

Compal Confidential

KAWE0 M/B Schematics Document

Intel Penryn Processor with Cantiga + DDRII + ICH9M

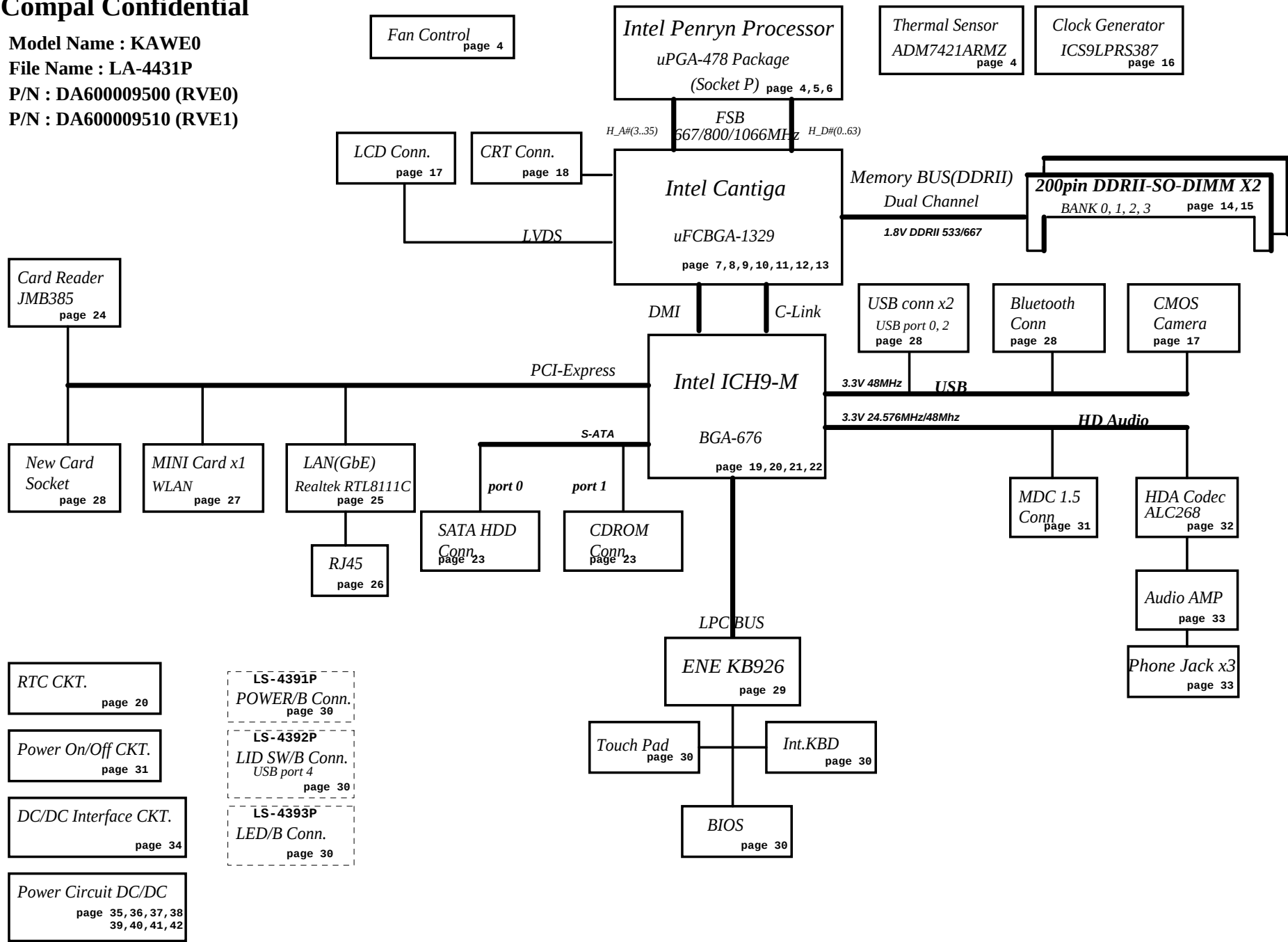
2008-07-28

REV:1.0

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS MB A4431
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	D
				Document Number	401590
Date: Wednesday, July 30, 2008				Sheet	1 of 45

Compal Confidential

Model Name : KAWE0
File Name : LA-4431P
P/N : DA600009500 (RVE0)
P/N : DA600009510 (RVE1)



Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF
+1.05VS	1.05V switched power rail	ON	OFF	OFF
+1.25VS	1.25V switched power rail	ON	OFF	OFF
+1.5V	1.5V power rail for HDA	ON	ON	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V power rail for SB	ON	ON	X
+3V_LAN	3.3V power rail for LAN	ON	ON	X
+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
+VSB	VSB always on power rail	ON	ON	ON*
+RTCVCC	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	IDSEL#	REQ#/GNT#	Interrupts
--------	--------	-----------	------------

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	ADI ADT7421	1001 100X b
EEPROM(24C16/02)	1010 000X b		
GMT G781-1	1001 101X b		

EC SM Bus2 address

ICH9M SM Bus address

Device	Address
Clock Generator (ICS9LPRS387, SLG8SP556V)	1101 001Xb
DDR DIMM0	1001 000Xb
DDR DIMM2	1001 010Xb

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

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 5%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

BOARD ID Table

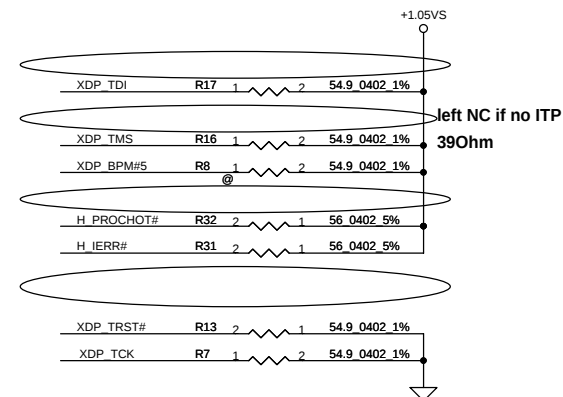
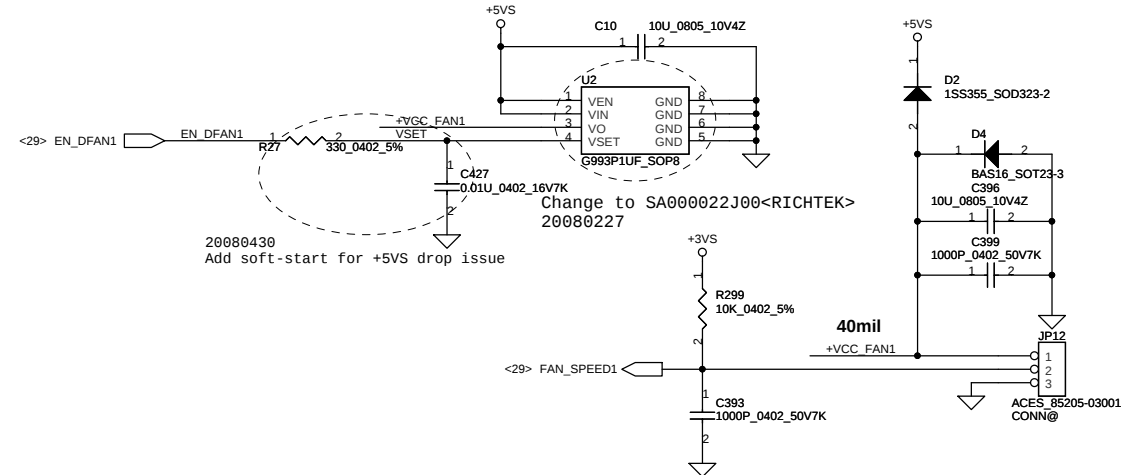
Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	1.0
4	1A
5	
6	
7	

BTO Option Table

BTO Item	BOM Structure
8111C	8111C@
8102E	8102E@

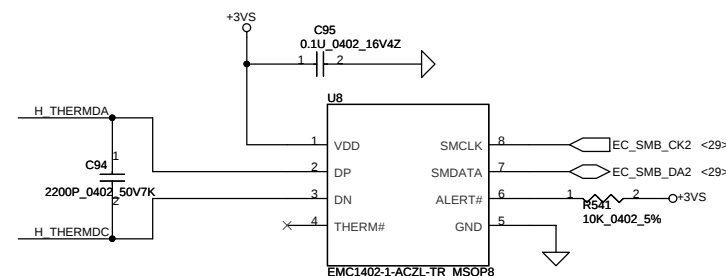
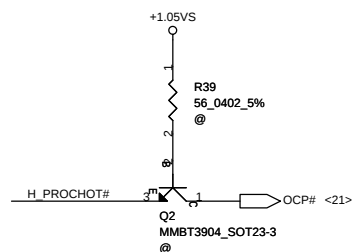
<7> H_A# [3..35] H_A# [3..35]
 <7> H_REQ# [0..4] H_REQ# [0..4]
 <7> H_RS# [0..2] H_RS# [0..2]

FAN1 Conn

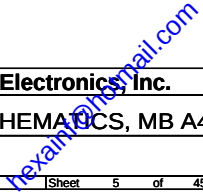


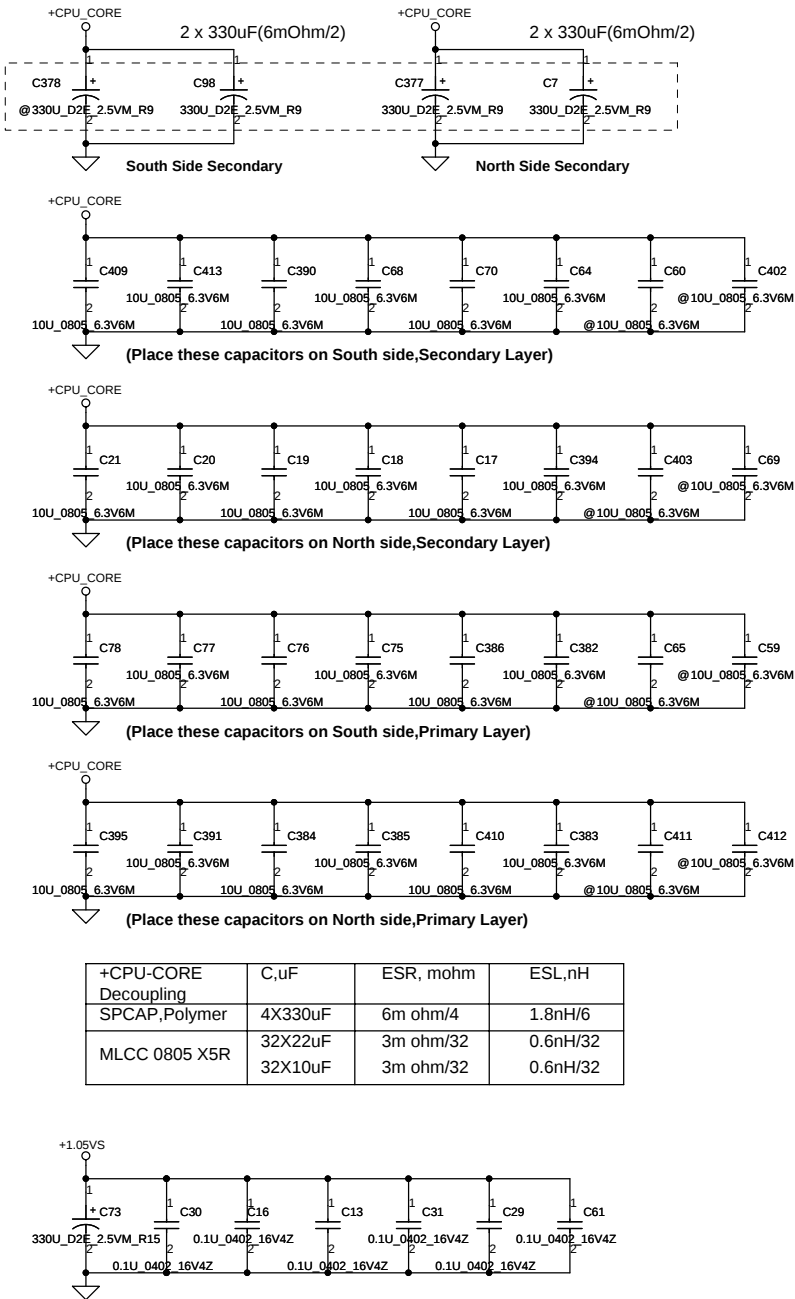
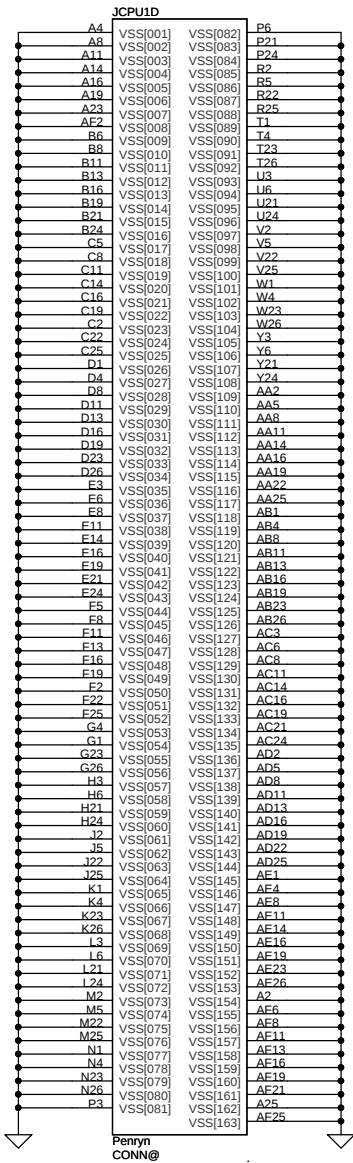
Layout Note:
 H_THERMDA&H_THERMDC Trace / Space = 10 / 10 mil

BSEL2	BSEL1	BSEL0	BCLK
0	0	0	266
0	1	0	200
0	1	1	166

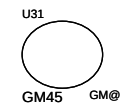


Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/09/20				Deciphered Date			
2007/09/20				2008/09/20				Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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.				401590				SCHEMATIC, MB A4431			
Date				Wednesday, July 30, 2008				Sheet			
4				4				of 45			





Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
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	401590
				Date	Wednesday, July 30, 2008
				Sheet	6 of 45



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431	
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
				B	401590	D
				Date: Wednesday, July 30, 2008	Sheet 7 of 45	

All RSVD balls on GMCH should be left No Connect.

U31B

RSVD1
RSVD2
RSVD3
RSVD4
RSVD5
RSVD6
RSVD7
RSVD8
RSVD9
RSVD10
RSVD11
RSVD12
RSVD13
RSVD14

RSVD15
RSVD16
RSVD17

RSVD20

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD22
RSVD23
RSVD24
RSVD25

RSVD
DDR CLK/ CONTROL/ COMPENSATION

RSVD
DDR CLK/ CONTROL/ COMPENSATION

RSVD
DDR CLK/ CONTROL/ COMPENSATION

RSVD
DDR CLK/ CONTROL/ COMPENSATION

RSVD
DDR CLK/ CONTROL/ COMPENSATION

RSVD
DDR CLK/ CONTROL/ COMPENSATION

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

SA_CK_0
SA_CK_1
SB_CK_0
SB_CK_1

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

AP24
AT21
AV24
AU20

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

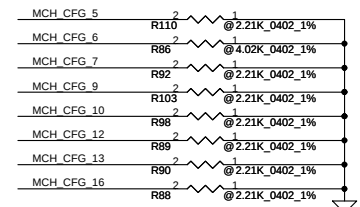
SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

SM_DRAMRST# would be needed for DDR3 only
For Cantiga 80 Ohm

Strap Pin Table

CFG[2:0]	011 = FSB667 010 = FSB800 000 = FSB1067
CFG5	0 = DMI x 2 1 = DMI x 4 * (Default)
CFG6	0 = iTPM Host Interface is enabled 1 = iTPM Host Interface is Disabled * (Default)
CFG9	0 = Lane Reversal Enable 1 = Normal Operation * (Default)
CFG10	0 = PCIe Loopback Enable 1 = Disable * (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 * (Default) 1 = DMI Lane Reversal Enable
CFG20 (PCIe/SDVO select)	0 = Only PCIe or SDVO is operational. (Default) 1 = PCIe/SDVO are operating simu.
SDVO_CTRLDATA	0 = No SDVO Card Present * (Default) 1 = SDVO Card Present
L_DDC_DATA	0 = LFP Disable * (Default) 1 = LFP Card Present; PCIe disable
DDPC_CTRLDATA	0 = Digital DisplayPort Disable * (Default) 1 = Digital DisplayPort Device Present



Security Classification			Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	Document Number	SCHEMATICS, MB A4431		
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 REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.						Rev D	401590	Rev D
Date: Wednesday, July 30, 2008						Sheet	8	of 45

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

<15> DDRB_SDQ[0..63] <15> DDRB_SDM[0..7] <15> DDRB_SMA[0..14]

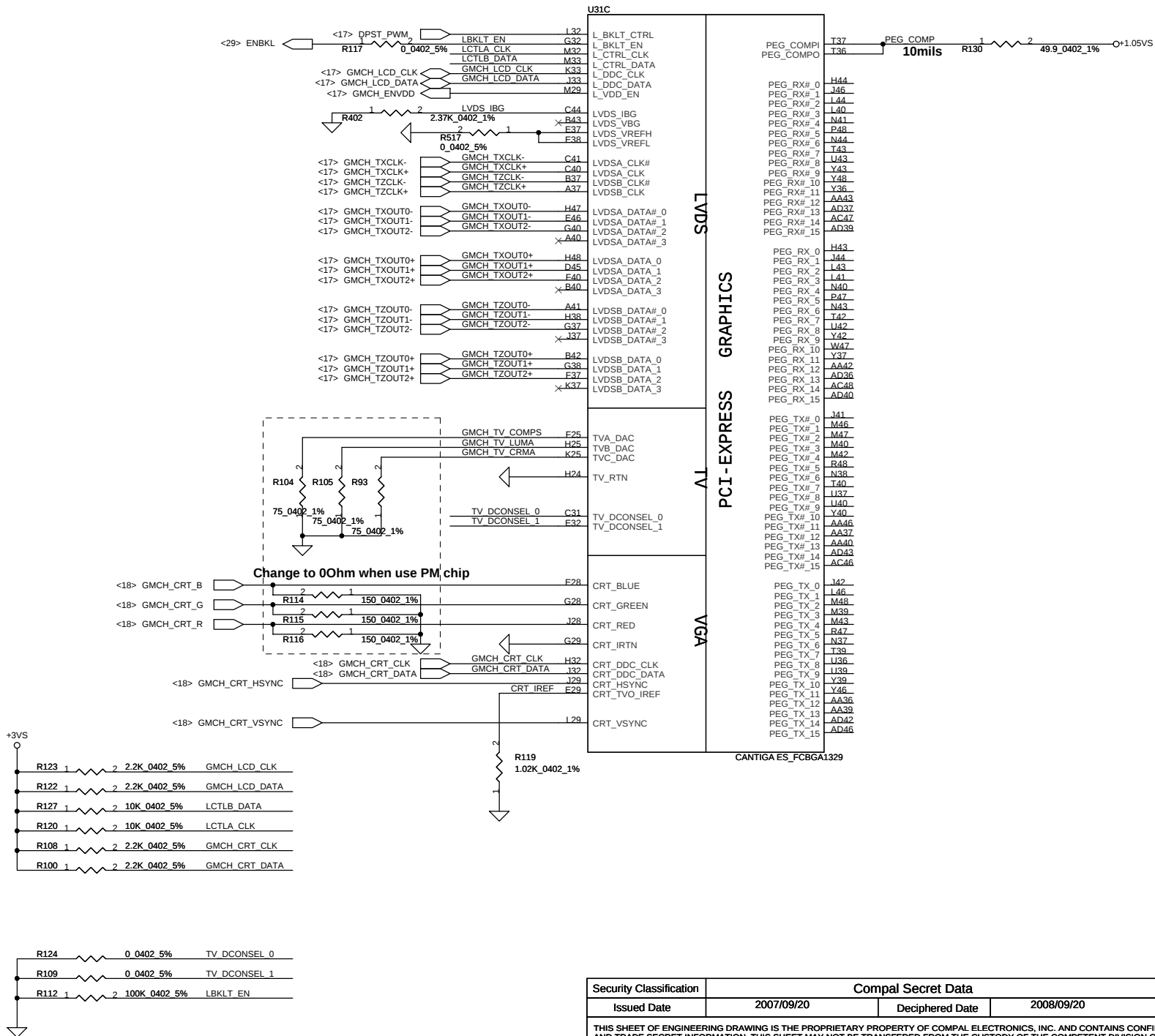
DDRA_SDQ0	AJ38	SA_DQ_0
DDRA_SDQ1	AJ41	SA_DQ_1
DDRA_SDQ2	AN38	SA_DQ_2
DDRA_SDQ3	AM38	SA_DQ_3
DDRA_SDQ4	AJ40	SA_DQ_4
DDRA_SDQ5	AJ36	SA_DQ_5
DDRA_SDQ6	AM44	SA_DQ_6
DDRA_SDQ7	AM42	SA_DQ_7
DDRA_SDQ8	AN43	SA_DQ_8
DDRA_SDQ9	AN44	SA_DQ_9
DDRA_SDQ10	AJ40	SA_DQ_10
DDRA_SDQ11	AT39	SA_DQ_11
DDRA_SDQ12	AM41	SA_DQ_12
DDRA_SDQ13	AN39	SA_DQ_13
DDRA_SDQ14	AJ44	SA_DQ_14
DDRA_SDQ15	AJ42	SA_DQ_15
DDRA_SDQ16	AV39	SA_DQ_16
DDRA_SDQ17	AY44	SA_DQ_17
DDRA_SDQ18	BA40	SA_DQ_18
DDRA_SDQ19	BD43	SA_DQ_19
DDRA_SDQ20	AV41	SA_DQ_20
DDRA_SDQ21	AY43	SA_DQ_21
DDRA_SDQ22	BB41	SA_DQ_22
DDRA_SDQ23	RC40	SA_DQ_23
DDRA_SDQ24	AY27	SA_DQ_24
DDRA_SDQ25	BD38	SA_DQ_25
DDRA_SDQ26	AV37	SA_DQ_26
DDRA_SDQ27	AT36	SA_DQ_27
DDRA_SDQ28	AY38	SA_DQ_28
DDRA_SDQ29	BB38	SA_DQ_29
DDRA_SDQ30	AV36	SA_DQ_30
DDRA_SDQ31	AW36	SA_DQ_31
DDRA_SDQ32	BD13	SA_DQ_32
DDRA_SDQ33	AJ11	SA_DQ_33
DDRA_SDQ34	BC11	SA_DQ_34
DDRA_SDQ35	BA12	SA_DQ_35
DDRA_SDQ36	AJ13	SA_DQ_36
DDRA_SDQ37	AV13	SA_DQ_37
DDRA_SDQ38	BD12	SA_DQ_38
DDRA_SDQ39	RC12	SA_DQ_39
DDRA_SDQ40	BB9	SA_DQ_40
DDRA_SDQ41	BA9	SA_DQ_41
DDRA_SDQ42	AJ10	SA_DQ_42
DDRA_SDQ43	AV9	SA_DQ_43
DDRA_SDQ44	BA11	SA_DQ_44
DDRA_SDQ45	BD9	SA_DQ_45
DDRA_SDQ46	AV8	SA_DQ_46
DDRA_SDQ47	BA6	SA_DQ_47
DDRA_SDQ48	AV5	SA_DQ_48
DDRA_SDQ49	AV7	SA_DQ_49
DDRA_SDQ50	AT9	SA_DQ_50
DDRA_SDQ51	AN8	SA_DQ_51
DDRA_SDQ52	AU5	SA_DQ_52
DDRA_SDQ53	AU6	SA_DQ_53
DDRA_SDQ54	AT5	SA_DQ_54
DDRA_SDQ55	AN10	SA_DQ_55
DDRA_SDQ56	AM11	SA_DQ_56
DDRA_SDQ57	AM5	SA_DQ_57
DDRA_SDQ58	AJ9	SA_DQ_58
DDRA_SDQ59	AJ8	SA_DQ_59
DDRA_SDQ60	AN12	SA_DQ_60
DDRA_SDQ61	AM13	SA_DQ_61
DDRA_SDQ62	AJ11	SA_DQ_62
DDRA_SDQ63	AJ12	SA_DQ_63

CANTIGA ES_FCBGA1329

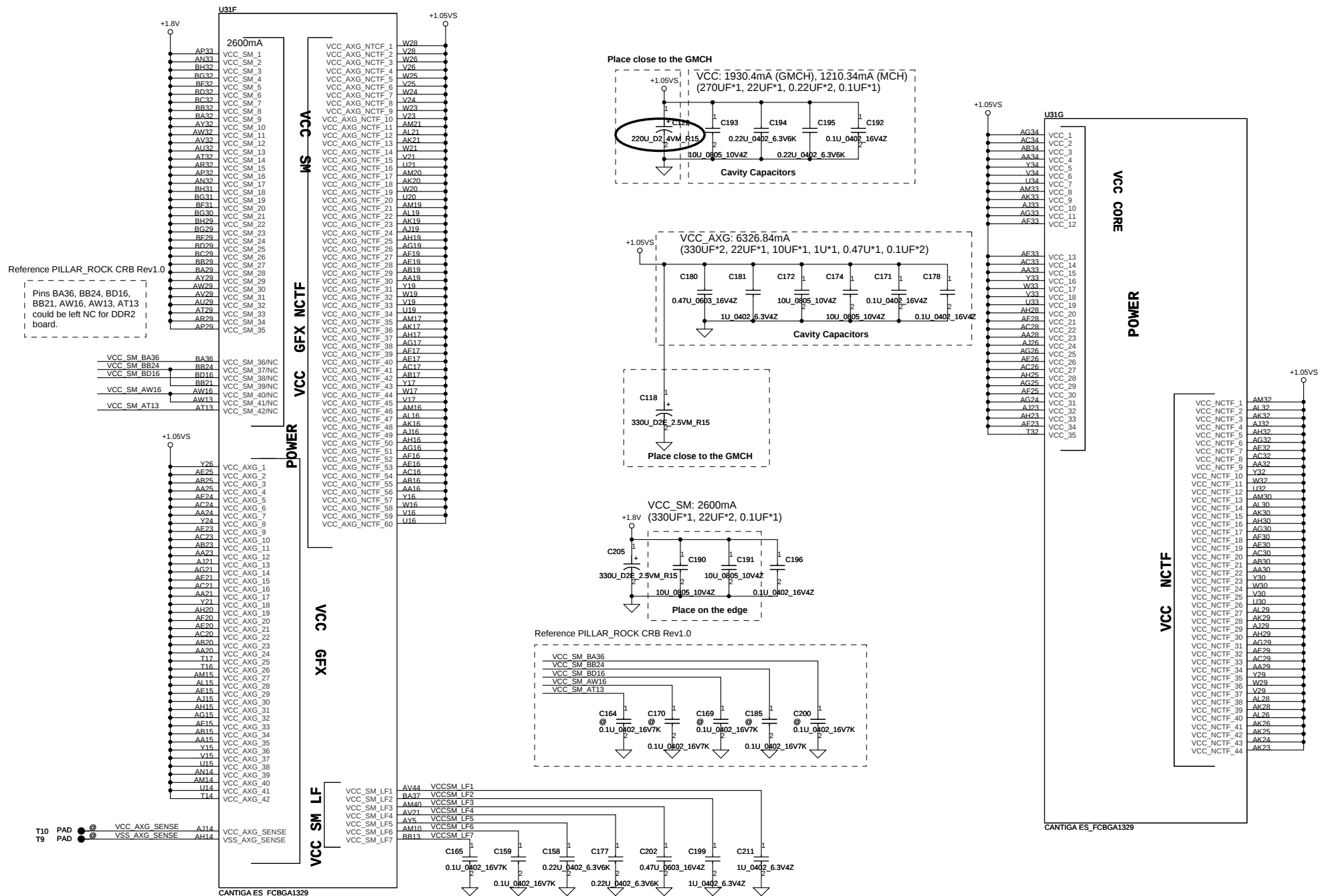
DDRB_SDQ0	AK47	SB_DQ_0
DDRB_SDQ1	AH46	SB_DQ_1
DDRB_SDQ2	AP47	SB_DQ_2
DDRB_SDQ3	AP46	SB_DQ_3
DDRB_SDQ4	AJ46	SB_DQ_4
DDRB_SDQ5	AJ48	SB_DQ_5
DDRB_SDQ6	AM48	SB_DQ_6
DDRB_SDQ7	AP48	SB_DQ_7
DDRB_SDQ8	AJ47	SB_DQ_8
DDRB_SDQ9	AJ46	SB_DQ_9
DDRB_SDQ10	BA48	SB_DQ_10
DDRB_SDQ11	AY48	SB_DQ_11
DDRB_SDQ12	AT47	SB_DQ_12
DDRB_SDQ13	AR47	SB_DQ_13
DDRB_SDQ14	BA47	SB_DQ_14
DDRB_SDQ15	RC47	SB_DQ_15
DDRB_SDQ16	BC46	SB_DQ_16
DDRB_SDQ17	RC44	SB_DQ_17
DDRB_SDQ18	RC43	SB_DQ_18
DDRB_SDQ19	BE43	SB_DQ_19
DDRB_SDQ20	BE45	SB_DQ_20
DDRB_SDQ21	RC41	SB_DQ_21
DDRB_SDQ22	BE40	SB_DQ_22
DDRB_SDQ23	BE41	SB_DQ_23
DDRB_SDQ24	BC38	SB_DQ_24
DDRB_SDQ25	BE38	SB_DQ_25
DDRB_SDQ26	BH35	SB_DQ_26
DDRB_SDQ27	RG35	SB_DQ_27
DDRB_SDQ28	BH40	SB_DQ_28
DDRB_SDQ29	RG39	SB_DQ_29
DDRB_SDQ30	RG34	SB_DQ_30
DDRB_SDQ31	BH34	SB_DQ_31
DDRB_SDQ32	BH14	SB_DQ_32
DDRB_SDQ33	RG12	SB_DQ_33
DDRB_SDQ34	BH11	SB_DQ_34
DDRB_SDQ35	RG8	SB_DQ_35
DDRB_SDQ36	BH12	SB_DQ_36
DDRB_SDQ37	BE11	SB_DQ_37
DDRB_SDQ38	BE9	SB_DQ_38
DDRB_SDQ39	RG7	SB_DQ_39
DDRB_SDQ40	RC5	SB_DQ_40
DDRB_SDQ41	RC6	SB_DQ_41
DDRB_SDQ42	AY3	SB_DQ_42
DDRB_SDQ43	AY1	SB_DQ_43
DDRB_SDQ44	BE5	SB_DQ_44
DDRB_SDQ45	BE5	SB_DQ_45
DDRB_SDQ46	BA1	SB_DQ_46
DDRB_SDQ47	BD3	SB_DQ_47
DDRB_SDQ48	AV2	SB_DQ_48
DDRB_SDQ49	AJ3	SB_DQ_49
DDRB_SDQ50	AR2	SB_DQ_50
DDRB_SDQ51	AY2	SB_DQ_51
DDRB_SDQ52	AV2	SB_DQ_52
DDRB_SDQ53	AV1	SB_DQ_53
DDRB_SDQ54	AP3	SB_DQ_54
DDRB_SDQ55	AR1	SB_DQ_55
DDRB_SDQ56	AL1	SB_DQ_56
DDRB_SDQ57	AL2	SB_DQ_57
DDRB_SDQ58	AJ1	SB_DQ_58
DDRB_SDQ59	AH1	SB_DQ_59
DDRB_SDQ60	AM2	SB_DQ_60
DDRB_SDQ61	AM3	SB_DQ_61
DDRB_SDQ62	AH3	SB_DQ_62
DDRB_SDQ63	AJ3	SB_DQ_63

CANTIGA ES_FCBGA1329

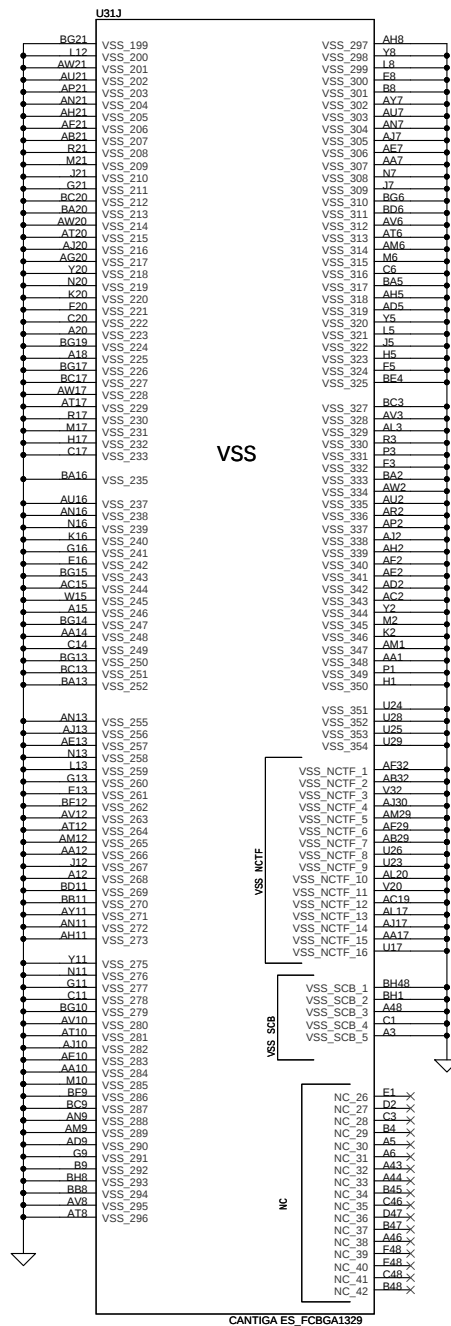
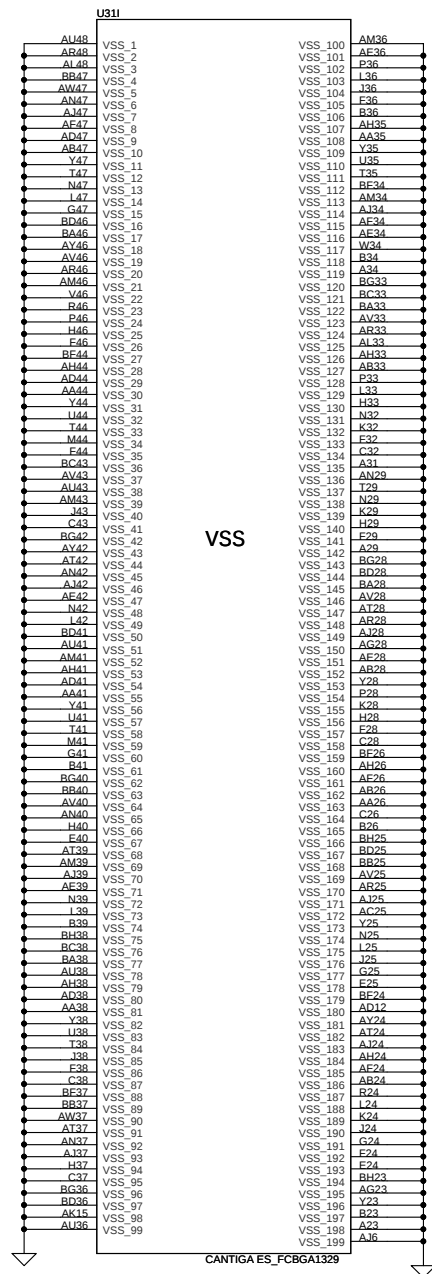
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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 B	Document Number 401590
Date:	Wednesday, July 30, 2008	Sheet	9	of	45



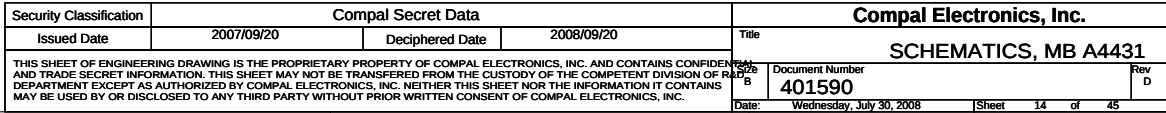
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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
				Custom	401590
				Date	Wednesday, July 30, 2008
				Sheet	10 of 45
				Rev	D

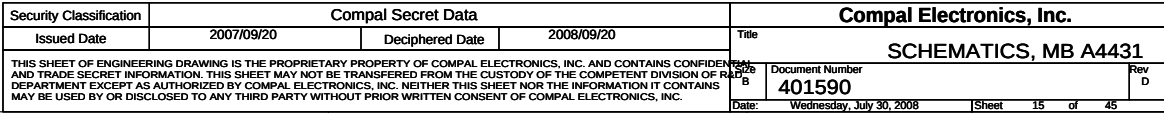


Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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	Rev D
				401590	
				Date: Wednesday, July 30, 2008	Sheet 11 of 45



Security Classification		Compal Secret Data				Compal Electronics, Inc.													
Issued Date		2007/09/20		Deciphered Date		2008/09/20		Title											
								SCHEMATICS, MB A4431											
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		401590						Rev. D	
										Customer									
Date:		Wednesday, July 30, 2008				Sheet 13		of 45											



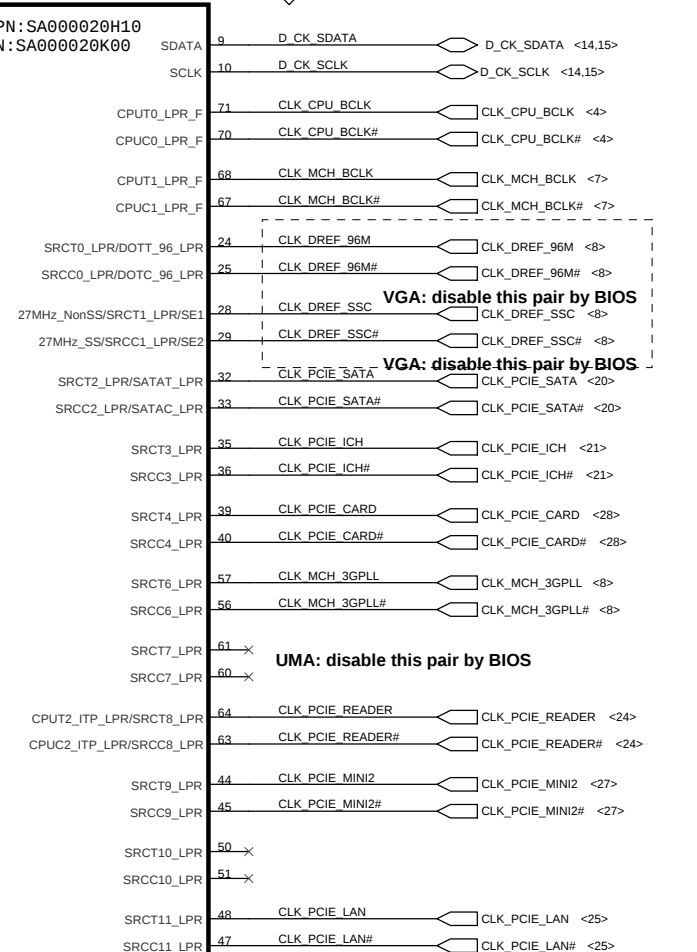
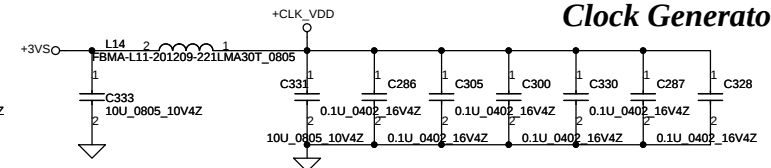
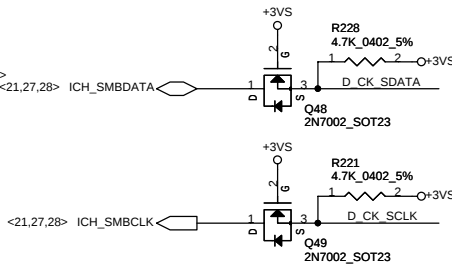
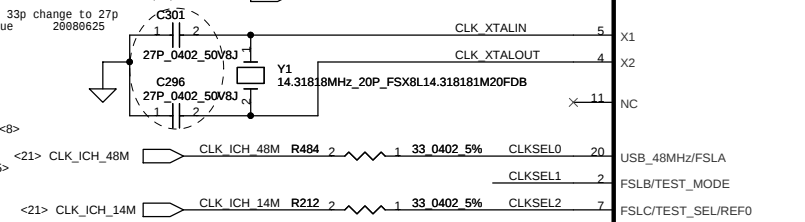
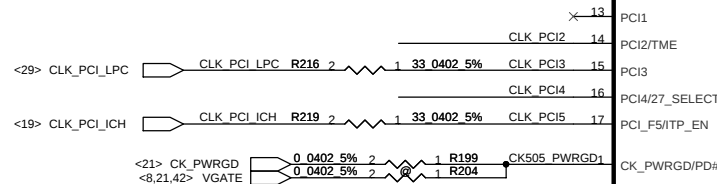
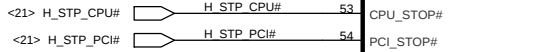
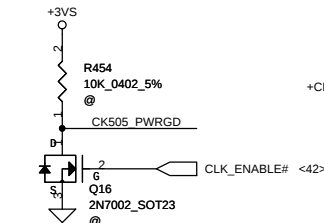
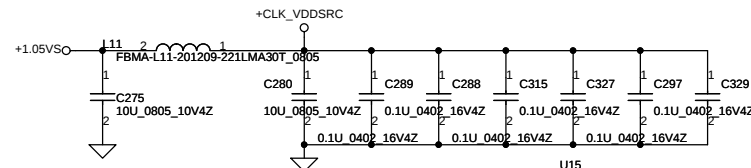
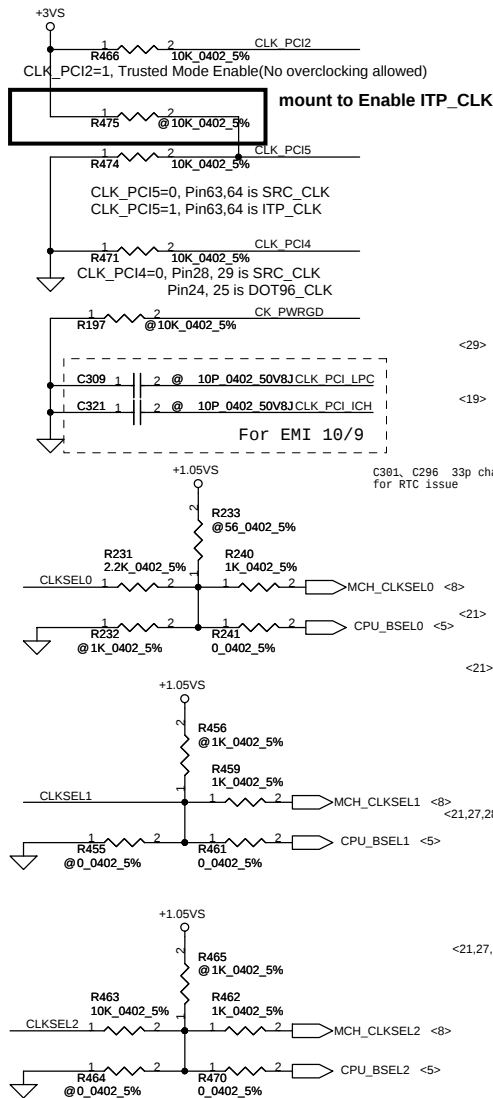


FSLC CLKSEL2	FSLB CLKSEL1	FSLA CLKSEL0	CPU MHz	SRC MHz	PCI MHz
0	0	0	266	100	33.3
0	1	0	200	100	33.3
0	1	1	166	100	33.3

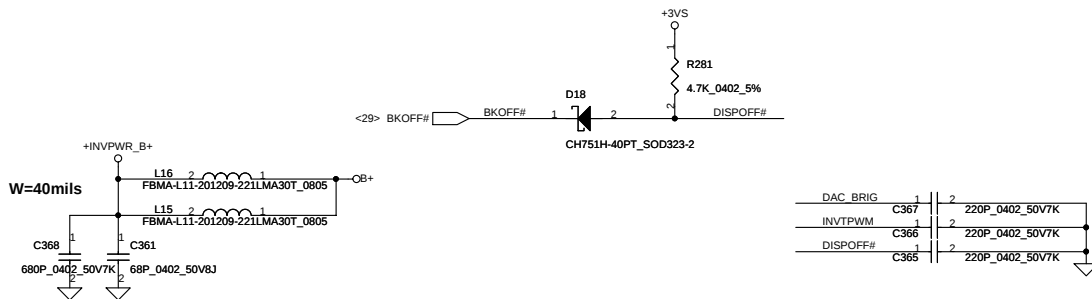
Table : ICS9LPRS387

CLK_REQ#	Control	Free-Run
CR#_10(WLAN)	PCIEX10	PCIEX0
CR#_6(MCH)	PCIEX6	PCIEX1
CR#_4(NEW CARD)	PCIEX4	
CR#_9(MINI CARDII)	PCIEX9	

SRC7(VGA_CLK): Discrete VGA[Enable] UMA[Disable]



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431	
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 OR ANY OTHER DIVISION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev D
				Custm	401590	
				Date:	Wednesday, July 30, 2008	Sheet 16 of 45

[illegible]

JLVDS1

42 GND 41 DAC BRIG

39 +INVPWR_B+ 39 39

38 38 37 INVT_PWM R272 1 2 0.0402 5% INVT_PWM <29>

36 36 35 DISPOFF#

35 +3VSO GMCH LCD_CLK 35 35

34 GMCH LCD_DATA 34 34

33 33

32 32

31 31

30 30

29 29

28 28

27 27

26 26

25 25

24 24

23 23

22 22

21 21

20 20

19 19

18 18

17 17

16 16

15 15

14 14

13 13

12 12

11 11

10 10

9 9

8 8

7 7

6 6

5 5

4 4

3 3

2 2

1 1

0.0402 5%

21> USB20_N6 R271 1 2 USB20_CMOS N6

21> USB20_P6 R270 1 2 USB20_CMOS P6

W=60mils

GMCH TXOUT0+ <10>

GMCH TXOUT0- <10>

GMCH TXOUT1+ <10>

GMCH TXOUT1- <10>

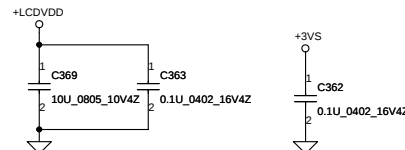
GMCH TXOUT2+ <10>

GMCH TXOUT2- <10>

GMCH TXCLK- <10>

GMCH TXCLK+ <10>

ACES_88242-4001 CONN@



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431	
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 D	
				401590		
Date:	Wednesday, July 30, 2008		Sheet	17	of	45

change to 15pf for Discrete

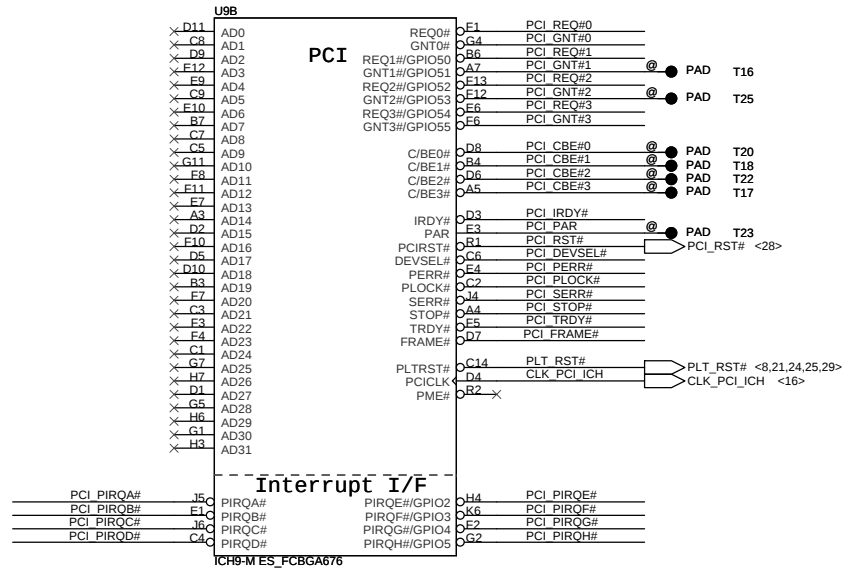
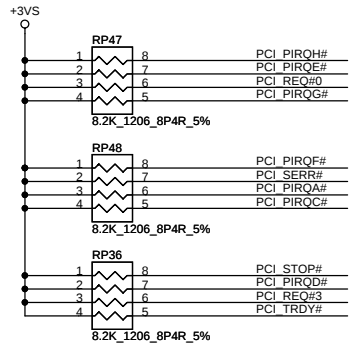
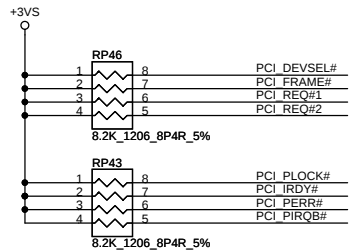
change to 12pf for Discrete

Place closed to chipset

pull-up 10k on AMD M82M MXM side
pull-up 2.2k on GPU side

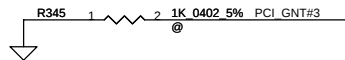
pull-up 2.2k on GPU side
pull-up 10k on AMD M82M MXM side

Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2007/09/20		Deciphered Date		2008/09/20		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 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.								SCHEMATICS, MB A4431			
								Document Number		Rev D	
								401590			
Date		Wednesday, July 30, 2008		Sheet		18		of 45			

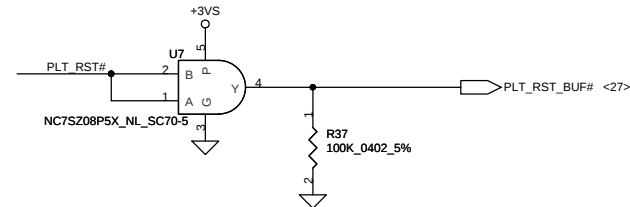
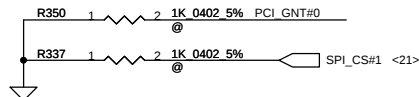


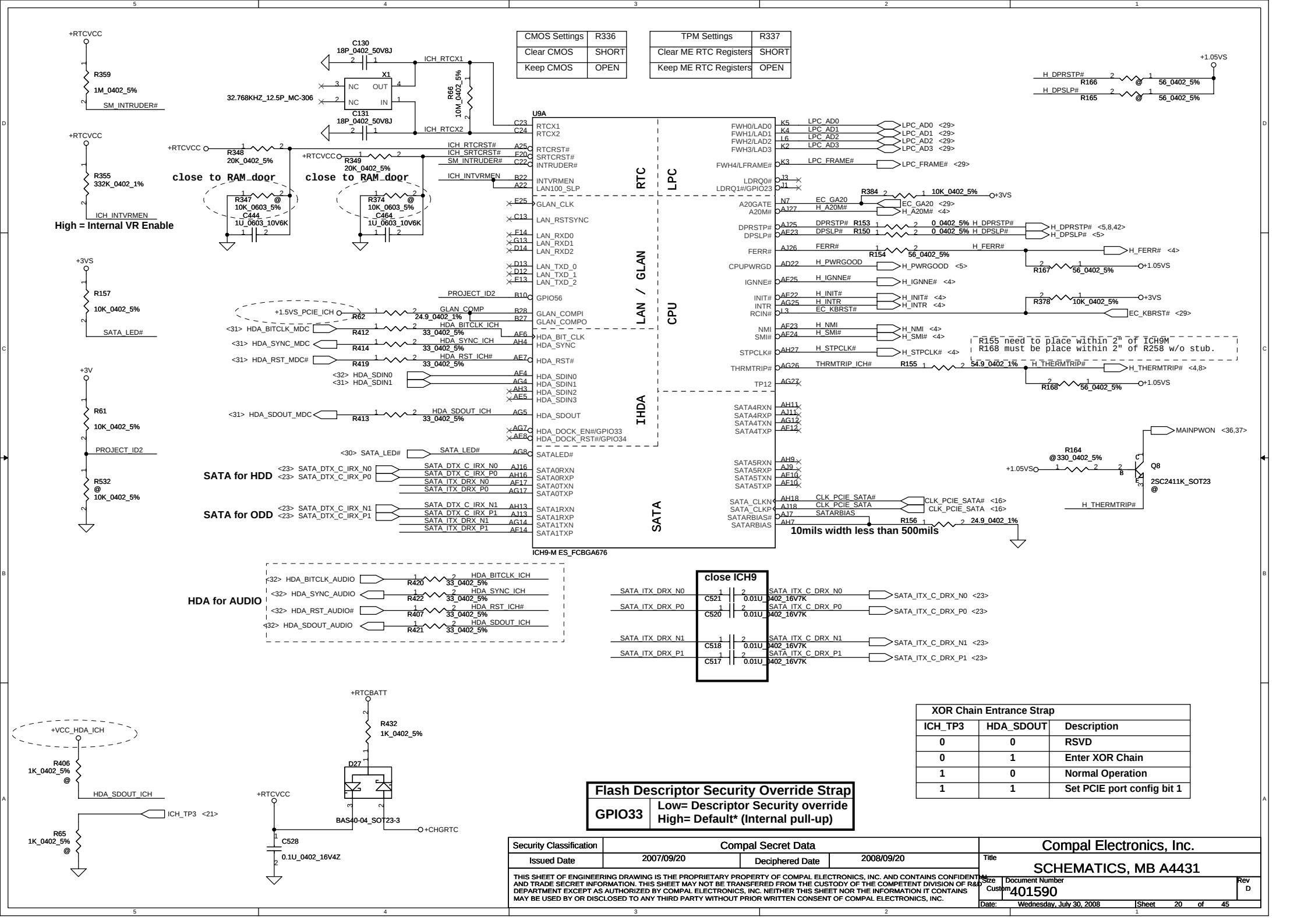
DMI for ESI-compatible operation
PCI_GNT#1 Low= DMI for ESI-compatible operation
 High= Default* (Internal pull-up)

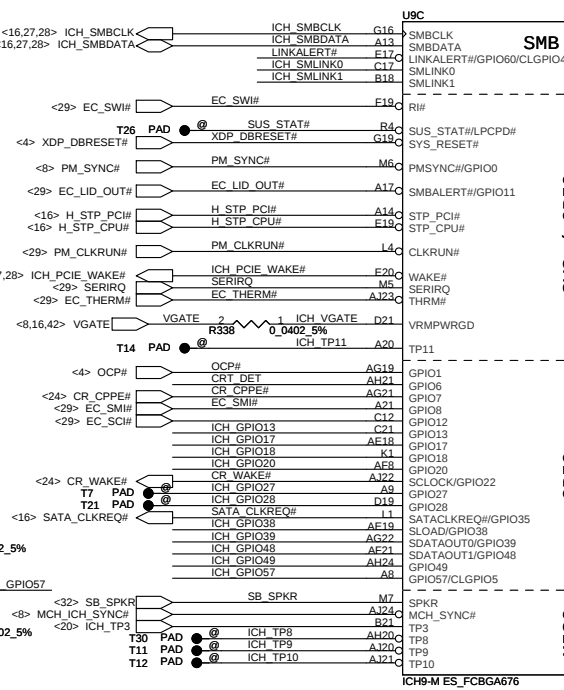
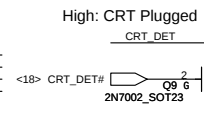
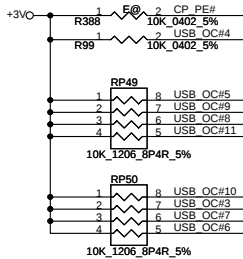
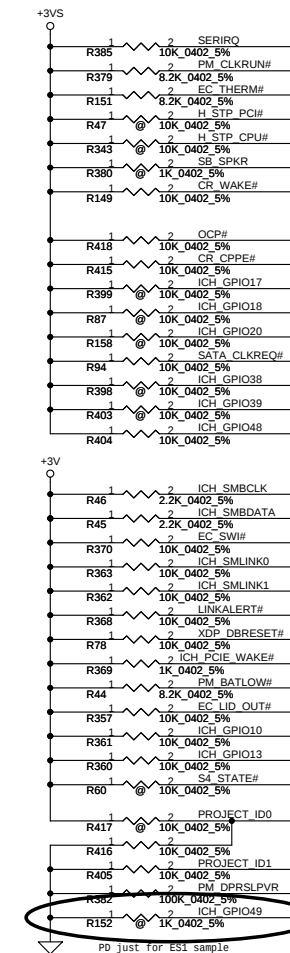
A16 Swap Override Strap
PCI_GNT#3 Low= A16 swap override Enable
 High= Default*



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





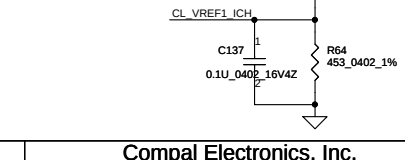
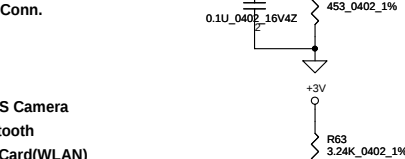
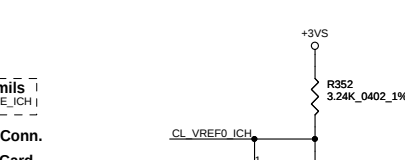
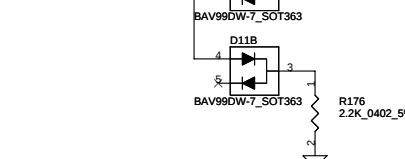
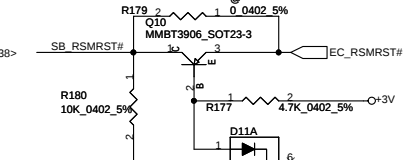
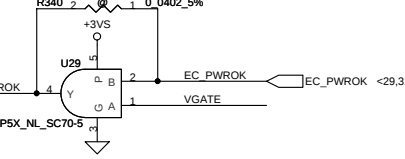
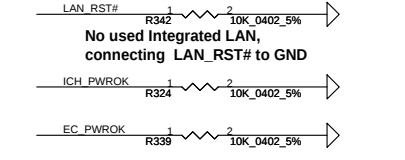
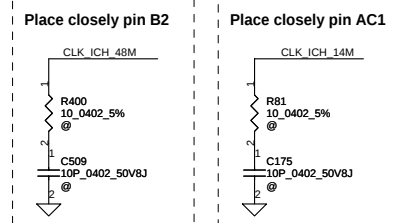
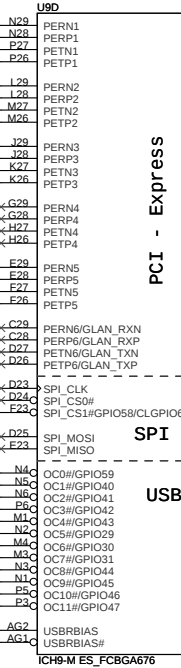
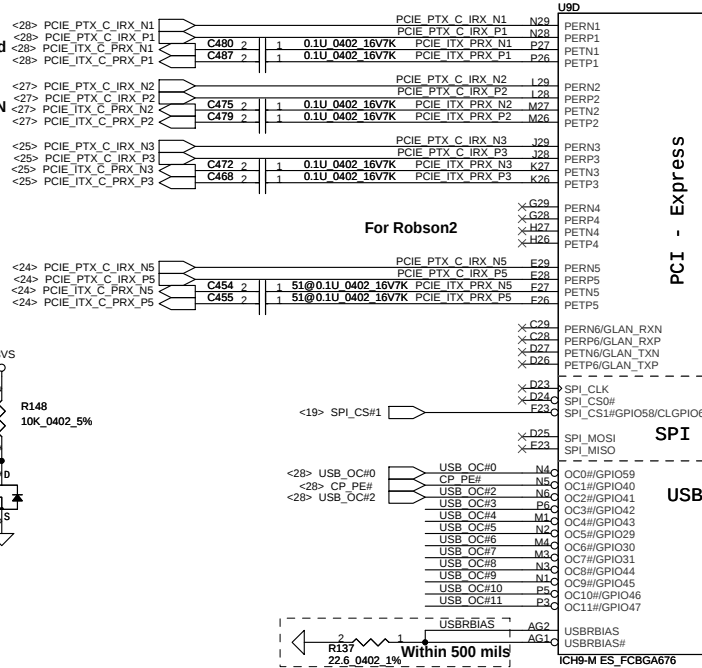


For Express Card

For Wireless LAN

For PCIE LAN

For Card Reader



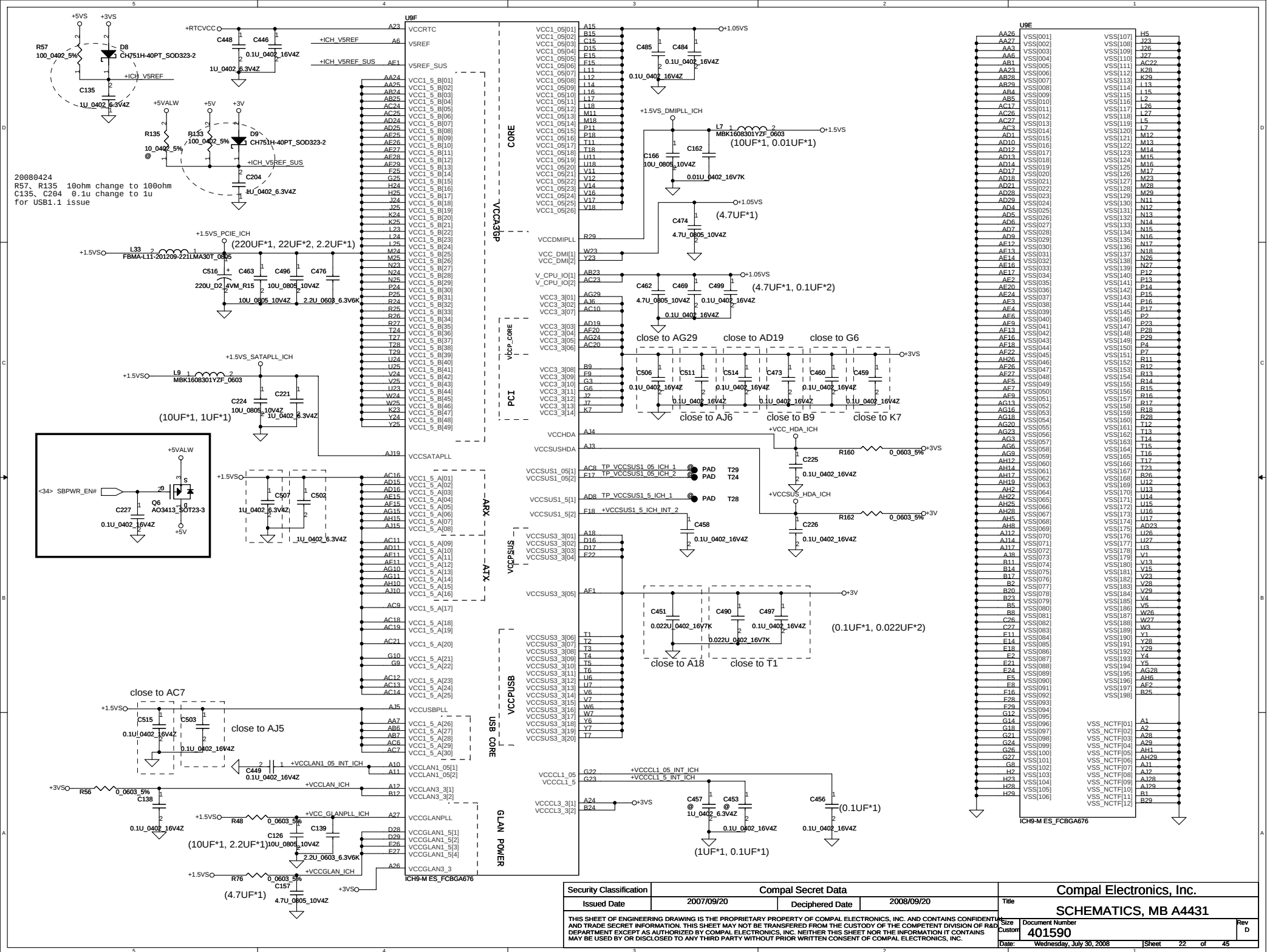
No Reboot Strap
SB_SPKR Low= Default*
High= "No Reboot"

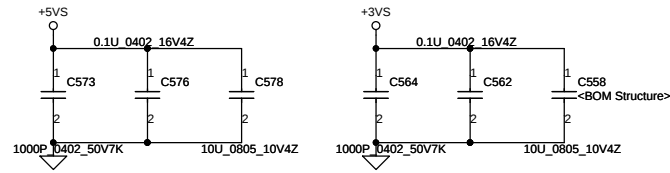
Internal TPM Strap	
SPI_MOSI	Low= Disable* High= iTPM enable by MCH strap

DMI Termination Voltage	
GPIO49	Low= Desktop used High= Mobile* (Internal pull-up)

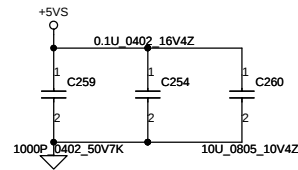
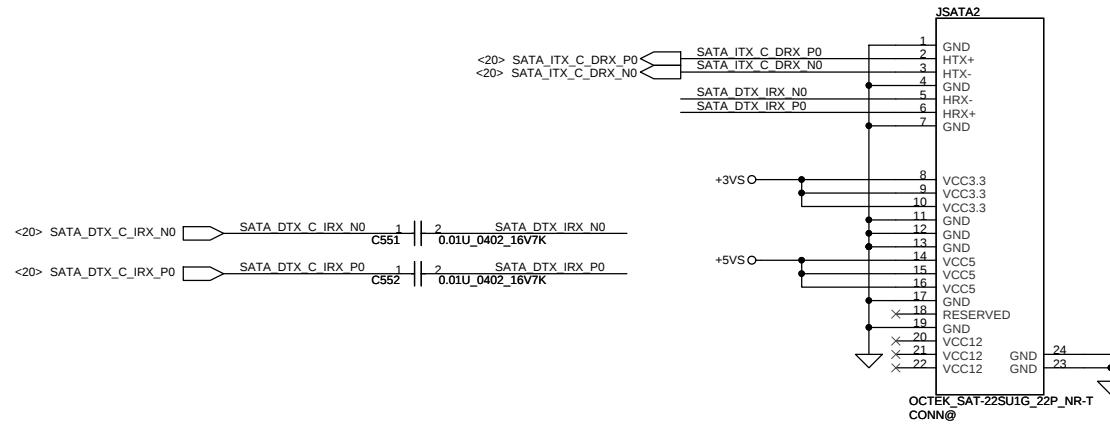
Security Classification		Compal Secret Data	
Issued Date	2007/09/20	Deciphered Date	2008/09/20
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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.			

Compal Electronics, Inc.			
SCHEMATICS, MB A4431			
Rev	Document Number	Rev D	
Date	401590	Wednesday, July 30, 2008	
Sheet	21	of 45	

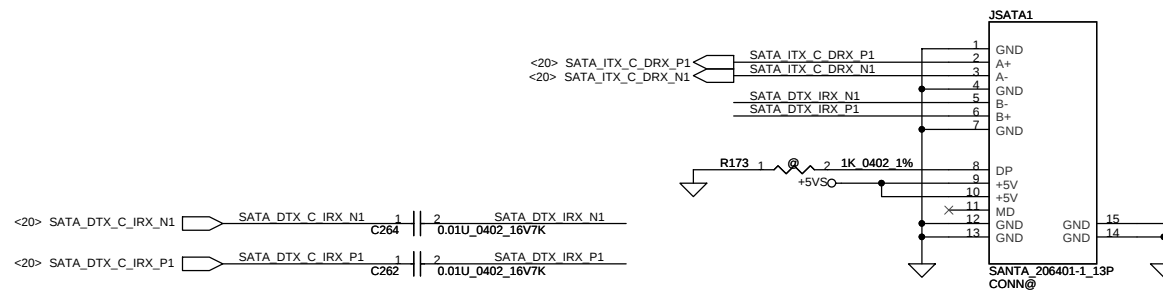




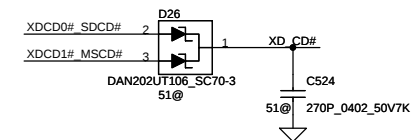
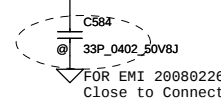
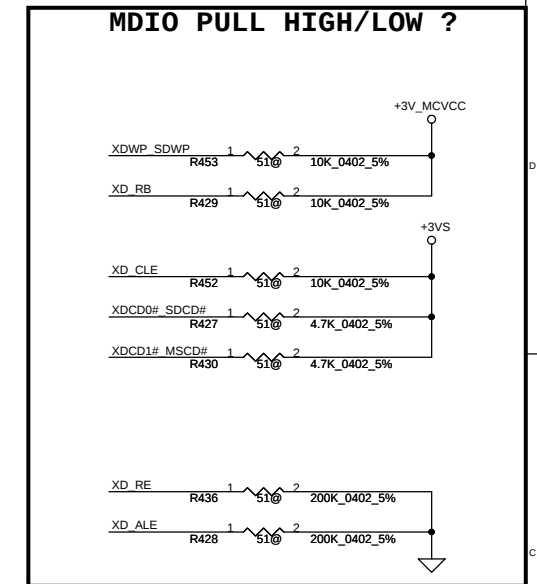
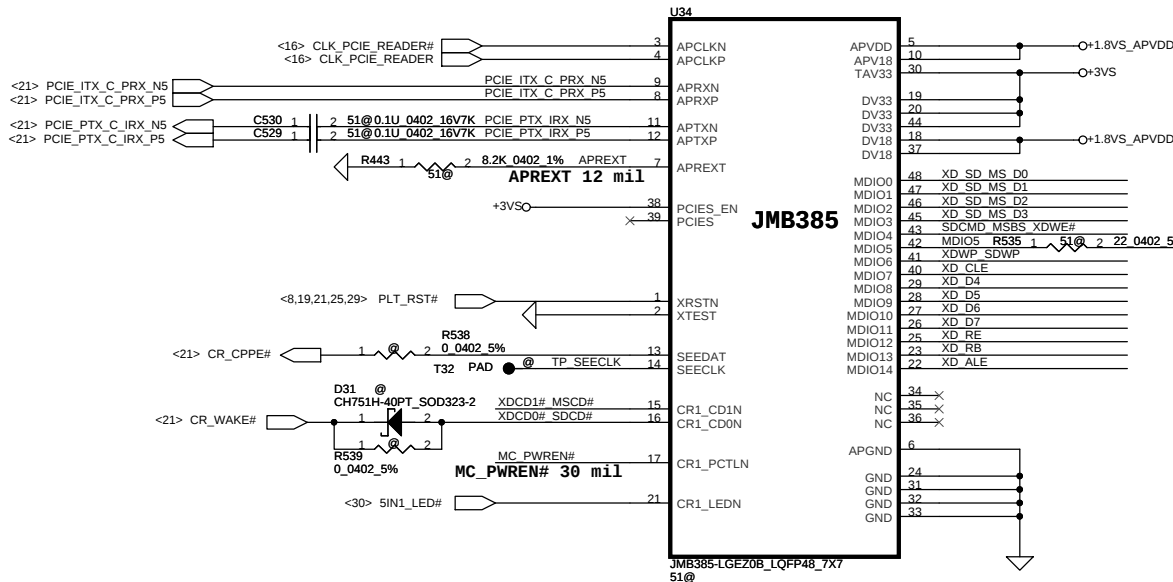
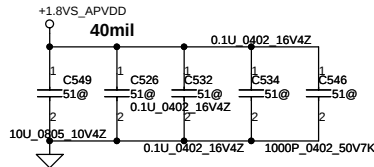
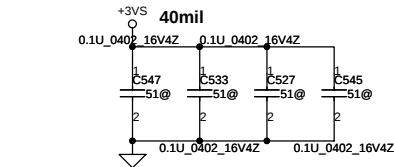
SATA HDD Conn.



SATA ODD Conn.

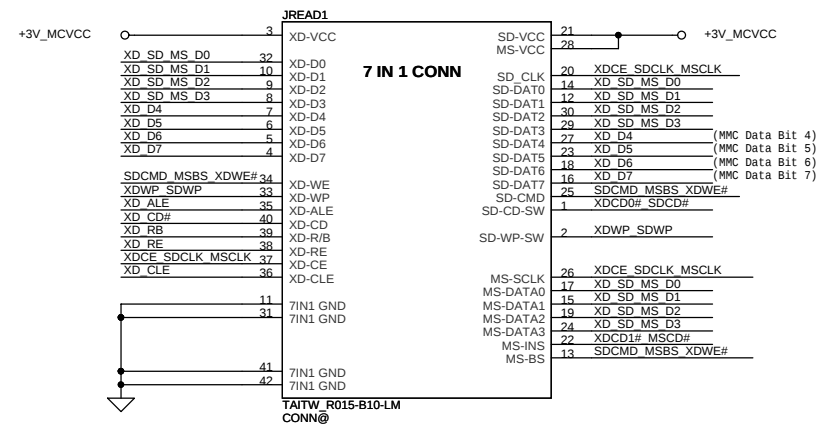
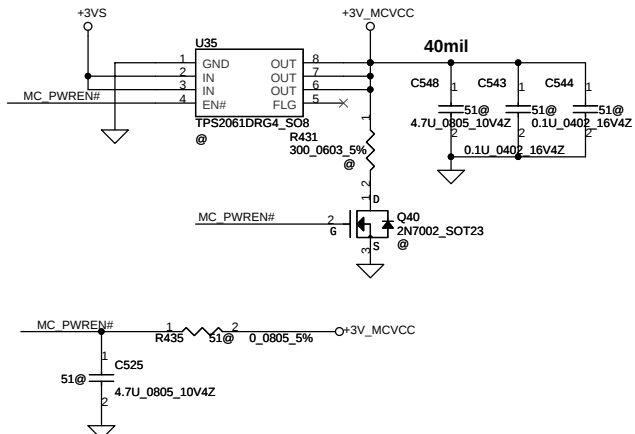


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number 401590
				Date	Wednesday, July 30, 2008
				Sheet	23 of 45



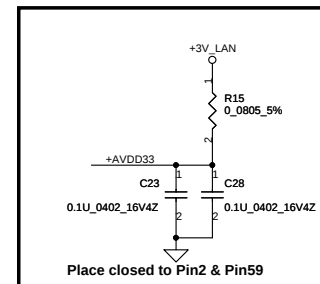
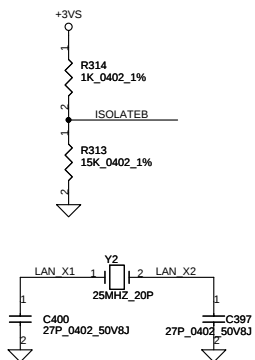
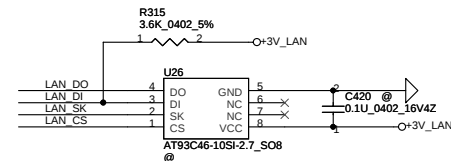
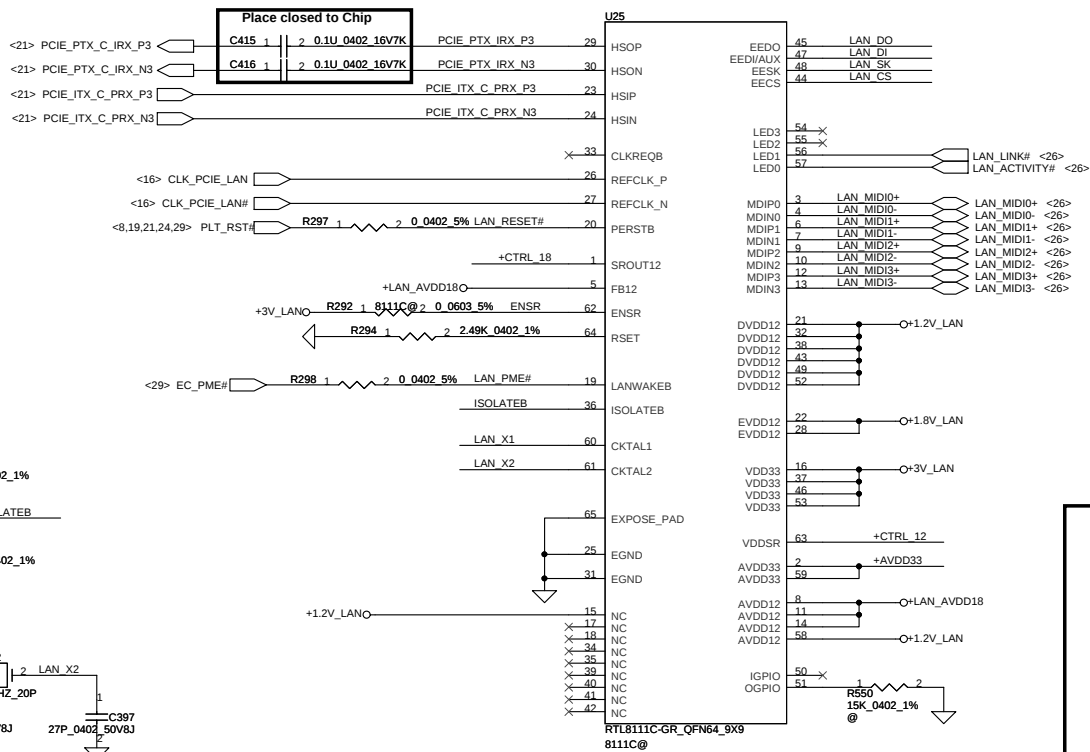
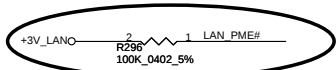
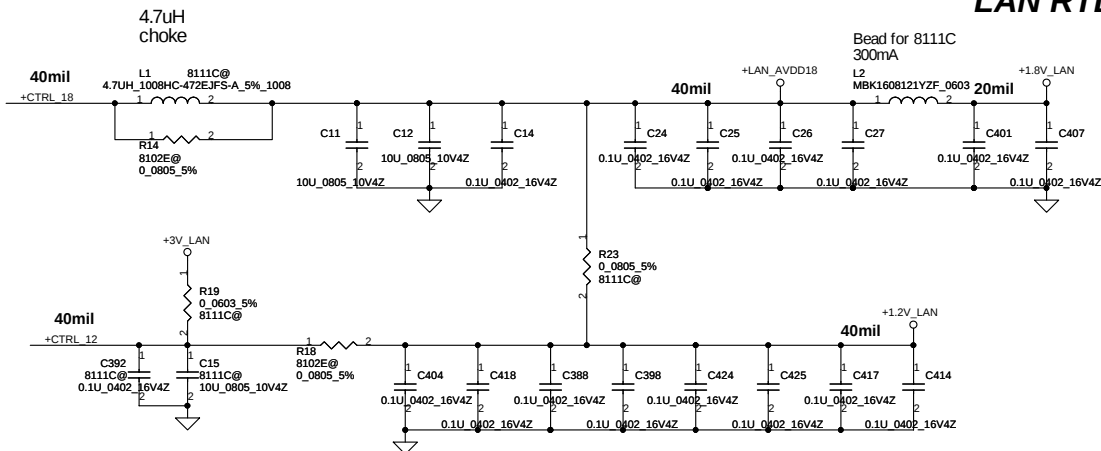
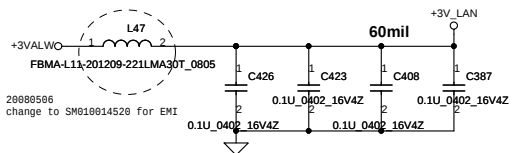
4 IN 1 Socket Push Type(New)

Memory Card Power Switch



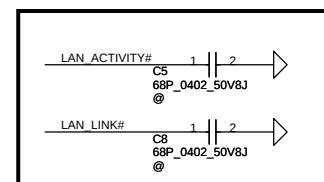
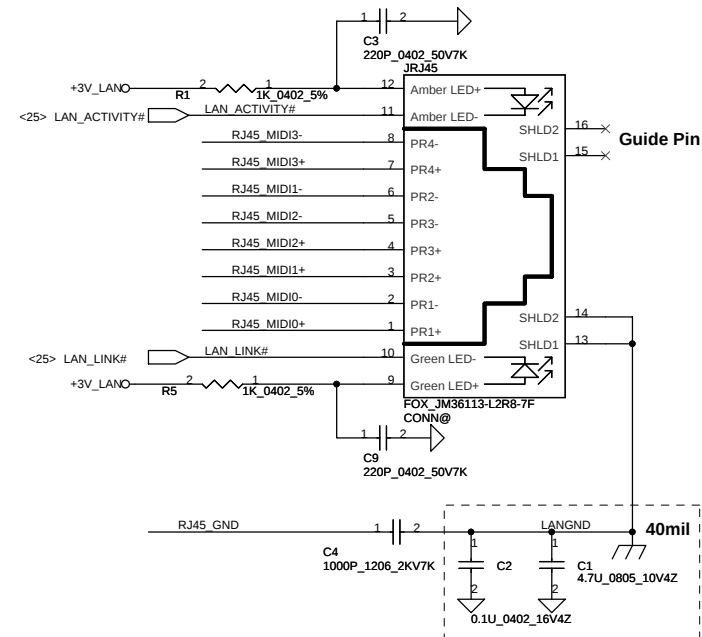
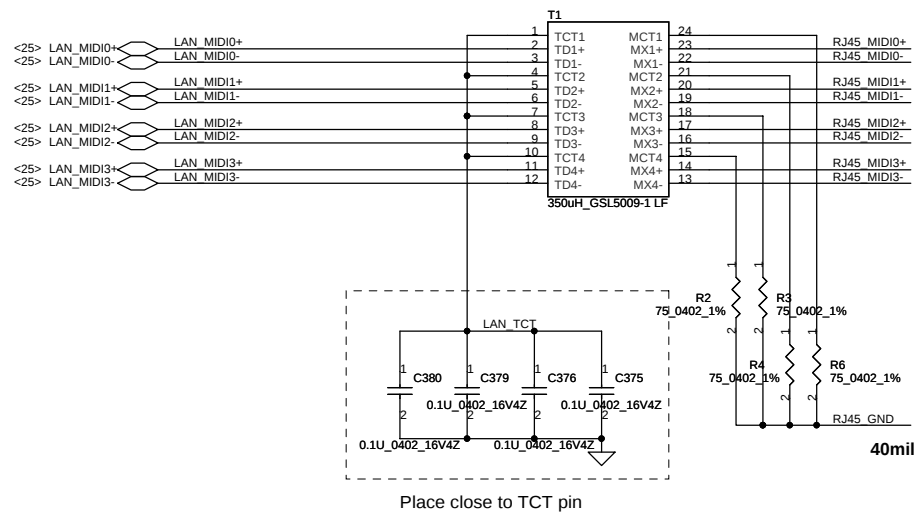
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATICS, MB A4431	
Date		Wednesday, July 30, 2008		Sheet 24 of 45	

LAN RTL8111C/8102E



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SHEMATICS, MB A4431
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 D
				401590	
				Date: Wednesday, July 30, 2008 Sheet 25 of 45	

LAN RTL8111C/8102E

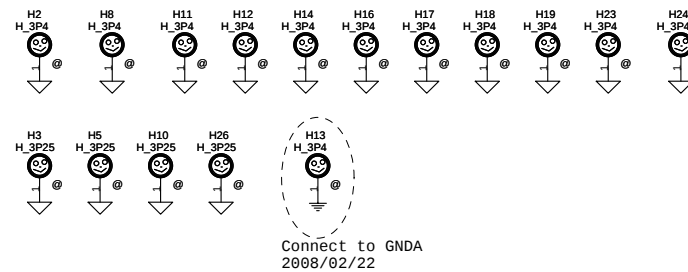
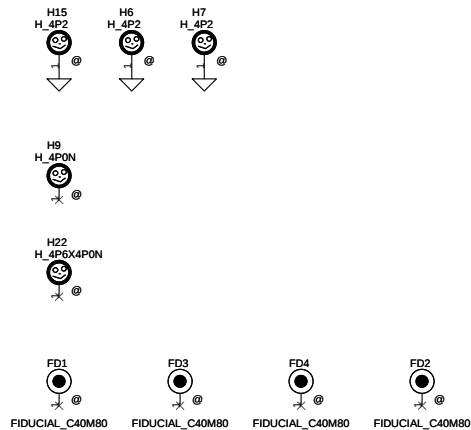
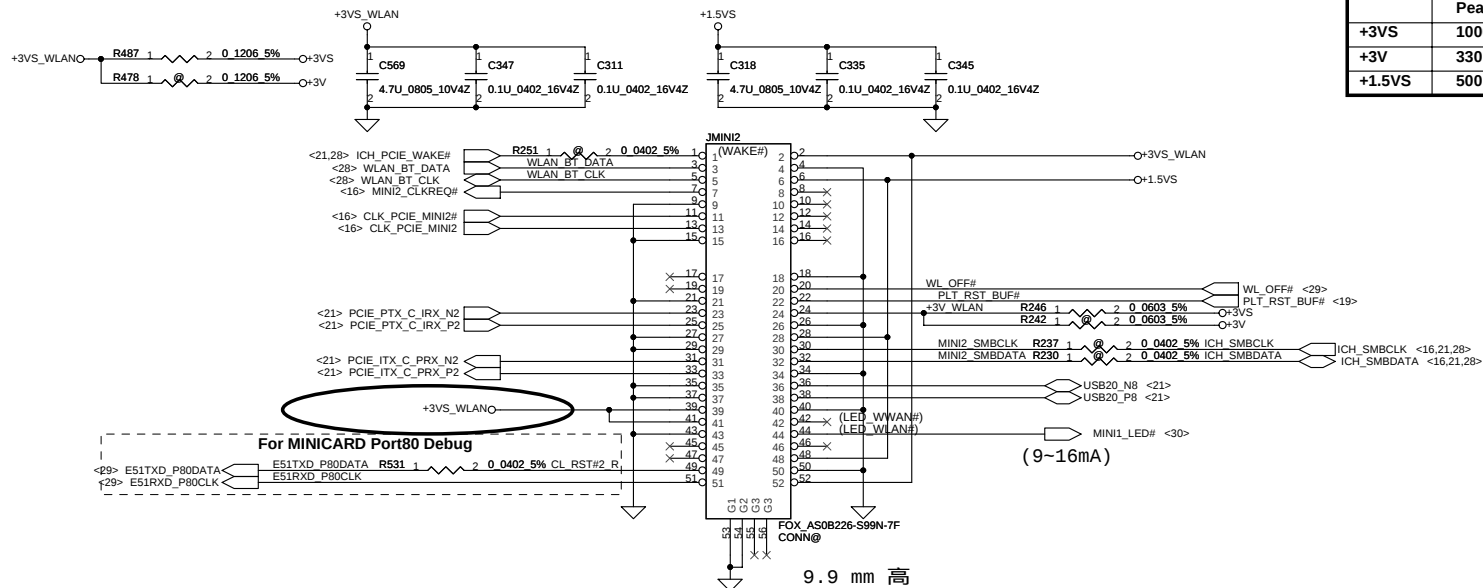


For EMI

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
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	401590
				Date	Wednesday, July 30, 2008
				Sheet	26 of 45

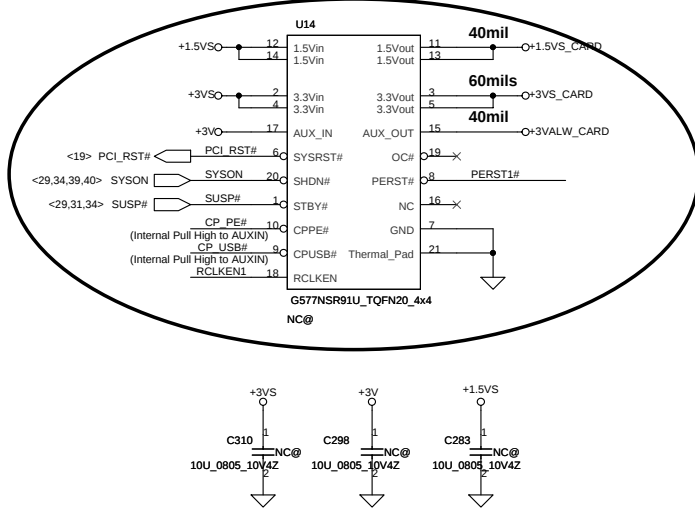
For Wireless LAN

Mini Card Power Rating			
Power	Primary Power (mA)		Auxiliary Power (mA)
	Peak	Normal	Normal
+3VS	1000	750	
+3V	330	250	250 (wake enable)
+1.5VS	500	375	5 (Not wake enable)

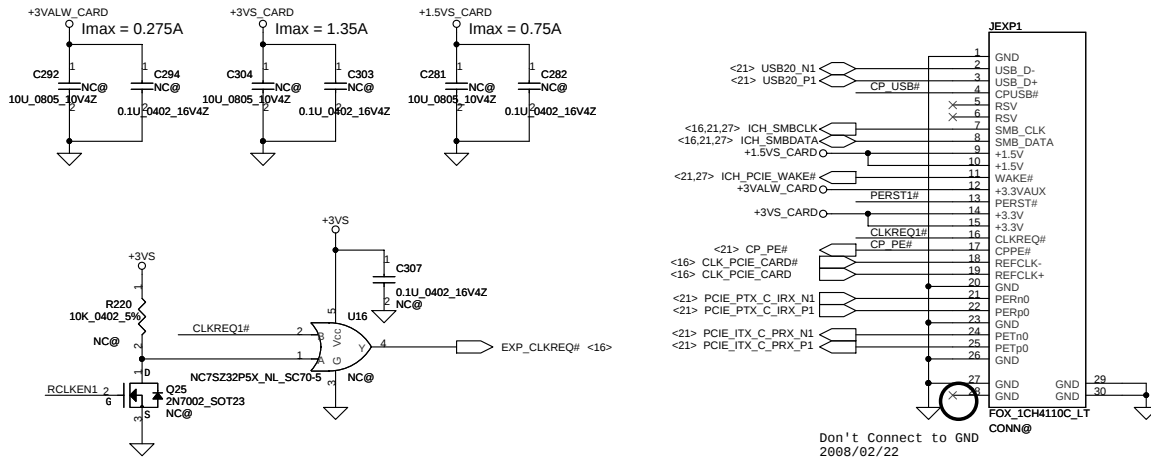


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL 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 D
				401590	
Date		Wednesday, July 2, 2008		Sheet	27 of 25

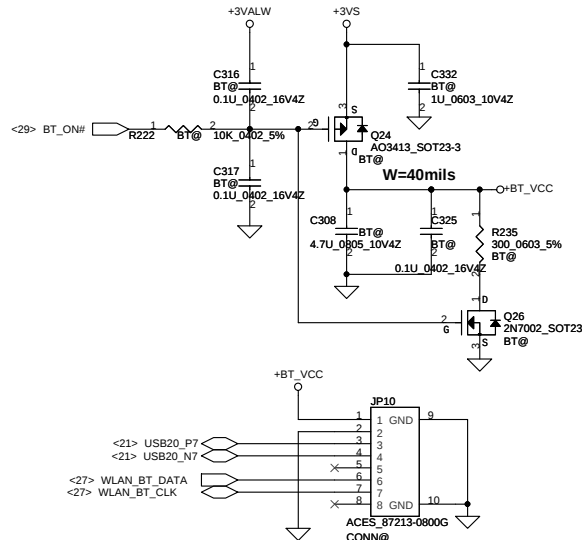
New Card Power Switch



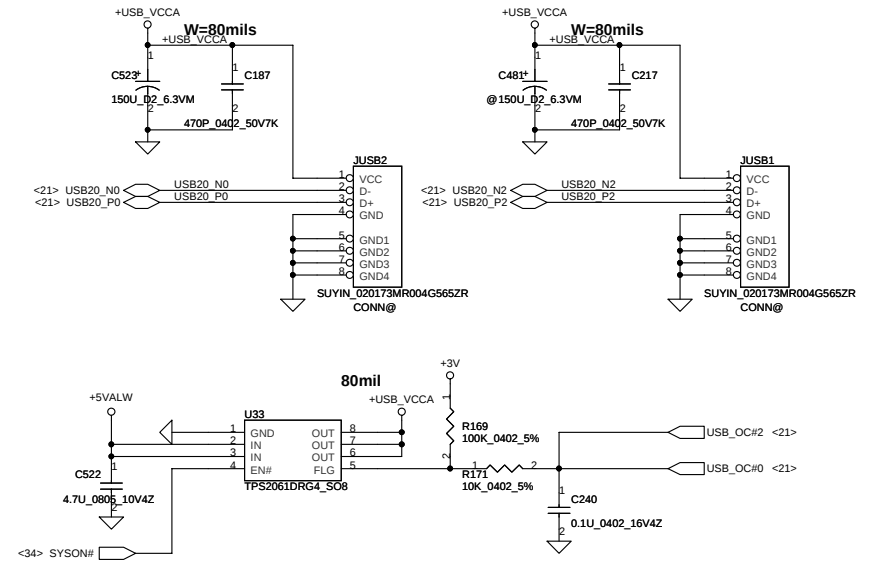
New Card Socket (Left/TOP)



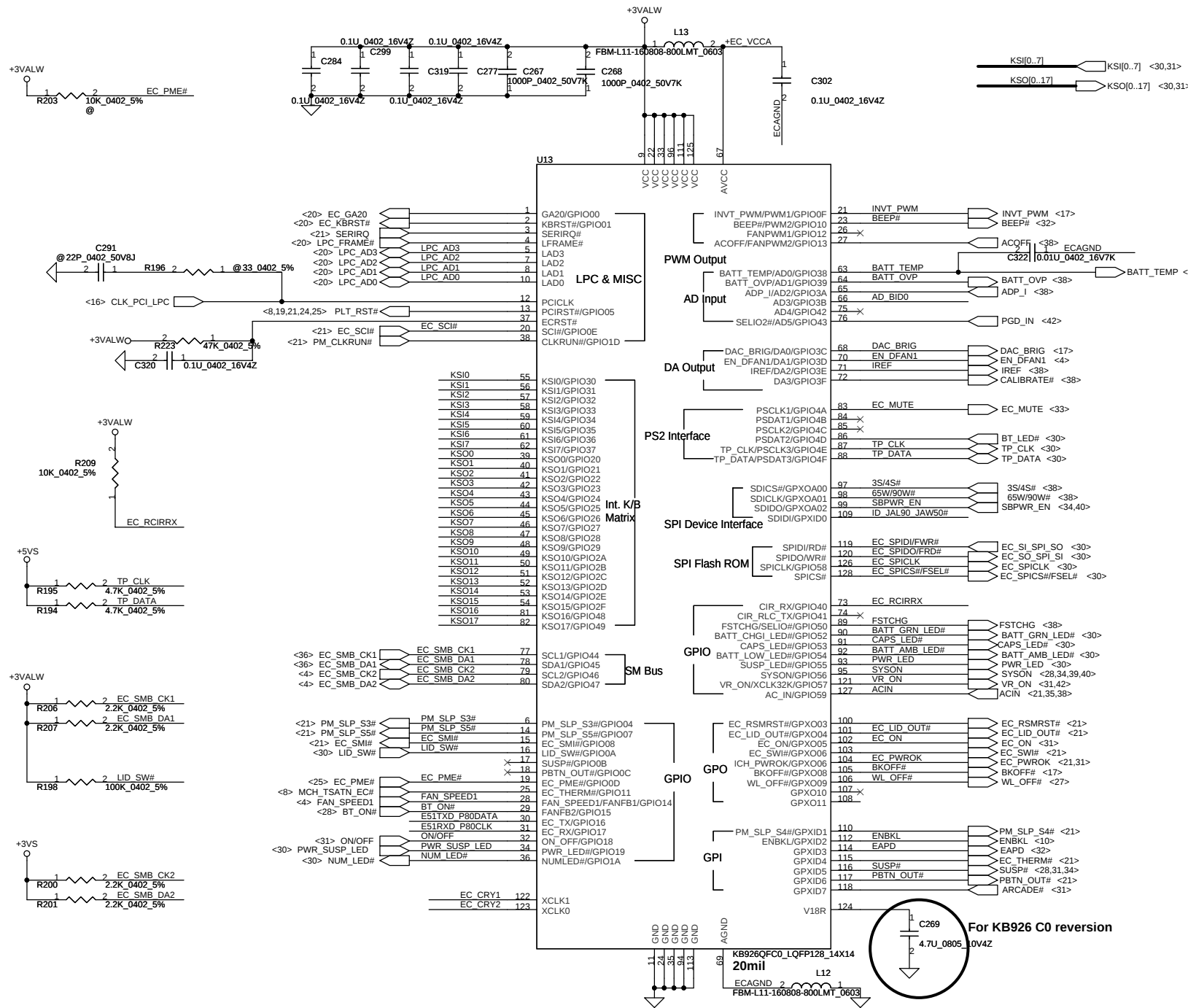
Bluetooth Conn.



USB CONN. (Stack-up Type)

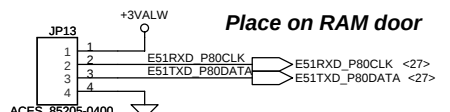


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHMATIC, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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 D	401590
Date: Wednesday, July 30, 2008				Sheet	28 of 45

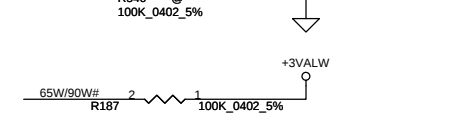
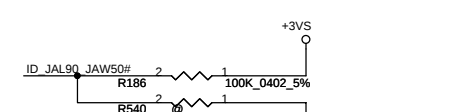
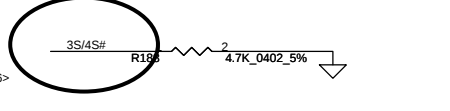
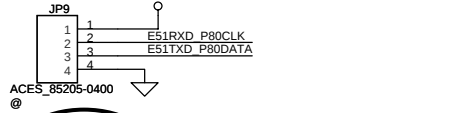


For EC Tools

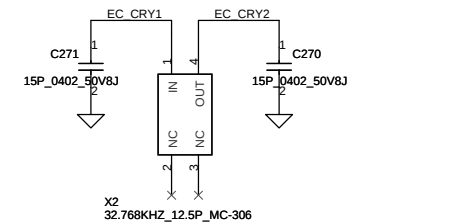
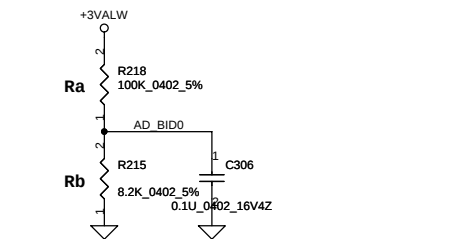
Place on RAM door



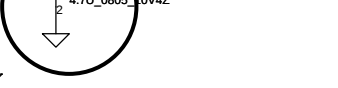
Place on MiniCard



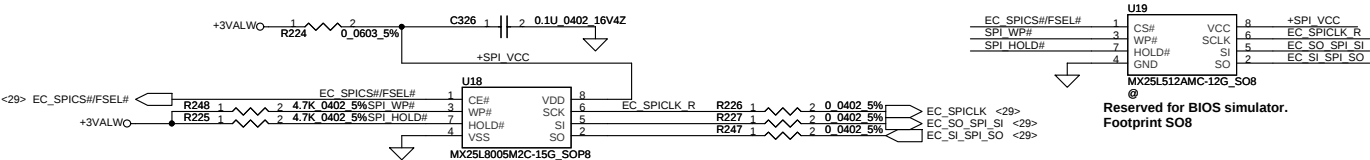
Analog Board ID definition, Please see page 3.



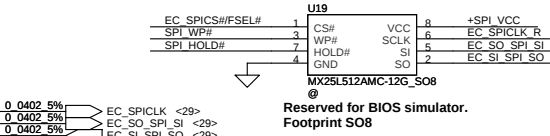
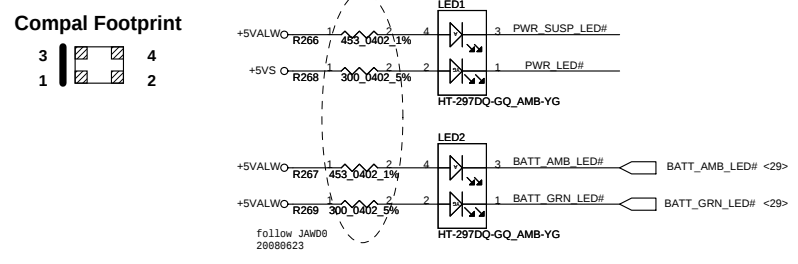
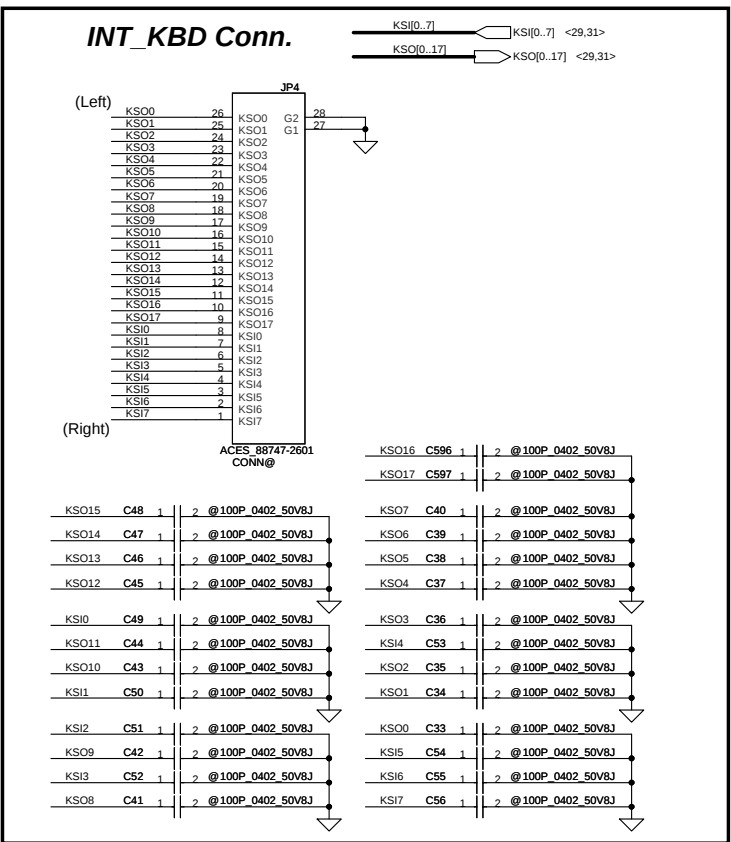
For KB926 C0 reversion



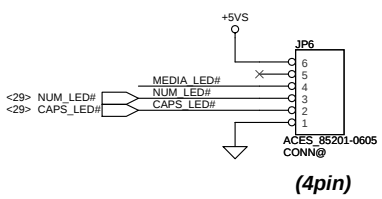
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATICS, MB A4431	
Size	B	Document Number	401590	Date	Wednesday, July 30, 2008
Sheet	29	of	45	Rev	D



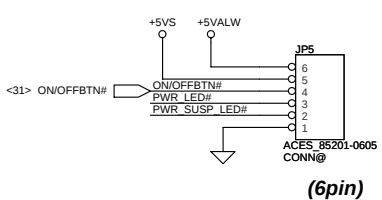
ENE suggestion SPI Frequency over 66MHz
SST: 50MHz
MXIC: 70MHz
ST: 40MHz



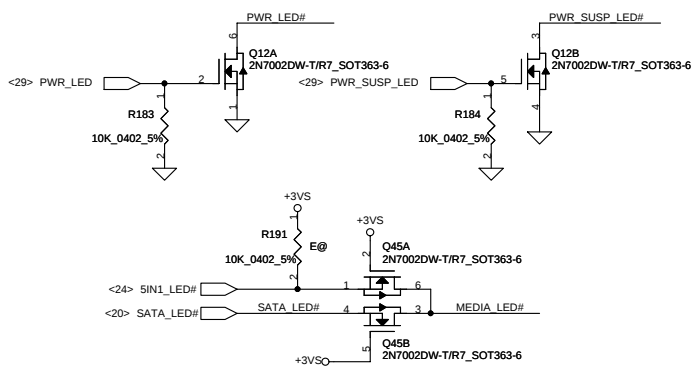
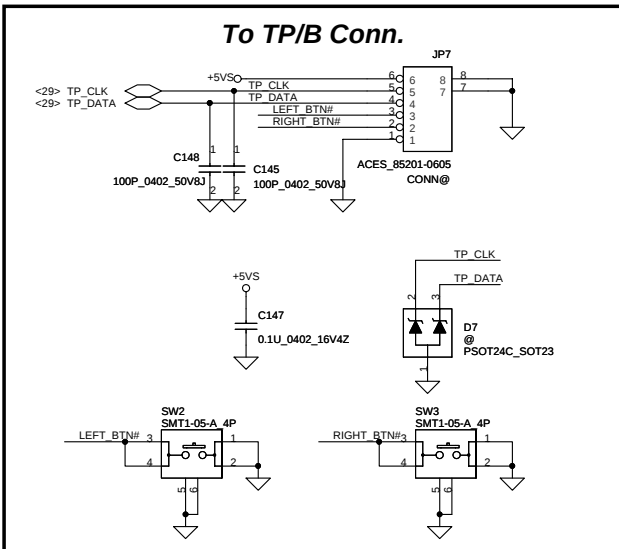
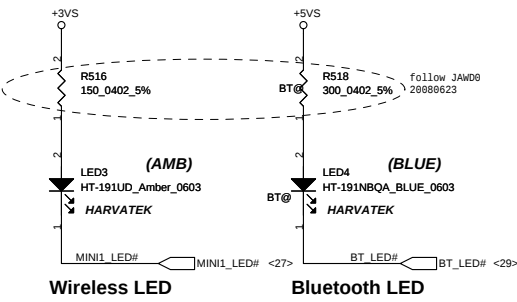
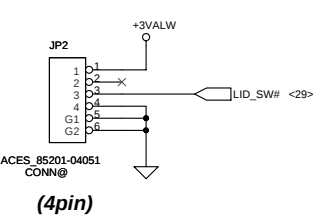
To LED/B



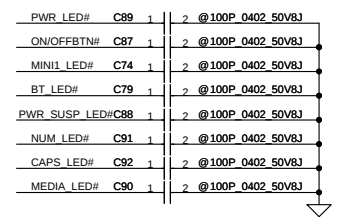
To POWER/B



To LID SW/B

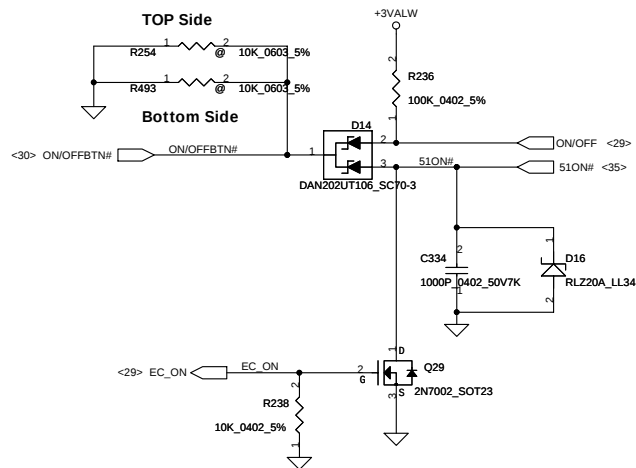


FOR EMI

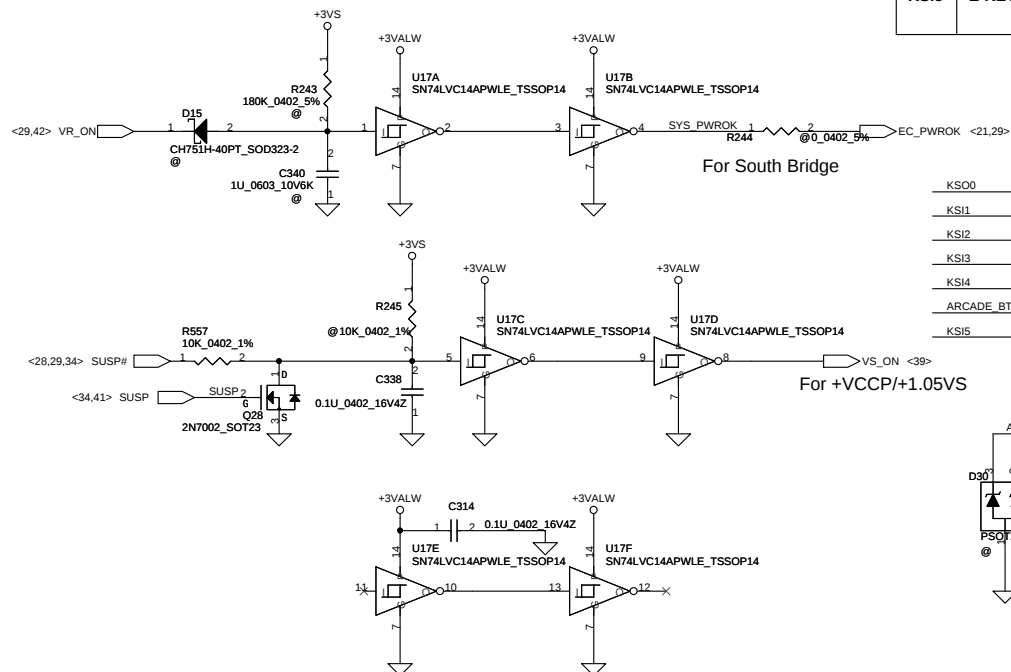
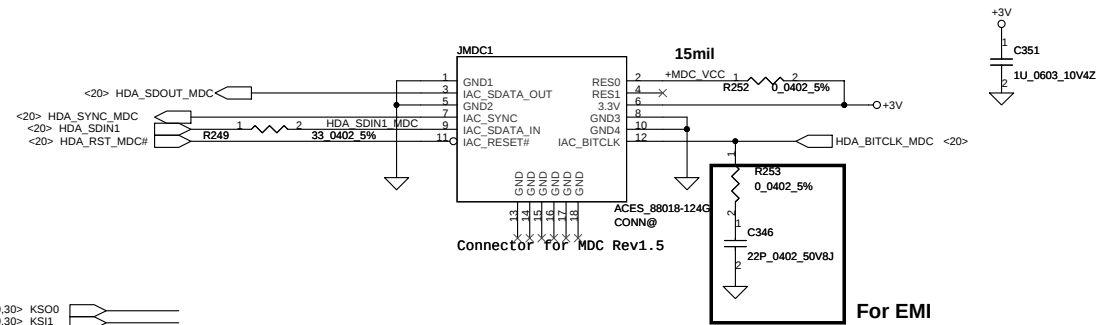


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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 B	Document Number 401590	Rev D
				Date:	Wednesday, July 30, 2008	Sheet 30 of 45

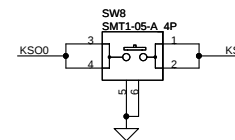
ON/OFF switch



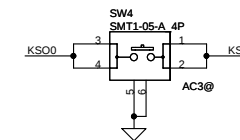
Power ON Circuit

**HDA MDC Conn.**

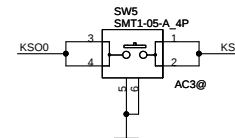
Wireless Button



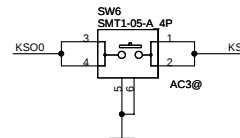
Bluetooth Button



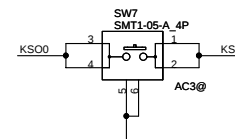
Volume UP BTN



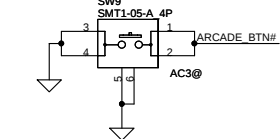
Volume DOWN BTN



e-Key BTN



ARCADE BTN

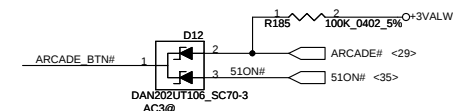
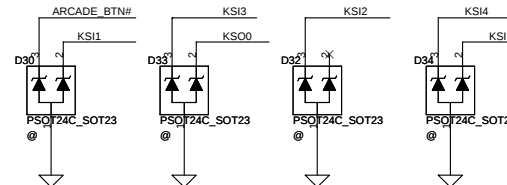


<29,30>	KSO0	
<29,30>	KSI1	
<29,30>	KSI2	
<29,30>	KSI3	
<29,30>	KSI4	
<29,30>	KSI5	

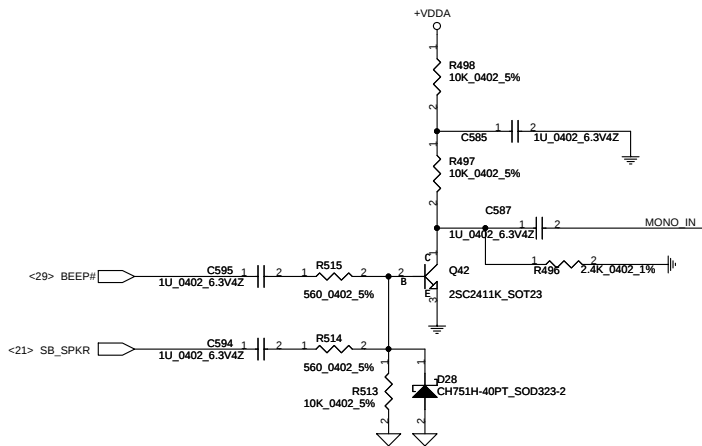
To BTN/B Conn.

	KSO0
KSI1	WL_BTN#
KSI2	BT_BTN#
KSI3	EMAIL_BTN#
KSI4	IE_BTN#
KSI5	E-KEY_BTN#

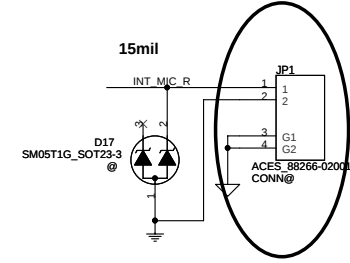
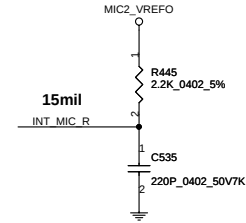
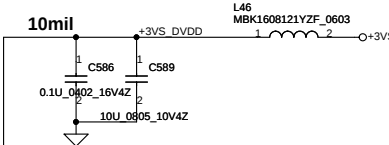
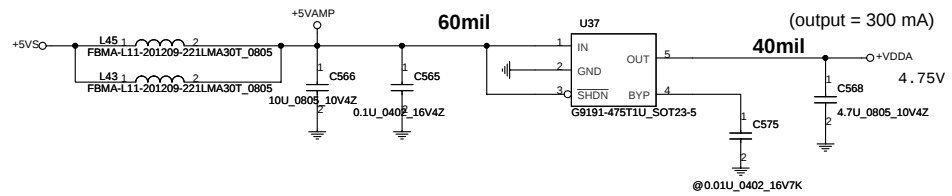
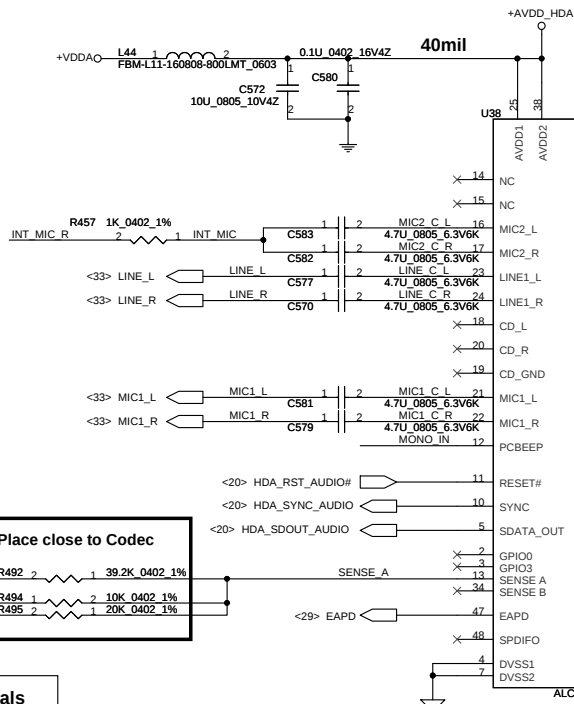
KS00	C80	1	2	@ 100P 0402 50V8J
KS11	C81	1	2	@ 100P 0402 50V8J
KS12	C82	1	2	@ 100P 0402 50V8J
KS13	C83	1	2	@ 100P 0402 50V8J
KS14	C84	1	2	@ 100P 0402 50V8J
ARCADE_BTN#	C86	1	2	@ 100P 0402 50V8J
KS15	C373	1	2	@ 100P 0402 50V8J



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL 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 D
				401590	
Date	Wednesday, July 30, 2008		Sheet	31	of 45

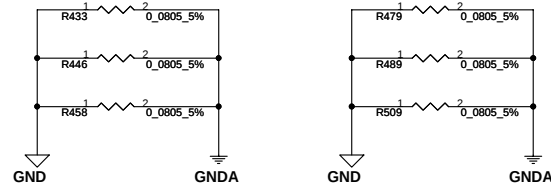


HD Audio Codec

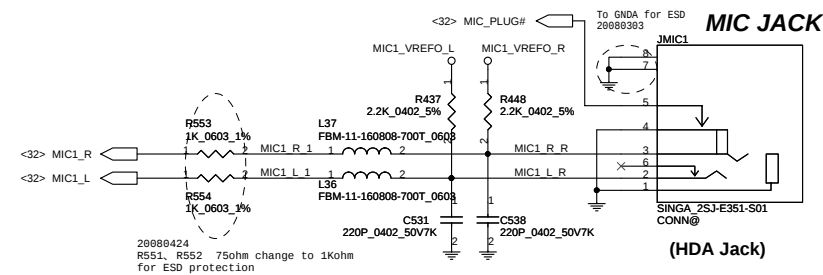
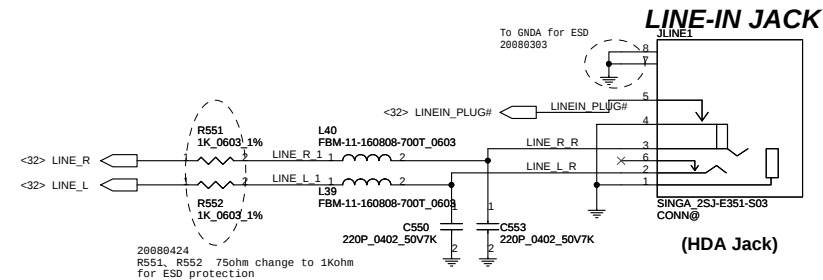
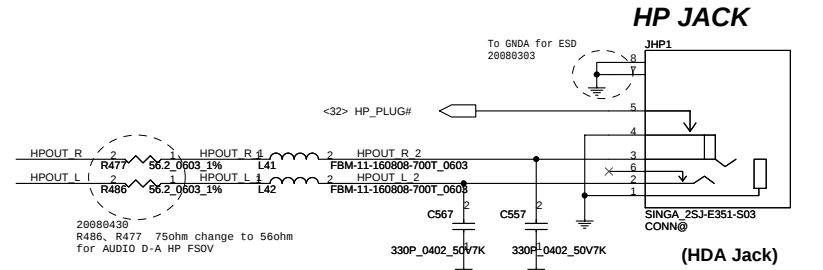
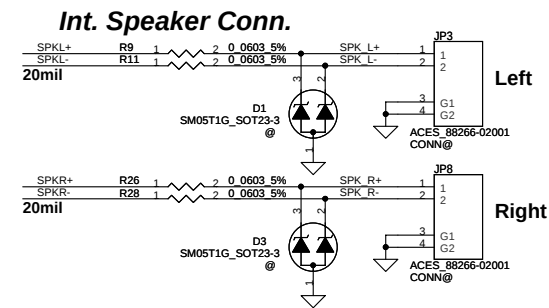
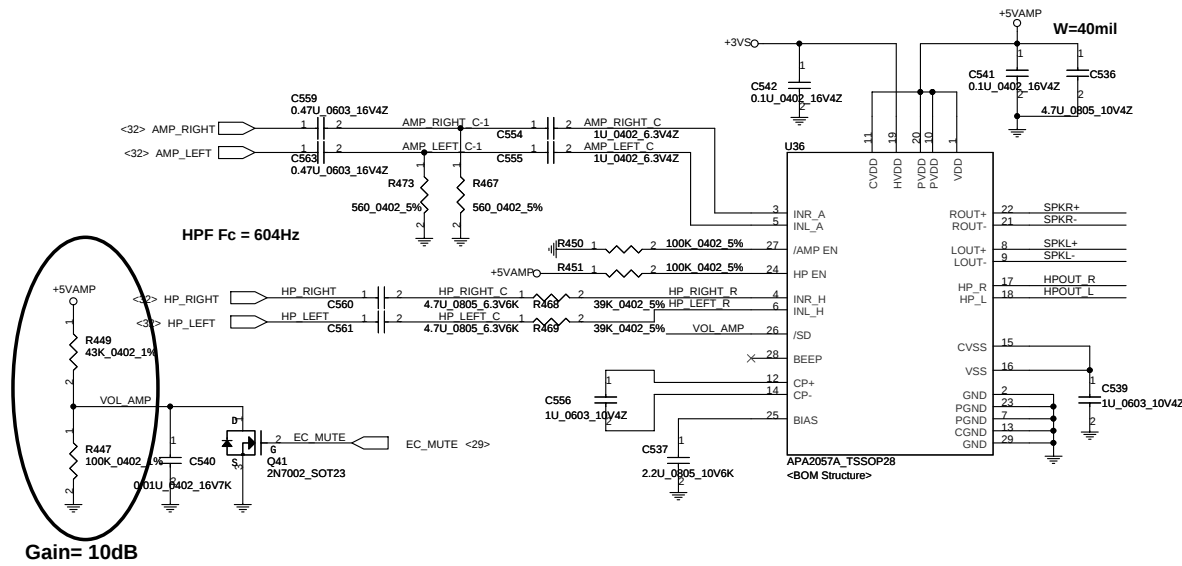


Sense Pin	Impedance	Codec Signals
SENSE A	39.2K	PORT-A (PIN 39, 41)
	20K	PORT-B (PIN 21, 22)
	10K	PORT-C (PIN 23, 24)
	5.1K	PORT-D (PIN 35, 36)
SENSE B	39.2K	PORT-E (PIN 14, 15)
	20K	PORT-F (PIN 16, 17)
	10K	PORT-G (PIN 43, 44)
	5.1K	PORT-H (PIN 45, 46)

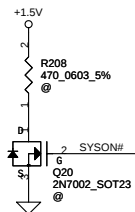
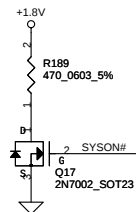
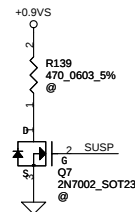
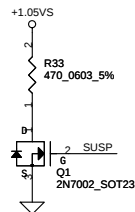
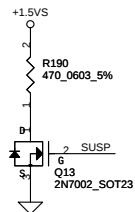
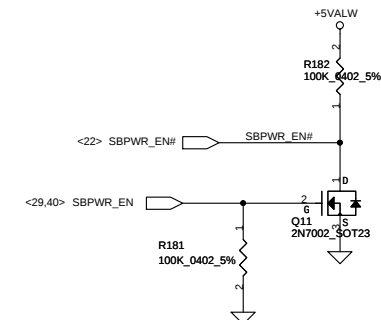
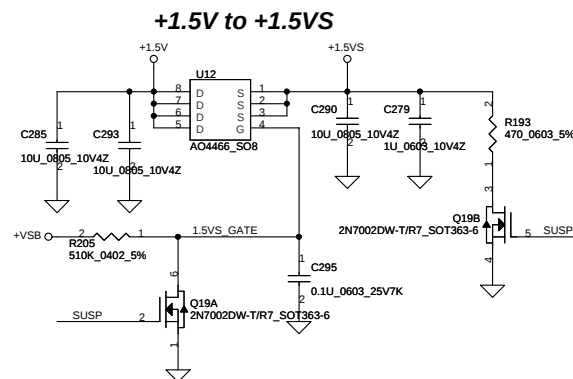
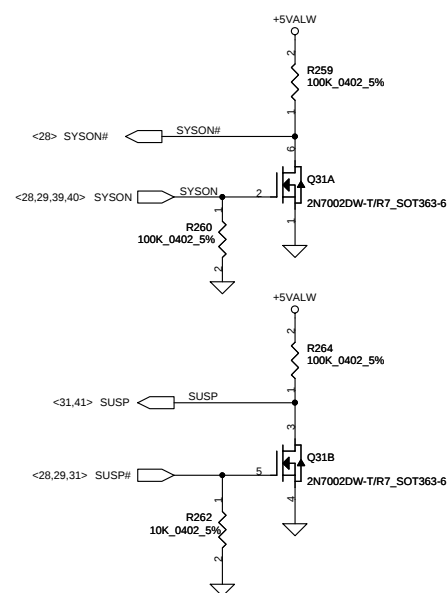
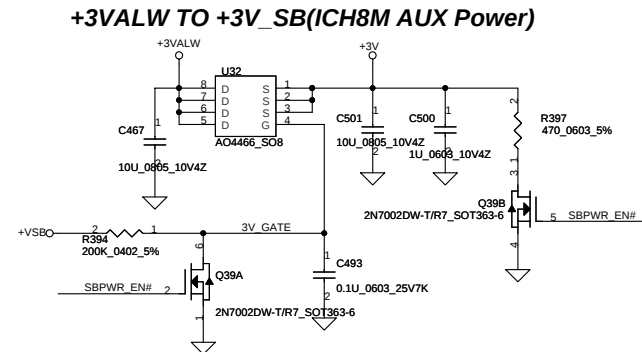
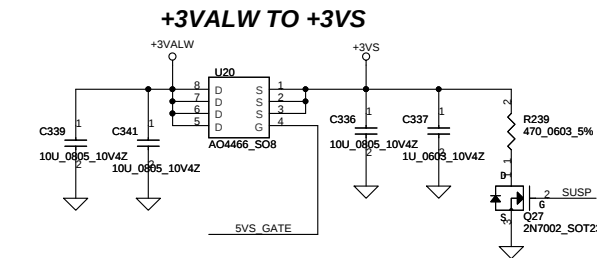
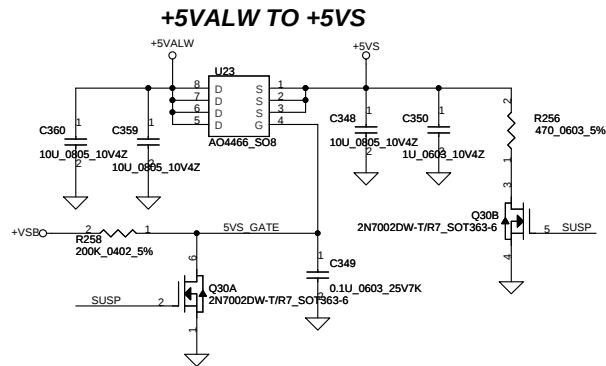
DGND AGND
SA00001GD00 change to SA00001GD10
20080226



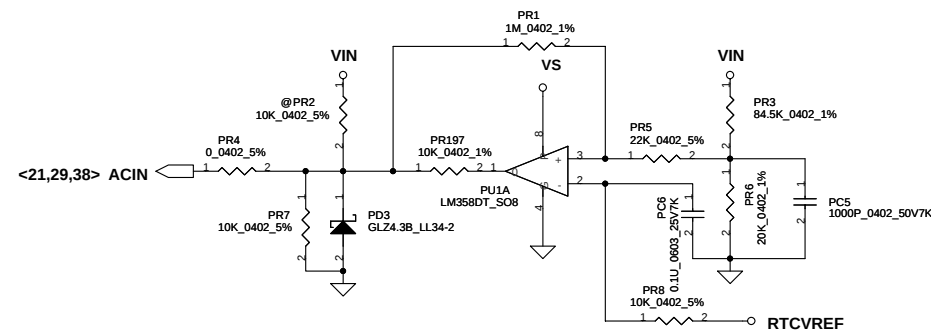
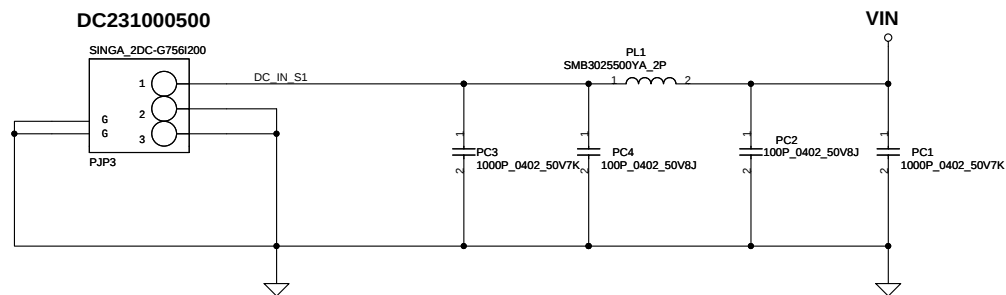
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 D
				401590	
				Date: Wednesday, July 30, 2008	Sheet 32 of 45



Security Classification		Compal Secret Data				Compal Electronics, Inc.											
Issued Date		2007/09/20		Deciphered Date		2008/09/20		Title		SCHEMATICS, MB A4431							
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 B		Document Number		Rev D			
										401590							
										Date: Wednesday, July 30, 2008				Sheet 33 of 45			

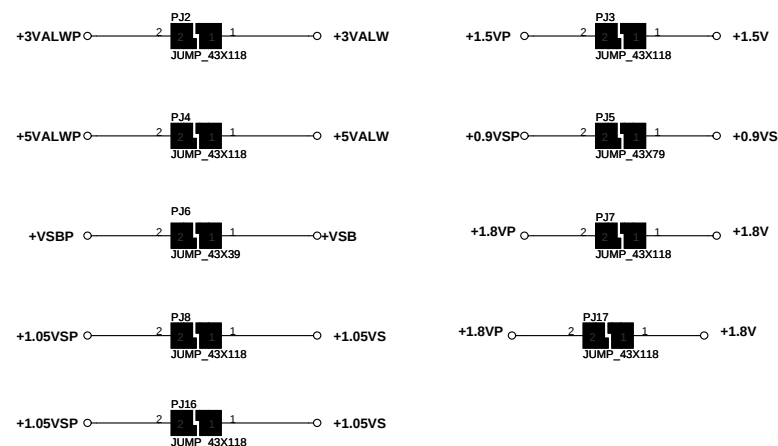
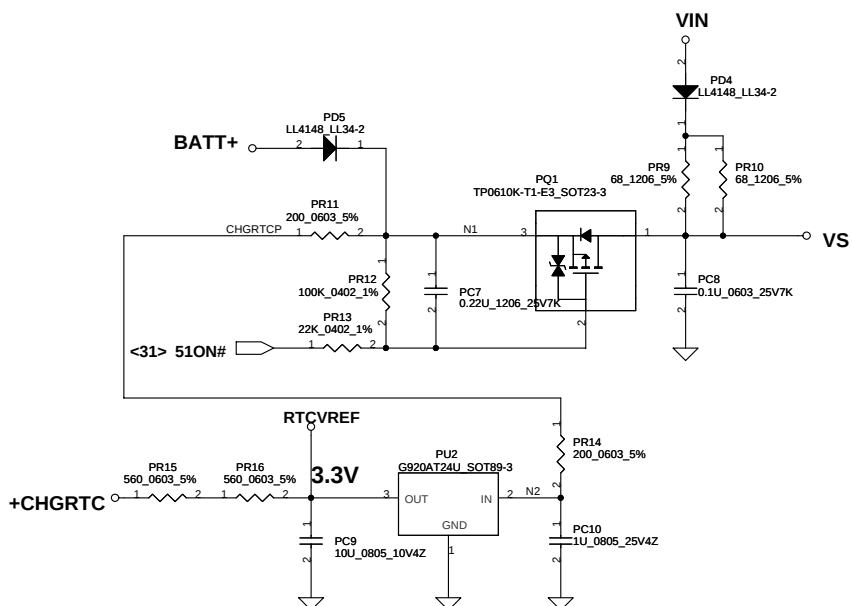
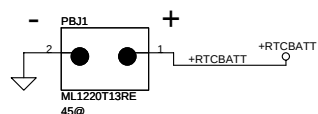


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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	401590	Rev D
				Date	Wednesday, July 30, 2008	Sheet 34 of 45



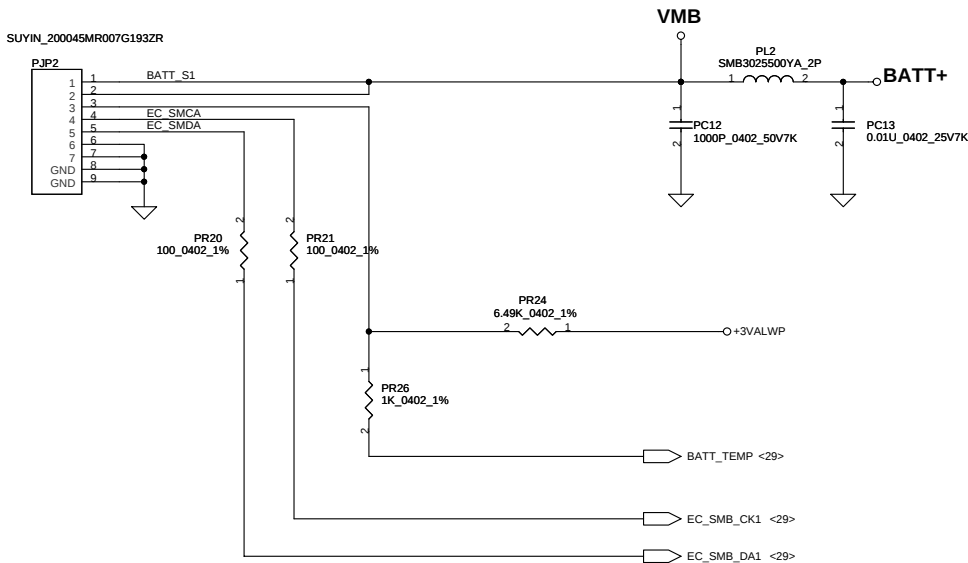
Vin Dectector

	Min.	Typ	Max.
H-->L	16.976V	17.525V	17.728V
L-->H	17.430V	17.901V	18.384V

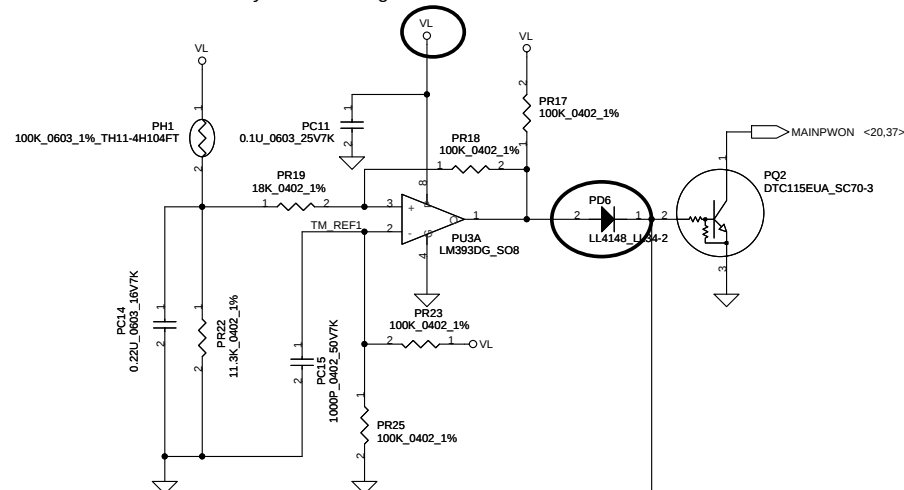


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF READ 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 D
				Customer	401590
				Date:	Wednesday, July 30, 2008
				Sheet	35 of 45

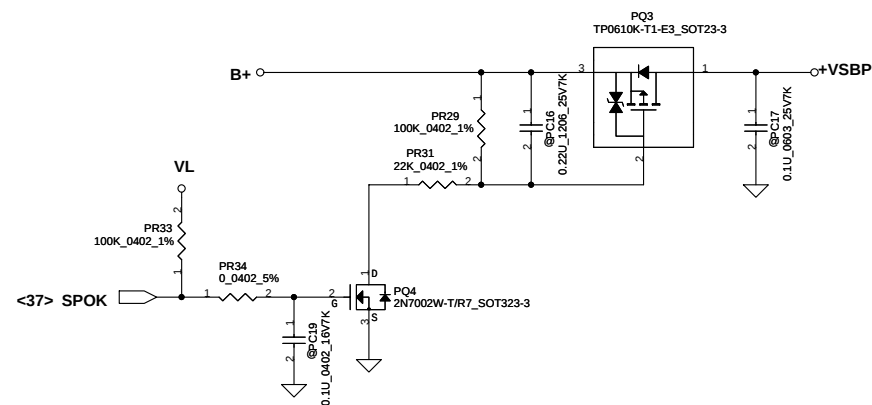
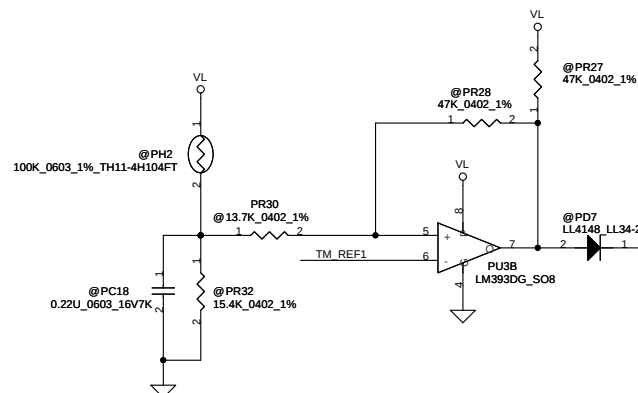
SUYIN_200045MR007G193ZR



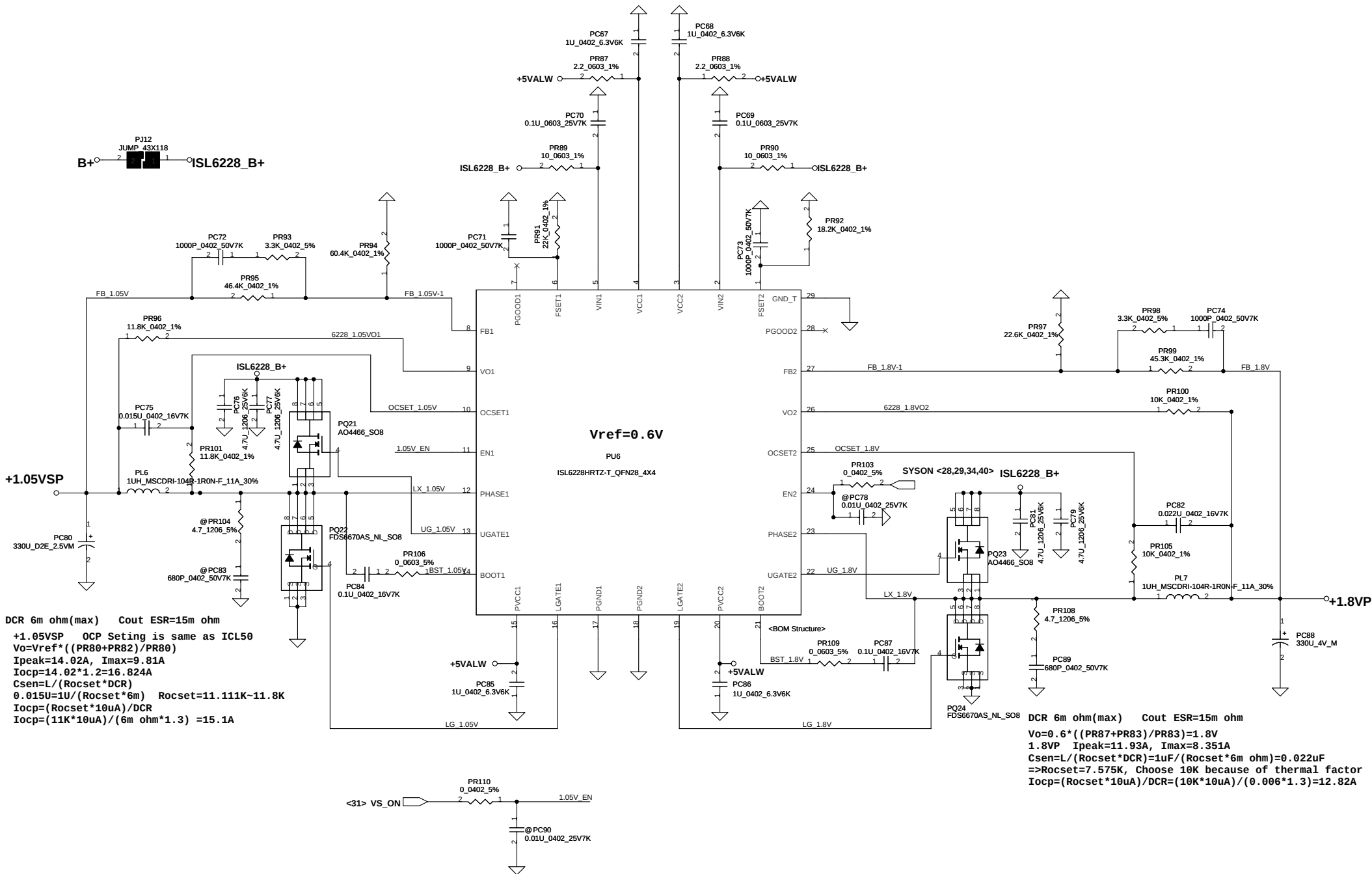
PH1 under CPU botten side :
CPU thermal protection at 90 degree C
Recovery at 70 degree C



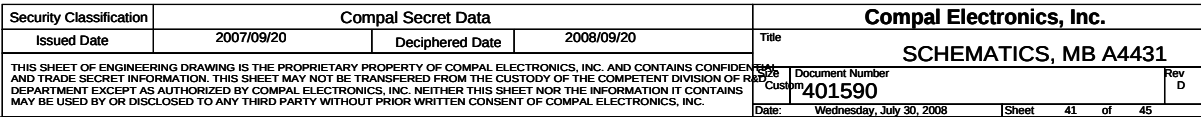
PH2 near main Battery CONN :
BAT. thermal protection at 90 degree C
Recovery at 70 degree C



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
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	401590
				Date	Wednesday, July 30, 2008
				Sheet	36 of 45



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
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 D
				Customer	401590
				Date: Wednesday, July 30, 2008	Sheet 39 of 45



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

Page 1 of 2
for PWR

Item	Fixed Issue	Reason for change	Rev.	PG #	Modify List	Date	Phase
1	ISL6237 can't shutdown while battery only.	ISL6237 can't shutdown while battery only.	0.1	41	Add PQ35 SB906100210 TP0610K.	20071031	EVT
2	Delete PD1	Because we can cost down and B+ has another one.	0.2	39	Delete PD1 SCSB540C080 (S SCH DIO B540C-13-F SMC)	20071115	DVT
3	Change PQ9,PQ10,PQ12 to A04407A	Change PQ9,PQ10,PQ12 to A04407A	0.2	38	Change PQ9,PQ10,PQ12 to A04407A	20080509	DVT
4	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PD2 change to PR197 10K 0402 %1	20080509	DVT
5	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PR2 unpop	20080509	DVT
6	Fixed ACIN signal level	Fixed ACIN signal level	0.3	37	PR4 change to 0 0402 %5	20080509	DVT
7	Change PR65	Cells voltage must over 2.5V	0.4	38	PR65 change to 47K 0402 %1	20080613	PVT
8	Node of PR70 is changed	Node of PR70 is changed	0.5	38	Node of PR70_100K_0402_1% change from VREF to RTCVREF	20080620	PVT
9	Add PC89,PR108	for EMI solution	0.6	39	Add PC89:680P_0402_50V7K PR108:4.7_1206_5%	20080620	PVT
10	Add PC169,PC170 on CPUB+	for EMI solution	0.6	42	Add PC169,PC170(470P_0402_50V7K) on CPUB+	20080620	PVT
11	Add PC171 on B+	for EMI solution	0.6	42	Add PC171(1000P_0402_50V7K) on B+	20080620	PVT
12	Change PR138 ,PR152	for EMI solution	0.6	42	PR138 ,PR152 change to 2.2_0603_1%	20080620	PVT
13	Change PR95	pull up the output voltage from 1.05v to 1.06 v	0.7	39	Change PR95 from 45.3K_0402_1% to 46.4K_0402_1%	20080623	PVT
14	Change PR17,PR18,PR19,PR22	Thermal protection 90oC & Recovery at 70oC	0.8	36	Change PR17 and PR18 to 100K_0402_1% Change PR19 to 18K_0402_1% and PR22 to 11.3K_0402_1%	20080701	PVT
15							
16							
17							
18							
19							
20							
21							
22							
23							

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
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	401590
Date: Wednesday, July 30, 2008				Sheet	43 of 45

A --> B Change List

4/24
<Page 22>
-R57、 R133 10ohm change to 100ohm
-C135、 C204 0.1u change to 1u
for ICH9 USB1.1 issue
<Page 33>
-R551、 R552、 R553、 R554 75ohm change to 1K
for Audio ESD protection

4/30
-Update Power SCH
<Page 4>
-Add R27、 C427
for +5VS drop issue
-R541 pull high 3.3V
<Page 33>
-R486、 R477 75ohm change to 56.2ohm
for AUDIO D-A HP FSOV

5/2
-Bluetooth USBP5P/5N change to USBP7P/7N

5/5
-Modify LED test value
-Add 51@、 NC@、 GL@

5/6
-Update Power SCH
<Page 25>
-R290 change to L47(SM010014520)
for EMI

5/7
-add BT@、 GM@

B --> C Change List

6/25
<Page 16>
-C301、 C296 33p change to 27p
for RTC issue

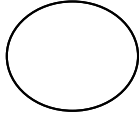
C --> Pre MP Change List

7/14
<Page 16>
-U31 SA00002Q830(QU37) change SA00002Q810(QU56)

7/28
-update Power SCH

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Title	SCHEMATICS, MB A4431
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number 401590
				Date	Wednesday, July 30, 2008
				Sheet	44 of 45

ZZZ



PCB KAWE0 LA-4431P LS-4391P/4392P/4393P

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

Compal Electronics, Inc.			
Title SCHEMATICS, MB A4431			
Size A	Document Number 401590		Rev D
Date:	Wednesday, July 30, 2008	Sheet	45 of 45