ELITEGROUP COMPUTER SYSTEMS

Project : MB40IAX Schematics Rev : B1

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

Phase	Revision History	
A0	06/30/2010	Initial REV.A
A1	08/13/2010	Release REV.A1
A2	09/13/2010	Release REV.A2
B0	10/20/2010	Release REV.B
B1	11/08/2010	Release REV.B1
C	??/??/2010	Release REV.C
10	??/??/2010	Release REV.10

40mm

AOI	ICT	ATS	CHR	I/D	F/T	PCBA	T/Q

2mm
2mm
4mm
5mm

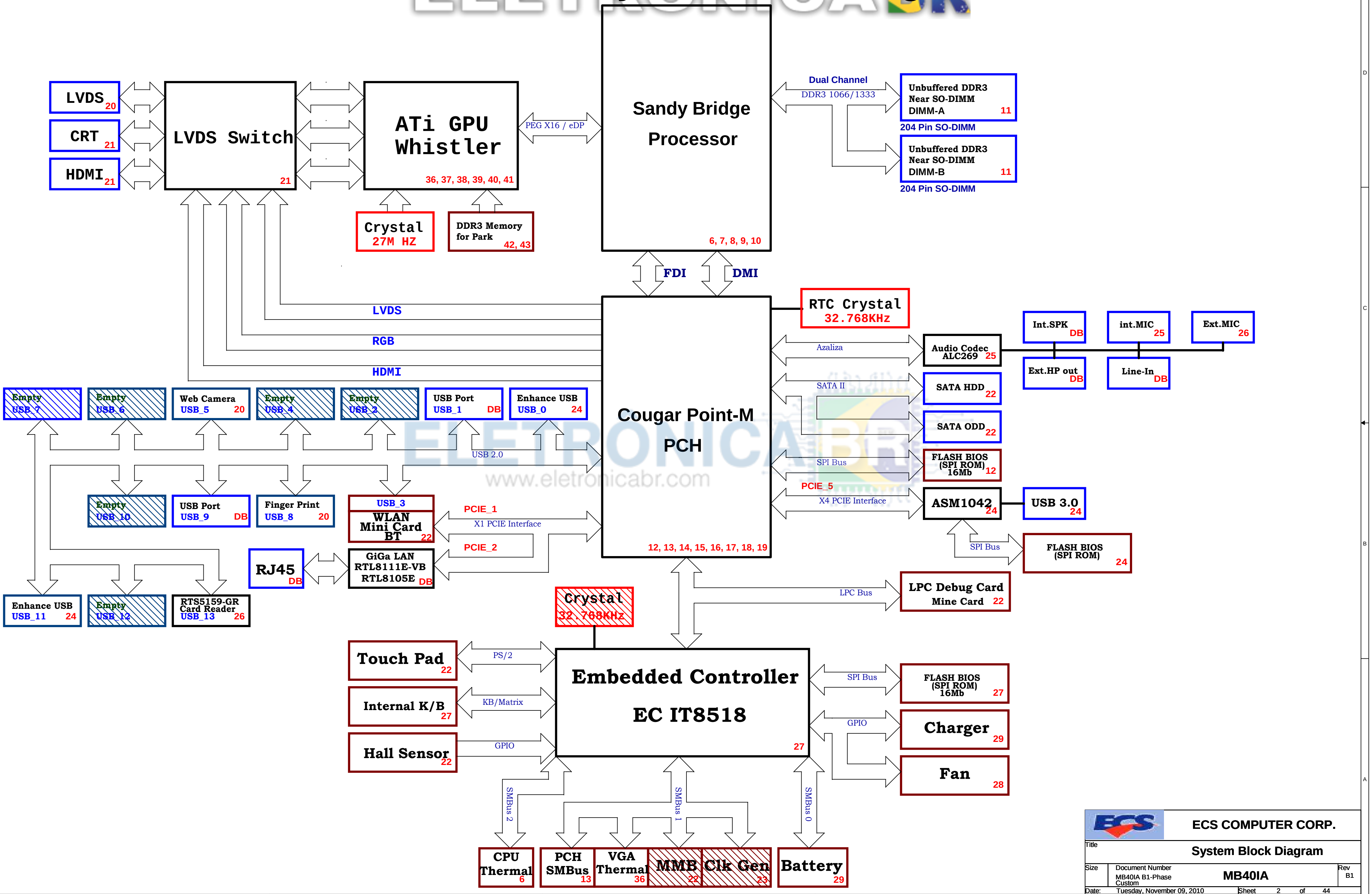
PCB
PCB
37GMB4100-B1

MB40IA MB Ver:B1
P/N:37GMB4100-B1
PCB M/B MB40IA1 R:B1 201.9*178.0*1.2 6L

MB40IA Rev. P/N List :

Phase Revision	PCB P/N	PCBA P/N	PCBA P/N
Initial REV.A0	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.B0	37GMB4100-B0	82GXXXXXX-B0	82GMB4D00-B0
Release REV.B1	37GMB4100-B1	82GXXXXXX-B1	82GXXXXXX-B1
Release REV.C	37GXXXXXX-C0	82GXXXXXX-C0	82GXXXXXX-C0
Release REV.10	37GXXXXXX-10	82GXXXXXX-10	82GXXXXXX-10
		Whistler ?G MB40IA2(Haier)	WhistlerPro ?G MB40IA3(Hasee)

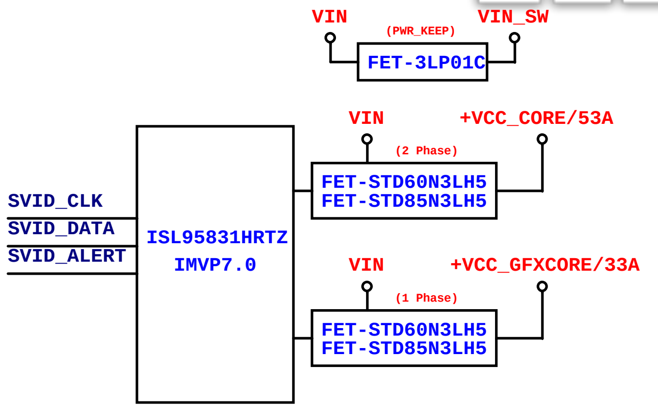
Huron River System Block Diagram



ECS COMPUTER CORP.

Title	System Block Diagram	
Size Custom	Document Number MB40IA B1-Phase	MB40IA	Rev B1
Date: Tuesday, November 09, 2010	Sheet 2 of 44	

Power Block Diagram

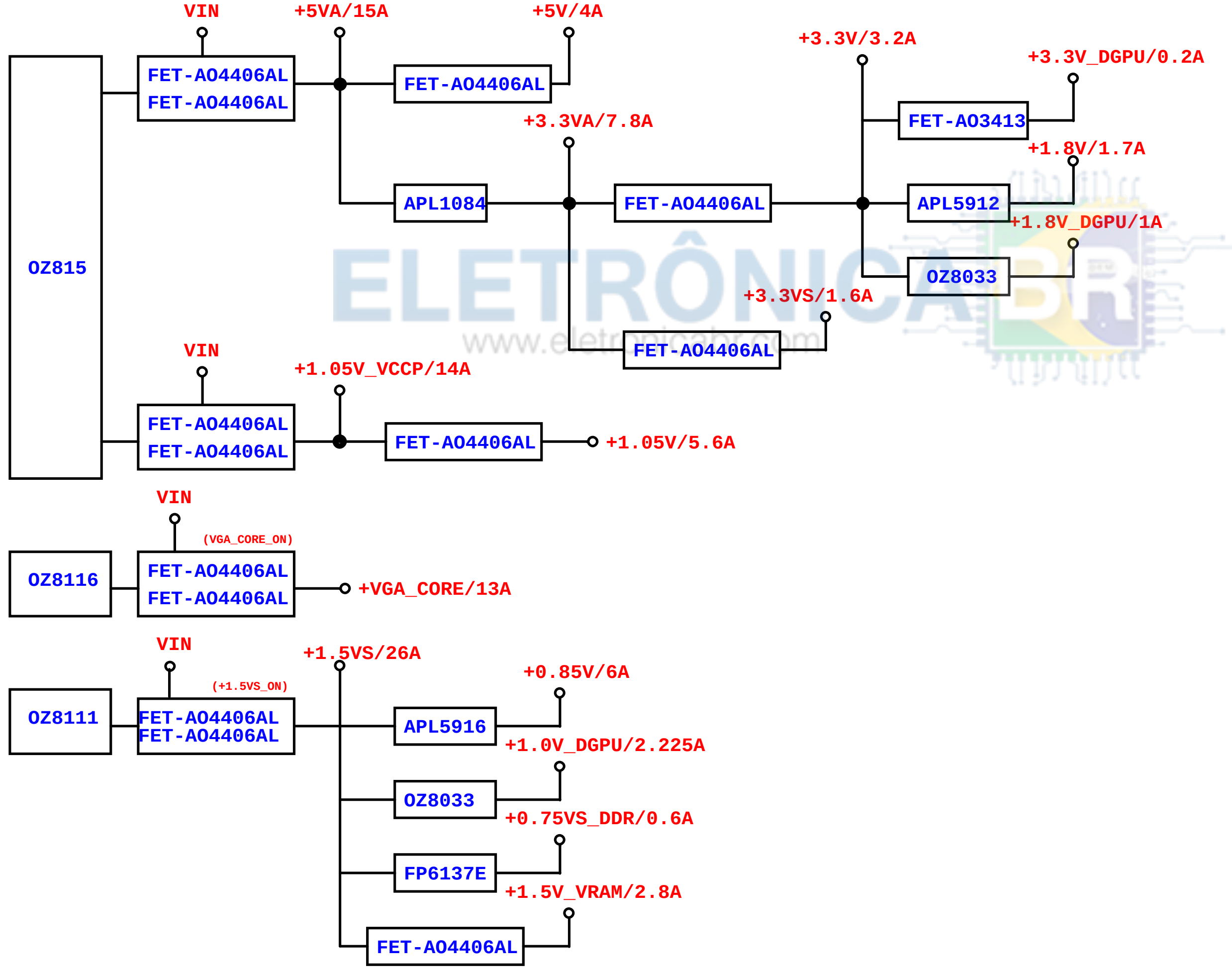


USB Port Devices Table														
USB Ports	USBP0 USBN0	USBP1 USBN1	USBP2 USBN2	USBP3 USBN3	USBP4 USBN4	USBP5 USBN5	USBP6 USBN6	USBP7 USBN7	USBP8 USBN8	USBP9 USBN9	USBP10 USBN10	USBP11 USBN11	USBP12 USBN12	USBP13 USBN13
Devices	Enhance USB	USB Port	None	WLAN	None	Web Camera	Disable	Disable	Finger Print	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
	DC:AUX_ON	ON	ON	ON	OFF	OFF
+V5_AUX	AC:follow VIN up	ON	ON	ON	ON	ON
	DC:AUX_ON	ON	ON	ON	OFF	OFF

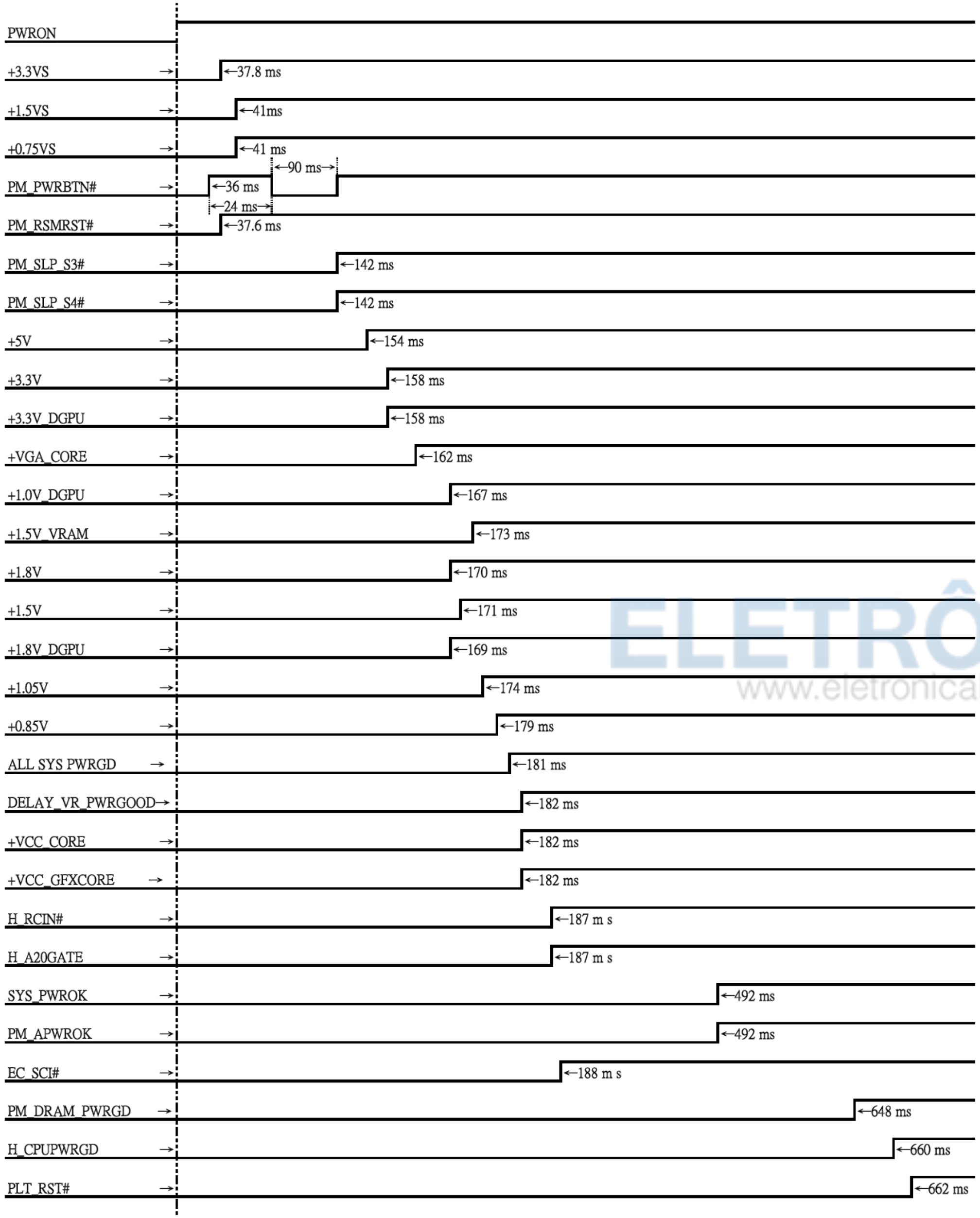


CPU Huron River Power Rail		Laptop Mode				
		S0	S1	S3	S4	S5
VCC	+VCC_CORE	ON	ON	OFF	OFF	OFF
VTT	+V1.1S	ON	ON	OFF	OFF	OFF
VAXG	+VCC_CORE	ON	ON	OFF	OFF	OFF
VCCPLL1	+V1.8S	ON	ON	OFF	OFF	OFF
VDDQ	+V1.5S	ON	ON	OFF	OFF	OFF

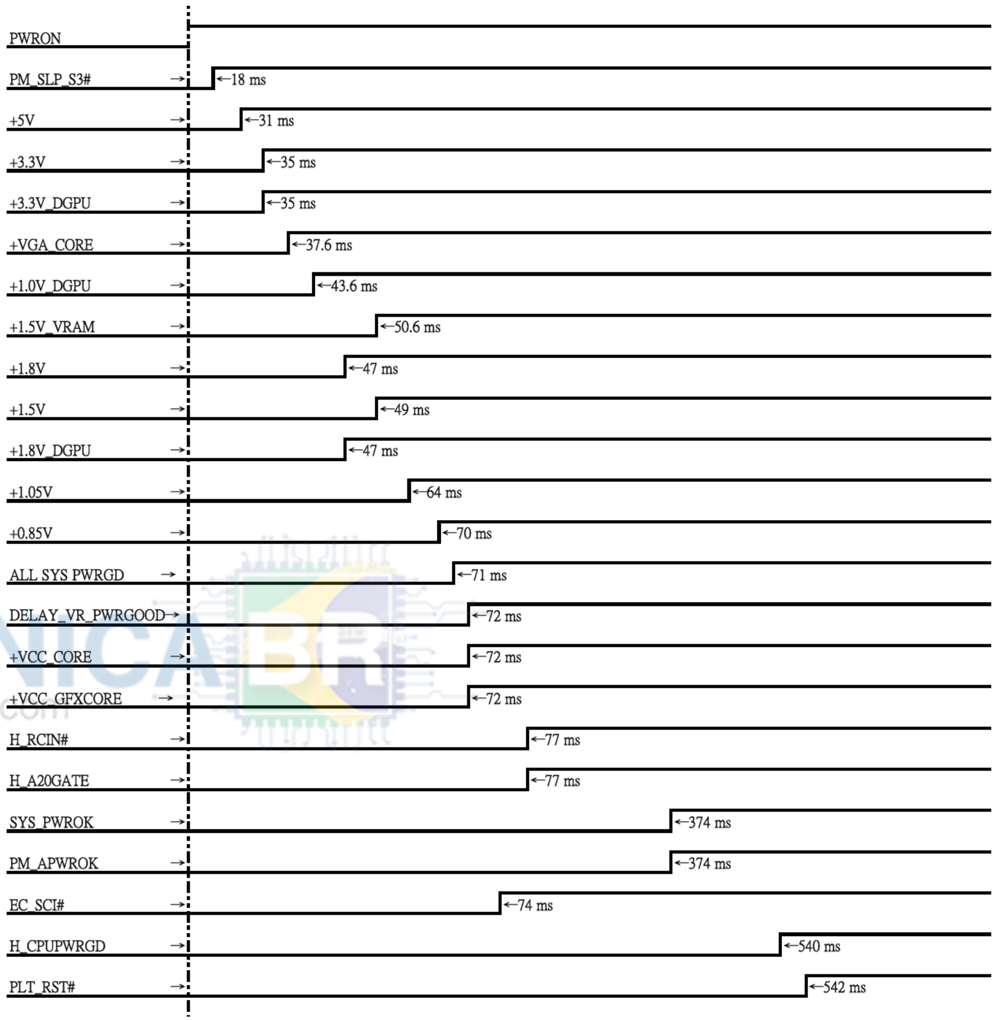
SB Ibex Peak Power Rail		Laptop Mode				
		S0	S1	S3	S4	S5
VCCACLK	+V1.1S	ON	ON	OFF	OFF	OFF
VCCCORE	+V1.1S	ON	ON	OFF	OFF	OFF
VCCAPLLEXP	+V1.1S	ON	ON	OFF	OFF	OFF
VCCIO	+V1.1S	ON	ON	OFF	OFF	OFF
VCC3_3	+V3.3S	ON	ON	OFF	OFF	OFF
VCCFDIPLL	+V1.1S	ON	ON	OFF	OFF	OFF
VCCVRM	+V1.8S	ON	ON	OFF	OFF	OFF
VCCPNAND	+V1.8S	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
VCCADPLLB	+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
VCCLAN	+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

System Power On Sequence

MB40IA A2 Phase Power Sequence(Power ON)



MB40IA A2 Phase Power Sequence(S3)



ECS COMPUTER CORP.		
Title: Power Sequence		
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 4 of 44	

PCH GPIO

GPIO0	S_GPIO
GPIO1	SMC_RUNTIME_SCI#
GPIO2	MPC_PWR_CTRL#
GPIO3	SATA_ODD_DA#
GPIO4	EXTTS_SNI_DRV0_PCH
GPIO5	EXTTS_SNI_DRV1_PCH
GPIO6	USB_SMI
GPIO7	PCH_TACH3
GPIO8	ICC_EN#
GPIO9	USB_OC#_10_11
GPIO10	USB_OC#_12_13
GPIO11	PCH_GPIO11
GPIO12	PCH_GPIO12
GPIO13	NC
GPIO14	USB_OC#_13_14
GPIO15	HOST_ALERT#1
GPIO16	SATA_DET#4
GPIO17	PCH_TACH0
GPIO18	CLK_PCIE_LAN_REQ#_R
GPIO19	BBS_BIT0
GPIO20	NC
GPIO21	SATA DET0#
GPIO22	BIOS_REC
GPIO23	NC
GPIO24	HOST_ALERT#2
GPIO25	NC
GPIO26	CLK_USB_OE#_R
GPIO27	PCH_GPIO27
GPIO28	PLL_ODVR_EN
GPIO29	PM_SLP_LAN#
GPIO30	SUS_PWR_ACK_R
GPIO31	AC_PRESENT
GPIO32	PM_CLKRUN#
GPIO33	PORST#_PCH
GPIO34	PX_MODE
GPIO35	PLTRST#_PCH
GPIO36	PCH_GPIO36
GPIO37	FDI_OVRVLTG
GPIO38	MFG_MODE
GPIO39	GFX_CRB_DET
GPIO40	USB_OC#_2_3
GPIO41	USB_OC#_4_5
GPIO42	USB_OC#_6_7
GPIO43	USB_OC#_8_9
GPIO44	NC
GPIO45	NC
GPIO46	NC
GPIO47	PEG_CLKREQ#
GPIO48	TEST_SET_UP
GPIO49	PCH_GPIO49
GPIO50	DGPU_HOLD_RST
GPIO51	BBS_BIT1
GPIO52	PCI_REQ#2
GPIO53	NC
GPIO54	PCI_REQ#3
GPIO55	STP_A16OVR
GPIO56	NC
GPIO57	TEST_DET
GPIO58	SMB1_CLK_EC
GPIO59	USB_OC#_0_1
GPIO60	RST_GATE
GPIO61	NC
GPIO62	NC
GPIO63	NC
GPIO64	NC
GPIO65	USB_48M_P
GPIO66	LAN25M_P
GPIO67	SEL24_48M_P
GPIO68	10K to +3.3V
GPIO69	1.5K to GND
GPIO70	1.5K to +3.3V
GPIO71	1.5K to +3.3V
GPIO72	PM_BATLOW#
GPIO73	CLK_MINI1_OE#_R
GPIO74	PCH_GPIO74
GPIO75	SMB1_DAT_EC

ITE8518 GPIO Pin Definition list

GPA0	BTL_BEEP
GPA1	EC_BL_PWM
GPA2	WLAN_ON
GPA3	WEBCAM_EN
GPA4	RF_LED
GPA5	+0.85V_ON
GPA6	RECOVERY
GPA7	BT_EN#
GPB0	SENBAT_V
GPB1	COLOR_ENGINE_EN
GPB2	+VGA_BACO
GPB3	SMBCLK_EC0
GPB4	SMBDAT_EC0
GPB5	H_A20GATE
GPB6	H_RCIN#
GPB7	OPTION2
GPC0	+1.8V_ON
GPC1	SMBCLK_EC1
GPC2	SMBDAT_EC1
GPC3	SAFETY
GPC4	+3.3V_ON
GPC5	+5V_ON
GPC6	+1.05V_VCCP_ON
GPC7	PM_PWRBTN#
GPD0	AC_IN
GPD1	OPTION1
GPD2	BUF_PLT_RST#
GPD3	EC_SCI#
GPD4	SATA_ODD_PWRGT_EC +1.8V_DGPU_ON
GPD5	AC_PRESENT
GPD6	+1.5VS_ON
GPD7	+1.2V_ON
GPE0	PM_RSMRST#
GPE1	FNOPTION
GPE2	PM_APWROK
GPE3	+VGA_ON
GPE4	PWRON
GPE5	OPTION3
GPE6	SATA_LED1#
GPE7	MUTE_AMP#
GPF0	EC_PROCHOT
GPF1	CHG_R_LED
GPF2	CHG_B_LED
GPF3	PWR_LED
GPF4	TP_CLK
GPF5	TP_DATA
GPF6	EC_PECI
GPF7	PM_SYSRST#
GPH0	PWR_KEEP
GPH1	ME_LOCK
GPH2	USB0_EN#
GPH3	PCH_SPI_CS#
GPH4	PCH_SPI_CLK
GPH5	PCH_SPI_SO
GPH6	PCH_SPI_SI
GPG0	EC_BL_EN
GPG1	+3.3VS_ON
GPG2	FLFRAME#
GPG6	LID#
ADC0/GPI0	BATT_TEMP
ADC1/GPI1	ADAPTOR_I
ADC2/GPI2	BAT_I
ADC3/GPI3	BAT_V
ADC4/GPI4	NC
ADC5/GPI5	PM_SLP_S4#
ADC6/GPI6	PM_SLP_S3#
ADC7/GPI7	SUB_PWR_ACK SATA_ODD_DA#_EC PX_MODE

ITE8518 GPIO Pin Definition list

DAC0/GPJ0	Fast-charge-EN
DAC0/GPJ1	CHG_ON
DAC0/GPJ2	FAN_CTRL0
DAC0/GPJ3	CHG_I
DAC0/GPJ4	MMB_RESET#
DAC0/GPJ5	SET_V

ITE8518 KB Matrlk interface

KSI0/STB#	KB_SIN0
KSI1/AFD#	KB_SIN1
KSI2/INIT#	KB_SIN2
KSI3SLIN#	KB_SIN3
KSI4	KB_SIN4
KSI5	KB_SIN5
KSI6	KB_SIN6
KSI7	KB_SIN7
KSO0/PD0	KB_SOUT0
KSO1/PD1	KB_SOUT1
KSO2/PD2	KB_SOUT2
KSO3/PD3	KB_SOUT3
KSO4/PD4	KB_SOUT4
KSO5/PD5	KB_SOUT5
KSO6/PD6	KB_SOUT6
KSO7/PD7	KB_SOUT7
KSO8/ACK#	KB_SOUT8
KSO9/BUSY	KB_SOUT9
KSO10/PE	KB_SOUT10
KSO11/ERR#	KB_SOUT11
KSO12/SLCT	KB_SOUT12
KSO13	KB_SOUT13
KSO14	KB_SOUT14
KSO15	KB_SOUT15

ITE8518 SPI Flash ROM interface

FSSCE0#//GPG2	FLFRAME#
FSCE#	EC_SPI_CS#
FMOSI	EC_SPI_SI
FMOSO	EC_SPI_SO
DSR0#/GPG6	LID#
FSCK	EC_SPI_CLK
SCI#/GPG0	EC_BL_EN

ITE8518 System & LPC Bus

LAD0	LPC_AD0
LAD1	LPC_AD1
LAD2	LPC_AD2
LAD3	LPC_AD3
SERIRQ	INT_SERIRQ
LFRAME#	LPC_FRAME#
LPCCLK	CLK_PCI_KBC
WRST#	LRST1#

ITE8518 Clock

CLK32K	EC32KI
CK32KE	EC32KO

ITE8518 Power

VSTBY0	+3.3VA
VSTBY1	+3.3VA
VSTBY2	+3.3VA
VSTBY3	+3.3VA
VSTBY4	+3.3VA
VSTBY5	+3.3VA
VBAT	+3.3VA_RTC
AVCC	+3.3VA
VCC	+3.3V

Gantiga TDP

	CPU Socket P	GMCH GFX Freq/Core Volt	Memory	TDP
Gantiga	Penryn SV/FSB800	800MHZ/1.05V	DDR3-1066/ 2 CH	12.0W
Gantiga	Penryn SV/FSB800	800MHZ/1.05V	DDR3-1066/ 2 CH	12.0W
Gantiga	Penryn LV/FSB800	800MHZ/1.05V	DDR3-800/ 2 CH	10.5W
Gantiga	Penryn ULV/FSB800	800MHZ/1.05V	DDR3-800/ 2 CH	9.5W

ITE8518

VCC	ICC(mA)	mW	TEMP(℃)
+3.3VA	100	330	70

Clock Generator

VCC	ICC(mA)	mW	TEMP(℃)
+3.3V	270	891	70

Sandy Bridge CPU IMVP-7.0

Voltage (V)	Current(mA)	Measure	Watt
+VCC_CORE	36000		
+VCC_GFXCORE	33000		
+1.05V_VCCP	8500		
+0.85V	6000		
+1.5VS	3000		
+1.8V	1200		

Cougar Point PCH

Voltage (V)	Current(mA)	Measure	Watt
+1.05V_VCCP	43		
+1.05V	5565		
+1.8V	250		
+3.3VS	129		
+3.3V	260		
+5VA	1		
+5V	1		

ITE8518 GND

AVSS	GND
VSS0	GND
VSS1	GND
VSS2	GND
VSS3	GND
VSS4	GND
VSS5	GND
VSS6	GND

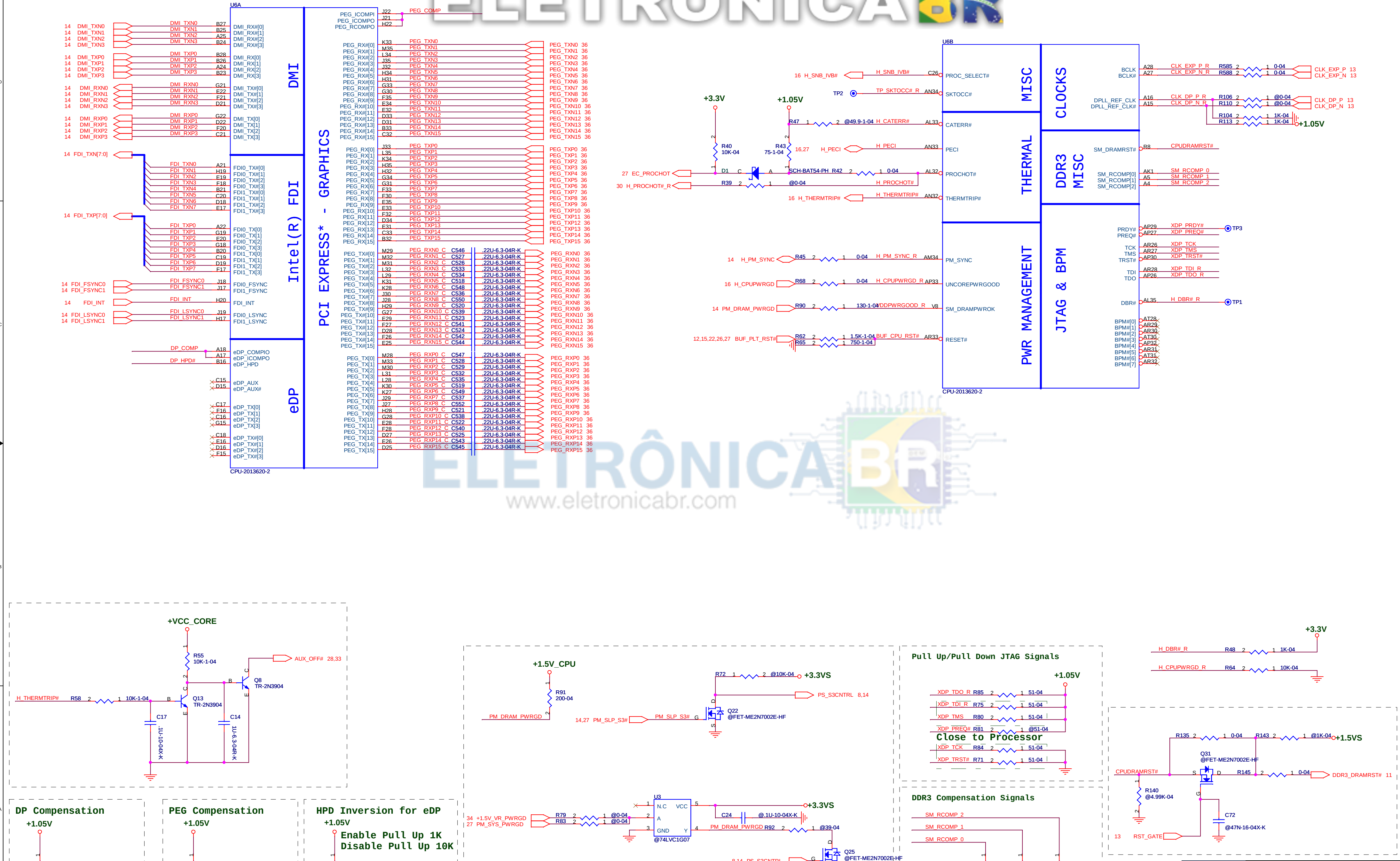
Cantiga

VCC	ICC(mA)	W	TEMP(℃)
+3.3VS	269	0.887	105
+1.8V	192	0.345	
+1.5VS	76	1.14	
+1.05VS	6013	6.313	
GFX_CORE	6326	6.642	

PCH

VCC	ICC(mA)	mW	TEMP(℃)
+5V	2	10	70
+5VS	2	10	
+3.3VA	162	534.6	
+3.3VS	320	1056	
+1.5VS	2220	3330	
+1.05V	1636	1717.8	

ECS COMPUTER CORP.		
Title	GPIO & Power Consumption	
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 5 of 44	



ECS COMPUTER CORP.

Title: Sandy Bridge_DMI,FDI,PEG

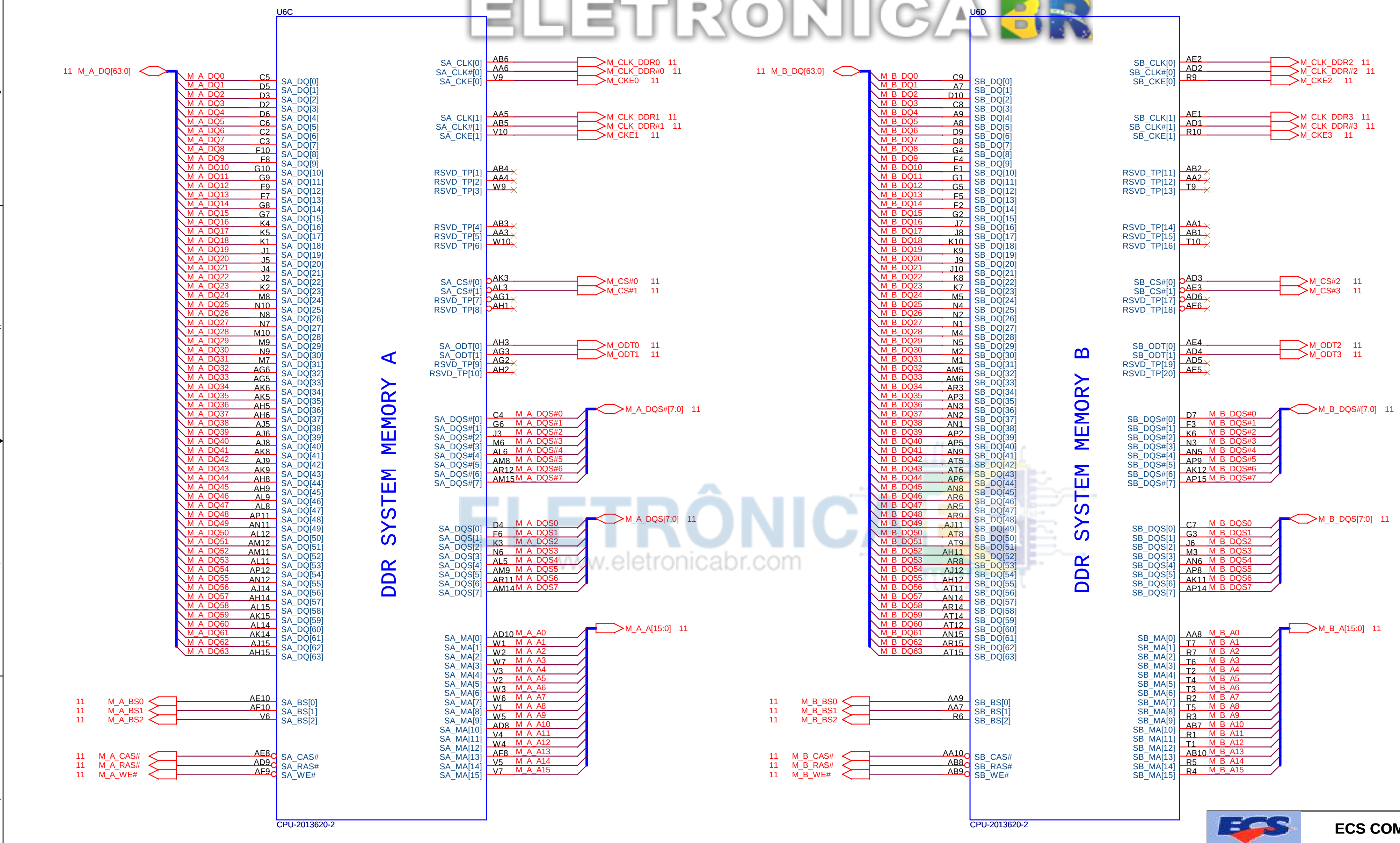
Size: Custom

Document Number: MB40IA B1-Phase

MB40IA

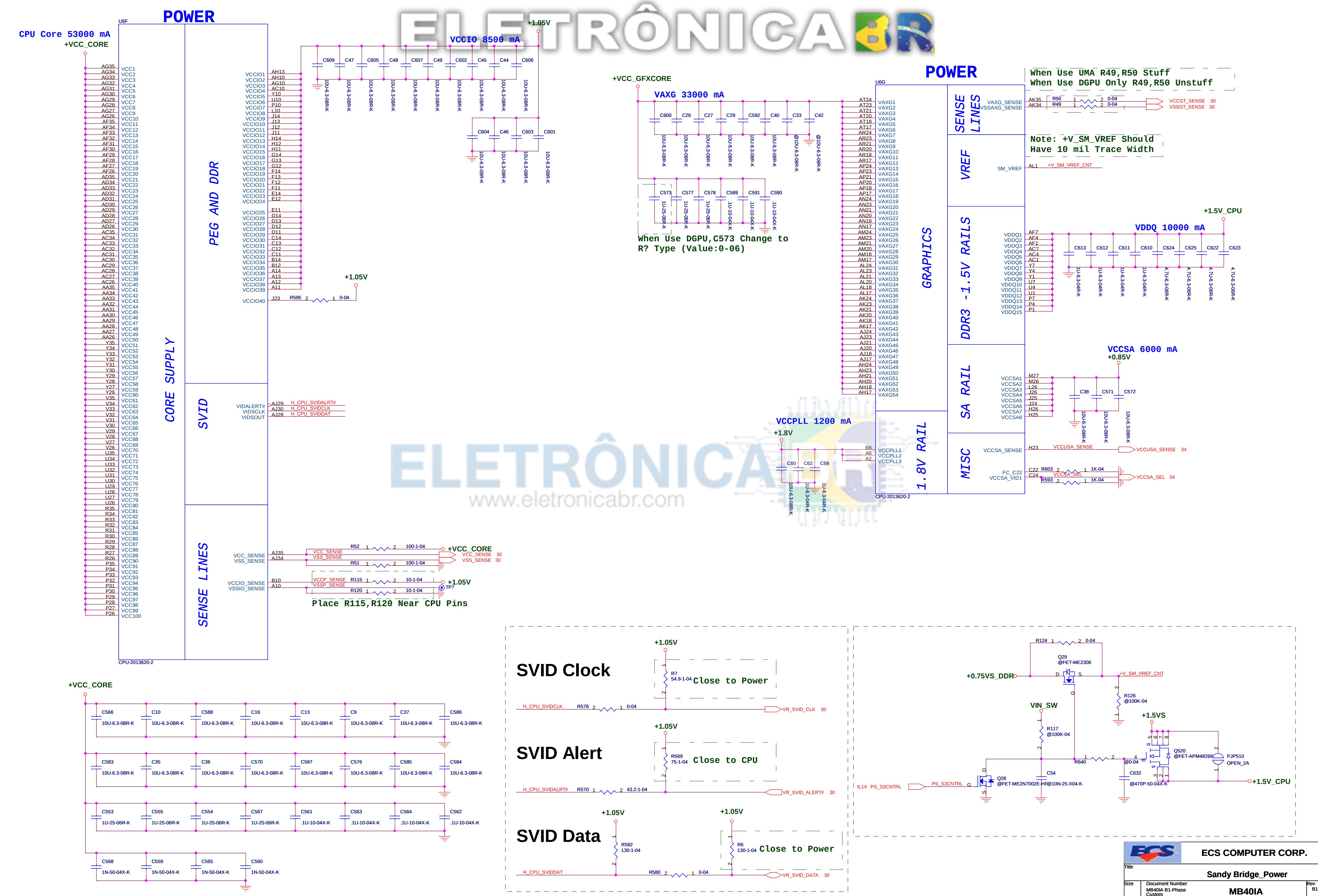
Rev: B1

Date: Tuesday, November 09, 2010



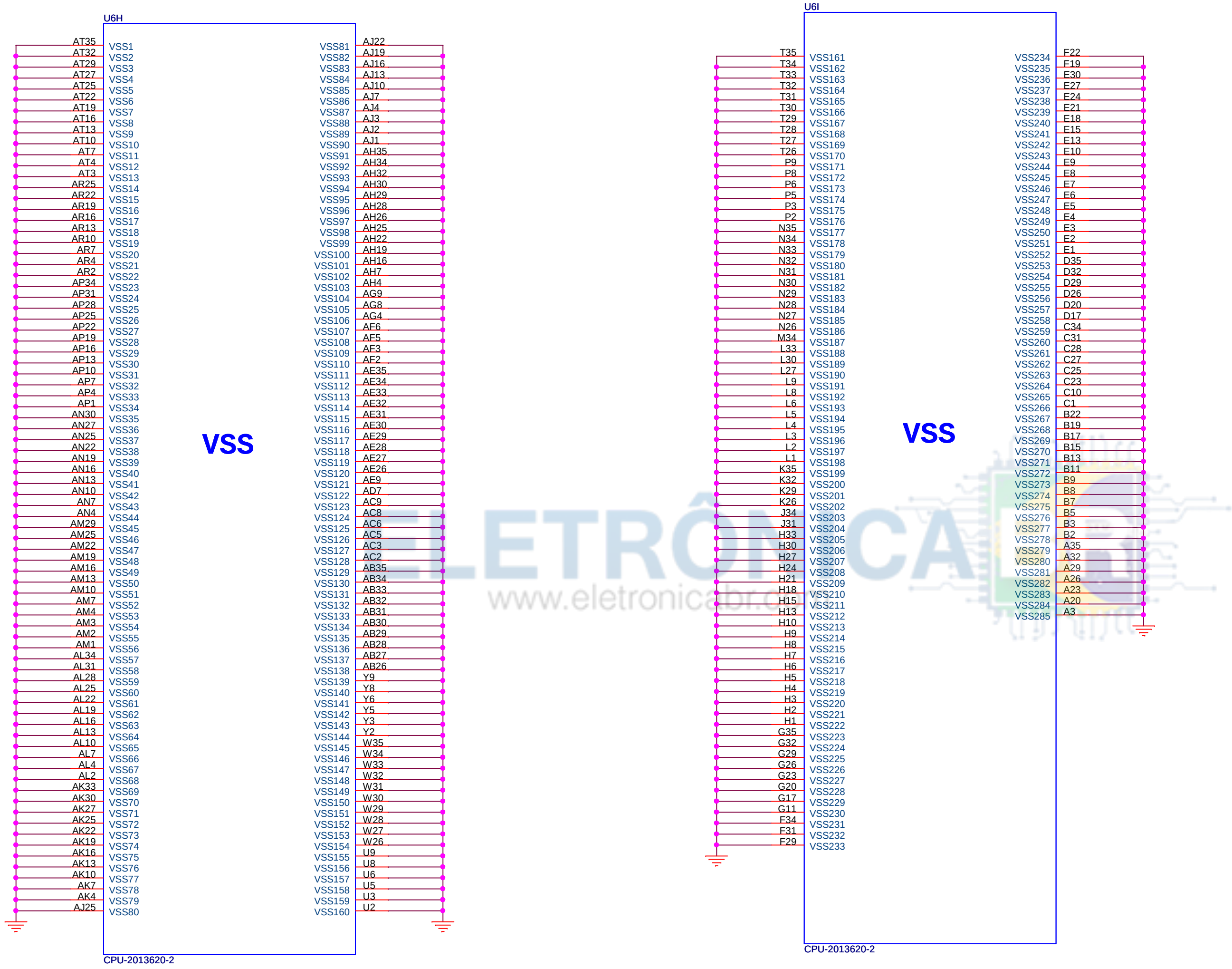
ECS COMPUTER CORP.

Title	Sandy Bridge_DDR3	
Size: Custom	Document Number: MB40IA B1-Phase MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 7 of 44	



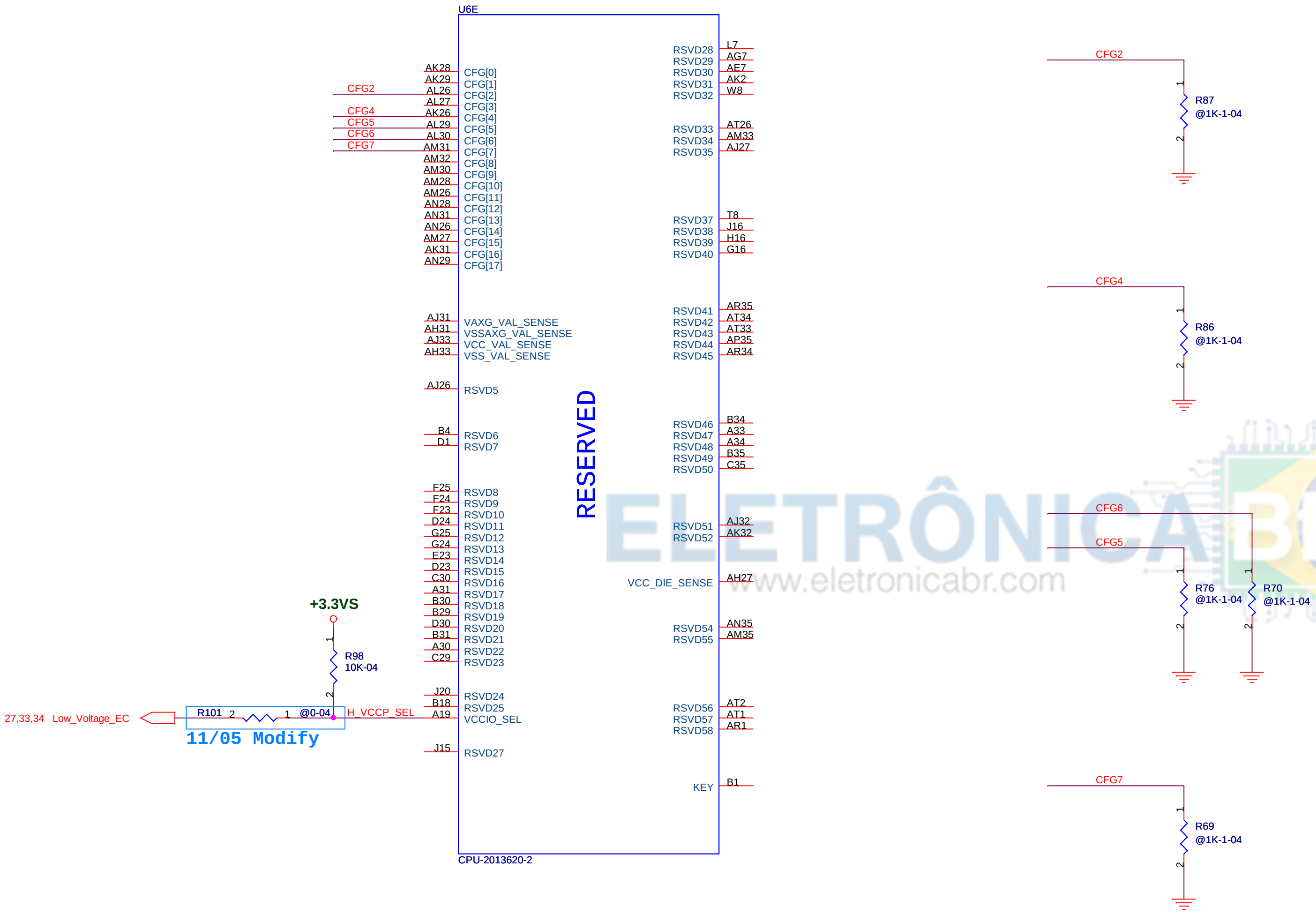
ECS COMPUTER CORP.

Title	Sandy Bridge_Power	
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 8 of 44	



ECS COMPUTER CORP.

Title	Sandy Bridge_GND	
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 9 of 44	



PEG Static Lane Reversal - CFG2 is for the 16x

CFG2	1:(Default) Normal Operation; Lane # definition matches socket pin map definition 0:Lane Reversed

Display Port Presence Strap

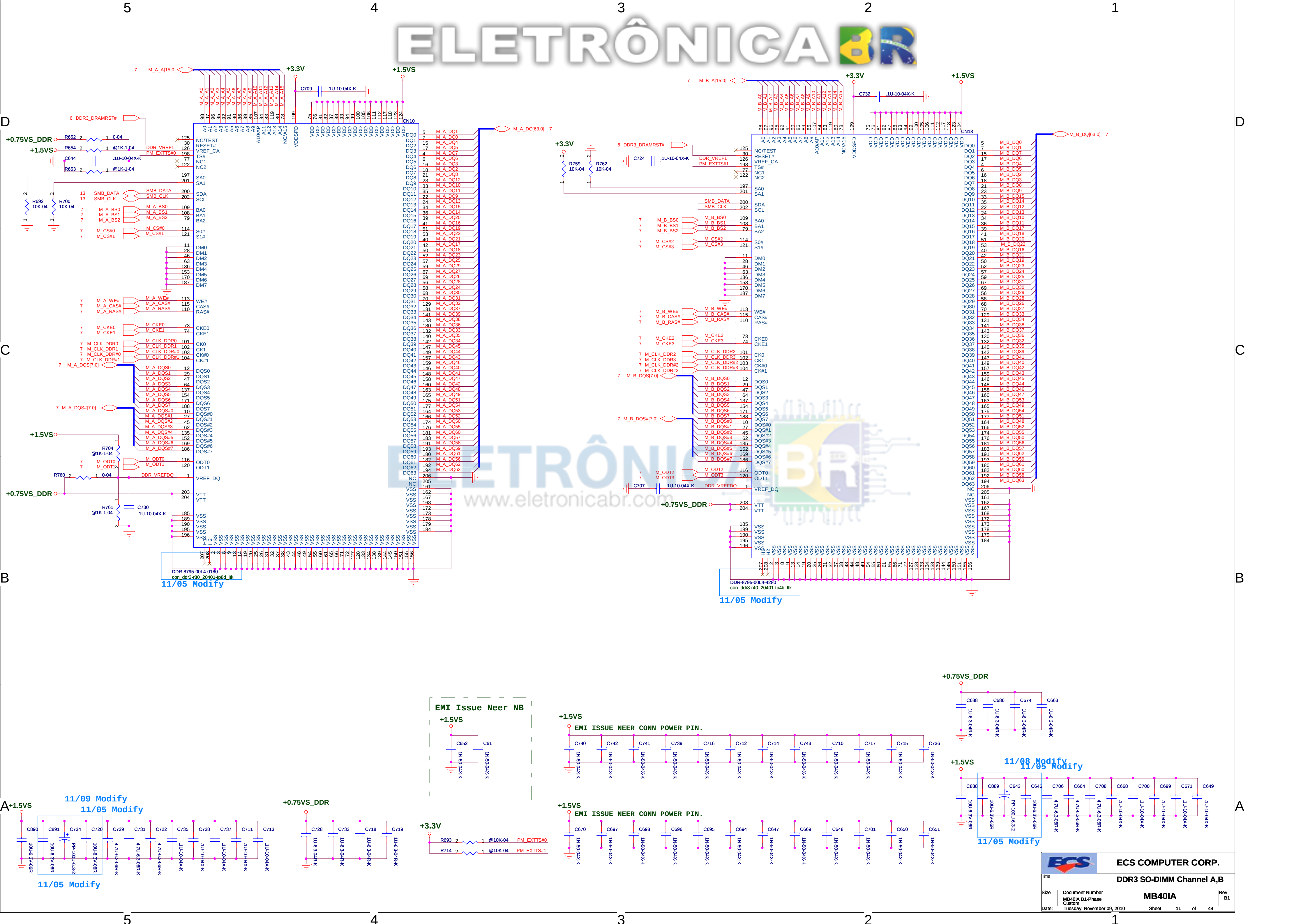
CFG4	1:(Default) Disabled; No Physical Display Port attached to Embedded Display Port 0:Enabled; An external Display Port device is connected to the Embedded Display Port

PCIE Port Bifurcation Straps

CFG[6:5]	11: (Default) x16 - Device 1 functions 1 and 2 disabled 10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled 01: Reserved - (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 - Device 1 functions 1 and 2 enabled

PEG DEFER TRAINING

CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training



ELETRÔNICABR
www.eletronicabr.com
+3.3V
+1.5VS
+0.75VS_DDR
M_A_A[15:0]
M_B_A[15:0]
M_A_DQ[63:0]
M_B_DQ[63:0]
DDR3_DRAMRST#
DDR-8795-00L4-0180
con_ddr3-r80_20401-tp8d_ltk
DDR-8795-00L4-4280
con_ddr3-r40_20401-tp4b_ltk
11/05 Modify
11/09 Modify
11/08 Modify
EMI Issue Neer NB
EMI ISSUE NEER CONN POWER PIN.
PM_EXTTS#0
PM_EXTTS#1
ECS COMPUTER CORP.
Title
DDR3 SO-DIMM Channel A,B
Size
Document Number
MB40IA
MB40IA B1-Phase
Custom
Rev
B1
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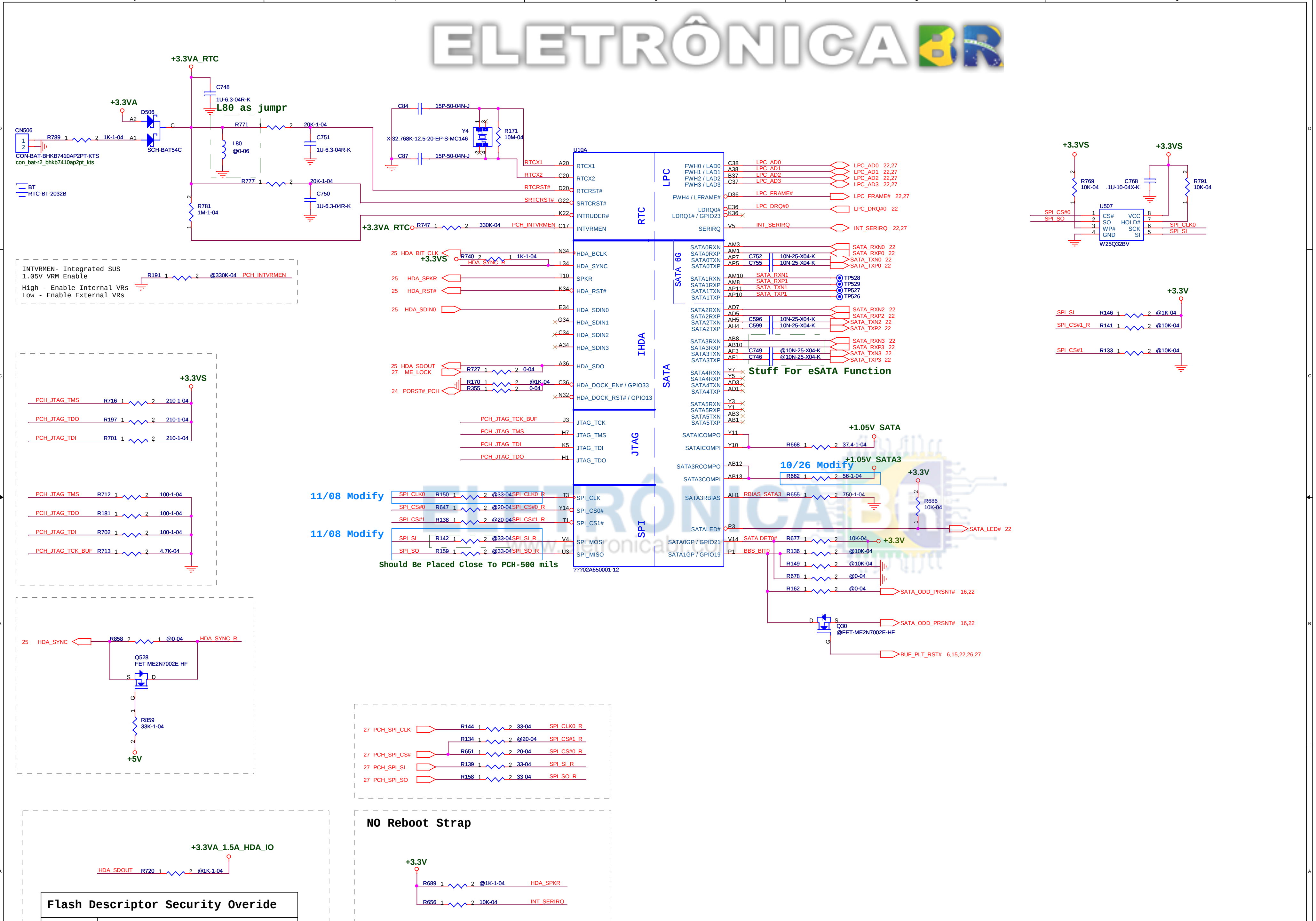


Flash Descriptor Security Overide

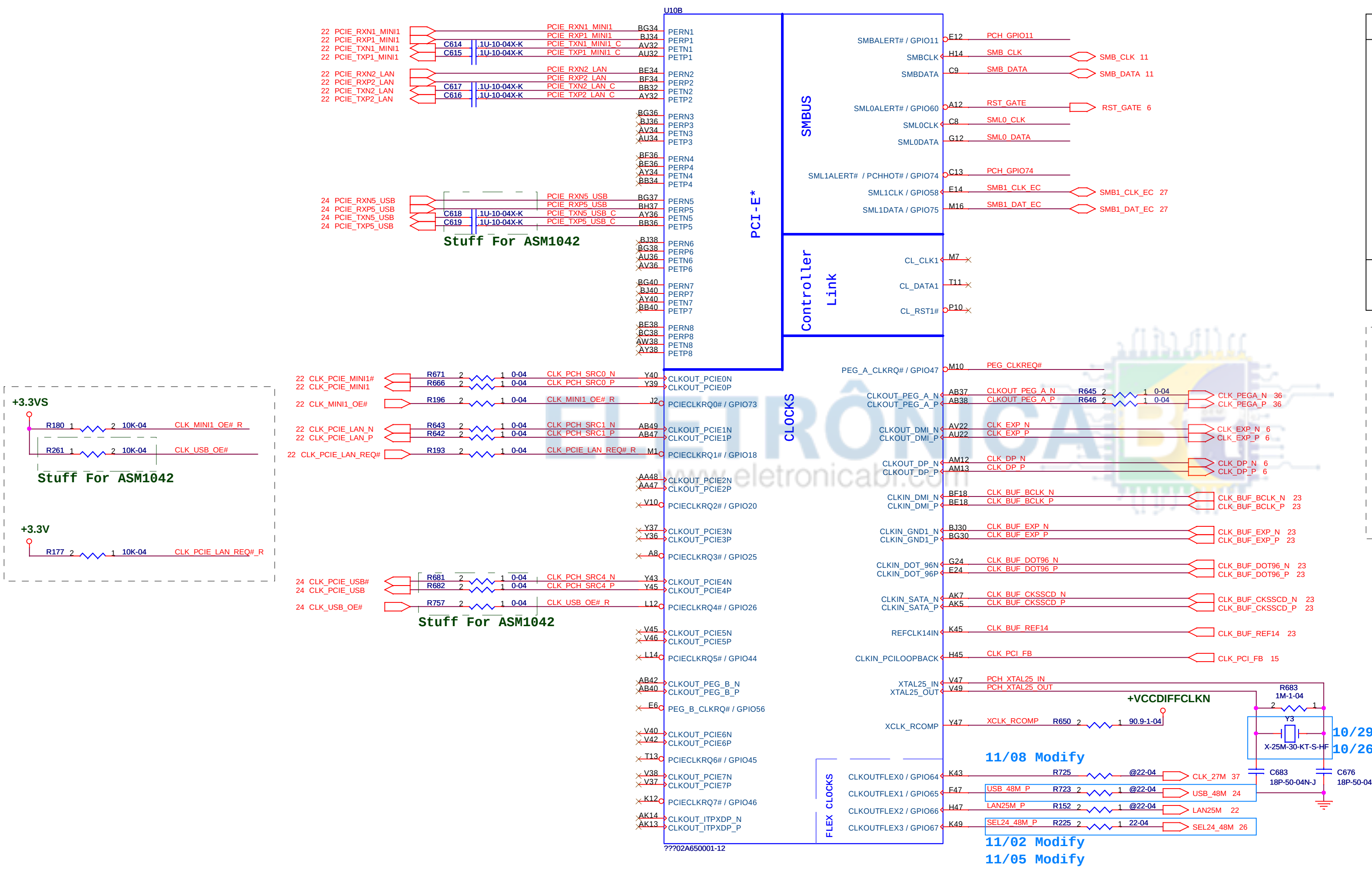
HDA_SDOUT	Low = Disabled - Default High = Enabled

ECS COMPUTER CORP.

Title: Cougar Point_RTC,HDA,SATA

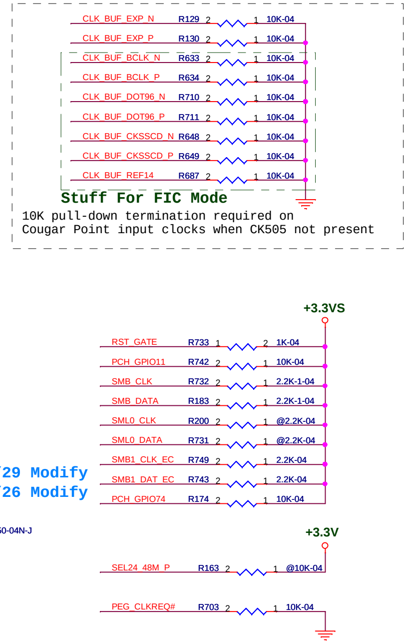
Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 12 of 44



PCI-E* X1	Usage
Lane 1	WLAN
Lane 2	LAN
Lane 3	N/A
Lane 4	N/A
Lane 5	USB 3.0
Lane 6	N/A
Lane 7	N/A
Lane 8	N/A

Slot 5 is a x4 PCIe Slot and Slot 1-4 and Slot 6 are x1 PCIe slots. Slot 6 is a dummy slot and not stuffed by default.



ECS COMPUTER CORP.

Title: Cougar Point_PCIE,CLK,SMBus

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

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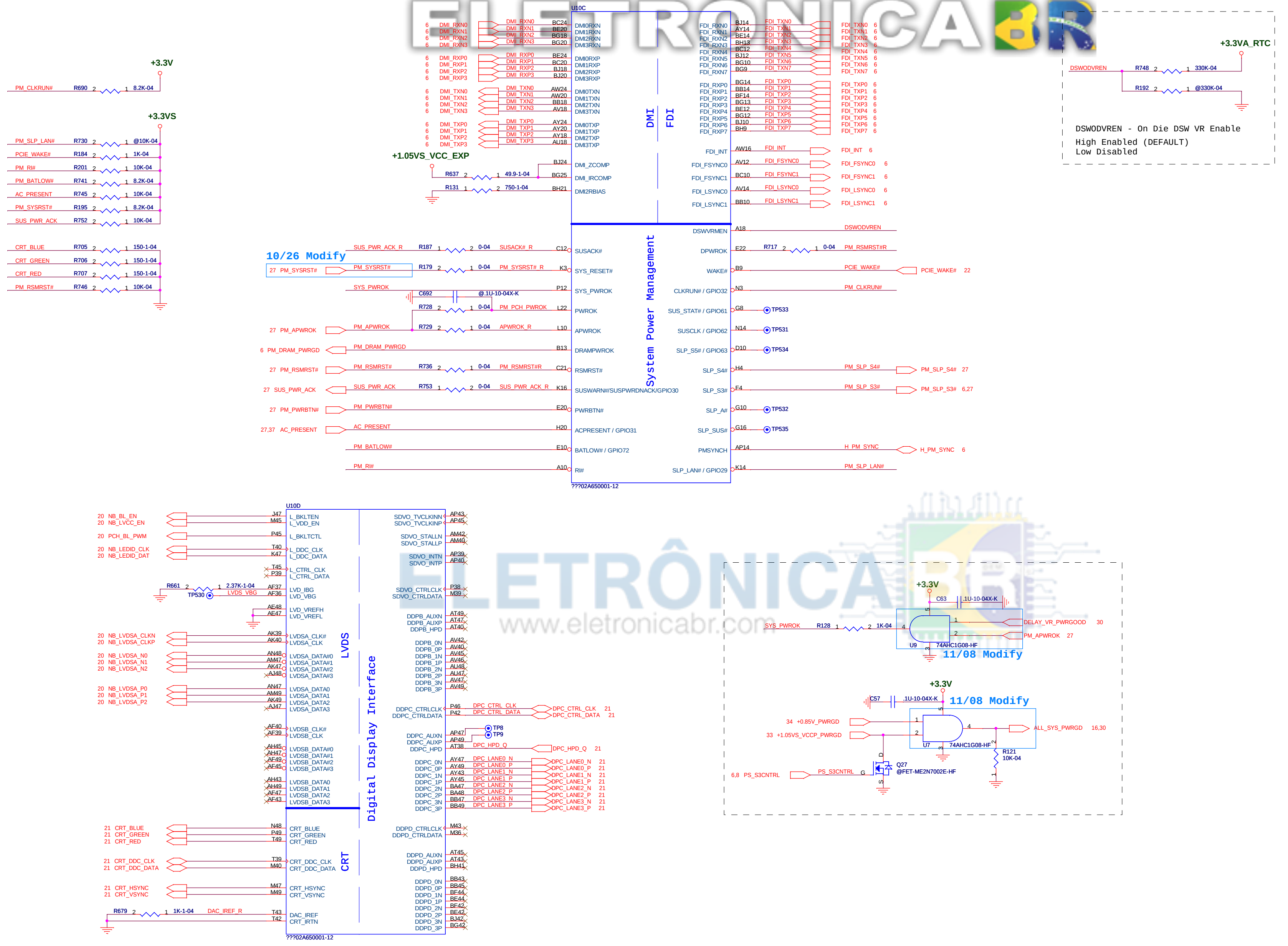
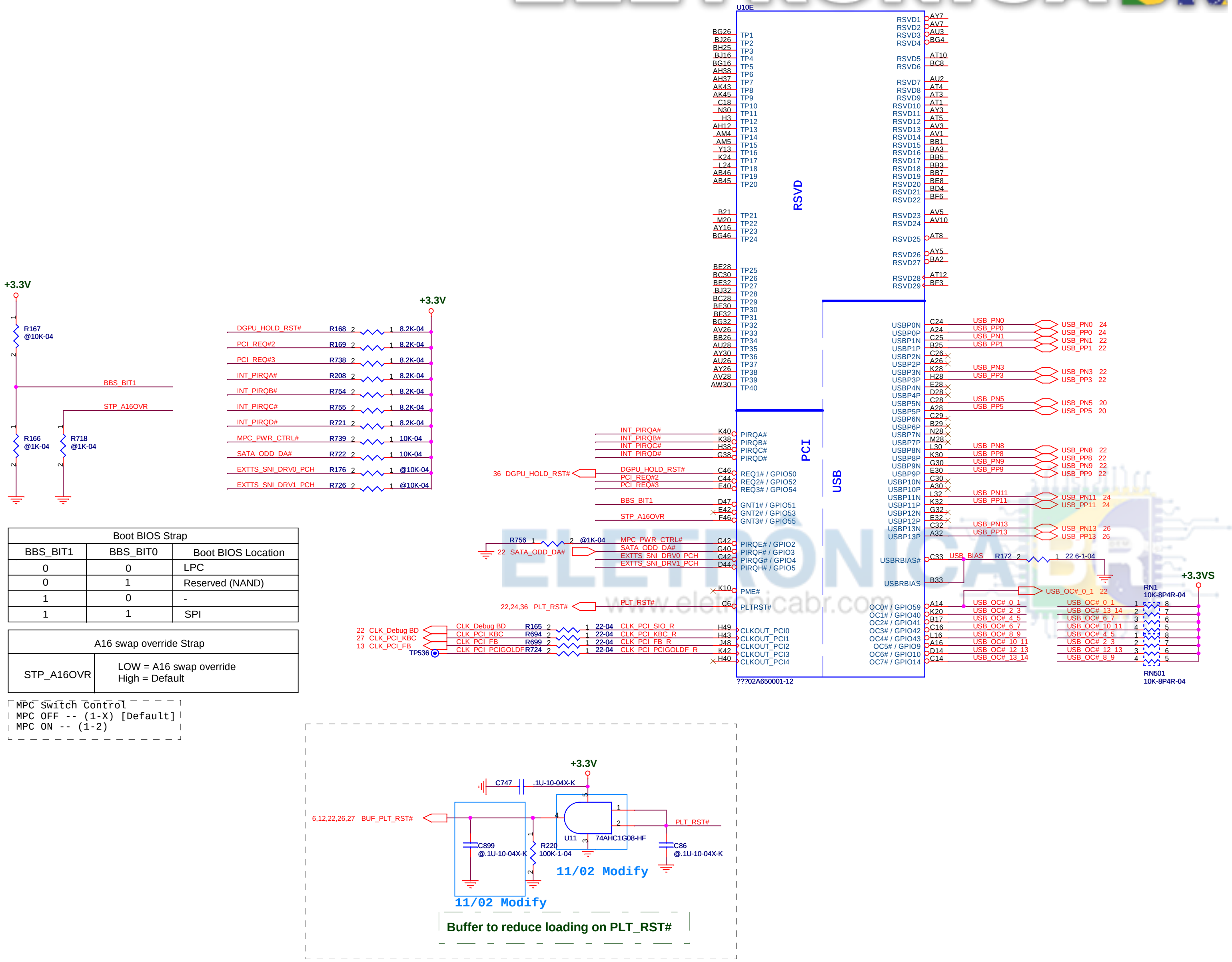


ECS COMPUTER CORP.		
Title	Cougar Point_LVDS,CRT,Manage	
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 14 of 44	



Boot BIOS Strap

BBS_BIT1	BBS_BIT0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	-
1	1	SPI

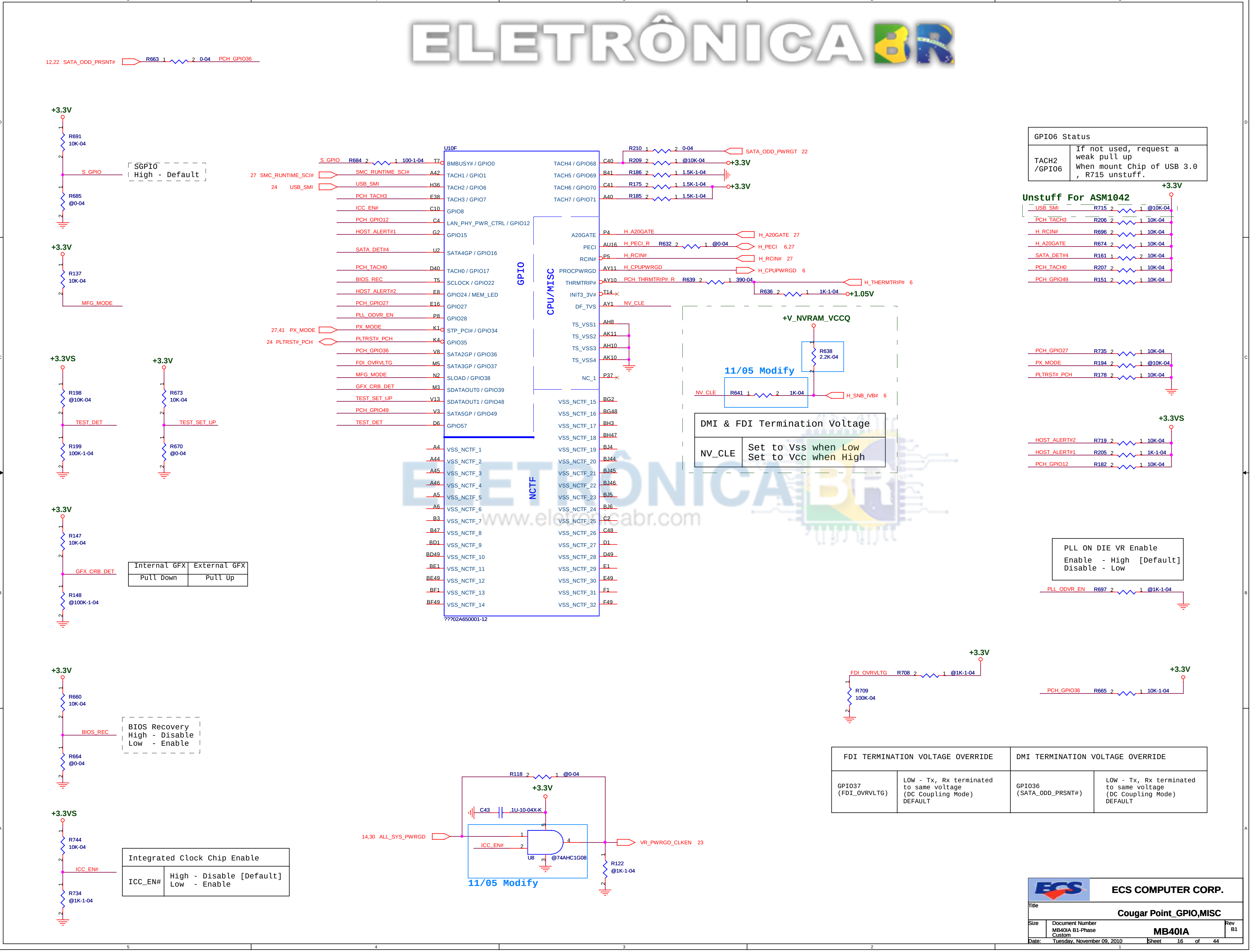
A16 swap override Strap

STP_A16OVR	LOW = A16 swap override High = Default

```
MPC Switch Control
MPC OFF -- (1-X) [Default]
MPC ON -- (1-2)
```

USB Ports Table

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



GPIO6 Status	
TACH2 /GPIO6	If not used, request a weak pull up When mount Chip of USB 3.0 , R715 unstuff.

Internal GFX	External GFX
Pull Down	Pull Up

DMI & FDI Termination Voltage	
NV_CLE	Set to Vss when Low Set to Vcc when High

PLL ON DIE VR Enable
Enable - High [Default]
Disable - Low

Integrated Clock Chip Enable	
ICC_EN#	High - Disable [Default] Low - Enable

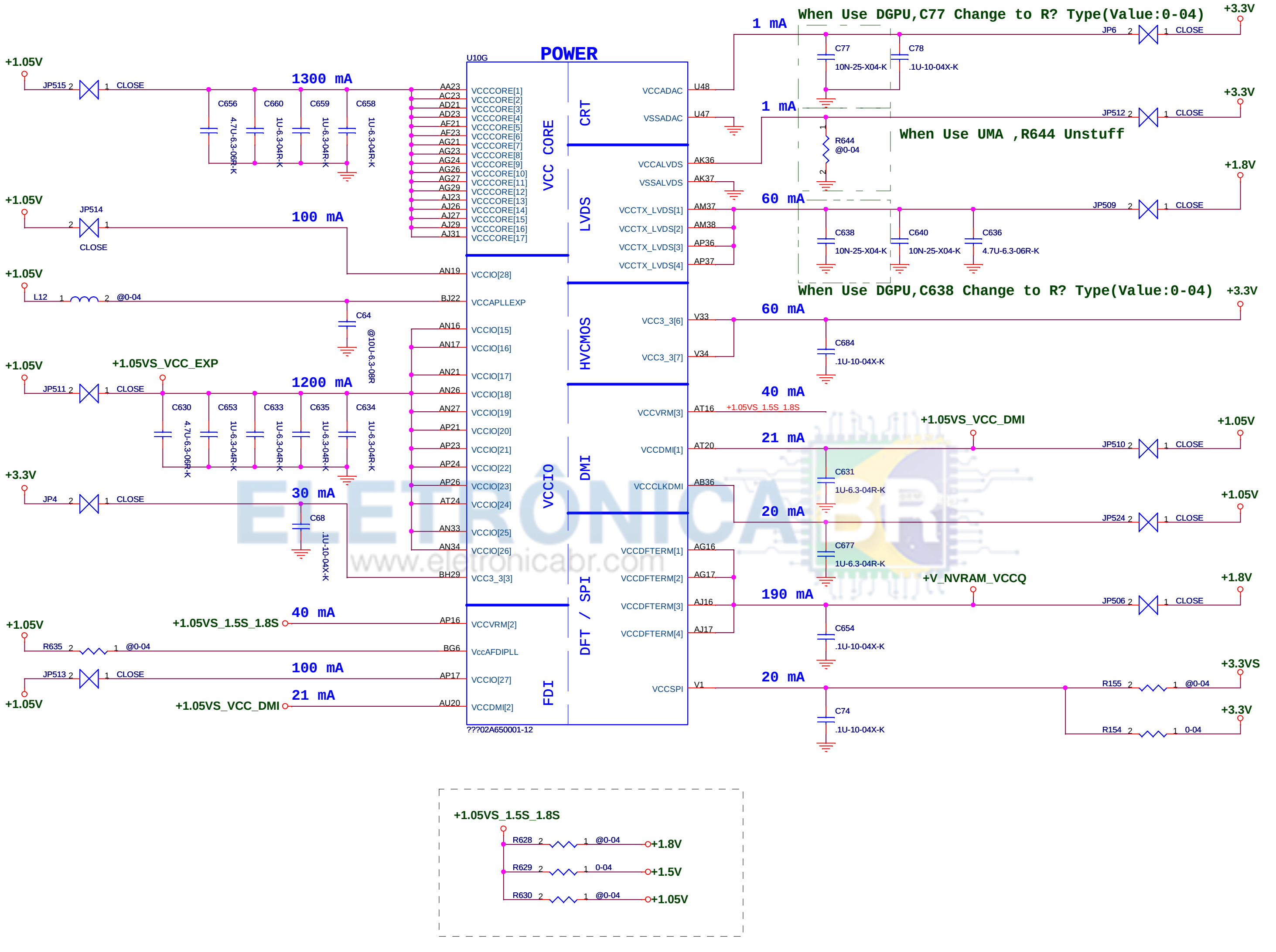
FDI TERMINATION VOLTAGE OVERRIDE		DMI TERMINATION VOLTAGE OVERRIDE	
GPIO37 (FDI_OVRVLTG)	LOW - Tx, Rx terminated to same voltage (DC Coupling Mode) DEFAULT	GPIO36 (SATA_ODD_PRSNT#)	LOW - Tx, Rx terminated to same voltage (DC Coupling Mode) DEFAULT

ECS COMPUTER CORP.

Title: Cougar Point_GPIO,MISC

Size: Custom | Document Number: MB40IA B1-Phase MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 16 of 44

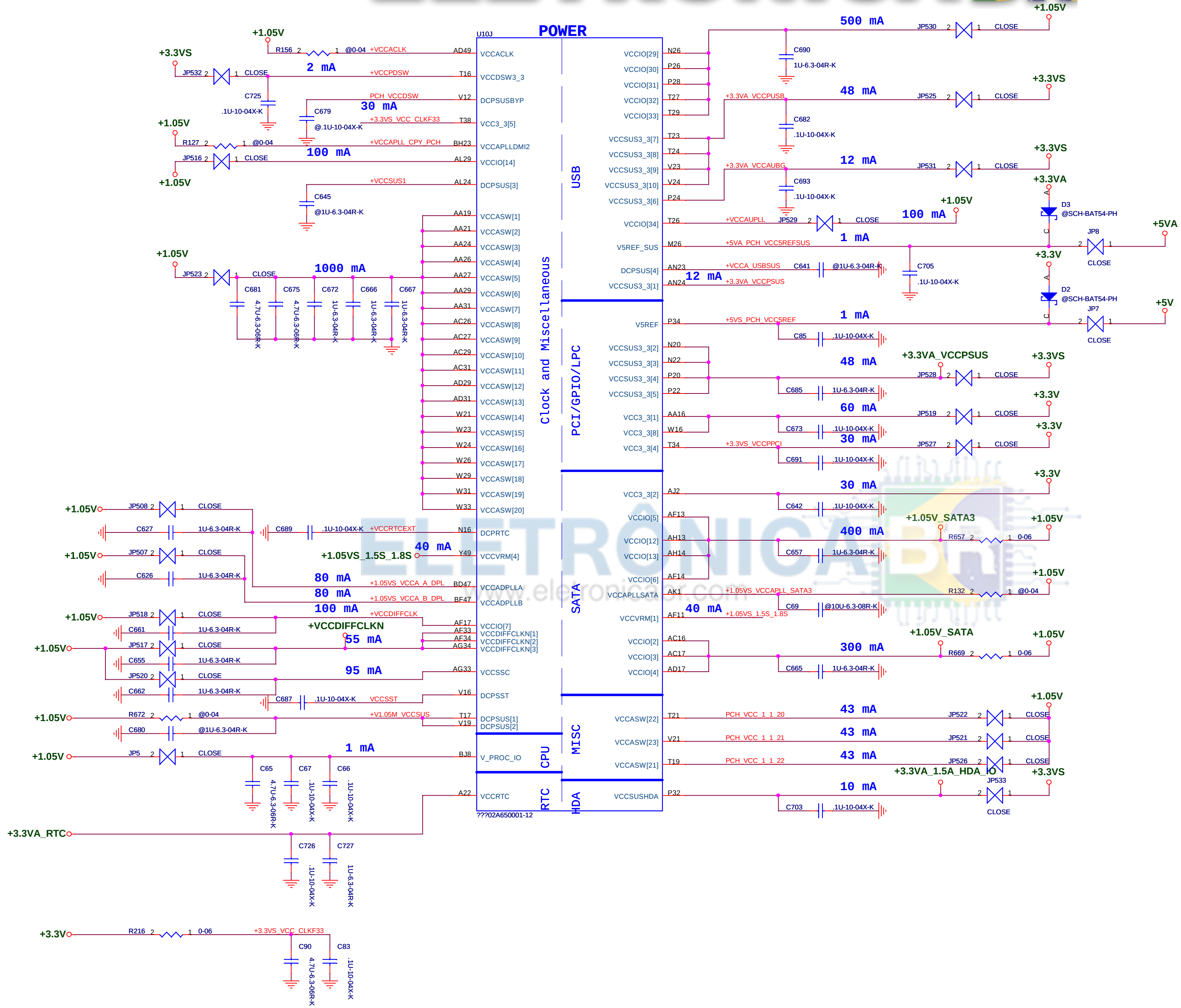


ECS COMPUTER CORP.

Title: Cougar Point_Power1

Size	Document Number	Rev
Custom	MB40IA B1-Phase MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 17 of 44

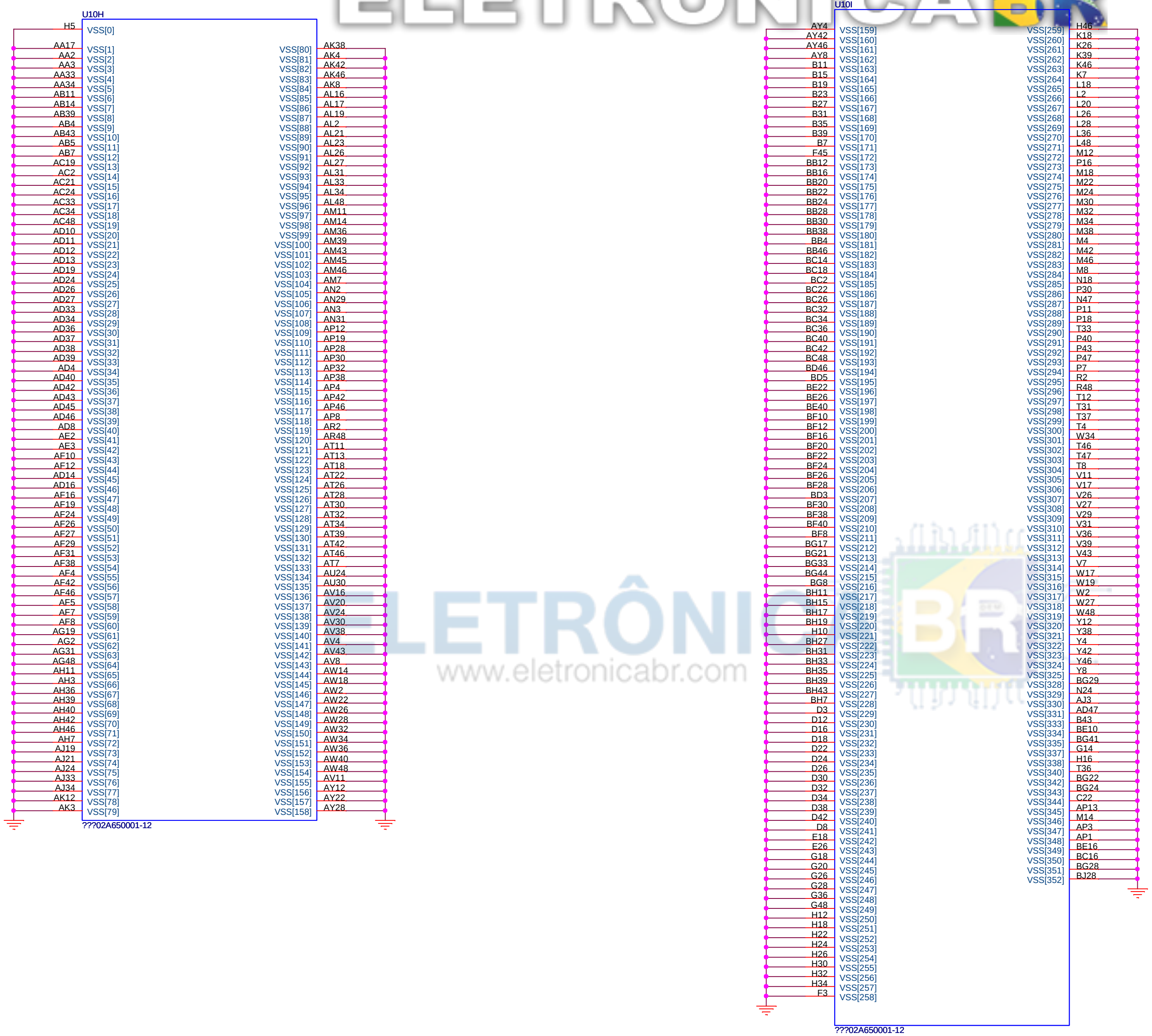


ECS COMPUTER CORP.

Title: Cougar Point_Power2

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 18 of 44



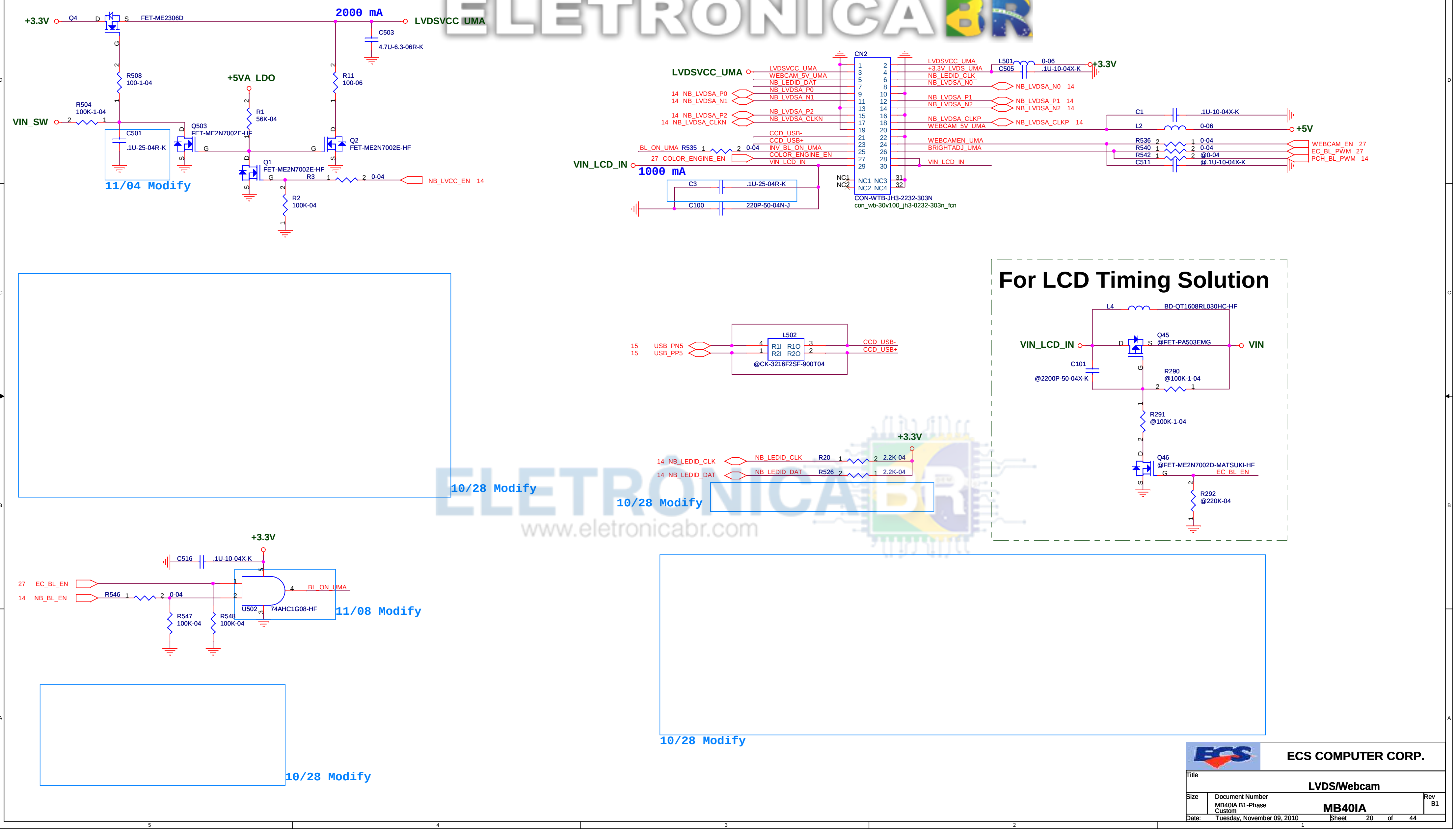
ECS COMPUTER CORP.

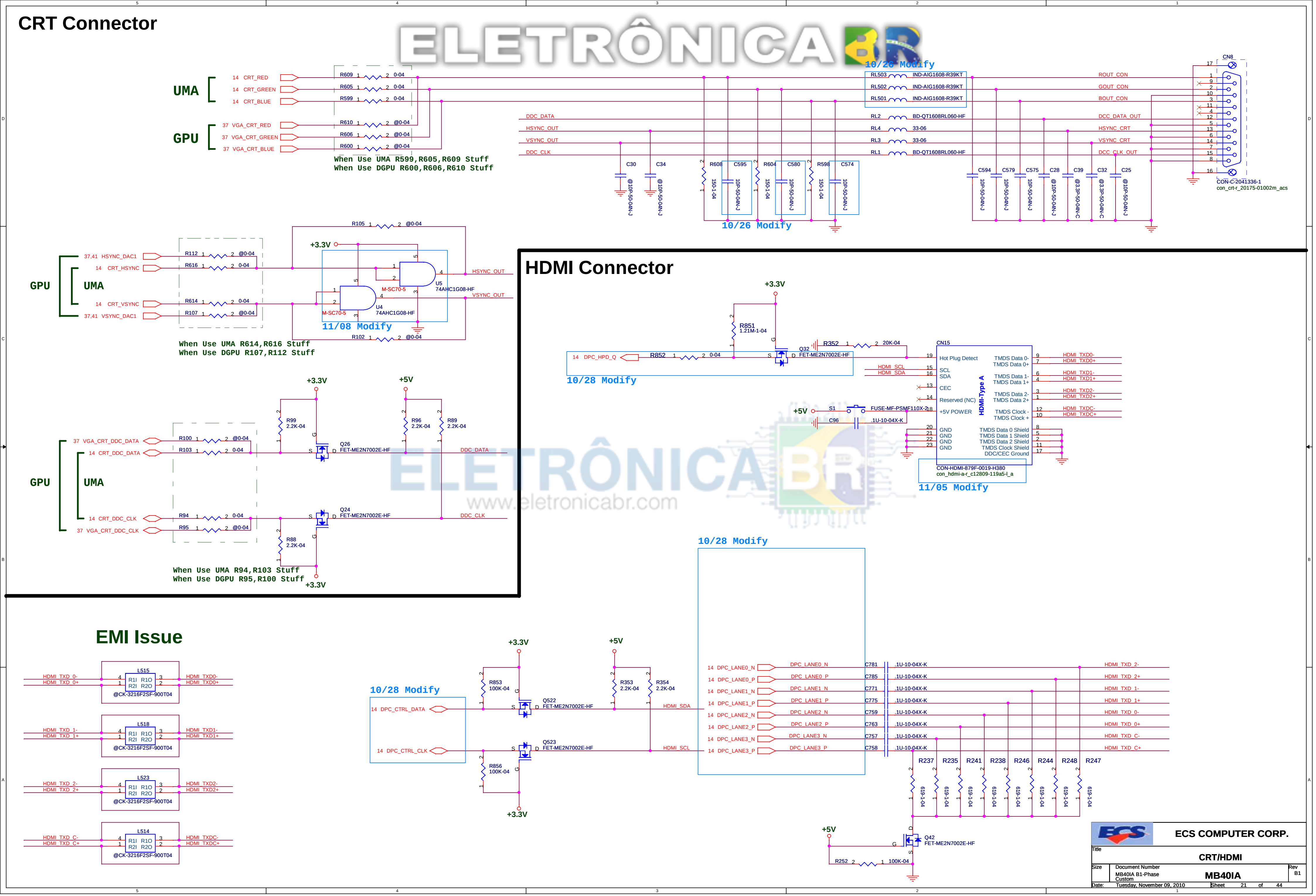
Title: **Cougar Point_GND**

Size: Custom | Document Number: MB40IA B1-Phase | **MB40IA** | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 19 of 44

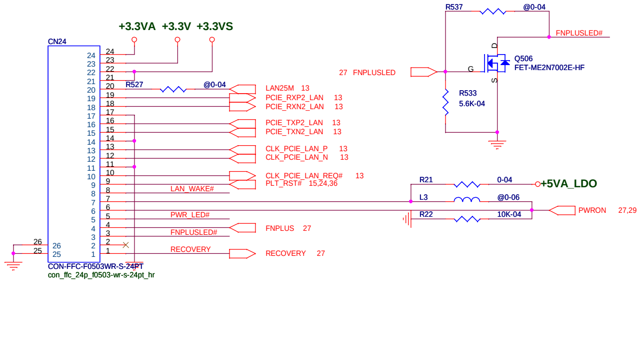
LVDS + Webcam Connector



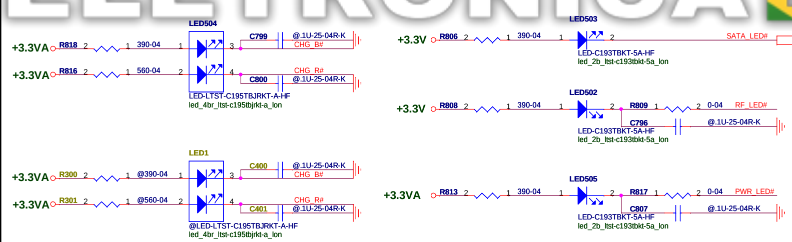


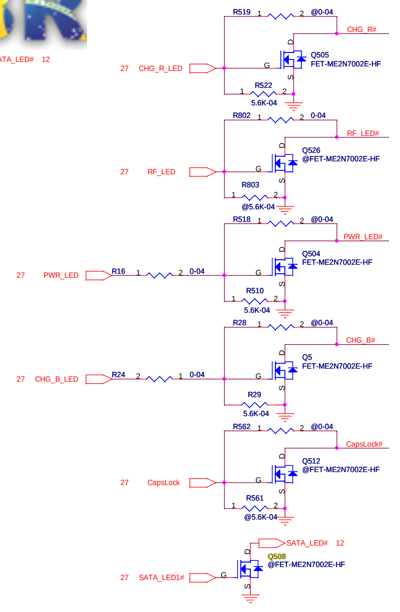
CRT Connector
ELETRÔNICA BR
UMA
GPU
When Use UMA R599,R605,R609 Stuff
When Use DGPU R600,R606,R610 Stuff
10/28 Modify
10/26 Modify
CN8
CON-C-2041336-1
con_crt-r_20175-01002m_acs
When Use UMA R614,R616 Stuff
When Use DGPU R107,R112 Stuff
11/08 Modify
74AHC1G08-HF
HDMI Connector
CN15
HDMI-Type A
CON-HDMI-879F-0019-H380
con_hdmi-a-r_c12809-119a5-l_a
11/05 Modify
FET-ME2N7002E-HF
When Use UMA R94,R103 Stuff
When Use DGPU R95,R100 Stuff
www.eletronicabr.com
EMI Issue
@CK-3216F2SF-900T04
ECS COMPUTER CORP.
Title
CRT/HDMI
Size
Document Number
MB40IA B1-Phase
Custom
MB40IA
Rev
B1
Date: Tuesday, November 09, 2010
Sheet 21 of 44

PWR SW + LAN Connector



LED

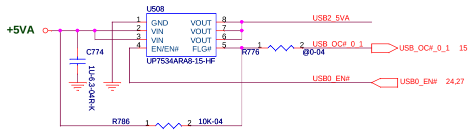




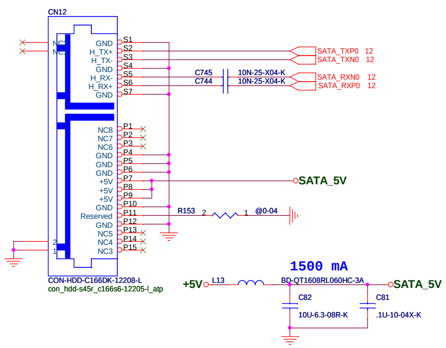
LED Select Table

	MB40IA		MB40II		
	ID2	ID3	ID4	ID5	ID6
CHG_LED LED504	Blue 20A419300-00	Blue 20A419300-00	None	None	None
SATA_LED	Blue 20A419300-00	Blue 20A419300-00	None	None	None
RF_LED	Blue 20A419300-00	Blue 20A419300-00	None	None	None
PWR_LED	Blue 20A419300-00	Blue 20A419300-00	None	None	None
CHG_LED LED1	Blue/Red 20G419501-00	Blue/Red 20G419501-00	Blue/Red 20G419501-00	Blue/Red 20G419501-00	Green/Red 20G419500-00

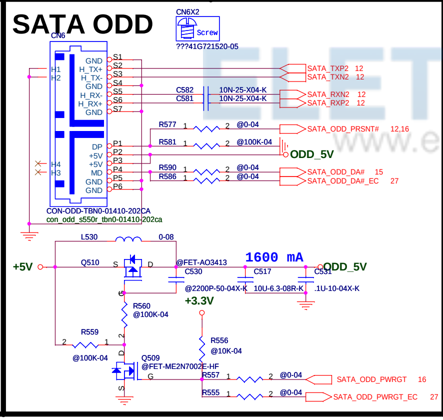
USB Port 2.0
USB 1 & USB 9



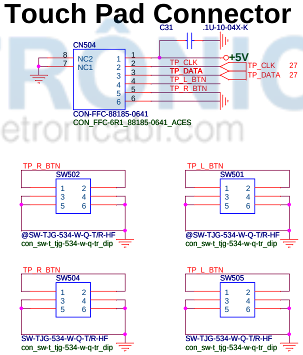
SATA HDD



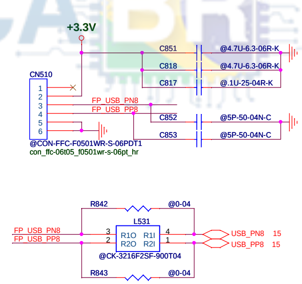
SATA ODD



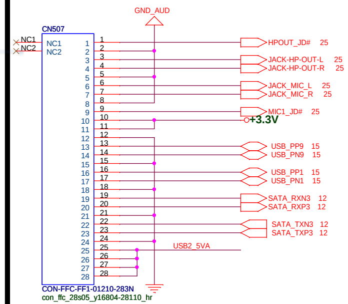
Touch Pad Connector



Finger Print Connector

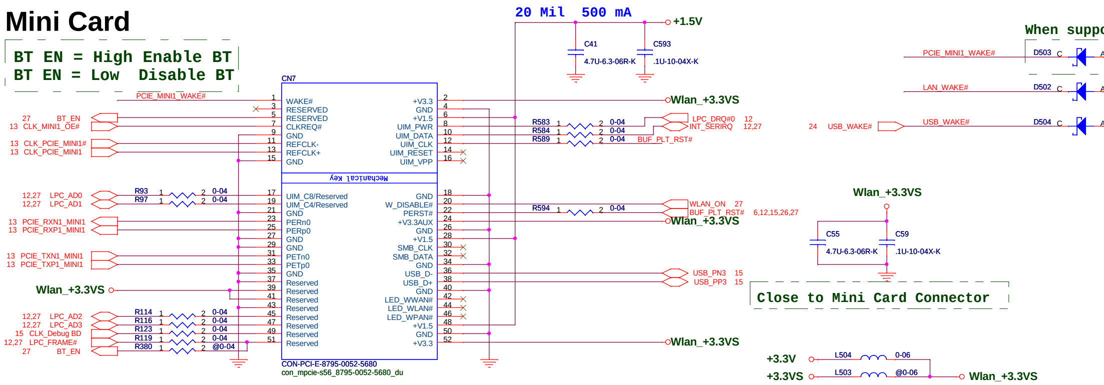


I/O Board Conn



Mini Card

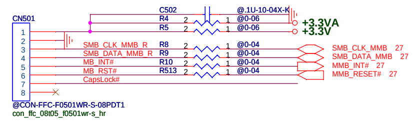
BT EN = High Enable BT
BT EN = Low Disable BT



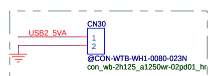
When support Wake On LAN ,D503 stuff

Close to Mini Card Connector

MMB Connector

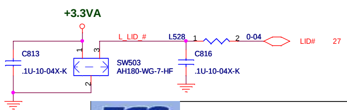


USB 5VA



When ID8 CN30 Need Stuff.

LID SW



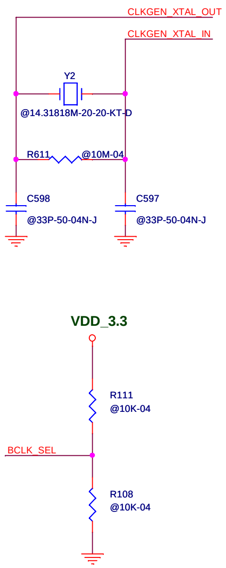
ECS COMPUTER CORP.

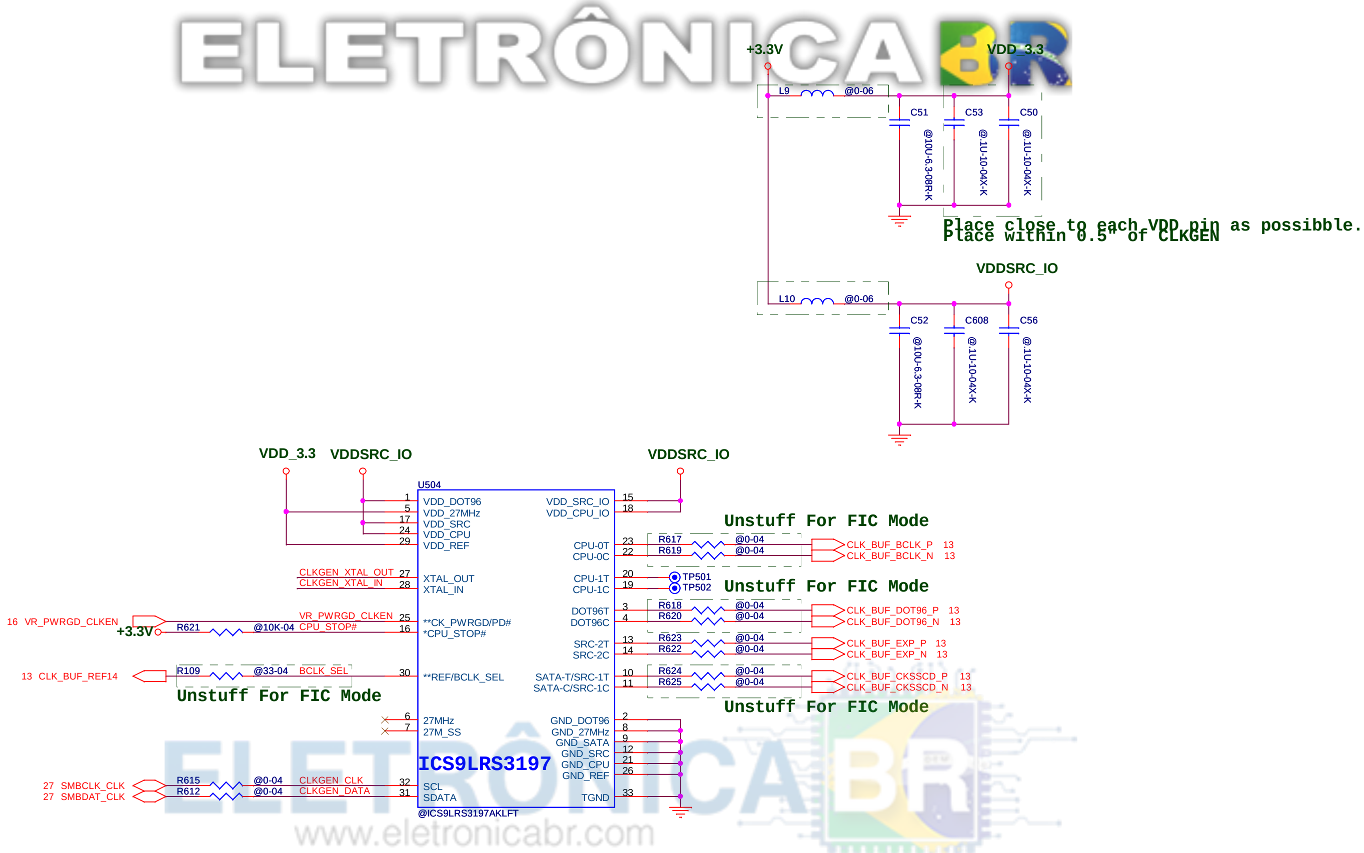
Title: Mini Card/LED/LID/MMB/TP/HDD/ODD/IO Conn

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev B1

Date: Tuesday, November 09, 2010 | Sheet 22 of 44

Clock Gen





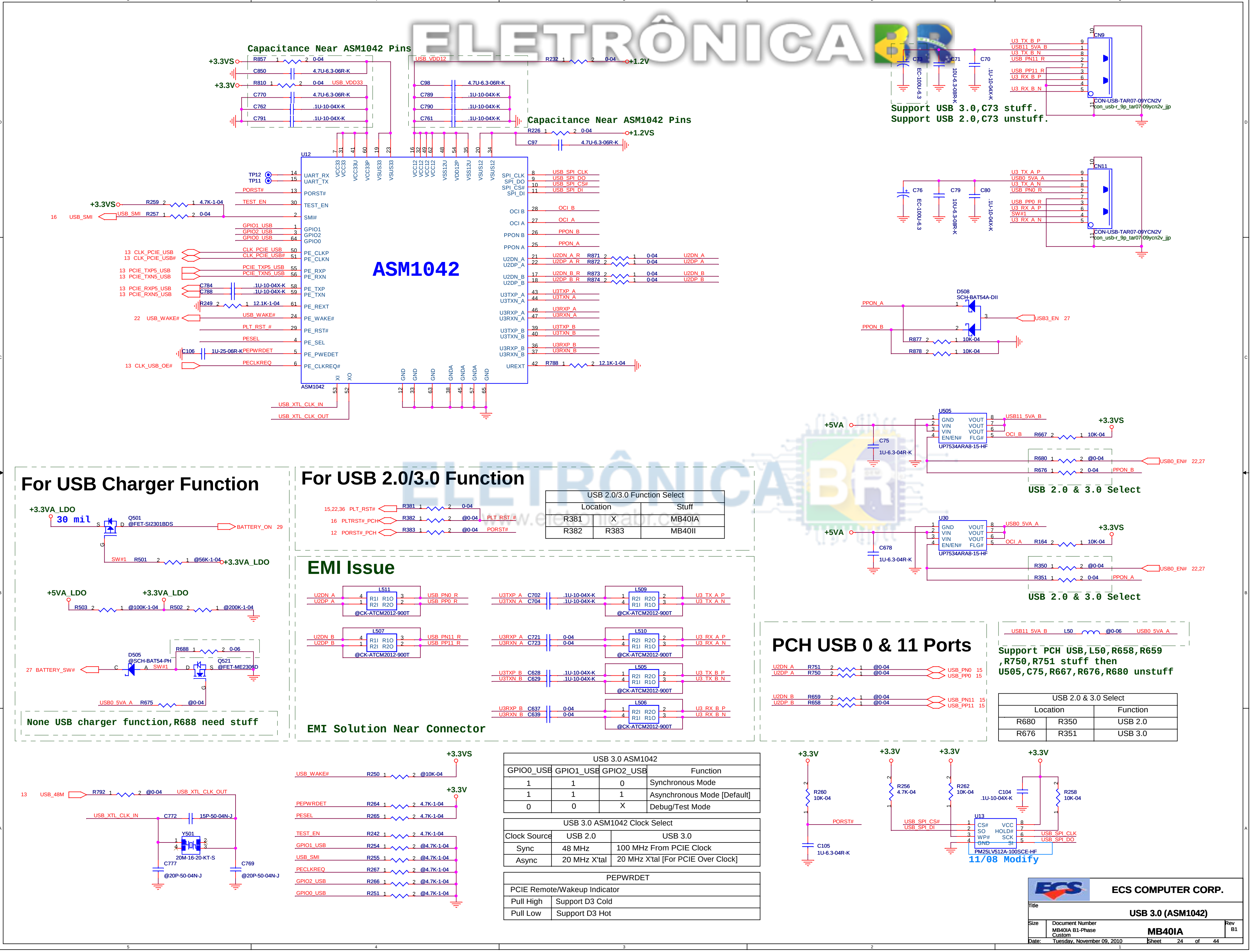
BCLK SEL input	BCLK	NOTE
0	133MHz	
1	100MHz	Default

ECS COMPUTER CORP.

Title: Clock Gen (ICS9LRS3197)

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 |



USB 2.0/3.0 Function Select		
Location		Stuff
R381	X	MB40IA
R382	R383	MB40II

USB 2.0 & 3.0 Select		
Location		Function
R680	R350	USB 2.0
R676	R351	USB 3.0

USB 3.0 ASM1042			
GPIO0_USB	GPIO1_USB	GPIO2_USB	Function
1	1	0	Synchronous Mode
1	1	1	Asynchronous Mode [Default]
0	0	X	Debug/Test Mode

USB 3.0 ASM1042 Clock Select		
Clock Source	USB 2.0	USB 3.0
Sync	48 MHz	100 MHz From PCIE Clock
Async	20 MHz X'tal	20 MHz X'tal [For PCIE Over Clock]

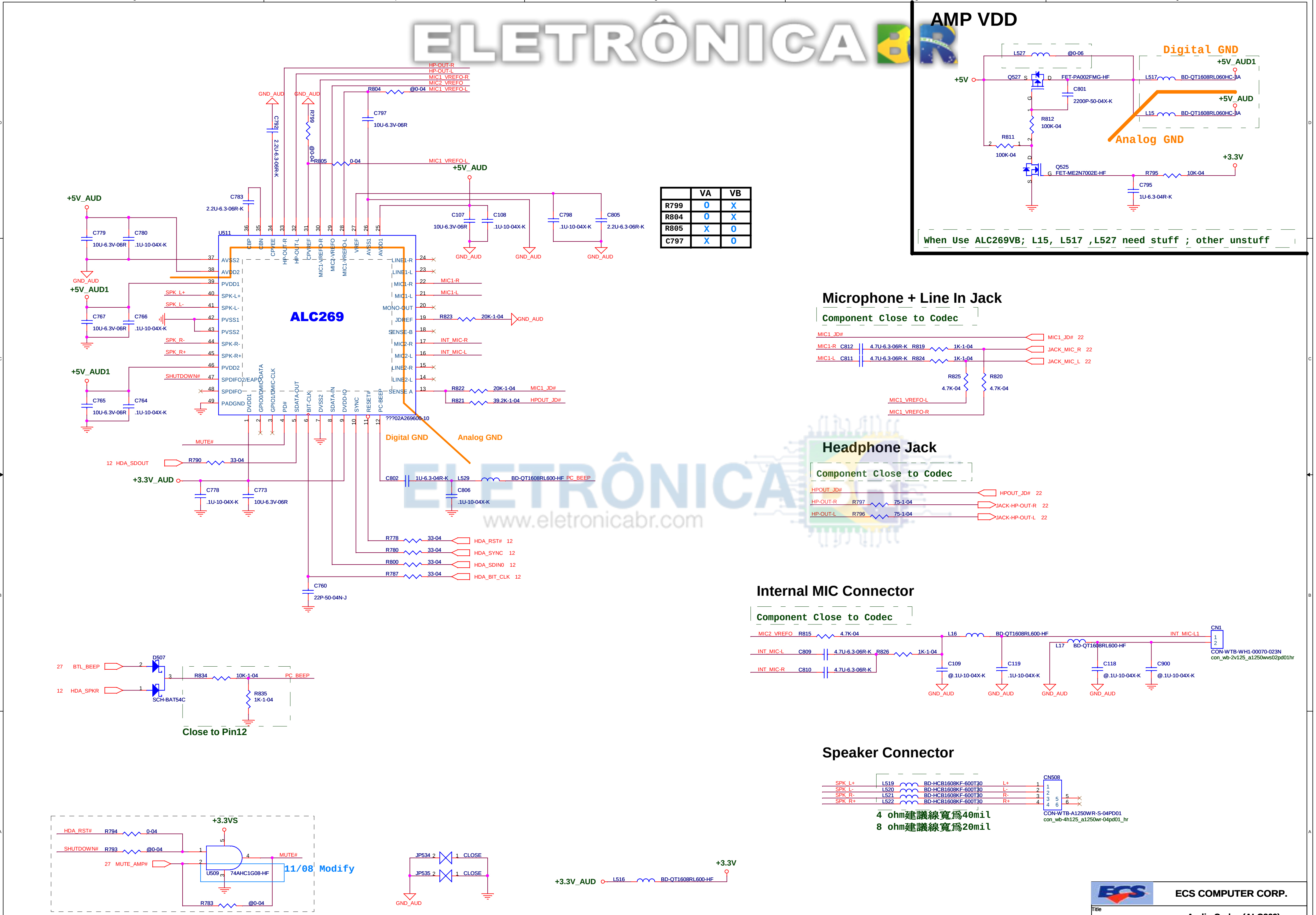
PEPWRDET	
PCIE Remote/Wakeup Indicator	
Pull High	Support D3 Cold
Pull Low	Support D3 Hot

ECS COMPUTER CORP.

Title: USB 3.0 (ASM1042)

Size: Custom | Document Number: MB40IA B1-Phase MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 24 of 44



	VA	VB
R799	O	X
R804	O	X
R805	X	O
C797	X	O

ECS COMPUTER CORP.

Title	Audio Codec (ALC269)
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA
Rev	B1
Date:	Tuesday, November 09, 2010
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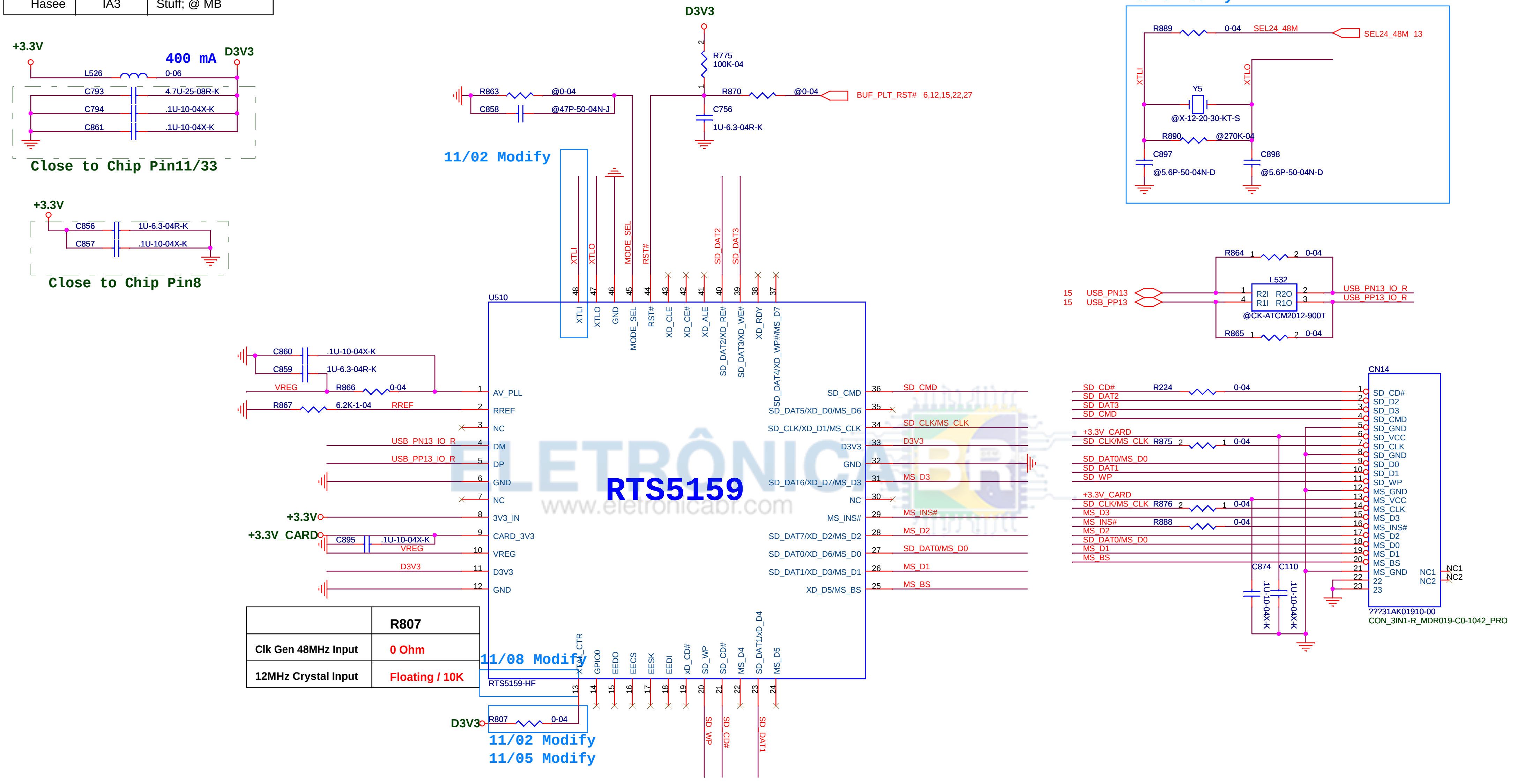
Card Reader

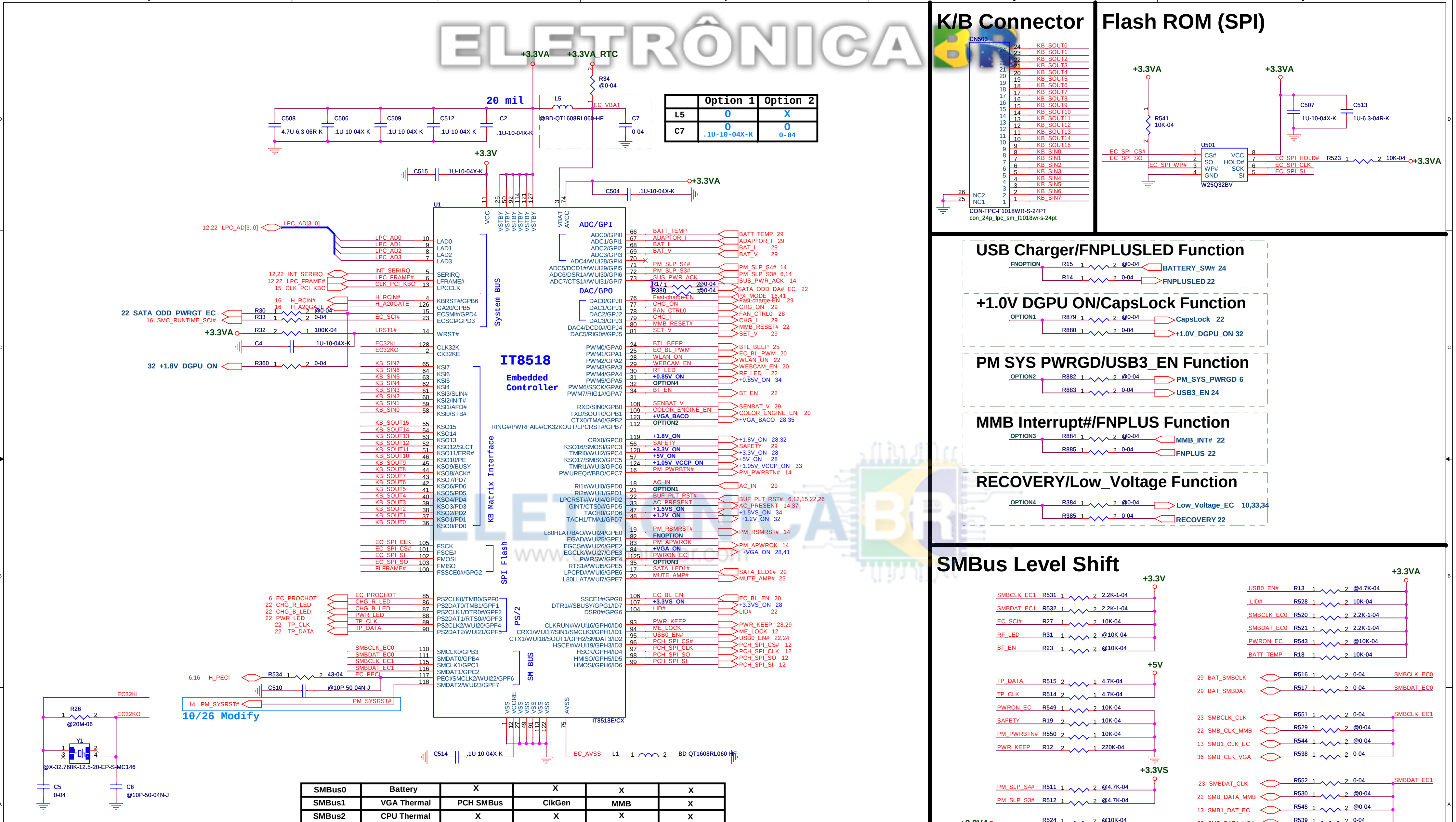
CardReader ID Select		
Haier	IA2	Nustuff; @ Small BD
Hasee	IA3	Stuff; @ MB



	R807
Clk Gen 48MHz Input	0 Ohm
12MHz Crystal Input	Floating / 10K

ECS COMPUTER CORP.

Title	Card Reader (RTS5159-GR)	
Size: Custom	Document Number: MB40IA B1-Phase MB40IA	Rev: B1
Date: Tuesday, November 09, 2010	Sheet 26 of 44	



	Option 1	Option 2
L5	0	X
C7	0 .1U-10-04X-K	0 0-04

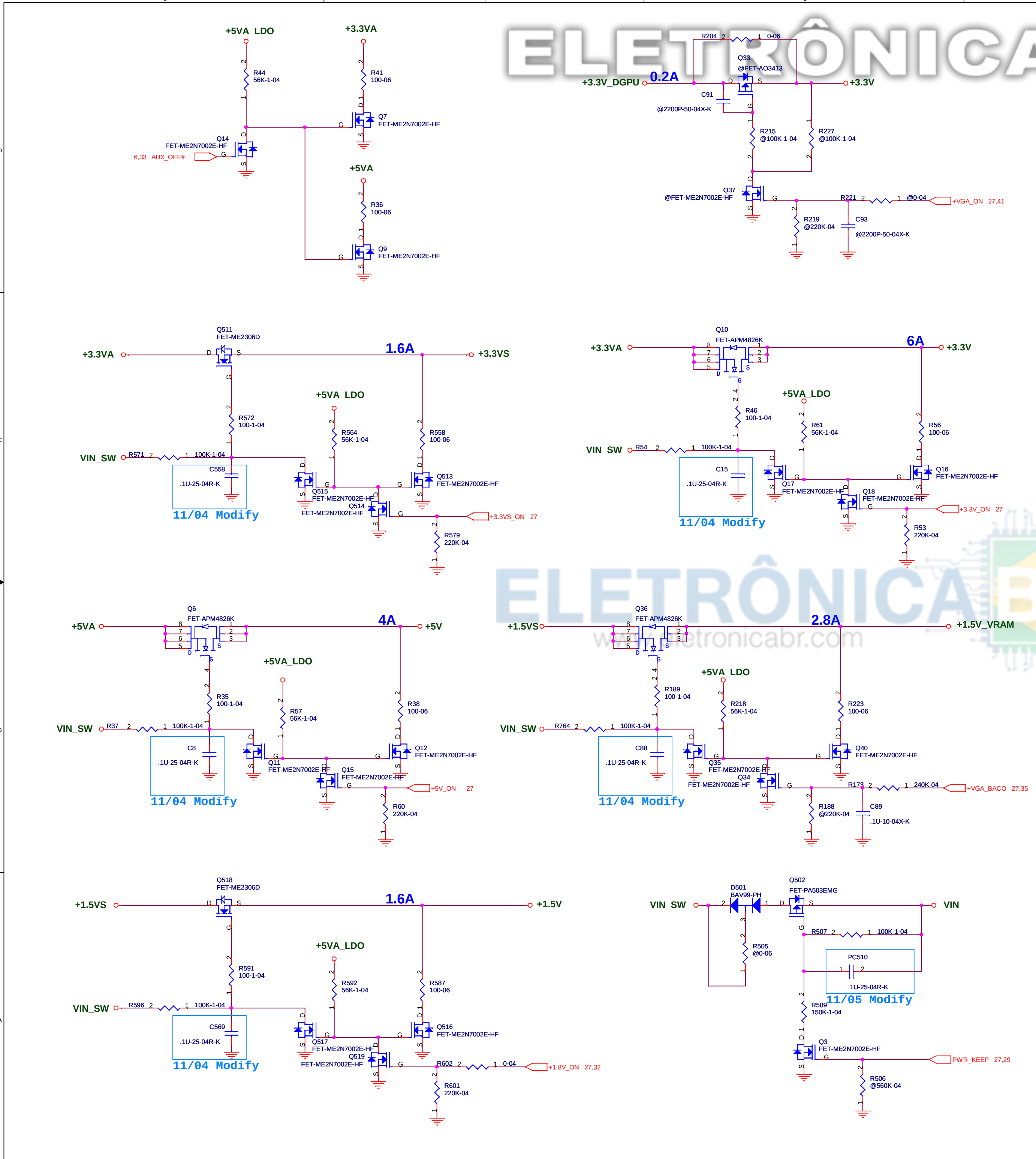
SMBus0	Battery	X	X	X	X
SMBus1	VGA Thermal	PCH SMBus	ClkGen	MMB	X
SMBus2	CPU Thermal	X	X	X	X
SMBus3	X	X	X	X	X

EC Crystal Stuff / Unstuff

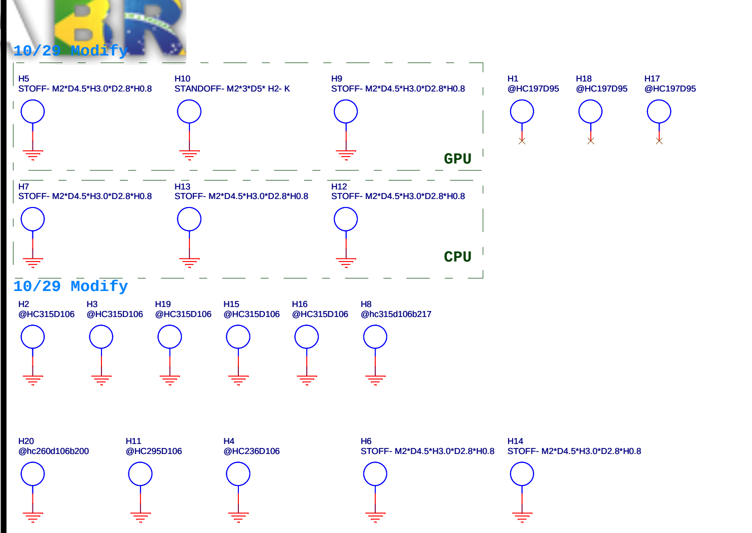
	Option 1	Option 2
Y1	0	X
C6	0	X
C5	0 10P-50-04N-J	0 0-04

ECS COMPUTER CORP.

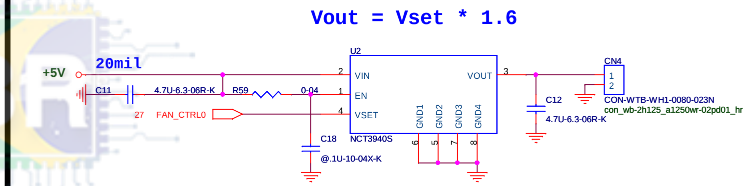
Title	EC-IT8518/BIOS/KBC		
Size Custom	Document Number MB40IA B1-Phase	MB40IA	Rev B1
Date: Tuesday, November 09, 2010		Sheet 27 of 44	



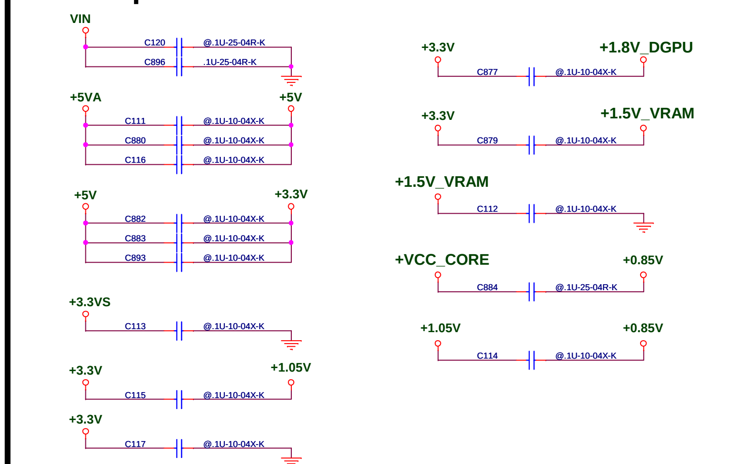
Hole/Screw



Fan Control



EMI Request

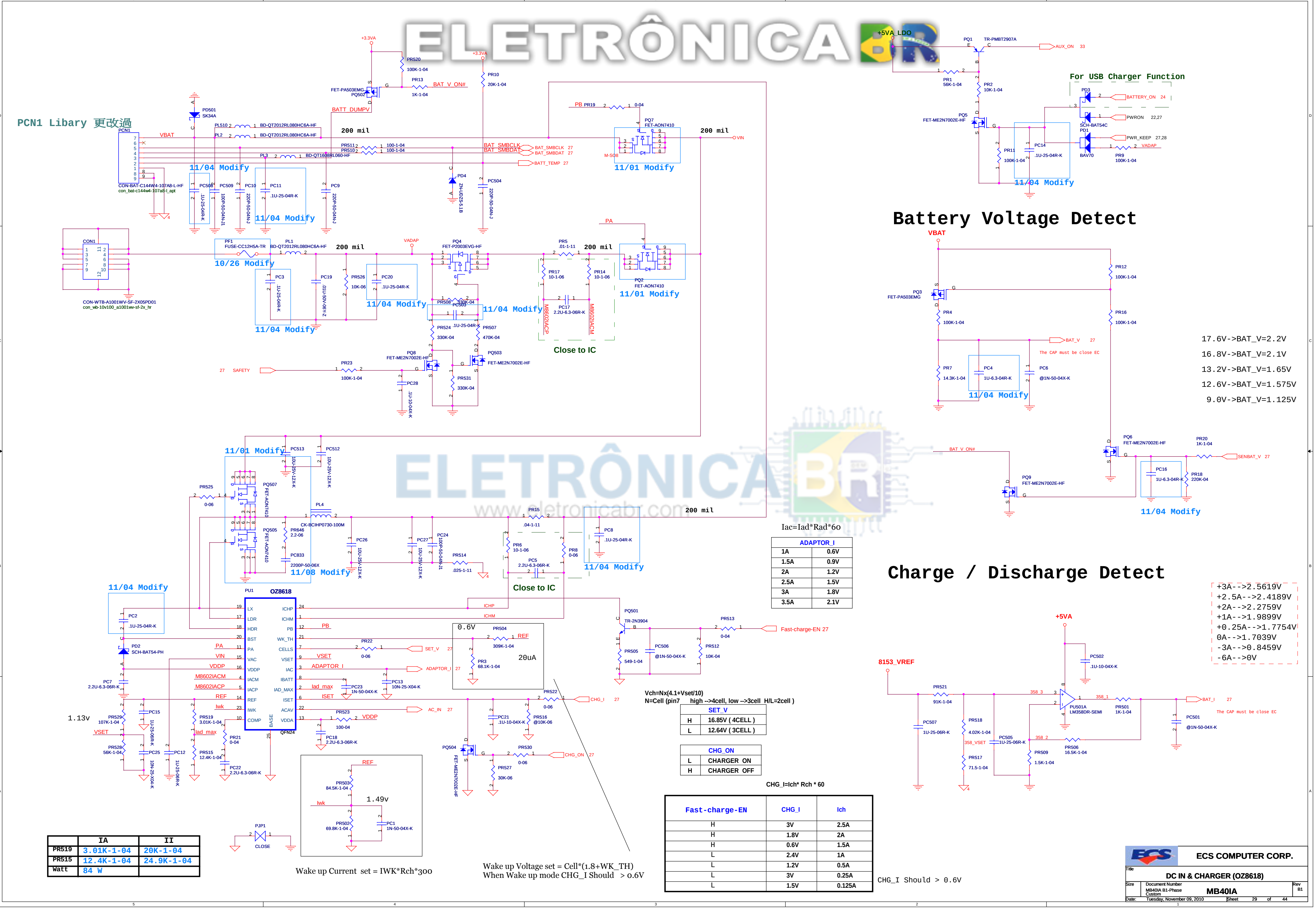


ECS COMPUTER CORP.

Title: Power Switch/Hole/FAN

Size	Document Number	Rev
Custom	MB40IA B1-Phase MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 28 of 44



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

+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

Iac=Iad*Rad*60

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

Vch=Nx(4.1+Vset/10)
N=Cell (pin7　high -->4cell, low -->3cell　H/L=2cell)

SET_V	
H	16.85V (4CELL)
L	12.64V (3CELL)

CHG_ON	
L	CHARGER ON
H	CHARGER OFF

CHG_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

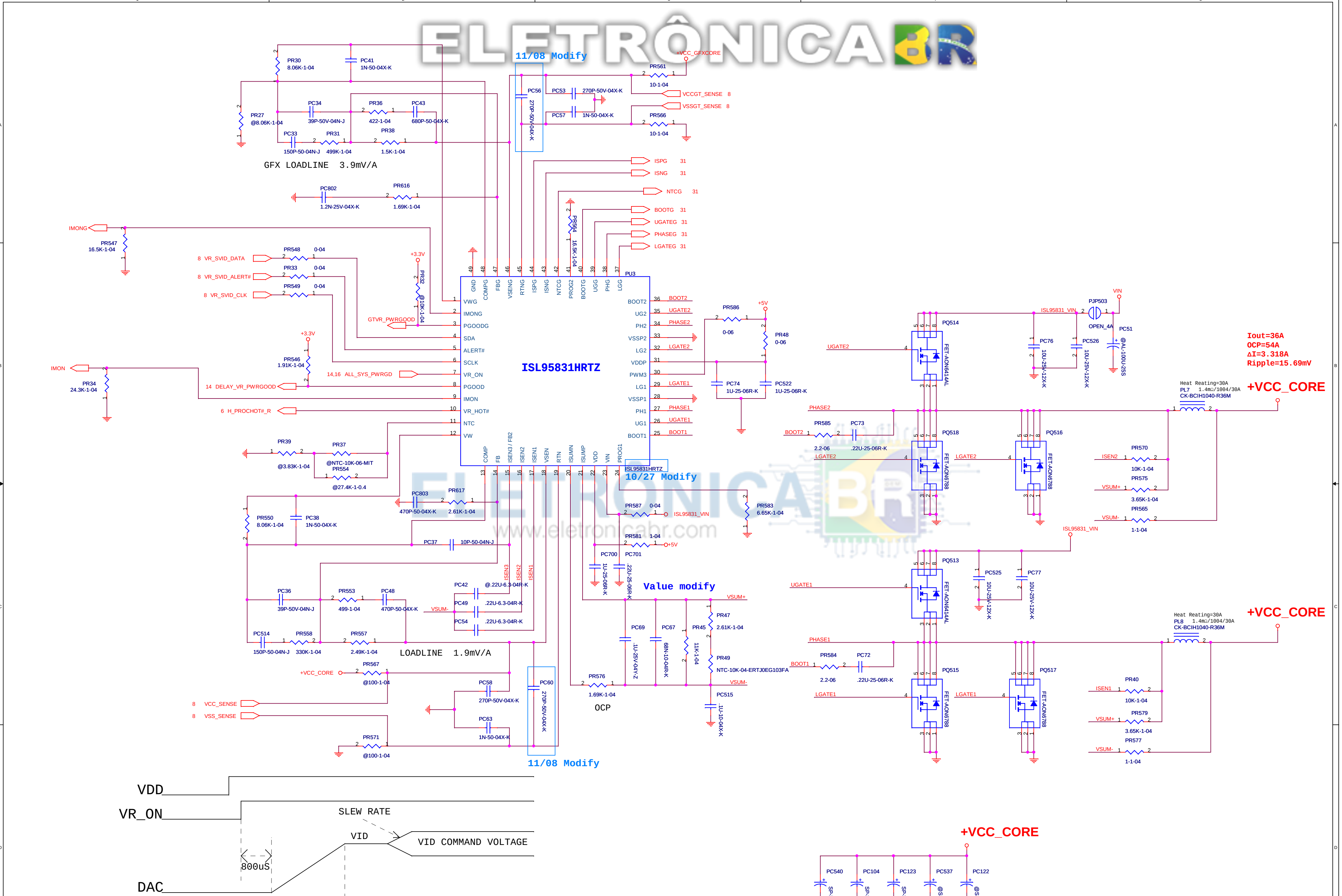
CHG_I Should > 0.6V

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

Wake up Current set = IWK*Rch*300

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

ECS COMPUTER CORP.
Title: DC IN & CHARGER (OZ8618)
Size: Custom　Document Number: MB40IA B1-Phase　MB40IA　Rev: B1
Date: Tuesday, November 09, 2010　Sheet 29 of 44

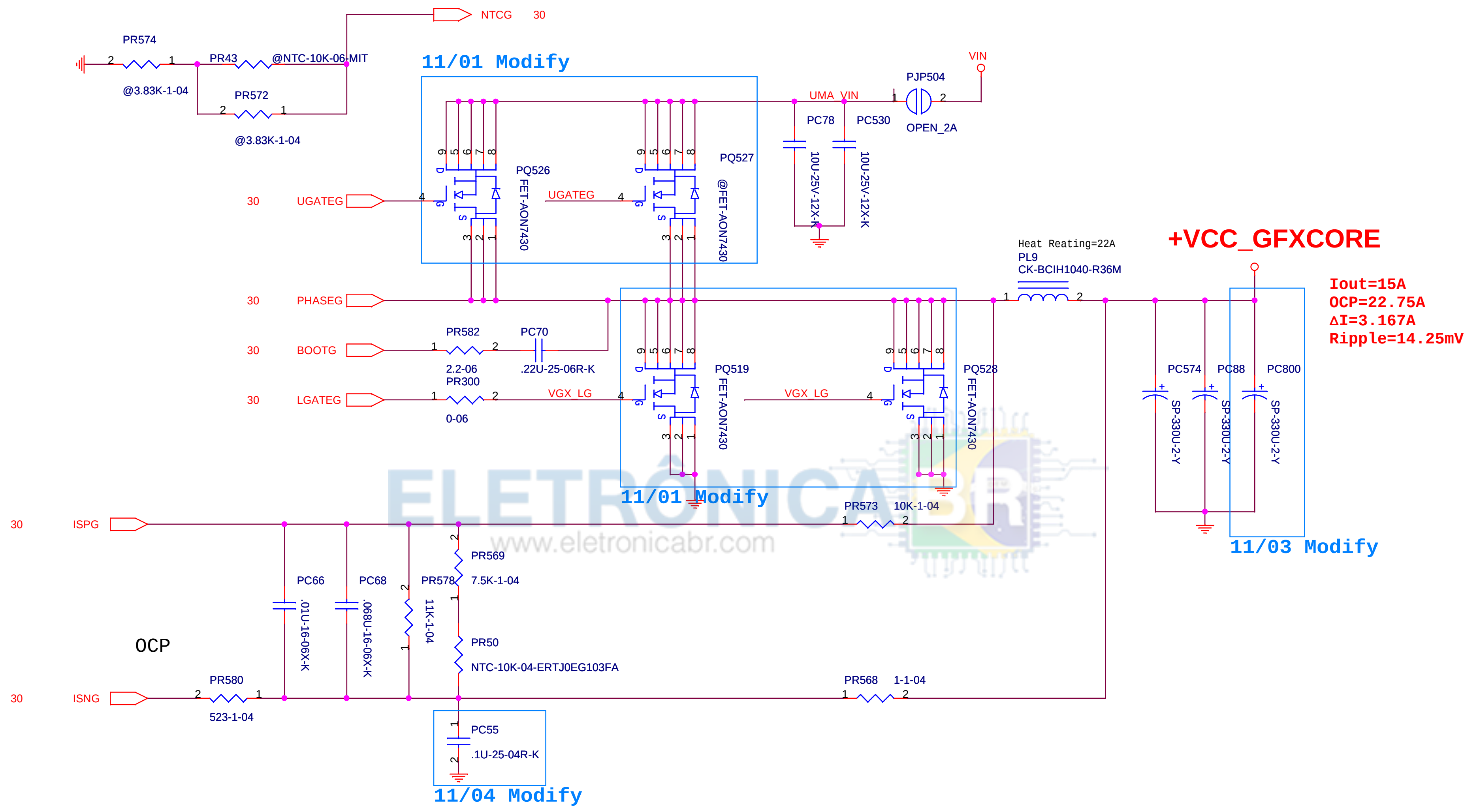


ECS COMPUTER CORP.

Title: +VCC_CORE (ISL95831HRTZ)

Size	Document Number	Rev
Custom	MB40IA B1-Phase MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 30 of 44



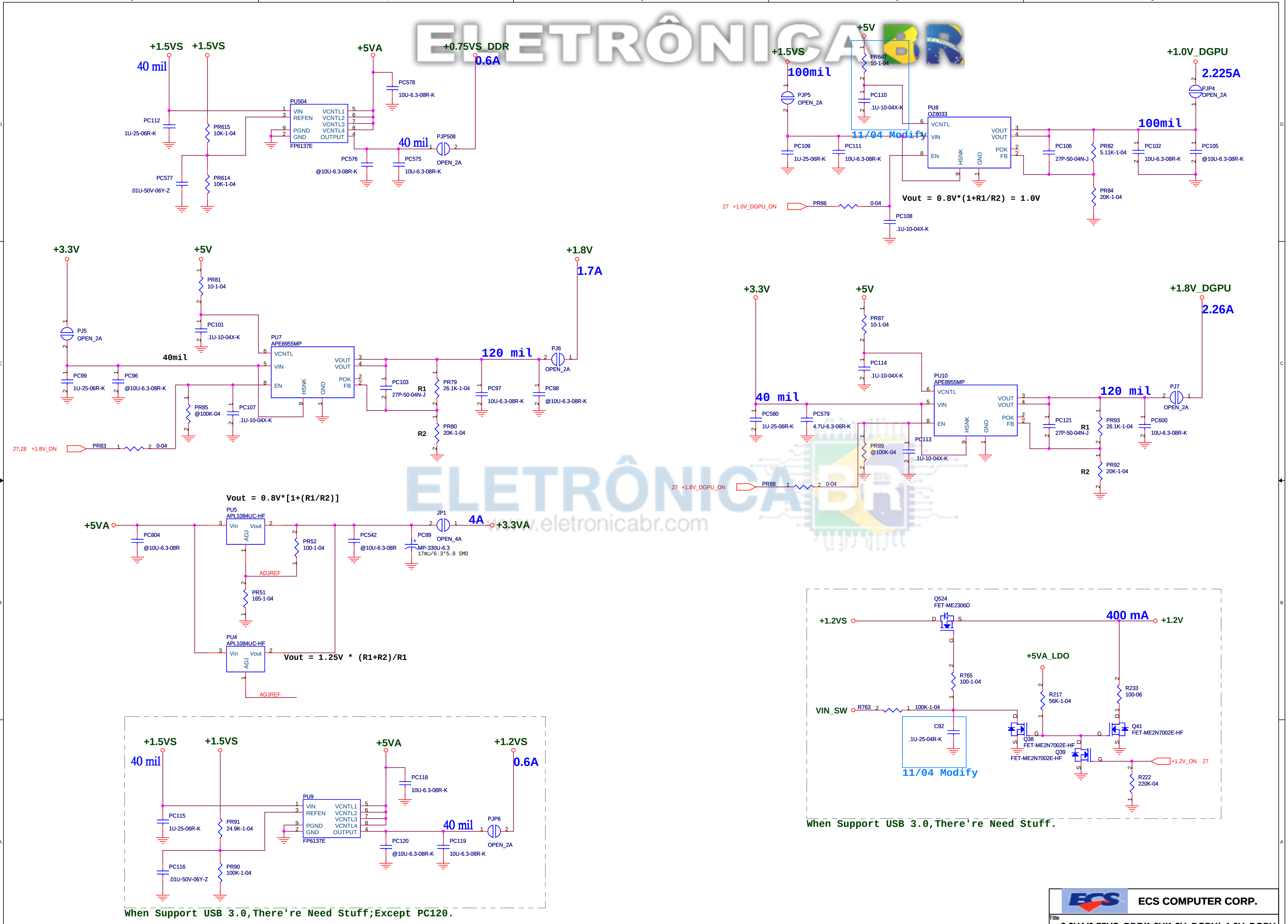
ECS COMPUTER CORP.

Title

+VGFX_CORE (ISL95831HRTZ)

Size	Document Number		Rev
Custom	MB40IA B1-Phase	MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 31 of 44

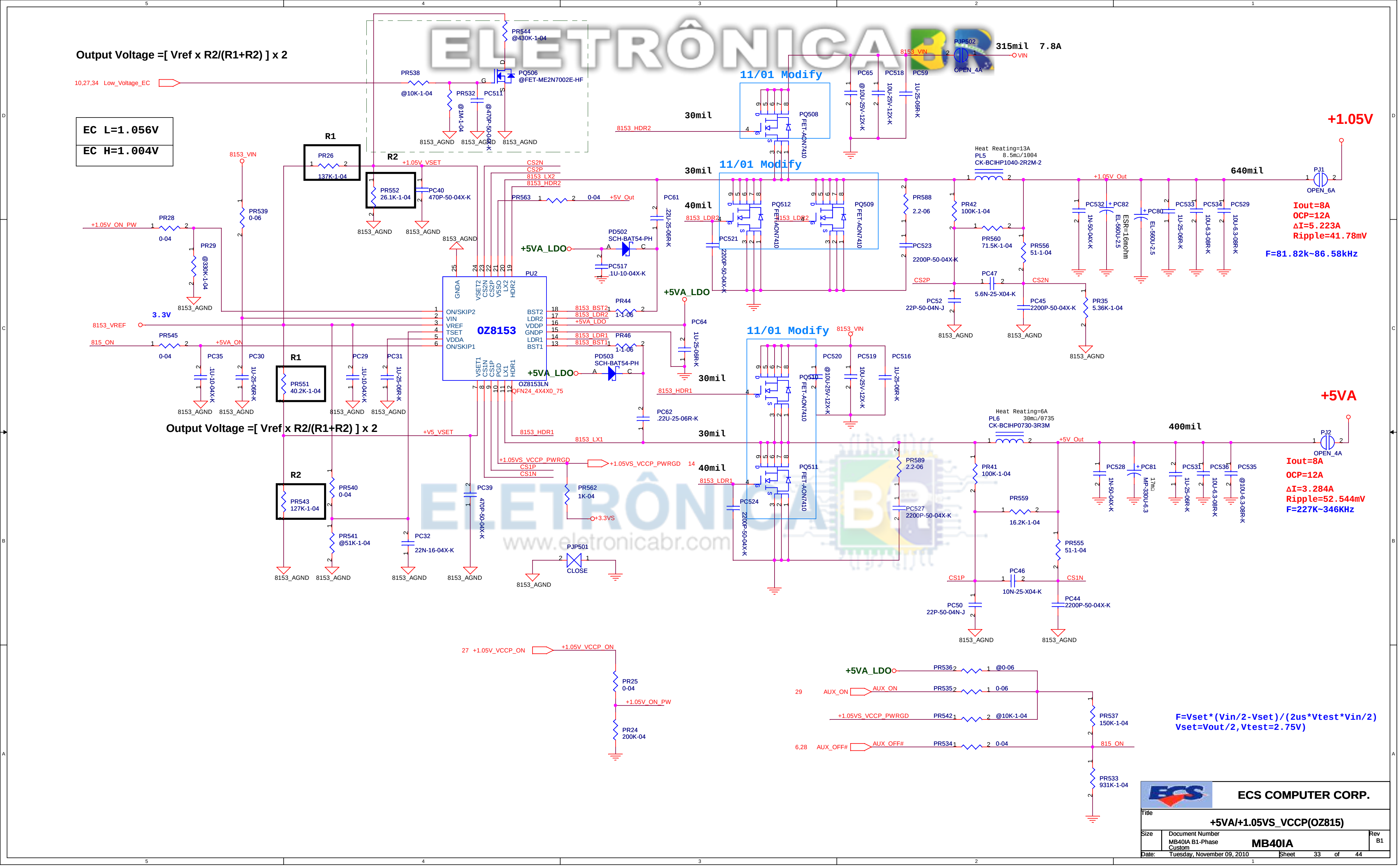


ECS COMPUTER CORP.

Title: +3.3VA/0.75VS_DDR/1.8V/1.8V_DGPU/+1.0V_DGPU

Size	Document Number		Rev
C	MB40IA B1-Phase	MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 32 of 44


Output Voltage =[Vref x R2/(R1+R2)] x 2
EC L=1.056V
EC H=1.004V
10,27,34 Low_Voltage_EC
PR538 @10K-1-04
PR544 @430K-1-04
PQ506 @FET-ME2N7002E-HF
PR532 @1M-1-04
PC511 @470P-50-04X-K
8153_AGND
R1
PR26 137K-1-04
R2
PR552 26.1K-1-04
PC40 470P-50-04X-K
8153_VIN
PR539 0-06
+1.05V_ON_PW
PR28 0-04
PR29 @330K-1-04
3.3V
8153_VREF
815_ON
PR545 0-04
+5VA_ON
PC35 .1U-10-04X-K
PC30 1U-25-06R-K
PR551 40.2K-1-04
PC29 .1U-10-04X-K
PC31 1U-25-06R-K
PU2
OZ8153
OZ8153LN
QFN24_4X4X0_75
ON/SKIP2
VIN
VREF
TSET
VDDA
ON/SKIP1
BST2
LDR2
VDDP
GNDP
LDR1
BST1
GNDA
VSET2
CS2N
CS2P
VSSO
LX2
HDR2
VSET1
CS1N
CS1P
PGD
LX1
HDR1
+1.05V_VSET
CS2N
CS2P
8153_LX2
8153_HDR2
PR563 0-04 +5V_Out
+5VA_LDO
PD502 SCH-BAT54-PH
PC517 .1U-10-04X-K
PC61 .22U-25-06R-K
PR44 1-1-06
PR46 1-1-06
8153_BST2
8153_LDR2
8153_LDR1
8153_BST1
PC64 1U-25-06R-K
PD503 SCH-BAT54-PH
PC62 .22U-25-06R-K
8153_HDR1
8153_LX1
+V5_VSET
+1.05VS_VCCP_PWRGD
CS1P
CS1N
14
PR562 1K-04
+3.3VS
PR540 0-04
PR543 127K-1-04
PR541 @51K-1-04
PC32 22N-16-04X-K
PC39 470P-50-04X-K
PJP501 CLOSE
Output Voltage =[Vref x R2/(R1+R2)] x 2
11/01 Modify
30mil
8153_HDR2
PQ508 FET-AON7410
PC65 @10U-25V-12X-K
PC518 10U-25V-12X-K
PC59 1U-25-06R-K
PJP502 OPEN_4A
315mil 7.8A
8153_VIN
VIN
11/01 Modify
40mil
8153_LDR2
PQ512 FET-AON7410
PQ509 FET-AON7410
PC521 2200P-50-04X-K
PR588 2.2-06
PC523 2200P-50-04X-K
Heat Reating=13A
PL5 8.5mΩ/1004
CK-BCIHP1040-2R2M-2
PR42 100K-1-04
PR560 71.5K-1-04
PR556 51-1-04
PC47 5.6N-25-X04-K
PC52 22P-50-04N-J
PC45 2200P-50-04X-K
PR35 5.36K-1-04
+1.05V_Out
PC532 1N-50-04X-K
PC82 EL-560U-2.5
ESR=16mohm
PC80 EL-560U-2.5
PC533 1U-25-06R-K
PC534 10U-6.3-08R-K
PC529 10U-6.3-08R-K
640mil
PJ1 OPEN_6A
+1.05V
Iout=8A
OCP=12A
ΔI=5.223A
Ripple=41.78mV
F=81.82k~86.58kHz
11/01 Modify
8153_VIN
PQ510 FET-AON7410
PC520 @10U-25V-12X-K
PC519 10U-25V-12X-K
PC516 1U-25-06R-K
8153_HDR1
8153_LDR1
PQ511 FET-AON7410
PC524 2200P-50-04X-K
PR589 2.2-06
PC527 2200P-50-04X-K
Heat Reating=6A
PL6 30mΩ/0735
CK-BCIHP0730-3R3M
+5V_Out
400mil
PR41 100K-1-04
PR559 16.2K-1-04
PR555 51-1-04
PC46 10N-25-X04-K
PC50 22P-50-04N-J
PC44 2200P-50-04X-K
PC528 1N-50-04X-K
PC81 17mΩ MP-330U-6.3
PC531 1U-25-06R-K
PC536 10U-6.3-08R-K
PC535 @10U-6.3-08R-K
PJ2 OPEN_4A
+5VA
Iout=8A
OCP=12A
ΔI=3.284A
Ripple=52.544mV
F=227K~346KHz
27 +1.05V_VCCP_ON
PR25 0-04
+1.05V_ON_PW
PR24 200K-04
+5VA_LDO
PR536 @0-06
29 AUX_ON
PR535 0-06
+1.05VS_VCCP_PWRGD
PR542 @10K-1-04
6,28 AUX_OFF#
PR534 0-04
PR537 150K-1-04
815_ON
PR533 931K-1-04
F=Vset*(Vin/2-Vset)/(2us*Vtest*Vin/2)
Vset=Vout/2,Vtest=2.75V
ECS COMPUTER CORP.
Title
+5VA/+1.05VS_VCCP(OZ815)
Size Custom
Document Number MB40IA B1-Phase
MB40IA
Rev B1
Date: Tuesday, November 09, 2010
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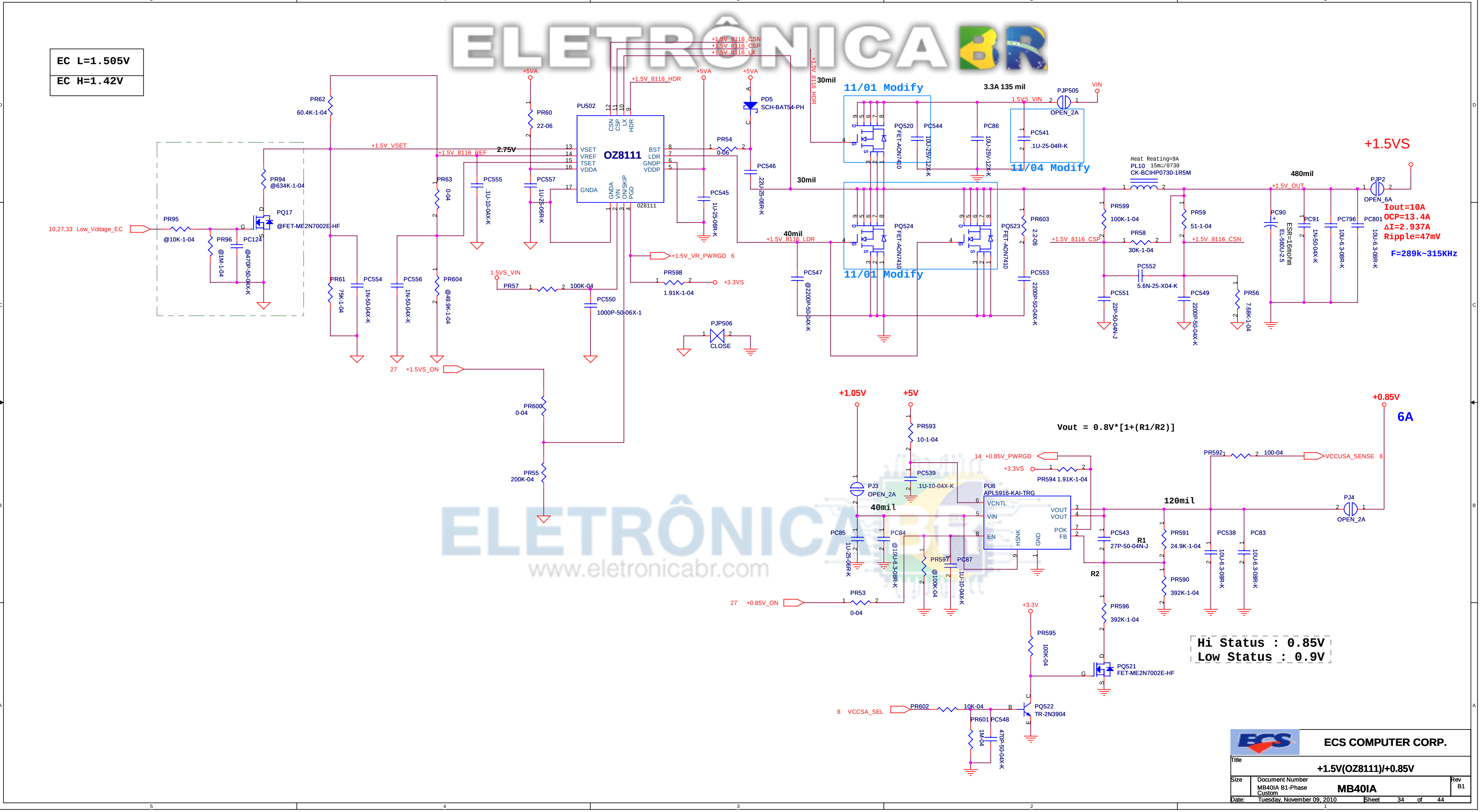
ELETRÔNICABR
www.eletronicabr.com


EC L=1.505V
EC H=1.42V
ELETRÔNICA BR
www.eletronicabr.com
+1.5V_8116_CSN
+1.5V_8116_CSP
+1.5V_8116_LX
+1.5V_8116_HDR
+5VA
PU502
OZ8111
VSET
VREF
TSET
VDDA
GNDA
BST
LDR
GNDP
VDDP
CSN
CSP
LX
HDR
VIN
ON/SKIP
PGD
+1.5V_VSET
+1.5V_8116_REF
2.75V
PR62
60.4K-1-04
PR60
22-06
PR63
0-04
PC555
.1U-10-04X-K
PC557
1U-25-06R-K
PR94
@634K-1-04
PQ17
@FET-ME2N7002E-HF
PR95
@10K-1-04
PR96
@1M-1-04
PC124
@470P-50-04X-K
10,27,33 Low_Voltage_EC
PR61
75K-1-04
PC554
1N-50-04X-K
PC556
1N-50-04X-K
PR604
@49.9K-1-04
1.5VS_VIN
PR57
100K-04
PC550
1000P-50-06X-1
+1.5V_VR_PWRGD 6
PR598
1.91K-1-04
+3.3VS
27 +1.5VS_ON
PR600
0-04
PR55
200K-04
PR54
0-06
PD5
SCH-BAT54-PH
PC546
.22U-25-06R-K
PC545
1U-25-06R-K
PJP506
CLOSE
30mil
40mil
+1.5V_8116_LDR
PC547
@2200P-50-04X-K
11/01 Modify
PQ520
FET-AON7410
PC544
10U-25V-12X-K
PC86
10U-25V-12X-K
3.3A 135 mil
1.5VS_VIN
PJP505
OPEN_2A
VIN
PC541
.1U-25-04R-K
11/04 Modify
PQ524
FET-AON7410
PQ523
FET-AON7410
PR603
2.2-06
PC553
2200P-50-04X-K
Heat Reating=9A
PL10 15mΩ/0730
CK-BCIHP0730-1R5M
PR599
100K-1-04
PR58
30K-1-04
+1.5V_8116_CSP
PR59
51-1-04
+1.5V_8116_CSN
PC552
5.6N-25-X04-K
PC551
22P-50-04N-J
PC549
2200P-50-04X-K
PR56
7.68K-1-04
480mil
+1.5V_OUT
PC90
ESR=16mohm
EL-560U-2.5
PC91
1N-50-04X-K
PC796
10U-6.3-08R-K
PC801
10U-6.3-08R-K
PJP2
OPEN_6A
+1.5VS
Iout=10A
OCP=13.4A
ΔI=2.937A
Ripple=47mV
F=289k~315KHz
+1.05V
+5V
PR593
10-1-04
PC539
.1U-10-04X-K
14 +0.85V_PWRGD
+3.3VS
PR594 1.91K-1-04
PU6
APL5916-KAI-TRG
VCNTL
VIN
EN
HSNK
GND
VOUT
VOUT
POK
FB
PJ3
OPEN_2A
40mil
PC85
1U-25-06R-K
PC84
@10U-6.3-08R-K
PR597
@100K-04
PC87
.1U-10-04X-K
PR53
0-04
27 +0.85V_ON
Vout = 0.8V*[1+(R1/R2)]
120mil
PC543
27P-50-04N-J
R1
R2
PR591
24.9K-1-04
PR590
392K-1-04
PC538
10U-6.3-08R-K
PC83
10U-6.3-08R-K
PR592
100-04
VCCUSA_SENSE 8
PJ4
OPEN_2A
+0.85V
6A
+3.3V
PR595
100K-04
PR596
392K-1-04
PQ521
FET-ME2N7002E-HF
Hi Status : 0.85V
Low Status : 0.9V
8 VCCSA_SEL
PR602
10K-04
PR601
1M-04
PC548
470P-50-04X-K
PQ522
TR-2N3904
ECS COMPUTER CORP.
Title
+1.5V(OZ8111)/+0.85V
Size
Custom
Document Number
MB40IA B1-Phase
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B1
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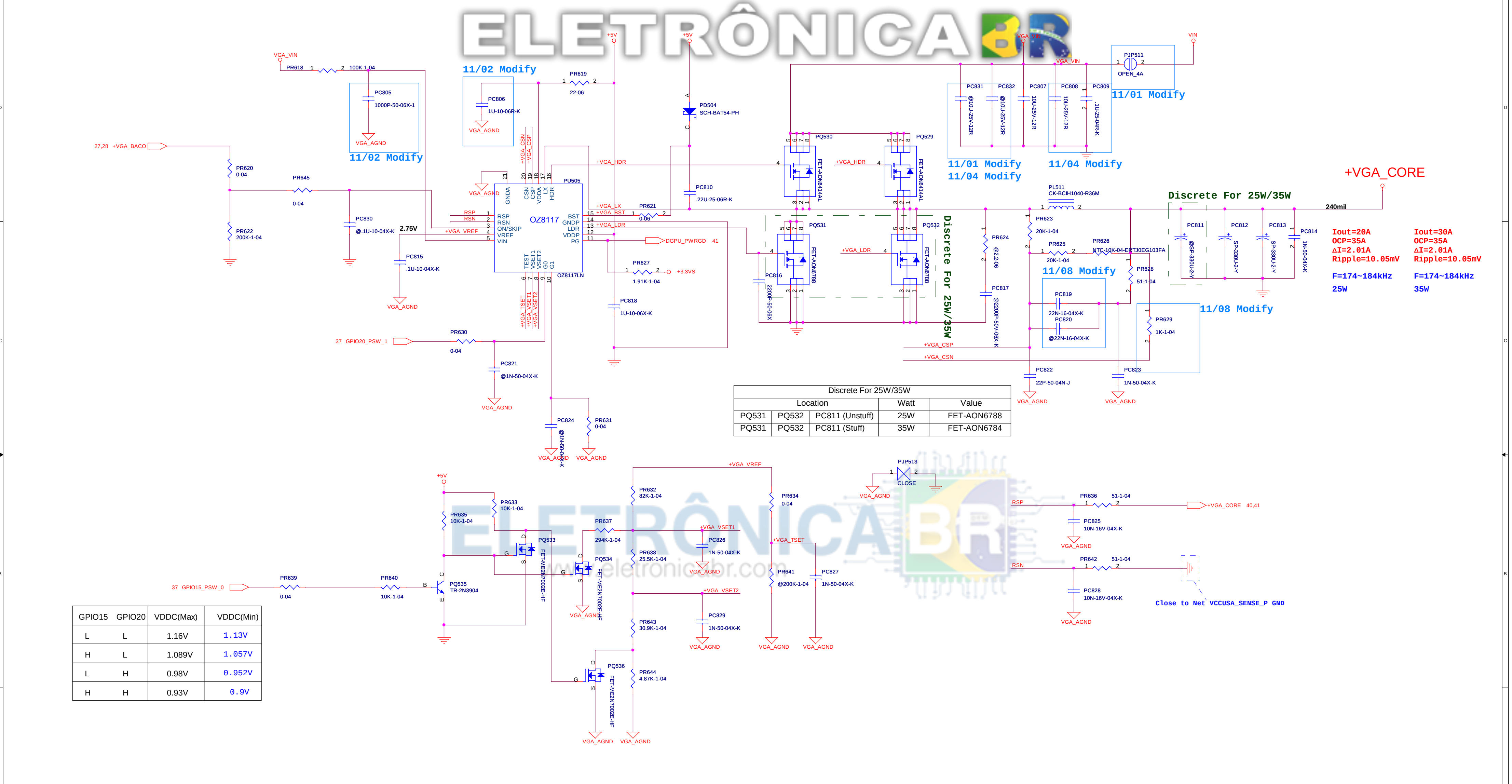

Discrete For 25W/35W				
Location			Watt	Value
PQ531	PQ532	PC811 (Unstuff)	25W	FET-AON6788
PQ531	PQ532	PC811 (Stuff)	35W	FET-AON6784

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

ECS COMPUTER CORP.

Title: +VGA_CORE(OZ8116)

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

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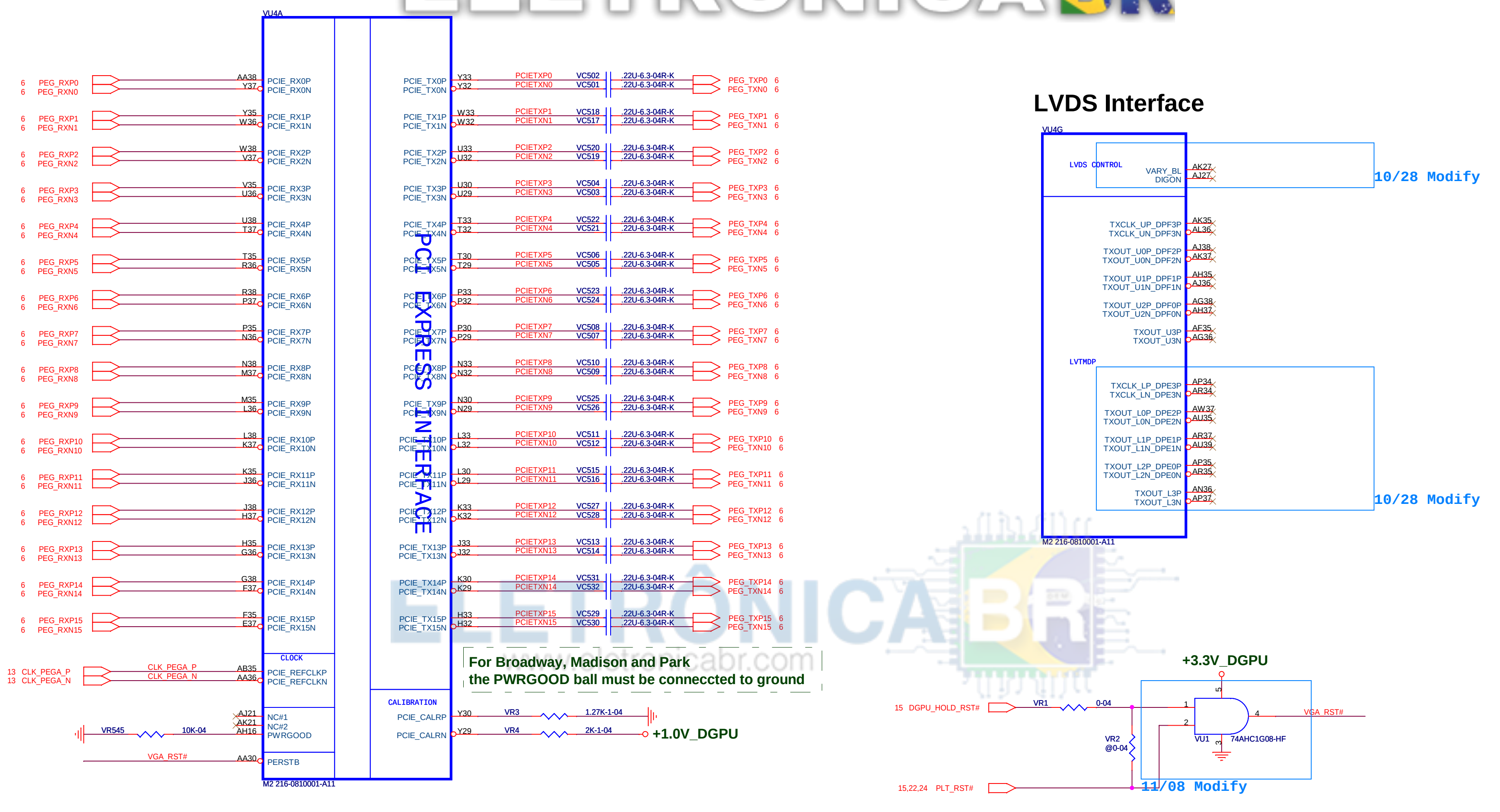
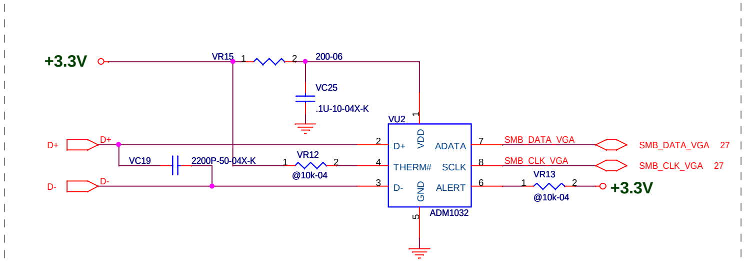
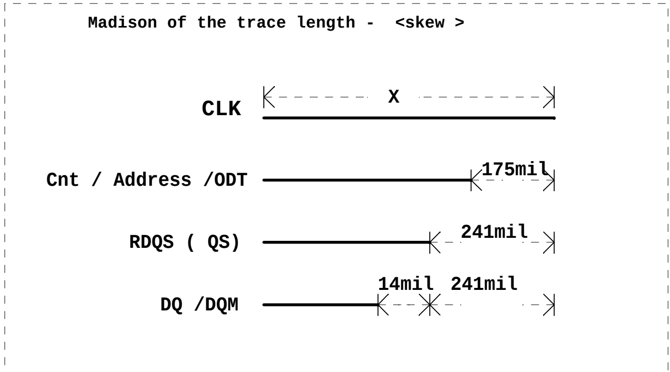


VGA Chip Select		
Name	Value	Material
Whistler XT	M2 216-0810001-A11	02A216081-10
Whistler Pro	216-0810005	02A216082-10
Seymour	216-0809000-A11	02A216080-10

VGA Thermal Sensor



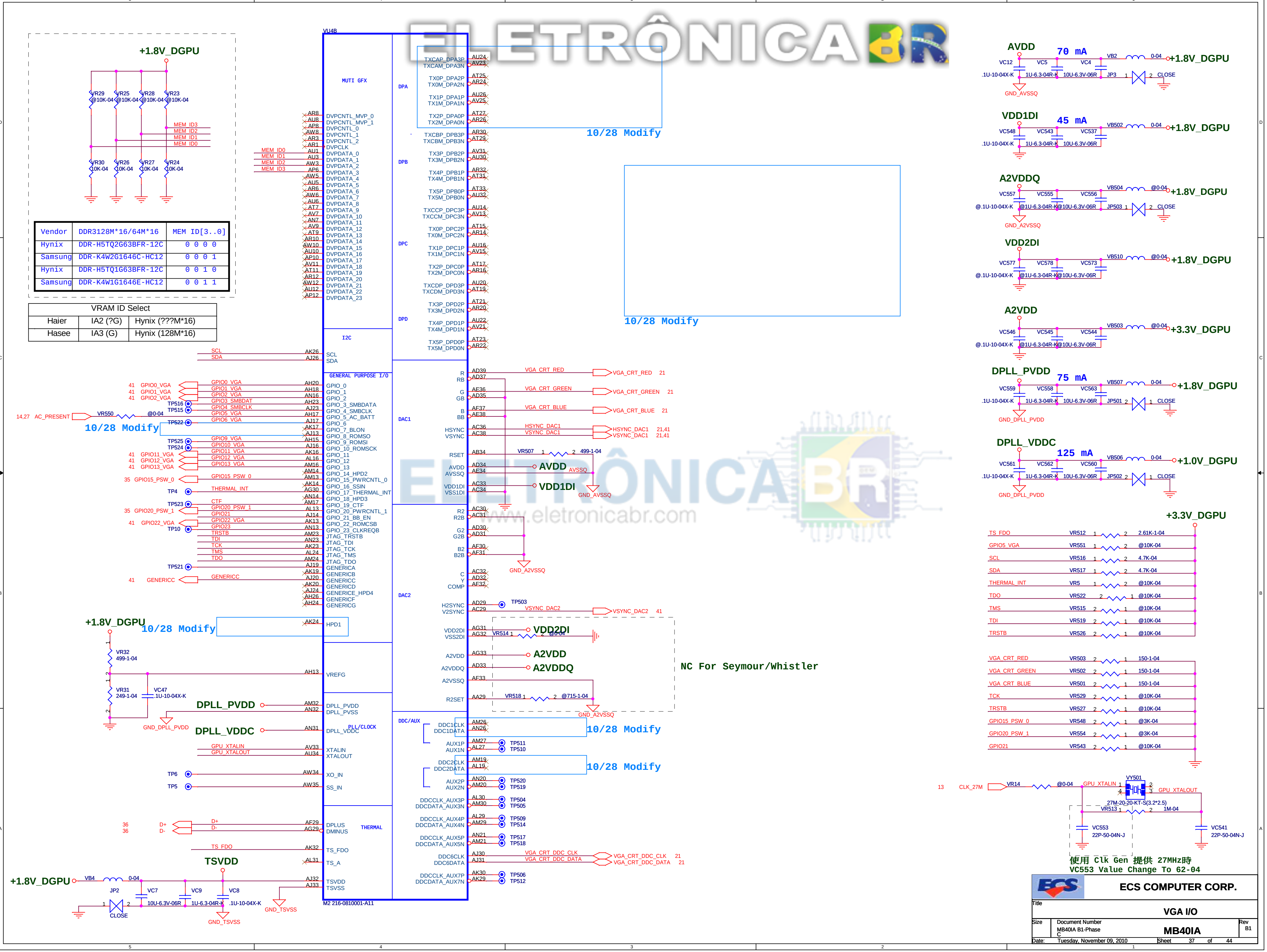


ECS COMPUTER CORP.

Title: VGA PCIE/LVDS

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

Date: Tuesday, November 09, 2010 | Sheet 36 of 44



Vendor	DDR3128M*16/64M*16	MEM ID[3..0]
Hynix	DDR-H5TQ2G63BFR-12C	0 0 0 0
Samsung	DDR-K4W2G1646C-HC12	0 0 0 1
Hynix	DDR-H5TQ1G63BFR-12C	0 0 1 0
Samsung	DDR-K4W1G1646E-HC12	0 0 1 1

VRAM ID Select		
Haier	IA2 (?G)	Hynix (???M*16)
Hasee	IA3 (G)	Hynix (128M*16)

ECS COMPUTER CORP.

Title: VGA I/O

Size: C | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

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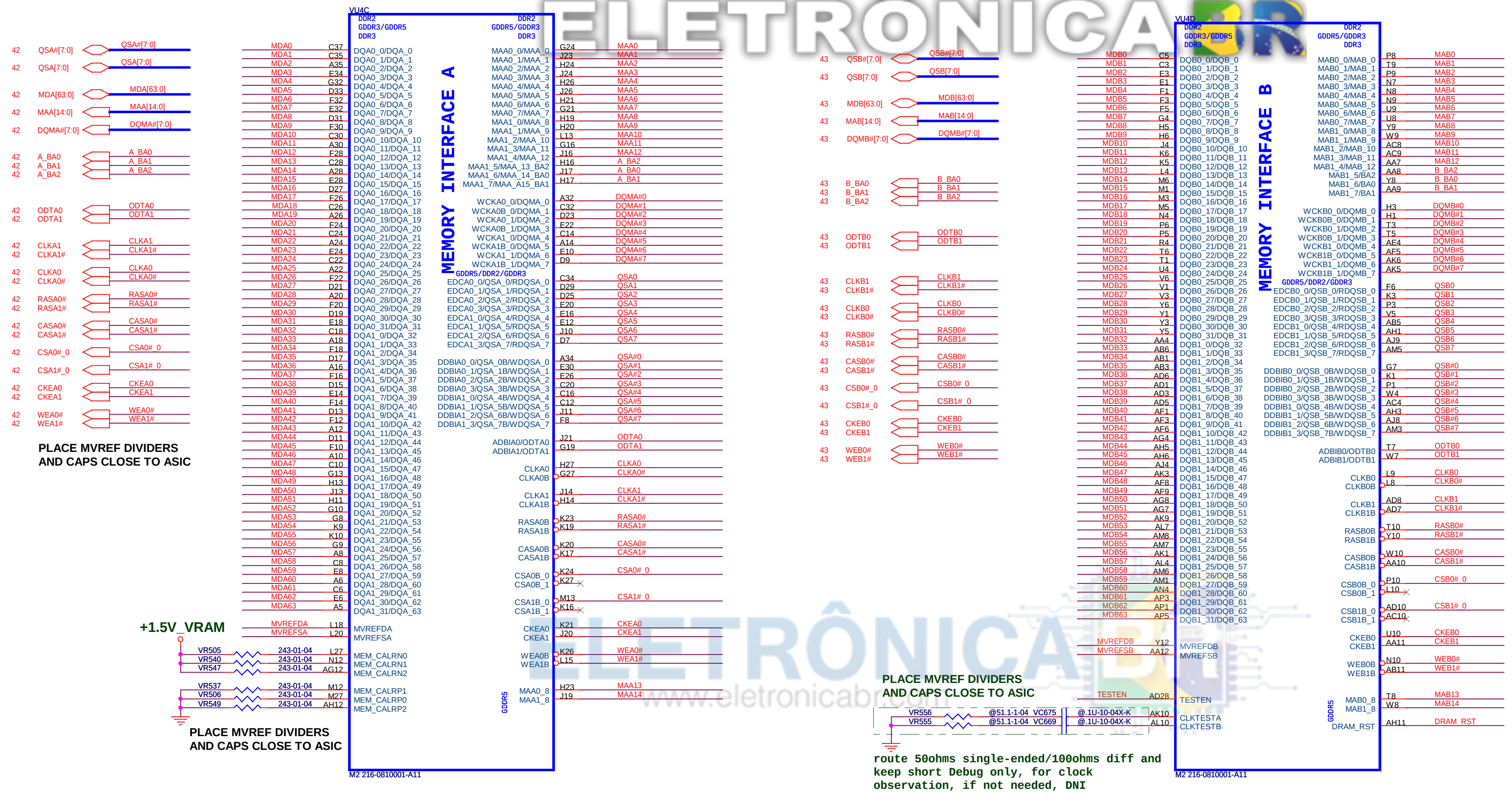
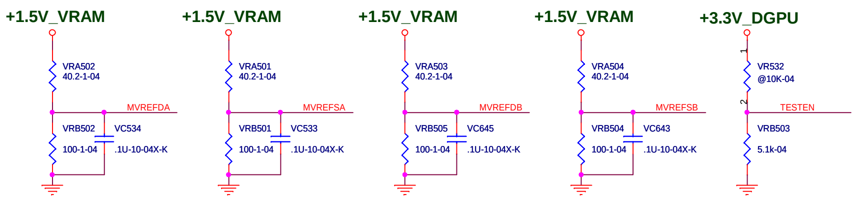
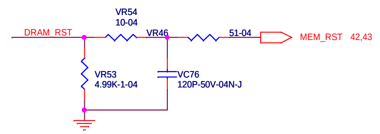




Designator	Madison
R_MEM_1	10K
R_MEM_2	51R
R_MEM_3	DNI
C_MEM	68pF

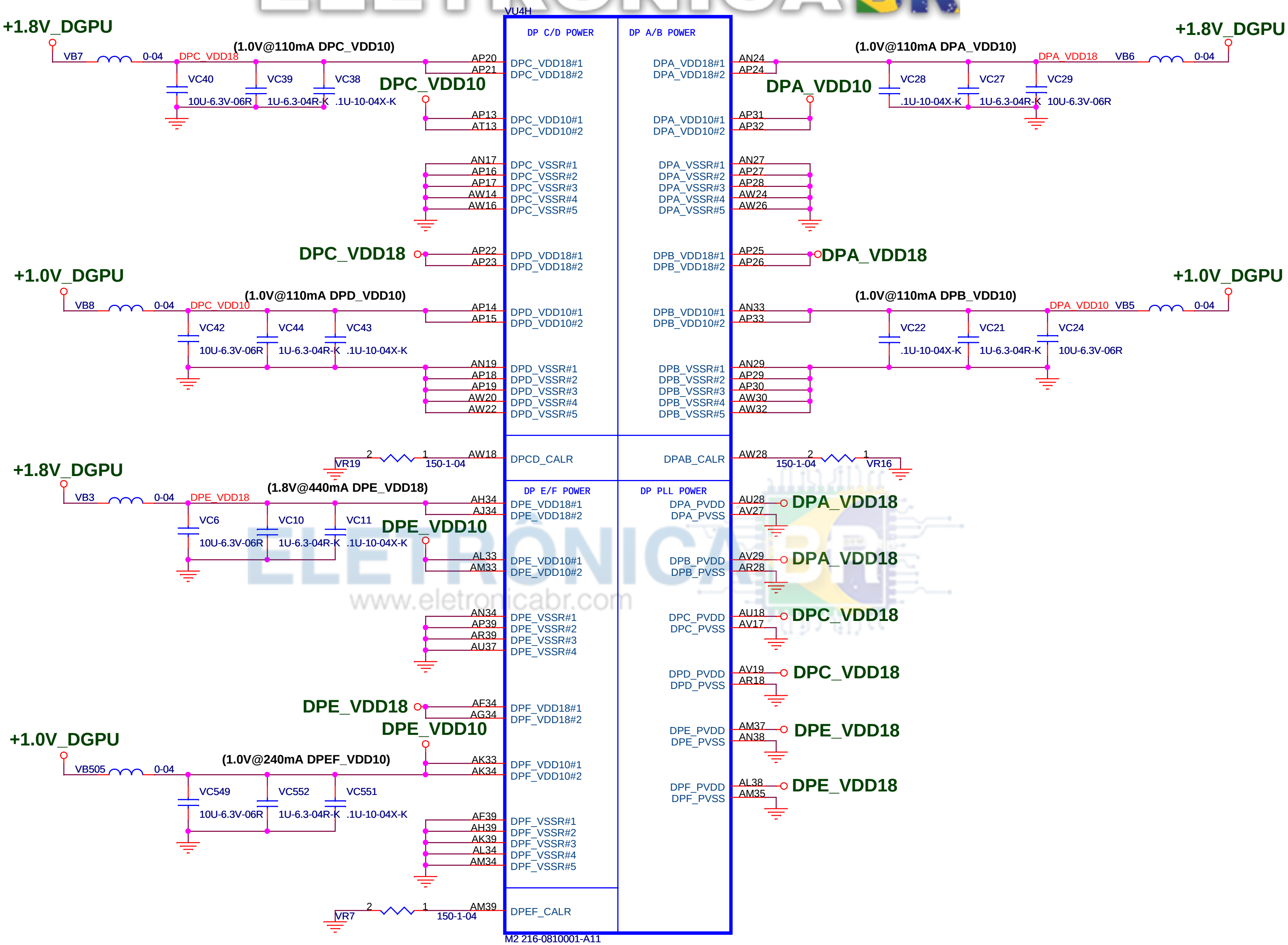


ECS COMPUTER CORP.

Title: VGA MEM_Interface

Size	Document Number	Rev
C	MB40IA B1-Phase MB40IA	B1

Date: Tuesday, November 09, 2010 Sheet 38 of 44



For M97/M96, DPF_VDD18 can be shared with DPE_VDD18

For M97/M96, DPF_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

ECS COMPUTER CORP.	
Title	VGA Power 1
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA
Rev	B1
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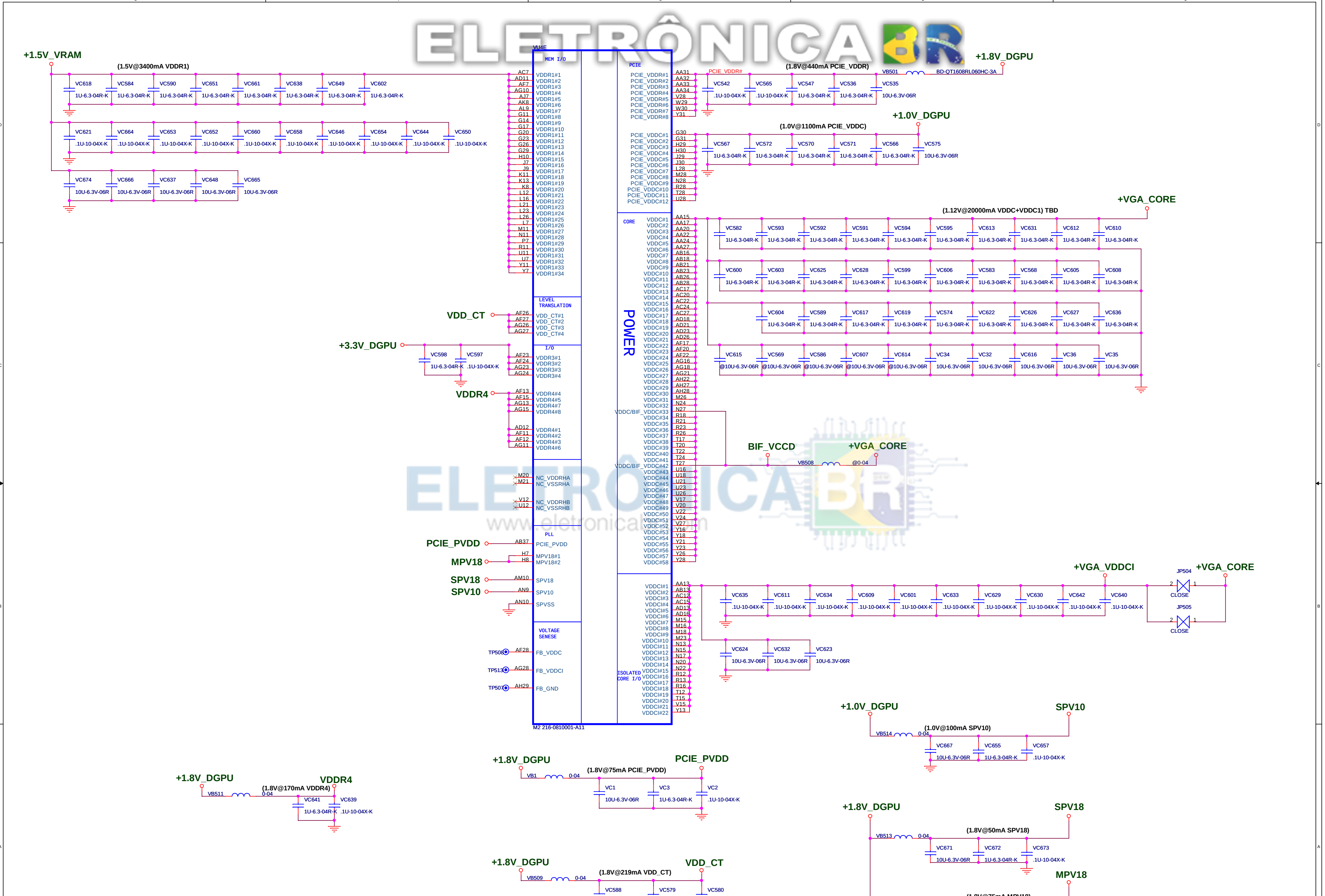

ECS COMPUTER CORP.

Title: VGA Power 2

Size	Document Number	Rev
Custom	MB40IA B1-Phase MB40IA	B1

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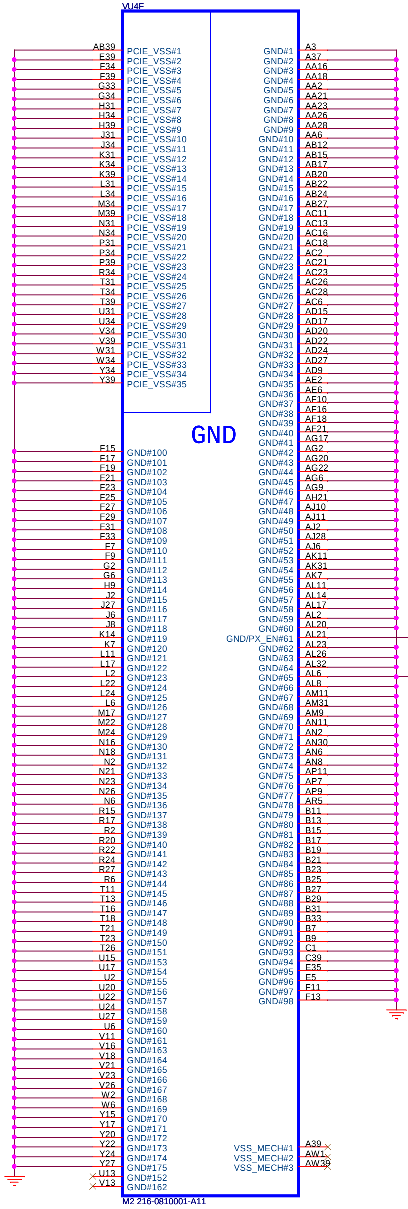
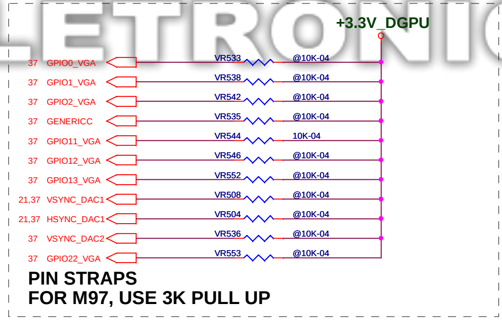
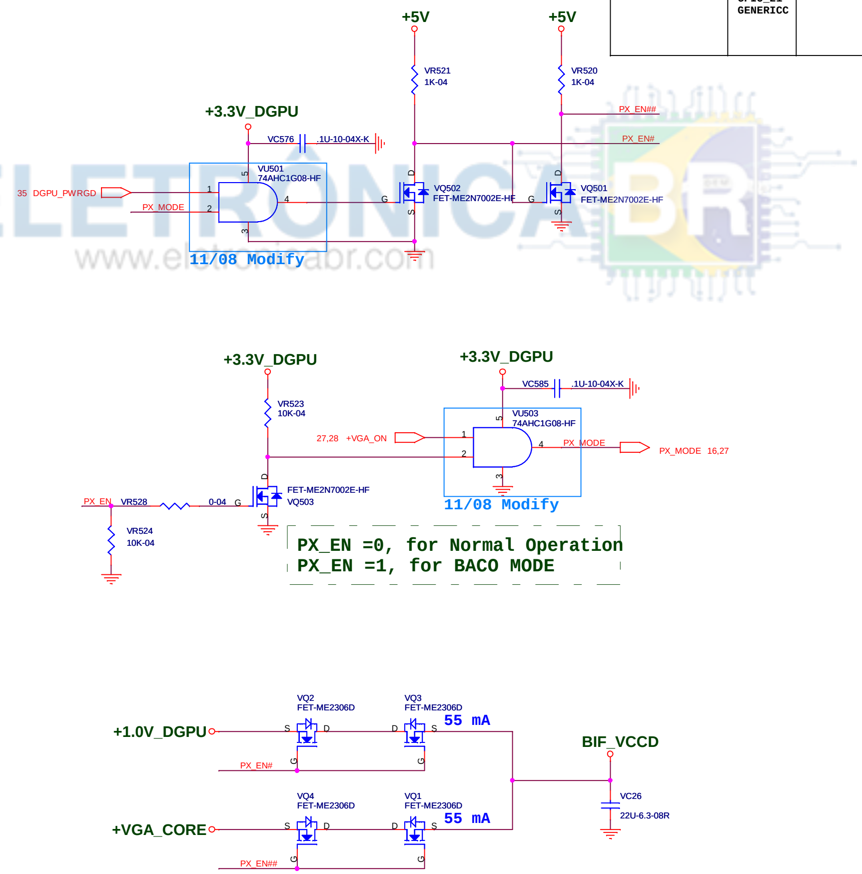




STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	Default	Setting
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	LOW	LOW
TX_DEEMPH_ENB	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	LOW	LOW
VIP_DEVICE _STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS	LOW	
BIF_VGA DIS	GPIO9	VGA ENABLED	LOW	LOW
AUD[1] AUD[0]	HSYNC VSYNC	AUD[1] AUD[0] 0 0 No audio function 0 1 Audio for DisplayPort only 1 0 Audio for DisplayPort and HDMI if dongle is detected 1 1 Audio for both DisplayPort and HDMI	00	
GPIO22_ROMCSB	GPIO22	ENABLE EXTERNAL BIOS ROM NO EXTERNAL BIOS ROM:LOW , if GPIO22 is high GPIO11~13 is primary memory aperture size	LOW	LOW
ROM_ID(0:2)	GPIO11 GPIO12 GPIO13	GPIO22:high ROM_ID(2:0) / Part 010 / AT25F512A 100 / PM25LV512A GPIO22:low ROM_ID(2:0) / Size 000 / 128MB 001 / 256MB 010 / 64MB 011 / 32MB	XXX	001
RESERVED	H2SYNC GPIO_8 GPIO_2 GPIO_21 GENERICC	GPIO21 MUST BE LOW DURING PERST8 WHEN BEING USED TO CONTROL MVDDQ FOR BROADWAY, MADISON AND PARK	LOW	



ECS COMPUTER CORP.

Title: VGA_GND/Straps/BACO

Size: Custom | Document Number: MB40IA B1-Phase | MB40IA | Rev: B1

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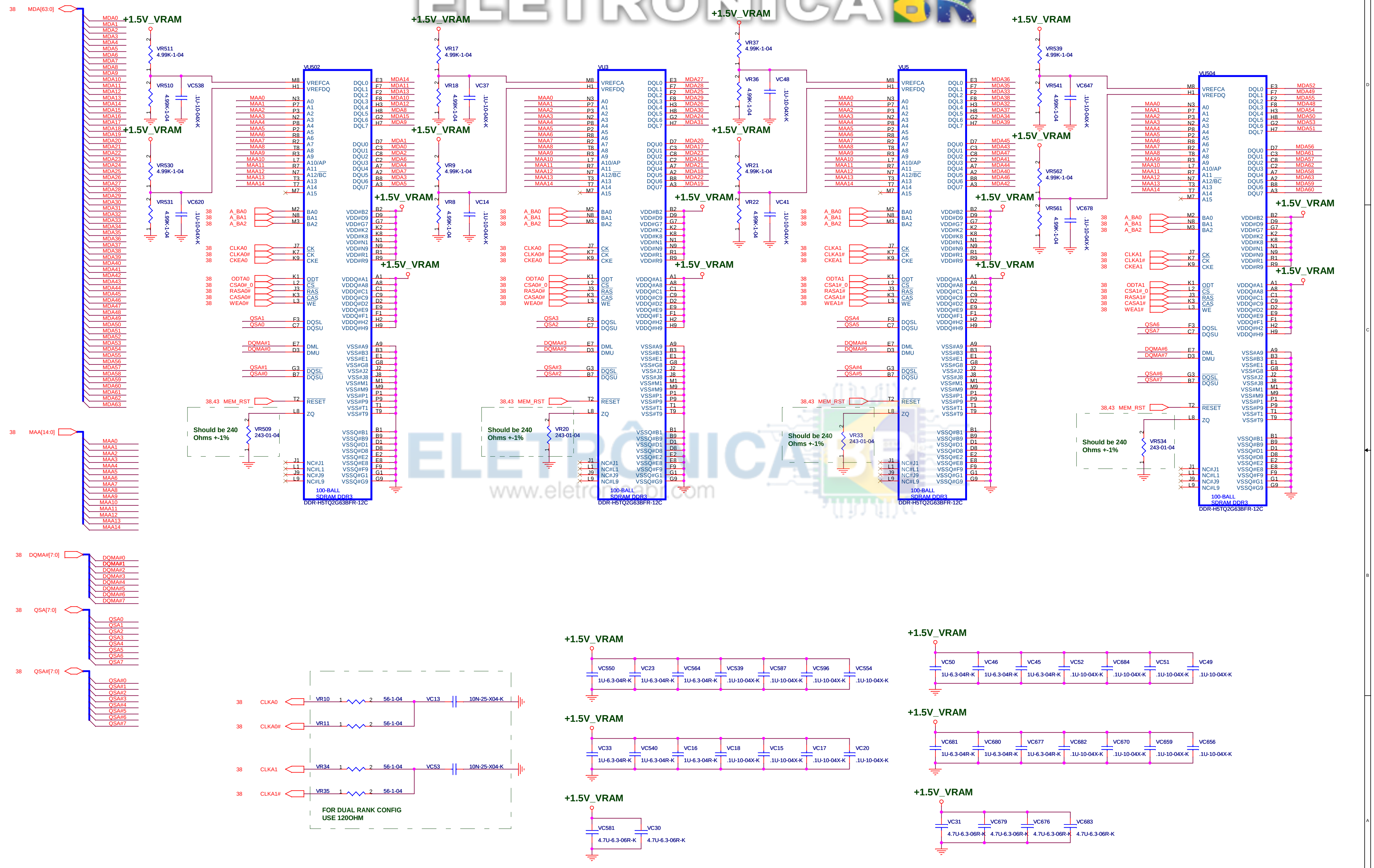
CHANNEL A: 256MB/512MB DDR3 (RANK0)



ECS COMPUTER CORP.	
Title	VGA DDR3_MEM_A
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA — Rev B1
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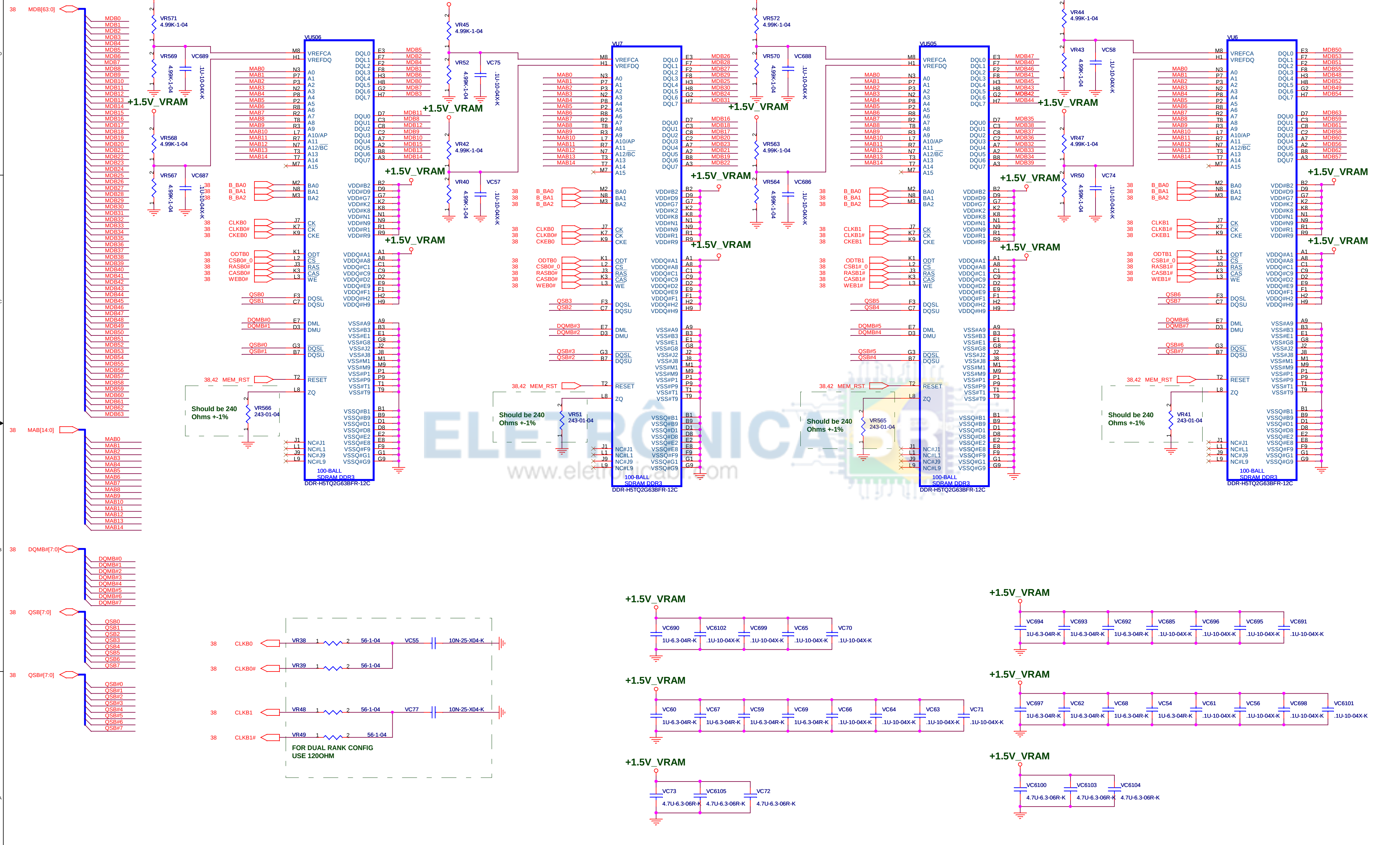
CHANNEL B: 256MB/512MB DDR3 (RANK1)



ECS COMPUTER CORP.

Title	VGA DDR3_MEM_B	
Size: Custom	Document Number: MB40IA B1-Phase — MB40IA	Rev: B1
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EE Schematics Modify

Power Schematics Modify

10/16 Modify

01. Page 12 ：R662 change value to 56-1-04.
02. Page 13 ：Y3 modify;value is X-25M-30-KT-S-HF & footprint is HC-49_3HSM.
03. Page 14 ：PM_SYSRTS# net connect with 118 pin of EC.
04. Page 20 ：Add LCD timing solution for GPU.
05. Page 21 ：RL501/RL502/RL503 change value to IND-AIG1608-R39KT;595/C580/C574 stuff.
06. Page 26 ：Add Y5 crystal For CardReader.
07. Page 29 ：PF1 cahnge value to FUSE-CC12H5A-TR.
08. Page 30 ：PU3 change footprint to qfn48_6x6x1.

10/28 Modify

01. Page 20 ：Del R576,R575.
02. Page 37 ：Del VGA_LEDID_CLK net & VGA_LEDID_DAT net.
03. Page 37 ：Del VGA_BL_EN net
04. Page 20 ：Del U503/C557/R574/R568R567.
05. Page 36 ：Del TXCLK_L+/TXCLK_L-/TXOUT_L0+/TXOUT_L0-/TXOUT_L1+/TXOUT_L1-/TXOUT_L2+/TXOUT_L2- net
06. Page 36 ：Del VGA_LCDBL_PWM/VGA_LVDD_EN net.
07. Page 20 ：Del CN5 & Peripheral schematics / Del GPU power switch schematics.
08. Page 37 ：Del VR557/VR558/VQ504/VR560/VR559.
09. Page 21 ：Del R854/R855 & Del R766/R768 then be short.
10. Page 21 ：Del VGA_HDMI_DAT net/VGA_HDMI_CLK net.
11. Page 37 ：Del VGA_HDMI_DAT net/VGA_HDMI_CLK net.
12. Page 21 ：Del RP1/RP2 ;Del RP502/RP504 then be short.
13. Page 21 ：Del VGA_TMDS2+ net/VGA_TMDS2- net/VGA_TMDS1+ net/VGA_TMDS1+ net/VGA_TMDS0+ net/VGA_TMDS0+ net/VGA_TMD_CLK+ net/VGA_TMD_CLK- net.

10/29 Modify

01. Page 29 ：H7/H13/H12/H5/H10/H9 change footprint to hc236d118.
02. Page XX ：Y3/Y5 change footprint to XTAL-2P-11_4X4_6X3_1.
03. Page XX ：PQ2/PQ7/PQ505/PQ507/PQ508/PQ509/PQ510/PQ511/PQ512/PQ519/PQ520/PQ523/PQ524/PQ526/PQ527/PQ528 change footprint to TDFN8_3X3X0_8.
04. Page 35 ：Add PC831/PC832.

11/02 Modify

01. Page 13 ：R225 unstuff.
02. Page 26 ：R889 unstuff;Y5/R890/C897/C898 stuff.
03. Page 35：PC806/PC805 change footprint to M-R0603.
04. Page 29：Add PR646/PC833.
05. Page 15：Add C899.
06. Page 26：R807 unstuff.

11/03 Modify

01. Page 31 ：Add PC800.(@ bottom side)
02. Page 35 ：Modify PJP511 (Support 4A.;TOPOPEN-4MM)

11/04 Modify

01. Page 35 ：PC808 stuff;PC832 unstuff.
02. Page 24 ：USB Charger Function unstuff.
03. Page XX ：+1.5VS & +1.05V "Low_Voltage_EC" peripheral component all unstuff.

11/05 Modify

01. Page 25 ：C118 connect with GND_AUD.
02. Page 10 ：R101 unstuff.
03. Page 11 ：C889/C881 stuff;C646/C720 change value to 10U-6.3V-06R.
04. Page 16 ：R638 change value to 2.2K-04;R641 change value to 1K-04;
05. Page 16 ：U8 unstuff.
06. Page 13 ：R225 stuff.
07. Page 26 ：R807/R889 stuff;Y5/R890/C897/C898 unstuff.
08. Page 11 ：CN13 chane value to DDR-8795-00L4-4280.
09. Page 11 ：CN10 chane value to DDR-8795-00L4-0180.
10. Page 26 ：CN14 chane value to ???31AK01910-00.
11. Page 21 ：CN15 chane value to CON-HDMI-879F-0019-H380.
12. Page 25 ：Add C900.

11/08 Modify

01. Page 13 ：R723 unstuff.
02. Page 13 ：PC60/PC56 stuff.
03. Page 35 ：PC819/PC820 change value to 22N-16-04X-K.
04. Page 33 ：PC833 change value to 2200P-50-06X.
05. Page 35 ：PR629 change value to 1K-1-04.
06. Page 32 ：PU4/PU5 change value to APL1084UC-HF.
07. Page 35 ：PU505 change value to OZ8117LN.
08. Page 25 ：U509/VU1/U4/U5/U7/U9//U11/VU501/VU502/VU503 change value to 74AHC1G08-HF.
09. Page 24 ：U13 change value to PM25LV512A-100SCE-HF.
10. Page 26 ：U510 change value to RTS5159-HF.
11. Page XX ：U508/U505/U30 change value to UP7534ARA8-15-HF.
12. Page 35 ：PC811 unstuff;PQ531/PQ532 change value to FET-AON6788. (For 25W)
13. Page 12 ：R150/R142/R159 unstuff.

11/09 Modify

01. Page XX ：U10 change value to ???02A650001-12.
02. Page 11 ：C734/C643 stuff.
03. Page 22 ：CN30 unstuff.