

Compal Confidential

Fortworth Baniias EAL20 LA-2462 Schematic

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

2004-08-12

REV: 0.1

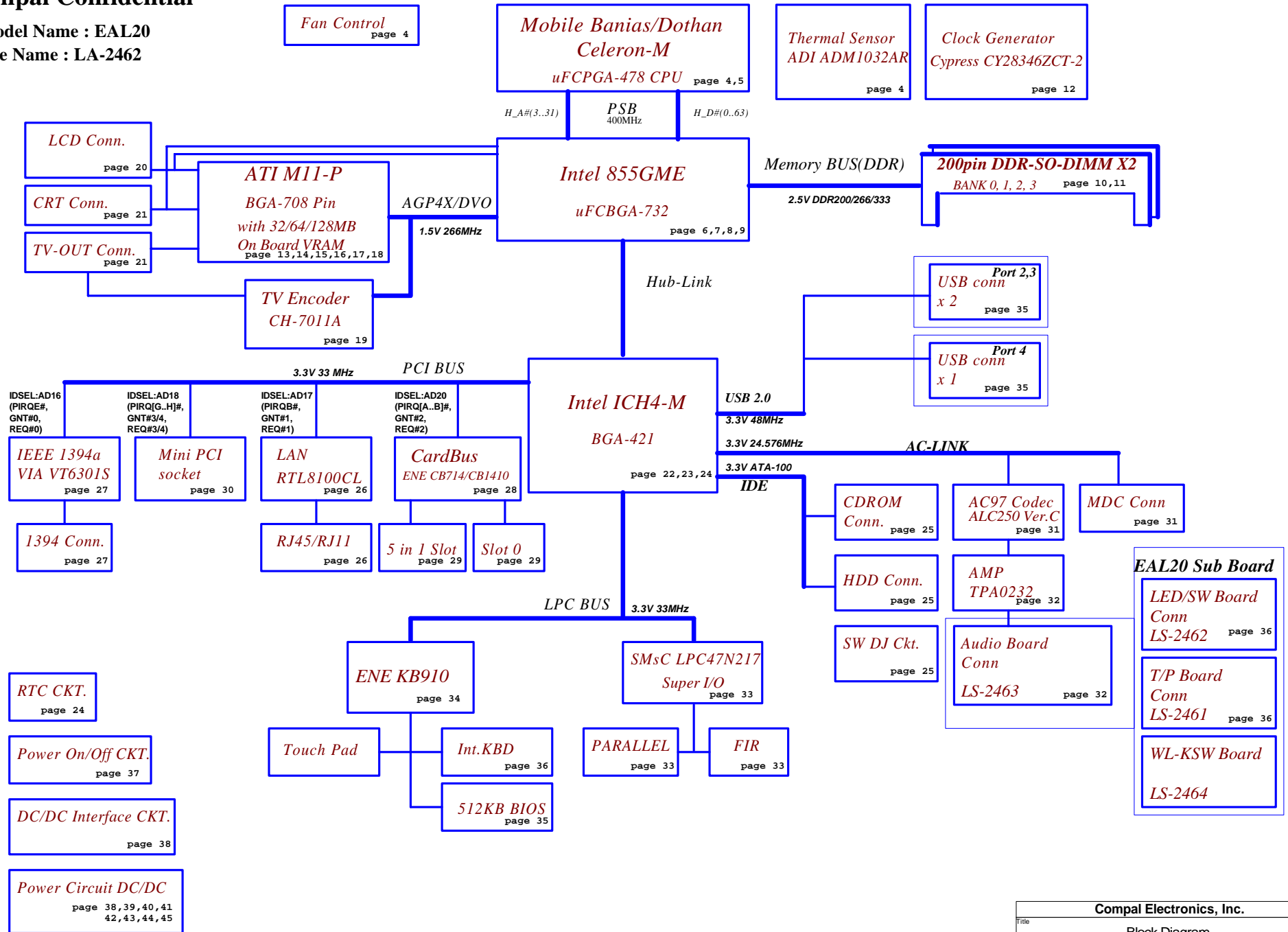
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Compal Confidential

Model Name : EAL20

File Name : LA-2462



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Title Block Diagram		
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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 #	PIRO
1394	D0	AD16	0	E
LAN	D1	AD17	1	F
CARD BUS	D4	AD20	2	A
5IN1	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 Banias Comparison Table

Item	* Describe	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	V _{AD_BID min}	V _{AD_BID typ}	V _{AD_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	

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Notes List		
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H_D#[0..63] <-> H_D#[0..63] <->

<6> H_A#[3..31] <-> H_A#[3..31]

H_A#3	P4C	A3#
H_A#4	U4C	A4#
H_A#5	V3C	A5#
H_A#6	R3C	A6#
H_A#7	V2C	A7#
H_A#8	W1C	A8#
H_A#9	A8#	A9#
H_A#10	W2C	A10#
H_A#11	Y4	A11#
H_A#12	Y1C	A12#
H_A#13	U1C	A13#
H_A#14	AA3C	A14#
H_A#15	Y3C	A15#
H_A#16	AA2C	A16#
H_A#17	A4C	A17#
H_A#18	AC4C	A18#
H_A#19	AC7C	A19#
H_A#20	AC3C	A20#
H_A#21	AD3C	A21#
H_A#22	AE4C	A22#
H_A#23	AD2C	A23#
H_A#24	AS4C	A24#
H_A#25	AC6C	A25#
H_A#26	AD5C	A26#
H_A#27	AD6C	A27#
H_A#28	AD6C	A28#
H_A#29	AF3C	A29#
H_A#30	AE1C	A30#
H_A#31	AE1C	A31#

D0#	CA19	H_D#0
D1#	CA25	H_D#1
D2#	CA22	H_D#2
D3#	CB21	H_D#3
D4#	CA24	H_D#4
D5#	CB26	H_D#5
D6#	CA21	H_D#6
D7#	CB20	H_D#7
D8#	CC20	H_D#8
D9#	CB24	H_D#9
D10#	CD24	H_D#10
D11#	CE24	H_D#11
D12#	CE26	H_D#12
D13#	CB23	H_D#13
D14#	CE23	H_D#14
D15#	CC25	H_D#15
D16#	CH23	H_D#16
D17#	CG25	H_D#17
D18#	CL23	H_D#18
D19#	CM26	H_D#19
D20#	CH24	H_D#20
D21#	CG25	H_D#21
D22#	CG24	H_D#22
D23#	CJ23	H_D#23
D24#	CM23	H_D#24
D25#	CJ25	H_D#25
D26#	CL26	H_D#26
D27#	CN24	H_D#27
D28#	CM25	H_D#28
D29#	CH26	H_D#29
D30#	CN25	H_D#30
D31#	CK25	H_D#31
D32#	CY26	H_D#32
D33#	AA24	H_D#33
D34#	CT25	H_D#34
D35#	CV23	H_D#35
D36#	R24	H_D#37
D37#	CR26	H_D#38
D38#	CR23	H_D#39
D39#	AA23	H_D#40
D40#	U26	H_D#41
D41#	U26	H_D#42
D42#	UV24	H_D#43
D43#	UV26	H_D#44
D44#	UV26	H_D#45
D45#	CV23	H_D#46
D46#	AA25	H_D#47
D47#	AB25	H_D#48
D48#	CA23	H_D#49
D49#	AB24	H_D#50
D50#	CAC20	H_D#51
D51#	CA22	H_D#52
D52#	CA22	H_D#53
D53#	CA23	H_D#54
D54#	CA23	H_D#55
D55#	AE22	H_D#56
D56#	AF23	H_D#57
D57#	AD24	H_D#58
D58#	AE20	H_D#59
D59#	AE21	H_D#60
D60#	AE26	H_D#61
D61#	AE22	H_D#62
D62#	AE26	H_D#63

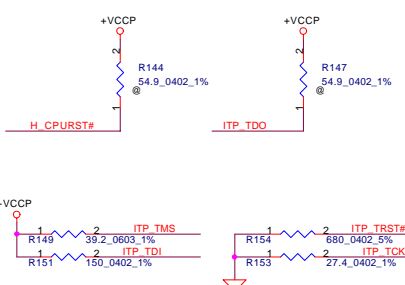
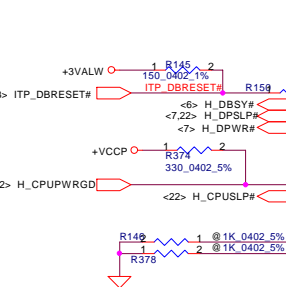
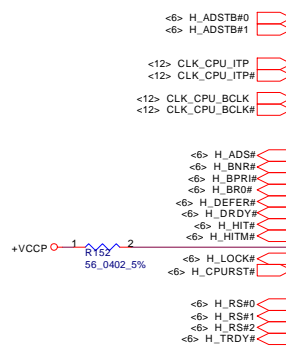
U12A	REQ0#	R2C	H_REQ#0
U12A	REQ1#	P3C	H_REQ#1
U12A	REQ2#	T2C	H_REQ#2
U12A	REQ3#	P1C	H_REQ#3
U12A	REQ4#	T1C	H_REQ#4
U12A	ADSTB0#	U3C	H_ADSTB#0
U12A	ADSTB1#	AE5C	H_ADSTB#1
U12A	ITP_CLK0	A16	H_ITP_CLK#0
U12A	ITP_CLK1	A15	H_ITP_CLK#1
U12A	BCLK0	B15	H_BCLK#0
U12A	BCLK1	B14	H_BCLK#1
U12A	ADS#	N2C	H_ADS#
U12A	BNR#	L1C	H_BNR#
U12A	BPR#	N4C	H_BPR#
U12A	BR0#	L4C	H_BR0#
U12A	DEFER#	K2C	H_DEFER#
U12A	DRDY#	K3C	H_DRDY#
U12A	HIT#	K4C	H_HIT#
U12A	HITM#	A4C	H_HITM#
U12A	IERR#	A4C	H_IERR#
U12A	H_LOCK#	B11C	H_LOCK#
U12A	H_CPURST#	B11C	H_CPURST#
U12A	RS0#	H1C	H_RS#0
U12A	RS1#	K1C	H_RS#1
U12A	RS2#	L2C	H_RS#2
U12A	TRDY#	M3C	H_TRDY#

U12A	BPM0#	C8C	H_BPM0#
U12A	BPM1#	C9C	H_BPM1#
U12A	BPM2#	A9C	H_BPM2#
U12A	BPM3#	C9C	H_BPM3#
U12A	DBR#	A7C	H_DBR#
U12A	DBSY#	M2C	H_DBSY#
U12A	DPSLP#	B7C	H_DPSLP#
U12A	DPIWR#	C19C	H_DPIWR#
U12A	PRDY#	A10C	H_PRDY#
U12A	PREQ#	B10C	H_PREQ#
U12A	PROCHOT#	B17C	H_PROCHOT#
U12A	PWRGOOD	E4	H_PWRGOOD
U12A	SLP#	A6C	H_SLP#
U12A	TCK	A13C	H_TCK
U12A	TDO	C12	H_TDO
U12A	TEST1	A12	H_TEST1
U12A	TEST2	C5	H_TEST2
U12A	TMS	F23	H_TMS
U12A	TRST#	B13C	H_TRST#

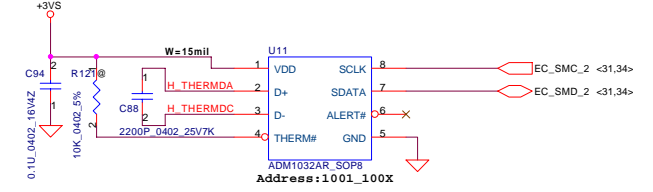
U12A	THERMDA	B18	H_THERMDA
U12A	THERMDC	A18	H_THERMDC
U12A	THERMTRIP#	C17C	H_THERMTRIP#

mFCBGA479

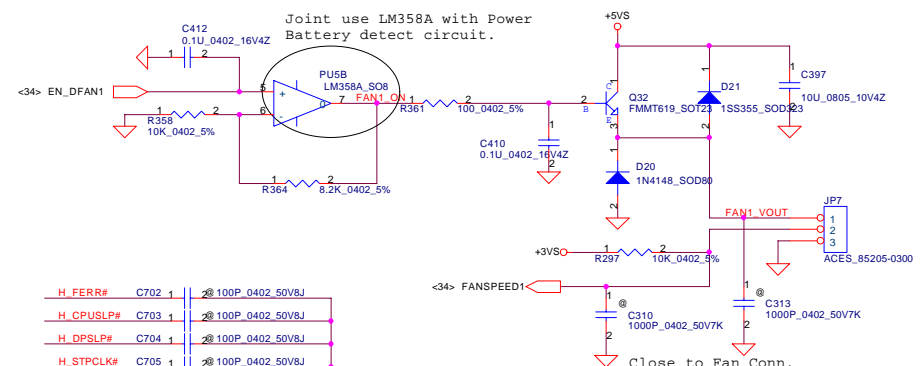
U12A	DIN#0	DD25	H_DIN#0
U12A	DIN#1	CJ26	H_DIN#1
U12A	DIN#2	CT24	H_DIN#2
U12A	DIN#3	AD20	H_DIN#3
U12A	DSTBN#0	CK24	H_DSTBN#0
U12A	DSTBN#1	W25	H_DSTBN#1
U12A	DSTBN#2	AE24	H_DSTBN#2
U12A	DSTBN#3	CC22	H_DSTBN#3
U12A	DSTBN#4	D50	H_DSTBN#4
U12A	DSTBN#5	L24	H_DSTBN#5
U12A	DSTBN#6	W24	H_DSTBN#6
U12A	DSTBN#7	AE25	H_DSTBN#7
U12A	A20M#	CG2	H_A20M#
U12A	H_FERR#	CA3	H_FERR#
U12A	H_IGNNE#	CB5	H_IGNNE#
U12A	H_INIT#	D1	H_INIT#
U12A	H_INTR	D4	H_INTR
U12A	H_NMI	D4	H_NMI
U12A	H_STPCLK#	CG6	H_STPCLK#
U12A	H_SMI#	CB4	H_SMI#



Thermal Sensor ADI ADM1032AR



Fan Control circuit



H_FERR#	C702	1	100P_0402_50V8J
H_CPUSLP#	C703	1	100P_0402_50V8J
H_DPSLP#	C704	1	100P_0402_50V8J
H_STPCLK#	C705	1	100P_0402_50V8J
H_INIT#	C706	1	100P_0402_50V8J
H_SMI#	C707	1	100P_0402_50V8J
H_IGNNE#	C708	1	100P_0402_50V8J
H_NMI	C709	1	100P_0402_50V8J

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 Title: INTEL CPU BANIAS (1 of 2)
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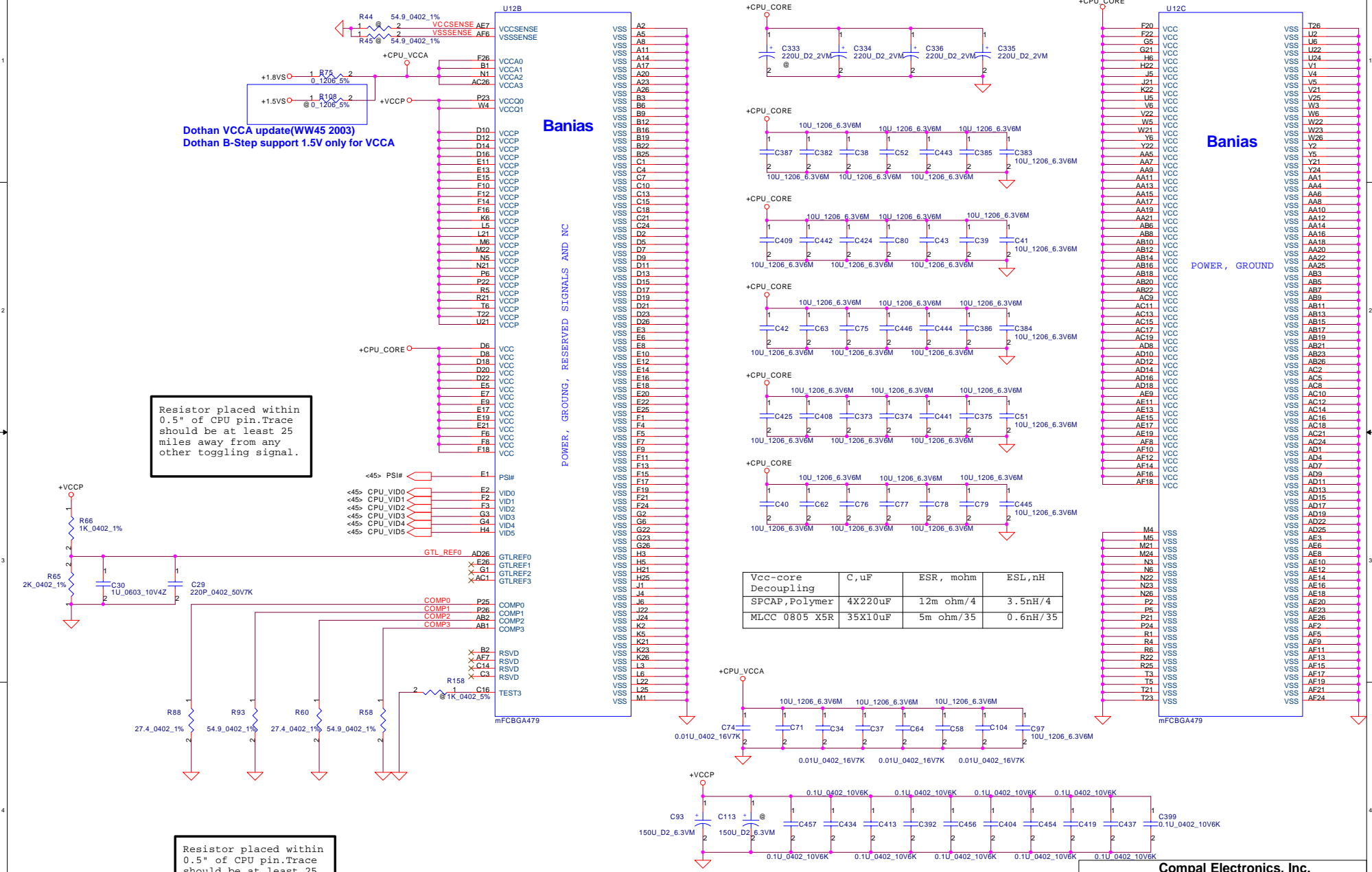
Dothan VCCA update(WW45 2003)
Dothan B-Step support 1.5V only for VCCA

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

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

Banias

POWER, GROUND, RESERVED SIGNALS AND NC

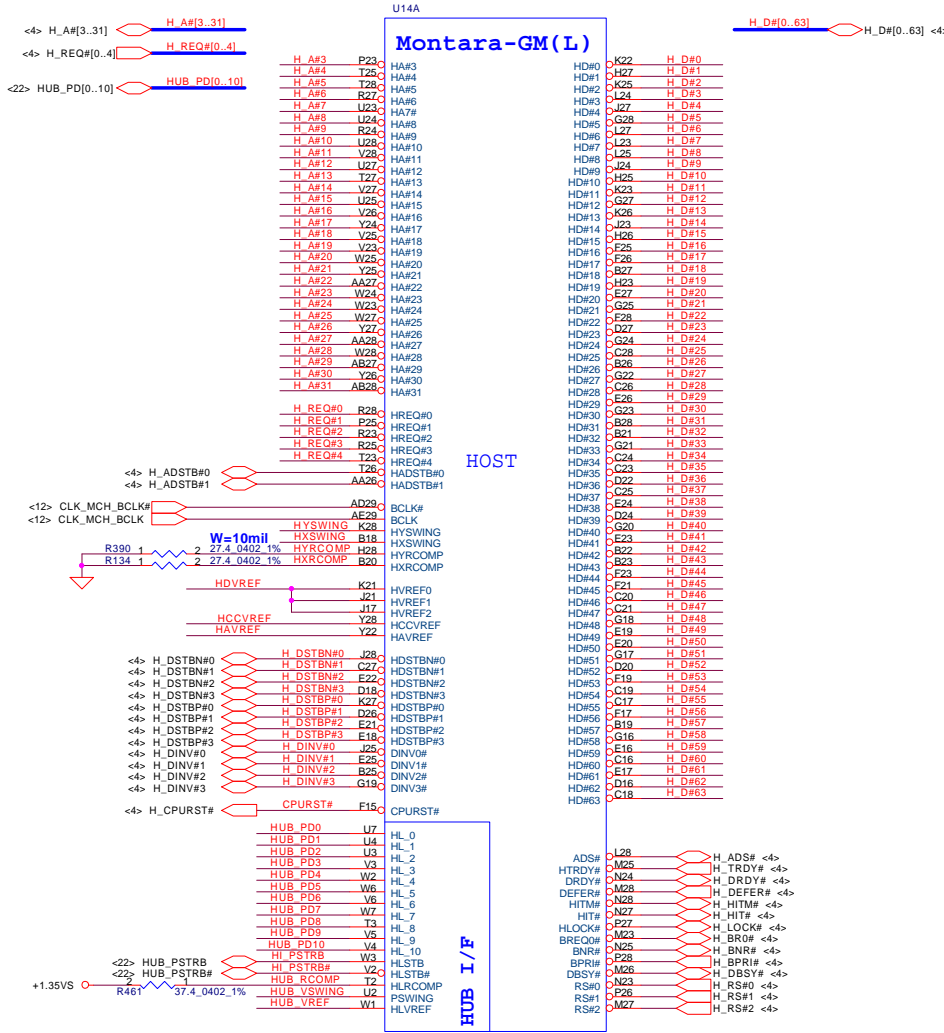


Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	1.2m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

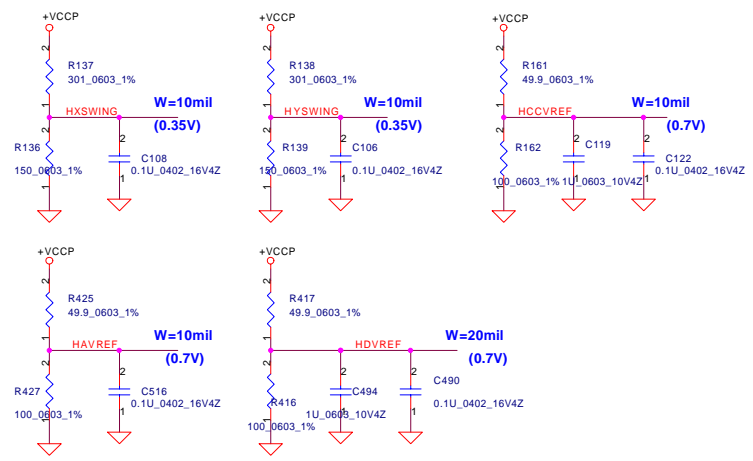
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INTEL CPU BANIAS (2 of 2)

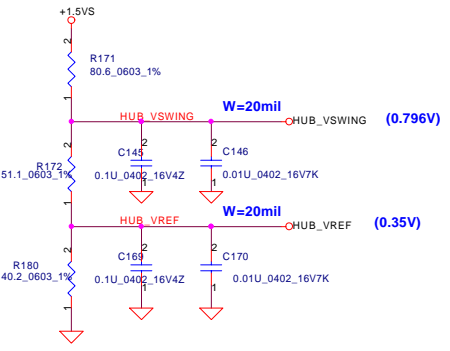
Title: EAL20 LA-2462
Size: Document Number: Rev: 0.1



HOST REF VOLTAGE



HUB I/F REF VOLTAGE



Compal Electronics, Inc.			
Title: INTEL 855GME-HOST(1/4)			
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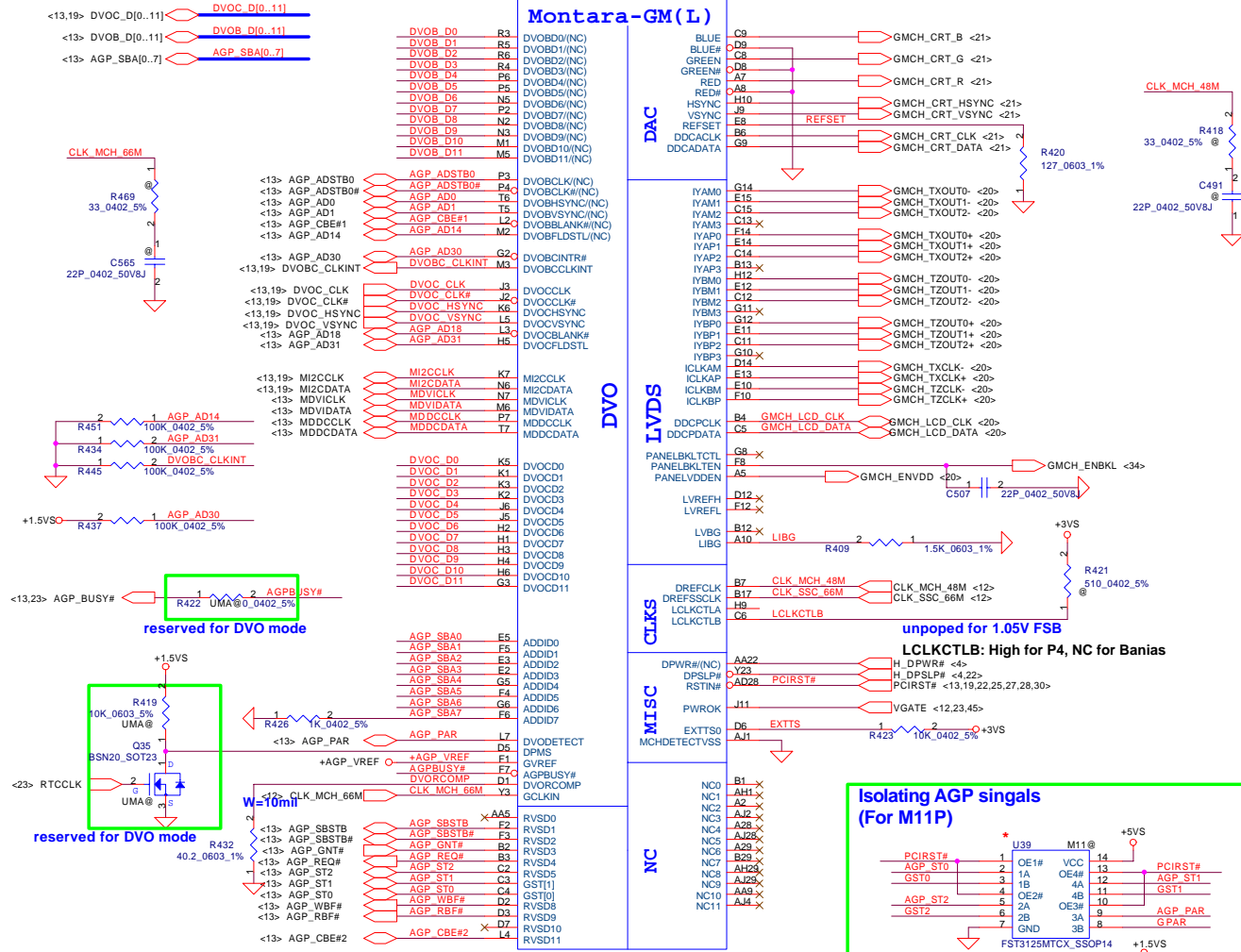
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855GME DVO/AGP Pin Muxing

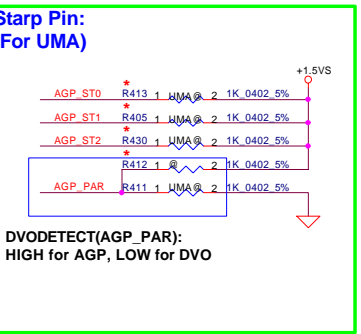
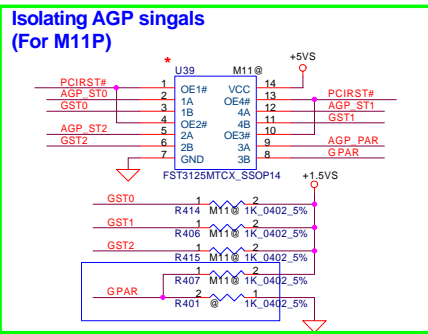
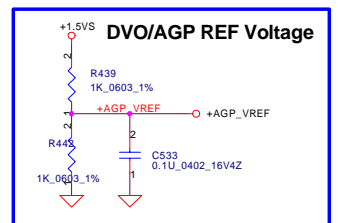
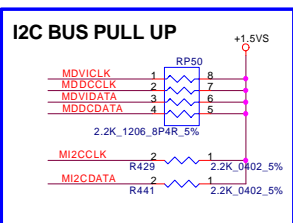
Ball	DVO Mode	AGP Mode
R3	DVOBD0	GAD3
R5	DVOBD1	GAD2
R6	DVOBD2	GAD5
R4	DVOBD3	GAD4
P6	DVOBD4	GAD7
P5	DVOBD5	GAD6
N5	DVOBD6	GAD8
P2	DVOBD7	GAD9
N2	DVOBD8	GAD10
N3	DVOBD9	GAD11
M1	DVOBD10	GAD12
M5	DVOBD11	GAD13
P3	DVOBCLK#	GAD14
P4	DVOBCLK#	GAD15
T6	DVOBHSYNC	GAD16
T5	DVOBVSYSYNC	GAD17
L2	DVOBBLANK	GAD18
M2	DVOBFLDSTL	GAD19
G2	DVOBCINTR#	GAD20
M3	DVOBCLKINT	GAD21
J3	DVOBCLK#	GAD22
J2	DVOBCLK#	GAD23
K6	DVOCHSYNC	GAD24
L5	DVOCVSYNC	GAD25
L3	DVOBCLANK	GAD26
H5	DVOCFDSTL	GAD27
K7	MI2CCLK	GAD28
N6	MI2CDATA	GAD29
N7	MI2CCLK	GAD30
M6	MDVIDATA	GAD31
P7	MDDCCLK	GAD32
T7	MDDCDATA	GAD33
K5	DVOCD1	GAD34
K1	DVOCD1	GAD35
K3	DVOCD2	GAD36
K4	DVOCD2	GAD37
J6	DVOCD4	GAD38
J5	DVOCD5	GAD39
H2	DVOCD6	GAD40
H1	DVOCD7	GAD41
H3	DVOCD8	GAD42
H4	DVOCD9	GAD43
H6	DVOCD10	GAD44
G3	ADDI0	GAD45
E5	ADDI0	GAD46
F5	ADDI1	GAD47
E2	ADDI2	GAD48
E3	ADDI3	GAD49
G5	ADDI4	GAD50
F4	ADDI5	GAD51
G6	ADDI6	GAD52
F6	ADDI7	GAD53
L7	DVODETECT	GAD54
D5	DPMS	GAD55
F2	RVSD1	GAD56
F3	RVSD2	GAD57
B2	RVSD3	GAD58
B3	RVSD4	GAD59
C2	RVSD5	GAD60
C3	GST1	GAD61
C4	GST0	GAD62
D2	RVSD6	GAD63
D3	RVSD9	GAD64
L4	RVSD11	GAD65

U14B

Montara-GM (L)



unpoped for 1.05V FS5
CLKCTLB: High for P4, NC for Banias



DVODETECT(AGP_PAR):
HIGH for AGP, LOW for DVO

Starp pin list

ST2	ST1	ST0	PSB/Mem/GFX
0	0	0	400 / 266 / 200
0	0	1	400 / 200 / 200
0	1	0	400 / 200 / 133
1	1	1	400 / 333 / 250 *

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DDR_SDO[0..63] <10> DDR_SMA[6..12] <10,11>
 DDR_SDO[0..7] <10> DDR_SDM[0..7] <10>

U14C
Montara-GM(L)

<10,11> DDR_SMA0 AC18C SMA0
 <10,11> DDR_SMA1 AD14C SMA1
 <10,11> DDR_SMA2 AD13C SMA2
 <10,11> DDR_SMA3 AD17C SMA3
 <10,11> DDR_SMA4 AD11C SMA4
 <10,11> DDR_SMA5 AC13C SMA5
 <10,11> DDR_SMA6 AD7C SMA6
 <10,11> DDR_SMA7 AD7C SMA7
 <10,11> DDR_SMA8 AC6C SMA8
 <10,11> DDR_SMA9 AC5C SMA9
 <10,11> DDR_SMA10 AC19C SMA10
 <10,11> DDR_SMA11 AD5C SMA11
 <10,11> DDR_SMA12 AB5C SMA12

DDR_SDO[0] AG2 SDO[0] AF2 DDR_SDO0
 DDR_SDO[1] AH6 SDO[1] AE3 DDR_SDO1
 DDR_SDO[2] AH6 SDO[2] AE3 DDR_SDO2
 DDR_SDO[3] AE12 SDO[3] AH2 DDR_SDO3
 DDR_SDO[4] AH17 SDO[4] AD3 DDR_SDO4
 DDR_SDO[5] AE21 SDO[5] AE2 DDR_SDO5
 DDR_SDO[6] AH24 SDO[6] AG4 DDR_SDO6
 DDR_SDO[7] AH27 SDO[7] AH3 DDR_SDO7
 AD15 SDO[8] AD6 DDR_SDO8
 SDO[9] AG5 DDR_SDO9
 SDO[10] AG7 DDR_SDO10
 SDO[11] AE8 DDR_SDO11
 SDO[12] AE5 DDR_SDO12
 SDO[13] AH4 DDR_SDO13
 SDO[14] AF7 DDR_SDO14
 SDO[15] AH6 DDR_SDO15
 SDO[16] AF8 DDR_SDO16
 SDO[17] AG8 DDR_SDO17
 SDO[18] AH9 DDR_SDO18
 SDO[19] AG10 DDR_SDO19
 SDO[20] AH7 DDR_SDO20
 SDO[21] AD9 DDR_SDO21
 SDO[22] AE10 DDR_SDO22
 SDO[23] AE11 DDR_SDO23
 SDO[24] AH10 DDR_SDO24
 SDO[25] AH11 DDR_SDO25
 SDO[26] AG13 DDR_SDO26
 SDO[27] AF14 DDR_SDO27
 SDO[28] AG11 DDR_SDO28
 SDO[29] AD12 DDR_SDO29
 SDO[30] AE13 DDR_SDO30
 SDO[31] AH13 DDR_SDO31
 SDO[32] AH16 DDR_SDO32
 SDO[33] AG17 DDR_SDO33
 SDO[34] AE19 DDR_SDO34
 SDO[35] AE20 DDR_SDO35
 SDO[36] AD18 DDR_SDO36
 SDO[37] AE18 DDR_SDO37
 SDO[38] AH18 DDR_SDO38
 SDO[39] AG19 DDR_SDO39
 SDO[40] AH20 DDR_SDO40
 SDO[41] AG20 DDR_SDO41
 SDO[42] AE22 DDR_SDO42
 SDO[43] AH22 DDR_SDO43
 SDO[44] AF20 DDR_SDO44
 SDO[45] AH19 DDR_SDO45
 SDO[46] AH21 DDR_SDO46
 SDO[47] AG22 DDR_SDO47
 SDO[48] AE23 DDR_SDO48
 SDO[49] AH23 DDR_SDO49
 SDO[50] AE24 DDR_SDO50
 SDO[51] AH25 DDR_SDO51
 SDO[52] AG23 DDR_SDO52
 SDO[53] AE23 DDR_SDO53
 SDO[54] AF25 DDR_SDO54
 SDO[55] AG25 DDR_SDO55
 SDO[56] AE26 DDR_SDO56
 SDO[57] AE26 DDR_SDO57
 SDO[58] AG28 DDR_SDO58
 SDO[59] AG28 DDR_SDO59
 SDO[60] AF26 DDR_SDO60
 SDO[61] AG28 DDR_SDO61
 SDO[62] AE27 DDR_SDO62
 SDO[63] AD27 DDR_SDO63

MEMORY

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 <10,11> DDR_SRAS# AC21C SRAS#
 <10,11> DDR_SCAS# AC24C SCAS#

<10> DDR_CLK0 AB2 SCK0
 <10> DDR_CLK0# AC2C SCK0#
 <10> DDR_CLK1 AC2C SCK1
 <10> DDR_CLK1# AB25C SCK1#
 AC3 SCK2
 AC4 SCK2#
 AC2 SCK2#
 AD2 SCK3#
 AC2 SCK4
 AB24C SCK4#
 AA3 SCK5
 AB4 SCK5#

<10,11> DDR_CKE0 AC7 SCKE0
 <10,11> DDR_CKE1 AB7 SCKE1
 <10,11> DDR_CKE2 AC3 SCKE2
 <10,11> DDR_CKE3 AC10 SCKE3
 <10,11> DDR_SCS#0 AD23 SCS#0
 <10,11> DDR_SCS#1 AD26 SCS#1
 <10,11> DDR_SCS#2 AC22C SCS#2
 <10,11> DDR_SCS#3 AC25C SCS#3

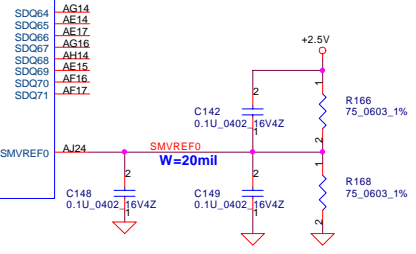
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 <10,11> DDR_SBS1 AD20 SBA1

DDR_SDM0 AE5 SDM0
 DDR_SDM1 AE6 SDM1
 DDR_SDM2 AE9 SDM2
 DDR_SDM3 AH12 SDM3
 DDR_SDM4 AD19C SDM4
 DDR_SDM5 AD21 SDM5
 DDR_SDM6 AH24C SDM6
 DDR_SDM7 AH28C SDM7
 AD15C SDM8

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 <10,11> DDR_SMA_B2 AC12C SMA_B2
 <10,11> DDR_SMA_B4 AF11C SMA_B4
 <10,11> DDR_SMA_B5 AD10C SMA_B5

RCVENOUT# AC15C RCVENIN#
 AB1 SMRCOMP
 AJ22 SMVSWINGL
 AJ19C SMVSWINGH

RG82855GME_uFCBGA732

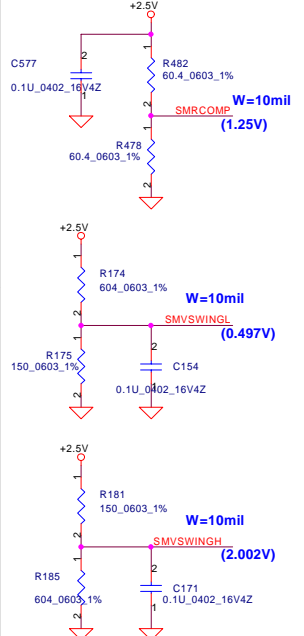


U14D

C1	VSS0	R17
L1	VSS1	U17
U1	VSS2	VSS93
AA1	VSS3	AB17
AE1	VSS4	AC17
AG1	VSS5	F18
AJ1	VSS6	J18
AK1	VSS7	AA18
AL1	VSS8	AG18
AM1	VSS9	A19
AN1	VSS10	H19
AO1	VSS11	AB19
AP1	VSS12	VSS103
AQ1	VSS13	AE19
AR1	VSS14	F20
AS1	VSS15	J20
AT1	VSS16	AA20
AU1	VSS17	AG20
AV1	VSS18	A21
AW1	VSS19	D21
AX1	VSS20	VSS111
AY1	VSS21	M21
AZ1	VSS22	VSS114
BA1	VSS23	T21
BB1	VSS24	V21
BC1	VSS25	VSS116
BD1	VSS26	AA21
BE1	VSS27	AB21
BF1	VSS28	VSS119
BG1	VSS29	AG21
BH1	VSS30	B21
BI1	VSS31	F22
BJ1	VSS32	J22
BK1	VSS33	L22
BL1	VSS34	VSS123
BM1	VSS35	VSS124
BN1	VSS36	VSS125
BO1	VSS37	R22
BP1	VSS38	U22
BQ1	VSS39	W22
BR1	VSS40	AE22
BS1	VSS41	A23
BT1	VSS42	D23
BU1	VSS43	AA23
BV1	VSS44	AG23
BW1	VSS45	B23
BX1	VSS46	F23
BY1	VSS47	J23
BZ1	VSS48	L23
CA1	VSS49	VSS134
CB1	VSS50	VSS135
CC1	VSS51	VSS136
CD1	VSS52	VSS137
CE1	VSS53	VSS138
CF1	VSS54	VSS139
CG1	VSS55	T24
CH1	VSS56	V24
CI1	VSS57	VSS141
CJ1	VSS58	AA24
CK1	VSS59	AG24
CL1	VSS60	VSS142
CM1	VSS61	VSS143
CN1	VSS62	A25
CO1	VSS63	D25
CP1	VSS64	AA25
CQ1	VSS65	VSS144
CR1	VSS66	AE25
CS1	VSS67	S26
CT1	VSS68	J26
CU1	VSS69	VSS148
CV1	VSS70	L26
CU1	VSS71	R26
CA1	VSS72	VSS150
CB1	VSS73	VSS151
CC1	VSS74	U26
CD1	VSS75	W26
CE1	VSS76	VSS153
CF1	VSS77	VSS154
CG1	VSS78	AB26
CH1	VSS79	A27
CI1	VSS80	F27
CJ1	VSS81	VSS157
CK1	VSS82	AC27
CL1	VSS83	AG27
CM1	VSS84	AA27
CN1	VSS85	VSS159
CO1	VSS86	VSS160
CP1	VSS87	VSS161
CQ1	VSS88	VSS162
CR1	VSS89	E29
CS1	VSS90	G29
CT1	VSS91	VSS164
CU1	VSS92	VSS165
CV1	VSS93	VSS166
CU1	VSS94	L29
CA1	VSS95	N29
CB1	VSS96	VSS168
CC1	VSS97	U29
CD1	VSS98	AA29
CE1	VSS99	VSS170
CF1	VSS100	AJ10
CG1	VSS101	AJ12
CH1	VSS102	VSS174
CI1	VSS103	AJ20
CJ1	VSS104	C22
CK1	VSS105	VSS176
CL1	VSS106	D28
CM1	VSS107	E28
CN1	VSS108	L6
CO1	VSS109	T9
CP1	VSS110	AA28
CQ1	VSS111	VSS180
CR1	VSS112	VSS181
CS1	VSS113	
CT1	VSS114	
CU1	VSS115	
CV1	VSS116	
CU1	VSS117	
CA1	VSS118	
CB1	VSS119	
CC1	VSS120	
CD1	VSS121	
CE1	VSS122	
CF1	VSS123	
CG1	VSS124	
CH1	VSS125	
CI1	VSS126	
CJ1	VSS127	
CK1	VSS128	
CL1	VSS129	
CM1	VSS130	
CN1	VSS131	
CO1	VSS132	
CP1	VSS133	
CQ1	VSS134	
CR1	VSS135	
CS1	VSS136	
CT1	VSS137	
CU1	VSS138	
CV1	VSS139	
CU1	VSS140	
CA1	VSS141	
CB1	VSS142	
CC1	VSS143	
CD1	VSS144	
CE1	VSS145	
CF1	VSS146	
CG1	VSS147	
CH1	VSS148	
CI1	VSS149	
CJ1	VSS150	
CK1	VSS151	
CL1	VSS152	
CM1	VSS153	
CN1	VSS154	
CO1	VSS155	
CP1	VSS156	
CQ1	VSS157	
CR1	VSS158	
CS1	VSS159	
CT1	VSS160	
CU1	VSS161	
CV1	VSS162	
CU1	VSS163	
CA1	VSS164	
CB1	VSS165	
CC1	VSS166	
CD1	VSS167	
CE1	VSS168	
CF1	VSS169	
CG1	VSS170	
CH1	VSS171	
CI1	VSS172	
CJ1	VSS173	
CK1	VSS174	
CL1	VSS175	
CM1	VSS176	
CN1	VSS177	
CO1	VSS178	
CP1	VSS179	
CQ1	VSS180	
CR1	VSS181	
CS1	VSS182	
CT1	VSS183	
CU1	VSS184	
CV1	VSS185	
CU1	VSS186	
CA1	VSS187	
CB1	VSS188	
CC1	VSS189	
CD1	VSS190	
CE1	VSS191	
CF1	VSS192	
CG1	VSS193	
CH1	VSS194	
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CJ1	VSS196	
CK1	VSS197	
CL1	VSS198	
CM1	VSS199	
CN1	VSS200	

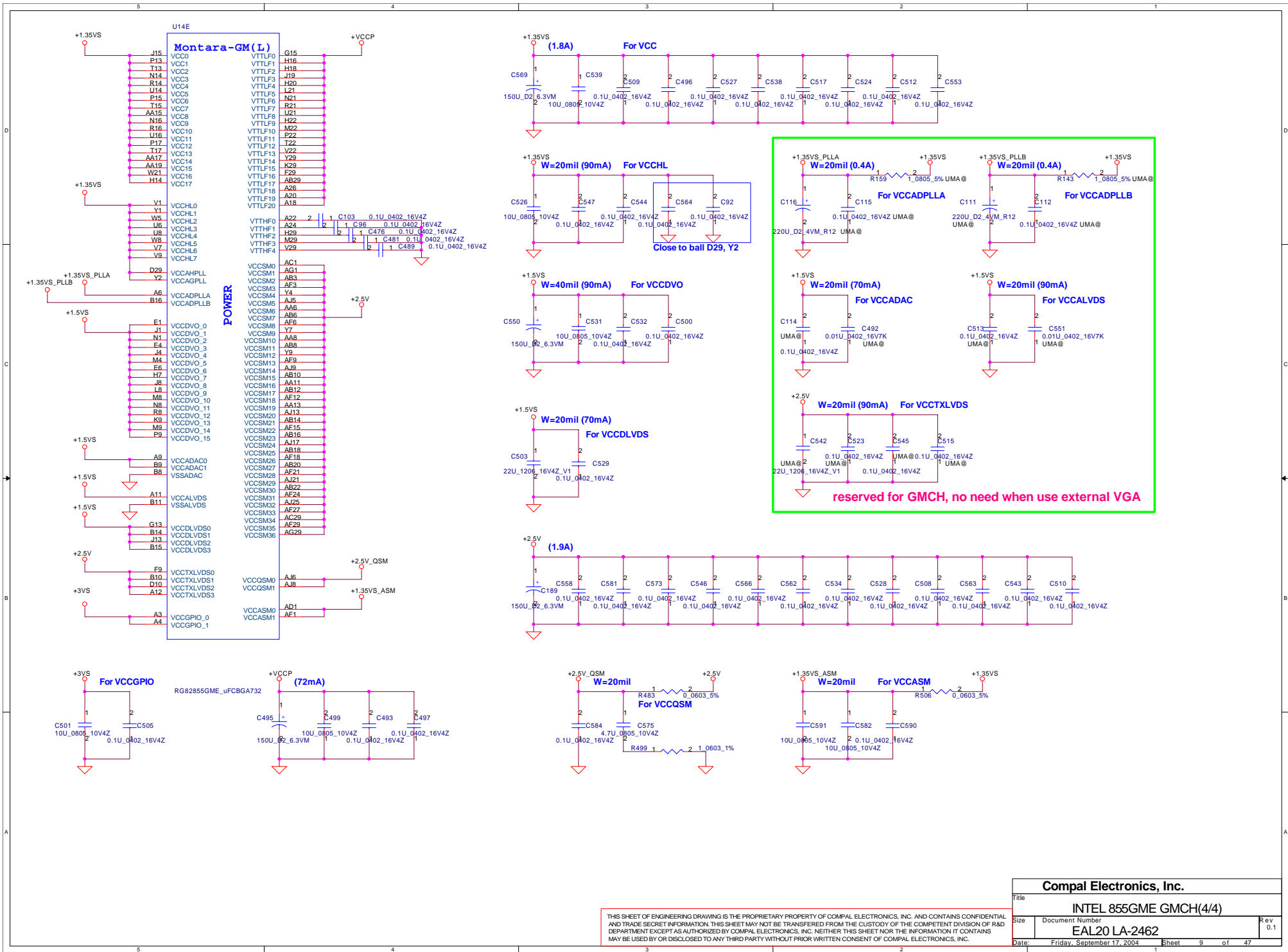
Montara-GM(L)

DDR REF & SWING VOLTAGE



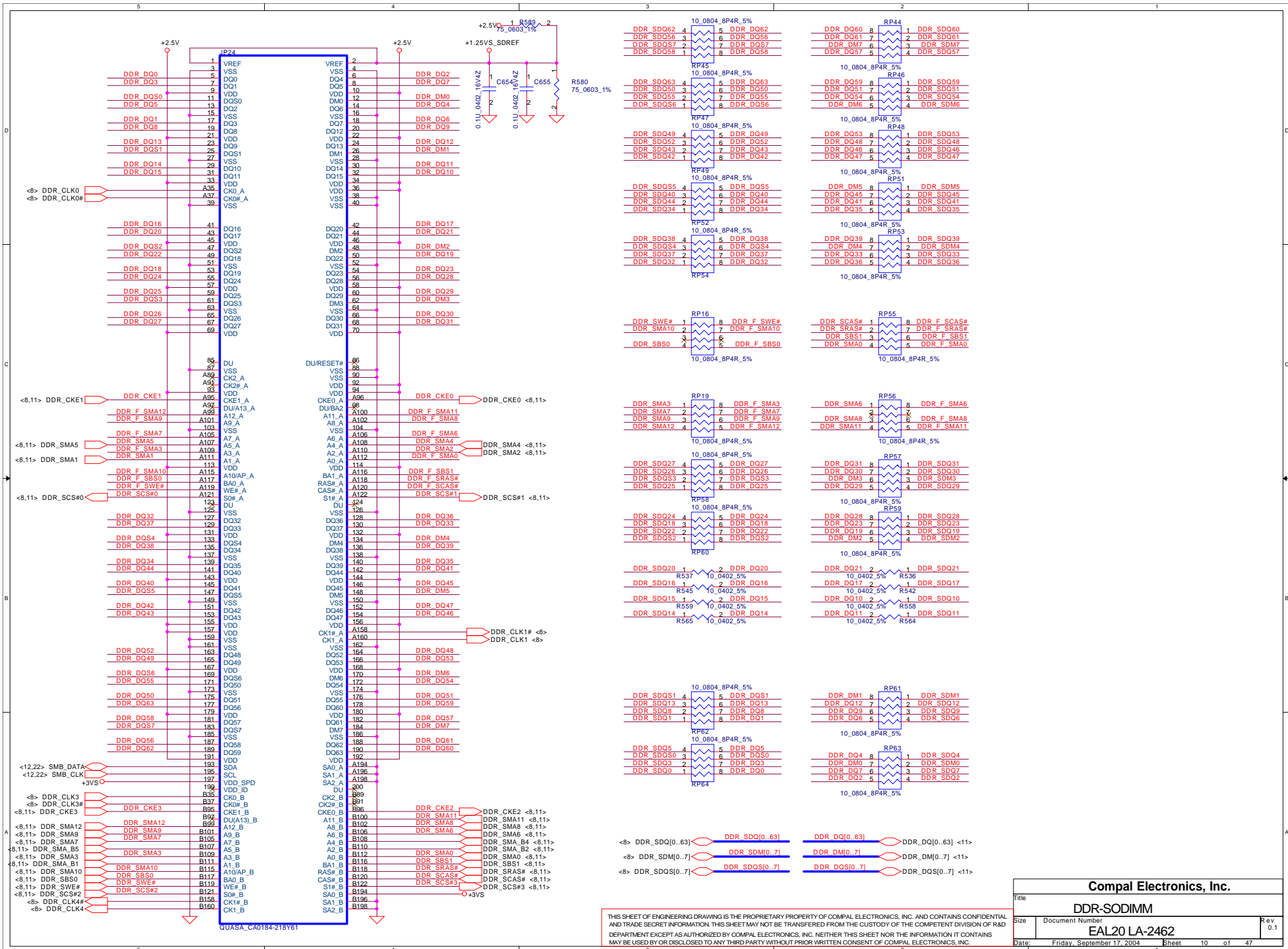
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File INTEL 855GME DDR(3/4)			
Date	Document Number	Rev	
Friday, September 17, 2004	EAL20 LA-2462	0.1	
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Title	INTEL 855GME GMCH(4/4)	
Size	Document Number	Rev
	EAL20 LA-2462	0.1
Date:	Friday, September 17, 2004	Sheet 9 of 47

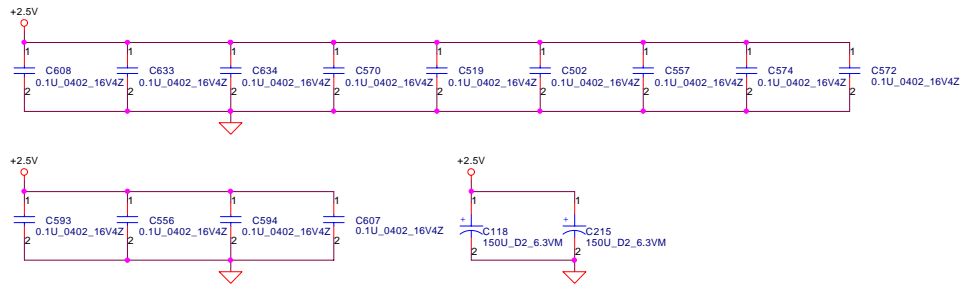
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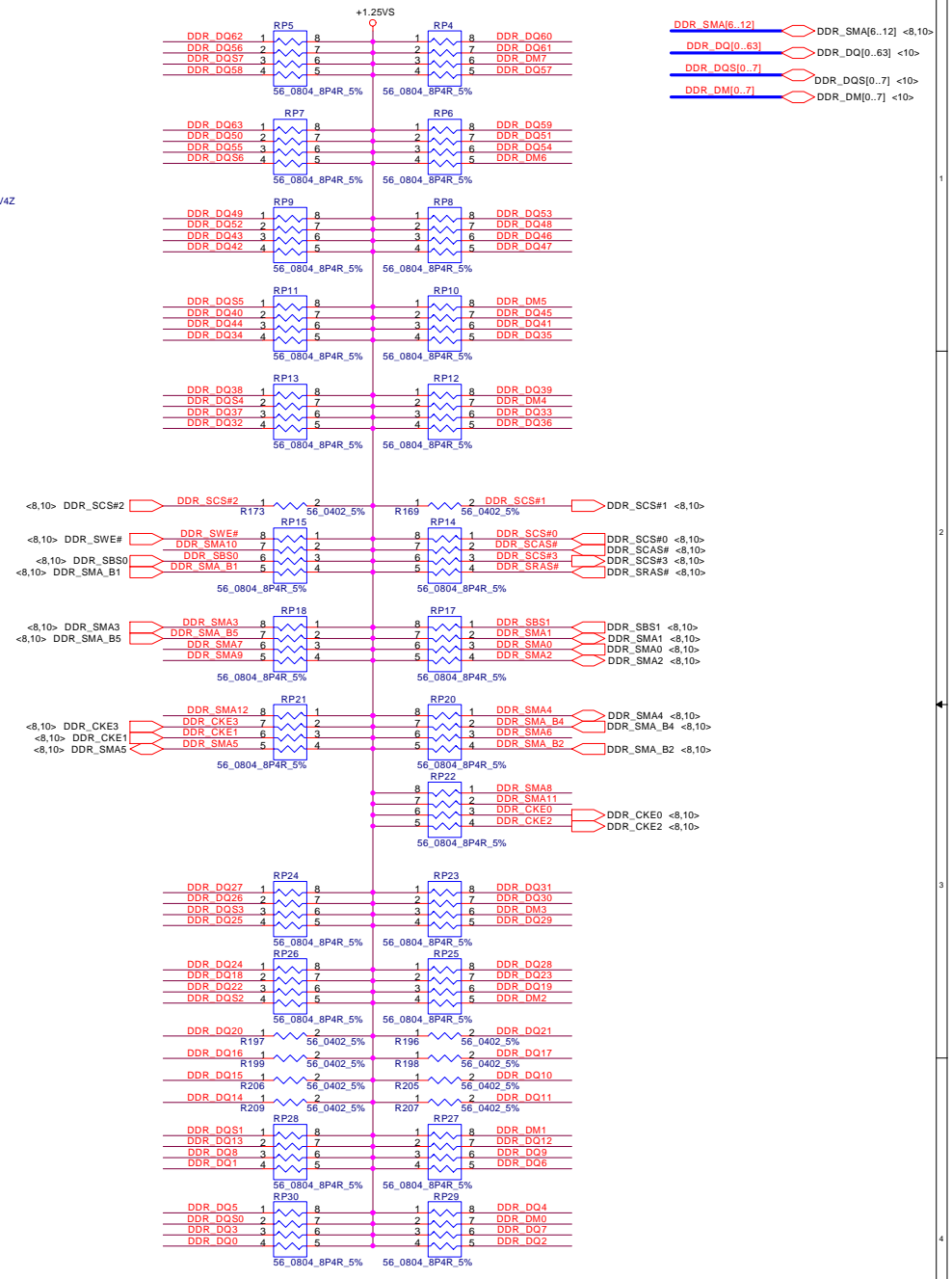
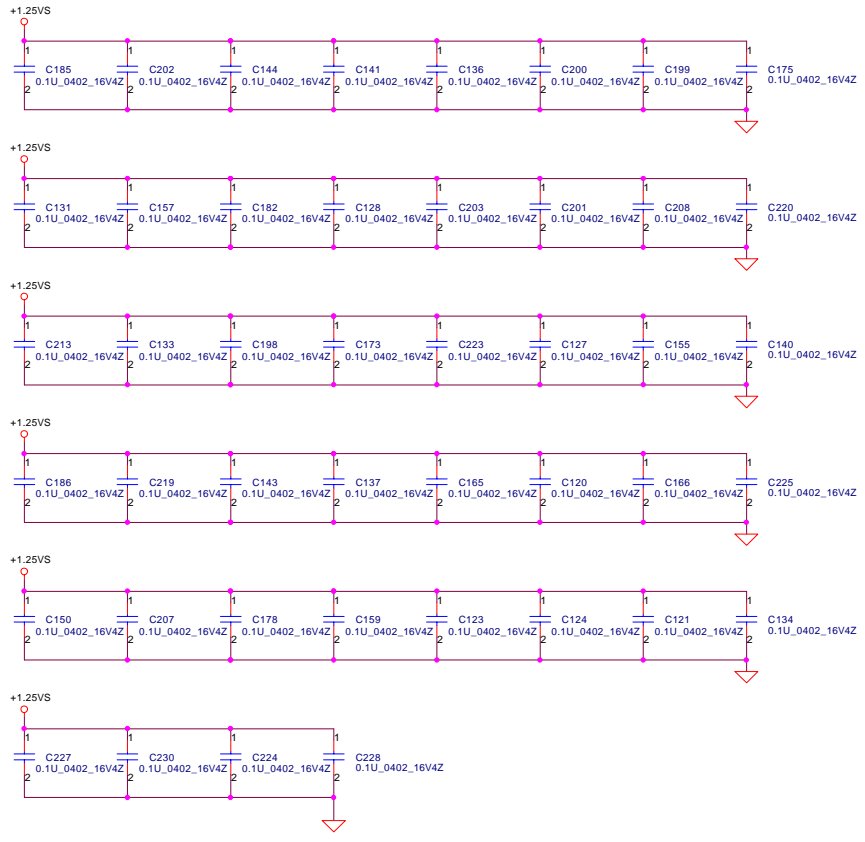
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Compal Electronics, Inc.		
DDR-SODIMM		
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Layout note :
Distribute as close as possible to DDR-SODIMM.



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

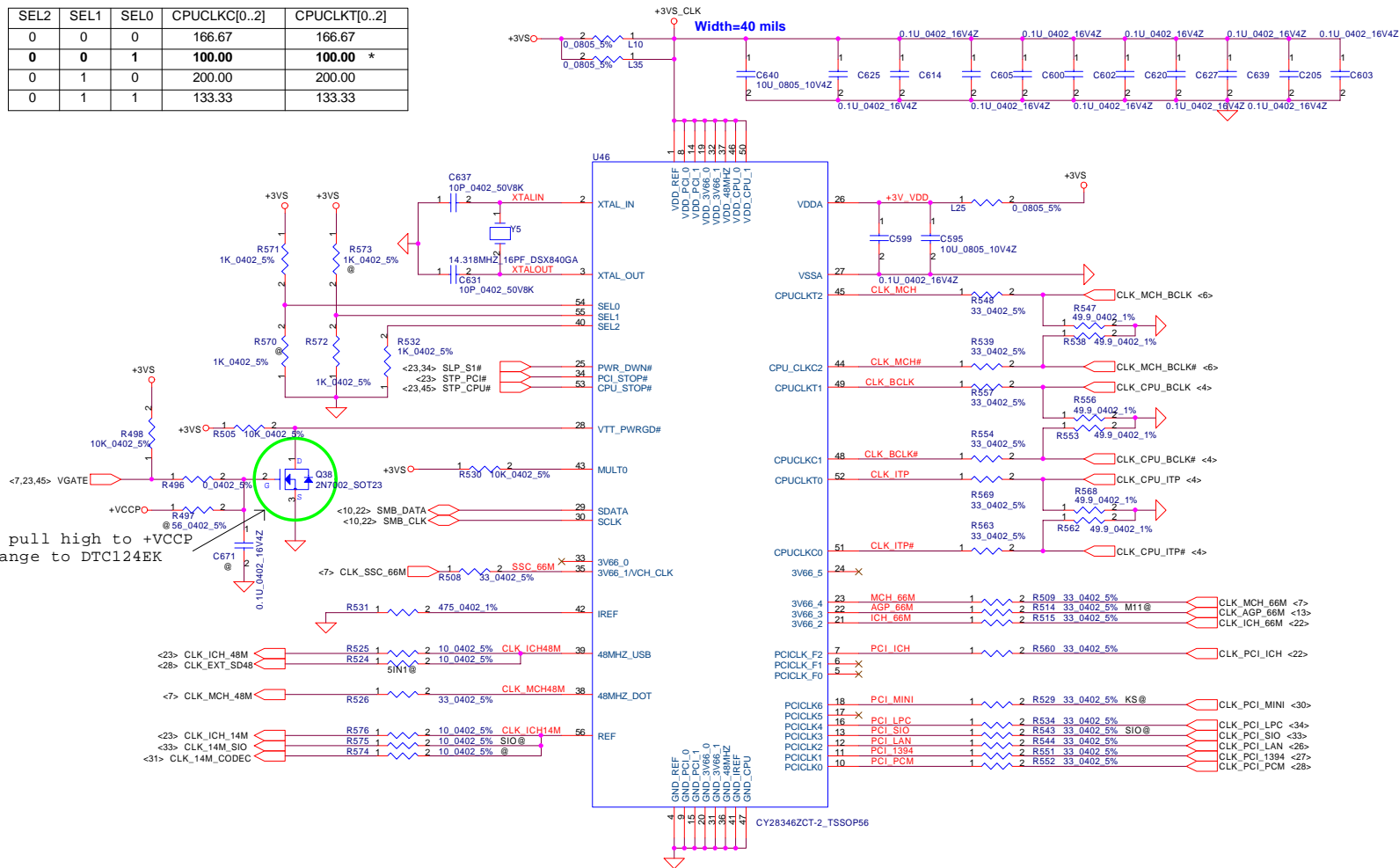


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Compal Electronics, Inc.		
Title DDR SODIMM Decoupling		
Size	Document Number	Rev
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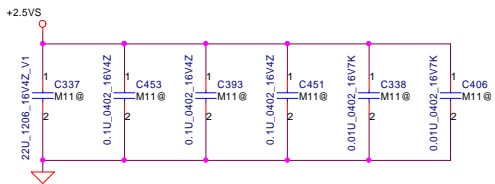
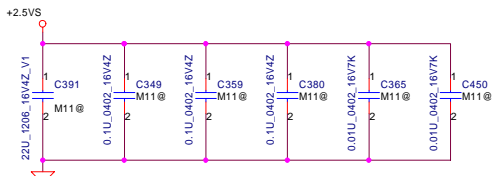
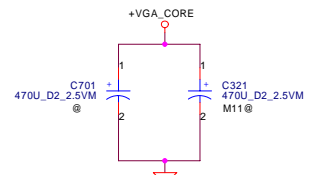
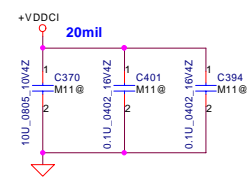
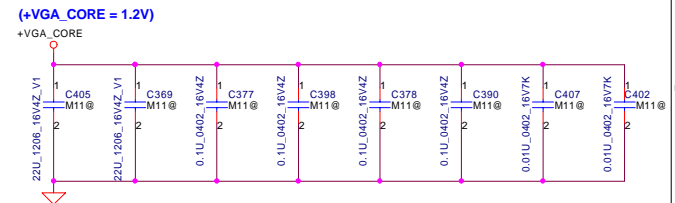
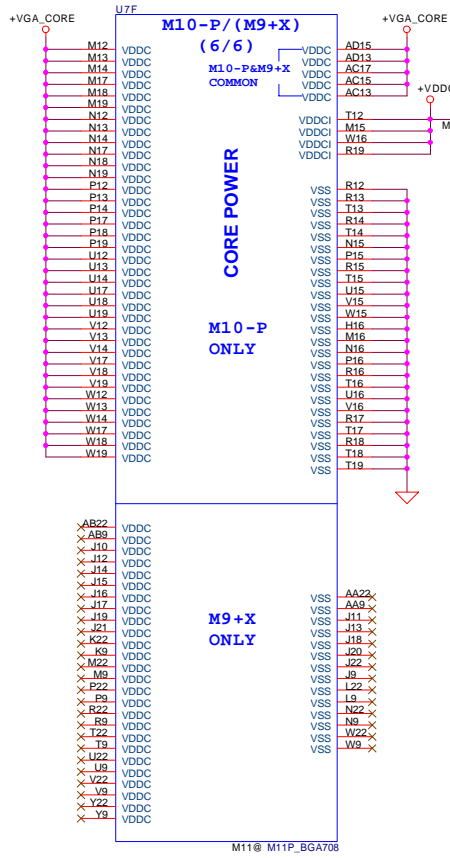
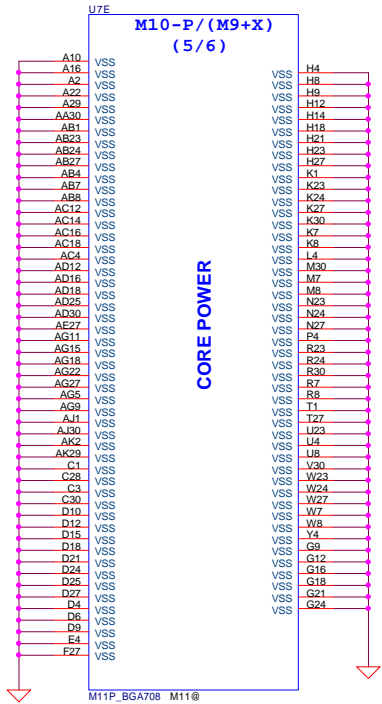
Clock Generator

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



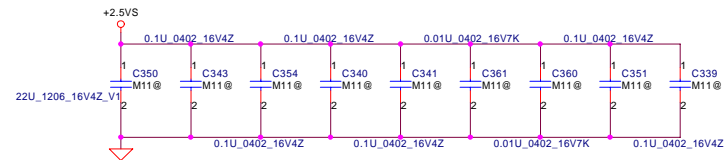
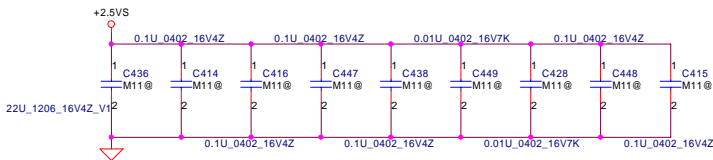
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Compal Electronics, Inc.		
Title: Clock Generator		
Size: EAL20 LA-2462	Document Number: EAL20 LA-2462	Rev: 0.1
Date: Friday, September 17, 2004	Sheet: 12	of 47

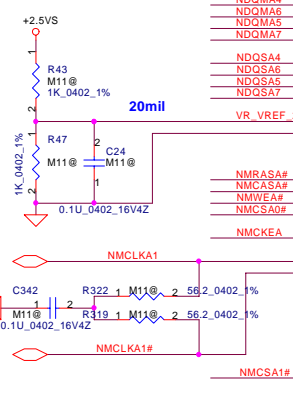
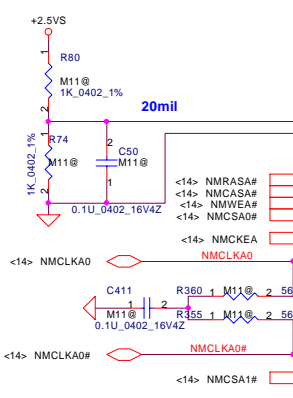
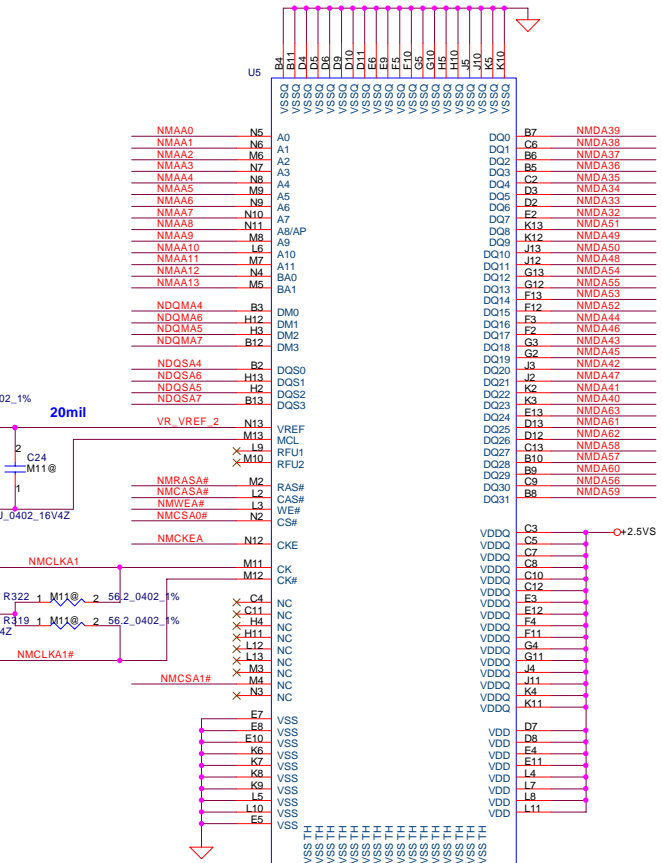
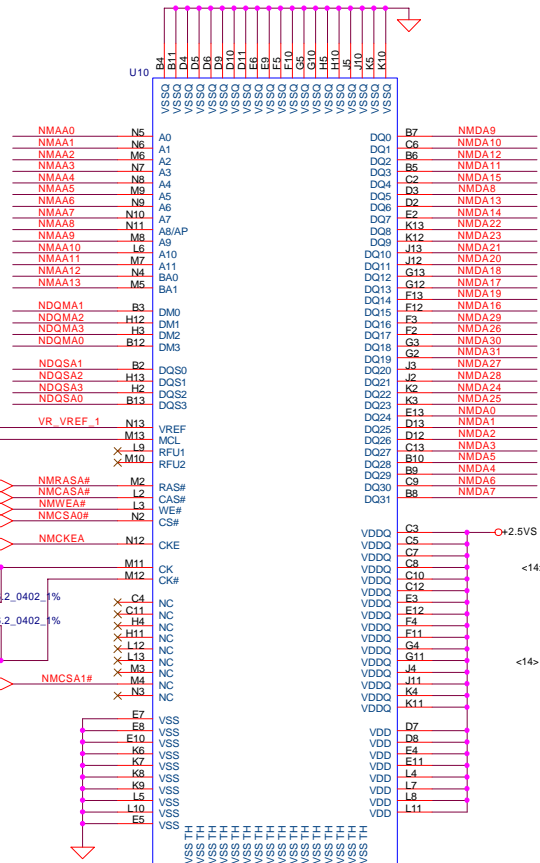


Compal Electronics, Inc.			
Title	ATI M10-P/M11-POWER/GND(4/4)		
Size	Document Number	EAL20 LA-2462	
Date:	Friday, September 17, 2004	Sheet	16 of 47
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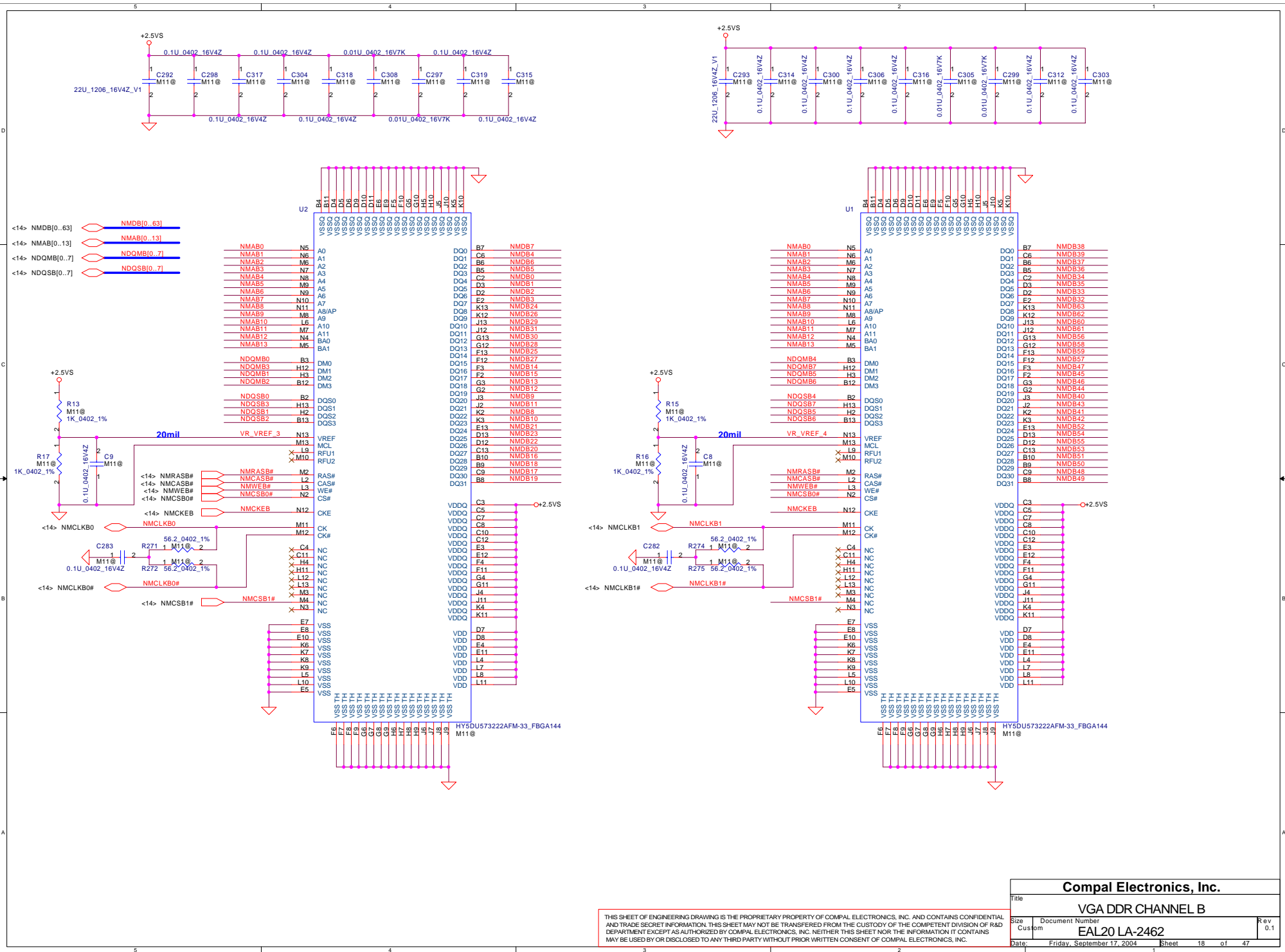


- <14> NMDA[0..63]
- <14> NMAA[0..13]
- <14> NDQMA[0..7]
- <14> NDQSA[0..7]



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Compal Electronics, Inc.		
Title VGA DDR CHANNEL A		
Size Custom	Document Number EAL20 LA-2462	Rev 0.1
Date:	Friday, September 17, 2004	Sheet 17 of 47

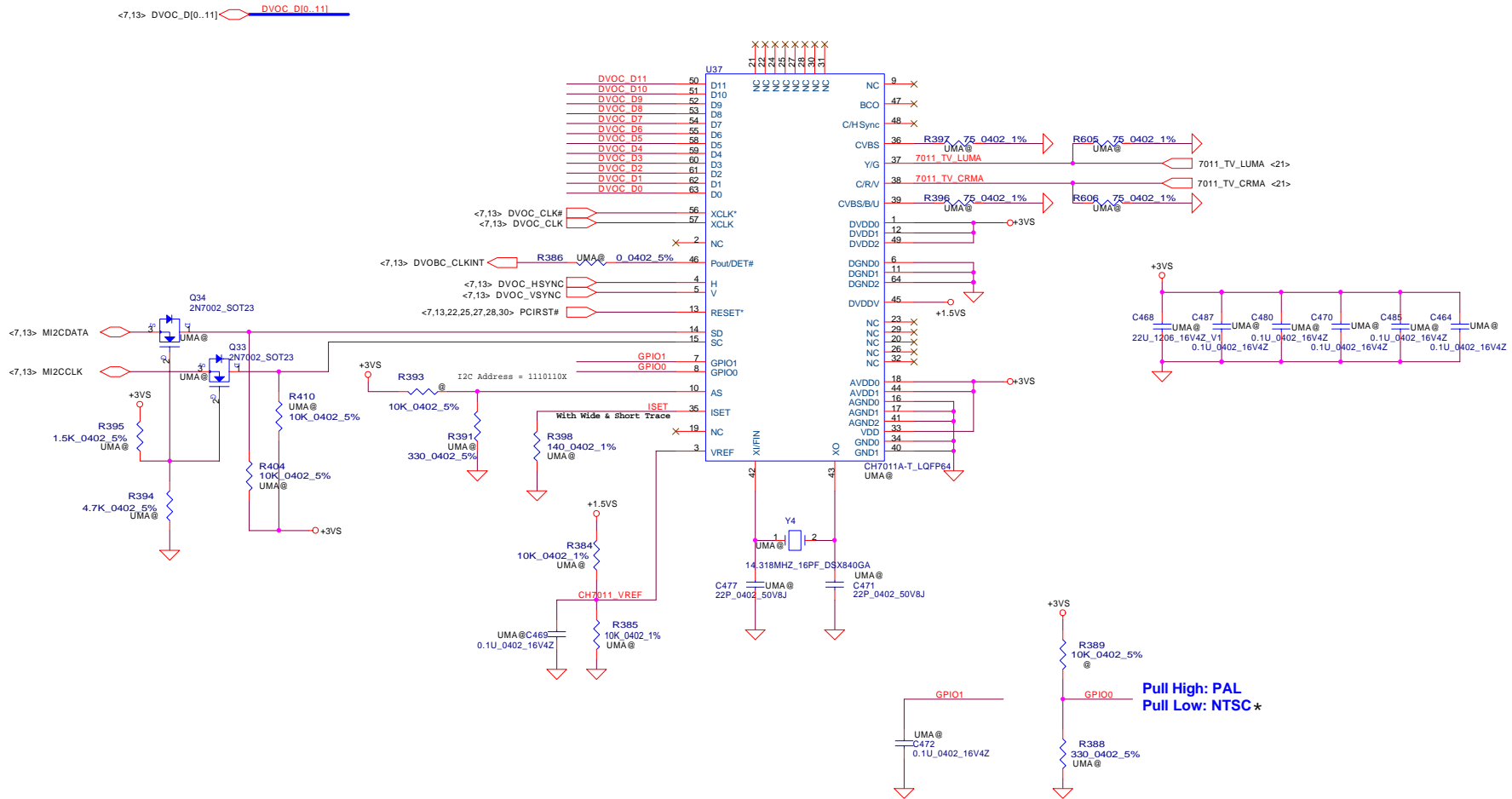


Compal Electronics, Inc.			
Title		VGA DDR CHANNEL B	
Size	Document Number	Rev	
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TV Encoder

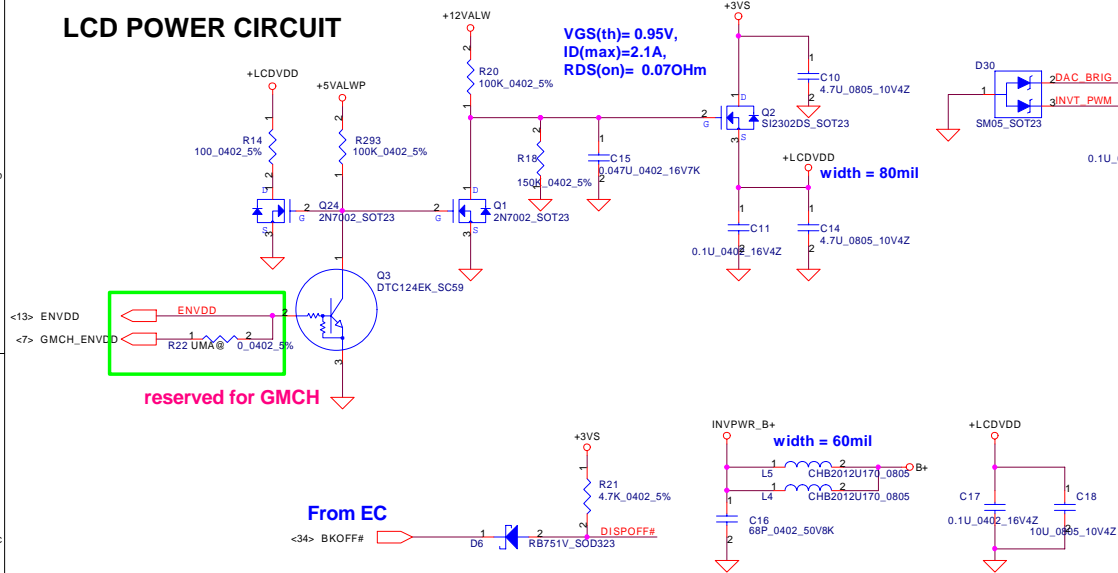
remove this page when use M11P



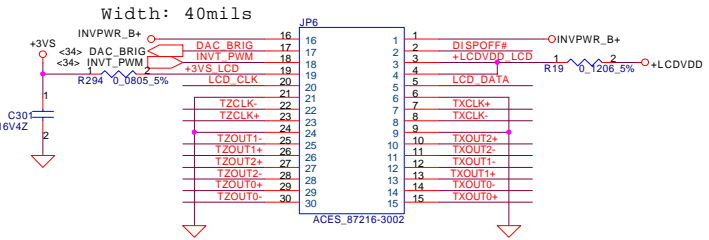
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Compal Electronics, Inc.		
Title TV Encoder CH7011A		
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LCD POWER CIRCUIT



LCD CONN.

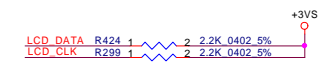


<13> M11_TXOUT0-	M11_TXOUT0-	R266	1	M11@	2	0.0402	5%	TXOUT0-
<13> M11_TXOUT0+	M11_TXOUT0+	R267	1	M11@	2	0.0402	5%	TXOUT0+
<13> M11_TXOUT1-	M11_TXOUT1-	R264	1	M11@	2	0.0402	5%	TXOUT1-
<13> M11_TXOUT1+	M11_TXOUT1+	R265	1	M11@	2	0.0402	5%	TXOUT1+
<13> M11_TXOUT2-	M11_TXOUT2-	R263	1	M11@	2	0.0402	5%	TXOUT2-
<13> M11_TXOUT2+	M11_TXOUT2+	R262	1	M11@	2	0.0402	5%	TXOUT2+
<13> M11_TXCLK-	M11_TXCLK-	R261	1	M11@	2	0.0402	5%	TXCLK-
<13> M11_TXCLK+	M11_TXCLK+	R260	1	M11@	2	0.0402	5%	TXCLK+
<13> M11_TZOUT0-	M11_TZOUT0-	R259	1	M11@	2	0.0402	5%	TZOUT0-
<13> M11_TZOUT0+	M11_TZOUT0+	R258	1	M11@	2	0.0402	5%	TZOUT0+
<13> M11_TZOUT1-	M11_TZOUT1-	R257	1	M11@	2	0.0402	5%	TZOUT1-
<13> M11_TZOUT1+	M11_TZOUT1+	R256	1	M11@	2	0.0402	5%	TZOUT1+
<13> M11_TZOUT2-	M11_TZOUT2-	R255	1	M11@	2	0.0402	5%	TZOUT2-
<13> M11_TZOUT2+	M11_TZOUT2+	R254	1	M11@	2	0.0402	5%	TZOUT2+
<13> M11_TZCLK-	M11_TZCLK-	R253	1	M11@	2	0.0402	5%	TZCLK-
<13> M11_TZCLK+	M11_TZCLK+	R252	1	M11@	2	0.0402	5%	TZCLK+
<13> M11_LCD_DATA	M11_LCD_DATA	R259	1	M11@	2	0.0402	5%	LCD_DATA
<13> M11_LCD_CLK	M11_LCD_CLK	R252	1	M11@	2	0.0402	5%	LCD_CLK

For ATI M11P

<7> GMCH_TXOUT0-	GMCH_TXOUT0-	R289	1	UMA@	2	0.0402	5%	TXOUT0-
<7> GMCH_TXOUT0+	GMCH_TXOUT0+	R290	1	UMA@	2	0.0402	5%	TXOUT0+
<7> GMCH_TXOUT1-	GMCH_TXOUT1-	R287	1	UMA@	2	0.0402	5%	TXOUT1-
<7> GMCH_TXOUT1+	GMCH_TXOUT1+	R288	1	UMA@	2	0.0402	5%	TXOUT1+
<7> GMCH_TXOUT2-	GMCH_TXOUT2-	R286	1	UMA@	2	0.0402	5%	TXOUT2-
<7> GMCH_TXOUT2+	GMCH_TXOUT2+	R285	1	UMA@	2	0.0402	5%	TXOUT2+
<7> GMCH_TXCLK-	GMCH_TXCLK-	R284	1	UMA@	2	0.0402	5%	TXCLK-
<7> GMCH_TXCLK+	GMCH_TXCLK+	R283	1	UMA@	2	0.0402	5%	TXCLK+
<7> GMCH_TZOUT0-	GMCH_TZOUT0-	R309	1	UMA@	2	0.0402	5%	TZOUT0-
<7> GMCH_TZOUT0+	GMCH_TZOUT0+	R308	1	UMA@	2	0.0402	5%	TZOUT0+
<7> GMCH_TZOUT1-	GMCH_TZOUT1-	R304	1	UMA@	2	0.0402	5%	TZOUT1-
<7> GMCH_TZOUT1+	GMCH_TZOUT1+	R305	1	UMA@	2	0.0402	5%	TZOUT1+
<7> GMCH_TZOUT2-	GMCH_TZOUT2-	R307	1	UMA@	2	0.0402	5%	TZOUT2-
<7> GMCH_TZOUT2+	GMCH_TZOUT2+	R306	1	UMA@	2	0.0402	5%	TZOUT2+
<7> GMCH_TZCLK-	GMCH_TZCLK-	R302	1	UMA@	2	0.0402	5%	TZCLK-
<7> GMCH_TZCLK+	GMCH_TZCLK+	R303	1	UMA@	2	0.0402	5%	TZCLK+
<7> GMCH_LCD_DATA	GMCH_LCD_DATA	R282	1	UMA@	2	0.0402	5%	LCD_DATA
<7> GMCH_LCD_CLK	GMCH_LCD_CLK	R301	1	UMA@	2	0.0402	5%	LCD_CLK

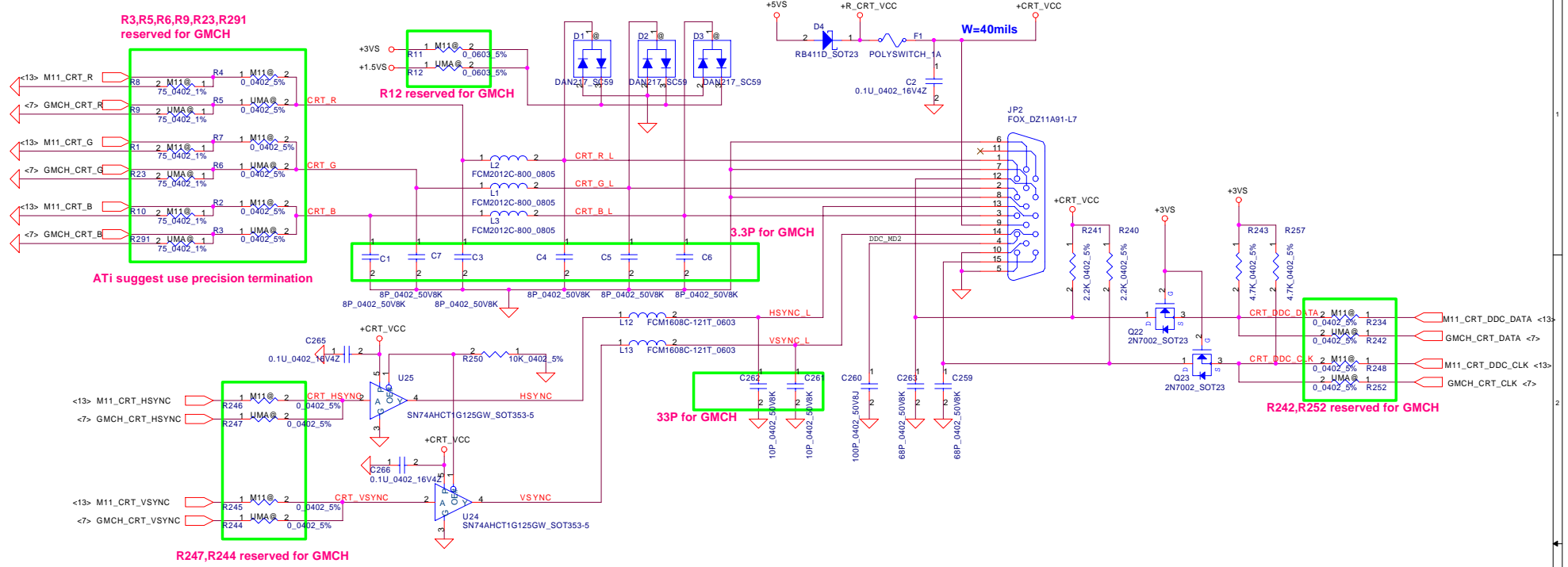
For GMCH



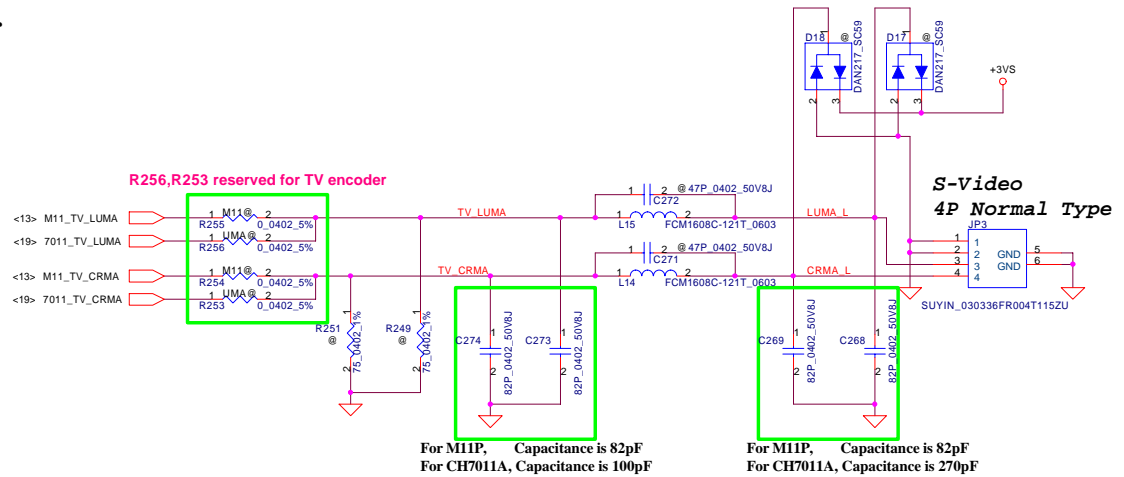
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Compal Electronics, Inc.			
Title LCD CONN			
Size	Document Number	Rev	
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CRT Connector

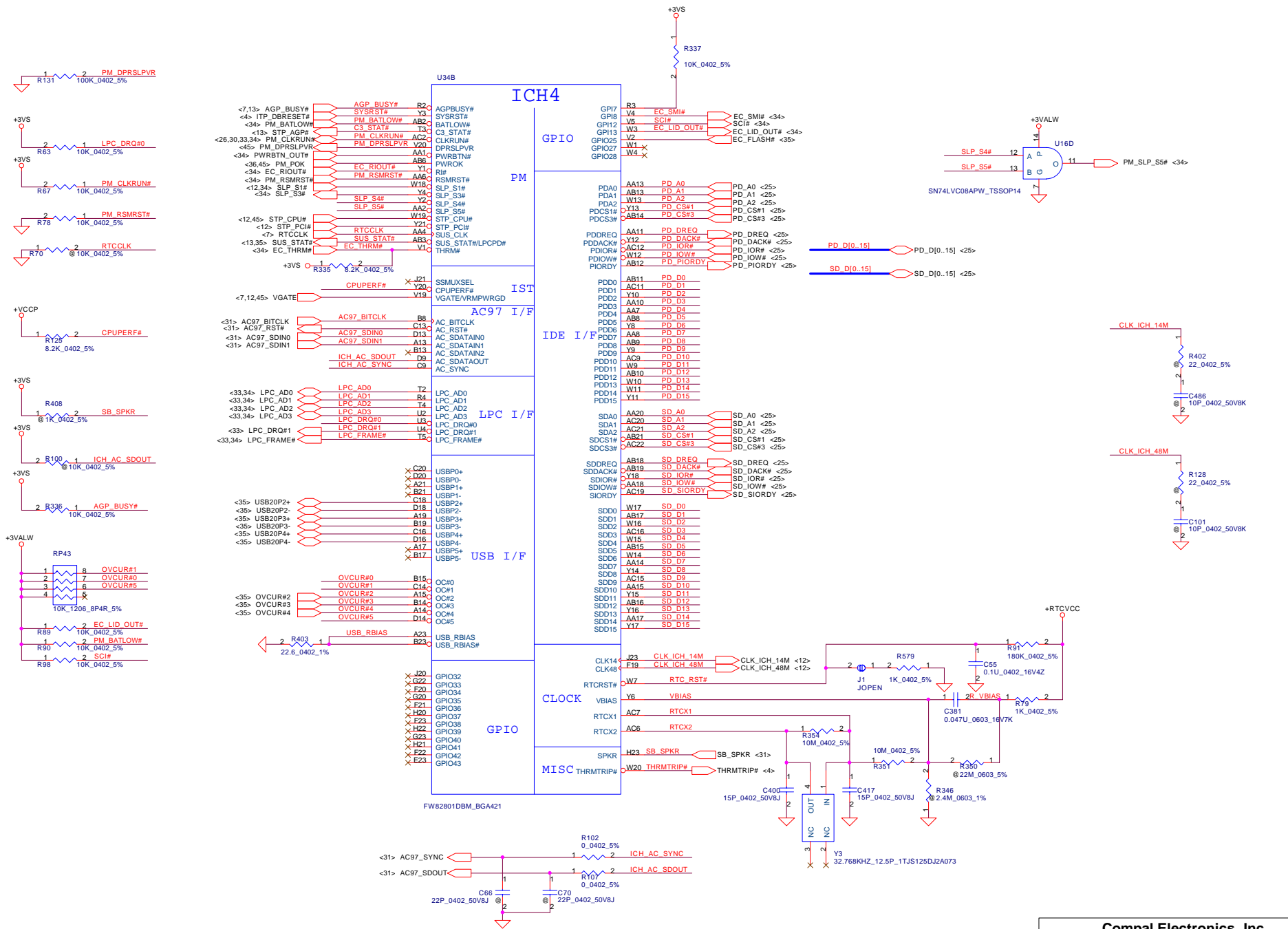


TV-Out Connector



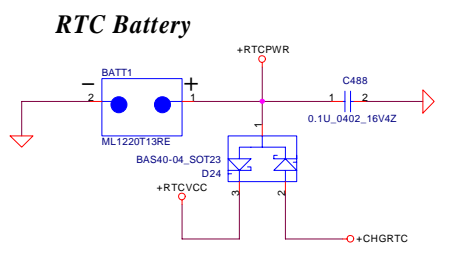
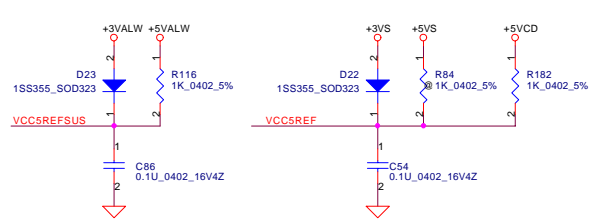
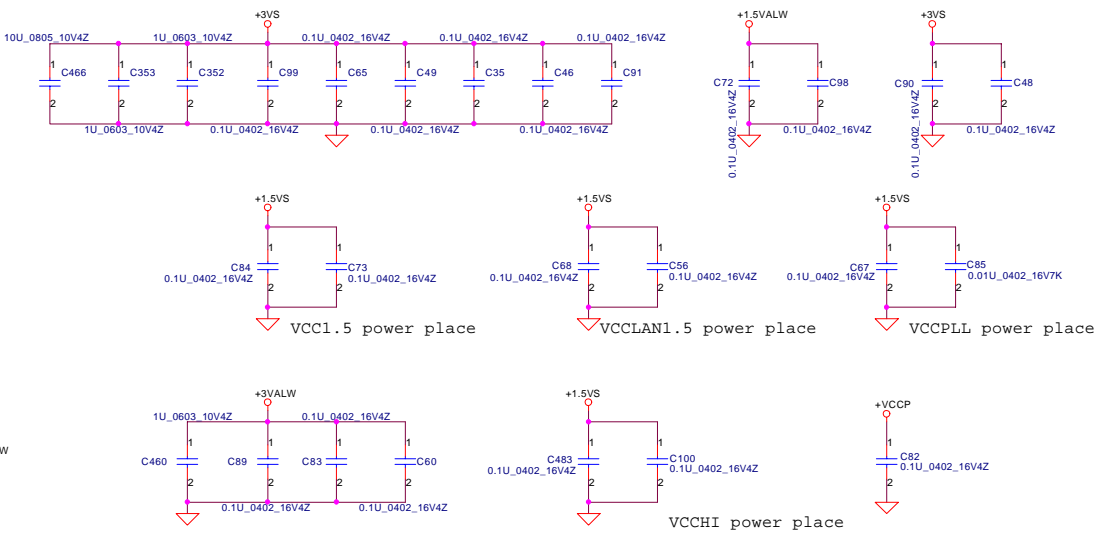
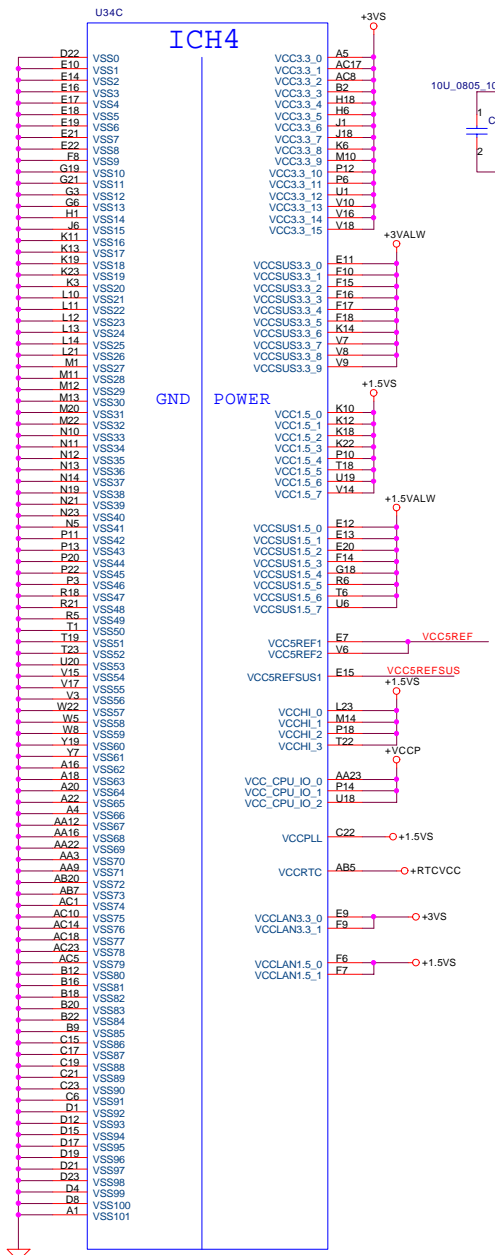
Compal Electronics, Inc.		
Title CRT & TV-OUT Connector		
Size	Document Number EAL20 LA-2462	Rev 0.1
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Compal Electronics, Inc.			
Title ICH4-M(2/3) PM/AC97/USB/IDE			
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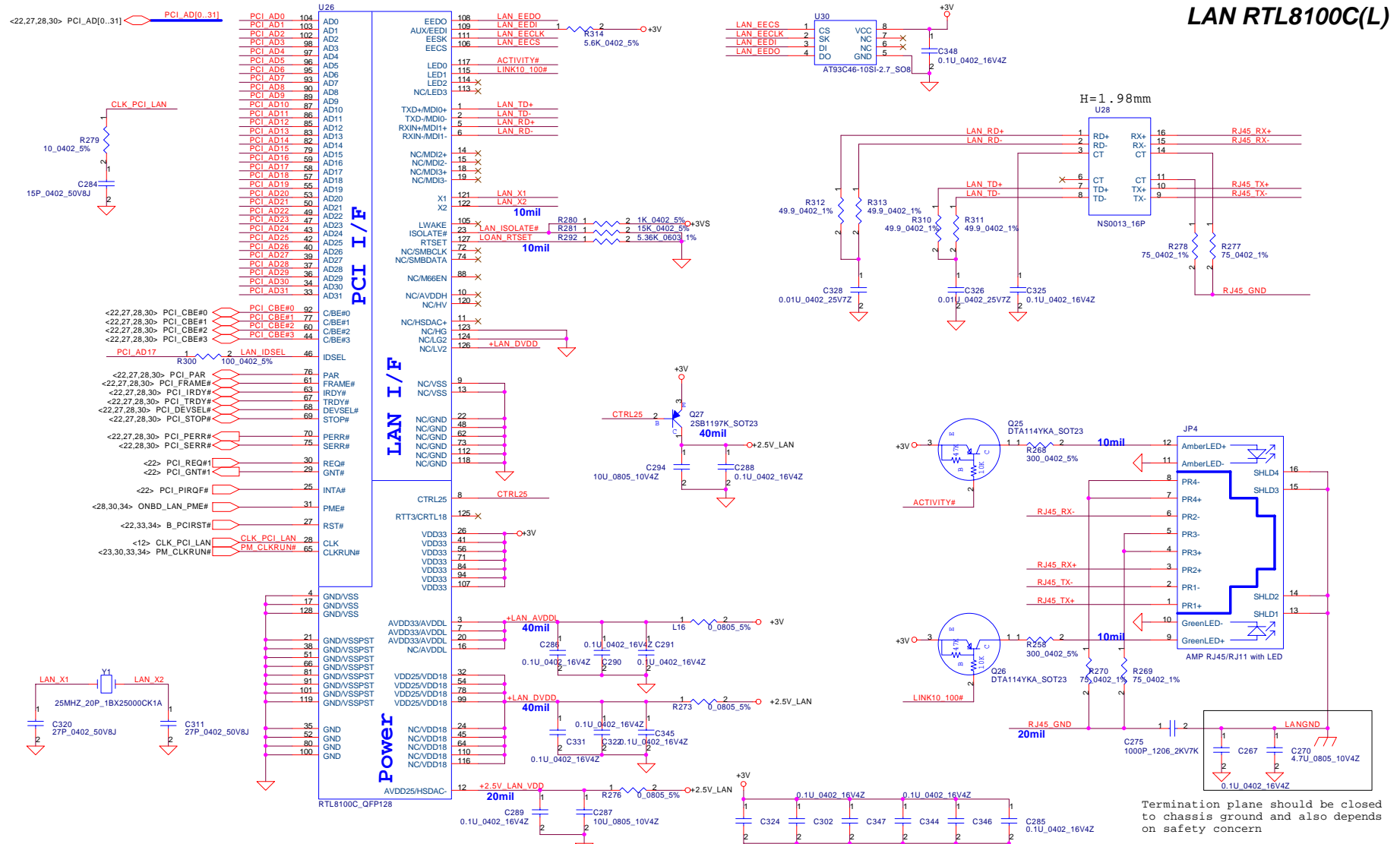


FW82801DBM_BGA421

Compal Electronics, Inc.		
ICH4-M(3/3) PWR/GND		
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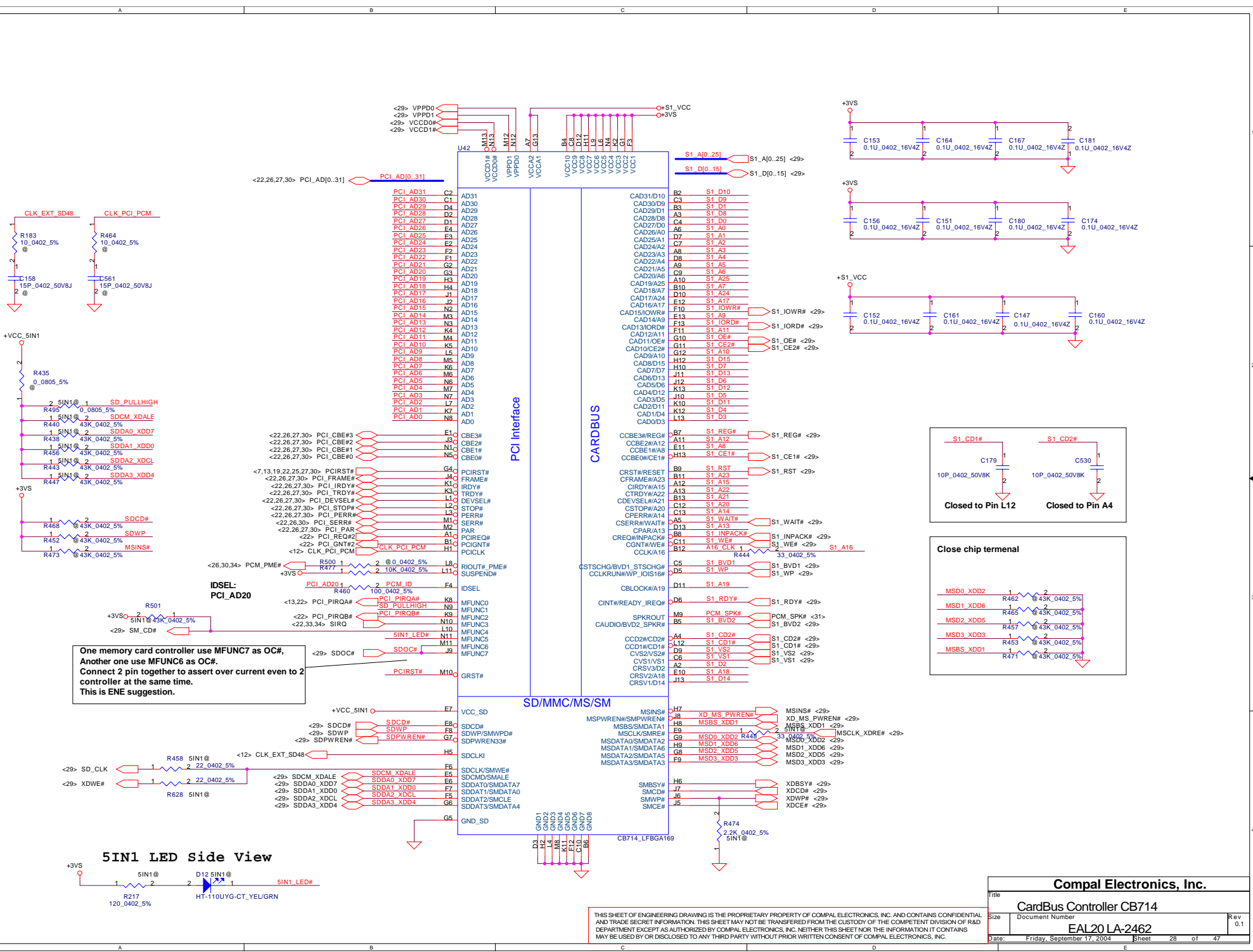
LAN RTL8100C(L)



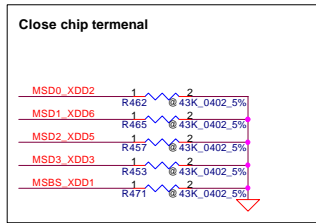
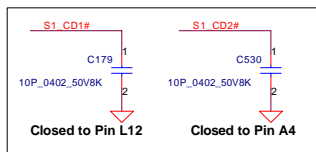
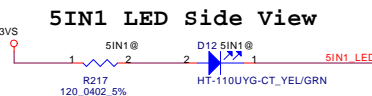
Termination plane should be closed to chassis ground and also depends on safety concern

Compal Electronics, Inc.		
LAN RTL8100CL		
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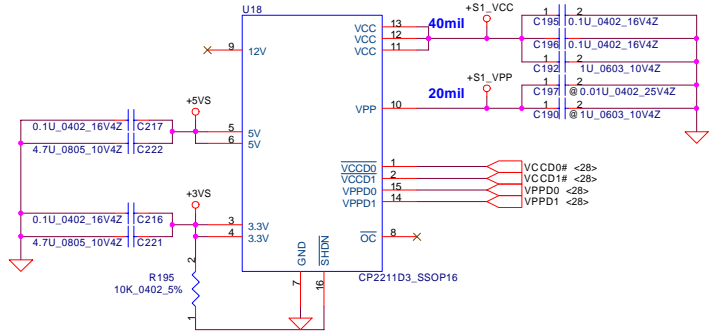
One memory card controller use MFUNC7 as OC#, Another one use MFUNC6 as OC#. Connect 2 pin together to assert over current even to 2 controller at the same time. This is ENE suggestion.



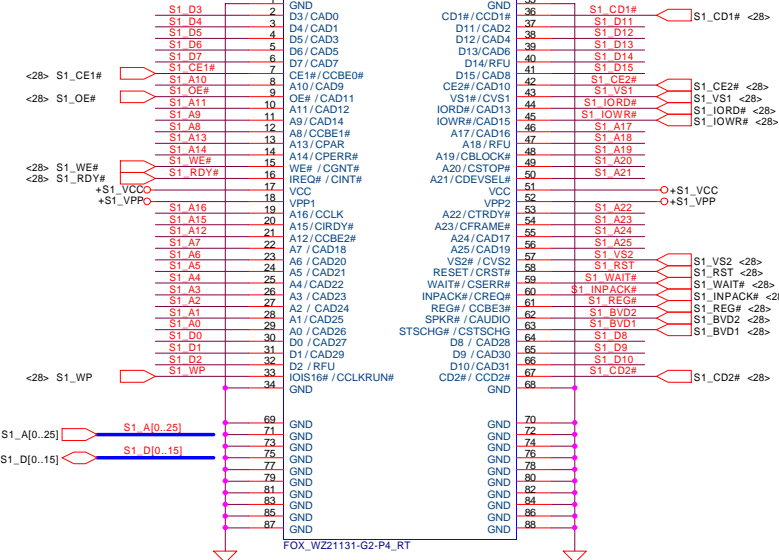
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Compal Electronics, Inc.		
CardBus Controller CB714		
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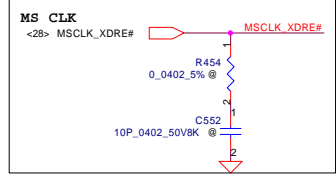
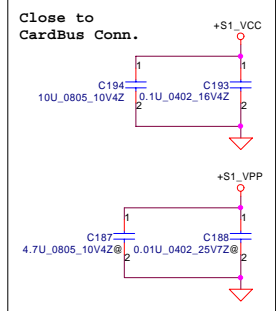
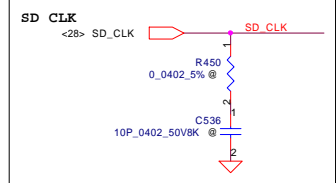
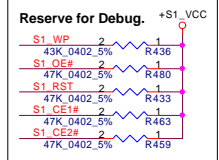
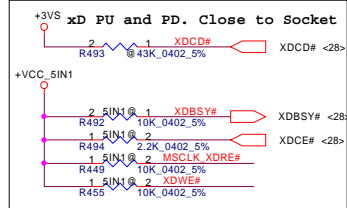
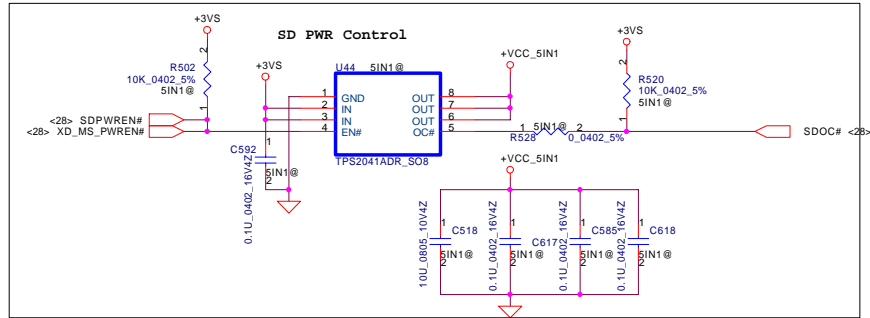
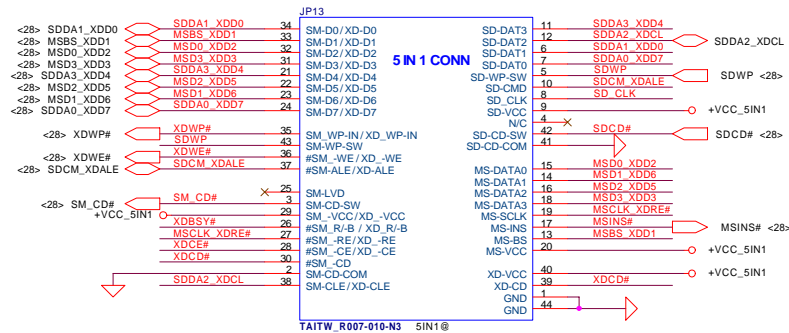
PCMCIA Power Controller



CardBus Socket

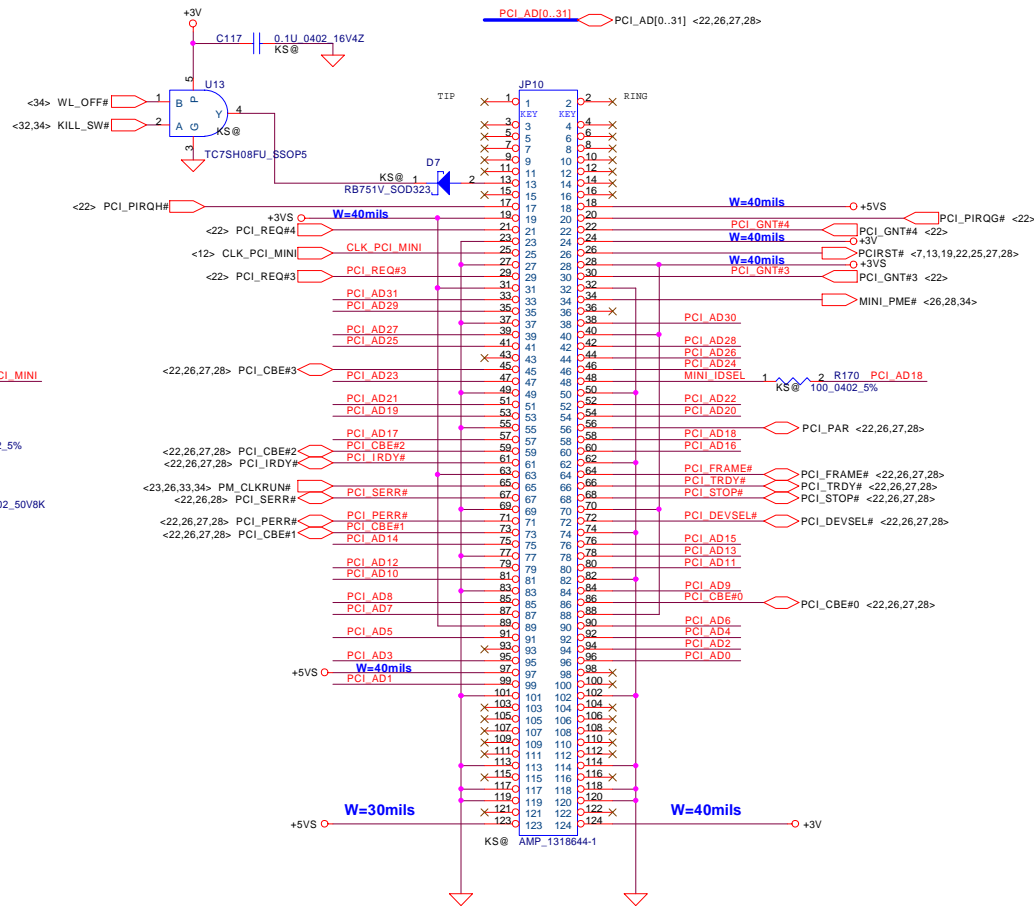
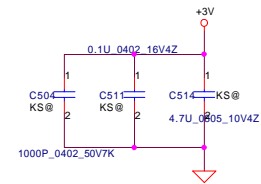
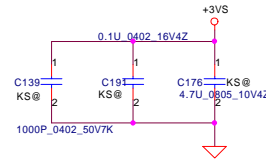
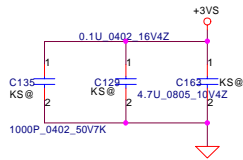
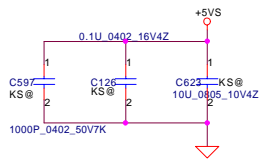


5in1 Socket



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Compal Electronics, Inc.		
Cardbus Slot & 5in1 Socket		
File	Document Number	Rev
	EAL20 LA-2462	0.1
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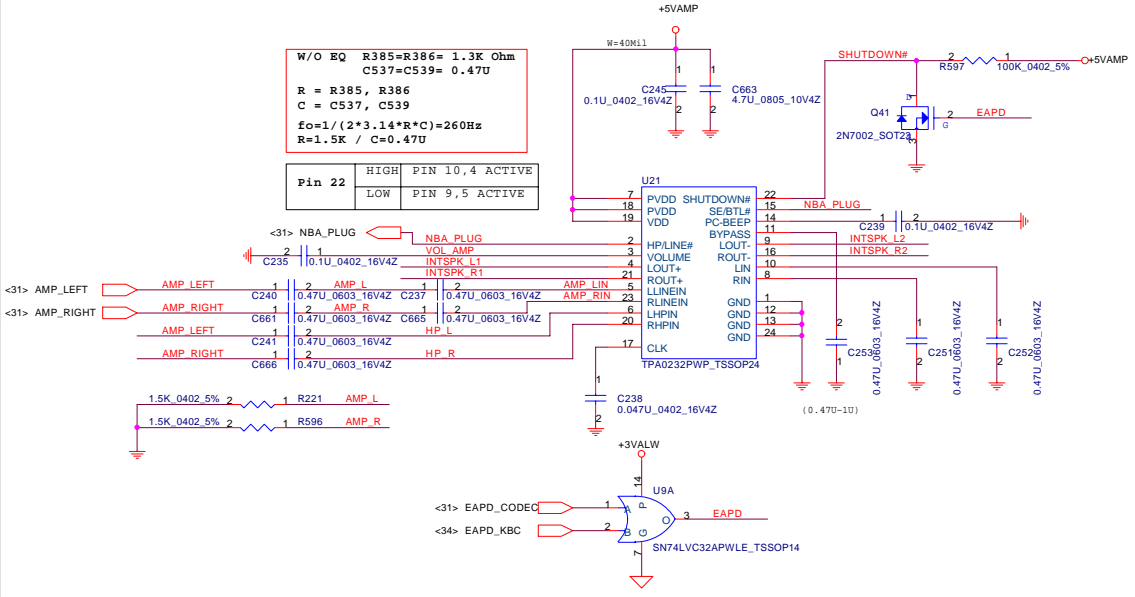


Compal Electronics, Inc.

Title			Mini PCI Slot
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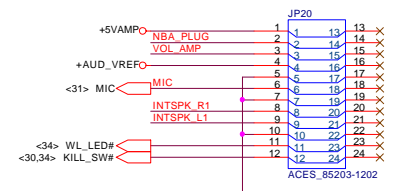
Audio AMP



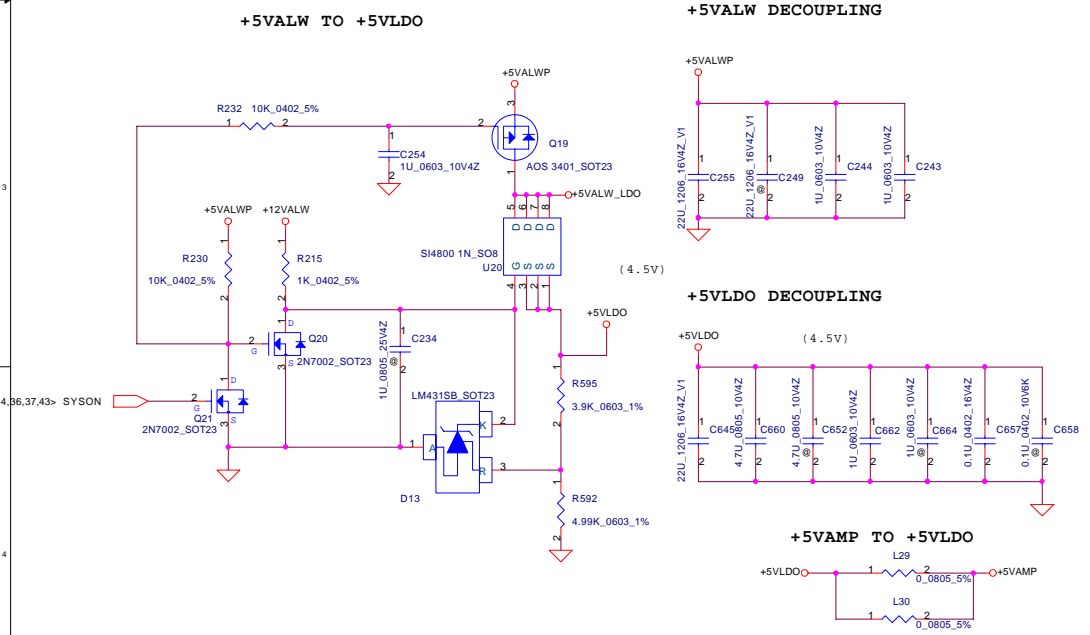
W/O EQ R385=R386= 1.3K Ohm
C537=C539= 0.47U
R = R385, R386
C = C537, C539
 $f_o = 1 / (2 * 3.14 * R * C) = 260\text{Hz}$
R=1.5K / C=0.47U

Pin 22	HIGH	PIN 10, 4 ACTIVE
	LOW	PIN 9, 5 ACTIVE

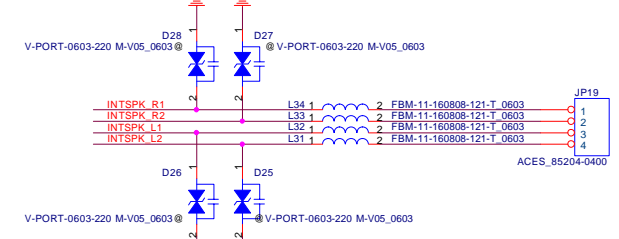
Audio Board Connector



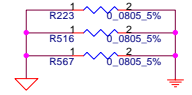
Regulator for AMP



Speaker Connector



Moat Bridge



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Compal Electronics, Inc.		
AMP & Audio Jack		
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ENE-KB910-B4

eas-us-intel-lax

Internal Keyboard

Pulse Width

Wake Up Pin

Analog To Digital

Digital To Analog

Expanded I/O

Timer Pin

NISC

FAN

GPIO

SMBus

PS2 Interface

LPC Interface

+3VALW

+EC_AVCC

+EC_RTCVCC

+3VALW

+RTCVCC

+3VALW

+EC_AVCC

+EC_RTCVCC

+3VALW

+RTCVCC

+3VALW

+EC_AVCC

+EC_RTCVCC

+3VALW

+RTCVCC

+3VALW

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+RTCVCC

+3VALW

+EC_AVCC

+EC_RTCVCC

+3VALW

+RTCVCC

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+RTCVCC

+3VALW

+EC_AVCC

+EC_RTCVCC

+3VALW

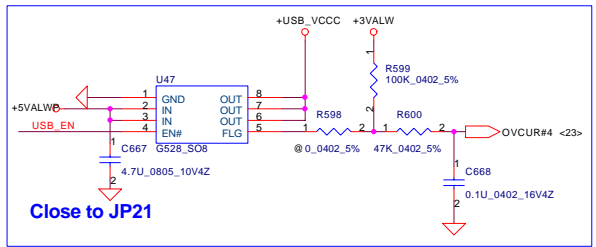
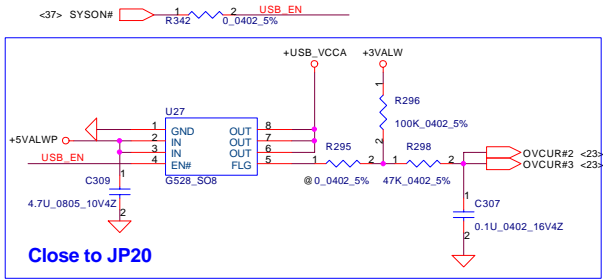
+RTCVCC

+3VALW

+EC_AVCC

+EC_RTCVCC

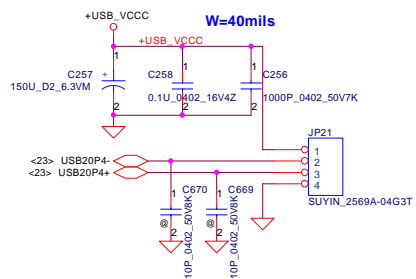
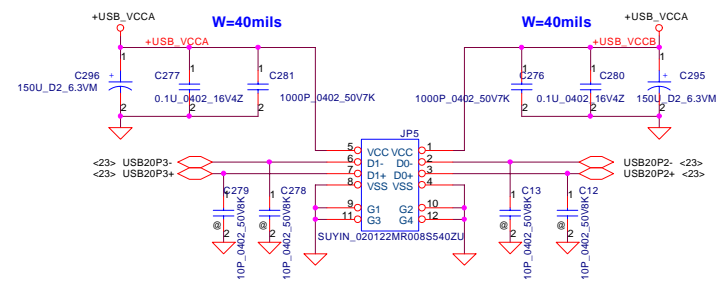
+3VALW



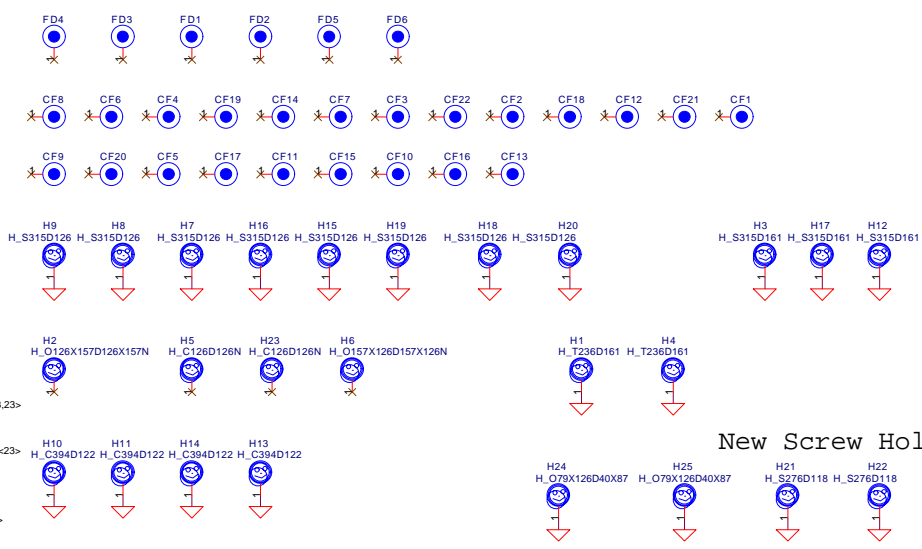
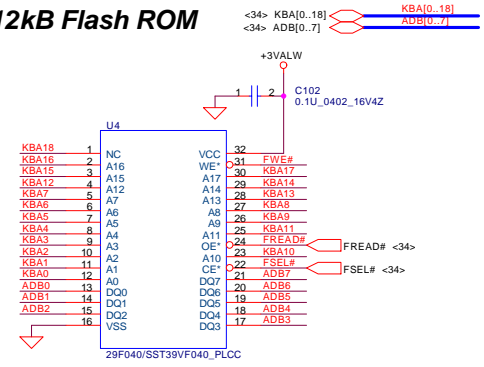
USB CONN. 1

USB CONN. 2

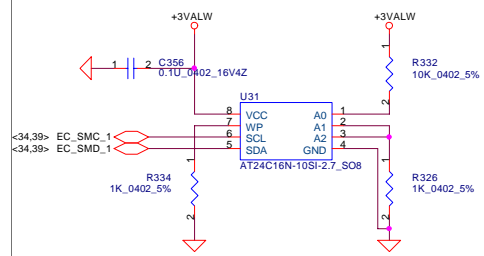
USB CONN. 3



512kB Flash ROM



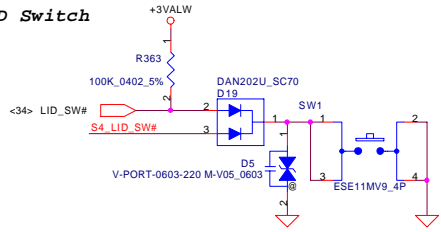
New Screw Hole



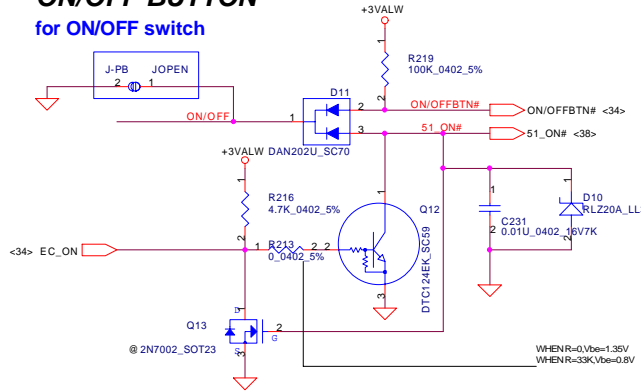
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Compal Electronics, Inc.			
Title BIOS/WL-SW/Screw Hole/USB			
Size	Document Number	Rev	
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LID Switch

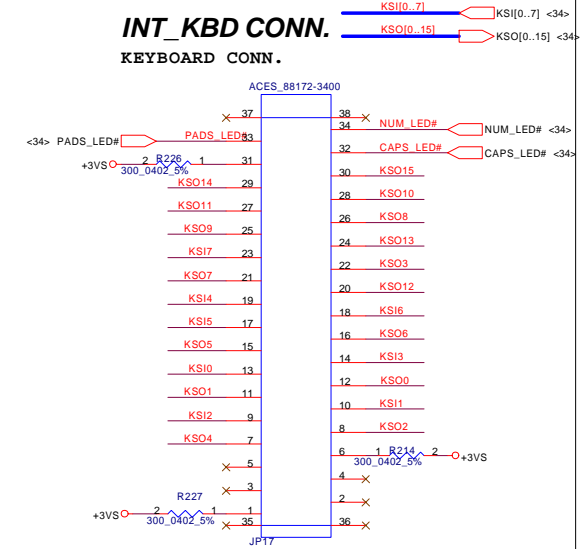


ON/OFF BUTTON for ON/OFF switch

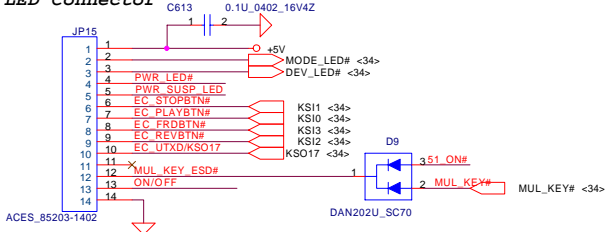


INT_KBD CONN.

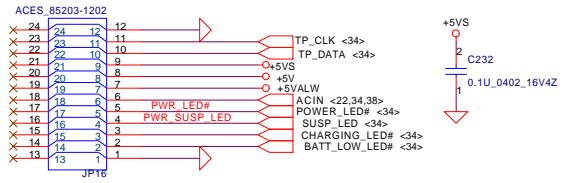
KEYBOARD CONN.



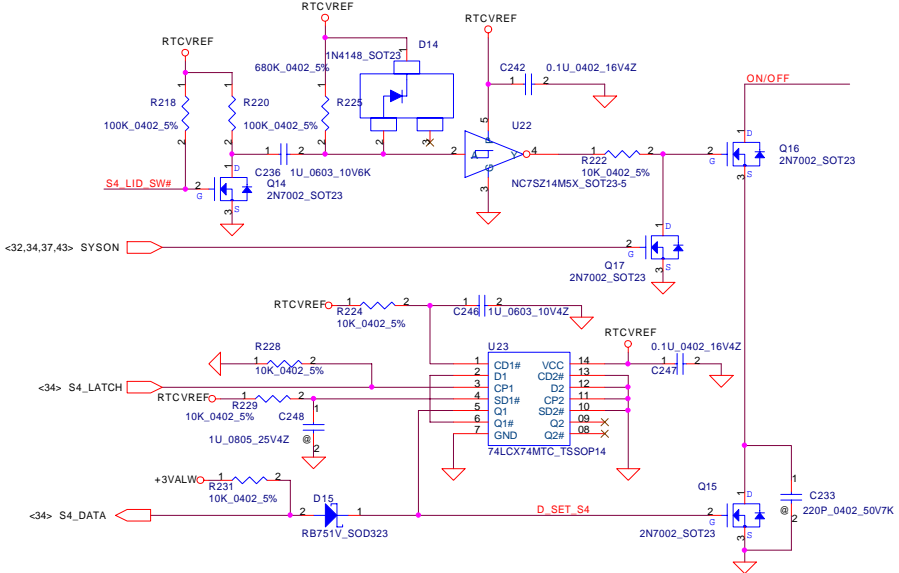
SW/LED Connector



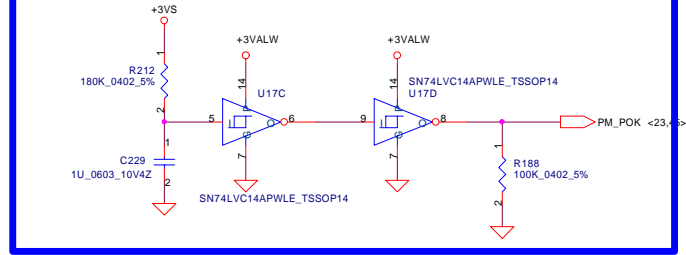
Touch Pad Connector



Battery mode Hibernation



Power OK Circuit

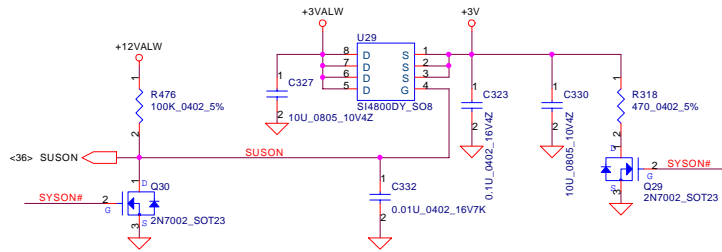


100P_0402_50VB/J	2	1	PADS_LED#	1	2	NUM_LED#	1	2
100P_0402_50VB/J	2	1	KSO14	1	2	CAPS_LED#	1	2
100P_0402_50VB/J	2	1	C680	1	2	KSO15	1	2
100P_0402_50VB/J	2	1	C689	1	2	KSO10	1	2
100P_0402_50VB/J	2	1	KSO9	1	2	KSO8	1	2
100P_0402_50VB/J	2	1	C672	1	2	KSO13	1	2
100P_0402_50VB/J	2	1	C681	1	2	KSO3	1	2
100P_0402_50VB/J	2	1	C690	1	2	KSI6	1	2
100P_0402_50VB/J	2	1	C673	1	2	KSO6	1	2
100P_0402_50VB/J	2	1	KSI5	1	2	KSI3	1	2
100P_0402_50VB/J	2	1	C682	1	2	KSO0	1	2
100P_0402_50VB/J	2	1	C691	1	2	KSI1	1	2
100P_0402_50VB/J	2	1	C674	1	2	KSO4	1	2
100P_0402_50VB/J	2	1	C687	1	2	KSO2	1	2
100P_0402_50VB/J	2	1	C683	1	2			
100P_0402_50VB/J	2	1	C692	1	2			
100P_0402_50VB/J	2	1	C675	1	2			

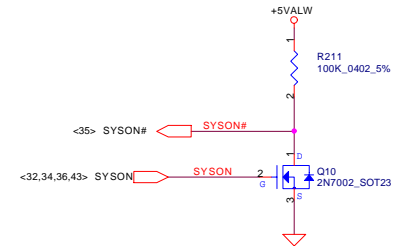
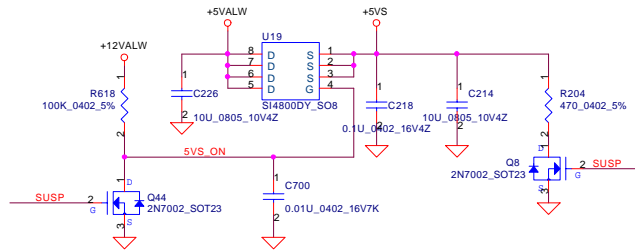
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Compal Electronics, Inc.			
S4R,LID,PIO,SYS CONN			
File	Document Number	Rev	
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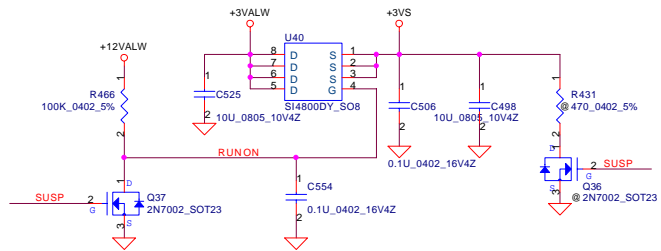
+3VALW to +3V Transfer



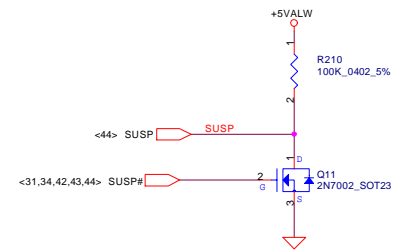
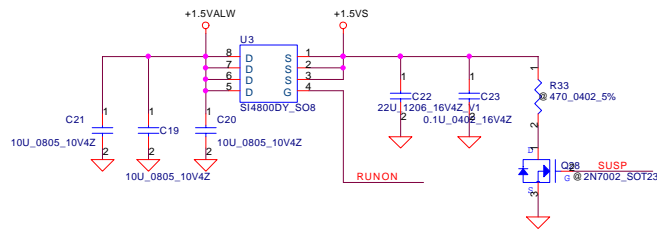
+5VALW to +5VS Transfer



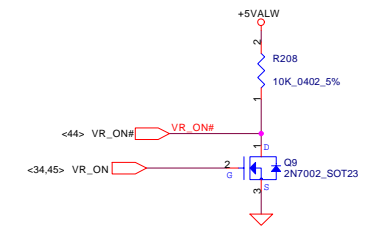
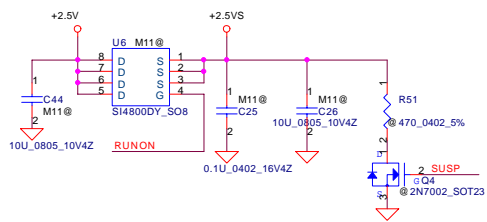
+3VALW to +3VS Transfer



+1.5VALW to +1.5VS Transfer



+2.5V to +2.5VS Transfer

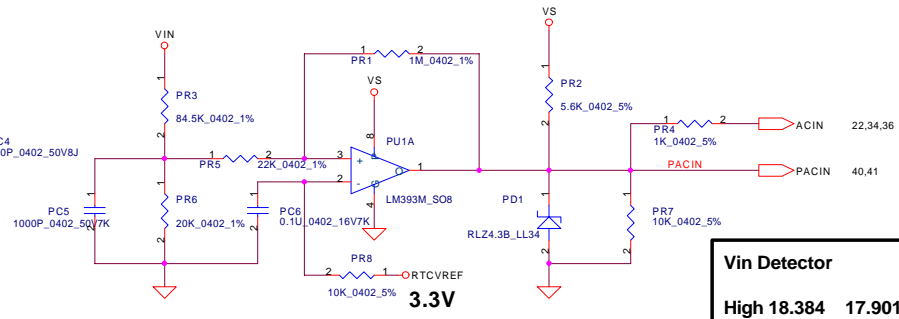
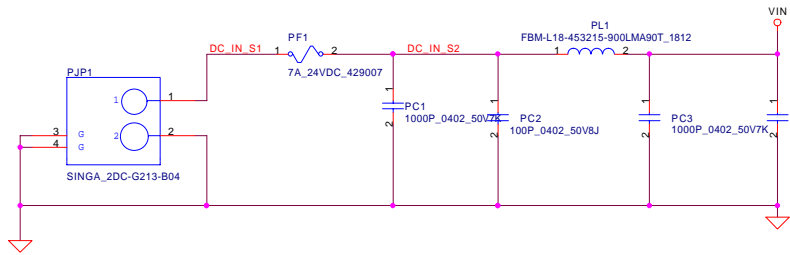


remove on integrated VGA sku

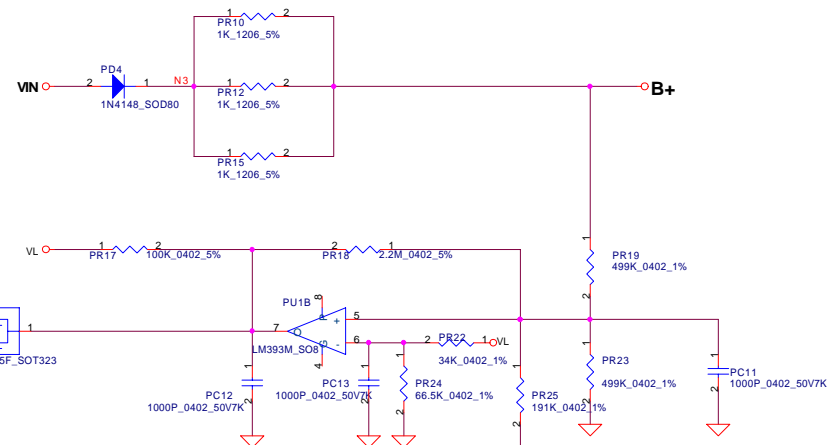
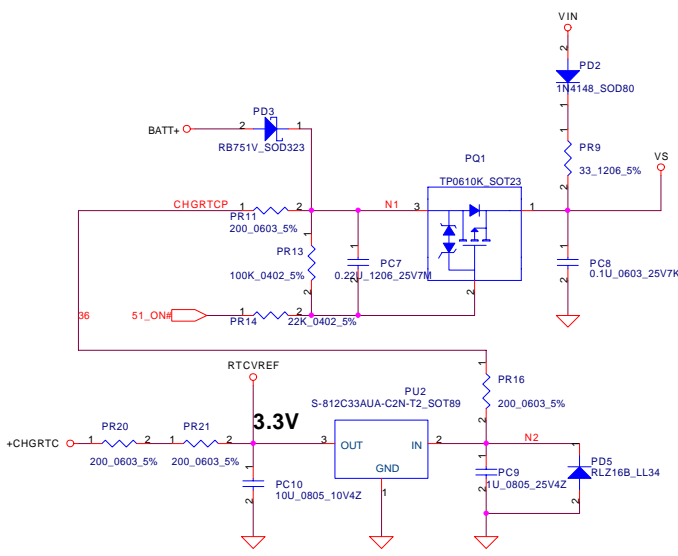
Compal Electronics, Inc.

Title		
DC/DC Interface		
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Vin Detector		
High	18.384	17.901 17.430
Low	17.728	17.257 16.976



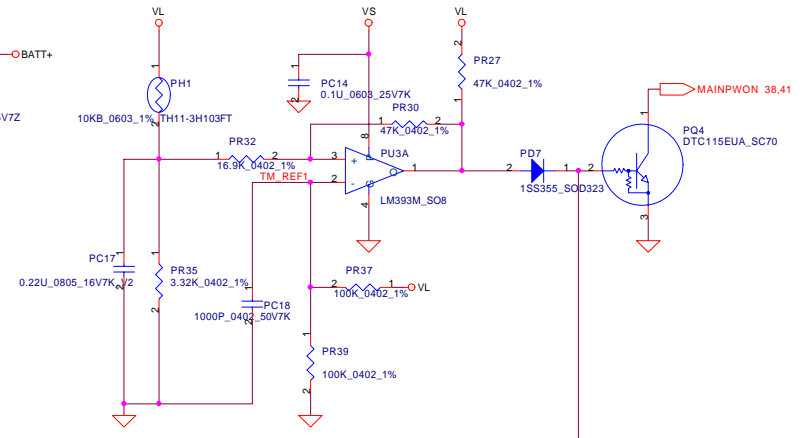
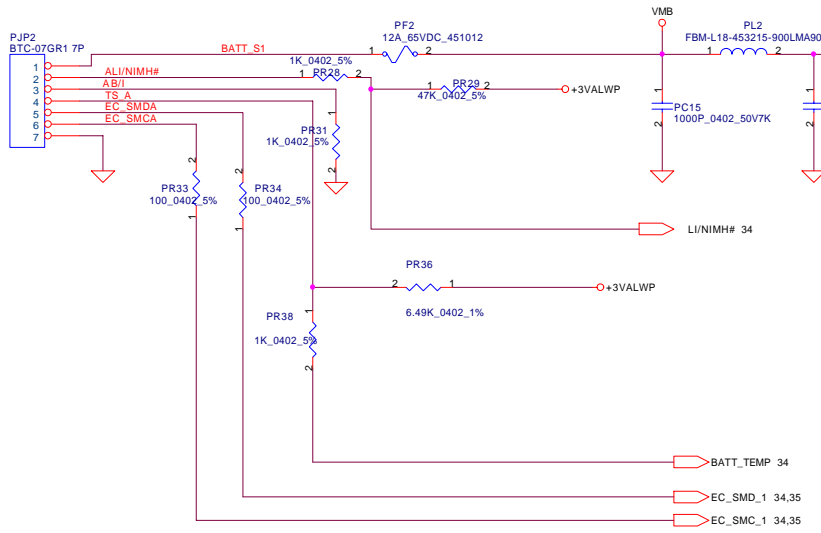
**Precharge detector
15.97V/14.84V FOR
ADAPTOR**

- +3VALWP (5A, 200mils, Via NO. = 10)
- +5VALWP (5A, 200mils, Via NO. = 10)
- +12VALWP (120mA, 40mils, Via NO. = 2)
- +2.5VP (8A, 320mils, Via NO. = 16)
- +1.05VP (3.5A, 140mils, Via NO. = 7)
- +1.8VSP (1A, 40mils, Via NO. = 2)
- +1.5VALW (3.5A, 140mils, Via NO. = 7)
- +1.25VSP (2A, 80mils, Via NO. = 4)
- +1.35VSP (2A, 80mils, Via NO. = 4)
- +VGA_COREP (5A, 200mils, Via NO. = 10)

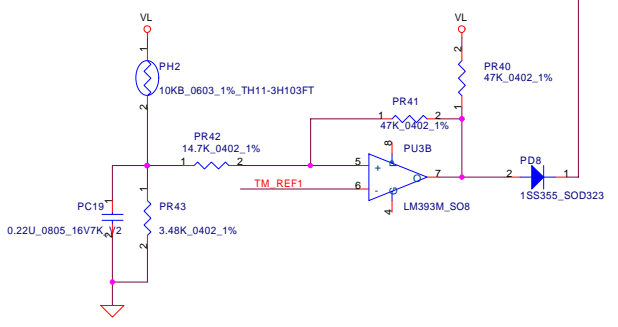
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Compal Electronics, Inc.		
Title DCIN & DETECTOR		
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PH1 under CPU botten side :
 CPU thermal protection at 84 degree C
 Recovery at 45 degree C

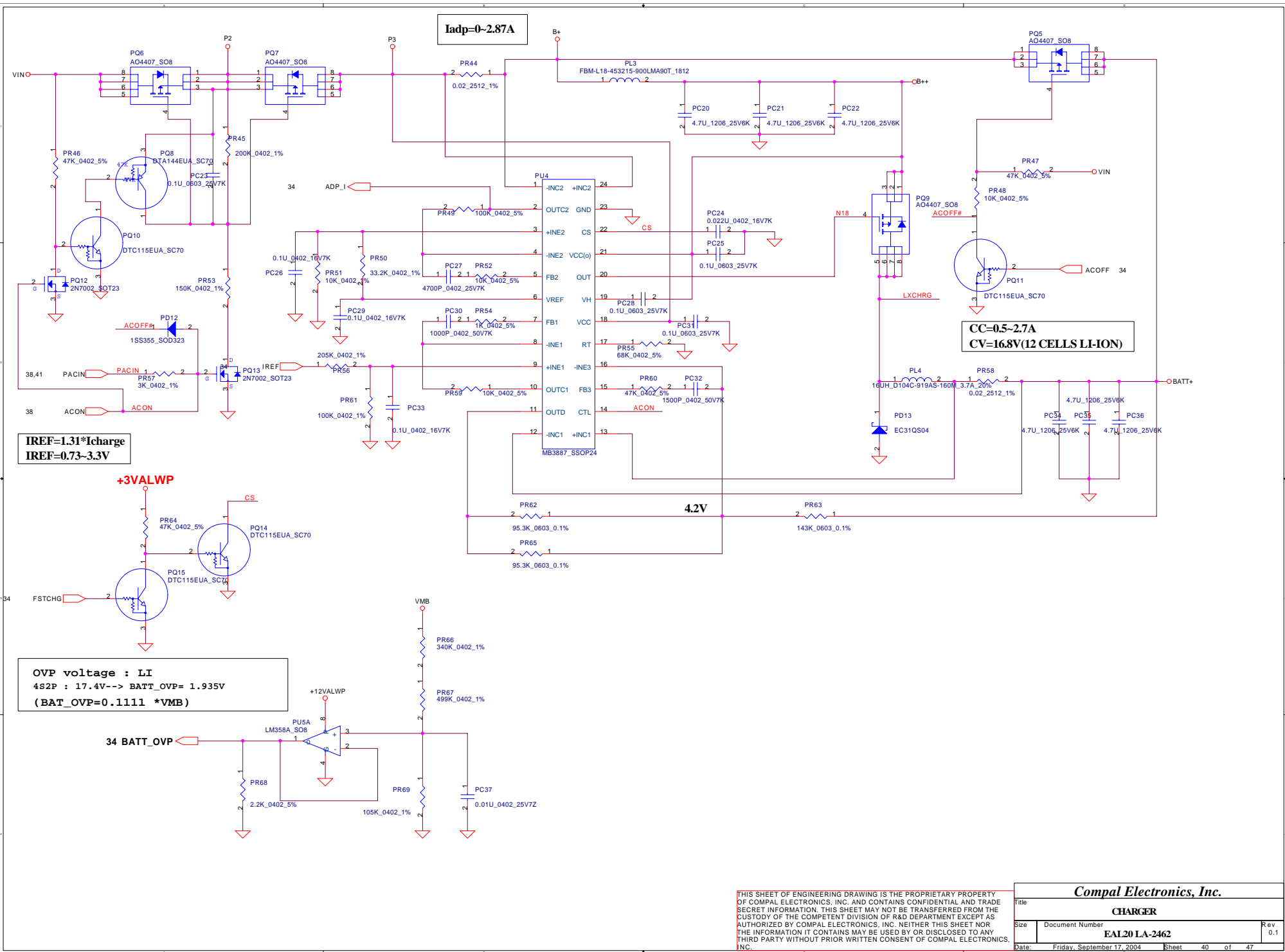


PH2 near main Battery CONN :
 BAT. thermal protection at 79 degree C
 Recovery at 45 degree C



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Compal Electronics, Inc.		
Title BATTERY CONN / OTP		
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Iadp=0-2.87A

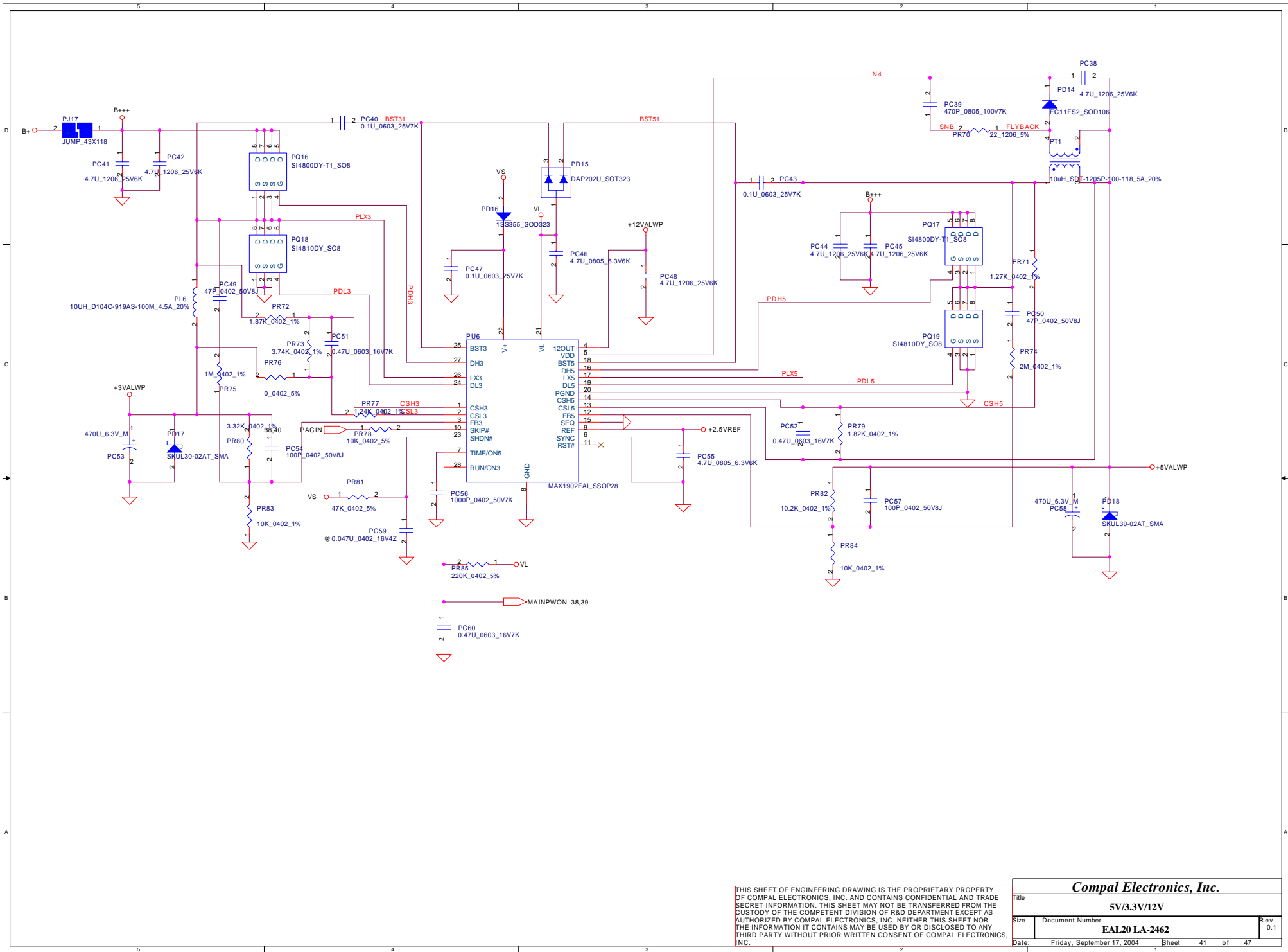
**CC=0.5-2.7A
CV=16.8V(12 CELLS LI-ION)**

**IREF=1.31*Icharge
IREF=0.73-3.3V**

**OVP voltage : LI
4s2P : 17.4V--> BATT_OVP= 1.935V
(BATT_OVP=0.1111 *VMB)**

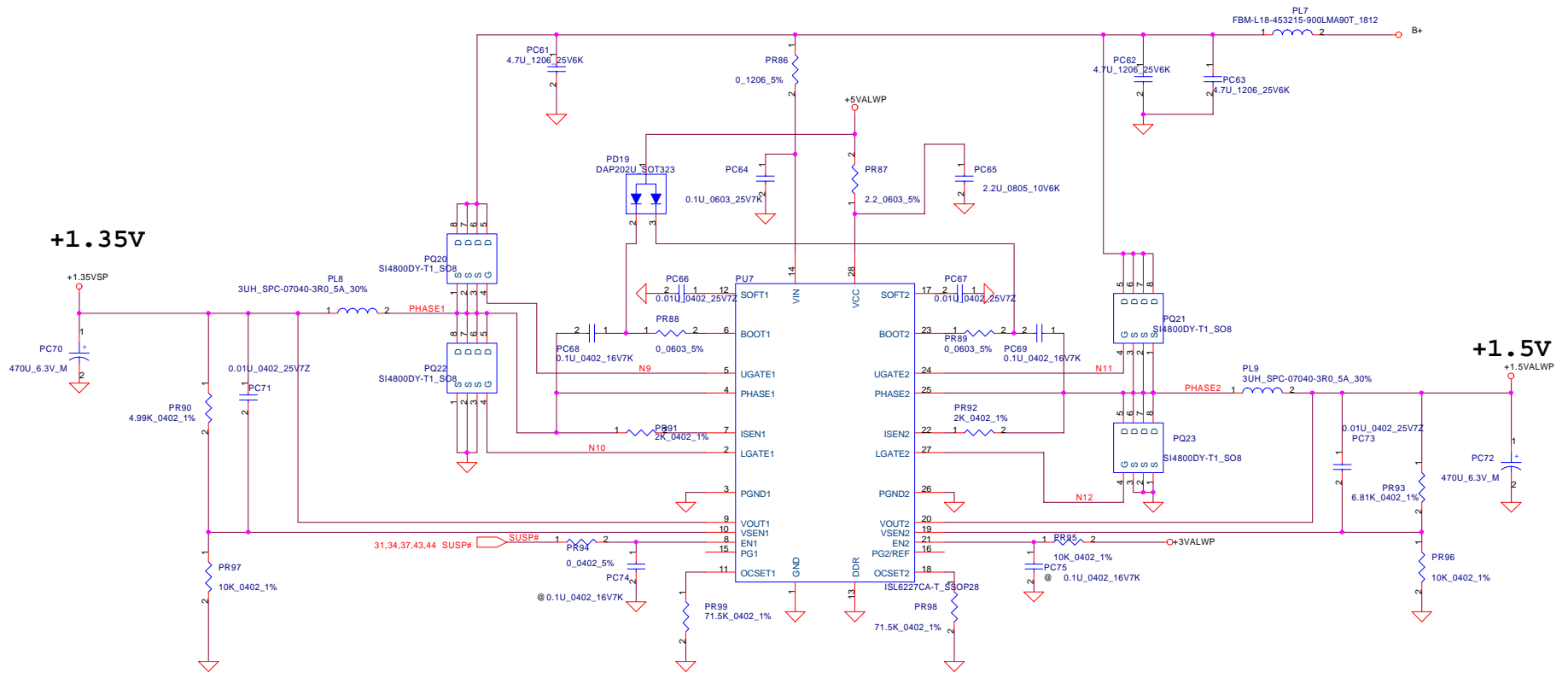
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Compal Electronics, Inc.		
Title CHARGER		
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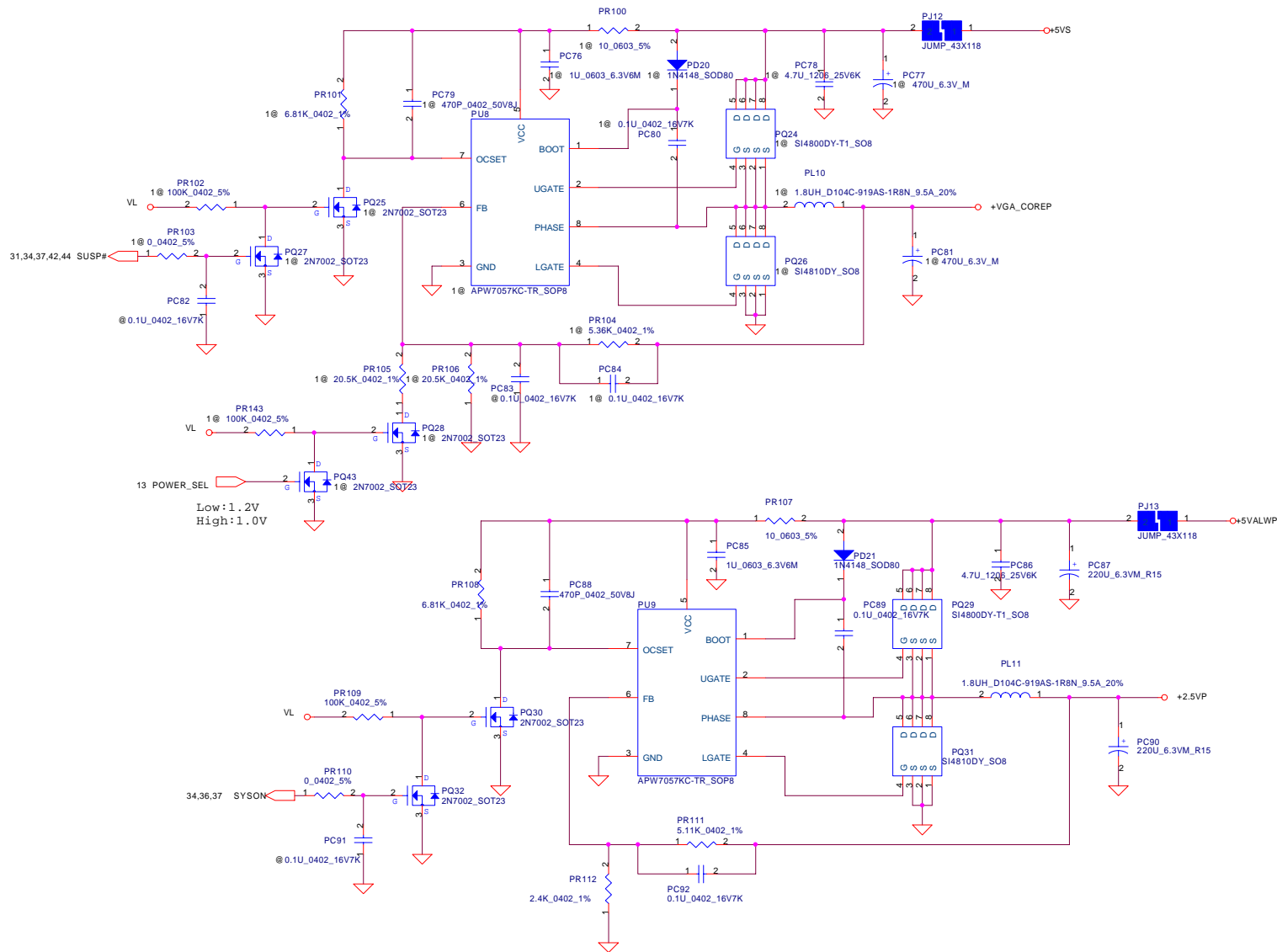
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Compal Electronics, Inc.		
Title	5V/3.3V/12V	
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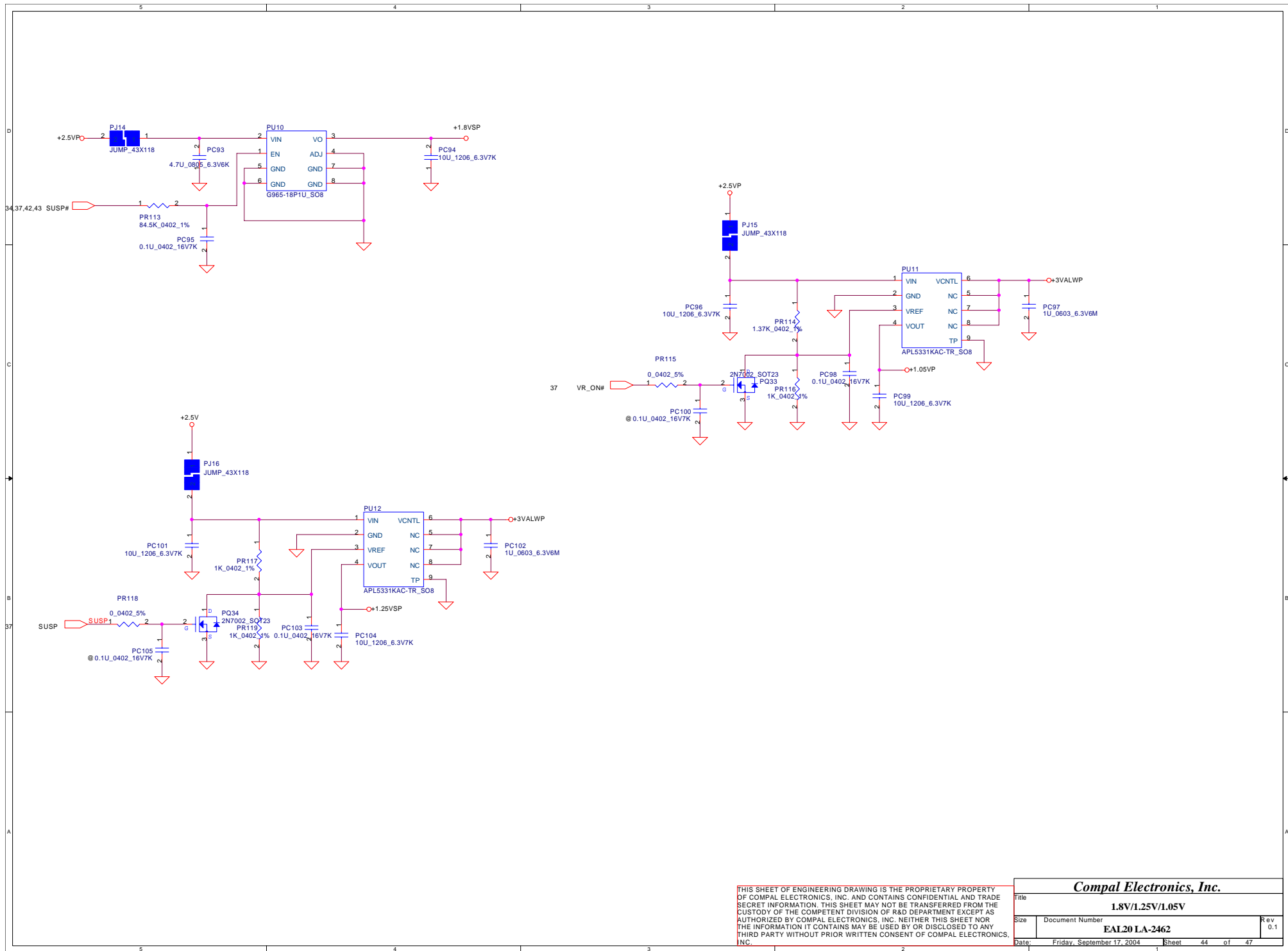
Compal Electronics, Inc.		
Title 1.35V/1.5V		
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Compal Electronics, Inc.

Title		
2.5V/VGA_CORE		
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Compal Electronics, Inc.		
Title 1.8V/1.25V/1.05V		
Size	Document Number EAL20 LA-2462	Rev 0.1
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PWR PIR LIST

Compal Electronics, Inc.

Title		
EAL20 PIR LIST		
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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.	

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Compal Electronics, Inc.		
Title		
PIR LIST		
Size	Document Number	Rev
	EAL20 LA-2462	0.1
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