

A7

Project code:
PCB P/N:01219
REVISION: -3

PCB STACKUP

LAYER 1 COMPONENT
LAYER 2 GND
LAYER 3 SIGNAL
LAYER 4 VCC
LAYER 5 SIGNAL
LAYER 6 GND
LAYER 7 SIGNAL
LAYER 8 COMPONENT

CHARGER

MAX1645

BATTERY CONN GND
BAT_IN#
SMBC_BT
SMBD_BT
BAT_TH
BAT+SENSE
BAT+

PG. 38, 39

PORT REPLICATOR

CRT PRINT PORT DC IN
TV SERIAL PORT LAN
PS2 AUDIO JACK MODEM
USB

PG. 40

DDR DC/DC

MAX1715 / MAX4490

INPUT OUTPUT
DCBATOUT DDR_VDD
= 2D5V_S3
2D5V_S3 DDR_VTT
= 1D25V_S3

PG. 36

SYSTEM DC/DC

MAX1632 / MAX1715 / G913C / MAX8863 / MAX1792 / SB025

INPUT	OUTPUT
DCBATOUT	3D3V_LAN_S5AC / 3D3V_S3 / 3D3V_S0
	5V_S5 / 5V_S3 / 5V_S0
	12V_S3
5V_S5	3D3V_S5
DCBATOUT	2D5V_S3
	1D575V_S0
3D3V_LAN_S5AC	2D5V_LAN_S5AC
3D3V_S0	2D5V_S0
3D3V_S0	1D5V_S0
DCBATOUT	UP+5V

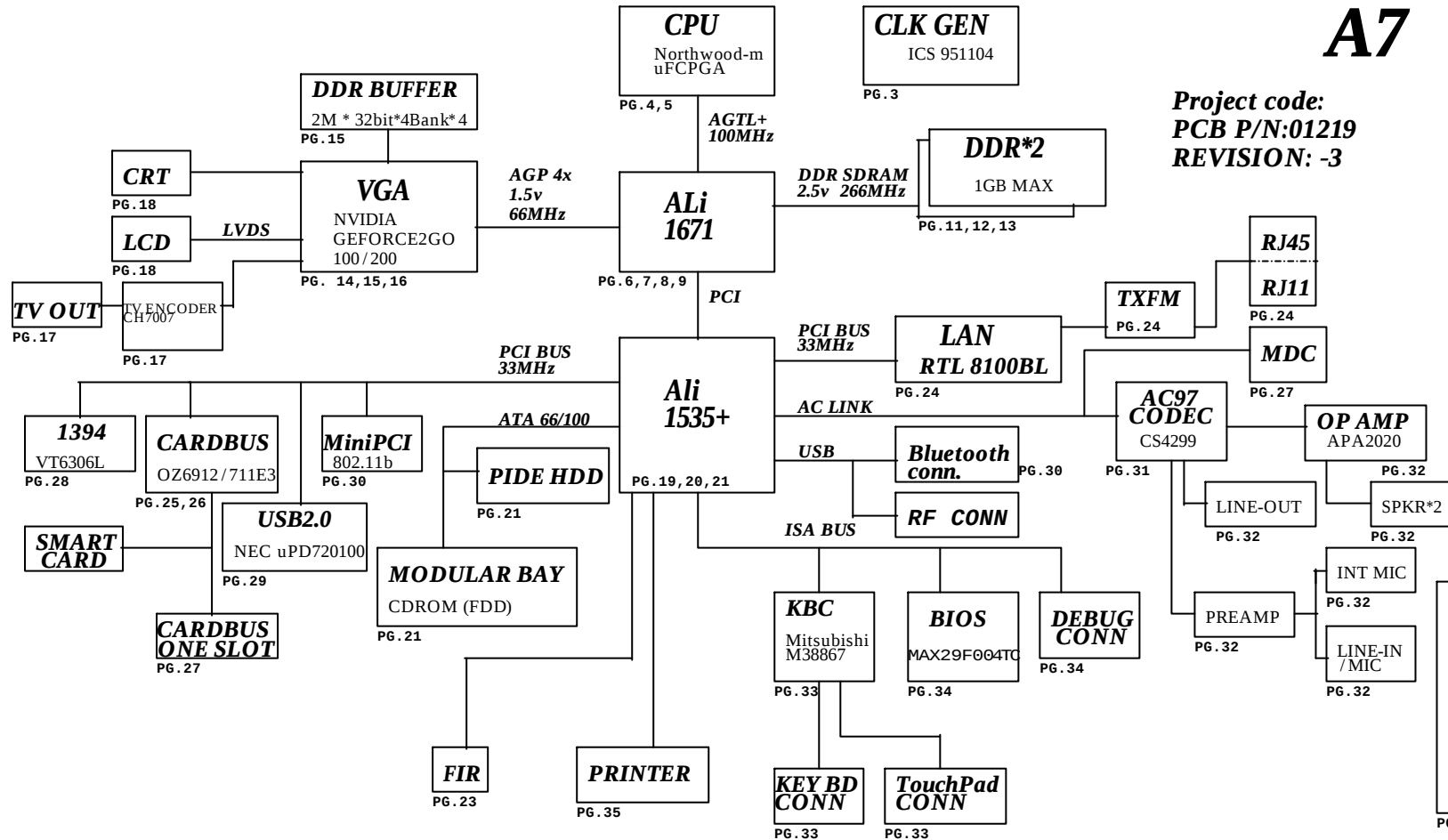
PG. 34, 35, 36

CPU DC/DC IMVP3

SEMTECH SC1474

INPUT	OUTPUT
DCBATOUT	VCC_CORE
	PM=1.3v, BM=1.3v
	VCC_VID
	1.2v, 300mA

PG. 33



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BLOCK DIAGRAM

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A7 REVISION HISTORY

Northwood SPEC summary Aug.20

	VERSION(SA)	
Northwood-m 478 pin	Vcc=1.3V (Performace) =1.3V (Batt) (40A) VID=1.2V (300mA)	
Northwood (Desktop) 478 pin		

Semtech SC1474 voltage setting

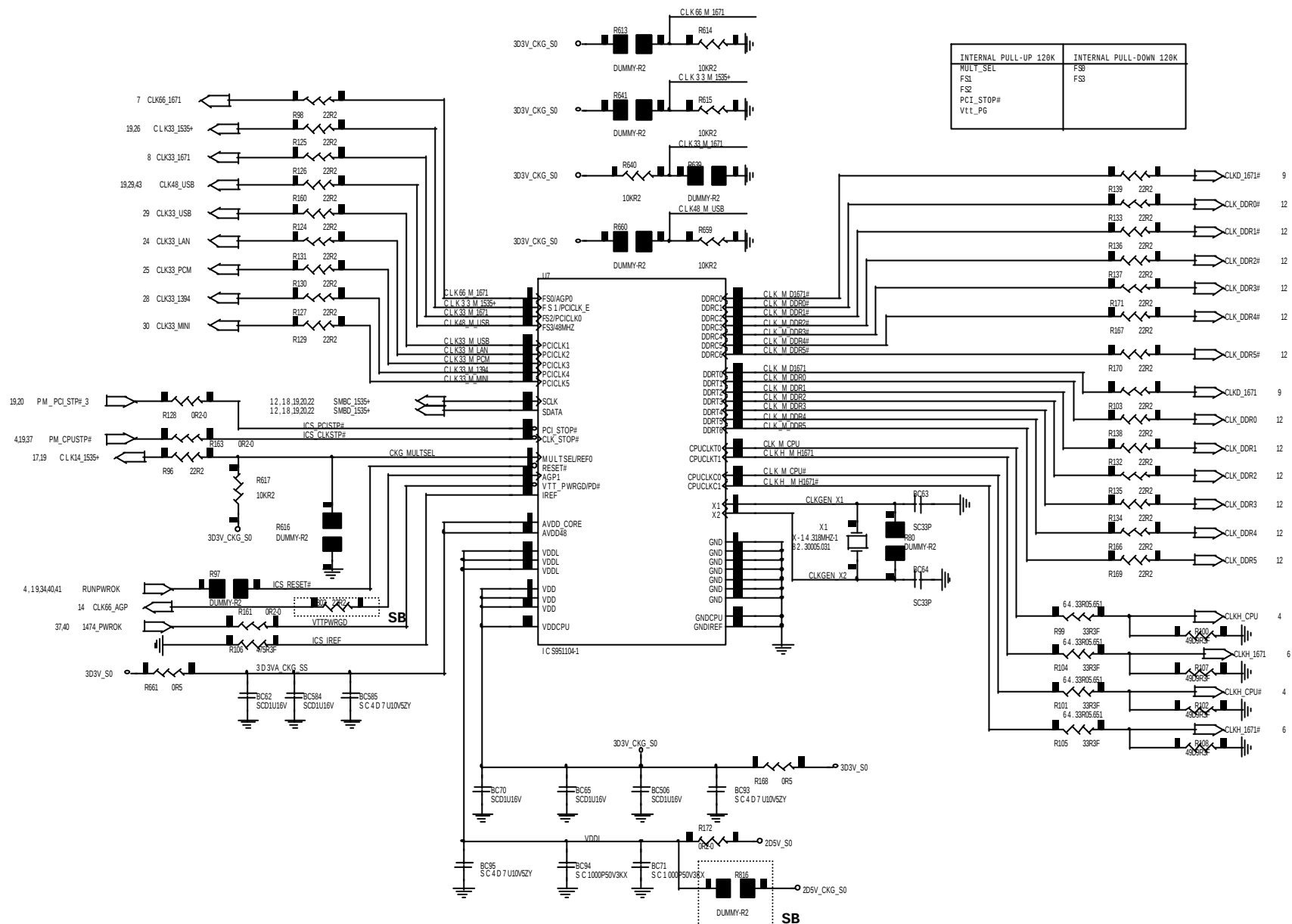
D4	D3	D2	D1	D0	Voltage(V)
0	0	1	1	0	1.45
0	0	1	1	1	1.40
0	1	0	0	0	1.35
0	1	0	0	1	1.30
0	1	0	1	0	1.25
0	1	0	1	1	1.20
0	1	1	0	0	1.15
0	1	1	0	1	1.10
0	1	1	1	0	1.05
0	1	1	1	1	1.00

PCI RESOURCE TABLE

DEVICE	IDSEL	PCI IRQ	REQ# / GNT#
CARDBUS	AD30	P_IRQ2#/P_IRQ4#	P_REQ2#/P_GNT2#
1394	AD22	P_IRQ3#	P_REQ3#/P_GNT3#
LAN	AD21	P_IRQ1#	P_REQ1#/P_GNT1#
USB2.0	AD24	P_IRQ5#	P_REQ5#/P_GNT5#
MINIPCI	AD23	P_IRQ4#/P_IRQ6#	P_REQ4#/P_GNT4#
AGP		P_IRQ1# /	

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INTERNAL PULL-UP 120K	INTERNAL PULL-DOWN 120K
MULT_SEL	FS0
FS1	FS2
FS2	FS3
PCI_STOP#	
Vtt_PG	

FS3	FS2	FS1	FS0	CPU	AGP	DDR
0	0	0	0	66	66	66
0	0	0	1	66	66	100
0	0	1	0	100	66	66
0	0	1	1	100	66	100
0	1	0	0	100	66	133
0	1	0	1	133	66	66

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Doc

CLOCK GENERATOR -- ICS951104

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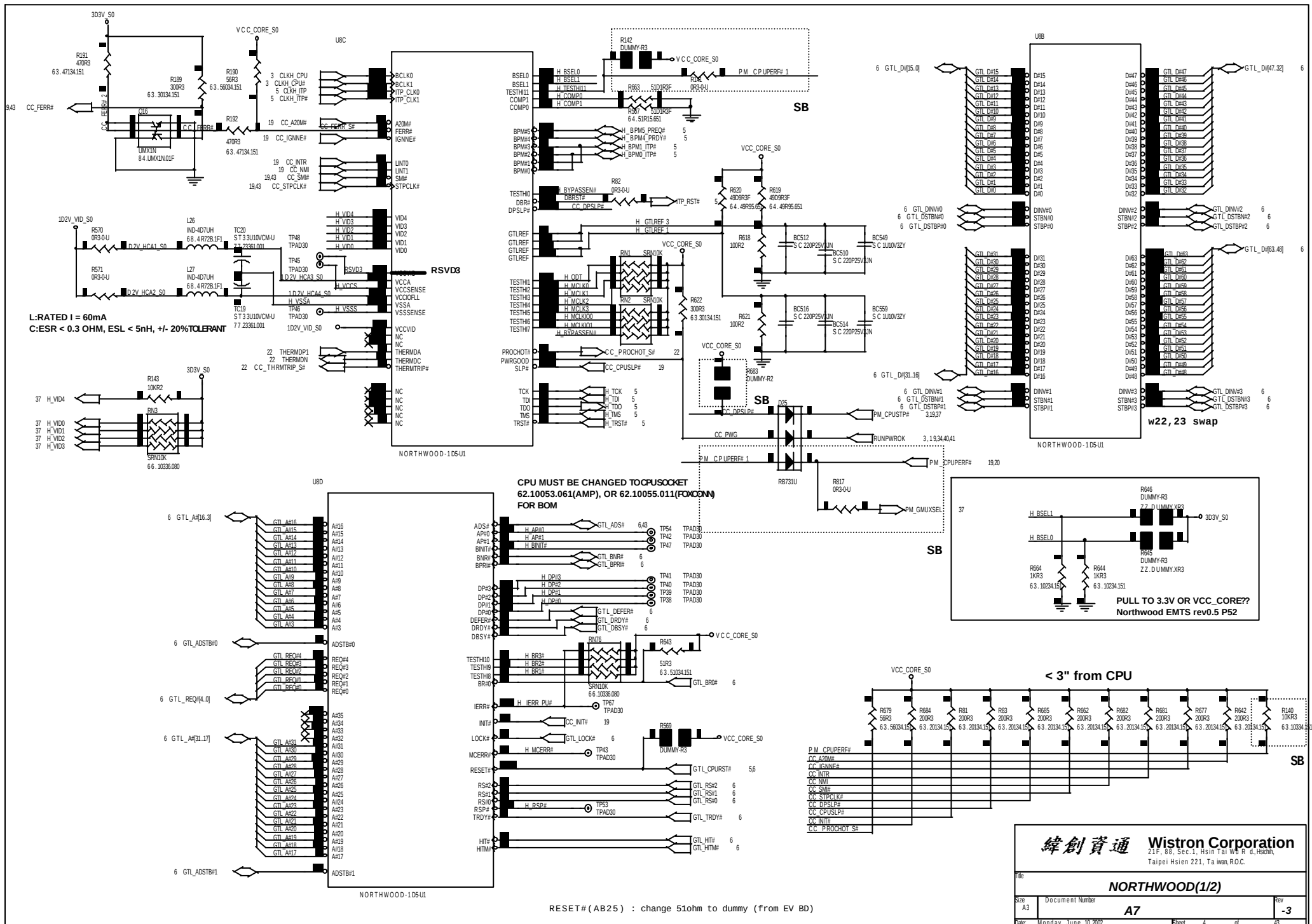
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*AF2:
VCCFUSEPRG

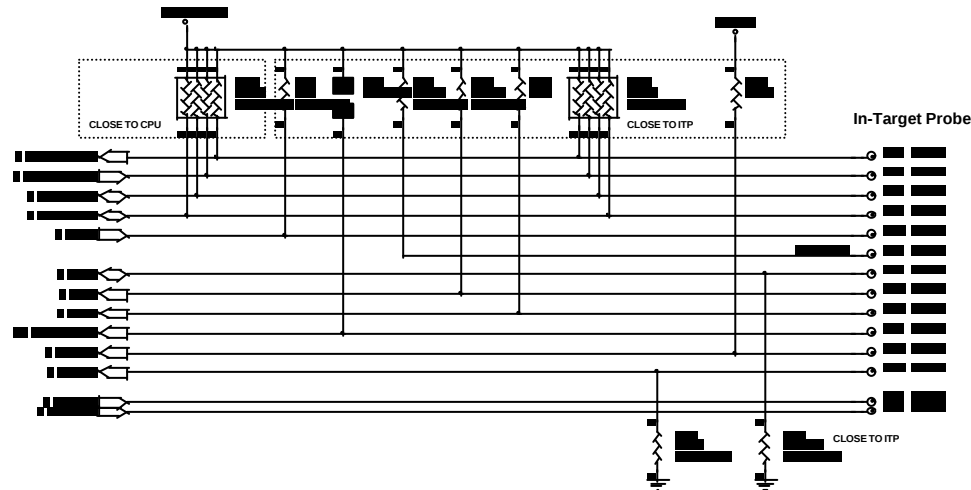
10U/X7R 1206 DECOUPLING CAPS
8X IN SOCKET CAVITY
10X IN CRB

10U/X7R 1206 DECOUPLING CAPS
10X AROUND SOCKET
28X IN CRB

0.1U/X5R 0603 DECOUPLING CAPS
20X AROUND SOCKET
0.47U/X5R 0603 10X IN CRB

ITP Connector Placement

Pin2										Pin24				
GND	ITP11	GND	ITP8	ITP9	ITP12			GND	ITP6	ITP5				
GND	ITP4	ITP3			ITP2	ITP1	ITP10	ITP7	ITP13	ITP14			GND	
Pin1										Pin23 Pin25				

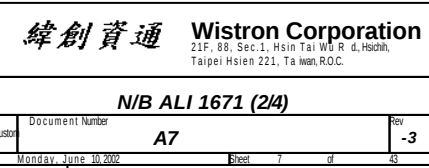


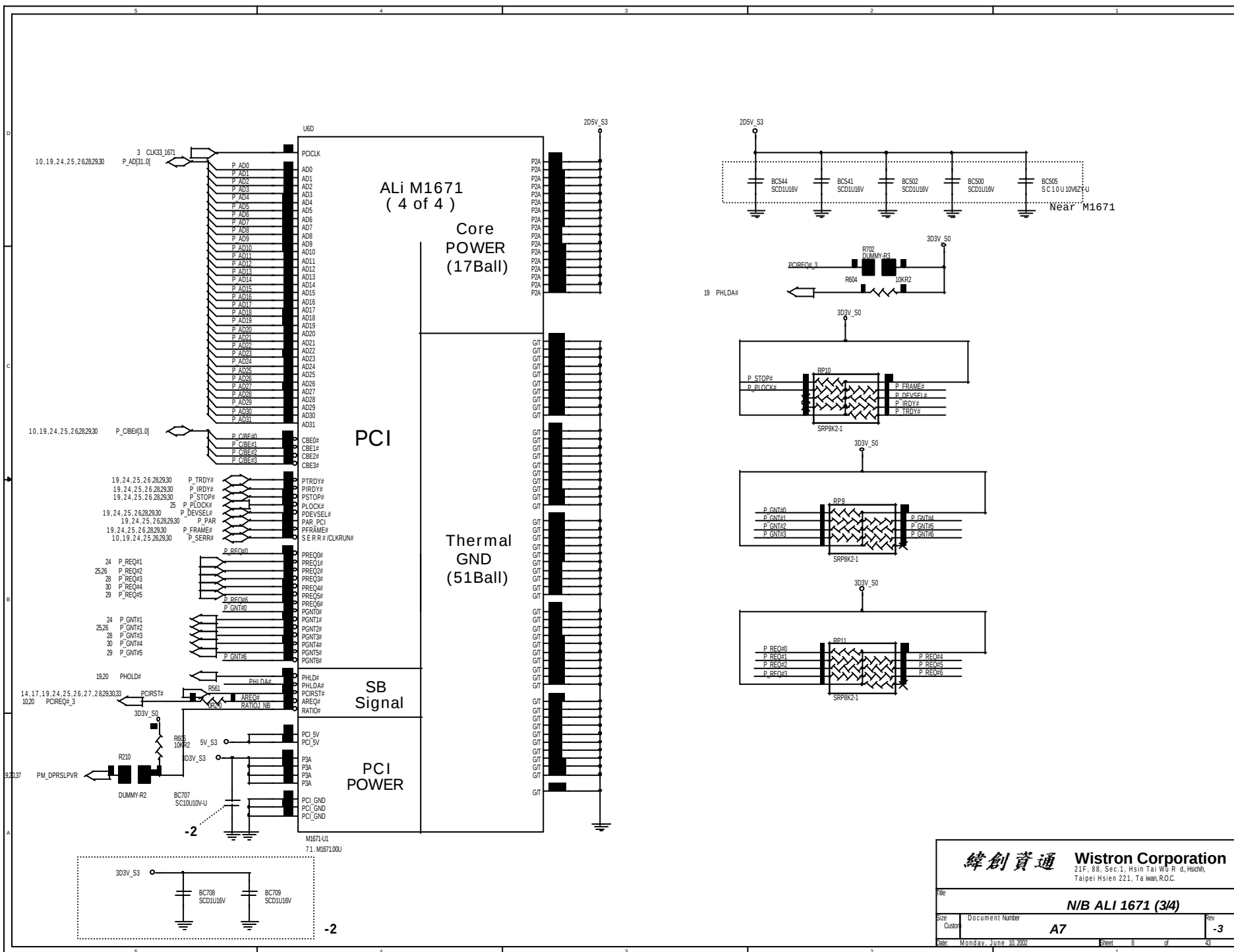
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NORTHWOOD(2/2)

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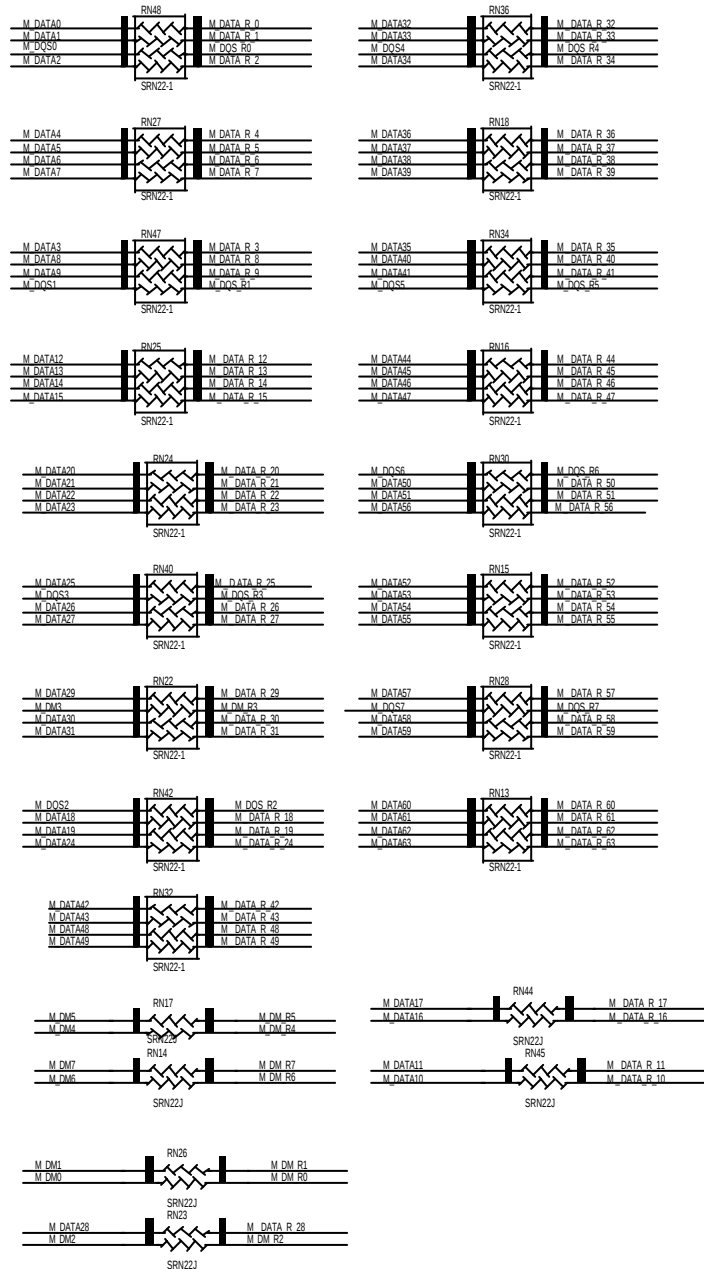


SERIES DAMPING

PLACE RNs CLOSE TO DM1, <0.75"

STRICT EQUAL LENGTH LIMITATION WITH DQS,CBPMS

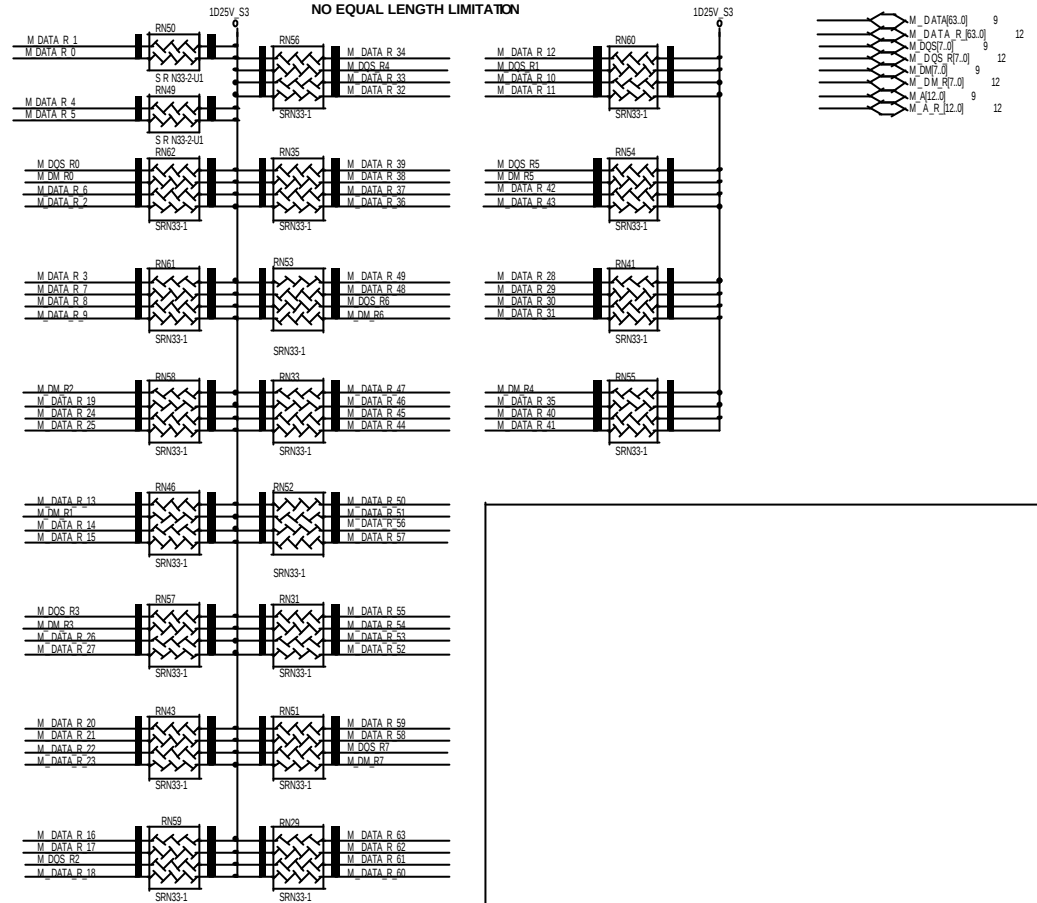
1D25V_S3 MUST KEEP A 15~20 MILS AWAY FROM OTHER SIGNALS



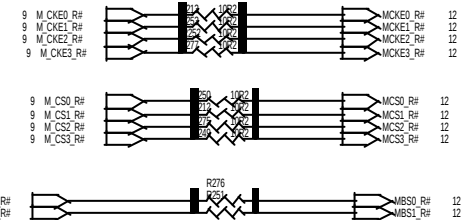
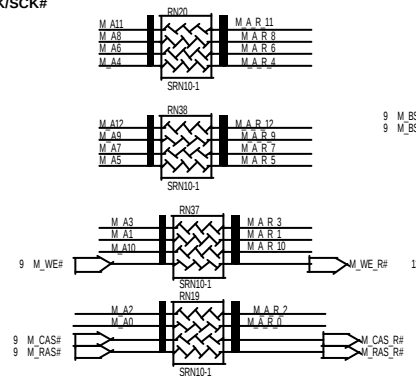
PARALLEL TERMINATION

PULL HIGH STUBS < 0.8", PLACE RPs CLOSE TO DM2

NO EQUAL LENGTH LIMITATION



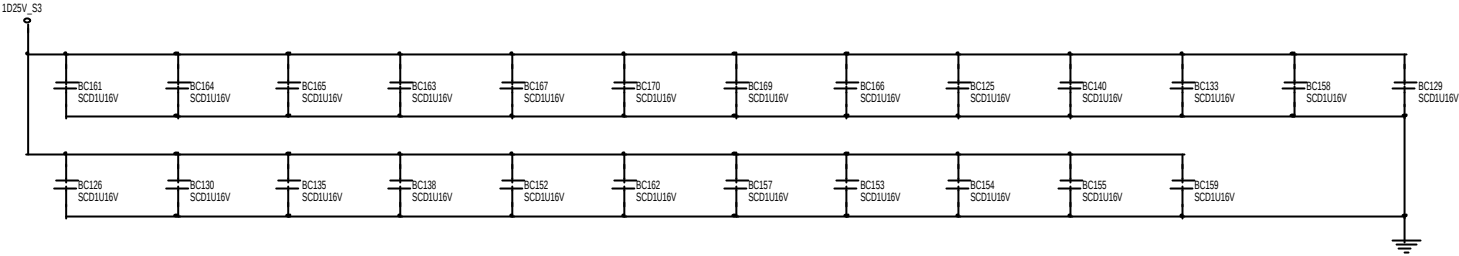
PLACE BETWEEN DM2 < 0.2", TO DM1 < 11"
EQUAL LENGTH LIMITATION WITH
SCK/SCK#



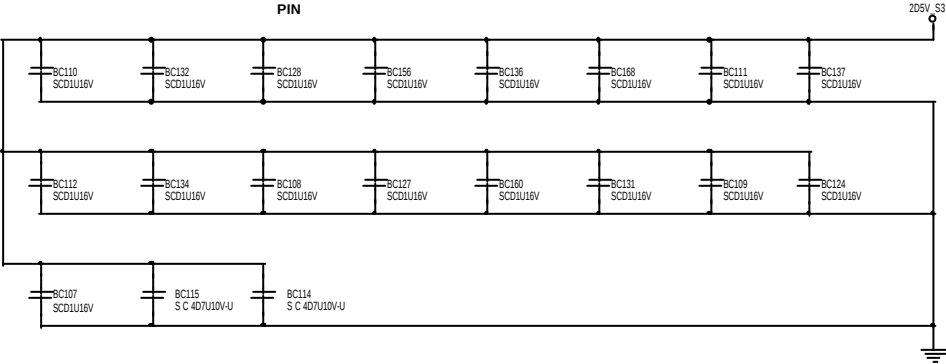
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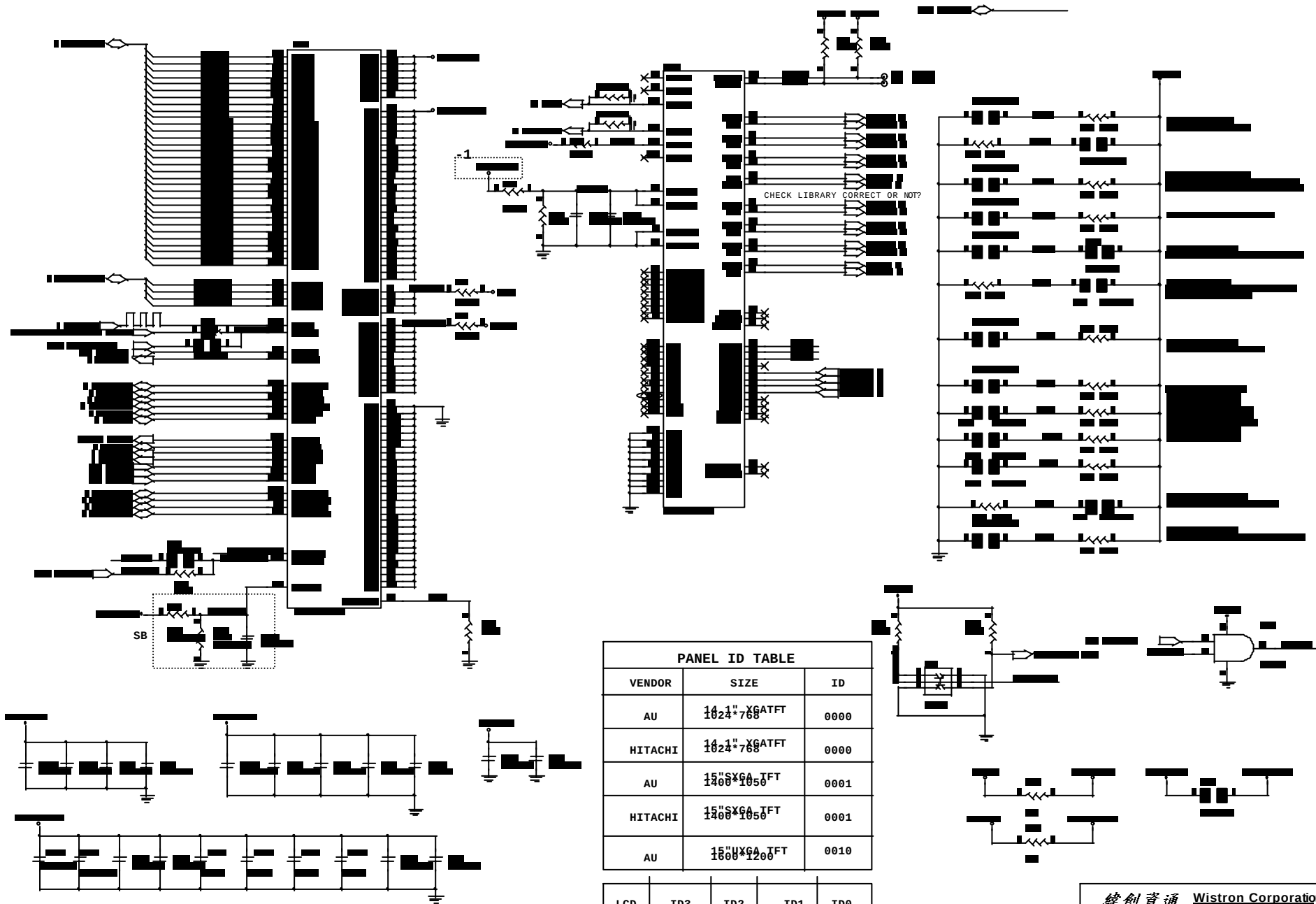
DDR DAMPING & TERMINATION		
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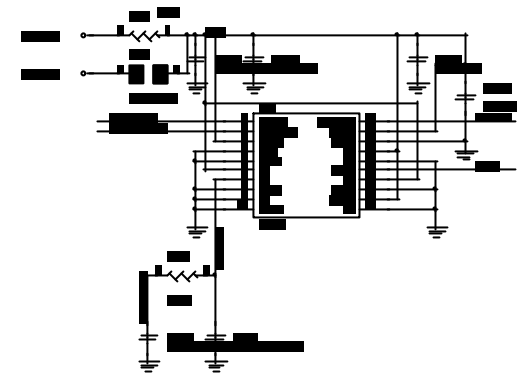
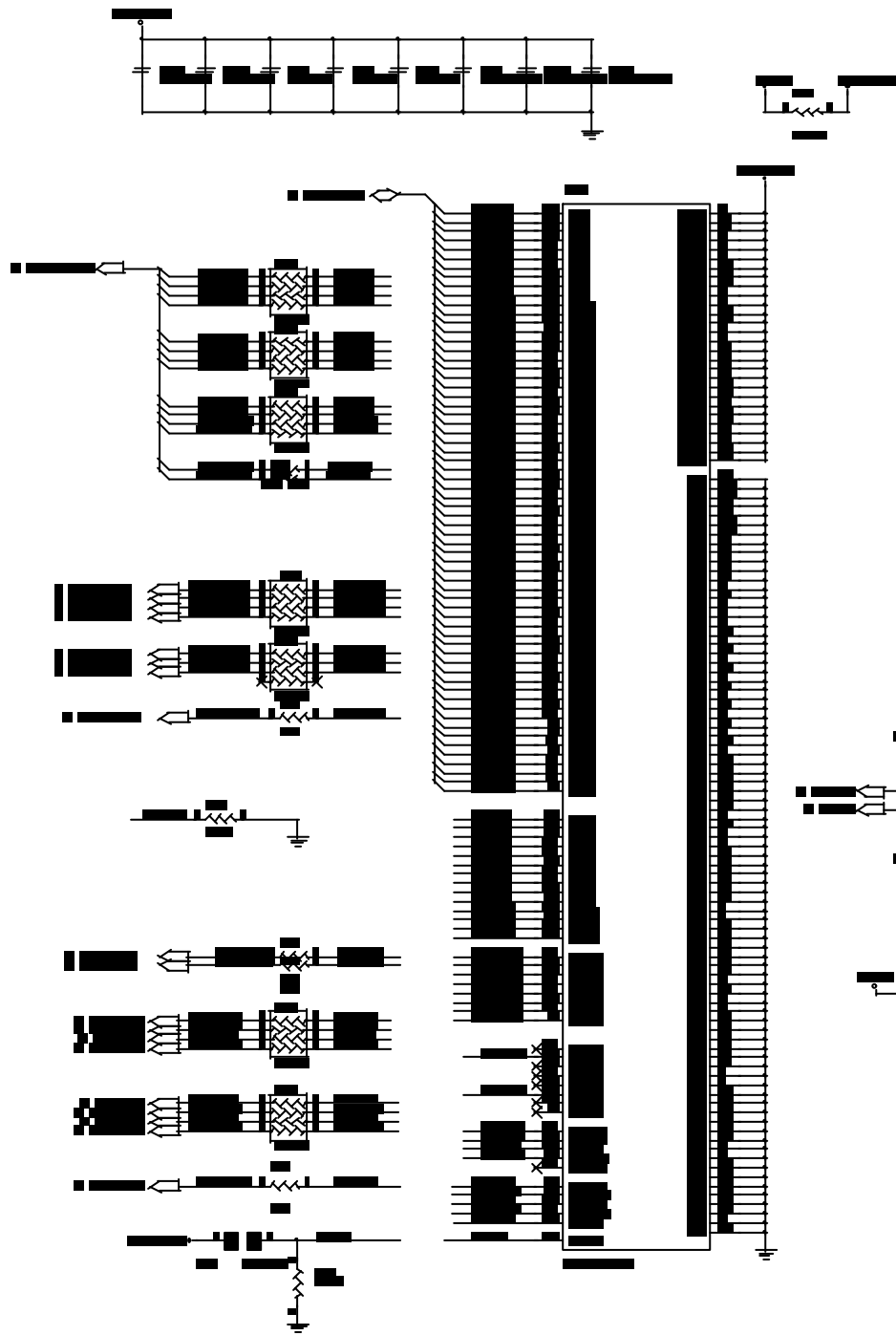
PLACE ONE CAP CLOSE TO EVERY 2 PULL-UP TERMINATION RESISTORS, CRB-P13
DATA(64)+ADD(13)+DQS(9)+CB(8)+CMD(13)=107
0.1UF 0603 Y5V 27X



PLACE CAPS BETWEEN AND NEAR DQS
PLACE EACH 0.1UF CAP CLOSE TO POWER
PIN







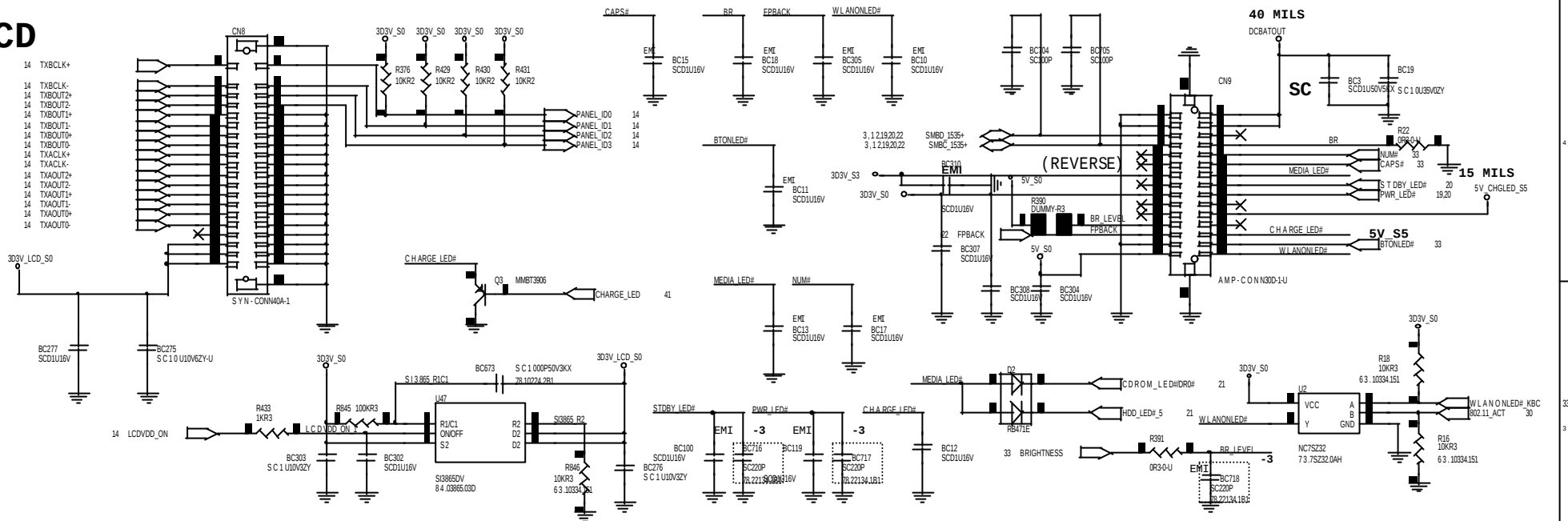
ALL VIP PINS NEED PULL HI OR LOW
OR OTHERS?



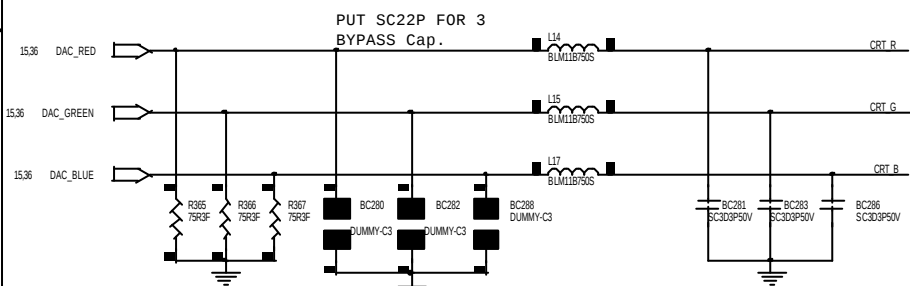




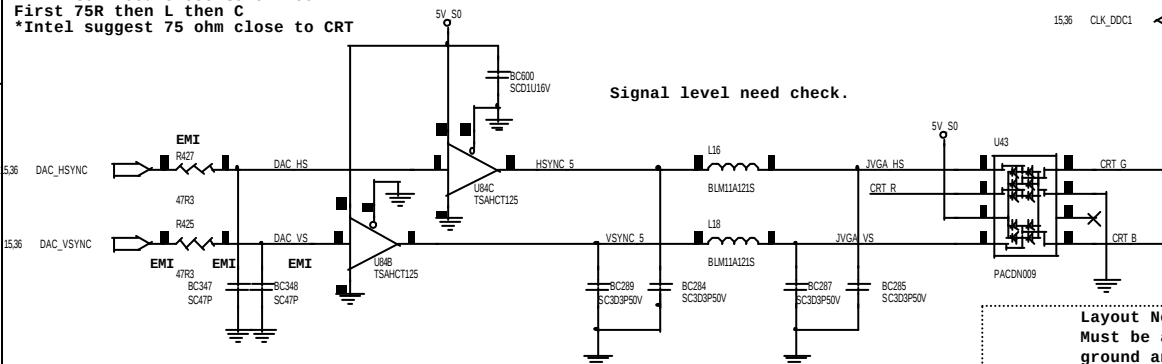
LCD



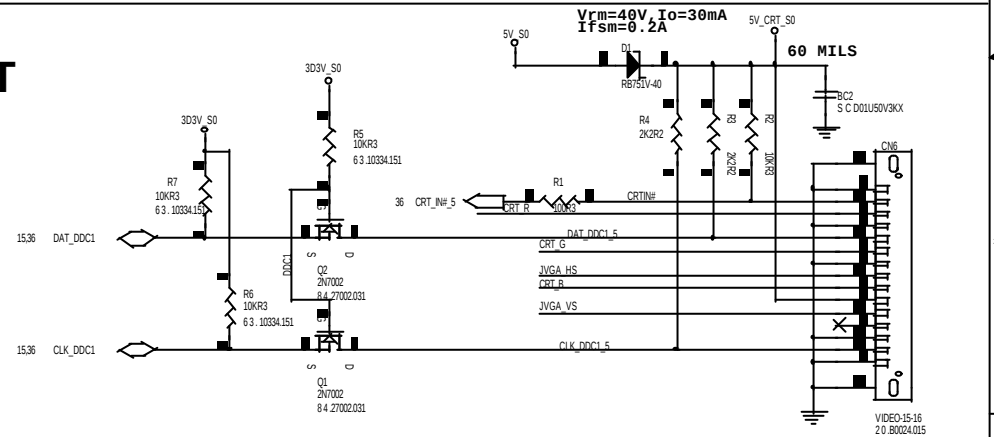
CRT



PI Filter need close to CRT CONN
First 75R then L then C
*Intel suggest 75 ohm close to CRT



Signal level need check.



Layout Note:
Must be a ground return path between this ground and the ground on the VGA connector.

37.4_1% resistors must be p
filter ,near CRT connector.

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Title	LCD/CRT
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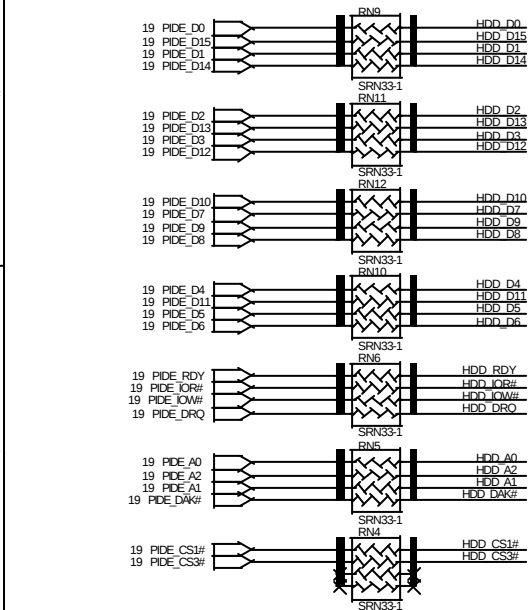
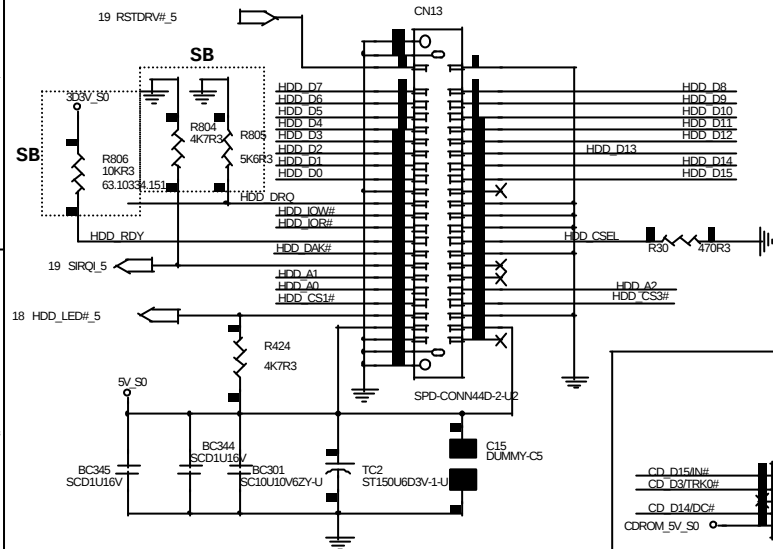
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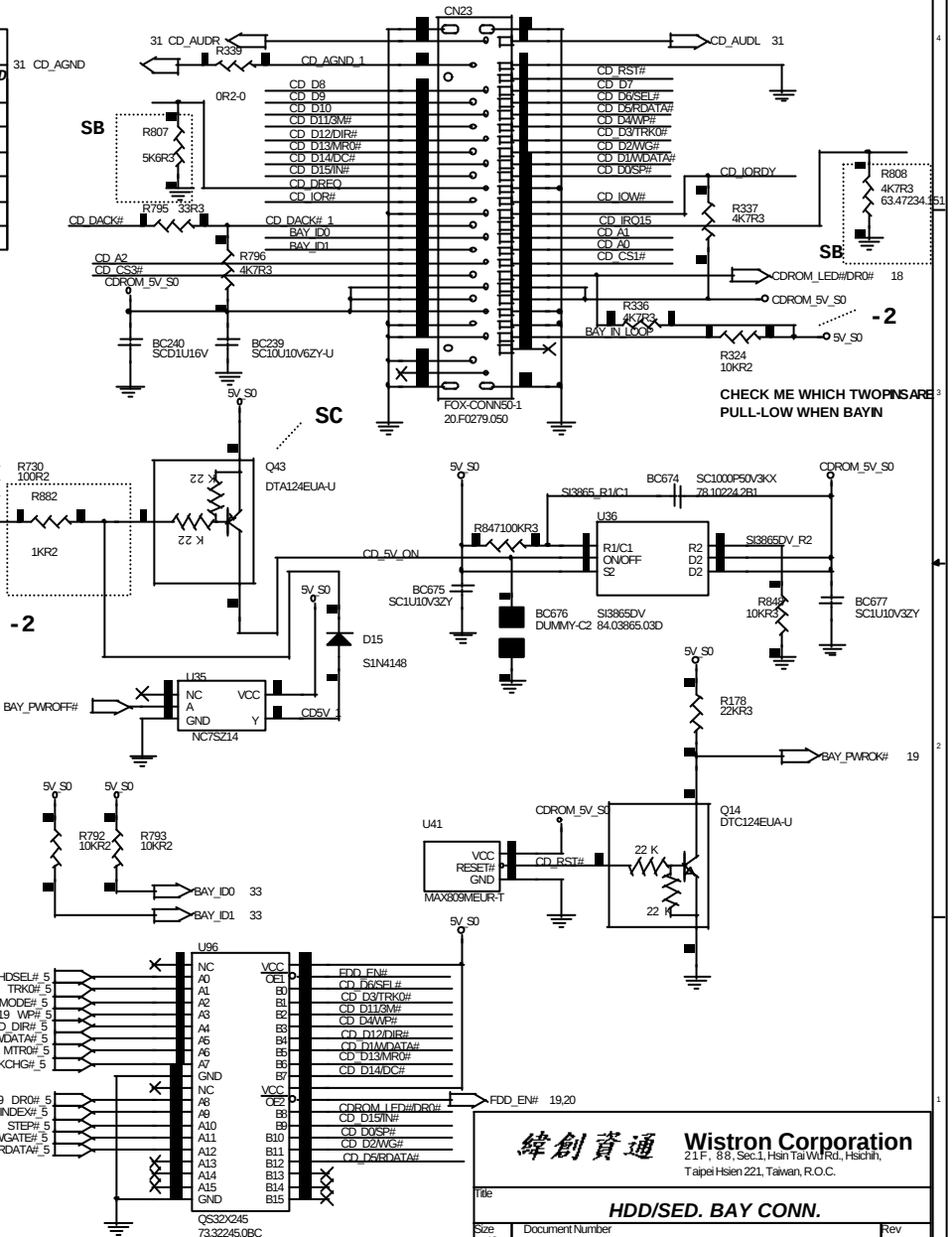
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HDD

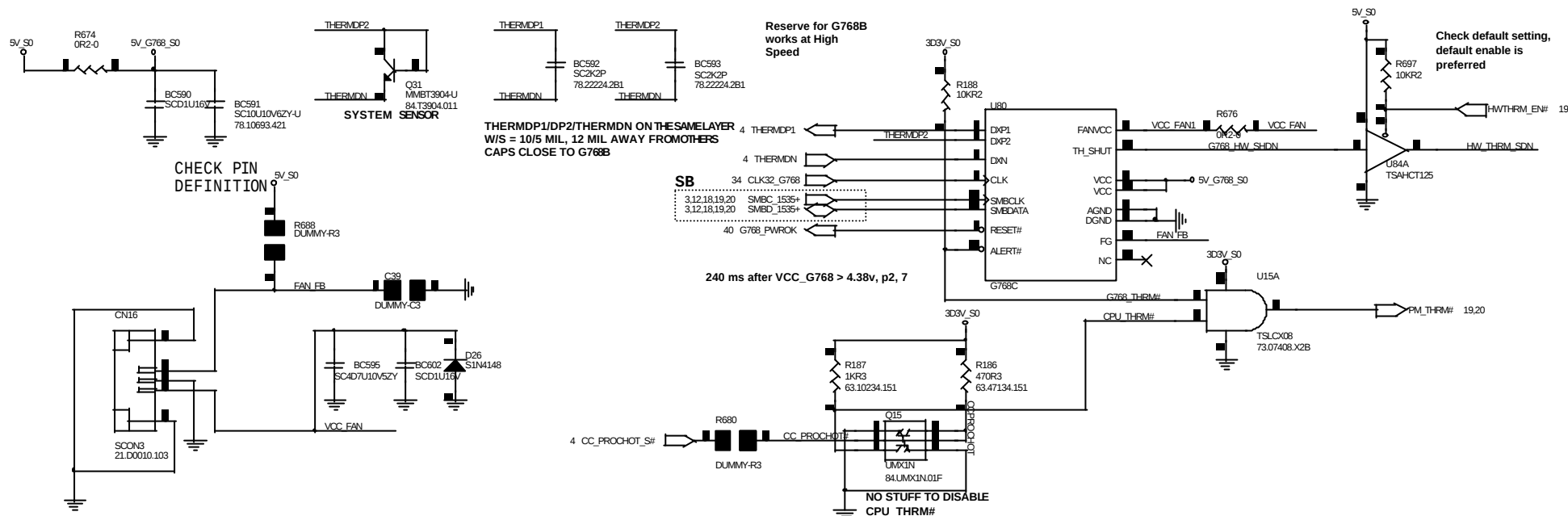


CDROM/FDD

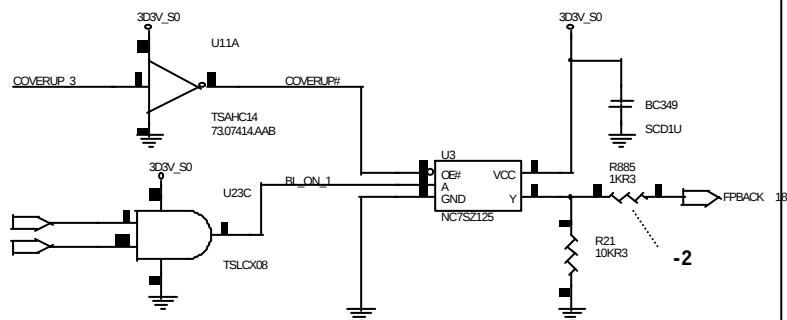
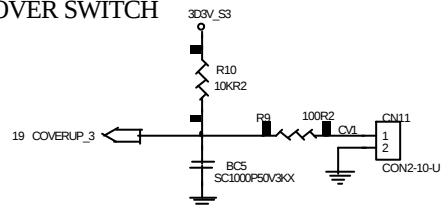
BAY Option Table		
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5	2nd-HDD	1 0
6	FDD	0 1



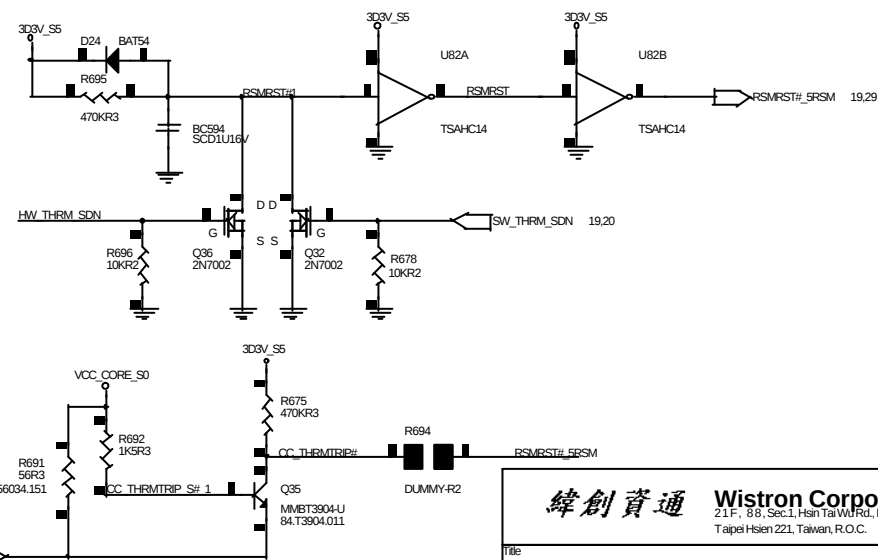
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COVER SWITCH

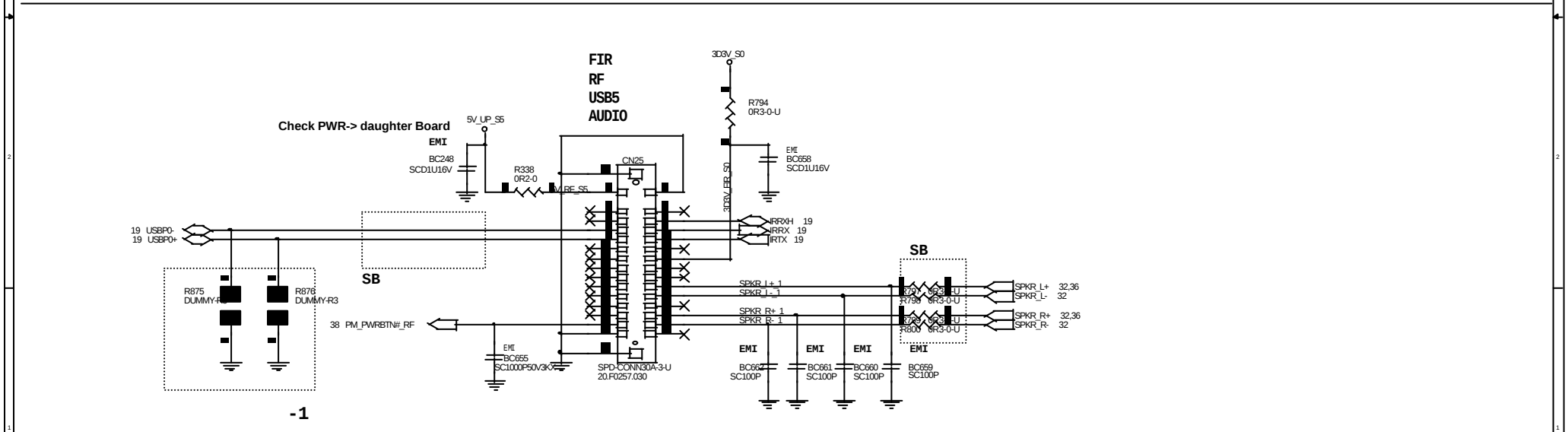
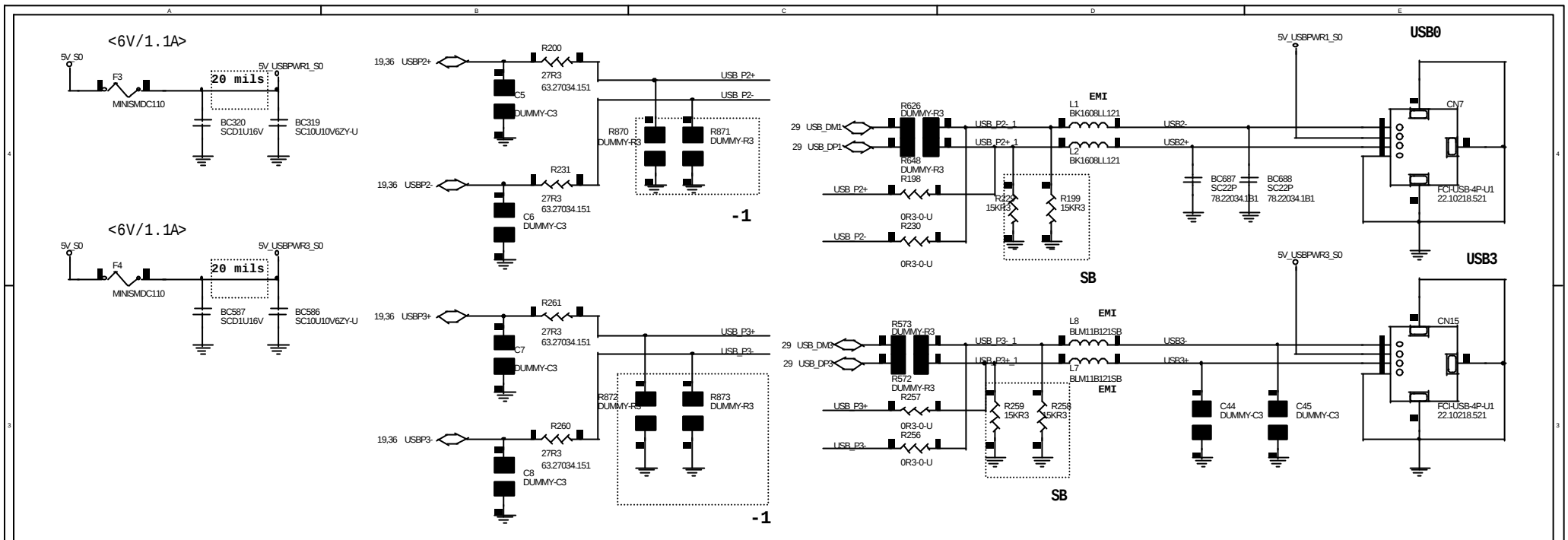


RESUME RESET

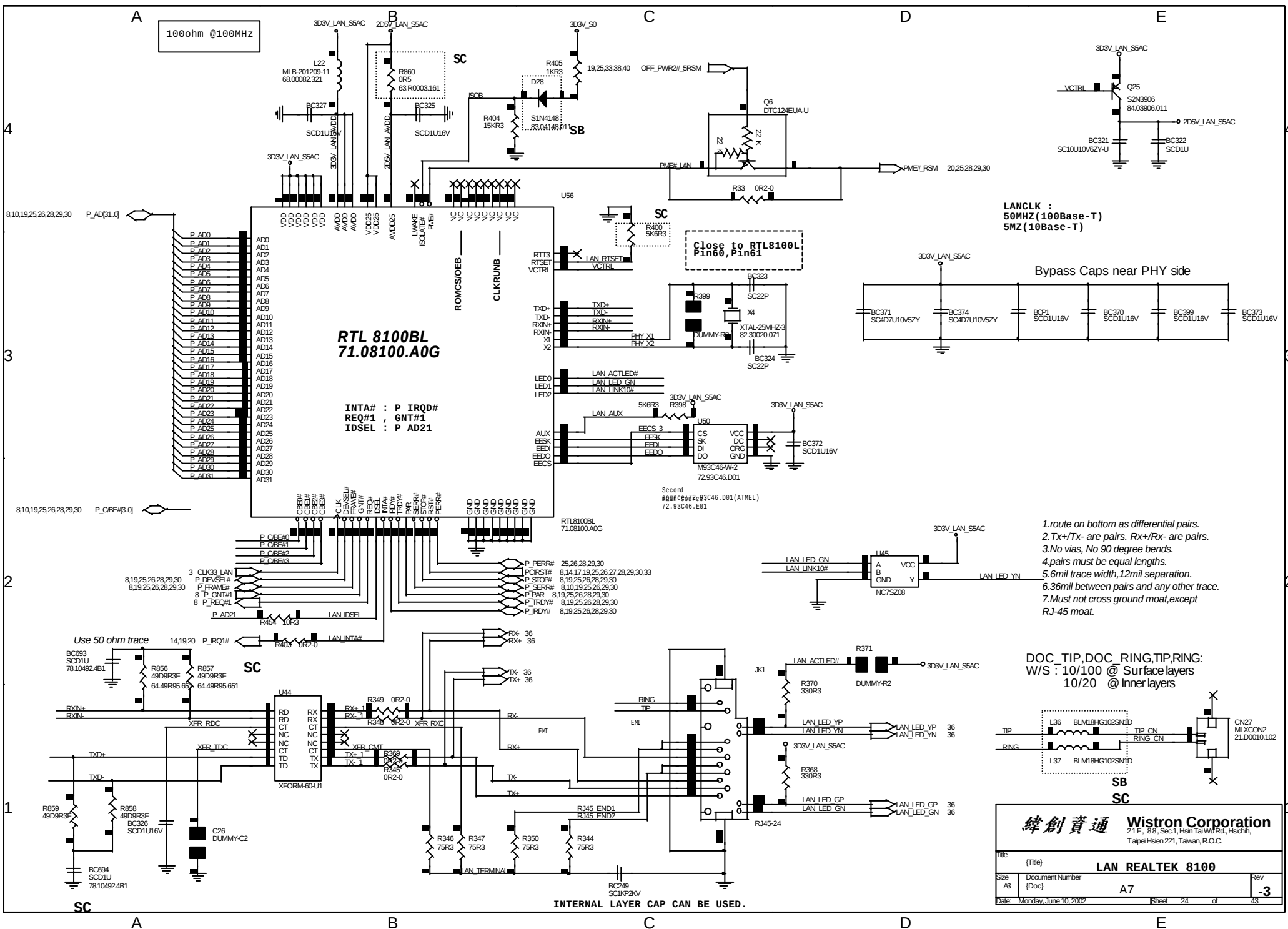


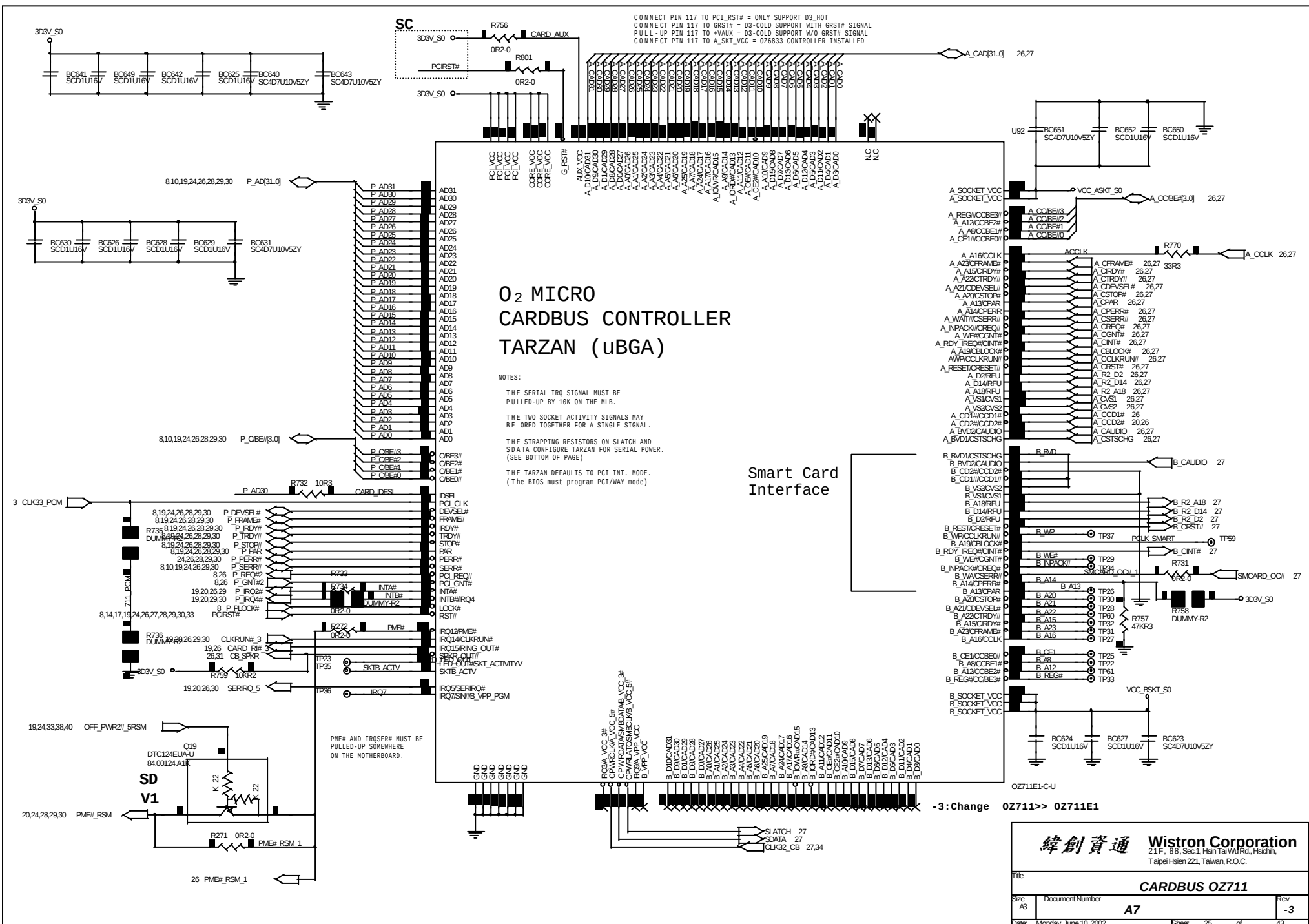
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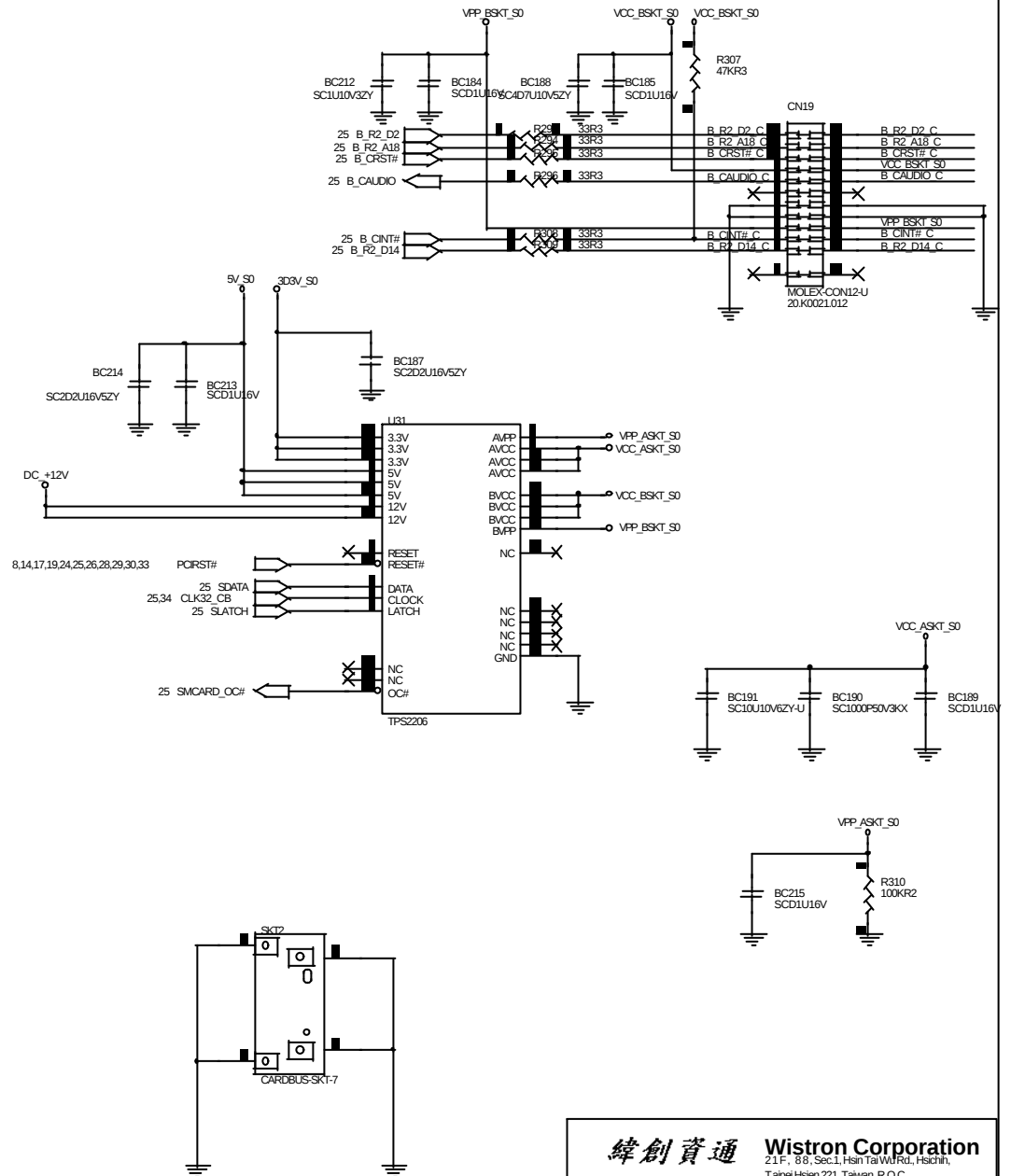
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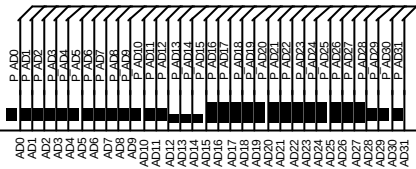
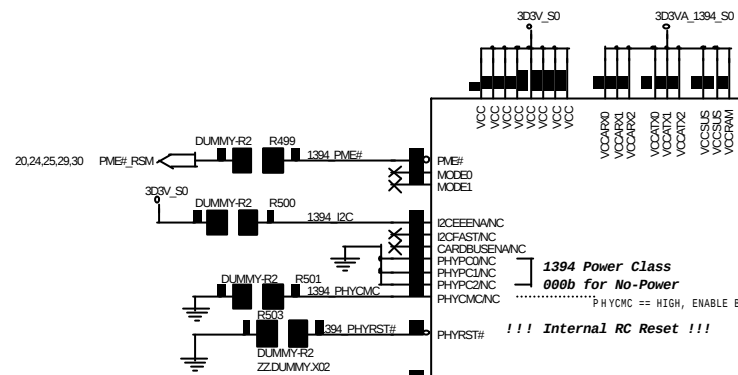
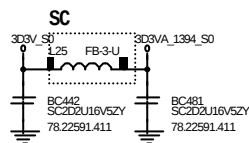
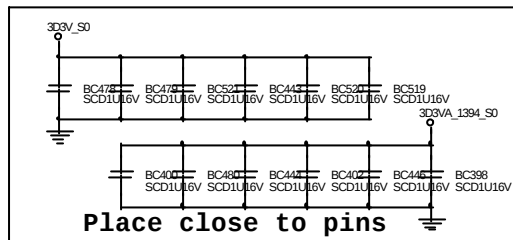


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USB/DAUGHTER BD			
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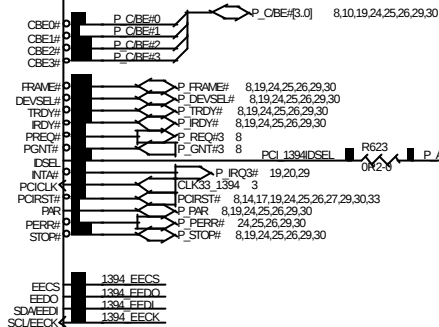




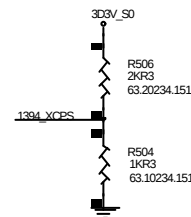
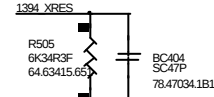
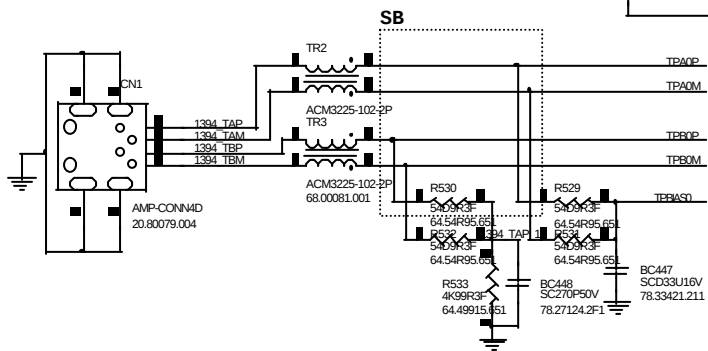
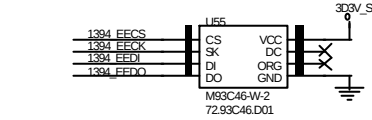


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U70
VT6306L
71.06306.00G



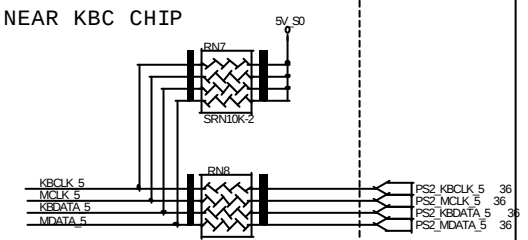
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REQ#3 : GNT#3
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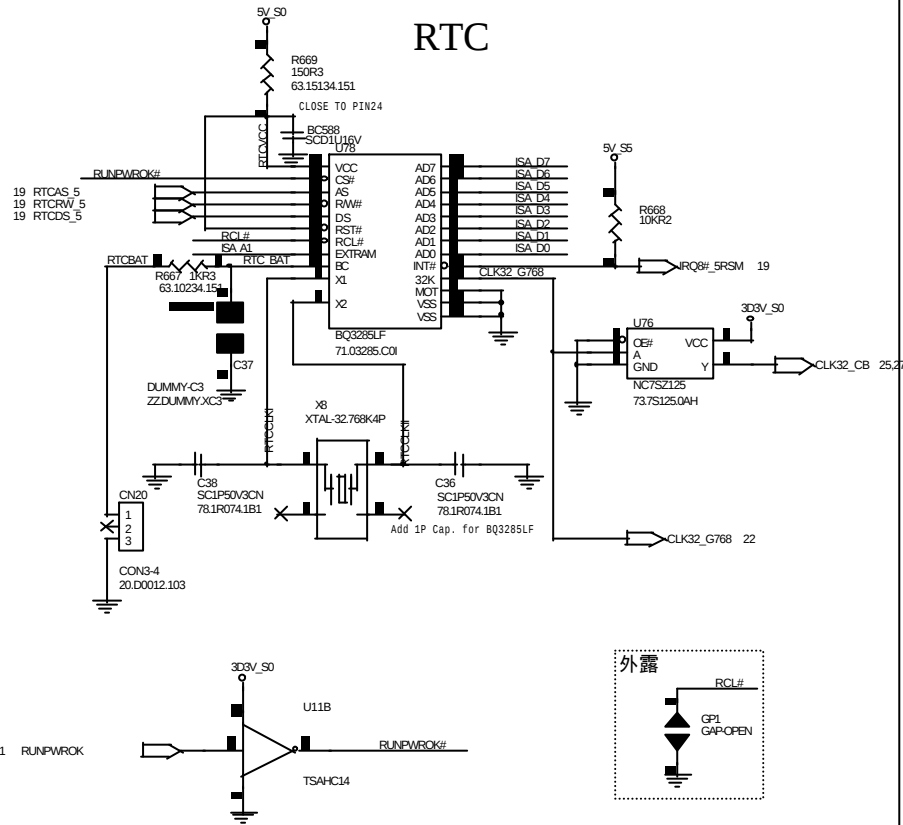
WinstonLogo

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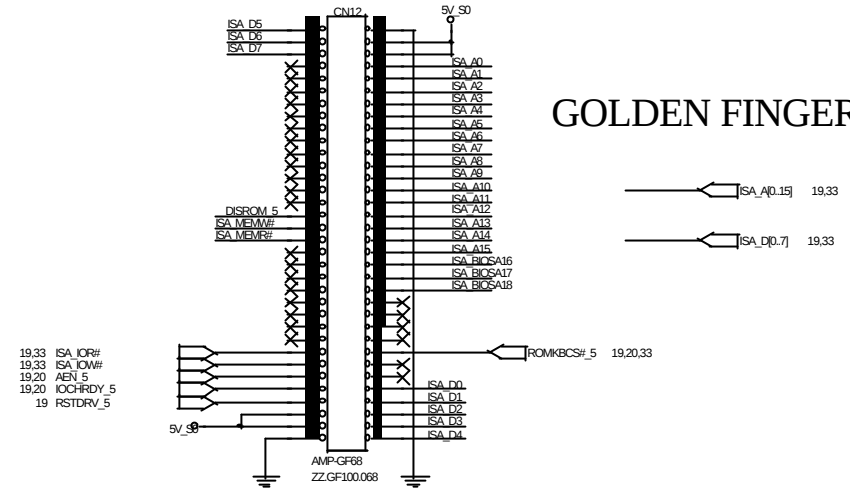
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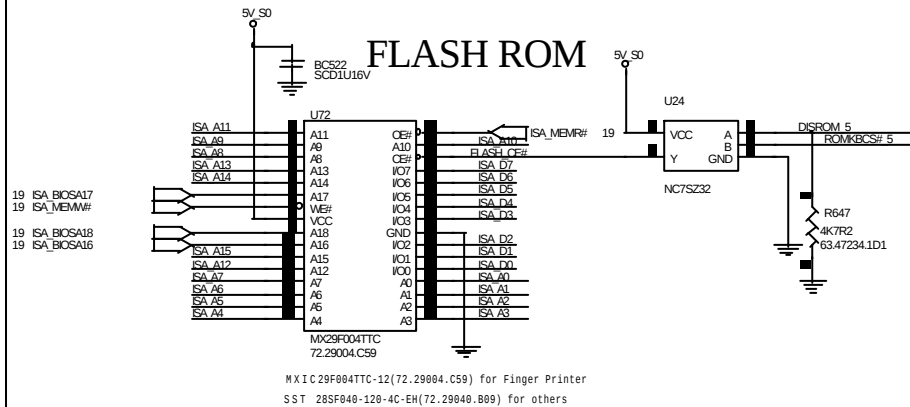
RTC



GOLDEN FINGER



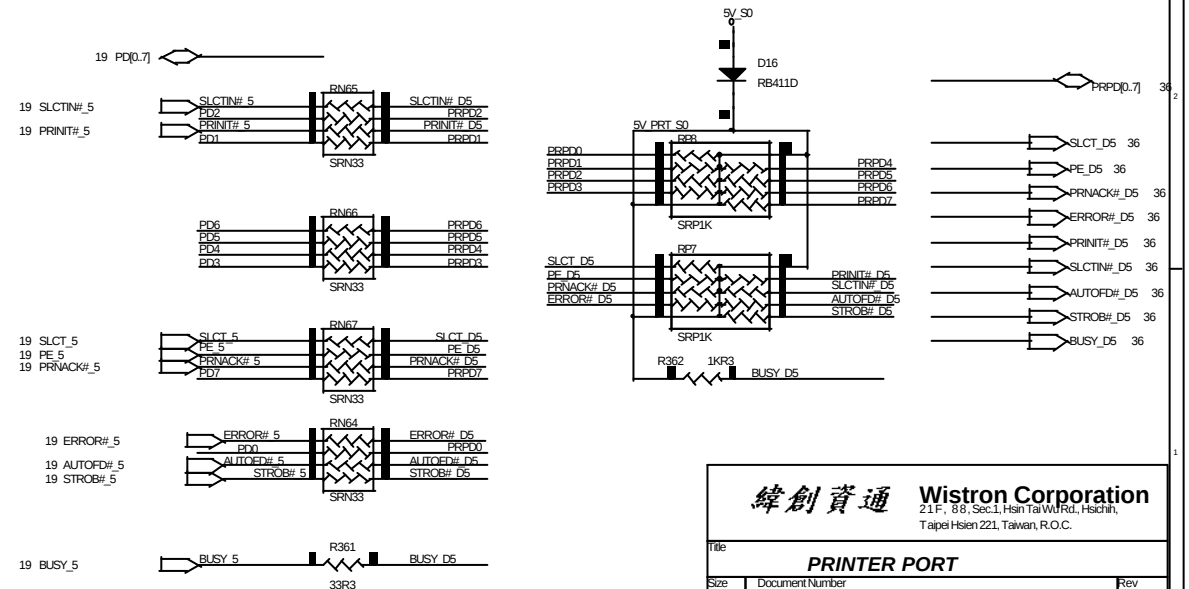
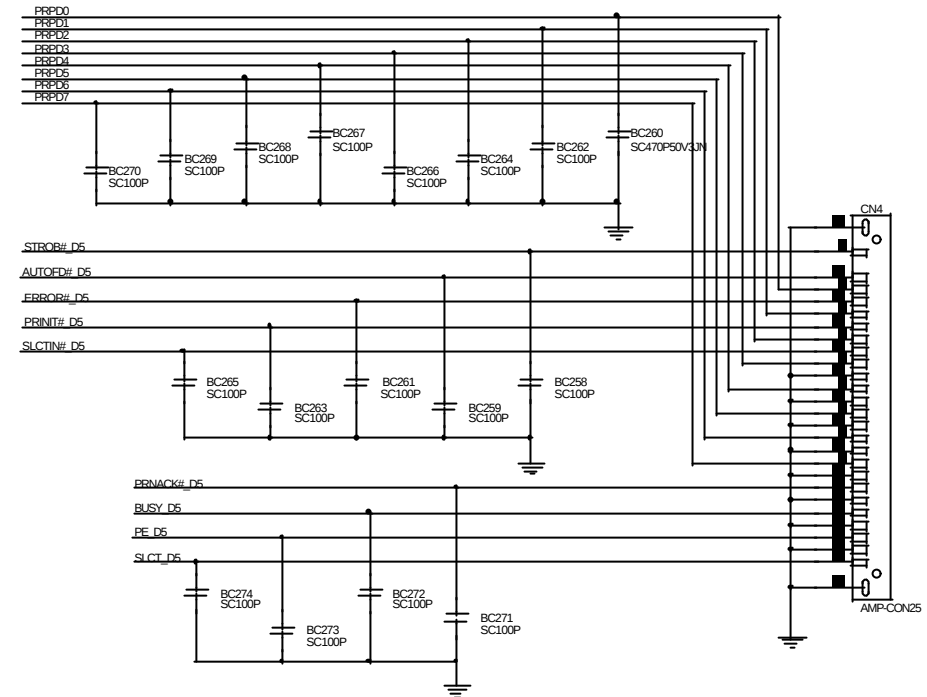
FLASH ROM



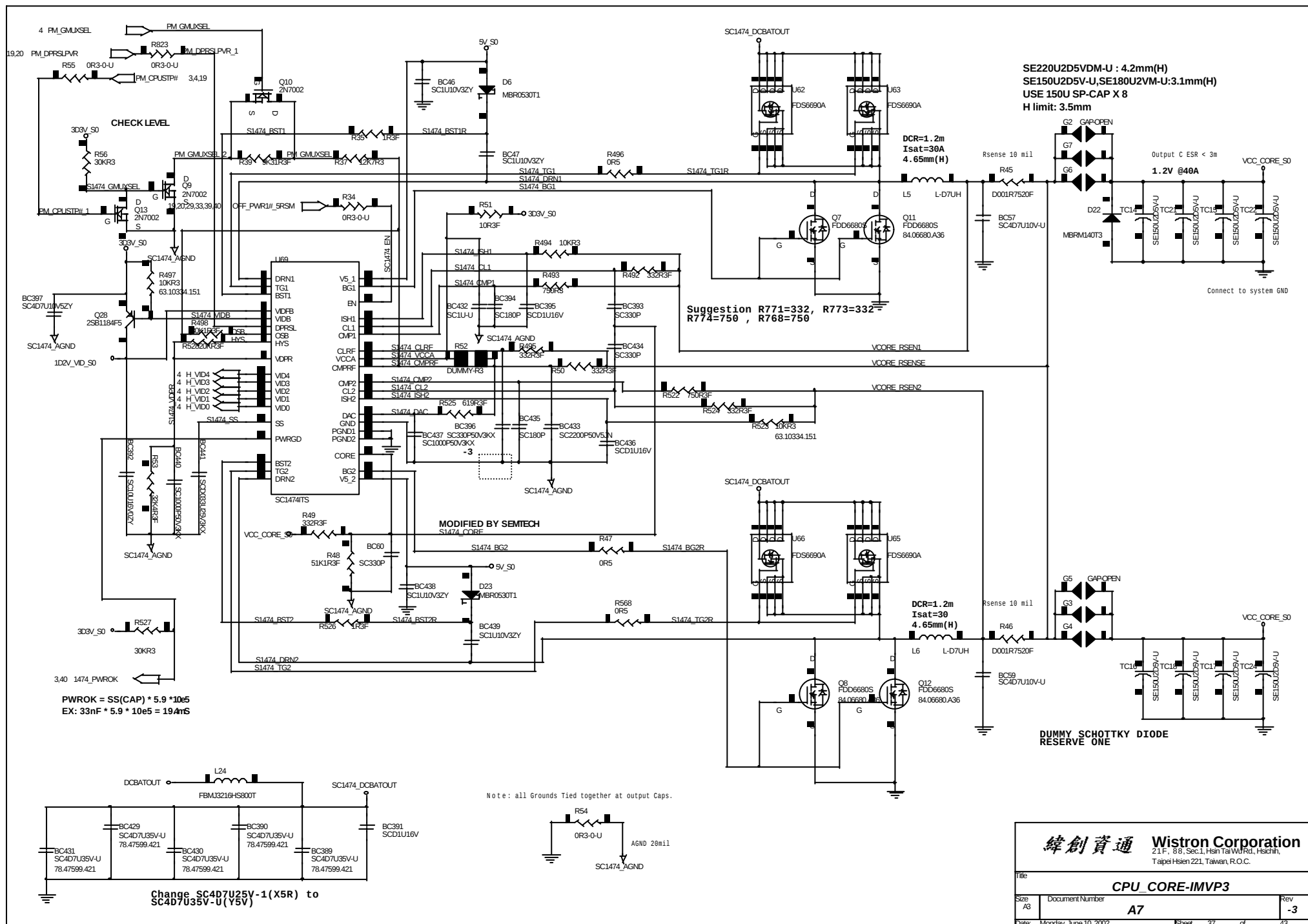
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Title		
RTC_FLASH		
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PRINTER PORT

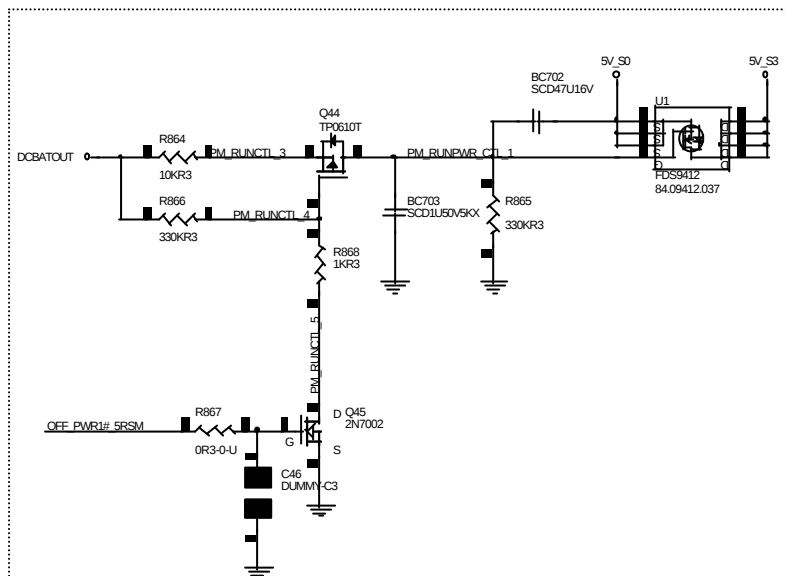


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Title	
PRINTER PORT	
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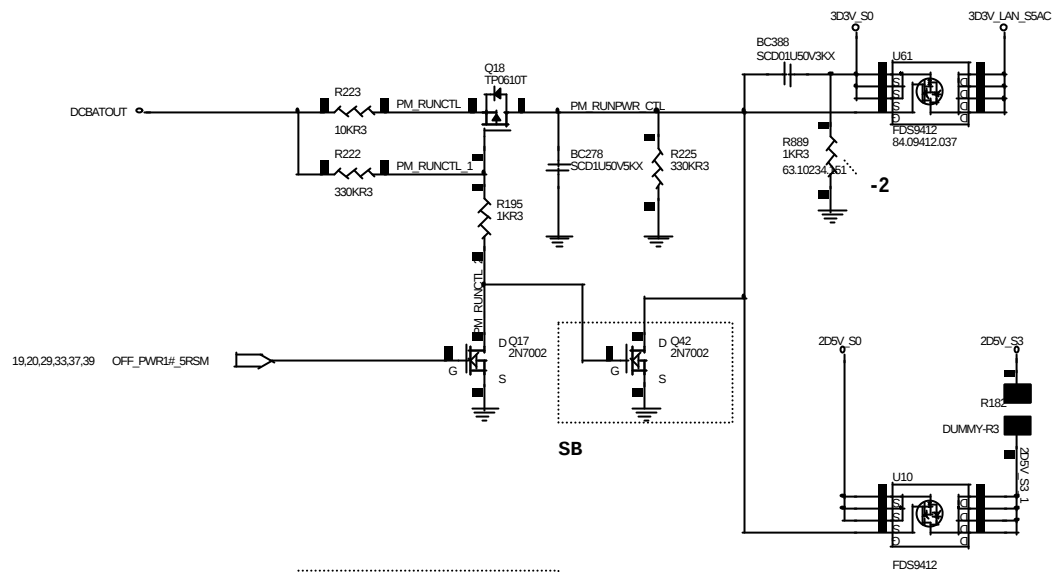


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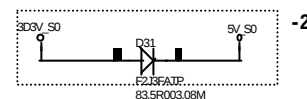
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CPU_CORE-IMVP3			
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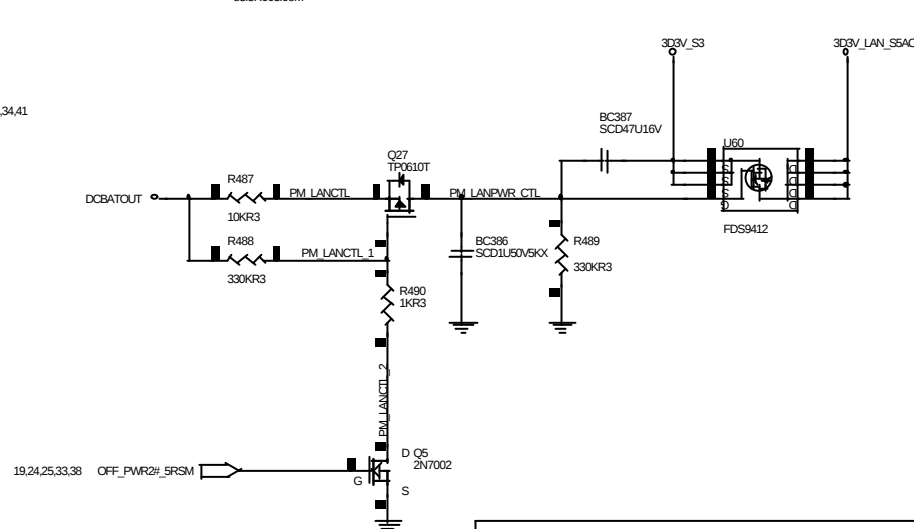
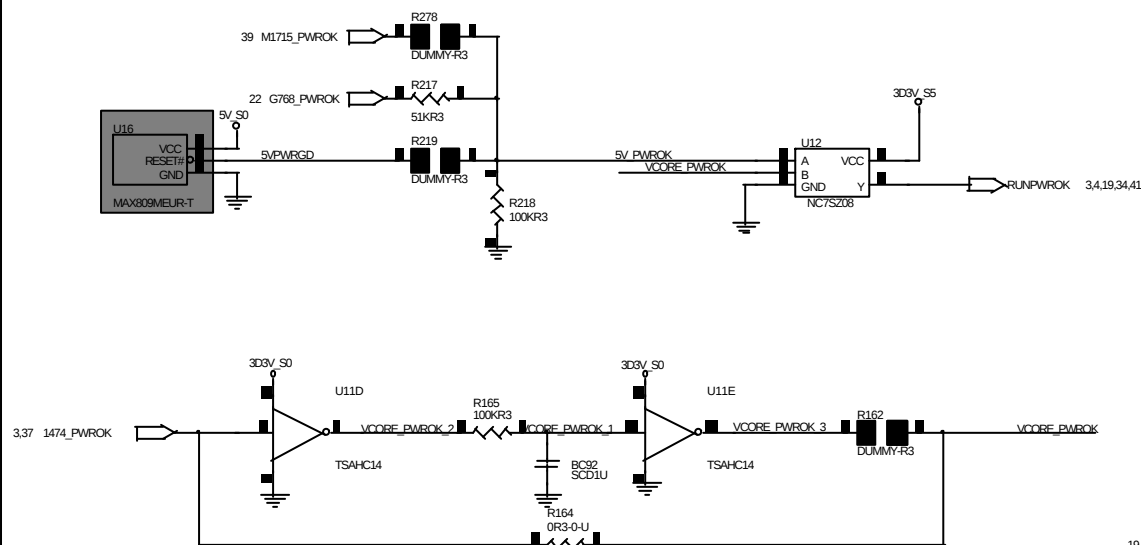
SC



alternative for SI3025



-2

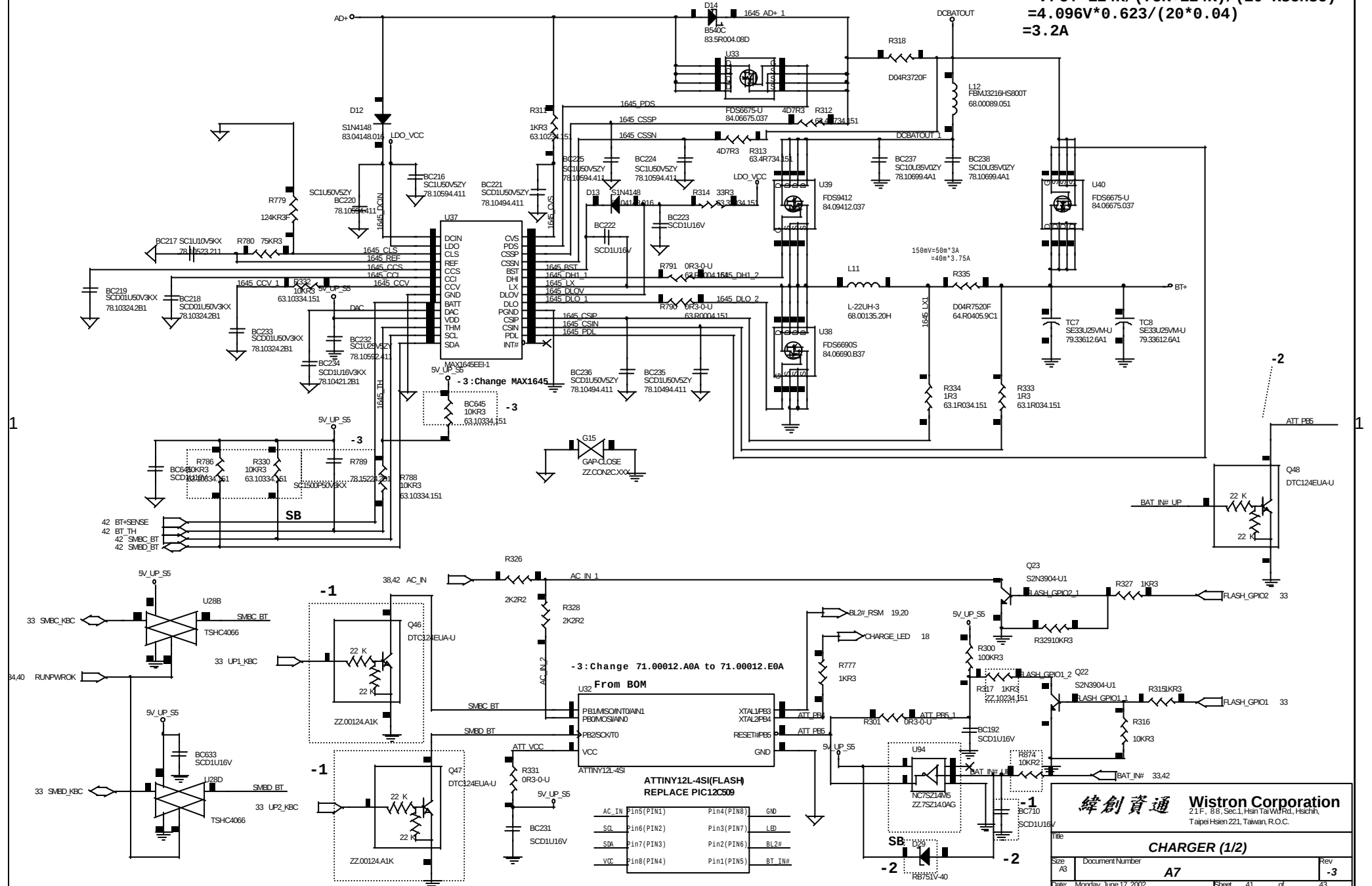


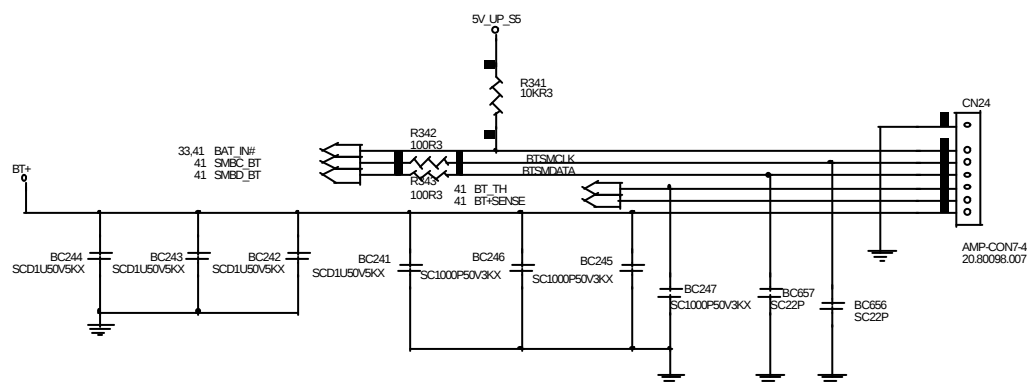
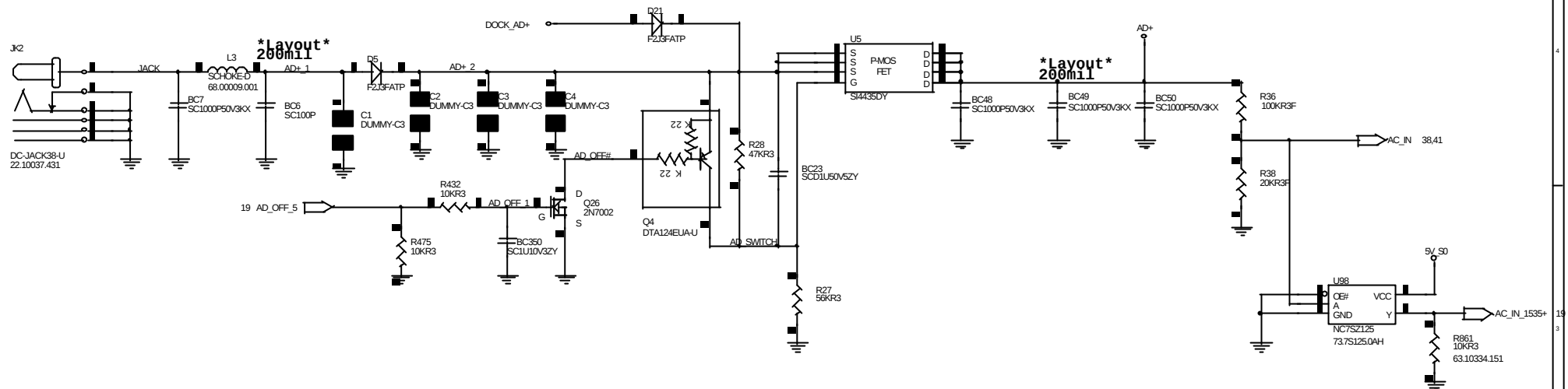
$$I_{max} = V_{CL1} / (20 * R_{sense})$$

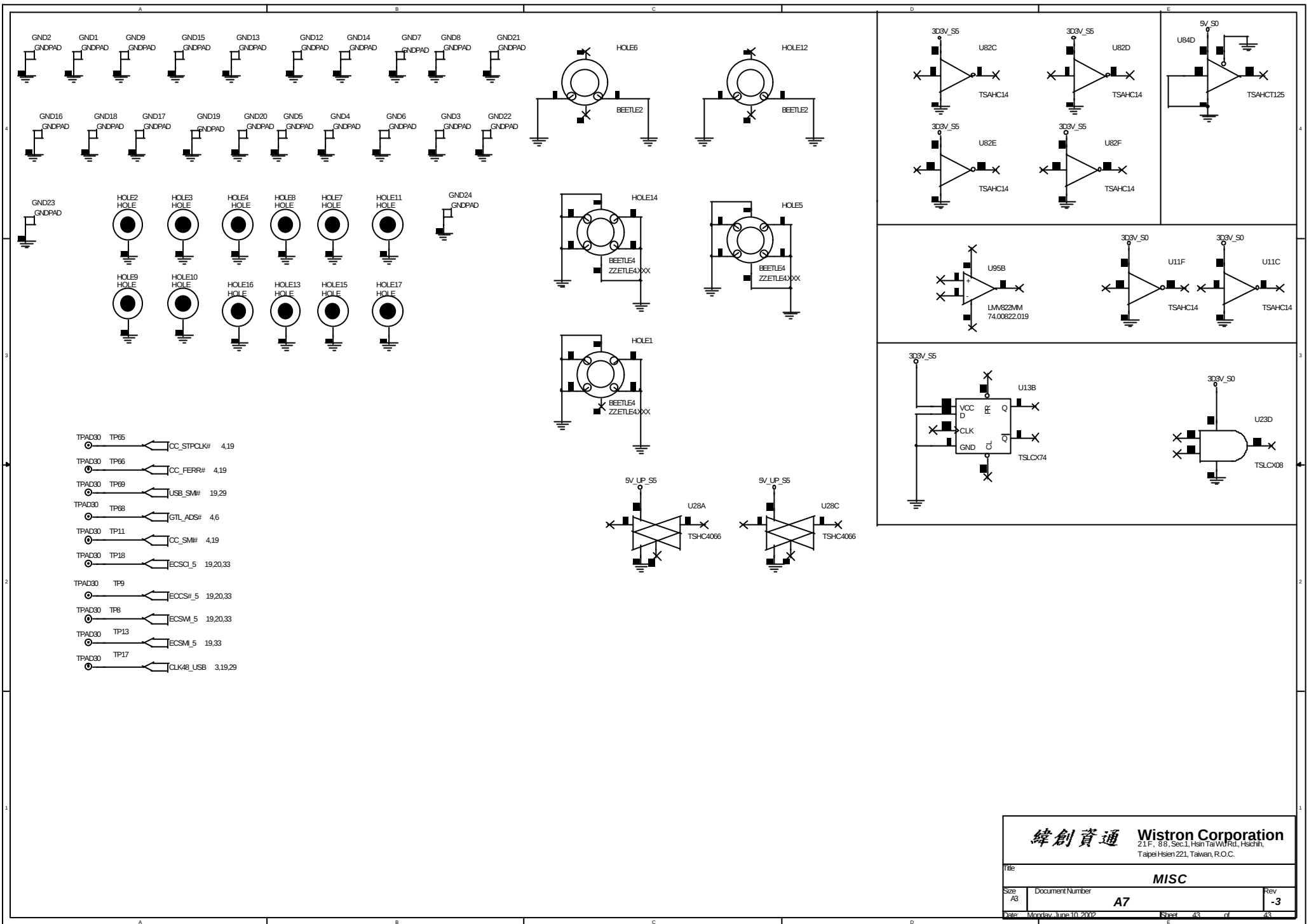
$$= V_{ref} * 124K / (75K + 124K) / (20 * R_{sense})$$

$$= 4.096V * 0.623 / (20 * 0.04)$$

$$= 3.2A$$







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