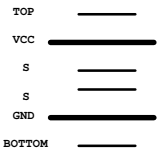
HM42-DN Block Diagram

Project code: 91.4HD01.001
PCB P/N : 48.4GX01.0SA
PCB 版號 : 09919 SA
REVISION : PCB STACKUP



DDR3 16,17 — 800/1066/1333MHz
DDR3 800/1066/1333 MHz 16,17 — 800/1066/1333MHz
AMD Champlain CPU S1G4 (45W)
638-Pin uFCPGA638 4,5,6,7
OUT / IN — HT 3.0 16X16
CRT 20
LCD 19
HDMI 21
CLK GEN. 3
ICS9LPRS480BKLFT 71.09480.A03
RTM880N-796-VB-GRT 71.00880.A03
North Bridge
AMD RS880M
CPU I/F LVDS, CRT I/F
INTEGRATED GRAHPICS
8,9,10
16X — PCI EXPRESS GRAPHIC
Madison ATI 53,54,55,56,57
DDR3 VRAM 58, 59, 60, 61
LAN Giga LAN BCM57780 26
TXFM 27
RJ45 27
INT MIC 30
Codec ALC272 28
AZALIA
A-Link 4X1
PCIex1
Mini Card WLAN 33
MIC In 30
INT.SPKR 30
OP AMP 29
Line Out
30
South Bridge
AMD SB820
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
11,12,13,14,15
LPC BUS
KBC Novoton NPCE781B 36
BIOS MXIC MX25L1605 37
LPC DEBUG CONN 37
Touch Pad 38
INT. KB 36
SATA
USB
CardReader AU6433 32
MS/MS Pro/xD /MMC/SD 5 in 1 32
HDD SATA 22
ODD SATA 23
Mini USB Blue Tooth 24
USB 3 Port 25
Camera
Daughter Board USB Board
Daughter Board PWR+LED Board

SYSTEM DC/DC RT8223 46	
INPUTS	OUTPUTS
DCBATOUT	5V_S5 (5.5A) 3D3V_S5 (5A)

SYSTEM DC/DC RT8209E 47	
5V_S5	1D5V_S3 (14A)

RT9026 47	
5V_S5	0D75_S3 (1.2A)

SYSTEM DC/DC RT8209E 48	
INPUTS	
DCBATOUT	1D1V_S0 (11A)

RT9025 48	
3D3V_S5	1D1V_S5 (1.4A)

RT9025 49	
5V_S5	1D1V_VGA

RT9161 49	
3D3V_S0	2D5V_S0 (200mA)

RT9025 49	
1D5V_S3	1D05V_S0 (1.4A)

CHARGER BQ24745 50	
INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 6.0A UP+5V 5V 100mA

CPU DC/DC ISL6265AHR 45	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE_S0 0~1.55V 18A VDDNB 0~1.55V 4A

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Title: BLOCK DIAGRAM
Size: A3 | Document Number: JE40-DN | Rev: -3
Date: Friday, March 26, 2010 | Sheet 1 of 63

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Title: **History**

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 2 of 63

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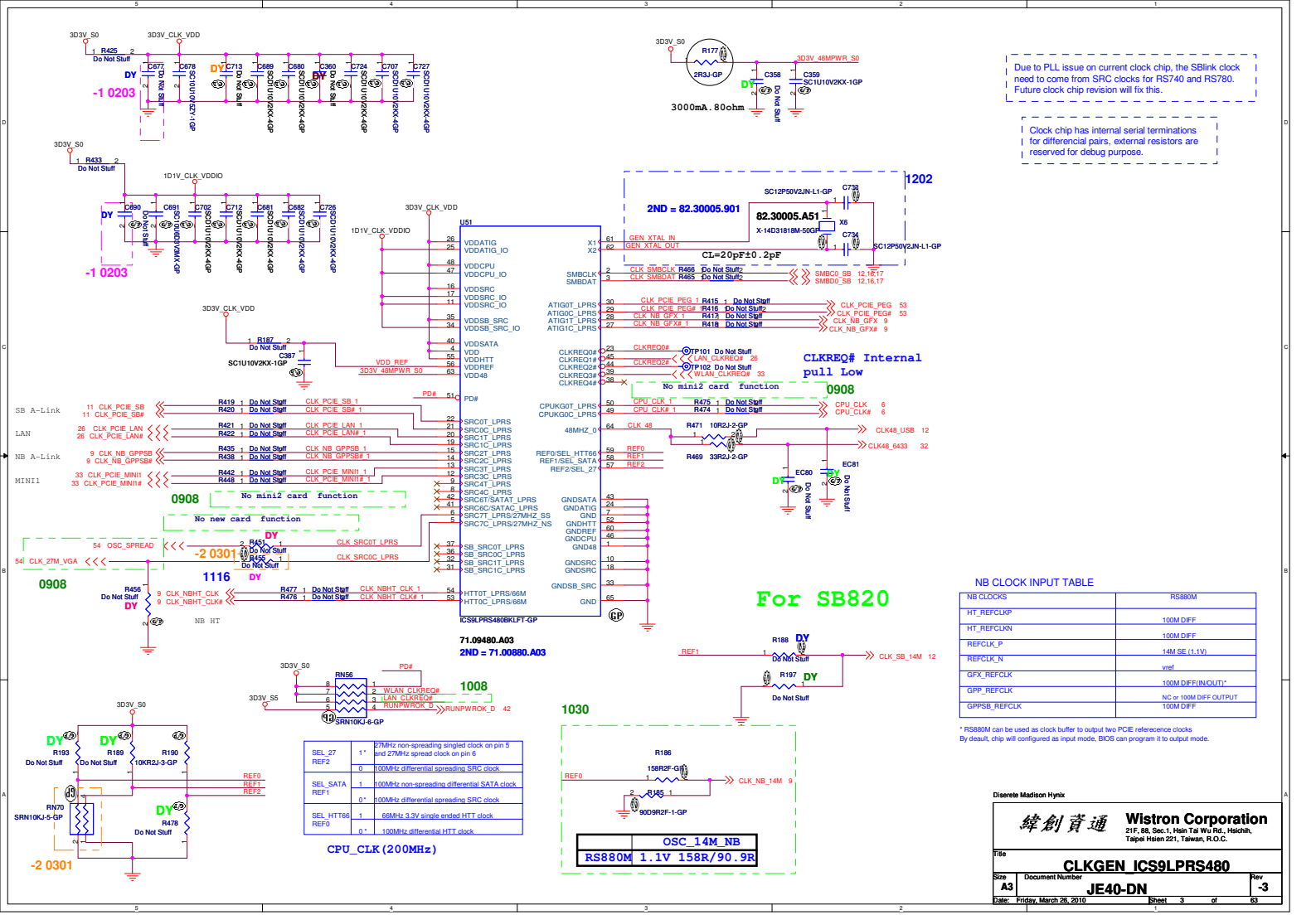

NB CLOCKS	RS880M
HT_REFCLKP	100M DIFF
HT_REFCLKN	100M DIFF
REFCLK_P	14M SE (1.1V)
REFCLK_N	vref
GFX_REFCLK	100M DIFF(IN/OUT)*
GPP_REFCLK	NC or 100M DIFF OUTPUT
GPPSB_REFCLK	100M DIFF

* RS880M can be used as clock buffer to output two PCIE refererence clocks
By deault, chip will configured as input mode, BIOS can program it to output mode.

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

	OSC_14M_NB
RS880M	1.1V 158R/90.9R

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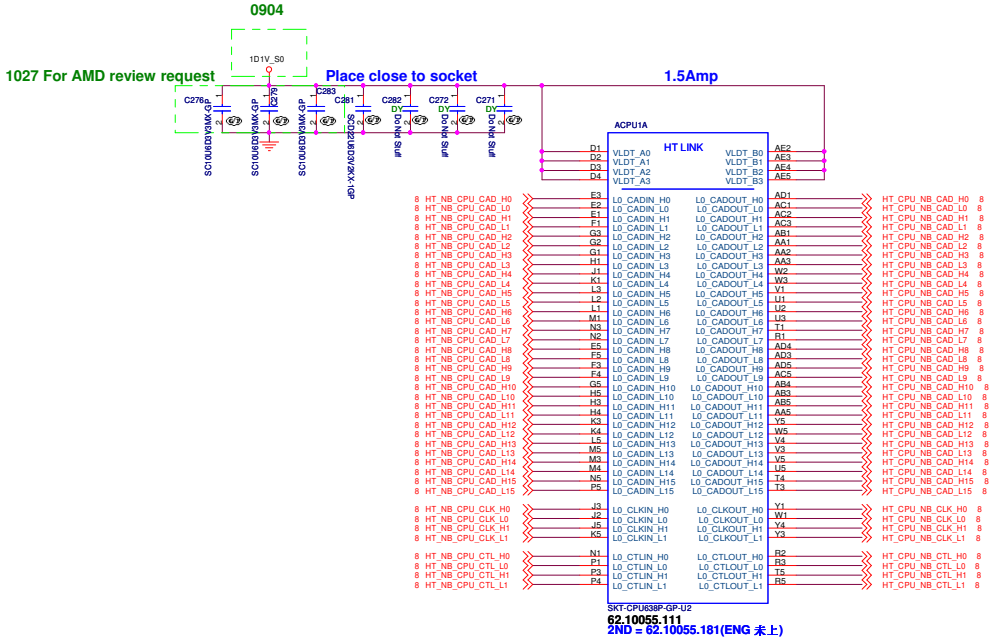
Title: **CLKGEN_ICS9LPRS480**

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 3 of 63



SKT-BGA638H176

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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: CPU_HT_LINK I/F_(1/4)

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 4 of 63

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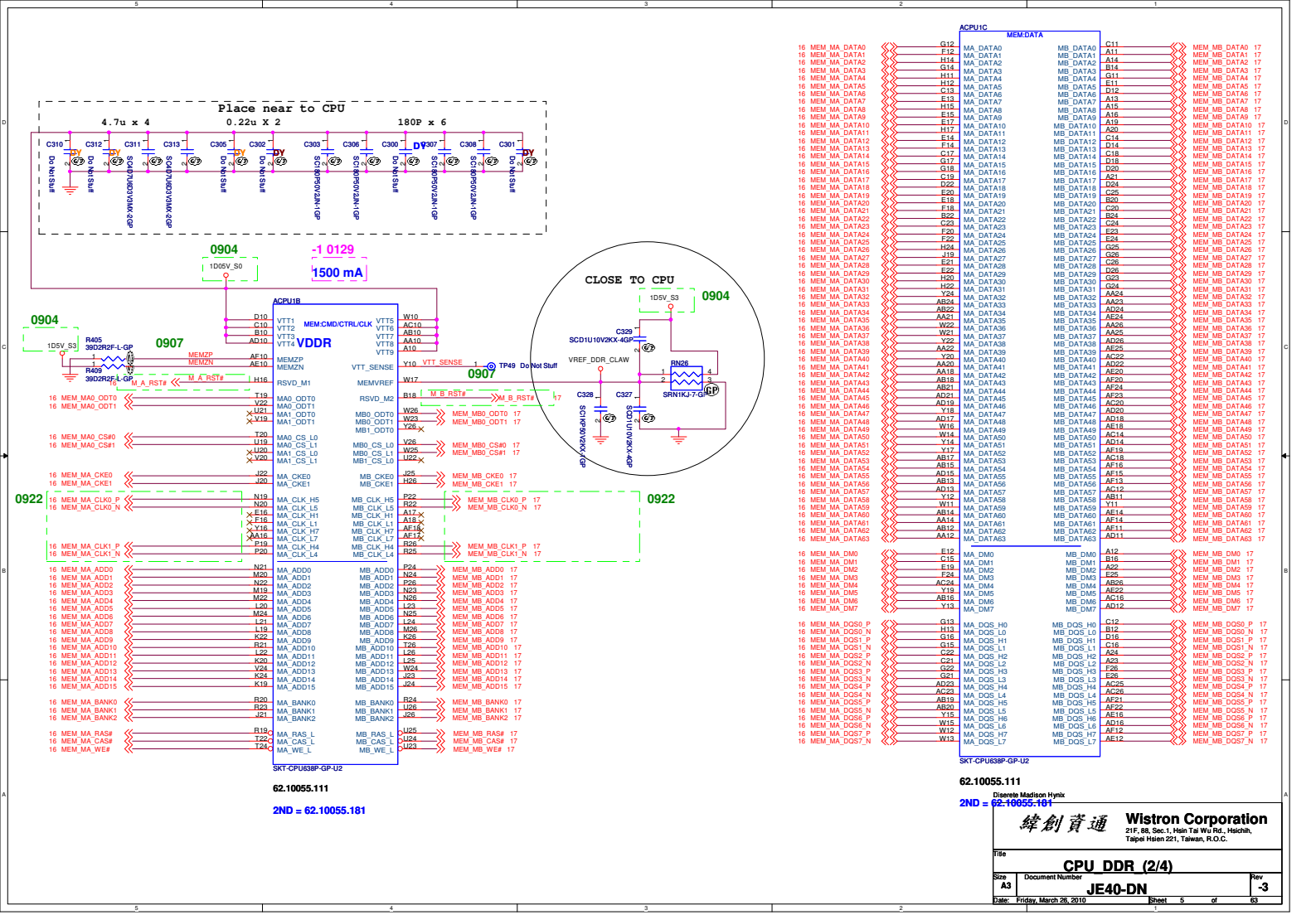


62.10055.111

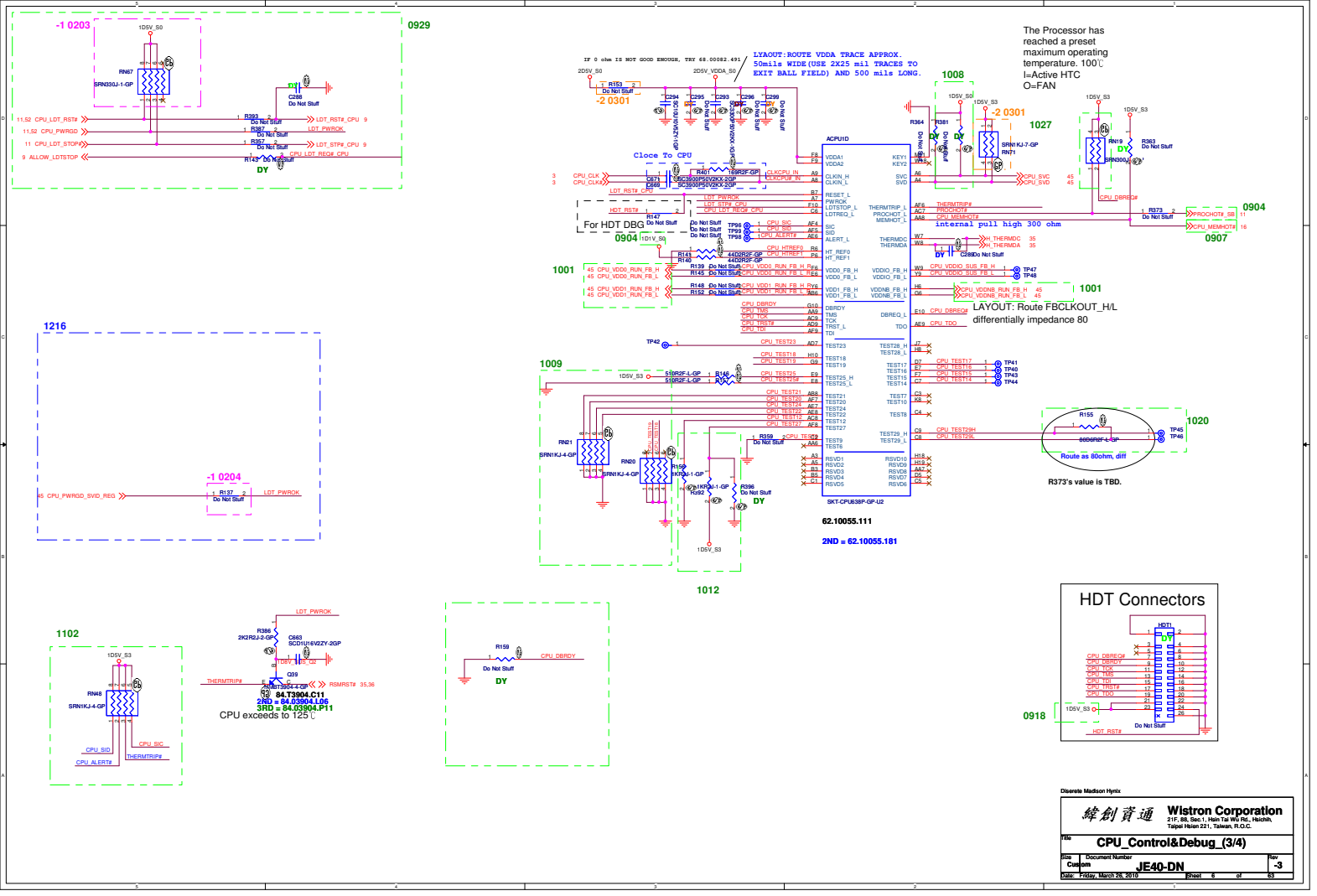
2ND = 62.10055.181

Diserete Madison Hynix

62.10055.111

2ND = ~~62.10055.181~~

緯創資通 Wistron Corporation			
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title	CPU_DDR_(2/4)		
Size: A3	Document Number: JE40-DN		Rev: -3
Date: Friday, March 26, 2010	Sheet 5 of 63		



Diserete Madison Hynix

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: Custom	Document Number: JE40-DN
Rev: -3	
Date: Friday, March 26, 2010	Sheet 6 of 53

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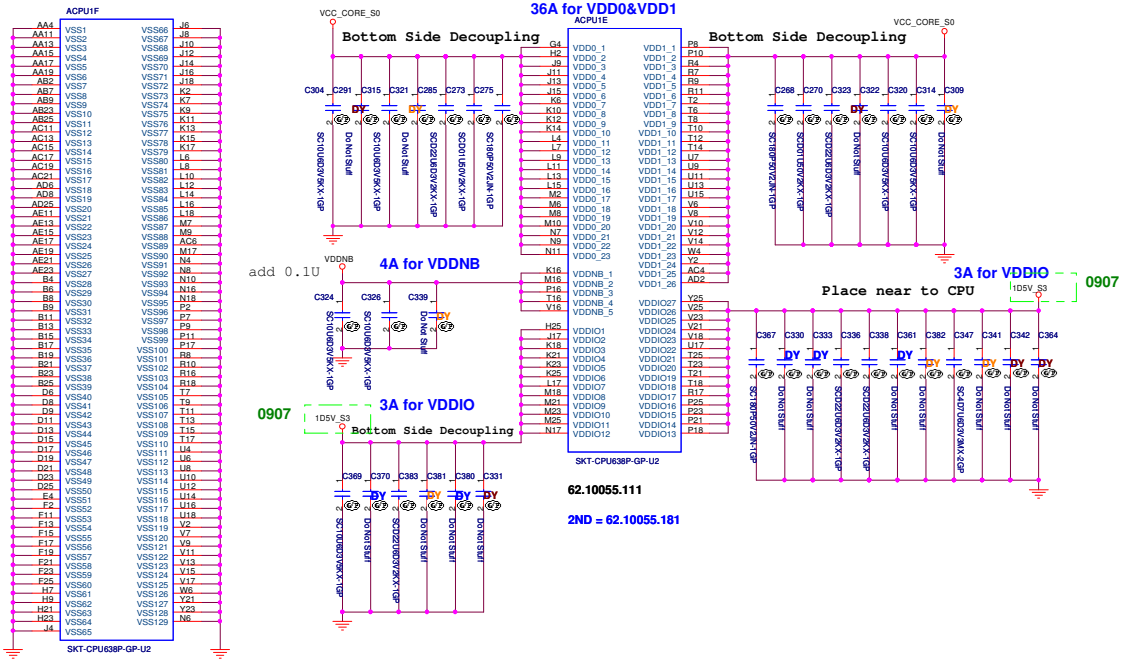
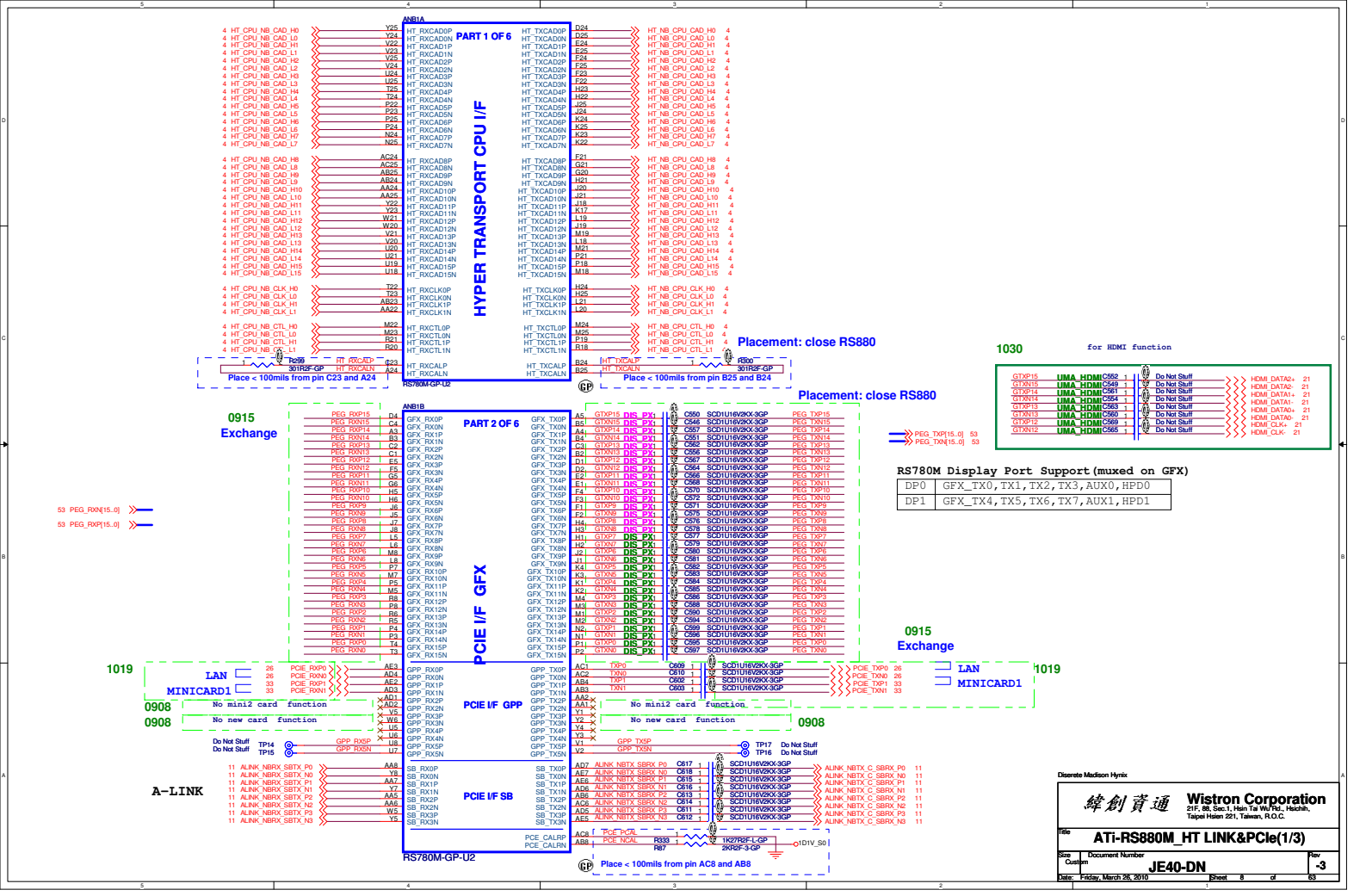


Diserete Madison Hynix

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**CPU_Power_(4/4)**	
Size A3	Document Number **JE40-DN**	Rev **-3**
Date: Friday, March 26, 2010	Sheet 7 of 63	



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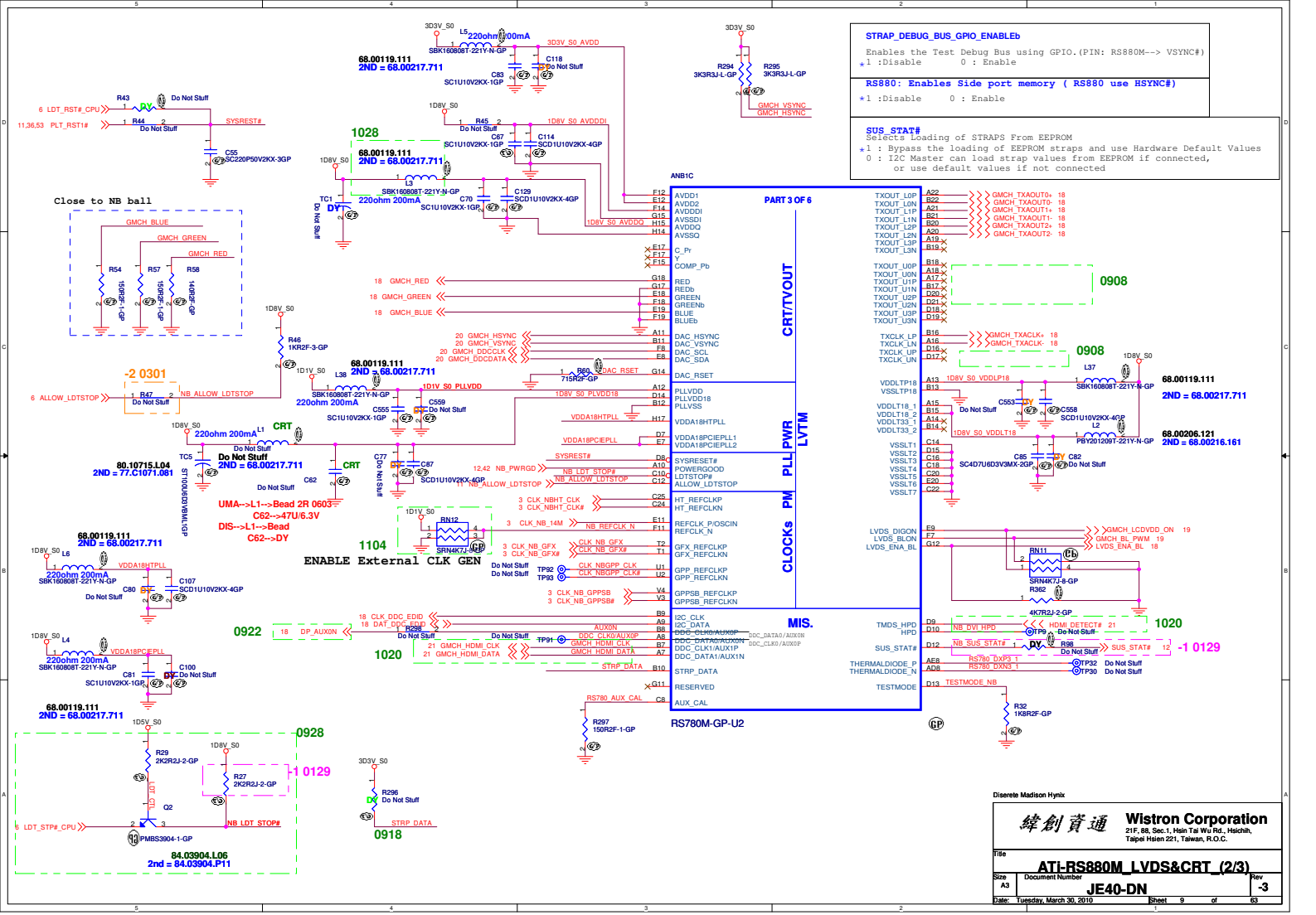
Taipei Hsien 221, Taiwan, R.O.C.

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

Size: Custom | Document Number: JE40-DN | Rev: -3

Date: Friday, March 26, 2010 | Sheet 8 of 63


STRAP_DEBUG_BUS_GPIO_ENABLEb
Enables the Test Debug Bus using GPIO.(PIN: RS880M--> VSYNC#)
*1 :Disable 0 : Enable
RS880: 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
ANB1C
PART 3 OF 6
CRT/TVOUT
PLL PWR LVTM
CLOCKs PM
MIS.
RS780M-GP-U2
Close to NB ball
ENABLE External CLK GEN
UMA-->L1-->Bead 2R 0603
C62-->47U/6.3V
DIS-->L1-->Bead
C62-->DY
-2 0301
0908
1028
1104
0922
1020
0928
-1 0129
0918
Wistron Corporation
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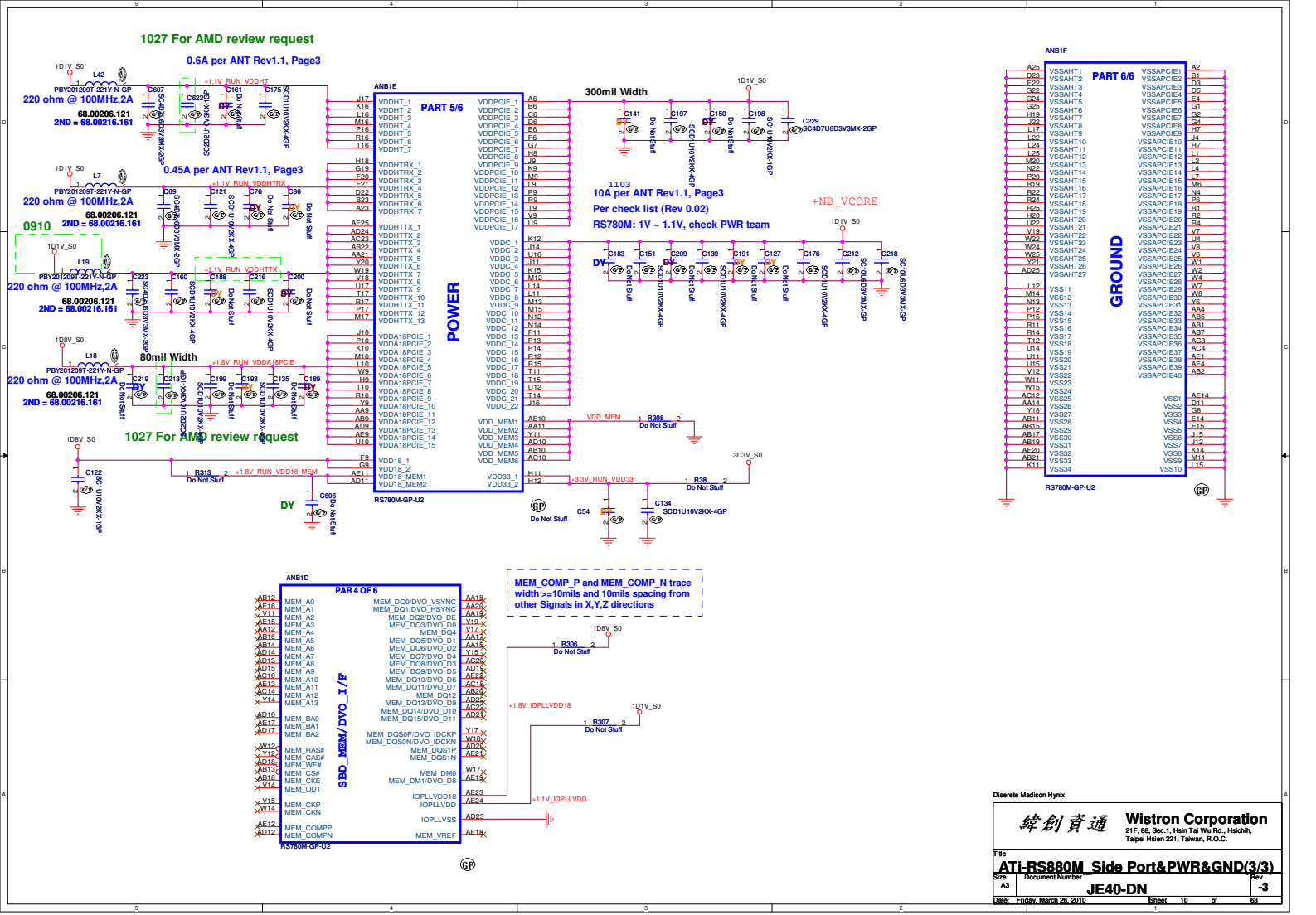
Taipei Hsien 221, Taiwan, R.O.C.
ATI-RS880M_LVDS&CRT_(2/3)
JE40-DN
Rev -3
Date: Tuesday, March 30, 2010
Sheet 9 of 63



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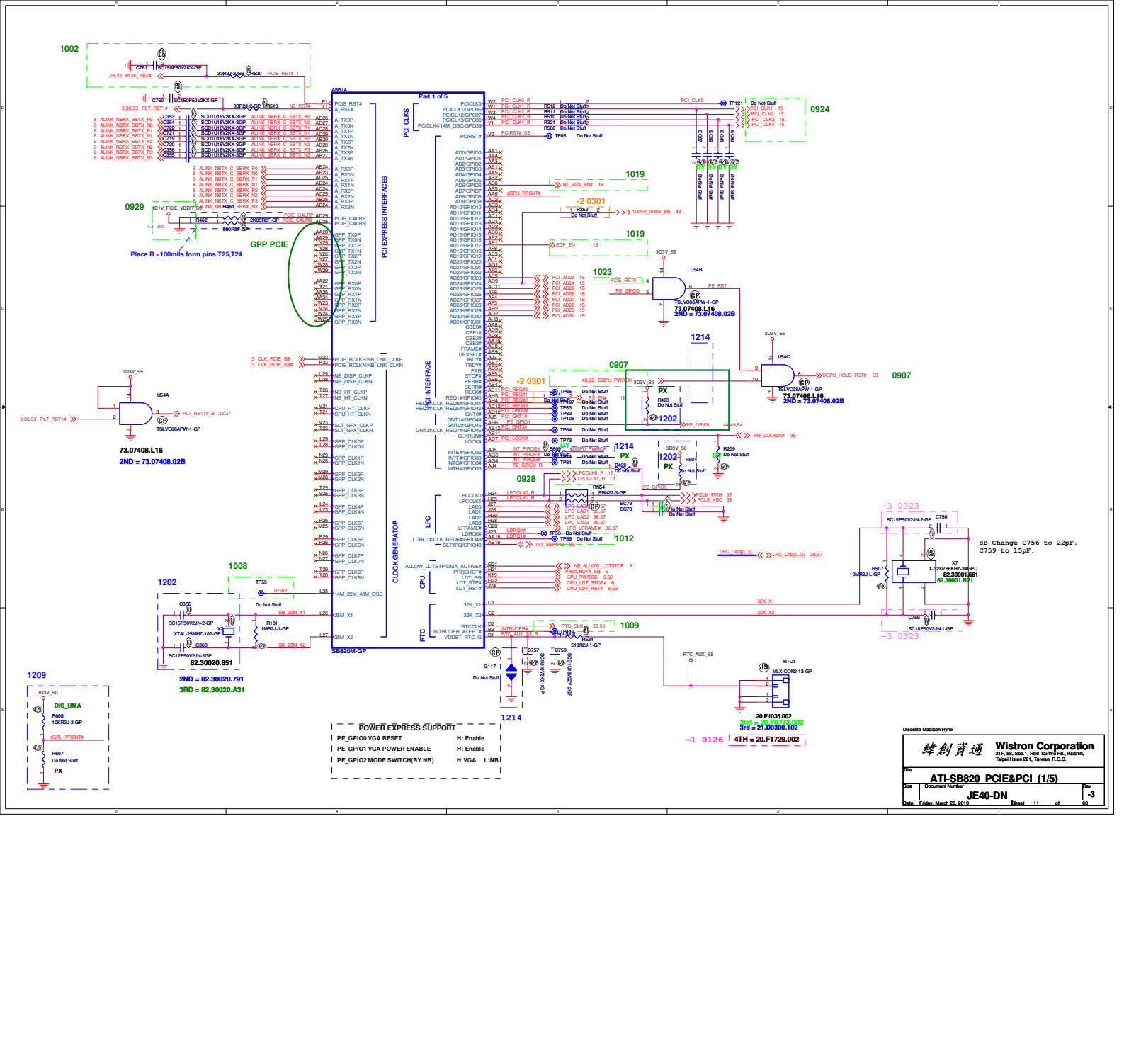
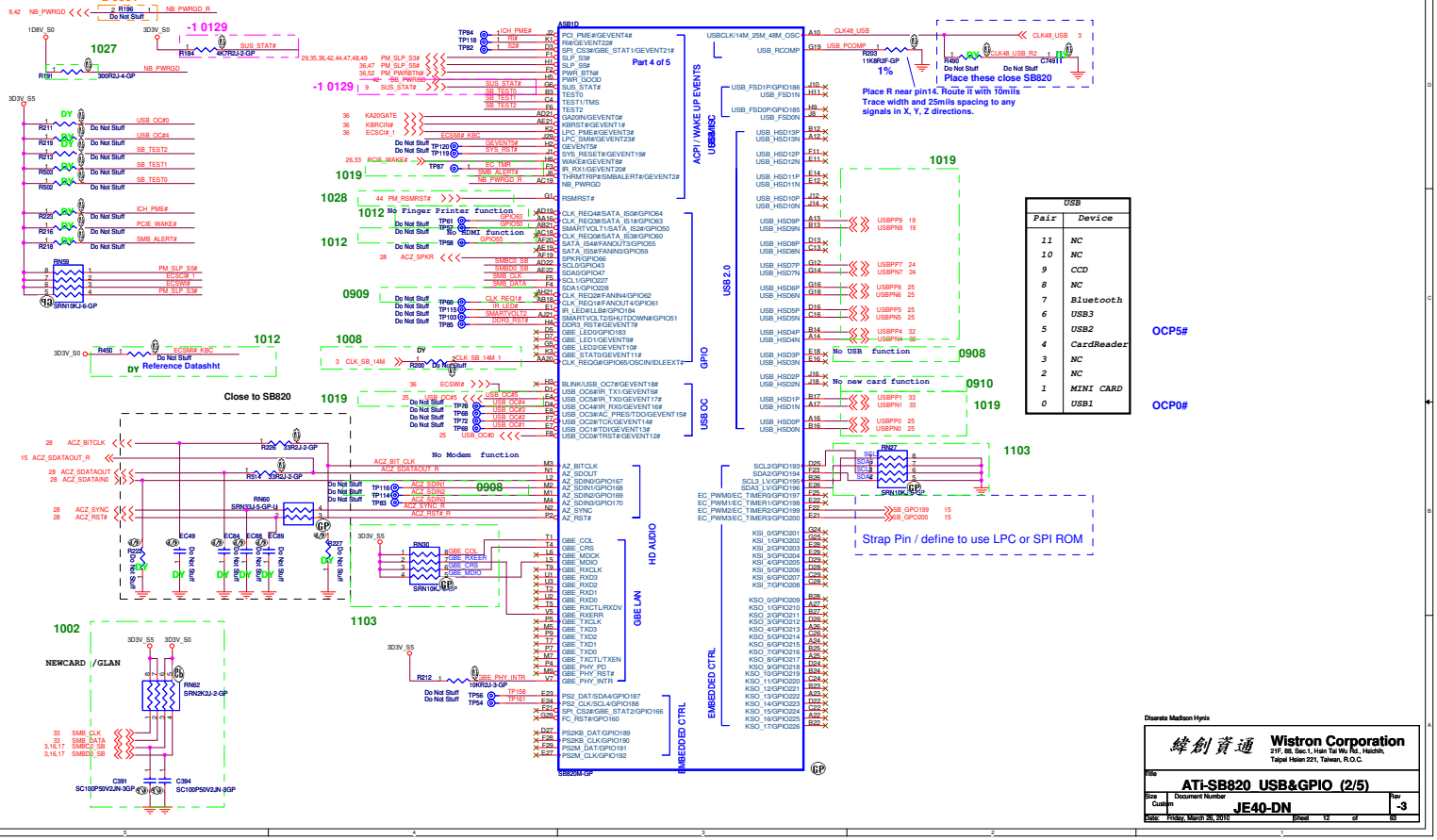
Taipei Hsien 221, Taiwan, R.O.C.

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

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 10 of 63


1002
SB820M-GP
Part 1 of 5
PCI EXPRESS INTERFACES
GPP PCIE
Place R <100mils form pins T25,T24
PCI CLKS
LPC
CPU
RTC
CLOCK GENERATOR
FWH INTERFACE
0929
0924
1019
1023
1214
0907
1202
1008
1009
1012
1209
0928
-2 0301
-3 0323
POWER EXPRESS SUPPORT
PE_GPIO0 VGA RESET H: Enable
PE_GPIO1 VGA POWER ENABLE H: Enable
PE_GPIO2 MODE SWITCH(BY NB) H:VGA L:NB
SB Change C756 to 22pF, C759 to 15pF.
73.07408.L16
2ND = 73.07408.02B
82.30020.851
2ND = 82.30020.791
3RD = 82.30020.A31
82.30001.B51
20.F1035.002
2nd = 20.F0772.002
3rd = 21.D0300.102
4TH = 20.F1729.002
Wistron Corporation
ATI-SB820_PCIE&PCI (1/5)
JE40-DN
-3
Friday, March 26, 2010



USB	
Pair	Device
11	NC
10	NC
9	CCD
8	NC
7	Bluetooth
6	USB3
5	USB2
4	CardReader
3	NC
2	NC
1	MINI CARD
0	USB1

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Title: ATI-SB820 USB&GPIO (2/5)

Size: Custom | Document Number: JE40-DN | Rev: -3

Date: Friday, March 26, 2010 | Sheet 12 of 63

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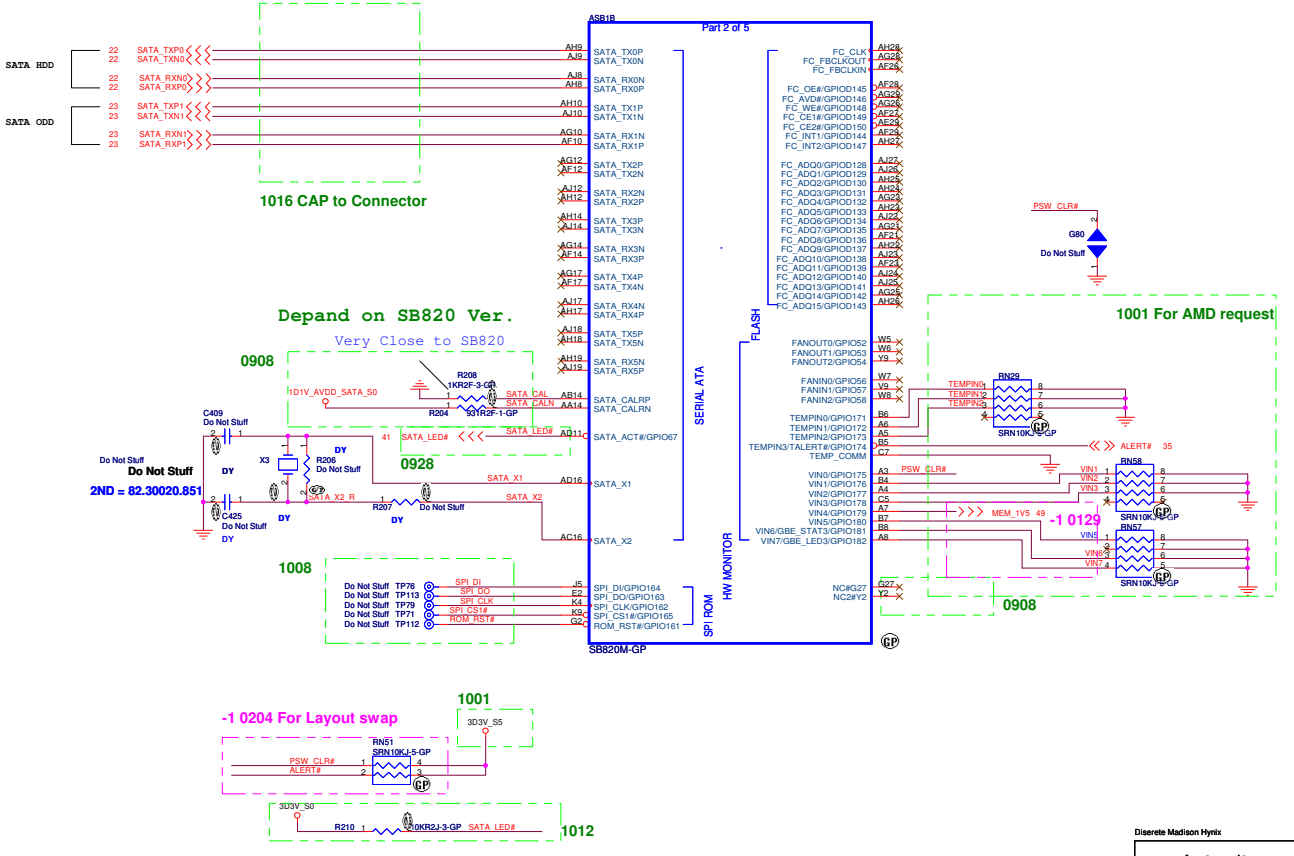

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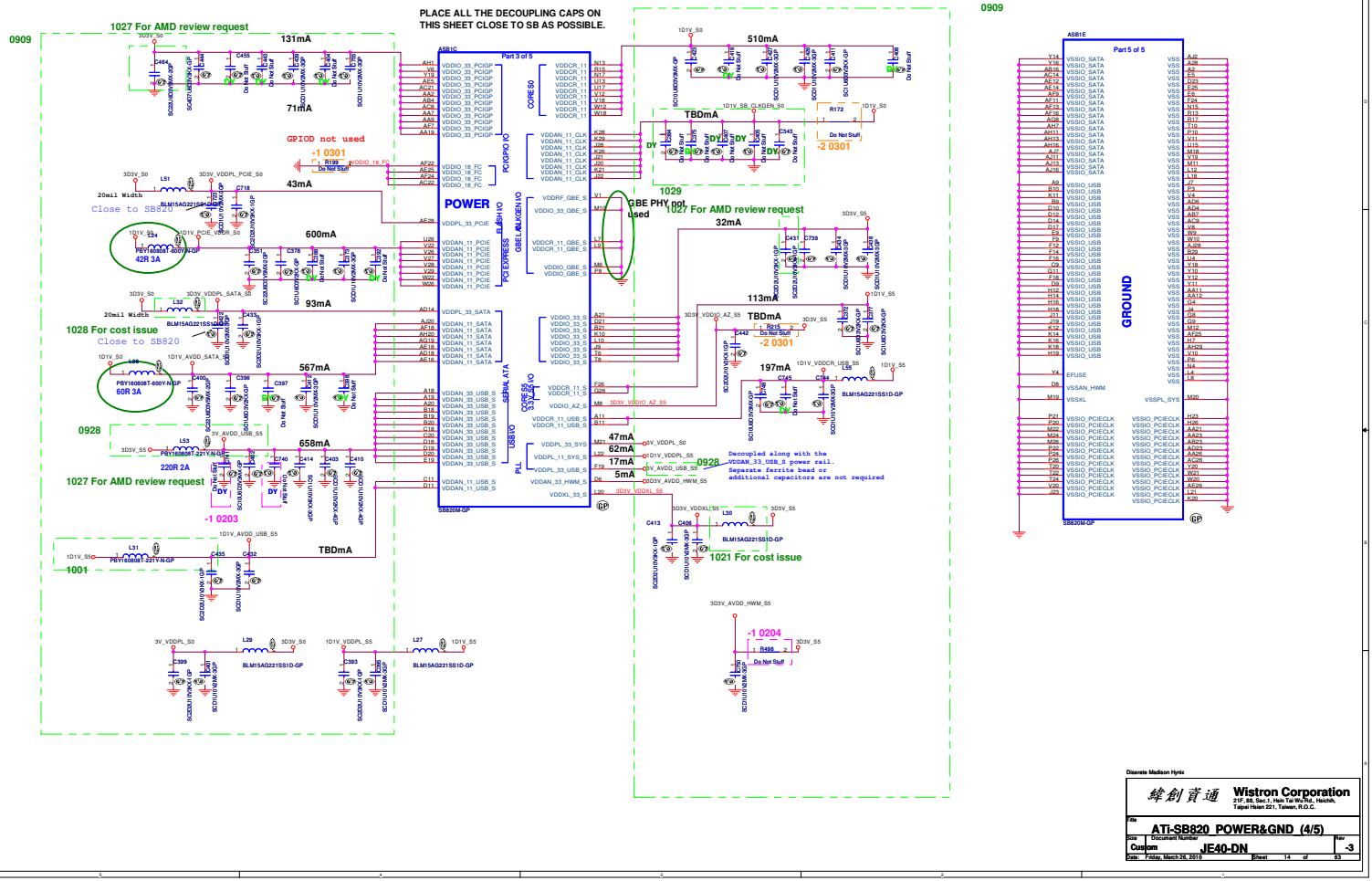
Title: **ATI-SB820 SATA-IDE (3/5)**

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 13 of 63



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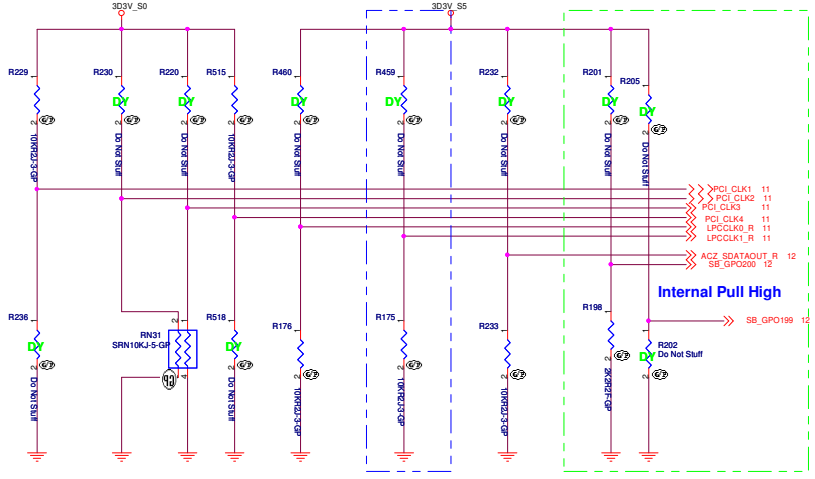
REQUIRED STRAPS

REQUIRED SYSTEM STRAPS

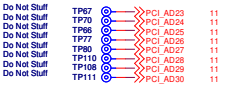
1115



1002

	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 DEFAULT	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	CLKGEN DISABLED	PERFORMANCE MODE DEFAULT	L,H = LPC ROM (Default) L,L = FWH ROM

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

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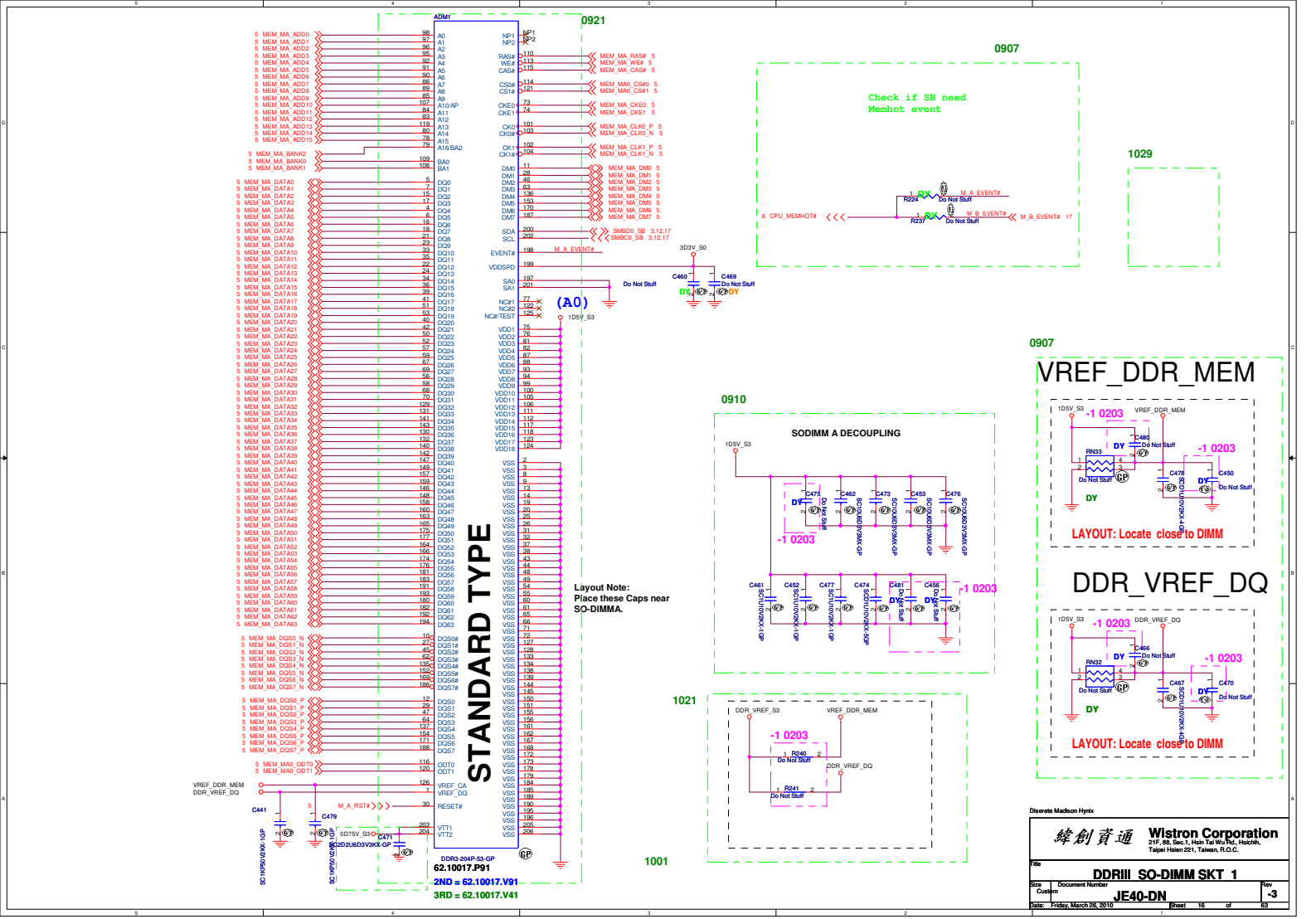
Title: ATI-SB820 STRAPPING (5/5)

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 15 of 63



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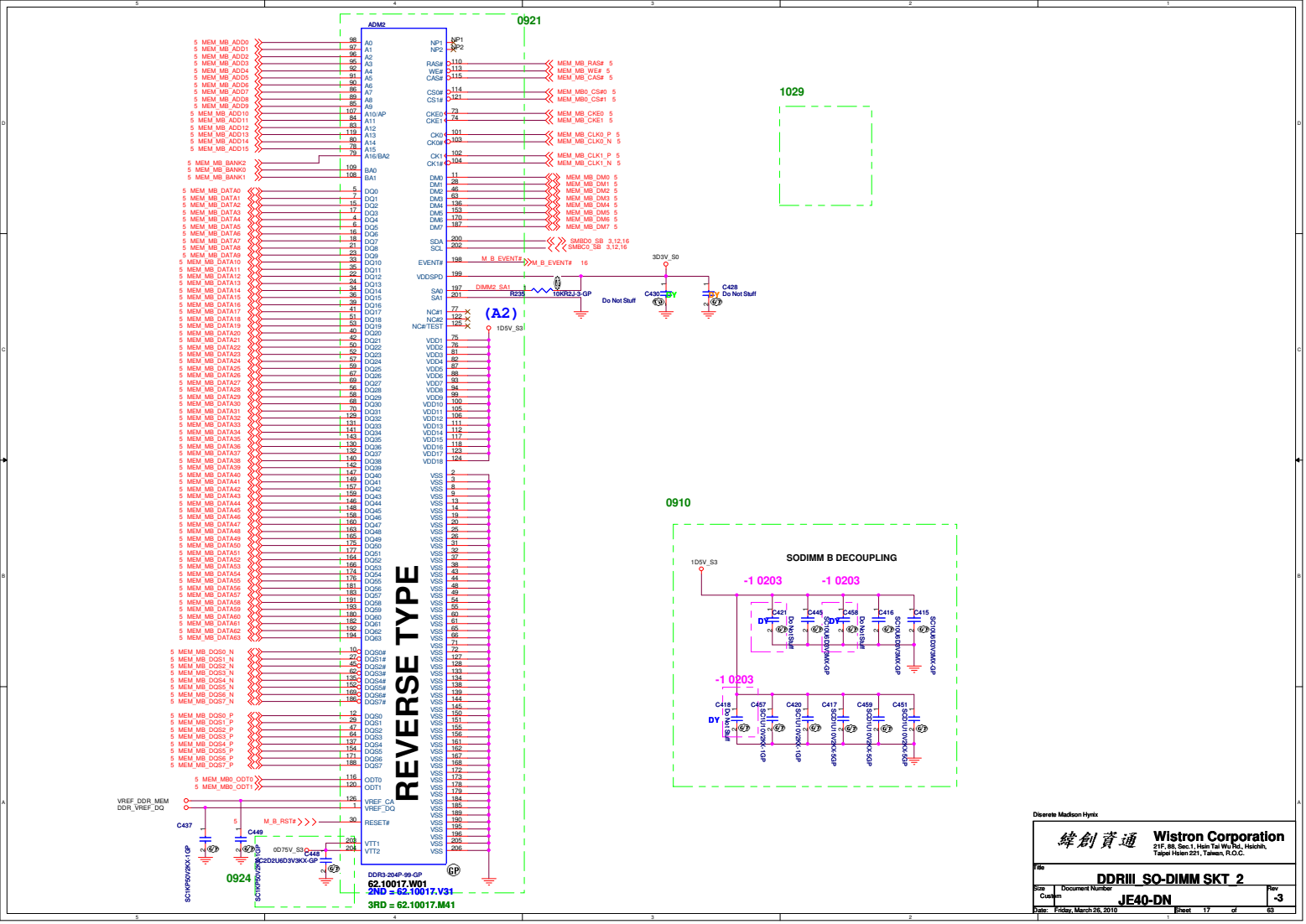
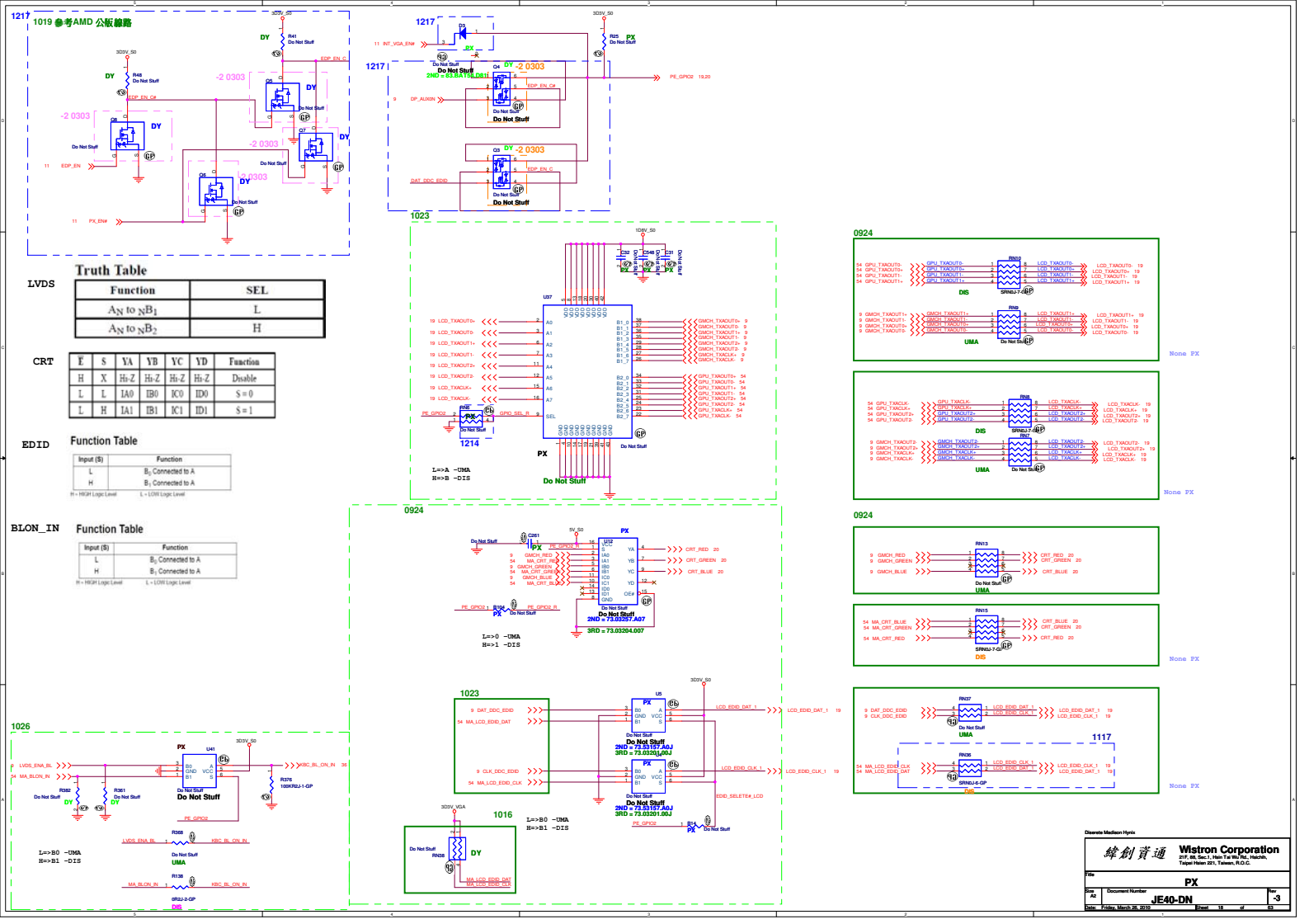

0921
ADM2
REVERSE TYPE
(A2)
1029
0910
SODIMM B DECOUPLING
-1 0203
DDRIII_SO-DIMM SKT_2
JE40-DN
Wistron Corporation
Friday, March 26, 2010



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LCD/INVERTER/CCD CONN

Change PX

0922

1028 for EMC request

0923

-1 0125

1005

0929 del CCD CON

-1 0208

1026

Reserve direct connector to KBC

1016

JV42_DN SA

define same as SJM50-PU,can use SJM50 Cable

JV42_DN_PX SA

Layout 40 mil

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

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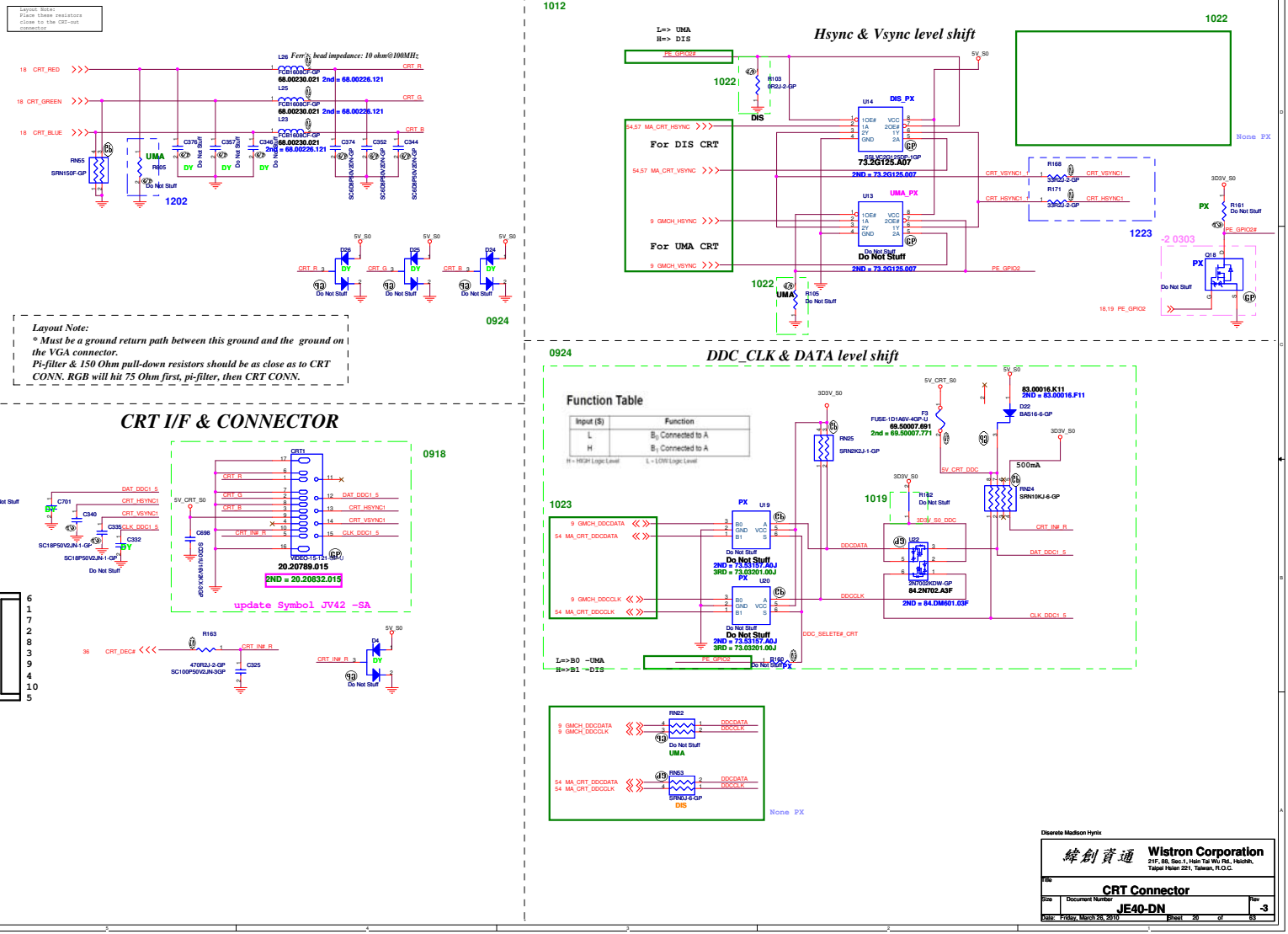
Title: LCD CONN

Size: Custom | Document Number: JE40-DN | Rev: -3

Date: Friday, March 26, 2010 | Sheet 19 of 63



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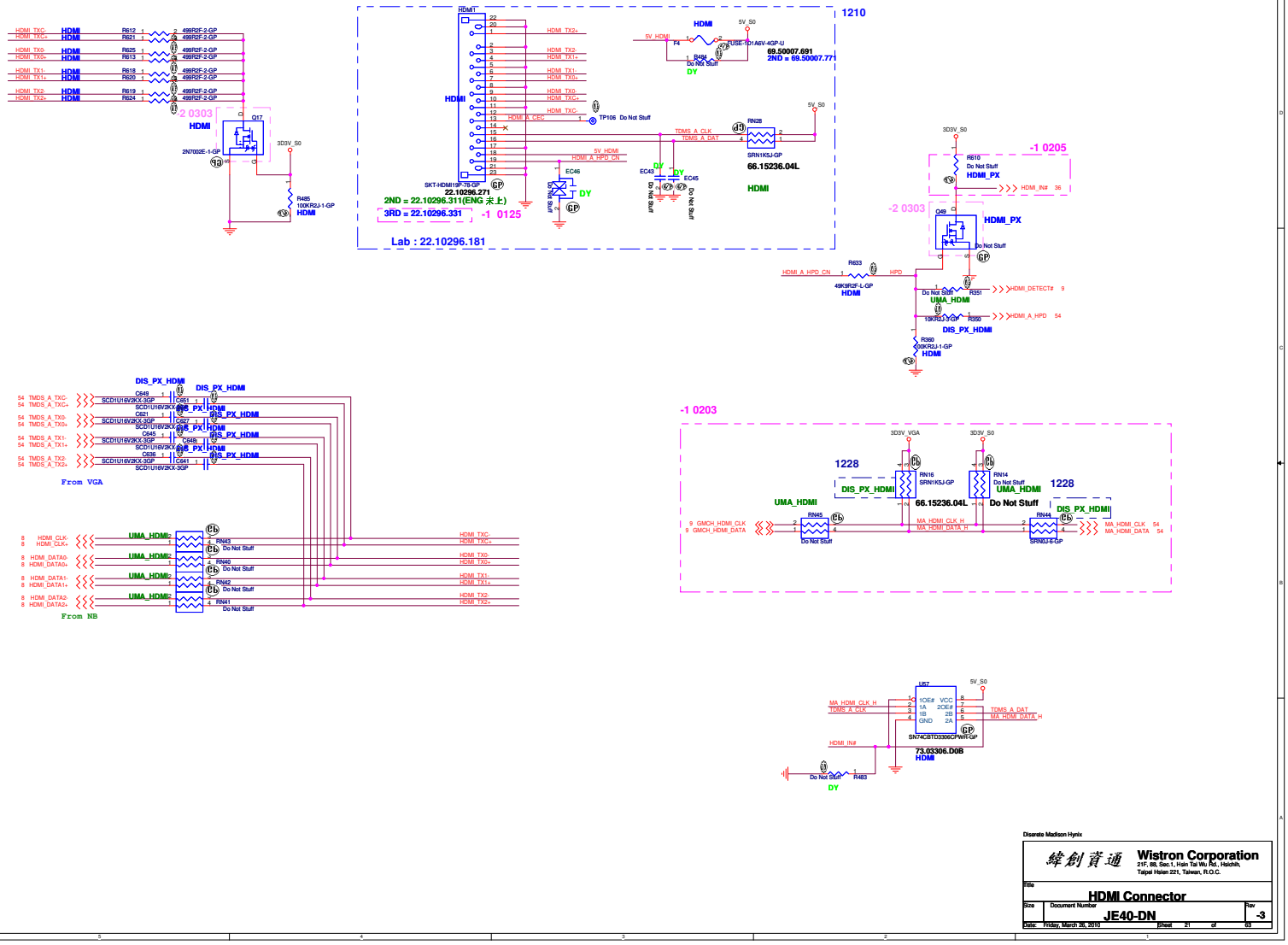

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Title: **HDMI Connector**

Size	Document Number	Rev
	JE40-DN	-3

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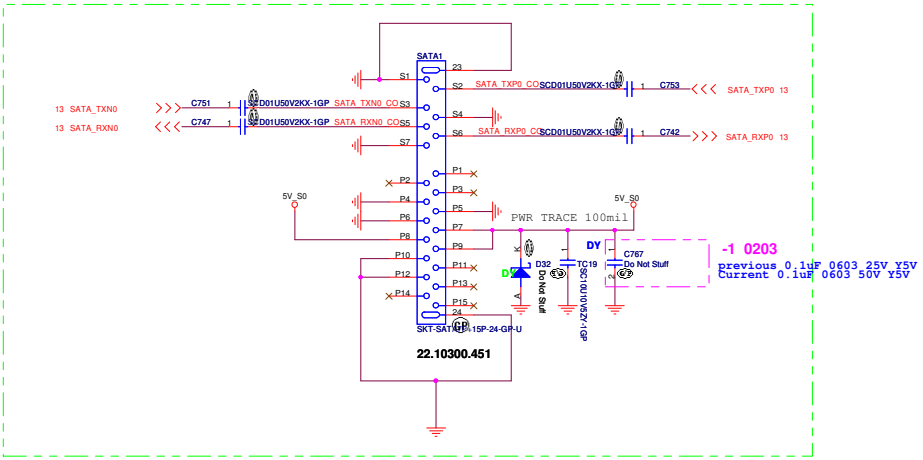
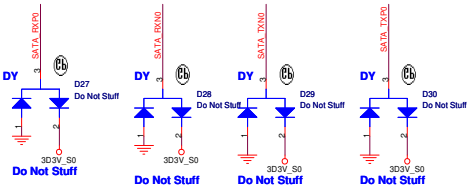
SATA Connector

0923





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緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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Title: HDD

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	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 22 of 63

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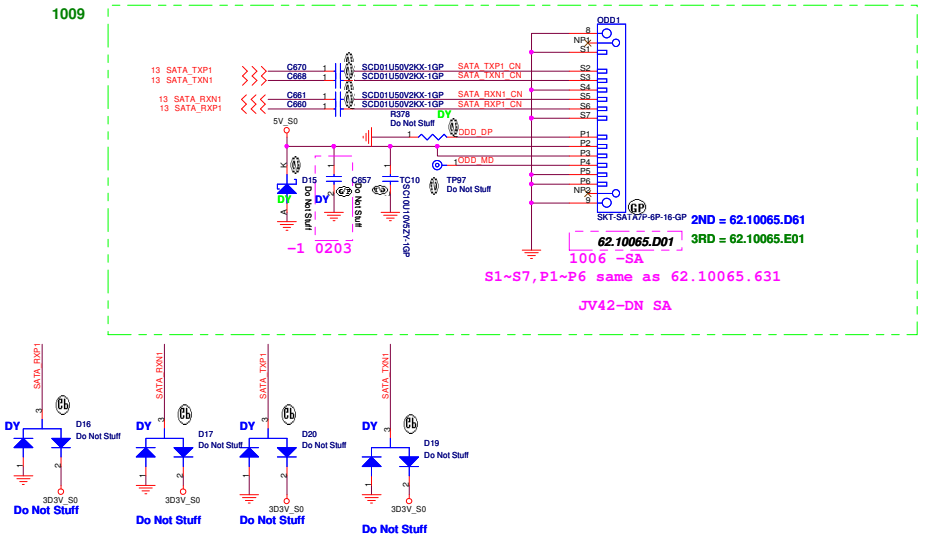
ODD Connector

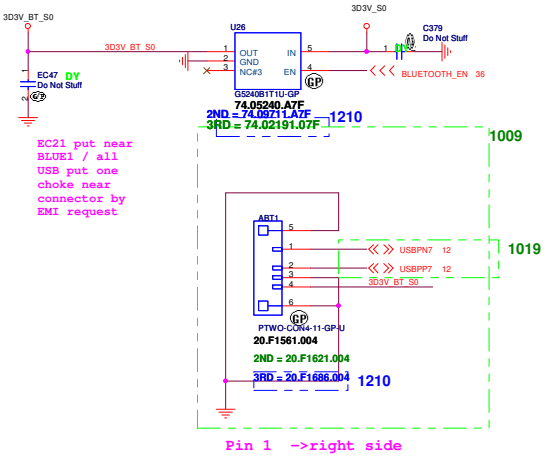


Diserete Madison Hynix

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**ODD**	
Size	Document Number **JE40-DN**	Rev -3
Date: Friday, March 26, 2010	Sheet 23 of 63	

BLUETOOTH MODULE

1.5A / High Active Voltage 2V



Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: BLUETOOTH		
Size	Document Number: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 24 of 63	

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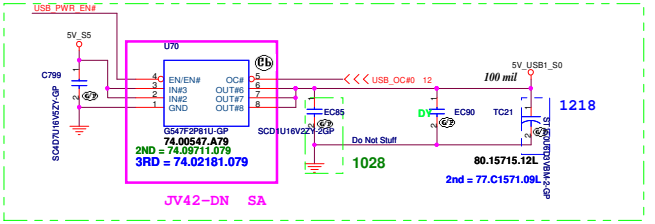
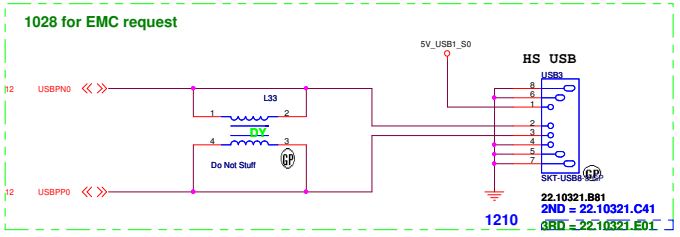
0910

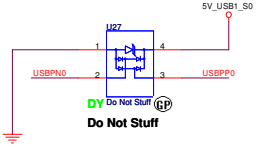


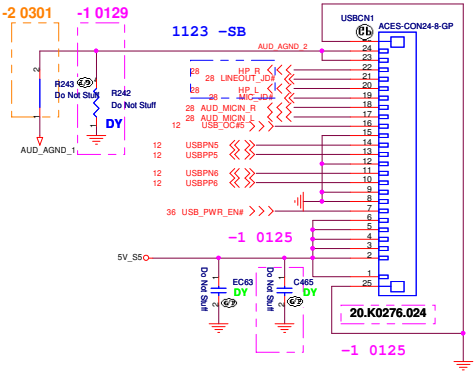
0914



Pin1 -> right side
22.10218.T51 Pin1 -> left side (JV42-DN)

change Net sequence



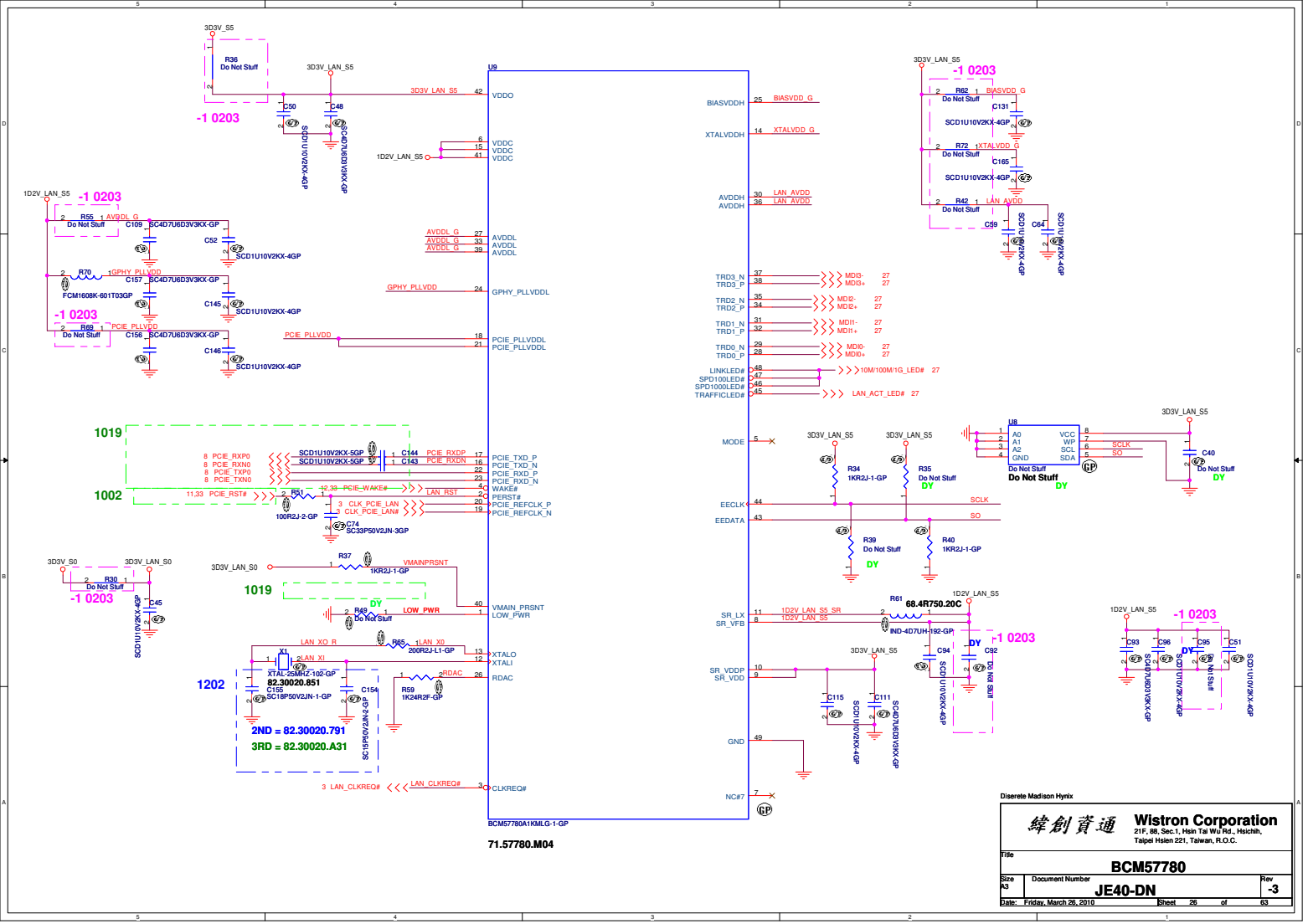


0910

Eng stuff 20.K0216.024 Pin1 -> left side
PD change to 20.K0276.024 Pin1 -> left side
so do not swap net

Diserete Madison Hynix

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: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 25 of 63	



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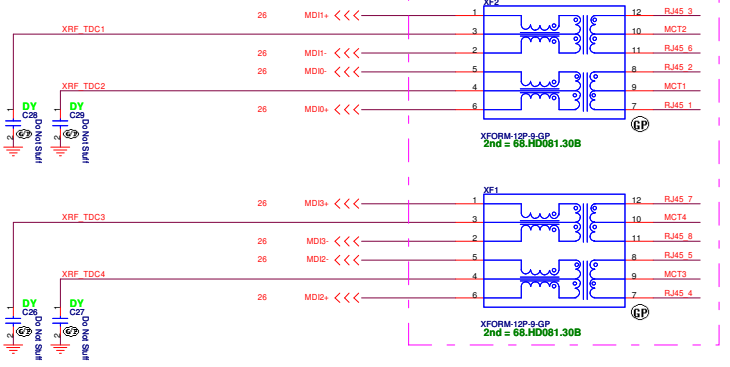
1.route on bottom as differential pairs.
2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
3.No vias, No 90 degree bends.
4.pairs must be equal lengths.
5.6mil trace width,12mil separation.
6.36mil between pairs and any other trace.
7.Must not cross ground moat,except
RJ-45 moat.

LAN Connector

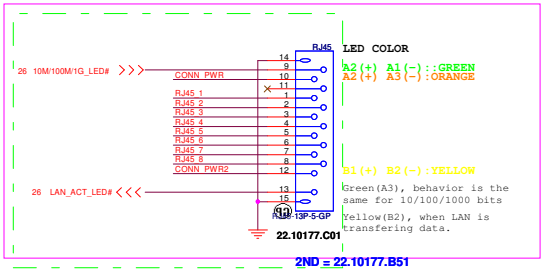
LAN Connector

-1 0127 For EMI request

GIGA Lan Transformer



0923

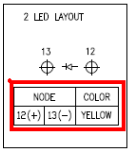


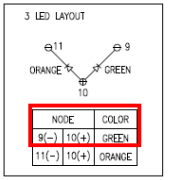
2ND = 22.10177.B51

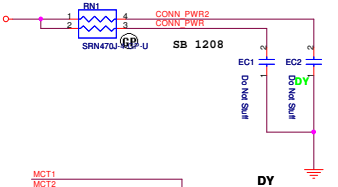
3RD = 22.10177.C21(lab 未上)

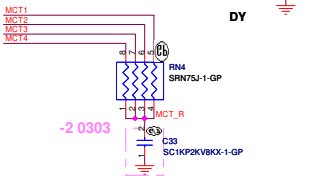
4TH = 22.10177.H31

5TH = 22.10177.B81

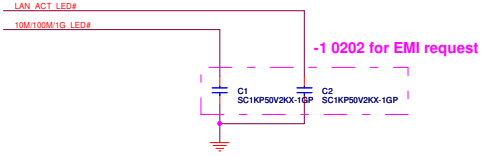








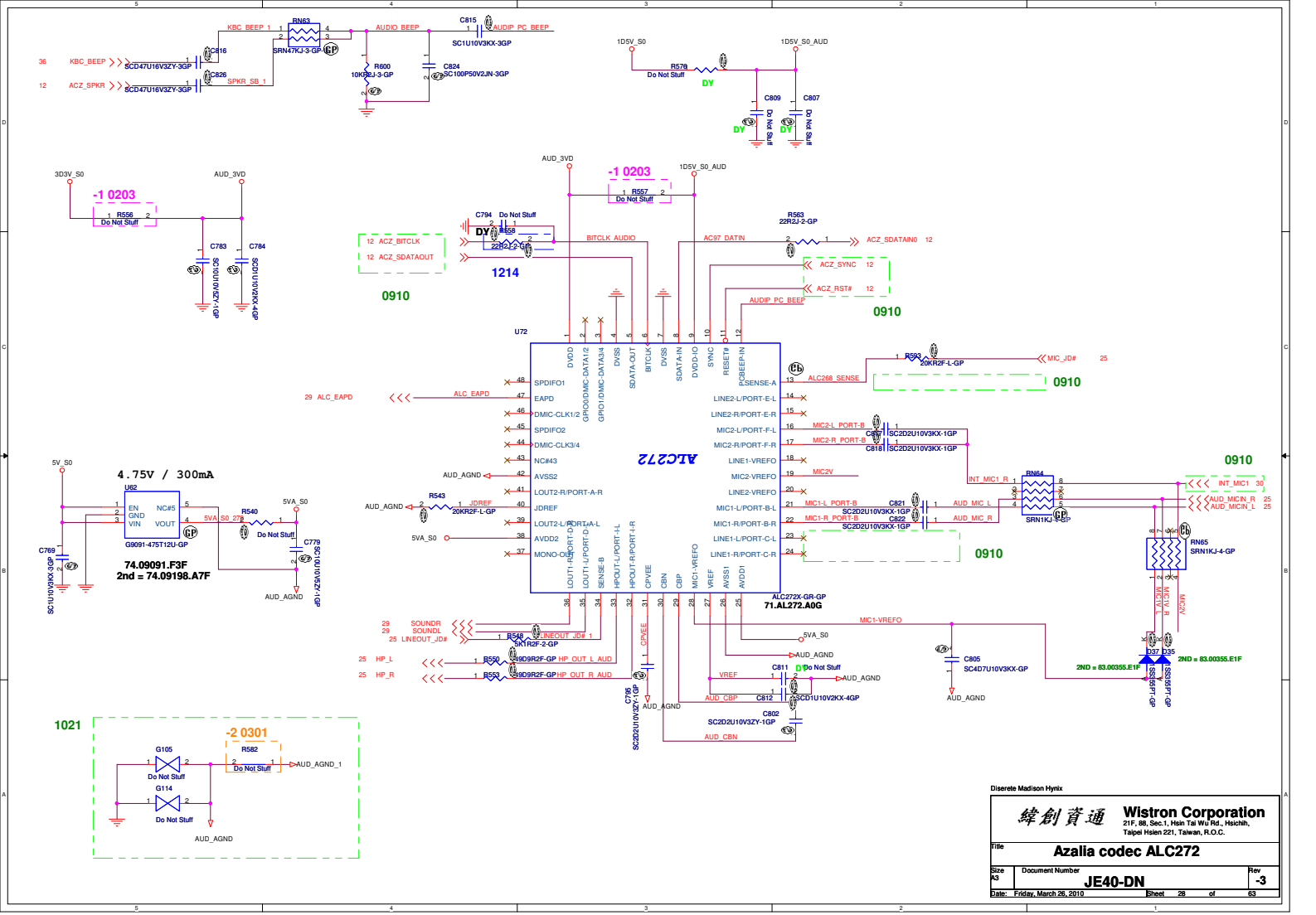
-2 0303



-1 0202 for EMI request

Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: LAN CONN		
Size: A3	Document Number: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 27 of 63	



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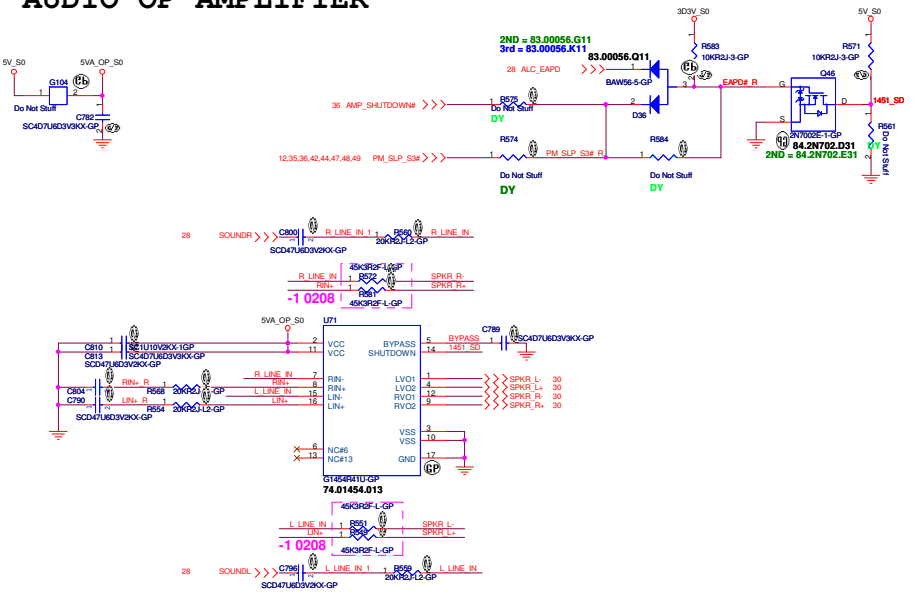
AUDIO OP AMPLIFIER




```
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
```

Discrete Madison Hynix

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

Title: **AUDIO AMP**

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Internal Speaker

0914

0910

29 SPKR_L-
29 SPKR_L+
29 SPKR_R-
29 SPKR_R+

SPKR_L-
SPKR_L+
SPKR_R-
SPKR_R+

EC15 EC14 EC13 EC12

AZ2025-01H-GP-U

83.02025.0AF

-1 0125 for EMI request

SPKR1

SPKR_L+
SPKR_L-
SPKR_R+
SPKR_R-

PTWO-CON4-11-GP-U
20.F1561.004
2ND = 20.F1621.004
3RD = 20.F1686.004
1210

Plin 1- > right side

JV42-DN SA

0910

LINE OUT

0911

1016

Internal Mic

AAMIC1

28 INT_MIC1

L59
MLVS0603K20-GP

PTWO-CON2-6-GP
20.F1561.002
2ND = 20.F1621.002
3RD = 20.F1686.002
1210

-1 0209 For MIC issue

JV42-DN PX
Pin 1- >right side
20.F1240.002 Pin1->left side

same as JV70-CP

Diserete Madison Hynix

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

Title: AUDIO JACK

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Date: Friday, March 26, 2010 Sheet 30 of 63

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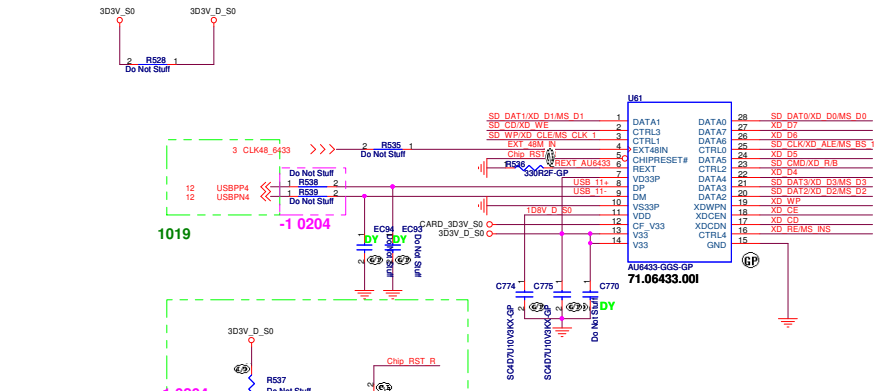
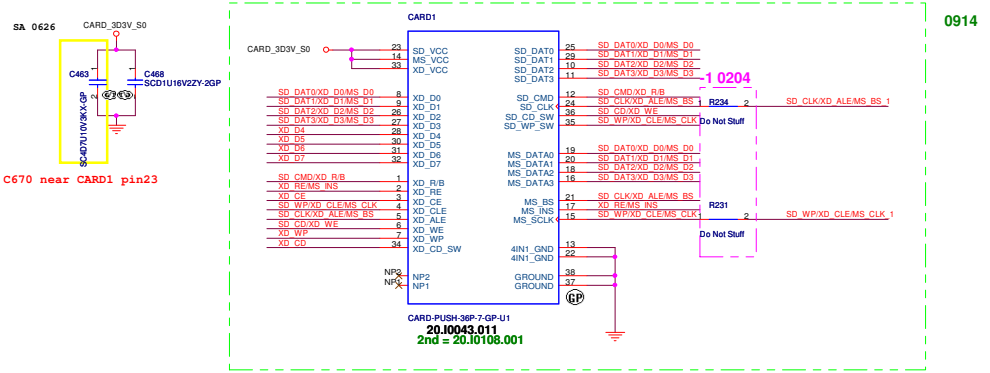
No Modem Function

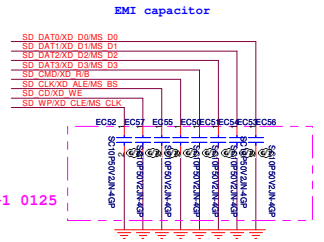
Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: MDC		
Size	Document Number: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 31 of 63	



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





Diserete Madison Hynix

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

Title: CARDREADER

Size | Document Number: JE40-DN | Rev: -3

Date: Friday, March 26, 2010 | Sheet 32 of 63

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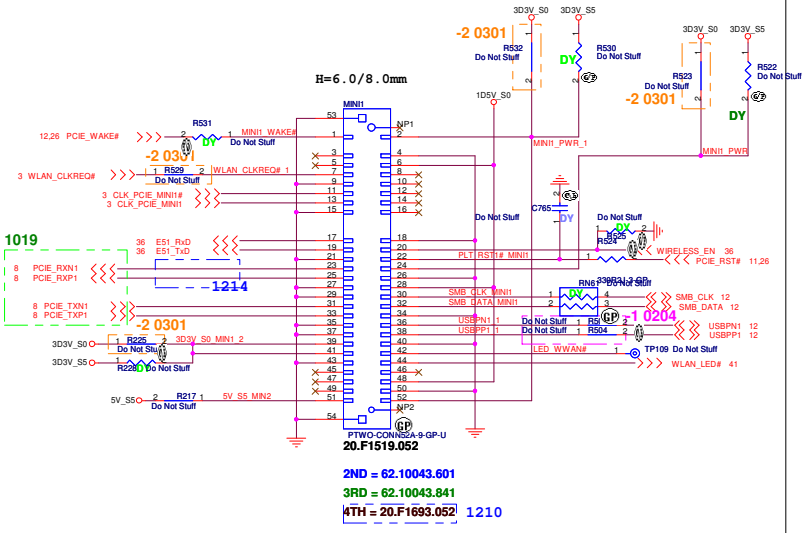
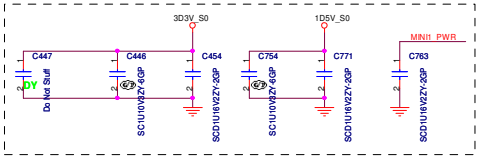
Mini Card Connector(WLAN)

0923



Place near MINI1



No Mini Card Function (Robson2 and 3G)

Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: MINI CARD		
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Date: Friday, March 26, 2010	Sheet 33 of 63	

No NEWCARD Function

Diserete Madison Hynix

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

Title: **NEW CARD**

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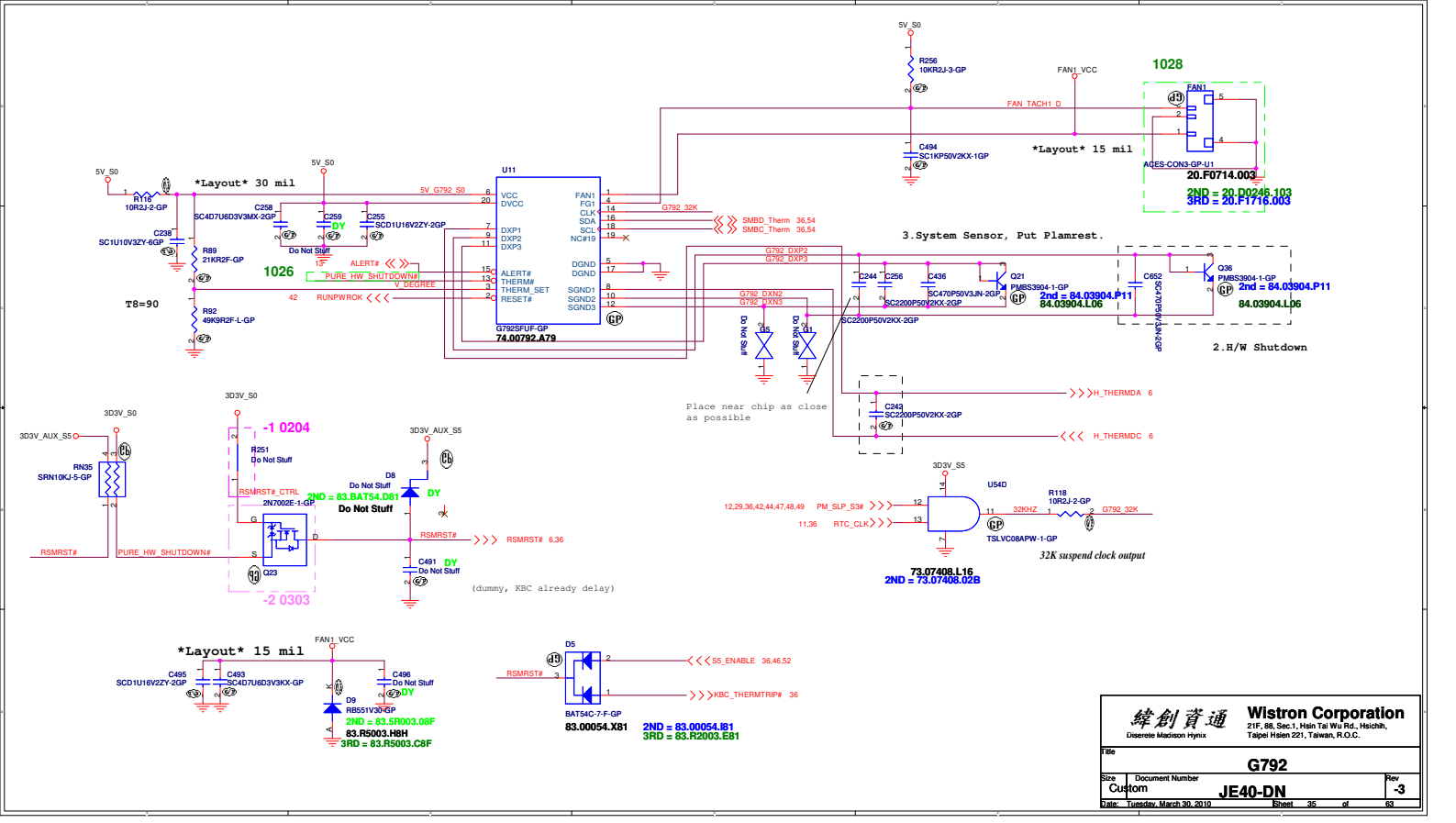
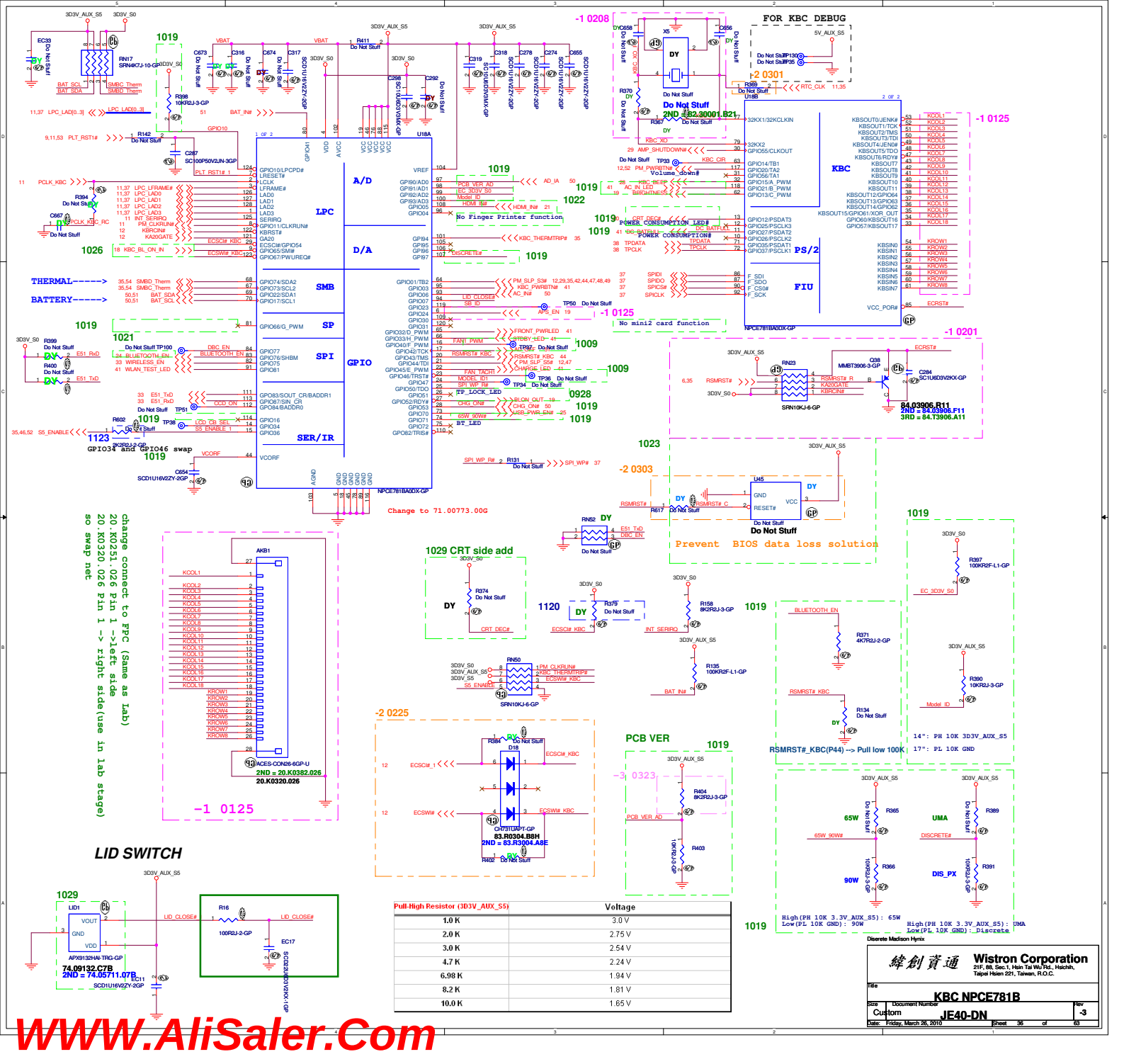


緯創資通 Wistron Corporation Diserete Madison Hynix	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: G792		
Size: Custom	Document Number: JE40-DN	Rev: -3
Date: Tuesday, March 30, 2010	Sheet 35 of 63	


FOR KBC DEBUG
-1 0208
-2 0301
Do Not Stuff
2ND = 83.30001.B21
-1 0125
-1 0201
-2 0303
-2 0225
-1 0125
1029 CRT side add
Prevent BIOS data loss solution
PCB VER
LID SWITCH
change connect to FPC (Same as Lab)
20.K0320.026 Pin 1 ->left side
20.K0320.026 Pin 1 -> right side(use in lab stage)
so swap net
GPIO34 and GPIO46 swap
Change to 71.00773.00G
RSMRST#_KBC(P44) --> Pull low 100K
14": PH 10K 3D3V_AUX_S5
17": PL 10K GND
High(PH 10K 3.3V_AUX_S5): 65W
Low(PL 10K GND): 90W
High(PH 10K 3.3V_AUX_S5): UMA
Low(PL 10K GND): Discrete
Diserete Madison Hynix
THERMAL------>
BATTERY------>
No Finger Printer function
No mini2 card function
A/D
D/A
LPC
SMB
SP
SPI
GPIO
SER/IR
KBC
PS/2
FIU
Pull-High Resistor (3D3V_AUX_S5)
Voltage
1.0 K
3.0 V
2.0 K
2.75 V
3.0 K
2.54 V
4.7 K
2.24 V
6.98 K
1.94 V
8.2 K
1.81 V
10.0 K
1.65 V
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
KBC NPCE781B
Custom
JE40-DN
-3
Date: Friday, March 26, 2010
Sheet 36 of 63
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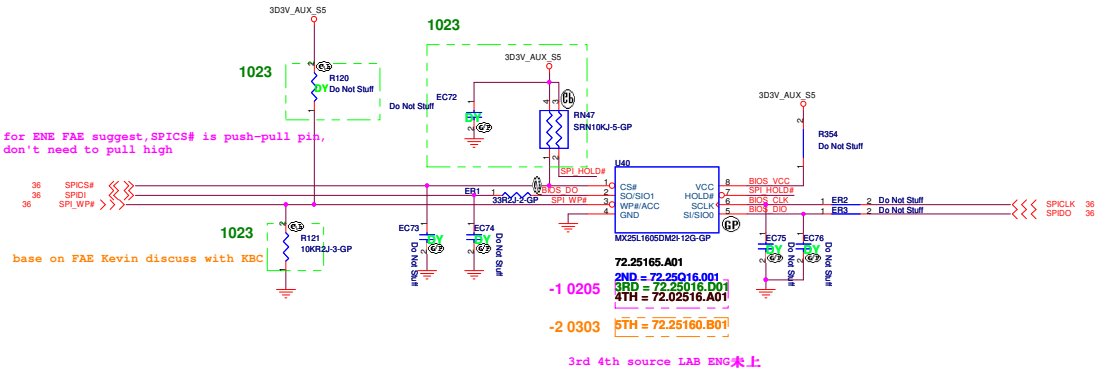
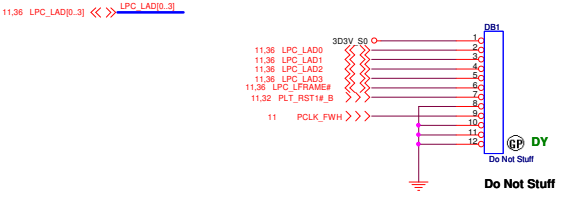


3rd 4th source LAB ENG未上

16M Bits
SPI FLASH ROM

GOLDEN FINGER FOR DEBUG BOARD



Diserete Madison Hynix

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

Title: **BIOS**

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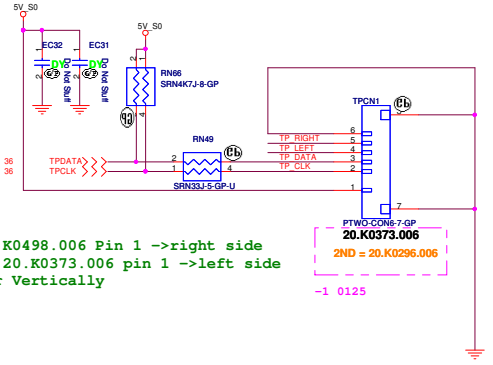
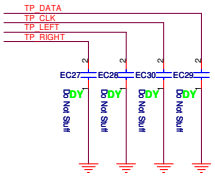
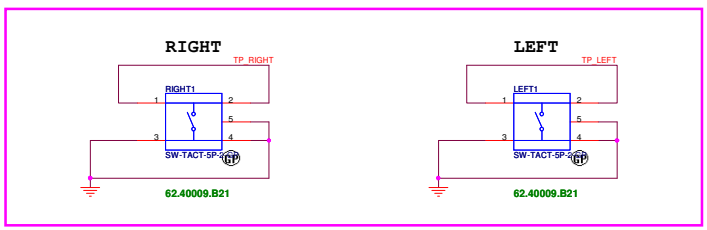


Eng stuff 20.K0498.006 Pin 1 ->right side
PD change to 20.K0373.006 pin 1 ->left side
so net mirror Vertically

-1 0125



-1 0205



No Finger printer Function

Diserete Madison Hynix

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

Title: Touch PAD

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NONE BOARD

緯創資通 Wistron Corporation
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Title: NONE BOARD

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Date: Friday, March 26, 2010 Sheet 39 of 63

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

Title: SWITCH

Size	Document Number	Rev
A2	JE40-DN	-3

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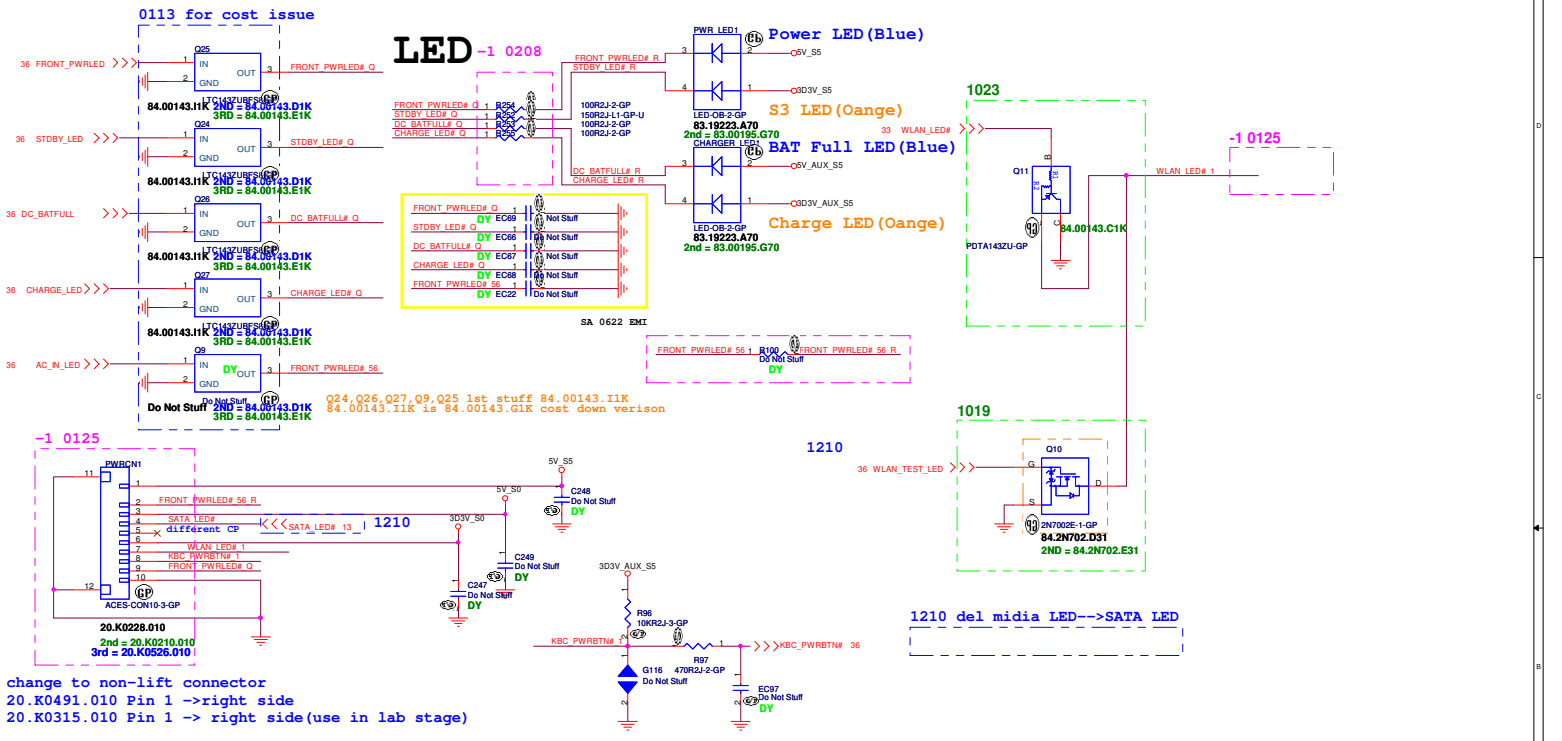


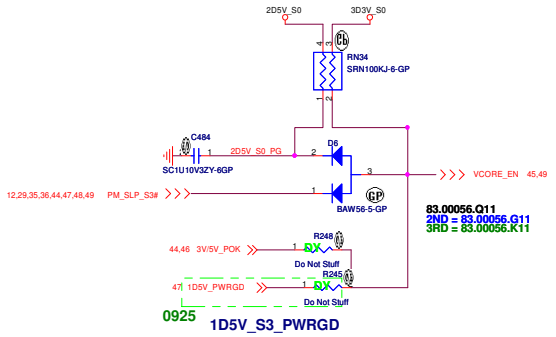
Pin 1	5V_S5	
Pin 2	FRONT_PWRLED#_56_R	AC IN
Pin 3	5V_S0	
Pin 4	SATA_LED#	HDD
Pin 5	NA	
Pin 6	3D3V_S0	
Pin 7	WLAN_LED#_R	WLAN
Pin 8	KBC_PWRBTN#_1	Power button
Pin 9	FRONT_PWRLED#_Q	Power LED
Pin 10	GND	

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

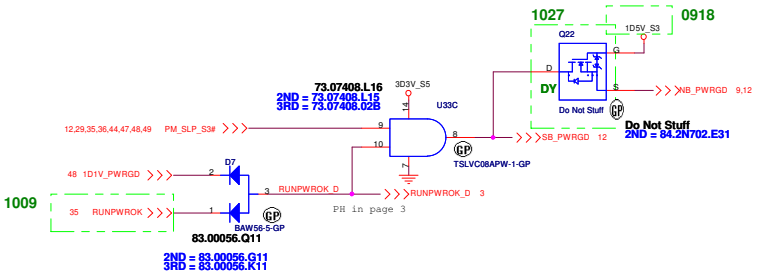
Title: LED

Size	Document Number	Rev
A3	JE40-DN	-3

Date: Friday, March 26, 2010 Sheet 41 of 63



P/H @ 1D8V_S3 PAGE



Diserete Madison Hynix

緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	POWER ON LOGIC	
Size: A3	Document Number: JE40-DN	Rev: -3
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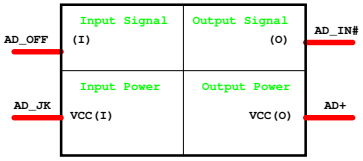
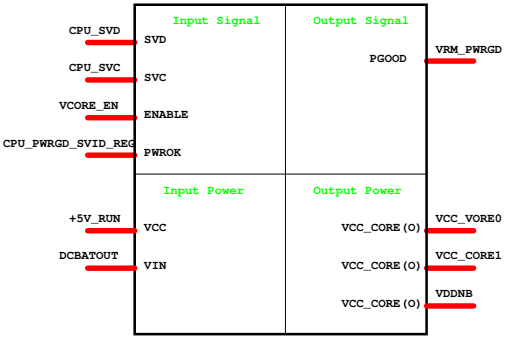
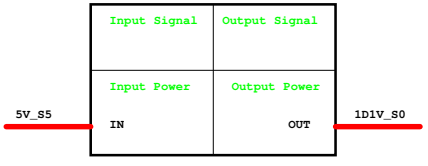
Adapter



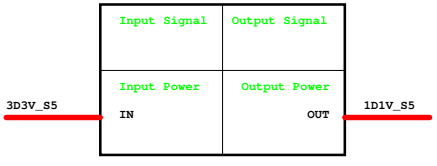
CPU_CORE
ISL6265HRTZ



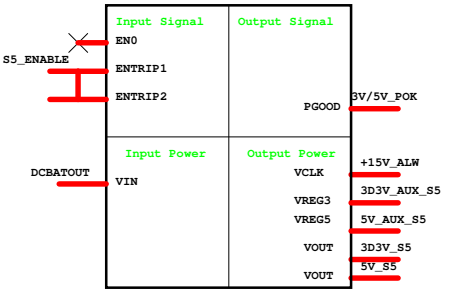
1D1V LDO RT8209E



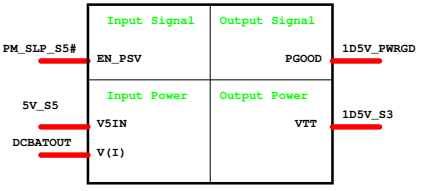
1D1V LDO RT9025



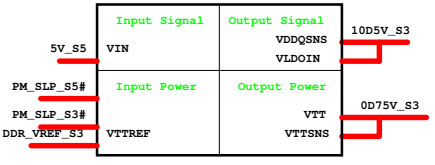
DCDC 5V/3D3V(RT8223)



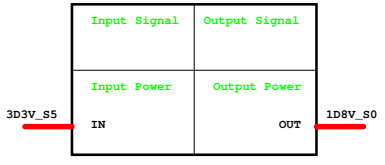
DCDC 1D5V(RT8209E)



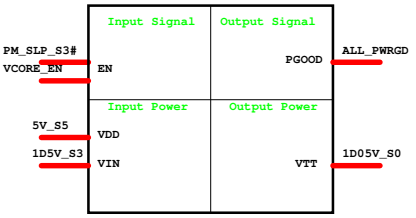
0D75V LDO RT9026



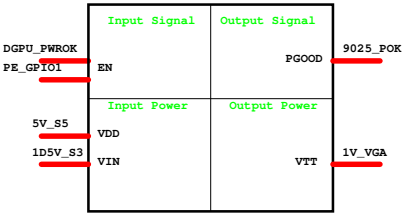
1D8V LDO RT8015A



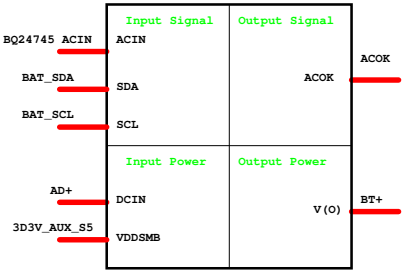
DCDC 1D05V_S0(RT9025)



DCDC 1V_VGA(RT9025)

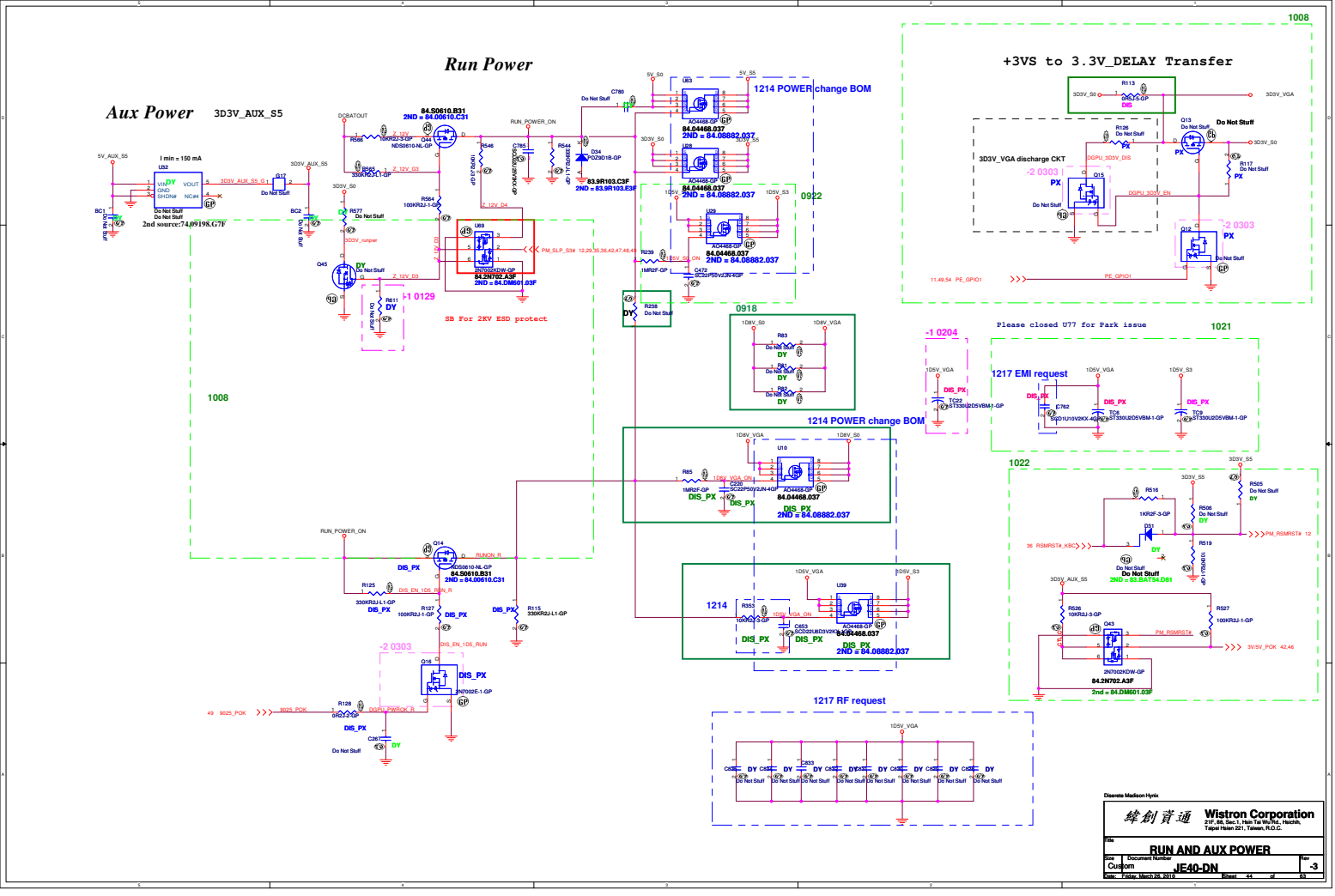


CHARGER BQ24745



Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: Power Block Diagram		
Size: A3	Document Number: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 43 of 63	



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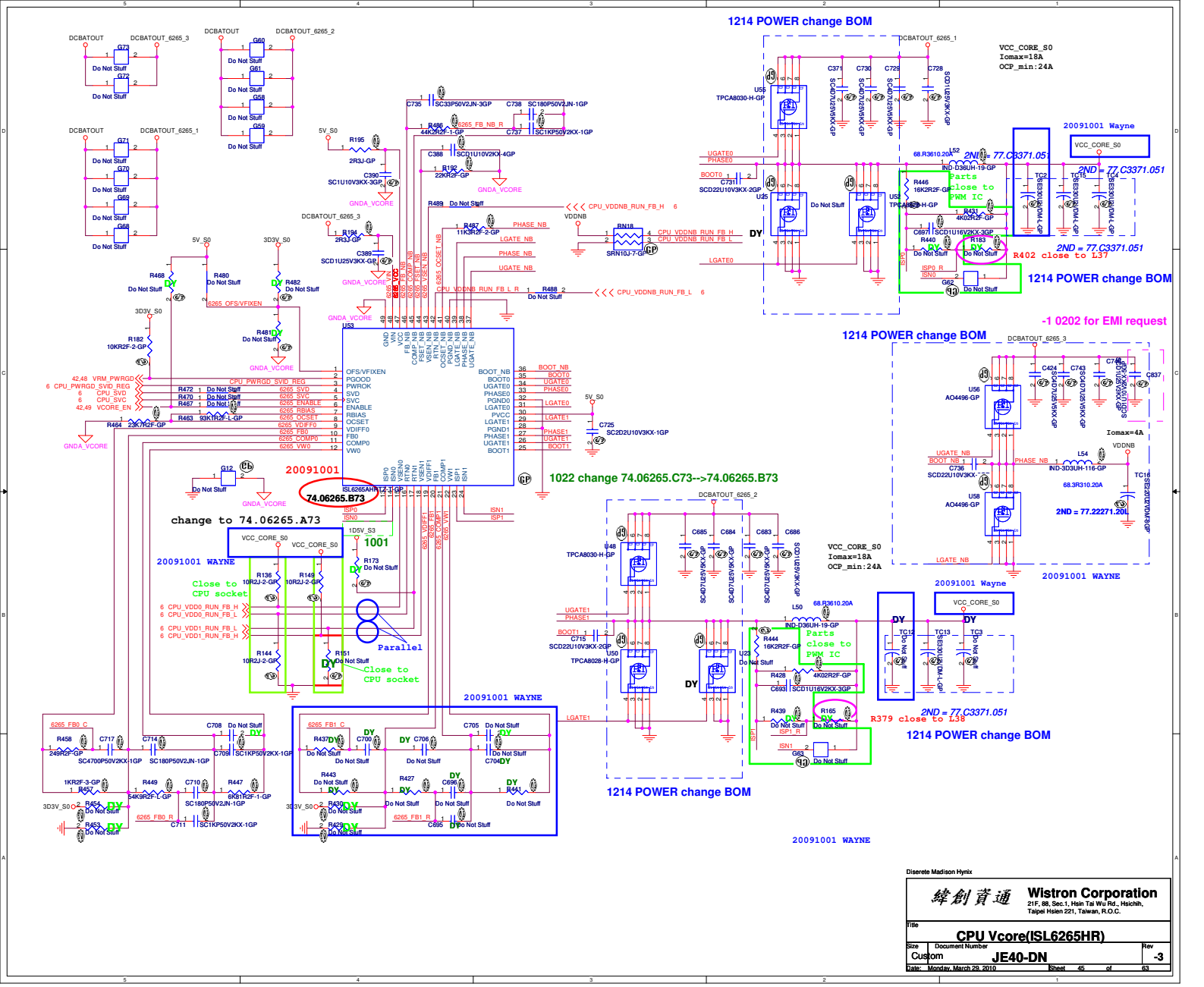
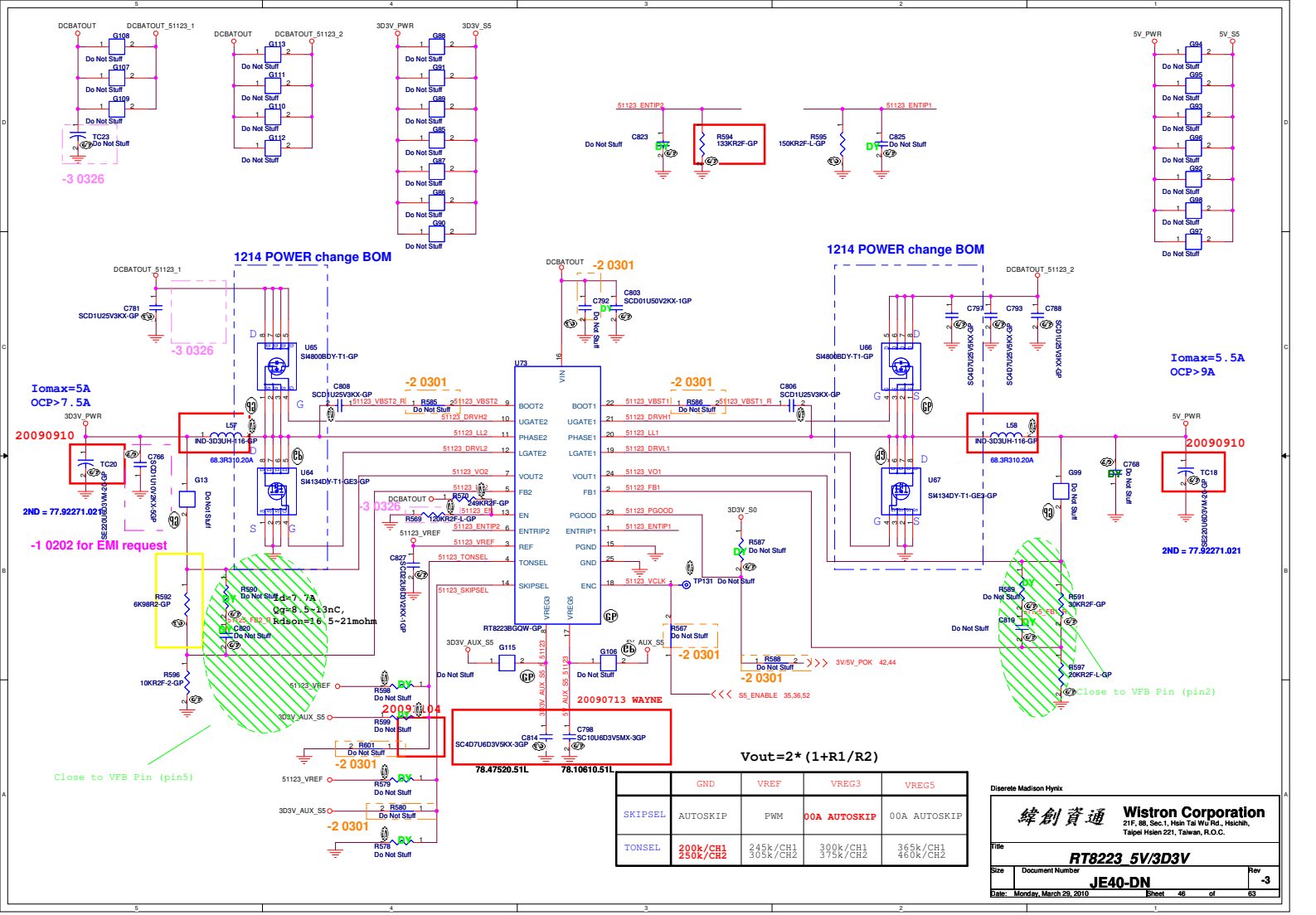
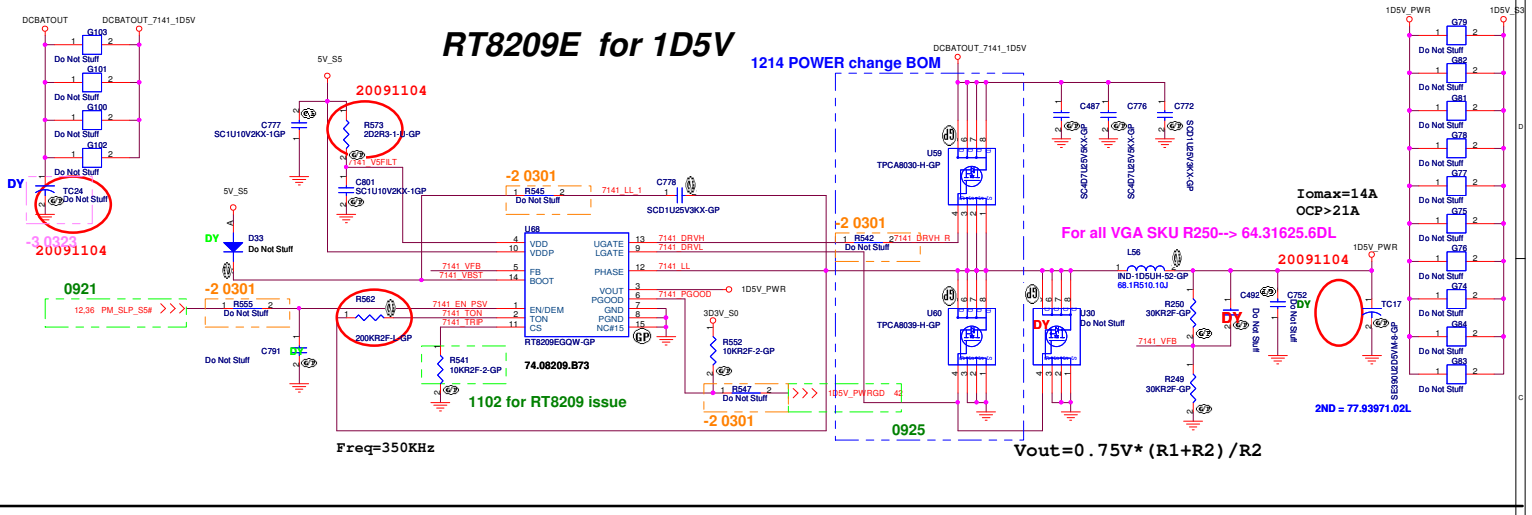


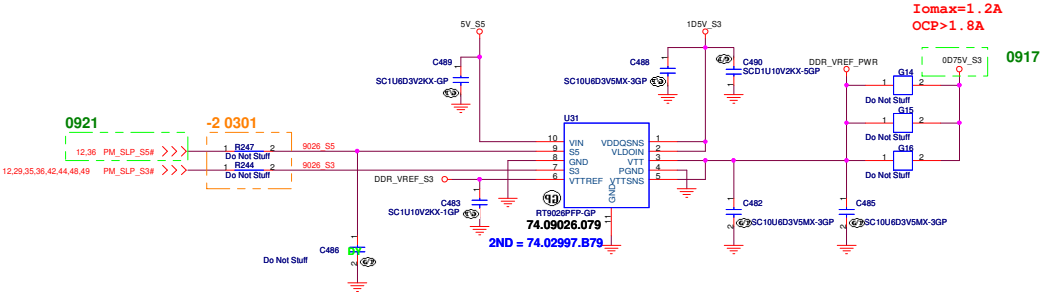
Diserete Madison Hynix

緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	CPU Vcore(ISL6265HR)	
Size: Custom	Document Number: JE40-DN	Rev: -3
Date: Monday, March 29, 2010	Sheet 45 of 63	



WWW.AliSaler.Com



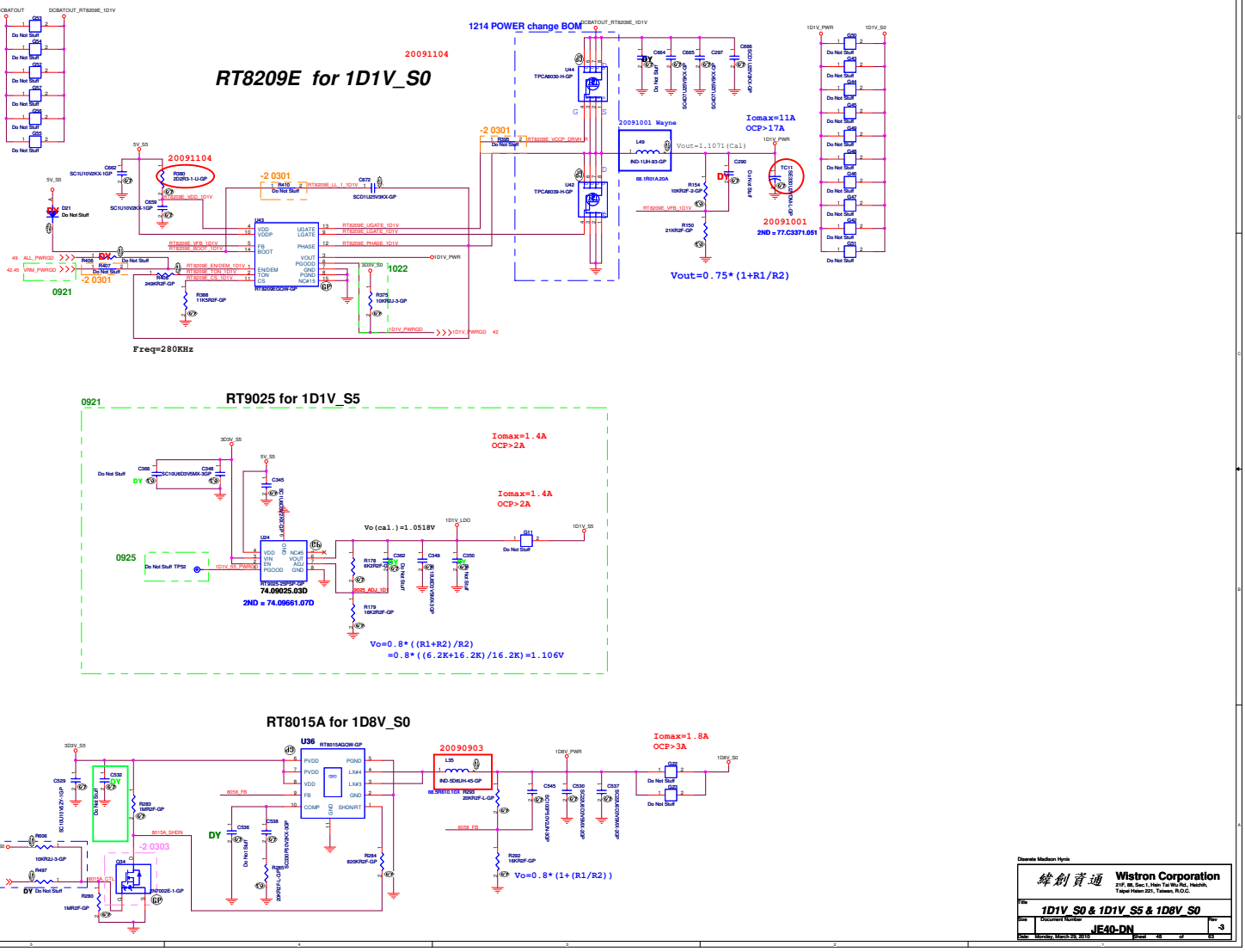


Diserete Madison Hynix

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 JE40-DN	Rev -3
Date: Monday, March 29, 2010	Sheet 47 of 63	

0917



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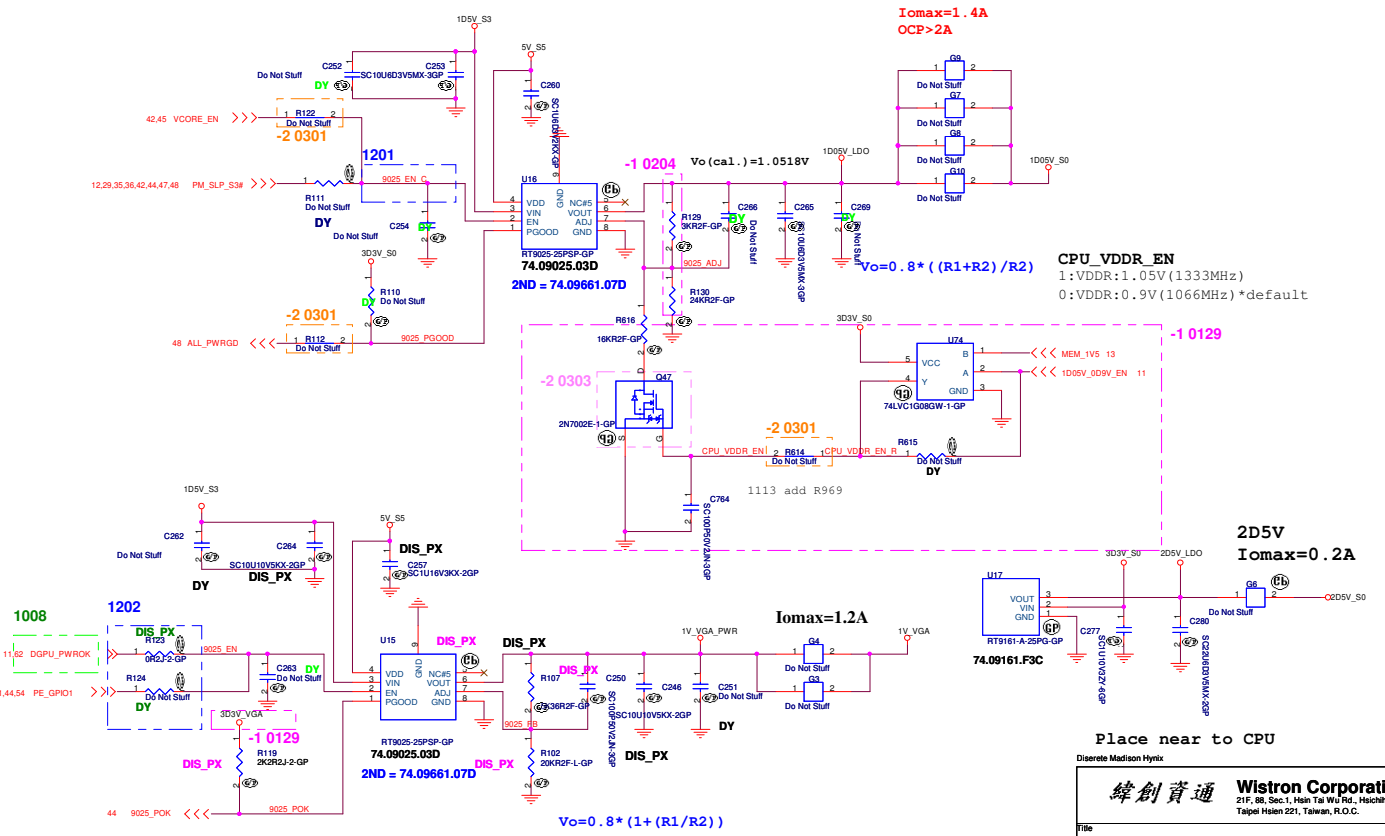
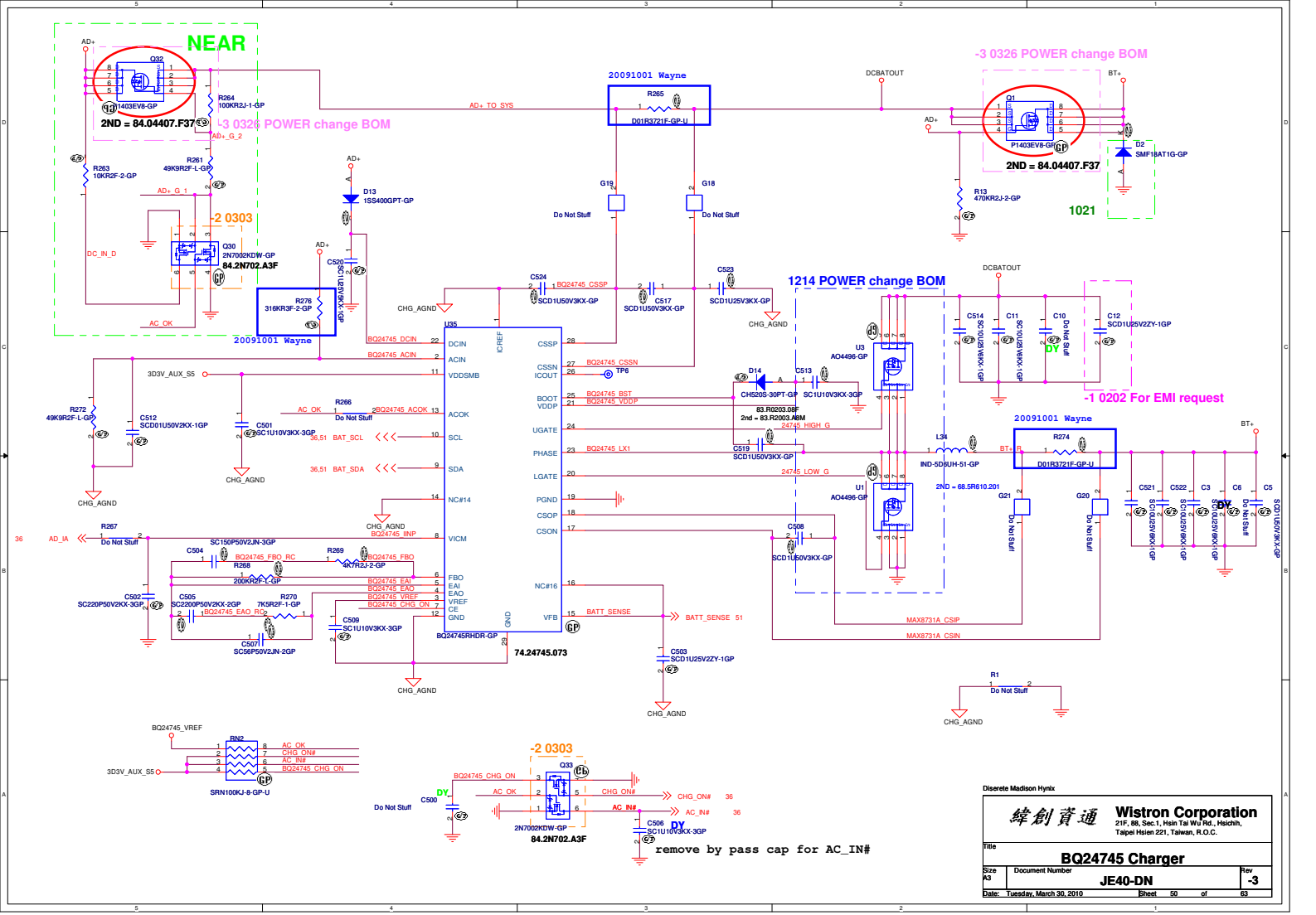
RT9025 for 1D05V_S0



Diserete Madison Hynix

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: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 49 of 63	



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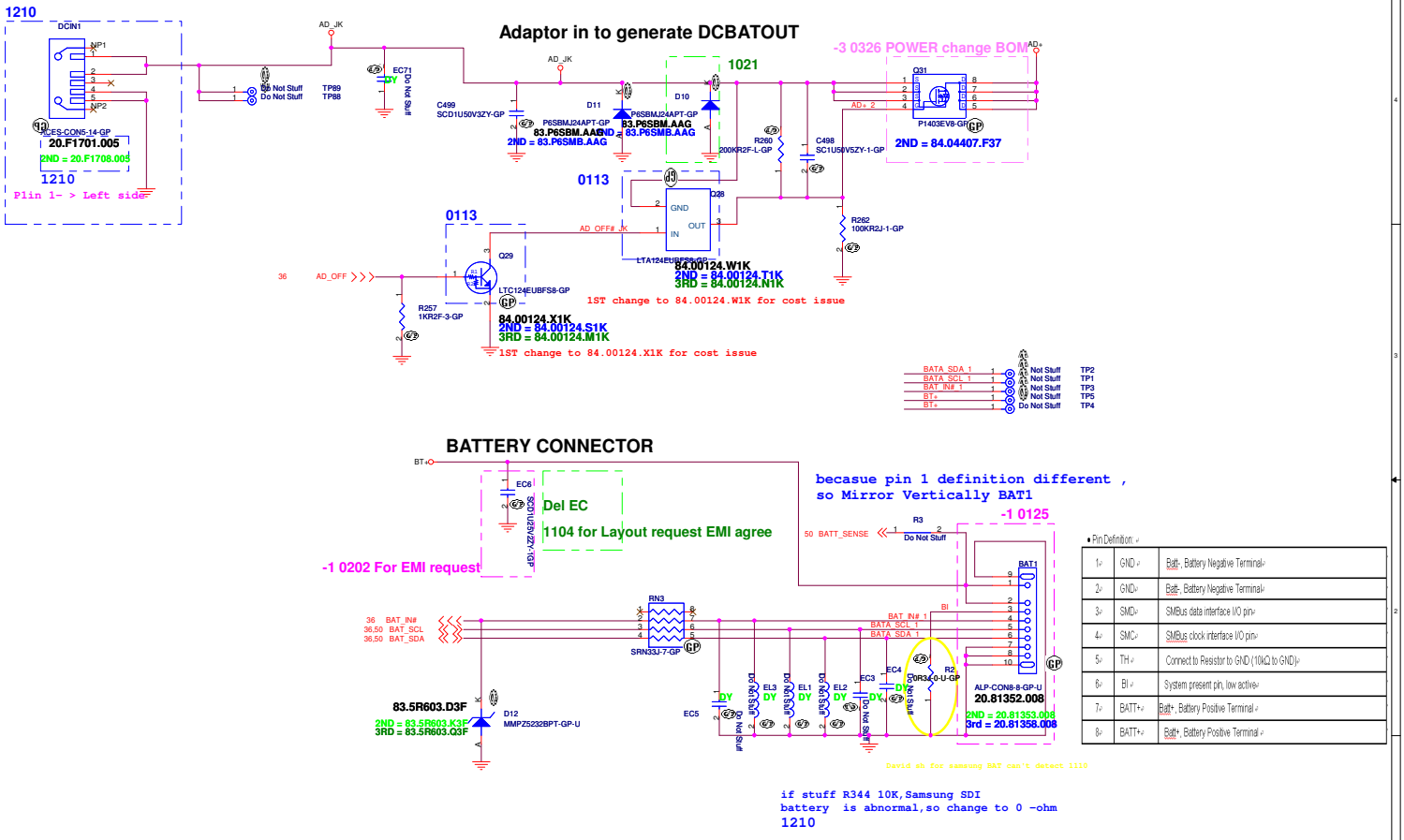

Diserete Madison Hynix

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

Title: AD/BATT CONN

Size	Document Number	Rev
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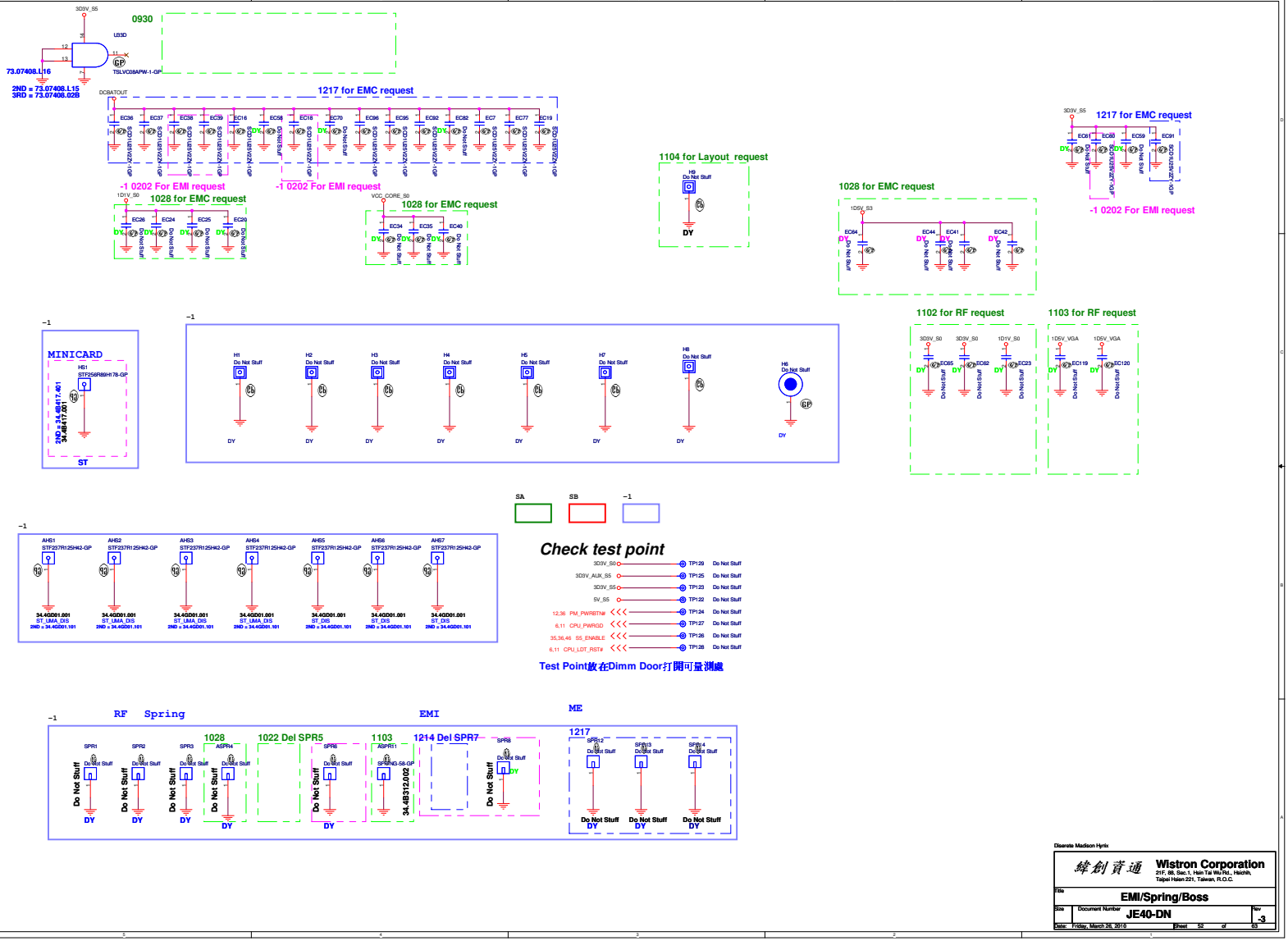
Date: Friday, March 26, 2010 Sheet 51 of 63



Discrete Madison Hynix

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: JE40-DN
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Date: Friday, March 26, 2010	Sheet 52 of 63

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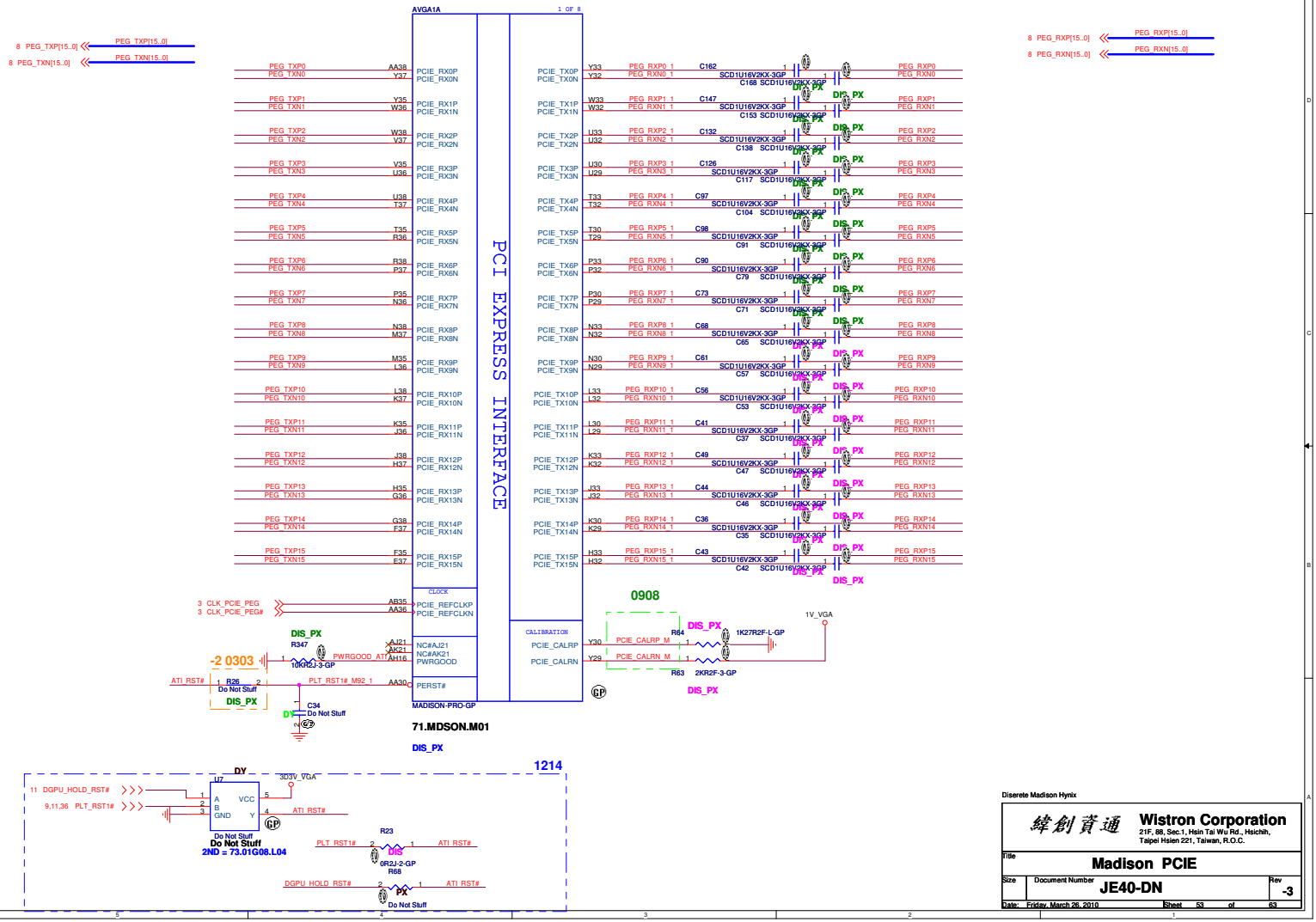
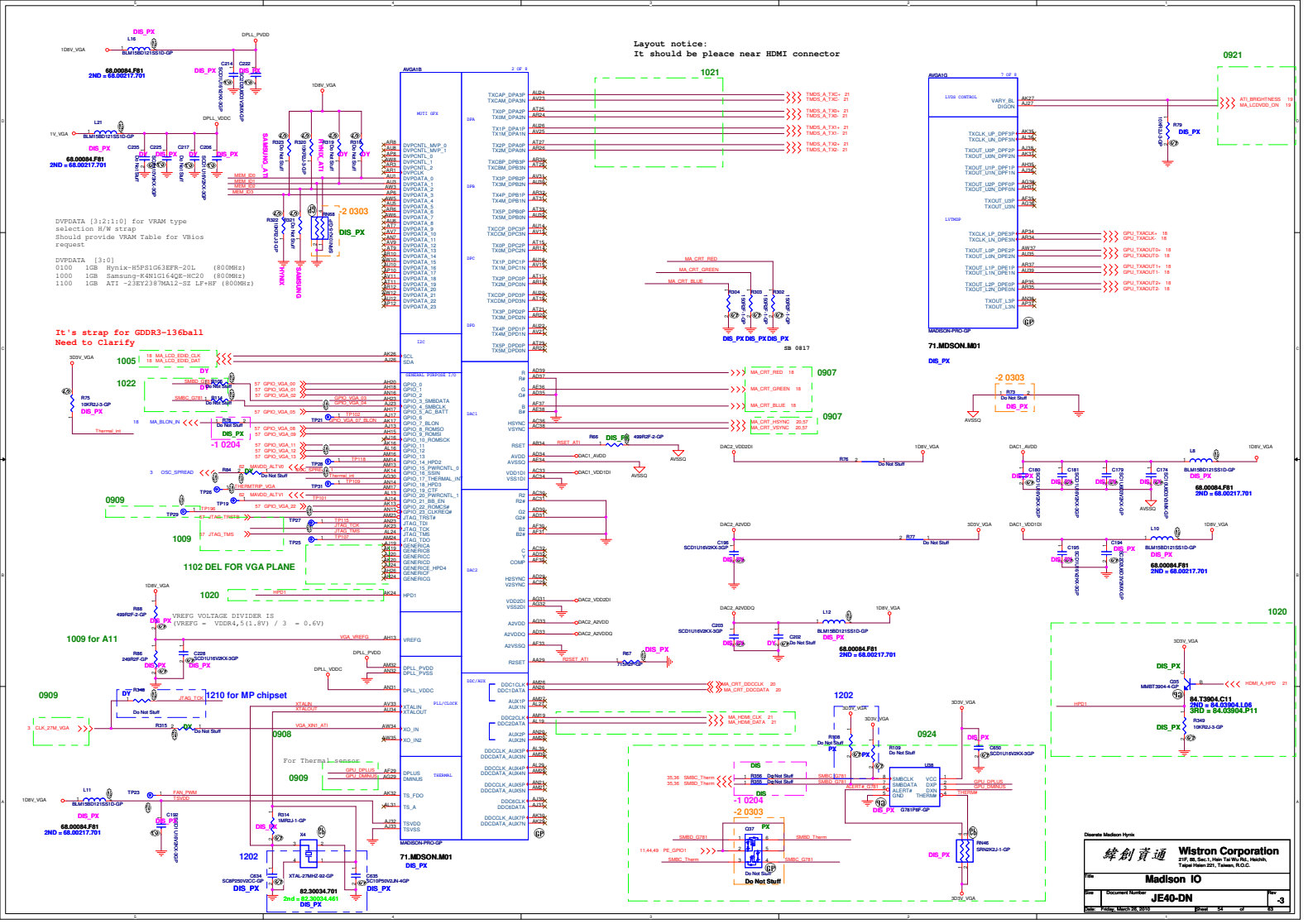


Diserete Madison Hynix

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: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 53 of 63	



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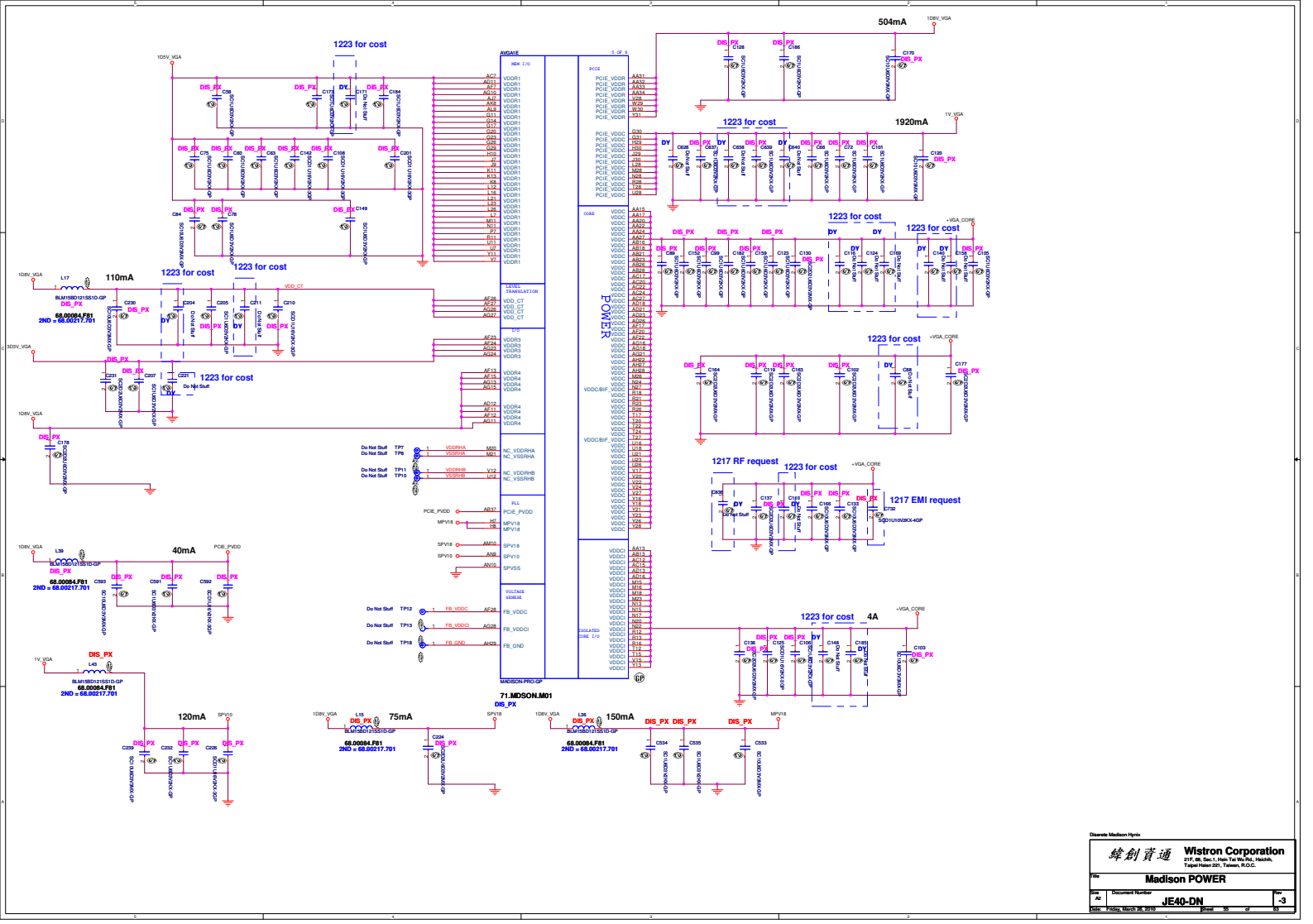
504mA
1223 for cost
1920mA
110mA
40mA
120mA
75mA
150mA
4A
1217 RF request
1217 EMI request
DIS_PX
DY
Do Not Stuff
71.MDSON.M01
Discrete Madison Hynix
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title:
Madison POWER
Size: A0
Document Number:
JE40-DN
Rev: -3
Date: Friday, March 26, 2010
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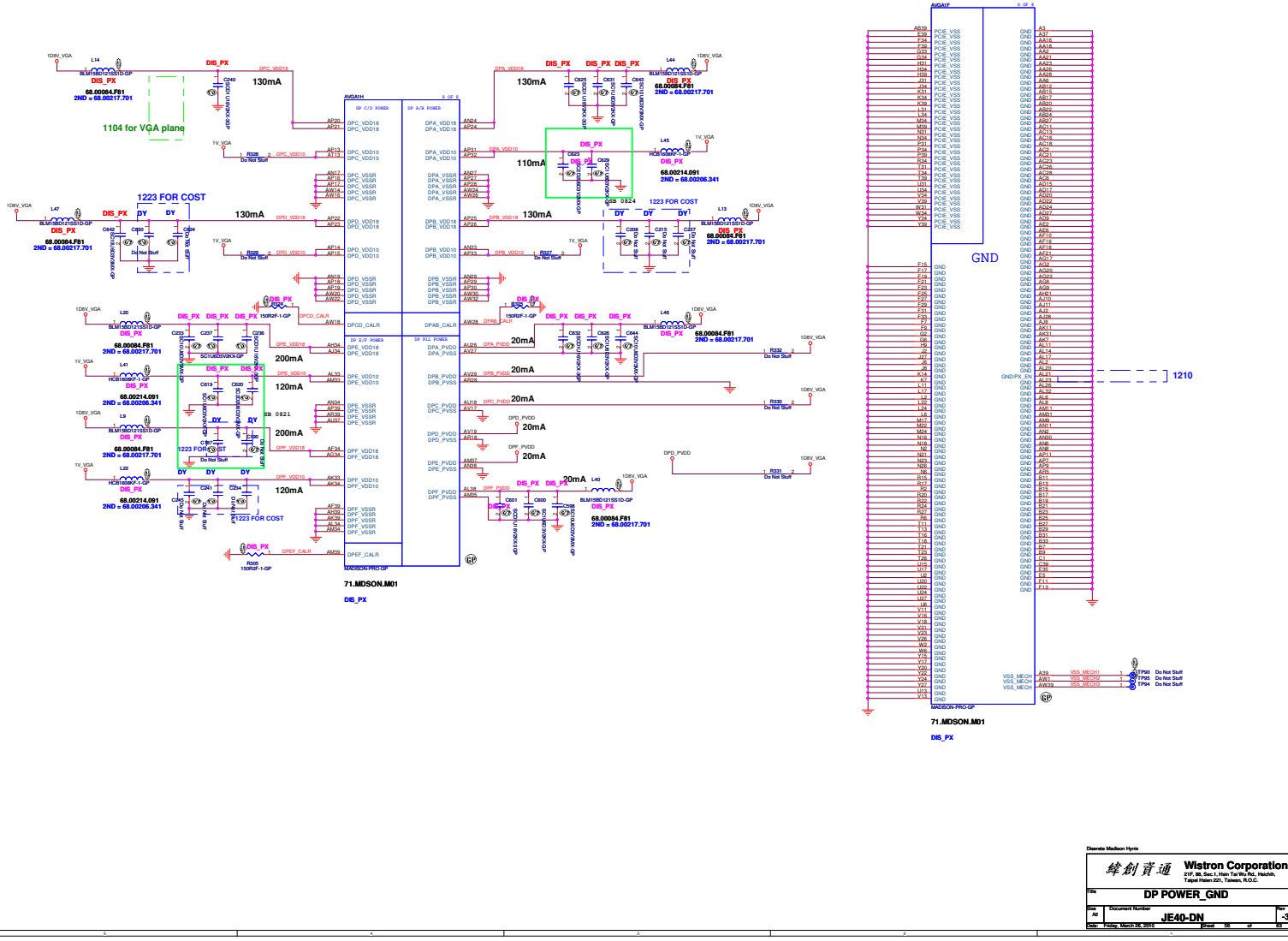
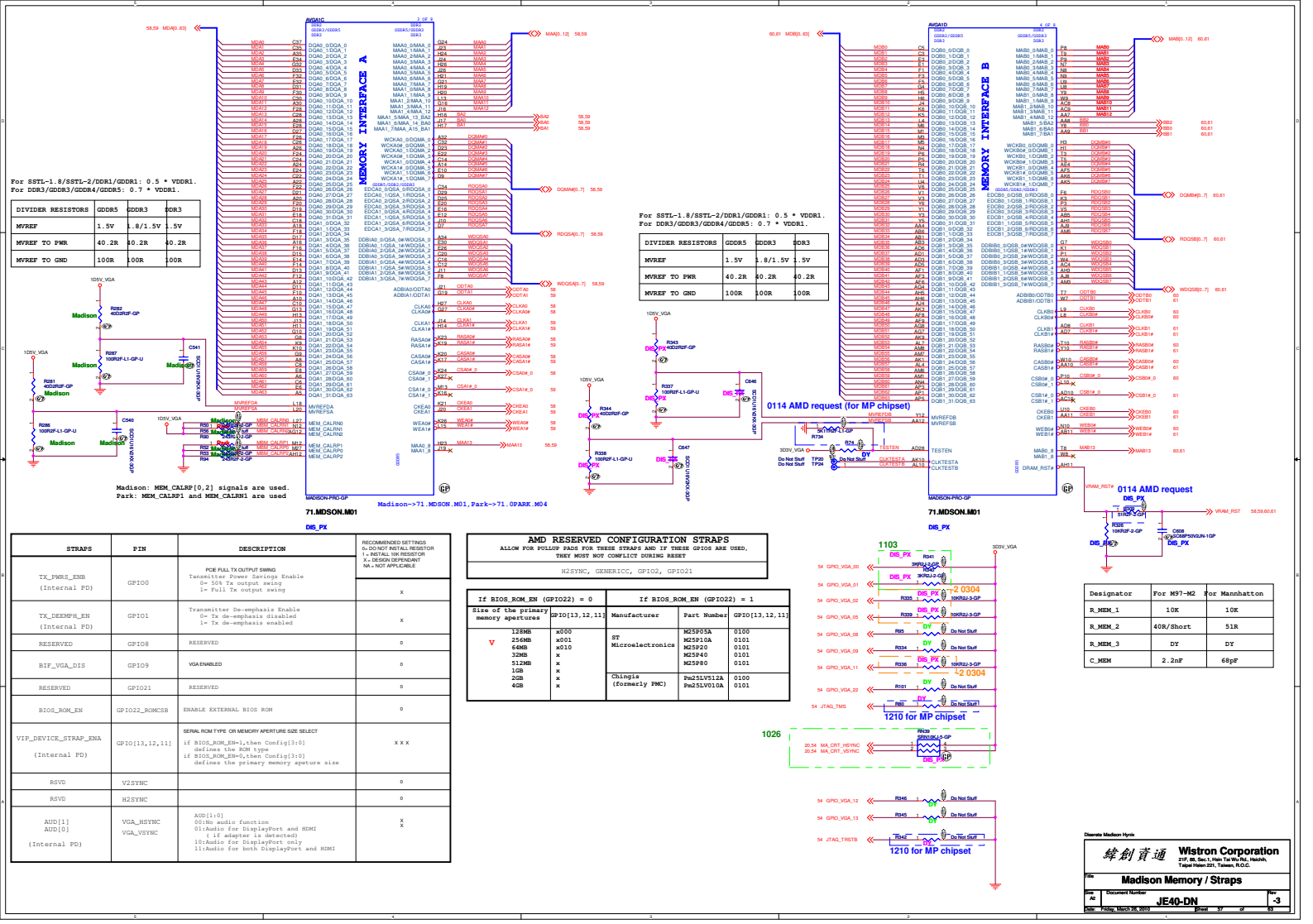

1104 for VGA plane
1223 FOR COST
DY
DIS_PX
130mA
110mA
200mA
120mA
20mA
GND
1210
71.MDSON.M01
DIS_PX
Wistron Corporation
DP POWER_GND
JE40-DN
-3
WWW.AliSaler.Com



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 aperture 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]
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			

1103

1210 for MP chipset

1026

1210 for MP chipset

Designator	For M97-M2	For Mannhatton
R_MEM_1	10K	10K
R_MEM_2	40R/Short	51R
R_MEM_3	DY	DY
C_MEM	2.2nF	68pF

Discrete Madison Hynix

Wistron Corporation
2nF, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: Madison Memory / Straps

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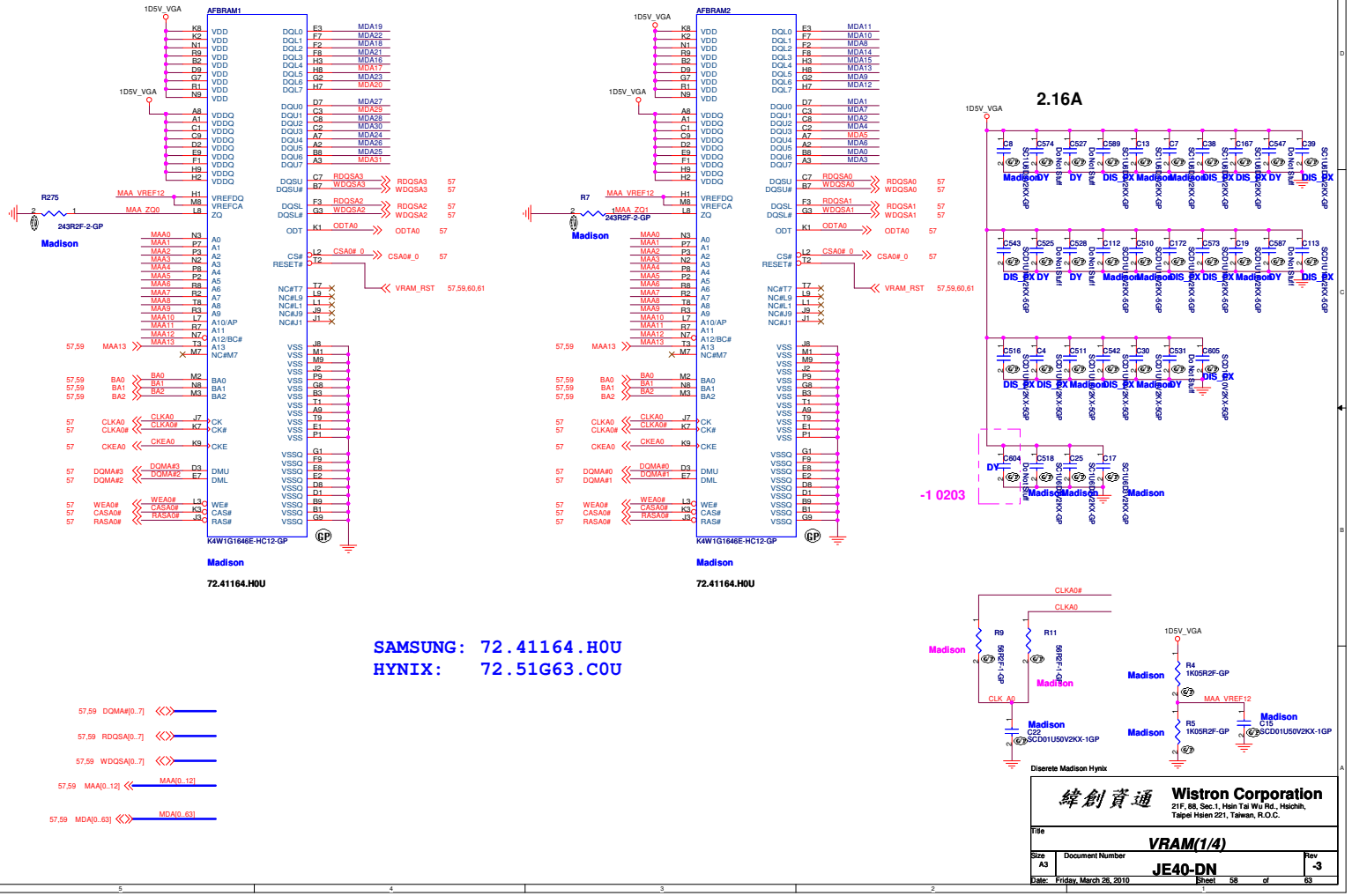
DDR3



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

Title: **VRAM(1/4)**

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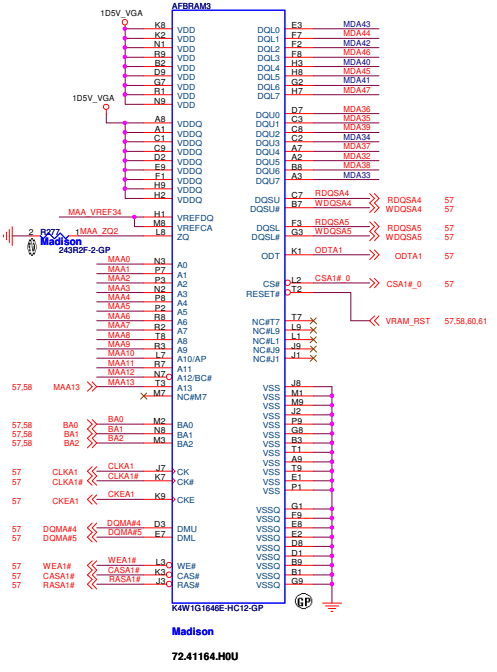
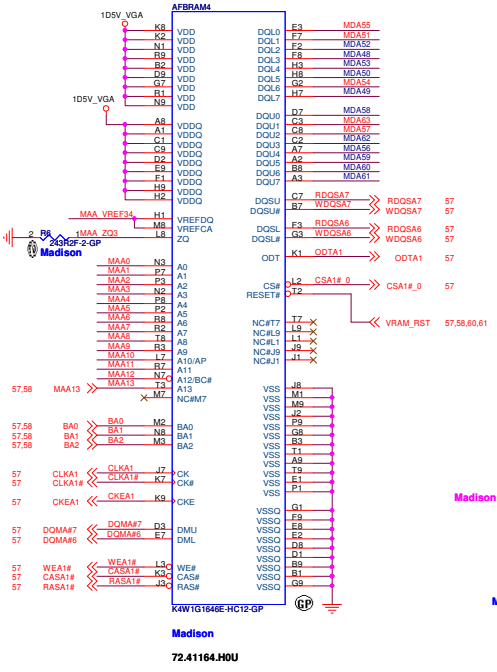
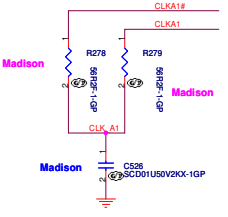
DDR3







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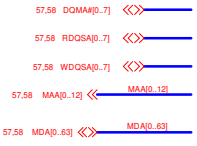
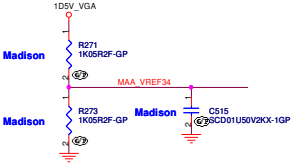
HYNIX: 72.51G63.C0U





Diserete Madison Hynix

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

Title: **VRAM(2/4)**

Size	Document Number	Rev
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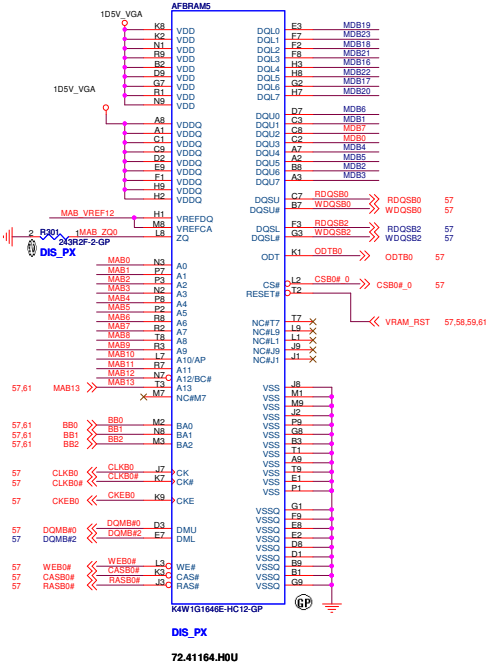
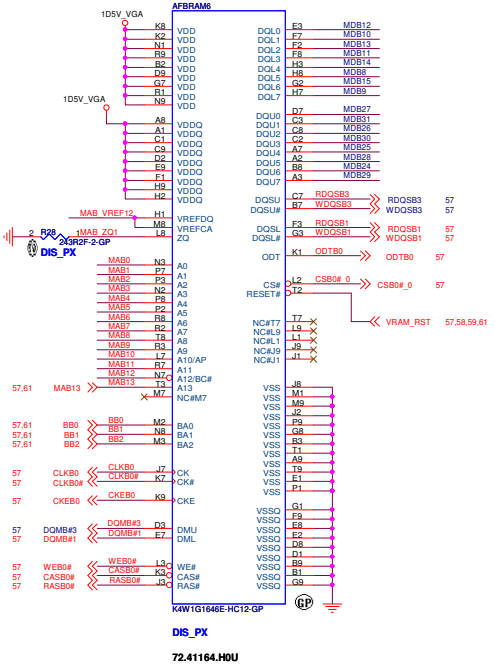
DDR3





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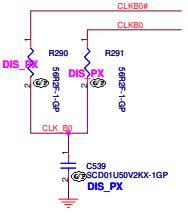
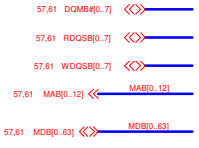
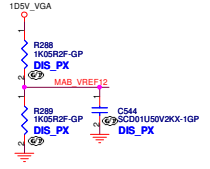
HYNIX: 72.51G63.C0U







Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: VRAM(3/4)		
Size: A3	Document Number: JE40-DN	Rev: -3
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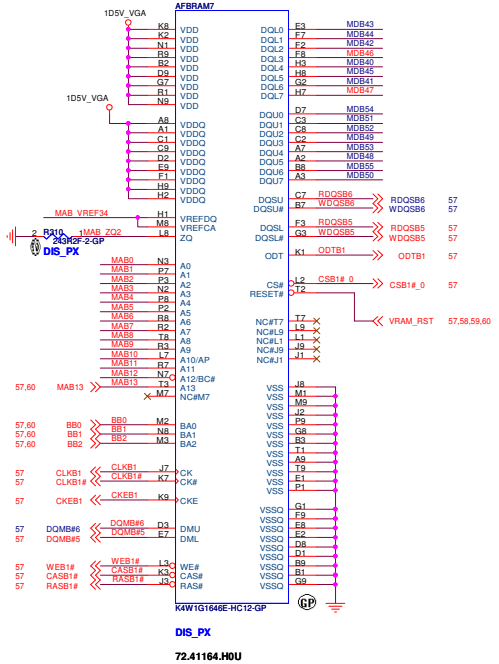
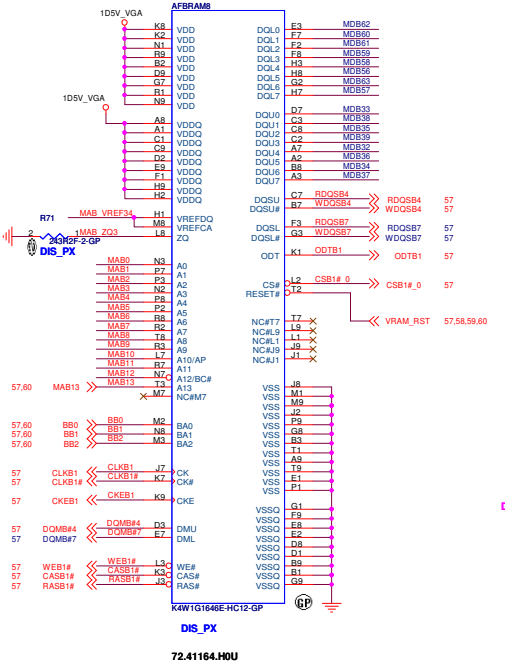
DDR3





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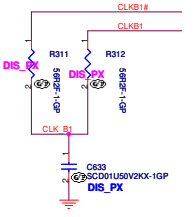
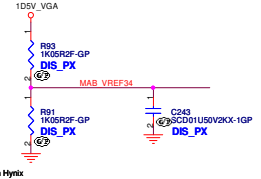
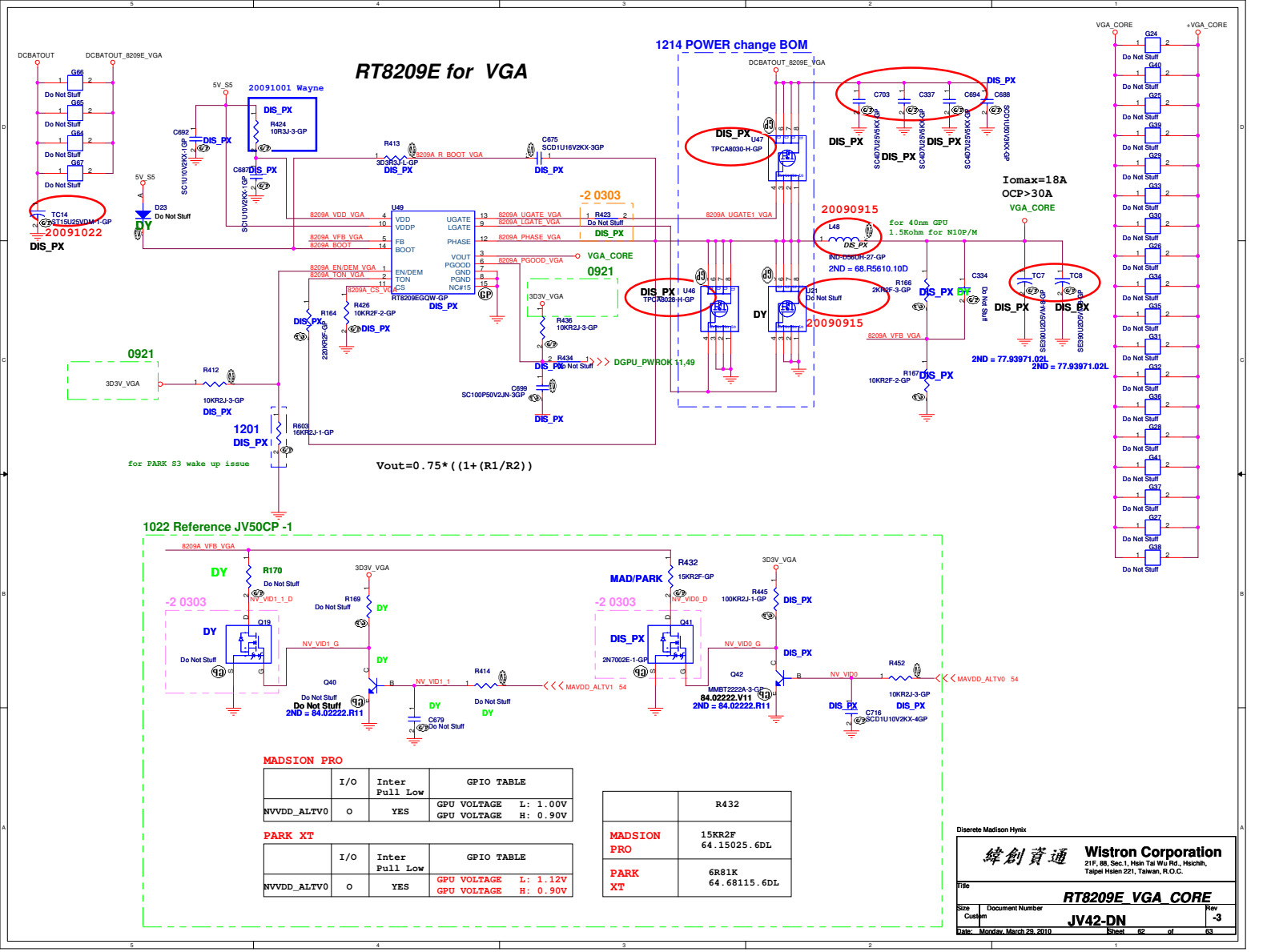




Diserete Madison Hynix

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: VRAM(4/4)		
Size: A3	Document Number: JE40-DN	Rev: -3
Date: Friday, March 26, 2010	Sheet 61 of 63	



	I/O	Inter Pull Low	GPIO TABLE
NVVDD_ALTV0	O	YES	GPU VOLTAGE L: 1.00V GPU VOLTAGE H: 0.90V

	I/O	Inter Pull Low	GPIO TABLE
NVVDD_ALTV0	O	YES	GPU VOLTAGE L: 1.12V GPU VOLTAGE H: 0.90V

	R432
MADSION PRO	15KR2F 64.15025.6DL
PARK XT	6R81K 64.68115.6DL

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NB

RS780-->RS880M

71.RS780.M02-->71.RS880.M02

SB

SB820M-1-GP

71.SB820.00U-->71.SB820.M03

SATA_CALRP

A11: 80歐姆 1% resistor to GND

A12: TBD歐姆 1% resistor to GND

SATA_CALRN

A11:A11: 931歐姆1% resistor to VDDAN_11_SATA

A12: TBD歐姆 1% resistor to VDDAN_11_SATA.

VGA

Madison--> PN:71.MDSON.M01

Park--> PN:71.0PARK.M04

VRAM

Samsung-->VRAM FBRAM1~8 PN:VR.1GB0B.006

Hynix--> VRAM FBRAM1~8 PN:VR.1GB0G.004

ATI--> VRAM FBRAM1~8 PN: VR.1GB0T.002

CRT

UMA-->L1-->2R 0603

C62-->47U/6.3V

DIS-->L1-->Bead(L1 68.00217.711 L1608-UH38 SBK160808T-221Y-N-GP)

C62-->DY

PX--> 133 歐姆 (R58 63.10334.1DL R402H16 133R2F-GP)

R605(MAD/PARK/PX)

Madison-->R605 64.15005.6DL R402H16150R2F-L-GP

Park -->R605 64.15005.6DL R402H16150R2F-L-GP

PX -->R605 64.15005.6DL R402H16150R2F-L-GP

HDMI

UMA -->R612 R613 R618 R619 R620 R621 R624 R625 64.71505.6DL R402H16715R2F-2-GP

R432(MAD/PARK)

Madison-->15KR2F 64.15025.6DL

Park-->R432 64.68115.6DL R402H16 6.81KR2F

BOM

1st -> All SKU

R250

Madison-->R250 64.32425.6DL R402H16 32K4R2F

Park -->R250 64.32425.6DL R402H16 32K4R2F

PX -->R250 64.32425.6DL R402H16 32K4R2F

Diserete Madison Hynix

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Title: NOTE

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