Prescott & Springdale Schematic with Capture CIS and Function field

uFCPGA Prescott

2003-03-14

REV: X00-G

Cature library ball out check document

Prescott : Prescott processor Electrial,Mechanical and Thermal Specification Rev0.5 [Check by HW:Henry,Steve]

Springdale(GMCH): Springdale GMCH External Design Specification (EDS) REV1.0 [Check by HW: Henry,Rita]

ICH5: N/A

@ : Depop Component
1@ : Depop on Nimitz(Inspiron)
2@ : Depop on Beijing(Precision)

Compal Electronics, Inc.
Title
Cover Sheet
Size
Document Number
LA-1711
Rev
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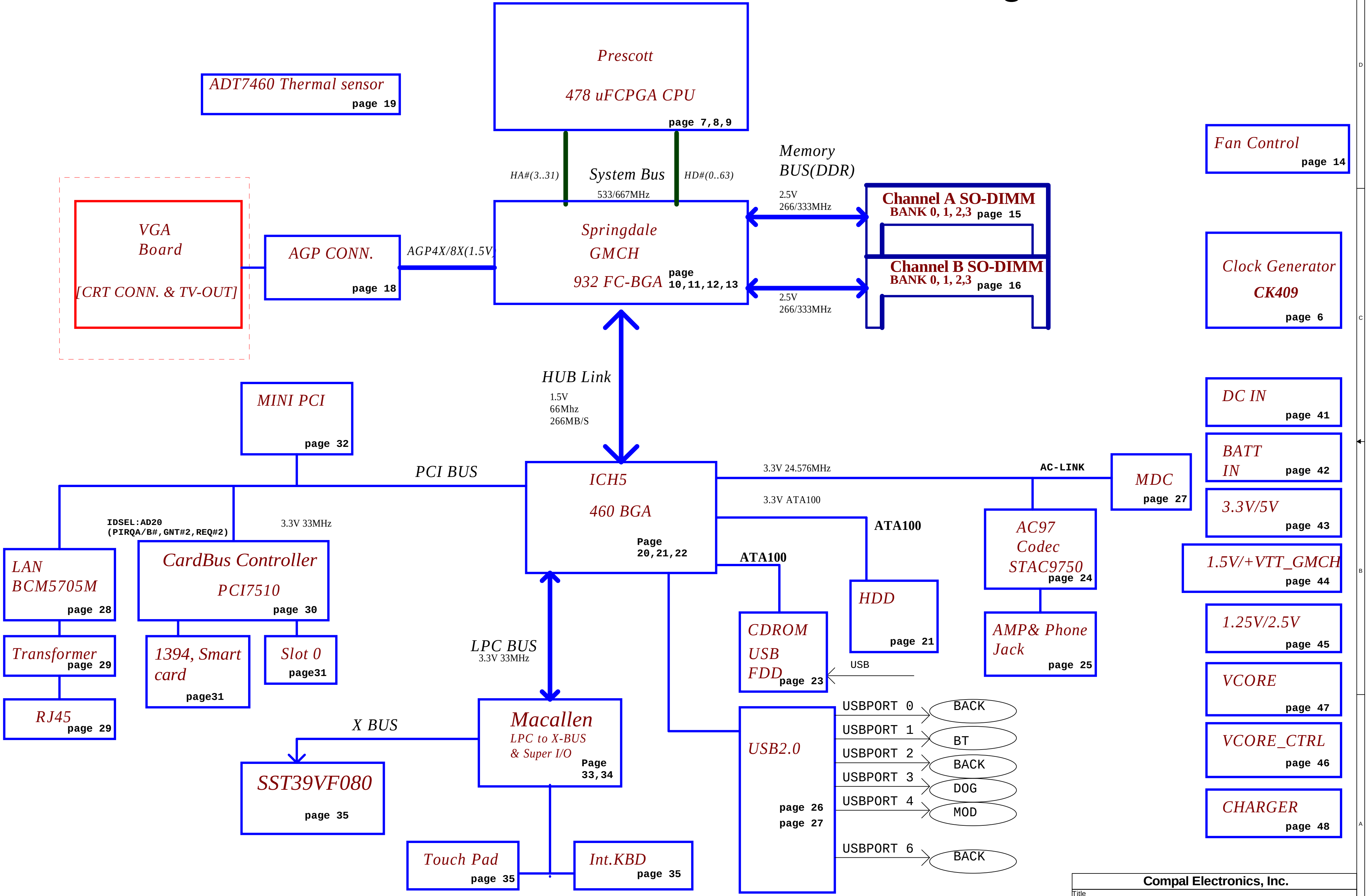
Compal confidential

Block Diagram



Compal Electronics, Inc.

Title
Block Diagram

Size
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LA-1711
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PM TABLE

State \ power plane	+3VALW +5VALW	+3VSUS +5VSUS +2.5V_MEM	+3VRUN +5VRUN +1.5VRUN +VCC_CORE +12V +VCCVID V_1P25V_DDR_VTT
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

PCI TABLE

PCI DEVICE	IDSEL	REQ#/GNT#	PIRQ
CARD BUS	AD17	1	D,C
LAN	AD16	4	C
MINI PCI	AD19	3	D,B(NP)
VGA			A,B(NP)

Note : "@" means all model depop
"1@" means Nimitz depoped only
"2@" means Beijing depoped only

USB TABLE

USB PORT#	DESTINATION
0	BACK
1	BT
2	BACK
3	DOG
4	MOD
5	Reserved
6	BACK
7	Reserved

Function \ Model	Nimitz	Beijing
Smart Card	YES	YES
LAN	10/100 (4401)	1000 (5705M)
Dog House	YES	YES

Configuration List

BOM Structure		
Function		

Compal Electronics, Inc.
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Index and Config.
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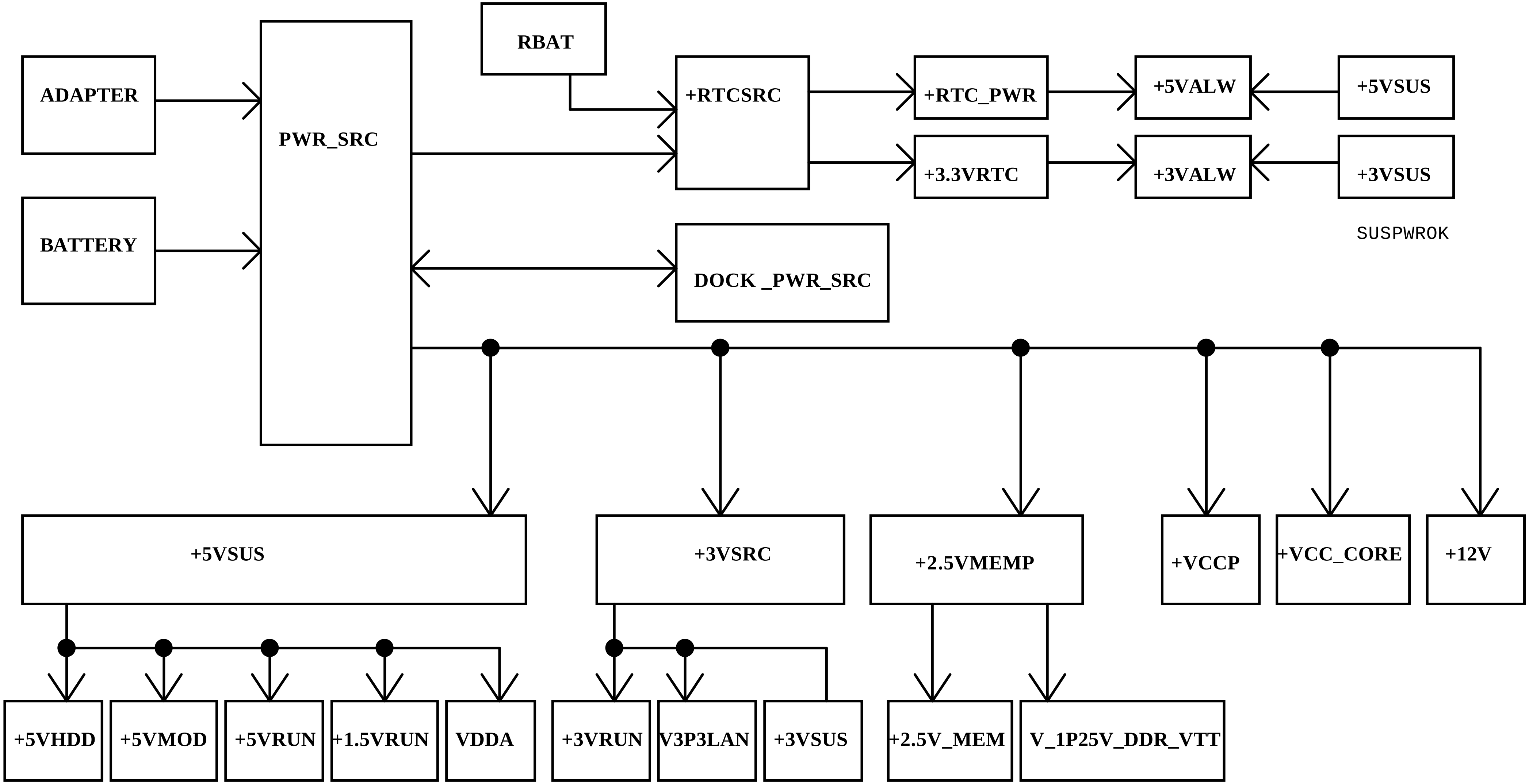

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Title

Power Rail

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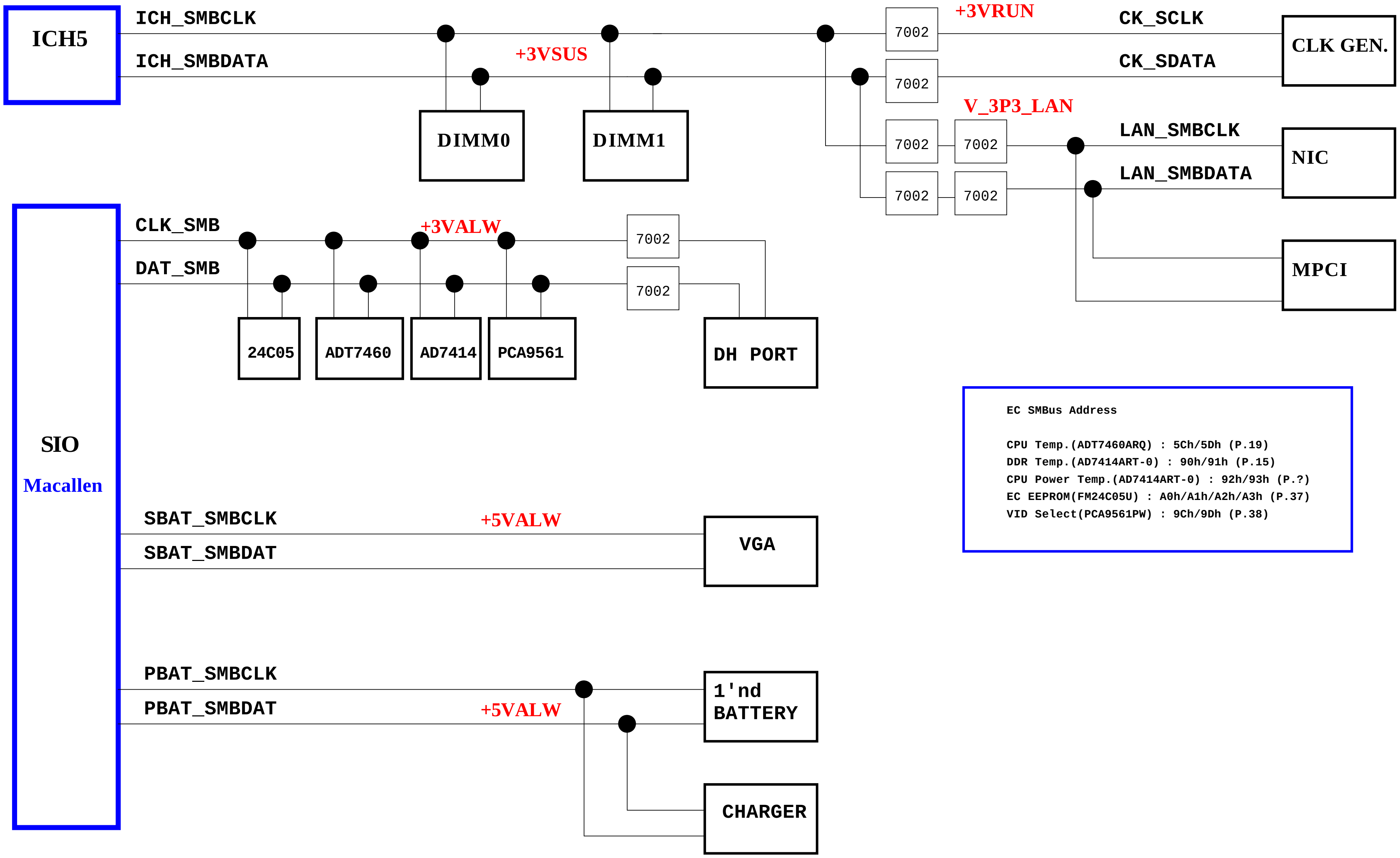

EC SMBus Address

CPU Temp.(ADT7460ARQ) : 5Ch/5Dh (P.19)
DDR Temp.(AD7414ART-0) : 90h/91h (P.15)
CPU Power Temp.(AD7414ART-0) : 92h/93h (P.?)
EC EEPROM(FM24C05U) : A0h/A1h/A2h/A3h (P.37)
VID Select(PCA9561PW) : 9Ch/9Dh (P.38)

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SMBUS TOPOLOGY
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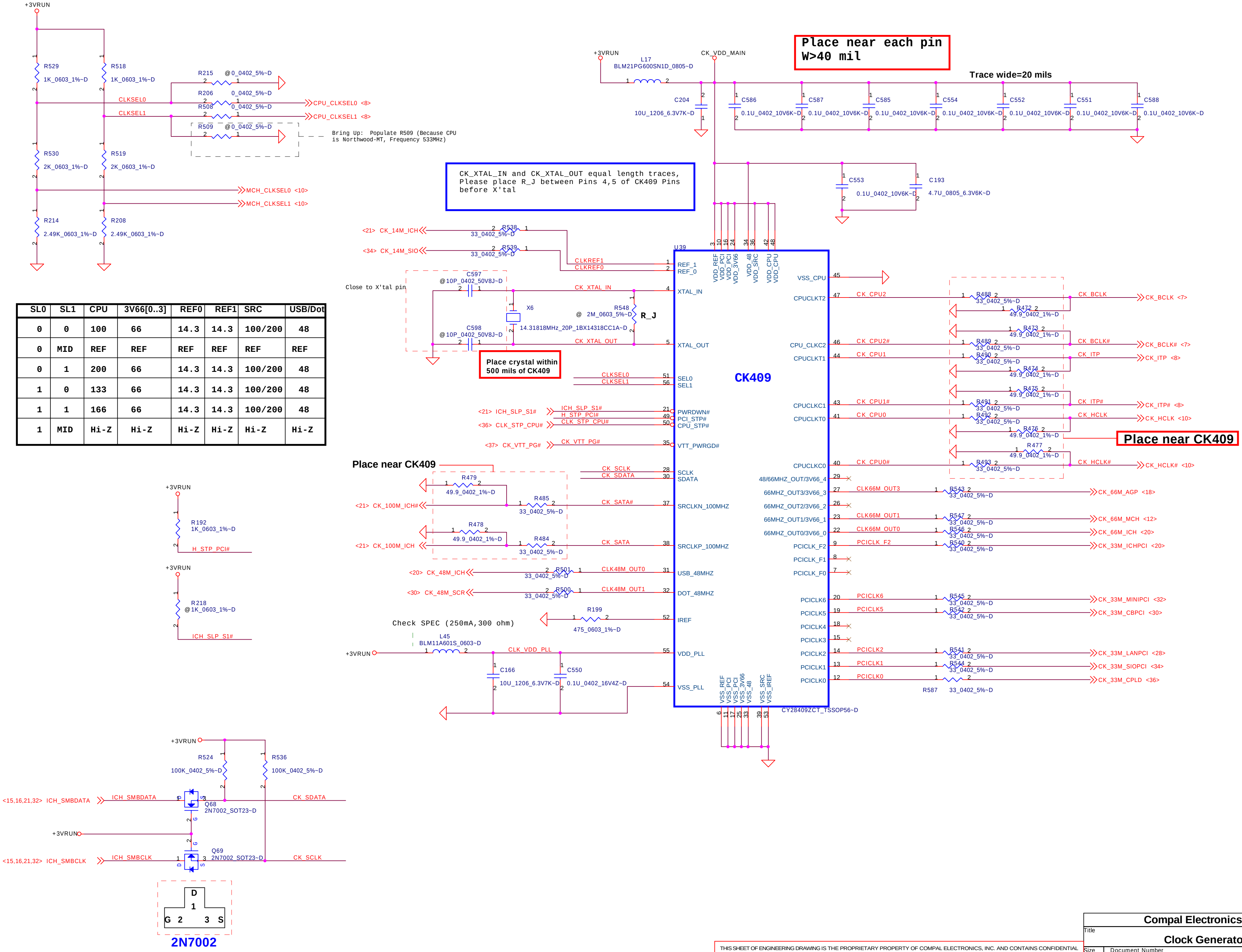

Place near each pin
W>40 mil

Trace wide=20 mils

Bring Up: Populate R509 (Because CPU is Northwood-MT, Frequency 533MHz)

CK_XTAL_IN and CK_XTAL_OUT equal length traces, Please place R_J between Pins 4,5 of CK409 Pins before X'tal

Close to X'tal pin

Place crystal within 500 mils of CK409

Place near CK409

Place near CK409

Check SPEC (250mA,300 ohm)

SL0	SL1	CPU	3V66[0..3]	REF0	REF1	SRC	USB/Dot
0	0	100	66	14.3	14.3	100/200	48
0	MID	REF	REF	REF	REF	REF	REF
0	1	200	66	14.3	14.3	100/200	48
1	0	133	66	14.3	14.3	100/200	48
1	1	166	66	14.3	14.3	100/200	48
1	MID	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Hi-Z

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Title
Clock Generator

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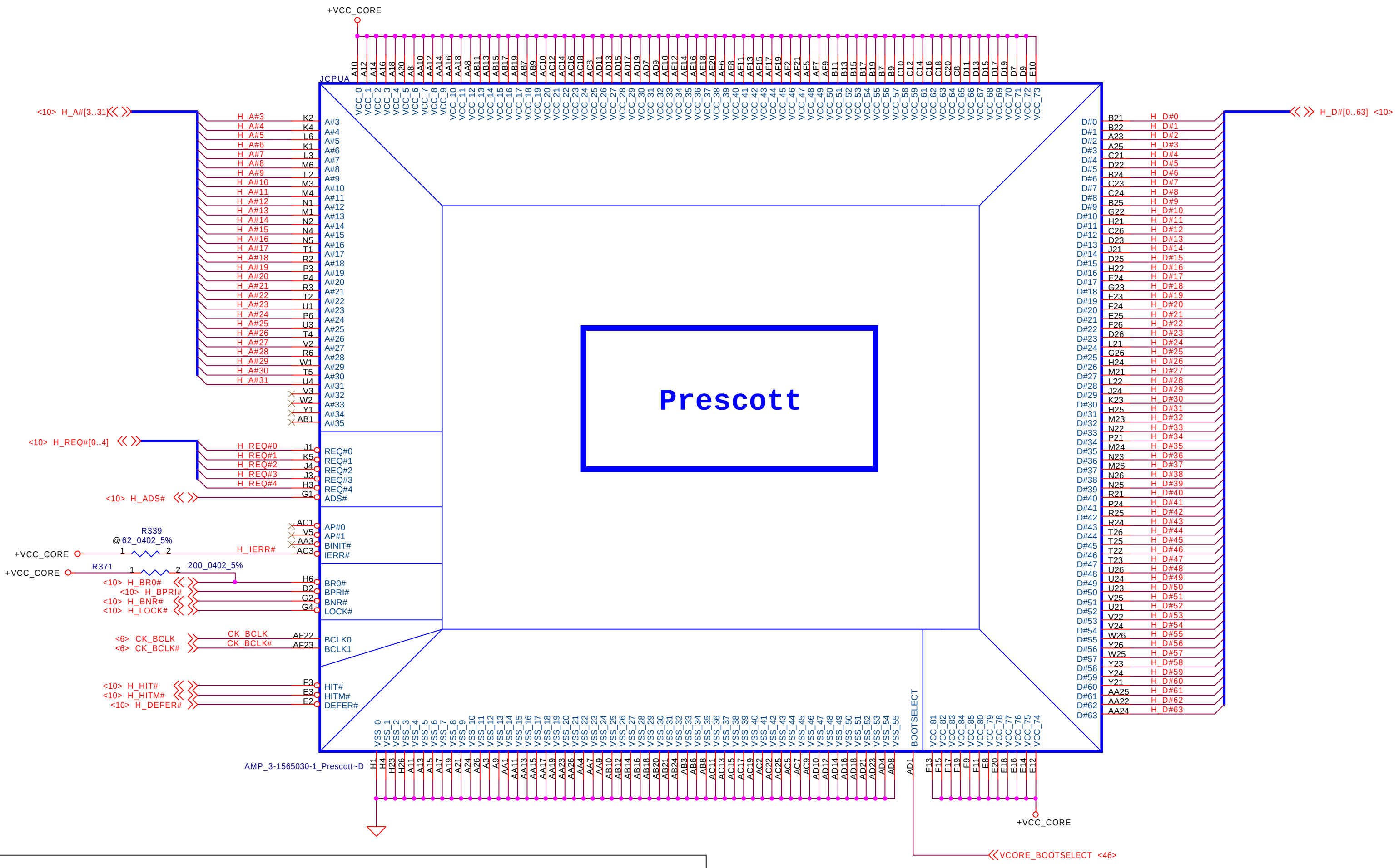

Reference Intel document
Desktop P4 Spec.: 10988 P4 0.13u 512KB L2 EMTS Rev.2.0

Desktop Prescott Spec.: 11910 Prescott EMTS Rev.0.5

Pin number	Northwood Pin name	Comment	Prescott Pin name	Comment	Northwood MT Pin name	Comment	Northwood	Prescott	Northwood MT
A6	TESTHI11	Pull-up 200ohm to +VCC_CORE	TESTHI11	Pull-up 62ohm to +VCC_CORE	GHI	Connect to PLD CPUPREF through 0ohm	Pop	Pop	Pop
B6	FERR#	Pull-up 62ohm to +VCC_CORE	FERR#/PBE#	Pull-up 62ohm to +VCC_CORE	FERR#	Pull-up 62ohm to +VCC_CORE	Pop	Pop	Pop
AA20	ITPCLKOUT0	Pull-up56ohm to +VCC_CORE	TESTHI6	Pull-up 62ohm to +VCC_CORE	ITPCLKOUT0	Pull-up56ohm to +VCC_CORE	Pop	Pop	Pop
AB22	ITPCLKOUT1	Pull-up 56ohm to +VCC_CORE	TESTHI7	Pull-up 62ohm to +VCC_CORE	ITPCLKOUT1	Pull-up 56ohm to +VCC_CORE	Pop	Pop	Pop
AD2	NC	float	VIDPWRGD	Pull-up 2.43K ohm to +VCCVID	NC	float	Depop	Pop	Depop
AD3	NC	float	VID5	Pull-up1Kohm to +3VRUN & connect to PWRIC	NC	float	Depop	Pop	Depop
AF3	NC	float	VCCVIDLB	Connect to +VCCVID	NC	float	Depop	Pop	Depop
AD20	VCCA	Connect to CPU Filter	VCCIOPLL	Connect to CPU Filter	VCCA	Connect to CPU Filter			
AF23	VCCIOPLL	Connect to CPU Filter	VCCA	Connect to CPU Filter	VCCIOPLL	Connect to CPU Filter			
AE26	VSS	Connect to GND	OPTIMIZED/ COMPAT#	float	VSS	Connect to GND	Pop	Depop	Pop
AD25	TESTHI12	Pull-up 200ohm to +VCC_CORE	TESTHI12	Pull-up 62ohm to +VCC_CORE	DPSLP	Connect to PLD through 0ohm	Pop	Pop	Pop

Note: AD2,AD3 pop(bring up)

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Title	**Prescott Processor in uFCPGA478**	
Size C	Document Number **LA-1711**	Rev X00-G
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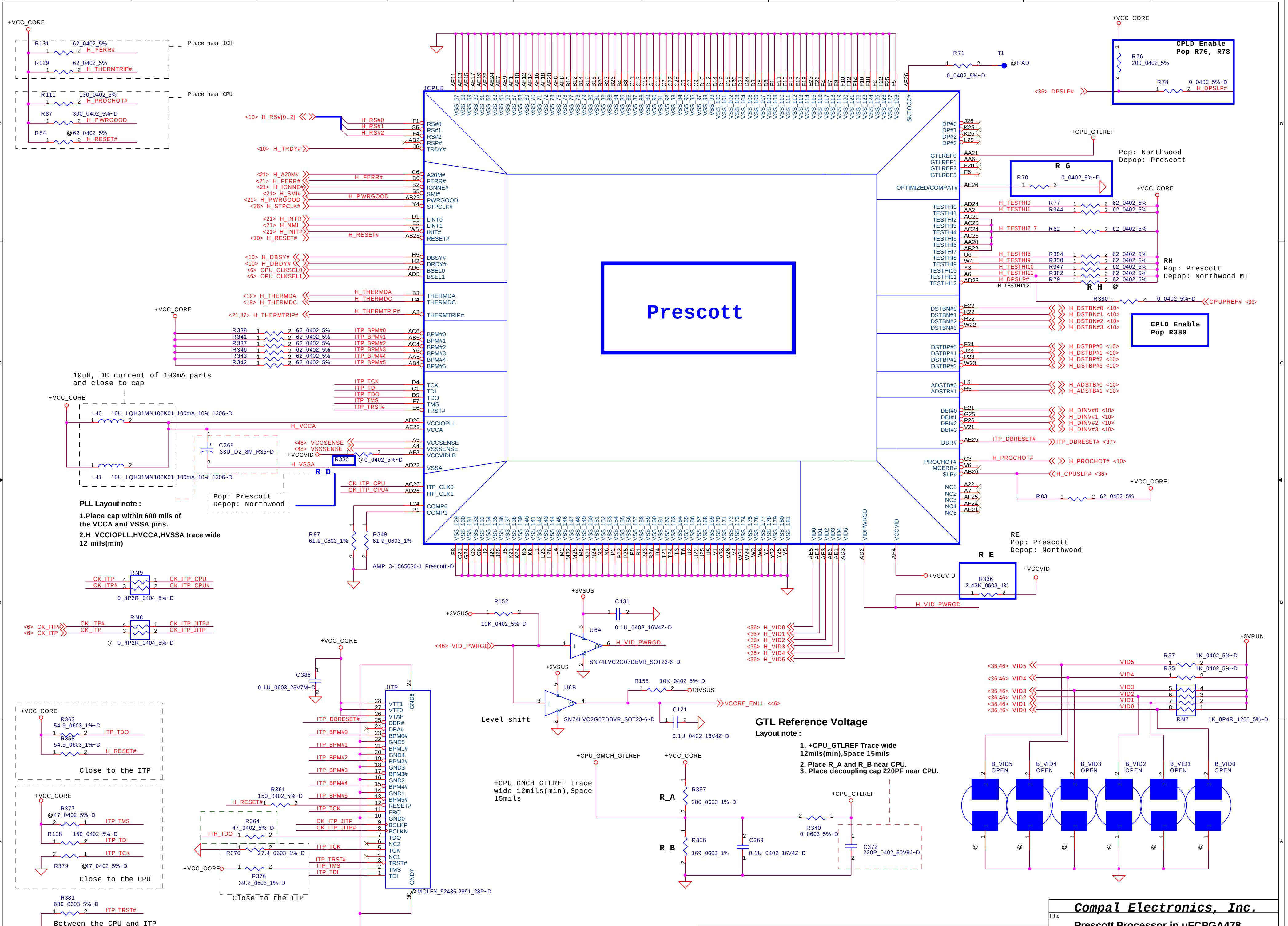

PLL Layout note :

1.Place cap within 600 mils of the VCCA and VSSA pins.

2.H_VCCIOPLL,HVCCA,HVSSA trace wide 12 mils(min)

GTL Reference Voltage

Layout note :

1. +CPU_GTLREF Trace wide 12mils(min),Space 15mils

2. Place R_A and R_B near CPU.

3. Place decoupling cap 220PF near CPU.

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Title
Prescott Processor in uFCPGA478

Size	Document Number	Rev
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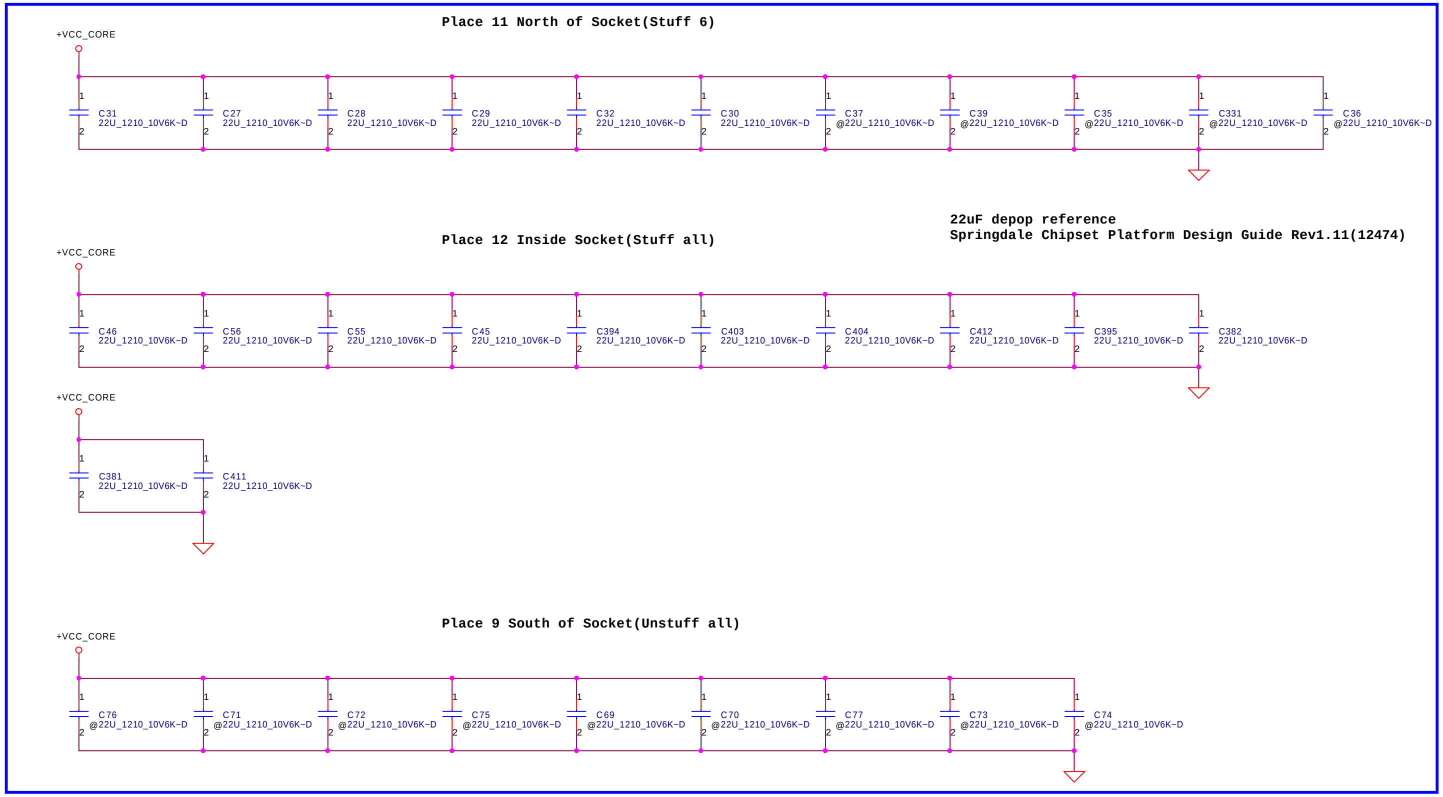

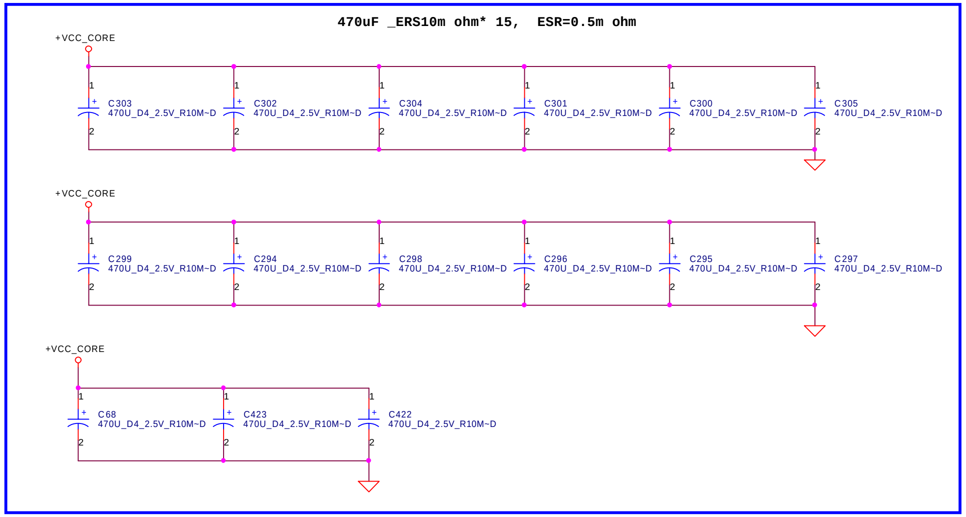

Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11
(12474)page239

Decoupling Reference Requirement:
560uF Polymer, ESR:5m ohm(each) * 10
22uF X5R * 32

Compal Electronics, Inc.

Title
CPU Decoupling

Size	Document Number	Rev
C	LA-1711	X00-G

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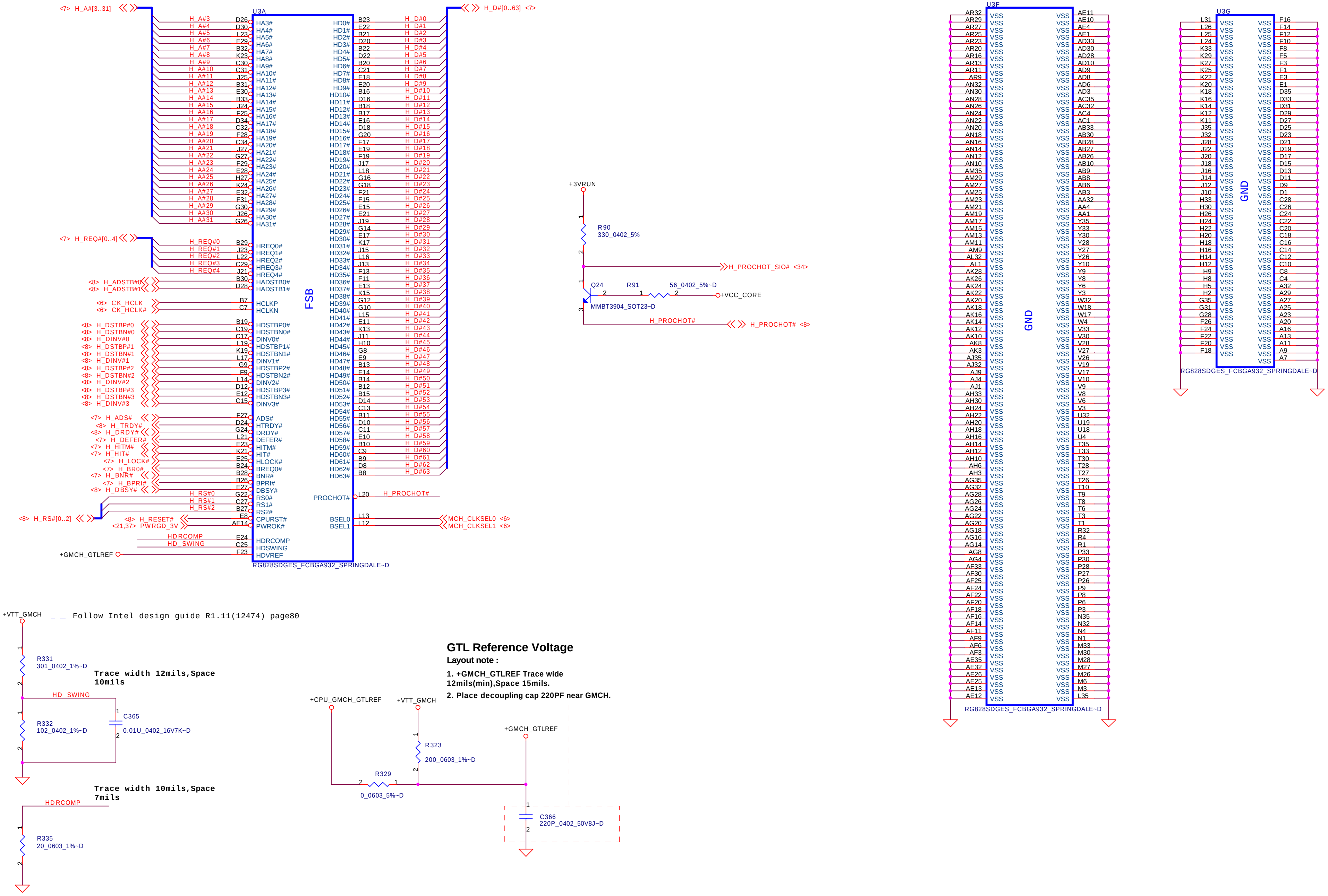

_ _ Follow Intel design guide R1.11(12474) page80

Trace width 12mils,Space 10mils

Trace width 10mils,Space 7mils

GTL Reference Voltage

Layout note :

1. +GMCH_GTLREF Trace wide 12mils(min),Space 15mils.

2. Place decoupling cap 220PF near GMCH.

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Title	Springdale-Host/GND	
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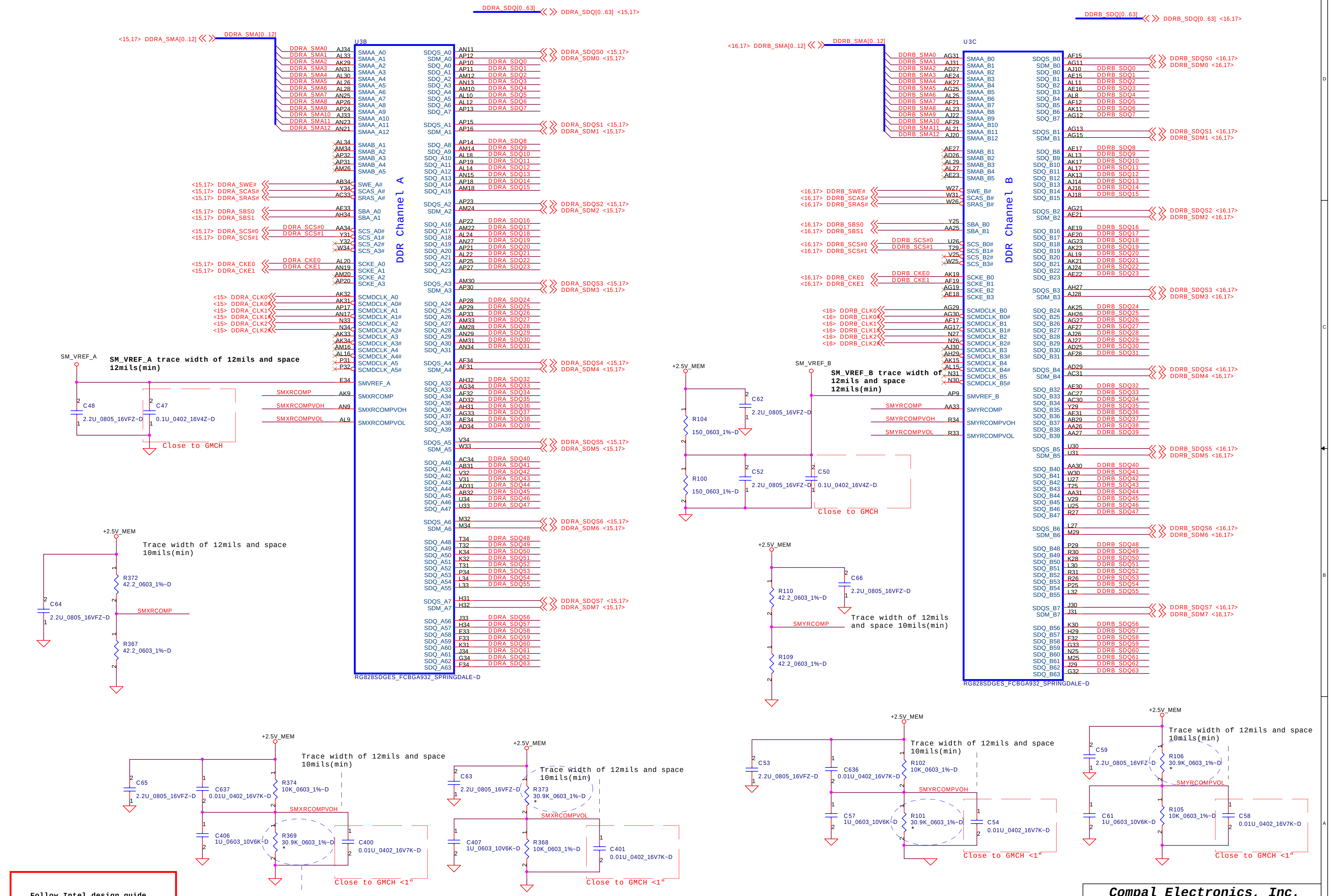

Follow Intel design guide
R1.11(12474) page124,125

Note: Intel recommend is 31.12K,the value isn't popularize.
Follow Dell's DT team use 30.9K

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Title
Springdale-DDR Interface

Size	Document Number	Rev
C	LA-1711	X00-G

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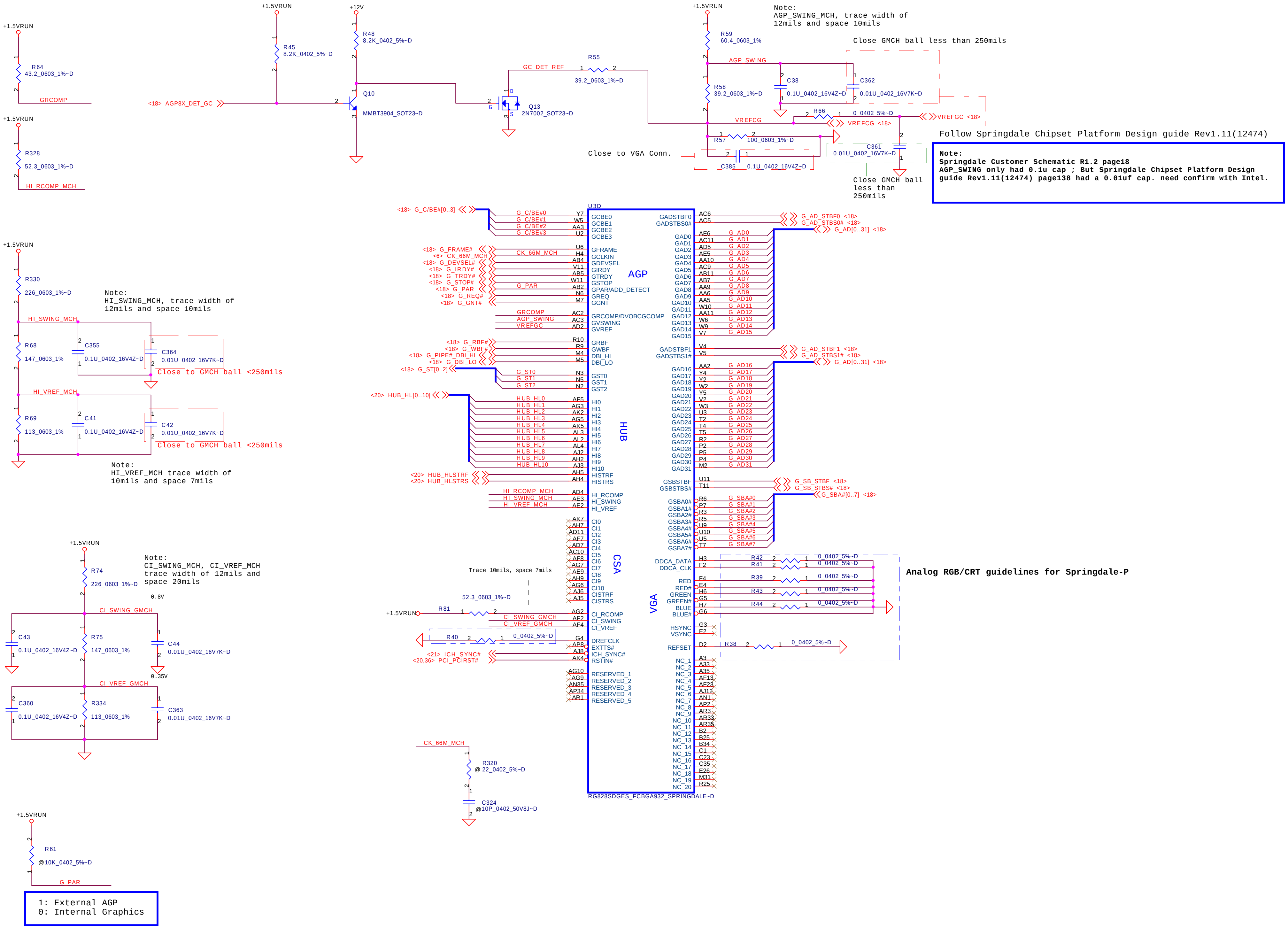

Note:
AGP_SWING_MCH, trace width of
12mils and space 10mils

Close GMCH ball less than 250mils

Follow Springdale Chipset Platform Design guide Rev1.11(12474)

Note:
Springdale Customer Schematic R1.2 page18
AGP_SWING only had 0.1u cap ; But Springdale Chipset Platform Design guide Rev1.11(12474) page138 had a 0.01uf cap. need confirm with Intel.

Close to VGA Conn.

Close GMCH ball
less than
250mils

Note:
HI_SWING_MCH, trace width of
12mils and space 10mils

Close to GMCH ball <250mils

Close to GMCH ball <250mils

Note:
HI_VREF_MCH trace width of
10mils and space 7mils

Note:
CI_SWING_MCH, CI_VREF_MCH
trace width of 12mils and
space 20mils

Trace 10mils, space 7mils

Analog RGB/CRT guidelines for Springdale-P

1: External AGP
0: Internal Graphics

Title		
	Springdale-AGP/HUB/VGA/CSA	
Size C	Document Number LA-1711	Rev X00-G
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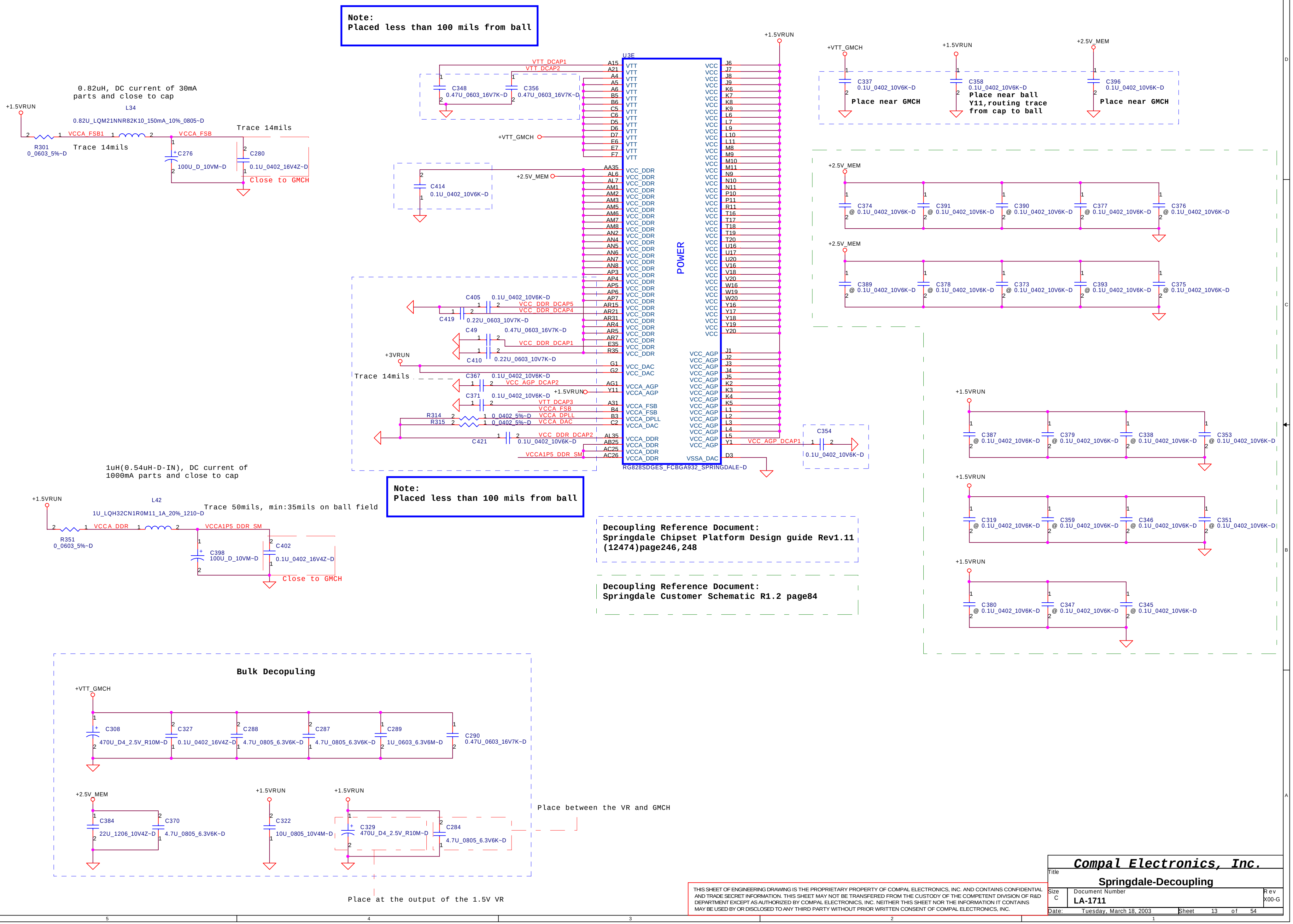
Note:
Placed less than 100 mils from ball



Note:
Placed less than 100 mils from ball

Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11 (12474)page246,248

Decoupling Reference Document:
Springdale Customer Schematic R1.2 page84

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Title
Springdale-Decoupling

Size	Document Number	Rev
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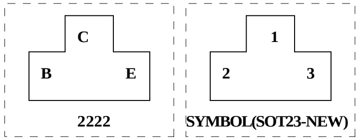
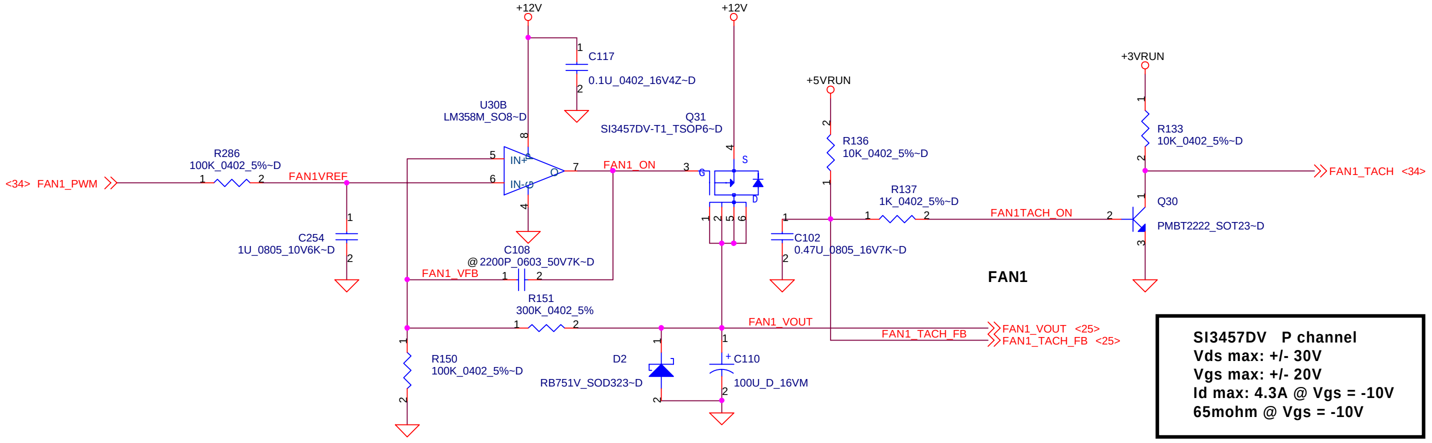
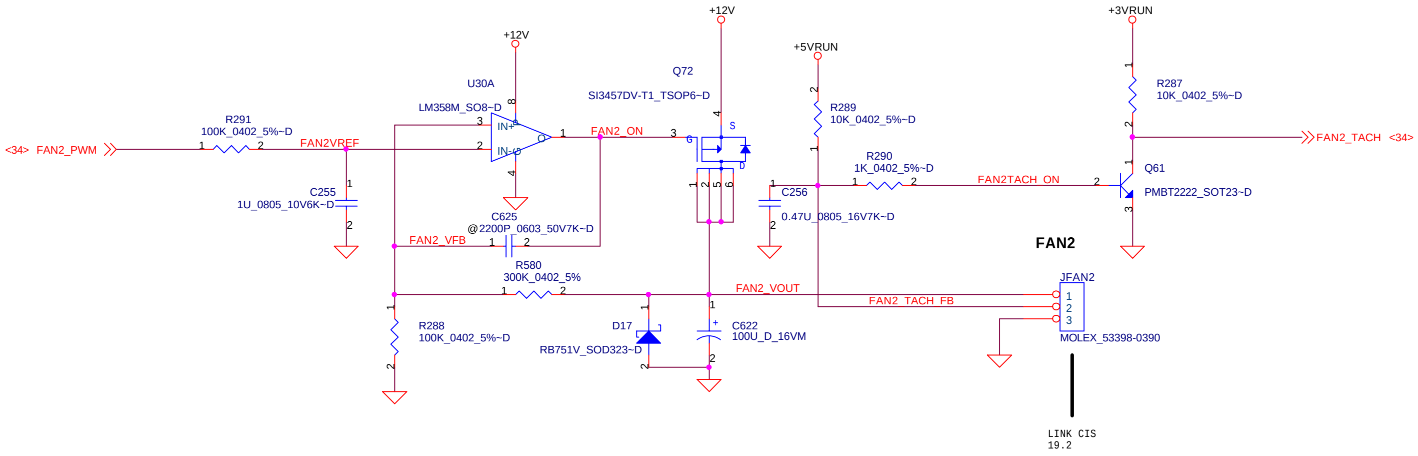


FAN1 Control and Tachometer



SI3457DV P channel
Vds max: +/- 30V
Vgs max: +/- 20V
Id max: 4.3A @ Vgs = -10V
65mohm @ Vgs = -10V

FAN2 Control and Tachometer



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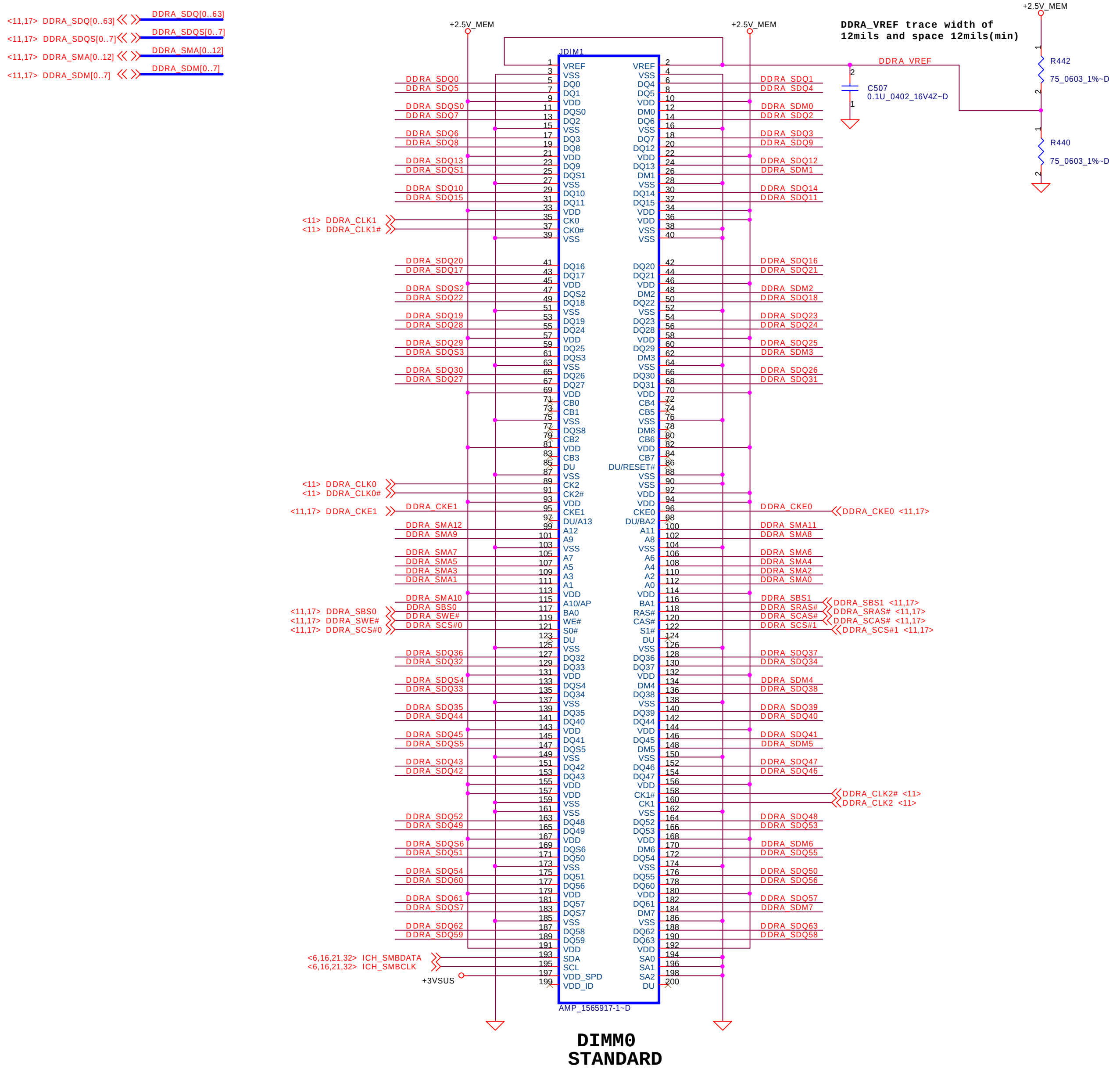
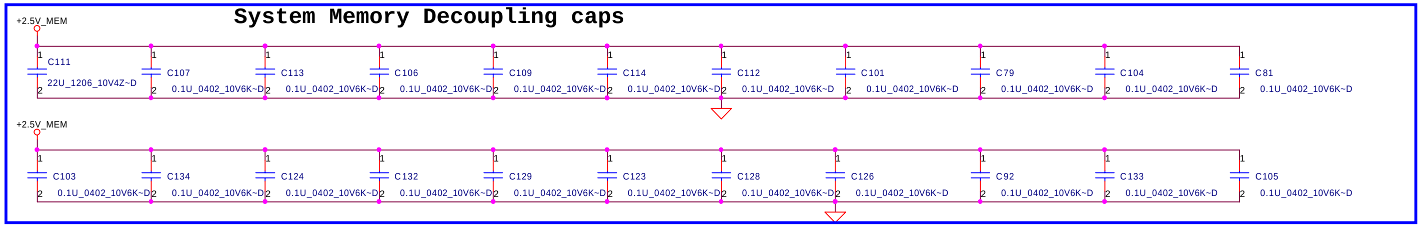
Title **FAN CONTROL**		
Size	Document Number **LA-1711**	Rev X00-G
Date: Tuesday, March 18, 2003	Sheet 14 of 54	



DDRA_VREF trace width of
12mils and space 12mils(min)

DIMM0
STANDARD

System Memory Decoupling caps



Follow

Decoupling Reference Document:
Springdale Customer Schematic R1.2 page22
each Channel(two DIMMs) requirement 22uF*1 ; 0.1uF*21

Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11
(12474)pag 271 each DIMM(two) requirement 0.1uF*42

Compal Electronics, Inc.		
Title DDR-SODIMM SLOT1		
Size	Document Number LA-1711	Rev X00-G
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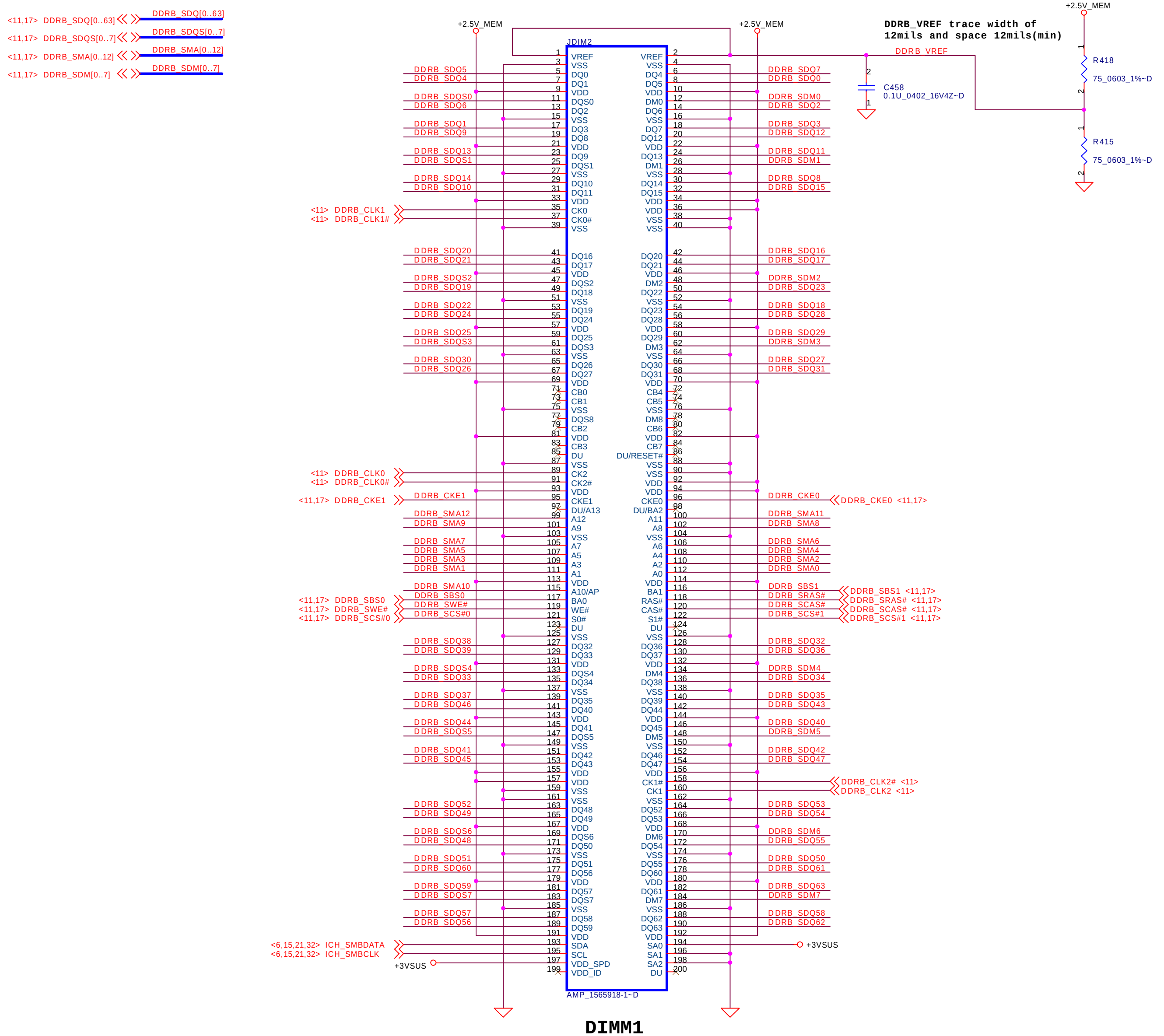
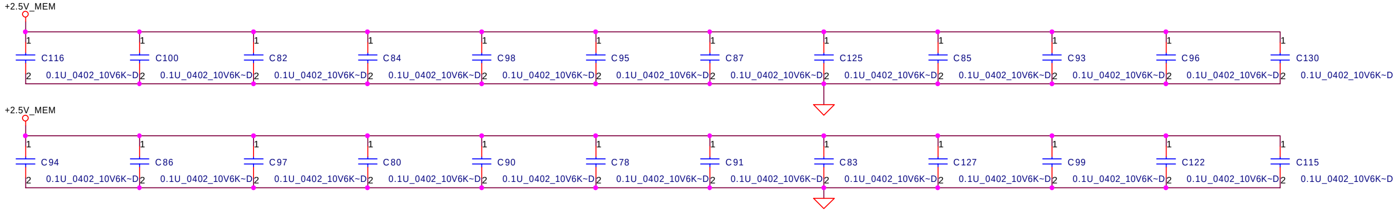


DDRB_VREF trace width of
12mils and space 12mils(min)

DIMM1
REVERSE

System Memory Decoupling caps



Follow

Decoupling Reference Document:
Springdale Customer Schematic R1.2 page26
each Channel(two DIMMs) requirement 0.1uF*24

Compal Electronics, Inc.		
Title **DDR-SODIMM SLOT2**		
Size	Document Number **LA-1711**	Rev X00-G
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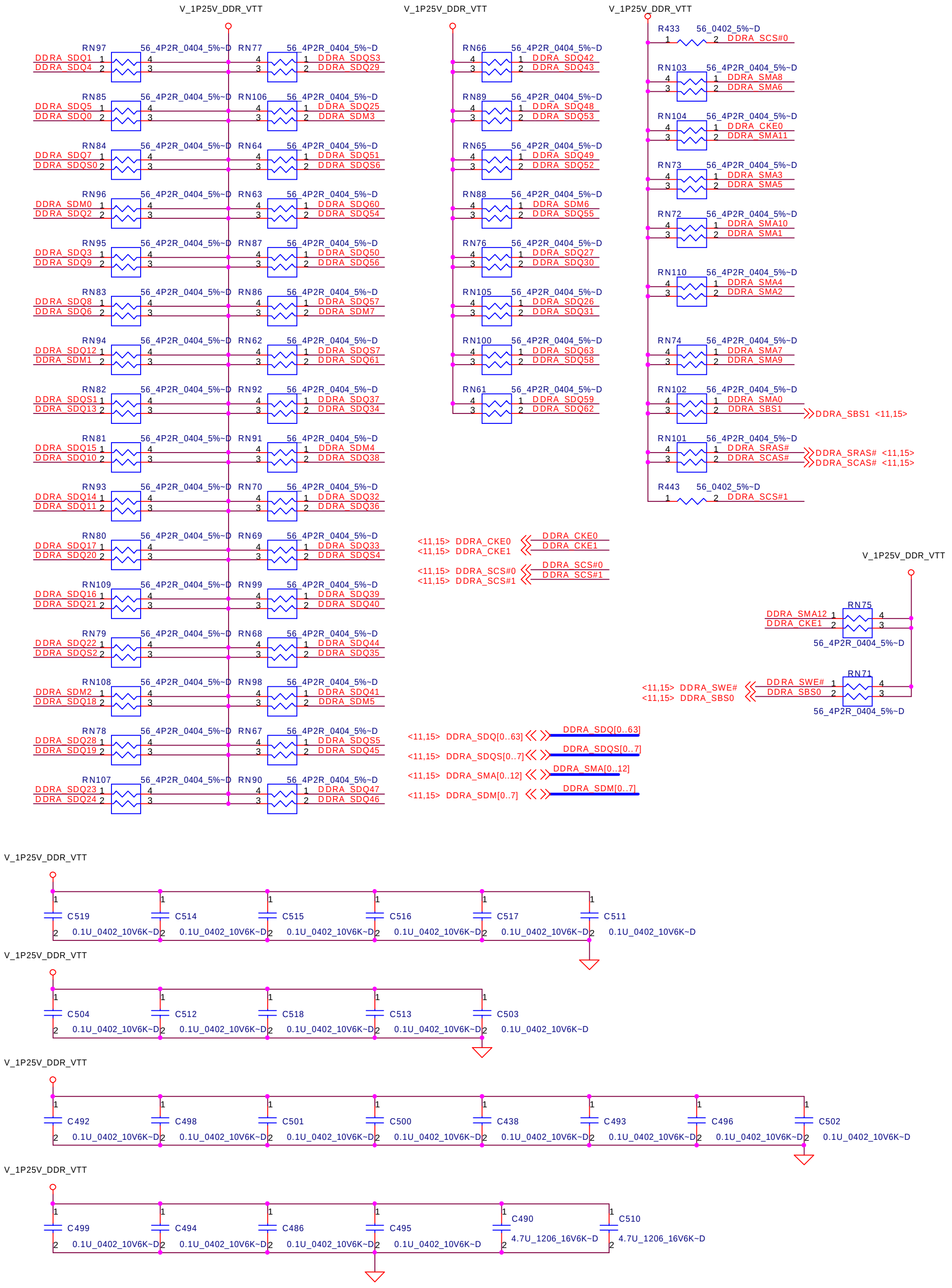
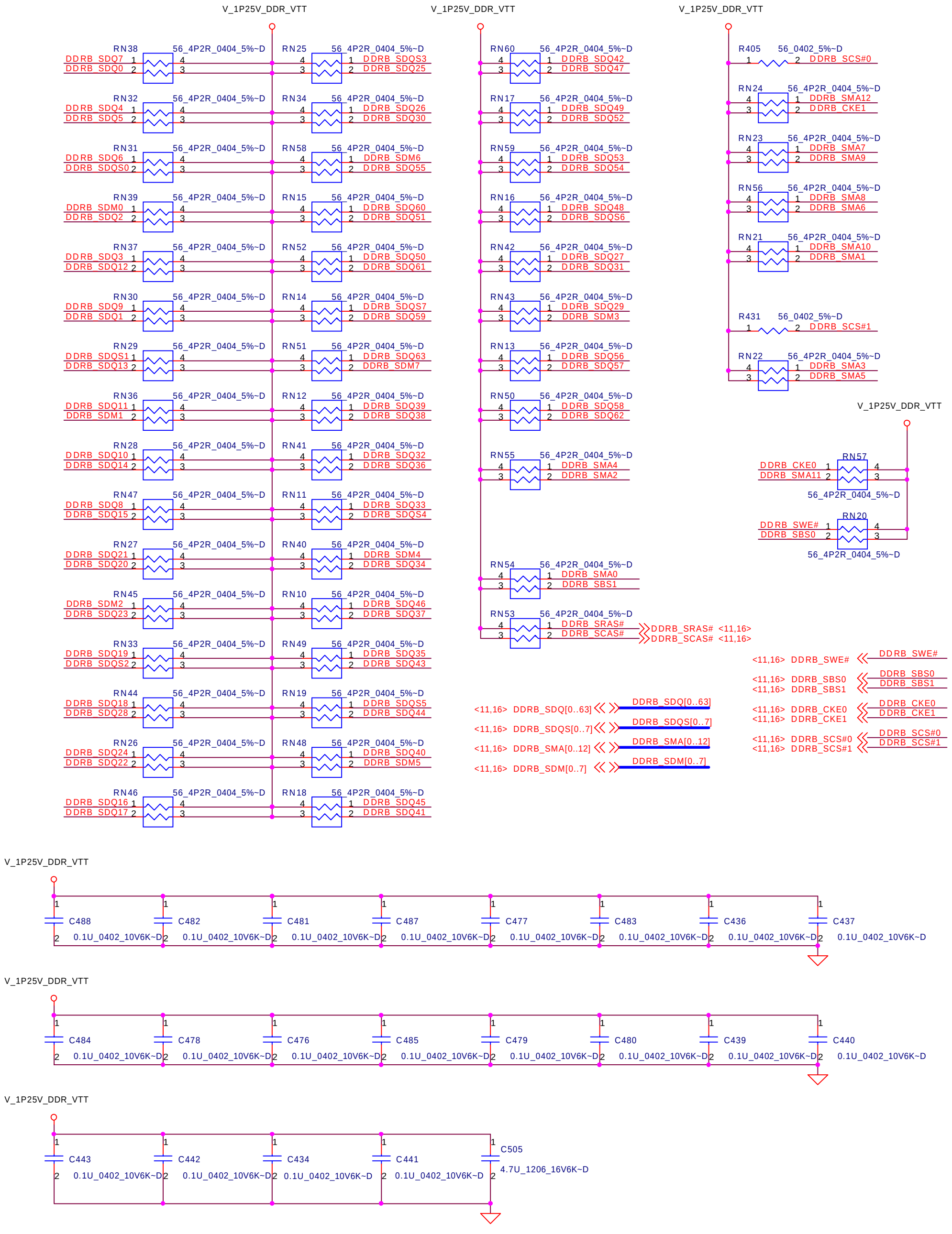
Channel A(DIMM0) Termination resistors & Decoupling caps



Decoupling Reference Document:
Springdale Customer Schematic R1.2 page22
each Channel(two DIMMs) requirement 4.7u*2 ;
0.1uF*28

We used one DIMM, so place 4.7uF*2 ; 0.1uF*23(11/6/02')

Channel B(DIMM1) Termination resistors & Decoupling caps



Decoupling Reference Document:
Springdale Customer Schematic R1.2 page26
each Channel(two DIMMs) requirement 4.7u*2 ;
0.1uF*26

We used one DIMM, so place 4.7uF*1 ; 0.1uF*20(11/6/02')

Title		
DDR Termination Resistors		
Size C	Document Number LA-1711	Rev X00-G
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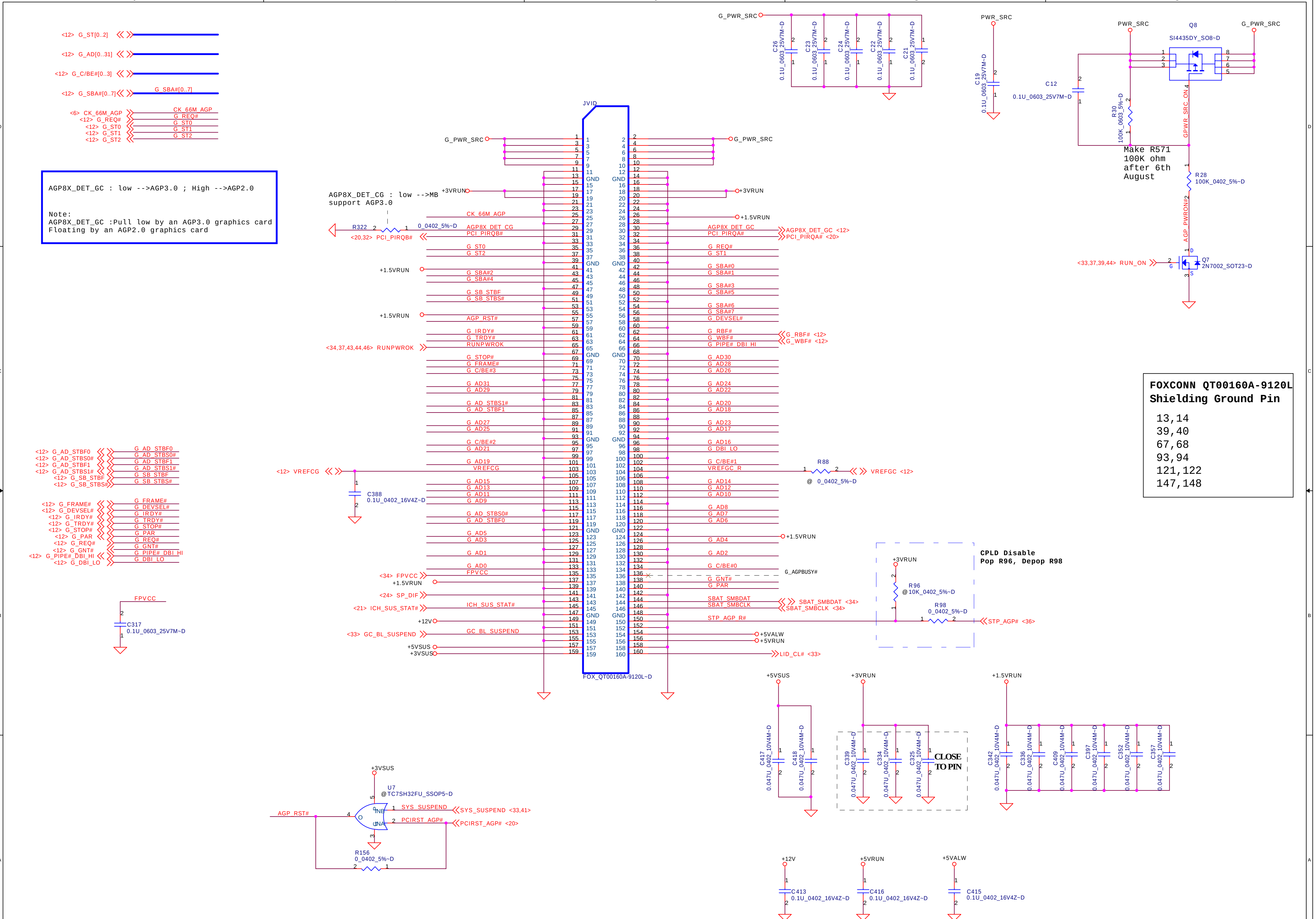

AGP8X_DET_GC : low -->AGP3.0 ; High -->AGP2.0

Note:
AGP8X_DET_GC :Pull low by an AGP3.0 graphics card
Floating by an AGP2.0 graphics card

AGP8X_DET_CG : low -->MB
support AGP3.0

Make R571
100K ohm
after 6th
August

FOXCONN QT00160A-9120L
Shielding Ground Pin

13,14
39,40
67,68
93,94
121,122
147,148

CPLD Disable
Pop R96, Depop R98

CLOSE
TO PIN

Compal Electronics, Inc.

Title
VGA Daughter Board Conn.

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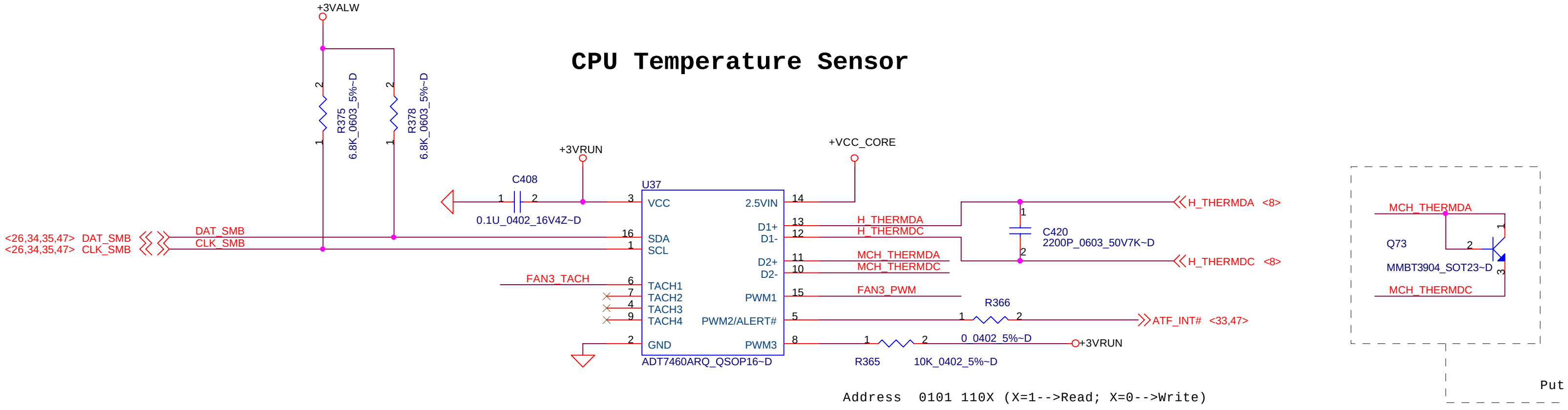
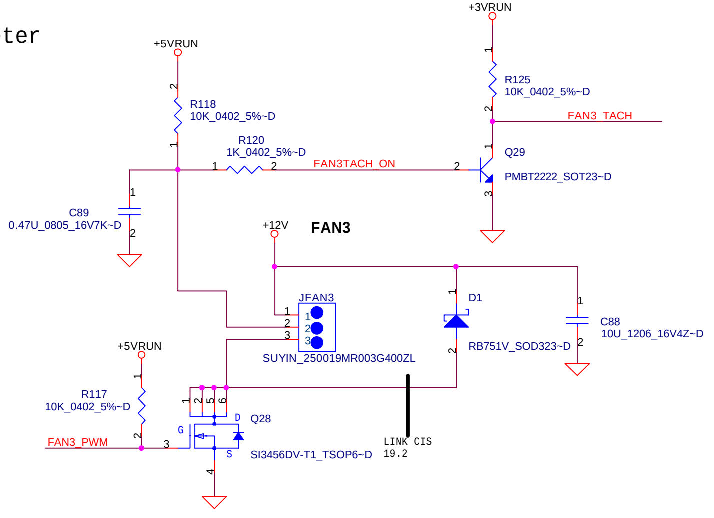
CPU Temperature Sensor



Address 0101 110X (X=1-->Read; X=0-->Write)

Put 3904 between MCH and DDR

FAN3 Control and Tachometer



SI3456DV: N CHANNEL
VGS: 4.5V, RDS: 65 mOHM
Id(MAX): 5.1A

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Title
CPU Thermal Sensor & FAN Control
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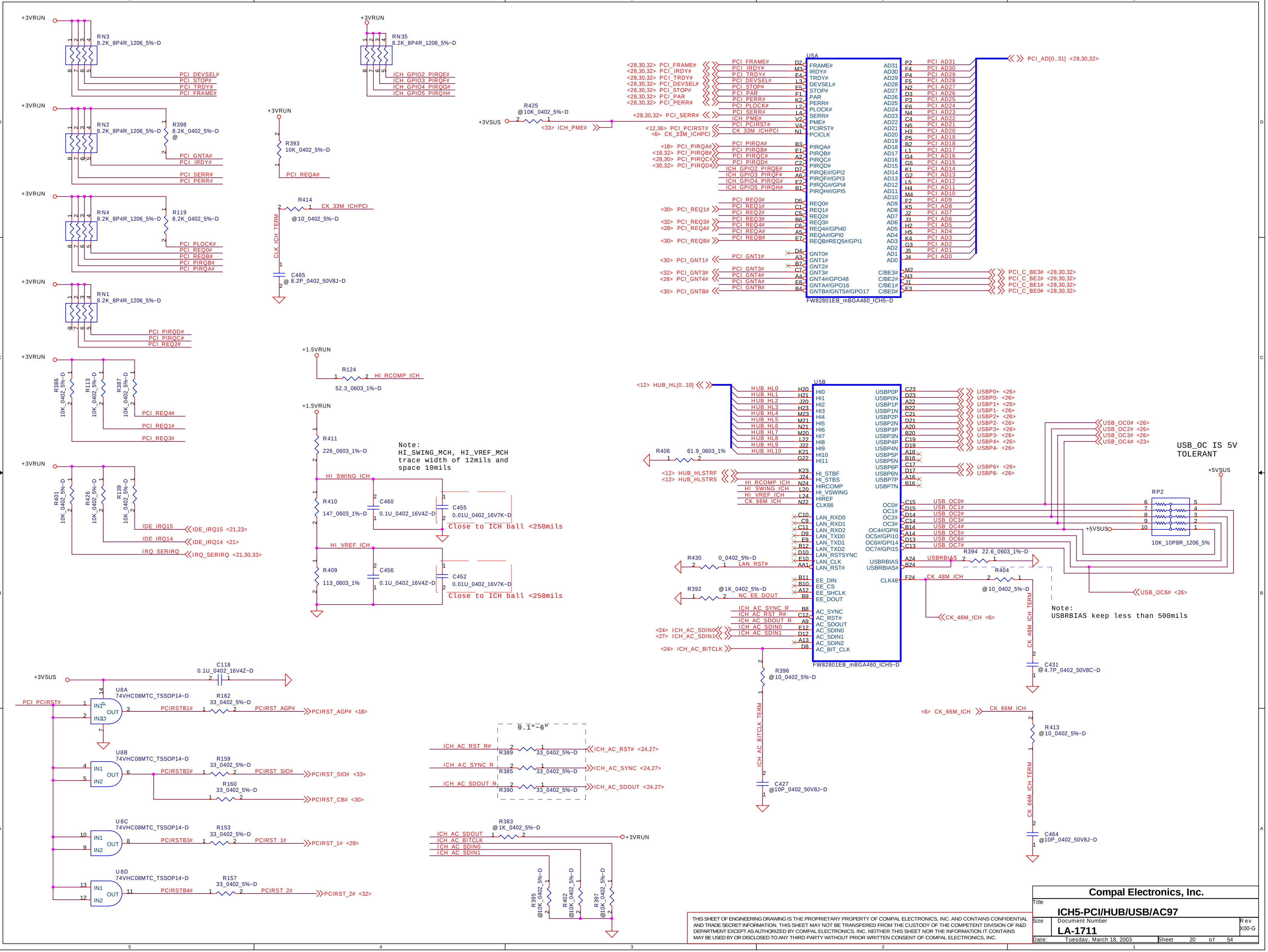

Note:
HI_SWING_MCH, HI_VREF_MCH
trace width of 12mils and
space 10mils

Close to ICH ball <250mils

Close to ICH ball <250mils

USB_OC IS 5V
TOLERANT

Note:
USBRBIAS keep less than 500mils

Compal Electronics, Inc.

Title
ICH5-PCI/HUB/USB/AC97

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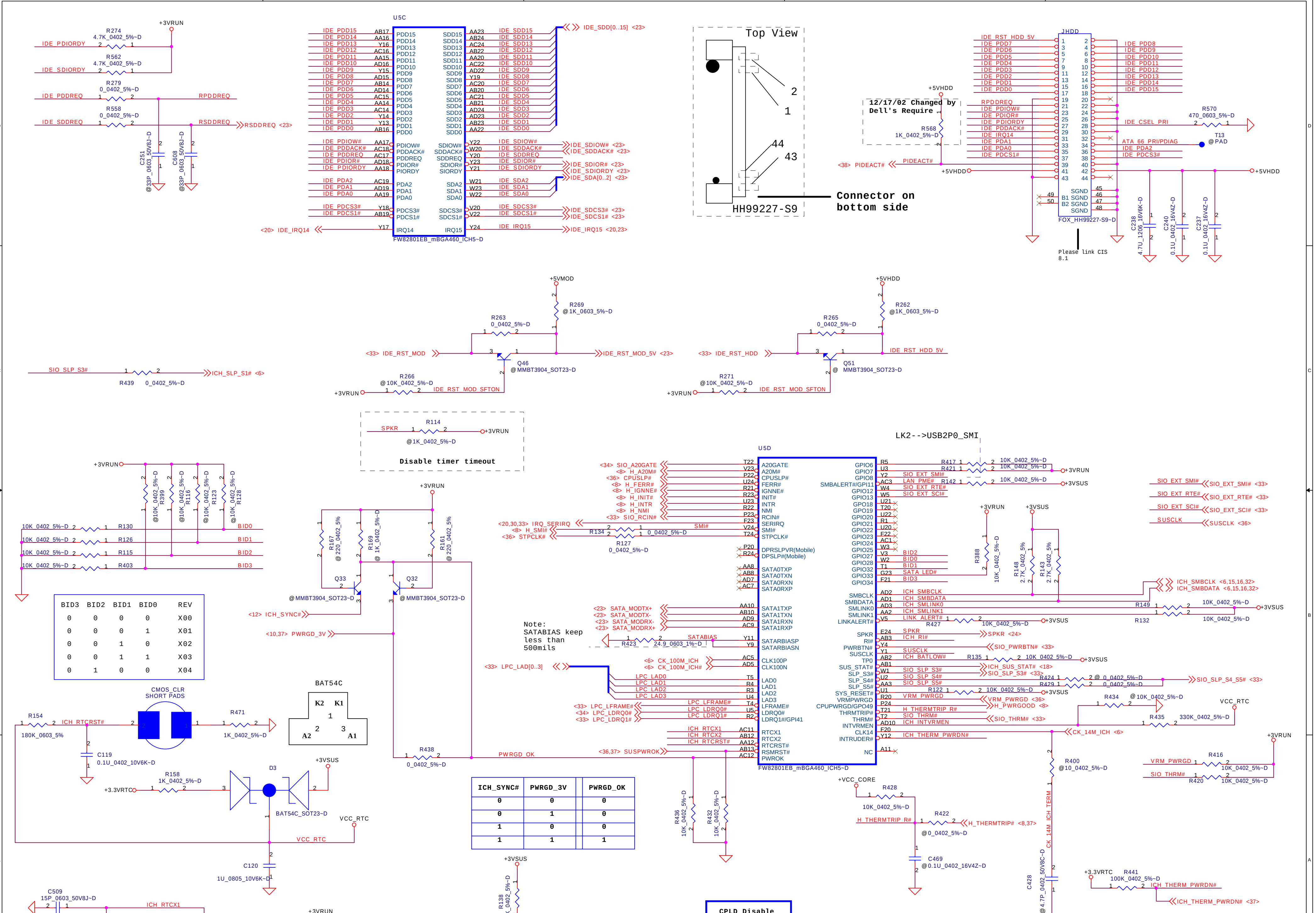

CPLD Disable
Depop R141

BID3	BID2	BID1	BID0	REV
0	0	0	0	X00
0	0	0	1	X01
0	0	1	0	X02
0	0	1	1	X03
0	1	0	0	X04

ICH_SYNC#	PWRGD_3V	PWRGD_OK
0	0	0
0	1	0
1	0	0
1	1	1

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Title
ICH5-IDE/LPC/PM/GPIO/LAN

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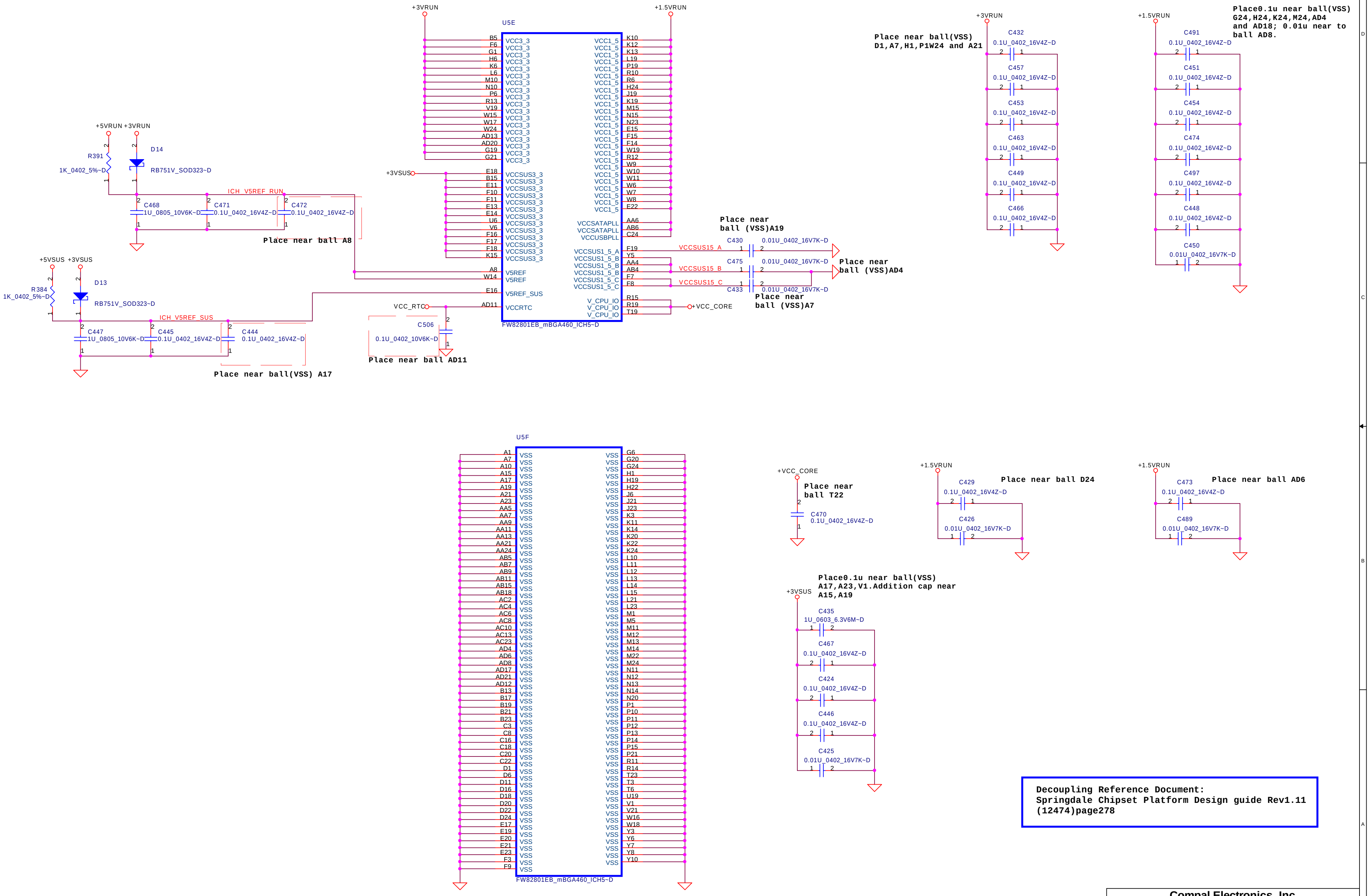

Place near ball A8

Place near ball(VSS) A17

Place near ball AD11

Place near ball (VSS)A19

Place near ball (VSS)AD4

Place near ball (VSS)A7

Place near ball(VSS) D1,A7,H1,P1W24 and A21

Place0.1u near ball(VSS) G24,H24,K24,M24,AD4 and AD18; 0.01u near to ball AD8.

Place near ball T22

Place near ball D24

Place near ball AD6

Place0.1u near ball(VSS) A17,A23,V1.Addition cap near A15,A19

Decoupling Reference Document:
Springdale Chipset Platform Design guide Rev1.11
(12474)page278

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Title: ICH5 Power & Decoupling		
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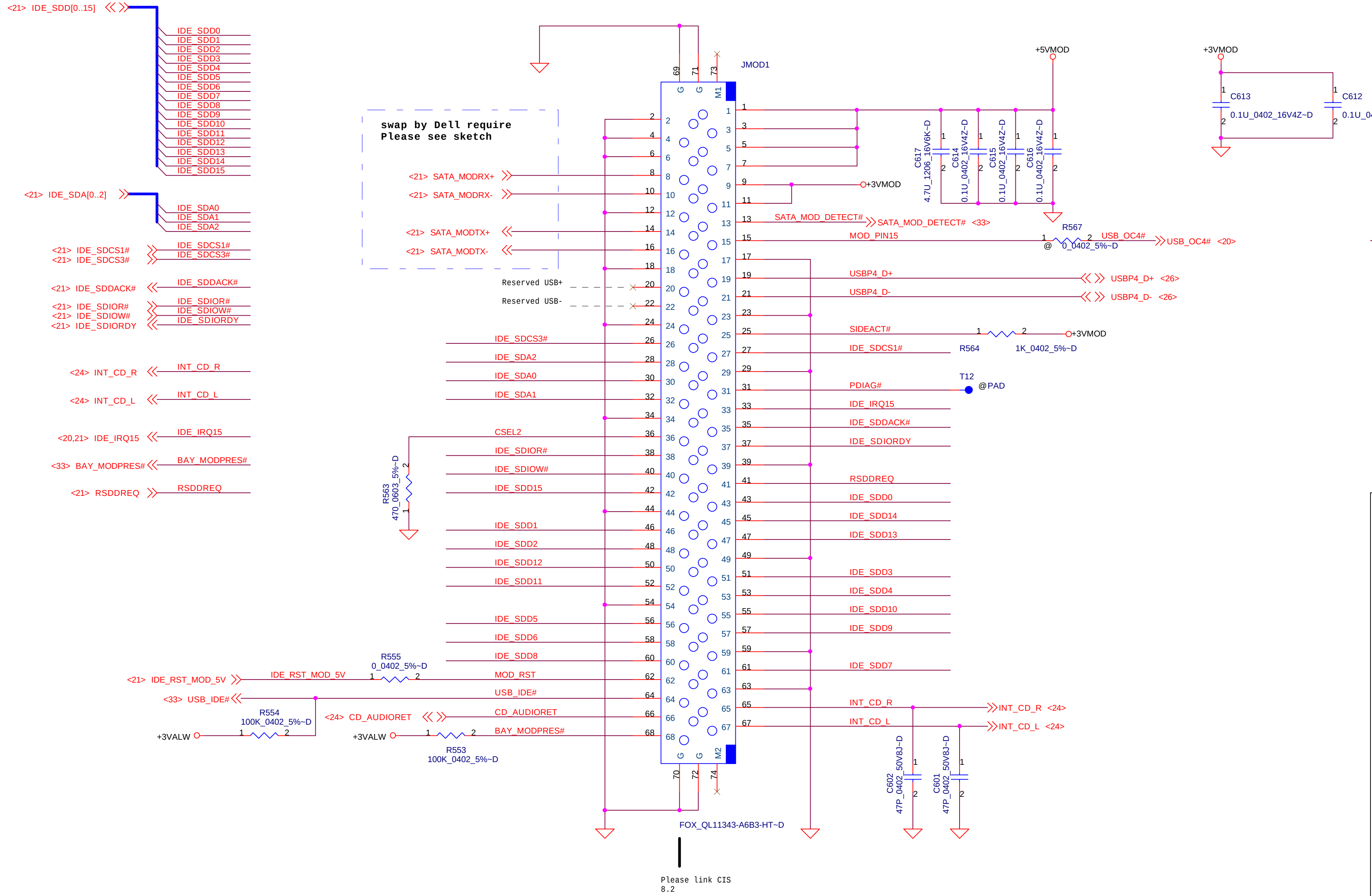
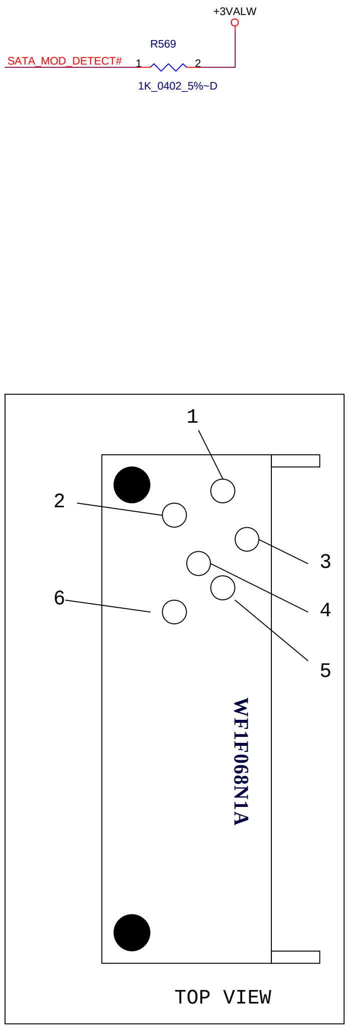
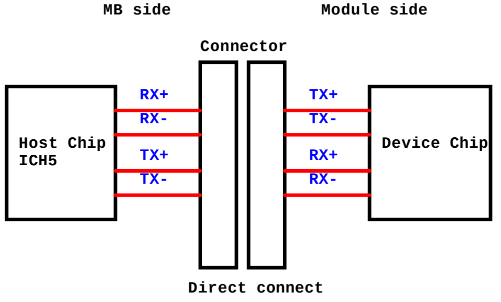




D-MODULE Detect

JMOD1 Device	Pin68 BAY_MODPRES#	Pin64 USB_IDE#	Pin13 SATA_MOD_DETECT#
Parallel IDE	LOW	LOW	HIGH
USB Device	LOW	HIGH	HIGH
S-ATA IDE	LOW	HIGH	LOW
None	HIGH	X	X



Compal Electronics, Inc.

Title
D- MODULE

Size
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Date: Tuesday, March 18, 2003
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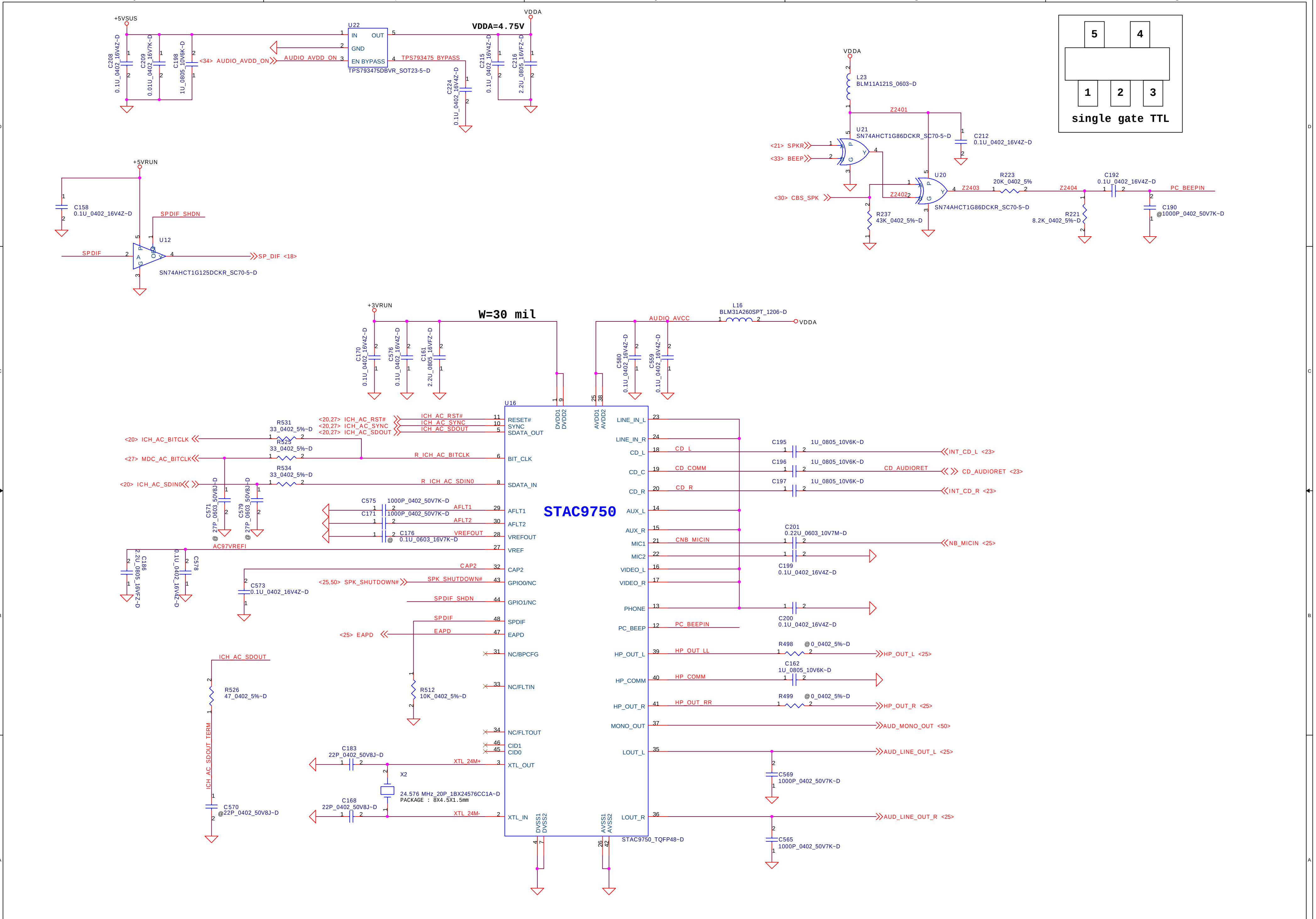


Compal Electronics, Inc.

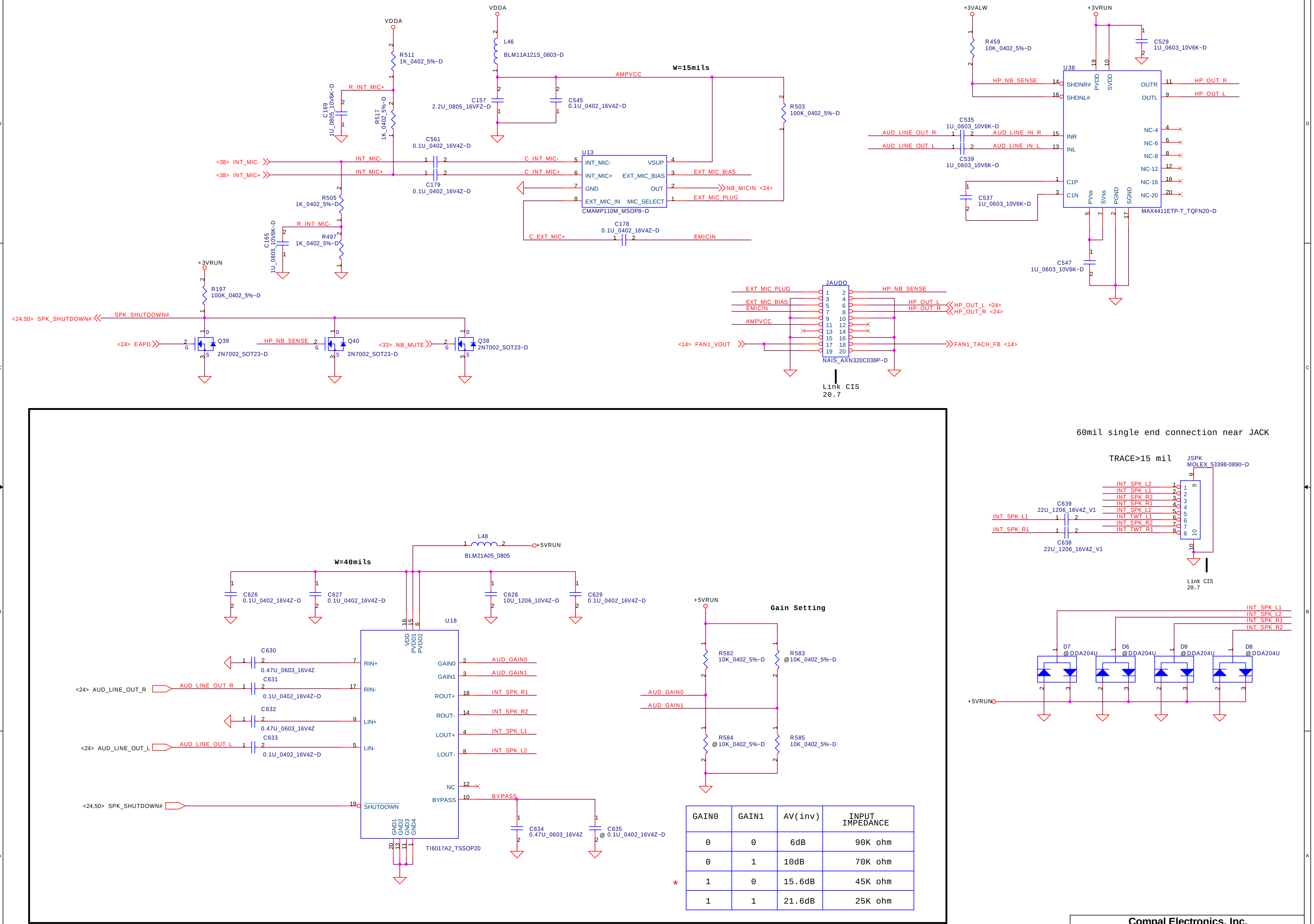
Title

AC97 Codec

Size Document Number Rev

LA-1711 X00-G

Date: Tuesday, March 18, 2003 Sheet 24 of 54



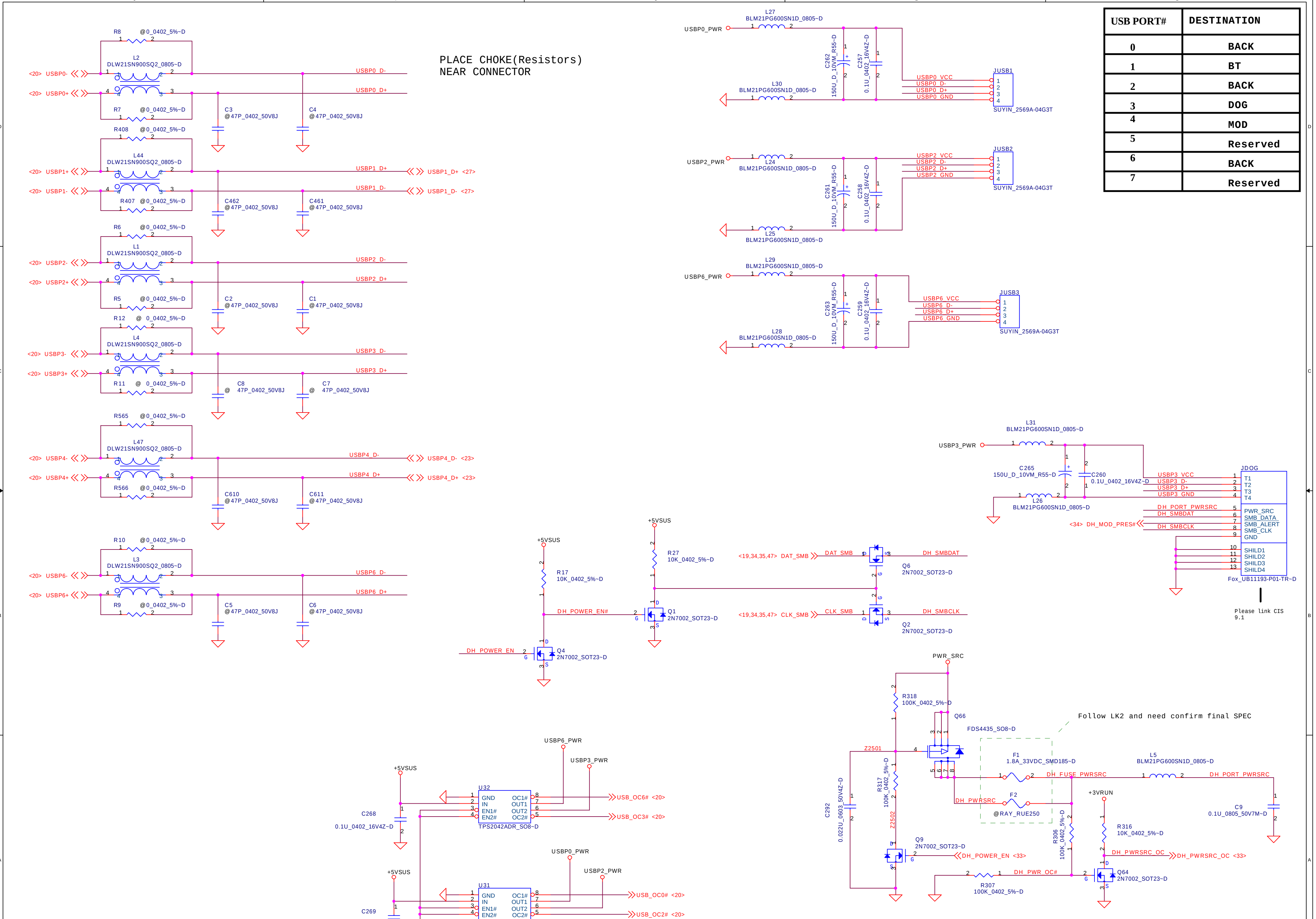
GAIN0	GAIN1	AV(inv)	INPUT IMPEDANCE
0	0	6dB	90K ohm
0	1	10dB	70K ohm
1	0	15.6dB	45K ohm
1	1	21.6dB	25K ohm

Compal Electronics, Inc.

Title
AMP and Phone Jack Interface

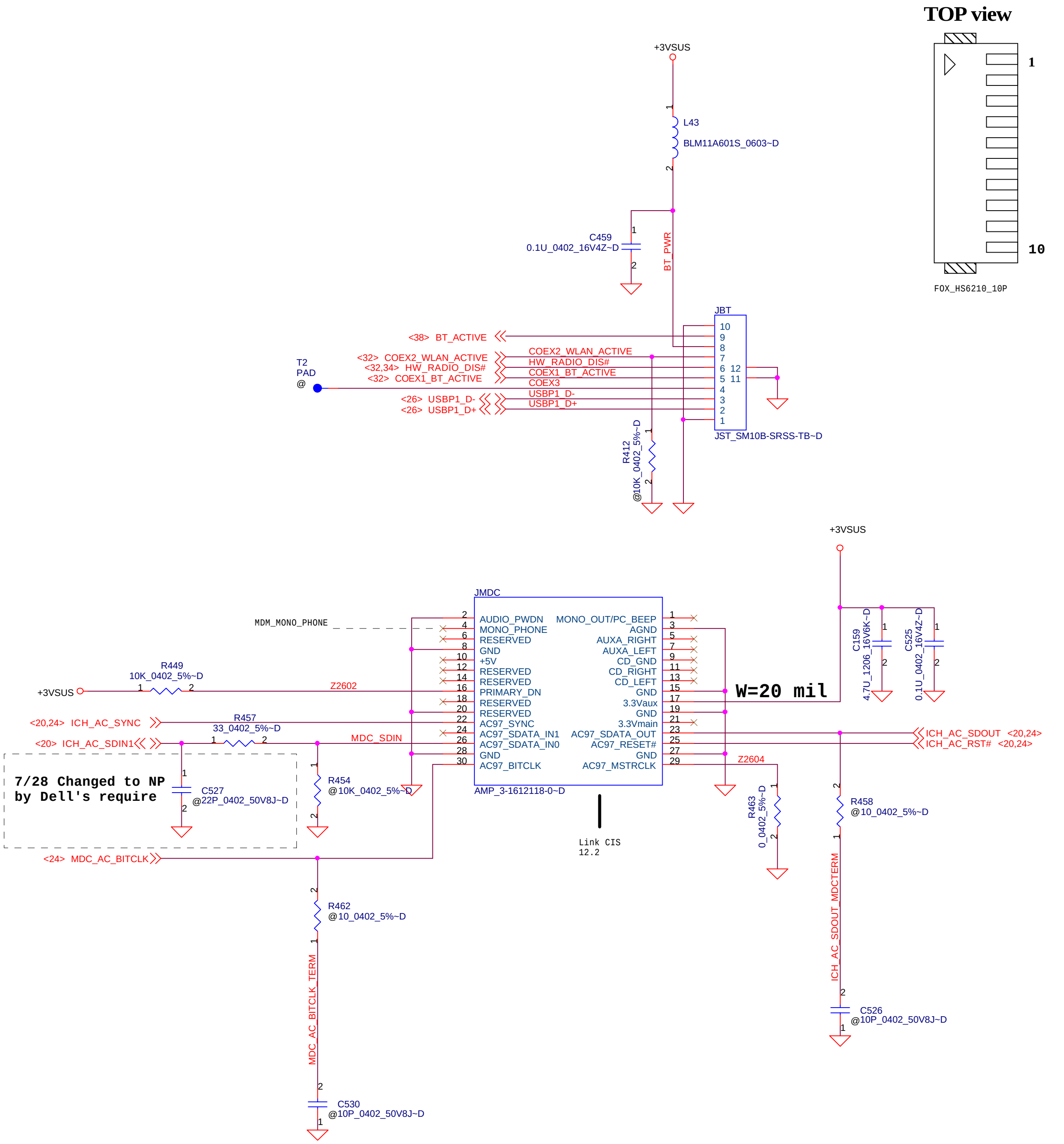
Size
Document Number
LA-1711
Rev
X00-G

Date: Tuesday, March 18, 2003
Sheet 25 of 54



USB PORT#	DESTINATION
0	BACK
1	BT
2	BACK
3	DOG
4	MOD
5	Reserved
6	BACK
7	Reserved

Compal Electronics, Inc.
Title
USB(2.0) Connector
Size
Document Number
LA-1711
Rev
X00-G
Date: Tuesday, March 18, 2003



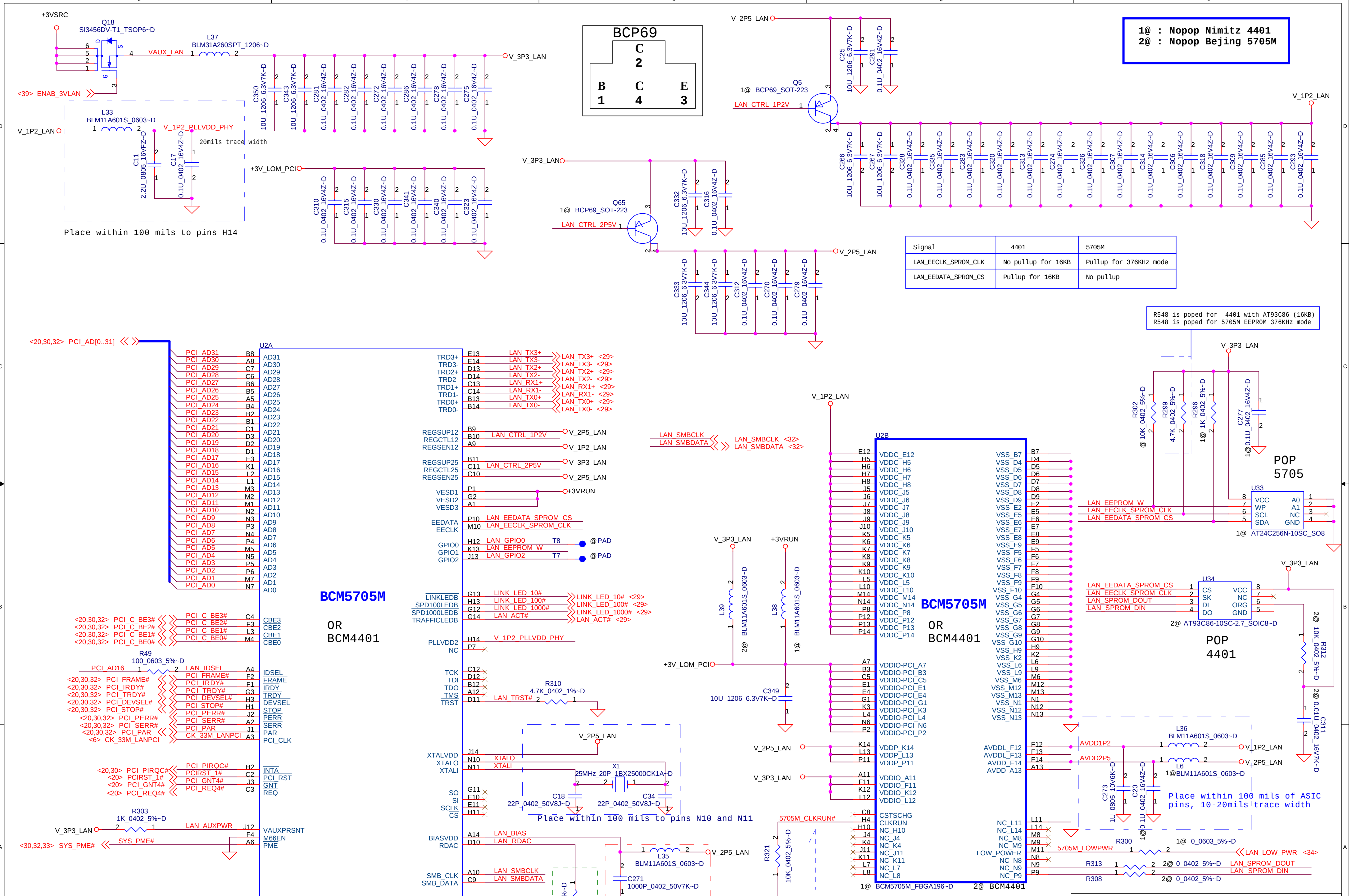
Compal Electronics, Inc.

Title

BT PORT and MDC

Size
Document Number
LA-1711
Rev
X00-G

Date: Tuesday, March 18, 2003
Sheet 27 of 54



1@ : Nopop Nimitz 4401
2@ : Nopop Bejing 5705M

Place within 100 mils to pins H14

20mils trace width

Signal	4401	5705M
LAN_EECLK_SPROM_CLK	No pullup for 16KB	Pullup for 376KHz mode
LAN_EEDATA_SPROM_CS	Pullup for 16KB	No pullup

R548 is poped for 4401 with AT93C86 (16KB)
R548 is poped for 5705M EEPROM 376KHz mode

Place within 100 mils to pins N10 and N11

Place within 100 mils of ASIC pins, 10-20mils trace width

Place within 50 mils of ASIC pin D10

8-10mils trace width

Place within 100 mils of ASIC pin A14, 10mils trace width

Should be pulled down for both 4401 and 5705M

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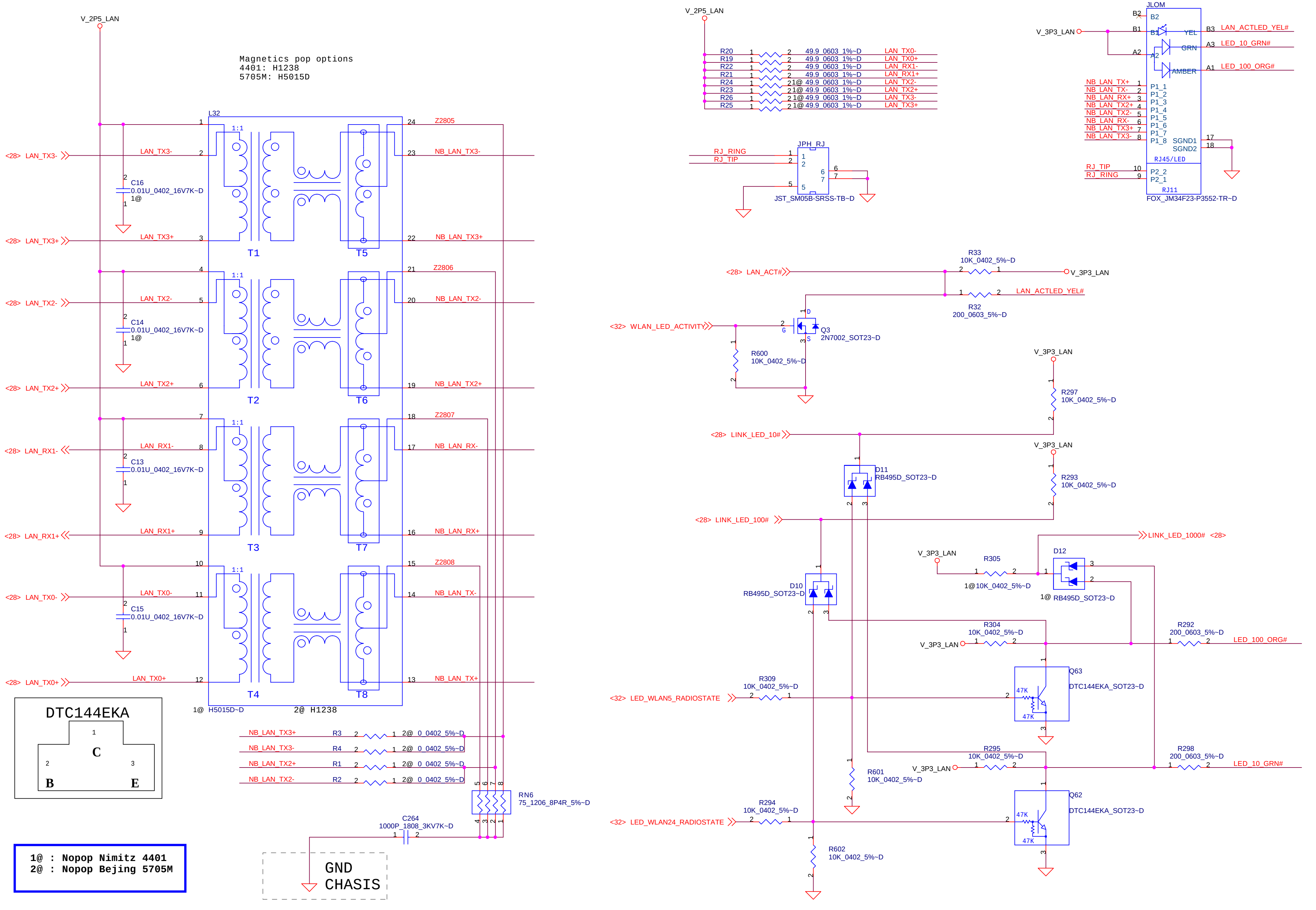
Compal Electronics, Inc.

Title
ETHERNET

Size | Document Number | Rev
LA-1711 | X00-G

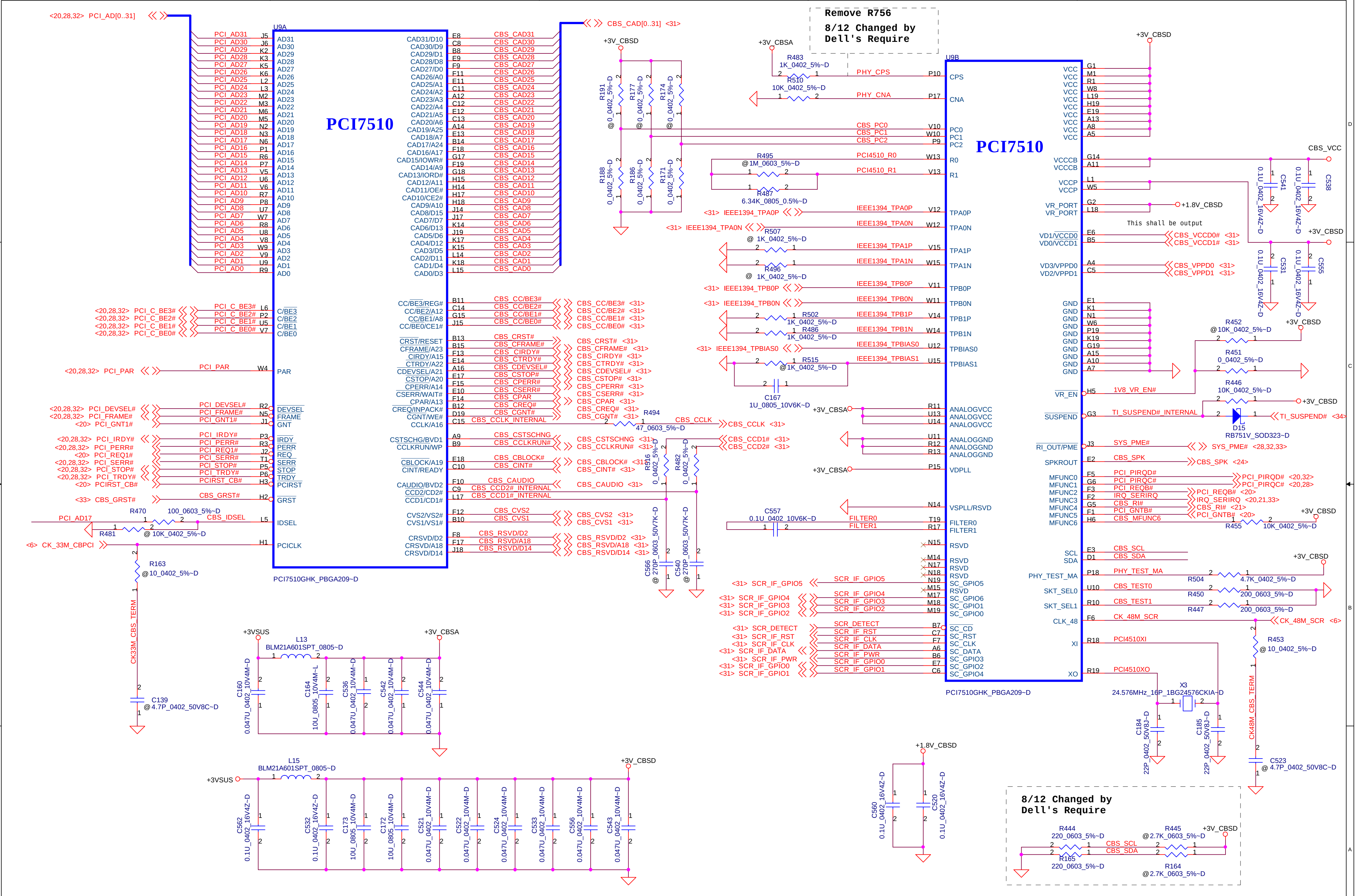
Date: Tuesday, March 18, 2003 | Sheet 28 of 54



Magnetics pop options
4401: H1238
5705M: H5015D

1@ : Nopop Nimitz 4401
2@ : Nopop Bejing 5705M

Compal Electronics, Inc.
Title
LAN TRANSFOMER
Size
Document Number
LA-1711
Rev
X00-G
Date: Tuesday, March 18, 2003



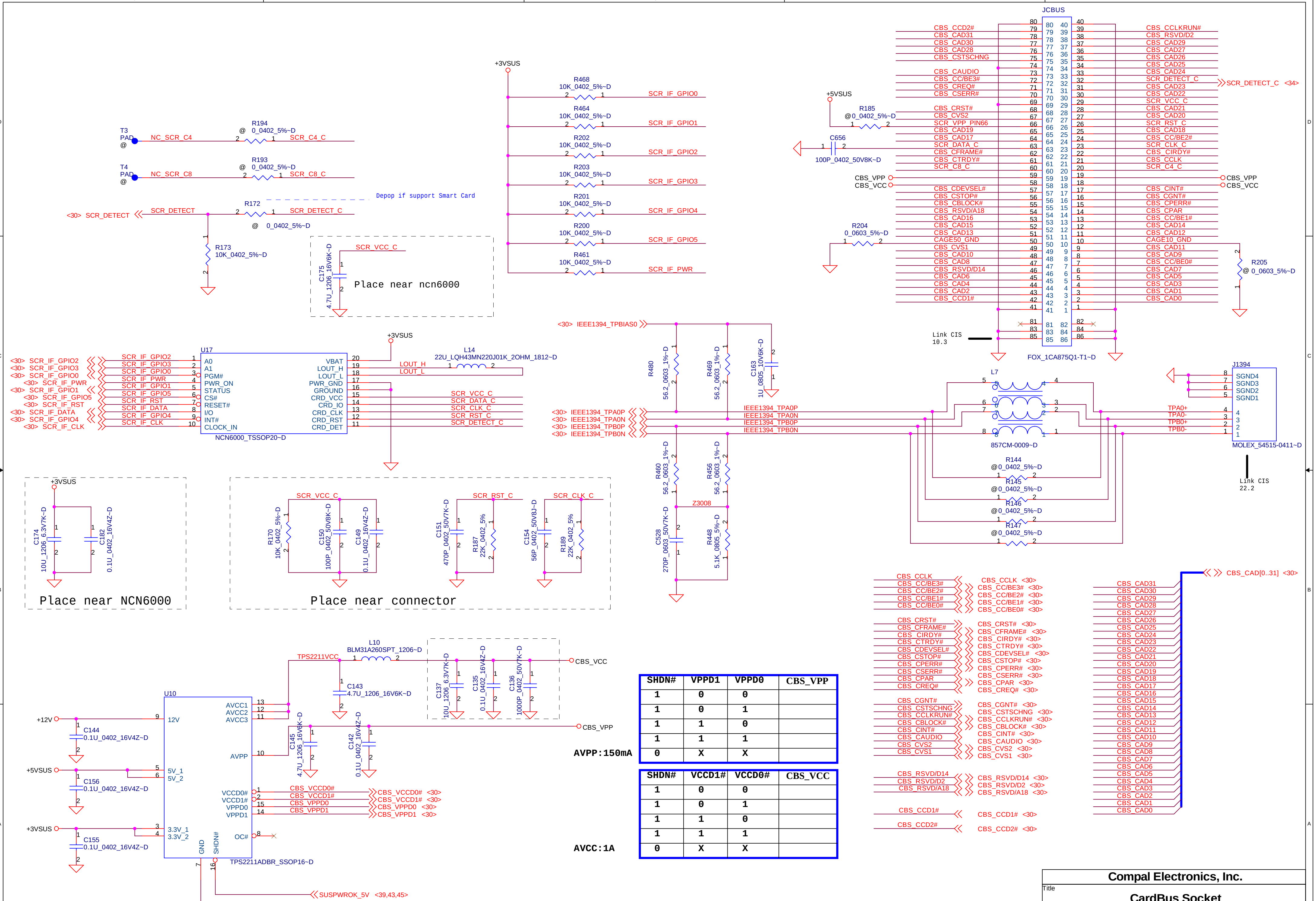
Compal Electronics, Inc.

Title

PCMCIA Controller

Size	Document Number	Rev
	LA-1711	X00-G

Date: Tuesday, March 18, 2003 Sheet 30 of 54



AVPP:150mA

SHDN#	VPPD1	VPPD0	CBS_VPP
1	0	0	
1	0	1	
1	1	0	
1	1	1	
0	X	X	

AVCC:1A

SHDN#	VCCD1#	VCCD0#	CBS_VCC
1	0	0	
1	0	1	
1	1	0	
1	1	1	
0	X	X	

Compal Electronics, Inc.
Title
CardBus Socket
Size Document Number Rev
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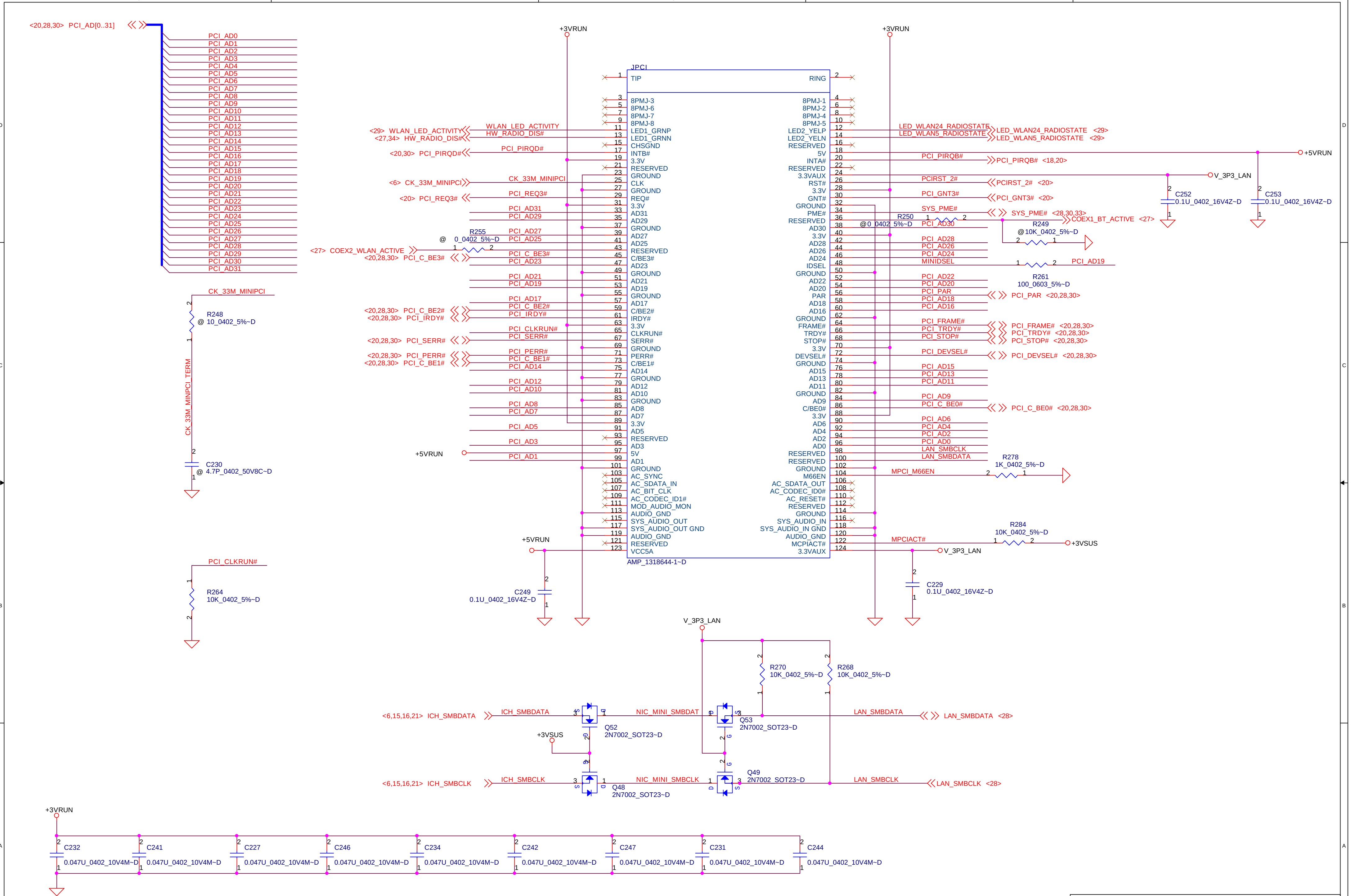

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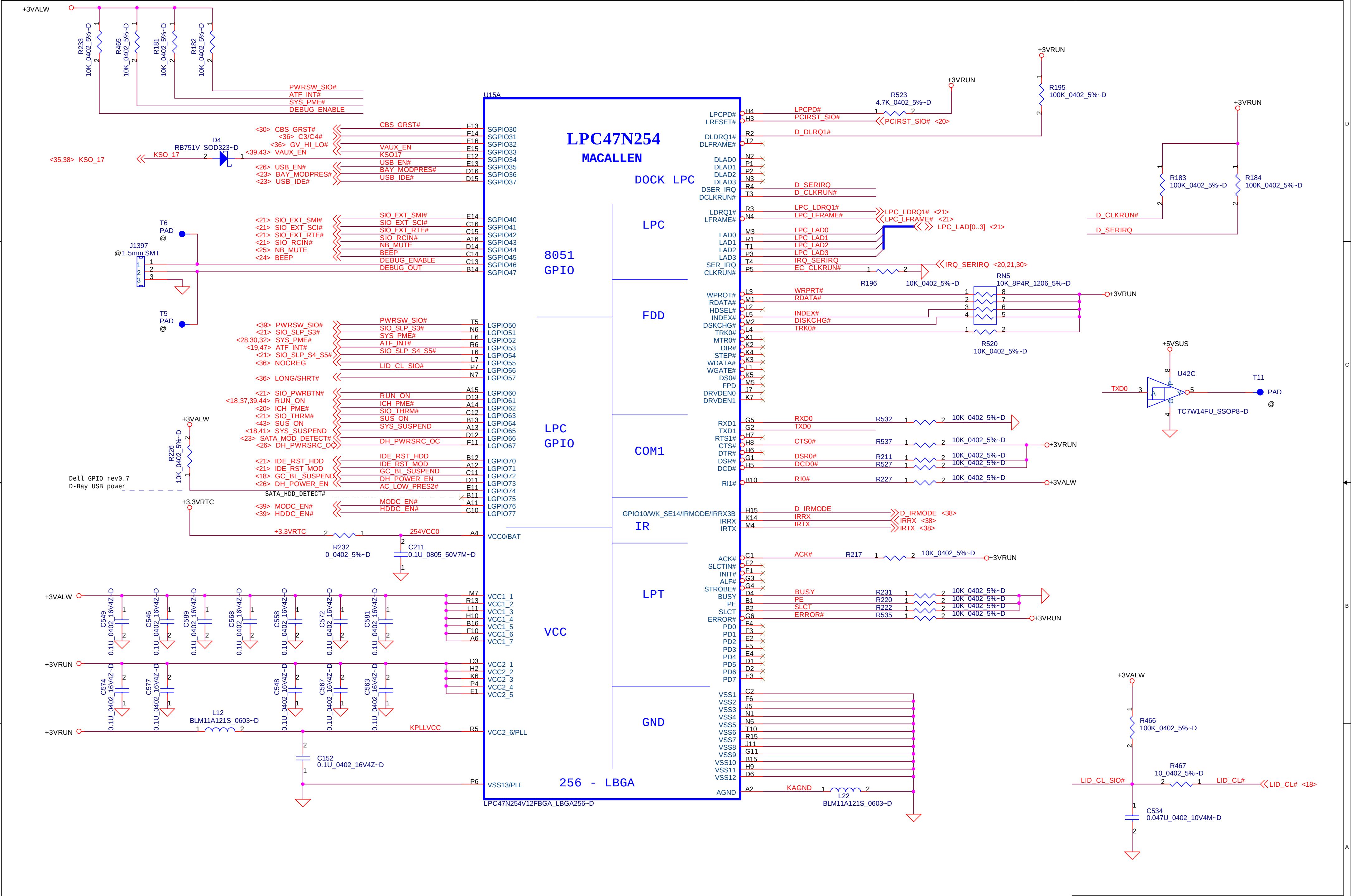
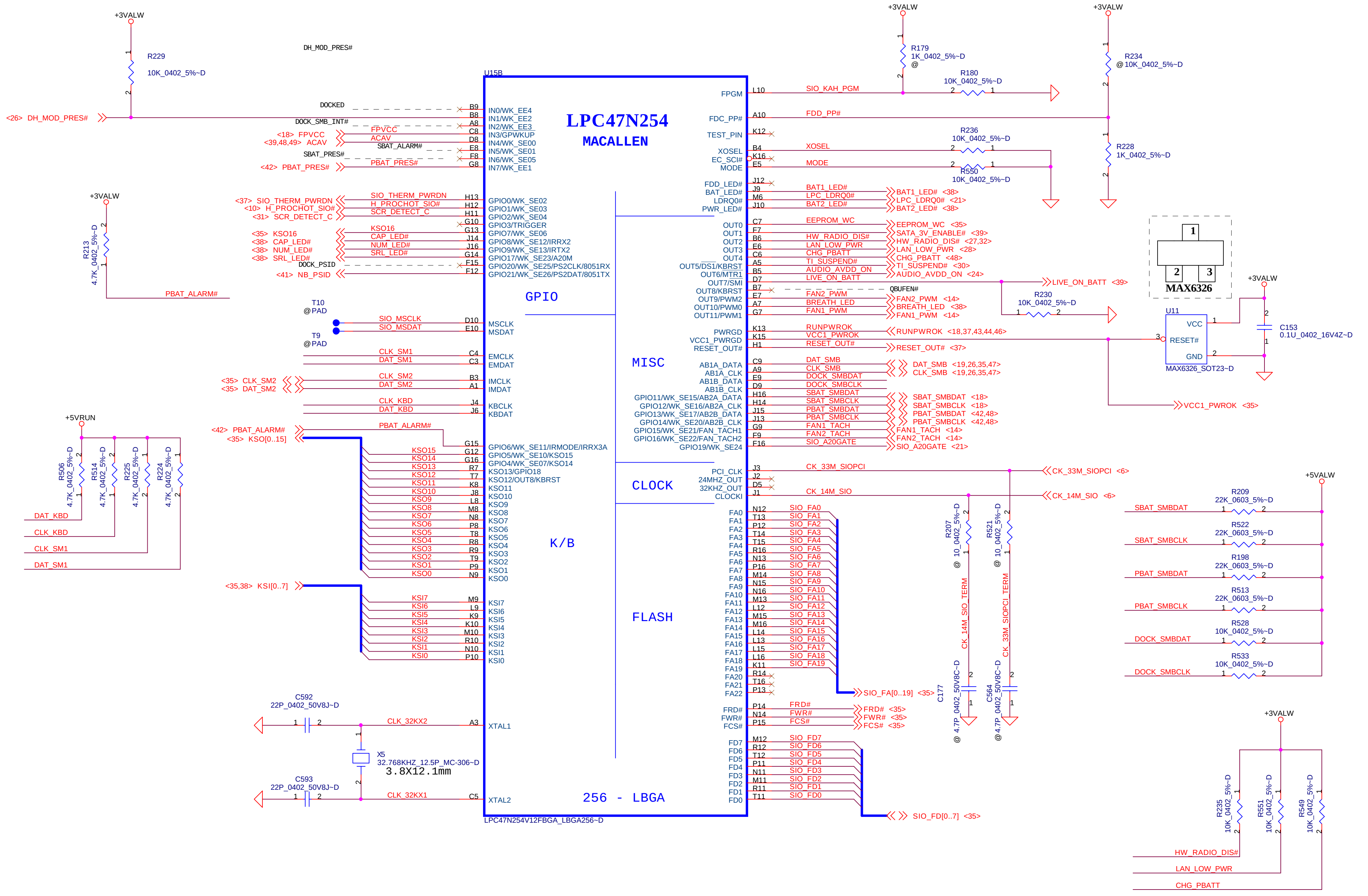
Compal Electronics, Inc.
Title
MINIPCI
Size Document Number
LA-1711
Rev X00-G
Date: Tuesday, March 18, 2003 Sheet 32 of 54



Compal Electronics, Inc.		
Title	SIO (1/2)	
Size	Document Number LA-1711	Rev X00-G
Date: Tuesday, March 18, 2003	Sheet 33 of 54	



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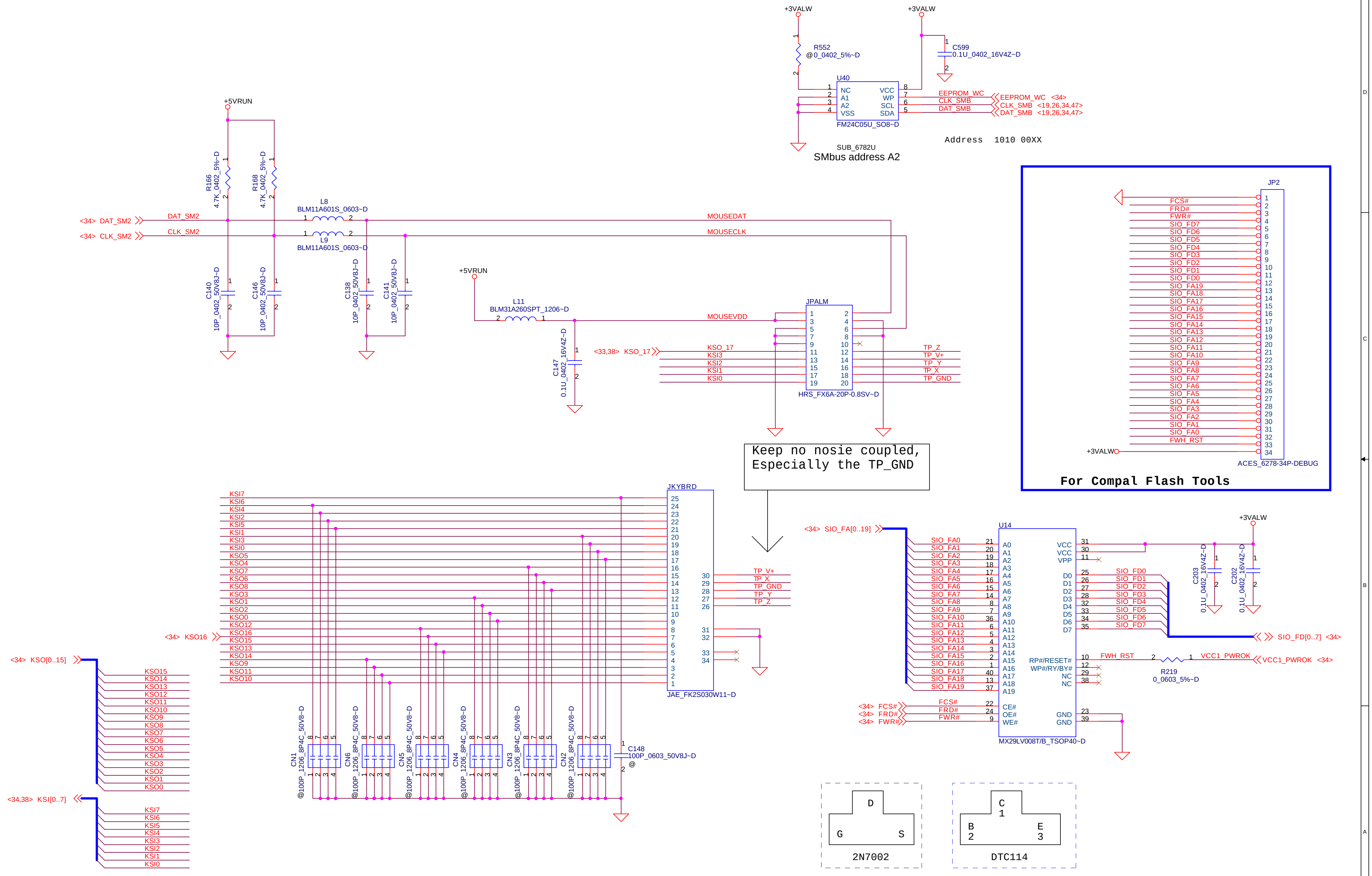
Compal Electronics, Inc.		
Title	SIO (2/2)	
Size	Document Number LA-1711	Rev X00-G
Date: Tuesday, March 18, 2003	Sheet 34 of 54	



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Compal Electronics, Inc.

Title
INT KB & ROM

Size	Document Number	Rev
	LA-1711	X00-G

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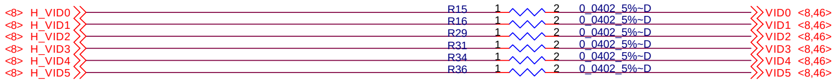
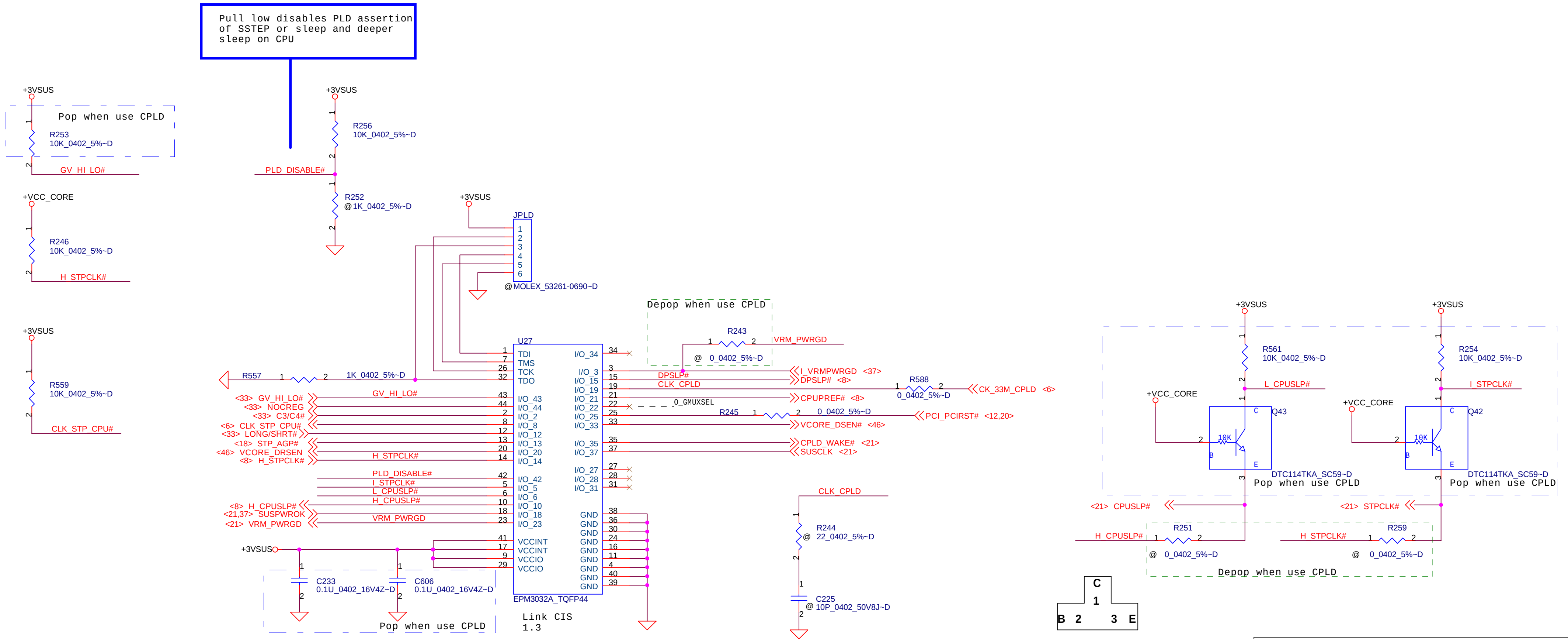
CPLD Function options Table

No.	Function	Speedstep enable	Speedstep disable
1	CPLD (U27)	Pop U27, C233, C606, R557,	Depop U27, JPLD, C233, C606, R557,
2	STPCLK# (From ICH to CPU)	Pop Q42, R254, Depop R259	Depop Q42, R254, Pop R259
3	CPUSLP# (From ICH to CPU)	Pop Q43, R561, Depop R251	Depop Q43, R561, Pop R251
4	VRMPWRGD (From Reset to ICH)	Depop R243	Pop R243
5	STP_AGP# (PLD to AGP)	Depop R96, Pop R98 (P.18)	Pop R96, Depop R98 (P.18)
6	CPUPREF# (From PLD to CPU)	Pop R380(P.8)	Depop R380 (P.8)
7	STPCPU_VR (From PLD to CPU Power)	Pop PR94, Depop PR95 (P.46)	Depop PR94, Pop PR95 (P.46)
8	DPRSLPVR (From PLD to CPU power)	Pop PR93, Depop PR92 (P.46)	Depop PR93, Pop PR92 (P.46)
9	PLD_WAKE# (From PLD to ICH)	Pop R141 (P.21)	Depop R141 (P.21)
10	PLD_DISABLE#	Pop R256, Depop R252	Depop R256, Pop R252
11	DPSLP#	Pop R76, R78(P.8)	Depop R76, R78(P.8)
12	PCI_PCIRST#(From ICH to PLD)	Pop R245	Depop R245
13	GV_HI_LO#	Pop R253	Depop R253





Dell Speedstep Support PLD

DTC114TKA

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Compal Electronics, Inc.

Title
PLD

Size
Document Number
LA-1711
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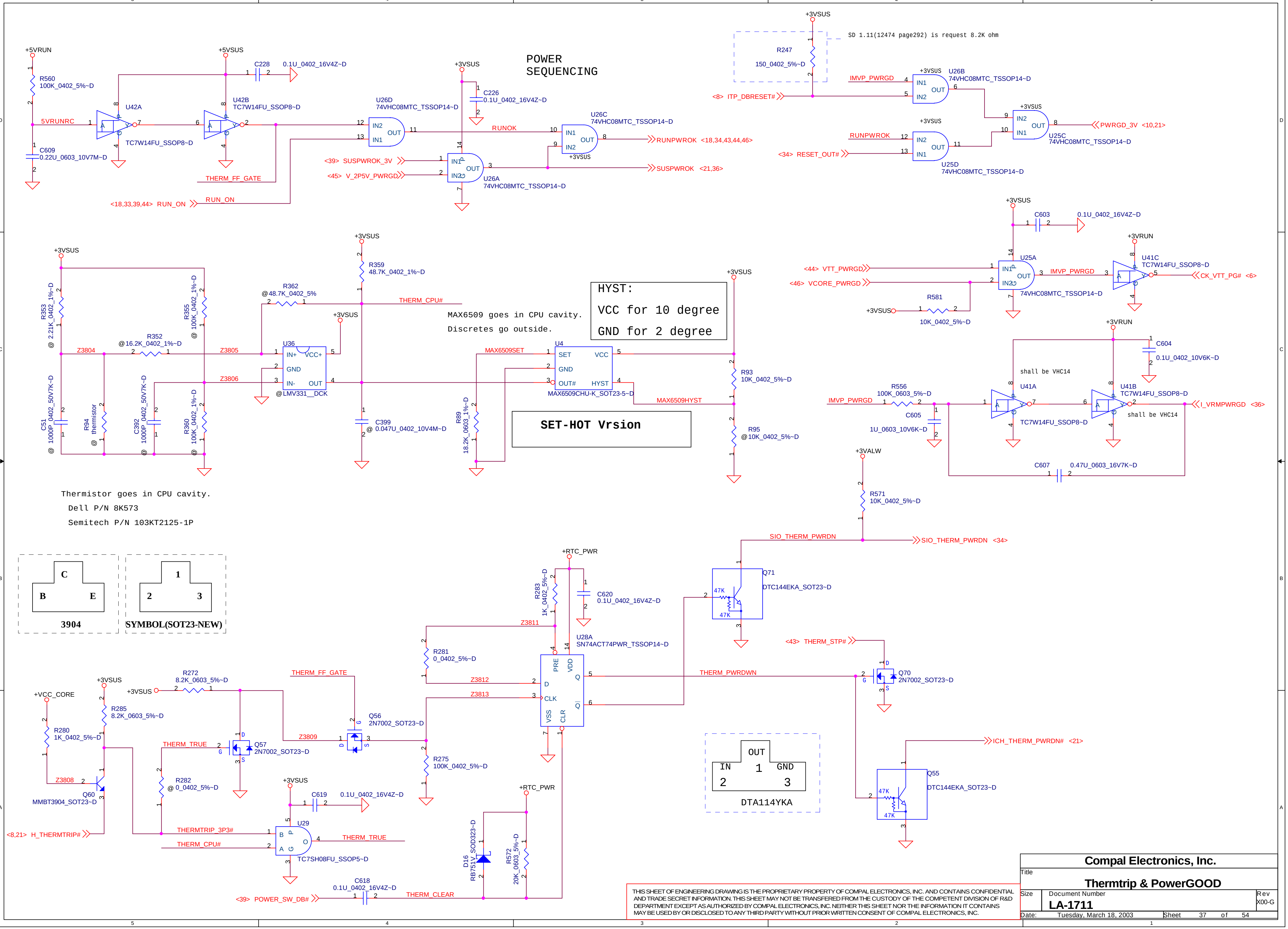

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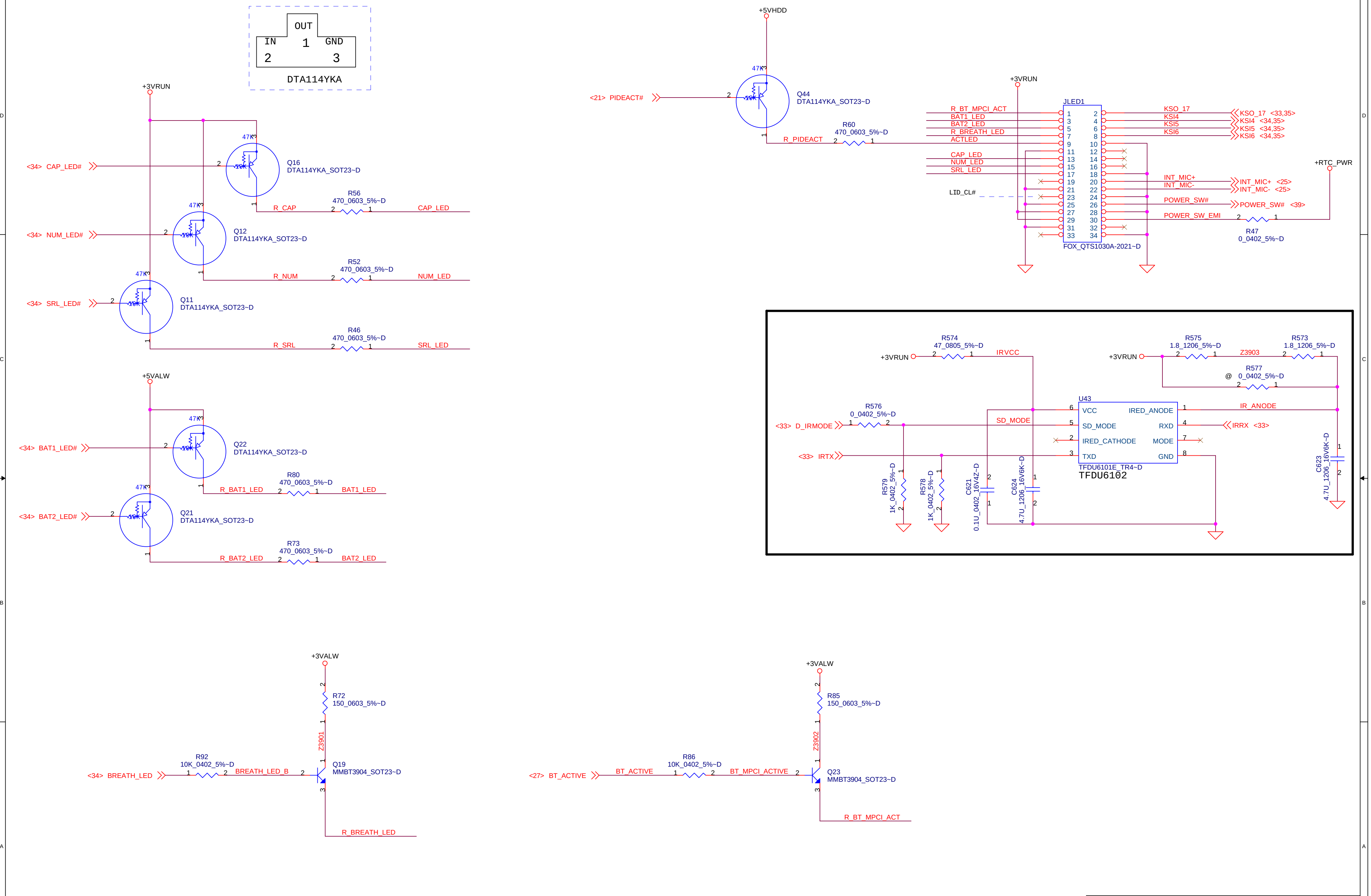
Compal Electronics, Inc.

Title
Thermtrip & PowerGOOD

Size
Document Number
LA-1711
Rev
X00-G

Date: Tuesday, March 18, 2003
Sheet 37 of 54



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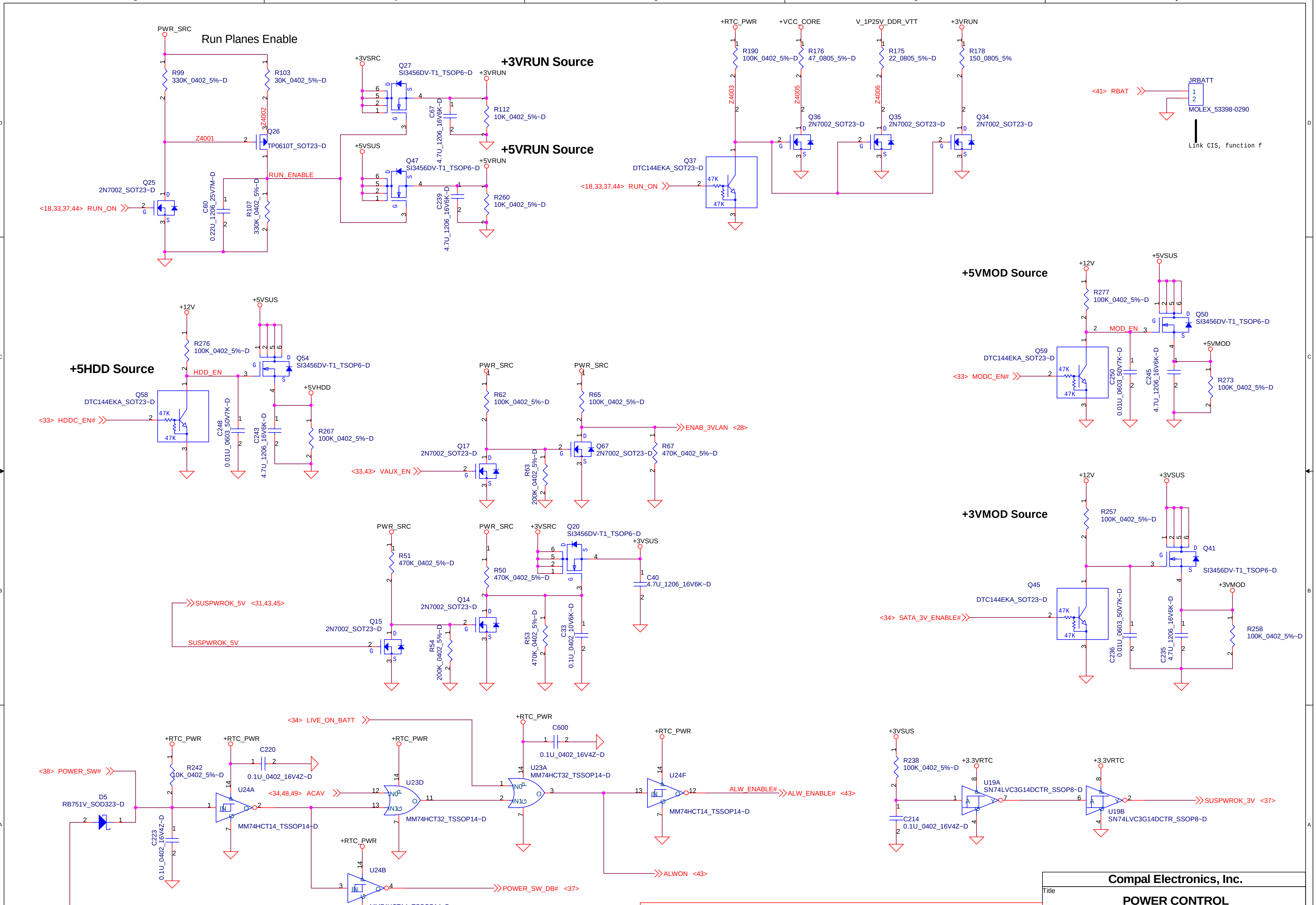
Compal Electronics, Inc.

Title

LED Interface & IrDA

Size	Document Number	Rev
	LA-1711	X00-G

Date: Tuesday, March 18, 2003 Sheet 38 of 54



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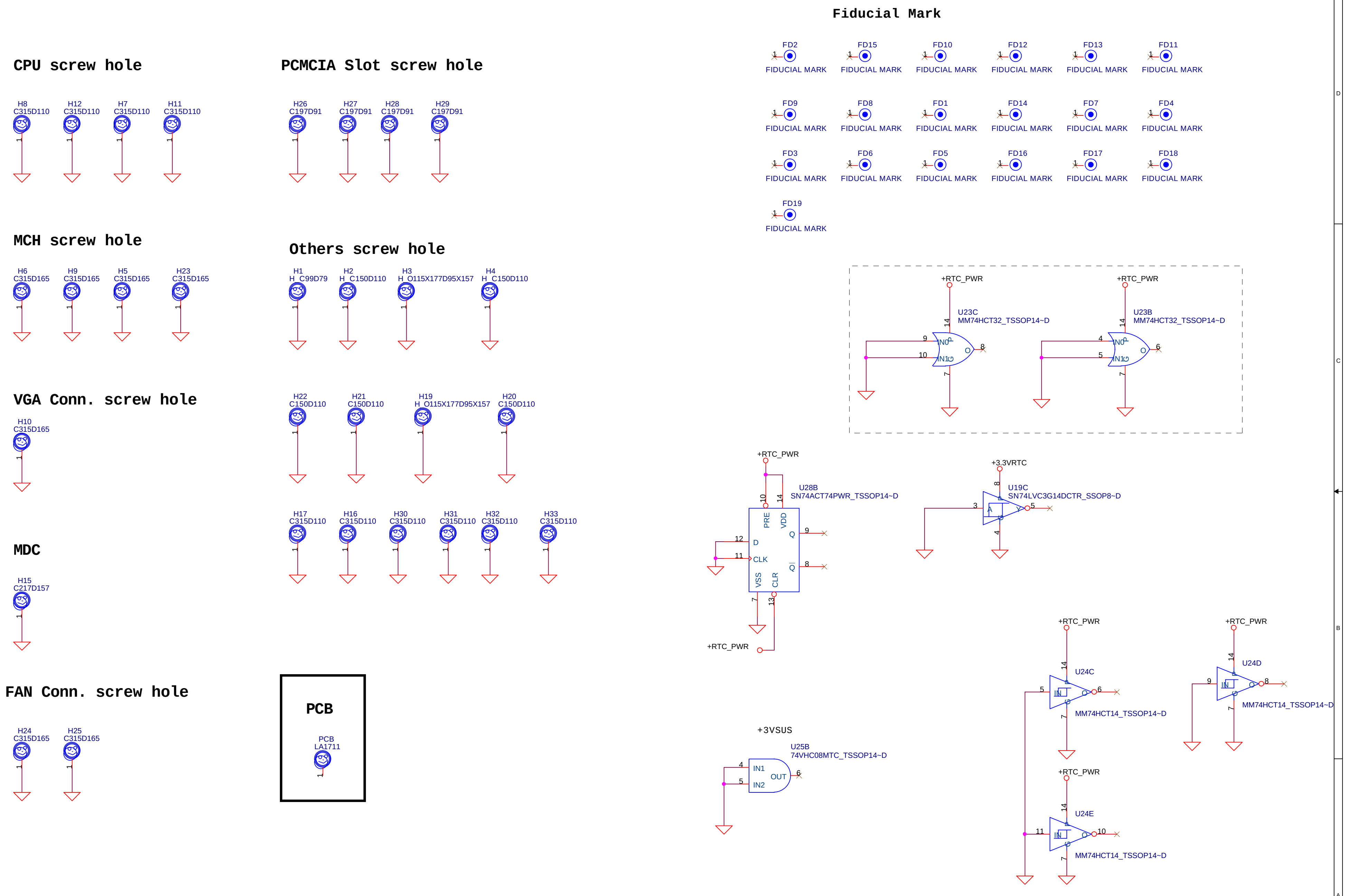
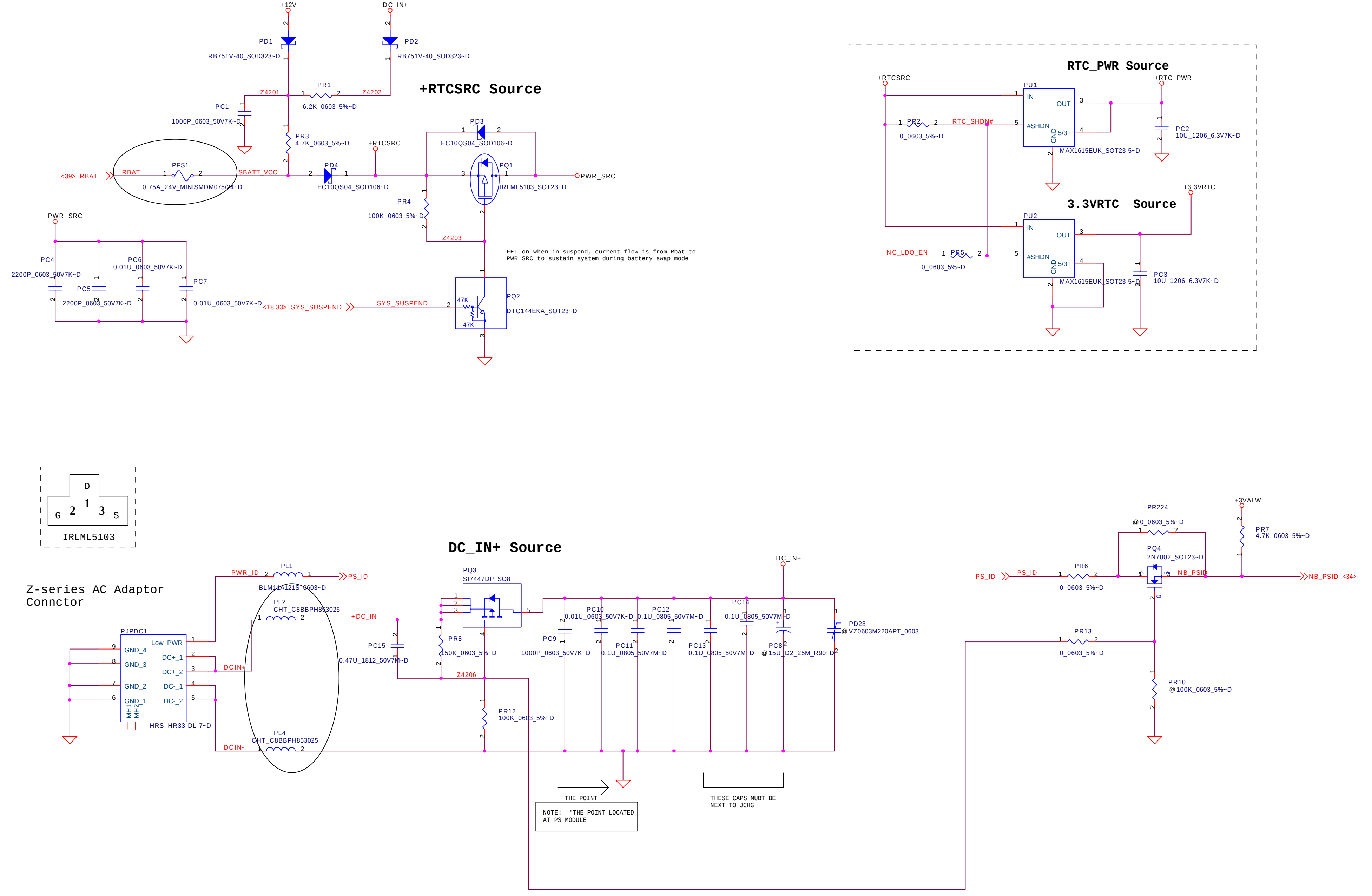
Compal Electronics, Inc.		
Title	POWER CONTROL	
Size	Document Number LA-1711	Rev X00-G
Date: Tuesday, March 18, 2003	Sheet 39 of 54	



Compal Electronics, Inc.
Title
PAD,Screw Hole and Spare Parts
Size
Document Number
LA-1711
Rev
X00-G
Date: Tuesday, March 18, 2003
Sheet 40 of 54



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Compal Electronics, Inc.

Title

DC-IN

Size Document Number Rev

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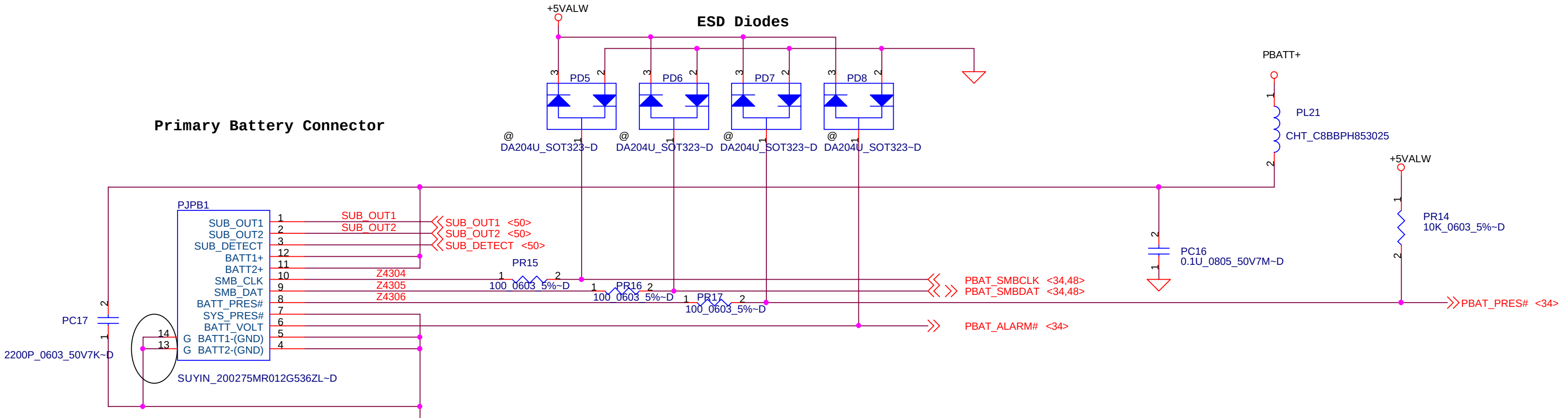
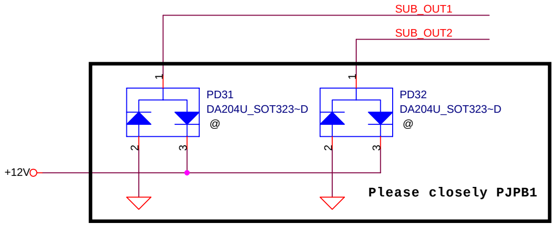
ESD Diodes

Primary Battery Connector

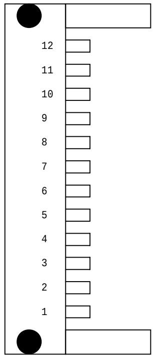


TRACE

THE POINT



Please closely PJPB1



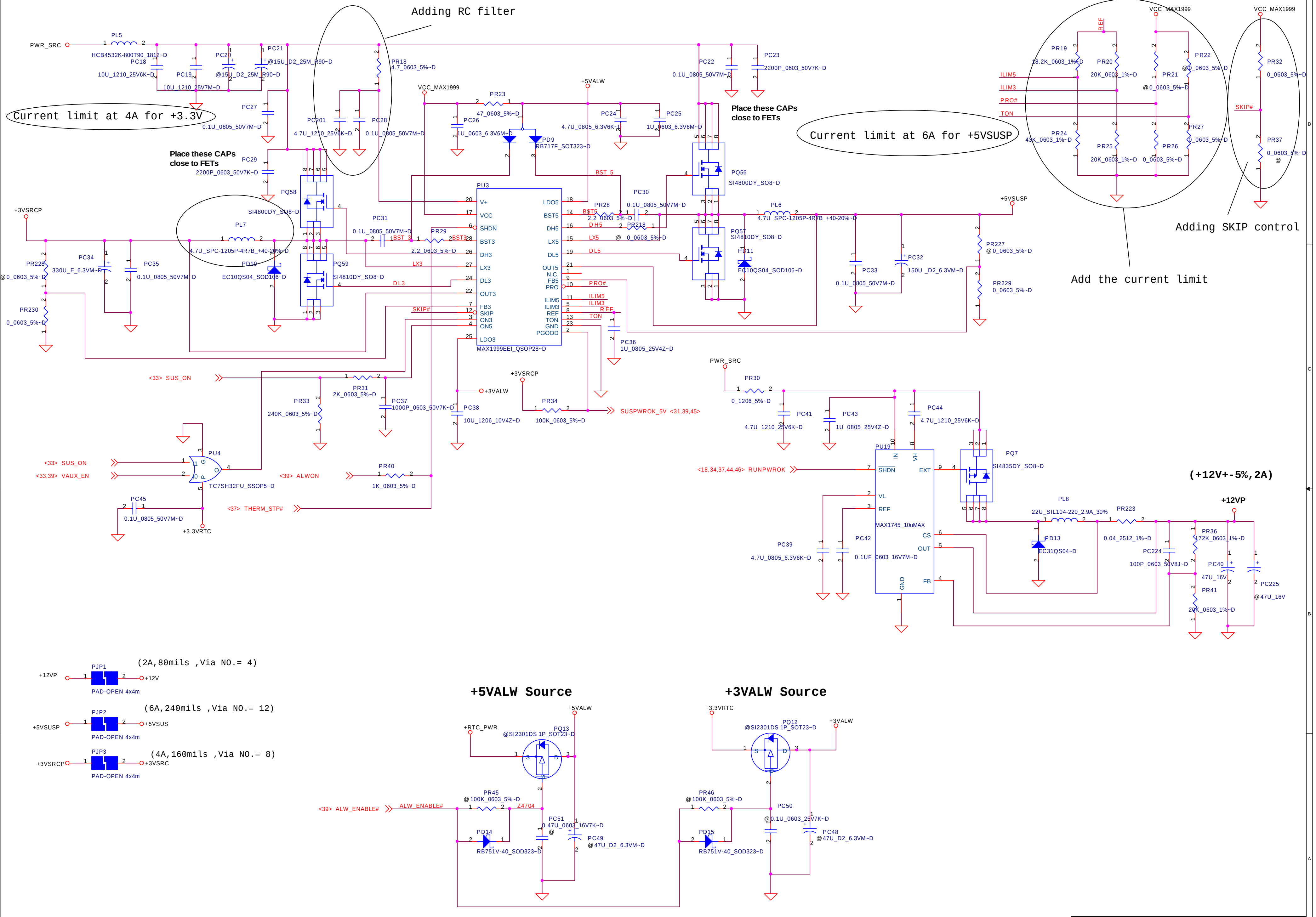
SUYIN_200275MRQ12G536ZL_12P
TOP view

Compal Electronics, Inc.

Title
Battery CONN.

Size
Document Number
LA-1711
Rev
X00-G

Date: Tuesday, March 18, 2003
Sheet 42 of 54



Compal Electronics, Inc.

Title
3.3V/5V

Size Document Number Rev
LA-1711 X00-G

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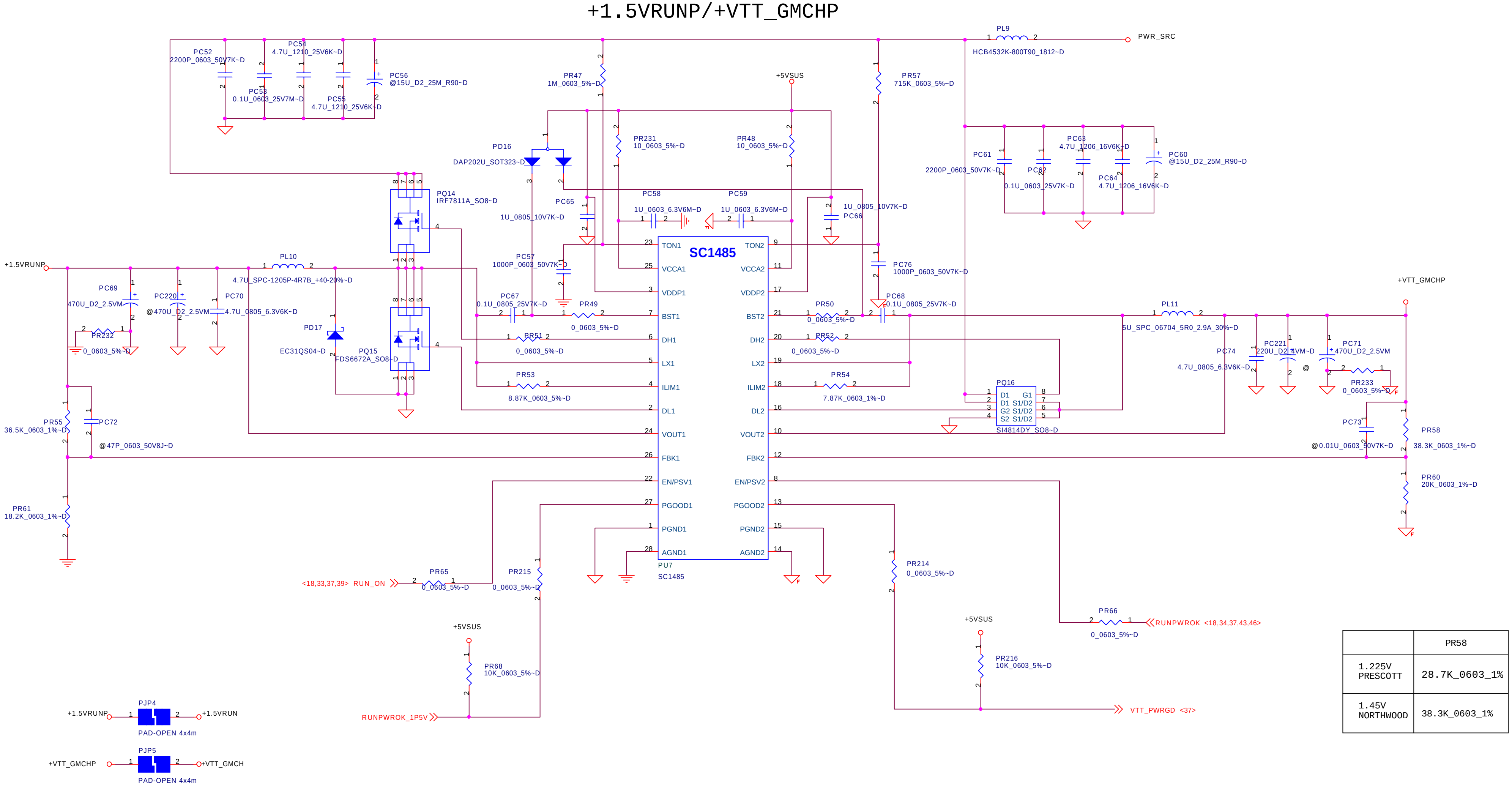
+1.5VRUNP/+VTT_GMCHP



	PR58
1.225V PRESCOTT	28.7K_0603_1%
1.45V NORTHWOOD	38.3K_0603_1%

Dell-Compal Confidential

Compal Electronics, Inc.

Title
+1.5VRUNP & +VTT_GMCHP

Size B
Document Number LA-1711
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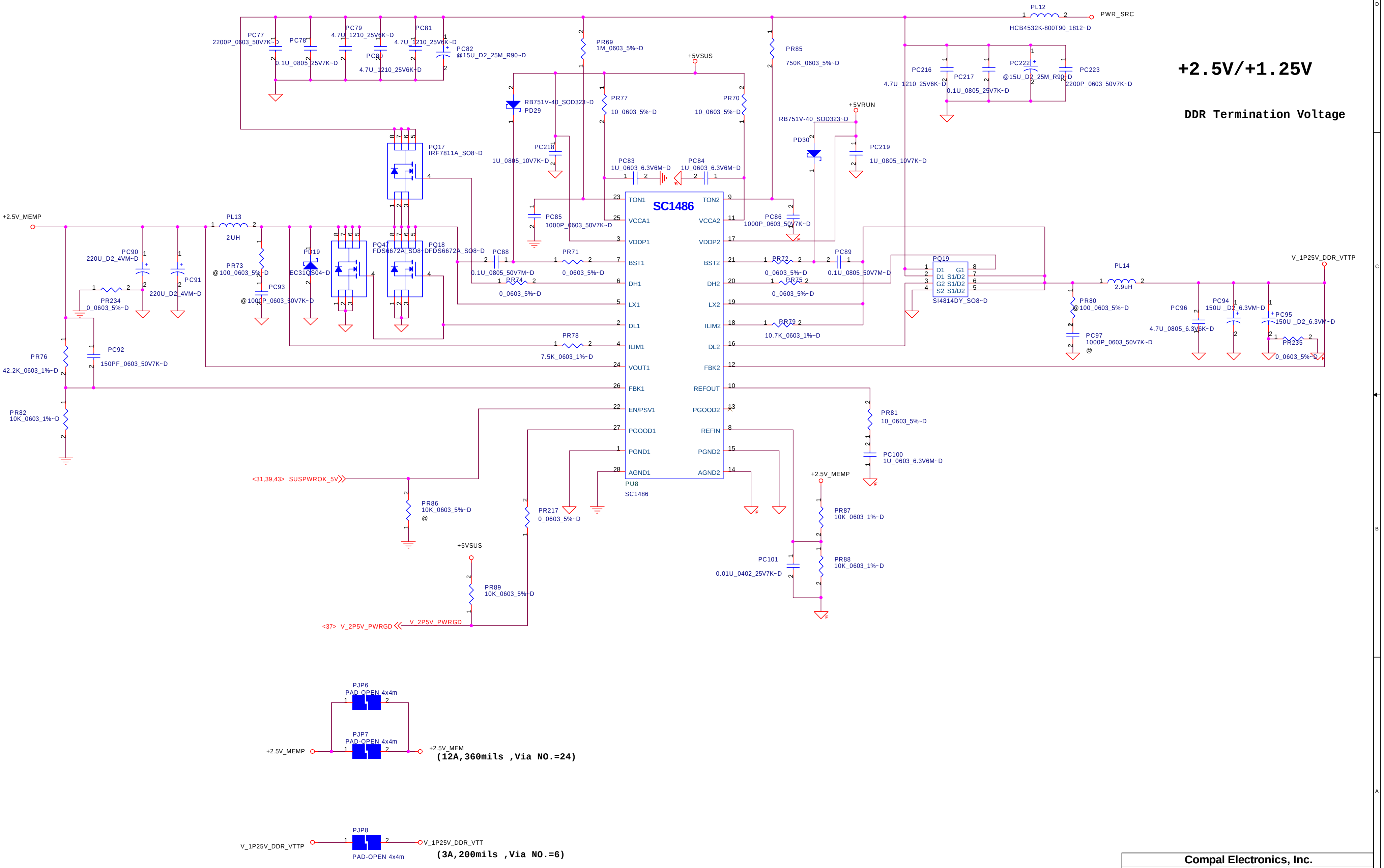
+2.5V/+1.25V

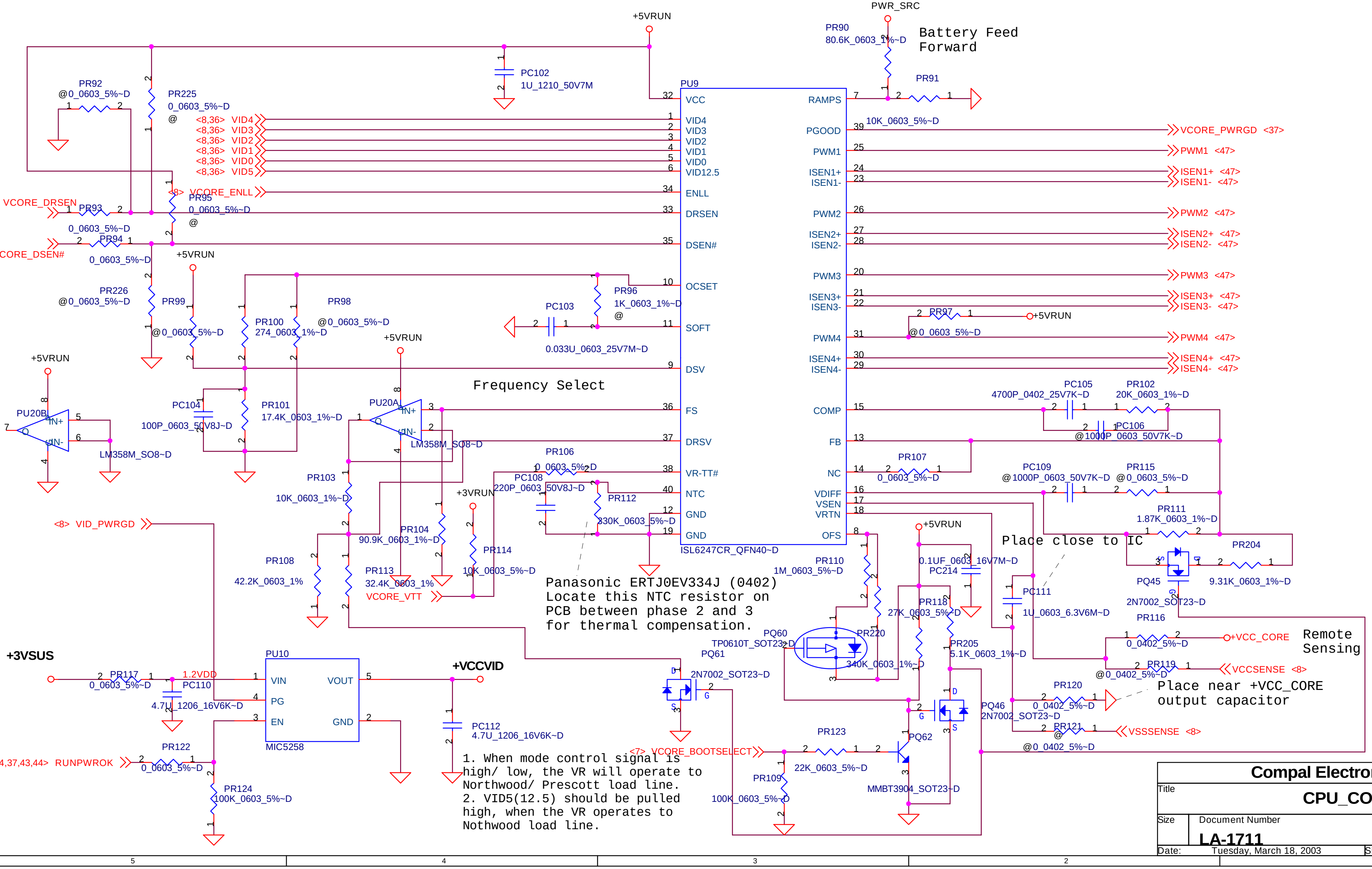
DDR Termination Voltage



(12A,360mils ,Via NO.=24)

(3A,200mils ,Via NO.=6)

Compal Electronics, Inc.		
Title 1.25V/2.5V		
Size	Document Number LA-1711	Rev X00-G
Date: Tuesday, March 18, 2003	Sheet 45 of 54	



Panasonic ERTJ0EV334J (0402)
Locate this NTC resistor on
PCB between phase 2 and 3
for thermal compensation.

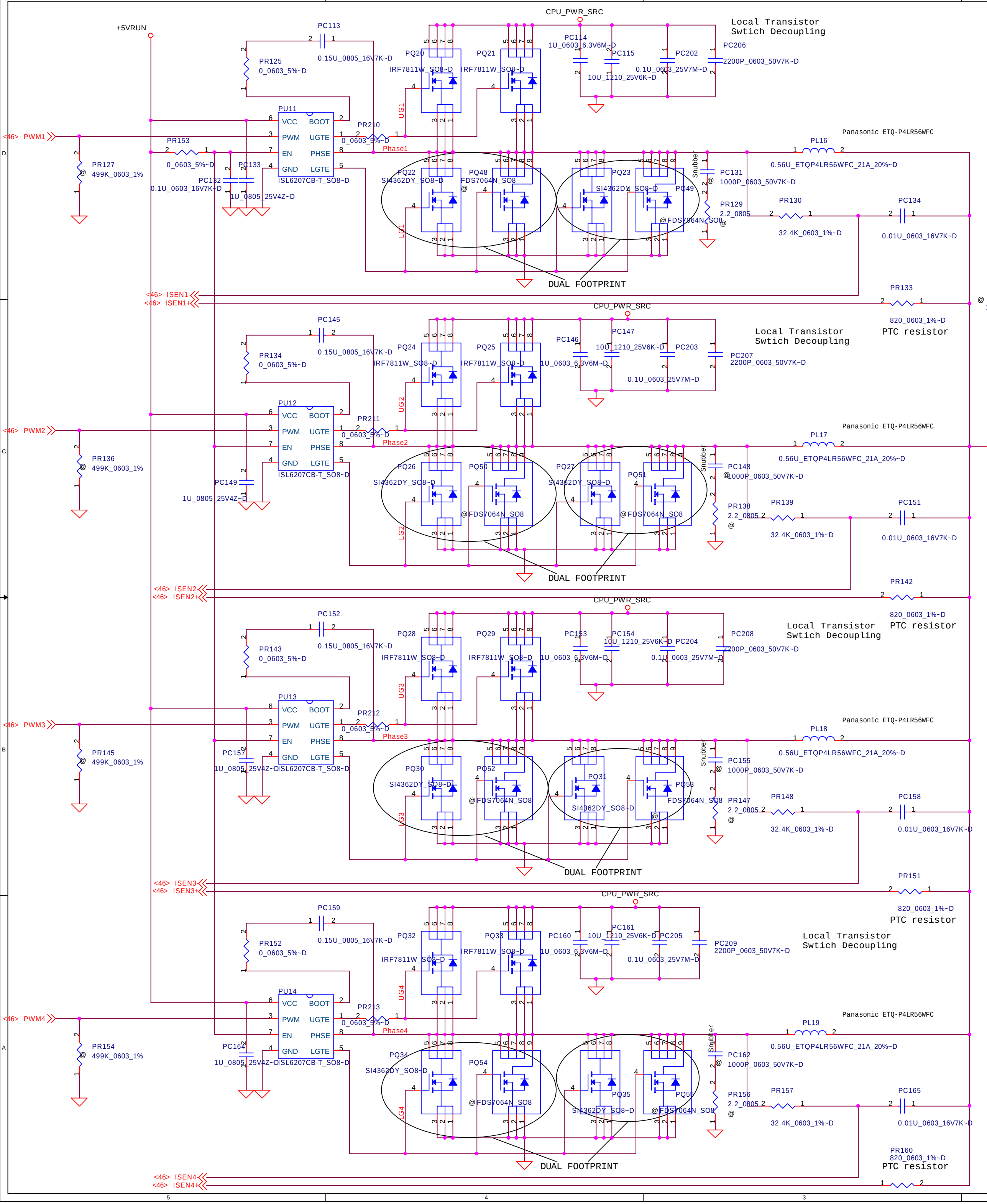
1. When mode control signal is high/ low, the VR will operate to Northwood/ Prescott load line.
2. VID5(12.5) should be pulled high, when the VR operates to Nothwood load line.

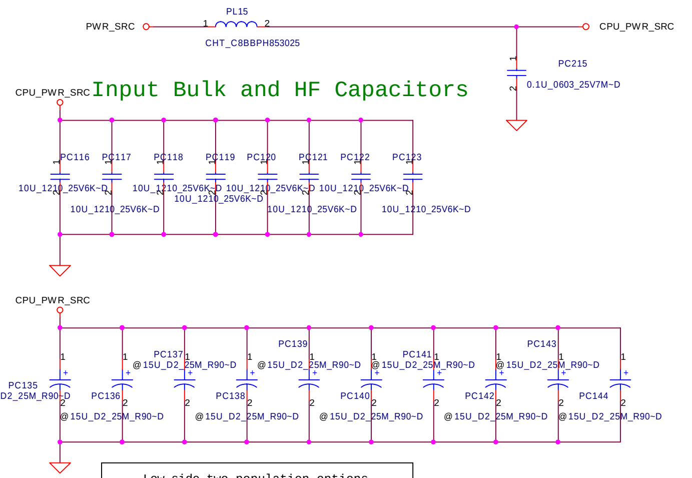
Compal Electronics, Inc.

Title
CPU_CORE_Controller

Size Document Number Rev
LA-1711 X00-G

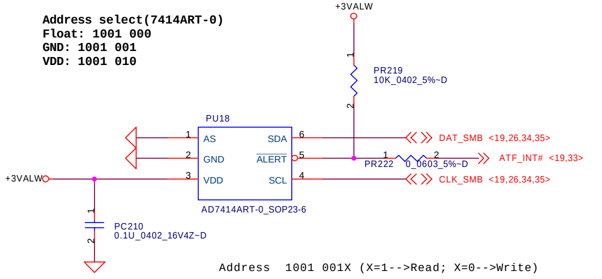
Date: Tuesday, March 18, 2003 Sheet 46 of 54





Low-side two population options	
SI4362DY_SO8: PQ22,PQ23,PQ26,PQ27, PQ30,PQ31,PQ34,PQ35	FDS7064N_SO8: PQ48,PQ49,PQ50,PQ51, PQ52,PQ53,PQ54,PQ55

Address select(7414ART-0)
Float: 1001 000
GND: 1001 001
VDD: 1001 010



Address 1001 001X (X=1-->Read; X=0-->Write)

Notes:

The ISL6561(ISL6427) supports lossless current sensing including Inductor DCR and MOSFET rDSon sensing. Schematic components are color coded accordingly. In addition an external sense resistor can be used for higher load-line accuracy but this will impact system cost and efficiency.

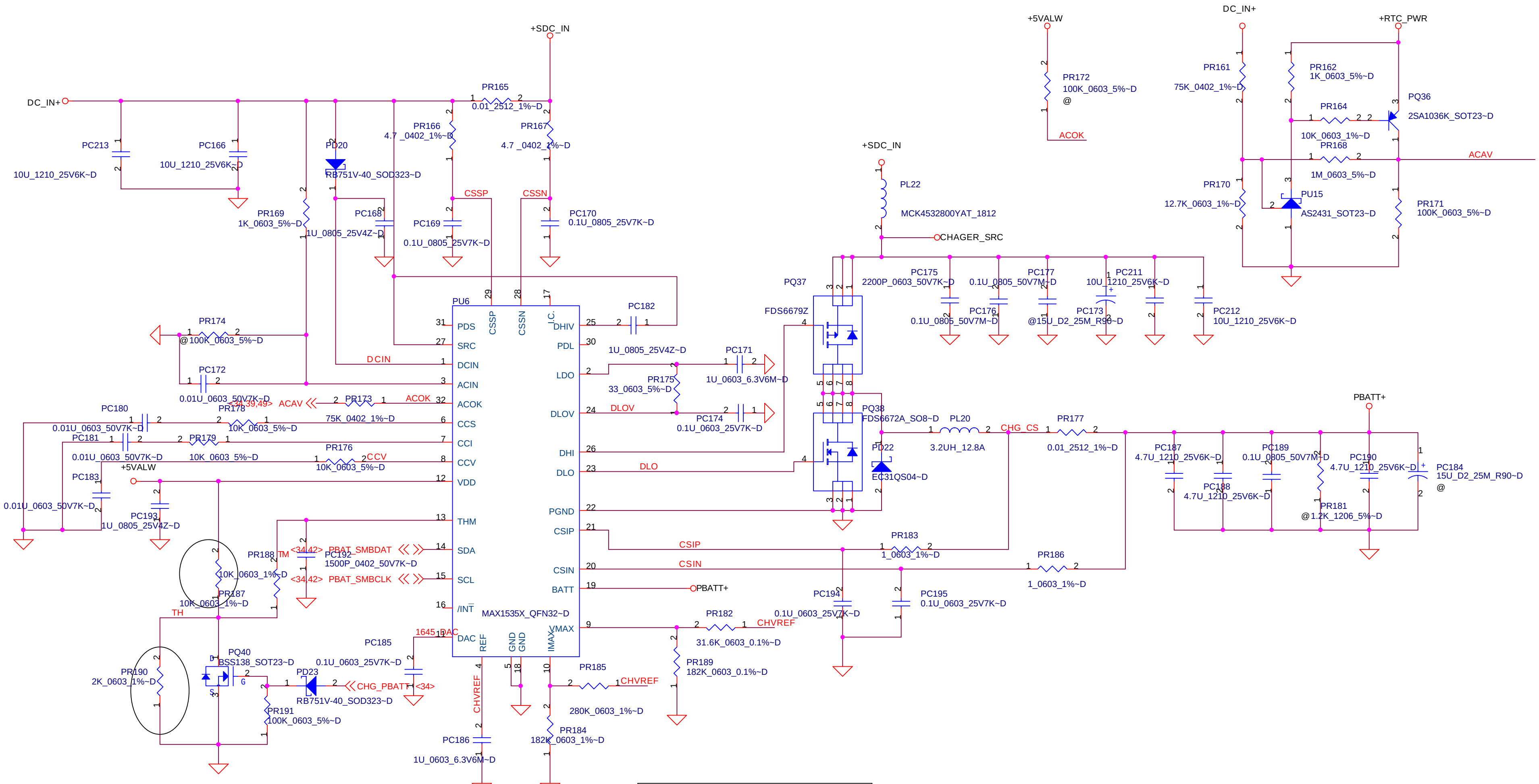
Sync. Rectifiers use thermally enhanced "PowerPak" technology in an SO-8 form-factor. Optimal MOSFETS will be chosen based on thermal performance.

Depending on the processor final requirments and empirical thermal result testing a 3 phase solution may be possible. In the 4 phase configuration a single upper mosfet may also be sufficient.

Add thermal venting vias to board. Vias under parts must have a minimum pitch of 1mm and hole size of 0.3mm to avoid solder wicking.

DCR
Inductor
Sensing

Compal Electronics, Inc.
Title
CPU_CORE_Power-Stage
Size Document Number Rev
LA-1711 X00-G
Date: Tuesday, March 18, 2003 Sheet 47 of 54



```
VMAX=3.49V
Maximum charger voltage=17.45V
```

```
IMAX=1.6V
Maximum charger current=8A
```

Compal Electronics, Inc.

Title

CHARGER CONTROL

Size

Document Number

LA-1711

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X00-G

Date: Tuesday, March 18, 2003

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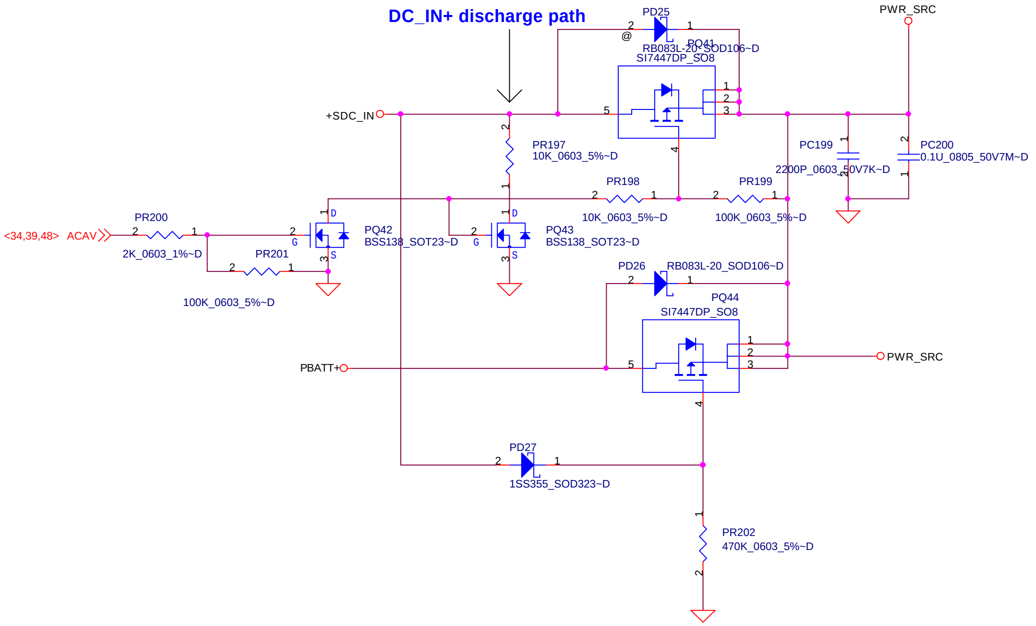

Compal Electronics, Inc.

Title
Battery Discharge

Size
Document Number
LA-1711
Rev
X00-G

Date: Tuesday, March 18, 2003
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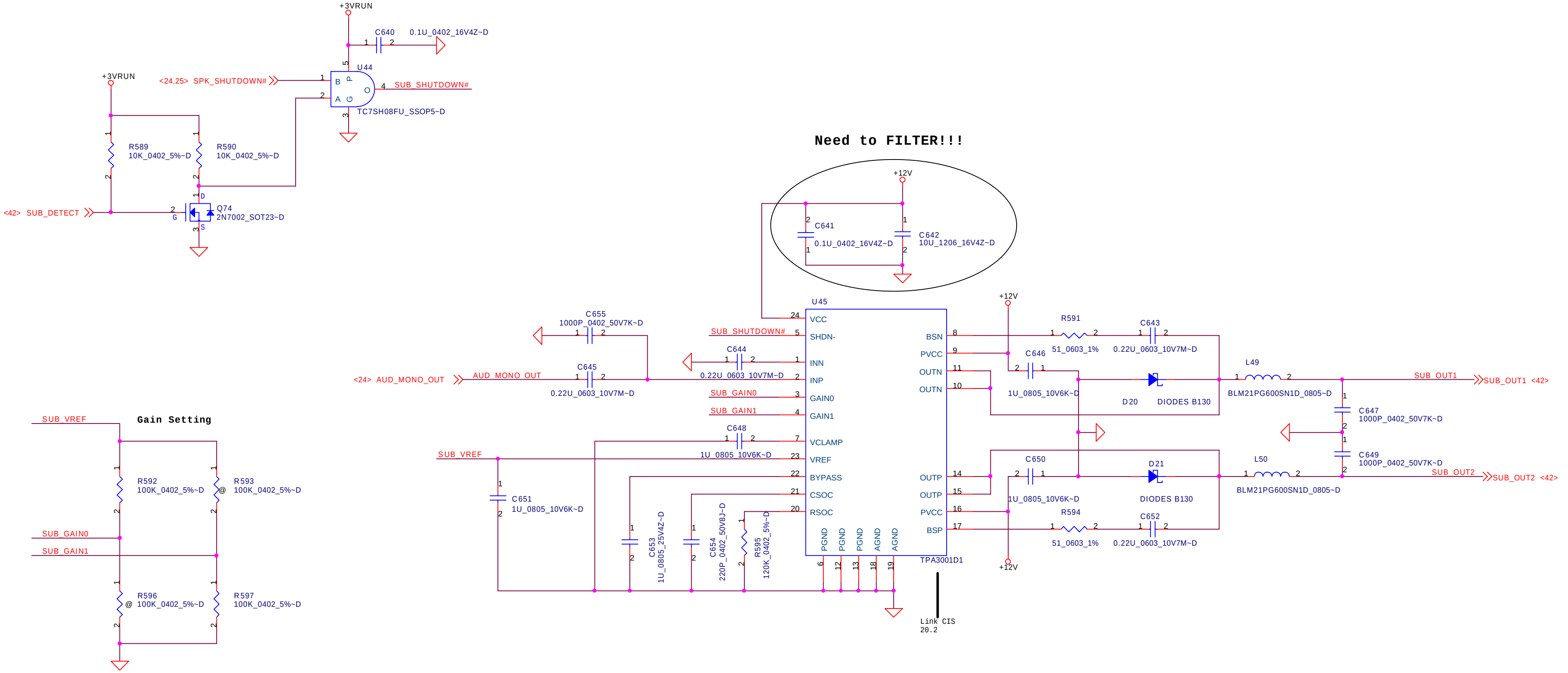

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Compal Electronics, Inc.	
Title	**Subwoofer**
Size	Document Number **LA-1711**
Rev	X00-G
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Sheet	50 of 54

Version Change List (P. I. R. List)   Page 1/3

Item	*Page#*	*Title*	*Date*	*Request Owner*	*Issue Description*	*Solution Description*	*Rev.*
1	8	Prescott Processor	2/17/2003	Compal	ITP Connector default depopulate	Depop RN8 (RN8 is populted on M00)	X00-A
2	11	Springdale-DDR Interface	2/17/2003	Compal	Resistor value SPEC isn't meet Intel recommend	Correct R367,R109 from 40.2_0603_1% to 42.2_0603_1% (M00 R109,R367 are mount 42.2_0603_1%)	X00-A
3	21	ICH5-IDE/LPC/PM/GPIO/LAN	2/17/2003	Compal	Dell M00 Board Bring up issue item4: ICH5 PIN Y18, A19 are swapped on JHDD in the schematics and Pins V20, V22 are also swapped. HDD can't boot.	Swap IDE_PDCS1# and IDE_PDCS3#; Swap IDE_SDCS1# and IDE_SDCS3#.	X00-A
4	23	D-MODULE	2/17/2003	Compal	Dell M00 Board Bring up issue item5: +3.3VMOD power net no power source.we have two signal names for +3.3VMOD /+3VMOD, need jump wire.	Correct power net from +3.3VMOD to +3VMOD	X00-A
5	23	D-MODULE	2/17/2003	DELL	Need to cross the TX and RX lines on the motherboard side	Change JMOD1 pin8 from SATA_MODTX+ to SATA_MODRX+ Change JMOD1 pin10 from SATA_MODTX- to SATA_MODRX- Change JMOD1 pin14 from SATA_MODRX+ to SATA_MODTX+ Change JMOD1 pin16 from SATA_MODRX- to SATA_MODTX-	X00-A
6	26	USB(2.0) Connector	2/17/2003	DELL	Del all mark "2@" symbol, All components default must populate. Nimitz and Beijing both are support Dog House.	Del all mark "2@" symbol, All components default must populate. (All mark"2@" components are populate on M00 Board)	X00-A
7	37	Thermtrip & PowerGOOD	2/17/2003	Compal	Dell M00 Board Bring up issue item3: No generate system clock. U25 Pin1 and Pin 2 need to be shorted together, VCORE_PWRGD is an OD signal and it does not have a pullup.	VCORE_PWRGD signal add a 10K_0402_5%(R581) resistor pull up to +3VSUS.	X00-A
8	25	AMP and PHONE JACK	2/27/2003	DELL	Change OP amplifier power from +12V to +5V ,change audio amplifier as same as Abacus-MT	Change audio amplifier from TPA3002D2PHP to TI6017A2 (BOM need change)	X00-C
9	29	LAN Transfomer	2/27/2003	DELL	ME Connectors are interfere	Change RJ11/RJ45 receptacle connector to staddle type	X00-C
10	18	VGA Daughter Board Conn.	3/05/2003	Compal	Dell EE issue item38: Change AGP connector vendor	Change connector from ACES_88075-1600 to FOXCONN FOXCONN_QT00160A-9120L (BOM need change)	X00-D
11	6,34,36	Clock Generator	3/05/2003	DELL	Dell EE issue item22: This change is required due to not getting the 24MHz clk of the EC to work.	1.Del 24M_CLK net and R210(33_0402_5%) 2.Add series termination R587(33_0402_5%) near CK409 and R588(0_0402_5%) near the CPLD. Add net name from CK409 to CPLD. (BOM need change)	X00-D
12	8	Prescott Processor	3/05/2003	DELL	Dell EE issue item23: To prevent backdrive in S3	Change RN7,R35,R37 pullups from +3VSUS to +3VRUN.	X00-D
13	21	ICH5-IDE/LPC/PM/GPIO/LAN	3/05/2003	DELL	Dell EE issue item25: This pin is not 5V tolerant.	Change R388 pullup from +5VRUN to +3VRUN.	X00-D
14	33,36	SIO (1/2) & PLD	3/05/2003	DELL	Dell EE issue item26: Change name of the follow signal from GV_LO_HI# to GV_HI_LO#	Change name of the follow signal from GV_LO_HI# to GV_HI_LO#	X00-D
15	25	AMP and Phone Jack Interface	3/05/2003	DELL	Dell EE issue item39: 1.Change the population option for R583 and R584 to no pop 2.Change the voltage rai lto D7, D6, D9, D8 to +5VRUN	1.R583,R584 Add "@" symbol and depop. 2.Change power from +12V to +5VRUN.	X00-D
16	18	VGA Daughter Board Conn.	3/05/2003	DELL	Dell EE issue item37: Table for ST1 and ST2, were did this table come from?	Delete ST1,ST2 table and R324~R327 (BOM need change)	X00-D
17	12	Springdale-AGP /HUB/VGA/CSA	3/05/2003	DELL	Dell EE issue item36: AGP8X_DET_GC circuit need to change per the errata change.	Change Q13 from MMBT3904 to 2N7002; R55 from 33.2_0603_1% to 39.2_0603_1% (BOM need change)	X00-D

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18	21	ICH5-IDE/LPC/ PM/GPIO/LAN	3/07/2003	Compal	HDD pinout are reversed	Change pinout and and connector part number(BOM need change)	X00-E
19	23	D- MODULE	3/07/2003	Compal	Change D- Module connector (Mating Height issue)	Change connector from JAE_WM1F068N1A to Foxconn QL11343-A6B3-HT	X00-E
20	26	USB(2.0) Connector	3/07/2003	Compal	ME Connectors are interfere	Change connector to staddle type. Foxconn Fox_UB11193-P01-TR (BOM need change)	X00-E
21	11	Springdale-DDR Interface	3/07/2003	Compal	Dell M00 Board Bring up issue item34,35: SMXRCOMPVOH - add 0.1UF cap from +2.5V (pin2 of C65) to GND SMYRCOMPVOH - add 0.1UF cap from +2.5V (pin2 of C53) to GND	Add C636 and C637(0.1U_0402_16V4Z) ~~[BOM need change]~~	X00-E
22	36	PLD	3/08/2003	DELL	Dell M00 Board Bring up issue item27 Need to change PLD pinout per the right package program.	Follow CPLD rework instruction, correct U27 symbol pin out.	X00-E
23	36	PLD	3/08/2003	DELL	Dell M00 Board Bring up issue item28 Eliminate the VID MUX and keep the zero Ohm resistors	Del U1,C10,R14,R18,RP1,R13 (BOM need change)	X00-E
24	8,18,36		3/08/2003	DELL	Dell M00 Board Bring up issue item24 Change the table on pg 36 to reflect the correct refdes and components see PLD rework instructions	Page36: Pop U27, C233, C606, R557 ;Pop Q42, R254, Depop R259 ; Pop Q43, R561, Depop R251,R243 ; Pop R256, Depop R252; pop R245, R253 Page18: Depop R96, Pop R98 Page8 :Pop R76,R78,R380 Page46: PR94,PR93, Depop PR95,PR92 [BOM need change]	X00-E
25	8	Prescott Processor	3/12/2003	DELL	Dell M00 Board Bring up issue item32 Depop pullup R84 on H_RESET# since we have another pullup R358	Depop R84 ,62_0402_5%(BOM need change)	X00-F
26	11	Springdale-DDR Interface	3/12/2003	DELL	Value is not correct	Change C636,C637 (0.01U_0402_16V7K) [Add it on BOM]	X00-F
27	14	FAN CONTROL	3/12/2003	Compal	ME connector design change	Change JFAN2 from MOLEX_53261-0310 to MOLEX_53398-0390; Delete JFAN1 [BOM need change]	X00-F
28	15,19	CPU Thermal Sensor & FAN Control	3/12/2003	DELL	To saving cost	Delete U35(AD7414ART-0),R345(10K_0402_5%),R348(0_0402_5%), C383(0.1U_0402_16V4Z); Add Q73(MMBT3904) [BOM change]	X00-F
29	19	CPU Thermal Sensor & FAN Control	3/12/2003	Compal	ME connector design change	Change JFAN3 from MOLEX_53261-0310 to SUYIN_250019MR003G400ZL [BOM need change]	X00-F
30	25	AMP and PHONE JACK	3/12/2003	Compal	ME connector design change for phone Jack and Int.SPK	Change JSPK from MOLEX_53261-0690 to MOLEX_53398_0890; change JP1 from HRS_DF20-10DP-1V to NAIS_AXN320C038P; Add C638,C639(22U_1206_16V4Z) [BOM need change]	X00-F
31	24,25,50	Subwoofer	3/12/2003	DELL	Add Subwoofer circuit	Page24: U16 pin37 connect to C646 pin1(AUD_MONO_OUT) Page25: Del R586(100K_0402_5%) [BOM need change] Page50 : Add subwoofer circuit [Add]	X00-F
32	31	CardBus Socket	3/12/2003	DELL	All model support smart card function	Update page3 Table and change mark "1@" symbol to "@"	X00-F
33	21	ICH5-IDE/LPC/ PM/GPIO/LAN	3/12/2003	DELL	Follow Intel DG (12837)ICH_SYNC# circuit implementation	Depop R161,R167,R169,Q32,Q33 and pop R438(0_0402_5%) [BOM need change]	X00-F
34	31	CardBus Socket	3/13/2003	Compal	Correct Item32	Populate U17 and L14, delete "1@" symbol [Don't need change BOM]	X00-G

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35	27,31		3/14/2003	Compal	ME connector design change	Page27 :Change JMDC from FOX_QT8A0301-3011 to AMP_3-1612118-0 Page31: Change JCBUS form FCI_61082-081001 to FOX_1CA87501-T1~D; Change J1394 from FOX_UV31413-K8 [BOM need change]	X00-G
36	31	CardBus Socket	3/14/2003	DELL	Dell Schematic issue item12 Please add a 100PF cap to SC_DATA_C per TI late recommendation	Add C656(100P_0402_50V7K). [BOM need change]	X00-G
37	8	Prescott Processor	3/14/2003	DELL	H_DPSLP# doubule pull up	Depop R79(62_0402_5%) , [BOM need change]	X00-G
38	25	AMP and PHONE JACK	3/14/2003	DELL	Dell Schematic issue item48 Remove comment above U18 and remove the wires in the bottom	Connect C638 and C639 to INT_TWT_R1 and INT_TWT_L1 at JSPK	X00-G
39	25	AMP and PHONE JACK	3/14/2003	DELL	Dell Schematic issue item48 Change the pinout of JAUDO	Change net FAN1_TACH_FN from pin16 to pin18, pin15,16 connect to GND	X00-G
40	29	LAN TRANSFOMER	3/14/2003	DELL	Dell Schematic issue item45,46 the BJT werent driving the LED enough	1.Change Q3 from DTC144KA_SOT23 to 2N7002 2.LED_WLAN5_RADIOSTATE, LED_WLAN24_RADIOSTATE, and WLAN_LED_ACIVITY. Add 10K_0402_5% pulldown resistor(R600~R602) [BOM need change]	X00-G
41	50	Subwoofer	3/14/2003	DELL	Dell Schematic issue item48 Move D18 and D19 to page 42, and update all component Symbols	Move D18 and D19 to page 42, and update all component Symbols , move C655 from current location to in between C645 and U45 pin 2 and change value to 1000P_0402_50V7K	X00-G
~~42~~	~~6~~	~~Clock Generator~~ Delete by Dell's update issue_0314 ;X00-H	~~3/14/2003~~	~~DELL~~	~~Dell Schematic issue item30~~ ~~Springdale DG P65 recommed a 10 Ohm resistor from CK_VDD_MAIN to Pin VDD_48 (pin34) of Ck409~~	~~Reserved power source option: populate R589, depopulate R599 [BOM need change]~~	~~X00-G~~
43	11	Springdale-DDR Interface	3/18/2003	Compal	Intel recommend is 31.12K,the value isn't popularize. Follow Dell's DT team use 30.9K	Change R101,106,369,373 from 31.12K_0603_1% to 30.9K_0603_1% ;[BOM need change]	X00-H
44	25	AMP and PHONE JACK	3/18/2003	Compal	Add one net for Phone Jack board pullup source.	Change JAUDO pin11 from NC to AMPVCC	X00-H
45	36,39,40		3/18/2003	Compal	Single name issue	Delete pin 22 of U27 net and show text ; move U25B from page39 to page40, change pin4,5 to GND and pin6 to NC.	X00-H

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1	45	1.25V/2.5V	2/26/2003	Compal	Dell M00 Board Bring up issue item13: Make SUSPOWROK_5V a strong pullup.	Depop PR86 (PR86 is populted on M00)	X00-B
2	43	3.3V/5V	2/26/2003	DELL	Dell M00 Board Bring up issue item21: Need to add pads for voltage/temp tolerance measurements. Request from our Reliability engineers.	Add voltage divider at +5VSUSP(PR227, PR229) Add voltage divider at +3VSRCP(PR228, PR230)	X00-B
3	46,47	CPU_CORE_Controller CPU_CORE_Power-Stage	2/26/2003	DELL	Dell M00 Board Bring up issue item29: Change CPU controller and driver VCC to +5VRUN to reduce S3 current.	Change PU9 and PU11, PU12, PU13, PU14 VCC to +5VRUN	X00-B
4	46	CPU_CORE_Controller	3/05/2003	DELL	Dell X00 Board issue item40,41: Change the power rail to the following components PR99, PU20A/B, PC214 from +5VSUS to +5VRUN Change the power rail to the following component PR114 from +3VSRC to +3VRUN	Change the power rail of PR99 and PU20A/B, PC214,PR97 from +5VSUS to +5VRUN Change the power rail of PR114 from +3VSRC to +3VRUN	X00-D
5	44,45	+1.5VRUNP/ +VTT_GMCHP 1.25V/2.5V	3/07/2003	DELL	Intersil ISL6225B IC issue. So change controller IC.	Change PU7 to SC1485 and PU8 to SC1486.	X00-E
6	45	1.25V/2.5V	3/12/2003	DELL	Dell X00 Board issue item47: Intle in the DG 1.21 update have changed the DDR voltage to 2.6V and Term voltage to 1.3.	Change PR72 to 42.2K	X00-F

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