

COMPAL CONFIDENTIAL

MODEL NAME : *Ibiza*
COMPAL P/N :
PCB NO : *LA-1684*
Revision : *1.0*

Ibiza Schematics Document
uFCBGA/uFCPGA NorthWood MT

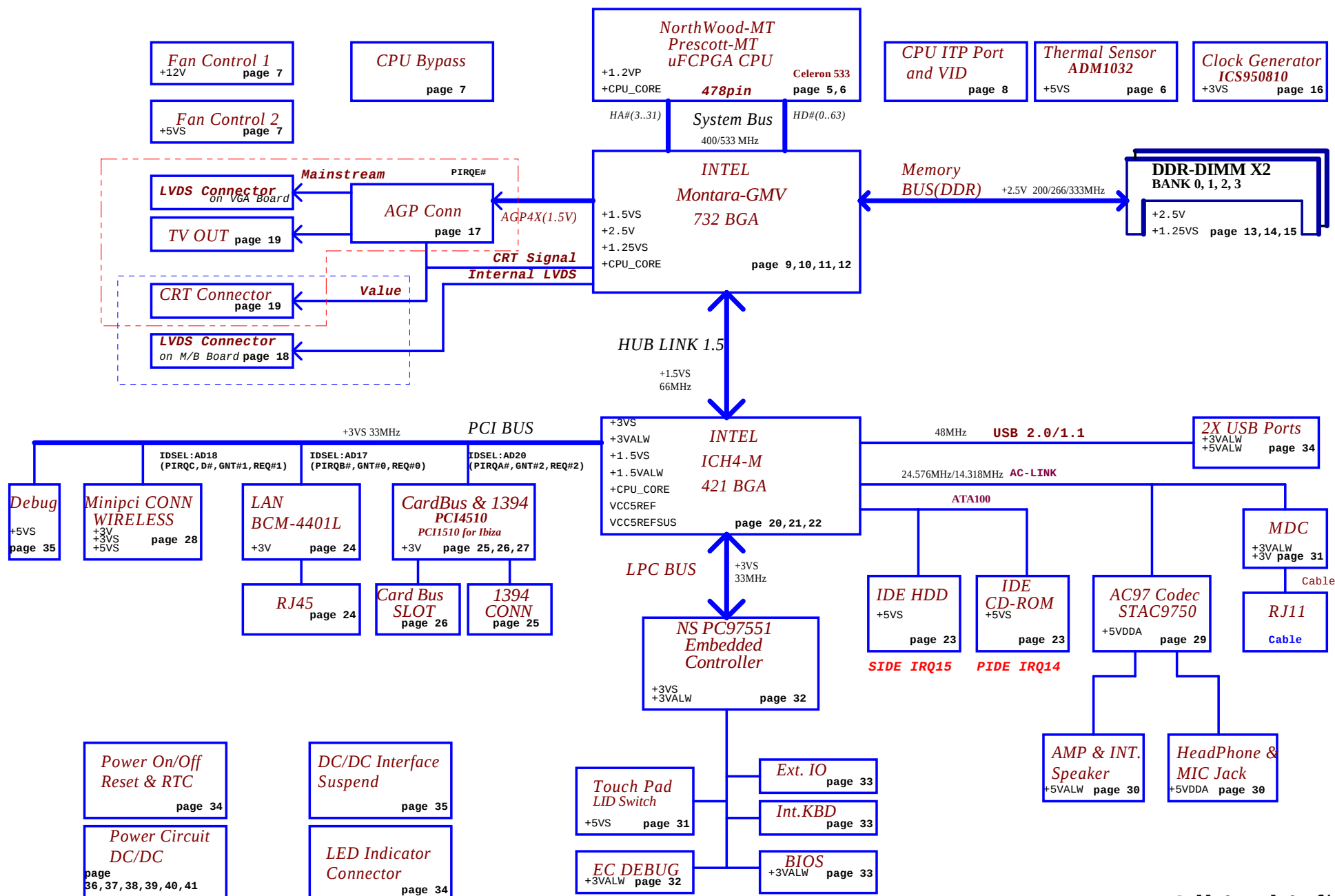
2004 - 01 - 09

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Title Cover Sheet		
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Model : Ibiza (Abacus MT for Ext. Gfx)



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ST2	FSB
L	400
H	533

Power Managment table

Signal State	+1.5VALW +3VALW +5VALW +12VALW +12V_FAN	+3V +2.5V	+3VS +5VS +1.5VS +1.2VP +CPU_CORE +1.25VS
S0	ON	ON	ON
S1	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC don't exist	OFF	OFF	OFF

SCHEMATICS VERSION LIST

VERSION	ISSUE DATE	REMARK
0.1	08/19/2003	SST Release
0.2	10/06/2003	PT Release
Seperate from Abacus-MT		
0.1	11/19/2003	ST Release
1.0	01/05/2004	QT Release

Ceramic Capacitor Spec Guide:

Temperature Characteristics:

Symbol	0	1	2	3	4	5	6	7
CODE	Z5U	Z5V	Z5P	Y5U	Y5V	Y5P	X5R	X7R

8	9	A	B	C	D	E	F	G
NP0	C0G		BJ	CH	CJ	CK	SH	SJ

H	I	J	
UJ	UK	SL	

Tolerance:

Symbol	A	B	C	D	F	G	H	J
CODE	+ -0.05PF	+ -0.1PF	+ -0.25PF	+ -0.5PF	+ -1PF	+ -2%	+ -3%	+ -5%

K	M	N	P	Q	V	X	Z	
+ -10%	+ -20%	+ -30%	+100, -0%	+30, -10%	+20, -10%	+40, -20%	+80, -20%	

SMBUS Control Table

	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (CPU)	THERMAL SENSOR (LM75)	SODIMM	CLK CHIP	MINI PCI	LCD	VGA Thermal ADM1032
SMB_EC_CK1 SMB_EC_DA1	PC87591L	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓
SMB_EC_CK2 SMB_EC_DA2	PC87591L	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗
SMB_CLK SMB_CDATA	ICH4-M	✗	✗	✗	✗	✗	✓	✓	✓	✗	✗
LCD_DDCLK LCD_DDCDATA	M-GT	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗

Item	Function	Note
1@	Ibiza	Montara GMV with no TV, 1394
2@	Abacus-MT	Montara-PM
@	DEPOP	

GMV supply 533 Celeron, and use the internal Gfx

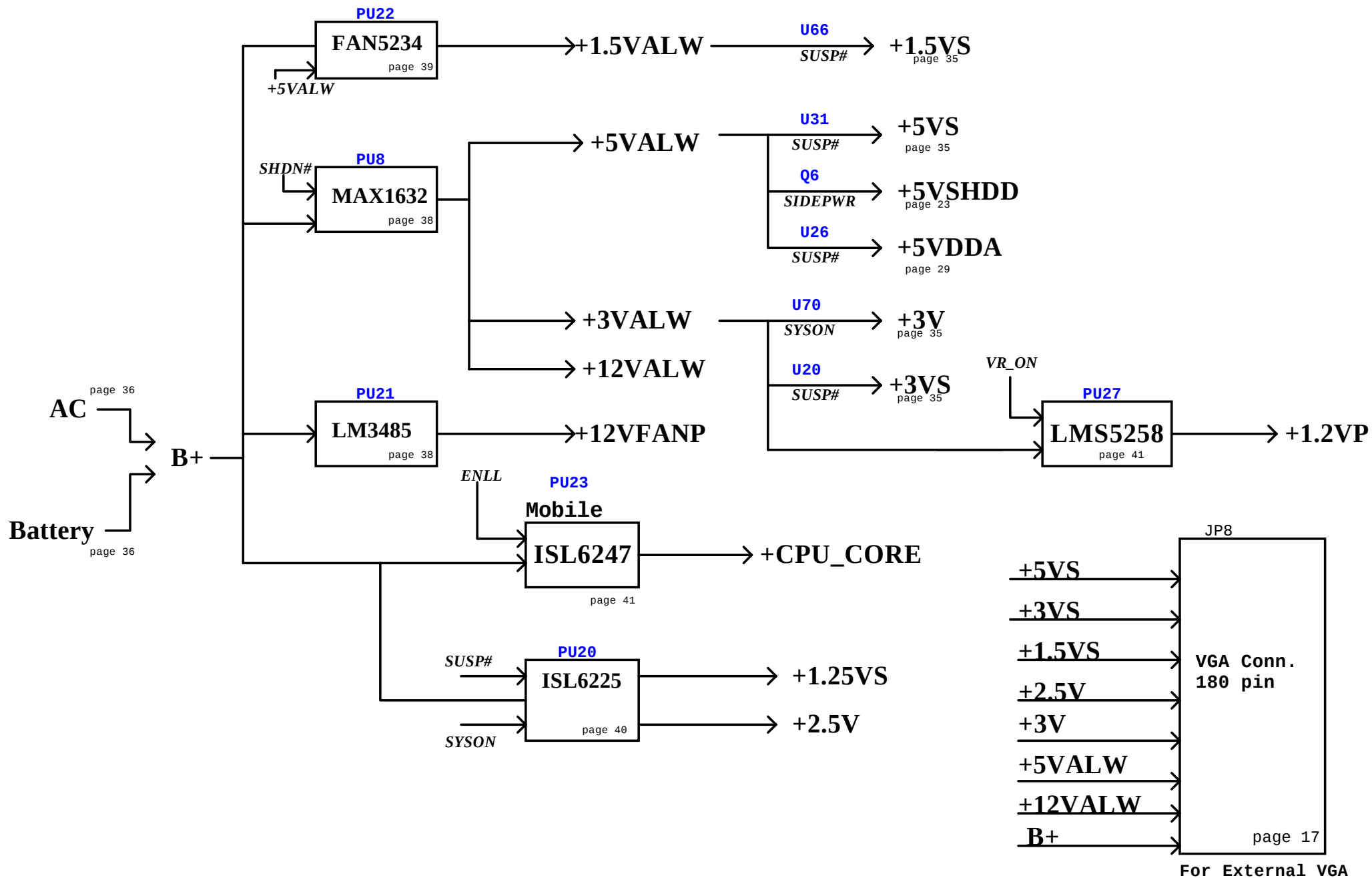
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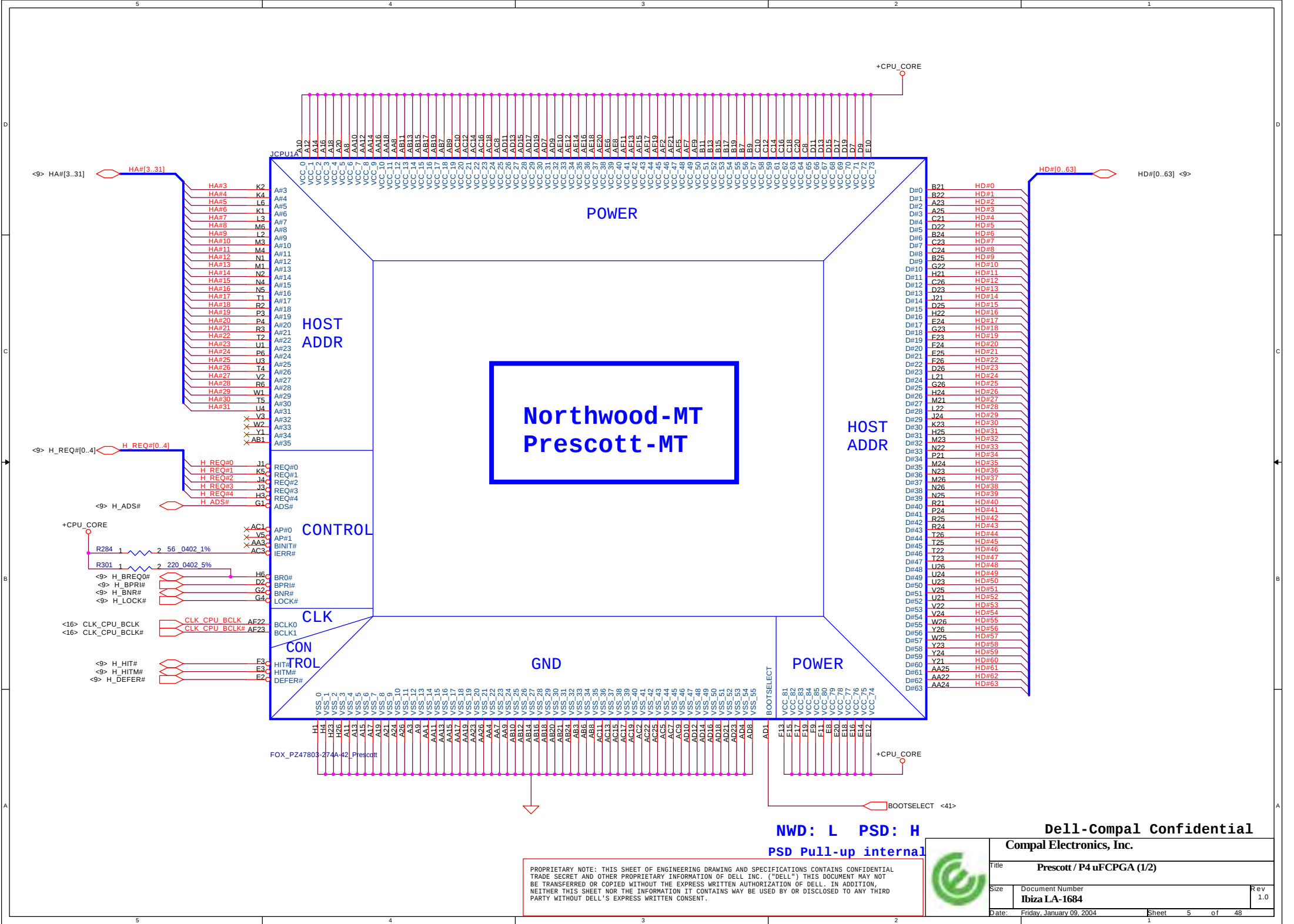
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Note & Revision		
Title	Note & Revision	
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Northwood-MT
Prescott-MT

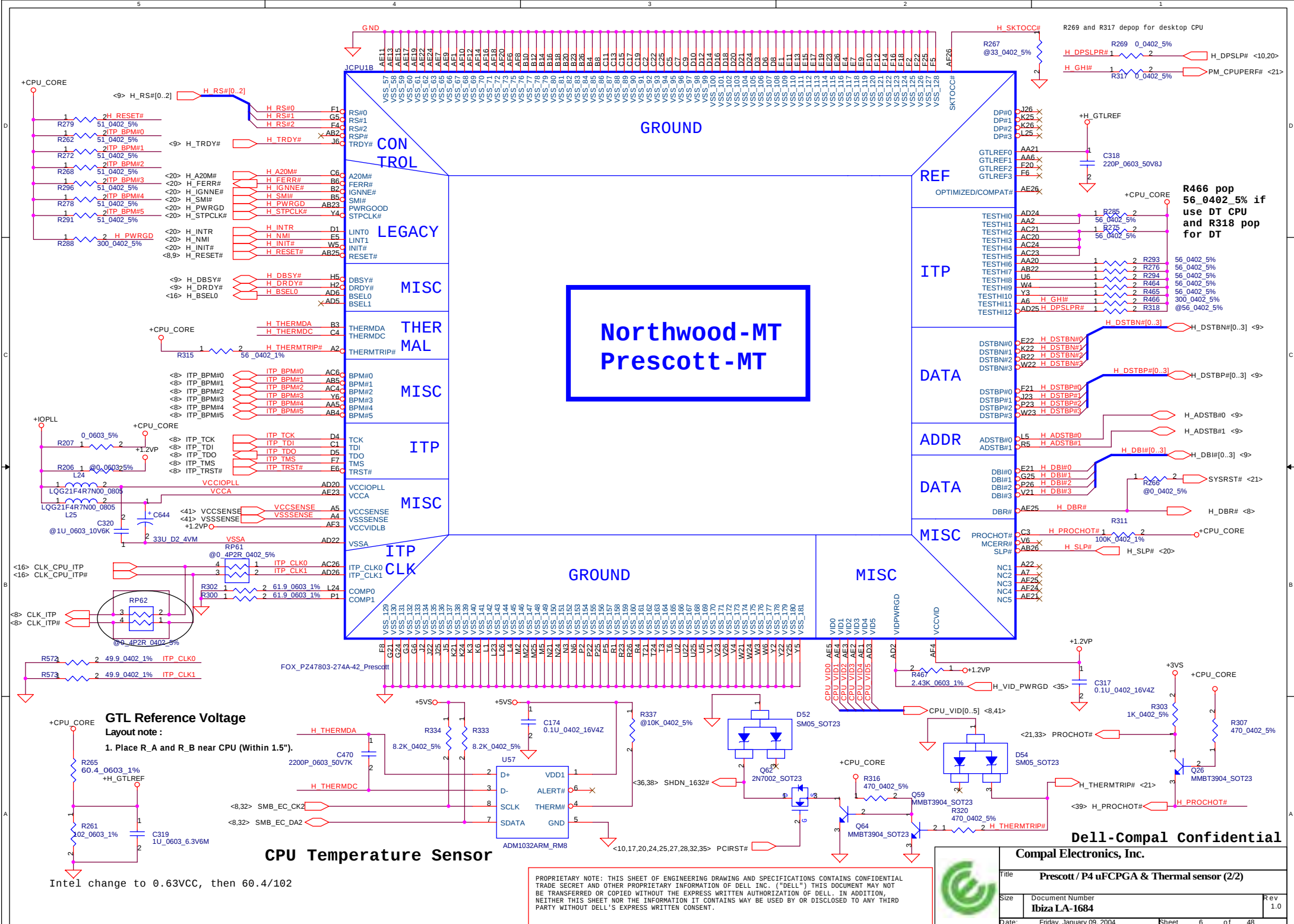
GND

NWD: L PSD: H
PSD Pull-up internal

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Title Prescott / P4 uFCPGA (1/2)		
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Northwood-MT
Prescott-MT

GTL Reference Voltage

Layout note :

- 1. Place R_A and R_B near CPU (Within 1.5").

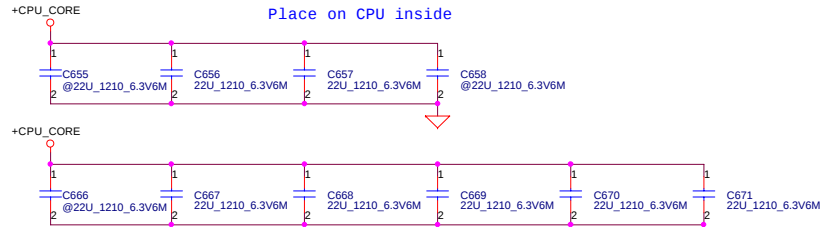
CPU Temperature Sensor

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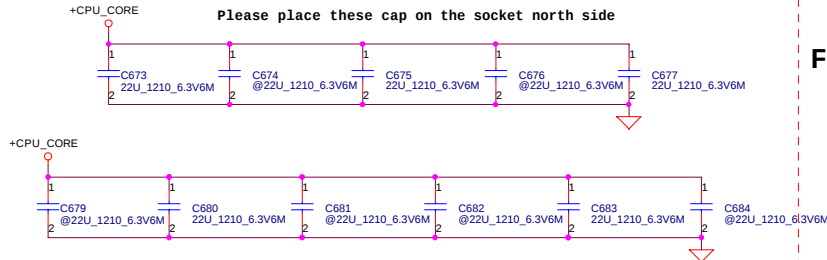


Layout note :
Place close to CPU, Use 2-3 vias per PAD.
Place 22uF caps x31 pcs, populated 14pcs.

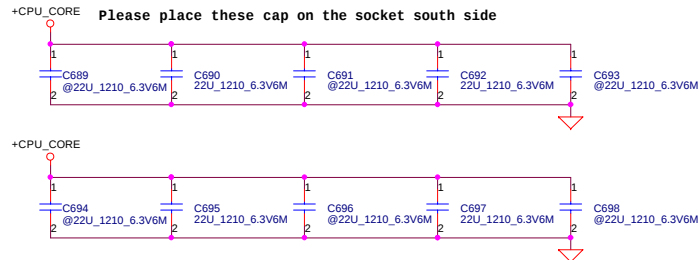
Place on CPU inside



Please place these cap on the socket north side

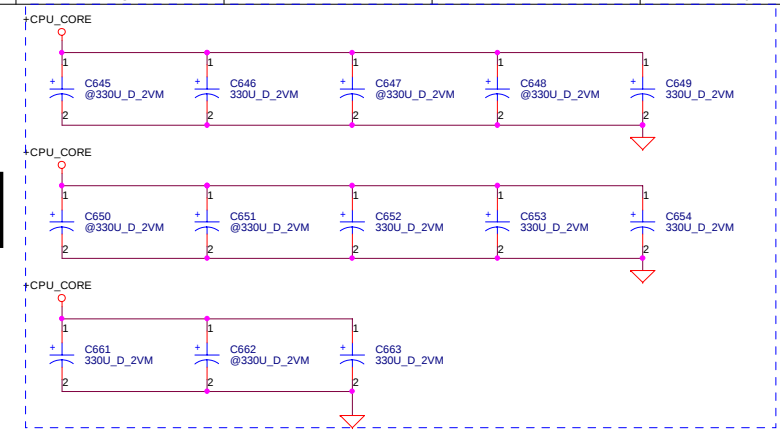


Please place these cap on the socket south side



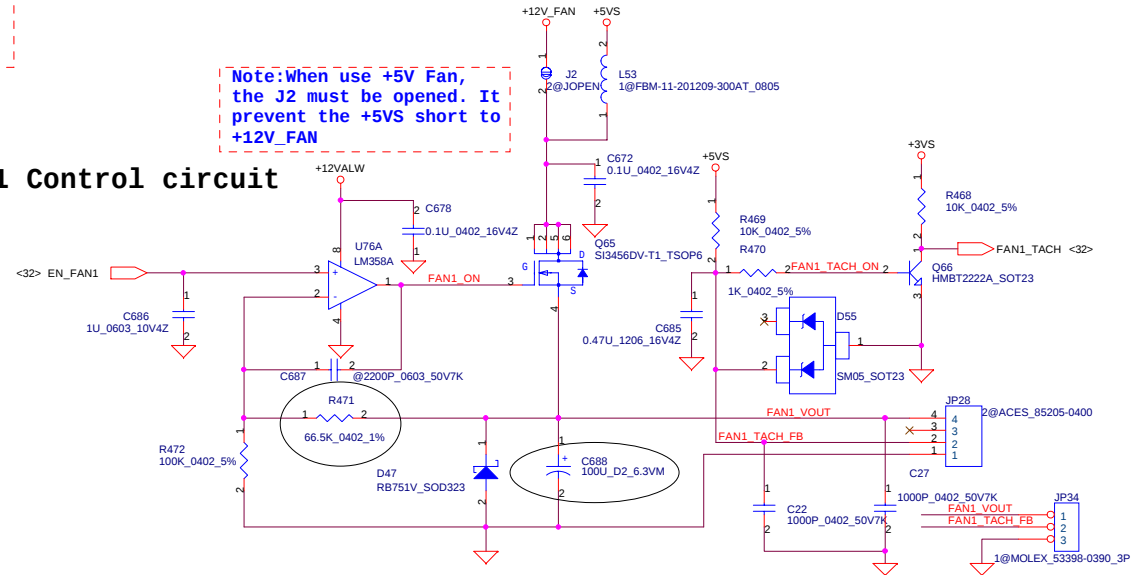
Layout note :
Place close to CPU power and ground pin as possible (<1inch)

For Desktop's CPU:
330uFx7/7m ohm each
depop 8pcs



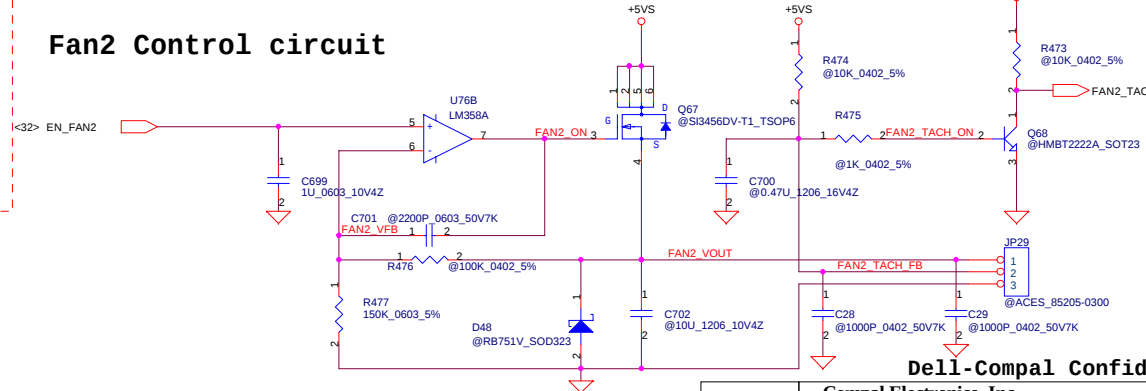
Note: When use +5V Fan, the J2 must be opened. It prevent the +5VS short to +12V_FAN

Fan1 Control circuit



Note: R471 - 66.5K_1% for +5V Fan ; 300k_1% for +12V Fan

Fan2 Control circuit



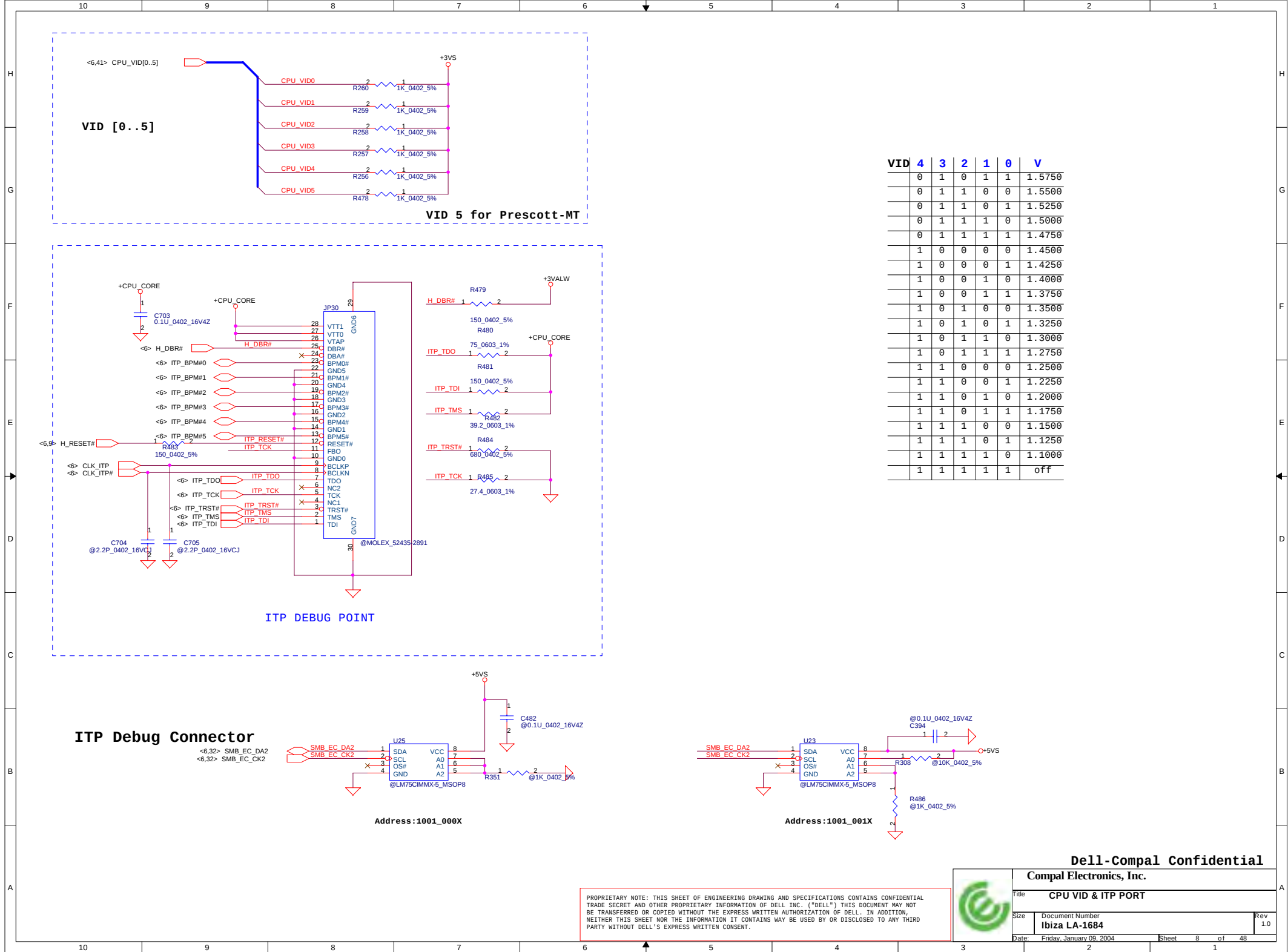
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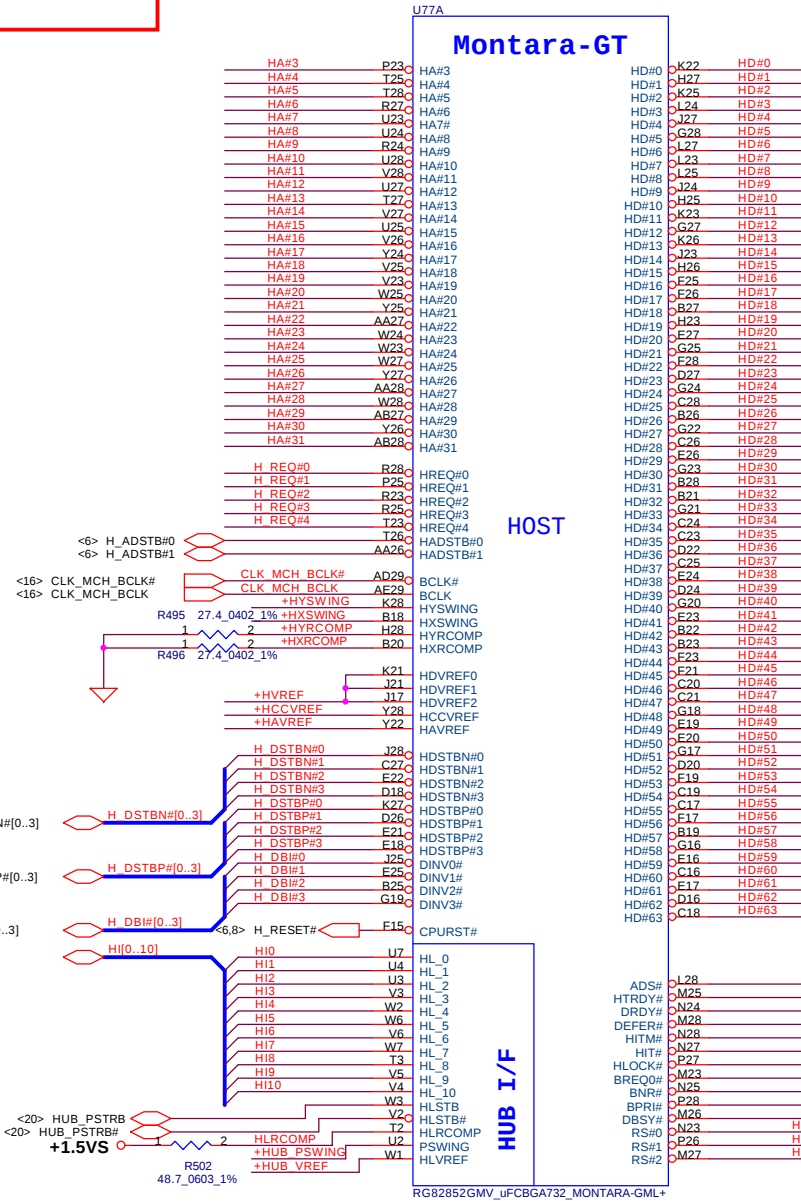
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File CPU Decoupling CAP. & Fan control		
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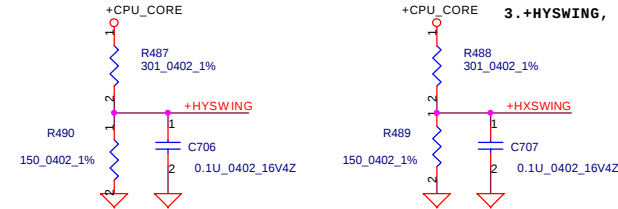


U77 use Montara-GMV for Internal Gfx

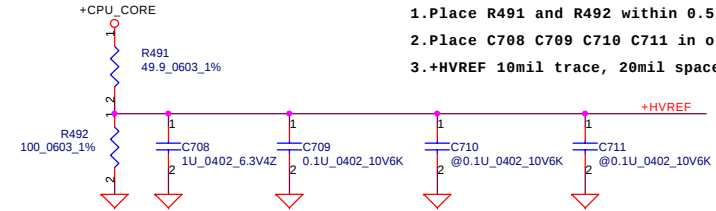


HXSWING and HYSWING Ref. Voltage

- 1.Place R487 and R490 within 0.5" of U77 pin K28
- 2.Place R488 and R489 within 0.5" of U77 pin B18
- 3.+HYSWING, +HXSING 10mil trace, 20mil space.

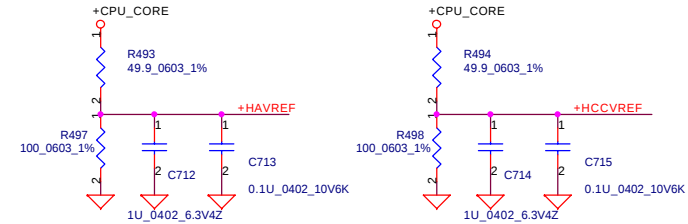
**Host data Ref. Voltage**

- 1.Place R491 and R492 within 0.5" of U77 pin K21 J21 J17
- 2.Place C708 C709 C710 C711 in order from U77 to divider
- 3.+HVREF 10mil trace, 20mil space.

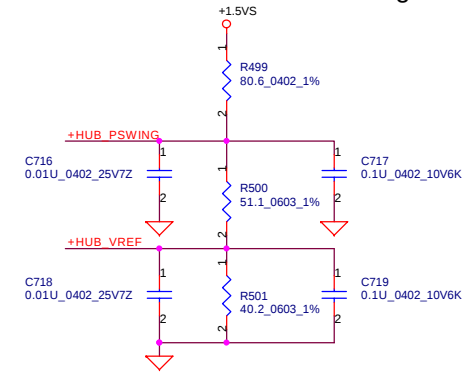


<i>Host Address</i>	<i>Ref. Voltage</i>
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- +CPU_CORE
- R494
49.9_0603_1%



HUBLink reference Voltage



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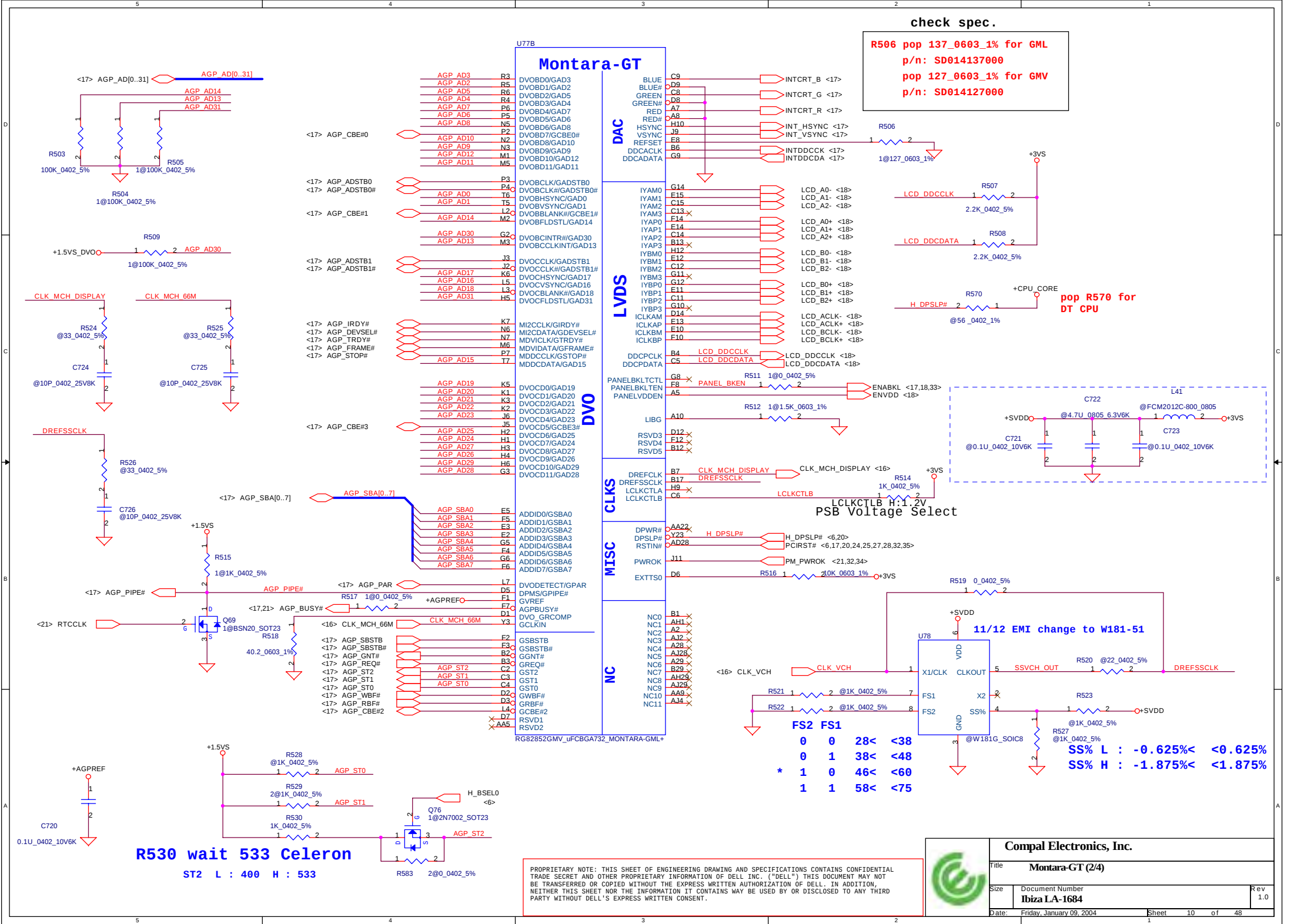
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Title	Montara-GT (1/4)
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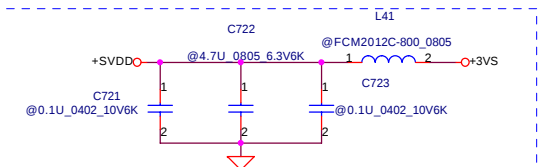
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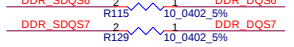
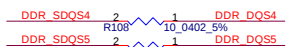
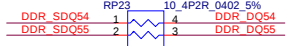
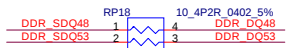
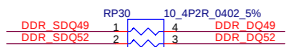
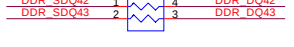
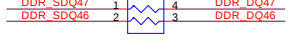
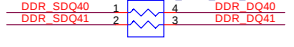
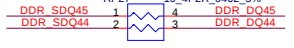
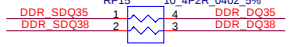
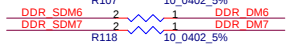
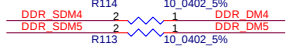
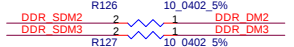
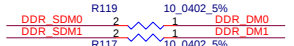
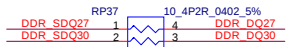
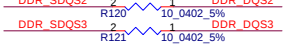
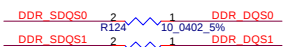
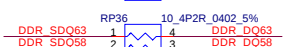
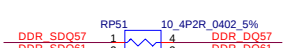
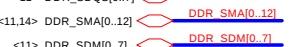
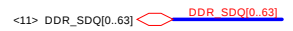
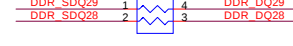
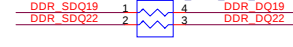
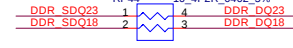
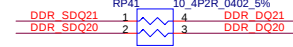
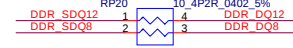
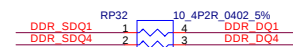
check spec.

R506 pop 137_0603_1% for GML
p/n: SD014137000

pop 127_0603_1% for GMV
p/n: SD014127000



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<11> DDR_CLK2
<11> DDR_CLK2#

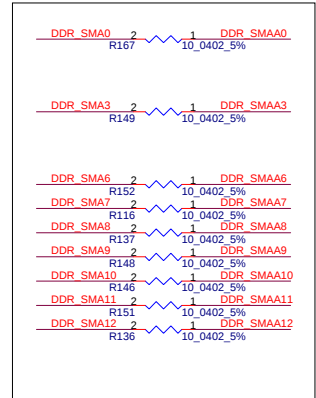
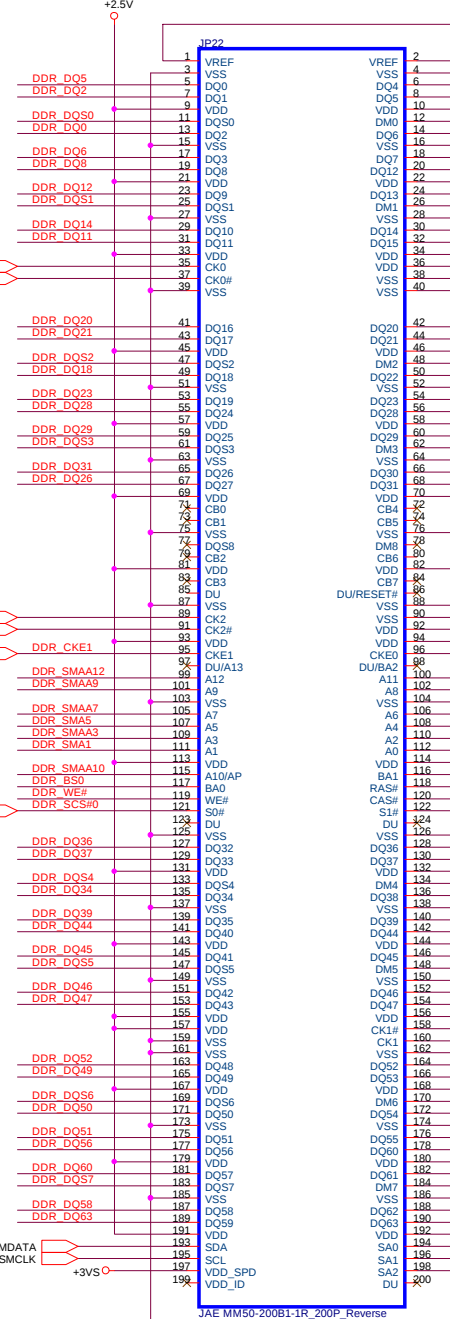
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<11> DDR_SC#0
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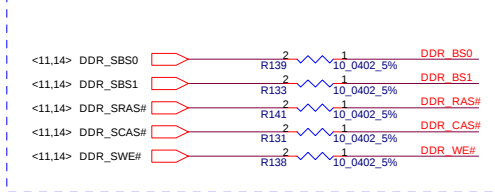
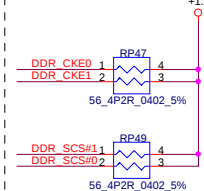
<14,16,20,28> DIMM_SMDATA
<14,16,20,28> DIMM_SMCLK

Layout note
Place these resistors
close to DIMM0,
all trace length<500 mil

DDR TOPOLOGY 2 FOR SMAA[0, 3, 6:12], SBA[1, 0], SRAS#, SCAS#, SWE#



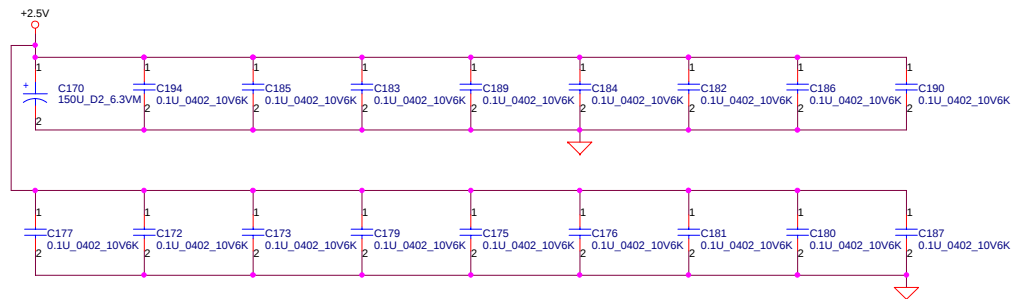
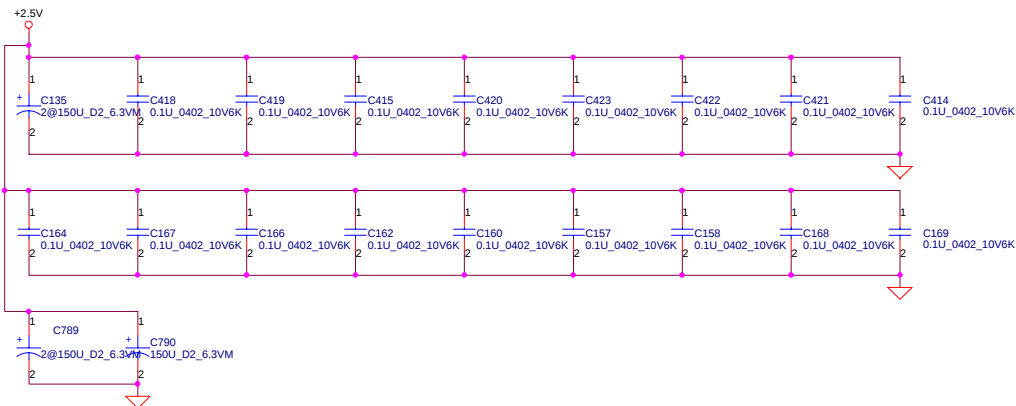
Layout note
Place these resistor
close by DIMM0,
all trace length
Max=1.4"



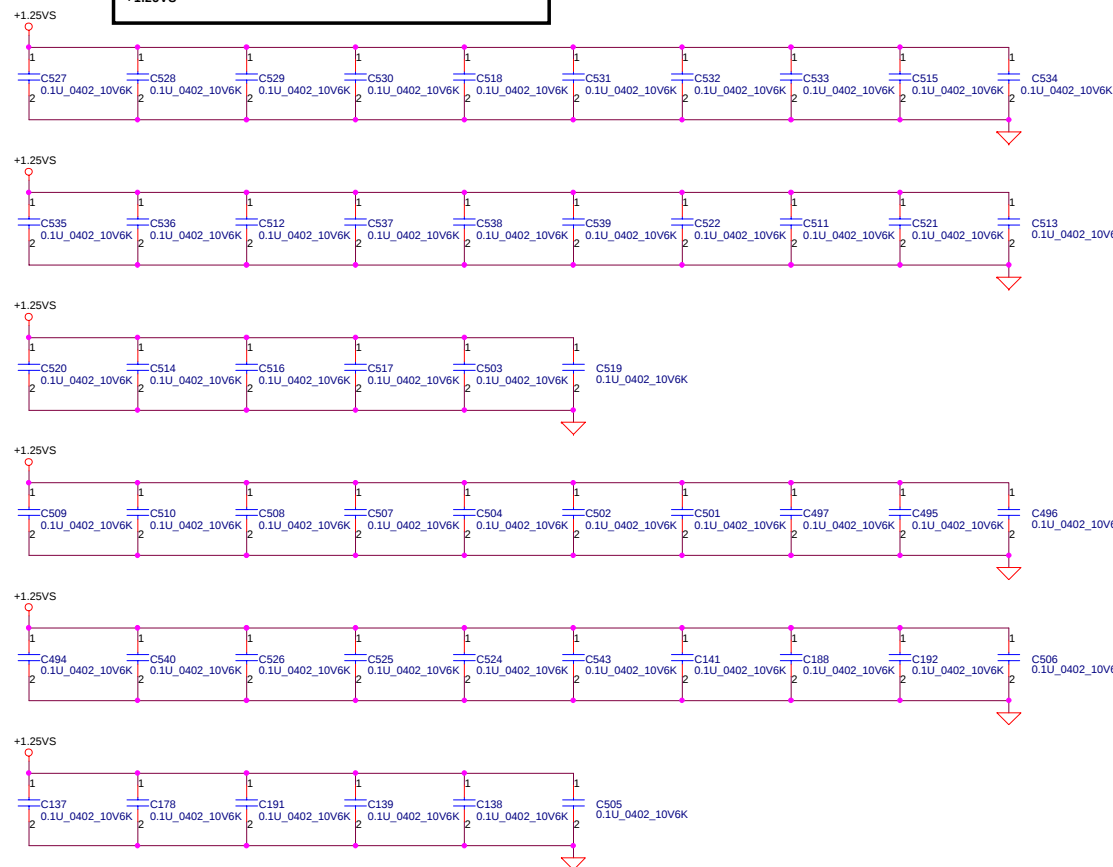


Layout note :
Distribute as close as possible
to DDR-SODIMM0.

Layout note :
Distribute as close as possible
to DDR-SODIMM1.



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



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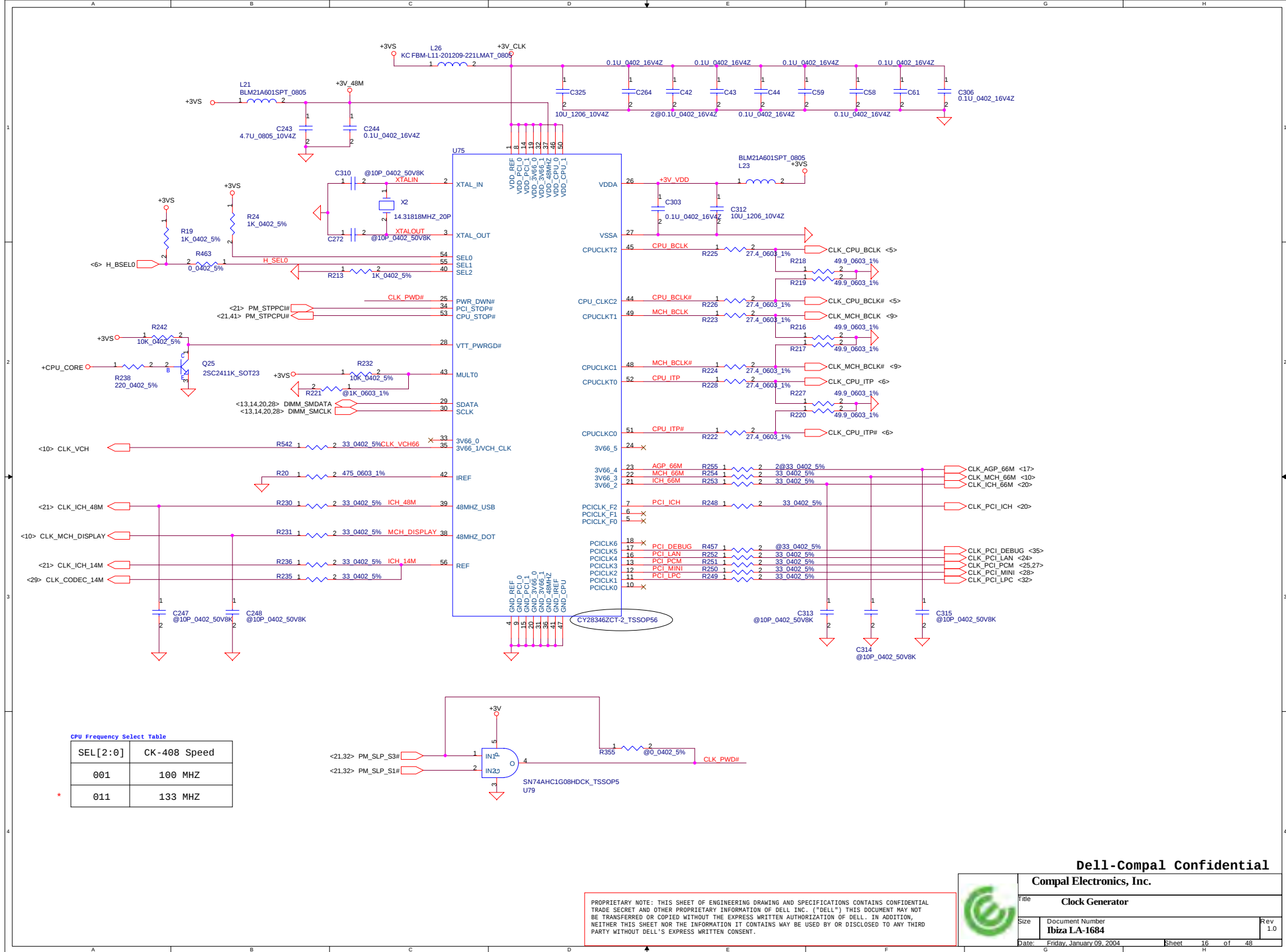
Compal Electronics, Inc.

Title: DDR SODIMM Decoupling

Size: Document Number
Ibiza LA-1684

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1.0

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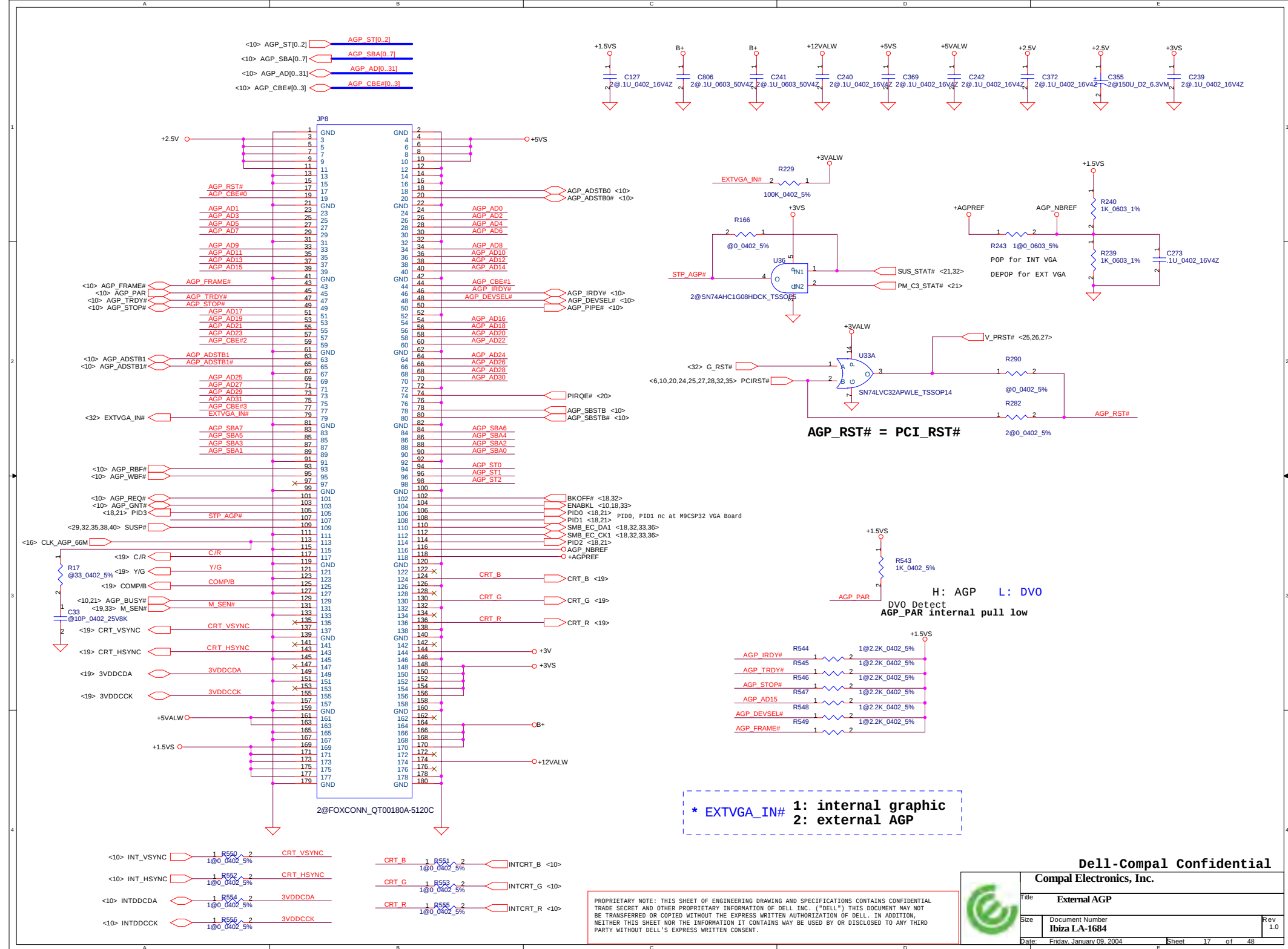
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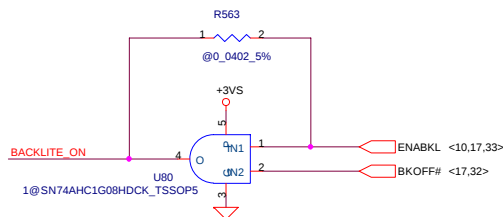
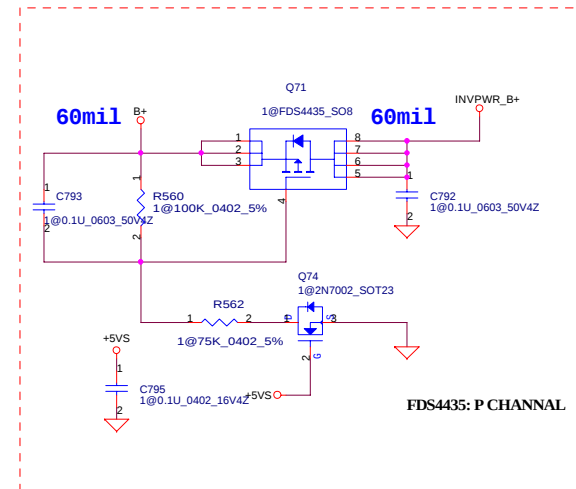
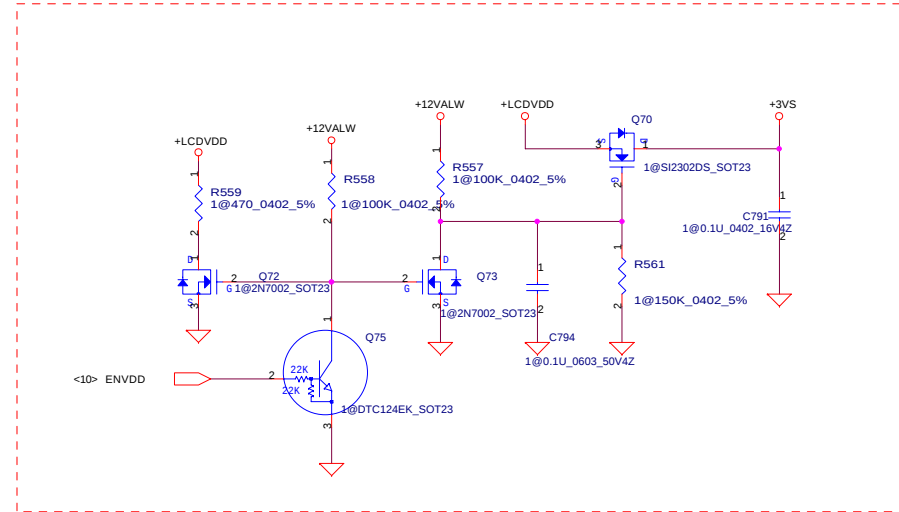
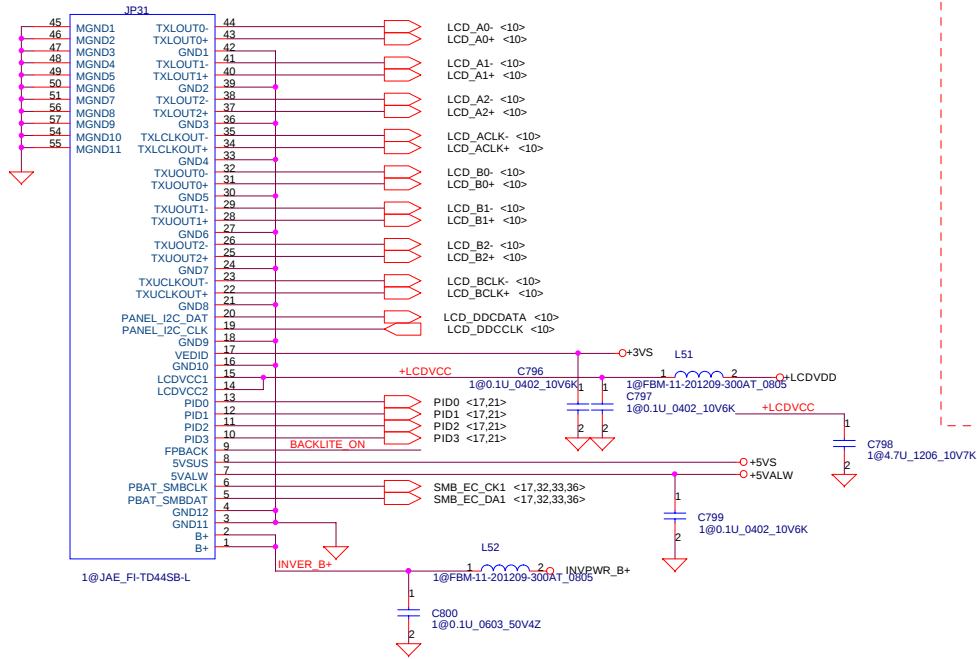
Clock Generator

Size Document Number
Ibiza LA-1684

Date: Friday, January 09, 2004 Sheet 16 of 48

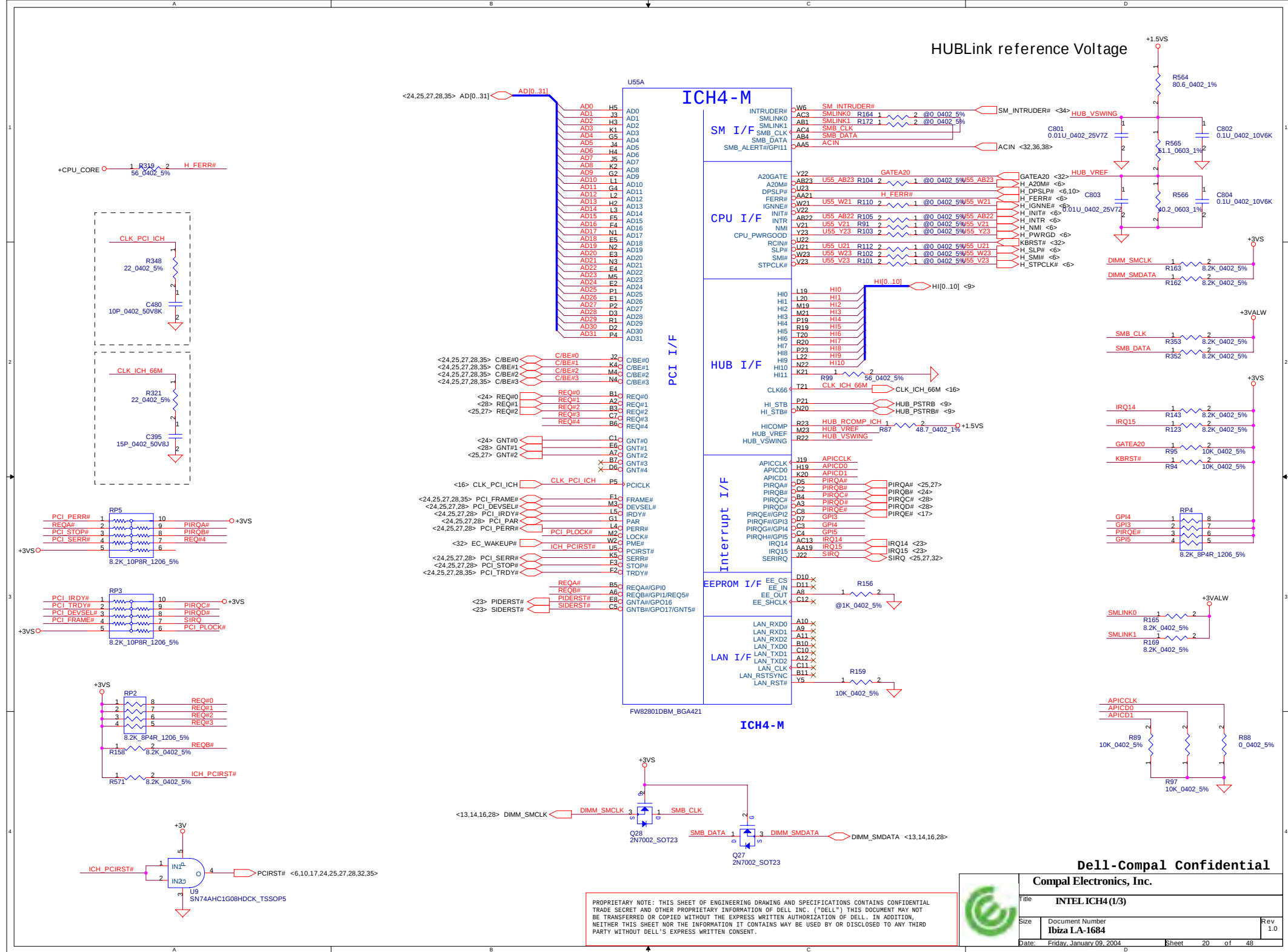


* EXT VGA_IN# 1: internal graphic 2: external AGP

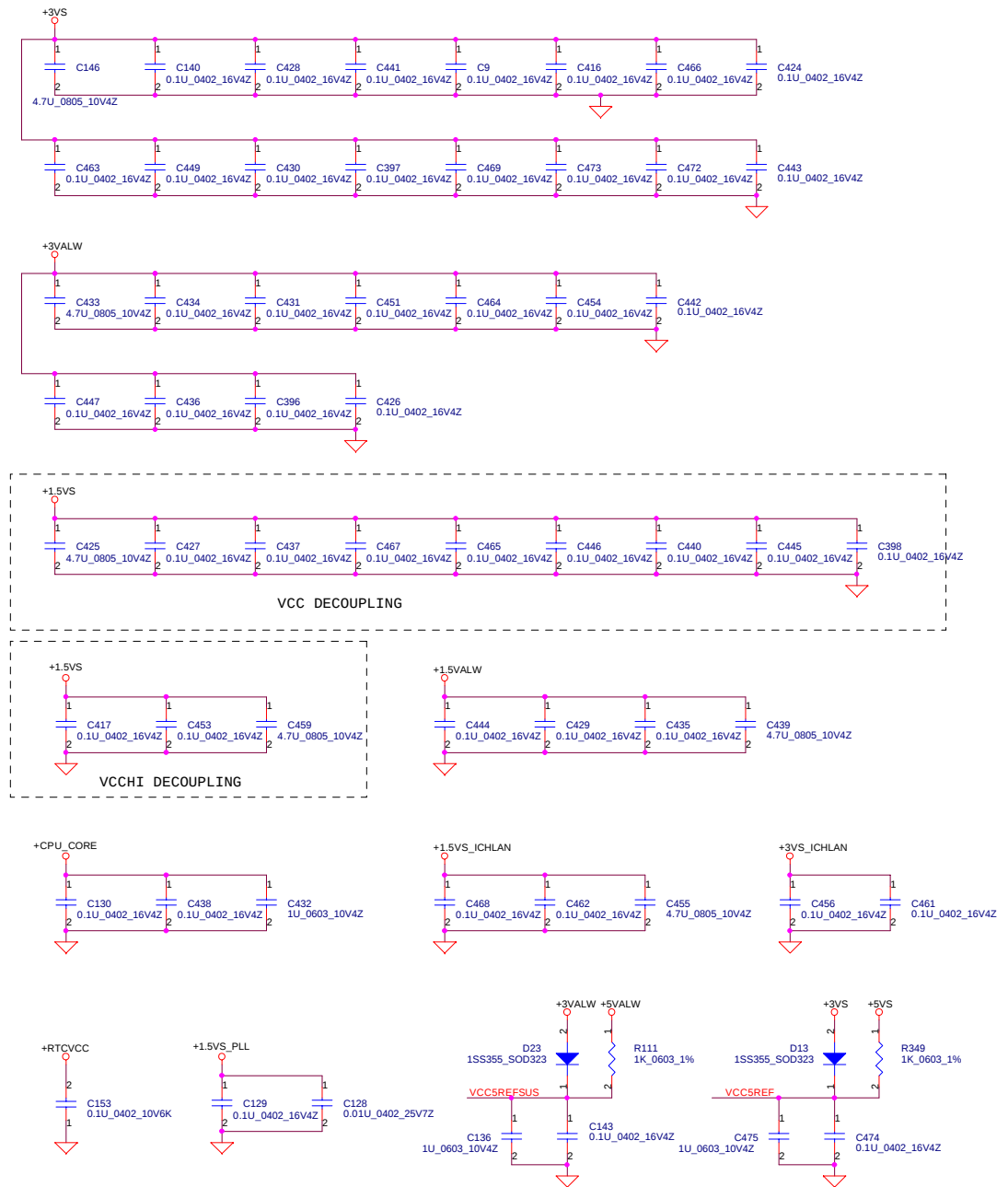
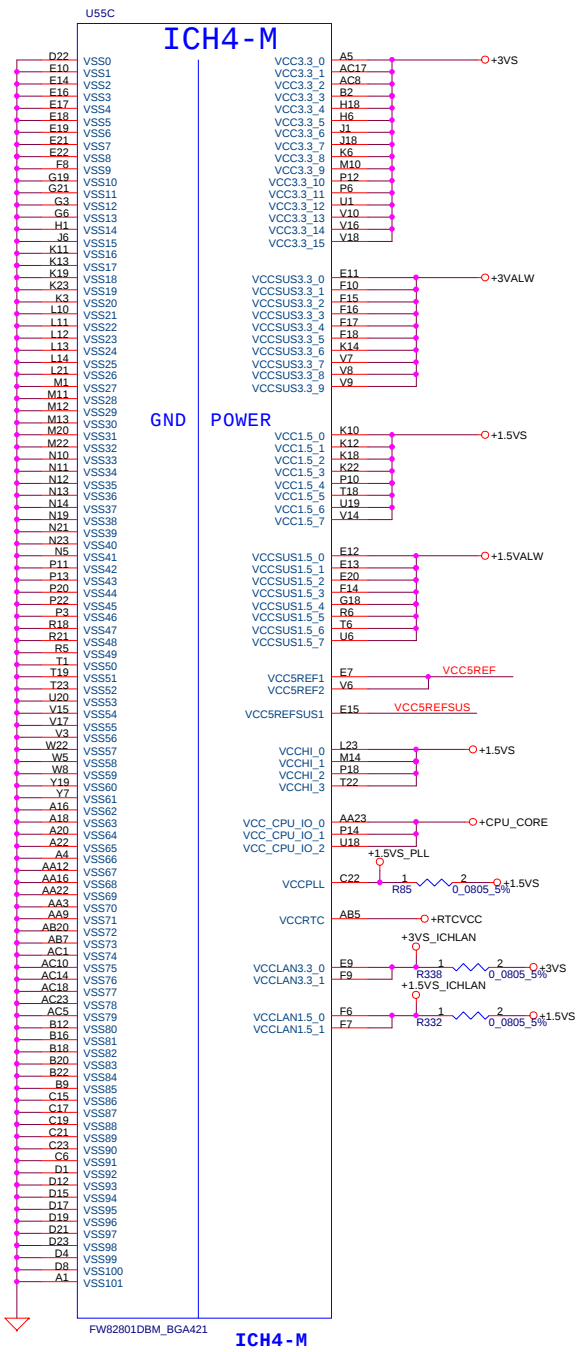


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Compal Electronics, Inc.			
Title Internal LVDS			
Size	Document Number	Rev	
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File **INTEL ICH4(3/3)**

Size Document Number
Ibiza LA-1684

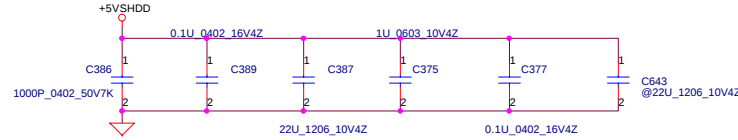
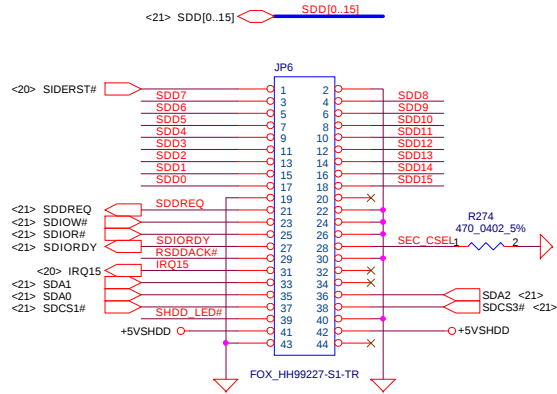
Date: Friday, January 09, 2004

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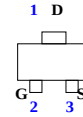
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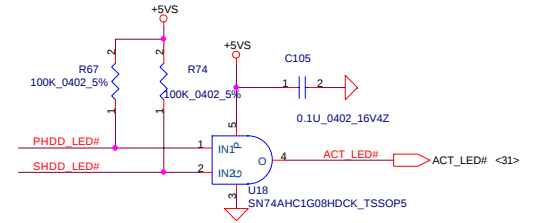
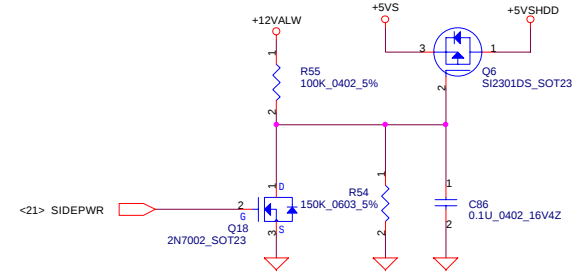
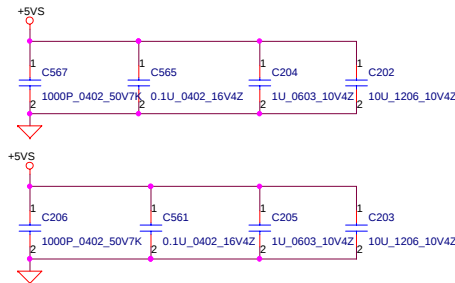
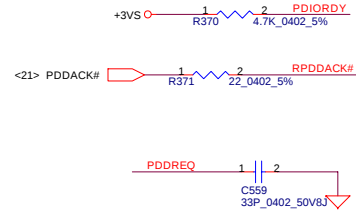
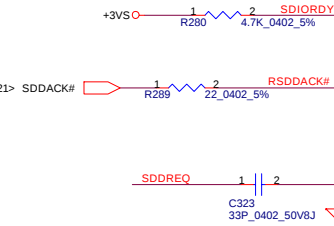
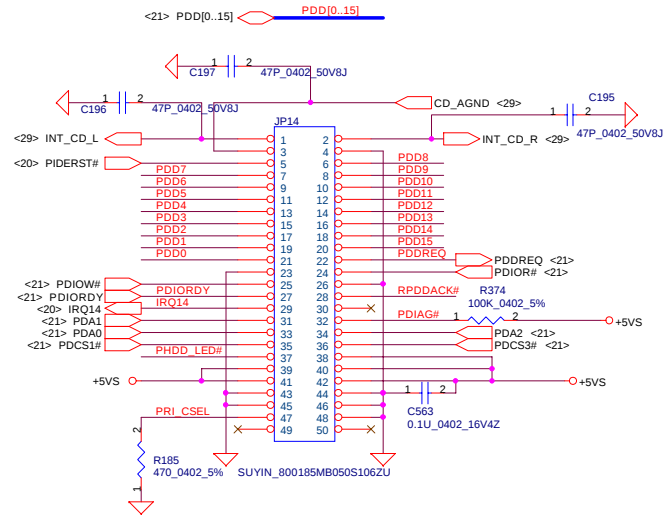
HDD Connector



SI2301DS: P CHANNEL
VGS: -4.5V, RDS: 130 mOHM
VGS: -2.5V, RDS: 190mOHM
Id(MAX): 2.3A
VGS(MAX): +-8V



CD-ROM Connector



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File: IDE/FDD/CD-ROM Module

Size: Document Number
Ibiza LA-1684

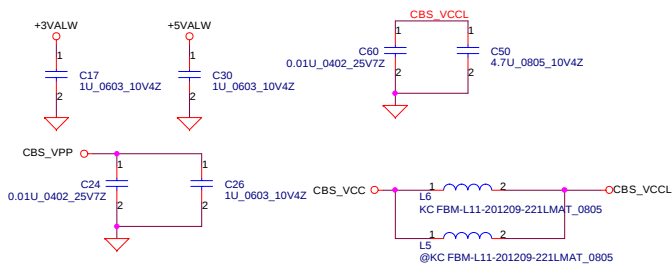
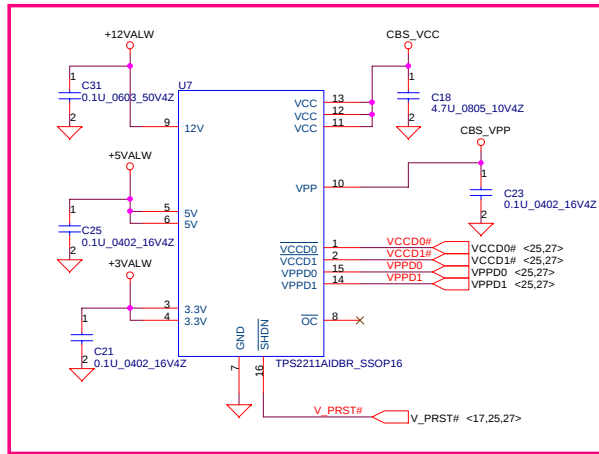
Rev
1.0

Date: Friday, January 09, 2004 Sheet 23 of 48

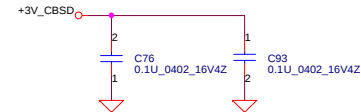
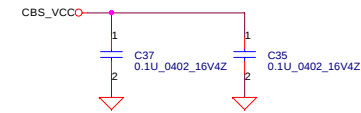
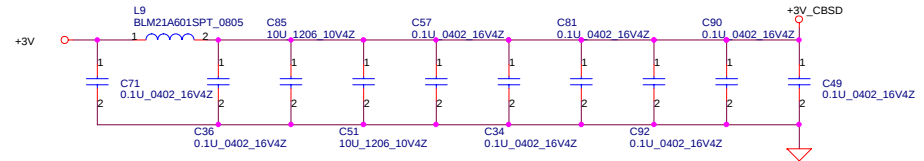
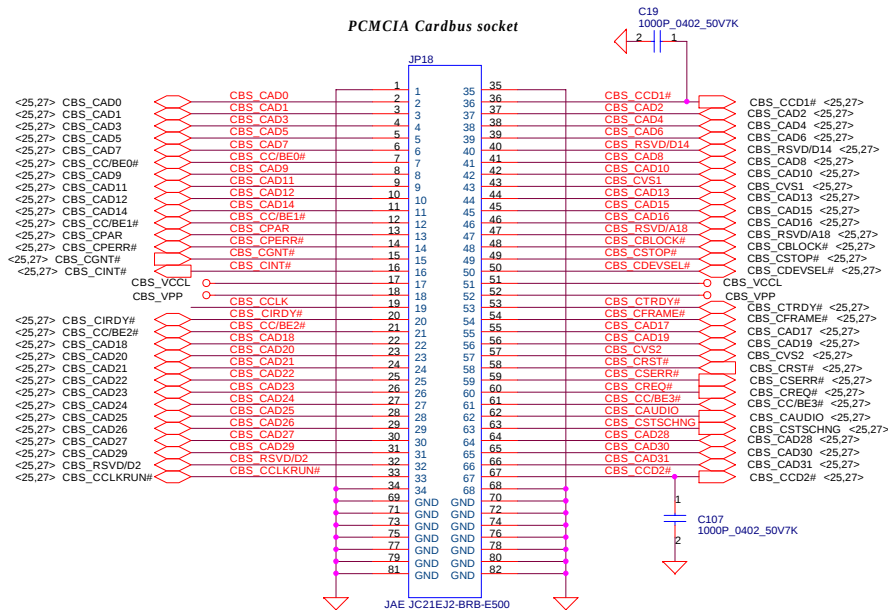
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PCMCIA Power Controller



PCMCIA Cardbus socket



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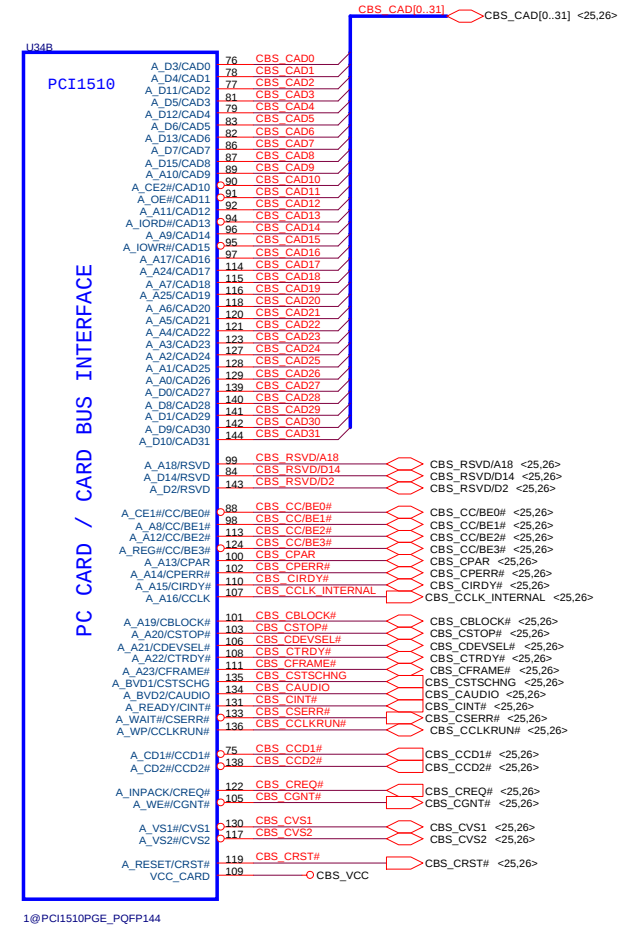
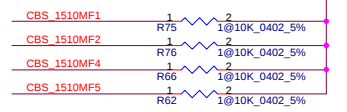
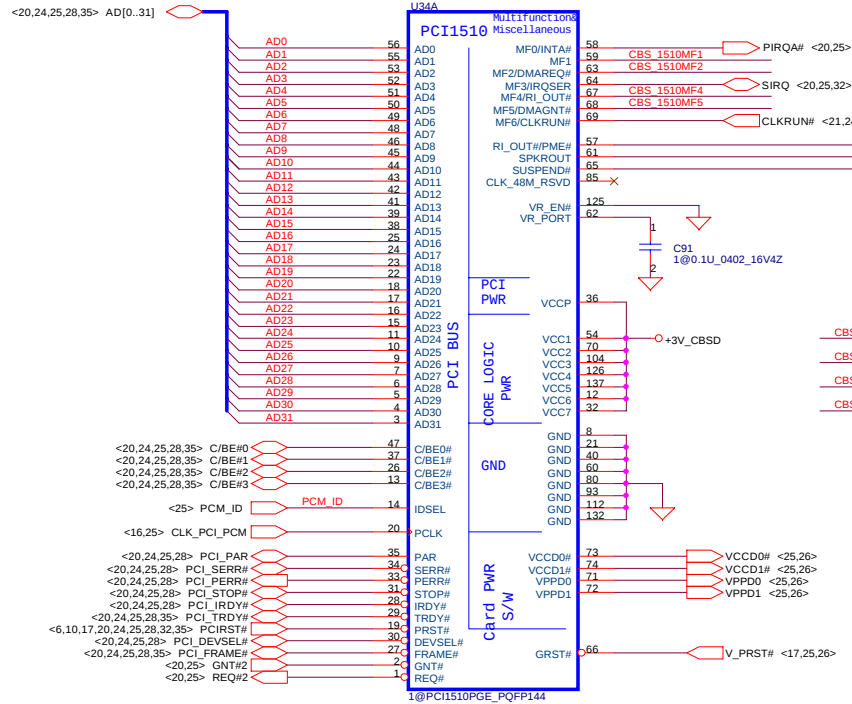
PCMCIA Socket

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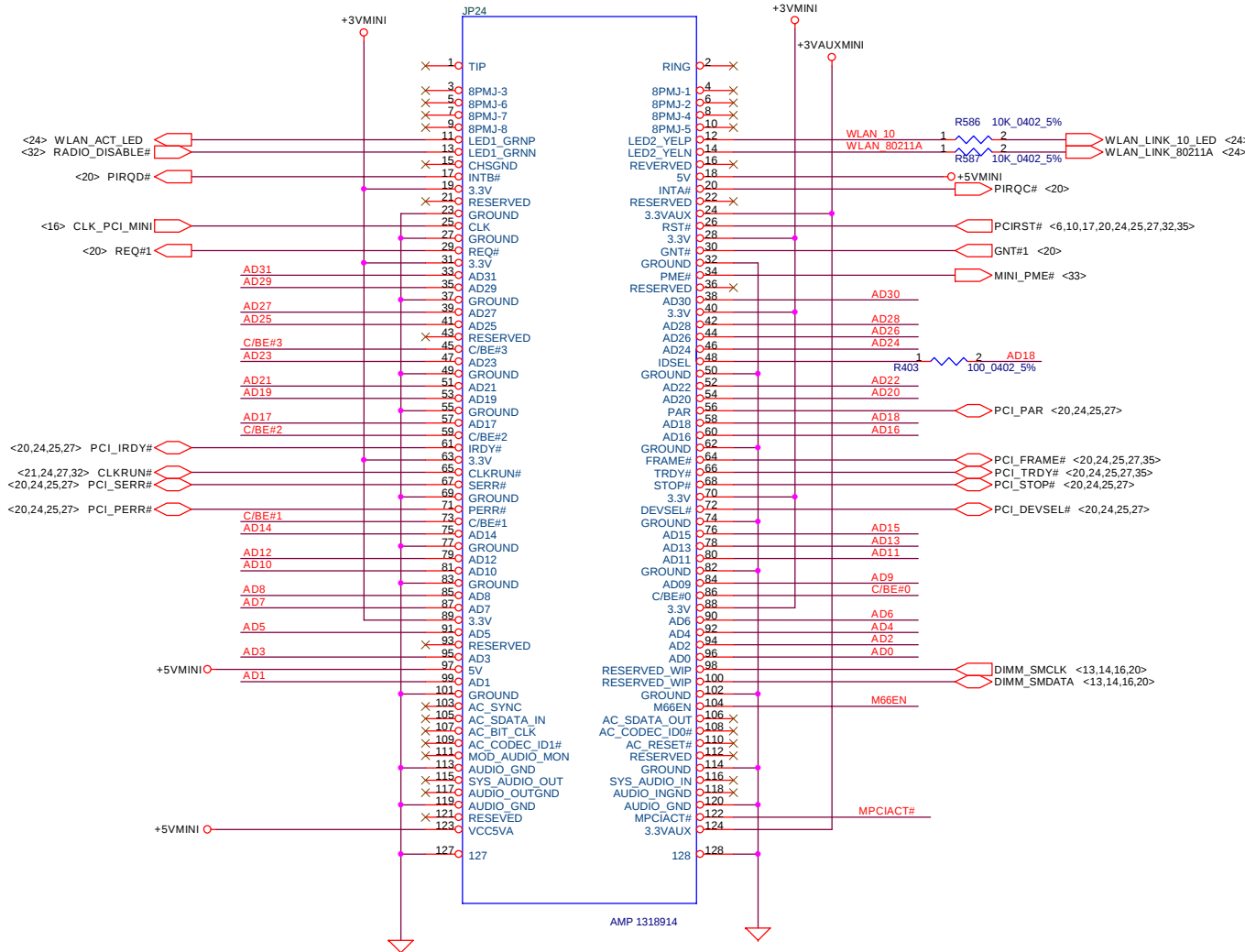
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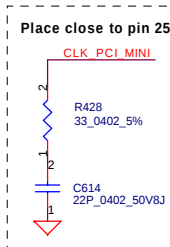
Title			PCMCIA Controller PCI1510
Size	Document Number	Rev	
	Ibiza LA-1684	1.0	
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MINI PCI TYPE III

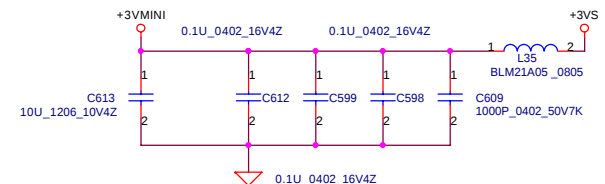
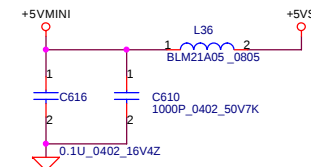
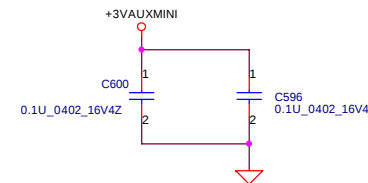
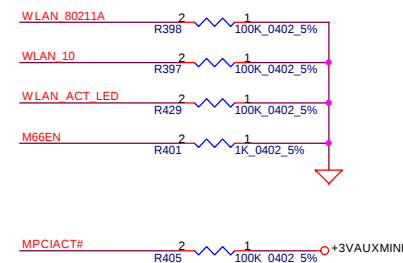
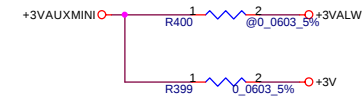


WIRELESS SUPPORT ONLY



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<20,24,25,27,35> C/BE#[0..3] C/BE#[0..3]



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File MiniPci Port

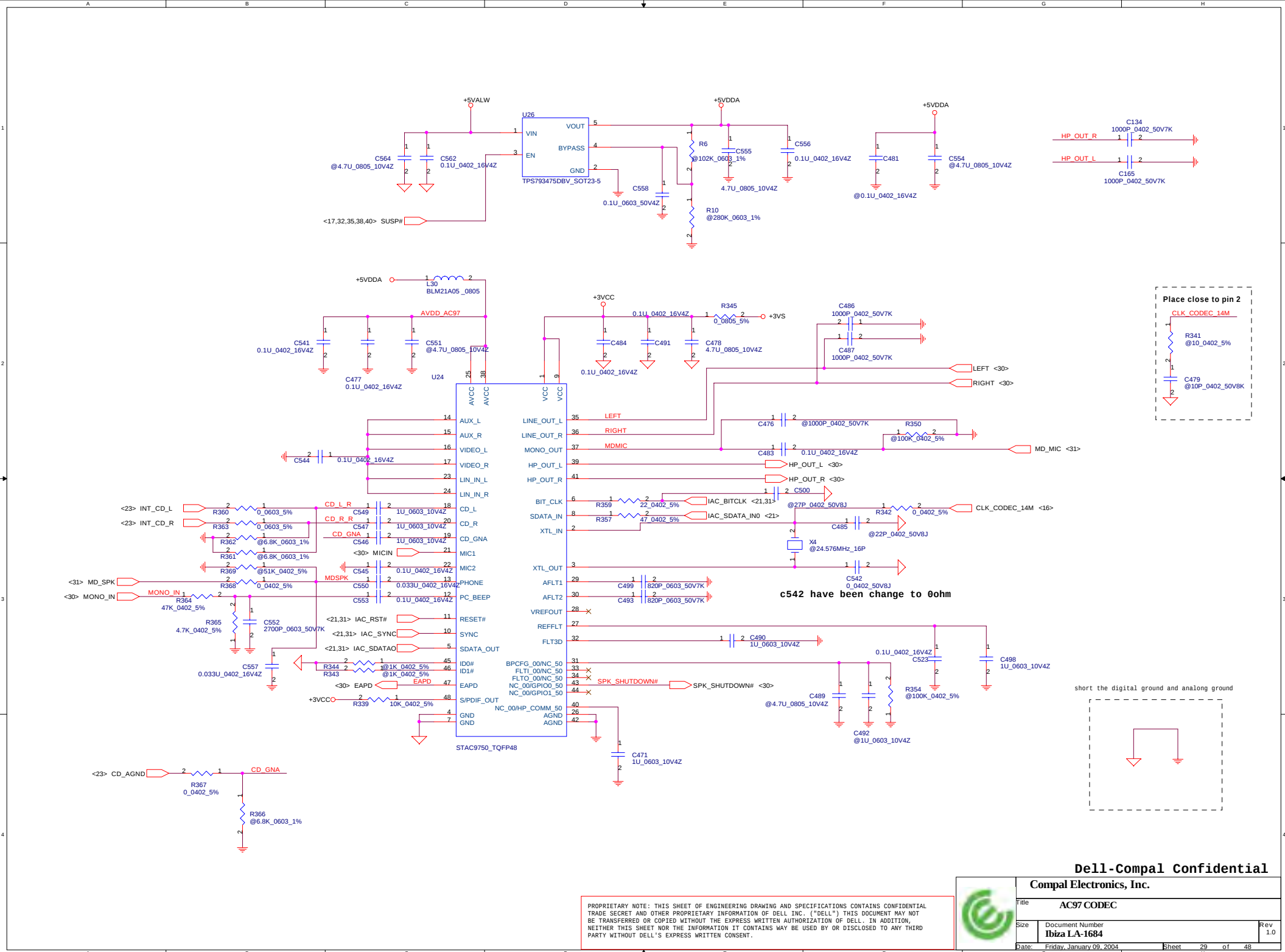
Size Document Number
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File AC97 CODEC

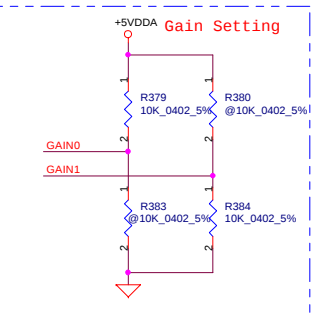
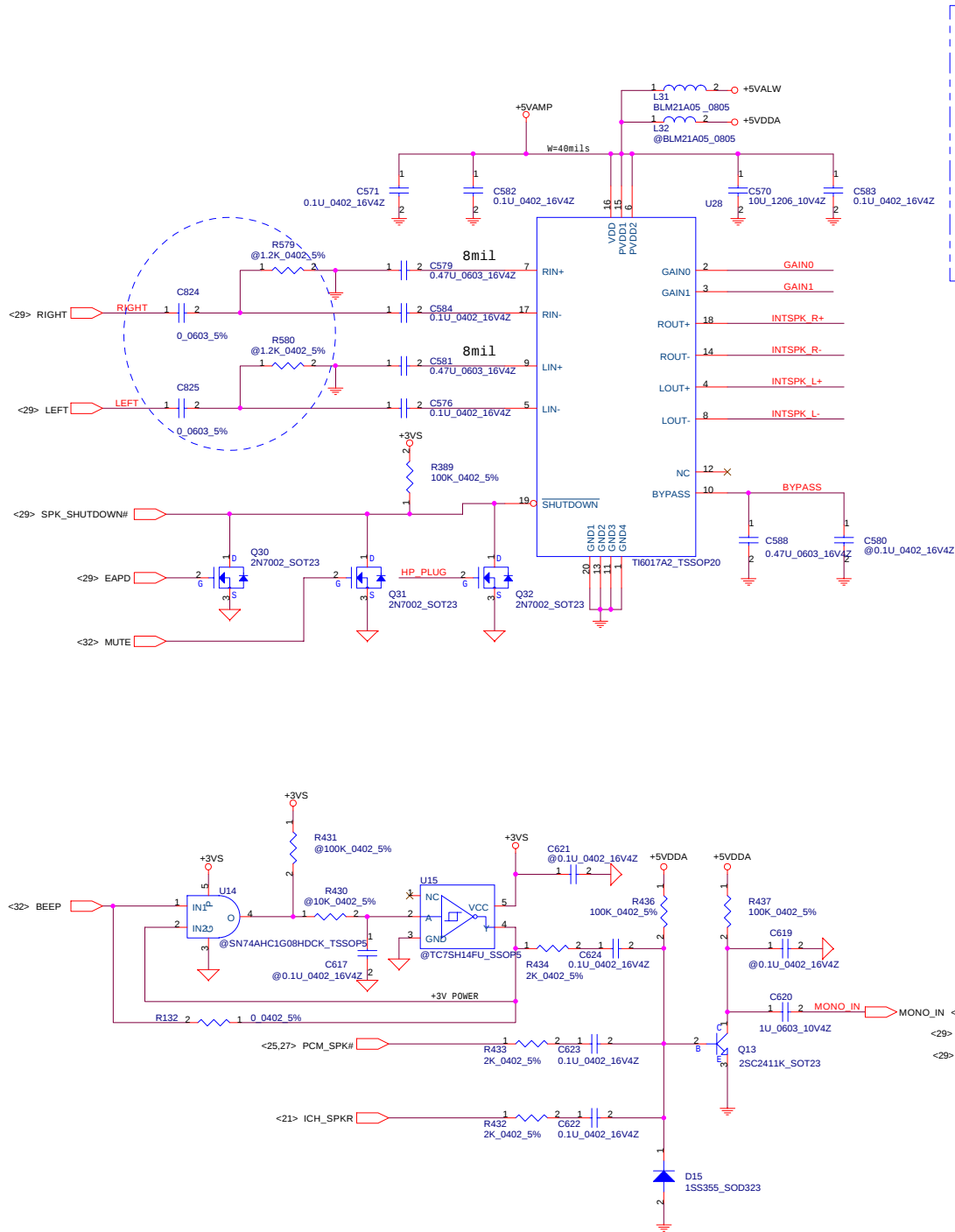
Size Document Number
Ibiza LA-1684

Date: Friday, January 09, 2004

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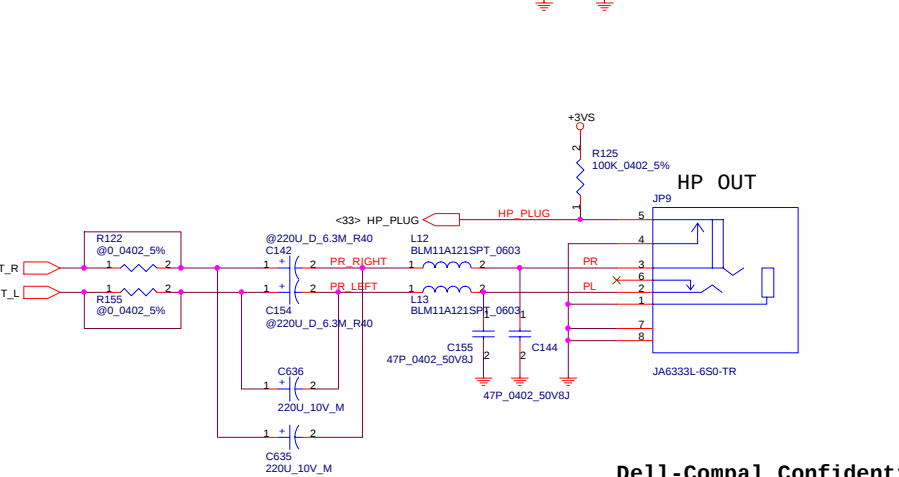
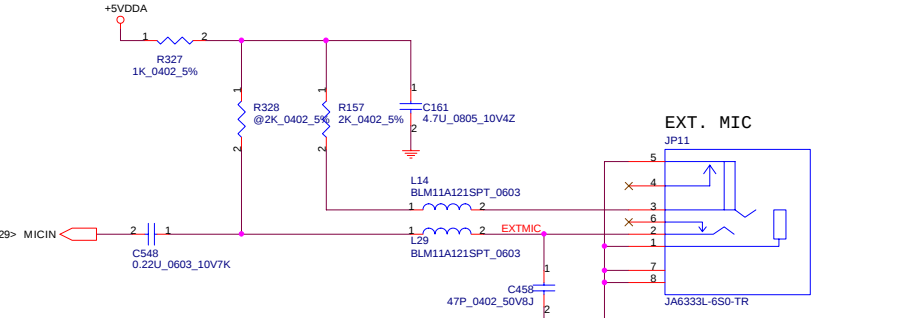
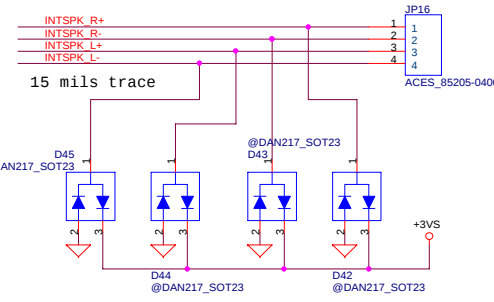
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GAIN0	GAIN1	AV(inv)	INPUT IMPEDANCE
0	0	6dB	90K ohm
0	1	10dB	70K ohm
1	0	15.6dB	45K ohm
1	1	21.6dB	25K ohm

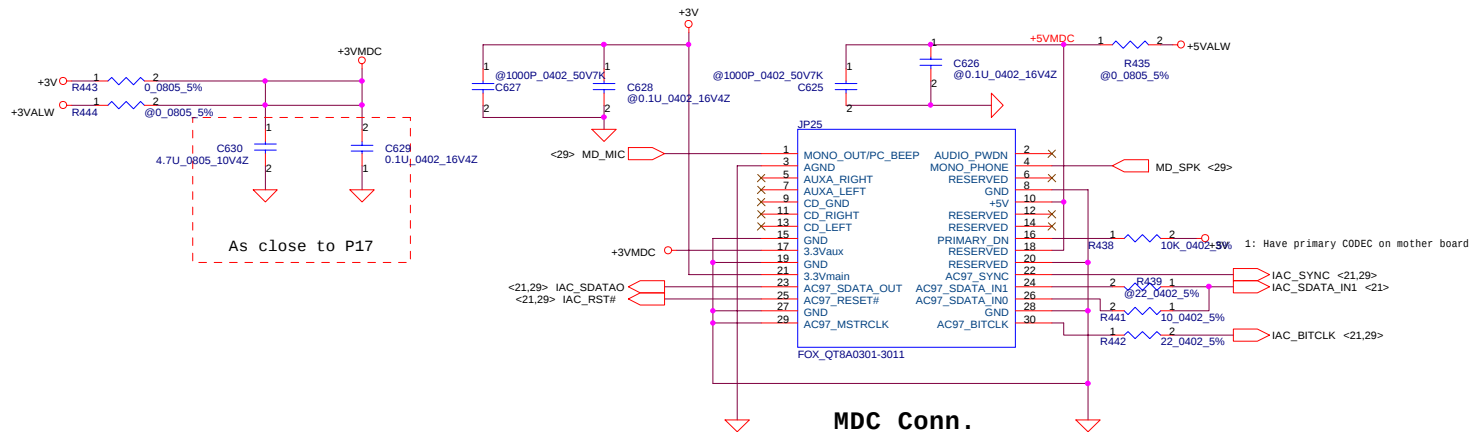
Speaker Connector



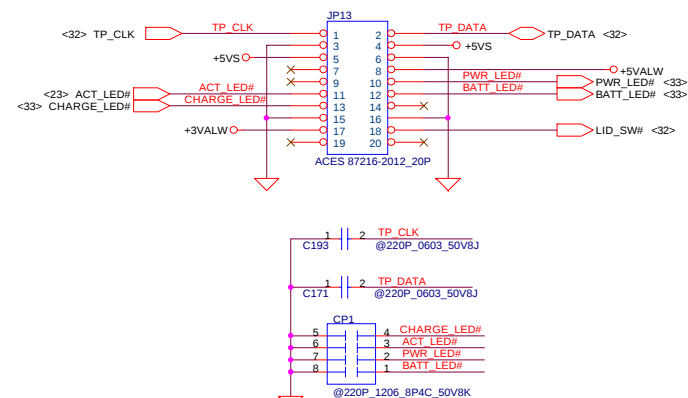
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			Compal Electronics, Inc.		
AMP & Audio Jack					
Size	Document Number				Rev
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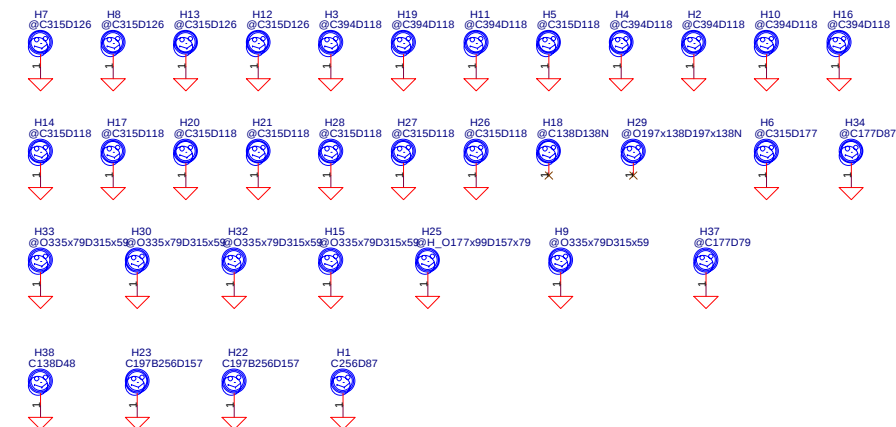
Touch Pad & Status LED Conn.



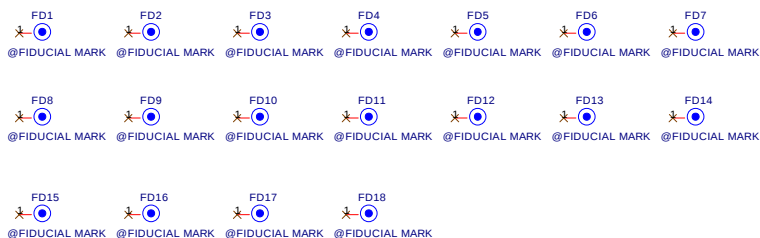
MDC Note

Pin 1 is NC for Pctel and connexant MDC modem
Pin 2 is NC for Pctel and connexant MDC modem

Screw Hole



Fiducial Mark



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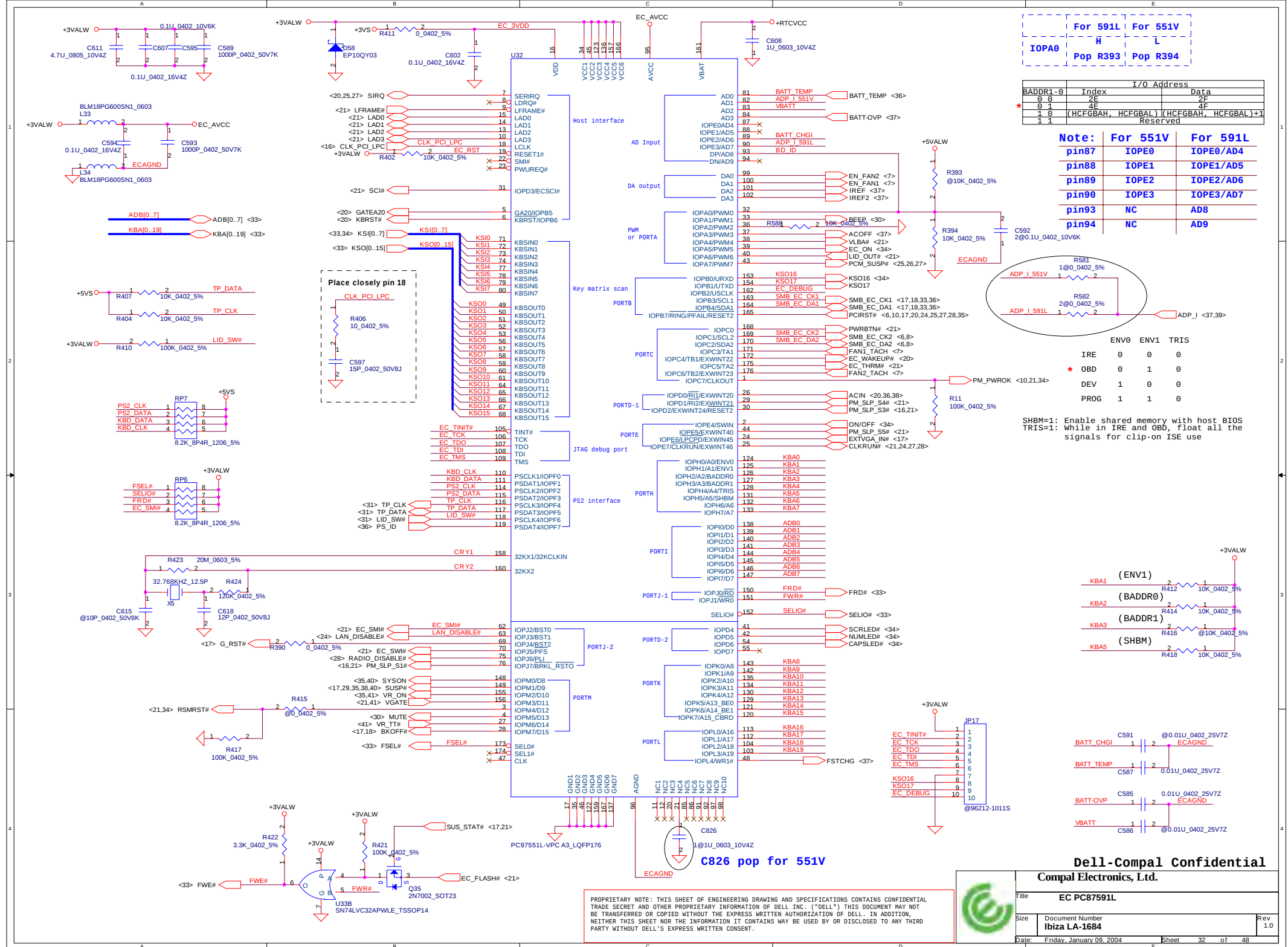
Title MDC/SWITCH Connector

Size Document Number
Ibiza LA-1684

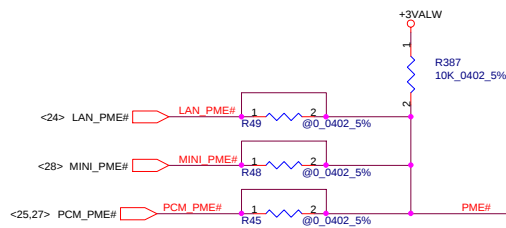
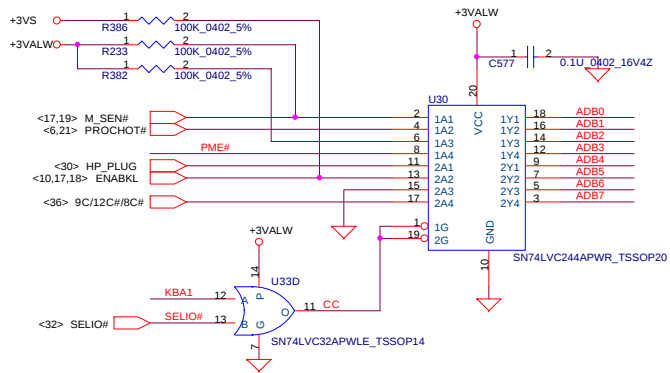
Rev 1.0

Date: Friday, January 09, 2004

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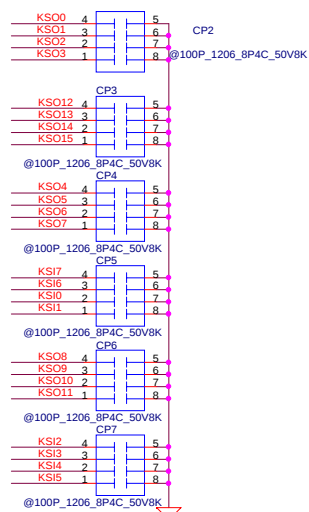
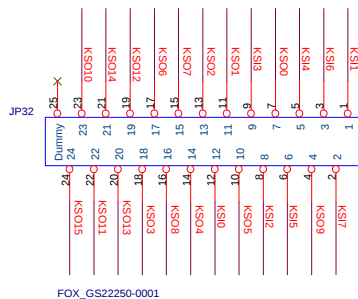


Input Port



Internal KB connector

INT_KBD CONN.

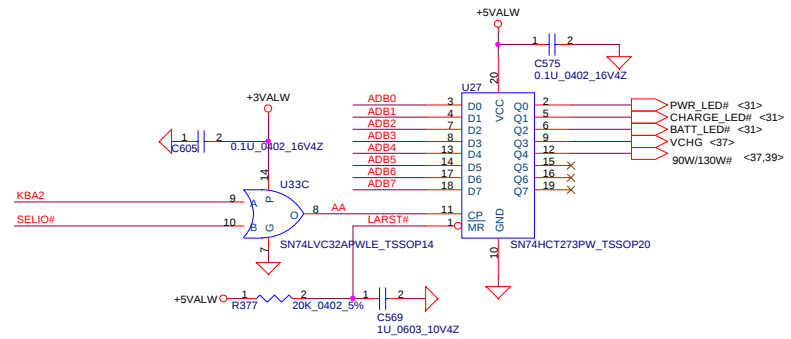


can swap

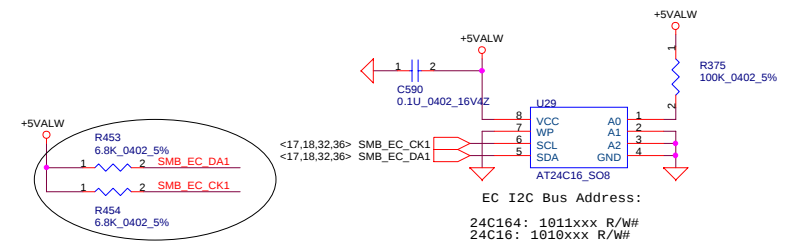
<32> KSO[0..15] KSO[0..15]

<32,34> KSI[0..7] KSI[0..7]

Output Port



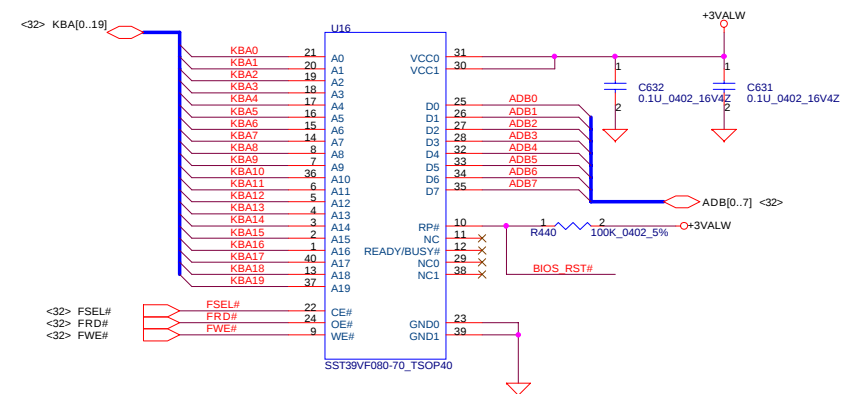
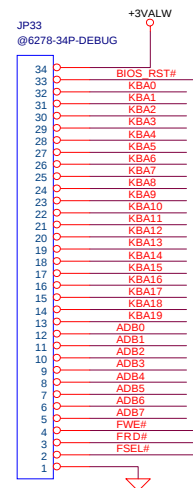
NM24C164 Address definition: 1 A2 A1# A0 B2 B1 B0 R/W#



EC I2C Bus Address:

24C164: 1011xxx R/W#

24C16: 1010xxx R/W#



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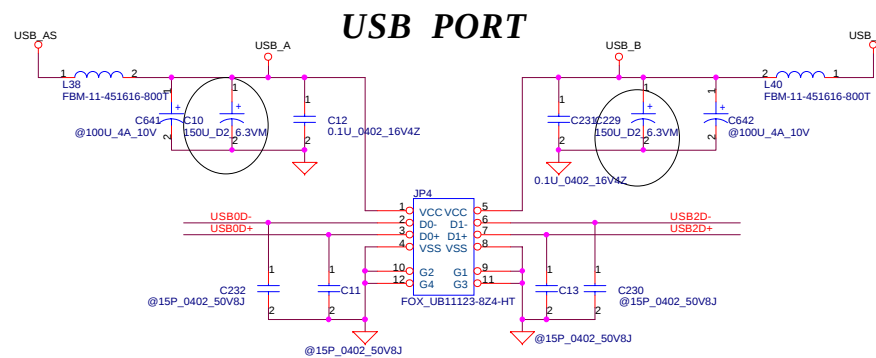
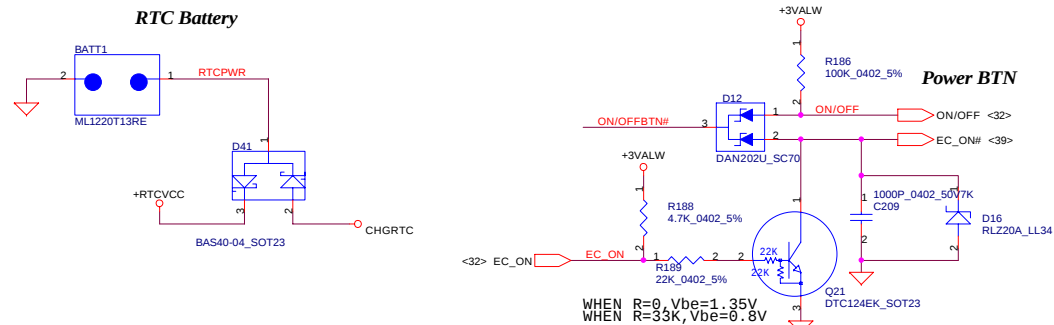
Title	EC Extend I/O KB Conn. & BIOS
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Size	Document Number Ibiza LA-1684
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USB PORT

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Title	Power OK/Reset/RTC battery/USB Conn
-------	--

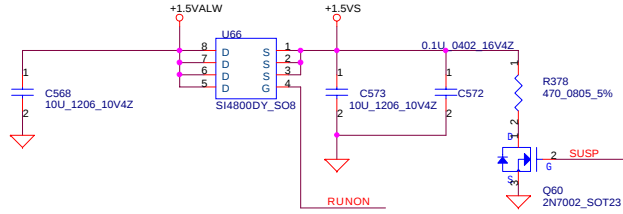
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Rev	1.0
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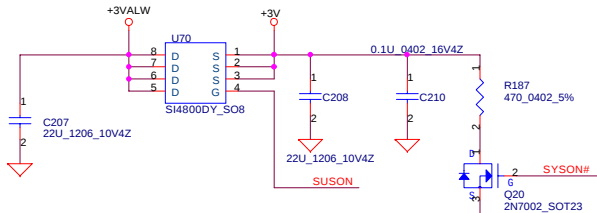
Date: Friday, January 09, 2004 Sheet 34 of 48

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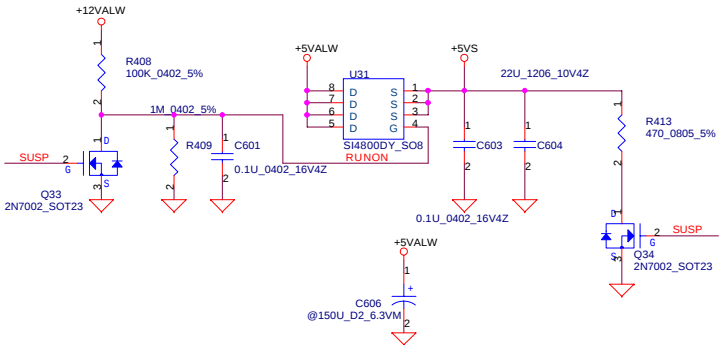
+1.5VALW to +1.5VS Transfer



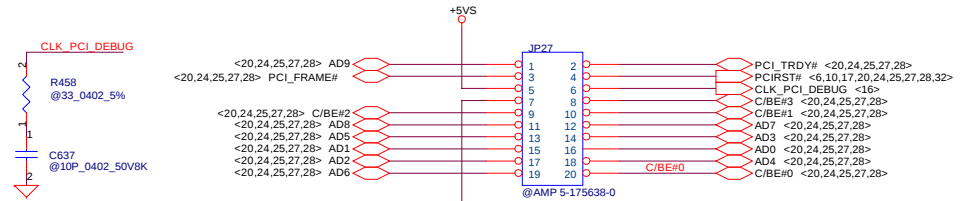
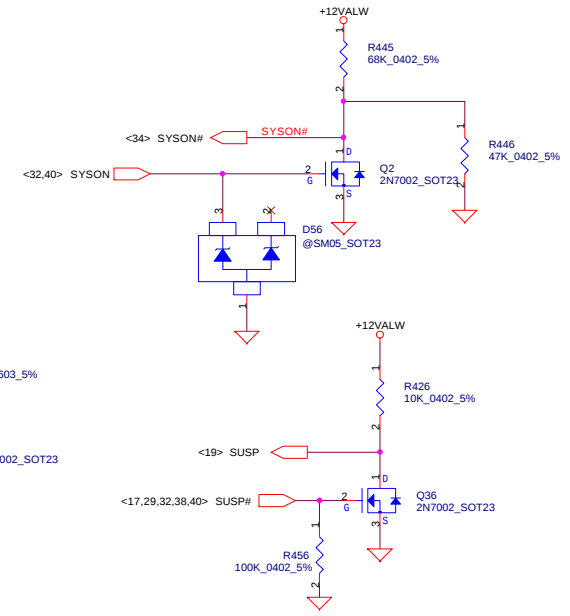
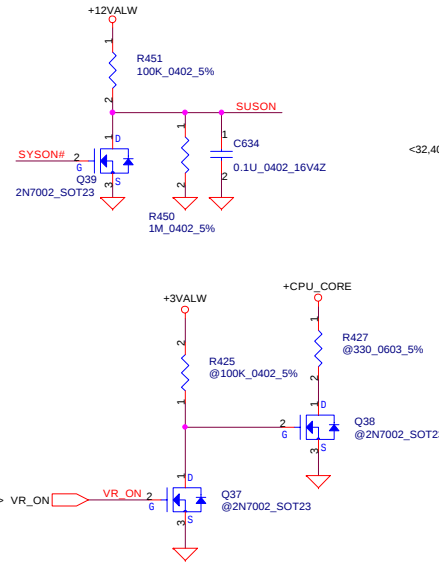
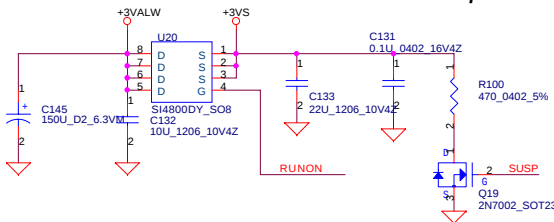
+3VALW to +3V Transfer



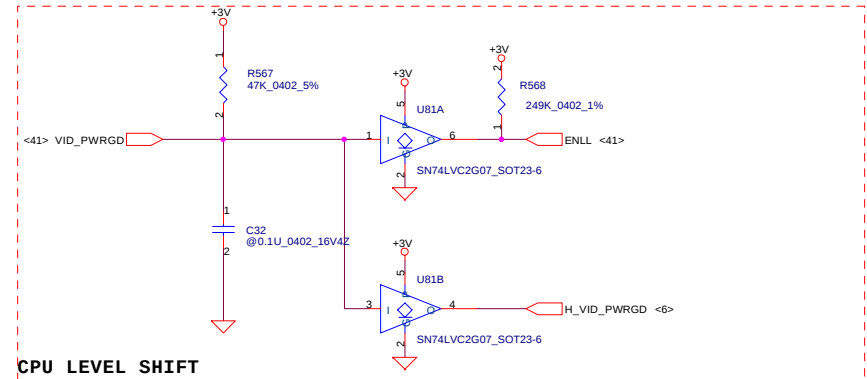
+5VALW to +5VS Transfer



+3VALW to +3VS Transfer



Debug PORT



CPU LEVEL SHIFT

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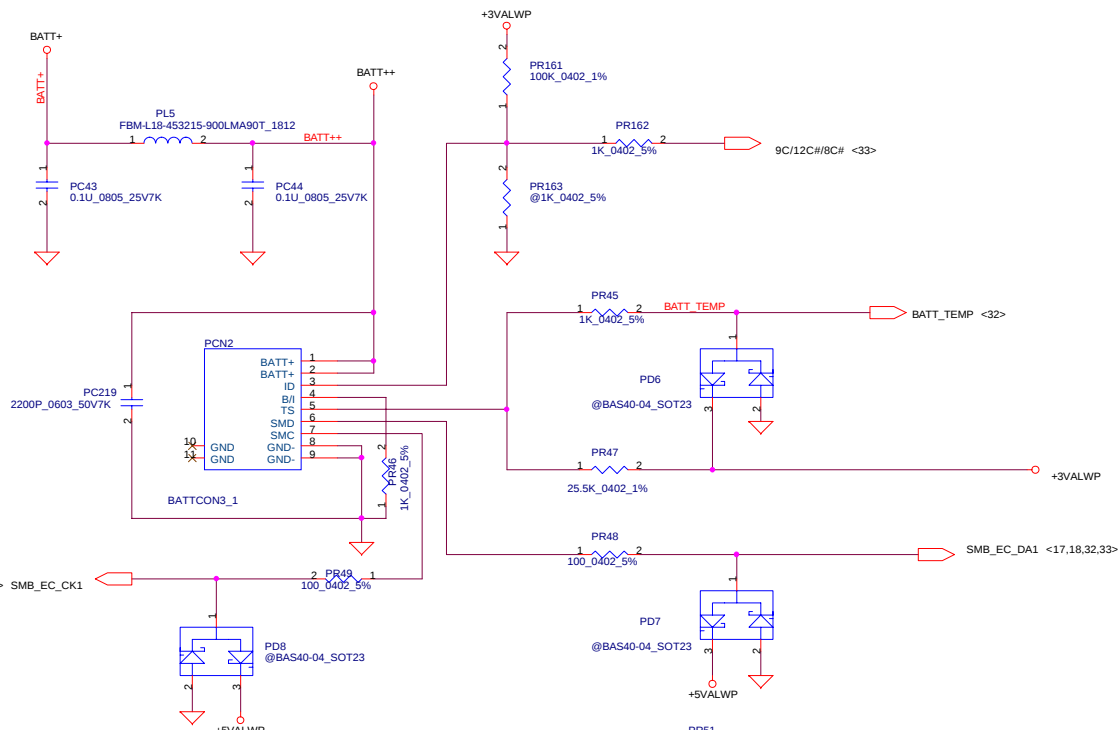
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Size Document Number
Ibiza LA-1684

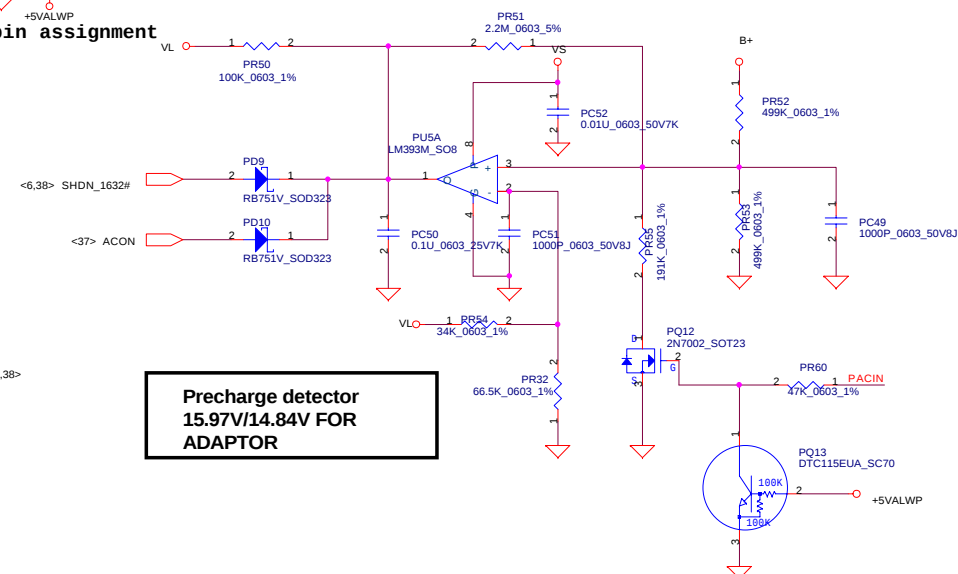
Date: Friday, January 09, 2004

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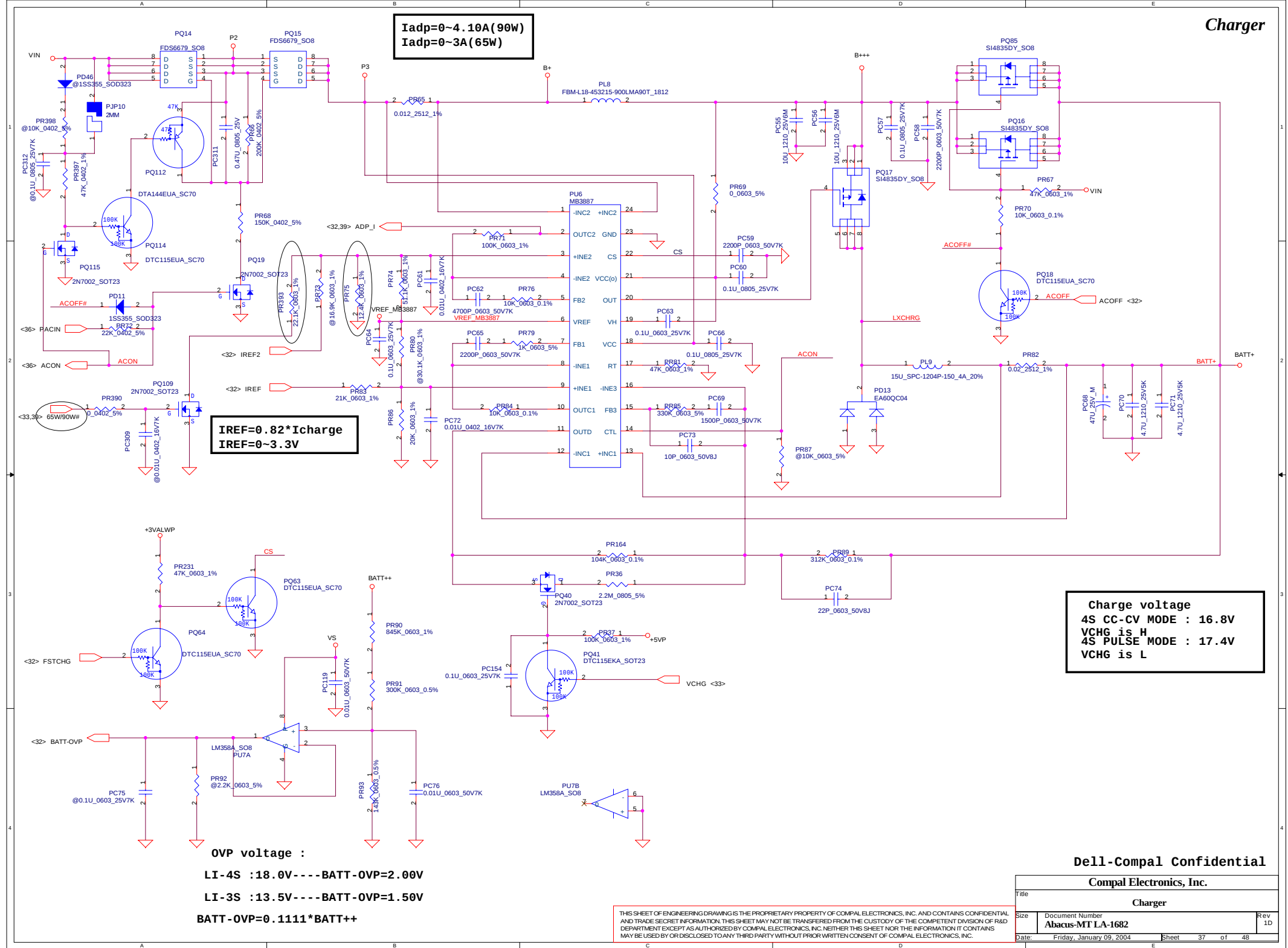
SMART Battery:
1.BATT+
2.BATT+
3.9C/12C#/8C#
4.B/I
5.TS
6.SMB_EC_DA1
7.SMB_EC_CK1
8.GND
9.GND



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

Title		Detector		Revision
Size	Document Number Abacus-MT LA-1682			Rev 1
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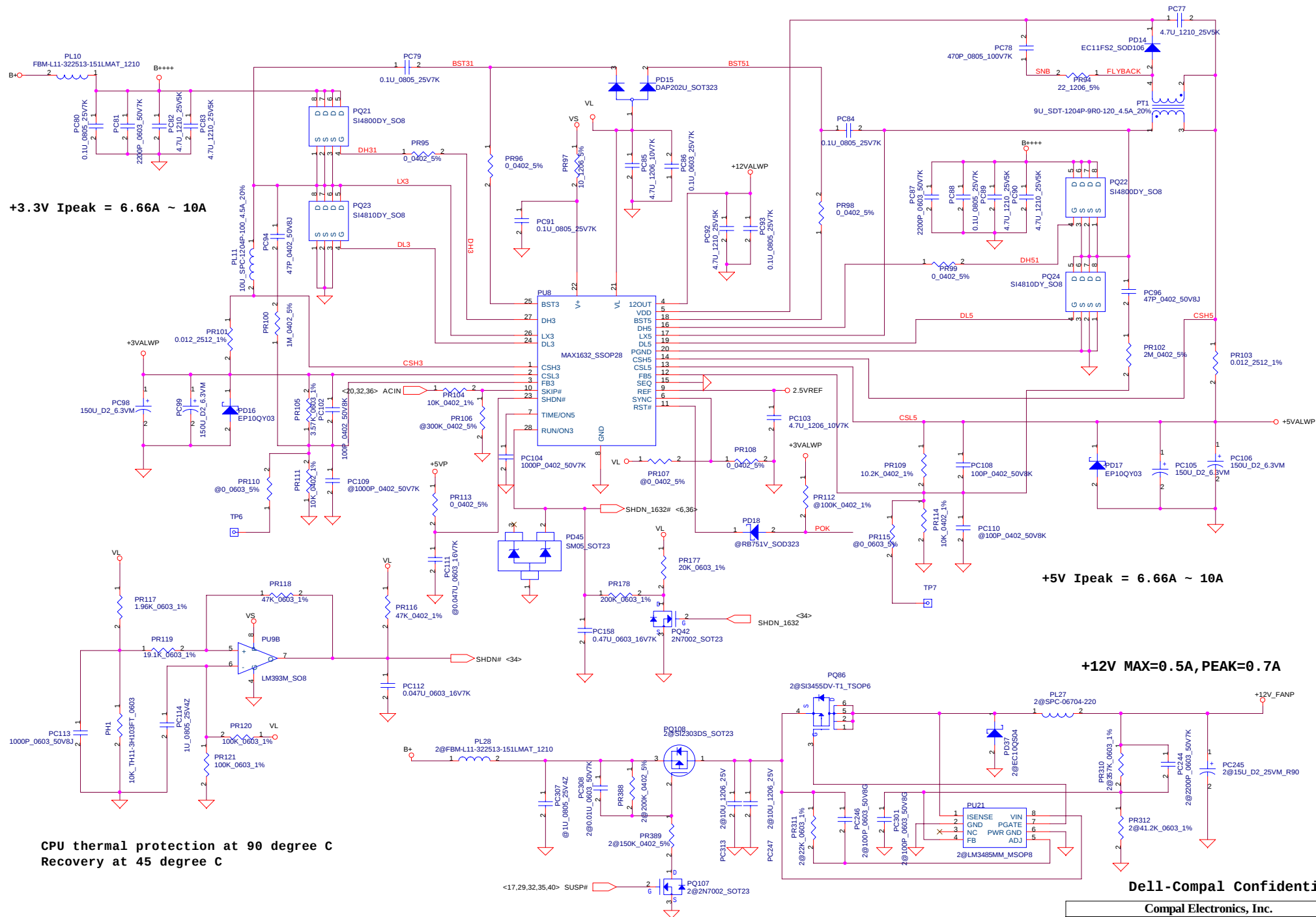


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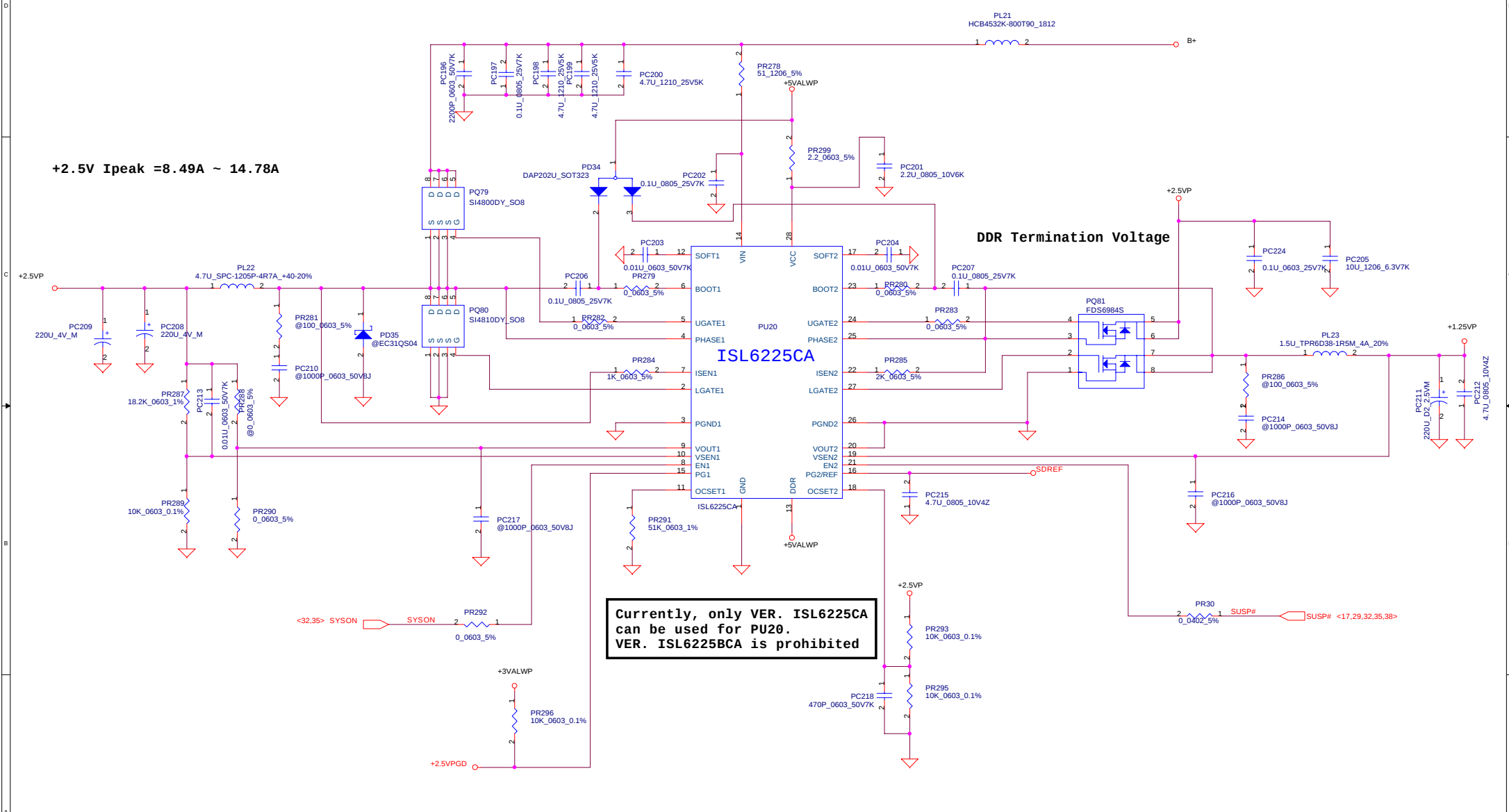
Charger

Title			
Size	Document Number	Rev	
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+2.5V/+1.25V

+2.5V I_{peak} = 8.49A ~ 14.78A



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Title			
DDR POWER 2.5V & 1.25V			
Size	Document Number		Rev
B	Abacus-MT LA-1682		1C
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