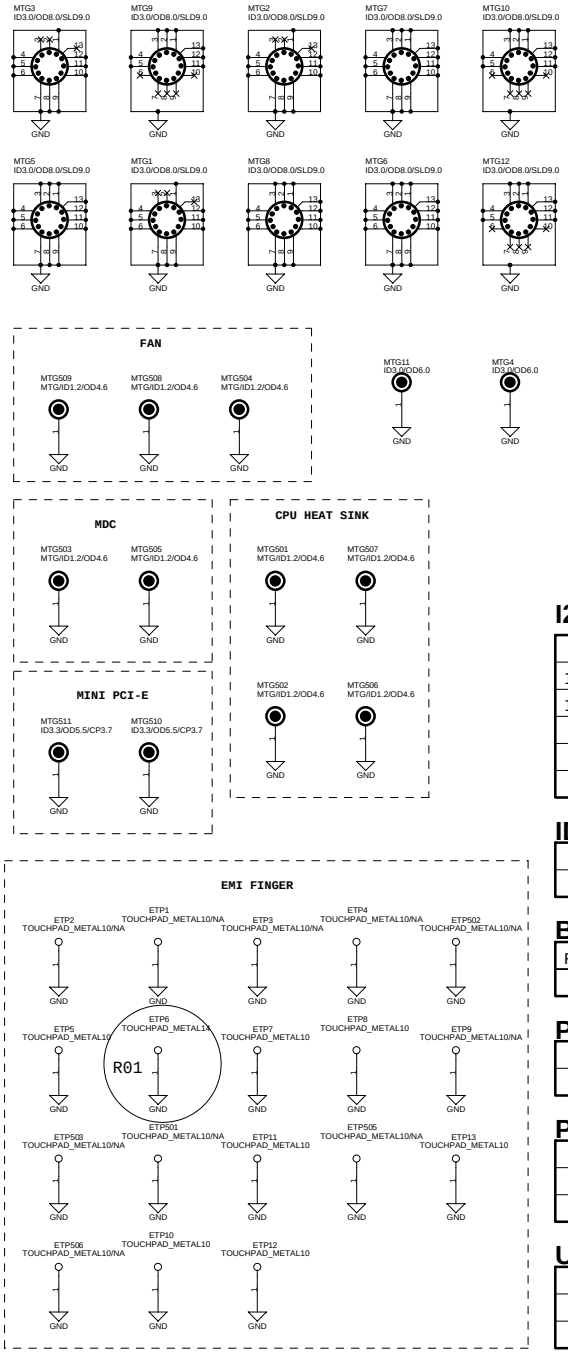
MODEL : 8515 Revision R0A

Project Code : G383
Product Code :8171
PCB : 316817100002
PCBA : 411817100001

Contexts

DRAW	DESIGN	CHECK	ISSUED



POWER STATES

SIGNAL \ STATE	VOTAGE	POWER ON	STR (S3)	STD (S4)	MEC-OFF (S5)	REMARK
SUSB#	-	HIGH	LOW	LOW	LOW	
SUSC#	-	HIGH	HIGH	LOW	LOW	
ADP	+19V	0	0	0	0	
BATTERY	+12V	0	0	0	0	
+VDD3_ALW	+3.3V	0	0	0	0	
+VDD3_AVREF	+3.3V	0	0	0	O / X	S5 : X in Battery mode
VDD3S	+3.3V	0	0	0	O / X	S5 : X in Battery mode
VDD2.5S	+2.5V	0	0	0	O / X	S5 : X in Battery mode
+5V	+5V	0	0	X	X	
+3V	+3.3V	0	0	X	X	
+2.5V	+2.5V	0	0	X	X	
+1.8V	+1.8V	0	0	X	X	
+1.5V	+1.5V	0	0	X	X	
+5VS	+5V	0	X	X	X	
+3VS	+3.3V	0	X	X	X	
+2.5VS	+2.5V	0	X	X	X	
+1.8VS	+1.8V	0	X	X	X	
+1.5VS	+1.5V	0	X	X	X	
+1.05V_VCCP	+1.05V	0	X	X	X	
+0.9VS	+0.9V	0	X	X	X	
+CPU_CORE		0	X	X	X	

I2C / SMB Address

DEVICE	WRITE	READ
ICS953009	D2	D3
ICS9P956	DC	DD
DIMM0	A0	A1
DIMM1	A2	A3
AD1032	98	99

IDSEL

IDSEL	CHIP
	N/A

BUS MASTER

REQ/GNT	CHIP
	N/A

PCIINT

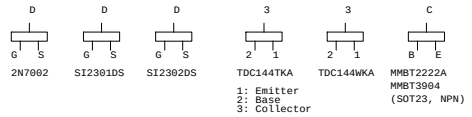
PCIINT	CHIP
	N/A

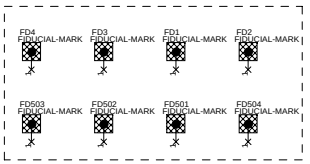
PCIE LANE

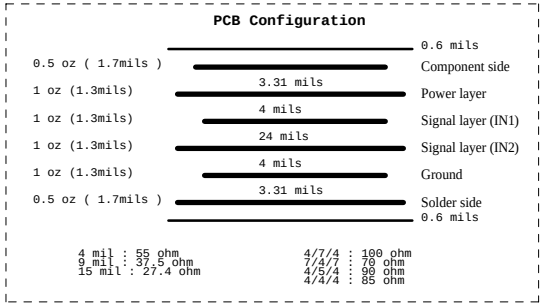
LANE	DEVICE
1	Mini Card
2	Express Card

USB

PORT	DEVICE
4	Mini Card
5	Express Card



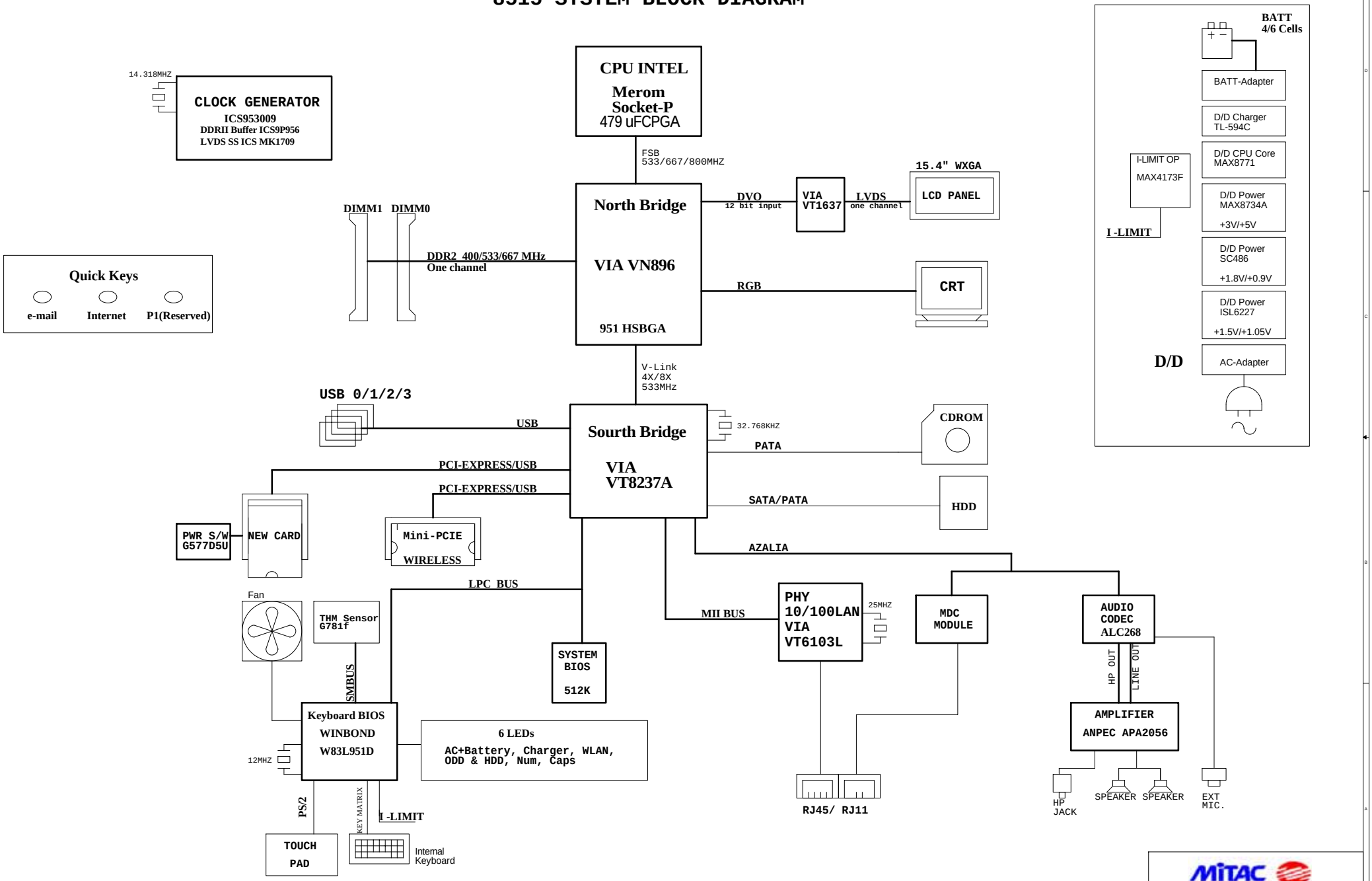




MiTAC

Title	8515 COVER SHEET	
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002	Rev: R0A
Date: Friday, April 27, 2007	Sheet 1 of 29	

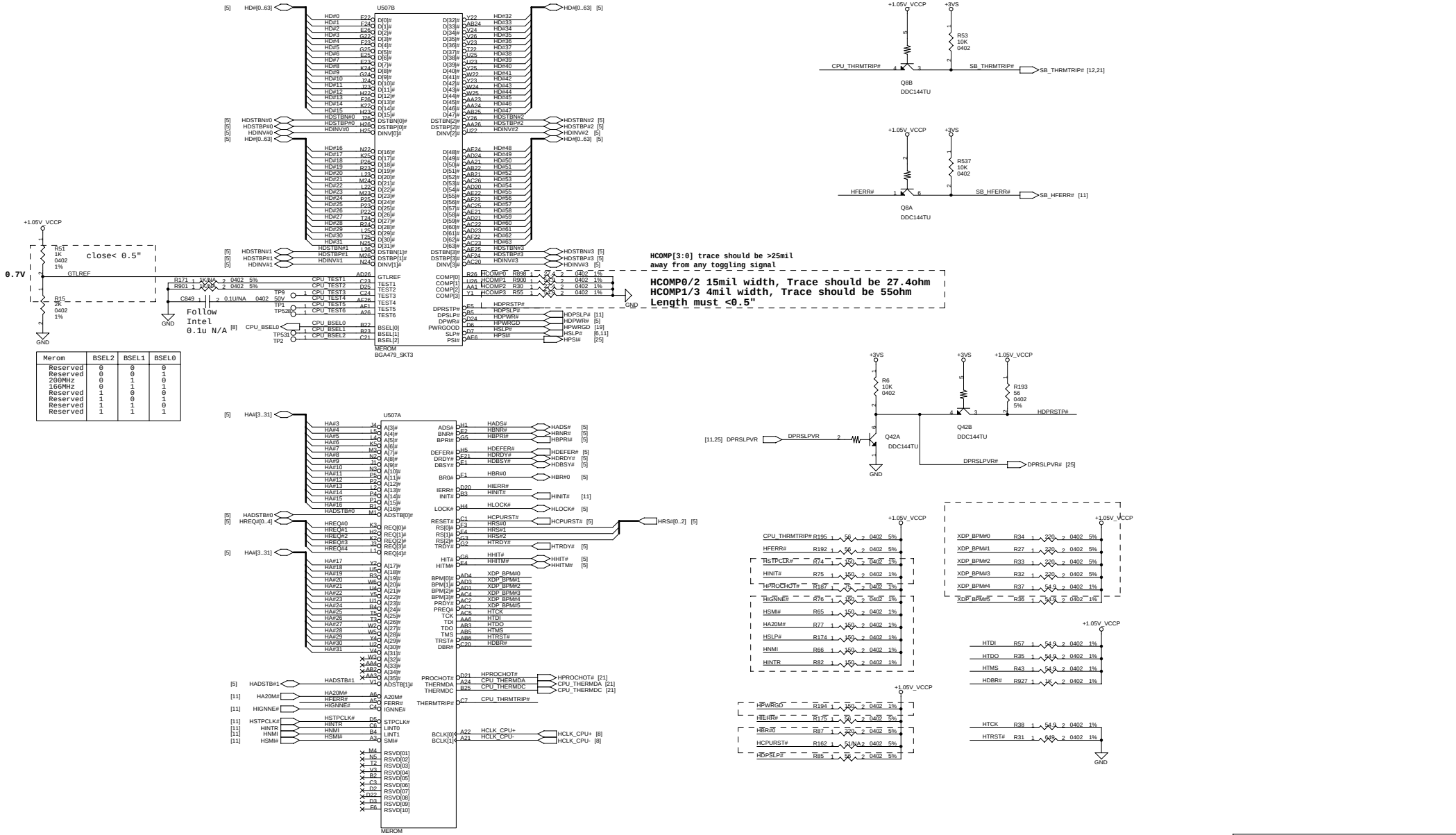
8515 SYSTEM BLOCK DIAGRAM



MiTAC

Title	8515 COVER SHEET	
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002	Rev: R0A
Date: Friday, April 27, 2007	Sheet 2 of 29	

CPU -Merom socket-p(1/2)



Title	8515 CPU Merom(1/2)		
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002		Rev: R0A
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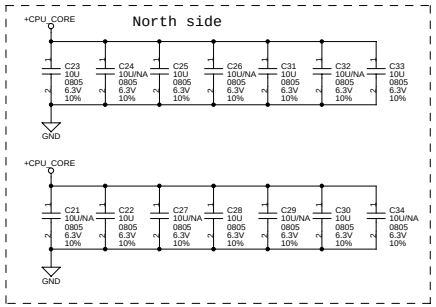
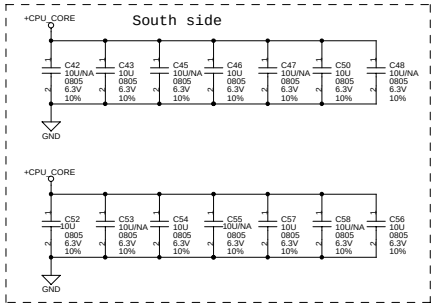
CPU - Merom socket-p (2/2)

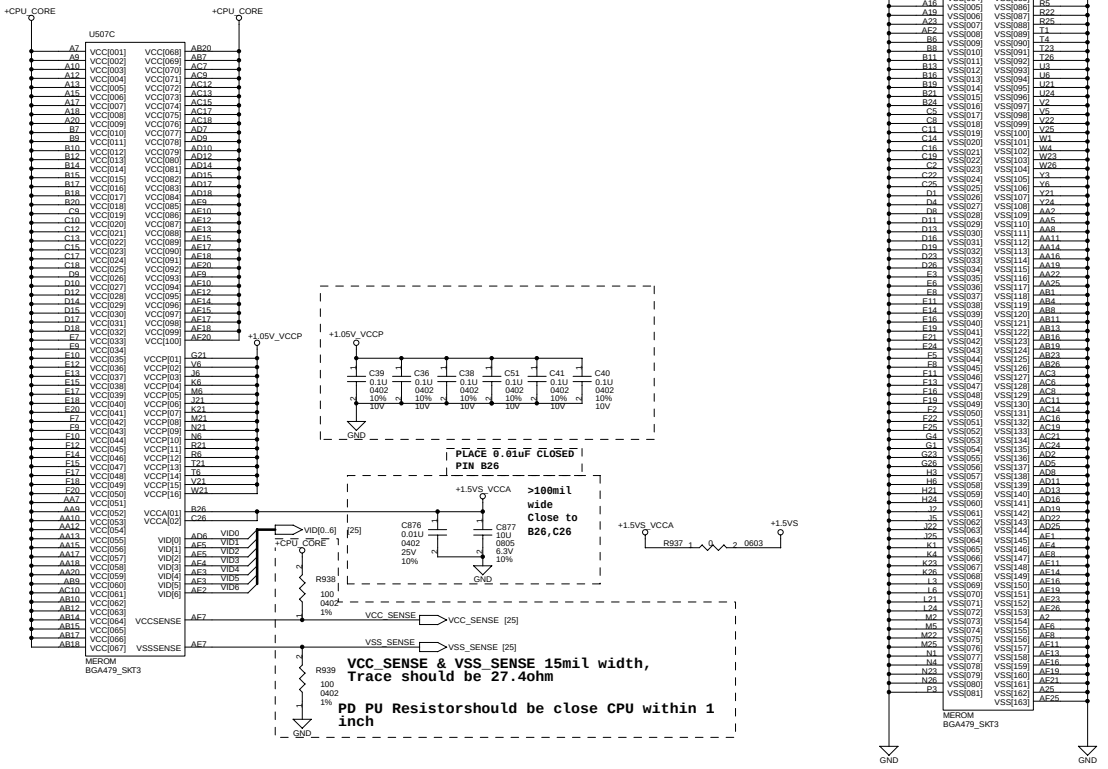
In Matanzas 1.5 demo board

330uF x 4
10uF x 32

CPU Mid-Freq Decoupling







Title	8515 CPU Merom(2/2)		
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002		Rev: R0A
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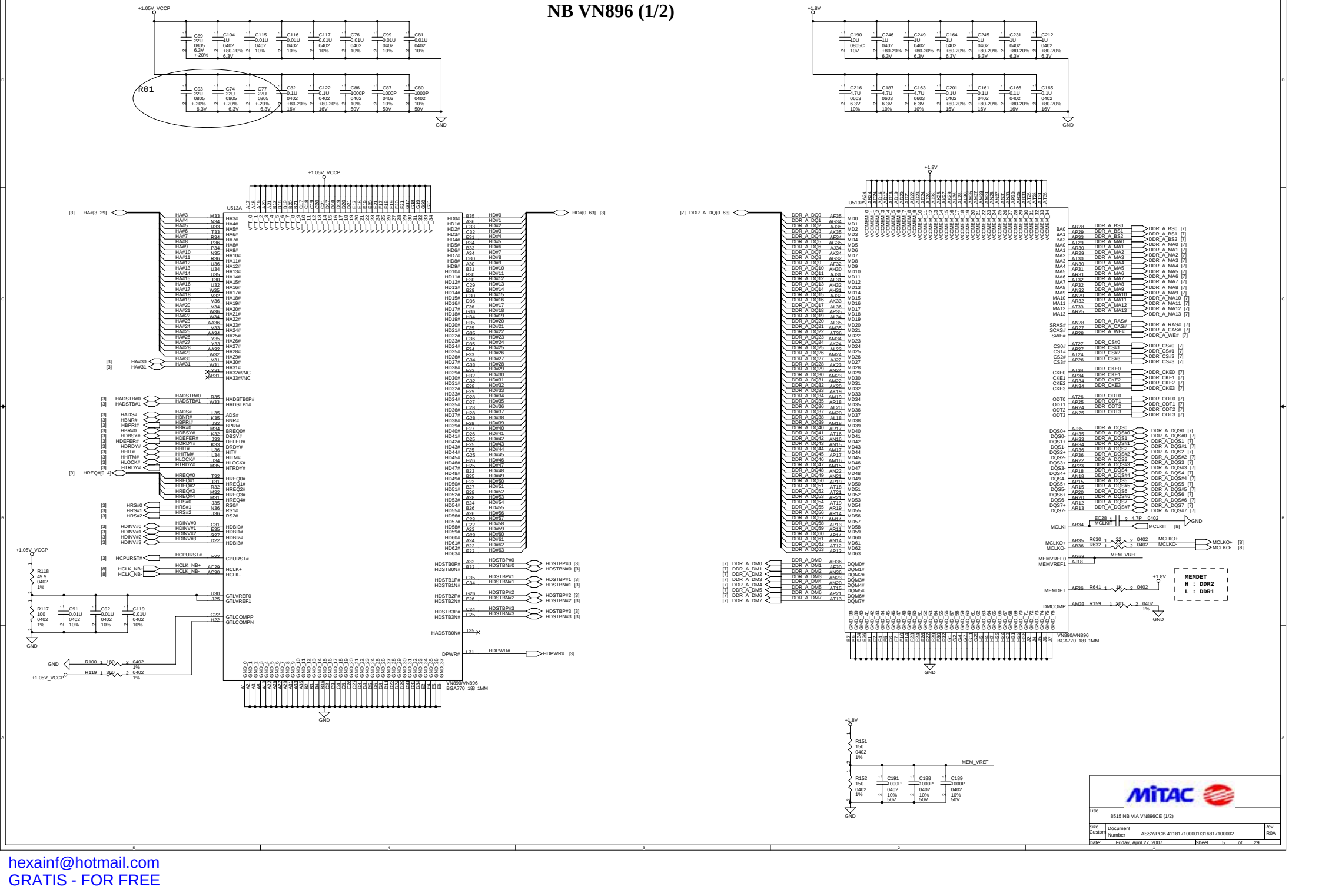
NB VN896 (1/2)



Title	8515 NB VIA VN896CE (1/2)
Size / Custom	Document Number: ASSY/PCB 411817100001/316817100002
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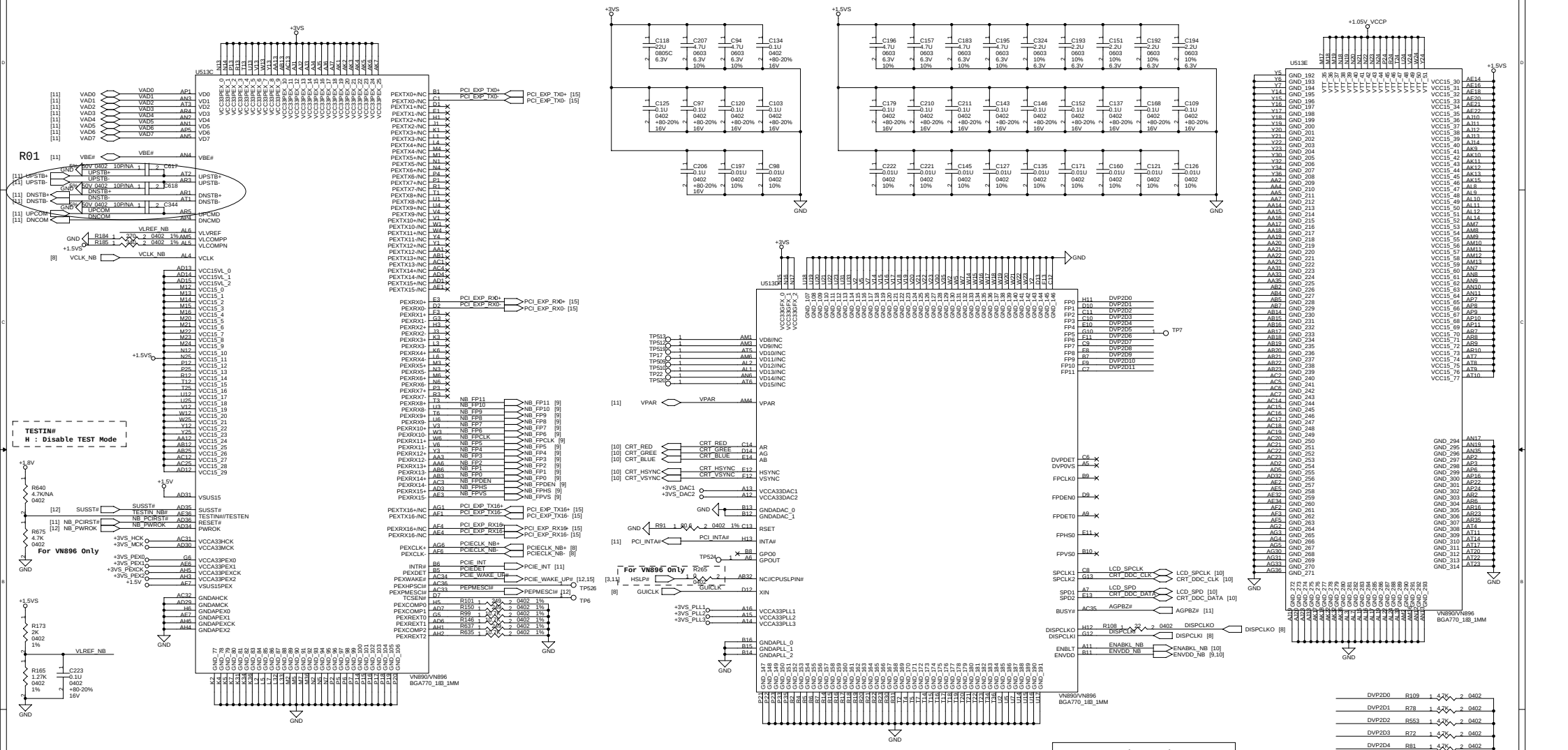
NB VN896 (2/2)



Strapping Setting

DVP2D4 : Port Muxing
L : Dual 12 Bit DVI Interface
H : One 24 Bit Panel Interface

DVP2D5 : DVP2 Configuration
L : DVI Interface
H : TV Encoder

DVP2D6 : DVP2 Enable
L : Disable
H : Enable

DVP2D7 : GFX Clock Select
L : Refer Internal PLL
H : From External

DVP2D10 : CPUCK / MCK Select
L : From NB
H : From External

Title	8515 NB VIA VN896CE (2/2)
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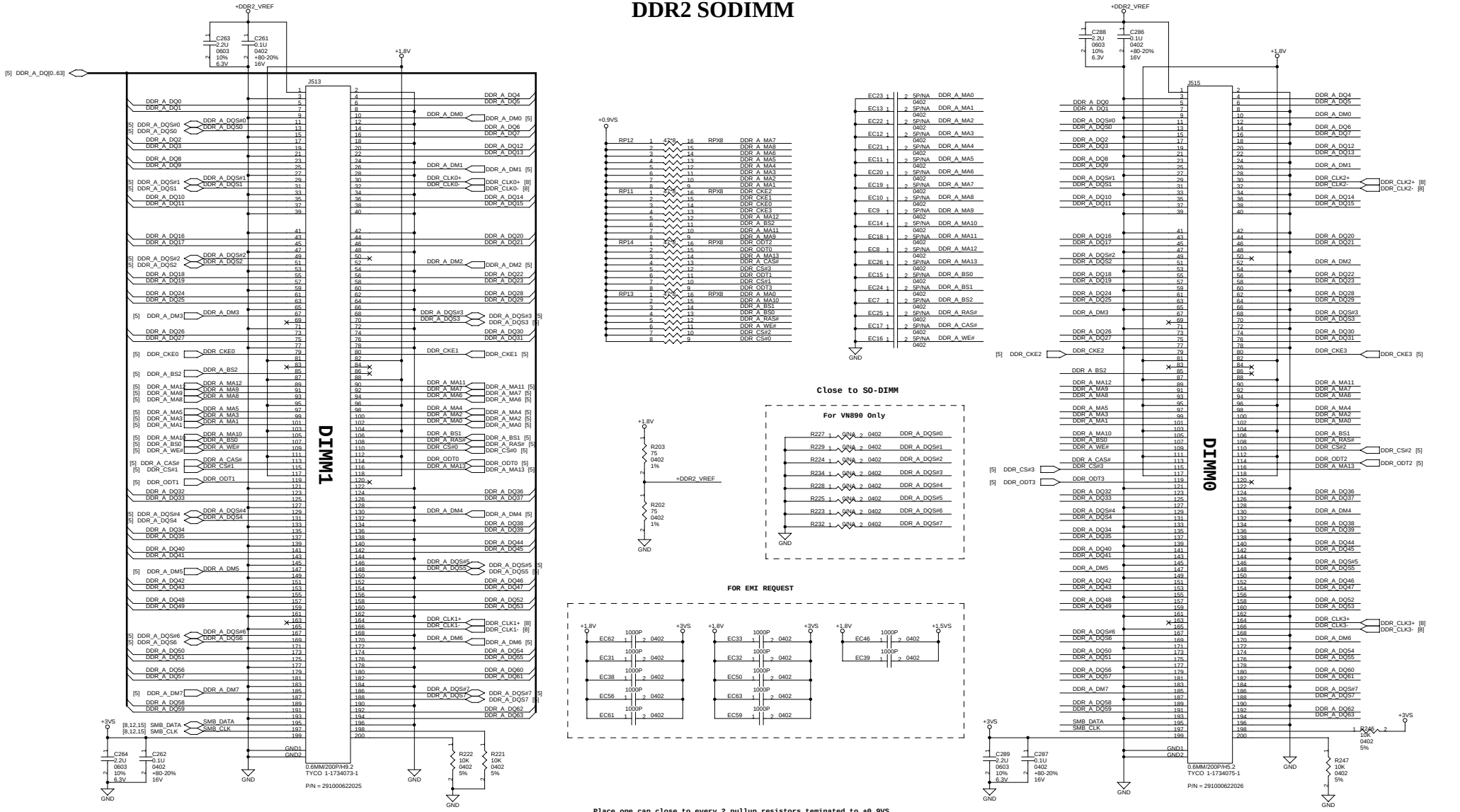
DDR2 SODIMM



CLOCK GENERATOR

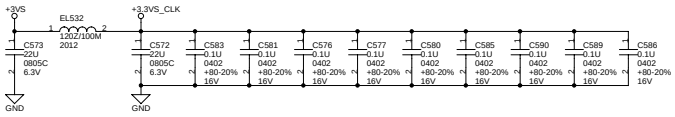
MODE	
0	Desktop
1	Mobile

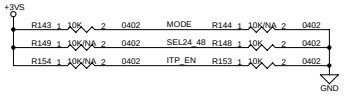
SEL24_48	
0	48 MHz
1	24 MHz

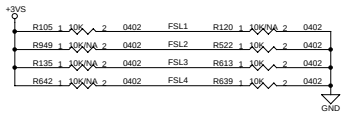
ITP_EN	
0	Disable
1	Enable

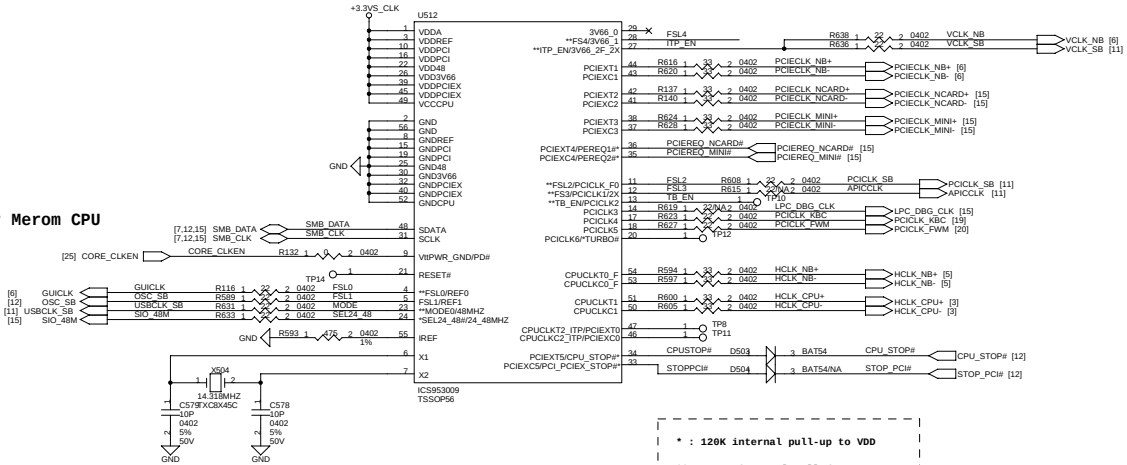
Frequency Setting					
FSL4	FSL3	FSL2	FSL1	FSL0	CPU
0	0	1	0	1	100 MHz
0	0	0	0	1	133 MHz
0	0	0	1	1	166 MHz
0	0	0	1	0	200 MHz

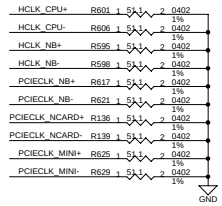
For Merom CPU





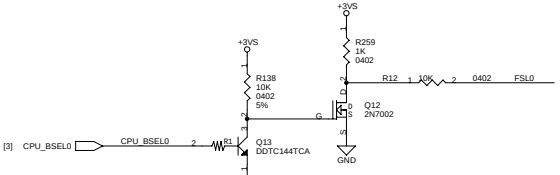


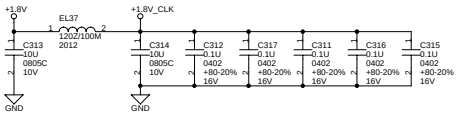




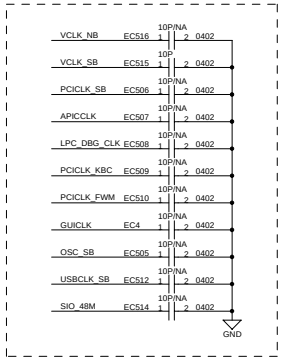
* : 120K internal pull-up to VDD

** : 120K internal pull-down to GND



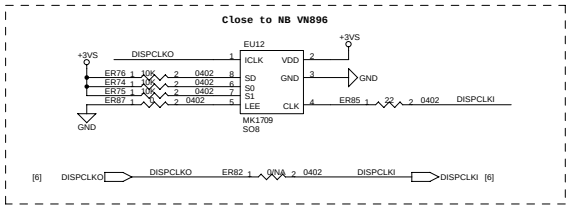


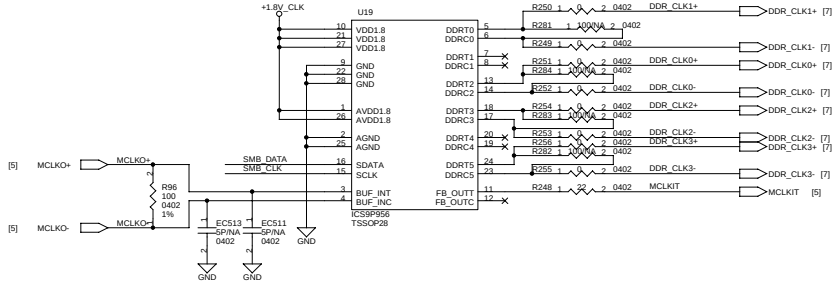
FOR EMI REQUEST



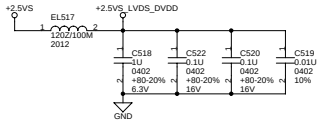
FOR EMI REQUEST

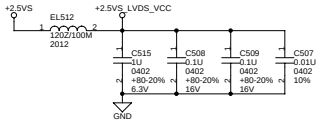
Close to NB VN896

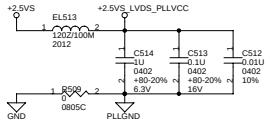




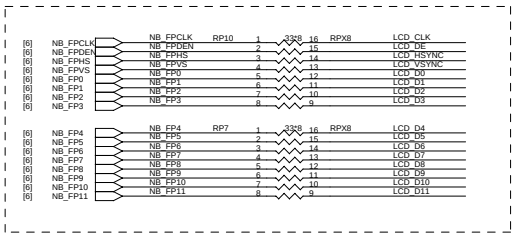
LVDS TRANSMITTER (VT1637)

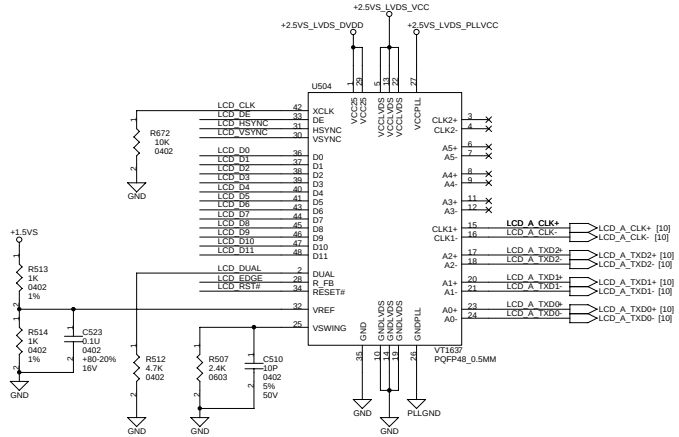


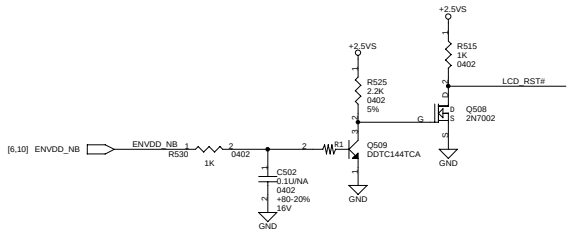


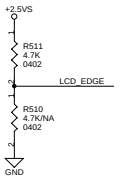


Close to NB VN896









LCD_EDGE	
0	Falling
1	Rising

MITAC

Title	8515 LVDS TRANSMITTER VIA VT1637	
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002	Rev: R0A
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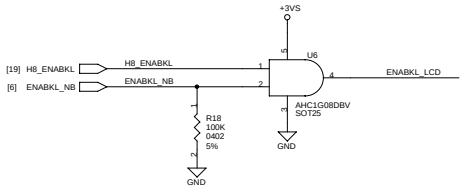
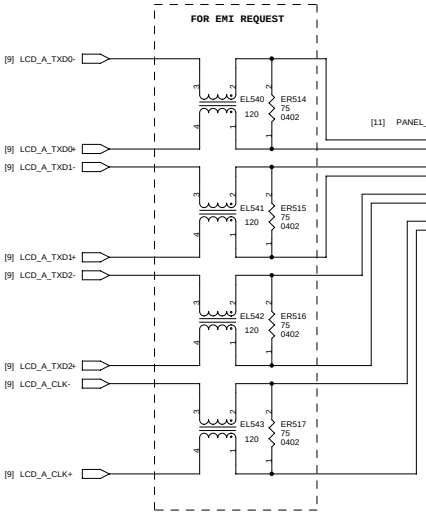
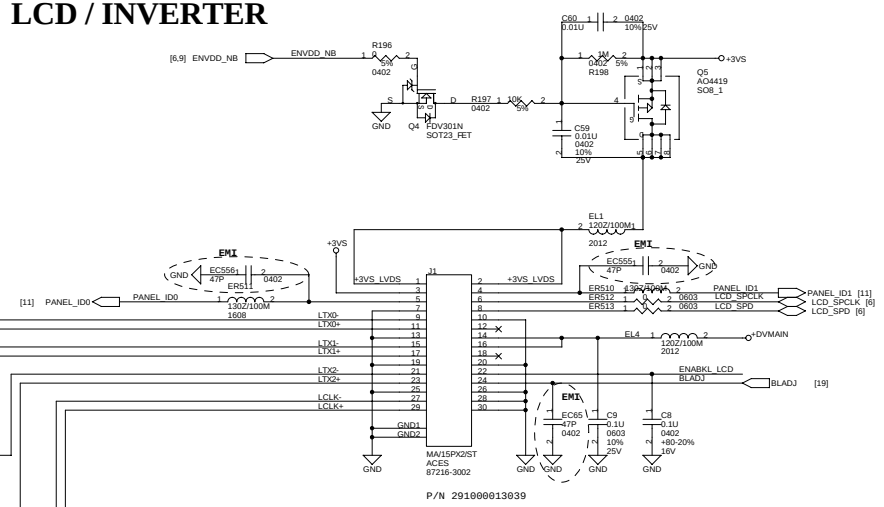
LCD / INVERTER

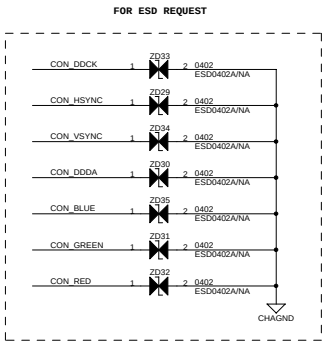


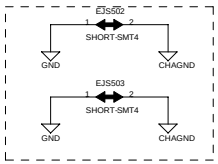


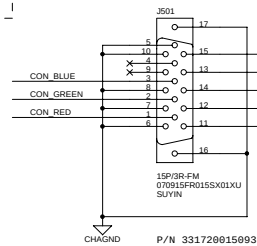


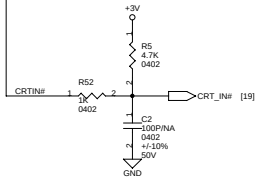
Pannel ID		
LCD_ID1	LCD_ID0	PANEL TYPE
0	0	
0	1	
1	0	
1	1	

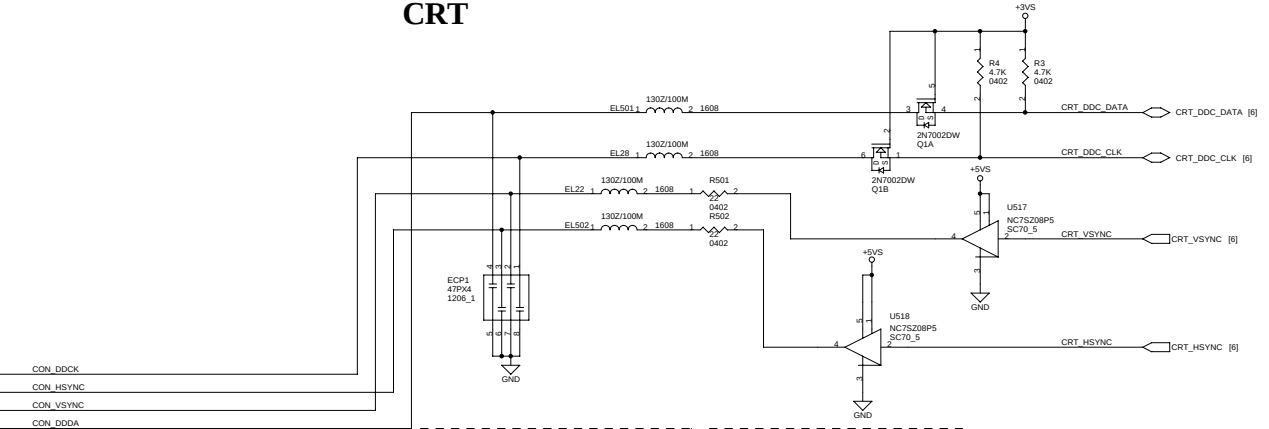
CRT











Title	8515 LCD / INVERTER /CRT
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002
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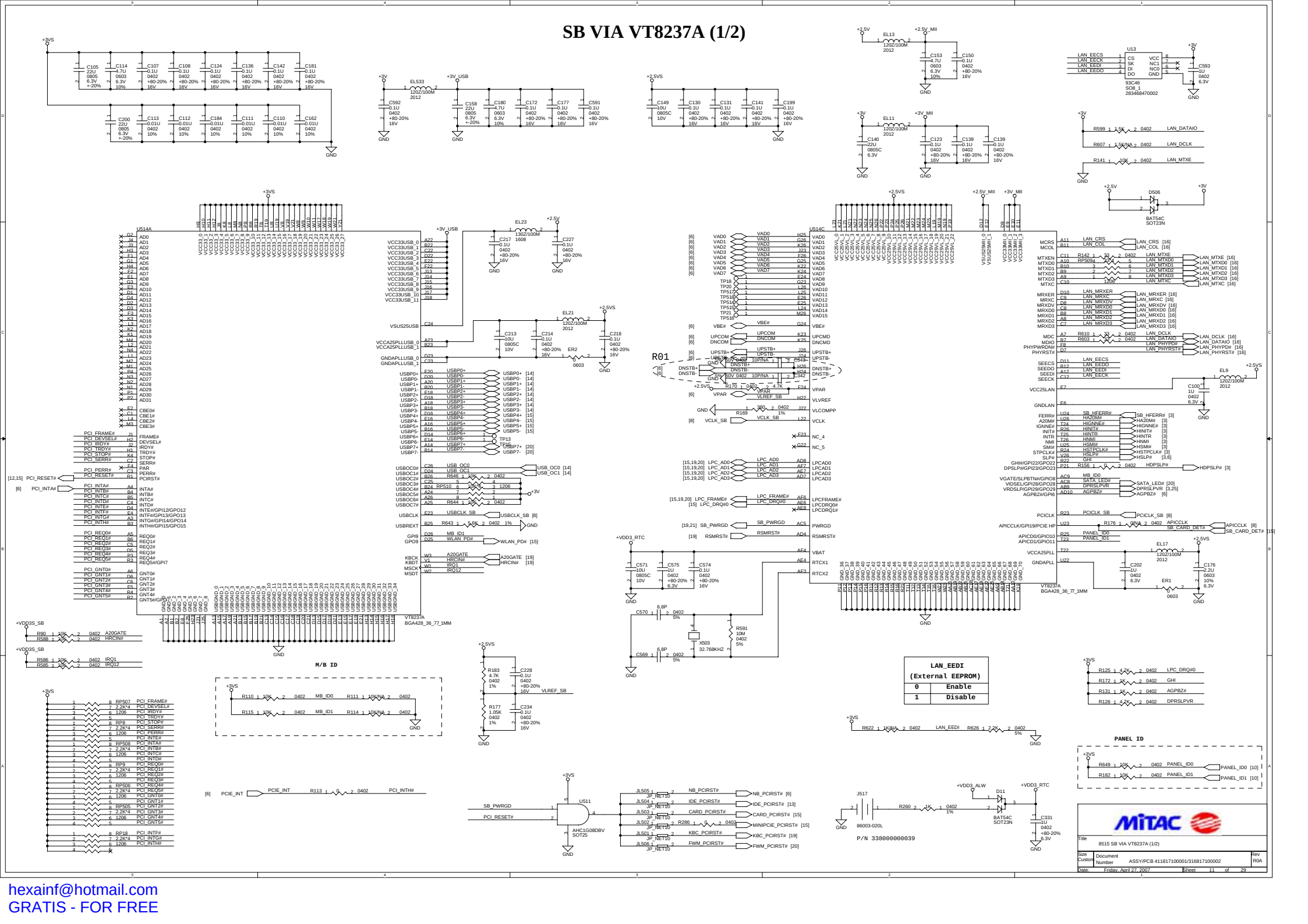
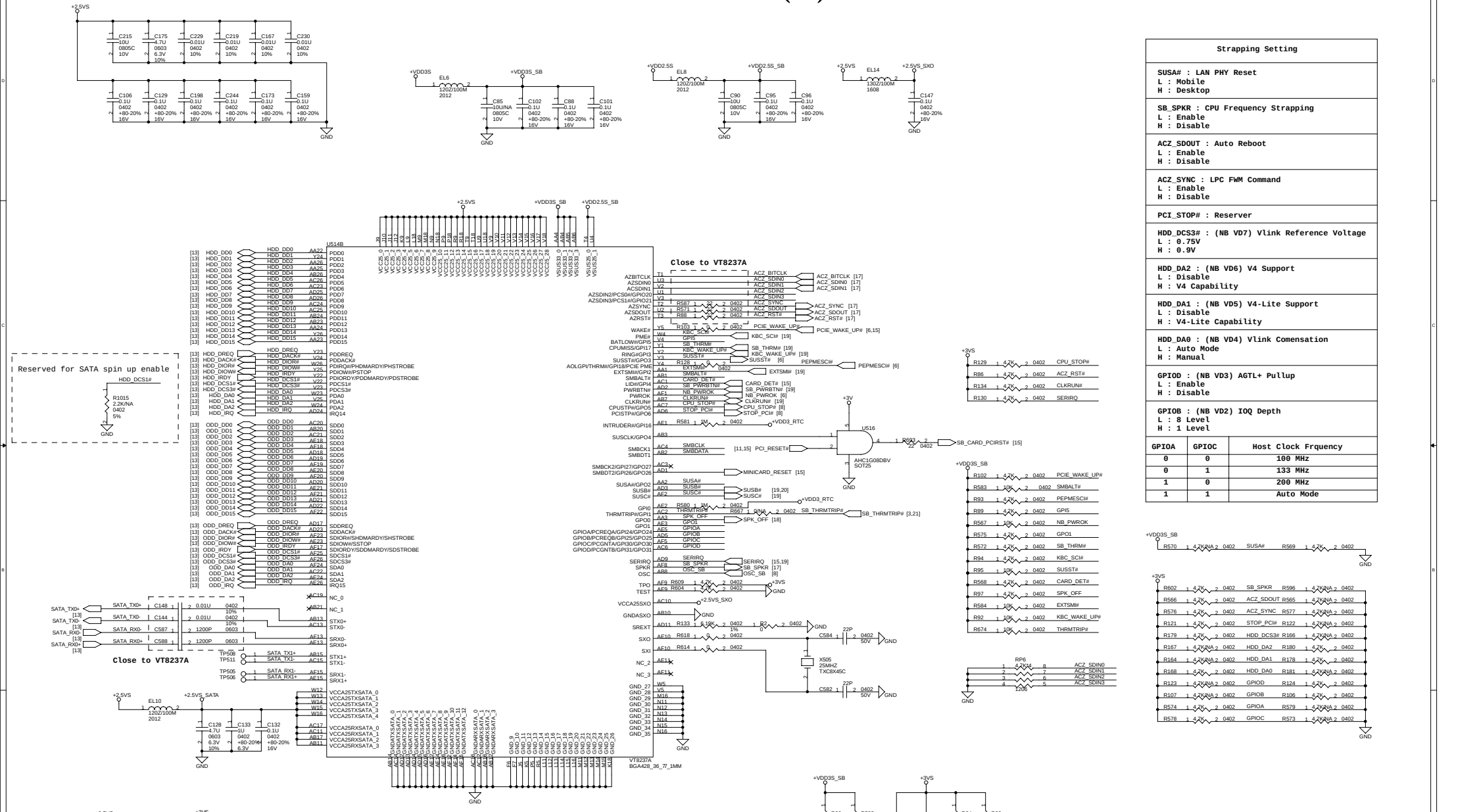
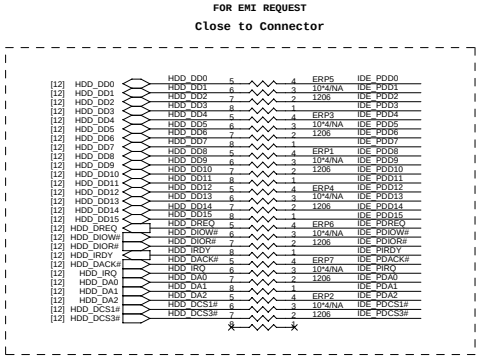
SB VIA VT8237A (1/2)

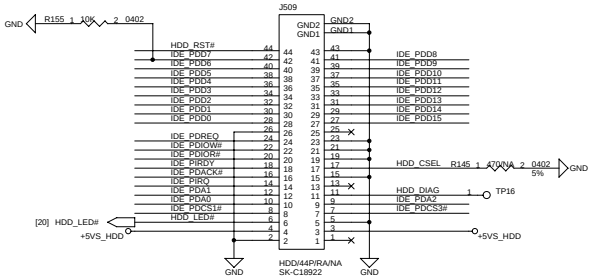


SB VIA VT8237A (2/2)

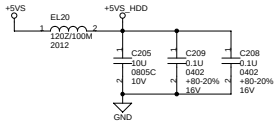


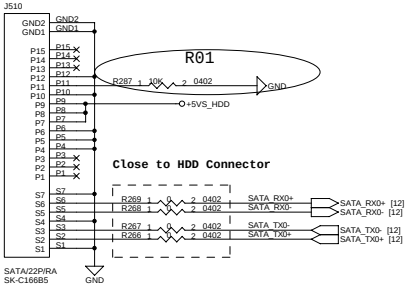
HDD PRIMARY IDE CONNECTOR





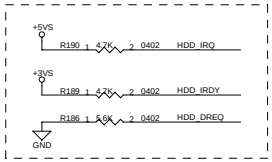
HDD SATA CONNECTOR

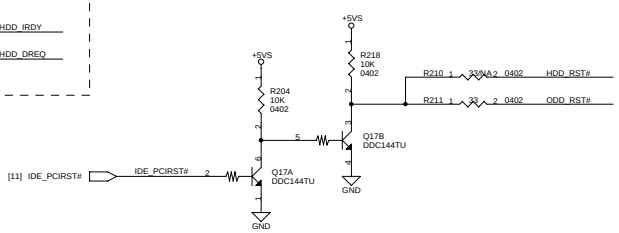




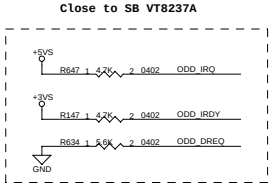
SATA PCBA : 411813900004

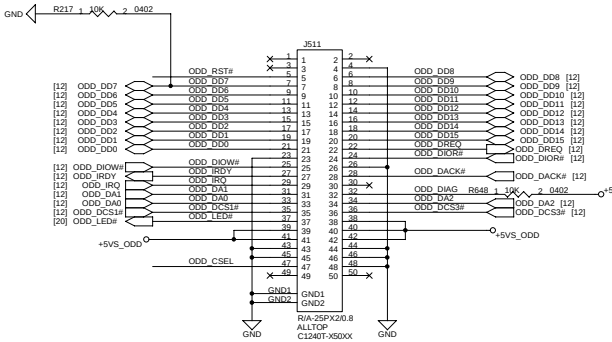
(a) Add C144, C148, C587, C588 ---> Page 12
(b) Add R266, R267, R268, R269 ---> Page 13
(c) Add J510 ---> Page 13
(c) Del ERP1, ERP2, ERP3, ERP4, ERP5, ERP6, ERP7 ---> Page 13
(e) Del J509 ---> Page 13
(f) Del R145 ---> Page 13
(g) Del R210 ---> Page 13
(h) Del R7 ---> Page 20
Add R11 ---> Page 20

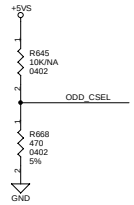


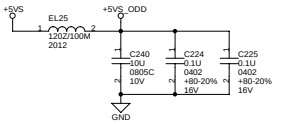


ODD SECONDARY IDE CONNECTOR









Title	8515 SATA / PATA HDD & ODD		
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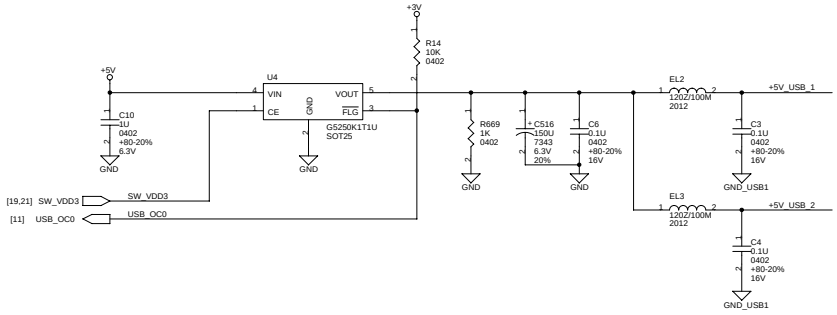
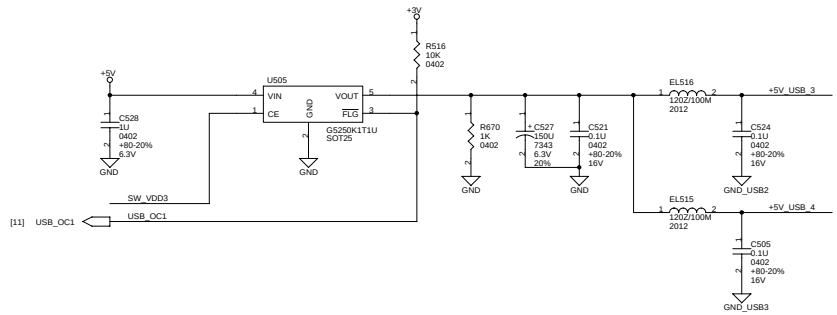
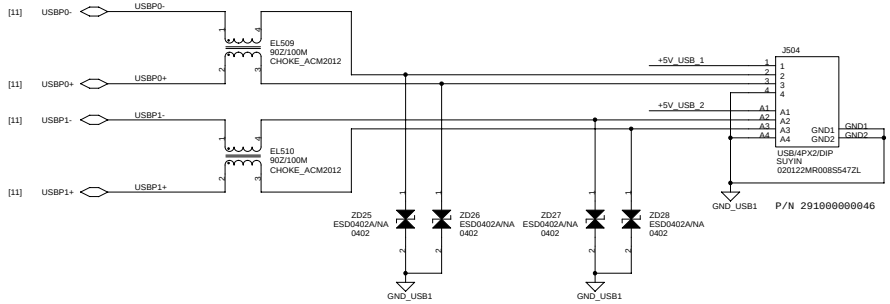
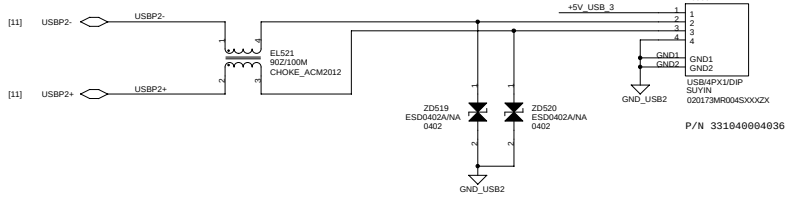
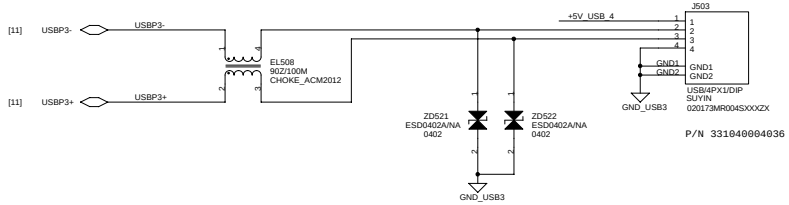
USB

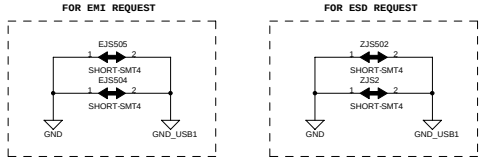


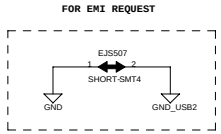


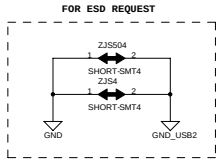


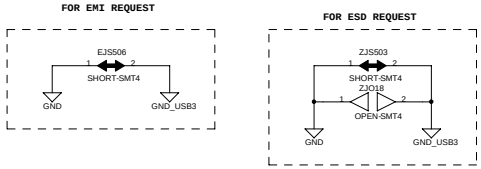












MiTAC

Title	8515 USB CONNECTOR	
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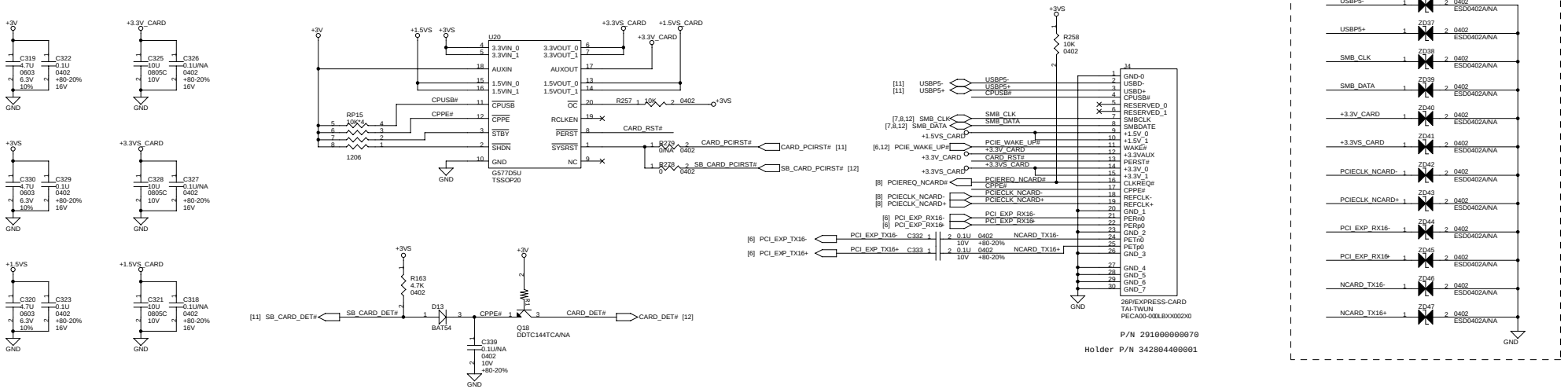
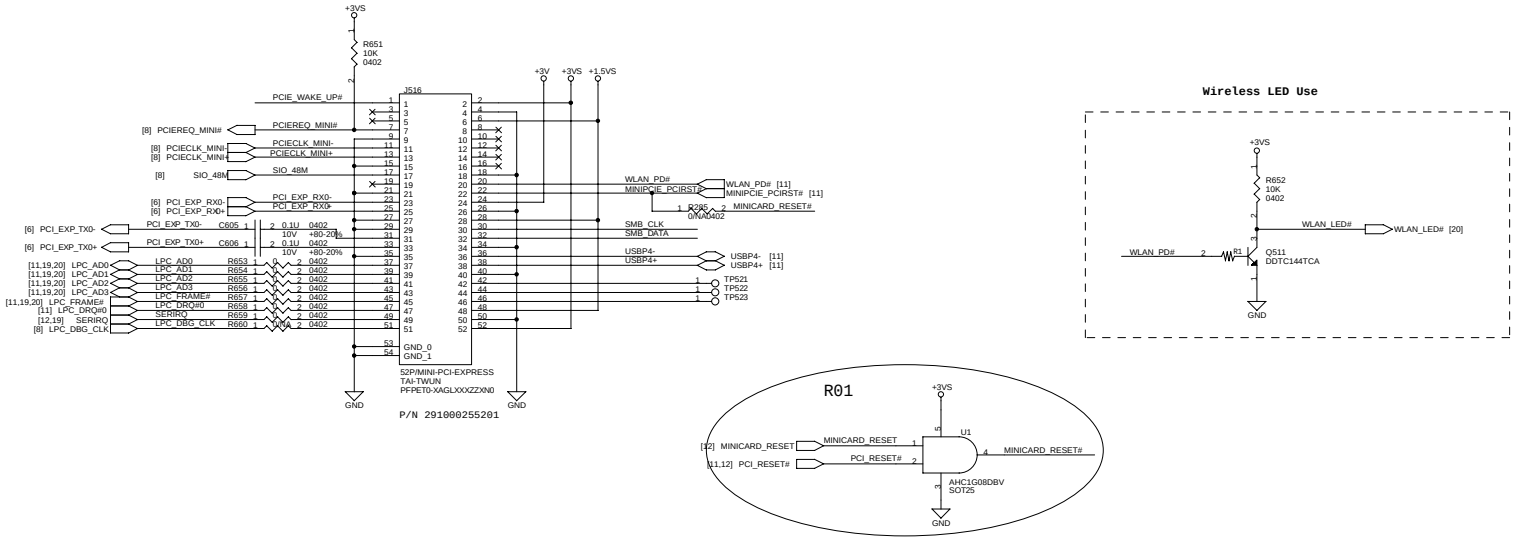
NEW CARD



WIRELESS LAN CARD



Title	8515 NEW CARD / MINI PCIE CARD
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002 — Rev: R0A
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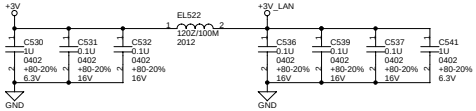
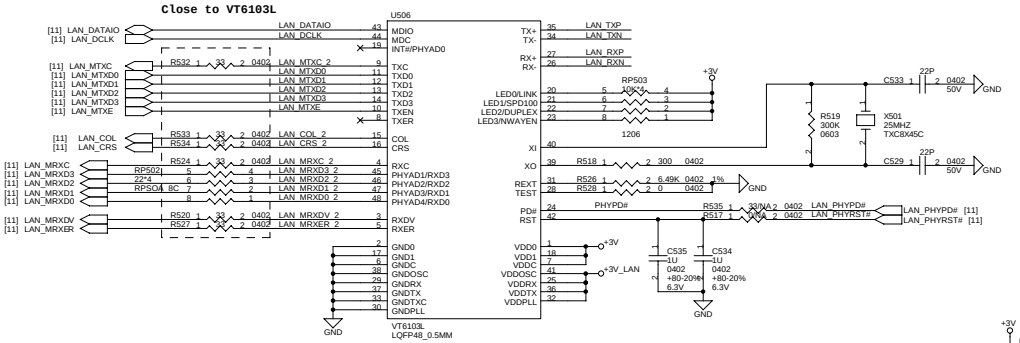
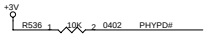
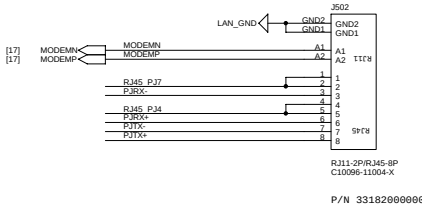
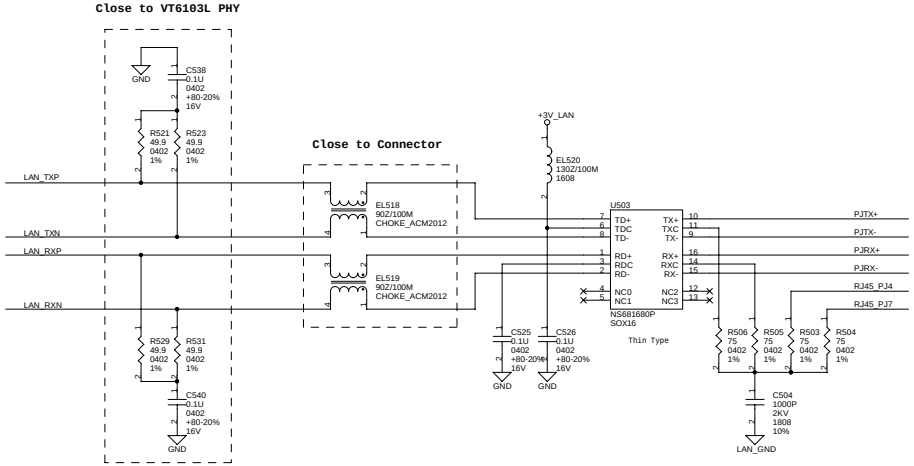
LAN PHY (VT6103L)

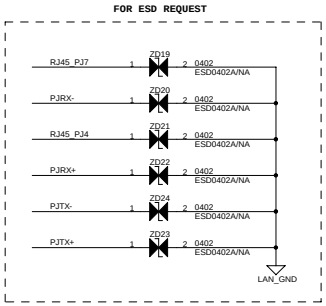


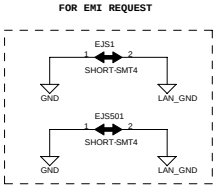












Title	8515 LAN PHY VIA VT6103L		
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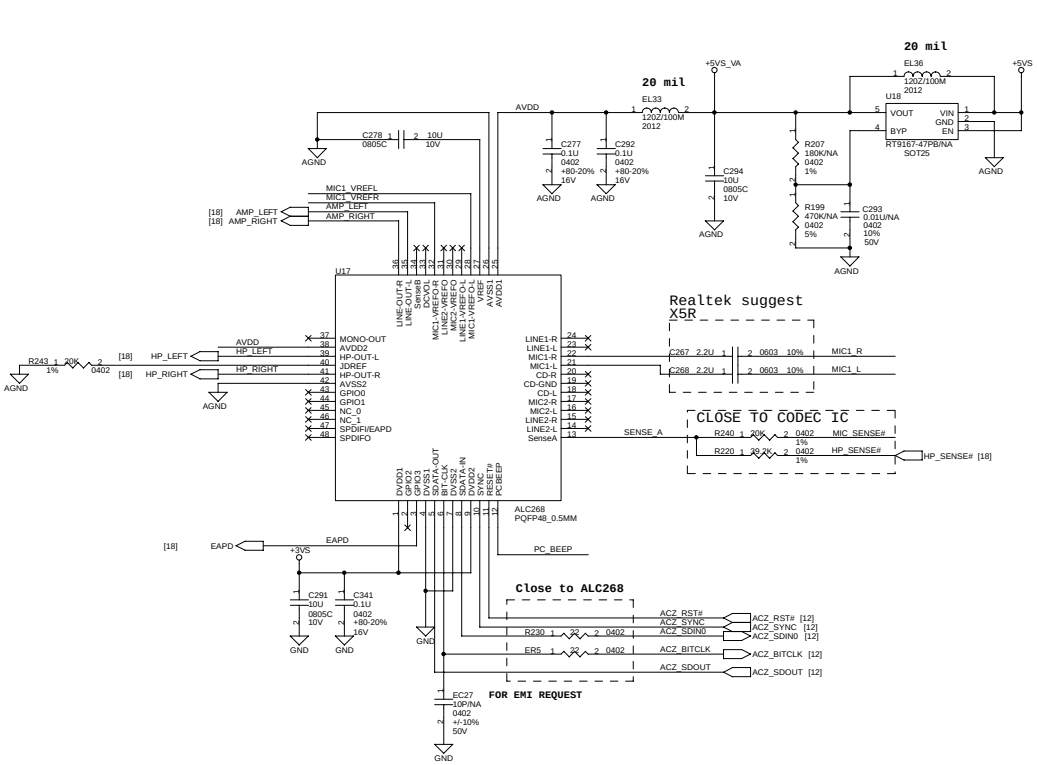
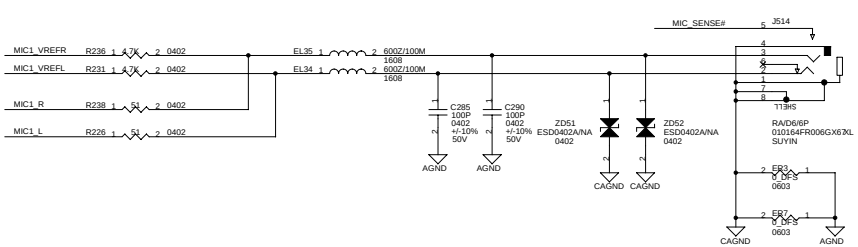
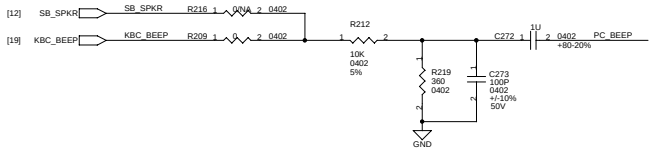
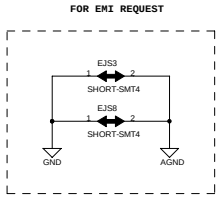
AZALIA CODEC (ALC268)









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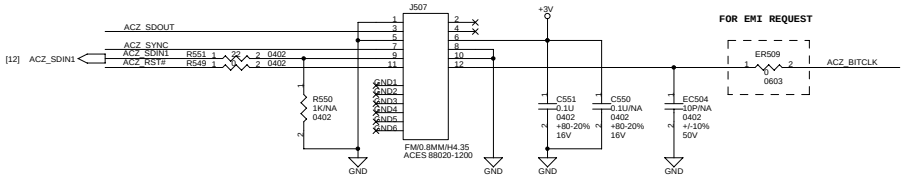

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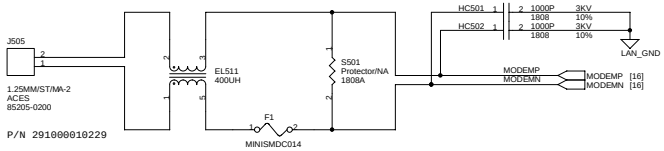

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Title	8515 AZALIA CODEC ALC268 & MDC		
Size Custom	Document Number	ASSY/PCB 411817100001/316817100002	Rev R0A
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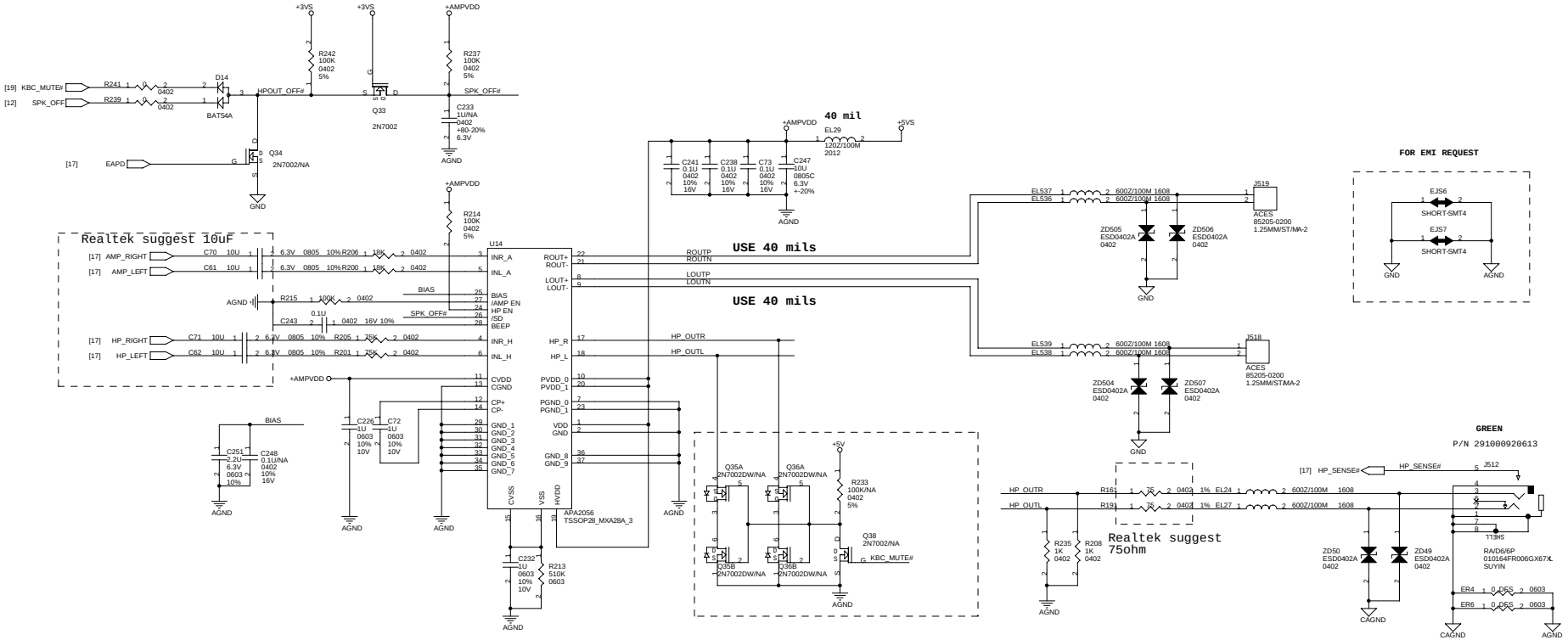
AUDIO AMPLIFIER



Title	8515 AUDIO AMPLIFIER APA2056
Size / Custom	Document Number: ASSY/PCB 411817100001/316817100002 — Rev R0A
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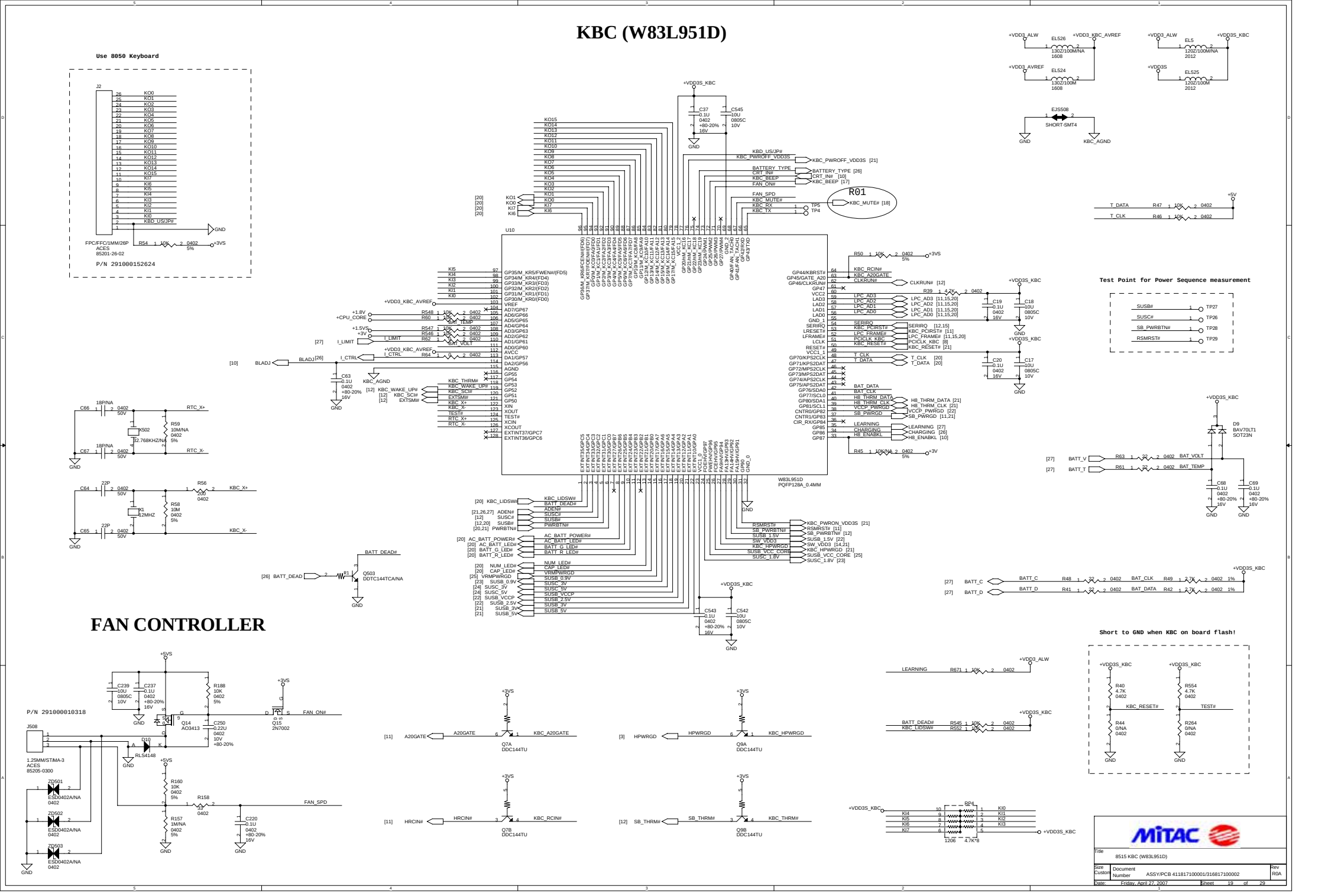
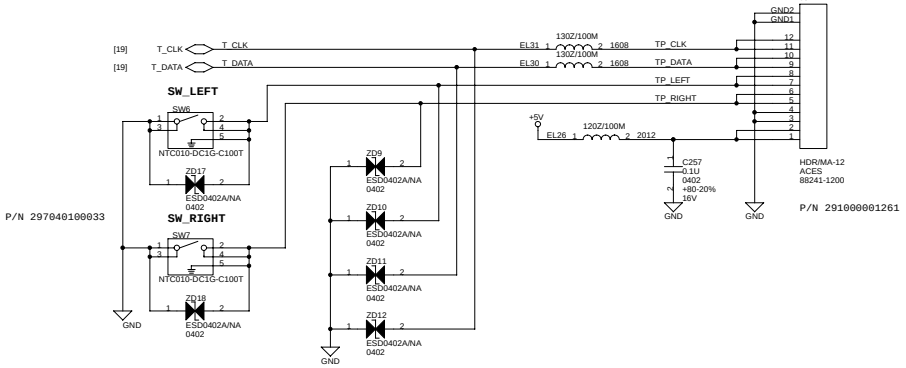
KBC (W83L951D)

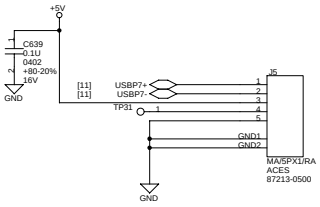


FAN CONTROLLER

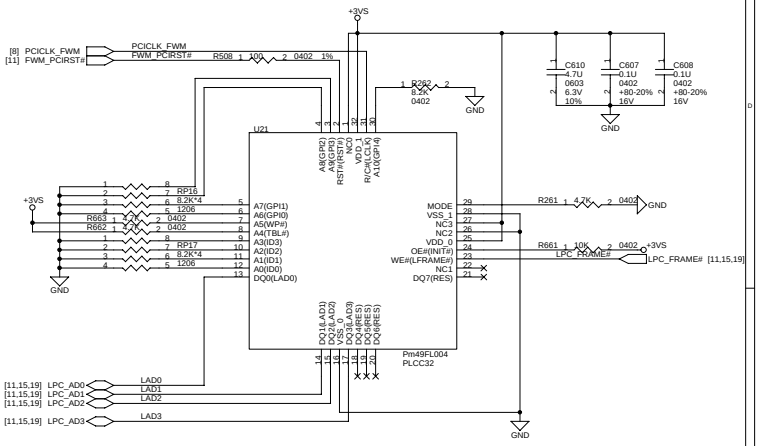
TOUCH PAD



Webcam



SYSTEM BIOS



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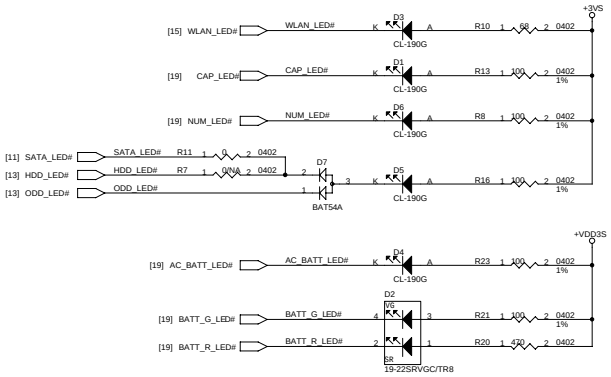
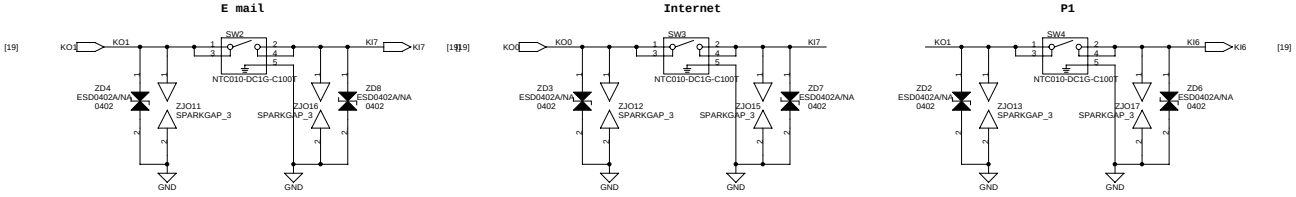
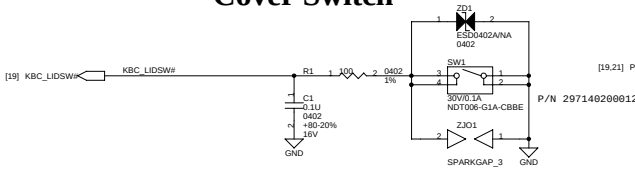


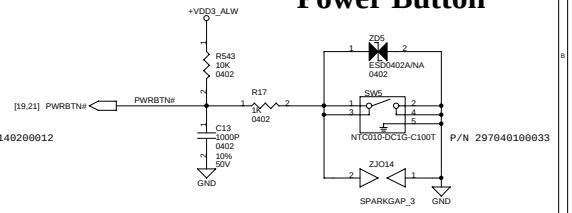
QUICK BUTTON

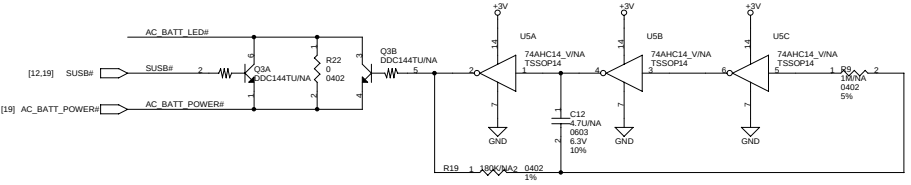


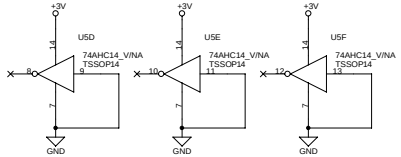
Cover Switch

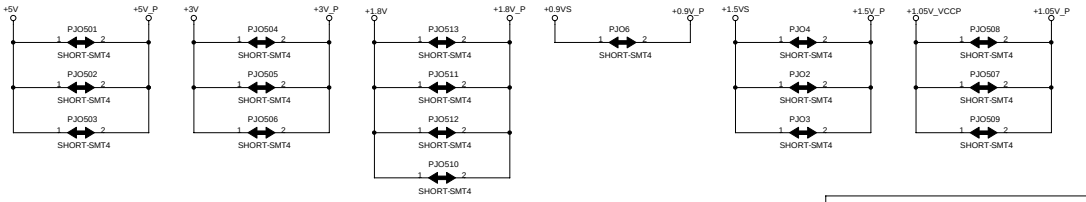


Power Button









MiTAC	
Title	8515 TOUCH PAD & BIOS & LED & BUTTON
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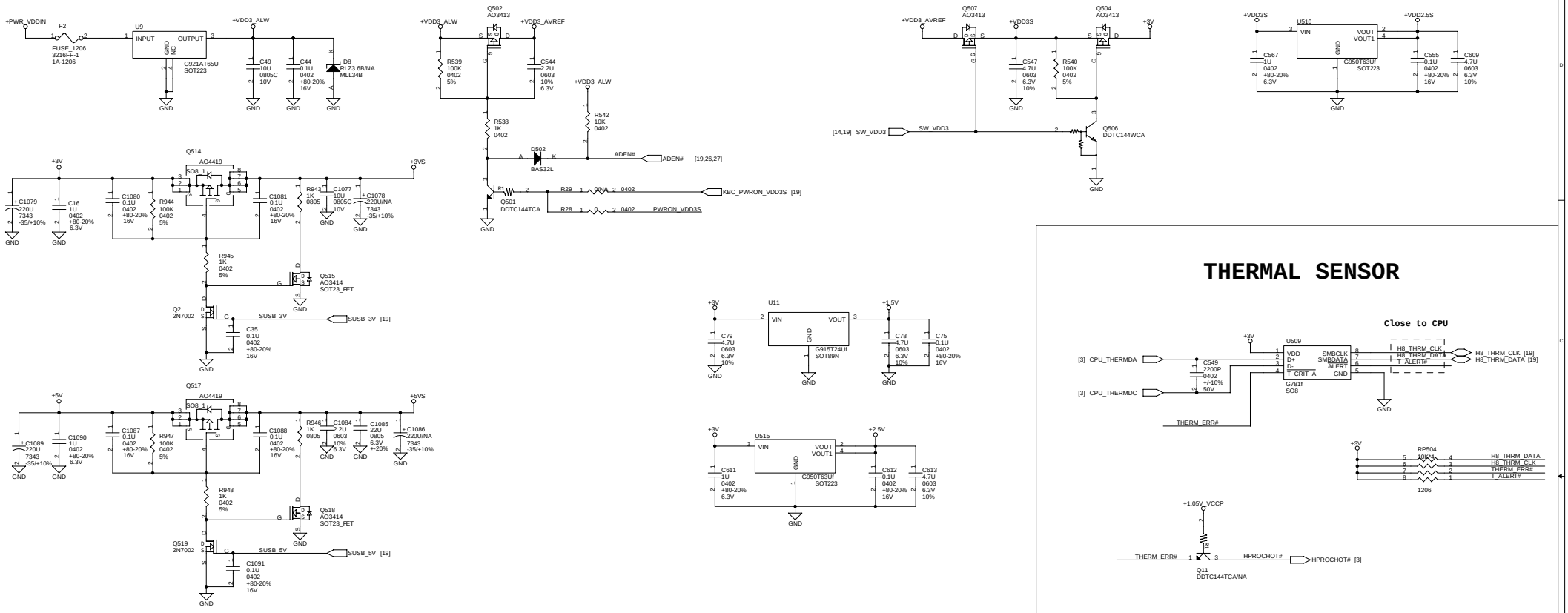
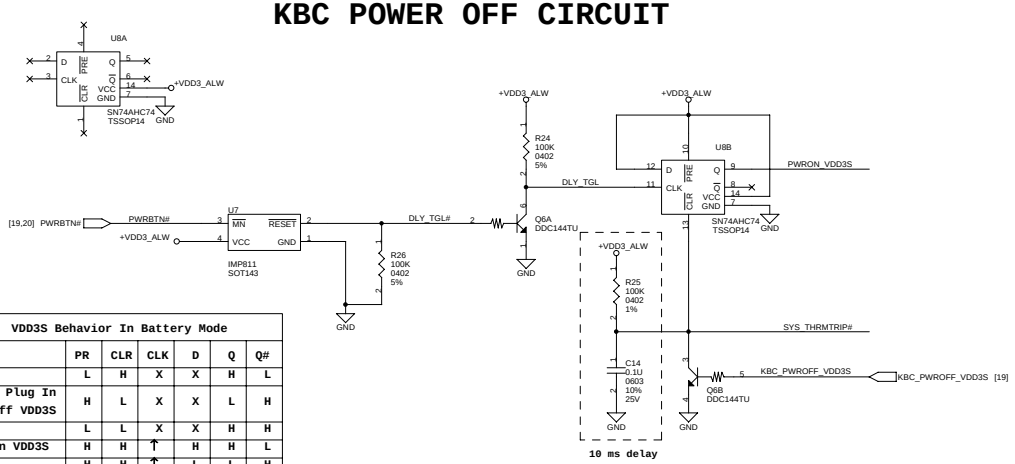
POWER ON PERIPHERIAL CIRCUIT



THERMAL SENSOR

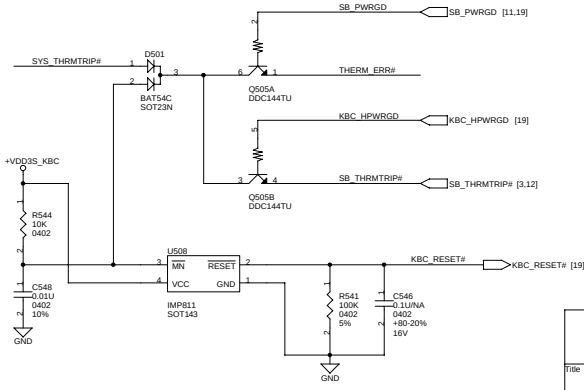
KBC POWER OFF CIRCUIT



VDD3S Behavior In Battery Mode

	PR	CLR	CLK	D	Q	Q#
	L	H	X	X	H	L
Battery Plug In Power Off VDD3S	H	L	X	X	L	H
	L	L	X	X	H	H
Power On VDD3S	H	H	↑	H	H	L
	H	H	↑	L	L	H
	H	H	L	X	Q0	Q#0

H8 RESET# / RSMRST#



MiTAC

Title	8515 POWER ON PERIPHERIAL CIRCUIT	
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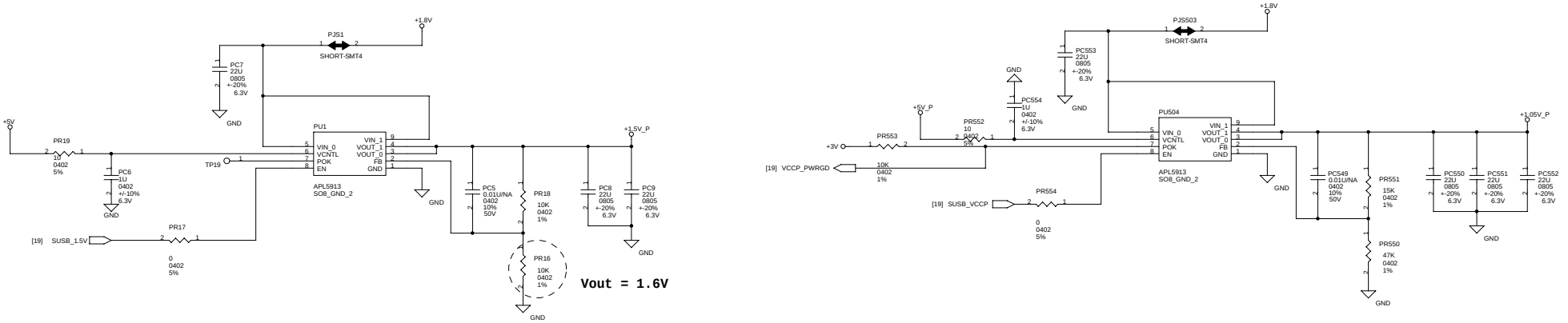
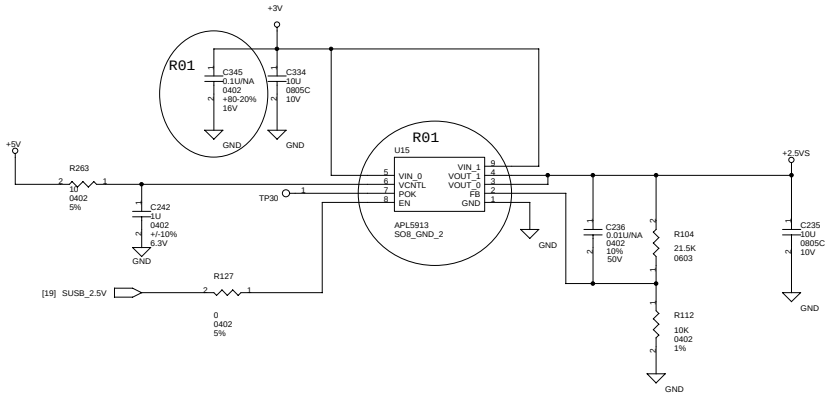
+1.5V_P & +1.05V_P



+ 2.5 VS



MiTAC

Title	8515 +1.5V_P & +1.05V_P (APL5913)	
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002	Rev: R0A
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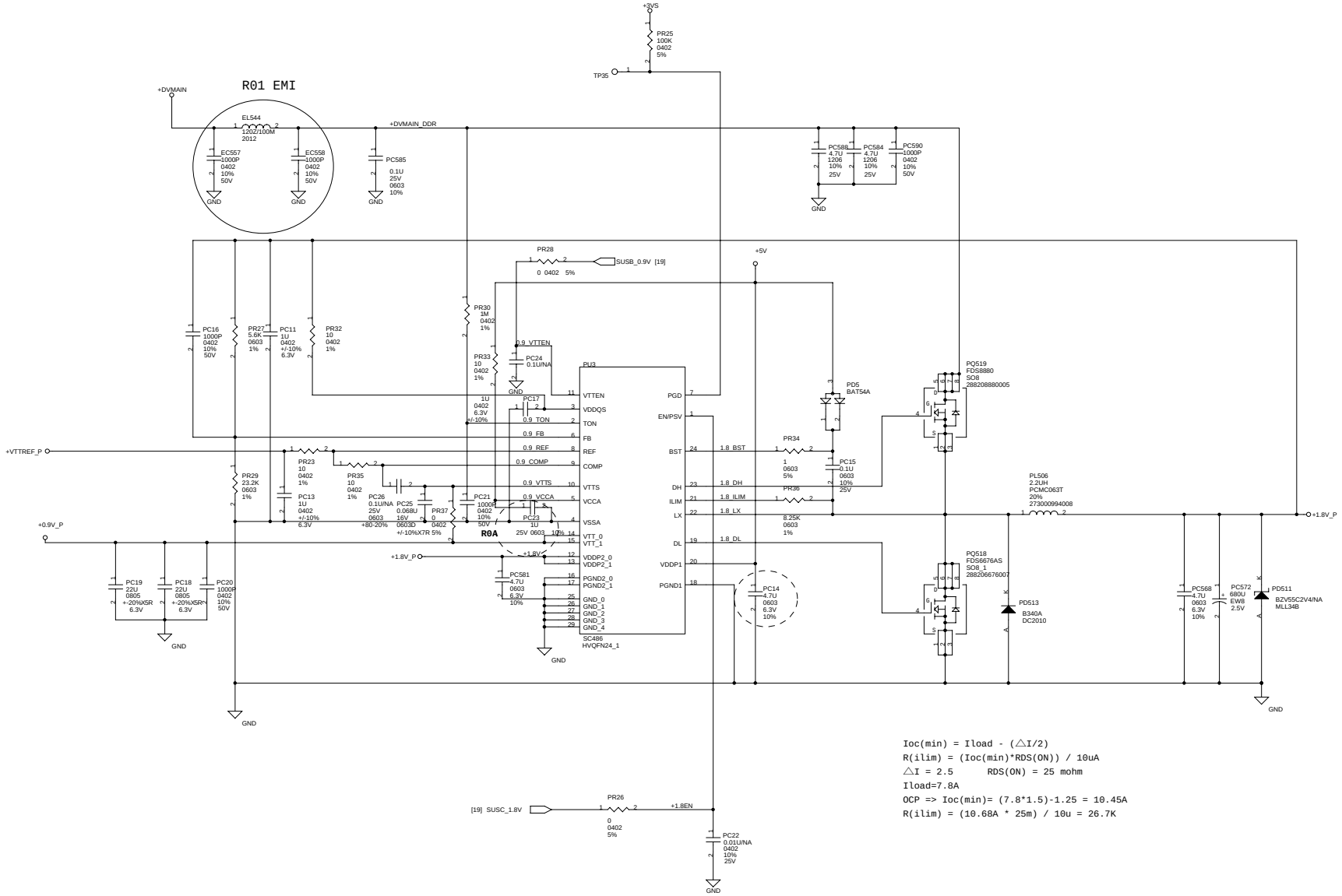

Ioc(min) = Iload - (△I/2)
R(ilim) = (Ioc(min)*RDS(ON)) / 10uA
△I = 2.5 RDS(ON) = 25 mohm
Iload=7.8A
OCP => Ioc(min)= (7.8*1.5)-1.25 = 10.45A
R(ilim) = (10.68A * 25m) / 10u = 26.7K

MiTAC

Title	8515 +1.8V_P/+0.9V (SC486)	
Size Custom	Document Number ASSY/PCB 411817100001/316817100002	Rev R0A
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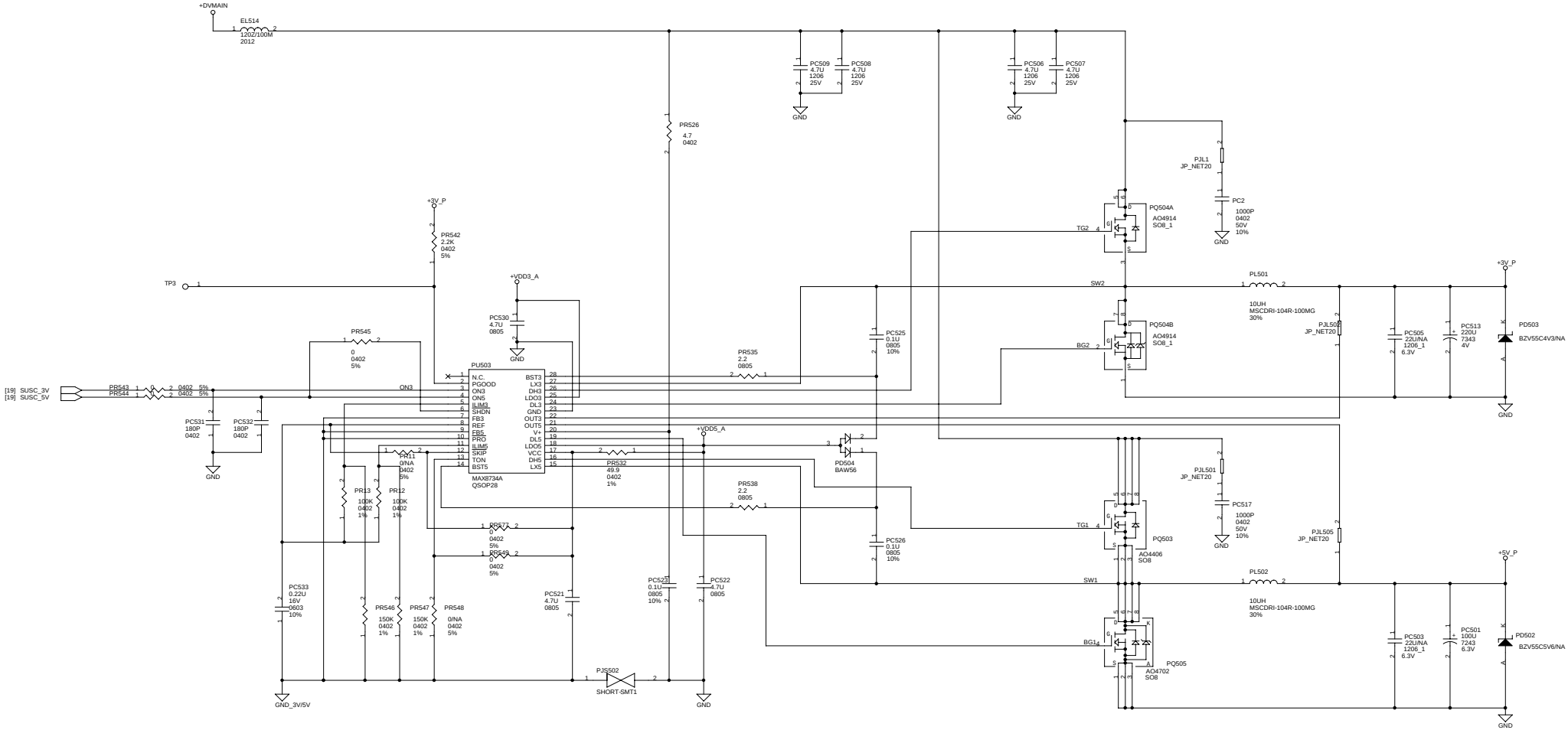
+3.3V_P / +5V_P_MAX8734A



MiTAC

Title	8515 +3VS/+5VS (MAX8734A)	
Size: Custom	Document Number: ASSY/PCB 411817100001/316817100002	Rev: R0A
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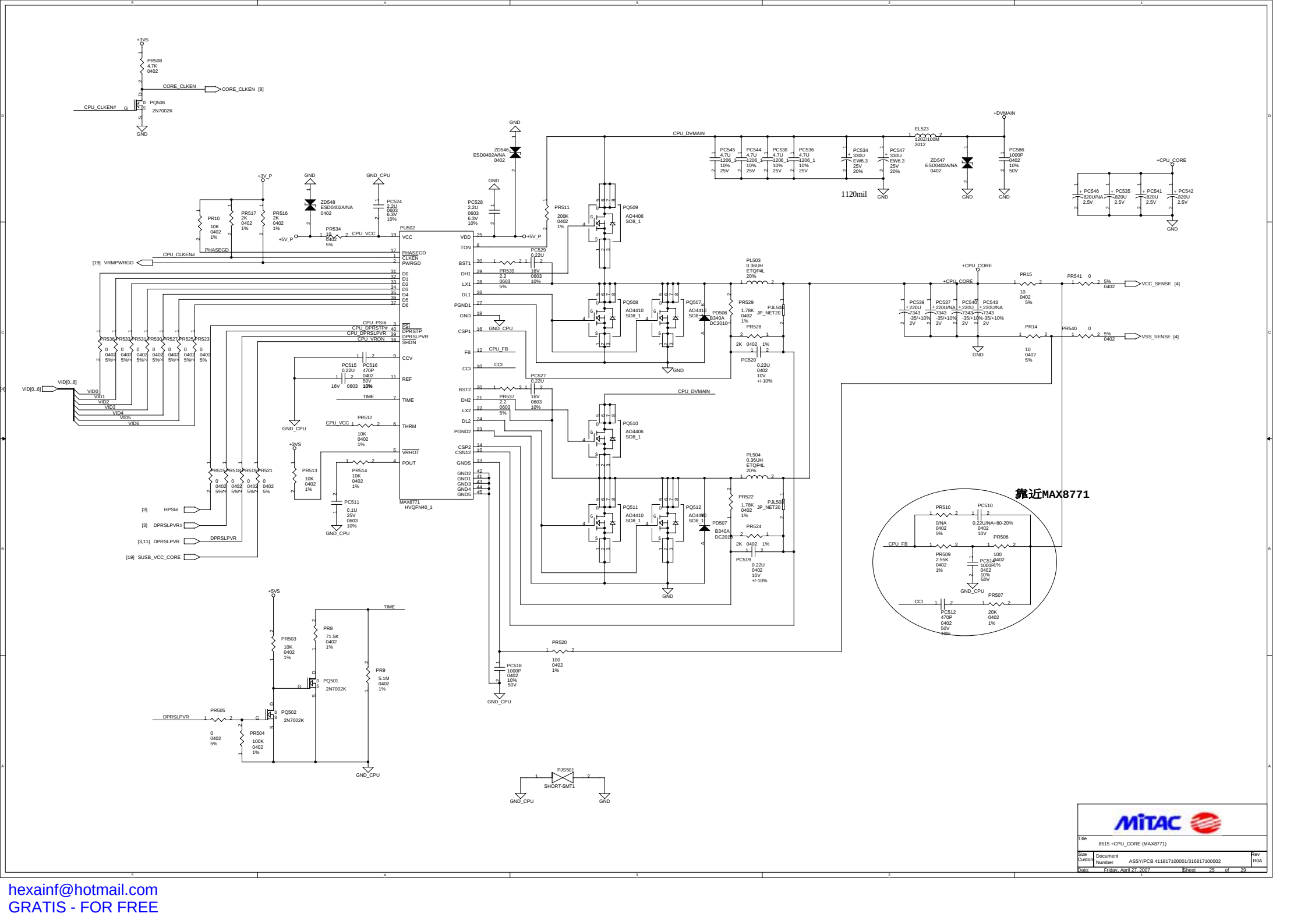
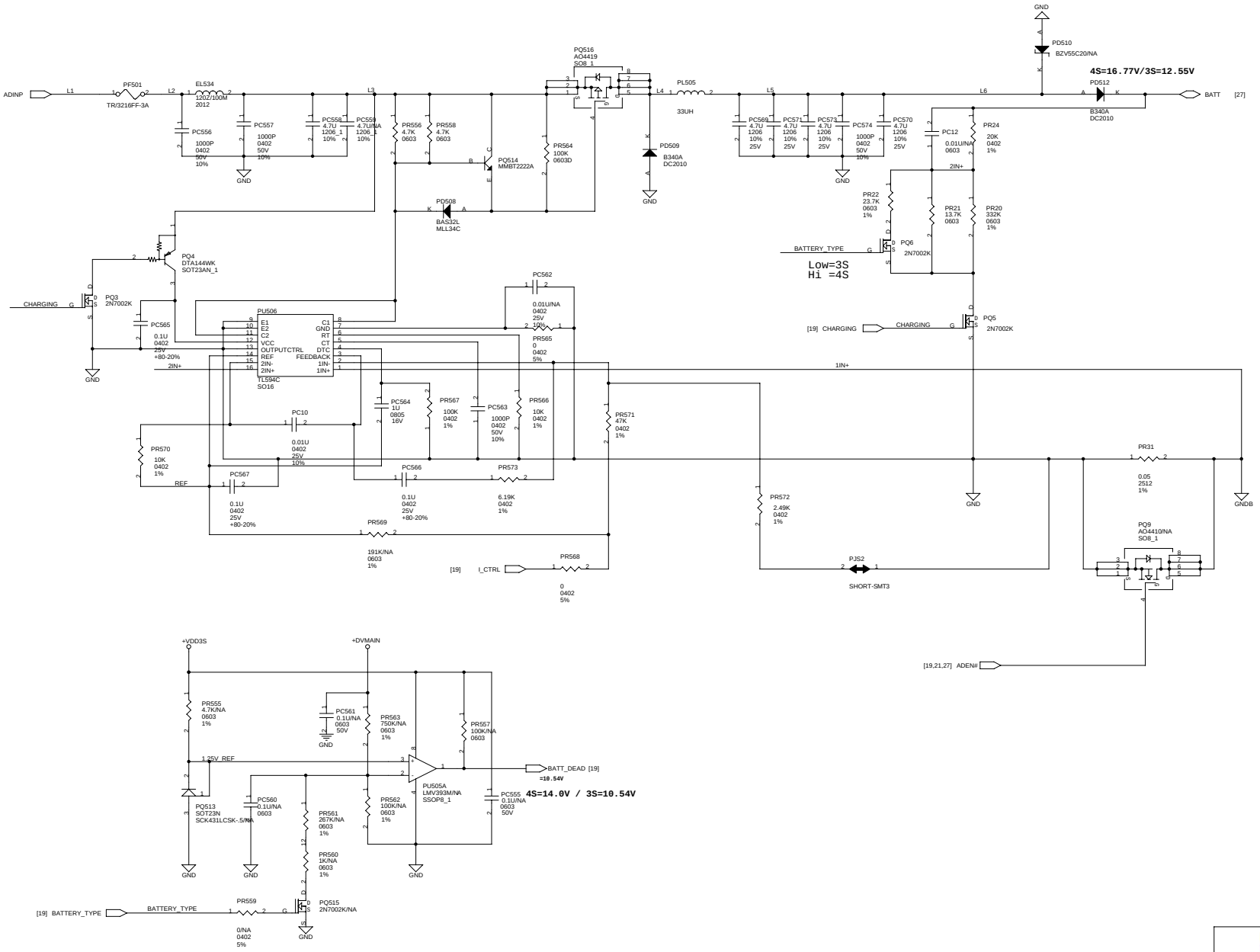


CHARGING



Title	8515 CHARGING (TL594C)
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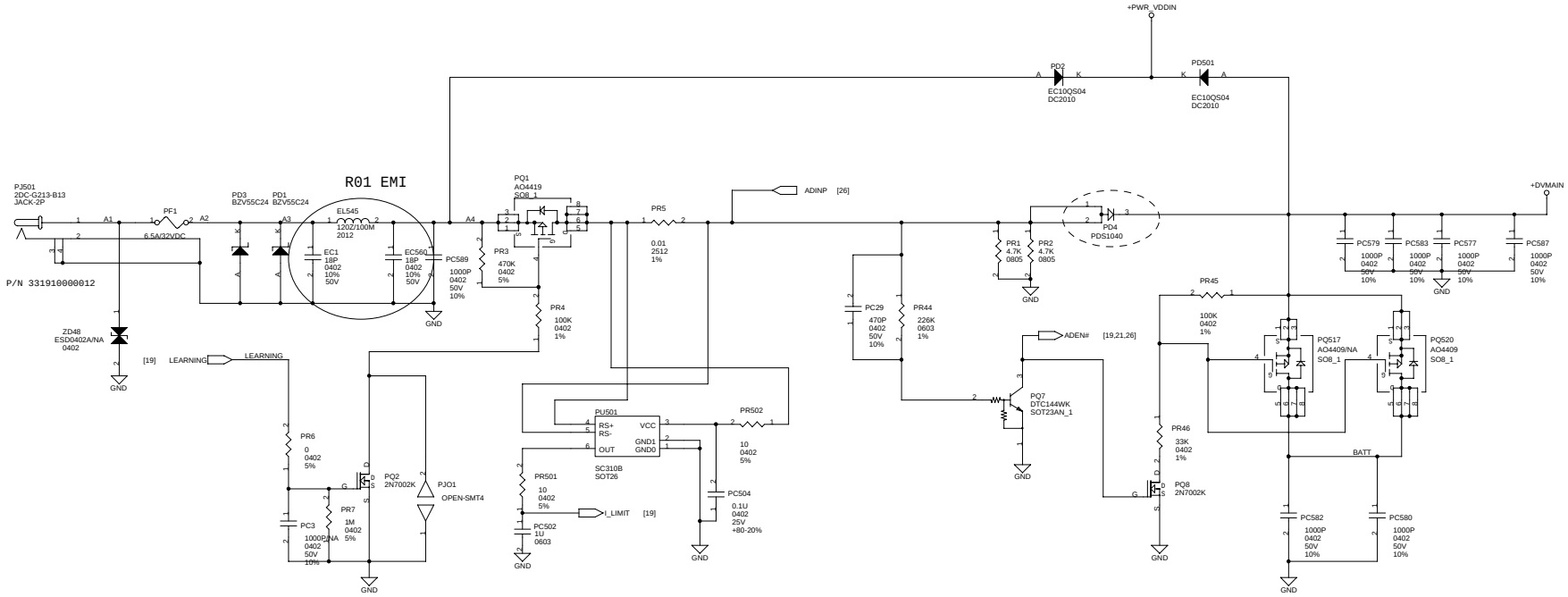
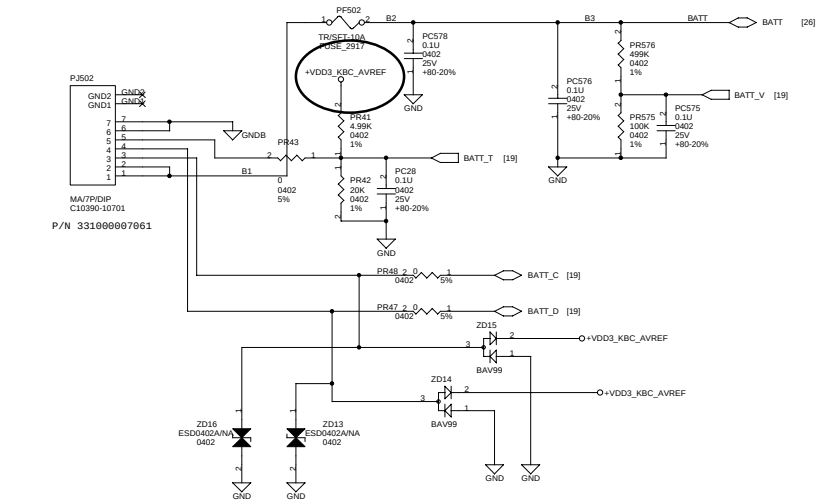
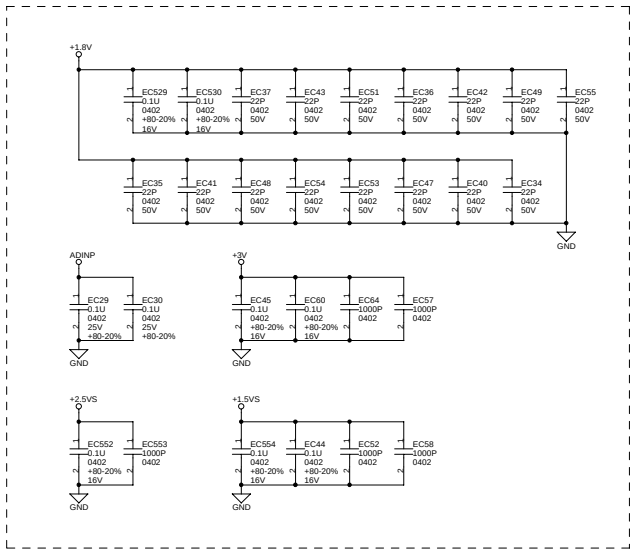
ADPIN & Dischrage





FOR EMI REQUEST



MiTAC

Title	8515 ADPIN & DISCHARGE	
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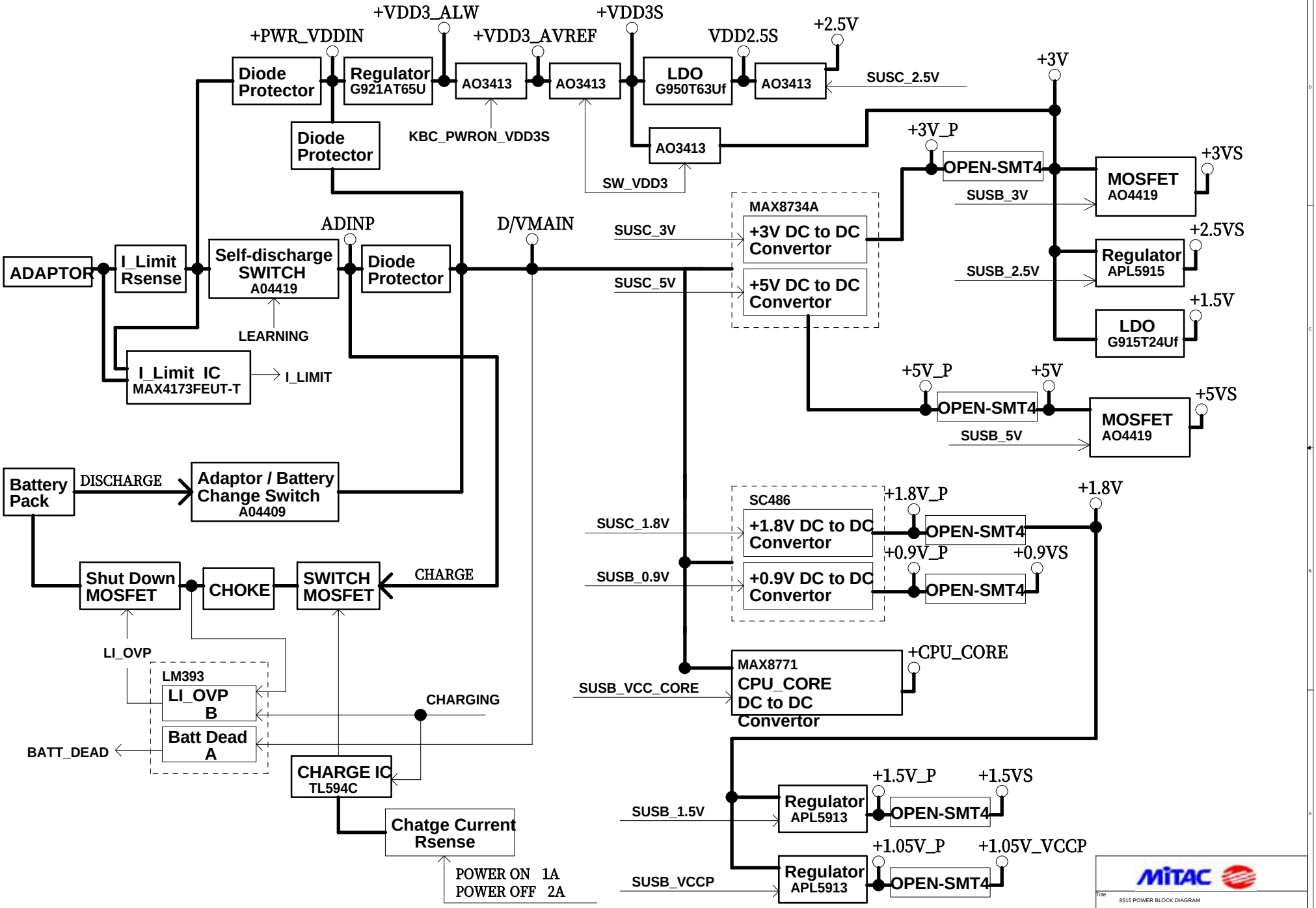
8515 POWER BLOCK DIAGRAM



MiTAC

Title	8515 POWER BLOCK DIAGRAM	
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HISTORY

HISTORY	
R0A	Initial Release (4/26 DVT tape-out)

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