ZZZ
PCB

ZZZ1
LA-5081P
DAZ@

ZZZ2
LS-5081P
DAZ@

ZZZ3
LS-5082P
DAZ@

KIWA5/A6

Schematics Document

Mobile Penryn uFCPGA with Intel Cantiga_GM/PM+ICH9-M core logic

REV:1.0

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: Cover Sheet

Size: B | Document Number: KIWAX_LA-5081P | Rev: 1.0

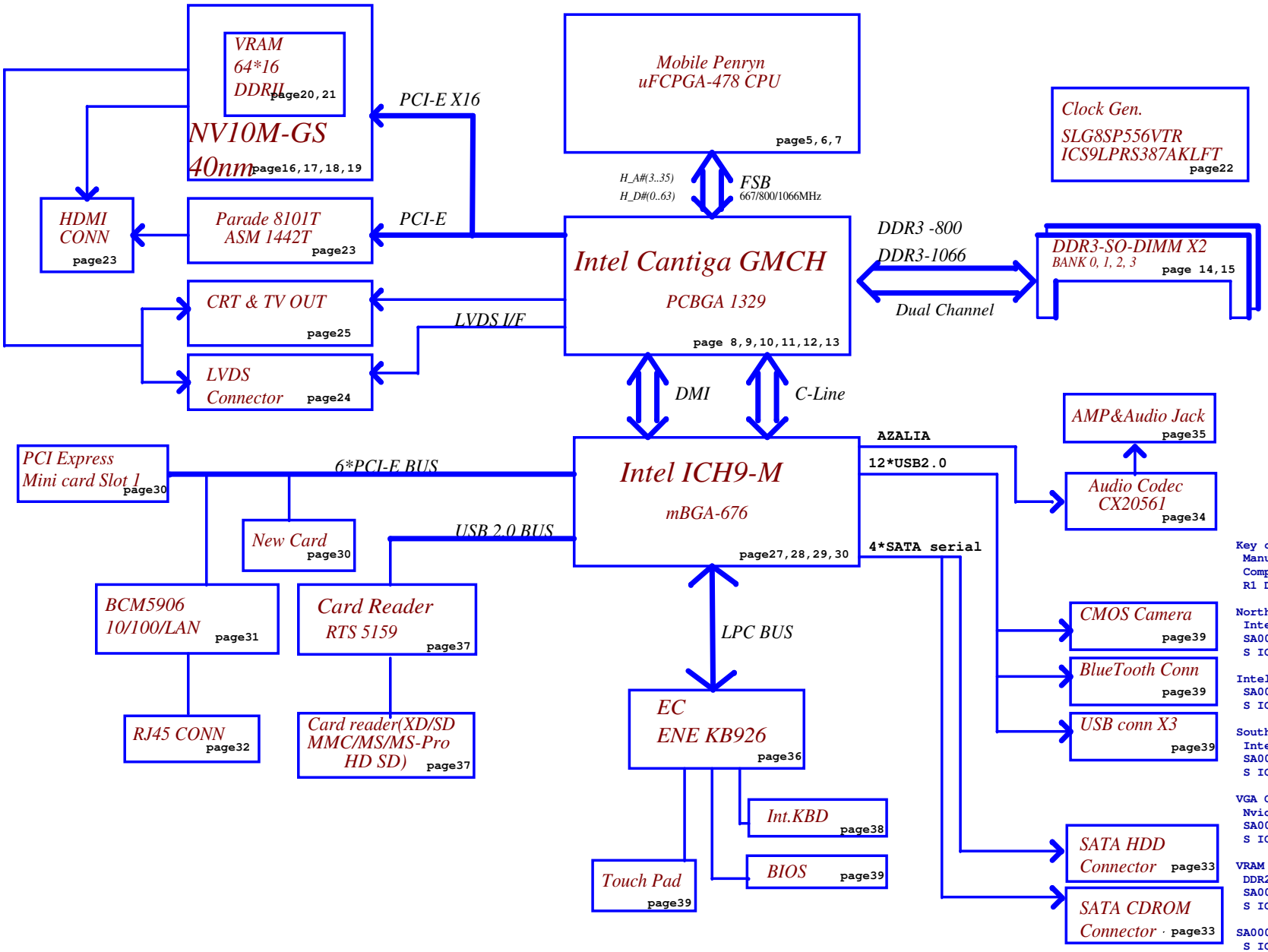
Date: Tuesday, April 28, 2009 | Sheet 1 of 51

Compal confidential
File Name :

ZZZ
PCB KIWA5 LA-5081P LS-5081P/5082P

POWER Board

CAP SENSE LEDs Board



Key component
Manufacturer
Compal P/N
R1 Desc

Northbridge
Intel / Cantiga PM45
SA00002JJM0
S IC AC82PM45 QV11 A1 FCBGA 1329 PM C38

Intel / Cantiga GM 45
SA00002JTD0
S IC AC82GM45 SLB94 B3 FCBGA1329 GM C38!

SouthBridge
Intel / ICH9M
SA00002JH90
S IC AF82801IBM SLB8Q A3 676P ICH9M C38! (MP)

VGA Chip
Nvidia / N10M
SA00002V810
S IC N10M-GE1-S-U2(H) BGA 533P C38

VRAM
DDR2/512MB
SA00002MF00 (14")
S IC D2 64M16/500 HYB18T1G161C2F-20

SA00002UH00 (15.6")
S IC D2 64M16/500 H5PS1G63EFR-20L FBGA84

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **MB Block Diagram**

Size	Document Number	Rev
Custom	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 2 of 51

DDR3 Voltage Rails

power plane / State	B+	+5VALW +3VALW	+1.5V	+5VS +3VS +1.5VS +0.75VS +VCCP +CPU_CORE +VGA_CORE +1.8VS
S0	o	o	o	o
S1	o	o	o	o
S3	o	o	o	x
S5 S4/AC	o	o	x	x
S5 S4/ Battery only	o	x	x	x
S5 S4/AC & Battery don't exist	x	x	x	x

SMBUS, SPI and I2C Control Table

	SOURCE	HDMI	LVDS	CRT	HDCP	SERIAL EEPROM	NEW CARD	CLK GEN	CAP sensor	Mini CARD1	Mini CARD2	BATT	THERMAL SENSOR (VGA)	THERMAL SENSOR (CPU)
EC_SMB_CK1 EC_SMB_DA1	KB926	X	X	X	X	X	X	X	X	X	X	V	X	X
EC_SMB_CK2 EC_SMB_DA2	KB926	X	X	X	X	X	X	X	V	X	X	X	V	V
ICH_SMBCLK ICH_SMBDAT	ICH9	X	X	X	X	X	V	V	X	V	V	X	X	X
LVDS_SCL LVDS_SDA	Cantiga	X	V	X	X	X	X	X	X	X	X	X	X	X
GMCH_CRT_CLK GMCH_CRT_DAT	Cantiga	X	X	V	X	X	X	X	X	X	X	X	X	X
HDMICLK_NB HDMIDAT_NB	Cantiga	V	X	X	X	X	X	X	X	X	X	X	X	X
VGA_DDCCLK VGA_DDCDATA	N10M	X	X	V	X	X	X	X	X	X	X	X	X	X
VGA_LVDS_SCL VGA_LVDS_DAT	N10M	X	V	X	X	X	X	X	X	X	X	X	X	X
VGA_HDMI_SCL VGA_HDMI_DAT (55nm)	N10M	V	X	X	X	X	X	X	X	X	X	X	X	X
HDCP_SMB_CK1 HDCP_SMB_DA1	N10M	X	X	X	V	X	X	X	X	X	X	X	X	X
IFPC_AUX IFPC_AUX_N (40nm)	N10M	V	X	X	X	X	X	X	X	X	X	X	X	X
FSEL#SPICS# FRD#SPI_SO SPI_CLK FWR#SPI_SI	KB926	X	X	X	X	V	X	X	X	X	X	X	X	X

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: MB Notes List

Size: B | Document Number: KIWAX_LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 3 of 51

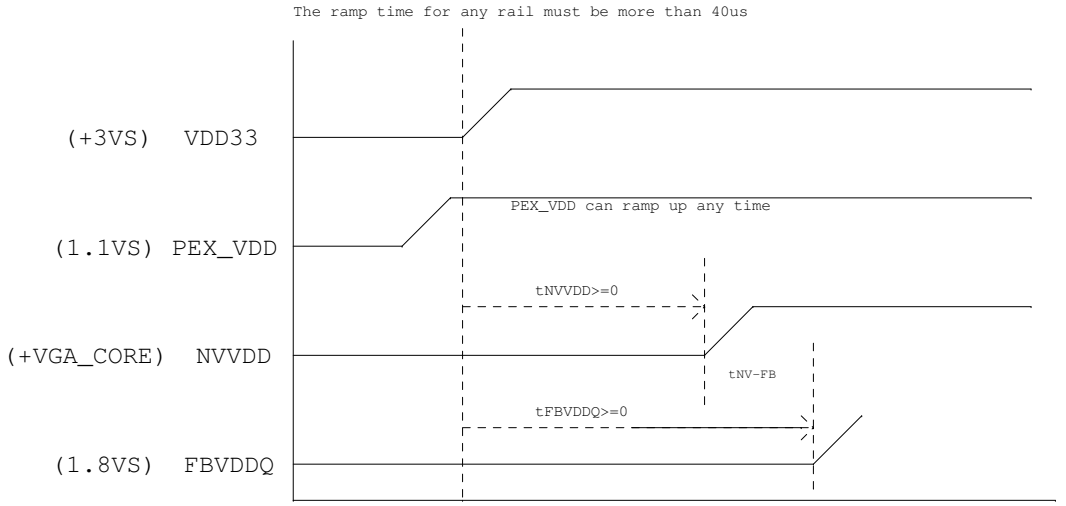
VGA and DDR2 Voltage Rails (N10M)

power plane / State	+3VS +VGA_CORE +1.1VS +1.8VS
S0	O
S1	O
S3	X
S5 S4/AC	X
S5 S4/ Battery only	X
S5 S4/AC & Battery don't exist	X

EDP at Tj = 97C*

Power Supply Rail	(V)	NB10M-GS		N10M-GE1-S	
		GDDR3	DDR2	GDDR3	DDR2
NVVDD	Variable	11.22A	10.87A	13.56A	13.47A
FB_DLLAVDD	1.1	25mA		25mA	
FB_PLLAVDD	1.1	10mA		10mA	
IFPC_IOVDD	1.1	385mA		180mA	
IFPD_IOVDD	1.1	385mA		180mA	
IFPE_IOVDD	1.1	385mA		180mA	
IFPF_IOVDD	1.1	385mA		180mA	
PEX_IOVDD/Q	1.1	1550mA		1550mA	
PEX_PLLVDD	1.1	165mA		65mA	
PLLVDD	1.1	55mA		30mA	
SP_PLLVDD	1.1	25mA		10mA	
VID_PLLVDD	1.1	50mA		25mA	
TOTAL	1.1	3.425A		2.435A	
FBVDD/Q	1.8	2.24A	1.65A	2.24A	1.75A
IFPA_IOVDD	1.8	50mA		50mA	
IFPB_IOVDD	1.8	50mA		50mA	
IFPAB_PLLVDD	1.8	100mA		75mA	
IFPCD_PLLVDD	1.8	160mA		80mA	
IFPEF_PLLVDD	1.8	160mA		80mA	
TOTAL	1.8	2.76A	2.17A	2.575A	2.085A
DACA_VDD	3.3	110mA		110mA	
DACB_VDD	3.3	125mA		125mA	
DACC_VDD	3.3	110mA		110mA	
MIOA_VDDQ	3.3	10mA		10mA	
MIOB_VDDQ	3.3	10mA		10mA	
VDD33	3.3	80mA		80mA	
TOTAL	3.3	0.445A		0.445A	

POWER SQUENCE

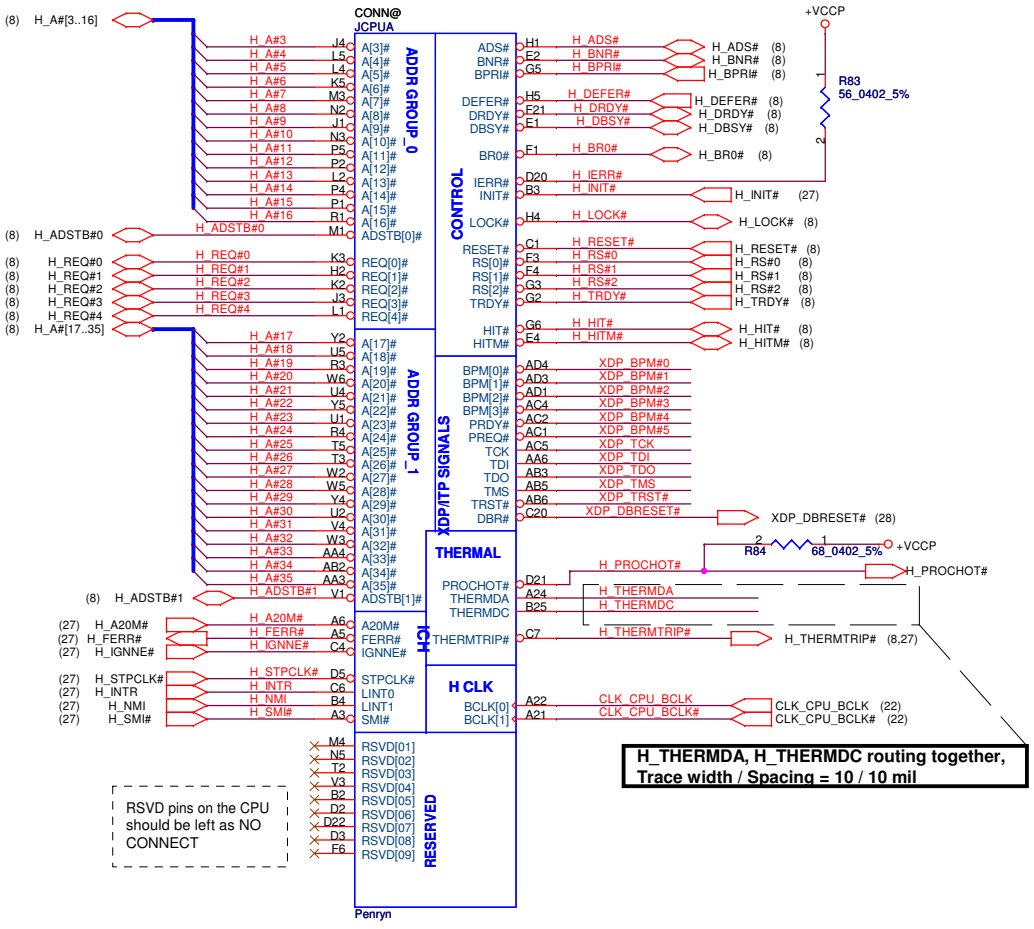


Compal Electronics, Inc.

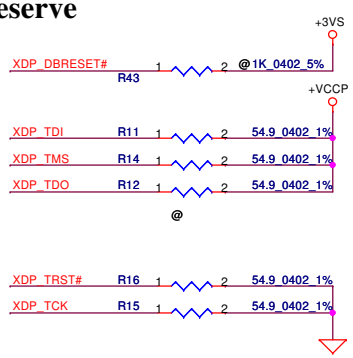
Title: VGA Notes List

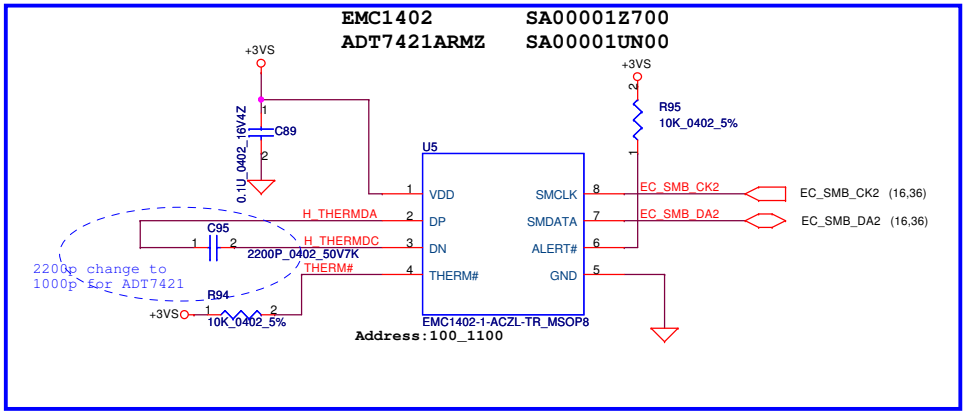
Size: B | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

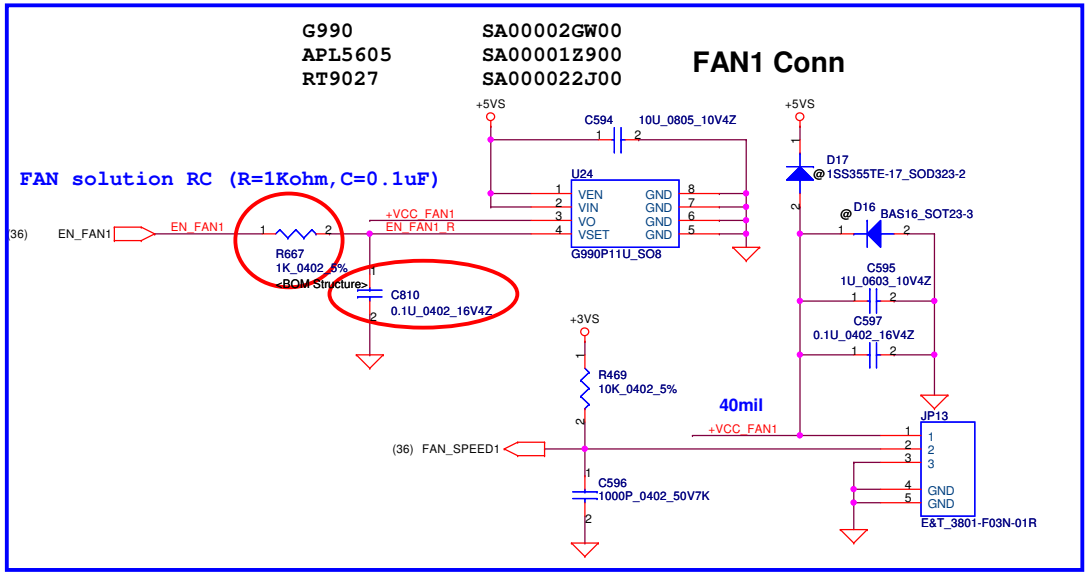
Date: Tuesday, April 28, 2009 | Sheet 4 of 51



XDP Reserve

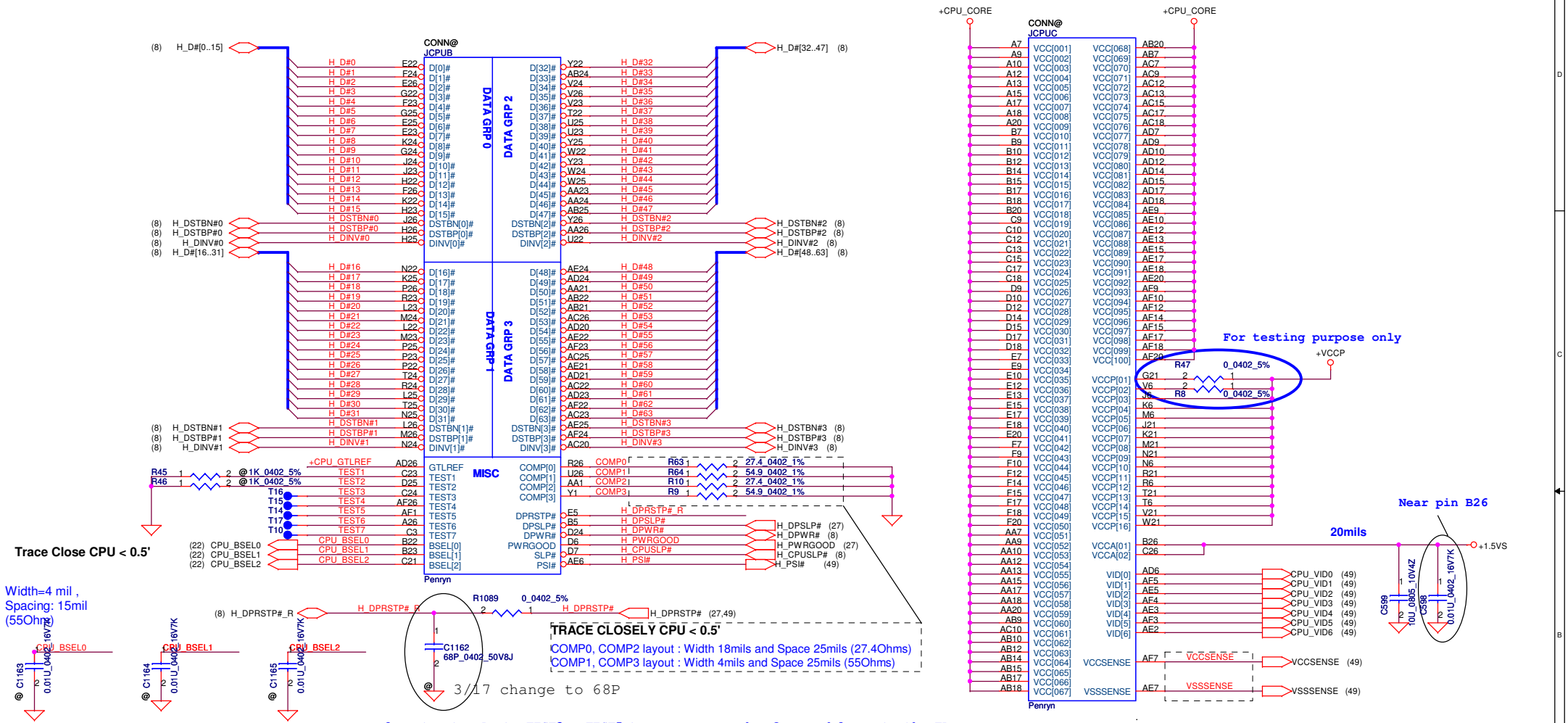






Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: Penryn (1/3)			
Size: B	Document Number: KIWAX_LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 5 of 51		



FSB	BCLK	BSEL2	BSEL1	BSEL0
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0
1067	266	0	0	0

Layout note: Z0=55 ohm
0.5" max for GTLREF.

Close to CPU pin AD26
within 500mils.

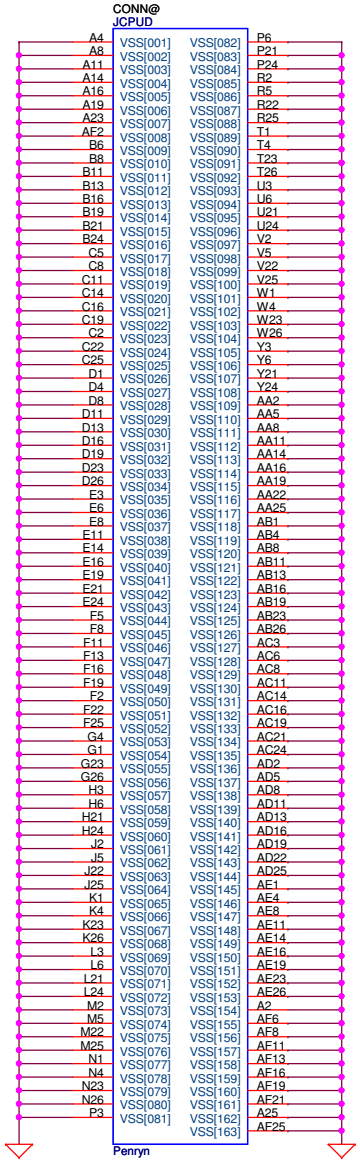
Length match within 25 mils.
The trace width/space/other is
16/7/25.

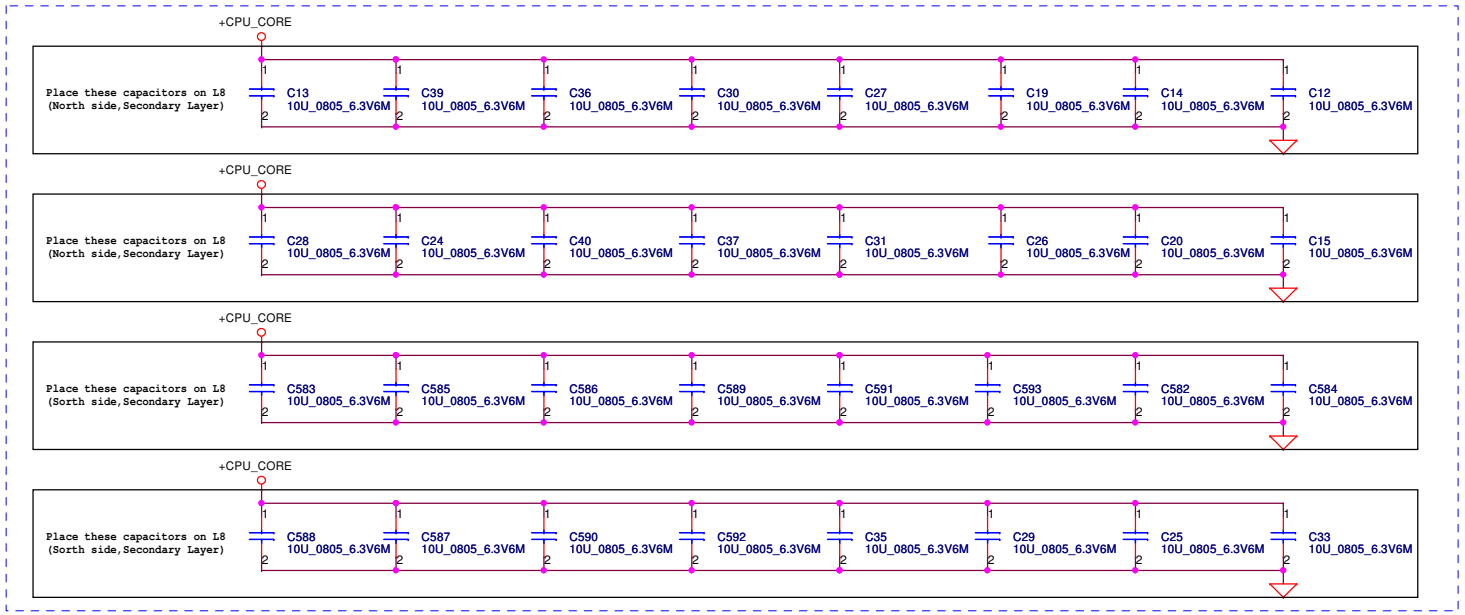
Layout Note:
Route VCCSENSE and VSSSENSE traces at
27.4 Ohms with 50 mil spacing.
Place PU and PD within 1 inch of CPU.
Length matched to within 25 mils.

Close to CPU pin
within 500mils.

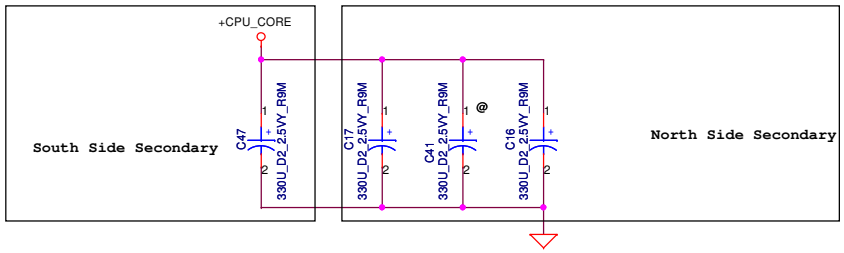
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: Penryn (2/3)			
Size: B	Document Number: KIWAX_LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 6 of 51		



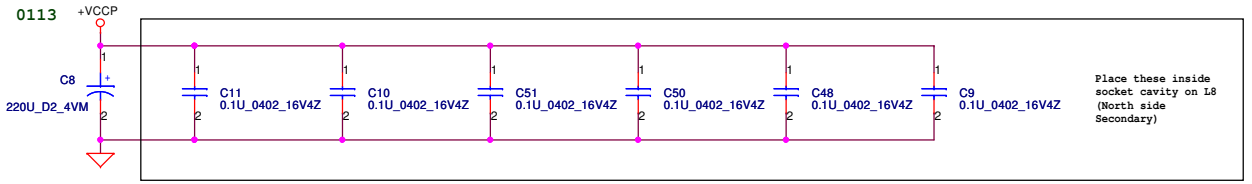


Mid Frequence Decoupling



ESR <= 1.5m ohm
Capacitor > 1980uF

Delete "REMOVE?" 0113



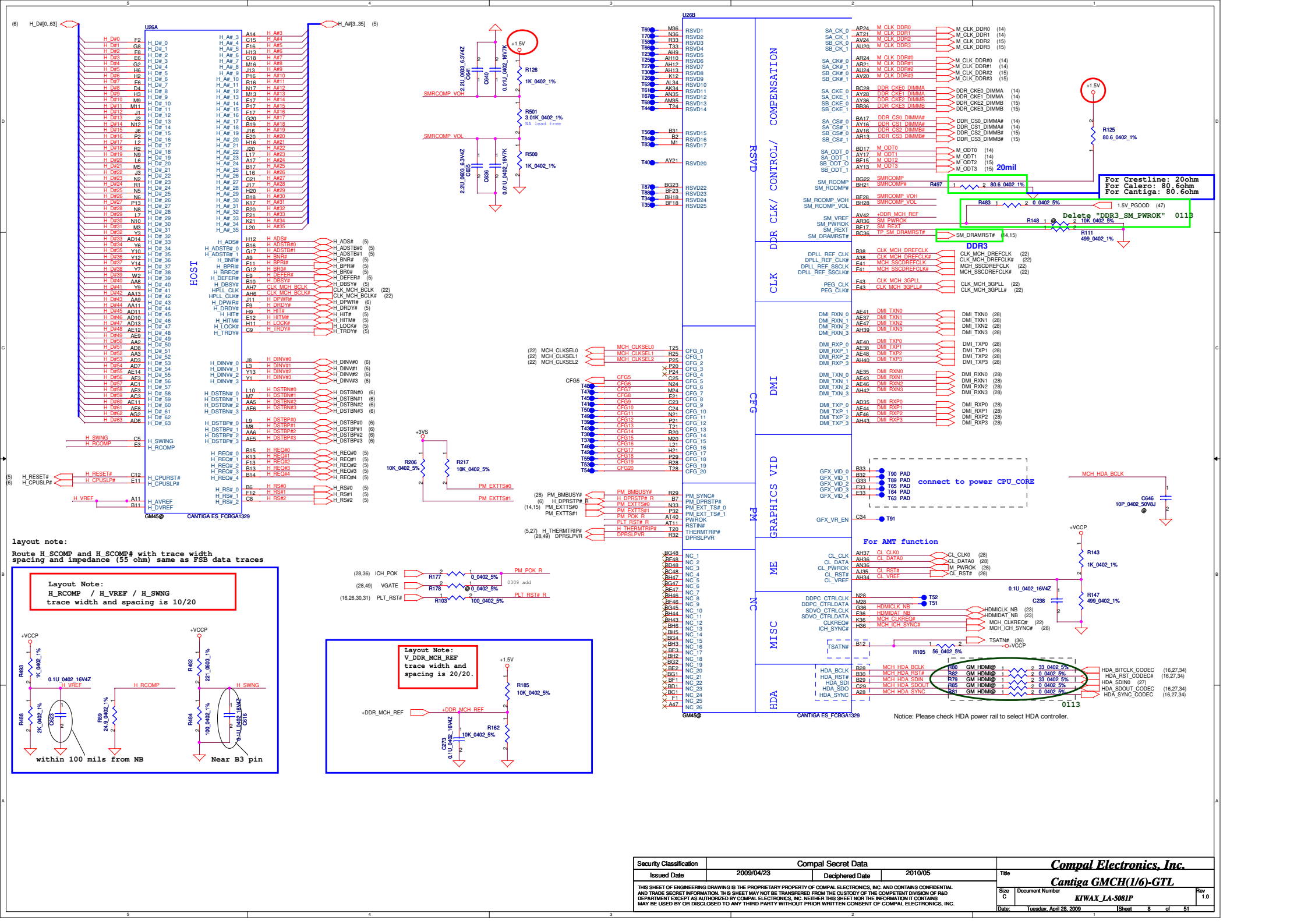
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **Penryn (3/3)**

Size	Document Number	Rev
B	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 7 of 51



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

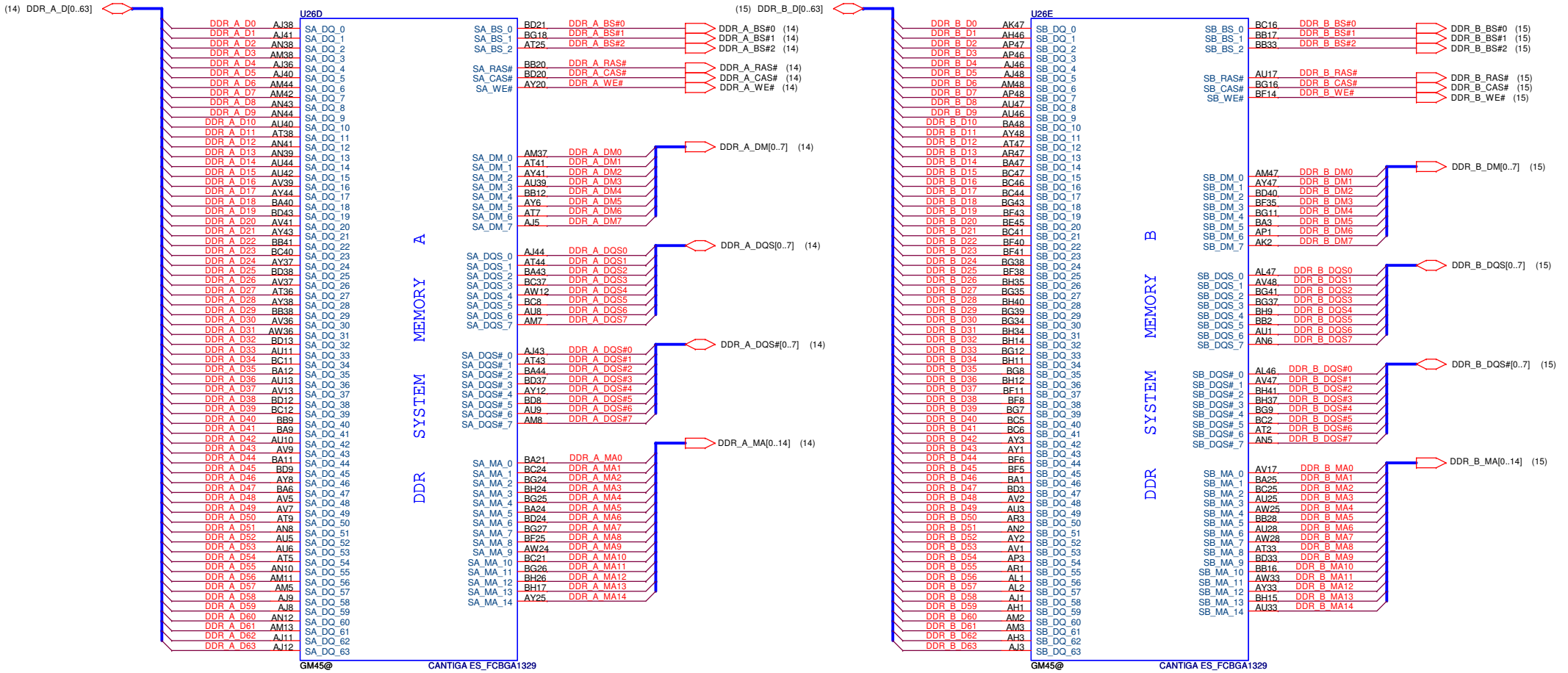
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.

Title: Cantiga GMCH(1/6)-GTL

Size	Document Number	Rev
C	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 8 of 51



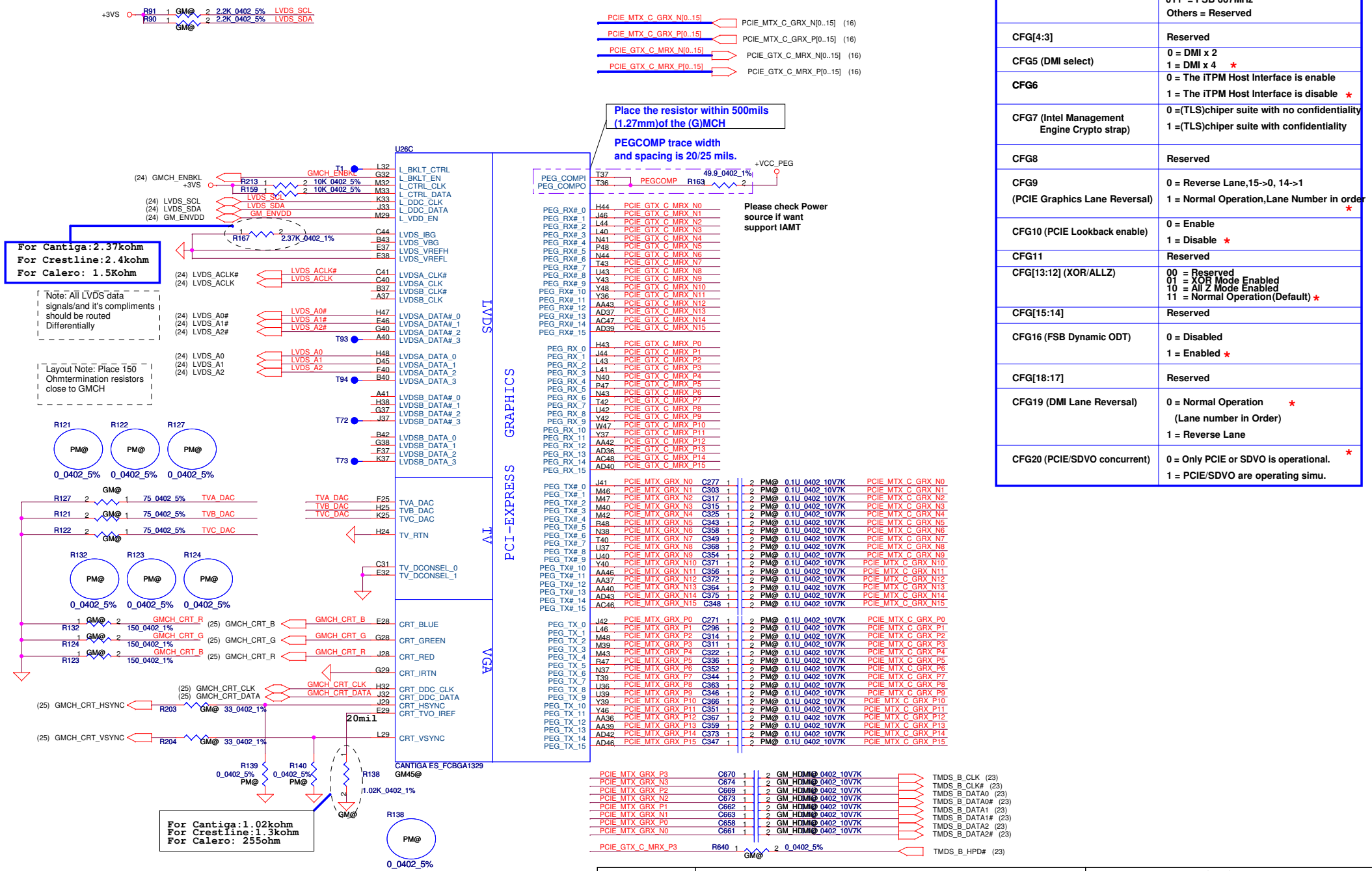
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **Cantiga GMCH (2/6)-DDRII**

Size	Document Number	Rev
B	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 9 of 51



Strap Pin Table

CFG[2:0] FSB Freq select	000 = FSB 1066MHz 010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG[4:3]	Reserved
CFG5 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CFG6	0 = The iTPM Host Interface is enable 1 = The iTPM Host Interface is disable *
CFG7 (Intel Management Engine Crypto strap)	0 =(TLS)chiper suite with no confidentiality 1 =(TLS)chiper suite with confidentiality
CFG8	Reserved
CFG9 (PCIE Graphics Lane Reversal)	0 = Reverse Lane,15->0, 14->1 1 = Normal Operation,Lane Number in order *
CFG10 (PCIE Lookback enable)	0 = Enable 1 = Disable *
CFG11	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation(Default) *
CFG[15:14]	Reserved
CFG16 (FSB Dynamic ODT)	0 = Disabled 1 = Enabled *
CFG[18:17]	Reserved
CFG19 (DMI Lane Reversal)	0 = Normal Operation * (Lane number in Order) 1 = Reverse Lane
CFG20 (PCIE/SDVO concurrent)	0 = Only PCIE or SDVO is operational. * 1 = PCIE/SDVO are operating simu.

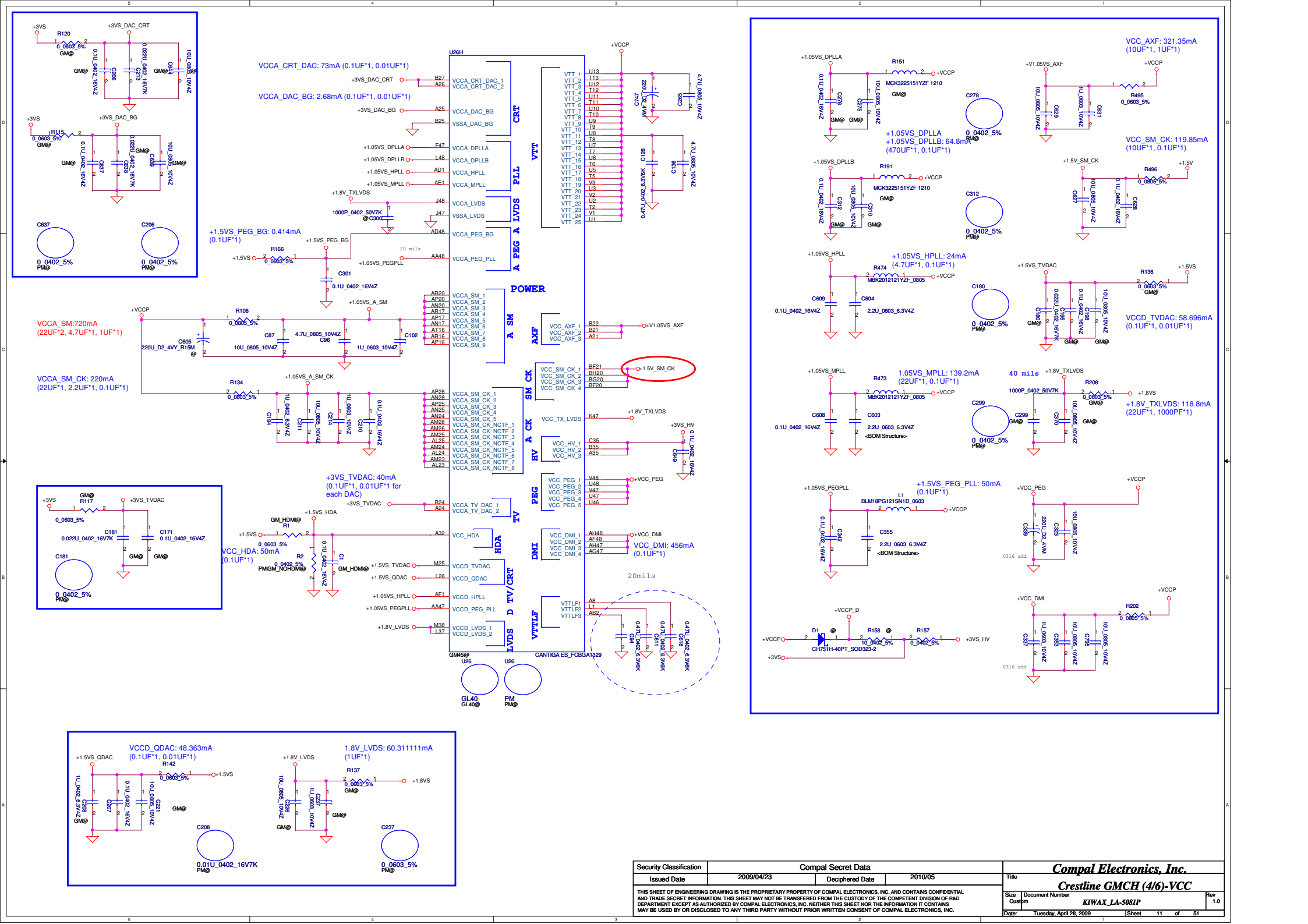
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

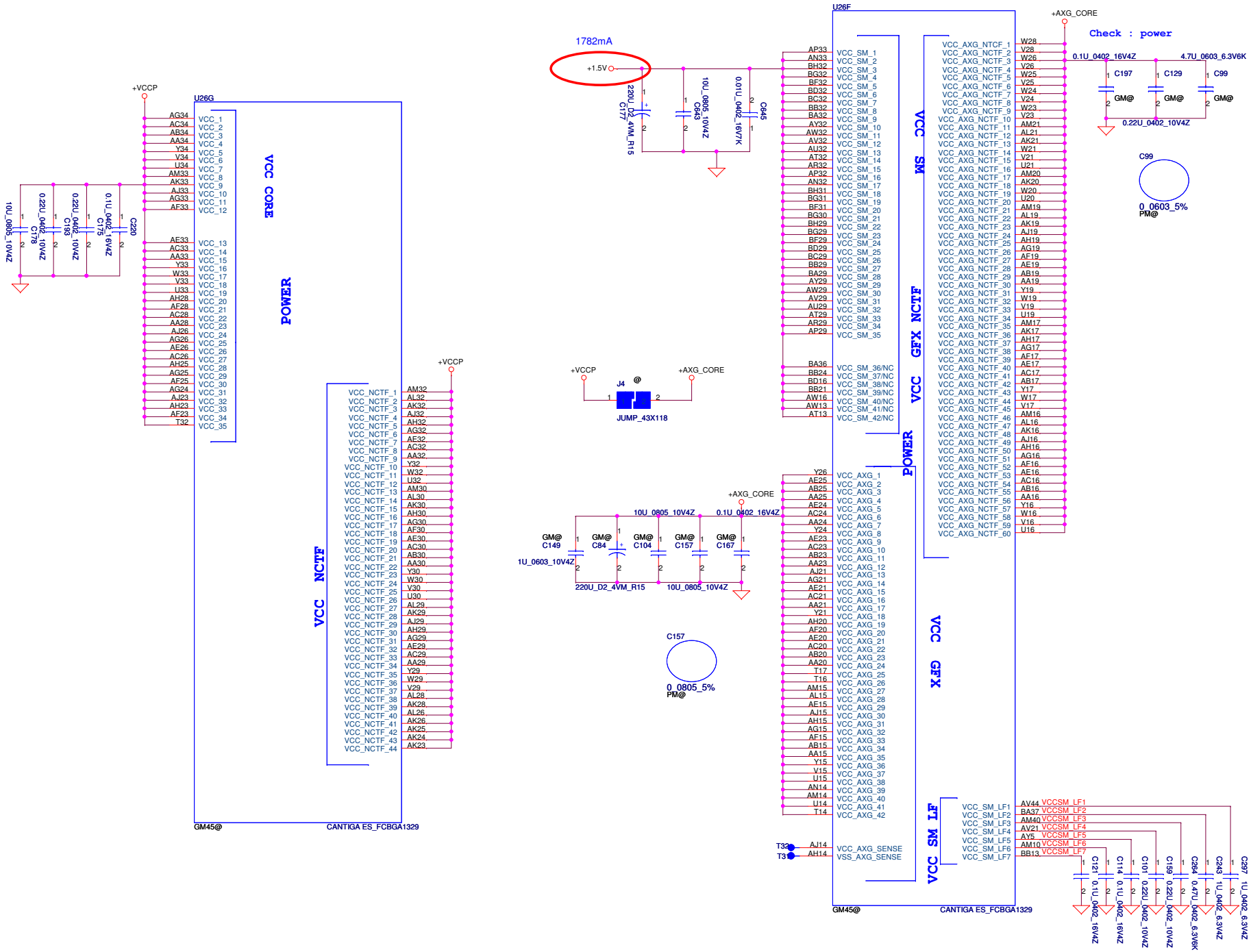
Compal Electronics, Inc.

Title: **Cantiga GMCH (3/6)-VGA/LVDS/TV**

Size	Document Number	Rev
Custom	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 10 of 51


VCCA_CRT_DAC: 73mA (0.1UF*1, 0.01UF*1)
VCCA_DAC_BG: 2.68mA (0.1UF*1, 0.01UF*1)
+1.5VS_PEG_BG: 0.414mA (0.1UF*1)
VCCA_SM:720mA (22UF*2, 4.7UF*1, 1UF*1)
VCCA_SM_CK: 220mA (22UF*1, 2.2UF*1, 0.1UF*1)
+3VS_TVDAC: 40mA (0.1UF*1, 0.01UF*1 for each DAC)
VCC_HDA: 50mA (0.1UF*1)
VCC_DMI: 456mA (0.1UF*1)
VCCD_QDAC: 48.363mA (0.1UF*1, 0.01UF*1)
1.8V_LVDS: 60.311111mA (1UF*1)
VCC_AXF: 321.35mA (10UF*1, 1UF*1)
+1.05VS_DPLLA +1.05VS_DPLLB: 64.8mA (470UF*1, 0.1UF*1)
VCC_SM_CK: 119.85mA (10UF*1, 0.1UF*1)
+1.05VS_HPLL: 24mA (4.7UF*1, 0.1UF*1)
VCCD_TVDAC: 58.696mA (0.1UF*1, 0.01UF*1)
1.05VS_MPLL: 139.2mA (22UF*1, 0.1UF*1)
+1.8V_TXLVDS: 118.8mA (22UF*1, 1000PF*1)
+1.5VS_PEG_PLL: 50mA (0.1UF*1)
U26H
CRT
PLL
VTT
LVDS
PEG
POWER
SM
AXF
SM CK
CK
HV
TV
HDA
DMI
D TV/CRT
VTTLF
LVDS
CANTIGA ES_FCBGA1329
GM45@
U26
GL40
PM
Security Classification
Compal Secret Data
Issued Date
2009/04/23
Deciphered Date
2010/05
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 TRANSFERED 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.
Compal Electronics, Inc.
Crestline GMCH (4/6)-VCC
Size
Custom
Document Number
KIWAX_LA-5081P
Rev
1.0
Date:
Tuesday, April 28, 2009
Sheet
11
of
51



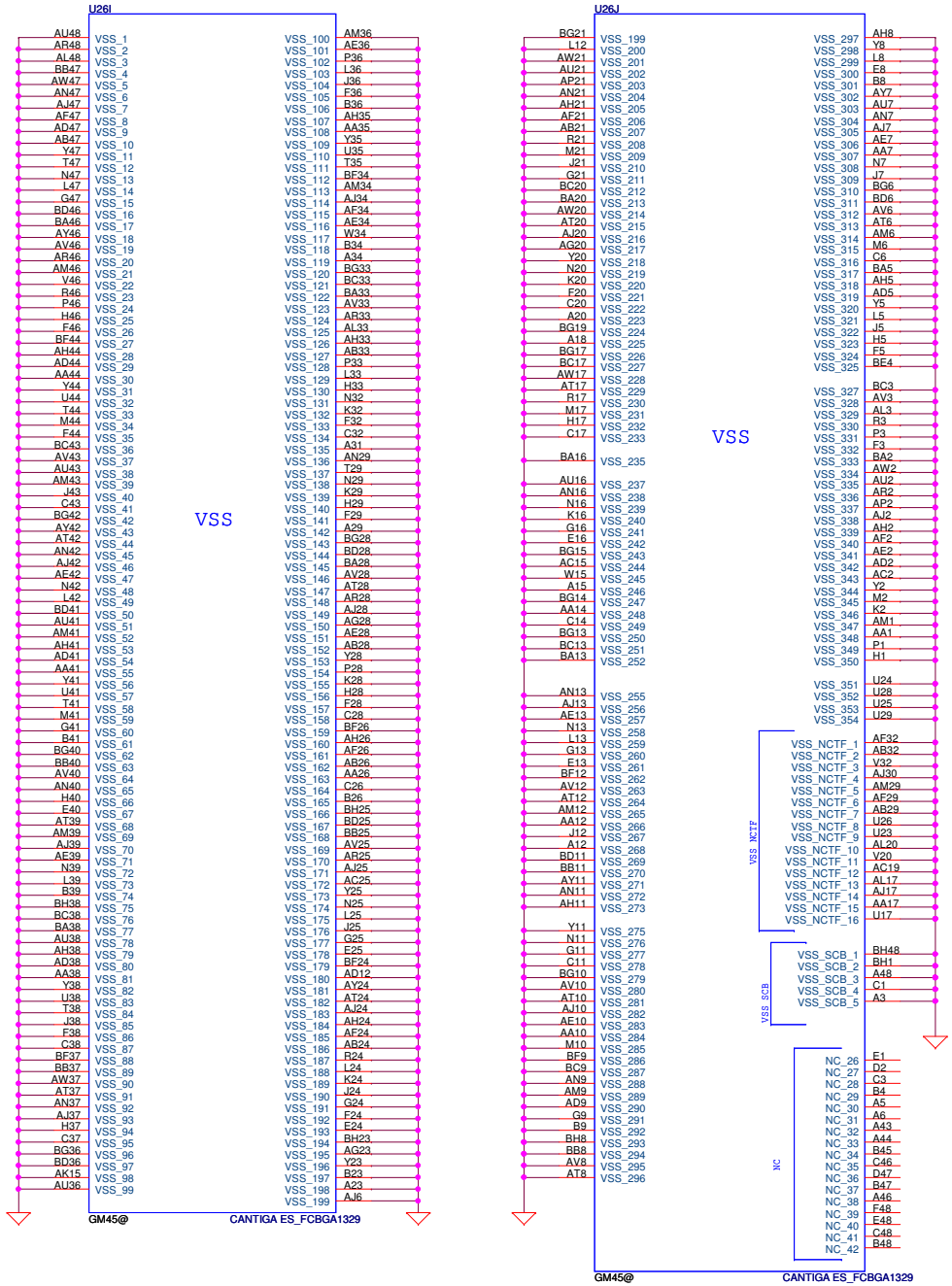
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **Crestline GMCH (5/6)-VCC**

Size	Document Number	Rev
Custom	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 12 of 51



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **Cantiga GMCH (6/6)-GND**

Size	Document Number	Rev
Custom	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 13 of 51

(9) DDR_A_DQS#[0..7]
(9) DDR_A_D[0..63]
(9) DDR_A_DM[0..7]
(9) DDR_A_DQS[0..7]
(9) DDR_A_MA[0..14]

+1.5V
R625 100_0402_1% <BOM Structure>
+V_DDR3_DIMM_REF
R626 <BOM Structure>
C755 0.1U_0402_16V4Z

Layout Note: Place near JP4

Layout Note: Place these 4 Caps near Command and Control signals of DIMMA

+1.5V
C761 10U_0805_6.3V6M
C762 10U_0805_6.3V6M
C767 10U_0805_6.3V6M
C763 10U_0805_6.3V6M
C764 10U_0805_6.3V6M
C765 10U_0805_6.3V6M
C766 10U_0805_6.3V6M
C750 0.1U_0402_16V4Z
C752 0.1U_0402_16V4Z
C749 0.1U_0402_16V4Z
C753 0.1U_0402_16V4Z
C787 470U_D2_2.5VM_R15 @

Layout Note: Place near JP4.203 & JP4.204

+0.75VS
C778 1U_0603_10V4Z
C779 1U_0603_10V4Z
C776 1U_0603_10V4Z
C777 1U_0603_10V4Z
C762 10U_0805_6.3V6M

+1.5V
+V_DDR3_DIMM_REF
JP17
FOX_AS0A626-U2RN-7F
ME@

(8) DDR_CKE0_DIMMA
(9) DDR_A_BS#2
(8) M_CLK_DDR0
(8) M_CLK_DDR#0
(9) DDR_A_BS#0
(9) DDR_A_WE#
(9) DDR_A_CAS#
(8) DDR_CS1_DIMMA#
(8) DDR_CKE1_DIMMA
M_CLK_DDR1 (8)
M_CLK_DDR#1 (8)
DDR_A_BS#1 (9)
DDR_A_RAS# (9)
DDR_CS0_DIMMA# (8)
M_ODT0 (8)
M_ODT1 (8)

R623 0_0402_5%
DDR_VREF_CA_DIMMA
+V_DDR3_DIMM_REF
C785 2.2U_0603_6.3V4Z
C751 0.1U_0402_16V4Z

R627 10K_0402_5%
+3VS
C784 2.2U_0603_6.3V4Z
C754 0.1U_0402_16V4Z
R628 10K_0402_5%
+0.75VS

PM_EXTTS#0 (8,15)
CLK_SMBDATA (15,22)
CLK_SMBCLK (15,22)

DDR3 SO-DIMM A REVERSE

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: DDRIII-SODIMM SLOT1

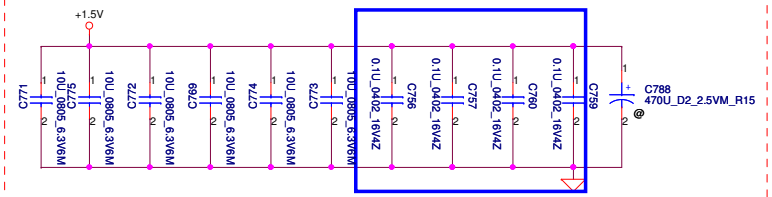
Size: Custom | Document Number: KIWAX_LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 14 of 51

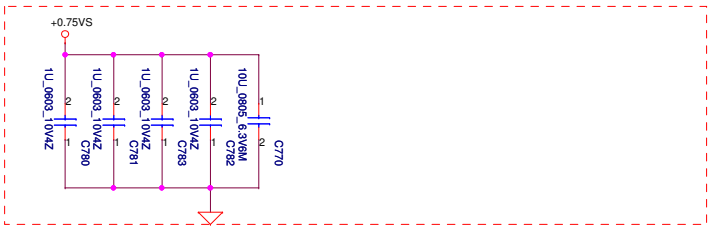
(9) DDR_B_DQS#[0..7]
(9) DDR_B_D[0..63]
(9) DDR_B_DM[0..7]
(9) DDR_B_DQS[0..7]
(9) DDR_B_MA[0..14]

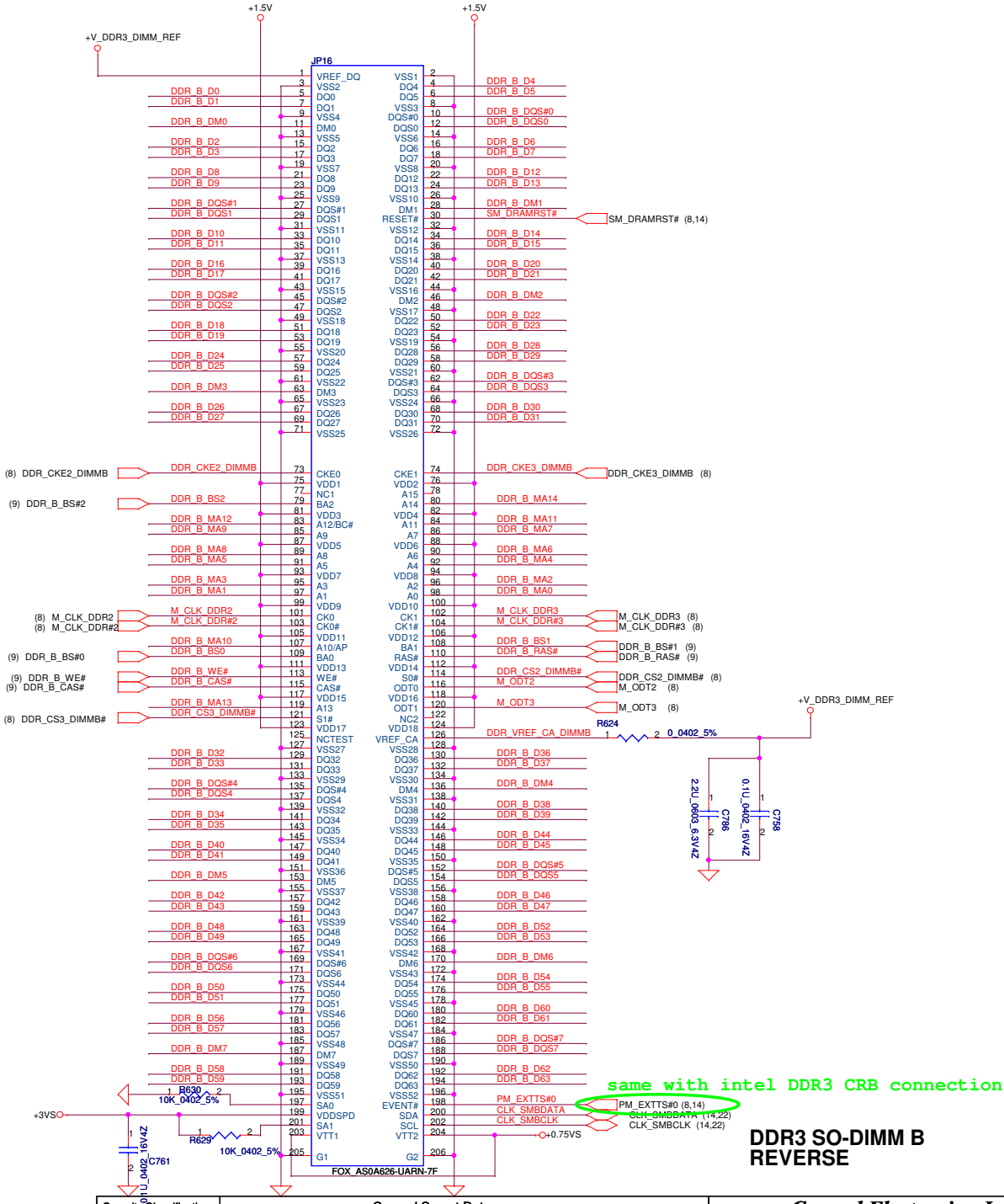
Layout Note:
Place near JP5

Layout Note: Place these 4 Caps near Command and Control signals of DIMMA



Layout Note:
Place near JP5.203 & JP5.204





DDR3 SO-DIMM B
REVERSE

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: DDRIII-SODIMM SLOT2			
Size	Document Number: KIWAX_LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 15 of 51		

3/17 N10M-GS: VGA_CORE:1.0V GPIO6/5--->1/1

GPU_VID1	GPU_VID0	VGA_CORE	P-State
0	0	0.9V	10,12
1	1	1.20V	0
0	1	1.09V	8

	Device ID
NB9M-GS	0x06E9
N10M-GE1-S (55nm)	0x6EC

For N10M 40NM

CRT OUT

EMI

External Spread Spectrum

If External Spread Spectrum not stuff than stuff resistor

NB9M-GS_BGA533
55NM@

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: N10M PCIE,LVDS,GPIO,CLK

Size	Document Number	Rev
B	KIWA5/6 LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 16 of 51

FBAD[0..63] → FBAD[0..63] (20,21)
FBAA[0..13] → FBAA[0..13] (20,21)
FBBA[2..5] → FBBA[2..5] (21)
FBADQM#[0..7] → FBADQM#[0..7] (20,21)
FBADQS[0..7] → FBADQS[0..7] (20,21)
FBADQS#[0..7] → FBADQS#[0..7] (20,21)

CKEcs0ODT

R131 & R132 Pull-down for initialization
CKE & RESET/ODT

For N10M

U59B — MEMORY INTERFACE — Part 2 of 5 — NB9M-GS_BGA533 55NM@

U59C — LVDS/TMDS — Part 3 of 5 — NB9M-GS_BGA533 55NM@

1.27V~0.9V

for GT21x request

5V PULL UP IN CONNECTER SIDE

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

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 TRANSFERED 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.

Compal Electronics, Inc.

Title: N10M Memory

Size: B | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 17 of 51

FOR N10M 40NM , 1.1VS needs to be changed to 1.05VS

+VGA_CORE
13.56A
NEAR BALL
0.1U_0402_16V4Z
0.47U_0402_6.3V6K
220U_20_4VM
C978 C979 C980 C981 C982 C983
C990 C991 C992 C993 C994 C995
PM@

4.7U 6.3V K X5R 0603
C1001 C1002 PM@
NEAR BGA

+3VS
NEAR BGA
80mA
C1011 C1012 C1013 PM@
1U_0603_10V4Z
NEAR BALL

U59D
POWER
Part 4 of 5
NB9M-GS_BGA533
55NM@

VDD J9 J10 J12 J13 L9 M9 M11 M17 N9 N11 N12 N13 N14 N15 N16 N17 N19 P11 P12 P13 P14 P15 P16 P17 R9 R11 R12 R13 R14 R15 R16 R17 T9 T11 T17 U9 U19 W9 W10 W12 W13 W18 W19
VDD33 A12 B12 C12 D12 E12 F12
FBVDDQ A13 B13 C13 D13 D14 E13 E13 F14 F15 F16 F17 F19 F22 H23 H26 J15 J16 J18 J19 L19 L23 L26 M19 N22 U22 Y22
PEX_IOVDDQ AG6 AF6 AE6 AD6 AC13 AC7 AB17 AB16 AB13 AB9 AB8 AB7 AG7 AF7 AE7 AD8 AD7 AC9
PEX_IOVDD
PEX_PLLVDD AF9
VID_PLLVDD K6
SP_PLLVDD L6
PLLVDD K5
IFPA_IOVDD V3
IFPB_IOVDD V2
IFPC_IOVDD J6
IFPE_IOVDD H6
FB_PLLAVDD R19
FB_DLLAVDD T19
DACA_VDD AG2
DACB_VDD D7
DACC_VDD W5
IFPAB_PLLVDD AD5
IFPC_PLLVDD P6
IFPE_PLLVDD N6
FB_CAL_PD_VDDQ B15

PLACE NEAR BGA
0.022U_0402_16V7K 0.1U_0402_16V4Z 4.7U 6.3V K X5R 0603
C971 C972 C973 C974 C975 C976 PM@
+1.8VS

PLACE BELOW GPU
FBAVDDQ=2.24A
4700P_0402_25V7K 0.022U_0402_16V7K 1U_0603_10V4Z
C984 C985 C986 C987 C988 C989
C996 C997 C998 C999 C1000
+1.8VS

C1003 C1004 C1005 C1006 0.1U_0402_16V4Z 0.47U_0402_6.3V6K
C1007 1U_0402_6.3V4Z
NEAR BALL

PEX_IOVDDQ=1.6A
PEX_IOVDD=500mA
PEX_PLLVDD=100mA
+1.1VS
C1008 C1009 C1010 PM@
4.7U 6.3V K X5R 0603
10U_0805_10V4Z

+1.8VS L28 MBK1608121YZF_0603 PM@
4700P_0402_25V7K 470P_0402_50V7K
C1019 C1020 C1021
4.7U 6.3V K X5R 0603
12~16mil
+IFPA_IOVDD
+IFPB_IOVDD
+IFPC_IOVDD
10K_0402_5% R994
+IFPAB_PLLVDD
+IFPC_PLLVDD
10K_0402_5% R997
110mA
NEAR BGA
NEAR BALL

+1.8VS L31 MBK1608121YZF_0603 PM@
4700P_0402_25V7K 470P_0402_50V7K
C1025 C1026 C1027
4.7U 6.3V K X5R 0603

+PEX_PLLVDD
+1.1VS_PLL
12~16mil
0.1U_0402_16V4Z 1U_0402_6.3V6K
C1014 C1015 C1016 C1017 C1018 PM@
MBK1608121YZF_0603
L27
+1.1VS
NEAR BALL
PLLVDD=65mA
SP_PLLVDD=25mA
VID_PLLVDD=50mA

+PEX_PLLVDD
0.1U_0402_16V4Z 10U_0805_10V4Z
C1028 C1029 C1030 C1031 PM@
0.01U_0402_16V7K
L32 MBK1608121YZF_0603 PM@
+1.1VS
NEAR BALL
NEAR BGA

+FB_PLLAVDD
+FB_DLLAVDD
0.1U_0402_16V4Z
C1022 C1023 C1024 C1032 C1033 C1034 PM@
0.01U_0402_16V7K
4.7U 6.3V K X5R 0603
L30 L34 MBK1608121YZF_0603 PM@
+1.1VS

IFPC_PLLVDD: please add option to support
both 1.8V (for G9X) and 3.3V(for GT21X)

+1.8VS L35 MBK1608121YZF_0603 55NM_HDMI@
4700P_0402_25V7K +IFPC_PLLVDD
+3VS L37 40NM_HDMI@ MBK1608121YZF_0603
C1035 C1036 PM_HDMI@
4.7U 6.3V K X5R 0603
C1036 0_0402_5% PM_NOHDMI@
+1.1VS L40 MBK1608121YZF_0603 PM_HDMI@
4700P_0402_25V7K +IFPC_IOVDD
C1042 C1043 C1044 PM_HDMI@
4.7U 6.3V K X5R 0603 470P_0402_50V7K
C1044 0_0402_5% PM_NOHDMI@
NEAR BGA
NEAR BALL

260mA NEAR BGA
+1.8VS L36 MBK1608121YZF_0603 55NM@
4700P_0402_25V7K +IFPAB_PLLVDD
+1.1VS L39 40NM@ MBK1608121YZF_0603
C1037 C1038 PM@
4.7U 6.3V K X5R 0603
NEAR BALL

IFPAB_PLLVDD: please add option to support
both 1.8V(for G9X) and 1.05V(for GT21X)

R996 37.4_0402_1% 40NM@

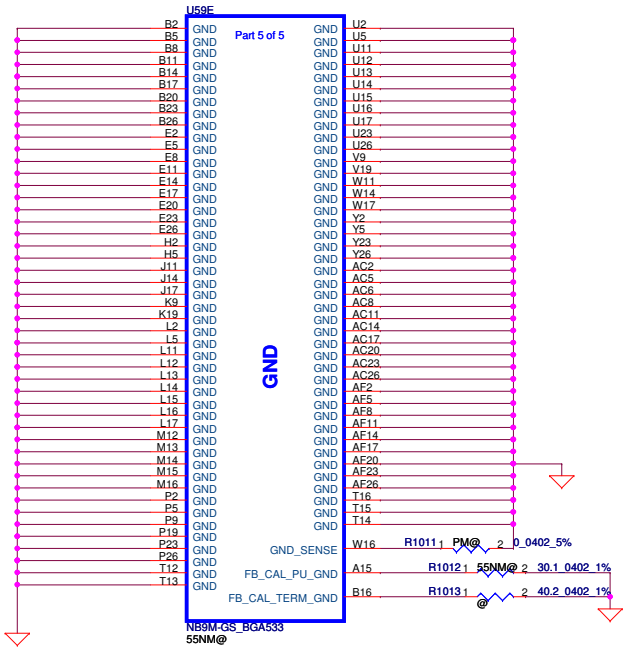
R995 R996 10K_0402_5%
R998 30.1_0402_1%
+1.8VS

110mA
+DACA_VDD
4700P_0402_25V7K 4.7U 6.3V K X5R 0603
C1039 C1040 C1041 PM@
470P_0402_50V7K
L38 MBK1608121YZF_0603 PM@
+3VS

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.
Title: NB10M Power
Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0
Date: Tuesday, April 28, 2009 | Sheet 18 of 51

A total of 8 signals are required for GB1 strapping this includes
2 reference signals
6 physical strapping pins
4 logical strapping bits
A total of 24 logical strapping bits are available

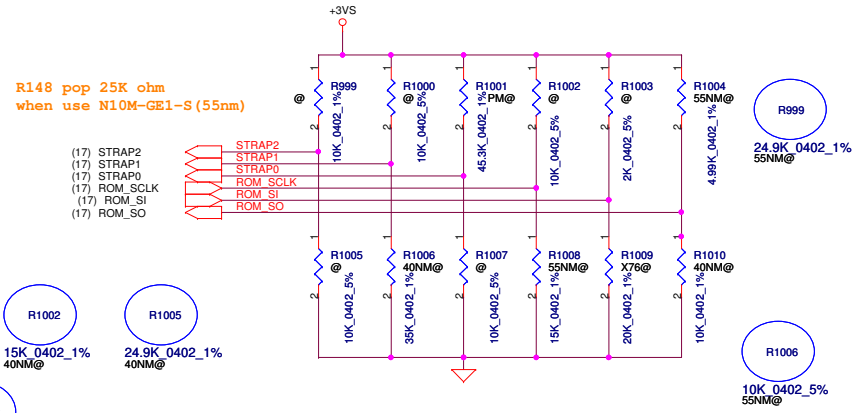


Memory/PKG	FBCAL_PU_GND	FBCAL_PD_VDDQ	FBCAL_TERM_GND
DDR2	30.1ohm	30.1ohm	NC
GDDR3	33.2ohm	44.2ohm	40.2ohm

To update for NV PUN-03304-001_V06 (2008/4/01)

U59
NB10M-GS-S
40NM@

R148 pop 25K ohm
when use N10M-GE1-S(55nm)



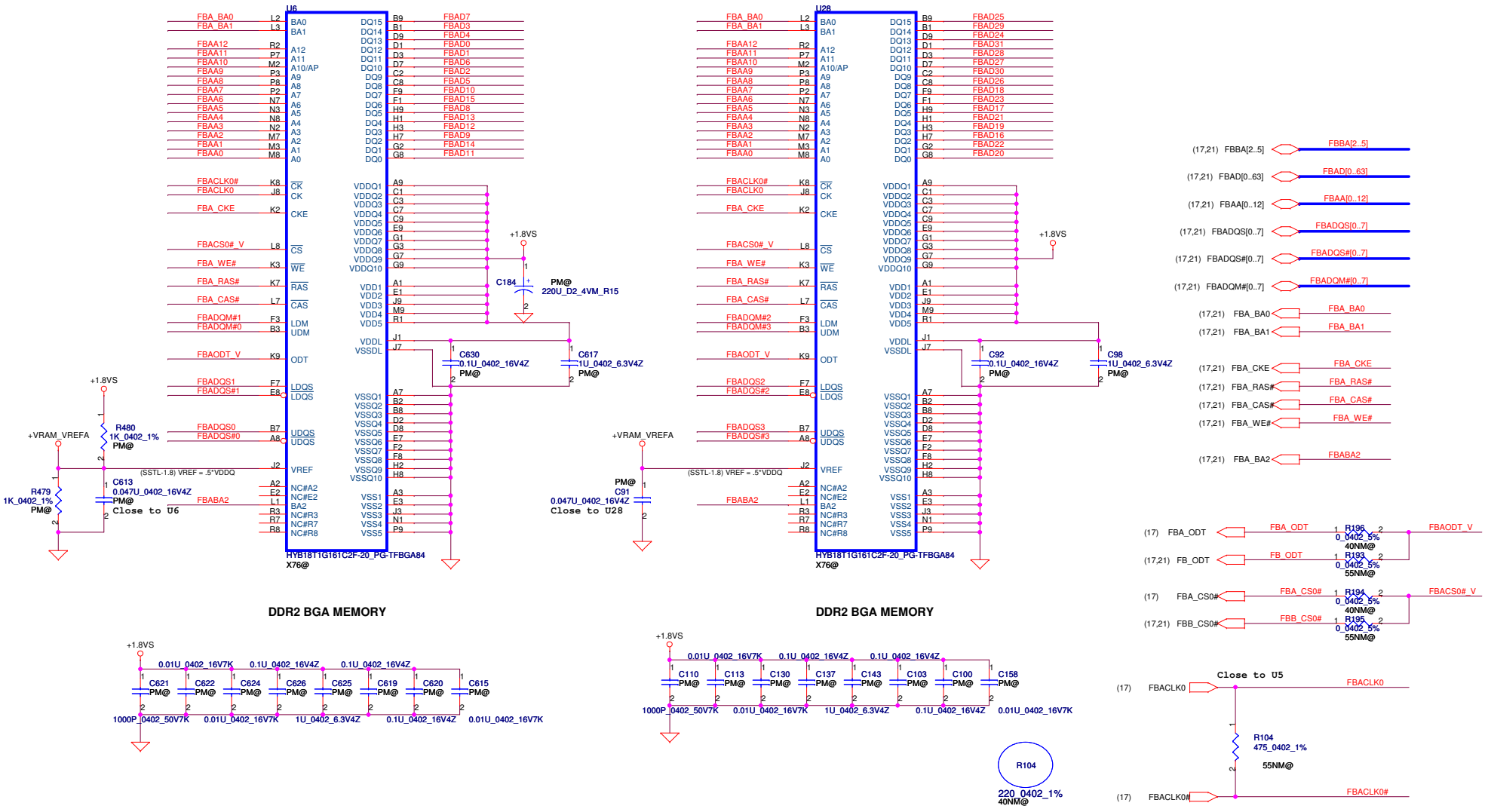
GB1 Family GPU Strap Options X76

GPU	FB Memory (DDR2)		ROM_SO	ROM_SCLK	ROM_SI	STRAP2	STRAP1	STRAP0
N10M-GE1-S (0x6EC) 55nm	Samsung	64Mx16	PU 5K	PD 15K	PD 20K	PU 25K	PD 10K	PU 45K
	Hynix	64Mx16	PU 5K	PD 15K	PD 5K	PU 25K	PD 10K	PU 45K
	Qimonda	64Mx16	PU 5K	PD 15K	PD 15K	PU 25K	PD 10K	PU 45K

4/23 update strap1 10K to 35K
according to N10M latest PUN

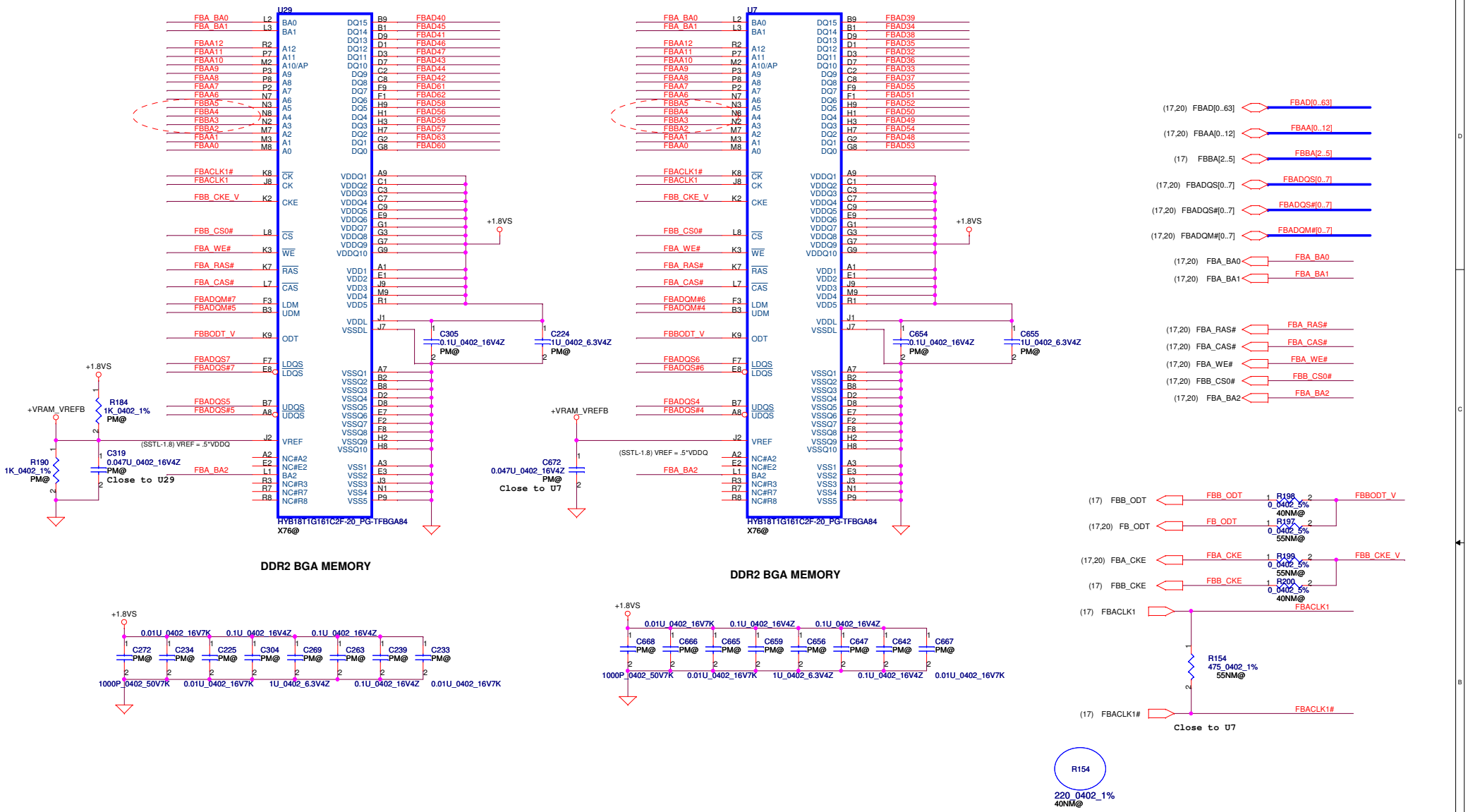
GPU	FB Memory (DDR2)		ROM_SO	ROM_SCLK	ROM_SI	STRAP2	STRAP1	STRAP0
N10M-GS (0x6EC) 40nm	Samsung	64Mx16	PD 10K	PD 15K	PD 10K	PU 10K	PD 35K	PU 45K
	Hynix	64Mx16	PD 10K	PD 15K	PD 5K	PU 10K	PD 35K	PU 45K
	Qimonda	64Mx16	PD 10K	PD 15K	PD 15K	PU 10K	PD 35K	PU 45K

Compal Electronics, Inc.
Title: N10M GND & STRAP
Size: B | Document Number: KIWA5/6 LA-5081P | Rev: 1.0
Date: Tuesday, April 28, 2009 | Sheet 19 of 51



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: VRAM DDRA			
Size: Custom	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 20 of 51		



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: VRAM DDRB			
Size: Custom	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 21 of 51		

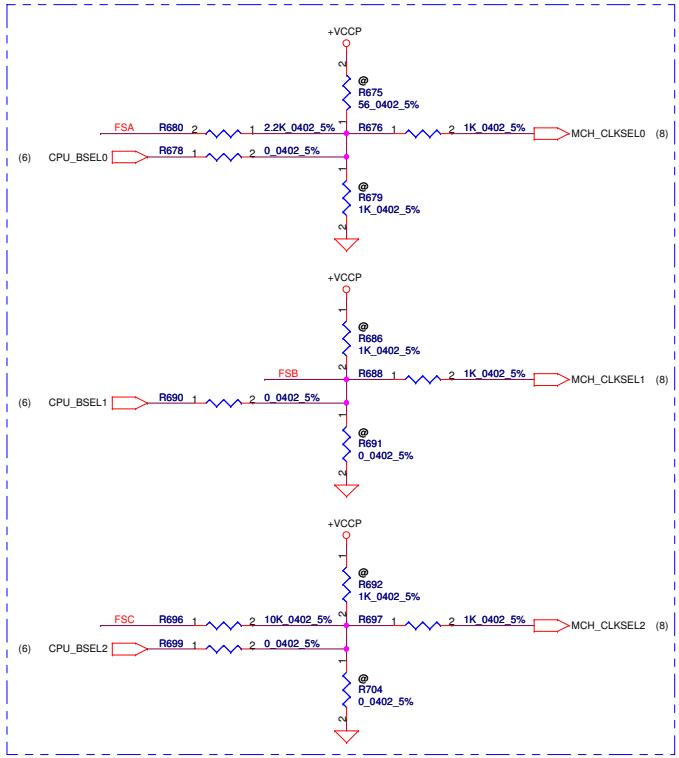
FSC CLKSEL2	FSB CLKSEL1	FSA CLKSEL0	CPU MHz	SRC MHz	PCI MHz	REF MHz	DOT_96 MHz	USB MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1	Reserved					

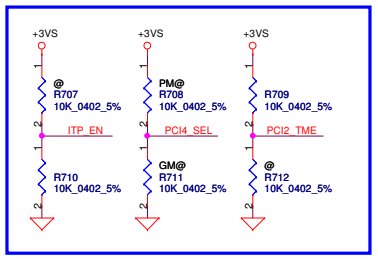
SA000020K00 (Silego : SLG8SP556VTR)

SA000020H00 (ICS : ICS9LPRS387AKLFT)

BOM Structure

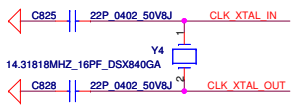
BOM Structure



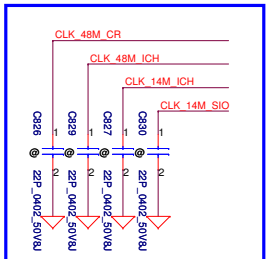


For ITP_EN, 0 =SRC8/SRC8#; 1 = ITP/ITP#

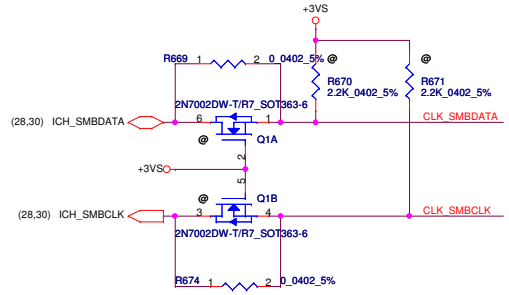
For PCI4_SEL, 0 = Pin24/25 : DOT96 / DOT96#
Pin28/29 : LCDCLK / LCDCLK#
1 = Pin24/25 : SRC_0 / SRC_0#
Pin28/29 : 27M/27M_SS



Routing the trace at least 10mil

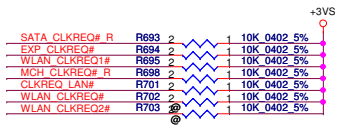


place CAPs near Resistors of U10
For 3G RF noise .



SRC PORT LIST

PORT	DEVICE
SRC0	MCH_DREFCLK
SRC2	MCH_3GPLL
SRC3	PCIE_EXP#
SRC4	
SRC6	PCIE_WLAN
SRC7	PCIE_WLAN1
SRC8	
SRC9	PCIE_LAN
SRC10	PCIE_ICH
SRC11	PCIE_SATA



REQ PORT LIST

PORT	DEVICE
REQ_3#	PCIE_EXP#
REQ_4#	PCIE_WLAN2
REQ_6#	PCIE_WLAN
REQ_7#	PCIE_WLAN1
REQ_9#	PCIE_LAN
REQ_10#	
REQ_11#	PCIE_SATA
REQ_A#	MCH_3GPLL

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: Clock Generator CK505

Size	Document Number	Rev
Custom	KIWA5/6 LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 22 of 51

10/30 update PS8171 co-lay circuit
4/14 update 1442T co-lay circuit

P/N:SA00002D700 (8101T)
P/N:SA00001U920 (CH7318C)

For 8171

PIN NUM	8101T	8171
PIN1	GND	ASQ0
PIN3	PC0	PEQ
PIN4	PC1	PIO
PIN7	HPD#	HPDX
PIN10	RE_EN#	CEXT
PIN11	VCC	APD
PIN12	GND	ASQ1
PIN27	GND	EMI0
PIN33	VCC	EMI1
PIN34	DDCBUF_EN	DDCBUF
PIN35	CFG	PRE

For 8171 net name:
EMI0, EMI1
ASQ0, ASQ1
APD

TMDS pull down (500ohm) resistors for ATI M92-S2 XT

NEAR CONNECTOR

Reserved for CH7318C

place those component near JP? for NV request 0515

KIWB3/B4_LA4551P

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

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 TRANSFERED 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.

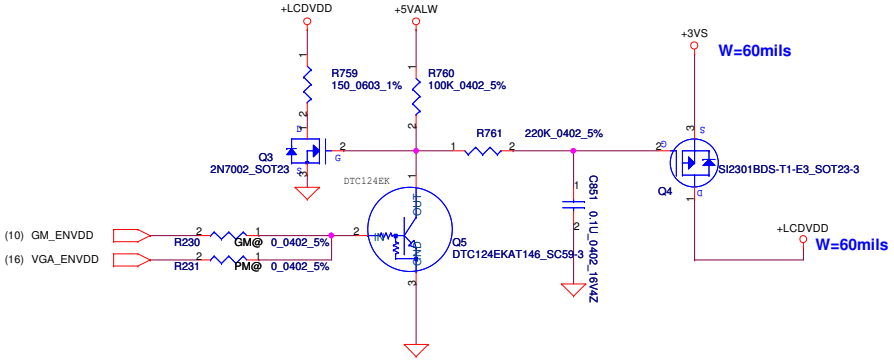
Compal Electronics, Inc.

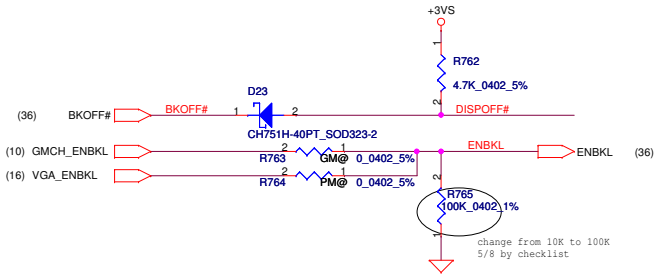
Title: Level Shiftter_PS8101T

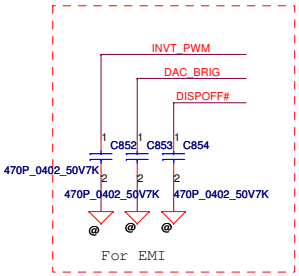
Size	Document Number	Rev
Custom	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 23 of 51

LCD POWER CIRCUIT

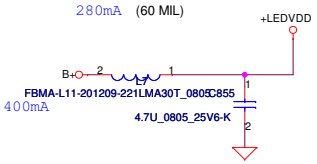


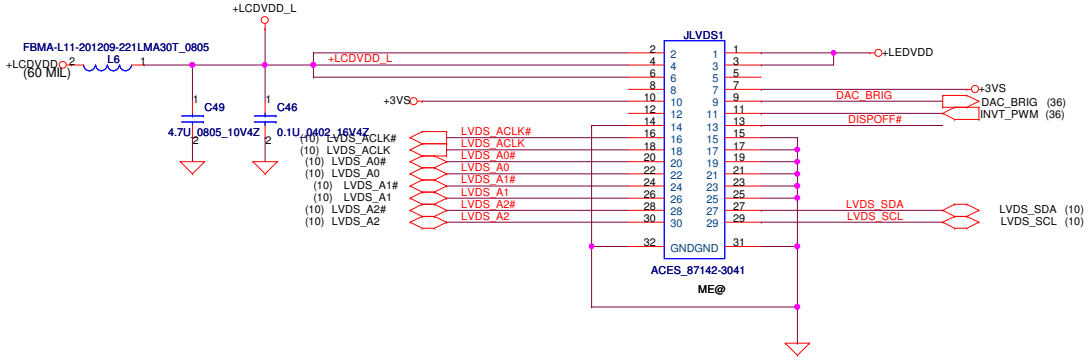


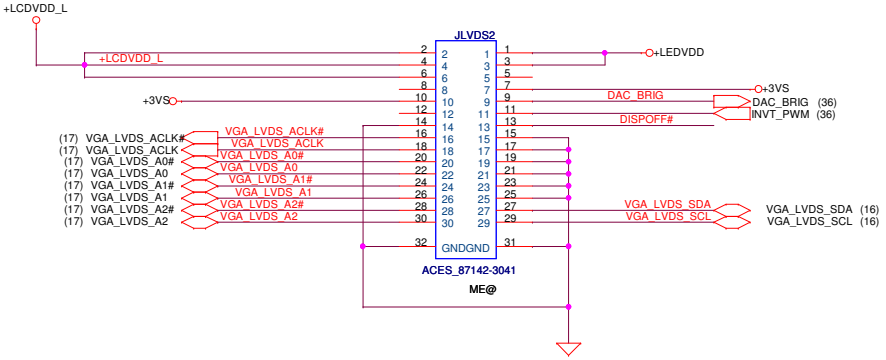


LCD/PANEL BD. Conn. FOR UMA

LCD/PANEL BD. Conn. FOR DIS



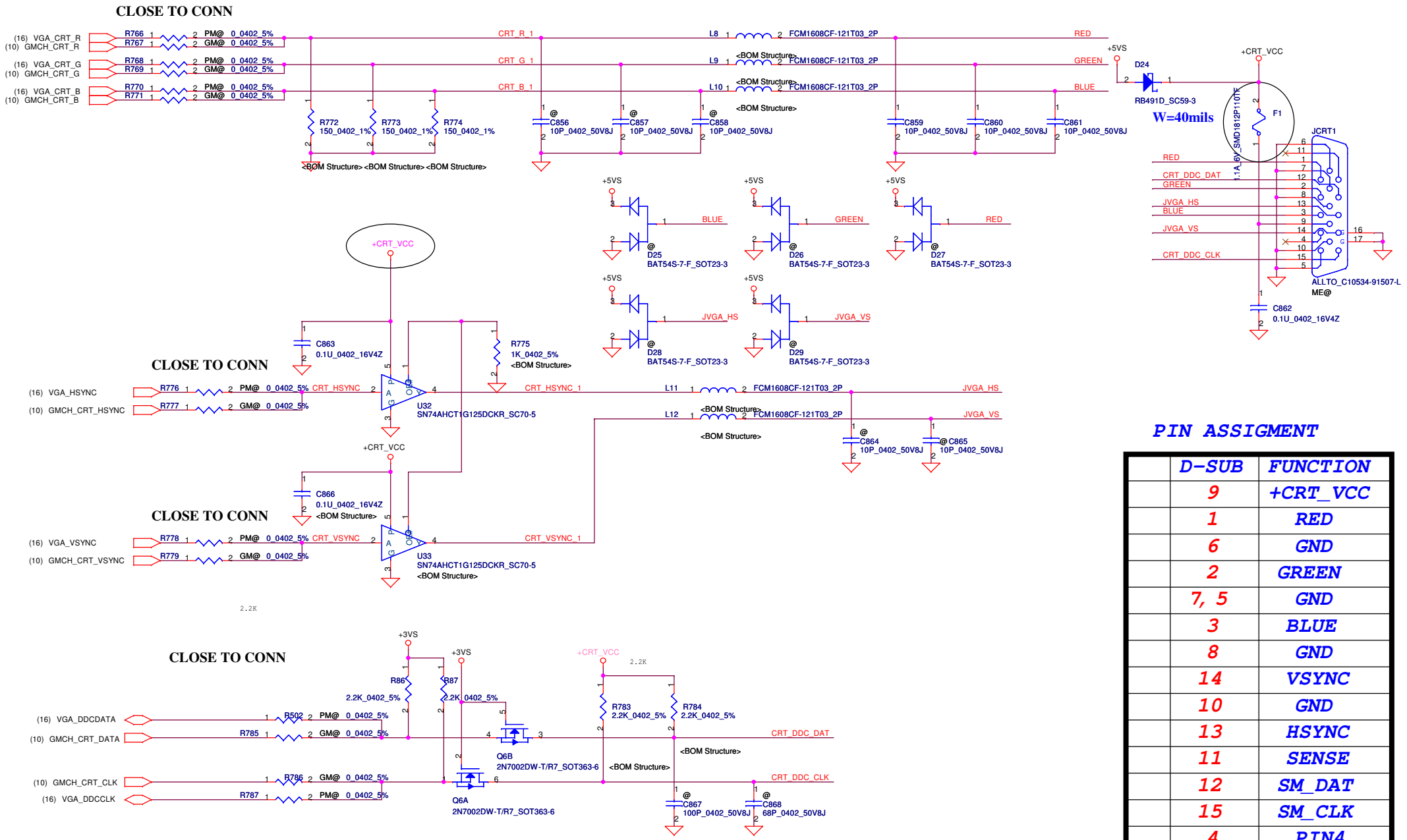




Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: LVDS & DVI Connector			
Size: B	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 24 of 51		

CRT Connector



PIN ASSIGMENT

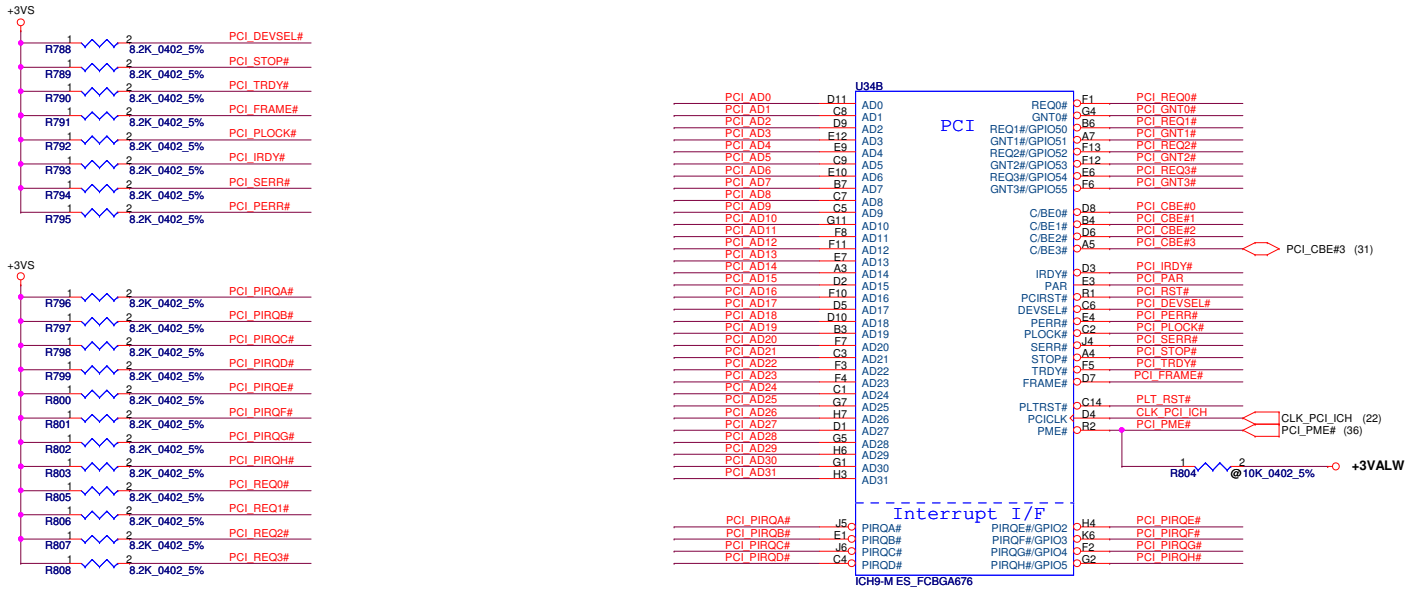
	D-SUB	FUNCTION
	9	+CRT_VCC
	1	RED
	6	GND
	2	GREEN
	7, 5	GND
	3	BLUE
	8	GND
	14	VSYNC
	10	GND
	13	HSYNC
	11	SENSE
	12	SM_DAT
	15	SM_CLK
	4	PIN4

Compal Electronics, Inc.

Title: CRT & TV-OUT Connector

Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 25 of 51

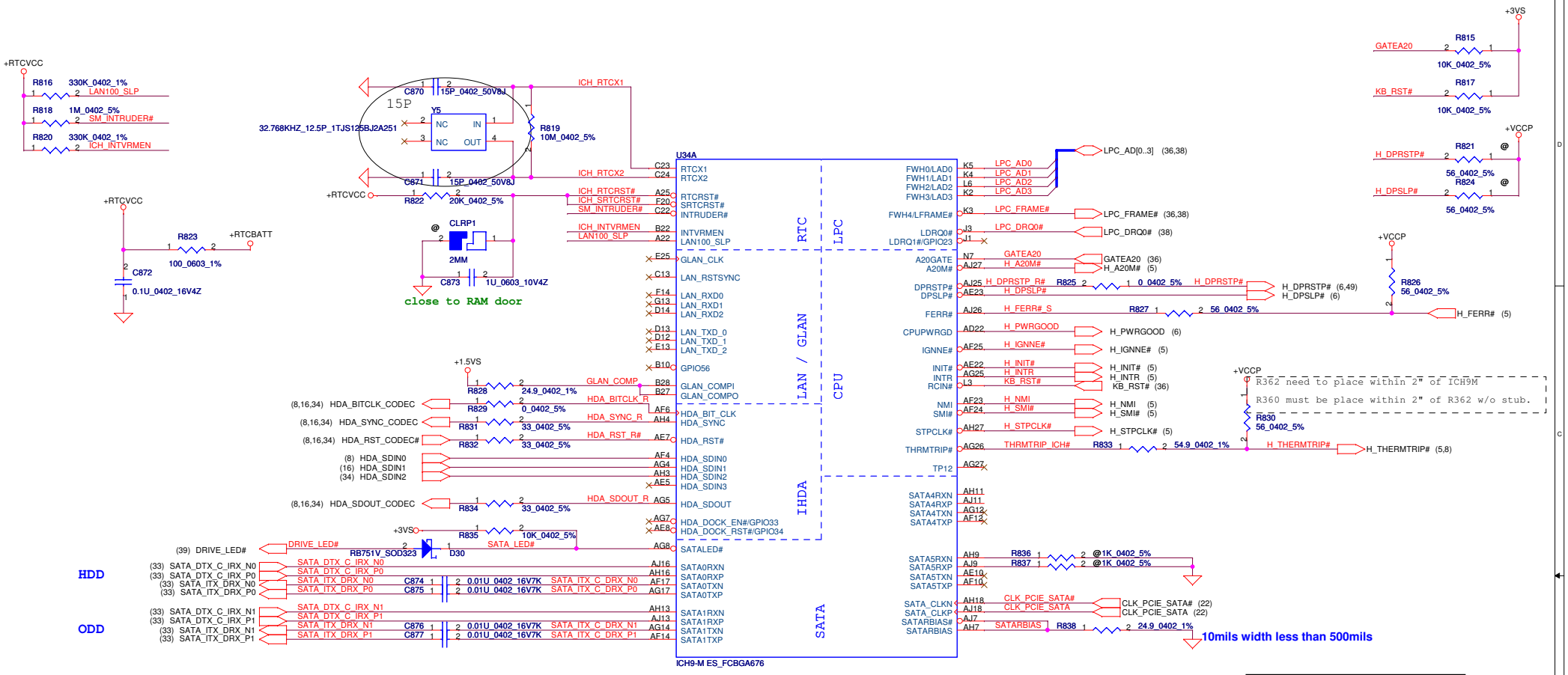


A16 Swap Override Strap	
PCI_GNT#3	Low= A16 swap override Enable High= Default*

Boot BIOS Strap		
PCI_GNT#0	SPI_CS#1	Boot BIOS Loaction
0	1	SPI
1	0	PCI
1	1	LPC*

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.	
Title	ICH9M(1/4)-PCI
Size	Document Number: KIWA5/6 LA-5081P
Rev	1.0
Date: Tuesday, April 28, 2009	Sheet 26 of 51



SATA PORT LIST

PORT	DEVICE
0	HDD
1	ODD
4	E-SATA
5	

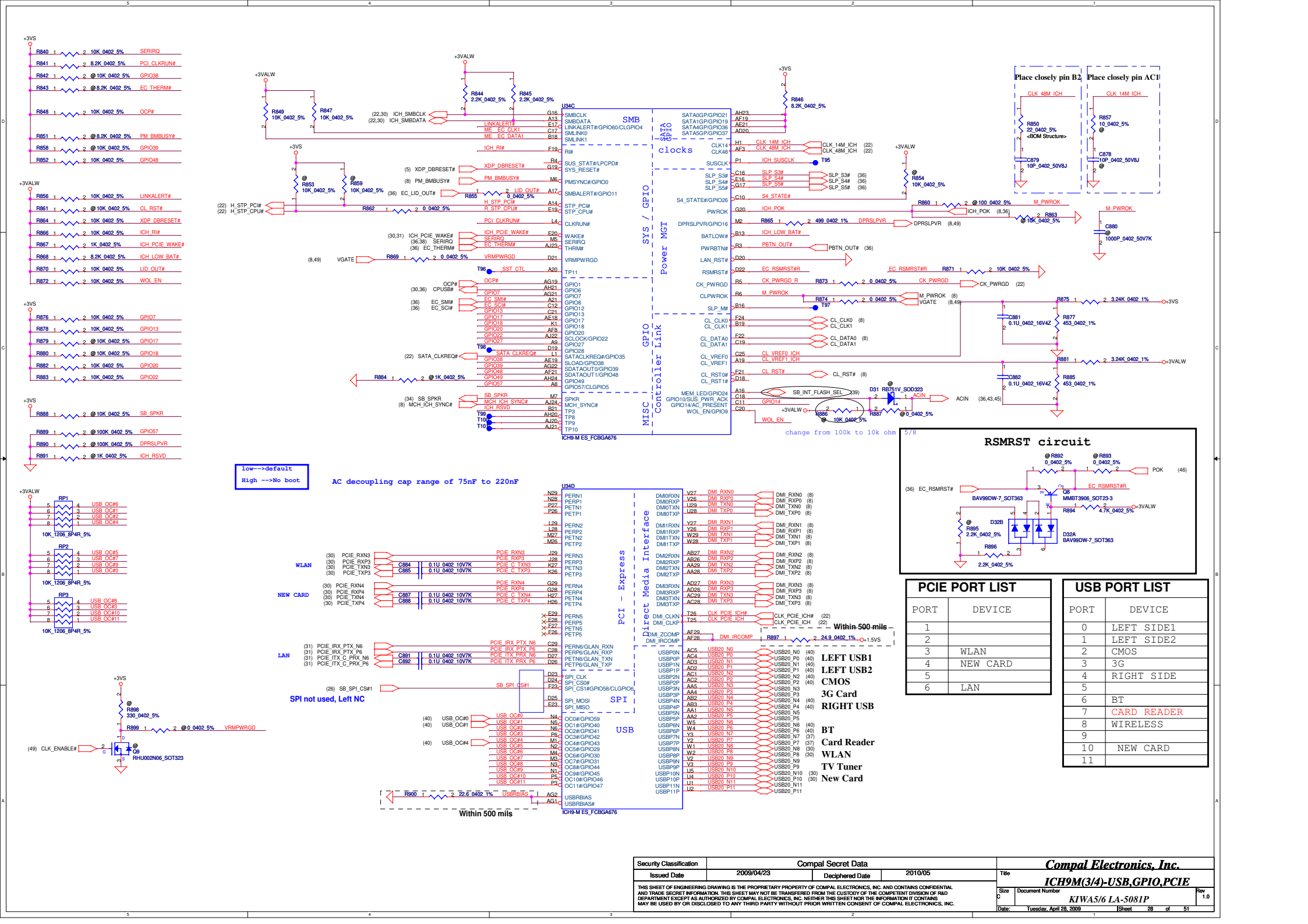
XOR Chain Entrance Strap		
ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation
1	1	Set PCIE port config bit 1

Compal Electronics, Inc.

Title: ICH9M(2/4)-LAN,IDELPC,RTC

Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 27 of 51



PCIE PORT LIST

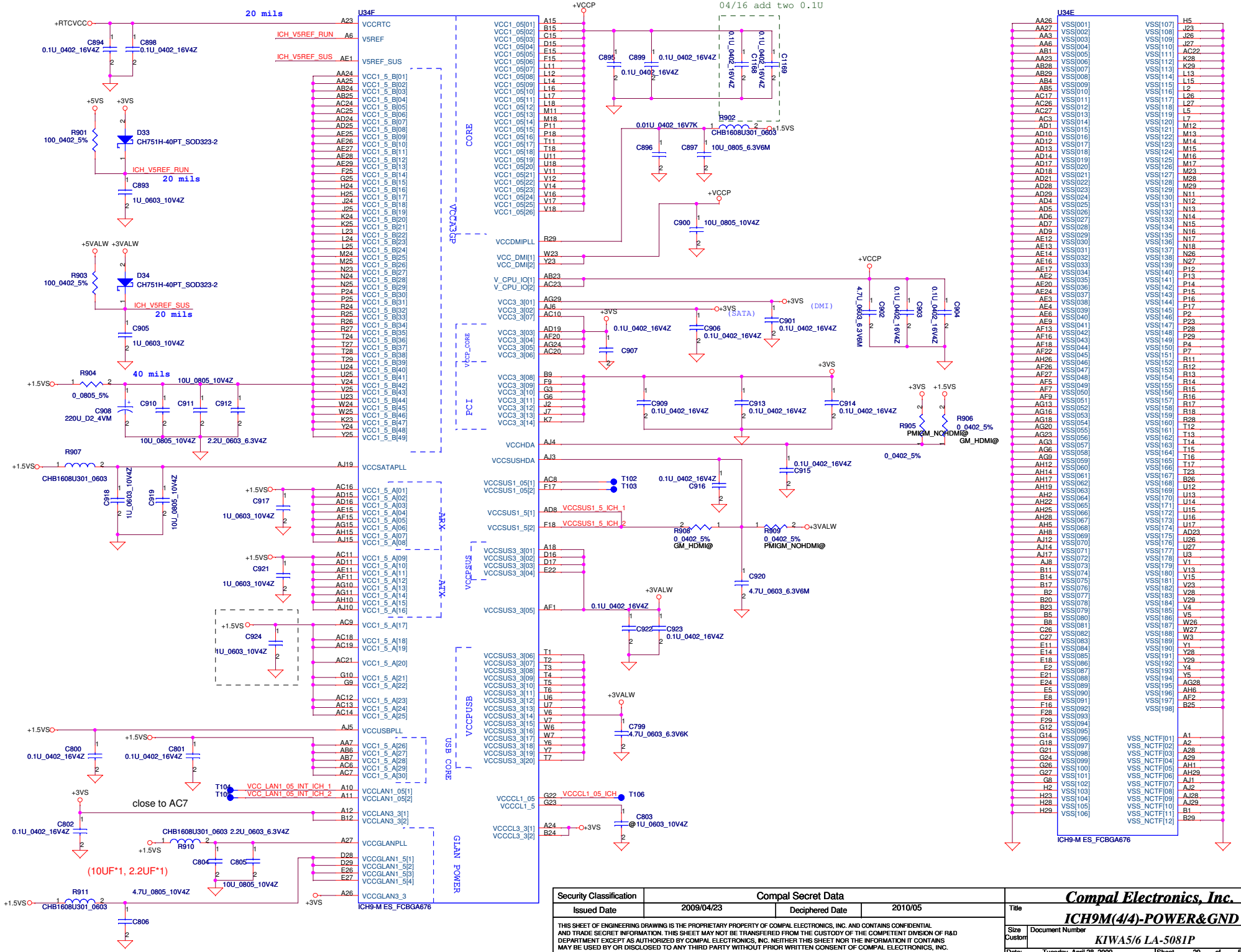
PORT	DEVICE
1	
2	
3	WLAN
4	NEW CARD
5	
6	LAN

USB PORT LIST

PORT	DEVICE
0	LEFT SIDE1
1	LEFT SIDE2
2	CMOS
3	3G
4	RIGHT SIDE
5	
6	BT
7	CARD READER
8	WIRELESS
9	
10	NEW CARD
11	

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

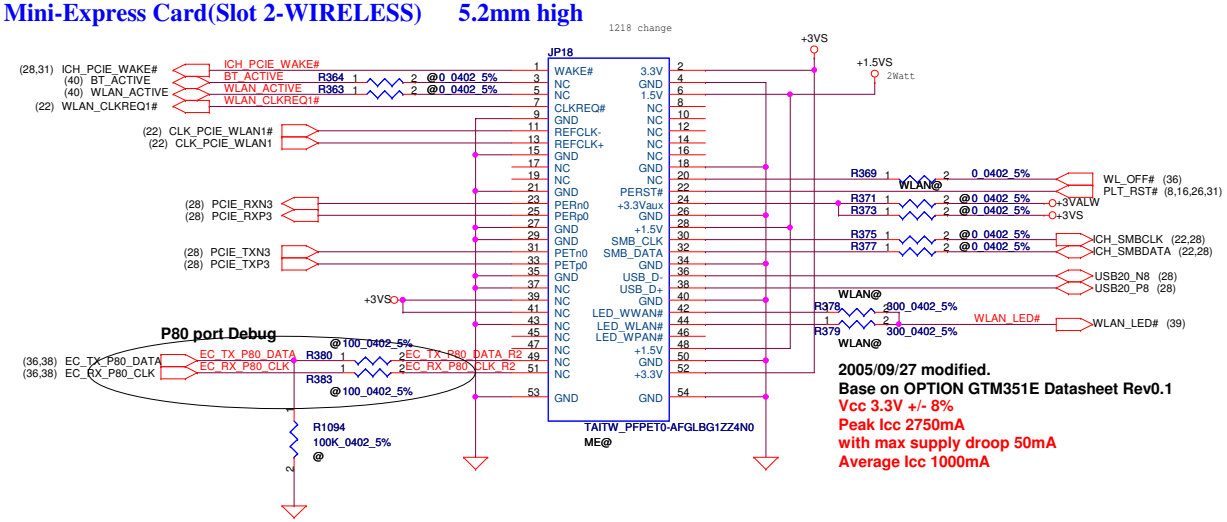
Title	Compal Electronics, Inc.		
	ICH9M(3/4)-USB,GPIO,PCIE		
Size	Document Number		Rev
C	KIWA5/6 LA-5081P		1.0
Date:	Tuesday, April 28, 2009	Sheet	28 of 51

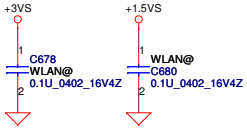


Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

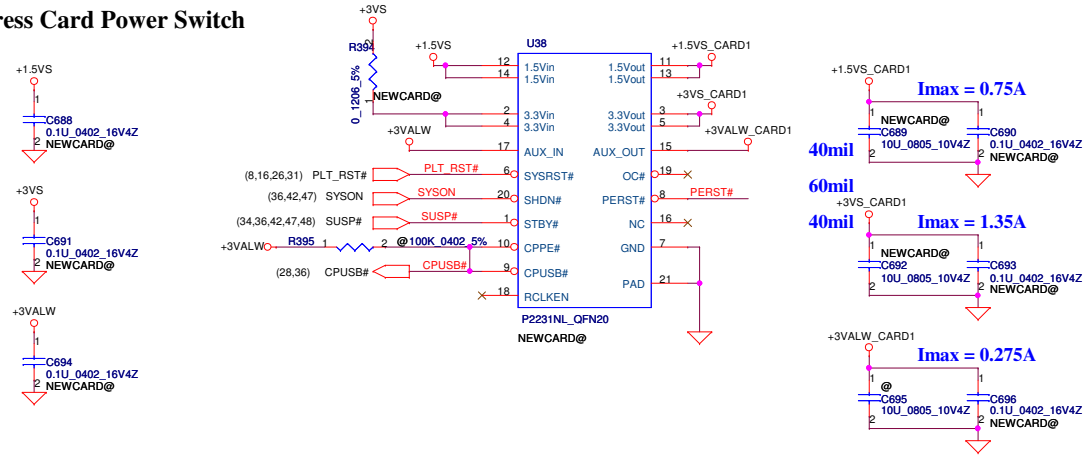
Compal Electronics, Inc.			
Title: ICH9M(4/4)-POWER&GND			
Size: Custom	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 29 of 51		

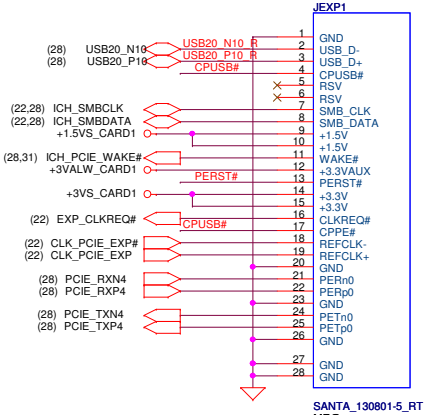
Mini-Express Card(Slot 2-WIRELESS) 5.2mm high





Express Card Power Switch





Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: Mini-Card/3G/TV /BT			
Size	Document Number: KIWAX_LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 30 of 51		

Layout Notice : Filter place as close chip as possible.

Layout Notice : Place as close chip as possible.

Layout Notice : 1.2V filter. Place as close chip as possible.

(CLKREQ#) and (ENERGY_DET) are only supported in BCM5787M

Notice : 4.7u 6.3V capactor Thickness 1.25mm

Layout Notice : Filter place as close chip as possible.

Layout Notice : Place as close chip as possible.

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

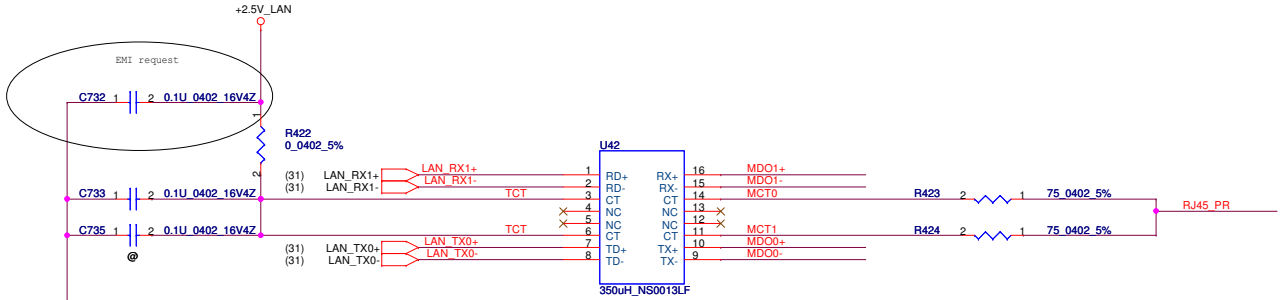
Compal Electronics, Inc.

Title: BCM5906

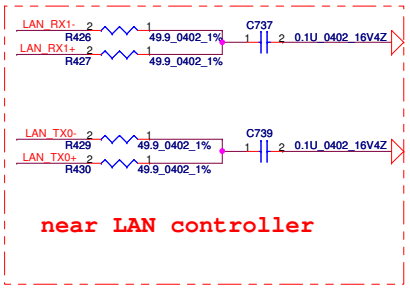
Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

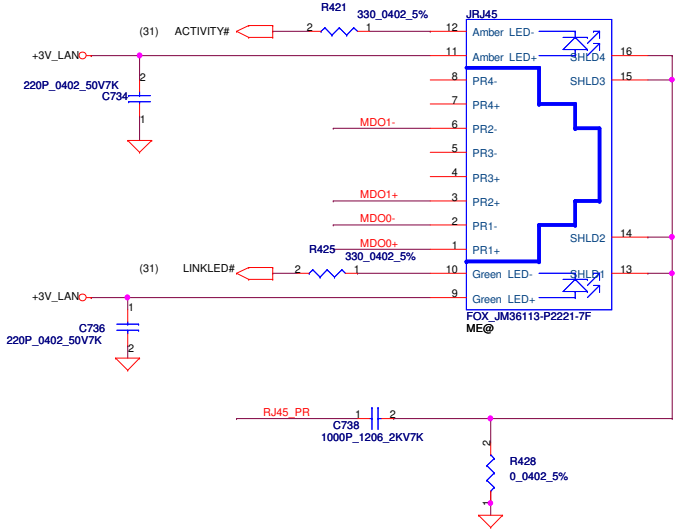
Date: Tuesday, April 28, 2009 | Sheet 31 of 51

RJ45 CONN



Change C468,C470,C473,C474,C475,C476 from 0.01uF to 0.1uF





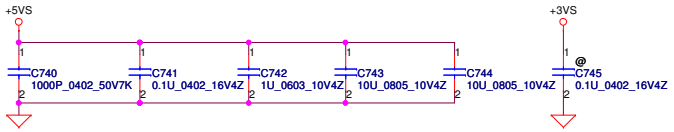
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

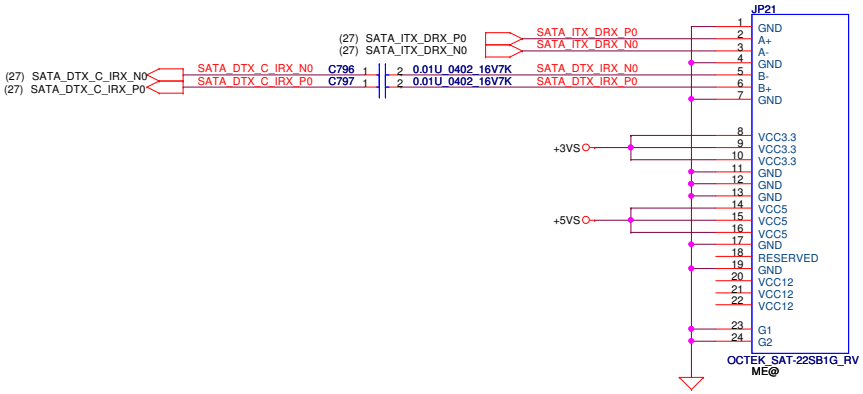
Title: LAN CONTROLLER

Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

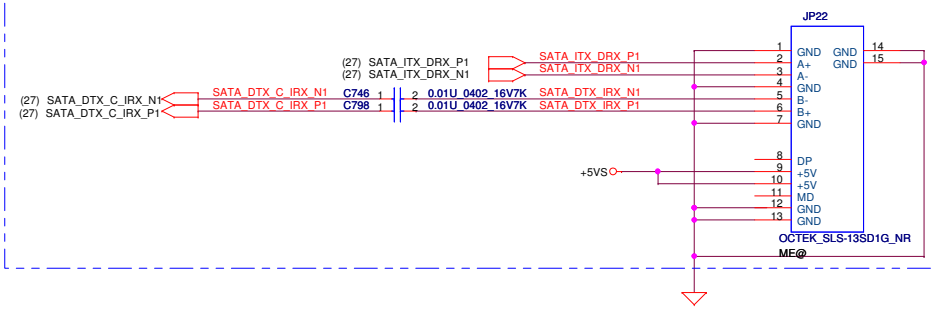
Date: Tuesday, April 28, 2009 | Sheet 32 of 51



SATA HDD Conn.



SATA ODD Conn.



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: HDD & ODD Connector			
Size: B	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 33 of 51		

AUDIO CODEC

0308_Change R294 and R295 from 0 ohm to bead, C363 from 10uF to 680pF, C365 and C368 from 0.1uF to 680p

In order for the modem wake on ring feature to function, the CODEC must be powered by a rail that is not removed when the system is in standby.

For Layout:
Place decoupling caps near the power pins of SmartAMC device.

CX20548
AMOM DAA

11/20 update
PC_BEEP dB control

0216_Change value.

DIGITAL **ANALOG**

Place these C and R around AGND and DGND, then choose the one which is close to Codec to populate

CODEC POWER

(3.33V)
250mW

W=40Mil

2.2kohm for MICL + MICR
4.7kohm for MICL or MICR

external MIC
Internal MIC / Array MIC
Internal WOOFER
Internal SPKR.

11/20 update

port A : 5.11K ohm
port B : 10.0K ohm
port C : 20.0K ohm
port D : 39.2K ohm

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

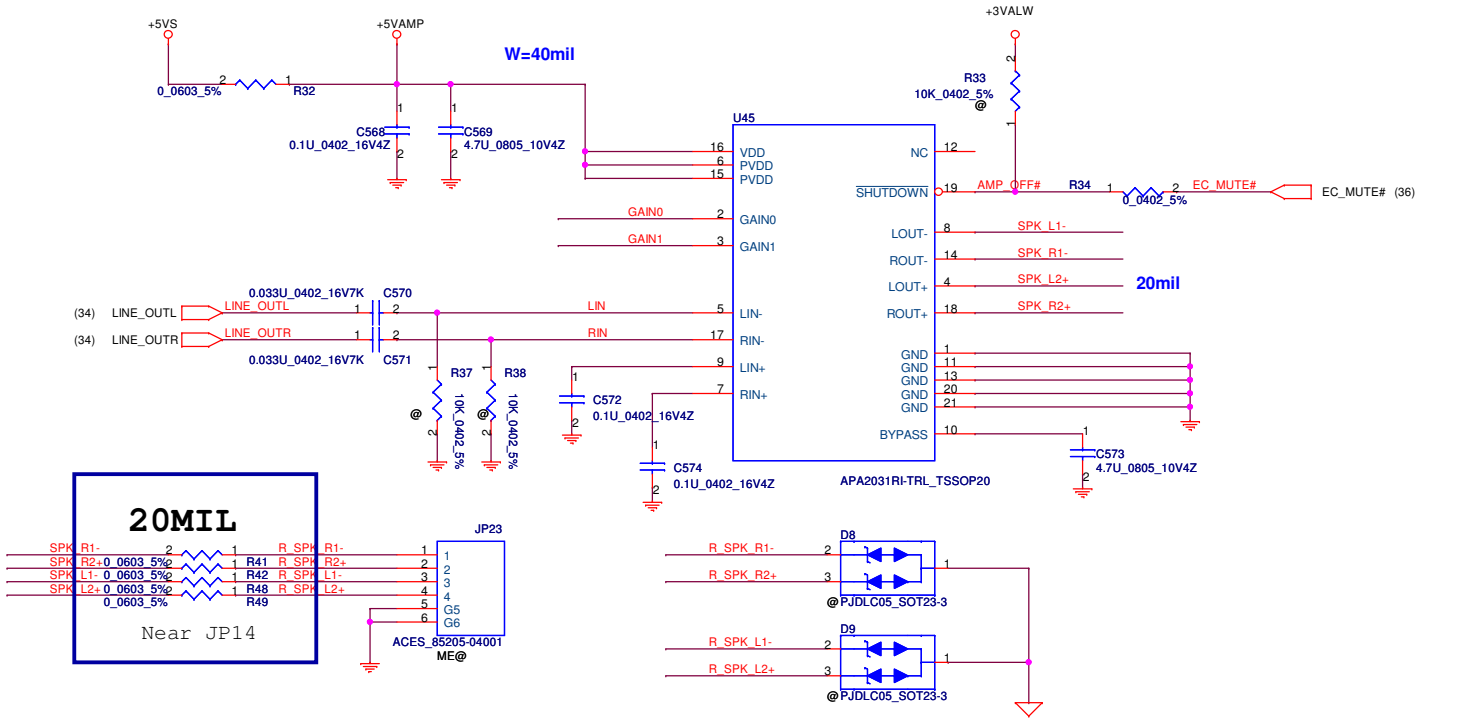
Compal Electronics, Inc.

Title: CX20561-AMOM Codec

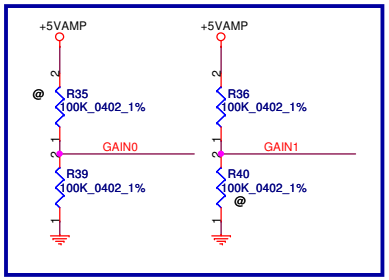
Size	Document Number	Rev
Custom	KIWA5/6 LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 34 of 51

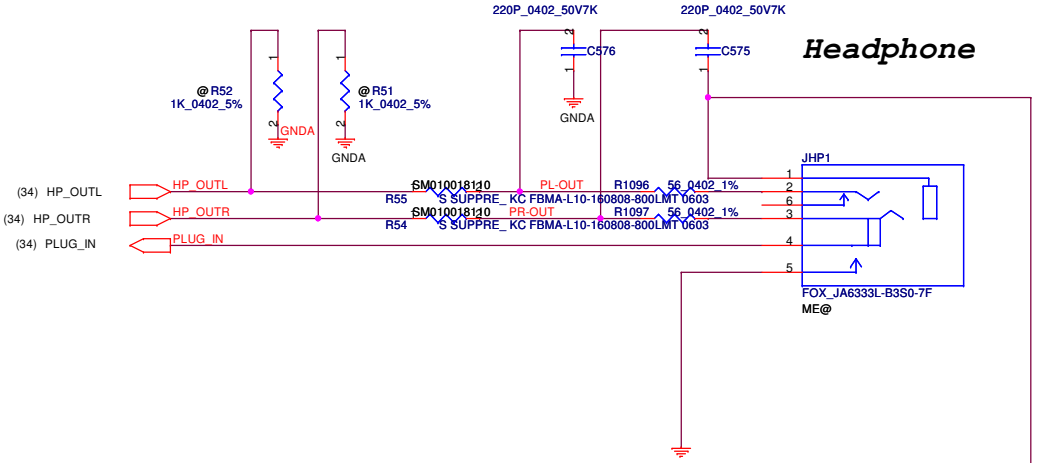
Speaker Connector



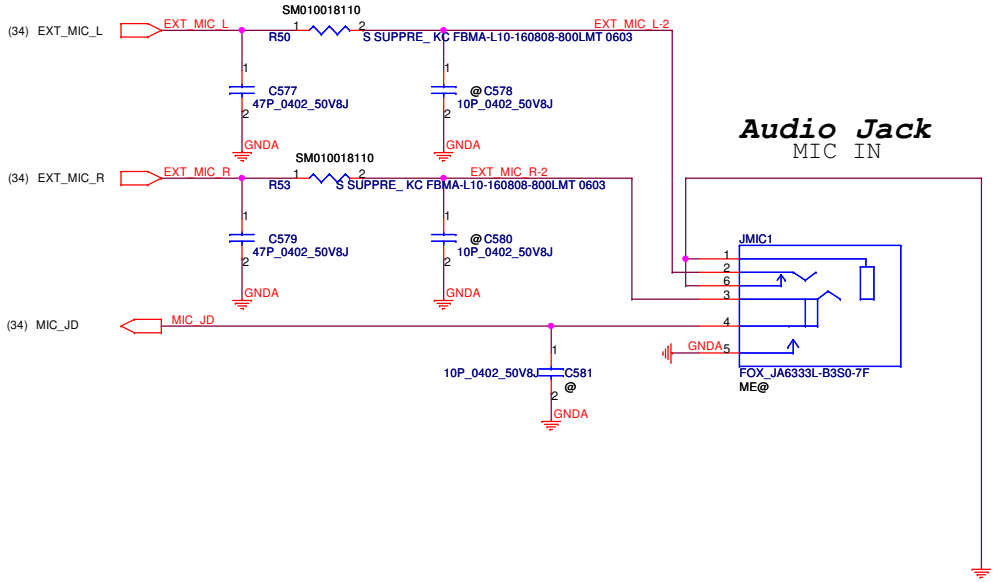
GAIN0	GAIN1	
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB



Headphone



Audio Jack



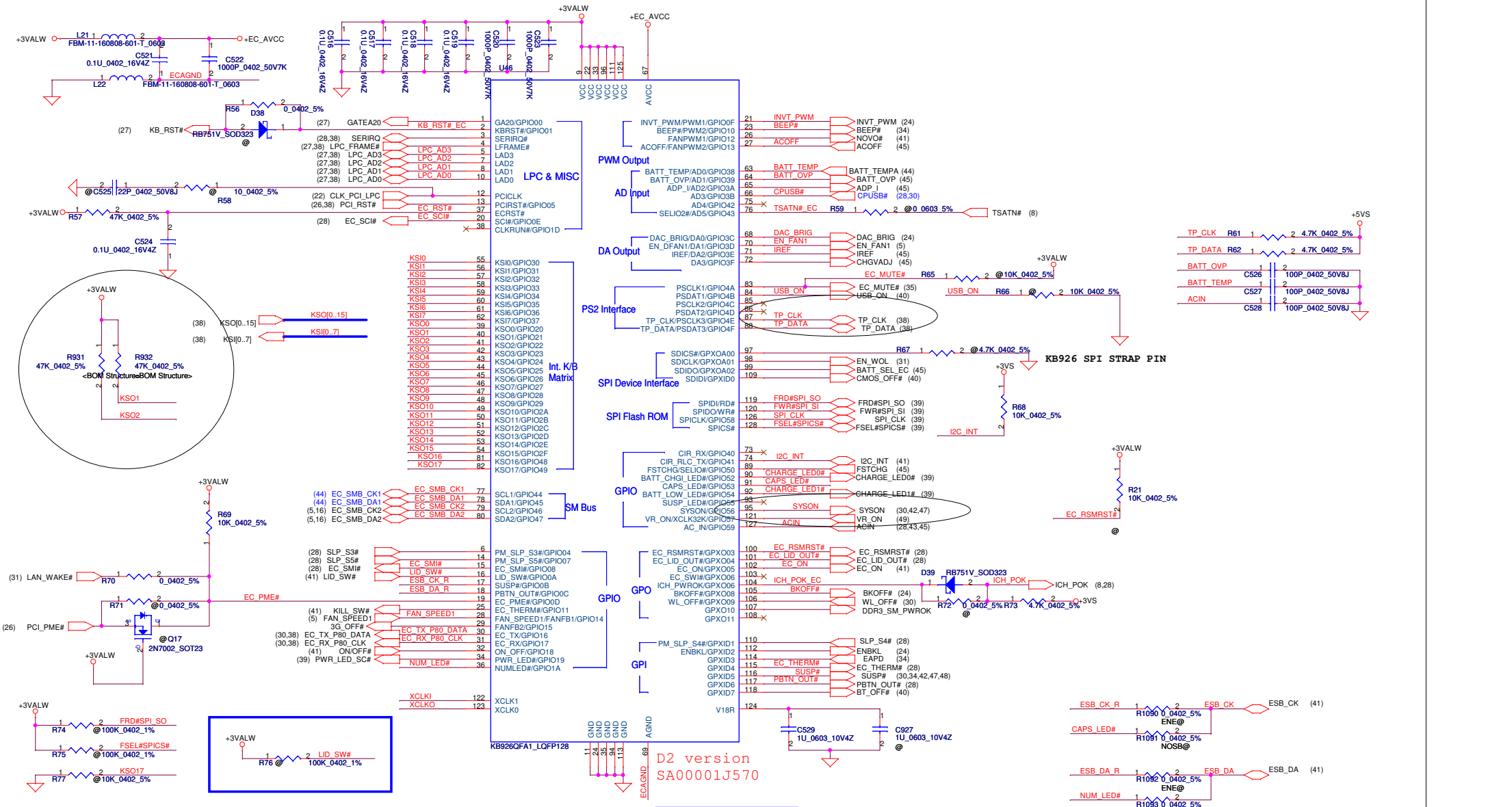
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: AMP,Audio speaker CONN

Size: Custom | Document Number: KIWA5/6 LA-5081P | Rev: 1.0

Date: Tuesday, April 28, 2009 | Sheet 35 of 51



Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

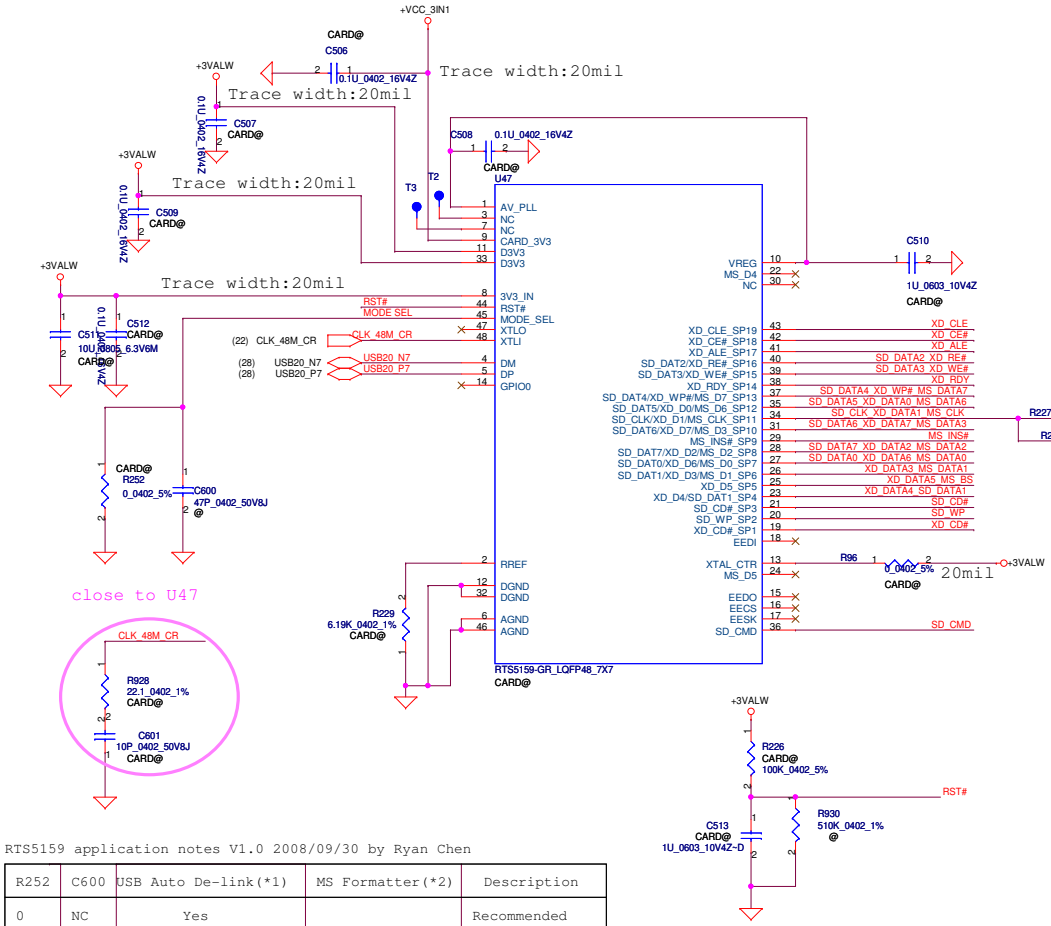
Compal Electronics, Inc.

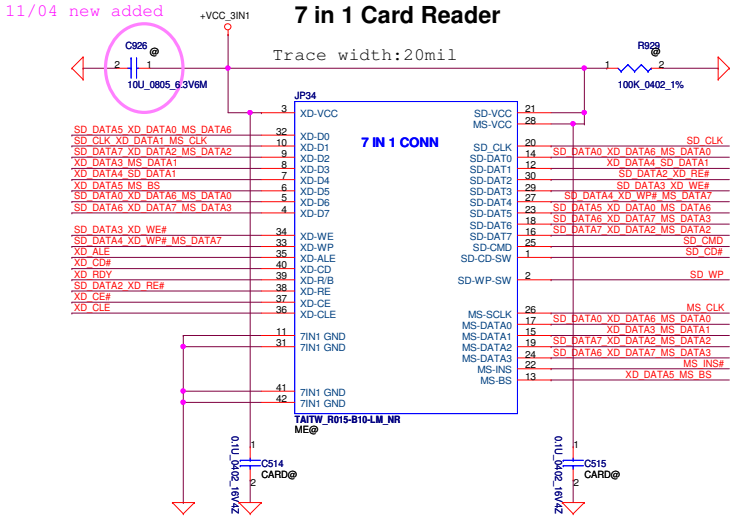
Title: **BIOS & EC I/O Port**

Size	Document Number	Rev
Custom	KIWA5/6 LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 36 of 51

Card reader(XD/SD/MMC/MS/MS-Pro HD SD)





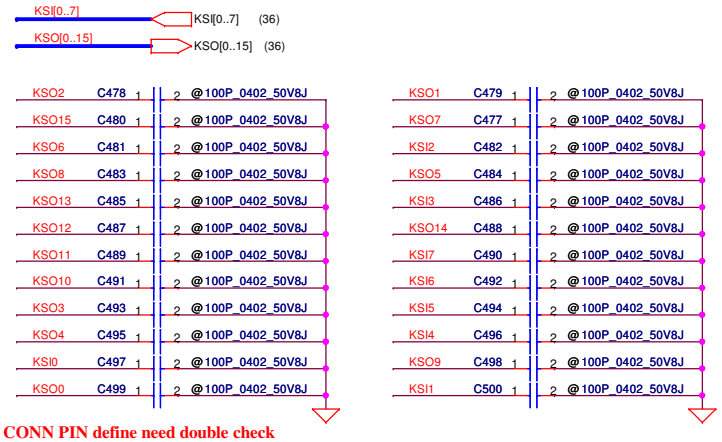
RTS5159 application notes V1.0 2008/09/30 by Ryan Chen

R252	C600	USB Auto De-link(*1)	MS Formatter(*2)	Description
0	NC	Yes		Recommended
NC	47pF	Yes	Yes	
NC	NC			Compatible with RTS5158E
NC	680pF	Yes		LED ON (*3)
10K	180pF			LED ON (*3)
10K	680pF		Yes	

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

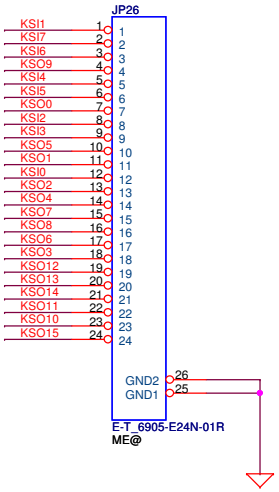
Compal Electronics, Inc.			
Title: USB_CR board			
Size: Custom	Document Number: KIWAX_LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 37 of 51		

INT_KBD Conn.

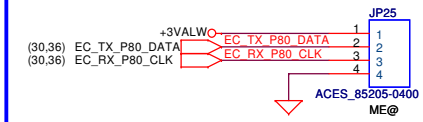


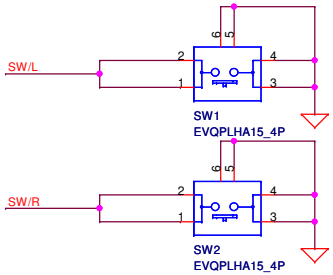
CONN PIN define need double check

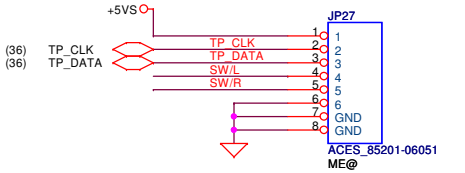
Source:SP01000IE00
2nd source:SP01000IF00
30 pin

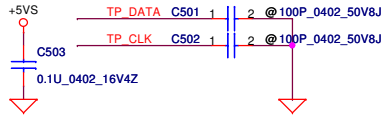


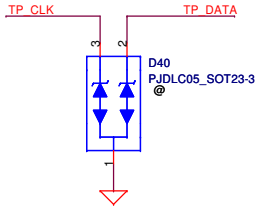
EC DEBUG PORT



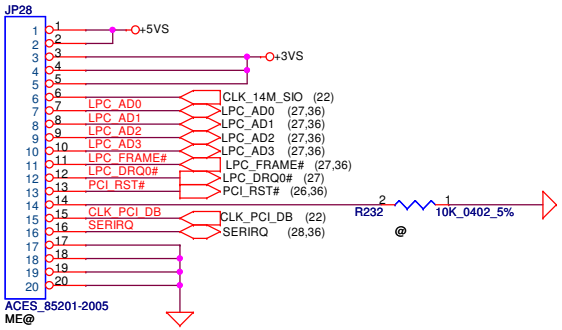








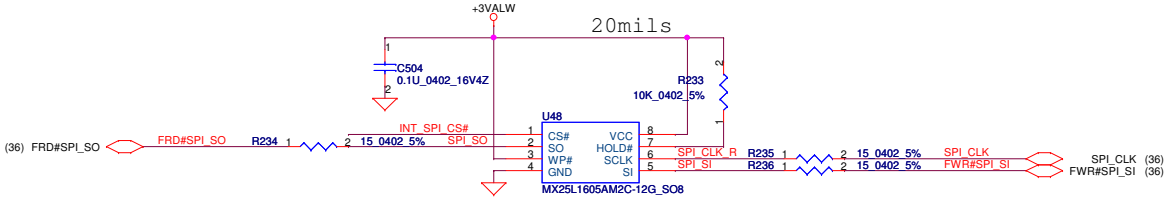
FOR LPC SIO DEBUG PORT

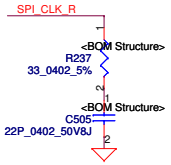


Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.			
Title: KB /SW /LPC Debug Conn.			
Size: B	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 38 of 51		

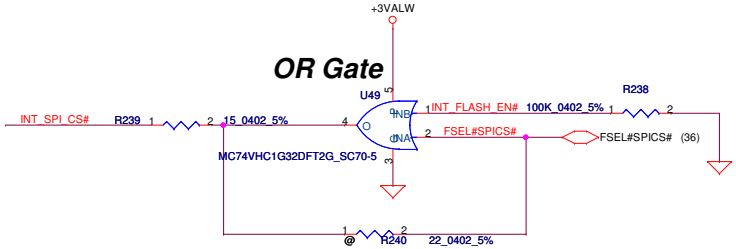
FOR EC 16M SPI ROM

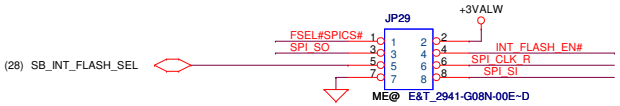




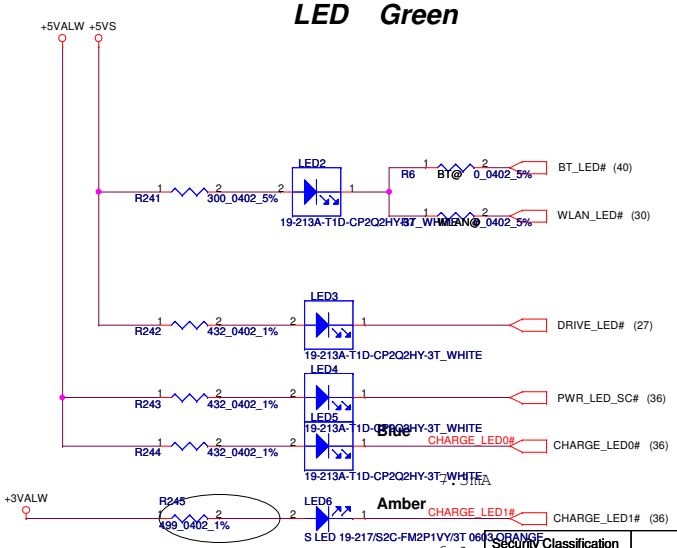
INPUT		OUTPUT
A	B	Y
L	L	L
H	L	H
L	H	H
H	H	H

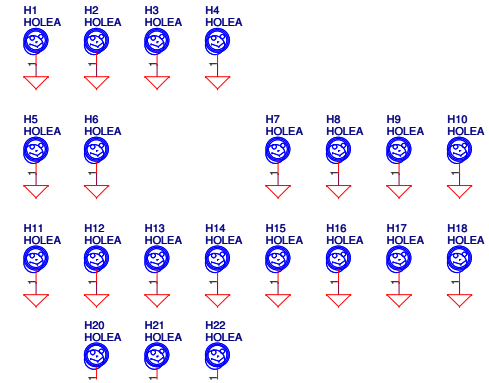
OR Gate





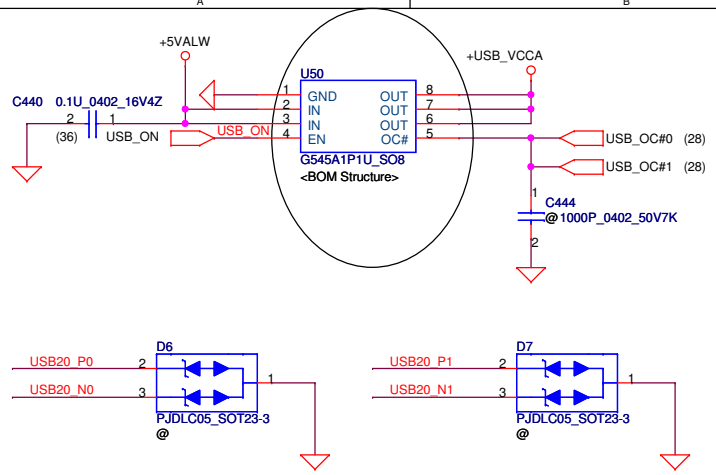
LED Green

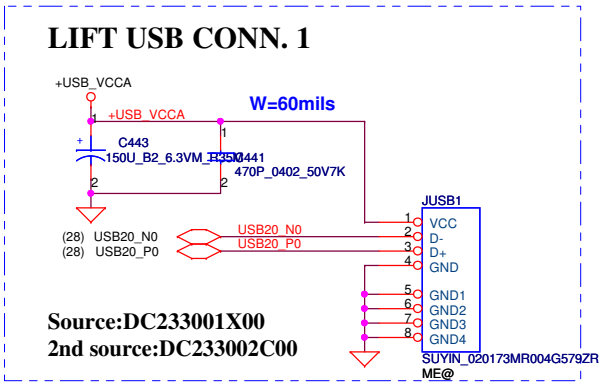


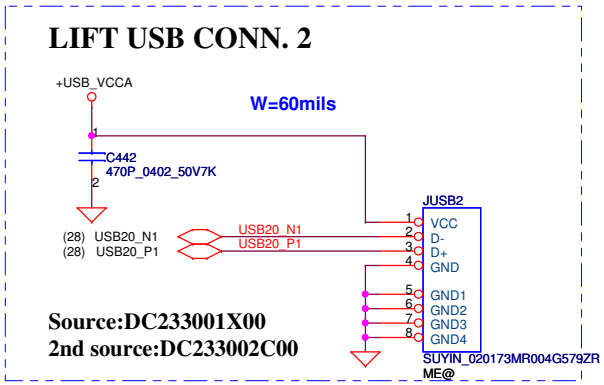


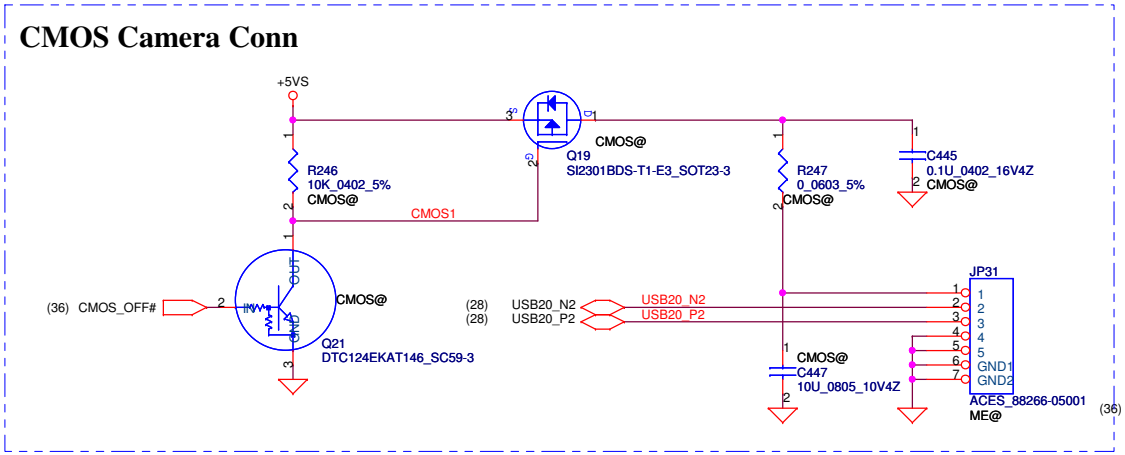
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

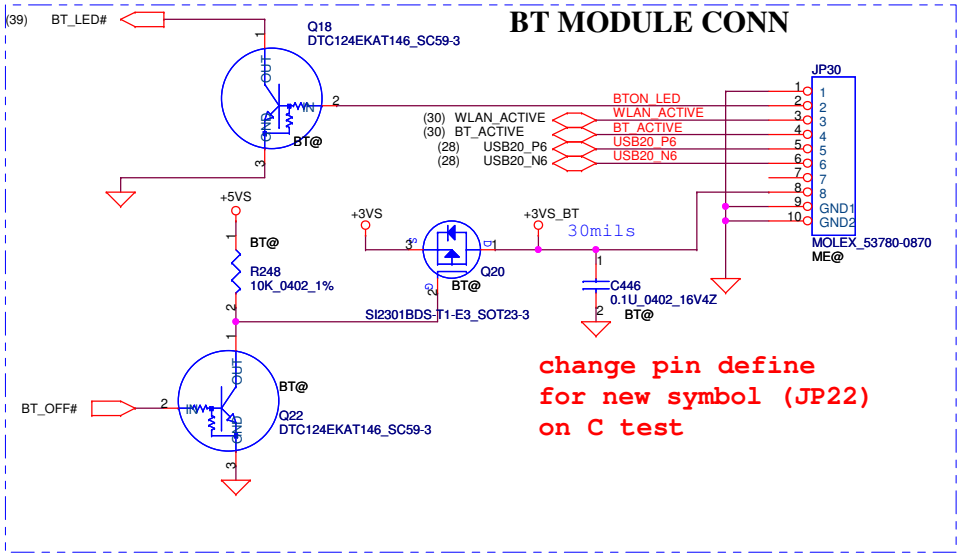
Compal Electronics, Inc.			
Title	LED/EC SPI ROM		
Size B	Document Number KIWA5/6 LA-5081P		Rev 1.0
Date: Tuesday, April 28, 2009	Sheet 39 of 51		

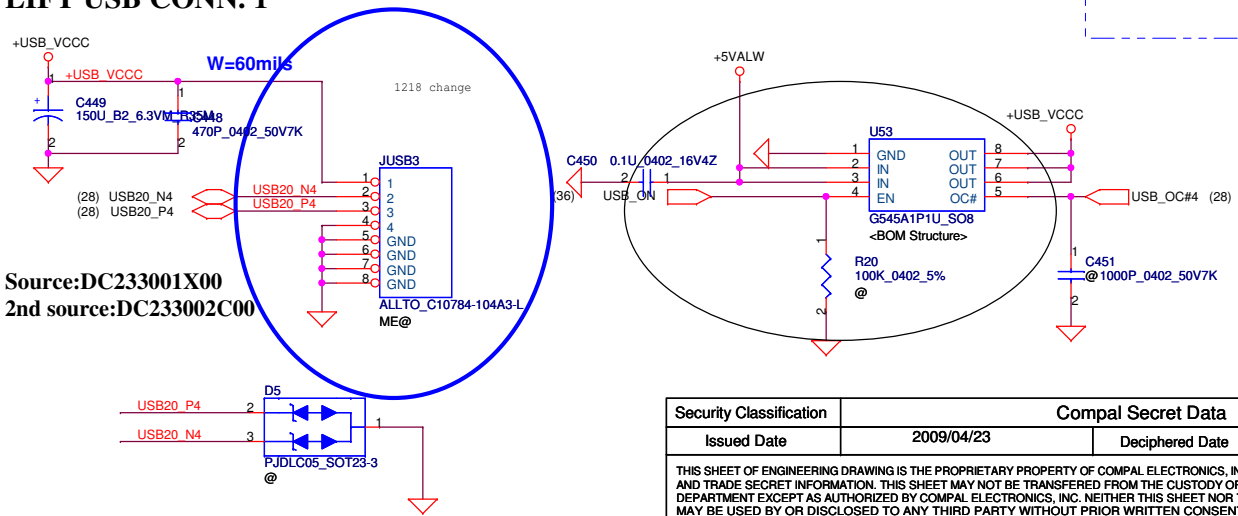












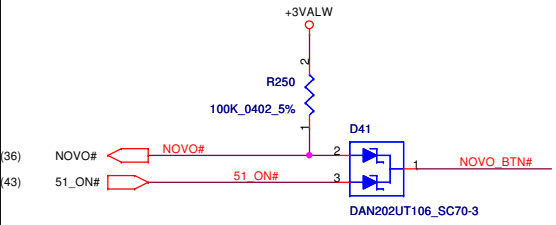
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

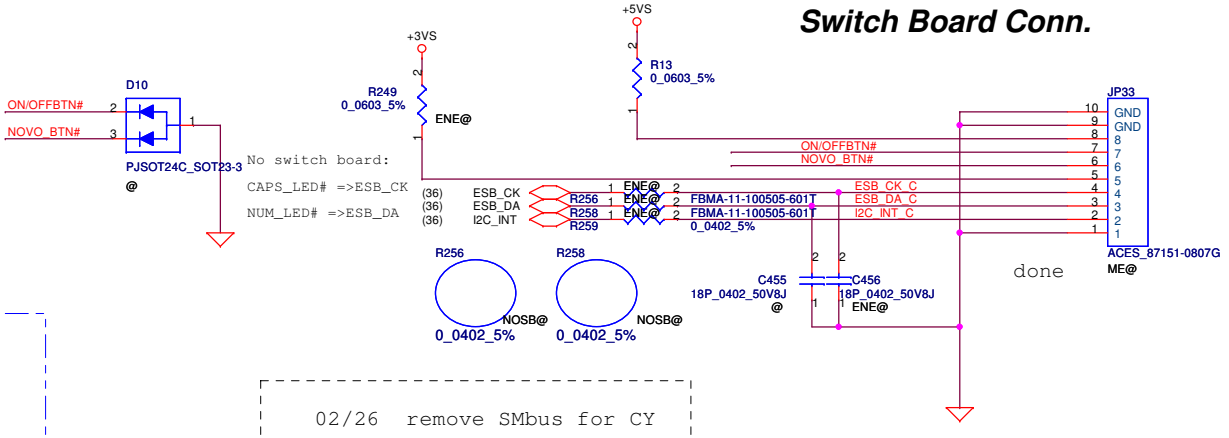
Compal Electronics, Inc.

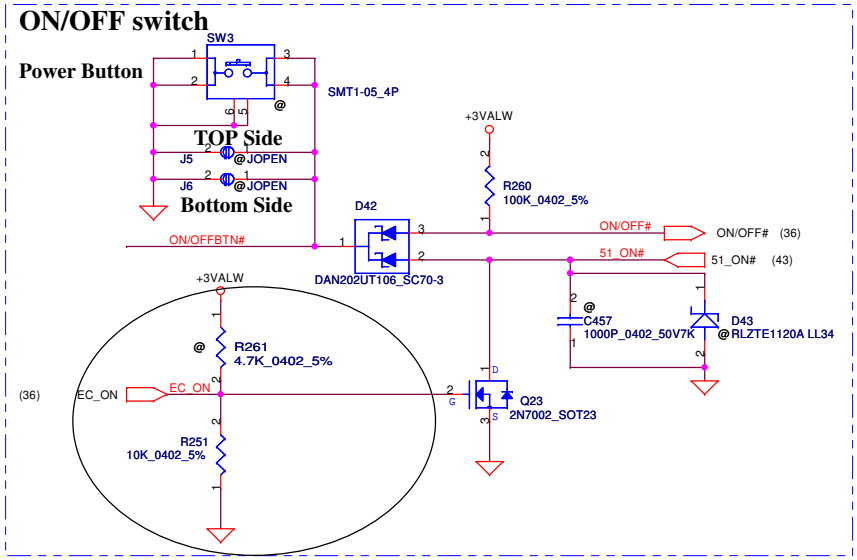
Title: Power OK, Reset and RTC Circuit, TP

Size	Document Number	Rev
Custom	KIWA5/6 LA-5081P	1.0

Date: Tuesday, April 28, 2009 | Sheet 40 of 51

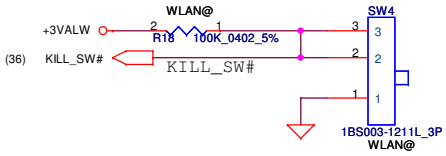


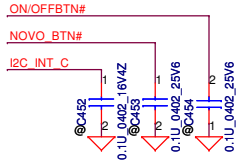




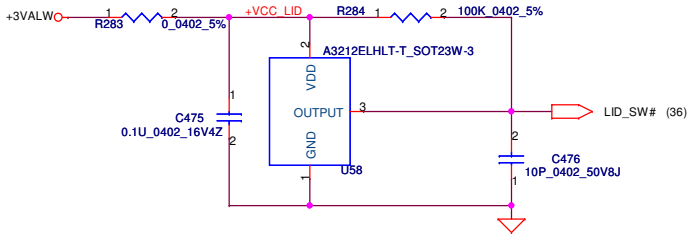
02/26 remove SMbus for CY

Kill Switch





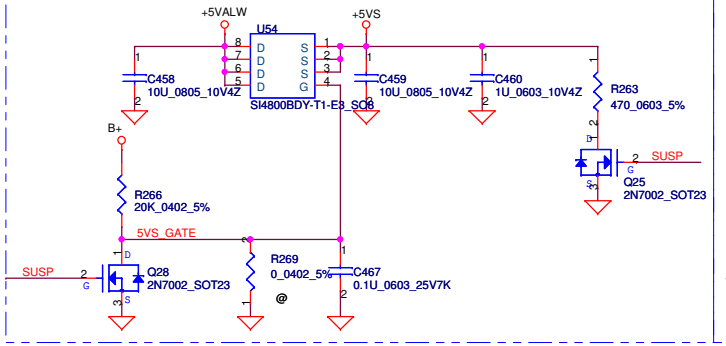
Lid Switch



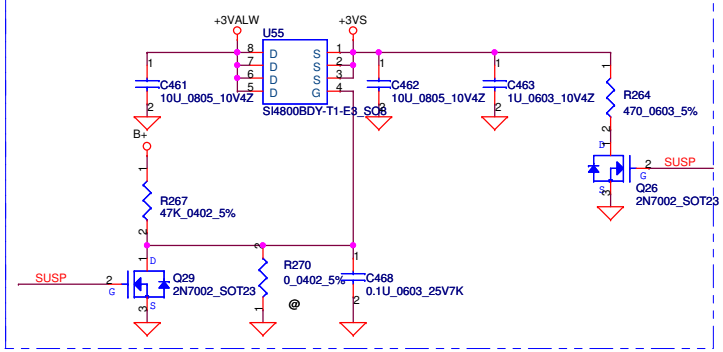
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

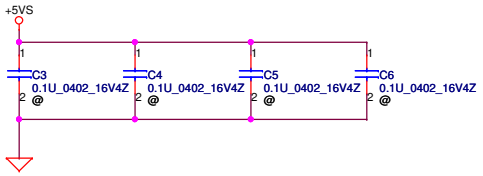
Compal Electronics, Inc.			
Title: Audio Jack & SW connector			
Size: Custom	Document Number: KIWA5/6 LA-5081P		Rev: 1.0
Date: Tuesday, April 28, 2009	Sheet 41 of 51		

+5VALW TO +5VS

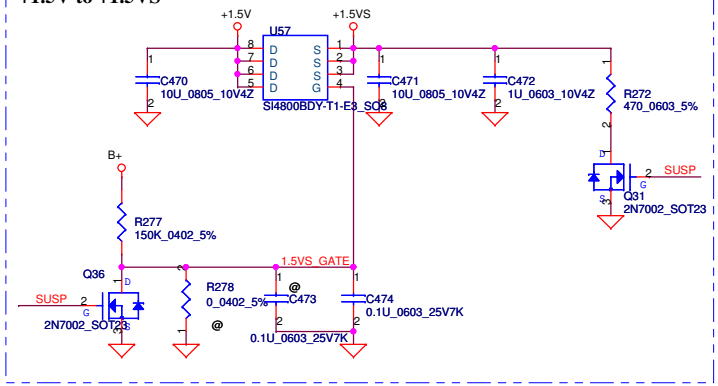


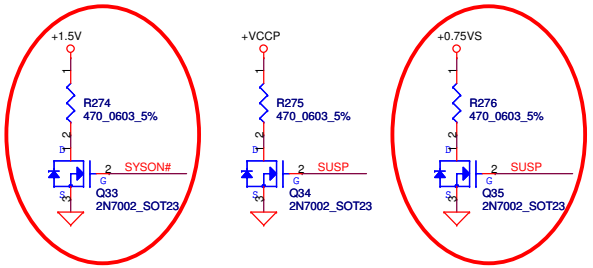
+3VALW TO +3VS

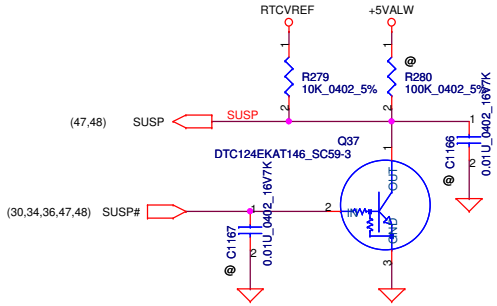


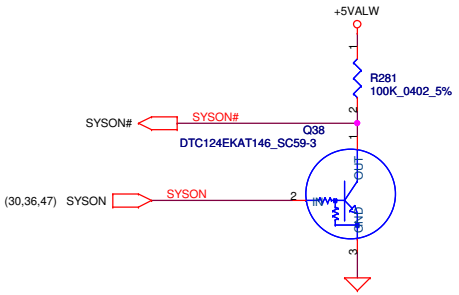


+1.5V to +1.5VS









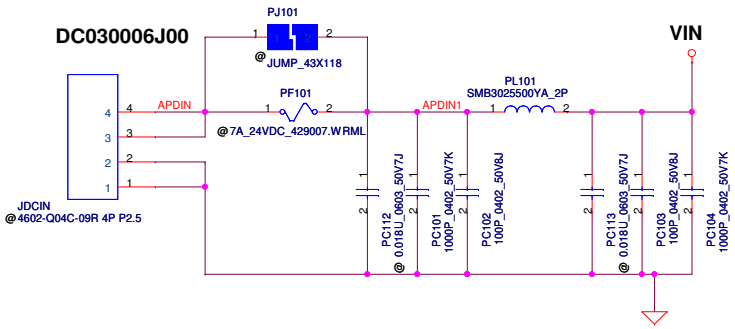
Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

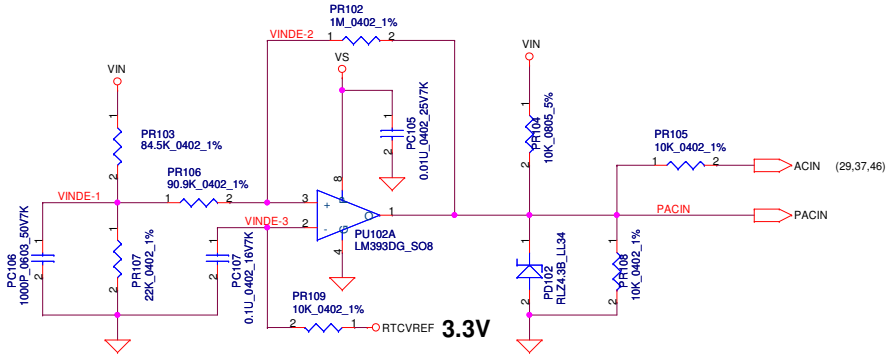
Title: DC Interface

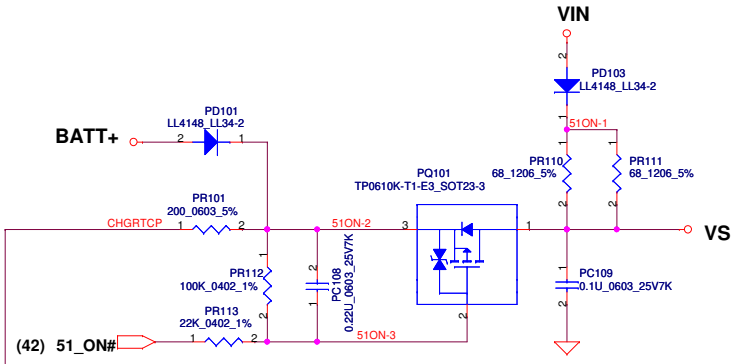
Size	Document Number	Rev
Custom	KIWA5/6 LA-5081P	1.0

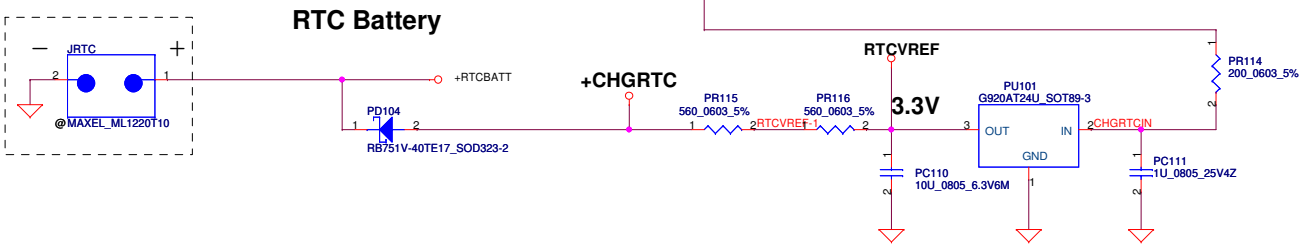
Date: Tuesday, April 28, 2009 Sheet 42 of 51



Vin Detector			
High	17.944	17.706	17.470
Low	16.242	16.027	15.808







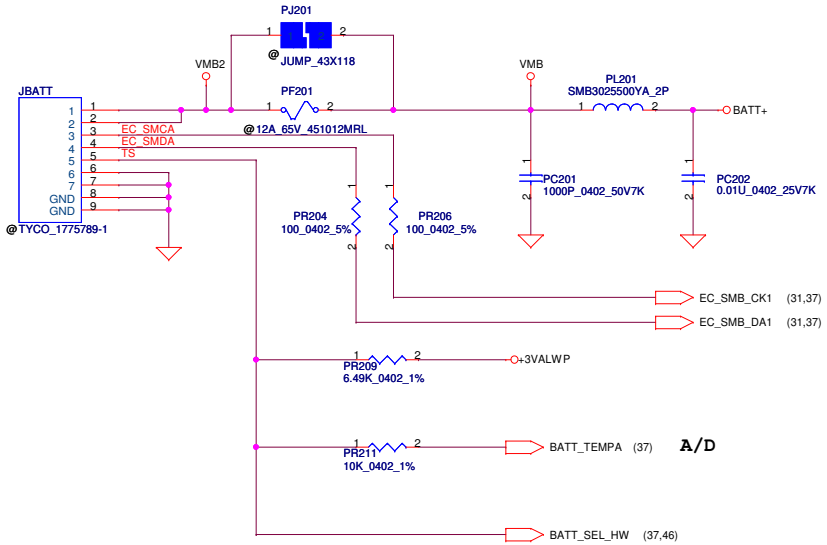
Security Classification	Compal Secret Data		
Issued Date	2007/09/20	Deciphered Date	2008/09/20

Compal Electronics, Inc.

Title: DCIN & DETECTOR

Size	Document Number	Rev
Custom		0.1

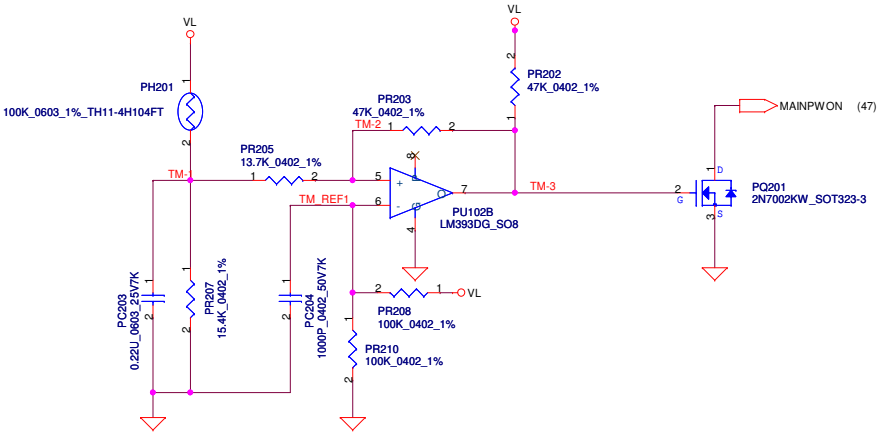
Date: Tuesday, April 28, 2009 | Sheet 44 of 53



PH1 under CPU botten side :

CPU thermal protection at 92 degree C

Recovery at 56 degree C



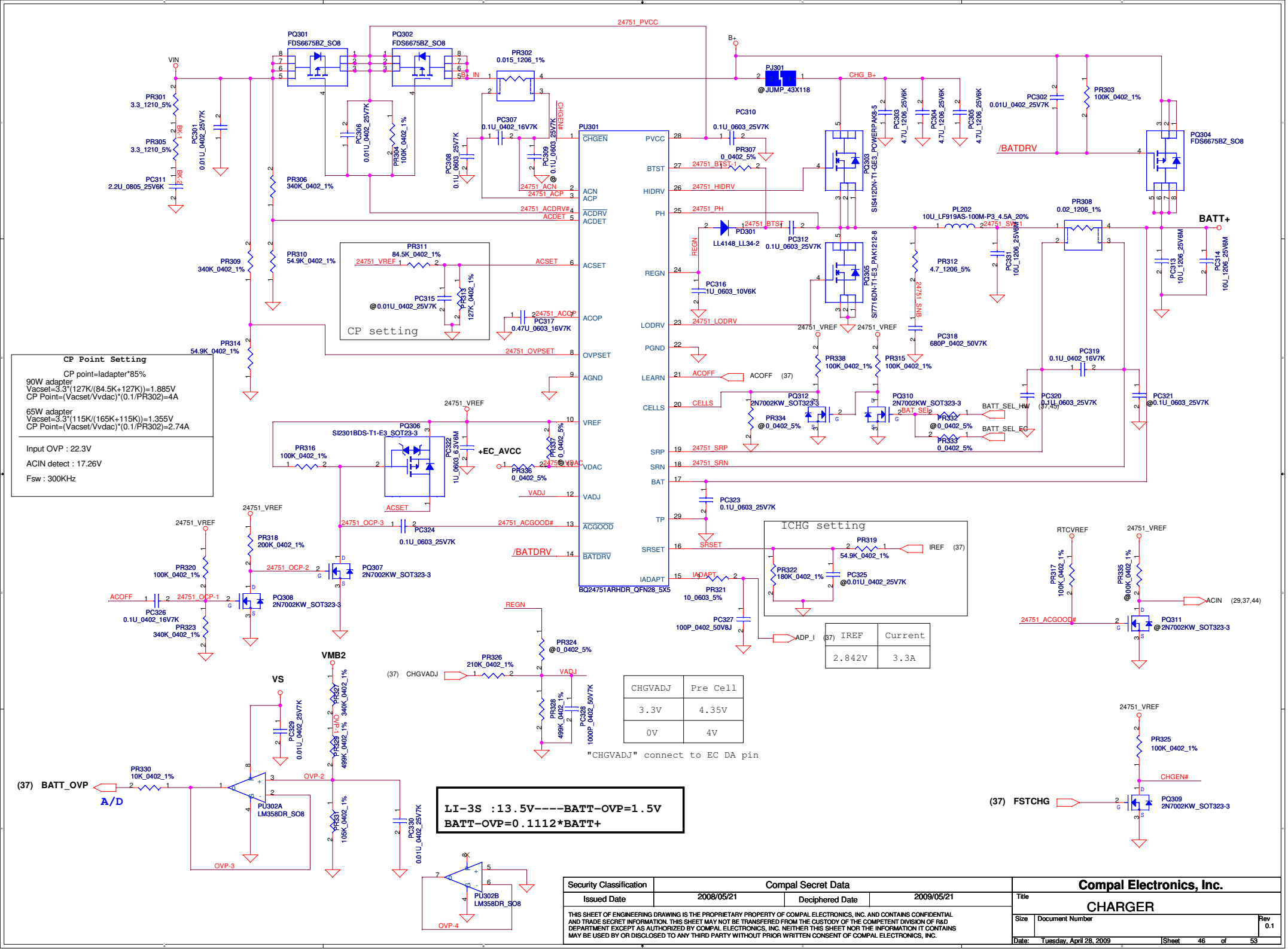
Security Classification	Compal Secret Data		
Issued Date	2007/6/22	Deciphered Date	2008/6/22

Compal Electronics, Inc.

Title: BATTERY CONN / OTP

Size	Document Number	Rev
		0.1

Date: Tuesday, April 28, 2009 | Sheet 45 of 53



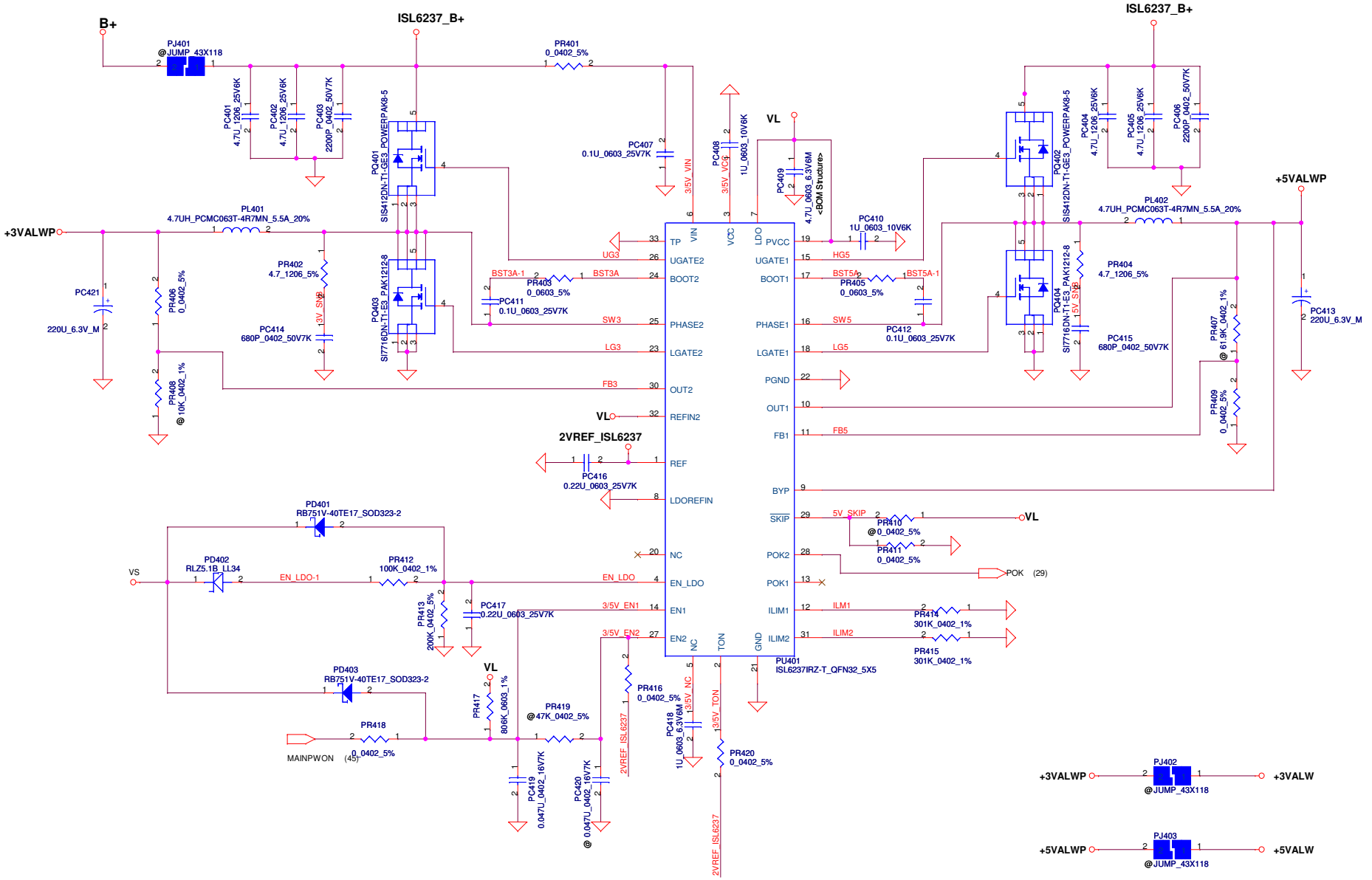
Security Classification	Compal Secret Data		
Issued Date	2008/05/21	Deciphered Date	2009/05/21

Compal Electronics, Inc.

Title: CHARGER

Size	Document Number	Rev
		0.1

Date: Tuesday, April 28, 2009 | Sheet 46 of 53



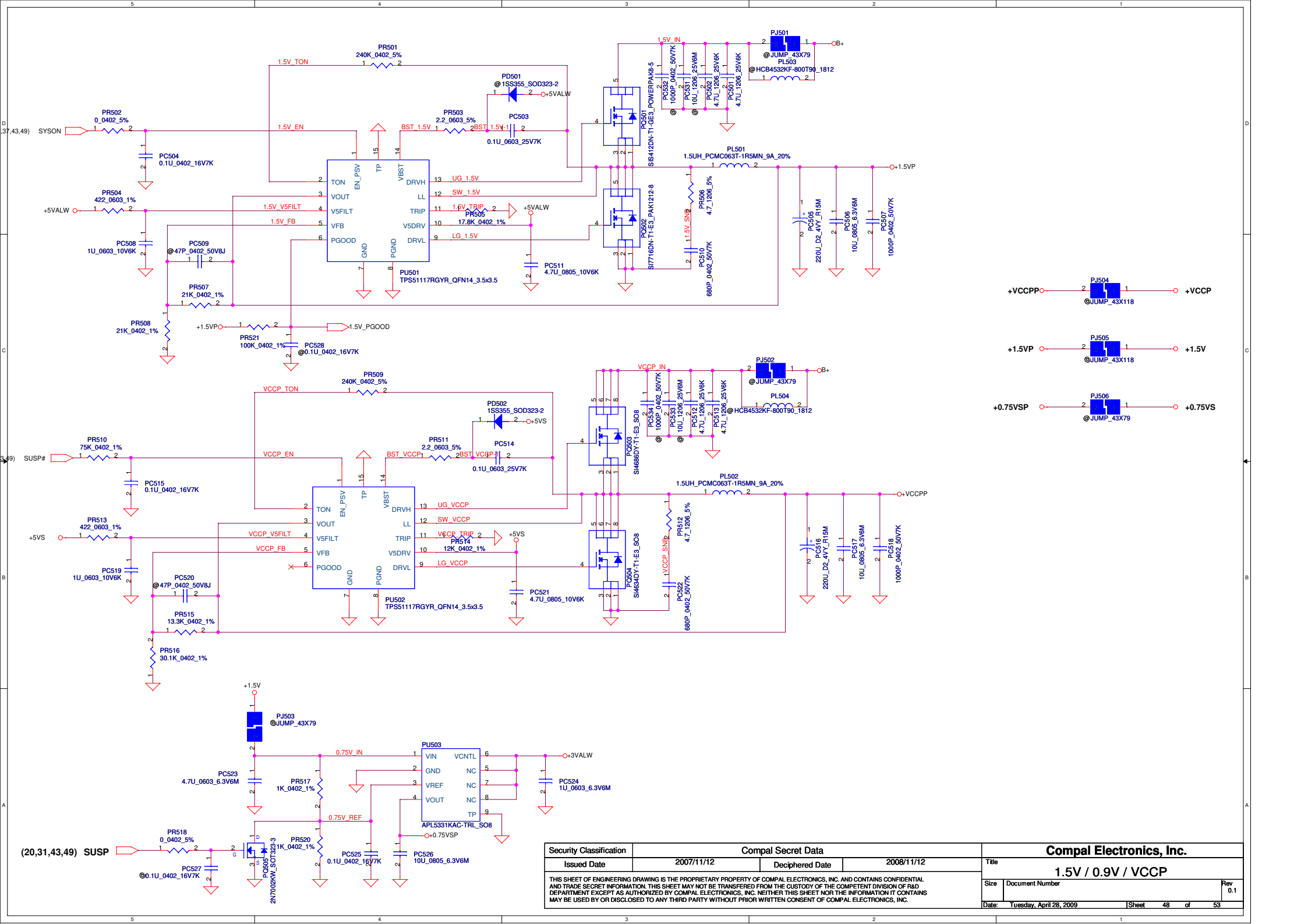
Security Classification	Compal Secret Data		
Issued Date	2007/06/22	Deciphered Date	2008/06/22

Compal Electronics, Inc.

Title: 3VALW/5VALW

Size	Document Number	Rev
Custom		0.1

Date: Tuesday, April 28, 2009 | Sheet 47 of 53



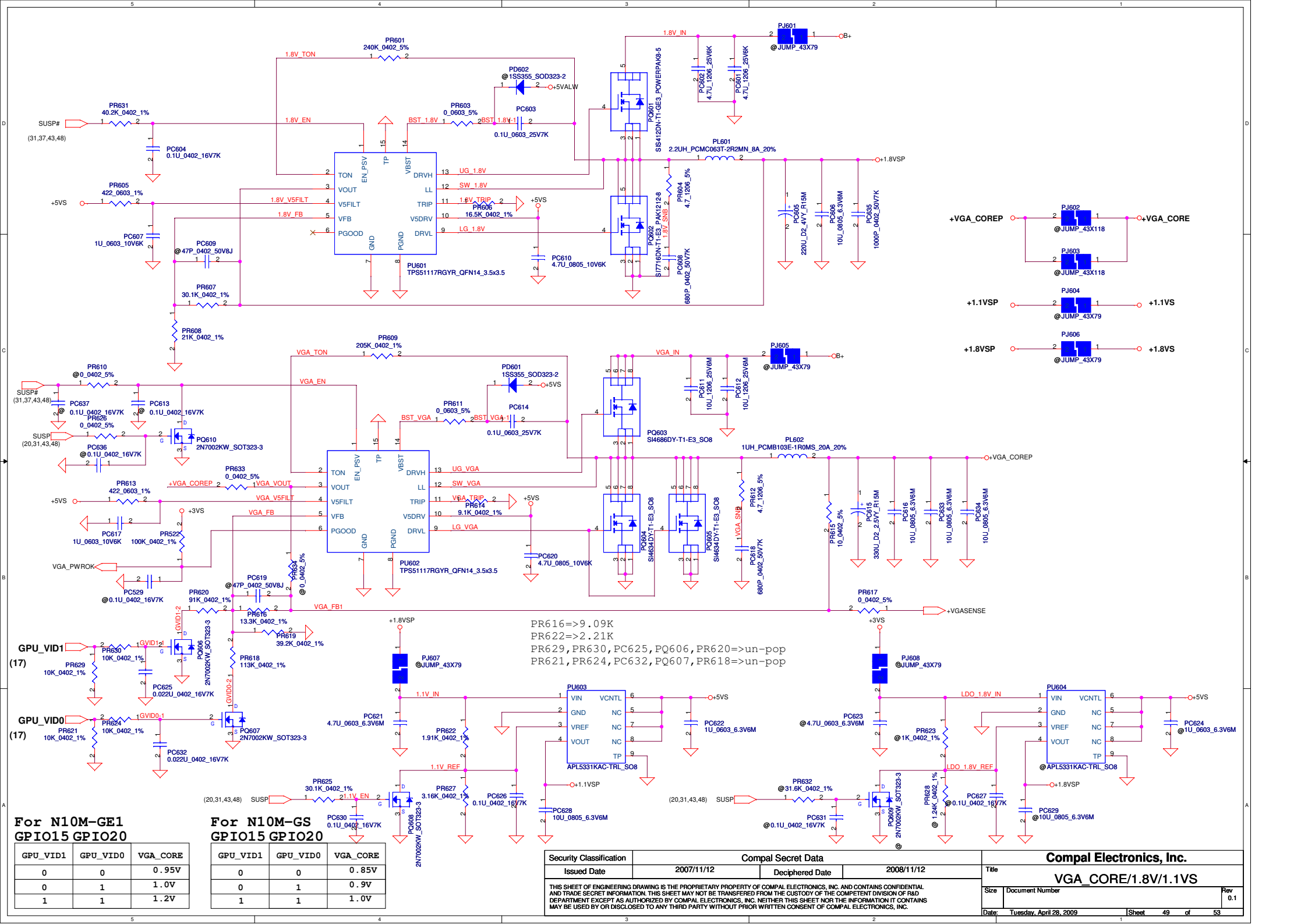
Security Classification	Compal Secret Data		
Issued Date	2007/11/12	Deciphered Date	2008/11/12

Compal Electronics, Inc.

Title: 1.5V / 0.9V / VCCP

Size | Document Number | Rev 0.1

Date: Tuesday, April 28, 2009 | Sheet 48 of 53



For N10M-GE1
GPIO15 GPIO20

GPU_VID1	GPU_VID0	VGA_CORE
0	0	0.95V
0	1	1.0V
1	1	1.2V

For N10M-GS
GPIO15 GPIO20

GPU_VID1	GPU_VID0	VGA_CORE
0	0	0.85V
0	1	0.9V
1	1	1.0V

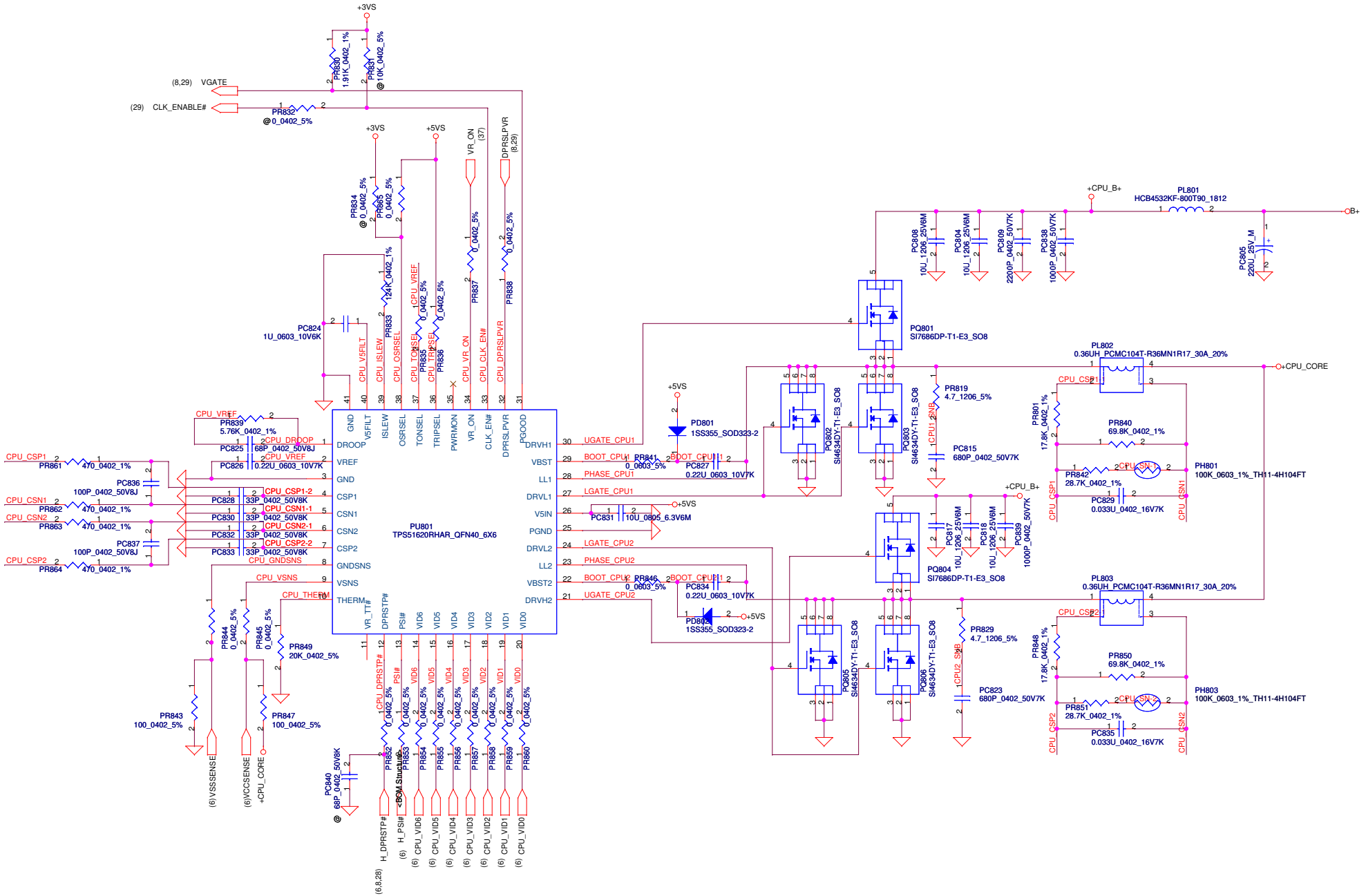
Security Classification	Compal Secret Data		
Issued Date	2007/11/12	Deciphered Date	2008/11/12

Compal Electronics, Inc.

Title: VGA_CORE/1.8V/1.1VS

Size	Document Number	Rev
		0.1

Date: Tuesday, April 28, 2009 Sheet 49 of 53



Security Classification	Compal Secret Data		
Issued Date	2008/05/21	Deciphered Date	2009/05/21

Compal Electronics, Inc.

Title: +CPU_CORE

Size	Document Number	Rev
Custom		0.1

Date: Tuesday, April 28, 2009 | Sheet 50 of 53

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

for PWR

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1		modify battery select circuit			add PQ312 and PR338	2009.01.14	
2		change +1.1VS voltage to +1.05V			change P622 to 2.21K only for N10M-GS(40nm)	2009.01.14	
3							
4							
5							
6							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							

Compal Electronics, Inc.

Title: PIR (PWR)

Size	Document Number	Rev
Custom	KIWAX_LA-5081P	0.1

Date: Tuesday, April 28, 2009 | Sheet 51 of 53

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	12/10	39	Remove D11, and add R6, R7	
	12/10	36	change PWR_LED_SC# from U46.38 to U46.34	
2	1/15	39	modify H18 hold size, and change the H5、H6 and H18 hold type.	
		42	add 4 CAPs C3, C4, C5 and C6 for EMI.	
		35	change C572 and C574 footprint from 0603 to 0402.	
		34	add R25 for BEEP# test	
3	3/16	06	add R1089, C1162 and H_DPRSTP#_R	
			add C1163, C1164,and C1165 for EMC request.	
		08	change H_DPRSTP# to H_DPRSTP#_R	
		19	P19 add Bom structure 40nm@ GPU and 55nm@ GPU	
			R999 change to 24.9K	
		23	add R1095 pull high	
		35	swap HP_OUTL and HP_OUTR	
		36	add R1090, R1091, R1092, R1093	
			CAPS_LED#, NUJM_LED#, ESB_CK_R, and ESB_DA_R	
		41	add R256, R258 Bom configuration	
			Remove CY SMBus	
		42	add C1166, C1167 for EMC request.	
4	4/20	27	R829 changed to 0ohm.	
		08	R80 changed to 33ohm	
		34	R1044 changed to 33ohm	
			R1056 changed to 33ohm	
			C1089 changed to 10P	

Security Classification	Compal Secret Data		
Issued Date	2009/04/23	Deciphered Date	2010/05

Compal Electronics, Inc.

Title: **HW PIR**

Size	Document Number	Rev
B	KIWAX_LA-5081P	1.0

Date: Tuesday, April 28, 2009 Sheet 51 of 51