

Compal Confidential

Fortworth Bantias EAL20 LA-2462 Schematic

uFC-PGA Dothan / Montara-GM+
M11P-128M VRAM / ICH4-M

2004-08-12

REV: 0.1

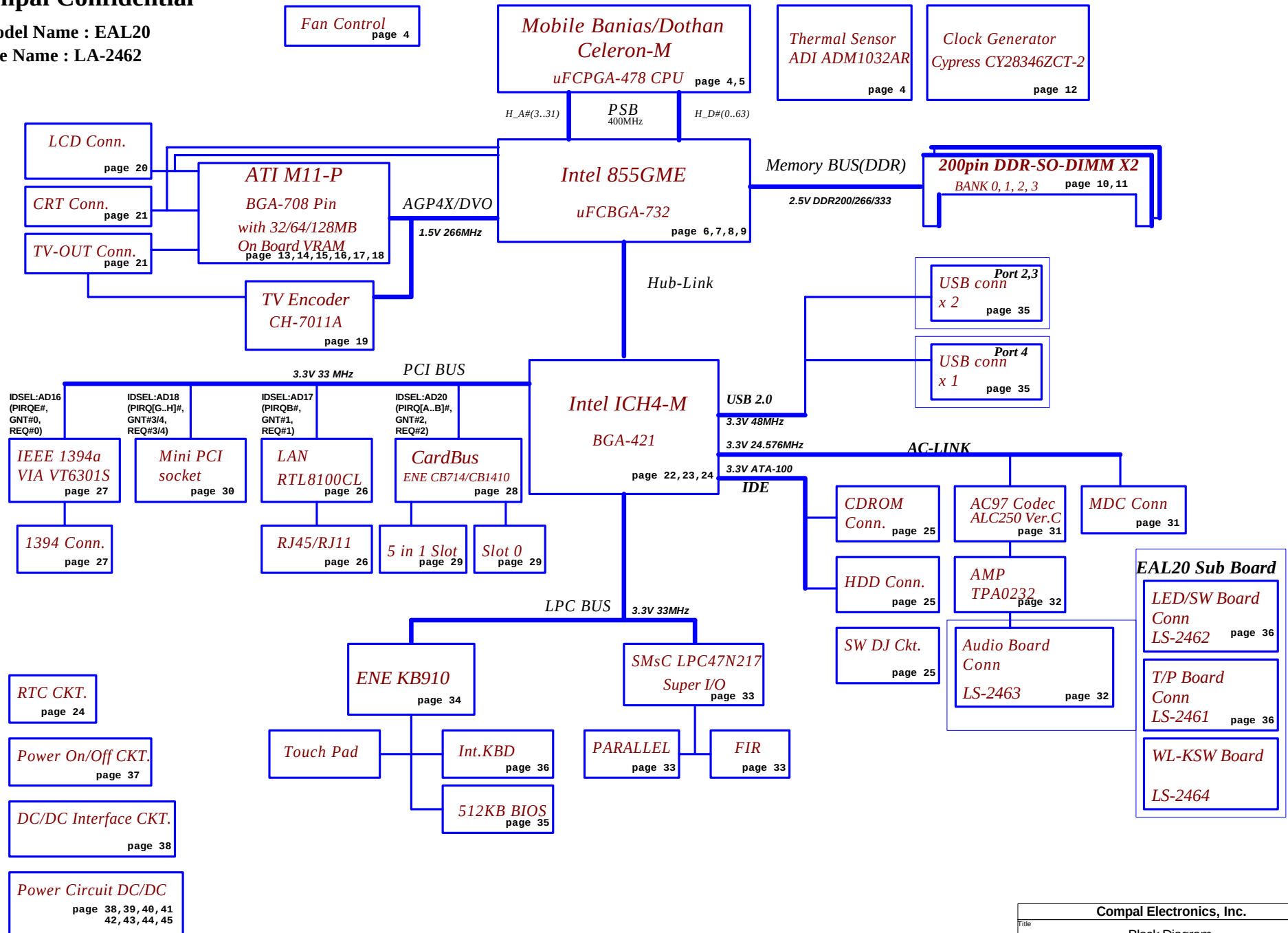
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.			
Title		Cover Sheet	
Size	Document Number		Rev
	EAL20 LA-2462		0.1
Date:	Friday, September 17, 2004	Sheet	1 of 47

Compal Confidential

Model Name : EAL20

File Name : LA-2462



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.			
Block Diagram			
Title	Document Number	Rev	0.1
EAL20 LA-2462			
Date	Friday, September 17, 2004	Sheet	2 of 47

Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	NA	NA	NA
B+	AC or battery power rail for power circuit	NA	NA	NA
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VCCP	1.05V rail for Processor I/O	ON	OFF	OFF
+1.25VS	1.25V switched power rail for DDR Vtt	ON	OFF	OFF
+VGA_CORE	1.2V/1.0V switched power rail for VGA core power	ON	OFF	OFF
+1.35VS	1.35V switched power rail for GMCH core power	ON	OFF	OFF
+1.5VALW	1.5V always on power rail	ON	ON	ON*
+1.5VS	1.5V switched power rail for AGP interface	ON	OFF	OFF
+1.8VS	1.8V switched power rail for CPU PLL & Hub-Link	ON	OFF	OFF
+2.5V	2.5V power rail for system DDR	ON	ON	OFF
+2.5VS	2.5V power rail for VGA DDR	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V switched power rail	ON	ON	OFF
+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
+12VALW	12V 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.

ICH4-M I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 X
DDR SO-DIMM 1	A2	1 0 1 0 0 0 1 X
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 X

KB910 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 CPU THERMAL MONITOR	98H	1 0 0 1 1 0 0 X b
SM2 ALC250 AUDIO CODEC	00H	0 0 0 0 0 0 0 X b

External PCI Devices

DEVICE	PCI Device ID	IDSEL #	REQ/GNT #	PIRQ
1394	D0	AD16	0	E
LAN	D1	AD17	1	F
CARD BUS	D4	AD20	2	A
SIN1	D4	AD20	2	B
Mini-PCI	D2	AD18	3,4	G,H
AGP BUS	N/A	AGP_DEVSEL#	N/A	A

Symbol note:

 :means digital ground.
 :means analog ground.
 @ :means reserved.

Fortworth Baniias Comparison Table

Item	* Descrite	UMA	Page
VGA	ATI M11P	UMA	13 ~ 16
VRAM	128MB/64MB	NA	13 ~ 14
TV Encoder	NA	CH7011A	19

Board ID Table for AD channel

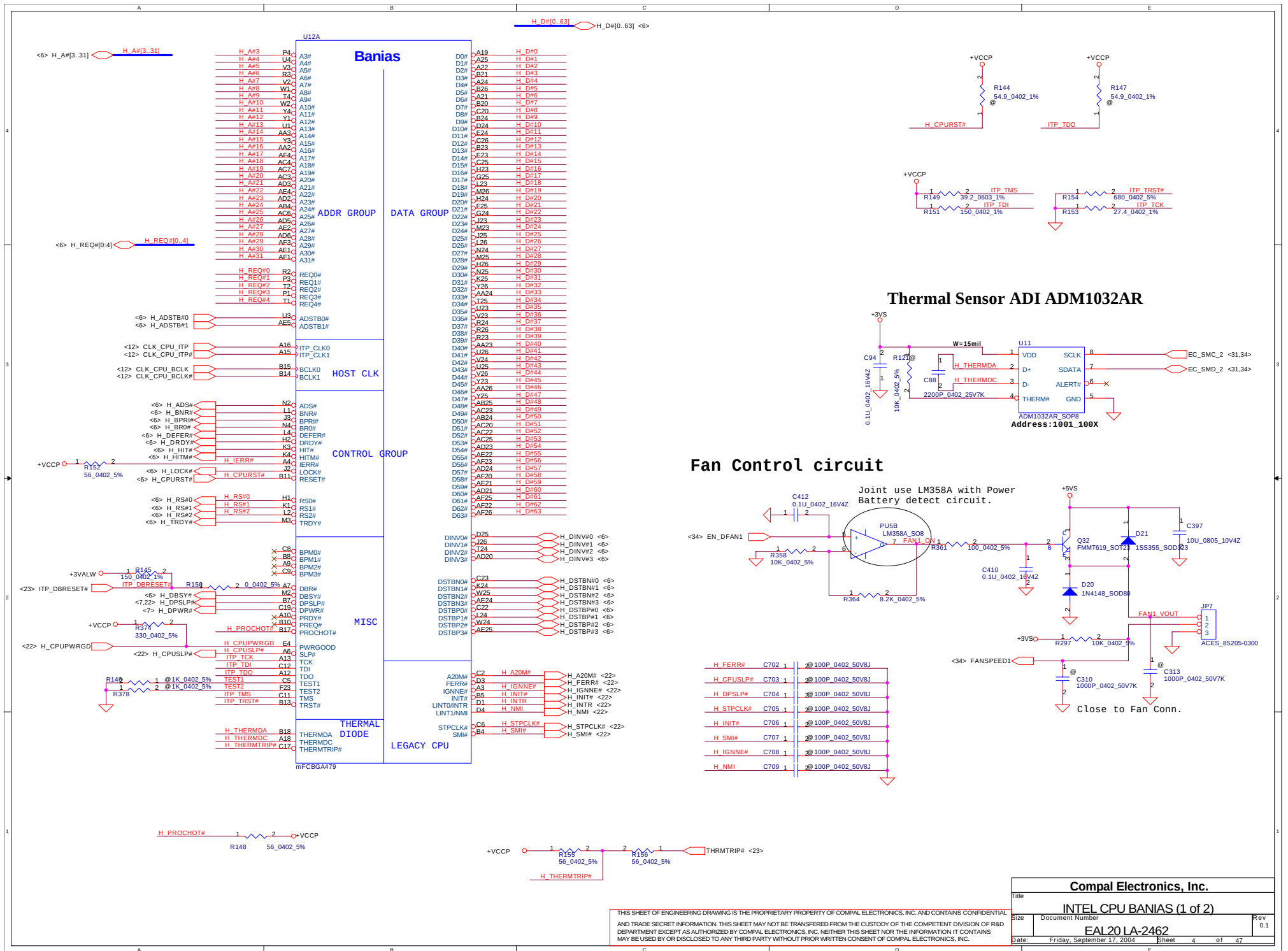
Vcc	3.3V +/- 5%			
Ra	10K +/- 5%			
BID/PID	Rb/Rc	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	1.412 V	1.486 V	1.560 V
2	18K +/- 5%	2.015 V	2.121 V	2.227 V
3	33K +/- 5%	2.406 V	2.533 V	2.659 V
4	56K +/- 5%	2.660 V	2.800 V	2.940 V
5	NC	3.135 V	3.300 V	3.465 V

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

Compal Electronics, Inc.

Title	Notes List		
Size	Document Number	Rev	
	EAL20 LA-2462	0.1	
Date:	Friday, September 17, 2004	Sheet	3 of 47

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.



Dothan VCCA update(WW45 2003)
Dothan B-Step support 1.5V only for VCCA

Resistor placed within
0.5" of CPU pin.Trace
should be at least 25
mils away from any
other toggling signal.

Resistor placed within
0.5" of CPU pin.Trace
should be at least 25
mils away from any
other toggling signal.

Banias

POWER, GROUND, RESERVED SIGNALS AND NC

Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

Compal Electronics, Inc.

INTEL CPU BANIAS (2 of 2)

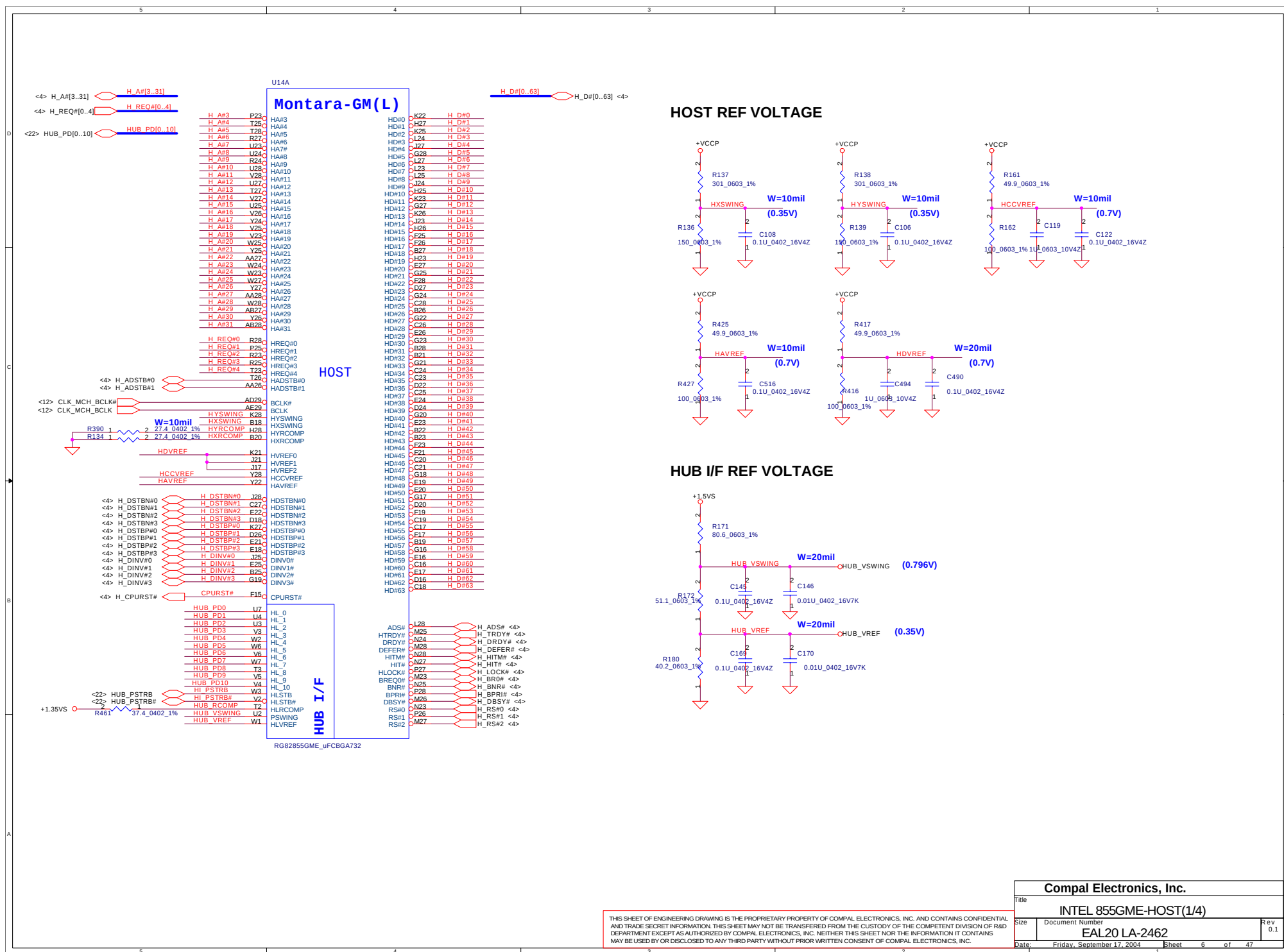
EAL20 LA-2462

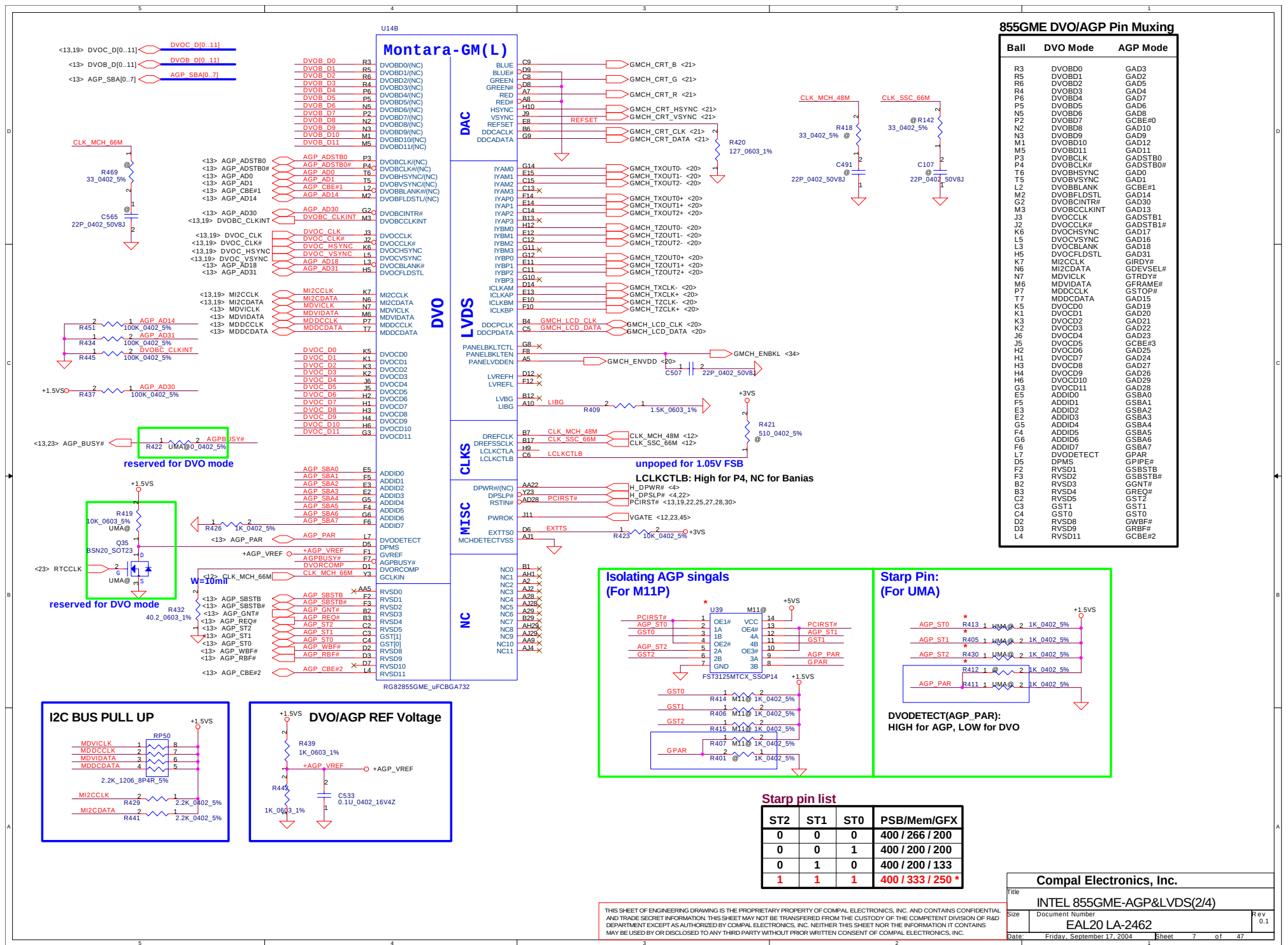
Friday, September 17, 2004

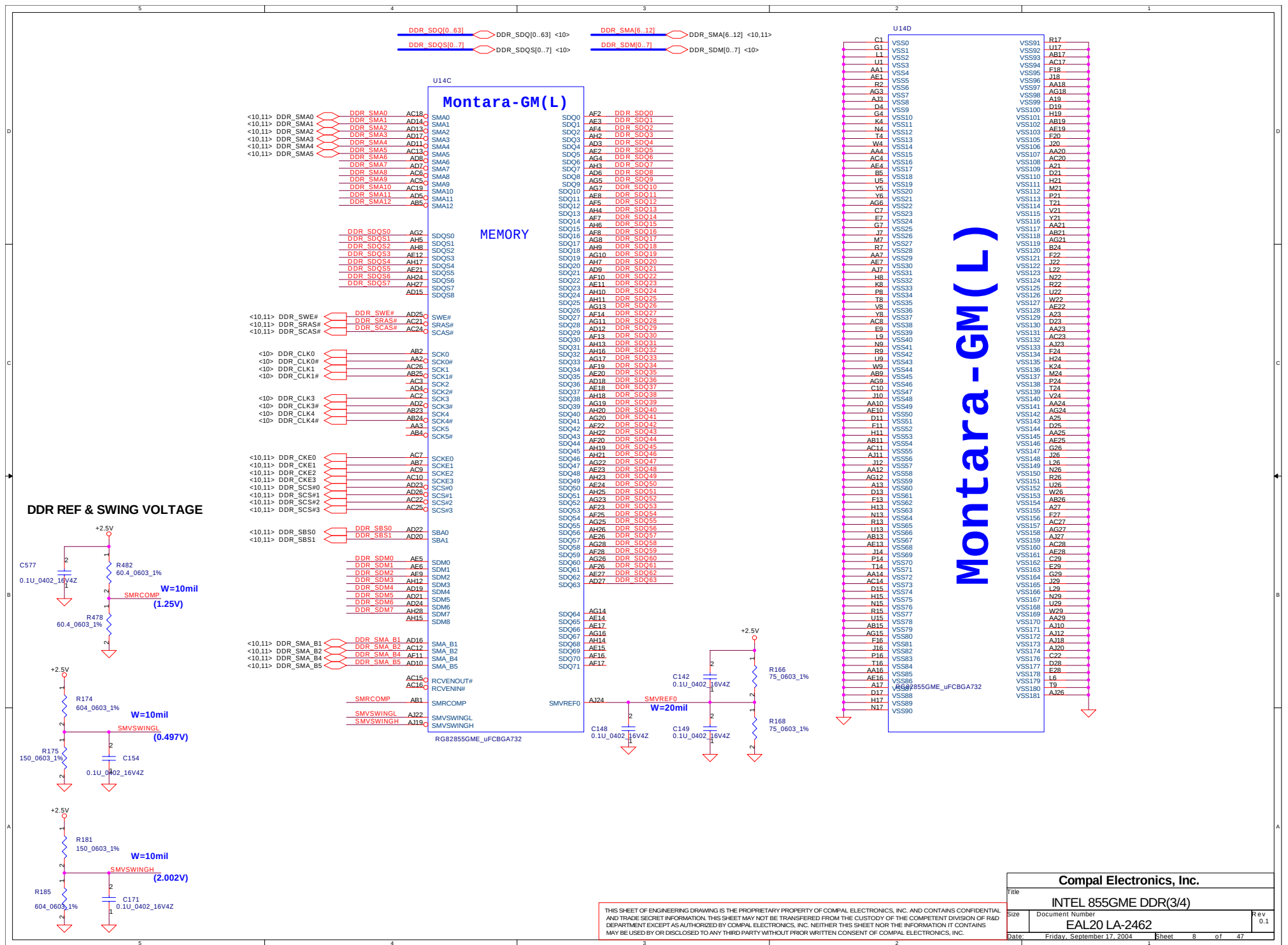
Sheet 5 of 47

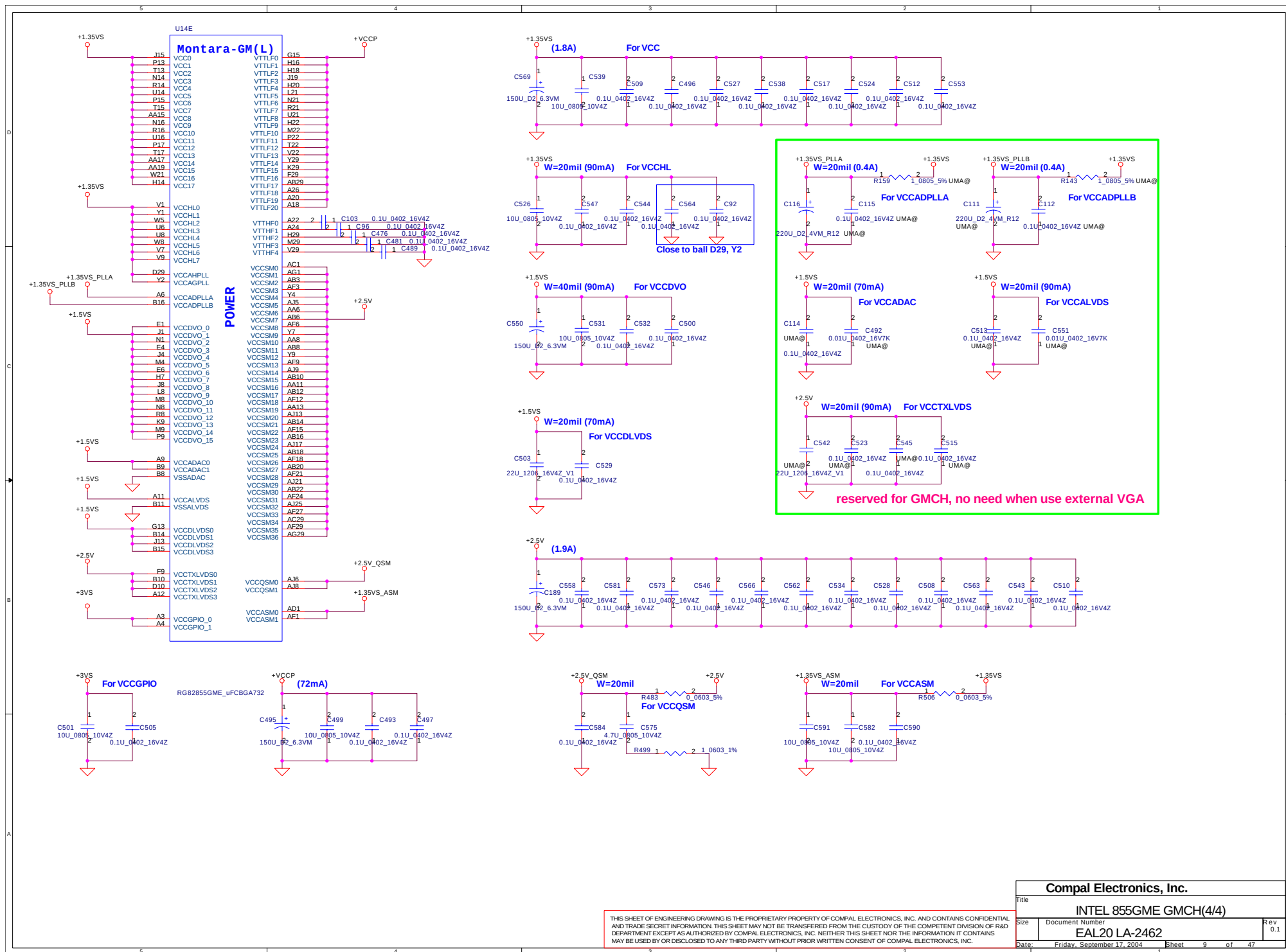
Rev 0.1

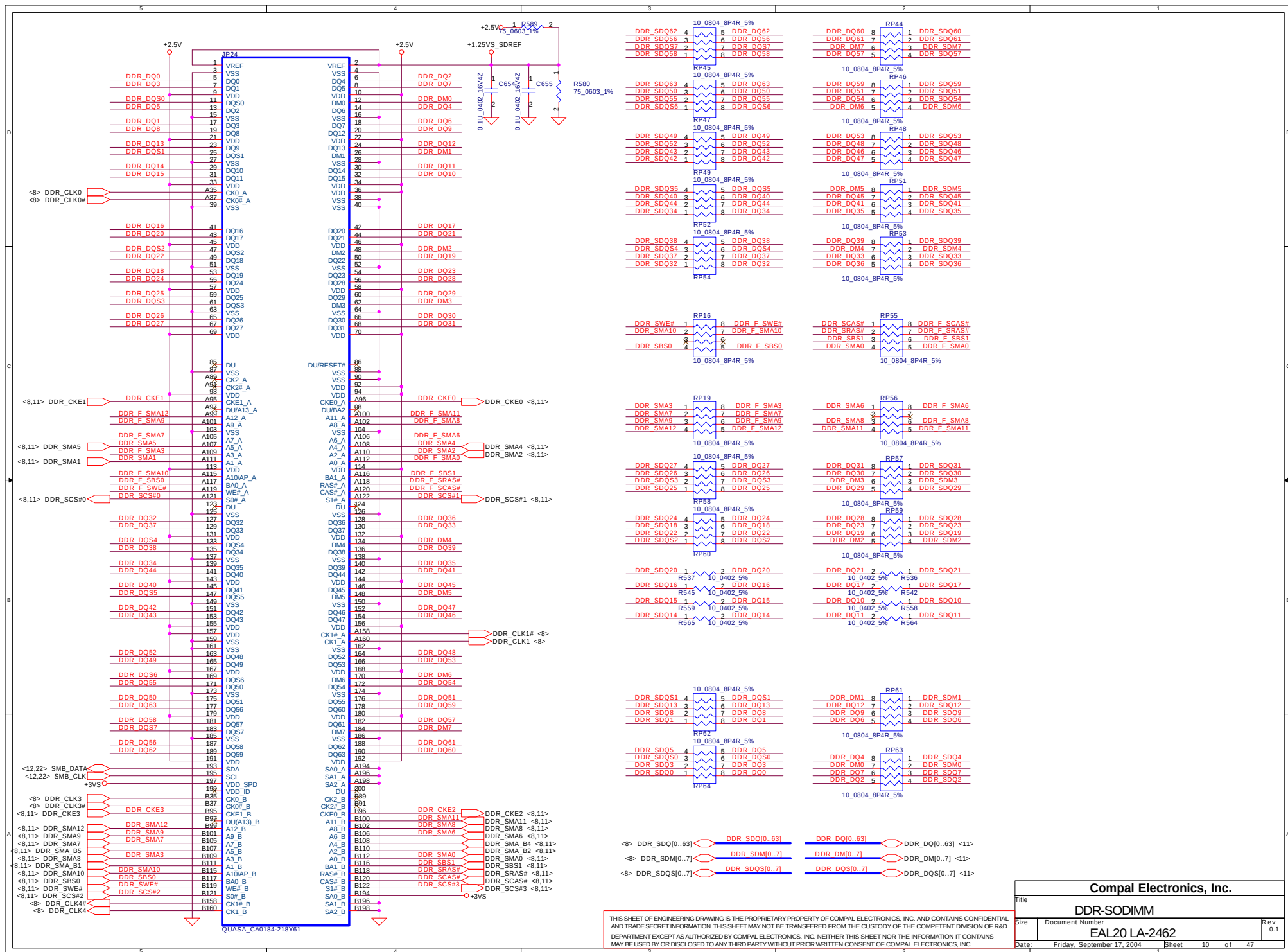
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED FOR ANY PURPOSES OTHER THAN THAT AUTHORIZED BY COMPAL ELECTRONICS, INC.



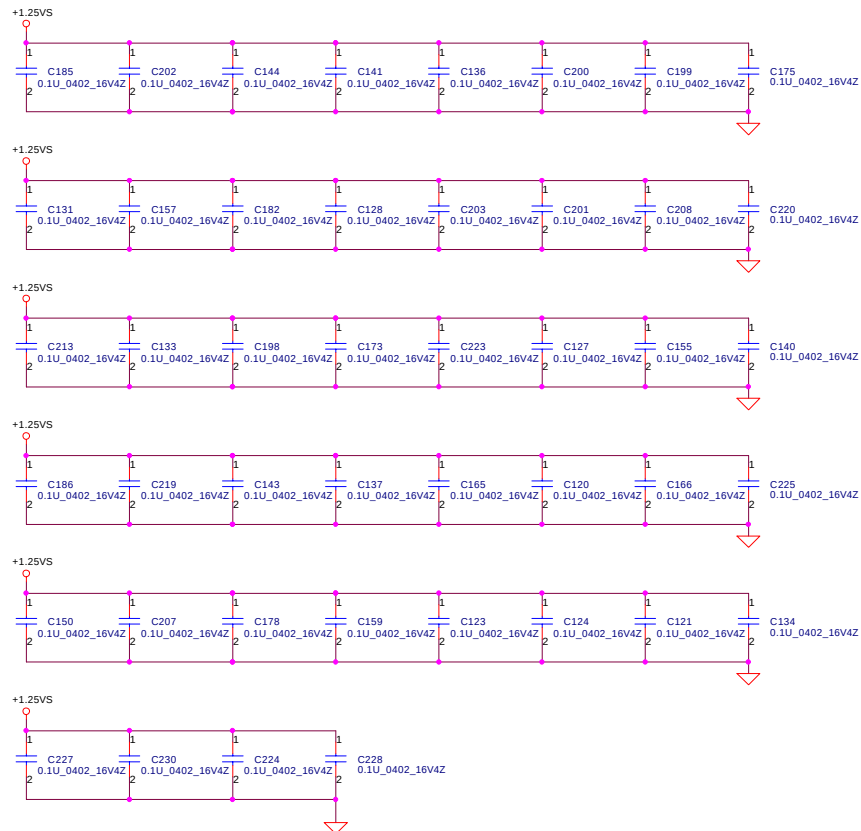




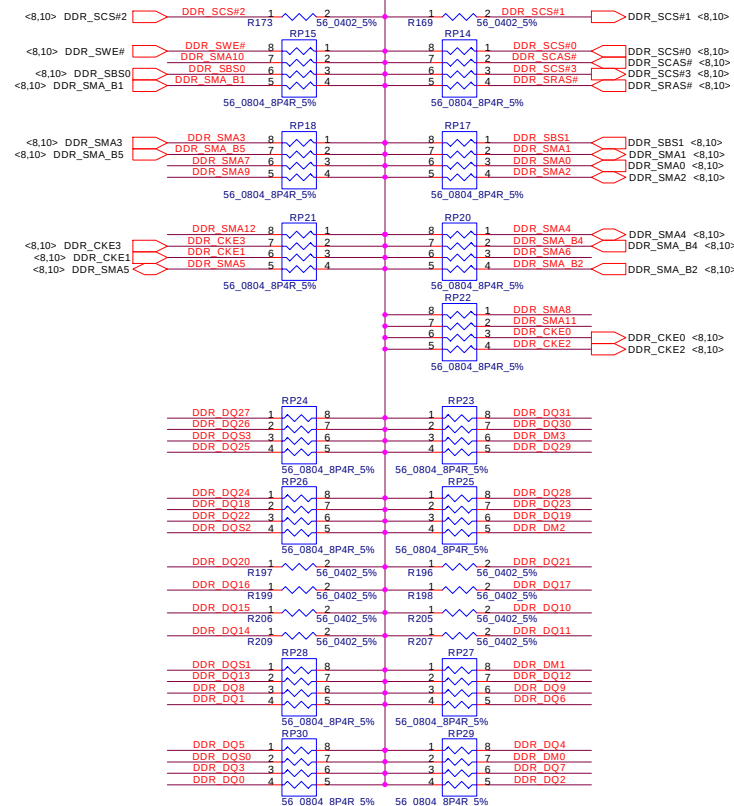




Distribute as close as possible to DDR-SODIMM.



Place one cap close to every 2 pull up resistors termination to +1.25V

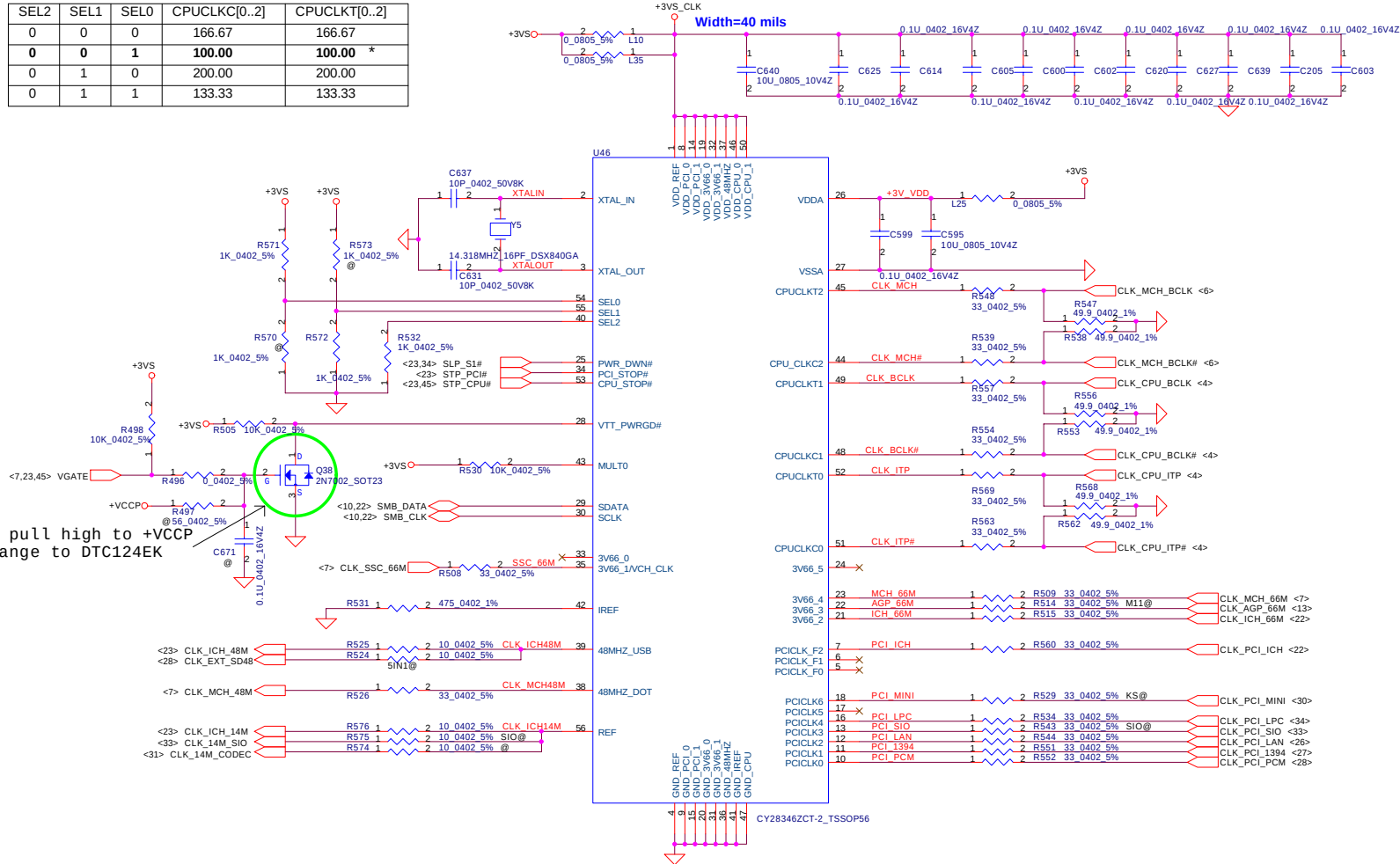


Size	Document Number		
	EAL20 LA-2462		
Date:	Friday, September 17, 2004	Sheet	11 of 47

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.

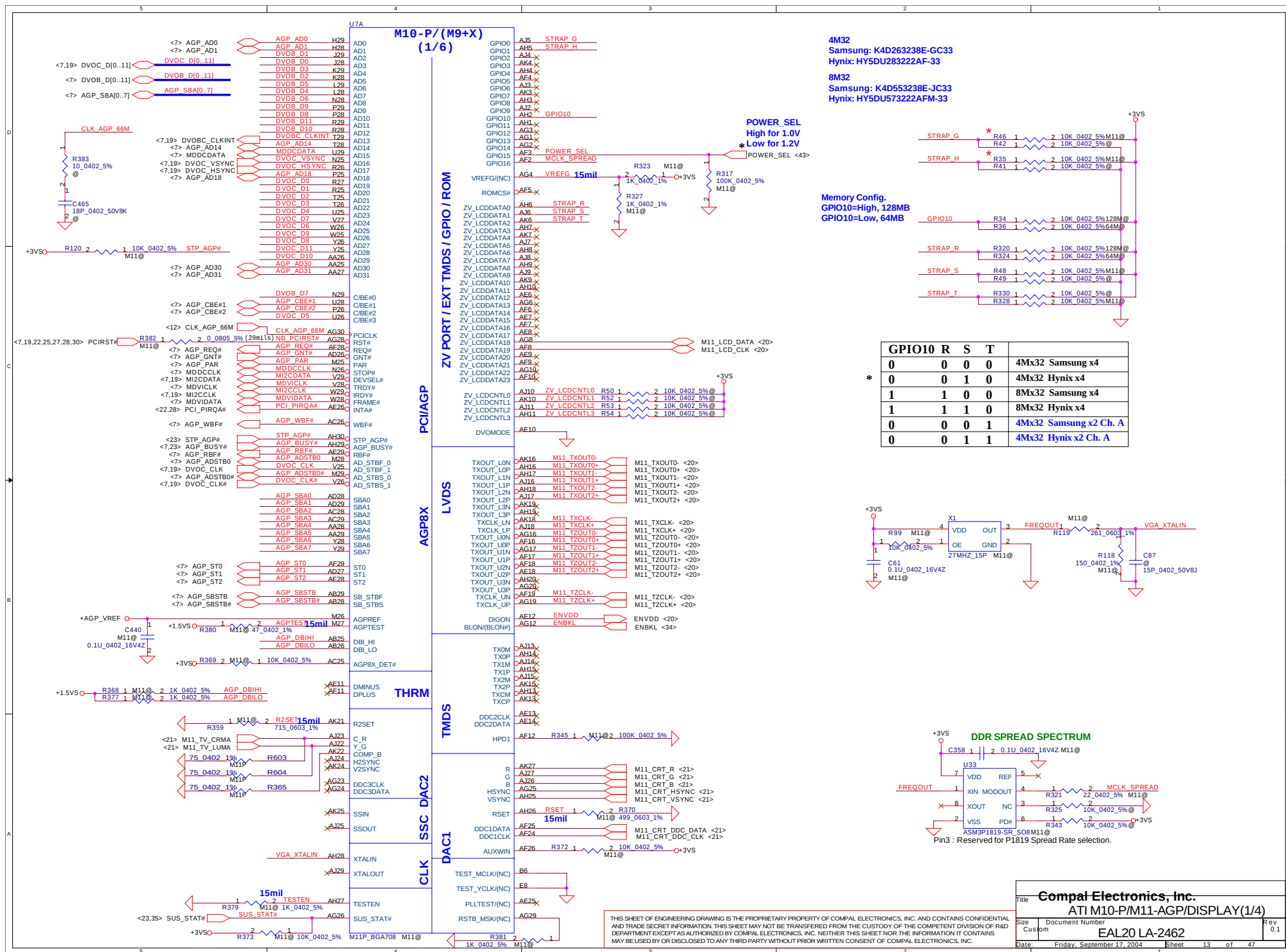
Clock Generator

SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33



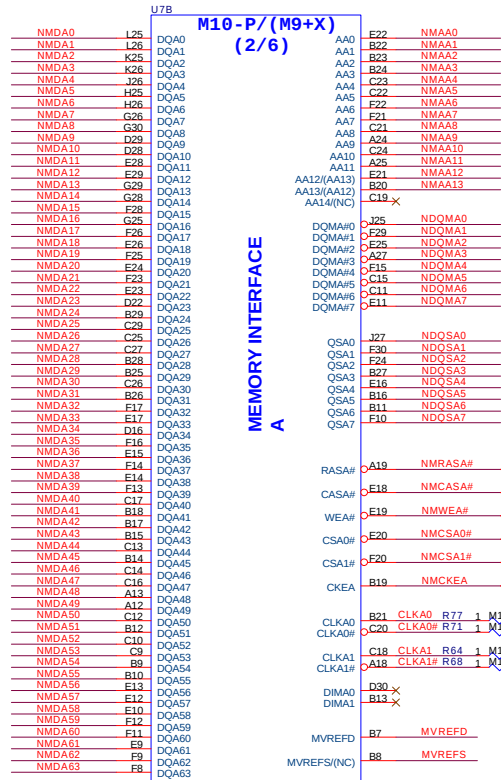
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.			
Clock Generator			
Size	Document Number	Rev	
	EAL20 LA-2462	0.1	
Date	Friday, September 17, 2004	Sheet	12 of 47

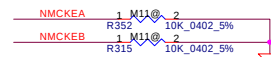
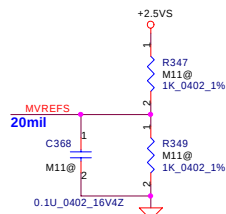
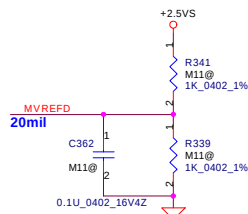


<17> NMDA[0..63]
<17> NMAA[0..13]
<17> NDQMA[0..7]
<17> NDQSA[0..7]

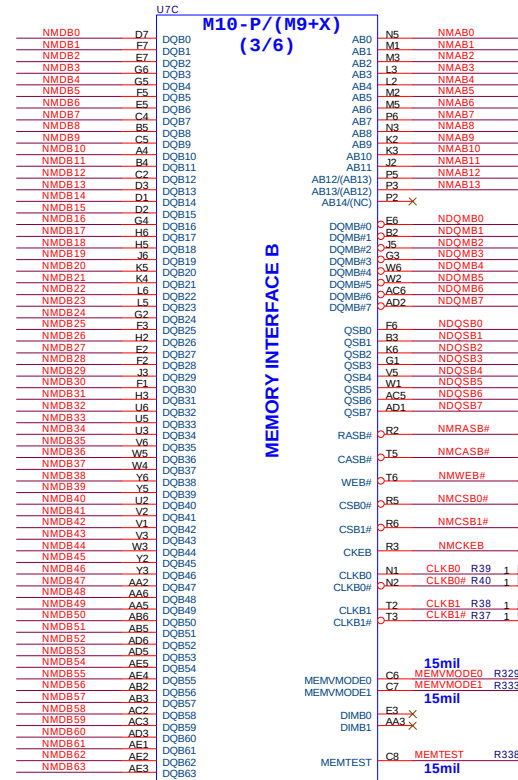
<18> NMDB[0..63]
<18> NMAB[0..13]
<18> NDQMB[0..7]
<18> NDQSB[0..7]



M11P_BGA708 M11@



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.

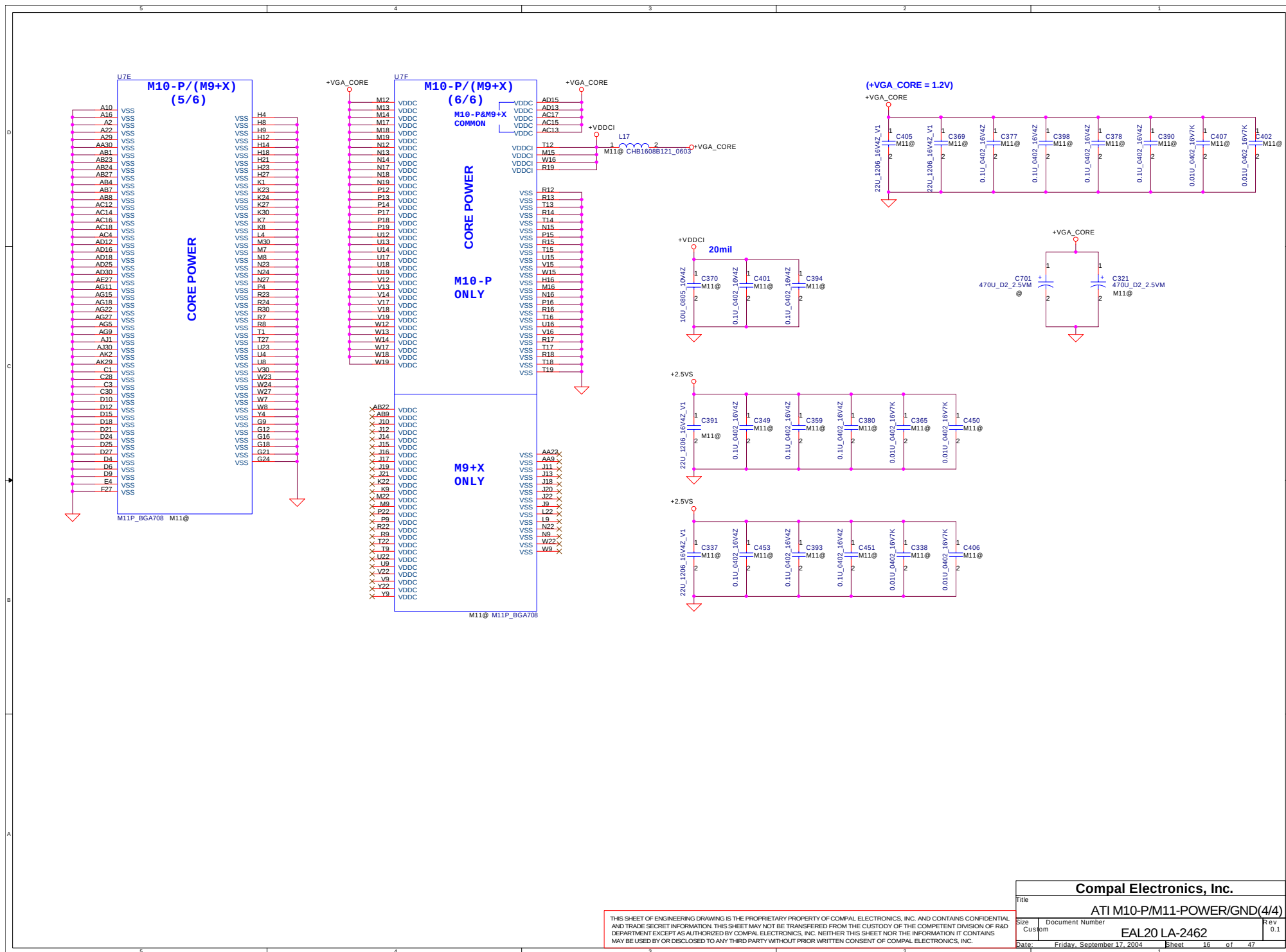


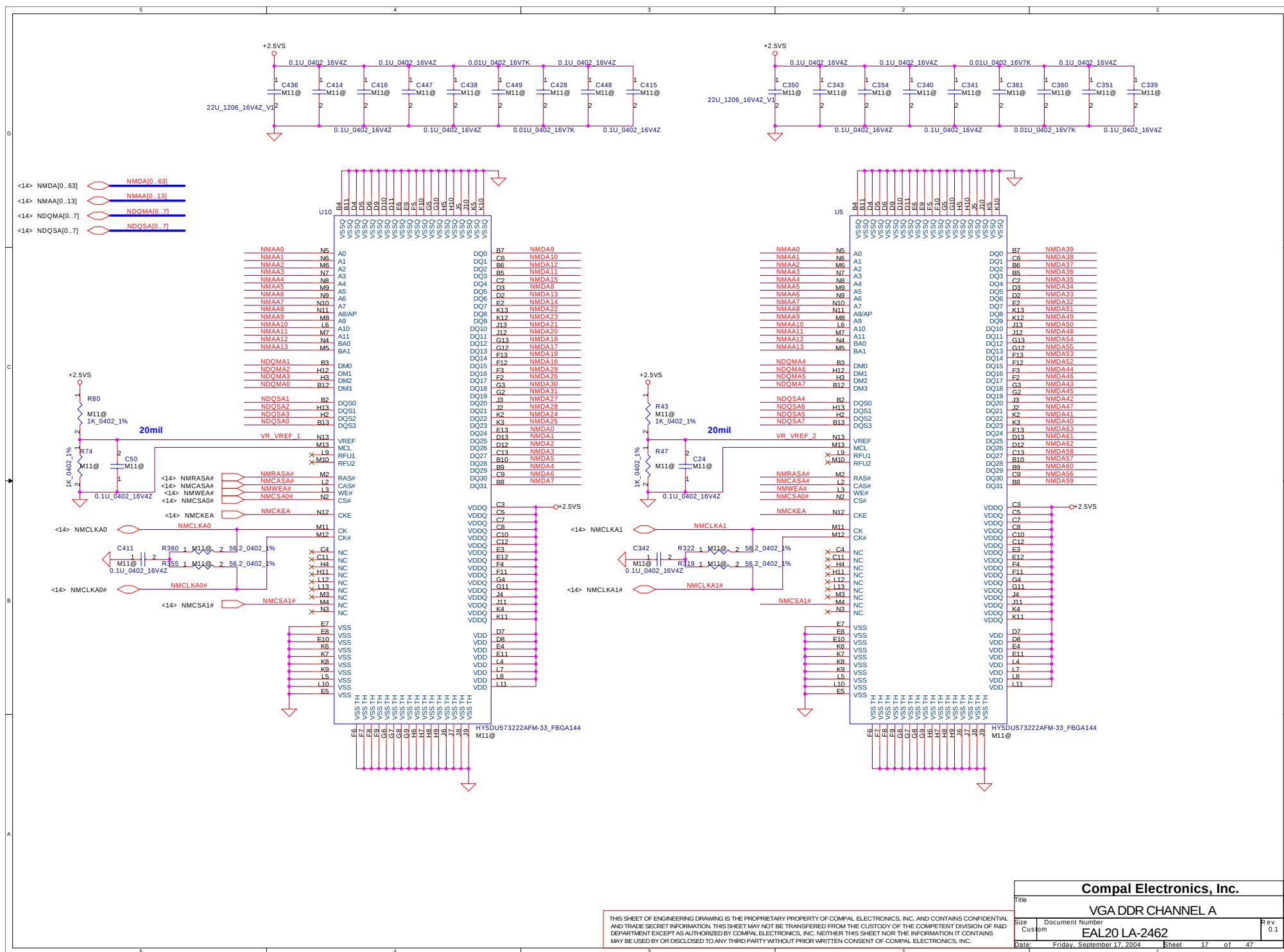
M11P_BGA708 M11@

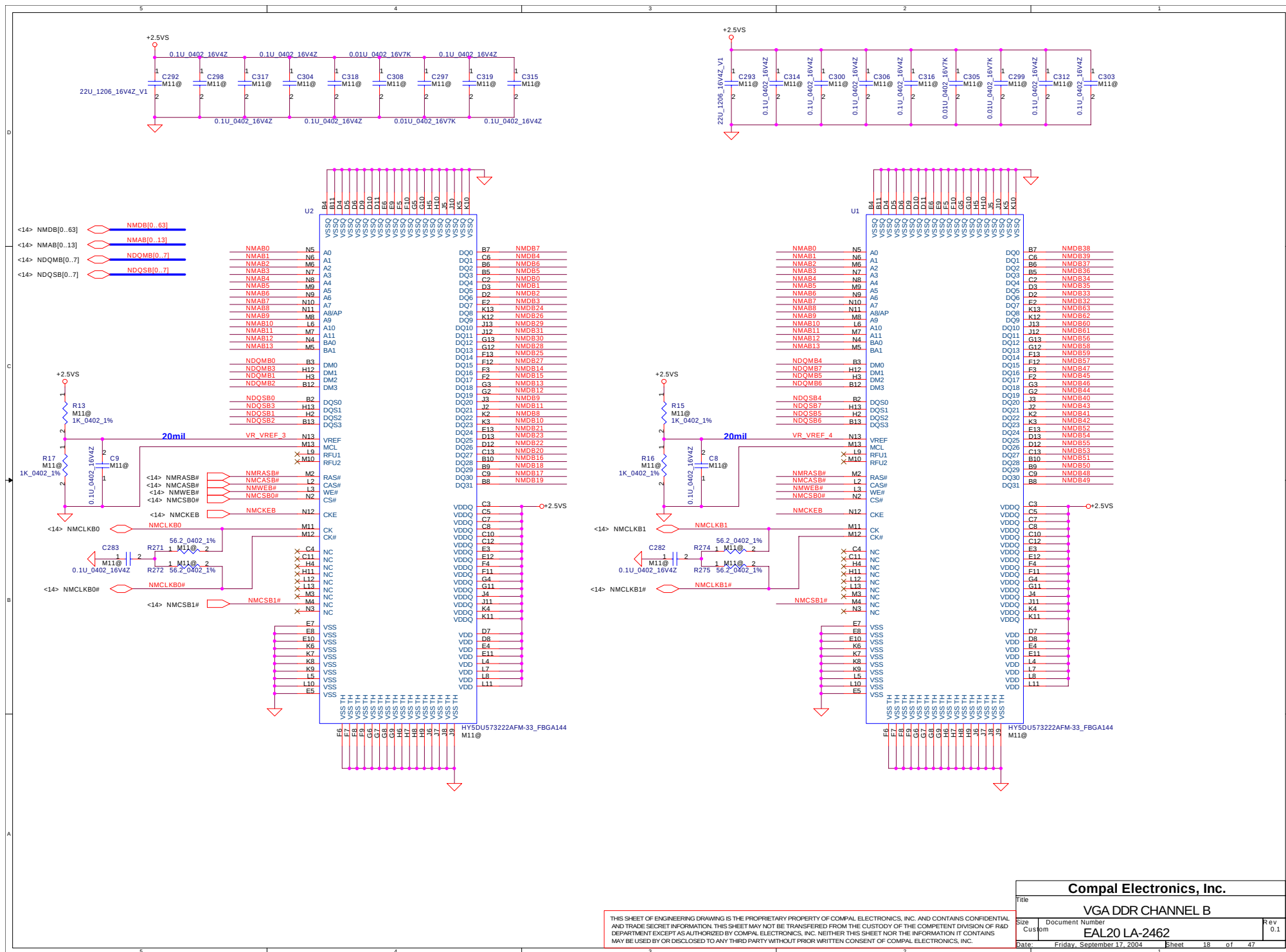
Compal Electronics, Inc.			
Title			
ATI M10-P/M11-MEMORY(2/4)			
Size	Document Number	Rev	
Custom	EAL20 LA-2462	0.1	
Date:	Friday, September 17, 2004	Sheet	14 of 47



change to +2.8V (max:350mA)

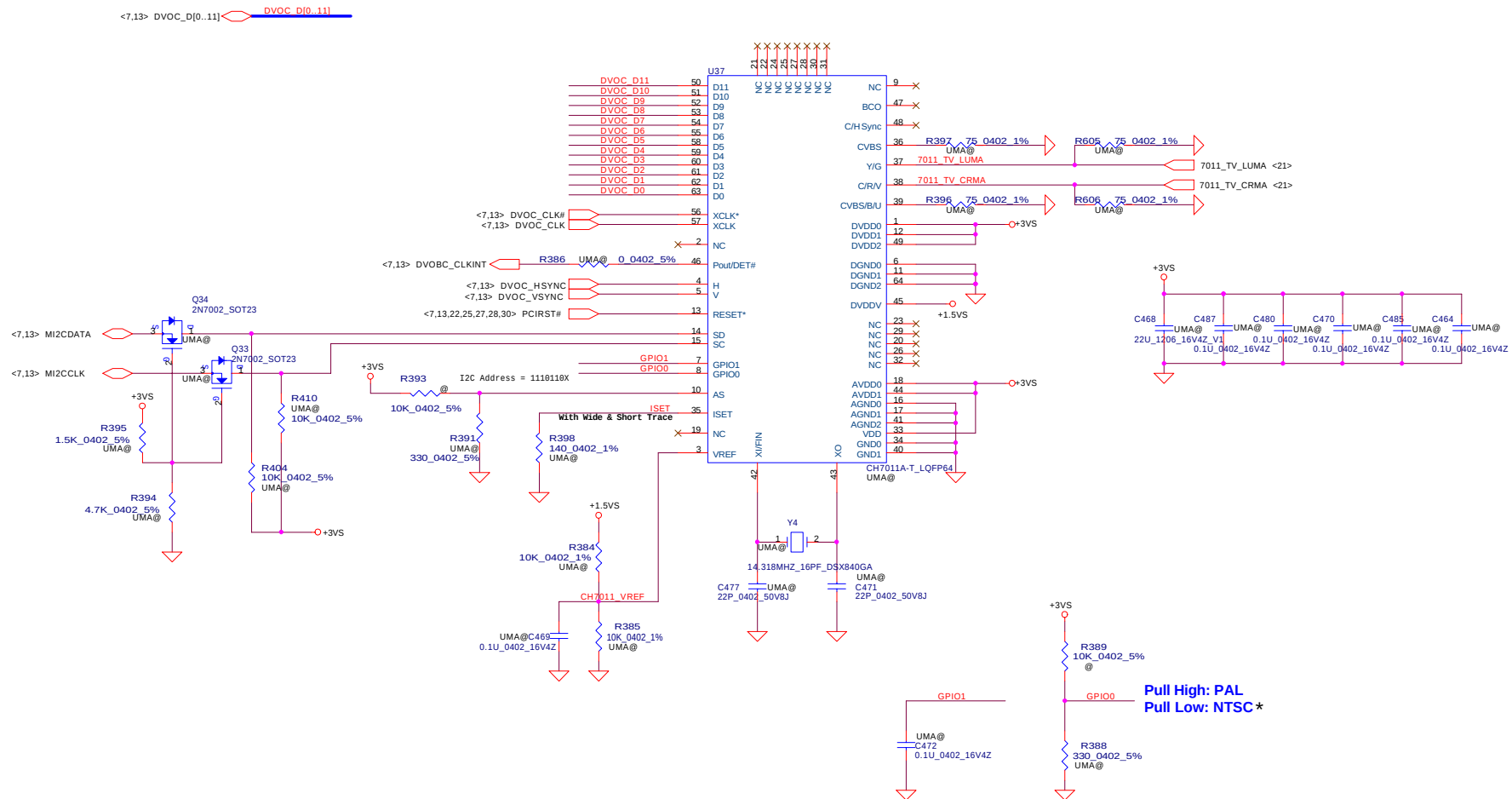






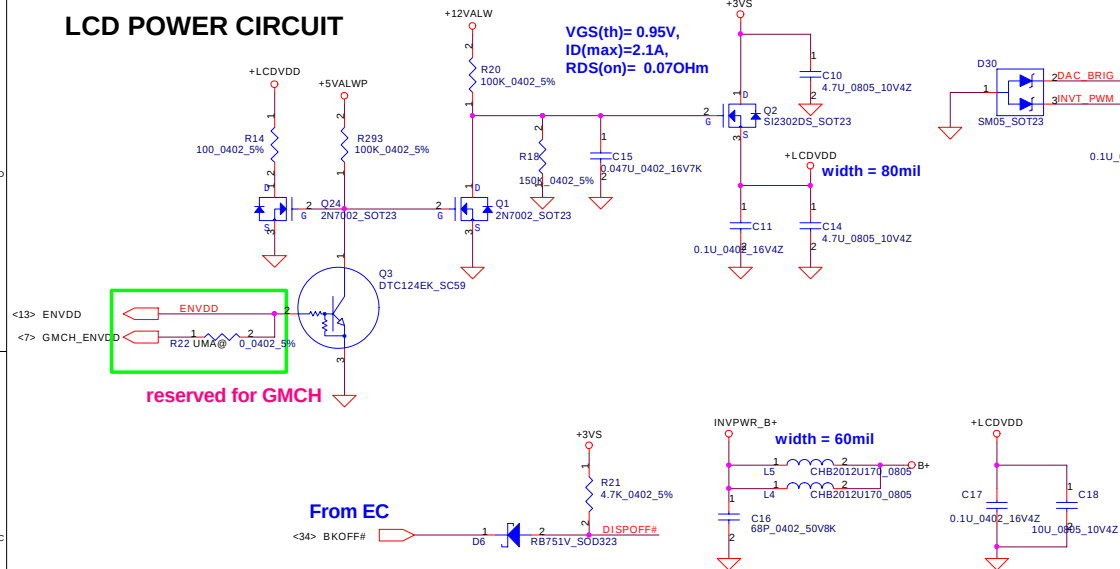
TV Encoder

remove this page when use M11P



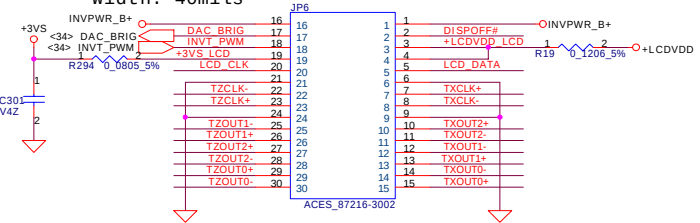
Pull High: PAL
Pull Low: NTSC*

LCD POWER CIRCUIT



LCD CONN.

Width: 40mils

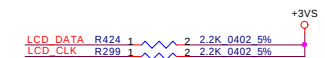


<13> M11_TXOUT0+	M11_TXOUT0+	R266	1	M11_0	2	0	0.402	5%	TXOUT0+
<13> M11_TXOUT0+	M11_TXOUT0+	R267	1	M11_0	2	0	0.402	5%	TXOUT0+
<13> M11_TXOUT1+	M11_TXOUT1+	R264	1	M11_0	2	0	0.402	5%	TXOUT1+
<13> M11_TXOUT1+	M11_TXOUT1+	R265	1	M11_0	2	0	0.402	5%	TXOUT1+
<13> M11_TXOUT2+	M11_TXOUT2+	R263	1	M11_0	2	0	0.402	5%	TXOUT2+
<13> M11_TXOUT2+	M11_TXOUT2+	R262	1	M11_0	2	0	0.402	5%	TXOUT2+
<13> M11_TXCLK+	M11_TXCLK+	R261	1	M11_0	2	0	0.402	5%	TXCLK+
<13> M11_TXCLK+	M11_TXCLK+	R260	1	M11_0	2	0	0.402	5%	TXCLK+
<13> M11_TZOUT0+	M11_TZOUT0+	R24	1	M11_0	2	0	0.402	5%	TZOUT0+
<13> M11_TZOUT0+	M11_TZOUT0+	R25	1	M11_0	2	0	0.402	5%	TZOUT0+
<13> M11_TZOUT1+	M11_TZOUT1+	R29	1	M11_0	2	0	0.402	5%	TZOUT1+
<13> M11_TZOUT1+	M11_TZOUT1+	R28	1	M11_0	2	0	0.402	5%	TZOUT1+
<13> M11_TZOUT2+	M11_TZOUT2+	R26	1	M11_0	2	0	0.402	5%	TZOUT2+
<13> M11_TZOUT2+	M11_TZOUT2+	R27	1	M11_0	2	0	0.402	5%	TZOUT2+
<13> M11_TZCLK+	M11_TZCLK+	R31	1	M11_0	2	0	0.402	5%	TZCLK+
<13> M11_TZCLK+	M11_TZCLK+	R30	1	M11_0	2	0	0.402	5%	TZCLK+
<13> M11_LCD_DATA		R39	1	M11_0	2	0	0.402	5%	LCD_DATA
<13> M11_LCD_CLK		R22	1	M11_0	2	0	0.402	5%	LCD_CLK

For ATI M11P

Source	Destination	Protocol	Port	Rate	Destination
<7> GMCH_TXOUT0+	GMCH_TXOUT0+	R289	1	UMAC	2 0 0.402 5%
<7> GMCH_TXOUT0+	GMCH_TXOUT0+	R290	1	UMAC	2 0 0.402 5%
<7> GMCH_TXOUT1+	GMCH_TXOUT1+	R287	1	UMAC	2 0 0.402 5%
<7> GMCH_TXOUT1+	GMCH_TXOUT1+	R288	1	UMAC	2 0 0.402 5%
<7> GMCH_TXOUT2-	GMCH_TXOUT2-	R286	1	UMAC	2 0 0.402 5%
<7> GMCH_TXOUT2-	GMCH_TXOUT2-	R285	1	UMAC	2 0 0.402 5%
<7> GMCH_TXCLK-	GMCH_TXCLK-	R284	1	UMAC	2 0 0.402 5%
<7> GMCH_TXCLK+	GMCH_TXCLK+	R283	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT0+	GMCH_TZOUT0+	R308	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT0+	GMCH_TZOUT0+	R309	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT1-	GMCH_TZOUT1-	R304	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT1-	GMCH_TZOUT1-	R305	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT1+	GMCH_TZOUT1+	R302	1	UMAC	2 0 0.402 5%
<7> GMCH_TZOUT2-	GMCH_TZOUT2-	R306	1	UMAC	2 0 0.402 5%
<7> GMCH_TZCLK-	GMCH_TZCLK-	R302	1	UMAC	2 0 0.402 5%
<7> GMCH_TZCLK+	GMCH_TZCLK+	R303	1	UMAC	2 0 0.402 5%
<7> GMCH_LCD_DATA	R282	1	UMAC	2 0 0.402 5%	LCD_DATA
<7> GMCH_LCD_CLK	R301	1	UMAC	2 0 0.402 5%	LCD_CLK

For GMCH

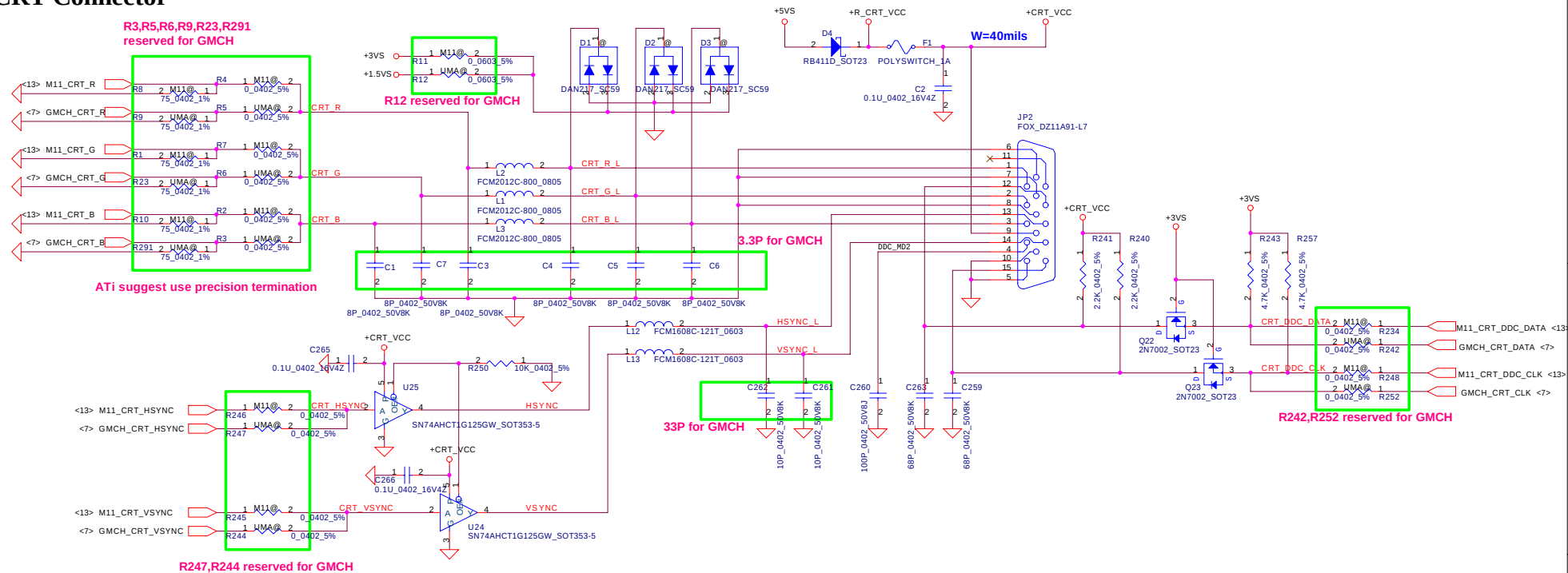


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RICHARDSON ELECTRONIC CORPORATION OR ANY OTHER DIVISION OF RICHARDSON ELECTRONIC CORPORATION WITHOUT THE WRITTEN CONSENT OF RICHARDSON ELECTRONIC CORPORATION. THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

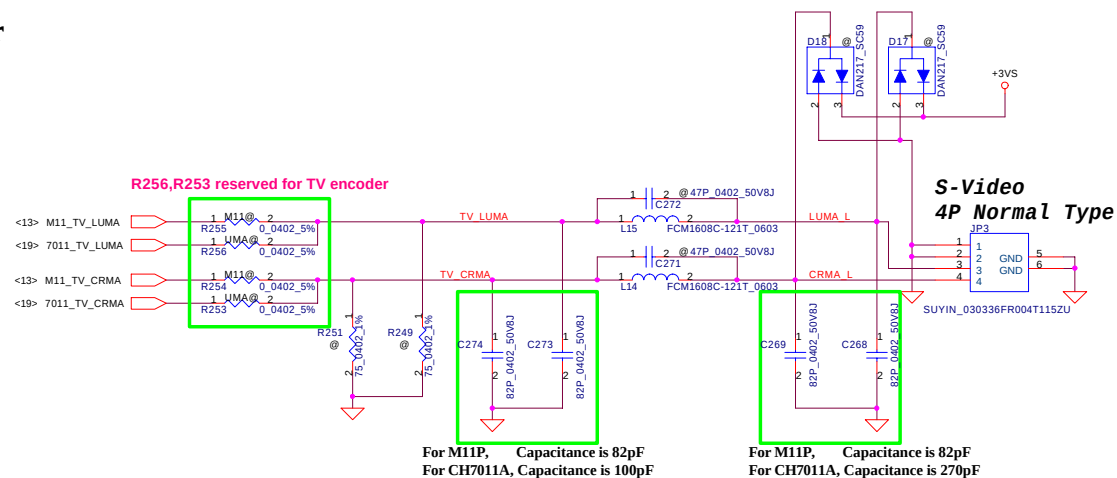
Compal Electronics, Inc.

Title			
LCD CONN			
Size	Document Number		Rev
	EAL20 LA-2462		0.1
Customer			
Date:	Friday, September 17, 2004	Sheet	20 of 47

CRT Connector

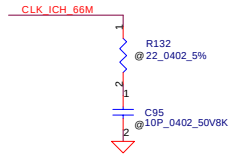
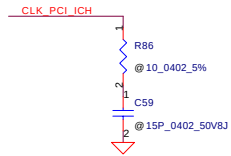


TV-Out Connector

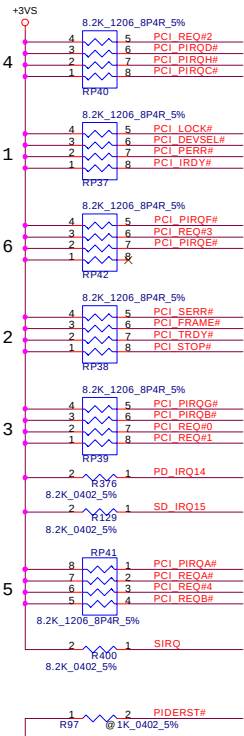


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

Compal Electronics, Inc.			
Title CRT & TV-OUT Connector			
Size	Document Number EAL20 LA-2462		Rev 0.1
Date:	Friday, September 17, 2004		Sheet 21 of 47



PCI Pullups



<26,27,28,30> PCI_AD[0..31] $\longleftrightarrow$ PCI_AD[0..31]

PCI_A00	H5	AD0
PCI_A01	J3	AD1
PCI_A02	H3	AD2
PCI_A03	K1	AD3
PCI_A04	S8	AD4
PCI_A05	J4	AD5
PCI_A06	H4	AD6
PCI_A07	J5	AD7
PCI_A08	K3	AD8
PCI_A09	G2	AD9
PCI_A10	L1	AD10
PCI_A11	G4	AD11
PCI_A12	L2	AD12
PCI_A13	H3	AD13
PCI_A14	L3	AD14
PCI_A15	F5	AD15
PCI_A16	F4	AD16
PCI_A17	N1	AD17
PCI_A18	E5	AD18
PCI_A19	N2	AD19
PCI_A20	E3	AD20
PCI_A21	N3	AD21
PCI_A22	E4	AD22
PCI_A23	M5	AD23
PCI_A24	E2	AD24
PCI_A25	P1	AD25
PCI_A26	E1	AD26
PCI_A27	P2	AD27
PCI_A28	D3	AD28
PCI_A29	R1	AD29
PCI_A30	D2	AD30
PCI_A31	P4	AD31

<26,27,28,30> PCI_CBE#0 $\longleftrightarrow$ PCI_CBE#0
 <26,27,28,30> PCI_CBE#1 $\longleftrightarrow$ PCI_CBE#1
 <26,27,28,30> PCI_CBE#2 $\longleftrightarrow$ PCI_CBE#2
 <26,27,28,30> PCI_CBE#3 $\longleftrightarrow$ PCI_CBE#3

<27> PCI_REQ#0 $\longleftrightarrow$ PCI_REQ#0
 <26> PCI_REQ#1 $\longleftrightarrow$ PCI_REQ#1
 <28> PCI_REQ#2 $\longleftrightarrow$ PCI_REQ#2
 <30> PCI_REQ#3 $\longleftrightarrow$ PCI_REQ#3
 <30> PCI_REQ#4 $\longleftrightarrow$ PCI_REQ#4

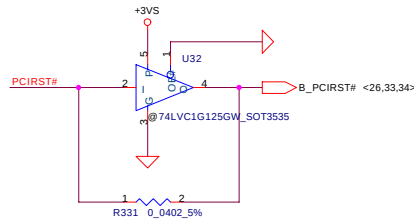
<27> PCI_GNT#0 $\longleftrightarrow$ PCI_GNT#0
 <26> PCI_GNT#1 $\longleftrightarrow$ PCI_GNT#1
 <28> PCI_GNT#2 $\longleftrightarrow$ PCI_GNT#2
 <30> PCI_GNT#3 $\longleftrightarrow$ PCI_GNT#3
 <30> PCI_GNT#4 $\longleftrightarrow$ PCI_GNT#4

<12> CLK_PCI_ICH $\longleftrightarrow$ CLK_PCI_ICH

<26,27,28,30> PCI_FRAME# $\longleftrightarrow$ PCI_FRAME#
 <26,27,28,30> PCI_DEVSEL# $\longleftrightarrow$ PCI_DEVSEL#
 <26,27,28,30> PCI_IRDY# $\longleftrightarrow$ PCI_IRDY#
 <26,27,28,30> PCI_PAR# $\longleftrightarrow$ PCI_PAR#
 <26,27,28,30> PCI_PERR# $\longleftrightarrow$ PCI_PERR#

<7,13,19,25,27,28,30> PCIRST# $\longleftrightarrow$ PCIRST#
 <26,28,30> PCI_SERR# $\longleftrightarrow$ PCI_SERR#
 <26,27,28,30> PCI_STOP# $\longleftrightarrow$ PCI_STOP#
 <26,27,28,30> PCI_TRDY# $\longleftrightarrow$ PCI_TRDY#

<25> PIDERST# $\longleftrightarrow$ PIDERST#
 <25> SIDERST# $\longleftrightarrow$ SIDERST#



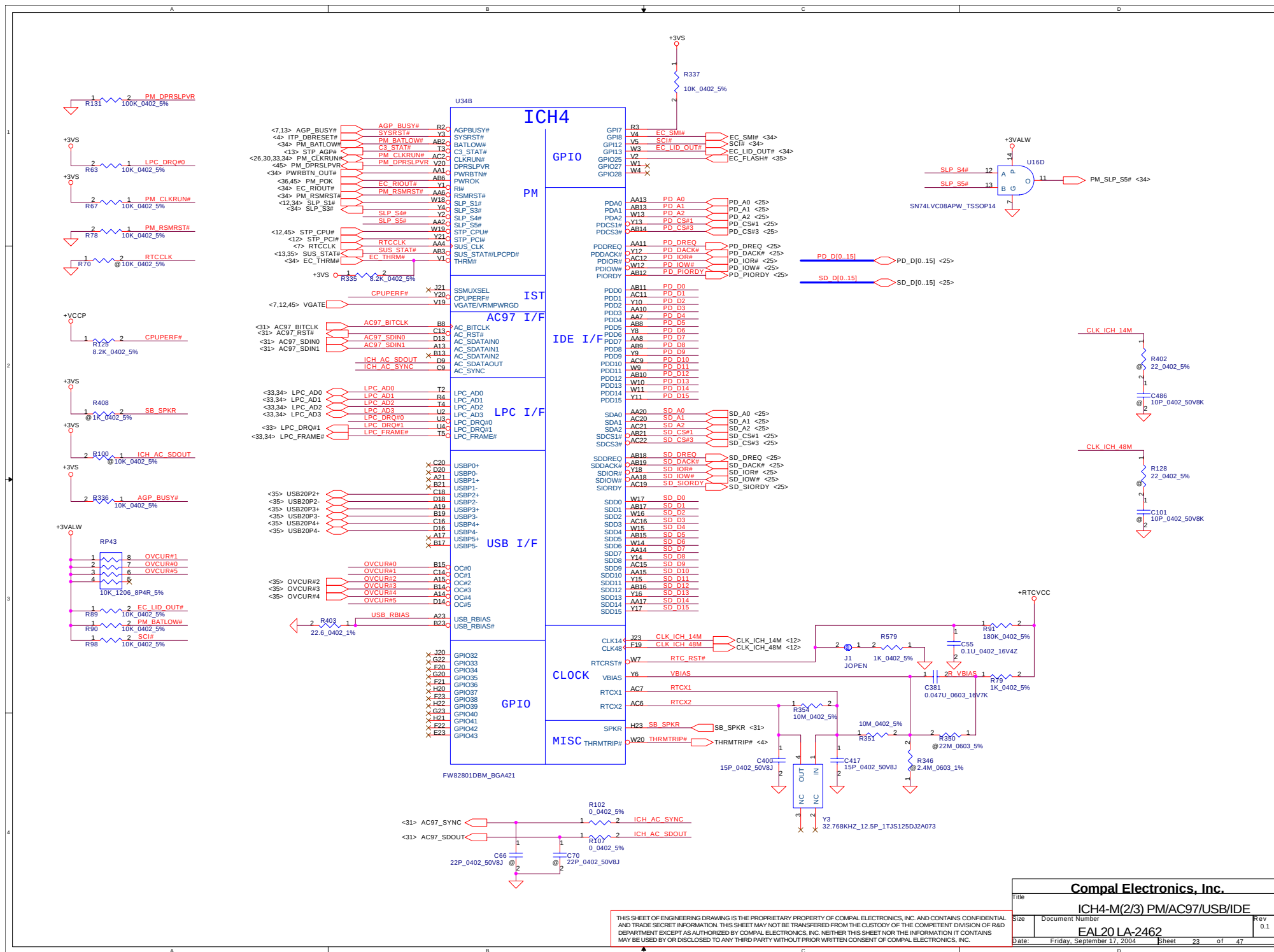
ICH4

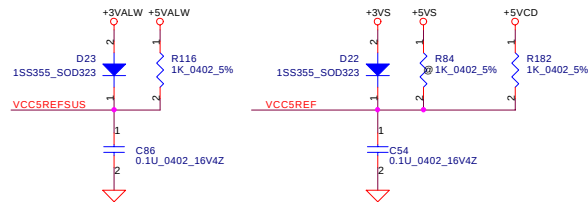
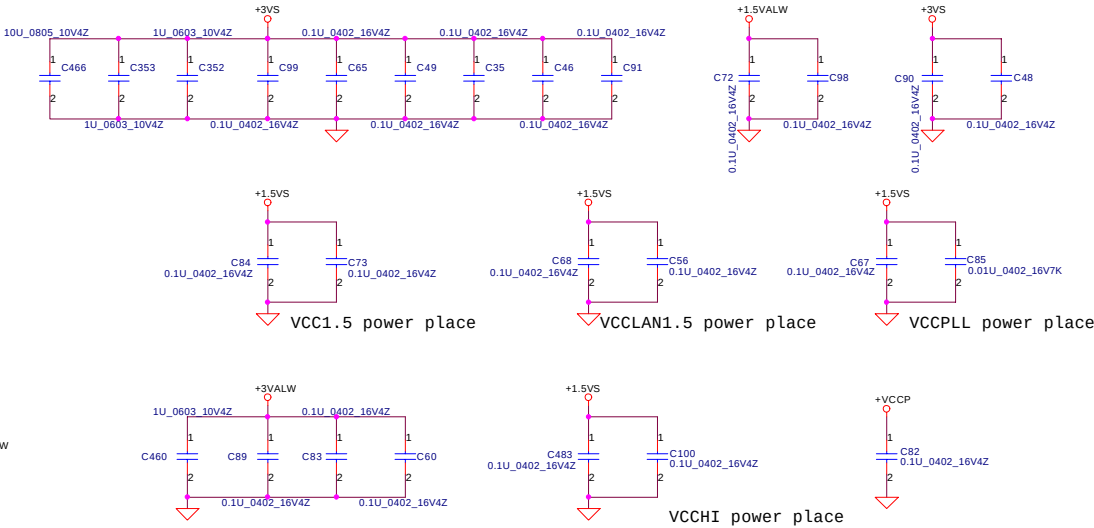
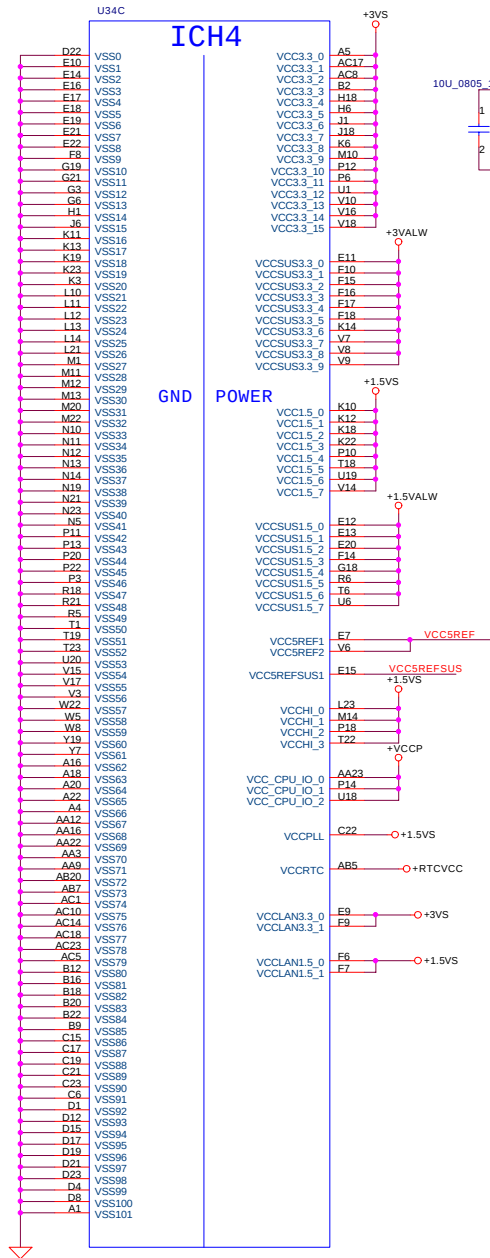
SM I/F
 INTRUDER#
 SMLINK0
 SMLINK1
 SMB_CLK
 SMB_DATA
 SMB_ALERT#GPI11

CPU I/F
 A20GATE
 A20MM#
 DPSLP#
 FERR#
 IGNE#
 INIT#
 INTR
 CPU_PWRGOOD
 RCIN#
 SLPH#
 SMIF#
 STPCLK#

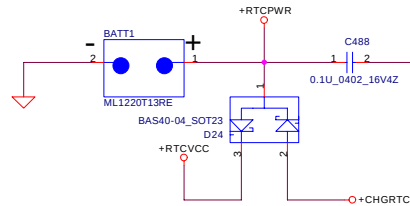
HUB I/F
 H0
 H1
 H2
 H3
 H4
 H5
 H6
 H7
 H8
 H9
 H10
 H11

Interrupt I/F
 APICCLK
 APICD0
 APICD1
 APICD2
 APICD3
 APICD4
 APICD5
 APICD6
 APICD7
 APICD8
 APICD9
 APICD10
 APICD11
 APICD12
 APICD13
 APICD14
 APICD15
 APICD16
 APICD17
 APICD18
 APICD19
 APICD20
 APICD21
 APICD22
 APICD23
 APICD24
 APICD25
 APICD26
 APICD27
 APICD28
 APICD29
 APICD30
 APICD31
 APICD32
 APICD33
 APICD34
 APICD35
 APICD36
 APICD37
 APICD38
 APICD39
 APICD40
 APICD41
 APICD42
 APICD43
 APICD44
 APICD45
 APICD46
 APICD47
 APICD48
 APICD49
 APICD50
 APICD51
 APICD52
 APICD53
 APICD54
 APICD55
 APICD56
 APICD57
 APICD58
 APICD59
 APICD60
 APICD61
 APICD62
 APICD63
 APICD64
 APICD65
 APICD66
 APICD67
 APICD68
 APICD69
 APICD70
 APICD71
 APICD72
 APICD73
 APICD74
 APICD75
 APICD76
 APICD77
 APICD78
 APICD79
 APICD80
 APICD81
 APICD82
 APICD83
 APICD84
 APICD85
 APICD86
 APICD87
 APICD88
 APICD89
 APICD90
 APICD91
 APICD92
 APICD93
 APICD94
 APICD95
 APICD96
 APICD97
 APICD98
 APICD99
 APICD100
 APICD101
 APICD102
 APICD103
 APICD104
 APICD105
 APICD106
 APICD107
 APICD108
 APICD109
 APICD110
 APICD111
 APICD112
 APICD113
 APICD114
 APICD115
 APICD116
 APICD117
 APICD118
 APICD119
 APICD120
 APICD121
 APICD122
 APICD123
 APICD124
 APICD125
 APICD126
 APICD127
 APICD128
 APICD129
 APICD130
 APICD131
 APICD132
 APICD133
 APICD134
 APICD135
 APICD136
 APICD137
 APICD138
 APICD139
 APICD140
 APICD141
 APICD142
 APICD143
 APICD144
 APICD145
 APICD146
 APICD147
 APICD148
 APICD149
 APICD150
 APICD151
 APICD152
 APICD153
 APICD154
 APICD155
 APICD156
 APICD157
 APICD158
 APICD159
 APICD160
 APICD161
 APICD162
 APICD163
 APICD164
 APICD165
 APICD166
 APICD167
 APICD168
 APICD169
 APICD170
 APICD171
 APICD172
 APICD173
 APICD174
 APICD175
 APICD176
 APICD177
 APICD178
 APICD179
 APICD180
 APICD181
 APICD182
 APICD183
 APICD184
 APICD185
 APICD186
 APICD187
 APICD188
 APICD189
 APICD190
 APICD191
 APICD192
 APICD193
 APICD194
 APICD195
 APICD196
 APICD197
 APICD198
 APICD199
 APICD200
 APICD201
 APICD202
 APICD203
 APICD204
 APICD205
 APICD206
 APICD207
 APICD208
 APICD209
 APICD210
 APICD211
 APICD212
 APICD213
 APICD214
 APICD215
 APICD216
 APICD217
 APICD218
 APICD219
 APICD220
 APICD221
 APICD222
 APICD223
 APICD224
 APICD225
 APICD226
 APICD227
 APICD228
 APICD229
 APICD230
 APICD231
 APICD232
 APICD233
 APICD234
 APICD235
 APICD236
 APICD237
 APICD238
 APICD239
 APICD240
 APICD241
 APICD242
 APICD243
 APICD244
 APICD245
 APICD246
 APICD247
 APICD248
 APICD249
 APICD250
 APICD251
 APICD252
 APICD253
 APICD254
 APICD255
 APICD256
 APICD257
 APICD258
 APICD259
 APICD260
 APICD261
 APICD262
 APICD263
 APICD264
 APICD265
 APICD266
 APICD267
 APICD268
 APICD269
 APICD270
 APICD271
 APICD272
 APICD273
 APICD274
 APICD275
 APICD276
 APICD277
 APICD278
 APICD279
 APICD280
 APICD281
 APICD282
 APICD283
 APICD284
 APICD285
 APICD286
 APICD287
 APICD288
 APICD289
 APICD290
 APICD291
 APICD292
 APICD293
 APICD294
 APICD295
 APICD296
 APICD297
 APICD298
 APICD299
 APICD300
 APICD301
 APICD302
 APICD303
 APICD304
 APICD305
 APICD306
 APICD307
 APICD308
 APICD309
 APICD310
 APICD311
 APICD312
 APICD313
 APICD314
 APICD315
 APICD316
 APICD317
 APICD318
 APICD319
 APICD320
 APICD321
 APICD322
 APICD323
 APICD324
 APICD325
 APICD326
 APICD327
 APICD328
 APICD329
 APICD330
 APICD331
 APICD332
 APICD333
 APICD334
 APICD335
 APICD336
 APICD337
 APICD338
 APICD339
 APICD340
 APICD341
 APICD342
 APICD343
 APICD344
 APICD345
 APICD346
 APICD347
 APICD348
 APICD349
 APICD350
 APICD351
 APICD352
 APICD353
 APICD354
 APICD355
 APICD356
 APICD357
 APICD358
 APICD359
 APICD360
 APICD361
 APICD362
 APICD363
 APICD364
 APICD365
 APICD366
 APICD367
 APICD368
 APICD369
 APICD370
 APICD371
 APICD372
 APICD373
 APICD374
 APICD375
 APICD376
 APICD377
 APICD378
 APICD379
 APICD380
 APICD381
 APICD382
 APICD383
 APICD384
 APICD385
 APICD386
 APICD387
 APICD388
 APICD389
 APICD390
 APICD391
 APICD392
 APICD393
 APICD394
 APICD395
 APICD396
 APICD397
 APICD398
 APICD399
 APICD400
 APICD401
 APICD402
 APICD403
 APICD404
 APICD405
 APICD406
 APICD407
 APICD408
 APICD409
 APICD410
 APICD411
 APICD412
 APICD413
 APICD414
 APICD415
 APICD416
 APICD417
 APICD418
 APICD419
 APICD420
 APICD421
 APICD422
 APICD423
 APICD424
 APICD425
 APICD426
 APICD427
 APICD428
 APICD429
 APICD430
 APICD431
 APICD432
 APICD433
 APICD434
 APICD435
 APICD436
 APICD437
 APICD438
 APICD439
 APICD440
 APICD441
 APICD442
 APICD443
 APICD444
 APICD445
 APICD446
 APICD447
 APICD448
 APICD449
 APICD450
 APICD451
 APICD452
 APICD453
 APICD454
 APICD455
 APICD456
 APICD457
 APICD458
 APICD459
 APICD460
 APICD461
 APICD462
 APICD463
 APICD464
 APICD465
 APICD466
 APICD467
 APICD468
 APICD469
 APICD470
 APICD471
 APICD472
 APICD473
 APICD474
 APICD475
 APICD476
 APICD477
 APICD478
 APICD479
 APICD480
 APICD481
 APICD482
 APICD483
 APICD484
 APICD485
 APICD486
 APICD487
 APICD488
 APICD489
 APICD490
 APICD491
 APICD492
 APICD493
 APICD494
 APICD495
 APICD496
 APICD497
 APICD498
 APICD499
 APICD500
 APICD501
 APICD502
 APICD503
 APICD504
 APICD505
 APICD506
 APICD507
 APICD508
 APICD509
 APICD510
 APICD511
 APICD512
 APICD513
 APICD514
 APICD515
 APICD516
 APICD517
 APICD518
 APICD519
 APICD520
 APICD521
 APICD522
 APICD523
 APICD524
 APICD525
 APICD526
 APICD527
 APICD528
 APICD529
 APICD530
 APICD531
 APICD532
 APICD533
 APICD534
 APICD535
 APICD536
 APICD537
 APICD538
 APICD539
 APICD540
 APICD541
 APICD542
 APICD543
 APICD544
 APICD545
 APICD546
 APICD547
 APICD548
 APICD549
 APICD550
 APICD551
 APICD552
 APICD553
 APICD554
 APICD555
 APICD556
 APICD557
 APICD558
 APICD559
 APICD560
 APICD561
 APICD562
 APICD563
 APICD564
 APICD565
 APICD566
 APICD567
 APICD568
 APICD569
 APICD570
 APICD571
 APICD572
 APICD573
 APICD574
 APICD575
 APICD576
 APICD577
 APICD578
 APICD579
 APICD580
 APICD581
 APICD582
 APICD583
 APICD584
 APICD585
 APICD586
 APICD587
 APICD588
 APICD589
 APICD590
 APICD591
 APICD592
 APICD593
 APICD594
 APICD595
 APICD596
 APICD597
 APICD598
 APICD599
 APICD600
 APICD601
 APICD602
 APICD603
 APICD604
 APICD605
 APICD606
 APICD607
 APICD608
 APICD609
 APICD610
 APICD611
 APICD612
 APICD613
 APICD614
 APICD615
 APICD616
 APICD617
 APICD618
 APICD619
 APICD620
 APICD621
 APICD622
 APICD623
 APICD624
 APICD625
 APICD626
 APICD627
 APICD628
 APICD629
 APICD630
 APICD631
 APICD632
 APICD633
 APICD634
 APICD635
 APICD636
 APICD637
 APICD638
 APICD639
 APICD640
 APICD641
 APICD642
 APICD643
 APICD644
 APICD645
 APICD646
 APICD647
 APICD648
 APICD649
 APICD650
 APICD651
 APICD652
 APICD653
 APICD654
 APICD655
 APICD656
 APICD657
 APICD658
 APICD659
 APICD660
 APICD661
 APICD662
 APICD663
 APICD664
 APICD665
 APICD666
 APICD667
 APICD668
 APICD669
 APICD670
 APICD671
 APICD672
 APICD673
 APICD674
 APICD675
 APICD676
 APICD677
 APICD678
 APICD679
 APICD680
 APICD681
 APICD682
 APICD683
 APICD684
 APICD685
 APICD686
 APICD687
 APICD688
 APICD689
 APICD690
 APICD691
 APICD692
 APICD693
 APICD694
 APICD695
 APICD696
 APICD697
 APICD698
 APICD699
 APICD700
 APICD701
 APICD702
 APICD703
 APICD704
 APICD705
 APICD706
 APICD707
 APICD708
 APICD709
 APICD710
 APICD711
 APICD712
 APICD713
 APICD714
 APICD715
 APICD716
 APICD717
 APICD718
 APICD719
 APICD720
 APICD721
 APICD722
 APICD723
 APICD724
 APICD725
 APICD726
 APICD727
 APICD728
 APICD729
 APICD730
 APICD731
 APICD732
 APICD733
 APICD734
 APICD735
 APICD736
 APICD737
 APICD738
 APICD739
 APICD740
 APICD741
 APICD742
 APICD743
 APICD744
 APICD745
 APICD746
 APICD747
 APICD748
 APICD749
 APICD750
 APICD751
 APICD752
 APICD753
 APICD754
 APICD755
 APICD756
 APICD757
 APICD758
 APICD759
 APICD760
 APICD761
 APICD762
 APICD763
 APICD764
 APICD765
 APICD766
 APICD767
 APICD768
 APICD769
 APICD770
 APICD771
 APICD772
 APICD773
 APICD774
 APICD775
 APICD776
 APICD777
 APICD778
 APICD779
 APICD780
 APICD781
 APICD782
 APICD783
 APICD784
 APICD785
 APICD786
 APICD787
 APICD788
 APICD789
 APICD790
 APICD791
 APICD792
 APICD793
 APICD794
 APICD795
 APICD796
 APICD797
 APICD798
 APICD799
 APICD800
 APICD801
 APICD802
 APICD803
 APICD804
 APICD805
 APICD806
 APICD807
 APICD808
 APICD809
 APICD810
 APICD811
 APICD812
 APICD813
 APICD814
 APICD815
 APICD816
 APICD817
 APICD818
 APICD819
 APICD820
 APICD821
 APICD822
 APICD823
 APICD824
 APICD825
 APICD826
 APICD827
 APICD828
 APICD829
 APICD830
 APICD831
 APICD832
 APICD833
 APICD834
 APICD835
 APICD836
 APICD837
 APICD838
 APICD839
 APICD840
 APICD841
 APICD842
 APICD843
 APICD844
 APICD845
 APICD846
 APICD847
 APICD848
 APICD849
 APICD850
 APICD851
 APICD852
 APICD853
 APICD854
 APICD855
 APICD856
 APICD857
 APICD858
 APICD859
 APICD860
 APICD861
 APICD862
 APICD863
 APICD864
 APICD865
 APICD866
 APICD867
 APICD868
 APICD869
 APICD870
 APICD871
 APICD872
 APICD873
 APICD874
 APICD875
 APICD876
 APICD877
 APICD878
 APICD879
 APICD880
 APICD881
 APICD882
 APICD883
 APICD884
 APICD885
 APICD886
 APICD887
 APICD888
 APICD889
 APICD890
 APICD891
 APICD892
 APICD893
 APICD894
 APICD895
 APICD896
 APICD897
 APICD898
 APICD899
 APICD900
 APICD901
 APICD902
 APICD903
 APICD904
 APICD905
 APICD906
 APICD907
 APICD908
 APICD909
 APICD910
 APICD911
 APICD912
 APICD913
 APICD914
 APICD915
 APICD916
 APICD917
 APICD918
 APICD919
 APICD920
 APICD921
 APICD922
 APICD923
 APICD924
 APICD925
 APICD926
 APICD927
 APICD928
 APICD929
 APICD930
 APICD931
 APICD932
 APICD933
 APICD934
 APICD935
 APICD936
 APICD937
 APICD938
 APICD939
 APICD940
 APICD941
 APICD942
 APICD943
 APICD944
 APICD945
 APICD946
 APICD947
 APICD948
 APICD949
 APICD950
 APICD951
 APICD952
 APICD953
 APICD954
 APICD955
 APICD956
 APICD957
 APICD958
 APICD959
 APICD960





RTC Battery

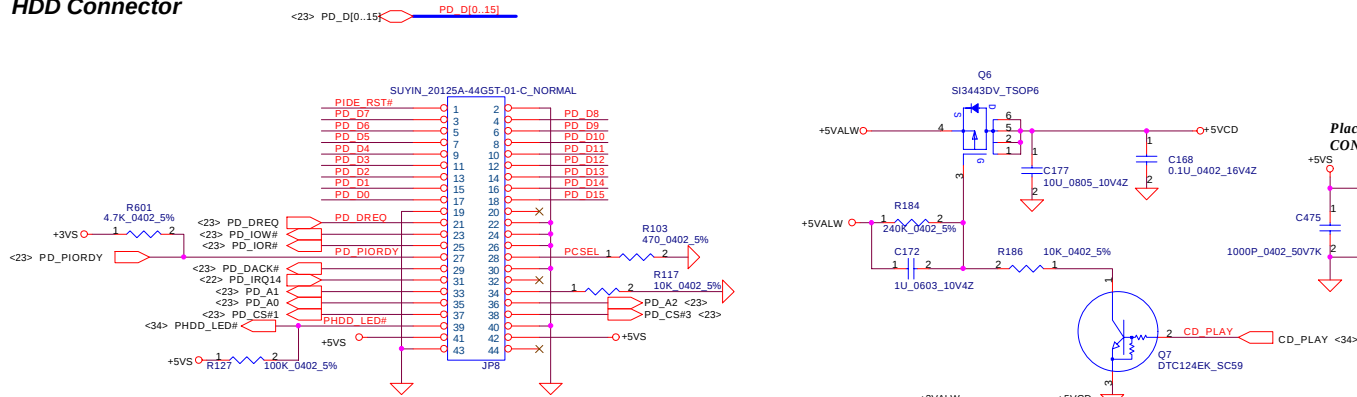


FW82801DBM_BGA421

Compal Electronics, Inc.			
Title			
ICH4-M(3/3) PWR/GND			
Size	Document Number		Rev
	EAL20 LA-2462		0.1
Date:	Friday, September 17, 2004	Sheet	24 of 47

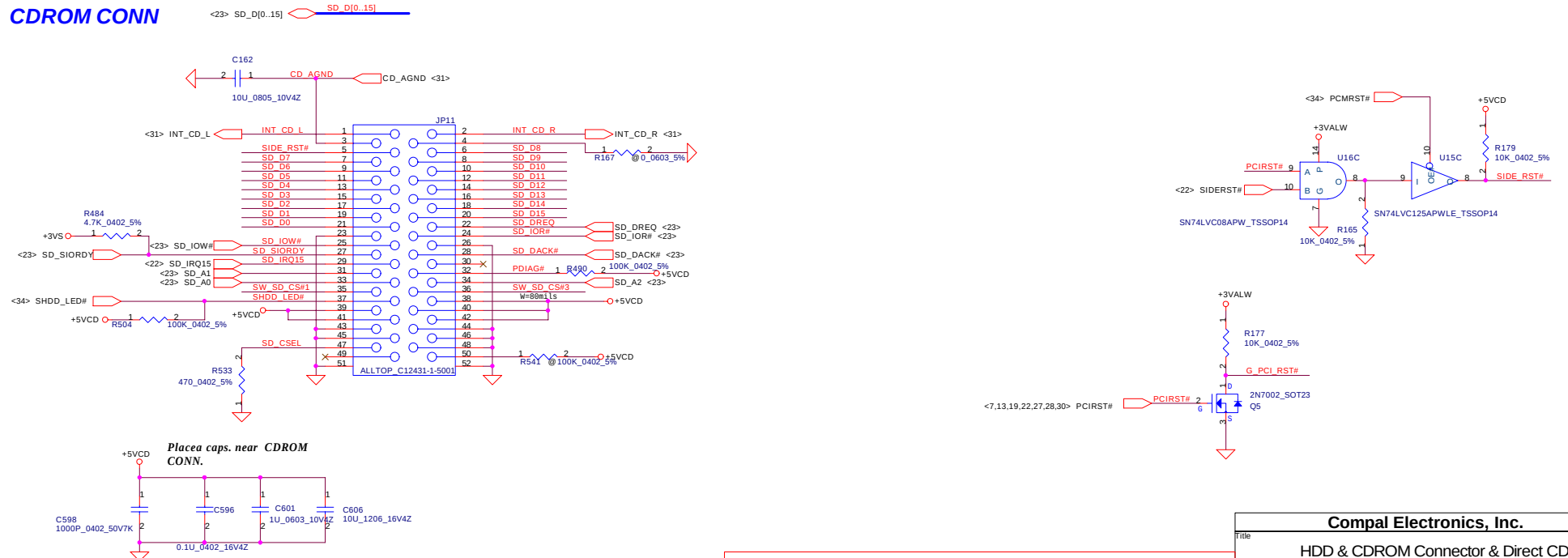
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

HDD Connector



This is reverse type conn, PIDE_RST# connect to pin44.
After connector library ready,
correct connection is PIDE_RST# connect to pin1!

CDROM CONN

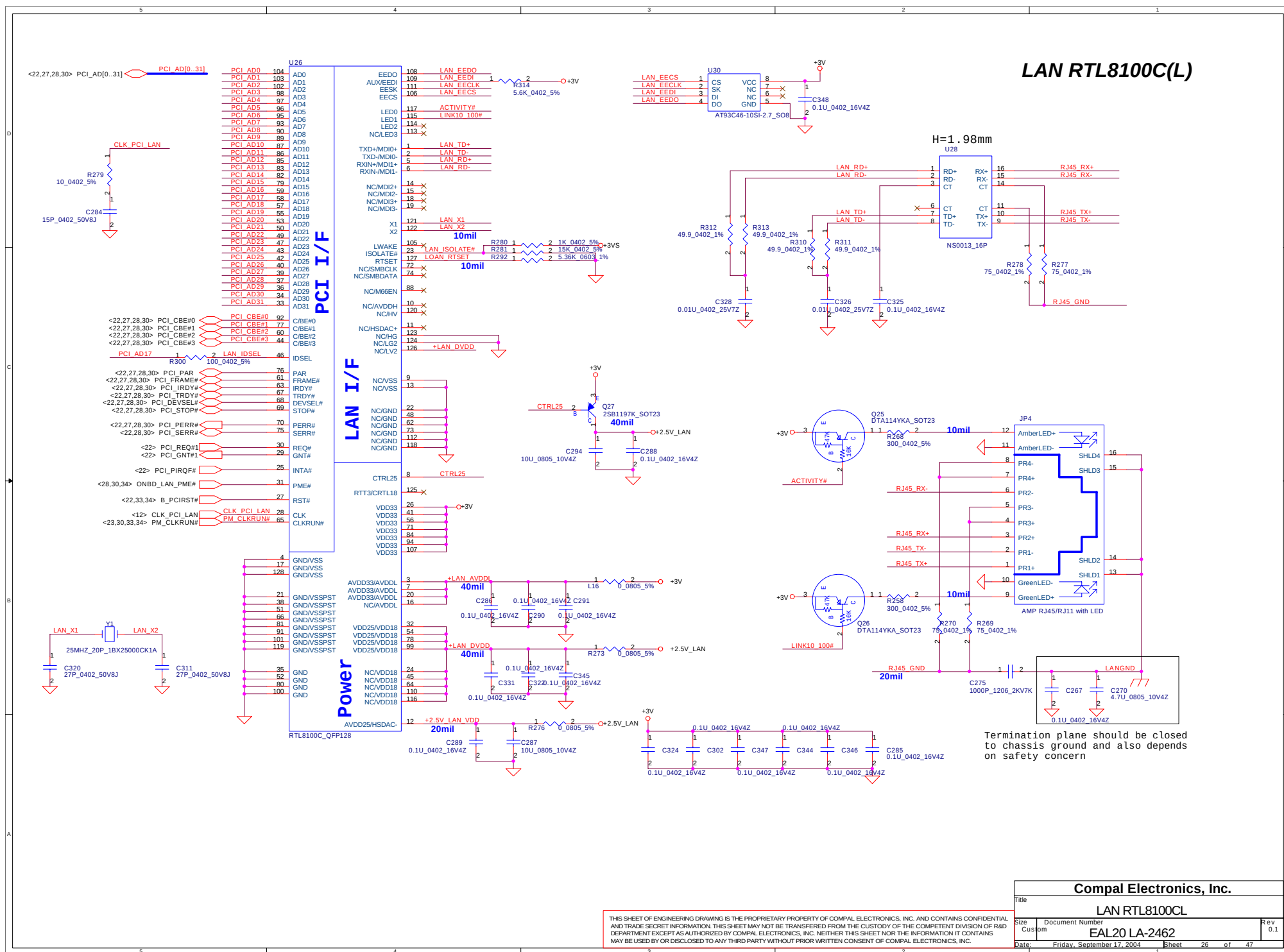


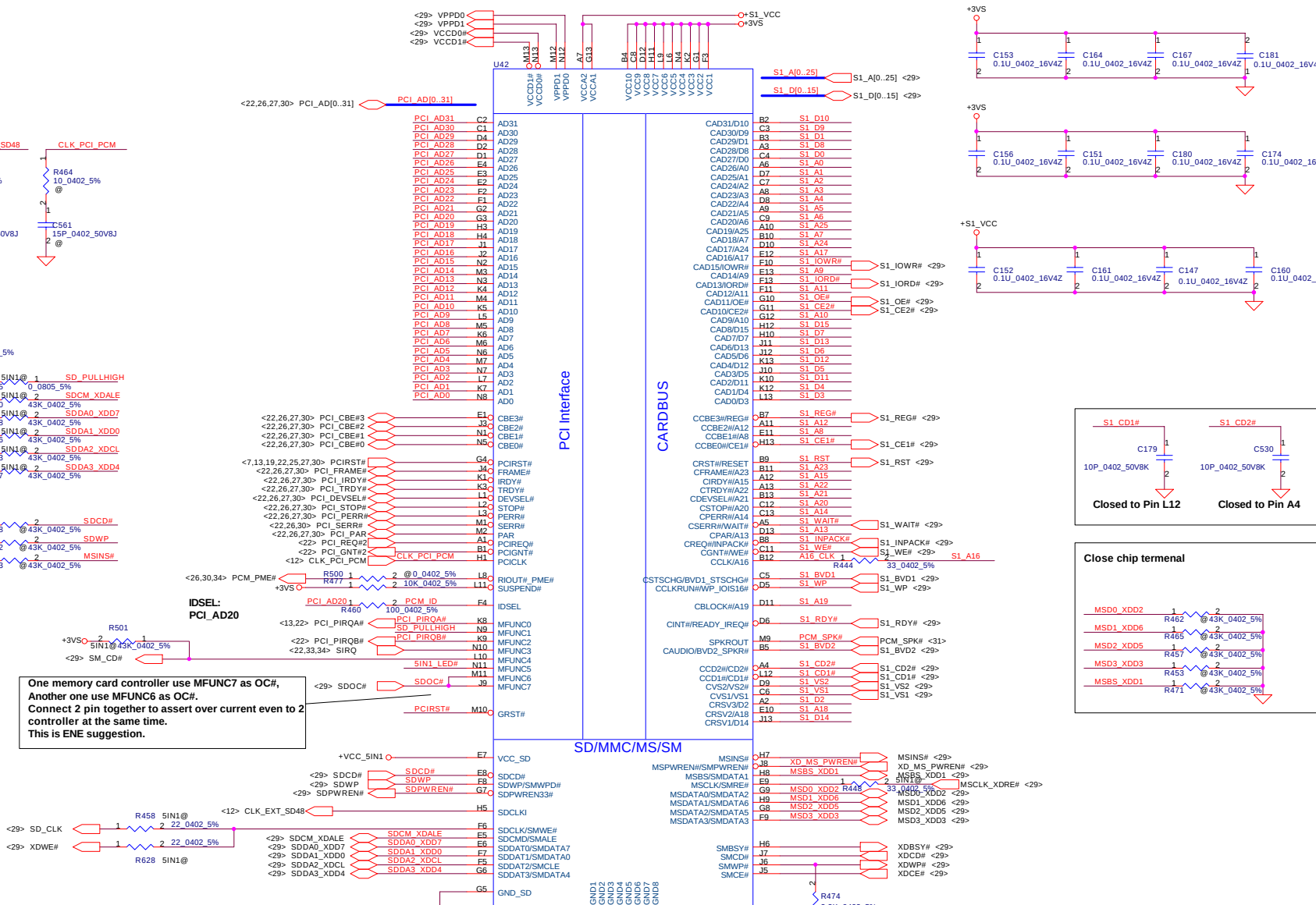
Compal Electronics, Inc.

HDD & CDROM Connector & Direct CD

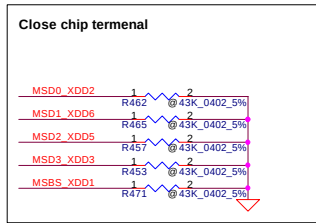
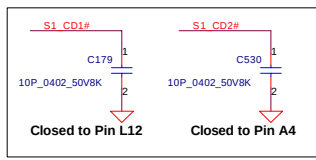
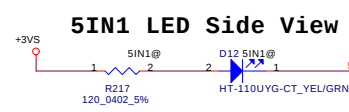
Size	Document Number	Rev
	EAL20 LA-2462	0.1
Date	Friday, September 17, 2004	Sheet 25 of 47

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.





One memory card controller use MFUNC7 as OC#, Another one use MFUNC6 as OC#. Connect 2 pin together to assert over current even to 2 controller at the same time. This is ENE suggestion.



[illegible]

Pin connection diagram for the TAITW_R007-010-N3 5IN1@ module. The diagram shows a 44-pin connector on the left and a 44-pin connector on the right. A central blue box labeled '5IN1 CONN' contains the pin numbers 1 through 44. Pins 1-34 are connected to the left connector, and pins 35-44 are connected to the right connector. The diagram shows various signal pins, power pins (+VCC_5IN1), and ground pins (GND).

Left Connector Pin	Signal	5IN1 CONN Pin	Signal	5IN1 CONN Pin	Right Connector Pin
<28> SDDA1_XDD0	SDDA1_XDD0	34	SM-D0/DX-D0	SD-DAT3	11
<28> MS8S_XD01	MS8S_XD01	32	SM-D1/DX-D1	SD-DAT2	12
<28> MS0D_XDD2	MS0D_XDD2	31	SM-D2/DX-D2	SD-DAT1	6
<28> MS0J_XDD3	MS0J_XDD3	31	SM-D3/DX-D3	SD-DAT0	7
<28> SDDA3_XD04	SDDA3_XD04	21	SM-D4/DX-D4	SD-WP-SD	5
<28> MS02_XDD5	MS02_XDD5	22	SM-D5/DX-D5	SD-CLK	10
<28> MS01_XDD6	MS01_XDD6	23	SM-D6/DX-D6	SD-CLK	8
<28> SDDA0_XDD7	SDDA0_XDD7	24	SM-D7/DX-D7	SD-VCC	9
<28> XDW#	XDW#	35	SM-WP-IN/XD_WP-IN	N/C	4
<28> XDW#	SDWP	43	SM-WP-IN/XD_WP-IN	SD-CD-SM	41
<28> XDW#	XDW#	36	SM_-WE/XD_-WE	SD-CD-CM	41
<28> SDCM_XDALE	SDCM_XDALE	37	SM_-ALE/XD-ALE	MS-DAT0	15
<28> SM_CD#	SM_CD#	25	SM-LVD	MS-DAT1	16
<28> SM_CD#	SM_CD#	26	SM-CD-SM	MS-DAT2	17
<28> SM_CD#	SM_CD#	27	SM-VCC/XD_VCC	MS-SCLK	18
<28> SM_CD#	SM_CD#	28	SM-Rx/R-/XD_Rx/R-	MS-INS	19
<28> SM_CD#	SM_CD#	29	SM_RE/XD_RE	MS-BS	20
<28> SM_CD#	SM_CD#	30	SM_CE/XD_CE	MS-VCC	20
<28> SM_CD#	SM_CD#	31	SM_CD	MS-BS	20
<28> SDDA2_XDCL	SDDA2_XDCL	2	SM-CD-CM	XD-VCC	39
<28> SDDA2_XDCL	SDDA2_XDCL	3	SM-CL-E/XD-CL-E	GND	40
<28> SDDA2_XDCL	SDDA2_XDCL	4	GND	GND	41
<28> SDDA2_XDCL	SDDA2_XDCL	5	GND	GND	42
<28> SDDA2_XDCL	SDDA2_XDCL	6	GND	GND	43
<28> SDDA2_XDCL	SDDA2_XDCL	7	GND	GND	44

XDC PU and PD. Close to Socket

+3VS

2 XDC# 43K_0402_5% XDCD# <28>

+VCC_SIN1

2 SIN1# 10K_0402_5% XDBS# <28>

4 R492 2.2K_0402_5% XDCFE# <28>

4 SIN1# 10K_0402_5% XDCWE# <28>

4 R455 10K_0402_5%

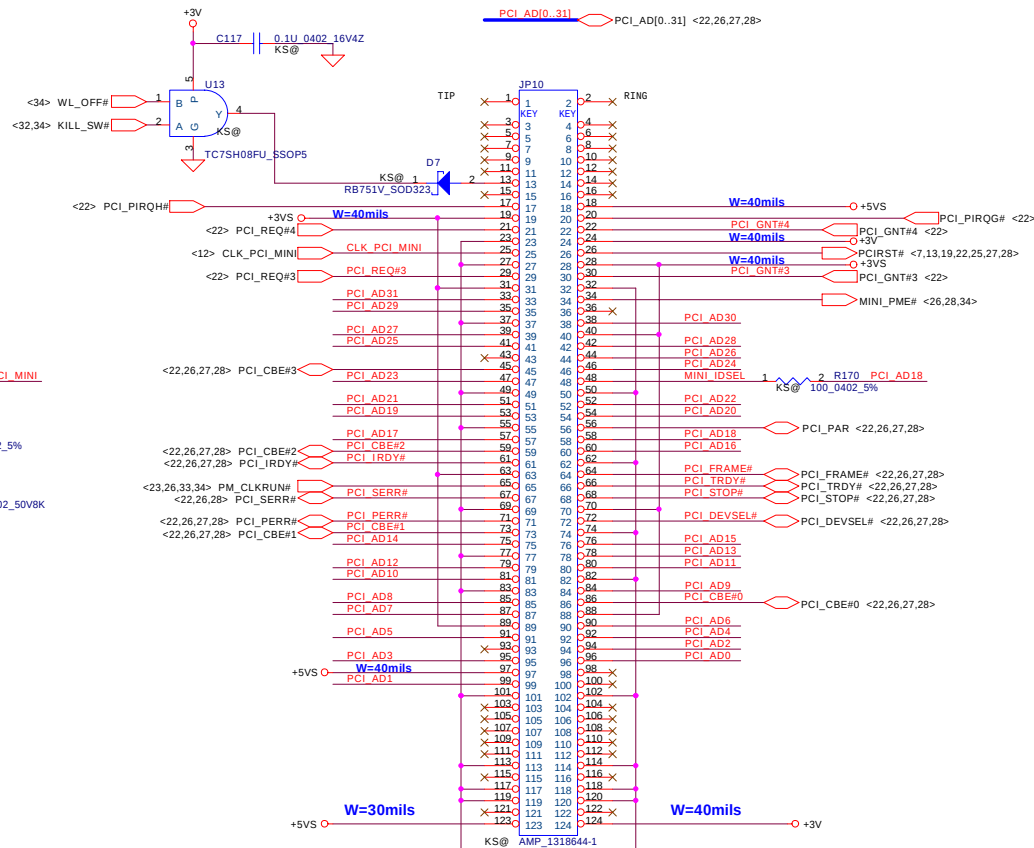
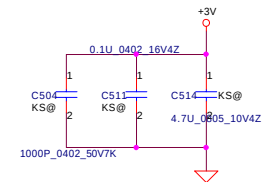
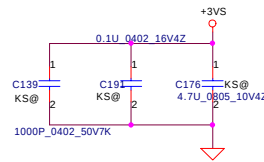
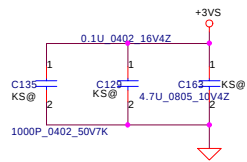
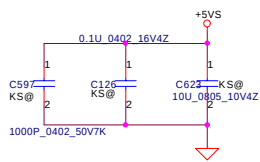
Reserve for Debug.

Signal	Value	Resistor
S1 WP	2	R436
S1 OE#	2	R480
S1 RST	2	R433
S1 CE1#	2	R463
S1 CE2#	2	R459

Close to CardBus Conn.

Two circuit diagrams illustrating capacitor placement near the CardBus connector. The top diagram shows capacitors C194 (10U_0805_10V4Z) and C193 (0.1U_0402_16V4Z) connected to +S1_VCC. The bottom diagram shows capacitors C187 (4.7U_0805_10V4Z) and C188 (0.01U_0402_25V7Z) connected to +S1_VPP. Both diagrams show the capacitors connected to a common ground plane.

Compal Electronics, Inc.			
Title			
Cardbus Slot & 5in1 Socket			
Size	Document Number		Rev.
Custom	EAL20 LA-2462		0.1
Date:	Friday, September 17, 2004	Sheet	29 of 47



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.			
Title		Mini PCI Slot	
Size	Document Number	Rev	
	EAL20 LA-2462	0.1	
Date:	Friday, September 17, 2004	Sheet	30 of 47

AC97 Codec

Use to isolate +5VALW and +AC97_DVDD

Use to isolate +5VALW and +AC97_DVDD

GND Connect AGND
Keep a 80mil bridge far away from DC-DC area

Place these components close to Codec

UnPopped: Clock source from X'tal
Popped: Clock source from Clock Gen

Direct CD CTL

POWER ON PATH

DIRECT PLAY PATH

System Sound

The System Sound schematic shows three input channels: BEEP#, PCM_SPK#, and SB_SPKR#. BEEP# is connected to a buffer (U15D) and then to a differential line driver (U17A). PCM_SPK# is connected to a differential line driver (U17B). SB_SPKR# is connected to a differential line driver (U17C). All three channels are connected to a common output line (MONO IN I). The output line is connected to a speaker (D8) and a power supply (AVDD0_AC97). The power supply is connected to a 3V POWER source and a 3V MDC source. The output line is also connected to a 3V MDC source and a 3V MDC source.

MDC Connector

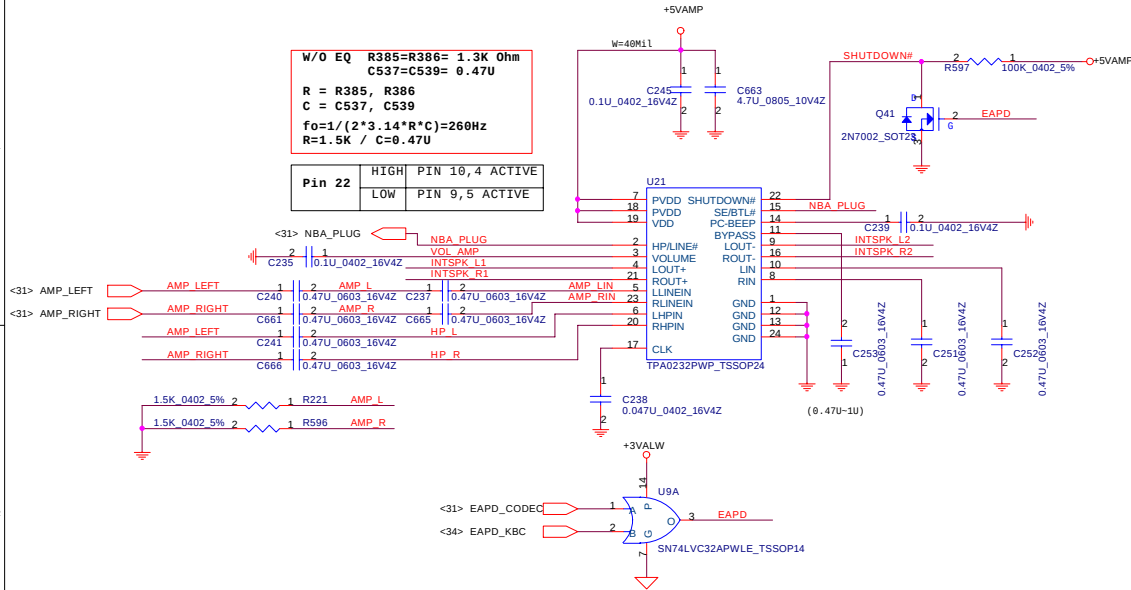
The MDC Connector schematic shows the connection between the MDC connector and the system components. The MDC connector is connected to a 3V MDC source and a 3V MDC source. The MDC connector is also connected to a 3V MDC source and a 3V MDC source. The MDC connector is connected to a 3V MDC source and a 3V MDC source. The MDC connector is connected to a 3V MDC source and a 3V MDC source.

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.

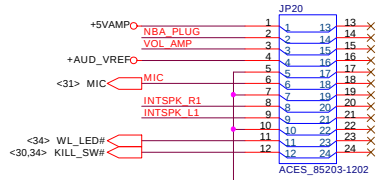
Compal Electronics, Inc.			
AC97 CODEC ALC250 Ver.C			
File	Document Number	Rev	
Size	EAL20 LA-2462	0.1	
Custom	Friday, September 17, 2004	Sheet	31 of 47

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.

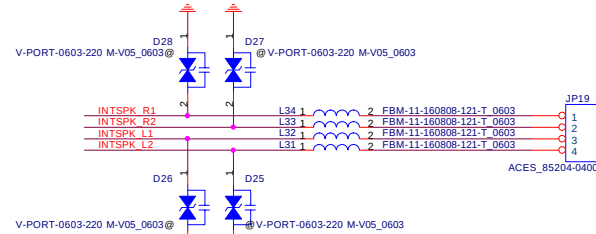
Audio AMP



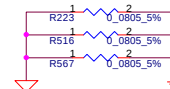
Audio Board Connector



Speaker Connector

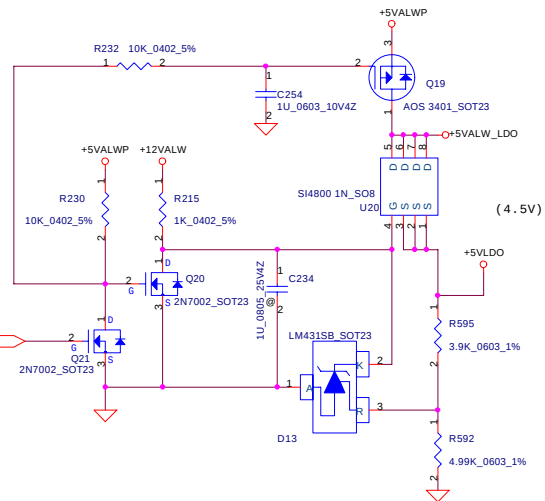


Moat Bridge

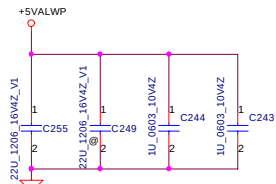


Regulator for AMP

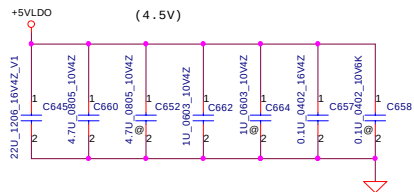
+5VALW TO +5VLD0



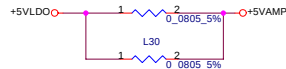
+5VALW DECOUPLING



+5VLD0 DECOUPLING



+5VAMP TO +5VLD0



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.

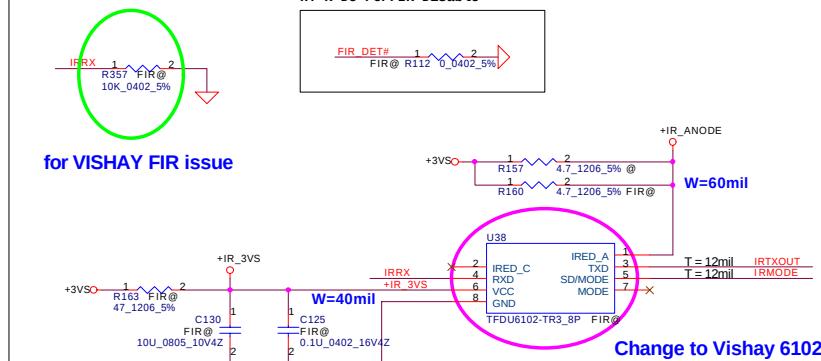
Compal Electronics, Inc.

AMP & Audio Jack

EAL20 LA-2462

Date: Friday, September 17, 2004 Sheet 32 of 47

FIR Module

[illegible]

LPT_DET# 1 2 PIO@ R113 0_0402_5%

Diagram illustrating the connection of the +SVS pin to the JP9 header. The +SVS pin is connected to pin 1 of JP9. The JP9 header pins are labeled as follows:

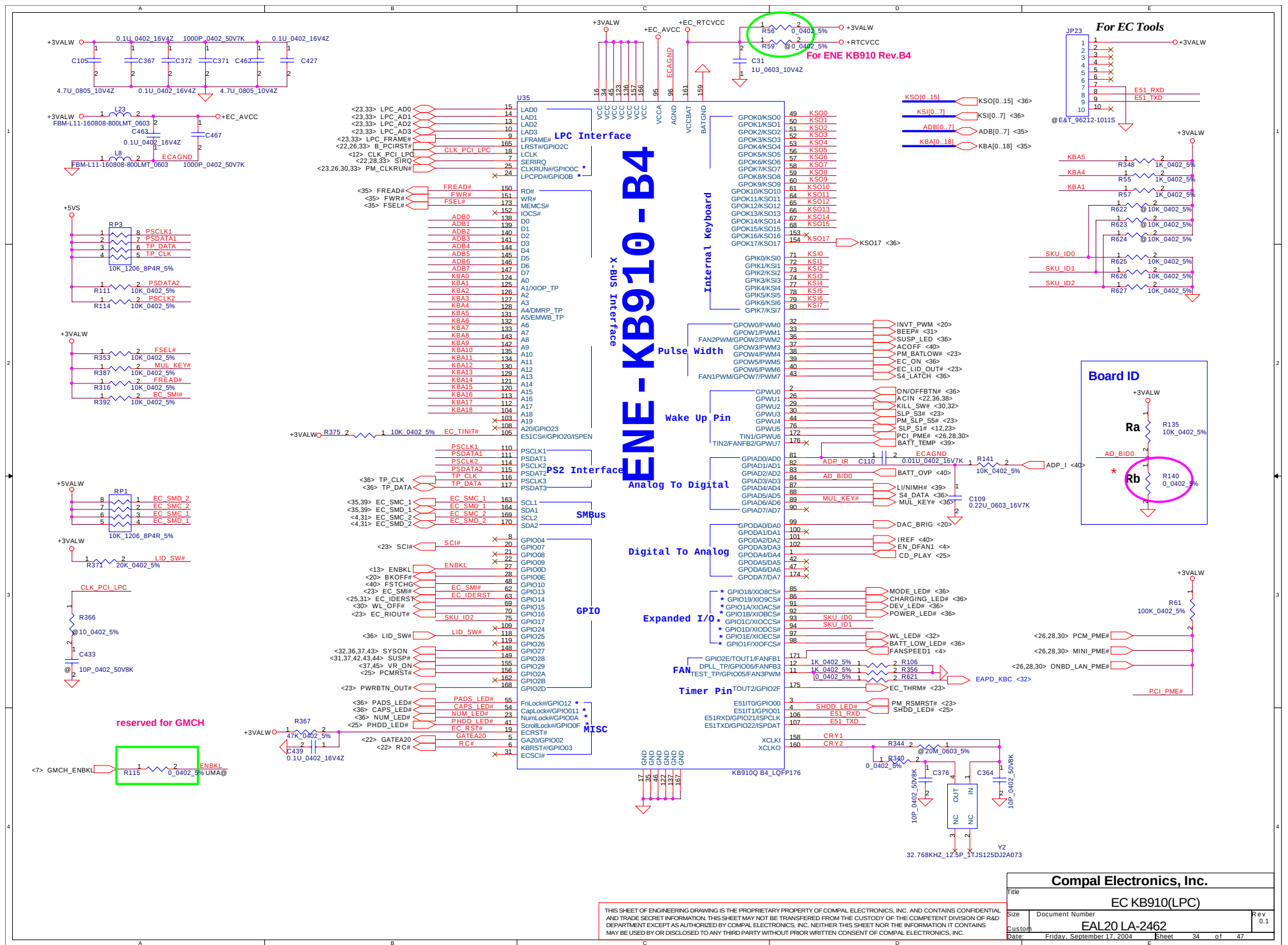
- 1: RXD1
- 2: TXD1
- 3: QSPI#1
- 4: RTS#1
- 5: CTS#1
- 6: DTR#1
- 7: RI#1
- 8: DCD#1
- 9: (unlabeled)
- 10: (unlabeled)

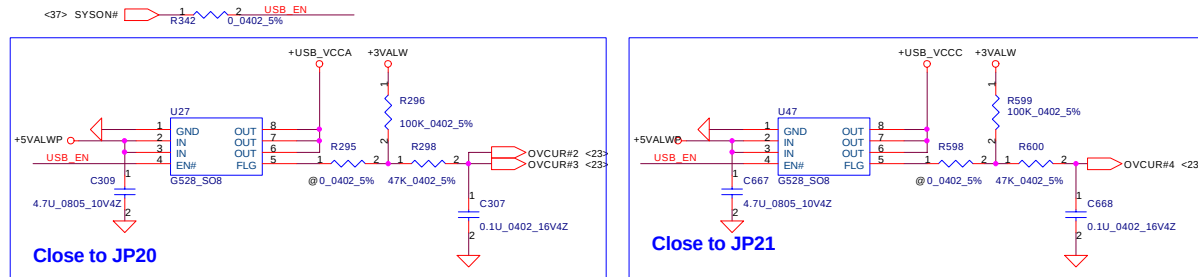
The connection is made using a single wire from the +SVS pin to pin 1 of JP9. The JP9 header is labeled with pins 1 through 10. The connection is made using a single wire from the +SVS pin to pin 1 of JP9.

For SW debug use @ E&T_96212-1011S

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.

Title			
SMsC LAP47N217 SIO,PIO,FIR			
Size	Document Number		Rev
Custom	EAL20 LA-2462		0.1
Date:	Friday, September 17, 2004	Sheet	33 of 47

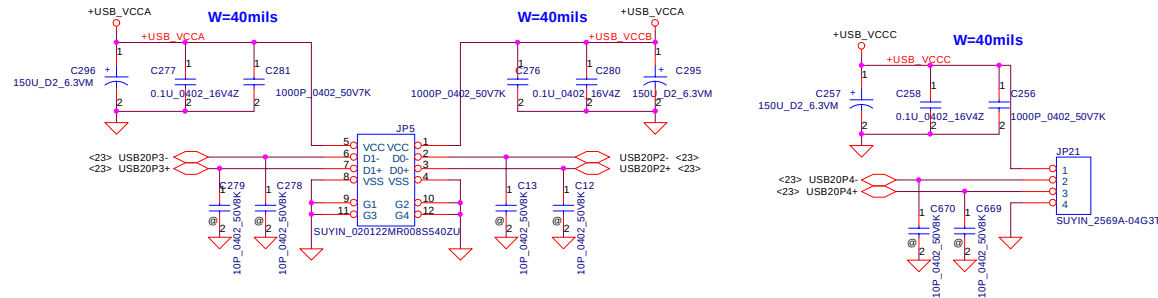




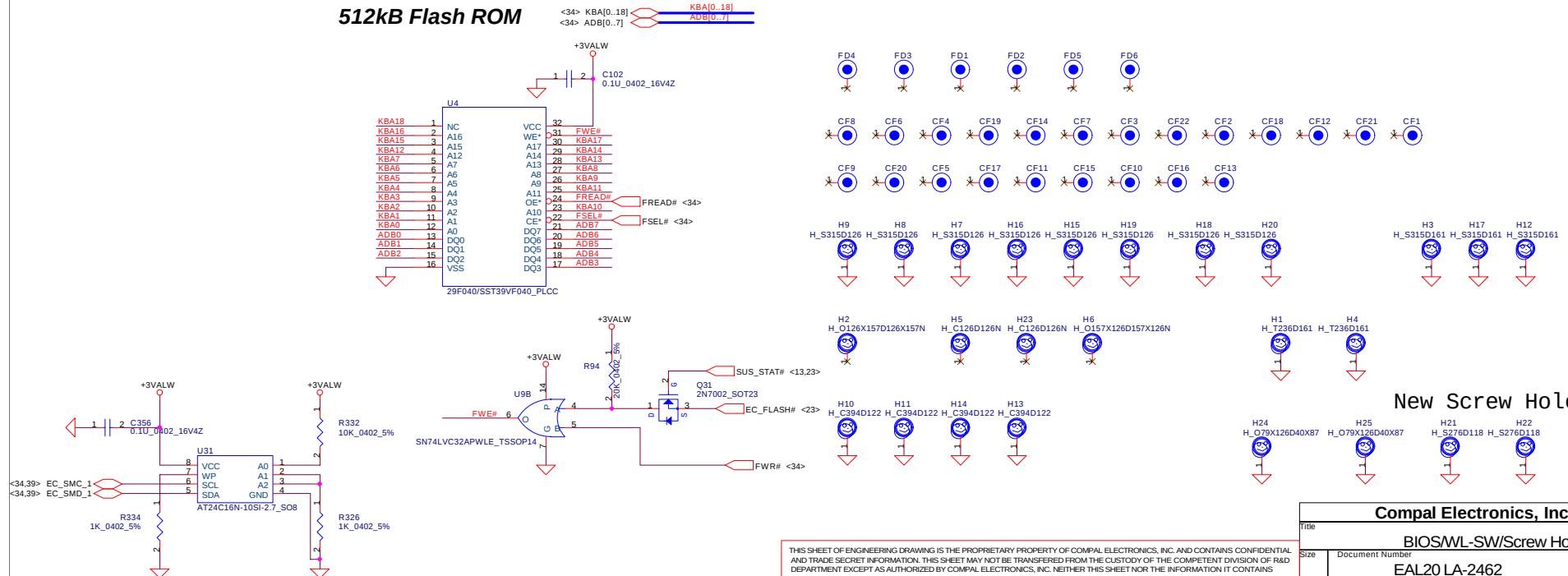
USB CONN. 1

USB CONN. 2

USB CONN. 3



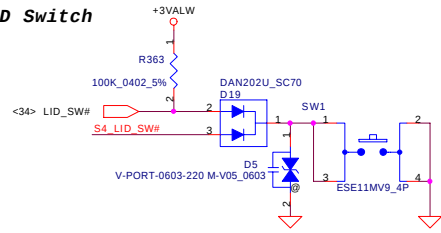
512kB Flash ROM



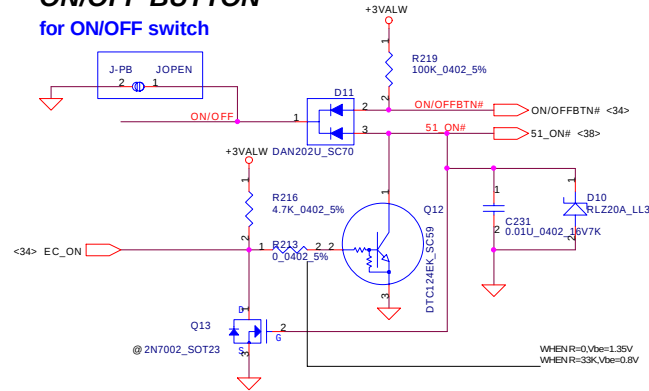
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.			
Title		BIOS\WL-SW/Screw Hole/USB	
Size	Document Number	Rev	
		0.1	
Date:	Friday, September 17, 2004	Sheet	35 of 47

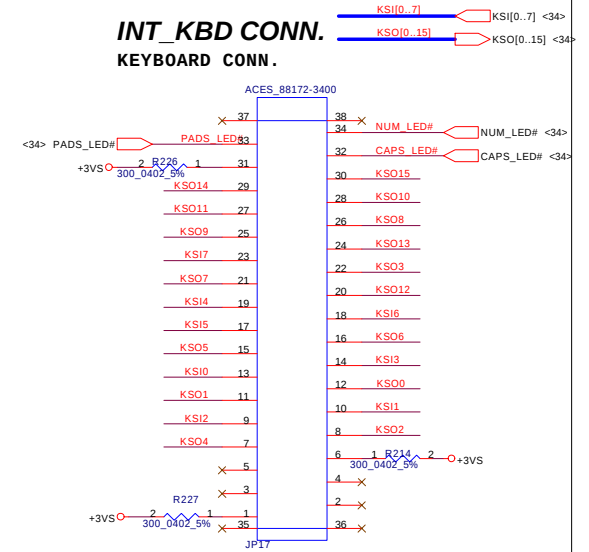
LID Switch



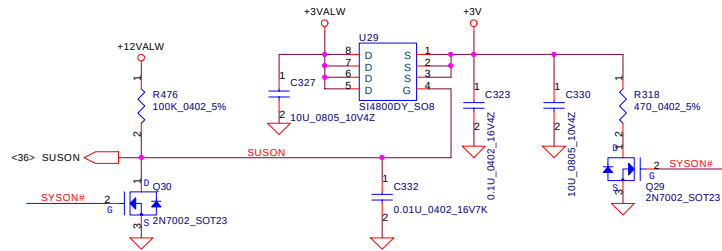
ON/OFF BUTTON for ON/OFF switch



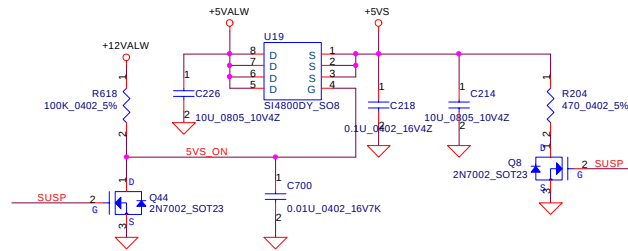
INT_KBD CONN. KEYBOARD CONN.



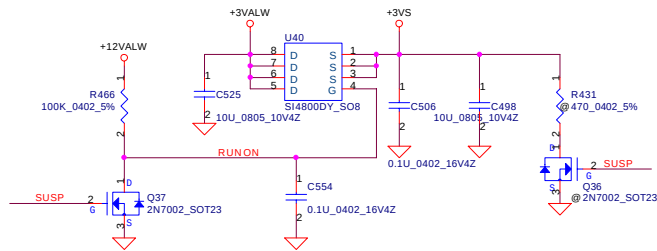
+3VALW to +3V Transfer



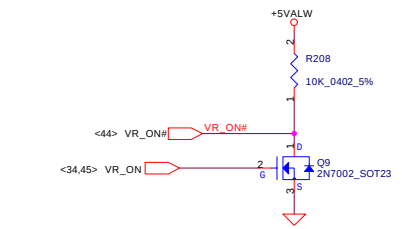
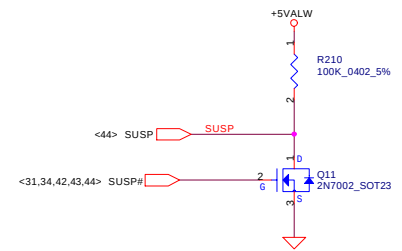
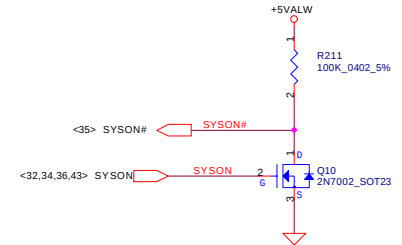
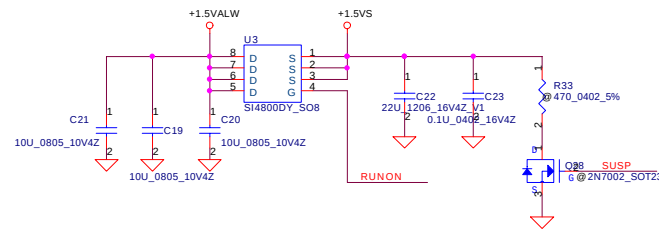
+5VALW to +5VS Transfer



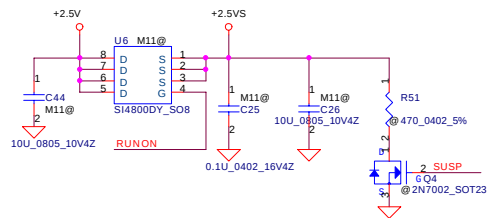
+3VALW to +3VS Transfer



+1.5VALW to +1.5VS Transfer



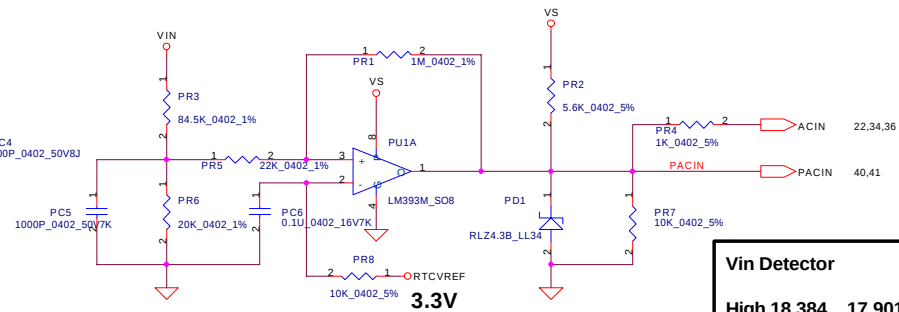
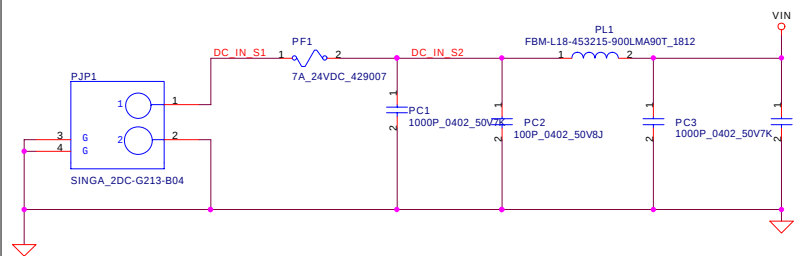
+2.5V to +2.5VS Transfer



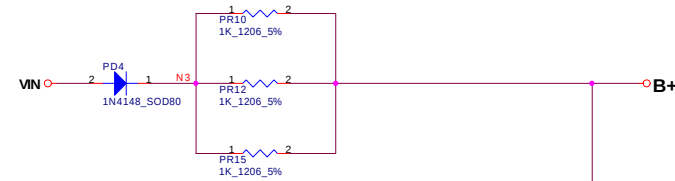
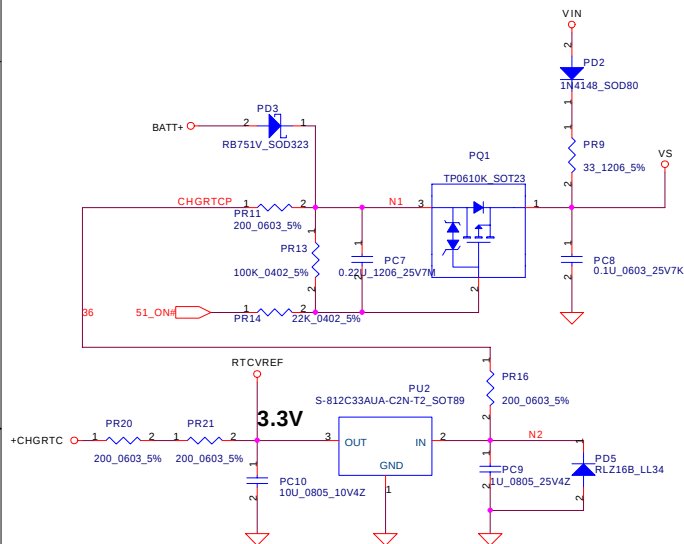
remove on integrated VGA sku

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.			
Title		DC/DC Interface	
Size	Document Number	Rev	
EAL20 LA-2462		0.1	
Date:	Friday, September 17, 2004	Sheet	37 of 47

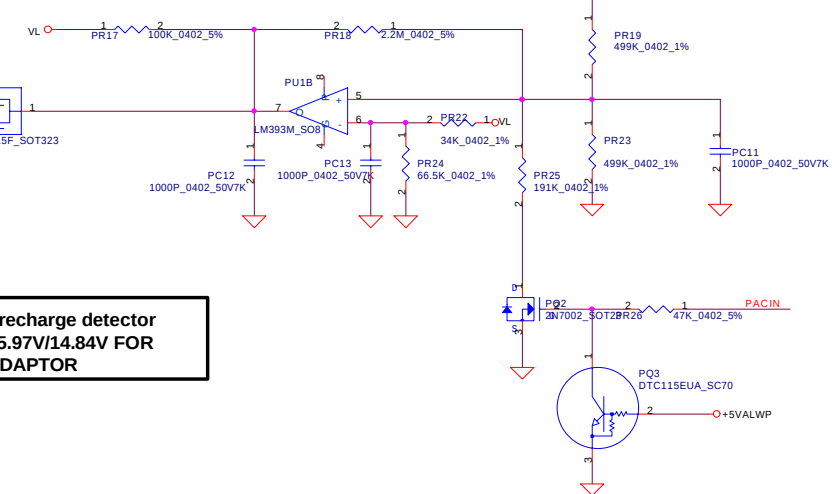
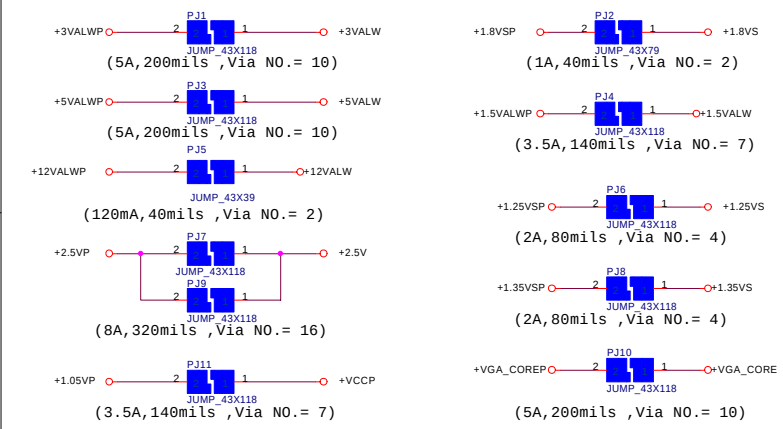


Vin Detector			
High	18.384	17.901	17.430
Low	17.728	17.257	16.976



39,41 MAINPWON
40 ACON

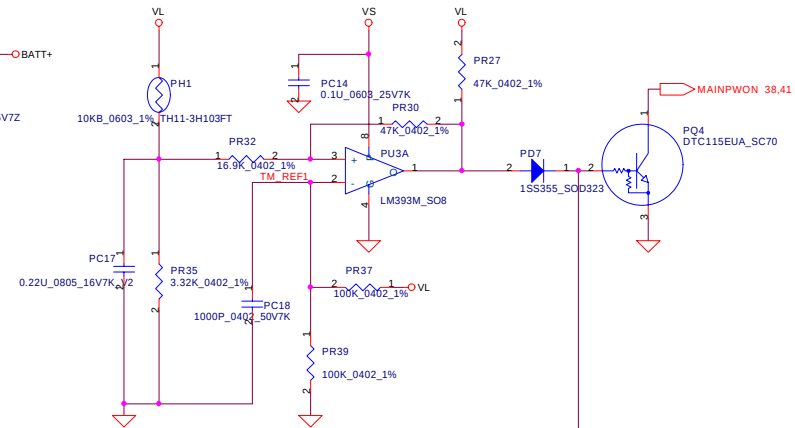
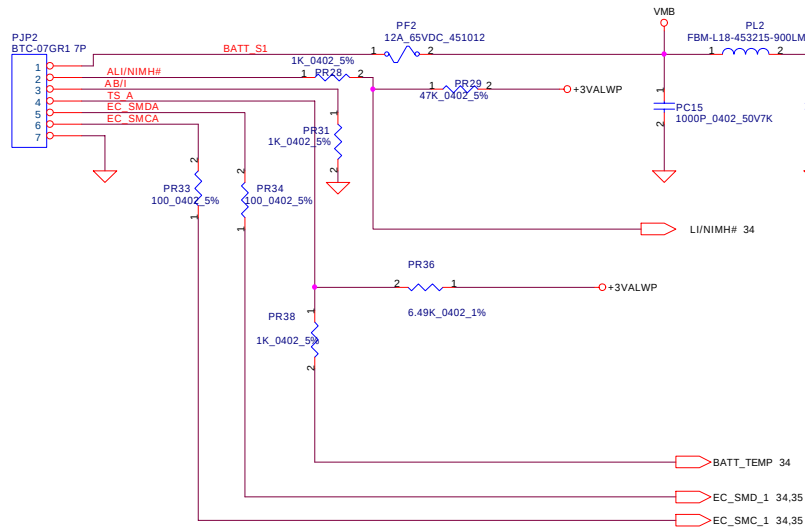
Precharge detector
15.97V/14.84V FOR
ADAPTOR



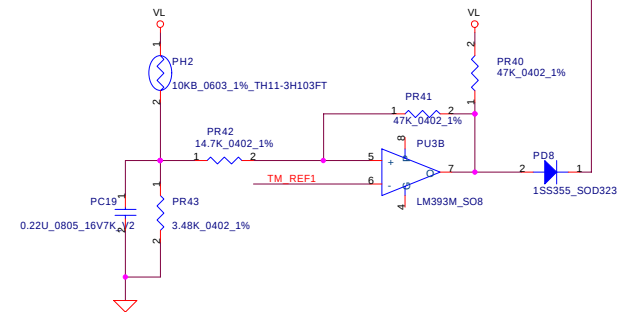
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.			
Title			
DCIN & DETECTOR			
Size	Document Number	Rev	
	EAL20 LA-2462	0.1	
Date:	Friday, September 17, 2004	Sheet	38 of 47

PH1 under CPU botten side :
CPU thermal protection at 84 degree C
Recovery at 45 degree C



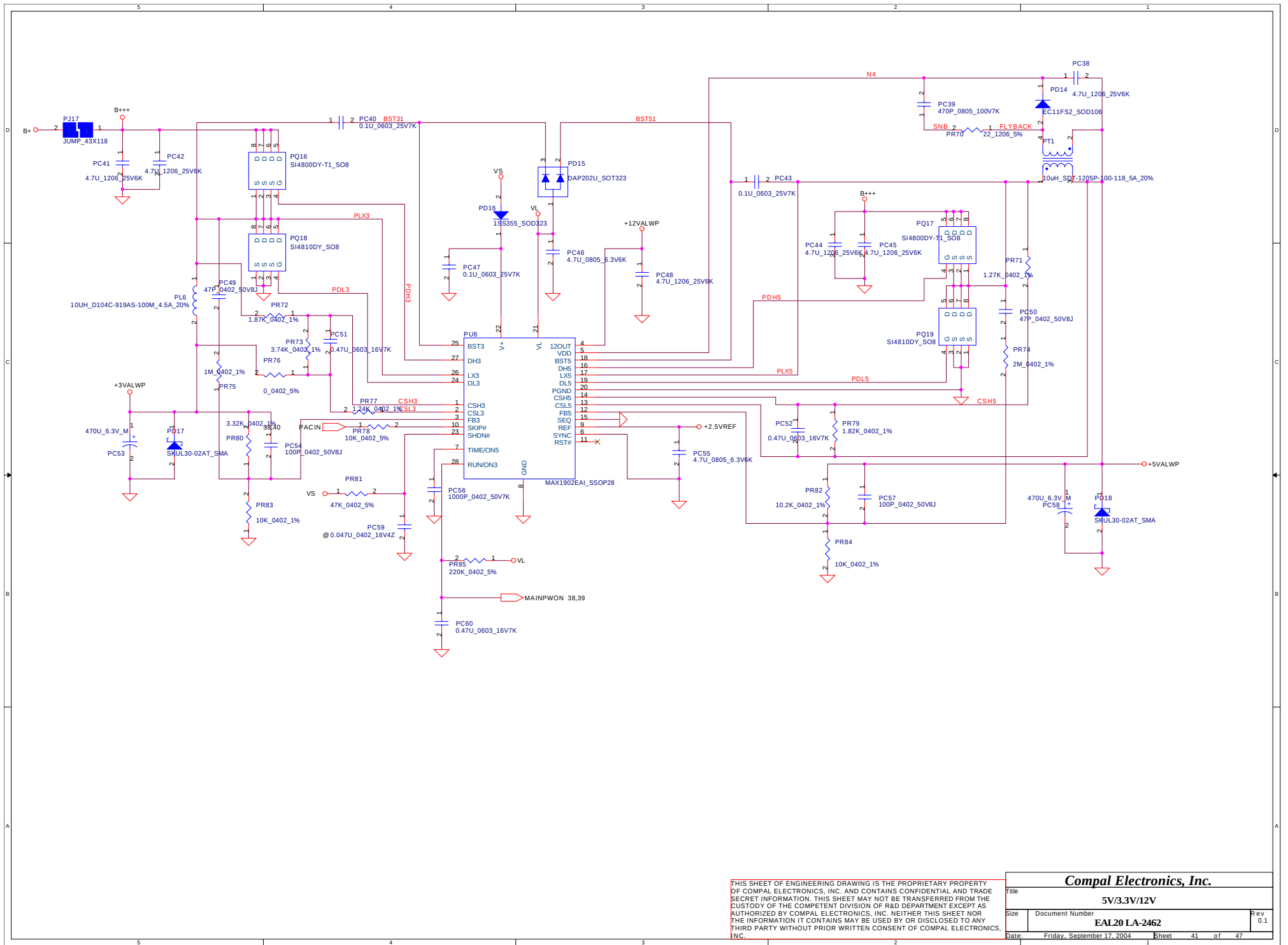
PH2 near main Battery CONN :
BAT. thermal protection at 79 degree C
Recovery at 45 degree C

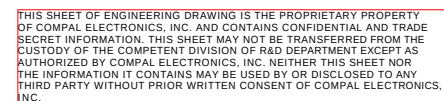


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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

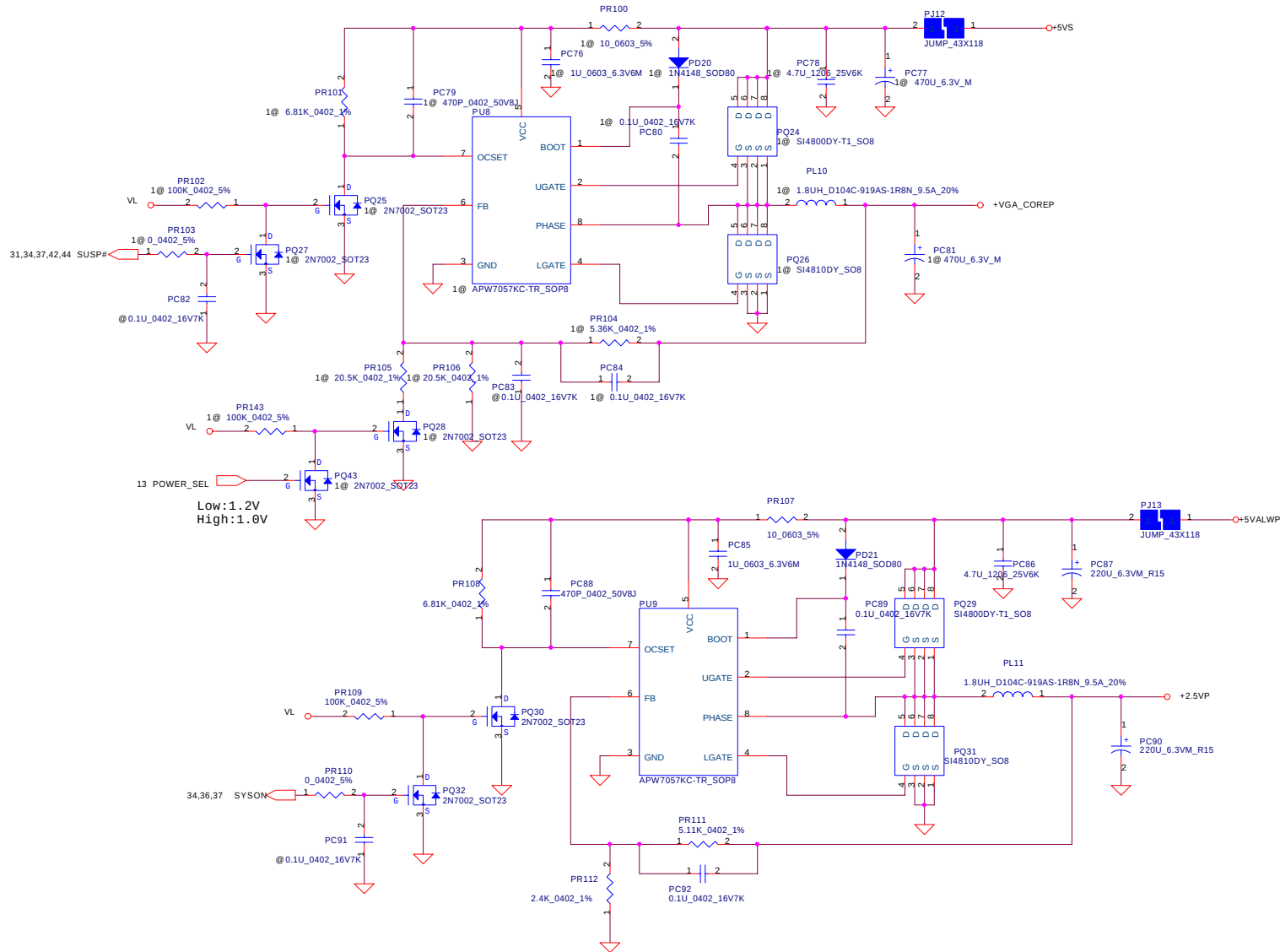
Compal Electronics, Inc.

Title		
BATTERY CONN / OTP		
Size	Document Number	Rev
	EAL20 LA-2462	0.1
Date:	Friday, September 17, 2004	Sheet 39 of 47





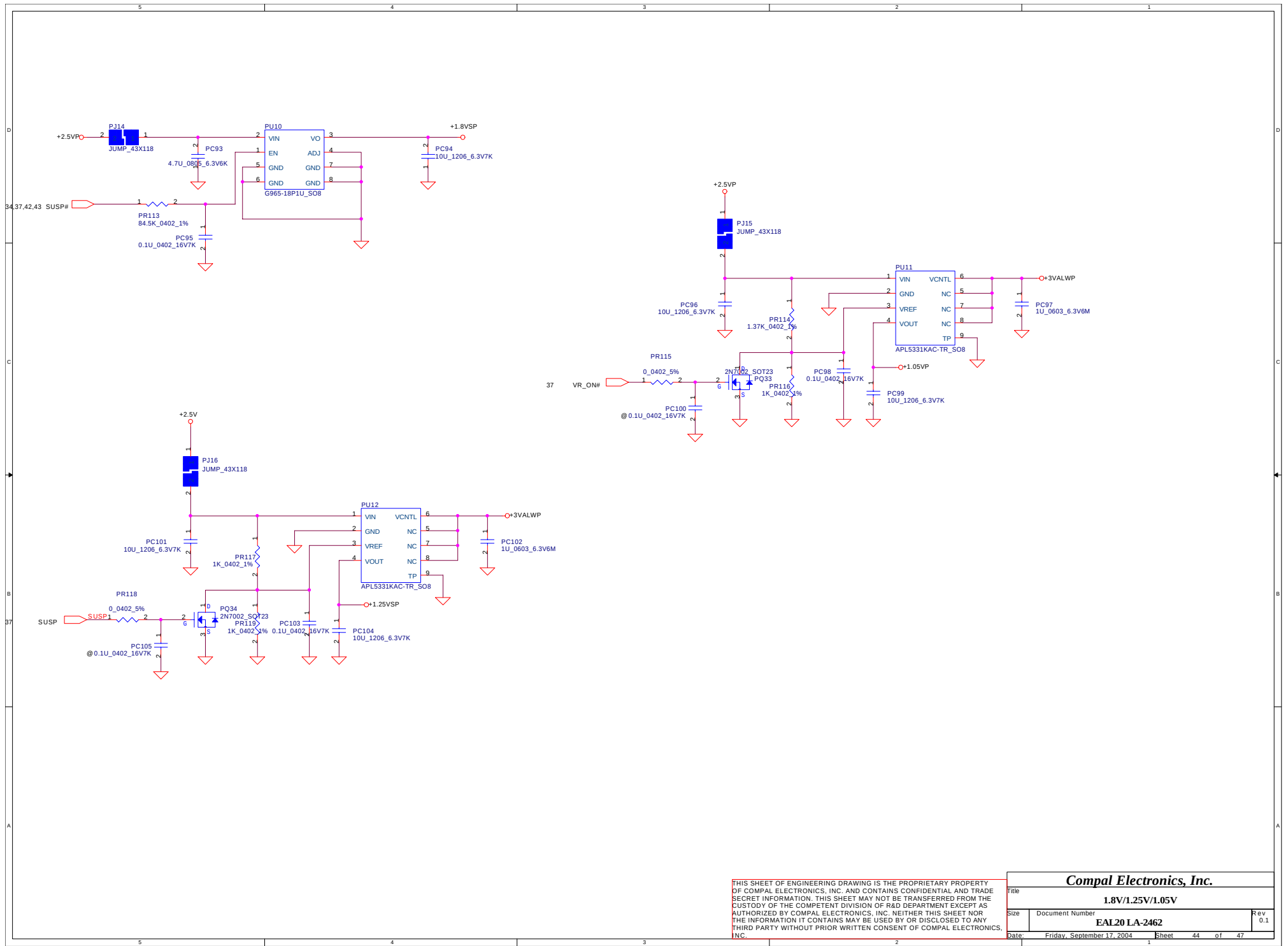
Title			
1.35V/1.5V			
Size	Document Number		Rev
	EAL20 LA-2462		0.1
Date:	Friday, September 17, 2004	Sheet 42 of 47	

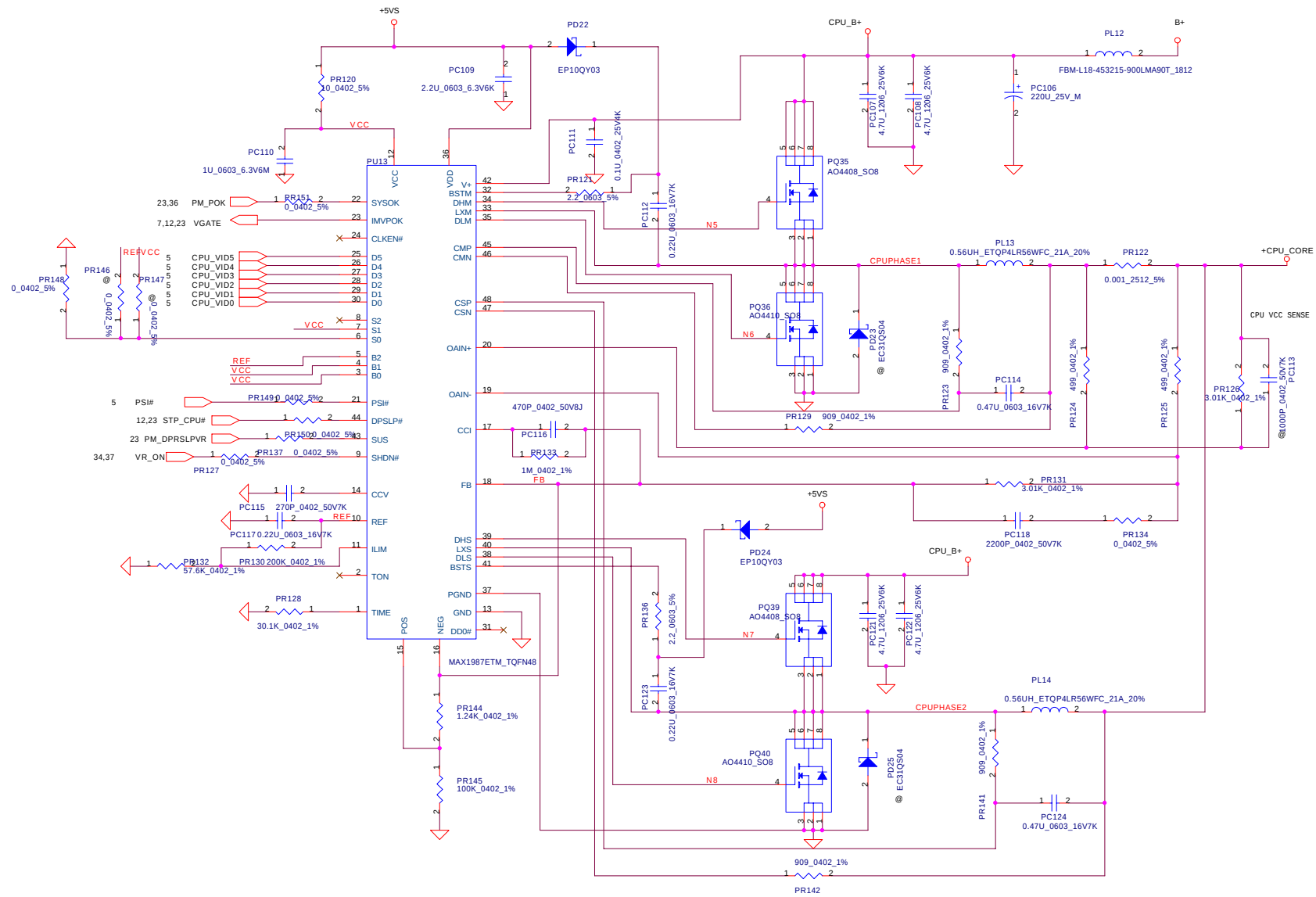


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.

Title		2.5V/VGA_CORE	
Size	Document Number	EAL20 LA-2462	
Date	Friday, September 17, 2004	Sheet	43 of 47
		Rev	0.1





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.			
Title			
CPU_CORE			
Size	Document Number	Rev	
	EAL20 LA-2462	0.1	
Date:	Friday, September 17, 2004	Sheet	45 of 47

PWR PIR LIST

		Compal Electronics, Inc.	
		Title	
		EAL20 PIR LIST	
Size	B	Document Number	
		EAL20 LA-2462	
Date		Friday, September 17, 2004	Sheet 46 of 47
Rev		0.1	

PROPRIETARY NOTE	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.
------------------	---

EAL20 LA-2462 SCHEMATIC CHANGE LIST
REVISION 0.1

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	P04		Add C702 to C709.	
2	P32		Q21.2 CD_PLAY to SYSON.	
3	P28		Layout: reverse D12.	

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.		
Title		
PIR LIST		
Size	Document Number	Rev
	EAL20 LA-2462	0.1
Date:	Friday, September 17, 2004	Sheet 47 of 47