

Compal Confidential

Model Name : Z5WAH

File Name : LA-B162P

Compal Confidential

EA50_HB M/B Schematics Document

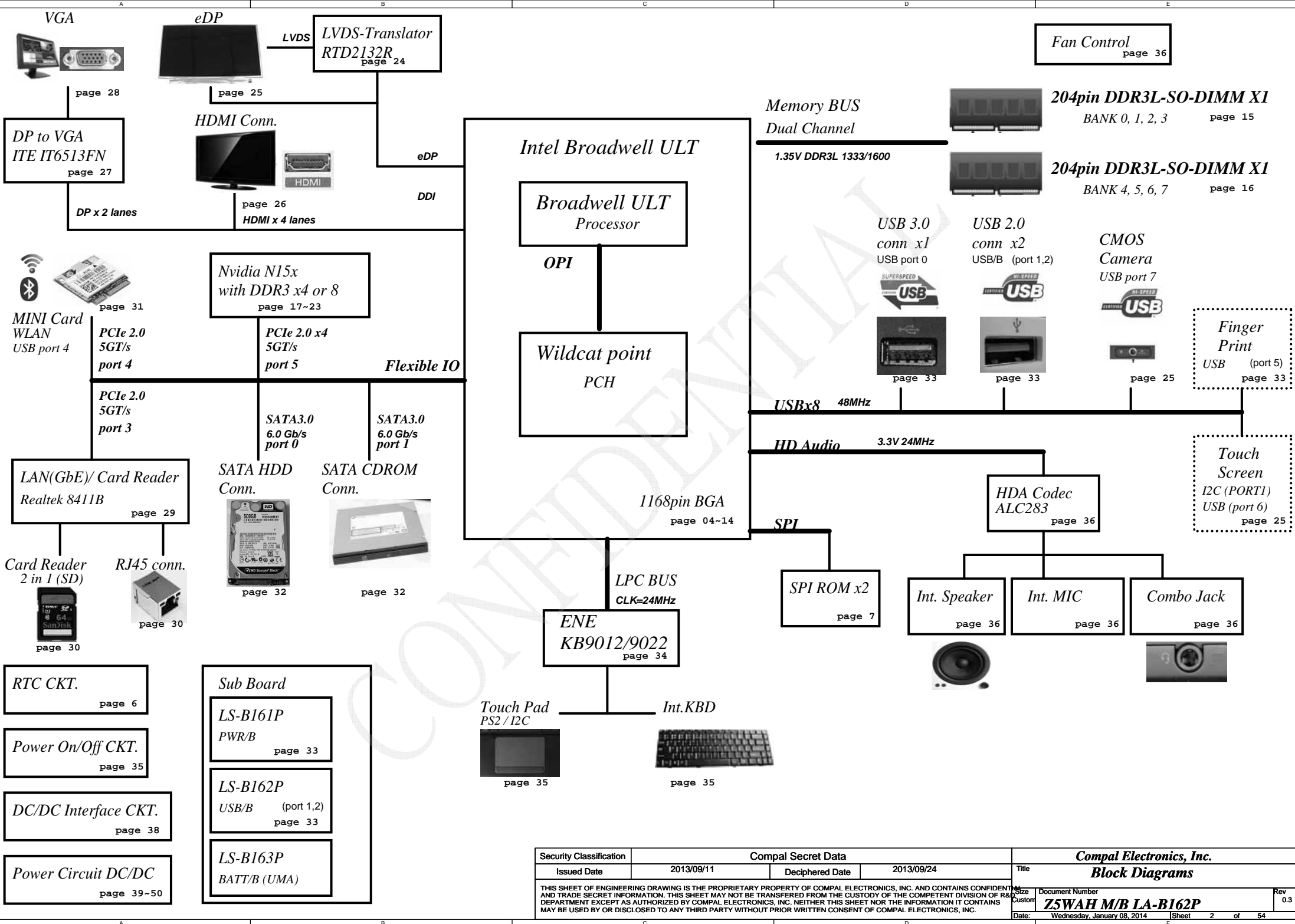
Intel Broadwell ULT (Broadwell + Wildcat point)

Nvidia N15S-GT / N15V-GM / N15V-GL

2013-12-24

REV: 0.2

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	Cover Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				Z5WAH M/B LA-B162P	0.3
				Date: Wednesday, January 08, 2014	Sheet 1 of 54



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/09/11		Deciphered Date	
				2013/09/24	
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	Title			
Custom	Z5WAH M/B LA-B162P	Block Diagrams			
Date:	Wednesday, January 08, 2014	Sheet	2	of	54
Rev	0.3				

Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
BATT+	Battery power supply (12.6V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VGA_CORE	Core voltage for GPU	ON	OFF	OFF
+0.675VS	+0.675VS power rail for DDR3L terminator	ON	OFF	OFF
+1.05VS_VTT	+1.05V power rail for CPU	ON	OFF	OFF
+1.05VSDGPU	+1.05VSDGPU switched power rail for GPU	ON	OFF	OFF
+1.35V	+1.35V power rail for DDR3L	ON	ON	OFF
+1.5VSDGPU	+1.5VSDGPU power rail for GPU	ON	OFF	OFF
+1.5VS	+1.5V power rail for CPU	ON	OFF	OFF
+3VALW	+3VALW always on power rail	ON	ON	ON*
+3VLP	B+ to +3VLP power rail for suspend power	ON	ON	ON
+3VS	+3VALW to +3VS power rail	ON	OFF	OFF
+3VSDGPU	+3VS to +3VSDGPU power rail for GPU	ON	OFF	OFF
+5VALW	+5VALWP to +5VALW power rail	ON	ON	ON*
+5VS	+5VALW to +5VS 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.				

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X	On Board Thermal Sensor	0100 110x
		VGA Internal Thermal Sensor	0100 000x
		G Sensor	0011 000x

EC SM Bus2 address

PCH SM Bus address

Device	Address
ChannelA DIMM0	1010 0000 JDIMM1
ChannelB DIMM1	1010 0010 JDIMM2

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

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 5%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	12K +/- 5%	0.347 V	0.354 V	0.360 V
2	15K +/- 5%	0.423 V	0.430 V	0.438 V
3	20K +/- 5%	0.541 V	0.550 V	0.559 V
4	27K +/- 5%	0.691 V	0.702 V	0.713 V
5	33K +/- 5%	0.807 V	0.819 V	0.831 V
6	43K +/- 5%	0.978 V	0.992 V	1.006 V
7	56K +/- 5%	1.169 V	1.185 V	1.200 V
8	75K +/- 5%	1.398 V	1.414 V	1.430 V
9	100K +/- 5%	1.634 V	1.650 V	1.667 V
10	130K +/- 5%	1.849 V	1.865 V	1.881 V
11	160K +/- 5%	2.015 V	2.031 V	2.046 V
12	200K +/- 5%	2.185 V	2.200 V	2.215 V
13	240K +/- 5%	2.316 V	2.329 V	2.343 V

USB Port Table

USB 2.0	Port	3 External USB Port
EHCI1	0	USB Port(Left 3.0)
	1	USB Port(Right 2.0)
	2	USB Port(Right 2.0)
	3	
	4	Mini Card (WLAN+BT)
	5	Touch Screen
	6	Camera
	7	Finger Print
USB 3.0	Port	
XHCI	0	USB Port(Left 3.0)
	1	
	2	
	3	

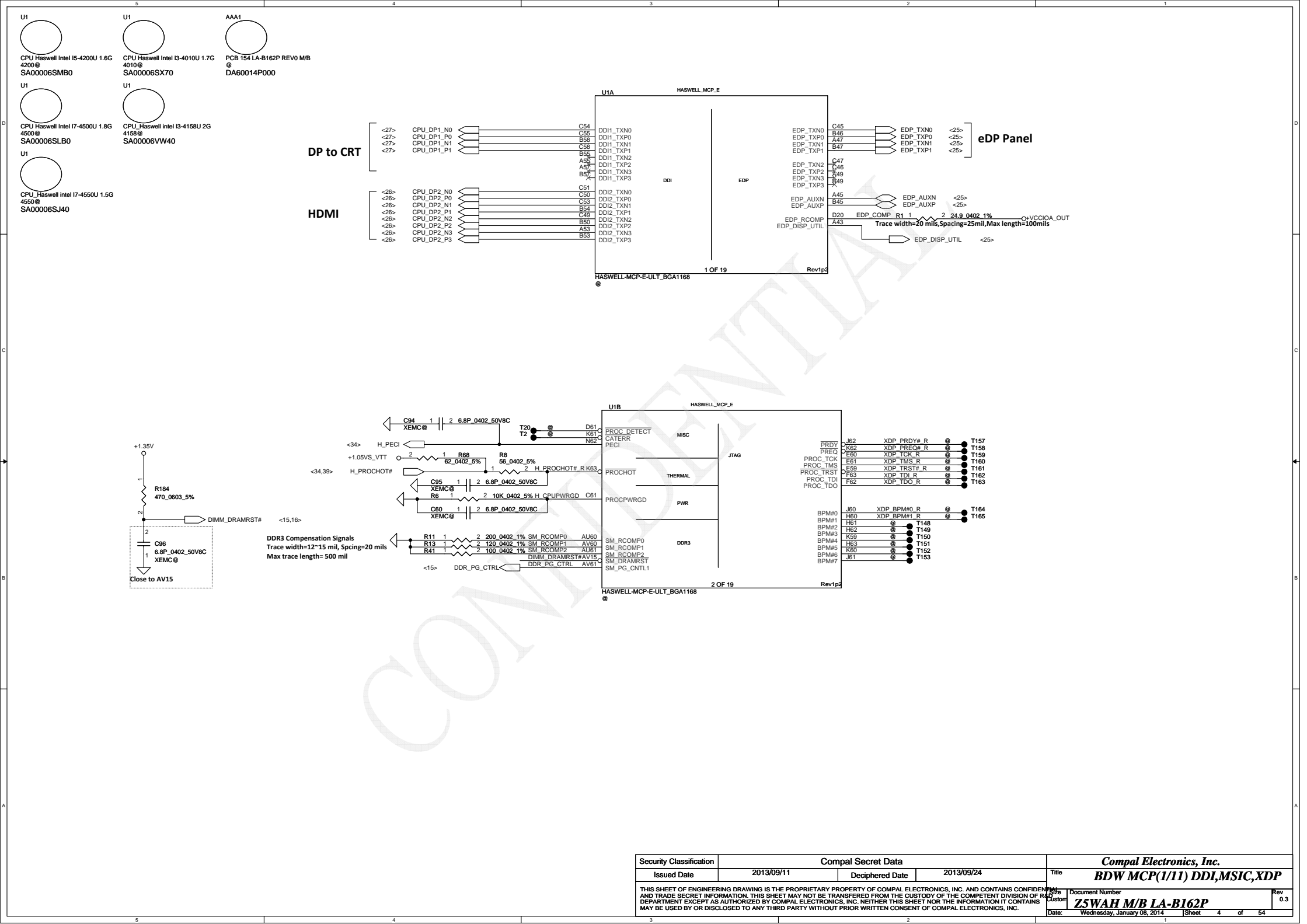
BOARD ID Table

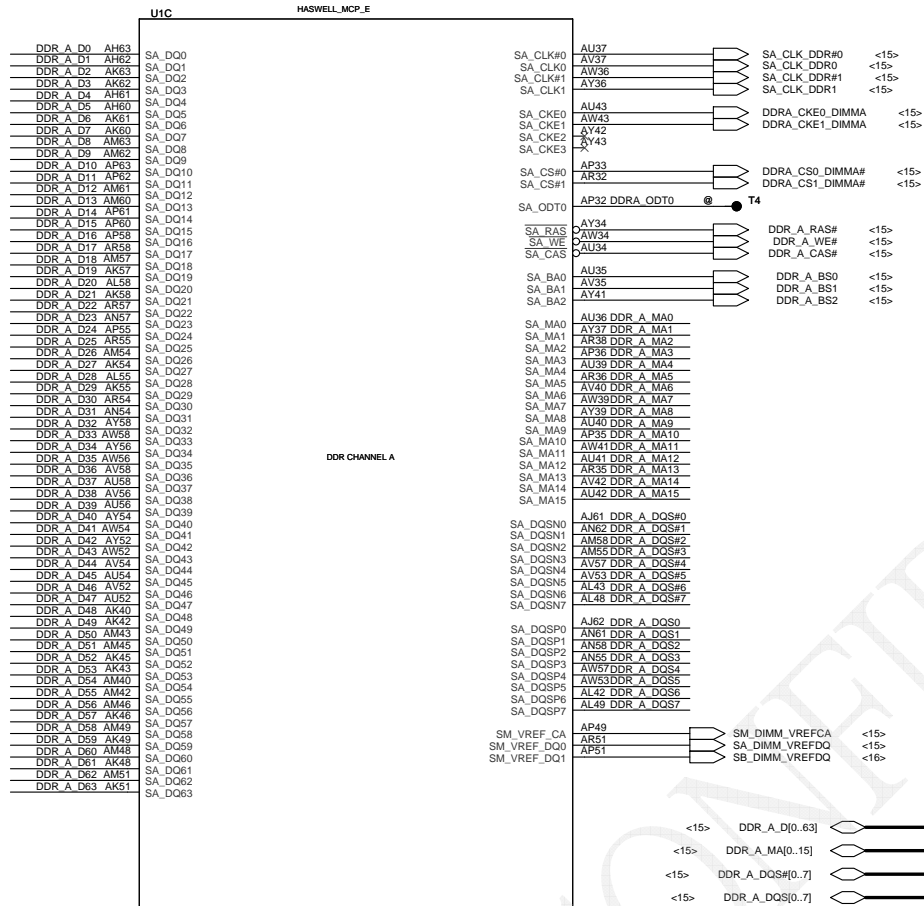
Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	0.4
4	0.5
5	1.0
6	
7	

BTO Option Table

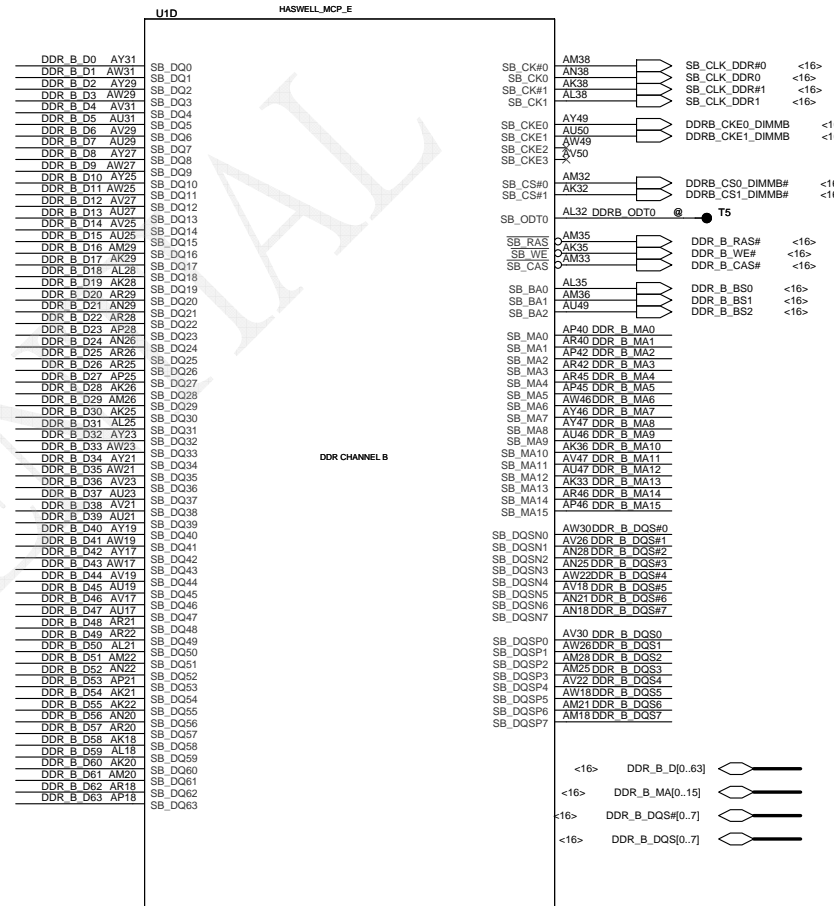
BTO Item	BOM Structure
Unpop	@
Connector	CONN@
EC 9022	9022@
EC 9012	9012@
UMA Component	UMA@
GPU	VGA@
VRAM x 8pcs	128@
EDP panel	EDP@
eDP to LVDS	LVDS@
EMC Component	EMC@
EMC Reserve	XEMC@
On Board HDD	HDD@
G-Sensor	BA@
TPM Module	BA@
Redriver HDD	BA@
Touch Screen	TS@
DGPU_IDEN	VGL@, VGME@, SGT@
CPU_IDEN	HW@, BW@
GC6 2.0	GC6@
non GC6	NGC6@
One DMIC	EA50@
Two DMIC	EA54@
VRAM Selection	X76@

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	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 EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				Z5WAH M/B LA-B162P	0.3
				Date: Wednesday, January 08, 2014	Sheet 3 of 54

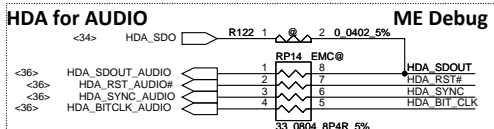


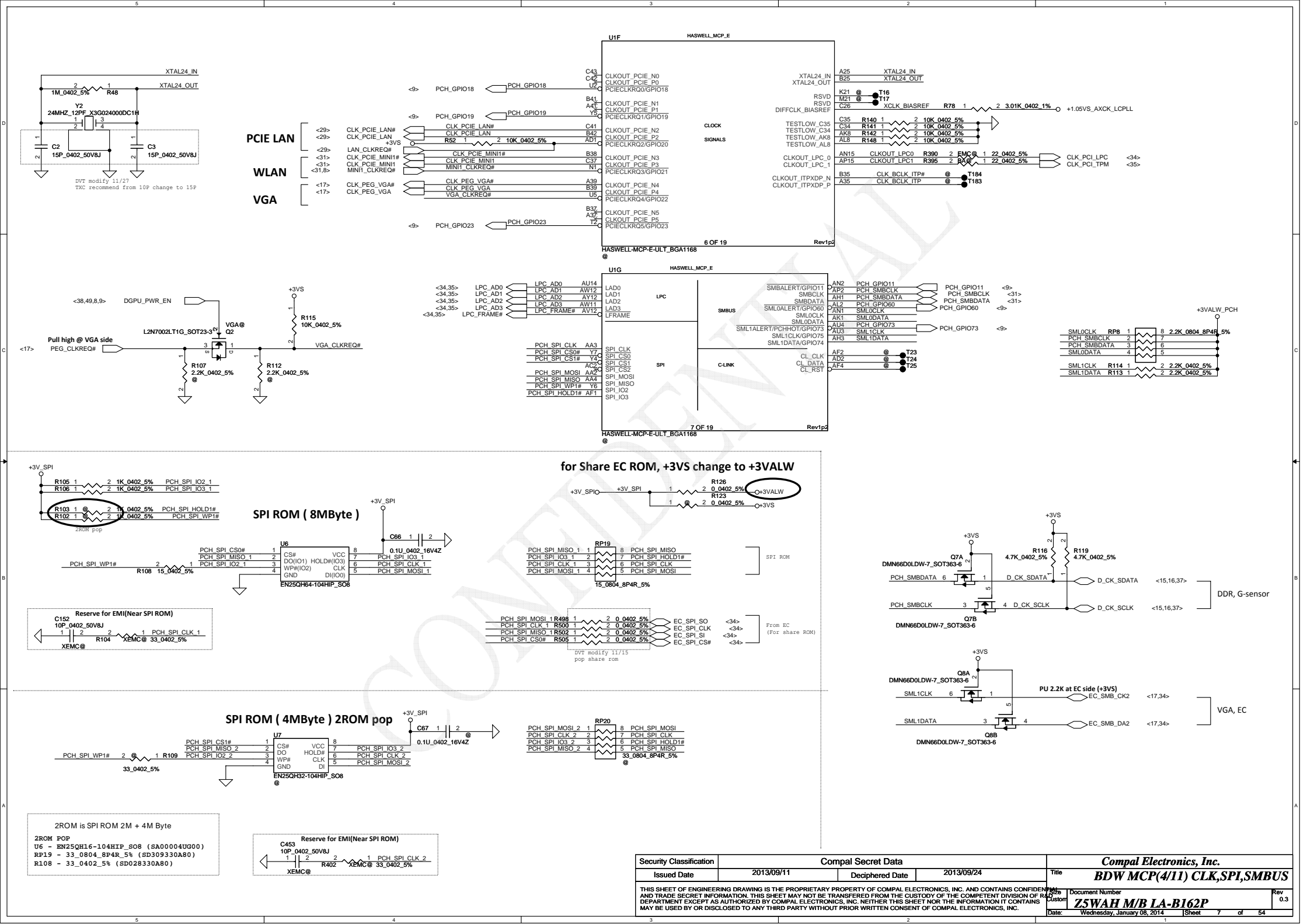


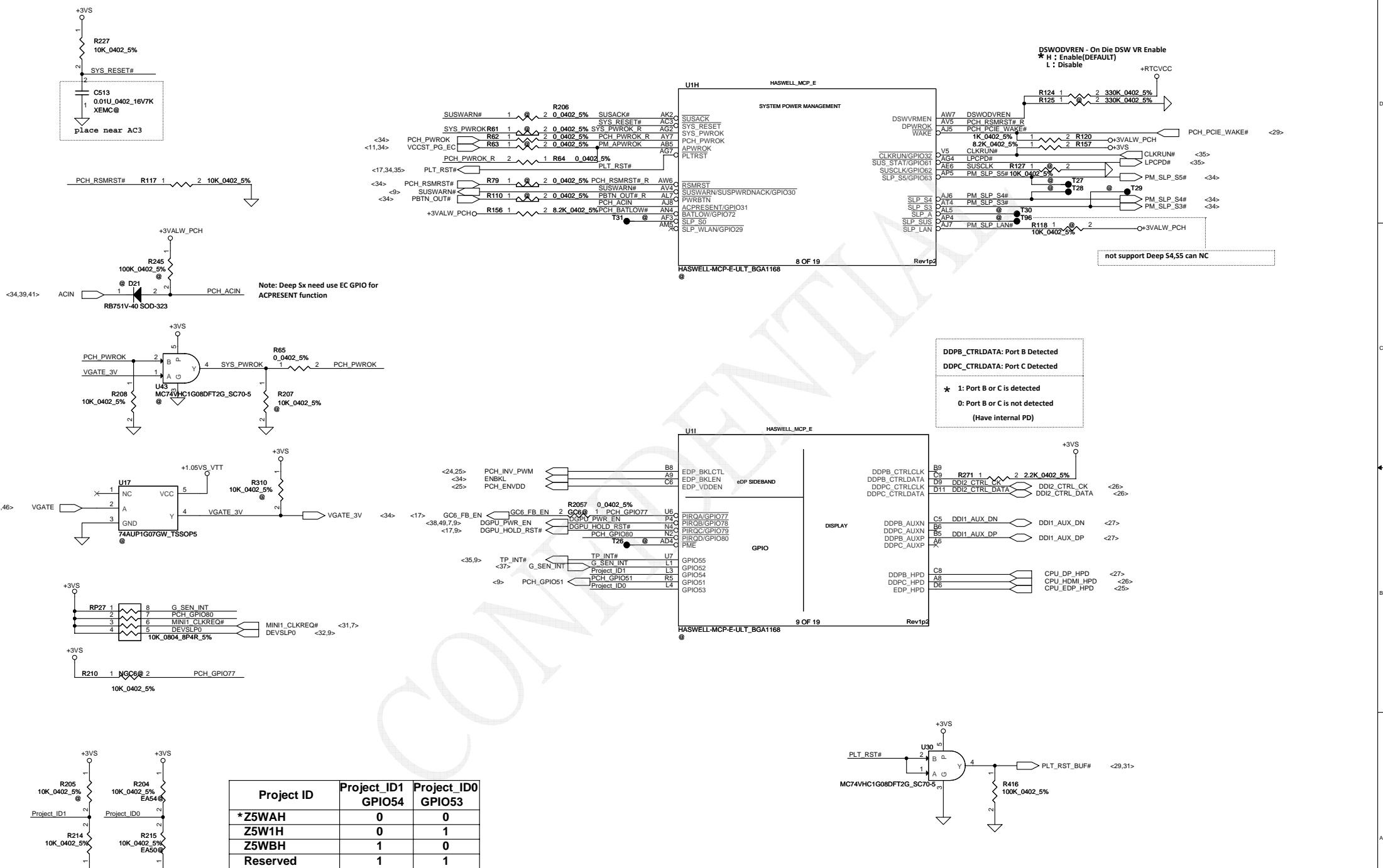
HASWELL-MCP-E-ULT_BGA1168 3 OF 19 Rev1p2



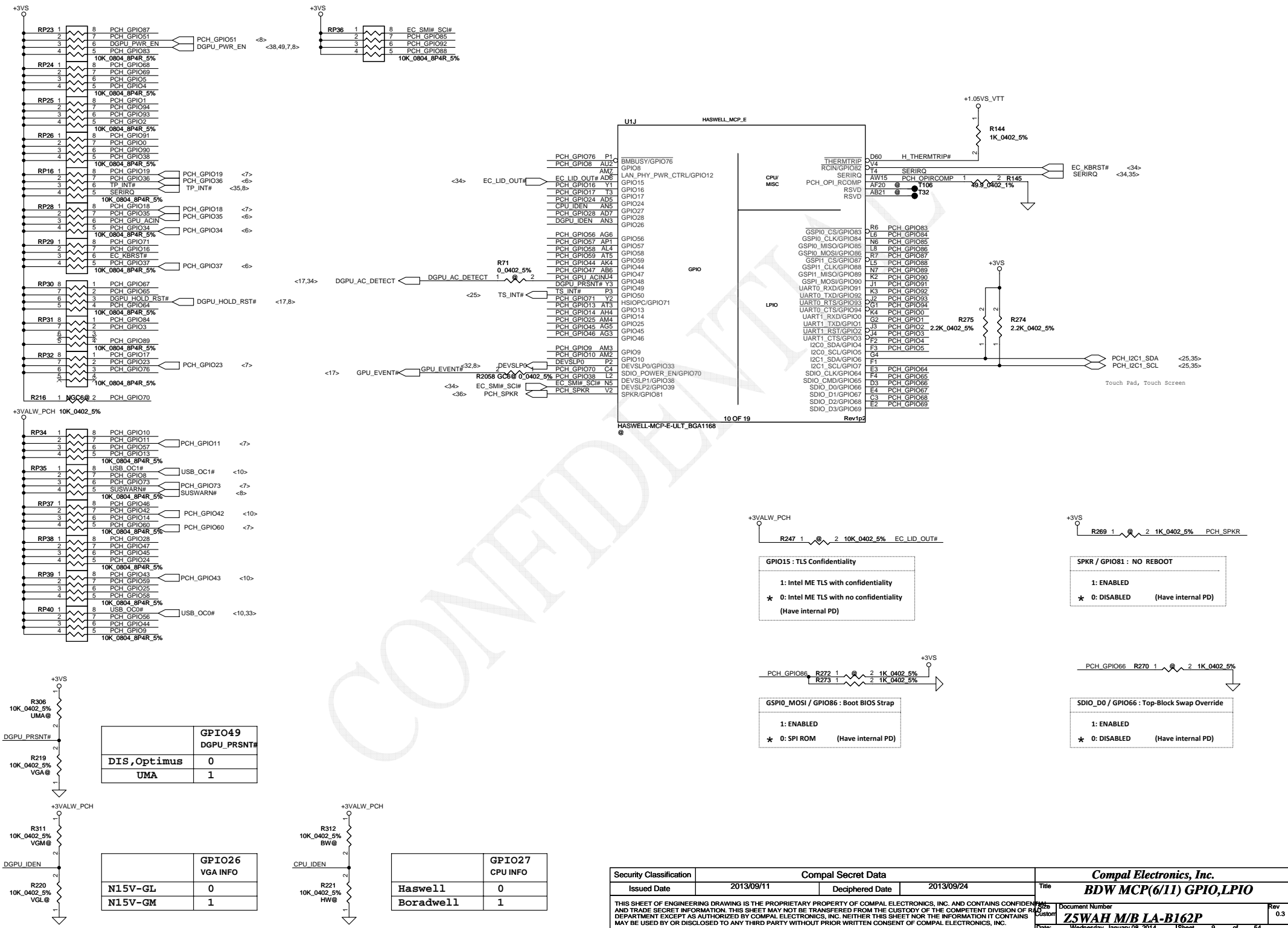
HASWELL-MCP-E-ULT_BGA1168 4 OF 19 Rev1p2







Project ID	Project ID1 GPIO54	Project ID0 GPIO53
*Z5WAH	0	0
Z5W1H	0	1
Z5WBH	1	0
Reserved	1	1

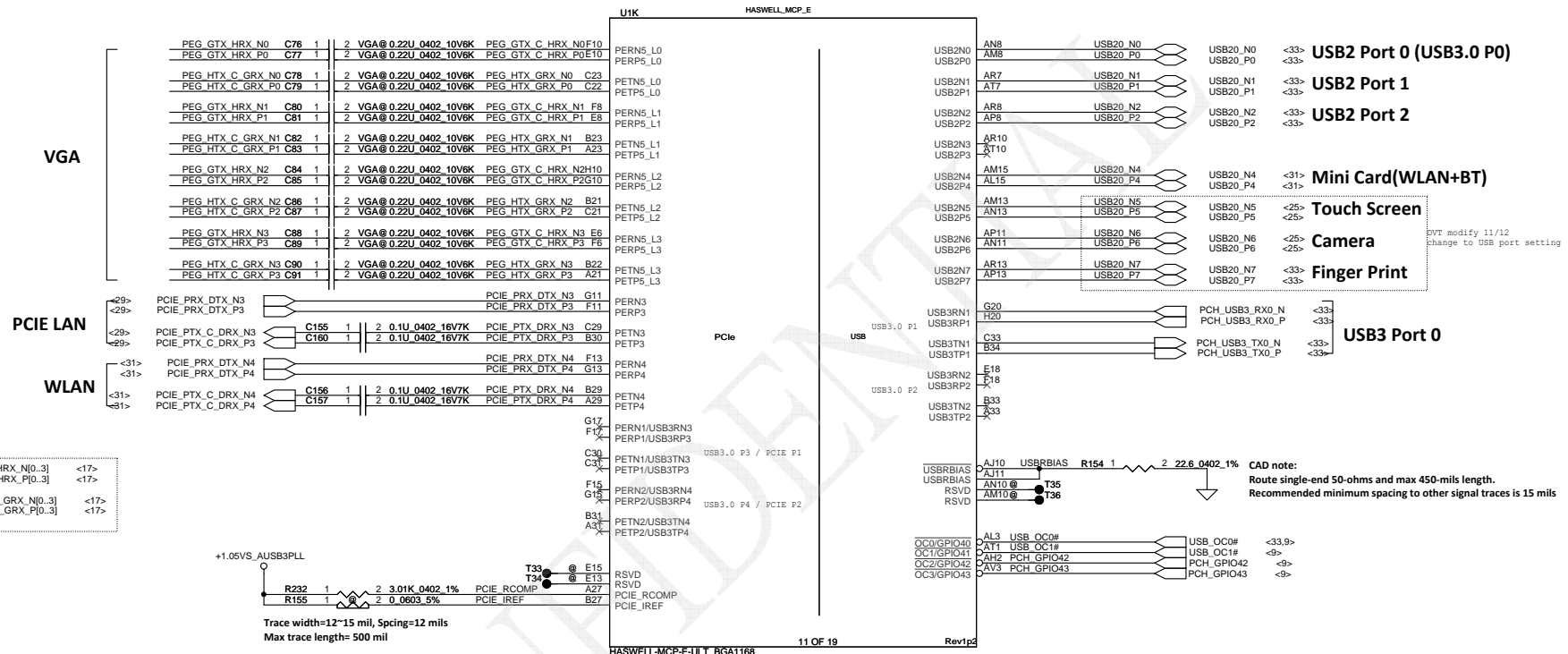


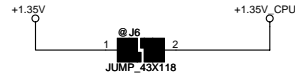
	GPIO49 DGPU_PRSNT#
DIS,Optimus	0
UMA	1

	GPIO26 VGA INFO
N15V-GL	0
N15V-GM	1

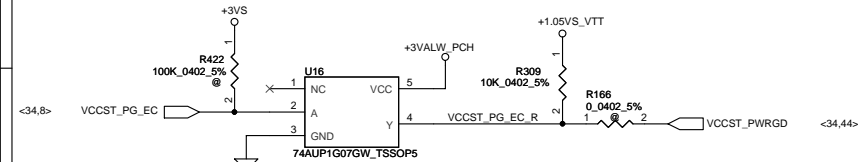
	GPIO27 CPU INFO
Haswell	0
Boradwell	1

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/09/11		BDW MCP(6/11) GPIO, LP10	
Deciphered Date		2013/09/24		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 RA		CUSTOMER		ZSWAH M/B LA-B162P	
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.		Date:		Wednesday, January 08, 2014	
				Sheet 9 of 54	
				Rev 0.3	

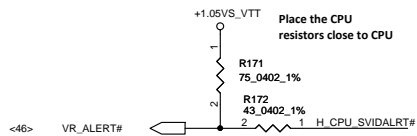




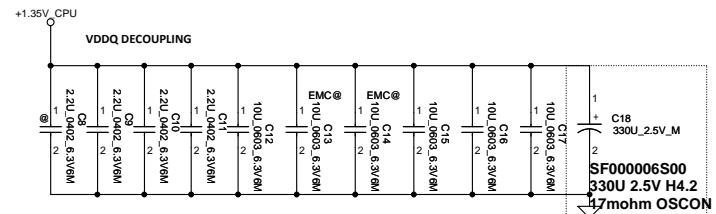
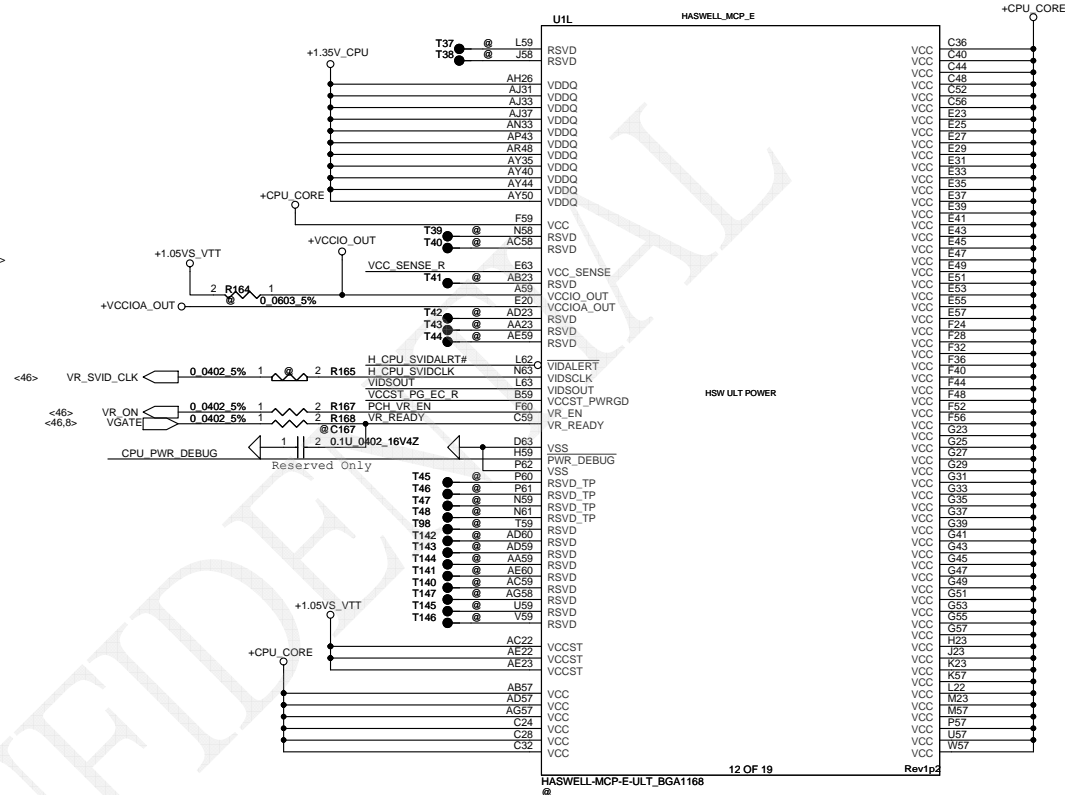
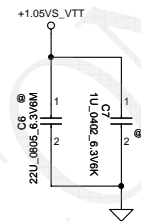
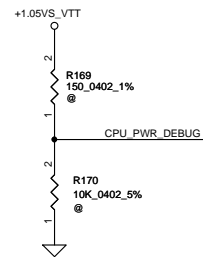
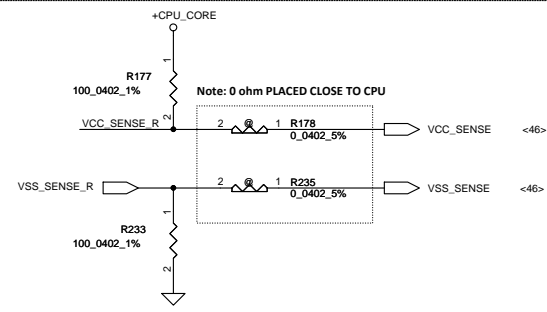
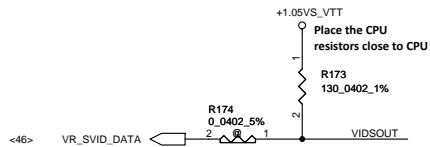
Shark Bay ULT have internal gate for VDDQ



SVID ALERT

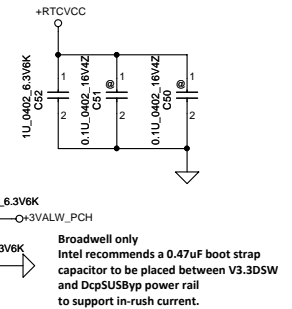
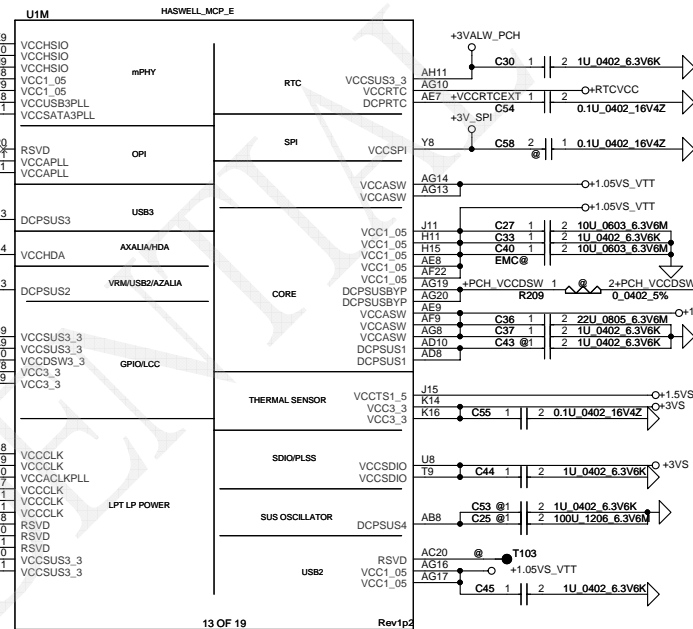
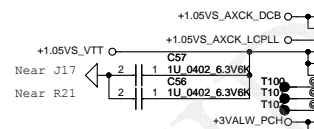
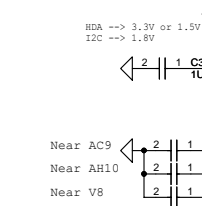
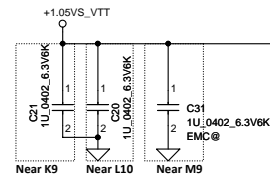


SVID DATA



+1.35V : 470UF/2V/7343 * 2
10UF/6.3V/0603 * 6
2.2UF/6.3V/0402 * 4

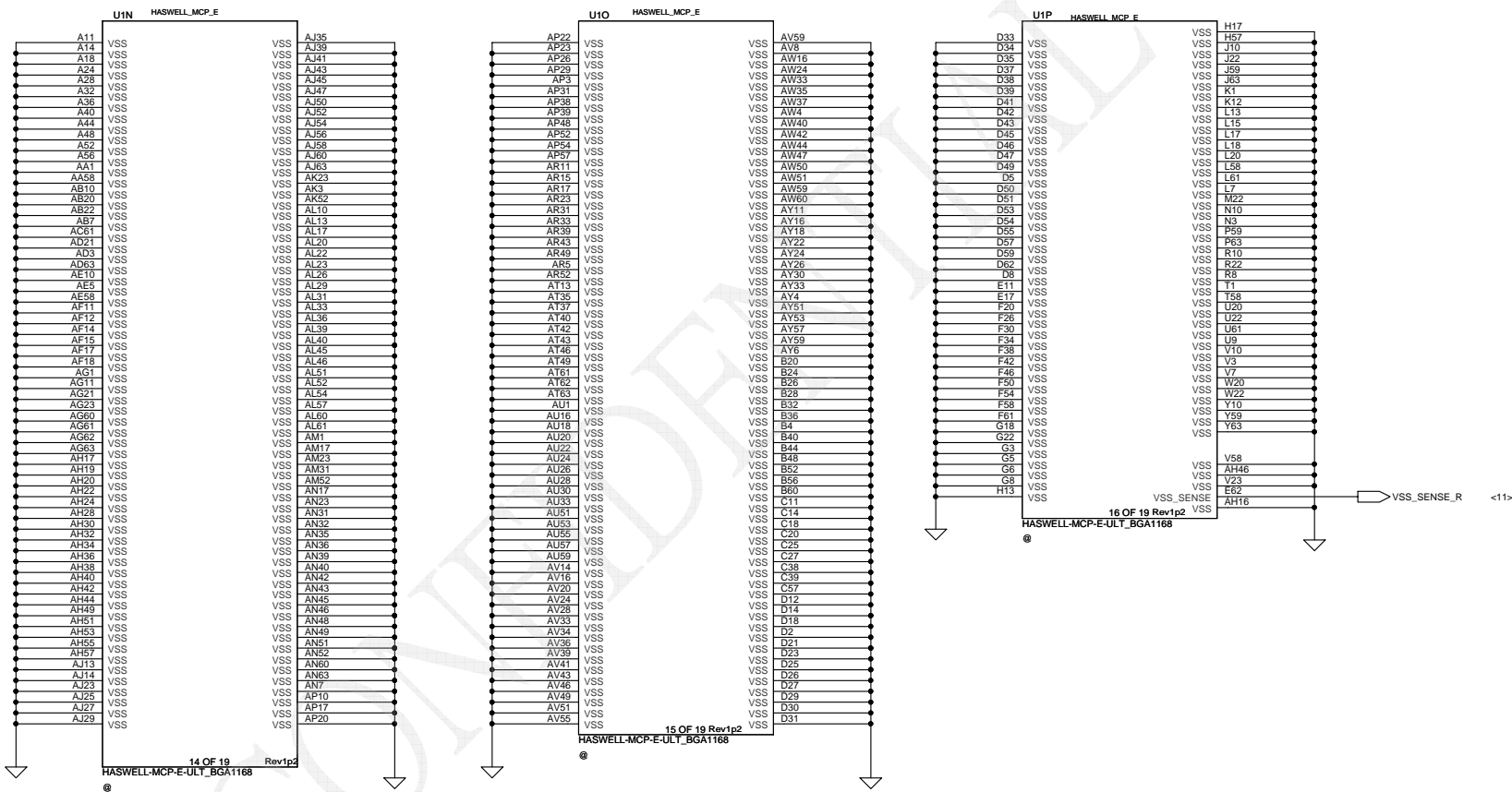
Security Classification		Compal Secret Data		Compal Electronics, Inc.			
Issued Date		2013/09/11	Deciphered Date	2013/09/24	Title		
					BDW MCP(8/11) Power		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Document Number		
					Rev		
					Z5WAH M/B LA-B162P		0.3
					Date:	Wednesday, January 08, 2014	Sheet

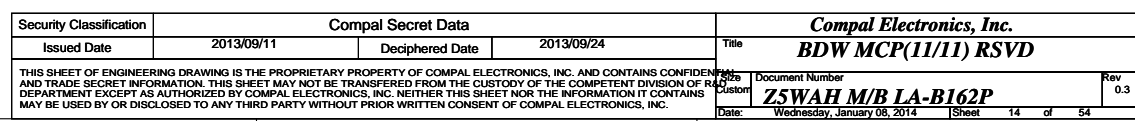
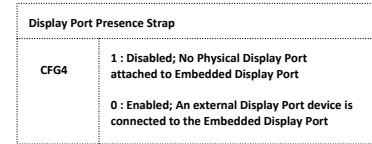
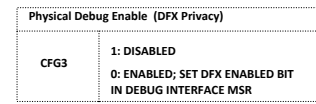
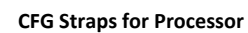
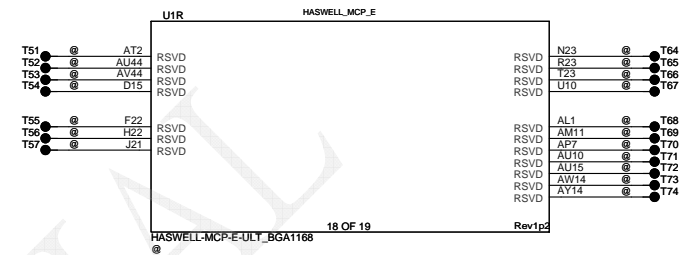


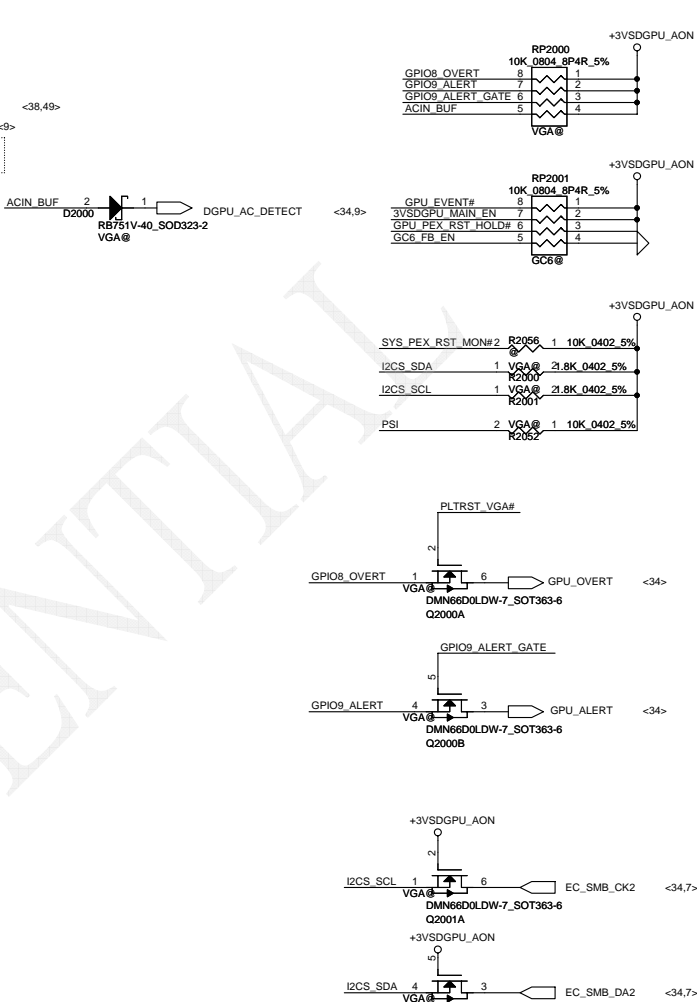
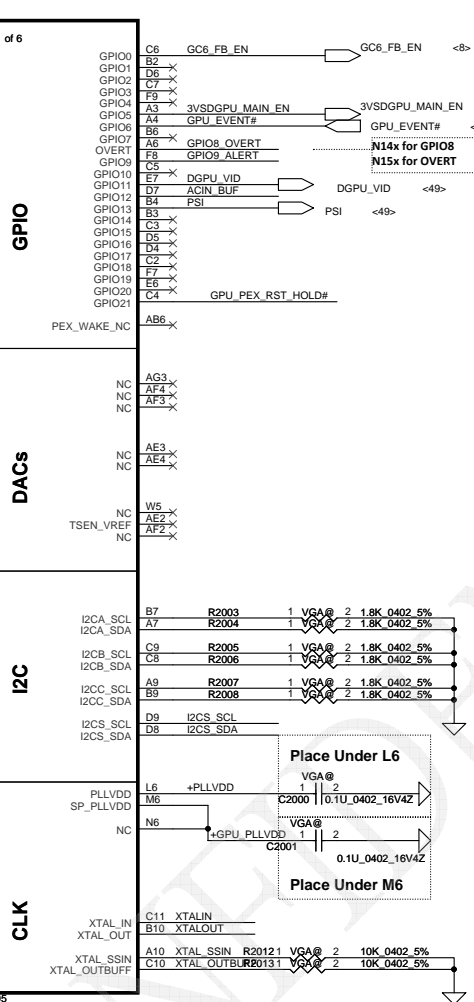
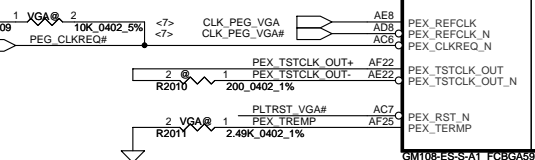
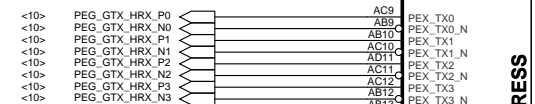
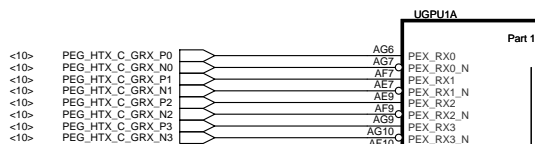
Wiring diagram for J8 connector:

- Pin 1: +3VALW
- Pin 2: +3VALW_PCH
- Connector Label: J8 @ JUMP 43X39

Security Classification		Compal Secret Data		Compal Electronics, Inc. BDW MCP(9/11) Power	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number Z5WAH M/B LA-B162P	Rev 0.3
				Date: Wednesday, January 08, 2014	Sheet 12 of 54

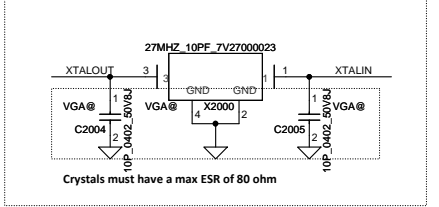
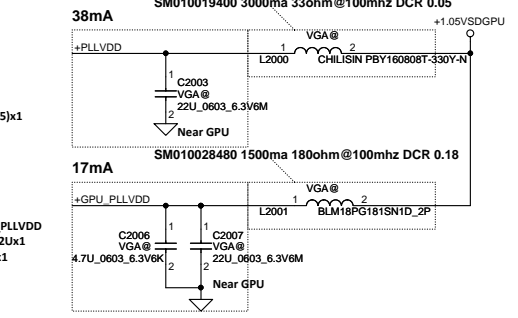
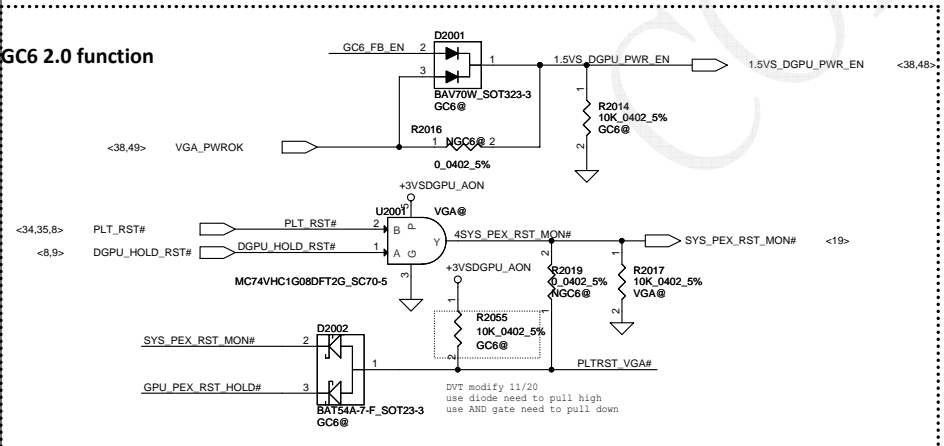




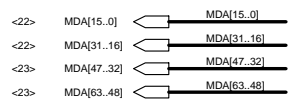


GPIO	I/O	USAGE
GPIO0	I	GC6_FB_EN
GPIO1	O	MEM_VDD_CTL
GPIO2	O	LCD_BL_PWM
GPIO3	O	LCD_VCC
GPIO4	O	LCD_BL_EN
GPIO5	O	3V3_MAIN_EN
GPIO6	I	GPU_EVENT#
GPIO7	O	3D Vision
GPIO8	I	SYS_PEX_RST_MON#
GPIO9	I/O	ALERT
GPIO10	O	MEM_VREF_CTL
GPIO11	O	PWM_VID
GPIO12	I	PWR_LEVEL
GPIO13	O	PSI
GPIO14	I	HPD_A
GPIO15	I	HPD_C
GPIO16		RESERVED
GPIO17	I	HPD_D
GPIO18	I	HPD_E
GPIO19	I	HPD_F or HPD_B
GPIO20		Reserved
GPIO21	O	GPU_PEX_RST_HOLD#
GPIO22		
GPIO23		
GPIO24		

GC6 2.0 function

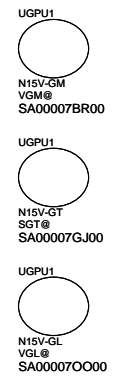
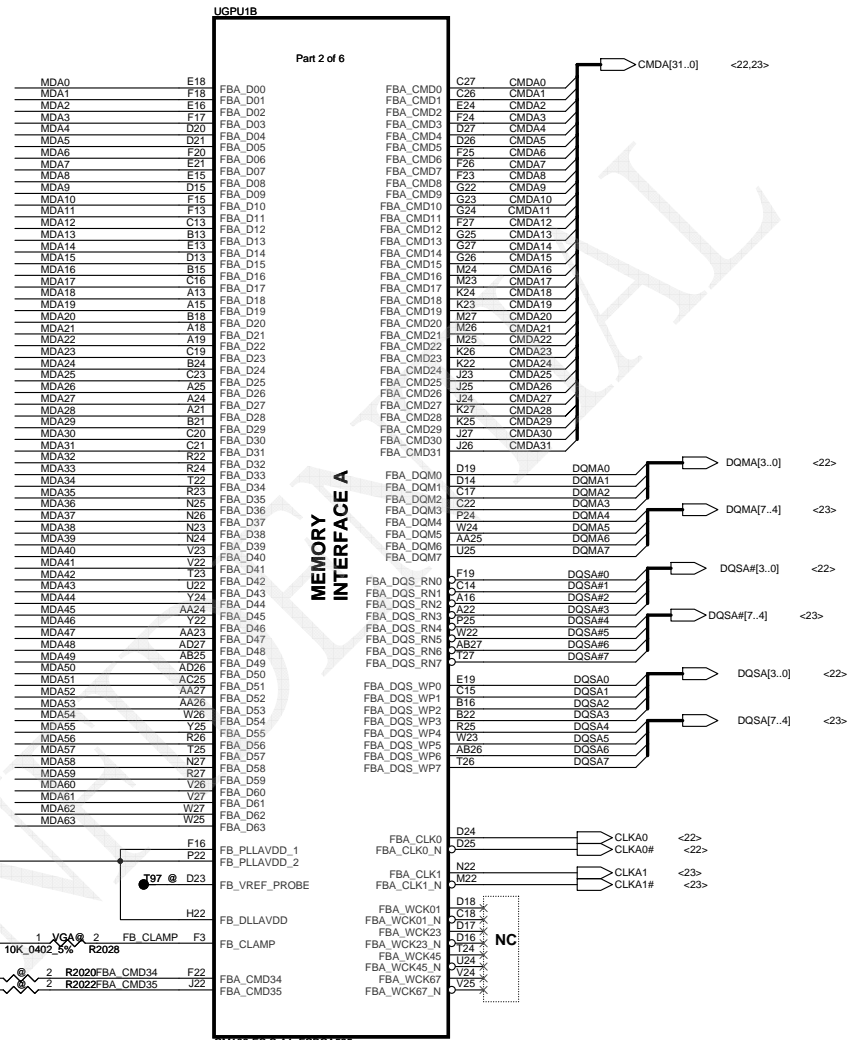
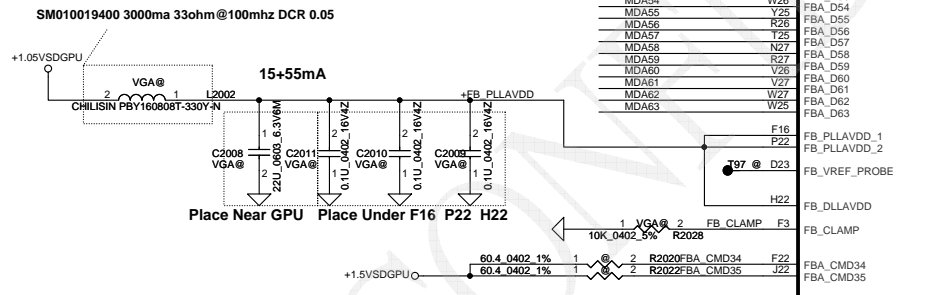


VRAM Interface



NV 15x DG-06803-V03

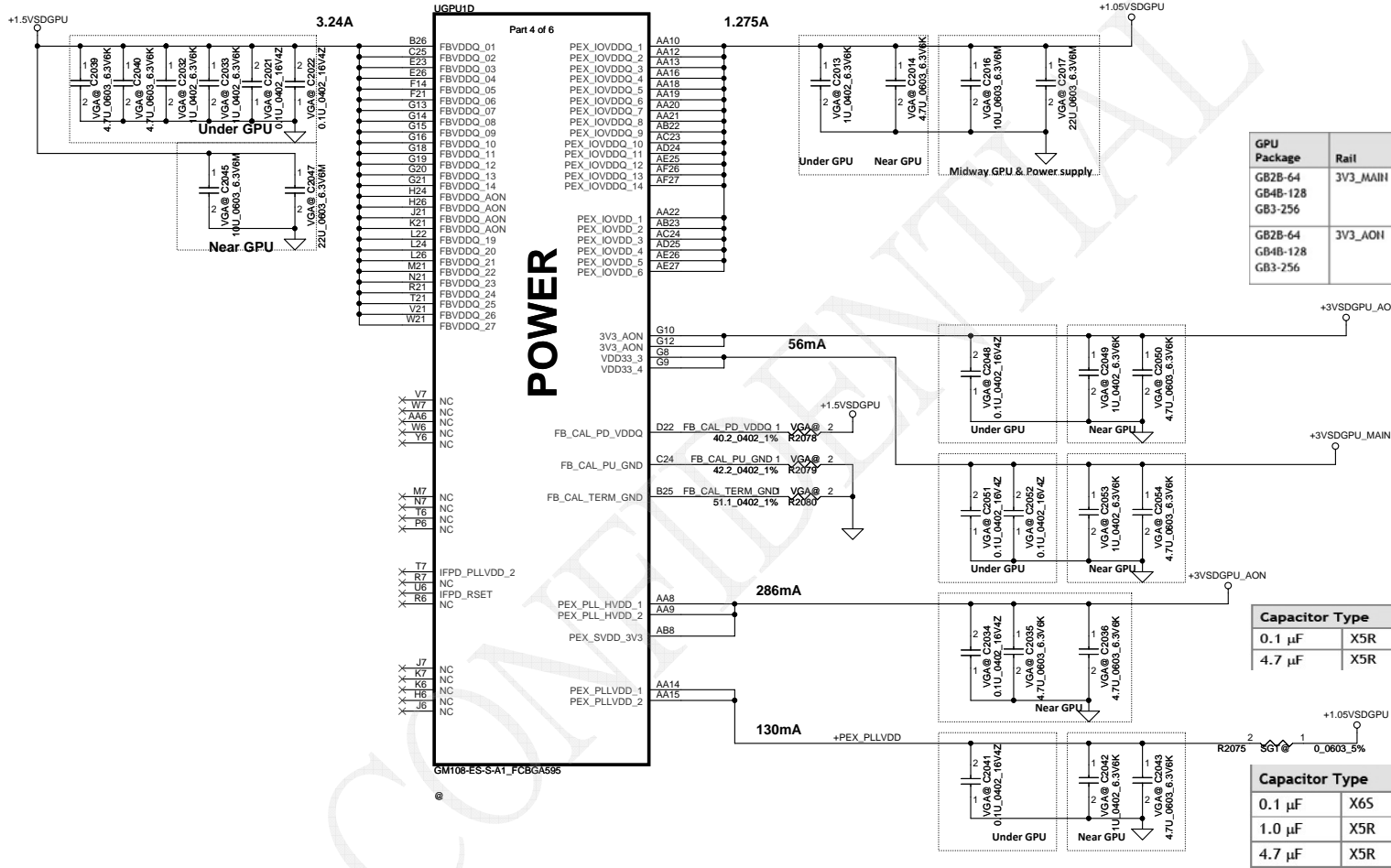
GPU Package	Rail	Capacitor Type	Footprint	Population	Location
GB2B-64	FBx_PLL_AVDD and FB_DLL_AVDD Combined	0.1 µF	X7R	0402	2
		22 µF	X5R	0805	1
		Bead Type			
		30 Ω (ESR=0.010 Ω)	0603	1	Near GPU



NV 15x DG-06803-V03

GPU Package Type	Capacitor Type		Footprint		Population	Location
GB2B-64 DDR3	0.1 µF	X7R	0402	2	2	Under GPU
	1 µF	X7R	0603	2	2	Under GPU
	4.7 µF	X6S	0603	2	2	Under GPU
	10 µF	X5R	0805	1	1	Near GPU
	22 µF	X5R	0805	1	1	Near GPU

GPU Package Type	Capacitor Type		Footprint	Population	Location
GB2B-64	1.0 µF	X6S	0402	1	Under GPU
	4.7 µF	X6S	0603	1	Near GPU
	10 µF	X5R	0805	1	Midway between GPU and Power Supply
	22 µF	X5R	0805	1	Midway between GPU and Power Supply



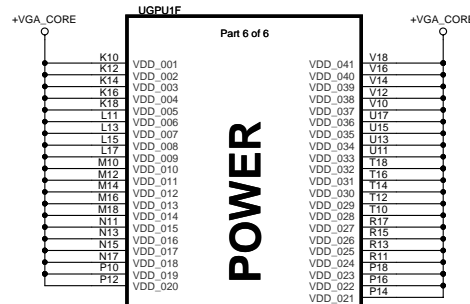
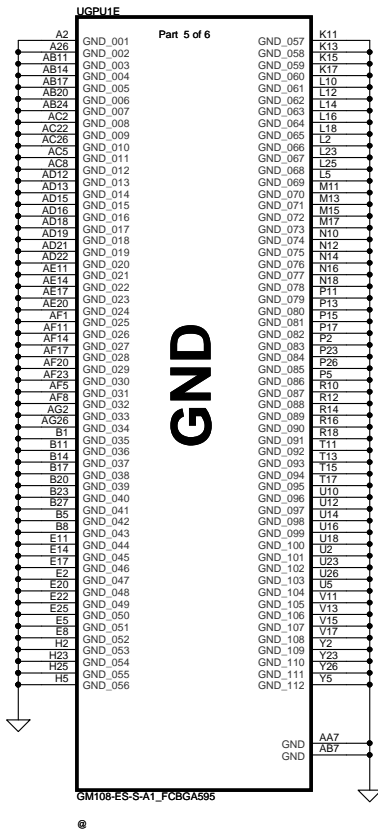
GPU Package	Rail	Capacitor Type		Footprint	Population		Location
GB2B-64 GB4B-128 GB3-256	3V3_MAIN	0.1µF	X6S	0402	2	2	Under GPU
		1 µF	X5R	0603	1	1	Hoar GPU
		4.7 µF	X5R	0603	1	1	Near GPU
GB2B-64 GB4B-128 GB3-256	3V3_AON	0.1µF	X6S	0402	1	1	Under GPU
		1 µF	X5R	0603	1	1	Hear GPU
		4.7 µF	X5R	0603	1	1	Hoar GPU

Capacitor Type		Footprint	Population	Location
0.1 μF	X5R	0402	1	Near GPU
4.7 μF	X5R	0603	2	Near GPU

Capacitor Type		Footprint	Population	Location
0.1 µF	X6S	0402	1	Under GPU
1.0 µF	X5R	0603	1	Near GPU
4.7 µF	X5R	0805	1	Near GPU



SM010028800 2000ma 120ohm @100mhz DCR 0.1



NV 15x DG-06803-V03

GPU Package Type	Capacitor Type		Footprint	Population	Location	Comments
GB2B-64	4.7 μ F	X65	0603	10	10	Under GPU
	1 μ F	X65	0402	4	4	Under GPU
	47 μ F	X5R	0805	1	1	Near GPU
	22 μ F	X5R	0805	1	1	Near GPU
	4.7 μ F	X5R	0805	5	5	Near GPU
	330 μ F	POS	7343	1	1	Near GPU ESR \leq 6 m Ω

DA-06840-V03

Table 6. EDP-Peak

Products	VRM Type	GPU Core	FB Total	1.05V Total
		—	1.5/1.35V	1.05V
N155-GM	DDR3/L	48.11	4.23	0.91
N155-GT	DDR3/L	60.07	4.26	0.91

DA-06925-V05

Table 6. EDP-Peak at $T_j = 102^\circ\text{C}$

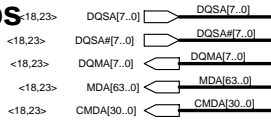
Power Supply Rail	N15V-GM-S
(V)	(A)
GPU Core Max	51.50
FB Total	4.25
PEXVDD	2.29

DA07075-V01

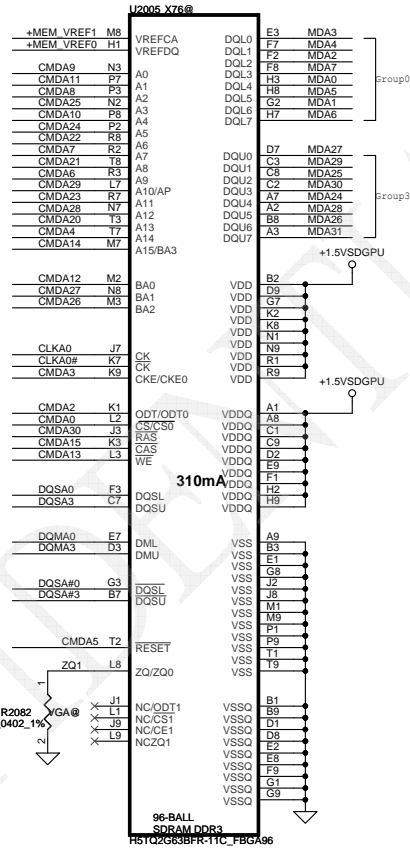
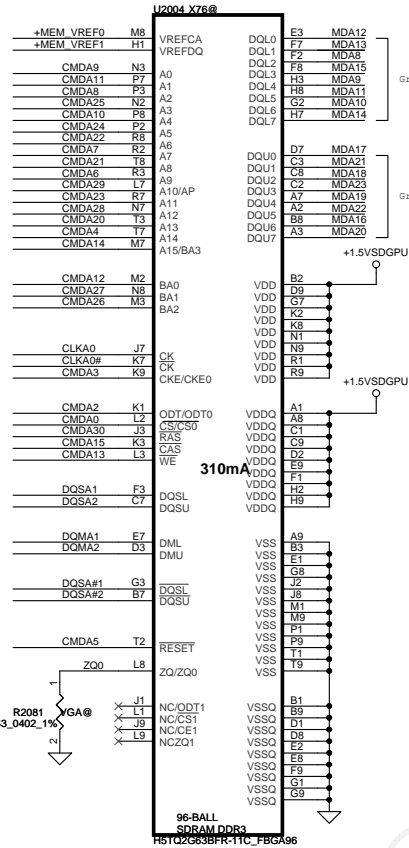
Table 7. EDP-Peak at $T_j = 102^\circ\text{C}$

Power Supply Rail	N15V-GL
(V)	(A)
GPU Core Max	28.26
FB Total	4.07
PEXVDD	1.82

VRAM DDR3 chips

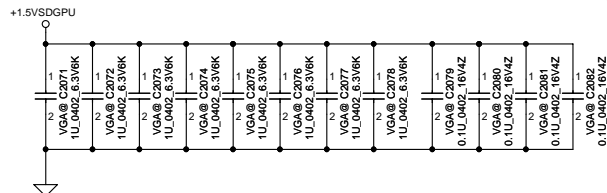


Low 32

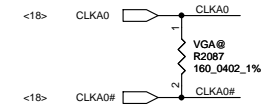
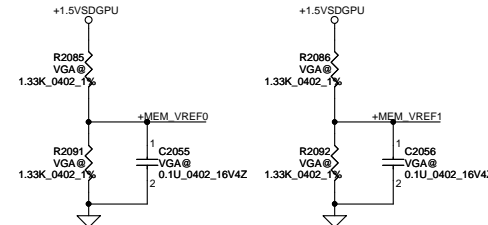


Mode D Address	0..31	32..63
CMD0	CS0_L#	
CMD1		
CMD2	ODT_L	
CMD3	CKE_L	
CMD4	A14	A14
CMD5	RST	RST
CMD6	A9	A9
CMD7	A7	A7
CMD8	A2	A2
CMD9	A0	A0
CMD10	A4	A4
CMD11	A1	A1
CMD12	BA0	BA0
CMD13	WE*	WE*
CMD14	A15	A15
CMD15	CAS*	CAS*
CMD16		CS0_H#
CMD17		
CMD18		ODT_H
CMD19		CKE_H
CMD20	A13	A13
CMD21	A8	A8
CMD22	A6	A6
CMD23	A11	A11
CMD24	A5	A5
CMD25	A3	A3
CMD26	BA2	BA2
CMD27	BA1	BA1
CMD28	A12	A12
CMD29	A10	A10
CMD30	RAS*	RAS*
Not Available		
	LOW	HIGH

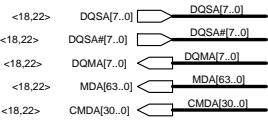
	Command Bit	Default Pull-down
DDR3	ODTx	10k
	CKEx	10k
	RST	10k
	CS*	No Termination



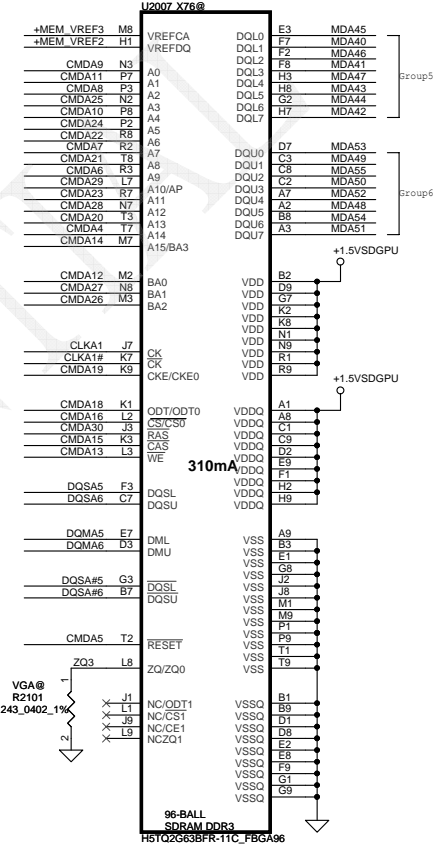
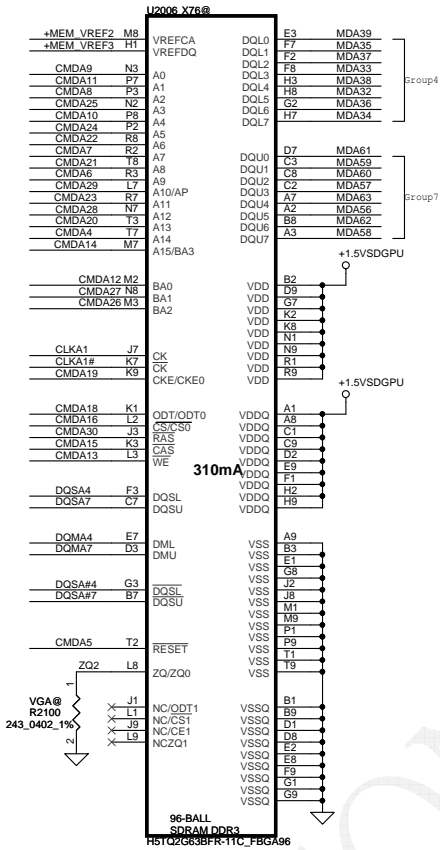
CMDA2	R2093	1	VGA@	2	10K_0402_5%
CMDA3	R2094	1	VGA@	2	10K_0402_5%
CMDA5	R2095	1	VGA@	2	10K_0402_5%
CMDA18	R2096	1	VGA@	2	10K_0402_5%
CMDA19	R2099	1	VGA@	2	10K_0402_5%



VRAM DDR3 chips

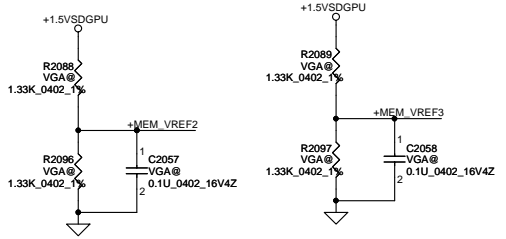
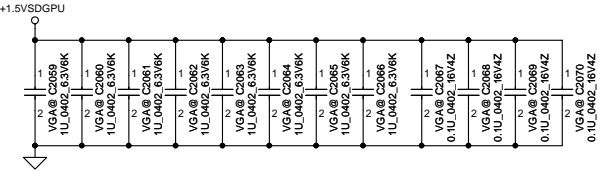
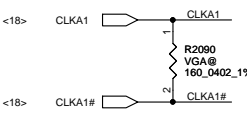


High 32

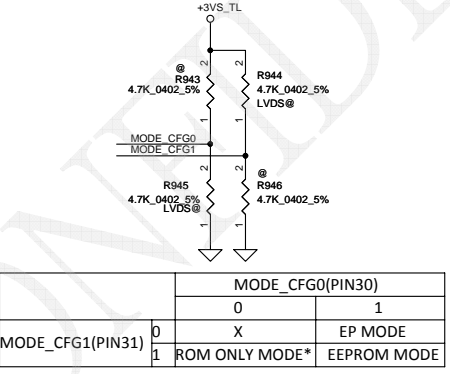
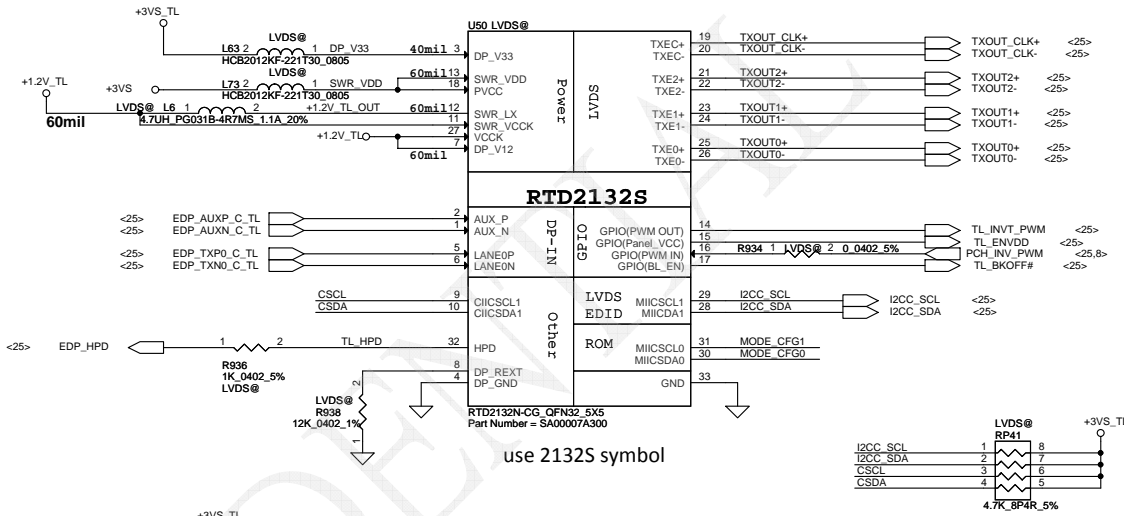
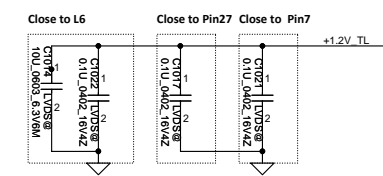
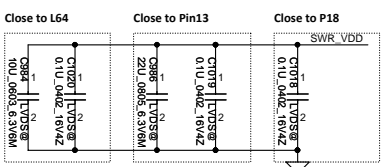
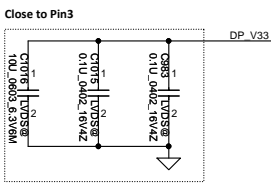
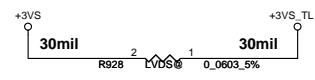


Mode D Address	0..31	32..63
CMD0	CS0_L#	
CMD1		
CMD2	ODT_L	
CMD3	CKE_L	
CMD4	A14	A14
CMD5	RST	RST
CMD6	A9	A9
CMD7	A7	A7
CMD8	A2	A2
CMD9	A0	A0
CMD10	A4	A4
CMD11	A1	A1
CMD12	BA0	BA0
CMD13	WE*	WE*
CMD14	A15	A15
CMD15	CAS*	CAS*
CMD16		CS0_H#
CMD17		
CMD18		ODT_H
CMD19		CKE_H
CMD20	A13	A13
CMD21	A8	A8
CMD22	A6	A6
CMD23	A11	A11
CMD24	A5	A5
CMD25	A3	A3
CMD26	BA2	BA2
CMD27	BA1	BA1
CMD28	A12	A12
CMD29	A10	A10
CMD30	RAS*	RAS*
Not Available		
	LOW	HIGH

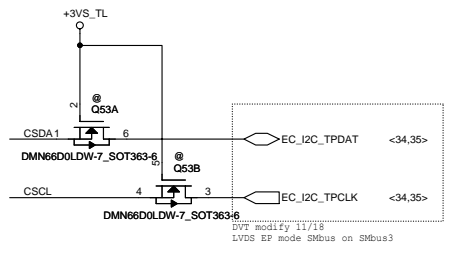
Command Bit	Default Pull-down
ODTx	10k
CKEx	10k
RST	10k
CS*	No Termination



LVDS Translator - RTD2132R

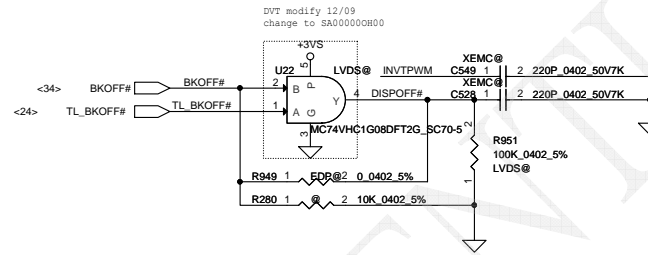
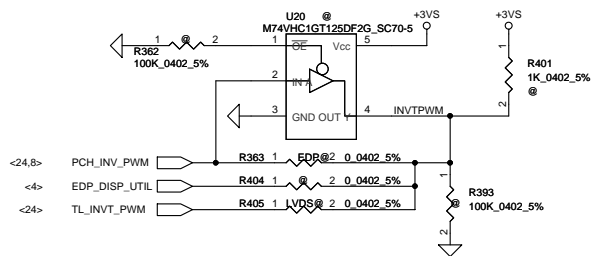
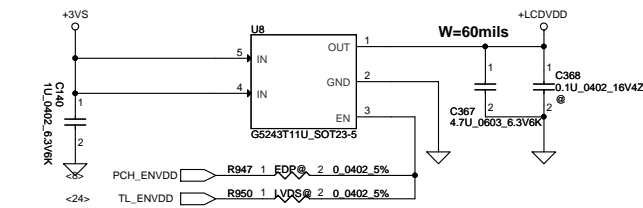


MODE_CFG0(PIN30)		
	0	1
MODE_CFG1(PIN31)	X	EP MODE
	ROM ONLY MODE*	EEPROM MODE

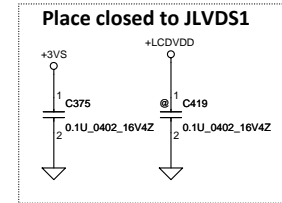
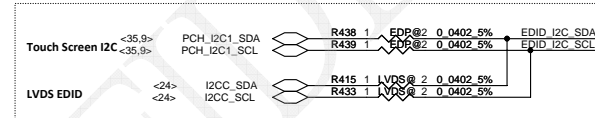


EDP / LVDS conn.

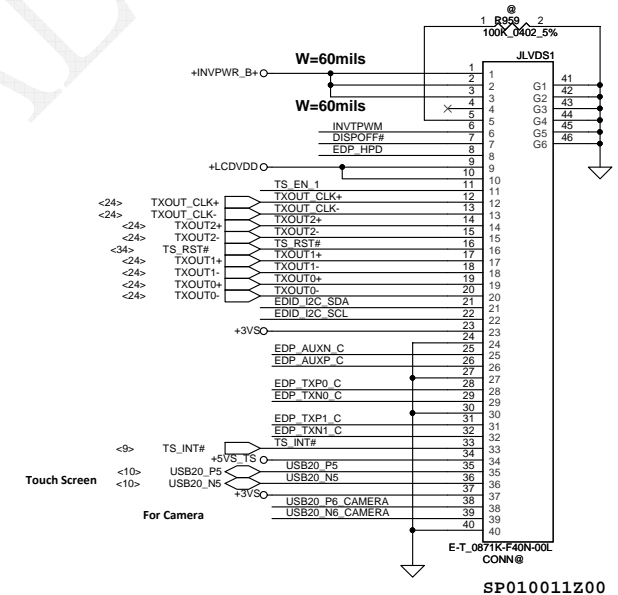
LCD POWER CIRCUIT



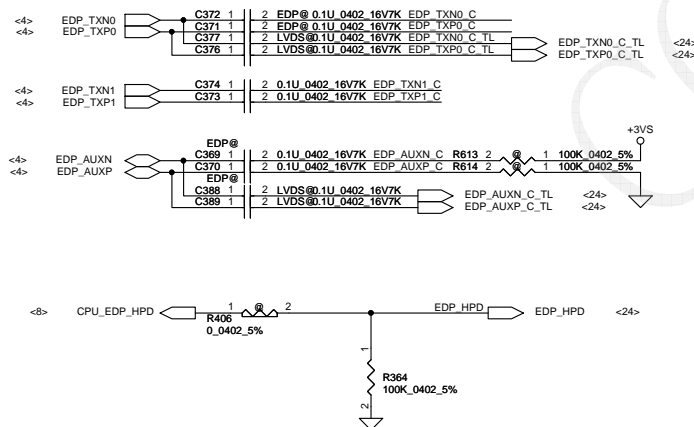
DVT modify 11/15
Co-lay TS_I2C and LVDS EDID



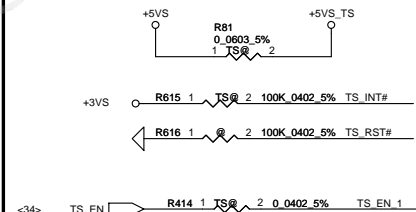
LCD/ LED PANEL Conn.



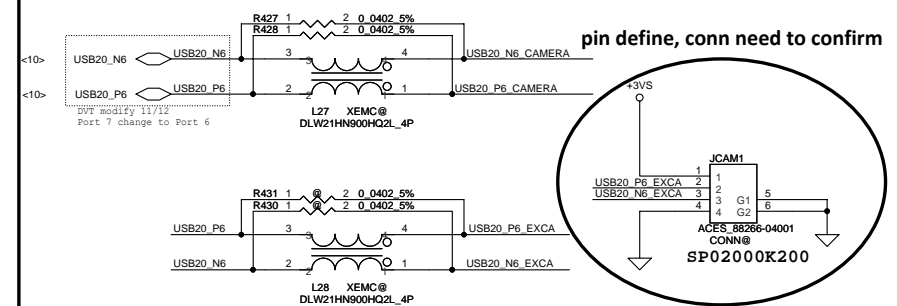
eDP



Touch Screen



Camera

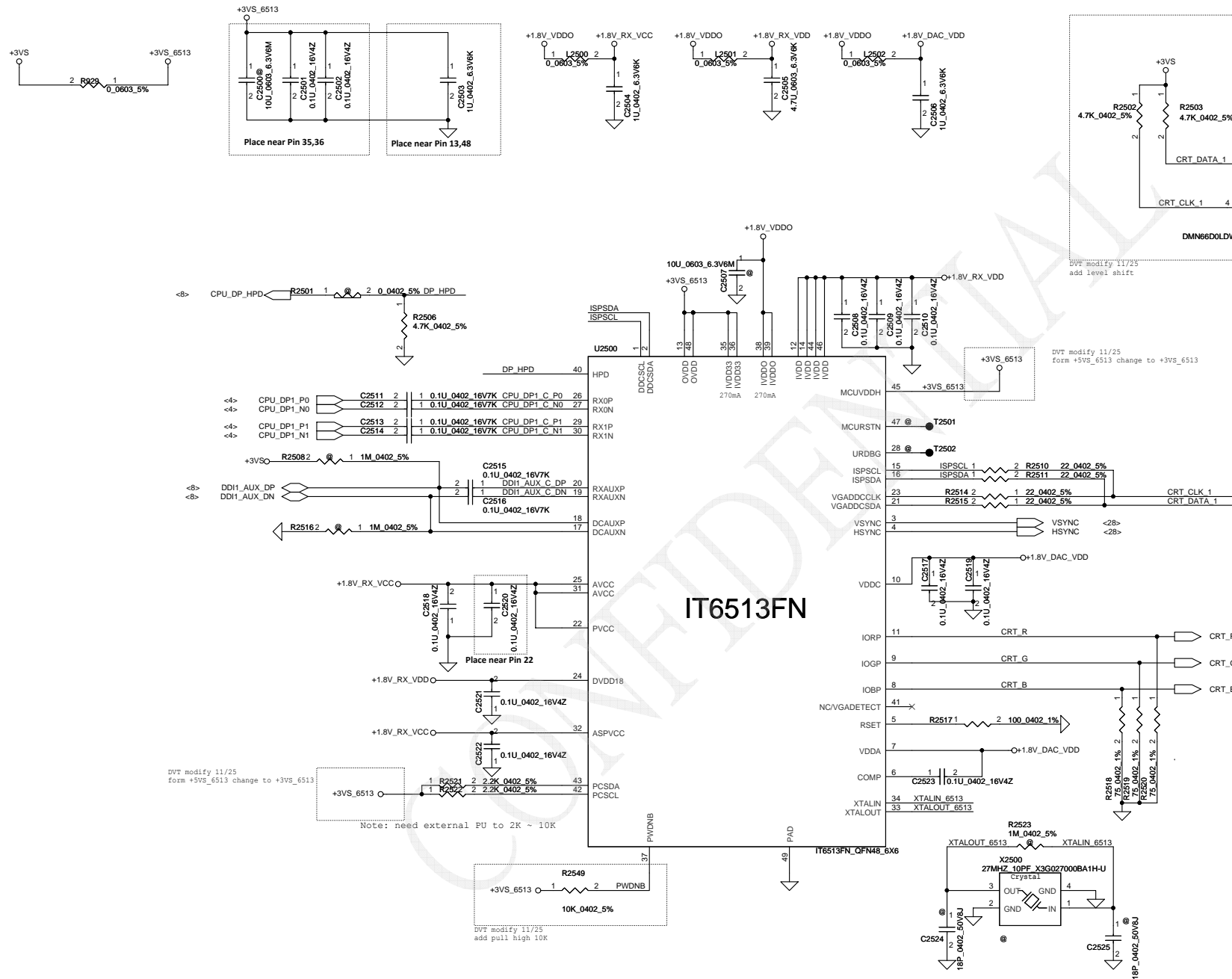


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	eDP Connector
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				Customer	0.3
				Date	Wednesday, January 08, 2014
				Sheet	25 of 54
				Z5WAH M/B LA-B162P	

[illegible]

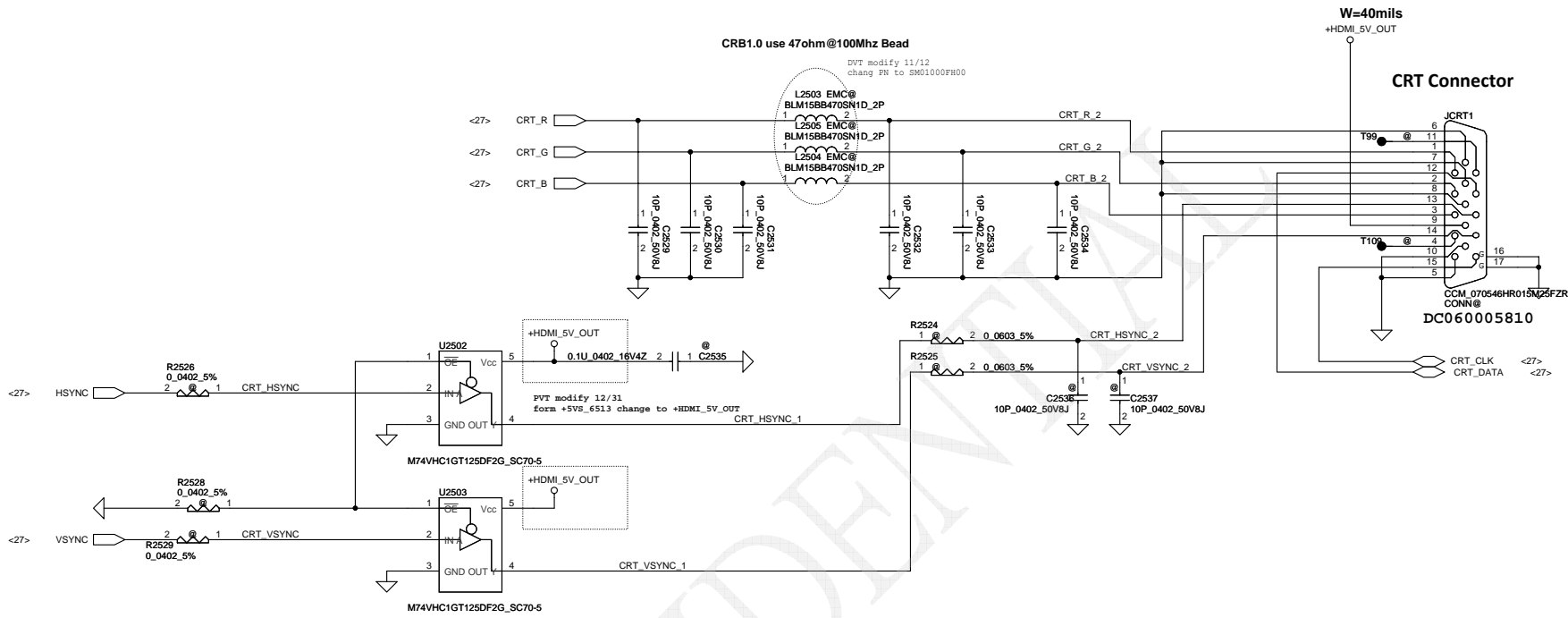
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	HDMI Conn
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc Number	Rev
				Customer	0.3
				Date:	Wednesday, January 08, 2014
				Sheet	26 of 54

DP to VGA-IT6513



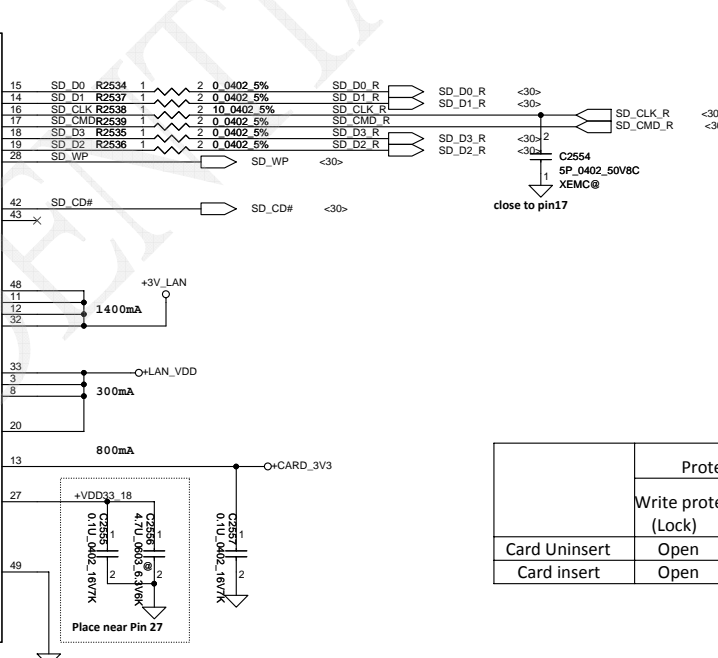
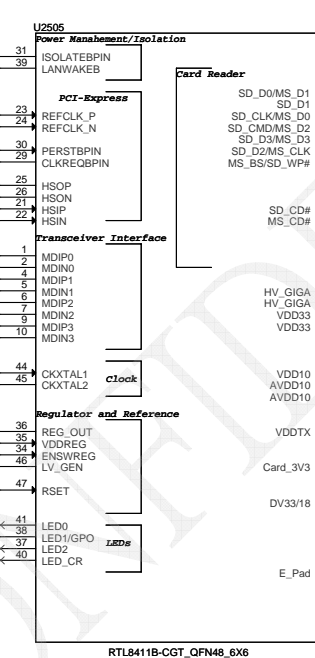
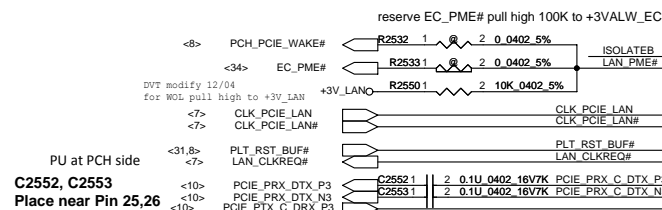
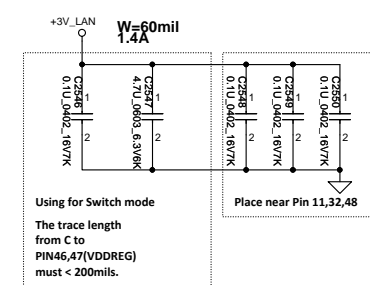
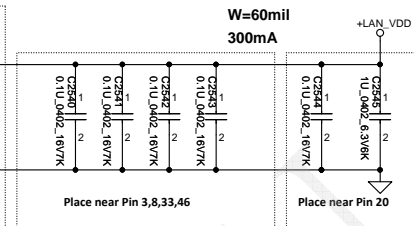
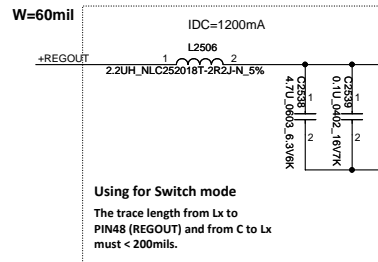
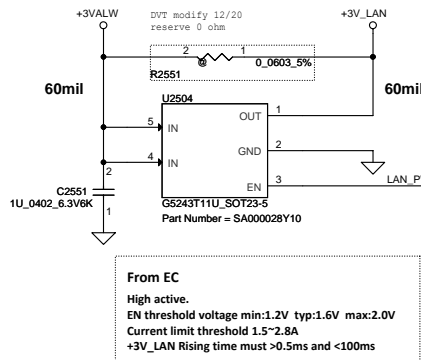
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	ITE IT6513FN
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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.				Customer	Rev
				Document Number Z5WAH M/B LA-B162P	0.3
Date:	Wednesday, January 08, 2014		Sheet	27	of 54

CRT conn.



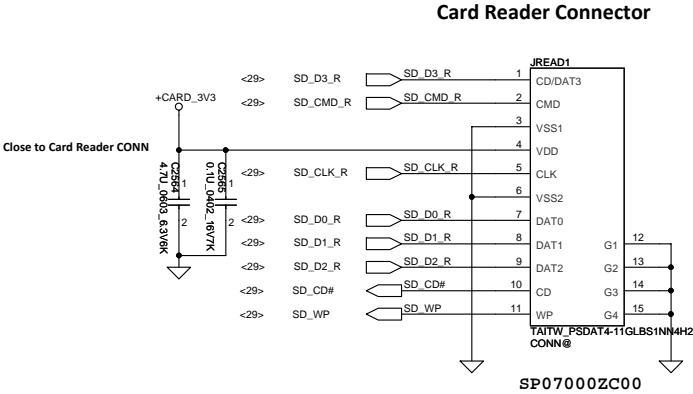
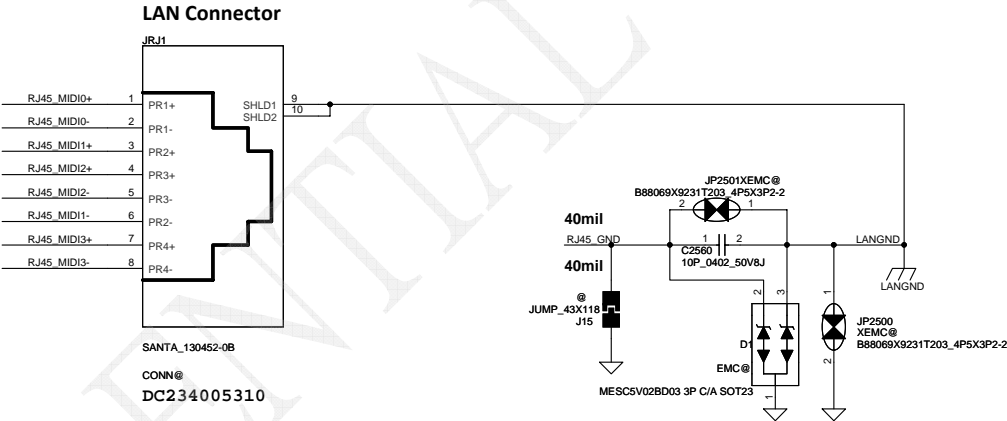
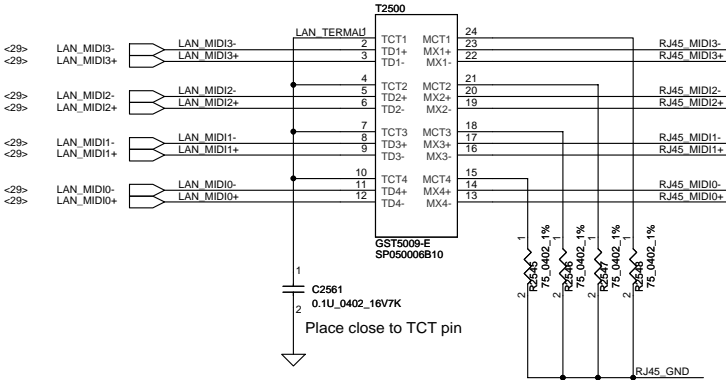
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2013/09/11		Title	
		Deciphered Date		2013/09/11	
				Customer	
				Z5WAH M/B LA-B162P	
				Rev	
				0.3	
				Date: Wednesday, January 08, 2014	
				Sheet 28 of 54	

LAN-RTL8411B

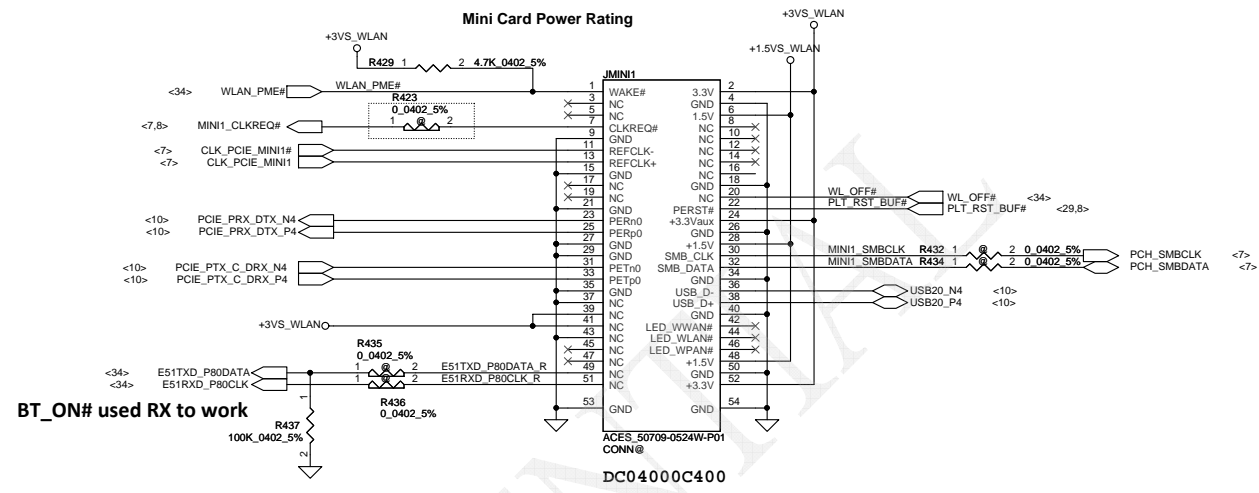
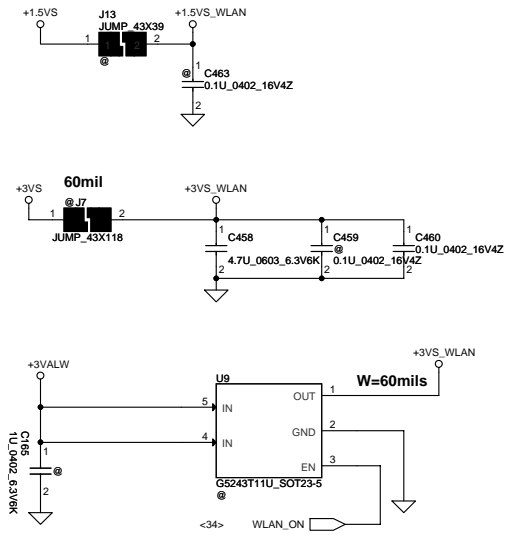


	Protect cotact		Card contact
	Write protect (Lock)	Write Enable (Unlock)	
Card Uninsert	Open	Open	Open
Card insert	Open	Close	Close

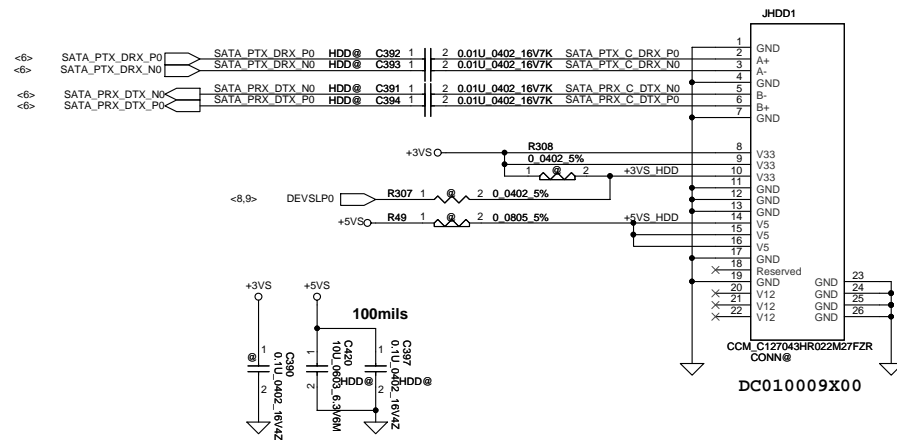
RJ45 / Card Reader conn.



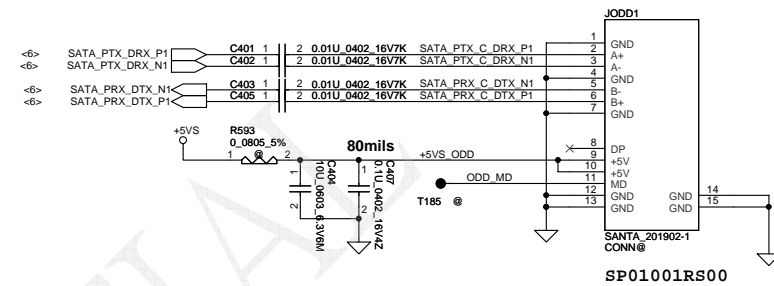
Wireless LAN



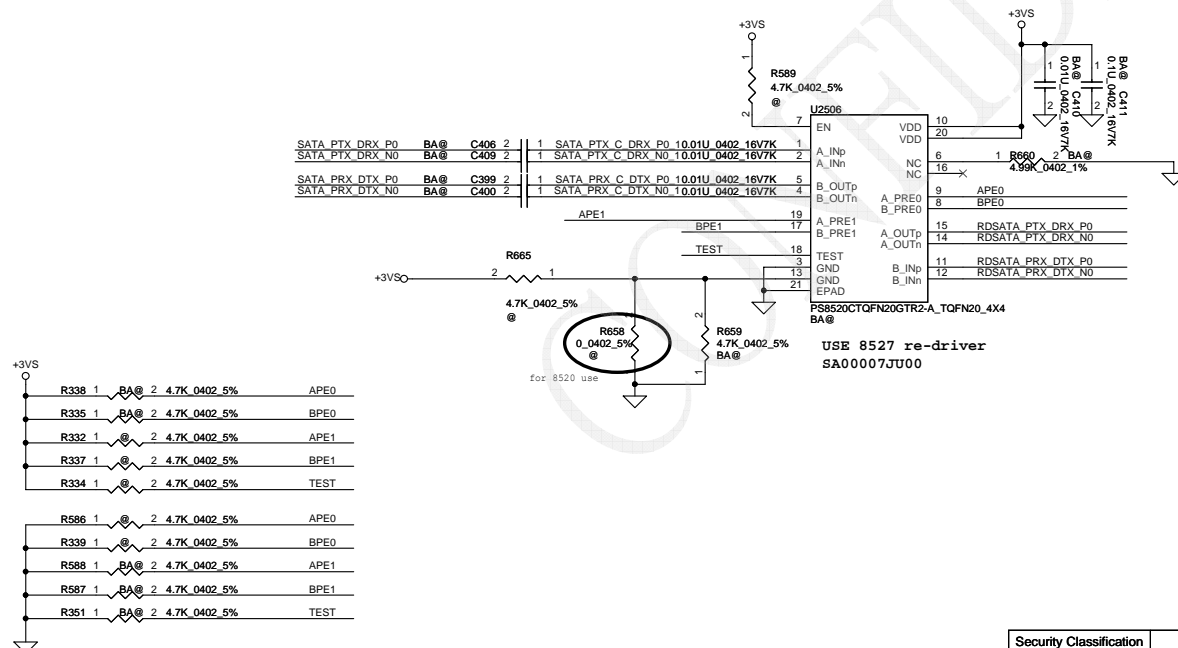
SATA HDD1 Conn.



SATA ODD Conn.

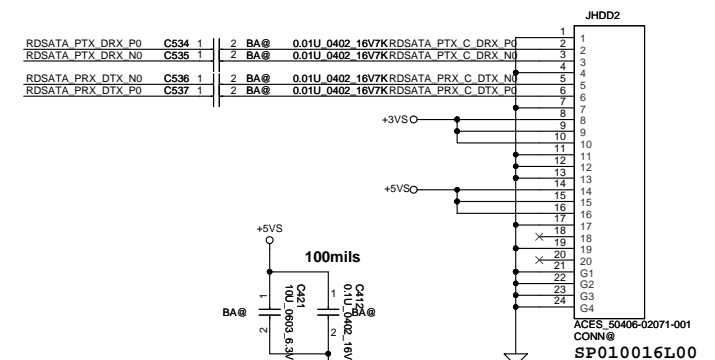


SATA Re-Driver HDD Conn. for BA50



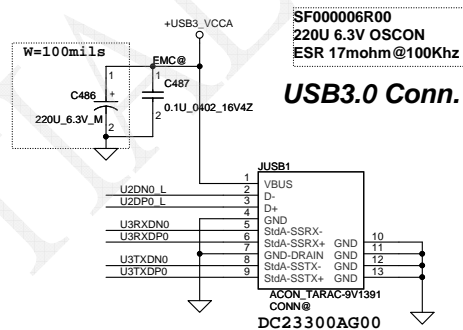
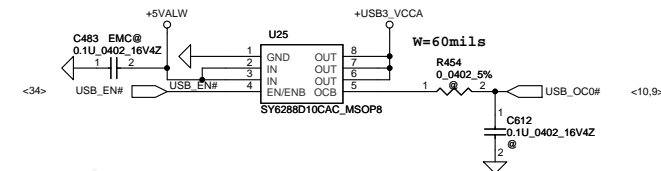
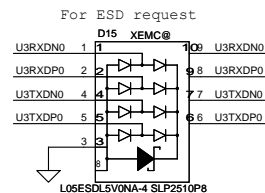
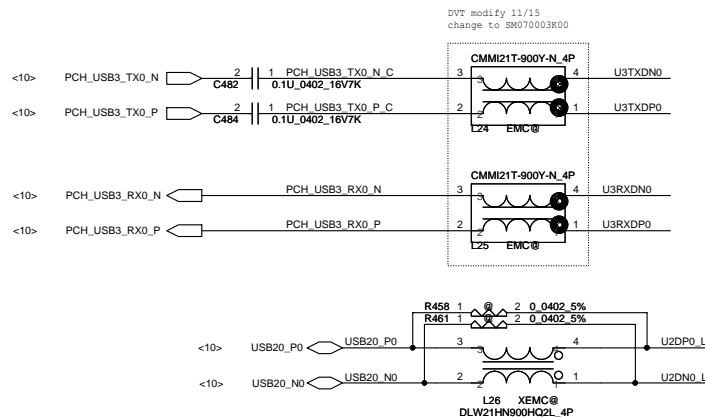
SATA HDD1 Conn.

CL 4.0 mm

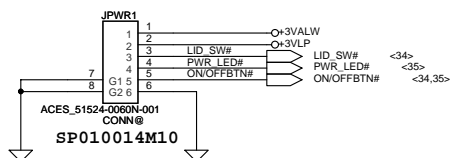


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	HDD/ODD/ HDD Re-Driver	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc Number	Rev	
				Z5WAH M/B LA-B162P		0.3
				Date	Wednesday, January 08, 2014	Sheet 32 of 54

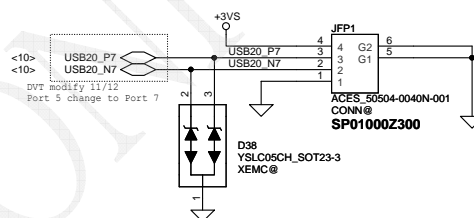
USB3.0 (Port 0)



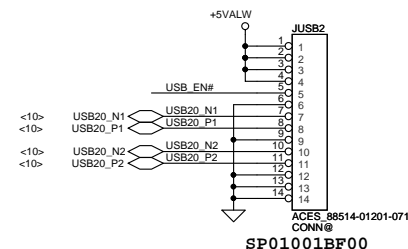
PWR/B

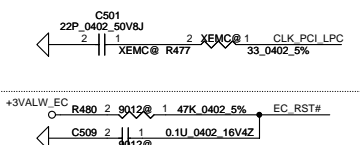


Finger Print /B for BA50

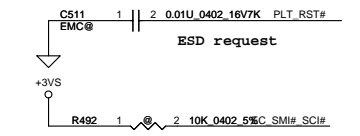
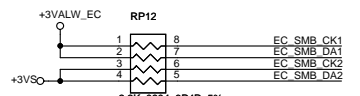
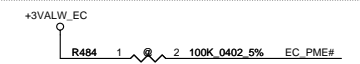


USB/B (USB Port 1, Port2)

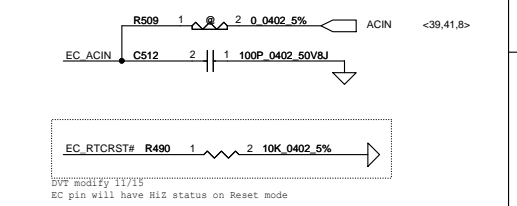
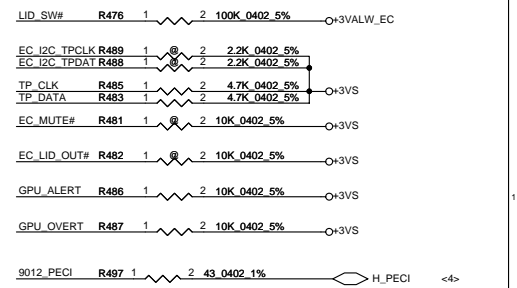
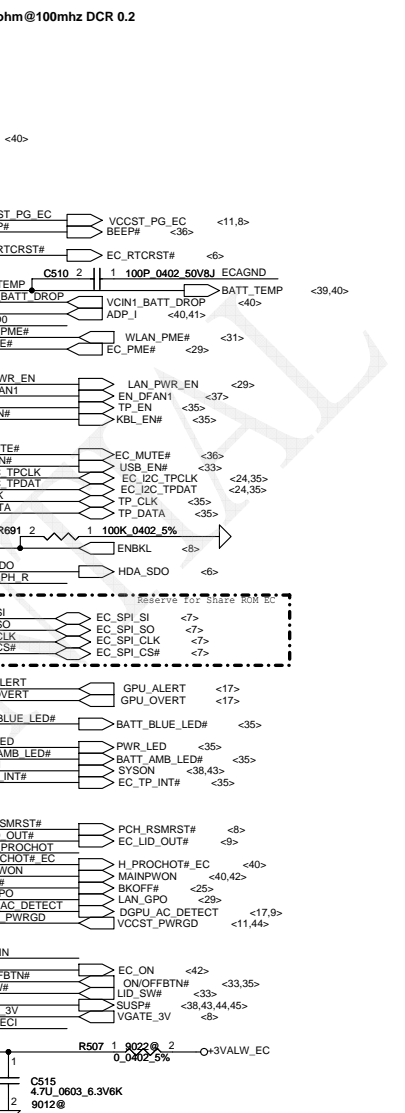
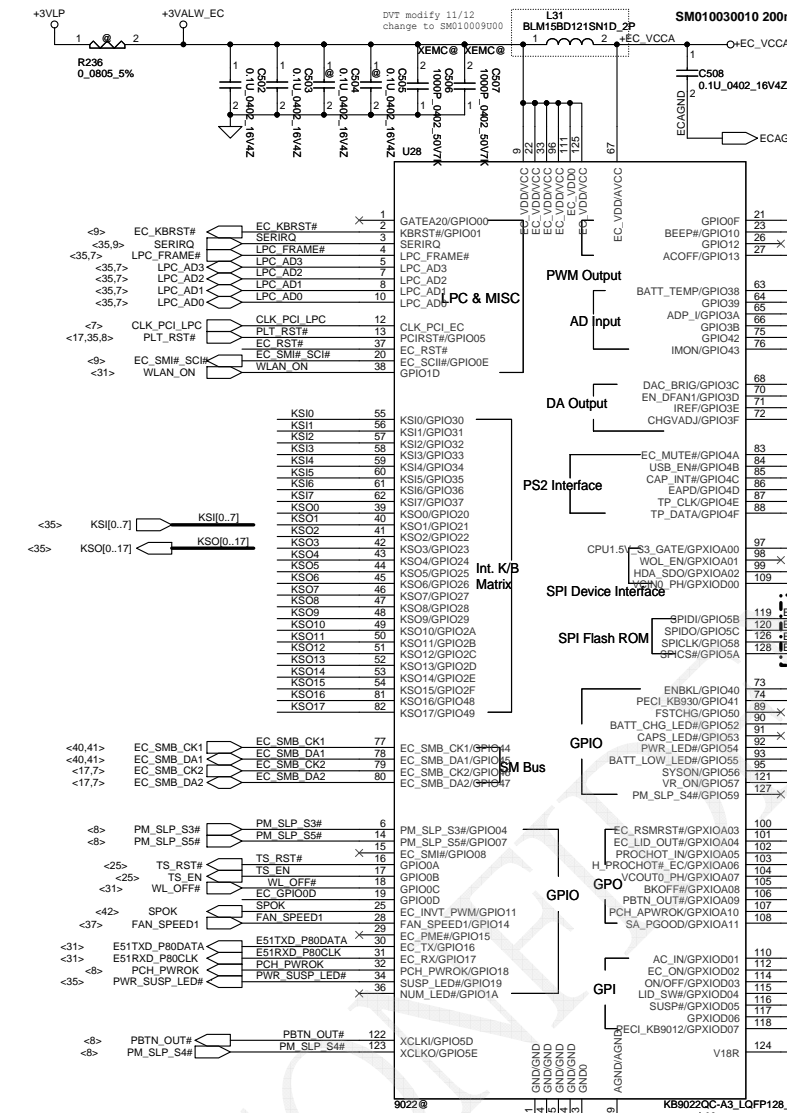
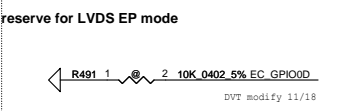
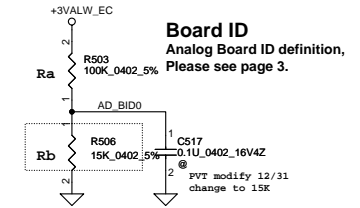
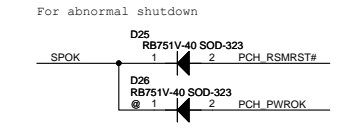




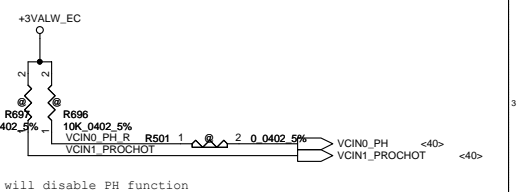
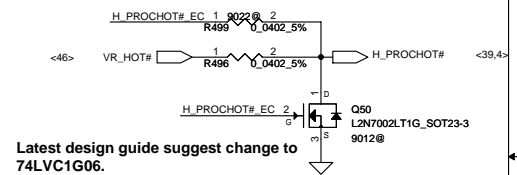
9022: ECRST# is internally pull-up to VCC via 40Kohm resistor, so can remove external pull-up resistor and capacitor.



9022: Change control method from push-pull to open-drain, so EC_SCI# must be pull high. *PU on PCH side (Pull high in PCH side)

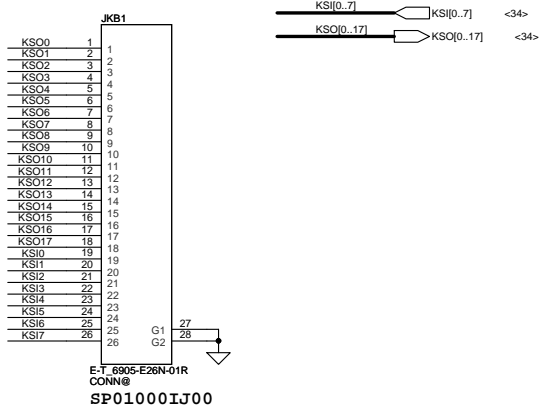


KB9022&9012 Co-Layout Item

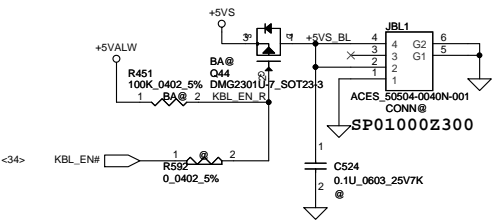


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	EC ENE-KB9012
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Z5WAH M/B LA-B162P
				Rev	0.3
				Date:	Wednesday, January 08, 2014
				Sheet	34 of 54

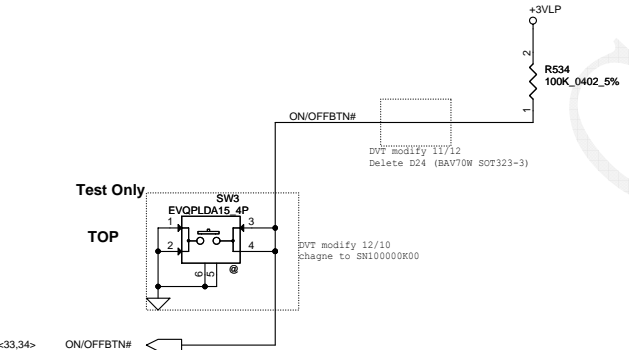
KB Conn.



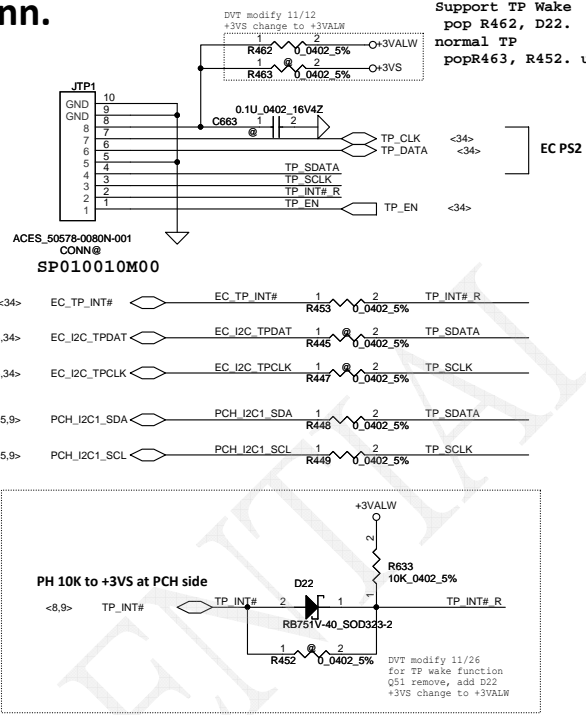
KB BackLight Conn. Reserve



ON/OFF BTN

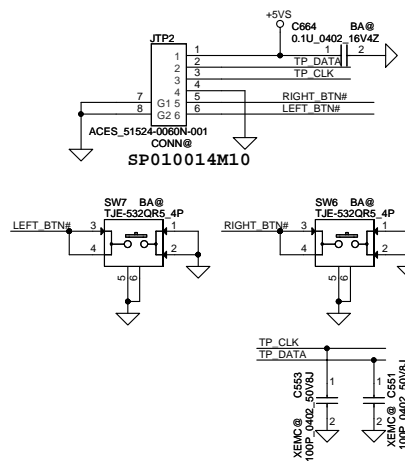


TP/B Conn.

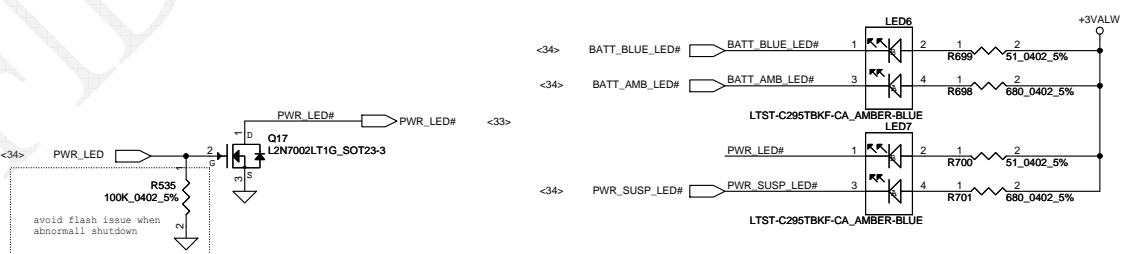


Support TP Wake
pop R462, D22. unpop R463, R452.
normal TP
popR463, R452. unpop R462, D22

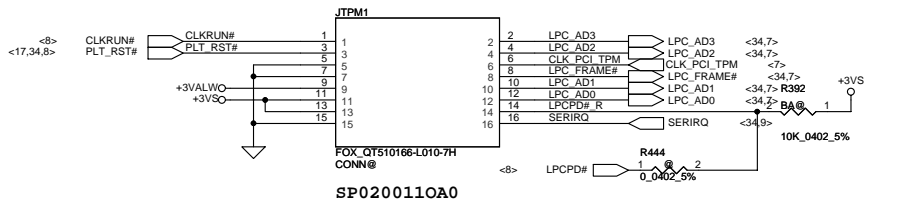
To BA50 TP/B Conn.



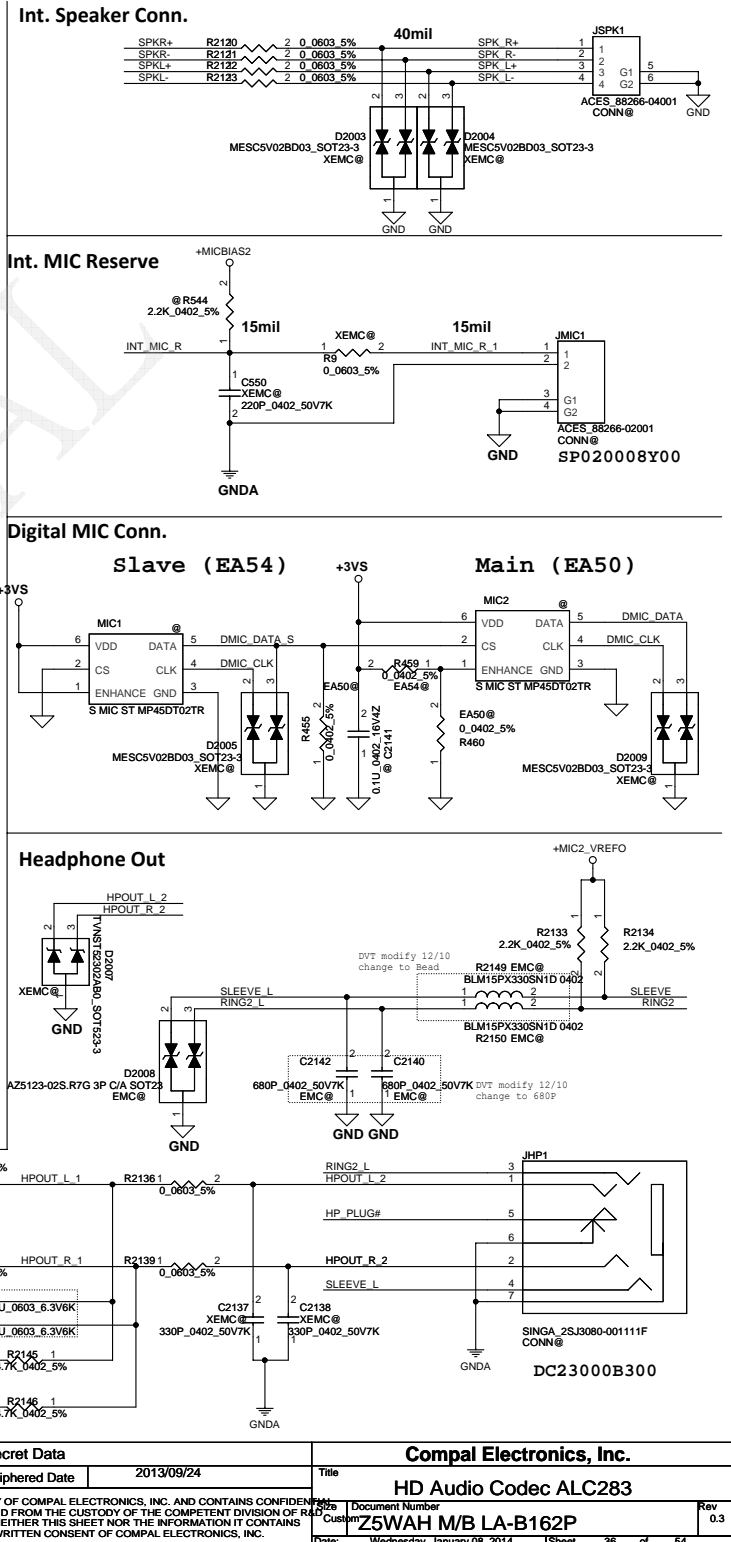
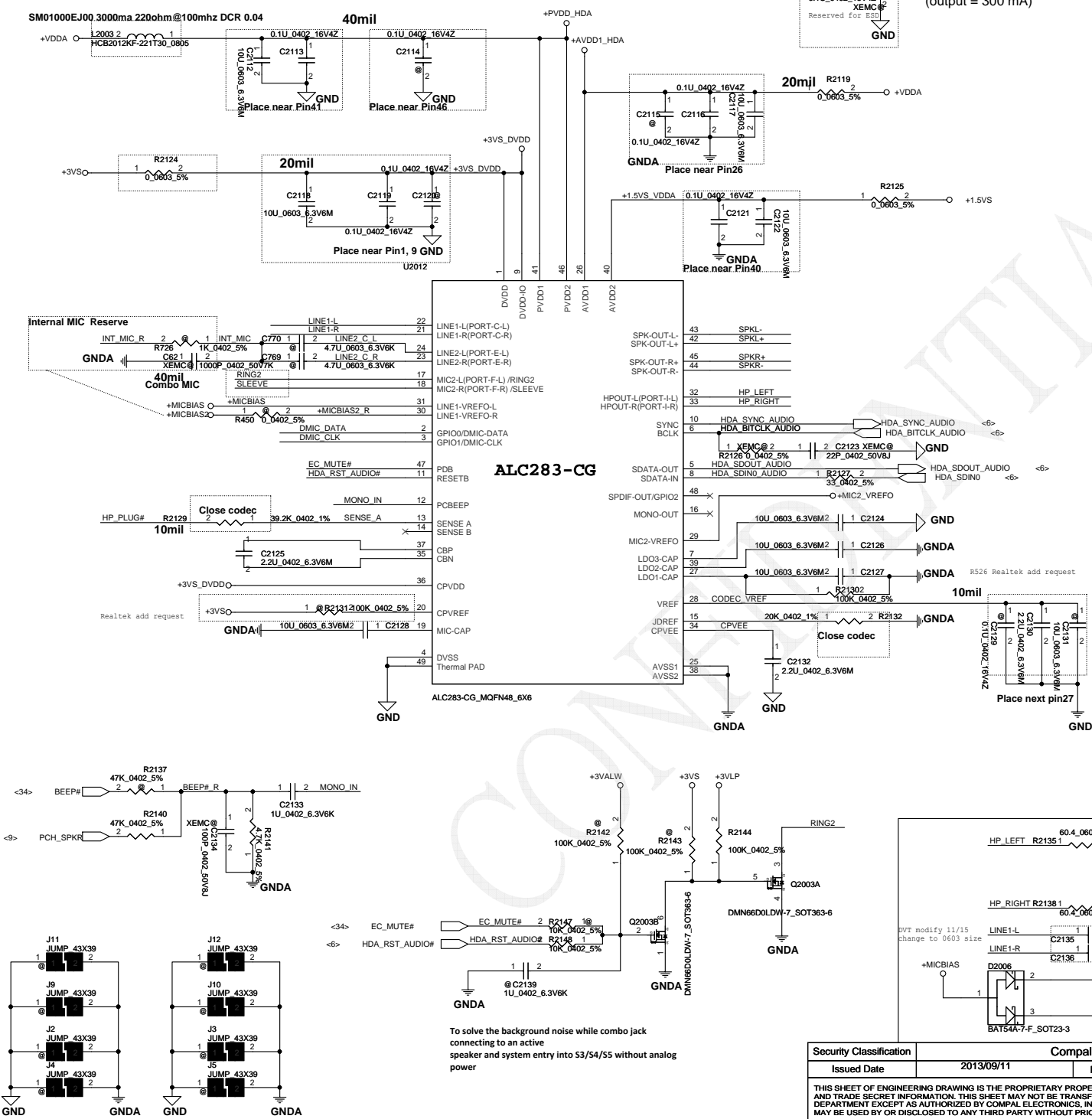
LED



TPM Board for BA50

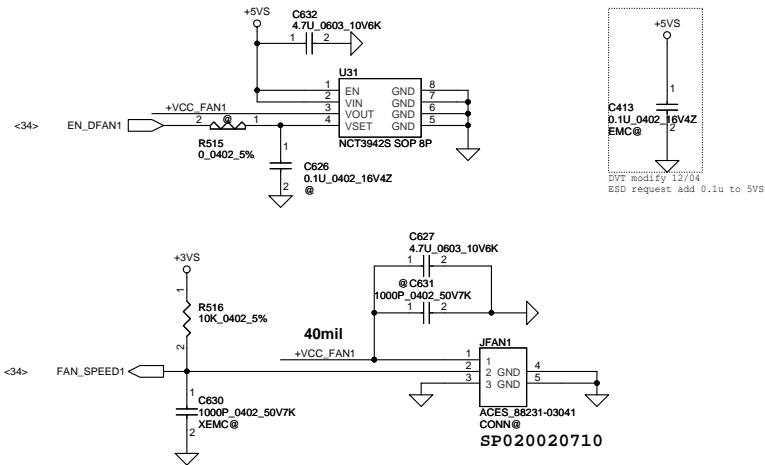


HD Audio Codec

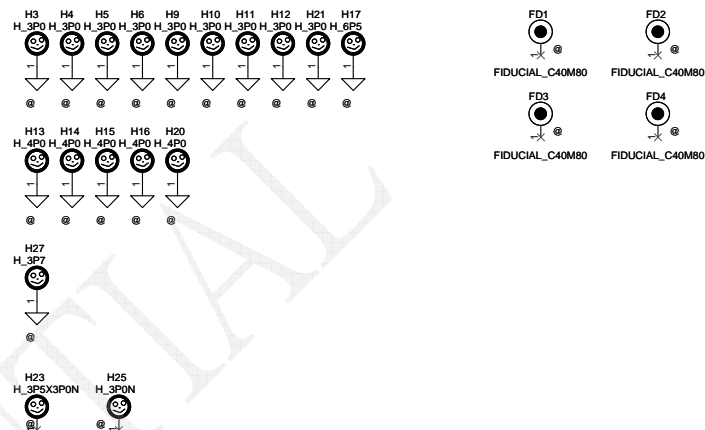


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2013/09/11		2013/09/24		HD Audio Codec ALC283	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA 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.		Customer		Rev	
Z5WAH M/B LA-B162P		0.3		Date	
Wednesday, January 08, 2014		Sheet		36 of 54	

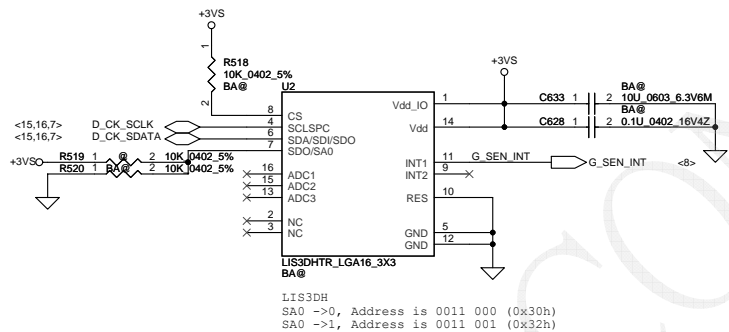
FAN1 Conn



Screw Hole

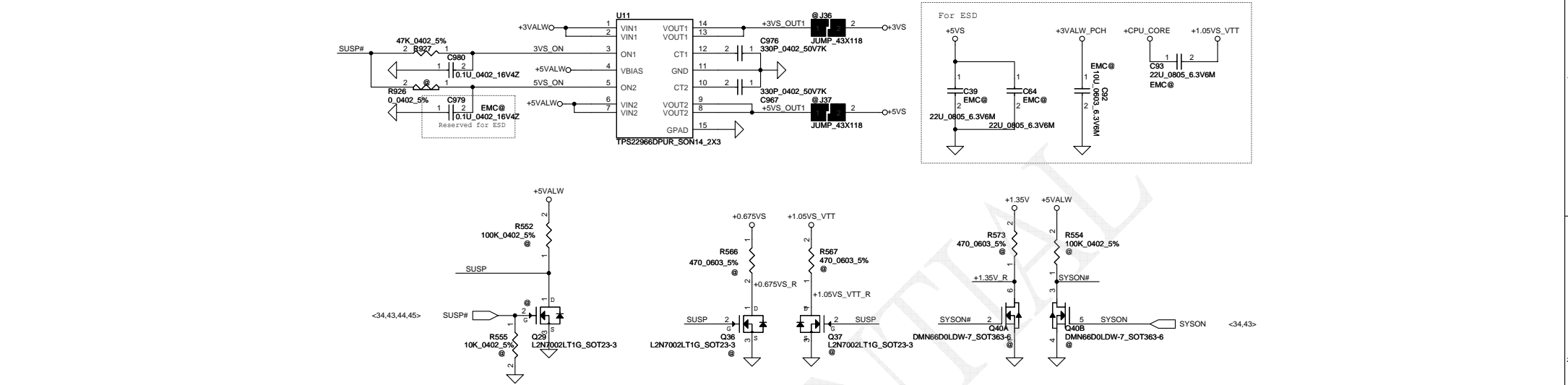


G-Sensor for BA50

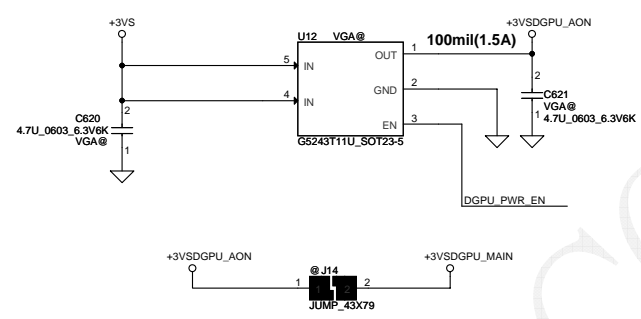


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2013/09/11	Deciphered Date	2013/09/24	Title	FAN & Screw Hole & G-Sensor
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				Customer	0.3
				Date	Wednesday, January 08, 2014
				Sheet	37 of 54

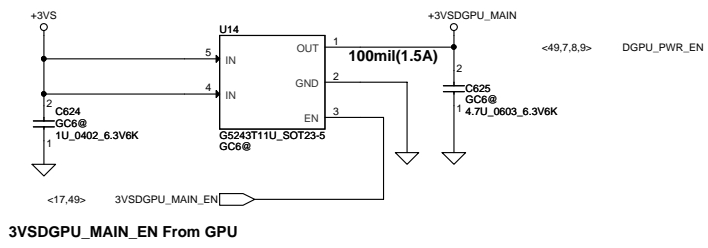
DC & VGA Interface



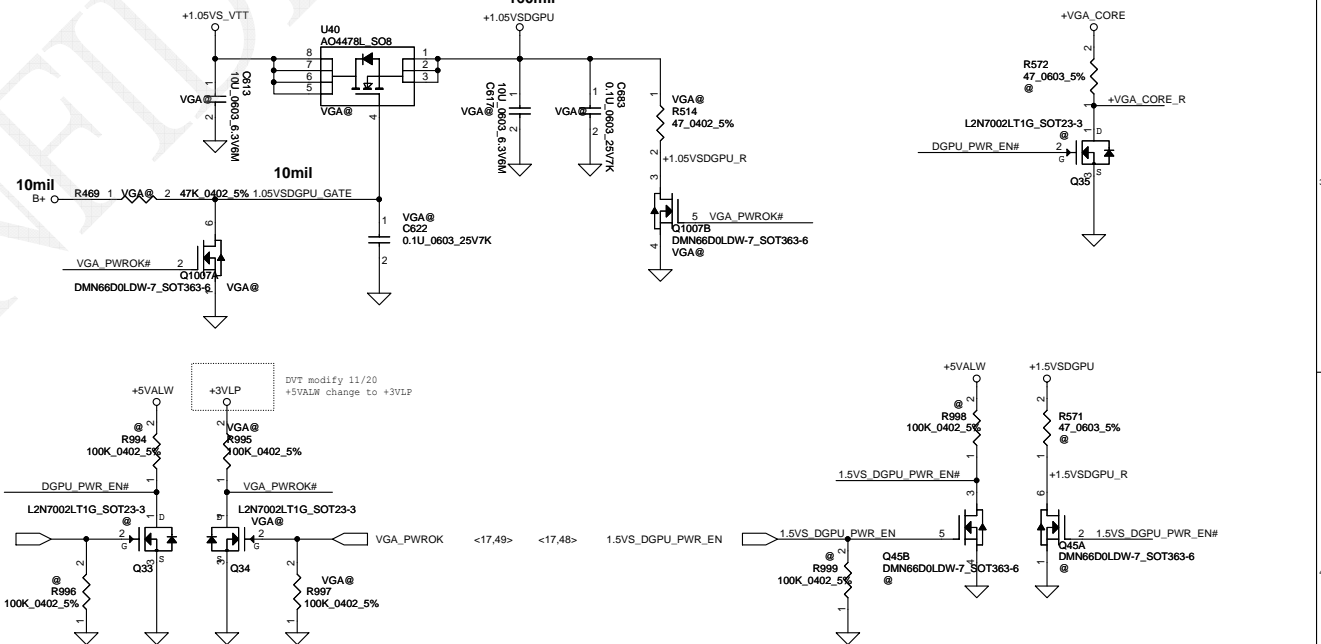
+3VS to +3VSDGPU_AON for GPU



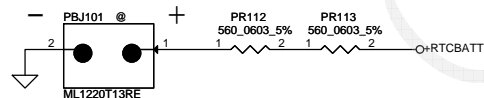
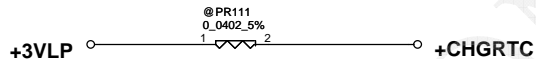
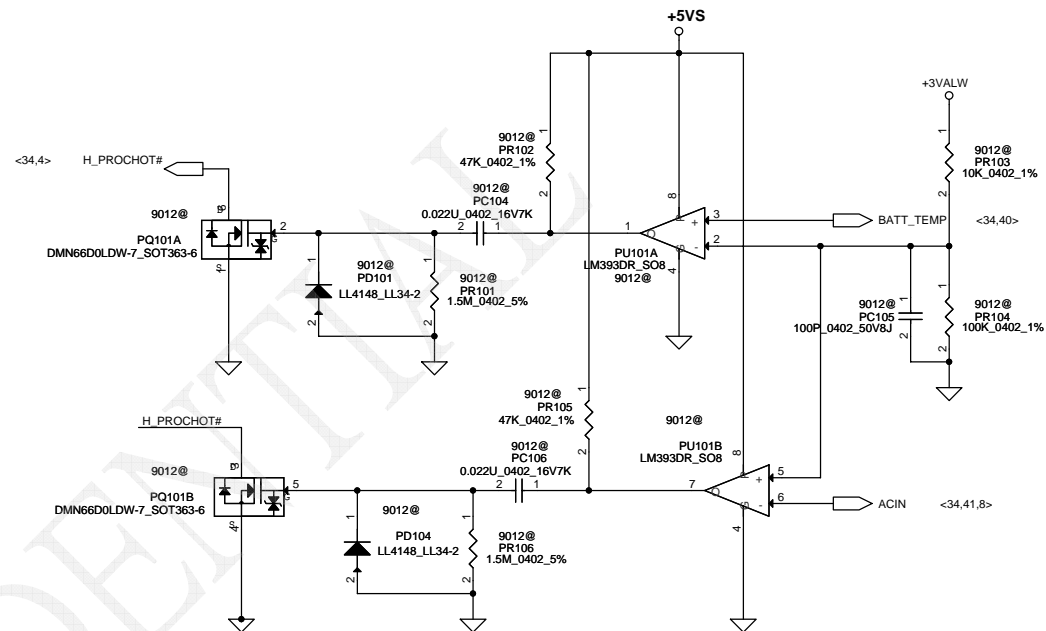
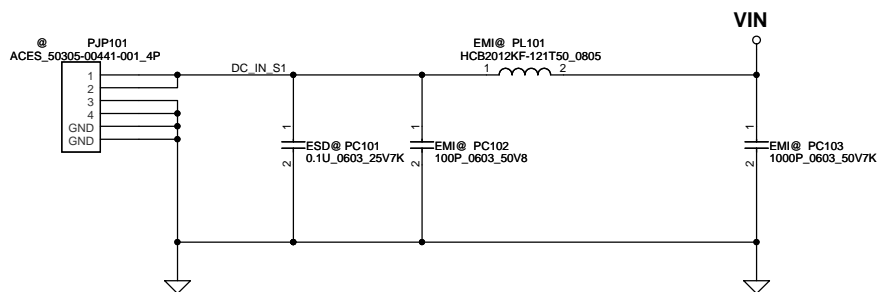
+3VS to +3VSDGPU_MAIN for GC6-2.0



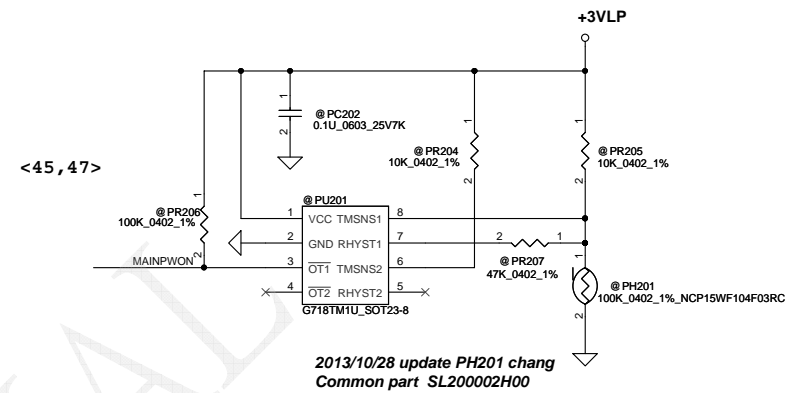
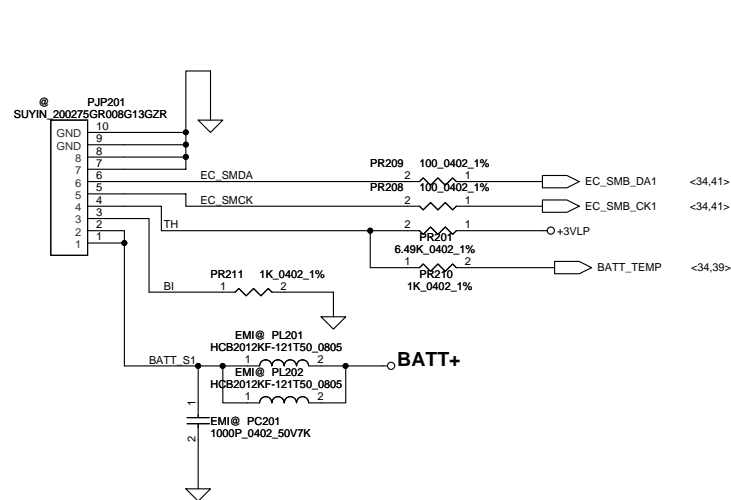
+1.05VS_VTT to +1.05VSDGPU



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		DC Interface	
2013/09/11		2013/09/24		Customer	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Document Number		Rev	
Z5WAH M/B LA-B162P		0.3		Date: Wednesday, January 08, 2014	
Sheet		38		of 54	



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2012/07/10	Deciphered Date	2013/09/24	Title	DCIN
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 RESEARCH AND DEVELOPMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Rev 0.3
Date:	Wednesday, January 08, 2014	Sheet	39	of	54



---Battery_pin define---

PIN1 GND
PIN2 GND
PIN3 SMD
PIN4 SMC
PIN5 TS
PIN6 B/I
PIN7 Batt+
PIN8 Batt+

---Battery Con_pin define---

PIN8 GND
PIN7 GND
PIN6 SMD
PIN5 SMC
PIN4 TS
PIN3 B/I
PIN2 Batt+
PIN1 Batt+

	For KB9012 OTP	For KB9022 OTP
92	1.2V	1.0V
56	1.2V	1.0V
PR216	22.6K ohm	32.4K ohm
PR227	26.1K ohm	30K ohm

2013/10/14 update

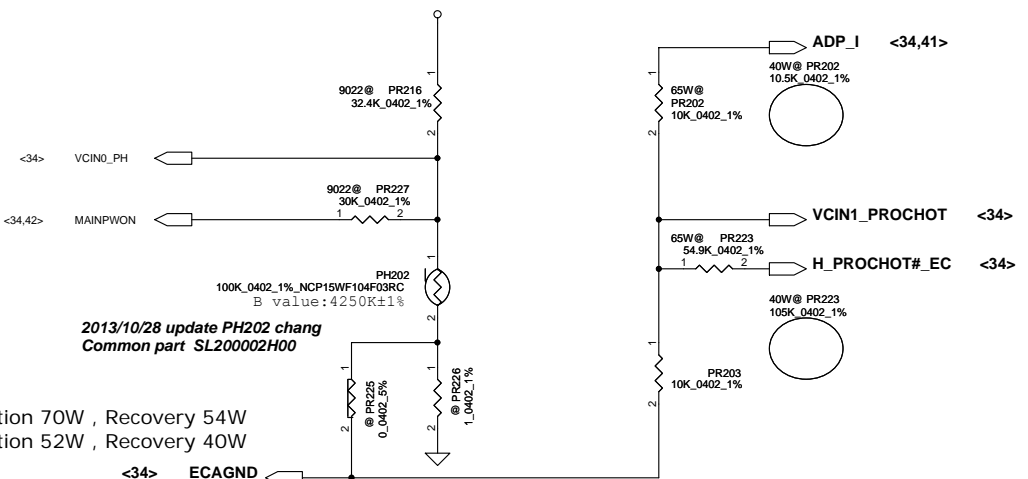
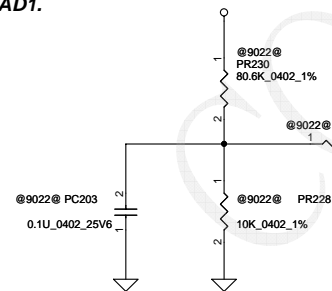
For KB9022 sense 20ms	Active	Recovery
40W	52W, 0.51V	40W, 0.51V
65W	84.5W, 0.82V	65W, 0.82V

PH201 under CPU bottom side :
CPU thermal protection at 92 degree C (shutdown)
Recovery at 56 degree C +EC_VCCA

2013/10/02

Add for ENE9022 Battery Voltage drop detection. B+
Connect to ENE9022 pin64 AD1.

Battery is 3-cell design.
B+=9V



For 65W adapter==>action 70W , Recovery 54W
For 40W adapter==>action 52W , Recovery 40W

Security Classification	Compal Secret Data		Title	
Issued Date	2012/07/10	Deciphered Date	2013/09/24	2013/09/24
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 0.3
Date: Wednesday, January 08, 2014				Sheet 40 of 54

Protection for reverse input

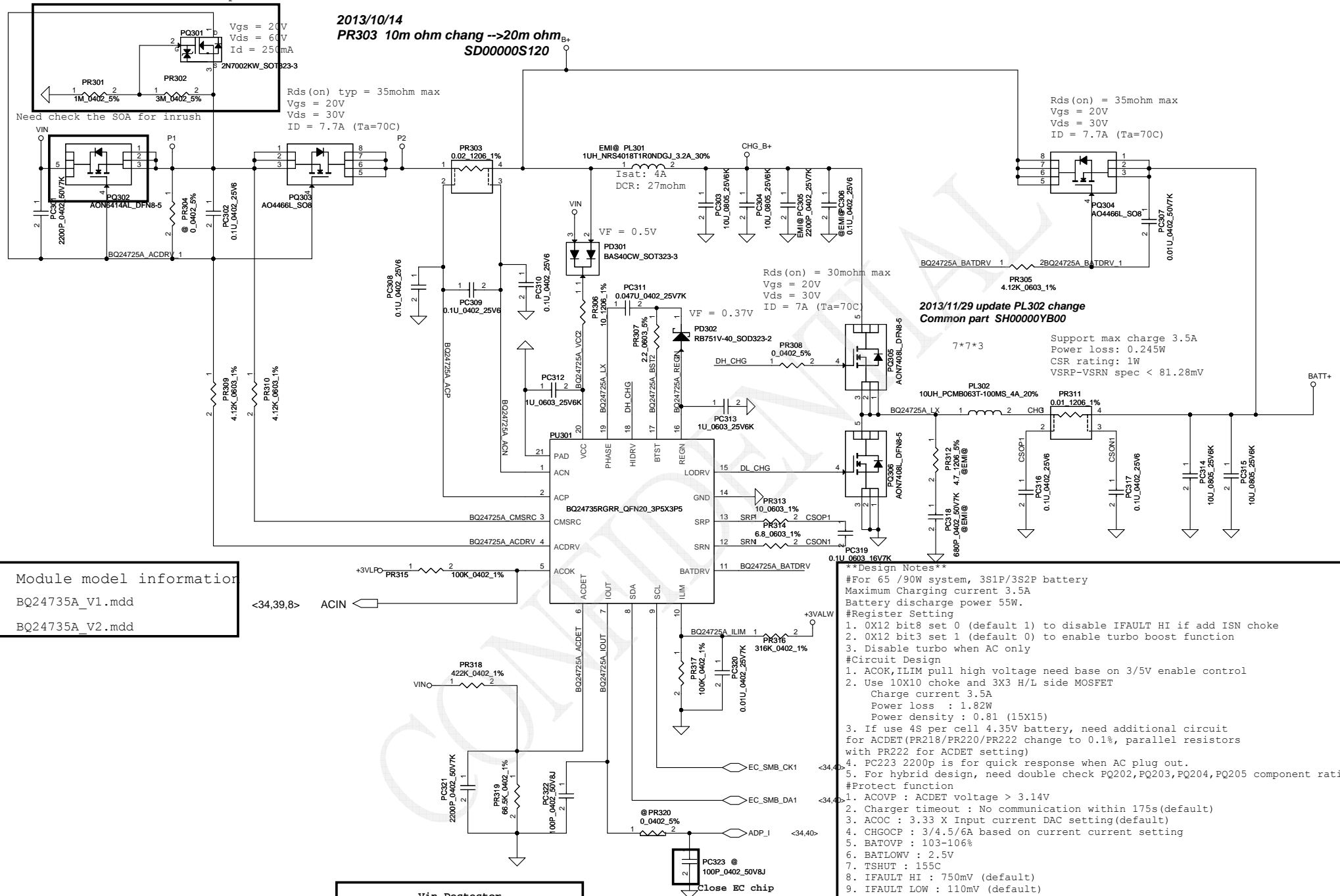
2013/10/14

PR303 10m ohm chang -->20m ohm
SD00000S120

Vgs = 20V
Vds = 60V
Id = 250mA

Rds(on) typ = 35mohm max
Vgs = 20V
Vds = 30V
ID = 7.7A (Ta=70C)

Need check the SOA for inrush



2013/11/29 update PL302
Common part SH00000YB00

Support max charge 3.5A
Power loss: 0.245W
CSR rating: 1W
VSRP-VSRN spec < 81.28mV

Design Notes

#For 65 /90W system, 3S1P/3S2P battery
Maximum Charging current 3.5A
Battery discharge power 55W.

#Register Setting

- 0X12 bit8 set 0 (default 1) to disable IFAULT HI if add ISN choke
- 0X12 bit3 set 1 (default 0) to enable turbo boost function
- Disable turbo when AC only

#Circuit Design

- ACOK, ILIM pull high voltage need base on 3/5V enable control
- Use 10X10 choke and 3X3 H/L side MOSFET
Charge current 3.5A
Power loss : 1.82W
Power density : 0.81 (15X15)
- If use 4S per cell 4.35V battery, need additional circuit for ACDET (PR218/PR220/PR222 change to 0.1%, parallel resistors with PR222 for ACDET setting)
- PC223 2200p is for quick response when AC plug out.
- For hybrid design, need double check PQ202, PQ203, PQ204, PQ205 component rating

#Protect function

- ACOVF : ACDET voltage > 3.14V
- Charger timeout : No communication within 175s(default)
- ACOC : 3.33 X Input current DAC setting(default)
- CHGOCF : 3/4.5/6A based on current current setting
- BATOVF : 103-106%
- BATLOWV : 2.5V
- TSHUT : 155C
- IFAULT HI : 750mV (default)
- IFAULT LOW : 110mV (default)

Security Classification

Compal Secret Data

Issued Date

2014/07/02

Deciphered Date

2013/09/24

Compal Electronics, Inc.

CHARGER

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

Document Number

Common Circuit

Rev

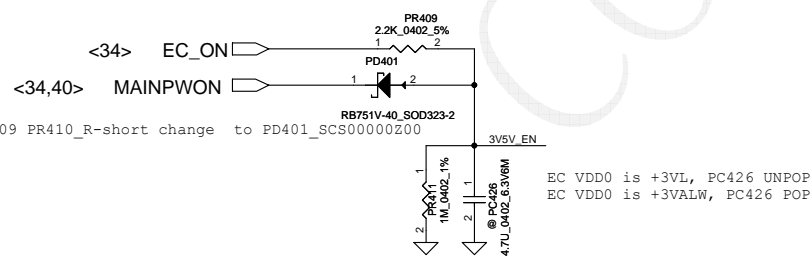
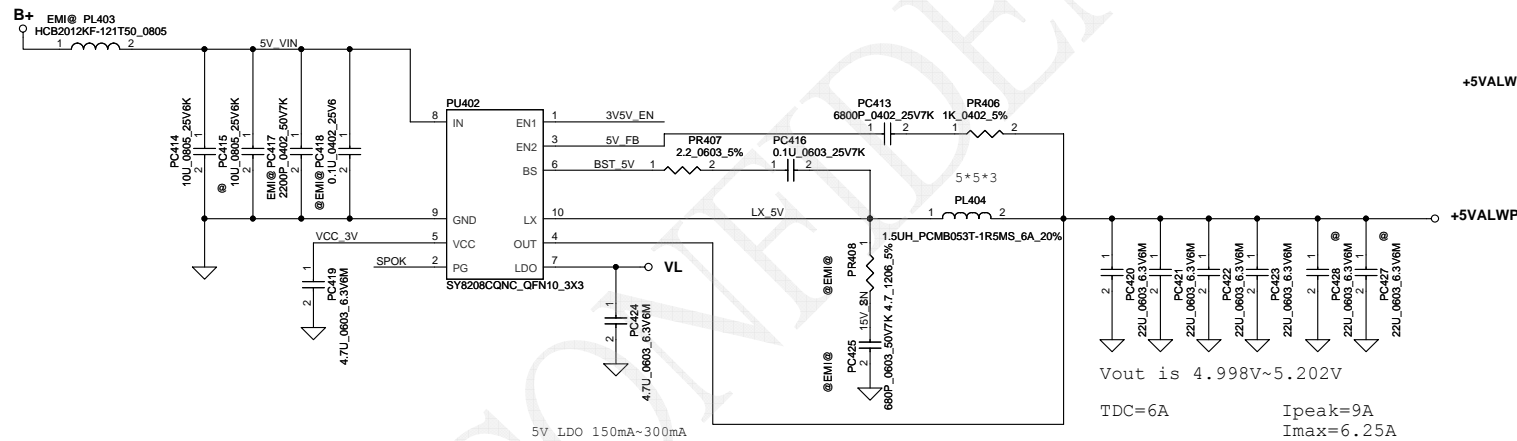
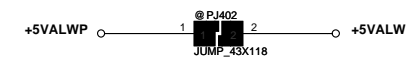
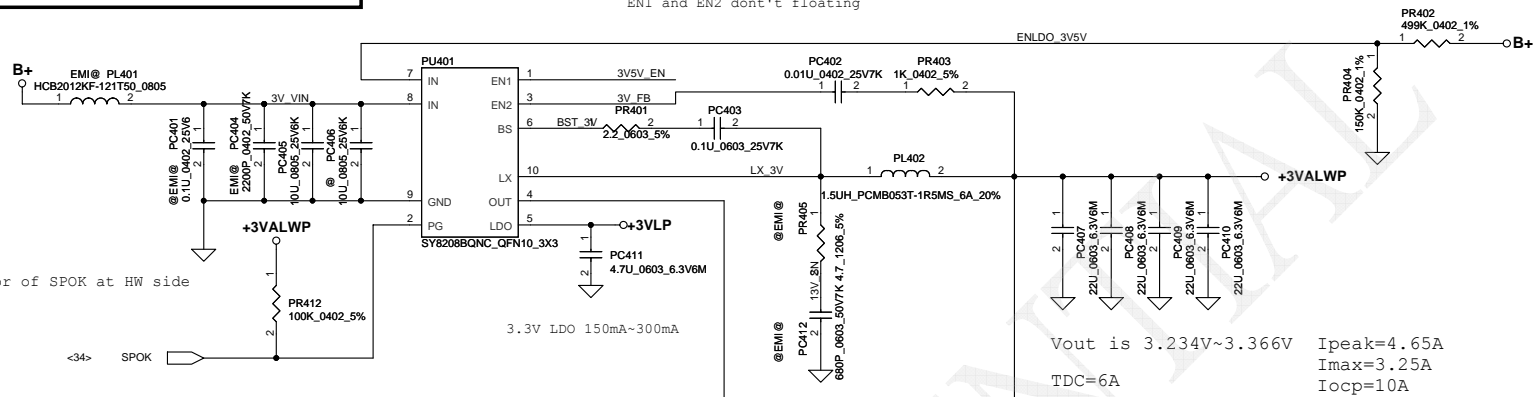
0.3

Date: Wednesday, January 08, 2014 Sheet 41 of 54

Module model information

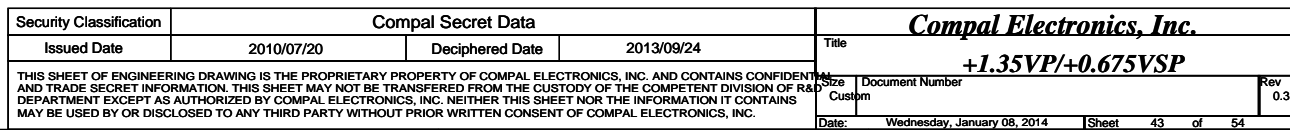
SY8208B_V2.mdd
SY8208C_V2.mdd

EN1 and EN2 don't floating



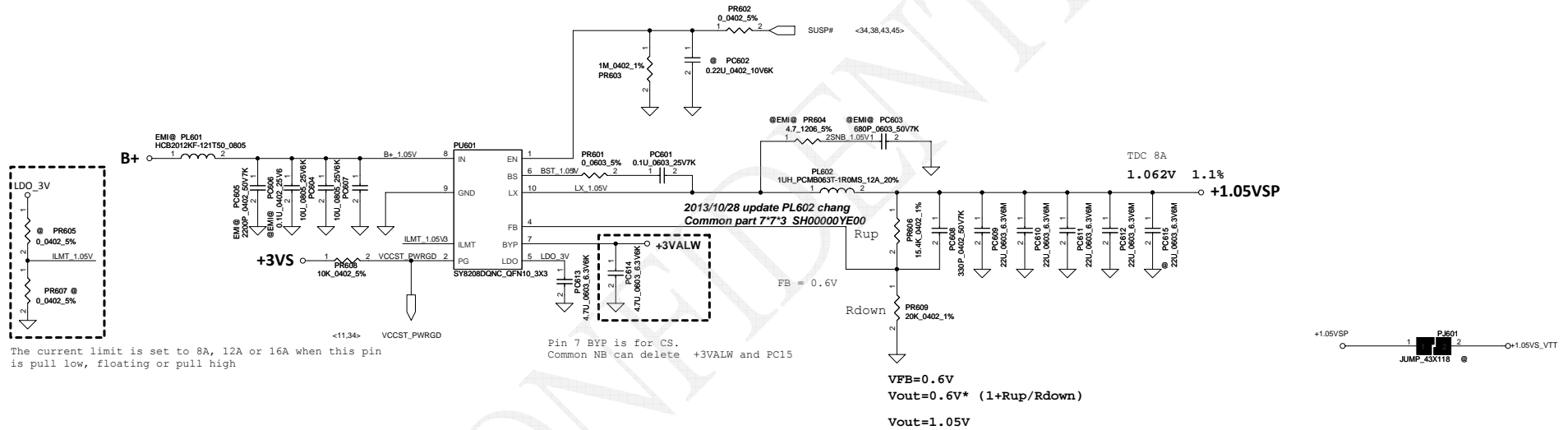
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2013/09/24	Title	+3VALW/+5VALW
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev 0.3
				Date:	Wednesday, January 08, 2014
				Sheet	42 of 54

RT8207M_V1.mdd	For Single layer
RT8207M_V2.mdd	For Dual layer

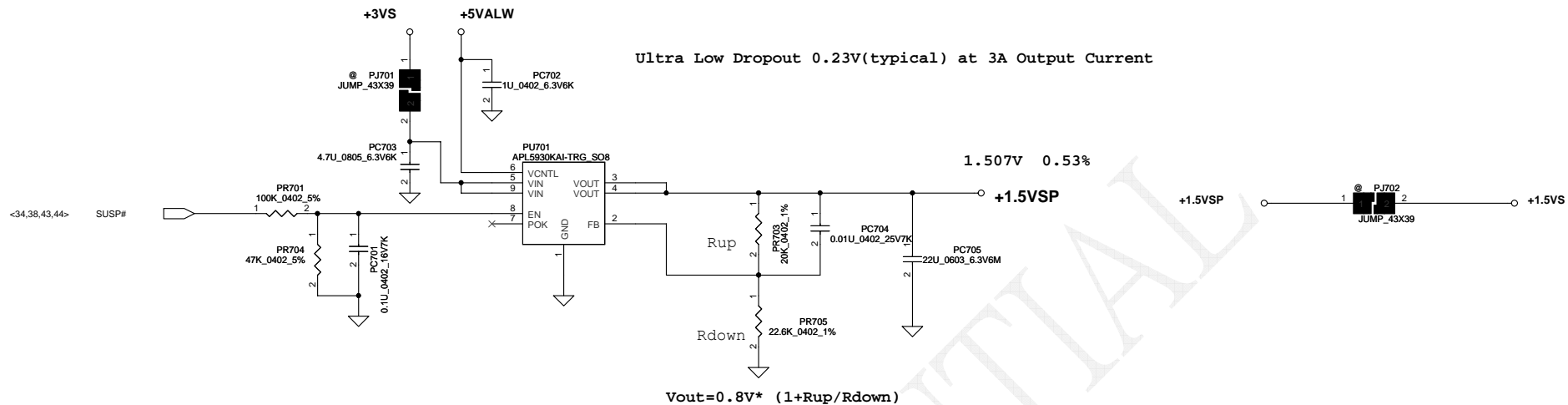


Module model information
SY8208D_V1.mdd

EN pin don't floating
If have pull down resistor at HW side, pls delete PR2



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/06/15	Deciphered Date	2013/09/24	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Rev	0.3
				Date:	Wednesday, January 08, 2014
				Sheet	44 of 54



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2011/06/13	Deciphered Date	2013/09/24	Title	+1.5VSP	
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		0.3
				Date:	Wednesday, January 08, 2014	Sheet 45 of 54

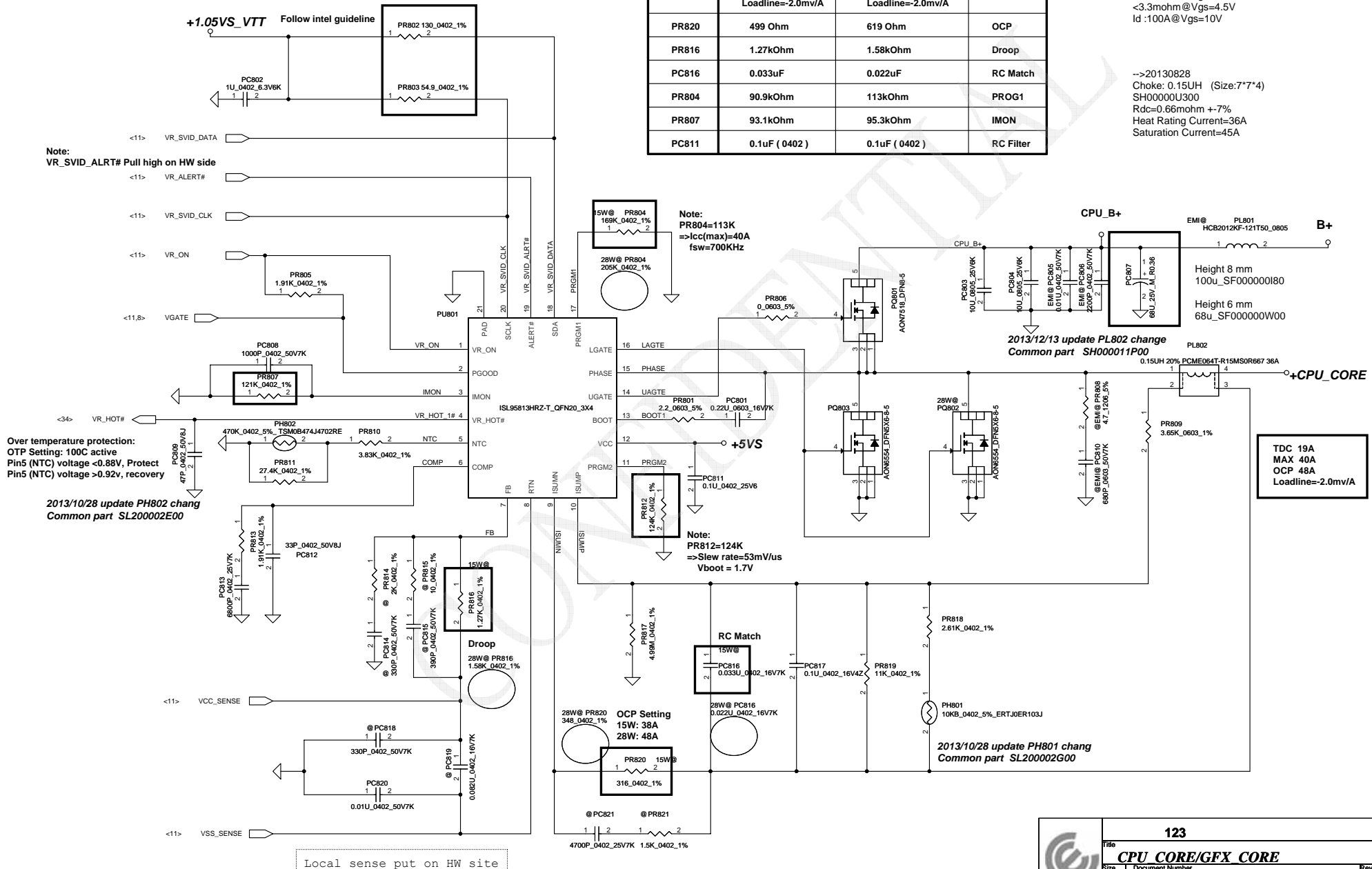
Module model information:
ISL95813 (for 15W & 28W CPU)

Base on BDW PDDG Rev_0_73			
Location	15W	28W	Note
	TDC 14A	TDC 19A	
	MAX 32A	MAX 40A	
	OCp 38.4A	OCp 48A	
	Loadline=-2.0mv/A	Loadline=-2.0mv/A	
PR820	499 Ohm	619 Ohm	OCp
PR816	1.27kOhm	1.58kOhm	Droop
PC816	0.033uF	0.022uF	RC Match
PR804	90.9kOhm	113kOhm	PROG1
PR807	93.1kOhm	95.3kOhm	IMON
PC811	0.1uF (0402)	0.1uF (0402)	RC Filter

L-side MOS: MDU1511RH
Rds(on):
<2.4mohm@Vgs=10V
<3.3mohm@Vgs=4.5V
Id :100A@Vgs=10V

-->20130828
Choke: 0.15UH (Size:7*7*4)
SH000000U300
Rdc=0.66mohm +-7%
Heat Rating Current=36A
Saturation Current=45A

Note:
VR_SVID_ALRT# Pull high on HW side



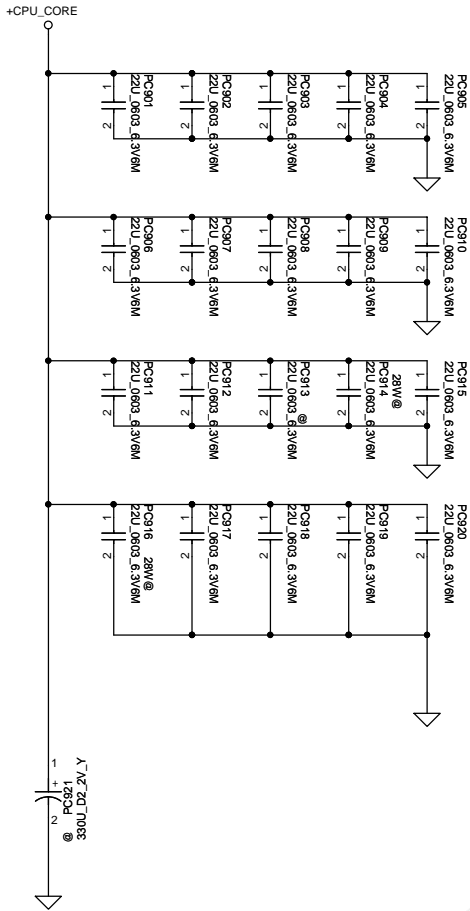
TDC 19A
MAX 40A
OCP 48A
Loadline=-2.0mv/A

123
Title <i>CPU CORE/GFX CORE</i>

Size	Document Number		
	Z5WAH M/B LA-B162P		
Date:	Wednesday, January 08, 2014	Sheet	46 of 54

Rev	0.3
-----	-----

PWR Rule
需確認最新SPEC.
Modify 8/6.



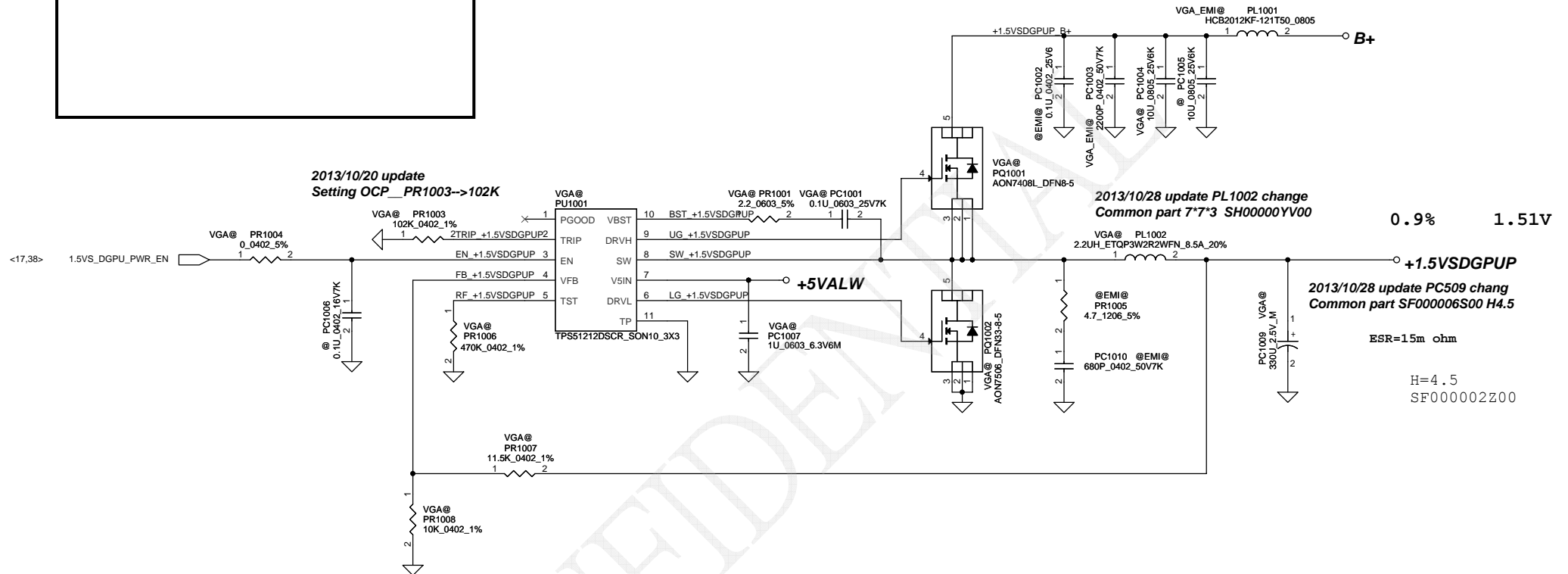
30 X 22uF 0805
2012/10/23
check the output cap Qty!!!
2012/10/24
23 pcs 22uF and reserve 7 pcs
2013/01/14
22uF*17 unpop:22uF*3

20130828
15W: 22uF*14
28W: 22uF*16

Security Classification		Compal Secret Data				Compal Electronics, Inc.							
Issued Date		2012/07/10		Deciphered Date		2013/09/24		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.								CPU CORE CAP					
								Size		Document Number		Rev	
								Custom				0.3	
Date		Wednesday, January 08, 2014				1		Sheet 47 of 54					

Module model information

TPS51212_V1.mdd for Single layer
TPS51212_V2.mdd for Dual layer



+1.2V

Switching Frequency: 290kHz
Imax=8A
OCP~10.5A
OVP: 120%-130%
VFB=0.704V, Vout=1.207V

+1.05V

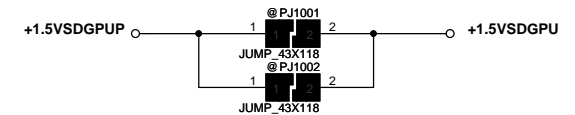
Switching Frequency: 290kHz
Imax=5.4A
Ipeak=6.5A
Iocp=7.8A
OVP: 120%-130%
VFB=0.704V, Vout=1.055V

Vout	PR1007	PR1008	PR1003
+1.5V	11.5k	10k	
+1.35V	9.31k	10k	
+1.2V	7.15K	10k	105K
+1.05V	4.99k	10k	93.1k

MOSFET: 3x3 DFN
H/S Rds(on): 27mohm(Typ), 34mohm(Max)
L/S Rds(on): 22mohm(Typ), 13.5mohm(Max)

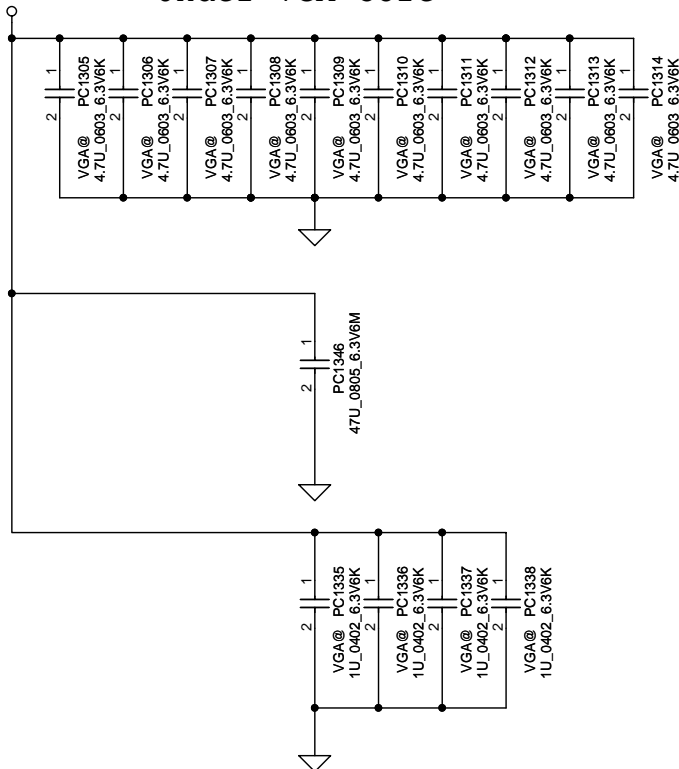
Choke: 7x7x3
Rdc=15.5mohm +/-15%

Switching Frequency: 290kHz
Ipeak=10A
Delta I =2.16A
Iocp=12.14~16.67A
OVP: 120%-130%
VFB=0.704V, Vout=1.51V



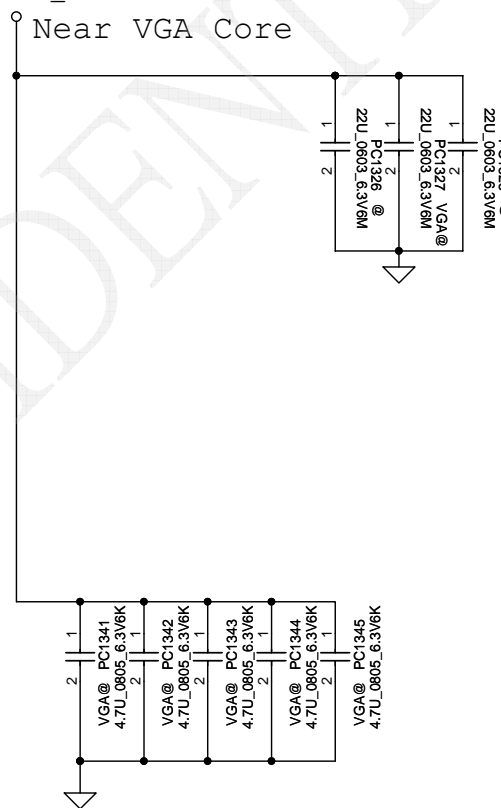
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2011/07/29	Deciphered Date		Title	1.5VSDGPUP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Date: Wednesday, January 08, 2014	Sheet 48 of 54
				Rev	0.3

+VGA_CORE Under VGA Core



+VGA_CORE

+VGA_CORE Near VGA Core



N15x 2013/12/10
Under
4.7uF_0603_10pcs
1uF_0402_4pcs
Near
47uF_0805_1pcs
22uF_0603_1pcs(2PCS unpop)
4.7uF_0805_5pcs

N15x2013/10/17
Under
4.7uF_0603_15pcs
1uF_0402_8pcs
Near
47uF_0805_0pcs
22uF_0603_9pcs(2PCS unpop)
4.7uF_0805_5pcs

N15x2013/10/07
Under
4.7uF_0603_15pcs
1uF_0402_8pcs
Near
47uF_0805_0pcs
22uF_0805_9pcs(2PCS unpop)
4.7uF_0805_5pcs

N15x2013/10/02
Under
4.7uF_0603_15pcs
1uF_0402_8pcs
Near
47uF_0805_0pcs
22uF_0805_14pcs
4.7uF_0805_5pcs

N14x
Under
4.7uF_0603_10pcs
0.1uF_0402_4pcs
Near
47uF_0805_1pcs
22uF_0805_1pcs
4.7uF_0805_5pcs

Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2011/06/24	Deciphered Date	2013/09/24	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	Rev
				Custom	0.3
Date:	Wednesday, January 08, 2014	Sheet	50	of	54

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/07/10	Deciphered Date	2013/09/24	Title	PIR (PWR)	
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 RAI DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc No	Document Number	Rev
				Custom		0.3
				Date:	Wednesday, January 08, 2014	Sheet 51 of 54

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2012/07/10	Deciphered Date	2013/09/24	Title	PIR (PWR)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc No	Document Number	Rev
				Customer		0.3
				Date:	Wednesday, January 08, 2014	Sheet 52 of 54

Item	Fixed Issue	Reason for change	PG#	Modify List	Date	Phase
1	material update		P28	L2503/2504/2505 Change P/N from SM01000GA00 to SM01000FH00	11/12	DVT
2	material update		P34	L31/L32 Change P/N from SM010030010 to SM010009U00	11/12	DVT
3	design update		P35	Delete D24, ON/OFF change to ON/OFFBTN#	11/12	DVT
4	schematics update	for TP_INT# wake function	P35	TP PIN1 VCC Connect to +3VALW, add R462, R463@, pop D22, R633, R453	11/12	DVT
5	design change		P10	Change USB port 5 for TS/port 6 for CCD / port 7 for CR(USB)_FP	11/12	DVT
6	design update		P6	reserve RTCRST# to EC pin 27 for clear CMOS add R490, and Q52 reserve to EC_RTCRST#	11/12	DVT
7	design update	EC board ID	P34	Pop R503(100K), R506(12K)	11/15	DVT
8	material update		P36	change C2135, C2136 to 0603 size	11/15	DVT
9	material update		P33	L24, L25 form SM070003Y00 to SM070003K00	11/15	DVT
10	material update		P7	pop share rom	11/15	DVT
11	design update	Co-lay TS_I2C and LVDS EDID	P25	R415, R433 for LVDS EDID R438, R439 for TS I2C	11/15	DVT
12	design update	for LVDS EP mode SMBus2 change to SMBus3	P24	Add R491 reserve for RTD2132 EP_MODE	11/18	DVT
13	design update	for TP_INT# wake function	P34	GPI055 change to GPI013	11/18	DVT
14	design update	for GC62.0 function	P17	R2055 change to Pull high +3VSDGPU_AON	11/20	DVT
15	design update	for +1.05VS_VTT leakage issue	P38	+5VALW change to +3VLP add level shift(Q2501), R2503, R2502, R2549 Del R930	11/20	DVT
16	design update	for IT 6513 leakage issue	P27	IT6513 change to use 3VS	11/26	DVT
17	material update	for TXC recommend	P6	C153, C2, C3 to 15PF, C2004, C2005, C2558, C2559 to 10PF	11/27	DVT
18	design update	for wake on LAN function	P29	add R2550 10K pull high to +3V_LAN , PCH side pull high reserve	12/04	DVT
19	design update	for ESD request	P37	add C413 0.1u to +5VS	12/04	DVT
20	design update	for EMI request	P33	add choke(L29,L30) and R(R456, R457,R462,R463) co-lay for USB/B comm	12/04	DVT
21	design update	for ESD request	P36	add R2149, R2150(SM01000NH00), C2140, C2142(680PF) D2008(SCA00001B00) change to SOT23 R2135,R2138 chagne to 60 ohm	12/10	DVT
22	material update			SW3 SN100007700 chagne to SN100000K00 C408, C486 SF000002Y00 change to SF000006R00 C18, C118 SF000002Z00 change to SF000006S00	12/13	DVT
23	design update		P37	reserve R2551 0 ohm +3VALW to +3VLAN reserve R2540 for disable PHY	12/20	DVT

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2012/07/10	Deciphered Date	2013/09/24	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.				PIR-HW	
				Size	Document Number
				Custom	Z5WAH M/B LA-B162P
Date: Wednesday, January 08, 2014				Sheet	53 of 54

Item	Fixed Issue	Reason for change	PG#	Modify List	Date	Phase
1	design issue		P28	U2052, U2503 change power rail to +HDMI_5V_OUT	12/31	PVT
2	material update	PVT board ID	P34	R506 change to 15K	12/31	PVT
3	design update	modify DQS P/N pin	P18		01/08	PVT
4	schematics update					
5	design change					
6	design update					
7	design update					
8	material update					
9	material update					
10	material update					
11	design update					
12	design update					
13	design update					
14	design update					
15	design update					
16	design update					
17	material update					
18	design update					
19	design update					
20	design update					
21	design update					
22	material update					
23	design update					

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2012/07/10	Deciphered Date	2013/09/24	Title	PIR-HW	
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 Z5WAH M/B LA-B162P	Rev 0.3
				Date: Wednesday, January 08, 2014	Sheet 54 of 54	