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Model Name : V5WE2/T2 (EA/EG)
File Name : LA-9532P

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EA50 UMA M/B Schematics Document

Intel Shark Bay ULT (Hasswell + Lynx PointLP)

2013-04-18

REV:1.0

ZZZ

Part Number	Description
DAZ0VR00200	PCB V5WE2 LA-9532P LS-9531P/9532P/9533P

V5WE2_PCB

ZZZ1

HDMI_ROYALTY
ROYALTY HDMI W/LOGO+HDCP
RO0000003HM
45@

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Title: *Cover Page*

Size: Custom | Document Number: *V5WE2 M/B LA-9532P Schematic* | Rev: 0.2

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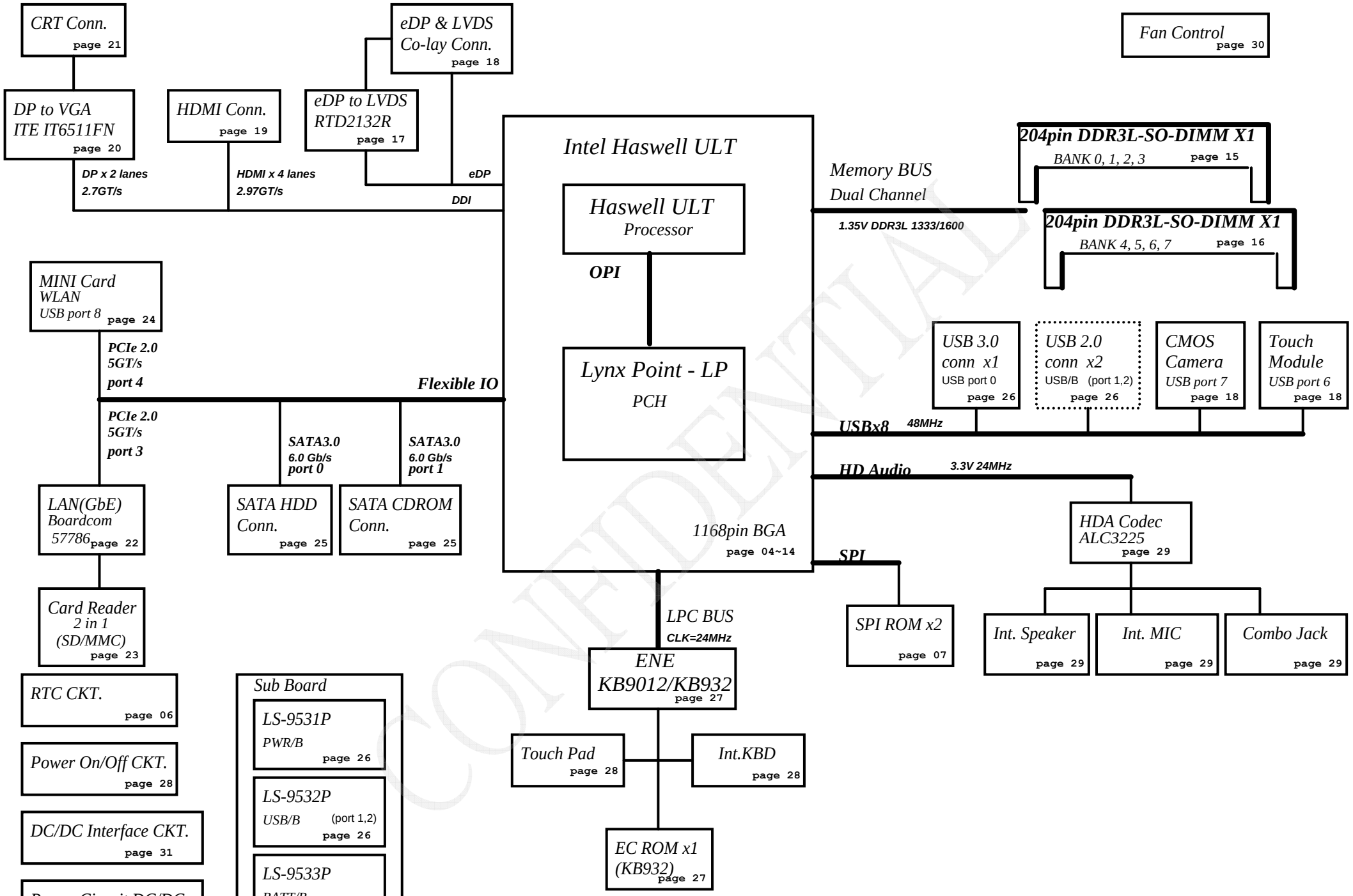

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Title	Block Diagrams		
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic		Rev: 0.2
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Voltage Rails

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
+0.675VS	+0.675VSP to +0.675VS switched power rail for DDR terminator	ON	OFF	OFF
+1.35V	+1.35VP to +1.35V power rail for DDRIIIL	ON	ON	OFF
+1.5VS	+1.5V to +1.5VS switched power rail	ON	OFF	OFF
+1.8VS	+3VS to 1.8V switched power rail to 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
+5VALW	+5VALWP to +5VALW power rail	ON	ON	ON*
+5VS	+5VALW to +5VS switched power rail	ON	OFF	OFF
+VSB	+VSBP to +VSB always on power rail for sequence control	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON
+1.05VS_VTT	+1.05VSP to +1.05VS_VTT switched power rail for cpu	ON	OFF	OFF

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

EC SM Bus1 address

Device	Address
Smart Battery	0001 011X b

EC SM Bus2 address

Device	Address
On Board Thermal Senser	1001_101xb

PCH SM Bus address

Device			Address	
ChannelA	DIMM0	A0	1010 000X	JDIMM1(SPD)

BOM config

PCB P/N	DA60000XR00 : PCB 0VR LA-9532P REV0 M/B	
EVT BOM config	9012@ ; AMIC@ ; CHR@ ; BL@ ; EMC@ ; AOAC@	11/1 Del XDP@
DVT BOM config	9012@ ; BL@ ; EMC@ ; EDP@ (L01~L04)	
	9012@ ; BL@ ; EMC@ ; TL@ (L05)	
PVT BOM config	9012@ ; EMC@ ; EDP@ ; 1ROM@ ; IOAC@	
PreMP BOM config	9012@ ; EMC@ ; EDP@ ; 1ROM@ ; IOAC@	

43 level BOM table

43 Level	Description
4319LWBOL01	SMT MB A9532 V5WE2 UMA I7 QDA7 HDMI
4319LWBOL02	SMT MB A9532 V5WE2 UMA I5 QDJB HDMI
4319LWBOL03	SMT MB A9532 V5WE2 UMA I5 QDJ7 HDMI
4319LWBOL04	SMT MB A9532 V5WE2 UMA I5 QDJ9 HDMI
4319LWBOL05	SMT MB A9532 V5WE2 UMA I5 QDJB LVDS HDMI
4319LWBOL06	SMT MB A9532 V5WE2 UMA WO/CPU HDMI
4319LWBOL07	SMT MB A9532 V5WE2 UMA I5 QEA4 HDMI
4319LWBOL08	SMT MB A9532 V5WE2 UMA I5-4200 HDMI
4319LWBOL09	SMT MB A9532 V5WE2 UMA I3-4010 HDMI
4319LWBOL10	SMT MB A9532 V5WE2 UMA I5-4250 HDMI
4319LWBOL21	SMT MB A9532 V5WC2 UMA I5-4200 HDMI
4319LWBOL22	SMT MB A9532 V5WC2 UMA I3-4010 HDMI

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

BOARD ID Table

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

BTO Option Table

BTO Item	BOM Structure
EC 9012	9012@
EC 940	940@
Unpop	@
TPM Circuit	TPM@
eDP mode	EDP@
eDP to LVDS	TL@
Connector	CONN@
G-Sensor	GSEN@
XDP (Debug Port)	XDP@
KB Backlight	BL@
Debug Only	DEG@
MEC requirement	EMC@
MEC requirement unpop	XEMC@
GPU_Select	VGA@
reserve 3,5V MOS	35V@
BIOS 8M Solution	1ROM@
BIOS 4+2M Solution	2ROM@
IOAC Function	IOAC@
Touch screen Function	TS@

USB Port Table

USB 3.0	Port	
XHCI	1	USB Port(Left 3.0)
	2	
	3	
	4	

USB 2.0	USB 1.1	Port	3 External USB Port
EHCI1	UHCI0	0	USB Port(Left 3.0)
		1	USB Port(Right 2.0)
	UHCI1	2	USB Port(Right 2.0)
		3	
	UHCI2	4	Mini Card(WLAN)
		5	
	UHCI3	6	Touch Screen
		7	Camera

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Title: Notes List			
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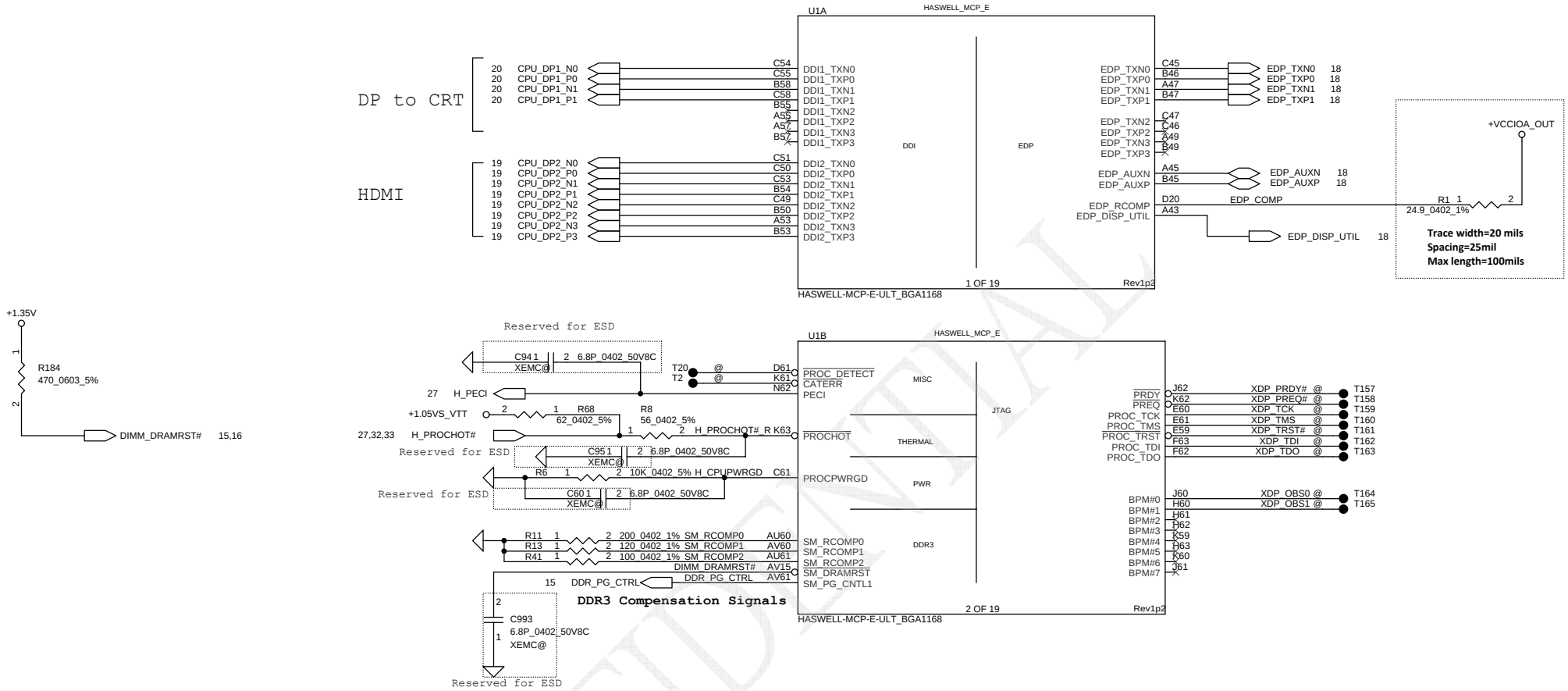

CPU_SR170 _C1 SR170@ SA00006SMB0

CPU_SR16Q _C1 SR16Q@ SA00006SX70

CPU_QDJB_B1 QDJB@ SA000067060

CPU_QDJ7_B1 QDJ7@ SA000067H50

CPU_QDJ6_B1 QDJ6@ SA00006FY20

CPU_QDJ9_B1 QDJ9@ SA00006G120

CPU_QEVE _C0 QEVE@ SA00006SM30

CPU_QEVG_C0 QEVG@ SA00006SX30

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Title	HSW MCP(1/11) DDI,MSIC,XDP		
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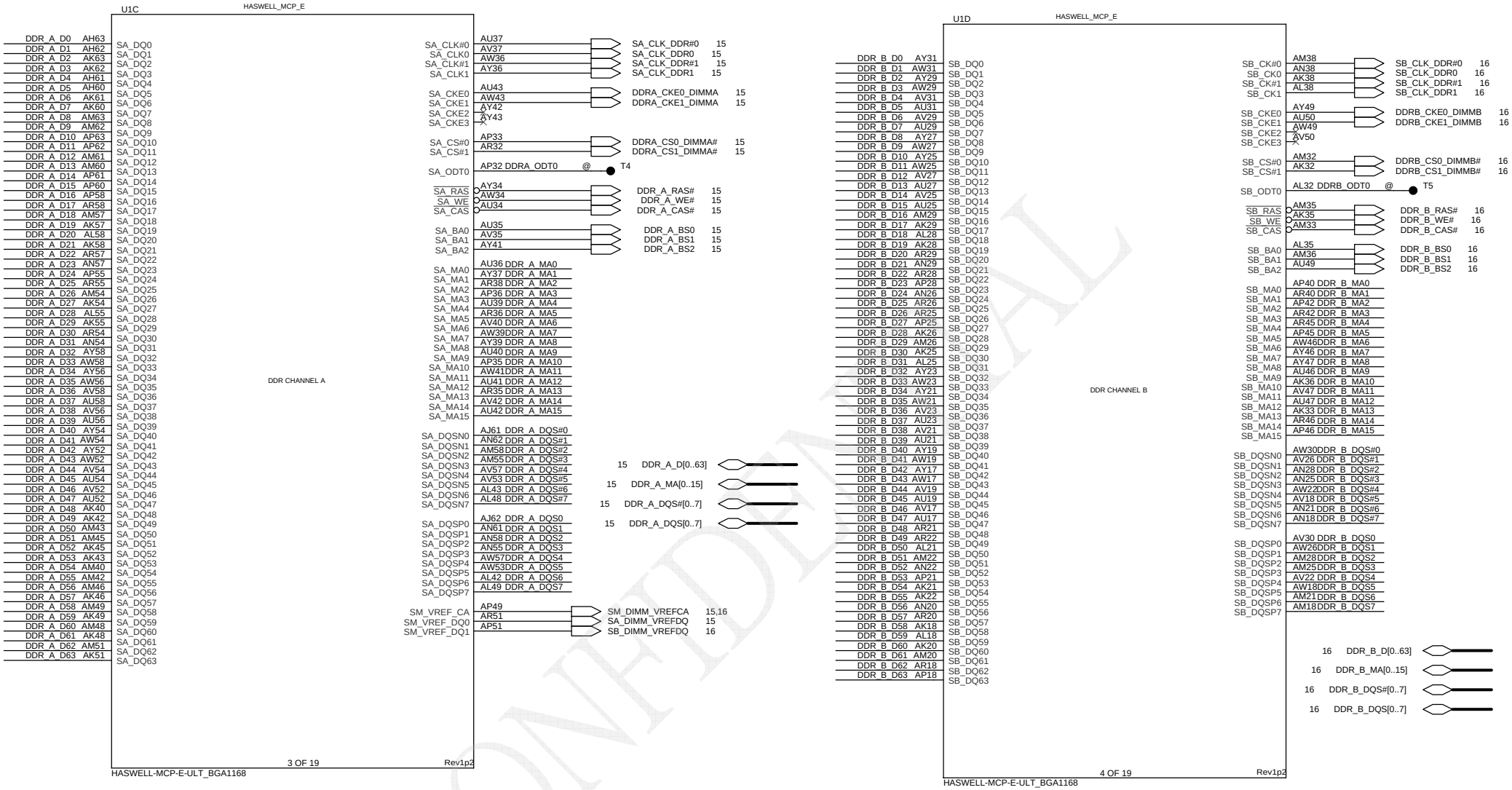

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Title: **HSW MCP(2/11) DDRIII**

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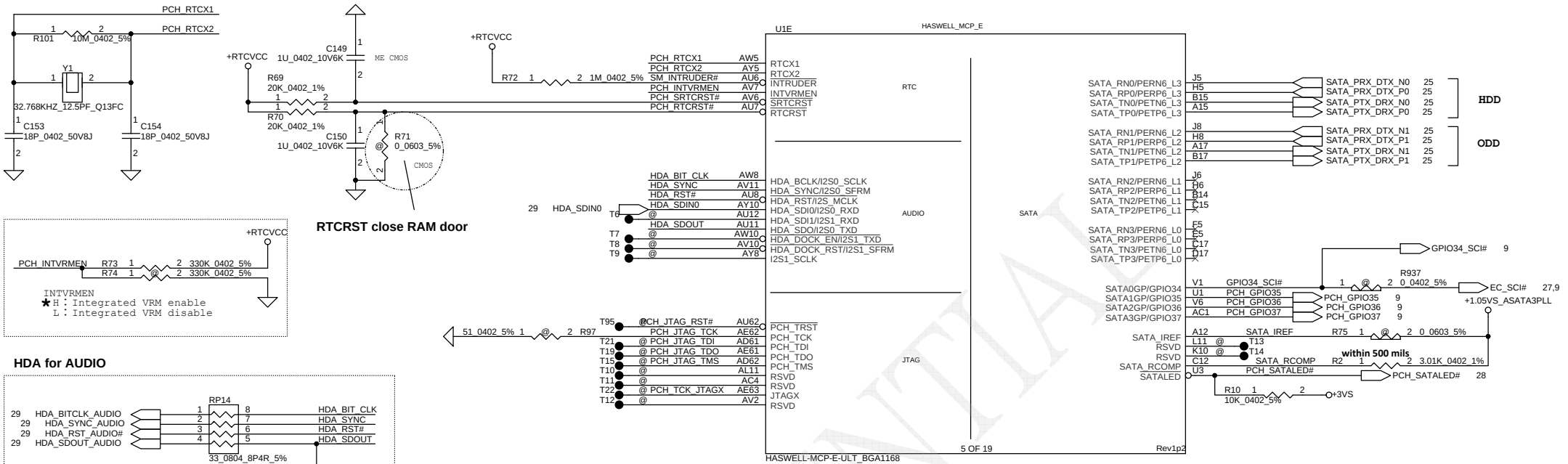

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Compal Electronics, Inc.			
Title	HSW MCP(3/11) RTC,SATA,XDP		
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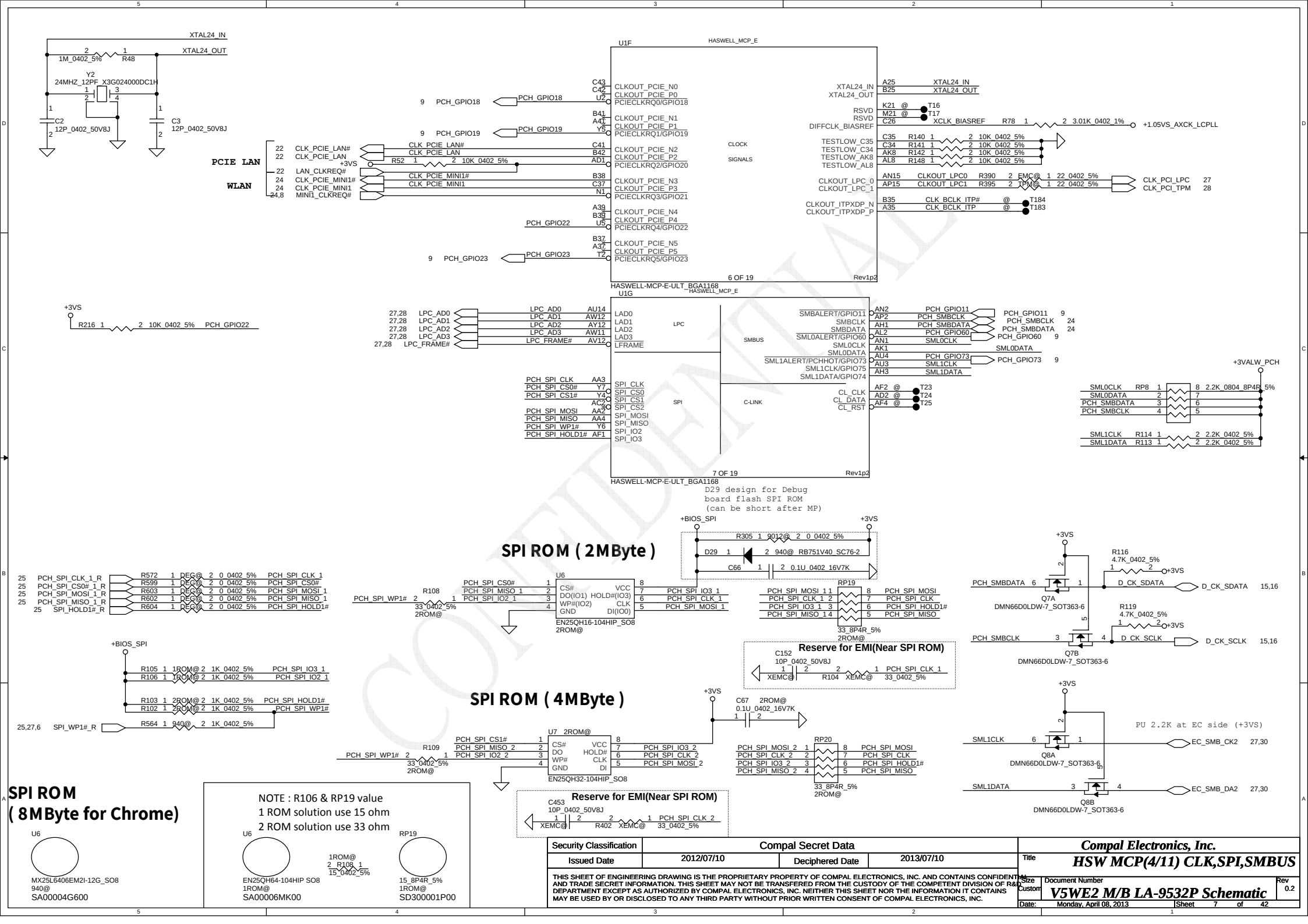
XTAL24_IN
XTAL24_OUT
1M_0402_5%
R48
Y2
24MHZ_12PF_X3G024000DC1H
C2
12P_0402_50V8J
C3
12P_0402_50V8J
PCIE LAN
WLAN
CLK_PCIE_LAN#
CLK_PCIE_LAN
LAN_CLKREQ#
CLK_PCIE_MINI1#
CLK_PCIE_MINI1
MINI1_CLKREQ#
+3VS
R52 10K_0402_5%
U1F
HASWELL_MCP_E
CLKOUT_PCIE_N0
CLKOUT_PCIE_P0
PCIECLKRQ0/GPIO18
CLKOUT_PCIE_N1
CLKOUT_PCIE_P1
PCIECLKRQ1/GPIO19
CLKOUT_PCIE_N2
CLKOUT_PCIE_P2
PCIECLKRQ2/GPIO20
CLKOUT_PCIE_N3
CLKOUT_PCIE_P3
PCIECLKRQ3/GPIO21
CLKOUT_PCIE_N4
CLKOUT_PCIE_P4
PCIECLKRQ4/GPIO22
CLKOUT_PCIE_N5
CLKOUT_PCIE_P5
PCIECLKRQ5/GPIO23
PCH_GPIO18
PCH_GPIO19
PCH_GPIO22
PCH_GPIO23
CLOCK SIGNALS
XTAL24_IN
XTAL24_OUT
RSVD
RSVD
DIFFCLK_BIASREF
XCLK_BIASREF
R78 3.01K_0402_1%
+1.05VS_AXCK_LCPLL
TESTLOW_C35
TESTLOW_C34
TESTLOW_AK8
TESTLOW_AL8
CLKOUT_LPC_0
CLKOUT_LPC_1
CLKOUT_LPC0
CLKOUT_LPC1
R390 EMC@ 22_0402_5%
R395 EMC@ 22_0402_5%
CLK_PCI_LPC
CLK_PCI_TPM
CLKOUT_ITPXDP_N
CLKOUT_ITPXDP_P
CLK_BCLK_ITP#
CLK_BCLK_ITP
T184
T183
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Rev1p2
HASWELL-MCP-E-ULT_BGA1168
U1G
HASWELL_MCP_E
LAD0
LAD1
LAD2
LAD3
LFRAME
LPC_AD0
LPC_AD1
LPC_AD2
LPC_AD3
LPC_FRAME#
LPC
SMBUS
SMBALERT/GPIO11
SMBCLK
SMBDATA
SML0ALERT/GPIO60
SML0CLK
SML0DATA
SML1ALERT/PCHHOT/GPIO73
SML1CLK/GPIO75
SML1DATA/GPIO74
PCH_GPIO11
PCH_SMBCLK
PCH_SMBDATA
PCH_GPIO60
PCH_GPIO73
SML0CLK
SML0DATA
SML1CLK
SML1DATA
SPI_CLK
SPI_CS0
SPI_CS1
SPI_CS2
SPI_MOSI
SPI_MISO
SPI_IO2
SPI_IO3
SPI
C-LINK
CL_CLK
CL_DATA
CL_RST
7 OF 19
Rev1p2
HASWELL-MCP-E-ULT_BGA1168
+3VALW_PCH
SML0CLK RP8 2.2K_0804_8P4R_5%
SML0DATA
PCH_SMBDATA
PCH_SMBCLK
SML1CLK R114 2.2K_0402_5%
SML1DATA R113 2.2K_0402_5%
R216 10K_0402_5%
PCH_GPIO22
D29 design for Debug board flash SPI ROM (can be short after MP)
SPI ROM (2MByte)
+BIOS_SPI
R305 0_0402_5%
D29 RB751V40_SC76-2
C66 0.1U_0402_16V7K
R572 0_0402_5%
R599 0_0402_5%
R603 0_0402_5%
R602 0_0402_5%
R604 0_0402_5%
PCH_SPI_CLK_1_R
PCH_SPI_CS0#_1_R
PCH_SPI_MOSI_1_R
PCH_SPI_MISO_1_R
SPI_HOLD1#_R
PCH_SPI_CLK_1
PCH_SPI_CS0#
PCH_SPI_MOSI_1
PCH_SPI_MISO_1
PCH_SPI_HOLD1#
U6
EN25QH16-104HIP_SO8
2ROM@
R108 33_0402_5%
SPI_WP1#_R
R564 940@
R105 1K_0402_5%
R106 1K_0402_5%
R103 1K_0402_5%
R102 1K_0402_5%
PCH_SPI_IO3_1
PCH_SPI_IO2_1
PCH_SPI_HOLD1#
PCH_SPI_WP1#
RP19 33_8P4R_5%
Reserve for EMI(Near SPI ROM)
C152 10P_0402_50V8J
R104 33_0402_5%
SPI ROM (4MByte)
C67 0.1U_0402_16V7K
U7 2ROM@
EN25QH32-104HIP_SO8
R109 33_0402_5%
RP20 33_8P4R_5%
C453 10P_0402_50V8J
R402 33_0402_5%
Q7A DMN66D0LDW-7_SOT363-6
Q7B DMN66D0LDW-7_SOT363-6
Q8A DMN66D0LDW-7_SOT363-6
Q8B DMN66D0LDW-7_SOT363-6
R116 4.7K_0402_5%
R119 4.7K_0402_5%
D_CK_SDATA
D_CK_SCLK
PU 2.2K at EC side (+3VS)
EC_SMB_CK2
EC_SMB_DA2
SPI ROM (8MByte for Chrome)
MX25L6406EM2I-12G_SO8 940@ SA00004G600
NOTE : R106 & RP19 value
1 ROM solution use 15 ohm
2 ROM solution use 33 ohm
EN25QH64-104HIP SO8 1ROM@ SA00006MK00
1ROM@ R106 15_0402_5%
15_8P4R_5% 1ROM@ SD300001P00
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HSW MCP(4/11) CLK,SPI,SMBUS
Size
Custom
Document Number
V5WE2 M/B LA-9532P Schematic
Rev
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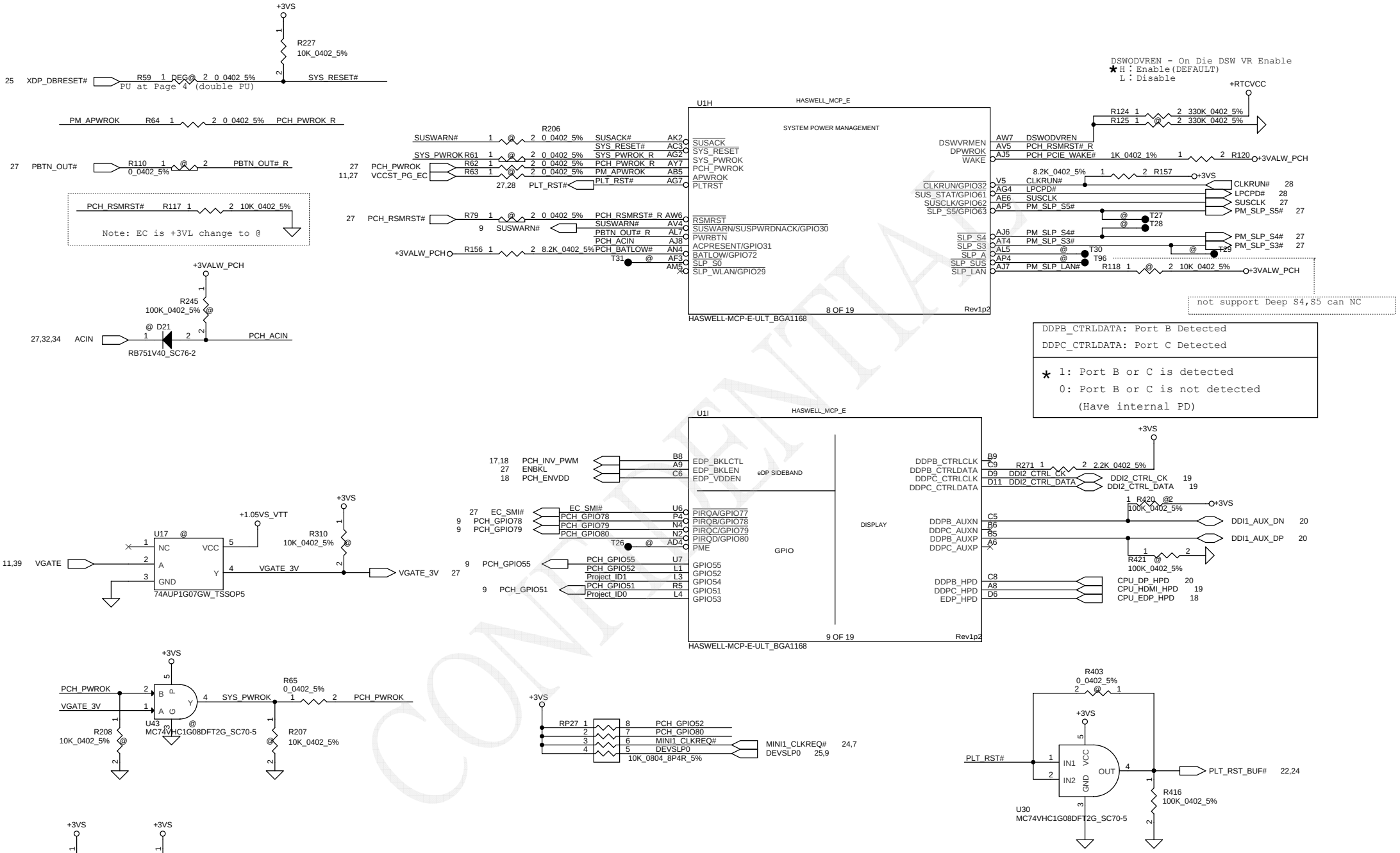

Project ID	Project_ID1 GPIO54	Project_ID0 GPIO53
*V5WE2/T2	0	0
Reserved	0	1
Reserved	1	0
Reserved	1	1

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Title	HSW MCP(5/11) PM,GPIO,DDI
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic
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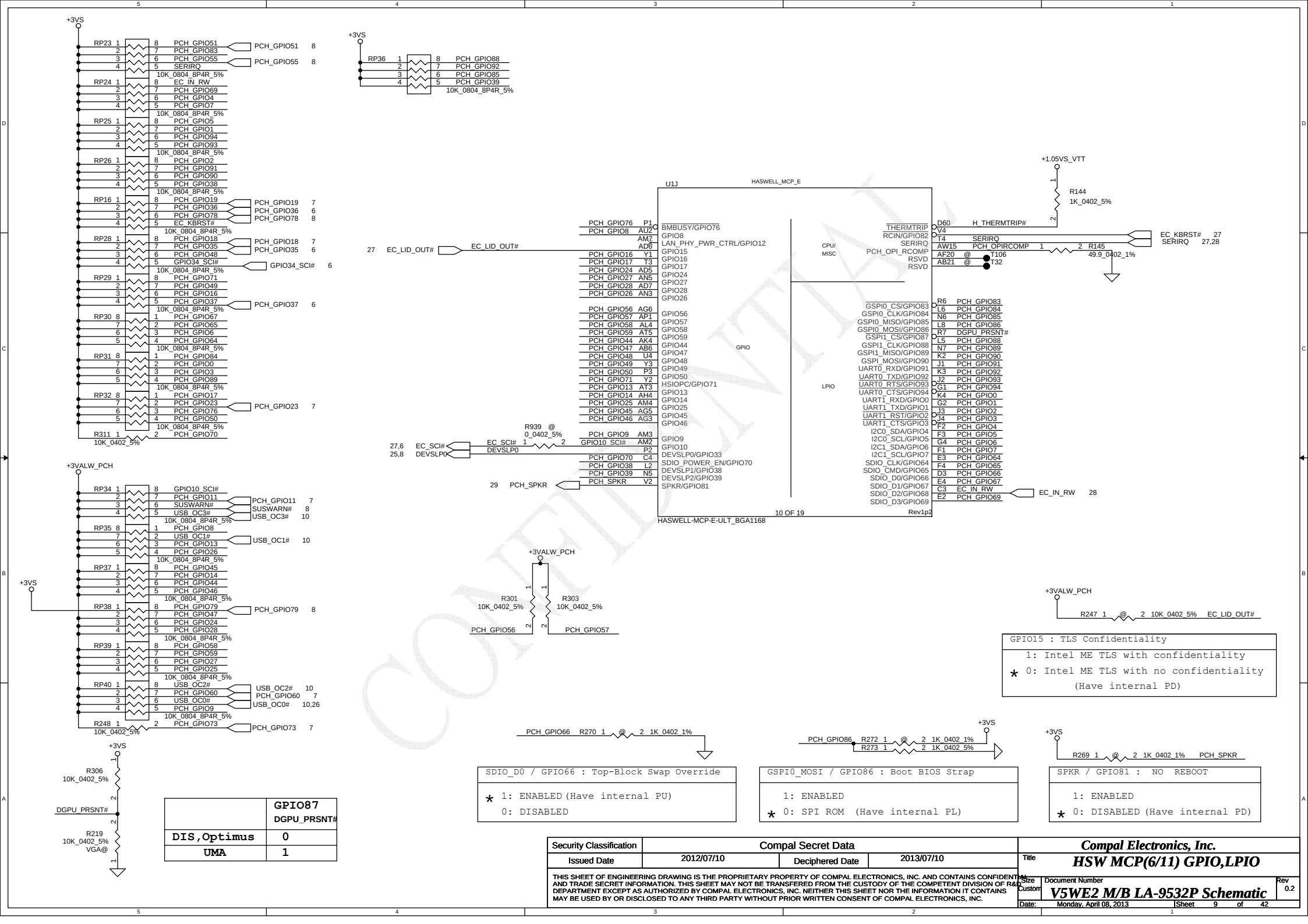

	GPIO87 DGPU_PRSNT#
DIS,Optimus	0
UMA	1

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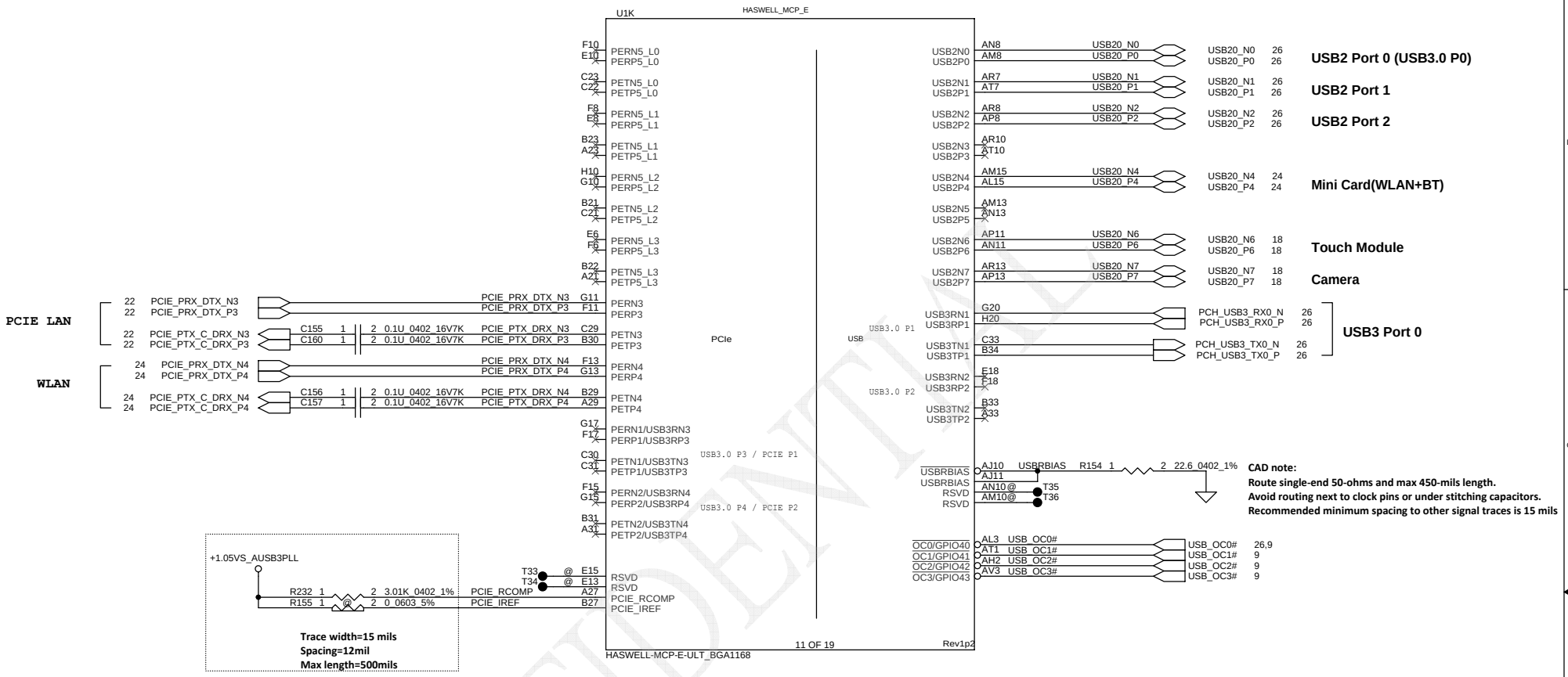

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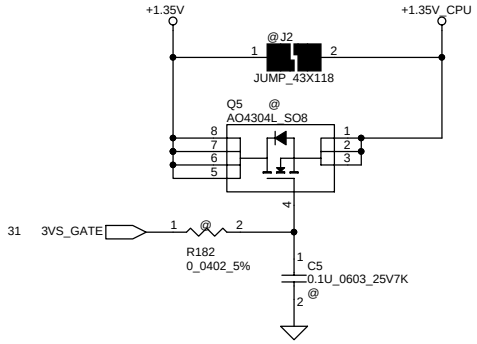
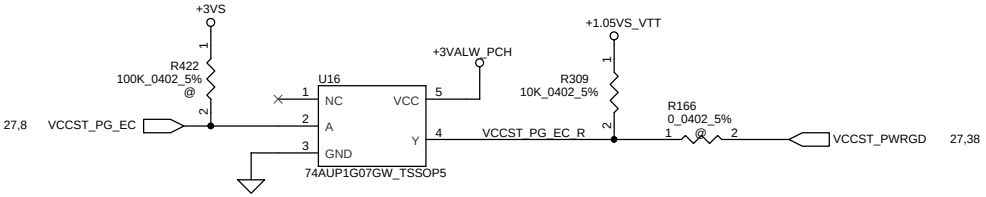
Shark Bay ULT have internal gate for VDDQ





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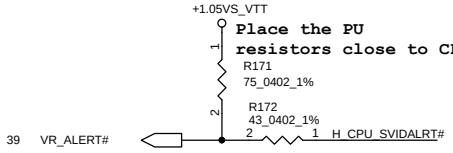

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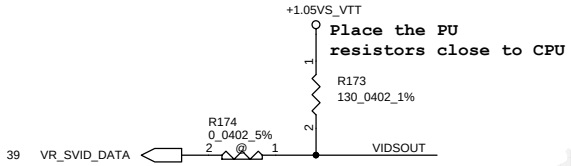

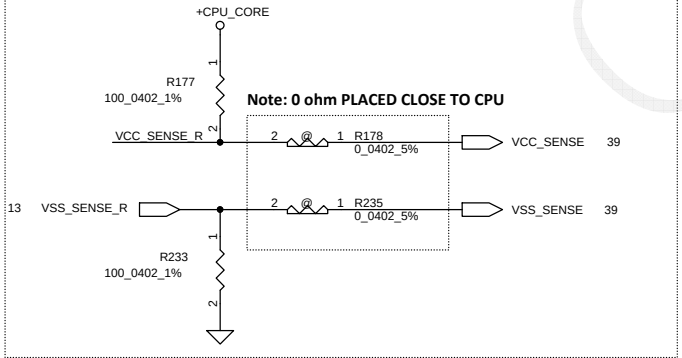

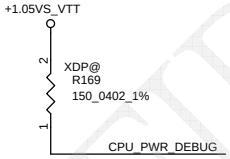

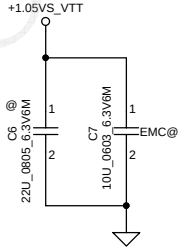

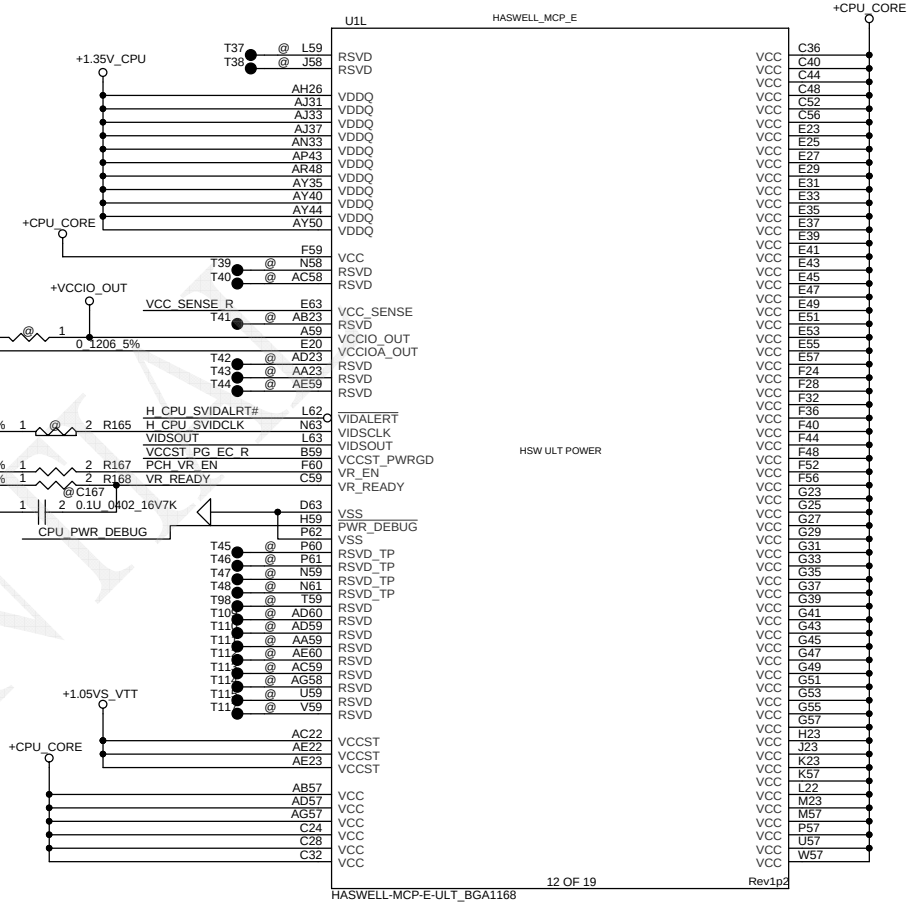

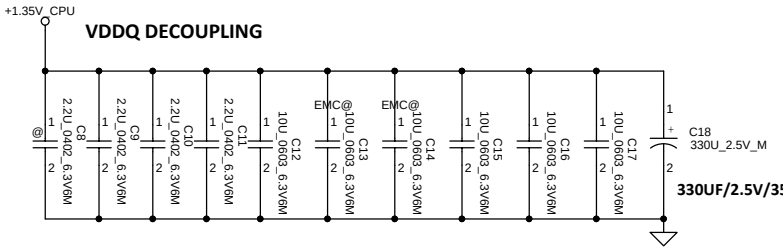

+1.35V : 470UF/2V/7343 *2
10UF/6.3V/0603 * 6
2.2UF/6.3V/0402 * 4

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Compal Electronics, Inc.	
Title	HSW MCP(8/11) Power
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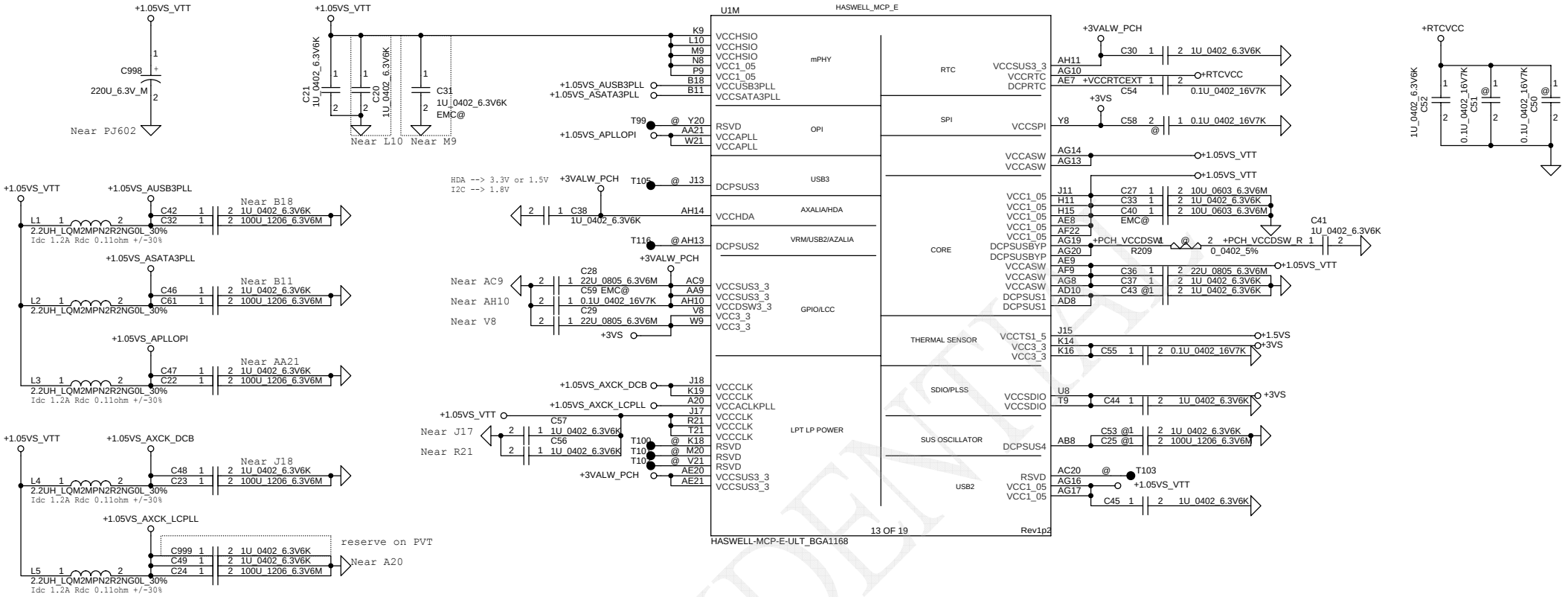

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Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.	
Title	HSW MCP(9/11) Power
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic
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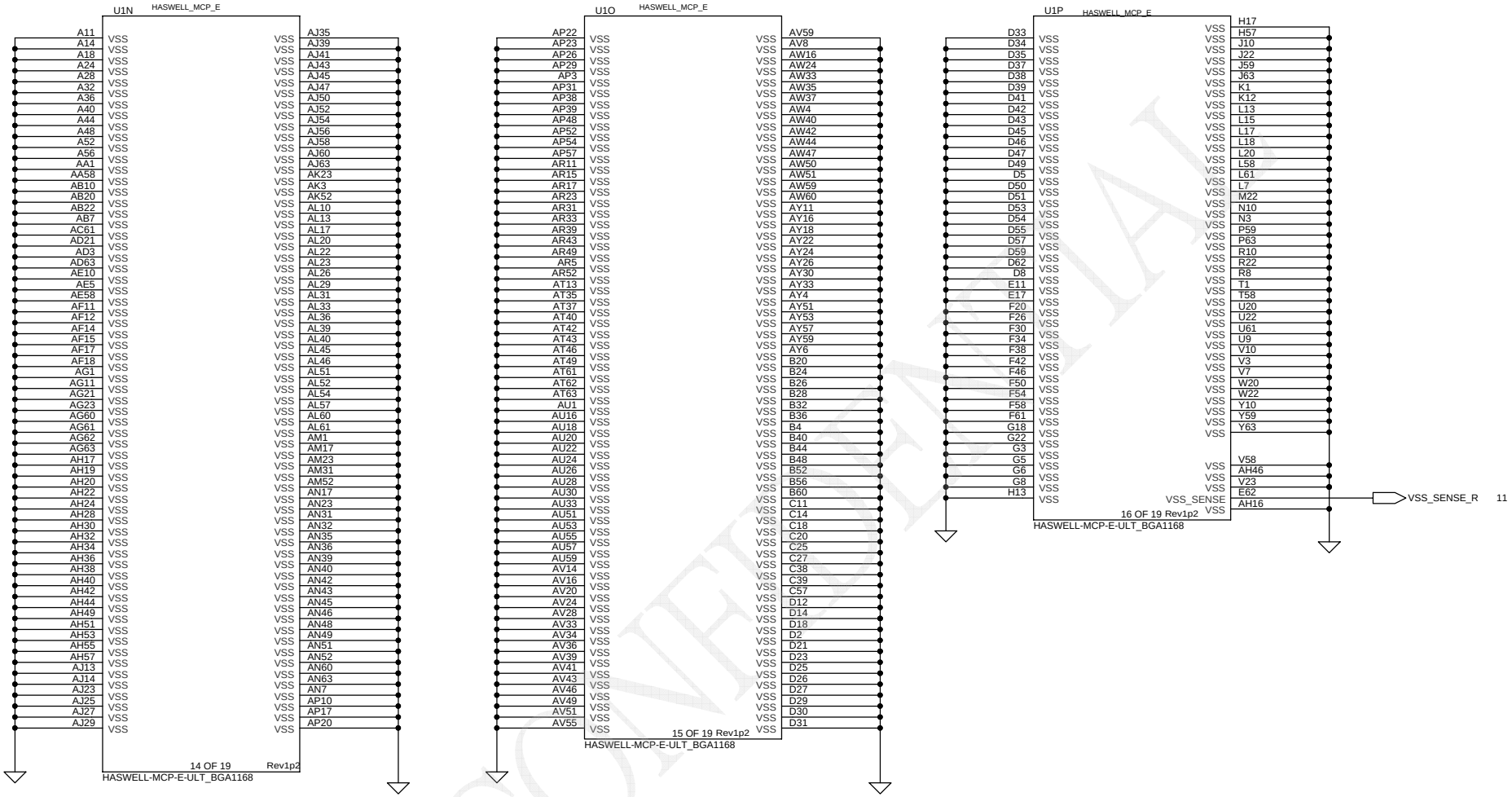

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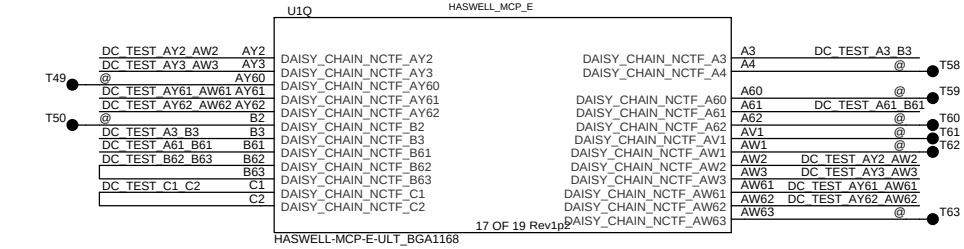
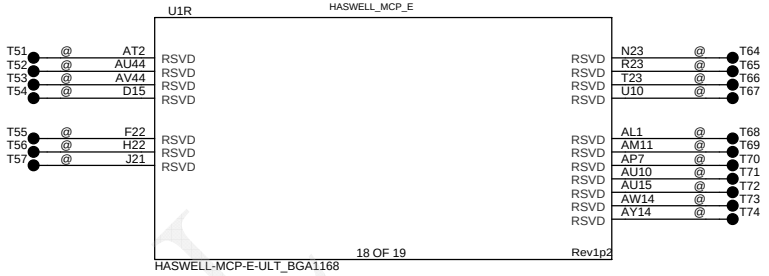
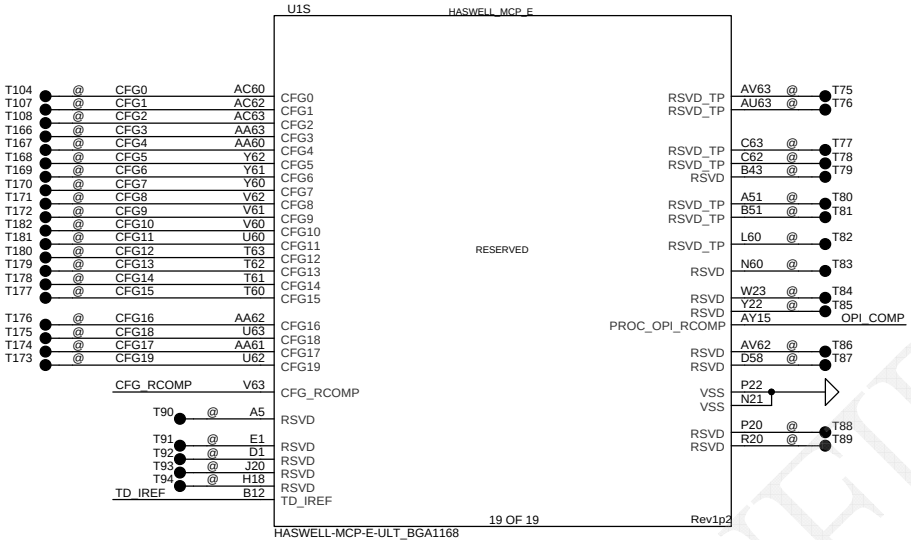
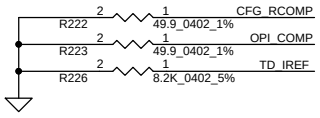
Compal Electronics, Inc.		
Title: HSW MCP(10/11) GND		
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic	Rev: 0.2
Date: Monday, April 08, 2013	Sheet 13 of 42	

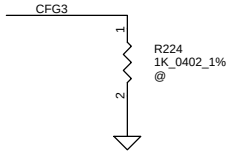




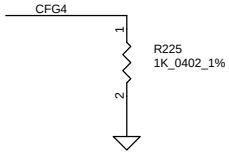




CFG Straps for Processor



Physical Debug Enable (DFX Privacy)	
CFG3	1: DISABLED 0: ENABLED; SET DFX ENABLED BIT IN DEBUG INTERFACE MSR



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		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.			
Title	HSW MCP(11/11) RSVD		
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic		Rev: 0.2
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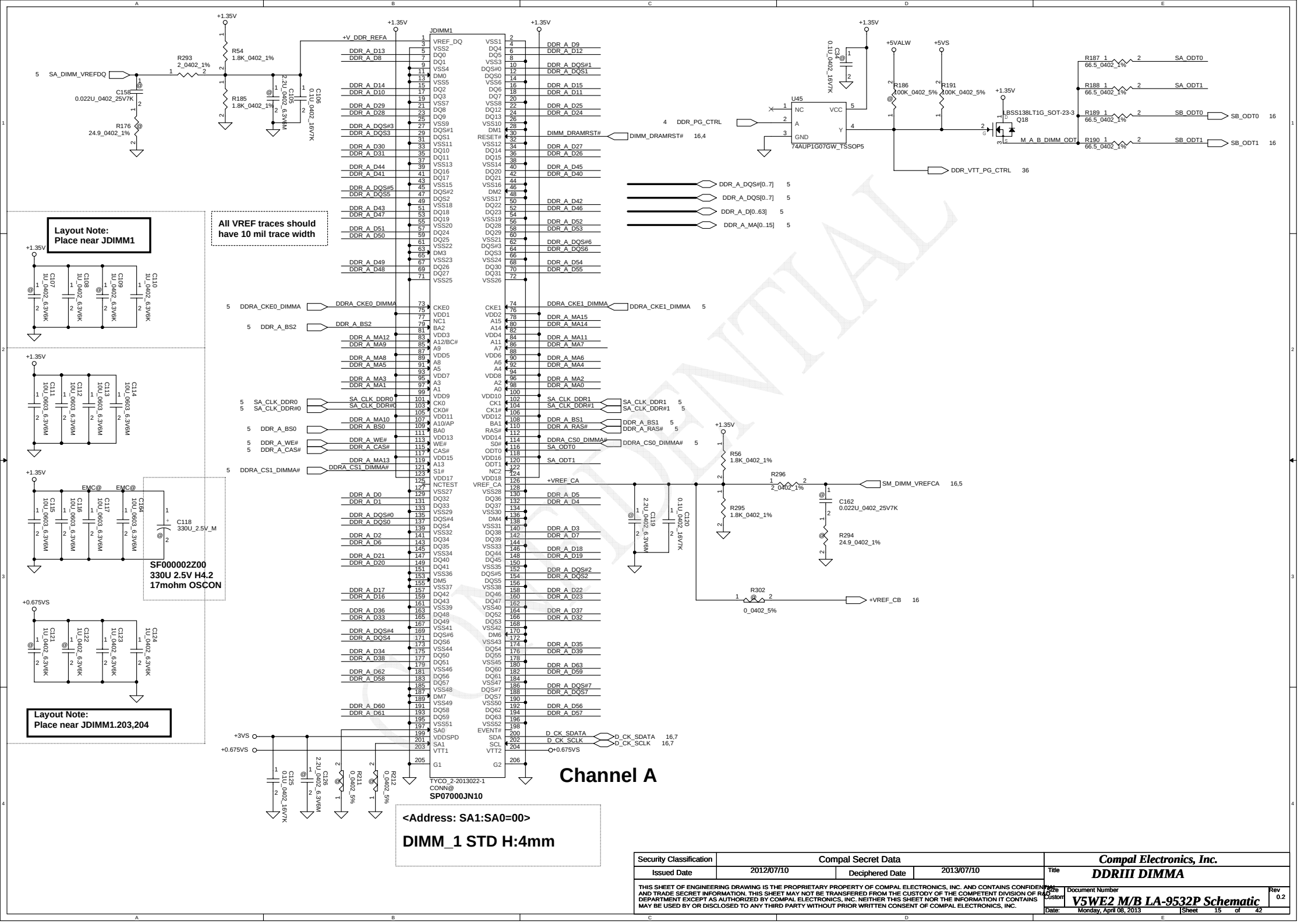
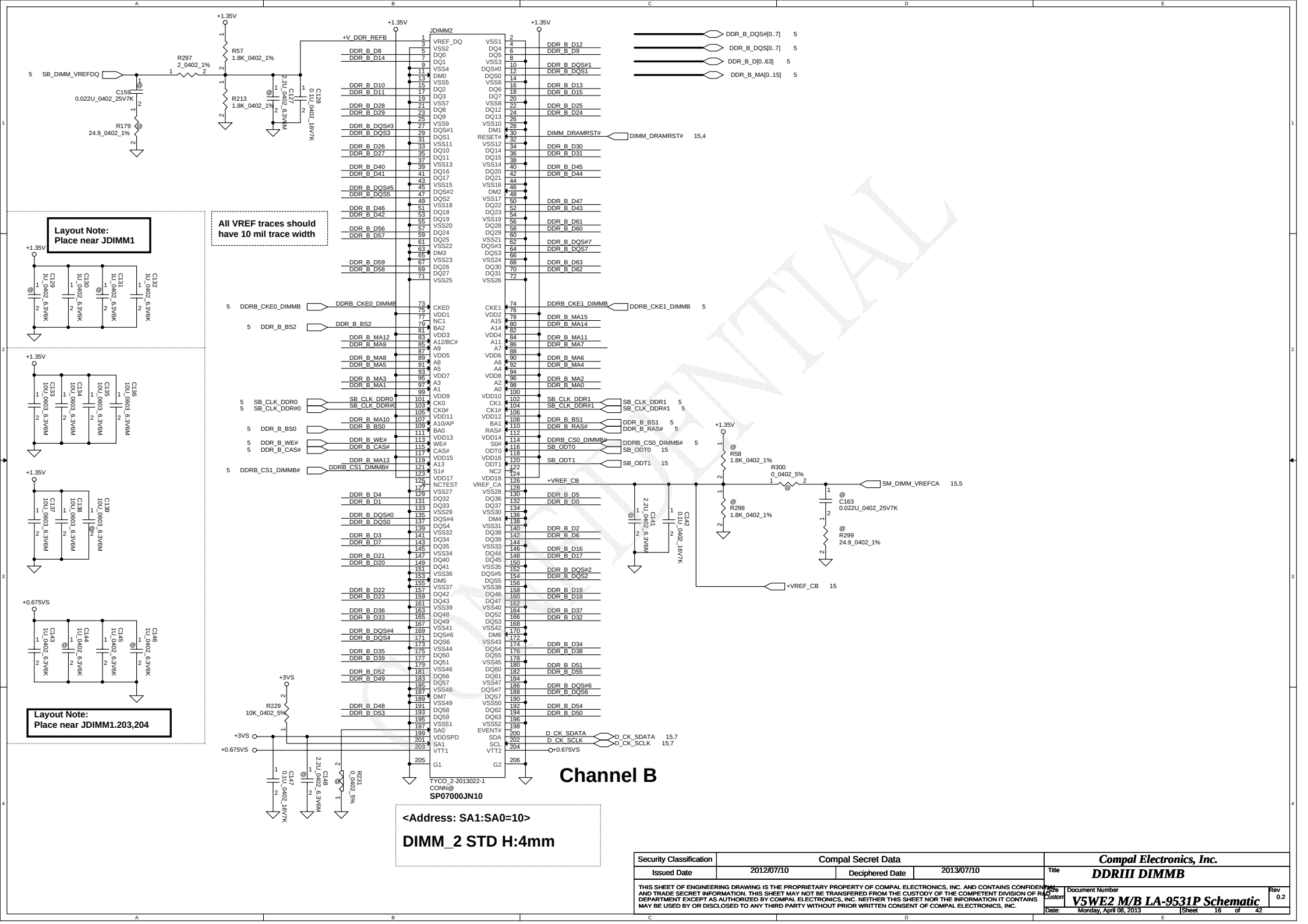


Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.			
Title: DDRIII DIMMA			
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic		Rev: 0.2
Date: Monday, April 08, 2013		Sheet 15 of 42	



Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.			
Title: DDRIII DIMMB			
Size: Custom	Document Number: V5WE2 M/B LA-9531P Schematic		Rev: 0.2
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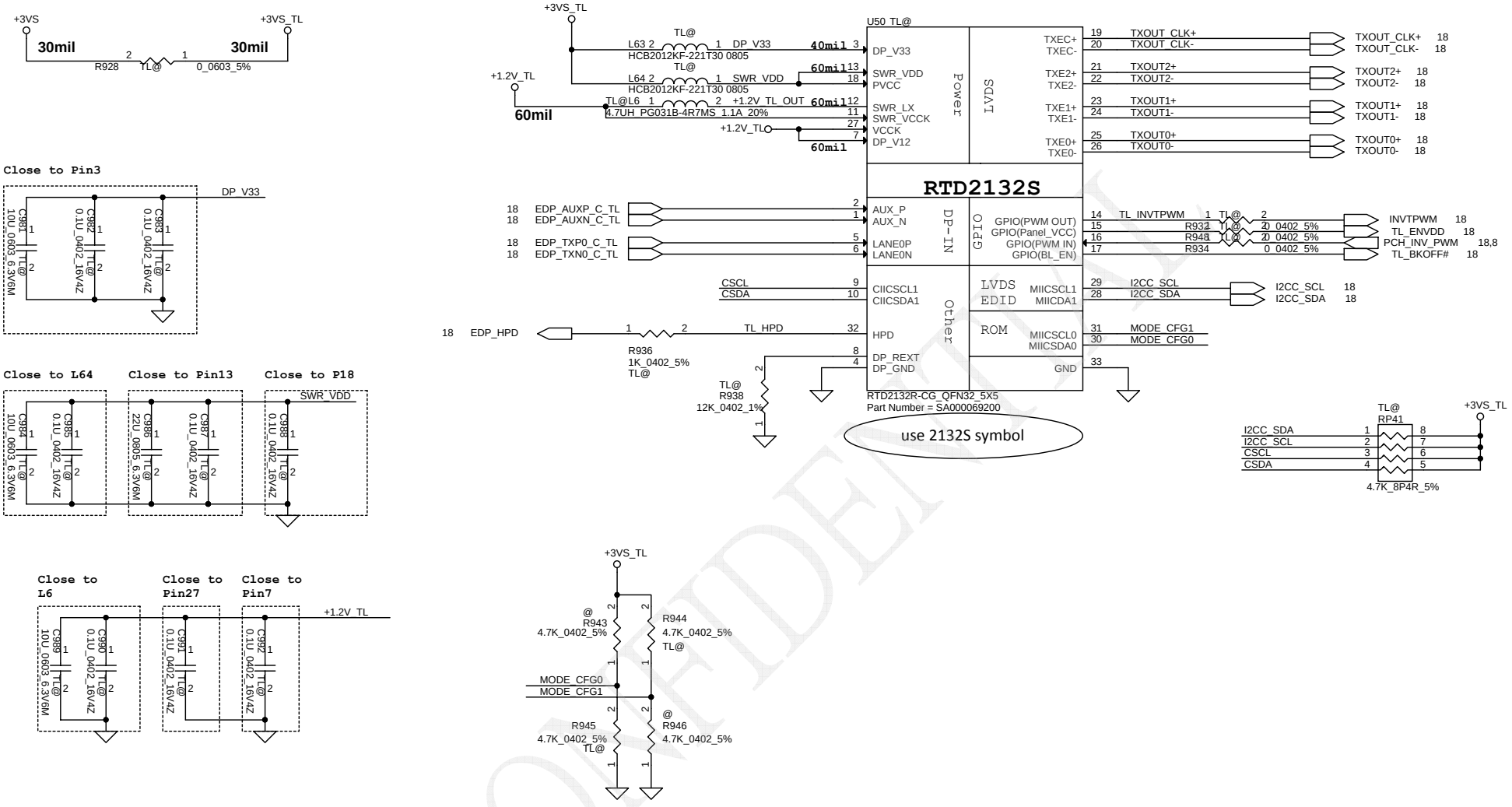

		MODE_CFG0(PIN30)	
		0	1
MODE_CFG1(PIN31)	0	X	EP MODE
	1	ROM ONLY MODE	EEPROM MODE

Security Classification	Compal Secret Data		
Issued Date	2011/07/08	Deciphered Date	2015/07/08

Title	LVDS Translator - RTD2132R		
Size B	Document Number V5WE2 M/B LA-9532P Schematic		Rev 0.2
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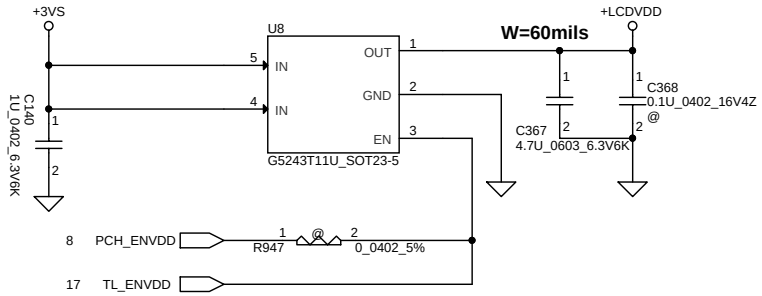
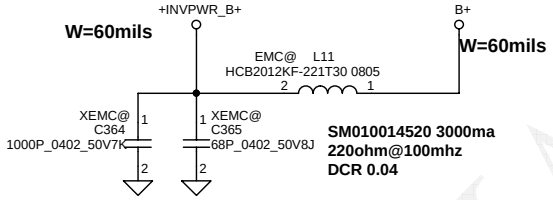
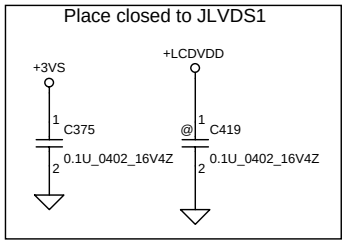
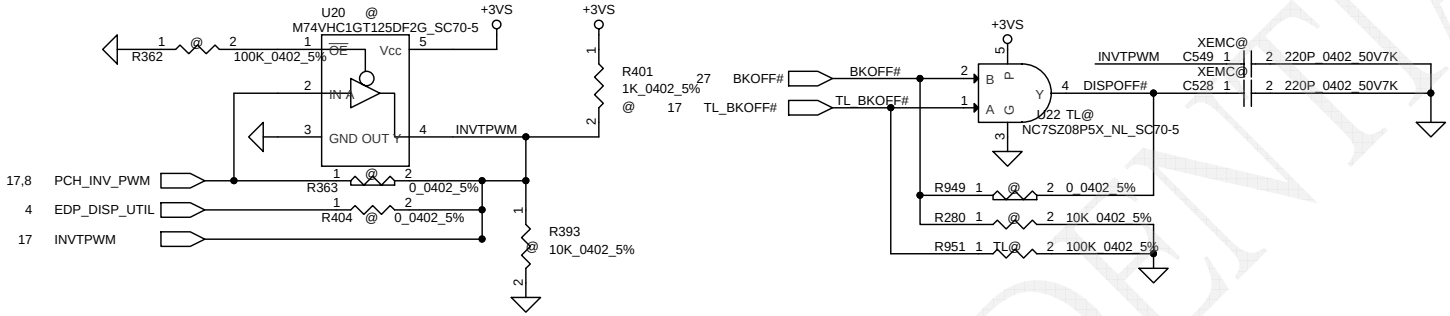
LCD POWER CIRCUIT

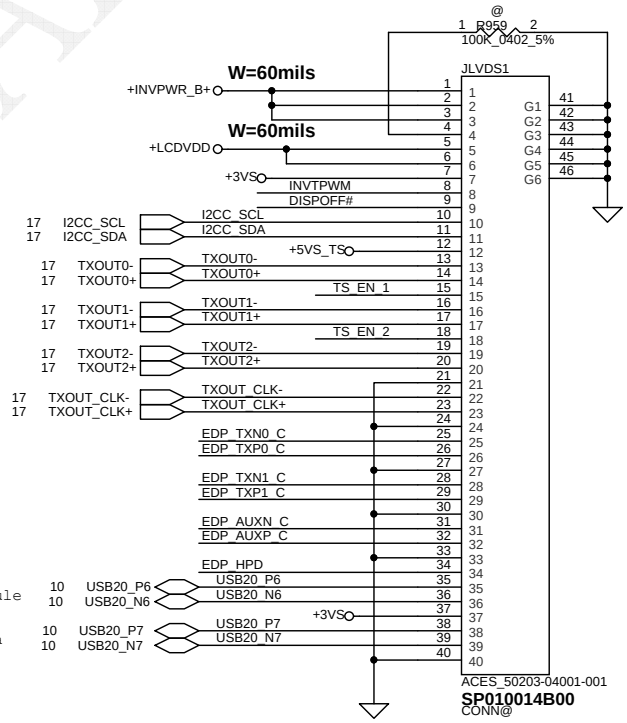




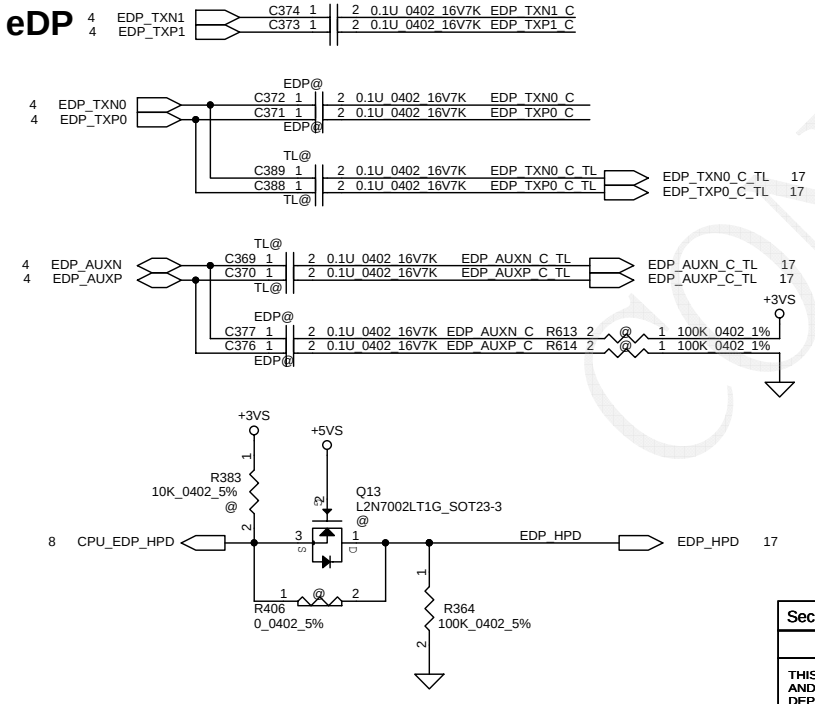


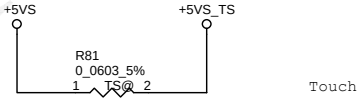


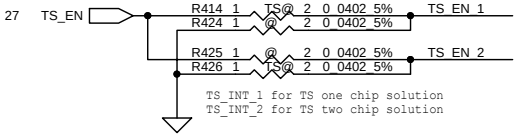
LCD/ LED PANEL Conn.



eDP







Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: eDP Connector

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

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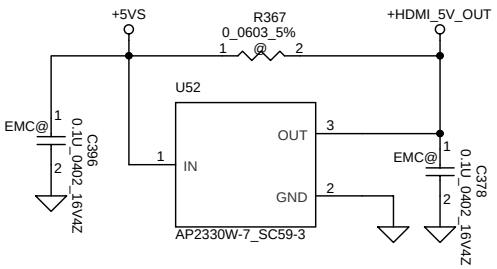
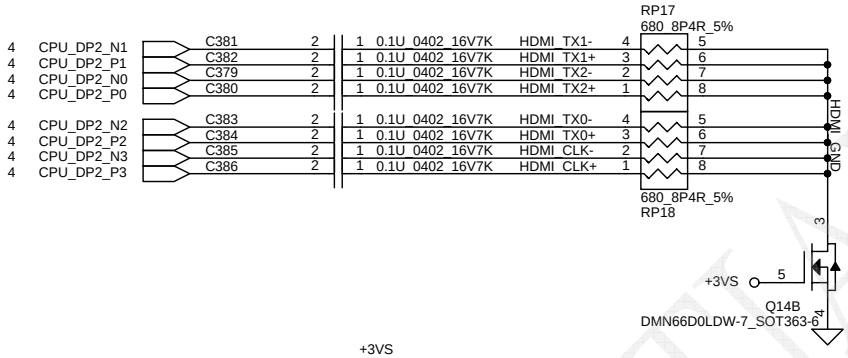
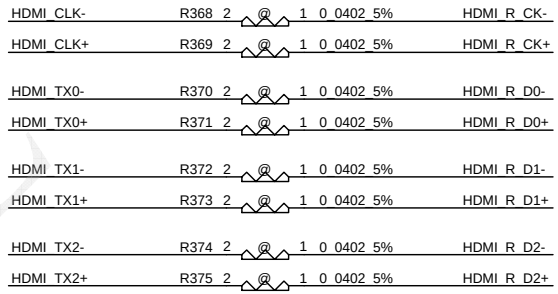
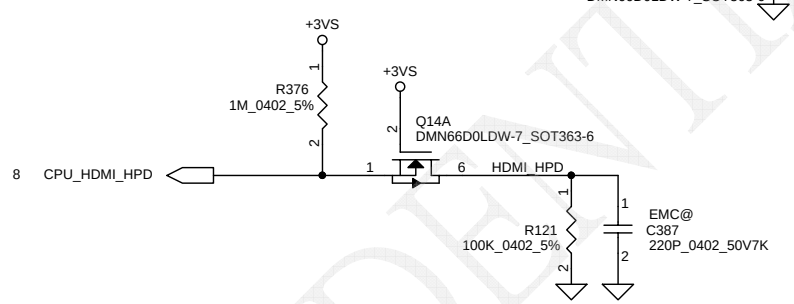
W=40mils

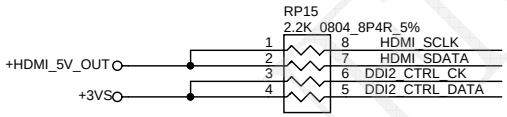


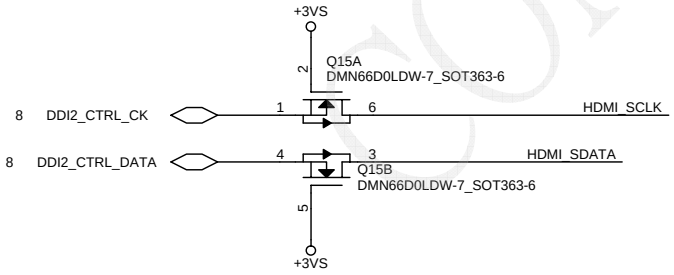


SM070001310 400ma 90ohm@100mhz DCR 0.3

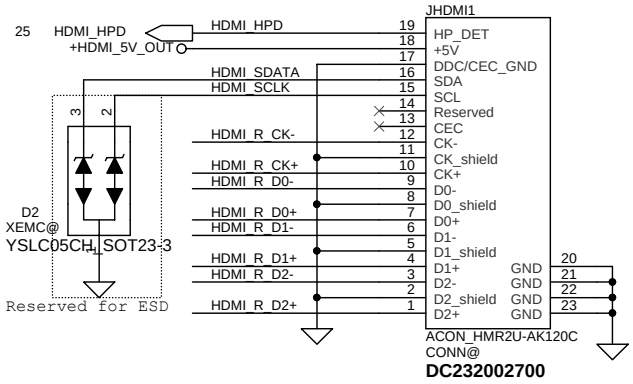








HDMI connector



Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: HDMI Conn

Size	Document Number	Rev
Custom	V5WE2 M/B LA-9532P Schematic	0.2

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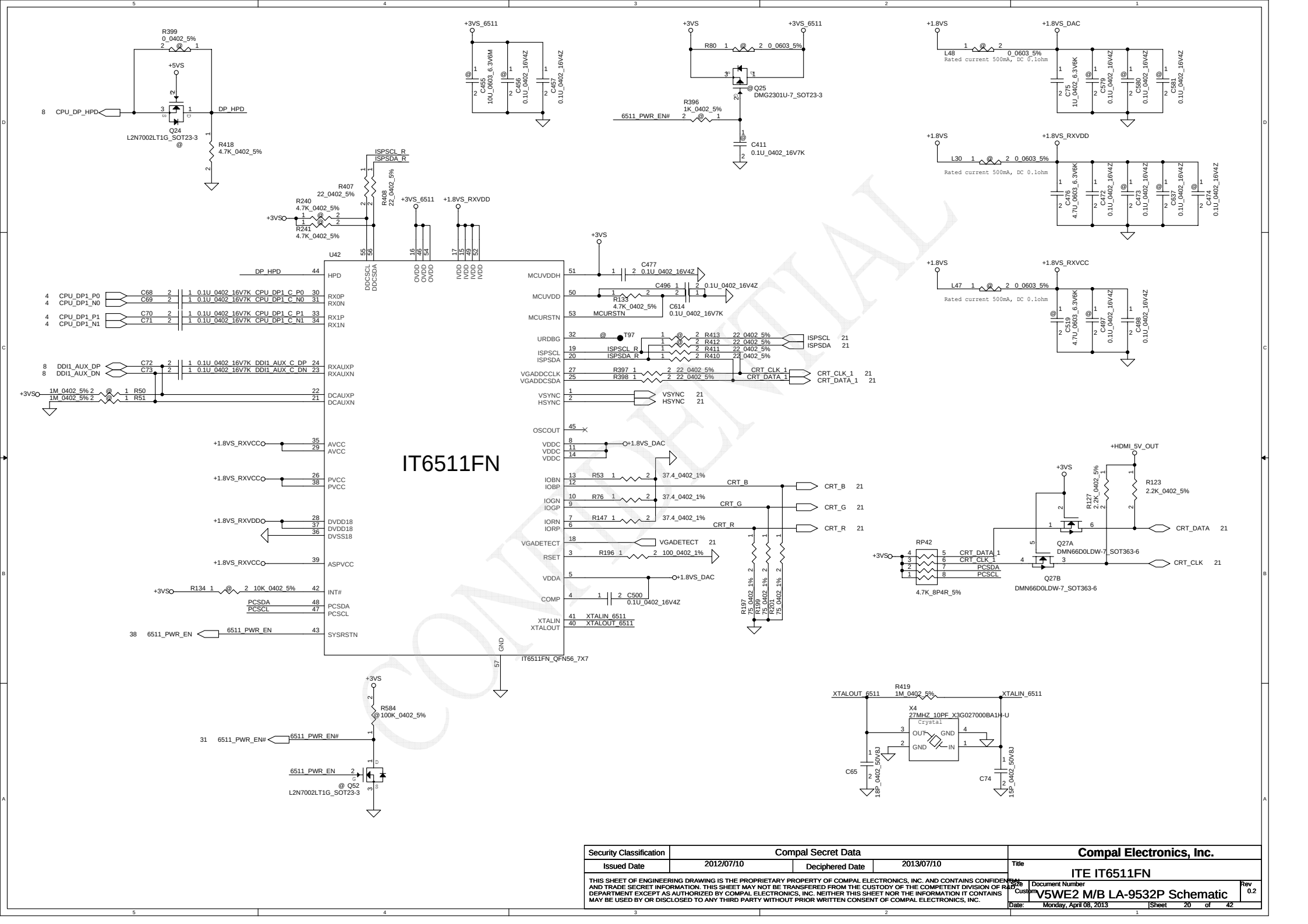

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: ITE IT6511FN

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

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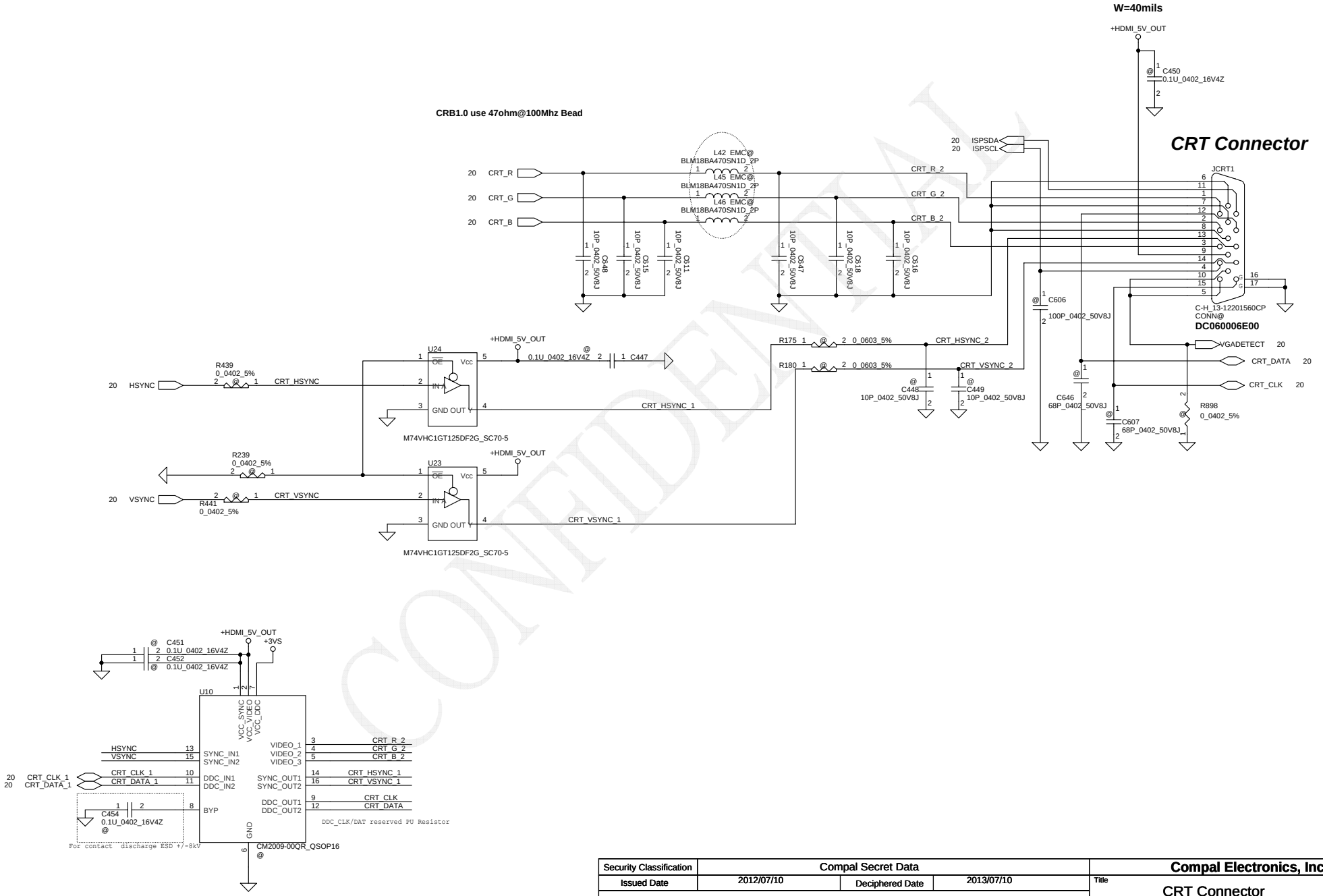

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: CRT Connector

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

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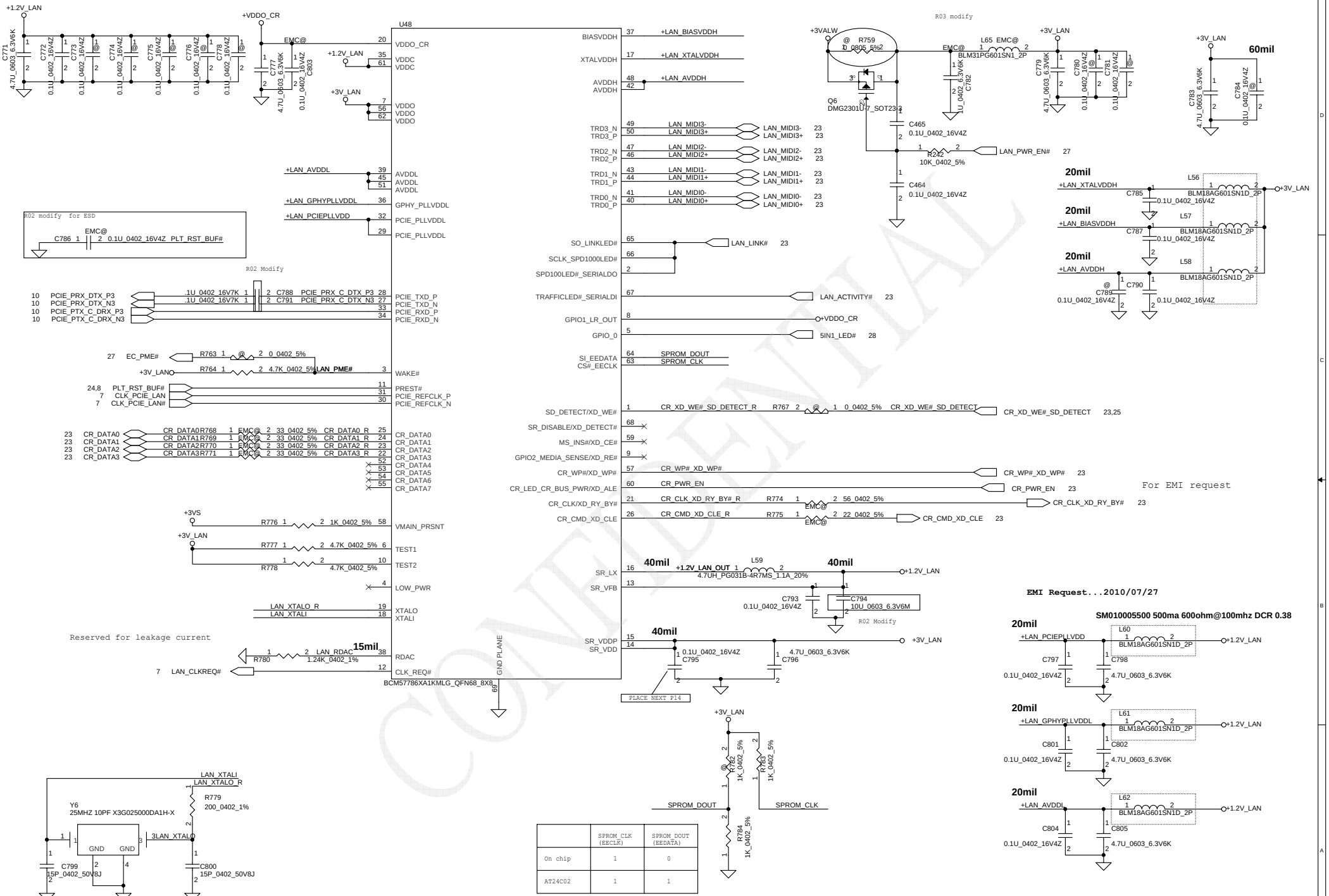

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: Broadcom BCM57785

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

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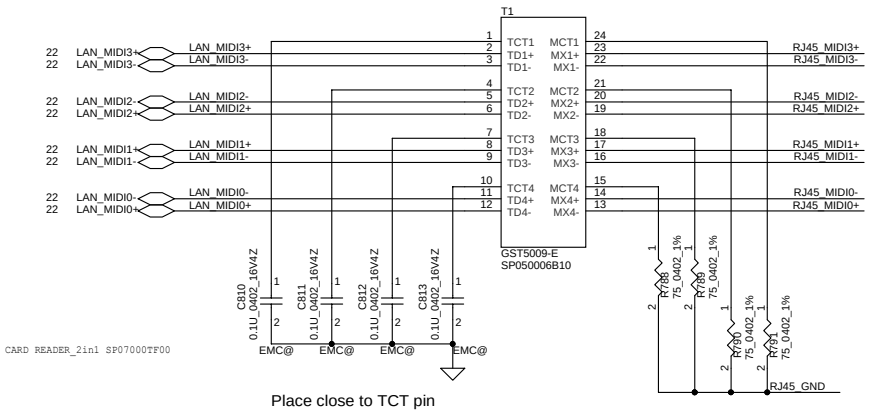
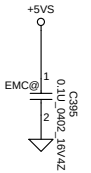
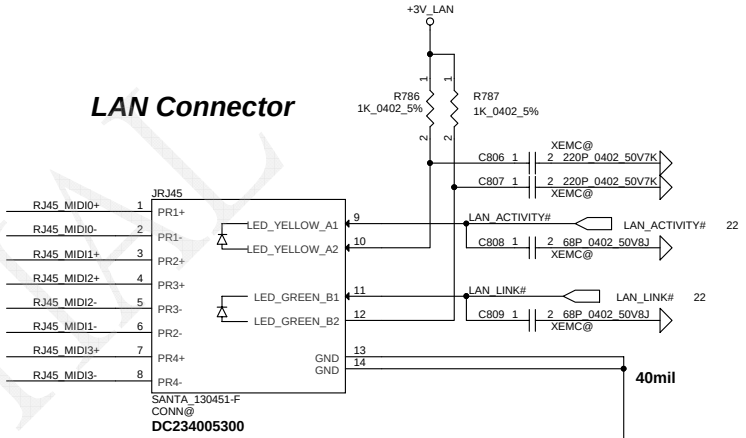


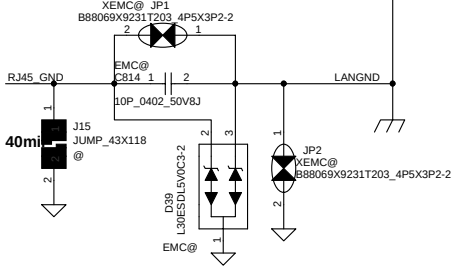
Place close to TCT pin



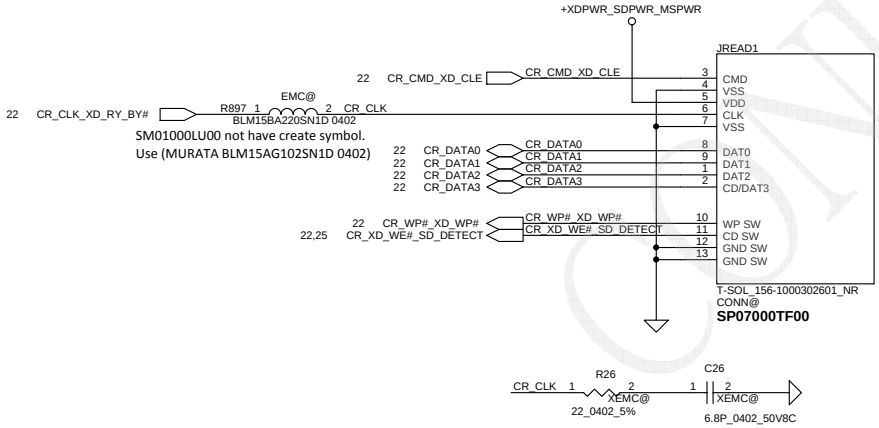
BOTHHAND: S X'FORM_ GST5009-E LF LAN, SP050006B10
TIMAG:S X'FORM_ IH-160 LAN , SP050006F00

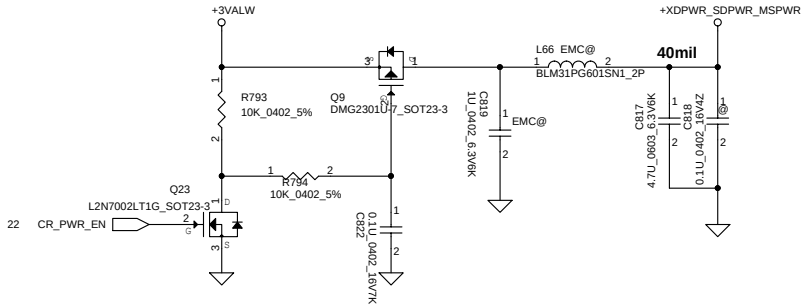
LAN Connector





Card Reader Connector





Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.	
Title	LAN Magnetic & RJ45
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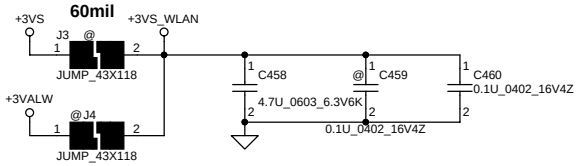
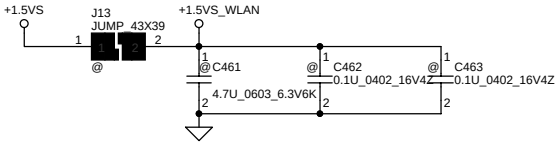
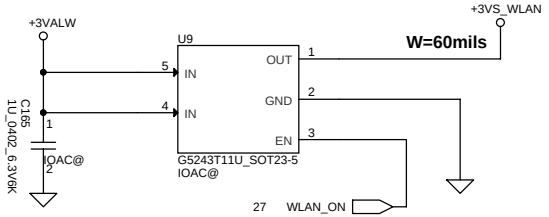
For Wireless LAN

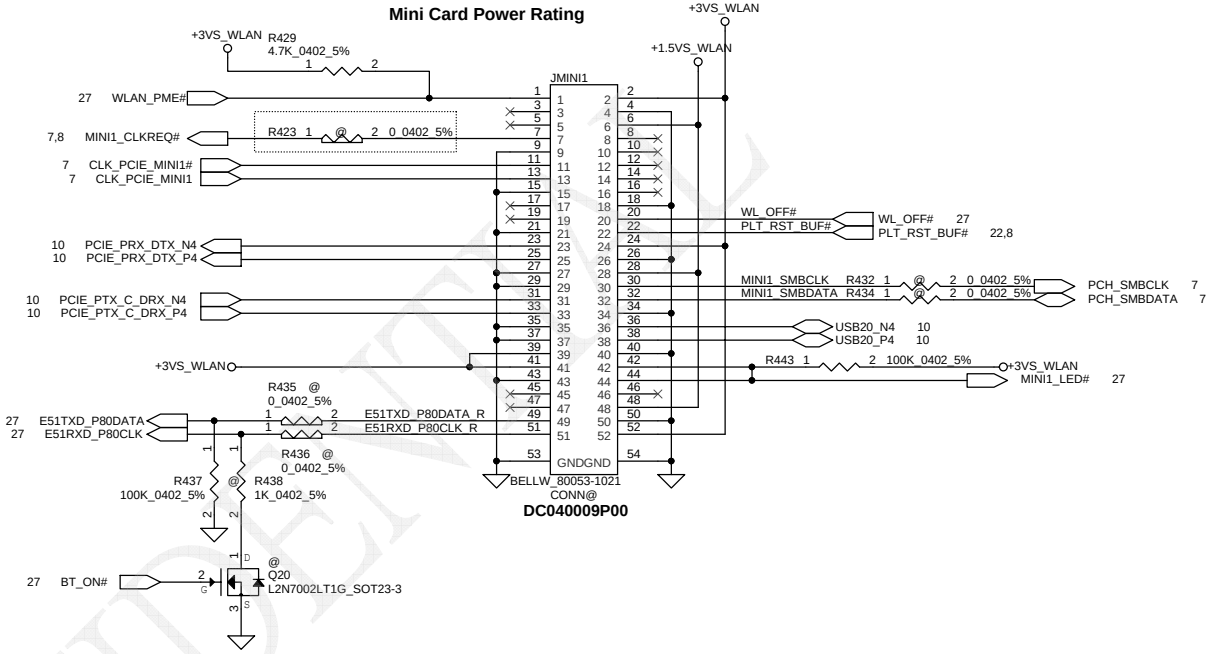




Mini Card Power Rating



For DVT2 verify IOAC function



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2012/07/10	Deciphered Date 2013/07/10	Title: MINI CARD (WLAN)
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic		Rev: 0.2
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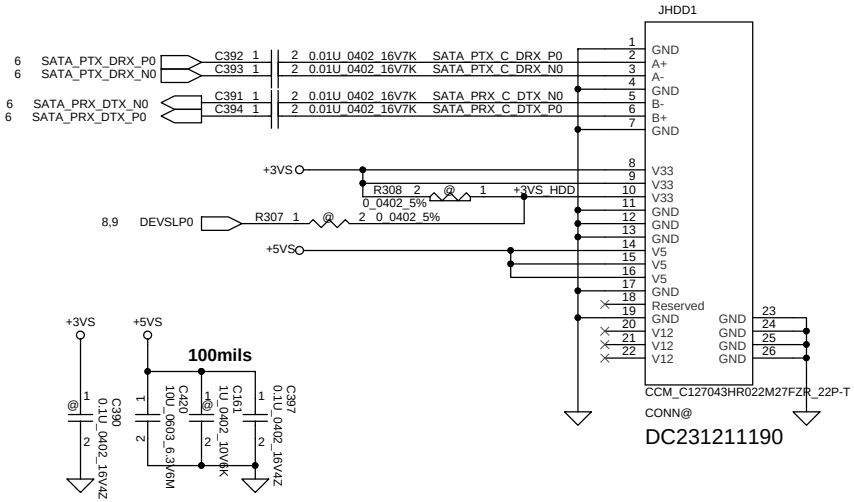
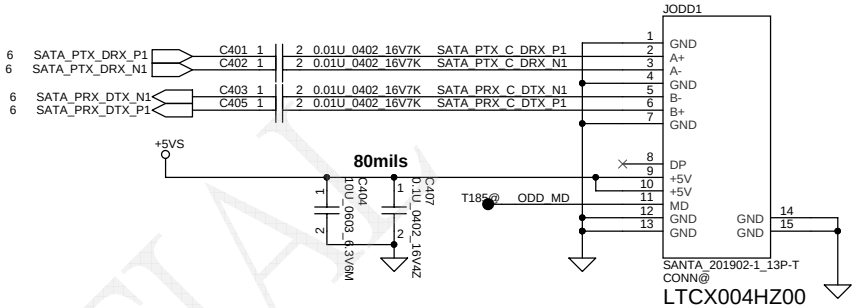
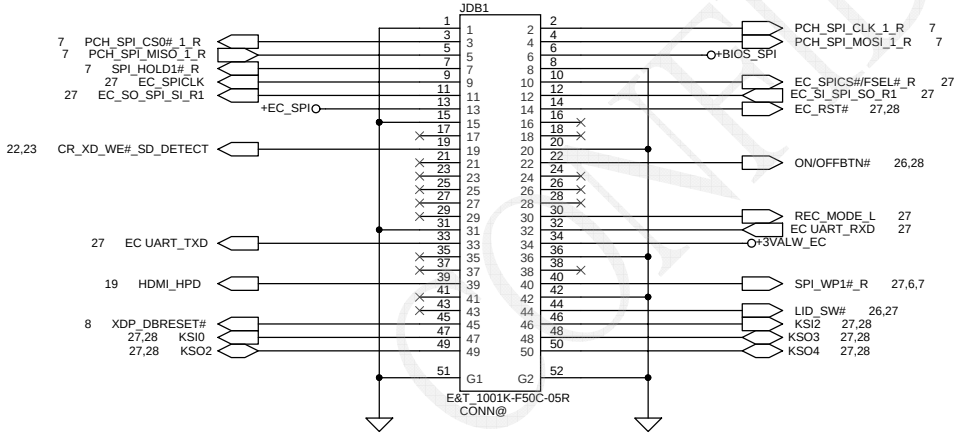
SATA HDD1 Conn.

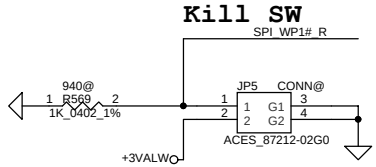


SATA ODD Conn.



Debug Board





Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.			
Title	HDD/ODD/USB3.0 Conn		
Size: Custom	Document Number: V5WE2 M/B LA-9532P Schematic		Rev: 0.2
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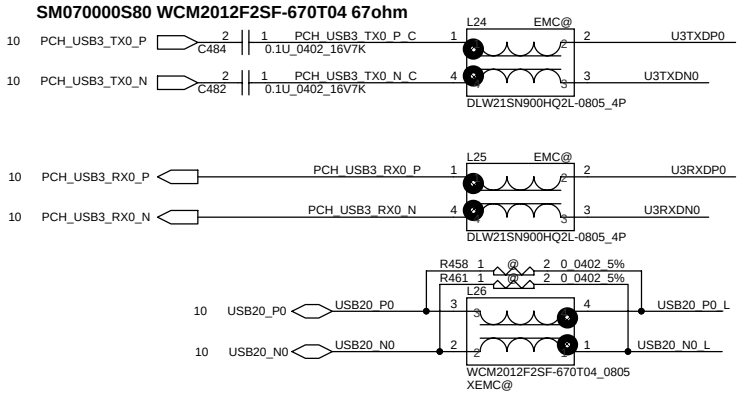

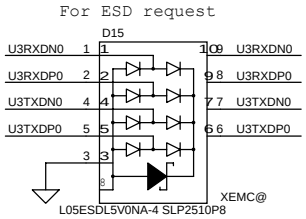

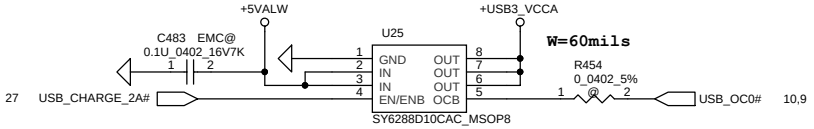

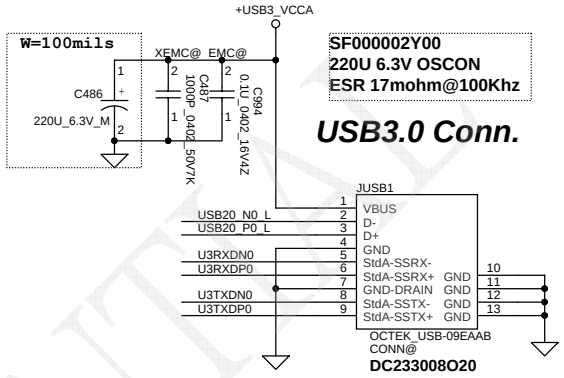

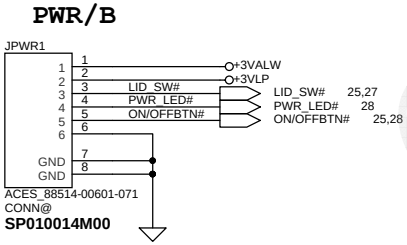

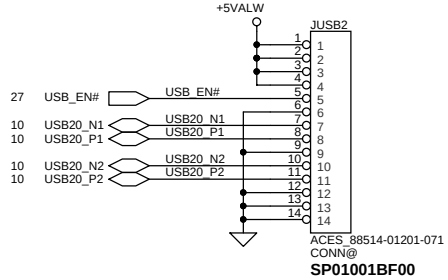

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: HDD/ODD/USB3.0 Conn

Size	Document Number	Rev
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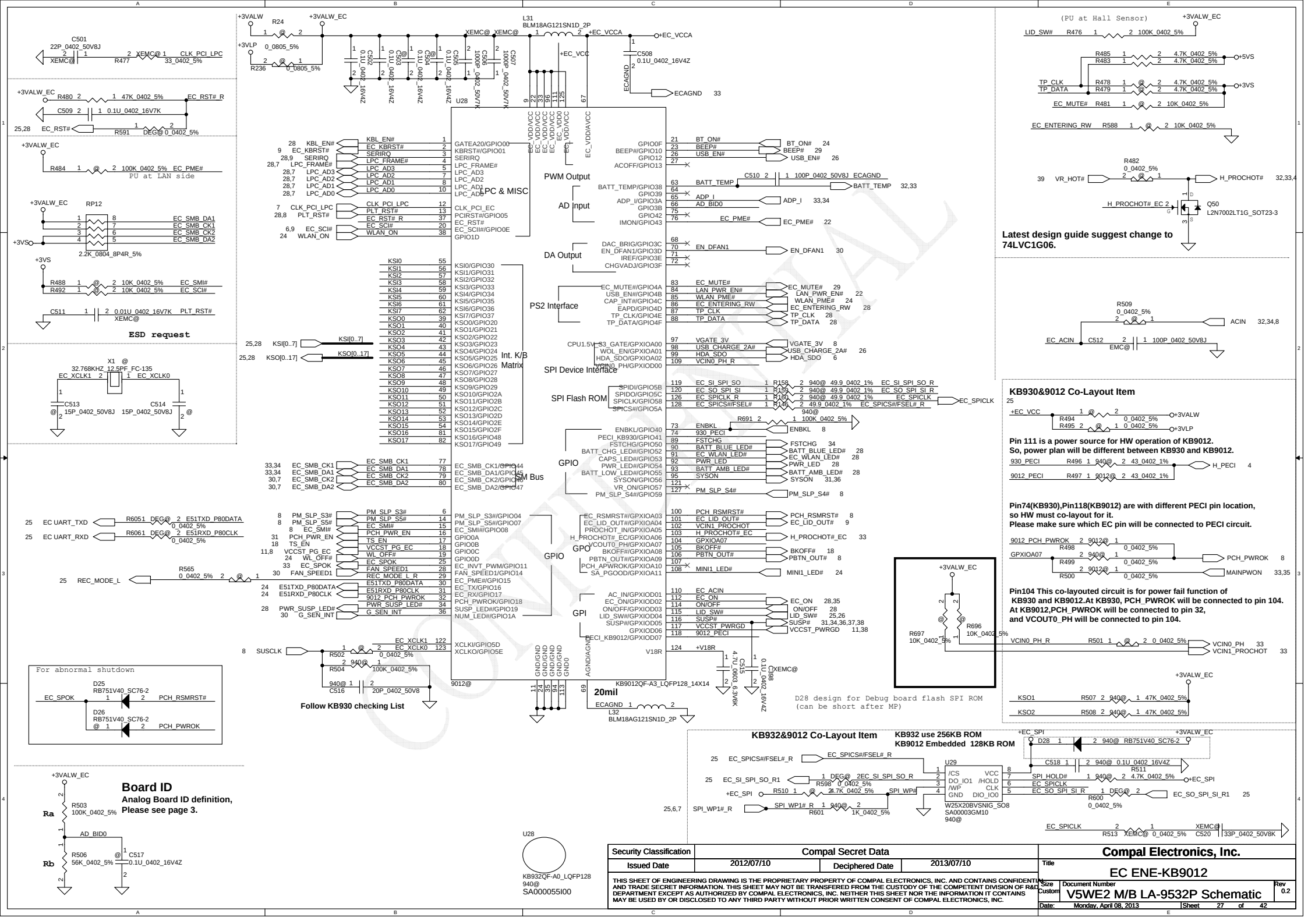

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

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Compal Electronics, Inc.

Title: EC ENE-KB9012

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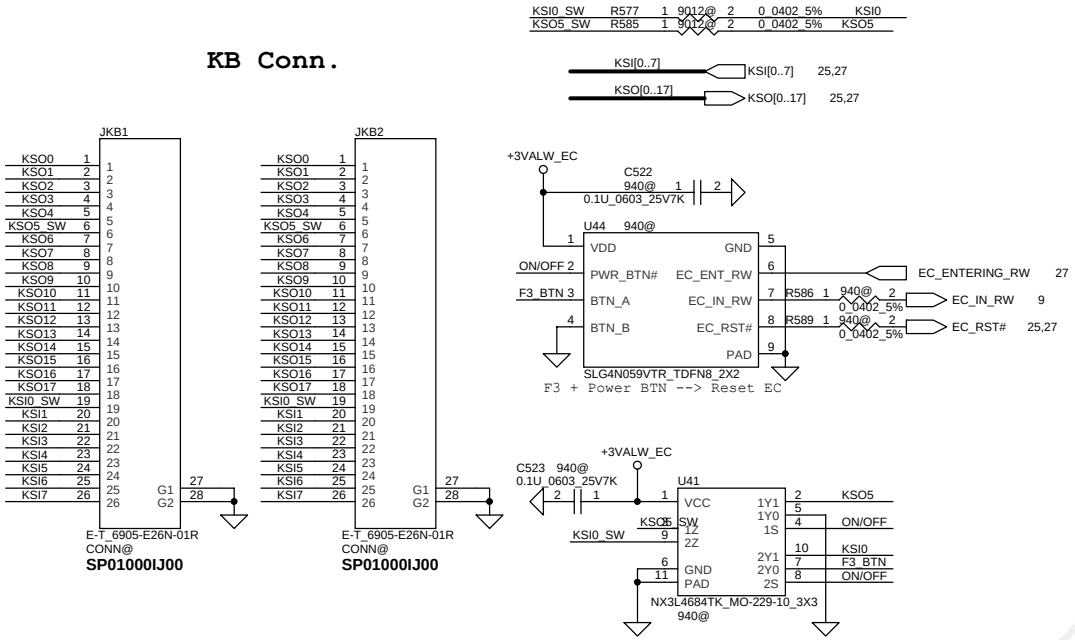
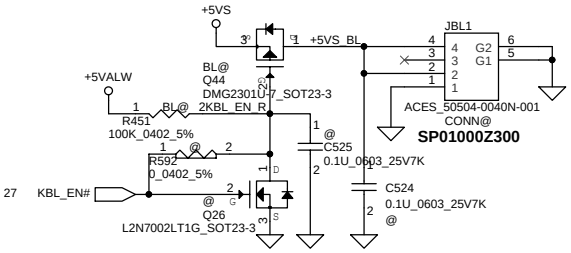
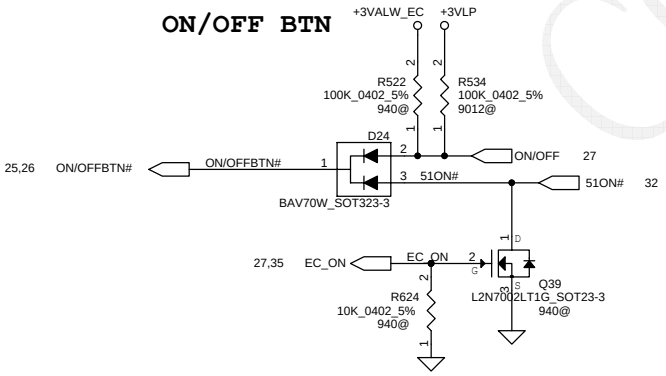
KB Conn.

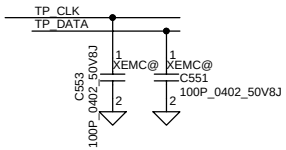


KB BackLight Conn.

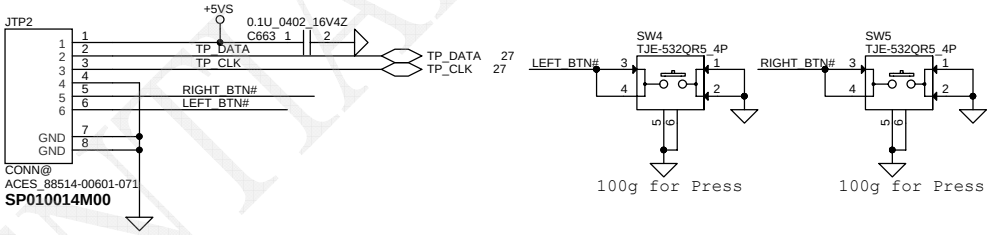


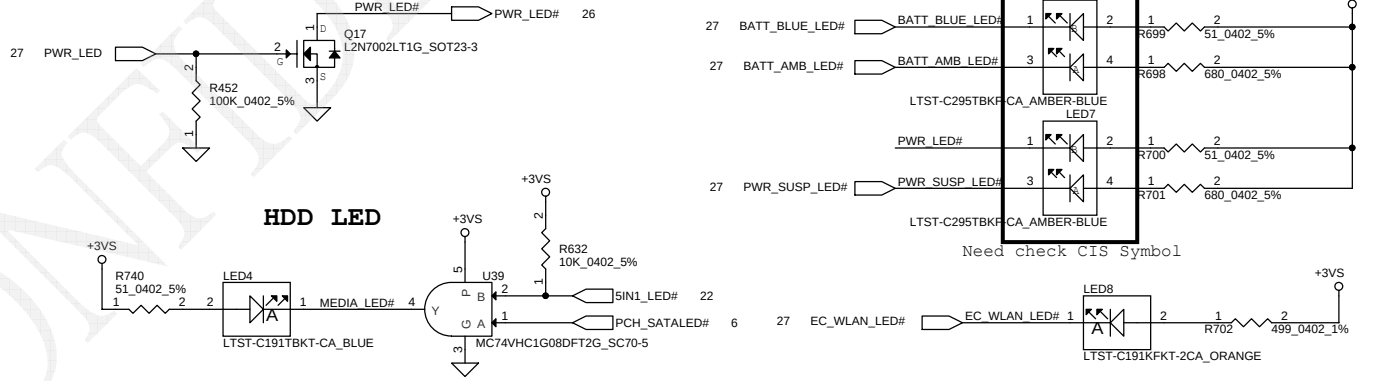
ON/OFF BTN



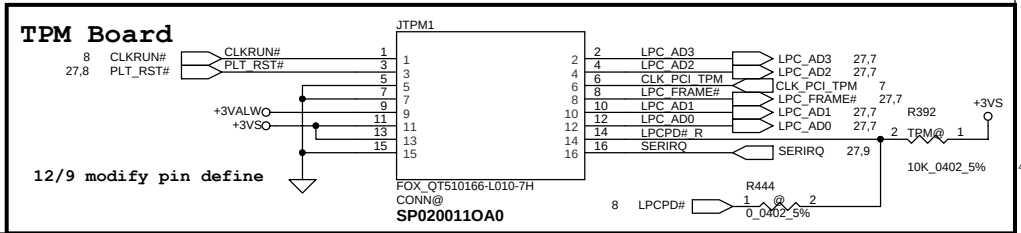


To TP/B Conn.





TPM Board



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Compal Electronics, Inc.

Title: KB & TP & TPM Connector & LED

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

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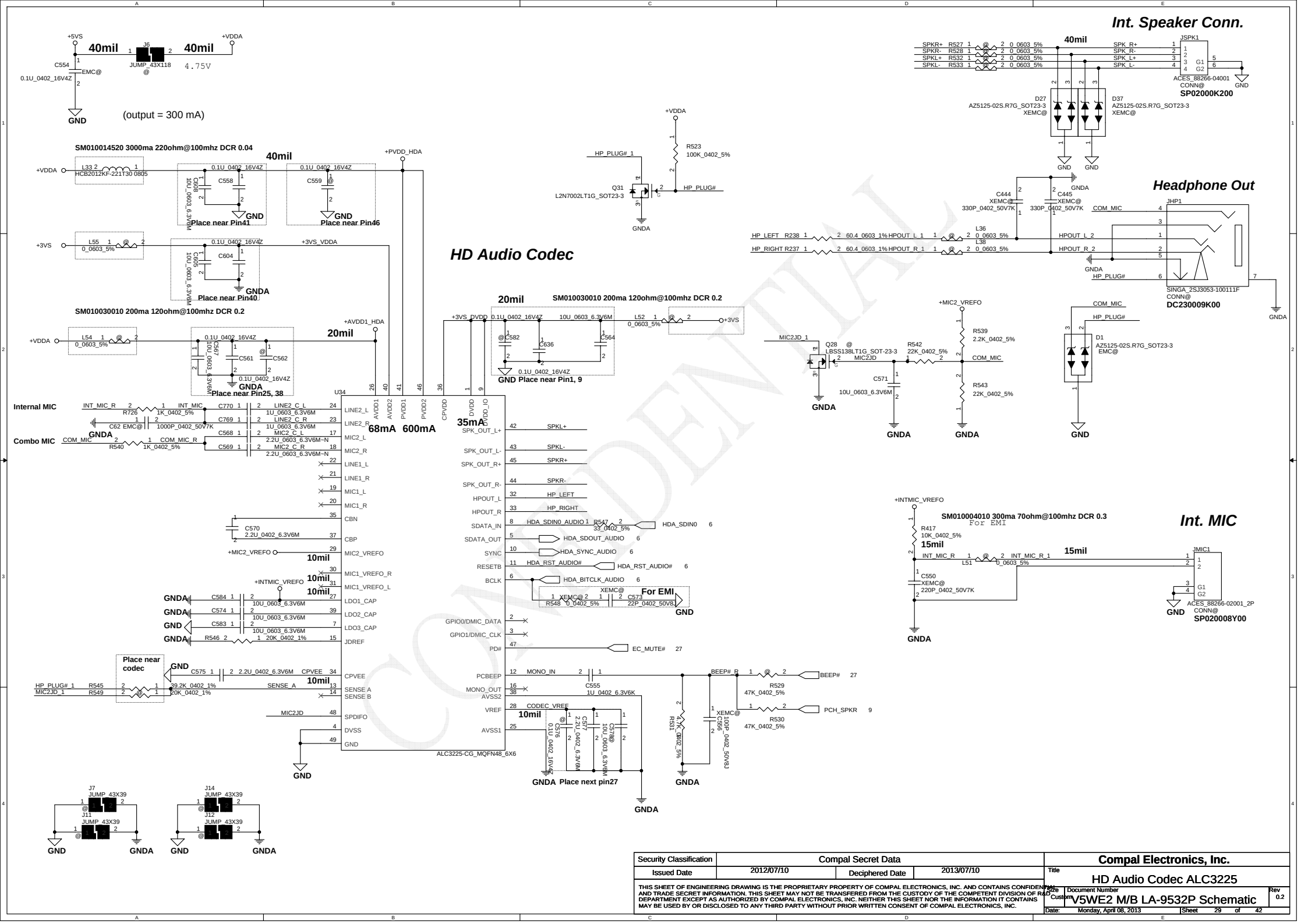

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: HD Audio Codec ALC3225

Size	Document Number	Rev
Custom	V5WE2 M/B LA-9532P Schematic	0.2

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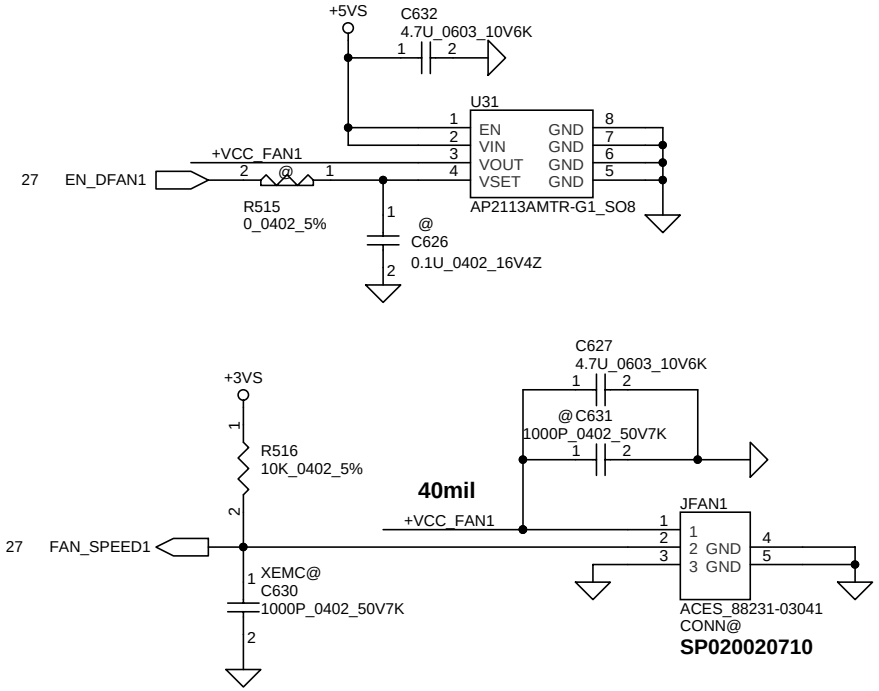
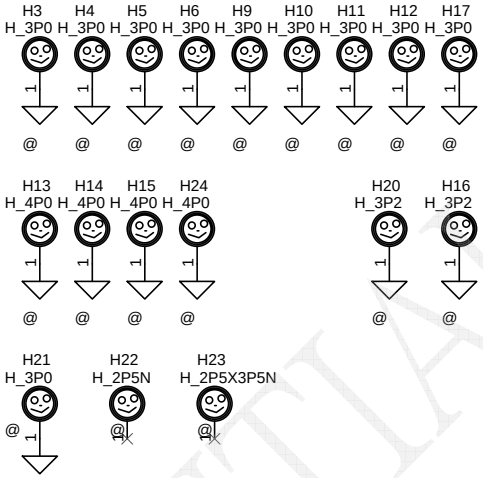
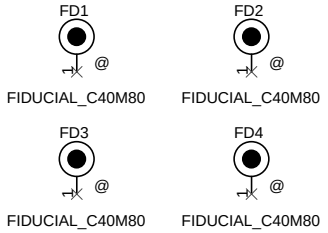
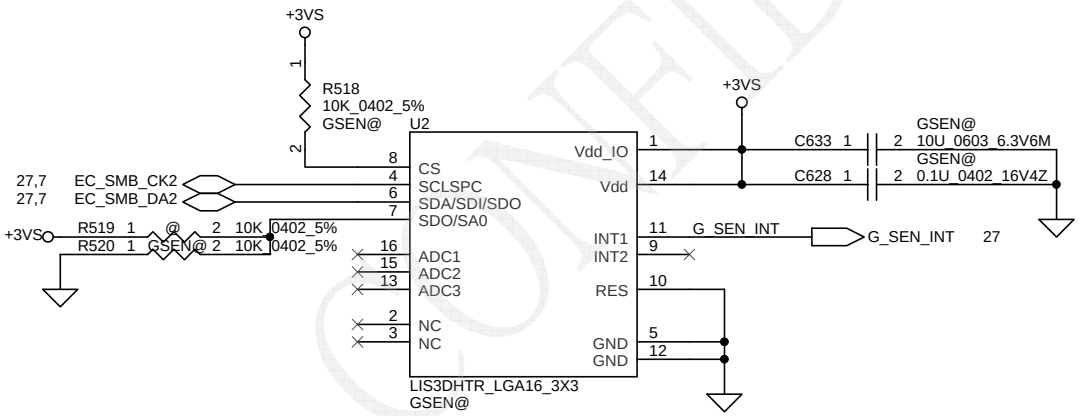
FAN1 Conn









LIS3DH
SA0 ->0, Address is 0011 000 (0x30h)
SA0 ->1, Address is 0011 001 (0x32h)

Security Classification	Compal Secret Data		
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Compal Electronics, Inc.

Title: FAN & Screw Hole & G-Sensor

Size	Document Number	Rev
Custom	V5WE2 M/B LA-9532P Schematic	0.2

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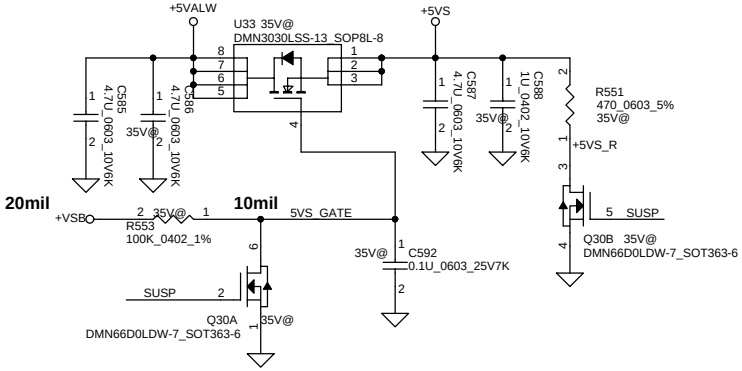
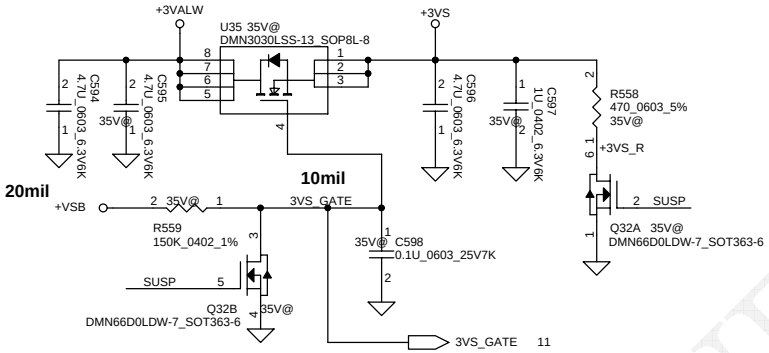
Normall Platform (Not support M-STATE and Deep Sleep)

+5VALW TO +5VS

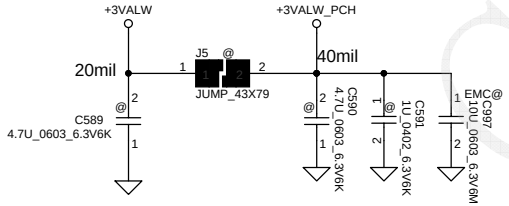


+3VALW TO +3VS

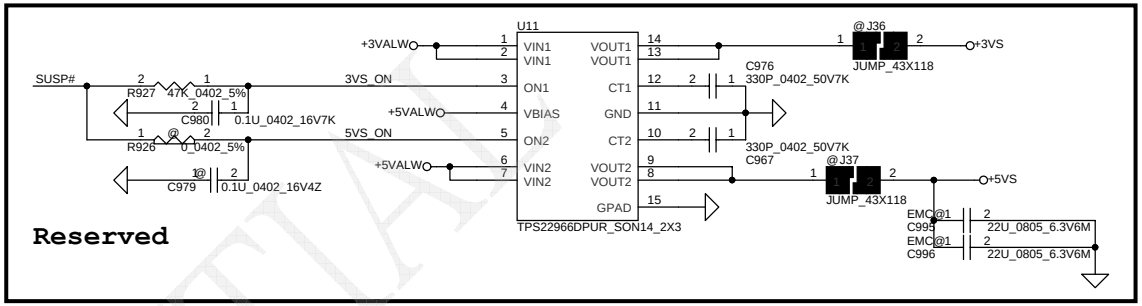


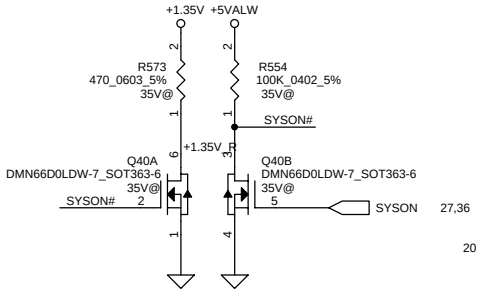
+3VALW TO +3VALW(PCH AUX Power)

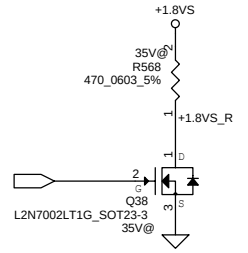
Short J5 for PCH VCCSUS3.3

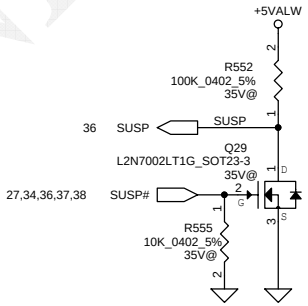


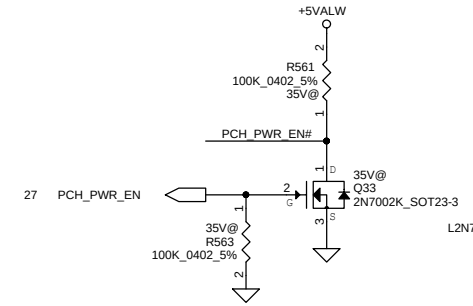
Reserved

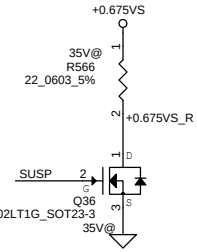


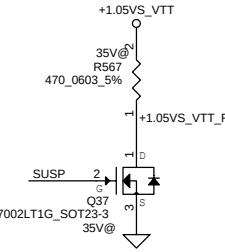












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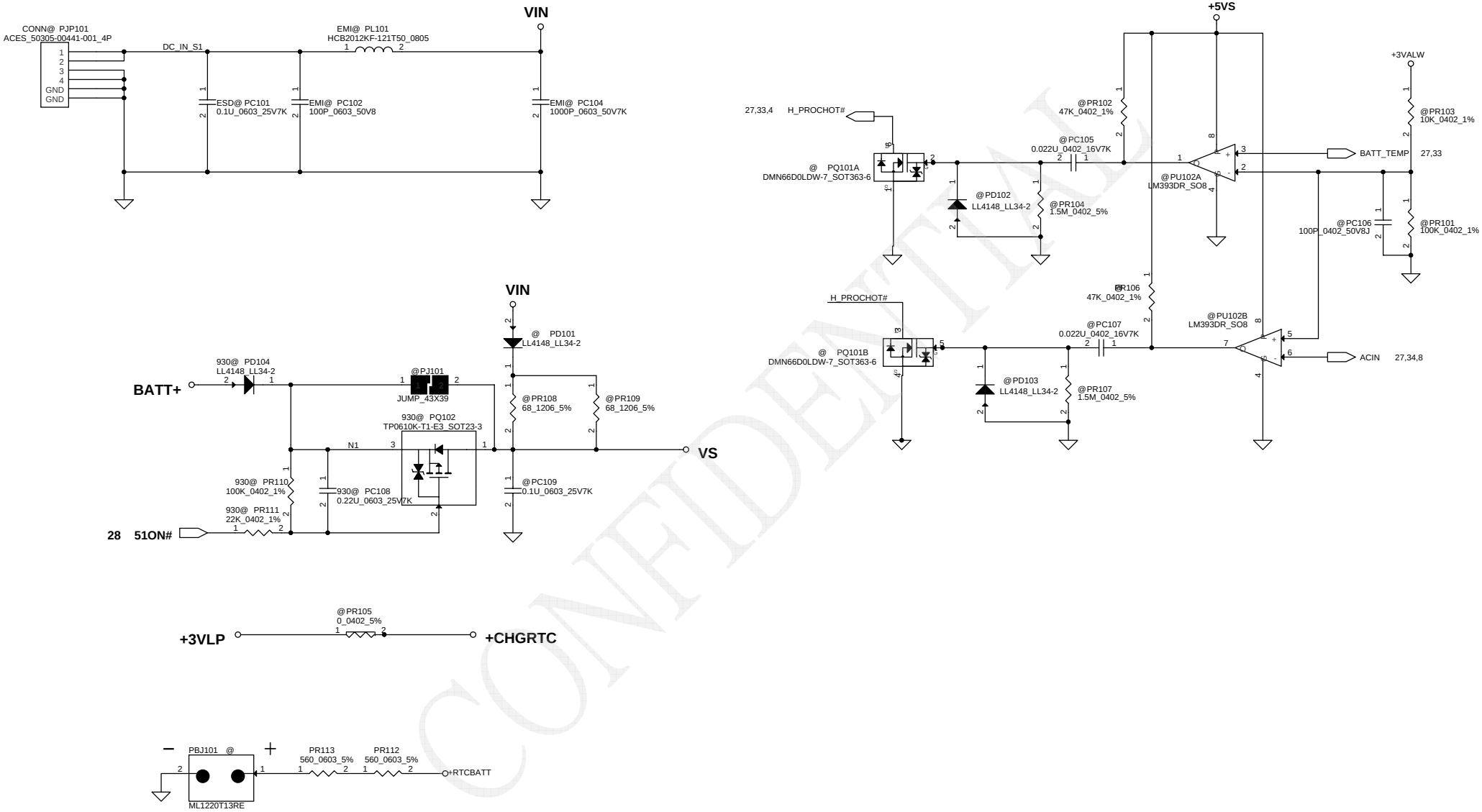
				Size: Custom; Document Number: V5WE2 M/B LA-9532P Schematic; Rev: 0.2
				Date: Monday, April 08, 2013; Sheet 31 of 42



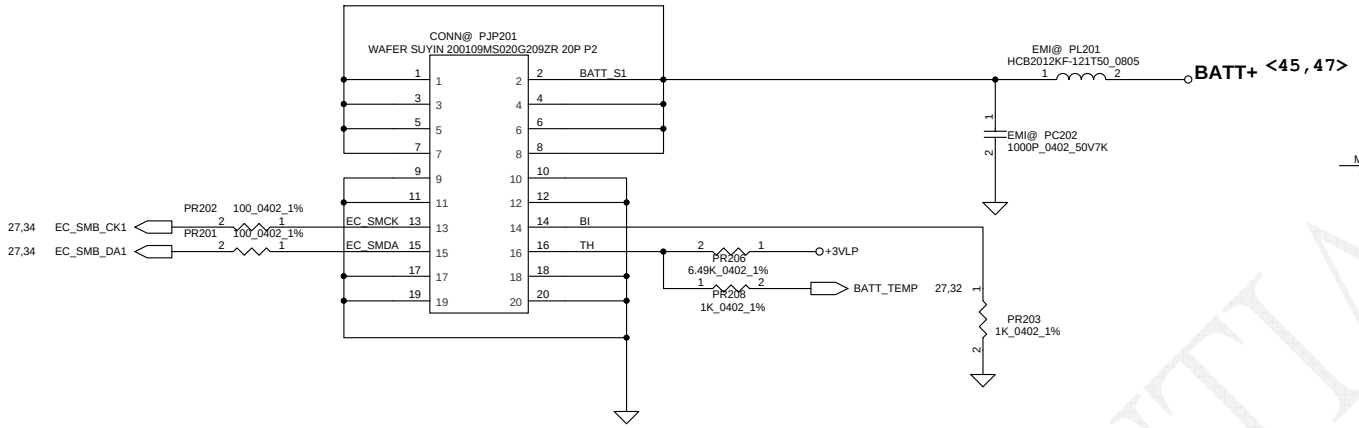
Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

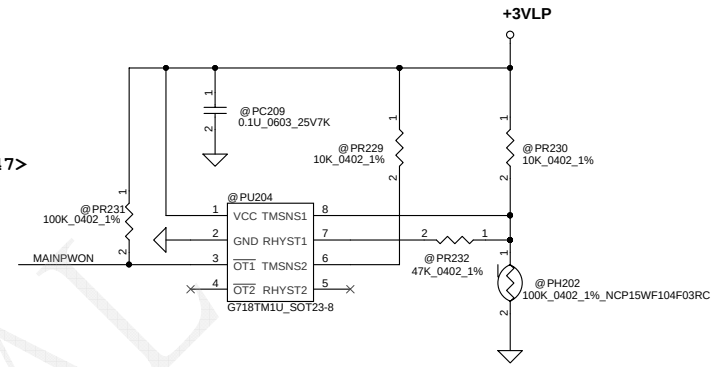
Compal Electronics, Inc.

Title: DCIN

Size	Document Number	Rev
Custom	V5WE2 M/B LA-9532P Schematic	0.2

Date: Monday, April 08, 2013 Sheet 32 of 42

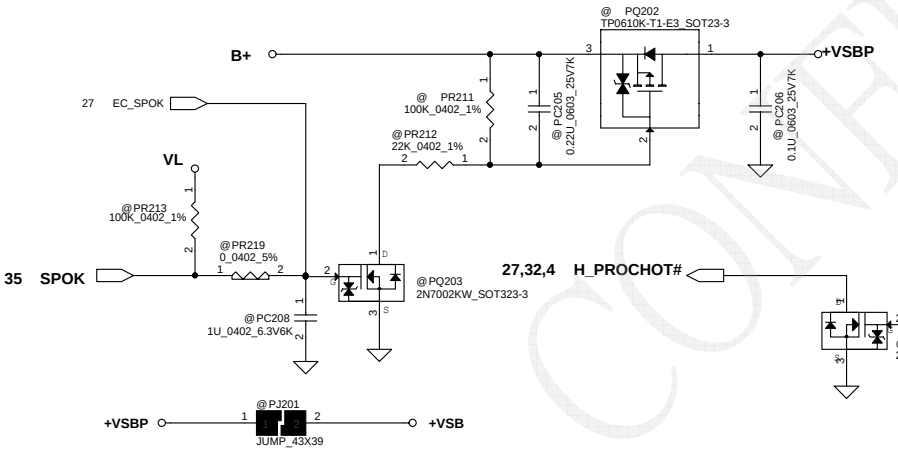


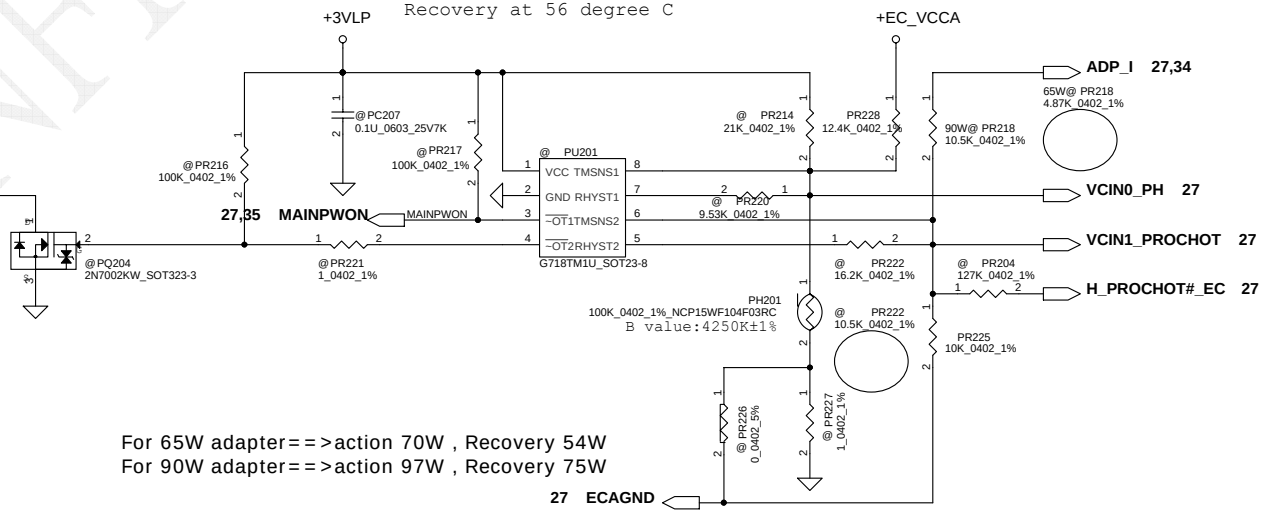


For KB9012 OTP	
92°C	1.2V, Active
56°C	2.255V, Recovery

For KB9012 sense 20mΩ	Active	Recovery
65W	84W,1.2V	56W,0.793V
90W	117W,1.2V	77W,0.791V
120W		

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





For 65W adapter==>action 70W , Recovery 54W
For 90W adapter==>action 97W , Recovery 75W

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: BATTERY CONN / OTP

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

Date: Monday, April 08, 2013 | Sheet 33 of 42

for reverse input protection

100ppm

Vin Dectector	Min.	Typ	Max.
L-->H	17.520V	18.006V	18.504V
H-->L	16.967V	17.593V	18.237V

ILIM and external DPM

Min.	Typ	Max.
3.906A	4.006A	4.108A

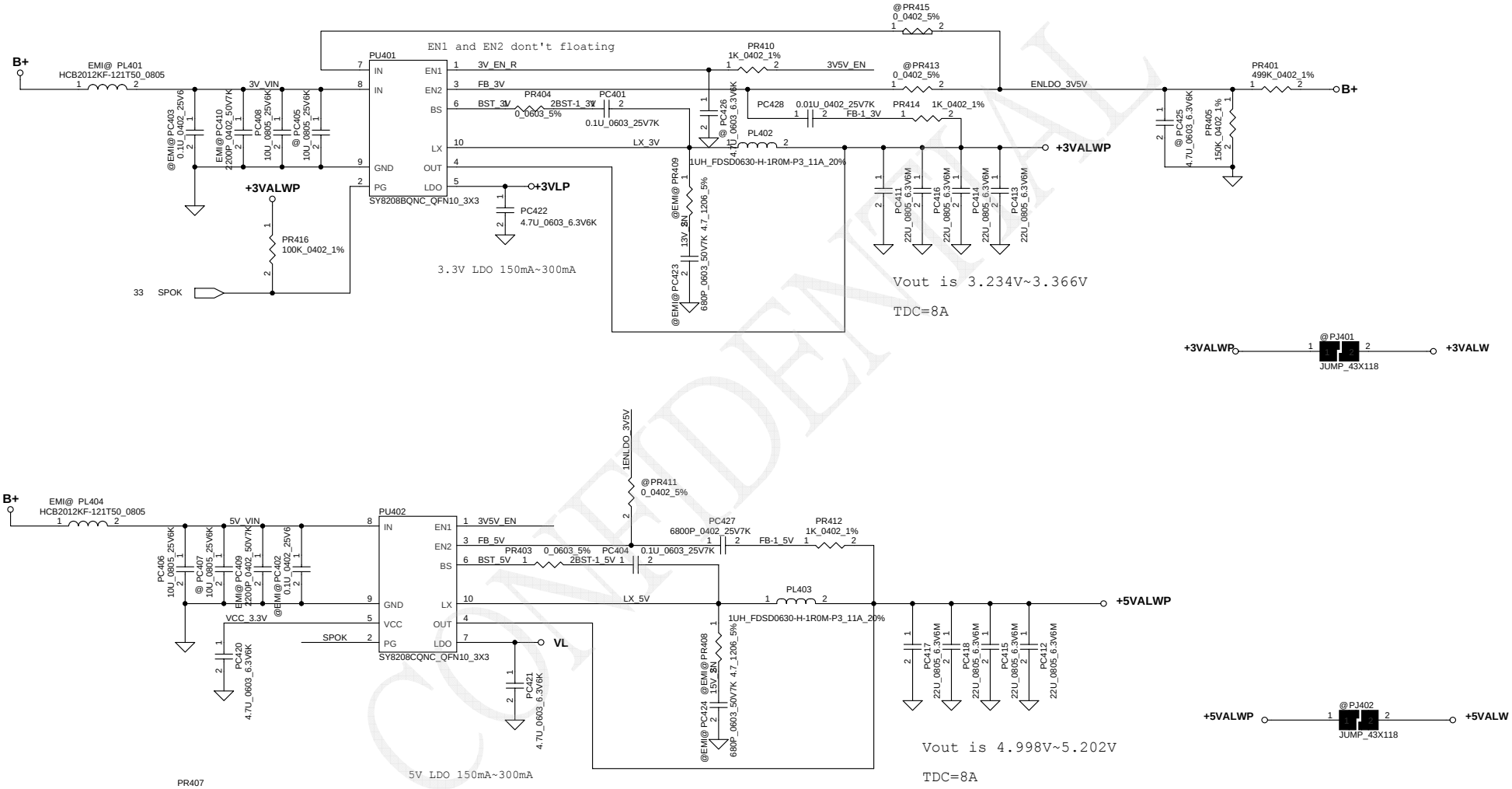
Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: CHARGER

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

Date: Monday, April 08, 2013 | Sheet 34 of 42



Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

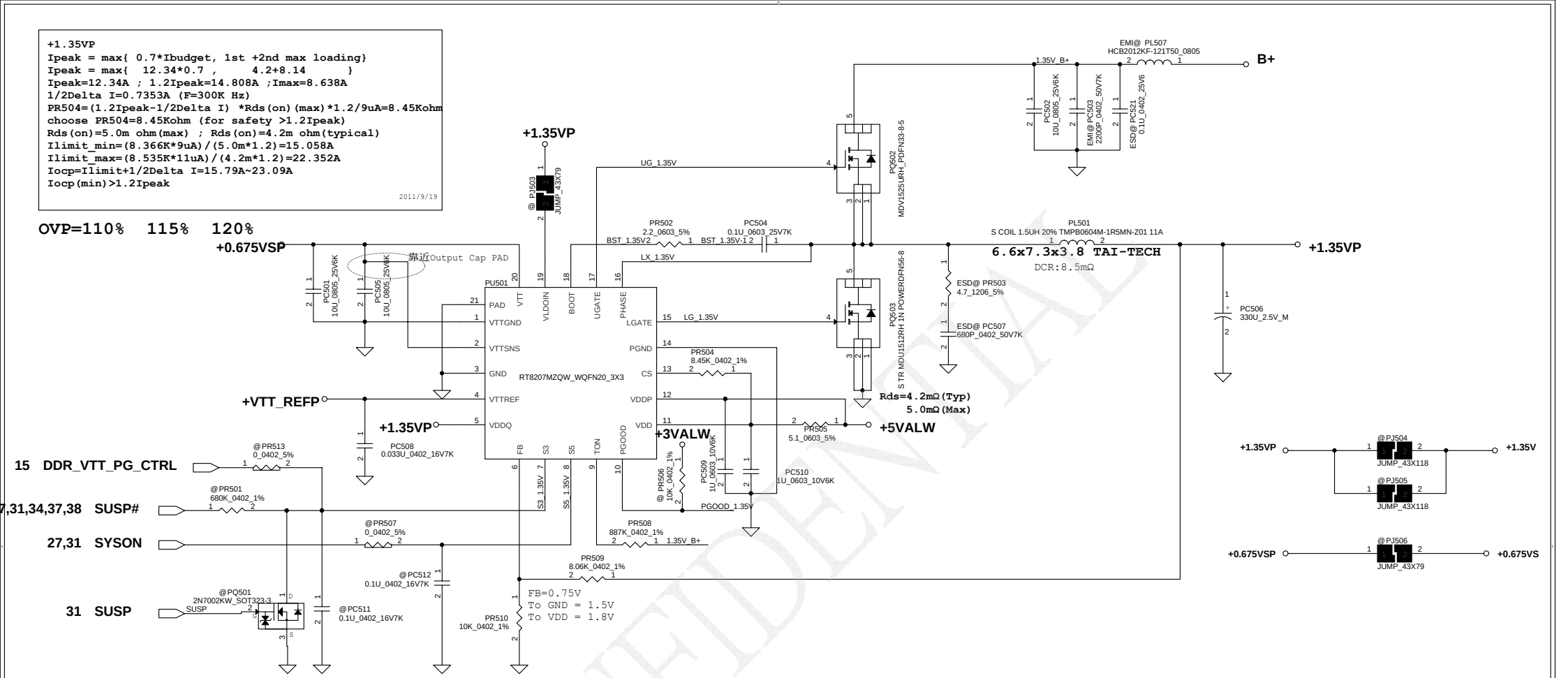
Title: *3VALW/5VALW*

Size	Document Number	Rev
Custom	V5WE2 M/B LA-9532P Schematic	0.2

Date: Monday, April 08, 2013 | Sheet 35 of 42

```
+1.35VP
Ipeak = max{ 0.7*Ibudget, 1st +2nd max loading}
Ipeak = max{  12.34*0.7 ,     4.2+8.14      }
Ipeak=12.34A ; 1.2Ipeak=14.808A ;Imax=8.638A
1/2Delta I=0.7353A (F=300K Hz)
PR504=(1.2Ipeak-1/2Delta I) *Rds(on)(max)*1.2/9uA=8.45Kohm
choose PR504=8.45Kohm (for safety >1.2Ipeak)
Rds(on)=5.0m ohm(max) ; Rds(on)=4.2m ohm(typical)
Ilimit_min=(8.366K*9uA)/(5.0m*1.2)=15.058A
Ilimit_max=(8.535K*11uA)/(4.2m*1.2)=22.352A
Iocp=Ilimit+1/2Delta I=15.79A~23.09A
Iocp(min)>1.2Ipeak
                                                    2011/9/19
```

OVP=110% 115% 120%



15 DDR_VTT_PG_CTRL

7,31,34,37,38 SUSP#

27,31 SYSON

31 SUSP

STATE	S3	S5	1.35VP	VTT_REFP	0.675VSP
S0	Hi	Hi	On	On	On
S3	Lo	Hi	On	On	Off (Hi-Z)
S4/S5	Lo	Lo	Off (Discharge)	Off (Discharge)	Off (Discharge)
Note: S3 - sleep ; S5 - power off					

Note:Use VCCSA_SEL to switch High & Low Level for VID[1]

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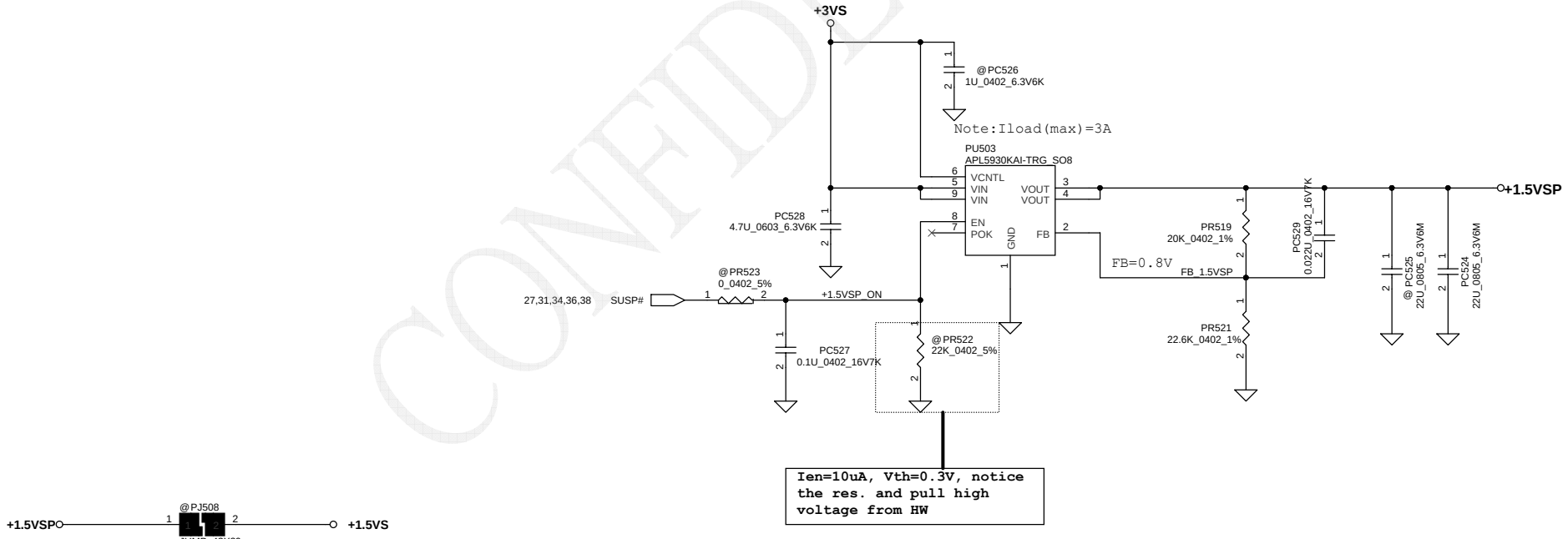
			Date: Monday, April 08, 2013; Sheet 36 of 42



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Compal Electronics, Inc.

Title: *+1.5VSP*

Size	Document Number	Rev
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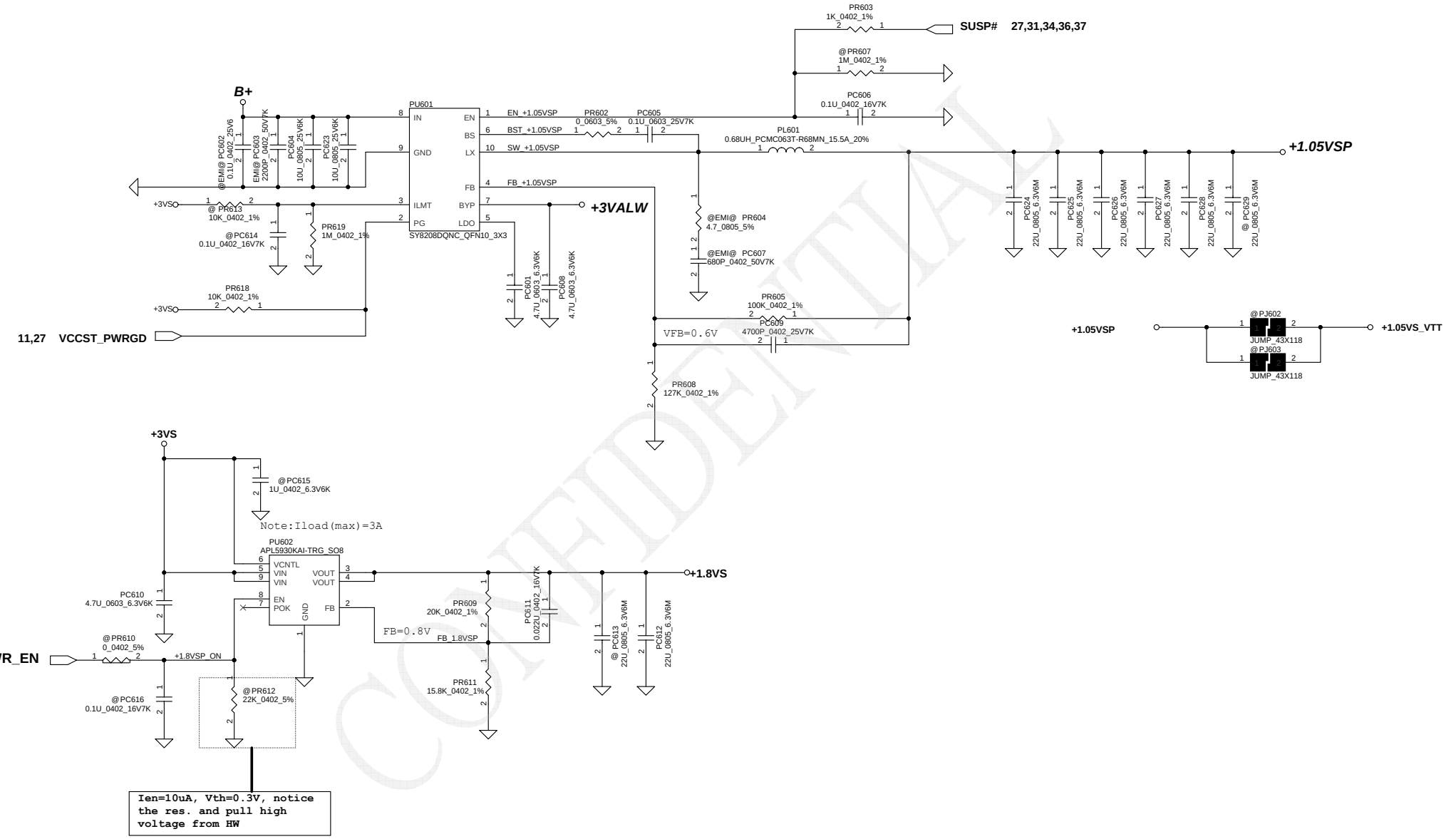
Date: Monday, April 08, 2013 Sheet 37 of 42

+1.05VSP Ipeak=5.36A ; Imax=3.752A ; 1.2Ipeak=6.432
Delta I=0.xxxxA=>1/2Delta I=0.xxxxA,F= 800K Hz(typ)



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Compal Electronics, Inc.

Title: +1.05VSP/1.8VSP

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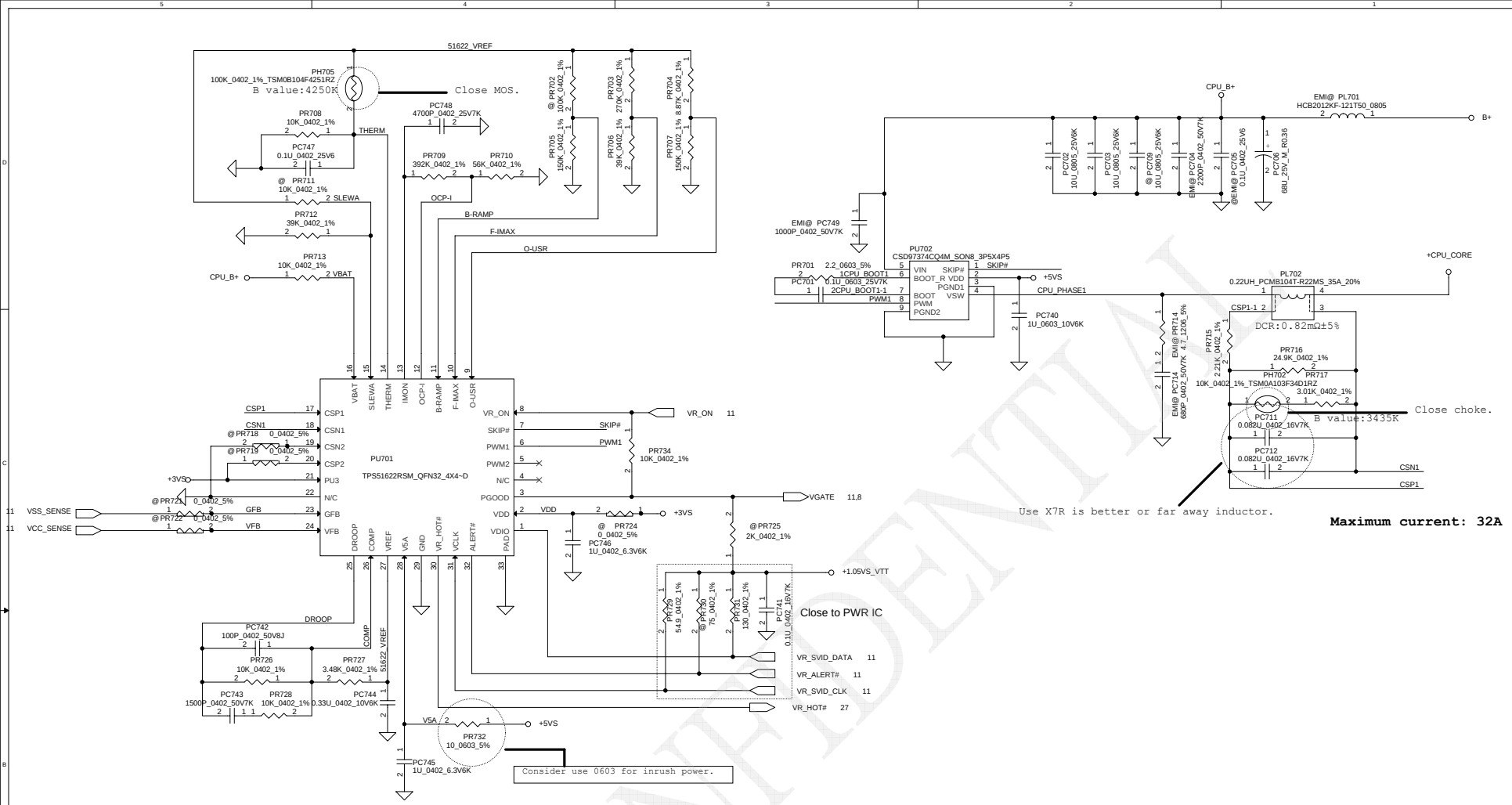

VIN	12V~20V
MAX current	32A
Thermal current	10A
Dynamic current	27A
Over current level	45A
Switching frequency	600KHz
Boot voltage	1.7V
DC Load- line	2m Ohm

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Compal Electronics, Inc.

Title: +CPU_CORE

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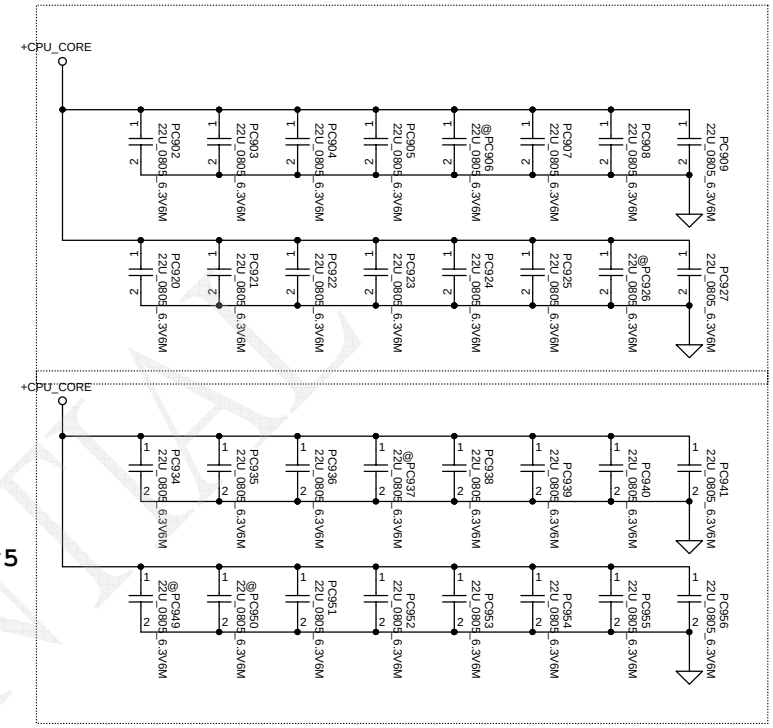
PWR Rule
CPU DCLL=1.5m ohm dedign 330uF/9m *0, 22uF *30



22u *27, @*5

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				Date: Monday, April 08, 2013	Sheet 40 of 42

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: PIR-HW

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Date: Monday, April 08, 2013 | Sheet 41 of 42

Version change list (P.I.R. List)

for PWR

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	Module Design	Module Design change 3/5V solution		3/5V		11/13	DVT
2		Change RTC type to non-charge		31	Un-pop PR112, PR113	11/13	DVT
3	TPS51622 update to ES2.1	Compensation modify		39	Change PR701 to 2.2, PR703 to 270K, PR727 to 3.48K Un-pop PC742	11/16	DVT
4	EMI request	Cut-in EMI solution		EMI	Add PR313, PC316, PR714, PC714, PC749	11/20	DVT
5	EMI request	EMI confirm remove		EMI	Delete PL102, PC103, PC101, PL202, PC201 and PL703	11/26	DVT
6	Costdown			35	Change PL402, PL403 from 5x5x3 to 7x7x3	12/13	DVT2
7		SY8208B/C update		35	Add PR411, PR413	12/22	DVT2
8	+1.05V ripple close upper and mean too low	Adjust output voltage and add Cff		36	Add PC609 into 4700P Change PR608 from 133K to 127K	12/22	DVT2
9		Improve CPU transient character		40	Unpop PC926	01/09	DVT2
10		Tune sequence		35	Change PC428 from 4700p to 10n, PC427 from 0.047u to 6.8n	02/04	PVT
11		0 ohm reduce			Change PR507,PR513,PR523 to R-pad	02/22	PVT
12		Provide 3/5V PG signal to EC		35	Add PR416	02/22	PVT
13	ESD request			32	Add PC101 into 0.1uF	02/26	PVT
14	ESD request			36	Add PC521, PR503, PC507	02/26	PVT

12

13

14

15

16

17

Security Classification	Compal Secret Data		
Issued Date	2012/07/10	Deciphered Date	2013/07/10

Compal Electronics, Inc.

Title: PIR (PWR)

Size: Custom | Document Number: V5WE2 M/B LA-9532P Schematic | Rev: 0.2

Date: Monday, April 08, 2013 | Sheet 42 of 42