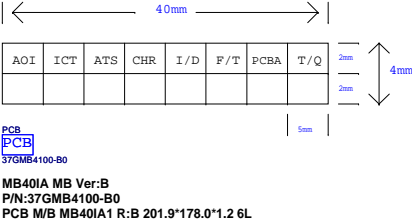


Project : MB40IAX Schematics Rev : B

Intel Sandy Bridge CPU + Intel Cougar Point Chipset + ATi Whistler

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02	System Block Diagram
03	Power Diagram
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12	Cougar Point_RTC,HDA,SATA
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16	Cougar Point_GPIO,MISC
17	Cougar Point_Power1
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19	Cougar Point_GND
20	LVDS/Webcam
21	CRT/HDMI
22	Mini Card/LED/LID/MMB/TP/HDD/ODD/IO Conn
23	Clock Gen (ICS9LRS3197)
24	USB 3.0 (ASM1042)
25	Audio Codec (ALC269)
26	Card Reader (RTS5159-GR)
27	EC (IT8518)/BIOS/KBC
28	Power Switch/Hole/FAN
29	DC In & Charger (OZ8618)
30	+VCC_Core (ISL95831HRTZ)
31	+VGFX_Core (ISL95831HRTZ)
32	+1.0/0.75/1.8/1.8V_DGPU/3VA
33	+5VA/+1.05V_VCCP(OZ815)
34	+1.5VS (OZ8111)/+0.85V
35	+VGA_Core (OZ8116)
36	VGA_PCIE/LVDS
37	VGA I/O
38	VGA_MEM_Interface
39	VGA Power 1
40	VGA Power 2
41	VGA_GND/Straps
42	VGA_DDR3_MEM_A
43	VGA_DDR3_MEM_B
44	Change Notes

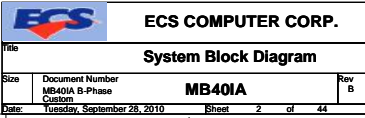
Phase	Revision History		
A	06/30/2010	Initial REV.A	
A1	08/13/2010	Release REV.A1	
A2	09/13/2010	Release REV.A2	
B	??/??/2010	Release REV.B	
C	??/??/2010	Release REV.C	
10	??/??/2010	Release REV.10	



MB40IA Rev. P/N List :

Phase Revision	PCB P/N	PCBA P/N	PCBA P/N
Initial REV.A	37GMB4100-A0	82GMB4100-A0	None
Release REV.A1	37GMB4100-A1	82GMB4B00-A1	82GMB4110-A1
Release REV.A2	37GMB4100-A2	82GMB4C00-A2	82GMB4D00-A2
Release REV.B	37GXXXXXX-B0	82GXXXXXX-B0	82GXXXXXX-B0
Release REV.C	37GXXXXXX-C0	82GXXXXXX-C0	82GXXXXXX-C0
Release REV.10	37GXXXXXX-10	82GXXXXXX-10	82GXXXXXX-10
		Whistler 1G MB40IA2 (Haier)	Whistler 1G MB40IA3 (Hasee)

River System Block Diagram



Power Block Diagram

USB Port Devices Table														
USB Ports	USBP0 USBN0	USBP1 USBN1	USBP2 USBN2	USBP3 USBN3	USBP4 USBN4	USBP5 USBN5	USBP6 USBN6	USBP7 USBN7	USBP8 USBN8	USBP9 USBN9	USBP10 USBN10	USBP11 USBN11	USBP12 USBN12	USBP13 USBN13
Devices	Enhance USB	USB Port	None	WLAN	None	Web Camera	Disable	Disable	Web Camera	USB Port	None	Enhance USB	None	Card Reader

MB40IA M/B Power Rail State :

	+*V_LDO	+*VA	+*V	+*VS	CLK
AC/DC S0/Moff (Full On)	ON	ON	ON	ON	ON
AC/DC S3/Moff (STR)	ON	ON	ON	OFF	Only MCH BCLK
AC/DC S4/Moff (STD)	ON	ON	OFF	OFF	OFF
AC S5/Moff (Soft Off)	ON	ON	OFF	OFF	OFF
DC S5/Moff (Soft Off)	ON	OFF	OFF	OFF	OFF

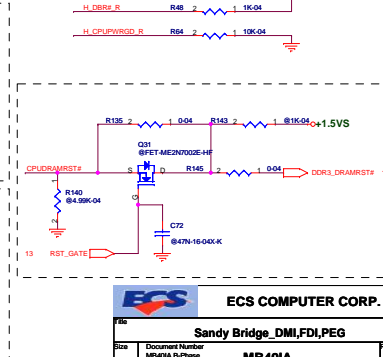
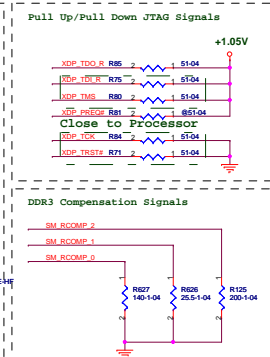
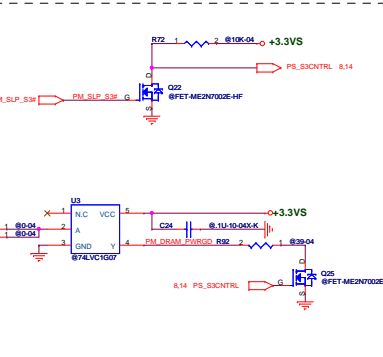
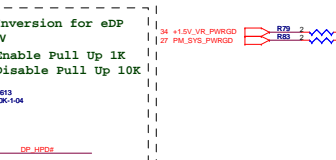
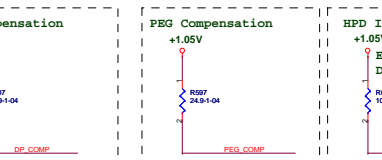
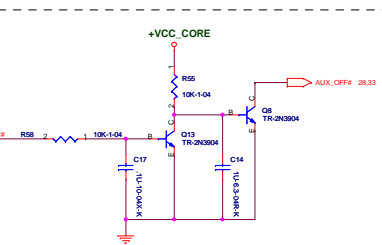
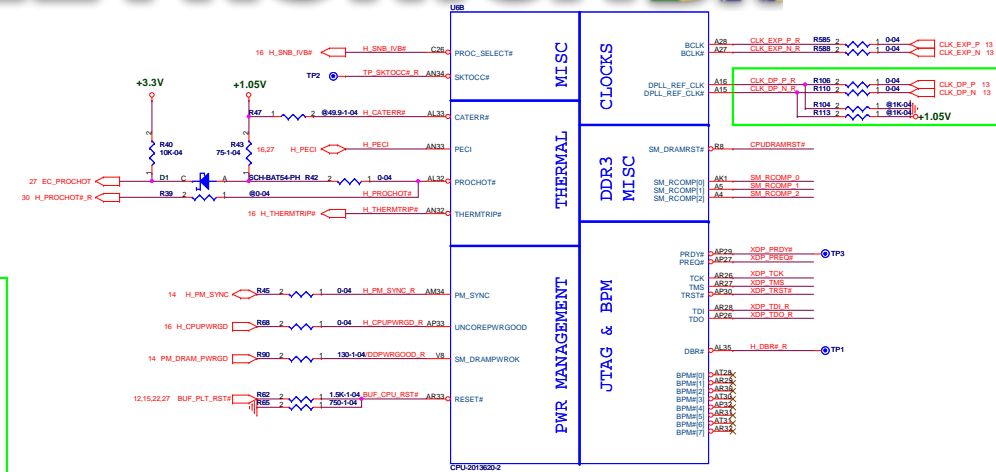
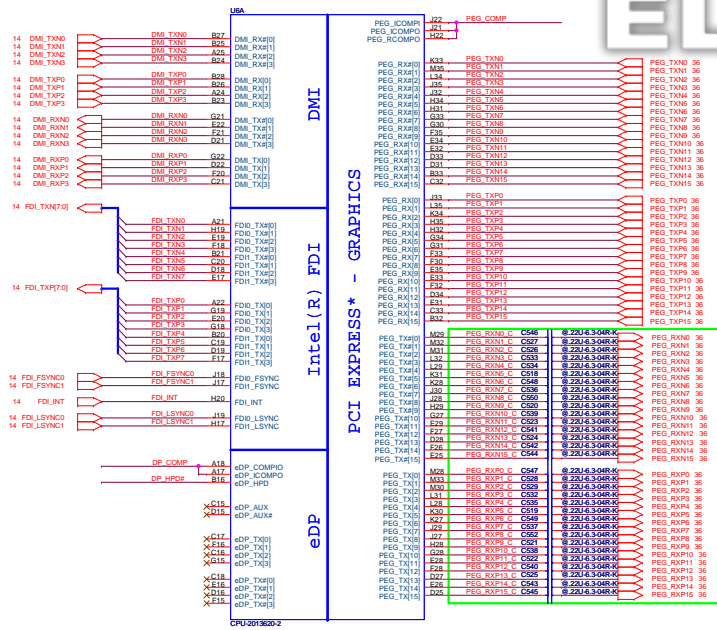
System Power Rail		Laptop Mode				
Voltage Name	Control Pin	S0	S1	S3	S4	S5
+VGFX_CORE	GFX_IMON	ON	ON	OFF	OFF	OFF
+VCC_CORE	+VCC_CORE_ON	ON	ON	OFF	OFF	OFF
+V1.05S	+V1.5S_ON	ON	ON	OFF	OFF	OFF
+V1.5S	+V1.5S_ON	ON	ON	OFF	OFF	OFF
+V3.3S	+V3.3S_ON	ON	ON	OFF	OFF	OFF
+V5S	+V5S_ON	ON	ON	OFF	OFF	OFF
+V1.1S_VTT	+V5S	ON	ON	OFF	OFF	OFF
+V1.8S	+V5S	ON	ON	OFF	OFF	OFF
+V1.1S	+V5S	ON	ON	OFF	OFF	OFF
+V0.75DDR	+V1.5	ON	ON	ON	OFF	OFF
+V1.5	+V1.5_ON	ON	ON	ON	OFF	OFF
+V3.3	+V3.3_ON	ON	ON	ON	OFF	OFF
+V5	+V5_ON	ON	ON	ON	OFF	OFF
VIN_SW	PWR_KEEP	ON	ON	ON	OFF	OFF
+V3.3_AUX	AC:follow VIN up	ON	ON	ON	ON	ON
+V5_AUX	DC:AUX_ON	ON	ON	ON	OFF	OFF
	AC:follow VIN up	ON	ON	ON	ON	ON
	DC:AUX_ON	ON	ON	ON	OFF	OFF

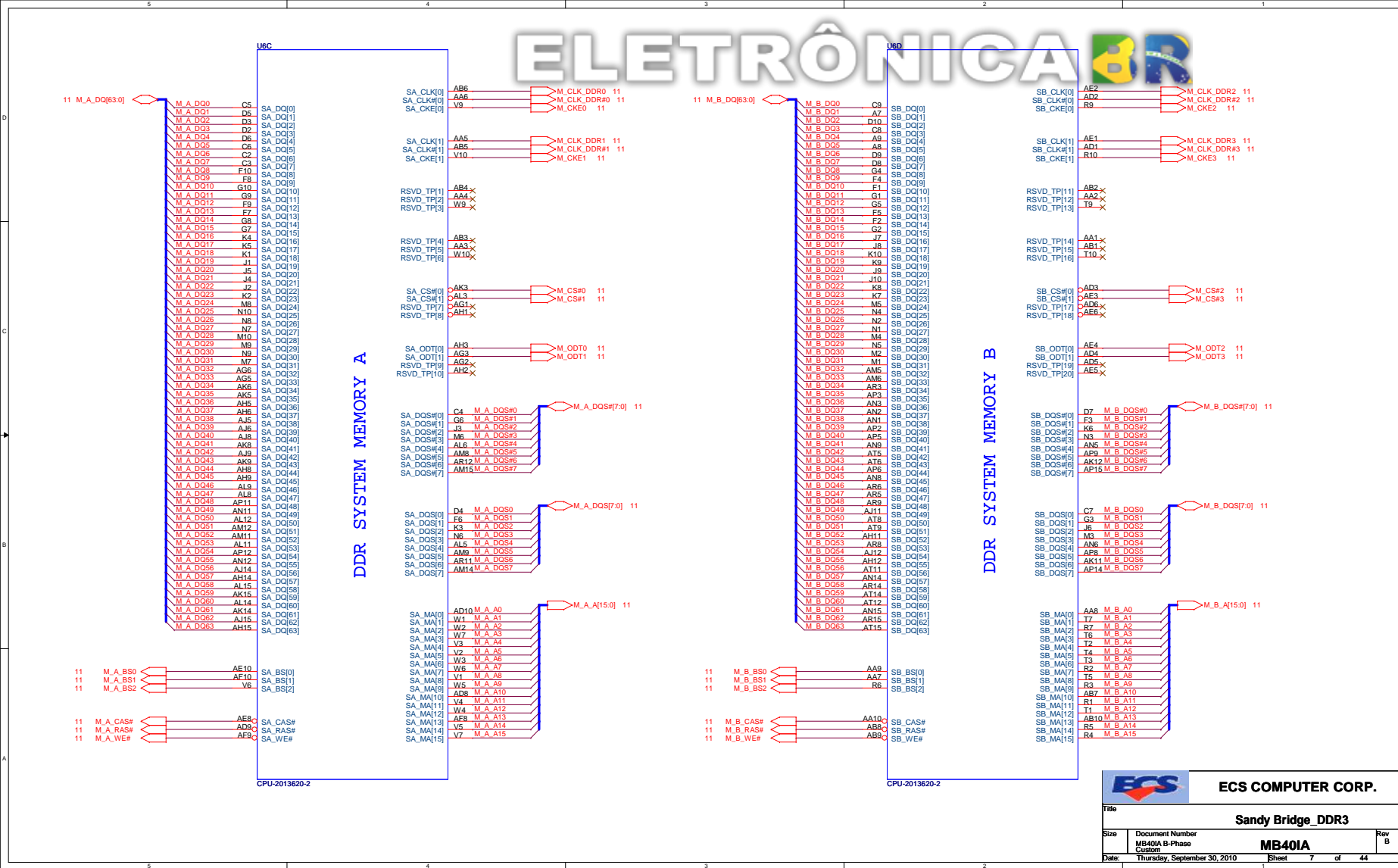
CPU Huron River Power Rail		Laptop Mode				
VCC	+VCC_CORE	S0	S1	S3	S4	S5
VTT	+V1.1S	ON	ON	OFF	OFF	OFF
VANX	+VCC_CORE	ON	ON	OFF	OFF	OFF
VCCPLL1	+V1.8S	ON	ON	OFF	OFF	OFF
VDDG	+V1.5S	ON	ON	OFF	OFF	OFF

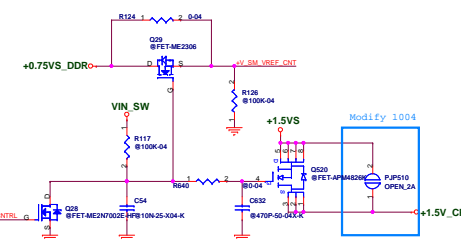
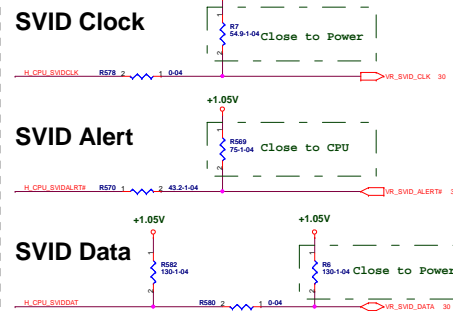
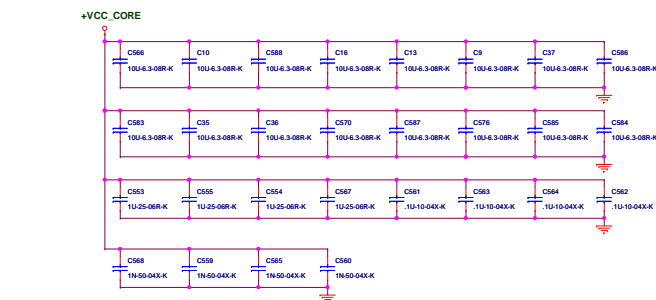
SB Ilex Peak Power Rail		Laptop Mode				
VCCCLK	+V1.1S	S0	S1	S3	S4	S5
VCCCORE	+V1.1S	ON	ON	OFF	OFF	OFF
VCCAPLLEXP	+V1.1S	ON	ON	OFF	OFF	OFF
VCCIO	+V1.1S	ON	ON	OFF	OFF	OFF
VCC3_3	+V3.3S	ON	ON	OFF	OFF	OFF
VCCFDPLL	+V1.1S	ON	ON	OFF	OFF	OFF
VCCVRM	+V1.8S	ON	ON	OFF	OFF	OFF
VCCPNAND	+V1.8S	ON	ON	OFF	OFF	OFF
VCCDMI	+V1.1S_VTT	ON	ON	OFF	OFF	OFF
VCCALVDS	+V3.3S	ON	ON	OFF	OFF	OFF
VCCTX_LVDS	+V1.8S	ON	ON	OFF	OFF	OFF
VCCADAC	+V3.3S	ON	ON	OFF	OFF	OFF
V5REF	+V5S	ON	ON	OFF	OFF	OFF
VCCADPLL8	+V1.1S	ON	ON	OFF	OFF	OFF
VCCSATAPLL	+V1.1S	ON	ON	OFF	OFF	OFF
V_CPU_IO	+V1.1S	ON	ON	OFF	OFF	OFF
VCCADPLLA	+V1.1S	ON	ON	OFF	OFF	OFF
VCLLAN	+V1.1S	ON	ON	OFF	OFF	OFF
VCCSUSHDA	+V3.3A	ON	ON	ON	ON	ON
VCCSUS3_3	+V3.3A	ON	ON	ON	ON	ON
VCCRTC	+V3A	ON	ON	ON	ON	ON
V5REF_SUS	+V5A	ON	ON	ON	ON	ON

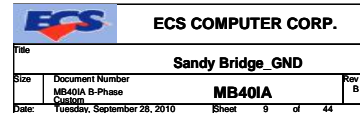


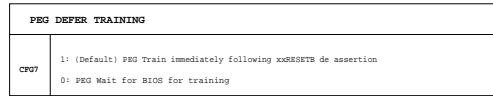
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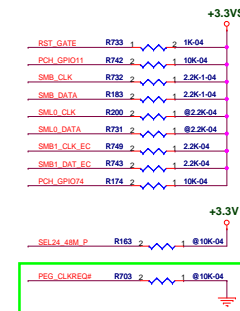
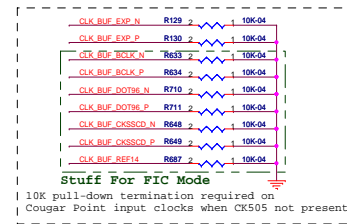
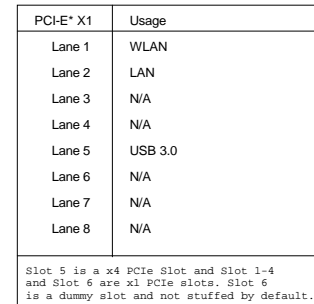
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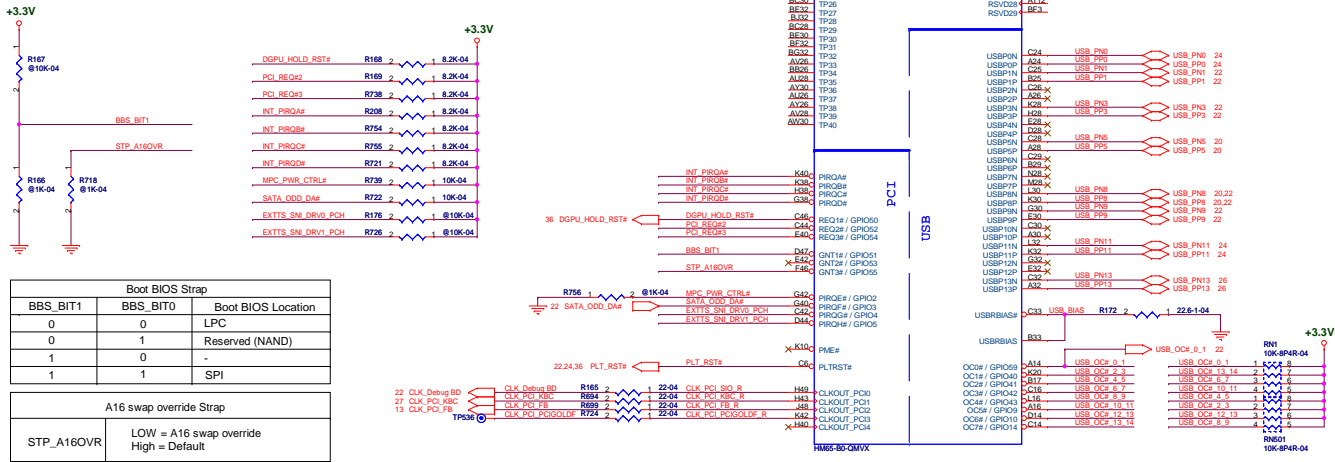
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Title		Cougar Point_RTC,HDA,SATA	
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	MB401A B-Phase Custom		
Date:	Friday, October 08, 2010	Sheet	12 of 44





USB Ports Table

USBP0	Enhance USB
USBN0	USB_0
USBP1	USB Port
USBN1	USB_1
USBP2	USB_2
USBN2	USB_3
USBP3	WLAN
USBN3	USB_3
USBP4	USB_4
USBN4	USB_5
USBP5	Web Camera
USBN5	USB_5
USBP6	Disable
USBN6	Disable
USBP7	Disable
USBN7	Webcam / FP
USBP8	USB_8
USBN8	USB_8
USBP9	USB Port
USBN9	USB_9
USBP10	USB_10
USBN10	USB_11
USBP11	Enhance USB
USBN11	USB_11
USBP12	USB_12
USBN12	USB_13
USBP13	Card Reader
USBN13	USB_13

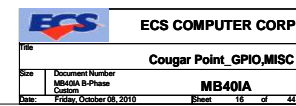


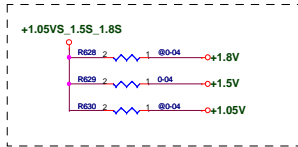
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Model: Cougar Point_PCLUSB

Document Number: MB401A B-Phase Custom

Date: Friday, October 01, 2010 Sheet: 15 of 44







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MB40IA

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MB40IA

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U100	
H5	VSS[0]
AA17	VSS[1]
AA2	VSS[2]
AA3	VSS[3]
AA33	VSS[4]
AA34	VSS[5]
AB11	VSS[6]
AB14	VSS[7]
AB39	VSS[8]
AB43	VSS[9]
AB43	VSS[10]
AB5	VSS[11]
AB7	VSS[12]
AC19	VSS[13]
AC2	VSS[14]
AC21	VSS[15]
AC24	VSS[16]
AC33	VSS[17]
AC34	VSS[18]
AD10	VSS[19]
AD11	VSS[20]
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AD46	VSS[39]
AD8	VSS[40]
AE2	VSS[41]
AE3	VSS[42]
AE10	VSS[43]
AE12	VSS[44]
AD14	VSS[45]
AD16	VSS[46]
AD16	VSS[47]
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AF24	VSS[49]
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AF42	VSS[56]
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AG31	VSS[62]
AG48	VSS[63]
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AH14	VSS[65]
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AH42	VSS[70]
AH46	VSS[71]
AH7	VSS[72]
AJ19	VSS[73]
AJ21	VSS[74]
AJ24	VSS[75]
AJ34	VSS[76]
AK12	VSS[77]
AK3	VSS[78]
	VSS[79]

HM65-B0-QMVX

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AY42	VSS[191]
AY46	VSS[192]
AY8	VSS[193]
B11	VSS[194]
B15	VSS[195]
B19	VSS[196]
B23	VSS[197]
B27	VSS[198]
B31	VSS[199]
B35	VSS[200]
B39	VSS[201]
B7	VSS[202]
BB12	VSS[203]
BB16	VSS[204]
BB20	VSS[205]
BB22	VSS[206]
BB24	VSS[207]
BB28	VSS[208]
BB30	VSS[209]
BB36	VSS[210]
BB4	VSS[211]
BB46	VSS[212]
BC14	VSS[213]
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BC2	VSS[215]
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BE72	VSS[257]
BE74	VSS[258]

HM65-B0-QMVX

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K26	VSS[261]
K36	VSS[262]
K46	VSS[263]
K7	VSS[264]
L18	VSS[265]
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L20	VSS[267]
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L36	VSS[270]
L46	VSS[271]
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P16	VSS[273]
M18	VSS[274]
M22	VSS[275]
M24	VSS[276]
M30	VSS[277]
M32	VSS[278]
M34	VSS[279]
M38	VSS[280]
M4	VSS[281]
M42	VSS[282]
M46	VSS[283]
M8	VSS[284]
M18	VSS[285]
P30	VSS[286]
M47	VSS[287]
M11	VSS[288]
P18	VSS[289]
M33	VSS[290]
P40	VSS[291]
P43	VSS[292]
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P7	VSS[294]
P2	VSS[295]
P48	VSS[296]
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T37	VSS[299]
V4	VSS[300]
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V46	VSS[302]
V47	VSS[303]
V8	VSS[304]
V11	VSS[305]
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V31	VSS[310]
V36	VSS[311]
V38	VSS[312]
V43	VSS[313]
V7	VSS[314]
V17	VSS[315]
V19	VSS[316]
V2	VSS[317]
V27	VSS[318]
V48	VSS[319]
V12	VSS[320]
V38	VSS[321]
V4	VSS[322]
V42	VSS[323]
V46	VSS[324]
V8	VSS[325]
RG28	VSS[326]
N24	VSS[327]
A13	VSS[328]
AD47	VSS[329]
B43	VSS[330]
BE10	VSS[331]
BG41	VSS[332]
G14	VSS[333]
H16	VSS[334]
I8	VSS[335]
RG22	VSS[336]
RG24	VSS[337]
C22	VSS[338]
AP13	VSS[339]
M14	VSS[340]
AP3	VSS[341]
AP1	VSS[342]
BE16	VSS[343]
BC16	VSS[344]
BG28	VSS[345]
B28	VSS[346]
VSS[352]	



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File

Cougar Point_GND

Size

Document Number

MB401A B-Phase

Custom

Rev

B

Date

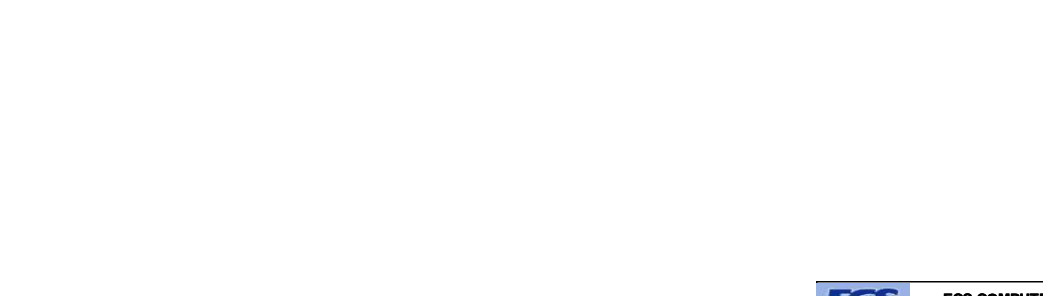
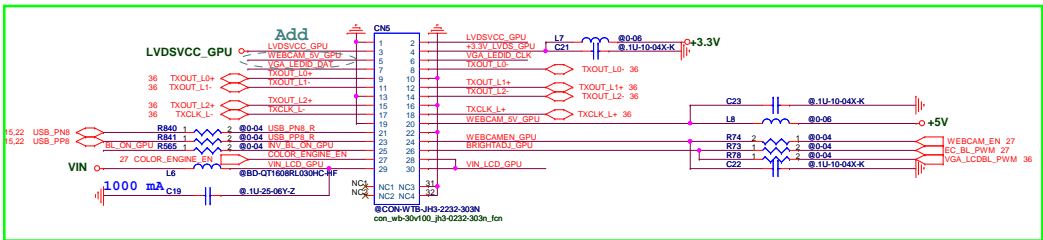
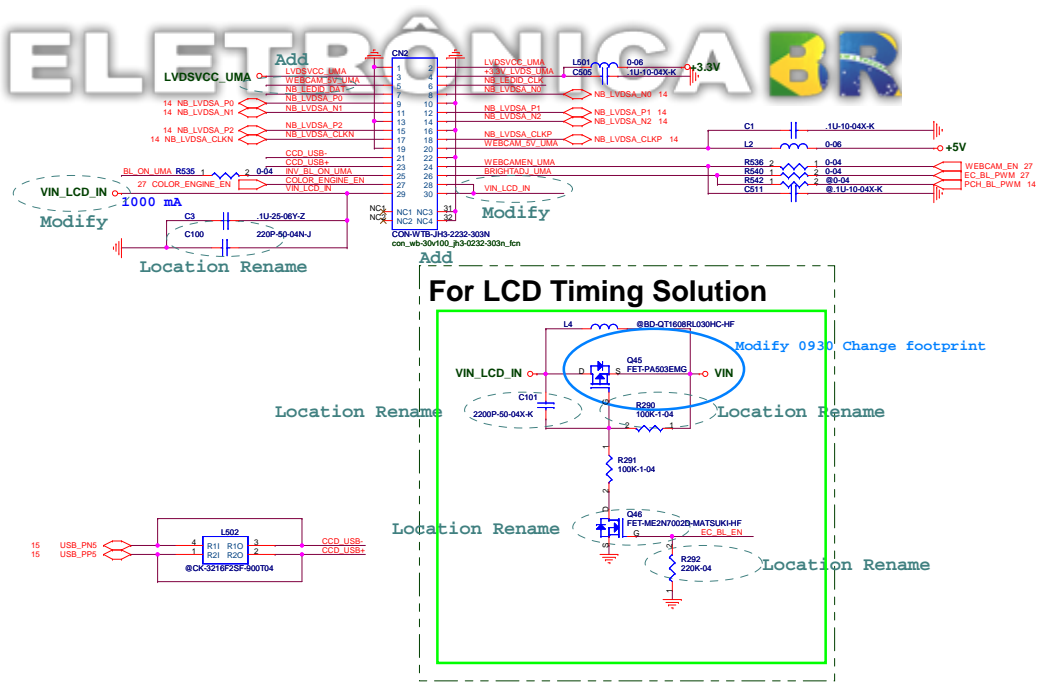
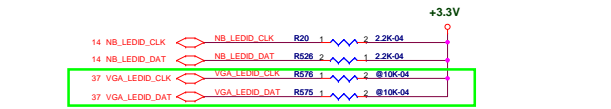
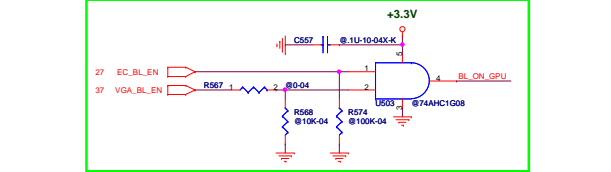
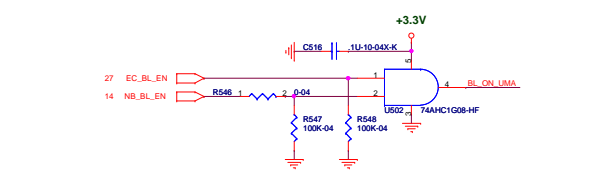
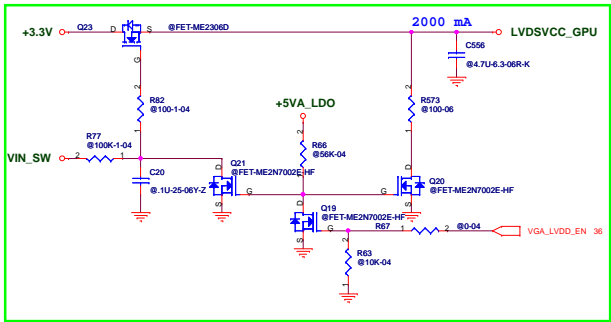
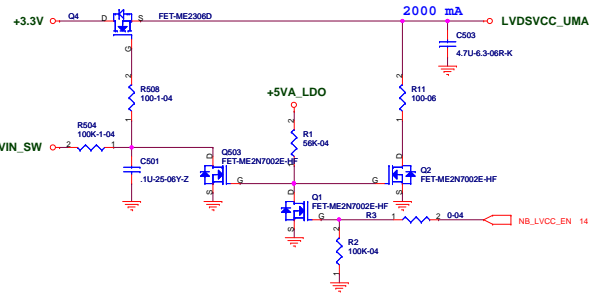
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LVDS + Webcam Connector

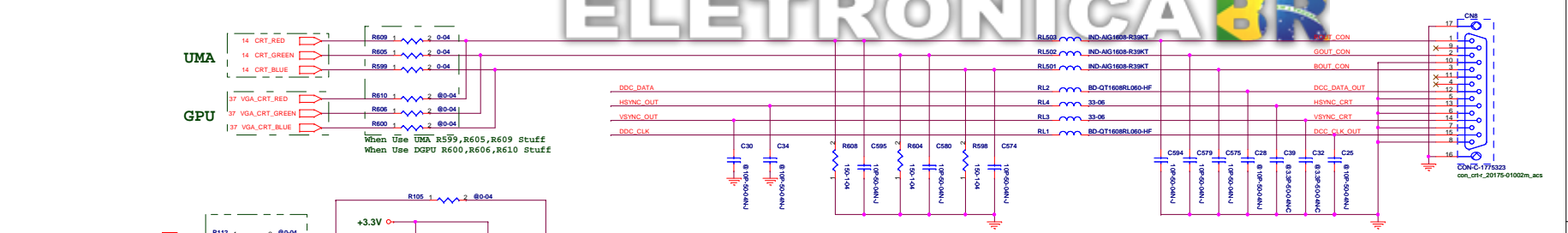


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Size			
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MB400A B-Phase			
Date			
Monday, October 04, 2010			
Rev			
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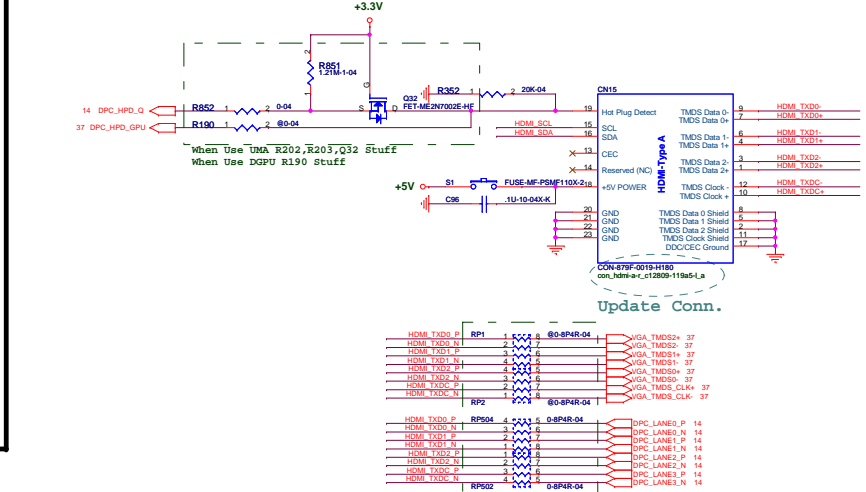
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AN to ATI

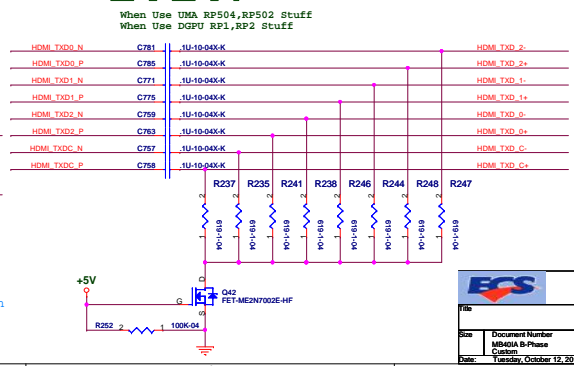
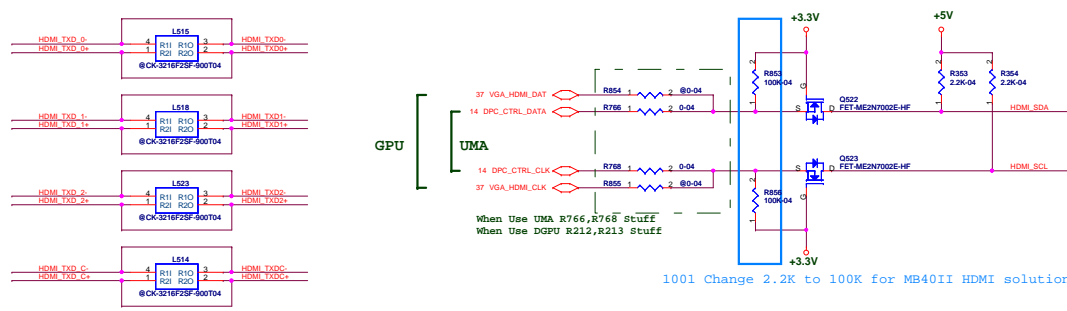
CRT Connector



HDMI Connector

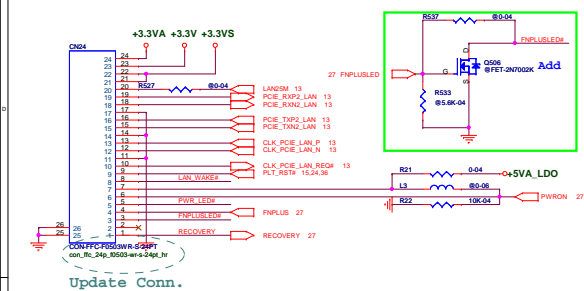


EMI Issue

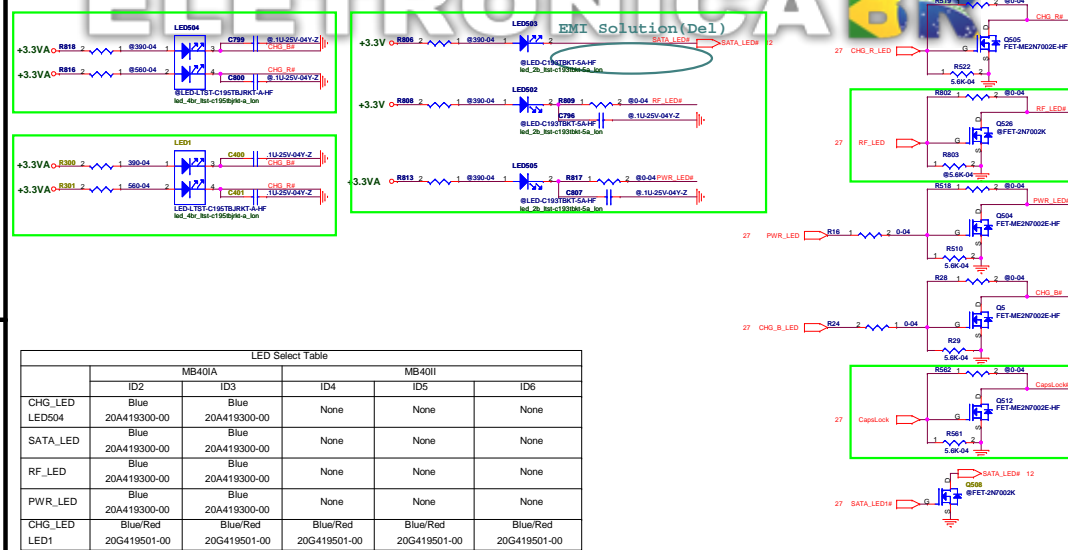


ECS COMPUTER CORP.		
CRT/HDMI		
Doc	Document Number	Rev B
Rev	MB40II	
Date	Tuesday, October 19, 2010	Sheet 21 of 44

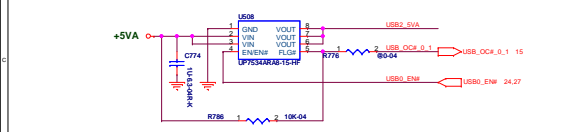
PWR SW + LAN Connector



LED

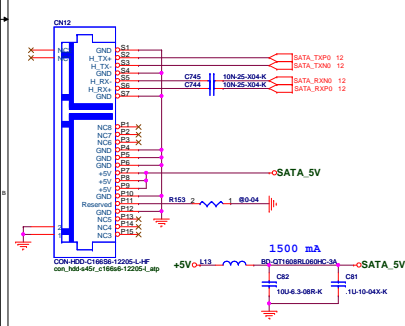


USB Port 2.0 USB 1 & USB 9

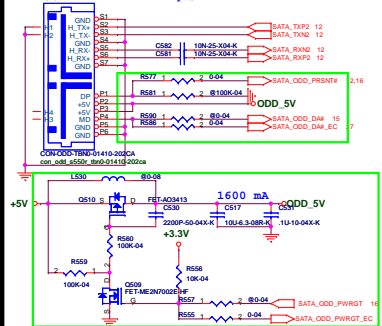


	LED Select Table				
	ID2	ID3	ID4	ID5	ID6
CHG_LED	Blue	Blue	None	None	None
SATA_LED	Blue	Blue	None	None	None
RF_LED	Blue	Blue	None	None	None
PWR_LED	Blue	Blue	None	None	None
CHG_LED	Blue/Red	Blue/Red	Blue/Red	Blue/Red	Blue/Red
LED1	20G419501-00	20G419501-00	20G419501-00	20G419501-00	20G419501-00

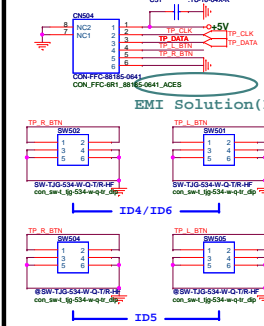
SATA HDD



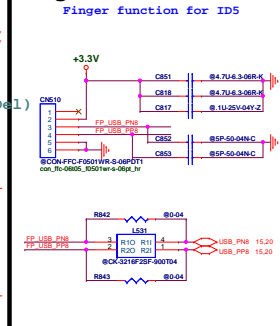
SATA ODD



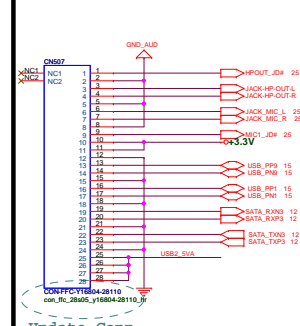
Touch Pad Connector



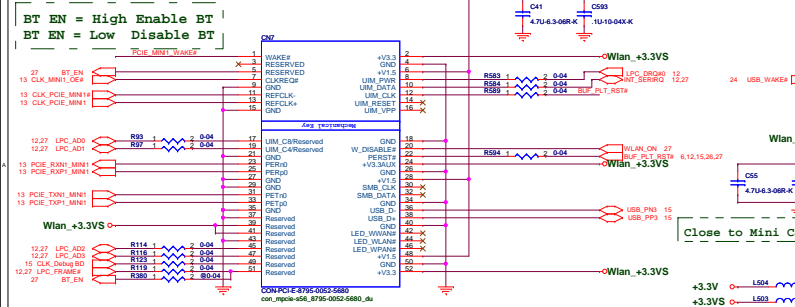
Finger Print Connector



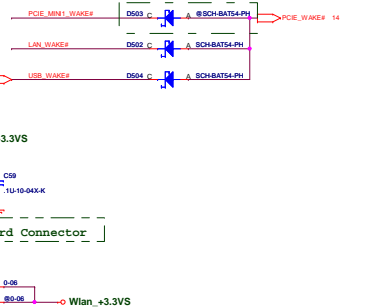
I/O Board Conn



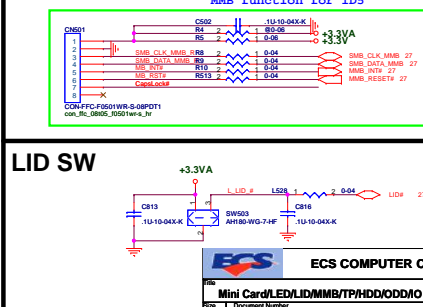
Mini Card



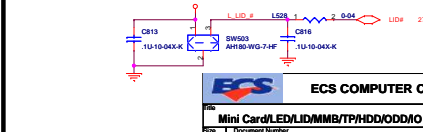
When support Wake On LAN ,D503 stuff



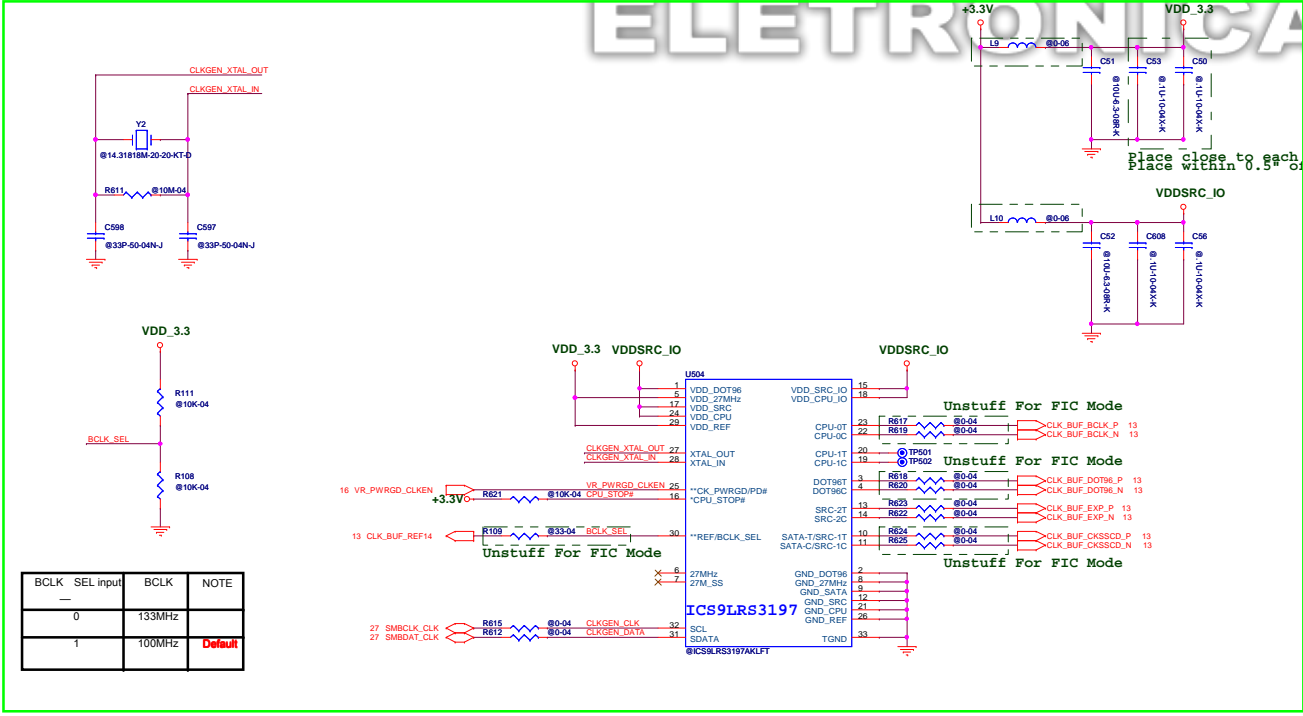
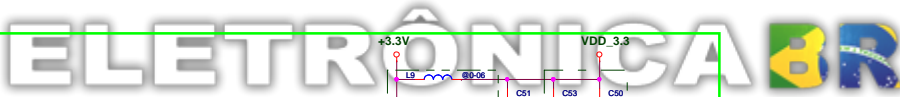
MMB Connector



LID SW



Clock Gen



Place close to each VDD pin as possible.
Place within 0.5" of CLKGEN

ECS COMPUTER CORP.

Title

Clock Gen (ICS9LRS3197)

Size

Document Number

MB400A B-Phase Custom

Rev

B

Date

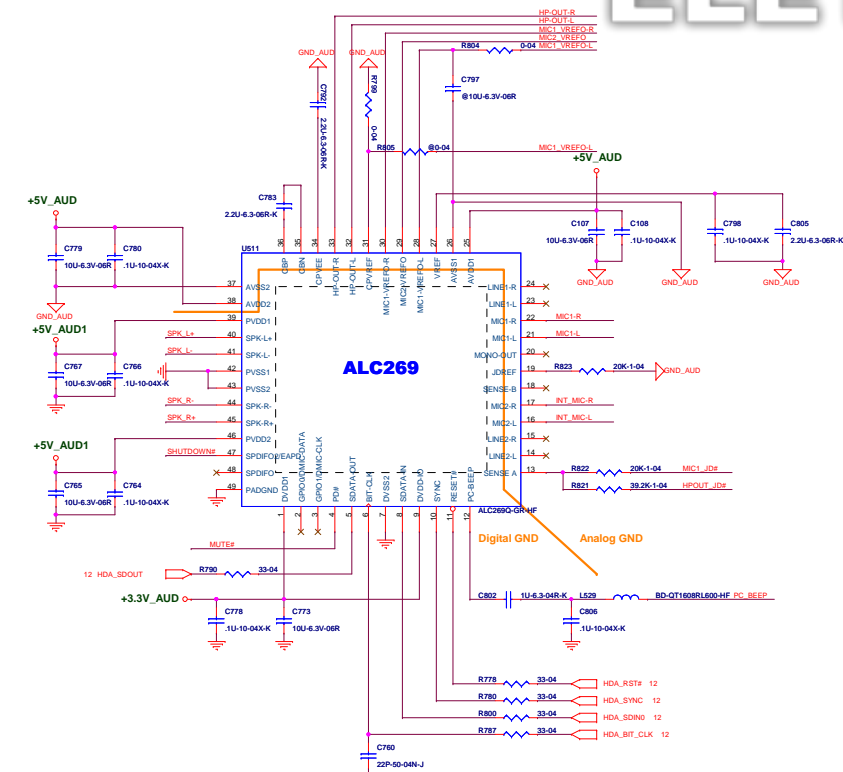
Monday, October 04, 2010

Sheet

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of

44

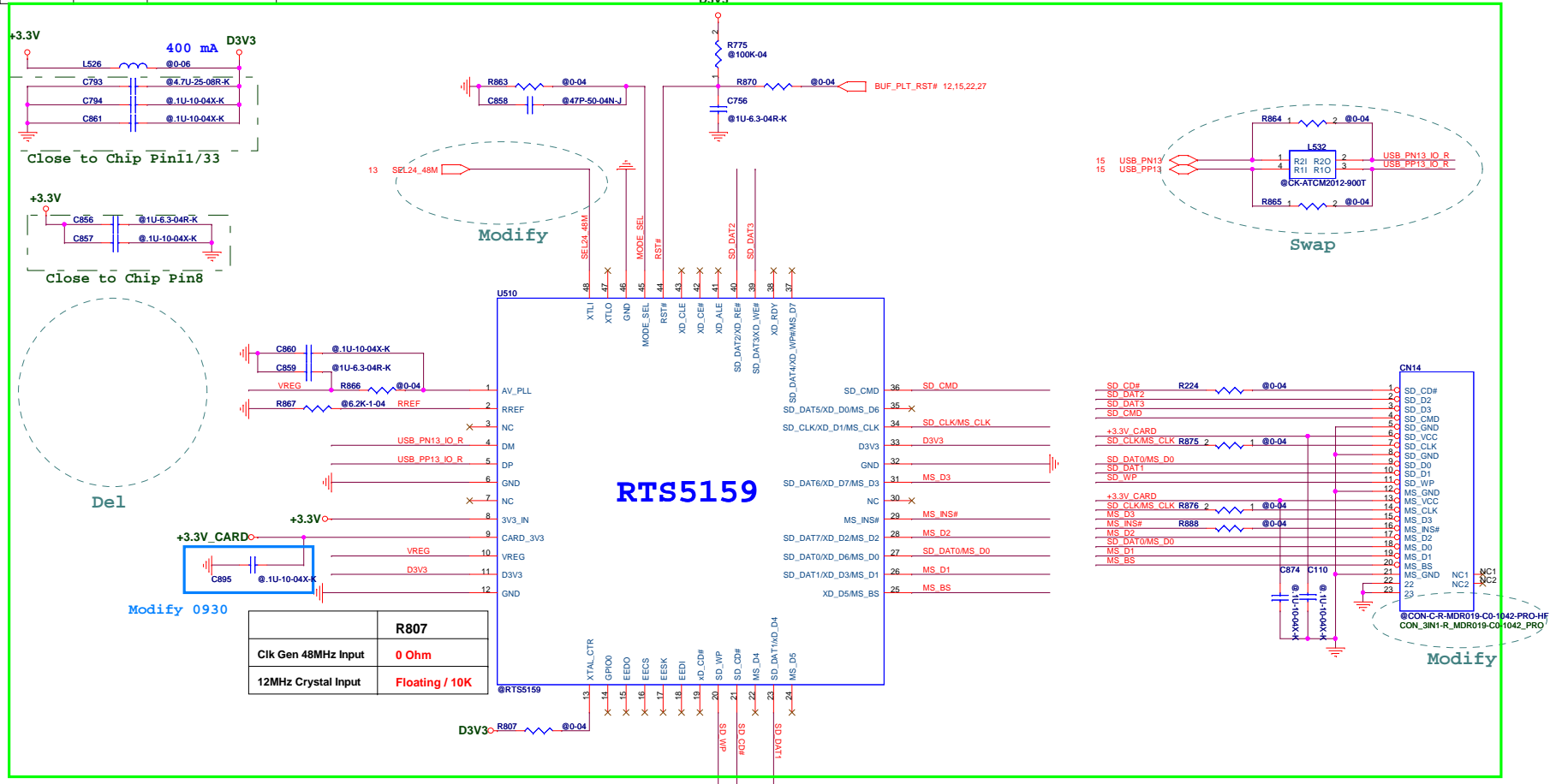


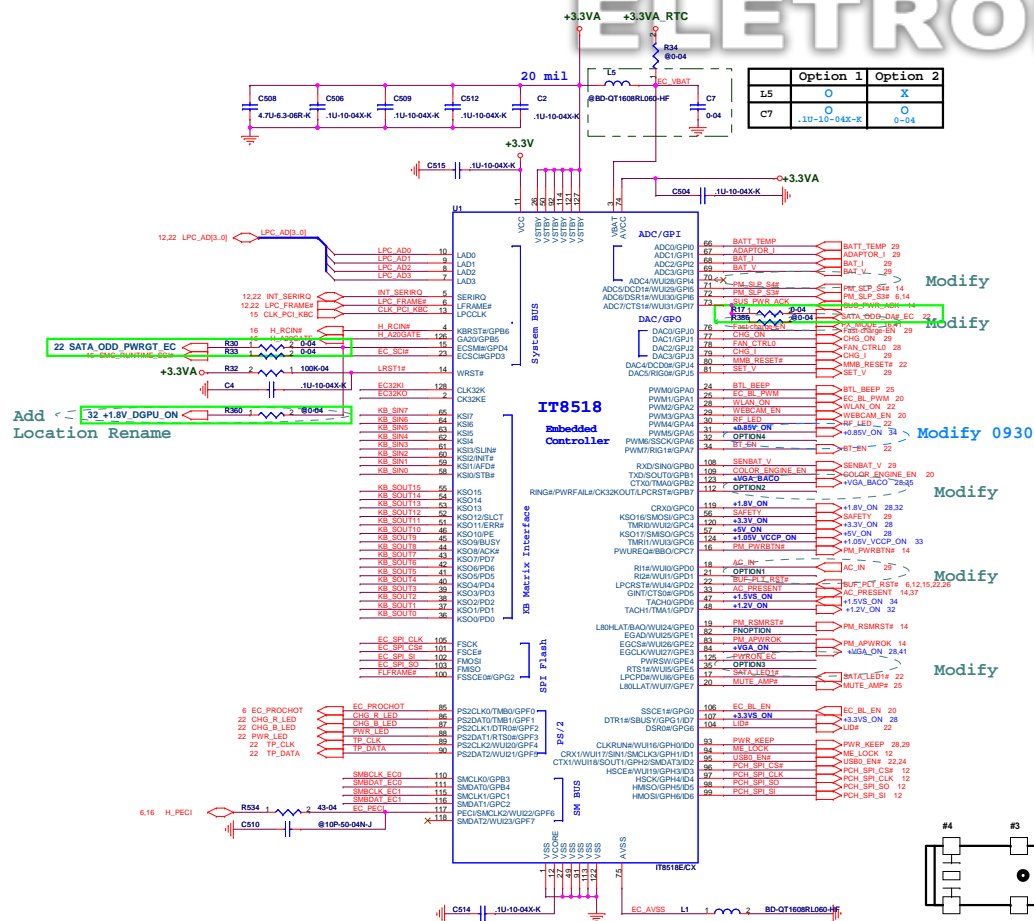
Card Reader

Modify

CardReader ID Select		
Haier	IA2	Nustuff; @ Small BD
Hasee	IA3	Stuff; @ MB

ELETRÔNICA BR

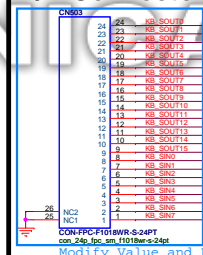




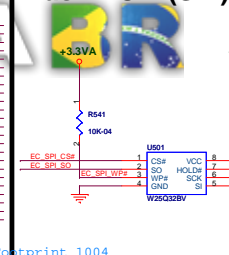
SMBus0	Battery	X	X	X	X
SMBus1	VGA Thermal	X	X	X	X
SMBus2	CPU Thermal	X	X	X	X
SMBus3	X	X	X	X	X

Footprint Modify

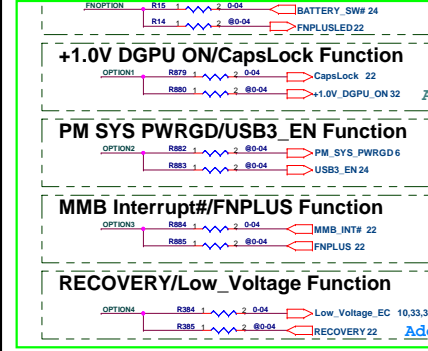
K/B Connector



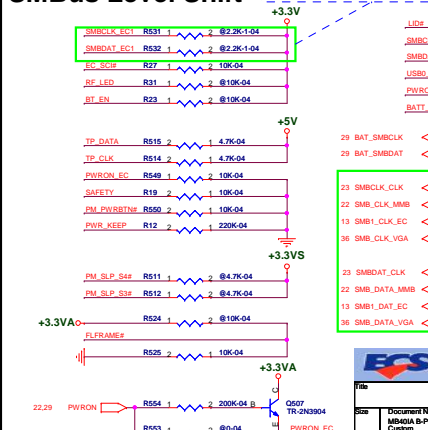
Flash ROM (SPI)



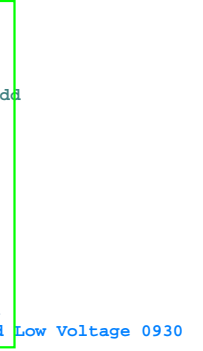
USB Charger/FNPLUSLED Function



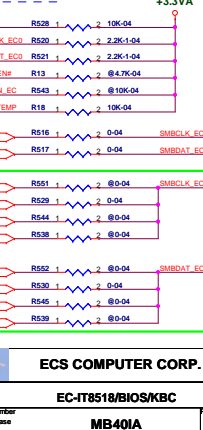
SMBus Level Shift



+1.0V DGPU ON/CapsLock Function



PM SYS PWRGD/USB3_EN Function



MMB Interrupt#/FNPLUS Function



RECOVERY/Low Voltage Function

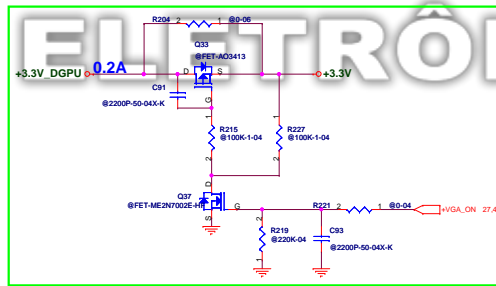
ECS COMPUTER CORP.

EC-IT8518/BIOS/KBC

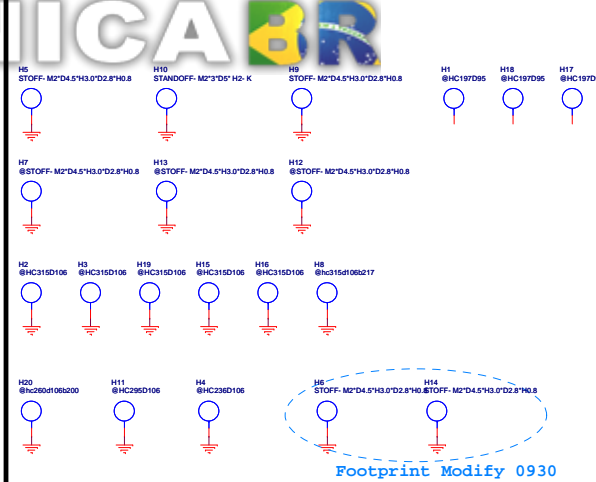
Document Number: MB401A B-Phase

Version: October 12, 2010

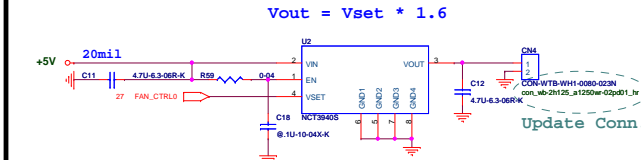
Page: 27 of 44



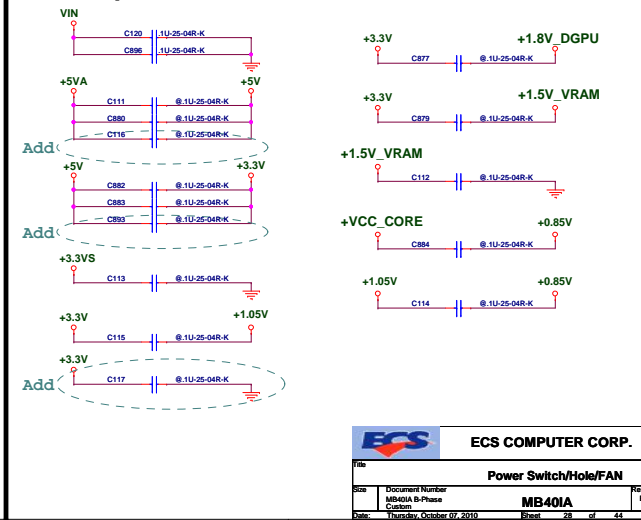
Hole/Skew



Fan Control

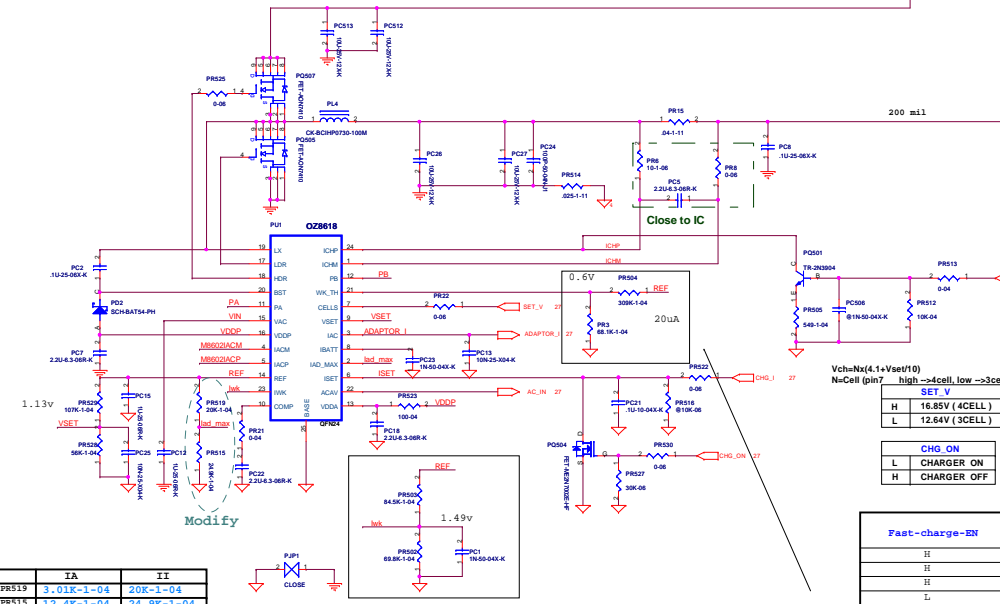
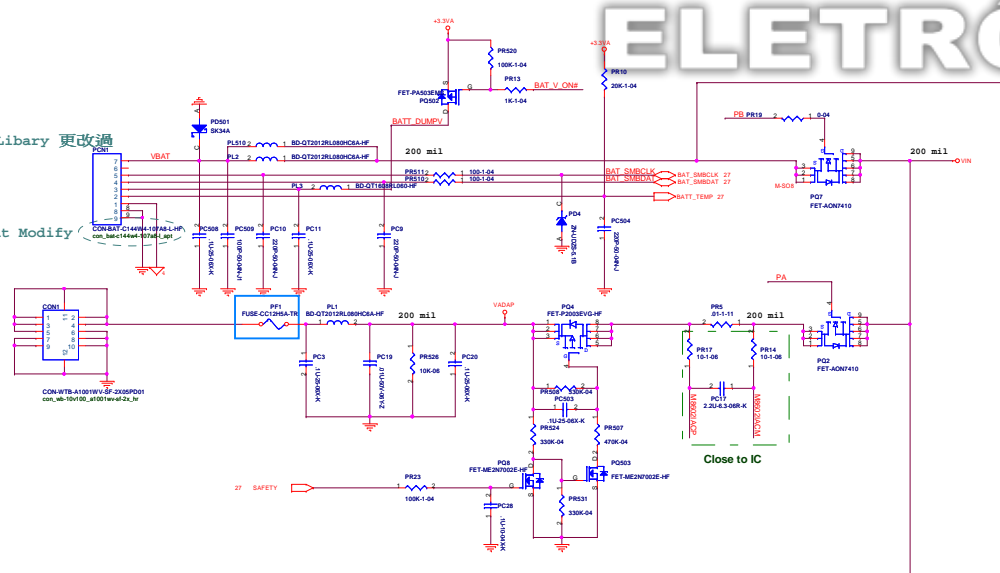


EMI Request



ECS COMPUTER CORP.			
File	Power Switch/Hole/FAN		
Rev	Document Number	MB401A	Rev B
Rev	Document Number	MB401A	Rev B
Rev	Document Number	MB401A	Rev B

Footprint Modify (



	IA	II
PR519	3.01K-1-04	20K-1-04
PR515	12.4K-1-04	24.9K-1-04
Watt	84 W	60 W

Wake up Current set = IWK* R_{ch} *300

Wake up Voltage set = Cell*(1.8+WK_TH)
When Wake up mode CHG_I Should > 0.6V

ADAPTOR_I	
1A	0.6V
1.5A	0.9V
2A	1.2V
2.5A	1.5V
3A	1.8V
3.5A	2.1V

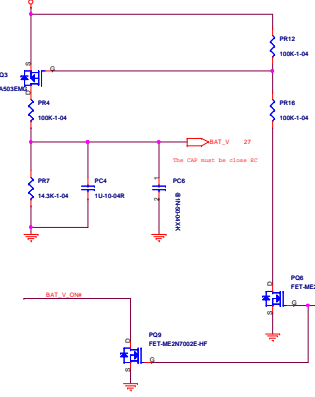
$$I_{ac} = I_{ad} \cdot \text{Rad} \cdot 60$$

H/L=2cell)

HG_I=Ich* Rch * 60

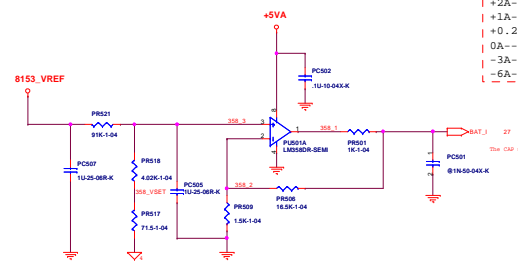
Fast-charge-EN	CHG_I	Ich
H	3V	2.5A
H	1.8V	2A
H	0.6V	1.5A
L	2.4V	1A
L	1.2V	0.5A
L	3V	0.25A
L	1.5V	0.125A

Battery Voltage Detect



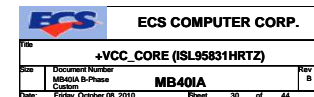
```
17.6V->BAT_V=2.2V
16.8V->BAT_V=2.1V
13.2V->BAT_V=1.65V
12.6V->BAT_V=1.575V
9.0V->BAT_V=1.125V
```

Charge / Discharge Detect

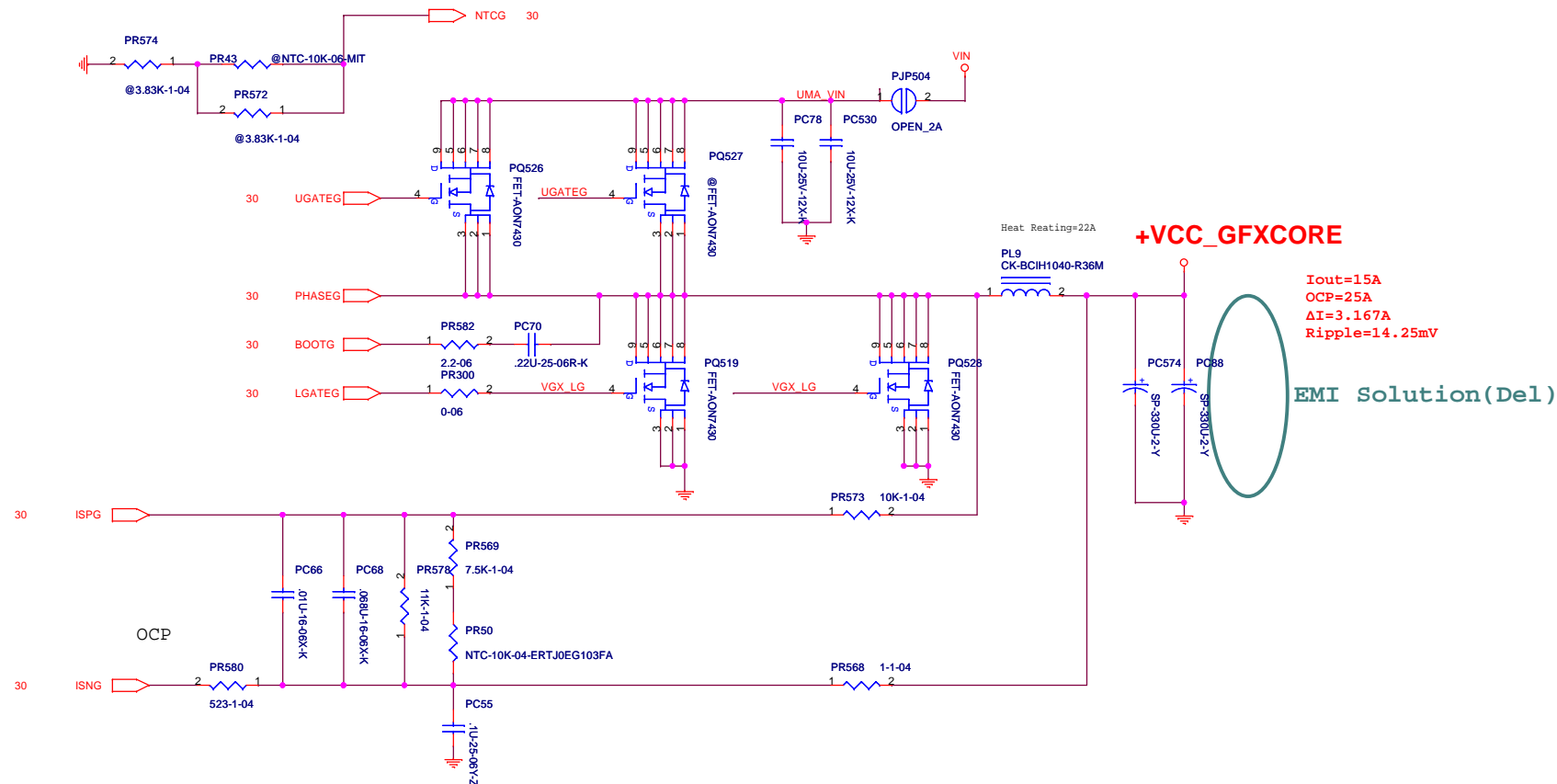


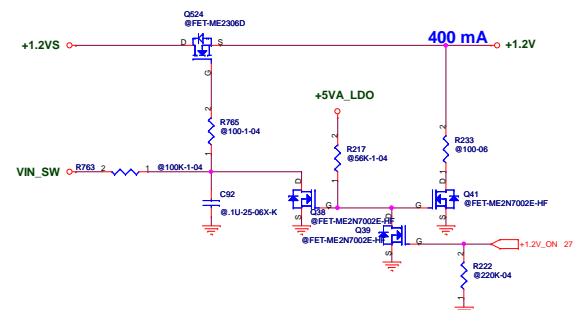
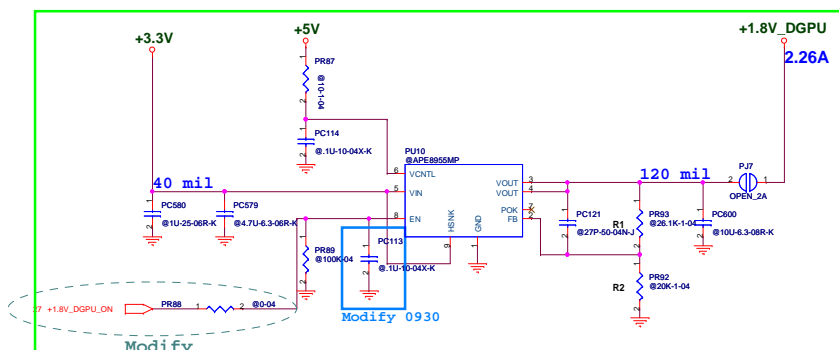
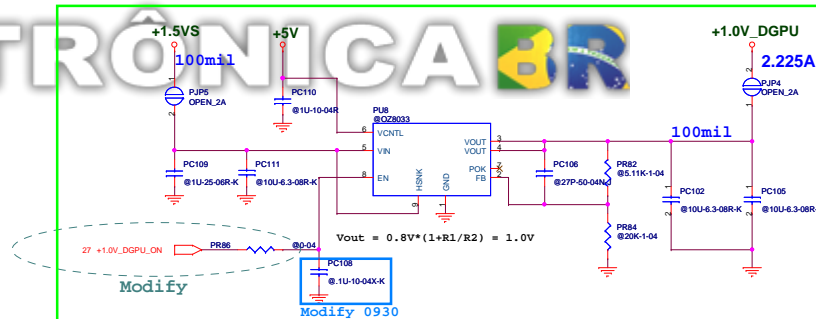
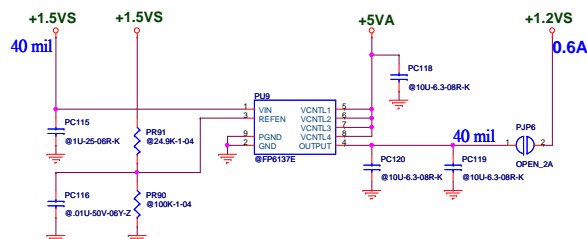
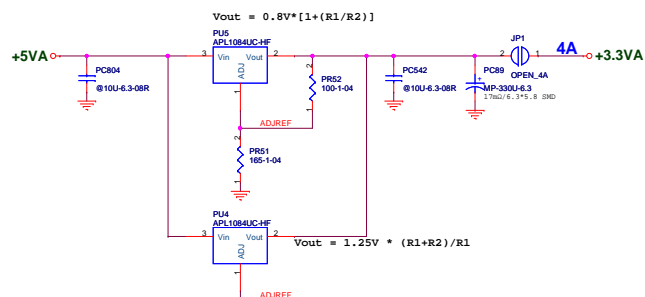
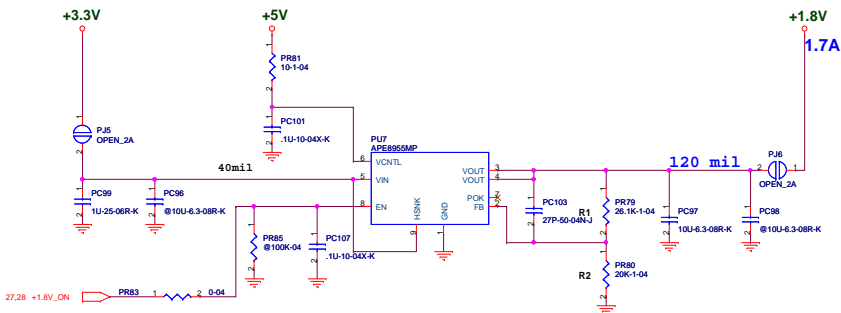
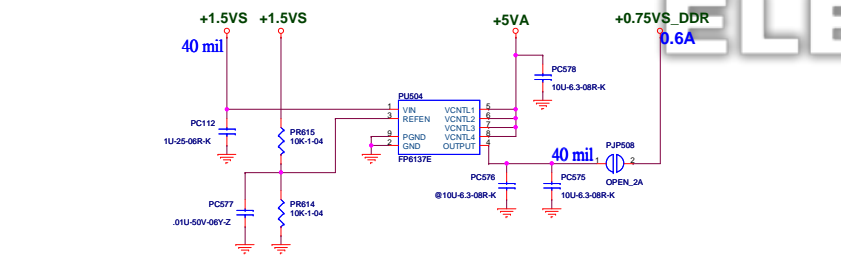
+3A-->2.5619V
+2.5A-->2.4189V
+2A-->2.2759V
+1A-->1.9899V
+0.25A-->1.7754V
0A-->1.7039V
-3A-->0.8459V
-6A-->0V

CHG_I Should > 0.6V



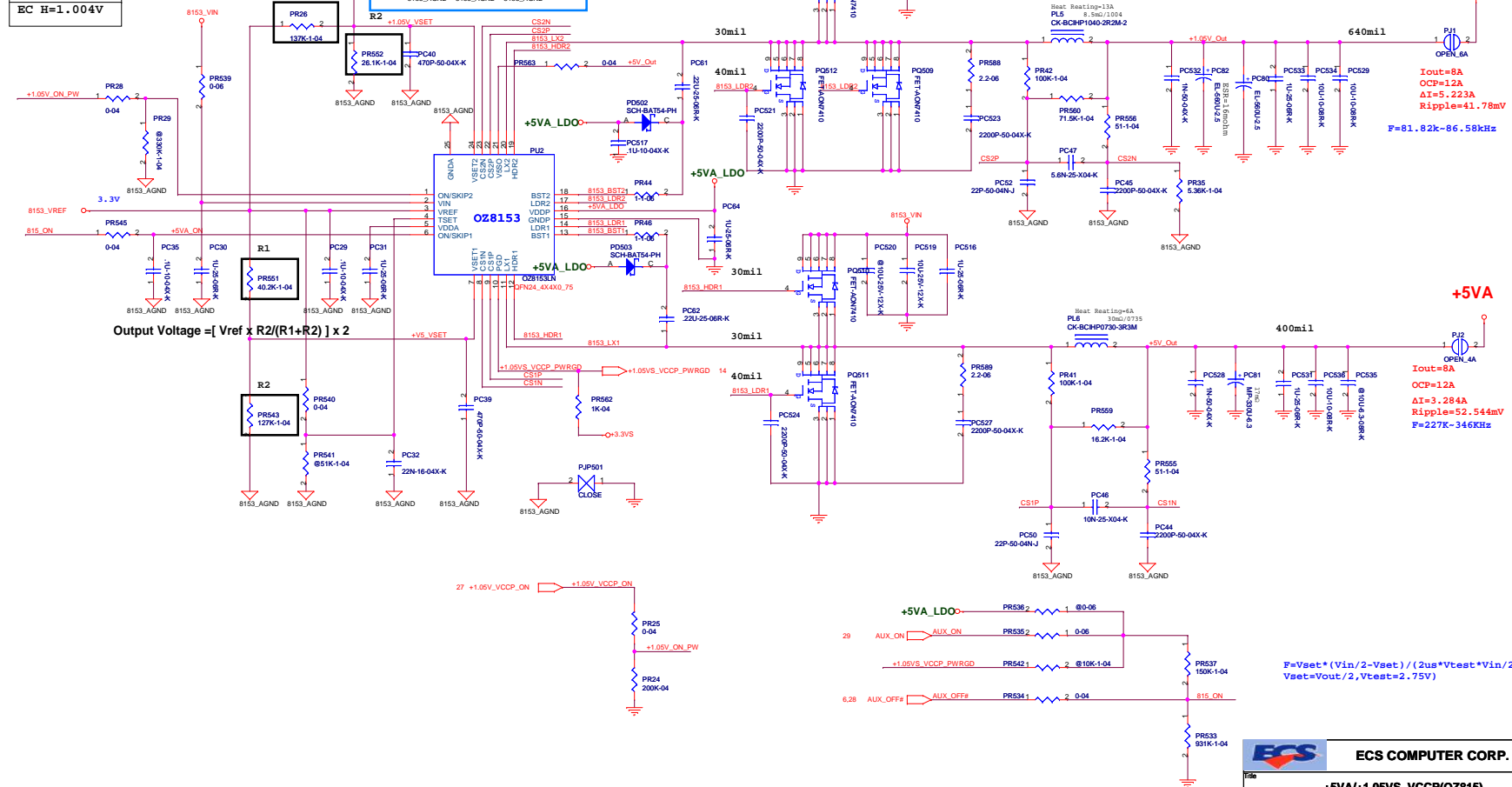
Title				+VGFX_CORE (ISL95831HRTZ)			
Size	Document Number MB401A B-Phase Custom			MB401A			Rev B
Date:	Friday, October 08, 2010			Sheet	31	of	44





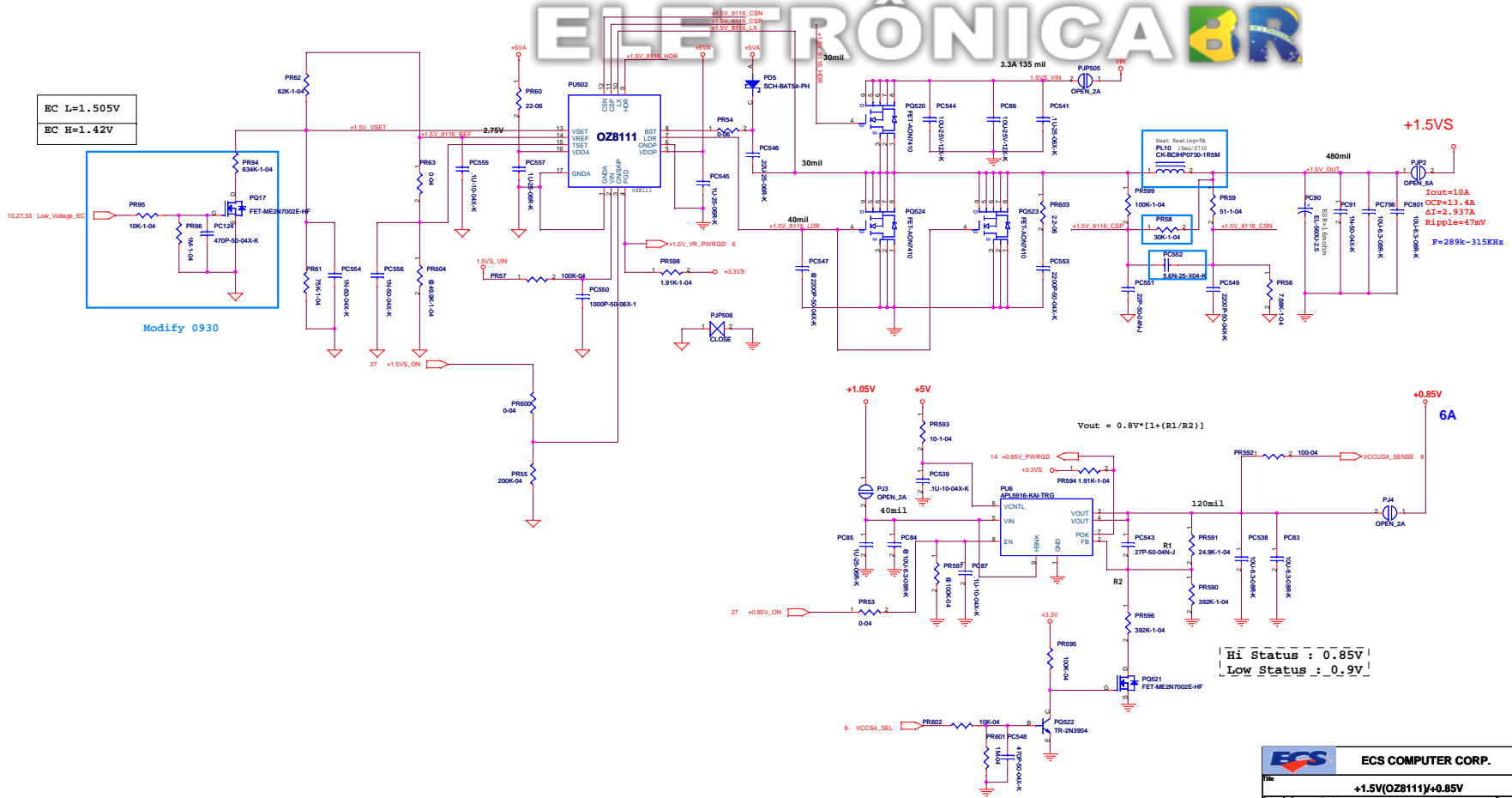
Output Voltage = [Vref x R2/(R1+R2)] x 2

EC L=1.056V
EC H=1.004V

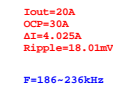


$$P = V_{set} * (V_{in}/2 - V_{set}) / (2 * u_{s} * V_{test} * V_{in}/2)$$
$$V_{set} = V_{out}/2, V_{test} = 2.75V$$

ECS COMPUTER CORP.			
Title			
+5VA/+1.05VS_VCCP(OZ815)			
Size	Document Number	MB401A B-Phase	Rev
		Custom	B
Date	Friday, October 08, 2010	Sheet	33 of 44



EMI Solution(Del

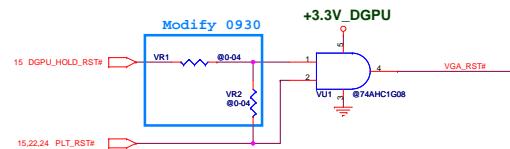
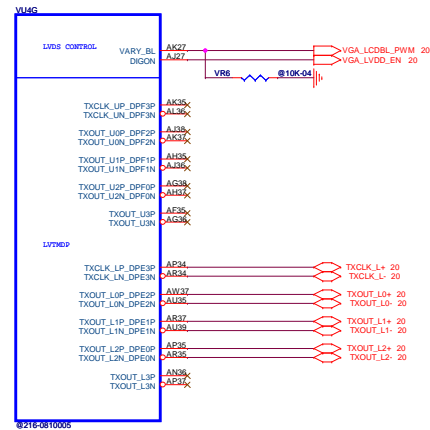


GPIO15	GPIO20	VDDC(Max)	VDDC(Min)
L	L	1.16V	1.13V
H	L	1.089V	1.057V
L	H	0.98V	0.952V
H	H	0.93V	0.9V

EC_SKIP	VGA_CORE_ON Voltage	Mode
	2.1V > VGA_CORE_ON > 0.6V	FWM
	>2.1V	SKIP

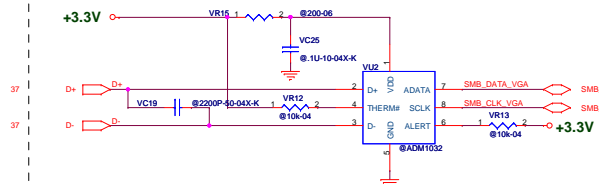


LVDS Interface

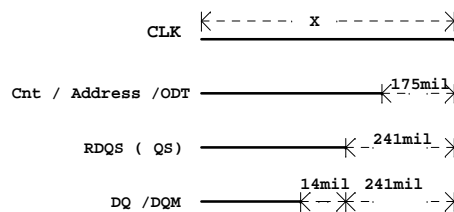


VGA Chip Select		
Name	Value	Material
Whistler XT	M2 216-0810001-A11	02A216081-10
Whistler Pro	216-0810005	02A216082-10
Seymour	216-0809000-A11	02A216080-10

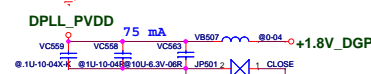
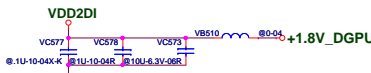
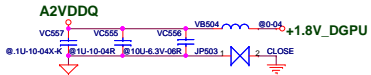
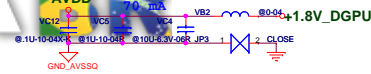
VGA Thermal Sensor



Madison of the trace length - <skew >

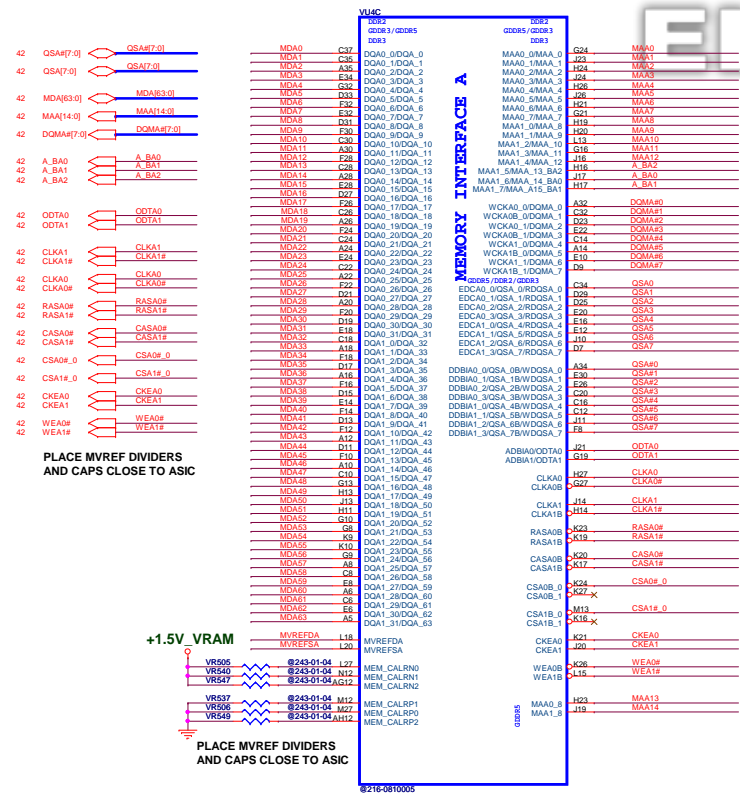


A circuit diagram showing two supply rails, VC12 and VC5, connected to a common 70 mA current source. The rails are labeled AVDD. The current source is represented by a circle with a downward arrow and the value 70 mA.



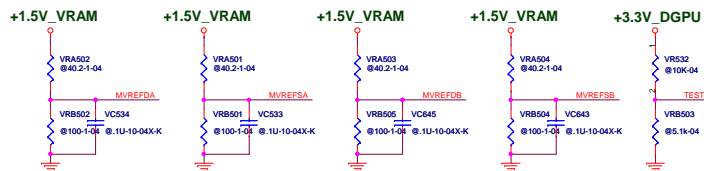
使用 Clk Gen 提供 27MHz時
VC553 Value Change To 62-04

ELETRÔNICA

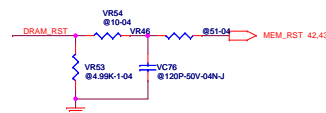


PLACE MVREF DIVIDERS AND CAPS CLOSE TO ASIC

route 50ohms single-ended/100ohms diff and keep short debug only, for clock observation, if not needed, DNI



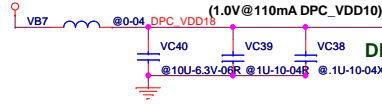
Designator	Madison
R_MEM_1	10K
R_MEM_2	51R
R_MEM_3	DNI
C_MEM	68pF



ECS COMPUTER CORP.

VGA MEM Interface	
Size	Document Number
MB400A B-Phase	MB401A
Date	Tuesday, October 06, 2010
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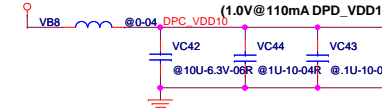
+1.8V_DGPU



DPC_VDD10

AN17
AP16
AP17
AW14
AW16

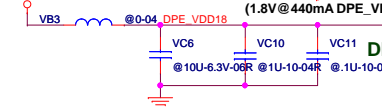
+1.0V_DGPU



DPC_VDD18

AN19
AP18
AP19
AW20
AW22

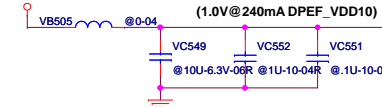
+1.8V_DGPU



DPE_VDD10

AN34
AP39
AR39
AU37

+1.0V_DGPU



DPE_VDD18

AF34
AG34
AK33
AK34

VU4H
DP C/D POWER
DPC_VDD18#1
DPC_VDD18#2
DPC_VDD10#1
DPC_VDD10#2
DPC_VSSR#1
DPC_VSSR#2
DPC_VSSR#3
DPC_VSSR#4
DPC_VSSR#5
DPD_VDD18#1
DPD_VDD18#2
DPD_VDD10#1
DPD_VDD10#2
DPD_VSSR#1
DPD_VSSR#2
DPD_VSSR#3
DPD_VSSR#4
DPD_VSSR#5
DPCD_CALR
DPAB_CALR
DP E/F POWER
DPE_VDD18#1
DPE_VDD18#2
DPE_VDD10#1
DPE_VDD10#2
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4
DPF_VDD18#1
DPF_VDD18#2
DPF_VDD10#1
DPF_VDD10#2
DPF_VSSR#1
DPF_VSSR#2
DPF_VSSR#3
DPF_VSSR#4
DPF_VSSR#5
DPEF_CALR
@216-0810005

DP A/B POWER

DPA_VDD18#1
DPA_VDD18#2
DPA_VDD10#1
DPA_VDD10#2

DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4
DPA_VSSR#5

DPB_VDD18#1
DPB_VDD18#2
DPB_VDD10#1
DPB_VDD10#2

DPB_VSSR#1
DPB_VSSR#2
DPB_VSSR#3
DPB_VSSR#4
DPB_VSSR#5

DPA_PVDD
DPA_PVSS
DPB_PVDD
DPB_PVSS
DPC_PVDD
DPC_PVSS
DPD_PVDD
DPD_PVSS
DPE_PVDD
DPE_PVSS
DPF_PVDD
DPF_PVSS

DPC_VDD18
DPC_VSSR#1
DPC_VSSR#2
DPC_VSSR#3
DPC_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

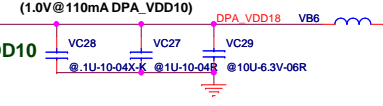
DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

DPE_VDD18
DPE_VSSR#1
DPE_VSSR#2
DPE_VSSR#3
DPE_VSSR#4

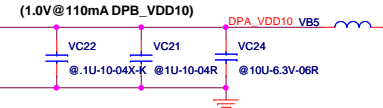
+1.8V_DGPU



DPA_VDD10

AN24
AP24
AN27
AP27
AP28
AW24
AW26

+1.0V_DGPU



DPA_VDD18

AN29
AP29
AP30
AW30
AW32

+1.8V_DGPU



DPA_VDD18

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

DPA_VDD18
DPA_VSSR#1
DPA_VSSR#2
DPA_VSSR#3
DPA_VSSR#4

For M97/M96, DPE_VDD18 can be shared with DPE_VDD10
For M97/M96, DPE_VDD10 can be shared with DPE_VDD10

For dual link DVI using DPA AND DPB, DPA_VDDxx and DPB_VDDxx can be shared respectively
For dual link DVI using DPC AND DPD, DPC_VDDxx and DPD_VDDxx can be shared respectively
For dual link LVDS, DPE_VDDxx and DPF_VDDxx can be shared respectively



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Title

VGA Power 1

Size

Document Number

MB401A B-Phase

Custom

MB401A

Rev

B

Date:

Tuesday, October 05, 2010

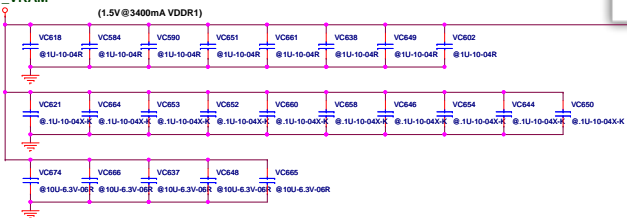
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39

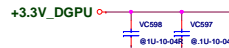
of

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+1.5V_VRAM



VDD_CT



VDDR4



PCIE_PVDD

MPV18

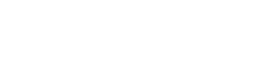
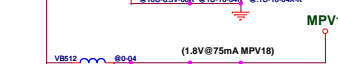
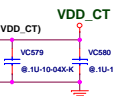
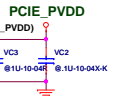
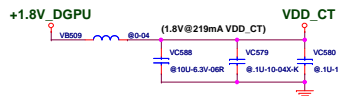
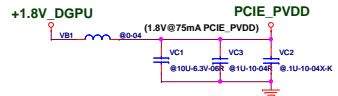
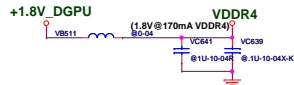
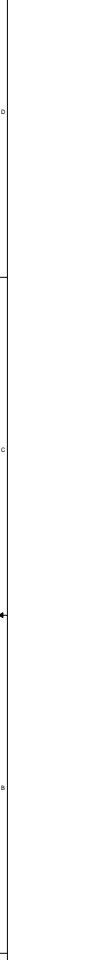
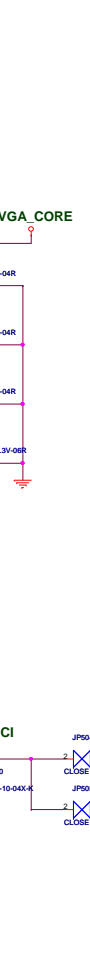
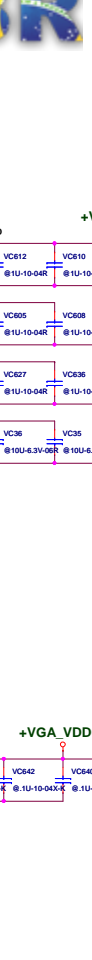
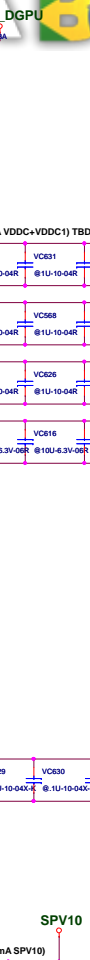
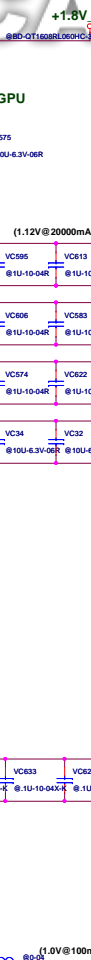
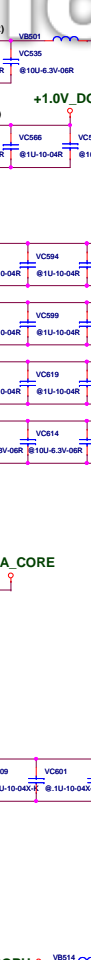
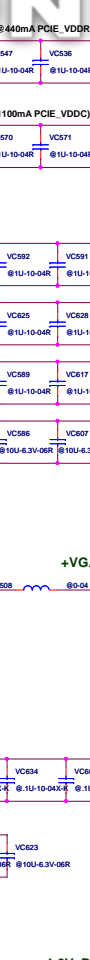
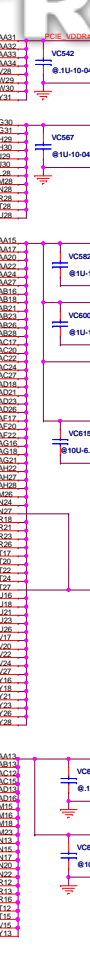
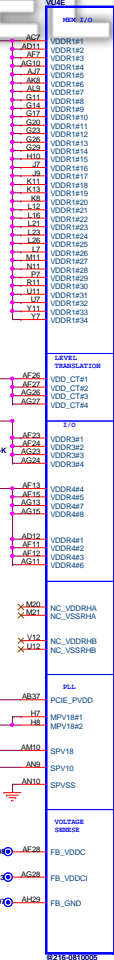
SPV18

SPV10

TP50

TP51

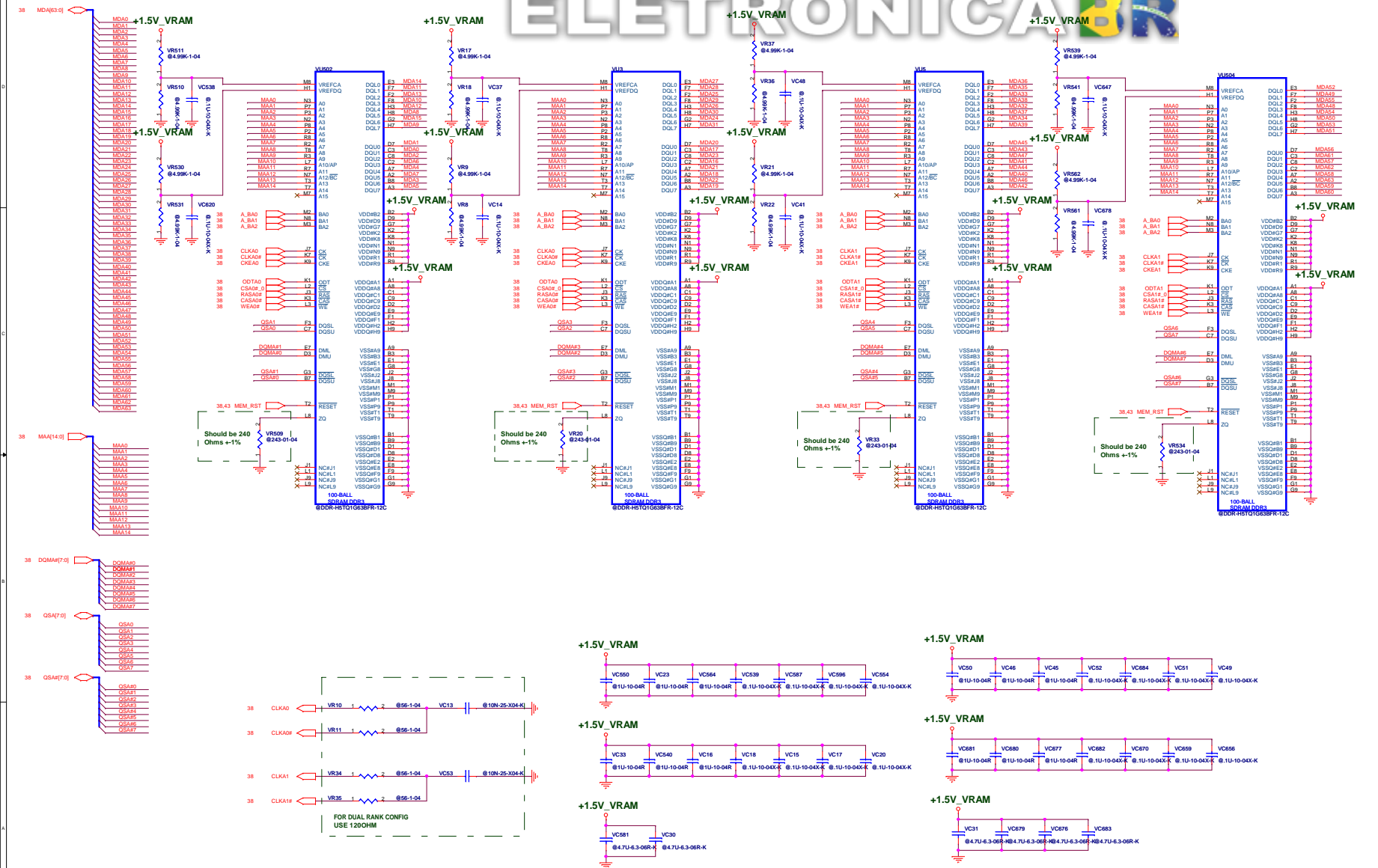
TP50



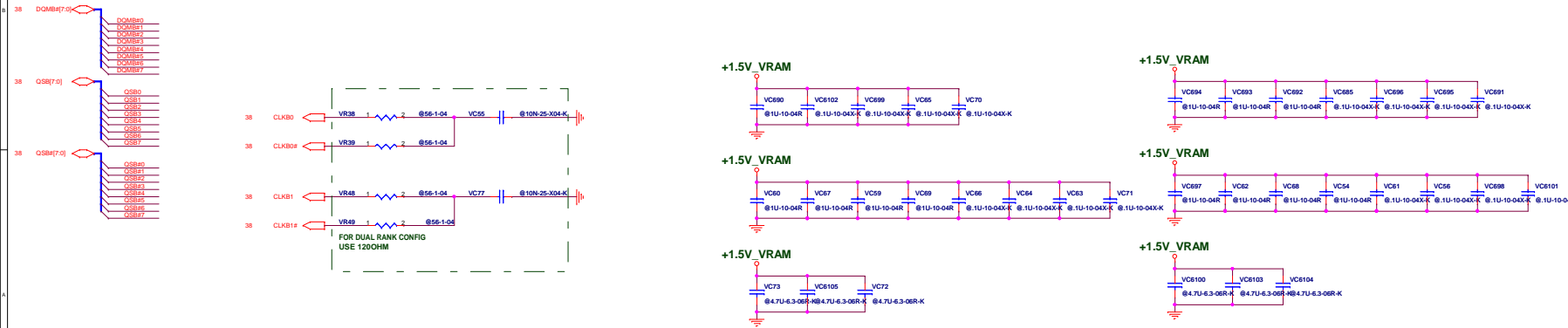
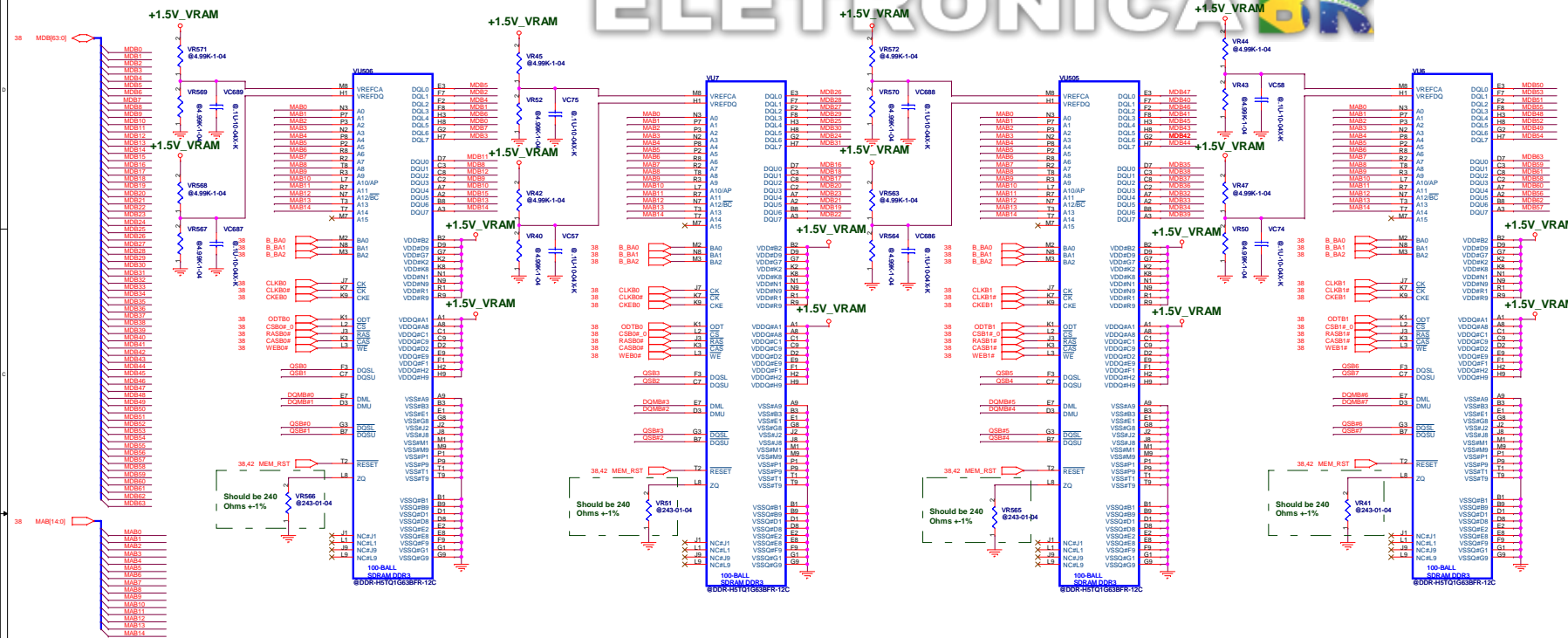
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File	VGA Power 2		
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Date	Version	October 06, 2010	Page 40 of 44

CHANNEL A: 256MB/512MB DDR3 (RANK0)

ELETRONICA BR



CHANNEL B: 256MB/512MB DDR3 (RANK1)



EE Schematics Modify

- 09/20 Modify
01. Page 24.U13 change footprint to M-S08.
02. Page XX.Y1 & Y4 change footprint to xtal-4p-7x1_5x1_4.
03. Page 26.Card Reader use
04. Page 28.H14,H6 footprint change to HTC236BC315D118.
05. Page 24.CN9 & CN11 footprint change to con_usb-r_9p_tar07-09ycn2v_11p.
06. Page 26.CN14 footprint change to CON_3IN1-R_MDR019-C0-1042_PRO.
07. Page 24.Add R871,R872,R873,R874.

09/20 Modify (EMI Solution)

01. Page 17.C78 change footprint to M-C0603.
02. Page 17.Add C865,C866,C803,C864.
03. Page 18.Add C869,C870,C867,C868.
04. Page 30.Add C871.
05. Page 30.Add
06. Page 30.Add PC806,PC807,PC808,PC804.
07. Page 35.Add PC809,PC810.
08. Page 32.Add C873,C872.
09. Page 14.Add C862.
10. Page 31.Add PC811;PC88 restore(SP-330U-2-Y).

09/21 Modify

01. Page 29.PR519 change value to 3.01K-1-04;PR515 change value to 12.4K-1-04.

09/23 Modify

01. Page 21.CN8 change value to CON-C-1775323.

09/30 Modify

01. Page 33.PR544,PQ506,PC511,PR532,PR538 change to stuff.
02. Page 34.ADD PR618,PQ529,PC804,PR620,PR619
03. Change V10.D18,R55M, PR58>>30K, PC552>>6.8N
04. Page 28.H6,H14 Footprint change to HOLEC138B237D118
05. Page 20.Q45 chnage value to FET-PA503EMG and footprint to SOT23G
06. Page 24.Unstuff C702,C704,C721,C723,C626,C629,C637,C639,D508,R677,R878
07. Page26. Add C895
08. Page32.PC108,PC113 change value to .1U-10-04X-K
09. Page36.VR1 stuff, VR2 unstuff
10. Page37.Unstuff VQ504,VR560,VR557,VR558
10/04 Modify
01. Page 24.Q501 change value to FET-SI2301BDS
02. Page 27.CN503 change footprint to con_24p_1pc_sm_f1018wr-s-24pt
03. Page 8.Del R631 and change to jumper PJP510
10/06 Modify
01. Page 25. Add L533,C896 for EMI
02. Page 28. Del C876

Power Schematics Modify

