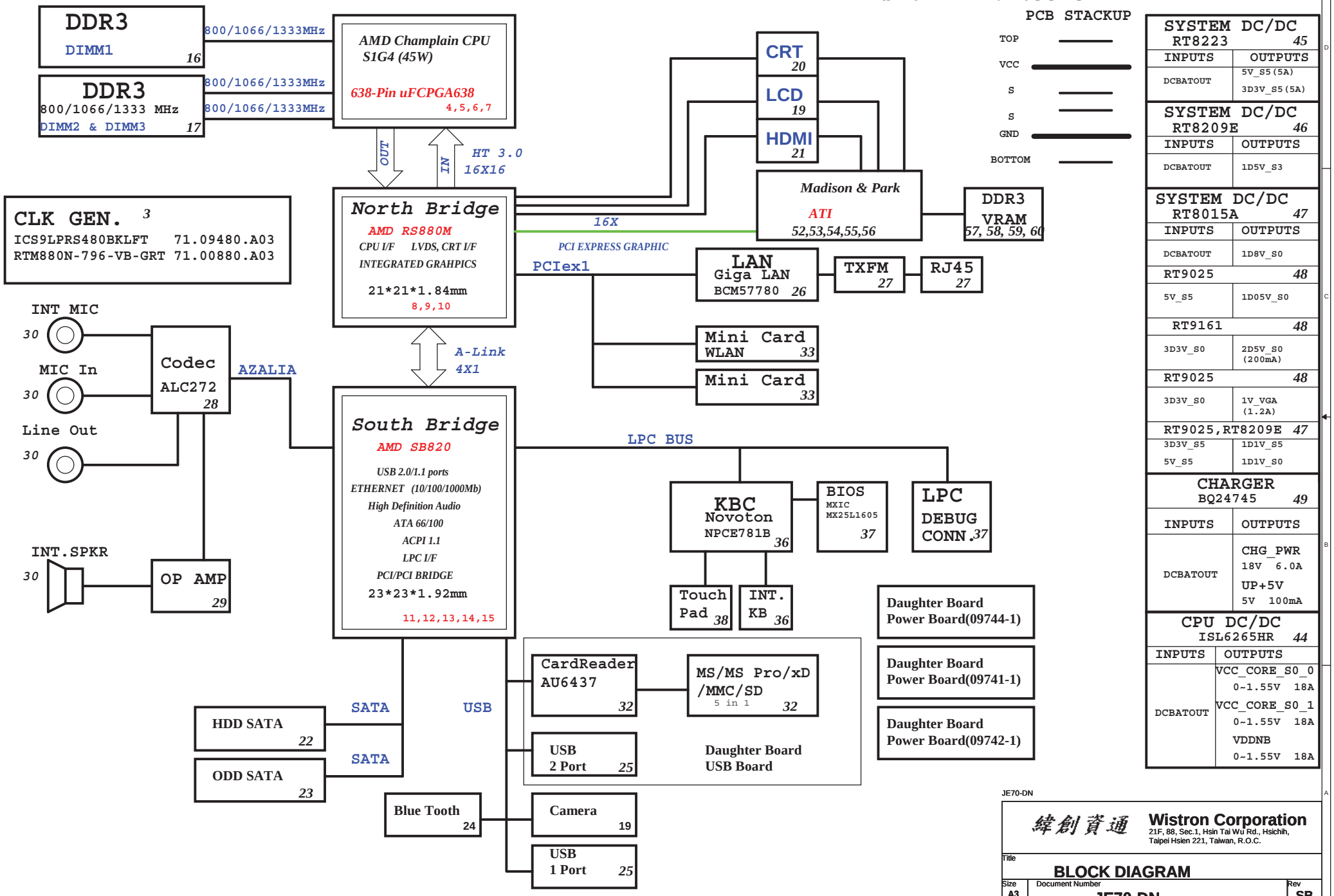
JE70-DN/SJV71-DN/HM72-DN Block Diagram

Project code: 91.4HP01.001
PCB P/N : 48.4HP01.011
REVISION : 09929-1



PCB STACKUP

TOP	
VCC	
S	
S	
GND	
BOTTOM	

SYSTEM DC/DC RT8223 45

INPUTS	OUTPUTS
DCBATOUT	5V_S5(5A) 3D3V_S5(5A)

SYSTEM DC/DC RT8209E 46

INPUTS	OUTPUTS
DCBATOUT	1D5V_S3

SYSTEM DC/DC RT8015A 47

INPUTS	OUTPUTS
DCBATOUT	1D8V_S0

RT9025 48

5V_S5	1D05V_S0

RT9161 48

3D3V_S0	2D5V_S0 (200mA)

RT9025 48

3D3V_S0	1V_VGA (1.2A)

RT9025,RT8209E 47

3D3V_S5	1D1V_S5
5V_S5	1D1V_S0

CHARGER BQ24745 49

INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 6.0A UP+5V 5V 100mA

CPU DC/DC ISL6265HR 44

INPUTS	OUTPUTS
DCBATOUT	VCC_CORE_S0_0 0~1.55V 18A VCC_CORE_S0_1 0~1.55V 18A VDDNB 0~1.55V 18A

JE70-DN

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

Title: BLOCK DIAGRAM

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Wednesday, March 31, 2010 Sheet 1 of 63

page36

EC Functional Strap Definitions

Signal	Comment
TEST# pin110	Test Mode Select. Sampled at VCC Power-Up reset or VCC_POR Input reset, to determine the device operation mode as follows: **No pull-down resistor: Normal operation mode (XORTR and TRIST strap pins are ignored).** 10 KΩ external pull-down resistor:Test mode (ICT or XOR-Tree Test mode, according to XORTR and TRIST strap pins).
XORTR# pin111	XOR-Tree Mode Select. Sampled at VCC Power-Up reset or VCC_POR Input reset, to select the XOR-Tree Test mode, if TEST is strapped low: No pull-down resistor: Not allowed if TEST pin is strapped low. **10 KΩ external pull-down resistor:XOR-Tree Test mode .Note: TRIST strap pin must be left unconnected.**
TRIST# pin112	ICT Mode Select. Sampled at VCC Power-Up reset or VCC_POR Input reset, to select the ICT Test mode, if TEST is strapped low: **No pull-down resistor: Not allowed if TEST pin is strapped low.** 10 KΩ external pull-down resistor:ICT Test mode (see Section 3.4.1 on page 53), forces the device to float its output and I/O pins.Note: XORTR strap pin must be left unconnected.
JEN0#, JENK# pin49,53	JTAG Select. Sampled at VCC Power-Up reset or VCC_POR Input reset, to select the JTAG signals to device pins (see Table 4 on page 35 for details). **Both JEN0 and JENK, are pulled to 1 by an internal resistor** The external 10 KΩ pull-down resistor must be connected to GND.
SHBM pin83	Shared Host BIOS Memory. Sampled at VCC Power-Up reset or VCC_POR Input reset, to determine the state of the shared BIOS memory. **No pull-down resistor:Disable the shared BIOS memory.** 10 KΩ external pull-down resistor:Enable the shared BIOS memory
SDP_VIS# pin41	Port80 (SDP) Visibility Mode Select. Sampled at VCC Power-Up reset or VCC_POR Input reset, to select the Visibility mode for the Port80 (SDP). **No pull-down resistor: SDP in Normal mode** 10 KΩ external pull-down resistor:SDP in Visibility mode.
XOR_OUT pin35	XOR-Tree Output. The device pins are internally connected in a XOR-tree structure

page9

STRAP_DEBUG_BUS_GPIO_ENABLEb

Enables the Test Debug Bus using GPIO.(PIN: RS780M--> VSYNC#)
*1 :Disable 0 : Enable

RS780: Enables Side port memory (RS880 use HSYNC#)

*1 :Disable 0 : Enable

SUS_STAT#
Selects Loading of STRAPS From EEPROM
*1 : Bypass the loading of EEPROM straps and use Hardware Default Values
0 : I2C Master can load strap values from EEPROM if connected,
or use default values if not connected

page15

	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

Note: SB820 has 15K internal PU FOR PCI_AD[27:23]

page15

	PCI_CLK1	PCI_CLK2	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	AZ_SDOUT	GPIO200 GPIO199
PULL HIGH	ALLOW PCIE Gen2 DEFAULT	Watchdog Timer Enabled	USE DEBUG STRAP	non_Fusion CLOCK MODE DEFAULT	EC ENABLED	CLKGEN ENABLED DEFAULT	LOW POWER MODE	H,H = Reserved H,L = SPI ROM
PULL LOW	FORCE PCIE Gen1	Watchdog Timer Disabled DEFAULT	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE	EC DISABLED DEFAULT	CLKGEN DISABLED	PERFORMANCE MODE DEFAULT	L,H = LPC ROM (Default) L,L = FWH ROM

NOTE: SB820 HAS INTERNAL 15K PULL UP RESISTOR FOR RTCCLK

page12

	USB	
	Pair	Device
	12	MINI2 CARD
	11	NC
	10	NC
	9	CCD
	8	NC
	7	Bluetooth
	6	USB3
OCP3#	5	USB2
	4	CardReader
	3	NC
OCP2#	2	USB4
	1	MINI1 CARD
OCP0#	0	USB1

JE70-DN

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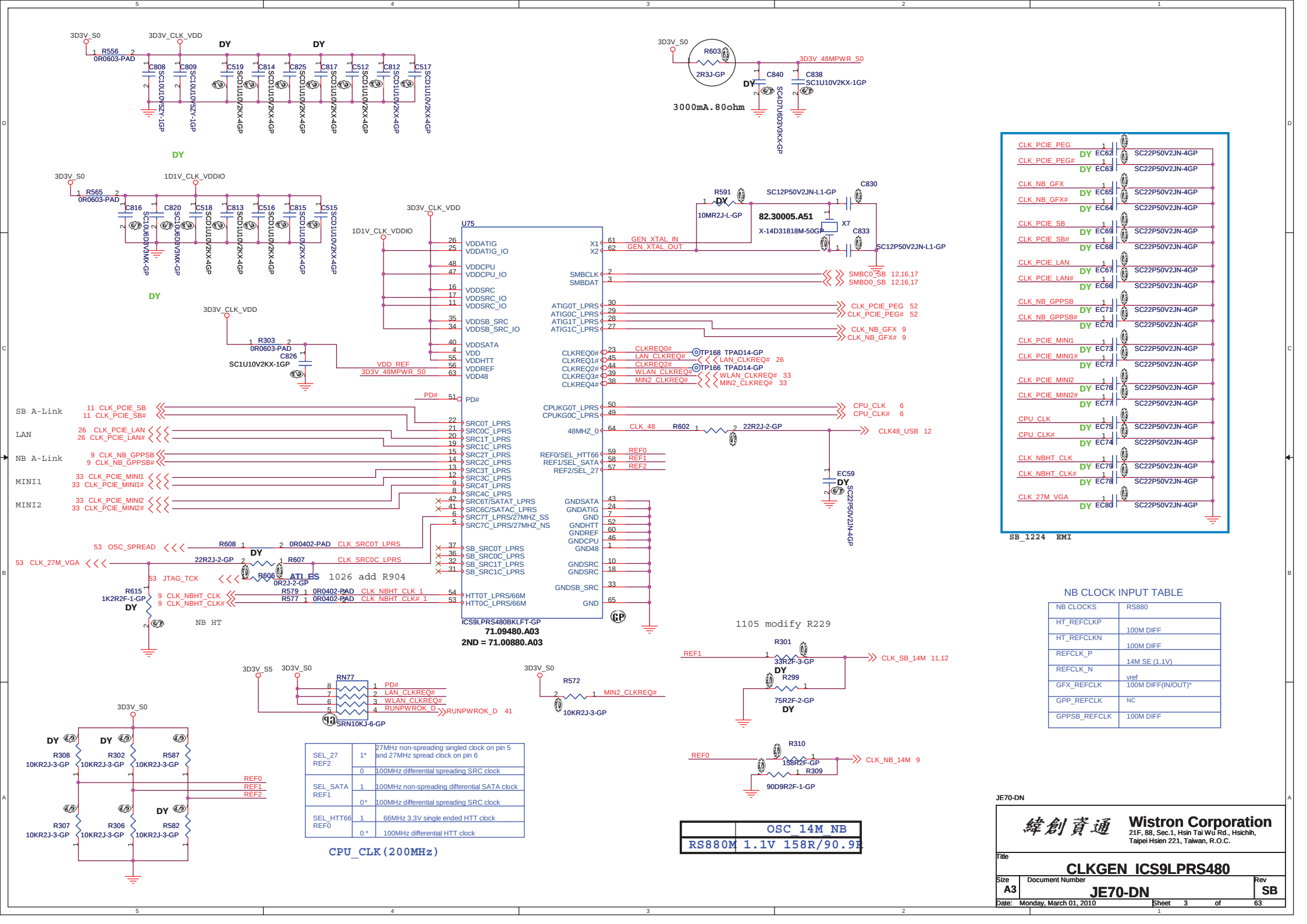
Taipei Hsien 221, Taiwan, R.O.C.

Title: Reference

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Thursday, November 19, 2009 Sheet 2 of 63



SEL_27 REF2	1*	27MHz non-spreading singled clock on pin 5 and 27MHz spread clock on pin 6
	0	100MHz differential spreading SRC clock
SEL_SATA REF1	1	100MHz non-spreading differential SATA clock
	0*	100MHz differential spreading SRC clock
SEL_HTT66 REF0	1	66MHz 3.3V single ended HTT clock
	0 *	100MHz differential HTT clock

CPU_CLK(200MHz)

	OSC_14M_NB
RS880M 1.1V 158R/90.9R	

NB CLOCK INPUT TABLE

NB CLOCKS	RS880
HT_REFCLKP	100M DIFF
HT_REFCLKN	100M DIFF
REFCLK_P	14M SE (1.1V)
REFCLK_N	vref
GFX_REFCLK	100M DIFF(IN/OUT)*
GPP_REFCLK	NC
GPPSB_REFCLK	100M DIFF

JE70-DN

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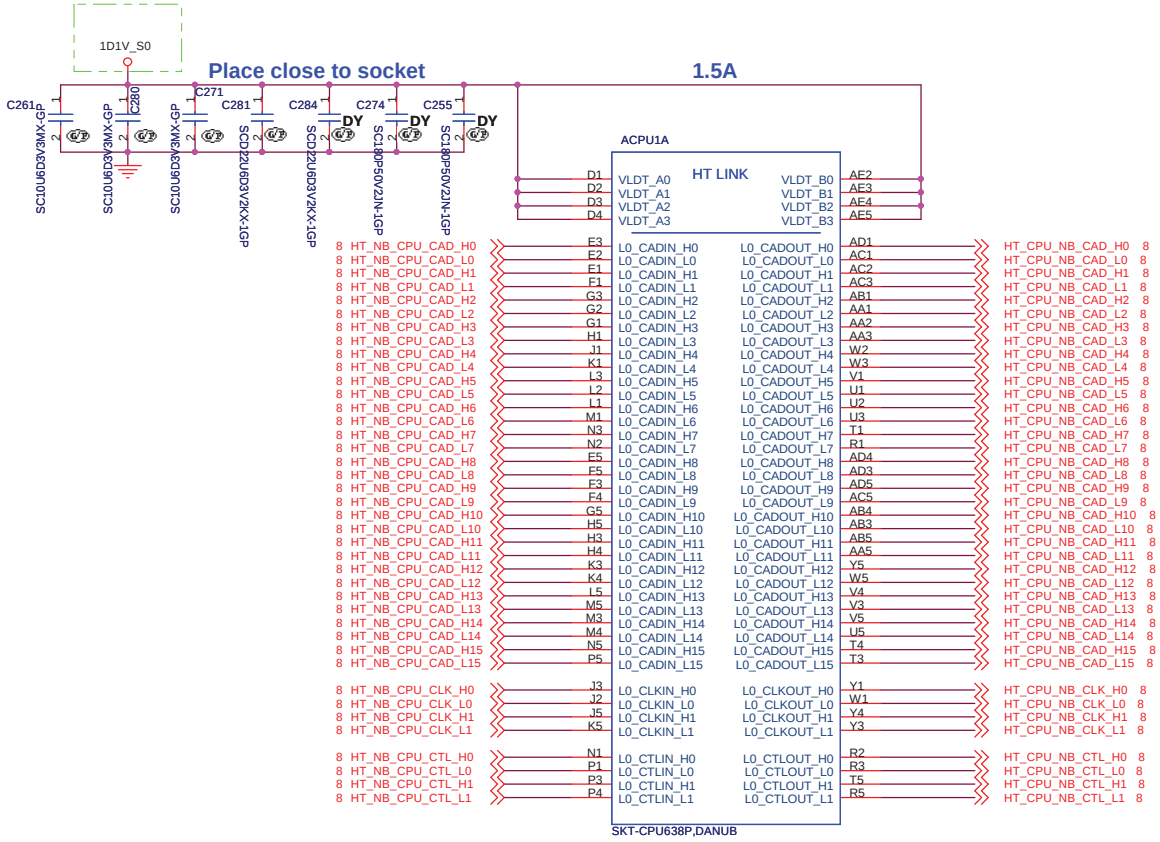
Title: CLKGEN_ICS9LPRS480

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Monday, March 01, 2010 Sheet 3 of 63



62.10055.111

SKT-BGA638H176

JE70-DN

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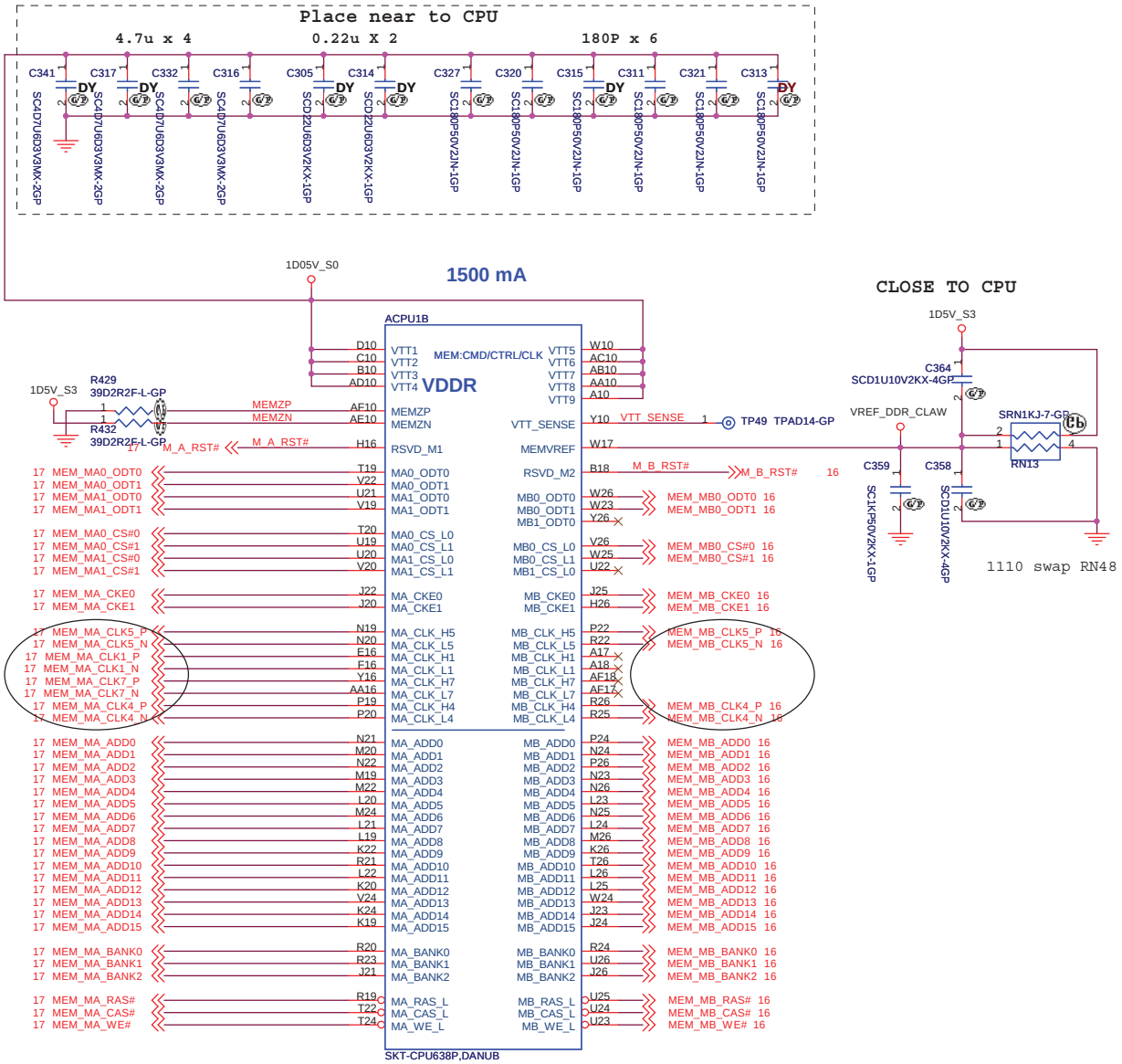
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU HT LINK I/F (1/4)

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Monday, March 01, 2010 Sheet 4 of 63



JE70-DN

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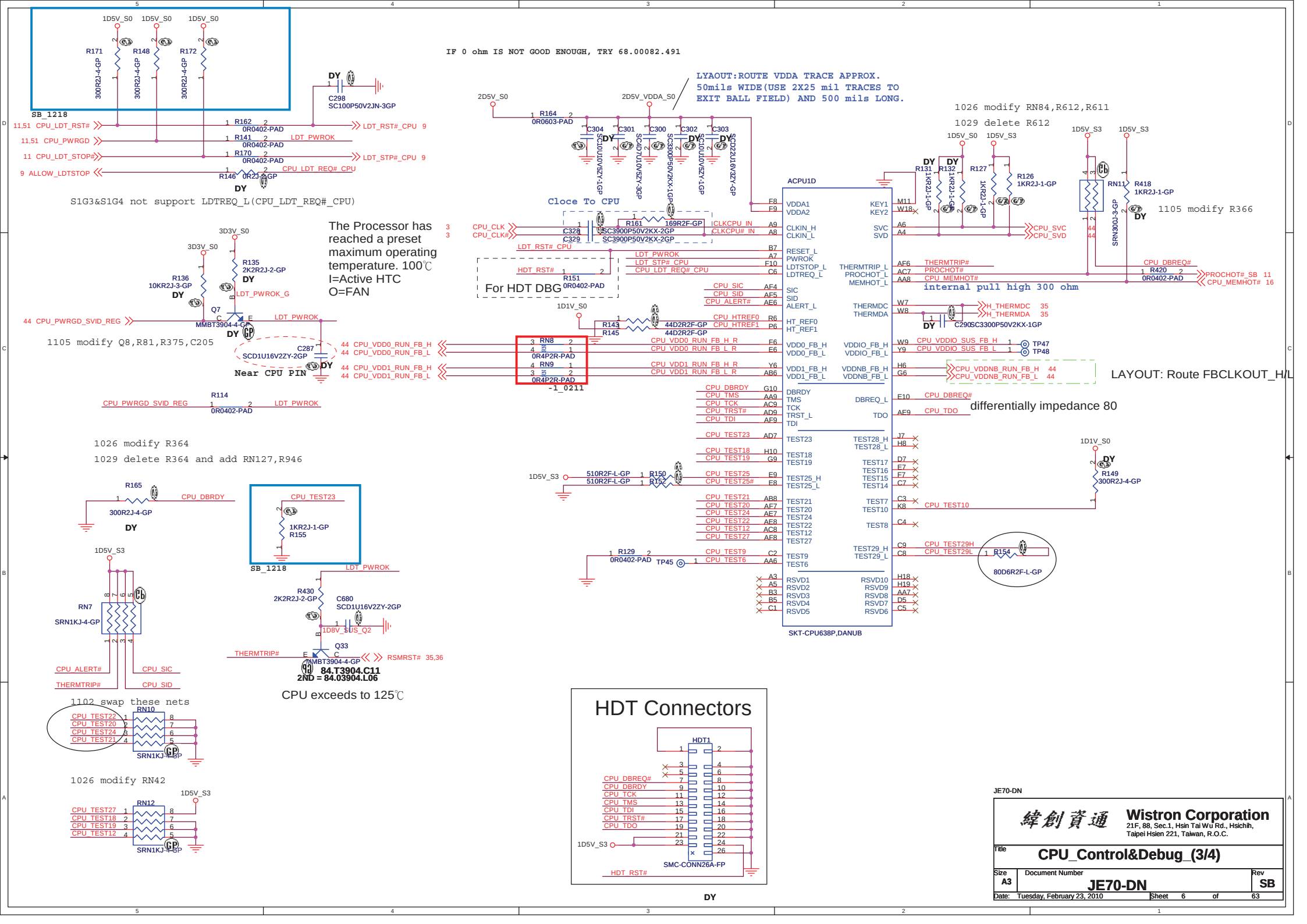
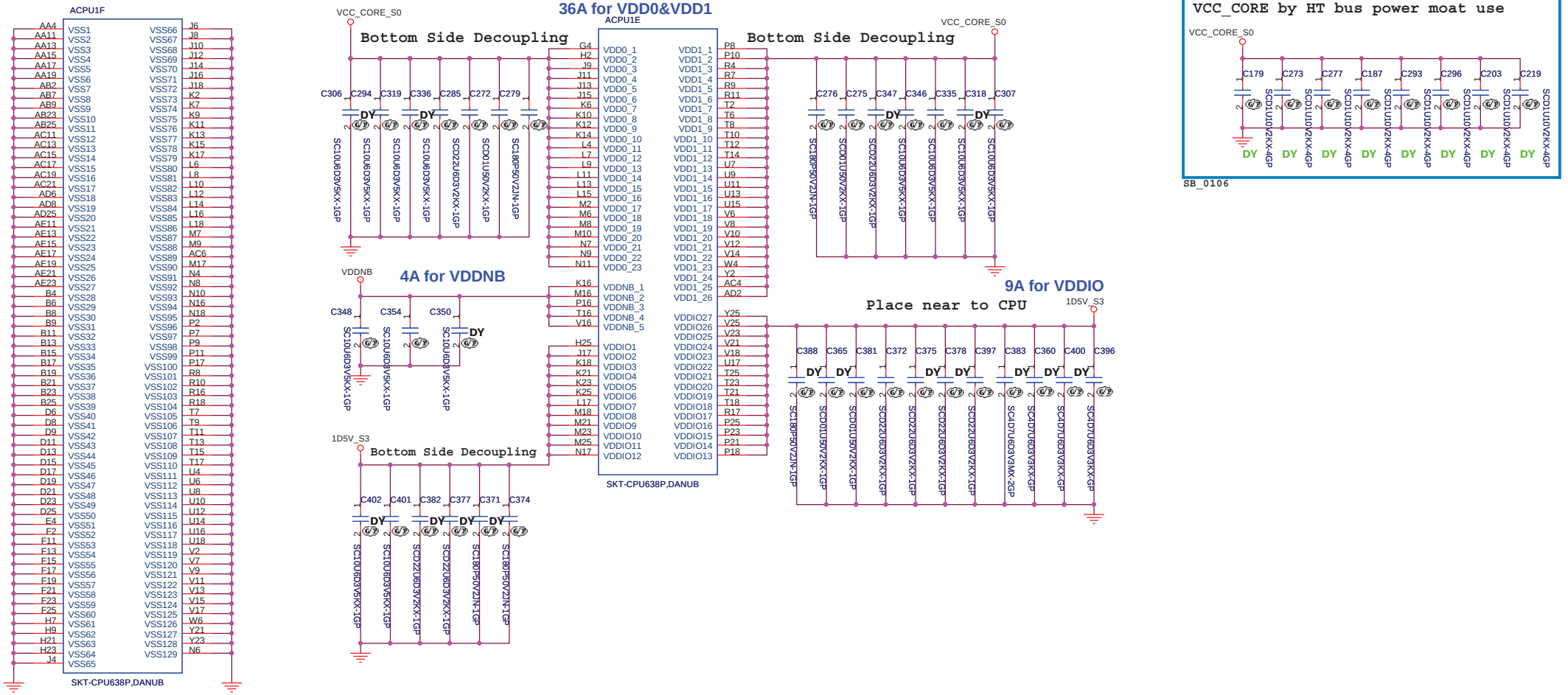
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU DDR (2/4)

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Monday, March 01, 2010 Sheet 5 of 63


SB_1218
R171 300R2J-4-GP
R148 300R2J-4-GP
R172 300R2J-4-GP
1D5V_S0
11,51 CPU_LDT_RST#
11,51 CPU_PWRGD
11 CPU_LDT_STOP#
9 ALLOW_LDTSTOP
R162 0R0402-PAD
R141 0R0402-PAD
R170 0R0402-PAD
R146 0R2J-2-GP
LDT_RST#_CPU 9
LDT_PWROK
LDT_STP#_CPU 9
CPU_LDT_REQ#_CPU
DY
C298 SC100P50V2JN-3GP
S1G3&S1G4 not support LDTREQ_L(CPU_LDT_REQ#_CPU)
IF 0 ohm IS NOT GOOD ENOUGH, TRY 68.00082.491
LYAOUT:ROUTE VDDA TRACE APPROX.
50mils WIDE(USE 2X25 mil TRACES TO
EXIT BALL FIELD) AND 500 mils LONG.
2D5V_S0
2D5V_VDDA_S0
R164 0R0603-PAD
C304 SC10U10V5ZY-1GP
C301 SC47U10V5ZY-3GP
C300 SC300P50V2KX-1GP
C302 SC10U10V5ZY-1GP
C303 SC22U16V3ZY-GP
Cloce To CPU
CPU_CLK 3
CPU_CLK# 3
R161 169R2F-GP
C328 SC3900P50V2KX-2GP
C329 SC3900P50V2KX-2GP
CLKCPU_IN
CLKCPU# IN
LDT_RST# CPU
HDT_RST#
R151 0R0402-PAD
For HDT DBG
LDT_PWROK
LDT_STP# CPU
CPU_LDT_REQ# CPU
ACPU1D
VDDA1
VDDA2
CLKIN_H
CLKIN_L
RESET_L
PWROK
LDTSTOP_L
LDTREQ_L
SIC
SID
ALERT_L
HT_REF0
HT_REF1
VDD0_FB_H
VDD0_FB_L
VDD1_FB_H
VDD1_FB_L
DBRDY
TMS
TCK
TRST_L
TDI
TEST23
TEST18
TEST19
TEST25_H
TEST25_L
TEST21
TEST20
TEST24
TEST22
TEST12
TEST27
TEST9
TEST6
RSVD1
RSVD2
RSVD3
RSVD4
RSVD5
KEY1
KEY2
SVC
SVD
THERMTRIP_L
PROCHOT_L
MEMHOT_L
THERMDC
THERMDA
VDDIO_FB_H
VDDIO_FB_L
VDDNB_FB_H
VDDNB_FB_L
DBREQ_L
TDO
TEST28_H
TEST28_L
TEST17
TEST16
TEST15
TEST14
TEST7
TEST10
TEST8
TEST29_H
TEST29_L
RSVD10
RSVD9
RSVD8
RSVD7
RSVD6
SKT-CPU638P,DANUB
1026 modify RN84,R612,R611
1029 delete R612
1D5V_S3
R131 1KR2J-1-GP
R132 1KR2J-1-GP
R127 1KR2J-1-GP
R126 1KR2J-1-GP
RN11 SRN300J-3-GP
R418 1KR2J-1-GP
1105 modify R366
CPU_SVC
CPU_SVD
THERMTRIP#
PROCHOT#
CPU_MEMHOT#
CPU_DBREQ#
R420 0R0402-PAD
PROCHOT#_SB 11
CPU_MEMHOT# 16
internal pull high 300 ohm
H_THERMDC 35
H_THERMDA 35
C290 SC3300P50V2KX-1GP
CPU_VDDIO_SUS_FB_H
CPU_VDDIO_SUS_FB_L
TP47
TP48
CPU_VDDNB_RUN_FB_H 44
CPU_VDDNB_RUN_FB_L 44
LAYOUT: Route FBCLKOUT_H/L
differentially impedance 80
3D3V_S0
R135 2K2R2J-2-GP
R136 10KR2J-3-GP
LDT_PWROK_G
Q7 MMBT3904-4-GP
44 CPU_PWRGD_SVID_REG
LDT_PWROK
1105 modify Q8,R81,R375,C205
C287 SCD1U16V2ZY-2GP
Near CPU PIN
44 CPU_VDD0_RUN_FB_H
44 CPU_VDD0_RUN_FB_L
44 CPU_VDD1_RUN_FB_H
44 CPU_VDD1_RUN_FB_L
R114 0R0402-PAD
CPU_PWRGD_SVID_REG
LDT_PWROK
The Processor has reached a preset maximum operating temperature. 100℃
I=Active HTC
O=FAN
1D1V_S0
R143 44D2R2F-GP
R145 44D2R2F-GP
RN8 0R4P2R-PAD
RN9 0R4P2R-PAD
-1_0211
CPU_VDD0_RUN_FB_H_R
CPU_VDD0_RUN_FB_L_R
CPU_VDD1_RUN_FB_H_R
CPU_VDD1_RUN_FB_L_R
CPU_DBRDY
CPU_TMS
CPU_TCK
CPU_TRST#
CPU_TDI
CPU_TEST23
CPU_TEST18
CPU_TEST19
CPU_TEST25
CPU_TEST25#
CPU_TEST21
CPU_TEST20
CPU_TEST24
CPU_TEST22
CPU_TEST12
CPU_TEST27
CPU_TEST9
CPU_TEST6
1D5V_S3
510R2F-L-GP
R150
R152
R129 0R0402-PAD
TP45
1D1V_S0
R149 300R2J-4-GP
80D6R2F-L-GP
R154
1026 modify R364
1029 delete R364 and add RN127,R946
R165 300R2J-4-GP
CPU_DBRDY
1KR2J-1-GP R155
CPU_TEST23
SB_1218
LDT_PWROK
R430 2K2R2J-2-GP
C680 SCD1U16V2ZY-2GP
1D8V_SUS_Q2
Q33 MMBT3904-4-GP
THERMTRIP#
RSMRST# 35,36
84.T3904.C11
2ND = 84.03904.L06
CPU exceeds to 125℃
RN7 SRN1KJ-4-GP
CPU_ALERT#
CPU_SID
1102 swap these nets
RN10 SRN1KJ-4-GP
CPU_TEST22
CPU_TEST20
CPU_TEST24
CPU_TEST21
1026 modify RN42
RN12 SRN1KJ-4-GP
CPU_TEST27
CPU_TEST18
CPU_TEST19
CPU_TEST12
HDT Connectors
HDT1
CPU_DBREQ#
CPU_DBRDY
CPU_TCK
CPU_TMS
CPU_TDI
CPU_TRST#
CPU_TDO
SMC-CONN26A-FP
HDT_RST#
DY
JE70-DN
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
CPU_Control&Debug_(3/4)
Size A3
Document Number JE70-DN
Rev SB
Date: Tuesday, February 23, 2010
Sheet 6 of 63



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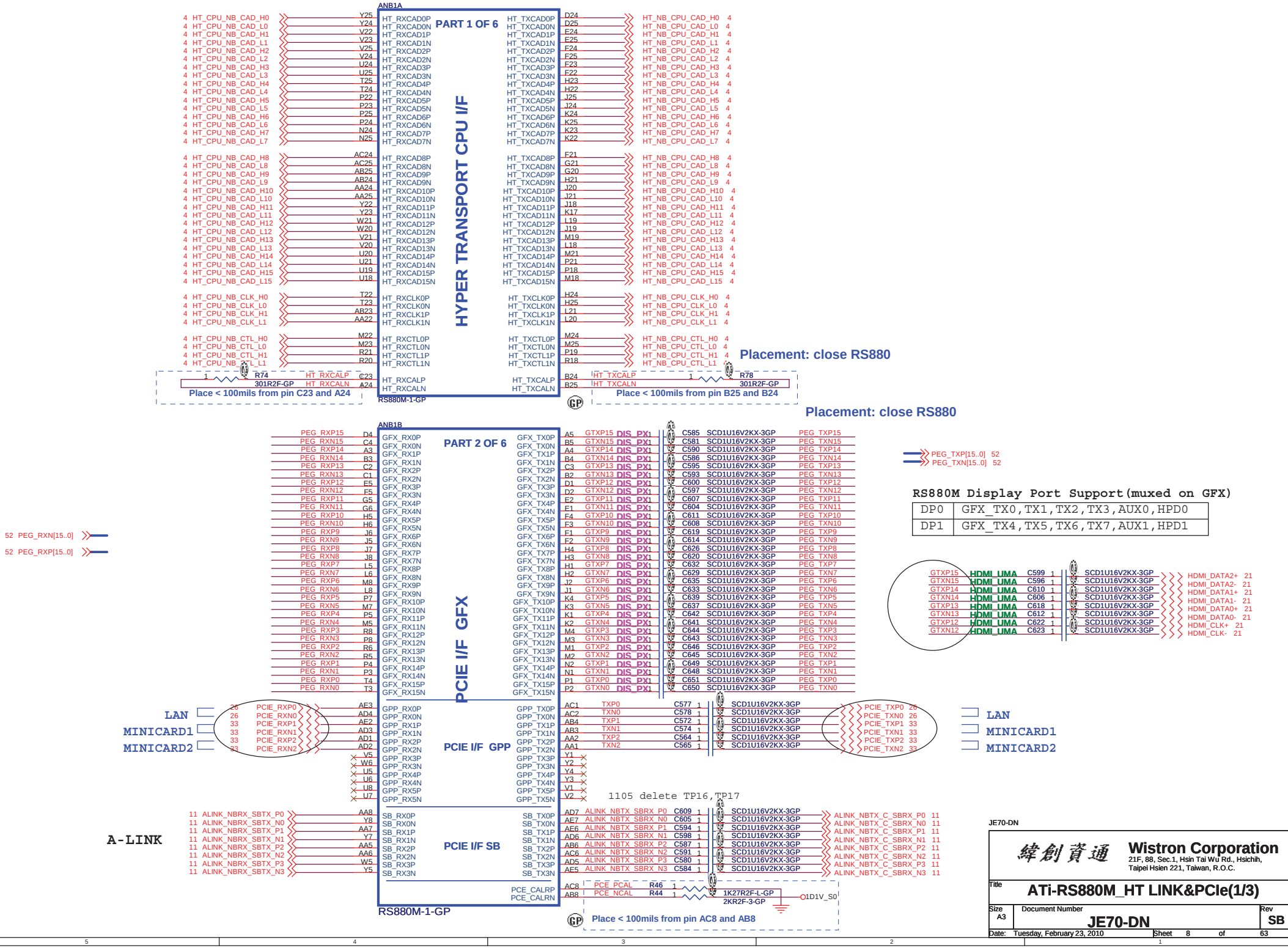
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU_Power_(4/4)

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Wednesday, January 06, 2010 Sheet 7 of 63



JE70-DN

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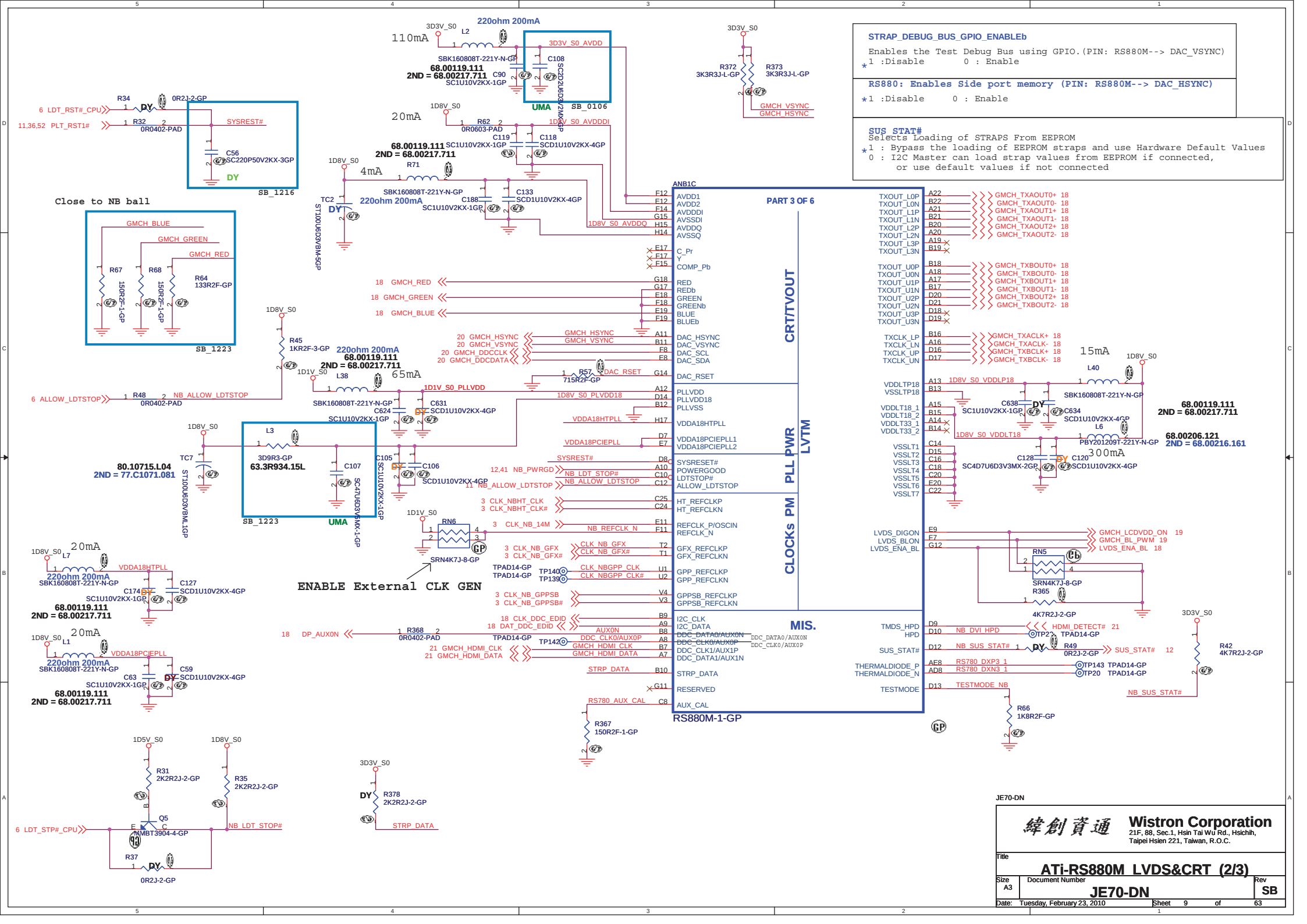
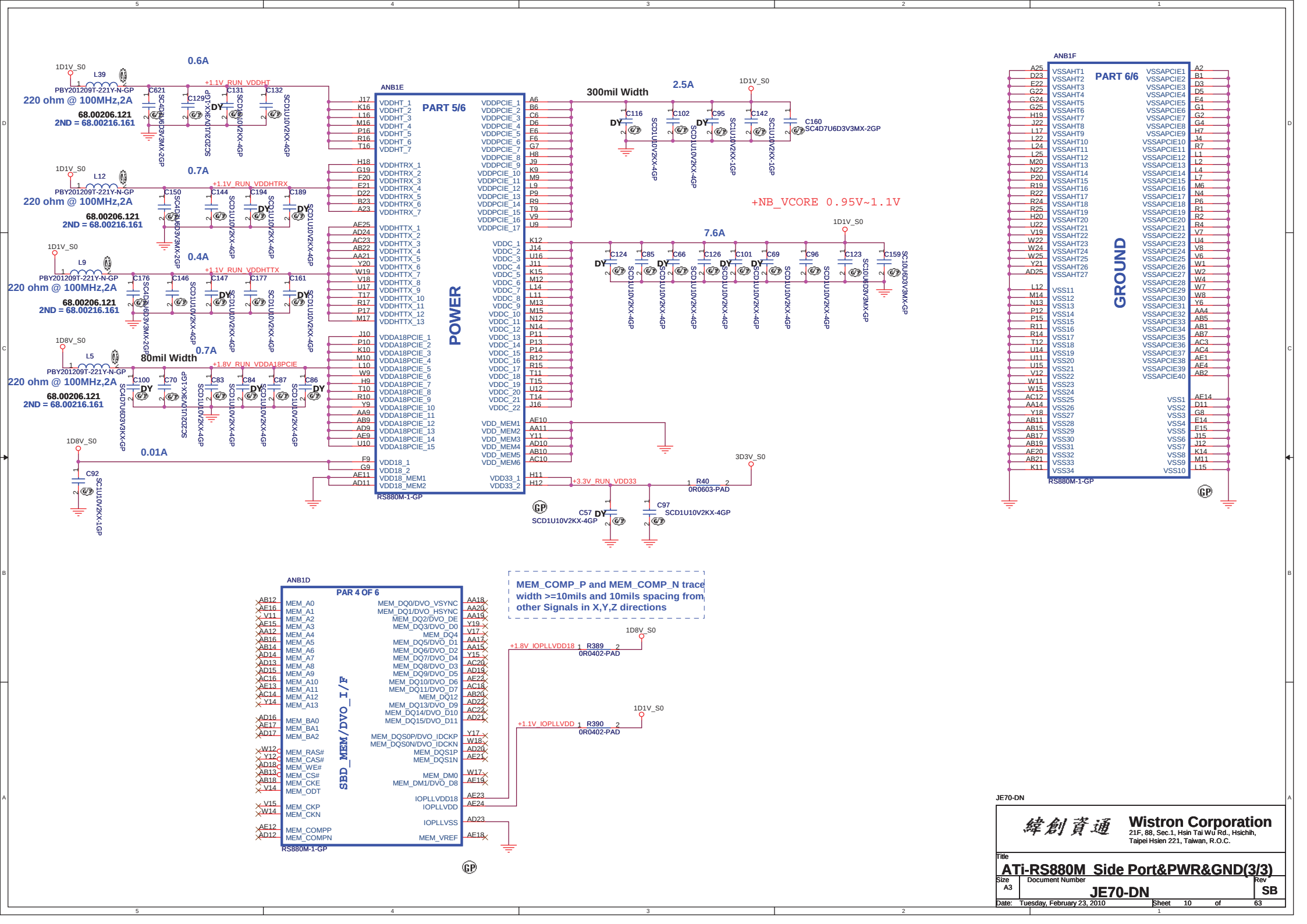
Taipei Hsien 221, Taiwan, R.O.C.

Title: ATi-RS880M_HT LINK&PCIe(1/3)

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Tuesday, February 23, 2010 Sheet 8 of 63


STRAP_DEBUG_BUS_GPIO_ENABLEb
Enables the Test Debug Bus using GPIO.(PIN: RS880M--> DAC_VSYNC)
*1 :Disable 0 : Enable
RS880: Enables Side port memory (PIN: RS880M--> DAC_HSYNC)
*1 :Disable 0 : Enable
SUS_STAT#
Selects Loading of STRAPS From EEPROM
*1 : Bypass the loading of EEPROM straps and use Hardware Default Values
0 : I2C Master can load strap values from EEPROM if connected,
or use default values if not connected
ANB1C
PART 3 OF 6
CRT/TVOUT
PLL PWR
LVTM
CLOCKs PM
MIS.
RS880M-1-GP
ENABLE External CLK GEN
Close to NB ball
SB_1216
SB_1223
SB_0106
UMA
80.10715.L04
2ND = 77.C1071.081
68.00119.111
2ND = 68.00217.711
68.00206.121
2ND = 68.00216.161
JE70-DN
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
ATi-RS880M LVDS&CRT (2/3)
Size A3
Document Number JE70-DN
Rev SB
Date: Tuesday, February 23, 2010
Sheet 9 of 63



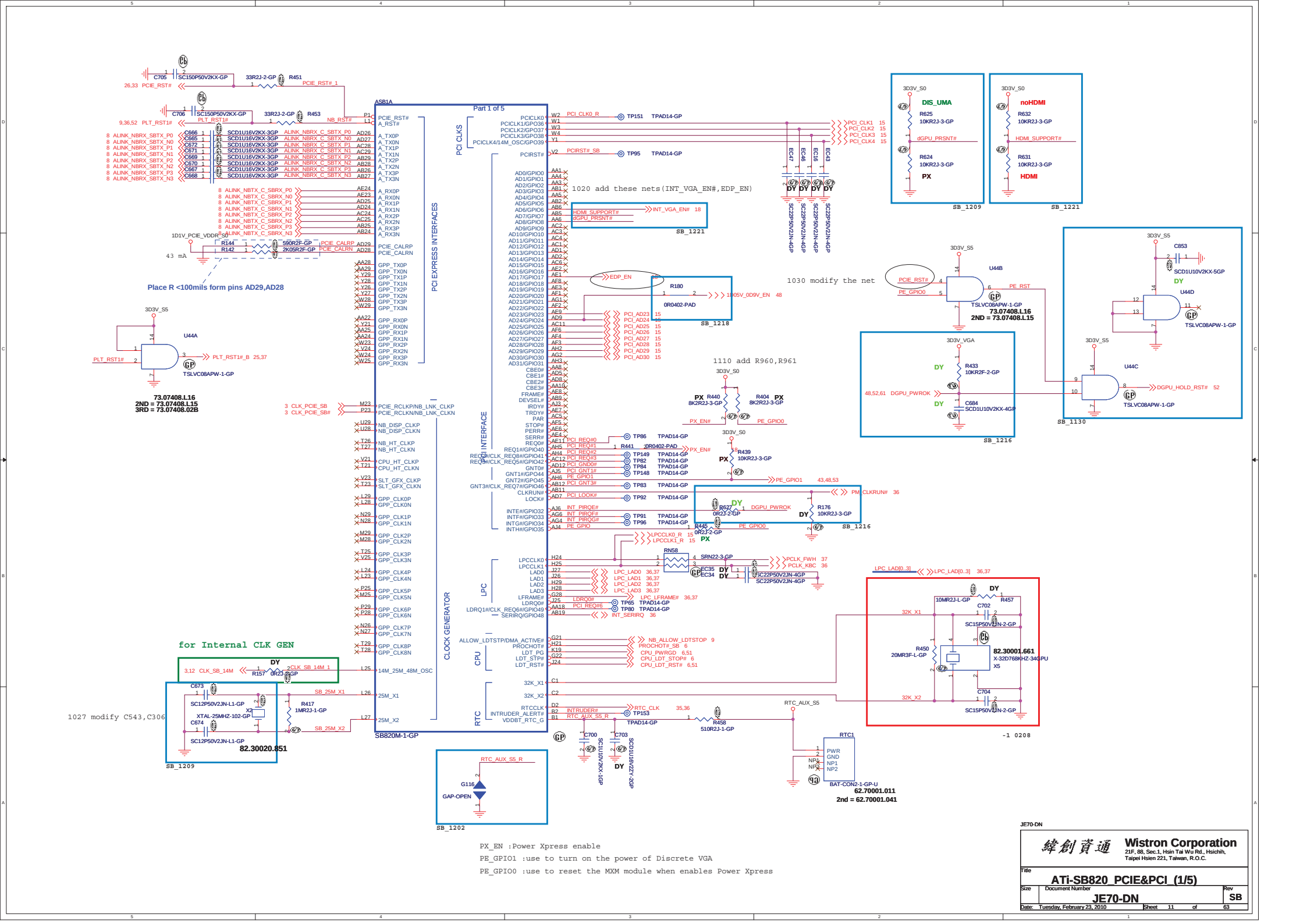
JE70-DN

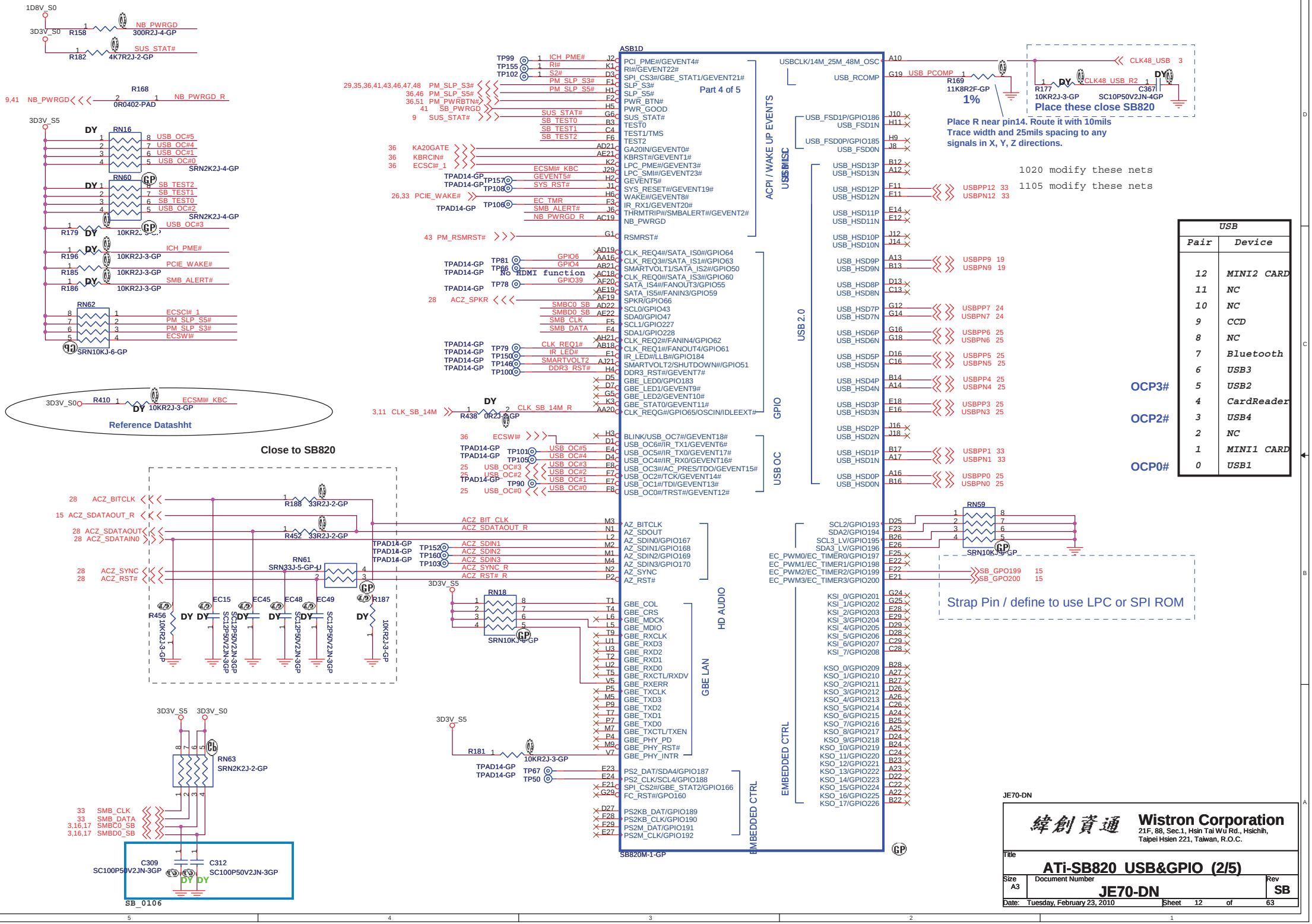
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

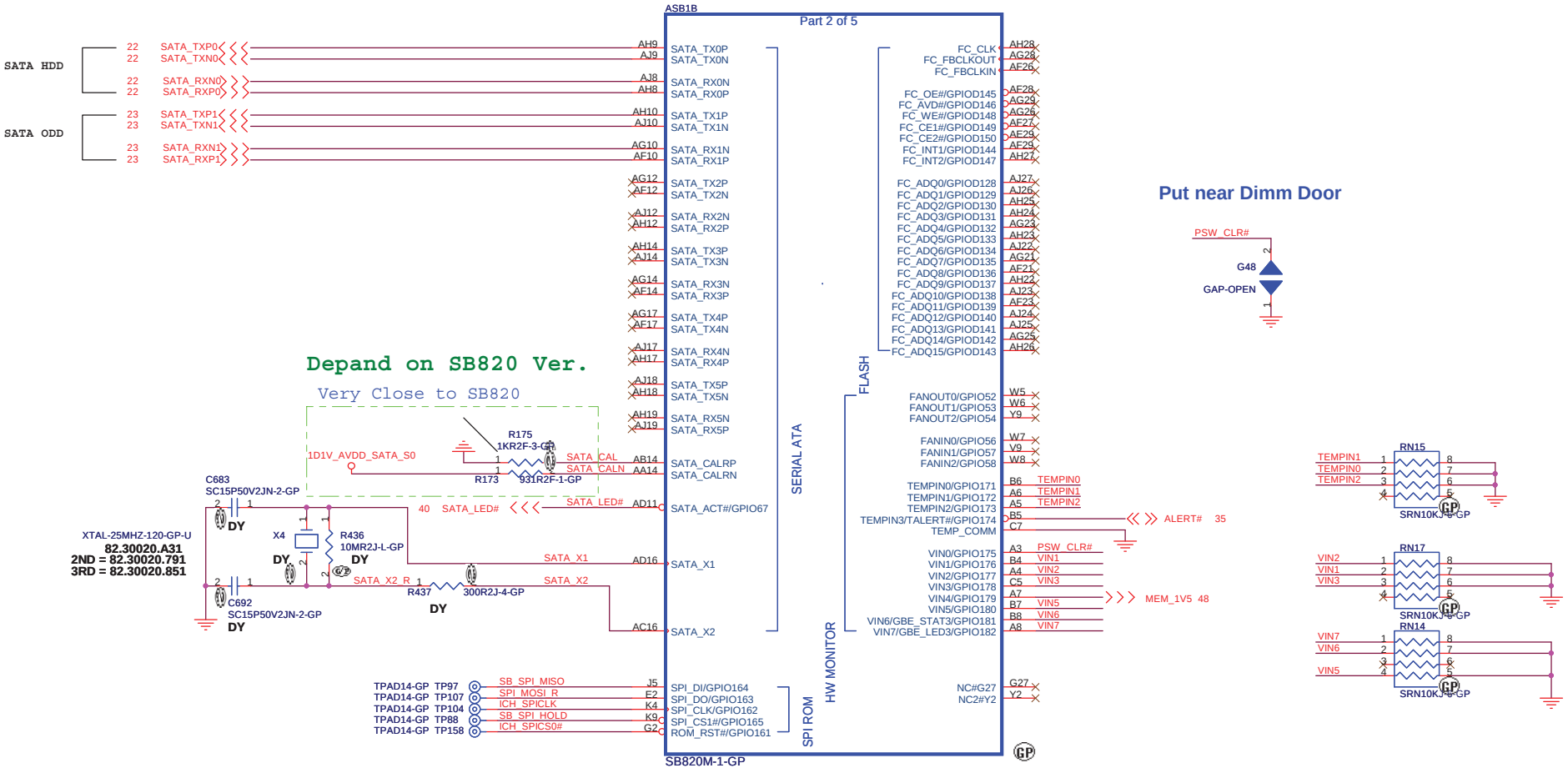
Title: **ATi-RS880M_Side Port&PWR&GND(3/3)**

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Tuesday, February 23, 2010 Sheet 10 of 63


ASB1A
Part 1 of 5
SB820M-1-GP
PCI CLKS
PCI EXPRESS INTERFACES
HDA INTERFACE
CLOCK GENERATOR
LPC
CPU
RTC
1020 add these nets(INT_VGA_EN#,EDP_EN)
1030 modify the net
1110 add R960,R961
1027 modify C543,C306
Place R <100mils form pins AD29,AD28
for Internal CLK GEN
73.07408.L16
2ND = 73.07408.L15
3RD = 73.07408.02B
82.30020.851
82.30001.661
X-32D768KHZ-34CPU
62.70001.011
2nd = 62.70001.041
PX_EN :Power Xpress enable
PE_GPIO1 :use to turn on the power of Discrete VGA
PE_GPIO0 :use to reset the MXM module when enables Power Xpress
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
JE70-DN
ATi-SB820_PCIE&PCI_(1/5)
Size
Document Number
JE70-DN
Rev
SB
Date: Tuesday, February 23, 2010
Sheet 11 of 63


ASB1D
Part 4 of 5
ACPI / WAKE UP EVENTS
USB MISC
USB 2.0
GPIO
USB OC
HD AUDIO
GBE LAN
EMBEDDED CTRL
SB820M-1-GP
Reference Datashht
Close to SB820
Strap Pin / define to use LPC or SPI ROM
Place these close SB820
Place R near pin14. Route it with 10mils
Trace width and 25mils spacing to any
signals in X, Y, Z directions.
1020 modify these nets
1105 modify these nets
OCP3#
OCP2#
OCP0#
USB
Pair | Device
12 | MINI2 CARD
11 | NC
10 | NC
9 | CCD
8 | NC
7 | Bluetooth
6 | USB3
5 | USB2
4 | CardReader
3 | USB4
2 | NC
1 | MINI1 CARD
0 | USB1
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
ATi-SB820 USB&GPIO (2/5)
JE70-DN
SB
Tuesday, February 23, 2010
12 of 63

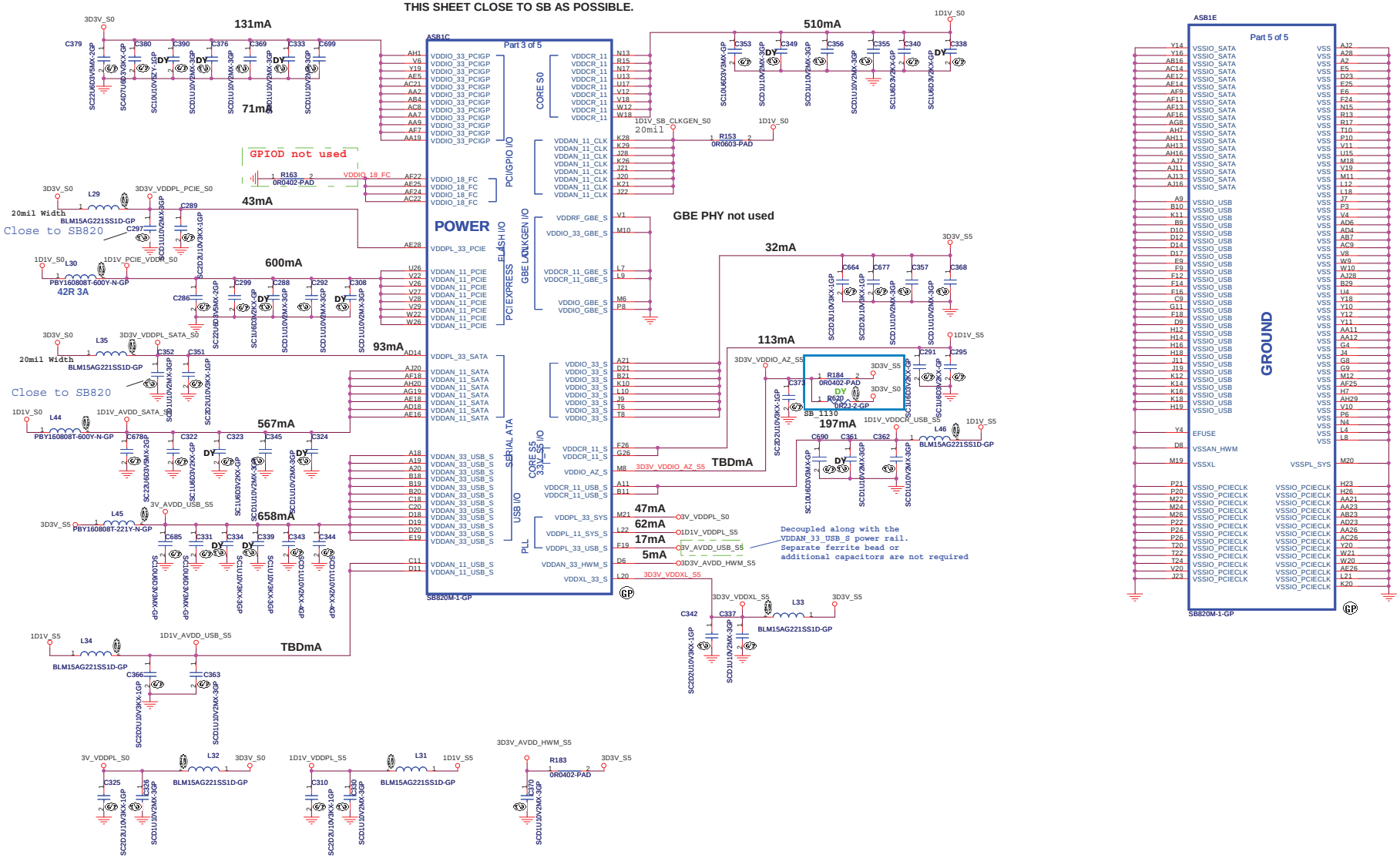


JE70-DN

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

Title	ATi-SB820 SATA-IDE (3/5)	
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 13 of 63	

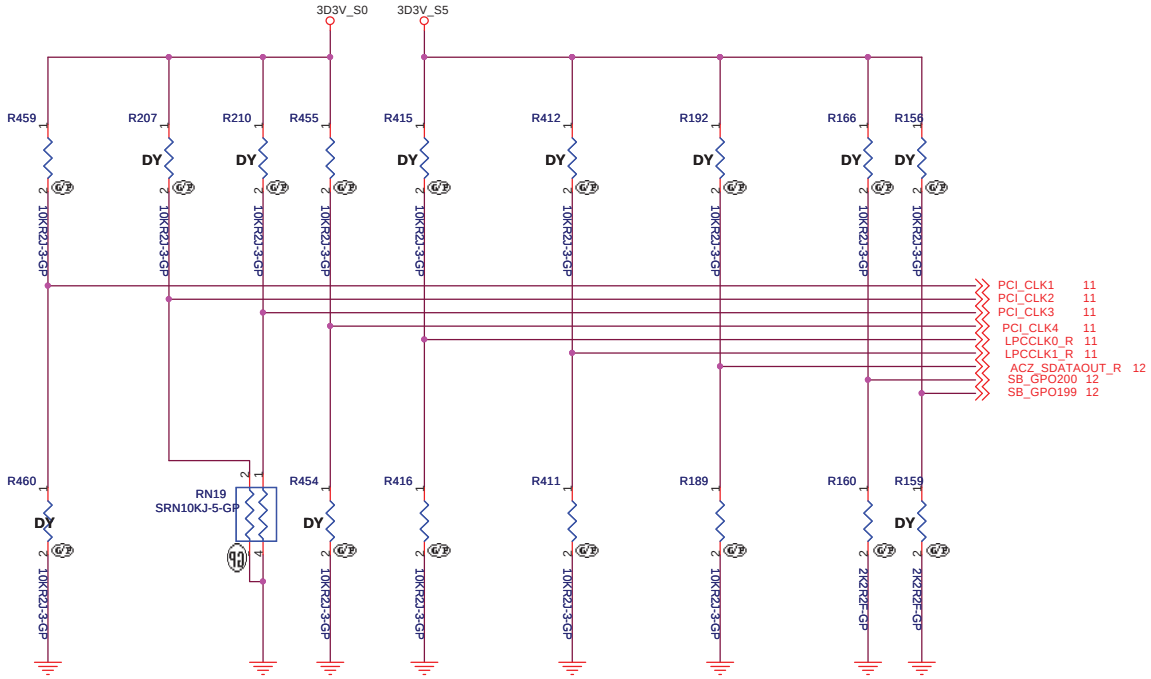
PLACE ALL THE DECOUPLING CAPS ON
THIS SHEET CLOSE TO SB AS POSSIBLE.



JE70-DN	
Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	ATi-SB820_POWER&GND_(4/5)
Size: Custom	Document Number: JE70-DN
Rev: SB	
Date: Friday, February 12, 2010	Sheet 14 of 63

REQUIRED STRAPS

REQUIRED SYSTEM STRAPS

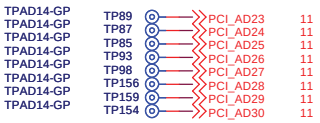


1118 modify R412,R411

	PCI_CLK1	PCI_CLK2	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	AZ_SDOUT	GPIO200 GPIO199
PULL HIGH	ALLOW PCIE Gen2 DEFAULT	Watchdog Timer Enabled	USE DEBUG STRAP	non_Fusion CLOCK MODE DEFAULT	EC ENABLED	CLKGEN ENABLED	LOW POWER MODE	H,H = Reserved H,L = SPI ROM
PULL LOW	FORCE PCIE Gen1	Watchdog Timer Disabled DEFAULT	IGNORE DEBUG STRAP DEFAULT	FUSION CLOCK MODE	EC DISABLED DEFAULT	CLKGEN DISABLED DEFAULT	PERFORMANCE MODE DEFAULT	L,H = LPC ROM (Default) L,L = FWH ROM

NOTE: SB820 HAS INTERNAL 15K PULL UP RESISTOR FOR RTCCLK

DEBUG STRAPS



	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL DEFAULT	DISABLE ILA AUTORUN DEFAULT	USE FC PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	DISABLE PCI MEM BOOT DEFAULT
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

Note: SB820 has 15K internal PU FOR PCI_AD[27:23]

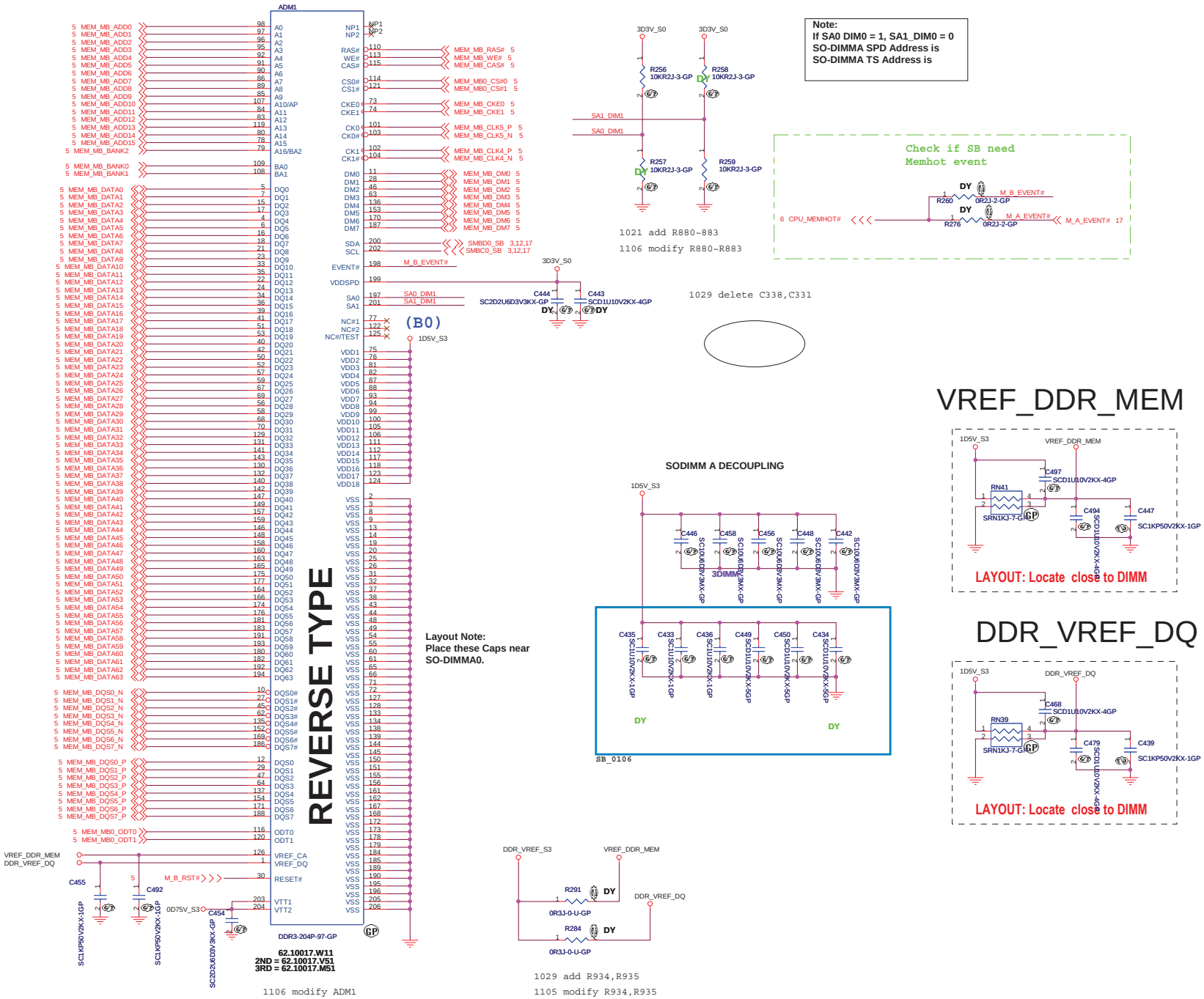
JE70-DN

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

Title: ATi-SB820 STRAPPING (5/5)

Size: A3 | Document Number: JE70-DN | Rev: SB

Date: Tuesday, February 23, 2010 | Sheet 15 of 63



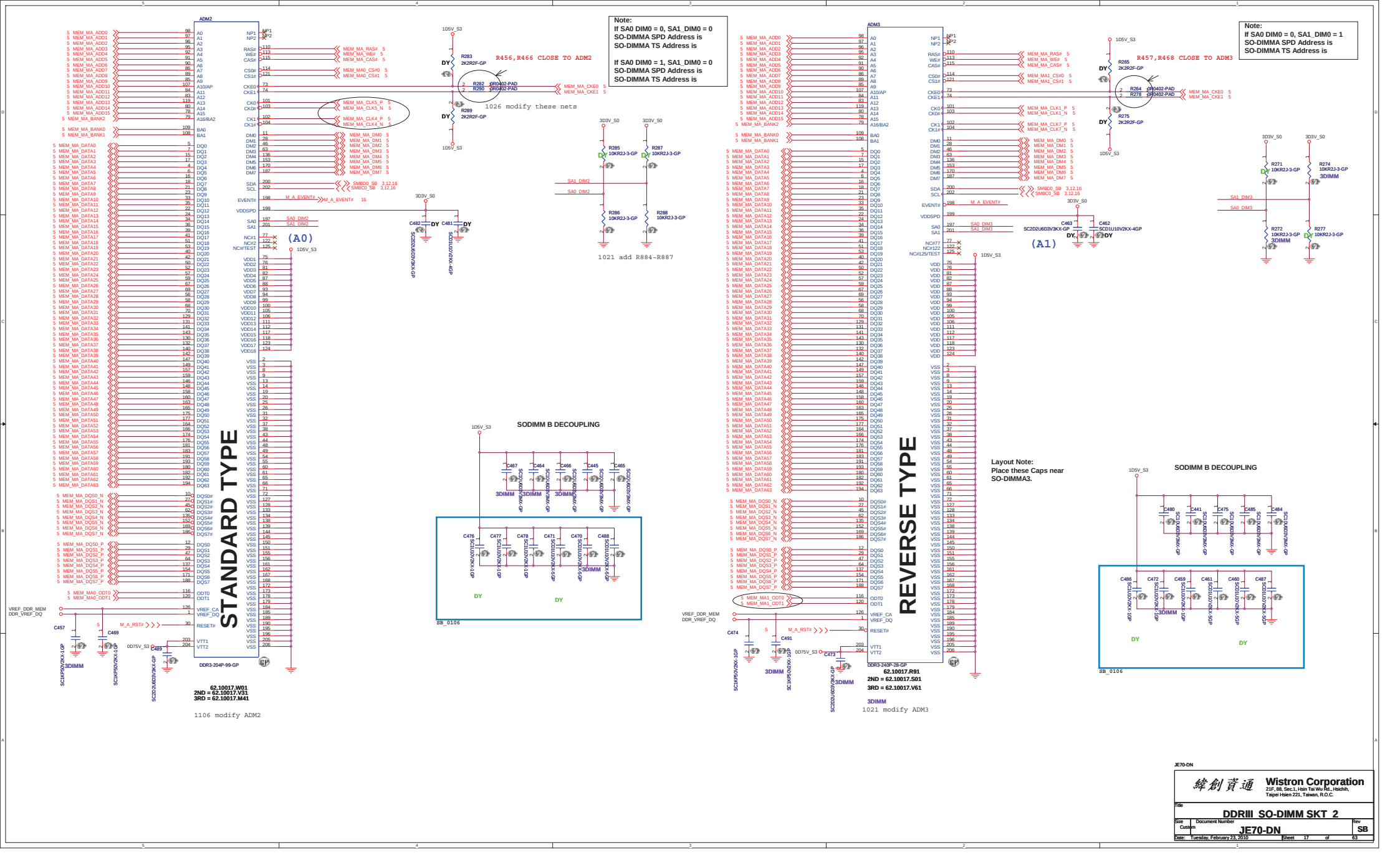
JE70-DN

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

Title: DDRIII_SO-DIMM SKT_1

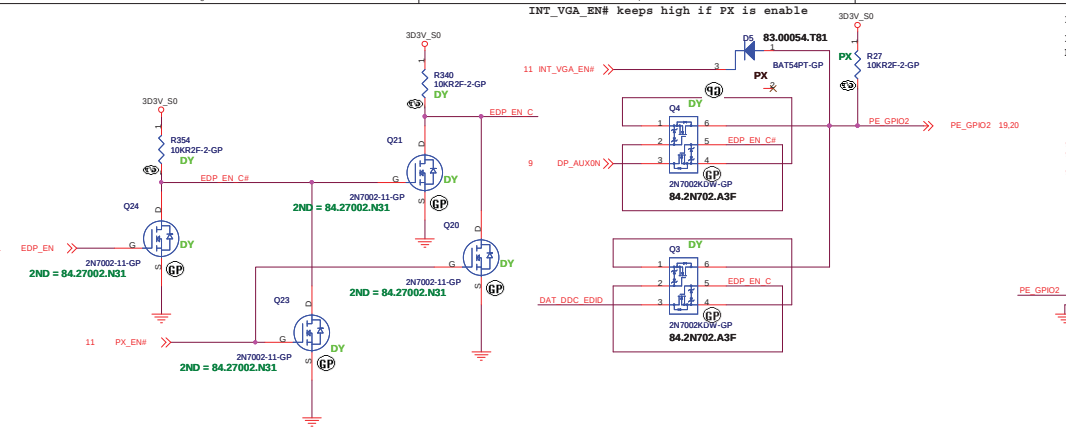
Size	Document Number	Rev
Custom	JE70-DN	SB

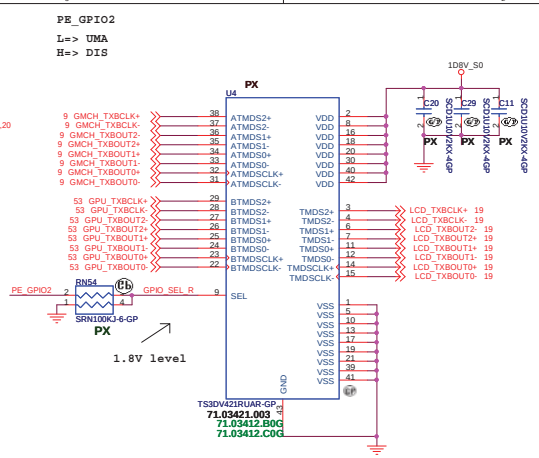
Date: Tuesday, February 23, 2010 Sheet 16 of 63

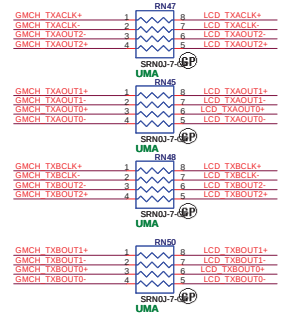


JE70-DN

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: DDRIII SO-DIMM SKT 2		
Size: Custom	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 17 of 63	



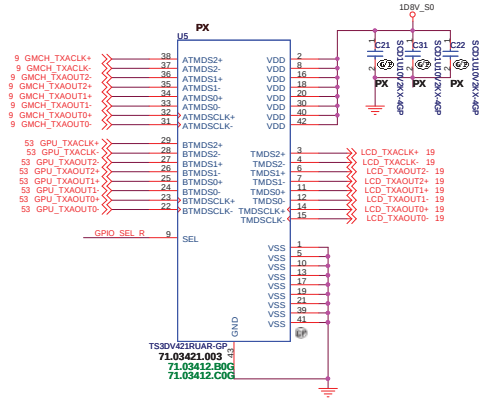


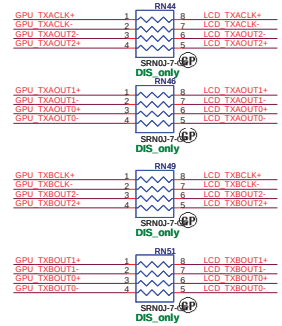


DISPLAY SUPPORT TABLE

	PX_EN#	DP_AUX0N EDP diabled	I2C_DATA EDP diabled	INT_VGA_EN#	DISPLAY OUTPUT
IGP only mode	1	X	X	0	IGP(LVDS,EDP,VGA,DP)
MXM only mode	1	X	X	1	MXM(LVDS,EDP,VGA,DP)
Power Express(muxed)	0	0/1	0/1	1	MXM/IGP(LVDS,EDP,VGA);MXM(DP)
Power Express(muxless)	0	X	X	0	IGP(LVDS,EDP,VGA,DP)

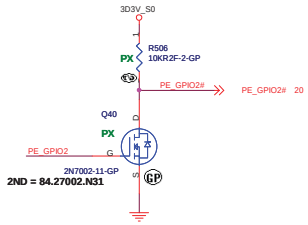
PX mode display device auto detection method:
VGA:I2C interface to NB
DP:HPD





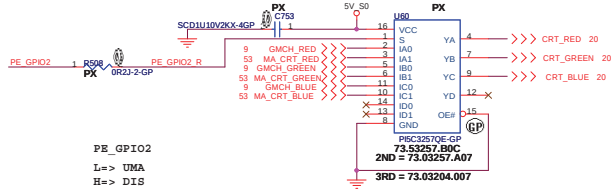
LVDS

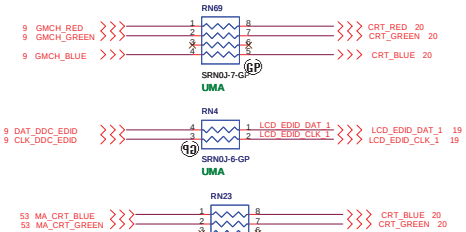
Function	SEL
An to nB1	L
An to nB2	H



CRT

$\overline{E}$	S	YA	YB	YC	YD	Function
H	X	Hi-Z	Hi-Z	Hi-Z	Hi-Z	Disable
L	L	IA0	IB0	IC0	ID0	S = 0
L	H	IA1	IB1	IC1	ID1	S = 1



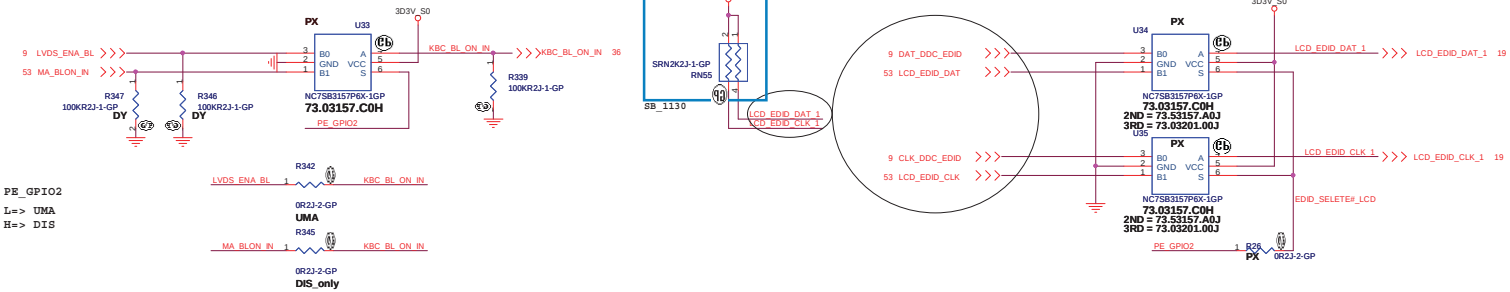


EDID

Function Table

Input (S)	Function
L	B_0 Connected to A
H	B_1 Connected to A

H = HIGH Logic Level L = LOW Logic Level



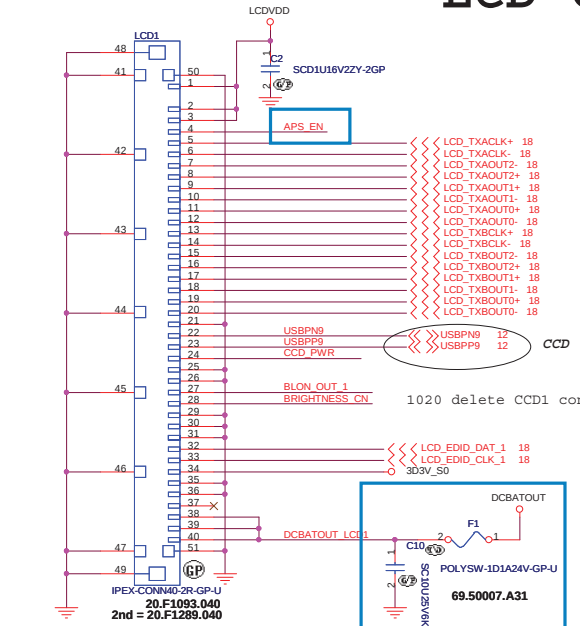
JE70-DN

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: PX		
Size: A2	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 18 of 63	

LCD CONN

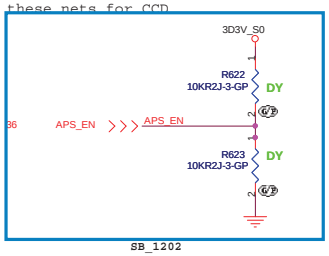
Inverter Pin	
Pin	Symbol
1	Vin
2	Vin
3	Brightness
4	BLON
5	GND
6	GND

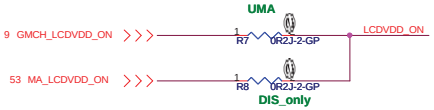
CCD Pin	
Pin	Symbol
1	CCD_PWR
2	USB-
3	USB+
4	GND
5	GND

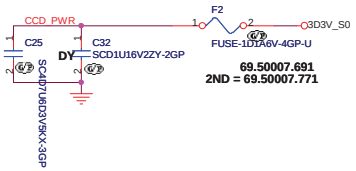


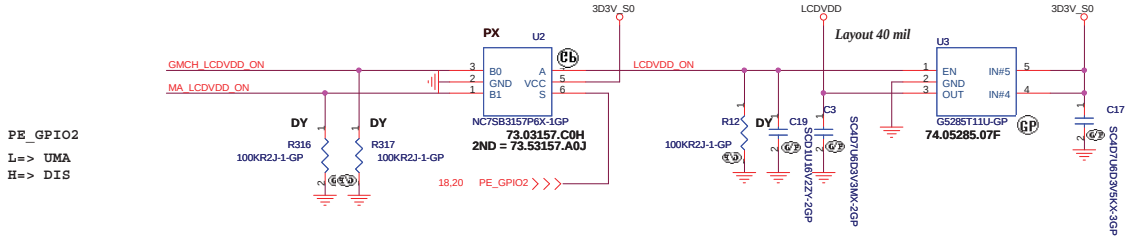
1029 add EC99,EC100

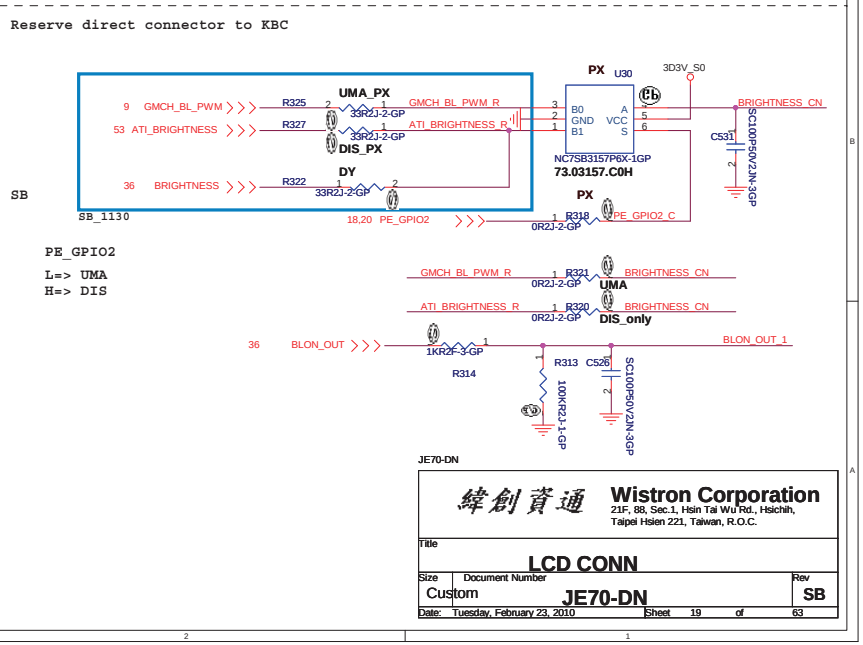
1020 delete CCD1 conn and modify these nets for CCD







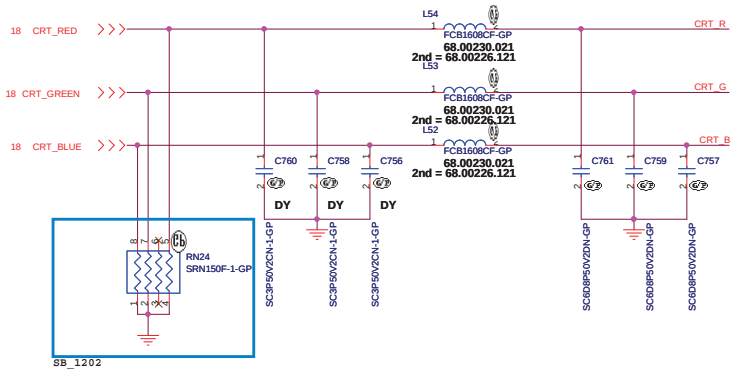




緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title: LCD CONN			
Size: Custom	Document Number: JE70-DN		Rev: SB
Date: Tuesday, February 23, 2010		Sheet 19 of 63	

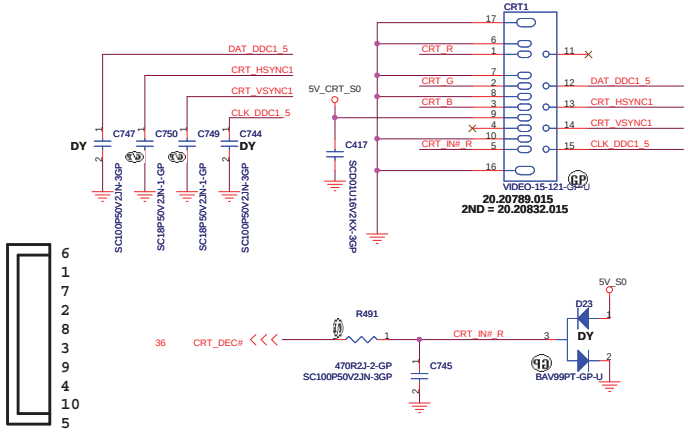
Layout Note:
Place these resistors close to the CRT-out connector

Ferrite bead impedance: 10 ohm@100MHz



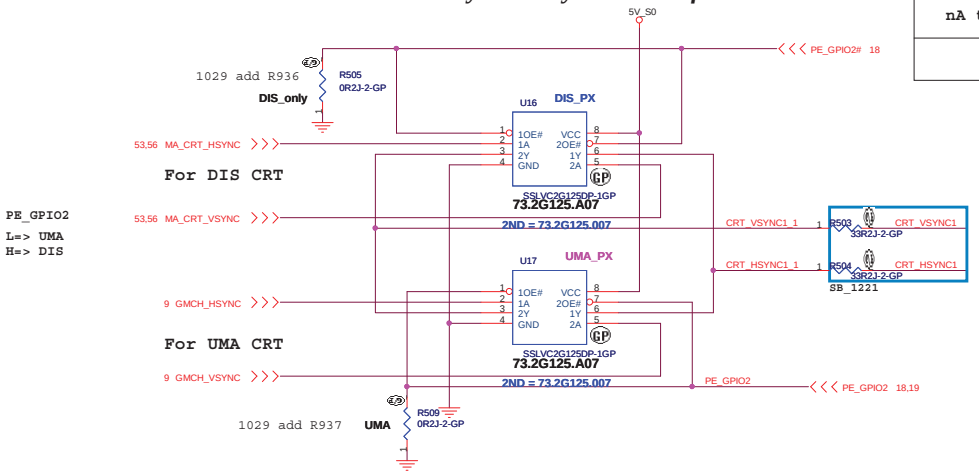
Layout Note:
**** Must be a ground return path between this ground and the ground on the VGA connector.***
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.

CRT I/F & CONNECTOR

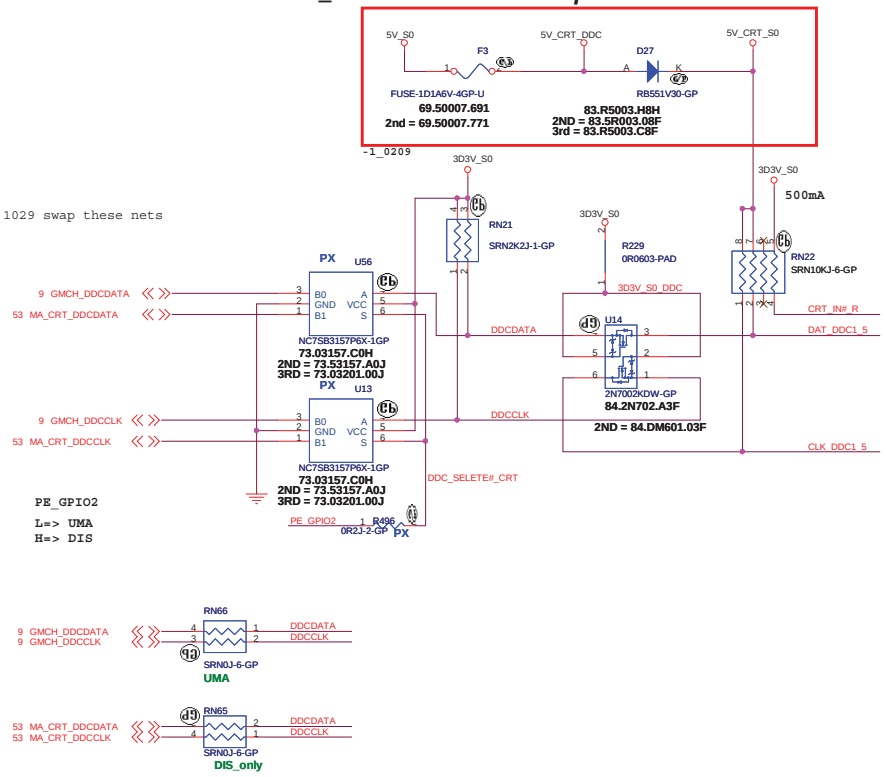


Hsync & Vsync level shift

Function	OE#
nA to nY	L
X	H



DDC_CLK & DATA level shift



JE70-DN

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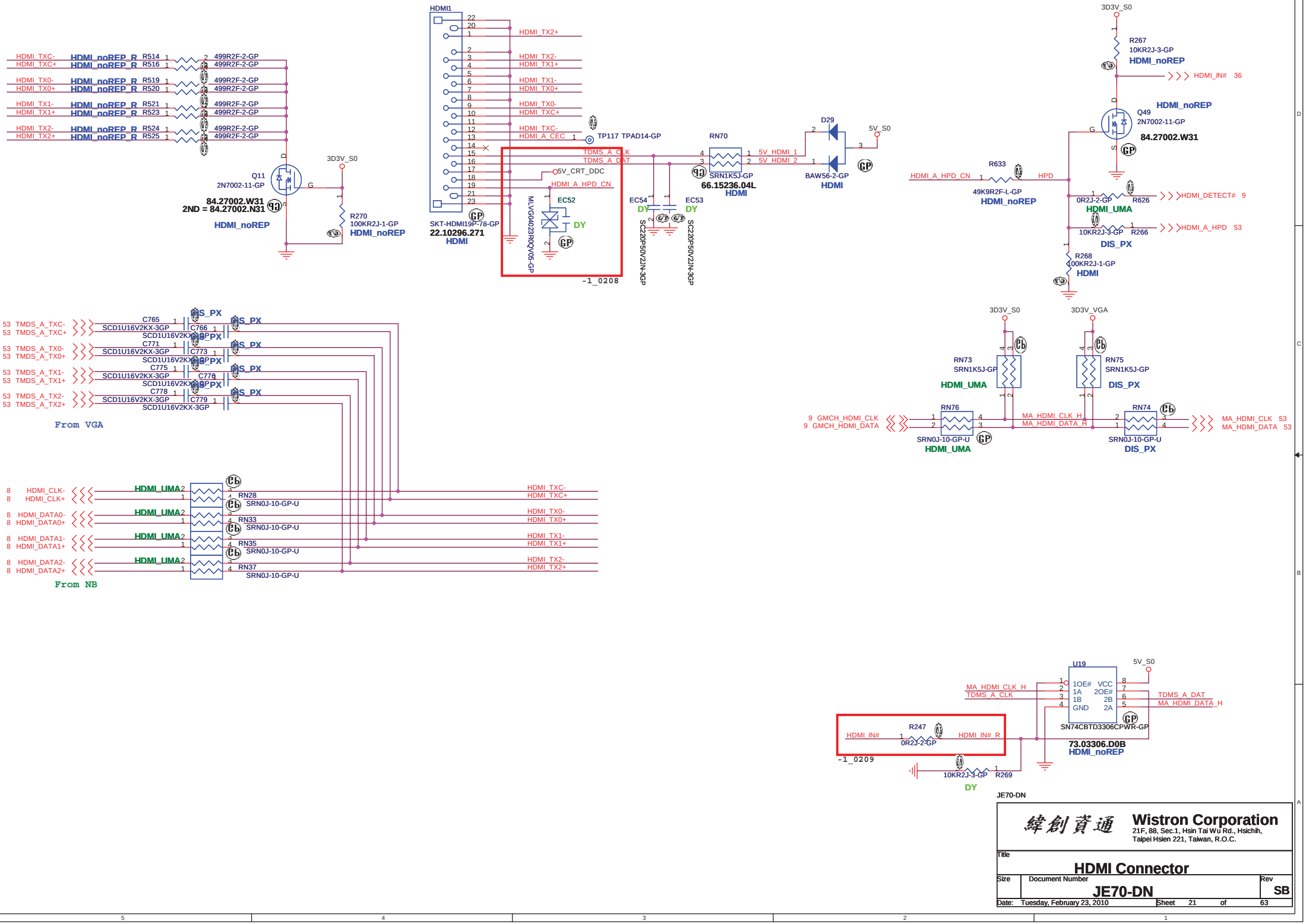
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: CRT Connector
Size | Document Number: JE70-DN | Rev: SB
Date: Tuesday, February 23, 2010 | Sheet 20 of 63


HDMI_TXC-
HDMI_TXC+
HDMI_TX0-
HDMI_TX0+
HDMI_TX1-
HDMI_TX1+
HDMI_TX2-
HDMI_TX2+
HDMI_noREP_R R514
HDMI_noREP_R R516
HDMI_noREP_R R519
HDMI_noREP_R R520
HDMI_noREP_R R521
HDMI_noREP_R R523
HDMI_noREP_R R524
HDMI_noREP_R R525
499R2F-2-GP
Q11
2N7002-11-GP
84.27002.W31
2ND = 84.27002.N31
HDMI_noREP
3D3V_S0
R270
100KR2J-1-GP
HDMI_noREP
HDMI1
HDMI_TX2+
HDMI_TX2-
HDMI_TX1+
HDMI_TX1-
HDMI_TX0+
HDMI_TX0-
HDMI_TXC+
HDMI_TXC-
HDMI_A_CEC
TP117 TPAD14-GP
TDMS_A_CLK
TDMS_A_DAT
5V_CRT_DDC
HDMI_A_HPD_CN
EC52
DY
MLVG0402B80QV05-GP
EC54
EC53
SC220P50V2JN-3GP
SKT-HDMI19P-78-GP
22.10296.271
HDMI
-1_0208
RN70
5V_HDMI_1
5V_HDMI_2
SRN1K5J-GP
66.15236.04L
HDMI
D29
BAW56-2-GP
5V_S0
3D3V_S0
R267
10KR2J-3-GP
HDMI_noREP
HDMI_IN# 36
Q49
2N7002-11-GP
84.27002.W31
R633
49K9R2F-L-GP
HDMI_A_HPD_CN
HPD
R626
0R2J-2-GP
HDMI_UMA
HDMI_DETECT# 9
R266
10KR2J-3-GP
DIS_PX
HDMI_A_HPD 53
R268
100KR2J-1-GP
HDMI
53 TMDS_A_TXC-
53 TMDS_A_TXC+
53 TMDS_A_TX0-
53 TMDS_A_TX0+
53 TMDS_A_TX1-
53 TMDS_A_TX1+
53 TMDS_A_TX2-
53 TMDS_A_TX2+
C765
C766
C771
C773
C775
C776
C778
C779
SCD1U16V2KX-3GP
SCD1U16V2KX-3GPPX
S_PX
From VGA
3D3V_S0
3D3V_VGA
RN73
SRN1K5J-GP
HDMI_UMA
RN75
SRN1K5J-GP
DIS_PX
RN76
RN74
9 GMCH_HDMI_CLK
9 GMCH_HDMI_DATA
MA_HDMI_CLK_H
MA_HDMI_DATA_H
SRN0J-10-GP-U
MA_HDMI_CLK 53
MA_HDMI_DATA 53
8 HDMI_CLK-
8 HDMI_CLK+
8 HDMI_DATA0-
8 HDMI_DATA0+
8 HDMI_DATA1-
8 HDMI_DATA1+
8 HDMI_DATA2-
8 HDMI_DATA2+
HDMI_UMA
RN28
RN33
RN35
RN37
SRN0J-10-GP-U
HDMI_TXC-
HDMI_TXC+
HDMI_TX0-
HDMI_TX0+
HDMI_TX1-
HDMI_TX1+
HDMI_TX2-
HDMI_TX2+
From NB
U19
5V_S0
MA_HDMI_CLK_H
TDMS_A_CLK
TDMS_A_DAT
MA_HDMI_DATA_H
1OE#
VCC
1A
2OE#
1B
2B
GND
2A
SN74CBTD3306CPWR-GP
73.03306.D0B
HDMI_noREP
R247
HDMI_IN#
HDMI_IN#_R
0R2J-2-GP
-1_0209
10KR2J-3-GP
R269
DY
JE70-DN
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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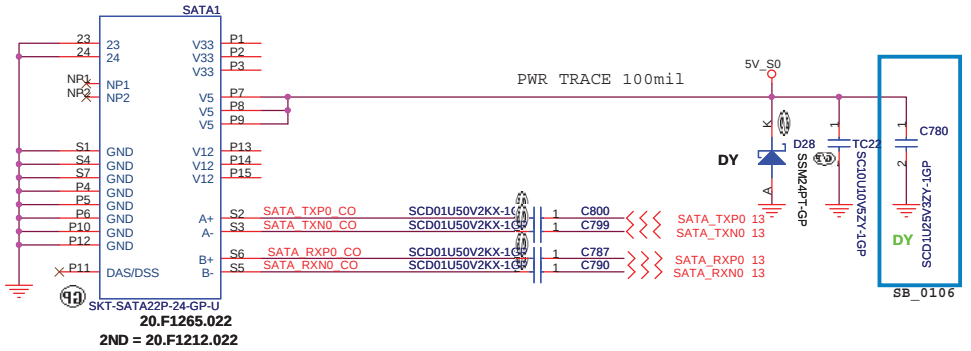
Title
HDMI Connector
Size
Document Number
JE70-DN
Rev
SB
Date: Tuesday, February 23, 2010
Sheet 21 of 63

SATA Connector



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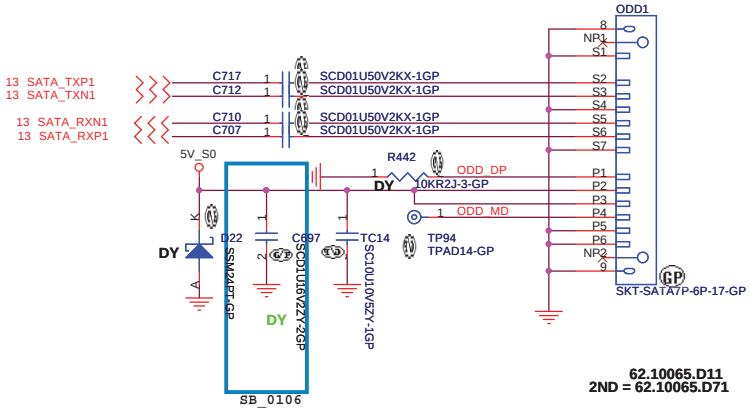
Title		
HDD		
Size	Document Number	Rev
	JE70-DN	SB
Date: Tuesday, February 23, 2010	Sheet 22 of 63	

ODD Connector



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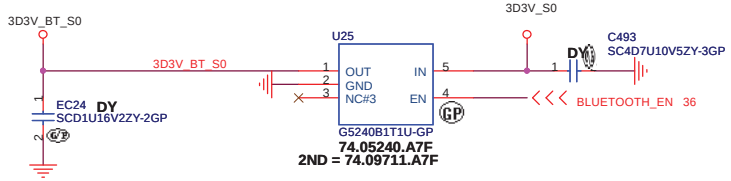
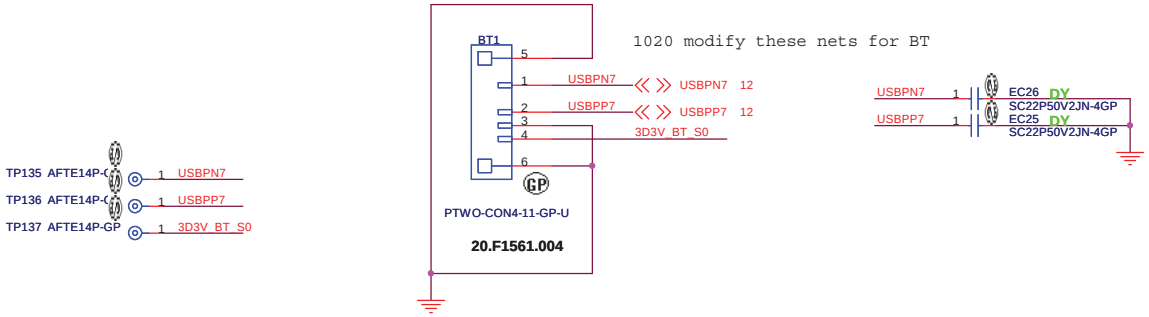
Title		
ODD		
Size	Document Number	Rev
	JE70-DN	SB
Date: Tuesday, February 23, 2010	Sheet 23 of 63	

BLUETOOTH MODULE

1.5A / High Active Voltage 2V





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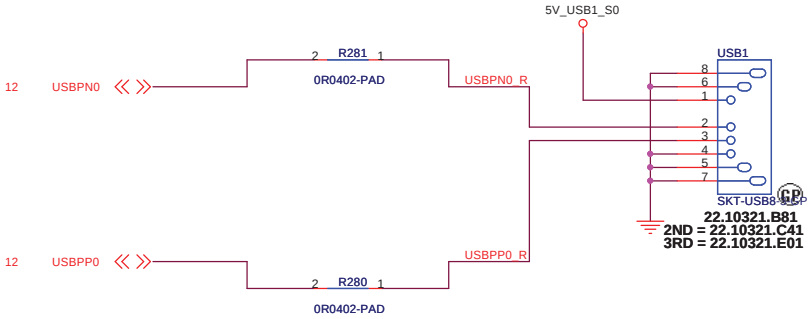
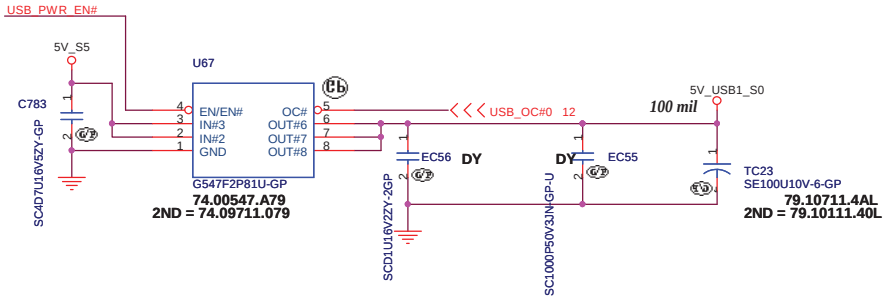
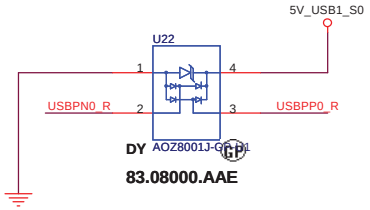
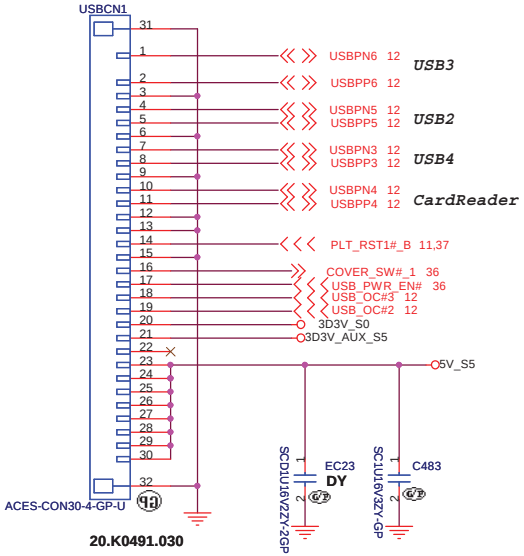
Taipei Hsien 221, Taiwan, R.O.C.

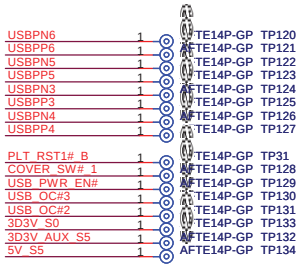
Title		
BLUETOOTH		
Size	Document Number	Rev
	JE70-DN	SB
Date: Tuesday, February 23, 2010	Sheet 24 of 63	





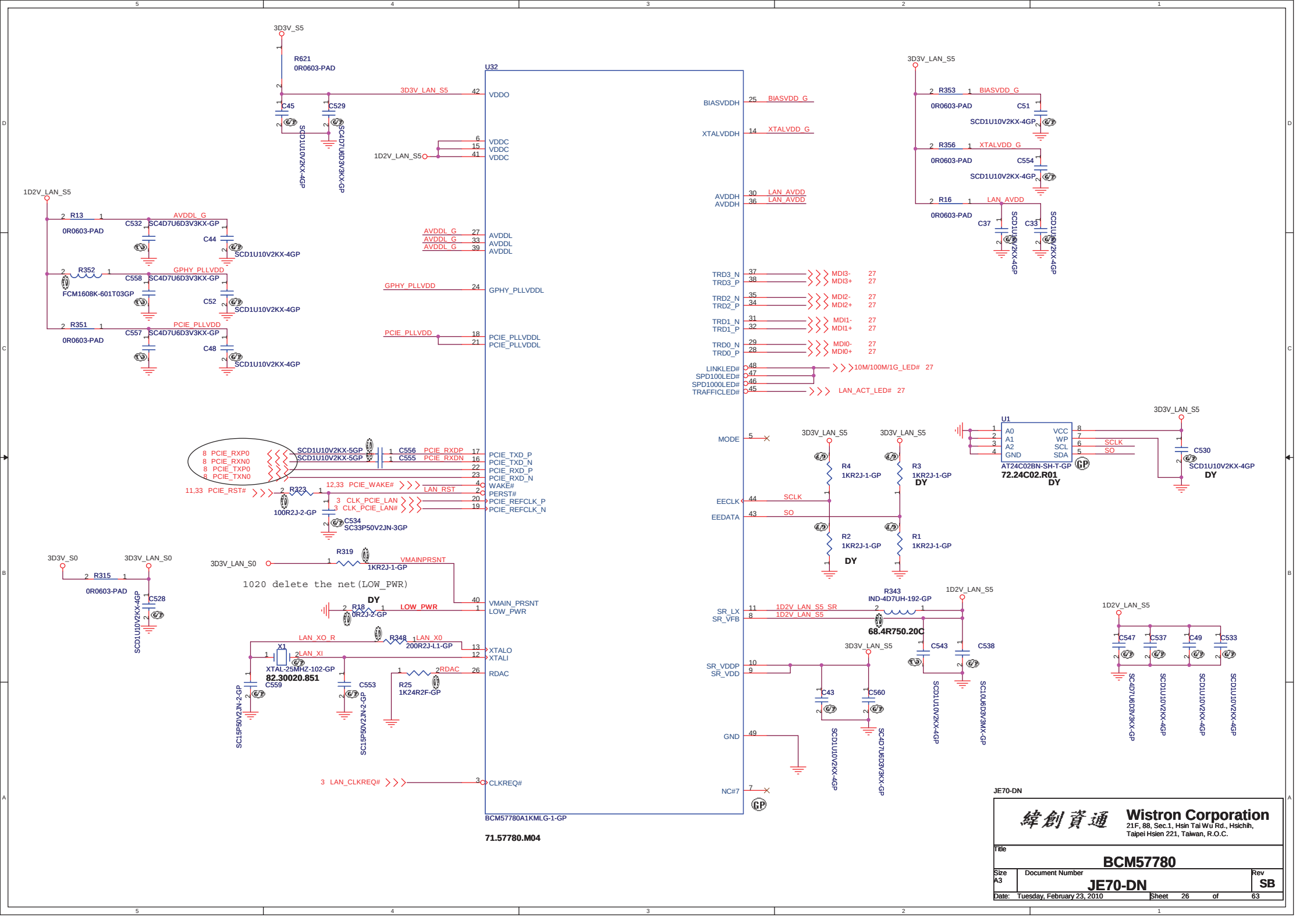






JE70-DN

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	**USB**
Size	Document Number: **JE70-DN** — Rev: **SB**
Date: Tuesday, February 23, 2010	Sheet 25 of 63



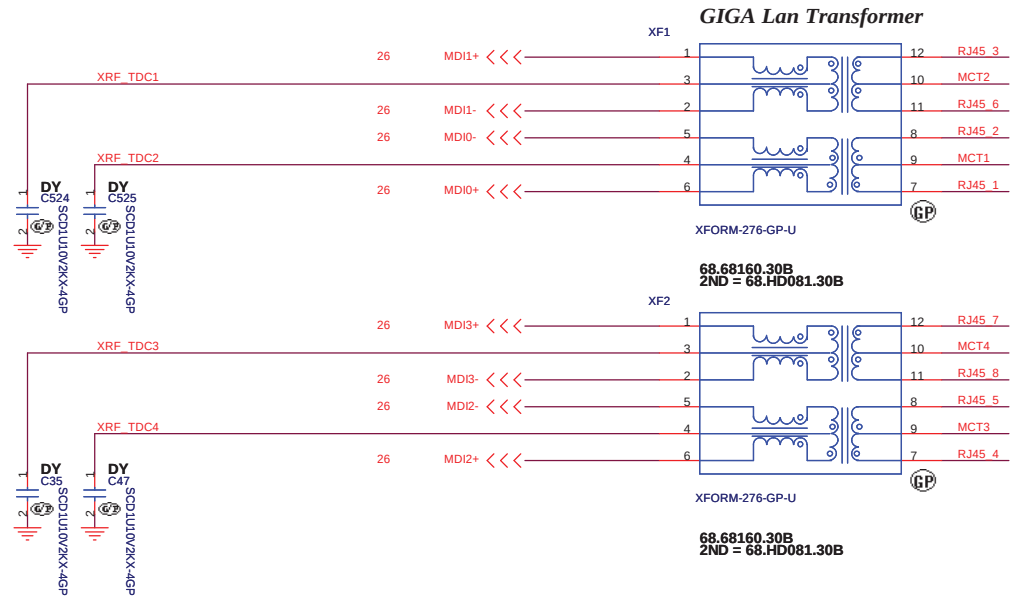
JE70-DN

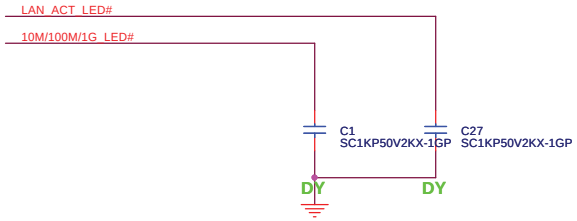
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**BCM57780**	
Size A3	Document Number **JE70-DN**	Rev **SB**
Date: Tuesday, February 23, 2010	Sheet 26 of 63	

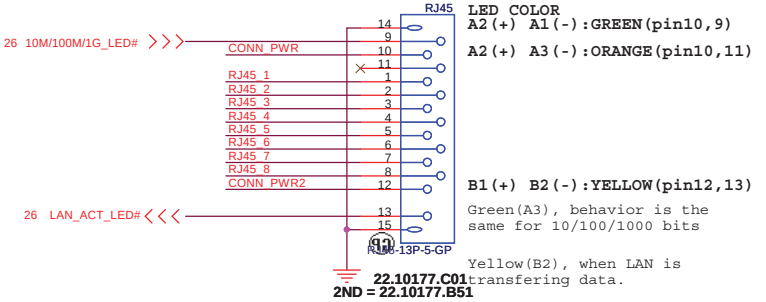
1.route on bottom as differential pairs.
2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
3.No vias, No 90 degree bends.
4.pairs must be equal lengths.
5.6mil trace width,12mil separation.
6.36mil between pairs and any other trace.
7.Must not cross ground moat,except
RJ-45 moat.

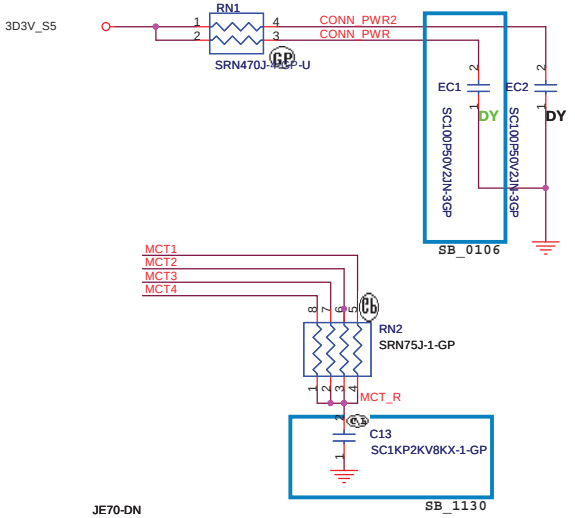
LAN Connector

LAN Connector









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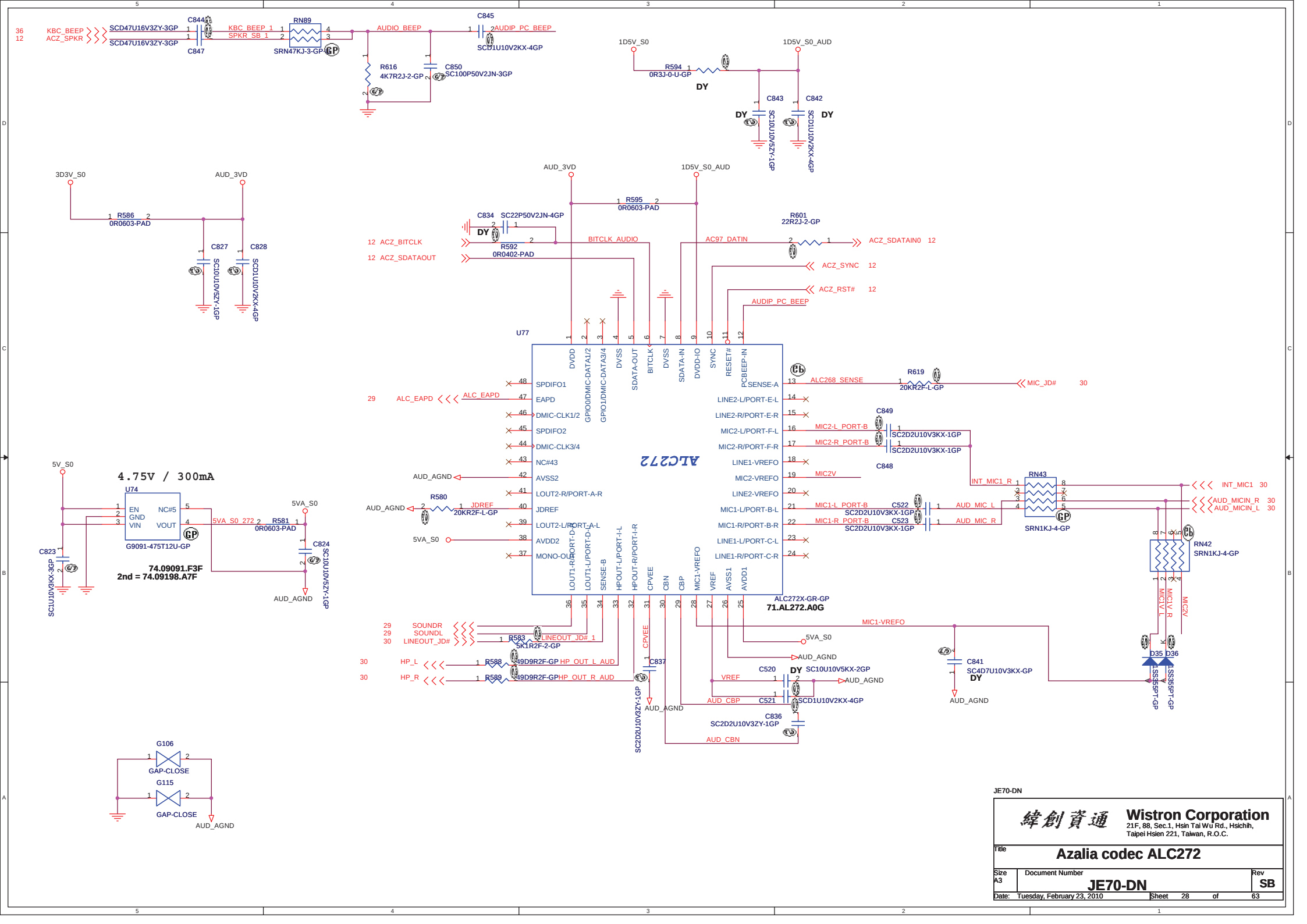
Taipei Hsien 221, Taiwan, R.O.C.

Title	LAN CONN	
Size A3	Document Number JE70-DN	Rev SB
Date: Monday, March 01, 2010	Sheet 27 of 63	



JE70-DN

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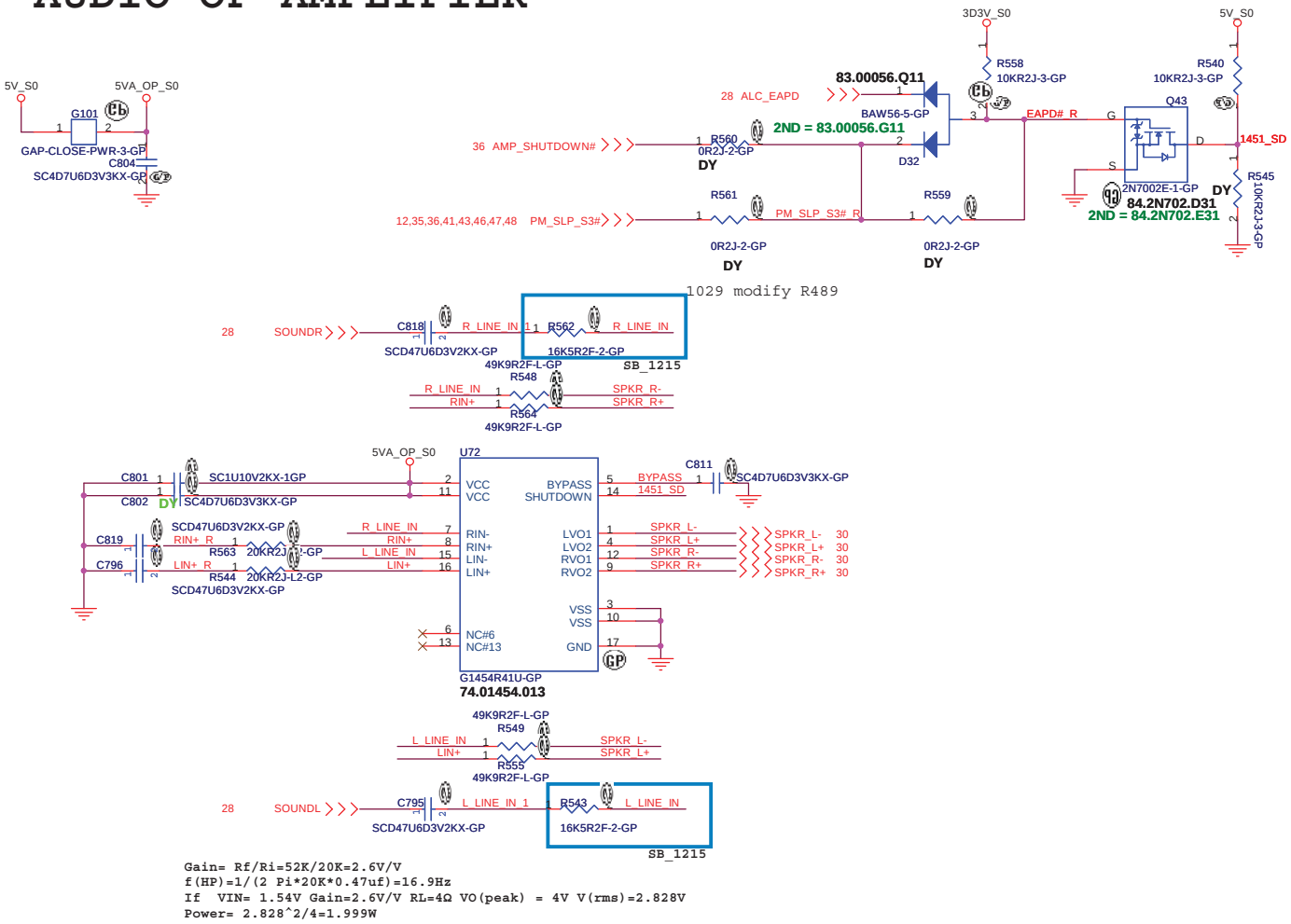
Title	**Azalia codec ALC272**
Size A3	Document Number **JE70-DN** Rev **SB**
Date: Tuesday, February 23, 2010	Sheet 28 of 63

AUDIO OP AMPLIFIER




```
Gain= Rf/Ri=52K/20K=2.6V/V
f(HP)=1/(2 Pi*20K*0.47uf)=16.9Hz
If  VIN= 1.54V Gain=2.6V/V RL=4Ω VO(peak) = 4V V(rms)=2.828V
Power= 2.828^2/4=1.999W
```

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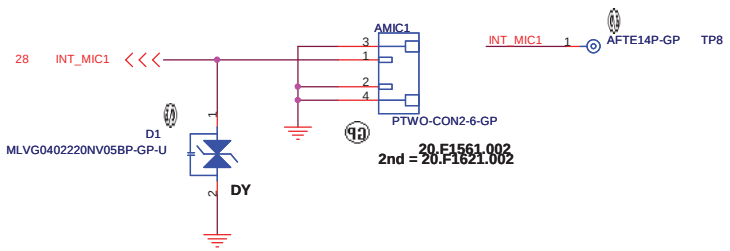
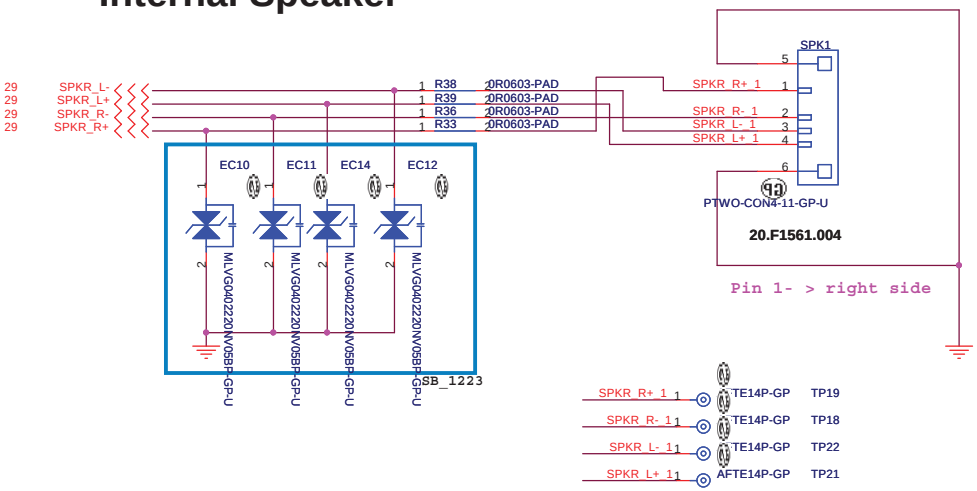
Title	**AUDIO AMP**	
Size	Document Number **JE70-DN**	Rev **SB**
Date: Tuesday, February 23, 2010	Sheet 29 of 63	

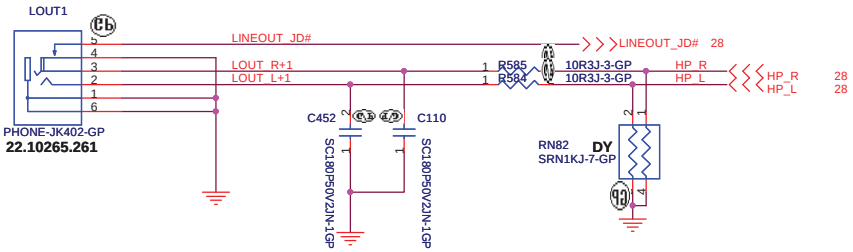
Internal Mic

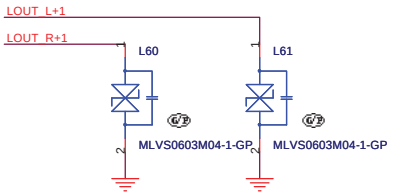


Internal Speaker

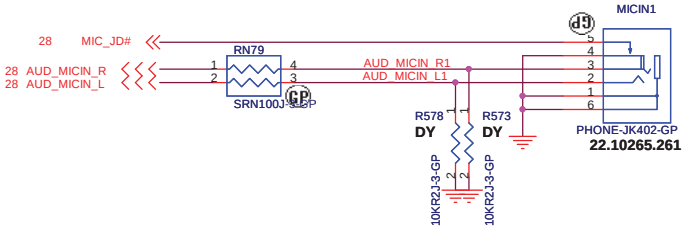


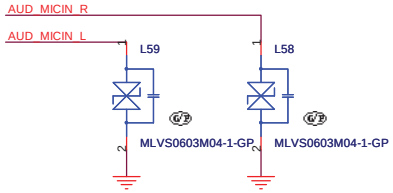
LINE OUT





MIC IN





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Title: AUDIO JACK

Size	Document Number	Rev
	JE70-DN	SB

Date: Monday, March 01, 2010 Sheet 30 of 63

No Modem Function

JE70-DN

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Title: MDC		
Size	Document Number: JE70-DN	Rev: SB
Date: Thursday, November 19, 2009	Sheet 31 of 63	

5 IN1 CARD-READER (SD/MMC/MS/MS PRO/XD) on USB board

JE70-DN

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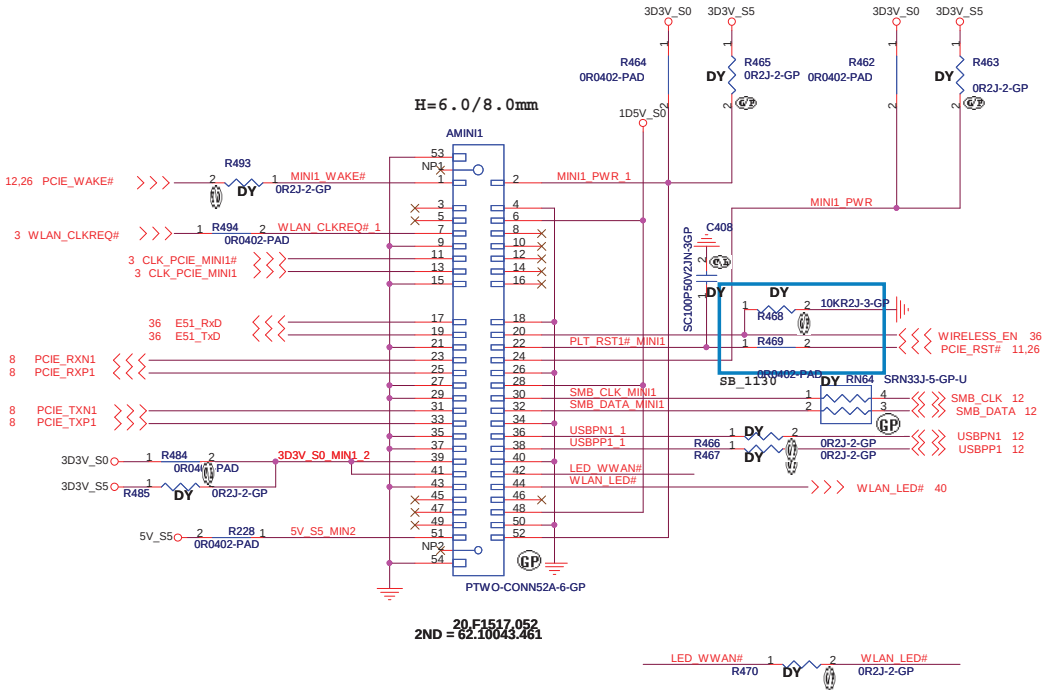
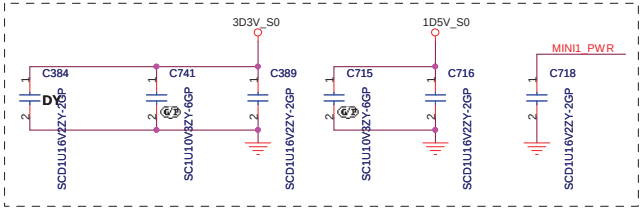
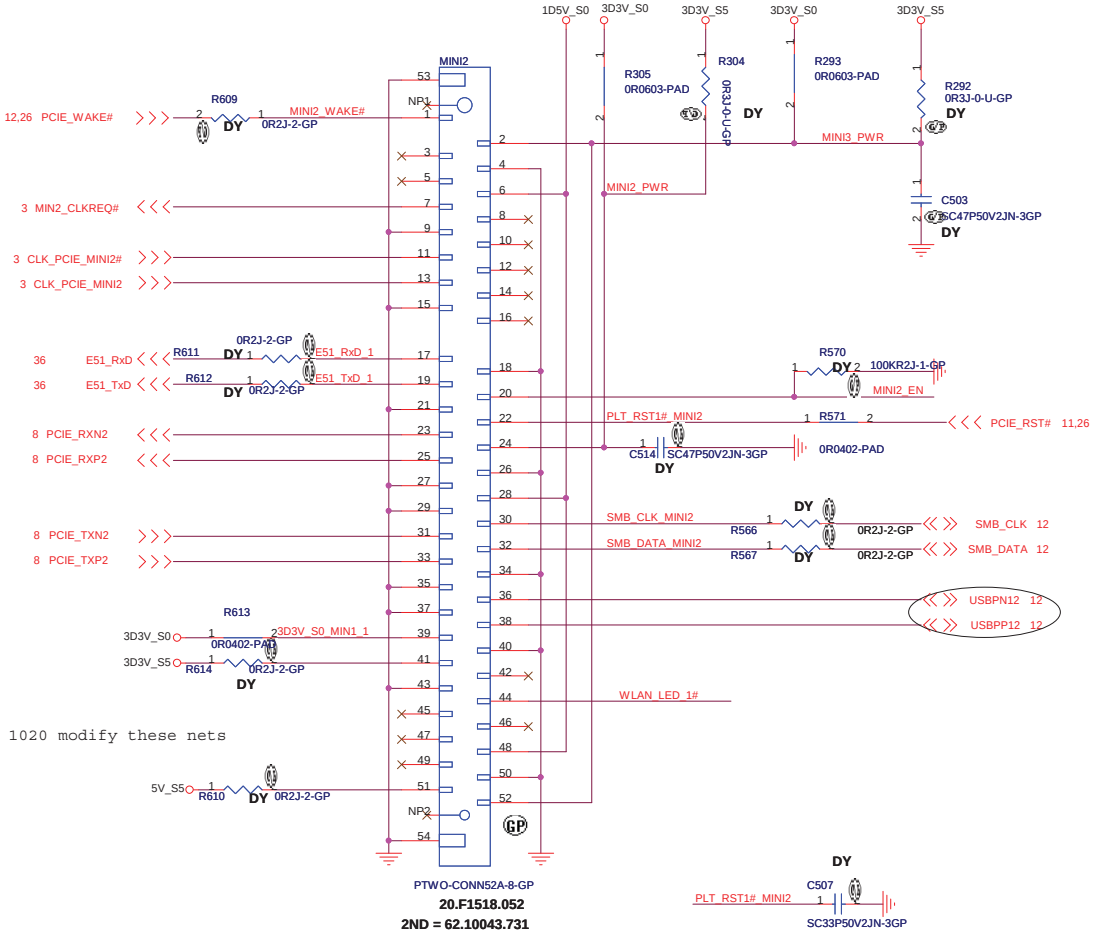
Title: **CARDREADER**		
Size	Document Number: **JE70-DN**	Rev: **SB**
Date: Thursday, November 19, 2009	Sheet 32 of 63	

Mini Card Connector(WLAN)

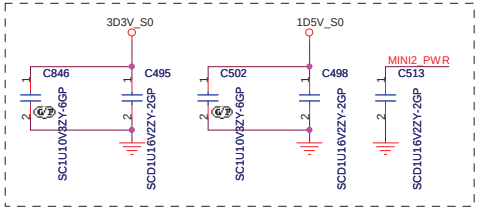


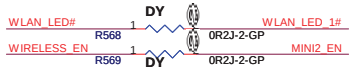


Mini Card Function



1020 modify these nets





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Title: MINI CARD		
Size	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 33 of 63	

No NEWCARD Function

JE70-DN

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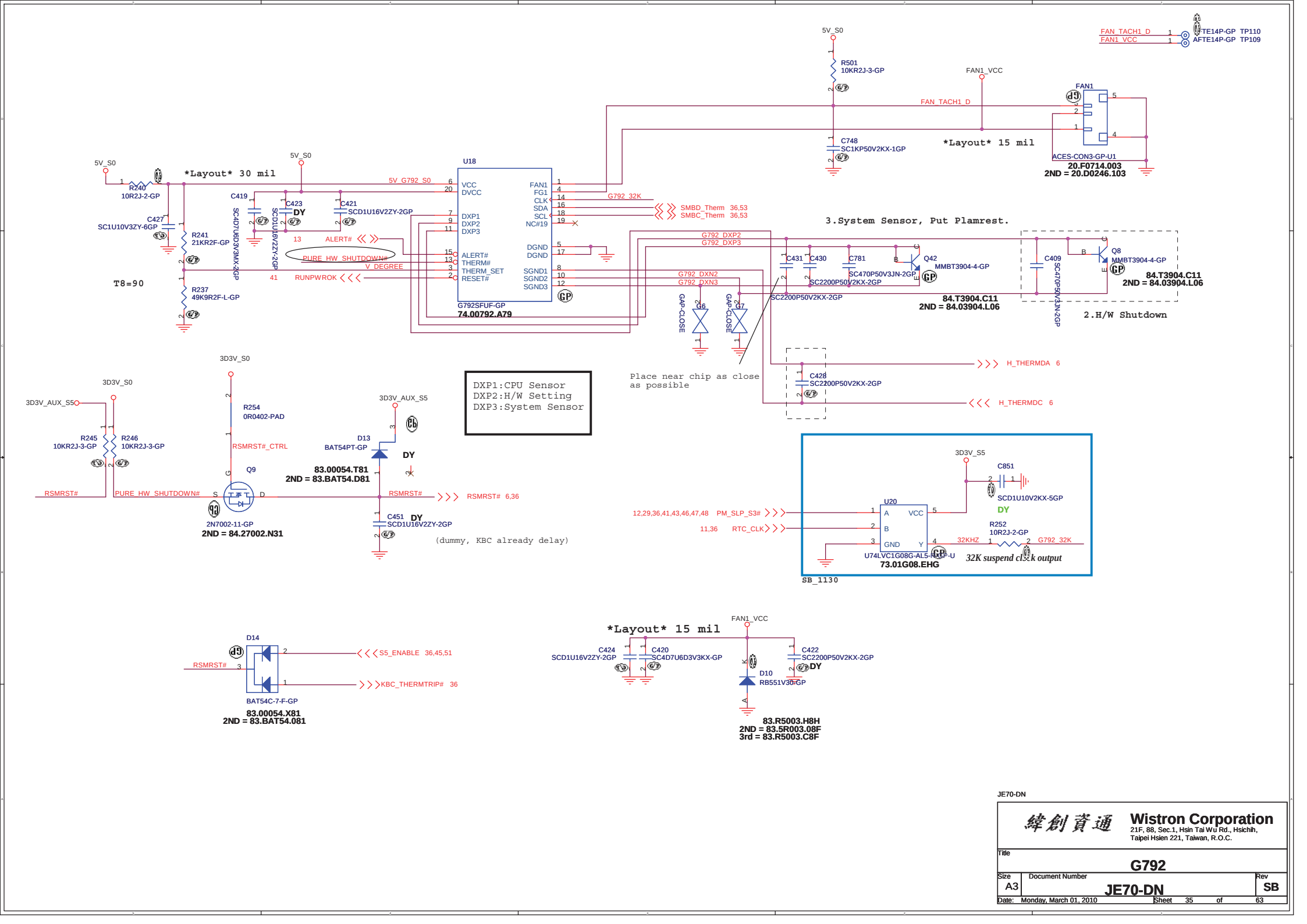
Title: NEW CARD		
Size	Document Number: JE70-DN	Rev: SB
Date: Thursday, November 19, 2009	Sheet 34 of 63	



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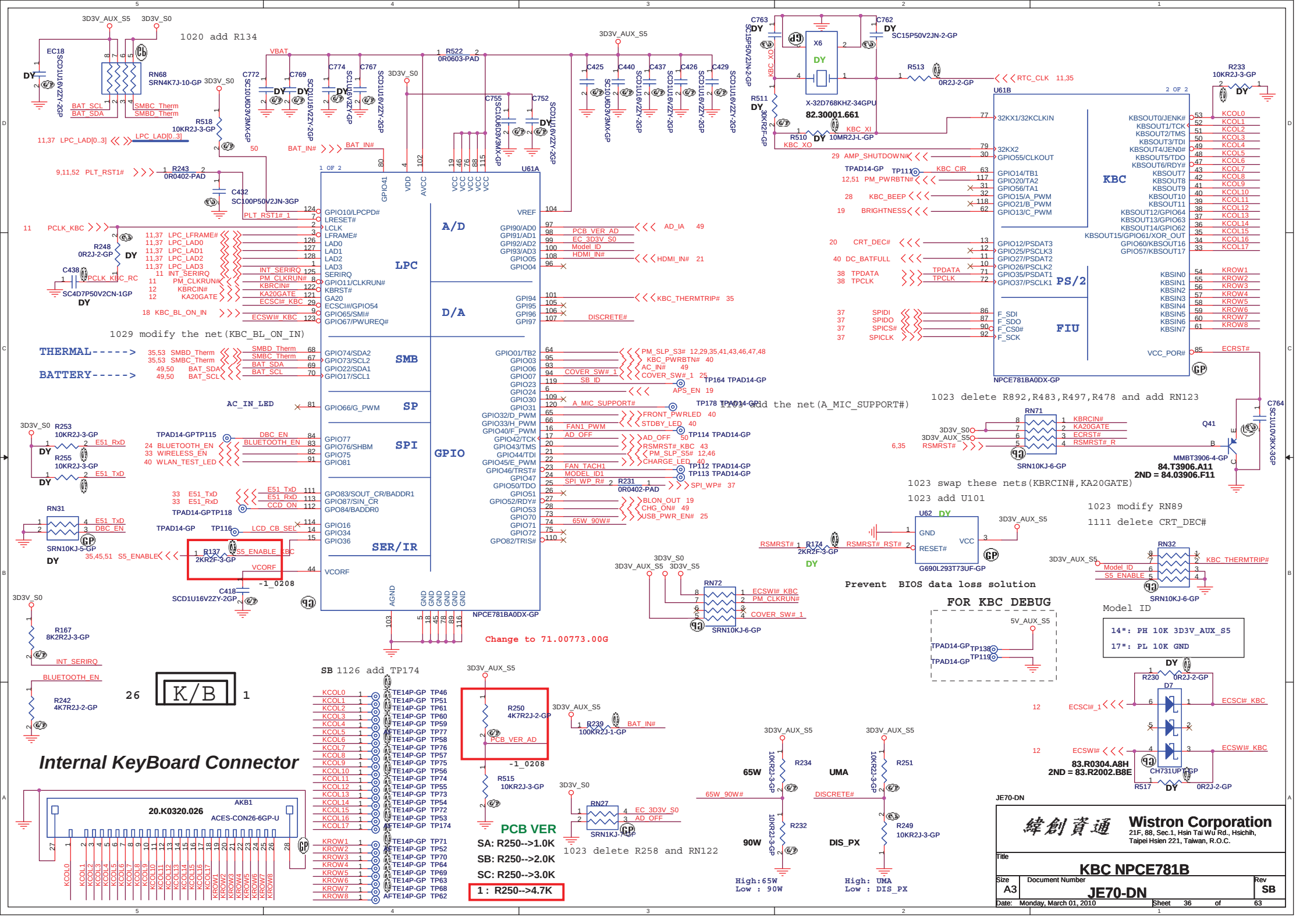
Title	G792	
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Monday, March 01, 2010	Sheet 35 of 63	


1020 add R134
1029 modify the net(KBC_BL_ON_IN)
1023 delete R892,R483,R497,R478 and add RN123
1023 add the net(A_MIC_SUPPORT#)
1023 swap these nets(KBRCIN#,KA20GATE)
1023 add U101
1023 modify RN89
1111 delete CRT_DEC#
Prevent BIOS data loss solution
FOR KBC DEBUG
Model ID
14": PH 10K 3D3V_AUX_S5
17": PL 10K GND
SB 1126 add TP174
1023 delete R258 and RN122
Change to 71.00773.00G
Internal KeyBoard Connector
PCB VER
SA: R250-->1.0K
SB: R250-->2.0K
SC: R250-->3.0K
1 : R250-->4.7K
THERMAL-----> 35,53 SMBD_Therm 35,53 SMBC_Therm
BATTERY-----> 49,50 BAT_SDA 49,50 BAT_SCL
84.T3906.A11
2ND = 84.03906.F11
82.30001.661
X-32D768KHZ-34GPU
83.R0304.A8H
2ND = 83.R2002.B8E
65W
90W
UMA
DIS_PX
High:65W
Low : 90W
High: UMA
Low : DIS_PX
U61A
U61B
KBC
PS/2
FIU
LPC
SMB
SP
SPI
GPIO
SER/IR
A/D
D/A
NPCE781BA0DX-GP
Wistron Corporation
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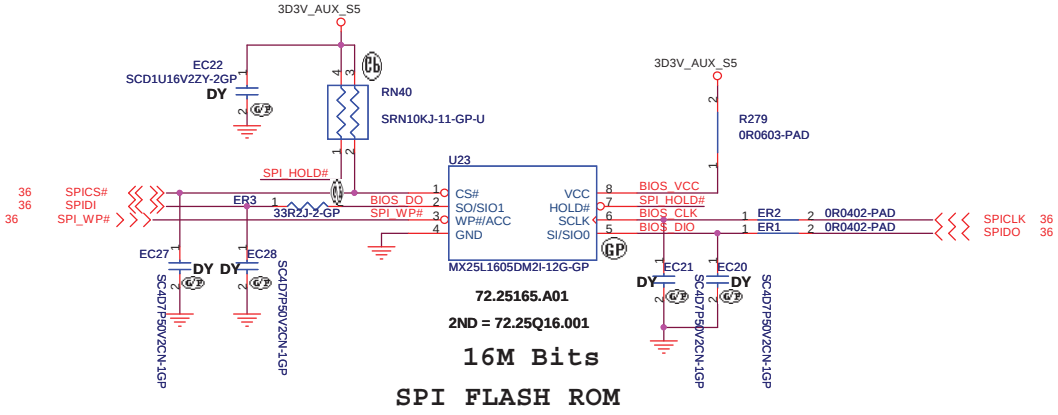
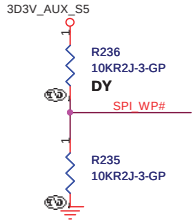
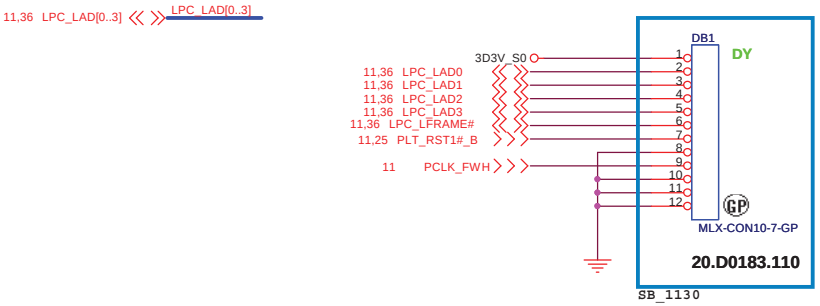
Taipei Hsien 221, Taiwan, R.O.C.
KBC NPCE781B
JE70-DN
Size A3
Document Number JE70-DN
Rev SB
Date: Monday, March 01, 2010
Sheet 36 of 63





GOLDEN FINGER FOR DEBUG BOARD



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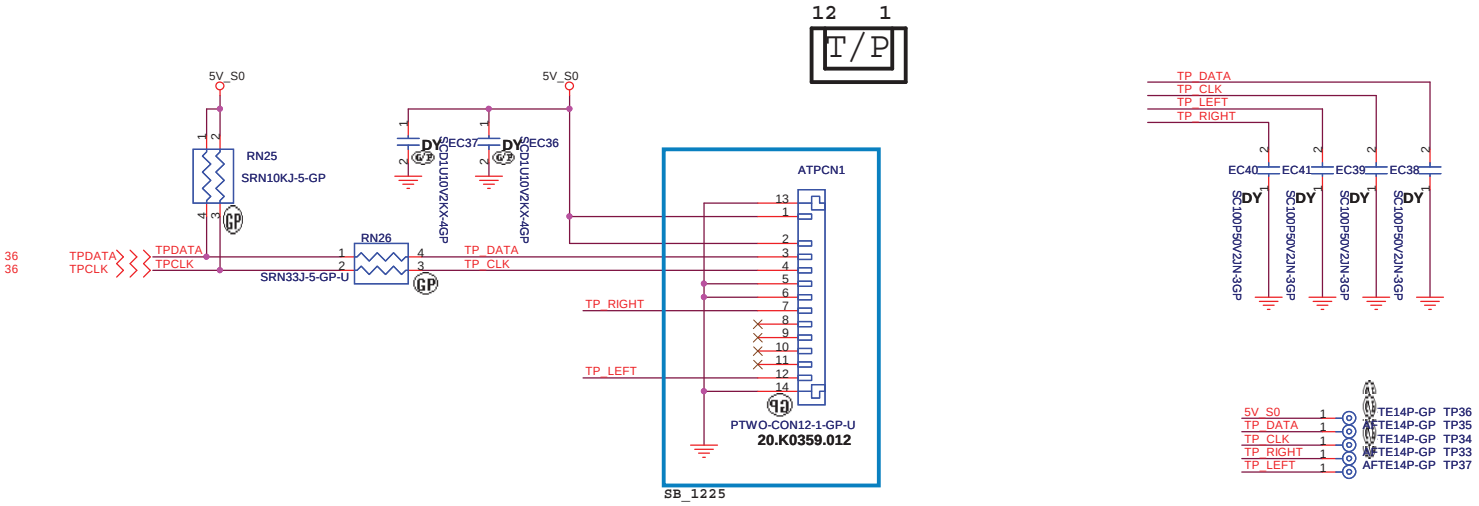
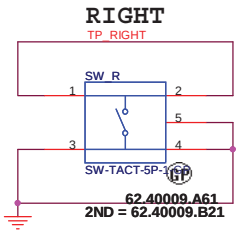
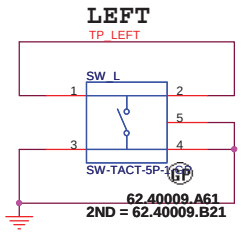
Title: BIOS		
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 37 of 63	







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Title: Touch PAD		
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 38 of 63	

NONE BOARD

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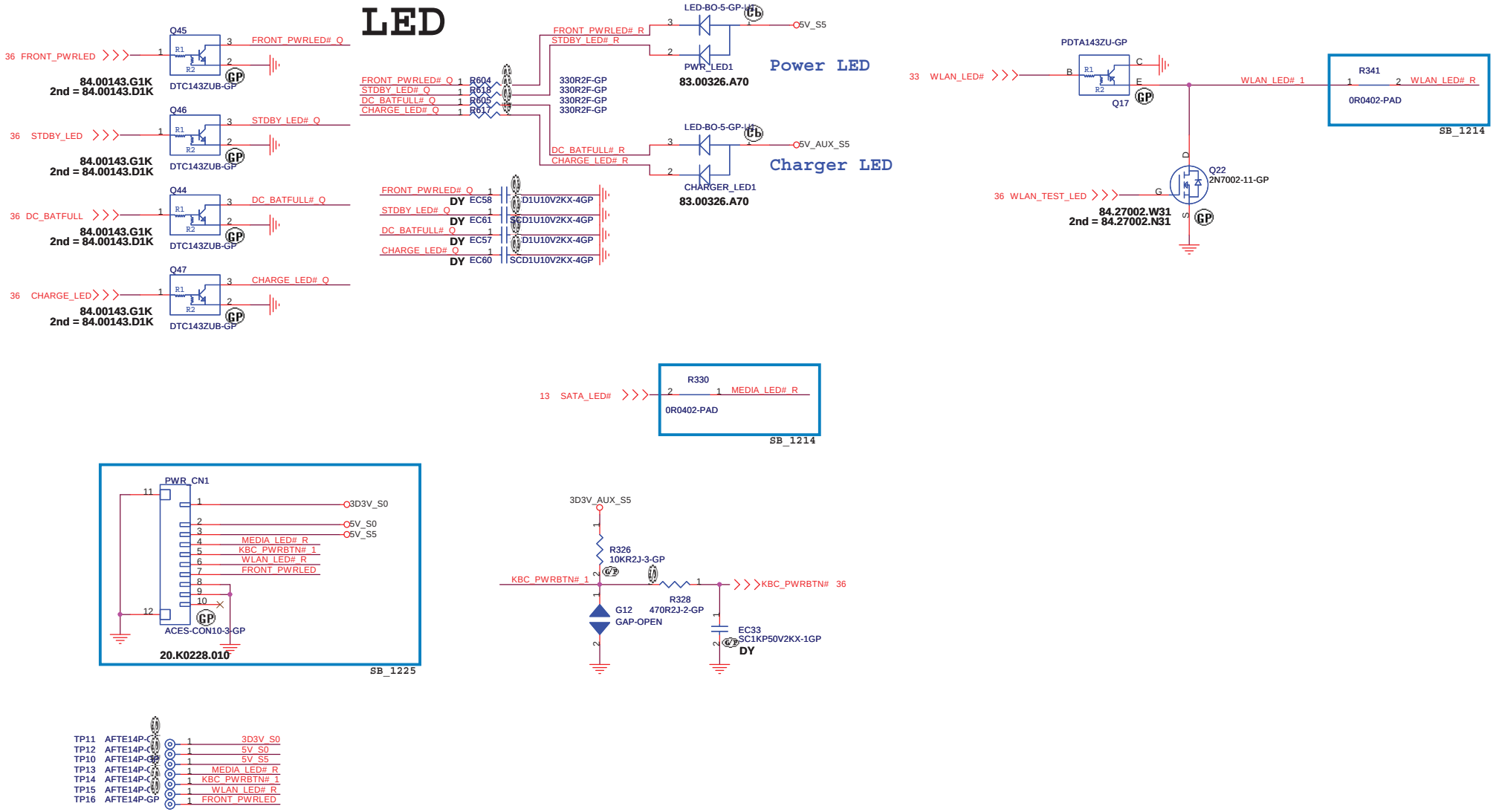
Title: NONE BOARD

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Thursday, November 19, 2009 Sheet 39 of 63

LED



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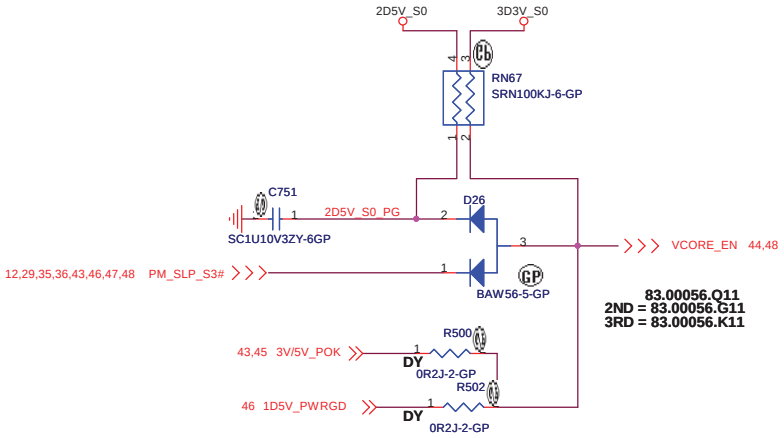
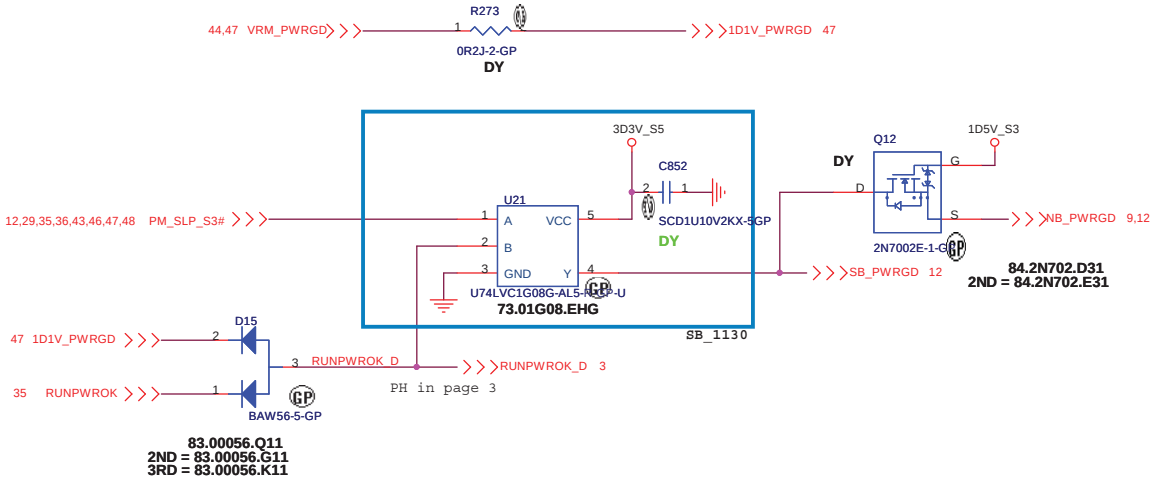
Title: LED		
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 40 of 63	



1D5V_S3_PWRGD

P/H @ 1D8V_S3 PAGE



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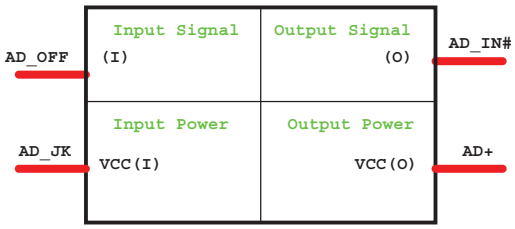
Title: **POWER ON LOGIC**

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Tuesday, February 23, 2010 Sheet 41 of 63

Adapter



CPU_CORE
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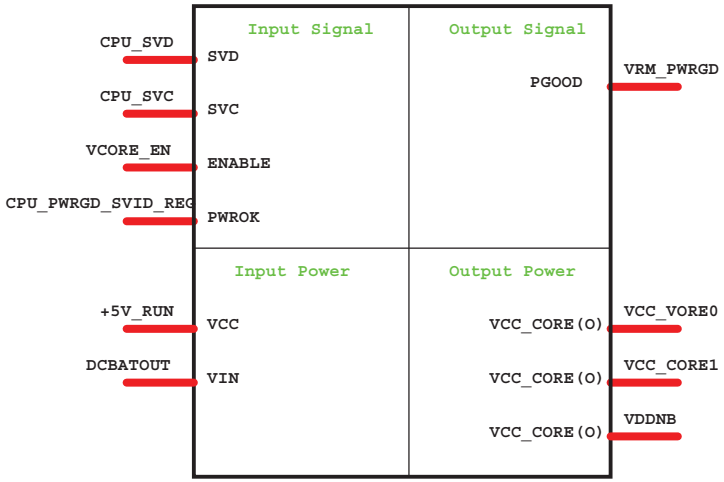

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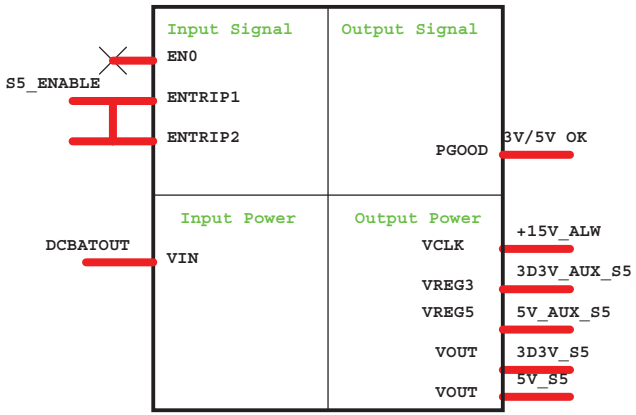
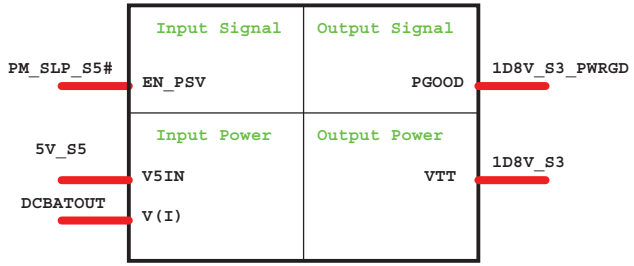


DCDC 1D8V(RT8209B)



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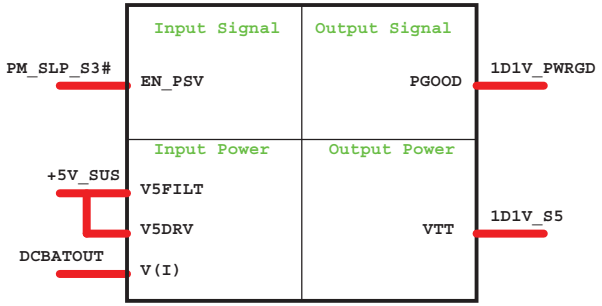

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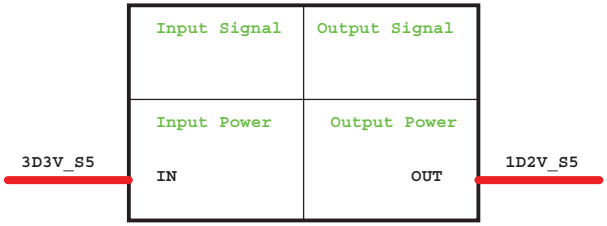
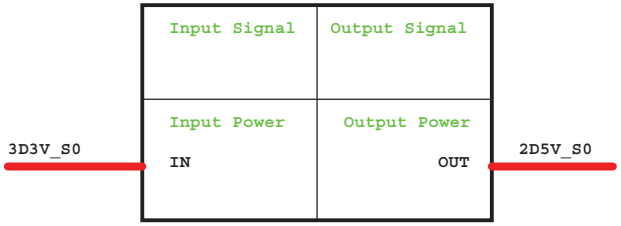
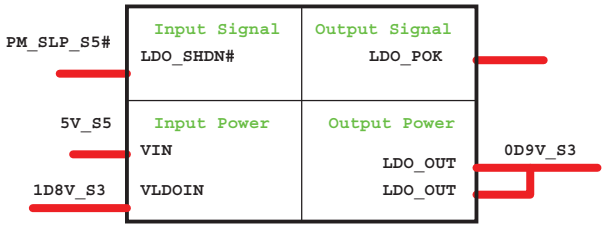


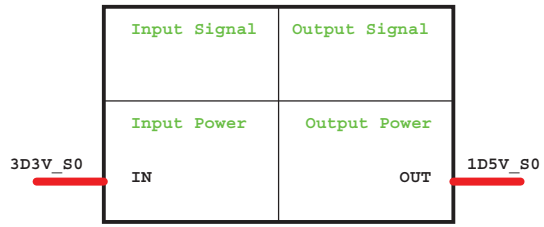
2D5V LDO R9161



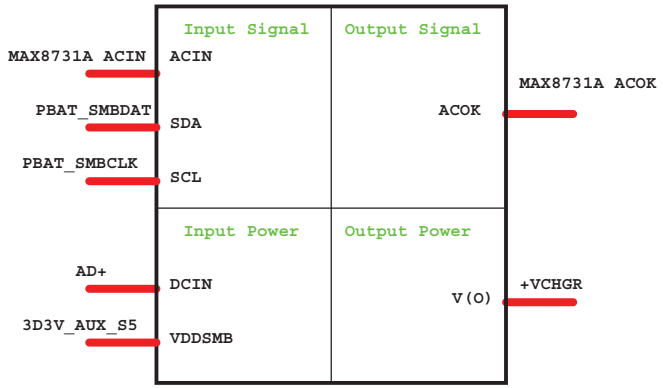
0D9V LDO RT9026



1D5V LDO G9571



CHARGER MAX8731



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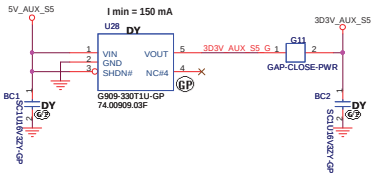
Title: **Power Block Diagram**

Size	Document Number	Rev
A3	JE70-DN	SB

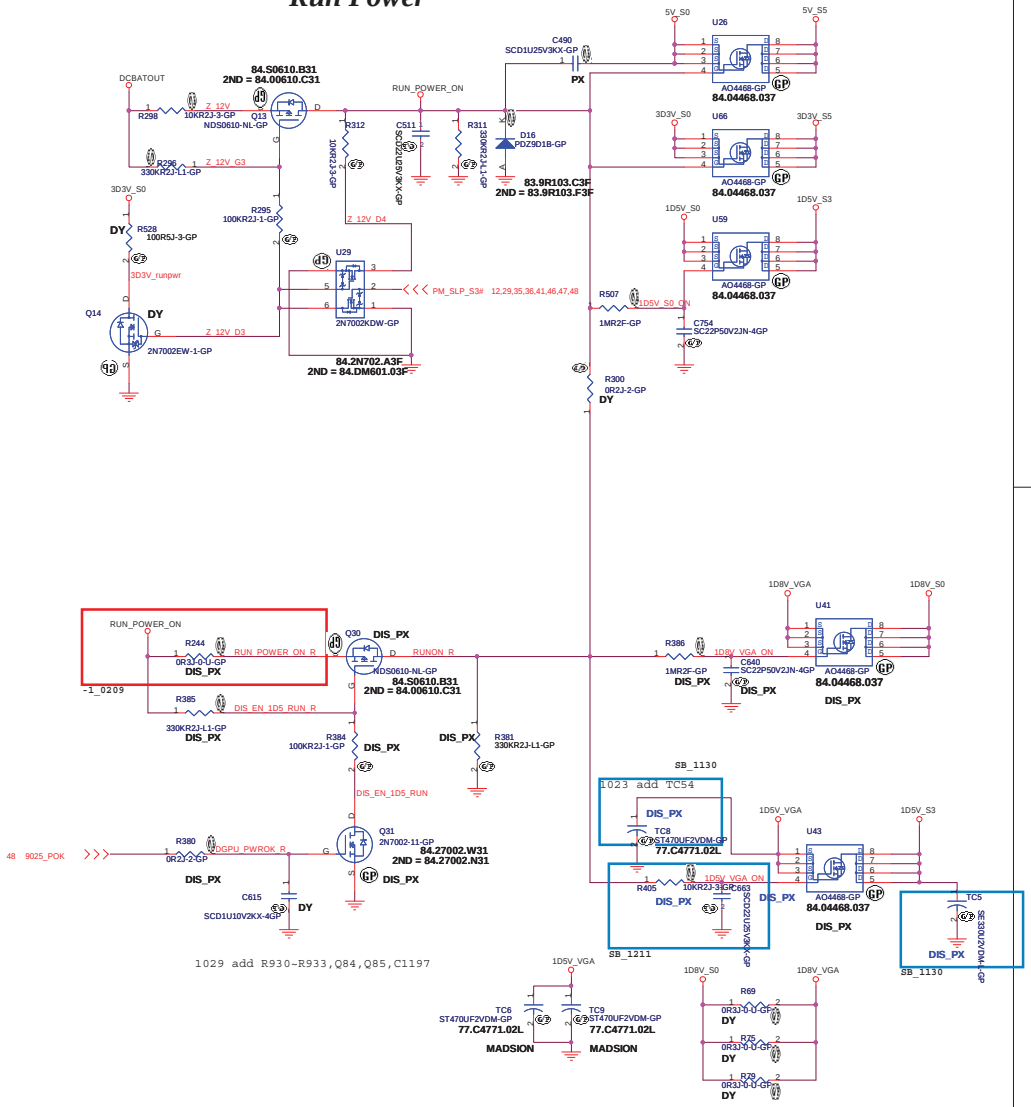
Date: Thursday, November 19, 2009 Sheet 42 of 63

Aux Power

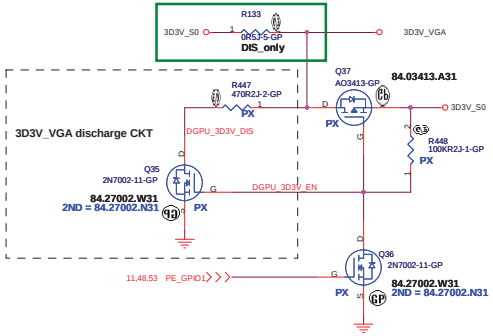
3D3V_AUX_S5

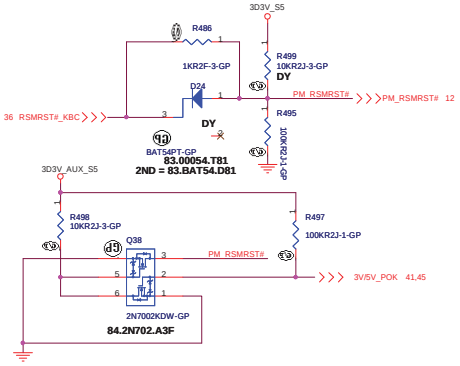


Run Power



+3VS to 3.3V_DELAY Transfer





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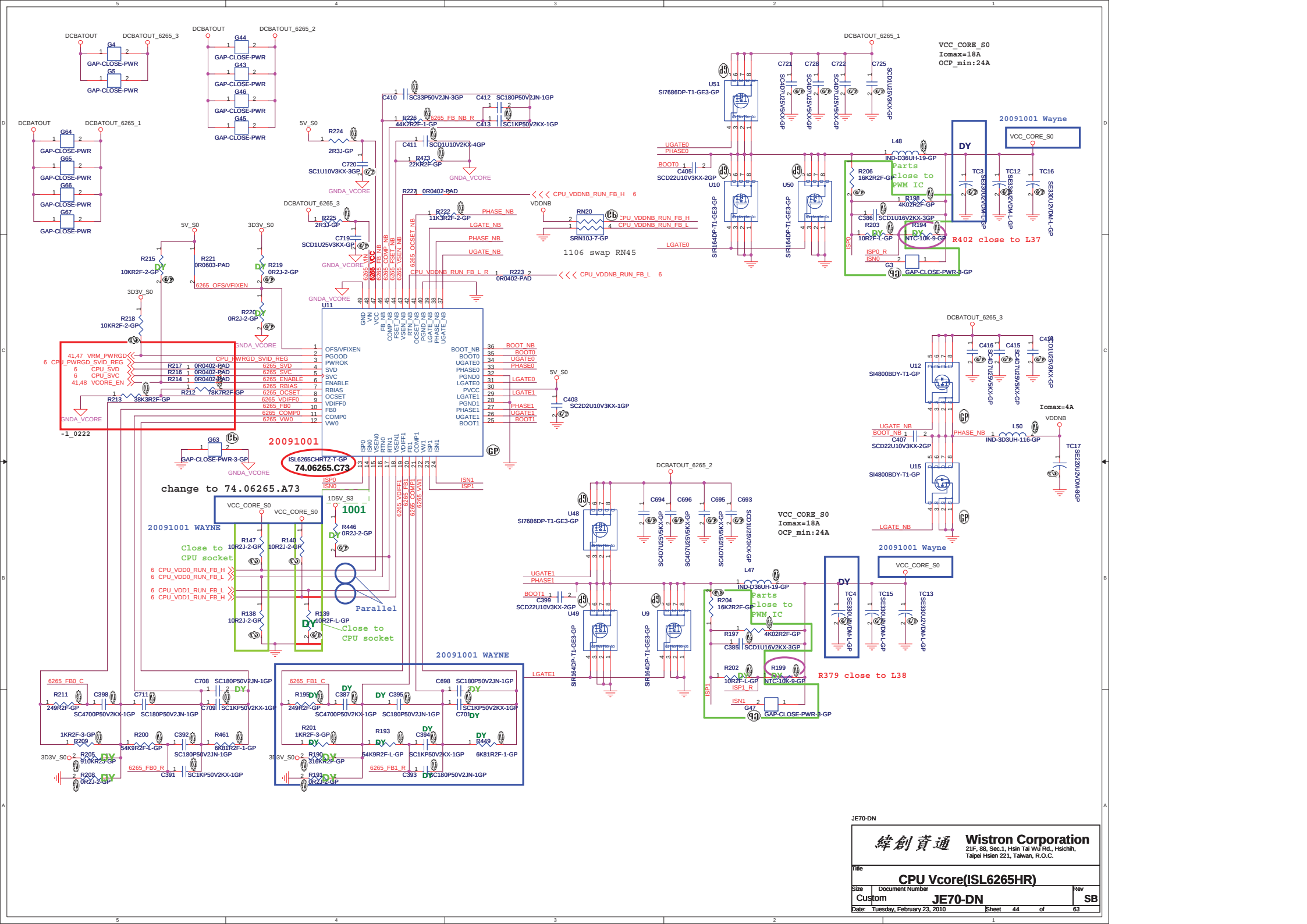
Taipei Hsien 221, Taiwan, R.O.C.

Title: RUN AND AUX POWER

Size: A2 | Document Number: JE70-DN | Rev: SB

Date: Monday, March 01, 2010 | Sheet 43 of 63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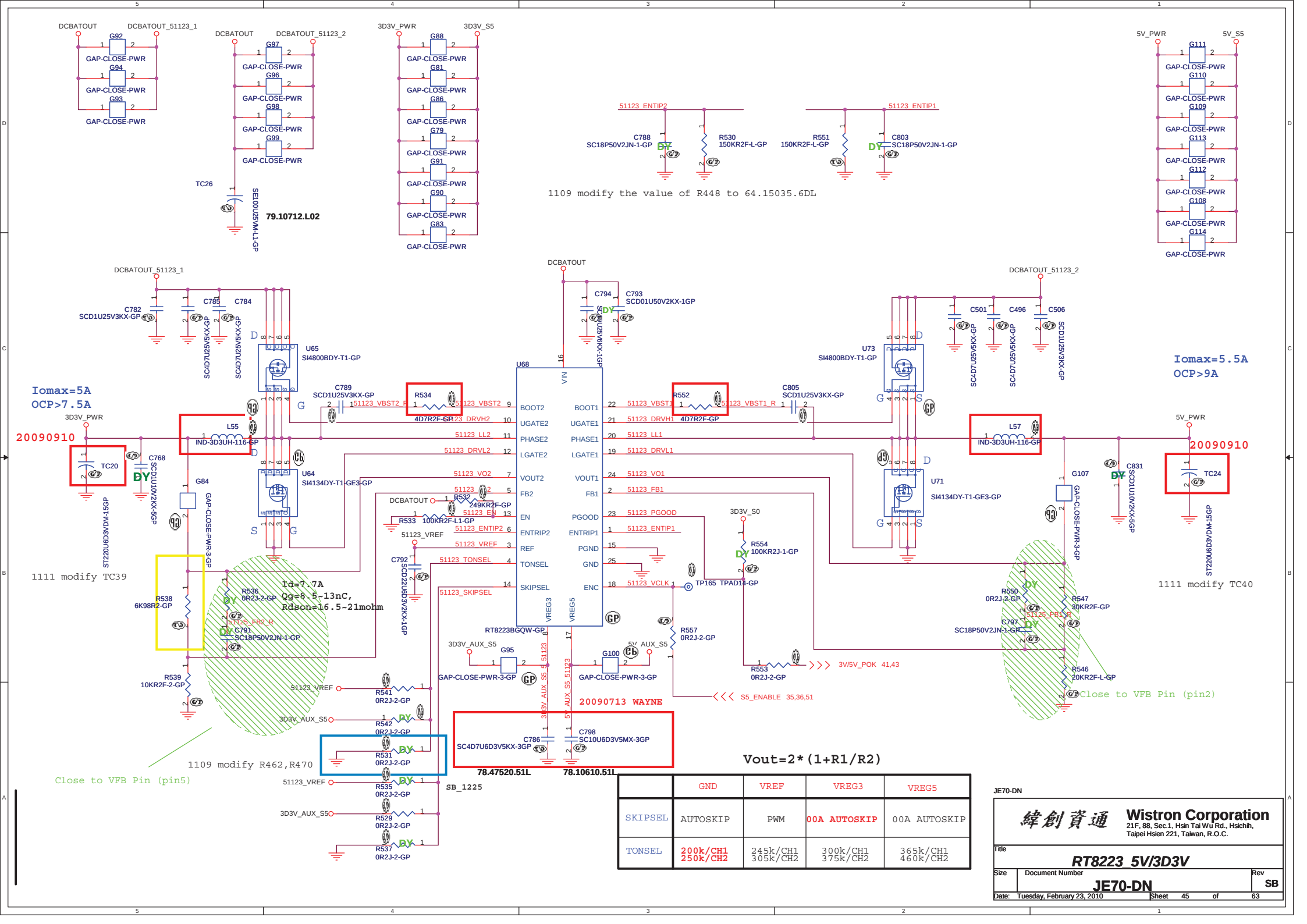
Iomax=18A
OCP_min:24A
20091001 Wayne
R402 close to L37
1106 swap RN45
20091001
ISL6265CHRTZ-T-GP
74.06265.C73
change to 74.06265.A73
20091001 WAYNE
Close to CPU socket
Parallel
Close to CPU socket
R379 close to L38
Parts close to PWM IC
-1_0222
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
CPU Vcore(ISL6265HR)
JE70-DN
Tuesday, February 23, 2010



	GND	VREF	VREG3	VREG5
SKIPSEL	AUTOSKIP	PWM	00A AUTOSKIP	00A AUTOSKIP
TONSEL	200k/CH1 250k/CH2	245k/CH1 305k/CH2	300k/CH1 375k/CH2	365k/CH1 460k/CH2

JE70-DN

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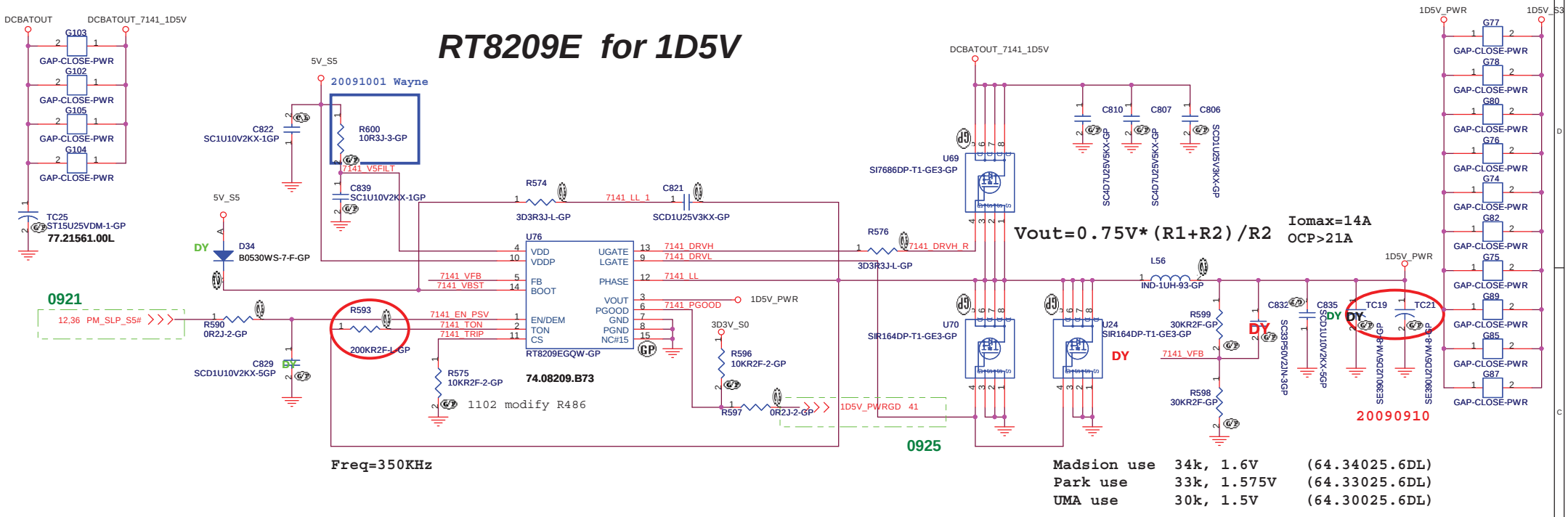
Taipei Hsien 221, Taiwan, R.O.C.

Title: RT8223_5V/3D3V

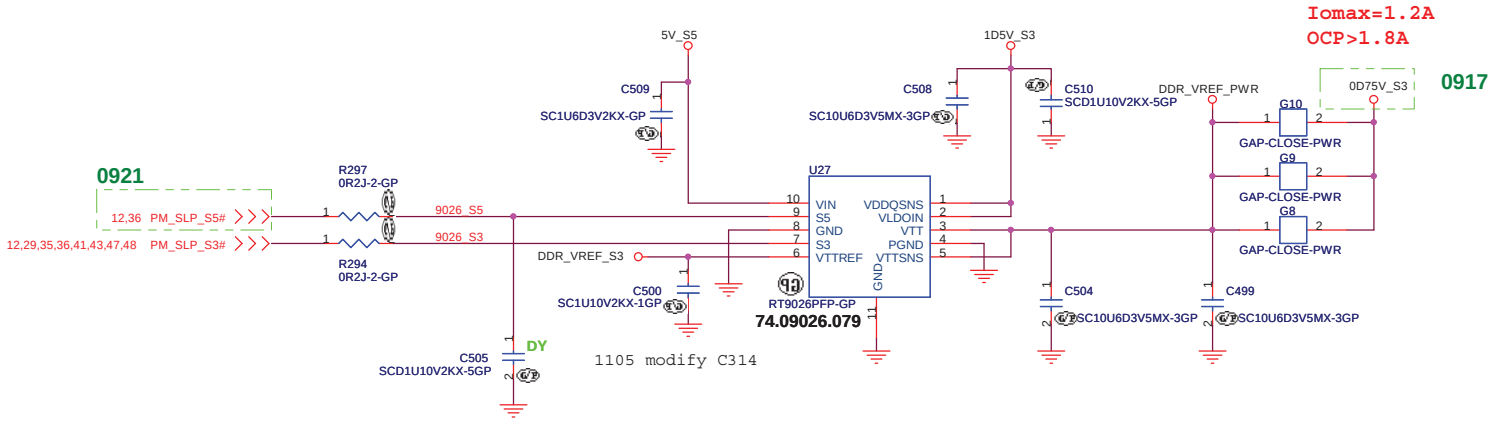
Size | Document Number: JE70-DN | Rev: SB

Date: Tuesday, February 23, 2010 | Sheet 45 of 63

RT8209E for 1D5V



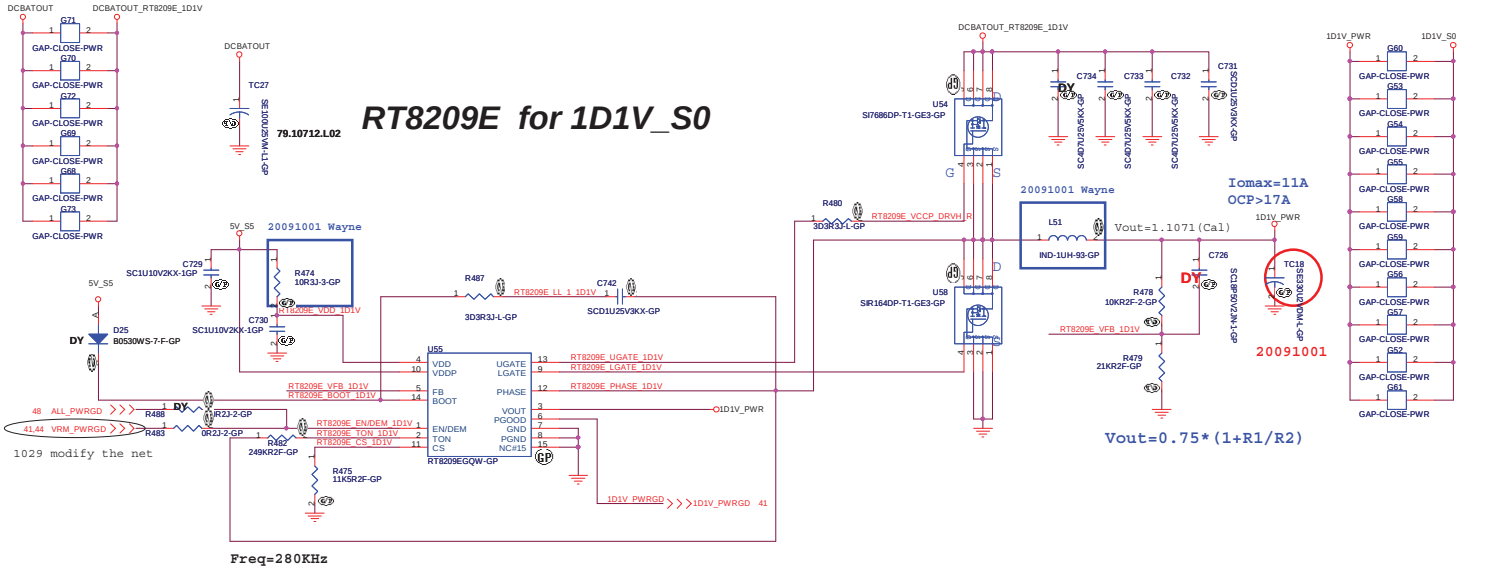
RT9026 for 0D75V_S3

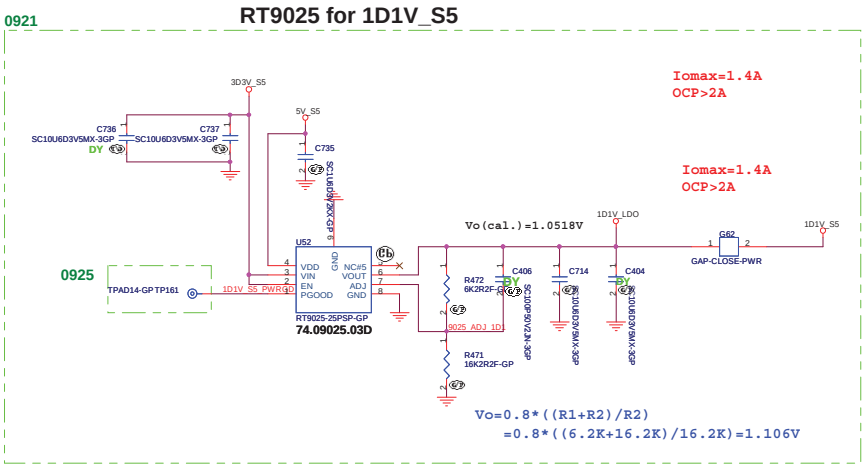


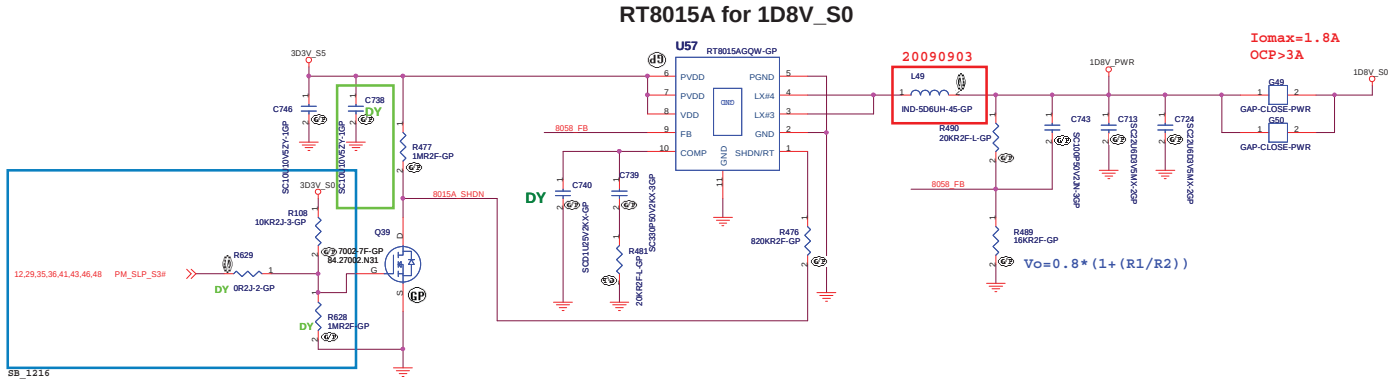
JE70-DN

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

Title	RT8209E 1D5V	
Size	Document Number JE70-DN	Rev SB
Date: Monday, March 01, 2010	Sheet 46 of 63	



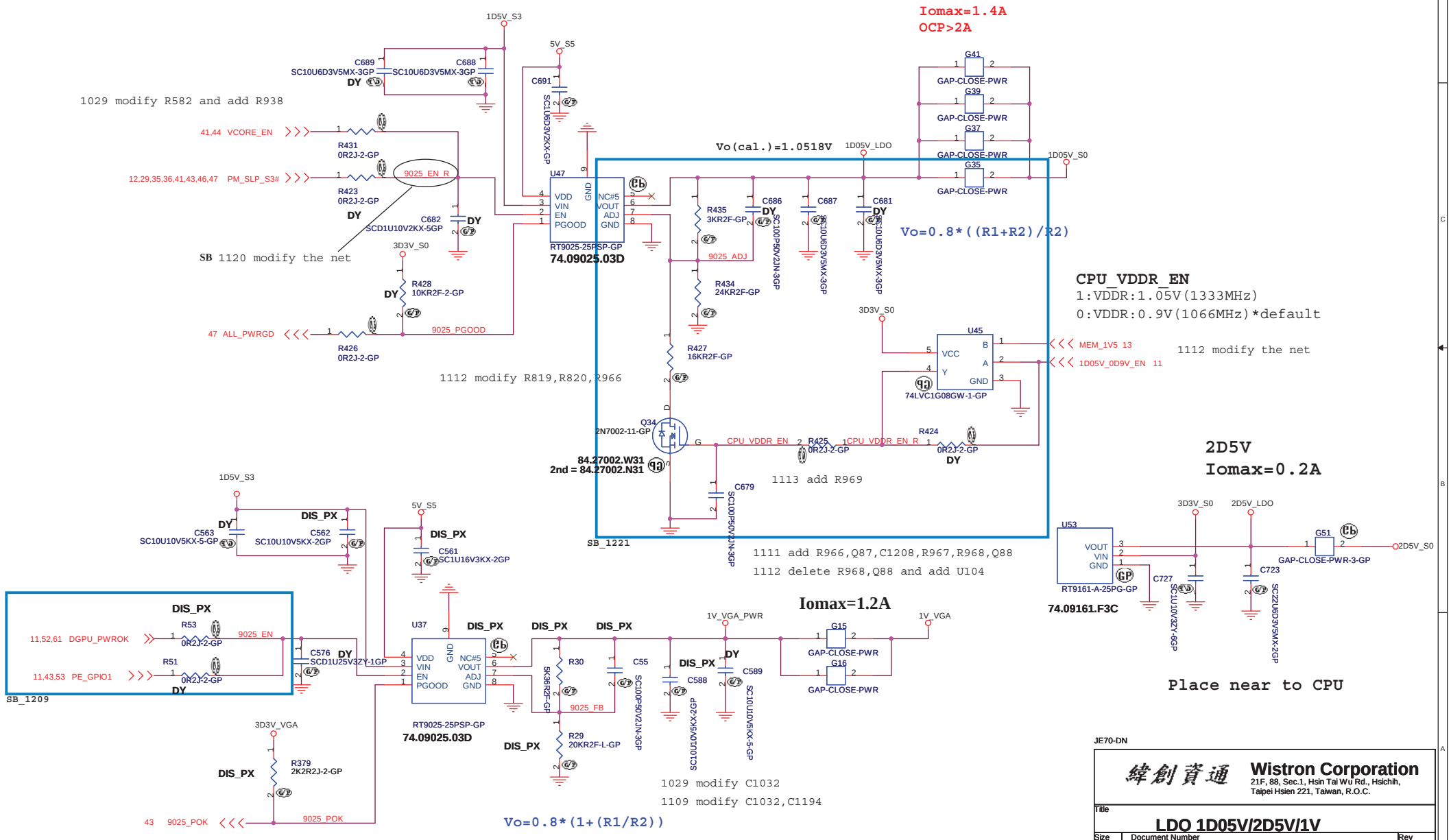




JE70-DN

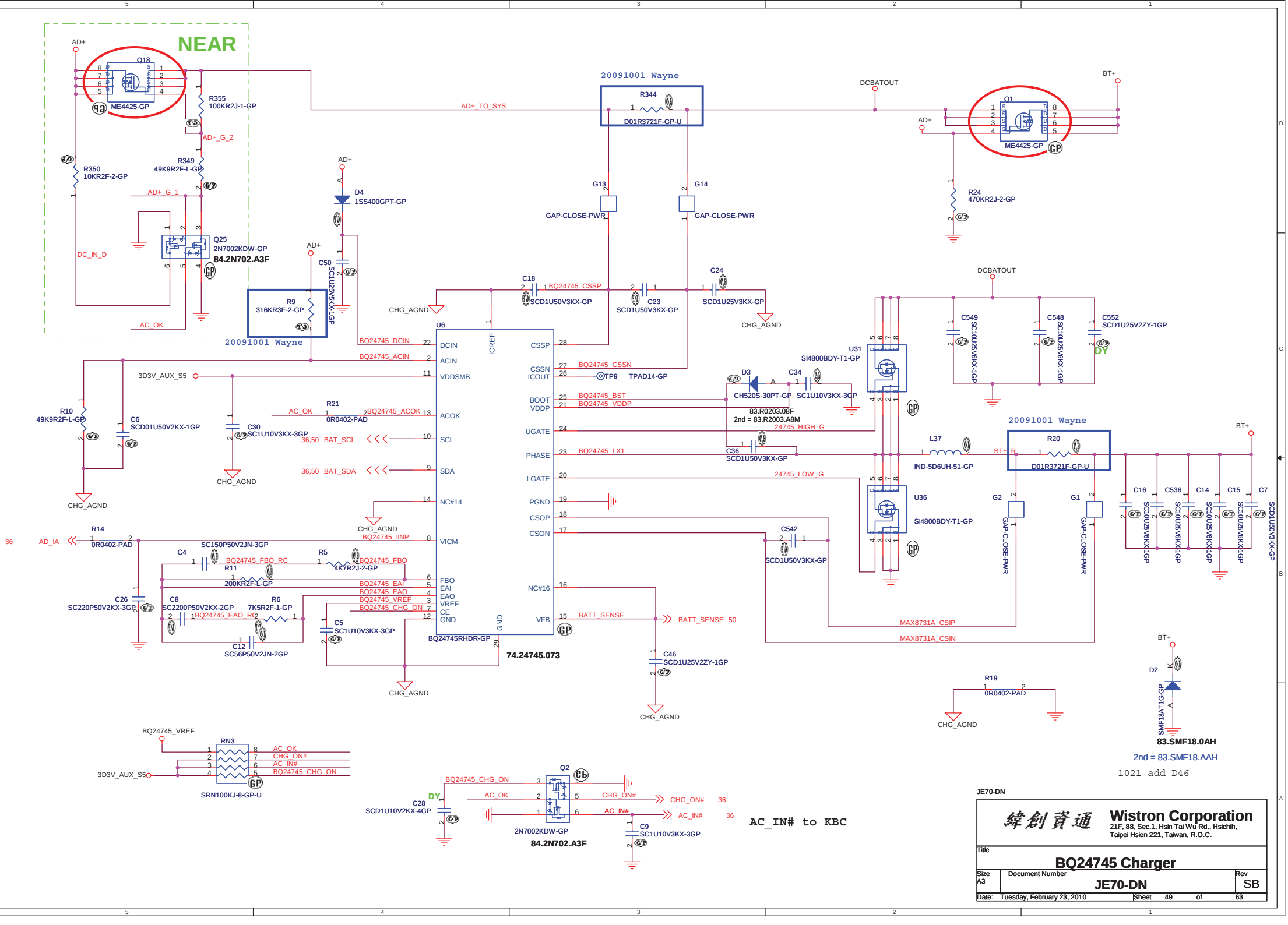
緯創資通 Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	1D1V_S0 & 1D1V_S5 & 1D8V_S0
Size / Document Number	JE70-DN / Rev SB
Date: Monday, March 01, 2010	Sheet 47 of 63

RT9025 for 1D05V_S0



JE70-DN

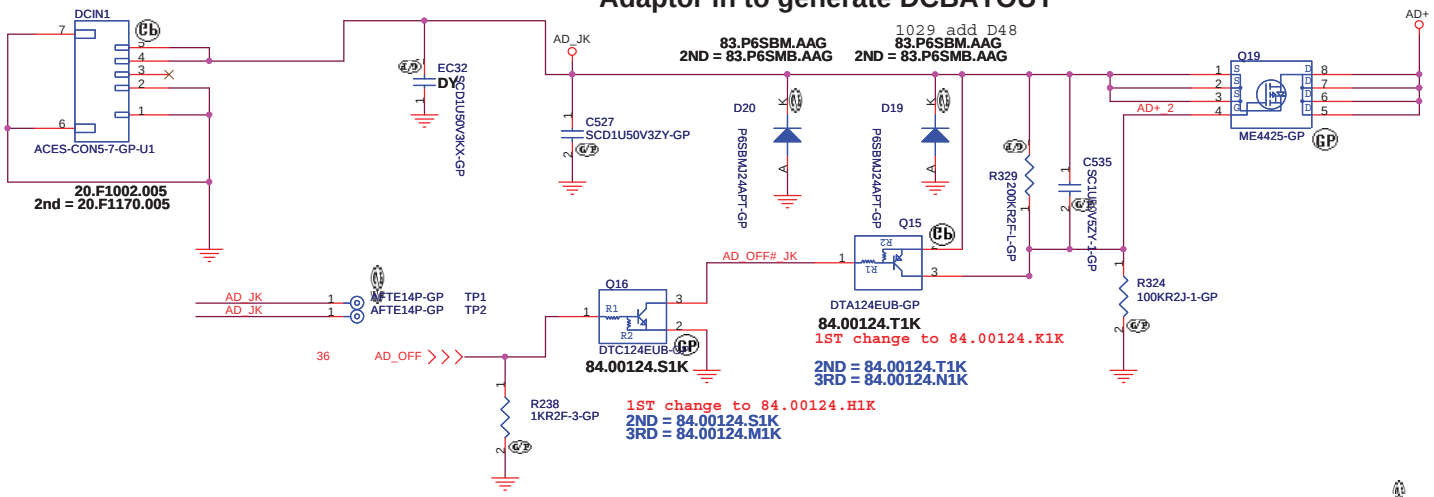
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: LDO 1D05V/2D5V/1V		
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 48 of 63	


NEAR
20091001 Wayne
20091001 Wayne
20091001 Wayne
Q18
ME4425-GP
R355
100KR2J-1-GP
AD+_G_2
R350
10KR2F-2-GP
R349
49K9R2F-L-GP
AD+_G_1
Q25
2N7002KDW-GP
84.2N702.A3F
DC_IN_D
AC_OK
R9
316KR3F-2-GP
C50
SCD1U25V3KX-1GP
D4
1SS400GPT-GP
AD+
AD+_TO_SYS
R344
D01R3721F-GP-U
G13
G14
GAP-CLOSE-PWR
GAP-CLOSE-PWR
DCBATOUT
Q1
ME4425-GP
BT+
R24
470KR2J-2-GP
C18
SCD1U50V3KX-GP
BQ24745_CSSP
C23
SCD1U50V3KX-GP
C24
SCD1U25V3KX-GP
CHG_AGND
U6
BQ24745_DCIN
BQ24745_ACIN
3D3V_AUX_S5
DCIN
ACIN
VDDSMB
ICREF
CSSP
CSSN
ICOUT
BOOT
VDDP
UGATE
PHASE
LGATE
PGND
CSOP
CSON
NC#16
VFB
GND
BQ24745RHDR-GP
74.24745.073
BQ24745_CSSN
TP9
TPAD14-GP
BQ24745_BST
BQ24745_VDDP
24745_HIGH_G
BQ24745_LX1
24745_LOW_G
BATT_SENSE
BATT_SENSE 50
MAX8731A_CSIP
MAX8731A_CSIN
R10
49K9R2F-L-GP
C6
SCD01U50V2KX-1GP
C30
SC1U10V3KX-3GP
R21
0R0402-PAD
AC_OK
BQ24745_ACOK
36,50 BAT_SCL
36,50 BAT_SDA
ACOK
SCL
SDA
NC#14
R14
0R0402-PAD
AD_IA
SC150P50V2JN-3GP
BQ24745_IINP
VICM
C4
BQ24745_FBO_RC
R11
200KR2F-L-GP
R5
4K7R2J-2-GP
BQ24745_FBO
C26
SC220P50V2KX-3GP
C8
SC2200P50V2KX-2GP
BQ24745_EAO_RC
R6
7K5R2F-1-GP
C12
SC56P50V2JN-2GP
C5
SC1U10V3KX-3GP
FBO
EAI
EAO
VREF
CE
GND
BQ24745_EAI
BQ24745_EAO
BQ24745_VREF
BQ24745_CHG_ON
C46
SCD1U25V2ZY-1GP
C542
SCD1U50V3KX-GP
U31
SI4800BDY-T1-GP
U36
SI4800BDY-T1-GP
D3
CH520S-30PT-GP
C34
SC1U10V3KX-3GP
83.R0203.08F
2nd = 83.R2003.A8M
C36
SCD1U50V3KX-GP
L37
IND-5D6UH-51-GP
R20
D01R3721F-GP-U
C549
SC10U25V6KX-1GP
C548
SC10U25V6KX-1GP
C552
SCD1U25V2ZY-1GP
DY
C16
C536
C14
C15
C7
SCD1U50V3KX-GP
R19
0R0402-PAD
D2
SMF18AT1G-GP
83.SMF18.0AH
2nd = 83.SMF18.AAH
1021 add D46
RN3
SRN100KJ-8-GP-U
AC_OK
CHG_ON#
AC_IN#
BQ24745_CHG_ON
Q2
2N7002KDW-GP
84.2N702.A3F
C28
SCD1U10V2KX-4GP
C9
SC1U10V3KX-3GP
CHG_ON#
AC_IN#
AC_IN# to KBC
JE70-DN
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
BQ24745 Charger
Size A3
Document Number
JE70-DN
Rev SB
Date: Tuesday, February 23, 2010
Sheet 49 of 63

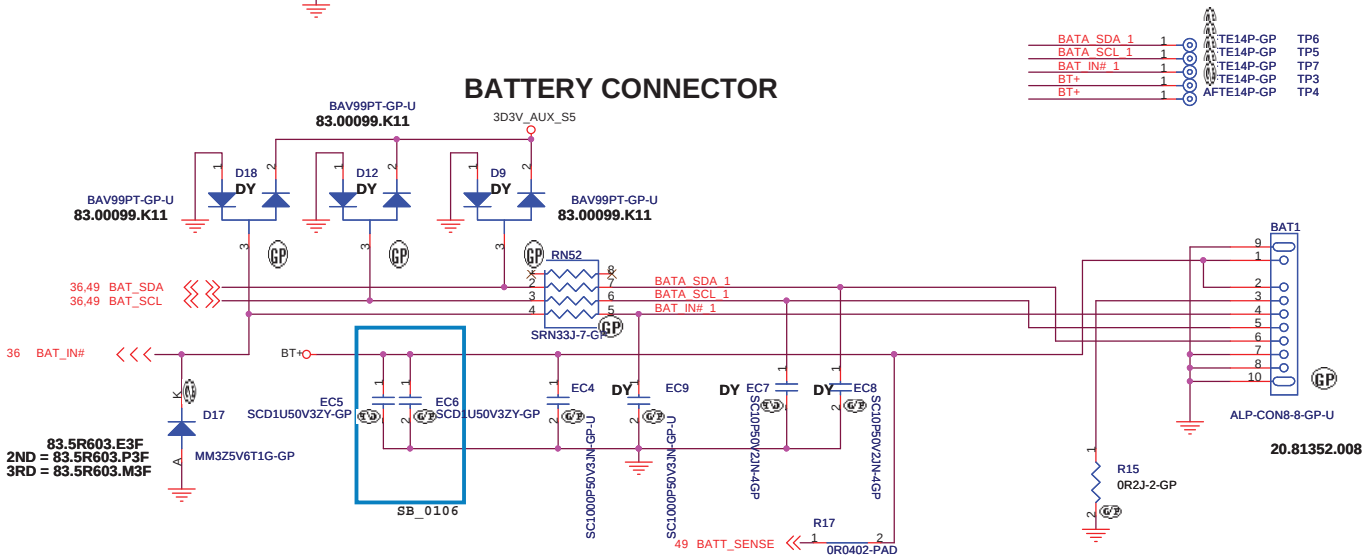
1021 modify DCIN1

1Pin=3A

Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



Pin NO	Symbol
1	GND
2	GND
3	SMD
4	SMC
5	TS
6	B/I
7	BT+
8	BT+

JE70-DN

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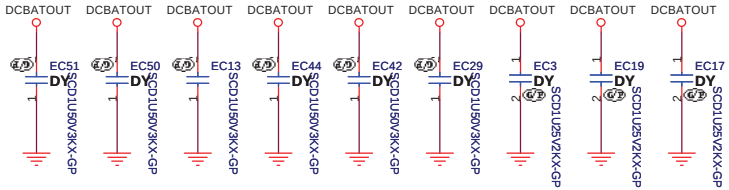
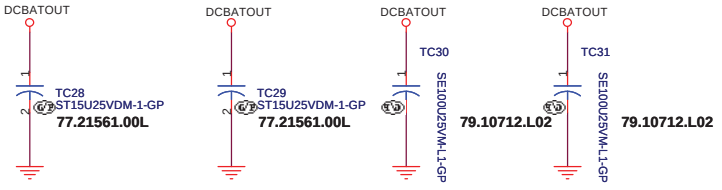
Taipei Hsien 221, Taiwan, R.O.C.

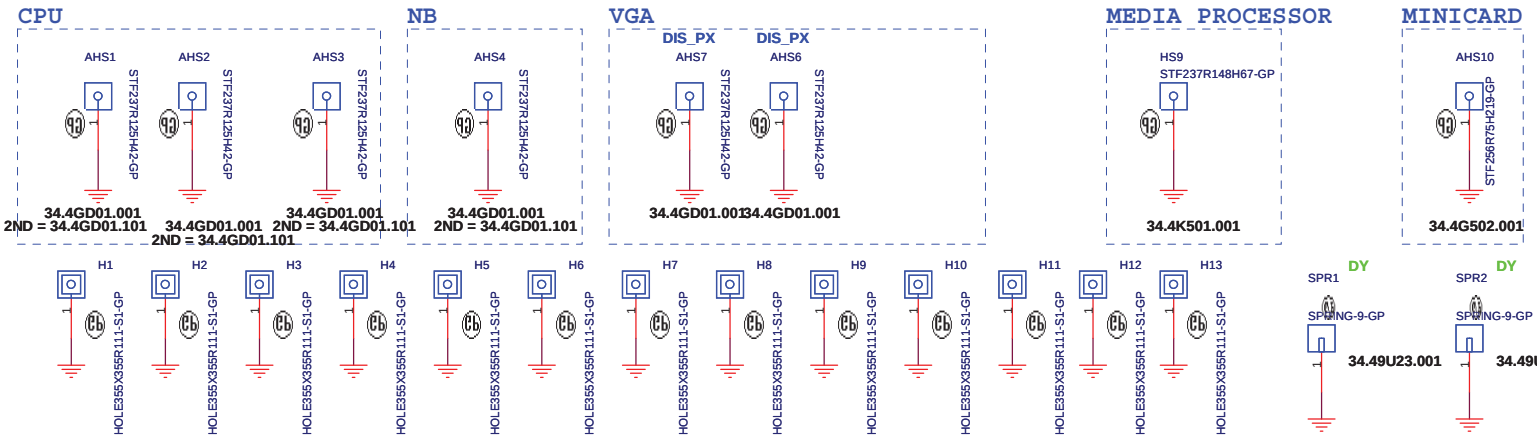
Title: AD/BATT CONN

Size	Document Number	Rev
	JE70-DN	SB

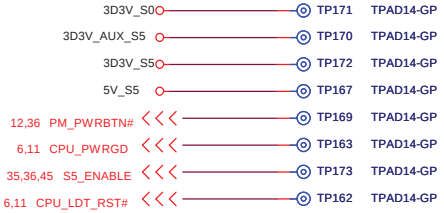
Date: Tuesday, February 23, 2010 Sheet 50 of 63







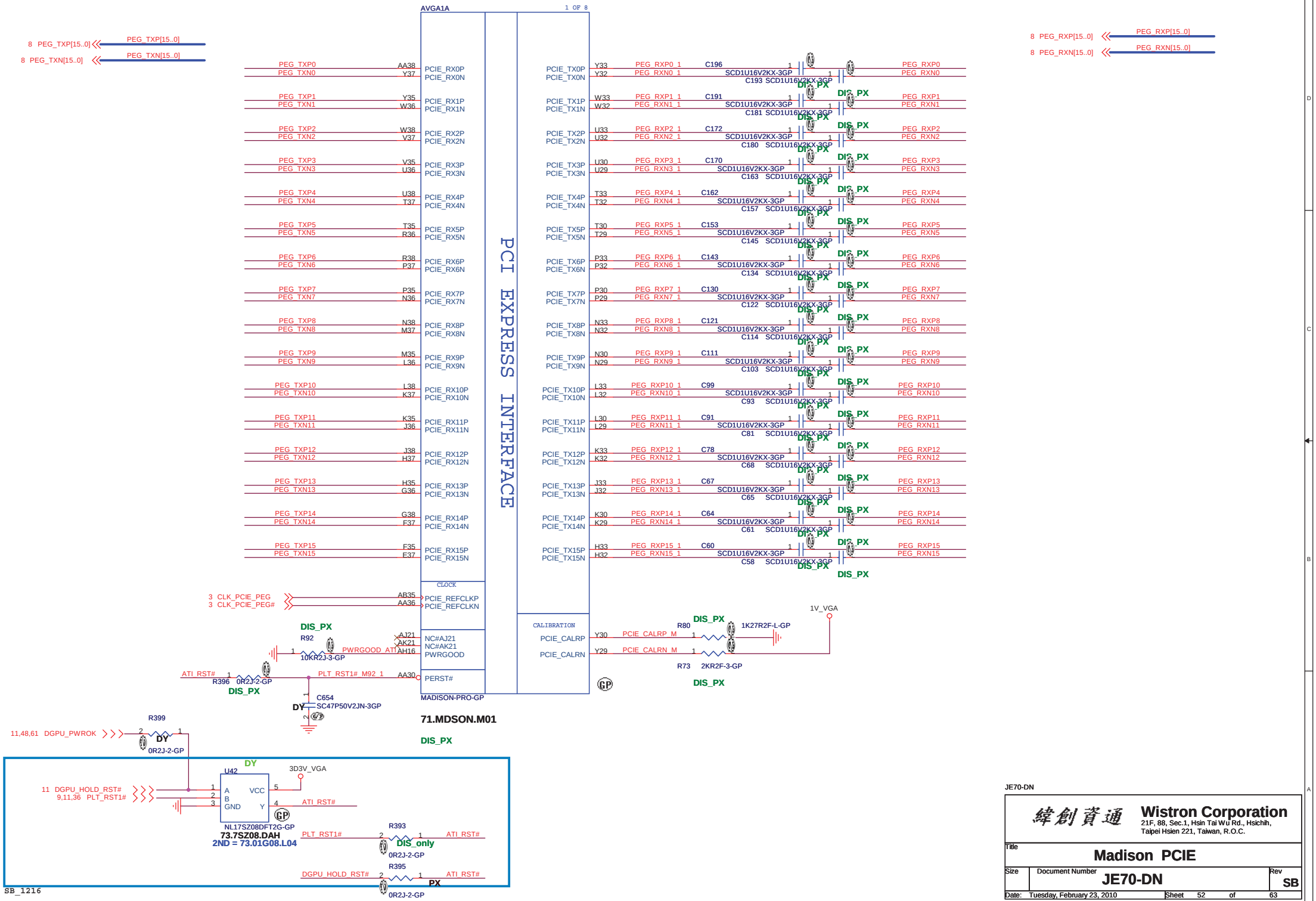
Check test point



Test Point放在Dimm Door打開可量測處

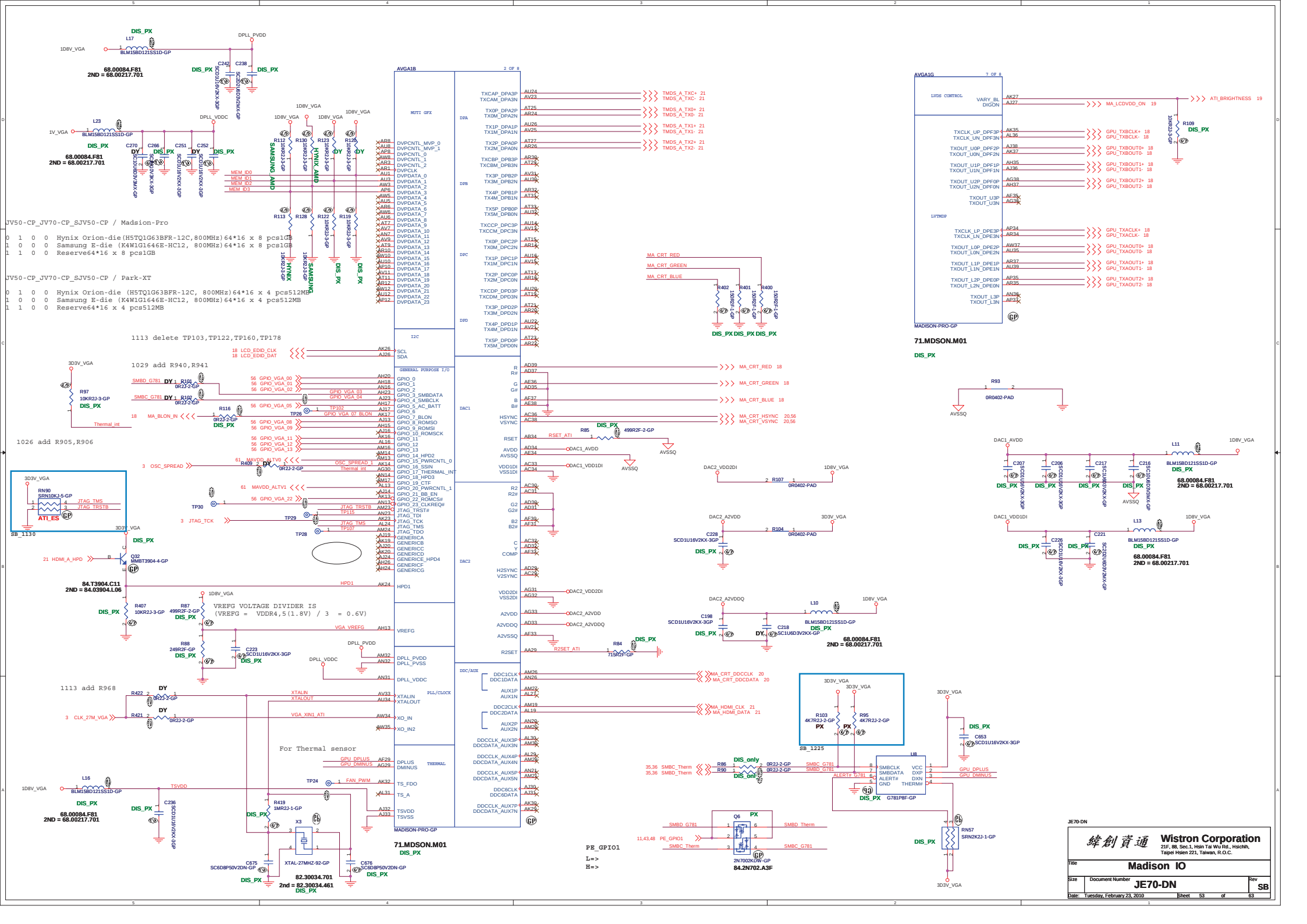
JE70-DN

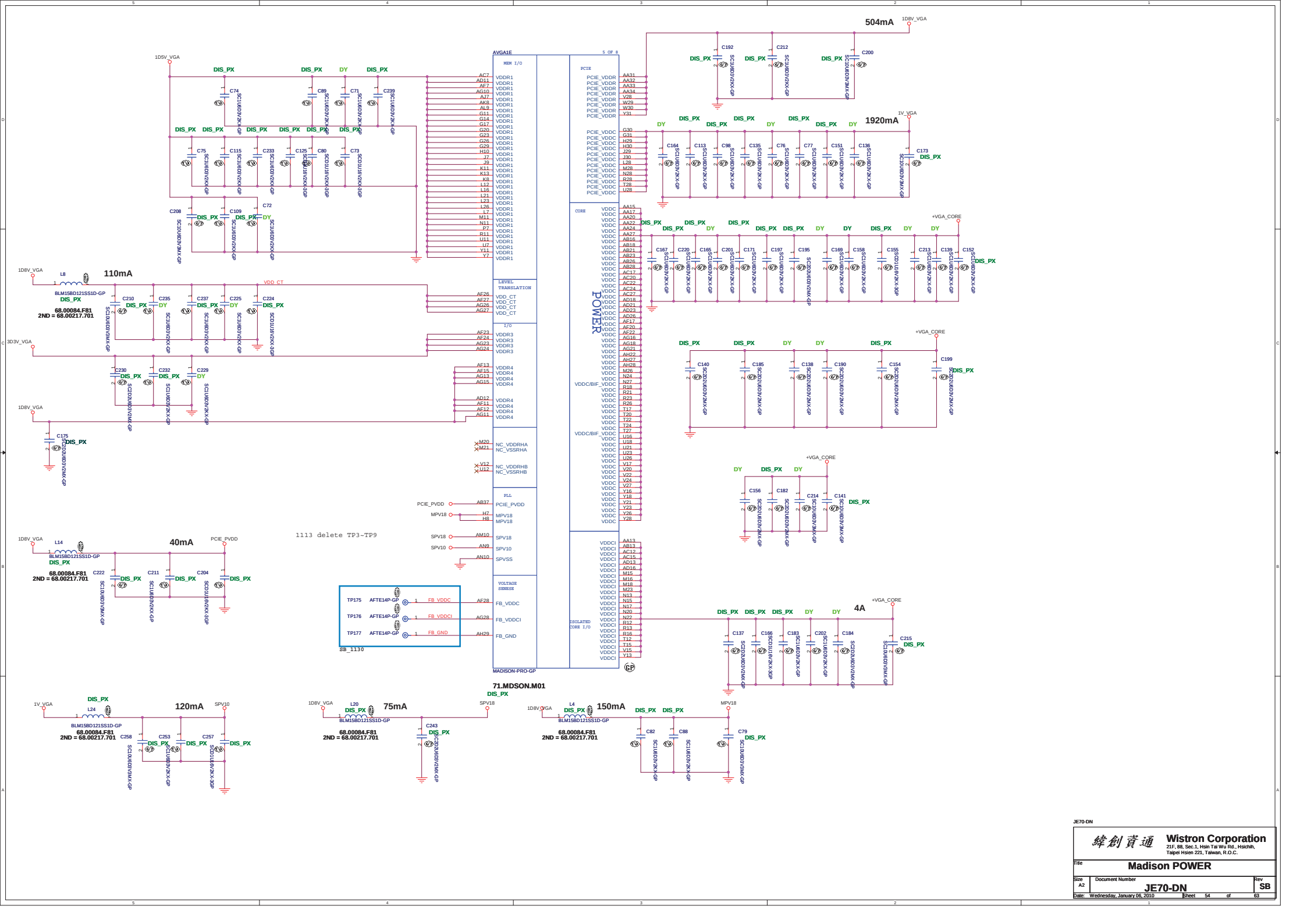
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: EMI/Spring/Boss		
Size	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 51 of 63	

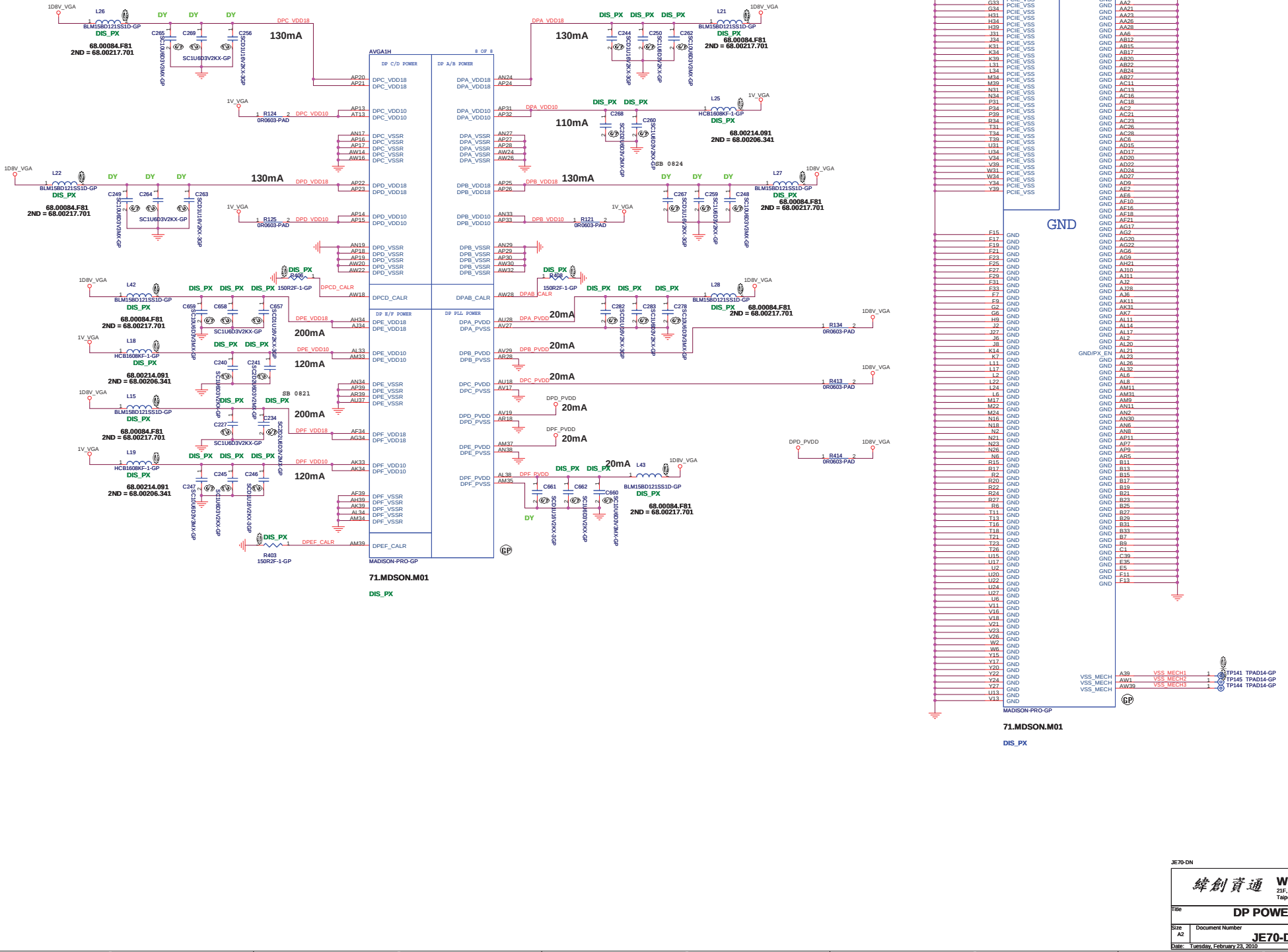


JE70-DN

緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	Madison PCIE	
Size	Document Number JE70-DN	Rev SB
Date: Tuesday, February 23, 2010	Sheet 52 of 63	


JV50-CP_JV70-CP_SJV50-CP / Madsion-Pro
0 1 0 0 Hynix Orion-die(H5TQ1G63BFR-12C,800MHz)64*16 x 8 pcs1GB
1 0 0 0 Samsung E-die (K4W1G1646E-HC12, 800MHz)64*16 x 8 pcs1GB
1 1 0 0 Reserve64*16 x 8 pcs1GB
JV50-CP_JV70-CP_SJV50-CP / Park-XT
0 1 0 0 Hynix Orion-die (H5TQ1G63BFR-12C, 800MHz)64*16 x 4 pcs512MB
1 0 0 0 Samsung E-die (K4W1G1646E-HC12, 800MHz)64*16 x 4 pcs512MB
1 1 0 0 Reserve64*16 x 4 pcs512MB
1113 delete TP103,TP122,TP160,TP178
1029 add R940,R941
1026 add R905,R906
1113 add R968
VREFG VOLTAGE DIVIDER IS
(VREFG = VDDR4,5(1.8V) / 3 = 0.6V)
For Thermal sensor
AVGA1B
AVGA1G
MADISON-PRO-GP
71.MDSON.M01
82.30034.701
2nd = 82.30034.461
84.2N702.A3F
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Madison IO
JE70-DN
Rev SB
Date: Tuesday, February 23, 2010
Sheet 53 of 63


504mA
1920mA
110mA
40mA
120mA
75mA
150mA
4A
AVGA1E
MADISON-PRO-GP
71.MDSON.M01
POWER
1113 delete TP3~TP9
SB_1130
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Madison POWER
JE70-DN
Wednesday, January 06, 2010



JE70-DN

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

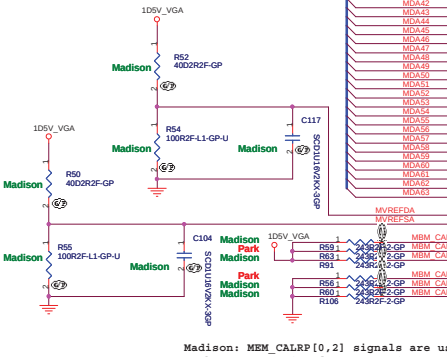
Title: **DP POWER_GND**

Size	Document Number	Rev
A2	JE70-DN	SB

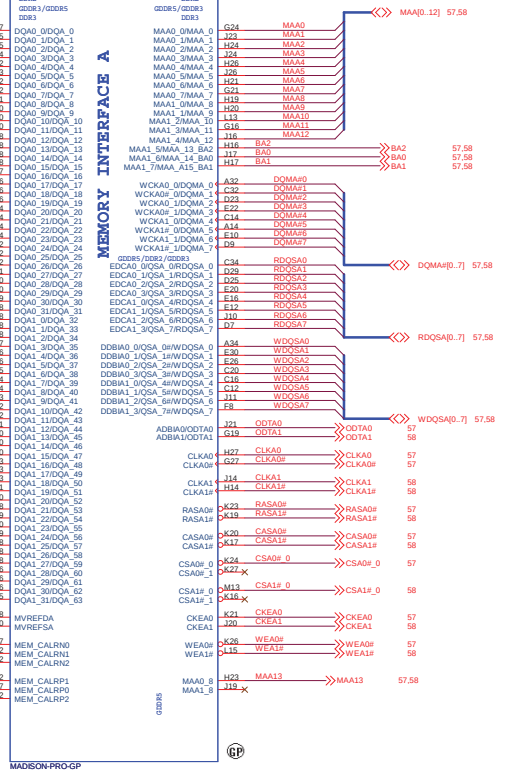
Date: Tuesday, February 23, 2010 Sheet 55 of 63

For SSTL-1.8/SSTL-2/DDR1/GDDR1: 0.5 * VDDR1.
For DDR3/GDDR3/GDDR4/GDDR5: 0.7 * VDDR1.

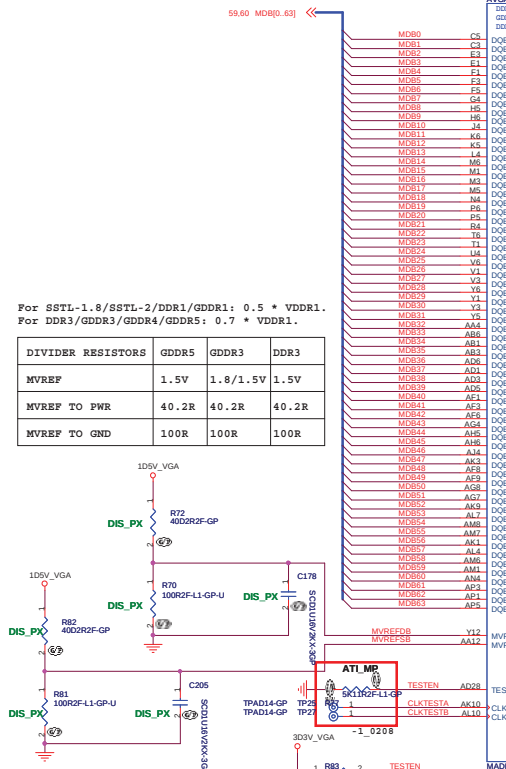
DIVIDER RESISTORS	GDDR5	GDDR3	DDR3
MVREF	1.5V	1.8/1.5V	1.5V
MVREF TO PWR	40.2R	40.2R	40.2R
MVREF TO GND	100R	100R	100R



Madison: MEM_CALRP[0,2] signals are used.
Park: MEM_CALRP1 and MEM_CALRN1 are used



71.MDSON.M01
DIS_PX



71.MDSON.M01
DIS_PX

For SSTL-1.8/SSTL-2/DDR1/GDDR1: 0.5 * VDDR1.
For DDR3/GDDR3/GDDR4/GDDR5: 0.7 * VDDR1.

DIVIDER RESISTORS	GDDR5	GDDR3	DDR3
MVREF	1.5V	1.8/1.5V	1.5V
MVREF TO PWR	40.2R	40.2R	40.2R
MVREF TO GND	100R	100R	100R

1026 add R914

STRAPS	PIN	DESCRIPTION	RECOMMENDED SETTINGS 0= DO NOT INSTALL RESISTOR 1 = INSTALL 10K RESISTOR X = DESIGN DEPENDANT NA = NOT APPLICABLE
TX_PWRS_ENB (Internal PD)	GPIO0	PCIE FULL TX OUTPUT SWING Transmitter Power Savings Enable 0= 50% Tx output swing 1= Full Tx output swing	X
TX_DEEMPH_EN (Internal PD)	GPIO1	Transmitter De-emphasis Enable 0= Tx de-emphasis disabled 1= Tx de-emphasis enabled	X
RESERVED	GPIO8	RESERVED	0
BIF_VGA_DIS	GPIO9	VGA ENABLED	0
RESERVED	GPIO21	RESERVED	0
BIOS_ROM_EN	GPIO22_ROMCSB	ENABLE EXTERNAL BIOS ROM	0
VIP_DEVICE_STRAP_ENA (Internal PD)	GPIO[13,12,11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT if BIOS_ROM_EN=1,then Config[3:0] defines the ROM type if BIOS_ROM_EN=0,then Config[3:0] defines the primary memory apeture size	X X X
RSVD	V2SYNC		0
RSVD	H2SYNC		0
AUD[1] AUD[0] (Internal PD)	VGA_HSYNC VGA_VSYNC	AUD[1:0] 00:No audio function 01:Audio for DisplayPort and HDMI (if adapter is detected) 10:Audio for DisplayPort only 11:Audio for both DisplayPort and HDMI	X X

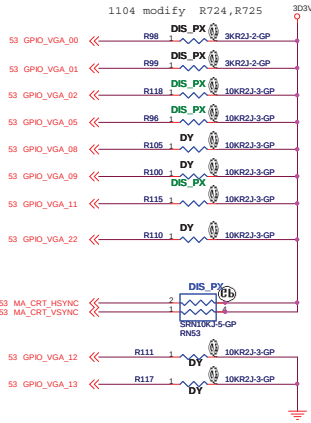
AMD RESERVED CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

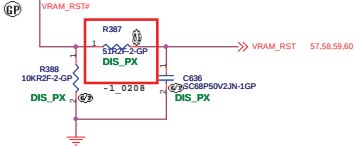
H2SYNC, GENERICC, GPIO2, GPIO21

If BIOS_ROM_EN (GPIO22) = 0		If BIOS_ROM_EN (GPIO22) = 1		
Size of the primary memory apertures	GPIO[13,12,11]	Manufacturer	Part Number	GPIO[13,12,11]
V 128MB	x000	ST Microelectronics	M25P05A	0100
256MB	x001		M25P10A	0101
64MB	x010		M25P20	0101
32MB	x		M25P40	0101
512MB	x		M25P80	0101
1GB	x	Chingis (formerly PMC)	Pm25LV512A	0100
2GB	x		Pm25LV010A	0101
4GB	x			

1104 modify R724,R725



GPIO_VGA_00 & GPIO_VGA_01
Pull-up resistor value: 3K for Madison/Park, 10K for M96/M92



Designator	For M97-M2	For Mannhatton
R_MEM_1	10K	10K
R_MEM_2	40R/Short	680R
R_MEM_3	DY	DY
C_MEM	2.2nF	68pF

JE70-DN

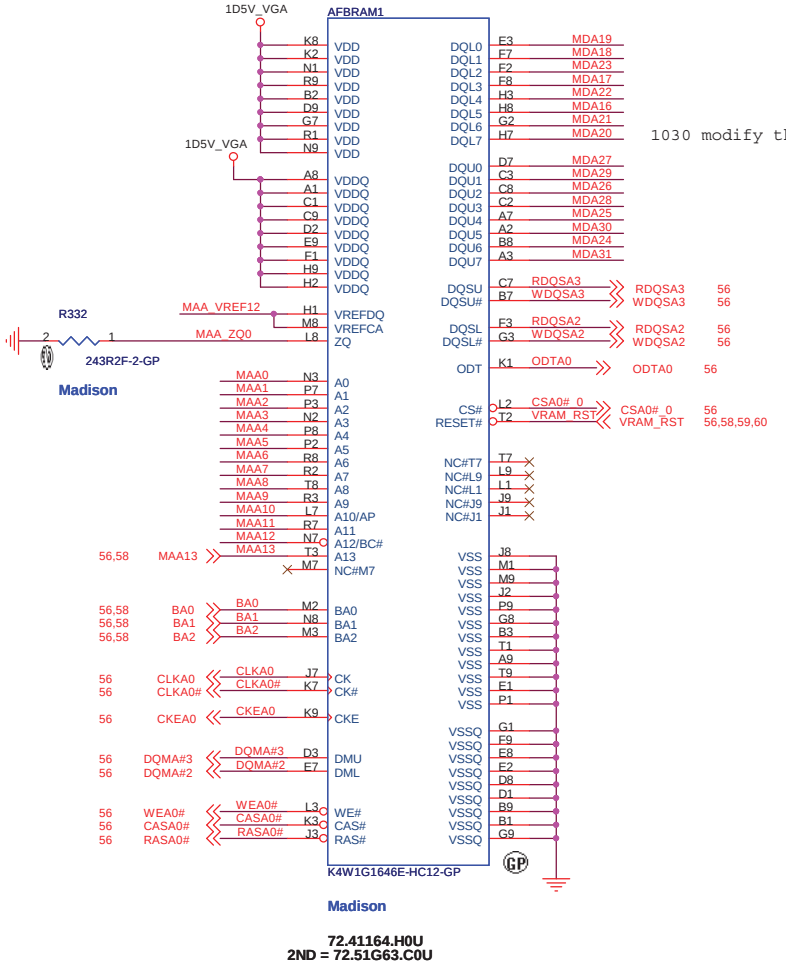
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

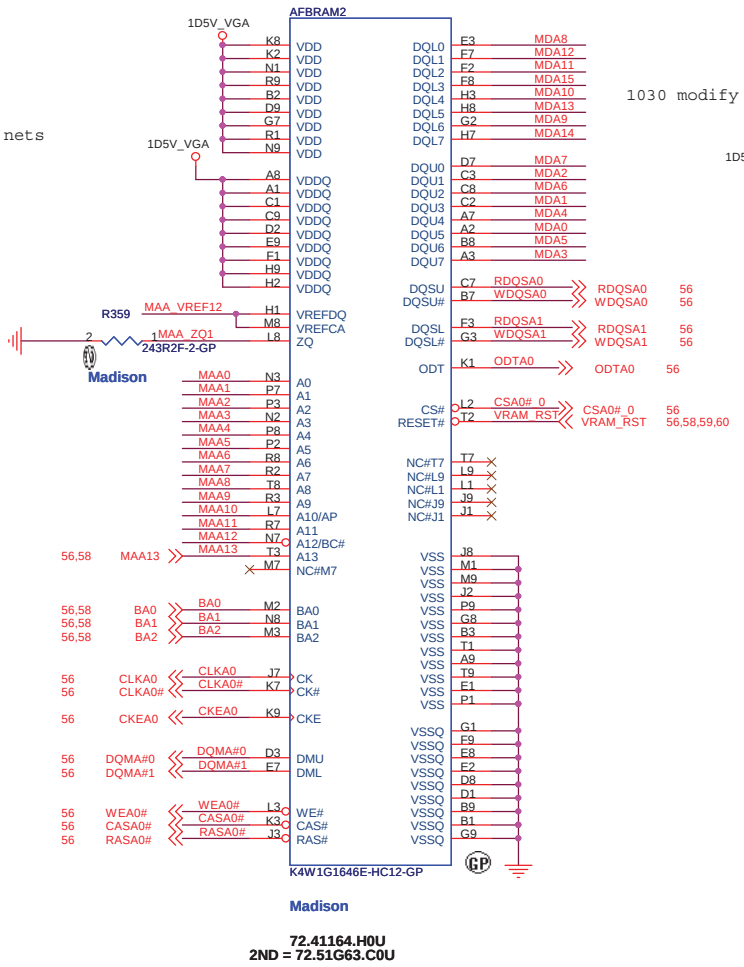
Title: Madison Memory / Straps

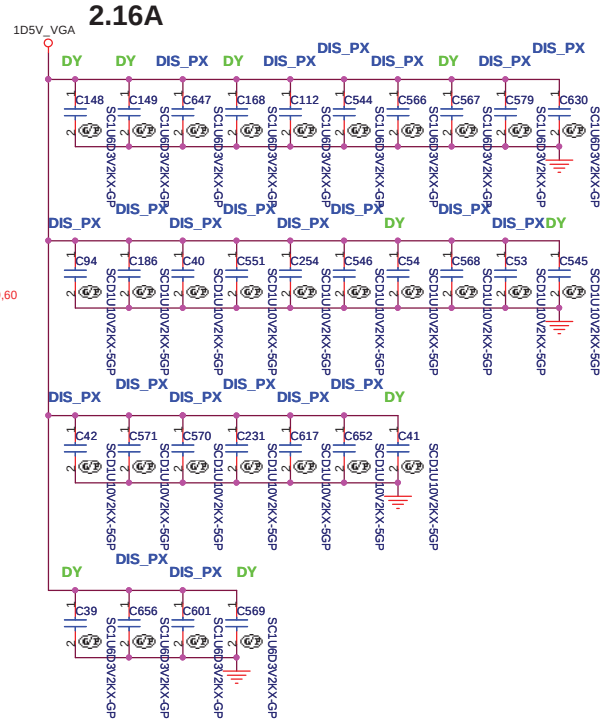
Size: Custom | Document Number: JE70-DN | Rev: SB

Date: Tuesday, February 23, 2010 | Sheet 56 of 63

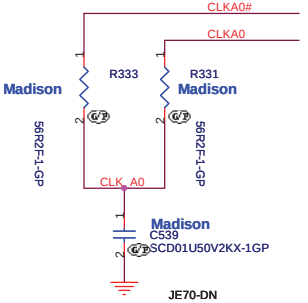
DDR3

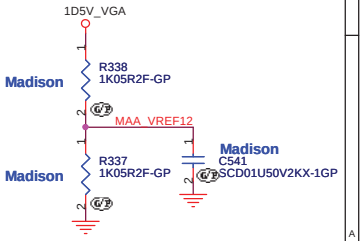


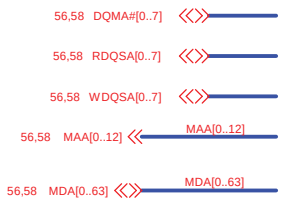




SAMSUNG: 72.41164.H0U(VR.1GB0B.006)
HYNIX: 72.51G63.C0U(VR.1GB0G.004)







JE70-DN

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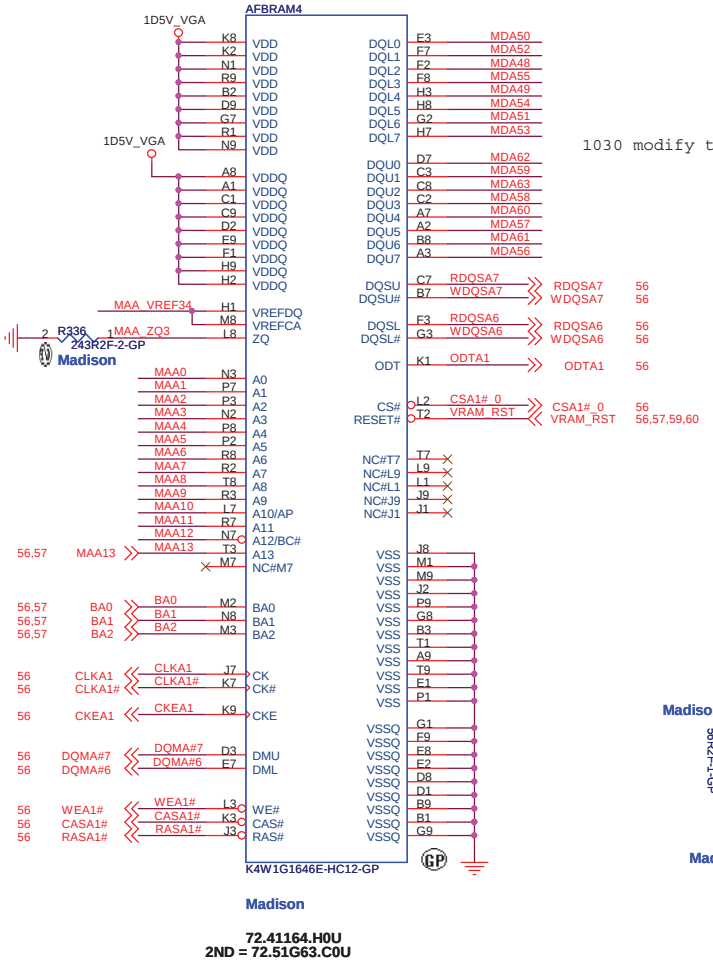
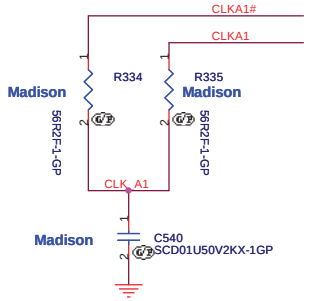
Title	***VRAM(1/4)***	
Size A3	Document Number **JE70-DN**	Rev **SB**
Date: Tuesday, February 23, 2010	Sheet 57 of 63	

DDR3





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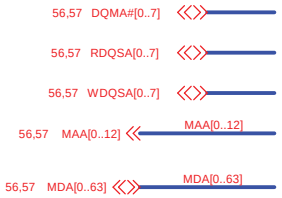

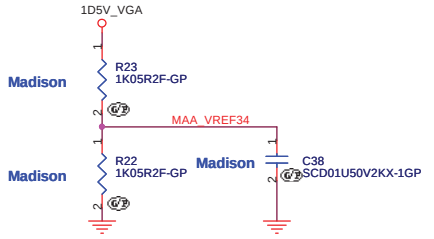

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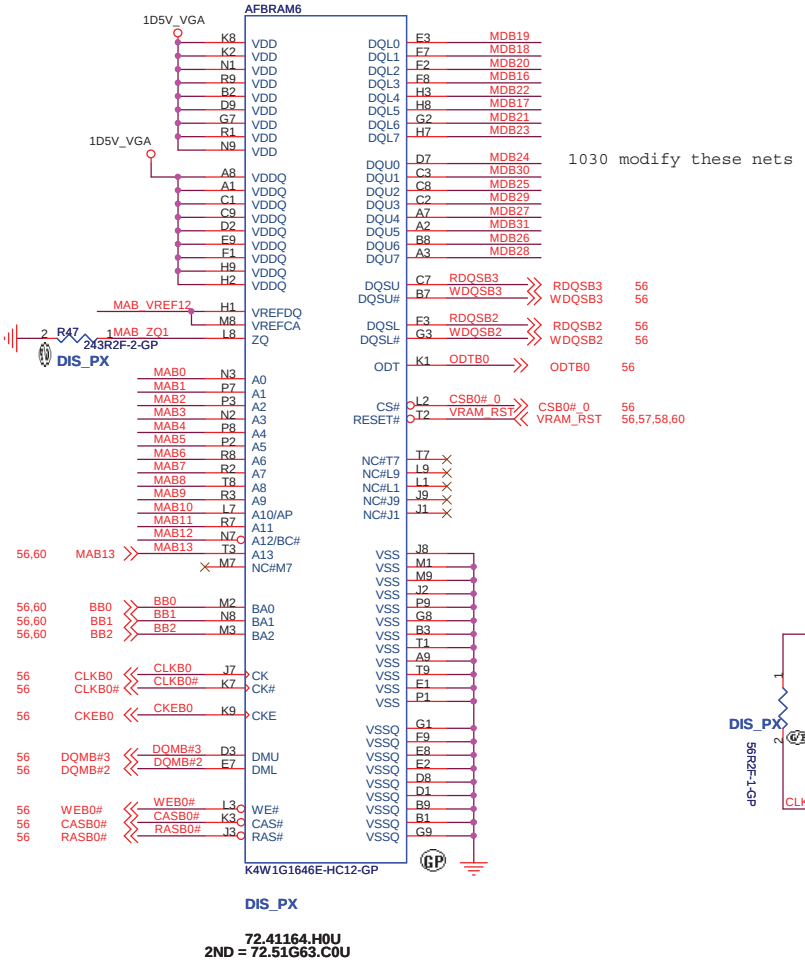
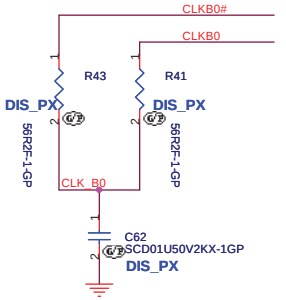
Title: VRAM(2/4)

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Tuesday, February 23, 2010 Sheet 58 of 63

DDR3





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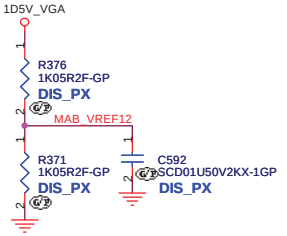

56,60 DQMB#[0..7]
56,60 RDQSB[0..7]
56,60 WDQSB[0..7]
56,60 MAB[0..12] MAB[0..12]
56,60 MDB[0..63] MDB[0..63]

JE70-DN

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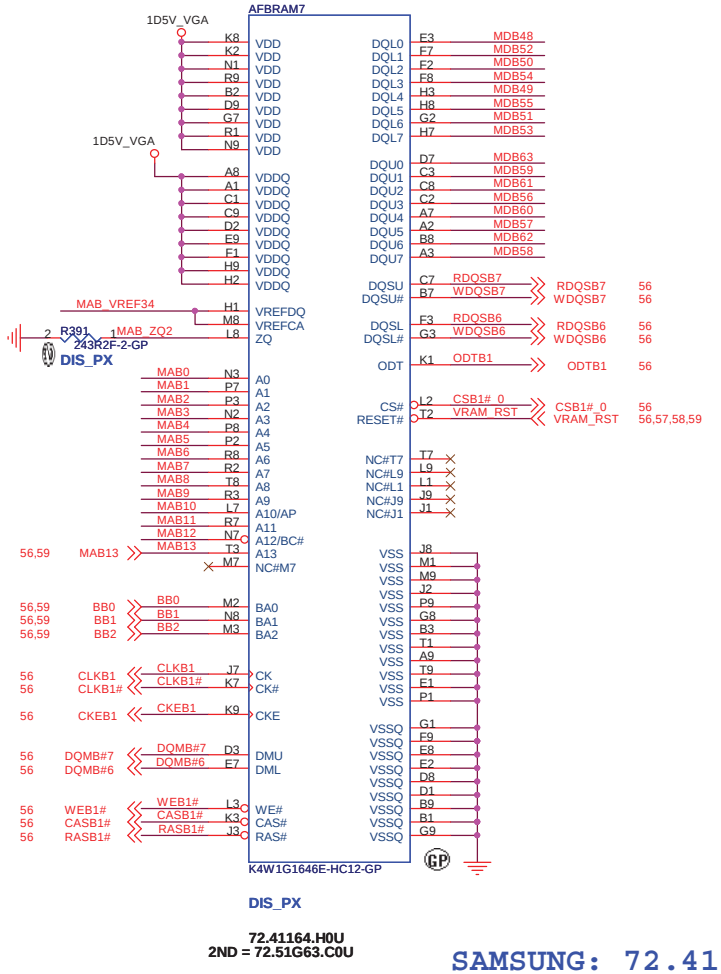
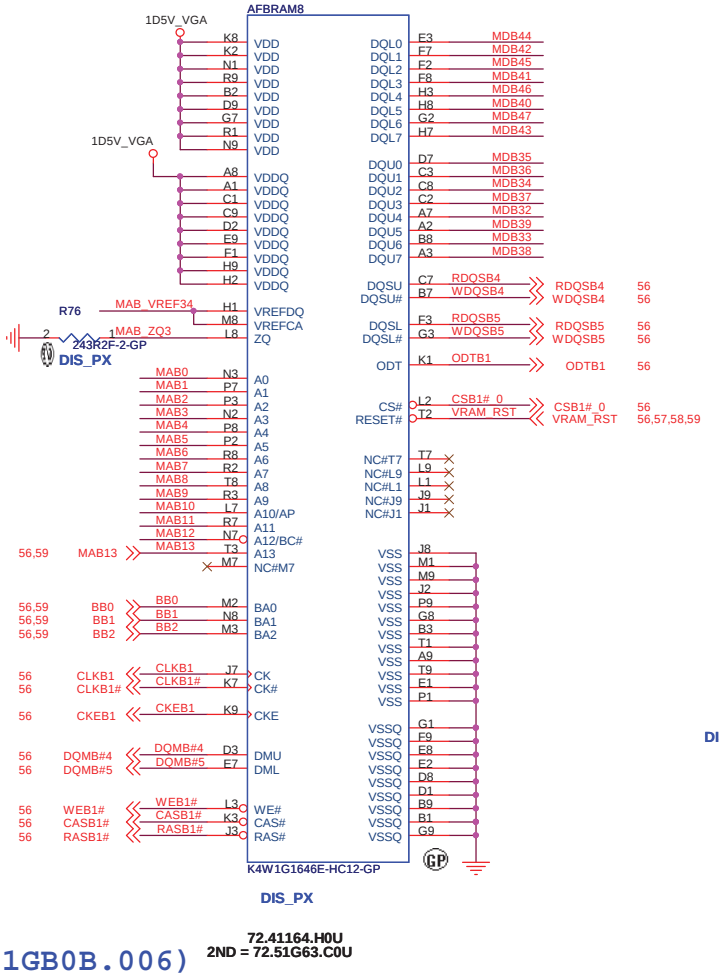
Title: VRAM(3/4)		
Size: A3	Document Number: JE70-DN	Rev: SB
Date: Tuesday, February 23, 2010	Sheet 59 of 63	

DDR3





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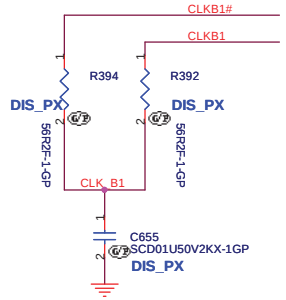

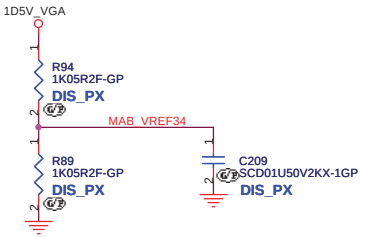

56,59 DQMB#[0..7]

56,59 RDQSB[0..7]

56,59 WDQSB[0..7]

56,59 MAB[0..12] MAB[0..12]

56,59 MDB[0..63] MDB[0..63]

JE70-DN

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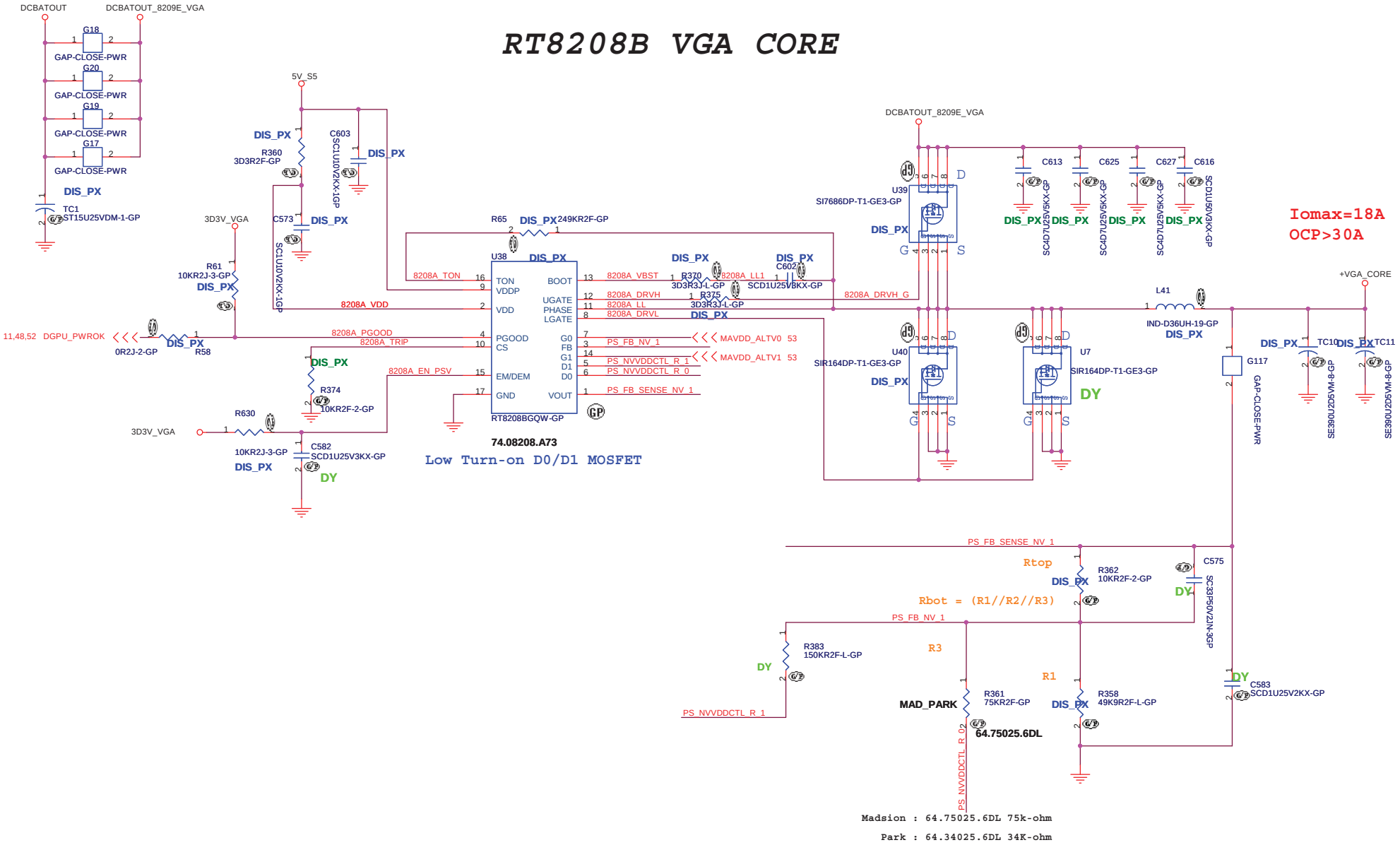
Title: *VRAM(4/4)*

Size	Document Number	Rev
A3	JE70-DN	SB

Date: Tuesday, February 23, 2010 Sheet 60 of 63

RT8208B VGA CORE



MAVDD_ALTV0	Madison Pro	Park XT
0	1.00V	1.12V
1	0.90V	0.90V

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

Title: RT8209E_VGA_CORE

Size: A3 | Document Number: JE70-DN | Rev: SB

Date: Monday, March 01, 2010 | Sheet 61 of 63

1020

Page8: modify these nets for PCIE ports
Page11:add these nets(INT_VGA_EN#,EDP_EN)
Page11:add the net(PX_EN#) and R861
Page11:delete D41,R437,R435
Page12:modify these nets for USB ports
Page14:modify L45,L48,L52,L57,L58,L60
Page18:delete RN95,R423 and add Q73~Q76,R862~R864,D45
Page19:delete CCD1 conn and modify these nets for CCD
Page19:add R865,R866,U100
Page20:add Q77,R867
Page24:add modify these nets for BT
Page25:add modify these nets for USB board
Page26:modify these nets for PCIE port(LAN)
Page26:delete the net(LOW_PWR)
Page33:modify these nets for PCIE ports(MINI1,MINI2)
Page33:modify these part's names
Page33:modify these nets for USB port(MINI2)
Page40:1020 modify PWR_LED1,CHARGER_LED1
Page51:add screw holes

1021

Page5:modify these nets
Page6:delete HDT1 conn and add TP246~255
Page16:modify these nets of ADM1
Page16:add R880~883
Page17:modify these nets of ADM2 and ADM3
Page17:add R884~R891
Page18:add RN114~117
Page23:modify ODD1
Page25:modify the net(COVER_SW#_1)
Page30:modify LOUT1,AMIC1 and MICIN1
Page33:modify AMINI1 and MINI2
Page36:modify these nets and add R873~878
Page38:modify these devices(ATPCN1,SW_R,SW_L)
Page40:modify PWR_LED1,CHARGER_LED1
Page49:add D46
Page50:modify DCIN1, BAT1 and add R879

1021

Page26:modify U6(LAN IC)

1023

Page12:delete R538,R539 and add RN118
Page12:delete R442,R443,R445 and add RN119
Page12:delete R570~R572 and add RN120
Page12:delete C368~C371,C446,C449,C686,C687
Page18:swap these nets
Page21:add R892~R900,Q78
Page25:delete TC29,TC24,EC79,EC83
Page25:modify the net of USBCN1 pin32
Page36:delete R258 and RN89,RN122
Page36:delete R382 and add U101
Page36:delete R892,R483,R497,R478 and add RN123
Page36:delete R410,R416 and add RN121,R892
Page37:add R901,R902
Page40:modify the pin5 define of PWR_CN1 and Q11
Page43:add TC53,TC54,U44
Page61:modify TC52, R295 and add R903,Q79

1026

Page3: add R904 and modify C509,R232,R235
Page6: add R913,RN124
Page6: modify RN42,RN84,R612,R611,R364
Page17:modify these nets
Page19:modify R588
Page21:modify U73 and delete R504
Page22:modify SATA1
Page35:delete R311 and modify FAN1
Page36:modify RN121
Page36:modify AKB1
Page37:modify RN94 and the net(SPI_WP#)
Page43:add R097~R911,D47,Q80
Page53:add R905,R906

1027

Page10:delete C651,R320,R316
Page11:modify C543,C306,C424,C433
Page11:delete R148
Page12:modify the net(PM_RSMRST#)
Page43:modify the net(PM_RSMRST#)

1028

Page3:add the net(LAN_CLKREQ#)to RN70
Page4:modify C704~C706
Page4:modify R401
Page9:delete R576,R578
Page10:modify C62,C91
Page11:delete R207,C337,D5,R208
Page11:delete the net(PCI_REQ#6)
Page12:delete RN120 and add R570
Page13:modify the net(SATA_LED#)
Page14:add C1198,C1199 and modify C815,C811
Page16:add R934,R935
Page18:add U102,R915~R919
Page18:modify R432,U3,U8
Page19:add U103,R920~R922 and delete D35
Page20:add R936,R937 and modify R325,R323,R354
Page21:delete RN8,RN13,RN15,RN19
Page21:modify C819~C821,C823,C824,C826~C828
Page25:add L82,R924,R925
Page29:modify R489
Page30:modify R622,R619 and add RN125
Page36:delete R384 and modify the net(KBC_BL_ON_IN)
Page36:add R926
Page43:delete R583,D33,U74,R340,Q34,R584
Page43:add R930~R933,Q84,Q85,C1197
Page43:add R927~R929,Q8~Q83
Page43:delete R591~R595
Page48:modify these nets(DGPU_PWROK,9025_POK)

1029

Page6:delete R364,R612 and add RN127,R946
Page16:delete C331,C338
Page17:delete C348,C340,C350,C342
Page18:modify these nets
Page19:add EC99,EC100
Page24:add EC101,EC102
Page25:add L82,R924,R925,R939,EC103
Page35:delete D17,D18,U39,U43,R298,R322,R330,R338,R337,C646,C656
Page35:delete U38,R321,R308,R309,R314,C645
Page36:add R945,RN126
Page43:delete U44,R342,C675
Page47:modify the net
Page48:modify R582 and add R938
Page50:add D48
Page53:add R940~R943
Page61:add R944,Q86

1030

Page3:modify these nets
Page8:modify these nets
Page11:modify the net
Page12:add R949
Page14:delete C760,C721,C805,C800,C769,L64 and add R948
Page18:modify these nets
Page30:add R950~R953 and modify EC24,EC51
Page57:swap these nets
Page58:swap these nets
Page59:swap these nets
Page60:swap these nets

1102

Page3:swap these nets
Page6:swap these nets
Page12:swap these nets
Page13:swap these nets
Page18:swap these nets
Page25:modify USBCN1
Page30:modify these names of these nets

1103

Page3:modify X5,C508,C509
Page11:modify R164
Page14:modify L51,L59
Page21:modify these names of nets
Page21:add RN8,RN13,RN15,RN19
Page36:add the net(A_MIC_SUPPORT#)

1104

Page6:delete TP246~255 and add HDT1
Page9:modify the value of RN11
Page24:add AFTP(TP256~TP258)
Page24:add AFTP(TP259~TP263)
Page25:add AFTP(TP264~TP280)
Page35:add AFTP(TP281,TP282)
Page36:add AFTP(TP283~TP307)
Page38:add AFTP(TP308~TP312)
Page40:add AFTP(TP313~TP319)
Page56:modify these values of R724,R725

1105

Page3:delete R191~R194,R198~R200,R204~R206
Page3:delete R214,R213,R187~R190,R220,R222
Page3:add RN128~RN136
Page3:modify R215,R197,R238,R229
Page6:delete R104,R105,R108,R110
Page6:add RN137,RN138,R954
Page6:modify R366
Page6:modify Q8,R81,R375,C205
Page8:delete TP16,TP17,TP20,TP21
Page9:add R955,R956 and modify R29
Page11:delete R144,R141,R137,R138
Page12:add the net(SUS_STAT#) and R957
Page12:modify these nets
Page21:swap these nets
Page28:modify C713,R634 and delete R626
Page33:modify these nets
Page33:modify R879

1106

Page3:modify these values of R169,R170
Page12:add R957,R958
Page12:add these nets(USB_OC#0,USB_OC#2,USB_OC#3)
Page16:modify R880~R883,ADM1
Page17:modify R888,R890,ADM2
Page21:add R959
Page35:modify FAN1
Page35:modify PWR_CN1
Page35:modify ATPCN1
Page36:swap these nets(KBRCIN#,KA20GATE)
Page37:swap RN94
Page44:swap RN45
Page51:add EC104~EC112 for EMI demand

1107

Page3:swap RN129,RN130,RN132
Page6:swap RN137
Page51:add EC104~EC112 for EMI demand

1109

Page45:modify the value of R448 to 64.15035.6DL for Power team demand
Page45:modify R462,R470 for Power team demand
Page46:modify L25 for Power team demand
Page48:modify C1032,C1194

1110

Page5:swap RN48
Page7:add C1200~C1207
Page11:add R960,R961
Page25:modify USB1
Page43:add TC55,TC56
Page52:add R962

1111

Page11:add R965
Page21:modify HDMI1
Page28:add R626
Page33:delete C550,C549 and add R963
Page36:delete RN121 and add R964
Page45:modify TC39,TC40
Page48:add R966,Q87,C1208,R967,R968,Q88

1112

Page13:modify the net
Page48:delete R968,Q88
Page48:modify R819,R820,R966
Page48:modify the net

1113

Page3:delete R170,EC50
Page25:delete R939,TP272,EC103
Page46:modify TC43
Page48:add R969
Page53:add R968
Page53:delete TP103,TP122,TP160,TP178
Page53:delete these TP(TP157,TP145...)
Page54:delete TP3~TP9

1117(Rename)

Page18:swap these nets
Page22:delete D29~D31,D33
Page36:modify RN31
Page61:delete G24~G29
Page61:modify the net

1118

Page14:add R620 and modify R184
Page15:modify R412,R411
Page36:swap AKB1 pin1~pin26

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Title: HISTORY(1/2)

Size: A2 | Document Number: JE70-DN | Rev: SB

Date: Thursday, November 19, 2009 | Sheet 62 of 63

SA to SB

1120

Page19: modify these nets
Page48: modify the net(9025_EN)

1124

Page38: modify ATPCN1

1126

Page25: modify these nets
Page36: add TP174