

Compal Confidential

DFL32 Schematics Document

Banias/Dothan uFCPGA with Intel 855GME + ICH4-M

2003-03-24

REV:1.0

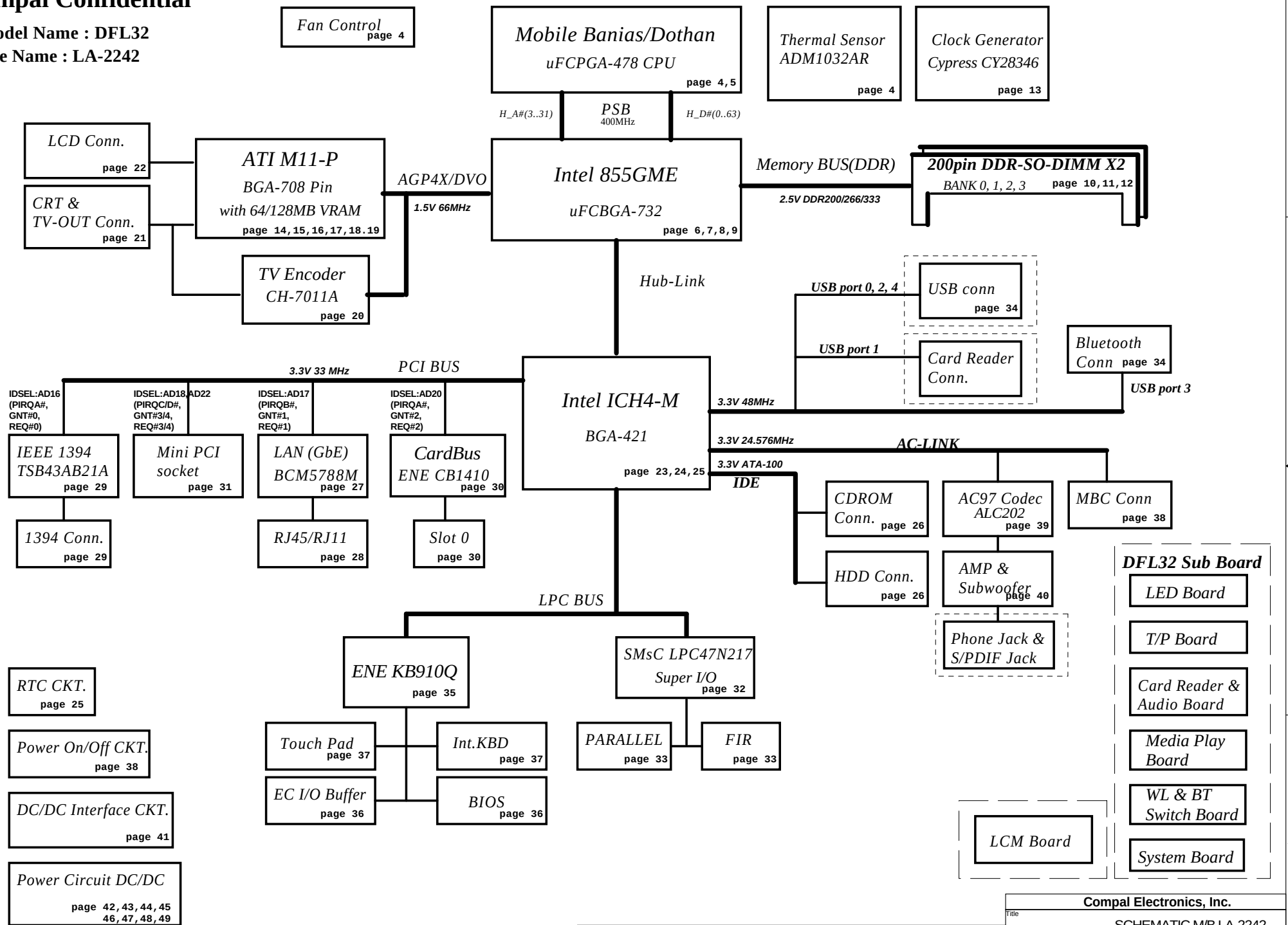
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SCHEMATIC M/B LA-2242		
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Model Name : DFL32

File Name : LA-2242



Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VCCP	1.05V rail for Processor I/O	ON	OFF	OFF
+1.25VS	1.25V switched power rail for DDR Vtt	ON	OFF	OFF
+1.2VS	1.2V 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 switched power rail	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.

Internal PCI Devices

DEVICE	PCI Device ID
HUB	D30
USB	D29
AC97 MODEM	D31
AC97	D31
ATA 100	D31
ETHERNET	D8 (AD24)
LPC I/F	D31
SMBUS	D31

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

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
Wireless LAN	D2	AD18	3	G
Mini-PCI	D6	AD22	4	H
AGP BUS	N/A	AGP_DEVSEL#	N/A	A

Symbol note:

-  :means digital ground.
-  :means analog ground.
-  :means reserved.

AS2010,AS2020 Compare Table

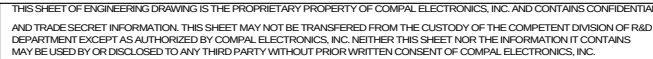
Item	* AS2020	AS2010(ATI)	AS2010(UMA)	Page
VGA	ATI M11P	ATI M11P	UMA	7, 9, 14, 15, 16, 17, 21, 22, 38
VRAM	128MB	64MB	N/A	14, 18, 19
TV Encoder	N/A	N/A	CH7011A	20
LAN	BCM5788M(GbE)	BCM4401(10/100)	BCM4401(10/100)	27, 28
S/PDIF	YES	N/A	N/A	N/A
Card Reader	YES	YES	N/A	N/A
Sub Woofer	YES	YES	N/A	33
LCM/B	YES	N/A	N/A	37, 39
MEDIA/B	YES	N/A	N/A	40

Board ID/ Project 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	
5	
6	
7	

Project ID	Project
* 0	Drongo2
1	Drongo3
2	Drongo4
3	
4	
5	
6	
7	



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

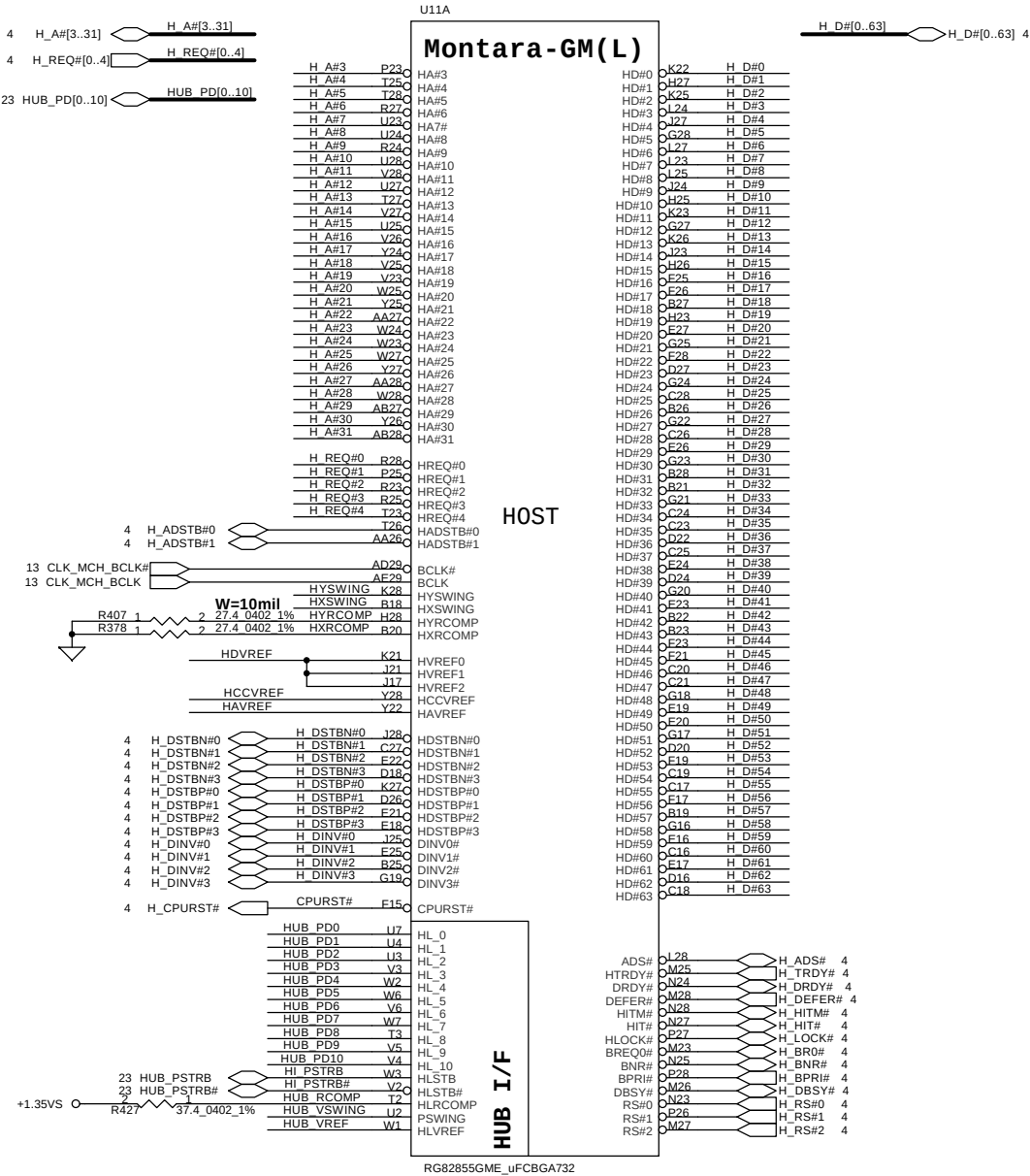
Banias

POWER, GROUND

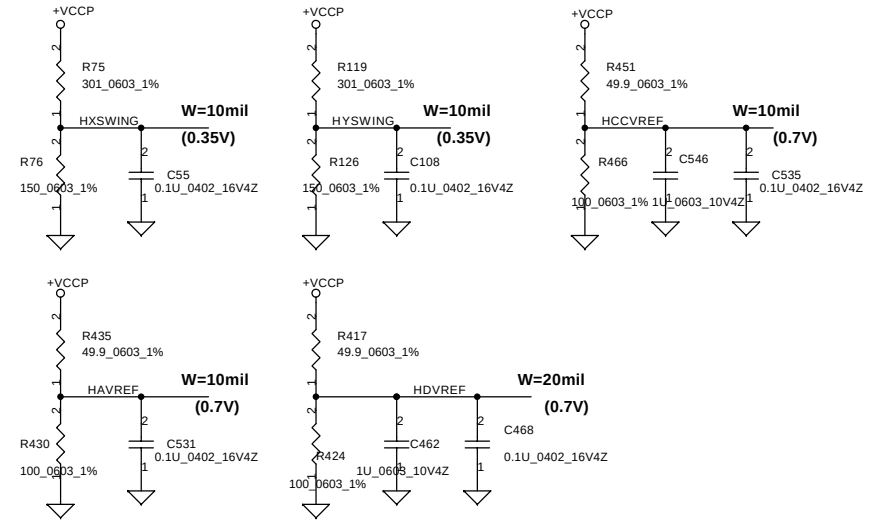
Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

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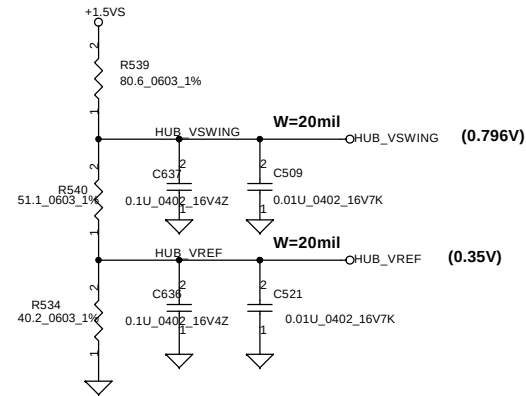
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HOST REF VOLTAGE



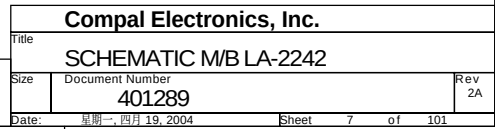
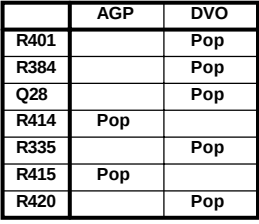
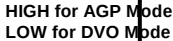
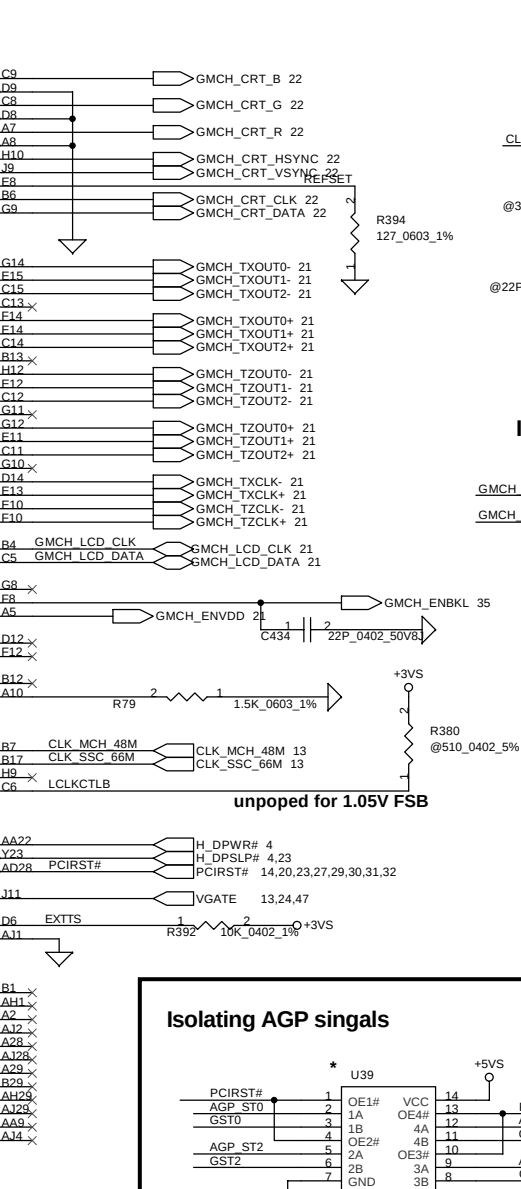
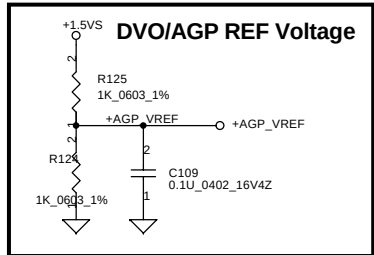
HUB I/F REF VOLTAGE

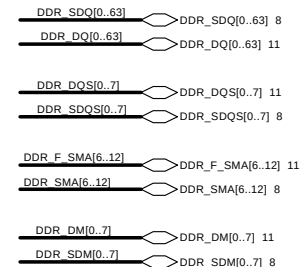
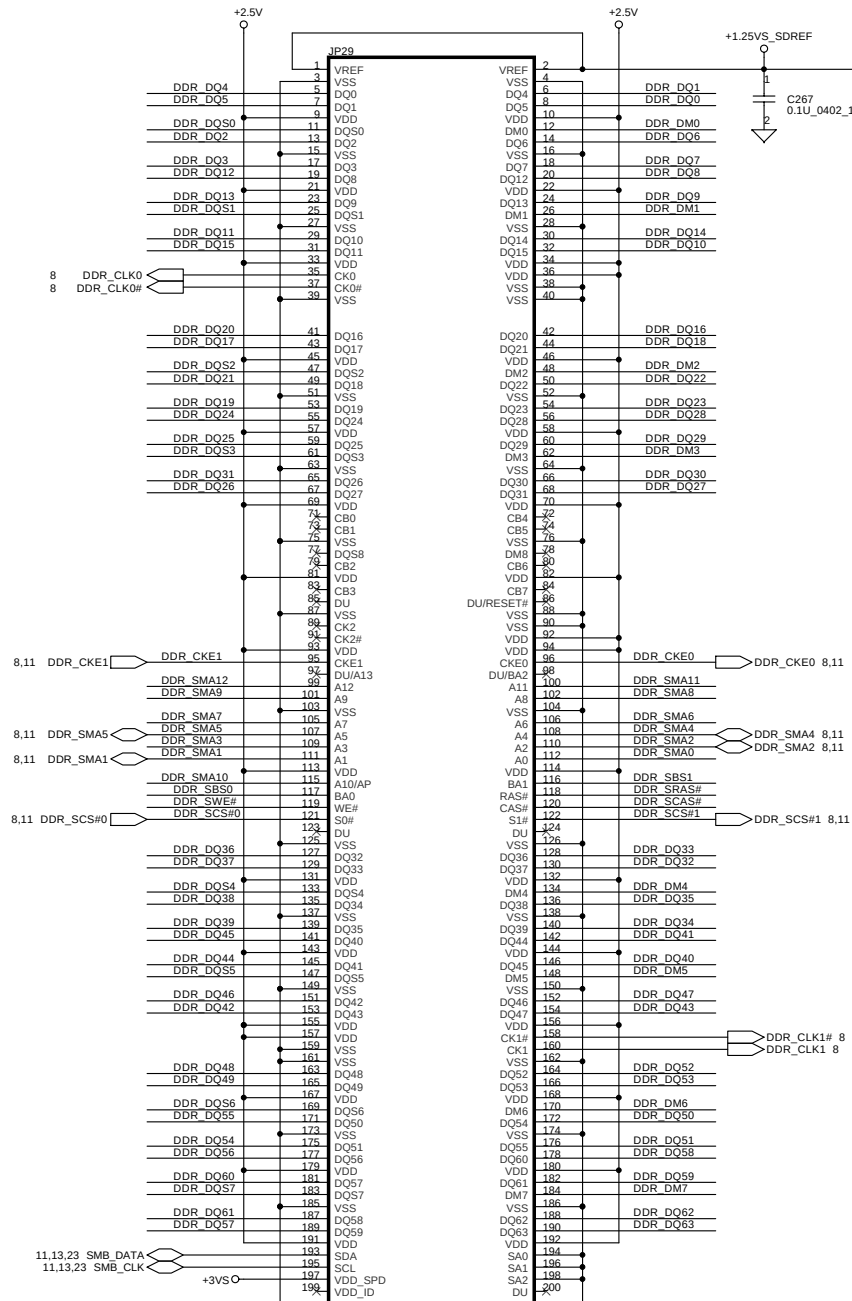
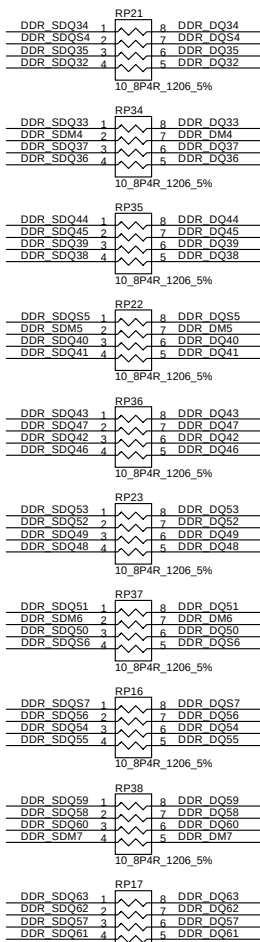
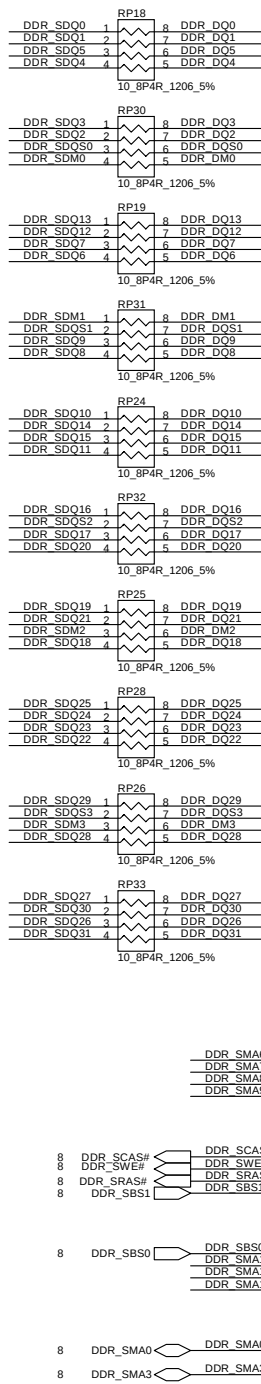


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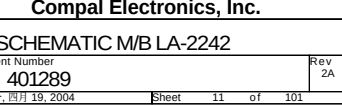
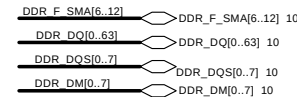
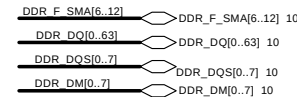
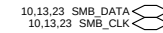
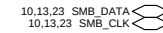
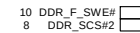
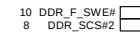
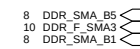
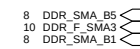
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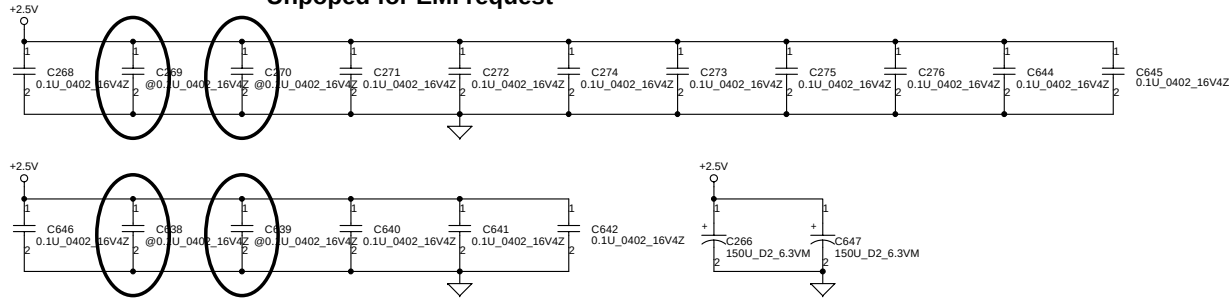
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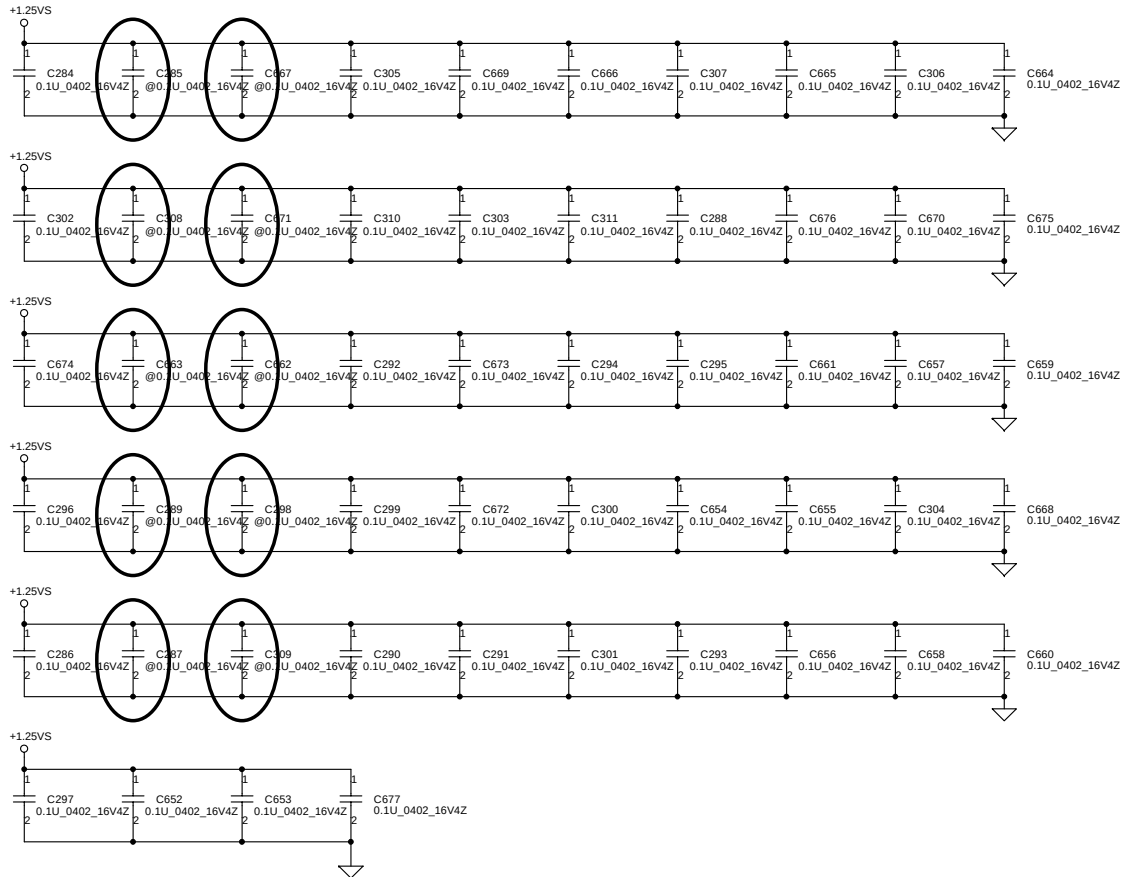


Layout note :
Distribute as close as possible
to DDR-SODIMM.

Unpoped for EMI request



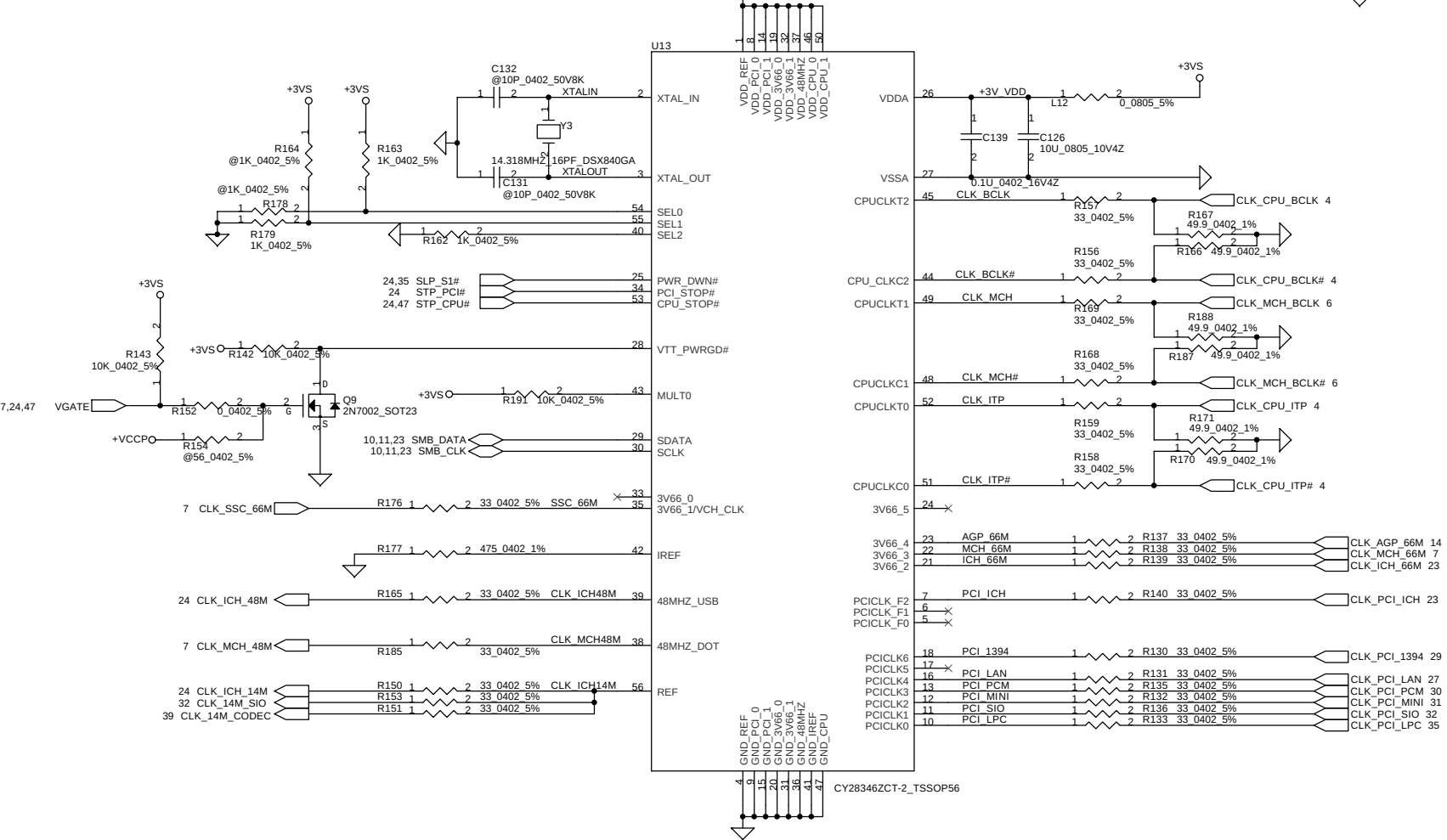
Layout note :
Place one cap close to every 2 pull up resistors termination to
+1.25V



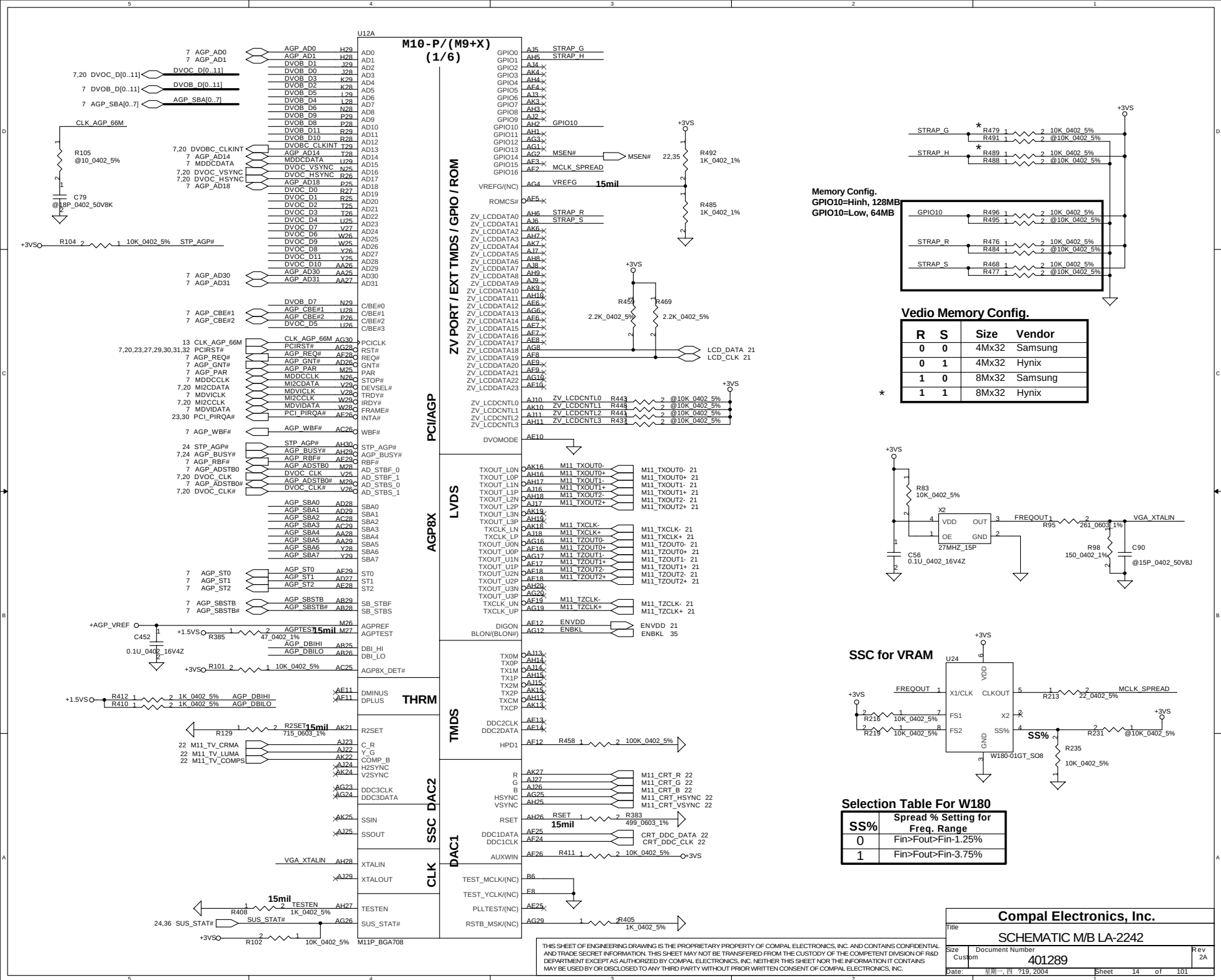
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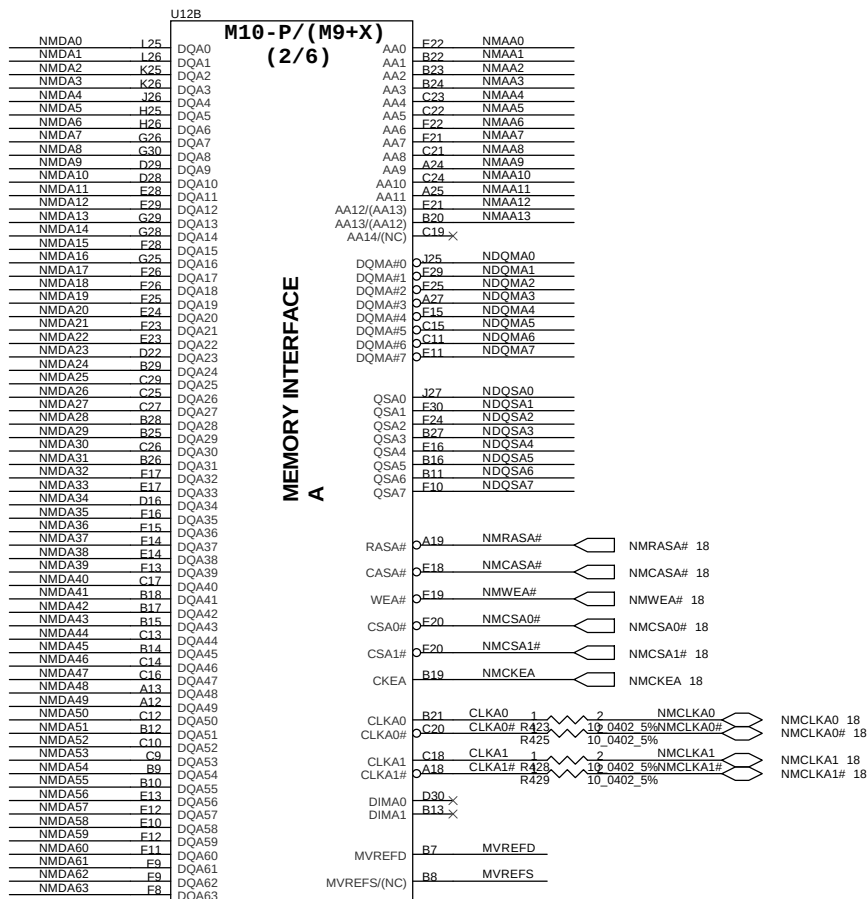
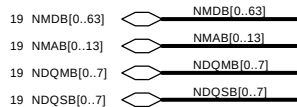
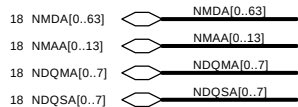
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SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33

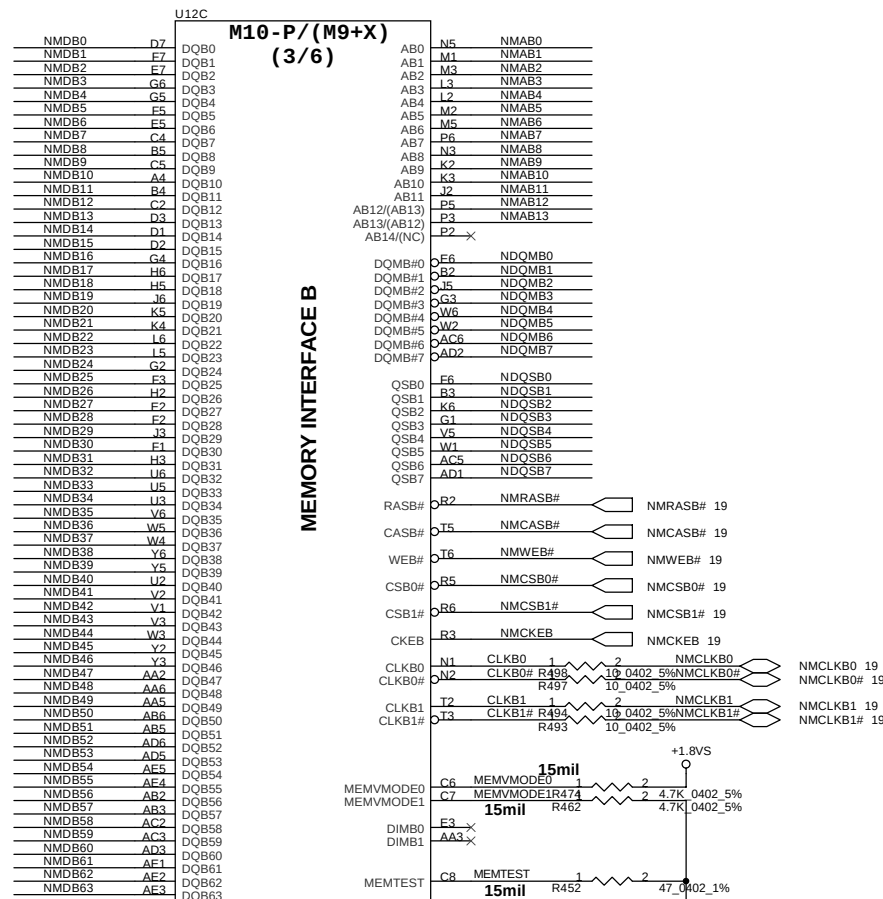
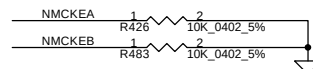
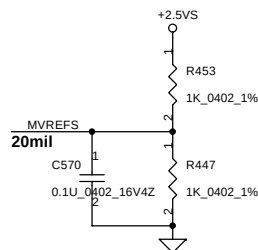
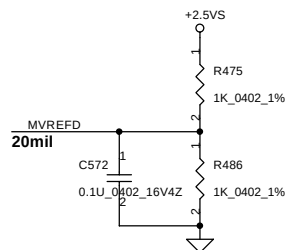


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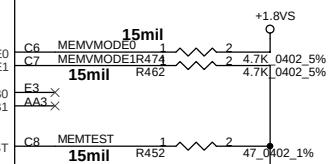




M11P_BGA708



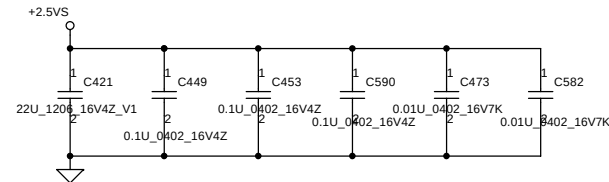
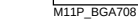
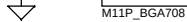
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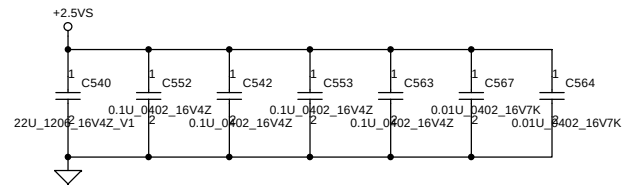
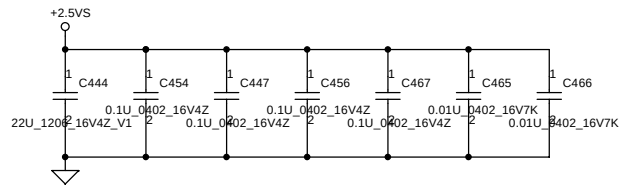


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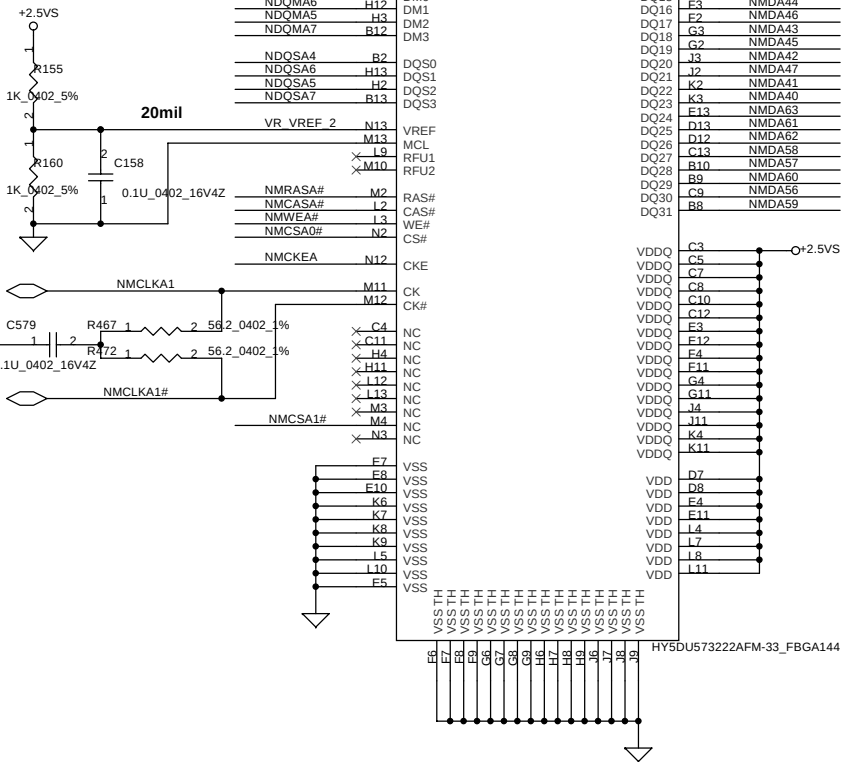
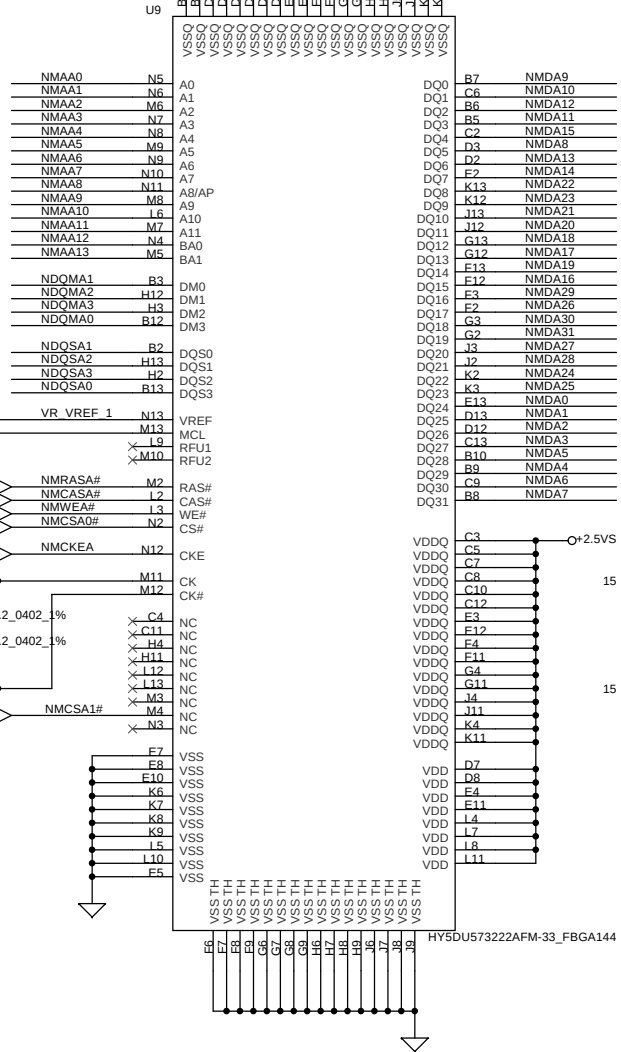
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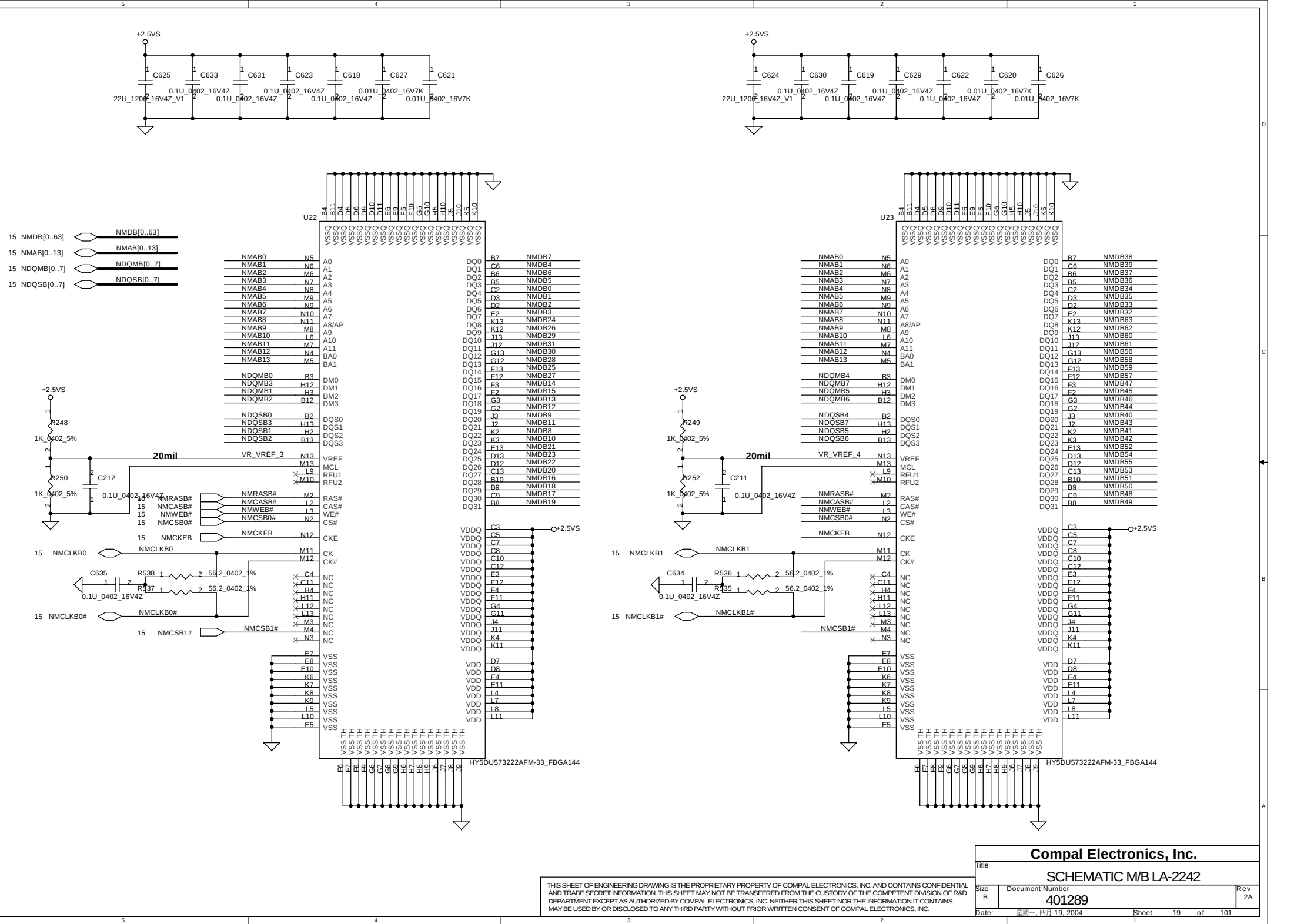
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15 NMDA[0..63] NMDA[0..63]
15 NMAA[0..13] NMAA[0..13]
15 NDQMA[0..7] NDQMA[0..7]
15 NDQSA[0..7] NDQSA[0..7]

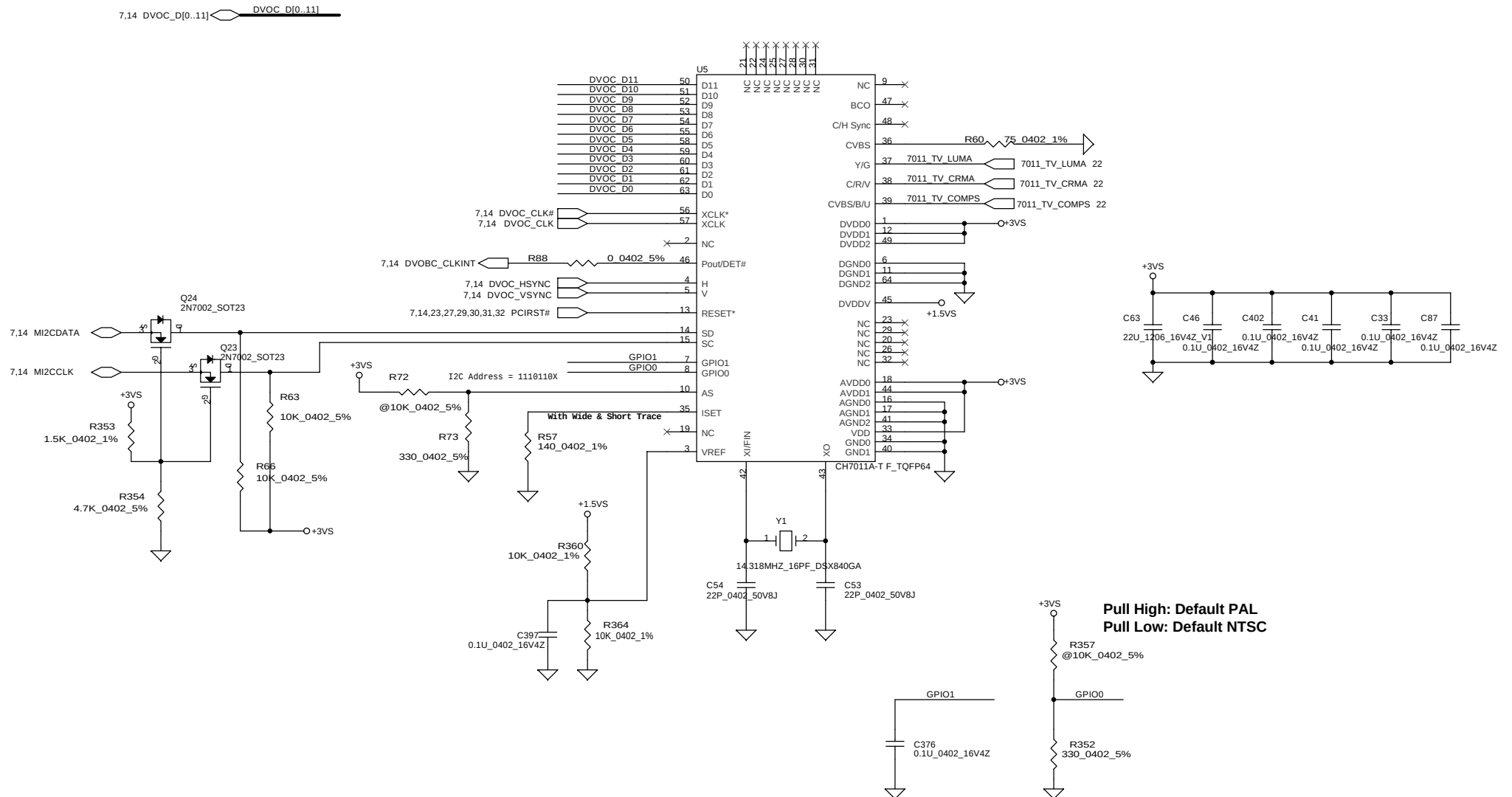




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TV Encoder

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LCD POWER CIRCUIT

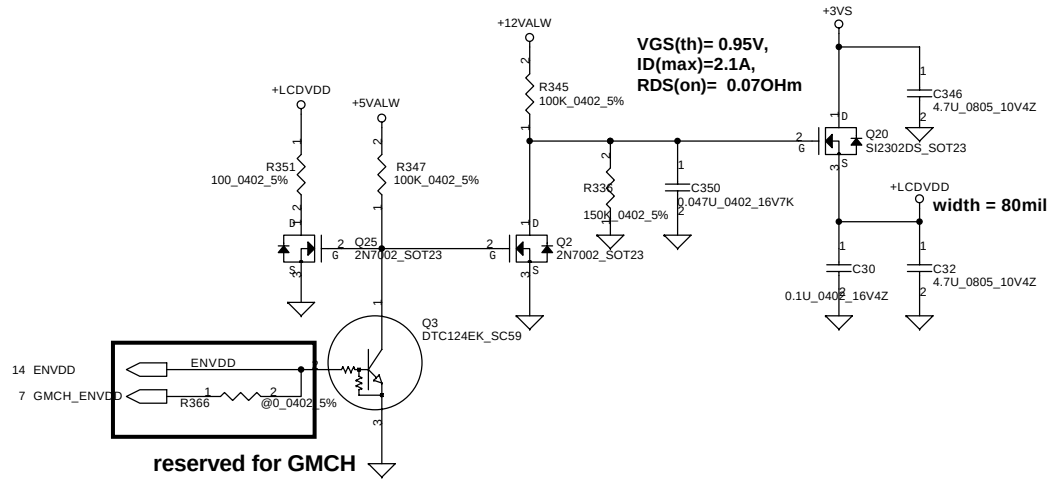
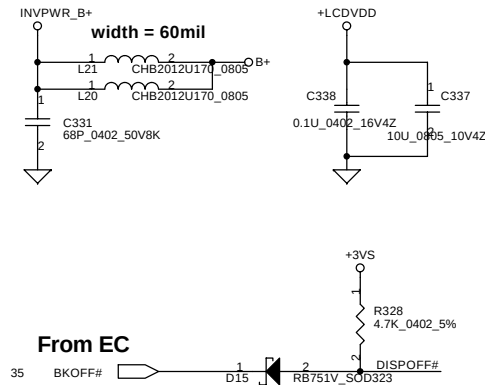
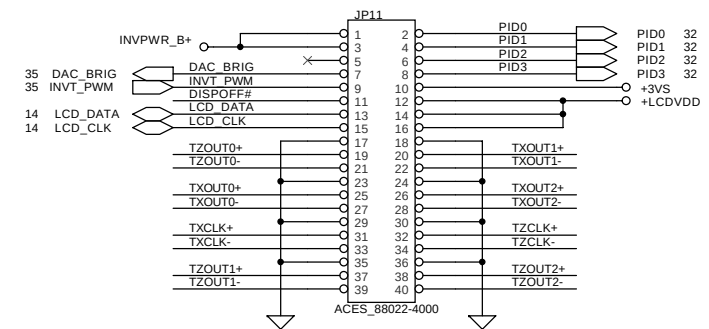


Table 1: Panel ID

PID3	PID2	PID1	PID0	PANEL
0	1	0	0	SANYO TM154WX-22L31 15.4" WXGA 1280X800
0	1	0	1	AU B154EW01 15.4" WXGA 1280X800
0	1	1	0	CPT CLAA154WA01 15.4" WXGA 1280X800
0	1	1	1	SAMSUNG LTN154X1-L02 15.4" WXGA 1280X800
1	0	0	1	SAMSUNG LTN154P1-L02 15.4" WSXGA+ 1680X1050
1	0	1	0	LG LP154W02-A1 15.4" WSXGA+ 1680X1050



LCD CONN.



14 M11_TXOUT0-	M11_TXOUT0-	R317	1	2	0	0402	5%	TXOUT0-
14 M11_TXOUT0+	M11_TXOUT0+	R316	1	2	0	0402	5%	TXOUT0+
14 M11_TXOUT1-	M11_TXOUT1-	R338	1	2	0	0402	5%	TXOUT1-
14 M11_TXOUT1+	M11_TXOUT1+	R337	1	2	0	0402	5%	TXOUT1+
14 M11_TXOUT2-	M11_TXOUT2-	R340	1	2	0	0402	5%	TXOUT2-
14 M11_TXOUT2+	M11_TXOUT2+	R339	1	2	0	0402	5%	TXOUT2+
14 M11_TXCLK-	M11_TXCLK-	R319	1	2	0	0402	5%	TXCLK-
14 M11_TXCLK+	M11_TXCLK+	R318	1	2	0	0402	5%	TXCLK+
14 M11_TZOUT0-	M11_TZOUT0-	R315	1	2	0	0402	5%	TZOUT0-
14 M11_TZOUT0+	M11_TZOUT0+	R314	1	2	0	0402	5%	TZOUT0+
14 M11_TZOUT1-	M11_TZOUT1-	R321	1	2	0	0402	5%	TZOUT1-
14 M11_TZOUT1+	M11_TZOUT1+	R320	1	2	0	0402	5%	TZOUT1+
14 M11_TZOUT2-	M11_TZOUT2-	R344	1	2	0	0402	5%	TZOUT2-
14 M11_TZOUT2+	M11_TZOUT2+	R343	1	2	0	0402	5%	TZOUT2+
14 M11_TZCLK-	M11_TZCLK-	R342	1	2	0	0402	5%	TZCLK-
14 M11_TZCLK+	M11_TZCLK+	R341	1	2	0	0402	5%	TZCLK+

For ATI M11P

7 GMCH_TXOUT0-	GMCH_TXOUT0-	R304	1	2	@0	0402	5%	TXOUT0-
7 GMCH_TXOUT0+	GMCH_TXOUT0+	R303	1	2	@0	0402	5%	TXOUT0+
7 GMCH_TXOUT1-	GMCH_TXOUT1-	R51	1	2	@0	0402	5%	TXOUT1-
7 GMCH_TXOUT1+	GMCH_TXOUT1+	R52	1	2	@0	0402	5%	TXOUT1+
7 GMCH_TXOUT2-	GMCH_TXOUT2-	R49	1	2	@0	0402	5%	TXOUT2-
7 GMCH_TXOUT2+	GMCH_TXOUT2+	R50	1	2	@0	0402	5%	TXOUT2+
7 GMCH_TXCLK-	GMCH_TXCLK-	R306	1	2	@0	0402	5%	TXCLK-
7 GMCH_TXCLK+	GMCH_TXCLK+	R305	1	2	@0	0402	5%	TXCLK+
7 GMCH_TZOUT0-	GMCH_TZOUT0-	R302	1	2	@0	0402	5%	TZOUT0-
7 GMCH_TZOUT0+	GMCH_TZOUT0+	R301	1	2	@0	0402	5%	TZOUT0+
7 GMCH_TZOUT1-	GMCH_TZOUT1-	R308	1	2	@0	0402	5%	TZOUT1-
7 GMCH_TZOUT1+	GMCH_TZOUT1+	R307	1	2	@0	0402	5%	TZOUT1+
7 GMCH_TZOUT2-	GMCH_TZOUT2-	R53	1	2	@0	0402	5%	TZOUT2-
7 GMCH_TZOUT2+	GMCH_TZOUT2+	R54	1	2	@0	0402	5%	TZOUT2+
7 GMCH_TZCLK-	GMCH_TZCLK-	R55	1	2	@0	0402	5%	TZCLK-
7 GMCH_TZCLK+	GMCH_TZCLK+	R56	1	2	@0	0402	5%	TZCLK+

For GMCH

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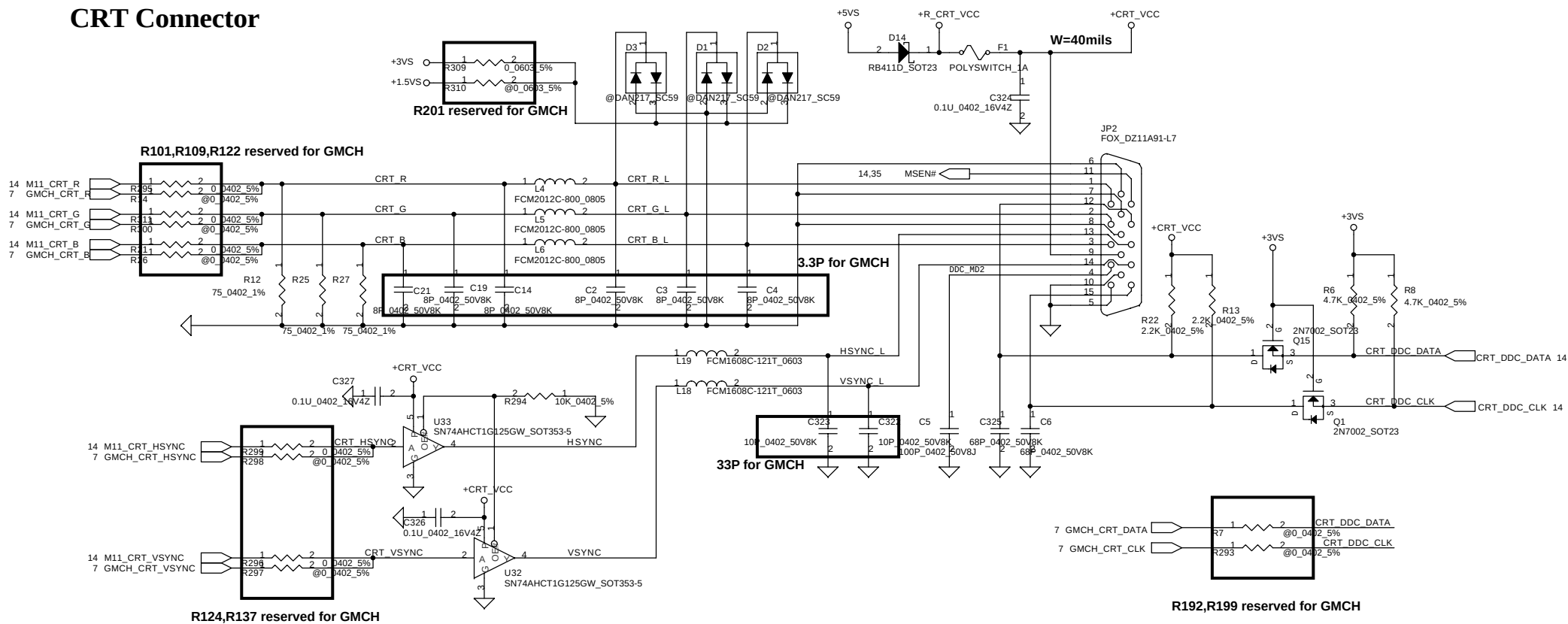
Title
SCHEMATIC M/B LA-2242

Size
Document Number
401289

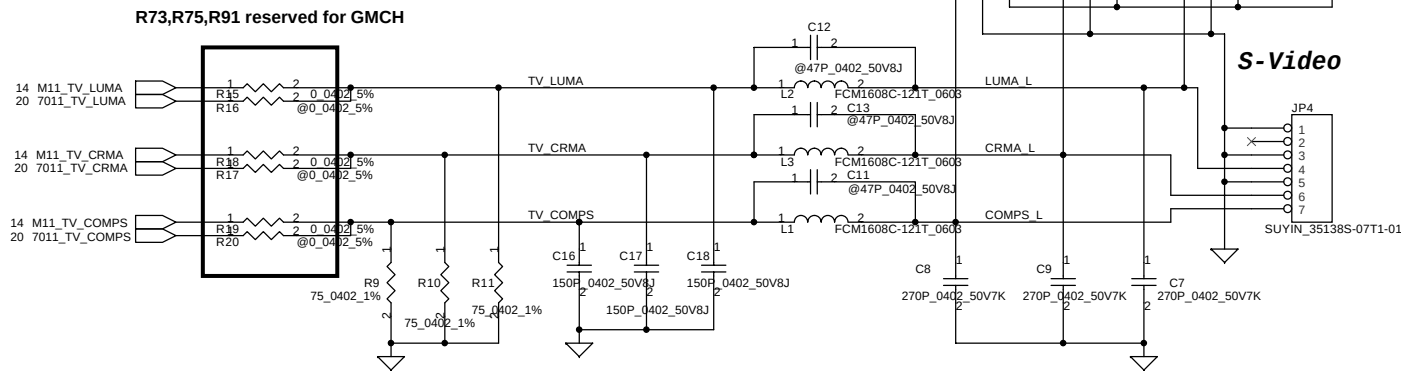
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CRT Connector

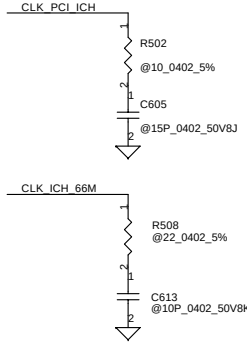


TV-Out Connector

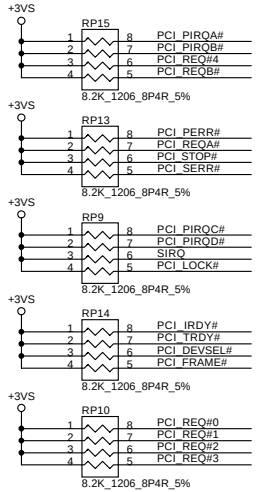


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PCI Pullups



27,29,30,31 PCI_AD[0..31] PCI_AD[0..31]

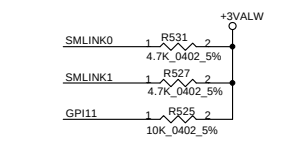
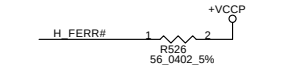
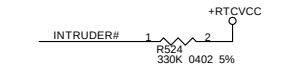
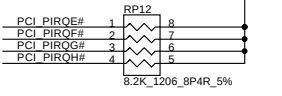
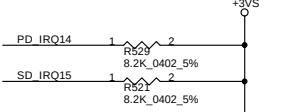
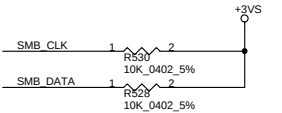
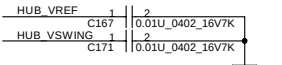
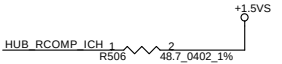
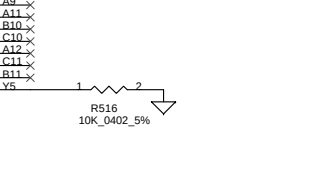
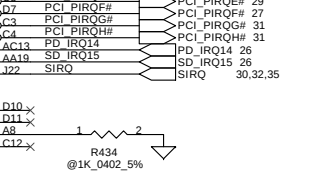
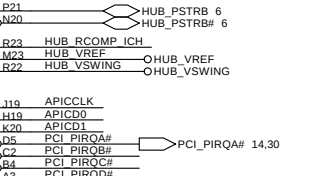
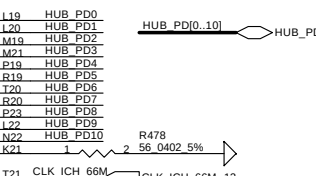
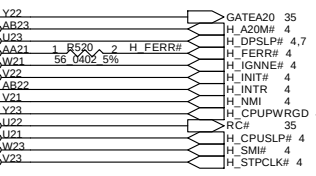
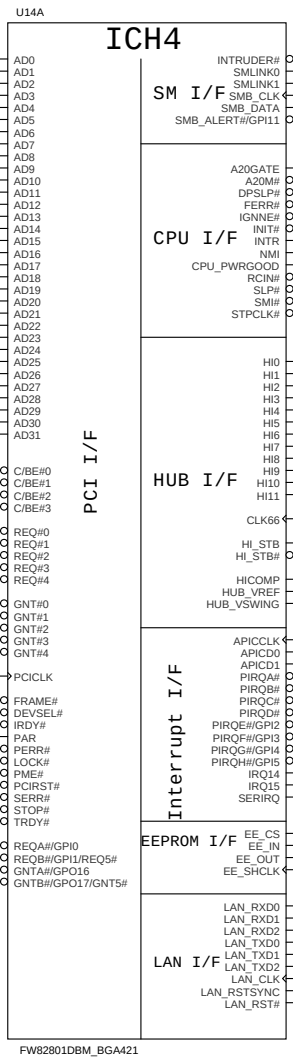
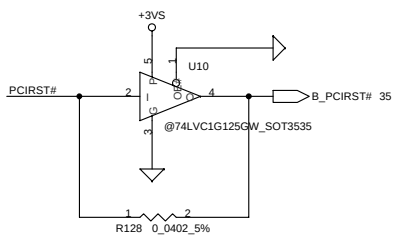
PCI_AD0	H5	AD0
PCI_AD1	J3	AD1
PCI_AD2	H3	AD2
PCI_AD3	K1	AD3
PCI_AD4	G5	AD4
PCI_AD5	J4	AD5
PCI_AD6	H4	AD6
PCI_AD7	J5	AD7
PCI_AD8	K2	AD8
PCI_AD9	G2	AD9
PCI_AD10	L1	AD10
PCI_AD11	G4	AD11
PCI_AD12	L2	AD12
PCI_AD13	H2	AD13
PCI_AD14	L3	AD14
PCI_AD15	F5	AD15
PCI_AD16	F4	AD16
PCI_AD17	N1	AD17
PCI_AD18	E5	AD18
PCI_AD19	N2	AD19
PCI_AD20	E3	AD20
PCI_AD21	N3	AD21
PCI_AD22	F4	AD22
PCI_AD23	M5	AD23
PCI_AD24	E2	AD24
PCI_AD25	E1	AD25
PCI_AD26	P1	AD26
PCI_AD27	P2	AD27
PCI_AD28	D3	AD28
PCI_AD29	R1	AD29
PCI_AD30	D2	AD30
PCI_AD31	P4	AD31

27,29,30,31 PCI_CBE#0	PCI_CBE#0	J2	C/BE#0
27,29,30,31 PCI_CBE#1	PCI_CBE#1	M4	C/BE#1
27,29,30,31 PCI_CBE#2	PCI_CBE#2	M4	C/BE#2
27,29,30,31 PCI_CBE#3	PCI_CBE#3	N4	C/BE#3
29 PCI_REQ#0	PCI_REQ#0	B1	REQ#0
27 PCI_REQ#1	PCI_REQ#1	A2	REQ#1
30 PCI_REQ#2	PCI_REQ#2	B3	REQ#2
31 PCI_REQ#3	PCI_REQ#3	C7	REQ#3
31 PCI_REQ#4	PCI_REQ#4	B6	REQ#4
29 PCI_GNT#0	PCI_GNT#0	C1	GNT#0
27 PCI_GNT#1	PCI_GNT#1	E6	GNT#1
30 PCI_GNT#2	PCI_GNT#2	A7	GNT#2
31 PCI_GNT#3	PCI_GNT#3	R7	GNT#3
31 PCI_GNT#4	PCI_GNT#4	D6	GNT#4

13 CLK_PCI_ICH	CLK_PCI_ICH	P5	PCICLK
27,29,30,31 PCI_FRAME#	PCI_FRAME#	F1	FRAME#
27,29,30,31 PCI_DEVSEL#	PCI_DEVSEL#	M3	DEVSEL#
27,29,30,31 PCI_IRDY#	PCI_IRDY#	L5	IRDY#
27,29,30,31 PCI_PAR	PCI_PERR#	G1	PAR
27,29,30,31 PCI_PERR#	PCI_LOCK#	M2	PERR#
27,29,30,31 PCI_LOCK#	PCI_LOCK#	M2	LOCK#

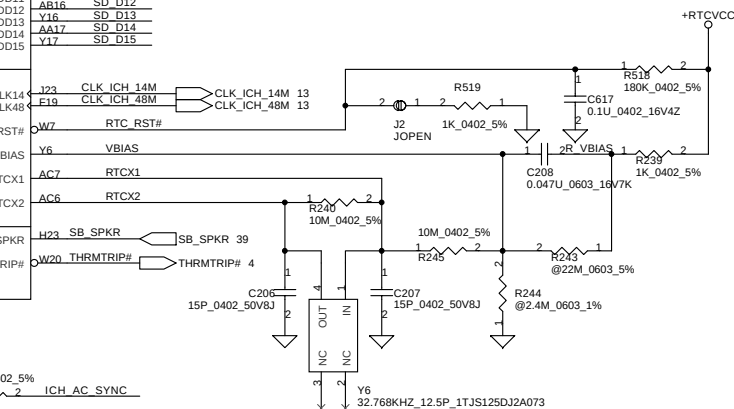
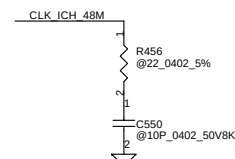
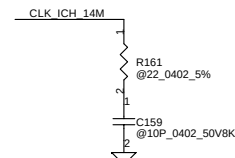
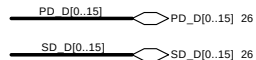
7,14,20,27,29,30,31,32 PCIRST#	PCIRST#	W2	PCIRST#
27,29,30,31 PCI_SERR#	PCI_SERR#	K5	SERR#
27,29,30,31 PCI_STOP#	PCI_STOP#	F3	STOP#
27,29,30,31 PCI_TRDY#	PCI_TRDY#	E2	TRDY#

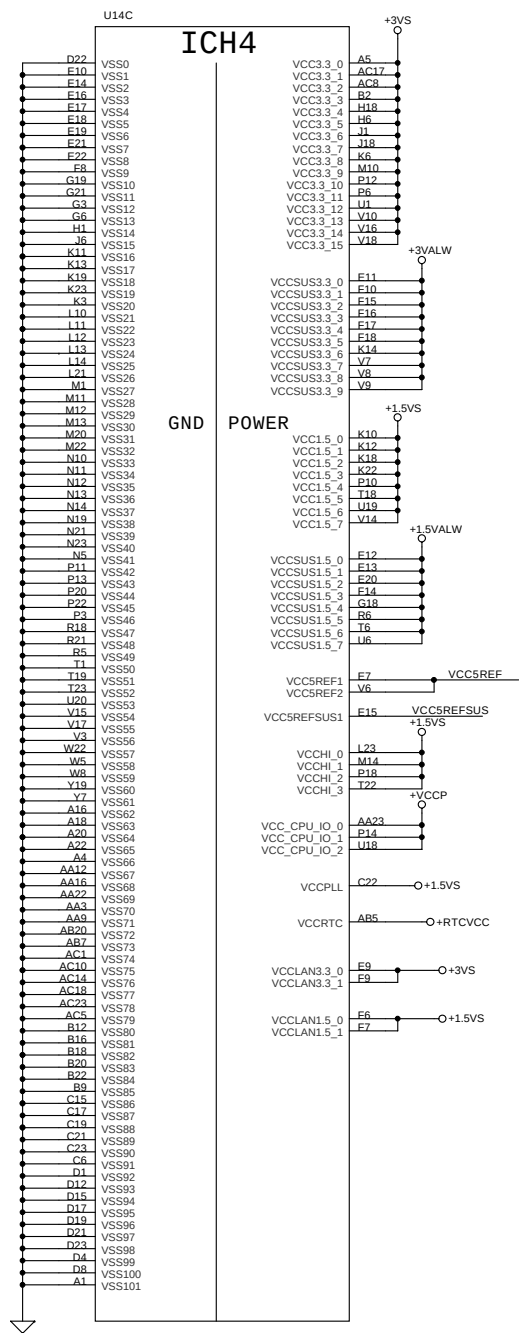
26 PIDERST#	PCI_REQA#	B5	REQA#/GP10
26 SIDERST#	PCI_REQB#	A6	REQB#/GP11
	PCIRST#	K5	PCIRST#
	SERR#	F3	SERR#
	STOP#	F3	STOP#
	TRDY#	E2	TRDY#



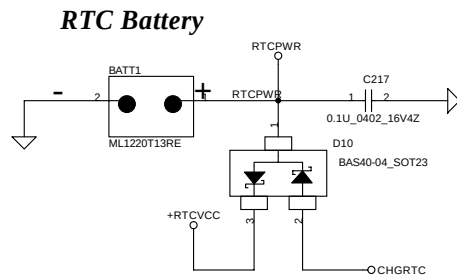
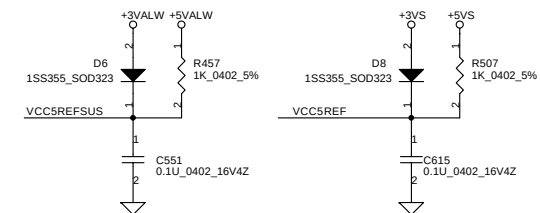
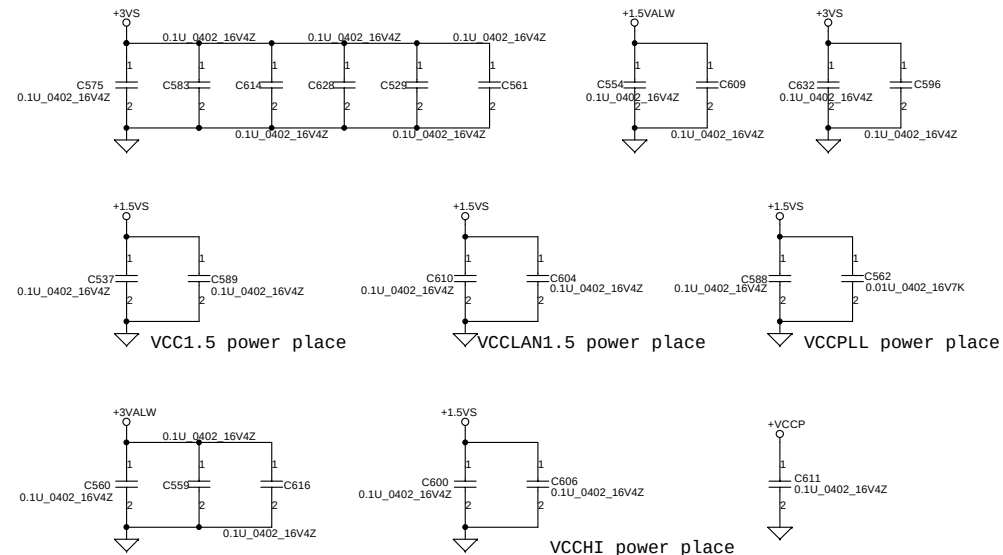
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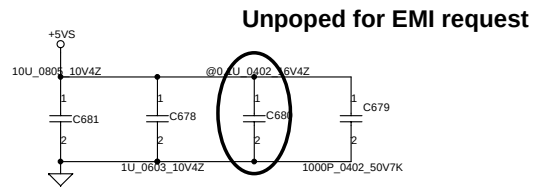
Compal Electronics, Inc.			
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SCHEMATIC MB LA-2242			
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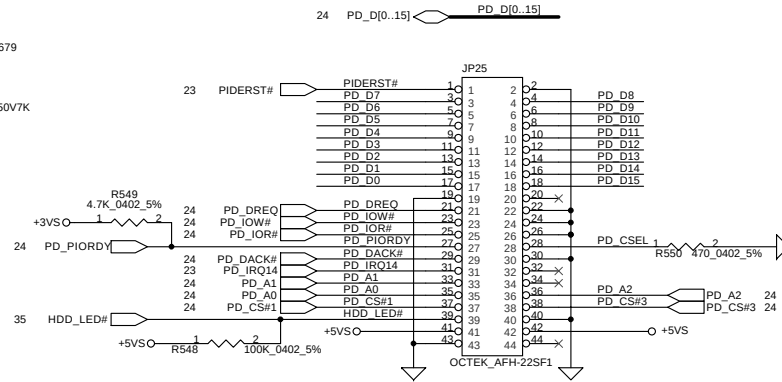


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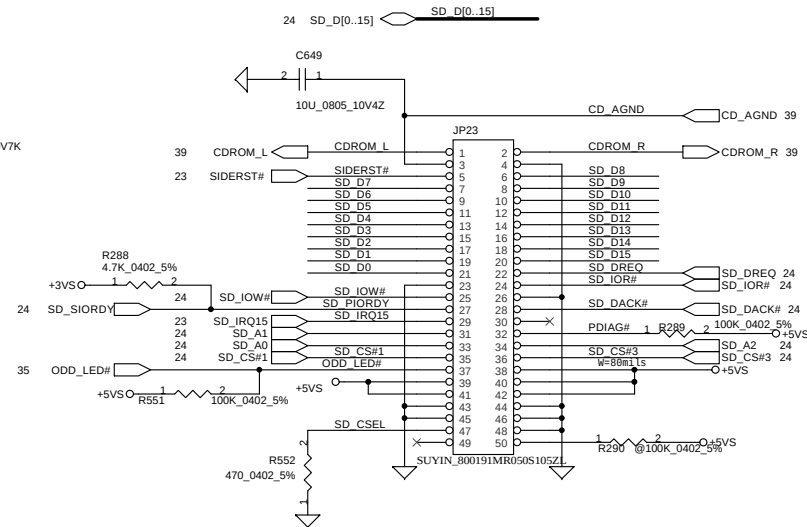
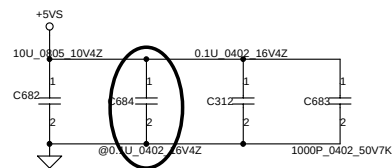




HDD CONN



CDROM CONN



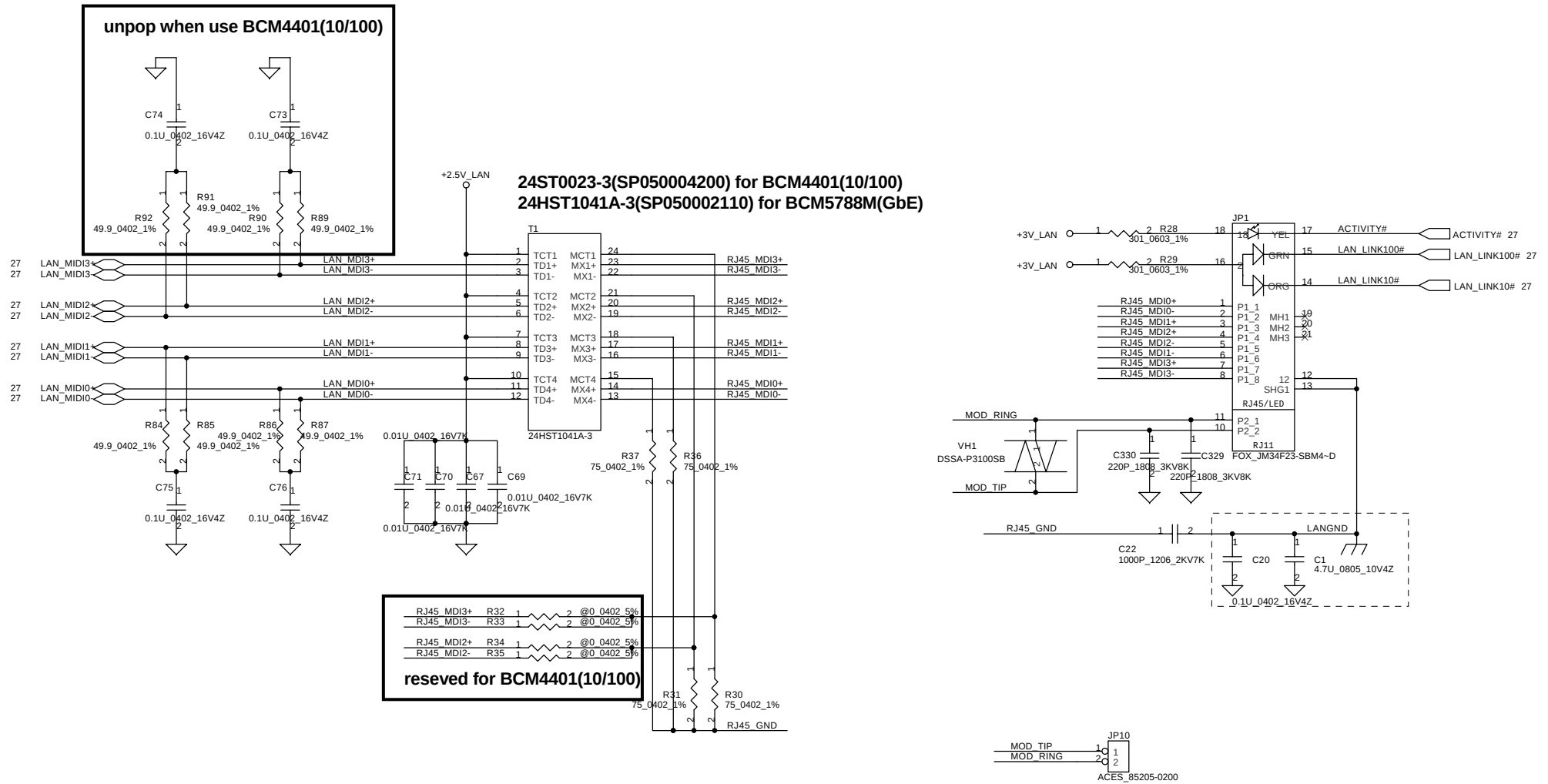
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LAN BCM5788M/BCM4401KFB



23,27,30,31 PCI_AD[0..31]

PCI_AD[0..31]

PCI_AD0	84	PCI_AD0
PCI_AD1	82	PCI_AD1
PCI_AD2	81	PCI_AD2
PCI_AD3	80	PCI_AD3
PCI_AD4	79	PCI_AD4
PCI_AD5	77	PCI_AD5
PCI_AD6	76	PCI_AD6
PCI_AD7	74	PCI_AD7
PCI_AD8	71	PCI_AD8
PCI_AD9	70	PCI_AD9
PCI_AD10	69	PCI_AD10
PCI_AD11	67	PCI_AD11
PCI_AD12	66	PCI_AD12
PCI_AD13	65	PCI_AD13
PCI_AD14	63	PCI_AD14
PCI_AD15	61	PCI_AD15
PCI_AD16	46	PCI_AD16
PCI_AD17	45	PCI_AD17
PCI_AD18	43	PCI_AD18
PCI_AD19	42	PCI_AD19
PCI_AD20	41	PCI_AD20
PCI_AD21	40	PCI_AD21
PCI_AD22	38	PCI_AD22
PCI_AD23	37	PCI_AD23
PCI_AD24	32	PCI_AD24
PCI_AD25	31	PCI_AD25
PCI_AD26	29	PCI_AD26
PCI_AD27	28	PCI_AD27
PCI_AD28	26	PCI_AD28
PCI_AD29	25	PCI_AD29
PCI_AD30	24	PCI_AD30
PCI_AD31	22	PCI_AD31

23,27,30,31 PCI_CBE#3
23,27,30,31 PCI_CBE#2
23,27,30,31 PCI_CBE#1
23,27,30,31 PCI_CBE#0
13 CLK_PCI_1394
23 PCI_GNT#0
23 PCI_REQ#0
ID: AD16
23,27,30,31 PCI_FRAME#
23,27,30,31 PCI_IRDY#
23,27,30,31 PCI_TRDY#
23,27,30,31 PCI_DEVSEL#
23,27,30,31 PCI_STOP#
23,27,30,31 PCI_PERR#
23 PCI_PIRQE#
23,27,30,31 PCI_SERR#
23,27,30,31 PCI_PAR#
24,27,30,31,32,35 PM_CLKRUN#
7,14,20,23,27,30,31,32 PCI_RST#

CLK PCI 1394
PCI_AD16
R107 100 0402 5%

G_RST# connect to PCIRST#

CLK PCI 1394
R71 @10_0402_5%
C50 @10P_0402_50V8K

R65 220_0402_5%
R62 220_0402_5%

TSB43AB21
(TSB43AB22)

PCI BUS INTERFACE

NC(TPBIAS1)
NC(TPA1+)
NC(TPA1-)
NC(TPB1+)
NC(TPB1-)

BIAS CURRENT

R0 118 1 2
R40 6.34K_0603_1%

OSCILLATOR

X0 6 1 2
C37 22P_0402_50V8J

X1 5 1 2
24.576MHZ_16P_1BX24576EE1B

30ppm

FILTER

FILTER0 3 1 2
C35 0.1U_0402_16V4Z

FILTER1 4 1 2
0.1U_0402_16V4Z

EEPROM 2 WIRE BUS

SDA 92 1 2
SCL 91 1 2
R58 220_0402_5%
R61 220_0402_5%

POWER CLASS

PC0 99
PC1 98
PC2 97

PHY PORT 1

TPBIAS0 116
TPA0+ 115
TPA0- 114
TPB0+ 113
TPB0- 112

TEST9 94
TEST8 95
TEST3 101
TEST2 102
TEST1 104
TEST0 105

TSB43AB21A_PQFP128

REG18 103
REG17 102
REG16 101
REG15 100
REG14 99
REG13 98
REG12 97
REG11 96
REG10 95
REG9 94
REG8 93
REG7 92
REG6 91
REG5 90
REG4 89
REG3 88
REG2 87
REG1 86
REG0 85

AGND 110
AGND 109
AGND 108
AGND 107
AGND 106
AGND 105
AGND 104
AGND 103
AGND 102
AGND 101
AGND 100
AGND 99
AGND 98
AGND 97
AGND 96
AGND 95
AGND 94
AGND 93
AGND 92
AGND 91
AGND 90
AGND 89
AGND 88
AGND 87
AGND 86
AGND 85

DGND 103
DGND 102
DGND 101
DGND 100
DGND 99
DGND 98
DGND 97
DGND 96
DGND 95
DGND 94
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DGND 90
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DGND 88
DGND 87
DGND 86
DGND 85

0.1U_0402_16V4Z

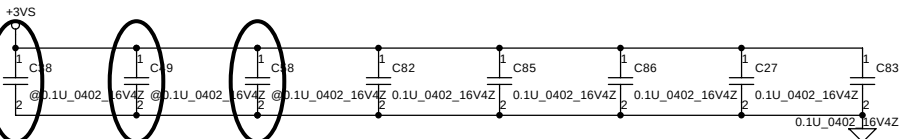
C66 0.1U_0402_16V4Z

C34 0.1U_0402_16V4Z

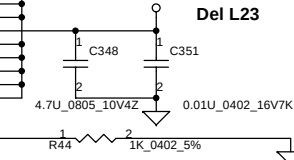
CLOSE CHIP

** GPIO2 and GPIO3 defaults as an input
and if it is not implemented, it is
recommended that it be pulled low to
ground with a 220 ohm resistor.

Unpoped for EMI request



Del L23



Near 1394 IC

R40 6.34K_0603_1%

OSCILLATOR

X0 6 1 2
C37 22P_0402_50V8J

X1 5 1 2
24.576MHZ_16P_1BX24576EE1B

30ppm

FILTER

FILTER0 3 1 2
C35 0.1U_0402_16V4Z

FILTER1 4 1 2
0.1U_0402_16V4Z

EEPROM 2 WIRE BUS

SDA 92 1 2
SCL 91 1 2
R58 220_0402_5%
R61 220_0402_5%

POWER CLASS

PC0 99
PC1 98
PC2 97

PHY PORT 1

TPBIAS0 116
TPA0+ 115
TPA0- 114
TPB0+ 113
TPB0- 112

TEST9 94
TEST8 95
TEST3 101
TEST2 102
TEST1 104
TEST0 105

TSB43AB21A_PQFP128

REG18 103
REG17 102
REG16 101
REG15 100
REG14 99
REG13 98
REG12 97
REG11 96
REG10 95
REG9 94
REG8 93
REG7 92
REG6 91
REG5 90
REG4 89
REG3 88
REG2 87
REG1 86
REG0 85

AGND 110
AGND 109
AGND 108
AGND 107
AGND 106
AGND 105
AGND 104
AGND 103
AGND 102
AGND 101
AGND 100
AGND 99
AGND 98
AGND 97
AGND 96
AGND 95
AGND 94
AGND 93
AGND 92
AGND 91
AGND 90
AGND 89
AGND 88
AGND 87
AGND 86
AGND 85

DGND 103
DGND 102
DGND 101
DGND 100
DGND 99
DGND 98
DGND 97
DGND 96
DGND 95
DGND 94
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DGND 88
DGND 87
DGND 86
DGND 85

0.1U_0402_16V4Z

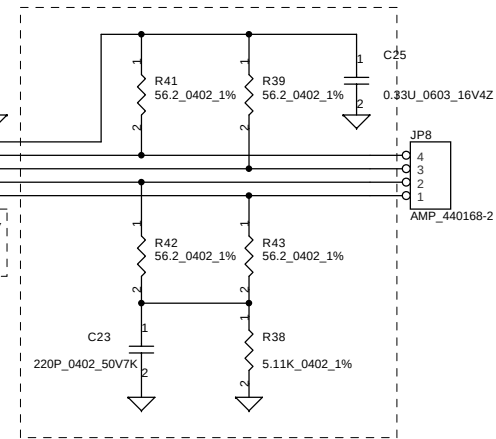
C66 0.1U_0402_16V4Z

C34 0.1U_0402_16V4Z

CLOSE CHIP

EEPROM cancel,
need System
Support

close chip



Connect To
Shielding
GND

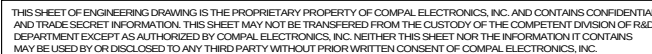
Compal Electronics, Inc.

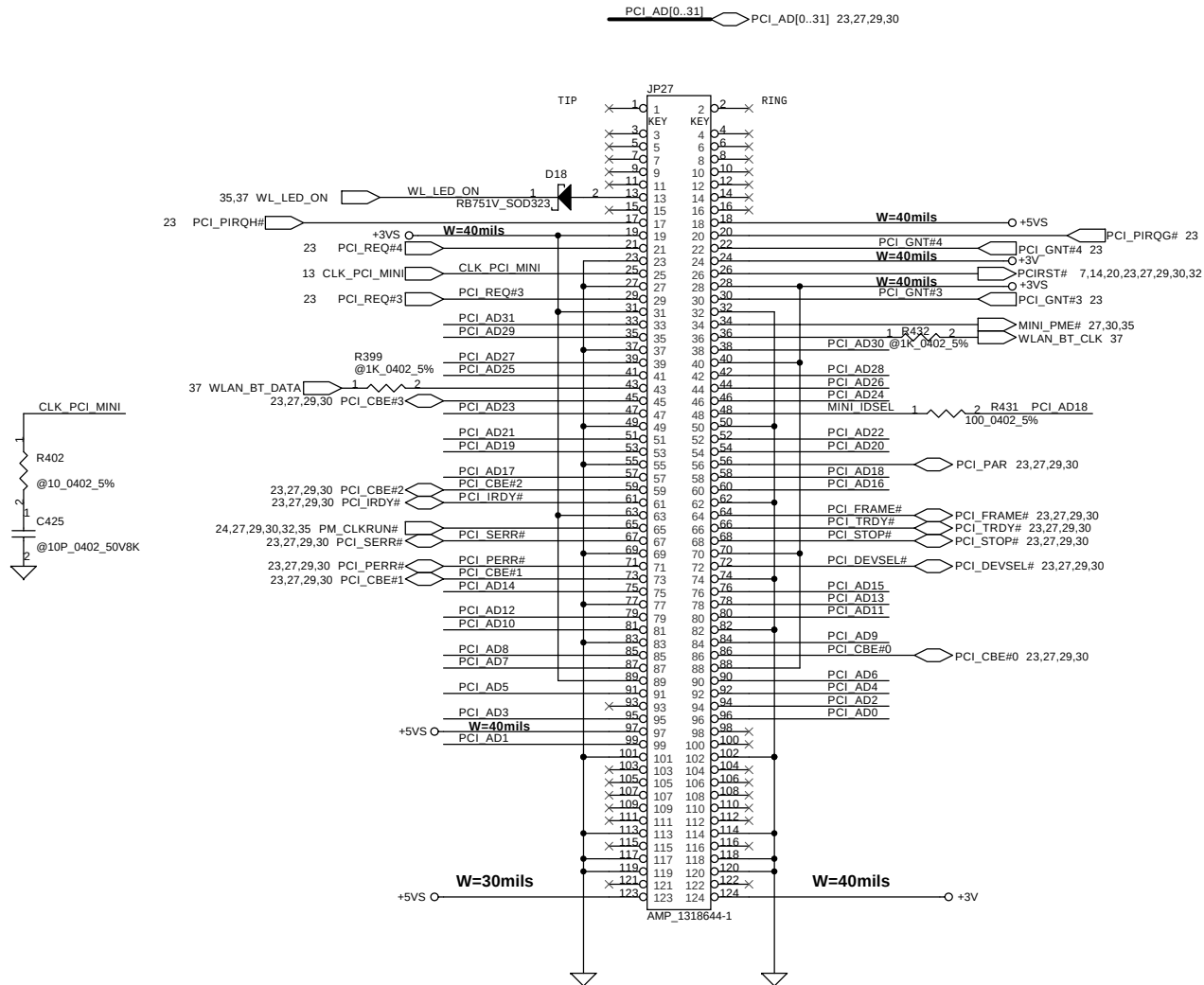
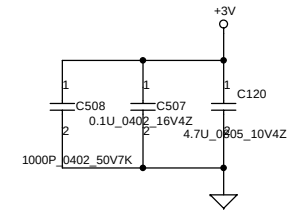
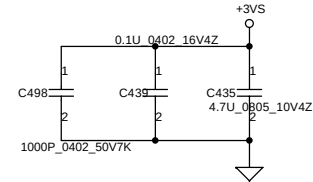
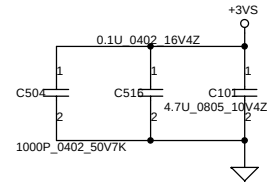
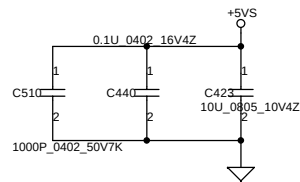
Title SCHEMATIC M/B LA-2242

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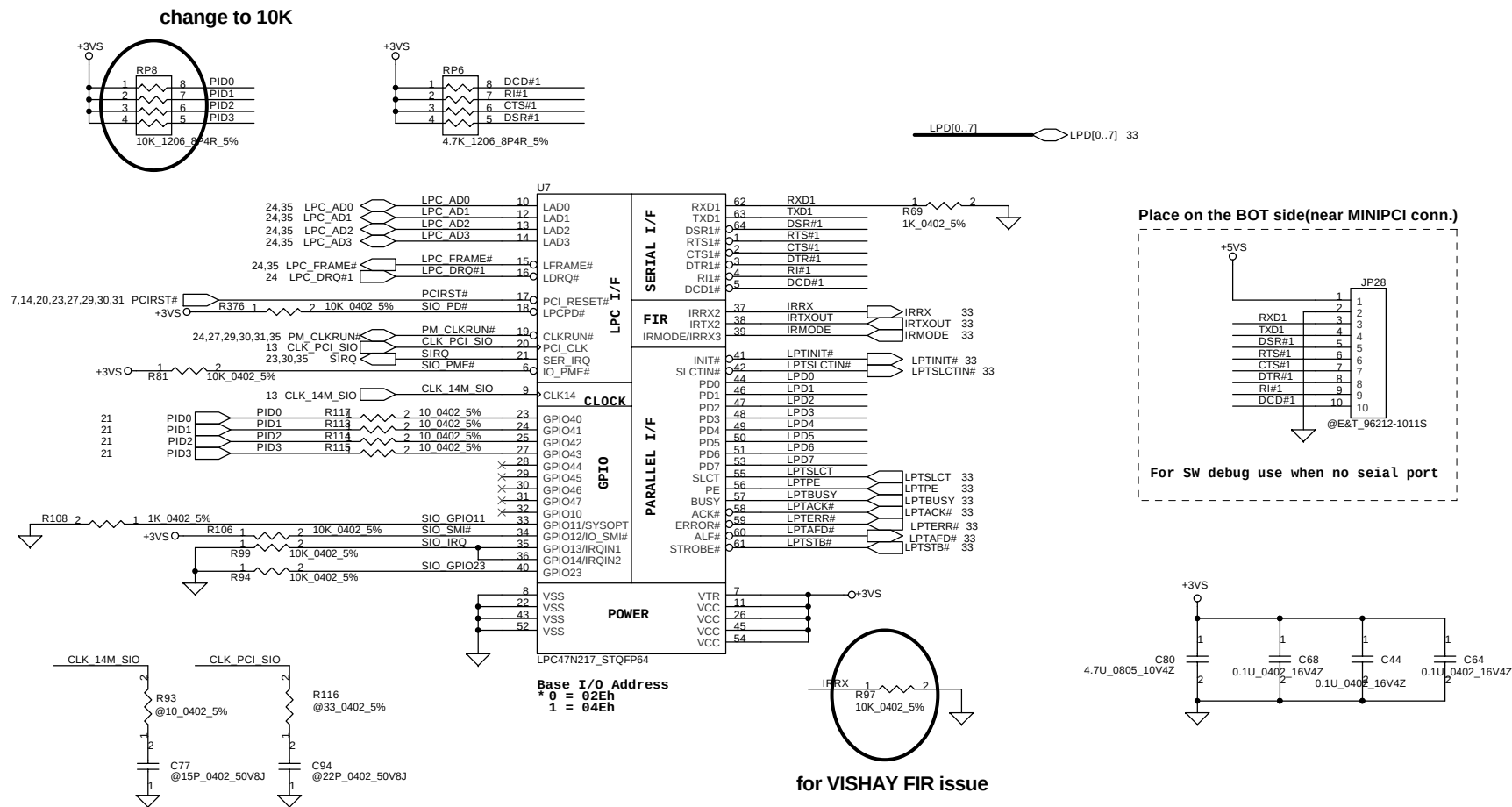
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		401289			2A
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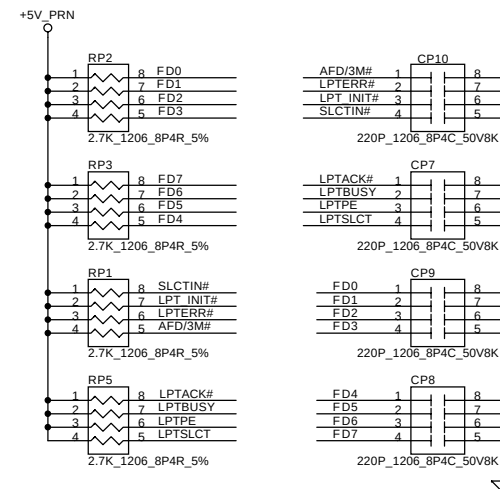
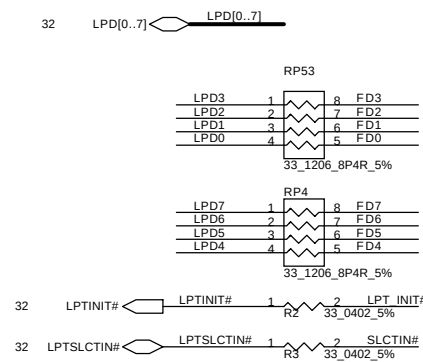
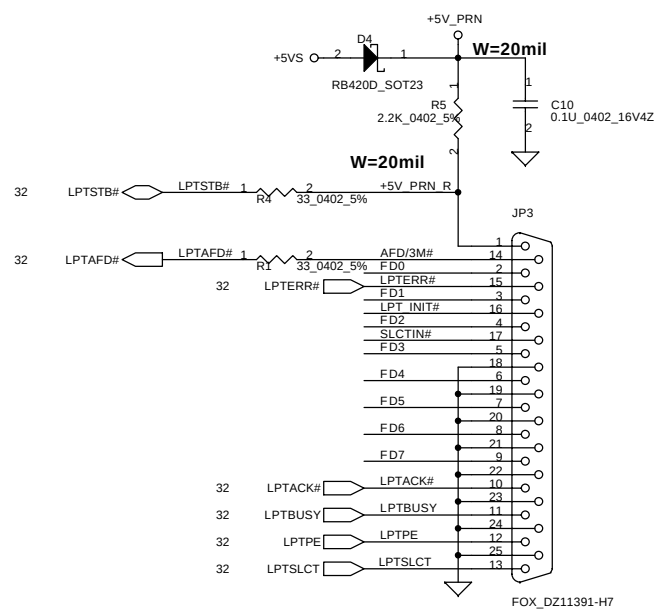
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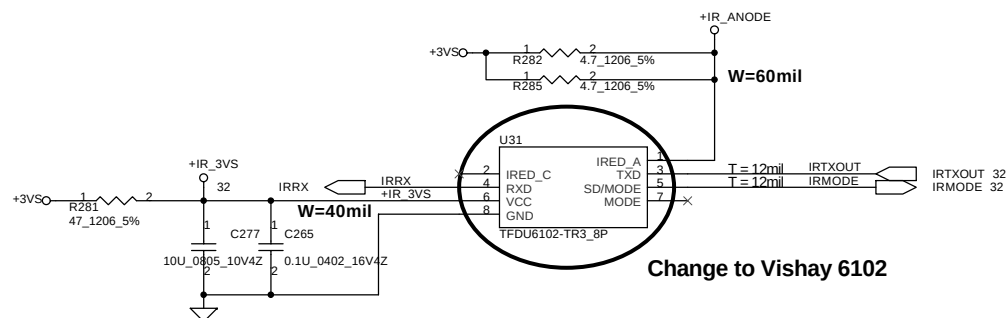
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Parallel Port



FIR Module



Change to Vishay 6102

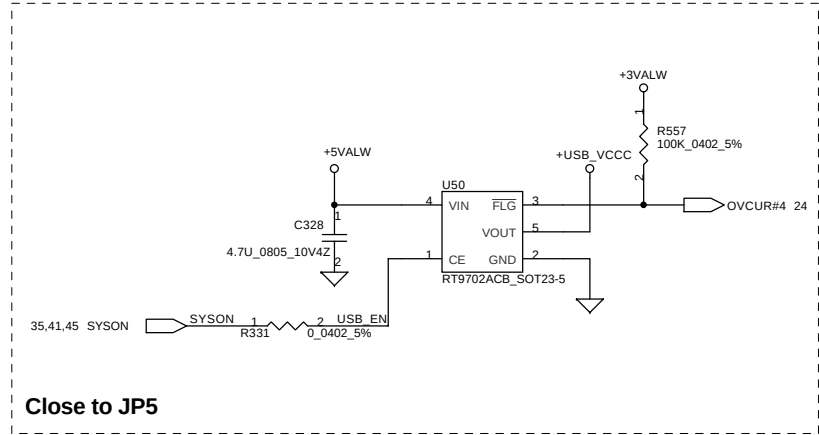
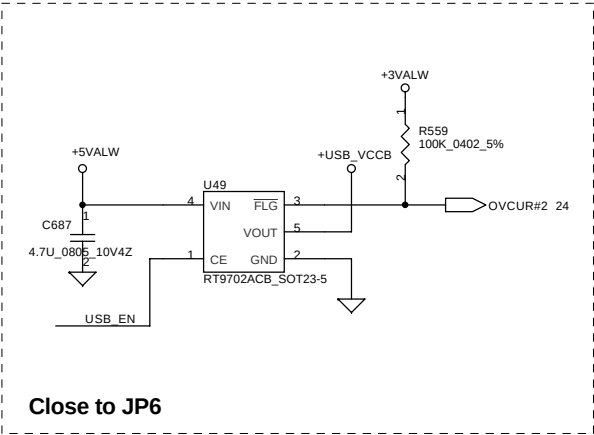
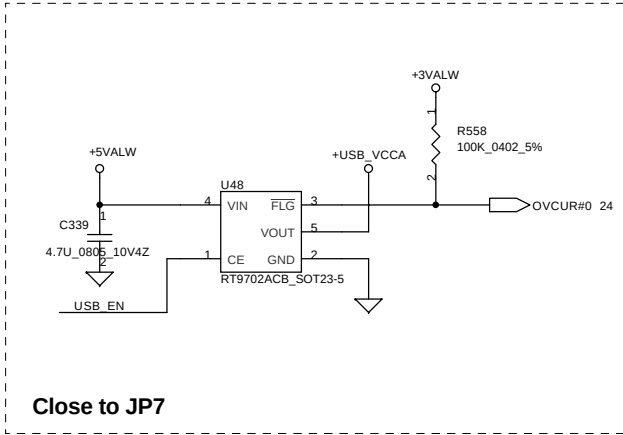
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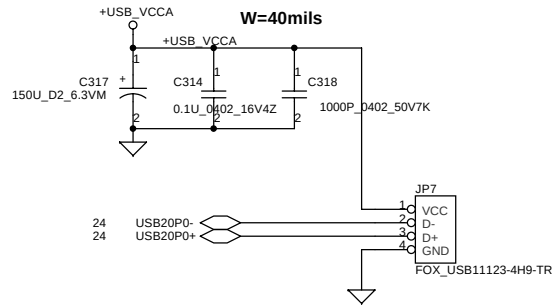
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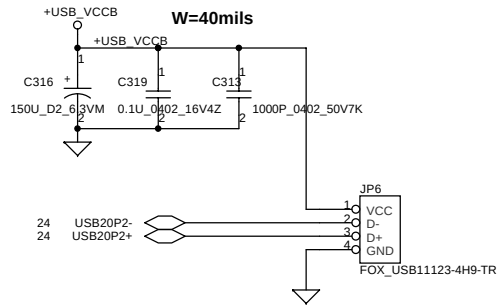
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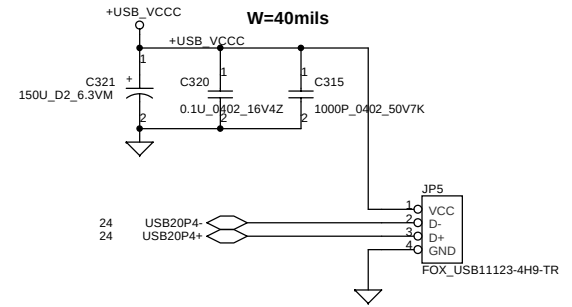
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USB CONN. 2

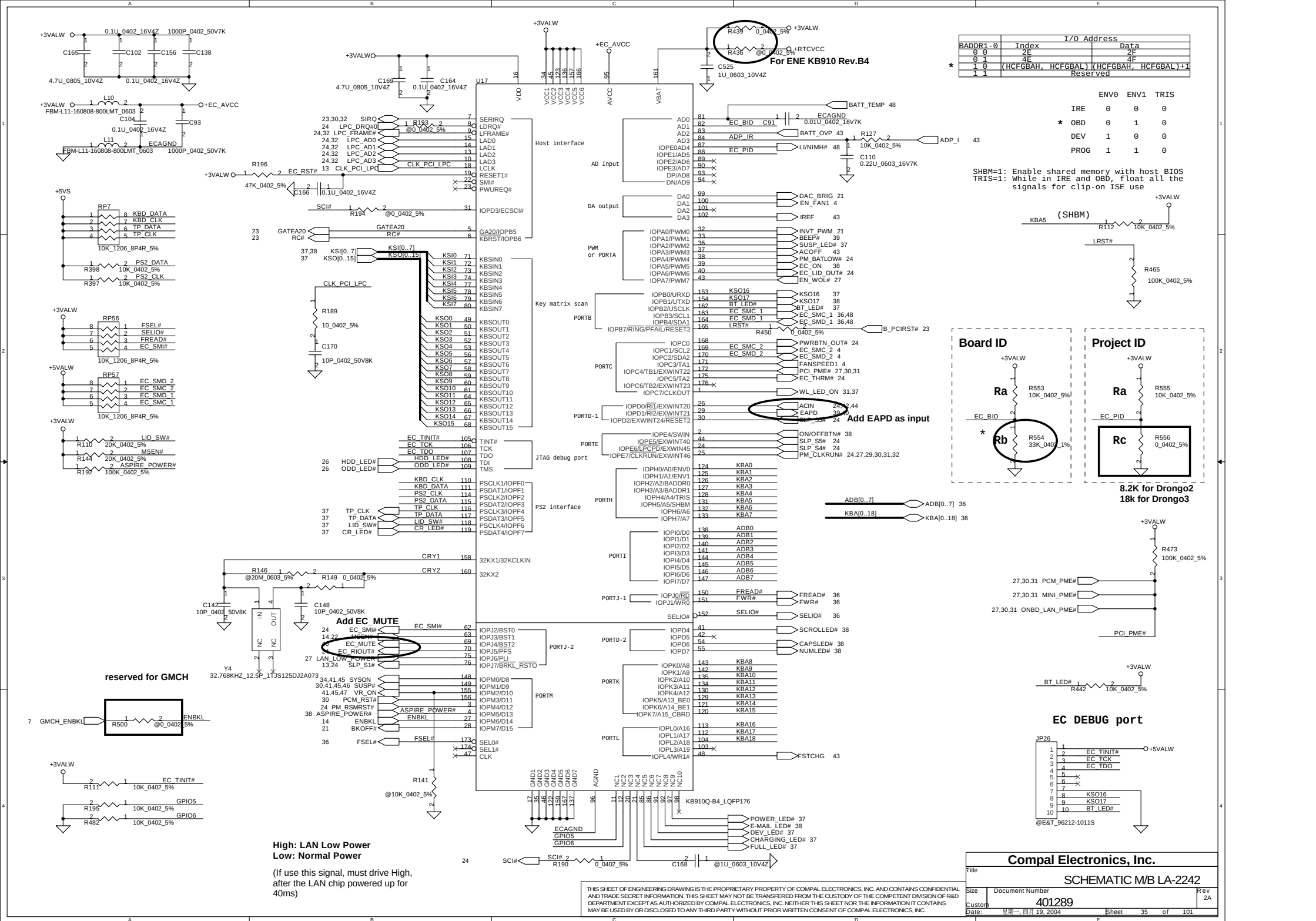


USB CONN. 3

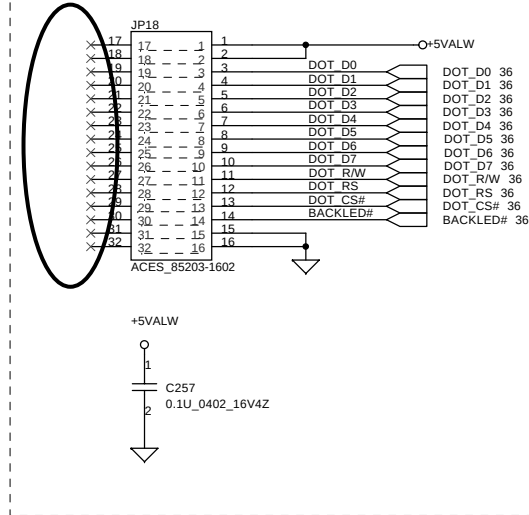


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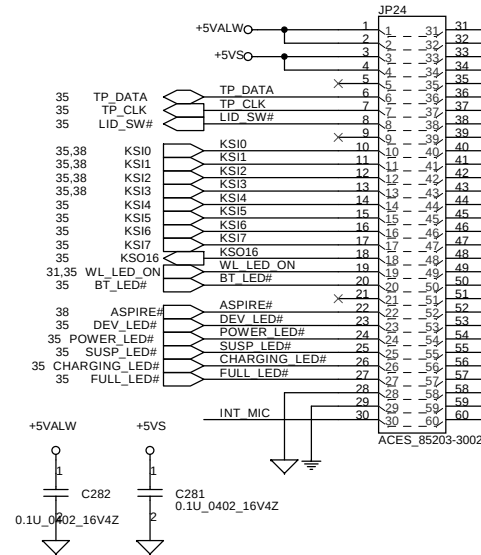
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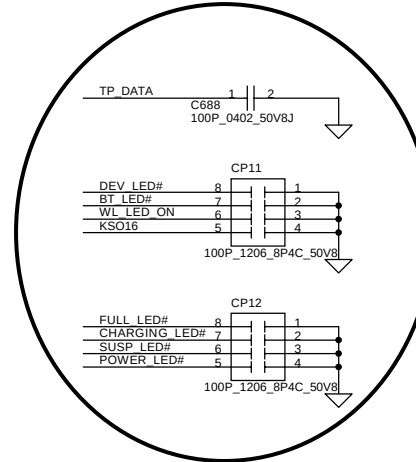
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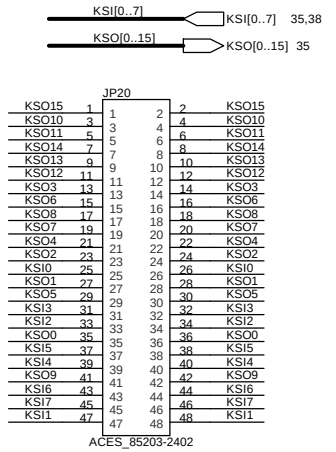
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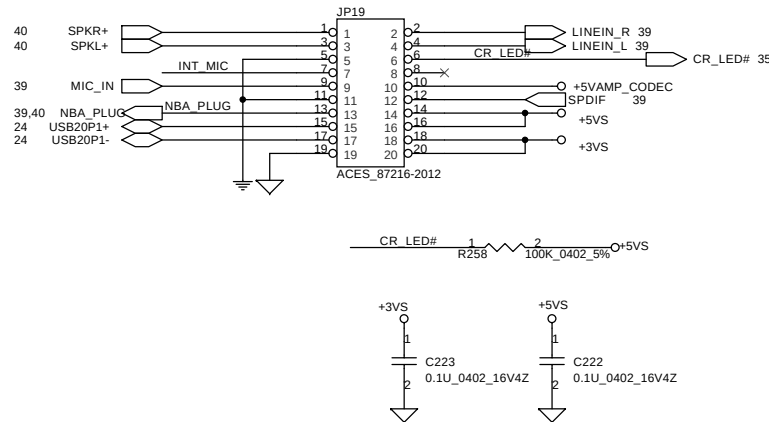
Add CP11,CP12,C688



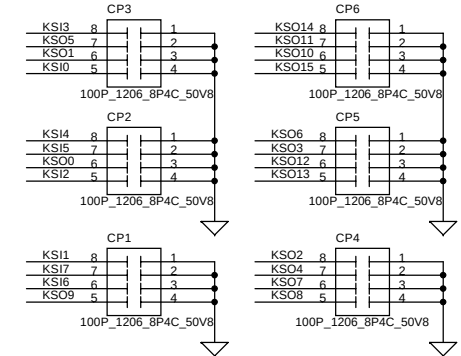
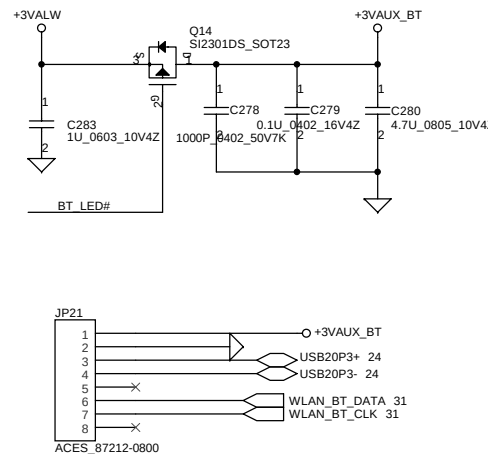
INT_KBD CONN.



To Card Reader Board



Bluetooth Conn.



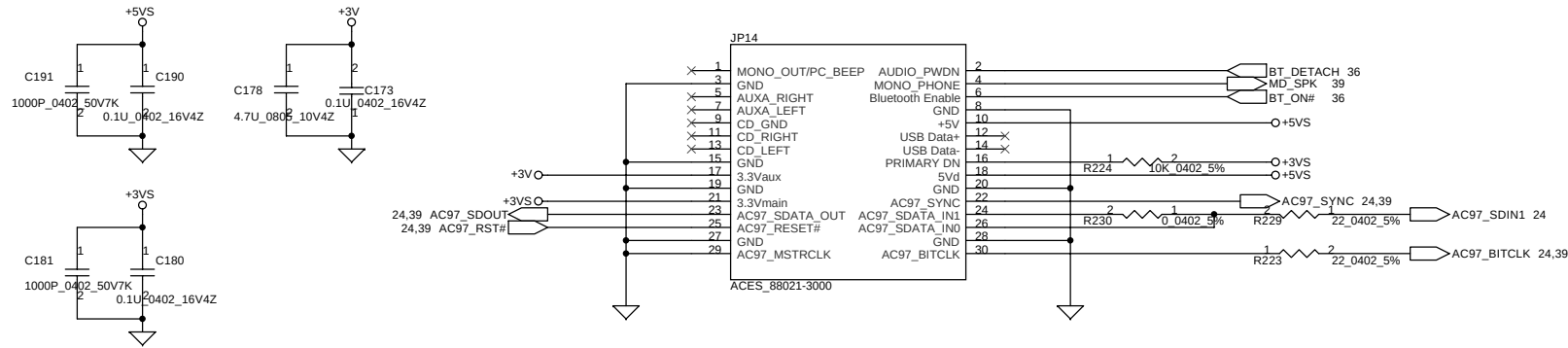
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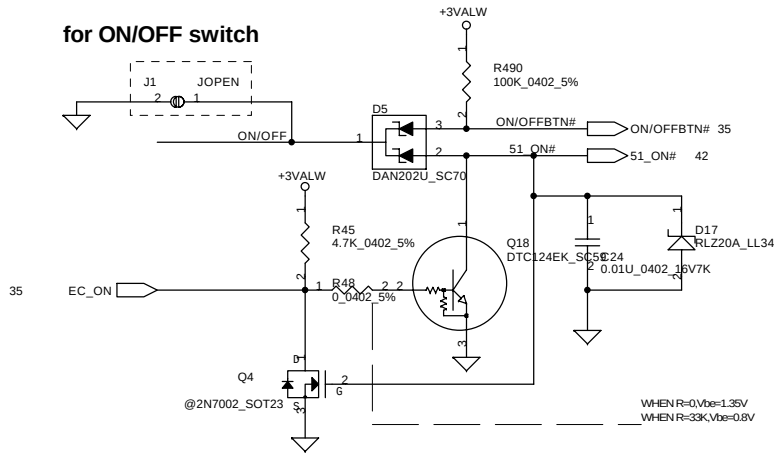
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MDC Conn.

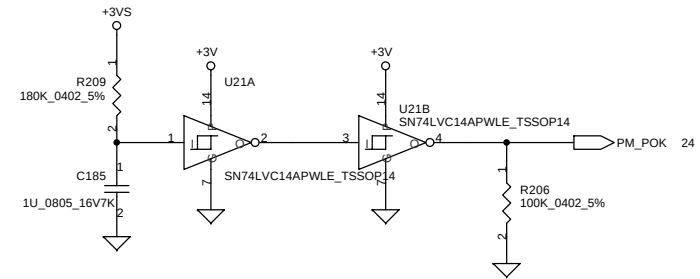


ON/OFF BUTTON

for ON/OFF switch

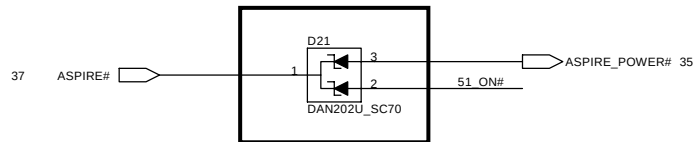


Power OK Circuit

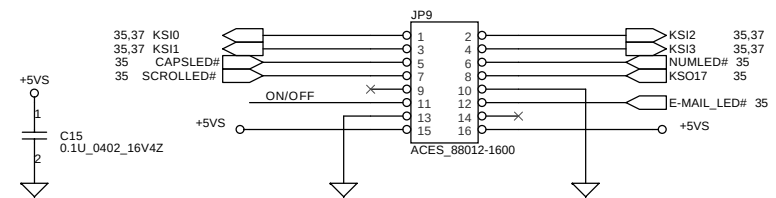


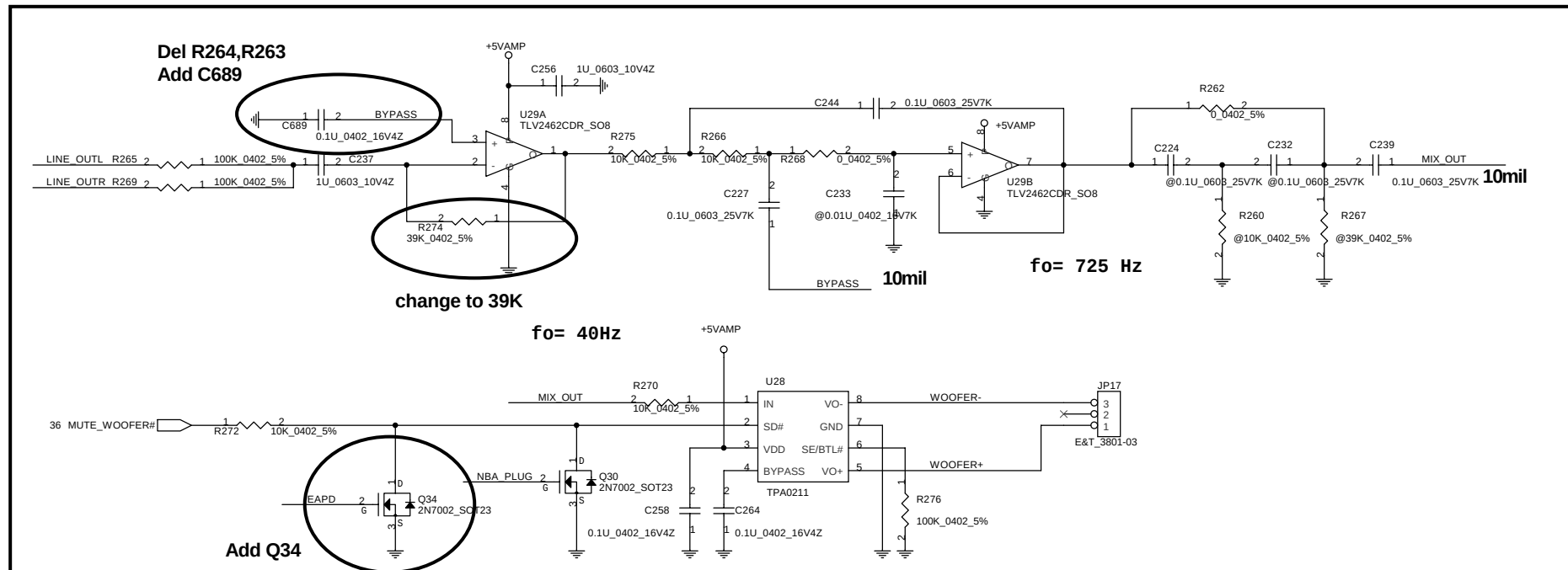
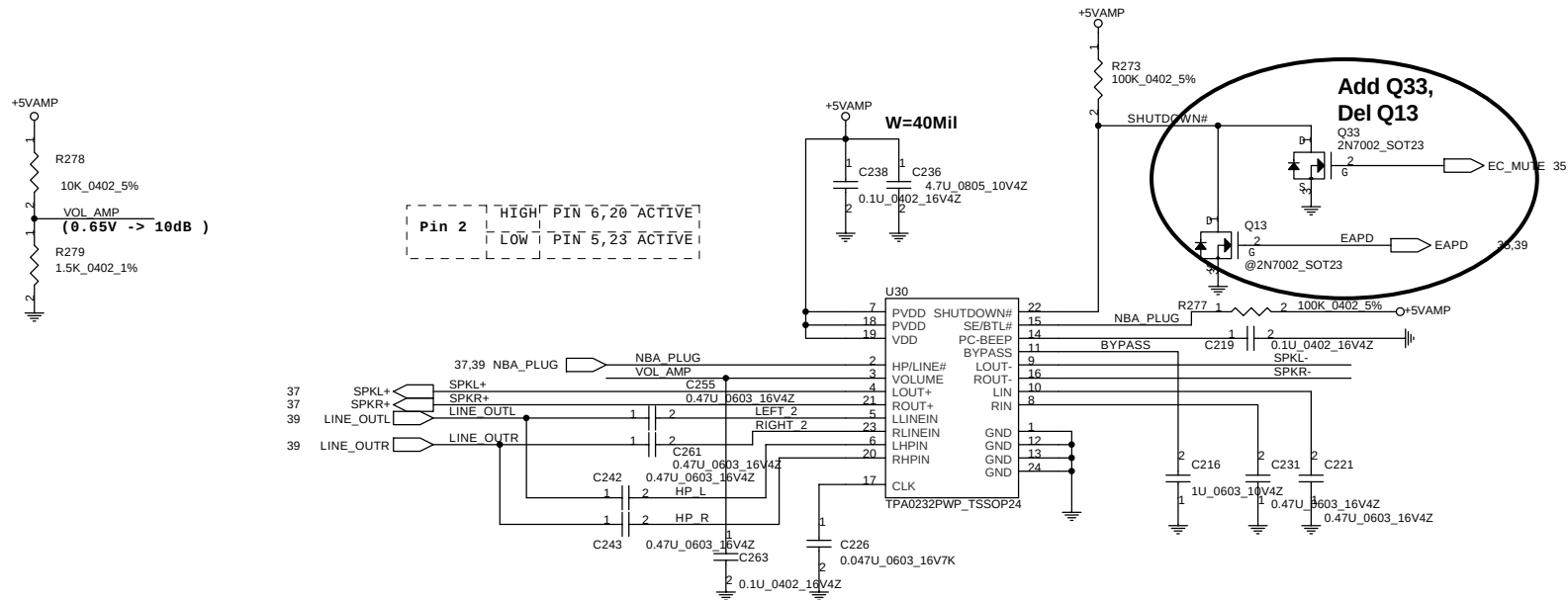
ASPIRE POWER

remove when no MEDIA/B



POWER/B CONN

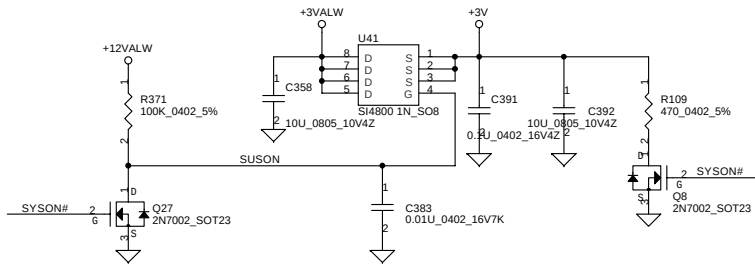




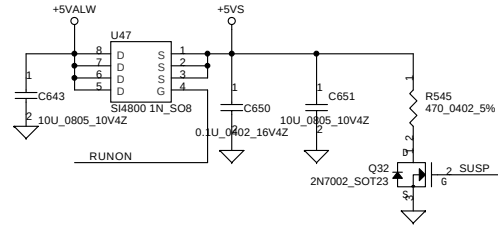
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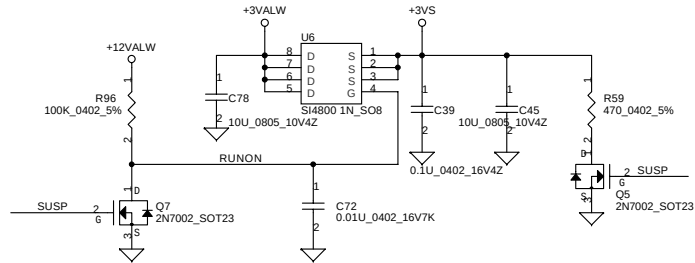
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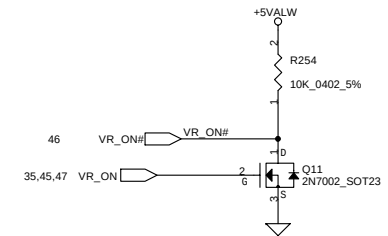
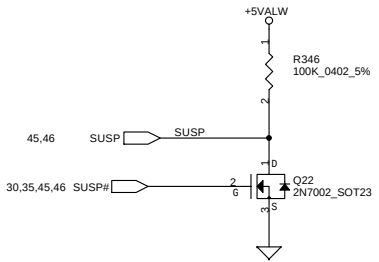
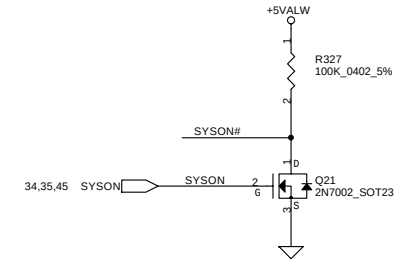
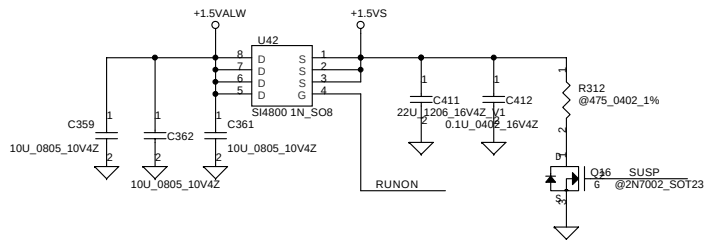
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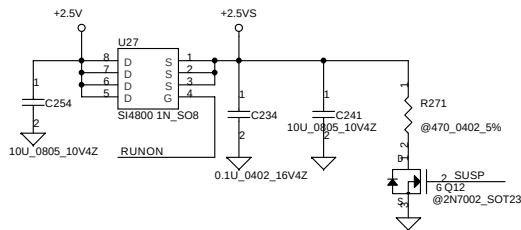
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+1.5VALW to +1.5VS Transfer



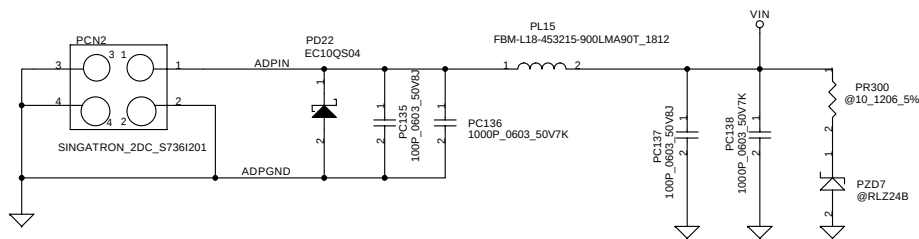
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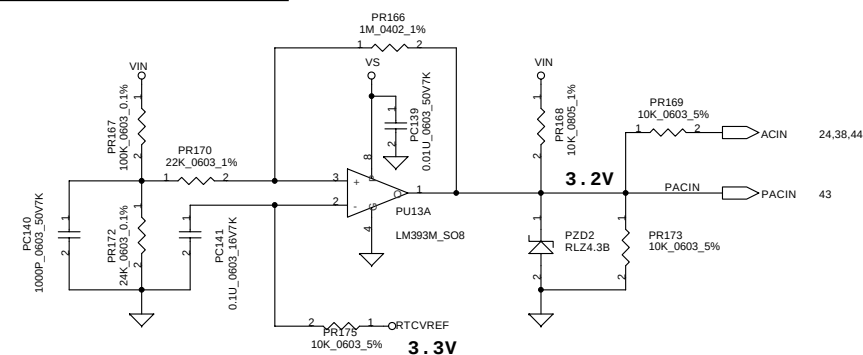
remove on Drongo4

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VIN detector
 18.239 17.755 17.273
 17.545 17.071 16.587

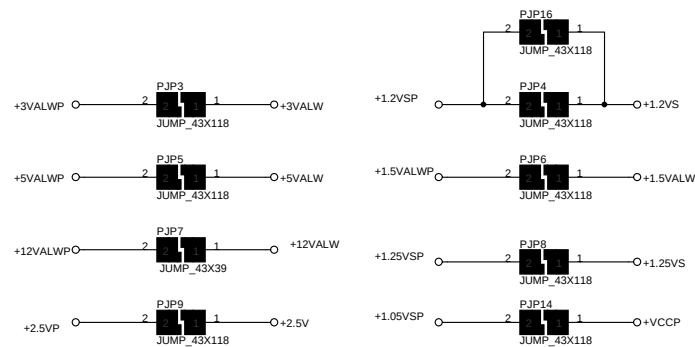
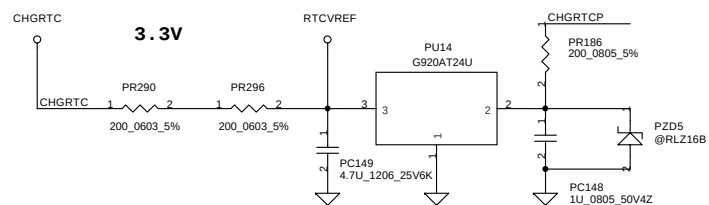
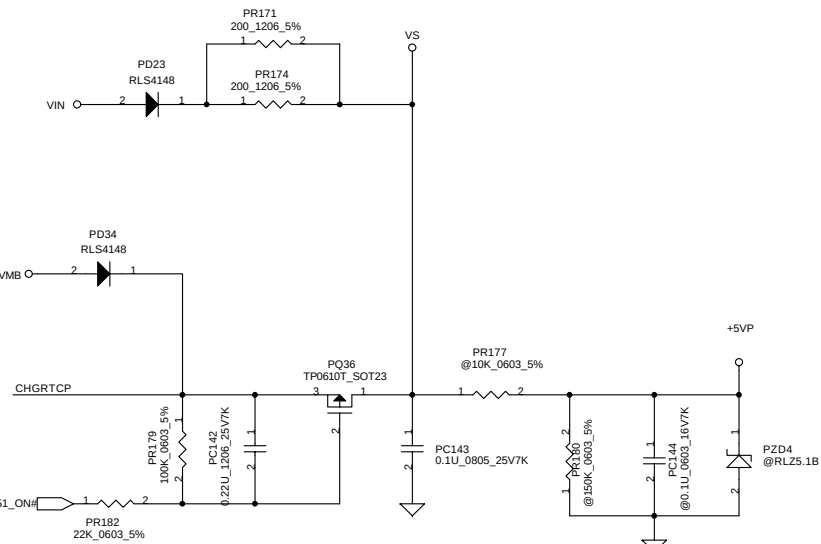


ACIN

Precharge detector
 15.821 15.195 14.585
 13.192 12.700 12.022

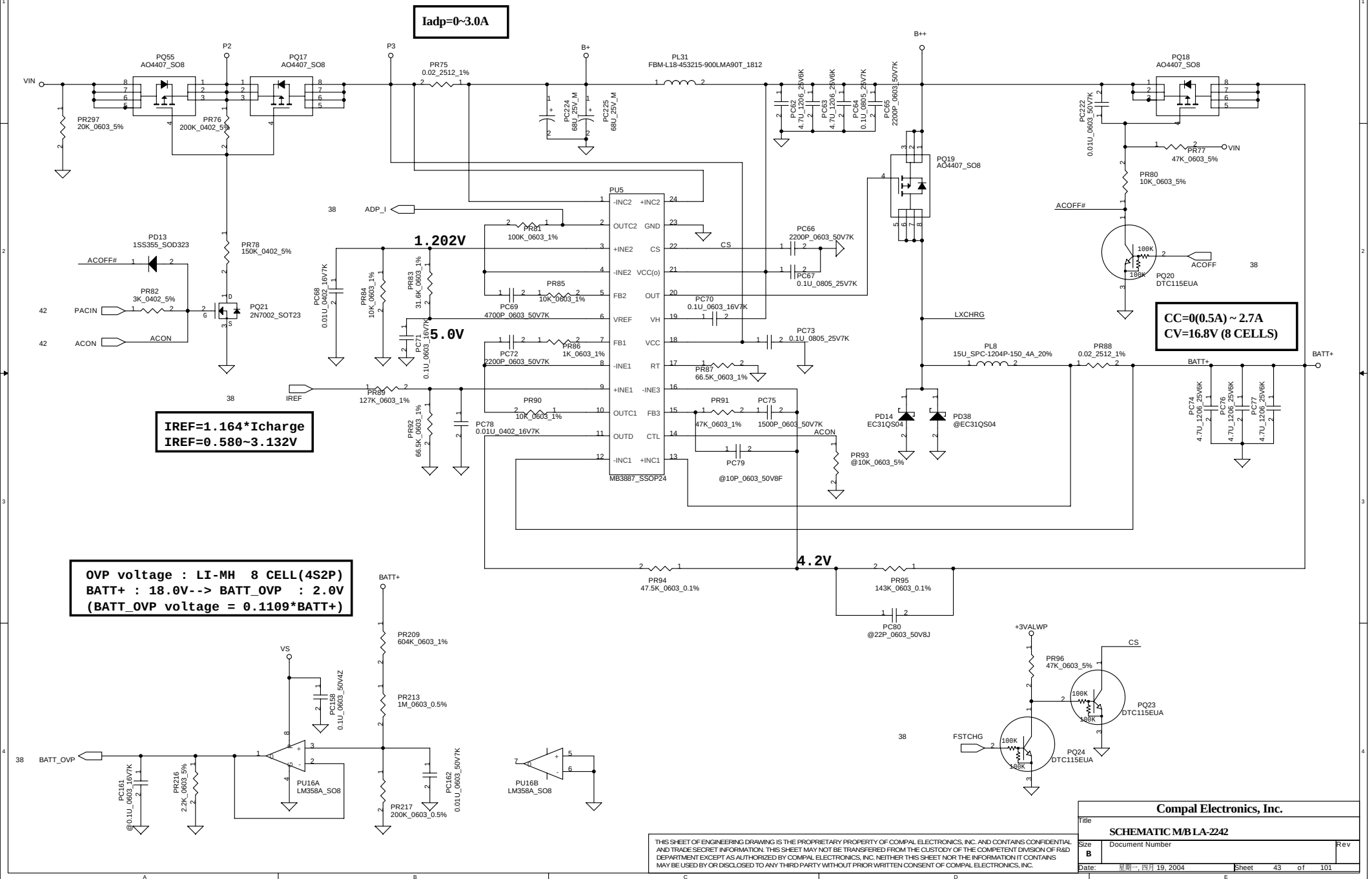
BAT ONLY

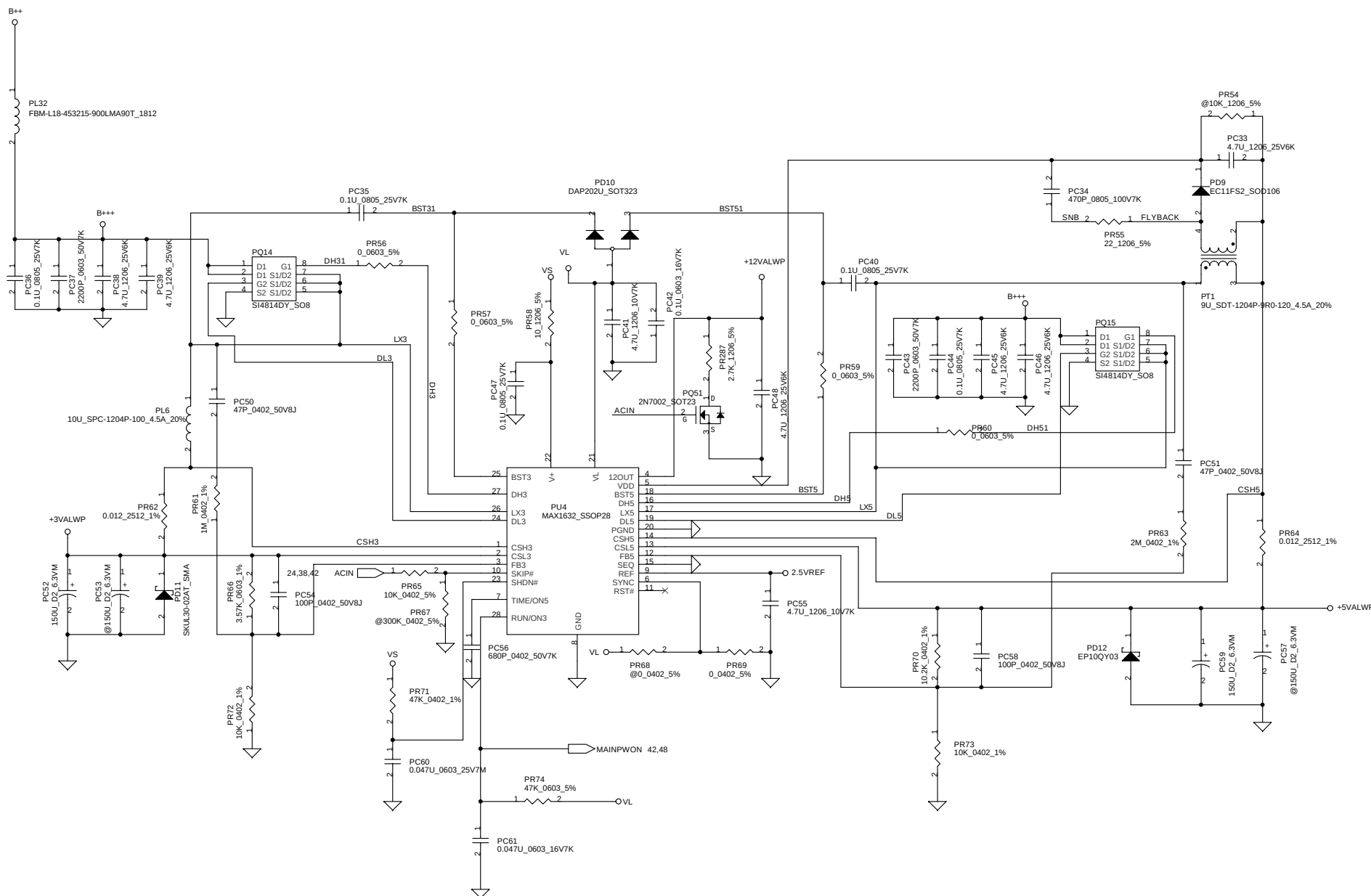
Precharge detector
 8.555 8.247 7.945
 5.926 5.752 5.382



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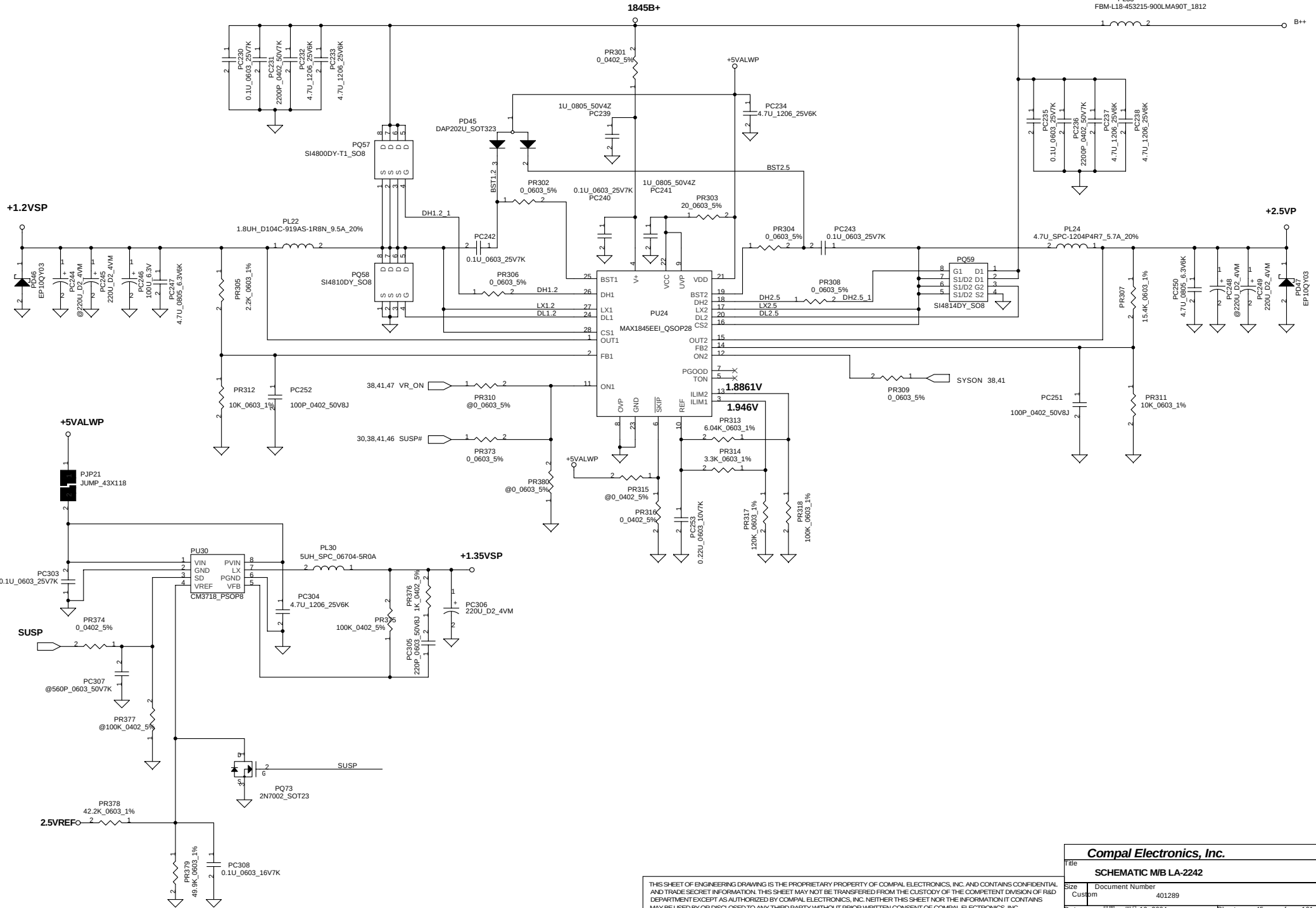
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+2.5VP/+1.2VSP/+1.35VSP

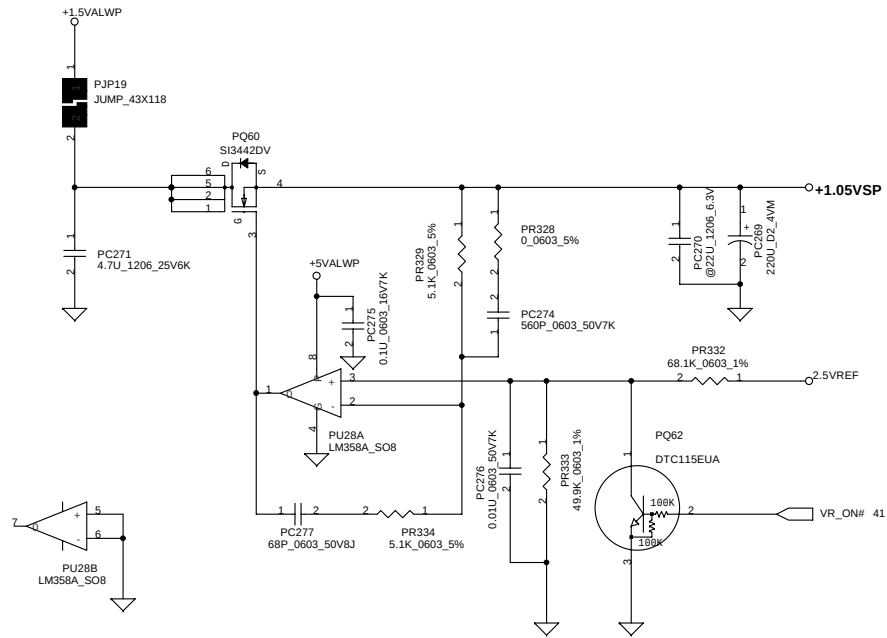
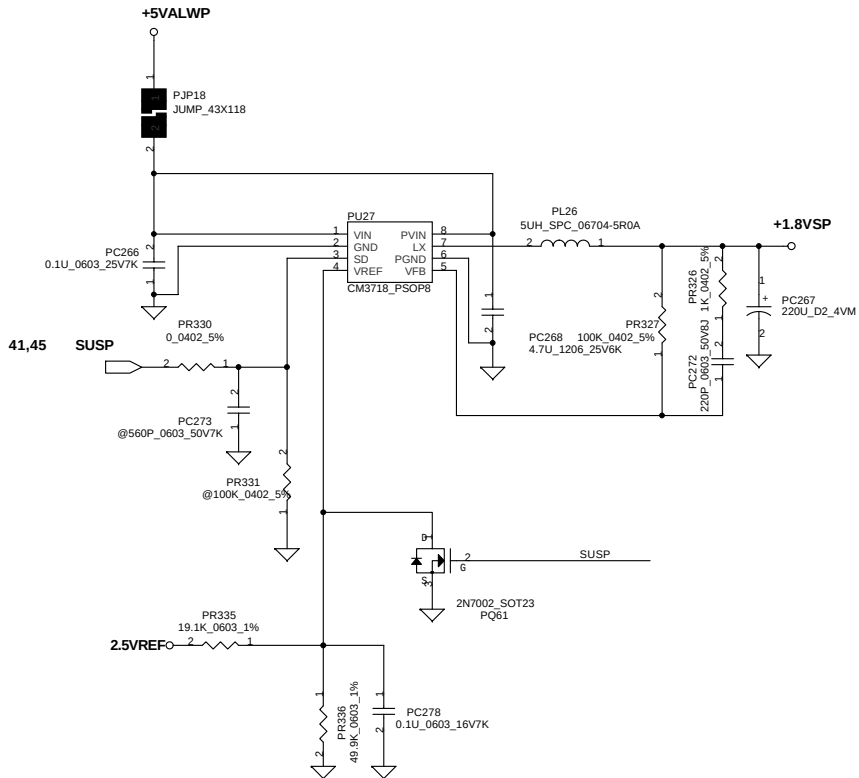
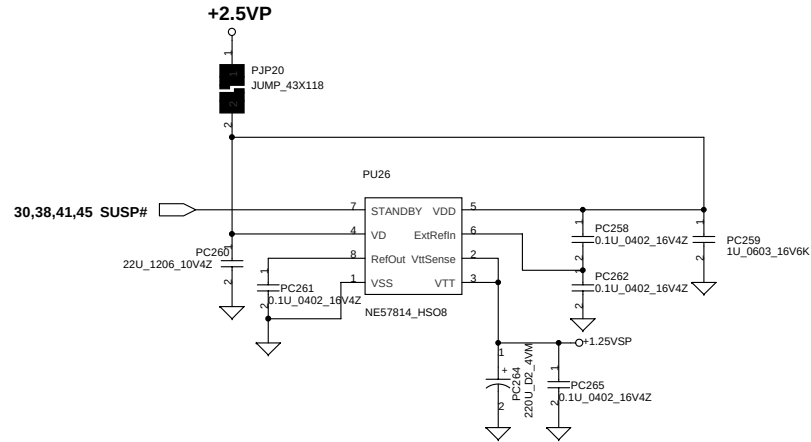
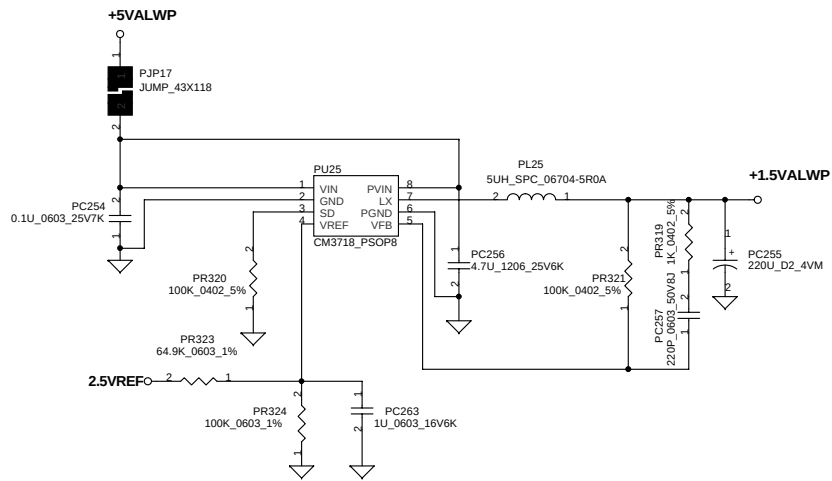
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B++



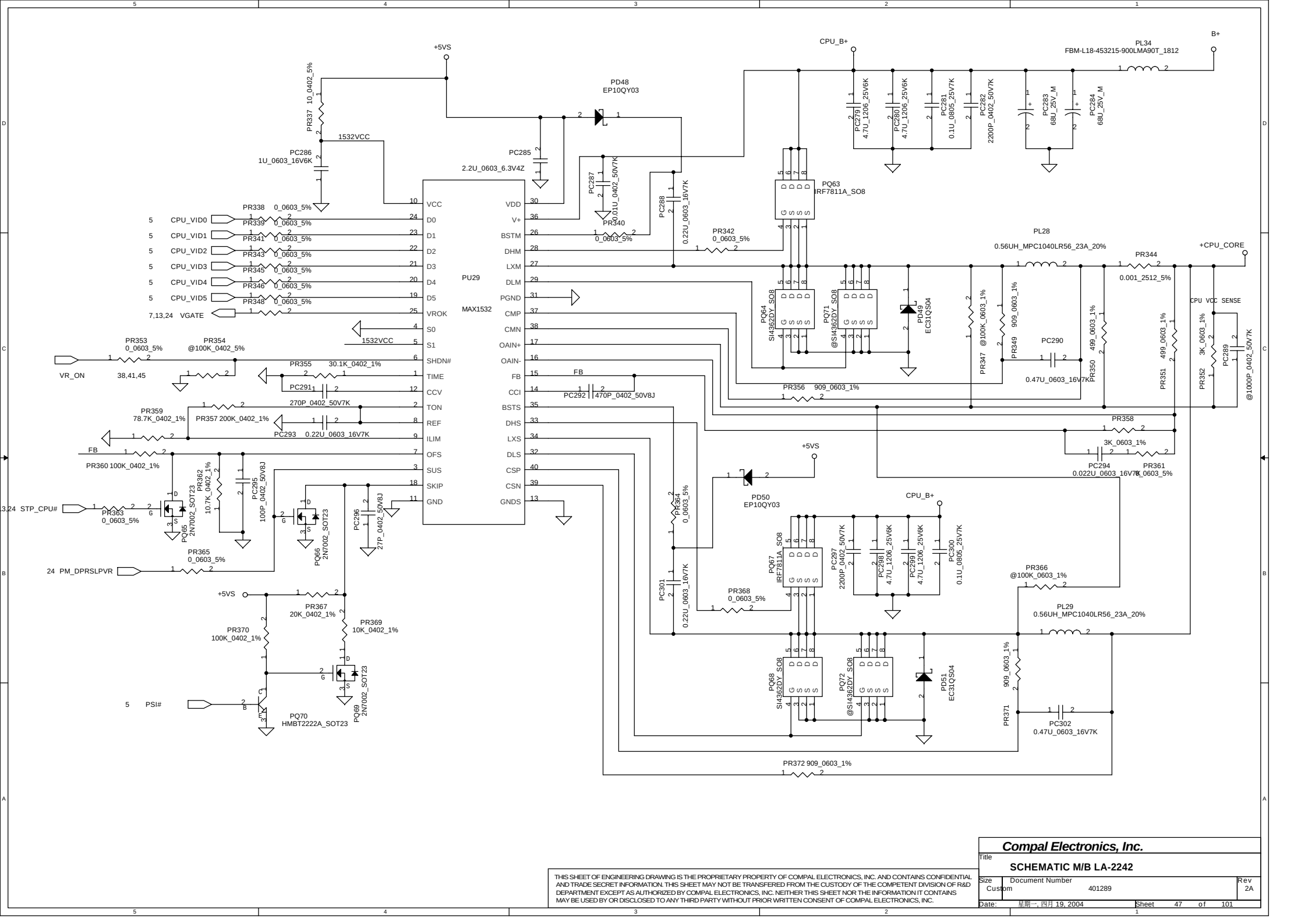
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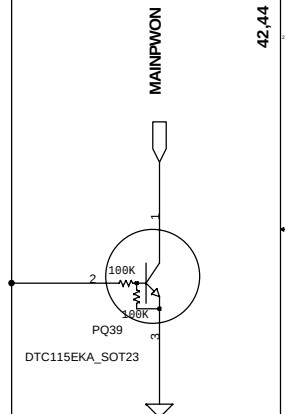
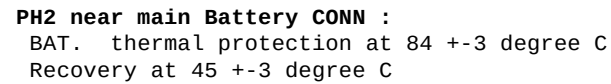
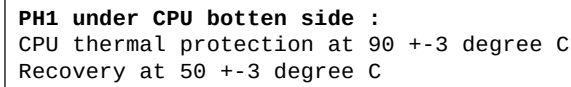
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Version change list (P.I.R. List)

Power section

Item	Reason for change	PG #	Modify List	Date	B.Ver #
1	1.05V oscillate	46	Delete PC270 and add PC269 (220u D2).	2004.02.07	
2	The single "SUSP" will be pull down to 2.2V	45 46	Delete PR331 and PR377.	2004.02.07	
3	To reduce the response time, when charger into CP mode.	43	Change PR81 from 22K to 100K.	2004.02.07	
4	For EMI request	43;44;45;47	Delete PL5,PL7,PL23,PL27 Change PQ63 and PQ67 to IRF7821 Change PR340 and PR364 to 2.2 ohm	2004.02.11	
5	To speed up 1.8V, 1.35V 1nd 1.05V	45 46	Change PR336, PR333 and PR379 to 49.9K Change PC278 and PC308 to 0.1uF Change PR335 to 19.1K Change PR332 to 68.1K Change PR378 to 42.2K	2004.02.12	
6	To reduce +3VALWP power plane negative voltage	44	Change PD11 to SKUL30-02AT	2004.03.01	
7	For EMI request	43;44;45;47	Add PL31,PL32,PL33,PL34 Change PR342 and PR368 to 2.2 ohm Change PR340 and PR364 to 0 ohm	2004.03.01	
8	For EMI request	47	Change PR342 and PR368 to 0 ohm Change PQ63 and PQ67 to IRF7811A Change PQ64 and PQ68 to SI4362	2004.03.16	
9	Adjust Vin detector	42	Change PR167 to 100K_0603_0.1% Change PR172 to 24K_0603_0.1% Change PR170 to 22K_0603_1% Change PR166 to 1M_0402_1%	2004.03.16	

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

HW section

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Item	Reason for change	PG #	Modify List	Date	
1	PCI_AD[31..0],PCI_CBE#[0..3] reserved	P.27	Correct PCI_AD[31..0],PCI_CBE#[0..3]	2/4	EVT(Rev02)
2	VR_ON# pull up resistor	P.41	Change R254 from 100K to 10K	2/4	EVT(Rev02)
3	AGP Isolating circuit	P.7	Mount U39, unmount R372,R377,R388,R414	2/4	EVT(Rev02)
4	Change Codec to ALC250	P.39	Change U26 to ACL250, mount R242	2/4	EVT(Rev02)
5	Modify VGA strap pin	P.14	Mount R479,R489; unmount R437, R441,R443,R448	2/4	EVT(Rev02)
6	Enter Windows "Beep" noise	P.39	Del C209 and let U26 pin14,15,16 no connect	2/6	DVT(Rev03)
7	For LS-1993 NBA_PLUG signal	P.37	Del R541,Q31	2/6	DVT(Rev03)
8	For DFX	P.24,36,38	Change J1,J2,H22 footprint	2/6	DVT(Rev03)
9	Change USB Power Switch to RT9701CBL	P.34	Change U34,U35, Del R291,R292,R313,R322,R329 Add R557,R558,R559,R560,R562,C685,C686	2/8	DVT(Rev03)
10	Change LAN LED circuit	P.27	Add R562	2/8	DVT(Rev03)
11	For EMI	P.13,16,17 ,23,35,37	Del L15,L16,L31,L28,L23,R542,R543,R283,R284,R471	2/11	DVT(Rev03)
12	Unpoped 0.1UF capacitor for EMI request	P.12,16,17, 26,27,29,30	Del some 0.1UF capacitor for EMI request	2/12	DVT(Rev03)
13	For +LVDDR25 ripple	P.16	Unpoped C518 for LDO issue	3/4	PVT(Rev04)
14	Duplicate AGP_BUSY pill-up	P.24	Del R103	3/4	PVT(Rev04)
15	For BCM5788 +3V_LAN 0.2V leakage issue	P.27	Change VESD[1..3] to +3V_LAN(system power)	3/4	PVT(Rev04)
16	For BCM5788/BCM4401 difference	P.27,28	Del R369 and change T1 to 24ST0023-3 when use BCM4401	3/4	PVT(Rev04)
17	Vishay FIR issue(Nokia 61XX series)	P.32,33	Change U31 to TDFU6102; Poped R97 and change to 10K	3/4	PVT(Rev04)
18	For audio issue	P.35,40	Add Q33,Q34 and EC_MUTE to U17 pin.69 Connect BYPASS from U30 to U29, change R274 to 39K Connect EAPD to EC pin.29	3/4	PVT(Rev04)
19	To simplify Codec circuit	P.36	Unpoped C210,C252, Del Y5,R236,C192,C193 Add C690,C691	3/4	PVT(Rev04)
20	For EMI	P.37	Add C688,CP11,CP12	3/4	PVT(Rev04)

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Compal Confidential

DFL32 Schematics Document

Banias/Dothan uFCPGA with Intel 855GME + ICH4-M

2003-04-06

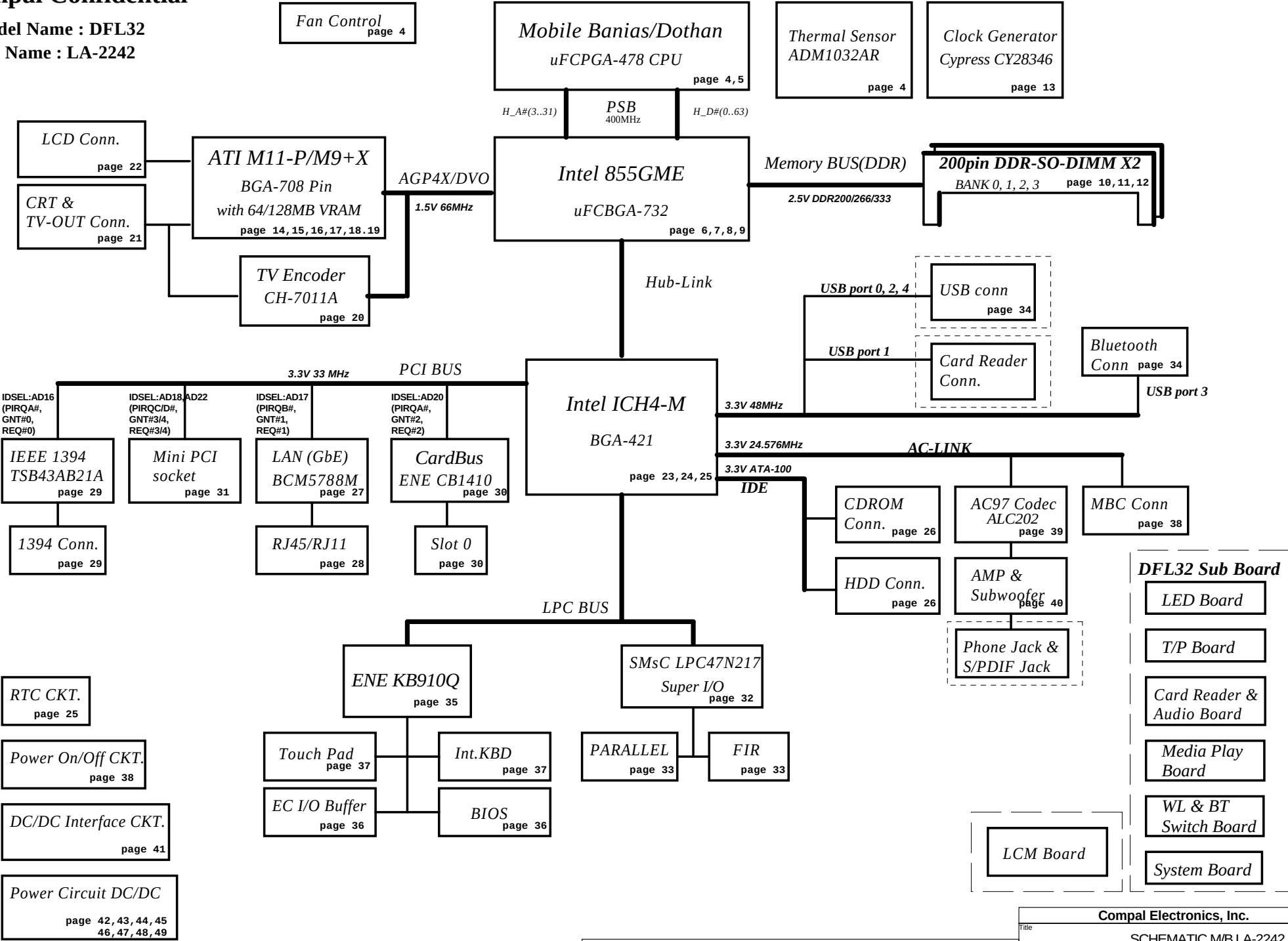
REV: 2.0

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Model Name : DFL32
File Name : LA-2242



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Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VCCP	1.05V rail for Processor I/O	ON	OFF	OFF
+1.25VS	1.25V switched power rail for DDR Vtt	ON	OFF	OFF
+1.2VS	1.2V 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 switched power rail	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.

Internal PCI Devices

DEVICE	PCI Device ID
HUB	D30
USB	D29
AC97 MODEM	D31
AC97	D31
ATA 100	D31
ETHERNET	D8 (AD24)
LPC I/F	D31
SMBUS	D31

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

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
Wireless LAN	D2	AD18	3	G
Mini-PCI	D6	AD22	4	H
AGP BUS	N/A	AGP_DEVSEL#	N/A	A

Symbol note:

-  :means digital ground.
-  :means analog ground.
-  :means reserved.

AS2010,AS2020 Compare Table

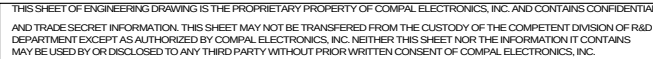
Item	* AS2020	AS2010(ATI)	AS2010(UMA)	Page
VGA	ATI M11P	ATI M11P	UMA	7, 9, 14, 15, 16, 17, 21, 22, 38
VRAM	128MB	64MB	N/A	14, 18, 19
TV Encoder	N/A	N/A	CH7011A	20
LAN	BCM5788M(GbE)	BCM4401(10/100)	BCM4401(10/100)	27, 28
S/PDIF	YES	N/A	N/A	N/A
Card Reader	YES	YES	N/A	N/A
Sub Woofer	YES	YES	N/A	33
LCM/B	YES	N/A	N/A	37, 39
MEDIA/B	YES	N/A	N/A	40

Board ID/ Project 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	
5	
6	
7	

Project ID	Project
* 0	Drongo2(M11)
1	Drongo3(M11)
2	Drongo4
3	Drongo3(M9+X)
4	
5	
6	
7	



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

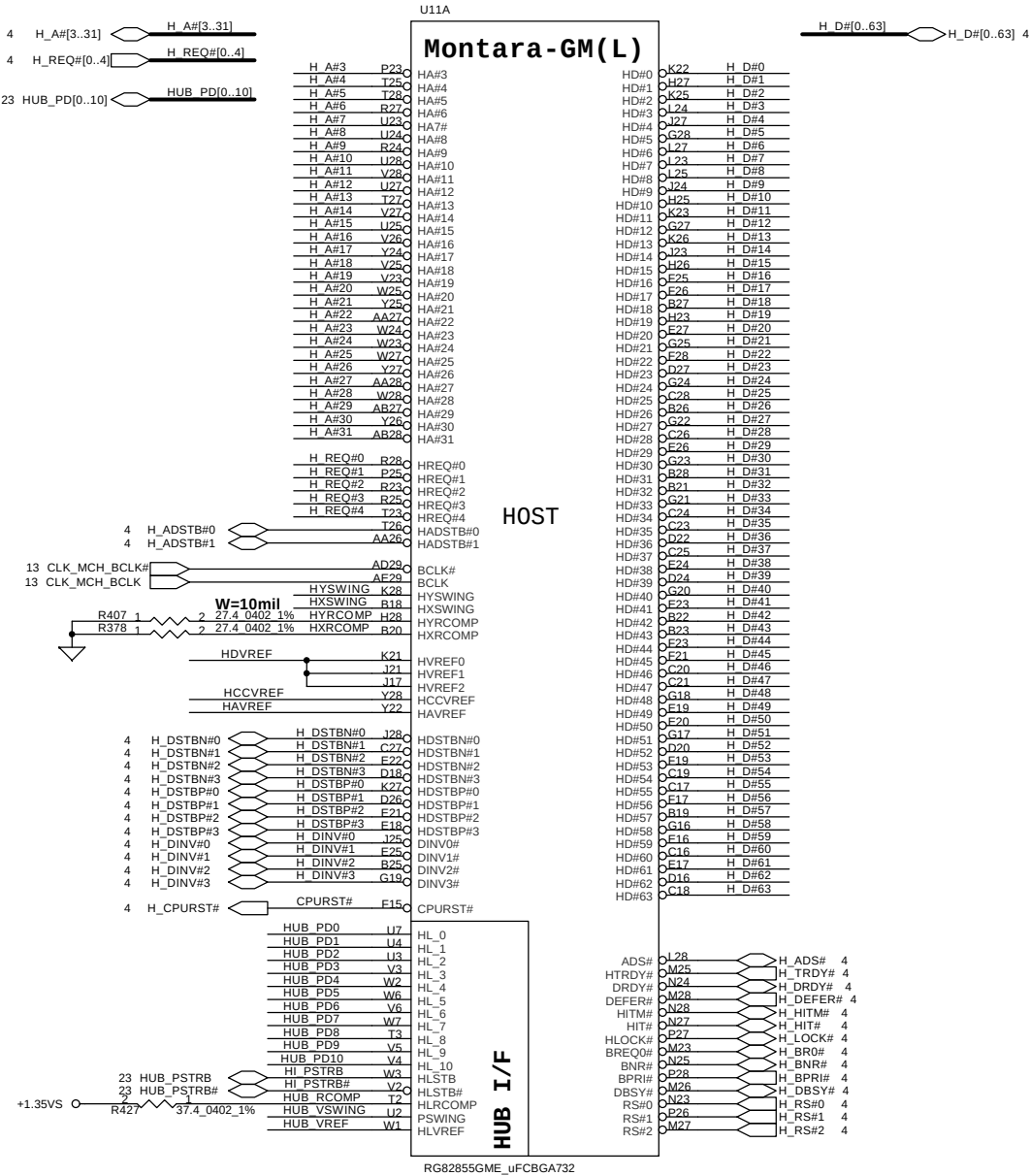
Banias

POWER, GROUND

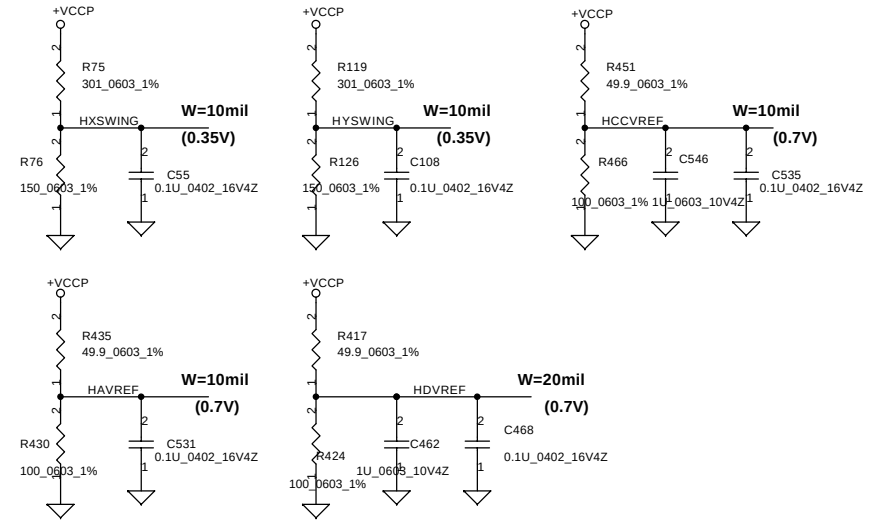
Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

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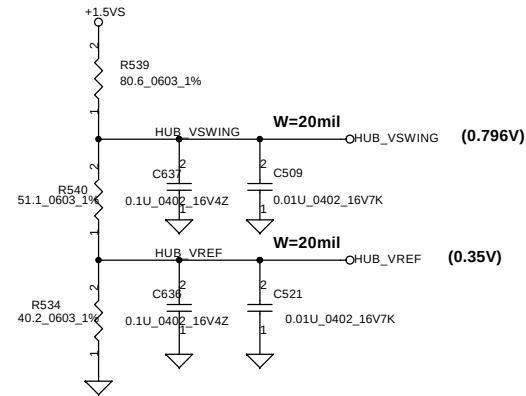
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HOST REF VOLTAGE



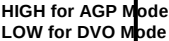
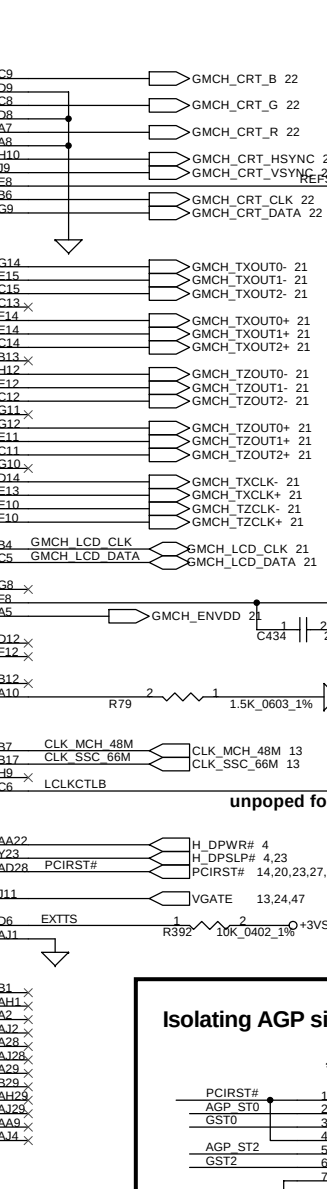
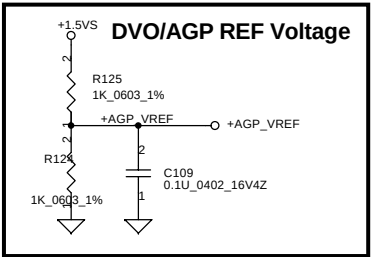
HUB I/F REF VOLTAGE



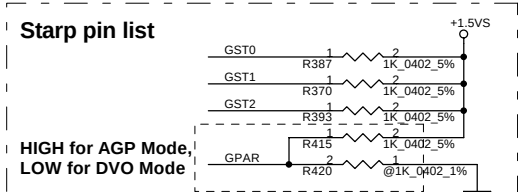
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	AGP	DVO
R401		Pop
R384		Pop
Q28		Pop
R414	Pop	
R335		Pop
R415	Pop	
R420		Pop



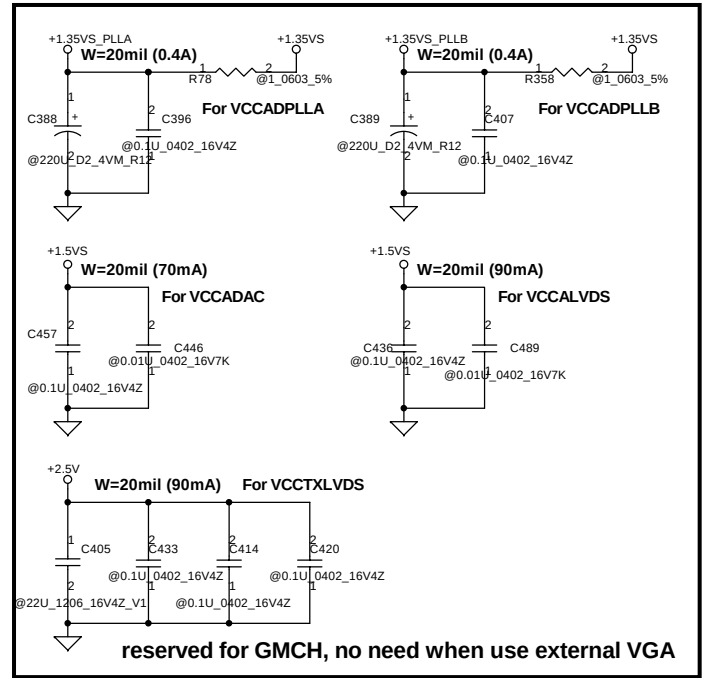
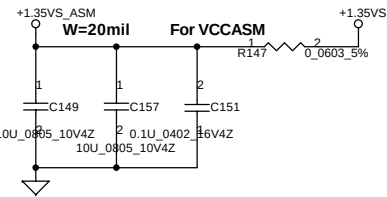
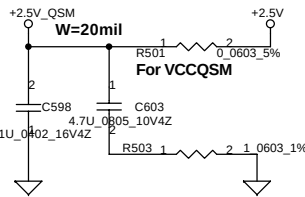
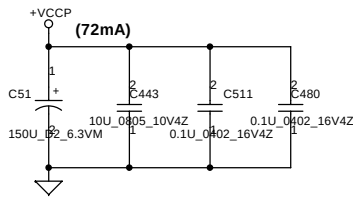
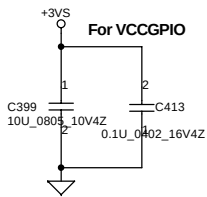
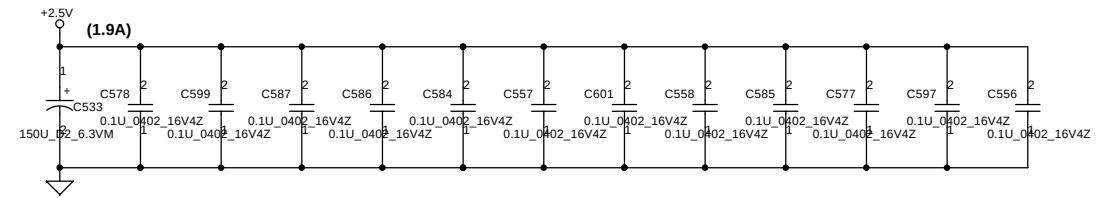
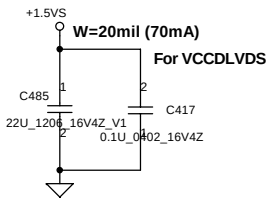
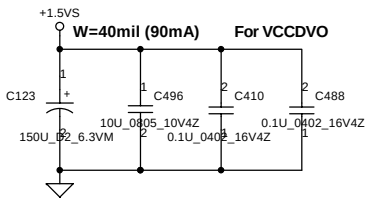
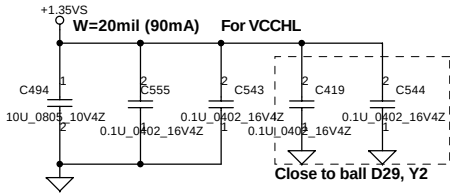
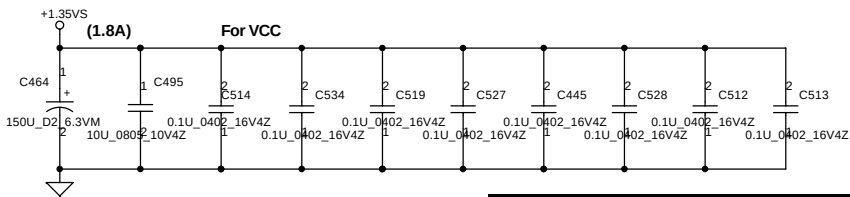
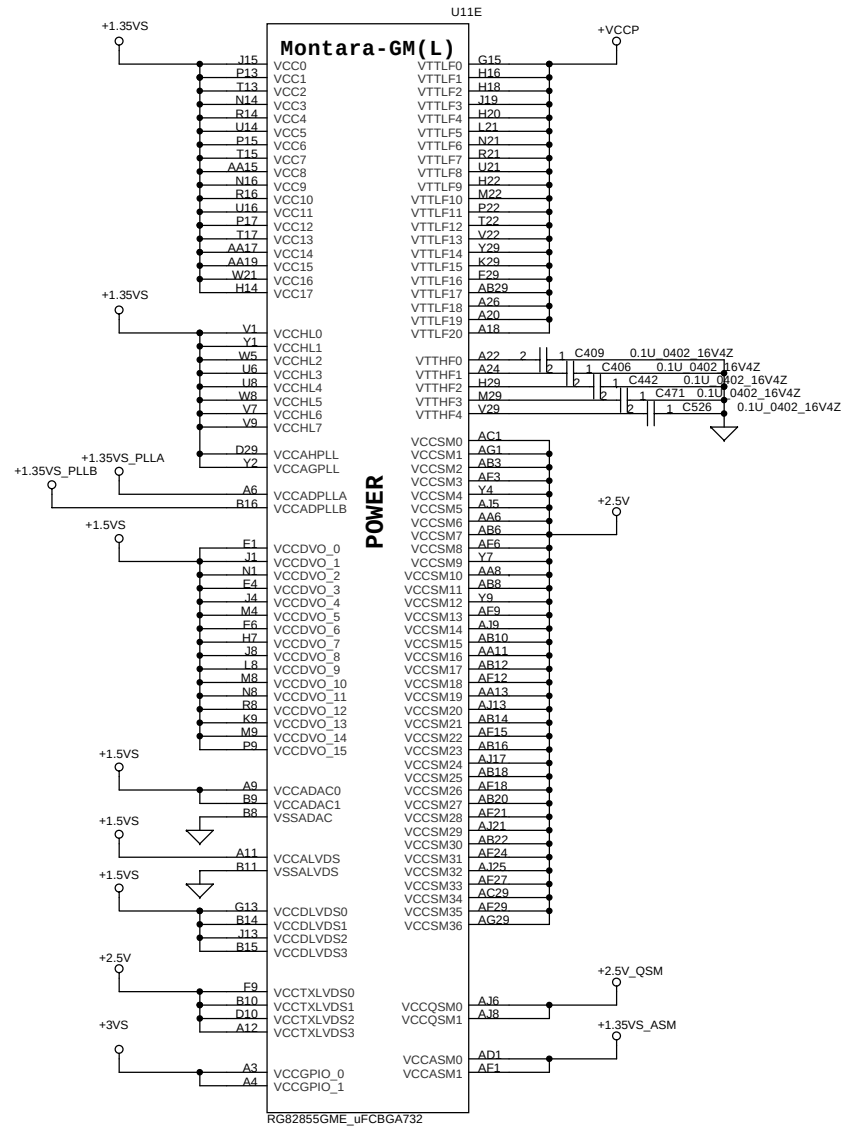
ST2	ST1	ST0	PSB/Mem/GFX
0	0	0	400 / 266 / 200
0	0	1	400 / 200 / 200
0	1	0	400 / 200 / 133
1	1	1	400 / 333 / 250 *

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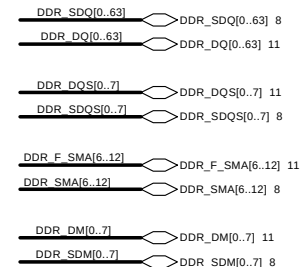
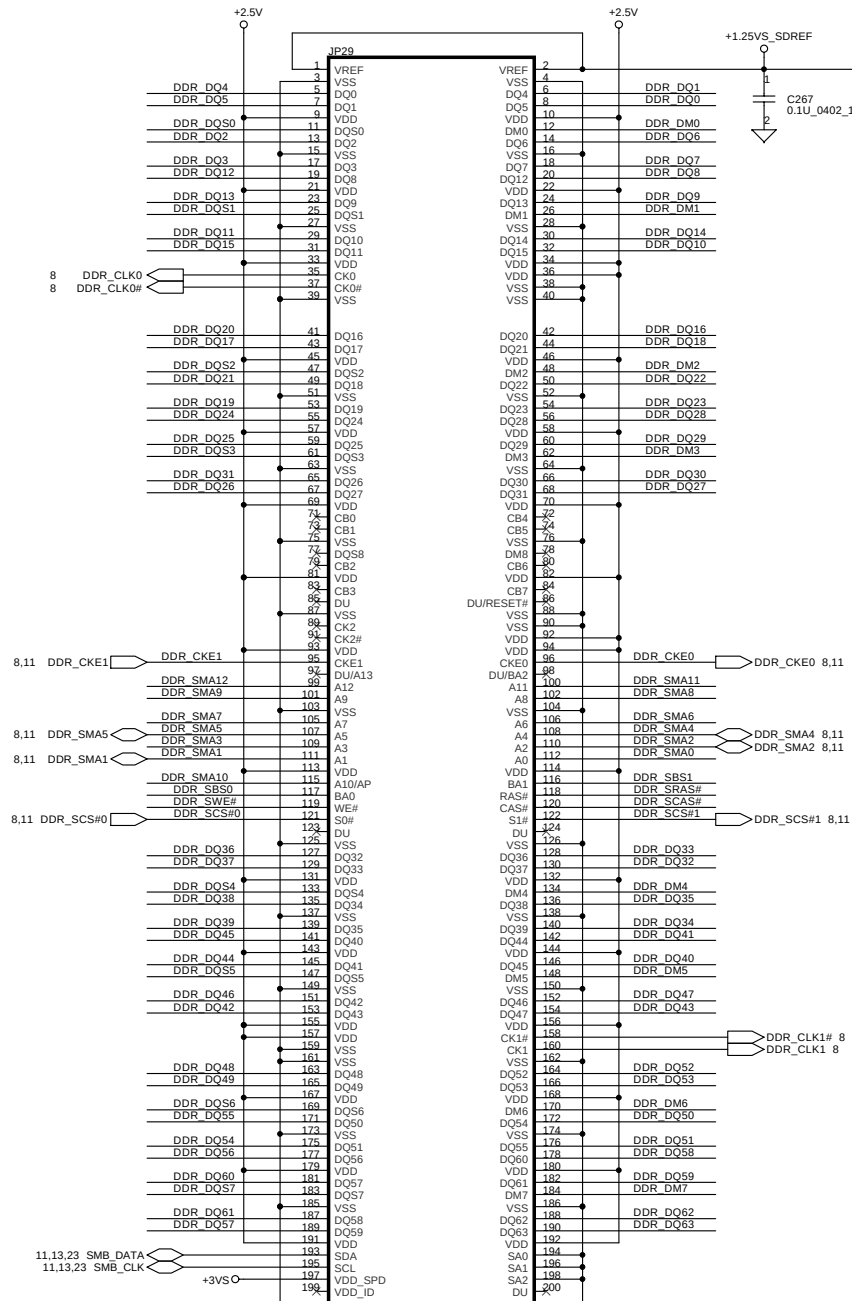
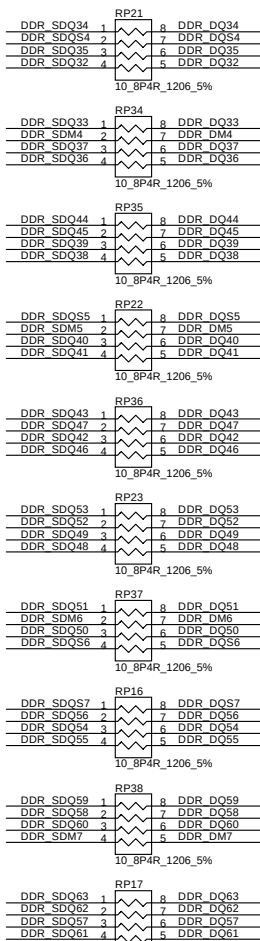
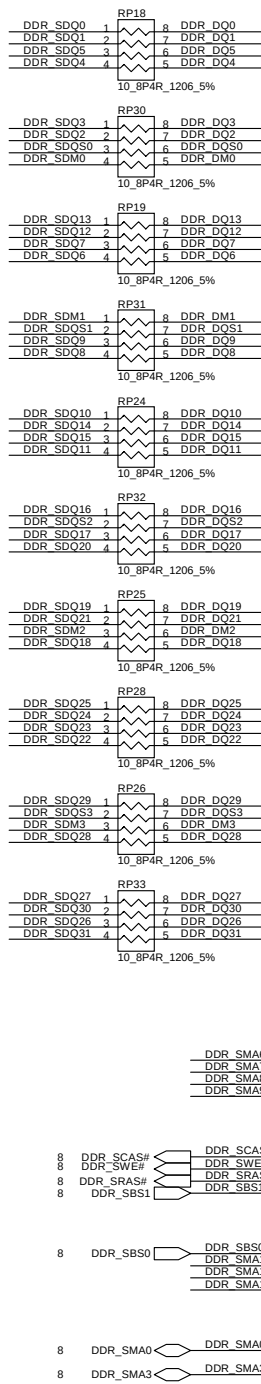
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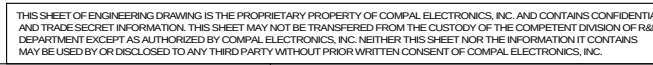
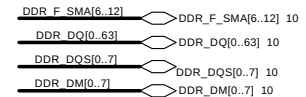
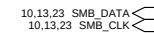
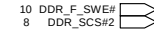
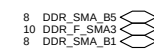
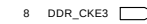
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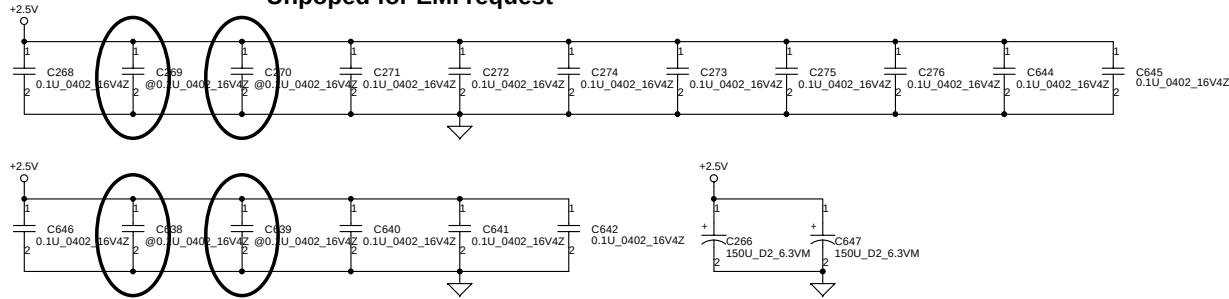
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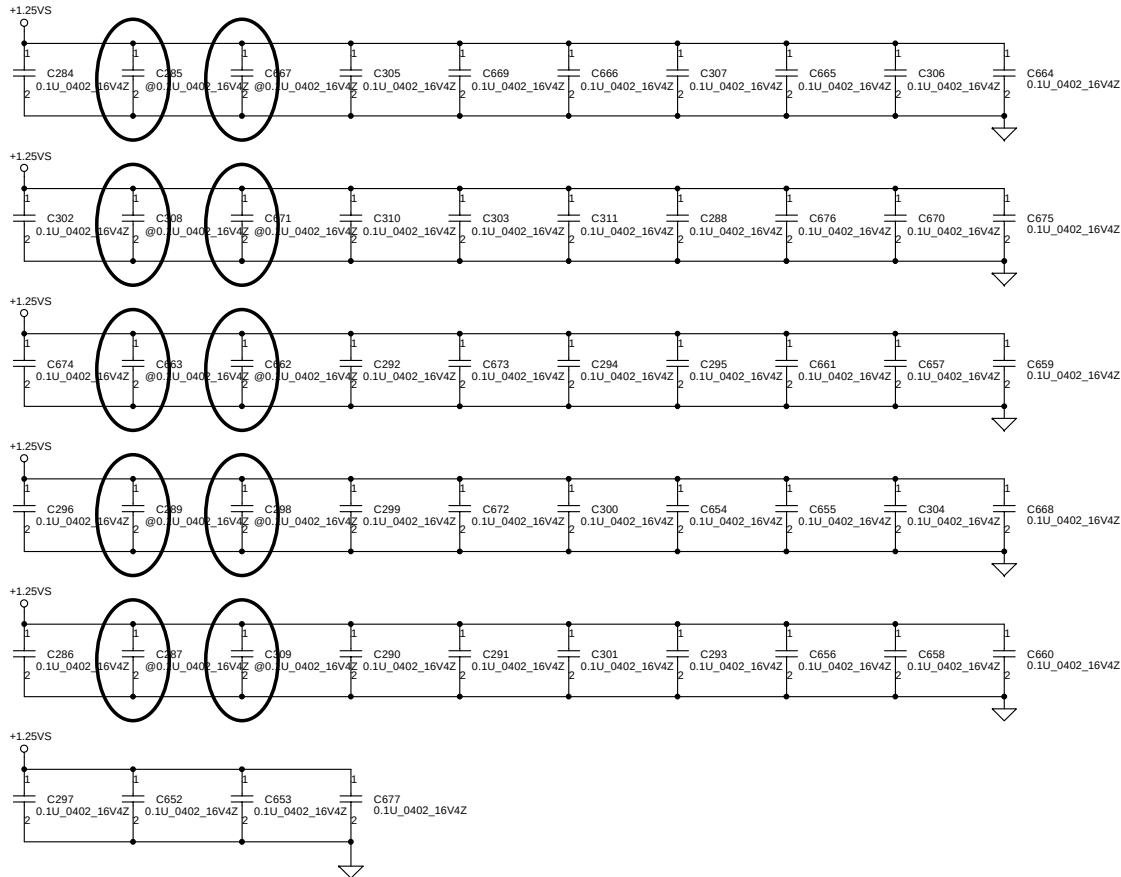


Layout note :
Distribute as close as possible
to DDR-SODIMM.

Unpoped for EMI request



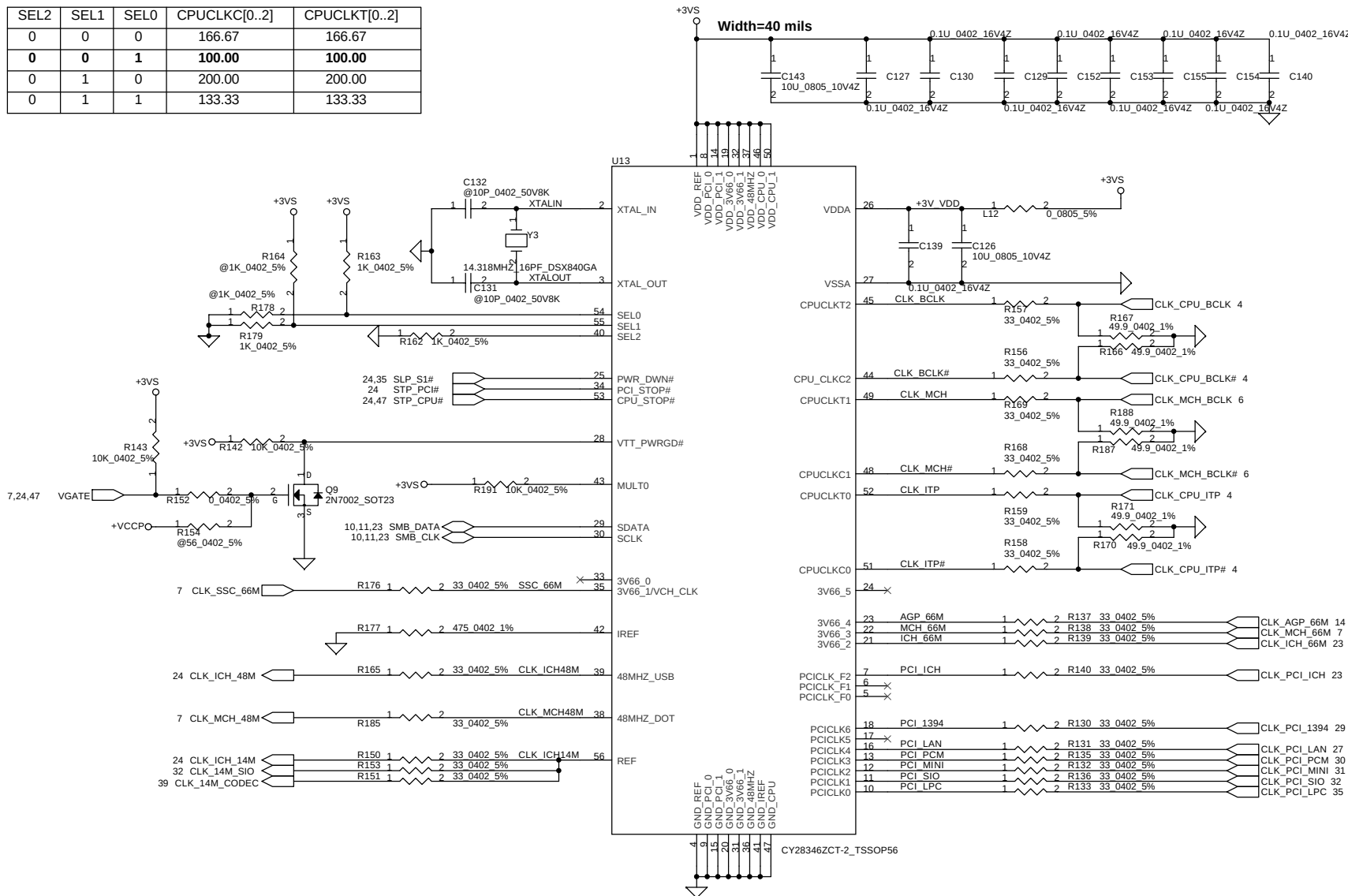
Layout note :
Place one cap close to every 2 pull up resistors termination to
+1.25V



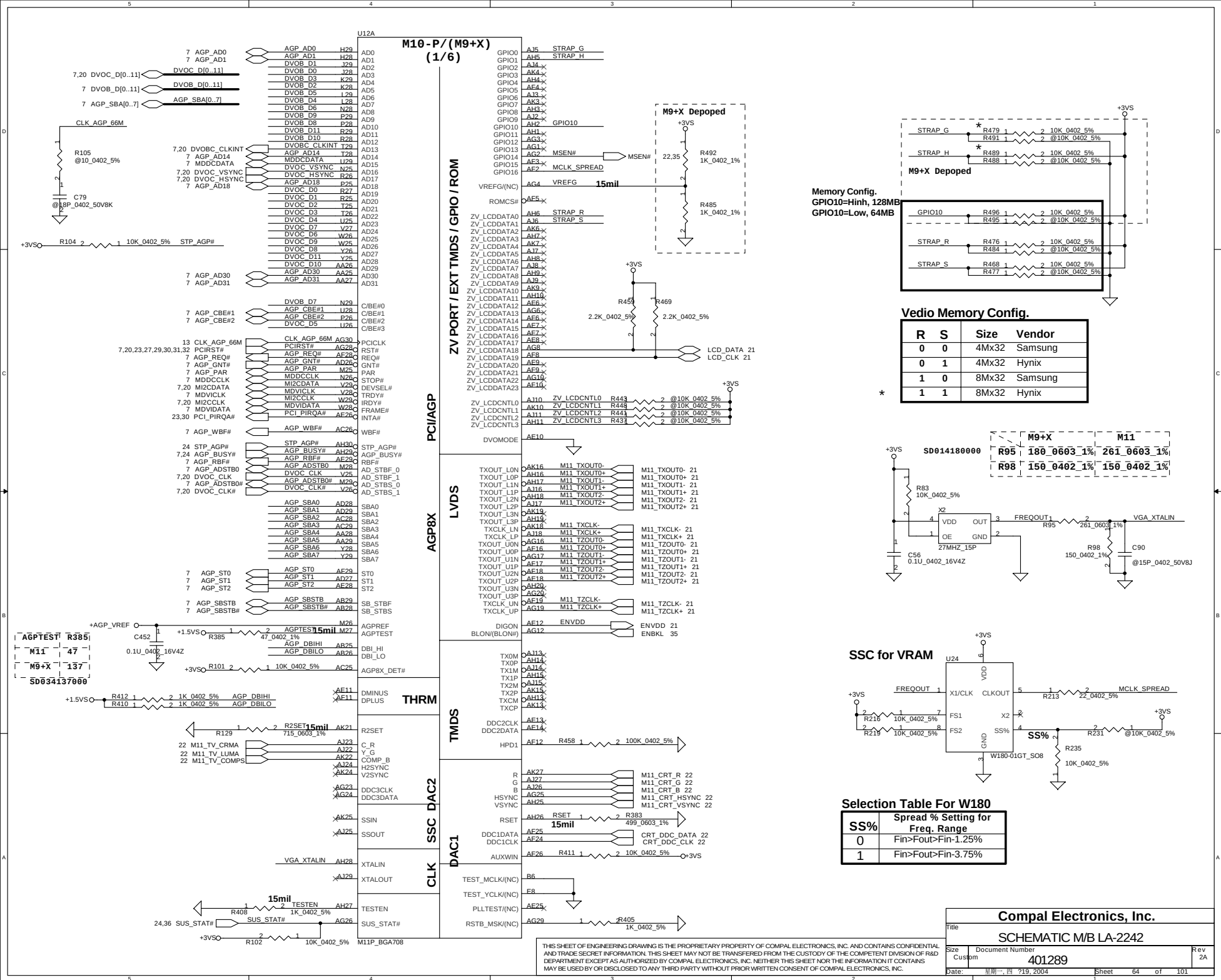
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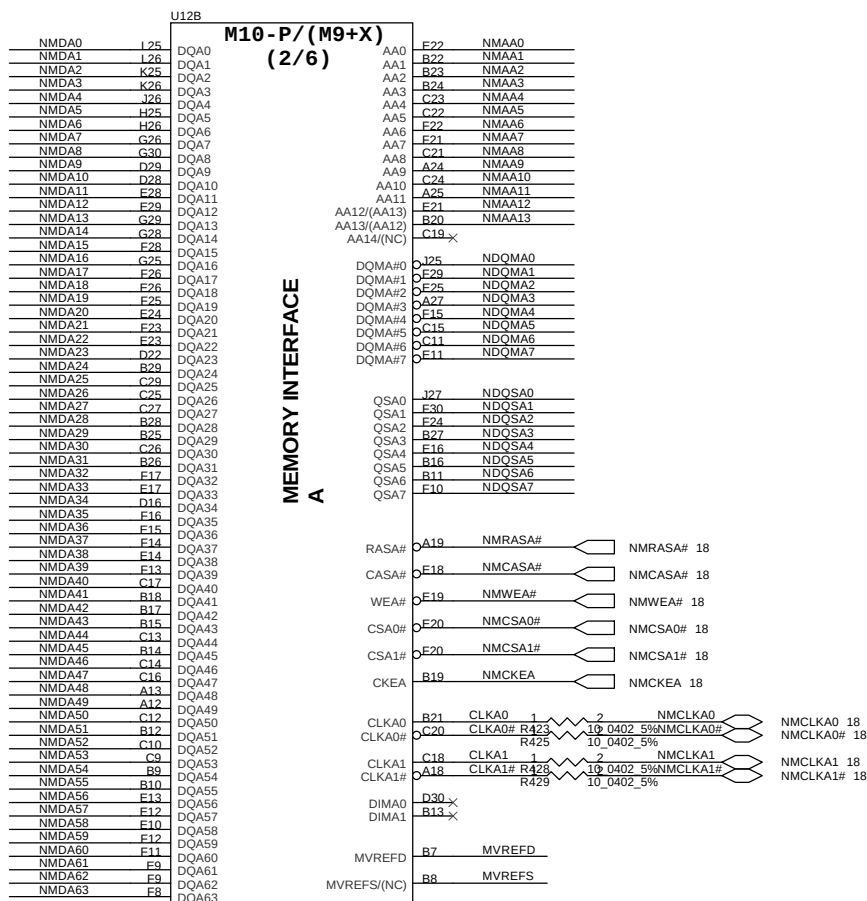
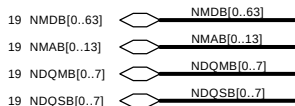
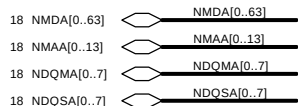
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SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33

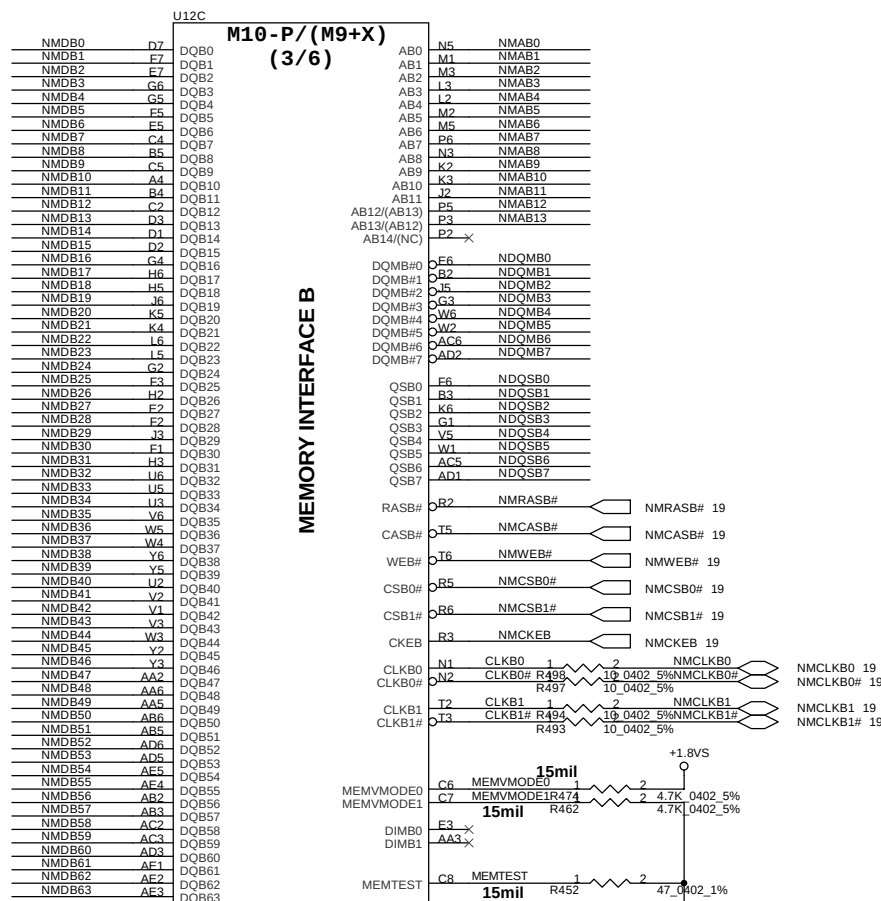
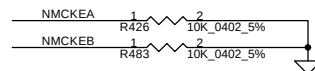
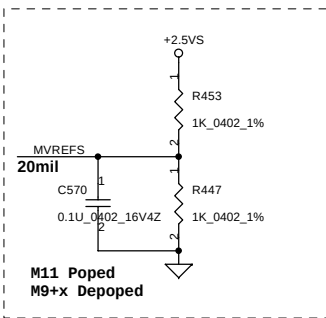
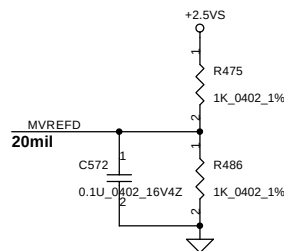


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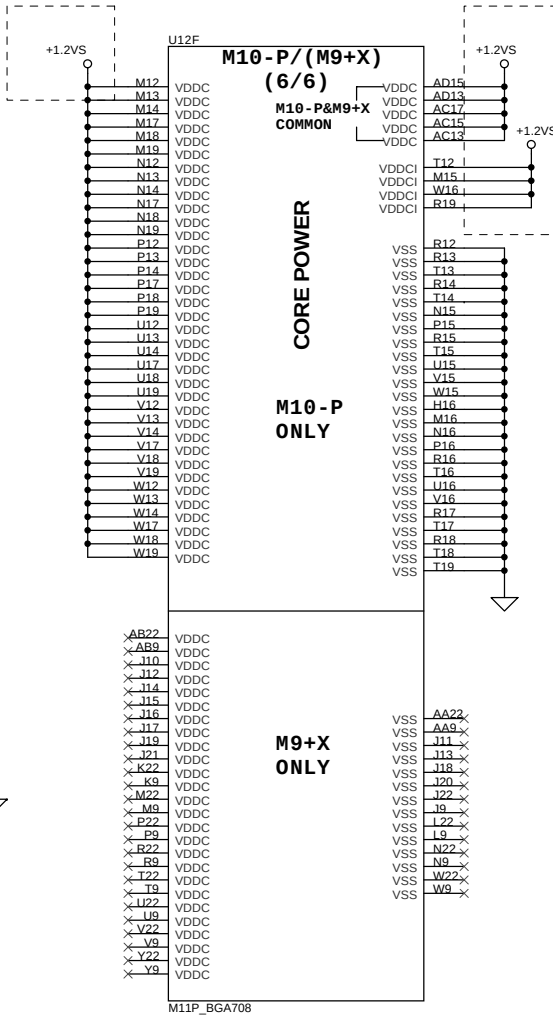
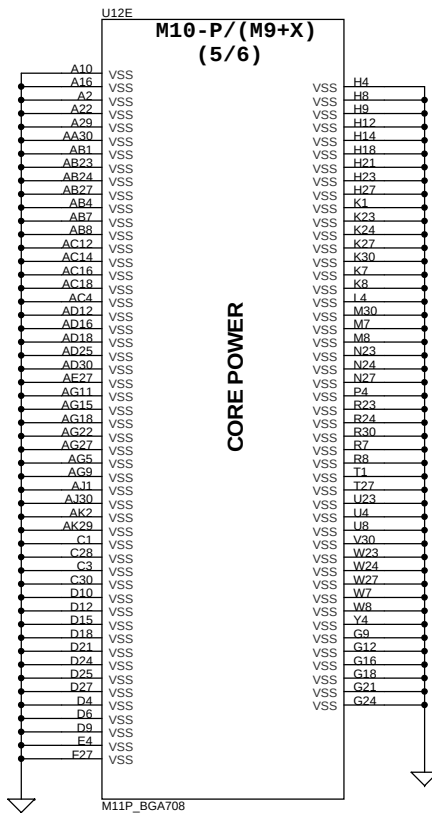
M11P_BGA708



M11P_BGA708

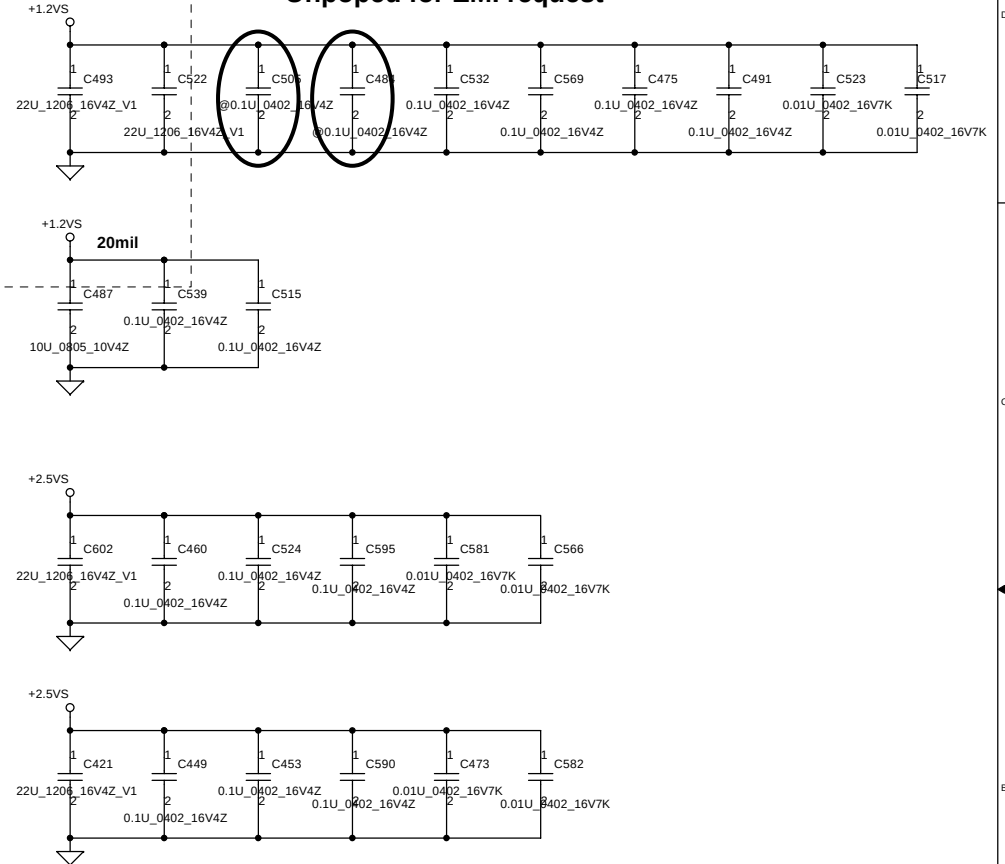
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For VGA CORE:
(M11 +VGA_CORE = 1.2V)
(M9+X +VGA_CORE = 1.5V)

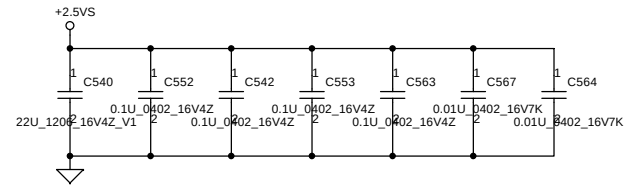
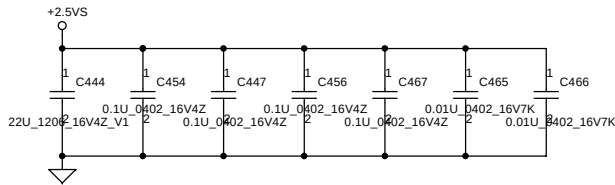
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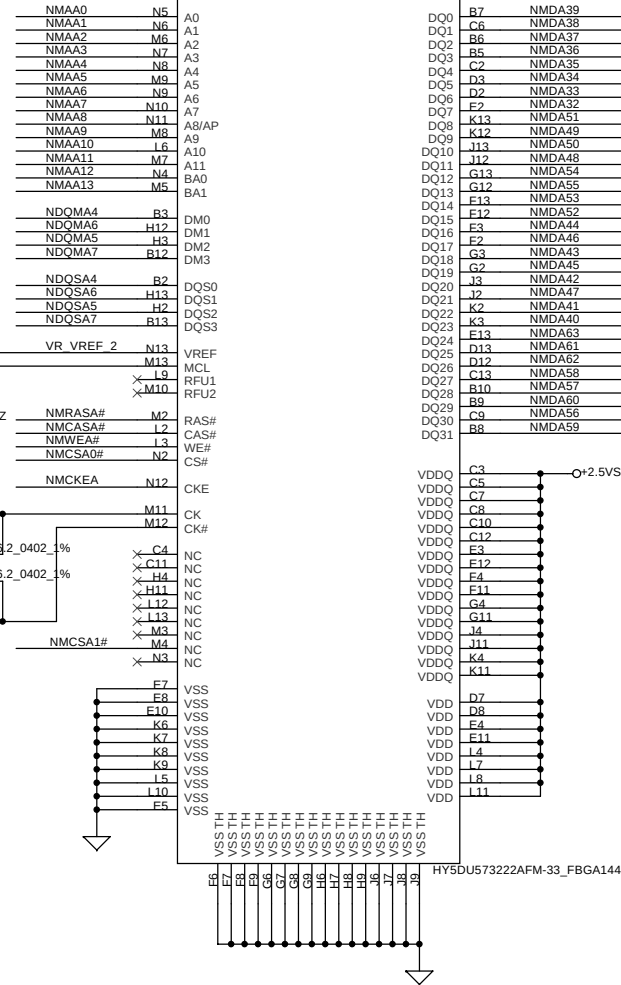
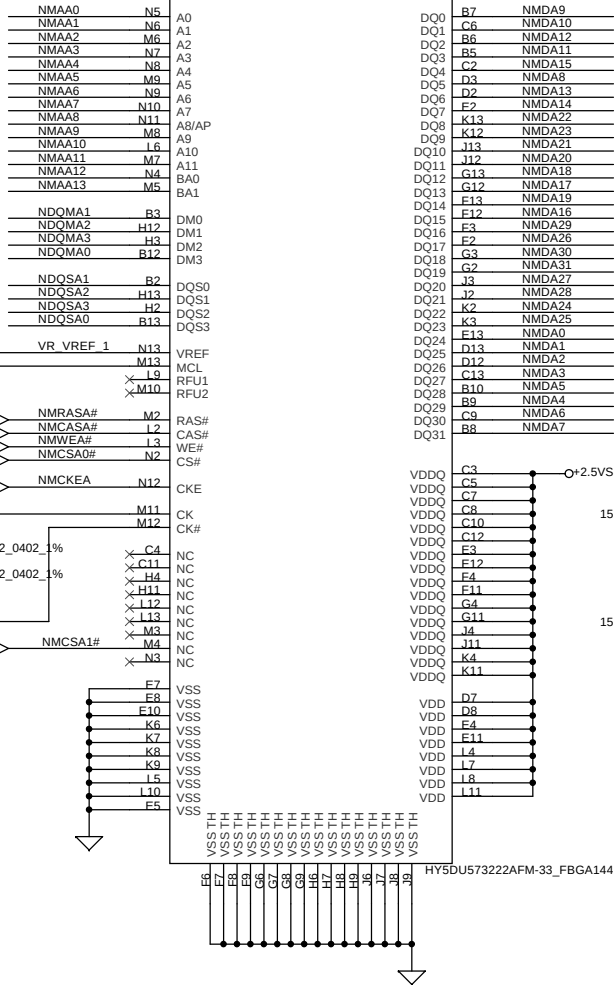
Compal Electronics, Inc.

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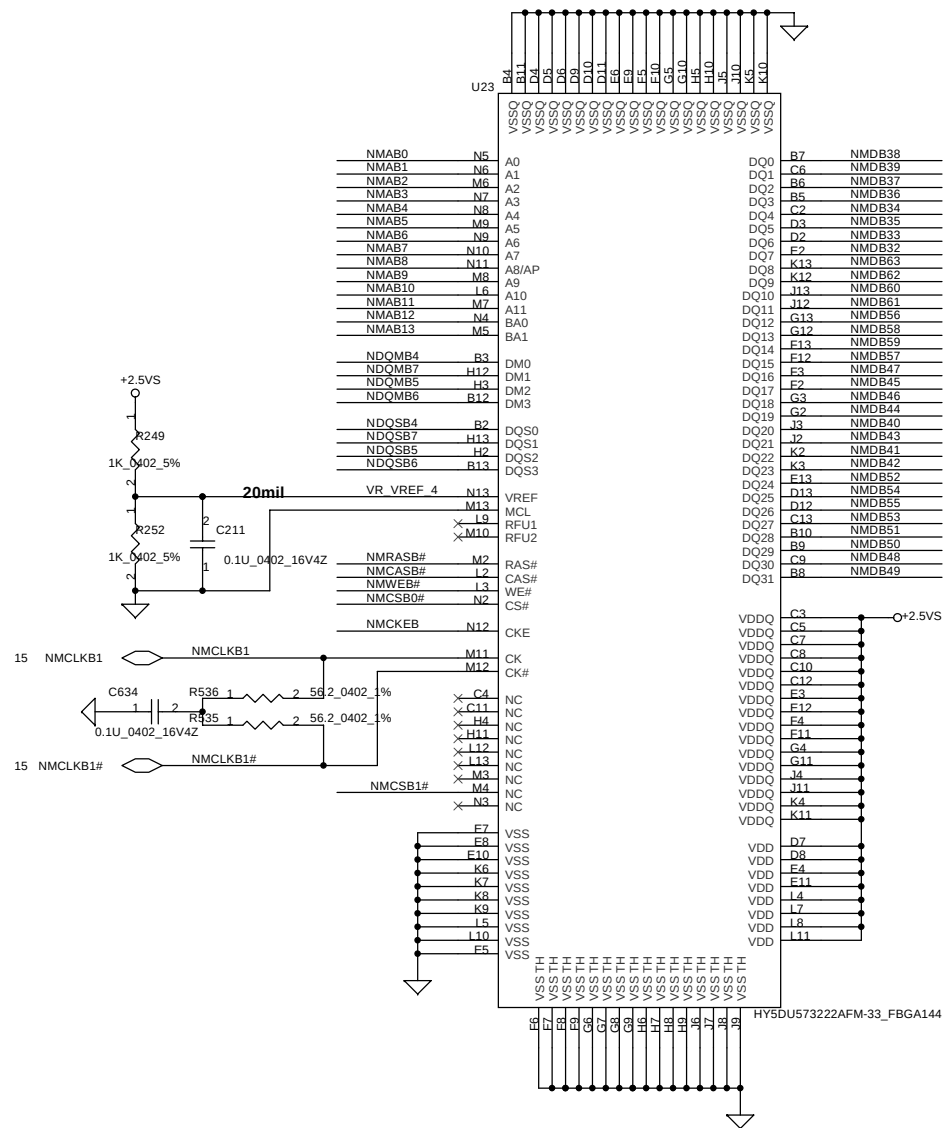
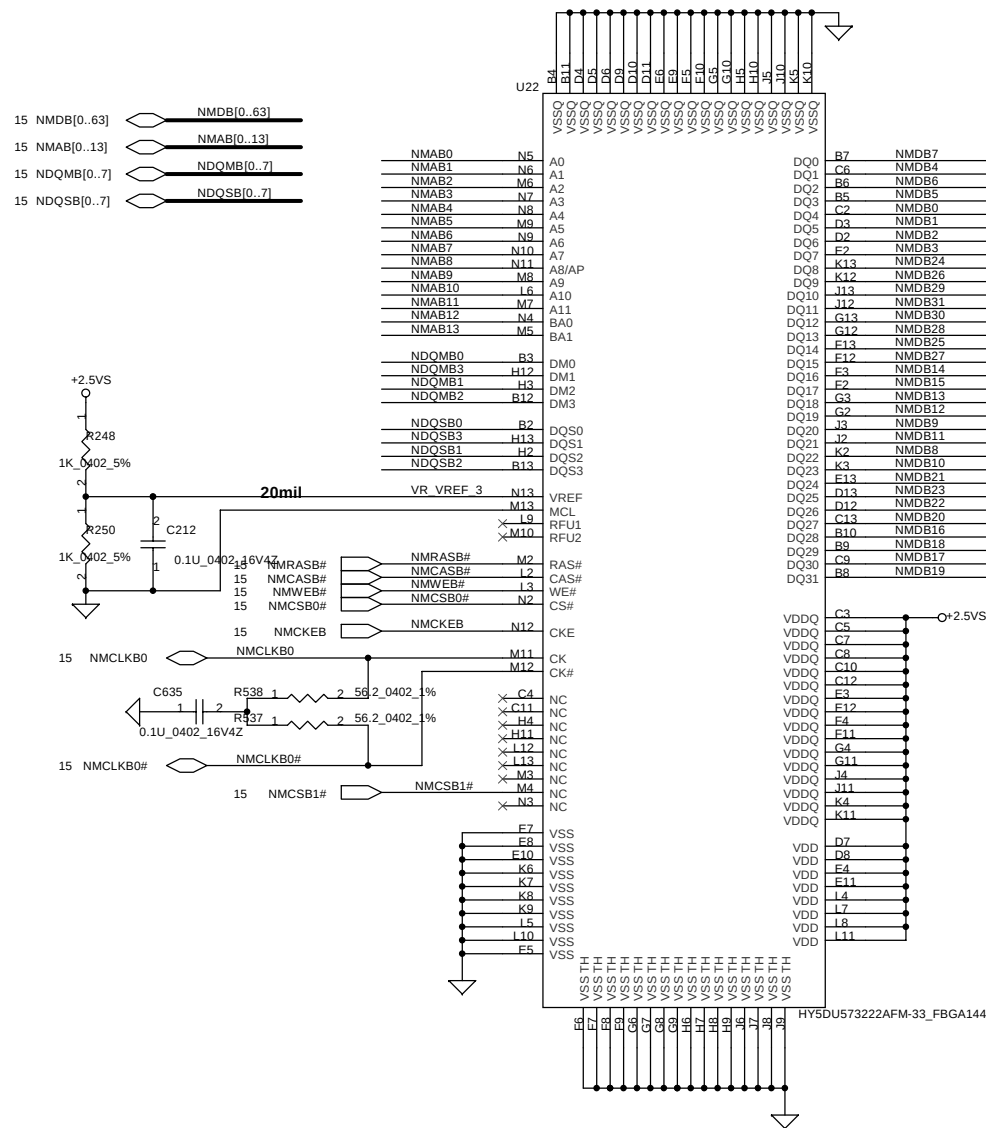
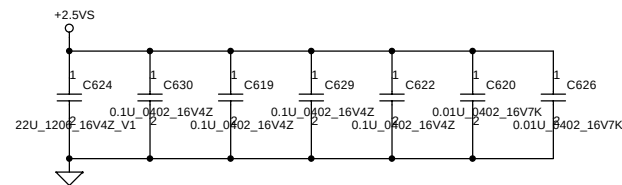
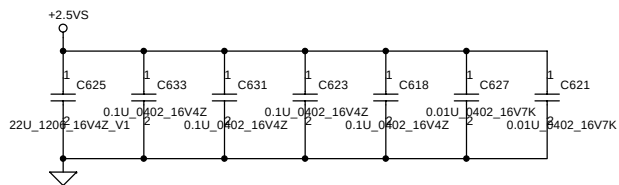


15 NMDA[0..63] NMDA[0..63]
15 NMAA[0..13] NMAA[0..13]
15 NDQMA[0..7] NDQMA[0..7]
15 NDQSA[0..7] NDQSA[0..7]



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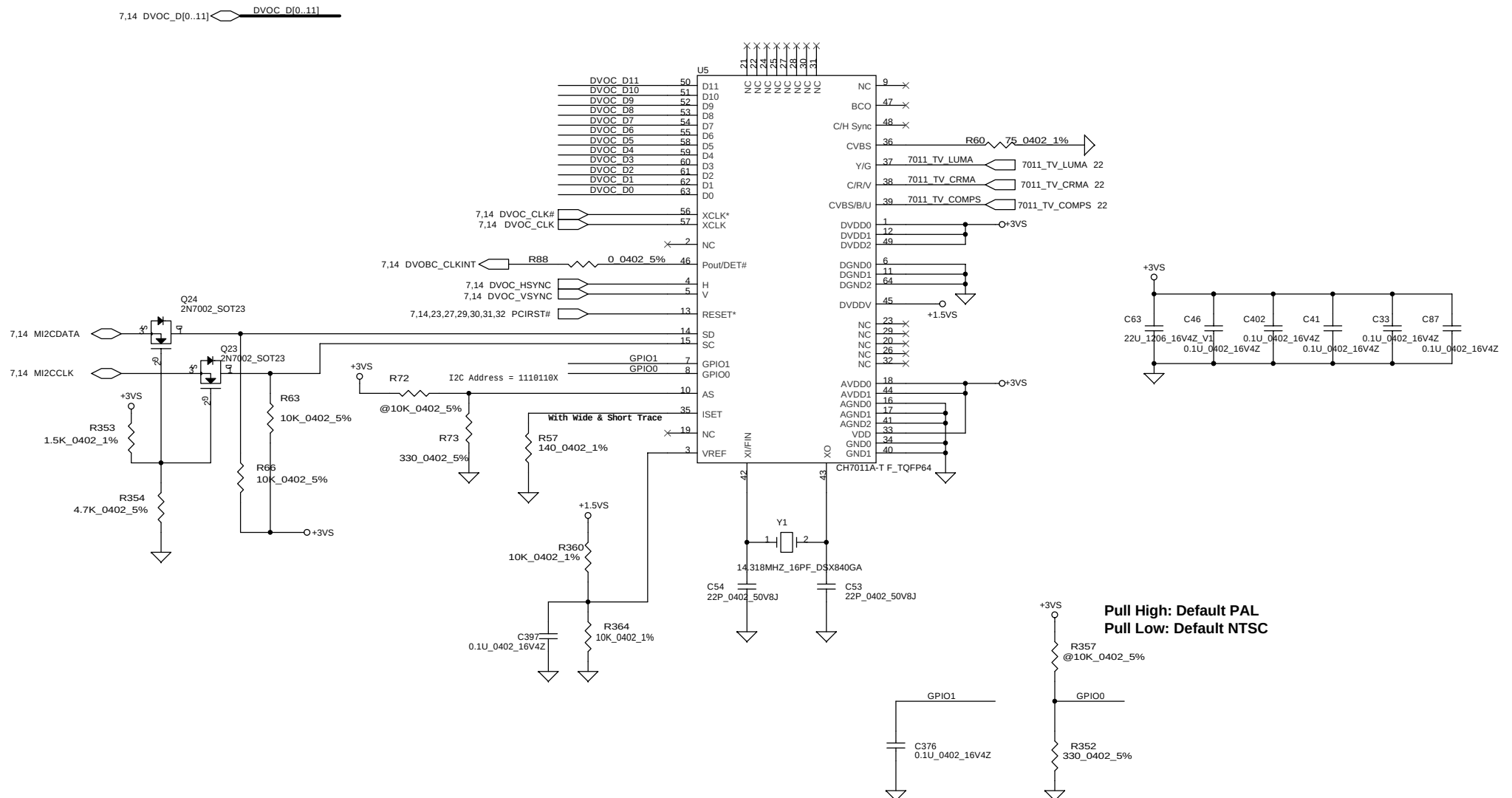


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TV Encoder

remove this page when use M11P



LCD POWER CIRCUIT

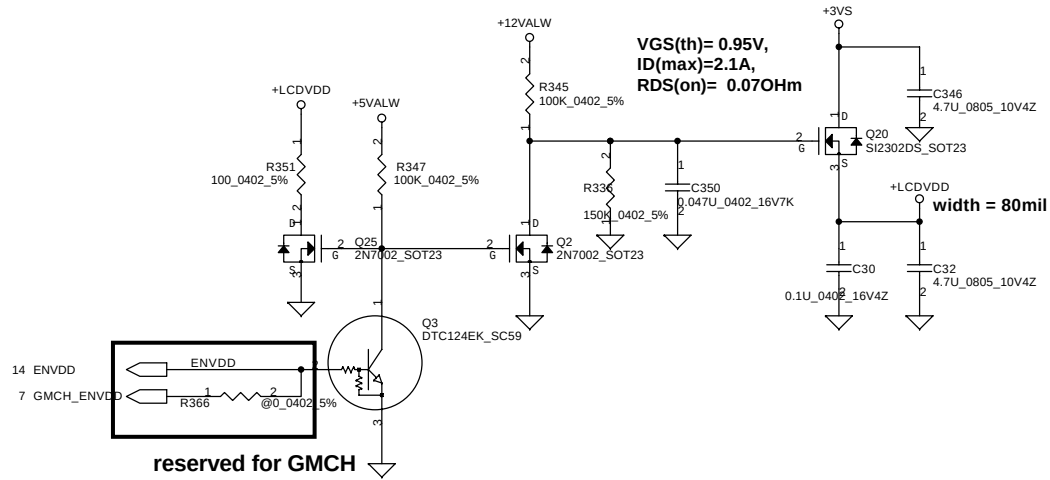
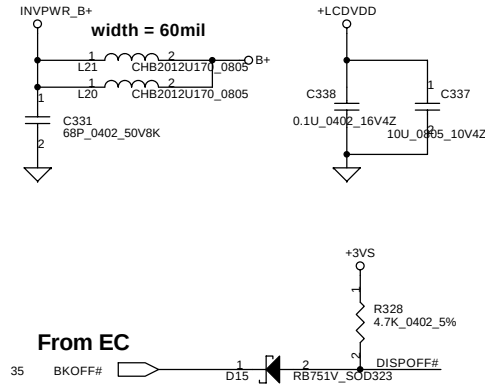
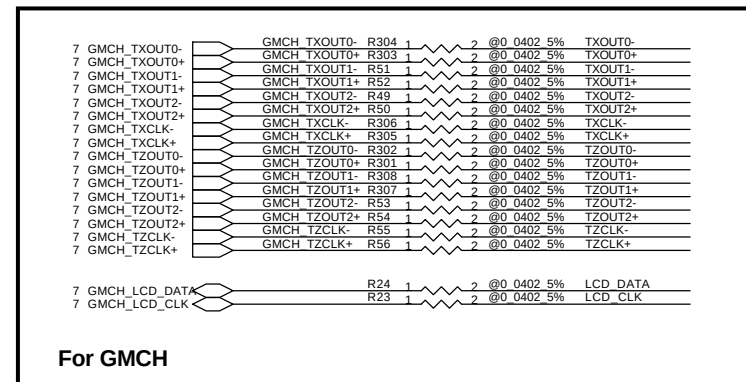
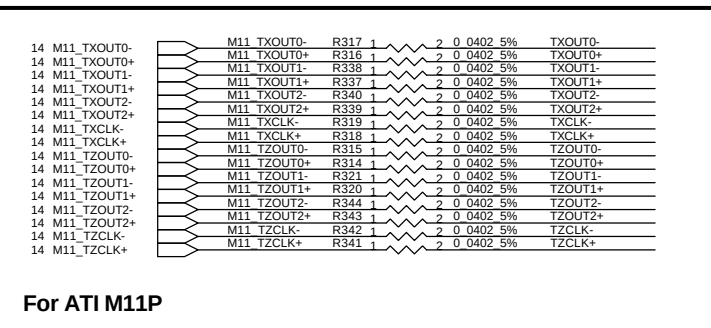
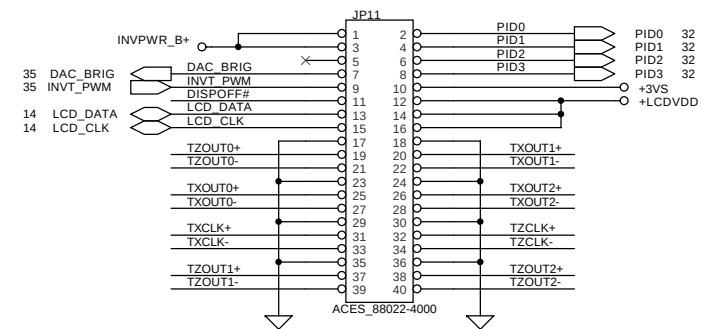


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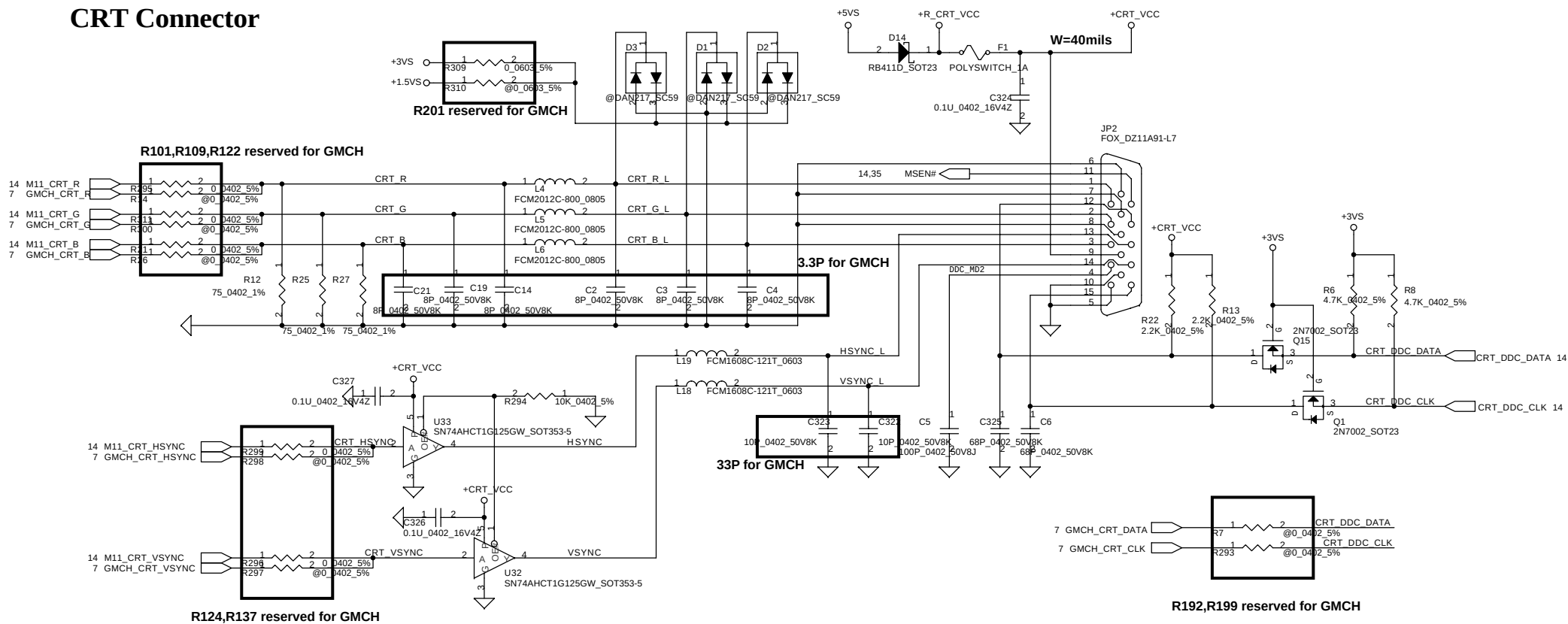
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0	1	0	0	SANYO TM154WX-22L31 15.4" WXGA 1280X800
0	1	0	1	AU B154EW01 15.4" WXGA 1280X800
0	1	1	0	CPT CLAA154WA01 15.4" WXGA 1280X800
0	1	1	1	SAMSUNG LTN154X1-L02 15.4" WXGA 1280X800
1	0	0	1	SAMSUNG LTN154P1-L02 15.4" WSXGA+ 1680X1050
1	0	1	0	LG LP154W02-A1 15.4" WSXGA+ 1680X1050



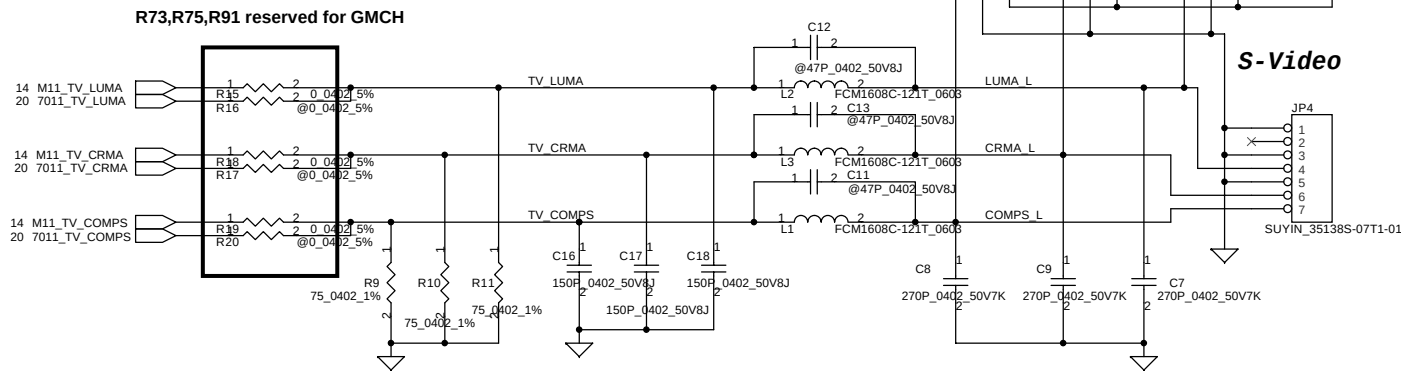
LCD CONN.



CRT Connector

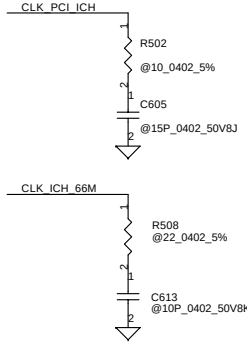


TV-Out Connector

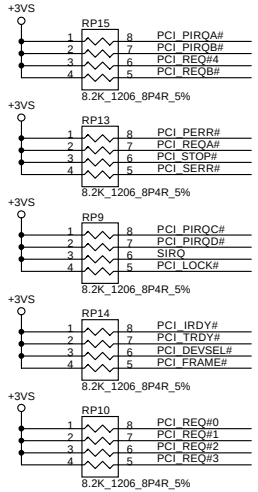


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PCI Pullups



27,29,30,31 PCI_AD[0..31] PCI_AD[0..31]

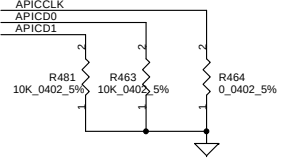
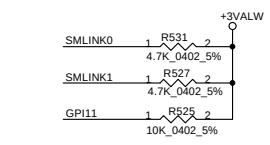
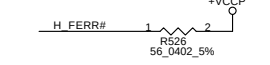
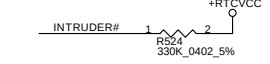
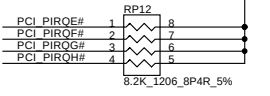
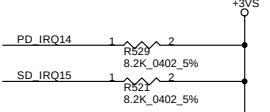
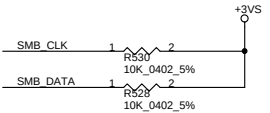
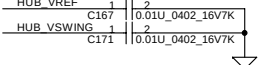
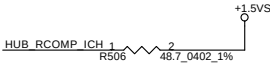
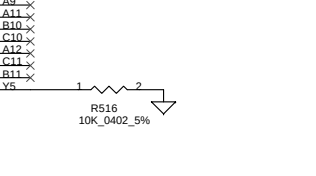
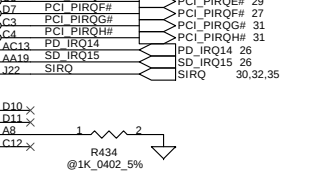
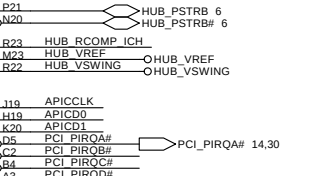
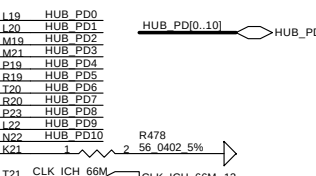
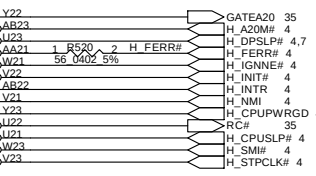
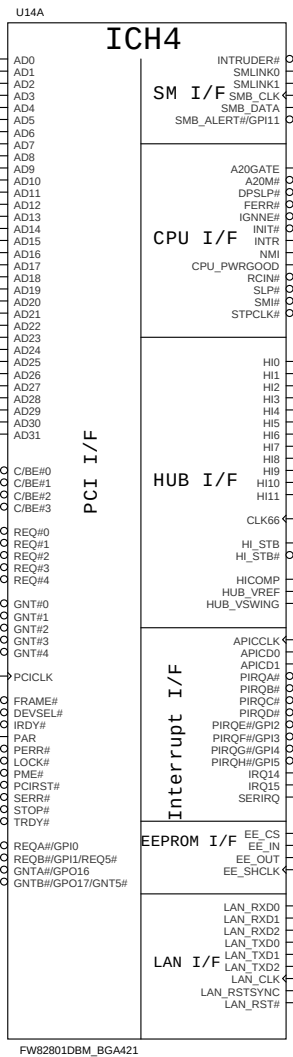
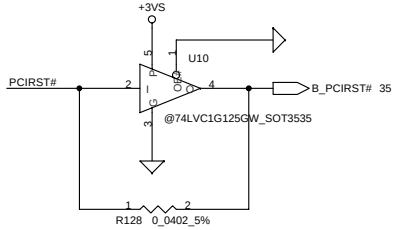
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PCI_AD1	J3	AD1
PCI_AD2	H3	AD2
PCI_AD3	K1	AD3
PCI_AD4	G5	AD4
PCI_AD5	J4	AD5
PCI_AD6	H4	AD6
PCI_AD7	J5	AD7
PCI_AD8	K2	AD8
PCI_AD9	G2	AD9
PCI_AD10	L1	AD10
PCI_AD11	G4	AD11
PCI_AD12	L2	AD12
PCI_AD13	H2	AD13
PCI_AD14	L3	AD14
PCI_AD15	F5	AD15
PCI_AD16	F4	AD16
PCI_AD17	N1	AD17
PCI_AD18	E5	AD18
PCI_AD19	N2	AD19
PCI_AD20	E3	AD20
PCI_AD21	N3	AD21
PCI_AD22	F4	AD22
PCI_AD23	M5	AD23
PCI_AD24	E2	AD24
PCI_AD25	E1	AD25
PCI_AD26	P1	AD26
PCI_AD27	P2	AD27
PCI_AD28	D3	AD28
PCI_AD29	R1	AD29
PCI_AD30	D2	AD30
PCI_AD31	P4	AD31

27,29,30,31 PCI_CBE#0	PCI_CBE#0	J2	C/BE#0
27,29,30,31 PCI_CBE#1	PCI_CBE#1	M4	C/BE#1
27,29,30,31 PCI_CBE#2	PCI_CBE#2	M4	C/BE#2
27,29,30,31 PCI_CBE#3	PCI_CBE#3	N4	C/BE#3
29 PCI_REQ#0	PCI_REQ#0	B1	REQ#0
27 PCI_REQ#1	PCI_REQ#1	A2	REQ#1
30 PCI_REQ#2	PCI_REQ#2	B3	REQ#2
31 PCI_REQ#3	PCI_REQ#3	C7	REQ#3
31 PCI_REQ#4	PCI_REQ#4	B6	REQ#4
29 PCI_GNT#0	PCI_GNT#0	C1	GNT#0
27 PCI_GNT#1	PCI_GNT#1	E6	GNT#1
30 PCI_GNT#2	PCI_GNT#2	A7	GNT#2
31 PCI_GNT#3	PCI_GNT#3	R7	GNT#3
31 PCI_GNT#4	PCI_GNT#4	D6	GNT#4

13 CLK_PCI_ICH	CLK_PCI_ICH	P5	PCICLK
27,29,30,31 PCI_FRAME#	PCI_FRAME#	F1	FRAME#
27,29,30,31 PCI_DEVSEL#	PCI_DEVSEL#	M3	DEVSEL#
27,29,30,31 PCI_IRDY#	PCI_IRDY#	L5	IRDY#
27,29,30,31 PCI_PAR	PCI_PERR#	G1	PAR
27,29,30,31 PCI_PERR#	PCI_LOCK#	M2	LOCK#

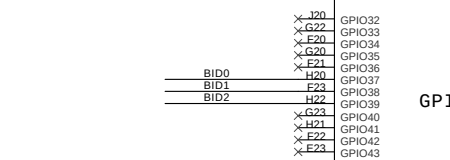
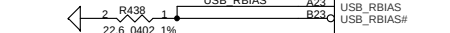
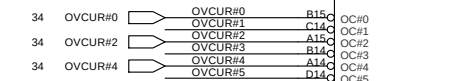
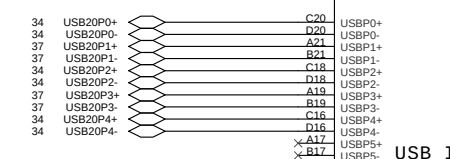
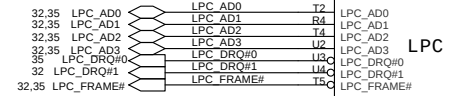
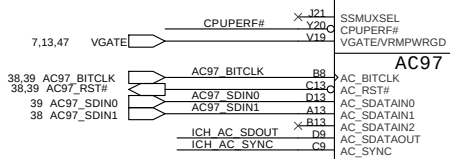
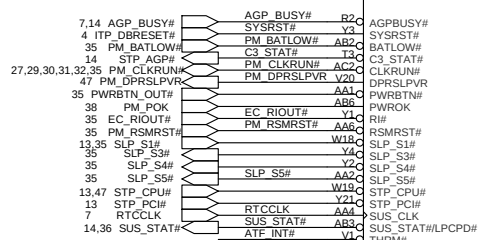
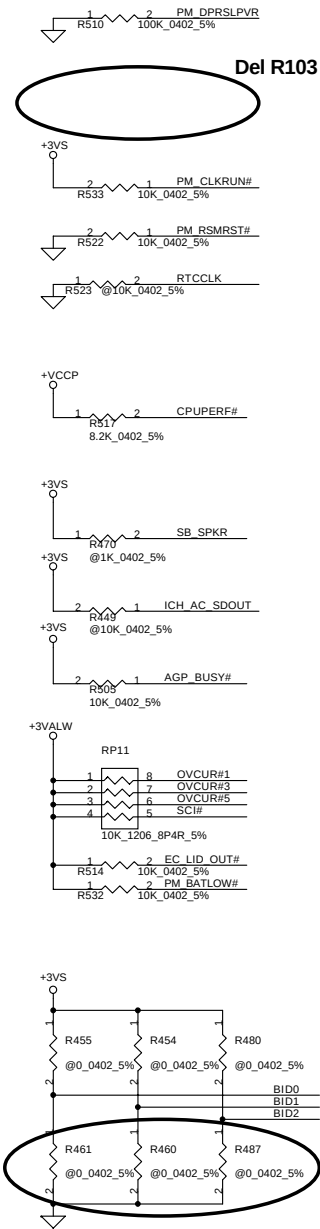
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27,29,30,31 PCI_STOP#	PCI_STOP#	F3	STOP#
27,29,30,31 PCI_TRDY#	PCI_TRDY#	E2	TRDY#

26 PIDERST#	PCI_REQA#	B5	REQA#/GP10
26 SIDERST#	PCI_REQB#	A6	REQB#/GP11
	PCIRST#	K5	PCIRST#
	SERR#	F3	SERR#
	STOP#	F3	STOP#
	TRDY#	E2	TRDY#



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ICH4

GPI0

PM

IST

AC97 I/F

IDE I/F

LPC I/F

USB I/F

CLOCK

MISC

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

ICH4

GPI0

PM

IST

AC97 I/F

IDE I/F

LPC I/F

USB I/F

CLOCK

MISC

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

ICH4

GPI0

PM

IST

AC97 I/F

IDE I/F

LPC I/F

USB I/F

CLOCK

MISC

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

GPIO

ICH4

GPI0

PM

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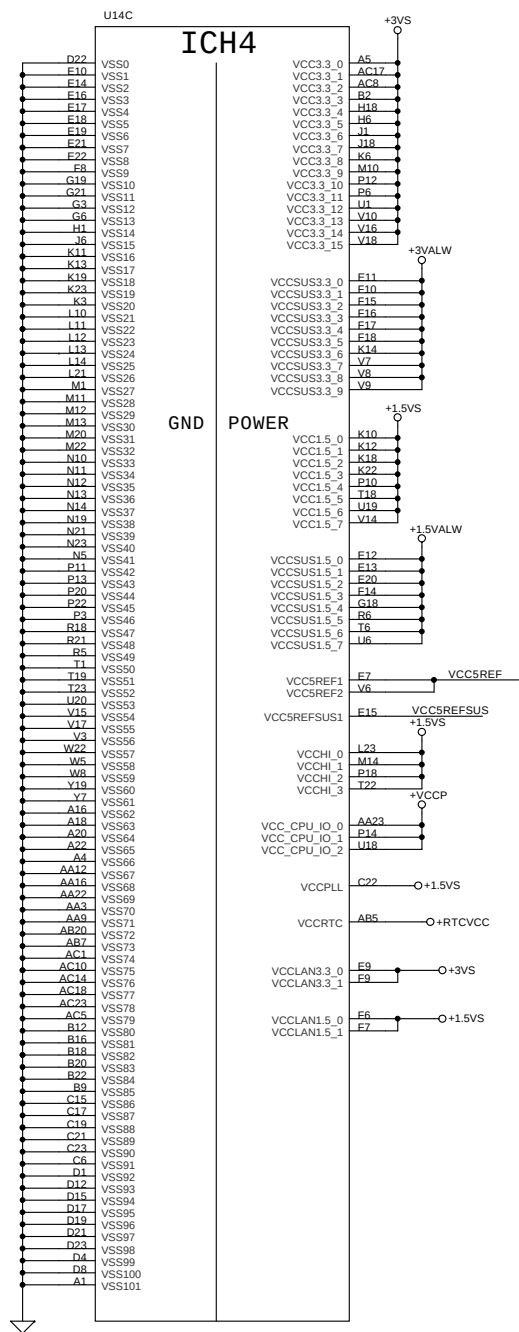
GPIO

GPIO

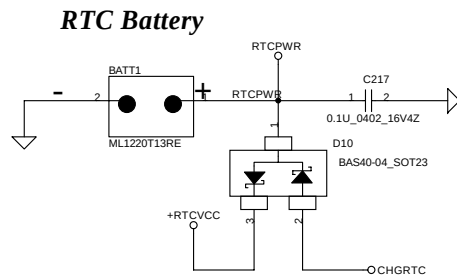
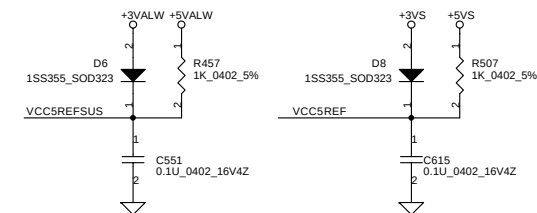
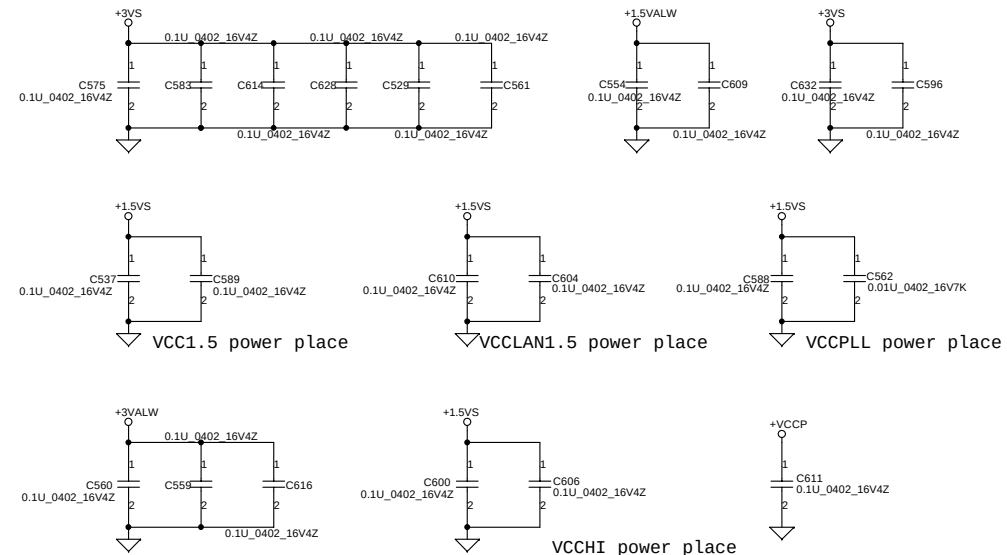
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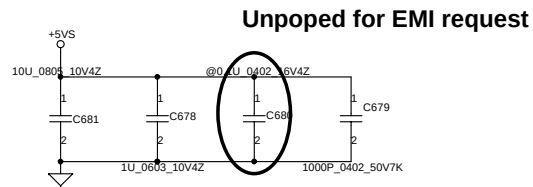
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401289			
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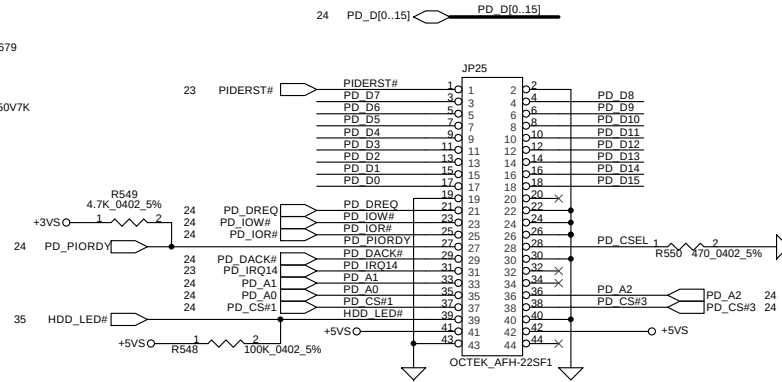


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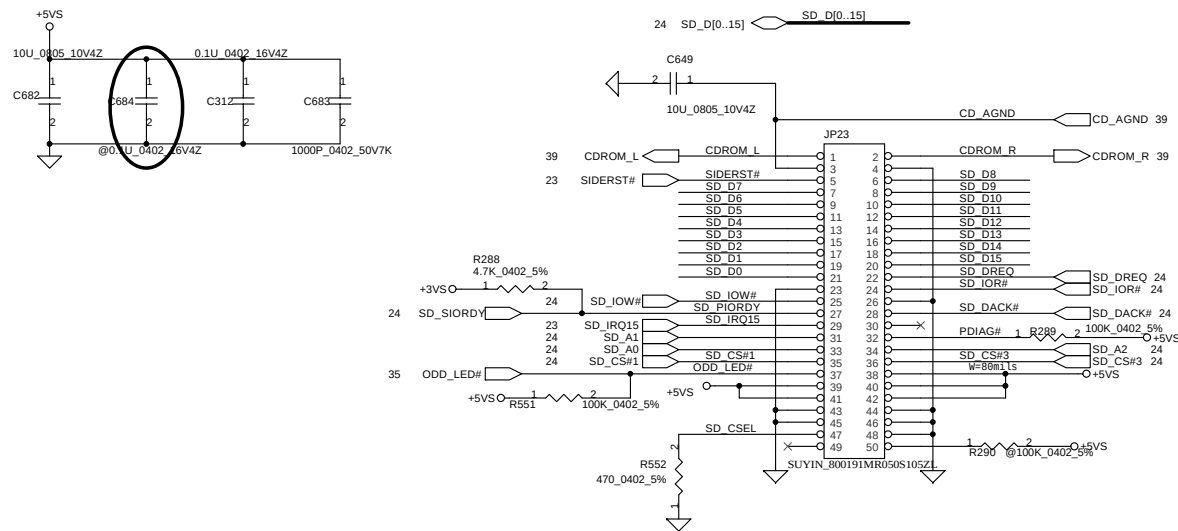




HDD CONN



CDROM CONN



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EN_WOL# = Low,
System can wake on LAN
(keep Low when Power On)

VGS(th) = -0.45V
IDmax = 2.3A

+3VS for BCM5788
+3V_LAN for BCM4401

23,29,30,31 PCI_AD[0..31]

U4A
PCI_AD31 B8 AD31
PCI_AD30 A8 AD30
PCI_AD29 C7 AD29
PCI_AD28 C6 AD28
PCI_AD27 B6 AD27
PCI_AD26 B5 AD26
PCI_AD25 A5 AD25
PCI_AD24 B4 AD24
PCI_AD23 B2 AD23
PCI_AD22 B1 AD22
PCI_AD21 C1 AD21
PCI_AD20 D3 AD20
PCI_AD19 D2 AD19
PCI_AD18 D1 AD18
PCI_AD17 E3 AD17
PCI_AD16 L2 AD16
PCI_AD15 L1 AD15
PCI_AD14 L1 AD14
PCI_AD13 M3 AD13
PCI_AD12 M2 AD12
PCI_AD11 M1 AD11
PCI_AD10 N2 AD10
PCI_AD9 N3 AD9
PCI_AD8 P3 AD8
PCI_AD7 N4 AD7
PCI_AD6 P4 AD6
PCI_AD5 M5 AD5
PCI_AD4 P5 AD4
PCI_AD3 P5 AD3
PCI_AD2 M6 AD2
PCI_AD1 P7 AD1
PCI_AD0 N7 AD0

23,29,30,31 PCI_CBE#3 C4 CBE3
23,29,30,31 PCI_CBE#2 E3 CBE2
23,29,30,31 PCI_CBE#1 I3 CBE1
23,29,30,31 PCI_CBE#0 M4 CBE0

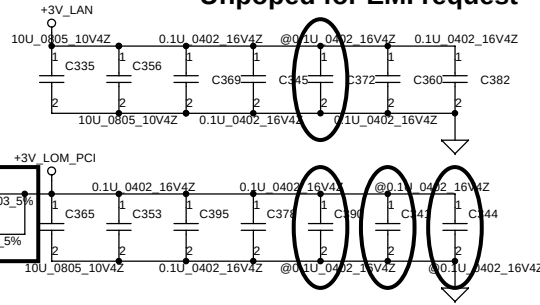
100_0402_5%
PCI_AD17 R330 1 2 LAN_IDSEL A4 IDSEL
23,29,30,31 PCI_FRAME# F2 FRAME
23,29,30,31 PCI_IRDY# F1 IRDY
23,29,30,31 PCI_TRDY# G3 TRDY
23,29,30,31 PCI_DEVSEL# H3 DEVSEL
23,29,30,31 PCI_STOP# J2 STOP
23,29,30,31 PCI_PERR# A2 PERR
23,29,30,31 PCI_SERR# J1 SERR
23,29,30,31 PCI_PAR# J1 PAR
13 CLK_PCI_LAN J1 CLK_CLK

23 PCI_PIRQ# H2 INTA
7,14,20,23,29,30,31,32 PCI_RST# J3 PCI_RST
23 PCI_GNT#1 J3 GNT
23 PCI_REQ#1 C3 REQ

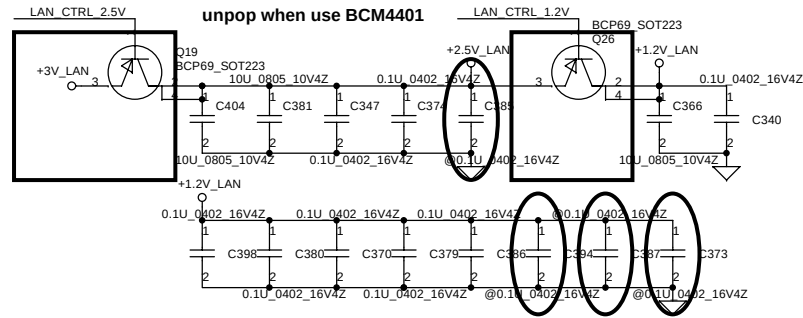
+3V_LAN 1 R349 1K_0402_5% LAN_AUXPWR J12 VAUXPRSNT
30,31,35 ONBD_LAN_PME# A6 F4 M66EN(NC_F4) PME

LAN_X1 1 Y2 25MHZ_20P LAN_X2 1
C88 27P_0402_50V8J
C89 27P_0402_50V8J

Unpoped for EMI request



unpop when use BCM4401



CLK_PCI_LAN
R46 @10_0402_5%
C29 @18P_0402_50V8K

BCM5788M /(BCM4401)

TRD3+/(NC_E13)
TRD3-/(NC_E14)
TRD2+/(NC_D13)
TRD2-/(NC_D14)
TRD1+/(RDP)
TRD1-/(RDN)
TRD0+/(TDP)
TRD0-/(TDN)

REGSUP12/(NC_B9)
REGCTL12/(NC_B10)
REGSEN12/(REG18OUT)
REGSUP25/(REGSUP18)
REGCTL25/(NC_C11)
REGSEN25/(REGSUP18)

VESD1
VESD2
VESD3
EEDATA/(SPROM_CS)
EECLK/(SPROM_CLK)

GPI00/(NC_H12)
GPI01/(NC_K13)
GPI02/(NC_J13)

pop R80 and unpop R77,R562 when use BCM4401

LINKLED/(LINKLED10)
SPD100LED/(LINKLED100)
SPD1000LED/(COL_LED)
TRAFFICLED/(ACT_LED)

PLLVD2/(PLLVD)
NC_P7
TCK
TDI
TDO
TMS
TRST

XTALVDD
XTALO
XTALI

NC_G11
NC_E10/(EEDATA_PX#)
NC_E11/(EECLK_PX#)
NC_H11

BIASVDD
RDAC

NC_A10
NC_C9

U4B
VDDC_E12
VDDC_H5
VDDC_H6
VDDC_H7
VDDC_H8
VDDC_J5
VDDC_J6
VDDC_J7
VDDC_J8
VDDC_J9
VDDC_J10
VDDC_K5
VDDC_K6
VDDC_K7
VDDC_K8
VDDC_K9
VDDC_K10
VDDC_L5
VDDC_L10
VDDC_M14
VDDC_N14
VDDC_P8
VDDC_P12
VDDC_P13
VDDC_P14

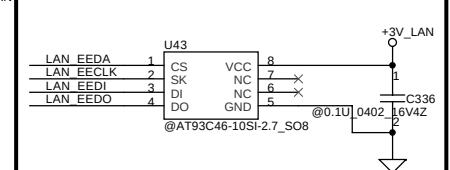
VDDIO-PCI_A7
VDDIO-PCI_B3
VDDIO-PCI_C5
VDDIO-PCI_E1
VDDIO-PCI_E4
VDDIO-PCI_G1
VDDIO-PCI_K3
VDDIO-PCI_L4
VDDIO-PCI_N6
VDDIO-PCI_P2

VDDP_K14/(NC_K14)VDDLL_F12/(AVDD_F12)
VDDP_L13/(NC_L13)VDDLL_F13/(AVDD_F13)
VDDP_P11/(NC_P11) AVDD_F14/(NC_F14)
AVDD_A13/(NC_A13)

VDDIO_A11
VDDIO_K11
VDDIO_K12
VDDIO_L12

NC_C8
CLKRUN
NC_H10
NC_J4
NC_K4
NC_K11/(GPIO_10W_POWER/(TESTMODE))
NC_K11/(GPIO_0)
NC_L7
NC_L8

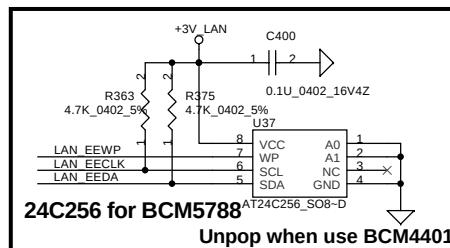
AT93C46 for BCM4401



	5788	4401
L22		Pop
L25	Pop	
Q19	Pop	
Q26	Pop	
R326	1.24K	1.27K
U43		Pop
C336		Pop
U37	Pop	
R375	Pop	
C400	Pop	
R363	Pop	
R360		Pop
R562	Pop	
R80		Pop
R77	Pop	

F12 +1.2V LAN AVDD 1 2 +1.2V LAN
F13 +1.2V LAN AVDD 1 2 +1.2V LAN
F14 +2.5V LAN AVDD 1 2 +2.5V LAN
A13 1 2 +2.5V LAN
C35Z 1 2 +2.5V LAN
C47 1 2 +2.5V LAN
0.1U_0402_16V4Z 1 2 +2.5V LAN

Del R369
R368 @0_0402_5% LAN_LOW_POWER 35
R367 10K_0402_5%



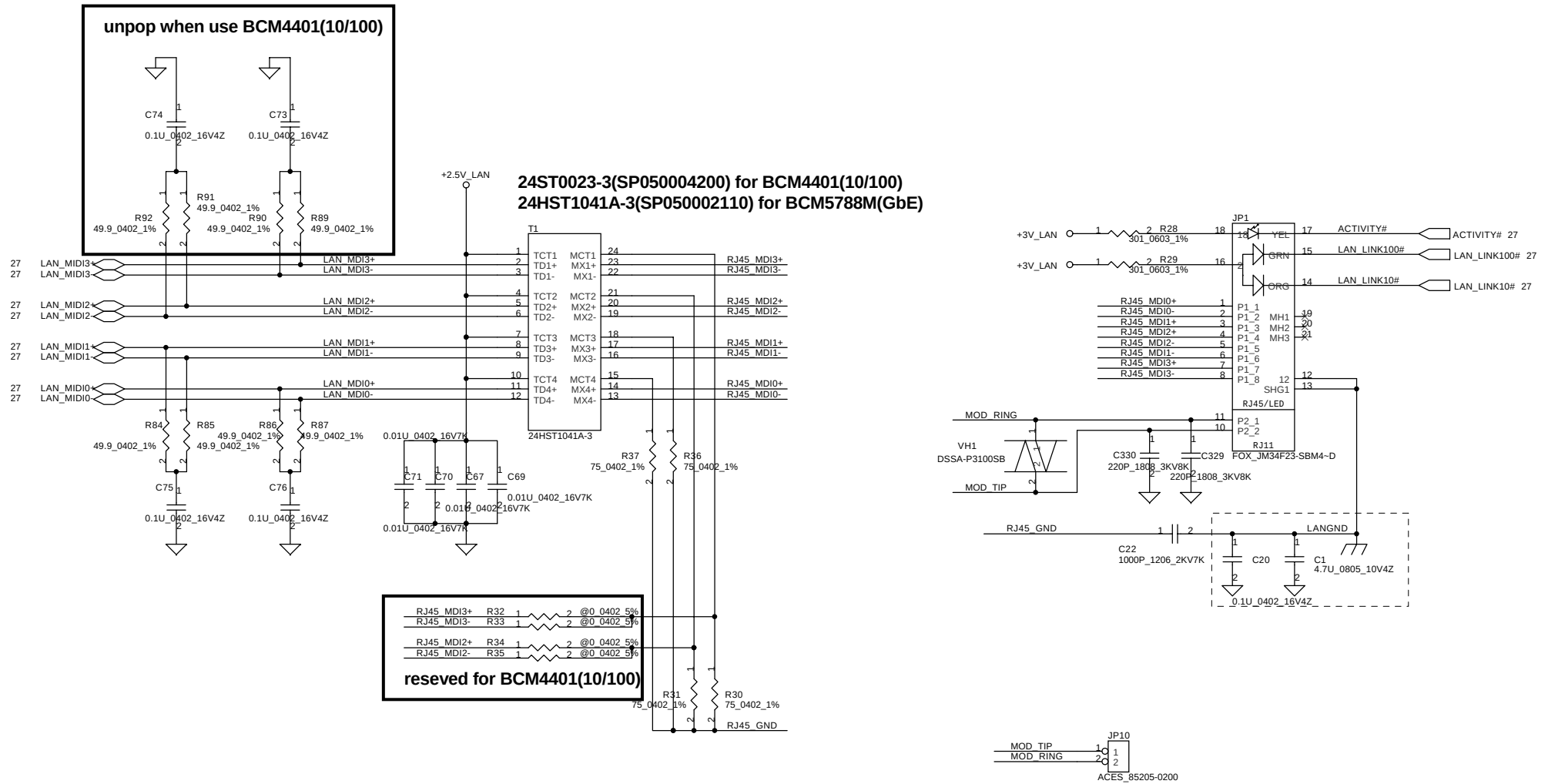
24C256 for BCM5788

Unpop when use BCM4401

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LAN BCM5788M/BCM4401KFB



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Document Number

401289

Rev
2A

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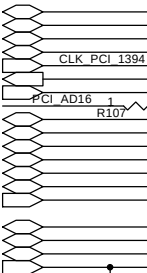
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23,27,30,31 PCI_AD[0..31]

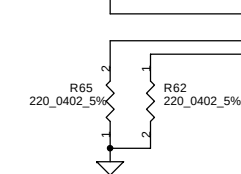
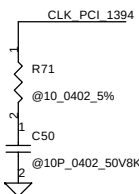
PCI_AD[0..31]

PCI_AD0	84	PCI_AD0
PCI_AD1	82	PCI_AD1
PCI_AD2	81	PCI_AD2
PCI_AD3	80	PCI_AD3
PCI_AD4	79	PCI_AD4
PCI_AD5	77	PCI_AD5
PCI_AD6	76	PCI_AD6
PCI_AD7	74	PCI_AD7
PCI_AD8	71	PCI_AD8
PCI_AD9	70	PCI_AD9
PCI_AD10	69	PCI_AD10
PCI_AD11	67	PCI_AD11
PCI_AD12	66	PCI_AD12
PCI_AD13	65	PCI_AD13
PCI_AD14	63	PCI_AD14
PCI_AD15	61	PCI_AD15
PCI_AD16	46	PCI_AD16
PCI_AD17	45	PCI_AD17
PCI_AD18	43	PCI_AD18
PCI_AD19	42	PCI_AD19
PCI_AD20	41	PCI_AD20
PCI_AD21	40	PCI_AD21
PCI_AD22	38	PCI_AD22
PCI_AD23	37	PCI_AD23
PCI_AD24	32	PCI_AD24
PCI_AD25	31	PCI_AD25
PCI_AD26	29	PCI_AD26
PCI_AD27	28	PCI_AD27
PCI_AD28	26	PCI_AD28
PCI_AD29	25	PCI_AD29
PCI_AD30	24	PCI_AD30
PCI_AD31	22	PCI_AD31

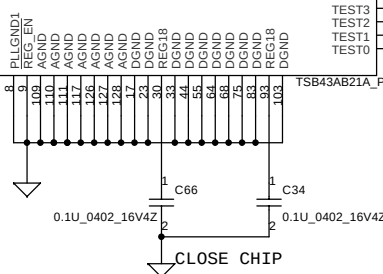
23,27,30,31 PCI_CBE#3
23,27,30,31 PCI_CBE#2
23,27,30,31 PCI_CBE#1
23,27,30,31 PCI_CBE#0
13 CLK_PCI_1394
23 PCI_GNT#0
23 PCI_REQ#0
ID: AD16
23,27,30,31 PCI_FRAME#
23,27,30,31 PCI_IRDY#
23,27,30,31 PCI_TRDY#
23,27,30,31 PCI_DEVSEL#
23,27,30,31 PCI_STOP#
23,27,30,31 PCI_PERR#
23 PCI_PIRQE#
23,27,30,31 PCI_SERR#
23,27,30,31 PCI_PAR#
24,27,30,31,32,35 PM_CLKRUN#
7,14,20,23,27,30,31,32 PCI_RST#



G_RST# connect to PCIRST#



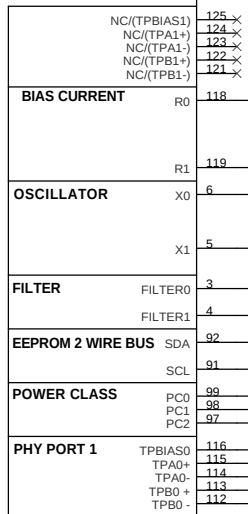
G_RST
GPIO3
GPIO2



** GPIO2 and GPIO3 defaults as an input and if it is not implemented, it is recommended that it be pulled low to ground with a 220 ohm resistor.

TSB43AB21
(TSB43AB22)

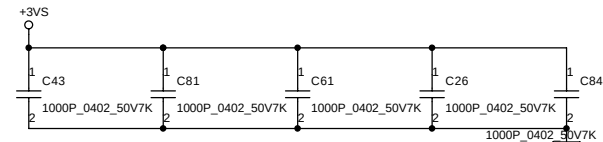
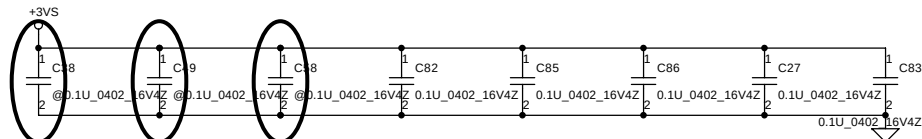
PCI BUS INTERFACE



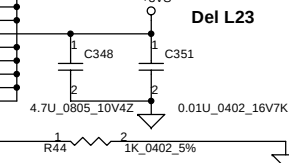
EEPROM cancel,
need System
Support

close chip

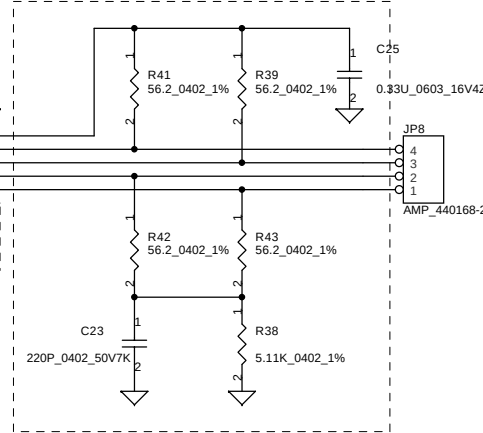
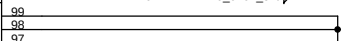
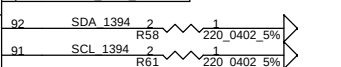
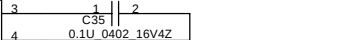
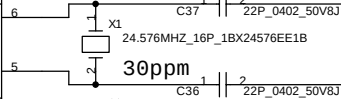
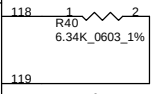
Unpoped for EMI request



Del L23



Near 1394 IC

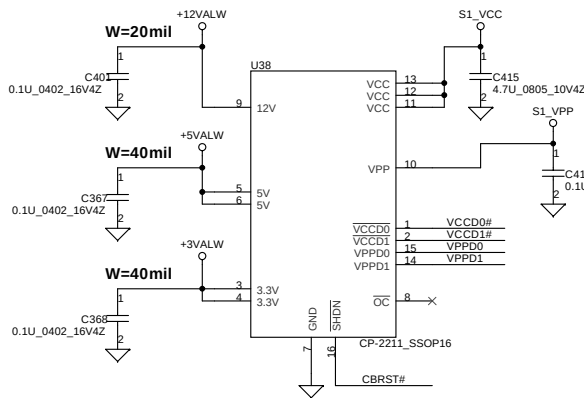


Connect To
Shielding
GND

Compal Electronics, Inc.

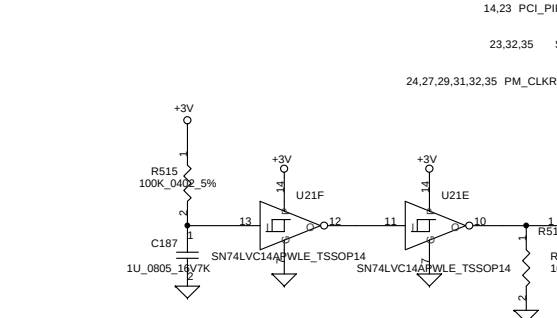
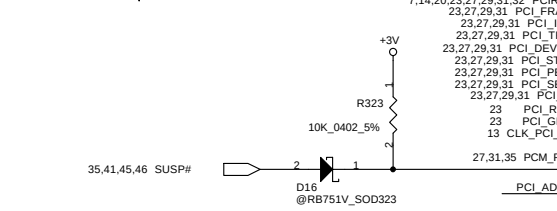
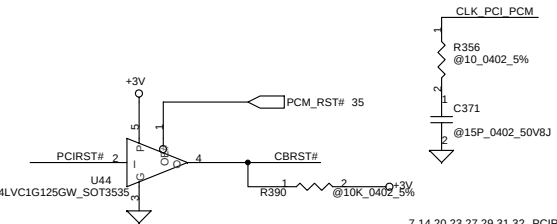
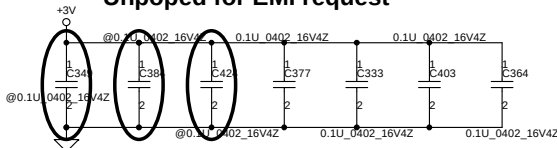
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23,27,29,31 PCI_AD[0..31]
23,27,29,31 PCI_CBE[0..3]

Unpoped for EMI request



PCI AD31 3 AD31
PCI AD30 4 AD30
PCI AD29 5 AD29
PCI AD28 6 AD28
PCI AD27 7 AD27
PCI AD26 8 AD26
PCI AD25 9 AD25
PCI AD24 10 AD24
PCI AD23 11 AD23
PCI AD22 12 AD22
PCI AD21 13 AD21
PCI AD20 14 AD20
PCI AD19 15 AD19
PCI AD18 16 AD18
PCI AD17 17 AD17
PCI AD16 18 AD16
PCI AD15 19 AD15
PCI AD14 20 AD14
PCI AD13 21 AD13
PCI AD12 22 AD12
PCI AD11 23 AD11
PCI AD10 24 AD10
PCI AD9 25 AD9
PCI AD8 26 AD8
PCI AD7 27 AD7
PCI AD6 28 AD6
PCI AD5 29 AD5
PCI AD4 30 AD4
PCI AD3 31 AD3
PCI AD2 32 AD2
PCI AD1 33 AD1
PCI AD0 34 AD0

PCI CBE#3 12
PCI CBE#2 27
PCI CBE#1 37
PCI CBE#0 48

CRST#/RESET 20
FRAME# 28
CIRDY#A15 29
CIRDY#A22 30
CDEVSEL#A21 31
CSTOP#A20 32
CPERR#A14 33
CSERR#WAIT# 34
CPERR#A13 35
PAR 36
REQ# 37
GNT# 38
PCLK 39

PCI AD20 13
PCI_PIRQ# 60
MFUNC0 61
MFUNC1 62
MFUNC2 63
MFUNC3 64
MFUNC4 65
MFUNC5 66
MFUNC6 67

24,27,29,31,32,35 PM_CLKRUN# 68
CBRST# 66

PQFP 144
22.2 X 22.2 X 1.60

CC/BE3#/REG# 125
CC/BE2#/A12 112
CC/BE1#/A8 99
CC/BE0#/CE1# 88

CRST#/RESET 119
CFRAME#A23 111
CIRDY#A15 110
CIRDY#A22 109
CDEVSEL#A21 107
CSTOP#A20 105
CPERR#A14 104
CSERR#WAIT# 103
CPERR#A13 102
PAR 101
REQ# 100
GNT# 99
PCLK 98

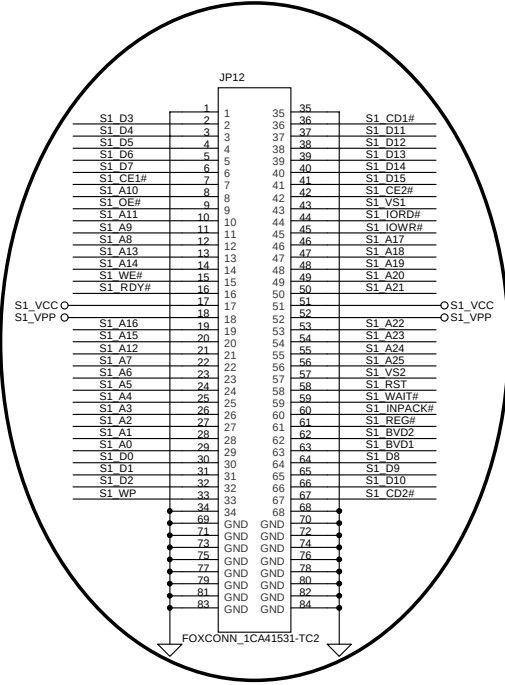
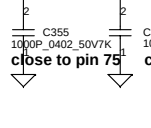
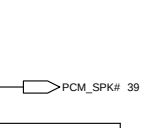
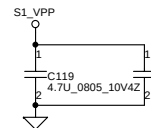
CTSTCHG/BVD1 135
CCLKRUN#WP 136
CLOCK#A19 103
CINT#READY 132

SPKOUT 62
CAUDIO/BVD2 134
PCM_SPK# 39

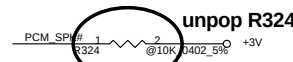
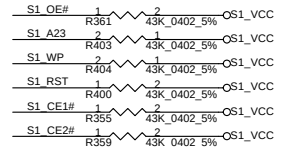
CCD2#/CD2# 137
CCD1#/CD1# 136
CVS2/VS2# 117
CVS1/VS1# 131

RSVD14 84
RSVD13 100
RSVD12 143
RSVD11 142
RSVD10 141
RSVD9 140
RSVD8 139
RSVD7 138
RSVD6 137
RSVD5 136
RSVD4 135
RSVD3 134
RSVD2 133
RSVD1 132
RSVD0 131

S1 D2 144
S1 A18 143
S1 D14 142



change to SP01F002800(BCL50)



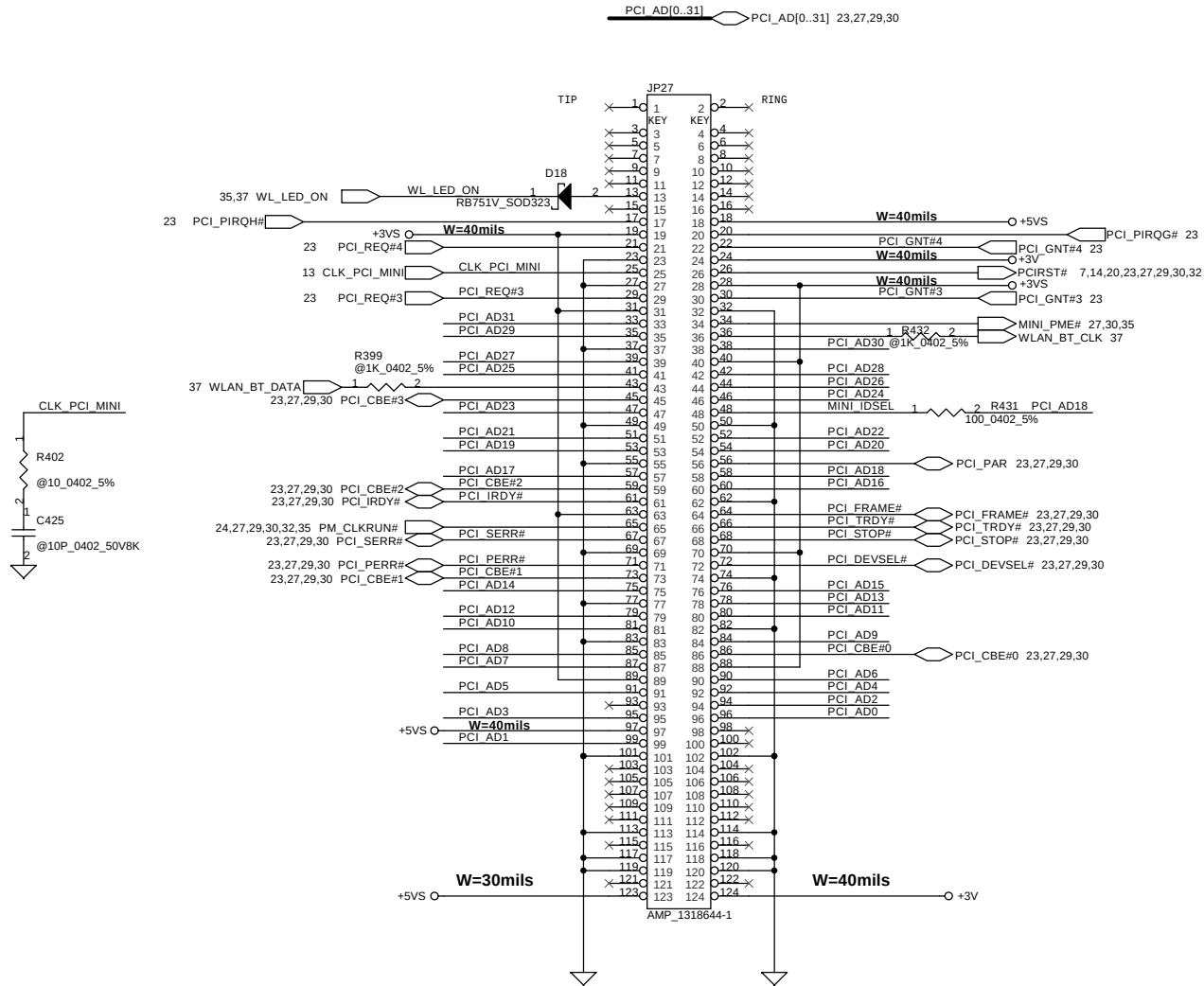
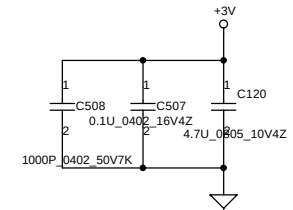
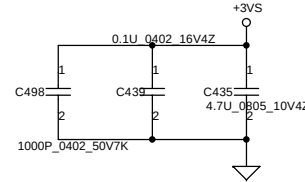
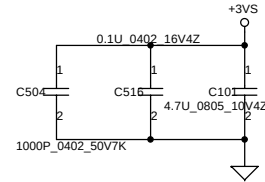
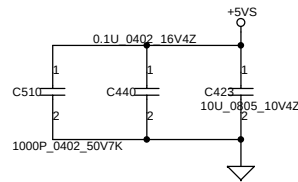
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401289

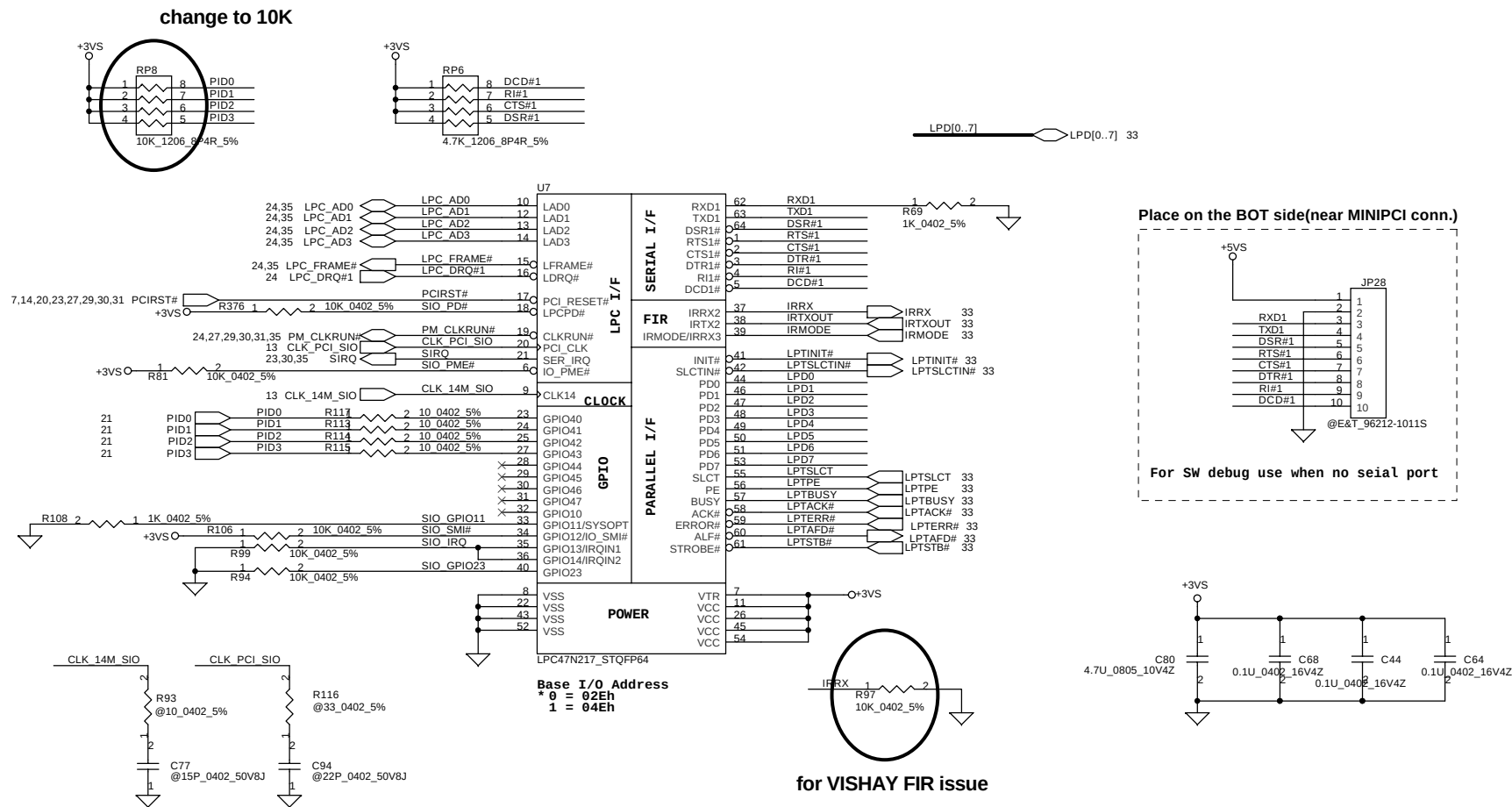
Rev

2A

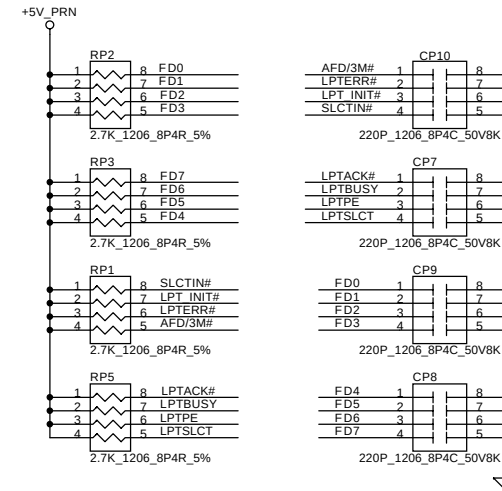
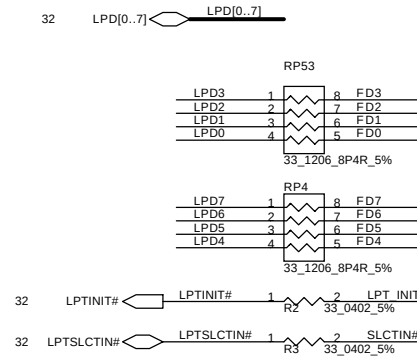
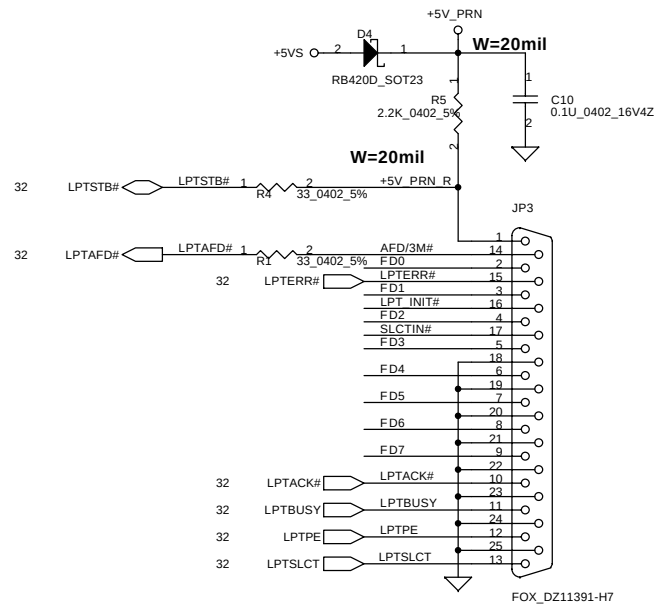
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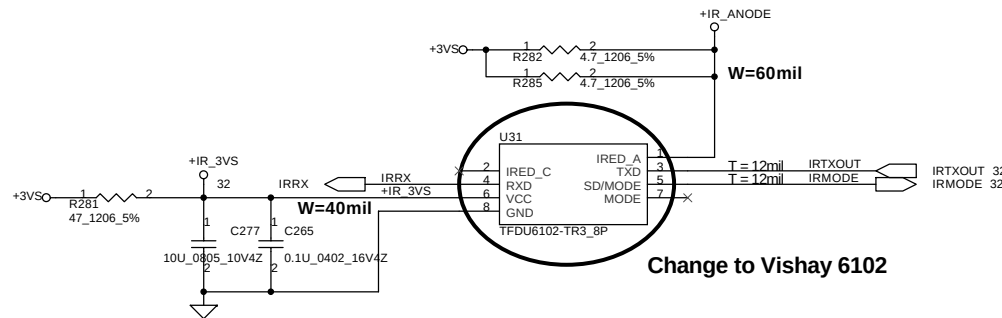
SUPER I/O SMsC LPC47N217



Parallel Port



FIR Module



Change to Vishay 6102

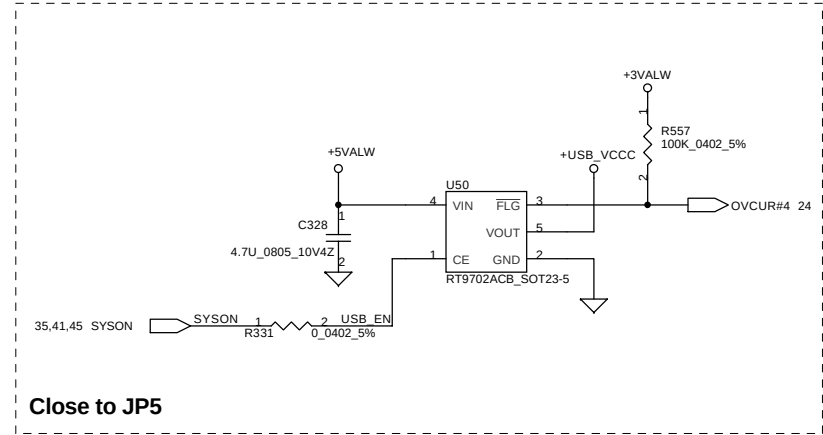
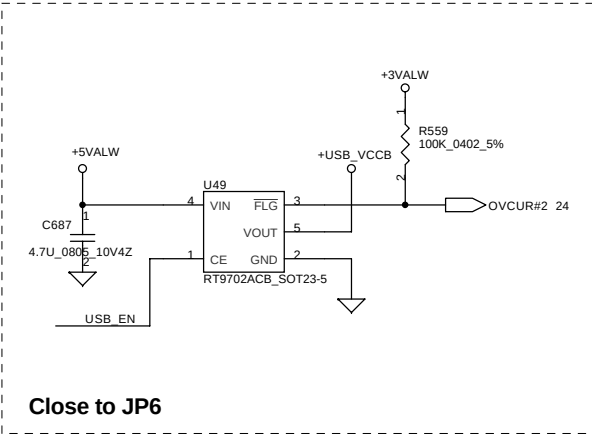
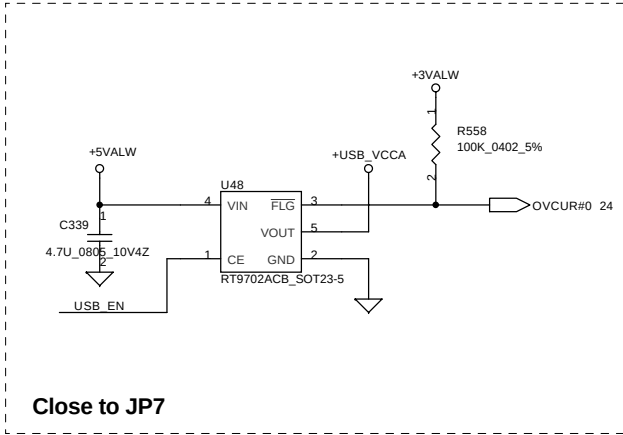
Compal Electronics, Inc.

Title SCHEMATIC M/B LA-2242

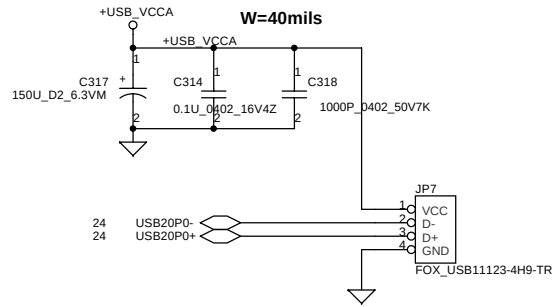
Size Document Number 401289 Rev 2A

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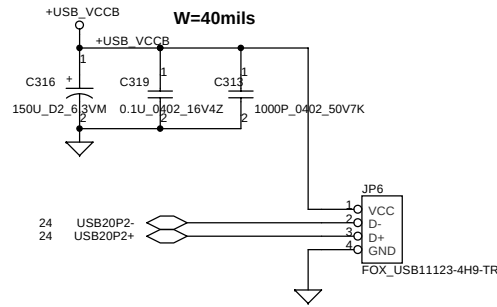
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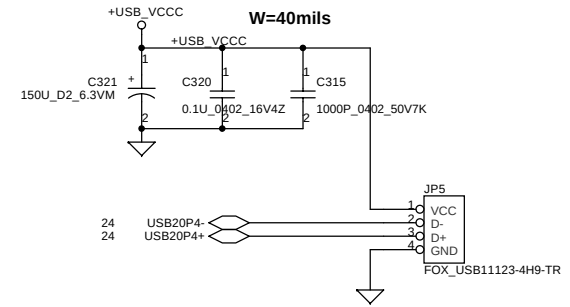
USB CONN. 1



USB CONN. 2

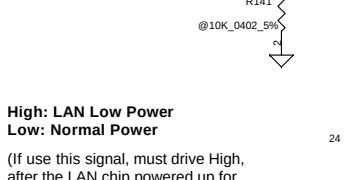
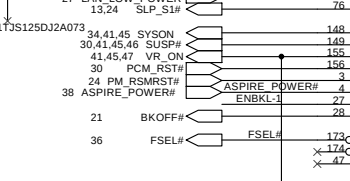
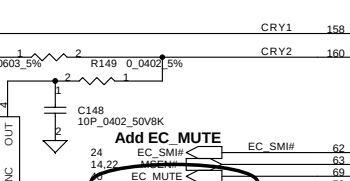
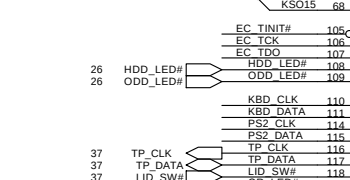
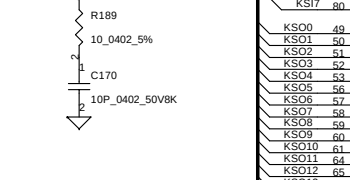
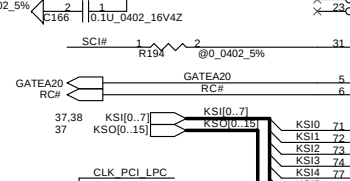
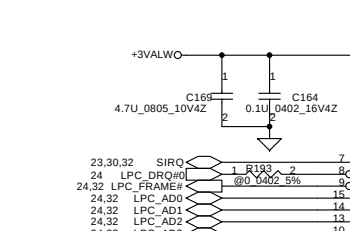
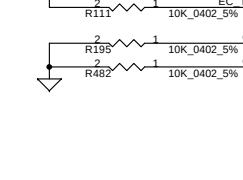
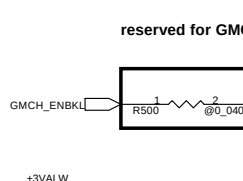
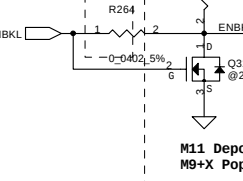
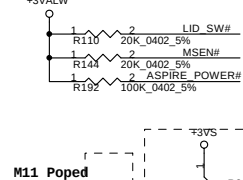
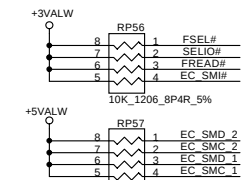
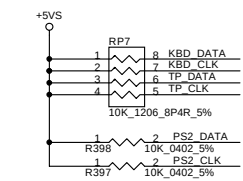
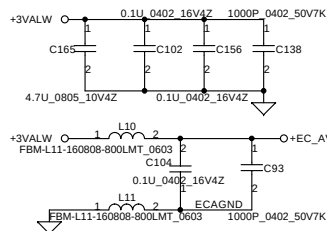


USB CONN. 3

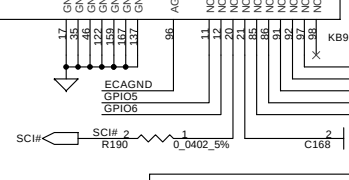
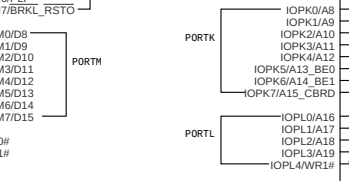
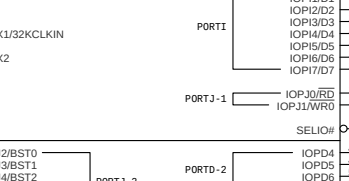
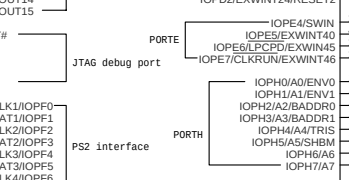
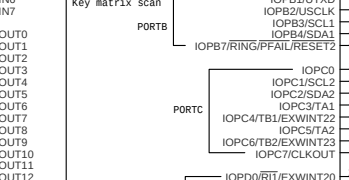
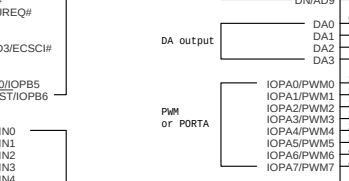
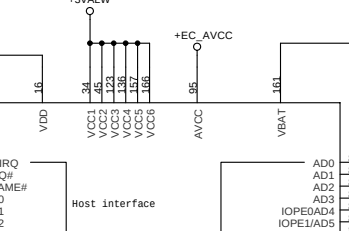


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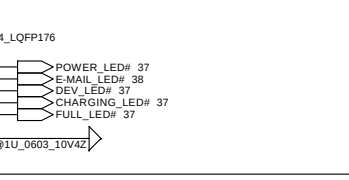
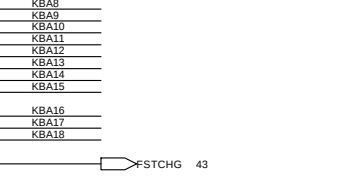
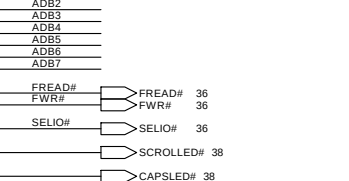
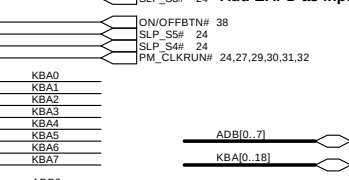
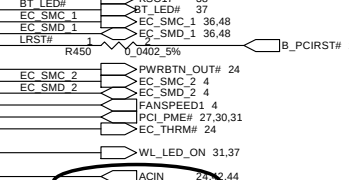
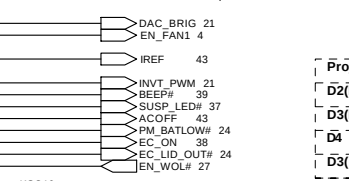
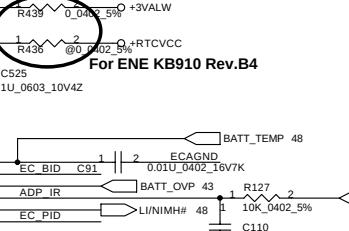
Compal Electronics, Inc.			
Title			
SCHEMATIC M/B LA-2242			
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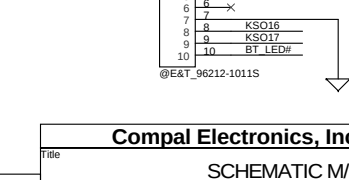
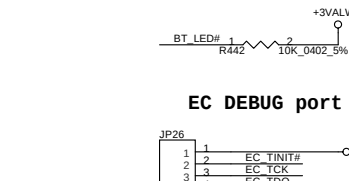
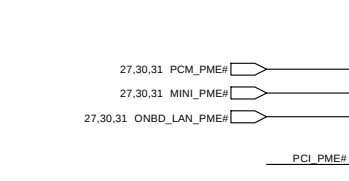
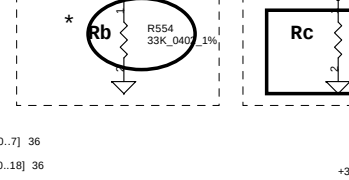
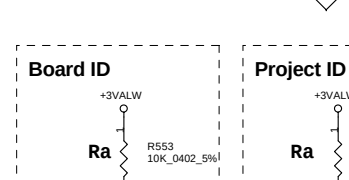
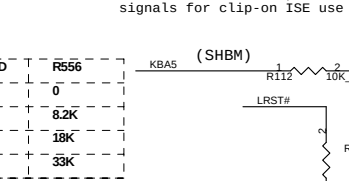
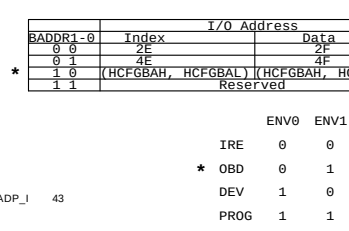
High: LAN Low Power
Low: Normal Power
(If use this signal, must drive High, after the LAN chip powered up for 40ms)



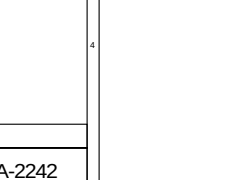
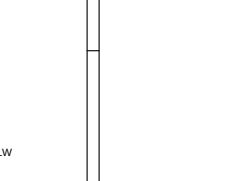
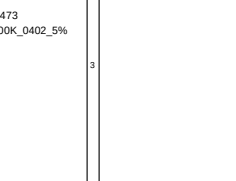
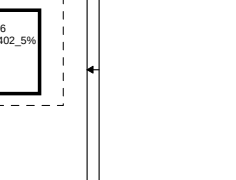
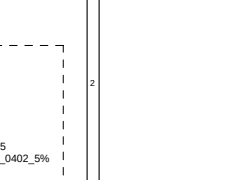
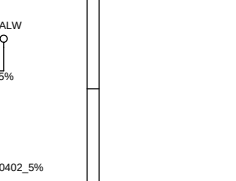
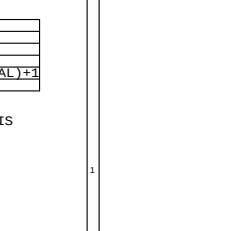
High: LAN Low Power
Low: Normal Power
(If use this signal, must drive High, after the LAN chip powered up for 40ms)



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Low: Normal Power
(If use this signal, must drive High, after the LAN chip powered up for 40ms)



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Low: Normal Power
(If use this signal, must drive High, after the LAN chip powered up for 40ms)



High: LAN Low Power
Low: Normal Power
(If use this signal, must drive High, after the LAN chip powered up for 40ms)

I/O Address	
Index	Data
0 0	2F
0 1	4E
1 0	(HCFGBAH, HCFGBAL) (HCFGBAH, HCFGBAL) +1
1 1	Reserved

ENV0	ENV1	TRIS
IRE	0	0
* OBD	0	1
DEV	1	0
PROG	1	1

SHBM=1: Enable shared memory with host BIOS
TRIS=1: while in IRE and OBD, float all the signals for clip-on ISE use

Project ID	R556
D2(M11)	0
D3(M11)	8.2K
D4	18K
D3(M9)	33K

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

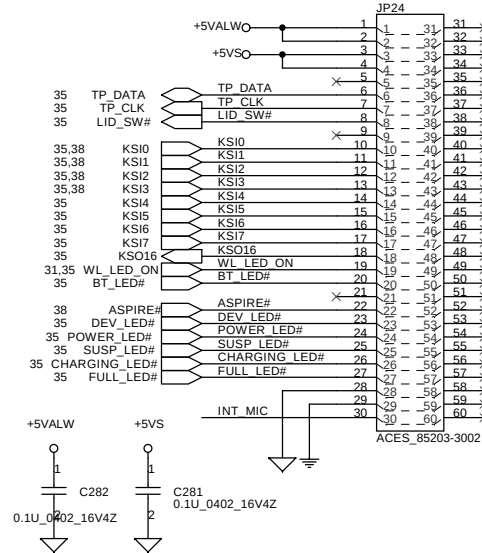
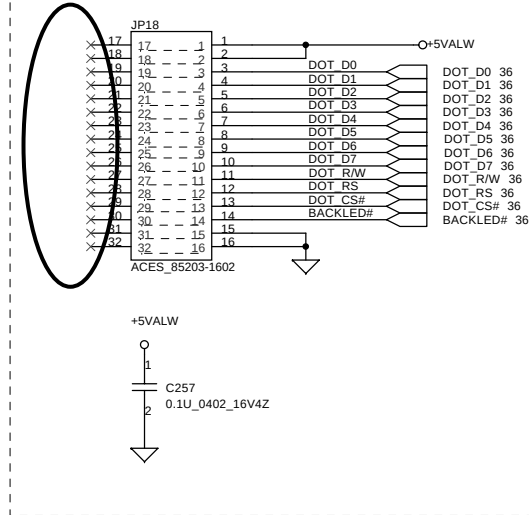
Board ID	Project ID
Ra	Ra
Rb	Rc

Board ID	Project ID
Ra	Ra
Rb	Rc

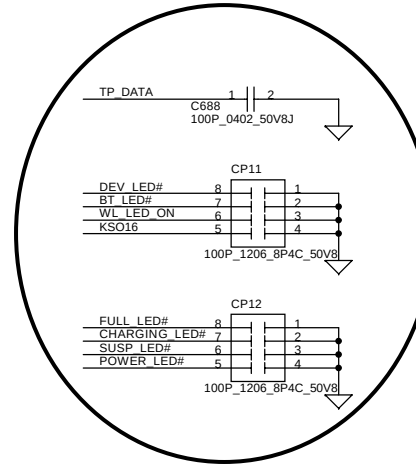
Board ID	Project ID
Ra	Ra
Rb	Rc

To T/P Board

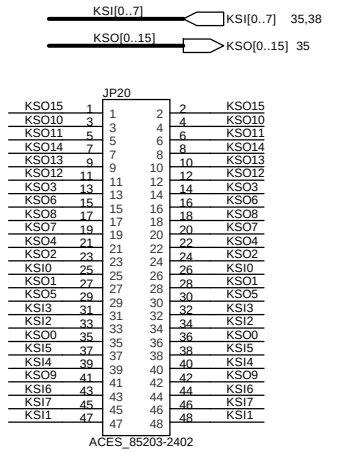
To LCM Board



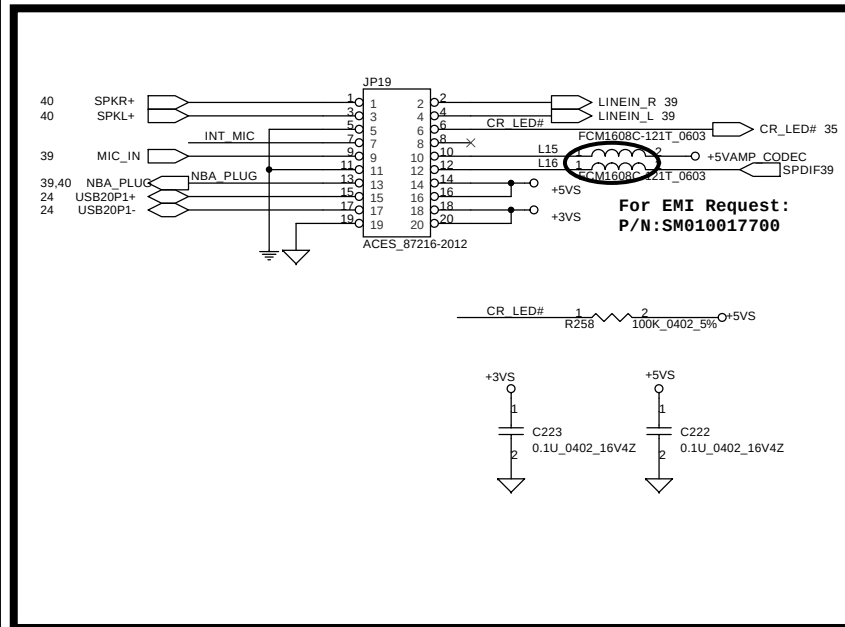
Add CP11,CP12,C688



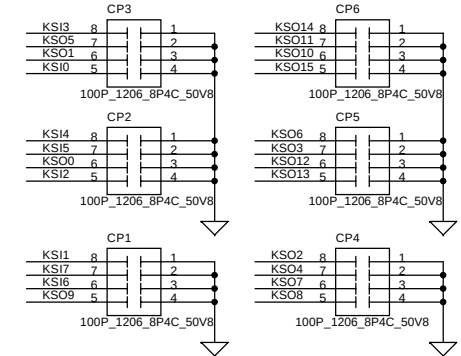
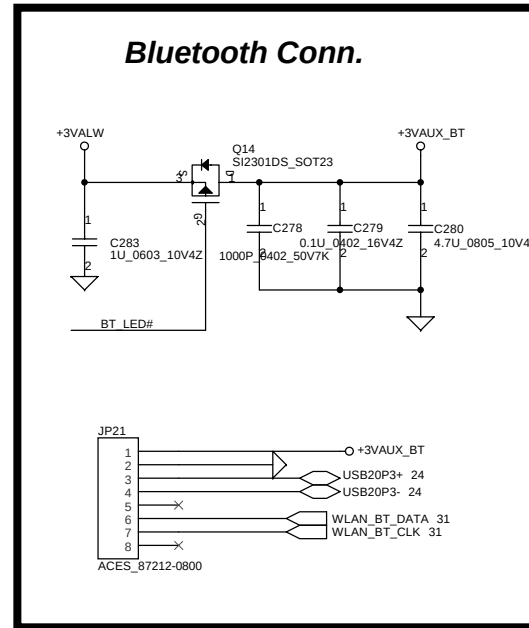
INT_KBD CONN.



To Card Reader Board



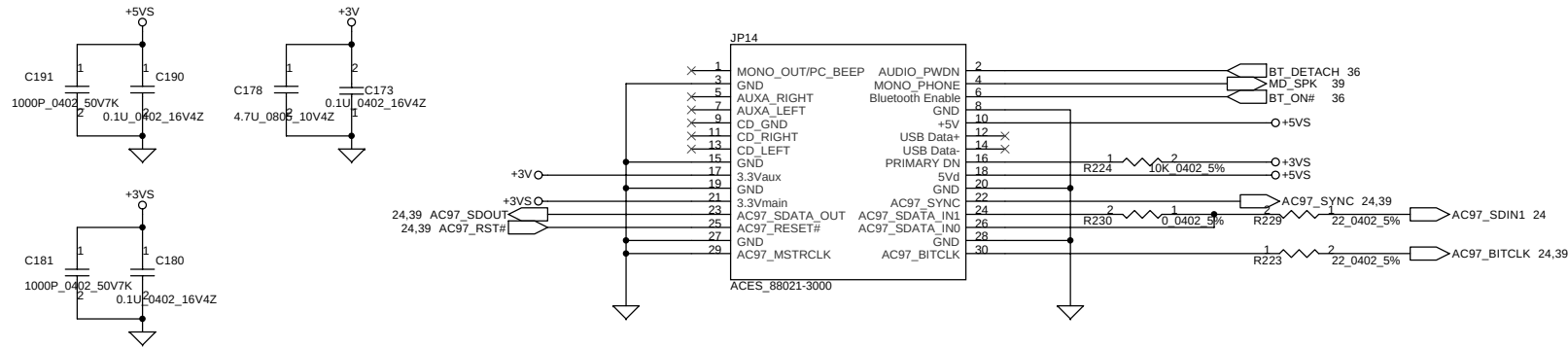
Bluetooth Conn.



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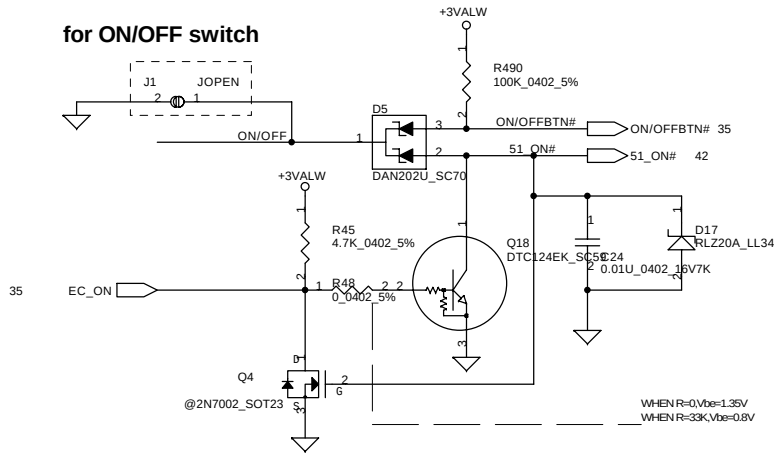
Compal Electronics, Inc.			
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MDC Conn.

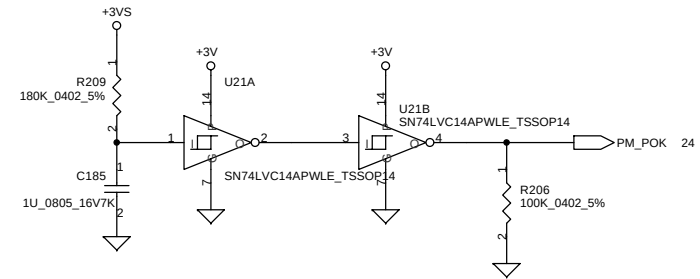


ON/OFF BUTTON

for ON/OFF switch

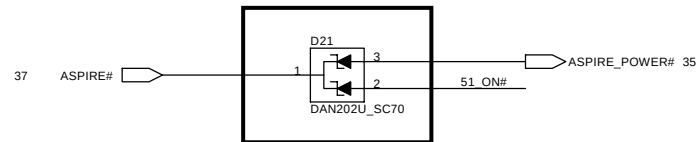


Power OK Circuit

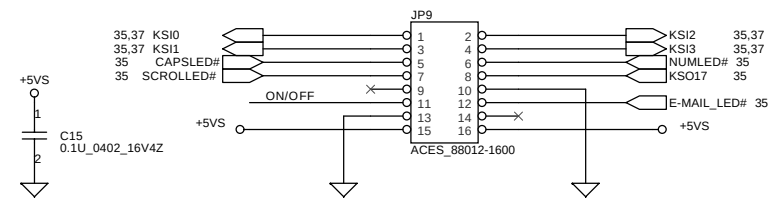


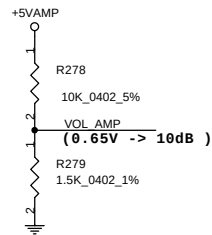
ASPIRE POWER

remove when no MEDIA/B

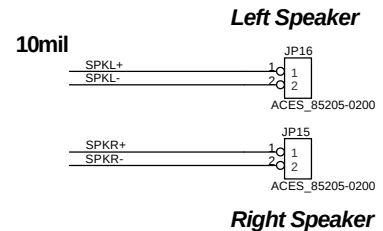
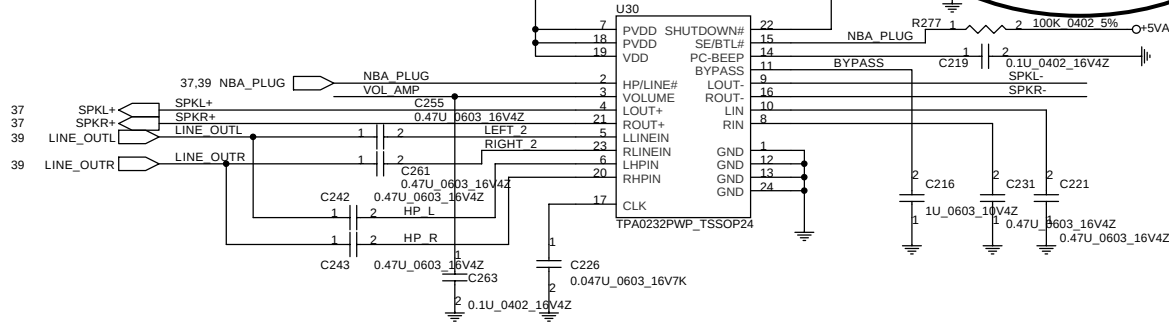
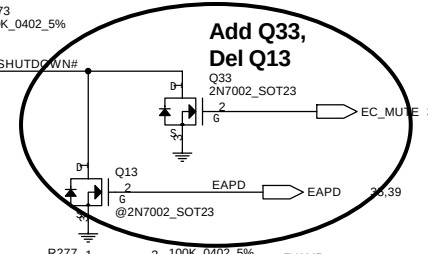
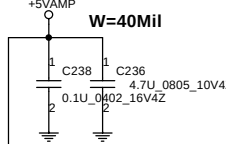


POWER/B CONN

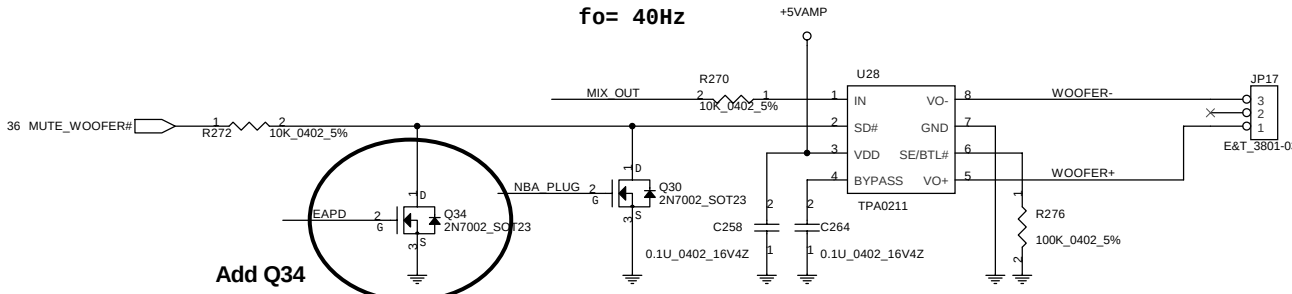
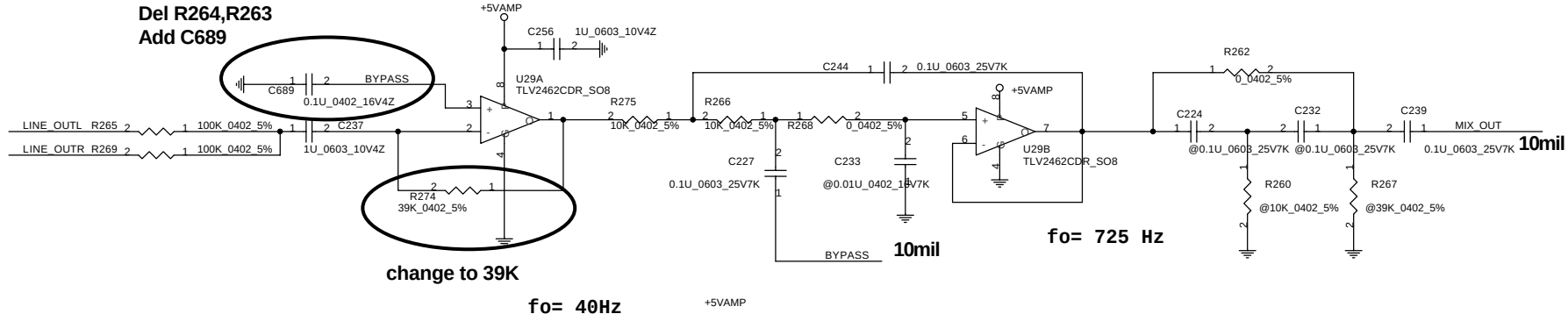




Pin 2 HIGH PIN 6,20 ACTIVE
LOW PIN 5,23 ACTIVE



Del R264,R263
Add C689



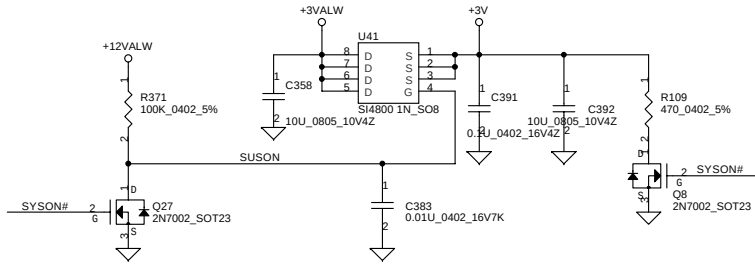
Add Q34

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SCHEMATIC MB LA-2242

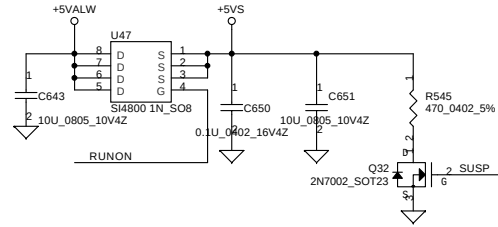
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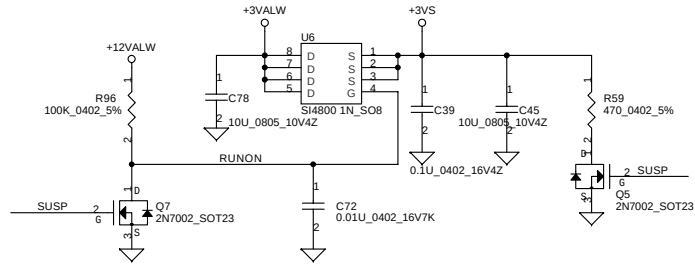
+3VALW to +3V Transfer



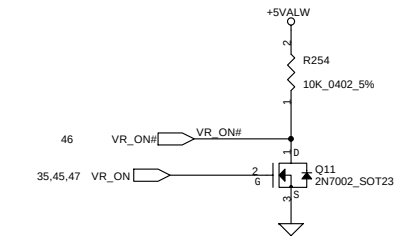
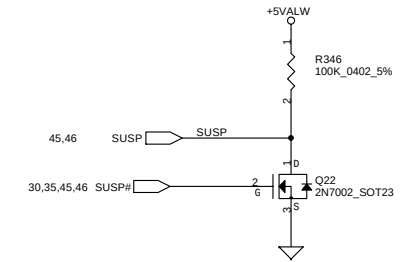
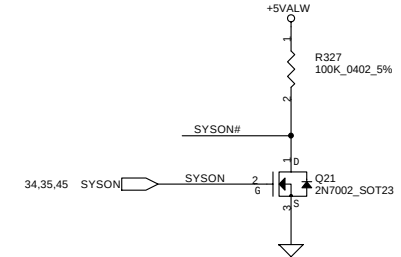
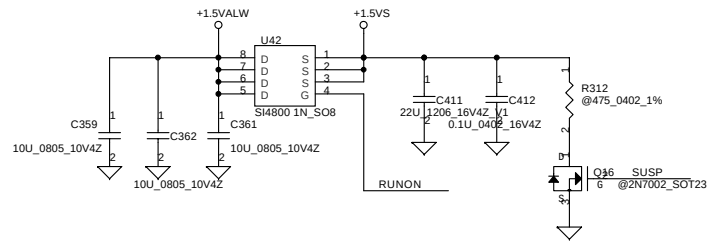
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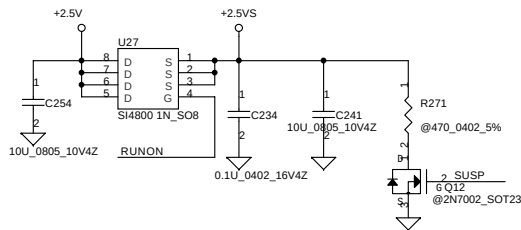
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+1.5VALW to +1.5VS Transfer



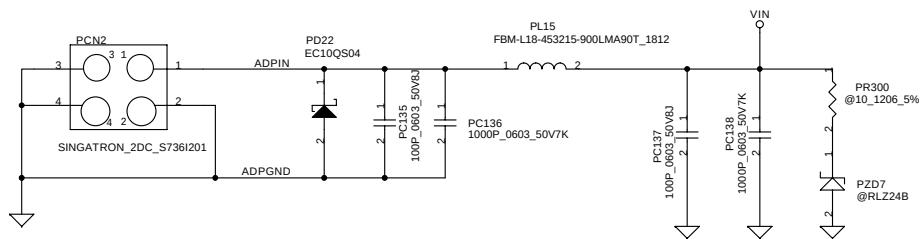
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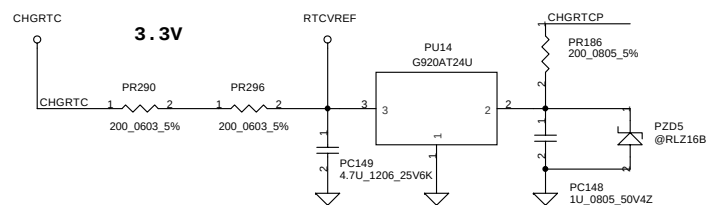
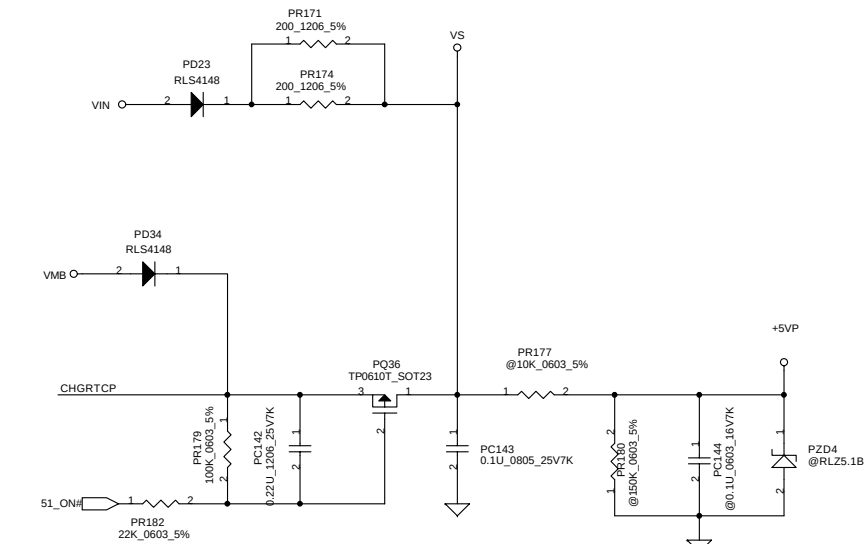
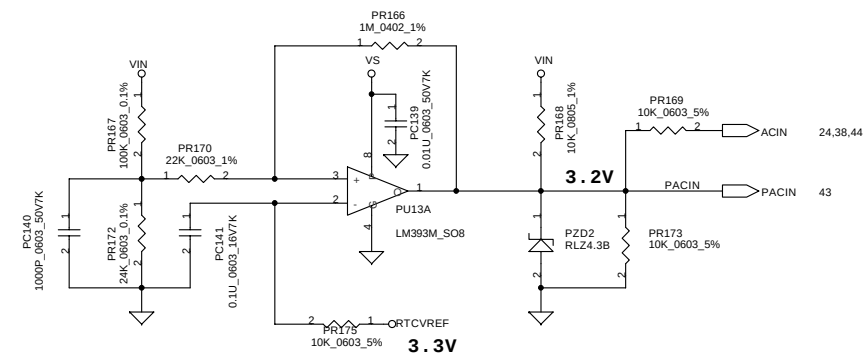
remove on Drongo4

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VIN detector
 18.239 17.755 17.273
 17.545 17.071 16.587

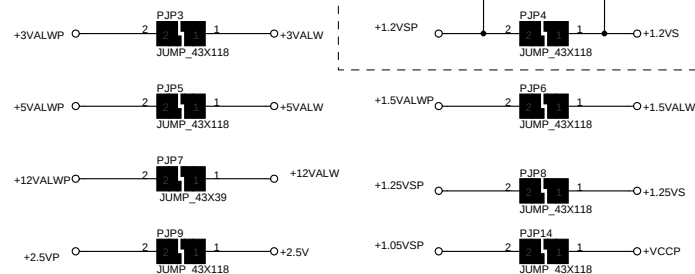
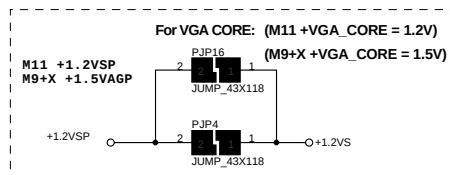
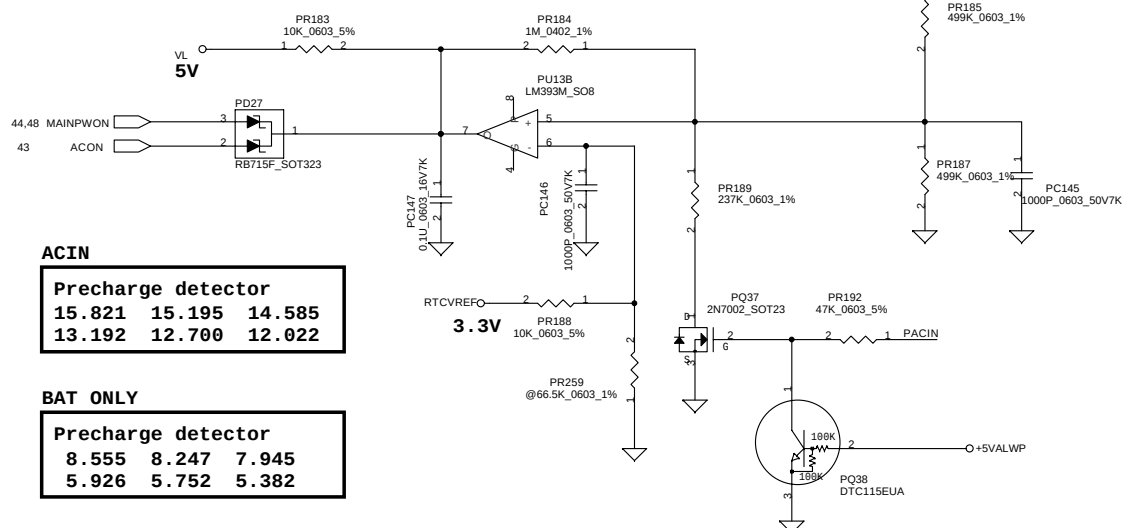


ACIN

Precharge detector
 15.821 15.195 14.585
 13.192 12.700 12.022

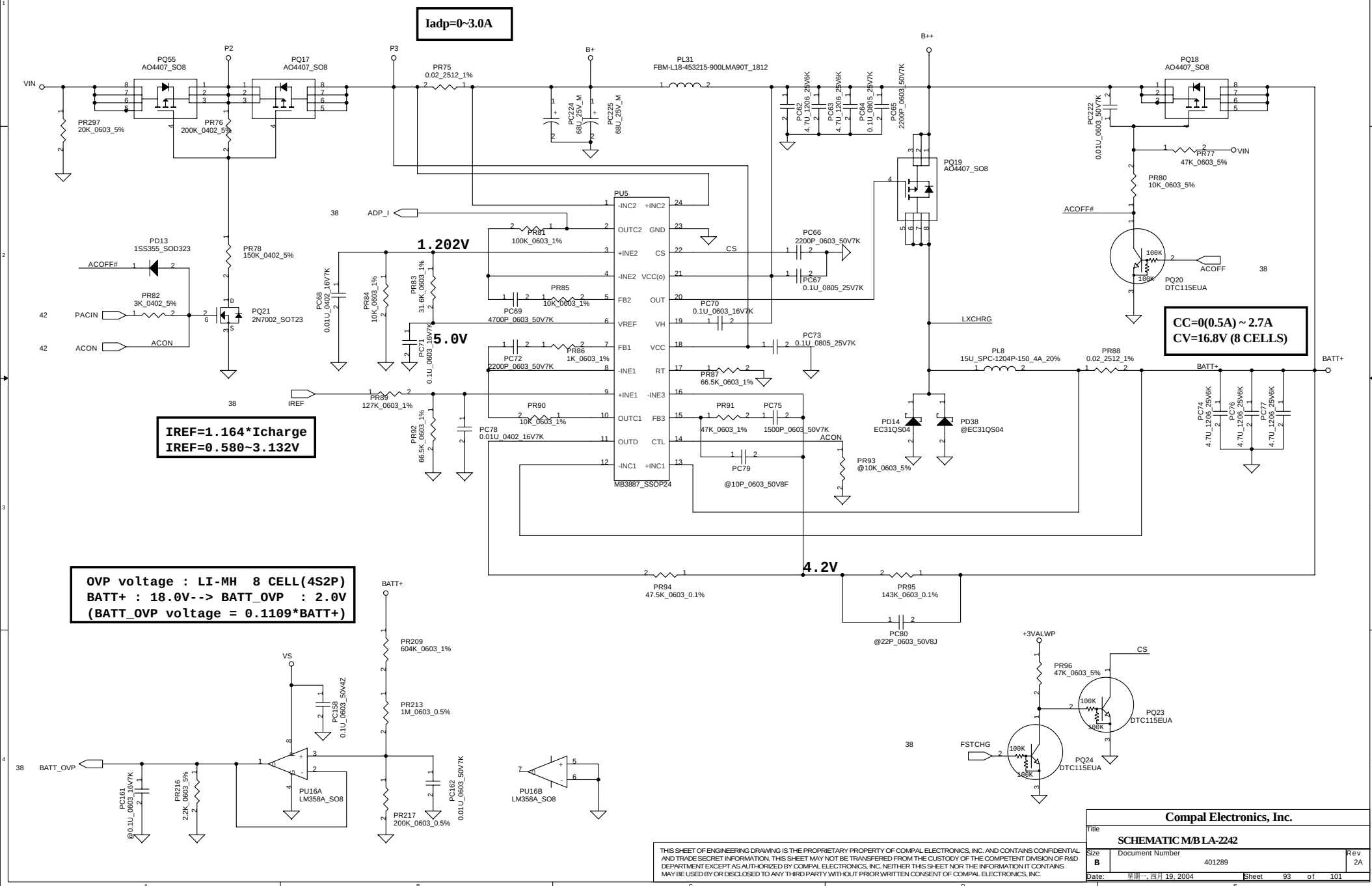
BAT ONLY

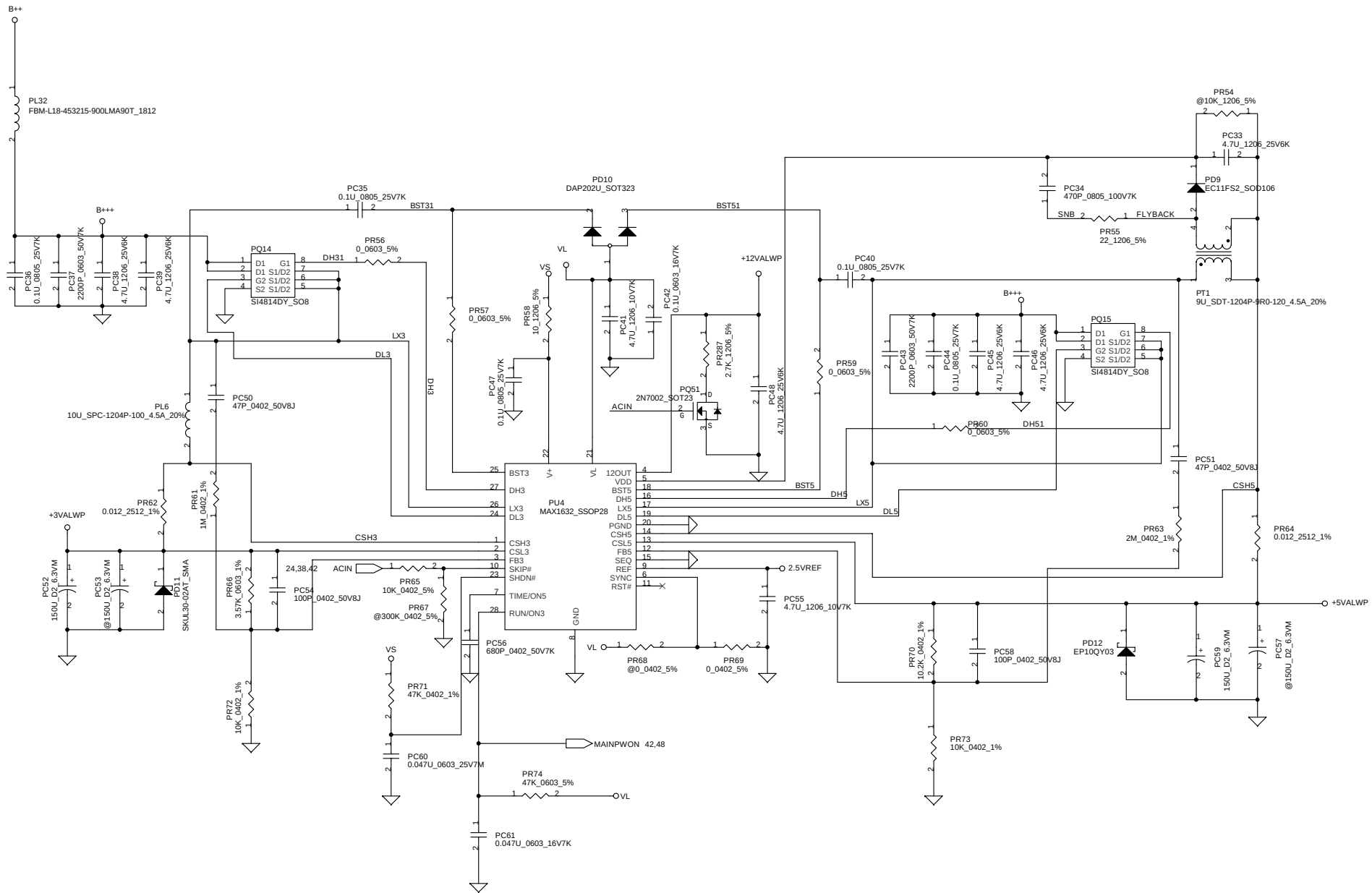
Precharge detector
 8.555 8.247 7.945
 5.926 5.752 5.382



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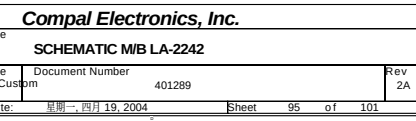


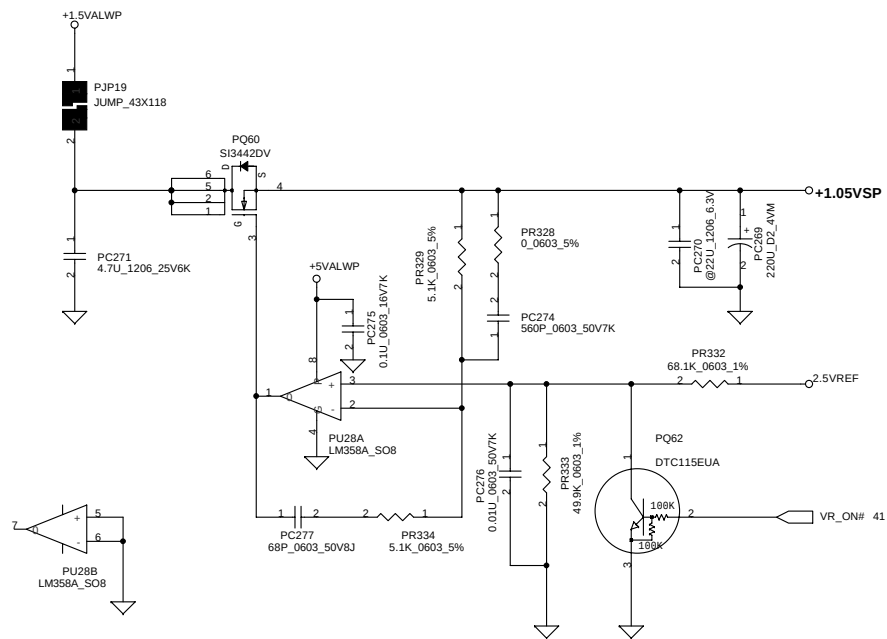
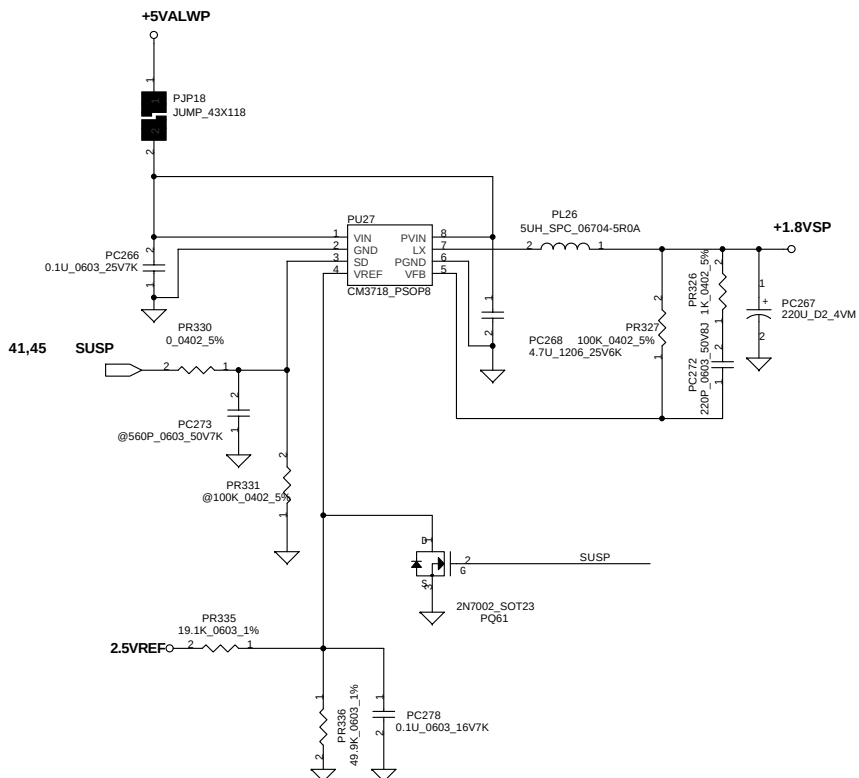
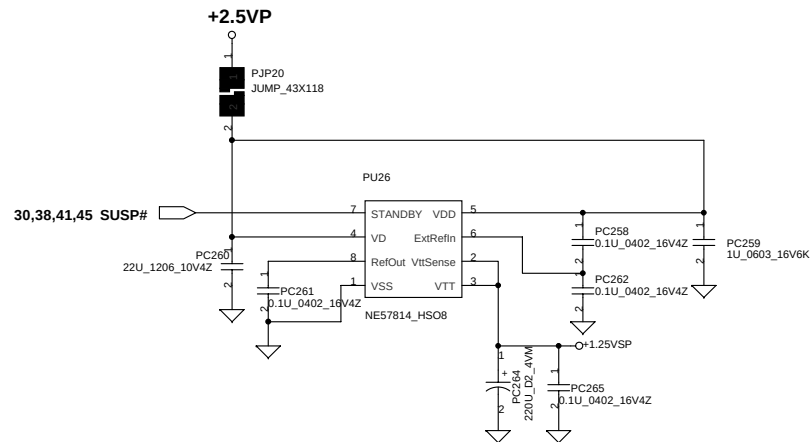
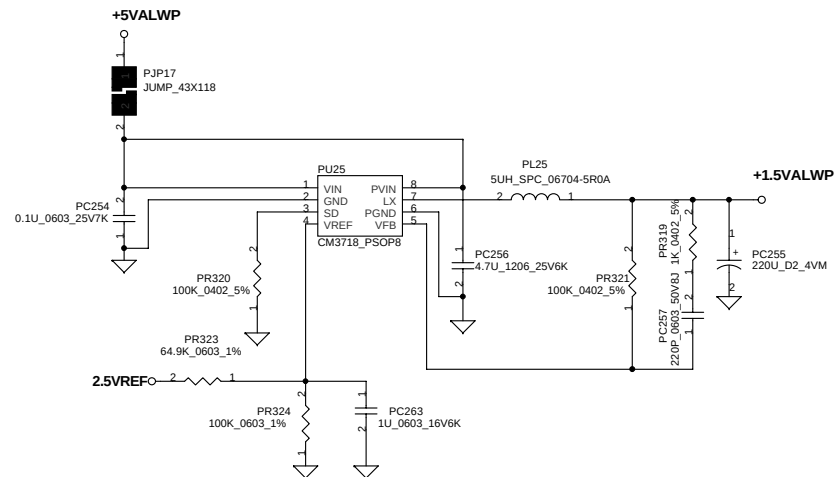


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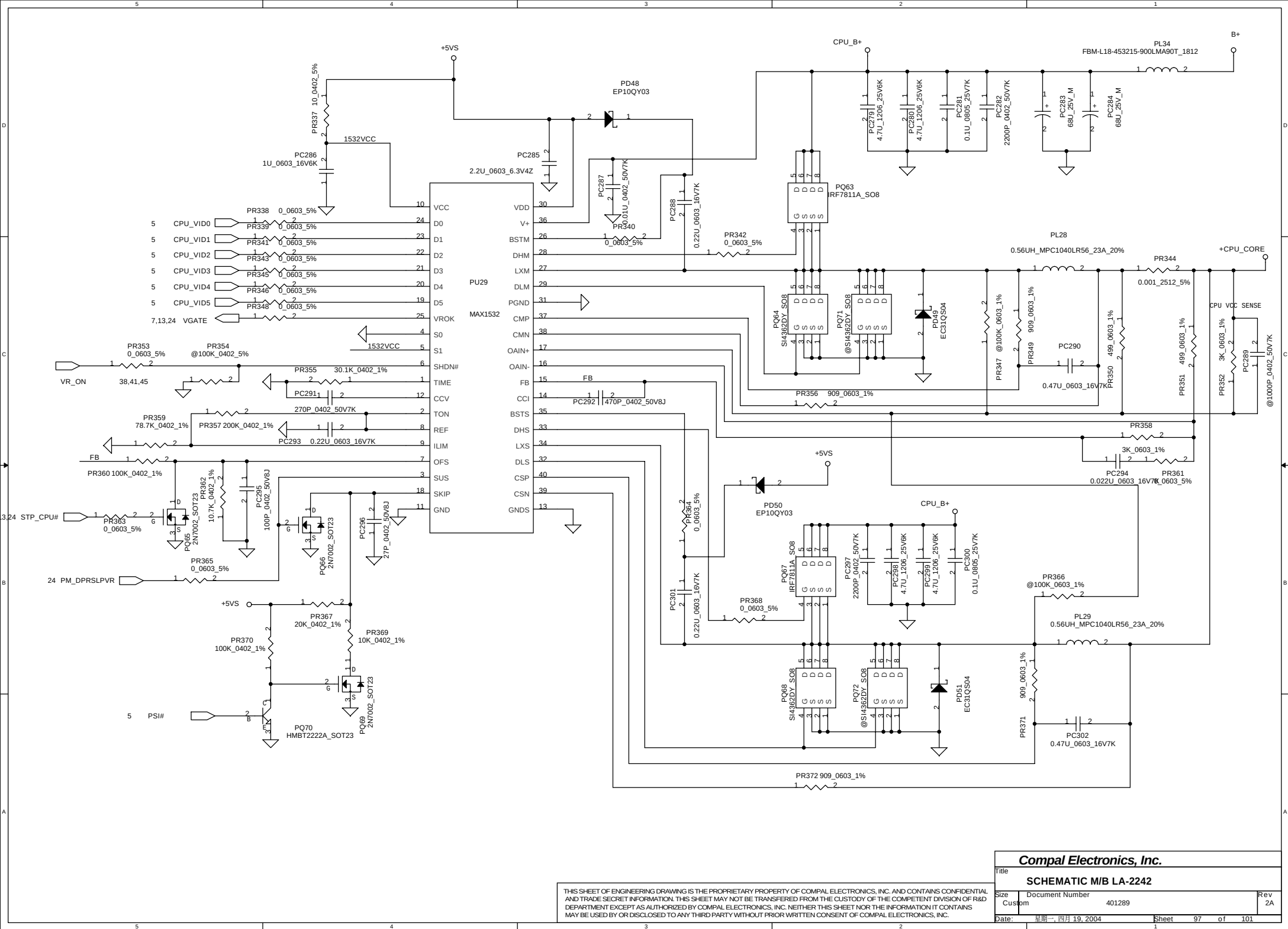
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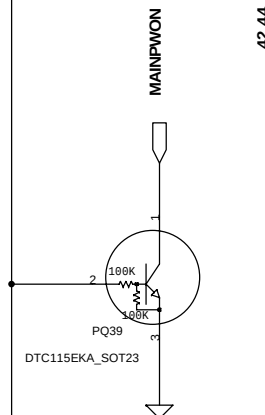
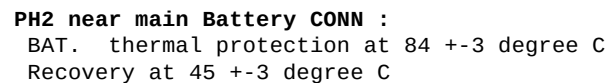
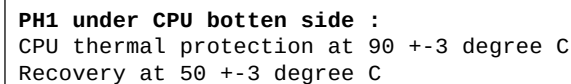




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Version change list (P.I.R. List)

Power section

Item	Reason for change	PG #	Modify List	Date	B.Ver #
1	1.05V oscillate	46	Delete PC270 and add PC269 (220u D2).	2004.02.07	
2	The single "SUSP" will be pull down to 2.2V	45 46	Delete PR331 and PR377.	2004.02.07	
3	To reduce the response time, when charger into CP mode.	43	Change PR81 from 22K to 100K.	2004.02.07	
4	For EMI request	43;44;45;47	Delete PL5,PL7,PL23,PL27 Change PQ63 and PQ67 to IRF7821 Change PR340 and PR364 to 2.2 ohm	2004.02.11	
5	To speed up 1.8V, 1.35V 1nd 1.05V	45 46	Change PR336, PR333 and PR379 to 49.9K Change PC278 and PC308 to 0.1uF Change PR335 to 19.1K Change PR332 to 68.1K Change PR378 to 42.2K	2004.02.12	
6	To reduce +3VALWP power plane negative voltage	44	Change PD11 to SKUL30-02AT	2004.03.01	
7	For EMI request	43;44;45;47	Add PL31,PL32,PL33,PL34 Change PR342 and PR368 to 2.2 ohm Change PR340 and PR364 to 0 ohm	2004.03.01	
8	For EMI request	47	Change PR342 and PR368 to 0 ohm Change PQ63 and PQ67 to IRF7811A Change PQ64 and PQ68 to SI4362	2004.03.16	
9	Adjust Vin detector	42	Change PR167 to 100K_0603_0.1% Change PR172 to 24K_0603_0.1% Change PR170 to 22K_0603_1% Change PR166 to 1M_0402_1%	2004.03.16	

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HW section

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Item	Reason for change	PG #	Modify List	Date	
1	PCI_AD[31..0],PCI_CBE#[0..3] reserved	P.27	Correct PCI_AD[31..0],PCI_CBE#[0..3]	2/4	EVT(Rev02)
2	VR_ON# pull up resistor	P.41	Change R254 from 100K to 10K	2/4	EVT(Rev02)
3	AGP Isolating circuit	P.7	Mount U39, unmount R372,R377,R388,R414	2/4	EVT(Rev02)
4	Change Codec to ALC250	P.39	Change U26 to ACL250, mount R242	2/4	EVT(Rev02)
5	Modify VGA strap pin	P.14	Mount R479,R489; unmount R437, R441,R443,R448	2/4	EVT(Rev02)
6	Enter Windows "Beep" noise	P.39	Del C209 and let U26 pin14,15,16 no connect	2/6	DVT(Rev03)
7	For LS-1993 NBA_PLUG signal	P.37	Del R541,Q31	2/6	DVT(Rev03)
8	For DFX	P.24,36,38	Change J1,J2,H22 footprint	2/6	DVT(Rev03)
9	Change USB Power Switch to RT9701CBL	P.34	Change U34,U35, Del R291,R292,R313,R322,R329 Add R557,R558,R559,R560,R562,C685,C686	2/8	DVT(Rev03)
10	Change LAN LED circuit	P.27	Add R562	2/8	DVT(Rev03)
11	For EMI	P.13,16,17 ,23,35,37	Del L15,L16,L31,L28,L23,R542,R543,R283,R284,R471	2/11	DVT(Rev03)
12	Unpoped 0.1UF capacitor for EMI request	P.12,16,17, 26,27,29,30	Del some 0.1UF capacitor for EMI request	2/12	DVT(Rev03)
13	For +LVDDR25 ripple	P.16	Unpoped C518 for LDO issue	3/4	PVT(Rev04)
14	Duplicate AGP_BUSY pill-up	P.24	Del R103	3/4	PVT(Rev04)
15	For BCM5788 +3V_LAN 0.2V leakage issue	P.27	Change VESD[1..3] to +3V_LAN(system power)	3/4	PVT(Rev04)
16	For BCM5788/BCM4401 difference	P.27,28	Del R369 and change T1 to 24ST0023-3 when use BCM4401	3/4	PVT(Rev04)
17	Vishay FIR issue(Nokia 61XX series)	P.32,33	Change U31 to TDFU6102; Poped R97 and change to 10K	3/4	PVT(Rev04)
18	For audio issue	P.35,40	Add Q33,Q34 and EC_MUTE to U17 pin.69 Connect BYPASS from U30 to U29, change R274 to 39K Connect EAPD to EC pin.29	3/4	PVT(Rev04)
19	To simplify Codec circuit	P.36	Unpoped C210,C252, Del Y5,R236,C192,C193 Add C690,C691	3/4	PVT(Rev04)
20	For EMI	P.37	Add C688,CP11,CP12	3/4	PVT(Rev04)

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HW section

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1	Add NC solution for M9+X Ball D19/R4	P.16	Add R103,R236	4/13	MP(Rev2.0)
2	Switch +1.5VS(M11) & +1.8VS (M9+X)	P.16	Add R283,R284	4/13	MP(Rev2.0)
3	Switch +VDDR25(M11)& +VDD_PNLIO1.8(M9+X)	P.16	Add R313	4/13	MP(Rev2.0)
4	Add ENBKL inverse ckt for M9+X	P.35	Add R263,R264,Q31	4/13	MP(Rev2.0)
5	For EMI	P.37	Add L15,L16	4/13	MP(Rev2.0)
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