

Compal confidential

ISKAA LA-3481P Schematics Document

Mobile Merom uFCPGA with Intel
Crestline_PM+ICH8-M core logic

2007-06-23

REV: 2.0A

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/06/05	Deciphered Date	2007/06/05	Title	Cover Sheet
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-3481P	2.0
Date: Saturday, June 23, 2007				Sheet 1 of 47	

Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (18.5V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit	N/A	N/A	N/A
+VCC_CORE	Core voltage for CPU	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDRII Vtt	ON	OFF	OFF
+1.05VS	1.05V power rail for Processor I/O and MCH/ICH core power	ON	OFF	OFF
+1.25VS	1.25V power rail for MCH/ICH core power	ON	OFF	OFF
+1.5VS	1.5V switched power rail for PCI-E interface	ON	OFF	OFF
+1.8V	1.8V power rail for DDRII	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V switched power rail for MCH video PLL	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+RTC_VCC	RTC power	ON	ON	ON

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

External PCI Devices

DEVICE	PCI Device ID	IDSEL #	REQ/GNT #	PIRQ
1394	D0	AD20	2	A,B,C,D
CARD BUS	D4	AD20	2	A,B,C,D
SIN1	D4	AD20	2	A,B,C,D

KB926 I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
SM1 24C16	A0H	1 0 1 0 0 0 0 X b
SM1 SMART BATTERY	16H	0 0 0 1 0 1 1 X b
SM2 ADM0132	98H	1 0 0 1 1 0 0 X b
CPU THERMAL MONITOR		

ICH8-M SM Bus address

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 0
DDR SO-DIMM 1	A4	1 0 1 0 0 1 0 0
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 0

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 1%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0.100 V
1	8.2K +/- 1%	0.216 V	0.250 V	0.289 V
2	18K +/- 1%	0.436 V	0.503 V	0.538 V
3	33K +/- 1%	0.712 V	0.819 V	0.875 V
4	56K +/- 1%	1.036 V	1.185 V	1.264 V
5	100K +/- 1%	1.453 V	1.650 V	1.759 V
6	200K +/- 1%	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	2.0
6	2A
7	

SKU ID Table

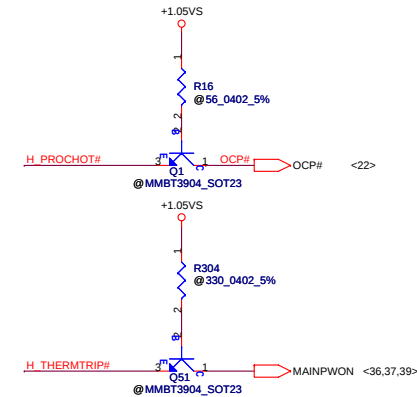
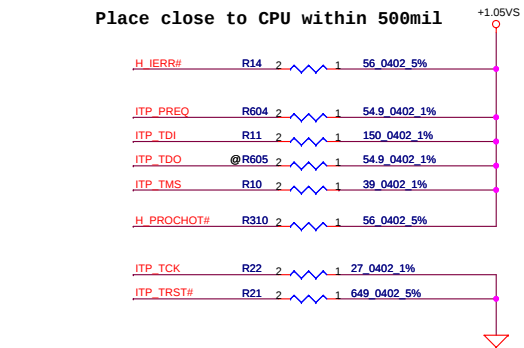
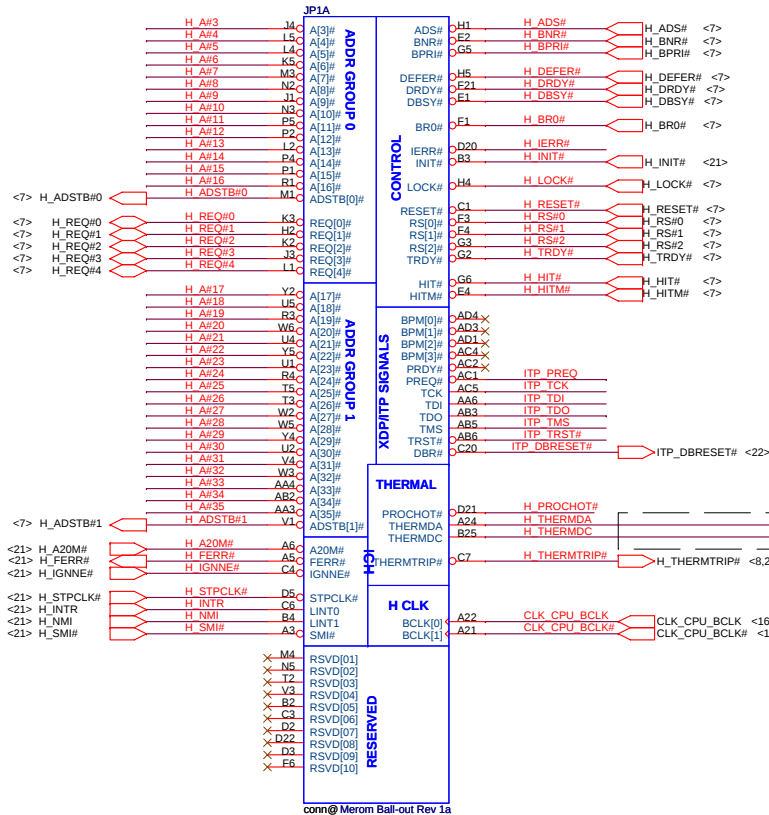
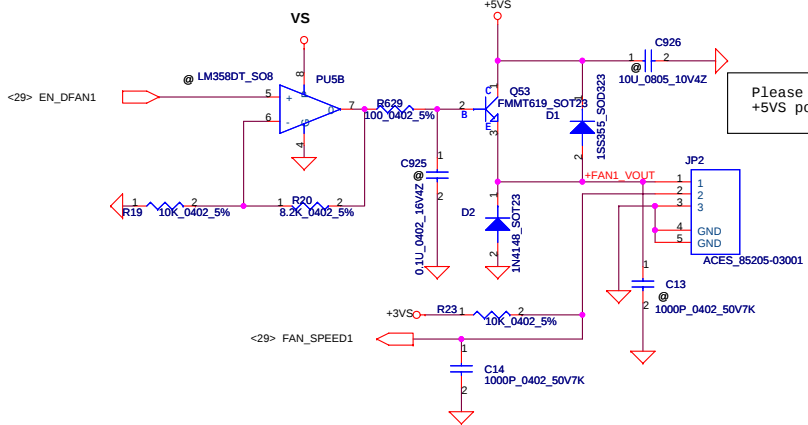
SKU ID	SKU
0	10
1	10G
2	
3	
4	
5	
6	
7	

BTO Option Table

BTO Item	BOM Structure
2nd HDD	2HDD@
LAN	100M@
WLAN	WLAN@
NB	6M@
BT	BT@
MIC	MIC@
CIR	CIR@
FINGER PRINT	FP@
HDMI	HDMI@
Camera	Camera@
Robson	Robson@
Express Card	NEWCARD@
HD-DVD	3G@

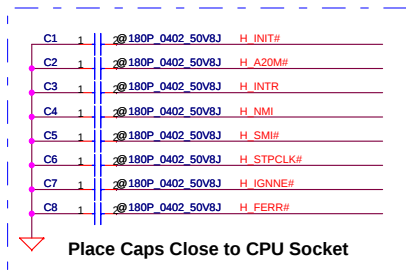
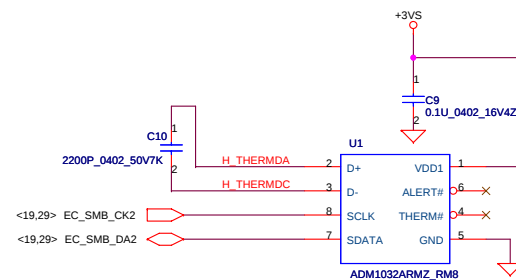
USB PORT LIST

PORT	DEVICE
0	RIGHT USB Port (Samll Board)
1	RIGHT USB Port (Samll Board)
2	3G Card
3	N.C.
4	LEFT USB Port
5	LEFT USB Port
6	Fingerprint or Felica
7	Blue Tooth
8	Internal Camera
9	New Card

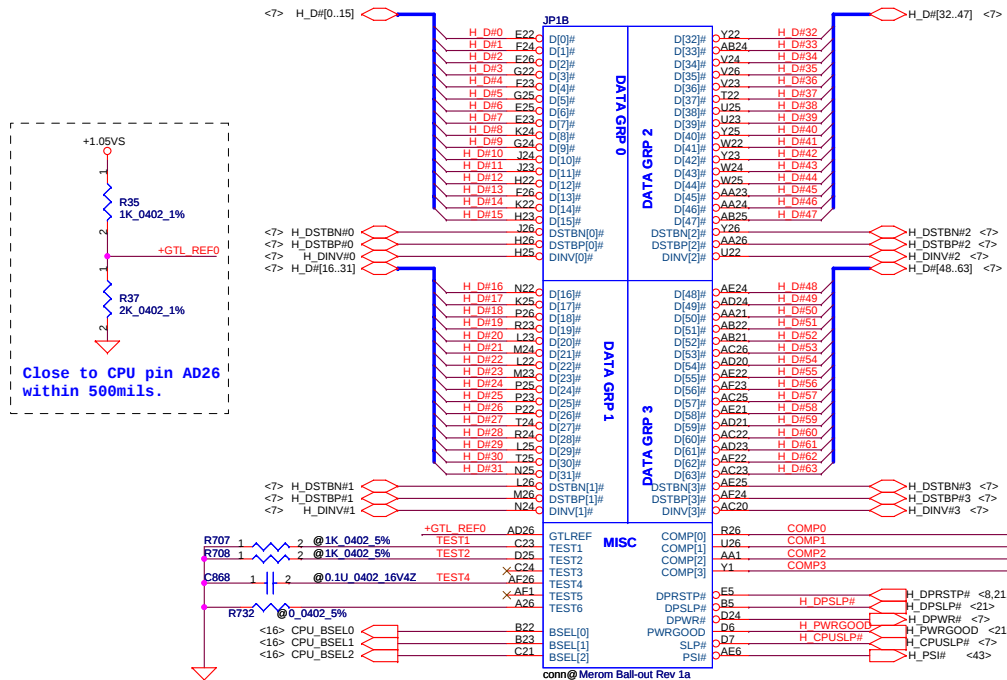


H_THERMDA, H_THERMDC routing together,
Trace width / Spacing = 10 / 10 mil

Thermal Sensor ADM1032ARM

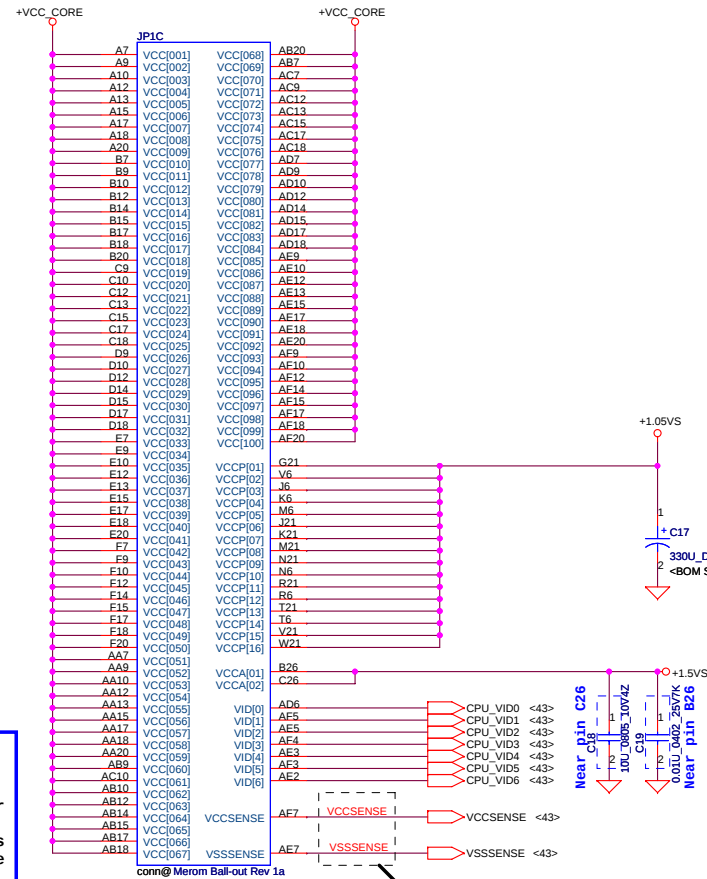


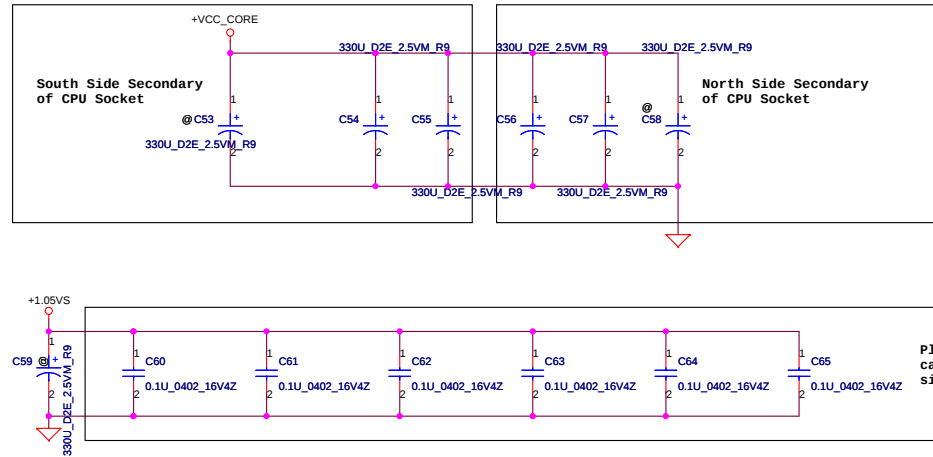
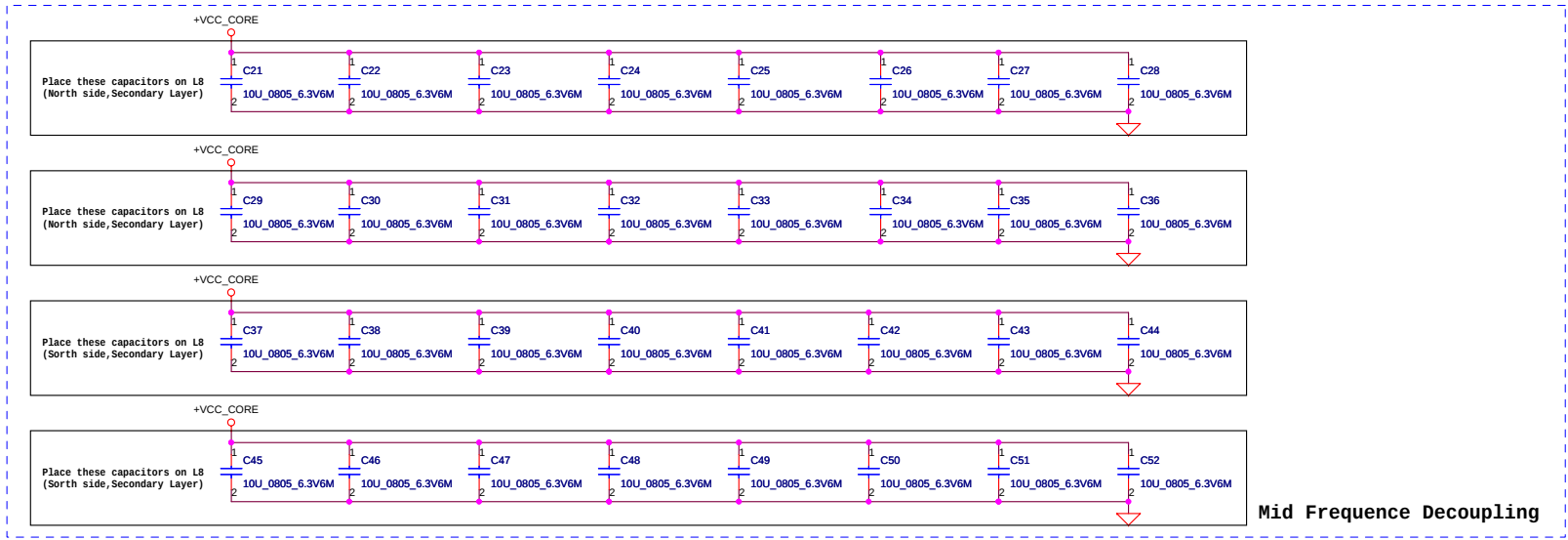
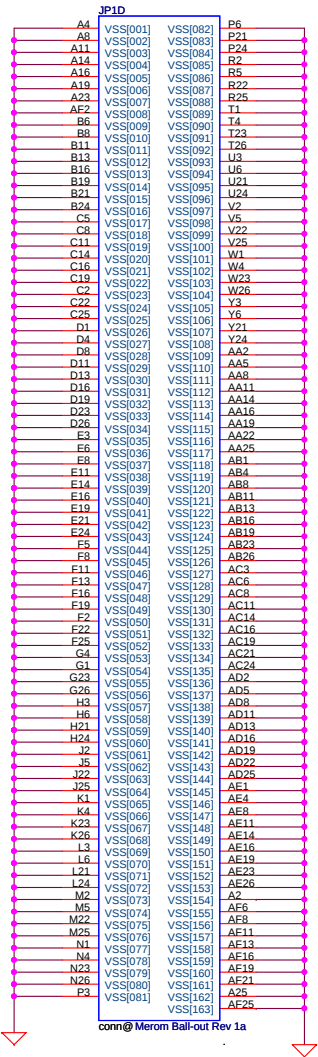
Security Classification	Compal Secret Data			Title		
Issued Date	2006/06/05	Deciphered Date	2007/06/05	Compal Electronics, Inc.		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-3481P	Rev 2.0
Date: Tuesday, May 22, 2007				Sheet	4	of 47



CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0

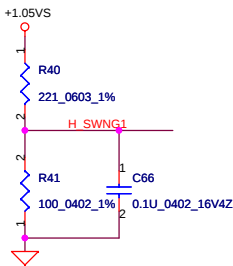
Resistor placed within 0.5" of CPU pin. Trace should be at least 25 mils away from any other toggling signal. COMP[0,2] trace width is 18 mils. COMP[1,3] trace width is 4 mils.



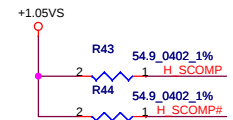


ESR <= 1.5m ohm
Capacitor > 1980uF
330uF ESR 7m ohm X 6 PCS

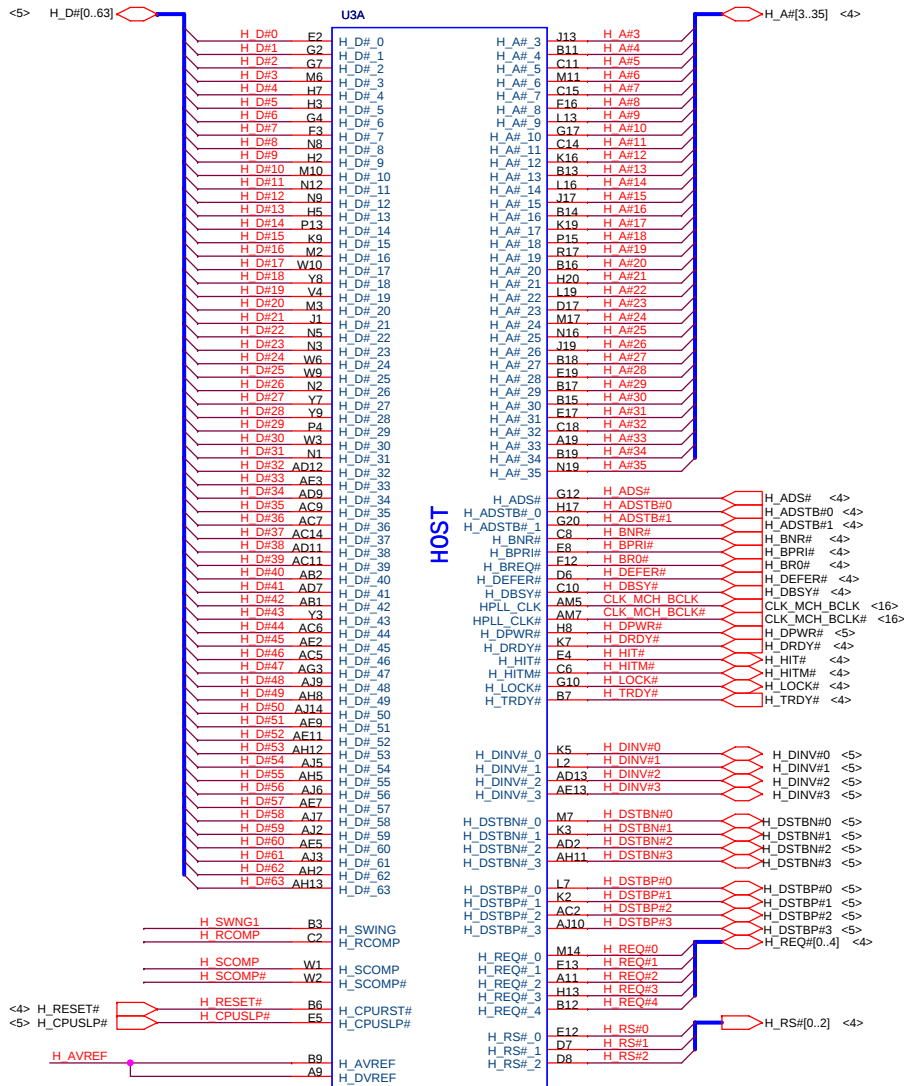
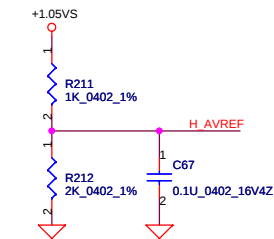
Security Classification	Compal Secret Data			Title	
Issued Date	2006/06/05	Deciphered Date	2007/06/05	Merom(3/3)-GND&Bypass	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	2.0
Date: Tuesday, May 22, 2007				Sheet	6 of 47



10-mil wide with 20-mil spacing



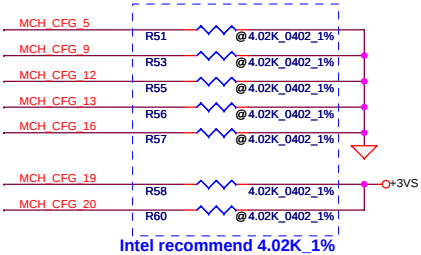
impedance is 55 ohm
Width is 10mil



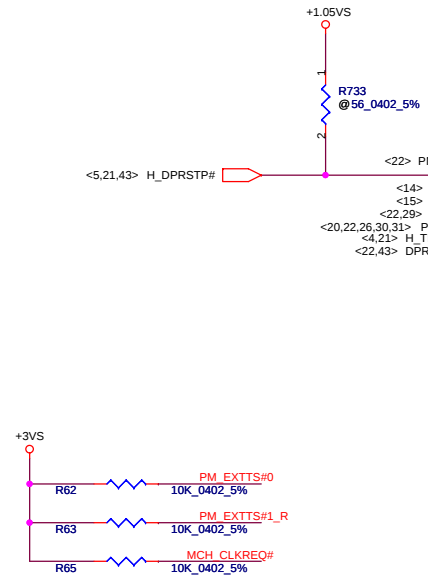
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title	Crestline (1/7)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-3481P
				Date	Tuesday, May 22, 2007
				Sheet	7 of 47

Strap Pin Table

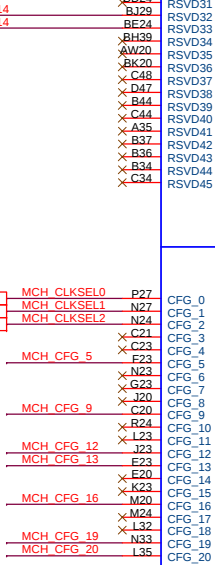
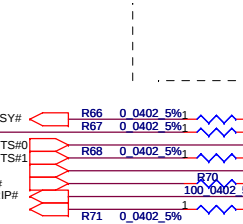
CFG[2:0]	011 = 667MT/s FSB 010 = 800MT/s FSB
CFG5	0 = DMI x 2 1 = DMI x 4 * (Default)
CFG9	0 = Lane Reversal Enable 1 = Normal Operation * (Default)
CFG[13:12]	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation * (Default)
CFG16	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled * (Default)
CFG19	0 = Normal Operation 1 = DMI Lane Reversal Enable * (Default)
CFG20 (PCIE/SDVO select)	0 = Only PCIE or SDVO is operational. (Default) 1 = PCIE/SDVO are operating simu.
SDVO_CTRLDATA	0 = No SDVO Device Present * (Default) 1 = SDVO Device Present



CFG[17:3] have internal pull up
CFG[19:18] have internal pull down



Refer Strap Pin Table



RSVD

DDR MUXING

CLK

DMI

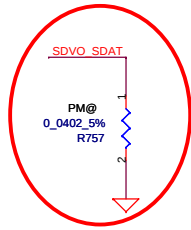
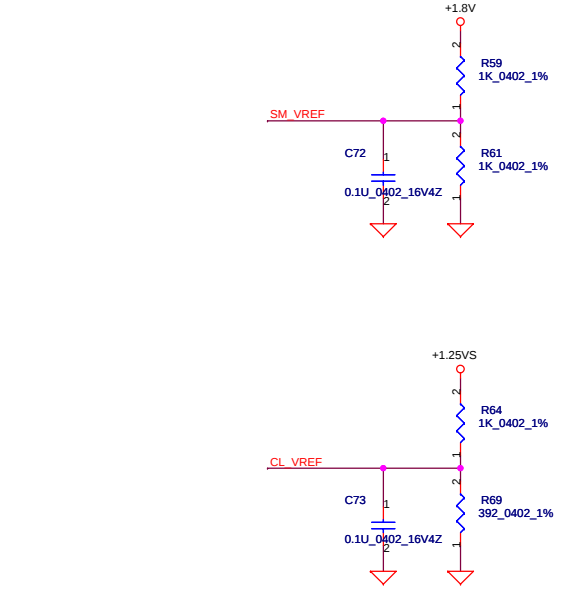
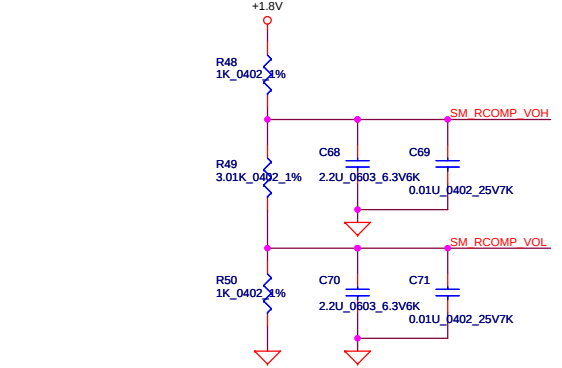
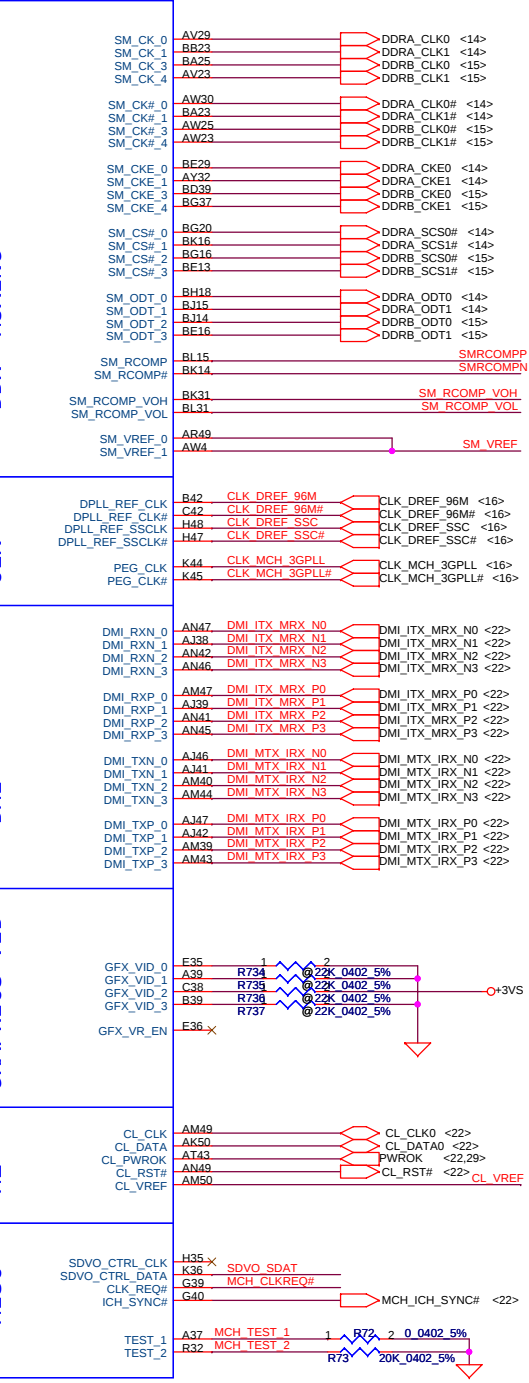
CFG

PM

ME

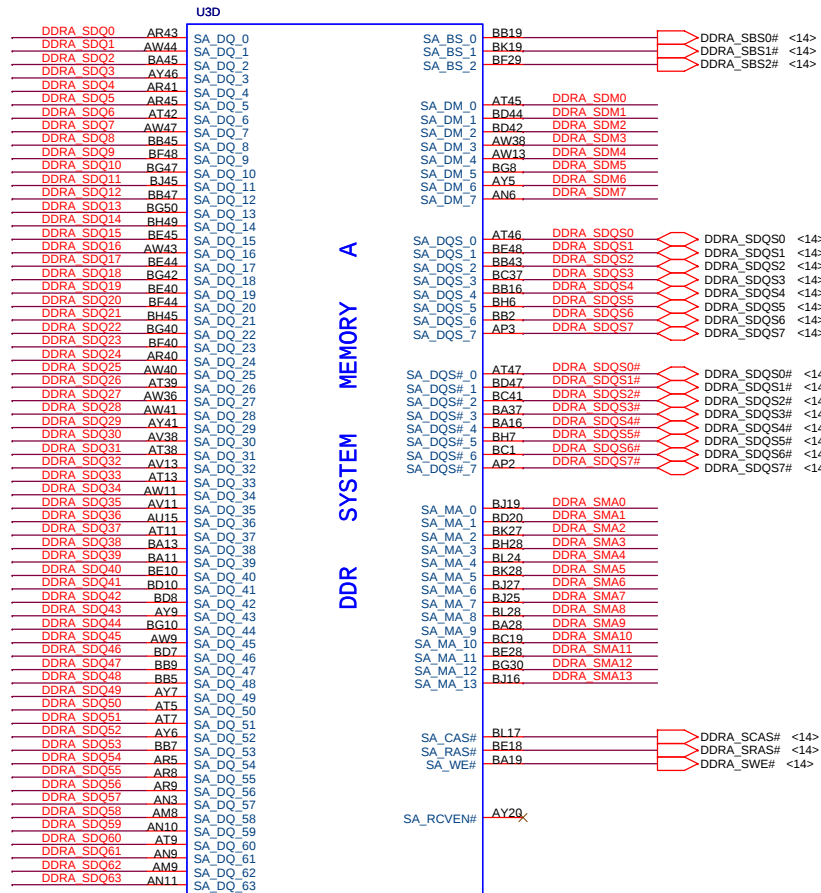
NC

MISC

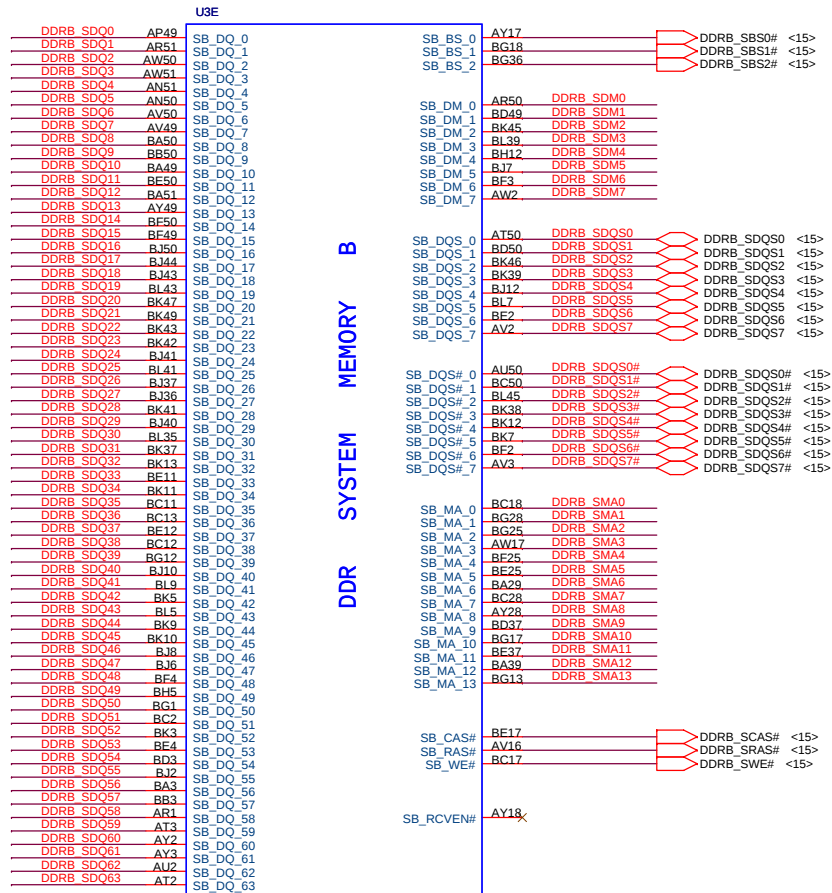


<14> DDRA_SDQ[0..63] <14> DDRA_SDM[0..7] <14> DDRA_SMA[0..13]

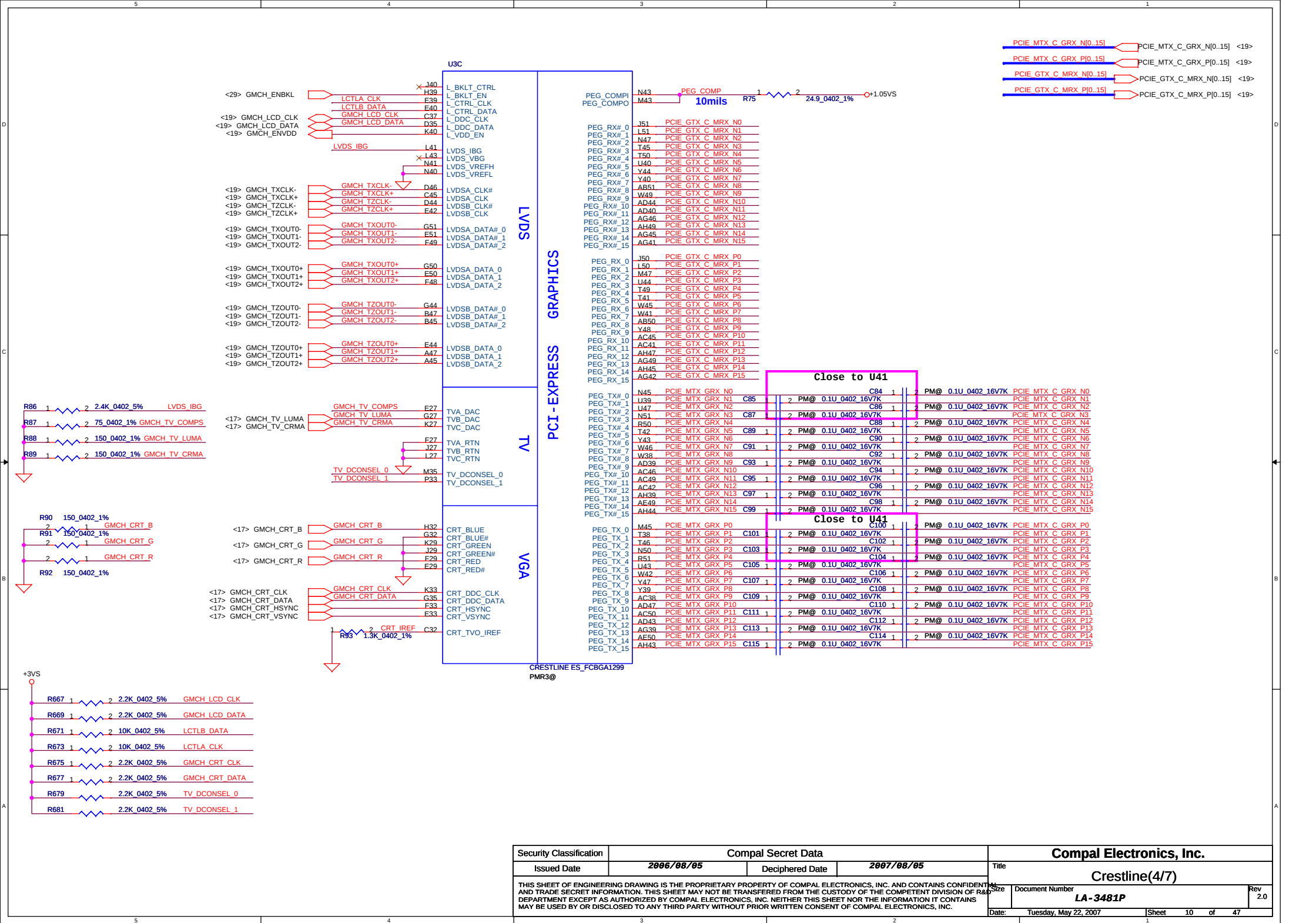
<15> DDRB_SDQ[0..63] <15> DDRB_SDM[0..7] <15> DDRB_SMA[0..13]

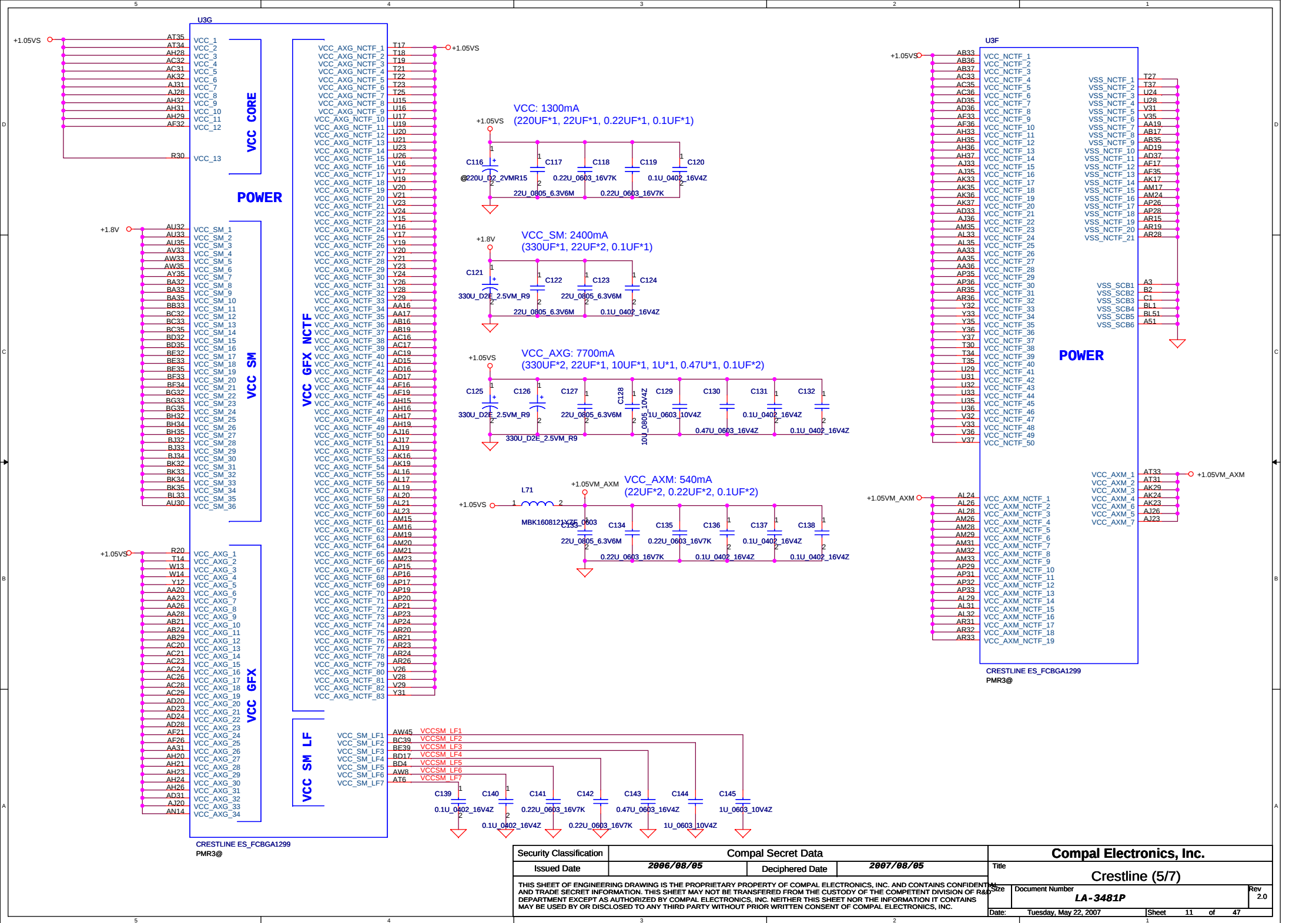


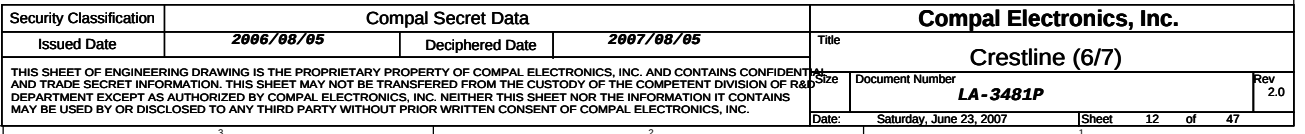
CRESTLINE ES_FCBGA1299
PMR3@

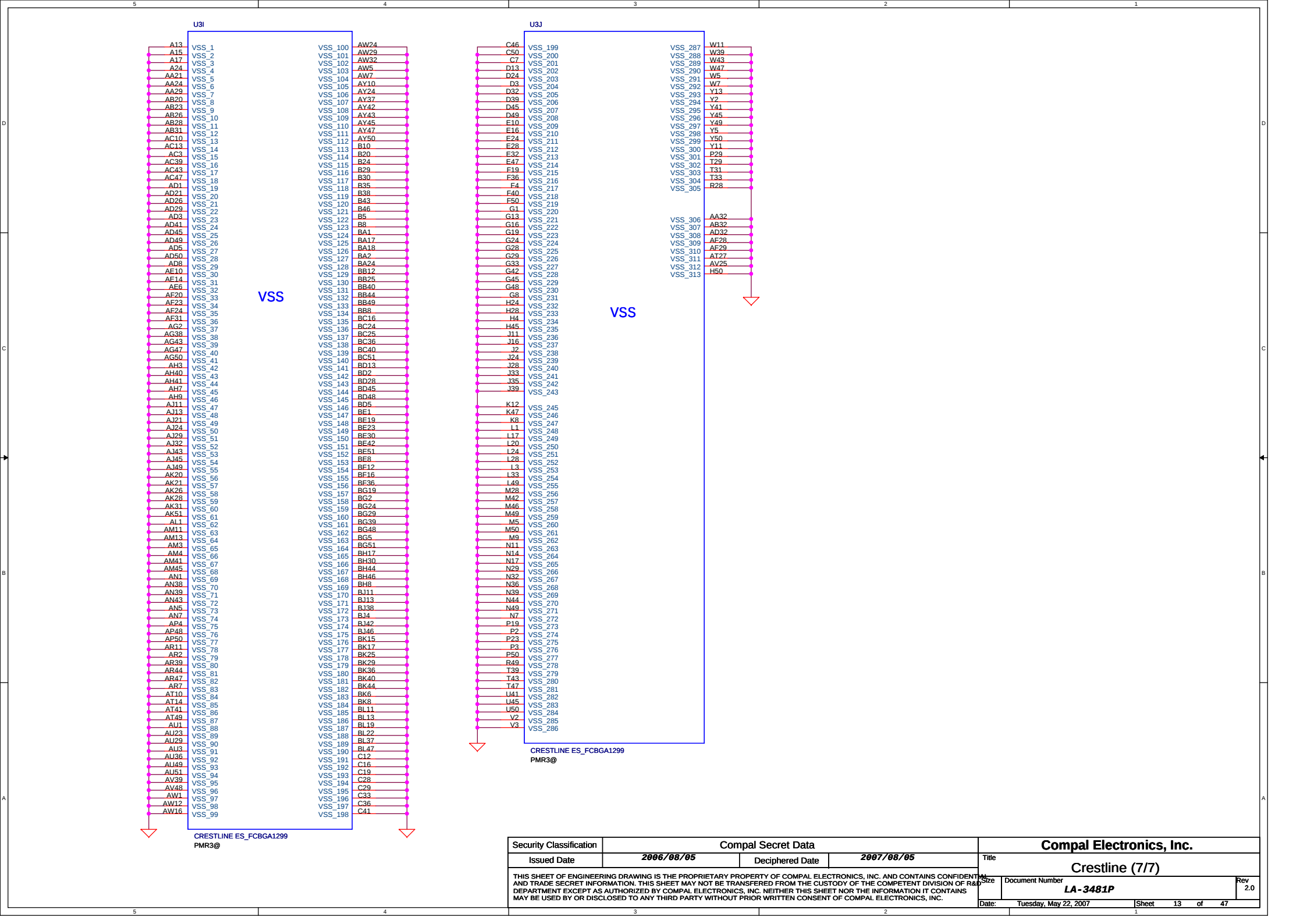


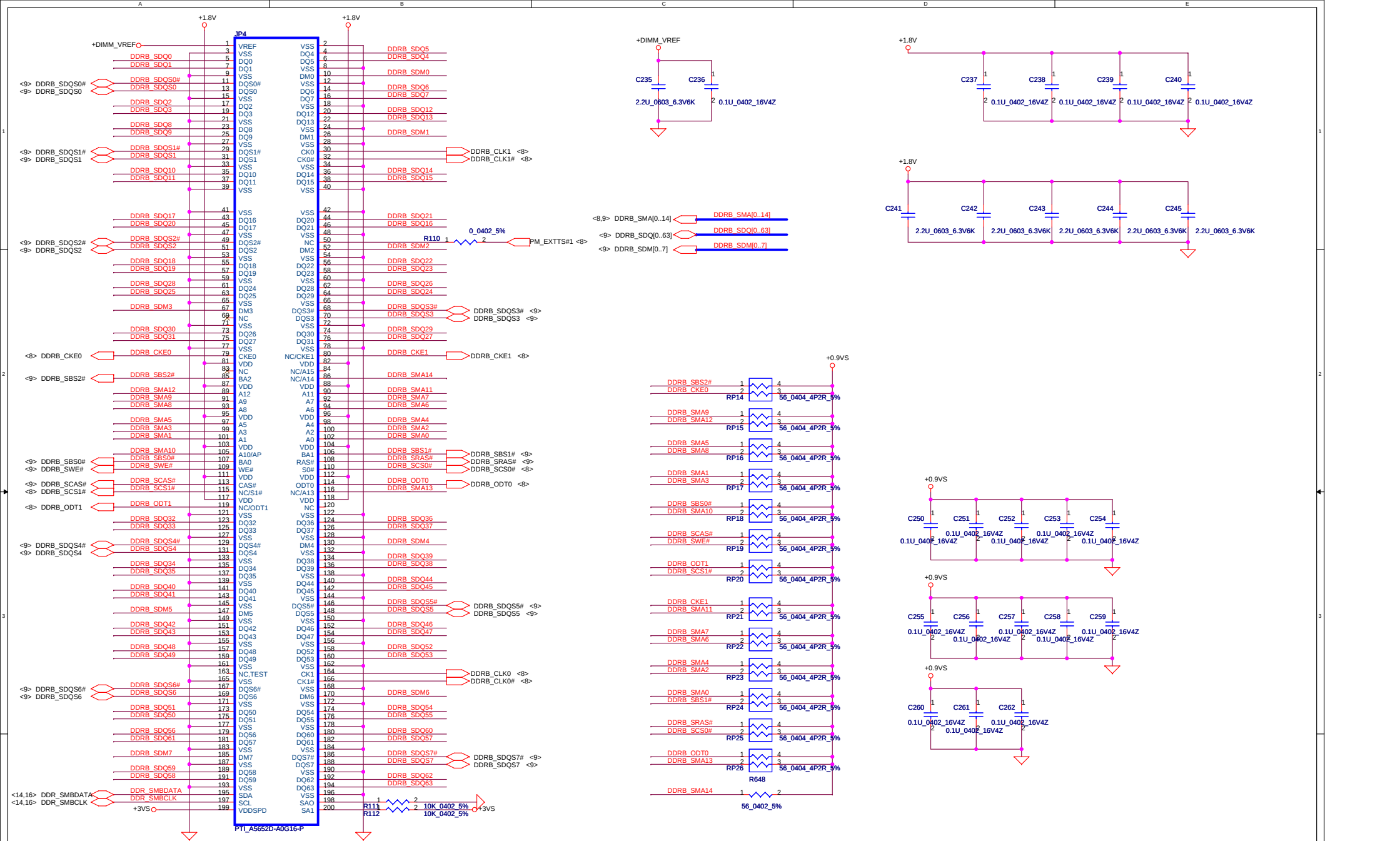
CRESTLINE ES_FCBGA1299
PMR3@







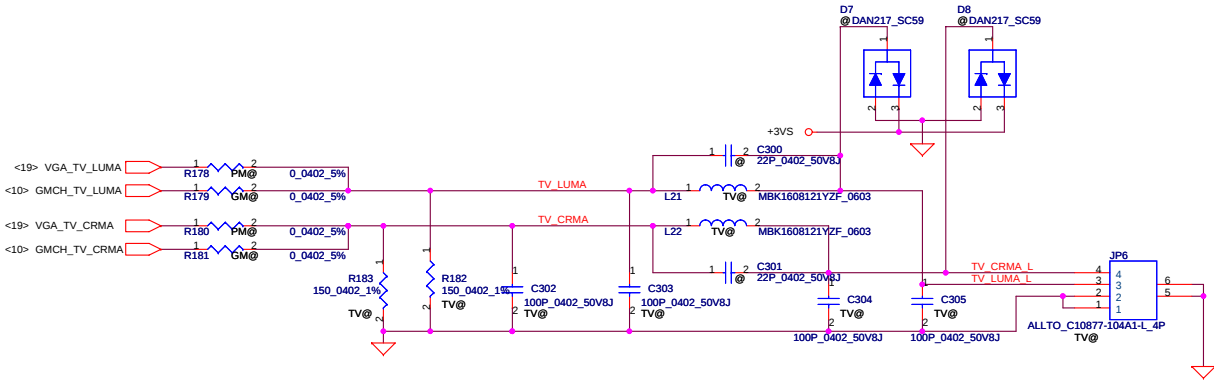
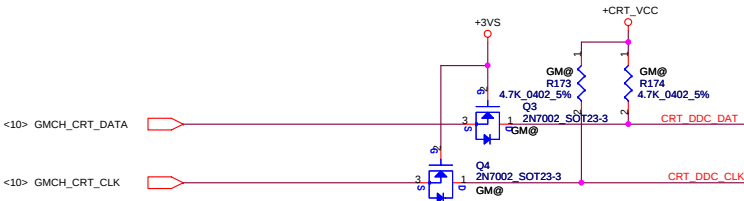
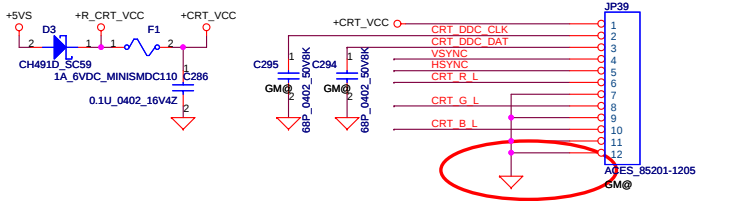
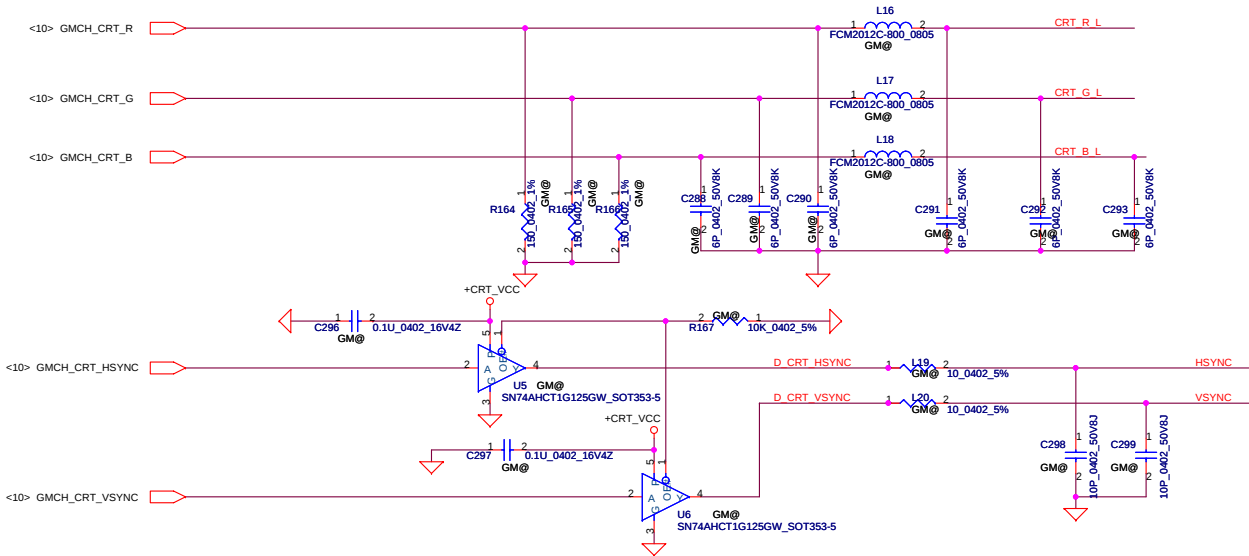




DIMM1 STD H:5.2mm (BOT)

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-3481P	2.0
Date: Tuesday, May 22, 2007				Sheet	15 of 47

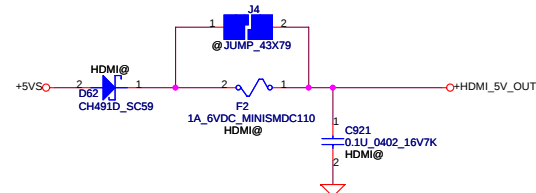
CRT CONNECTOR



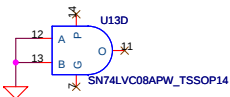
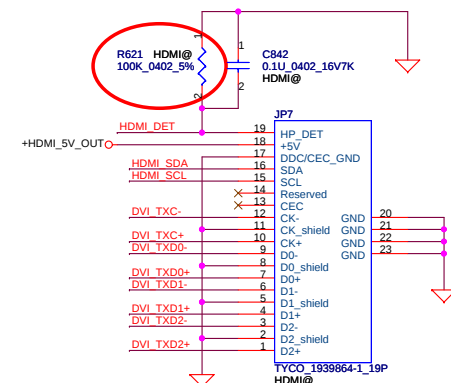
TV-OUT Conn.

- 1. Y ground
- 2. C ground
- 3. Y (luminance+sync)
- 4. C (chrominance)

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2006/08/05		Title	
		Deciphered Date		2007/08/05	
				CRT & Tvout Connector	
				Document Number	
				LA-3481P	
				Rev	
				2.0	
				Date	
				Wednesday, May 23, 2007	
				Sheet	
				17 of 47	

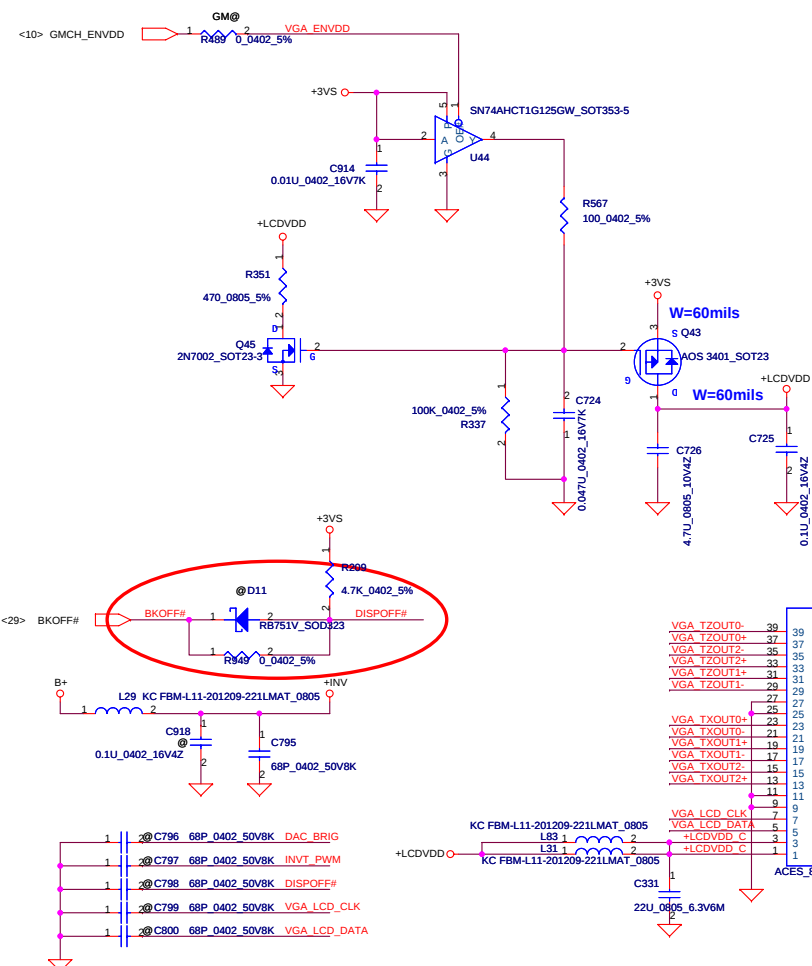


Reserve Level Shifting Circuit

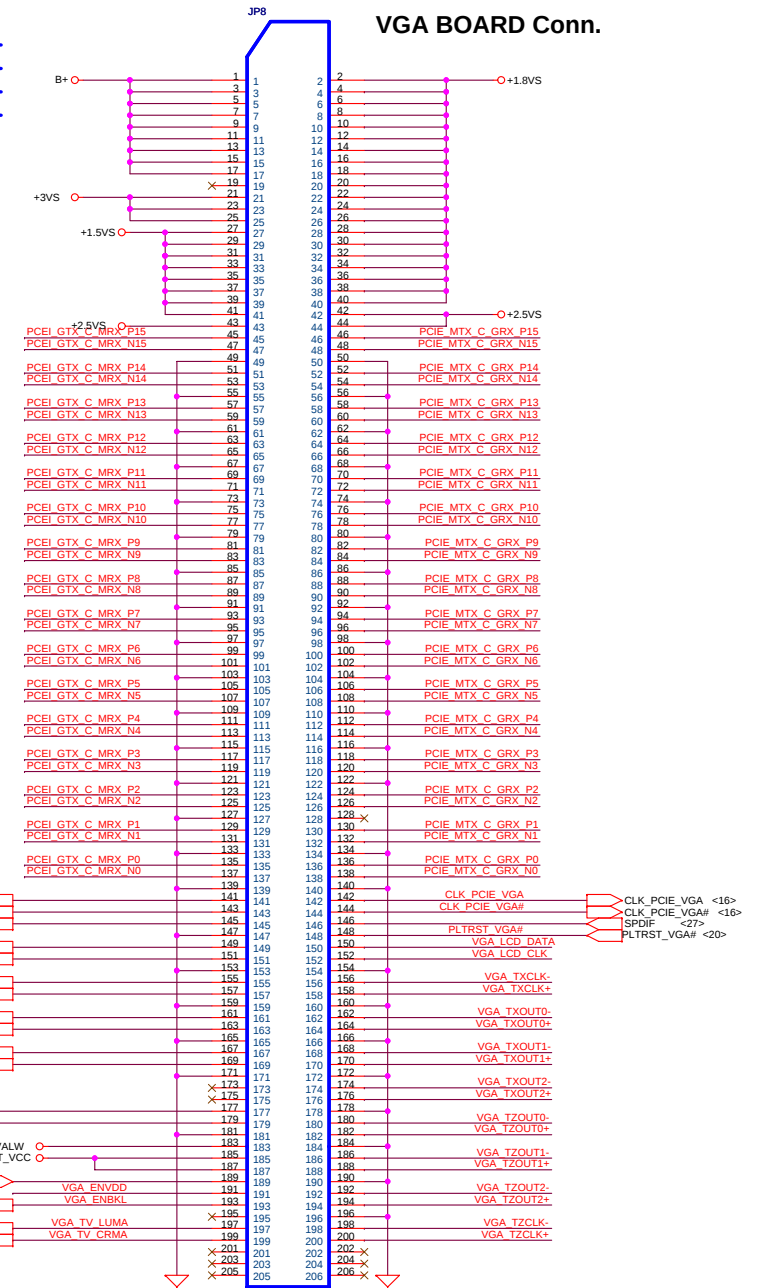
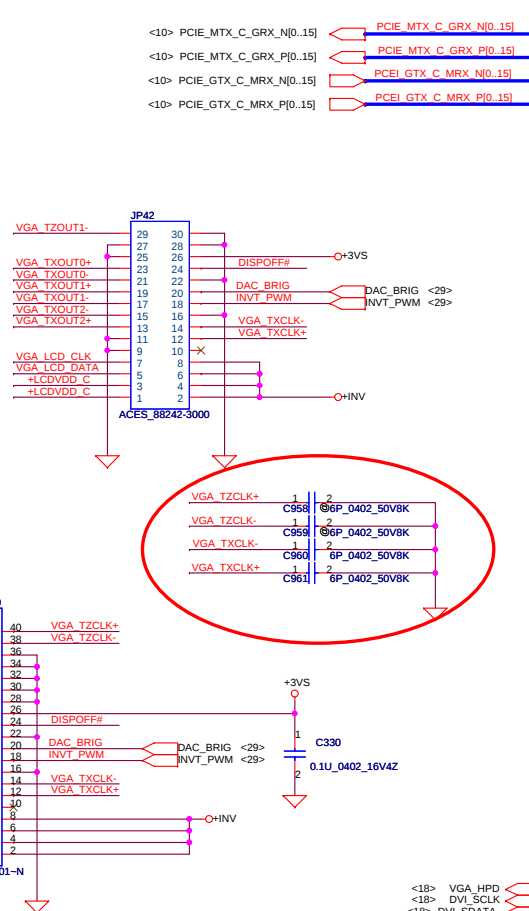
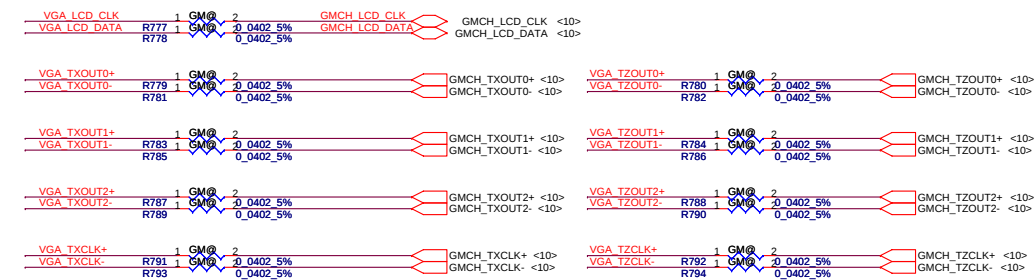


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/06/30	Deciphered Date	2007/06/30	Title	Sil1392&HDMI Connector
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc. Number	Rev.
				Cust. No.	2.0
				Date:	Saturday, June 23, 2007

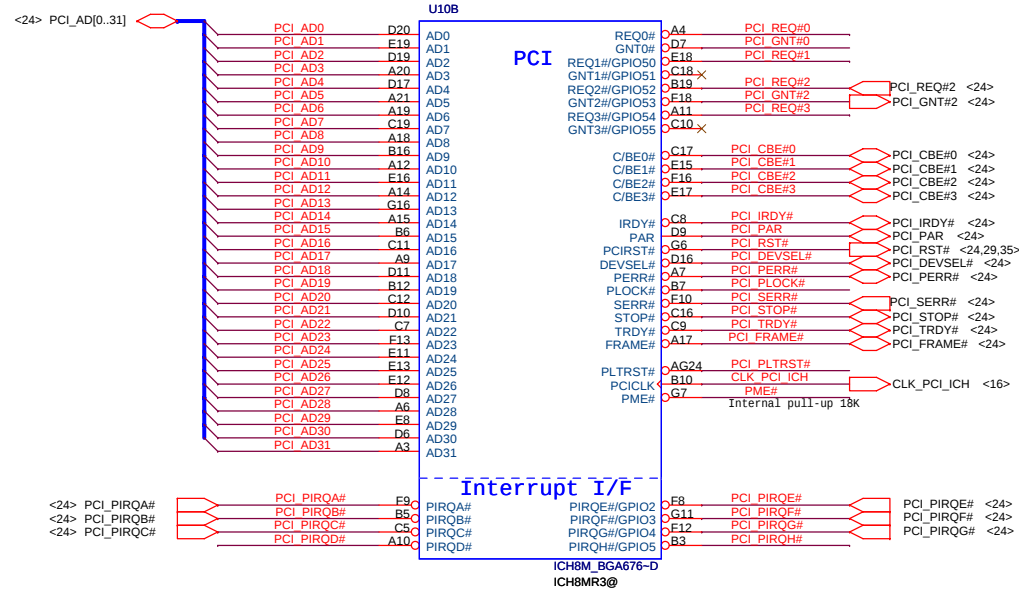
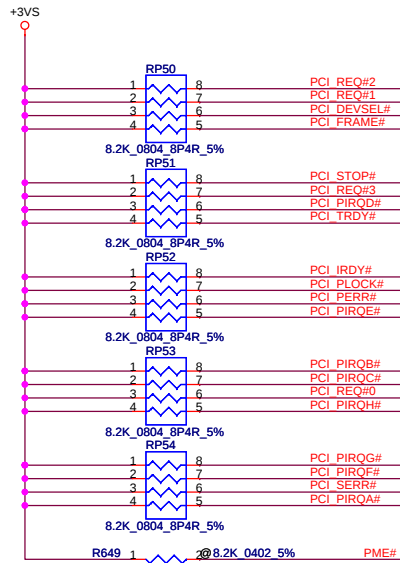
LCD POWER CIRCUIT



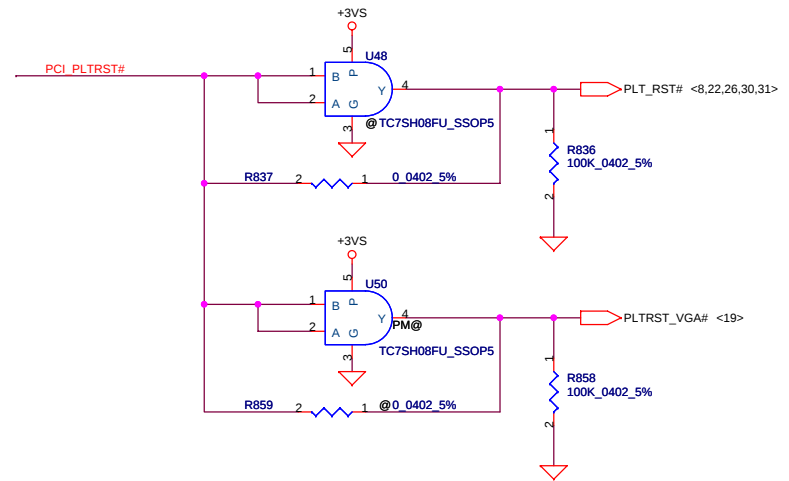
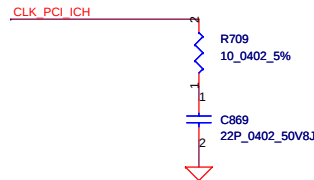
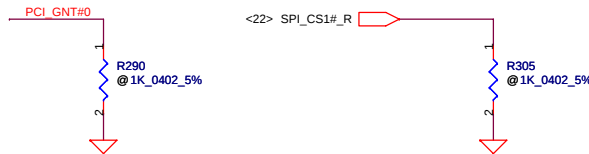
ALL R CLOSE TO VGA CONNECTOR



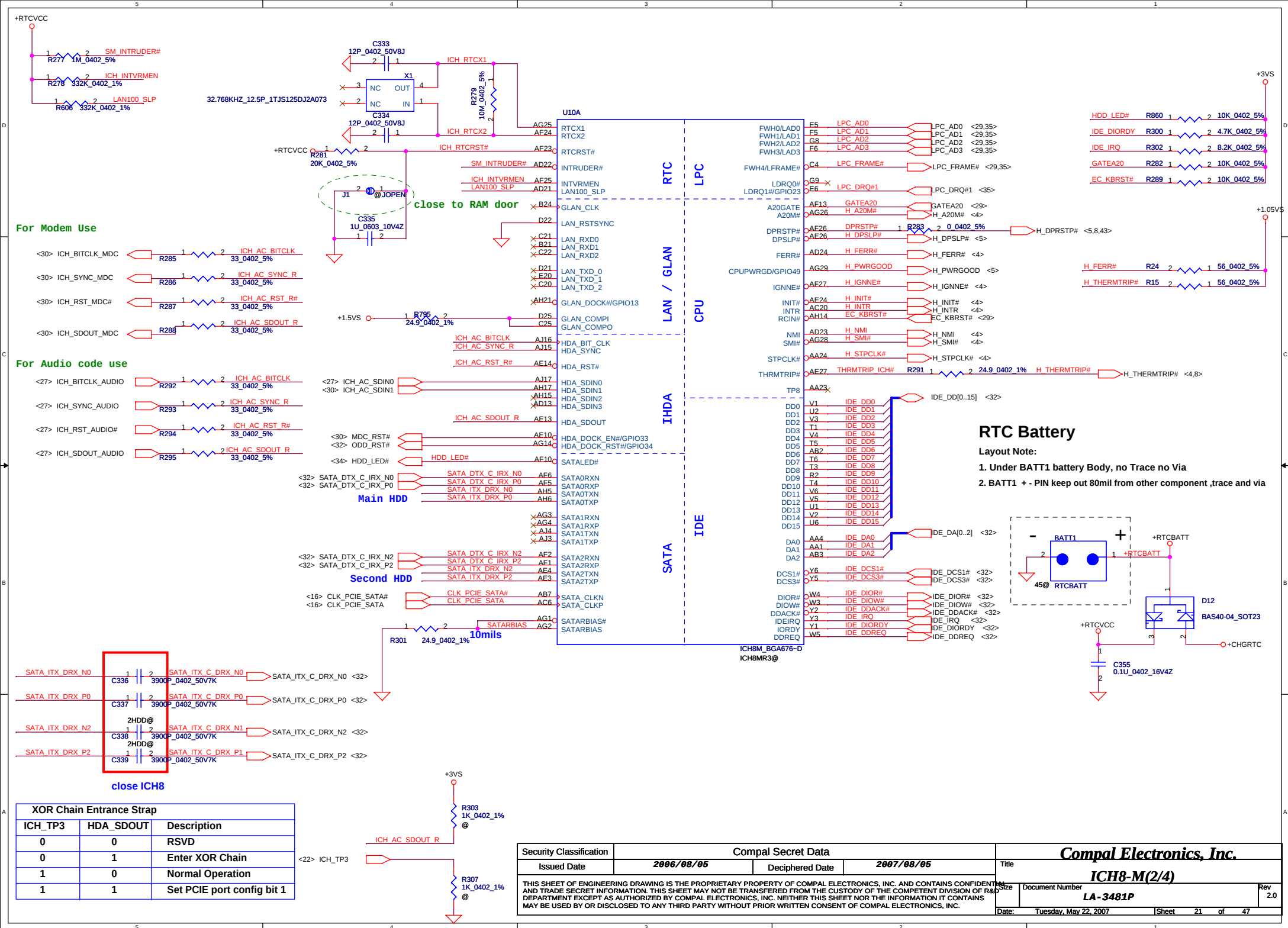
Security Classification		Compal Secret Data		Compal Electronics, Inc. VGA CONN		
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. IN 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.				Part	Document Number	Rev
					LA-3481P	2.0
				Date:	Saturday, June 23, 2007	Sheet 19 of 47

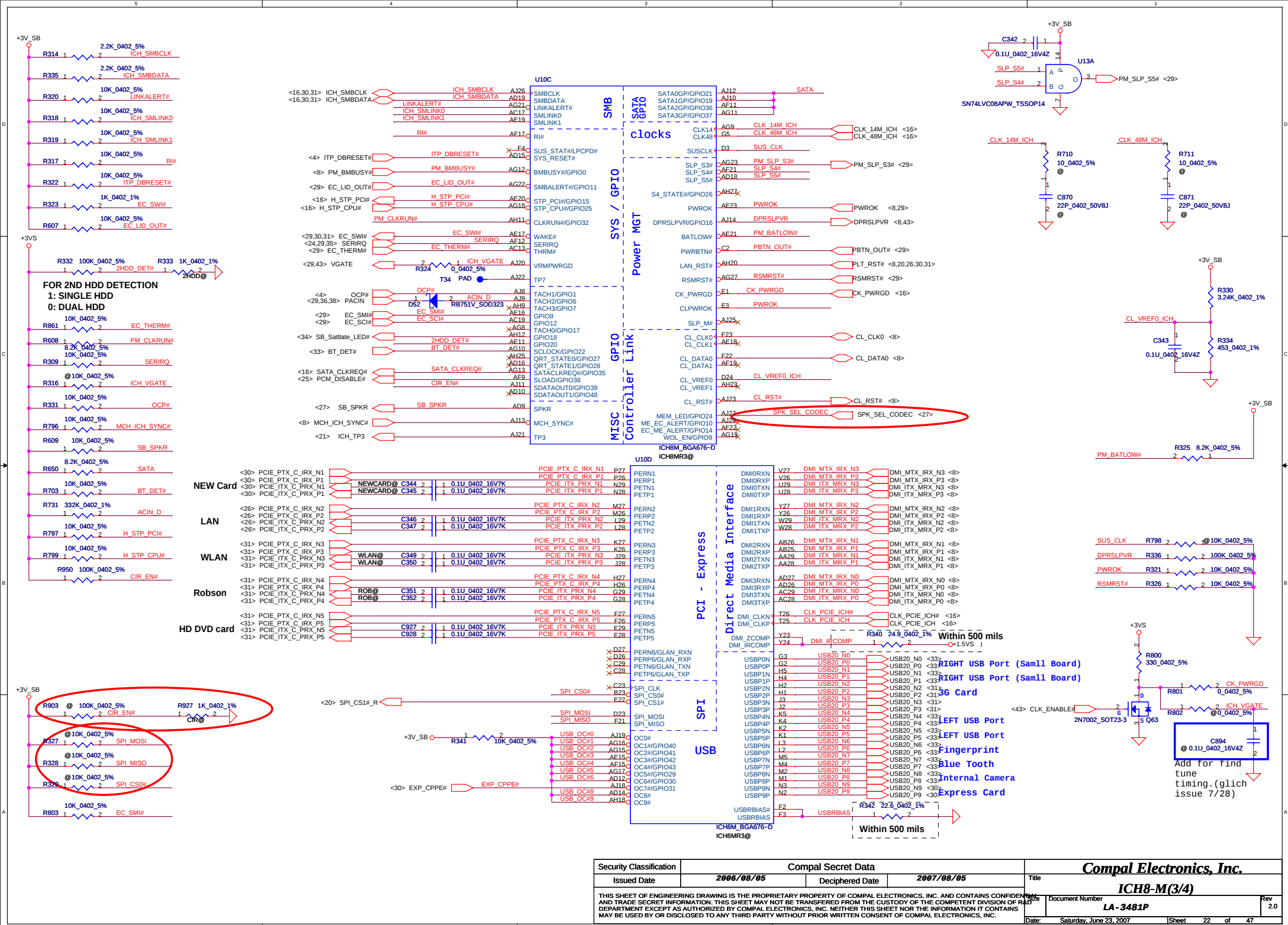


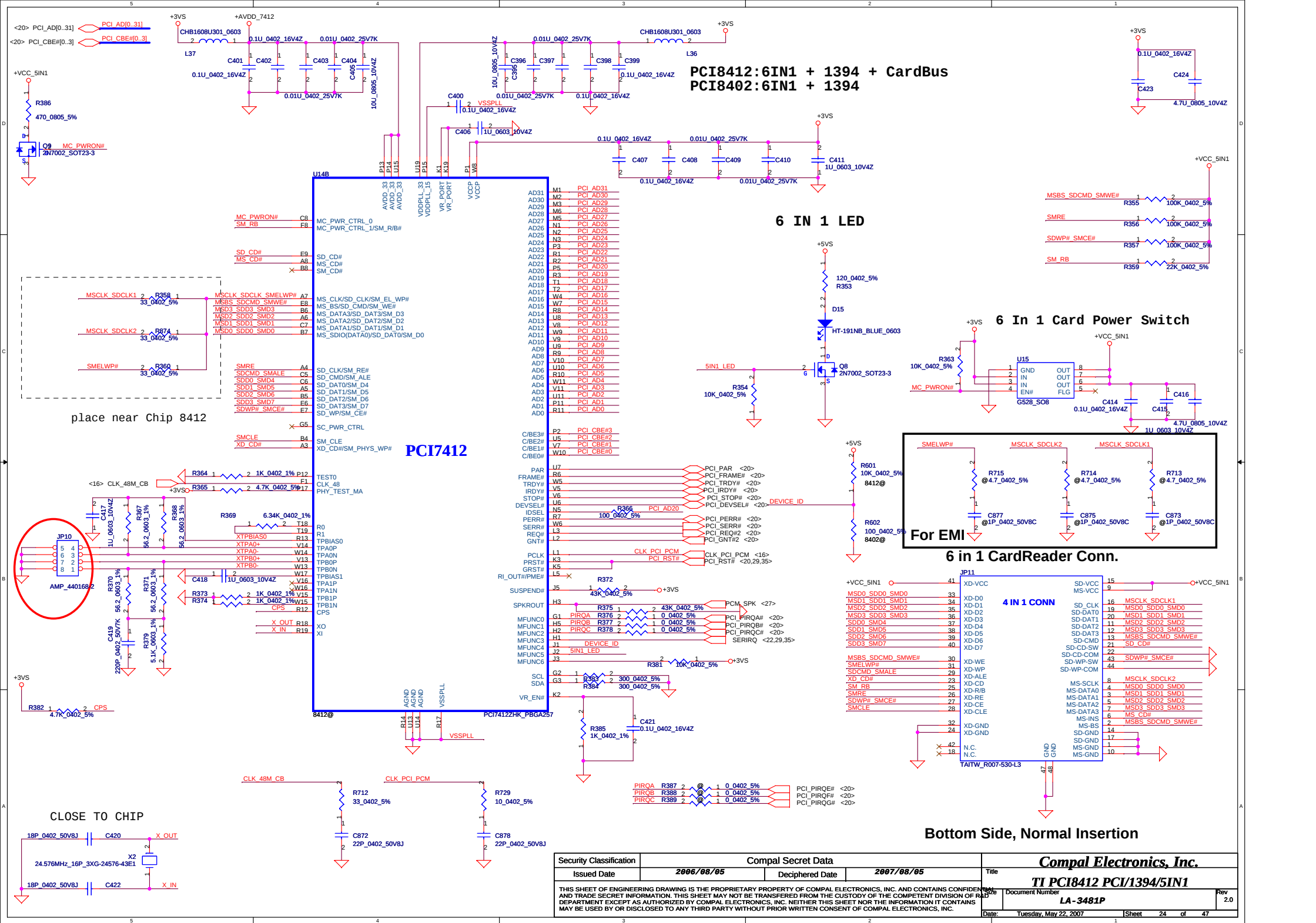
Boot BIOS Strap		
PCI_GNT0#	SPI_CS#0	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *



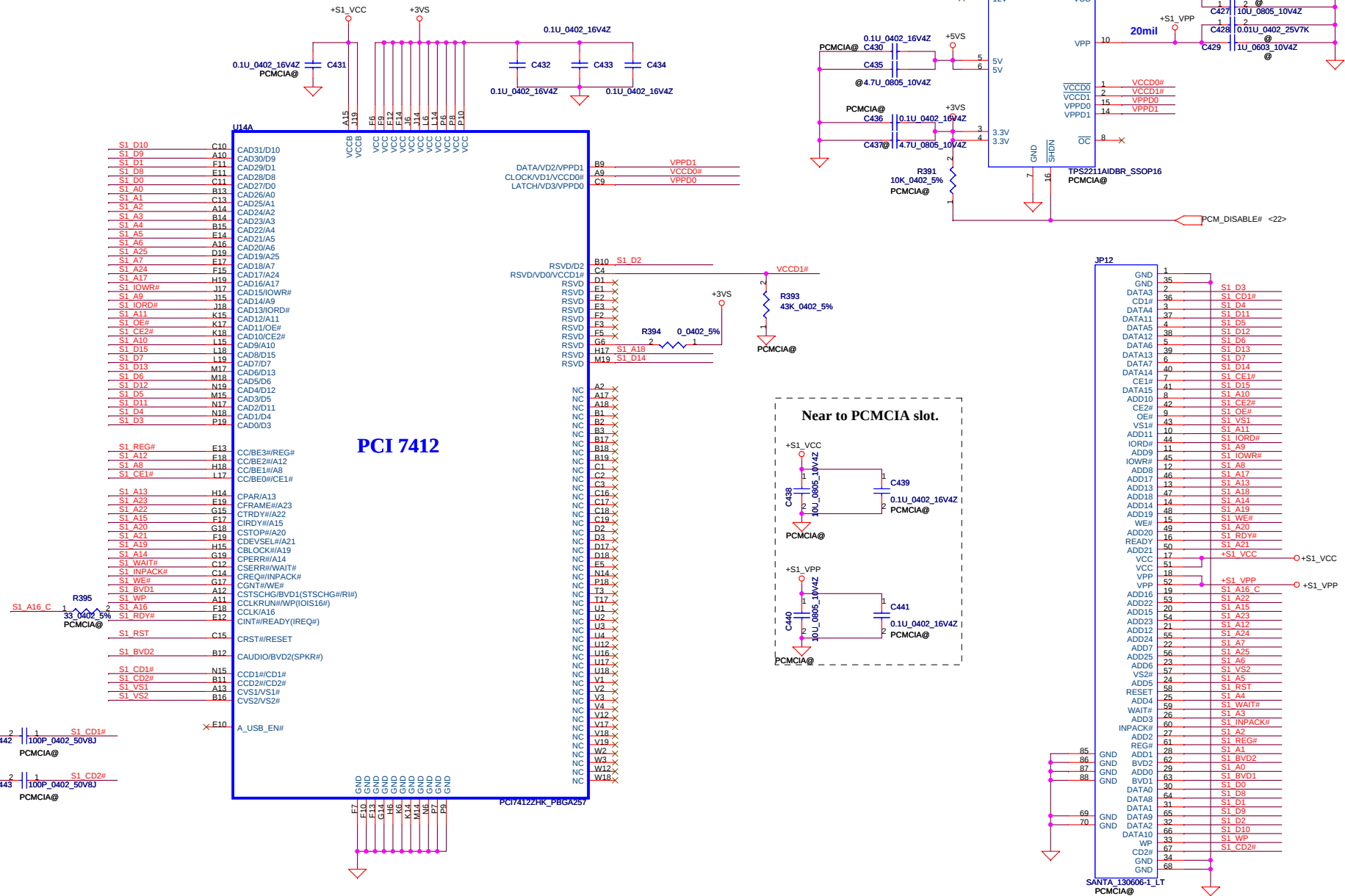
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title	ICH8-M(1/4)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-3481P
				Date	Tuesday, May 22, 2007
				Sheet	20 of 47



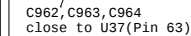




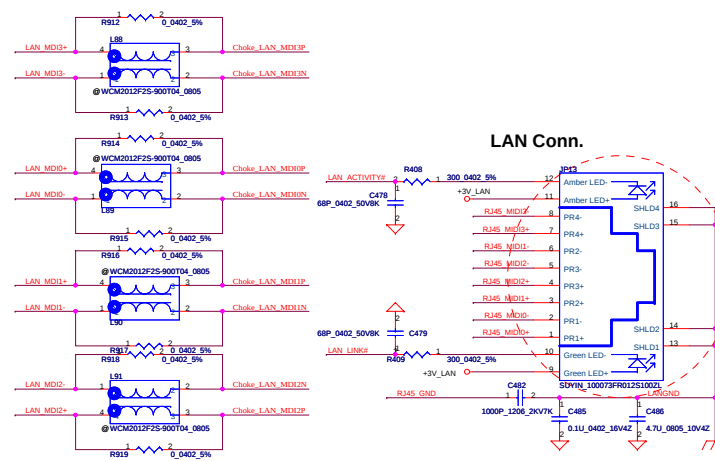
CardBus Power Switch



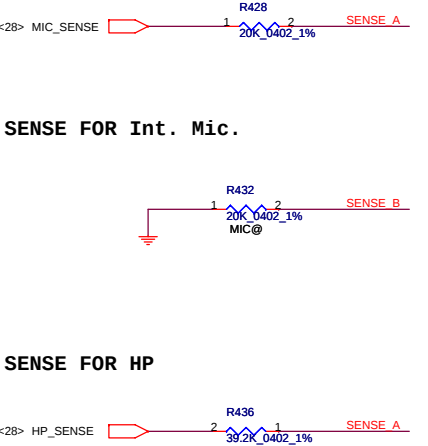
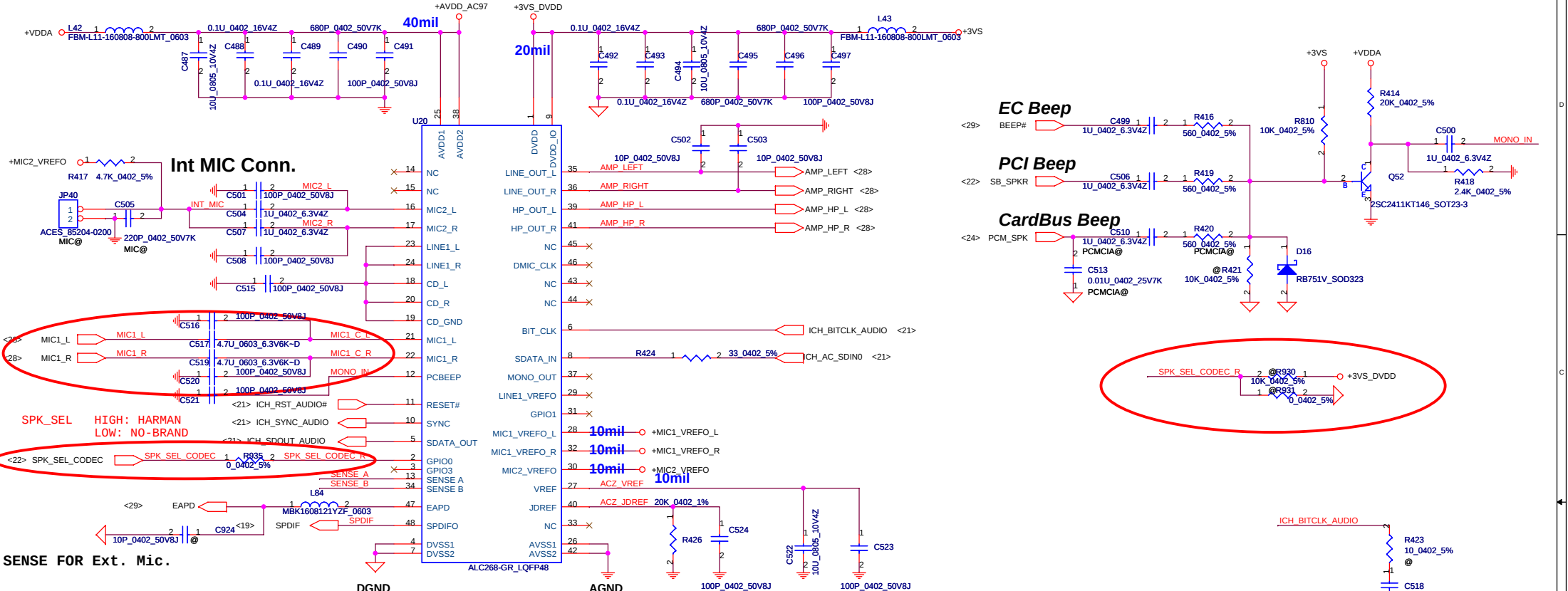
Security Classification		Compal Secret Data		Compal Electronics, Inc. TI PCI8412/CB socket	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Doc. No.	Rev.
				Document Number	2.0
				Date:	Tuesday, May 22, 2007
				Sheet	25 of 47



GST5009 for GIGA LAN
TST1284 for 10/100 LAN

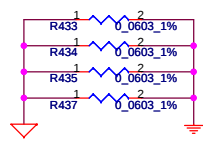


HD Audio Codec

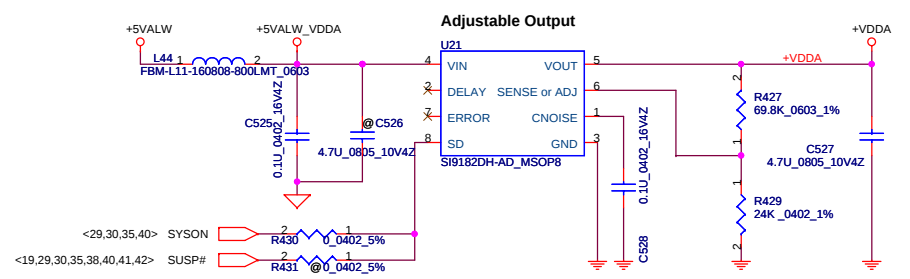


Sense Pin	Impedance	Codec Signals
SENSE A	39.2K	PORT-A (PIN 39, 41)
	20K	PORT-B (PIN 21, 22)
	10K	PORT-C (PIN 23, 24)
	5.1K	PORT-D (PIN 35, 36)
SENSE B	39.2K	PORT-E (PIN 14, 15)
	20K	PORT-F (PIN 16, 17)
	10K	PORT-G (PIN 43, 44)
	5.1K	PORT-H (PIN 45, 46)

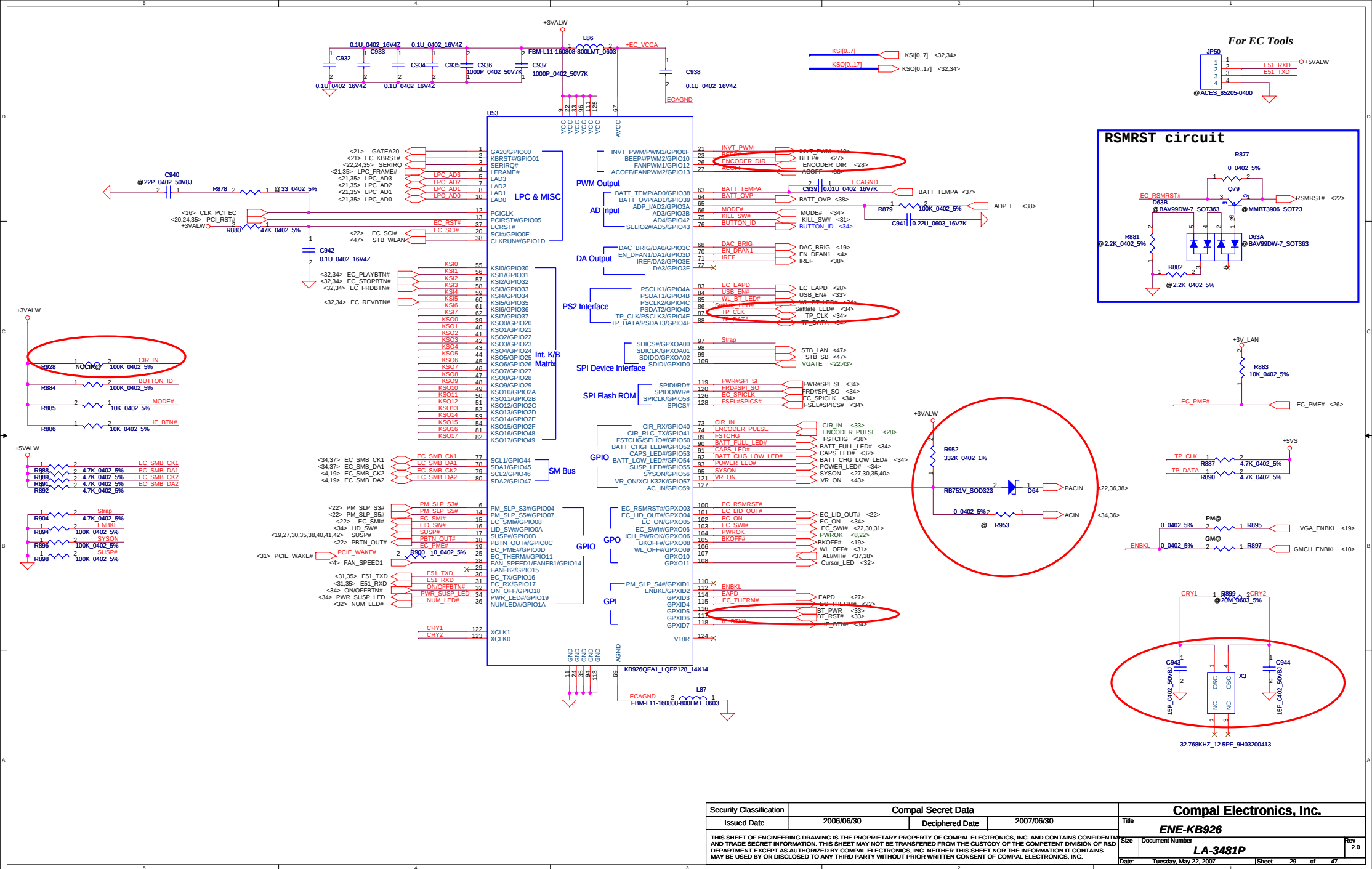
Moat Bridge



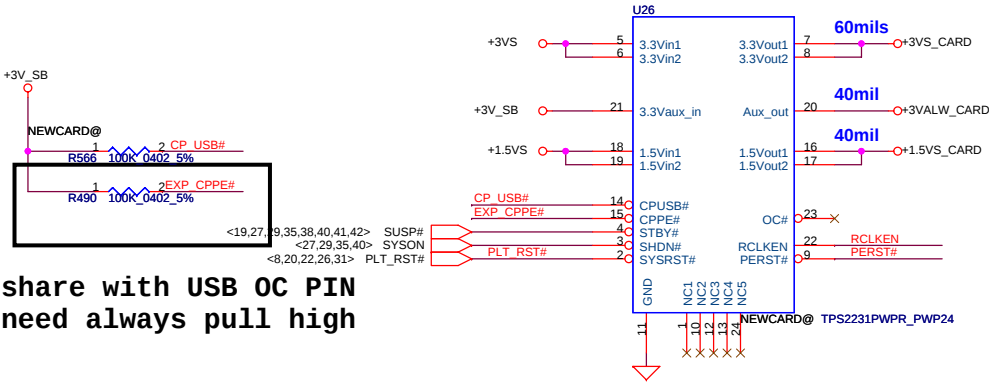
Regulator for CODEC



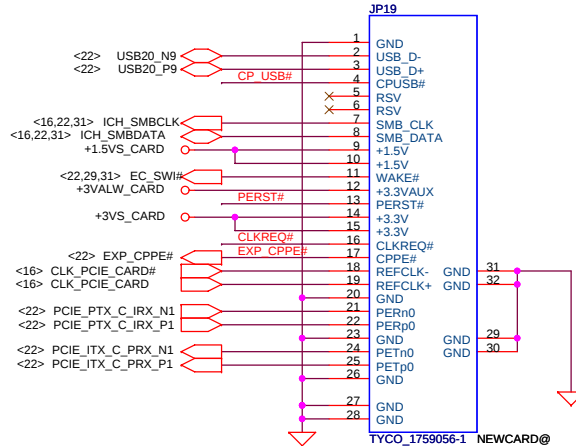
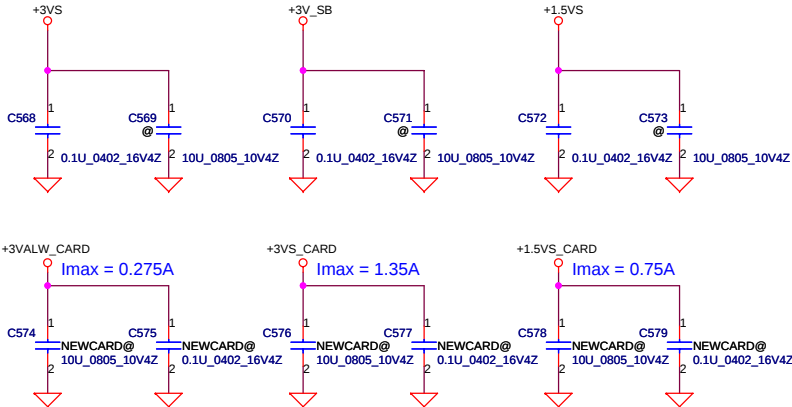
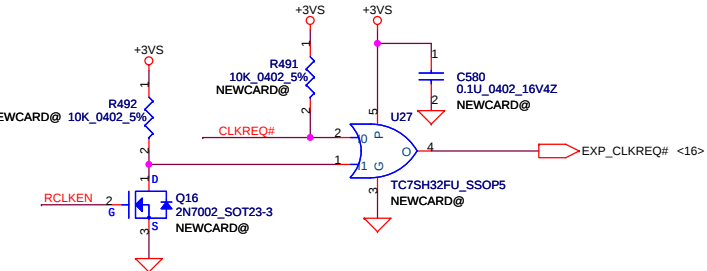
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				HD Audio Codec_ALC268
Size	Document Number	Rev	2.0	
	LA-3481P			
Date	Tuesday, May 22, 2007	Sheet	27	of 47



New Card

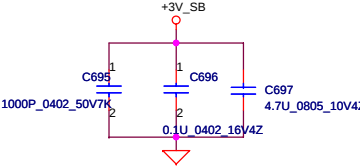
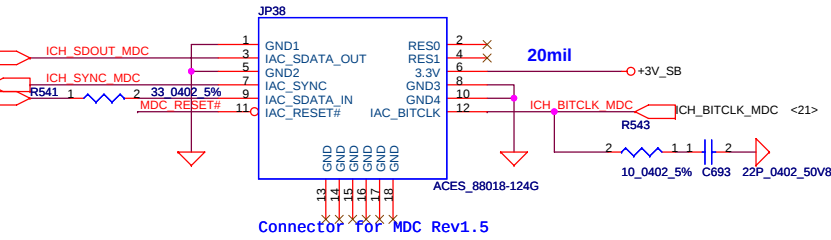
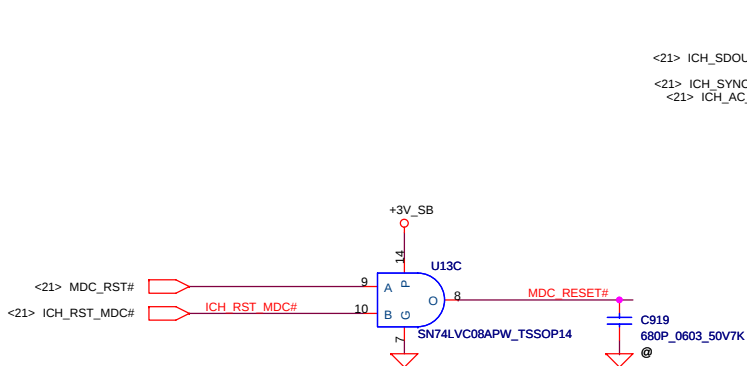


share with USB OC PIN
need always pull high



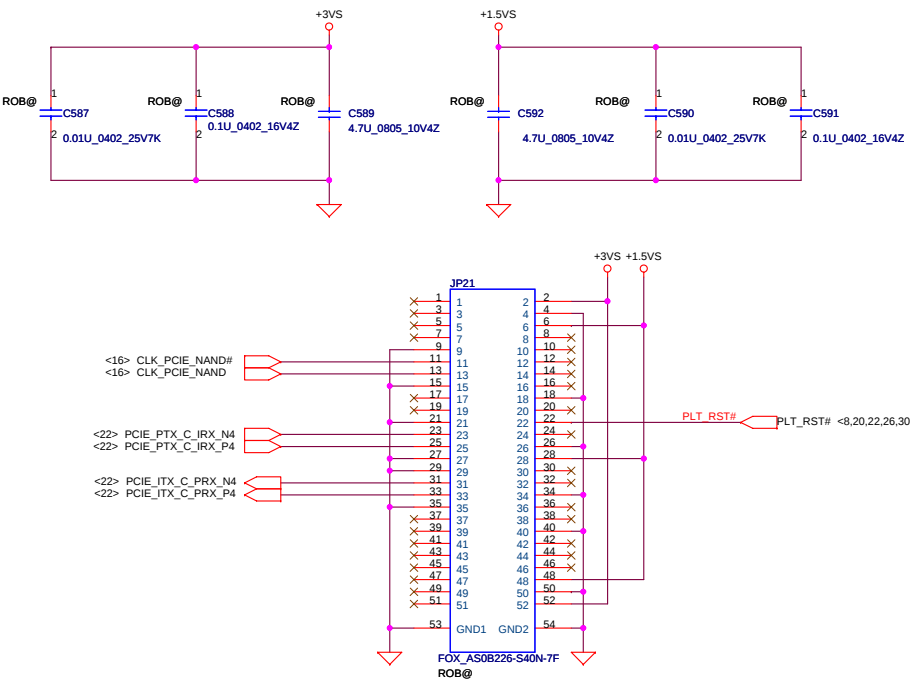
MDC

MDC Conn.

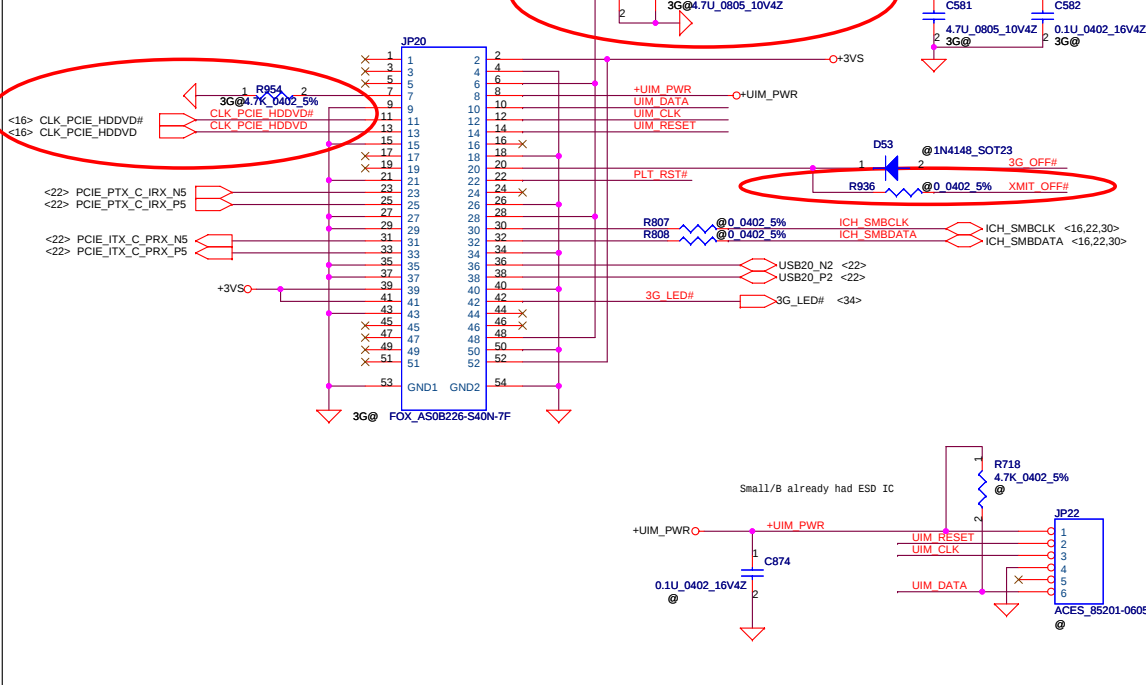


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		Deciphered Date		Title	
2006/08/05		2007/08/05		New Card & MDC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Document Number		Rev	
LA-3481P		2.0		Date	
Tuesday, May 22, 2007		Sheet		of	
30		47			

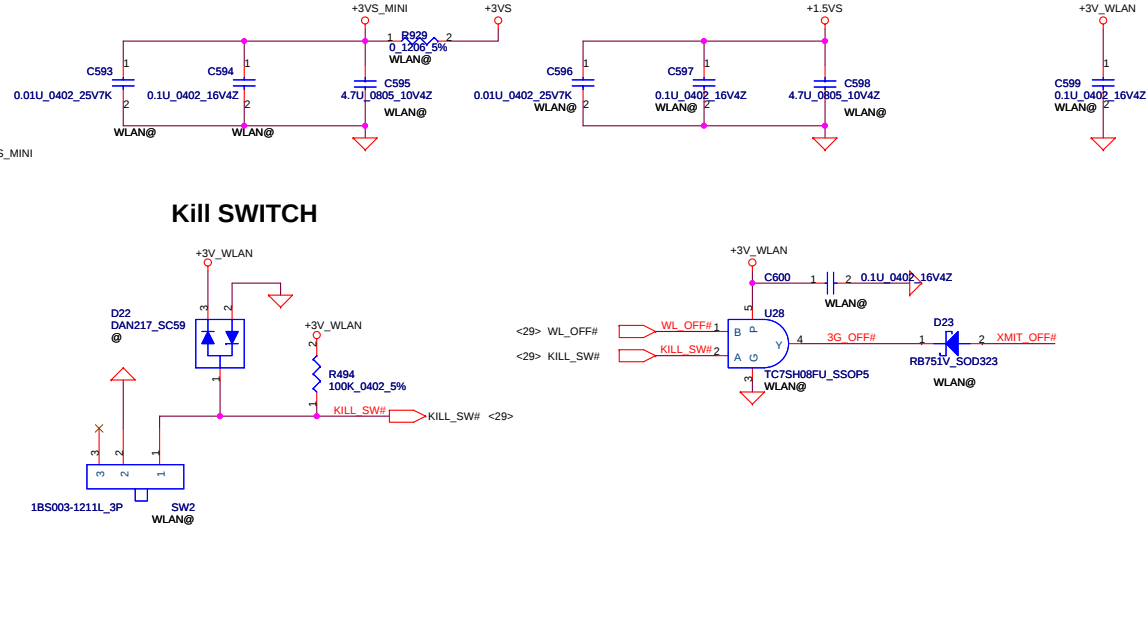
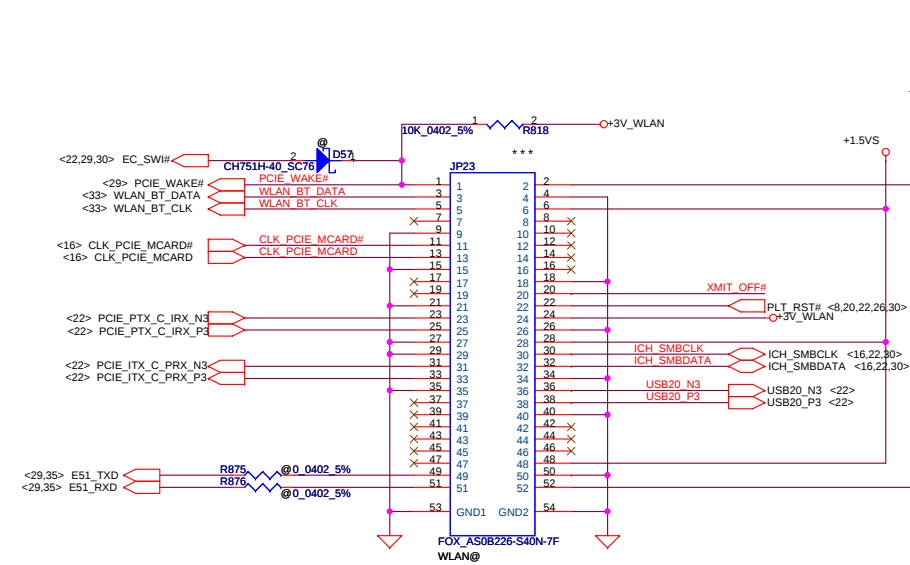
NAND mini Card(Robson support)



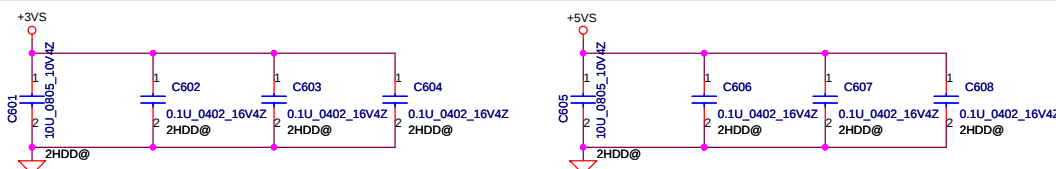
Mini-Express Card for 3G



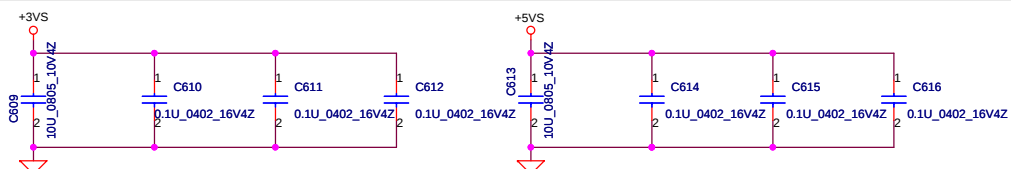
Mini-Express Card for WLAN



Security Classification		Compal Secret Data		Title	
Issued Date	2007/05/05	Deciphered Date	2007/05/05	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	2.0
Date: Tuesday, May 22, 2007				Sheet	31 of 47

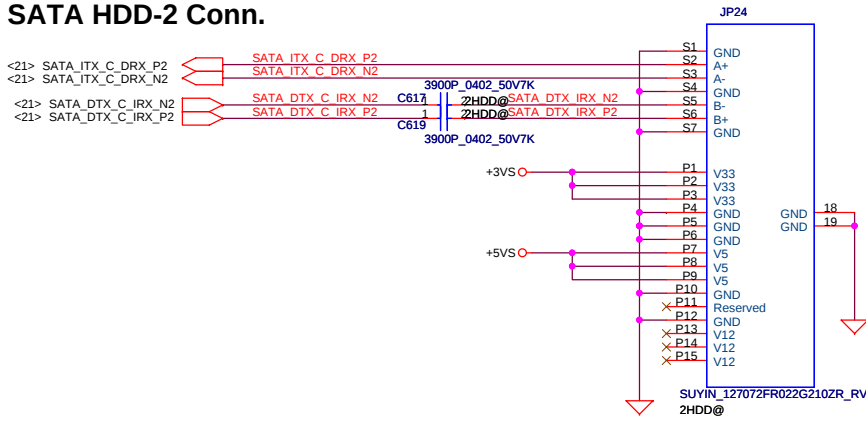


Place Components closely to SATA Conn.

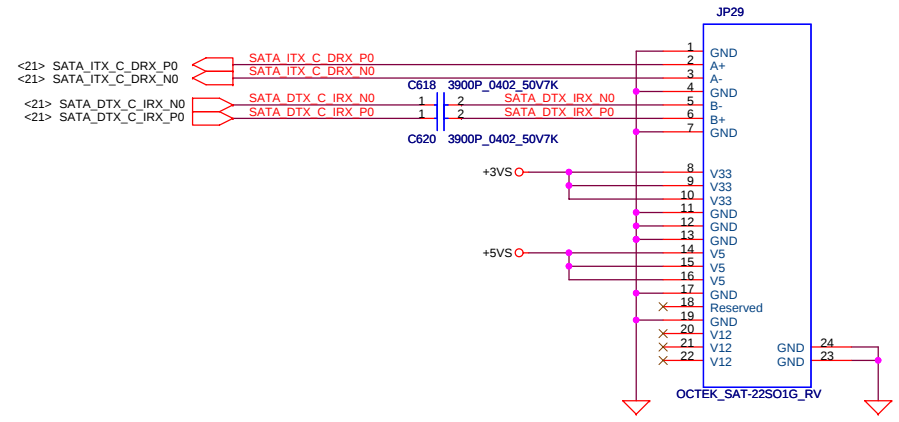


Place Components closely to SATA Conn.

SATA HDD-2 Conn.



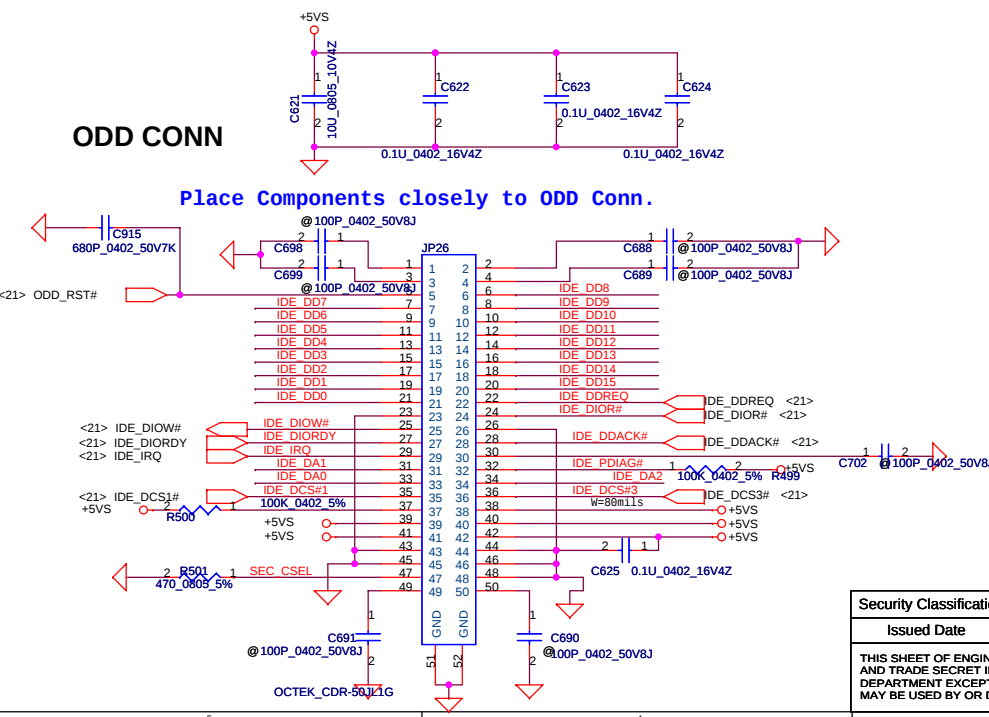
SATA HDD Conn.



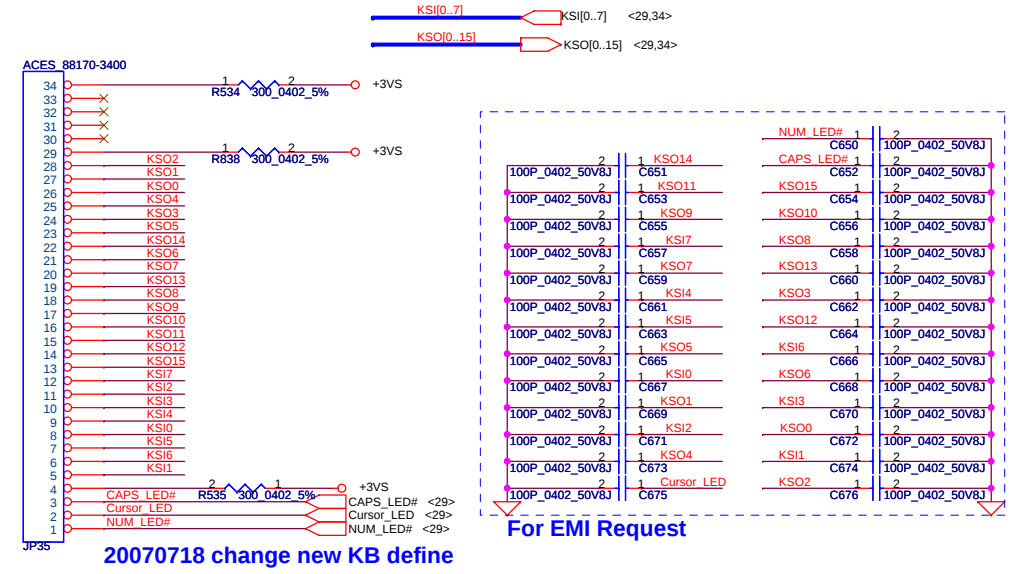
<21> IDE_DD[0..15] IDE DD[0..15]
<21> IDE_DA[0..2] IDE DA[0..2]

ODD CONN

Place Components closely to ODD Conn.



KEYBOARD CONN.



20070718 change new KB define

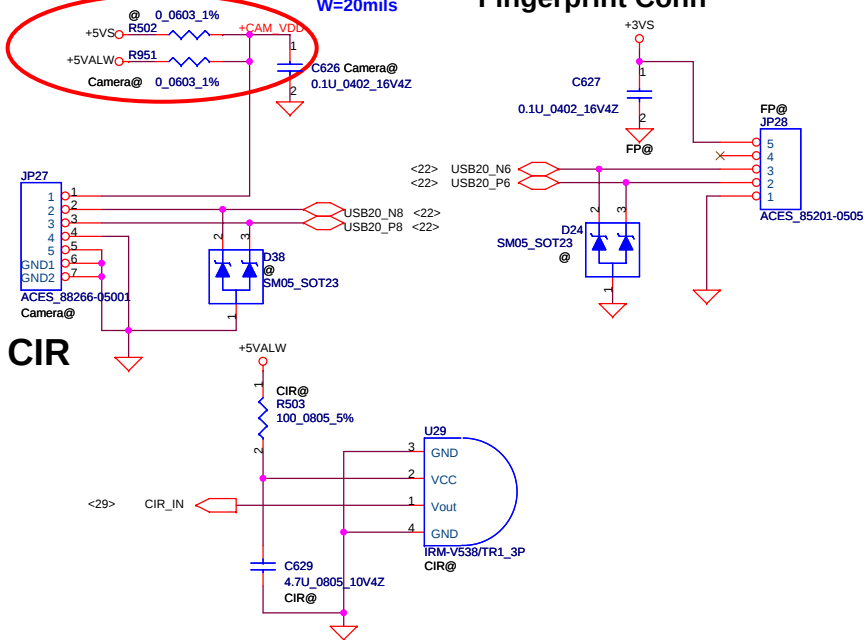
For EMI Request

Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2006/08/05		Deciphered Date		2007/08/05		Title			
								SATA & ODD			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						Size		Document Number		Rev	
								LA-3481P		2.0	
Date:						Tuesday, May 22, 2007		Sheet		32 of 47	

Int. Camera Conn

W=20mils

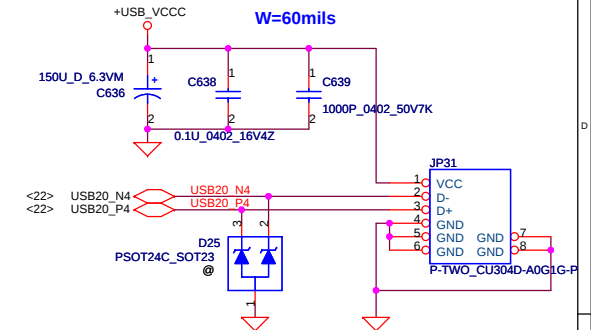
Fingerprint Conn



CIR

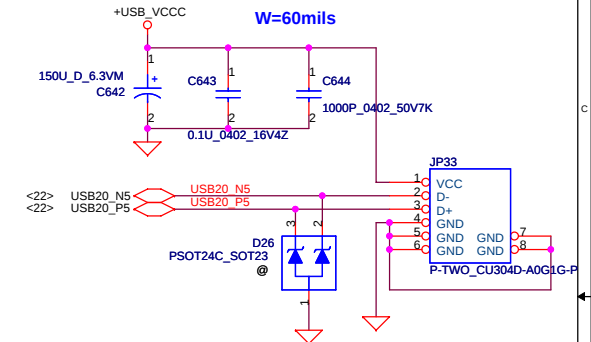
USB CONN. 1

W=60mils

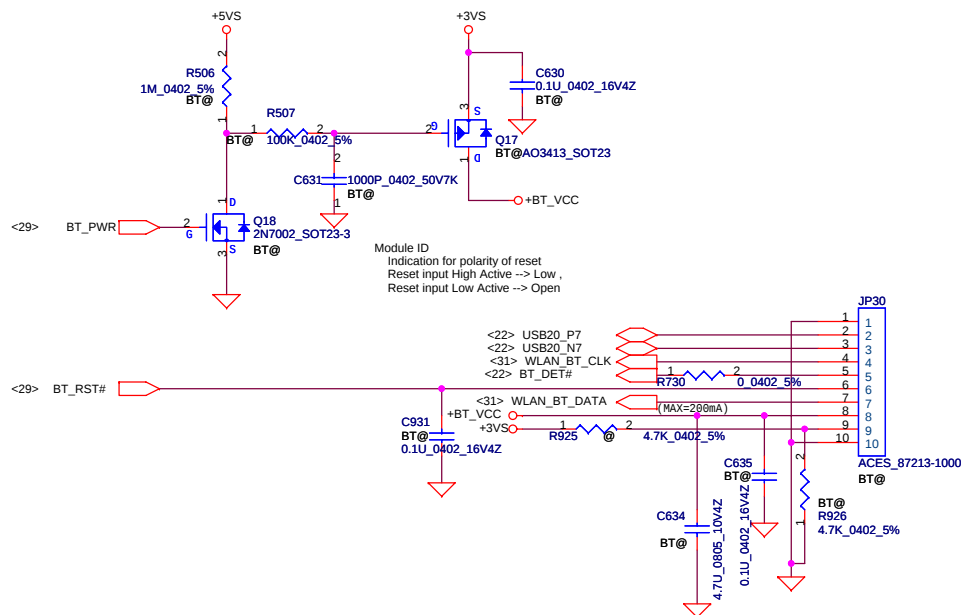


USB CONN.2

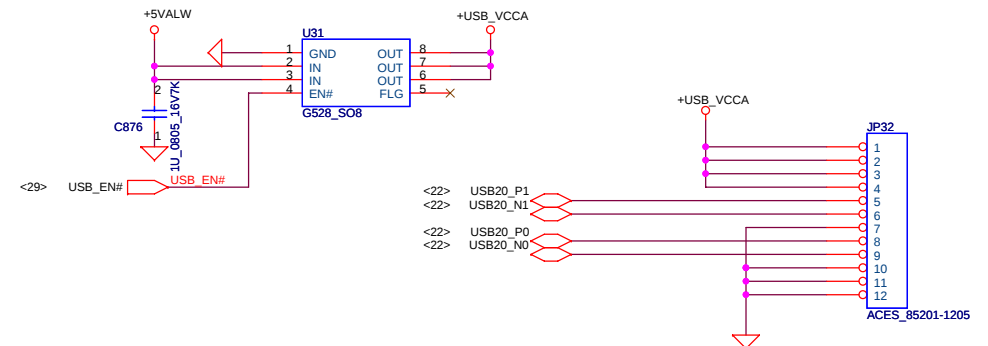
W=60mils



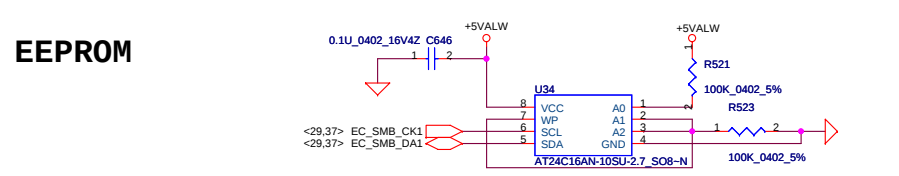
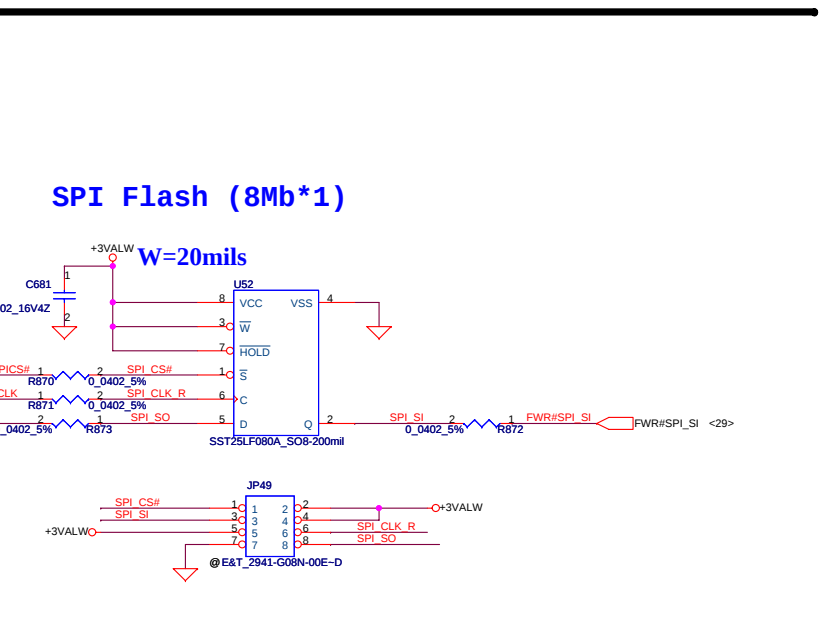
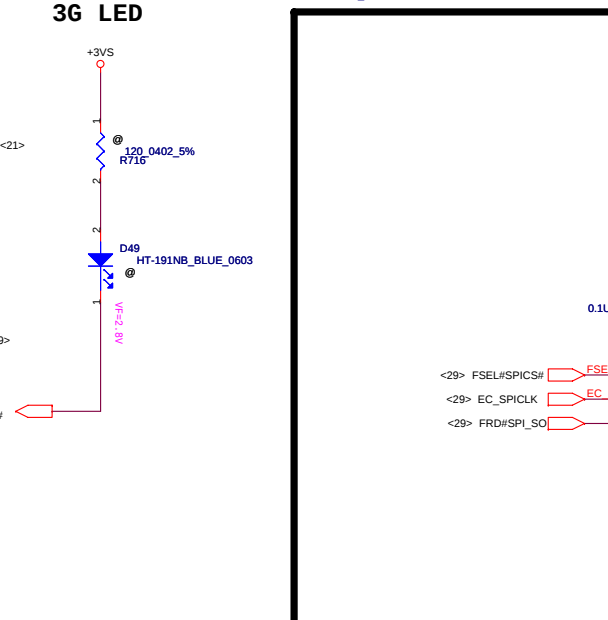
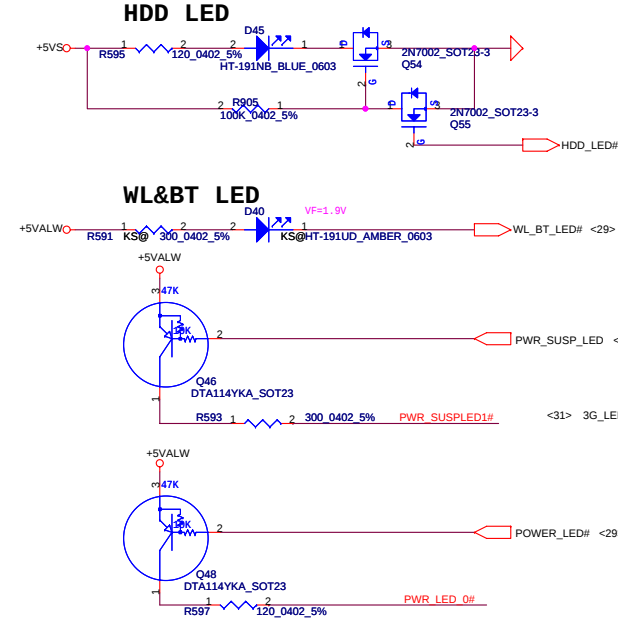
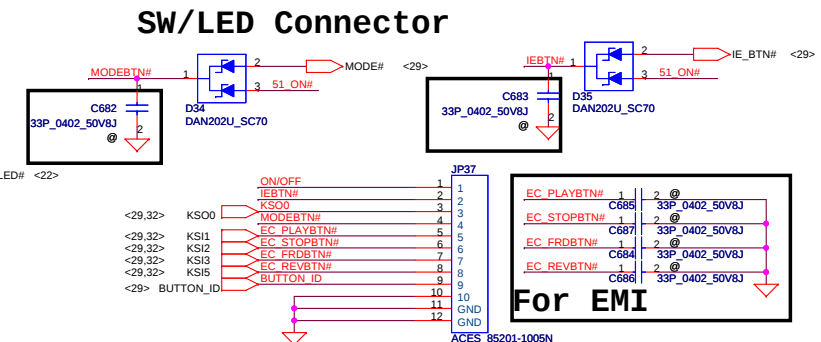
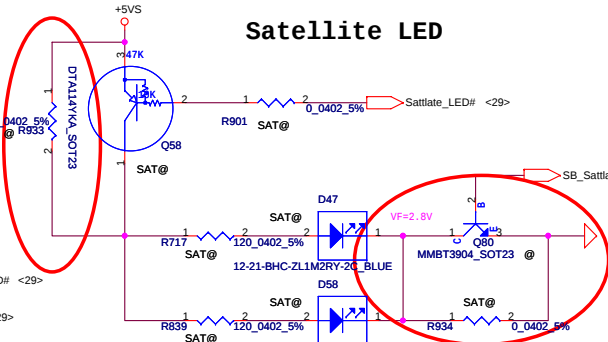
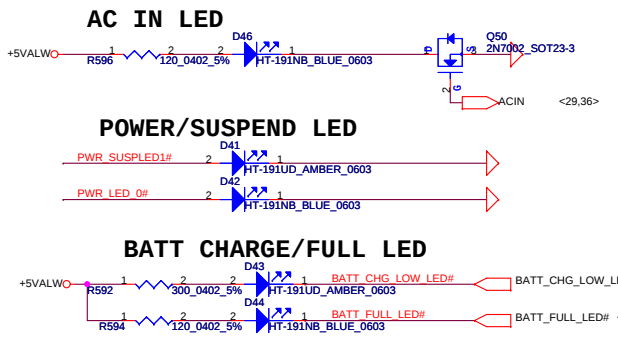
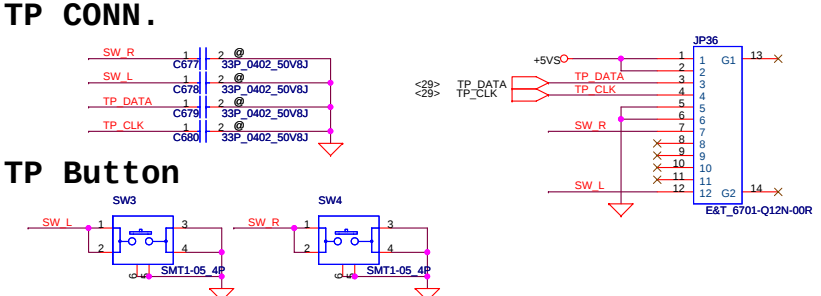
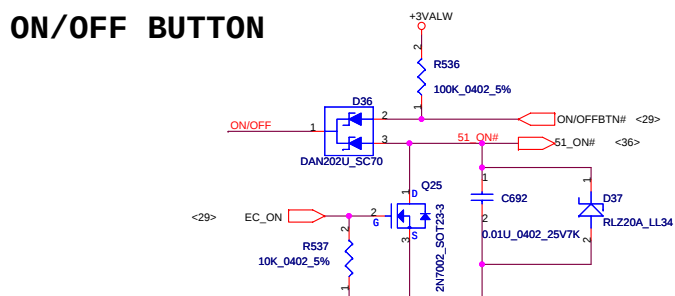
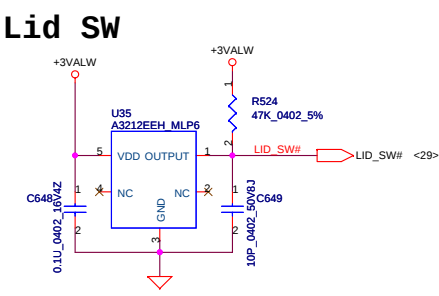
BlueTooth Interface



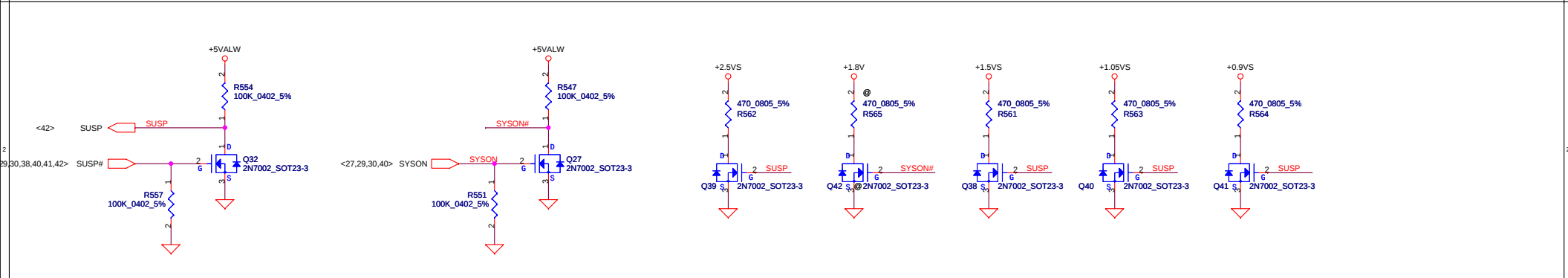
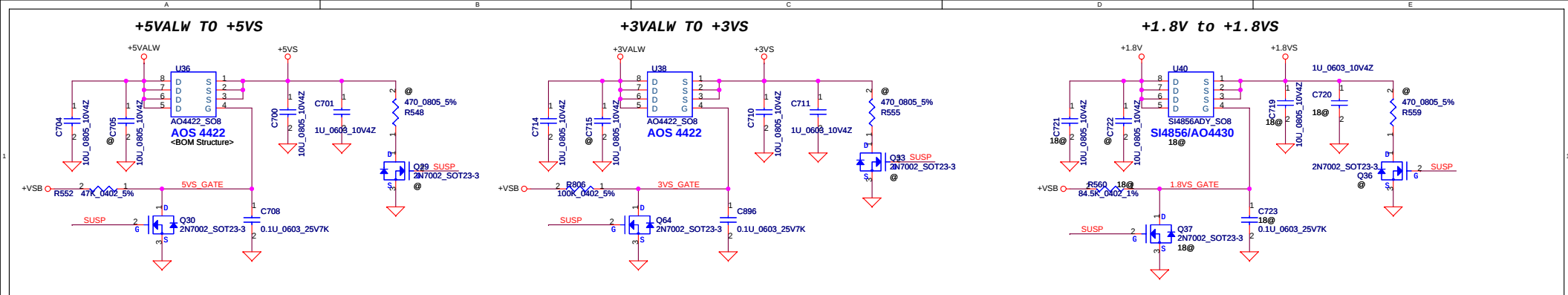
USB Small Board



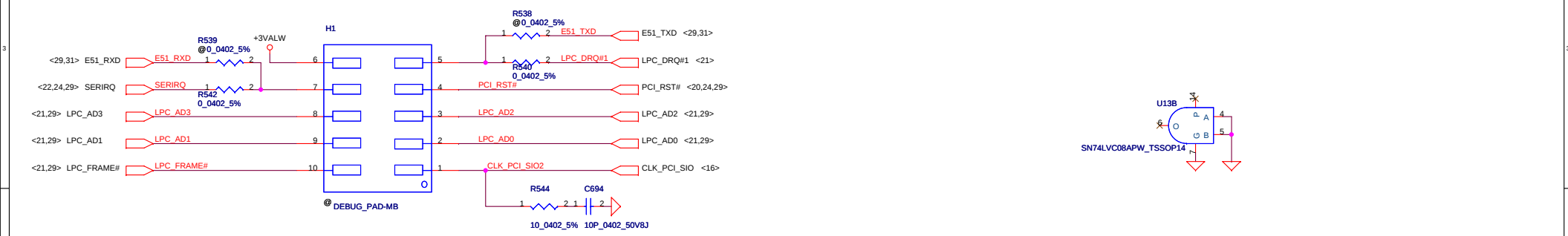
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title	USB Conn./BT/Camera/CIR
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-3481P
				Date	Tuesday, May 22, 2007
				Sheet	33 of 47
				Rev	2.0



Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Document Number	LA-3481P
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Date	Saturday, June 23, 2007
				Sheet	34 of 47



Debug Port New LPC Debug Pad ---- MB side For EE



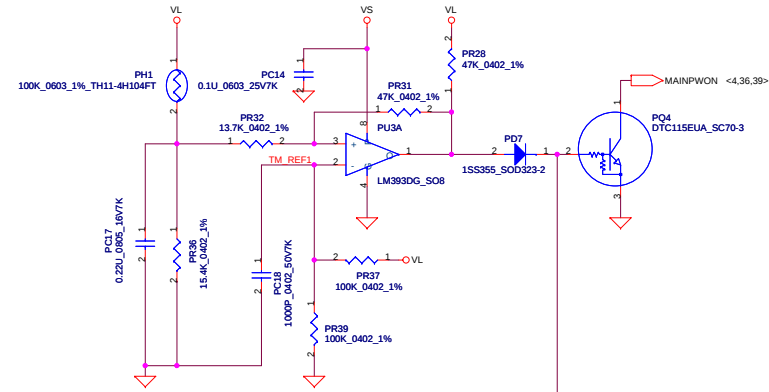
Under DDR ME Assigment Area

Keep Resistor near Debug Pad and in the same side

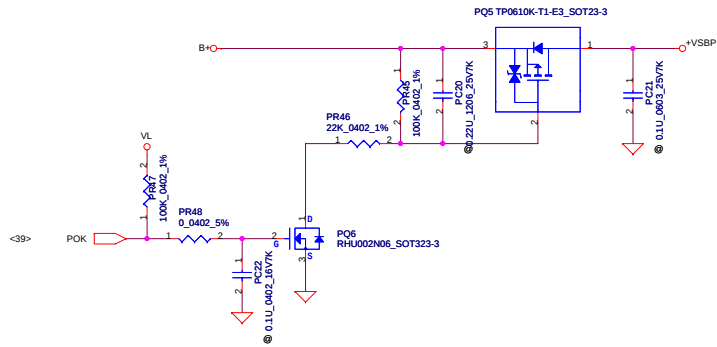
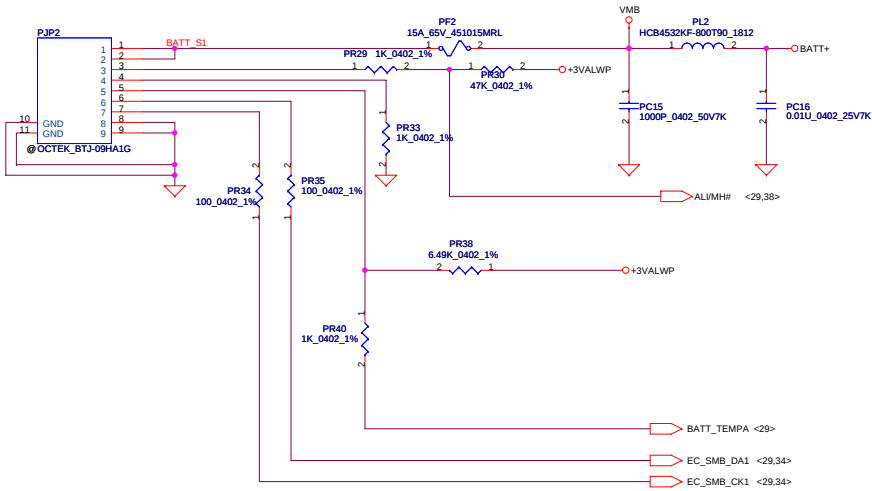
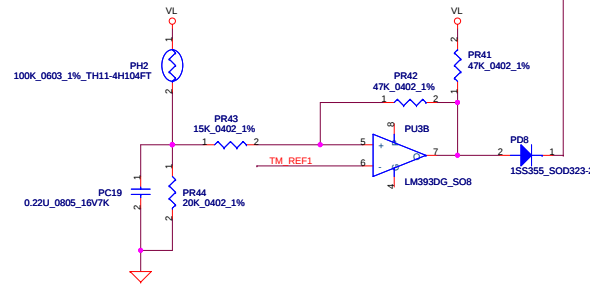
Reverse Side DIMM ---- Pin 1 keep away DIMM

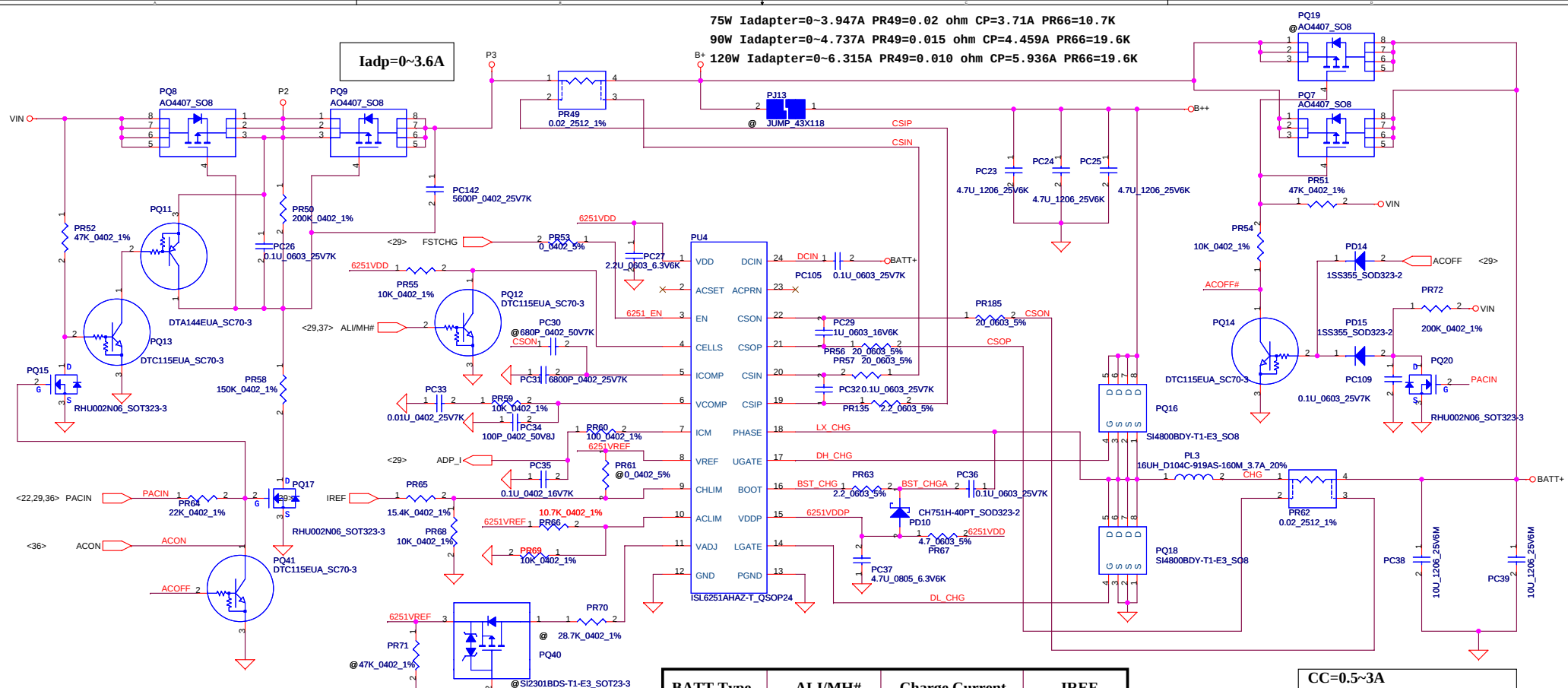
Security Classification	Compal Secret Data		Title	
Issued Date	2006/05/05	Deciphered Date	2007/05/05	DC/DC I/F & Debug Pad
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 2.0
Date:	Tuesday, May 22, 2007	Sheet	35 of 47	

PH1 under CPU botten side :
CPU thermal protection at 92 degree C
Recovery at 56 degree C

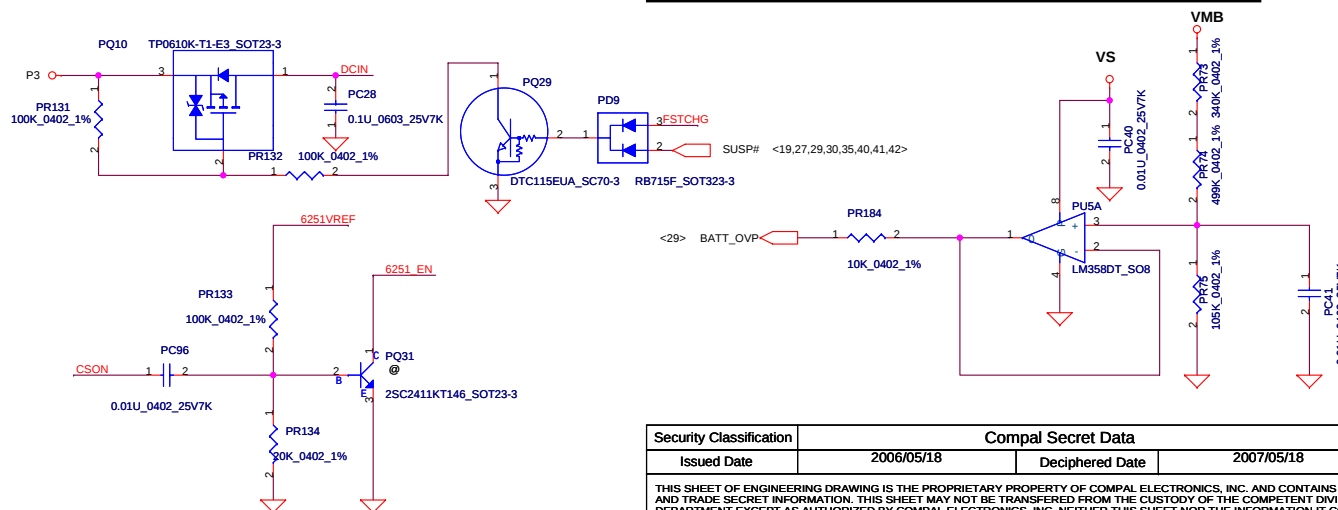


PH2 near main Battery CONN :
BAT. thermal protection at 92 degree C
Recovery at 47 degree C



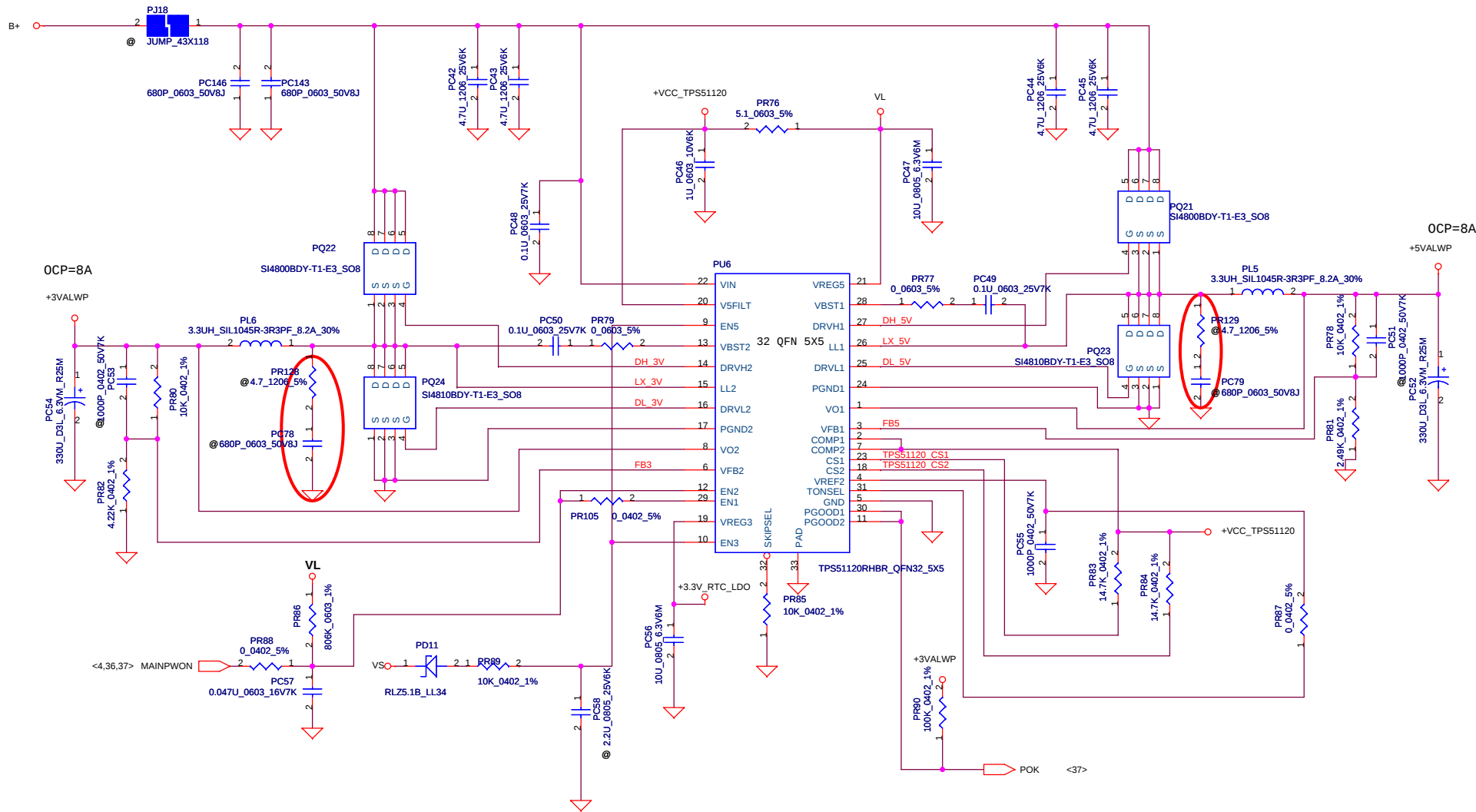


BATT Type	ALI/MH#	Charge Current	IREF
3 CELL	3.3V	1.5A	1.524V
6 CELL	3.3V	3.0A	3.048V
9 CELL	3.3V	3.0A	3.048V



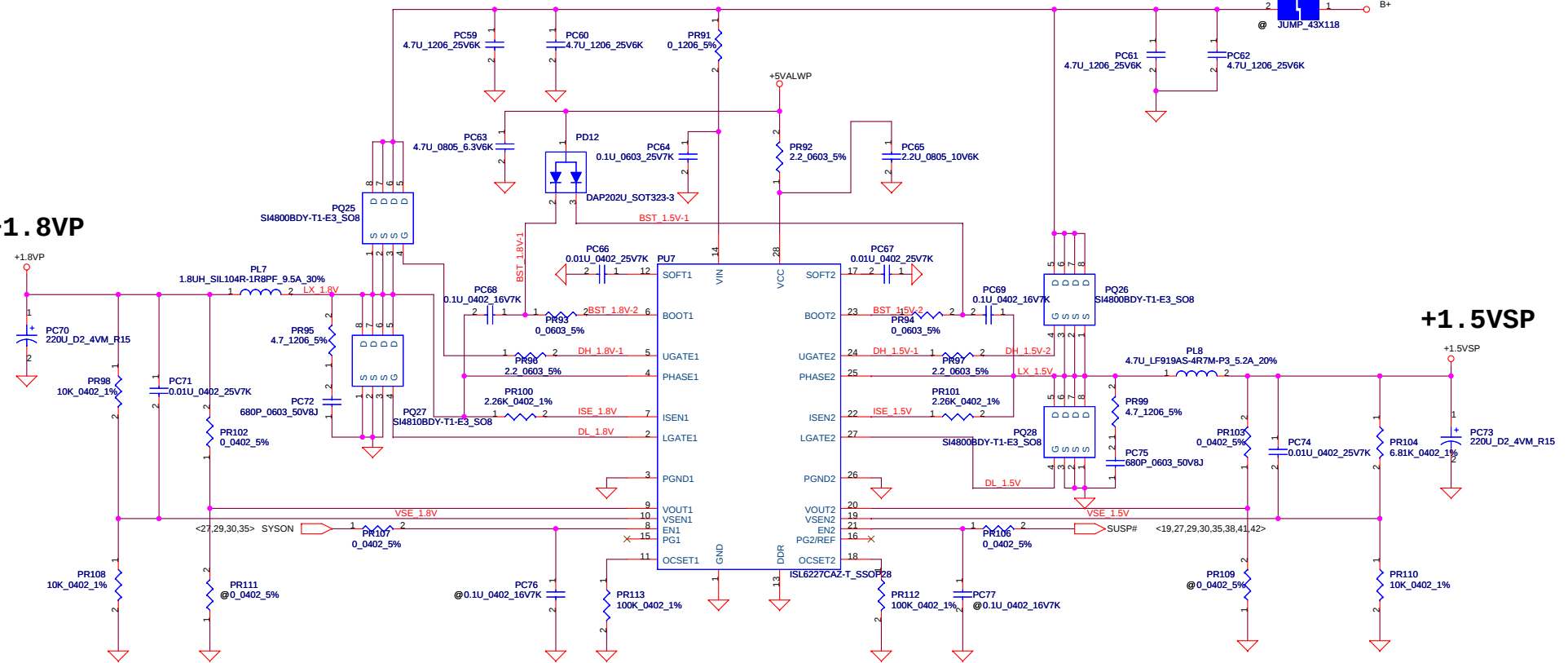
LI-3S :13.5V---BATT-OVP=1.5V
 BATT-OVP=0.111*BATT+

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/05/18	Deciphered Date	2007/05/18	Title	CHARGER
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Document Number
					Rev 2.0
Date: Tuesday, May 22, 2007					Sheet 38 of 47

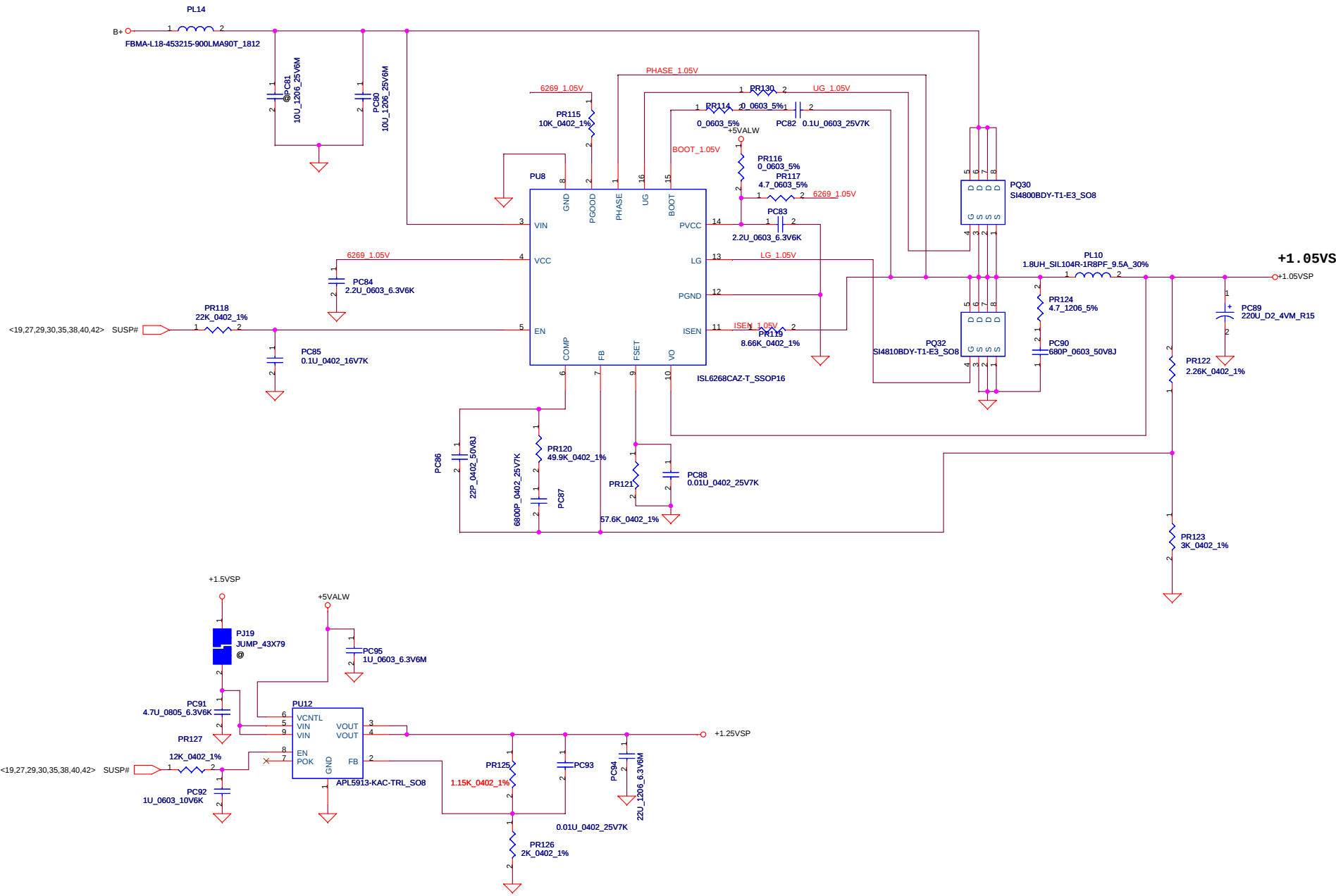


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/05/18	Deciphered Date	2007/05/18	Title	+5V/+3V
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	LA-3481P
				Rev	2.0
				Date:	Tuesday, May 22, 2007
				Sheet	39 of 47

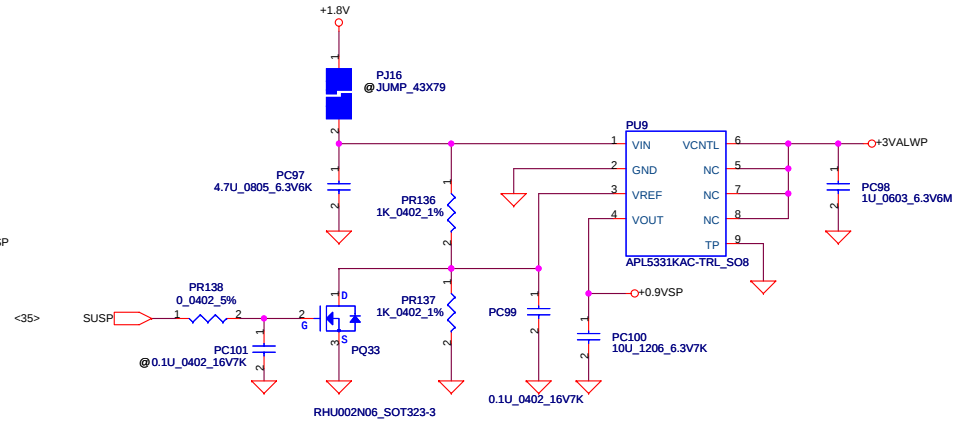
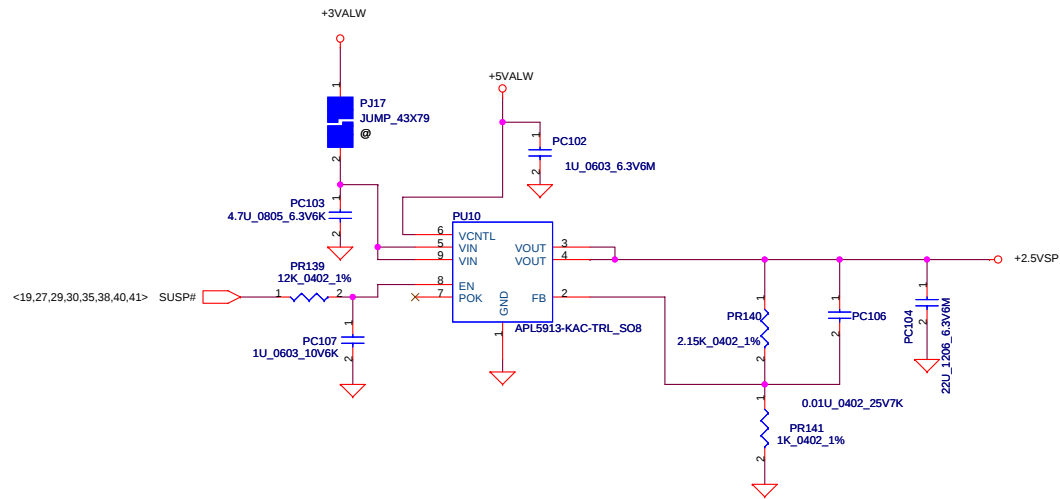
+1.8VP



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/05/18	Deciphered Date	2007/05/18	Title	1.8V / 1.2V
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev 2.0
Date: Tuesday, May 22, 2007		Sheet 40 of 47			



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2006/05/18	Deciphered Date	2007/05/18	Title	1.05V / 1.25V
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					Rev 2.0
Date: Tuesday, May 22, 2007			Sheet	41 of 47	



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2006/05/18	Deciphered Date	2007/05/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev 2.0
Date: Tuesday, May 22, 2007				Sheet 42 of 47	

HW4 Product Improvement Record (P.I.R.)

ISKAA LA-3481P SCHEMATIC CHANGE LIST
REVISION CHANGE: 0.1 TO 2A

Rev 0.1 to 0.2

NO	PAGE	MODIFICATION LIST	PURPOSE
1	17	Add JP39	Add CRT Board
2	22	Change R322 from 150 ohm to 10K ohm	From Intel recommend
3	12	Delete L13, L14, C199, C140	1.25VS_DMI share with 1.25VS_PEG
4	31	Modify PCI-E for WLAN and Robson	Design issue
5	15	Delete C234	Share with C729

Rev 0.2 to 0.3

NO	PAGE	MODIFICATION LIST	PURPOSE
1	11	Remove C116	From Intel recommend
2	16	Change EXP_CLKREQ# from U4.44 to U4.3	Common design with ISRAA
3	16	Change CLK_MCH_3GPLL from U4.27 to U4.47	Common design with ISRAA
4	16	Change CLK_PCIE_CARD from U4.47 to U4.27	Common design with ISRAA
5	19	Add R949 and Remove D11	Design change
6	19	Add JP42	Co-layout 30 pin LVDS connector
7	24	Add R874	Reserve the resister for EMI
8	29	Change EC from KB910 to KB926	Design change
9	34	Change SPI BIOS U52	Design change
10	34	Add Q54, Q55	HDD LED controlled by SB
11	47	Add Energy Star circuit	Design change
12	10	Change C84~C115 from Y5V to X7R	For VGA thermal issue

Rev 0.3 to 0.4

NO	PAGE	MODIFICATION LIST	PURPOSE
1	12	Modify L58 to 4.7 ohm	For TV-out wave line issue
2	12	Change R686 to 2.2uf	For TV-out wave line issue
3	12	Modify L15 to 100 ohm	from Intel recommend for new chip set
4	12	Change R694 to 1uf	from Intel recommend for new chip set
5	26	Reserve L92,R941,R944,R946,R947, C965,C963,R937,C962,C964	Reserve for LAN controller 8111C
6	33	Modify Camera power from +5Vs to +5VALW	Change for Camera can't detect from S3 resume
7	29	Add R928	For CIR issue
7	22	Add R903 and R927	For CIR issue

Rev 0.4 to 1.0

NO	PAGE	MODIFICATION LIST	PURPOSE
1	27	Change PCB 0.4 to 1.0	Modify Revision for MP
1	27	Add R935	Design for speaker select
2	28	Change L49, L50, L51, L52 to 0 ohm	For speaker issue
3	27	Change C517 and C519 from 1uf to 4.7uf	From Realtek recommend for THD+N issue
4	31	Add R954	For HD-DVD function

Rev 1.0 to 2.0

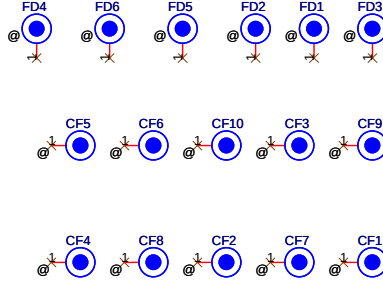
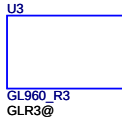
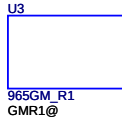
NO	PAGE	MODIFICATION LIST	PURPOSE
1	18	Add U54 and C966	For HDMI hot plug issue
2	18	Remove 1932 circuit	M72 and M76 has internal HDMI
3	18	Remove CMD circuit	For EMI issue
4	18	Add L66, L67, L68, L69	For EMI issue
5	18	Add Q134,Q135 level-shifting circuit	For HDMI level-shifting
6	18	Change R705 and R706 to 19.1K ohm	From ATI recommend
7	24	Reserve R713, R714, R715, C873, C875, C877	For EMI issue
8	32	Reserve C650~C676	For EMI issue
9	34	Reserve C682~C687	For EMI issue
10	18	Change R621 to 100K ohm and R723 to 2.2K ohm	For HDMI level-shifting

Rev 2.0 to 2A

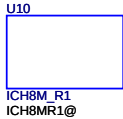
NO	PAGE	MODIFICATION LIST	PURPOSE
1	18	Add U55 level-shifting circuit	For HDMI level-shifting
2	29	Change C943 and C944 from 10pf to 15pf	From ENE recommend for crystal issue
3	23	Change C360 from 0.1uf to 1uf	From Intel recommend for boot-up issue
4	22	Remove R327, R328, R329	For leakage issue

Security Classification	Compal Secret Data			Title	
Issued Date	2006/06/30	Deciphered Date	2008/05/21	P.I.R.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Sheet	Rev
				LA-3481P	2.0
Date: Saturday, June 23, 2007				Sheet	44 of 47

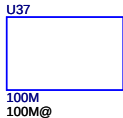
NB



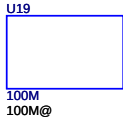
ICH8M



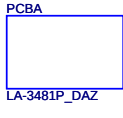
LAN



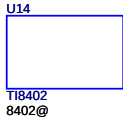
TRANSFORMER



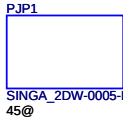
PCB



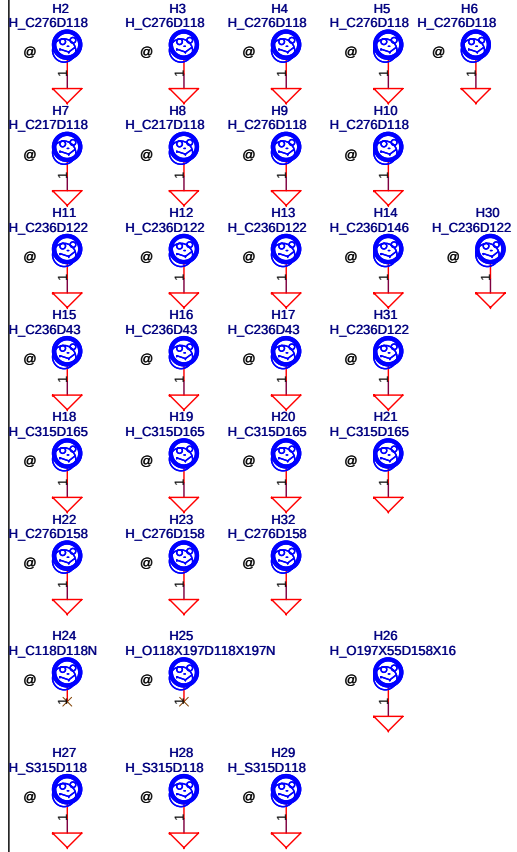
CARDBUS



DC - JACK



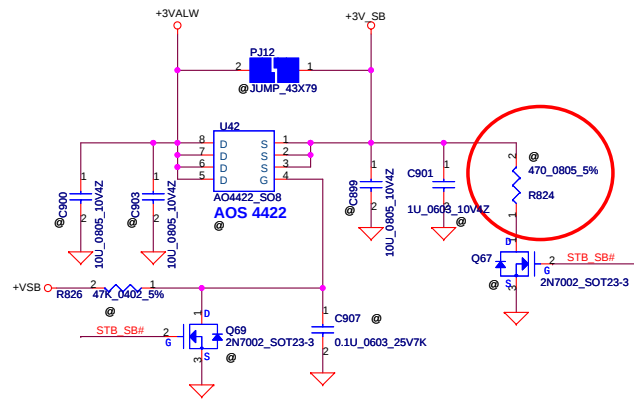
Screw Hole



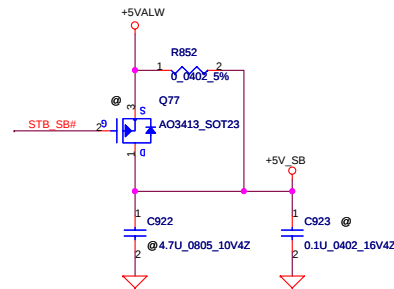
Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	ISPDP & Screw Hole	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RESEARCH AND DEVELOPMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-3481P	2.0
Date: Tuesday, May 22, 2007		Sheet 45 of 47			

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
9/14		P.39	Change PACIN to GND	Change to AUTO-SKIP mode
9/14		P.39	Add PR105 0_0402_5%	Reserve control sequence pin
9/14		P.37	Change PF2 to 15A	Increase design margine
10/24		P.36, 37, 43	Change PL1,PL2,PL11 to Tai-Tech	Buyer request
10/24		P.39, 43	Add PC143,PC144,PC145	EMI request
10/24		P.41, 43	Add snubber PR124,PC90,PR151,PC119,PR160,PC128	EMI request
10/24		P.41	Change PR119 to 5.49K	Modify 1.05V OCP point
10/24		P.40	Change PC70 to 330U_D2_9m ohm	Reduce the 1.8V ripple

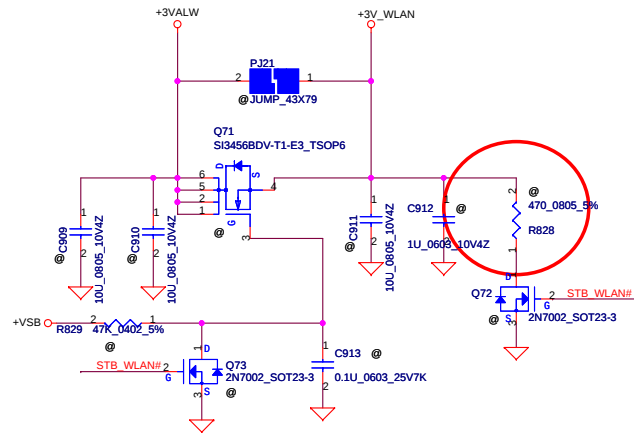
+3VALW TO +3V_SB



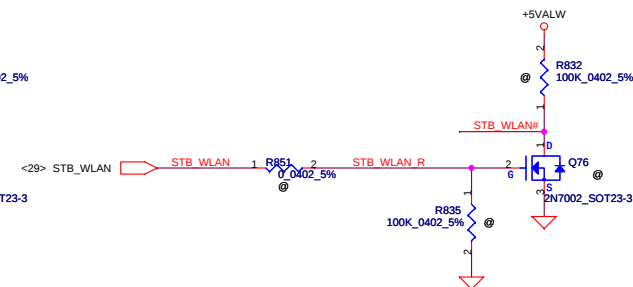
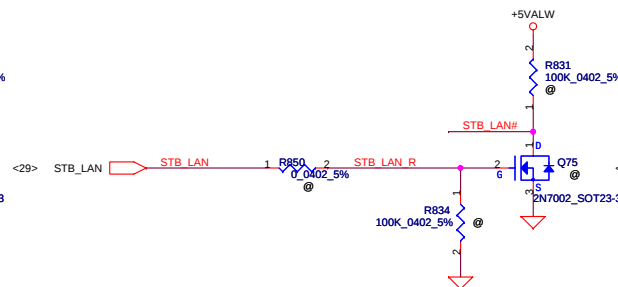
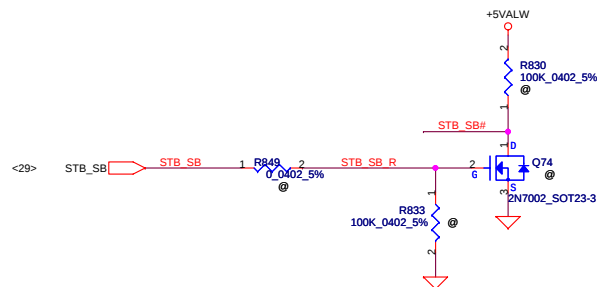
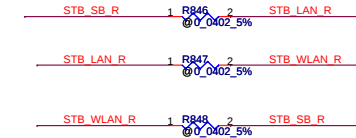
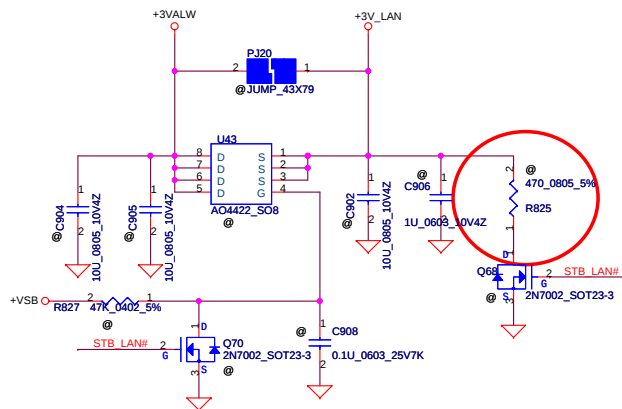
+5VALW TO +5V_SB



+3VALW TO +3V_WLAN



+3VALW TO +3V_LAN



Security Classification	Compal Secret Data			Title	
Issued Date	2006/06/30	Deciphered Date	2007/06/30	DC/DC I/F & Screw	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				LA-3481P	2.0
Date: Tuesday, May 22, 2007				Sheet	47 of 47