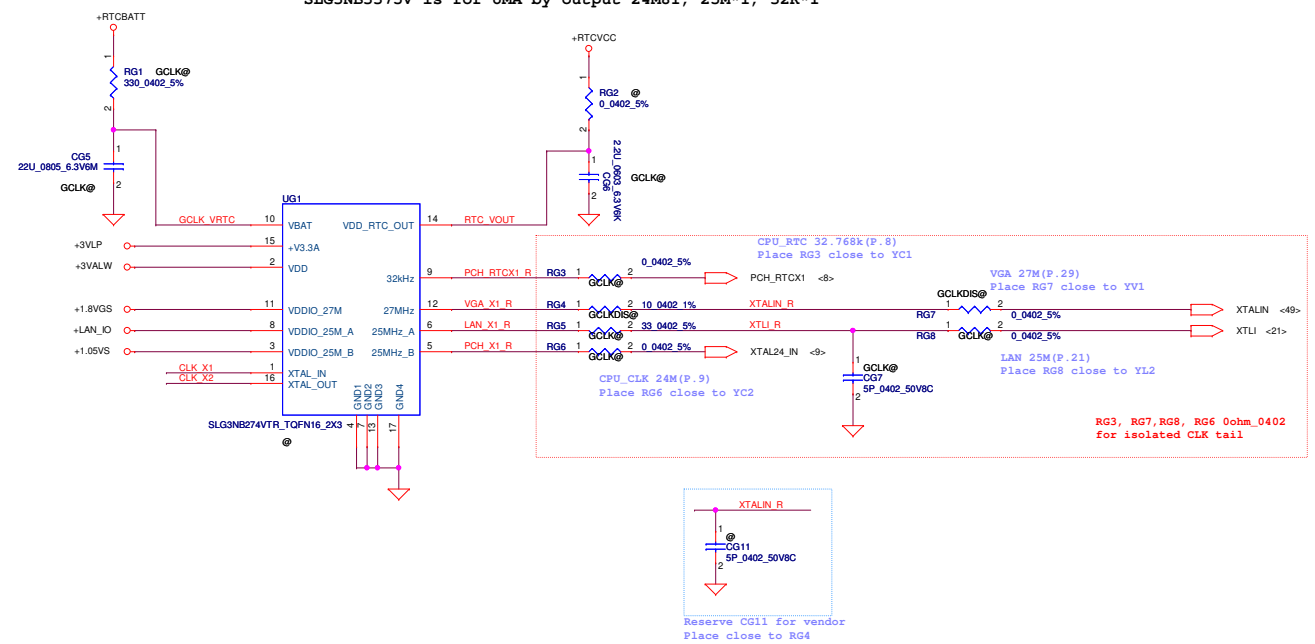
<http://vinafix.vn>

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Title	DC/DC Interface
THIS IS A CONFIDENTIAL ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OR TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-9984P
				Date	Wednesday, May 22 2013
				Sheet	28 of 57
				Rev	1.0

vinafix



SLG3NB3374V is for DIS by output 24M*1, 25M*1, 27M*1, 32K*1
SLG3NB3375V is for UMA by output 24M81, 25M*1, 32K*1



<http://vinafix.vn>

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Title	GCLK
THIS IS A CONFIDENTIAL ENGINEERING DRAWING AND IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-9984P
				Date	Wednesday, May 22, 2013
				Sheet	23 of 57
				Rev	1.0

SD028000080	0_0402_5%
SD034120280	12K_0402_1%
SD034100380	27K_0402_1%
SD034430280	43K_0402_1%
SD034560280	56K_0402_1%
SD034750280	75K_0402_1%
SD034100380	100K_0402_1%
SD034130380	130K_0402_1%
SD034160380	160K_0402_1%
SD034200380	200K_0402_1%
SD000001B80	240K_0402_1%
SD00000G280	270K_0402_1%
SD034330380	330K_0402_1%
SD028430380	430K_0402_1%

PLT_RST#
CE36 ESD@
0.047U_0402_16V4Z
Place CC30 close to RC51.1

Reserve for ESD
CE27 ESD@
0.1U_0402_10V7K
CE28 ESD@
0.1U_0402_10V7K
Please close to EC

FAN_SPEED1
CE29
220P_0402_50V8J
Please close to EC

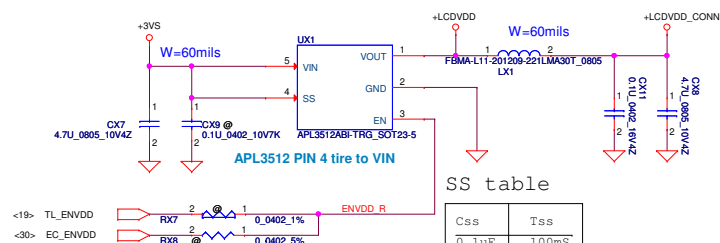
KB9012A4 change to
KB9012A4 SA00004OB30

ME_FWP PCH has internal 20K PD.
(suspend power rail)

Place CE30,CE31,CE32,CE33 close to UE1

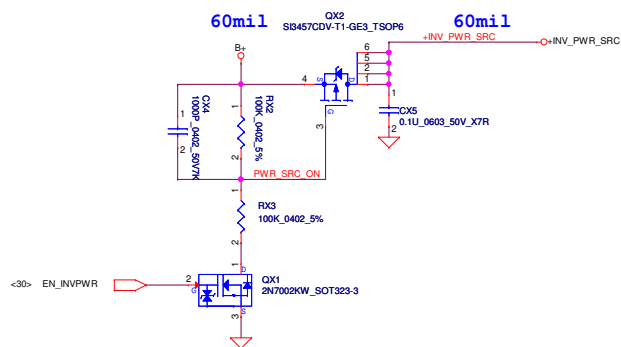
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		EC ENE-KB9012	
2013/05/17		2014/06/01		Document Number	
				LA-9984P	
				Date	
				Wednesday, May 22, 2013	
				Sheet	
				30 of 57	

LCD PWR CTRL

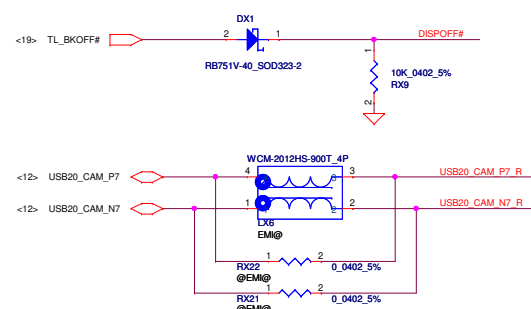
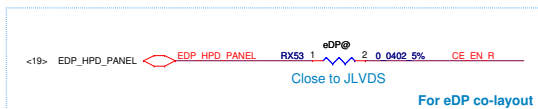
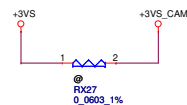


Css	Tss
0.1uF	100mS
10nF	10mS
1nF	1mS
Open or tied to VIN	1mS

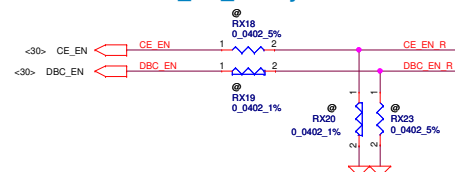
LCD backlight PWR CTRL



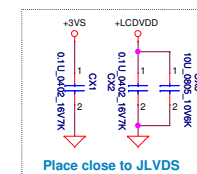
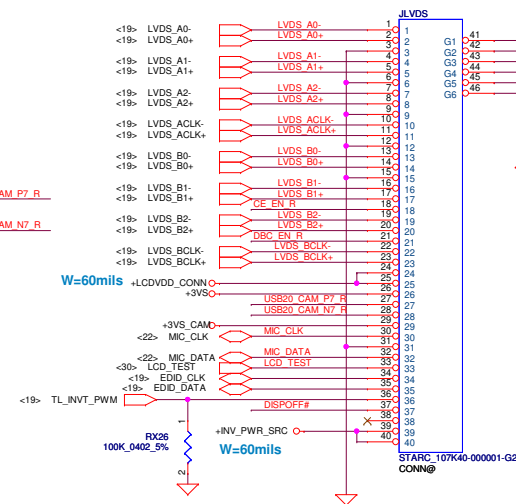
Webcam PWR CTRL



CE_EN_R only for reserve.



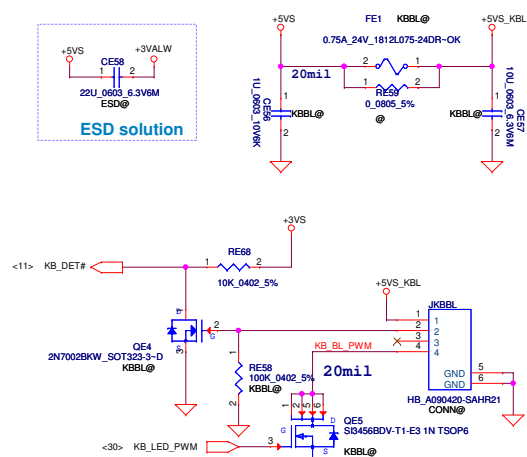
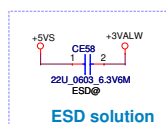
LVDS Connector



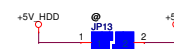
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/05/17		Deciphered Date	
				2014/06/01	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				Title	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				LVDS/webcam	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				Document Number	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				LA-9984P	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				Date: Wednesday, May 22, 2013	
THIS DRAWING OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA				Sheet 31 of 57	

vinafix

* Key Board Back Light

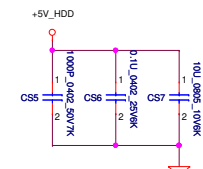
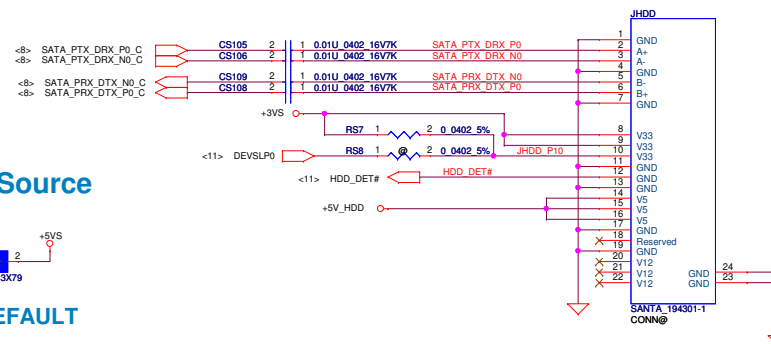


+5V_HDD Source

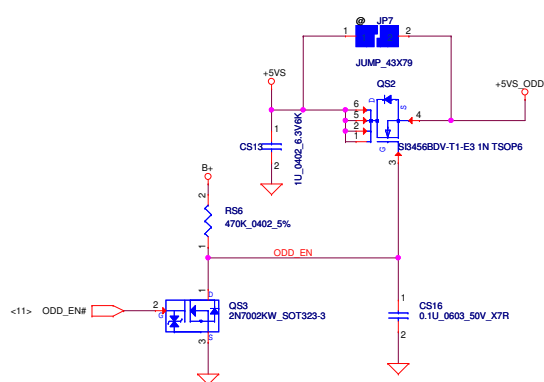


SHORT DEFAULT

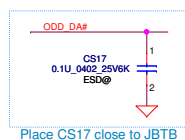
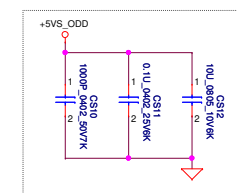
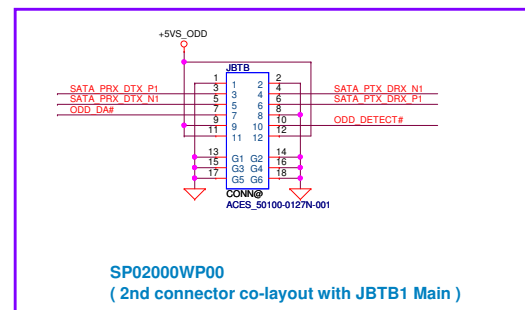
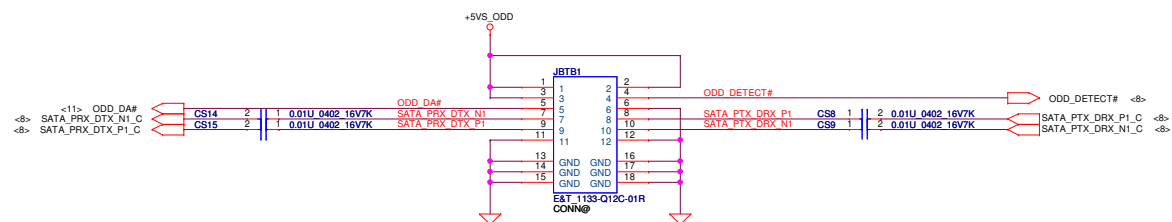
SATA HDD Connector



ODD Power Control



ODD BTB Connector



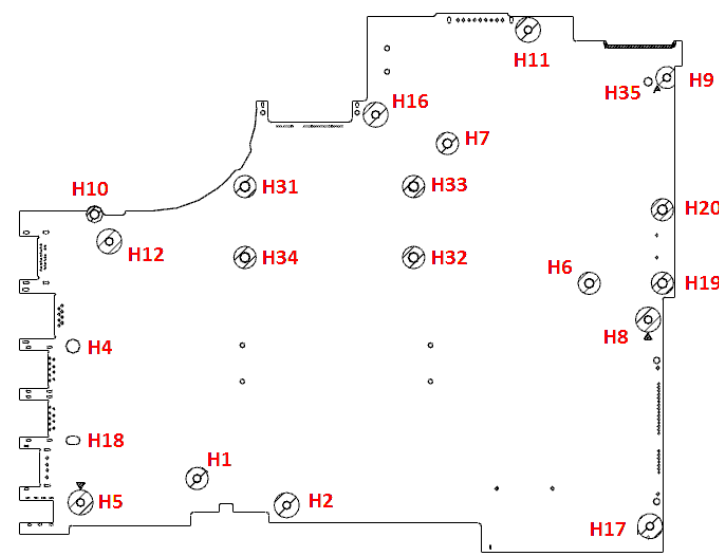
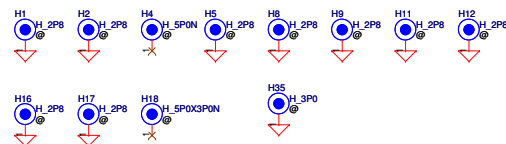
Place CS17 close to JBTB

SP02000WP00
(2nd connector co-layout with JBTB1 Main)

Security Classification	Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Compal Electronics, Inc.
THIS DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number
				LA-9984P
				Rev 1.0
				Date: Wednesday, May 22 2013
				Sheet 32 of 57

<http://vinafix.vn>

Screw Hole



vinafix

Version Change List (P. I. R. List)

Page 1

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	34	Card Reader	2012/04/27	HW	The Card reader USB signal is incorrect.	SWAP UR1 USB signal P/N	0.2
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		Document Number	
2013/05/17		2014/06/01		LA-9984P	
THIS IS AN UNCLASSIFIED ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED FOR ANY PURPOSE BY ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	
				1.0	
Date: Wednesday, May 22, 2013				Sheet 34 of 57	

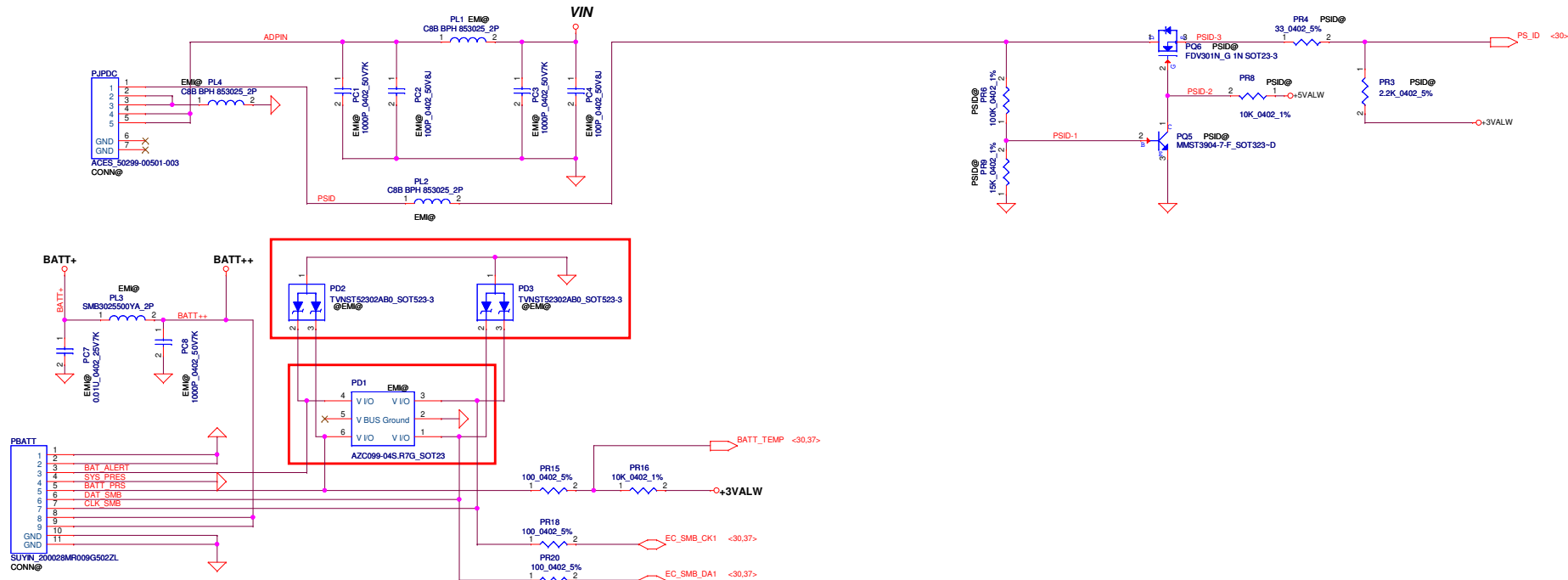
http://vinafix.vn

vinafix

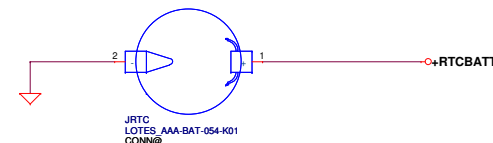
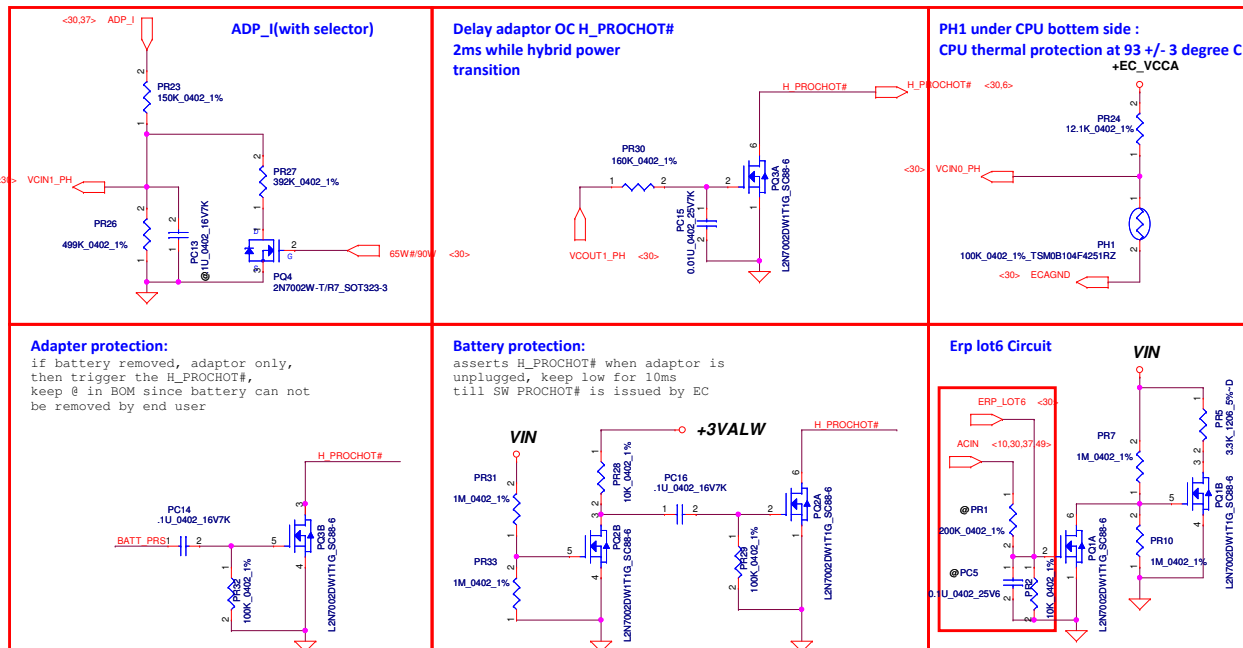
Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							

http://vinafix.vn

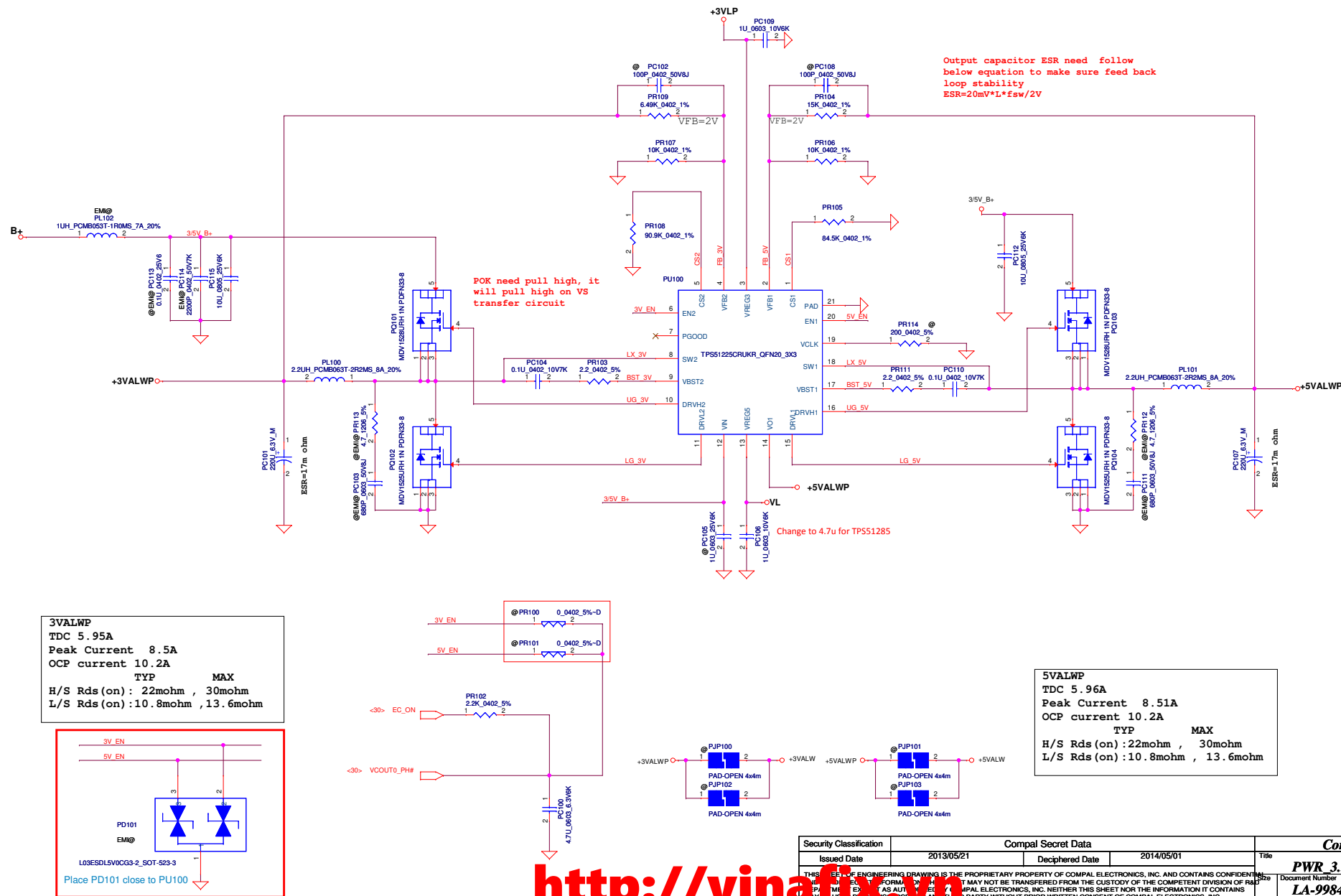
SMART Battery:
01.GND1
02.GND2
03.BAT_ALERT
04.SYS_PRES
05.BATT_PRS
06.DAT_SMB
07.CLK_SMB
08.BATT1 +
09.BATT2 +



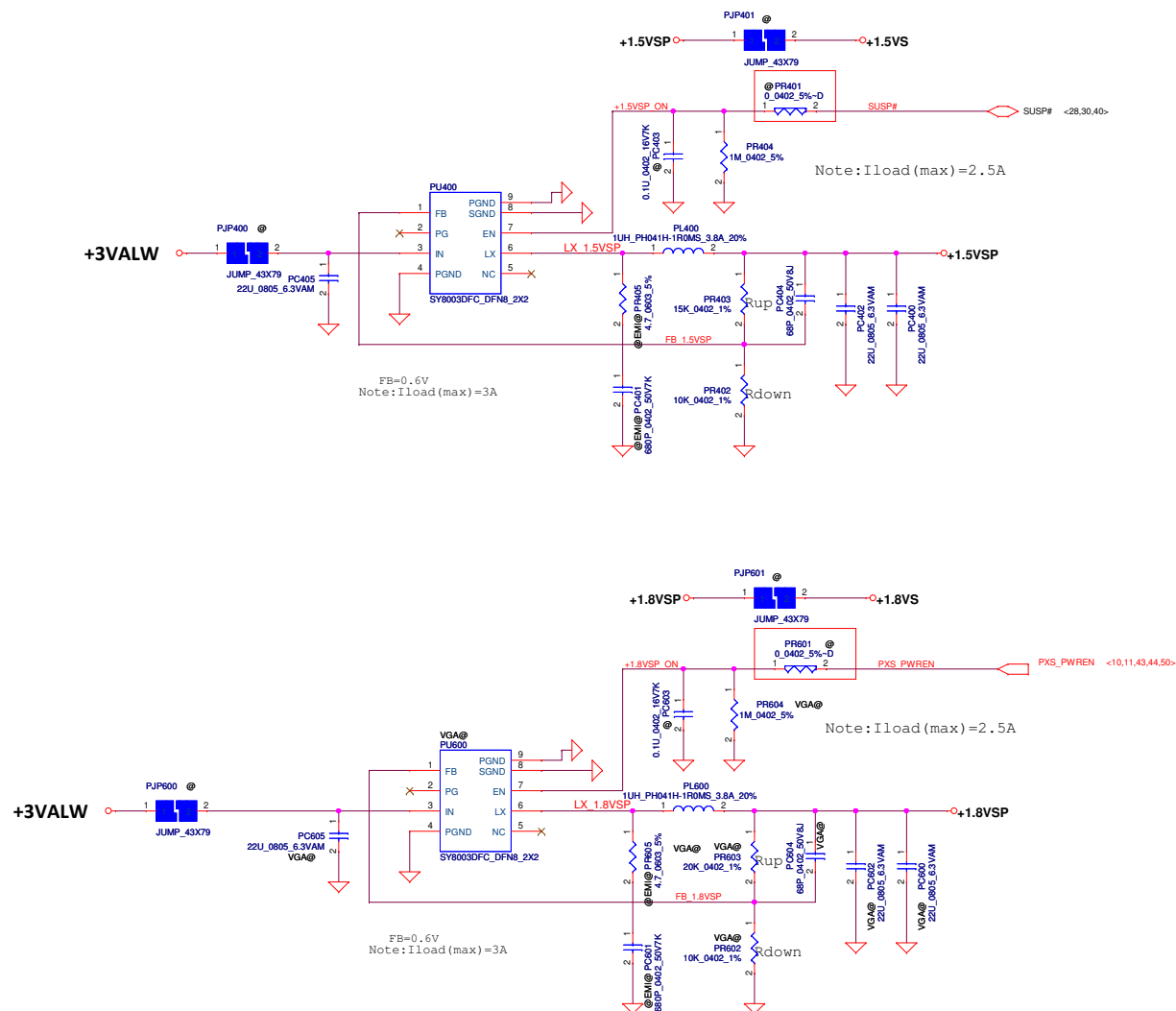
Other component (37.1)



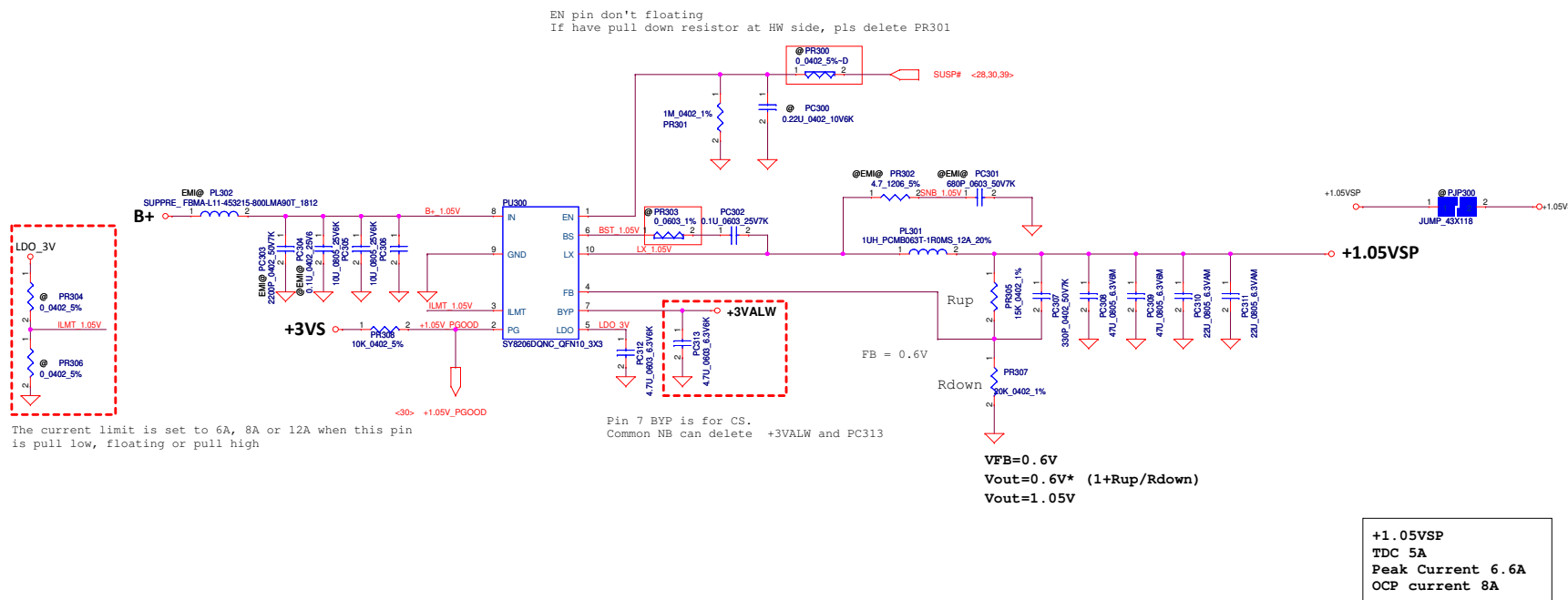
vinafix



<http://vinafix.vn>



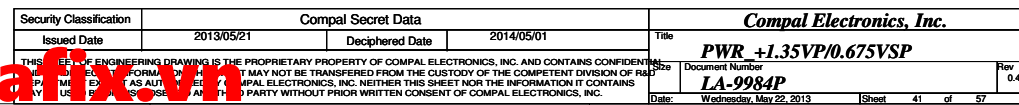
vinafix



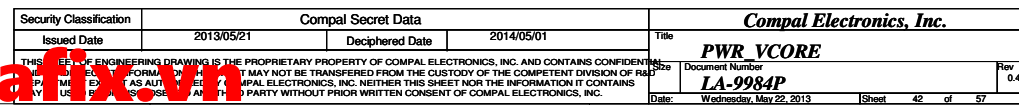
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/05/21	Deciphered Date	2014/05/01	Title
THIS SHEET OF ENGINEERING INFORMATION IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				PWR_+VCCIO
Size	Document Number	Rev		
C		0.4		
Date:	Wednesday, May 22, 2013	Sheet	40	of 57

<http://vinafix.vn>

<http://vinafix.vn>

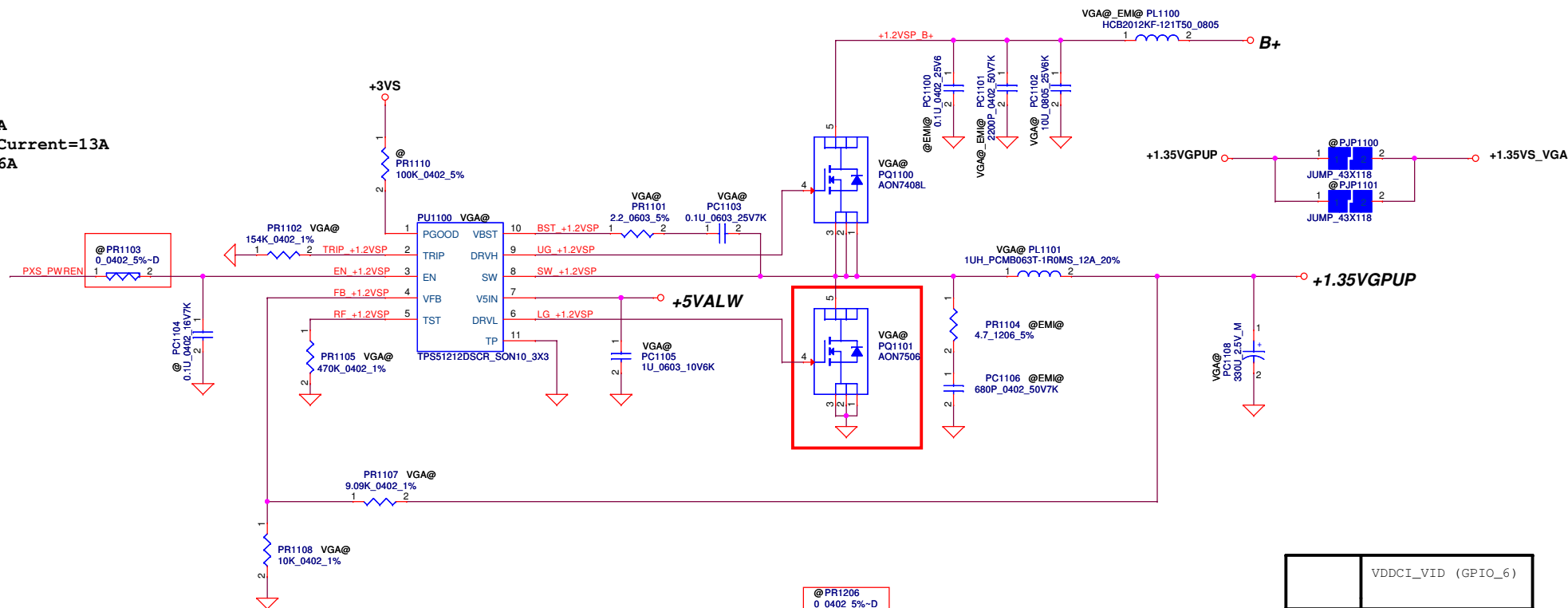


<http://vinafix.vn>

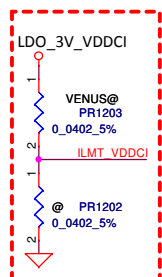


vinafix

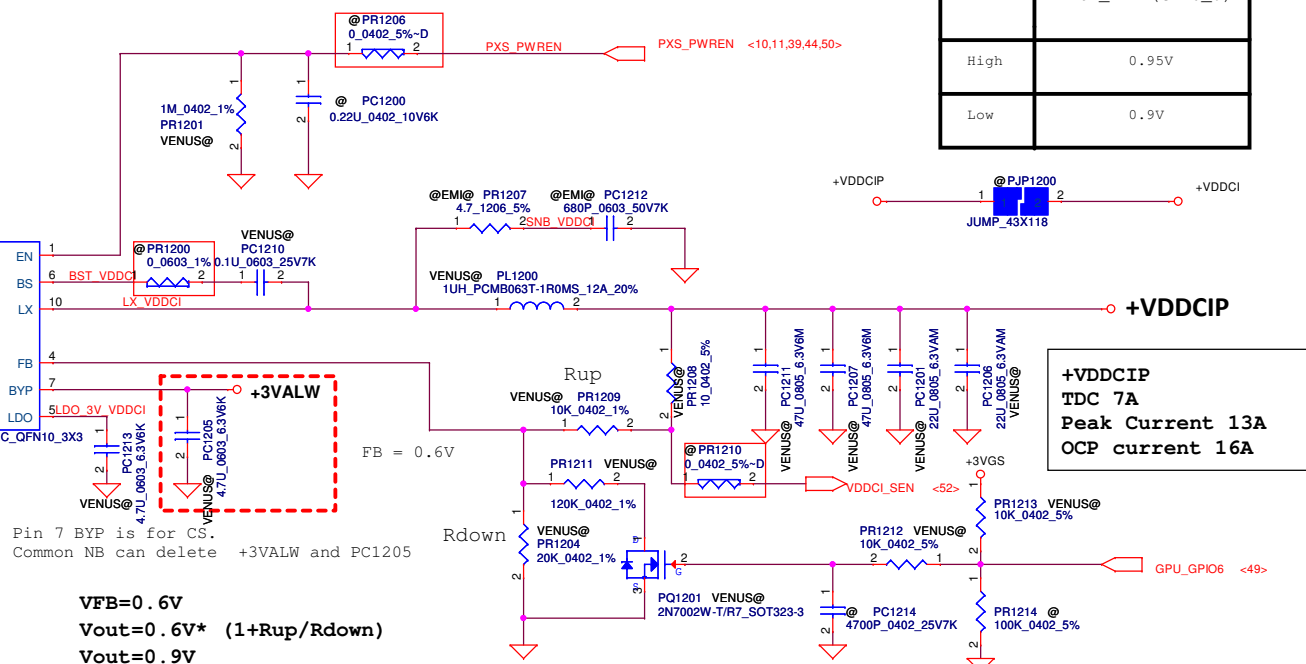
TDC=9A
Peak Current=13A
OCP=16A



	VDDCI_VID (GPIO_6)
High	0.95V
Low	0.9V



The current limit is set to 8A, 12A or 16A when this pin is pull low, floating or pull high



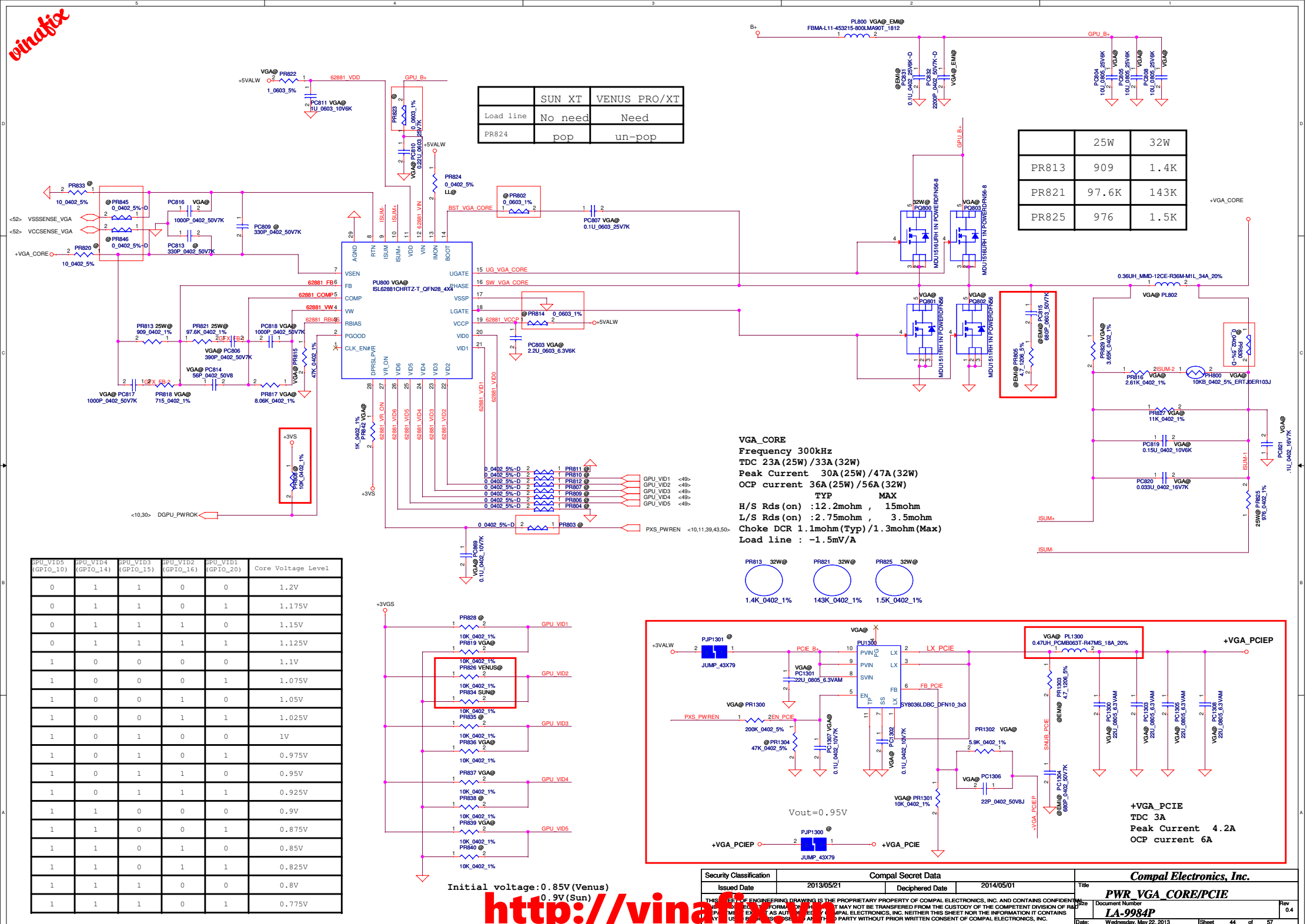
VFB=0.6V
Vout=0.6V* (1+Rup/Rdown)
Vout=0.9V

Pin 7 BYP is for CS.
Common NB can delete +3VALW and PC1205

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/05/21	Deciphered Date	2014/05/01	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 THE AUTHORIZATION BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED FOR ANY PURPOSES WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Size	Document Number
					LA-9984P
				Date	Wednesday, May 22, 2013
				Sheet	43 of 57

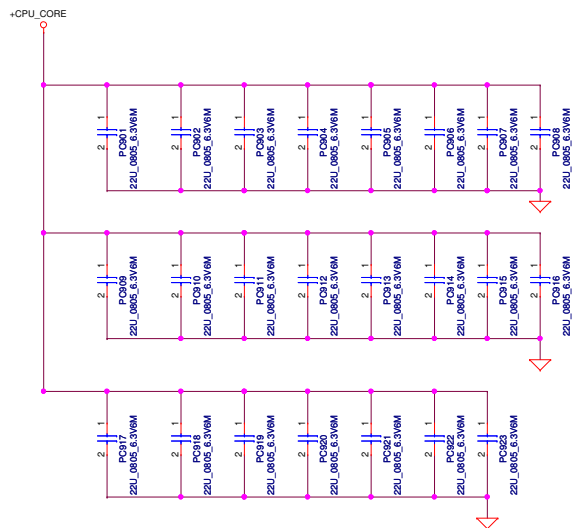
http://vinafix.vn

vinafix

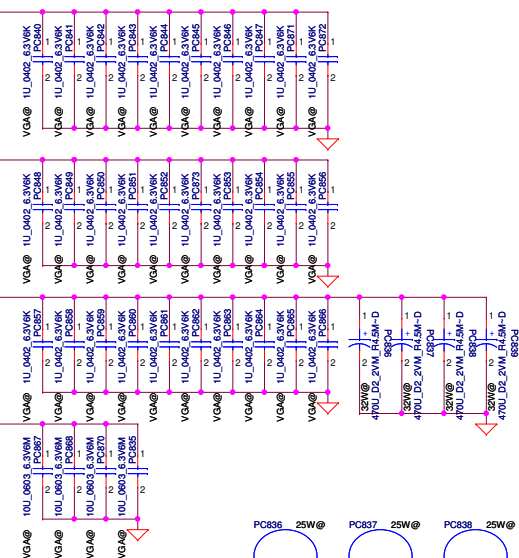


<http://vinafix.vn>

vinafix



+VGA_CORE

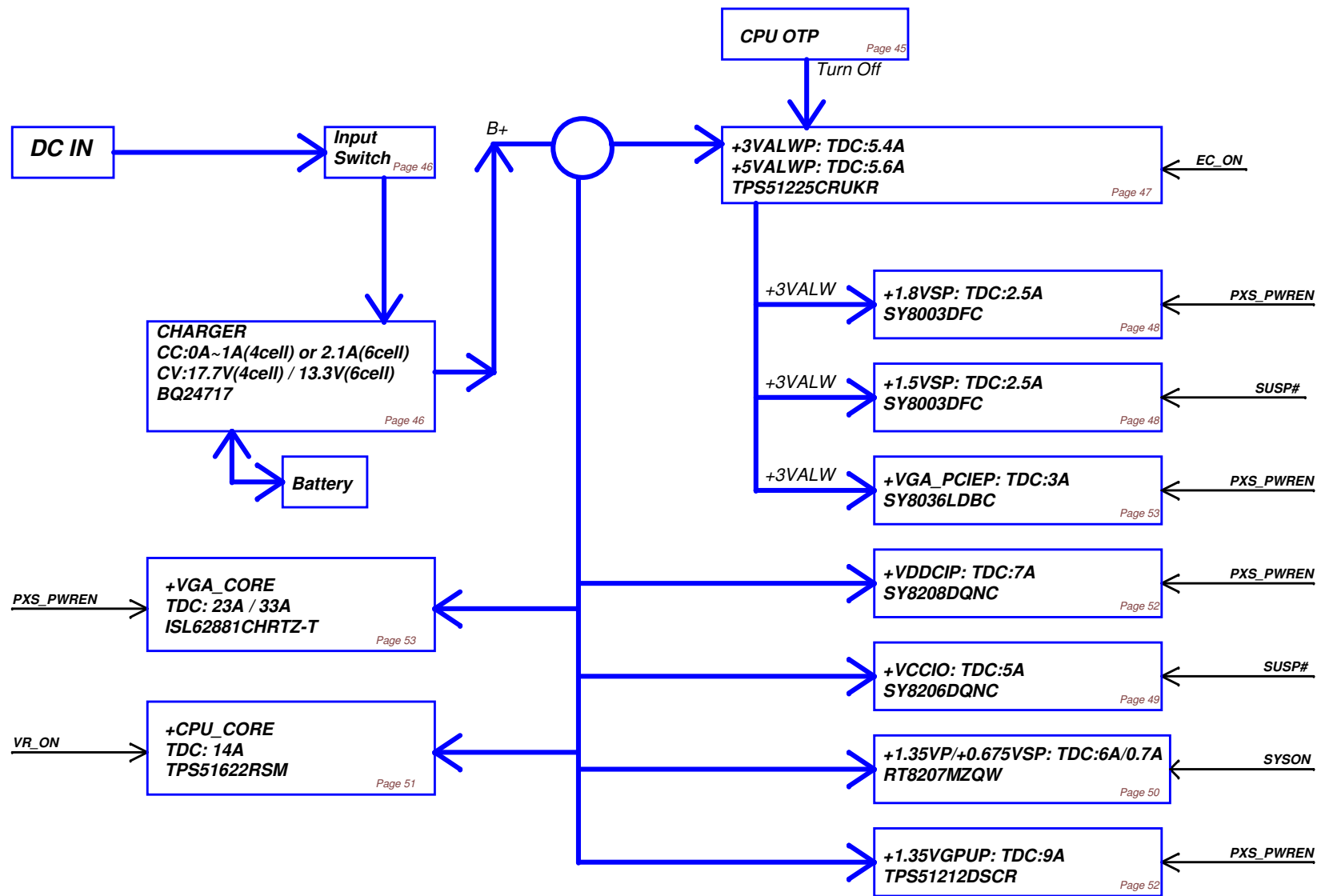


PC836 25W@ 330U_D2_2V_Y
PC837 25W@ 330U_D2_2V_Y
PC838 25W@ 330U_D2_2V_Y
PC839 25W@ 330U_D2_2V_Y

<http://vinafix.vn>

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		PWR PROCESSOR DECOUPLING	
2013/05/21		2014/05/01		Document Number	
THIS DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED FOR ANY PURPOSE WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		LA-9984P		Rev 0.4	
Date:		Wednesday, May 22 2013		Sheet 45 of 57	

Power block



Page 1

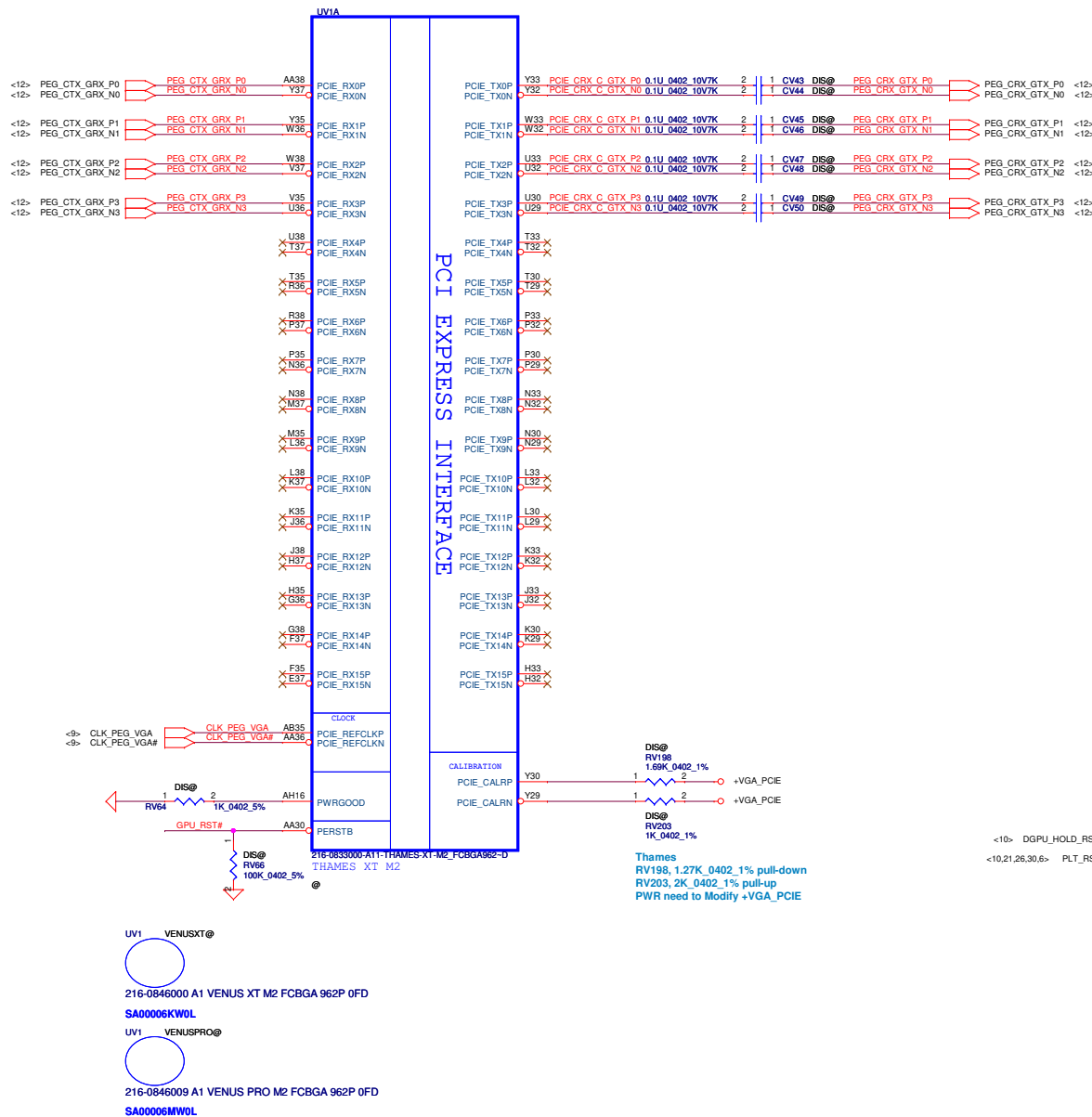
Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	37	CHARGER	13/01/30	Morris	adjust design parameter from vendor recommend	delete PD702 change PC712 to unpop change PQ704 to unpop change PC707 from 0.1uF_0402 to 1uF_0603 change PC720 from 0.1uF to 100pF change PC711 from 1000pF to 0.01uF change PQ705 from SB000005D00 to SB000000WY00	0.3
2	42	VCORE	13/01/30	Morris	adjust design parameter from vendor recommend	change PC509 from 0.1uF to 1000pF change PR529 from 3.83K to 5.76K change PR504 from 523K to 499K	0.3
3	36	DCIN/BATT CONN/OTP	13/01/30	Morris	change from ESD request	change PD1 from SC300002E00 to SC300001G00	0.3
4	38	3.3VALWP/5VALWP	13/02/01	Morris	add ESD diode from ESD request	add PD101(SCA00002A00)	0.3
5	42	VCORE	13/02/21	Morris	adjust design parameter from fine tune result	change PR501 from 422K to 523K change PR503 from 56K to 75K	0.3
6	44	VGA_CORE/PCIE	13/02/21	Morris	unpop from EE request	unpop PR808	0.3
7	44	VGA_CORE/PCIE	13/03/05	Morris	adjust output voltage from vender request	unpop PR826 and pop PR834 (only for Sun XT)	0.3
8	37 38 39 40 41 42	CHARGER 3.3VALWP/5VALWP 1.5VSP/1.8VSP +VCCIO +1.35VP/0.675VSP VCORE	13/03/28	Morris	verify function ok, so delete 0 ohm to short	unpop PR100,PR101,PR201,PR202,PR300,PR303,PR401,PR522,PR535, PR704,PR708,PR710,PR714,PR715,PR717	0.4
9	36	DCIN/BATT CONN/OTP	13/04/09	Morris	design change for solve issue	unpop PR1 and PC5	0.4
10	41 43	+1.35VP/0.675VSP +1.35VGPU/VDDCI	13/04/09	Morris	part shortage issue	change PQ201 and PQ1101 from SB00000T600 to SB000010A00	0.4
11	39 43 44	1.5VSP/1.8VSP +1.35VGPU/VDDCI VGA_CORE/PCIE	13/04/09	Morris	verify function ok, so delete 0 ohm to short	unpop PR601,PR802,PR803,PR814,PR823,PR830,PR845,PR846, PR1103,PR1200,PR1206,PR1210	0.4
12	43	+1.35VGPU/VDDCI	13/04/09	Morris	unpop VDDCI parts from vendor recommend and EEverify ok only for Sun XT	unpop PL1200,PL1201,PUI200,PQ1201,PR1201,PR1203,PR1204,PR1208,PR1209, PR1211,PR1212,PR1213,PC1201,PC1202,PC1204,PC1205,PC1206,PC1207, PC1209,PC1210,PC1211,PC1213 (only for Sun XT)	0.4
13	44	VGA_CORE/PCIE	13/04/12	Morris	part shortage issue	change PL1300 from SH000000G00 to SH000000PK00	0.4
14	36	DCIN/BATT CONN/OTP	13/04/12	Morris	customer request	add PR2 10Kohm	0.4
15	42	VCORE	13/04/15	Morris	EMI request	pop PC522 and add PC523 0.1uF	0.4

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2013/05/21	Deciphered Date	2014/05/01	Title	PWR-PIR	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OR TO ANY OTHER PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	
				LA-9984P		
				Date:	Wednesday, May 22, 2013	Sheet 47 of 57

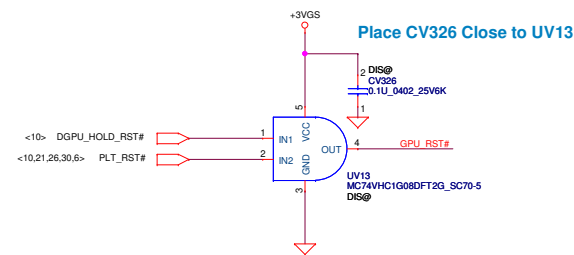
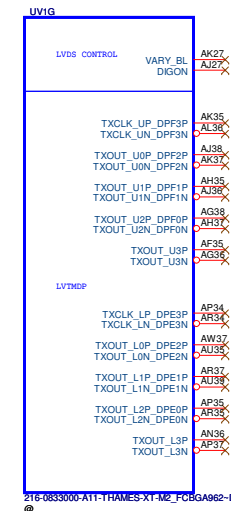
<http://vinafix.vn>

vinafix

GFX PCIE LANE REVERSAL



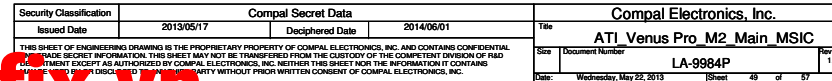
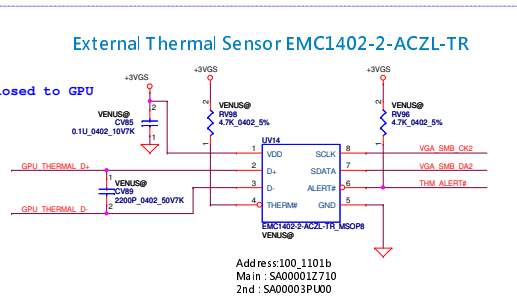
LVDS Interface



<http://vinafix.vn>

Security Classification		Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Document Number	LA-9984P
THIS IS A CONFIDENTIAL ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR ANY PURPOSE BY ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Date	Wednesday, May 22, 2013
				Sheet	48 of 57

RECOMMENDED SETTINGS	
0= DO NOT INSTALL RESISTOR 1= INSTALL 10K RESISTOR X= DESIGN DEPENDANT NA= NOT APPLICABLE	
	RECOMMENDED SETTINGS
0: 50k swing 1: Full swing	X
0: disable 1: enable	X
0: 2.50V/a 1: 50V/a	0
	0
	0
0: disable 1: enable	X
RTURE SIZE SELECT	XXX
	0
	0
	0
ngle is detected	11

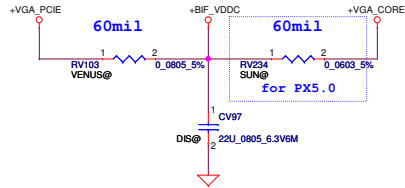
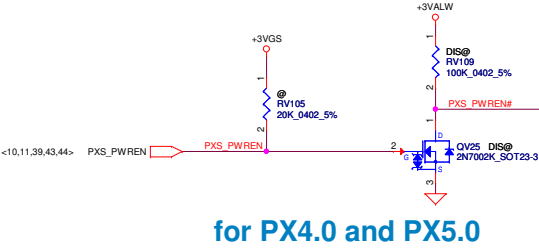


vinafix

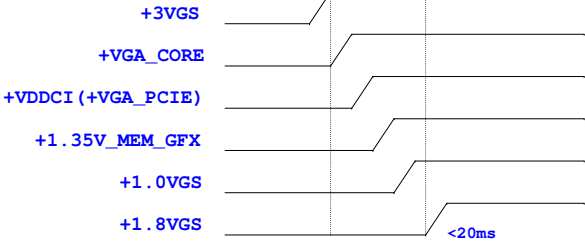
PX_MODE=1 for Normal Operation
PX_MODE=0 for BACO mode to shut down power rails except VDDR3,PCIE_VDDC and 1.8V rail

Note:
PX4.0 +VGA_CORE,VDDCI,+1.5VGS ON
PX4.0 +3VGS, +1.0VGS,+1.8VGS OFF
PX5.0 +3VGS,+VGA_CORE,VDDCI,+1.5VGV,+1.0VGS,+1.8VGS OFF

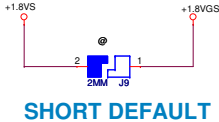
Switch circuits in BACO desings for Thames/Seymour only
55mA@1.0V, in BACO mode



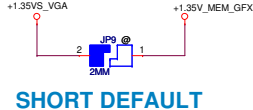
Power sequence of Sun XT,Venus Pro,Venus XT



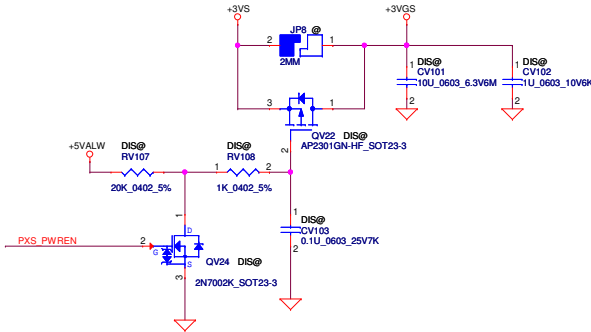
+1.8VS TO +1.8VGS



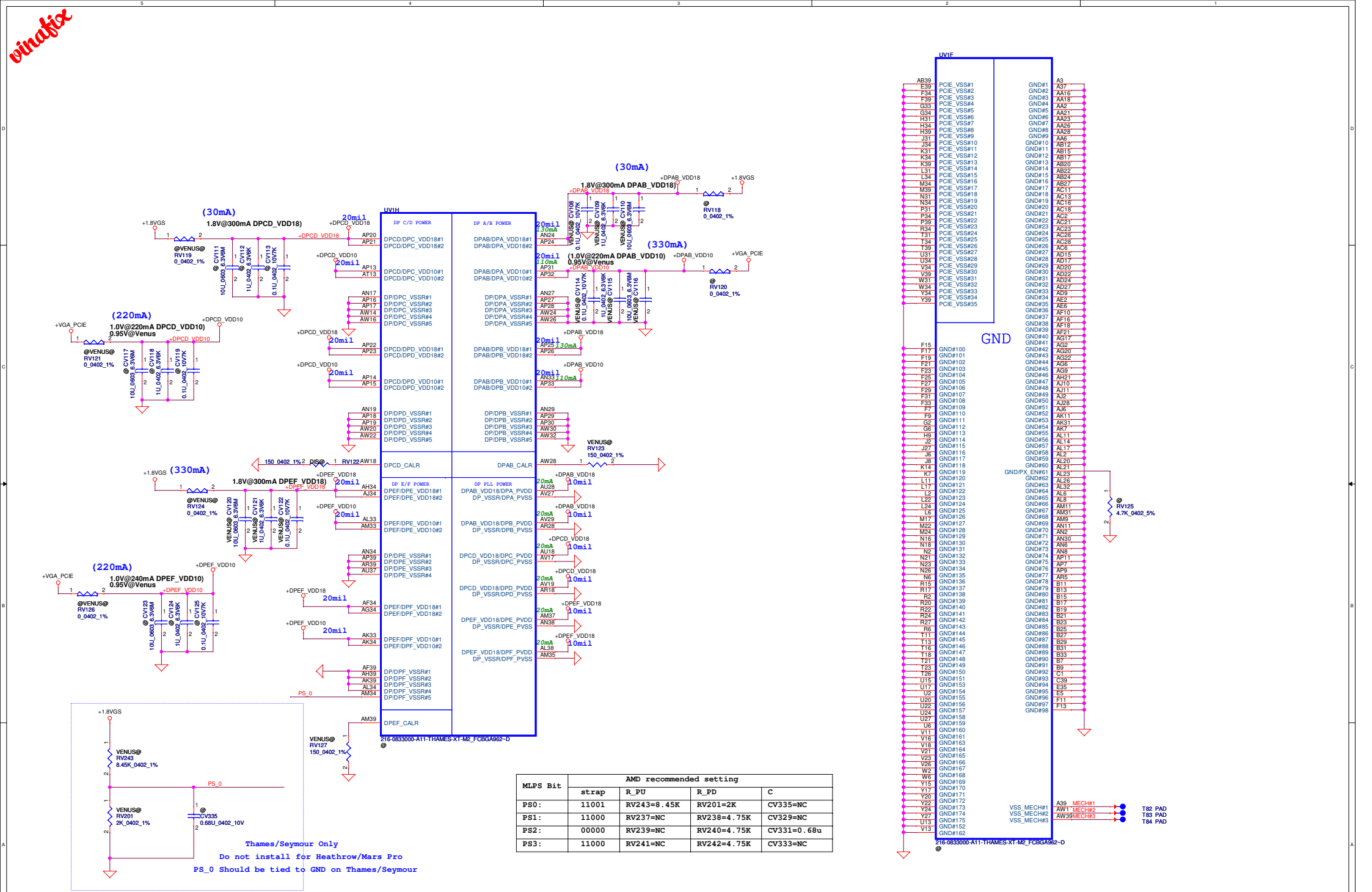
+1.35VS_VGA TO +1.35V_MEM_GFX



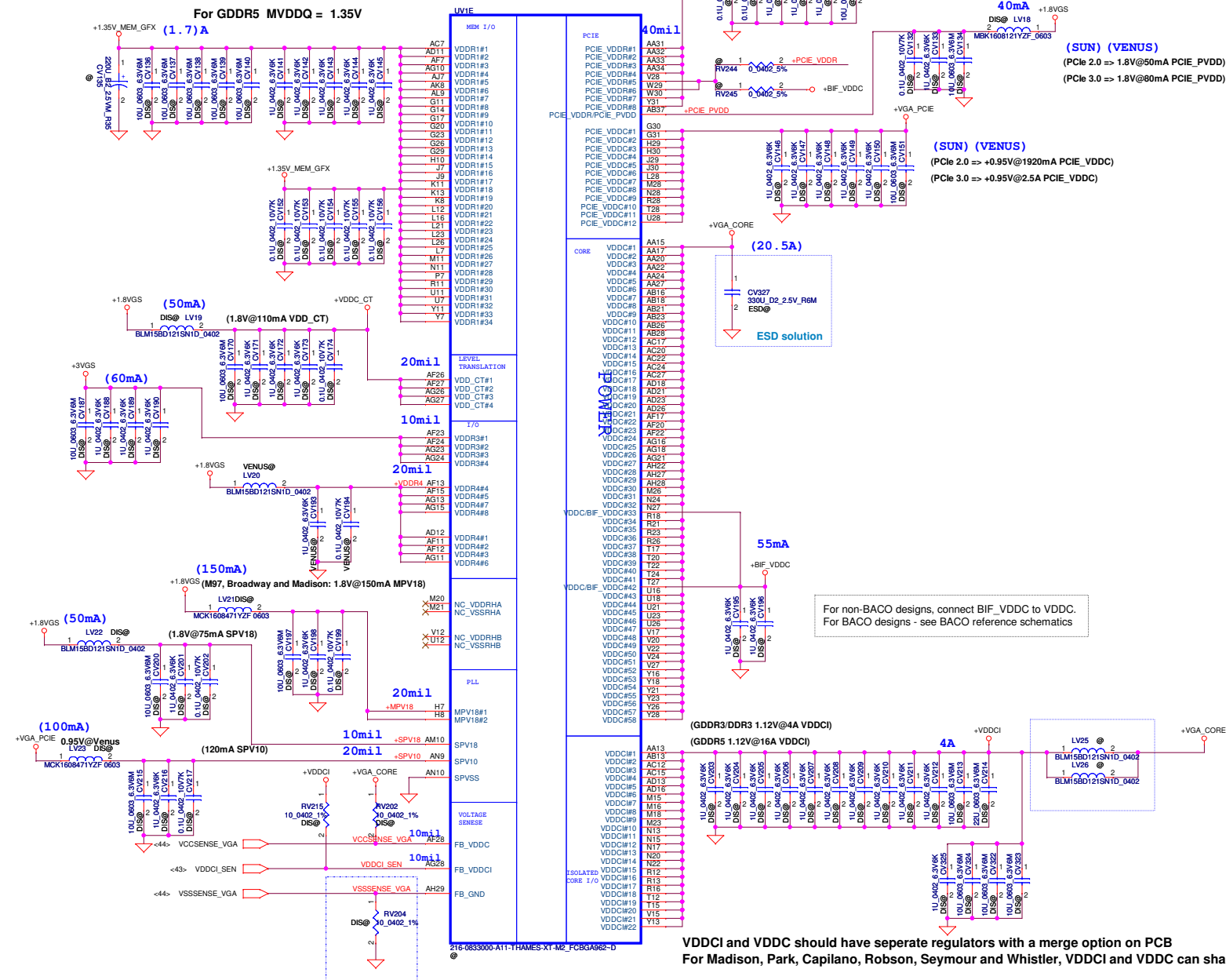
+3VS TO +3VGS



<http://vinafix.vn>

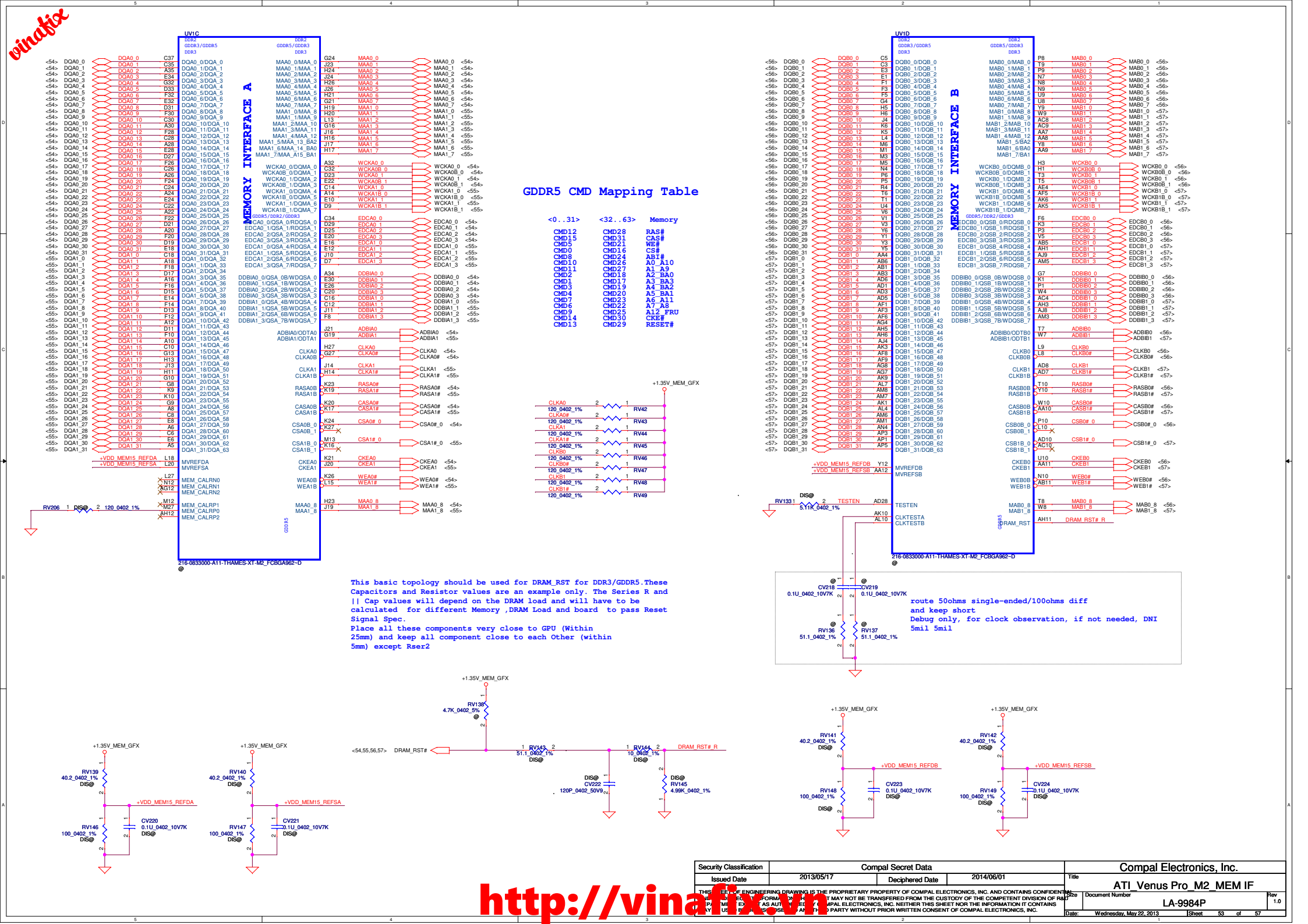


MLPS Bit	AMD recommended setting			
	strap	R_PU	R_PD	C
PS0:	11001	RV243=8.45K	RV201=2K	CV335=NC
PS1:	11000	RV237=NC	RV238=4.75K	CV329=NC
PS2:	00000	RV239=NC	RV240=4.75K	CV331=0.68u
PS3:	11000	RV241=NC	RV242=4.75K	CV333=NC



VDDCI and VDDC should have separate regulators with a merge option on PCB
For Madison, Park, Capilano, Robson, Seymour and Whistler, VDDCI and VDDC can share one common regulator

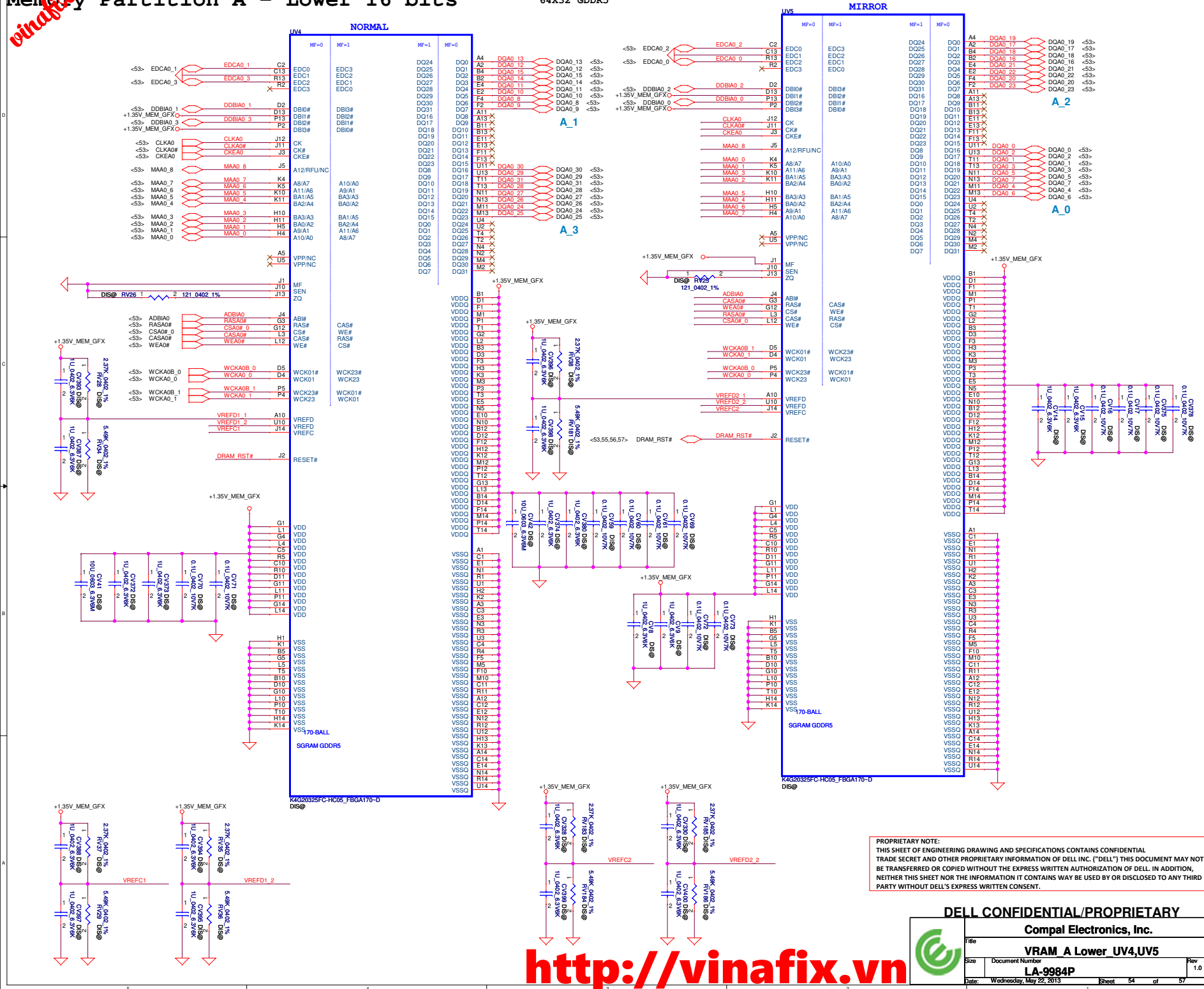
Security Classification		Compal Secret Data		Title	
Issued Date	2013/05/17	Deciphered Date	2014/06/01	Document Number	LA-9984P
THIS IS A CONFIDENTIAL ENGINEERING DRAWING AND IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Date	Wednesday, May 22, 2013
				Sheet	52 of 57



Memory Partition A - Lower 16 bits

64X32 GDDR5

vinafix.vn

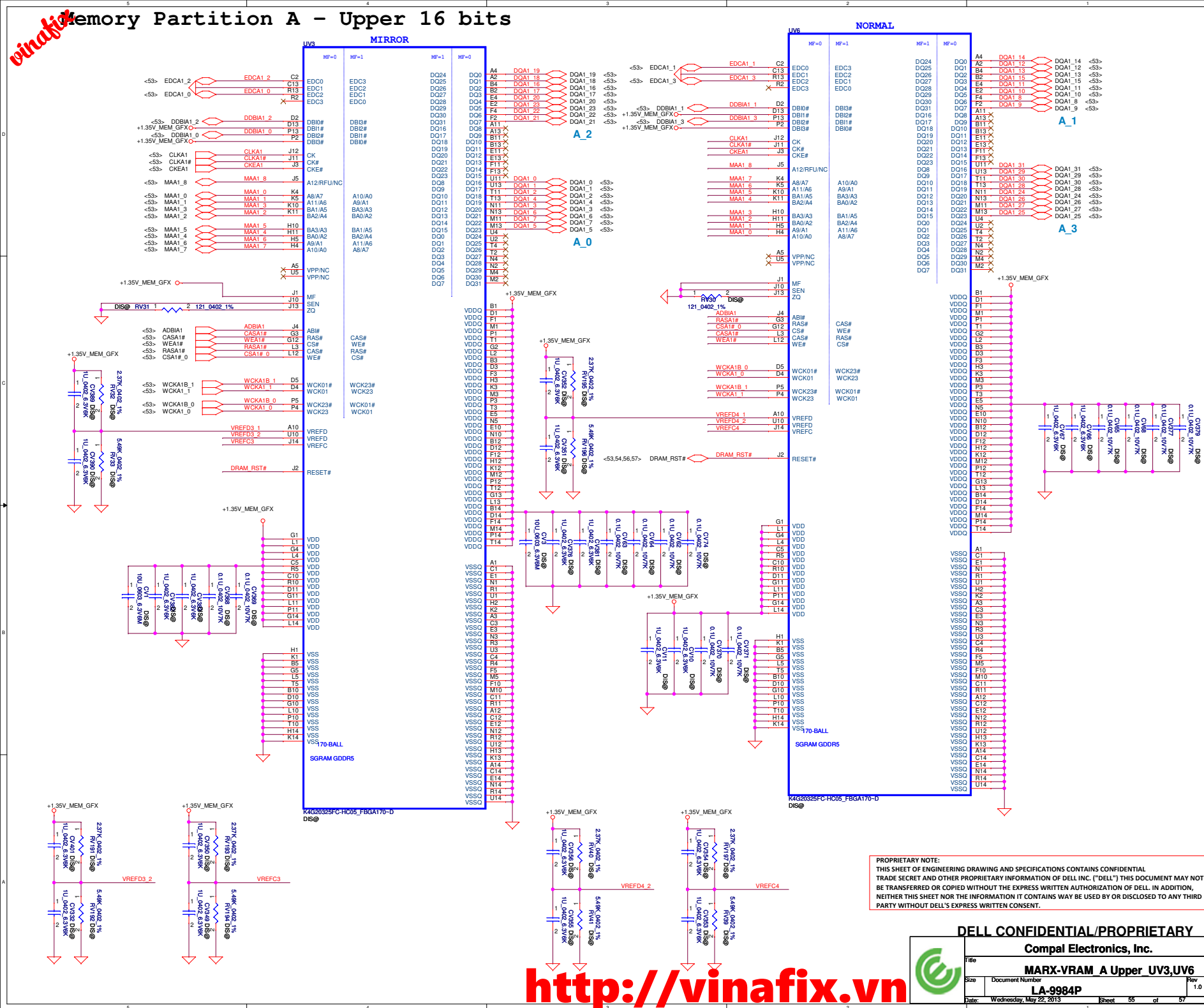


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.		
File	VRAM A Lower UV4,UV5	
Size	Document Number	Rev
	LA-9984P	1.0
Date:	Wednesday, May 22, 2013	Sheet 54 of 57

<http://vinafix.vn>

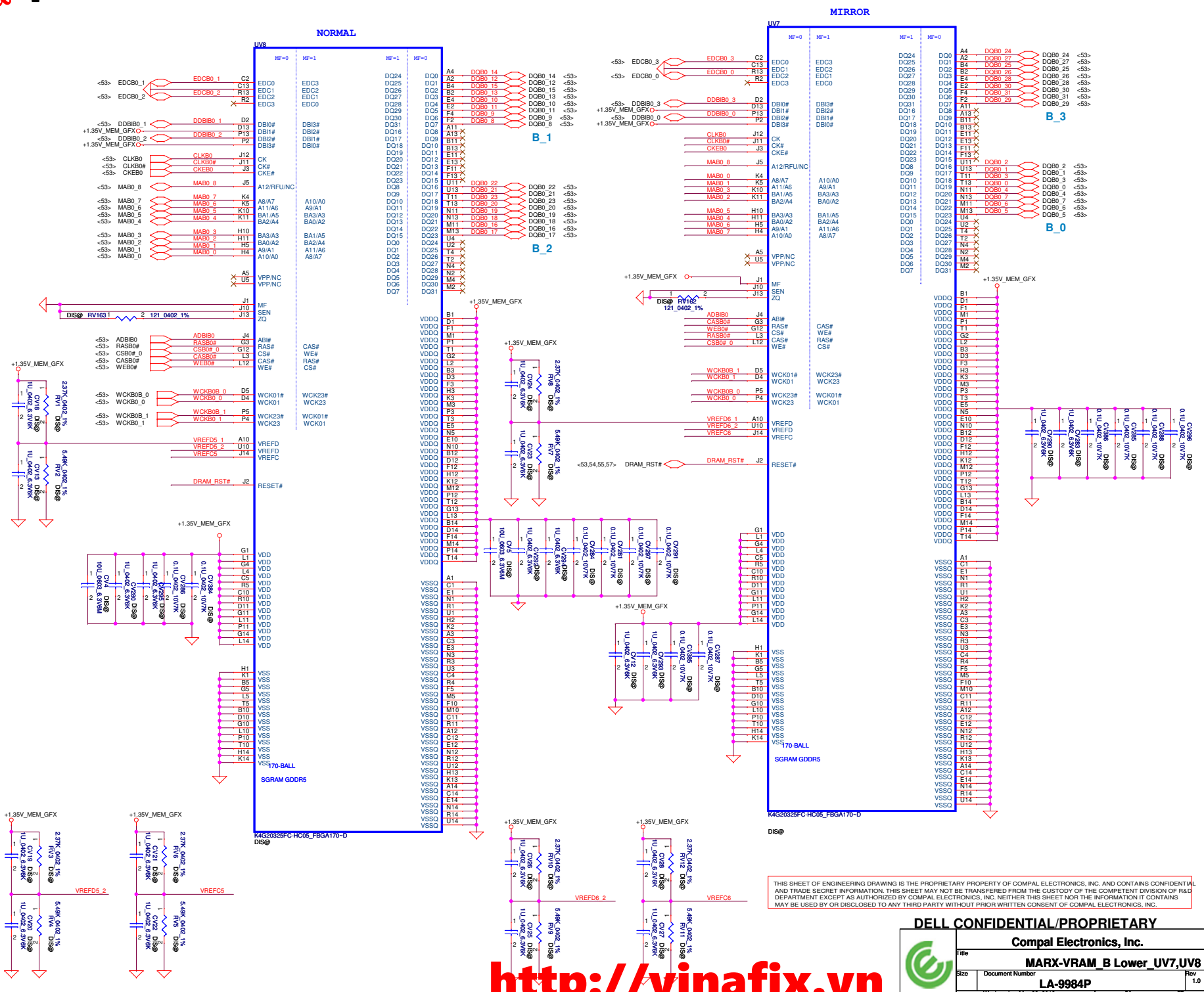
Memory Partition A - Upper 16 bits



<http://vinafix.vn>

Memory Partition B - Lower 16 bits

vinafix.vn

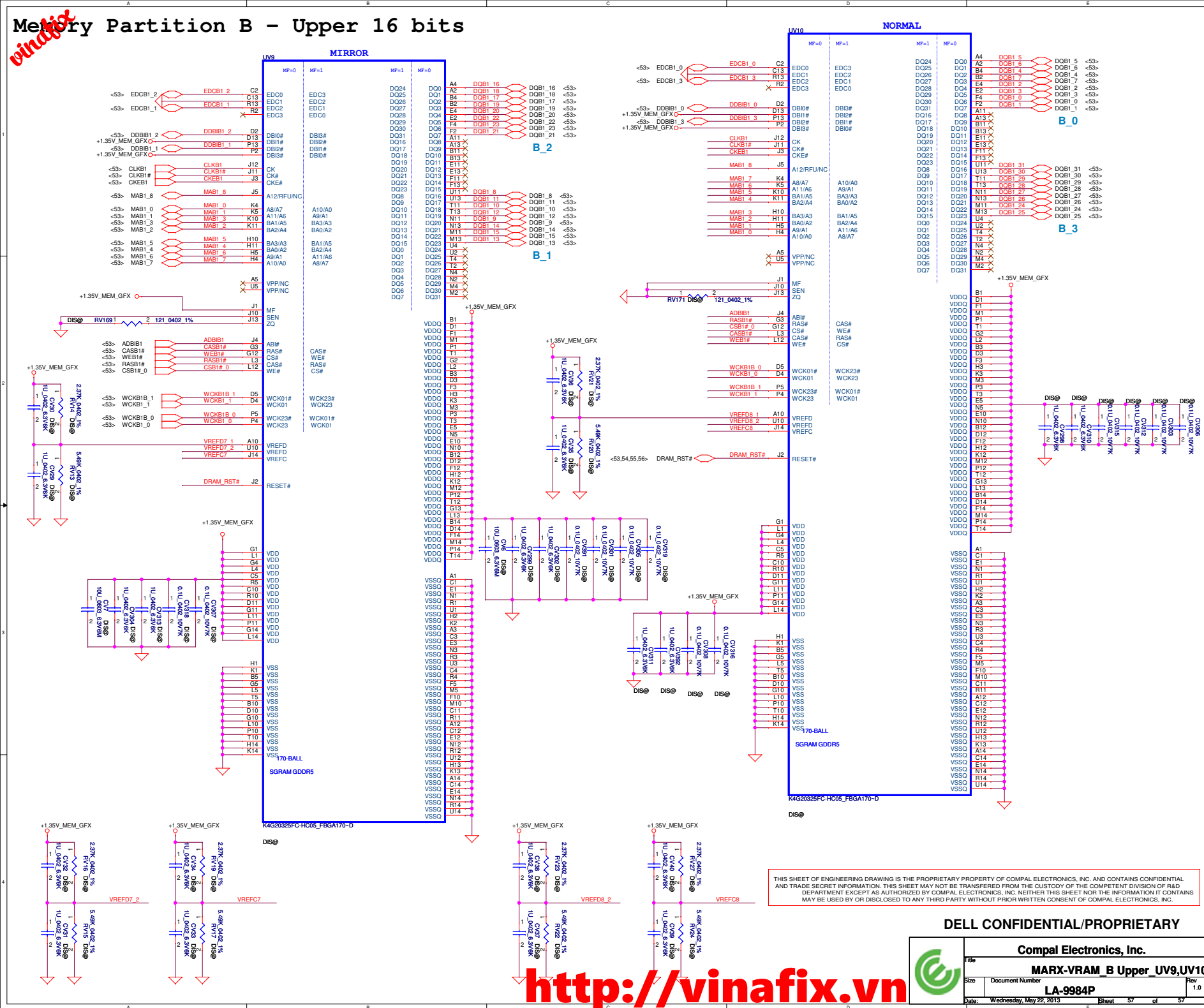


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title	MARX-VRAM_B Lower_UV7,UV8		
Size	Document Number	LA-9984P	Rev 1.0
Date	Wednesday, May 22, 2013	Sheet	56 of 57

<http://vinafix.vn>

Memory Partition B - Upper 16 bits



<http://vinafix.vn>