

Compal Confidential

DFL32 Schematics Document

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

2003-03-24

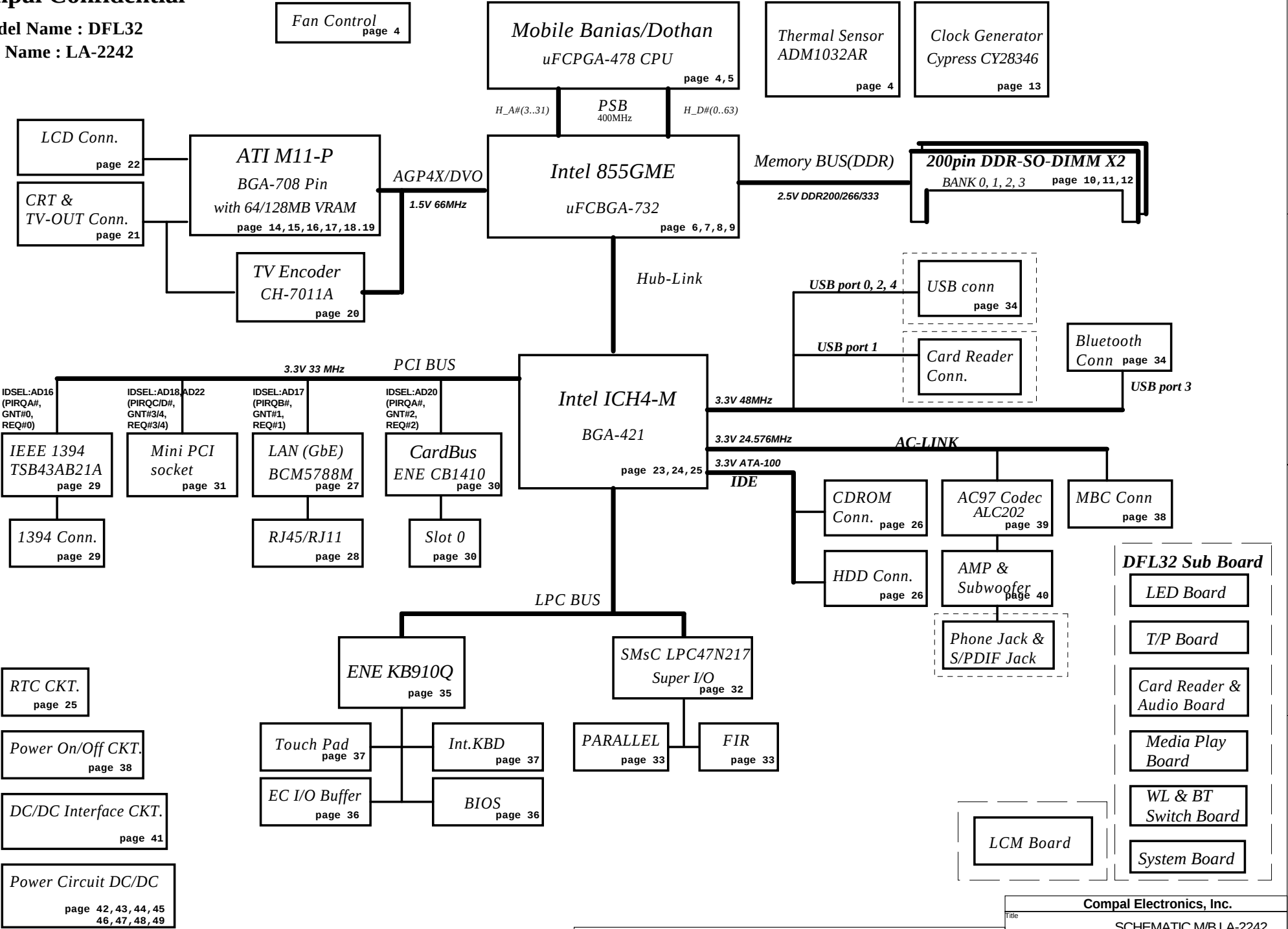
REV:1.0

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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

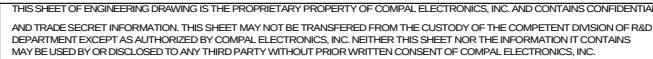
Item	* AS2020	AS2010(ATI)	AS2010(UMA)	Page
VGA	ATI M11P	ATI M11P	UMA	7, 9, 14, 15, 16, 17, 21, 22, 38
VRAM	128MB	64MB	N/A	14, 18, 19
TV Encoder	N/A	N/A	CH7011A	20
LAN	BCM5788M(GbE)	BCM4401(10/100)	BCM4401(10/100)	27, 28
S/PDIF	YES	N/A	N/A	N/A
Card Reader	YES	YES	N/A	N/A
Sub Woofer	YES	YES	N/A	33
LCM/B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

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

Banias

POWER, GROUND, RESERVED SIGNALS AND NC

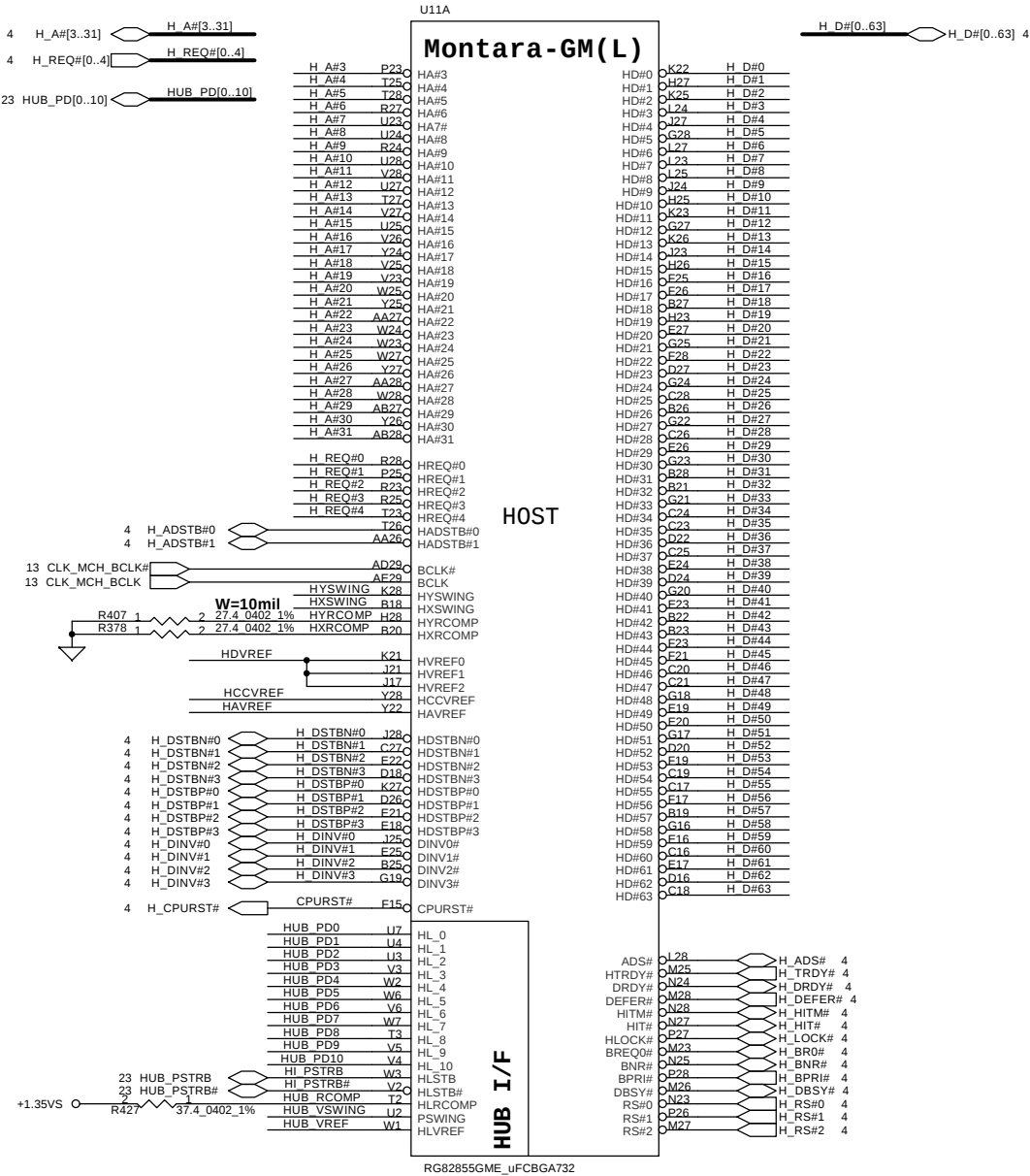
Banias

POWER, GROUND

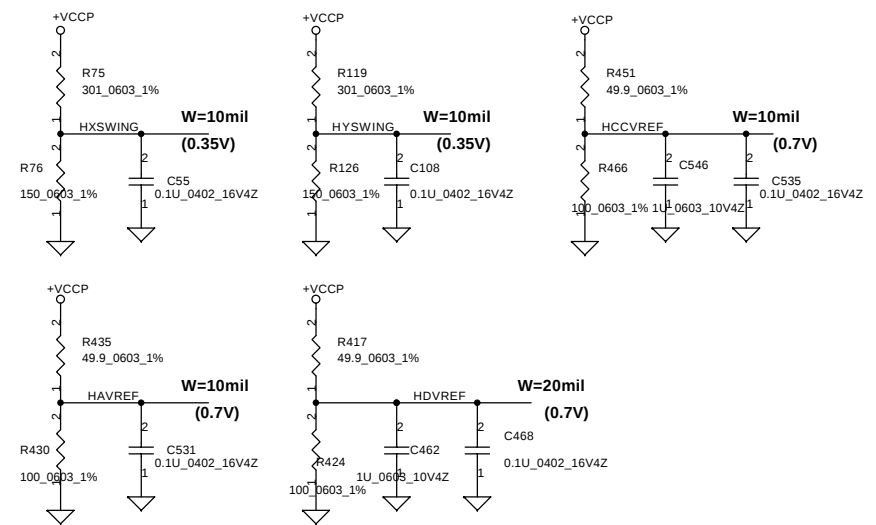
Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

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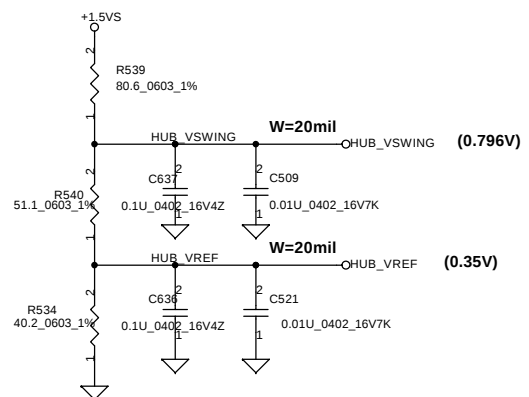
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HOST REF VOLTAGE

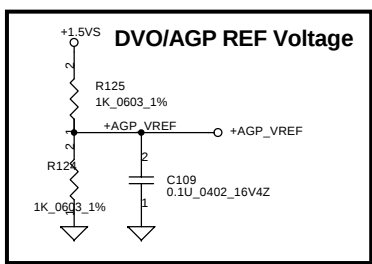
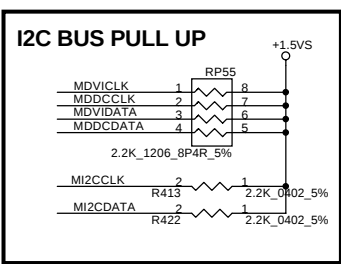
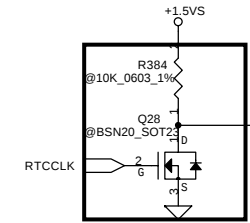
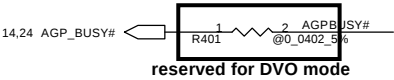
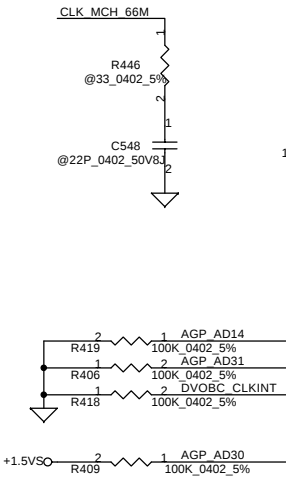
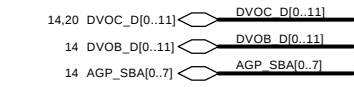


HUB I/F REF VOLTAGE



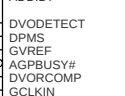
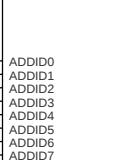
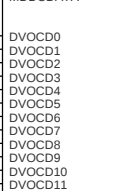
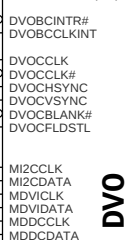
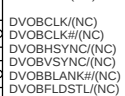
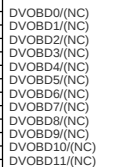
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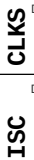
U118

Montara-GM(L)

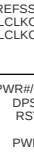
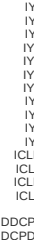


RG8285GME_uFCBGA732

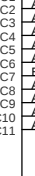
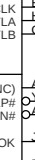
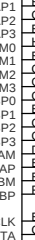
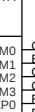
DAC



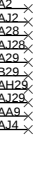
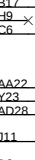
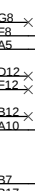
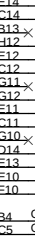
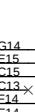
DVO



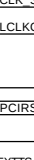
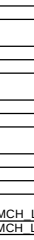
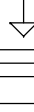
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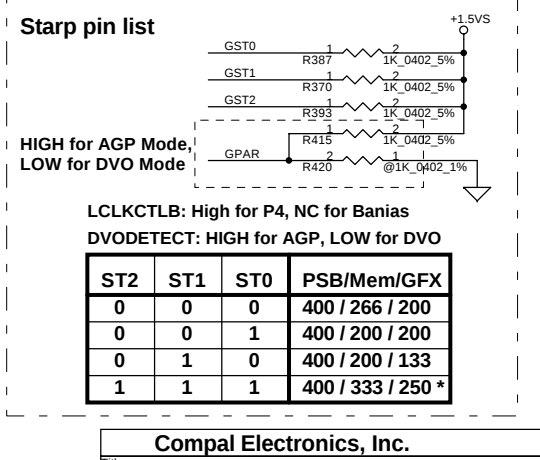
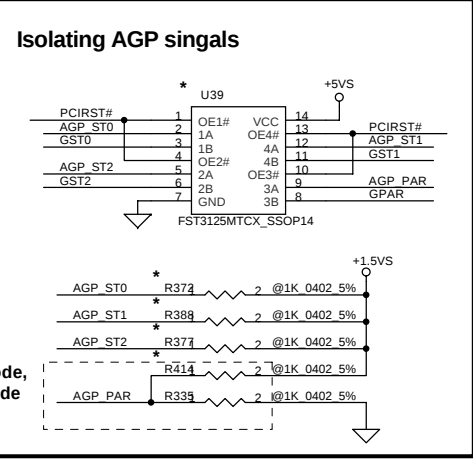
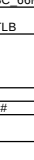
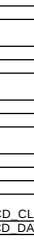
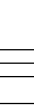
CLKS



MISC

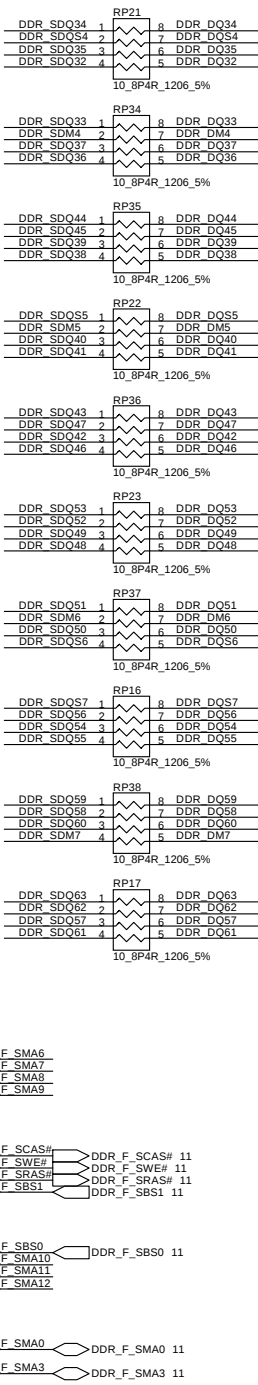
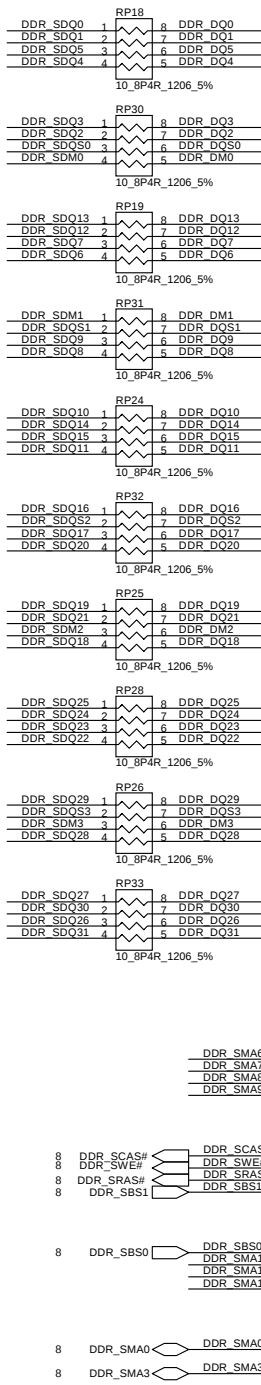


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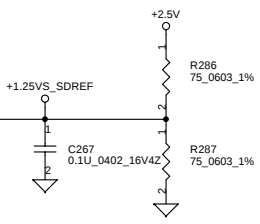
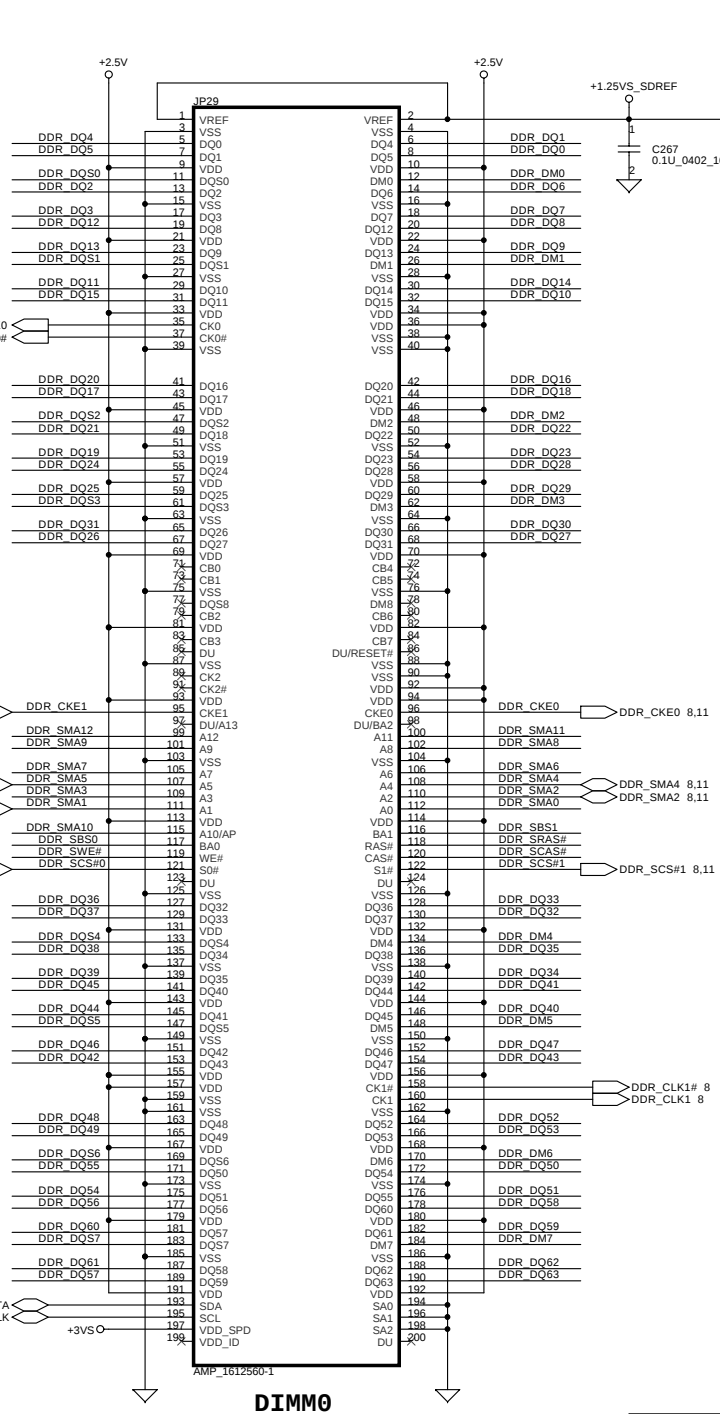
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8 DDR_CLK0
8 DDR_CLK0#

8.11 DDR_CKE1
8.11 DDR_SMA5
8.11 DDR_SMA1
8.11 DDR_SCS#0

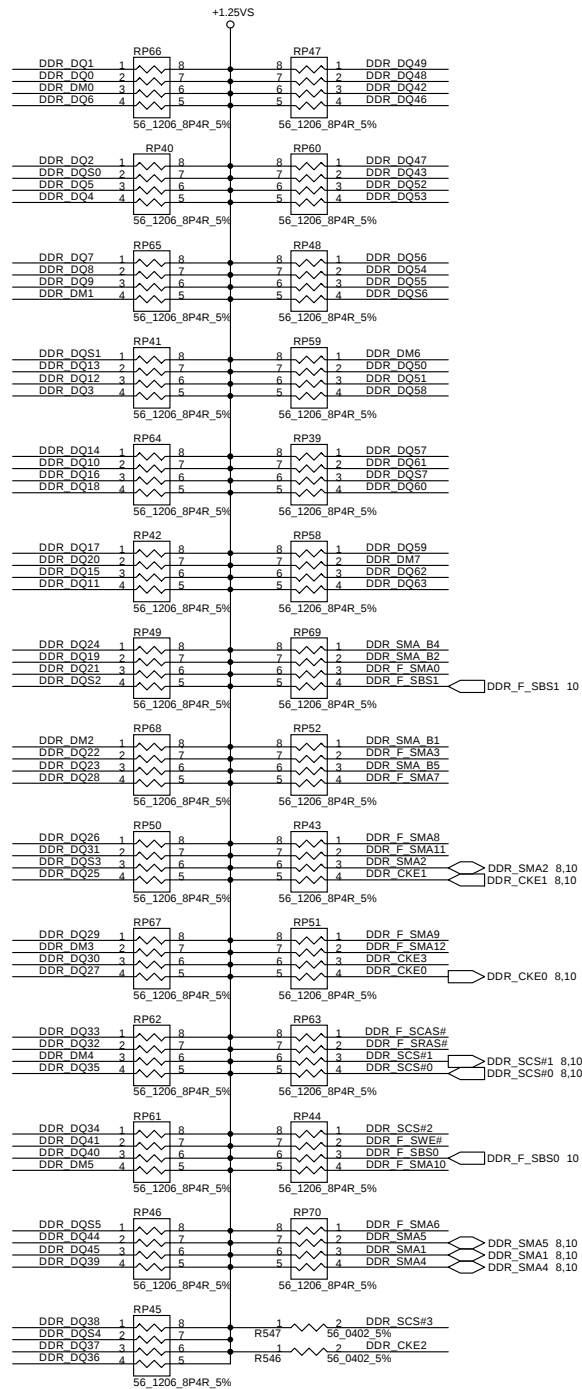
11.13.23 SMB_DATA
11.13.23 SMB_CLK



DDR_SDQ[0..63] 8
DDR_DQ[0..63] 11
DDR_DQS[0..7] 11
DDR_SDQS[0..7] 8
DDR_F_SMA[6..12] 11
DDR_SMA[6..12] 8
DDR_DM[0..7] 11
DDR_SDM[0..7] 8

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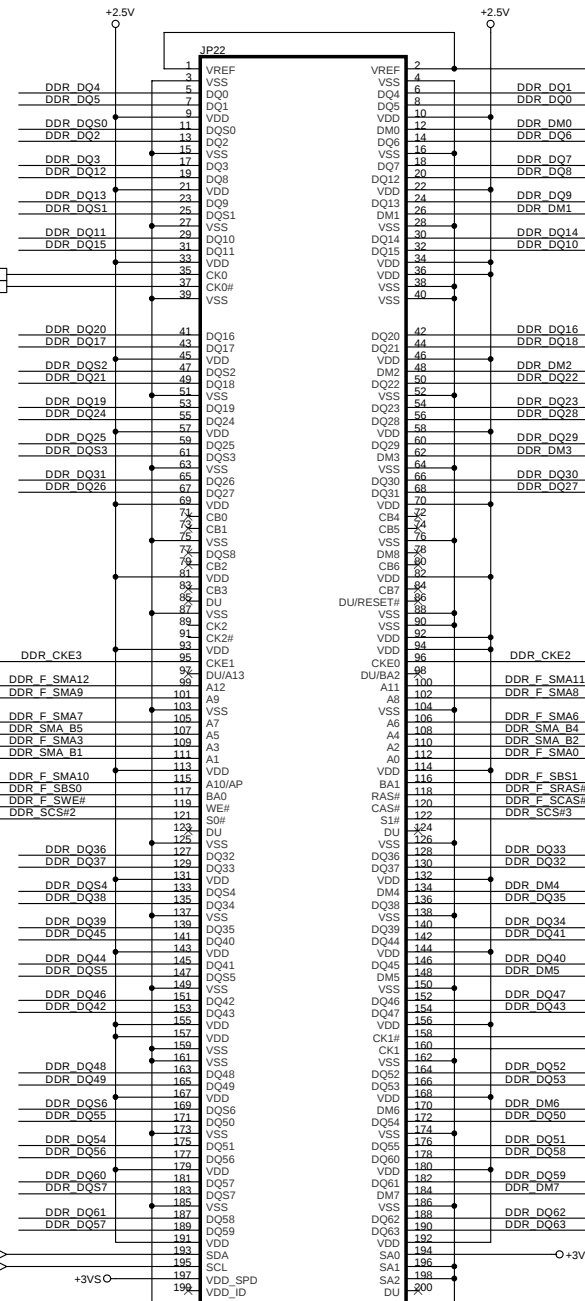
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8 DDR_CLK3#

8 DDR_CKE3
DDR_CKE3

8 DDR_SMA_B5
10 DDR_F_SMA3
8 DDR_SMA_B1

10 DDR_F_SWE#
8 DDR_SCS#2

10.13.23 SMB_DATA
10.13.23 SMB_CLK



DIMM1

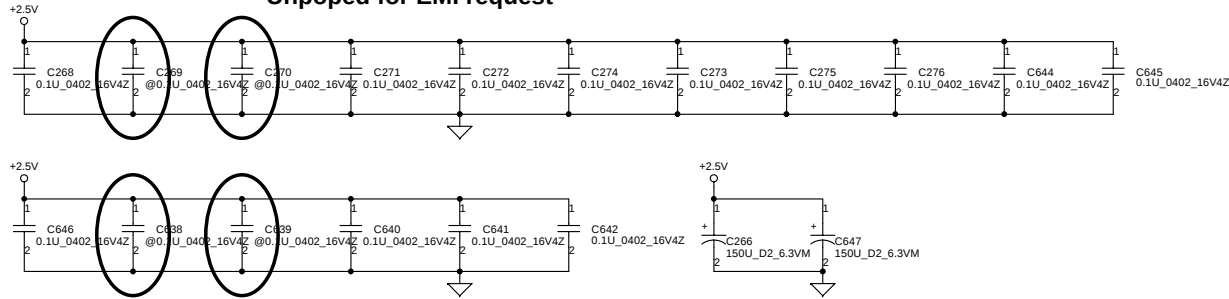
DDR_F_SMA[6..12] 10
DDR_DQ[0..63] 10
DDR_DQS[0..7] 10
DDR_DM[0..7] 10

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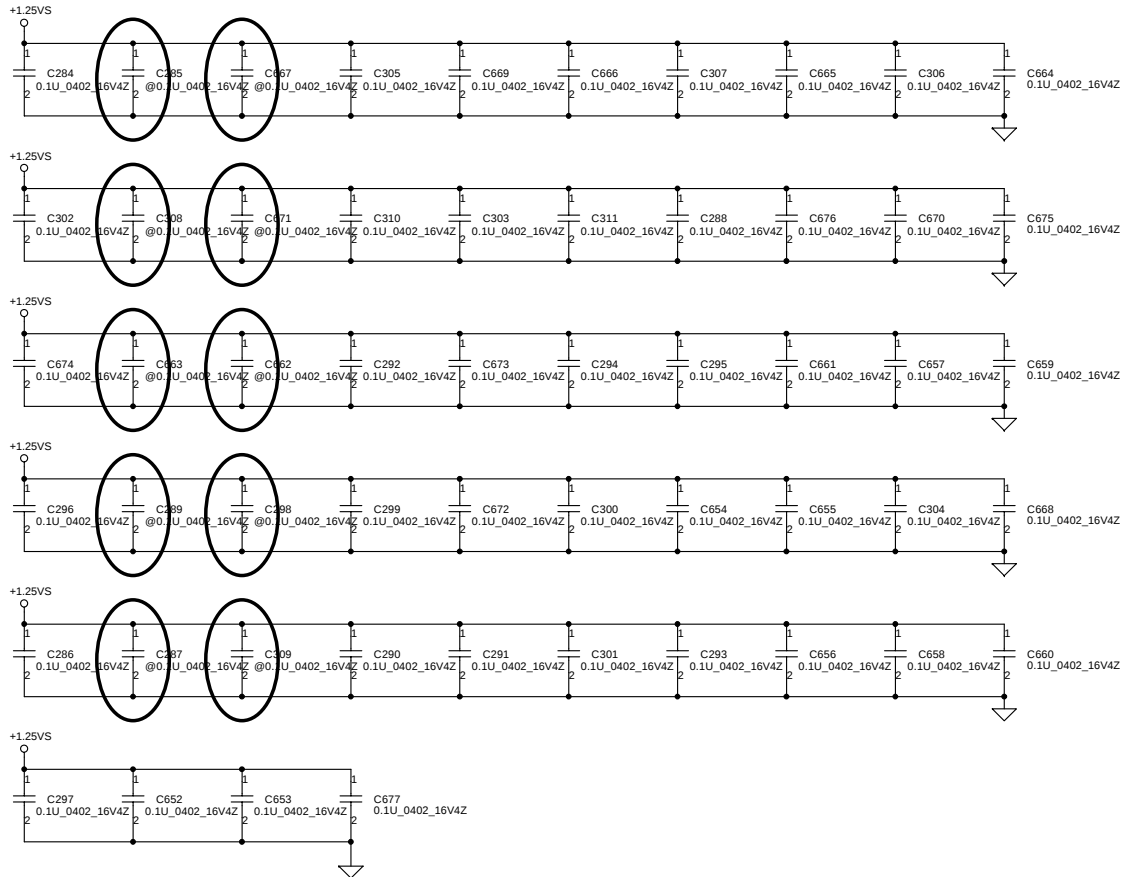
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Layout note :
Distribute as close as possible
to DDR-SODIMM.

Unpoped for EMI request



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

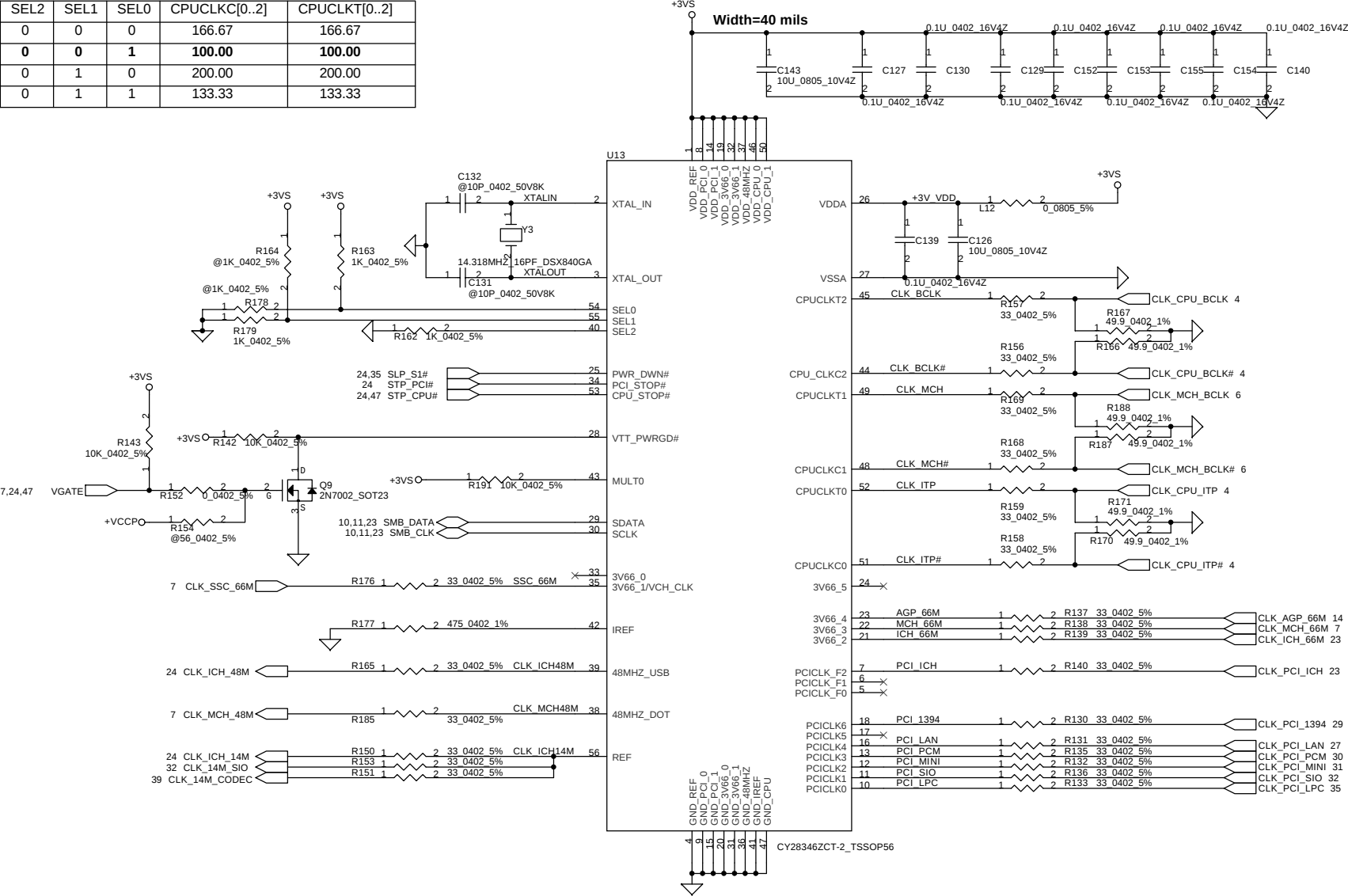


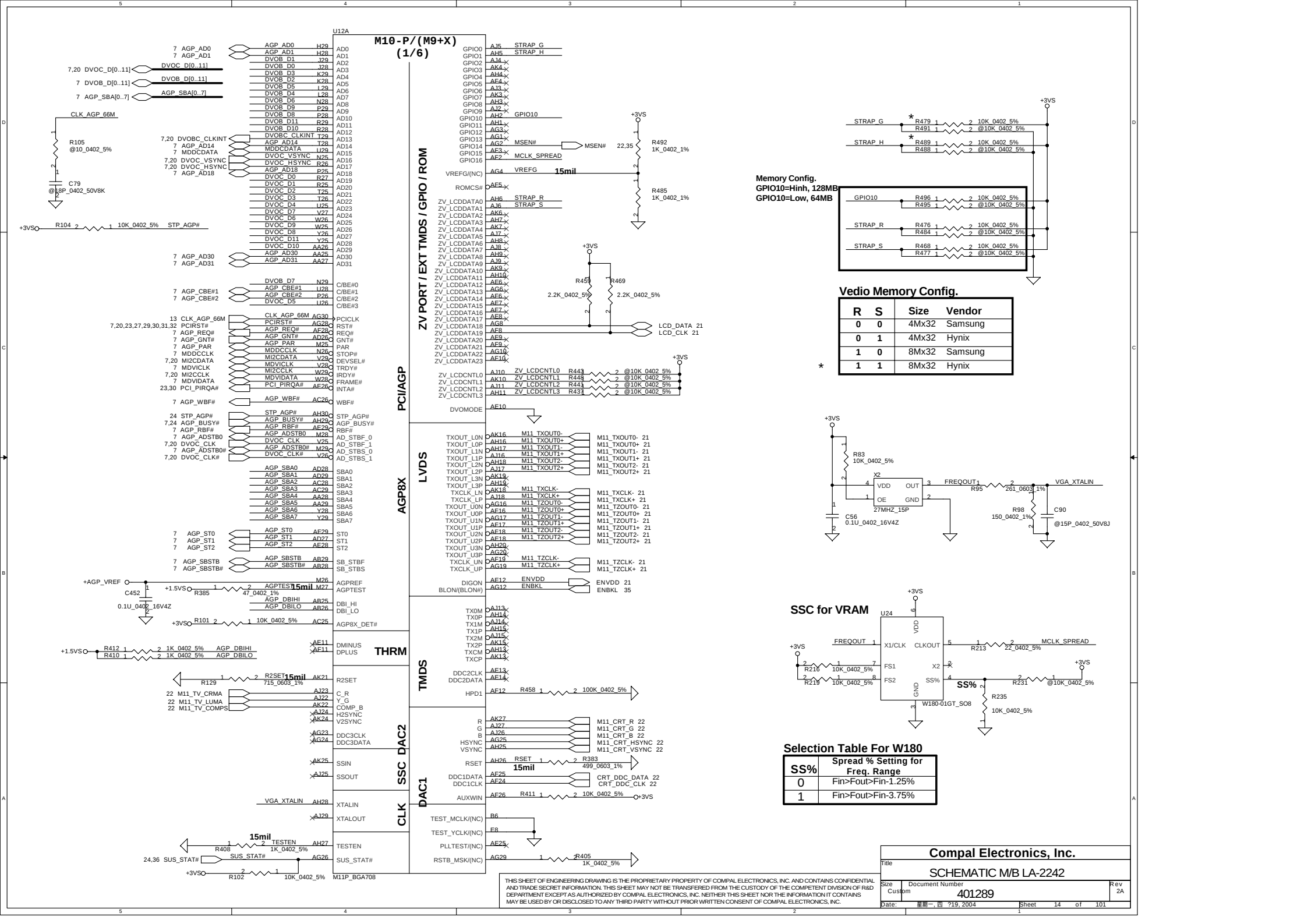
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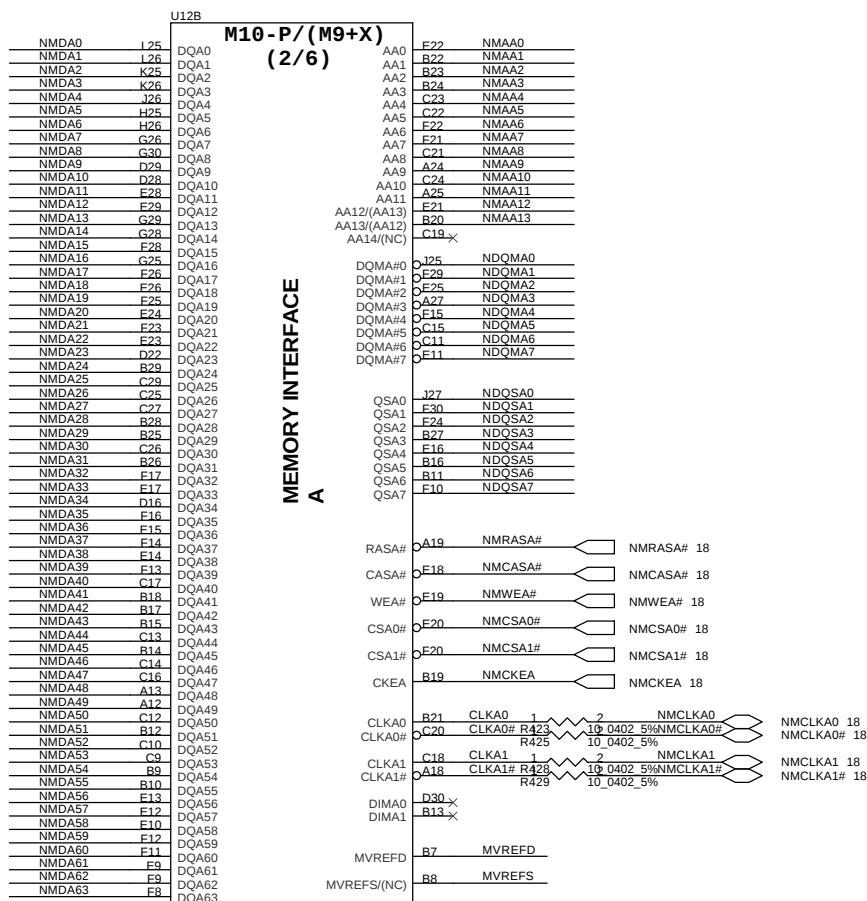
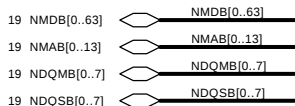
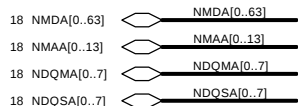
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Clock Generator

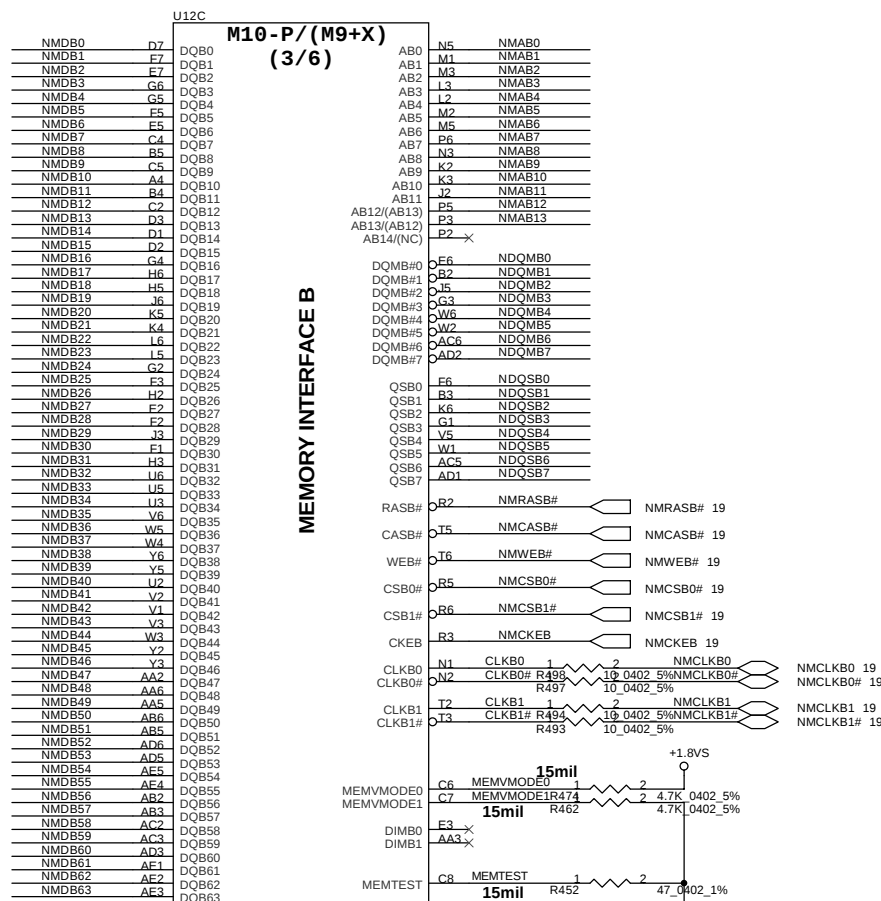
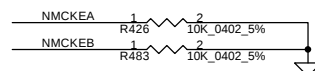
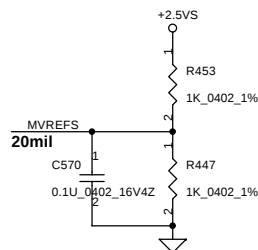
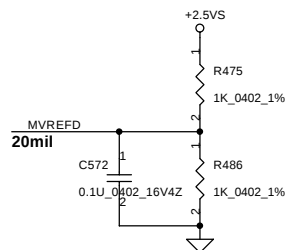
SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33



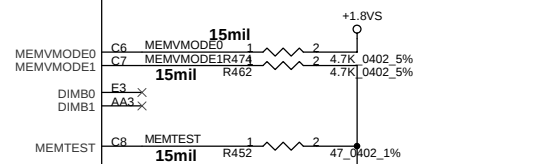




M11P_BGA708

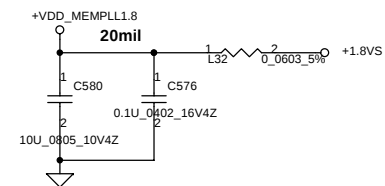
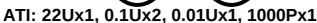


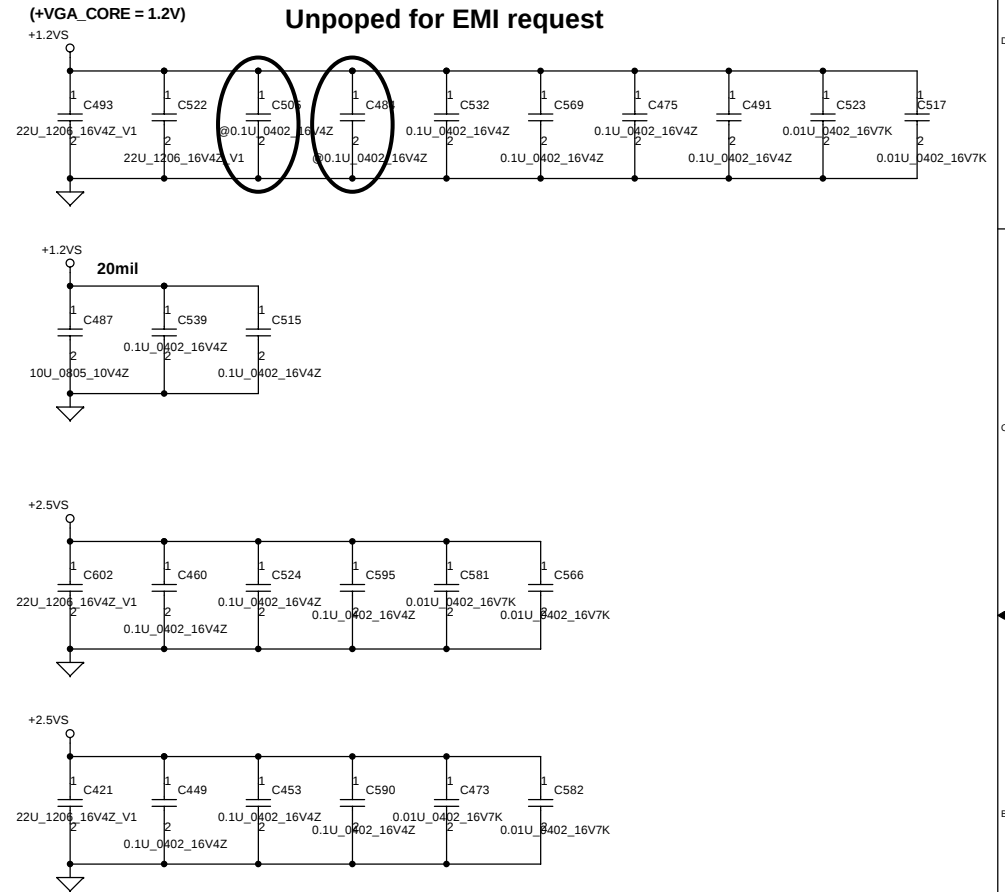
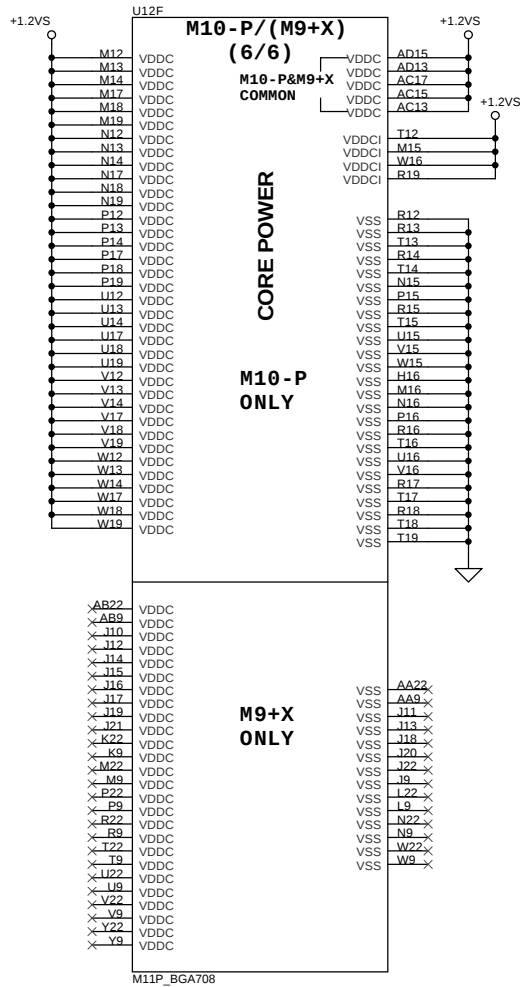
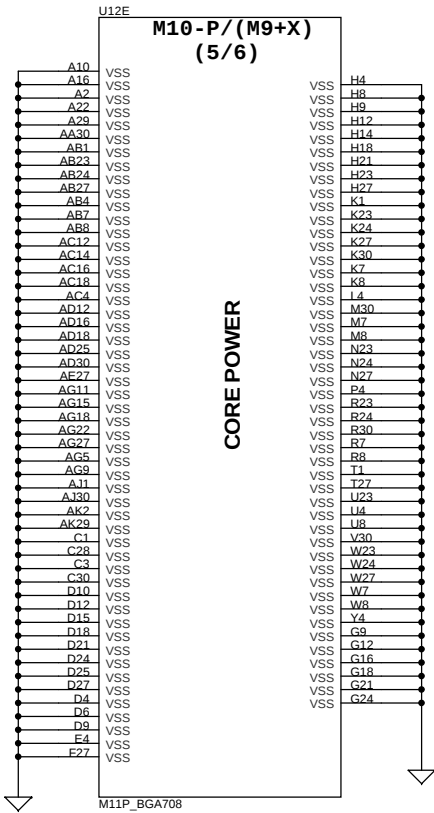
M11P_BGA708



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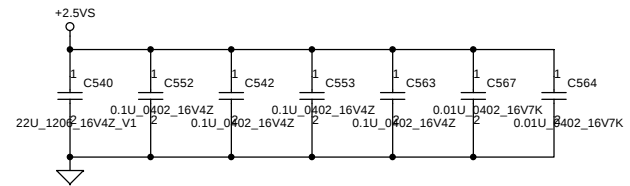
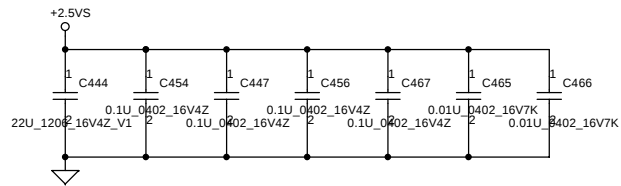
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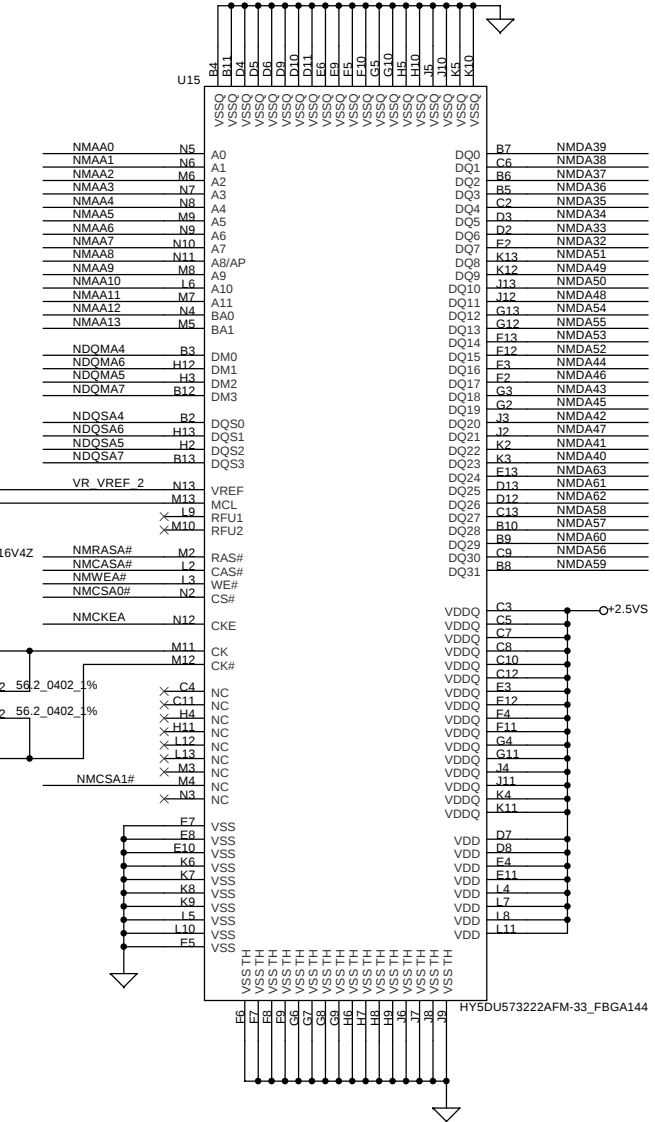
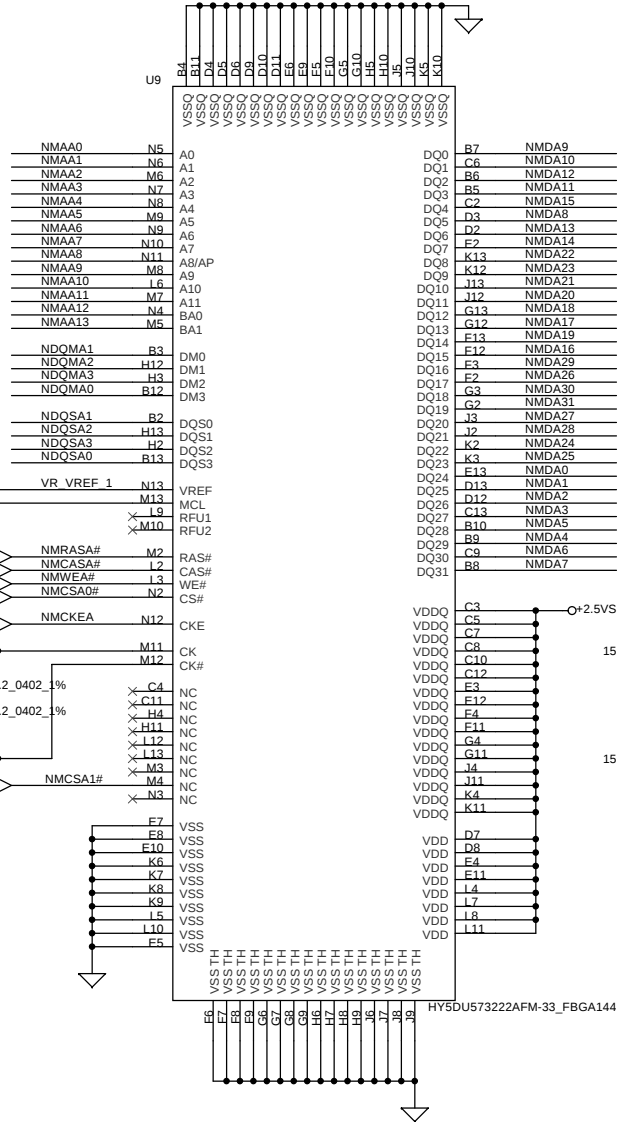


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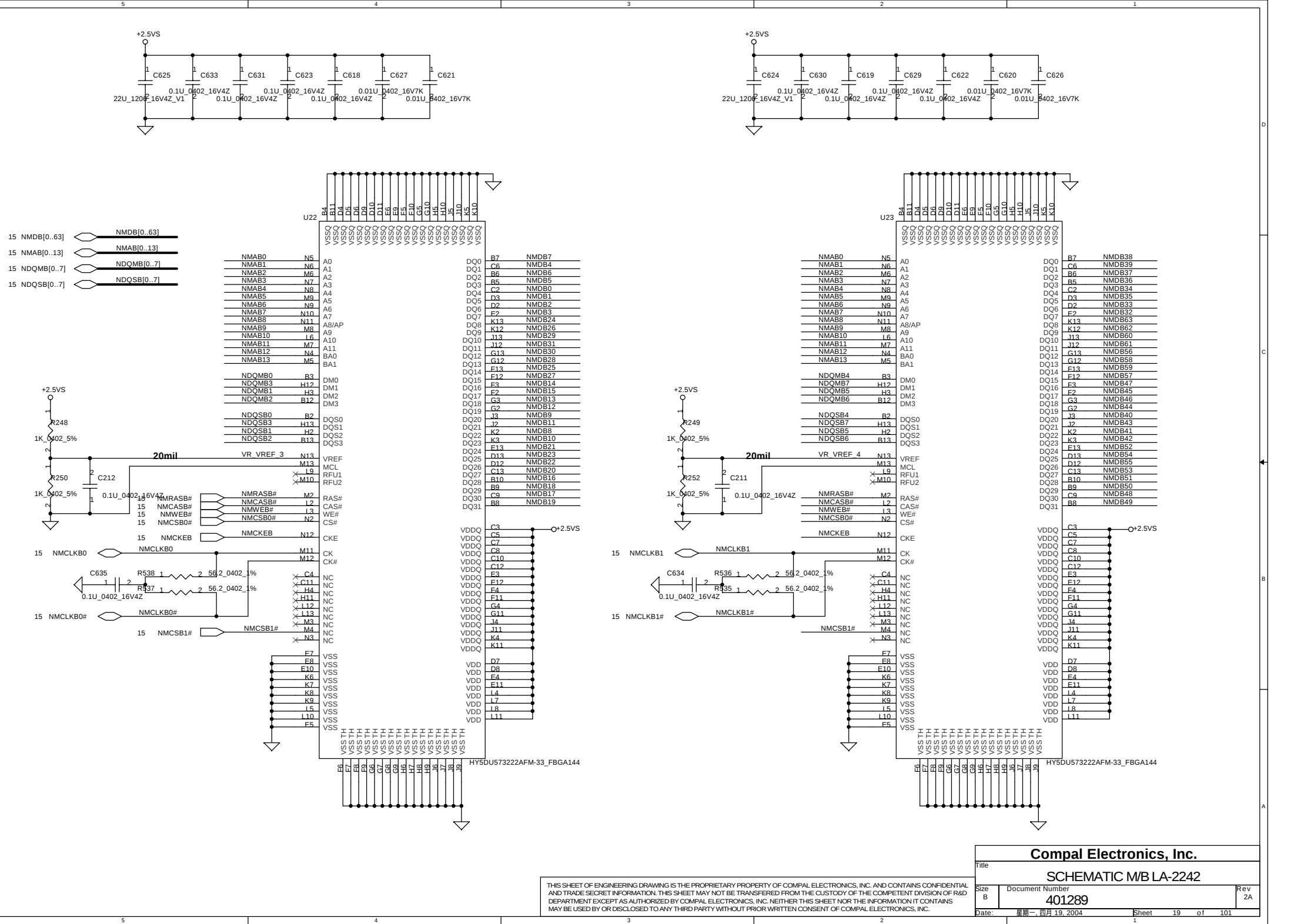


15 NMDA[0..63] NMDA[0..63]
 15 NMAA[0..13] NMAA[0..13]
 15 NDQMA[0..7] NDQMA[0..7]
 15 NDQSA[0..7] NDQSA[0..7]



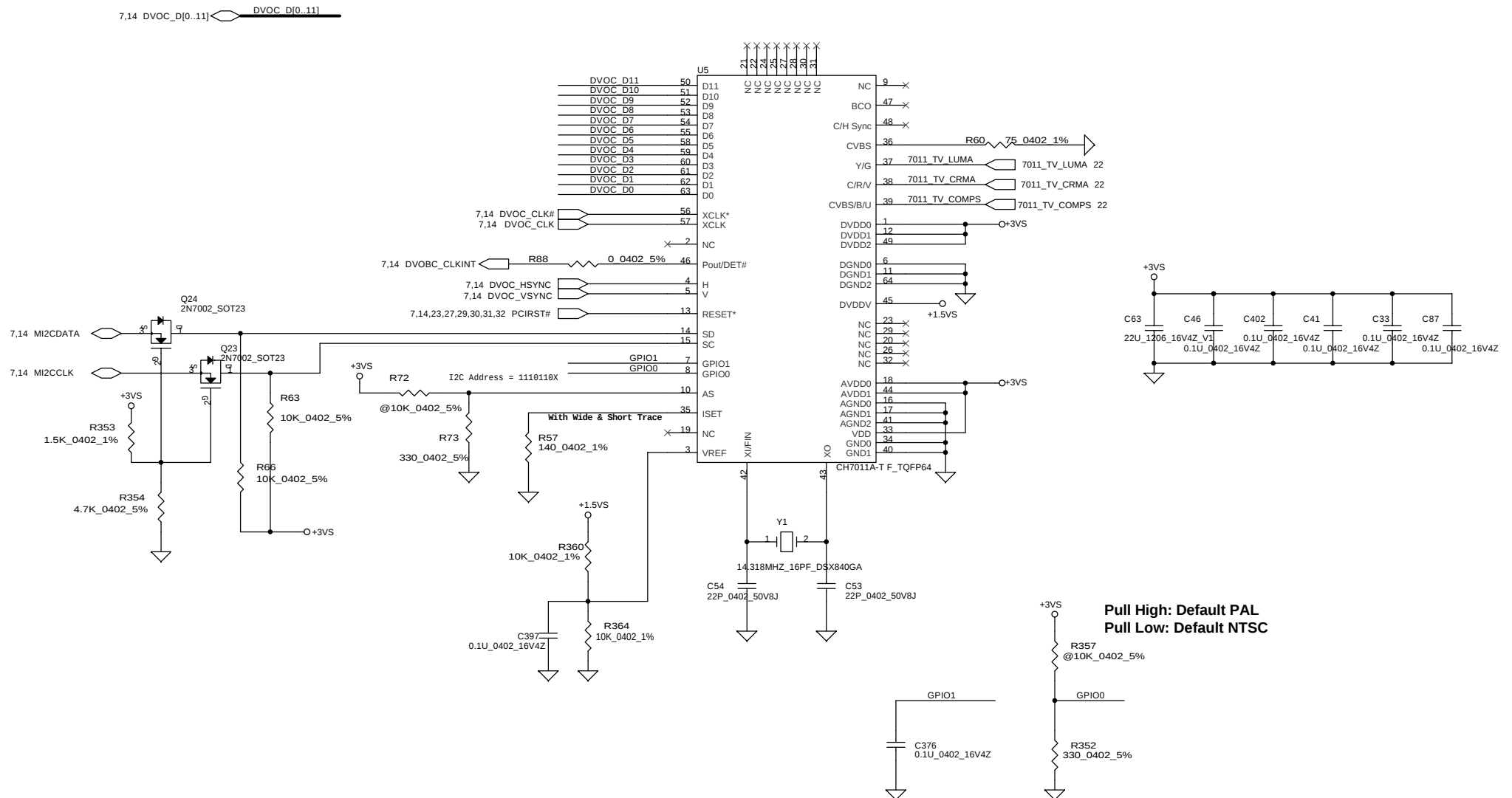
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TV Encoder

remove this page when use M11P



LCD POWER CIRCUIT

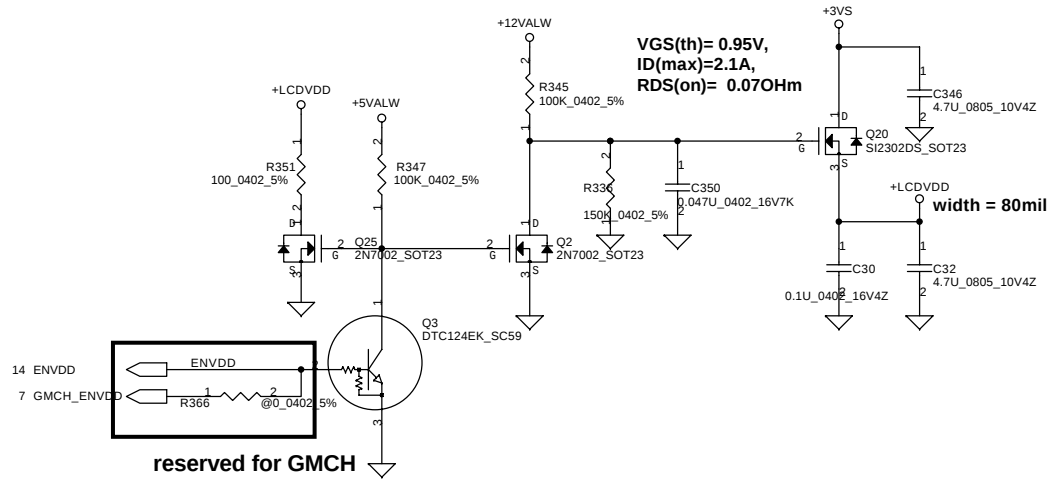
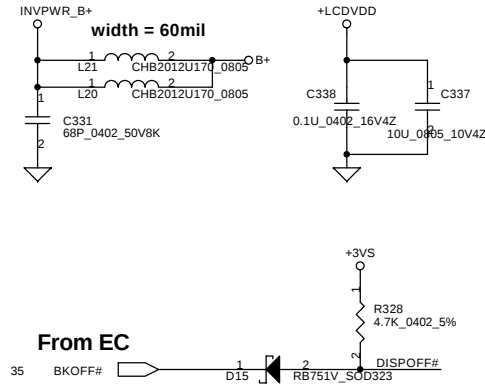
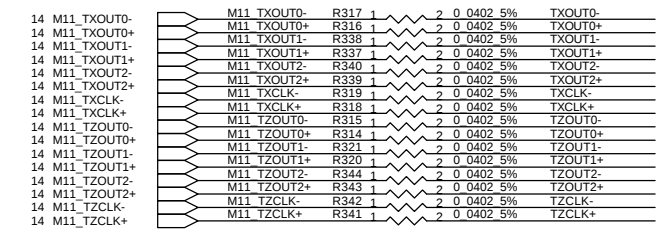
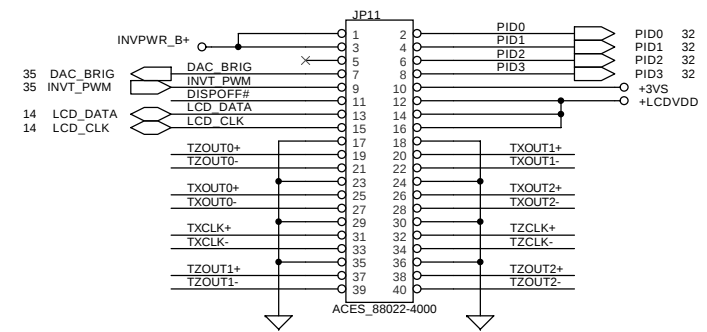


Table 1: Panel ID

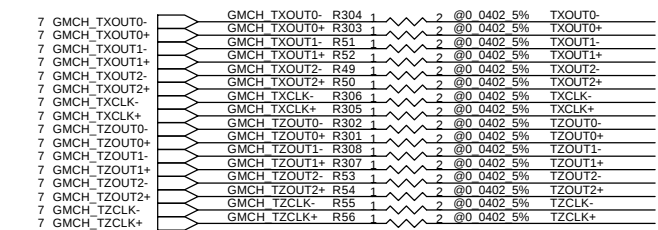
PID3	PID2	PID1	PID0	PANEL
0	1	0	0	SANYO TM154WX-22L31 15.4" WXGA 1280X800
0	1	0	1	AU B154EW01 15.4" WXGA 1280X800
0	1	1	0	CPT CLAA154WA01 15.4" WXGA 1280X800
0	1	1	1	SAMSUNG LTN154X1-L02 15.4" WXGA 1280X800
1	0	0	1	SAMSUNG LTN154P1-L02 15.4" WSXGA+ 1680X1050
1	0	1	0	LG LP154W02-A1 15.4" WSXGA+ 1680X1050



LCD CONN.



For ATI M11P



For GMCH

Compal Electronics, Inc.

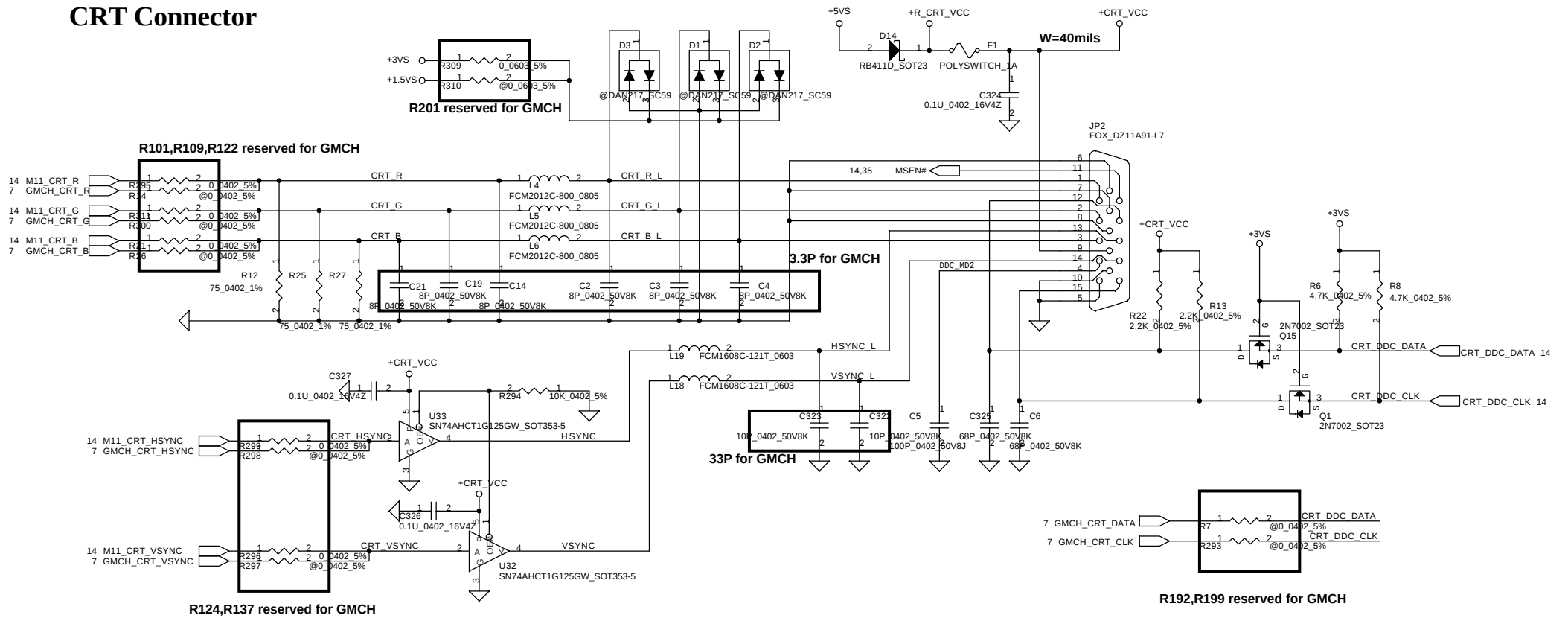
Title SCHEMATIC M/B LA-2242

Size Document Number 401289 Rev 2A

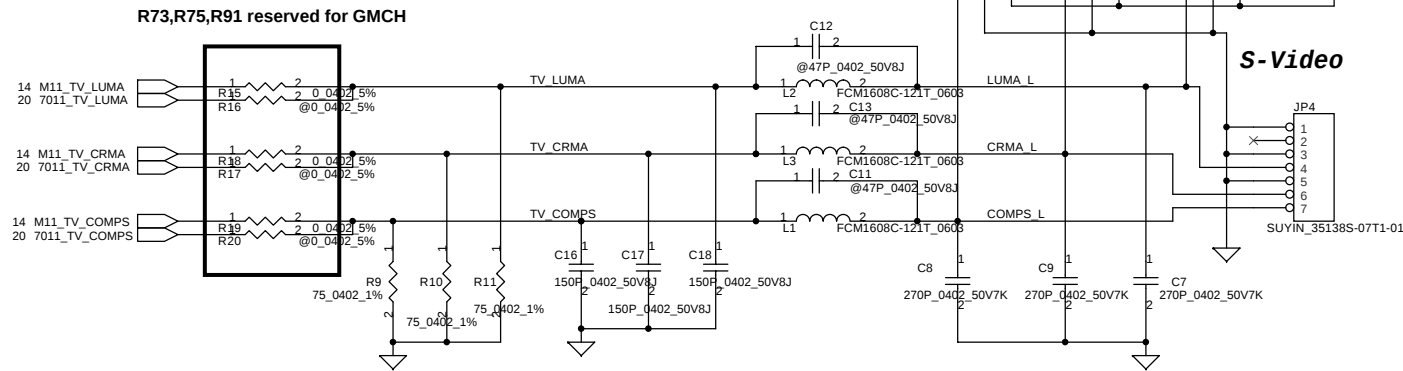
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CRT Connector

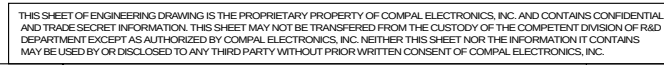


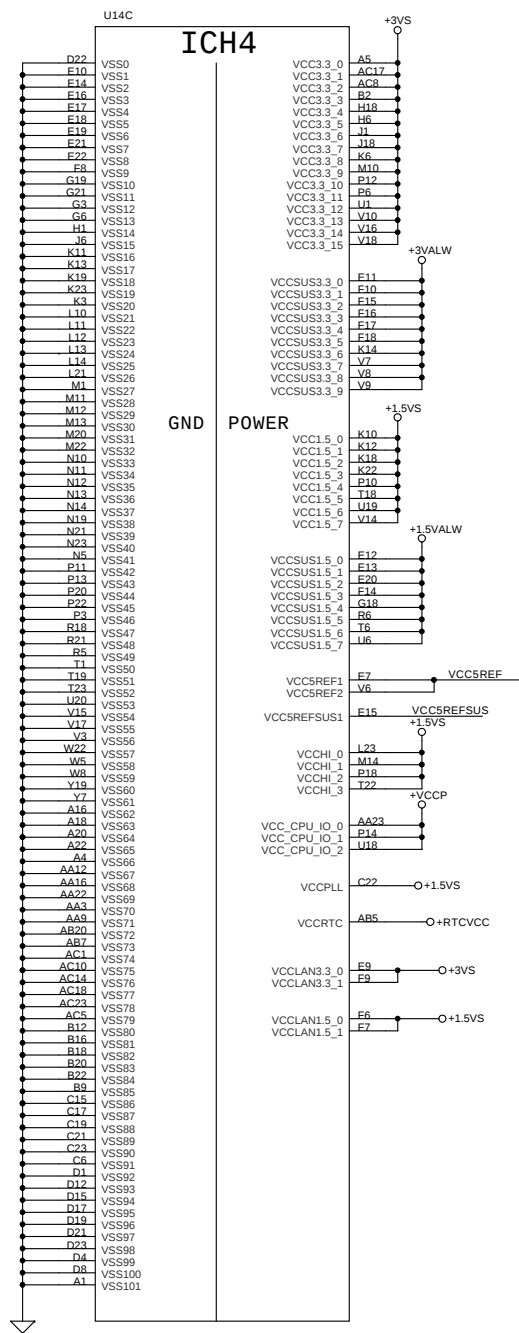
TV-Out Connector



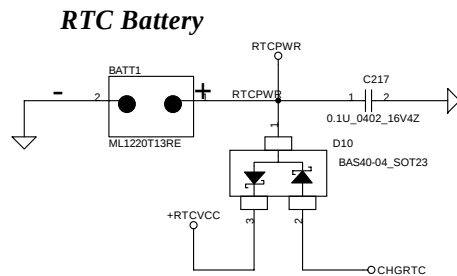
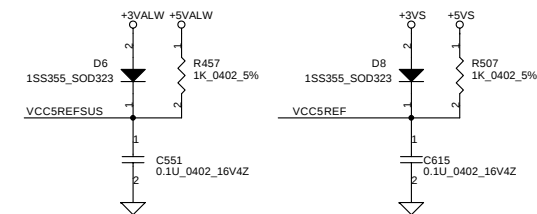
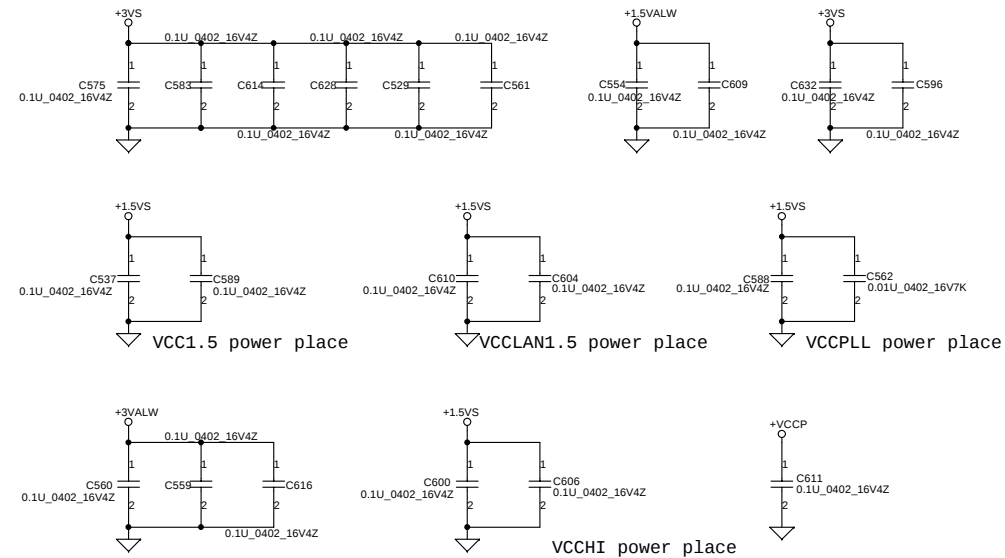
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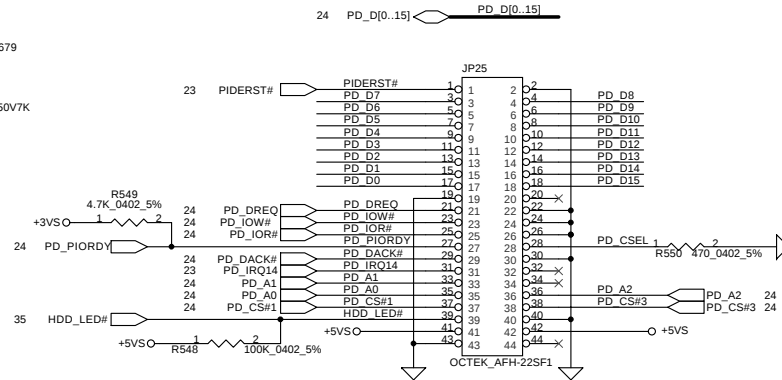
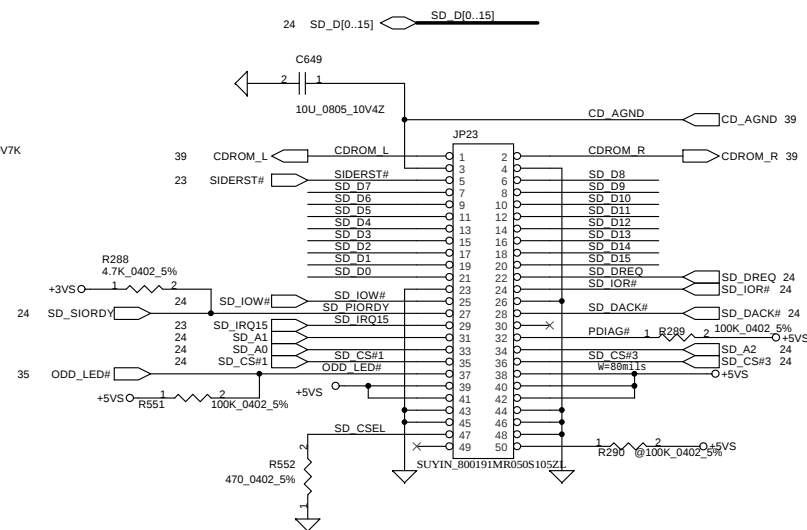
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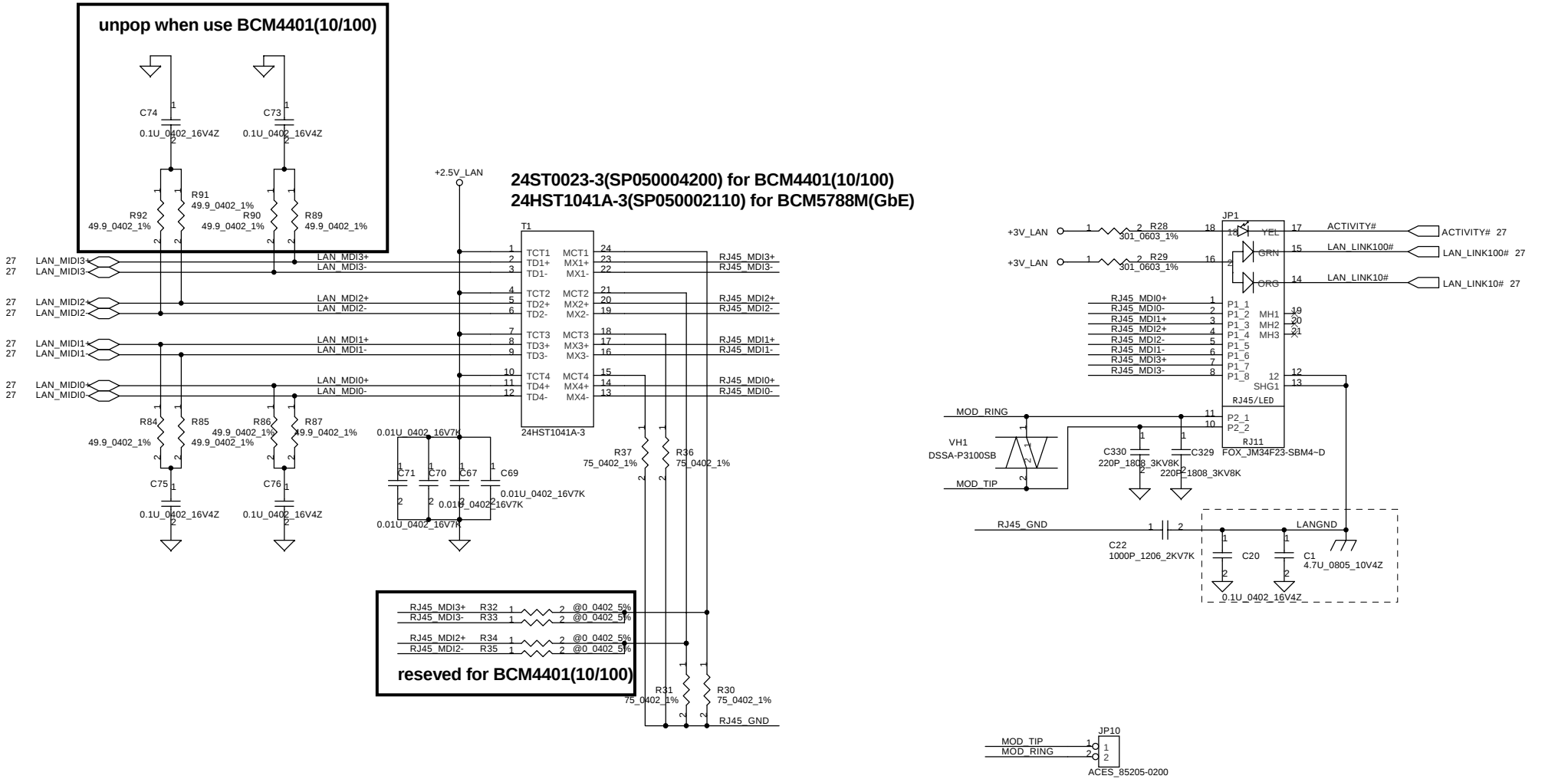
FW82801DBM_BGA421



HDD CONN**CDROM CONN**

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LAN BCM5788M/BCM4401KFB



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

PCI_AD[0..31]

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

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 PCIRST#

CLK_PCI_1394
PCI_AD16
R107 100 0402 5%

G_RST# connect to PCIRST#

CLK_PCI_1394
R71 @10_0402_5%
C50 @10P_0402_50V7K

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_50V7K
X1 5 1 2
C36 22P_0402_50V7K
30ppm

FILTER
FILTER0 3 1 2
C35 0.1U_0402_16V4Z
FILTER1 4 1 2
C36 0.1U_0402_16V4Z

EEPROM 2 WIRE BUS
SDA 92 1 2
R58 220_0402_5%
SCL 91 1 2
R61 220_0402_5%

POWER CLASS
PC0 99
PC1 98
PC2 97

PHY PORT 1
TPBIAS0 116 XTPBIAS0
TPA0+ 115 XTPA0+
TPA0- 114 XTPA0-
TPB0+ 113 XTPB0+
TPB0- 112 XTPB0-

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

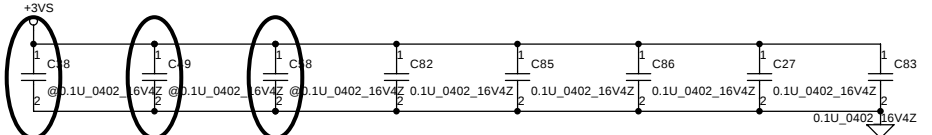
TSB43AB21A_PQFP128

0.1U_0402_16V4Z
C66
C34 0.1U_0402_16V4Z

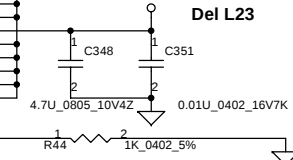
CLOSE CHIP

** 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.

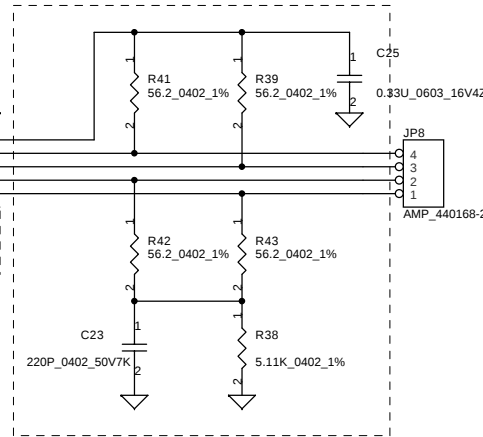
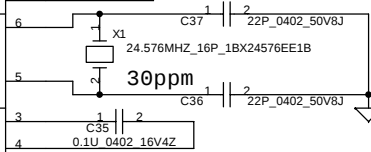
Unpoped for EMI request



Del L23



Near 1394 IC



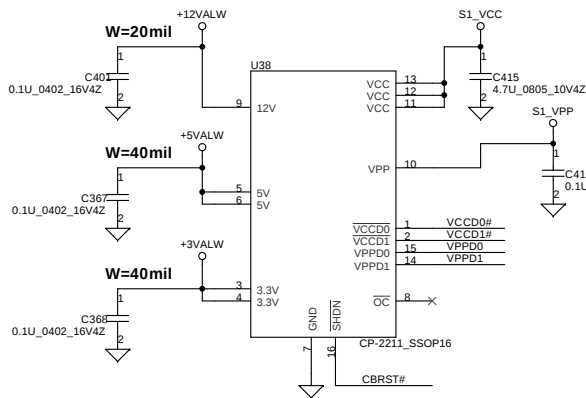
Connect To
Shielding
GND

Close Chip

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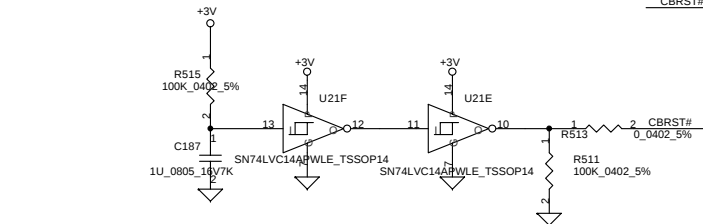
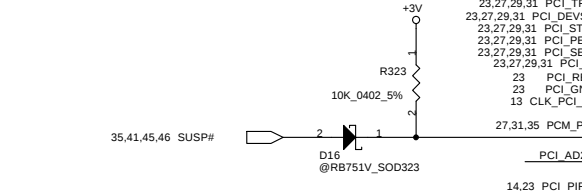
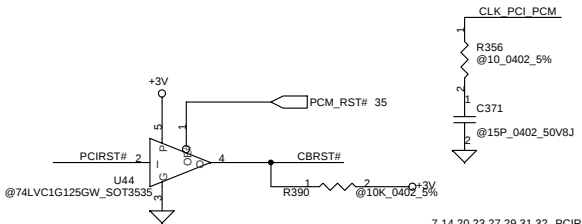
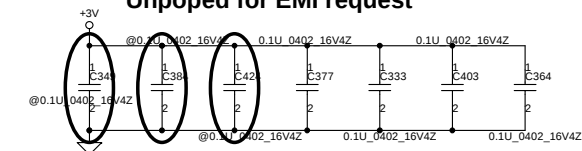
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23,27,29,31 PCI_AD[0..31]
23,27,29,31 PCI_CBE#[0..3]

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

PQFP 144
22.2 X 22.2 X 1.60

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

7,14,20,23,27,29,31,32 PCIRST# 20
23,27,29,31 PCI_FRAME# 28
23,27,29,31 PCI_IRDY# 29
23,27,29,31 PCI_TRDY# 30
23,27,29,31 PCI_DEVSEL# 32
23,27,29,31 PCI_STOP# 33
23,27,29,31 PCI_PERR# 34
23,27,29,31 PCI_SERR# 35
23,27,29,31 PCI_PAR# 36
23 PCI_REQ#2 1
23 PCI_GNT#2 2
13 CLK_PCI_PCM 21
27,31,35 PCM_PME# 59
13 IDSEL 13
14,23 PCI_PIRQA# 60
61 MFUNC0 61
64 MFUNC1 64
65 MFUNC2 65
66 MFUNC3 66
67 MFUNC4 67
68 MFUNC5 68
69 MFUNC6 69
24,27,29,31,32,35 PM_CLKRUN# 66
CBRST# 66

CAD31/D10 144 S1 D10
CAD30/D9 142 S1 D9
CAD29/D8 141 S1 D8
CAD28/D7 140 S1 D7
CAD27/D6 139 S1 D6
CAD26/A0 129 S1 A0
CAD25/A1 128 S1 A1
CAD24/A2 127 S1 A2
CAD23/A3 124 S1 A3
CAD22/A4 121 S1 A4
CAD21/A5 120 S1 A5
CAD20/A6 118 S1 A6
CAD19/A7 116 S1 A7
CAD18/A8 115 S1 A8
CAD17/A9 113 S1 A9
CAD16/A10 98 S1 A10
CAD15/IOWR# 96 S1 IOWR#
CAD14/IO# 97 S1 IO#
CAD13/IORD# 93 S1 IORD#
CAD12/A11 95 S1 A11
CAD11/OE# 92 S1 OE#
CAD10/CE#2 91 S1 CE#2
CAD9/A10 89 S1 A10
CAD8/D15 87 S1 D15
CAD7/D17 85 S1 D17
CAD6/D13 82 S1 D13
CAD5/D6 83 S1 D6
CAD4/D12 81 S1 D12
CAD3/D5 77 S1 D5
CAD2/D11 79 S1 D11
CAD1/D4 76 S1 D4
CAD0/D3 76 S1 D3

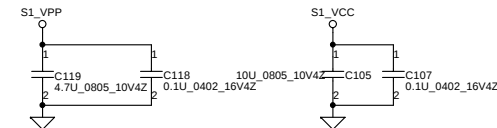
CC/BE3#/REG# 125 S1 REG#
CC/BE2#/A12 112 S1 A12
CC/BE1#/A8 99 S1 A8
CC/BE0#/CE1# 88 S1 CE1#

CRST#/RESET 119 S1 RST
CFRAME#/A23 111 S1 A23
CIRDY#/A15 110 S1 A15
CTRDY#/A22 109 S1 A22
CDEVSEL#/A21 107 S1 A21
CSTOP#/A20 105 S1 A20
CPERR#/A14 104 S1 A14
CSERR#/WAIT# 103 S1 WAIT#
CPARR#13 101 S1 A13
CREQ#/INPACK# 102 S1 INPACK#
CGNT#/WE# 106 S1 WE#
CCLK/A16 108 S1 A16

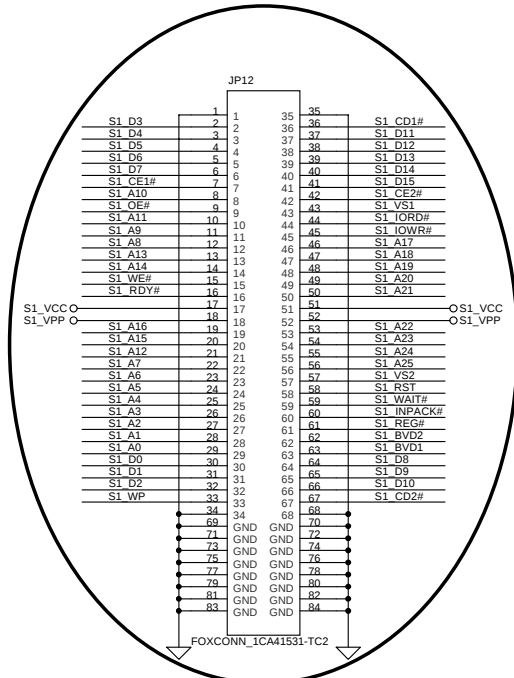
CS1SGH/BVD1 135 S1 BVD1
CCLKRUN#/WP 136 S1 WP
CLOCK#/A19 103 S1 A19
CINT#/READY 132 S1 RDY#

SPKOUT 62 PCM_SPK# 39
CAUDIO/BVD2 134 S1 BVD2
CCD2#/CD2# 137 S1 CD2#
CCD1#/CD1# 135 S1 CD1#
CVS2/VS2# 117 S1 VS2
CVS1/VS1# 131 S1 VS1

RSVDD14 84
RSVDD13 100
RSVDD12 143
RSVDD11 142
RSVDD10 141
RSVDD9 140
RSVDD8 139
RSVDD7 138
RSVDD6 137
RSVDD5 136
RSVDD4 135
RSVDD3 134
RSVDD2 133
RSVDD1 132
RSVDD0 131



close to pin 75
close to pin 137



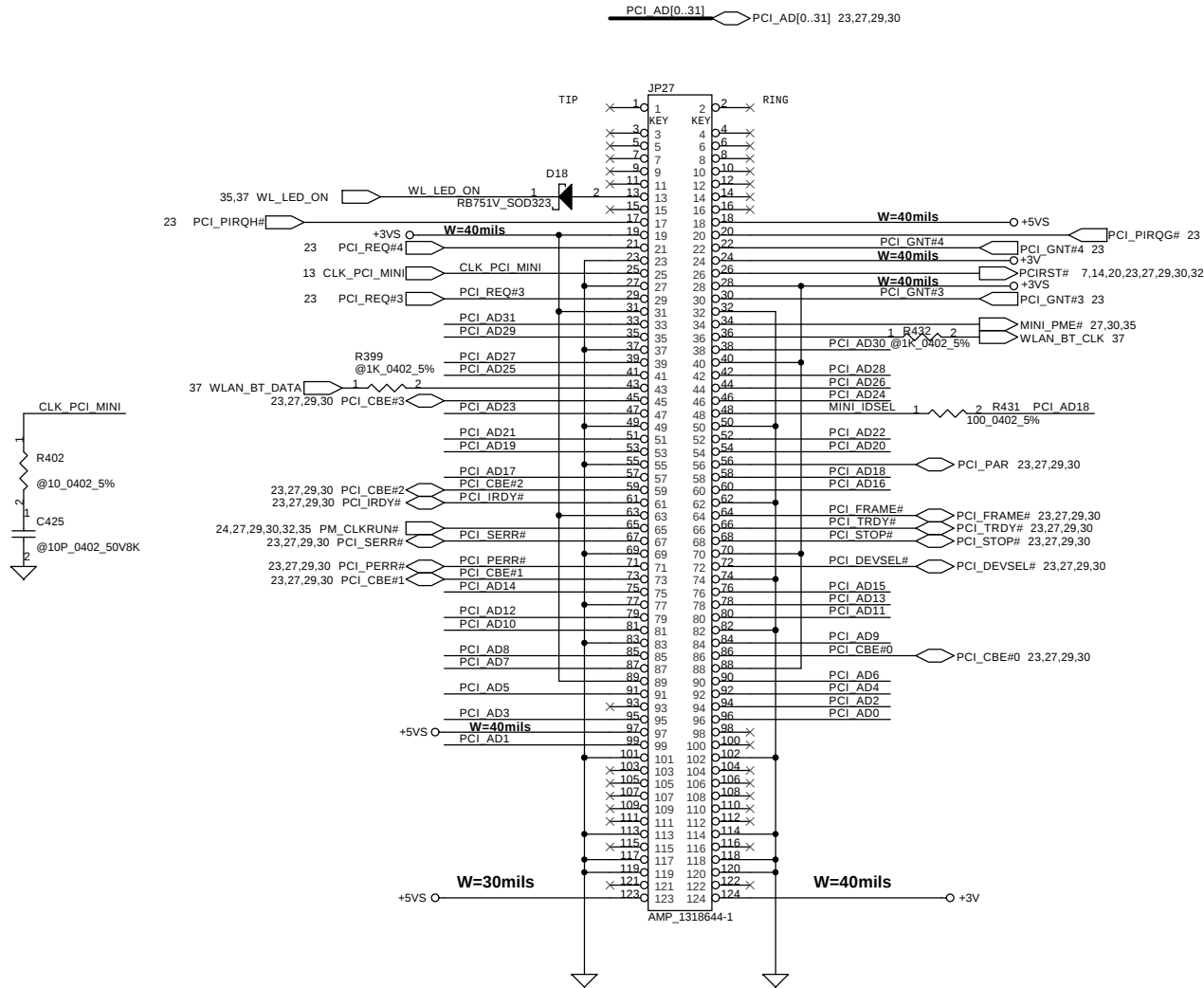
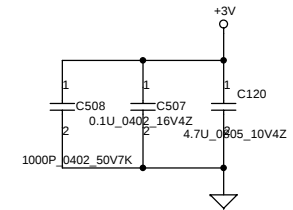
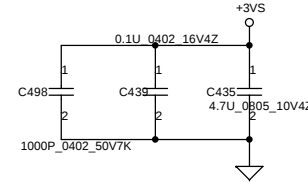
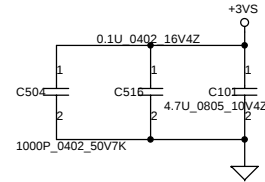
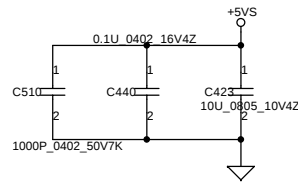
change to SP01F002800(BCL50)

S1 OE# 1 43K 0402_5% OS1_VCC
S1 A23 2 43K 0402_5% OS1_VCC
S1 WP 3 43K 0402_5% OS1_VCC
S1 RST 4 43K 0402_5% OS1_VCC
S1 CE1# 5 43K 0402_5% OS1_VCC
S1 CE2# 6 43K 0402_5% OS1_VCC

unpop R324
R324 1 10K 0402_5% 3V

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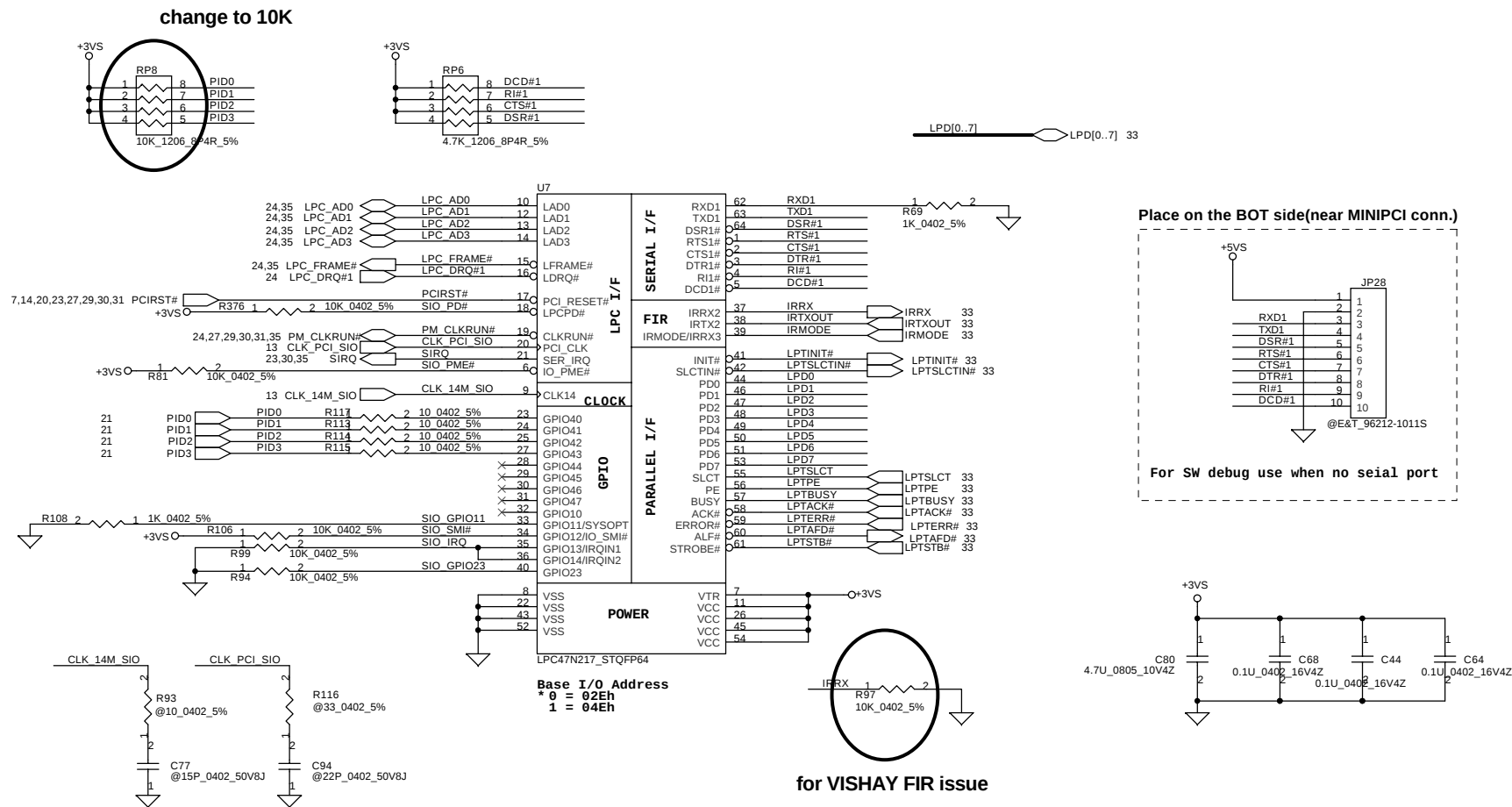
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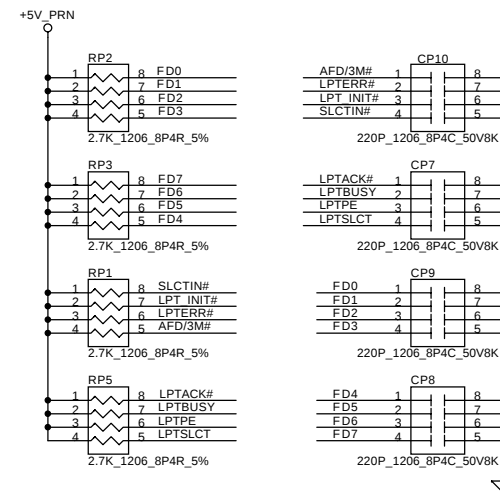
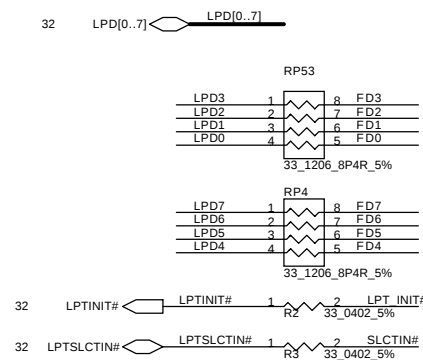
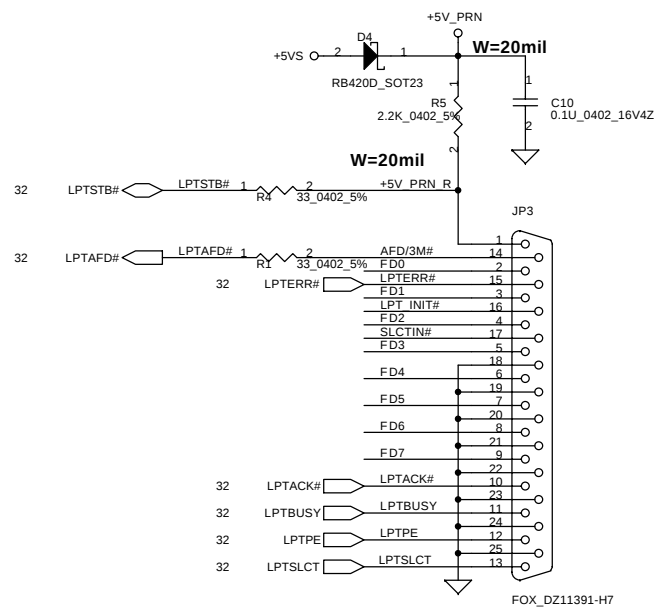
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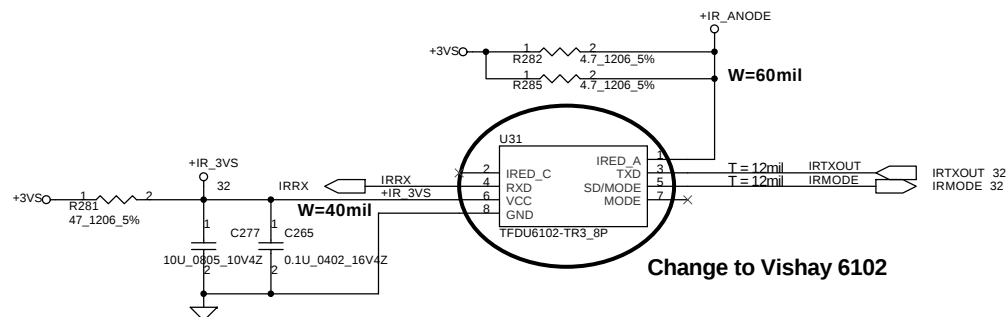
SUPER I/O SMC LPC47N217



Parallel Port



FIR Module



Change to Vishay 6102

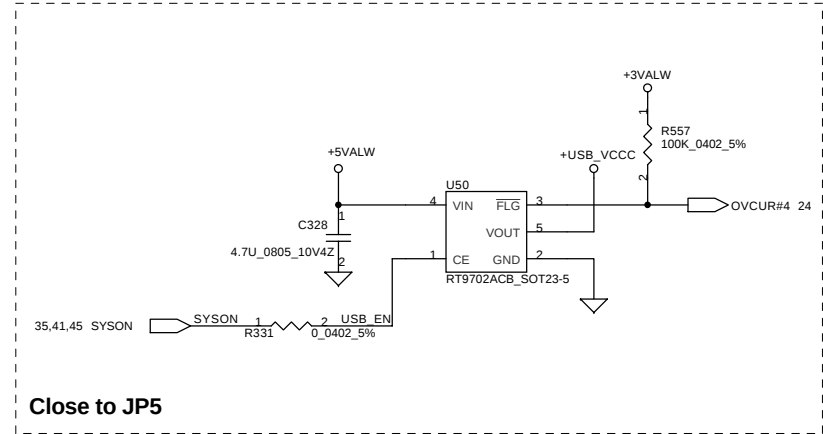
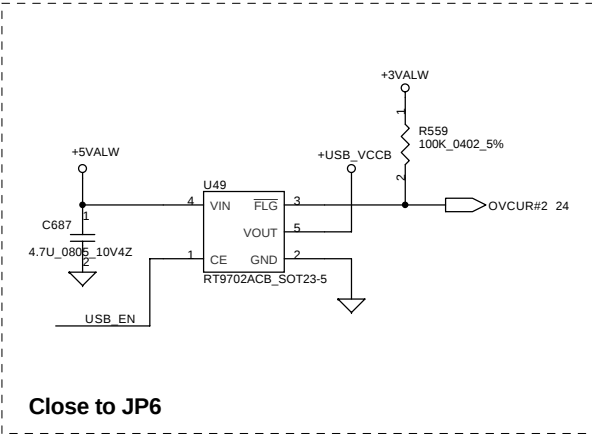
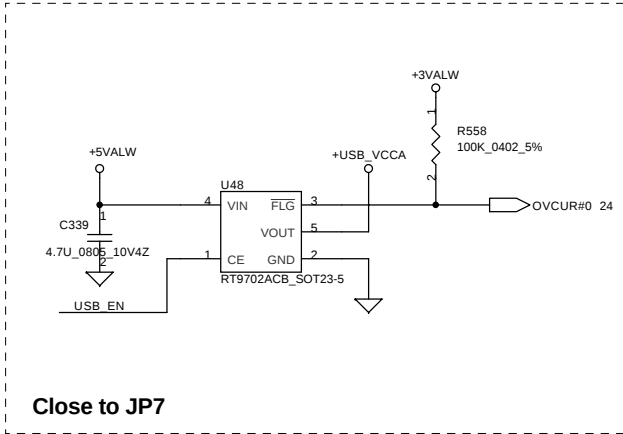
Compal Electronics, Inc.

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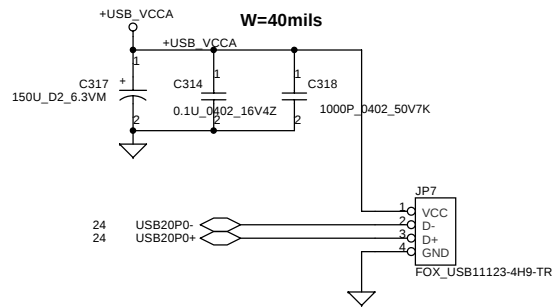
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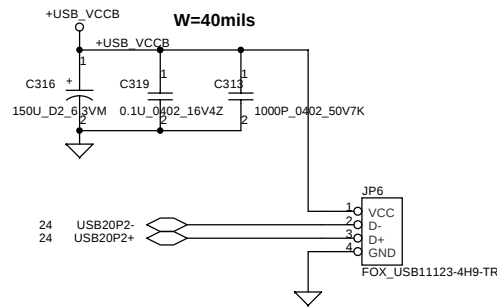
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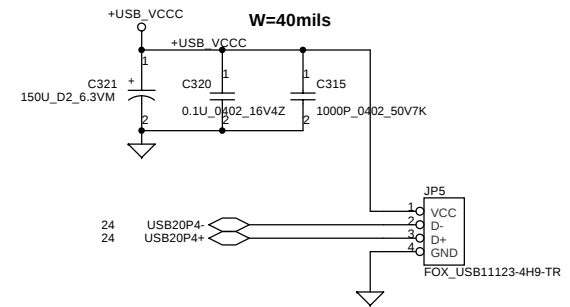
USB CONN. 1



USB CONN. 2

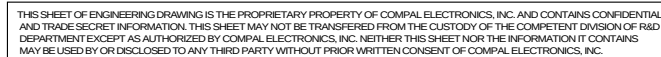


USB CONN. 3

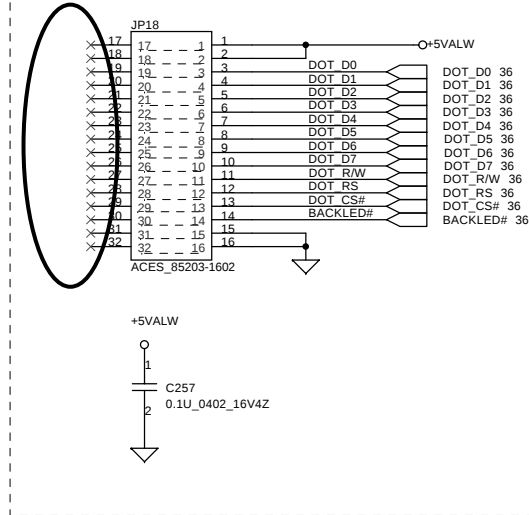


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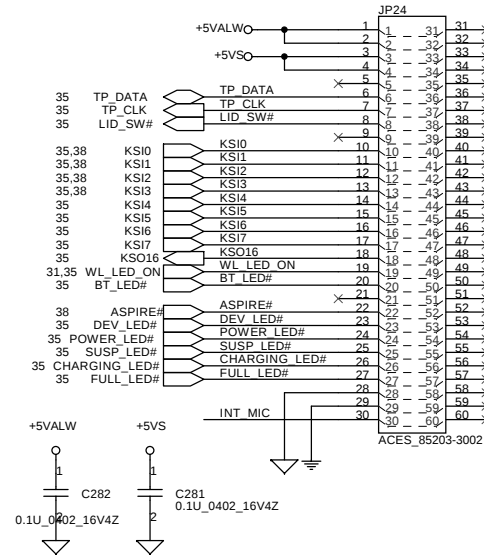
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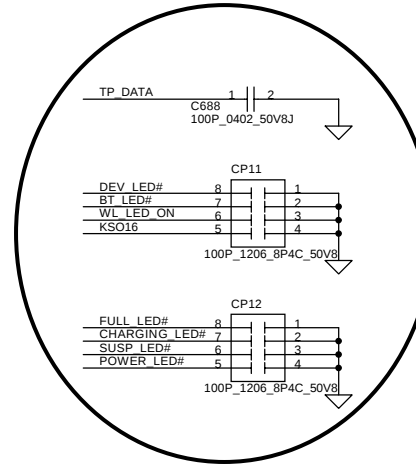
To LCM Board



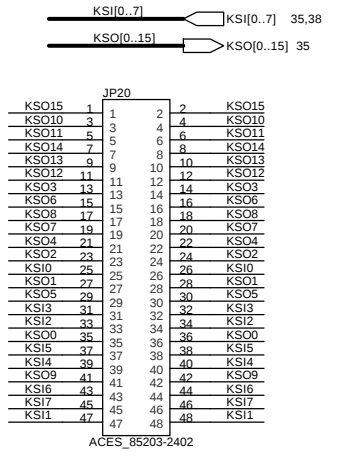
To T/P Board



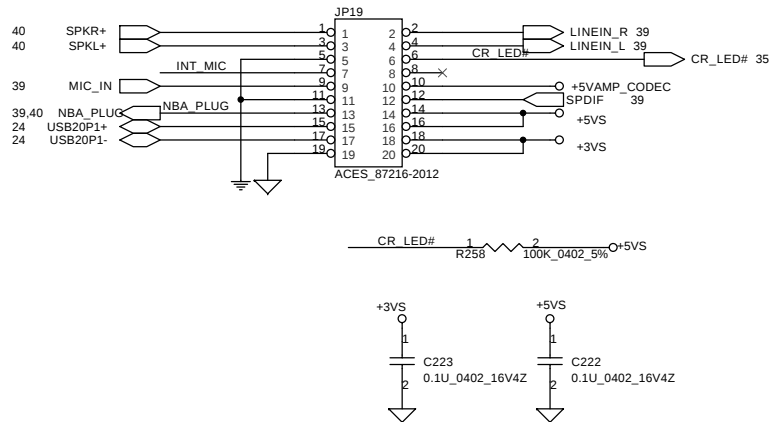
Add CP11,CP12,C688



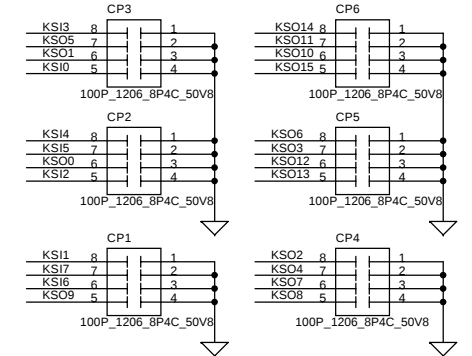
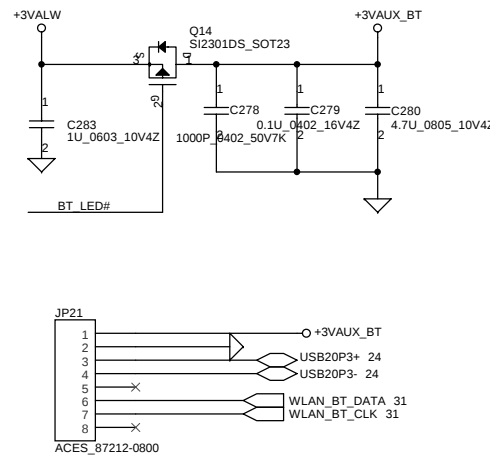
INT_KBD CONN.



To Card Reader Board



Bluetooth Conn.



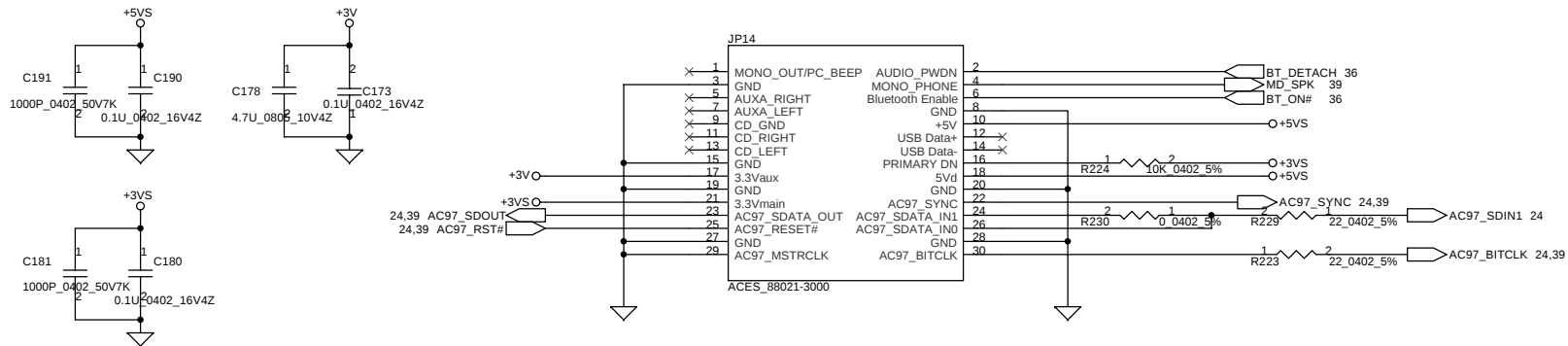
Compal Electronics, Inc.

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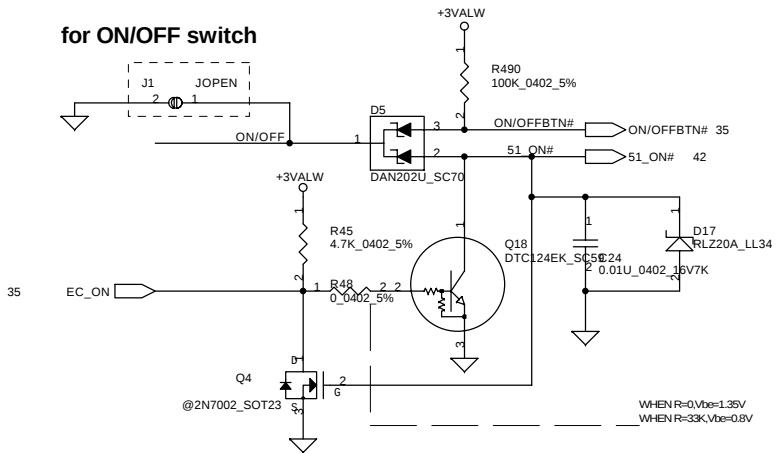
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MDC Conn.

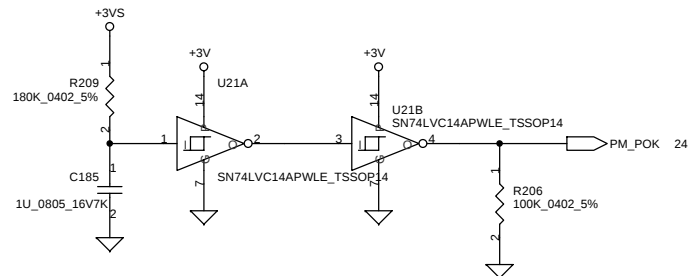


ON/OFF BUTTON

for ON/OFF switch

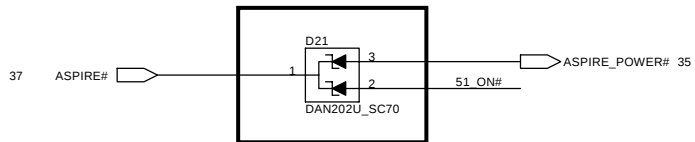


Power OK Circuit

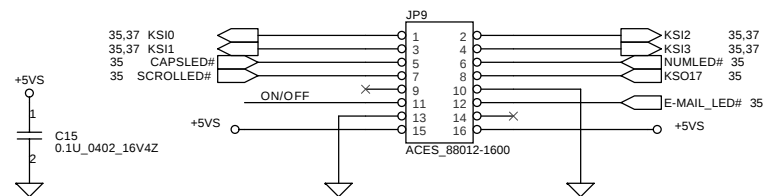


ASPIRE POWER

remove when no MEDIA/B



POWER/B CONN

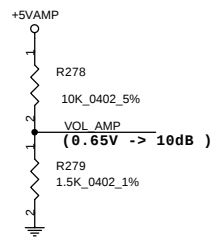


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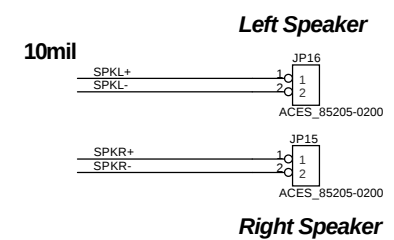
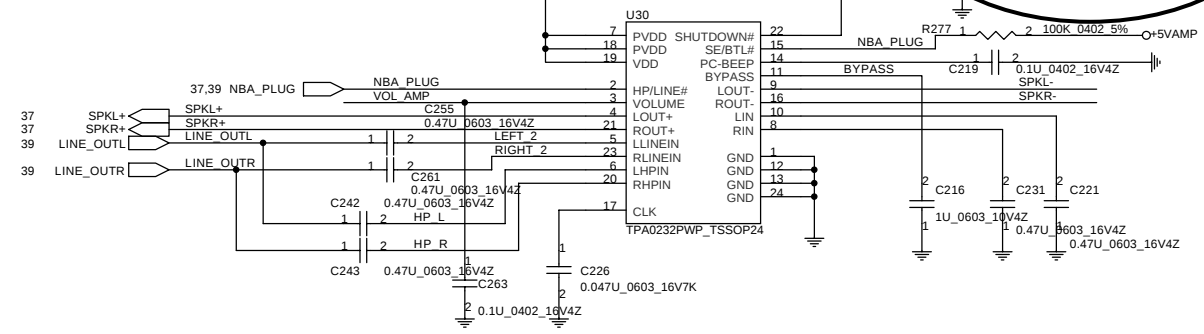
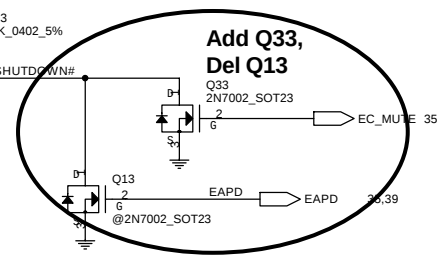
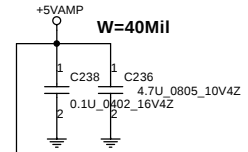
Compal Electronics, Inc.

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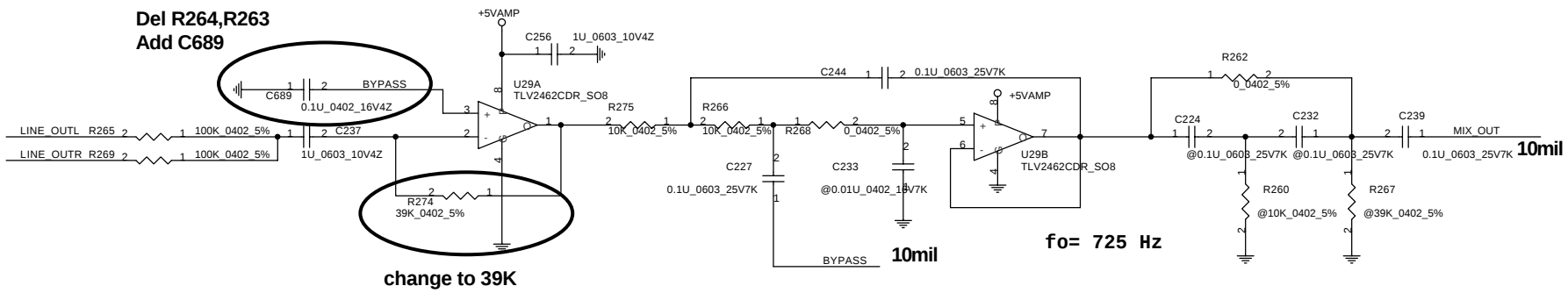
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Pin 2 HIGH PIN 6,20 ACTIVE
LOW PIN 5,23 ACTIVE



Del R264,R263
Add C689

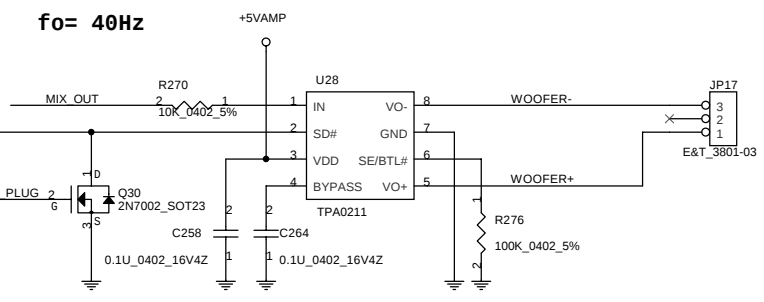
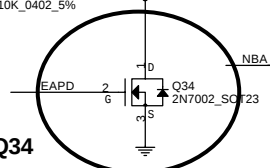


change to 39K

fo= 40Hz

fo= 725 Hz

Add Q34

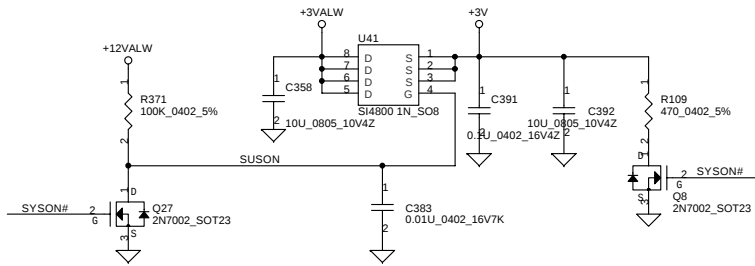


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SCHEMATIC MB LA-2242

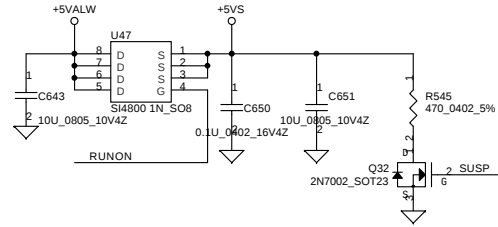
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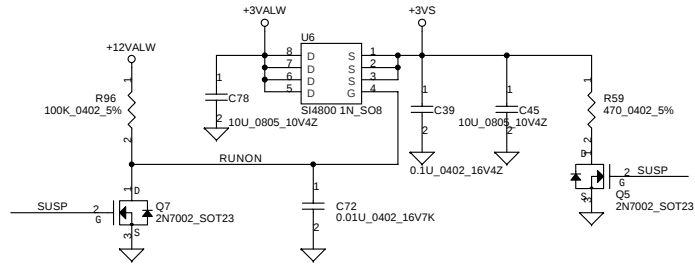
+3VALW to +3V Transfer



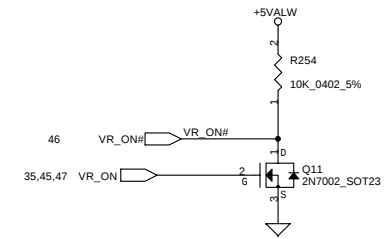
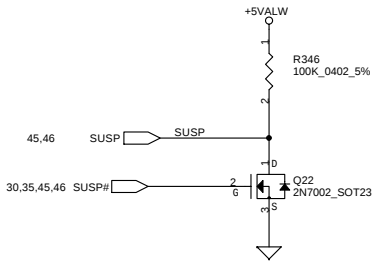
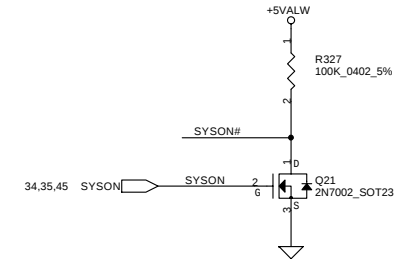
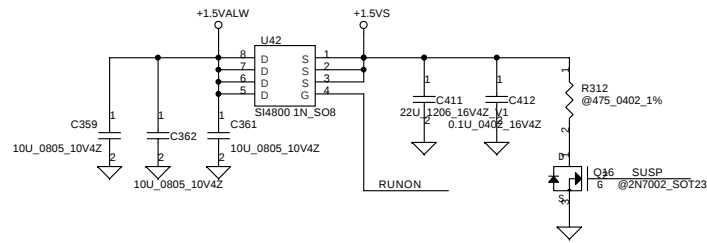
+5VALW to +5VS Transfer



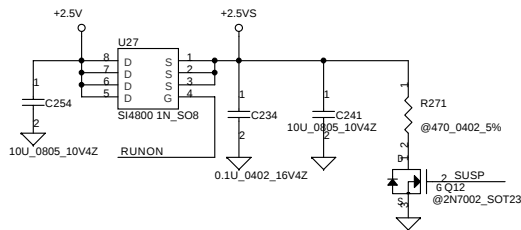
+3VALW to +3VS Transfer



+1.5VALW to +1.5VS Transfer



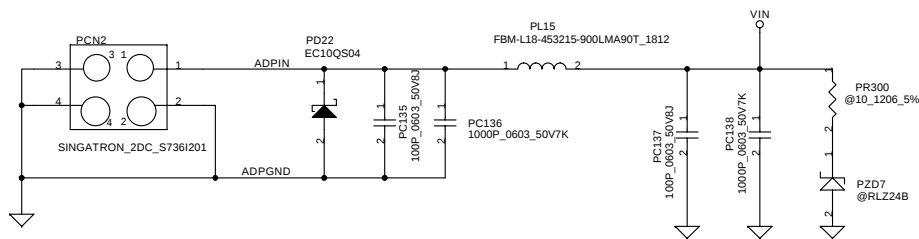
+2.5V to +2.5VS Transfer



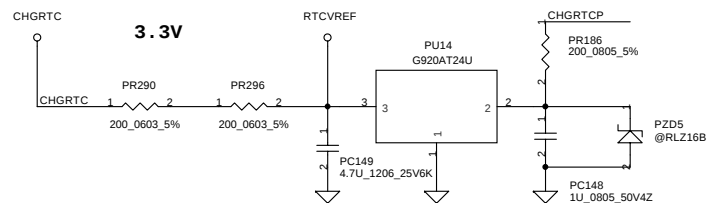
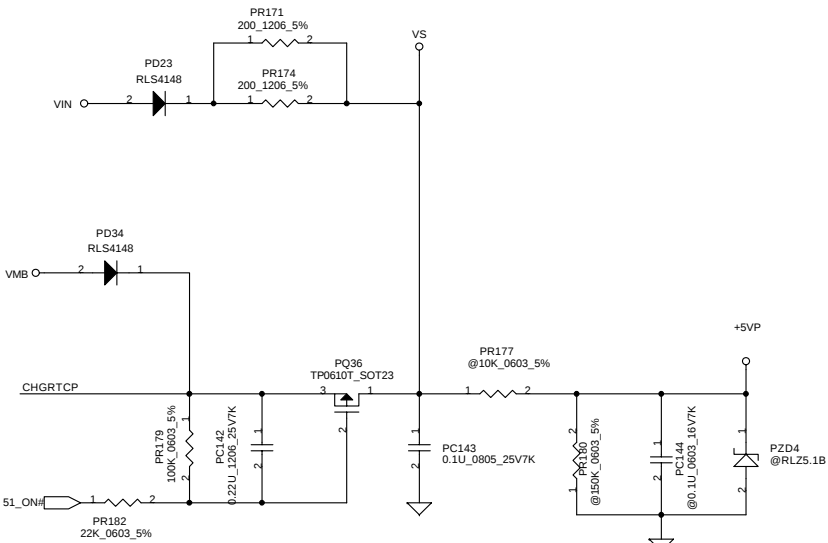
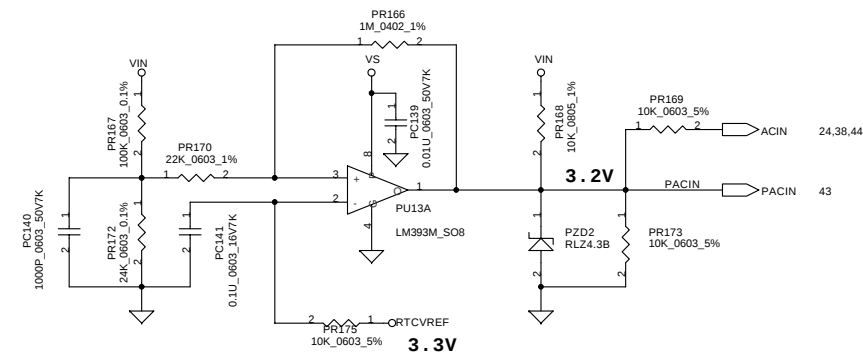
remove on Drongo4

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VIN detector
 18.239 17.755 17.273
 17.545 17.071 16.587

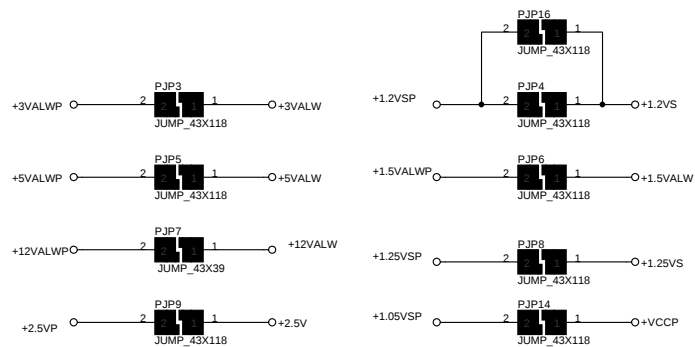
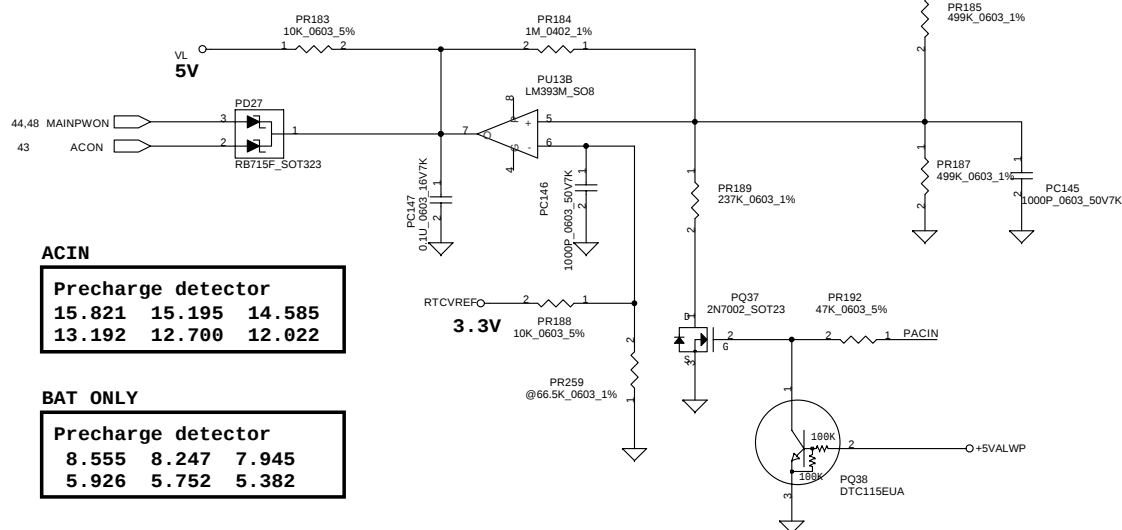


ACIN

Precharge detector
 15.821 15.195 14.585
 13.192 12.700 12.022

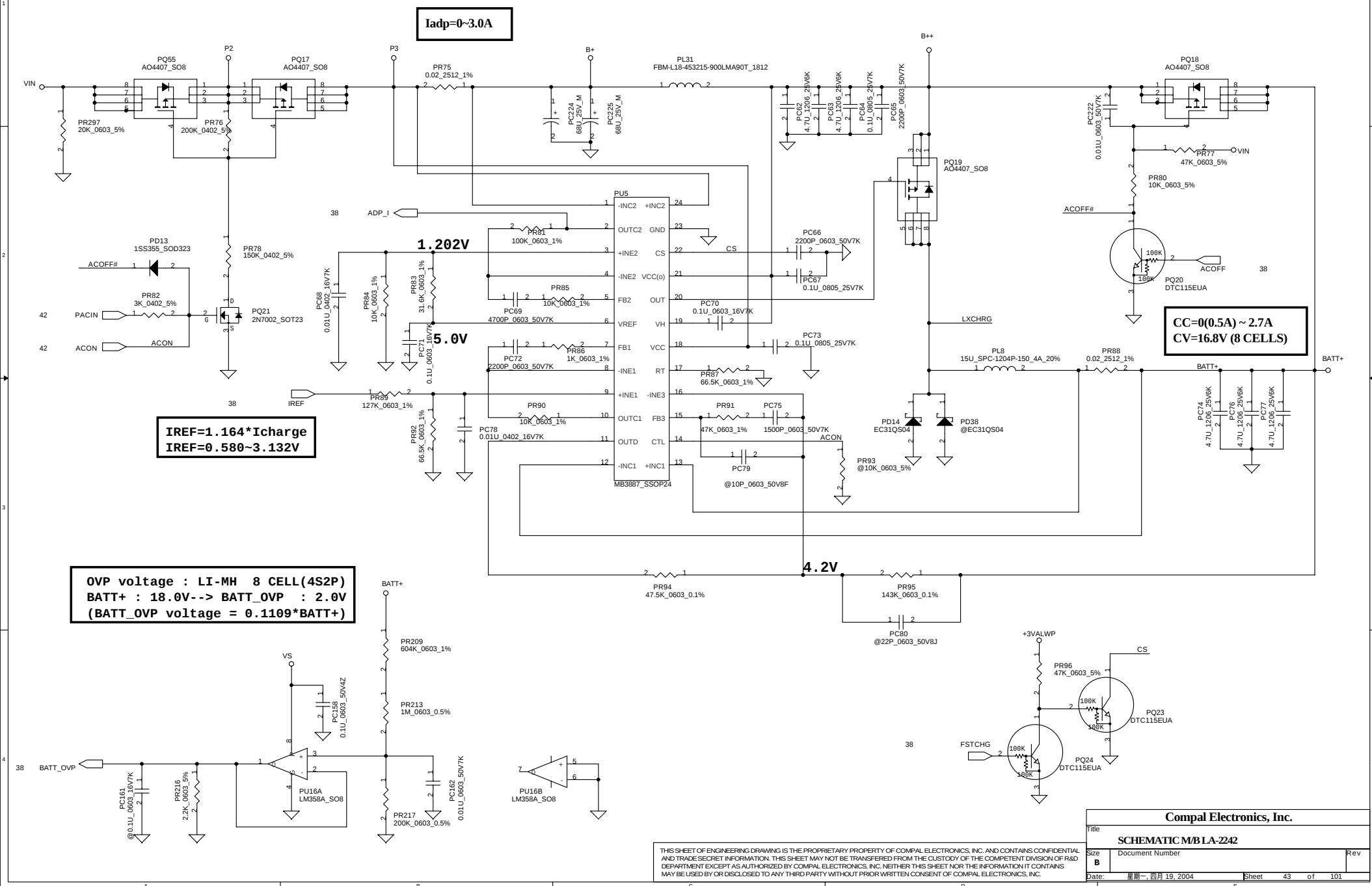
BAT ONLY

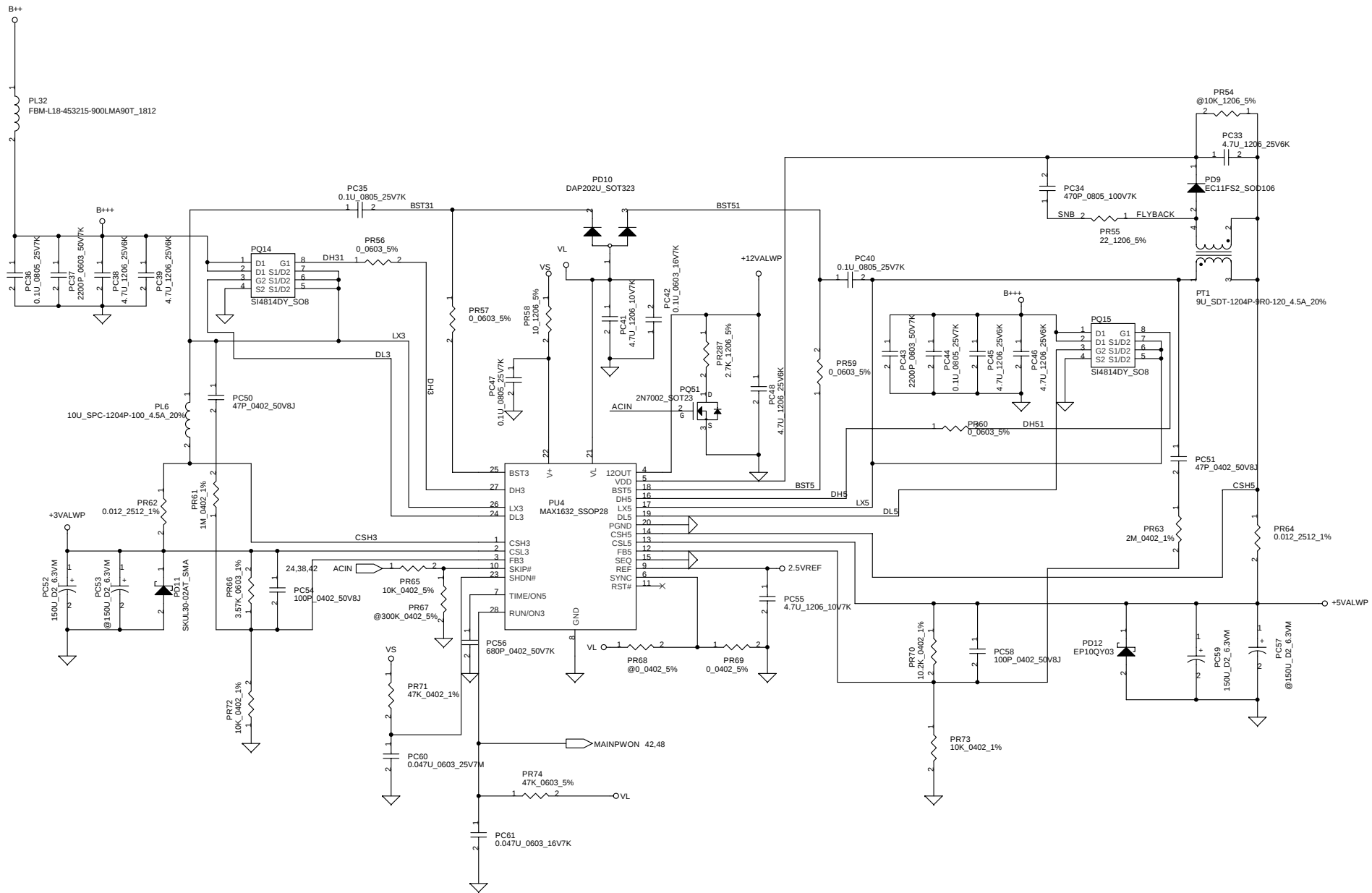
Precharge detector
 8.555 8.247 7.945
 5.926 5.752 5.382



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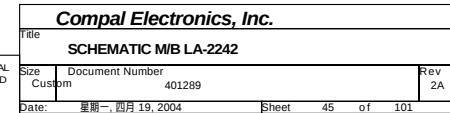




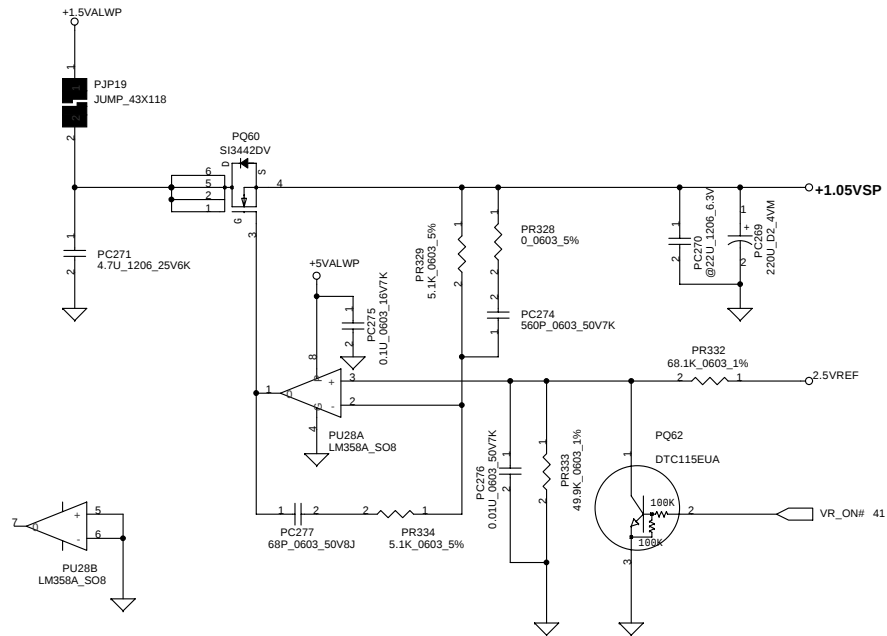
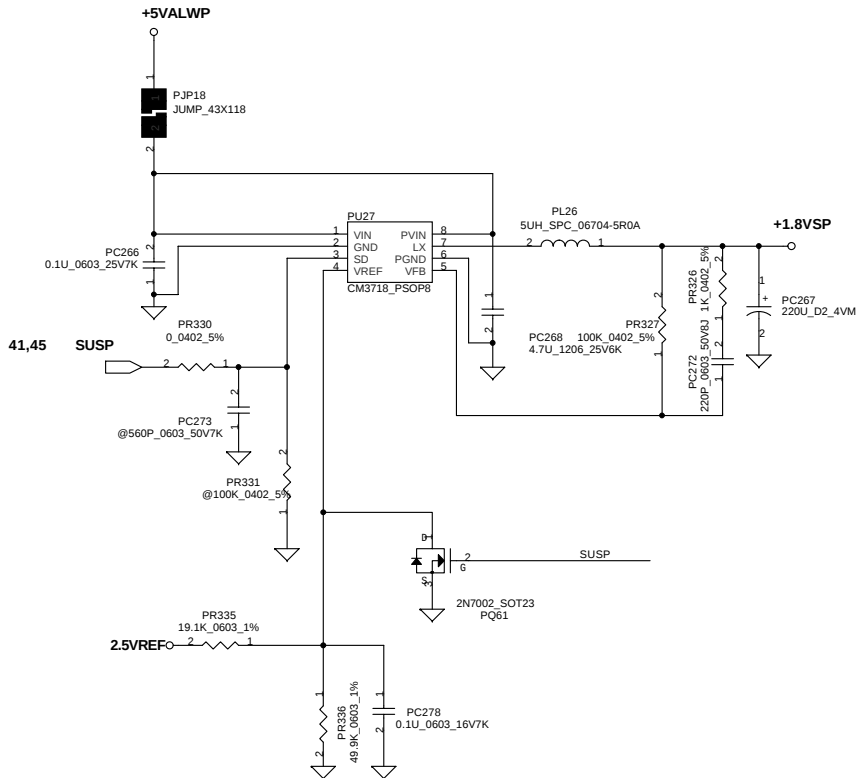
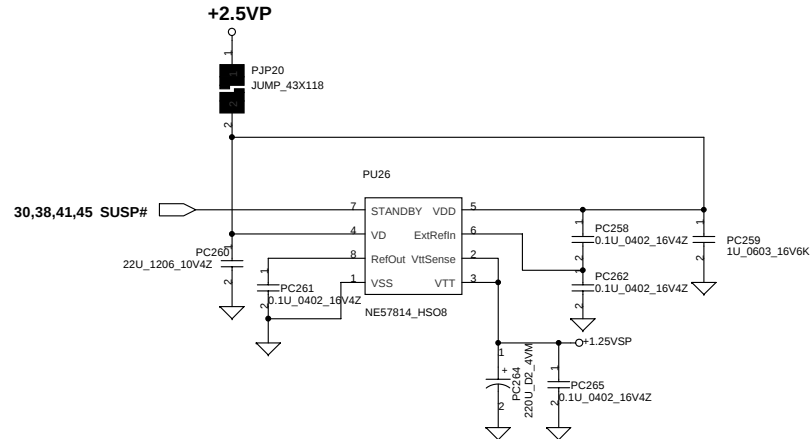
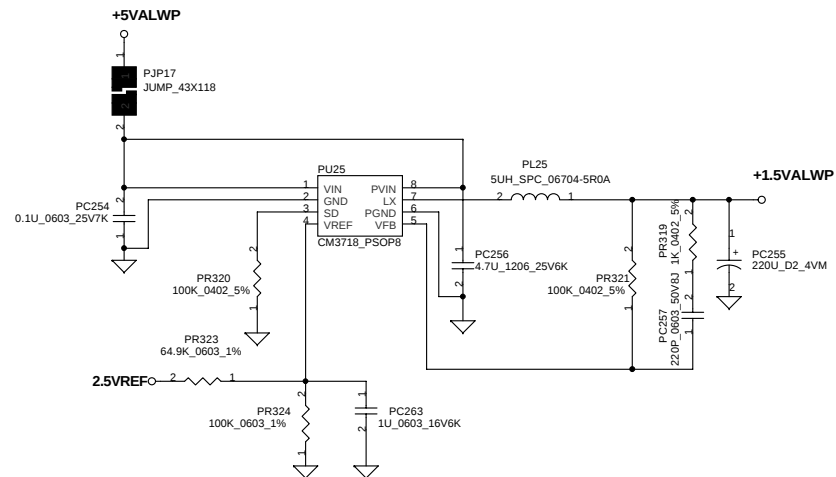
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PL33
FBM-L18-453215-900LMA90T_1812

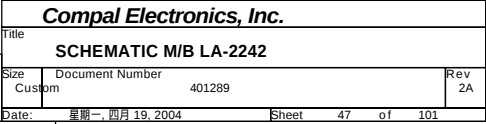


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Version change list (P.I.R. List)

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

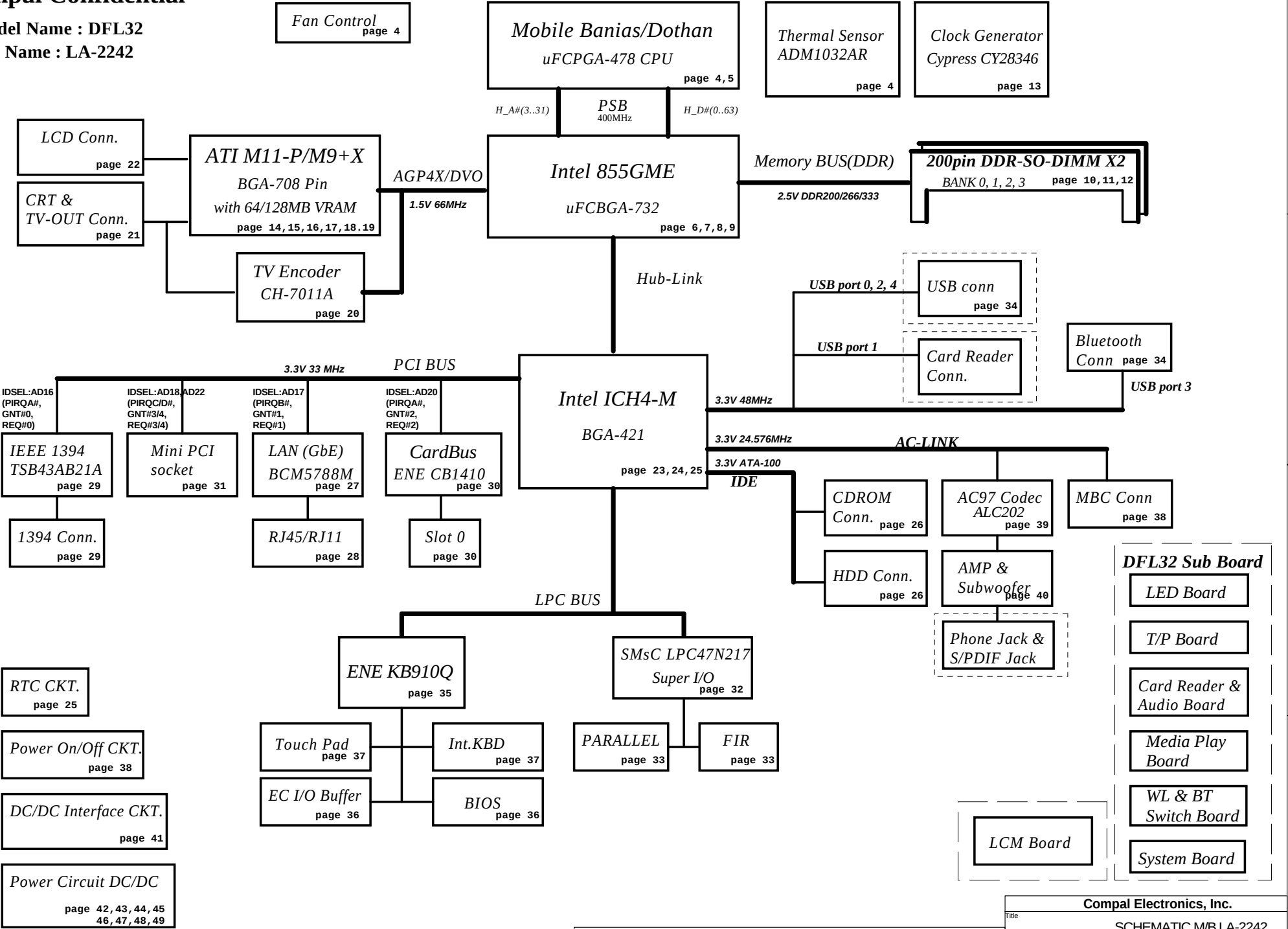
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Model Name : DFL32
File Name : LA-2242



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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

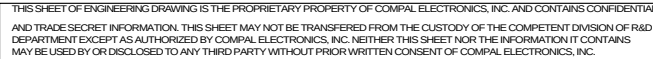
Item	* AS2020	AS2010(ATI)	AS2010(UMA)	Page
VGA	ATI M11P	ATI M11P	UMA	7, 9, 14, 15, 16, 17, 21, 22, 38
VRAM	128MB	64MB	N/A	14, 18, 19
TV Encoder	N/A	N/A	CH7011A	20
LAN	BCM5788M(GbE)	BCM4401(10/100)	BCM4401(10/100)	27, 28
S/PDIF	YES	N/A	N/A	N/A
Card Reader	YES	YES	N/A	N/A
Sub Woofer	YES	YES	N/A	33
LCM/B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

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

Banias

POWER, GROUND, RESERVED SIGNALS AND NC

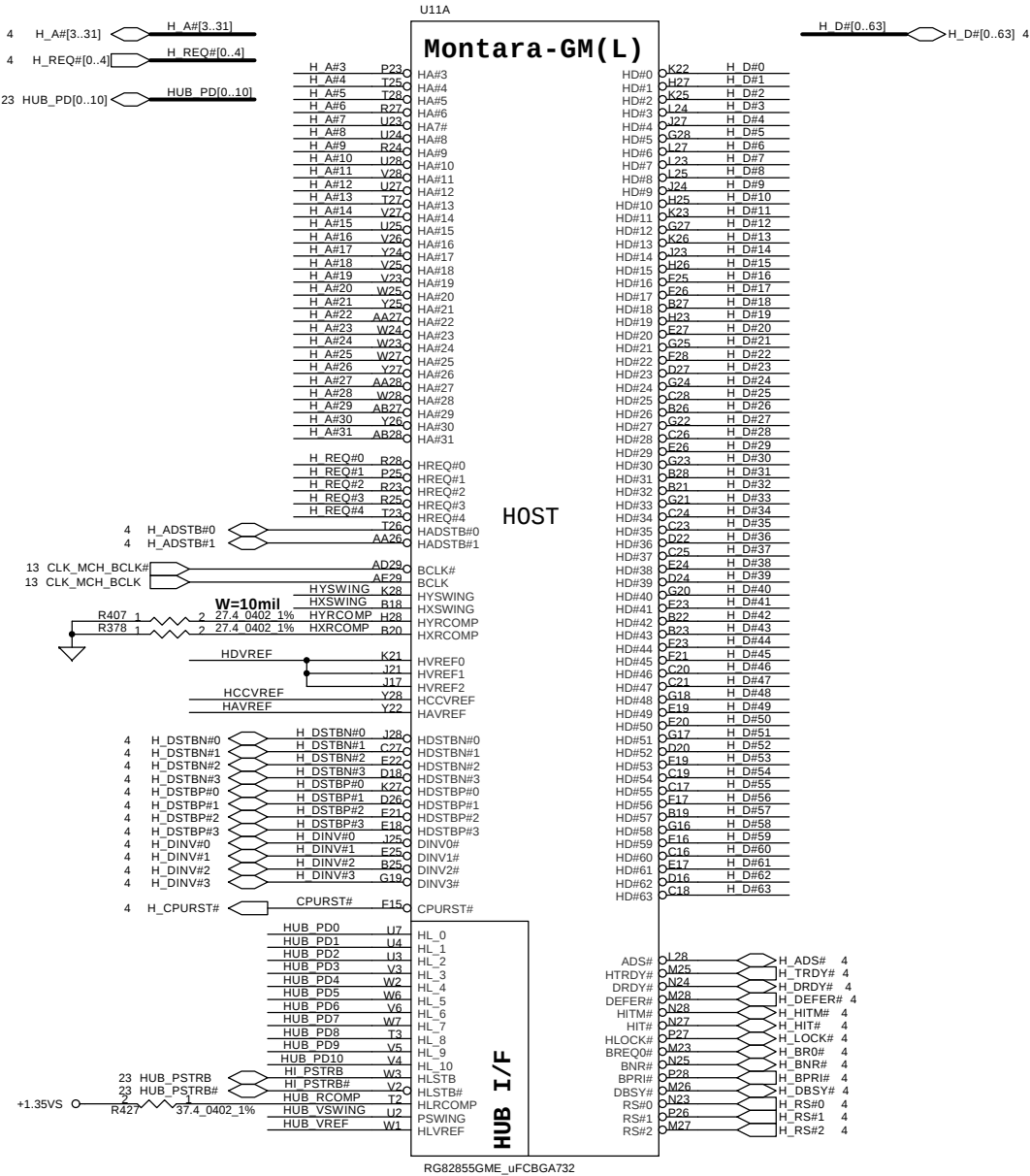
Banias

POWER, GROUND

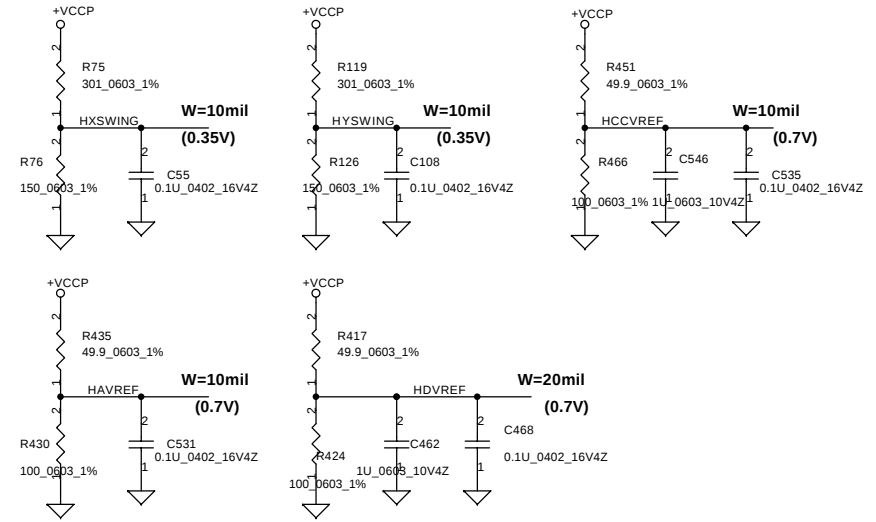
Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35

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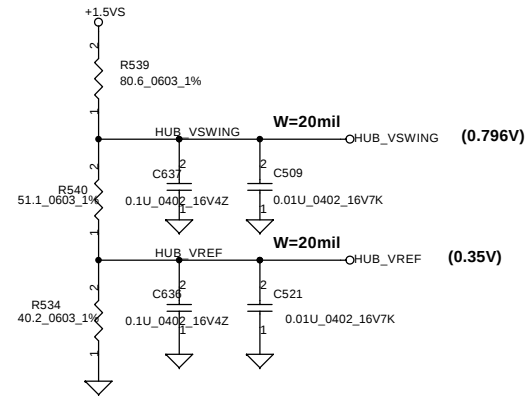
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HOST REF VOLTAGE



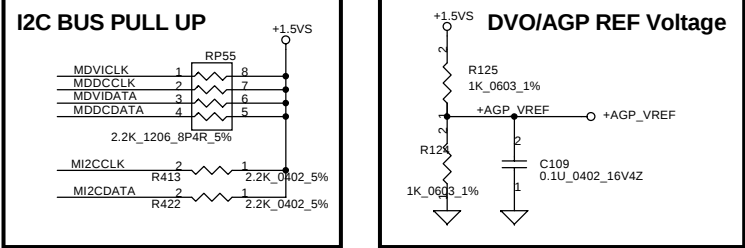
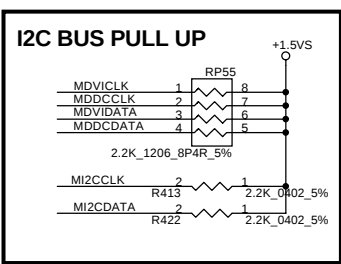
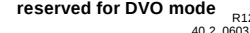
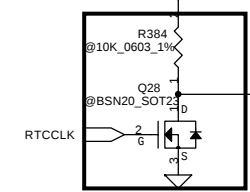
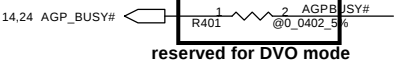
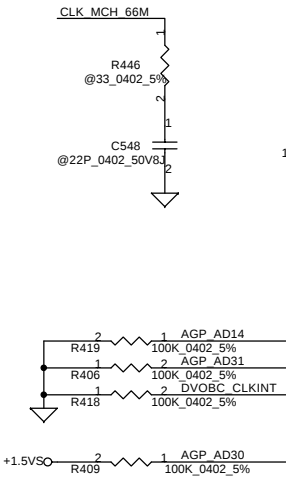
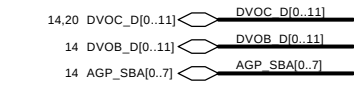
HUB I/F REF VOLTAGE



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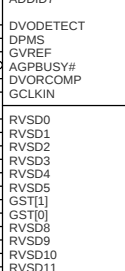
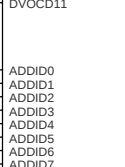
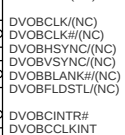
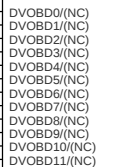
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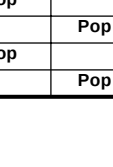
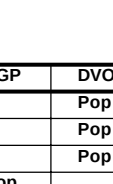
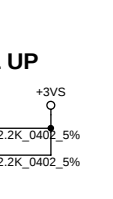
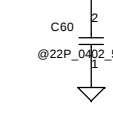
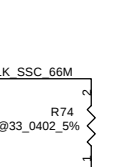
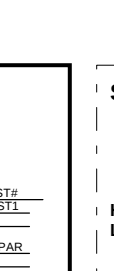
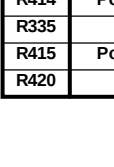
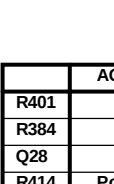
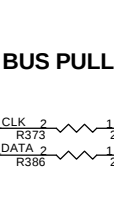
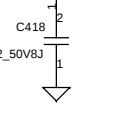
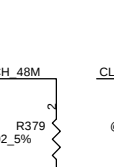
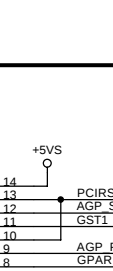
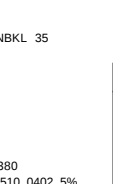
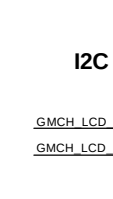
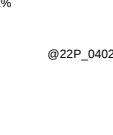
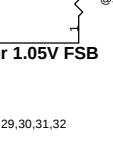
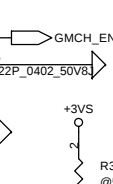
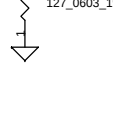
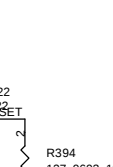
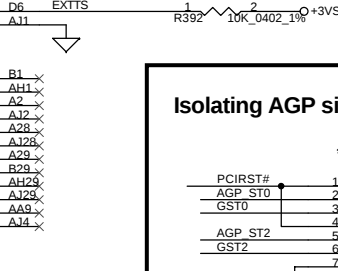
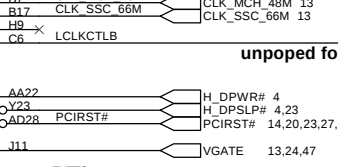
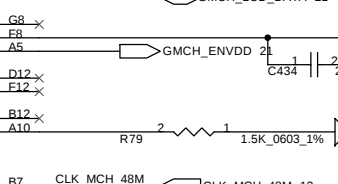
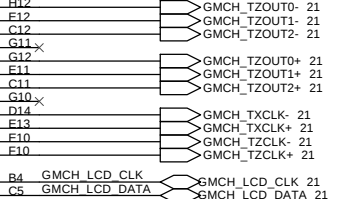
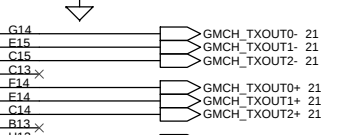
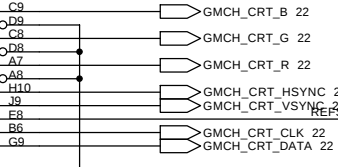
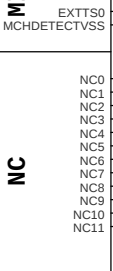
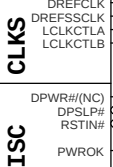
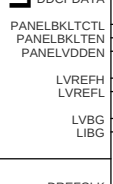
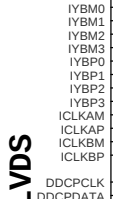
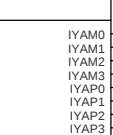
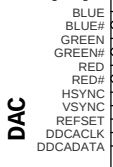


U118

Montara-GM(L)



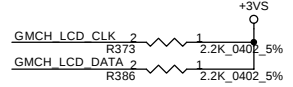
RG8285GME_uFCBGA732



855GME DVO/AGP Pin Muxing

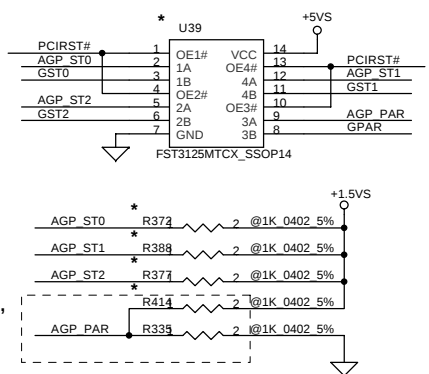
Ball	DVO Mode	AGP Mode
R3	DVOBD0	GAD3
R4	DVOBD1	GAD2
R5	DVOBD2	GAD5
R6	DVOBD3	GAD4
P6	DVOBD4	GAD7
P5	DVOBD5	GAD6
N5	DVOBD6	GAD8
P2	DVOBD7	GCBE#0
N2	DVOBD8	GAD1
N3	DVOBD9	GAD9
M1	DVOBD10	GAD12
M5	DVOBD11	GAD11
P3	DVOBCLK	GADSTB0
P4	DVOBCLK#	GADSTB0#
T6	DVOBHSYNC	GAD0
T5	DVOBVSNC	GCBE#1
L2	DVOBBLANK	GAD14
M2	DVOBFLDSTL	GAD30
G2	DVOBCINTR#	GAD13
M3	DVOBCLKINT	GADSTB1
J3	DVOBCLK#	GADSTB1#
J2	DVOBCLK#	GAD17
K6	DVOCHSYNC	GAD16
L5	DVOCVSYNC	GAD18
L3	DVOCLANK	GAD31
H5	DVOCLDSTL	GIRDY#
K7	M12CCLK	GDEVSEL#
N6	M12CDATA	GTRDY#
N7	MDVICLK	GFRAME#
M6	MDVIDATA	GSTOP#
P7	MDDCLK	GAD15
T7	MDDCDATA	GAD19
K5	DVOCD0	GAD20
K1	DVOCD1	GAD21
K3	DVOCD2	GAD22
K2	DVOCD3	GAD23
J6	DVOCD4	GCBE#3
J5	DVOCD5	GAD25
H2	DVOCD6	GAD24
H1	DVOCD7	GAD27
H3	DVOCD8	GAD26
H4	DVOCD9	GAD28
H6	DVOCD10	GAD29
G3	DVOCD11	GAD28
E5	ADDID0	GSBA0
F5	ADDID1	GSBA1
E3	ADDID2	GSBA2
E2	ADDID3	GSBA3
G5	ADDID4	GSBA4
F4	ADDID5	GSBA5
G6	ADDID6	GSBA6
F6	ADDID7	GSBA7
L7	DVODETECT	GPAP
D3	DPMS	GPIPE#
F2	RVSD1	GSBSTB
F3	RVSD2	GSBSTB#
B2	RVSD3	GNNT#
B3	RVSD4	GREQ#
C2	RVSD5	GST2
C3	GST1	GST1
C4	GST0	GWBF#
D2	RVSD8	GRBF#
D3	RVSD9	GCBE#2
L4	RVSD11	

I2C BUS PULL UP

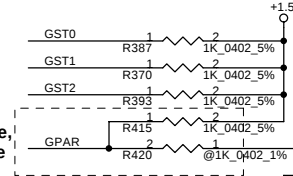


	AGP	DVO
R401		Pop
R384		Pop
Q28	Pop	Pop
R414	Pop	Pop
R335		Pop
R415	Pop	Pop
R420		Pop

Isolating AGP singals



Sharp pin list



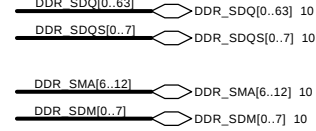
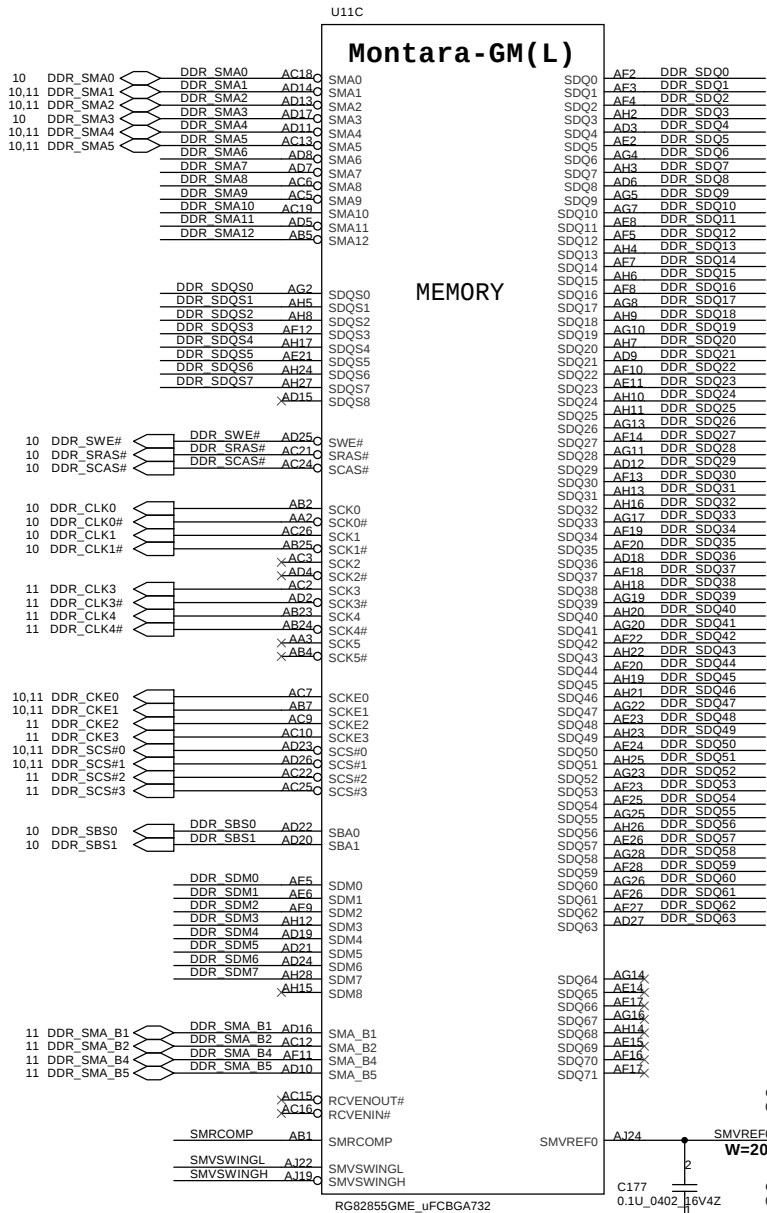
LCLKCTLB: High for P4, NC for Banias
DVODETECT: HIGH for AGP, LOW for DVO

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 *

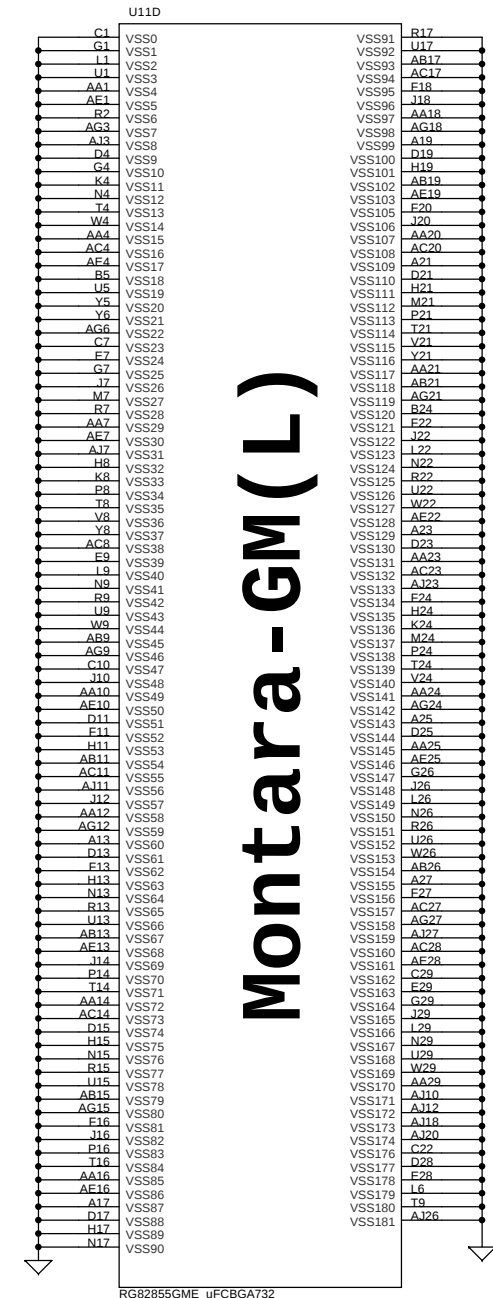
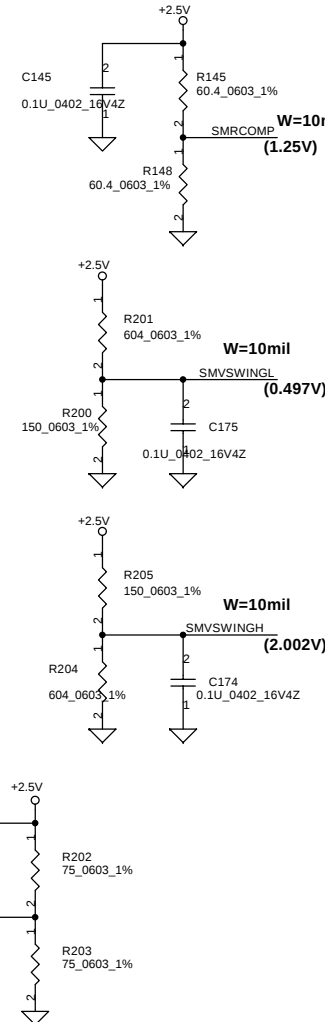
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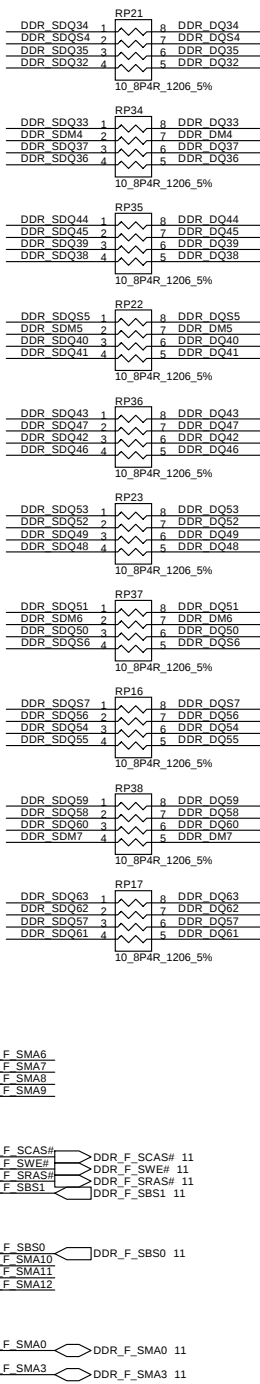
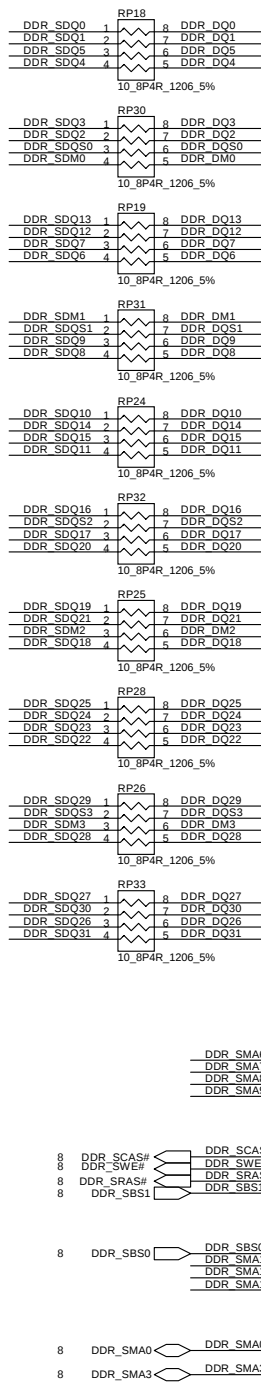
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DDR REF & SWING VOLTAGE



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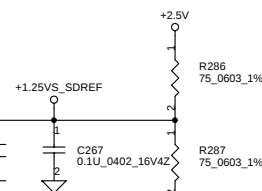
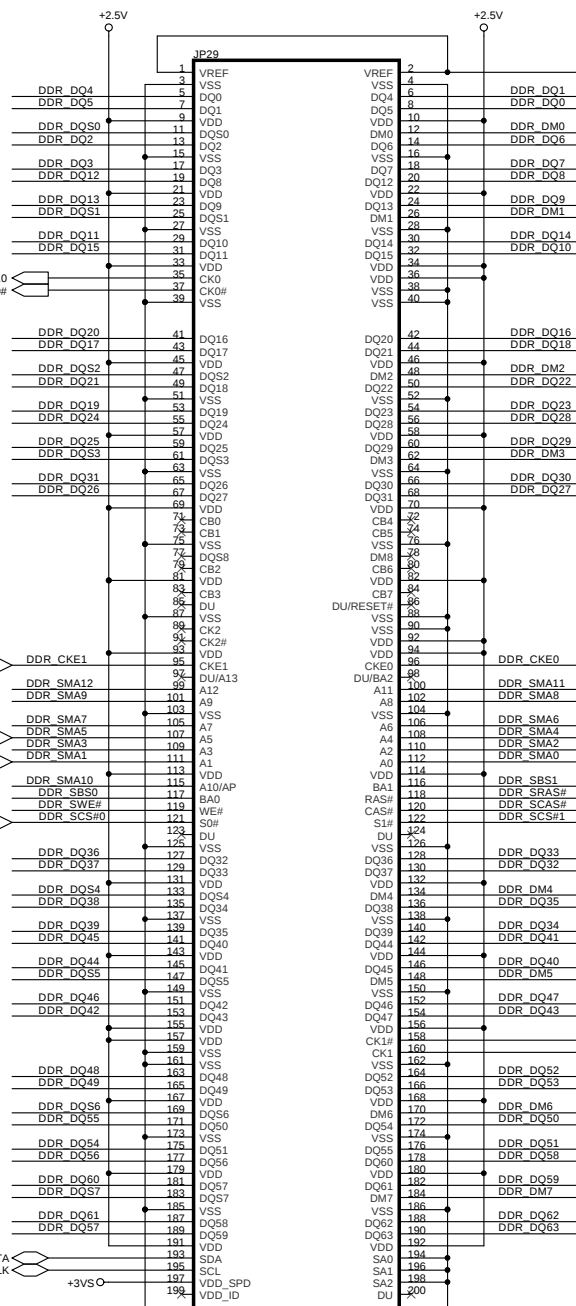


8 DDR_CLK0
8 DDR_CLK0#

8.11 DDR_CKE1
8.11 DDR_SMA5
8.11 DDR_SMA1
8.11 DDR_SCS#0

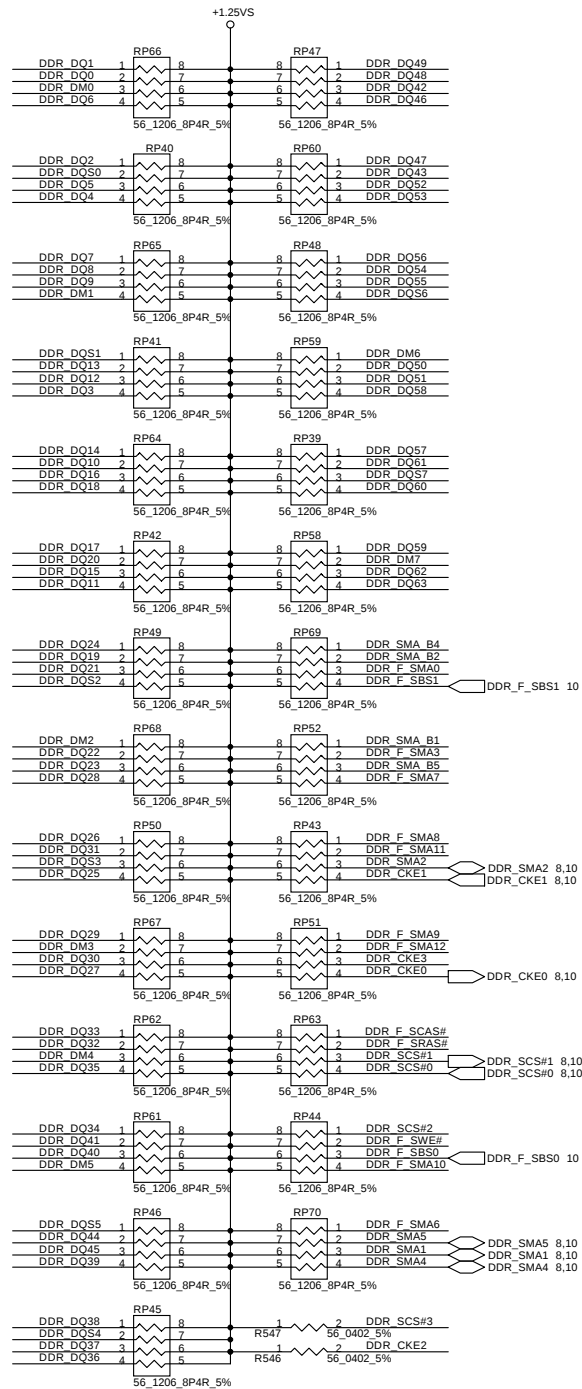
11.13.23 SMB_DATA
11.13.23 SMB_CLK

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DDR_SDQ[0..63] 8
DDR_DQ[0..63] 11
DDR_DQS[0..7] 11
DDR_SDQS[0..7] 8
DDR_F_SMA[6..12] 11
DDR_SMA[6..12] 8
DDR_DM[0..7] 11
DDR_SDM[0..7] 8

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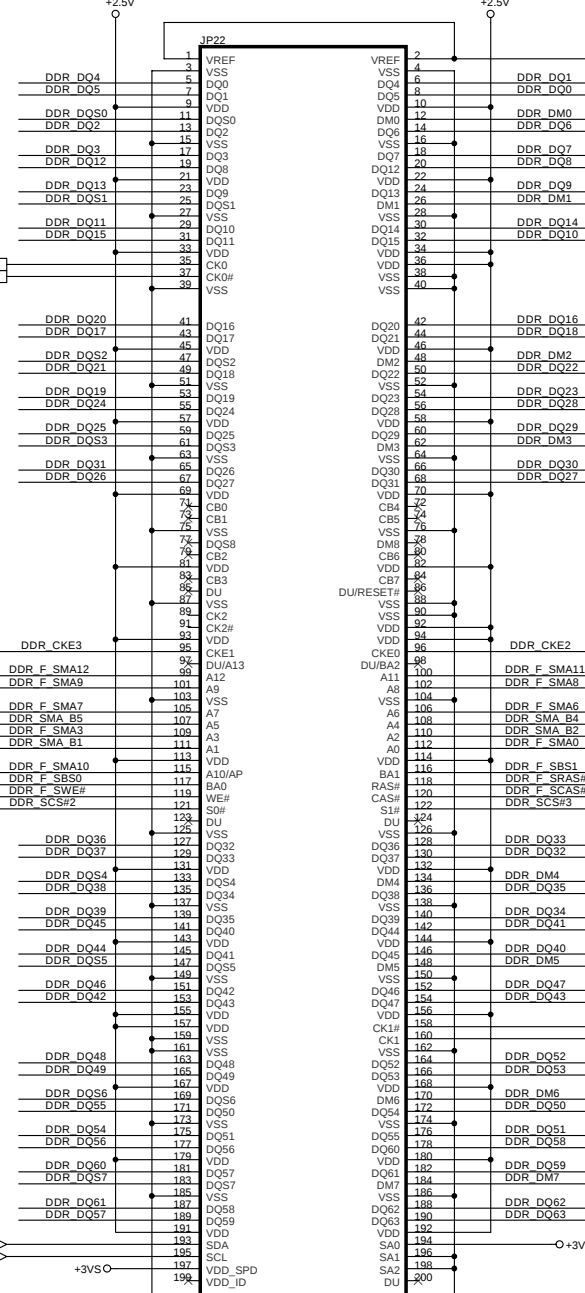
8 DDR_CLK3
8 DDR_CLK3#

8 DDR_CKE3
DDR_CKE3

8 DDR_SMA_B5
8 DDR_SMA_B1

10 DDR_F_SWE#
8 DDR_SCS#2

10.13.23 SMB_DATA
10.13.23 SMB_CLK



DIMM1

DDR F_SMA[6..12] 10
DDR DQ[0..63] 10
DDR DQS[0..7] 10
DDR DM[0..7] 10

DDR_CKE2 8

DDR F_SMA11
DDR F_SMA8

DDR F_SBS1 10
DDR F_SCS#3 8

DDR_CLK4# 8
DDR_CLK4 8

DDR_SMA2 8.10
DDR_CKE1 8.10

DDR_SCS#1 8.10
DDR_SCS#0 8.10

DDR_F_SBS0 10

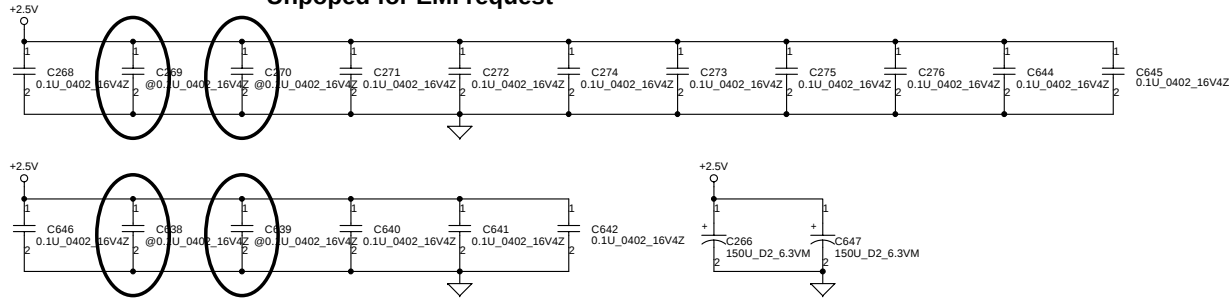
DDR_SMA5 8.10
DDR_SMA1 8.10
DDR_SMA4 8.10

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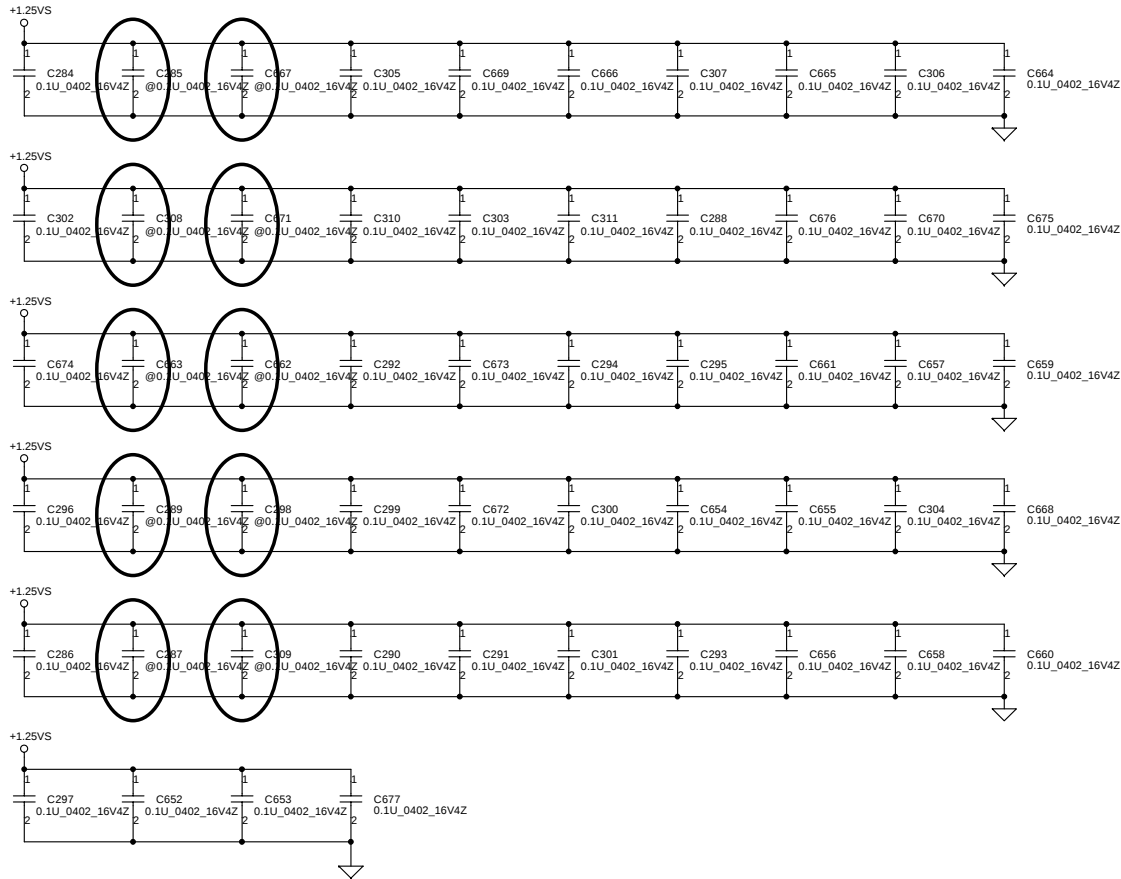
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Layout note :
Distribute as close as possible
to DDR-SODIMM.

Unpoped for EMI request



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

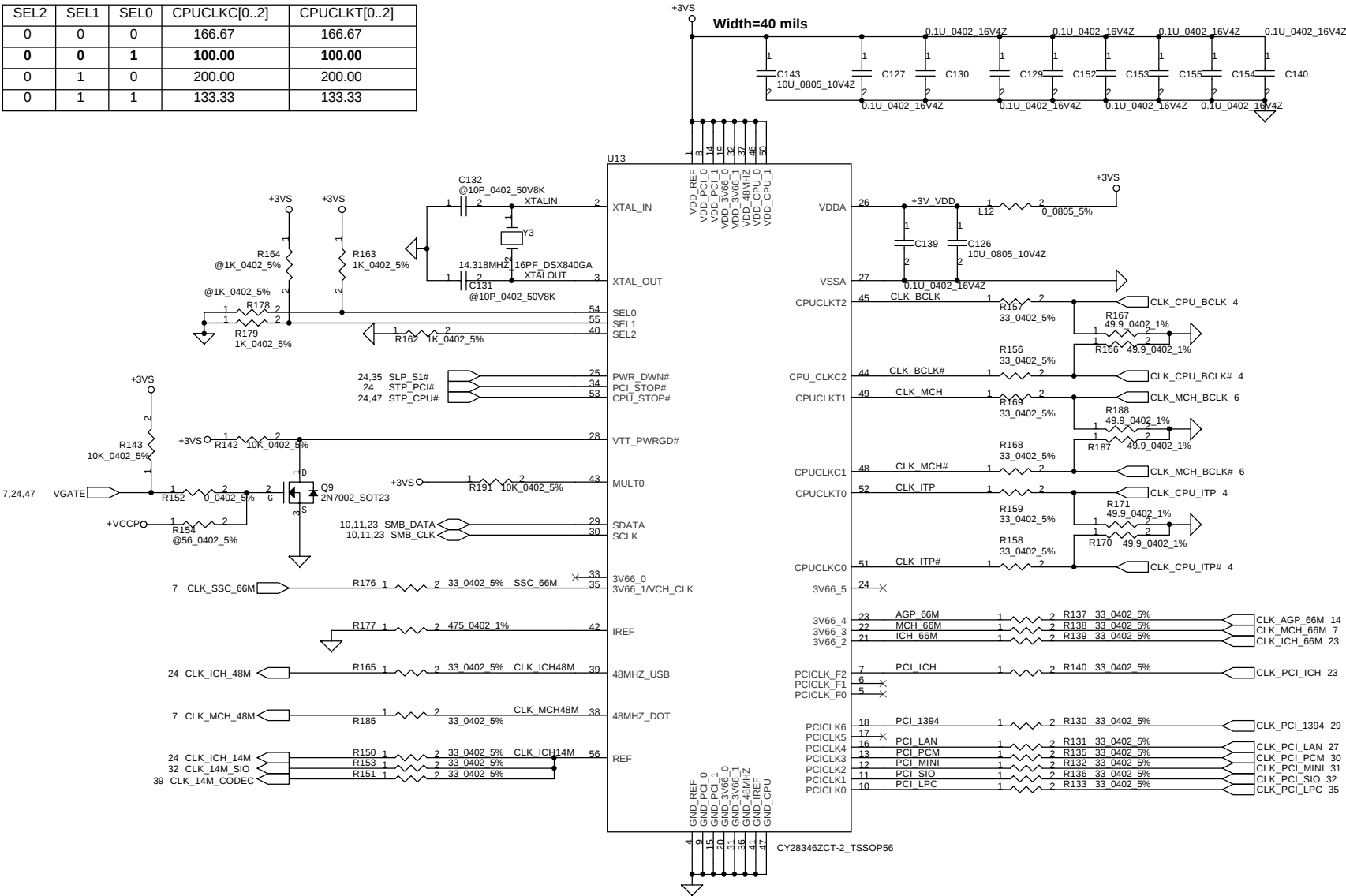


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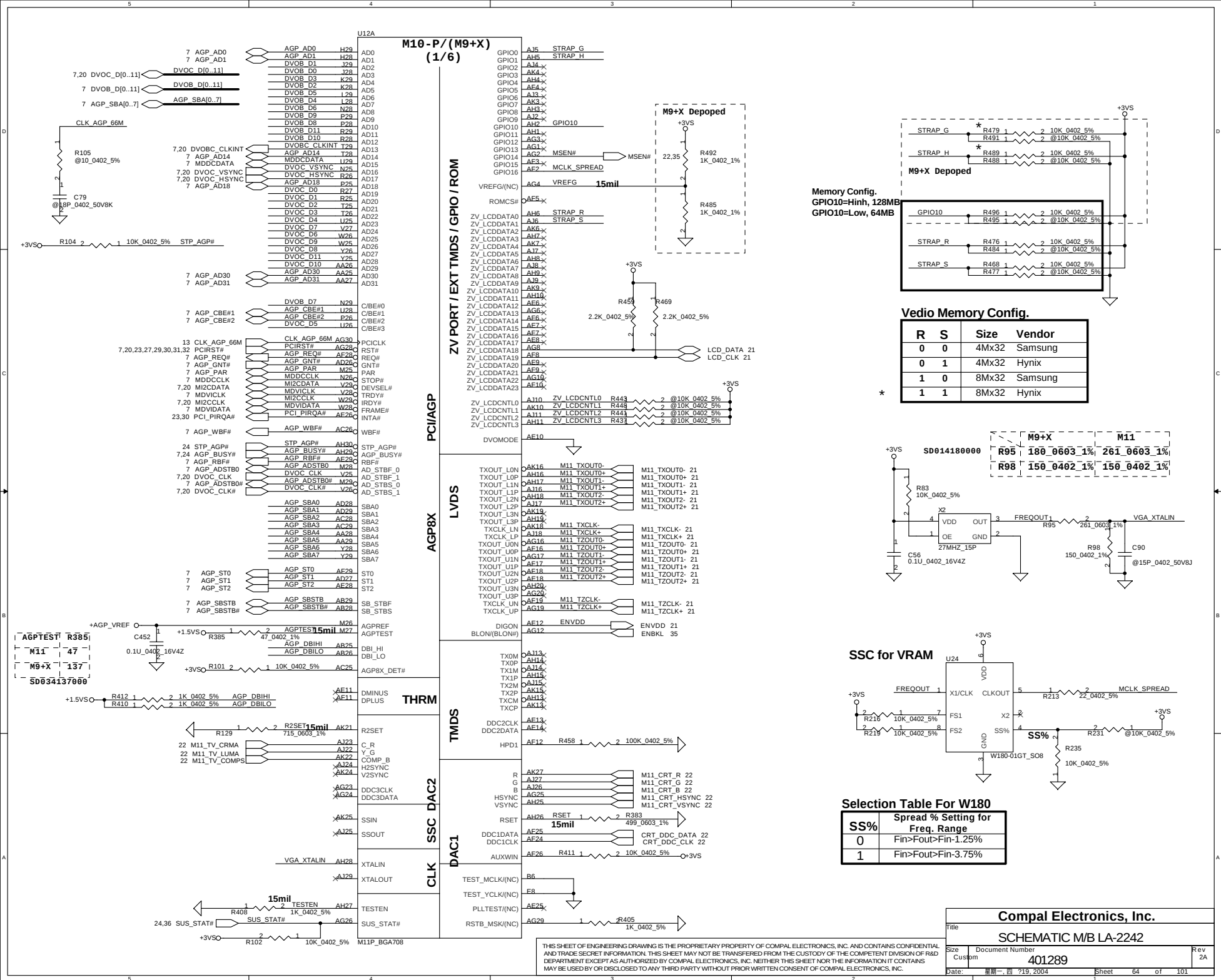
Clock Generator

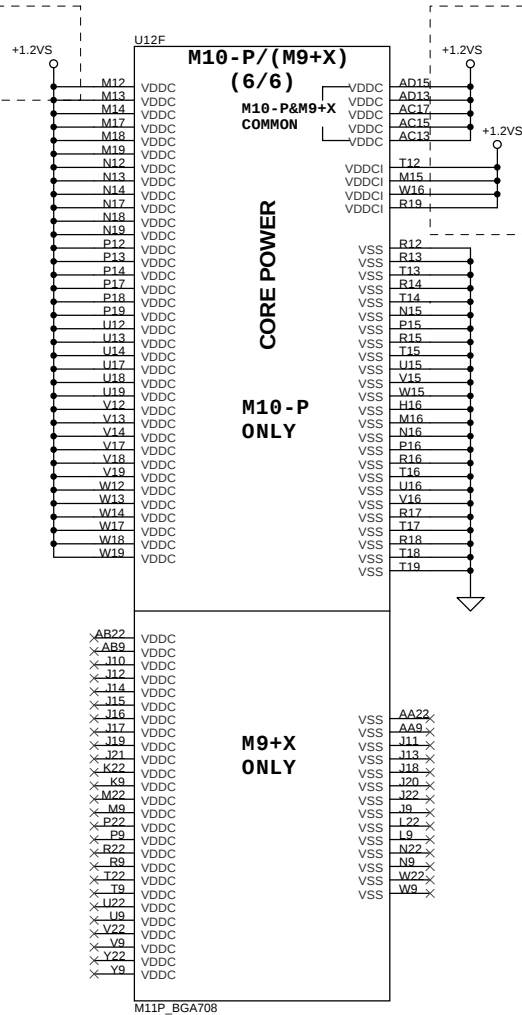
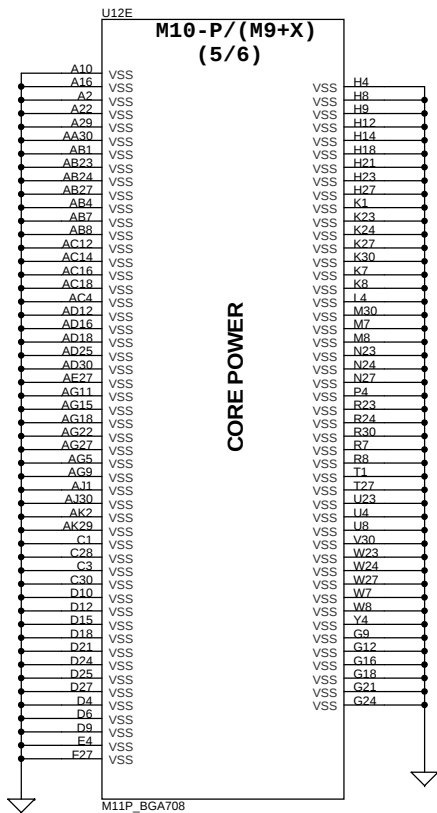
SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33



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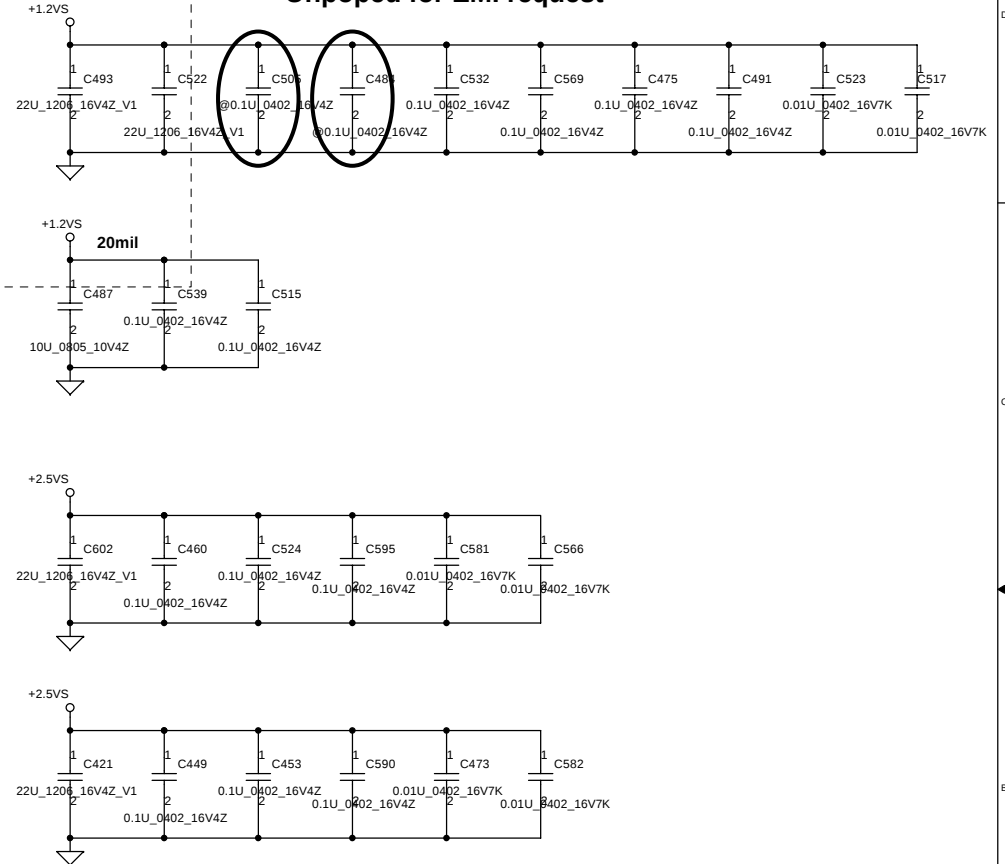
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For VGA CORE:
(M11 +VGA_CORE = 1.2V)
(M9+X +VGA_CORE = 1.5V)

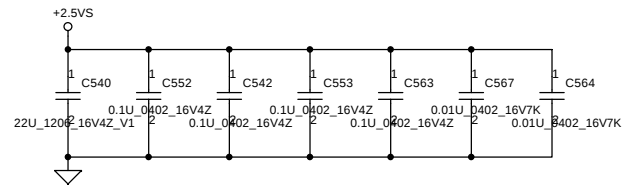
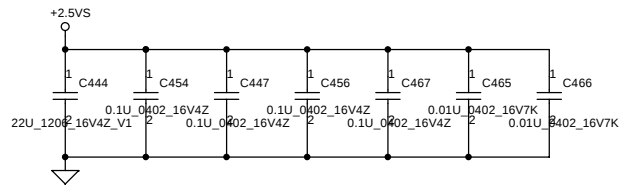
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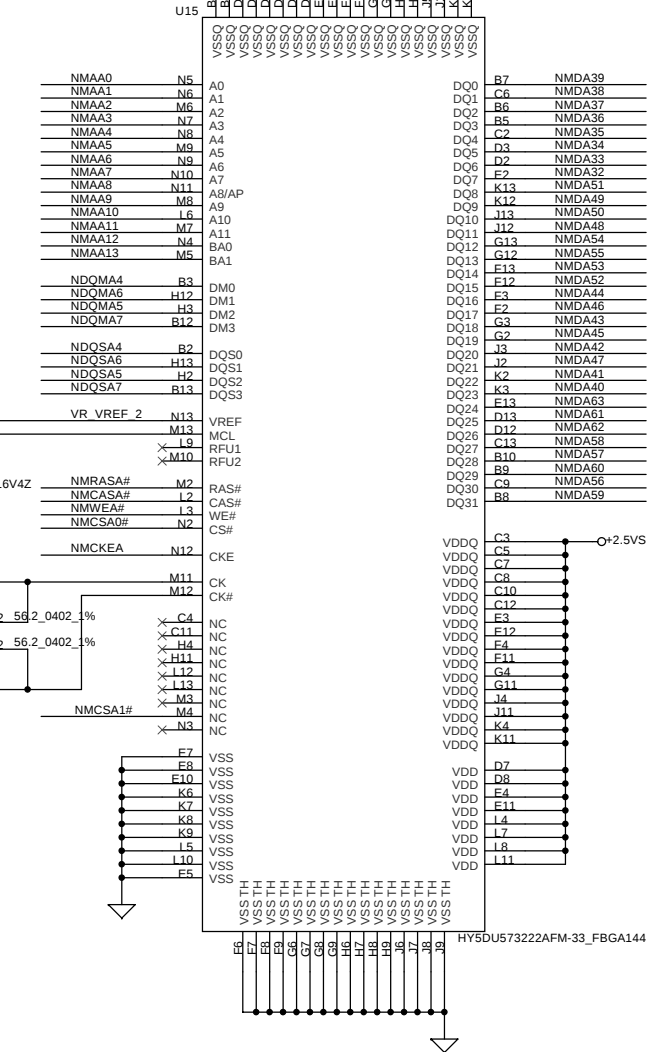
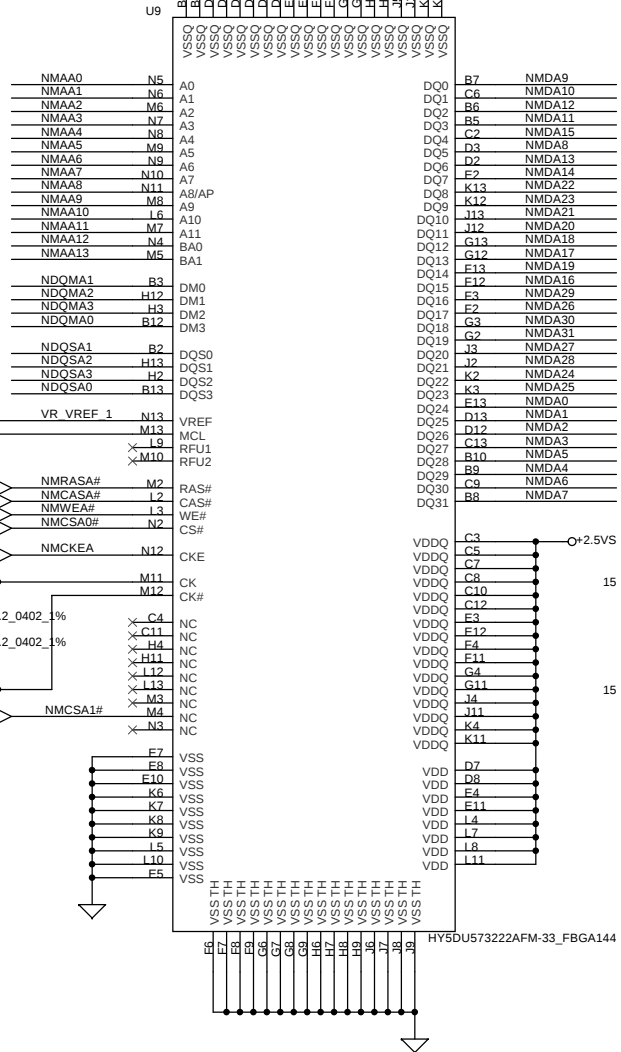
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15 NMDA[0..63] NMDA[0..63]
15 NMAA[0..13] NMAA[0..13]
15 NDQMA[0..7] NDQMA[0..7]
15 NDQSA[0..7] NDQSA[0..7]



LCD POWER CIRCUIT

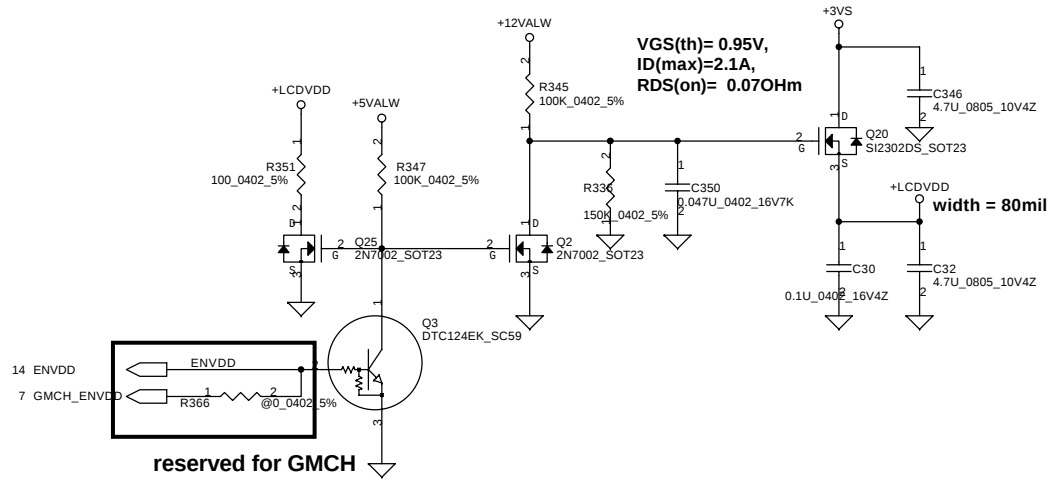
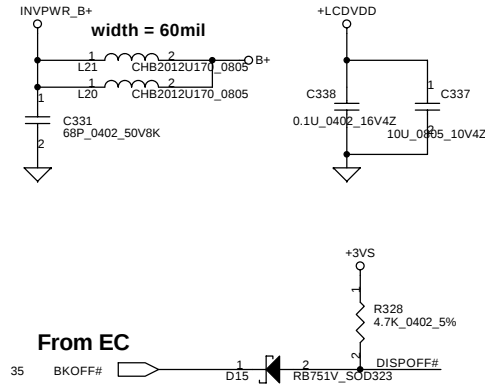
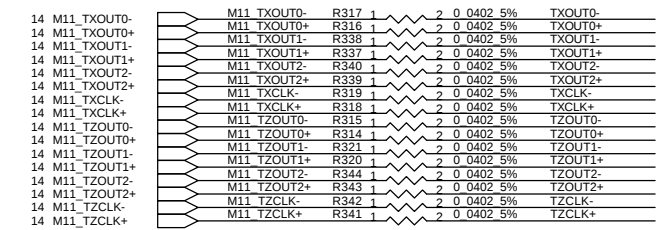
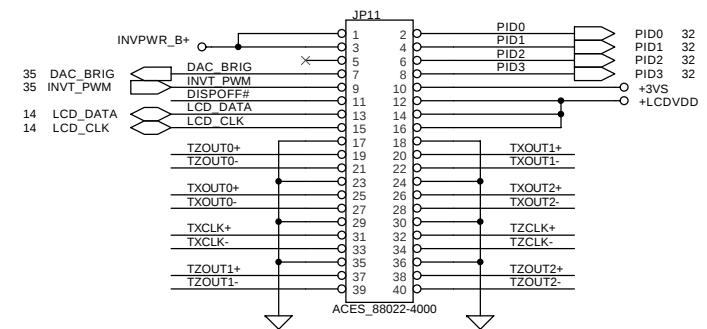


Table 1: Panel ID

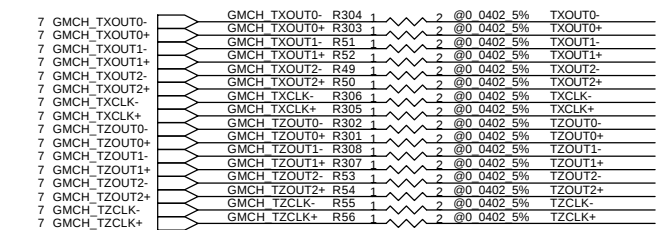
PID3	PID2	PID1	PID0	PANEL
0	1	0	0	SANYO TM154WX-22L31 15.4" WXGA 1280X800
0	1	0	1	AU B154EW01 15.4" WXGA 1280X800
0	1	1	0	CPT CLAA154WA01 15.4" WXGA 1280X800
0	1	1	1	SAMSUNG LTN154X1-L02 15.4" WXGA 1280X800
1	0	0	1	SAMSUNG LTN154P1-L02 15.4" WSXGA+ 1680X1050
1	0	1	0	LG LP154W02-A1 15.4" WSXGA+ 1680X1050



LCD CONN.



For ATI M11P



For GMCH

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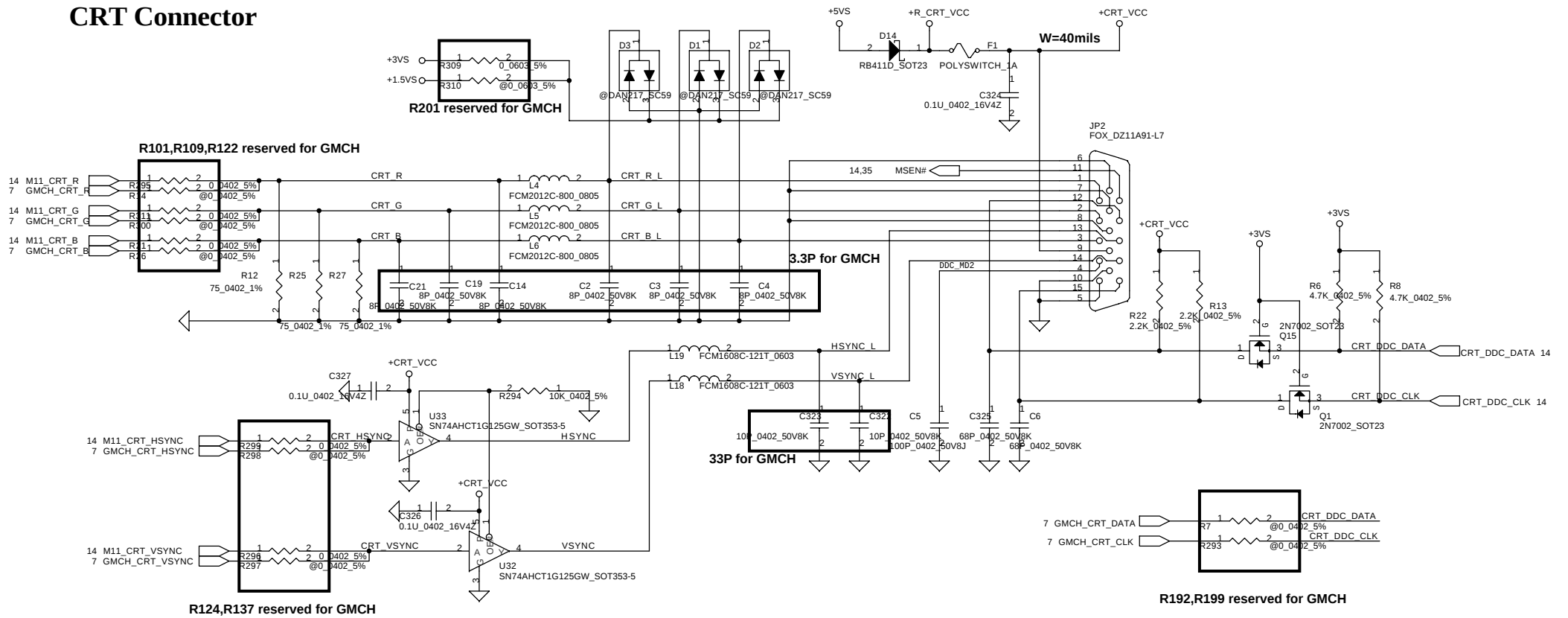
Title
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Size
Document Number
401289

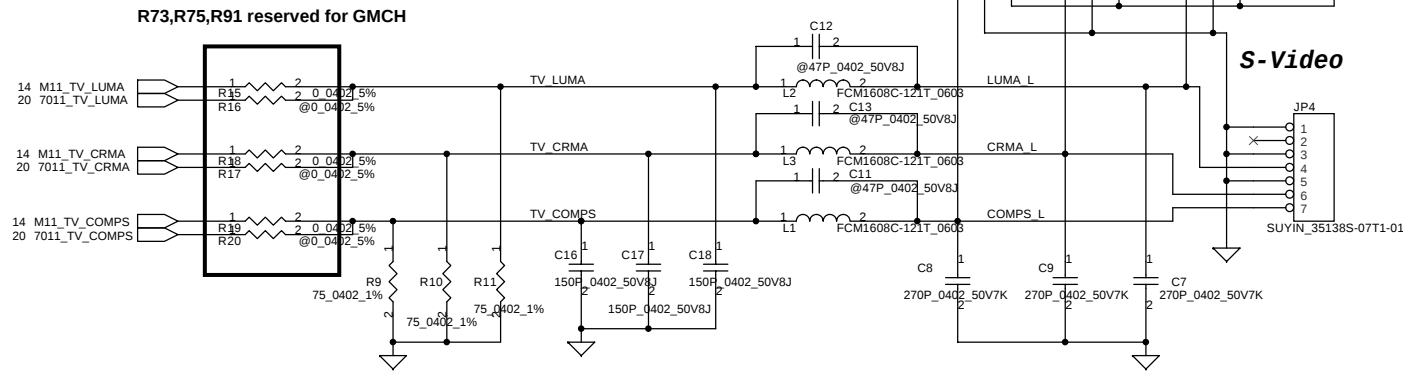
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CRT Connector

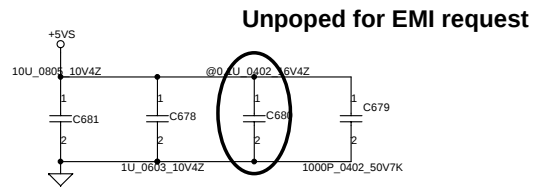


TV-Out Connector

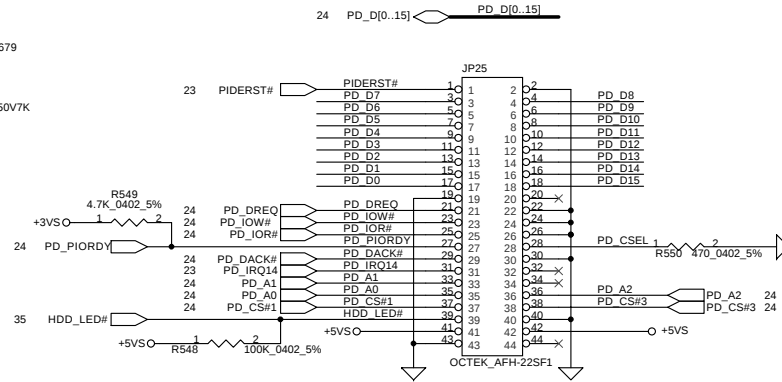


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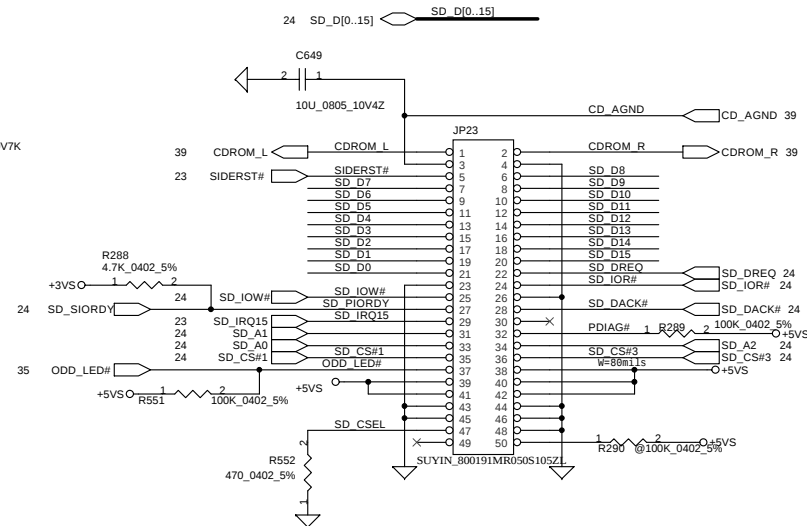
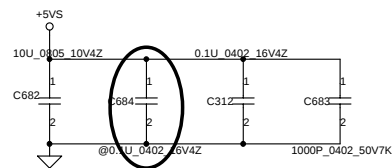
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HDD CONN



CDROM CONN

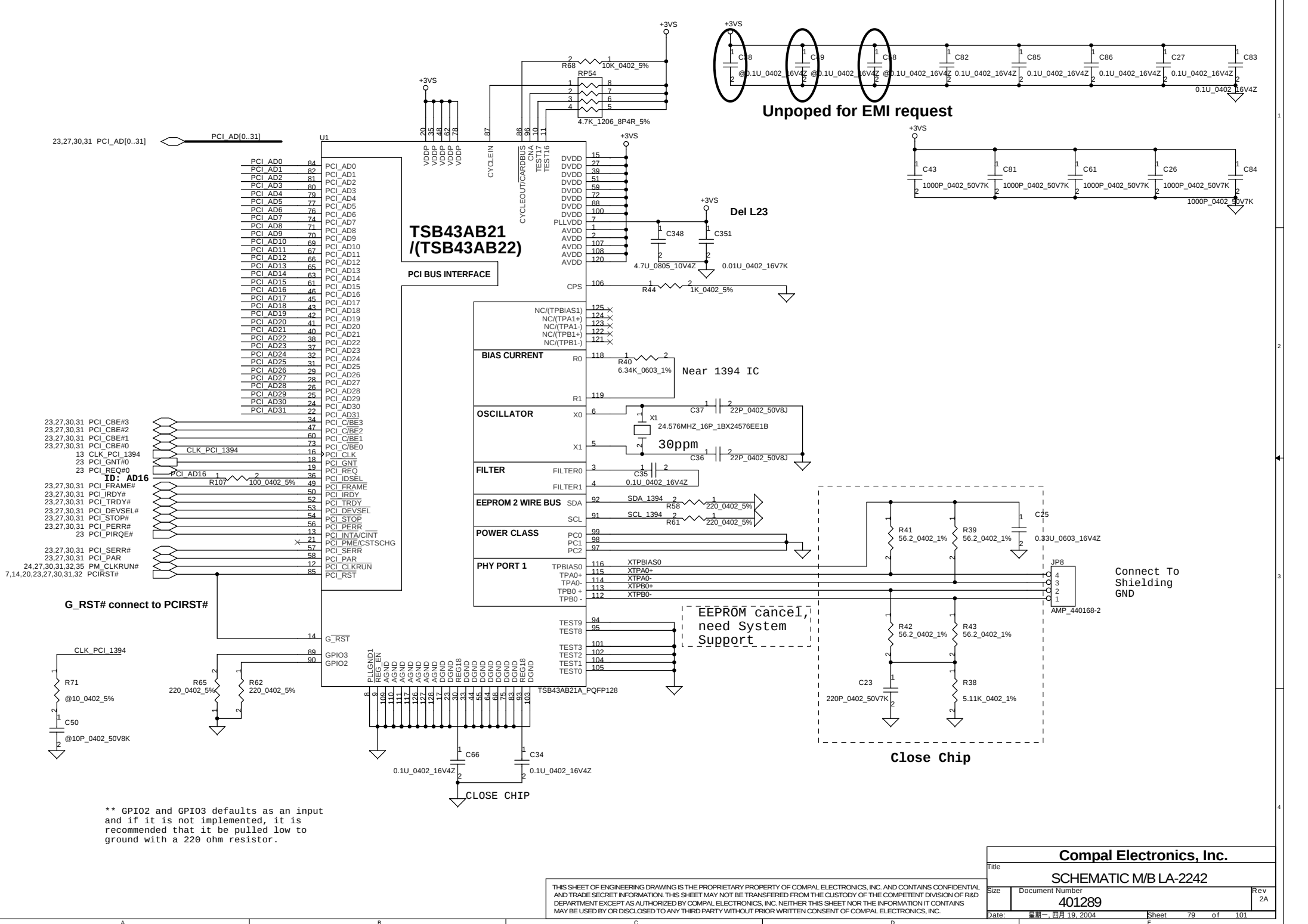


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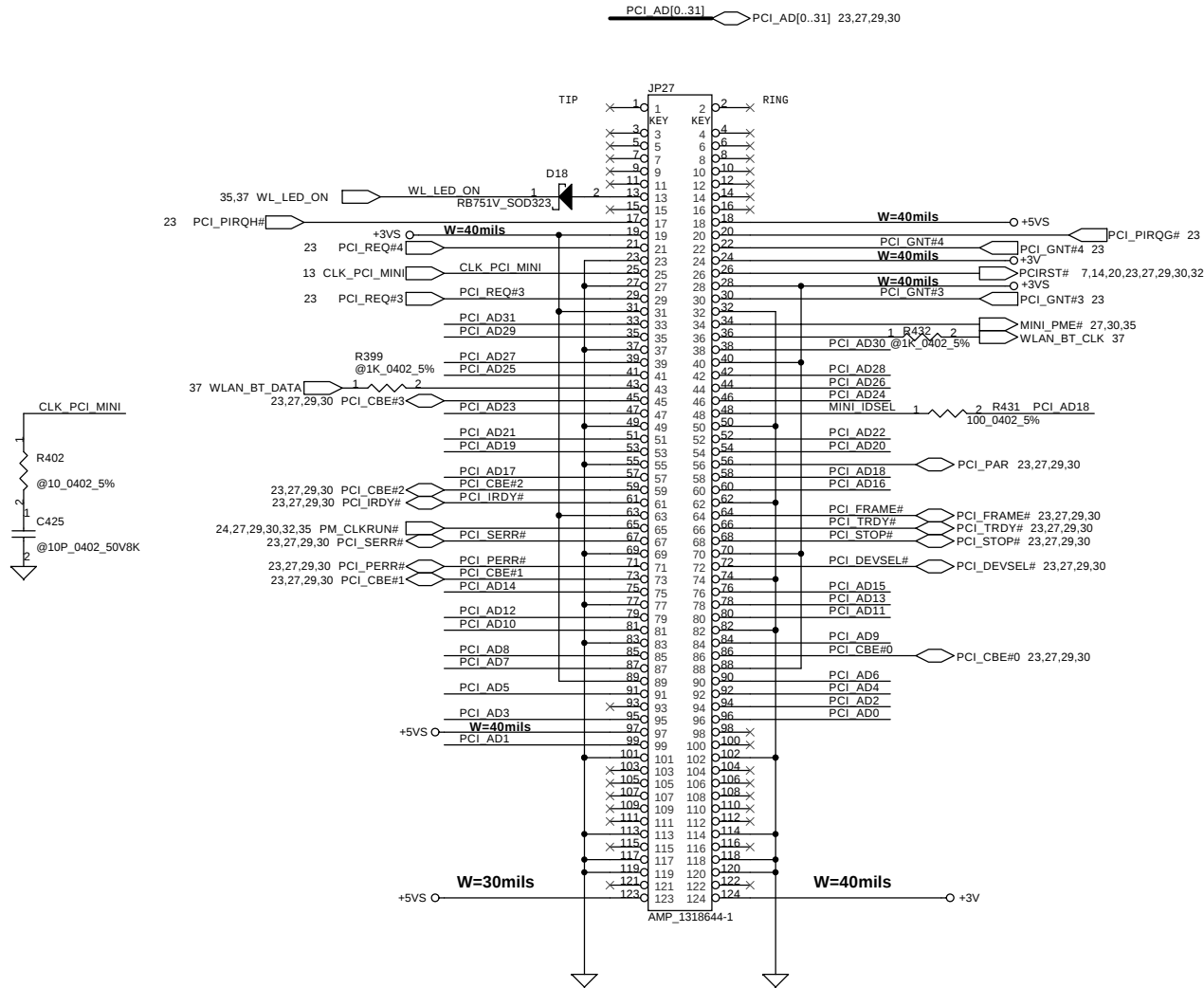
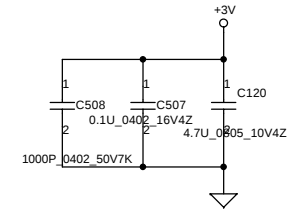
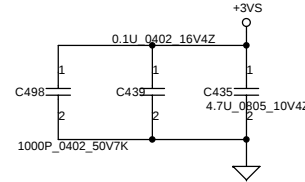
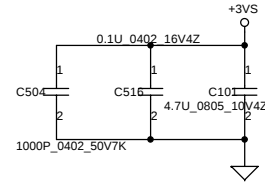
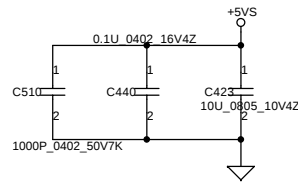
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** GPIO2 and GPIO3 defaults as an input and if it is not implemented, it is recommended that it be pulled low to ground with a 220 ohm resistor.

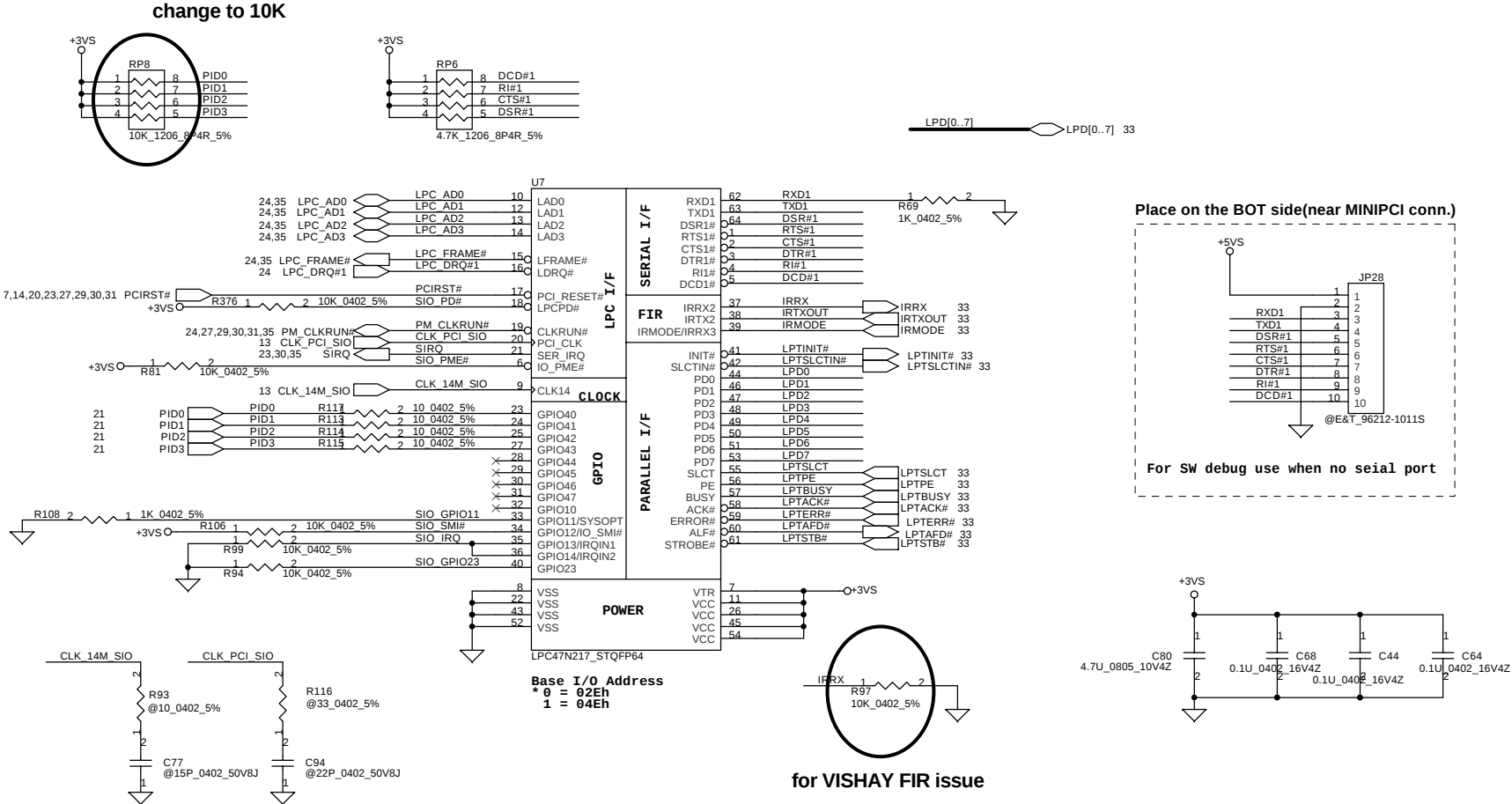
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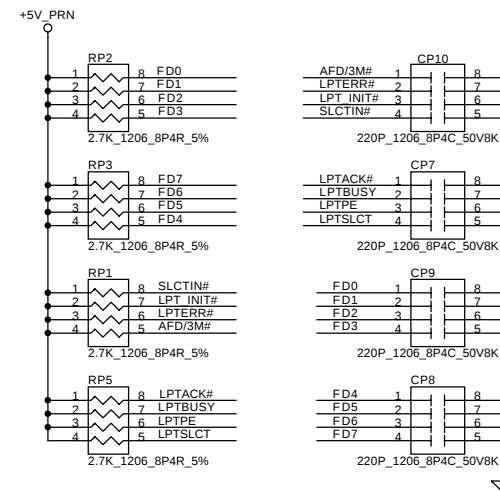
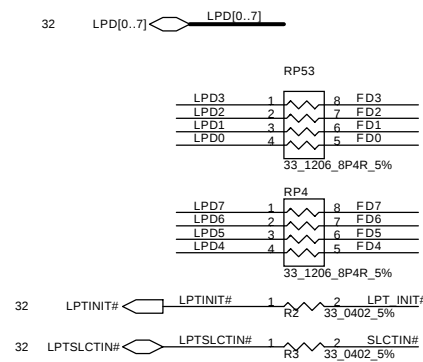
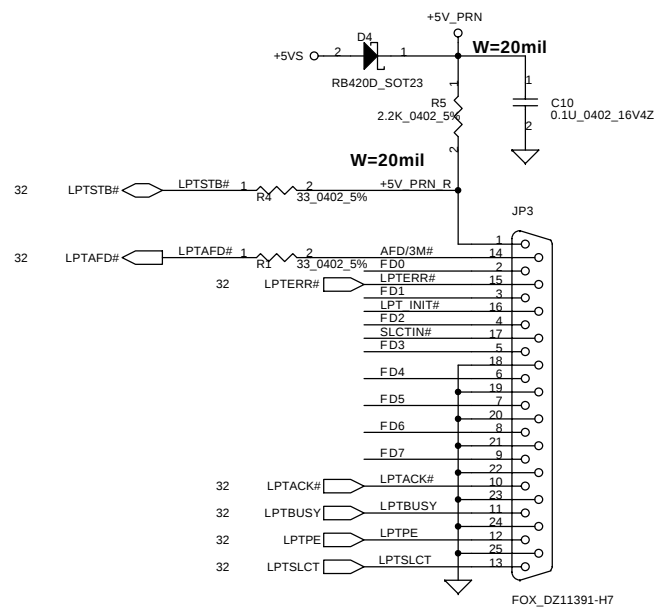
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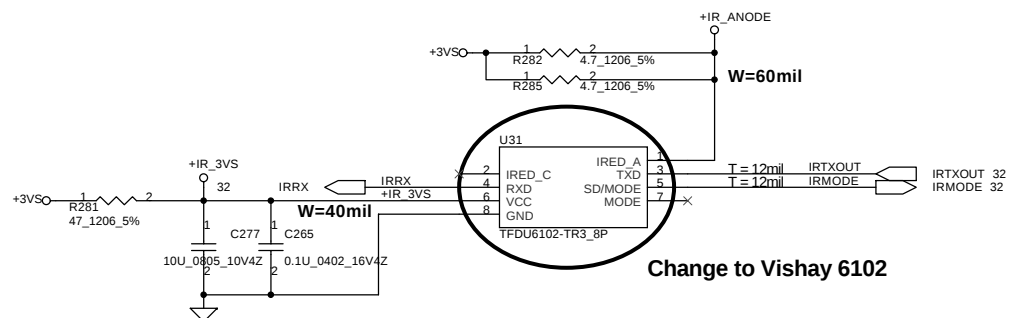
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Parallel Port



FIR Module



Change to Vishay 6102

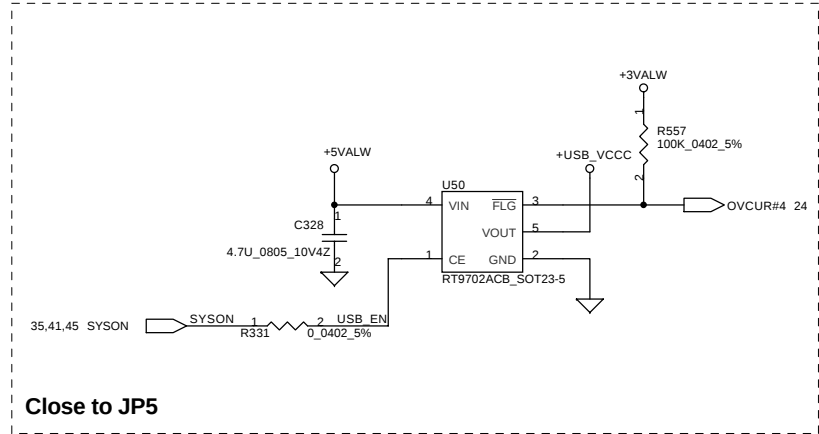
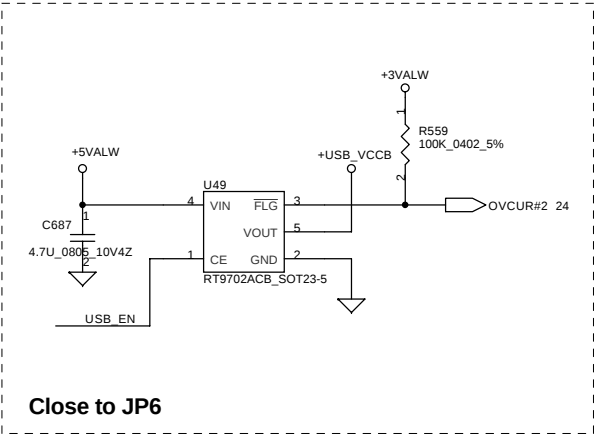
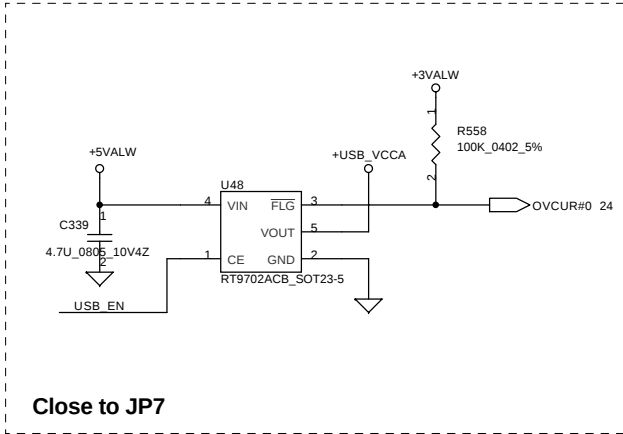
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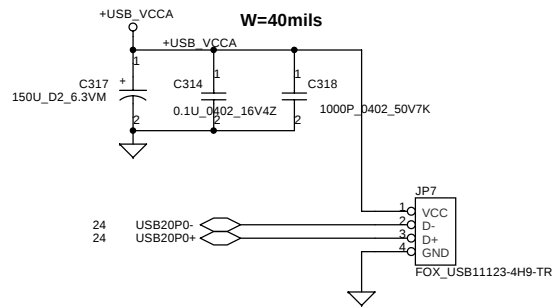
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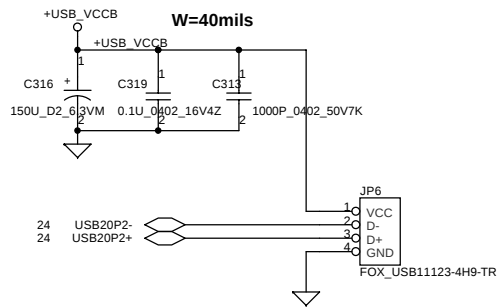
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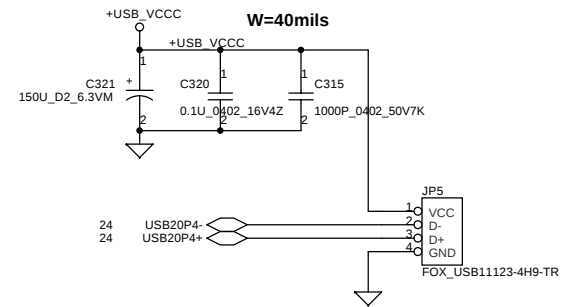
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USB CONN. 2

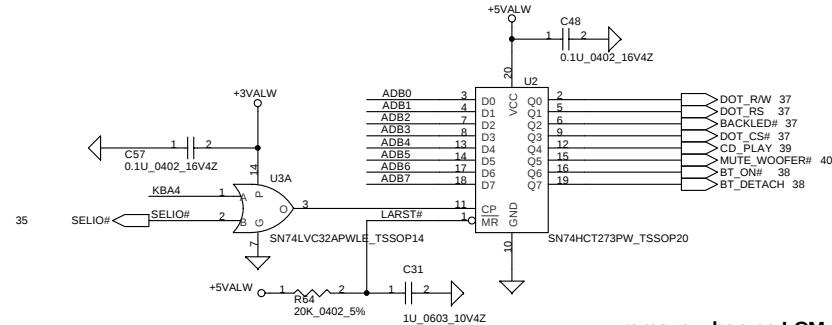
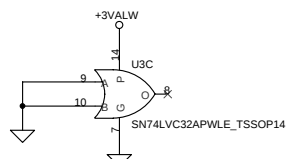
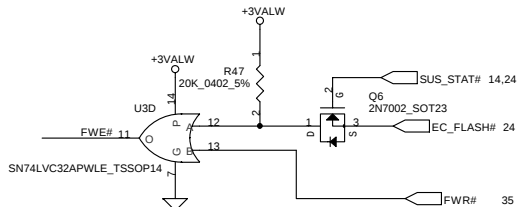
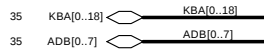


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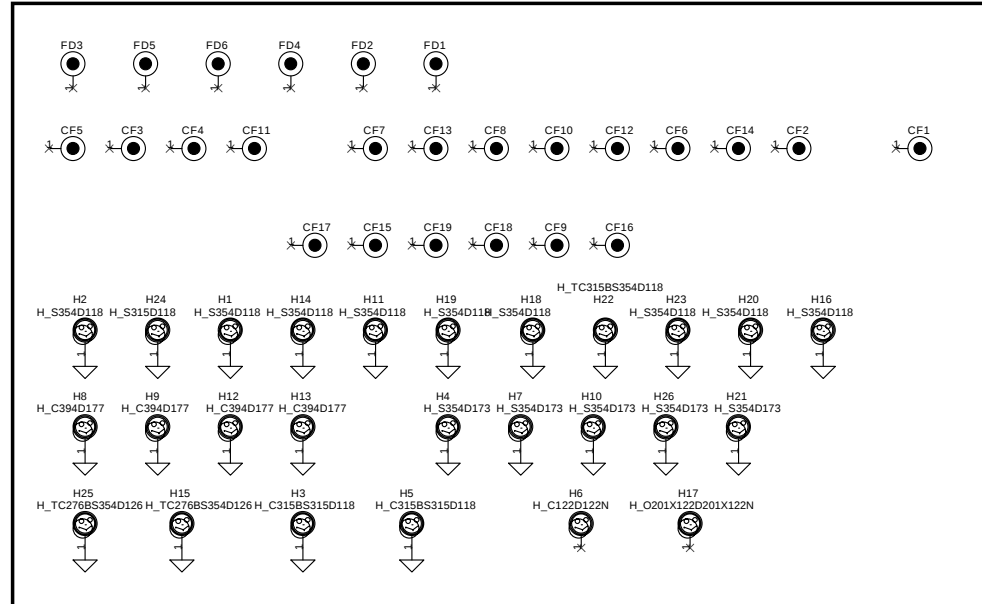
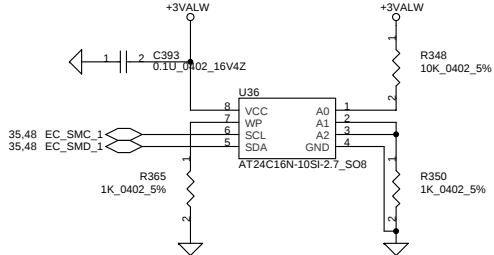
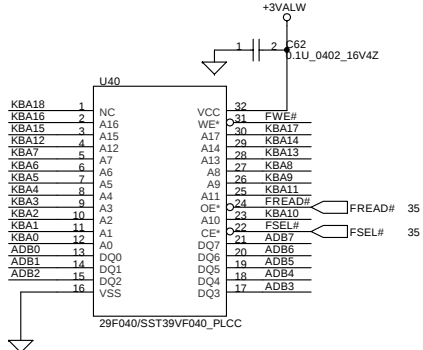
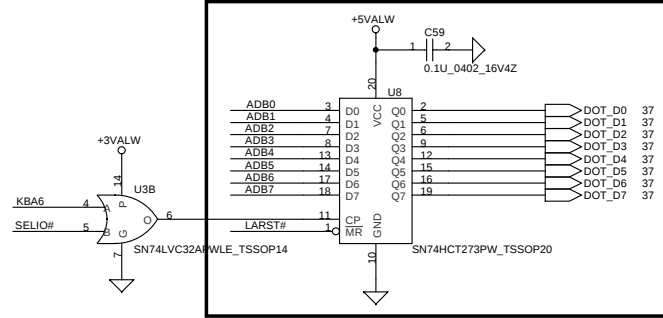


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remove when no LCM module



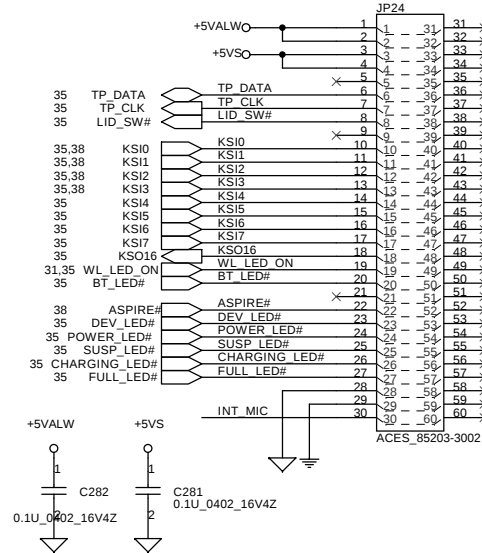
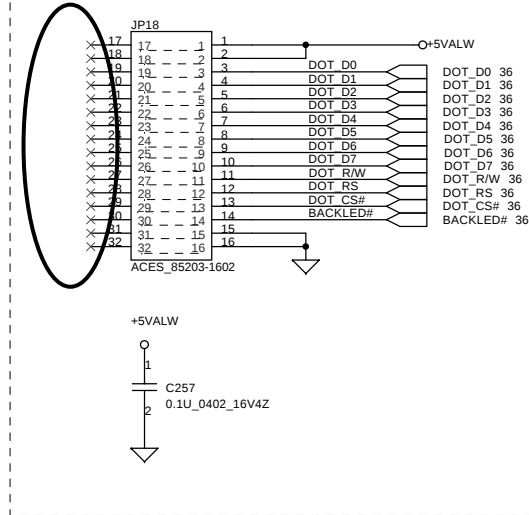
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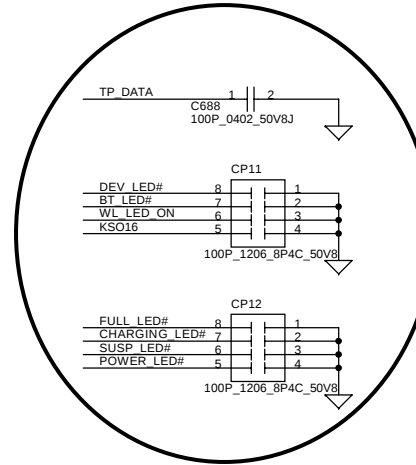
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To T/P Board

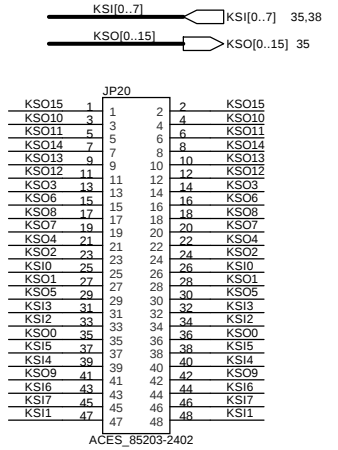
To LCM Board



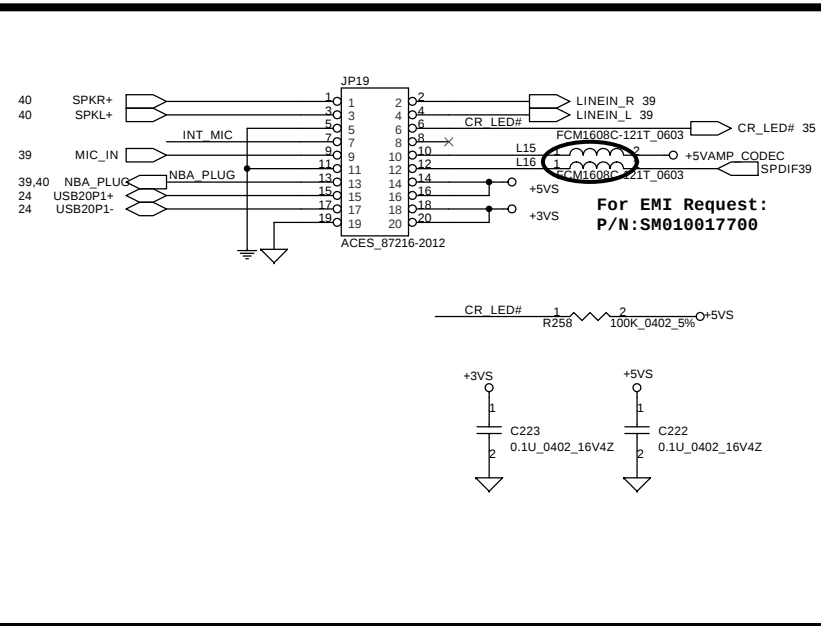
Add CP11,CP12,C688



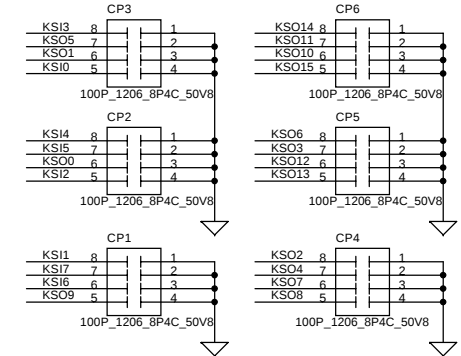
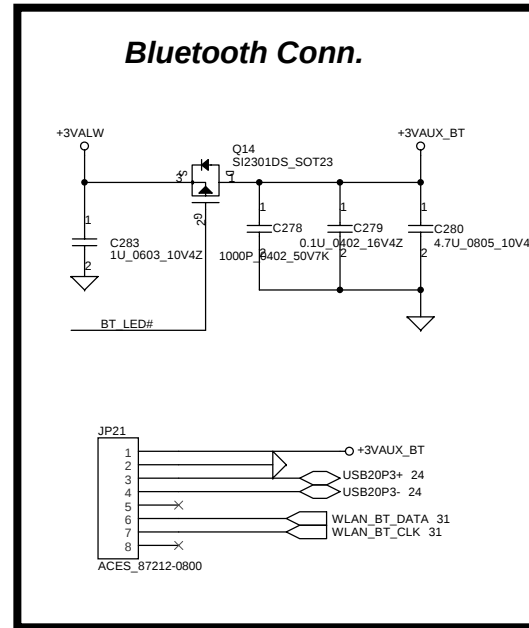
INT_KBD CONN.



To Card Reader Board



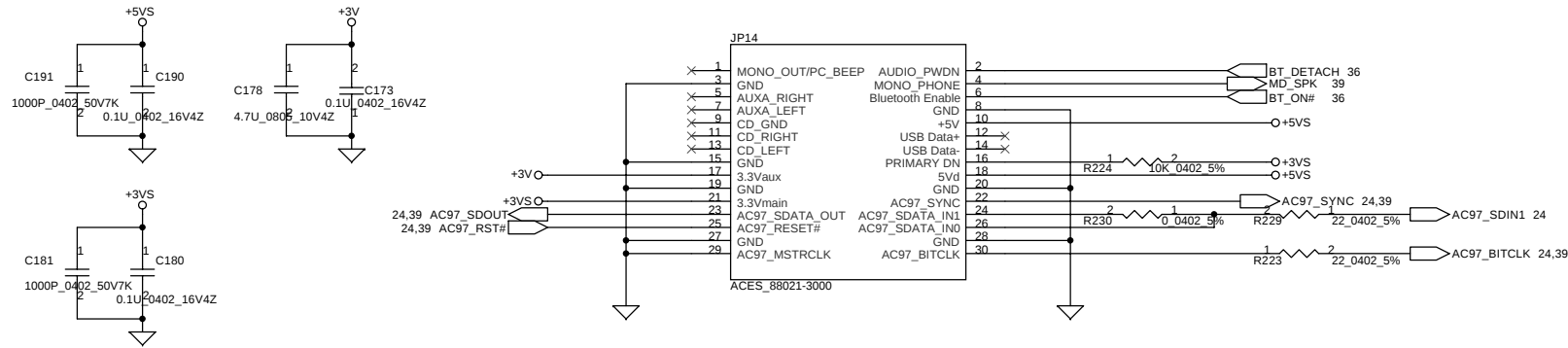
Bluetooth Conn.



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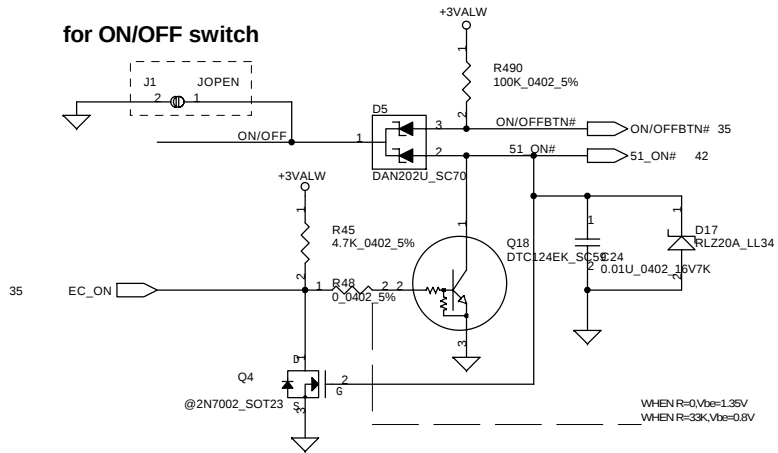
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MDC Conn.

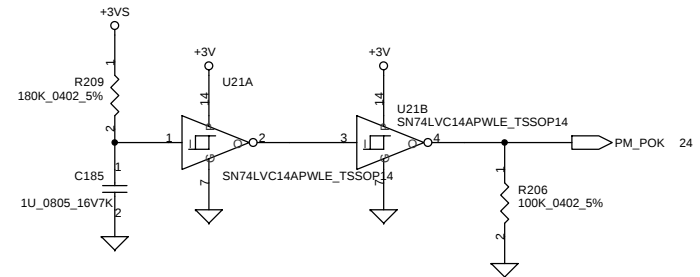


ON/OFF BUTTON

for ON/OFF switch

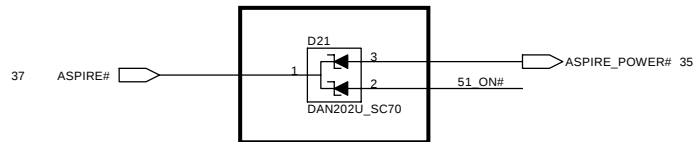


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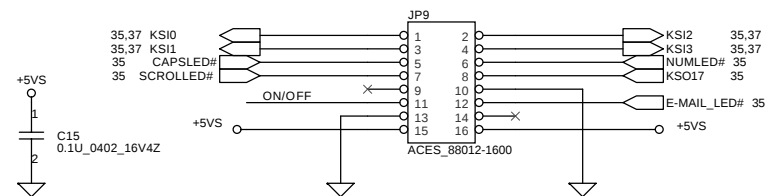


ASPIRE POWER

remove when no MEDIA/B



POWER/B CONN

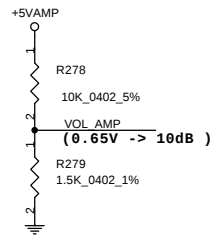


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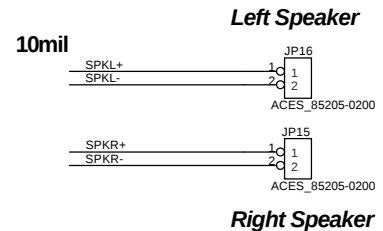
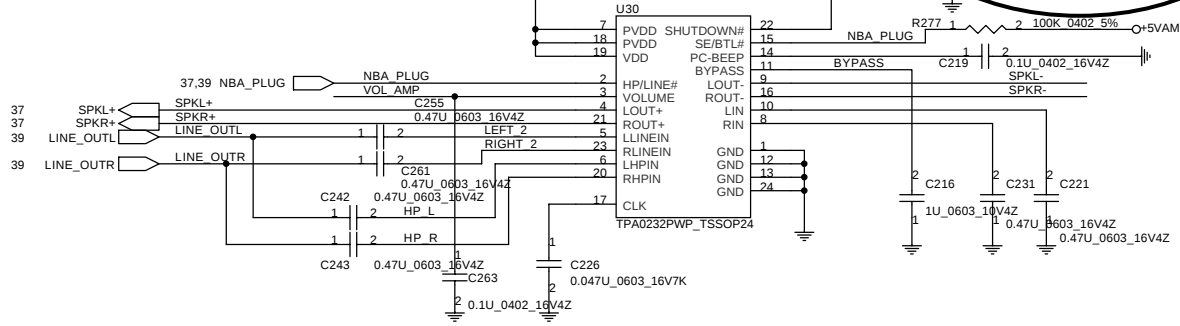
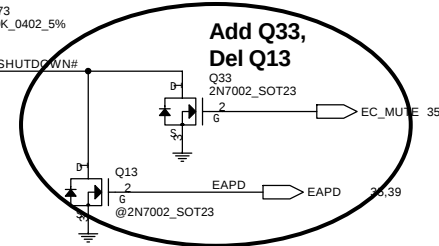
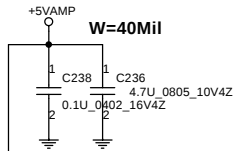
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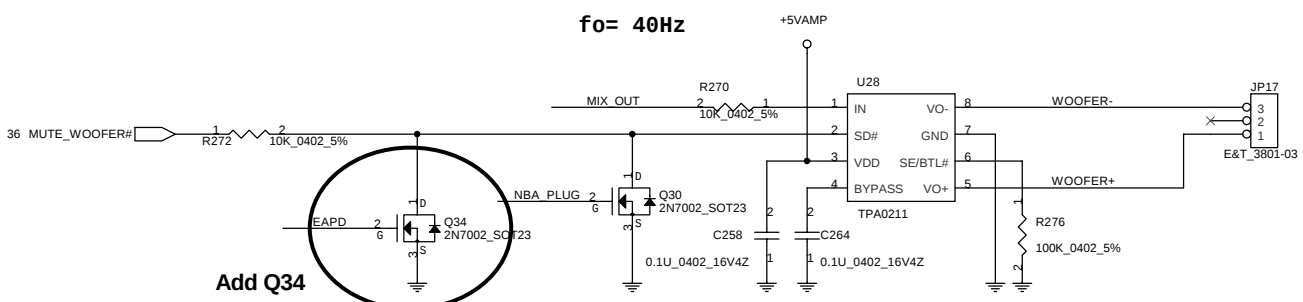
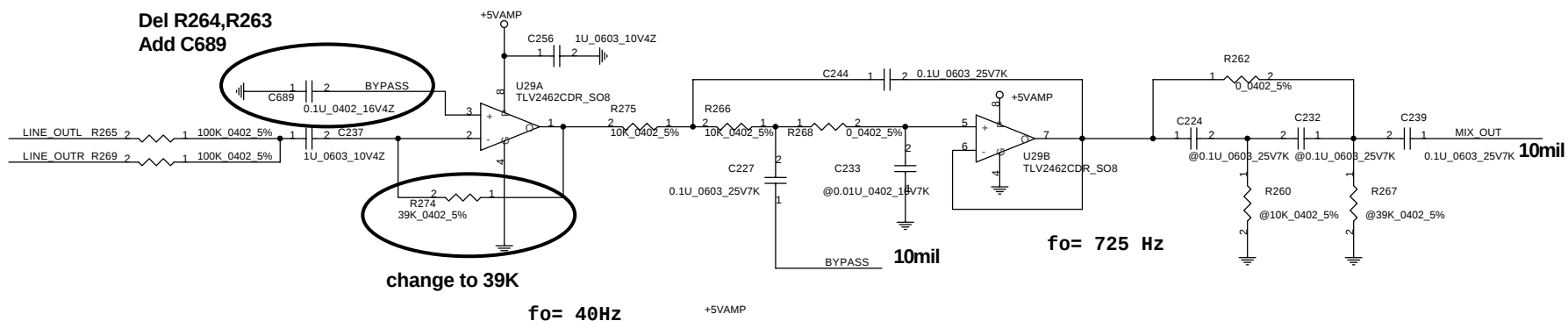
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Pin 2 HIGH PIN 6,20 ACTIVE
LOW PIN 5,23 ACTIVE



Del R264,R263
Add C689



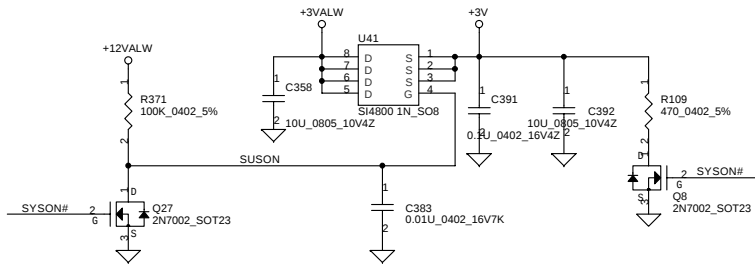
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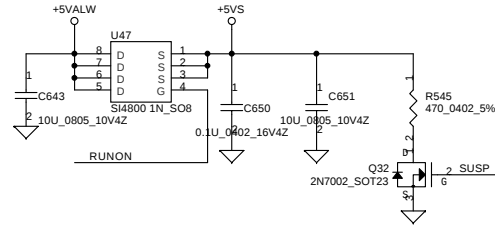
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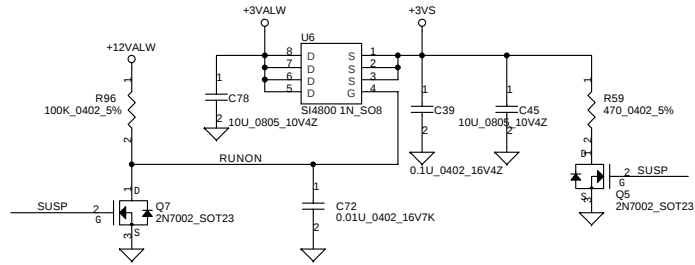
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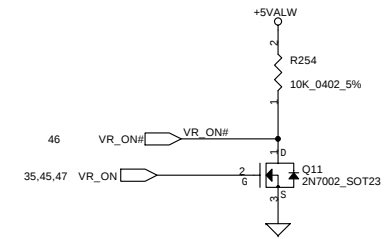
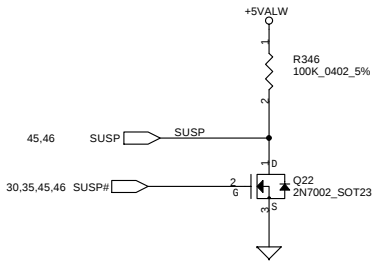
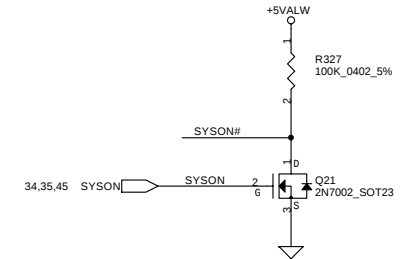
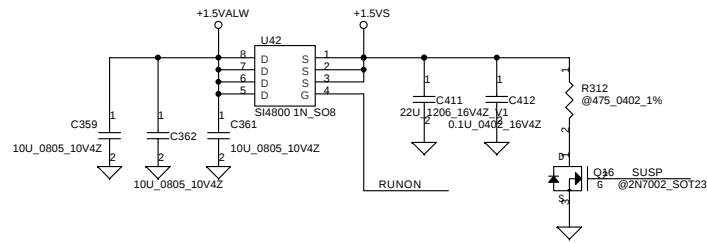
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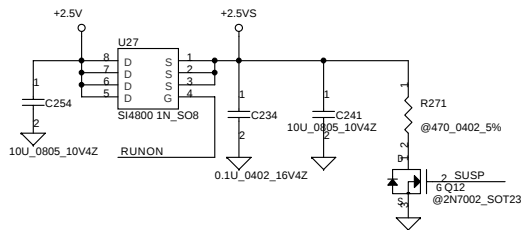
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+1.5VALW to +1.5VS Transfer



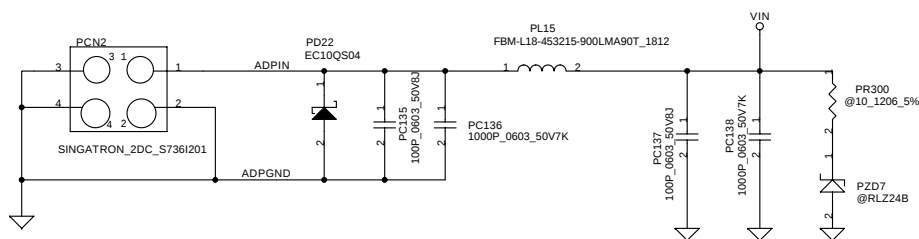
+2.5V to +2.5VS Transfer



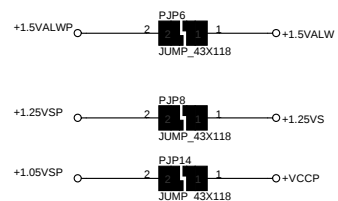
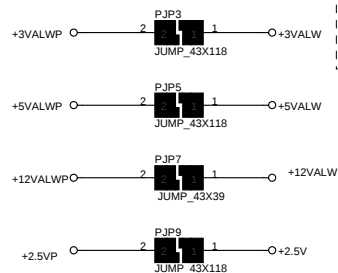
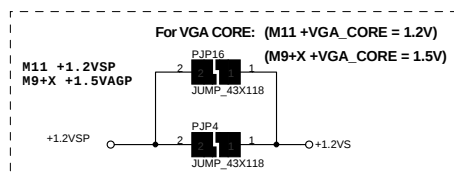
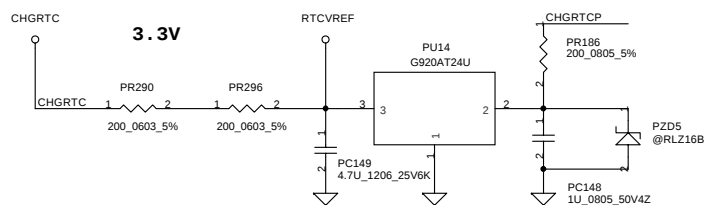
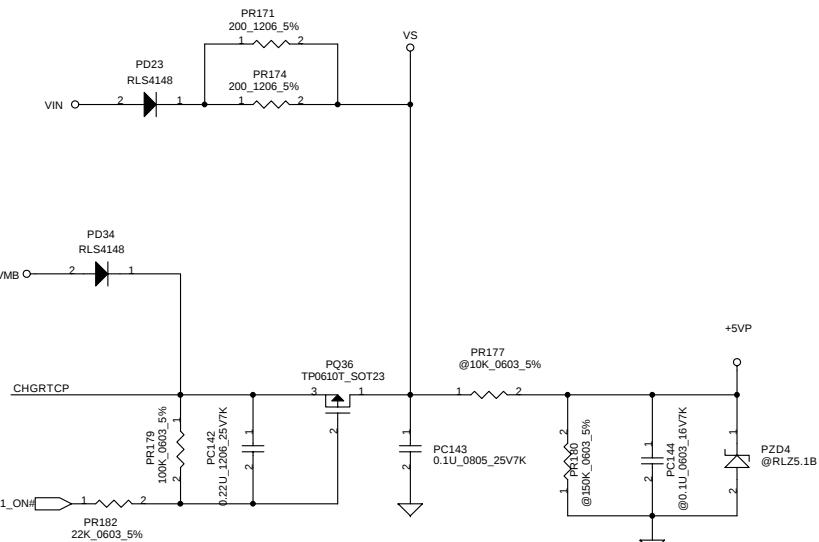
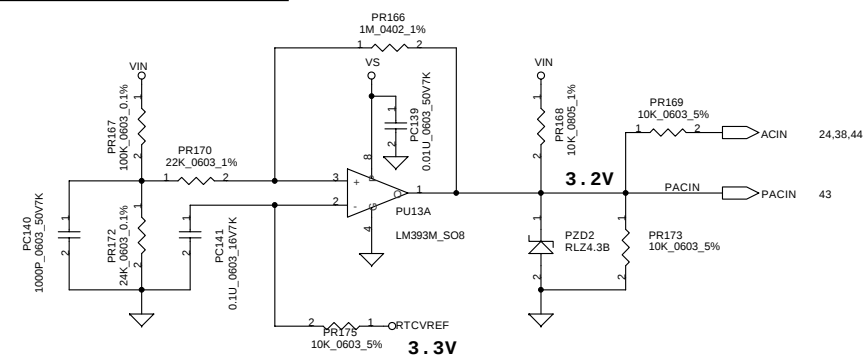
remove on Drongo4

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VIN detector
 18.239 17.755 17.273
 17.545 17.071 16.587

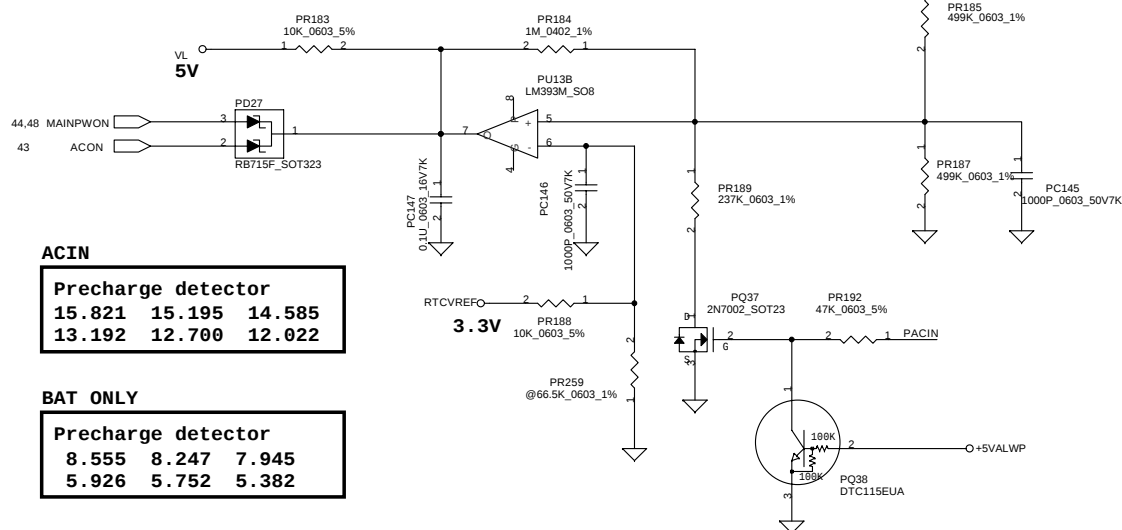


ACIN

Precharge detector
 15.821 15.195 14.585
 13.192 12.700 12.022

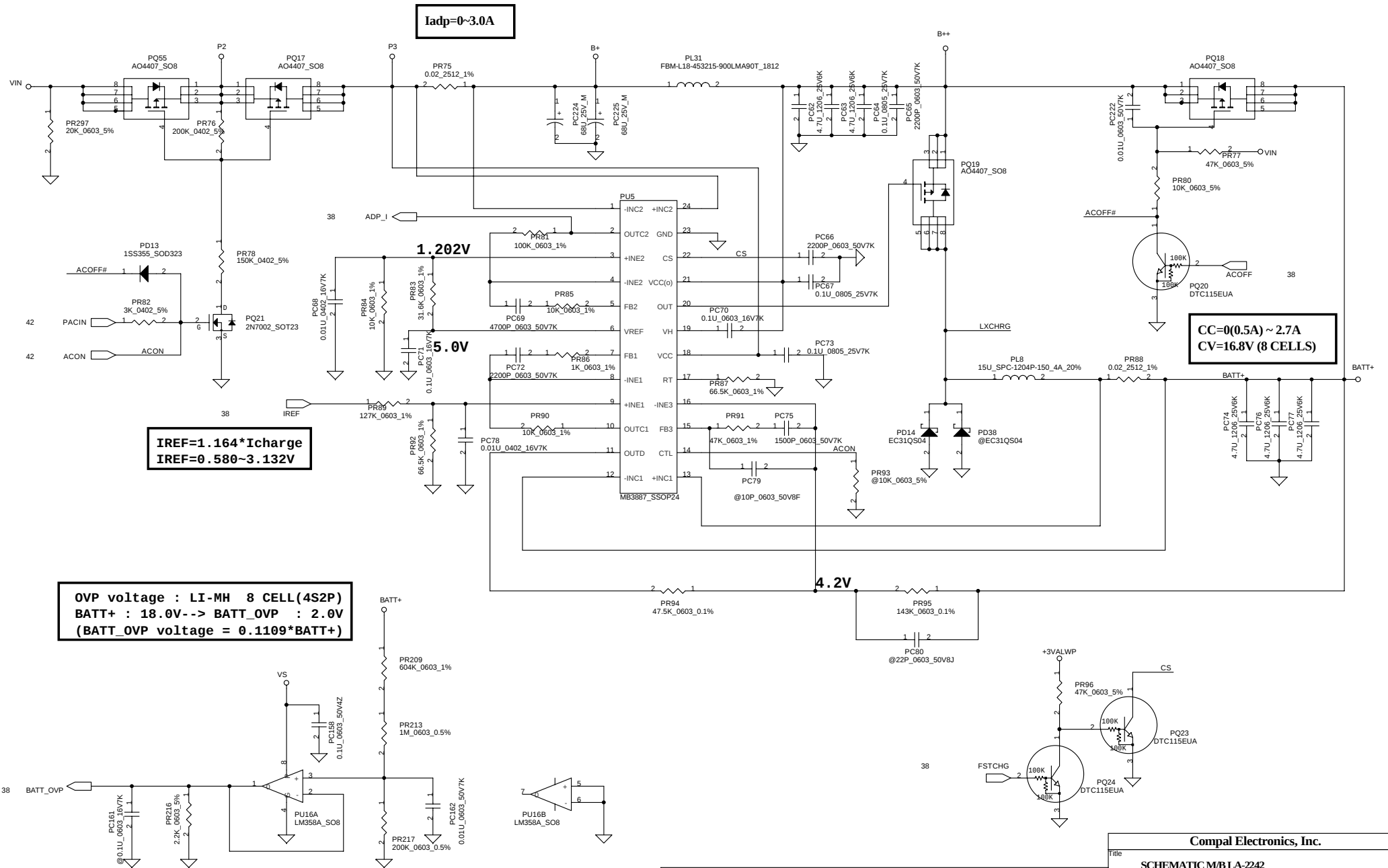
BAT ONLY

Precharge detector
 8.555 8.247 7.945
 5.926 5.752 5.382



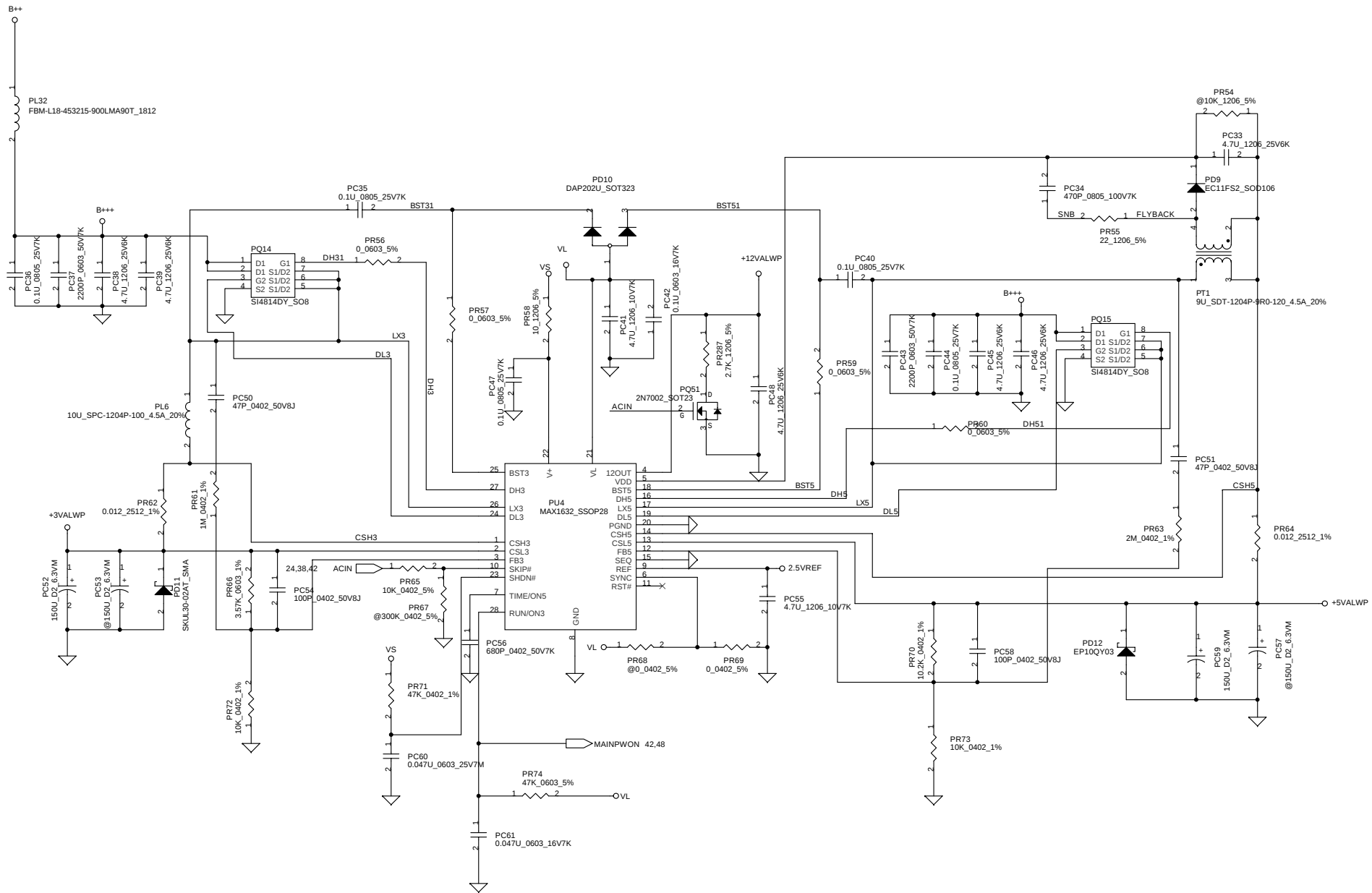
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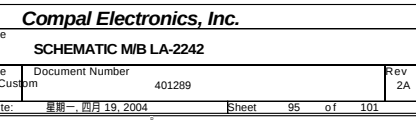
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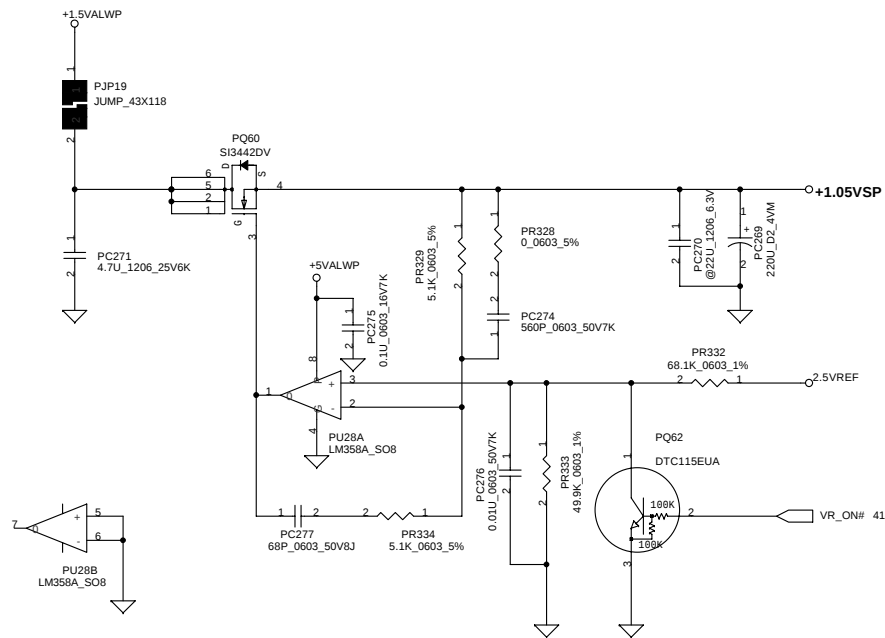
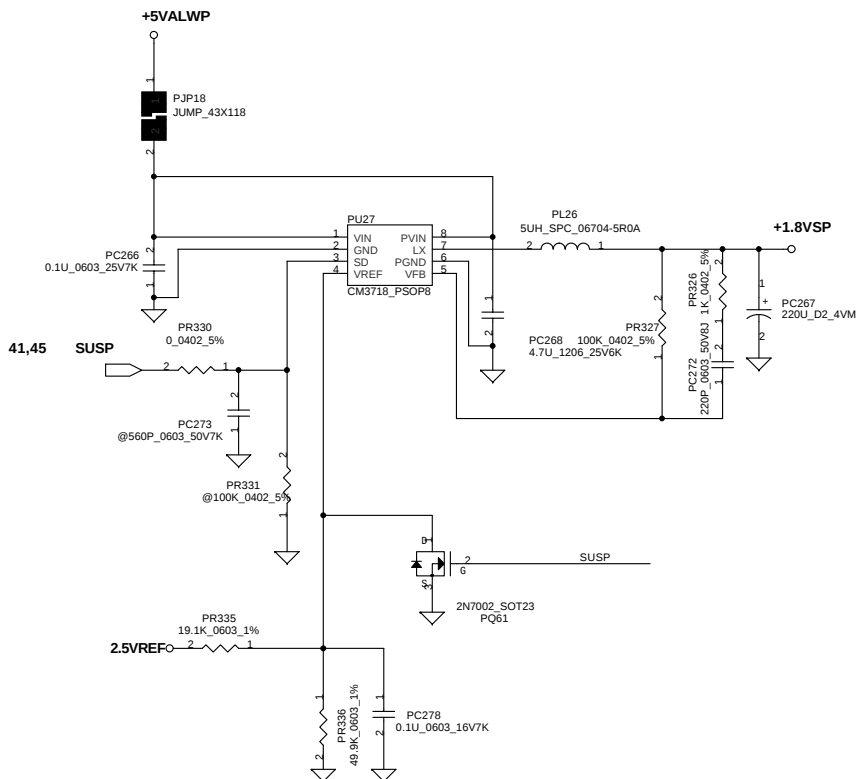
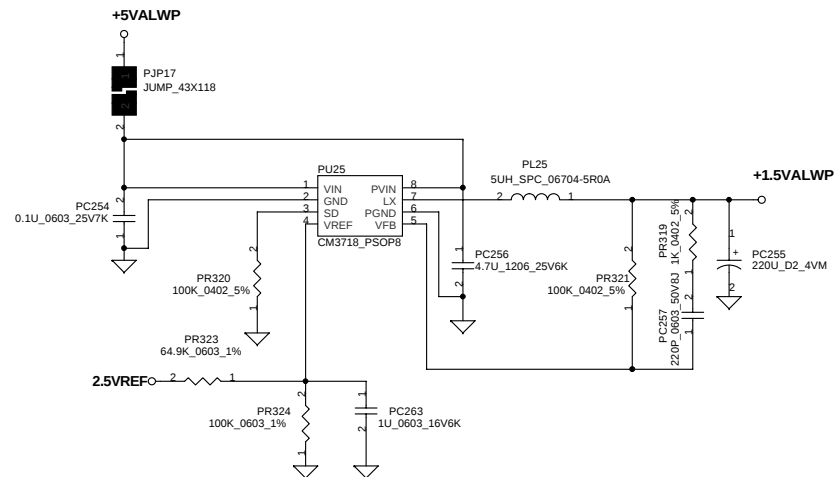


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PL33
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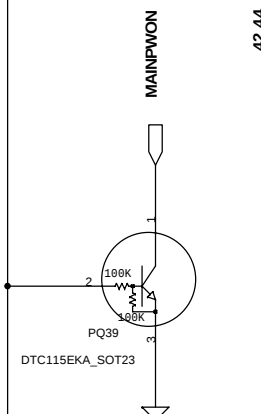
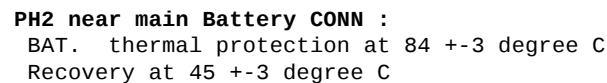
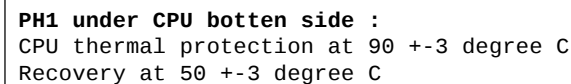




+1.5VALWP/+1.8VSP/+1.25VSP/+1.05VSP

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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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