

ME3 Block Diagram

Intel CPU
Meron 2M/4M SV
FSB:667 or 800 MHz
 4, 5, 6

Project code : 91.4X601.001
PCB P/N :
Revision :

G792 22

CLK GEN
REALTEK RTM875
 3

DDRII
 Slot 0 13, 14

DDRII
 Slot 1 13, 14

Crestline-GM/GML
 AGTL+ CPU I/F DDR I/F
 INTEGRATED GRAHPICS
 LVDS, CRT I/F 7, 8, 9, 10, 11, 12

nVIDIA
NB8M-GS
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CRT 15

LCD 16

HDMI 17

EEPROM 46

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Mini Card_2 Robson 23

Mini Card_1 802.11a/b/g/n 23

INTEL
ICH8-M
 10 USB 2.0/1.1 ports
 ETHERNET (10/100/1000Mb)
 High Definition Audio
 ATA 66/100
 ACPI 1.1
 LPC I/F
 PCI/PCI BRIDGE
 18, 19, 20, 21

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 256-Mbit
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RTL8101E 24

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Line In

Codec
ALC662
 34

INT.SPKR

Line Out (SPDIF)

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AMP G1412 35

RJ11

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INT. MIC Array Digital

HDMI (SPDIF)

Codec
ALC268

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E-SATA
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SATA

SATA

PATA

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 Winbond
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TPM
 SLB9635TT 32

LPC
 DEBUG CONN 32

SYSTEM DC/DC TPS51120	
INPUTS	OUTPUTS
DCBATOUT	5V_S3 3V_S5

SYSTEM DC/DC MAX8743	
INPUTS	OUTPUTS
DCBATOUT	1D05V_S0 1D8V_S3

SYSTEM DC/DC FAN5234	
INPUTS	OUTPUTS
DCBATOUT	VGA_CORE_S0 11A

MAXIM CHARGER MAX8725	
INPUTS	OUTPUTS
DCBATOUT	BT+ 18V 3.0A 5V 100mA

CPU DC/DC MAX8736ETL	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE 0.844~1.3V 44A

PCB LAYER	
L1:	Signal 1
L2:	GND
L3:	Signal 2
L4:	Signal 3
L5:	GND
L6:	VCC
L7:	Signal 4
L8:	Signal 5
L9:	GND
L10:	Signal 5

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Block Diagram

Size A3 Document Number **ME3-Discrete** Rev **SA**

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Prepare by Steven CF Chou

INTEL ICH8-M STRAP PIN

Signal	Usage/When Sampled	Comment
HDA_SDOUT	XOR Chain Entrance/ PCIe Port Config 1 bit1, Rising Edge of PWROK	Allows entrance to XOR Chain testing when TP3 pulled low at rising edge of PWROK. When TP3 not pulled low at rising edge of PWROK, sets bit1 of RPC.PC(Config Registers:offset 224h)
HDA_SYNC	PCIe Port Config 1 bit0, Rising Edge of PWROK.	Sets bit0 of RPC.PC(Config Registers:Offset 224h)
GNT2#	PCIe Port Config 2 bit0, Rising Edge of PWROK.	Sets bit2 of RPC.PC(Config Registers:Offset 224h)
GPI020	Reserved	Weak Internal PULL-DOWN.NOTE:This signal should not be pull HIGH.
GNT3#	Top-Block Swap Override. Rising Edge of PWROK.	Sampled Low:Top-Block Swap mode(inverts A16 for all cycles targeting FWH BIOS space). Note: Software will not be able to clear the Top-Swap bit until the system is rebooted without GNT3# being pulled down.
GNT0# SPI_CS1#	Boot BIOS Destination Selection. Rising Edge of PWROK.	Controllable via Boot BIOS Destination bit (Config Registers:Offset 3410h:bit 11:10). GNT0# is MSB, 01-SPI, 10-PCI, 11-LPC.
INTVRMEN	Integrated VccSus1_05 VccSus1_5 and VccCL1_5 VRM Enable/Disable.Always sampled.	Enables integrated VccSus1_05,VccSus1_5 and VccCL1_5 VRM when sampled high
LAN100_SLP	Integrated VccLAN1_05 VccCL1_05 VRM enable /Disable. Always sampled.	Enables integrated VccLAN1_05,VccCL1_05 VRM when sampled high
SATALED#	PCIe LAN REVERSAL.Rising Edge of PWROK.	This signal has weak internal pull-up. set bit27 of MPC.LR(Device28:Function0:Offset D8)
SPKR	No Reboot. Rising Edge of PWROK.	If sampled high, the system is strapped to the "No Reboot" mode(ICH8M will disable the TCO Timer system reboot feature). The status is readable via the NO REBOOT bit.(Offset:3410h:bit5)
TP3	XOR Chain Entrance. Rising Edge of PWROK.	This signal should not be pull low unless using XOR Chain testing.
GPI033/ HDA_DOCK_EN#	Flash Descriptor Security Override Strap Rising Edge of PWROK.	Internal Pull-Up.If sampled low,the Flash Descriptor Security will be overridden.If high,the Security measures defined in the Flash Descriptor will be in effect. This should only be used in manufacturing environments

XOR Chain Entrance Strap			
ICH_RSVD#3	AZ DOUT ICH	Description	
0	0	RSVD	
0	1	Enter XOR Chain	
1	0	Normal Operation(default)	
1	1	Set PCIe port config bit1	

A16 swap override strap			
PCI_GNT#3	low = A16 swap override enable high = default		
BOOT BIOS Strap			
PCI_GNT#0	SPI_CS#1	BOOT BIOS Location	
0	0	SPT	
0	1	PCT	
1	1	LPC(Default)	

integrated VccSus1_05,VccSus1_5,VccCL1_5		
SM_INTVRMEN	High=Enable	Low=Disable
integrated VccLan1_05VccCL1_05		
LAN100_SLP	High=Enable	Low=Disable

DEFAULE HIGH

No Reboot Strap	
SPKR	LOW = Defaule
	High=No Reboot

8.2K PULL HIGH

INTEL ICH8-M INTEGRATED PULL-UPS and PULL-DOWNS

SIGNAL	Resistor Type/Value
HDA_BIT_CLK	PULL-DOWN 20K
HDA_RST#	NONE
HDA_SDIN[3:0]	PULL-DOWN 20K
HDA_SDOUT	PULL-DOWN 20K
HDA_SYNC	PULL-DOWN 20K
GNT[3:0]	PULL-UP 20K
GPI0[20]	PULL-DOWN 20K
LDA[3:0]#/FWH[3:0]#	PULL-UP 20K
LAN_RXD[2:0]	PULL-UP 20K
LDRQ[0]	PULL-UP 20K
LDRQ[1]/GPI023	PULL-UP 20K
PME#	PULL-UP 20K
PWRBTN#	PULL-UP 20K
SATALED#	PULL-UP 20K
SPI_CS1#	PULL-UP 20K
SPI_CLK	PULL-UP 20K
SPI_MOSI	PULL-UP 20K
SPI_MISO	PULL-UP 20K
TACH_[3:0]	PULL-UP 20K
SPKR	PULL-DOWN 20K
TP[3]	PULL-UP 20K
USB[9:0][P,N]	PULL-DOWN 15K
CL_RST#	TBD

U45 : 71.0NB8M.00U (VGA)
U35: 71.00662.00G (Audio)
U28: 71.00763.00G (KBC)
U74: 71.00101.00G (LAN)
U26: 71.ICH8M.C0U (SB)
U18: 71.PM965.A0U (NB)
TV1: 22.10021.H21
Hole.Spring
HDM11: 22.10296.011

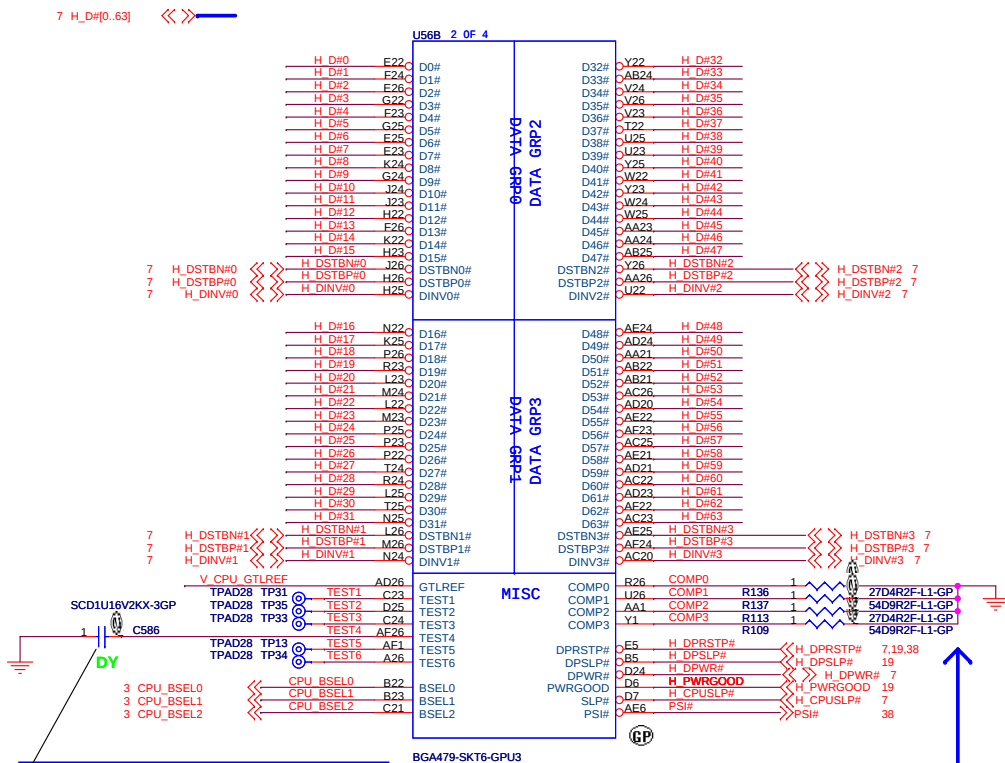
INTEL CRESTLINE STRAP PIN

CFG Strap	LOW 0	HIGH 1
CFG 5	DMI X 2	DMI X 4 ★
CFG 8 Low Power PCI Express	Normal★	Low Power mode
CFG 9 PCI Express Graphics Lane Reversal	Lane Reversal	Normal Mode(Lanes number in order)★
CFG 16 FSB dynamic ODT	Disabled	Enabled★
CFG 19 DMI Lane Reserved	Normal Operation★	Reserved Lane
CFG 20 Concurrent SDVO/PCIE	Only PCIE or SDVO is operation★	PCIE and SDVO are operation simultaneous
SDVO_CTRL_DATA SDVO Present	NO SDVO Card Present★	SDVO Card Present
CFG 12	XOR/ALL-Z	
CFG 13 LI(00)	Reserved	
LH(01)	XOR Mode Enabled	
HL(10)	All Z Mode Enabled	
HH(11)	Normal Operation	

MB: 07230
LED: 07537
FP: 07546
Audio: 07545
USB: 07547

<Core Design>

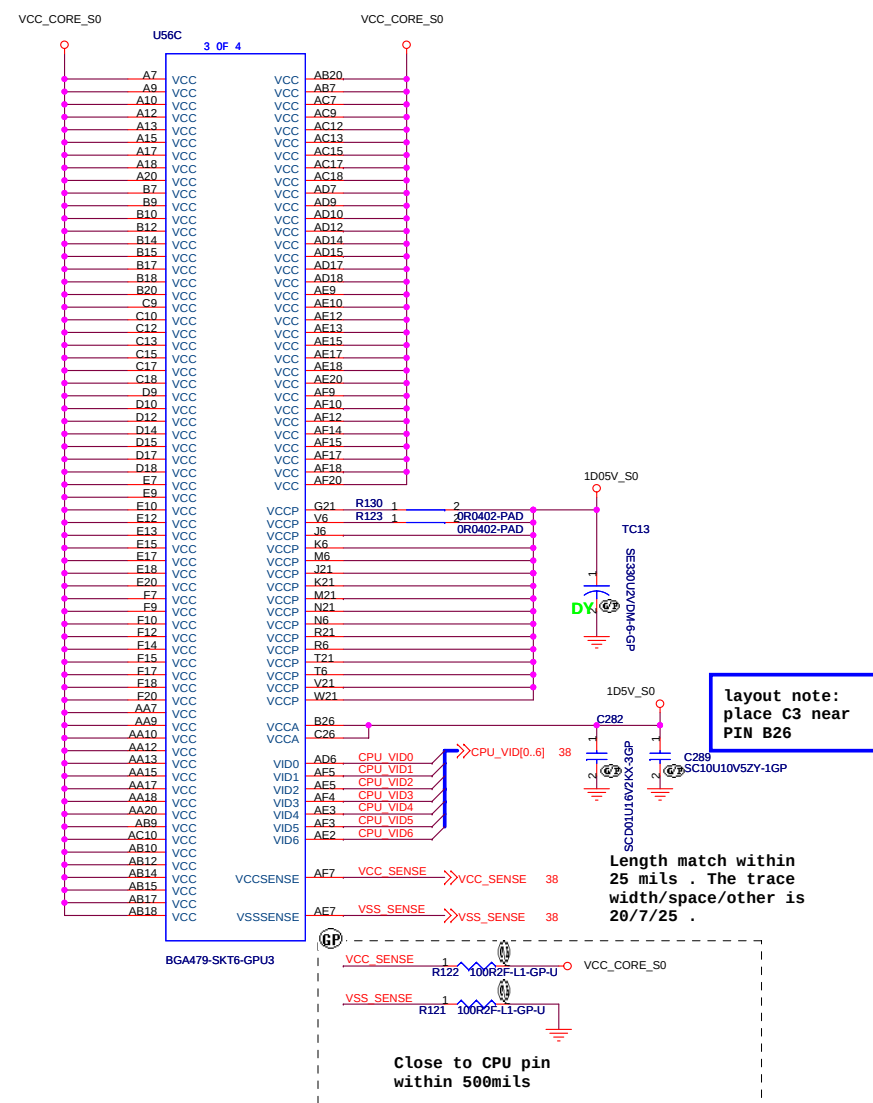
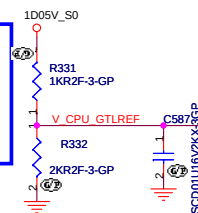
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Title		
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PLACE C173 close to the TEST4 PIN,
make sure TEST3,TEST4,TEST5 trace
routing is reference to GND and
away other noisy signals

CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0

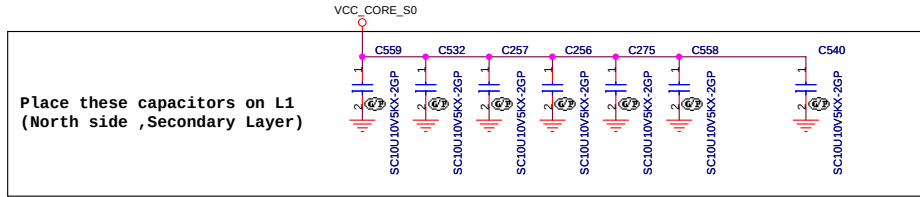
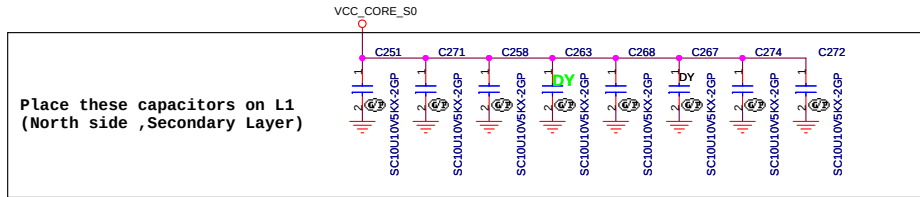
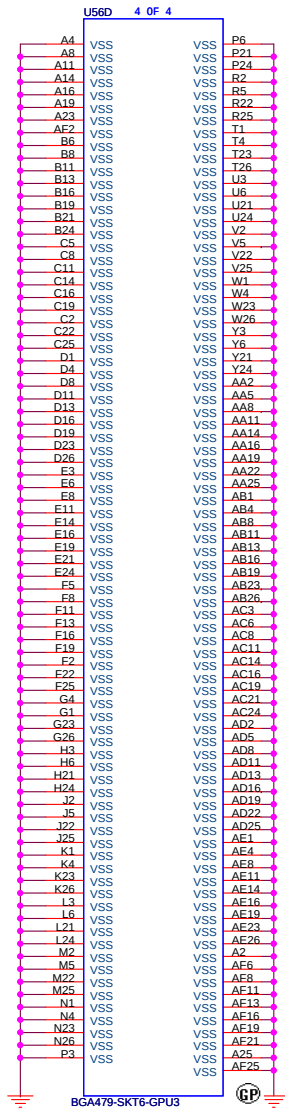
Close to CPU
pin AD26
Z0=55 ohm
with in
500mils .



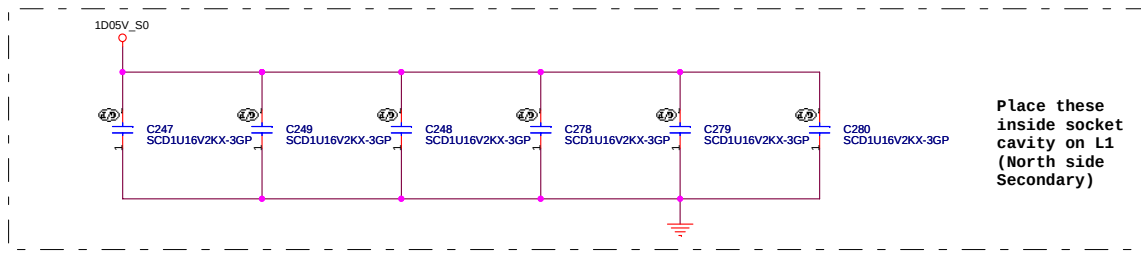
layout note:
place C3 near
PIN B26

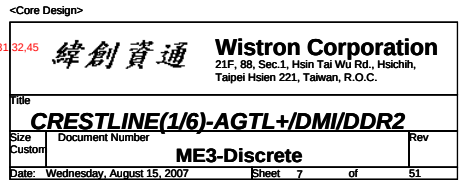
Length match within
25 mils . The trace
width/space/other is
20/7/25 .

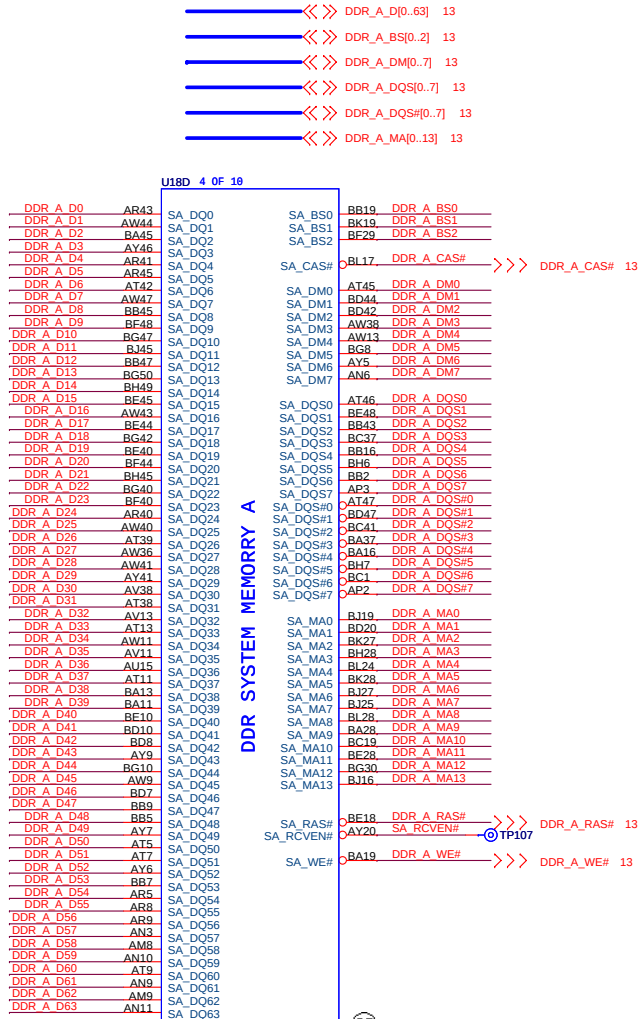
Close to CPU pin
within 500mils



Mid Freqenced Decoupling



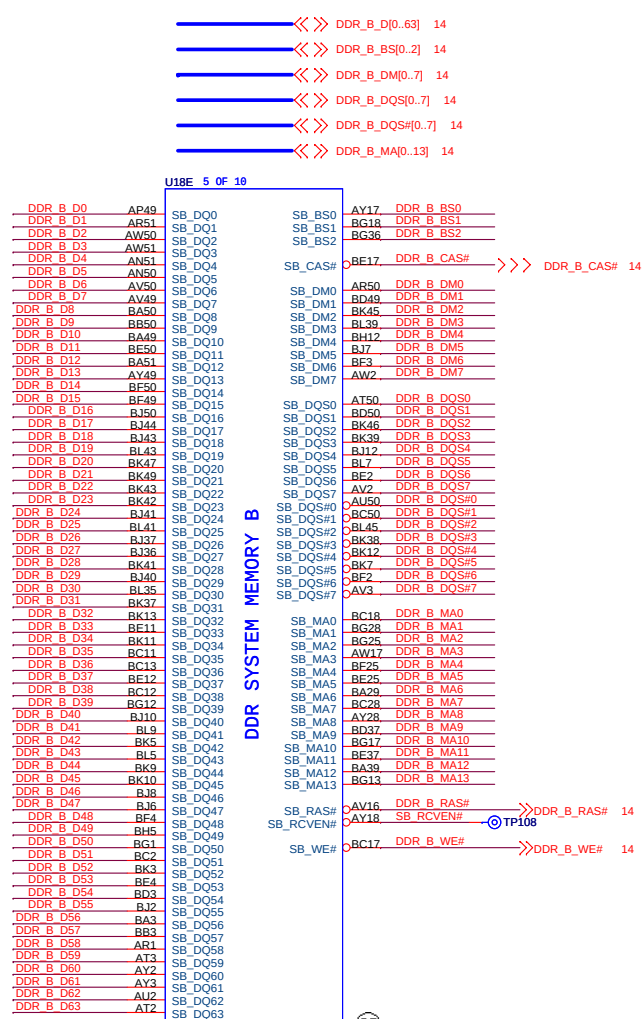




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DDR SYSTEM MEMORY A

CRESTLINE-GP-U-NF



U18E 5 OF 10

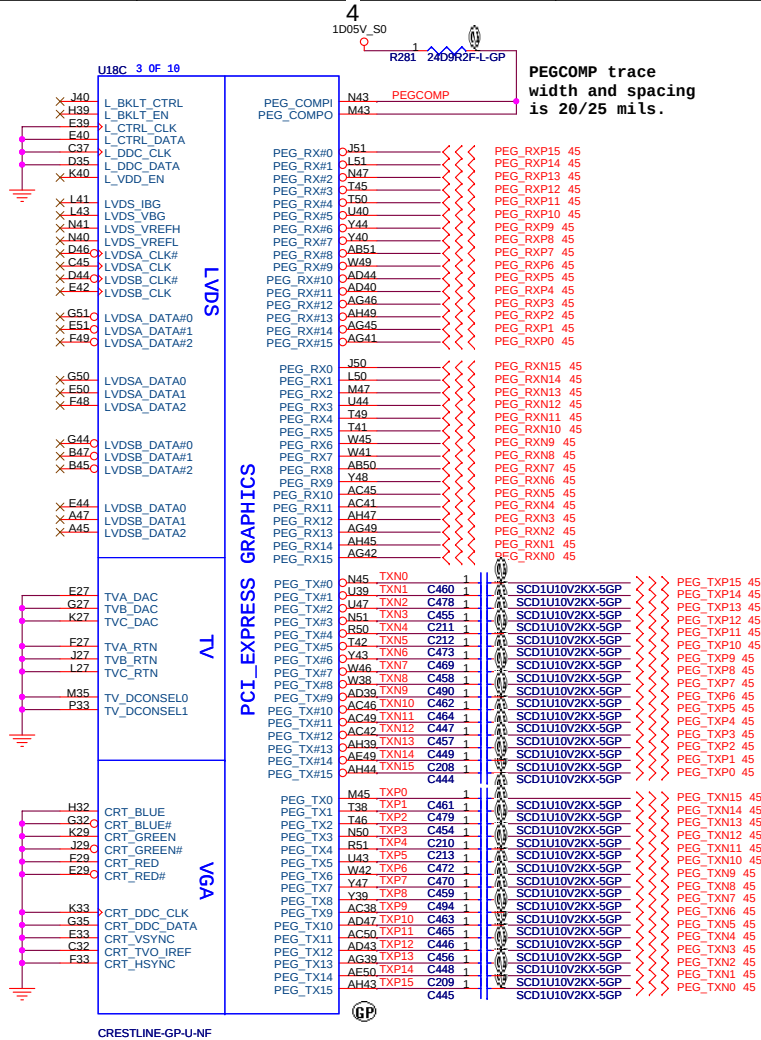
DDR SYSTEM MEMORY B

CRESTLINE-GP-U-NF

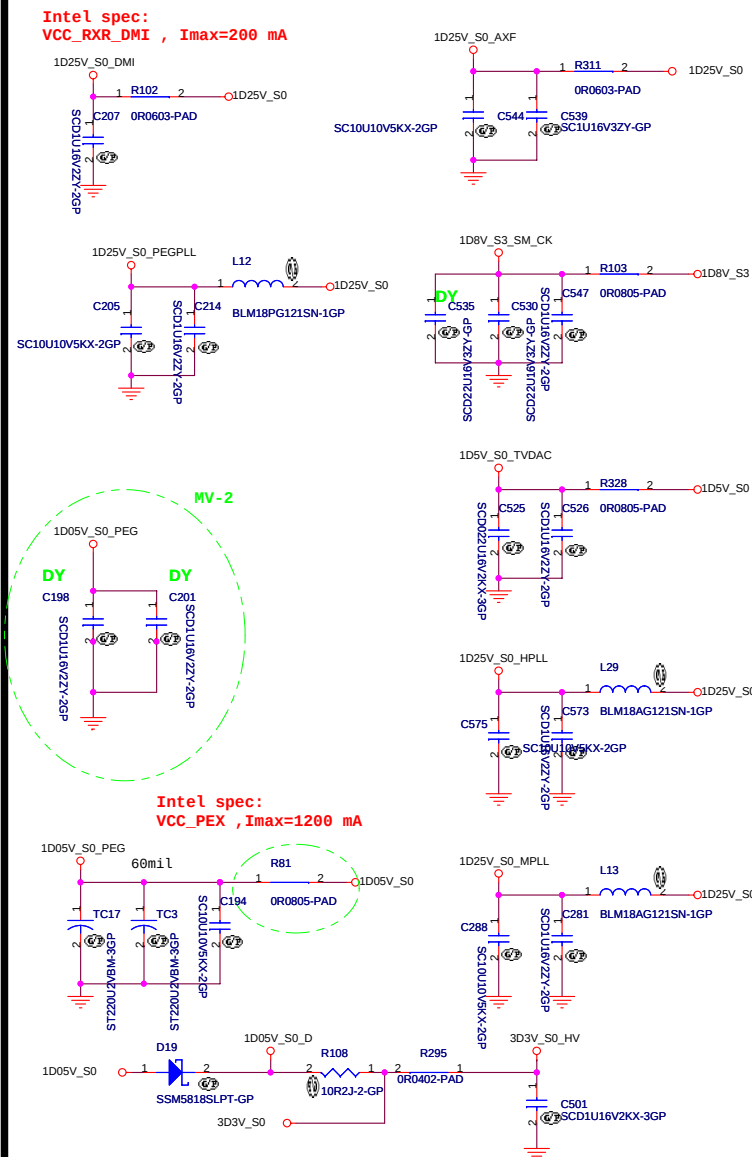
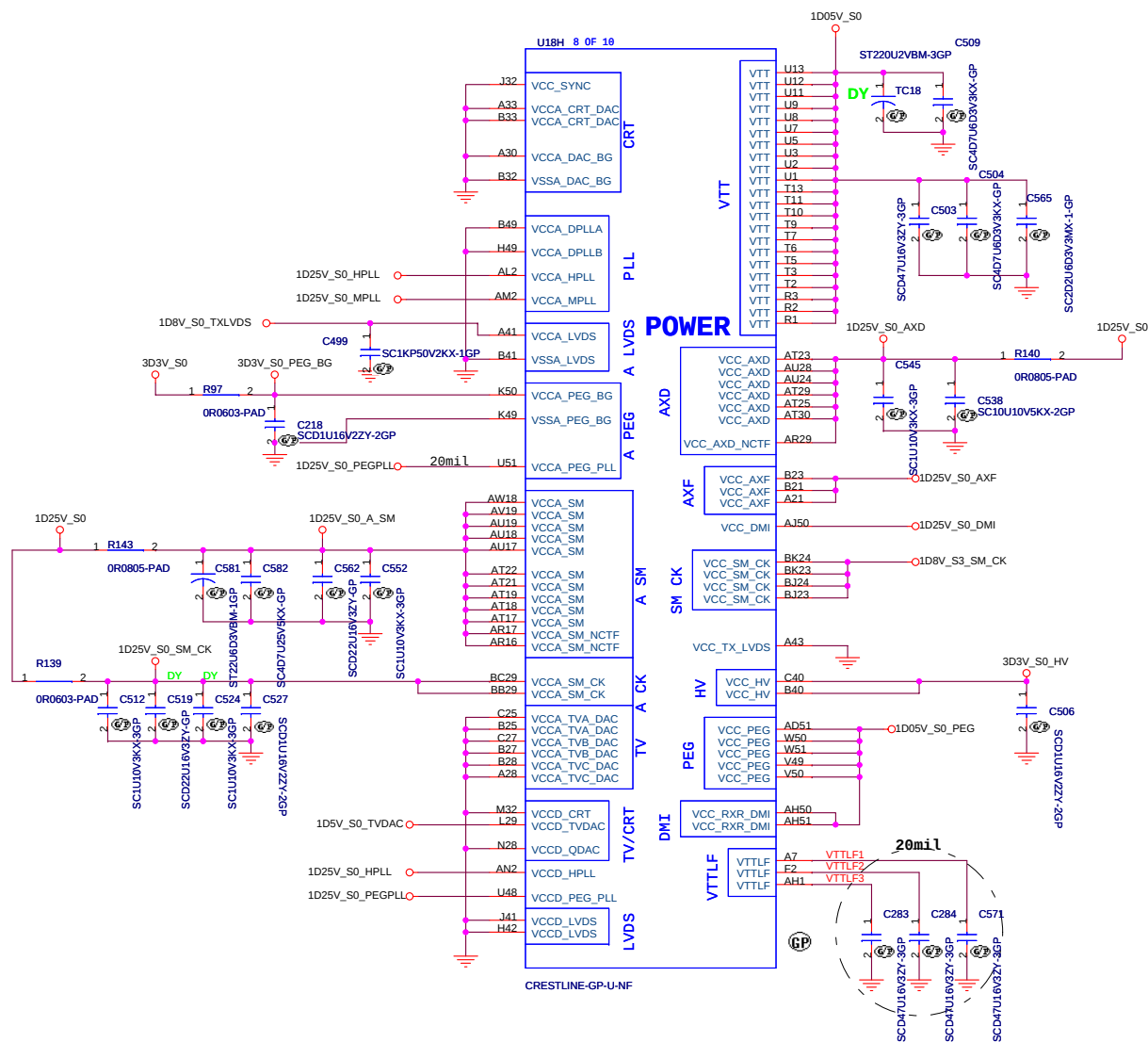


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Title	
CRESTLINE(2/6)-DDR2 A/B CH	
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Strap Pin Table	
CFG[2:0] FSB Freq select	010 = FSB 800MHz 011 = FSB 867MHz Others = Reserved
CF65 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CF66	Reserved
CF67 (CPU Strap)	0 = Reserved 1 = Mobile CPU *
CF68 (Low power PCIE)	0 = Normal mode 1 = Low Power mode *
CF69 (PCIE Graphics Lane Reversal)	0 = Reverse Lane 1 = Normal Operation *
CFG[11:10]	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation (Default)*
CFG[15:14]	Reserved
CF616 (FSB Dynamic ODT)	0 = Disable 1 = Enable *
CFG[18:17]	Reversed
SDVO_CTRLDATA	0 = No SDVO Device Present *
	1 = SDVO Device Present
CF619(DMI Lane Reversal)	0 = Normal Operation (Lane number in Order) *
	1 = Reverse lane
CF620(PCIE/SDVO concurrent)	0 = Only PCIE or SDVO is operational *
	1 = PCIE/SDVO are operating simu.



<Core Design>

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Title

CRESTLINE(4/6)-PWR

Size
A2

Document Number

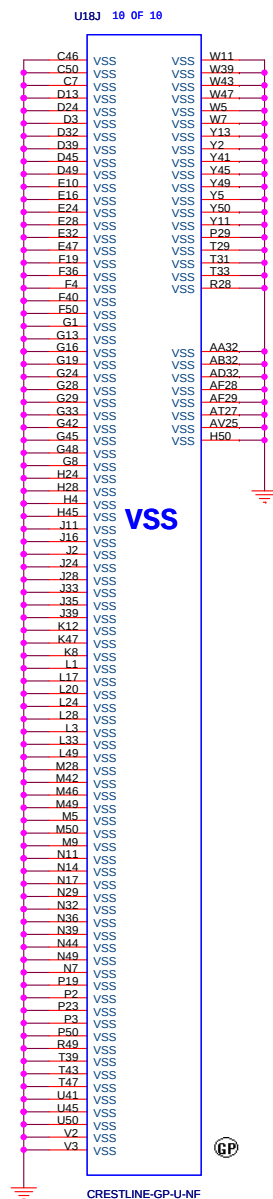
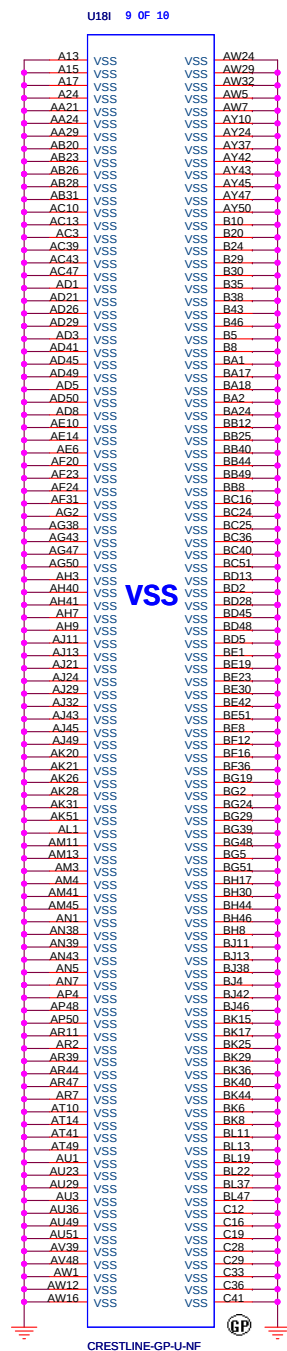
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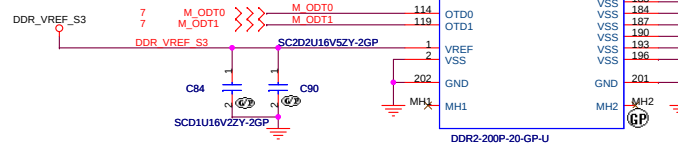
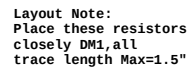
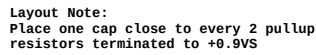
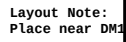
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Sunday, September 09, 2007

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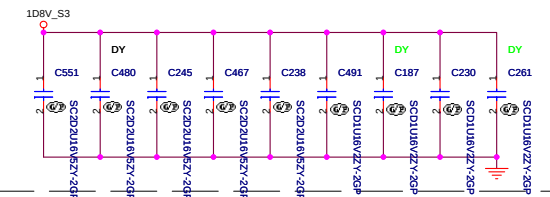




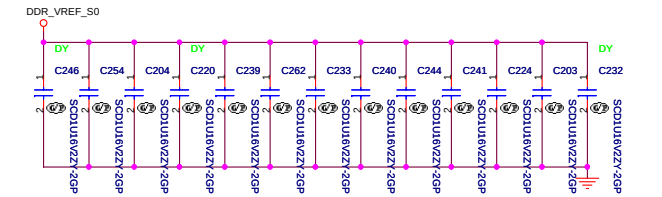
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Title			
DDRII-SODIMM SLOT1			
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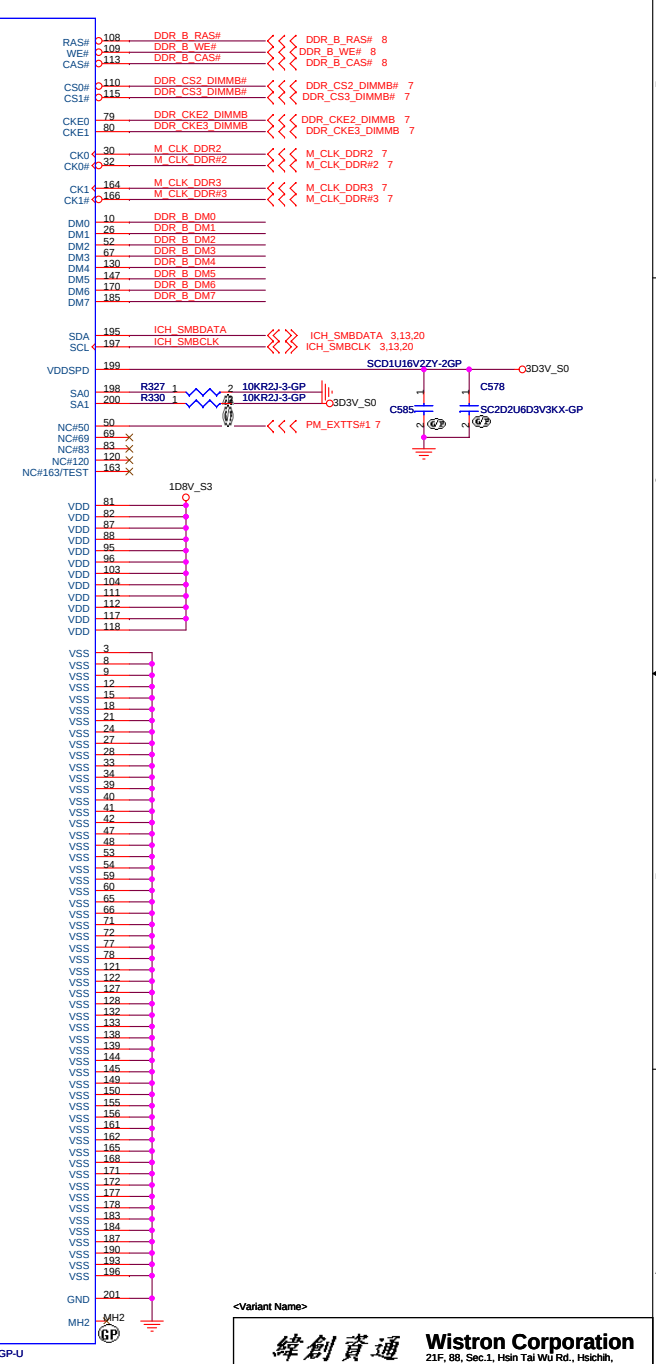
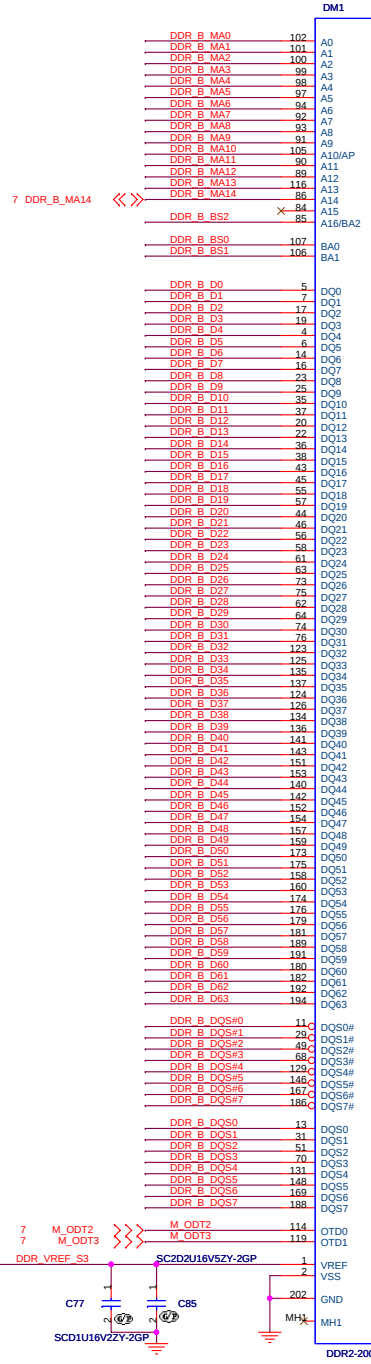
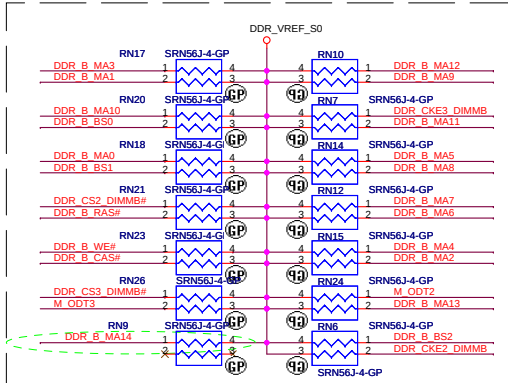
Layout Note:
Place near DM2



Layout Note:
Place one cap close to every 2 pullup
resistors terminated to +0.9VS



Layout Note:
Place these resistors
closely DM2,all
trace length Max=1.5"



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Title
DDRII-SODIMM SLOT2

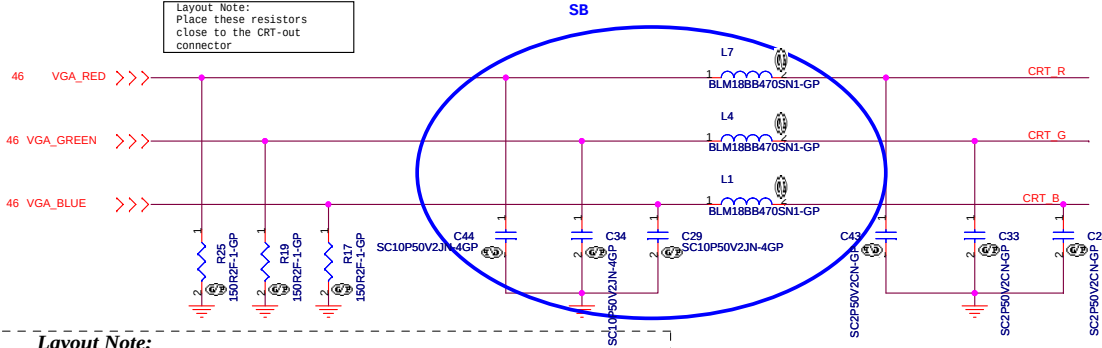
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Document Number
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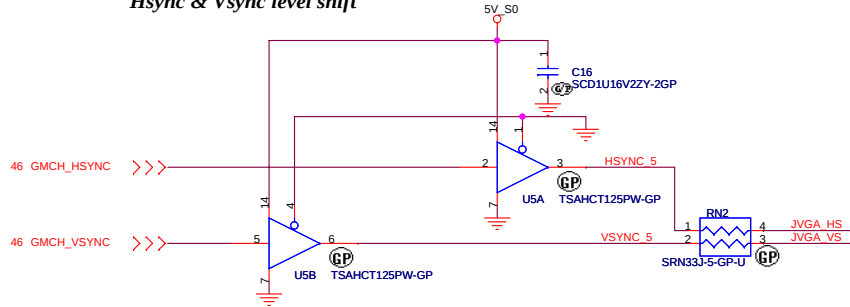
CRT I/F & CONNECTOR

Layout Note:
Place these resistors
close to the CRT-out
connector

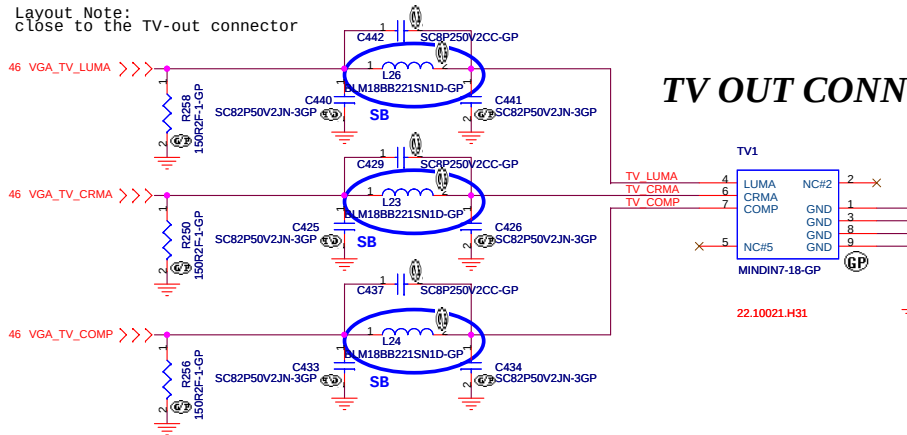


Layout Note:
* Must be a ground return path between this ground and the ground on
the VGA connector.
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT
CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.

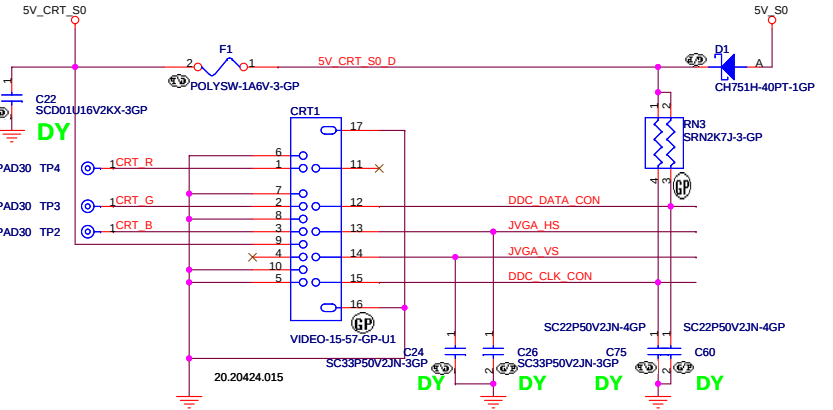
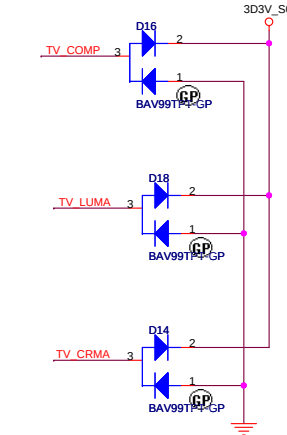
Hsync & Vsync level shift



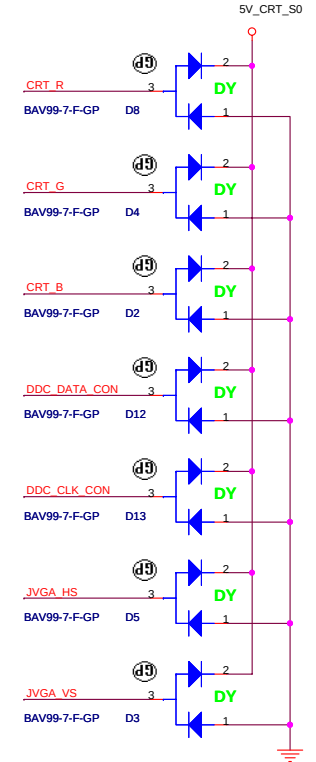
Layout Note:
close to the TV-out connector



TV OUT CONN



DDC_CLK & DATA level shift

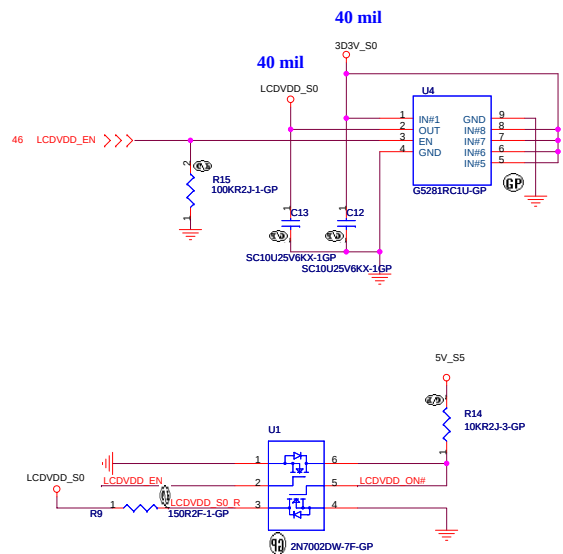
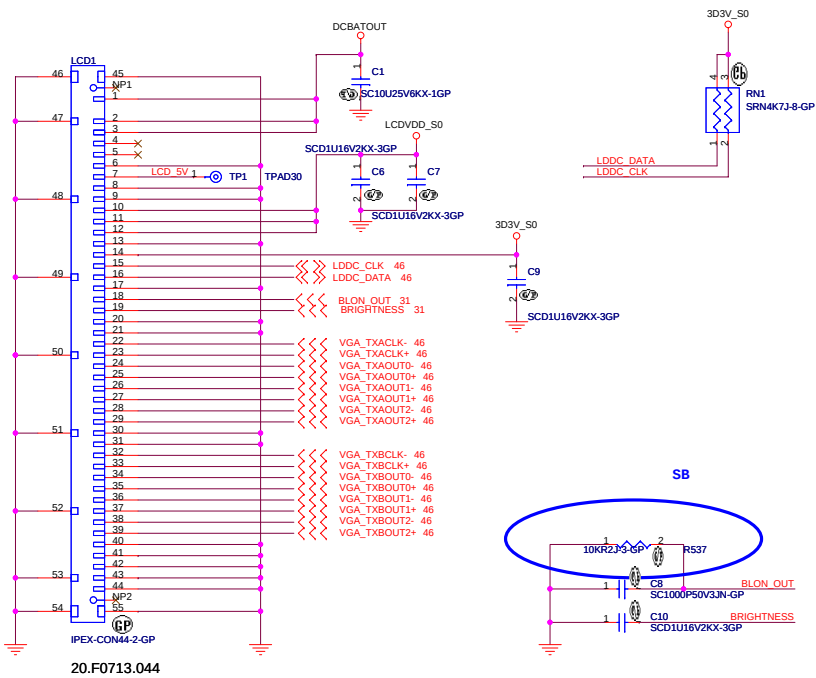


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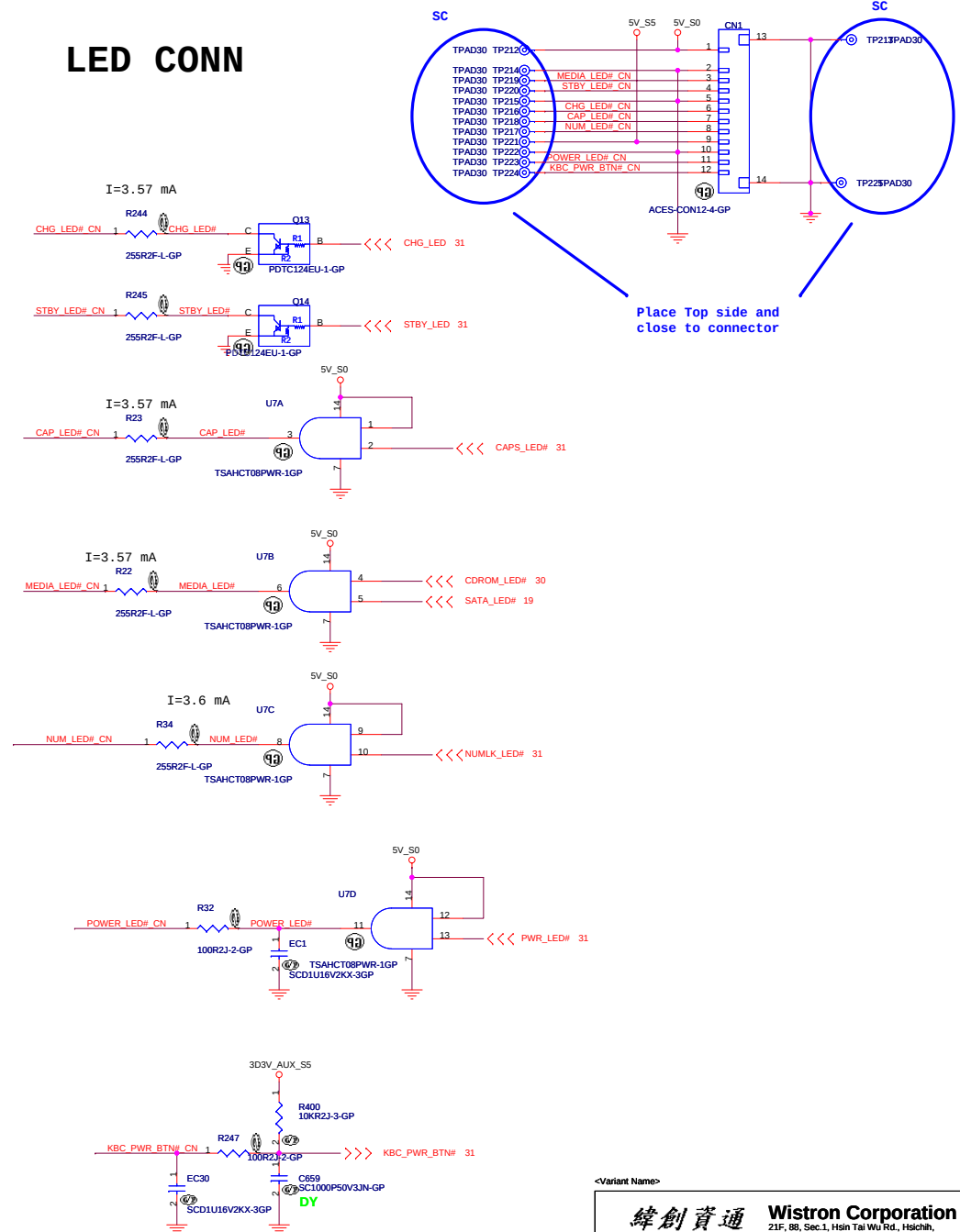
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CRT/TV CONNECTOR		
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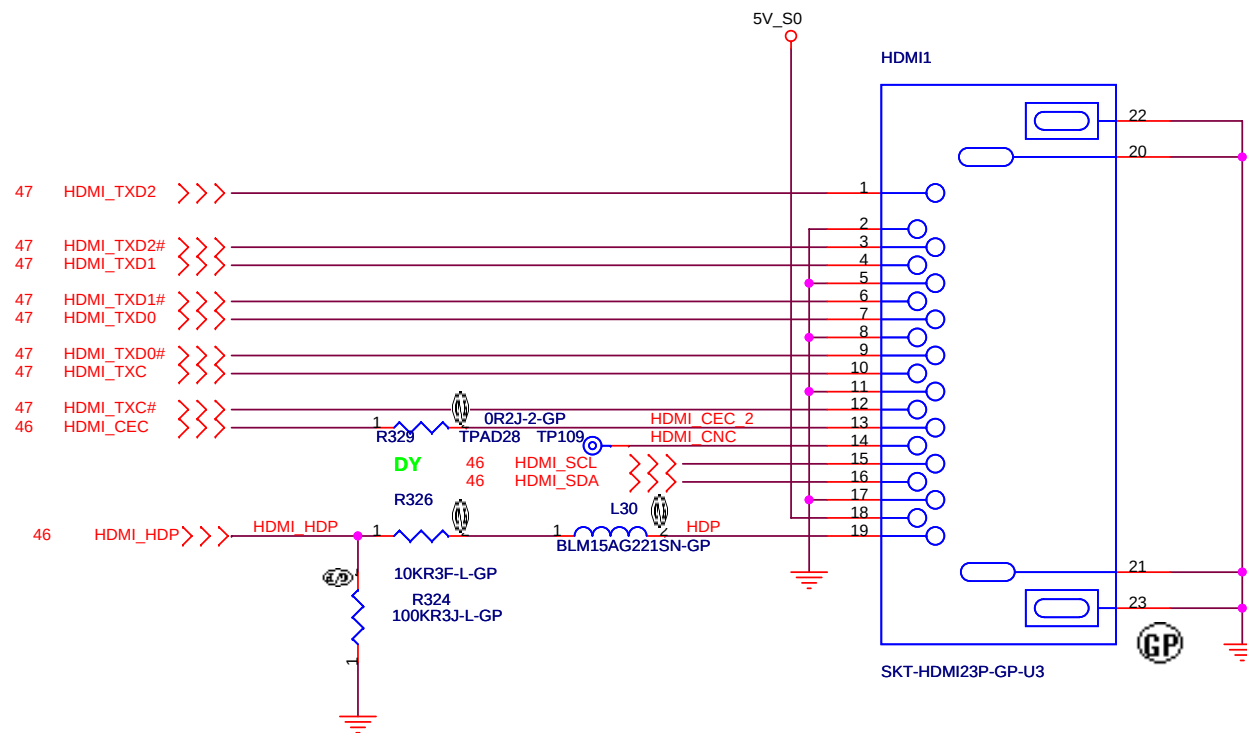
LED CONN



<Variant Name>

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Title			
LCD CONN & LED			
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[illegible]**HDMI**

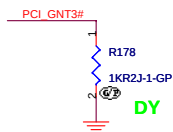
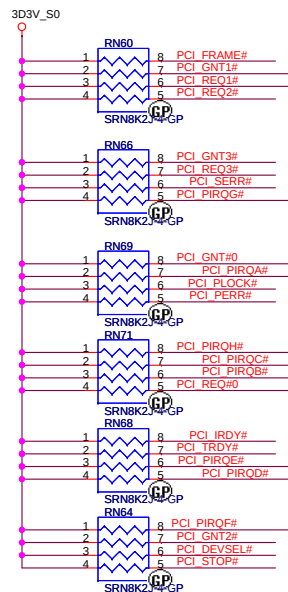
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ME3-Discrete

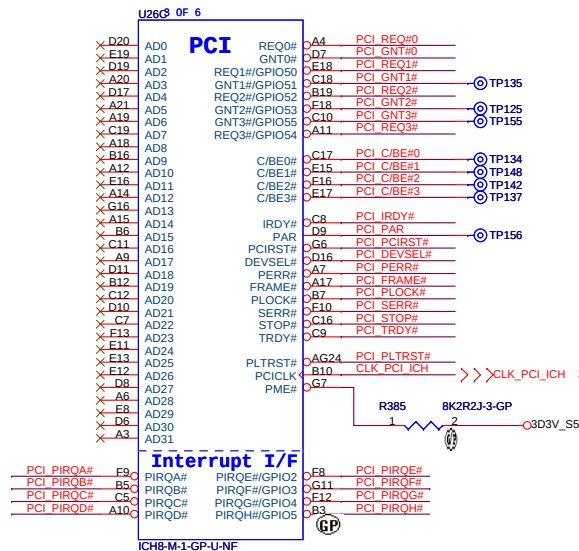
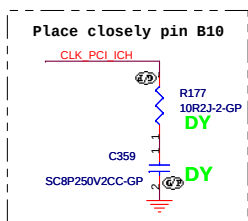
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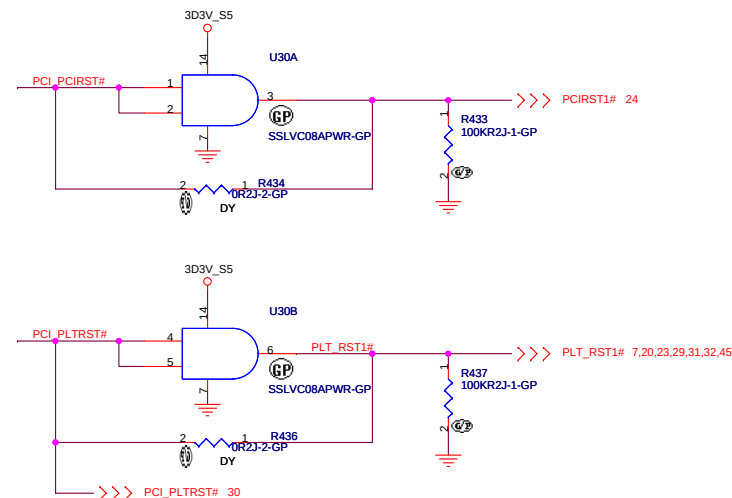
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D	E			



A16 swap override Strap	
PCI_GNT3#	Low= A16 swap override Enable High= Default *



Boot BIOS Strap		
PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *



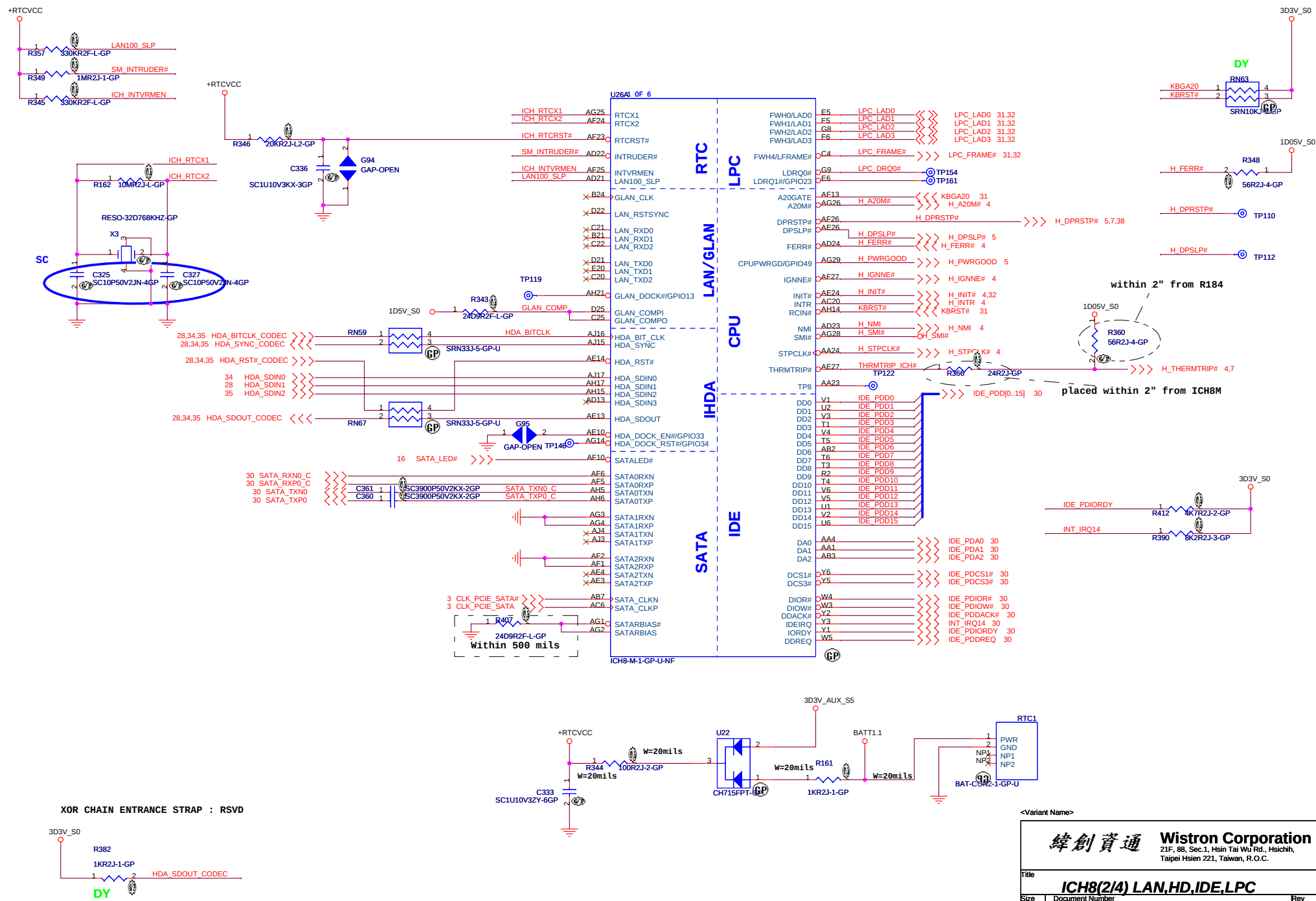
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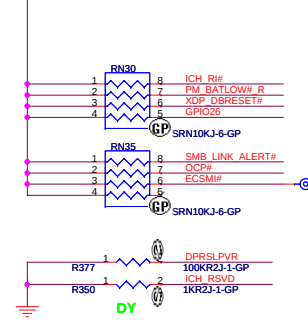
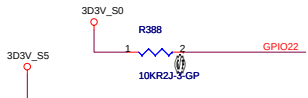
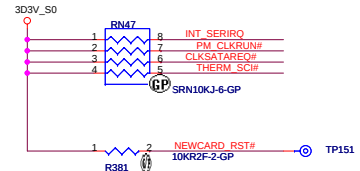
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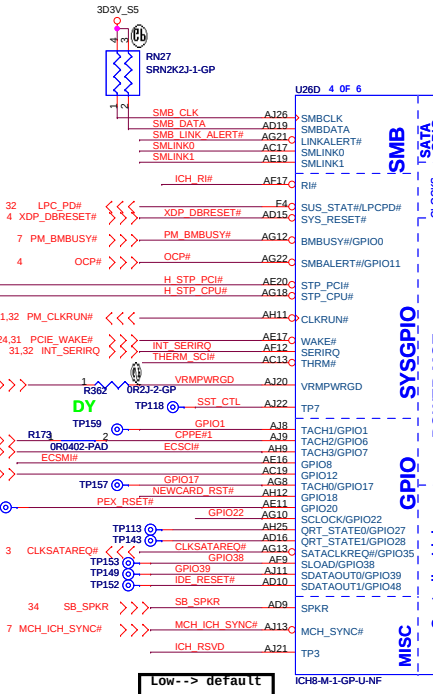
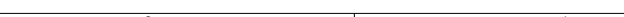
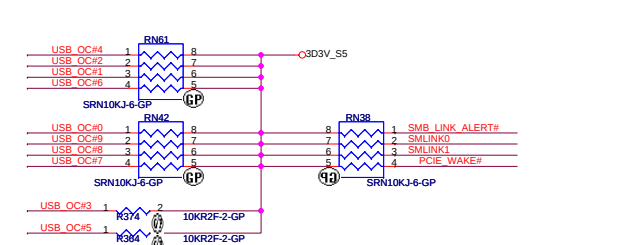
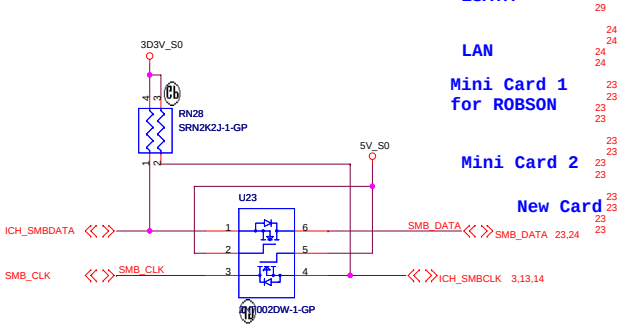
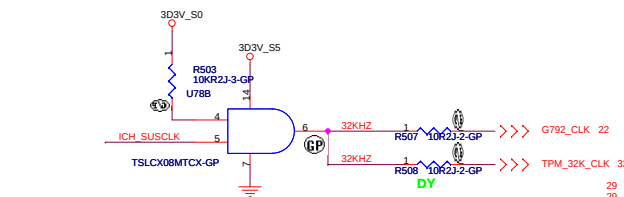
Size A3 Document Number: **ME3-Discrete** Rev

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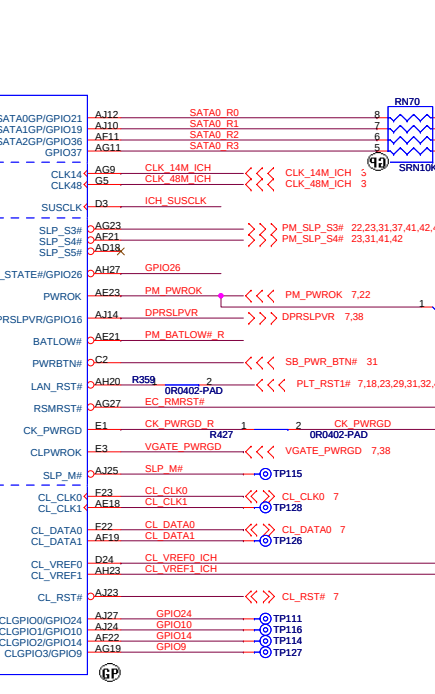
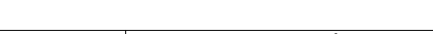
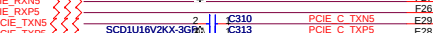
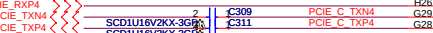
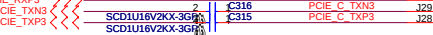




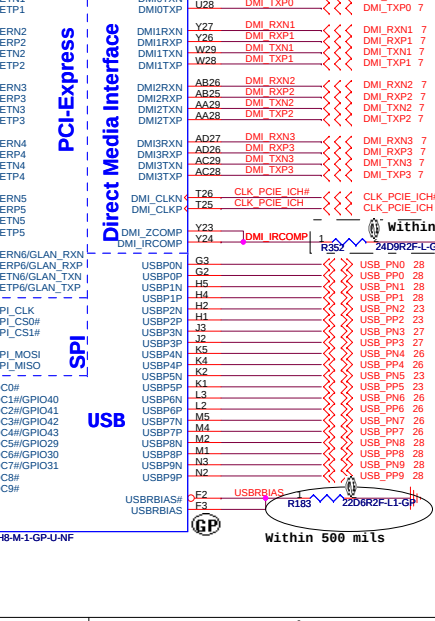
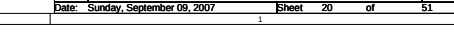
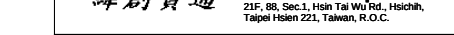
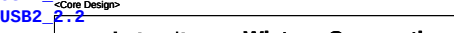
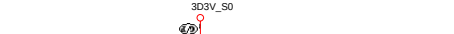
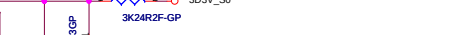
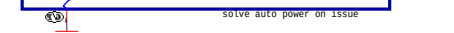
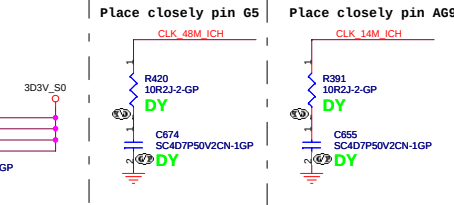
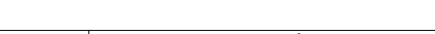
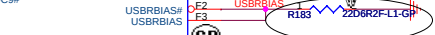
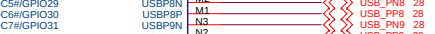
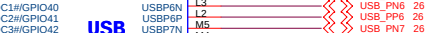
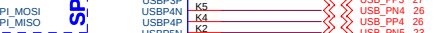
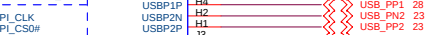
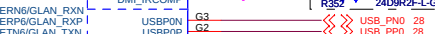
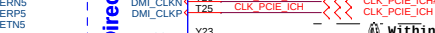
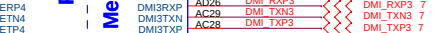
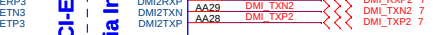
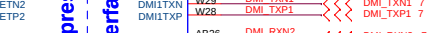
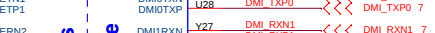
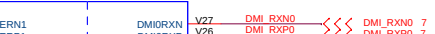
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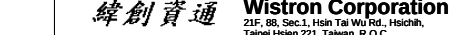
Low--> default
High--> No boot

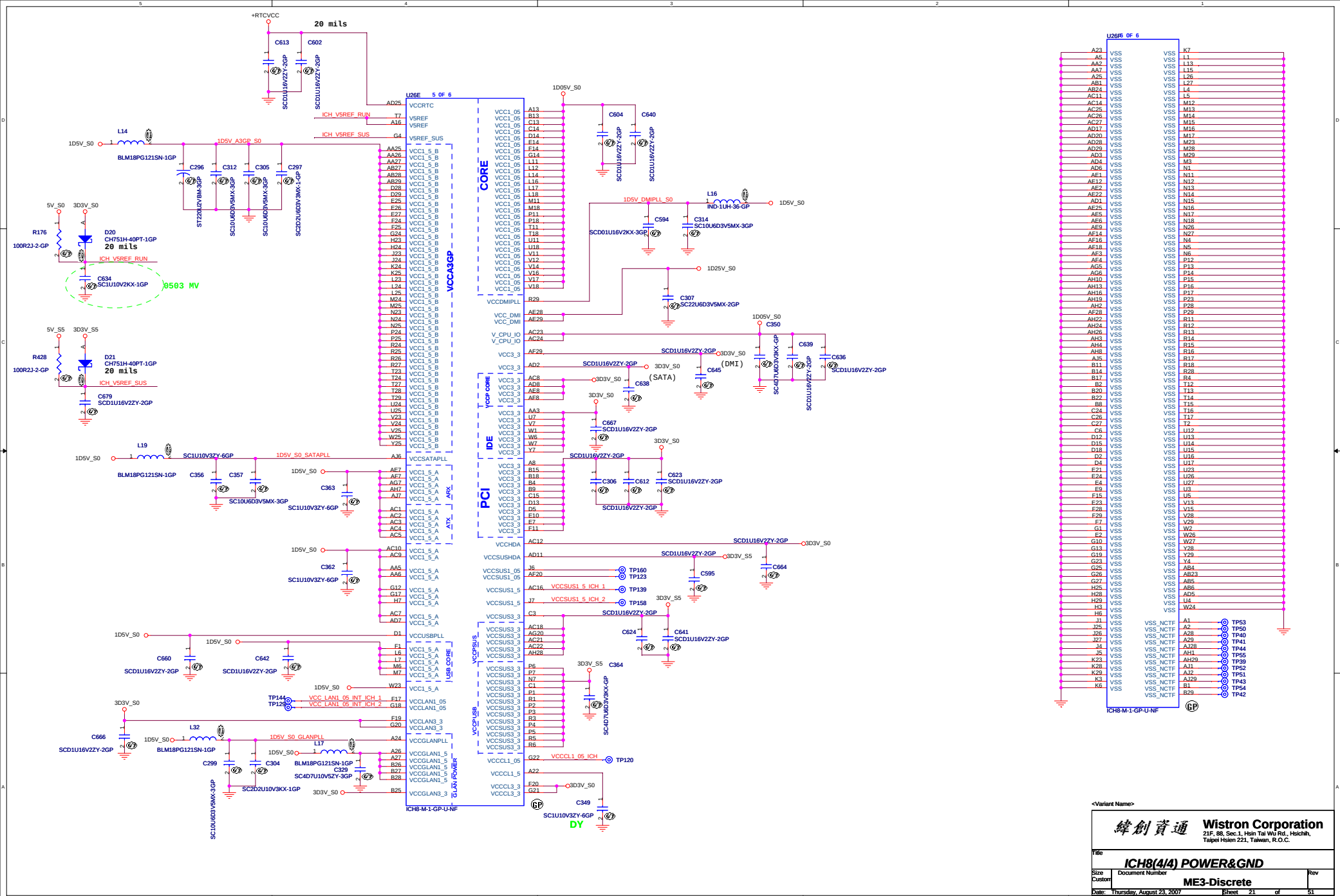


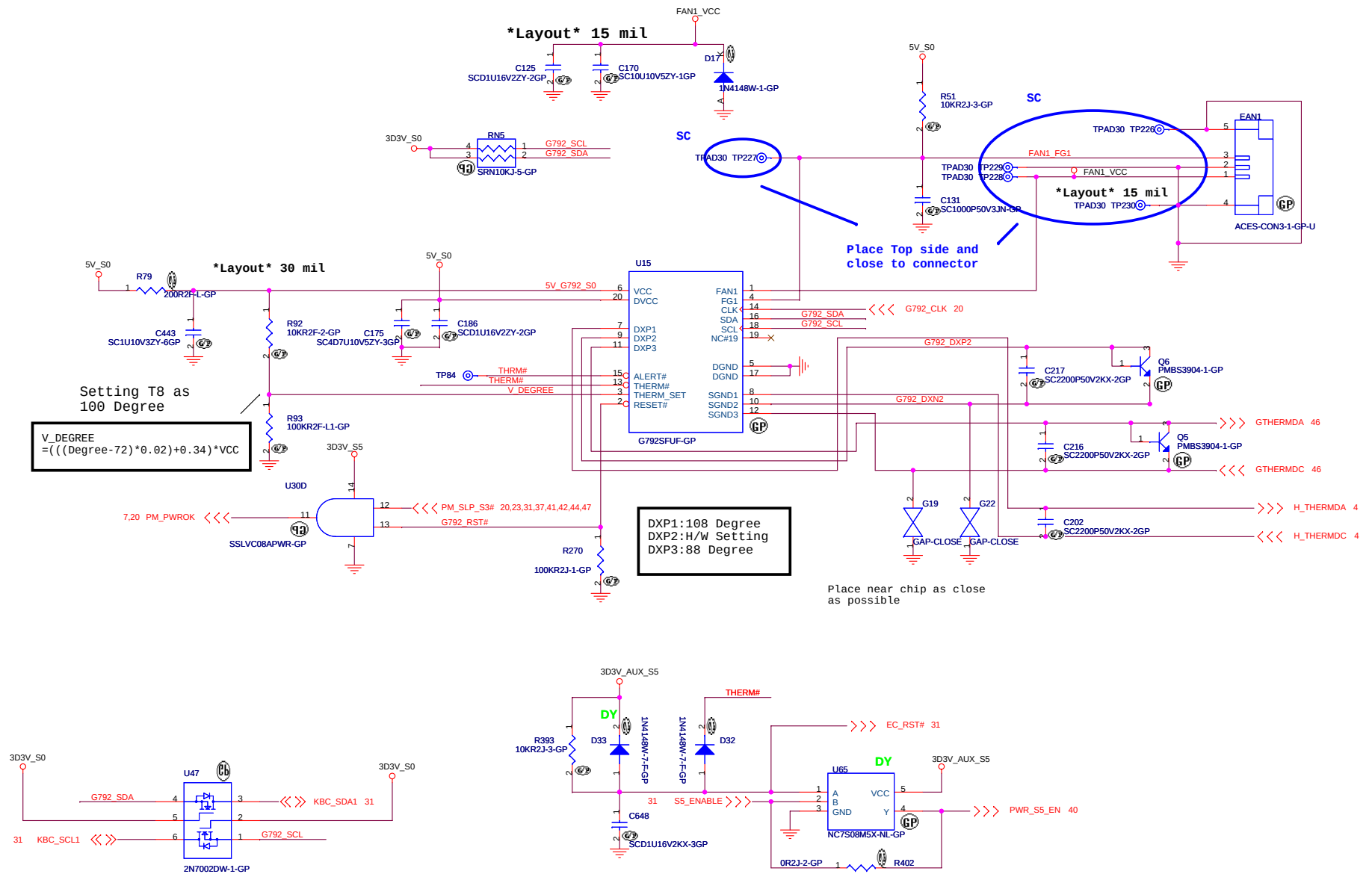
Low--> default
High--> No boot



Low--> default
High--> No boot





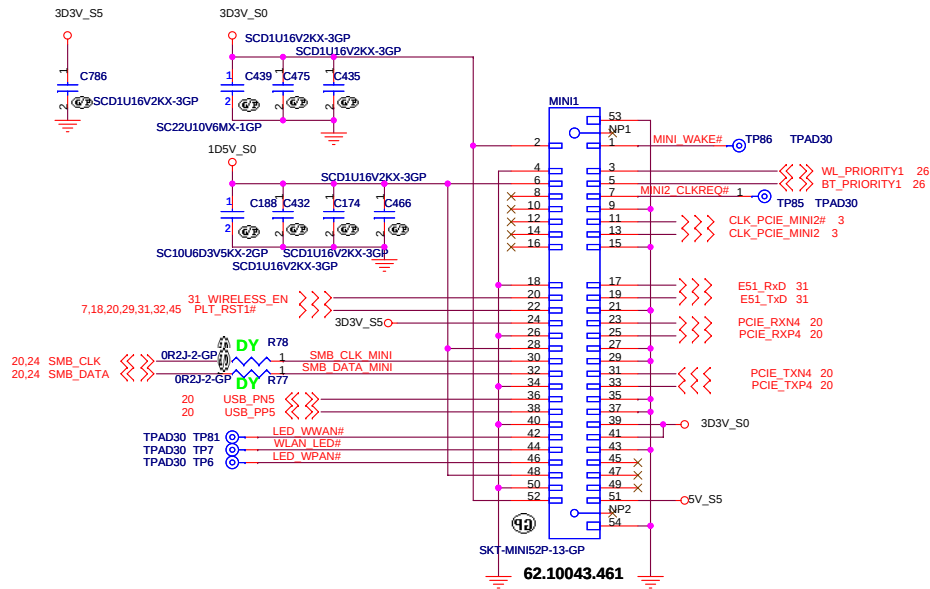


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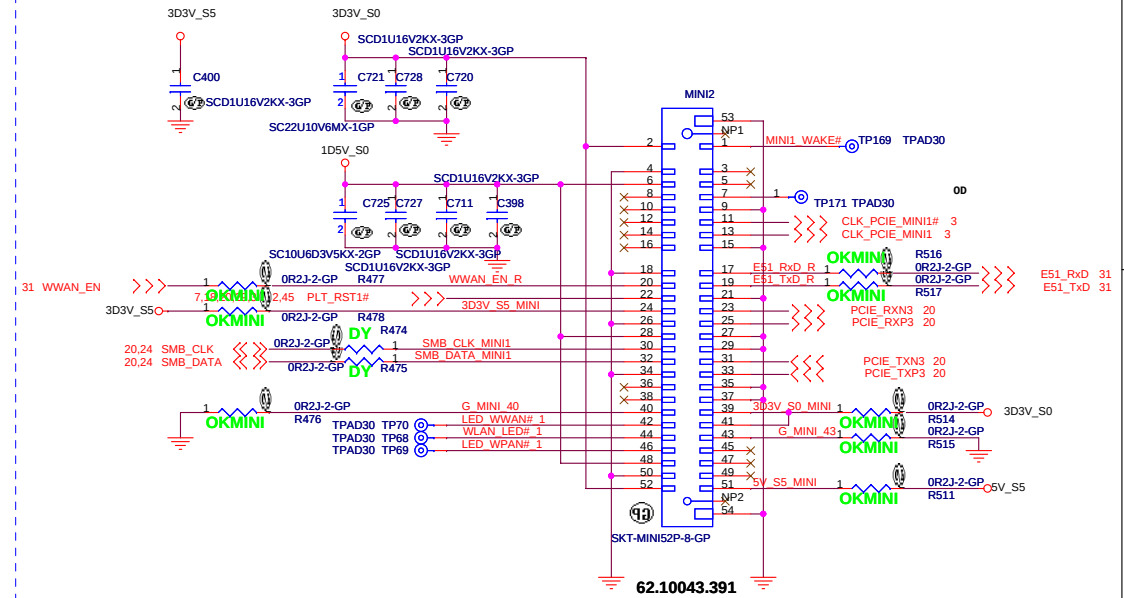
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

Title		
Thermal/Fan Controller G792		
Size	Document Number	Rev
Custom	ME3-Discrete	
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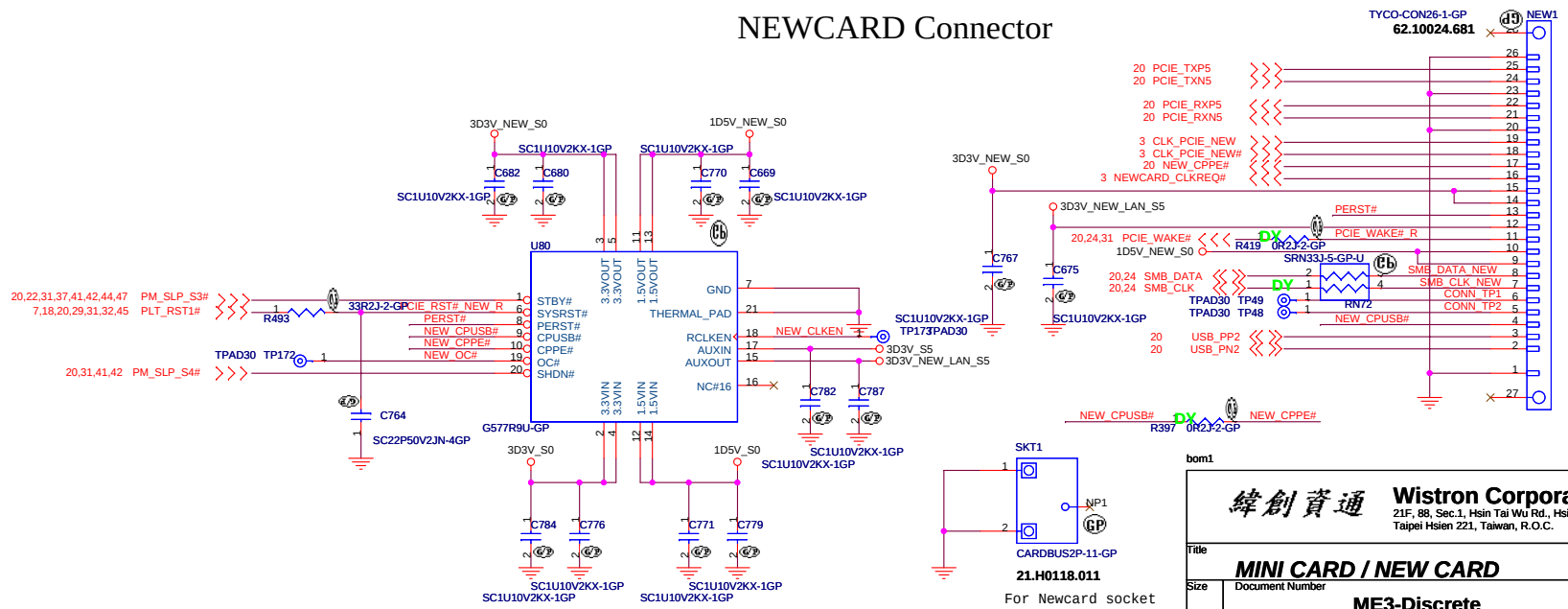
Mini Card Connector



Mini Card Connector for ROBSON

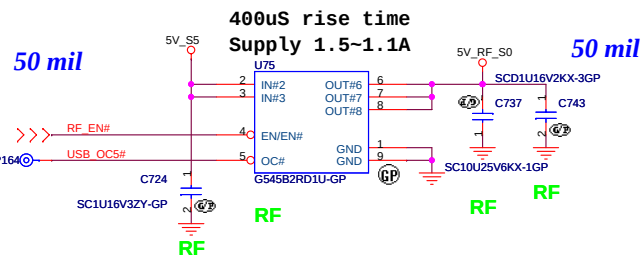
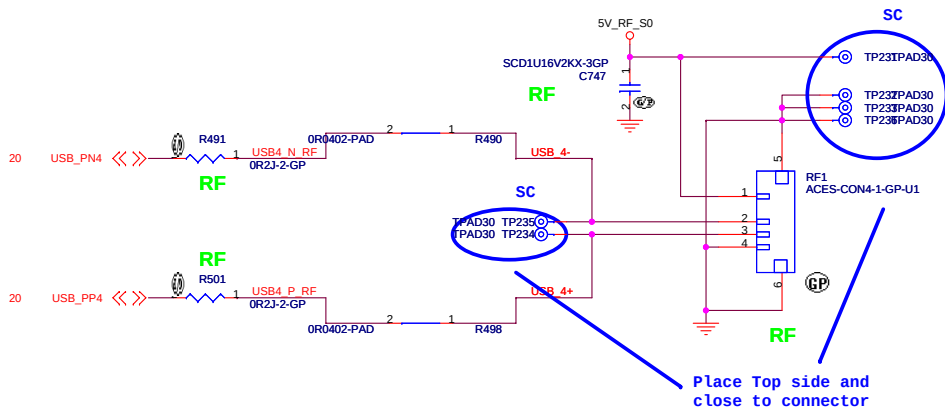


NEWCARD Connector

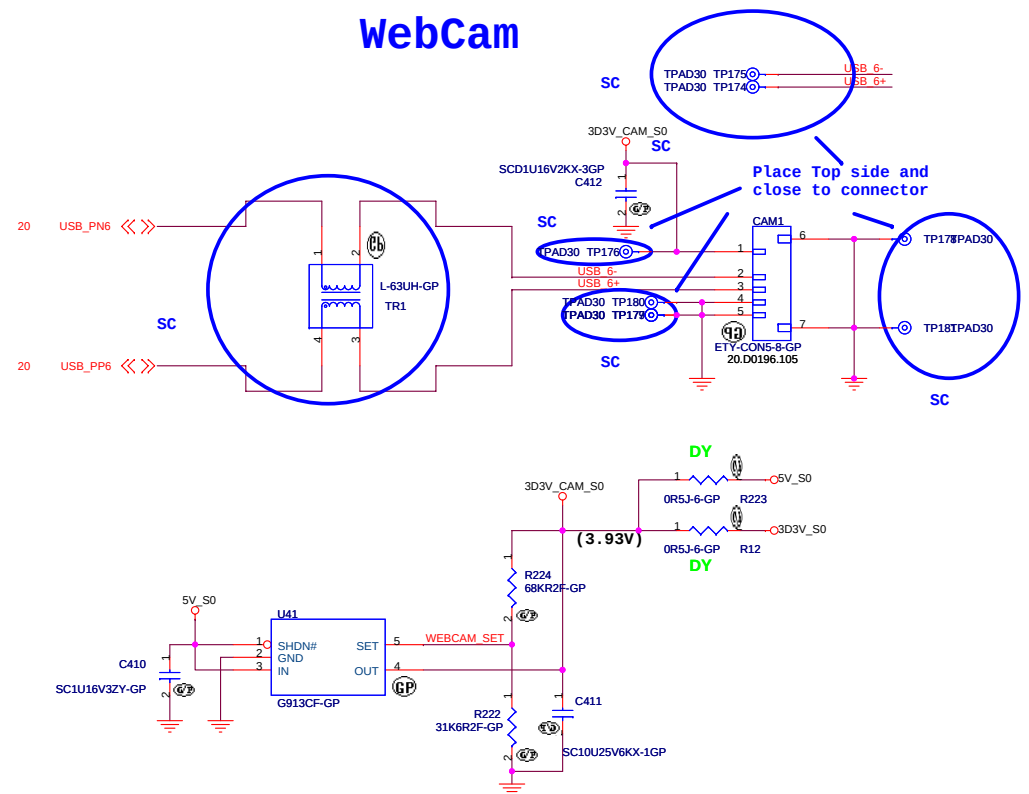


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Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
MINI CARD / NEW CARD	
Title MINI CARD / NEW CARD	Document Number ME3-Discrete
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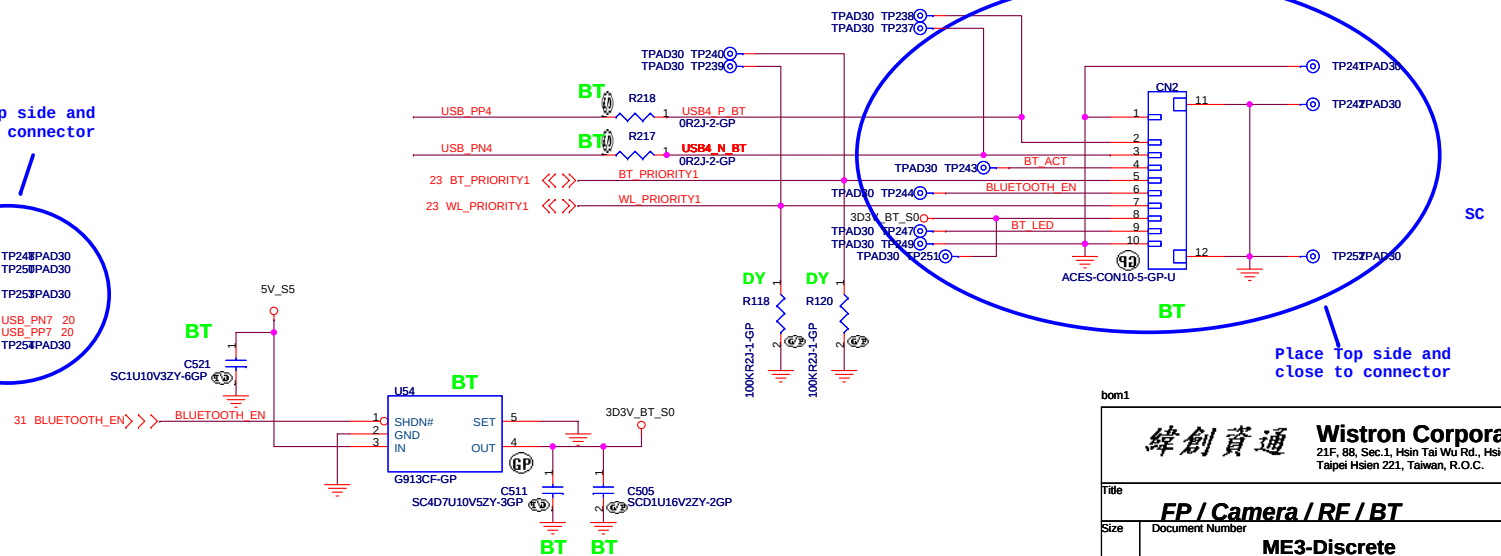
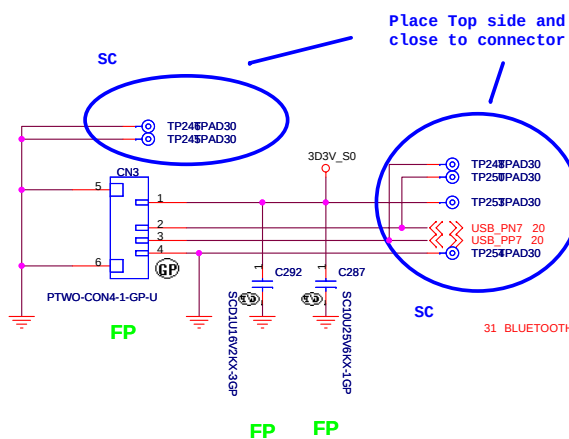
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WebCam



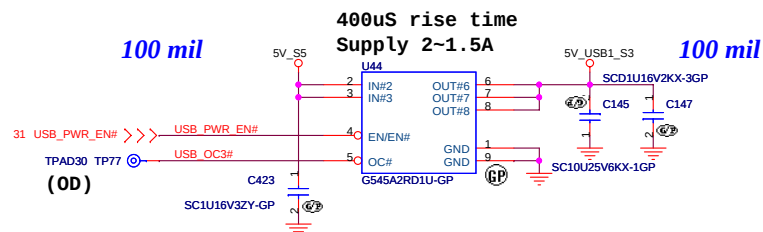
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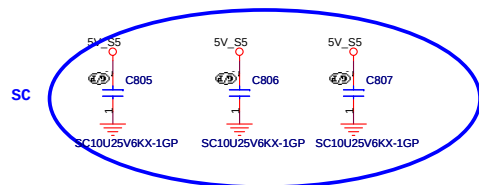
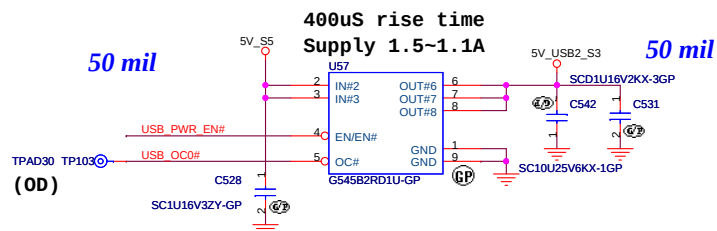
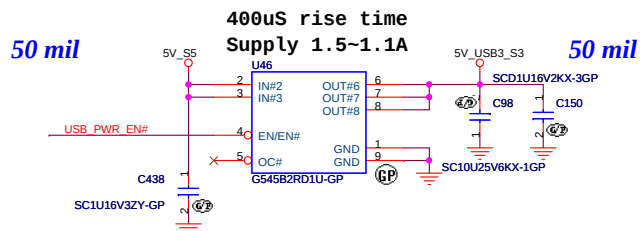
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緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
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FP / Camera / RF / BT			
Size	Document Number		Rev
ME3-Discrete			
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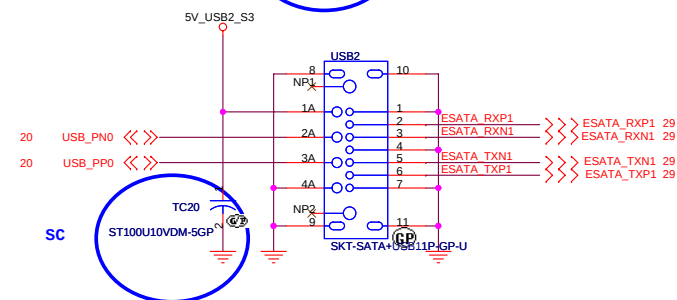
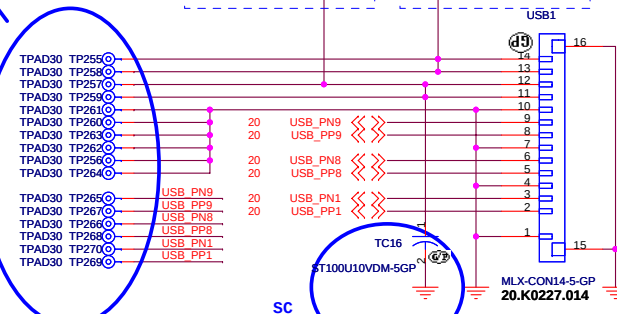
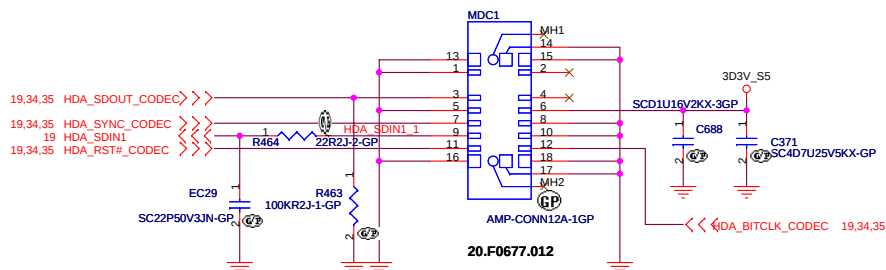
USB PORT



Place Top side and close to connector



MDC 1.5 CONN



bom1

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Taipei Hsien 221, Taiwan, R.O.C.

Title

USB / MDC / E-SATA CON

Size

Document Number

ME3-Discrete

Rev

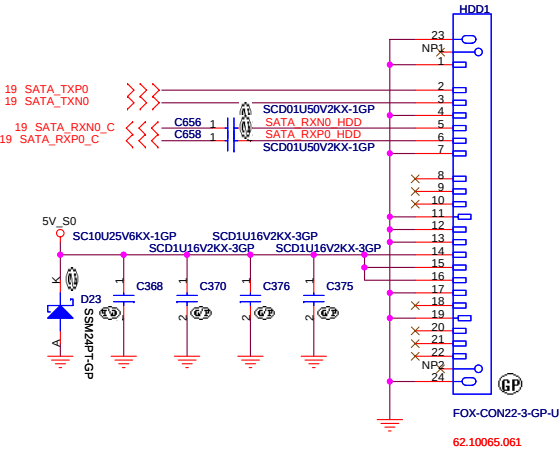
Date: Wednesday, September 19, 2007

Sheet 28

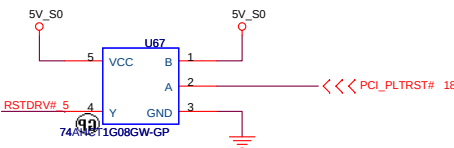
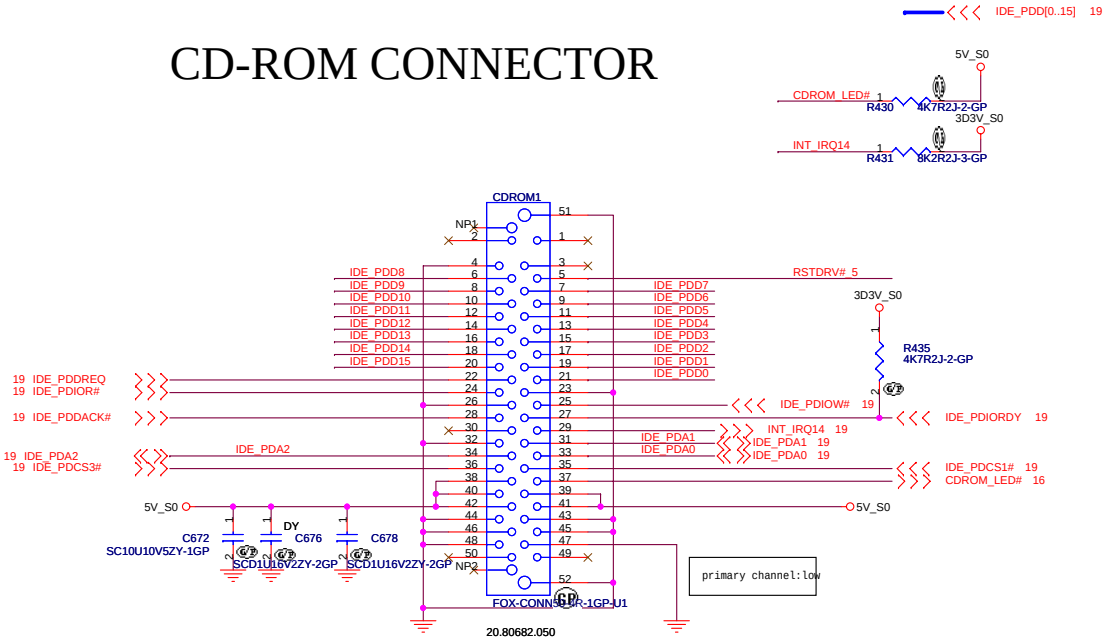
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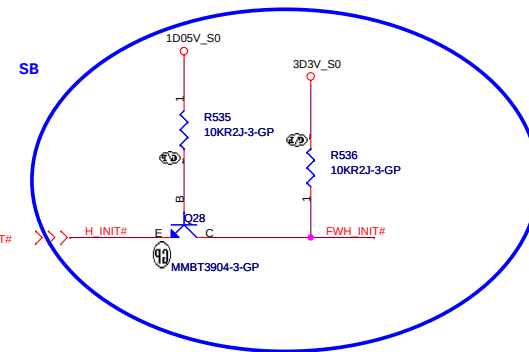
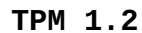
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SATA HD Connector

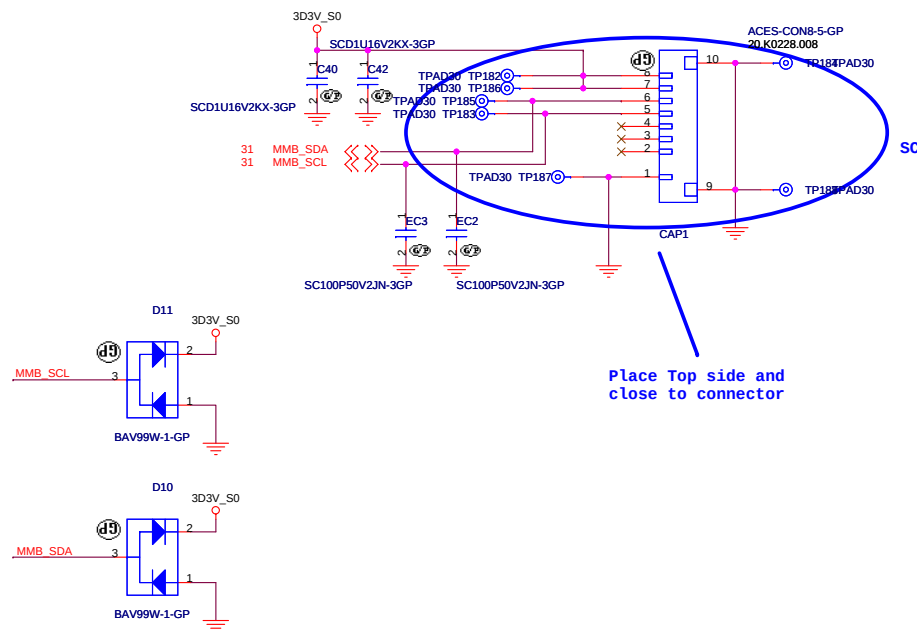


CD-ROM CONNECTOR



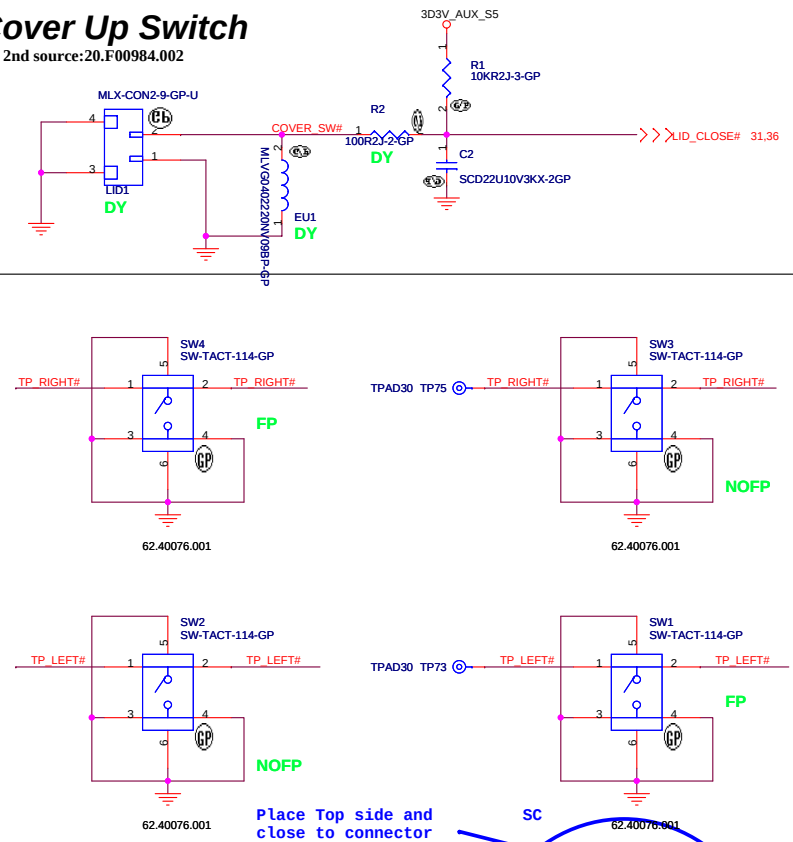


CAPACITY BUTTON



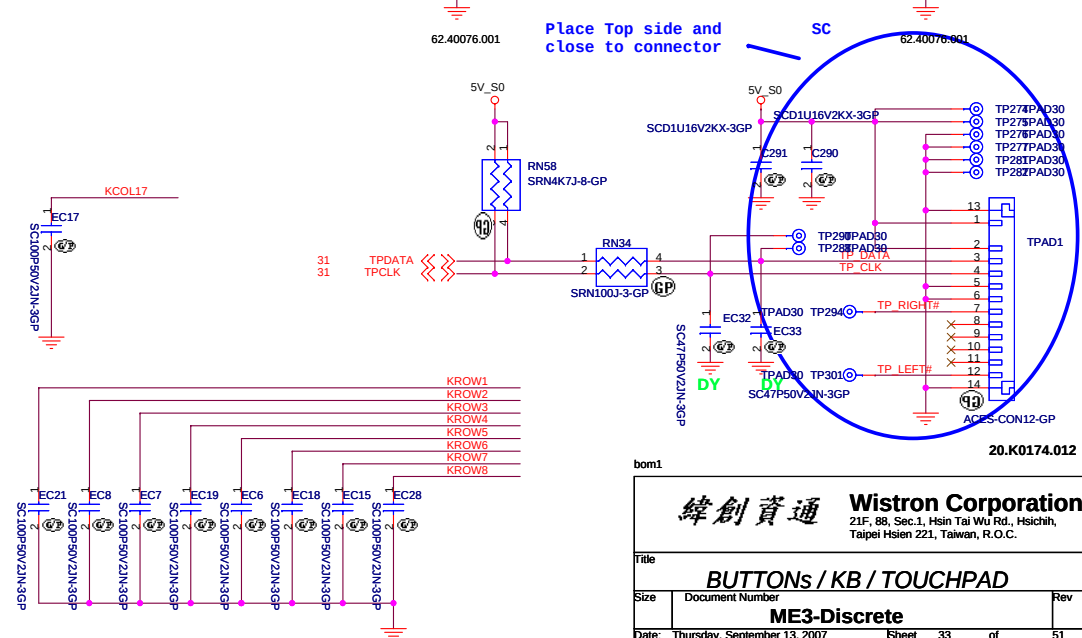
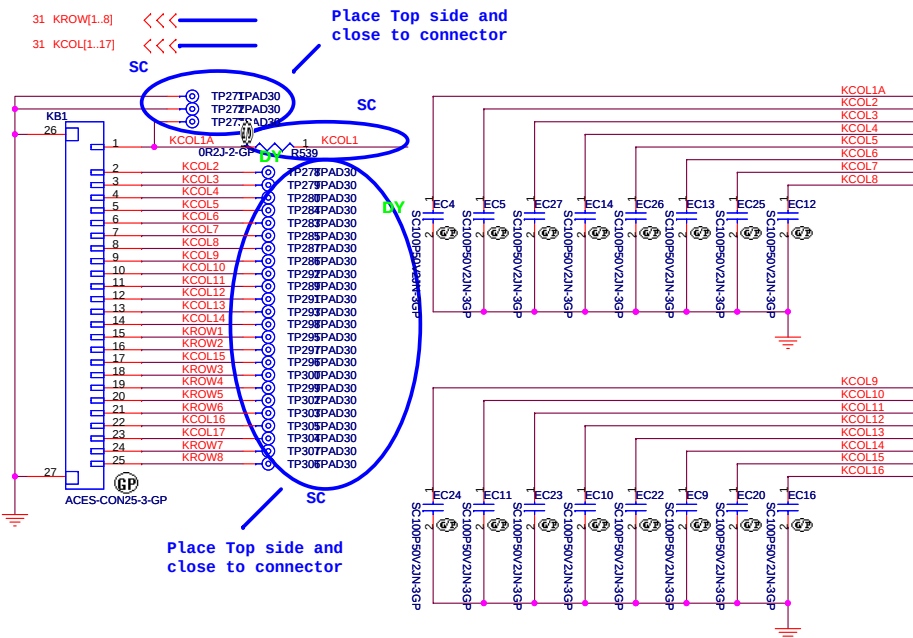
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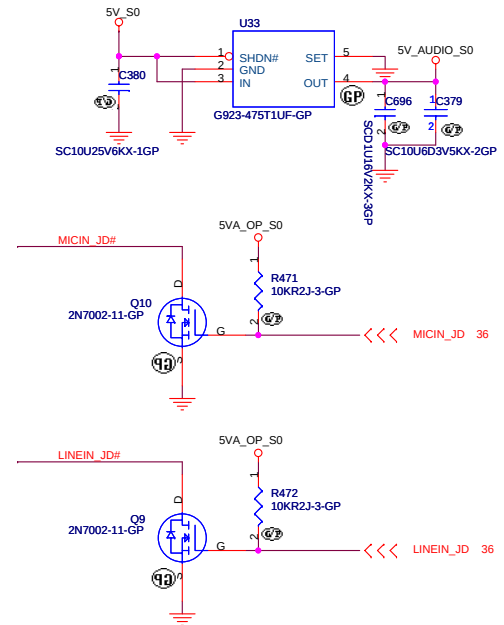
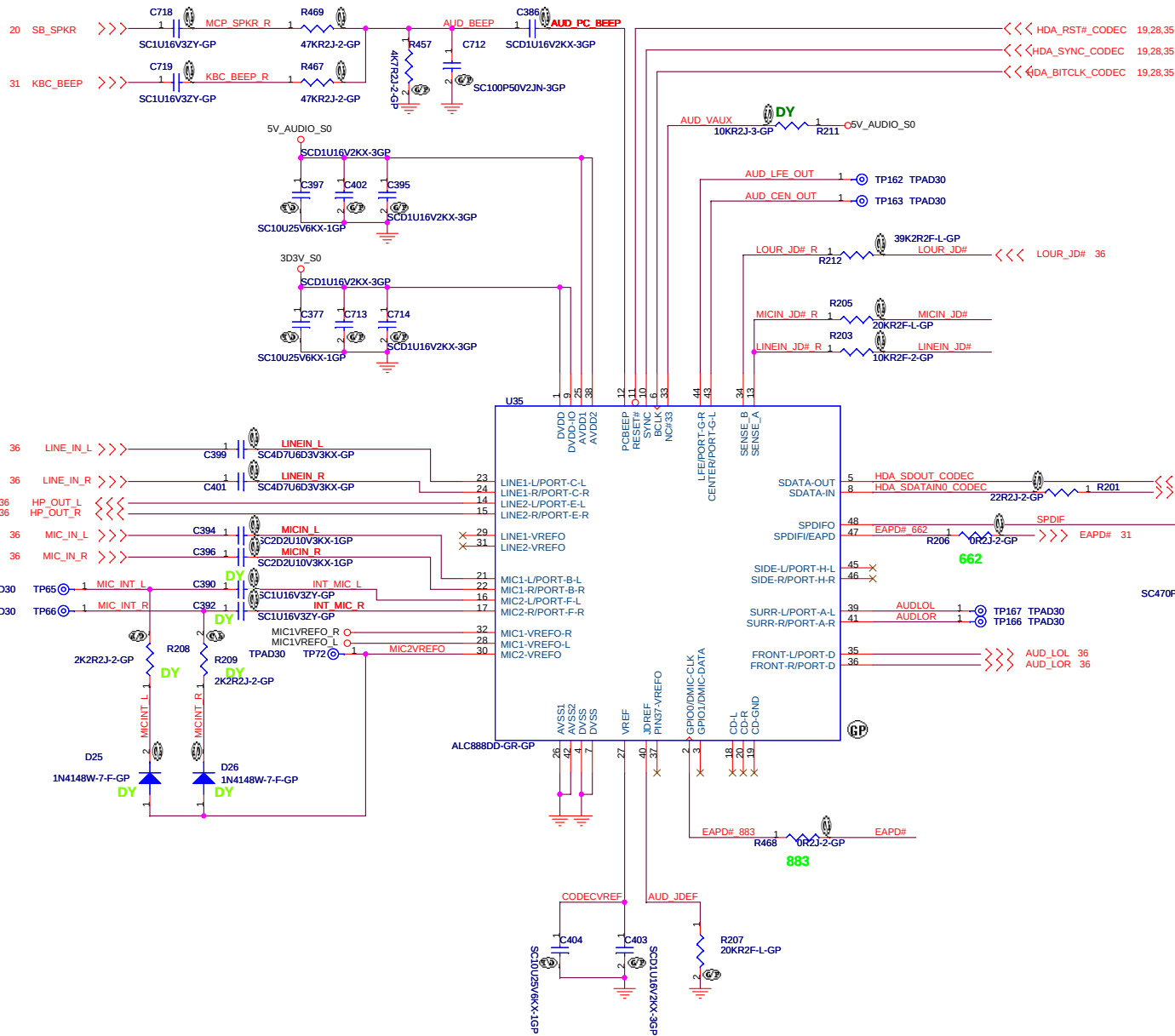
Internal KeyBoard CONN

EMI Bypass cap.



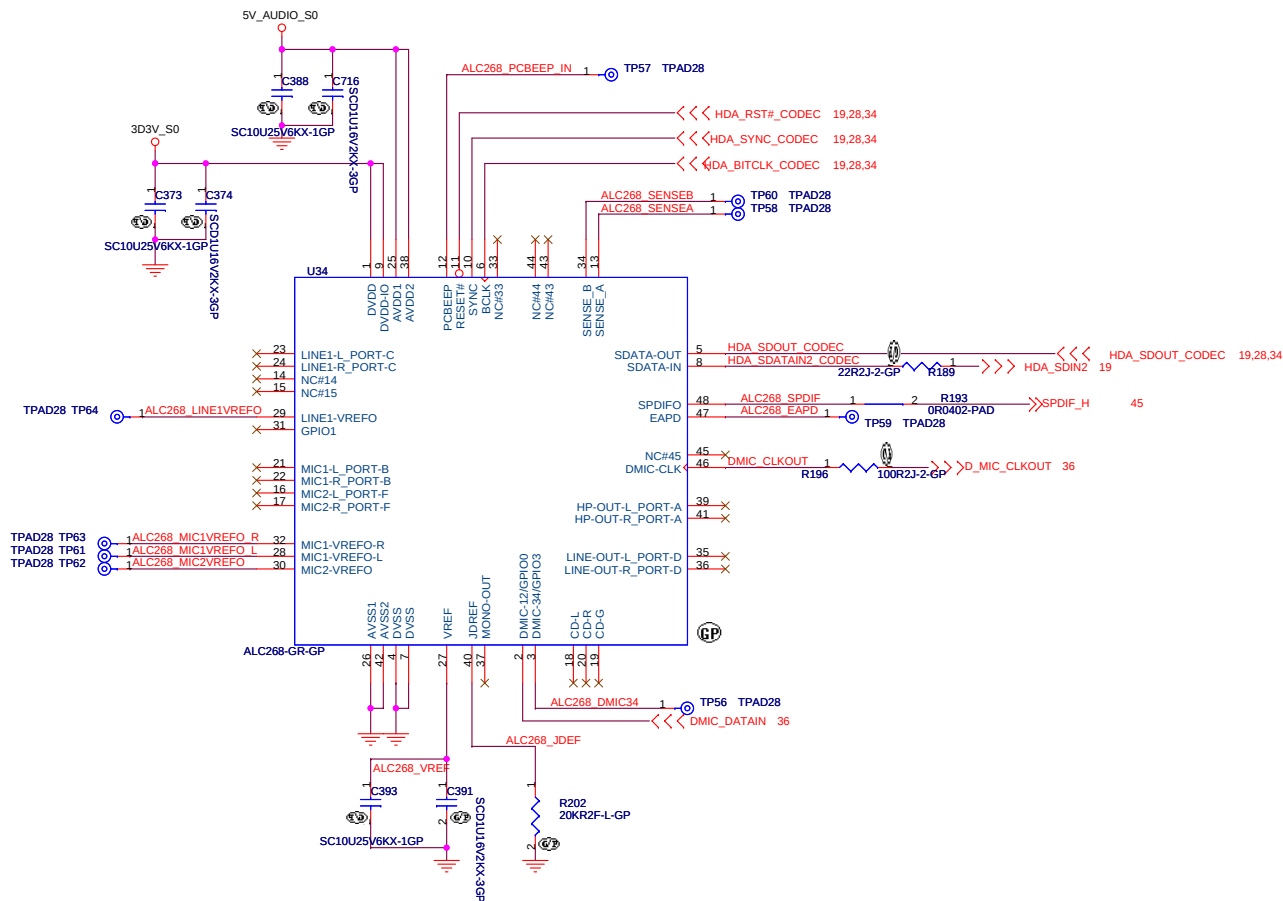
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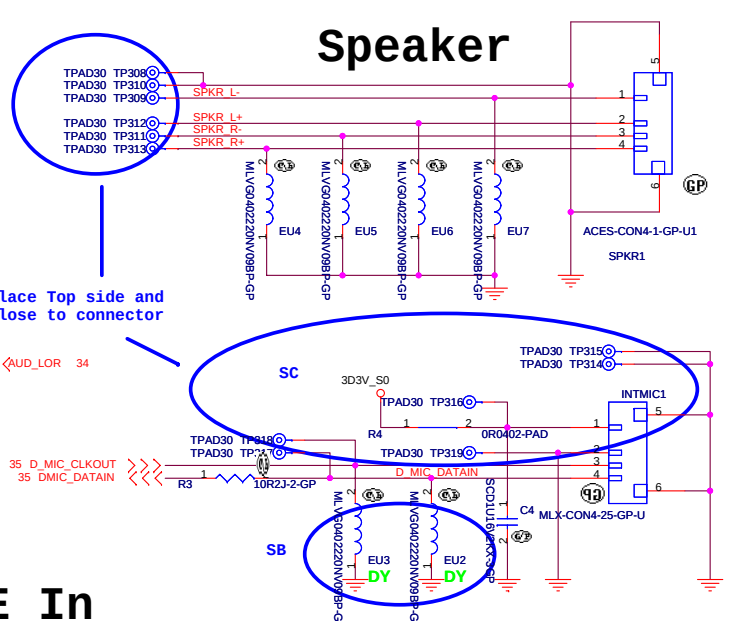
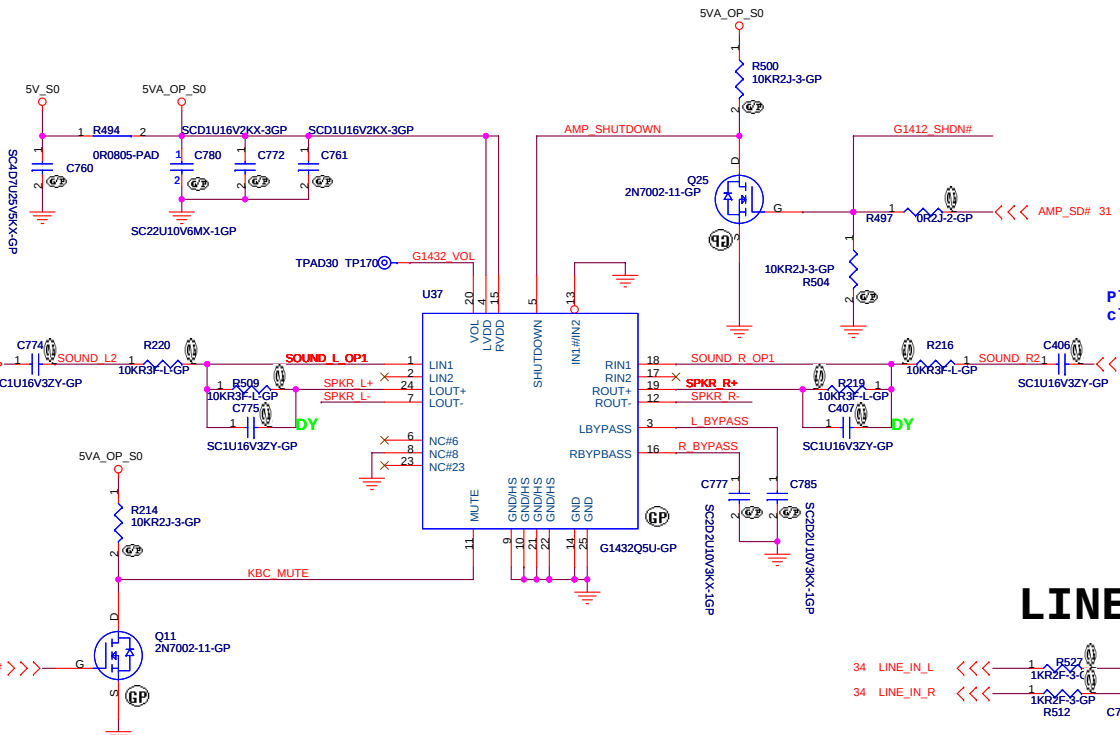
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21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title			
<i>BUTTONs / KB / TOUCHPAD</i>			
Size	Document Number		Rev
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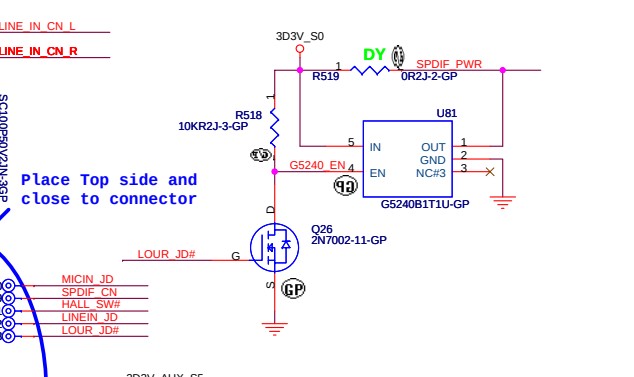
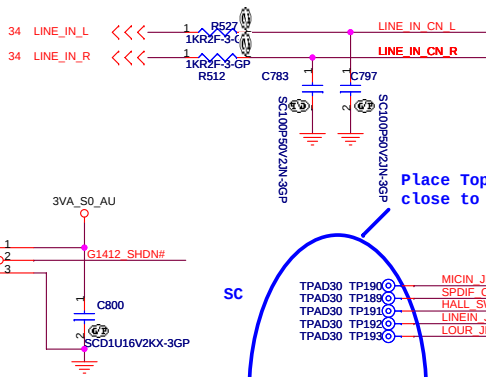
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Title	ALC888
Size	Document Number
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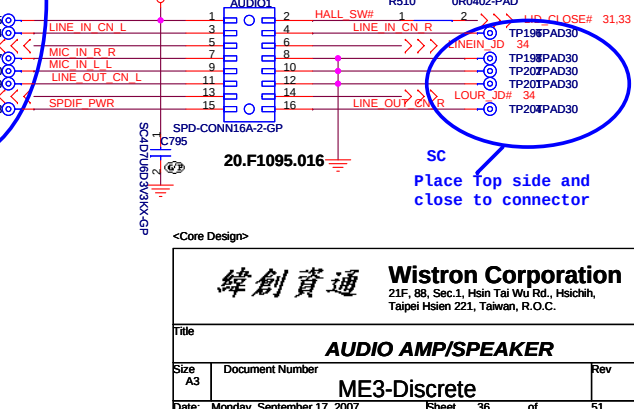
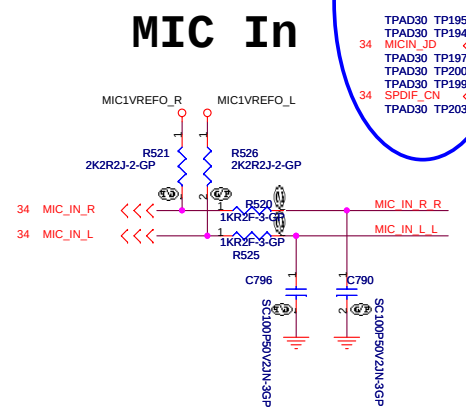
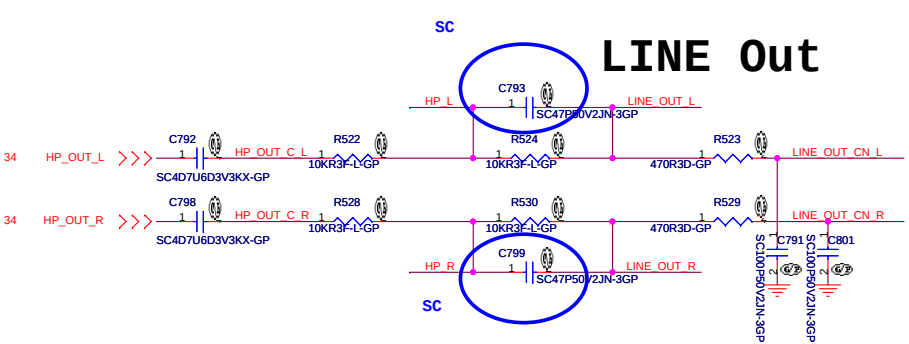




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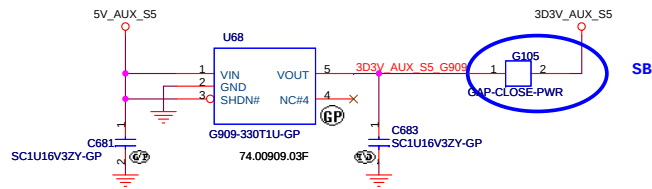


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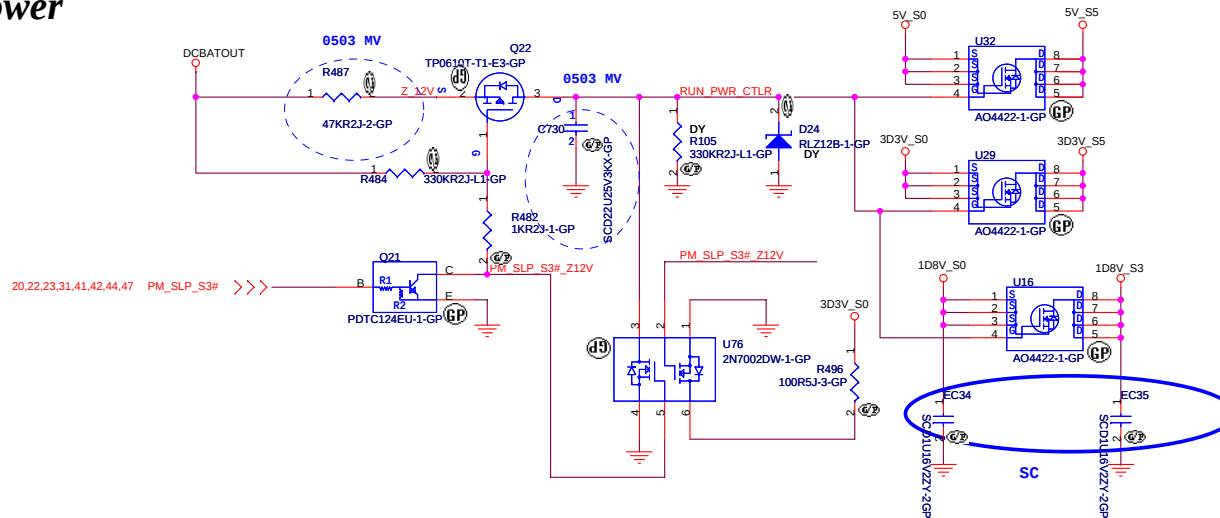


5V_AUX_S5 TO 3D3V_AUX_S5

Aux Power 3D3V_AUX_S5



Run Power



<Core Design>

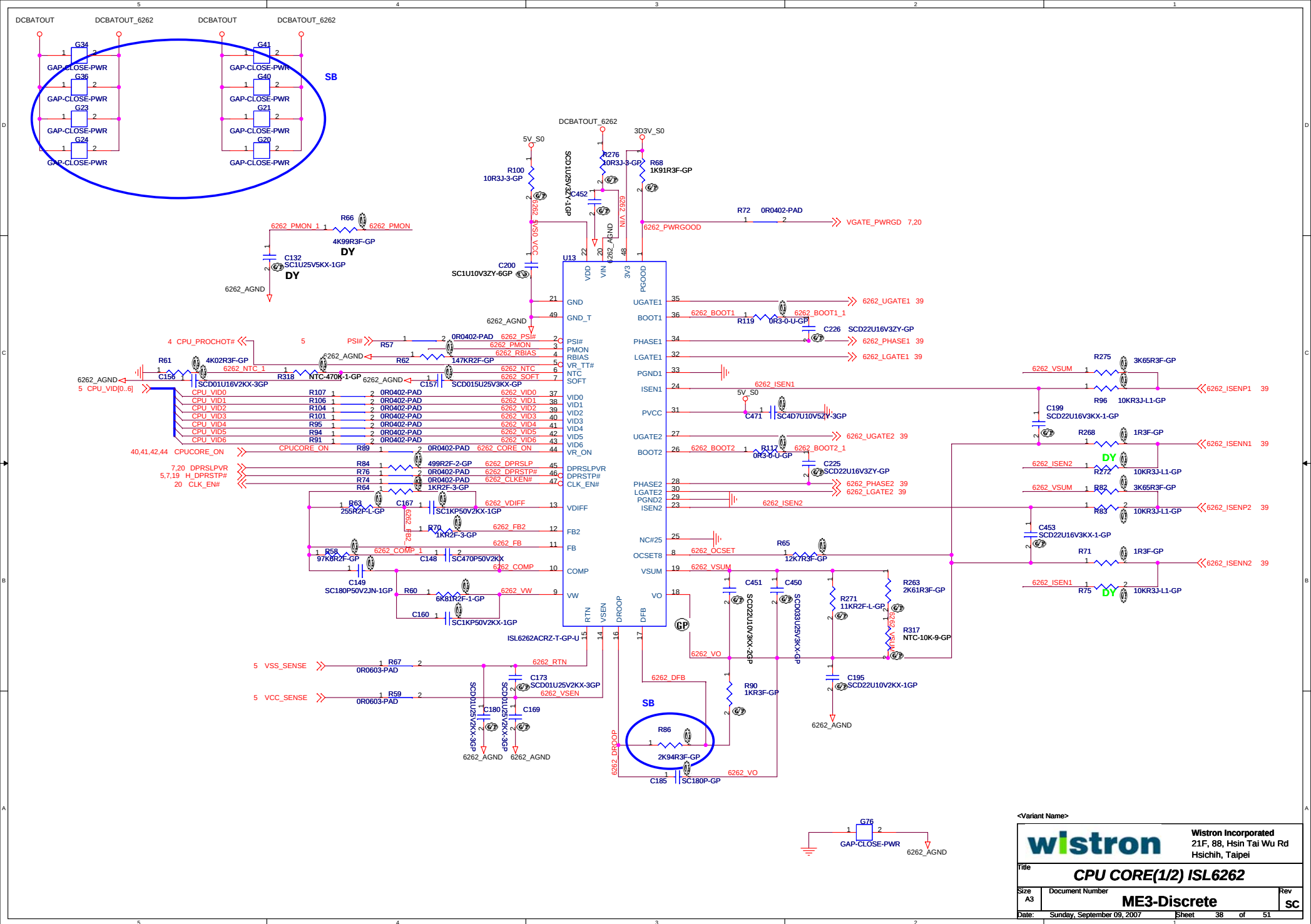
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	
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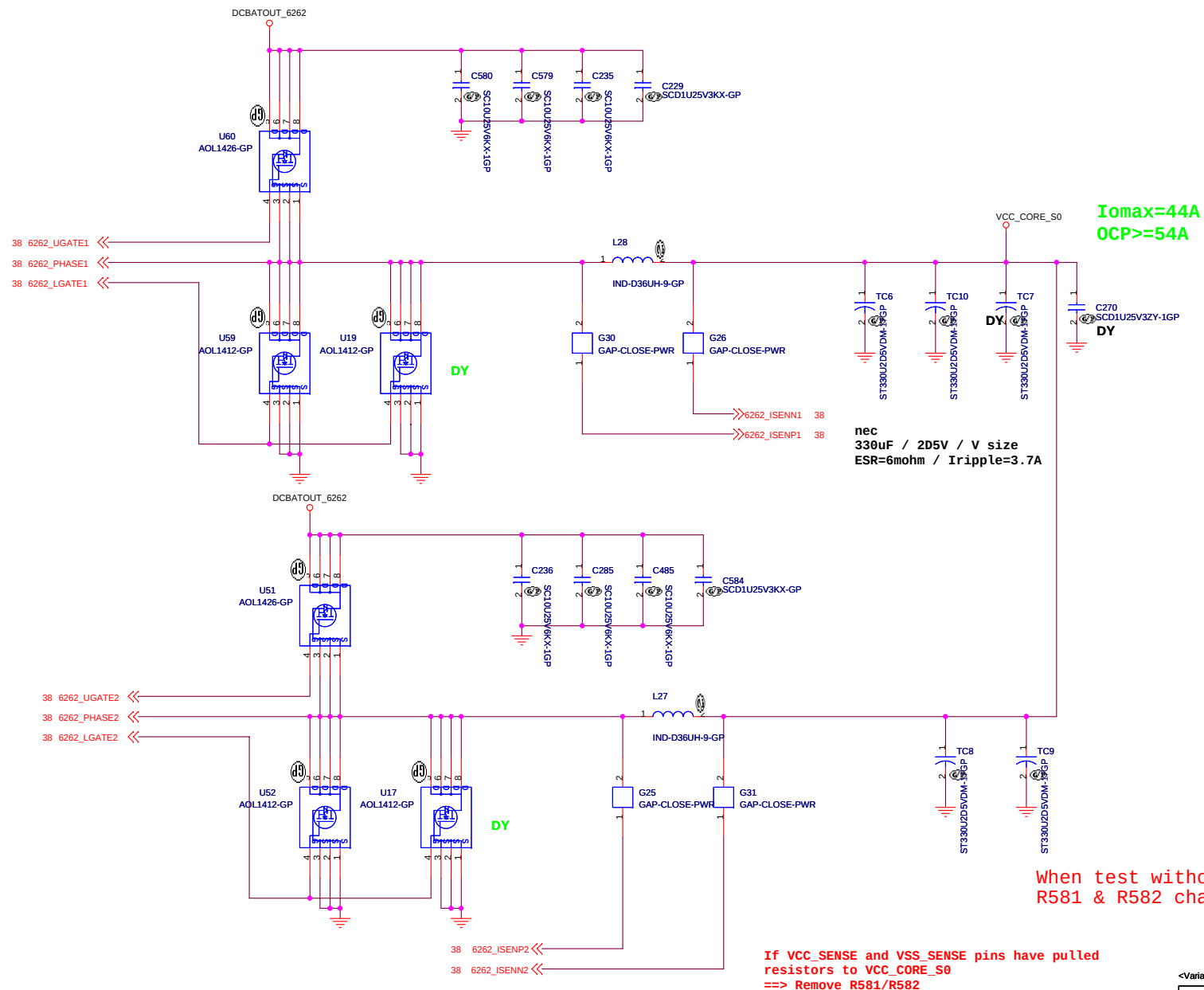
PWRPLANE&RESETLOGIC

Size A3	Document Number ME3-Discrete	Rev
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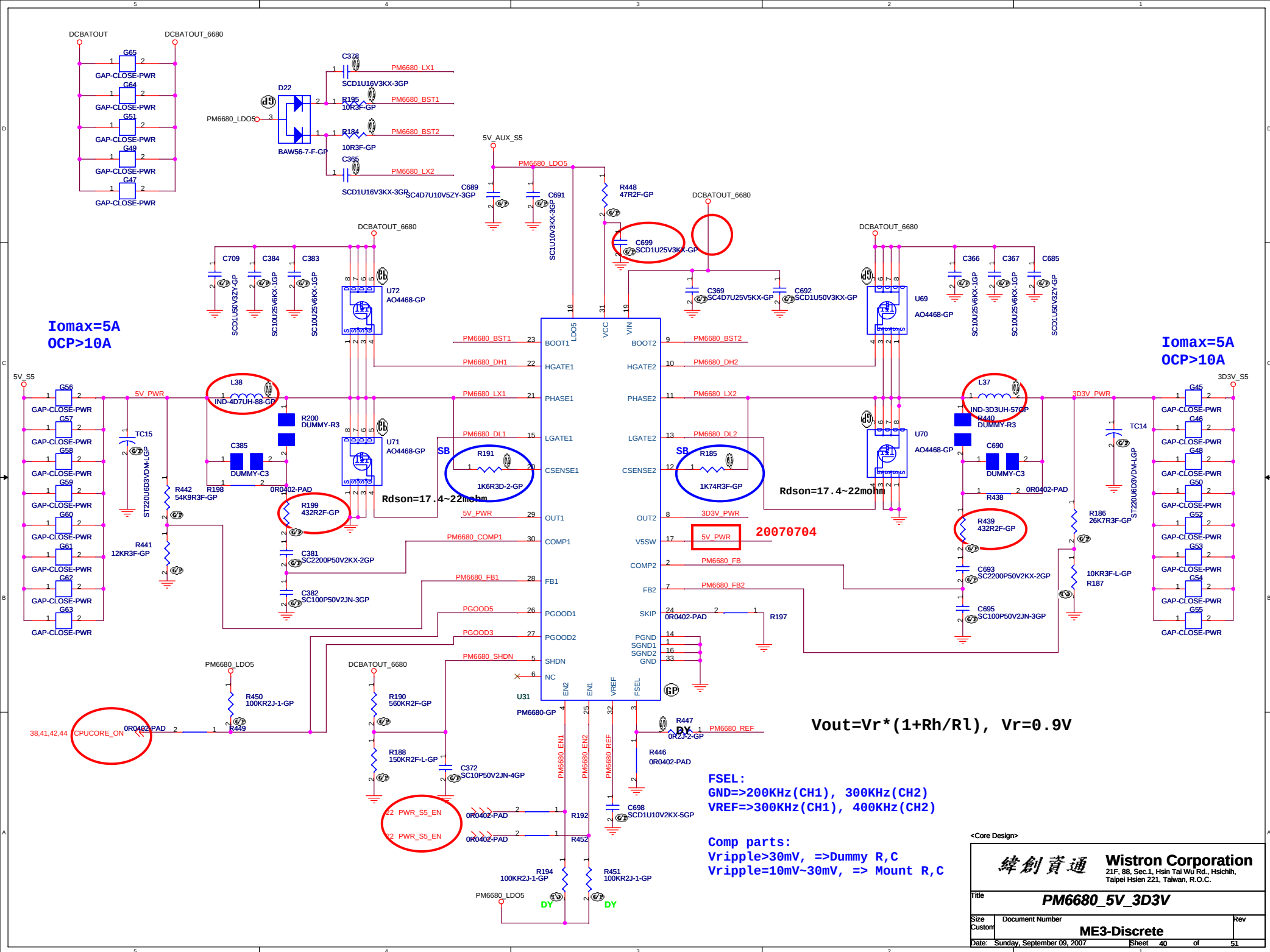
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wistron

Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsichih, Taipei

Title			CPU CORE(2/2) ISL6262	
Size	Document Number		ME3-Discrete	
A3			SC	
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<Core Design>

緯創資通

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

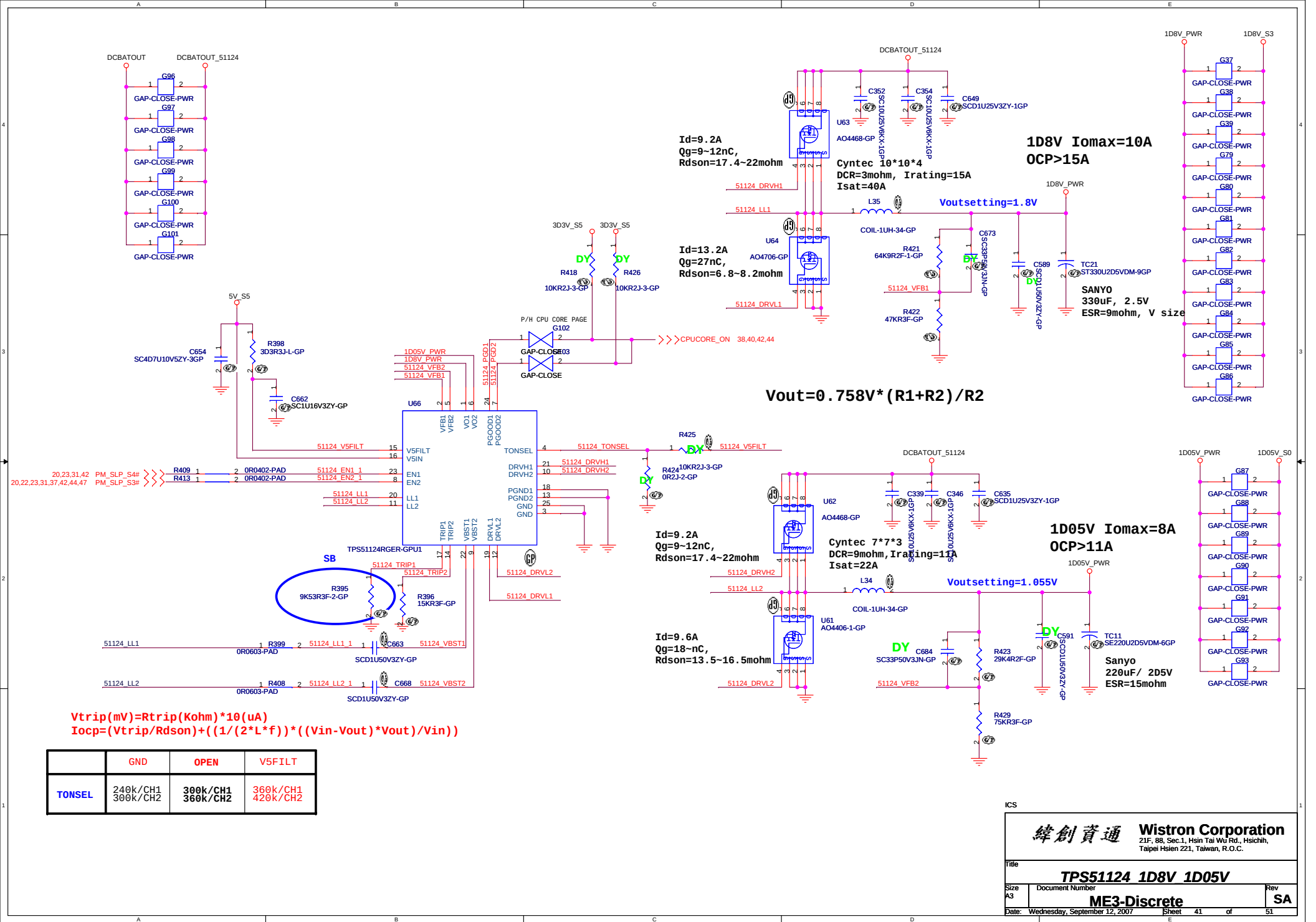
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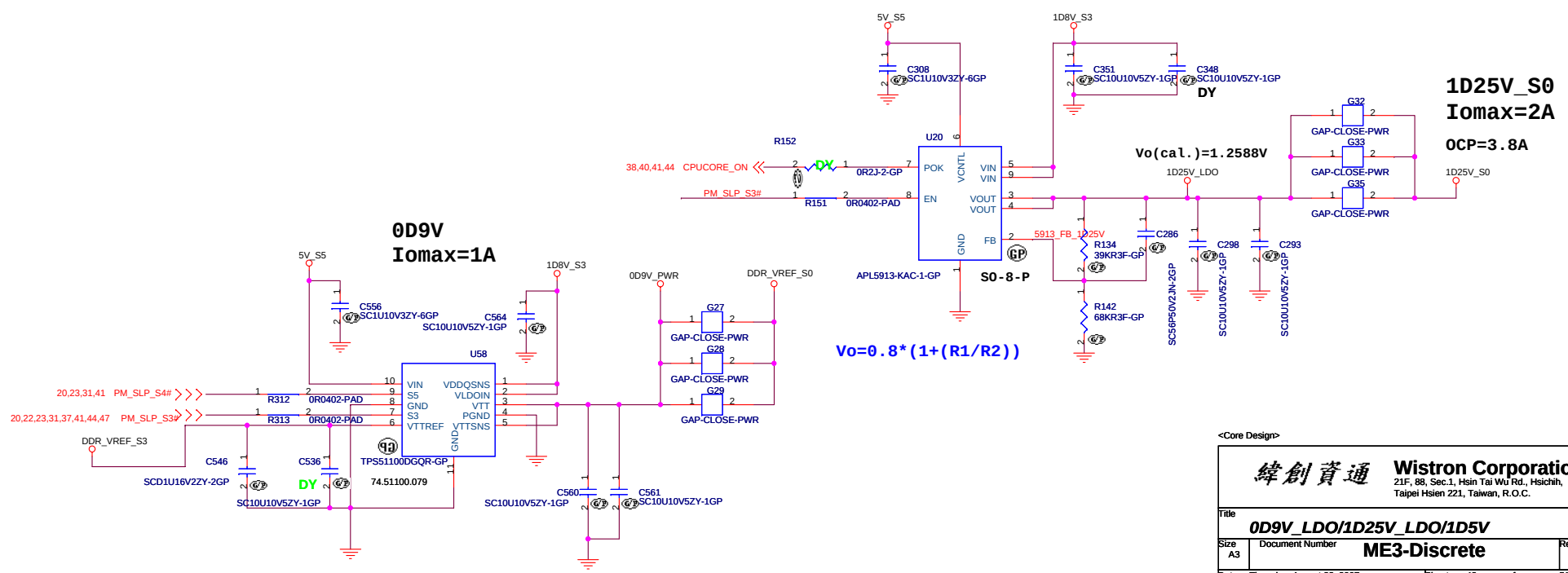
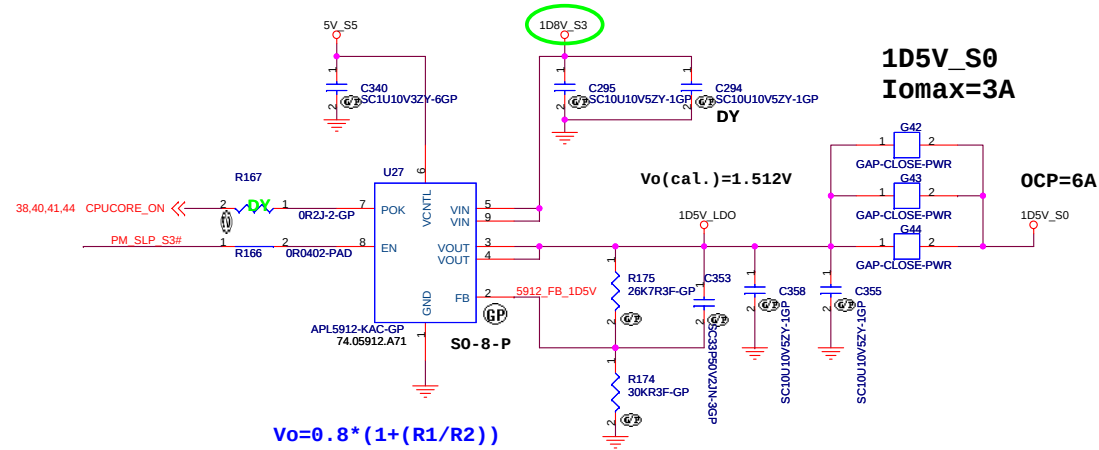
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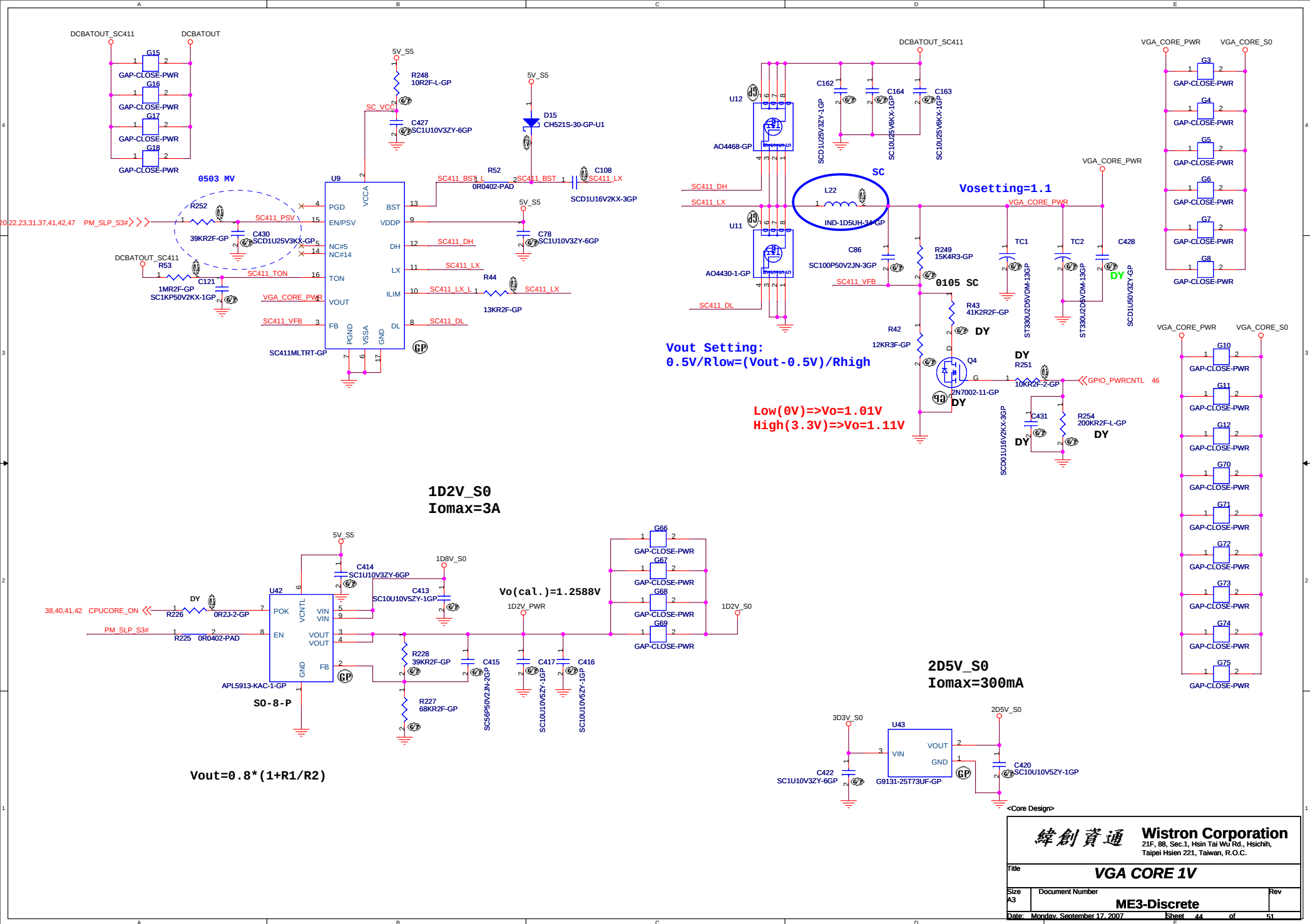
ME3-Discrete

Date: Sunday, September 09, 2007

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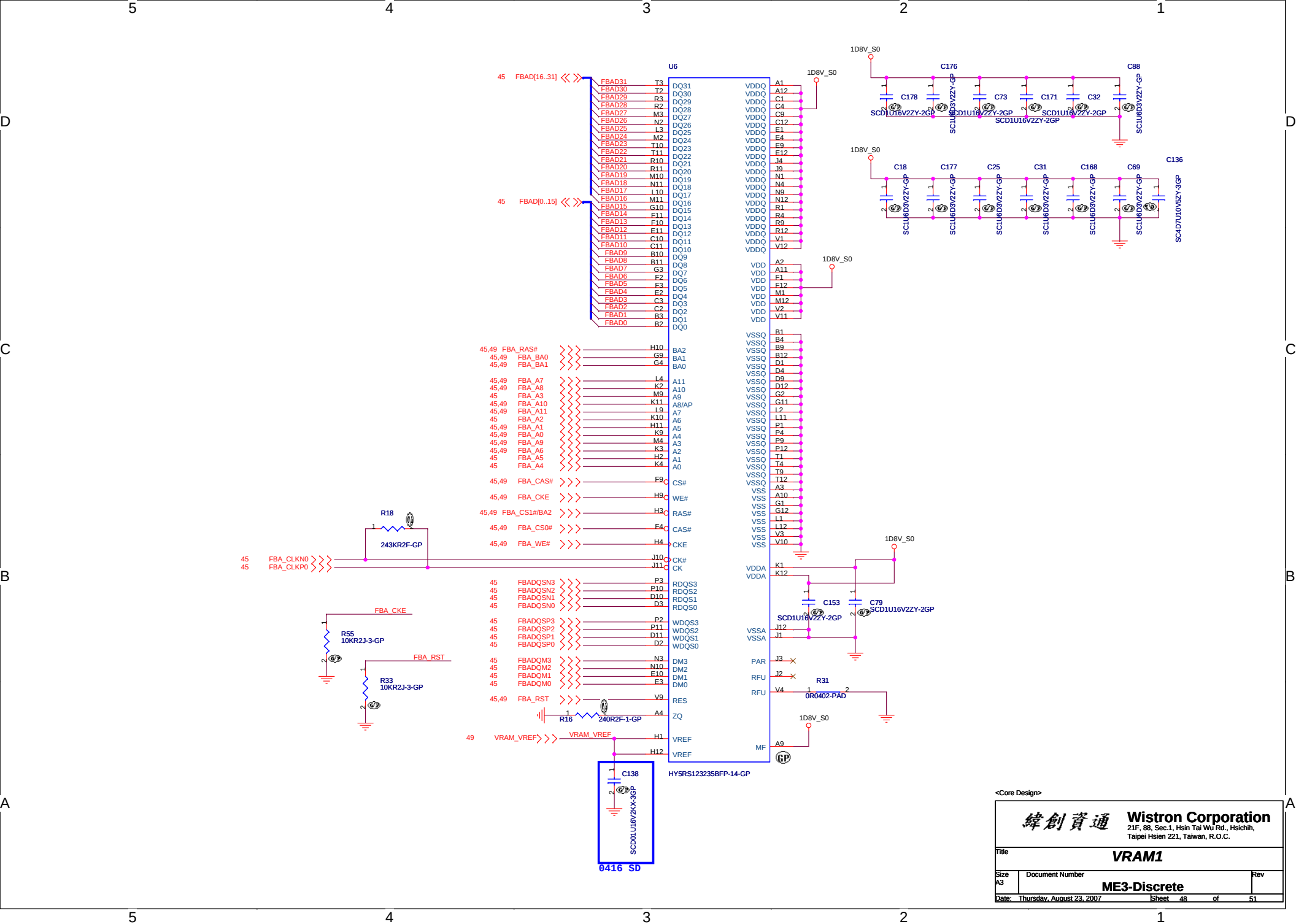


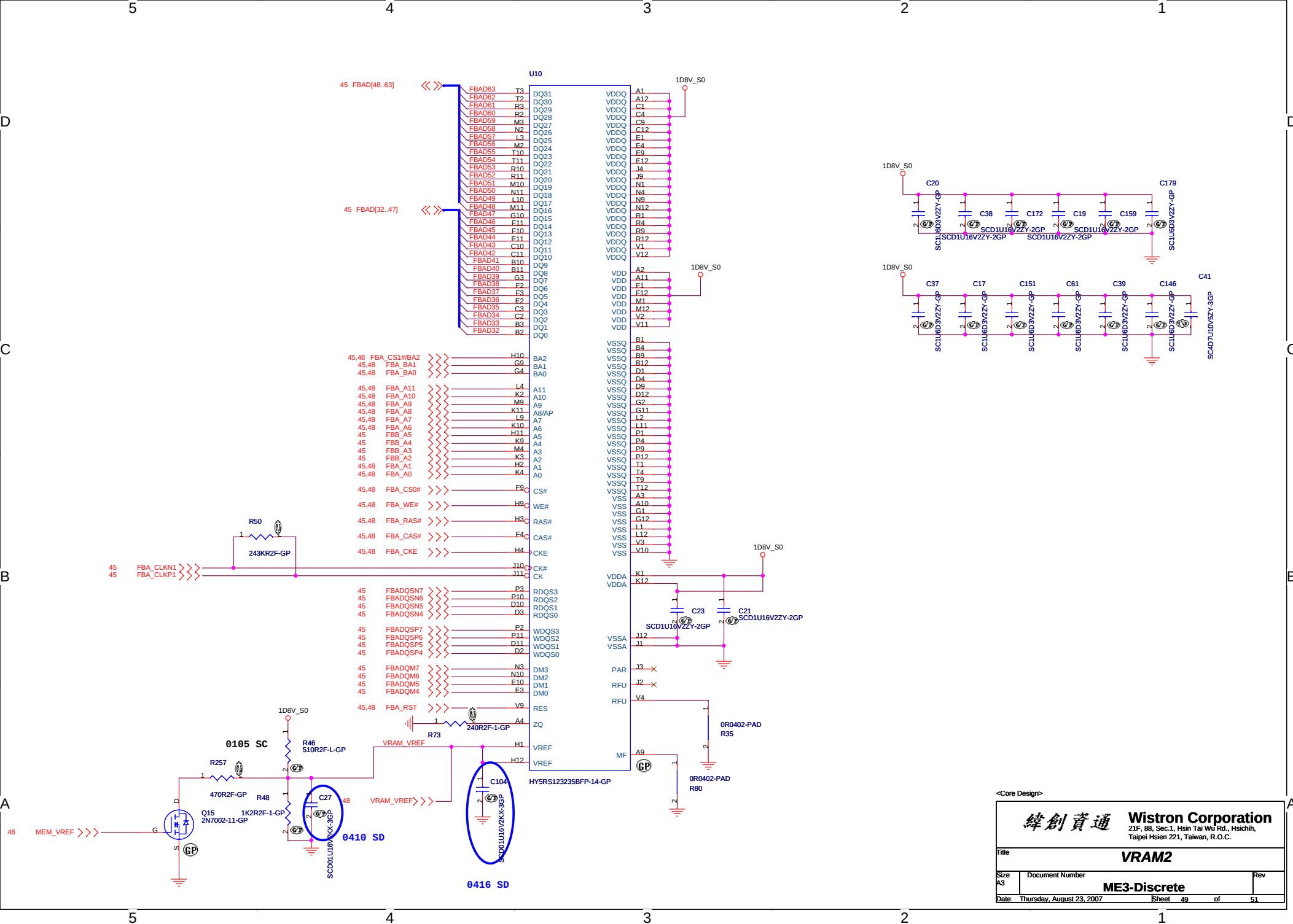


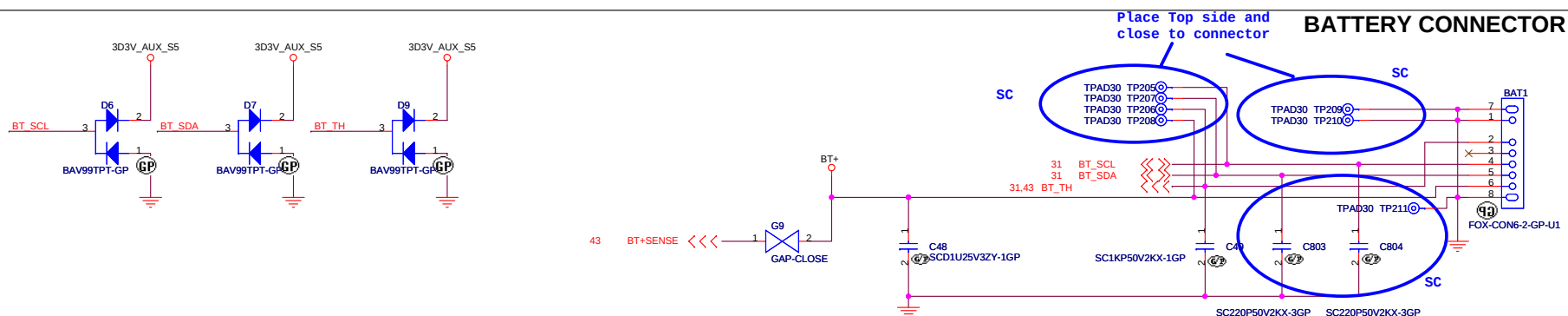








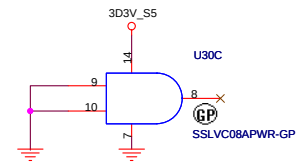
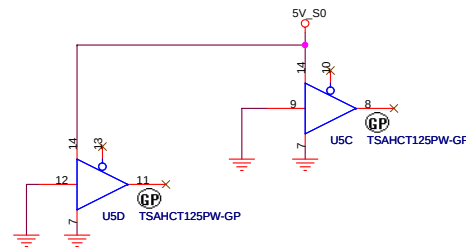
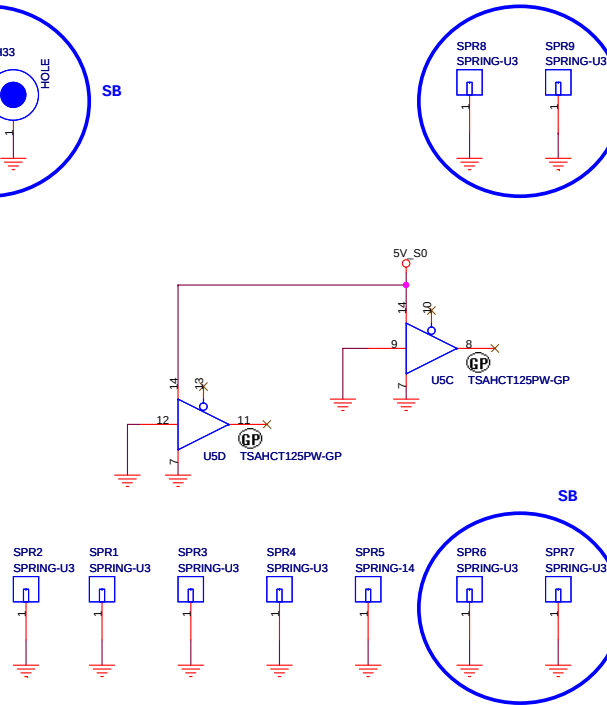
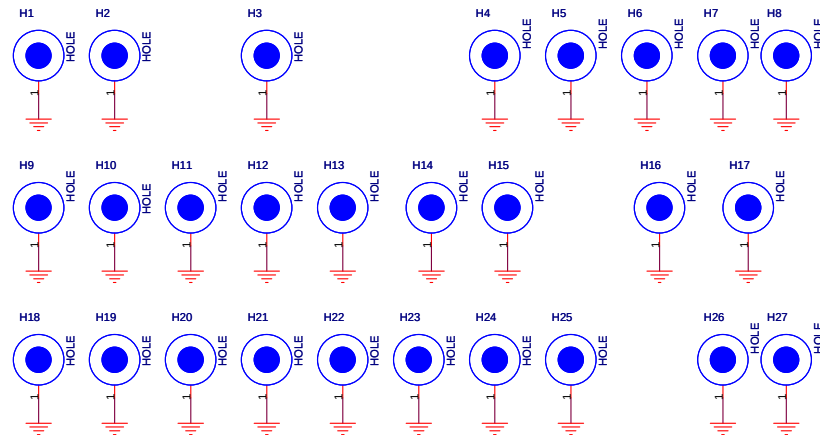




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H25,24 34.4Q102.001
H30 87.66383.231
SPR7 34.40V16.001
SPR9 34.40V16.001



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