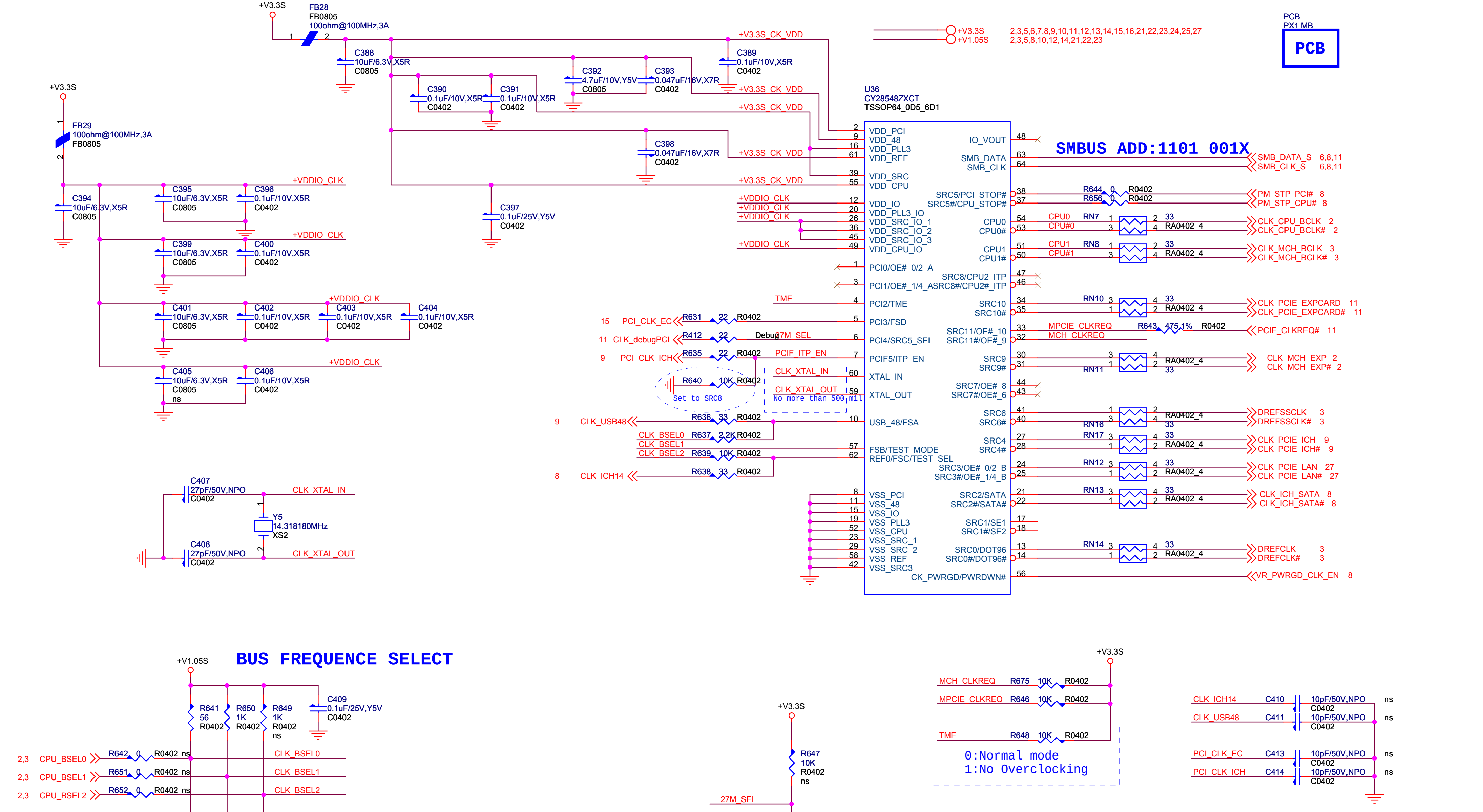
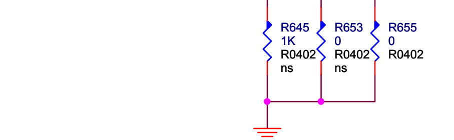
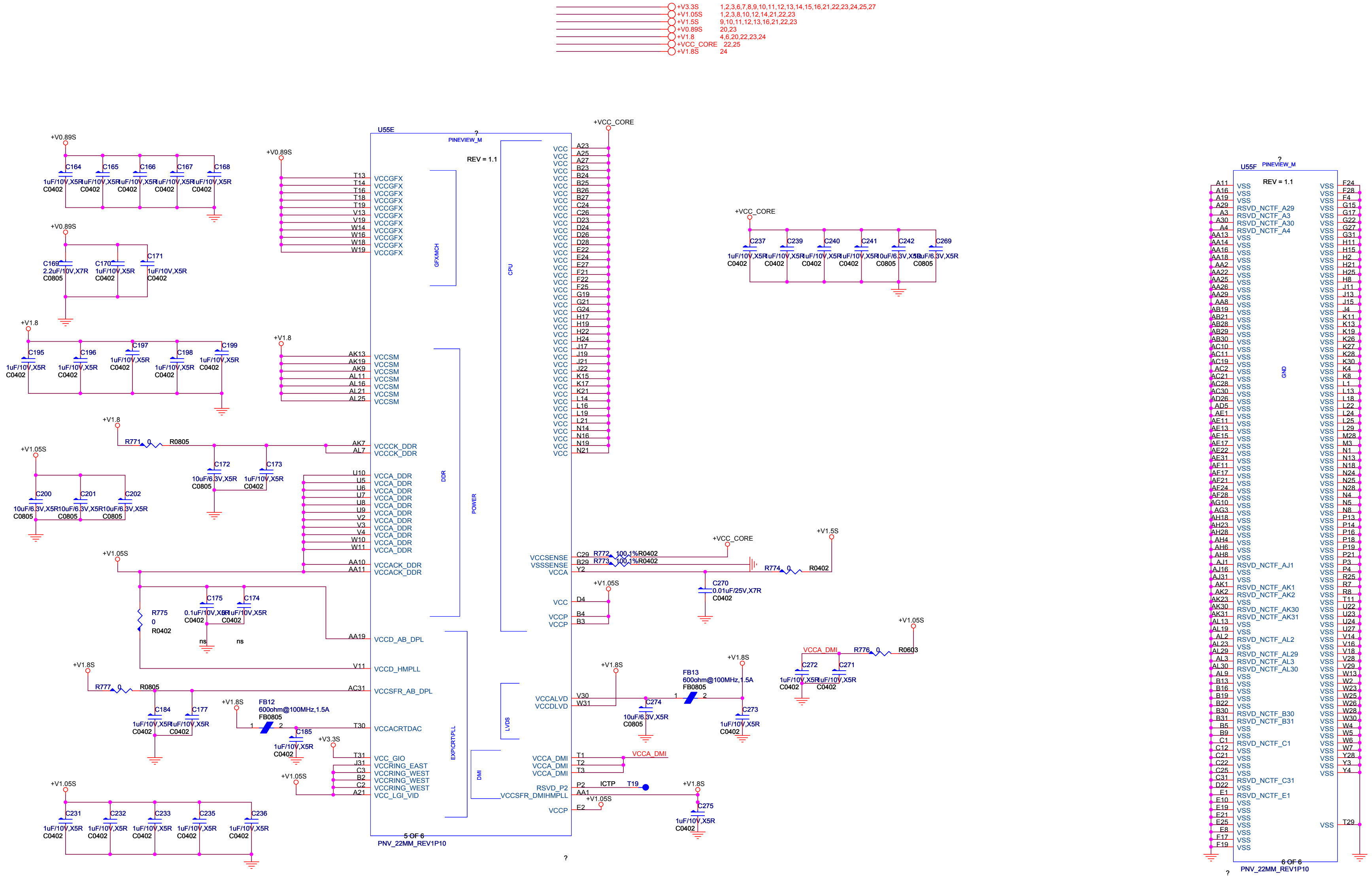




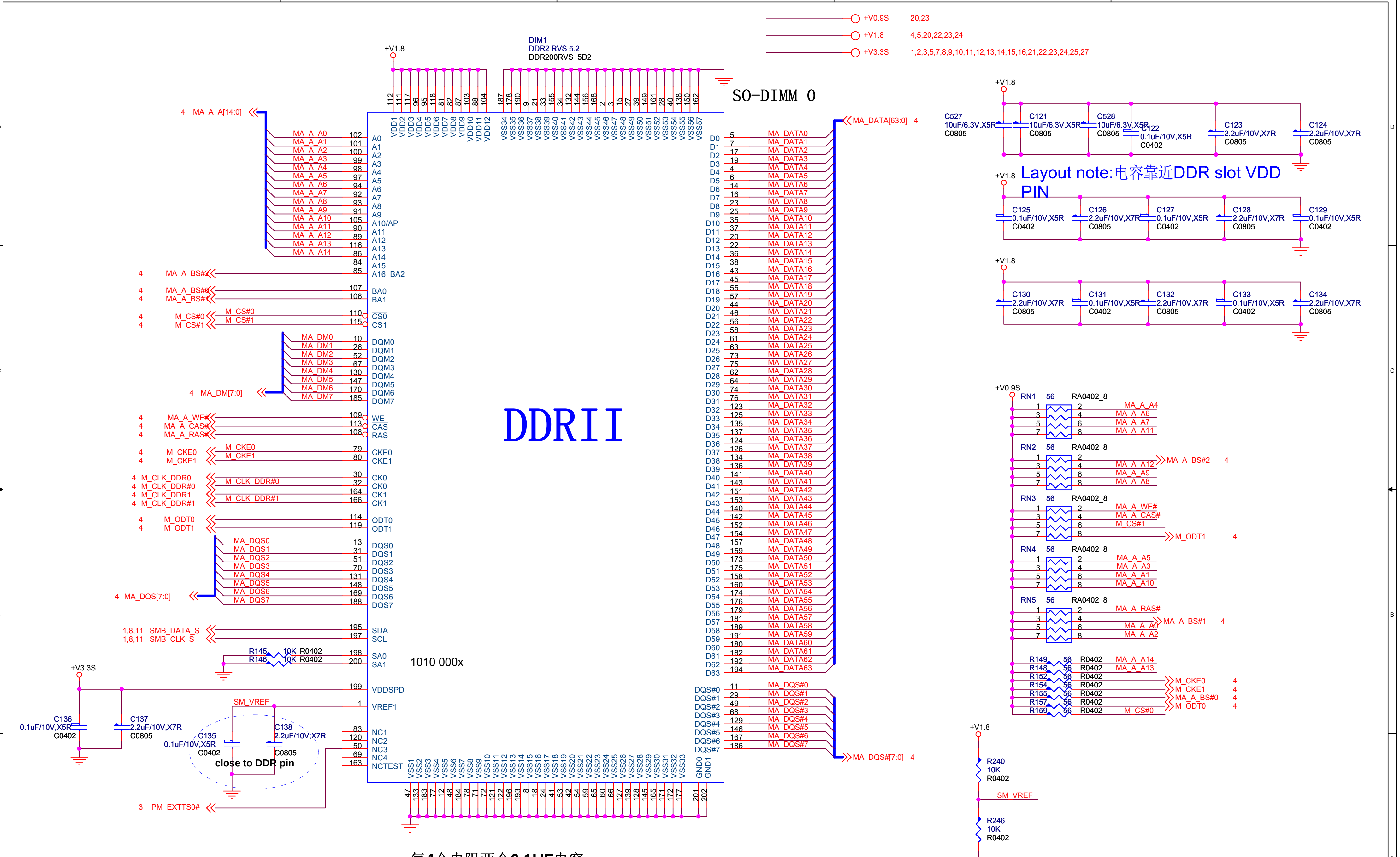
FSC BSEL2	FSB BSEL1	FSA BSEL0	HOST Clock frequency
0	0	1	133MHz
1	0	1	100MHz
0	1	1	166MHz

使用

THD	THREAD	HADS
Page Name	CK505M	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 1 of 30	



THD	THREAD	
	HADS	
Page Name	PINEVIEW	
Size A2	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 5 of 30	

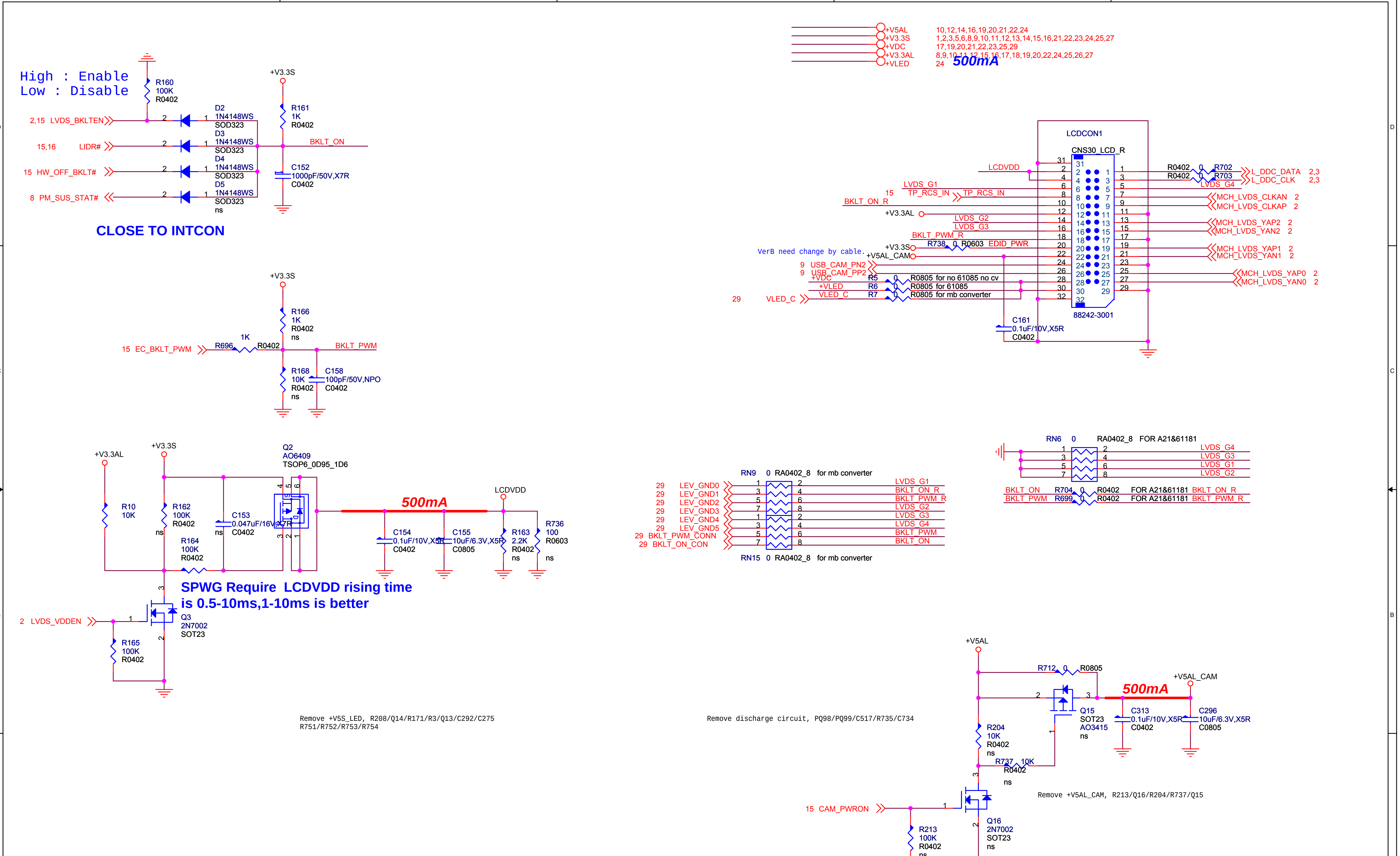


THD
THREAD HADS

Page Name: DDRII SODIMM0

Size: A3 | Project Name: PX1 | Rev: VerA

Date: Monday, January 11, 2010 | Sheet 6 of 30



THD
Thread Technology Co.,Ltd

THREAD

HADS

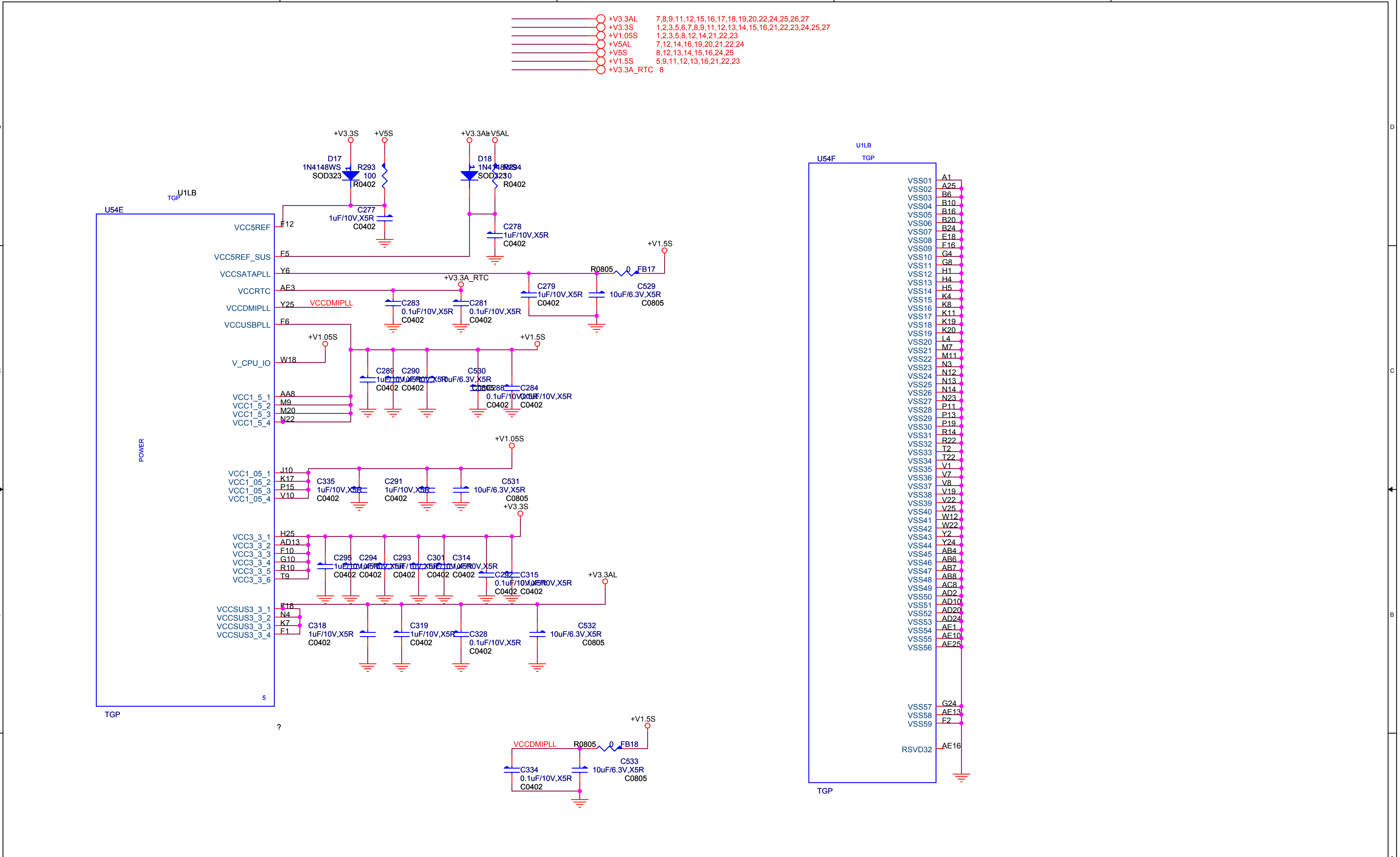
Page Name: LVDS

Size: A3

Project Name: PX1

Rev: VerA

Date: Monday, January 11, 2010 Sheet 7 of 30



THREAD

HADS

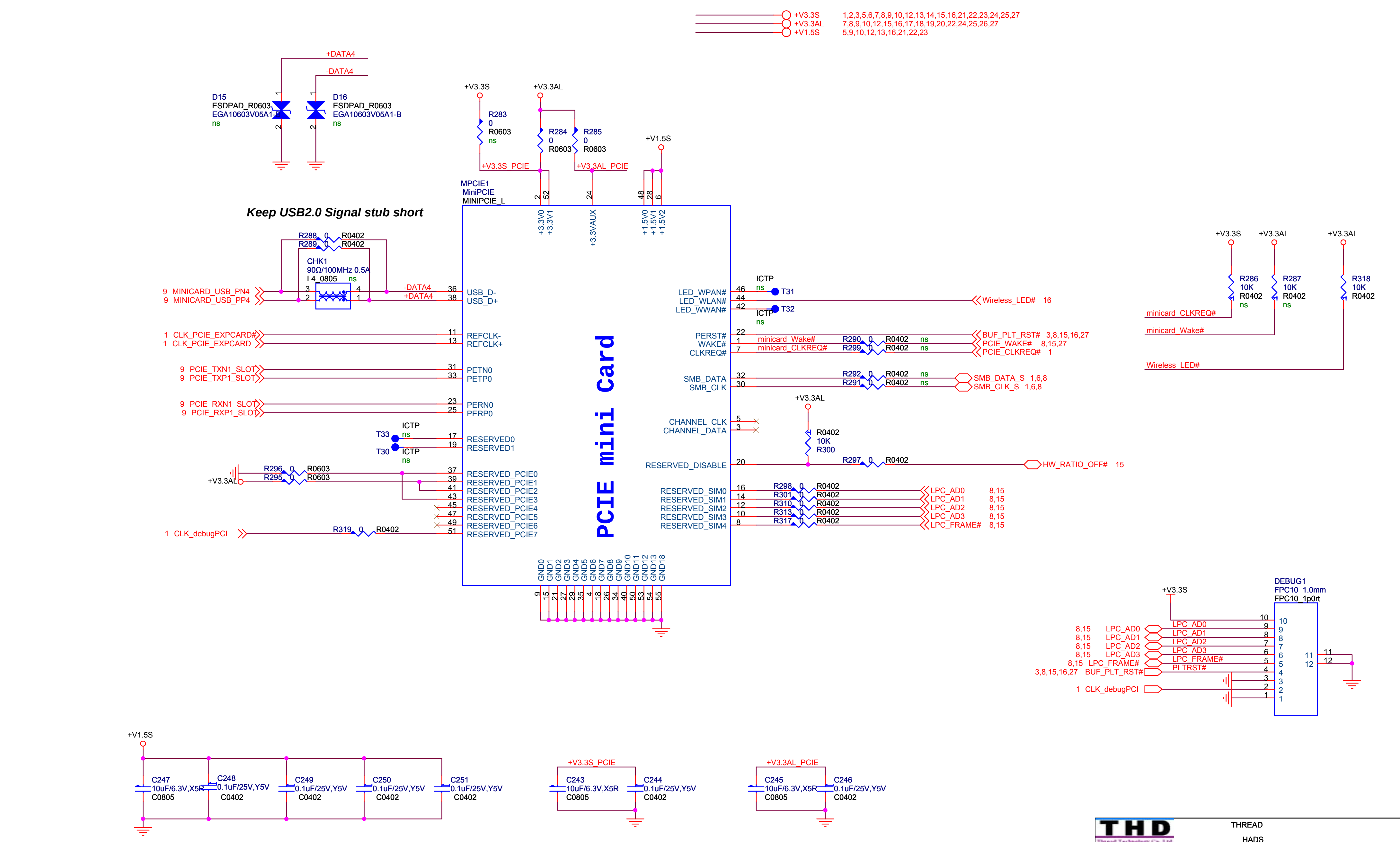
Page Name: ICH8

Size: A3

Project Name: PX1

Rev: VerA

Date: Monday, January 11, 2010 Sheet 10 of 30

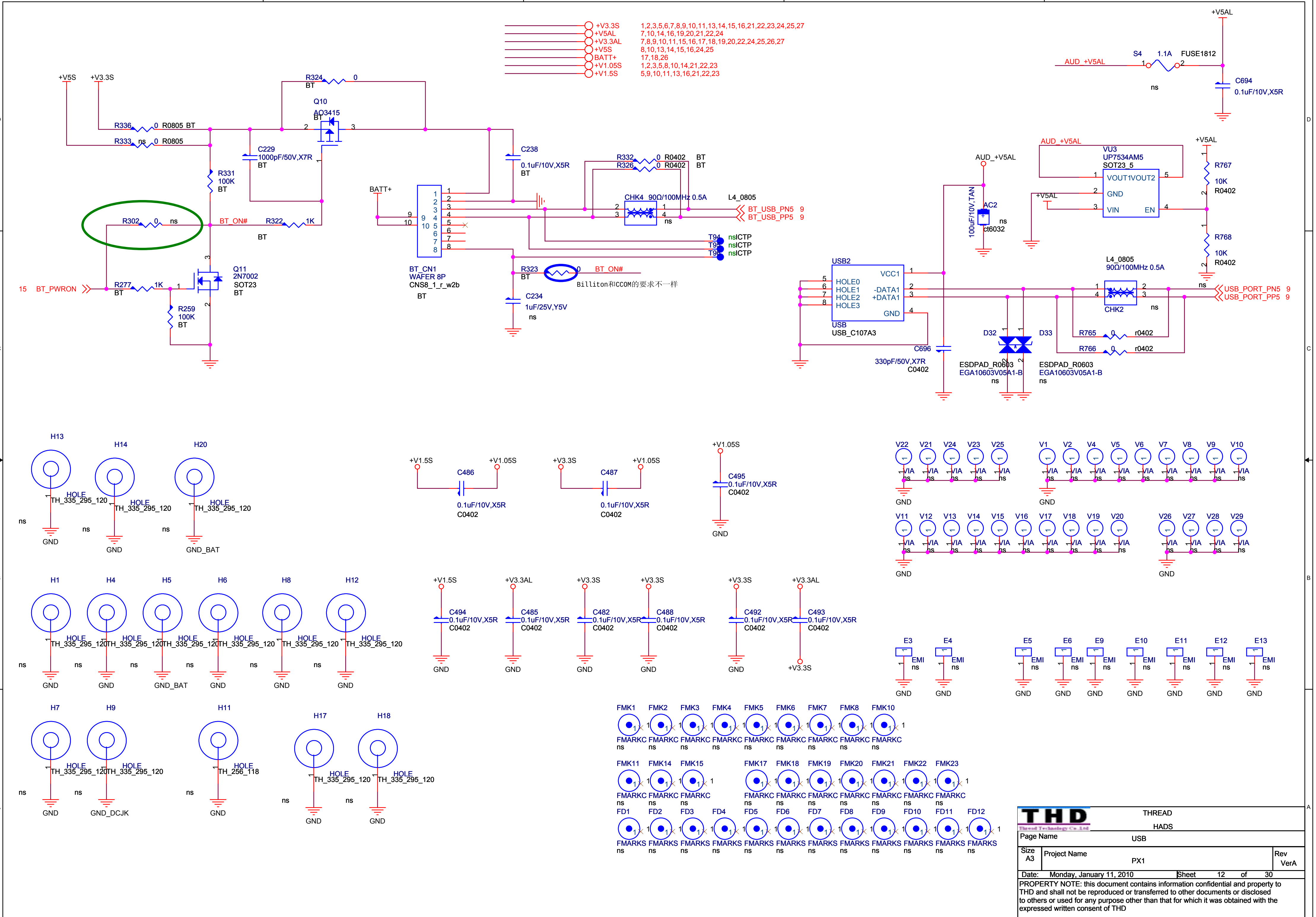


THD

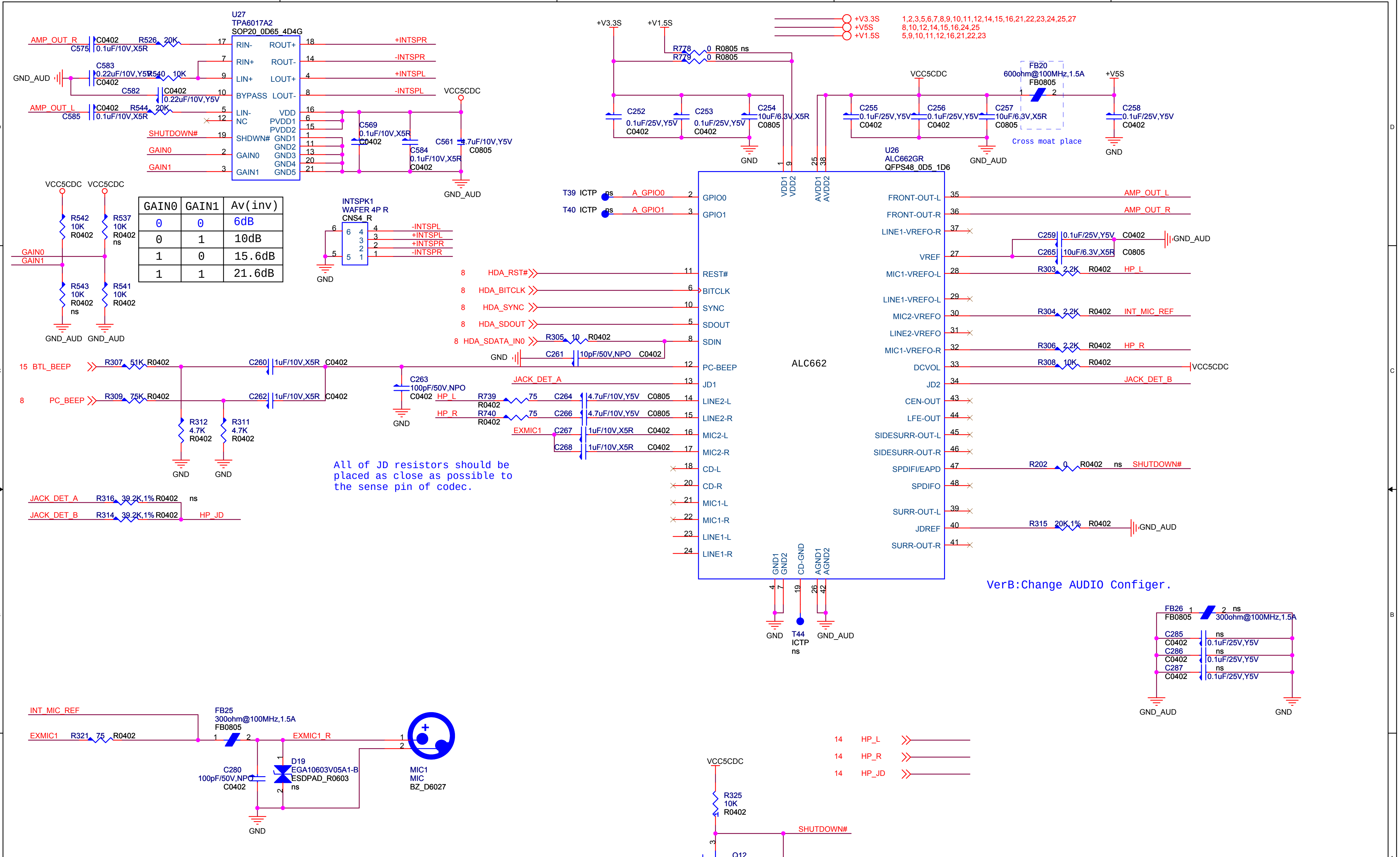
THREAD

HADS

Page Name	MINIPCIE	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 11 of 30	



+V3.3S 1,2,3,5,6,7,8,9,10,11,13,14,15,16,21,22,23,24,25,27
+V5AL 7,10,14,16,19,20,21,22,24
+V3.3AL 7,8,9,10,11,15,16,17,18,19,20,22,24,25,26,27
+V5S 8,10,13,14,15,16,24,25
BATT+ 17,18,26
+V1.05S 1,2,3,5,8,10,14,21,22,23
+V1.5S 5,9,10,11,13,16,21,22,23
R324 0 BT
Q10 AO3415 BT
R336 0 R0805 BT
R333 ns 0 R0805
C229 1000pF/50V,X7R BT
R331 100K BT
R302 0 ns
BT_ON#
R322 1K
BT
Q11 2N7002 SOT23 BT
15 BT_PWRON
R277 1K BT
R259 100K BT
C238 0.1uF/10V,X5R BT
BATT+
BT_CN1 WAFER 8P CNS8_1_r_w2b BT
R332 0 R0402 BT
R326 0 R0402 BT
CHK4 90Ω/100MHz 0.5A
L4_0805
BT_USB_PN5 9
BT_USB_PP5 9
T94 nsICTP
T95 nsICTP
T96 nsICTP
R323 BT 0 BT_ON#
Billiton和CCOM的要求不一样
C234 1uF/25V,Y5V ns
AUD_+V5AL
S4 1.1A FUSE1812 ns
C694 0.1uF/10V,X5R
VU3 UP7534AM5 SOT23_5
VOUT1 VOUT2 GND VIN EN
R767 10K R0402
R768 10K R0402
AC2 100uF/10V,TAN ns ct6032
USB2 USB USB_C107A3
HOLE0 HOLE1 HOLE2 HOLE3 VCC1 -DATA1 +DATA1 GND
L4_0805 90Ω/100MHz 0.5A
CHK2 ns
USB_PORT_PN5 9
USB_PORT_PP5 9
C696 330pF/50V,X7R C0402
D32 ESDPAD_R0603 EGA10603V05A1-B ns
D33 ESDPAD_R0603 EGA10603V05A1-B ns
R765 0 r0402
R766 0 r0402
H13 H14 H20 HOLE TH_335_295_120 ns GND GND_BAT
C486 0.1uF/10V,X5R C0402
C487 0.1uF/10V,X5R C0402
C495 0.1uF/10V,X5R C0402
H1 H4 H5 H6 H8 H12 HOLE TH_335_295_120 ns GND GND_BAT
C494 C485 C482 C488 C492 C493 0.1uF/10V,X5R C0402
V1–V29 VIA ns GND
E3 E4 E5 E6 E9 E10 E11 E12 E13 EMI ns GND
H7 H9 H11 H17 H18 HOLE TH_335_295_120 TH_256_118 ns GND GND_DCJK
FMK1–FMK23 FMARKC ns
FD1–FD12 FMARKS ns
THD THREAD HADS
Page Name USB
Size A3
Project Name PX1
Rev VerA
Date: Monday, January 11, 2010 Sheet 12 of 30



GAIN0	GAIN1	Av(inv)
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

THD

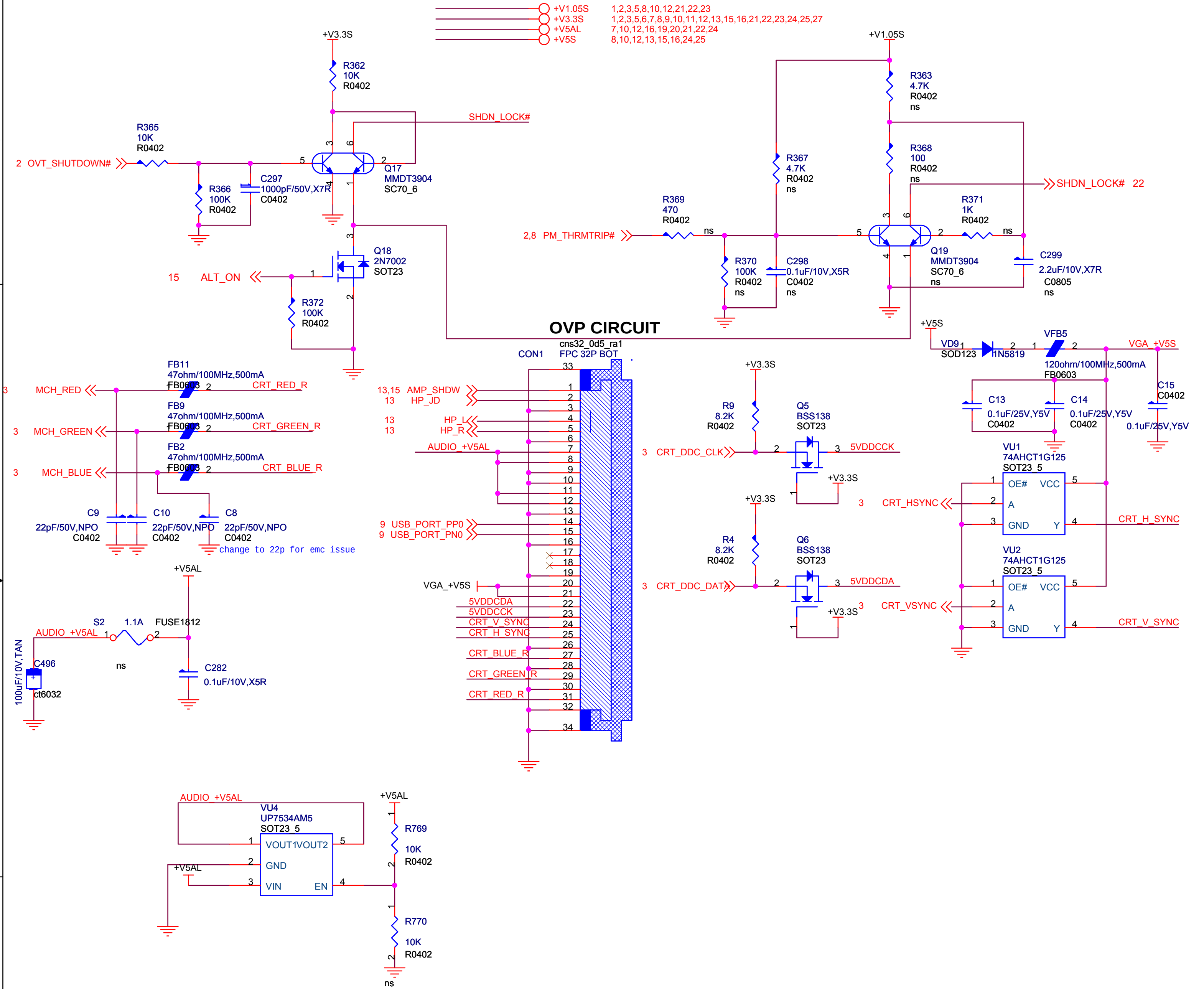
THREAD

HADS

Page Name: ALC662

Size: A3 | Project Name: PX1 | Rev: VerA

Date: Monday, January 11, 2010 | Sheet 13 of 30

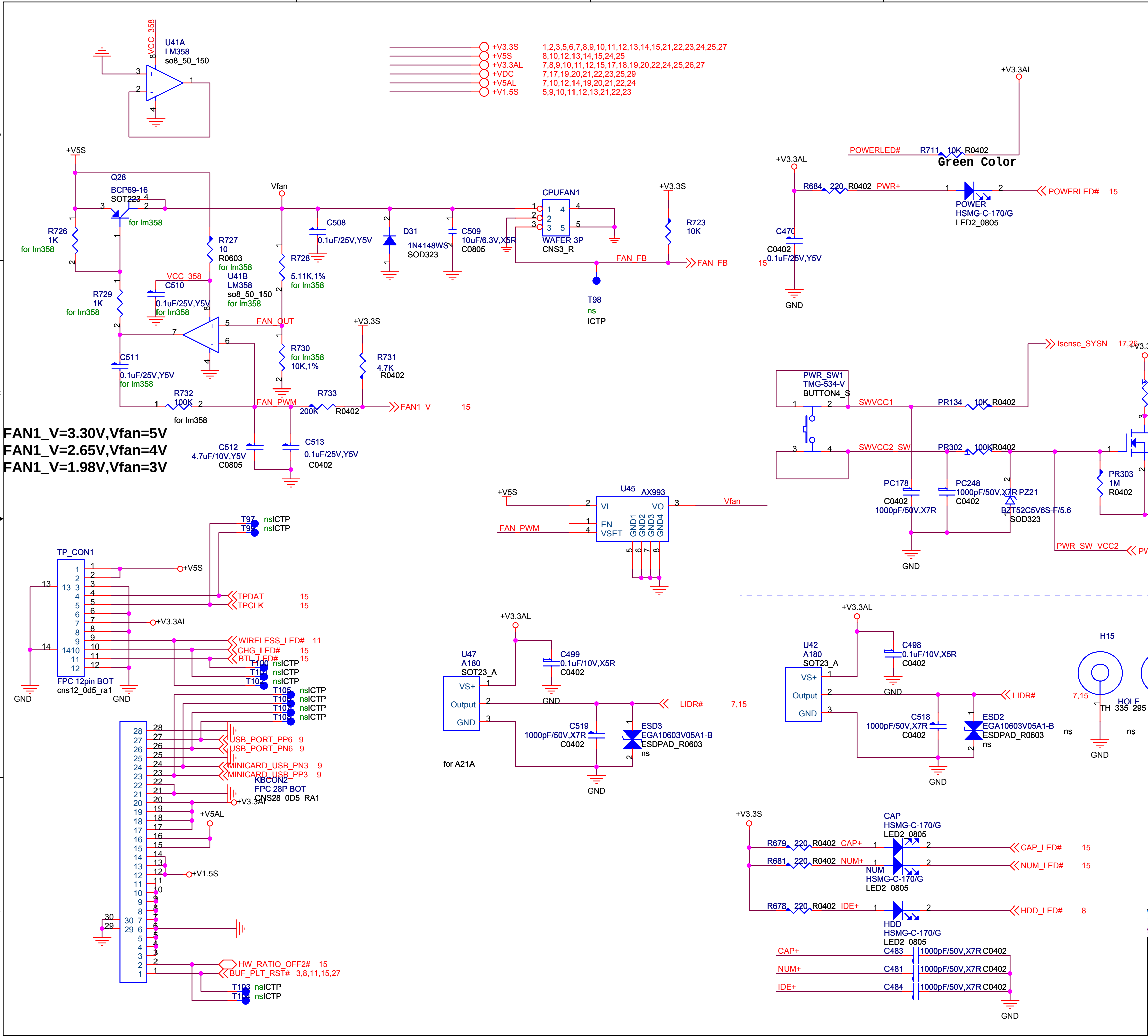


THD

THREAD

HADS

Page Name	OTP	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 14 of 30	



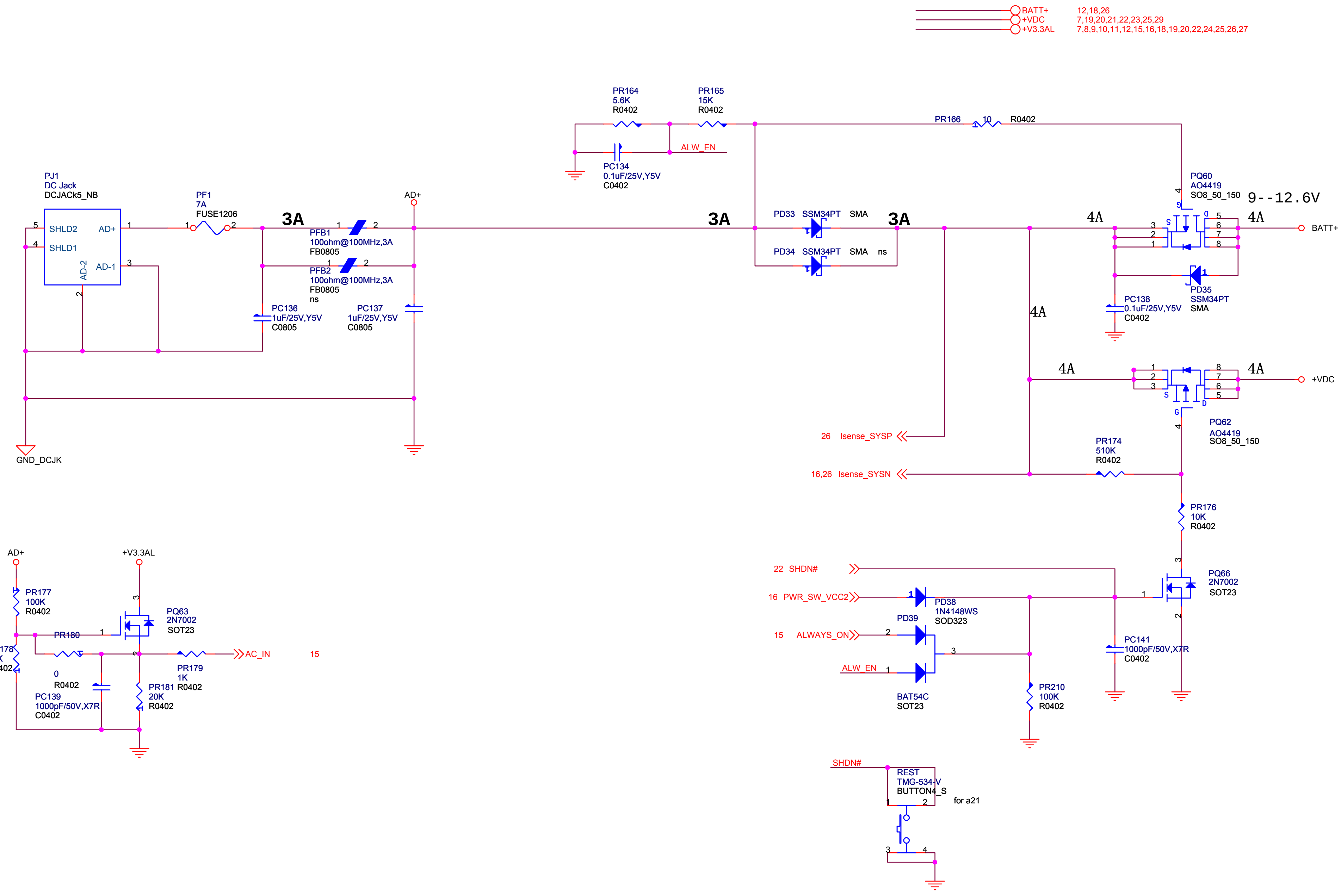
THD

THREAD

HADS

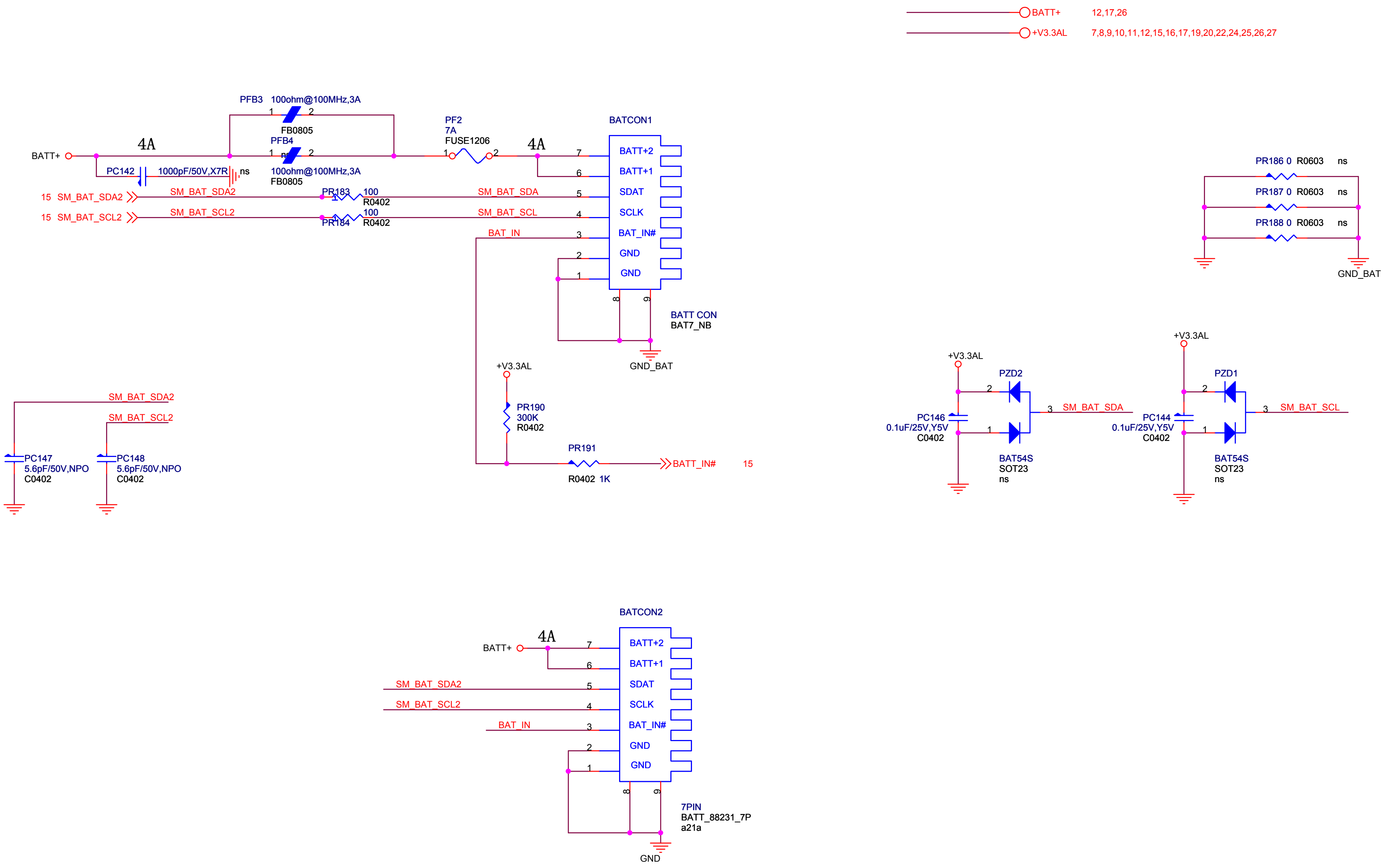
Page Name	FAN/OUTPUT	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 16 of 30	

PROPERTY NOTE: this document contains information confidential and property to THD and shall not be reproduced or transferred to other documents or disclosed to others or used for any purpose other than that for which it was obtained with the expressed written consent of THD



THD Thread Technology Co., Ltd

THREAD	HADS
Page Name	AC_IN
Size A3	Project Name PX1
Rev	VerA
Date: Monday, January 11, 2010	Sheet 17 of 30

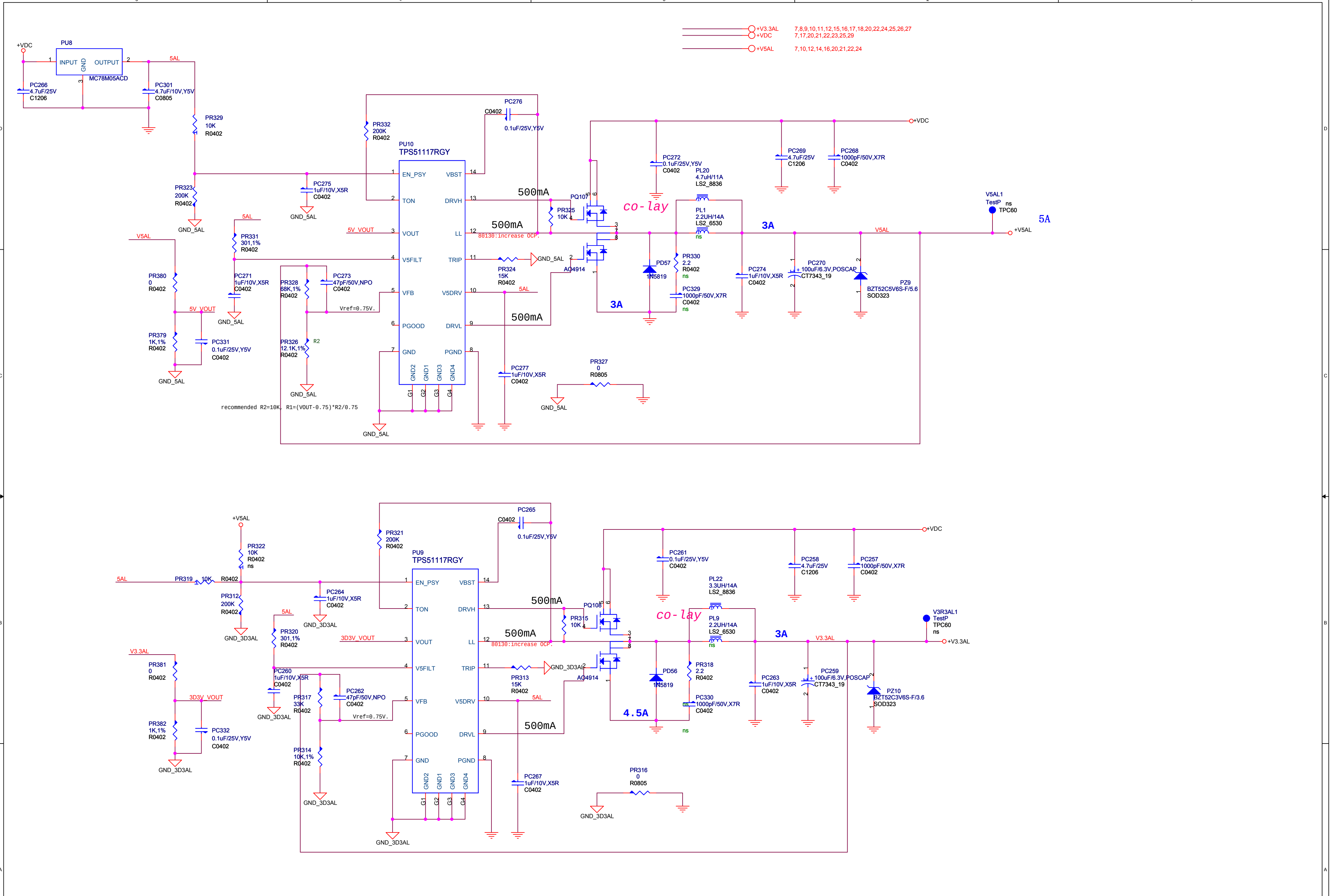


THD
Thread Technology Co.,Ltd

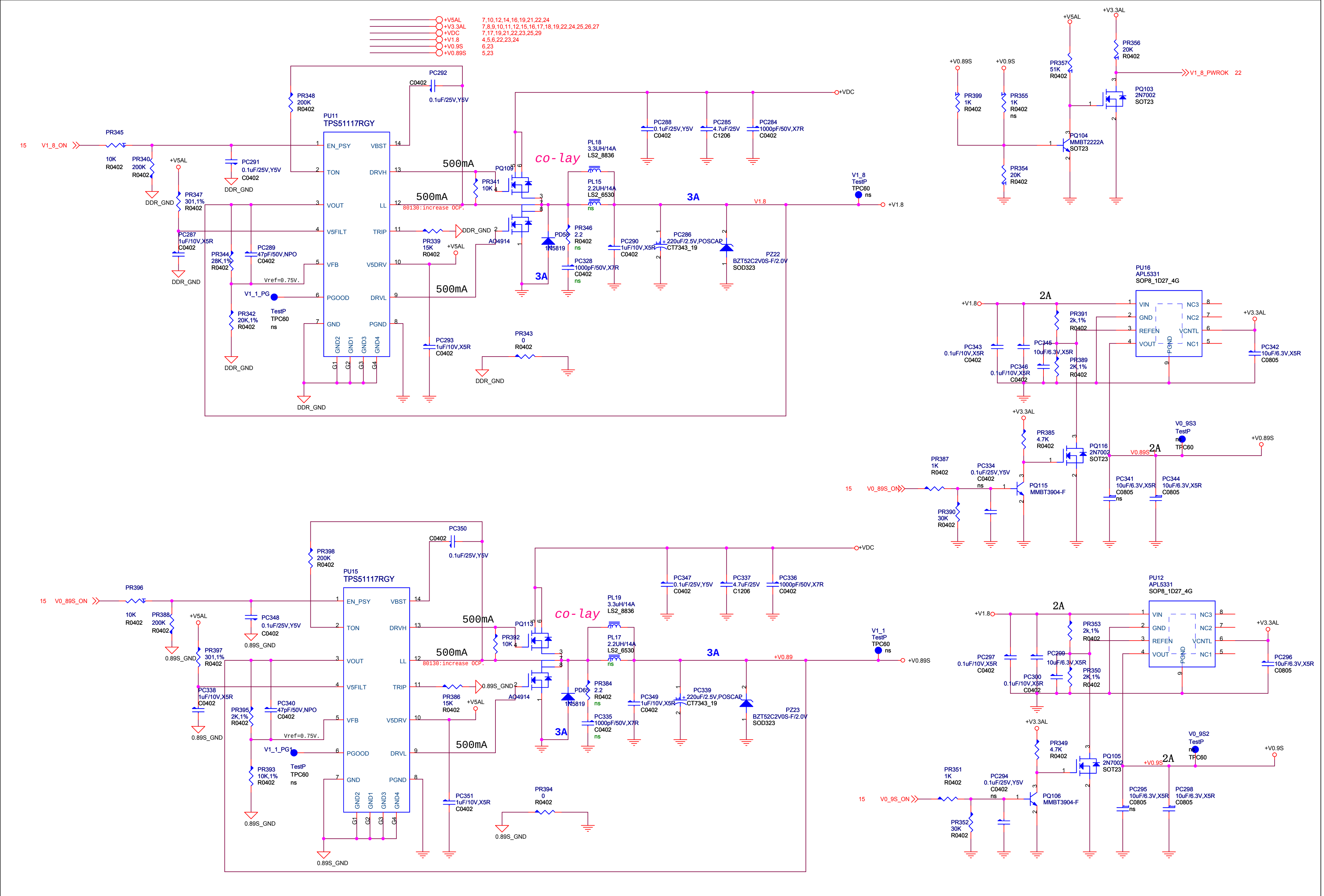
THREAD

HADS

Page Name	BAT_IN	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 18 of 30	

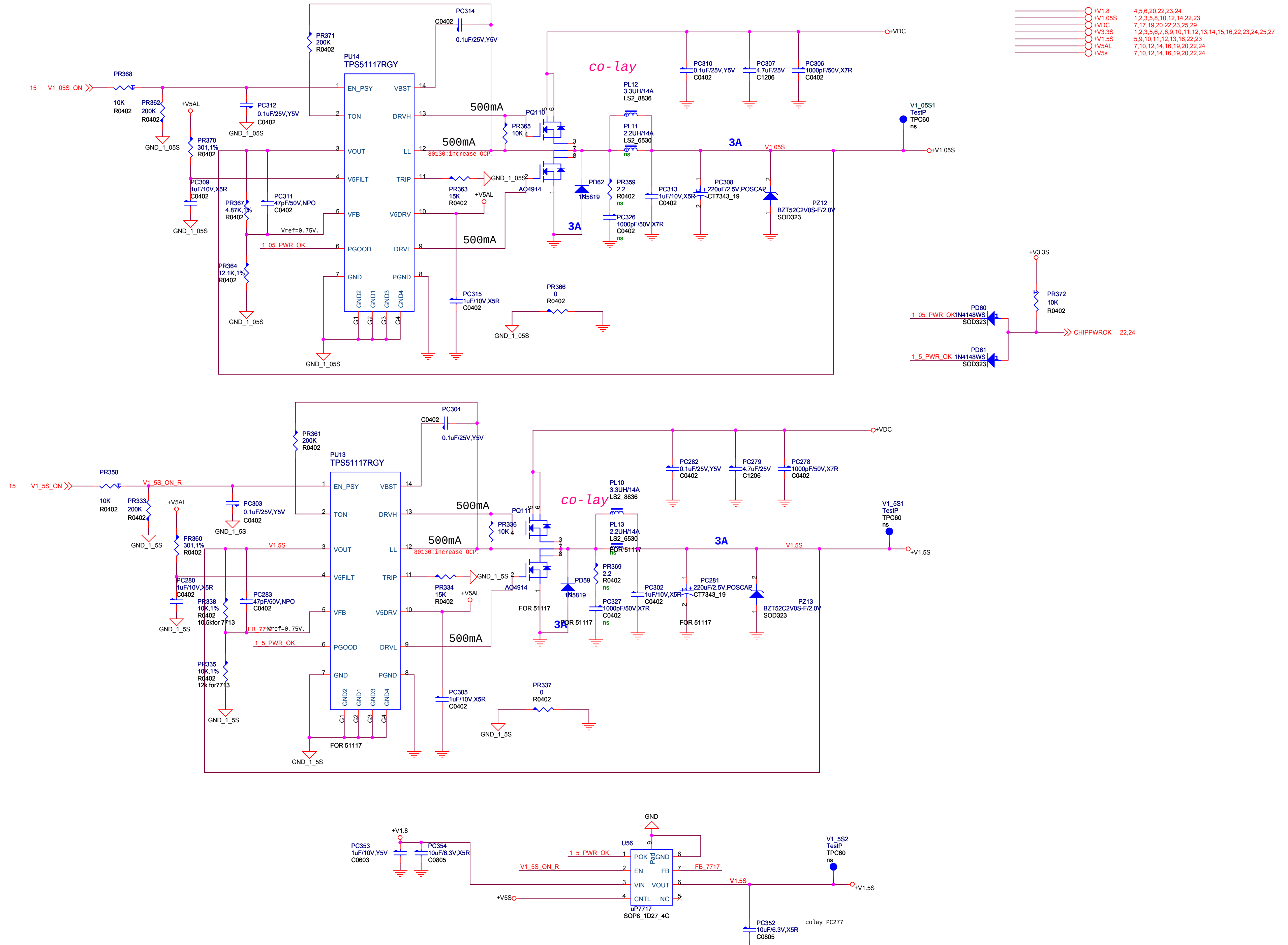


THD	THREAD	
	HADS	
Page Name	POWER OF ALWAYS	
Size C	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 19 of 30	

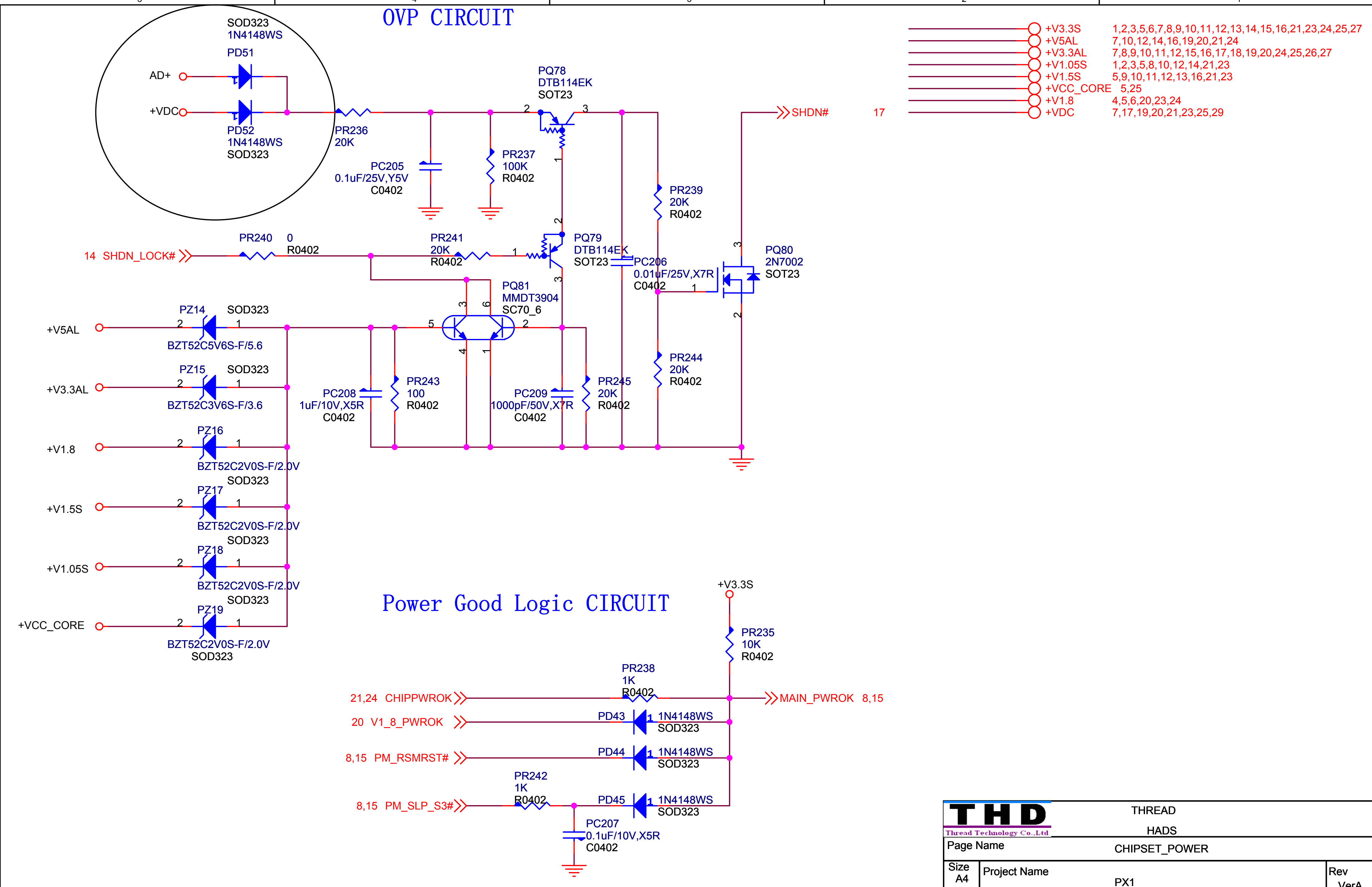


THD THREAD
HADS

Page Name	DDR2_POWER	
Size C	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 20 of 30	

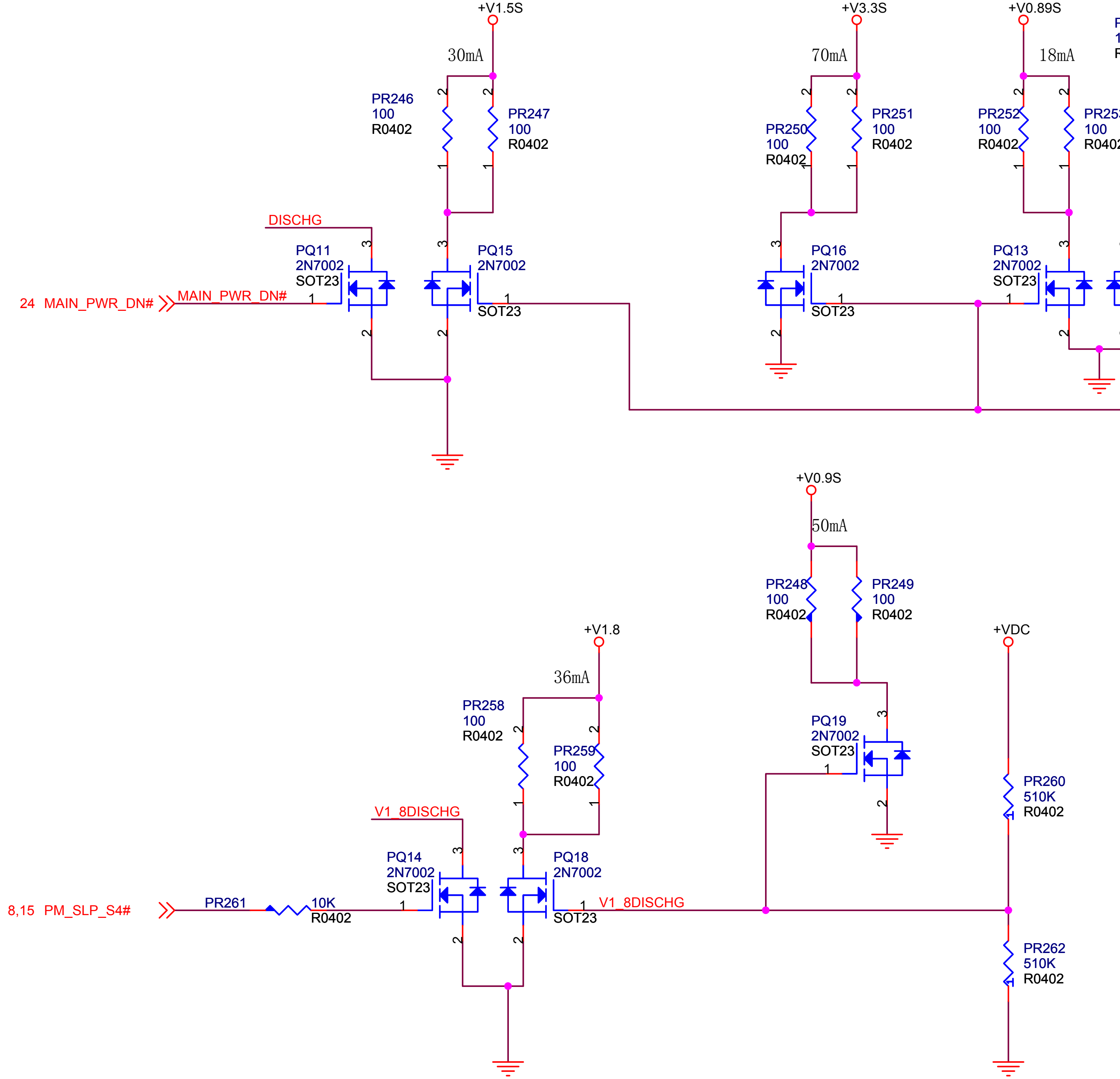


THD	THREAD	
	HADS	
Page Name	POWER OF CHIPSET	
Size C	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 21 of 30	



THD
Thread Technology Co.,Ltd

THREAD		
HADS		
Page Name	CHIPSET_POWER	
Size A4	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 22 of 30	



+V3.3S	1,2,3,5,6,7,8,9,10,11,12,13,14,15,16,21,22,24,25,27
+V3.3AL	7,8,9,10,11,12,15,16,17,18,19,20,22,24,25,26,27
+V5AL	7,10,12,14,16,19,20,21,22,24
+V0.89S	5,20
+V0.9S	6,20
+V1.05S	1,2,3,5,8,10,12,14,21,22
+VDC	7,17,19,20,21,22,25,29
+V1.8	4,5,6,20,22,24
+V1.5S	5,9,10,11,12,13,16,21,22

THD
Thread Technology Co.,Ltd

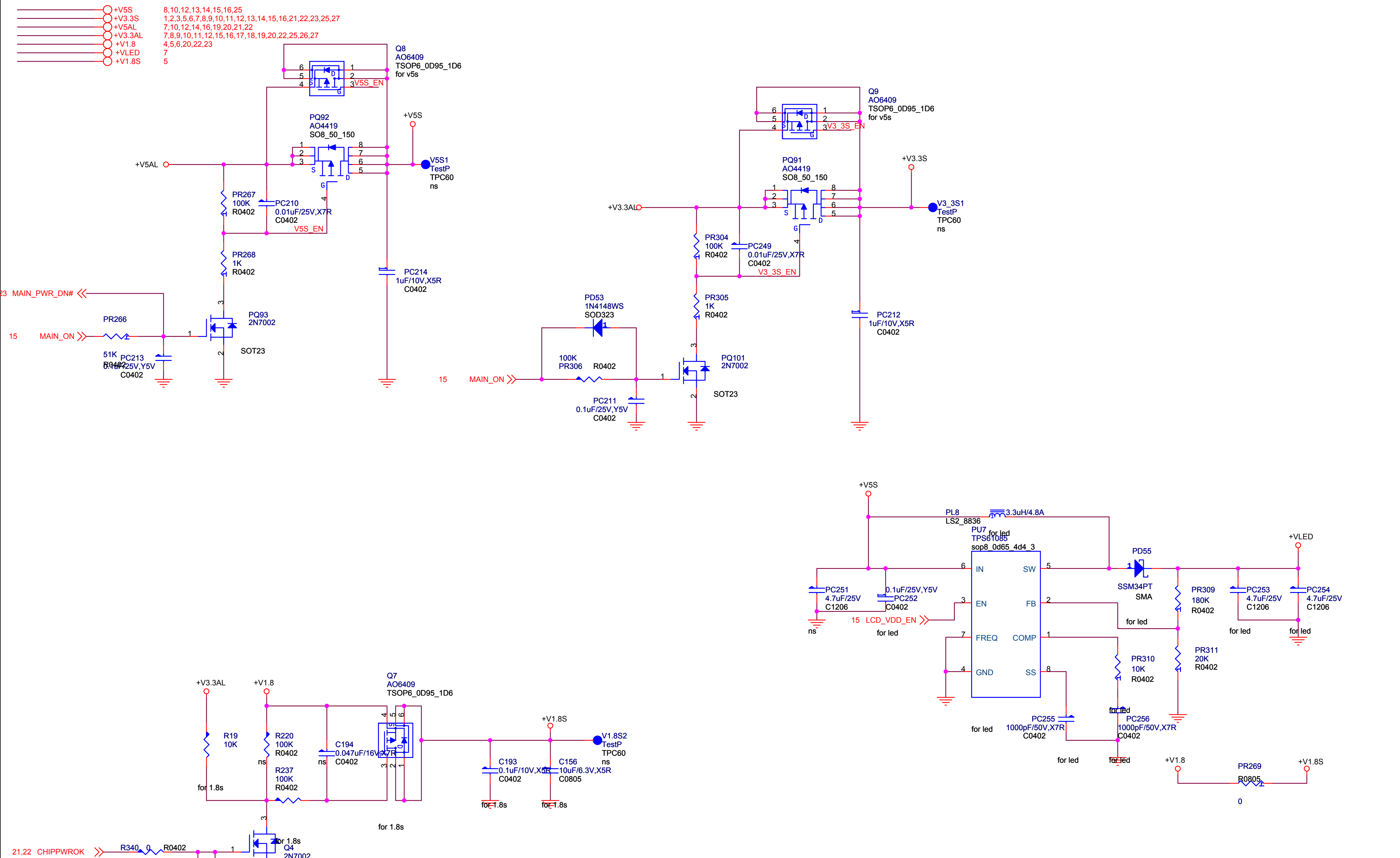
THREAD

HADS

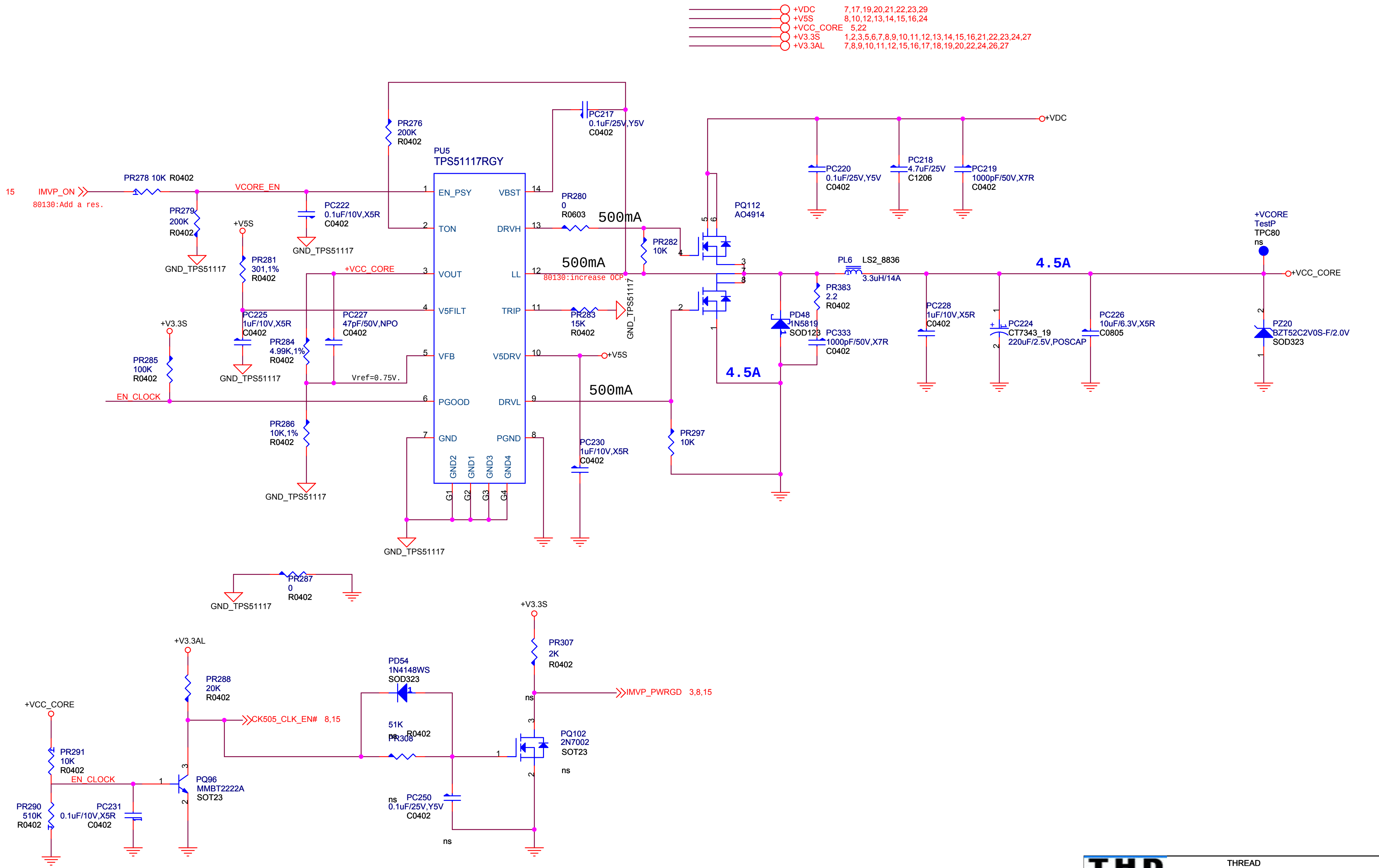
Page Name: DISCHARGE

Size: A4 | Project Name: PX1 | Rev: VerA

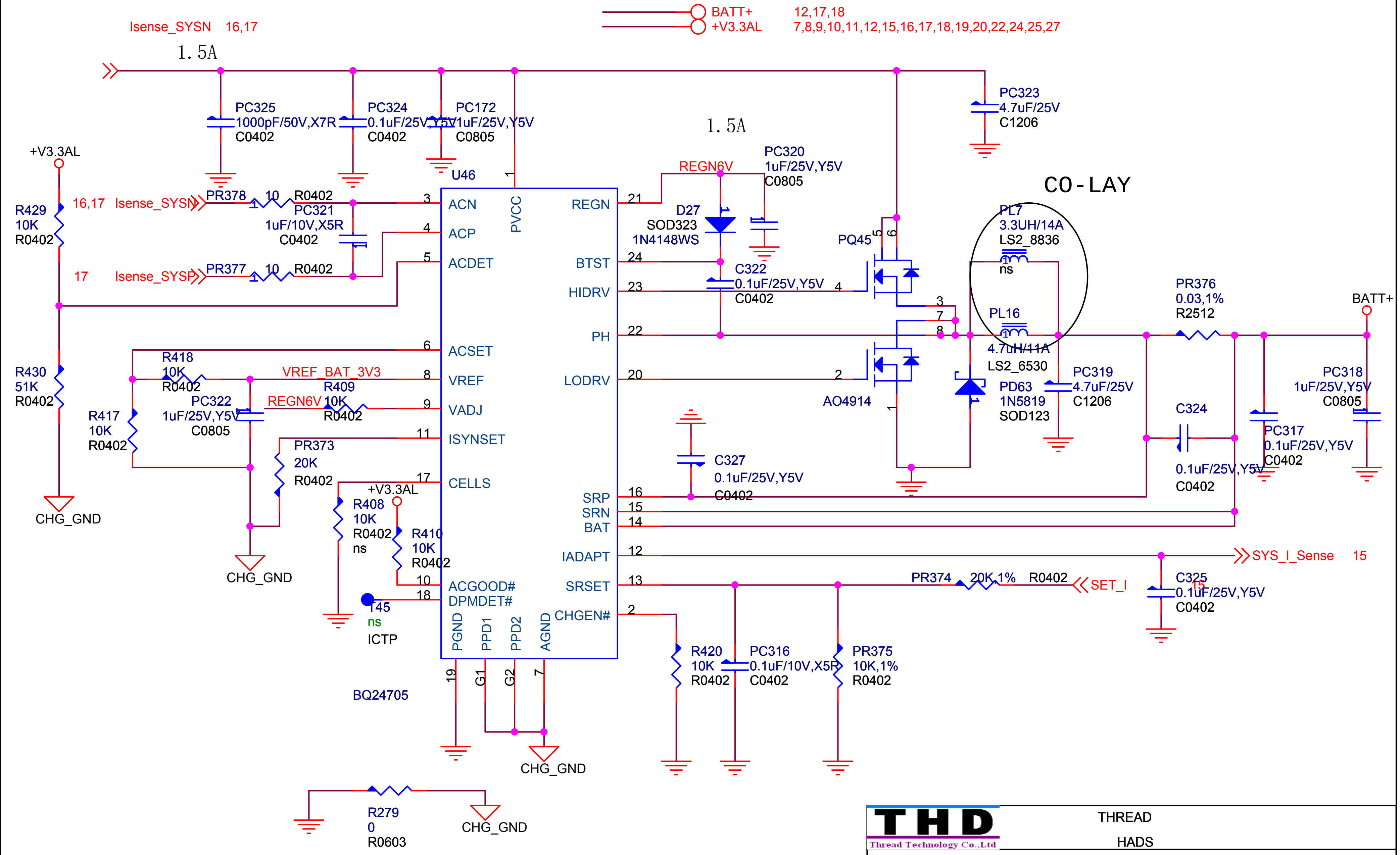
Date: Monday, January 11, 2010 | Sheet 23 of 30



THD	THREAD HADS	
Page Name	SYSTEM/VLED	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 24 of 30	



THD	THREAD HADS	
Page Name	VCORE	
Size A3	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 25 of 30	



THD
Thread Technology Co.,Ltd

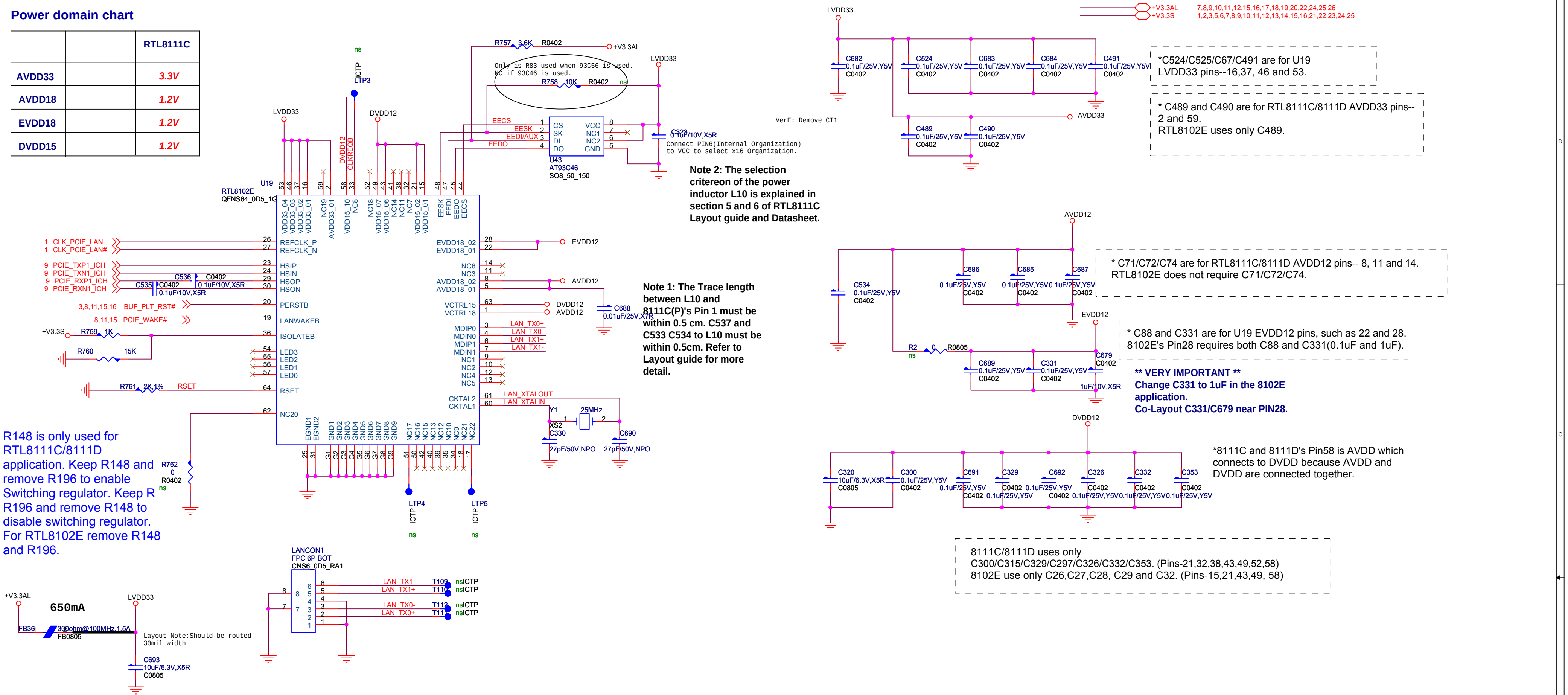
THREAD
HADS

Page Name	CHARGE	
Size A	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 26 of 30	

PROPERTY NOTE: this document contains information confidential and property to THD and shall not be reproduced or transferred to other documents or disclosed to others or used for any purpose other than that for which it was obtained with the expressed written consent of THD

Power domain chart

	RTL8111C
AVDD33	3.3V
AVDD18	1.2V
EVDD18	1.2V
DVDD15	1.2V



R148 is only used for RTL8111C/8111D application. Keep R148 and remove R196 to enable Switching regulator. Keep R R196 and remove R148 to disable switching regulator. For RTL8102E remove R148 and R196.

Note 2: The selection critereon of the power inductor L10 is explained in section 5 and 6 of RTL8111C Layout guide and Datasheet.

Note 1: The Trace length between L10 and 8111C(P)'s Pin 1 must be within 0.5 cm. C537 and C533 C534 to L10 must be within 0.5cm. Refer to Layout guide for more detail.

*C524/C525/C67/C491 are for U19 LVDD33 pins--16,37, 46 and 53.

* C489 and C490 are for RTL8111C/8111D AVDD33 pins-- 2 and 59. RTL8102E uses only C489.

* C71/C72/C74 are for RTL8111C/8111D AVDD12 pins-- 8, 11 and 14. RTL8102E does not require C71/C72/C74.

* C88 and C331 are for U19 EVDD12 pins, such as 22 and 28. 8102E's Pin28 requires both C88 and C331(0.1uF and 1uF).

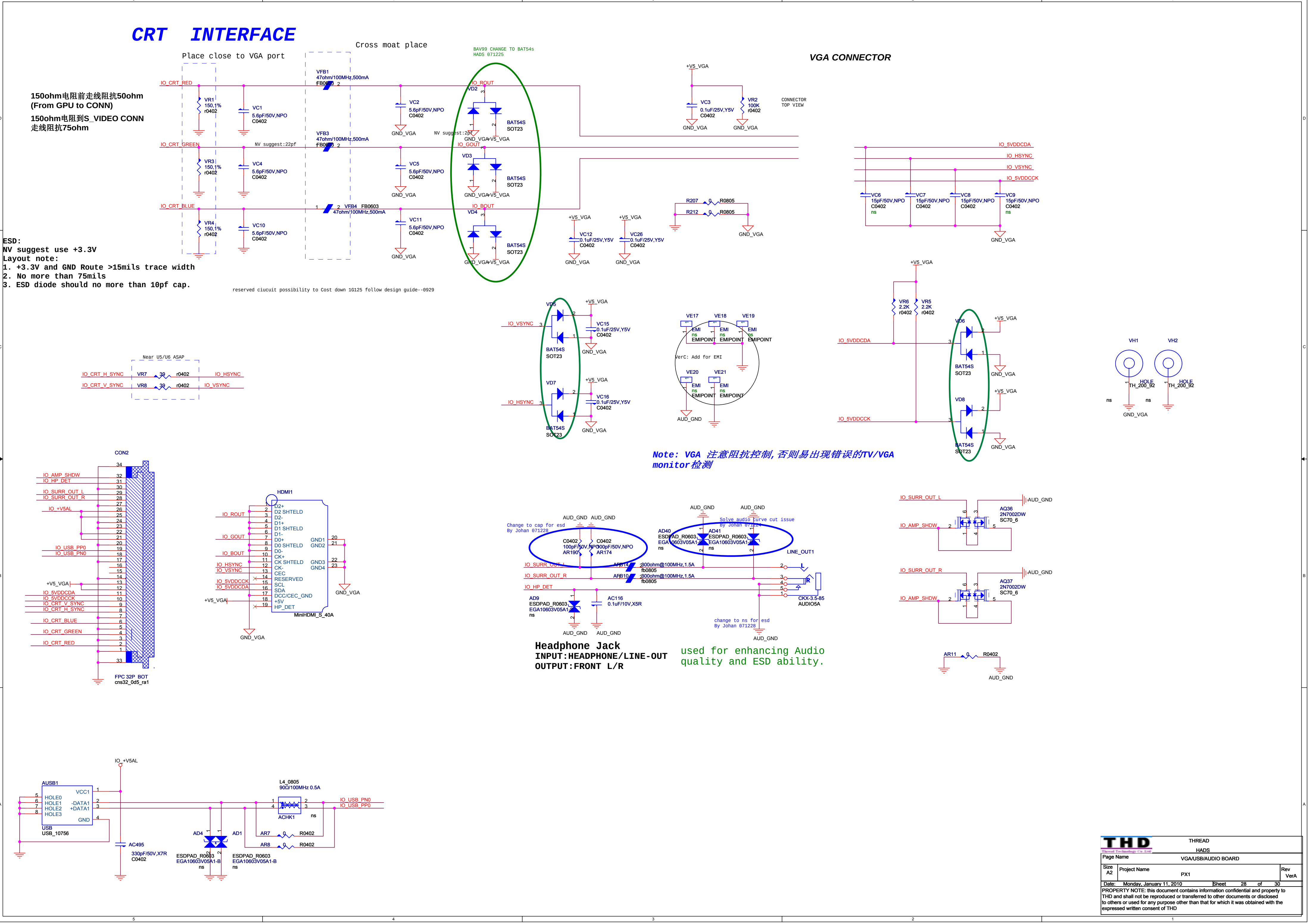
**** VERY IMPORTANT ****
Change C331 to 1uF in the 8102E application.
Co-Layout C331/C679 near PIN28.

*8111C and 8111D's Pin58 is AVDD which connects to DVDD because AVDD and DVDD are connected together.

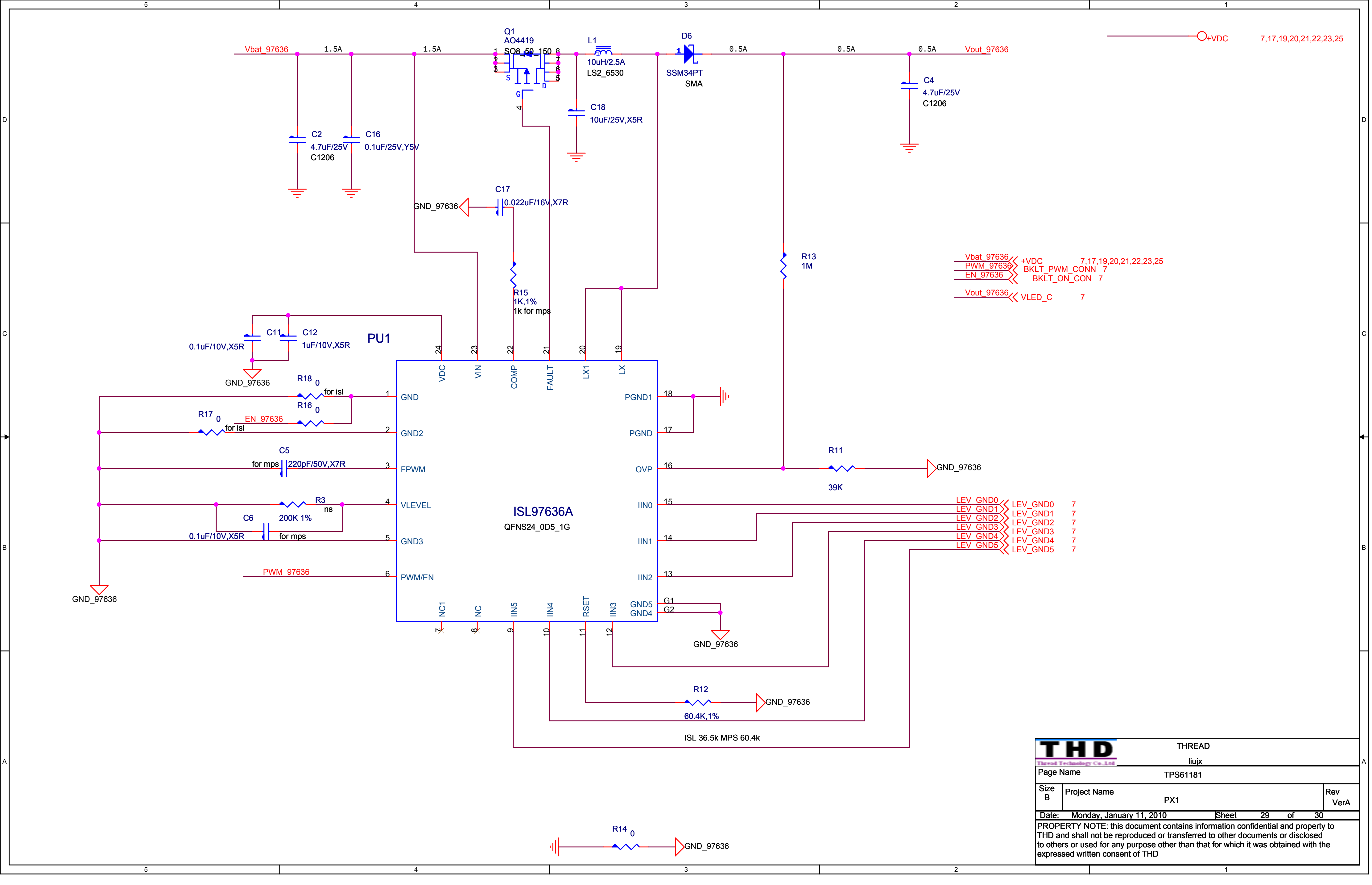
8111C/8111D uses only C300/C315/C329/C297/C326/C332/C353. (Pins-21,32,38,43,49,52,58)
8102E use only C26,C27,C28, C29 and C32. (Pins-15,21,43,49, 58)

VerE:Add TVS Diode.

THD	THREAD HADS	
Page Name	LAN	
Size C	Project Name PX1	Rev VerA
Date: Monday, January 11, 2010	Sheet 27 of 30	



CRT INTERFACE
Place close to VGA port
Cross moat place
BAV99 CHANGE TO BAT54s
HADS 071225
VGA CONNECTOR
150ohm电阻前走线阻抗50ohm
(From GPU to CONN)
150ohm电阻到S_VIDEO CONN
走线阻抗75ohm
ESD:
NV suggest use +3.3V
Layout note:
1. +3.3V and GND Route >15mils trace width
2. No more than 75mils
3. ESD diode should no more than 10pf cap.
reserved ciucuit possibility to Cost down 1G125 follow design guide--0929
NV suggest:22pf
CONNECTOR TOP VIEW
Near U5/U6 ASAP
IO_CRT_RED
IO_CRT_GREEN
IO_CRT_BLUE
IO_CRT_H_SYNC
IO_CRT_V_SYNC
IO_HSYNC
IO_VSYNC
IO_ROUT
IO_GOUT
IO_BOUT
IO_5VDDCDA
IO_5VDDCCK
VFB1 47ohm/100MHz,500mA FB0603
VFB3 47ohm/100MHz,500mA FB0603
VFB4 FB0603 47ohm/100MHz,500mA
VR1 150,1% r0402
VR3 150,1% r0402
VR4 150,1% r0402
VC1 5.6pF/50V,NPO C0402
VC4 5.6pF/50V,NPO C0402
VC10 5.6pF/50V,NPO C0402
VC2 5.6pF/50V,NPO C0402
VC5 5.6pF/50V,NPO C0402
VC11 5.6pF/50V,NPO C0402
VD2 BAT54S SOT23
VD3 BAT54S SOT23
VD4 BAT54S SOT23
VC3 0.1uF/25V,Y5V C0402
VR2 100K r0402
VC6 15pF/50V,NPO C0402 ns
VC7 15pF/50V,NPO C0402
VC8 15pF/50V,NPO C0402
VC9 15pF/50V,NPO C0402 ns
R207 0 R0805
R212 0 R0805
VC12 0.1uF/25V,Y5V C0402
VC26 0.1uF/25V,Y5V C0402
VD5 BAT54S SOT23
VD7 BAT54S SOT23
VC15 0.1uF/25V,Y5V C0402
VC16 0.1uF/25V,Y5V C0402
VR7 39 r0402
VR8 39 r0402
VE17 VE18 VE19 EMI ns EMIPOINT
VE20 VE21 EMI ns EMIPOINT
VerC: Add for EMI
VR6 2.2K r0402
VR5 2.2K r0402
VD6 BAT54S SOT23
VD8 BAT54S SOT23
VH1 VH2 HOLE TH_200_92 ns
Note: VGA 注意阻抗控制,否则易出现错误的TV/VGA monitor检测
CON2
FPC 32P BOT cns32_0d5_ra1
IO_AMP_SHDW
IO_HP_DET
IO_SURR_OUT_L
IO_SURR_OUT_R
IO_+V5AL
IO_USB_PP0
IO_USB_PN0
HDMI1
MiniHDMI_S_40A
D2+ D2 SHTELD D2- D1+ D1 SHTELD D1- D0+ D0 SHTELD D0- CK+ CK SHTELD CK- CEC RESERVED SCL SDA DCC/CEC_GND +5V HP_DET
GND1 GND2 GND3 GND4
Change to cap for esd
By Johan 071228
AR190 C0402 100pF/50V,NPO
AR174 C0402 100pF/50V,NPO
Solve audio curve cut issue
By Johan 071227
AD40 ESDPAD_R0603 EGA10603V05A1-B ns
AD41 ESDPAD_R0603 EGA10603V05A1-B ns
AFB14 800ohm@100MHz,1.5A fb0805
AFB10 800ohm@100MHz,1.5A fb0805
LINE_OUT1
CKX-3.5-85 AUDIO5A
AD9 ESDPAD_R0603 EGA10603V05A1-B ns
AC116 0.1uF/10V,X5R
change to ns for esd
By Johan 071228
Headphone Jack
INPUT:HEADPHONE/LINE-OUT
OUTPUT:FRONT L/R
used for enhancing Audio quality and ESD ability.
AQ36 2N7002DW SC70_6
AQ37 2N7002DW SC70_6
AR11 0 R0402
AUD_GND
GND_VGA
+V5_VGA
AUSB1 USB USB_10756
HOLE0 HOLE1 HOLE2 HOLE3 VCC1 -DATA1 +DATA1 GND
L4_0805 90Ω/100MHz 0.5A
ACHK1 ns
AC495 330pF/50V,X7R C0402
AD4 ESDPAD_R0603 EGA10603V05A1-B ns
AD1 ESDPAD_R0603 EGA10603V05A1-B ns
AR7 0 R0402
AR8 0 R0402
THD
THREAD
HADS
Page Name VGA/USB/AUDIO BOARD
Size A2
Project Name PX1
Rev VerA
Date: Monday, January 11, 2010 Sheet 28 of 30
PROPERTY NOTE: this document contains information confidential and property to THD and shall not be reproduced or transferred to other documents or disclosed to others or used for any purpose other than that for which it was obtained with the expressed written consent of THD


Vbat_97636
1.5A
1.5A
Q1
AO4419
SO8_50_150
L1
10uH/2.5A
LS2_6530
D6
SSM34PT
SMA
0.5A
0.5A
0.5A
Vout_97636
+VDC
7,17,19,20,21,22,23,25
C4
4.7uF/25V
C1206
C2
4.7uF/25V
C1206
C16
0.1uF/25V,Y5V
C18
10uF/25V,X5R
C17
0.022uF/16V,X7R
GND_97636
R15
1K,1%
1k for mps
R13
1M
Vbat_97636
PWM_97636
EN_97636
Vout_97636
+VDC 7,17,19,20,21,22,23,25
BKLT_PWM_CONN 7
BKLT_ON_CON 7
VLED_C 7
C11
C12
0.1uF/10V,X5R
1uF/10V,X5R
PU1
VDC
VIN
COMP
FAULT
LX1
LX
GND
GND2
FPWM
VLEVEL
GND3
PWM/EN
PGND1
PGND
OVP
IIN0
IIN1
IIN2
GND5
GND4
NC1
NC
IIN5
IIN4
RSET
IIN3
ISL97636A
QFNS24_0D5_1G
R18 0
for isl
R16 0
R17 0
EN_97636
for isl
C5
for mps
220pF/50V,X7R
R3
ns
C6
200K 1%
0.1uF/10V,X5R
for mps
PWM_97636
R11
39K
LEV_GND0
LEV_GND1
LEV_GND2
LEV_GND3
LEV_GND4
LEV_GND5
R12
60.4K,1%
ISL 36.5k MPS 60.4k
R14 0
THREAD
liujx
Page Name
TPS61181
Size
B
Project Name
PX1
Rev
VerA
Date: Monday, January 11, 2010
Sheet 29 of 30
PROPERTY NOTE: this document contains information confidential and property to THD and shall not be reproduced or transferred to other documents or disclosed to others or used for any purpose other than that for which it was obtained with the expressed written consent of THD