JM41 Block Diagram

Project code: 91.4CQ01.001
PCB P/N : 48.4CQ01.011
REVISION : 08266-1

PCB STACKUP

TOP		L1
S		L2
VCC/GND		L3
S		L4
VCC/GND		L5
GND/VCC		L6
S		L7
BOTTOM		L8

CLK GEN.
ICS9LPRS365B 3

Intel CPU
Penryn SFF 4,5,6

Thermal Sensor
SMSC
EMC2103 32

HOST BUS 667/800/1066MHz@1.05V

DDR3 800/1066 MHz 17,18

DDR3 800/1066 MHz 17,18

Cantiga-GS SFF
AGTL+ CPU I/F
DDR Memory I/F
INTEGRATED GRAHPICS
LVDS, CRT I/F
7,8,9,10,11,12

LVDS → LCD 19
RGB CRT → CRT 20
PCIex16 → HDMI 21

X4 DMI 400MHz
C-Link0

ICH9M SFF
6 PCIe ports
PCI/PCI BRIDGE
ACPI 2.0
4 SATA
12 USB 2.0/1.1 ports
ETHERNET (10/100/1000MbE)
High Definition Audio
LPC I/F
Serial Peripheral I/F
Matrix Storage Technology(DO)
Active Managemnet Technology(DO)
13,14,15,16

Int MIC 29
Line Out 29
MIC In 29
29 INT.SPKR 1.5W

Codec Realtek ALC269Q 28
AZALIA

PCIe → LAN Giga LAN Atheros AR8131 26 → TXFM 27 → RJ45 27
PCIe → Mini 1 Card WLAN 31
USB → Mini 2 Card 3G 31

LPC BUS → KBC Winbond WPCE773LA0DG 33
SPI → BIOS (2MB) 34
MEDIA KEY 36
Touch Pad 35
INT. KB 33
LPC DEBUG CONN.

SATA → HDD SATA 22
SATA → ODD SATA 23
SATA → SSD SATA 22

USB → Mini USB Blue Tooth 24
Camera
USB 4 Port 25

Cardreader RTS5159 30 → MS/MS Pro/xD /MMC/SD 30

SYSTEM DC/DC
TPS51125 36

INPUTS	OUTPUTS
DCBATOUT	5V_S5(6A) 3D3V_S5(5A) 5V_AUX_S5 3D3V_AUX_S5

RT8202 37

INPUTS	OUTPUTS
DCBATOUT	1D05V_S0(10A)

RT8202 38

INPUTS	OUTPUTS
DCBATOUT	1D5V_S3(11A)

RT9026 39

INPUTS	OUTPUTS
5V_S5	DDR_VREF_S3 (1.2A)

CHARGER
MAX8731A 41

INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 6.0A

CPU DC/DC
ADP3207A 35

INPUTS	OUTPUTS
DCBATOUT	VCC_CORE 0~1.3V 64A

VGA
ISL6263A 40

INPUTS	OUTPUTS
DCBATOUT	VCC_GFXCORE (7A)

<Core Design>

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

Title: BLOCK DIAGRAM
Size: Custom | Document Number: JM41_UMA | Rev: -1
Date: Monday, March 09, 2009 | Sheet 1 of 40

ICH9M Functional Strap Definitions

Signal	Usage/When Sampled	Comment
HDA_SDOUT	XOR Chain Entrance/ PCIE Port Config1 bit1, Rising Edge of PWROK	Allows entrance to XOR Chain testing when TP3 pulled low.When TP3 not pulled low at rising edge of PWROK,sets bit1 of RPC.PC(Config Registers: offset 224h). This signal has weak internal pull-down
HDA_SYNC	PCIE config1 bit0, Rising Edge of PWROK.	This signal has a weak internal pull-down. Sets bit0 of RPC.PC(Config Registers:Offset 224h)
GNT2#/ GPIO53	PCIE config2 bit2, Rising Edge of PWROK.	This signal has a weak internal pull-up. Sets bit2 of RPC.PC2(Config Registers:Offset 0224h)
GPIO20	Reserved	This signal should not be pulled high.
GNT1#/ GPIO51	ESI Strap (Server Only) Rising Edge of PWROK	ESI compatible mode is for server platforms only. This signal should not be pulled low for desttop and mobile.
GNT3#/ GPIO55	Top-Block Swap Override. Rising Edge of PWROK.	Sampled low:Top-Block Swap mode(inverts A16 for all cycles targeting FWH BIOS space). Note: Software will not be able to clear the Top-Swap bit until the system is rebooted without GNT3# being pulled down.
GNT0#: SPI_CS1#/ GPIO58	Boot BIOS Destination Selection 0:1. Rising Edge of PWROK.	Controllable via Boot BIOS Destination bit (Config Registers:Offset 3410h:bit 11:10). GNT0# is MSB, 01-SPI, 10-PCI, 11-LPC.
SPI_MOSI	Integrated TPM Enable, Rising Edge of CLPWROK	Sample low: the Integrated TPM will be disabled. Sample high: the MCH TPM enable strap is sampled low and the TPM Disable bit is clear, the Integrated TPM will be enable.
GPIO49	DMI Termination Voltage, Rising Edge of PWROK.	The signal is required to be low for desktop applications and required to be high for mobile applications.
SATALED#	PCI Express Lane Reversal. Rising Edge of PWROK.	Signal has weak internal pull-up. Sets bit 27 of MPC.LR(Device 28:Function 0:Offset D8)
SPKR	No Reboot. Rising Edge of PWROK.	If sampled high, the system is strapped to the "No Reboot" mode(ICH9 will disable the TCO Timer system reboot feature). The status is readable via the NO REBOOT bit.
TP3	XOR Chain Entrance. Rising Edge of PWROK.	This signal should not be pull low unless using XOR Chain testing.
GPIO33/ HDA_DOCK _EN#	Flash Descriptor Security Override Strap Rising Edge of PWROK	Sampled low:the Flash Descriptor Security will be overridden. If high,the security measures will be in effect.This should only be enabled in manufacturing environments using an external pull-up resister.

ICH9M Integrated Pull-up and Pull-down Resistors

SIGNAL	Resistor Type/Value
CL_CLK[1:0]	PULL-UP 20K
CL_DATA[1:0]	PULL-UP 20K
CL_RST0#	PULL-UP 20K
DPRSLPVR/GPIO16	PULL-DOWN 20K
ENERGY_DETECT	PULL-UP 20K
HDA_BIT_CLK	PULL-DOWN 20K
HDA_DOCK_EN#/GPIO33	PULL-UP 20K
HDA_RST#	PULL-DOWN 20K
HDA_SDIN[3:0]	PULL-DOWN 20K
HDA_SDOUT	PULL-DOWN 20K
HDA_SYNC	PULL-DOWN 20K
GLAN_DOCK#	The pull-up or pull-down active when configured for native GLAN_DOCK# functionality and determined by LAN controller
GNT[3:0]#/GPIO[55,53,51]	PULL-UP 20K
GPIO[20]	PULL-DOWN 20K
GPIO[49]	PULL-UP 20K
LDA[3:0]#/FHW[3:0]#	PULL-UP 20K
LAN_RXD[2:0]	PULL-UP 20K
LDRQ[0]	PULL-UP 20K
LDRQ[1]/GPIO23	PULL-UP 20K
PME#	PULL-UP 20K
PWRBTN#	PULL-UP 20K
SATALED#	PULL-UP 15K
SPI_CS1#/GPIO58/CLGPIO6	PULL-UP 20K
SPI_MOSI	PULL-DOWN 20K
SPI_MISO	PULL-UP 20K
SPKR	PULL-DOWN 20K
TACH_[3:0]	PULL-UP 20K
TP[3]	PULL-UP 20K
USB[11:0][P,N]	PULL-DOWN 15K

Cantiga chipset and ICH9M I/O controller Hub strapping configuration

Pin Name	Strap Description	Configuration
CFG[2:0]	FSB Frequency Select	000 = FSB1067 011 = FSB667 010 = FSB800 others = Reserved
CFG[4:3] CFG8 CFG[15:14] CFG[18:17]	Reserved	
CFG5	DMI x2 Select	0 = DMI x2 **1 = DMI x4** (Default)
CFG6	iTPM Host Interface	0= The iTPM Host Interface is enabled(Note2) **1=The iTPM Host Interface is disalbed(default)**
CFG7	Intel Management engine Crypto strap	0 = Transport Layer Security (TLS) cipher suite with no confidentiality **1 = TLS cipher suite with confidentiality (default)**
CFG9	PCIE Graphics Lane	0 = Reverse Lanes,15->0,14->1 ect.. **1= Normal operation(Default):Lane Numbered in order**
CFG10	PCIE Loopback enable	0 = Enable (Note 3) **1= Disabled (default)**
CFG[13:12]	XOR/ALL	00 = Reserve 10 = XOR mode Enabled 01 = ALLZ mode Enabled (Note 3) **11 = Disabled (default)**
CFG16	FSB Dynamic ODT	0 = Dynamic ODT Disabled **1 = Dynamic ODT Enabled (Default)**
CFG19	DMI Lane Reversal	**0 = Normal operation(Default): Lane Numbered in Order** 1 = Reverse Lanes DMI x4 mode[MCH -> ICH]:(3->0,2->1,1->2and0->3) DMI x2 mode[MCH -> ICH]:(3->0,2->1)
CFG20	Digital Display Port (SDVO/DP/iHDMI) Concurrent with PCIe	**0 = Only Digital Display Port or PCIE is operational (Default)** 1 =Digital display Port and PCIe are operting simulataneously via the PEG port
SDVO_CTRLDATA	SDVO Present	**0 =No SDVO Card Present (Default)** 1 = SDVO Card Present
L_DDC_DATA	Local Flat Panel (LFP) Present	**0 = LFP Disabled (Default)** 1= LFP Card Present; PCIE disabled

NOTE:
1. All strap signals are sampled with respect to the leading edge of the (G)MCH Power OK (PWROK) signal.
2. iTPM can be disabled by a 'Soft-Strap' option in the Flash-decriptor section of the Firmware. This 'Soft-Strap' is activated only after enabling iTPM via CFG6.
Only one of the CFG10/CFG/12/CFG13 straps can be enabled at any time.

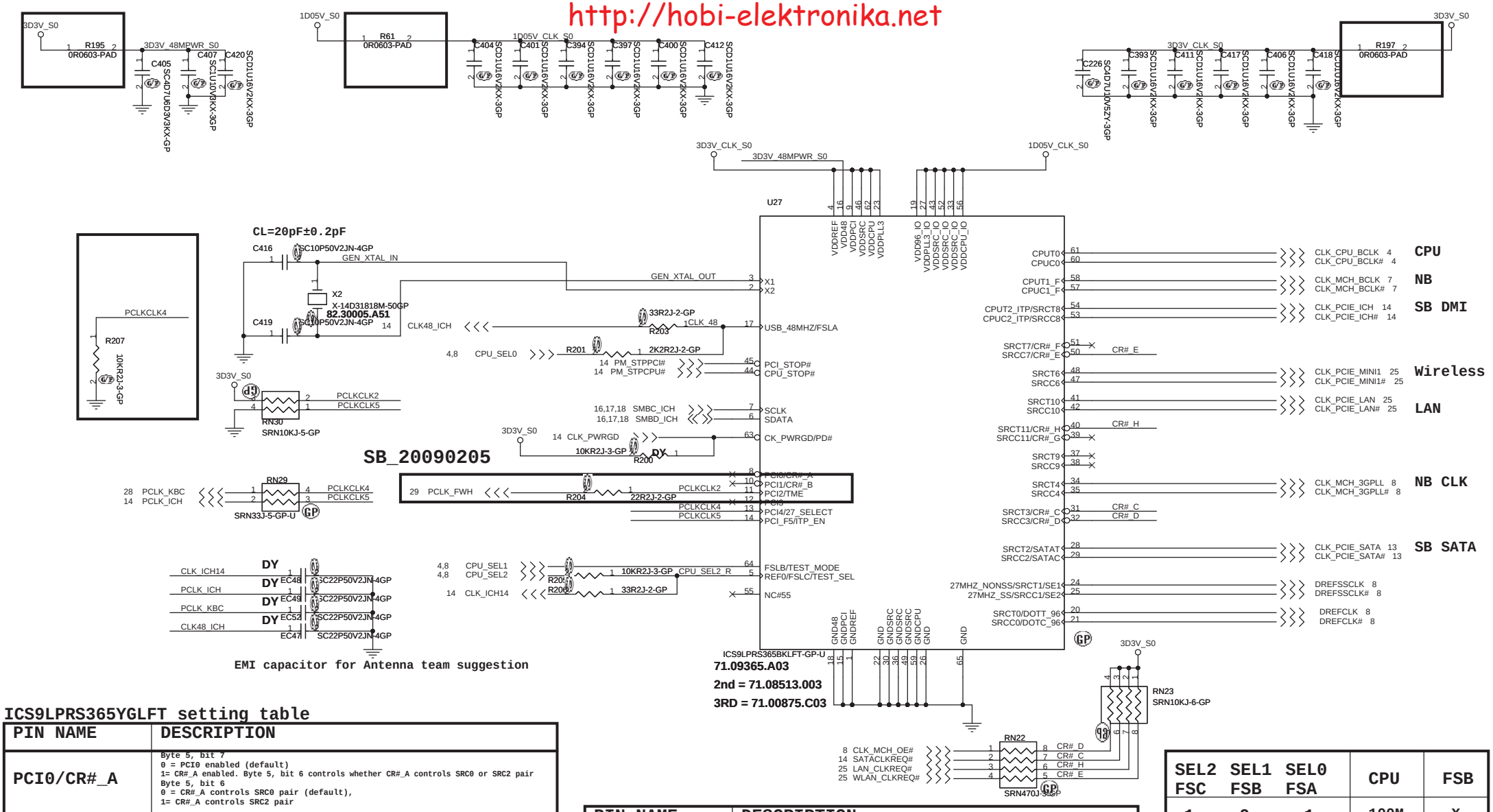
<Core Design>

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

Title: Reference

Size: A3 | Document Number: JM41_UMA | Rev: -1

Date: Sunday, March 01, 2009 | Sheet 2 of 40



ICS9LPRS365YGLFT setting table

PIN NAME	DESCRIPTION
PCI0/CR#_A	Byte 5, bit 7 0 = PCI0 enabled (default) 1= CR#_A enabled. Byte 5, bit 6 controls whether CR#_A controls SRC0 or SRC2 pair Byte 5, bit 6 0 = CR#_A controls SRC0 pair (default), 1= CR#_A controls SRC2 pair
PCI1/CR#_B	Byte 5, bit 5 0 = PCI1 enabled (default) 1= CR#_B enabled. Byte 5, bit 6 controls whether CR#_B controls SRC1 or SRC4 pair Byte 5, bit 4 0 = CR#_B controls SRC1 pair (default) 1= CR#_B controls SRC4 pair
PCI2/TME	0 = Overclocking of CPU and SRC Allowed 1 = Overclocking of CPU and SRC NOT allowed
PCI3	
PCI4/27M_SEL	0 = Pin17 as SRC-1, Pin18 as SRC-1#, Pin13 as DOT96, Pin14 as DOT96# 1 = Pin17 as 27MHz, Pin 18 as 27MHz_SS, Pin13 as SRC-0, Pin14 as SRC-0#
PCI_F5/ITP_EN	0 =SRC8/SRC8# 1 = ITP/ITP#
SRCT3/CR#_C	Byte 5, bit 3 0 = SRC3 enabled (default) 1= CR#_C enabled. Byte 5, bit 2 controls whether CR#_C controls SRC0 or SRC2 pair Byte 5, bit 2 0 = CR#_C controls SRC0 pair (default), 1= CR#_C controls SRC2 pair

PIN NAME	DESCRIPTION
SRCC3/CR#_D	Byte 5, bit 1 0 = SRC3 enabled (default) 1= CR#_D enabled. Byte 5, bit 0 controls whether CR#_D controls SRC1 or SRC4 pair Byte 5, bit 0 0 = CR#_D controls SRC1 pair (default) 1= CR#_D controls SRC4 pair
SRCC7/CR#_E	Byte 6, bit 7 0 = SRC7# enabled (default) 1= CR#_F controls SRC6
SRCT7/CR#_F	Byte 6, bit 6 0 = SRC7 enabled (default) 1= CR#_F controls SRC8
SRCC11/CR#_G	Byte 6, bit 5 0 = SRC11# enabled (default) 1= CR#_G controls SRC9
SRCT11/CR#_H	Byte 6, bit 4 0 = SRC11 enabled (default) 1= CR#_H controls SRC10

SEL2 FSC	SEL1 FSB	SEL0 FSA	CPU	FSB
1	0	1	100M	X
0	0	1	133M	533M
0	1	1	166M	667M
0	1	0	200M	800M
0	0	0	266M	1067M

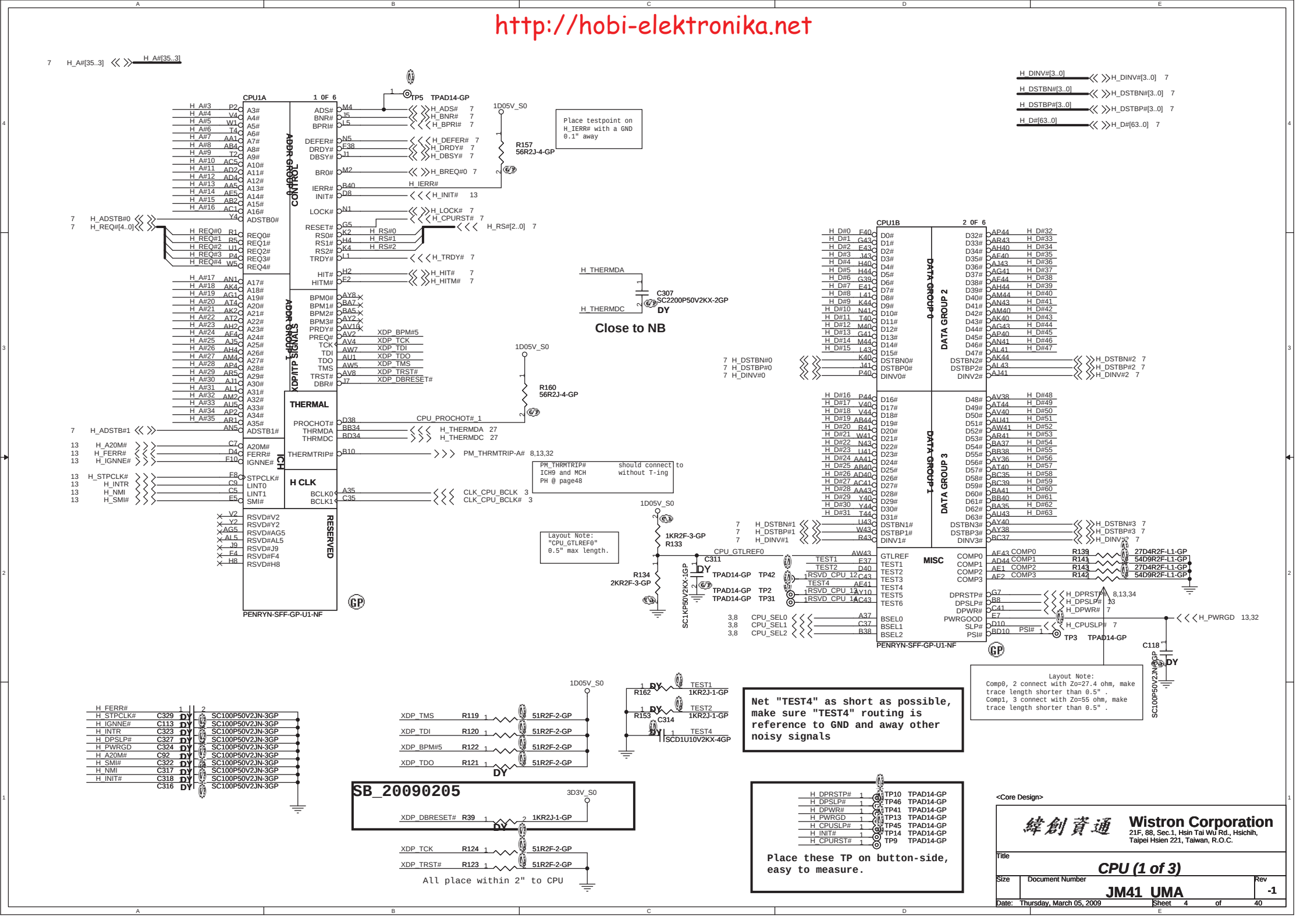
<Core Design>

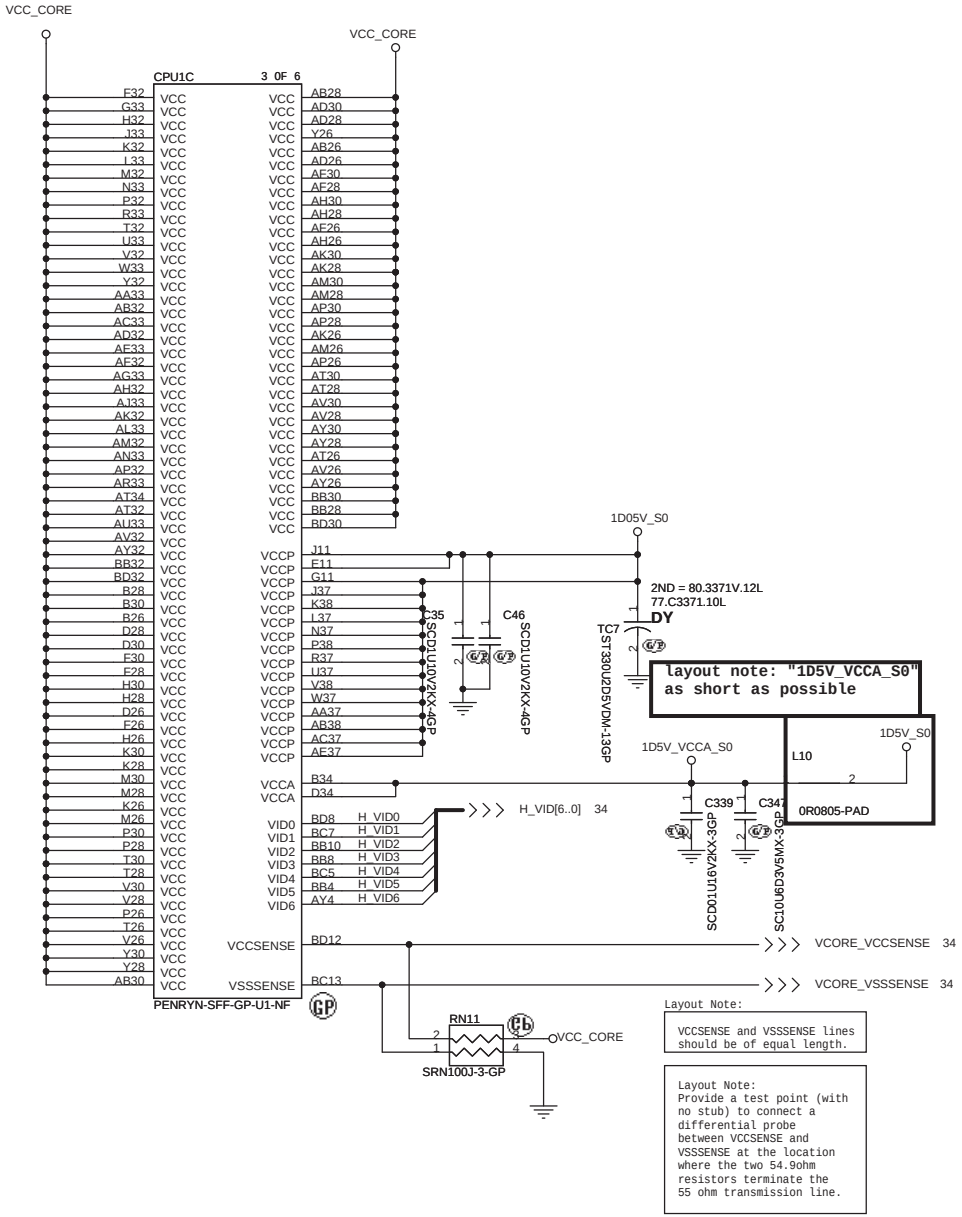
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

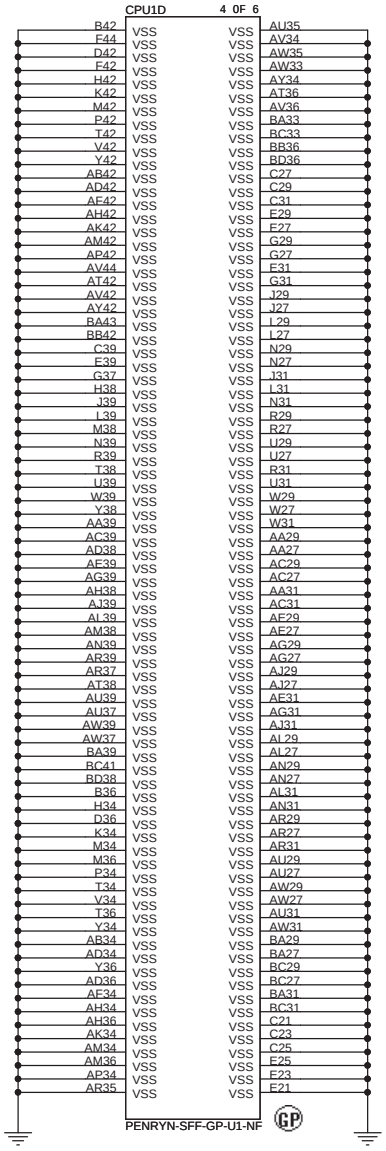
Title: *Clock Generator*

Size	Document Number	Rev
	JM41_UMA	-1

Date: Thursday, March 05, 2009 Sheet 3 of 40

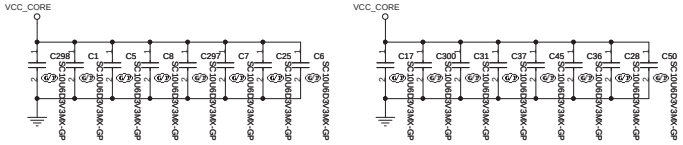


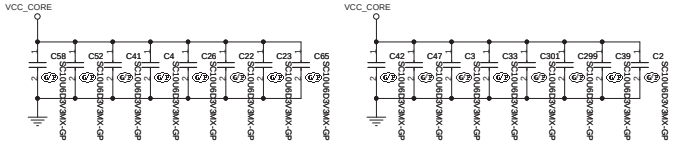


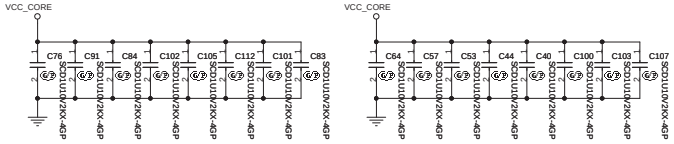


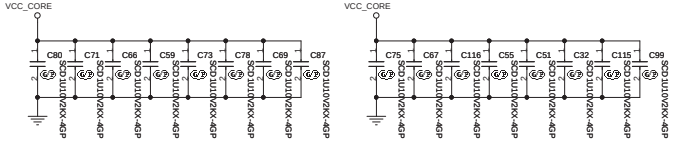
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***CPU (2 of 3)***
Size	Document Number: **JM41 UMA** Rev: -1
Date: Thursday, March 05, 2009	Sheet 5 of 40

Place these inside socket
cavity on L8(North side Secondary)

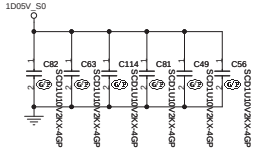


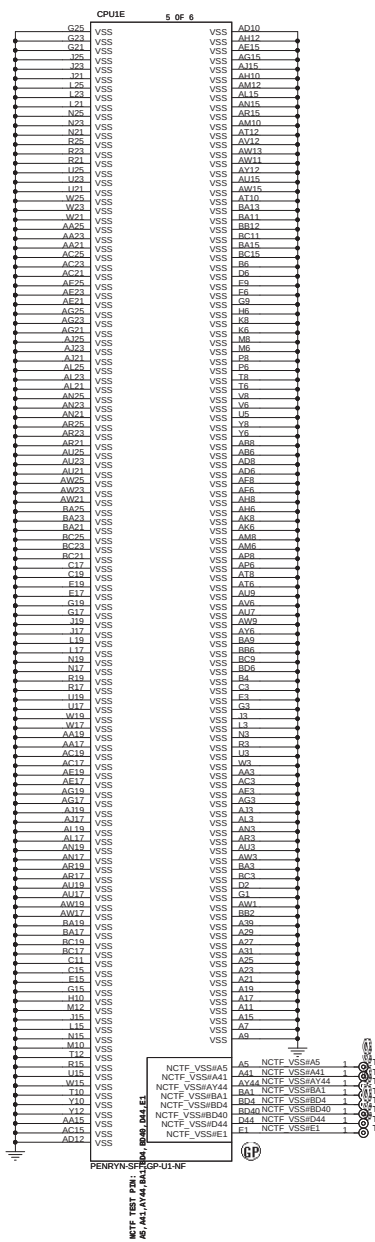


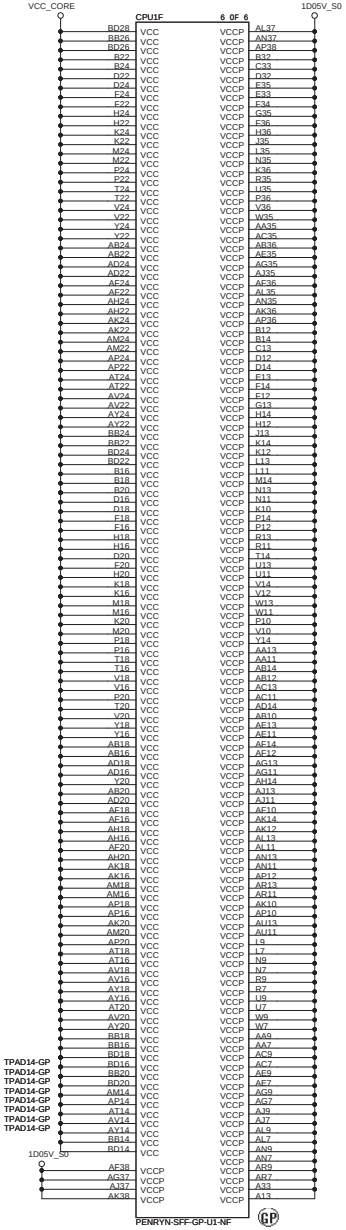




Place these inside socket
cavity on L8(North side Secondary)



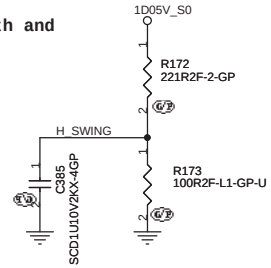




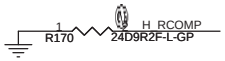
緯創資通 Wistron Corporation			
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title	CPU (3 of 3)		
Size	Document Number		Rev
	JM41_UMA		-1
Date: Sunday, March 01, 2009	Sheet 6	of	40

H_SWING routing Trace width and Spacing use 10 / 20 mil

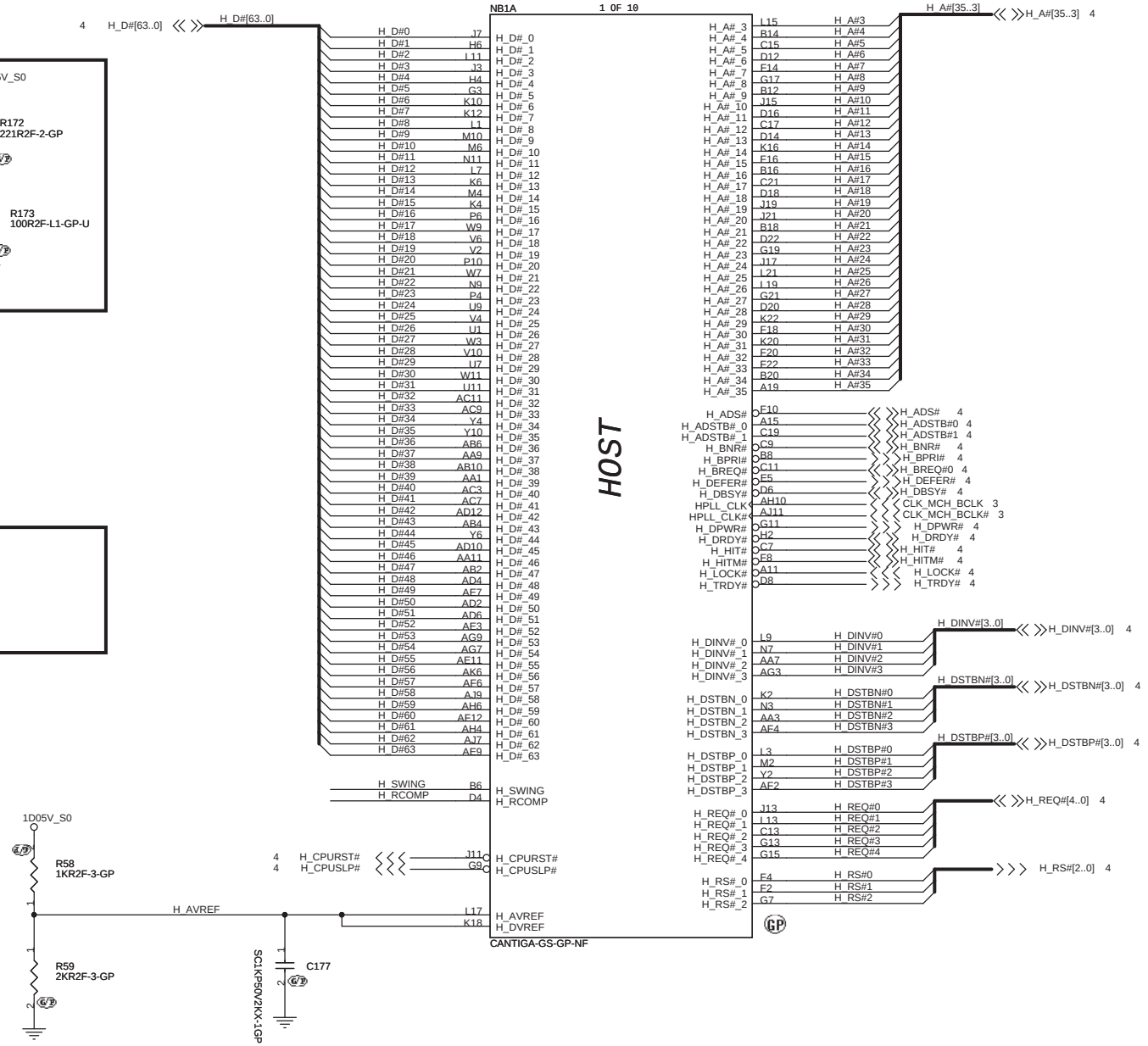
H_SWING Resistors and Capacitors close MCH 500 mil (MAX)



H_RCOMP routing Trace width and Spacing use 10 / 20 mil



Place them near to the chip (< 0.5")



<Core Design>

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***Cantiga (1 of 6)***
Size	Document Number: **JM41 UMA** — Rev: -1
Date: Thursday, March 05, 2009	Sheet 7 of 40

Close to GMCH as 500 mils.

SB_20090205

SB_20090205

FOR Cantiga: 1.02K_1% ohm
Teenah: 1.3k ohm
CRT_IREF routing Trace width use 20 mil

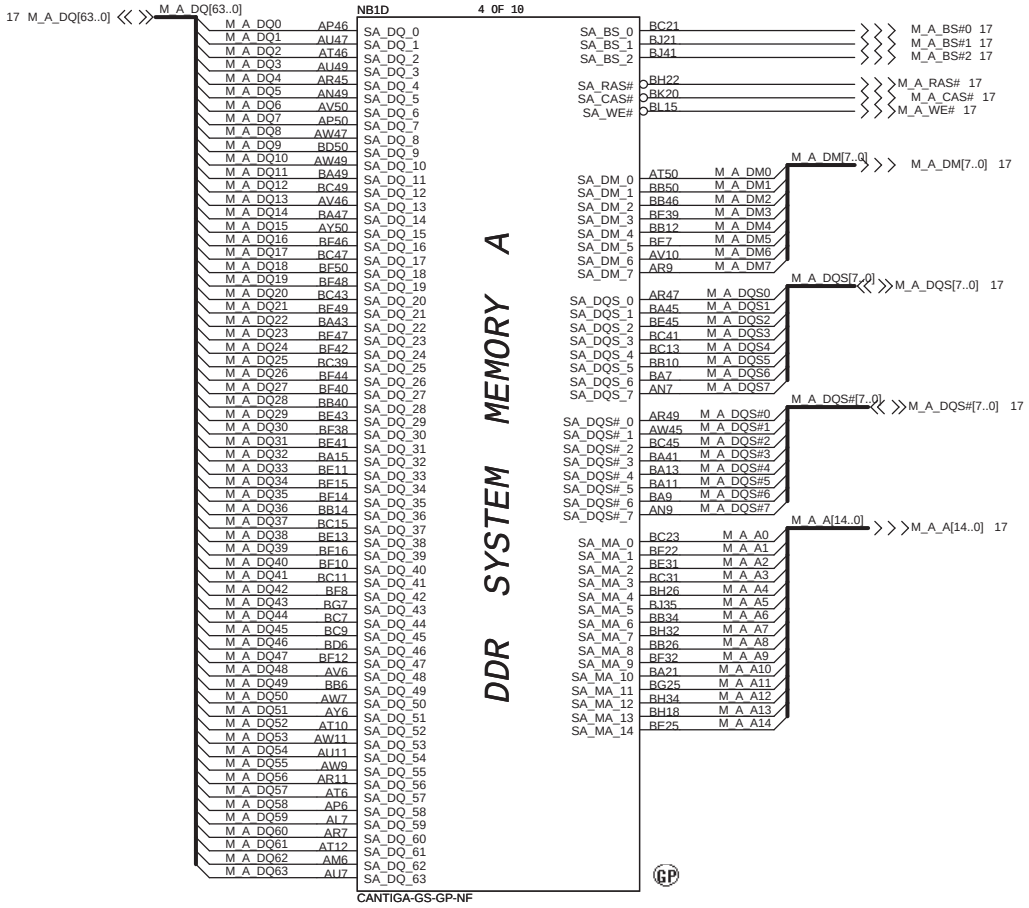
Cantiga
for HDMI port C
FOR Cantiga:500 ohm
Teenah: 392 ohm

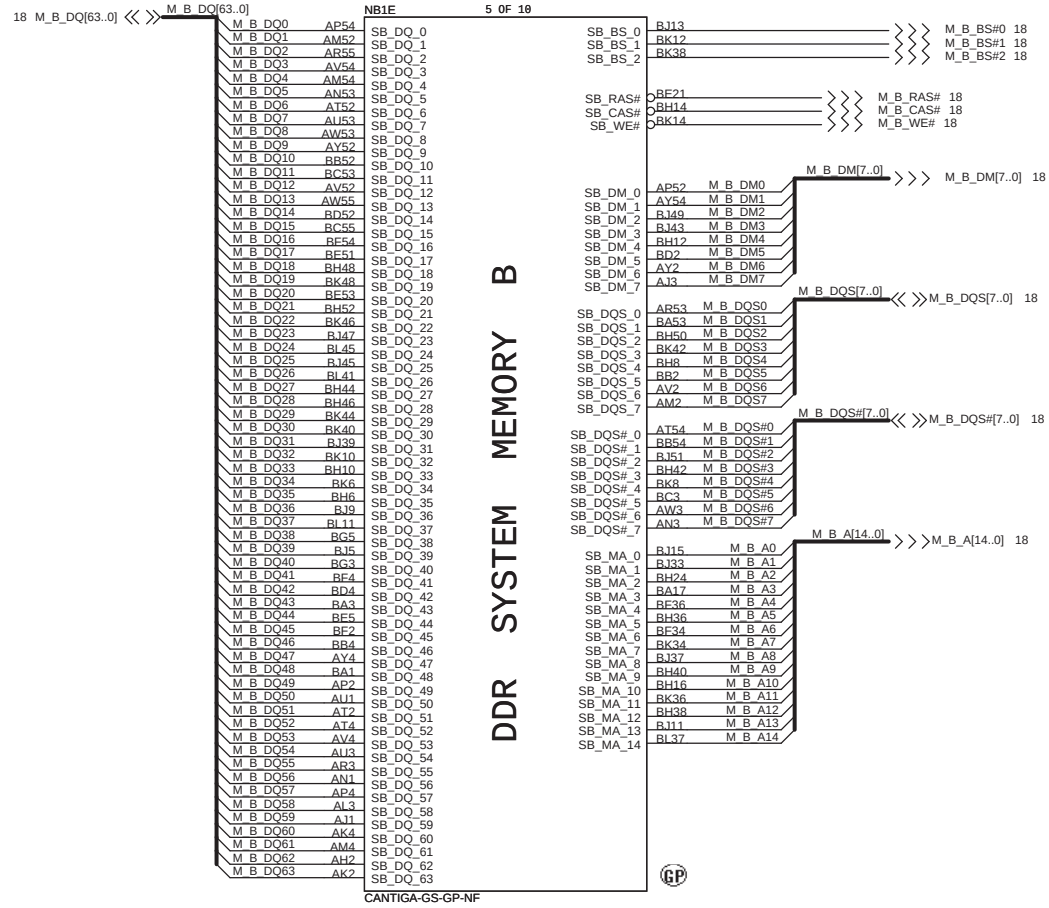
FOR Discrete change RN to 0 ohm (66.R0036.A8L)

FOR Discrete,change to 0 ohm (66.R0036.A8L)

layout take note

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title: Cantiga (2 of 6)			
Size	Document Number: JM41_UMA		Rev: -1
Date: Thursday, March 05, 2009	Sheet 8 of 40		





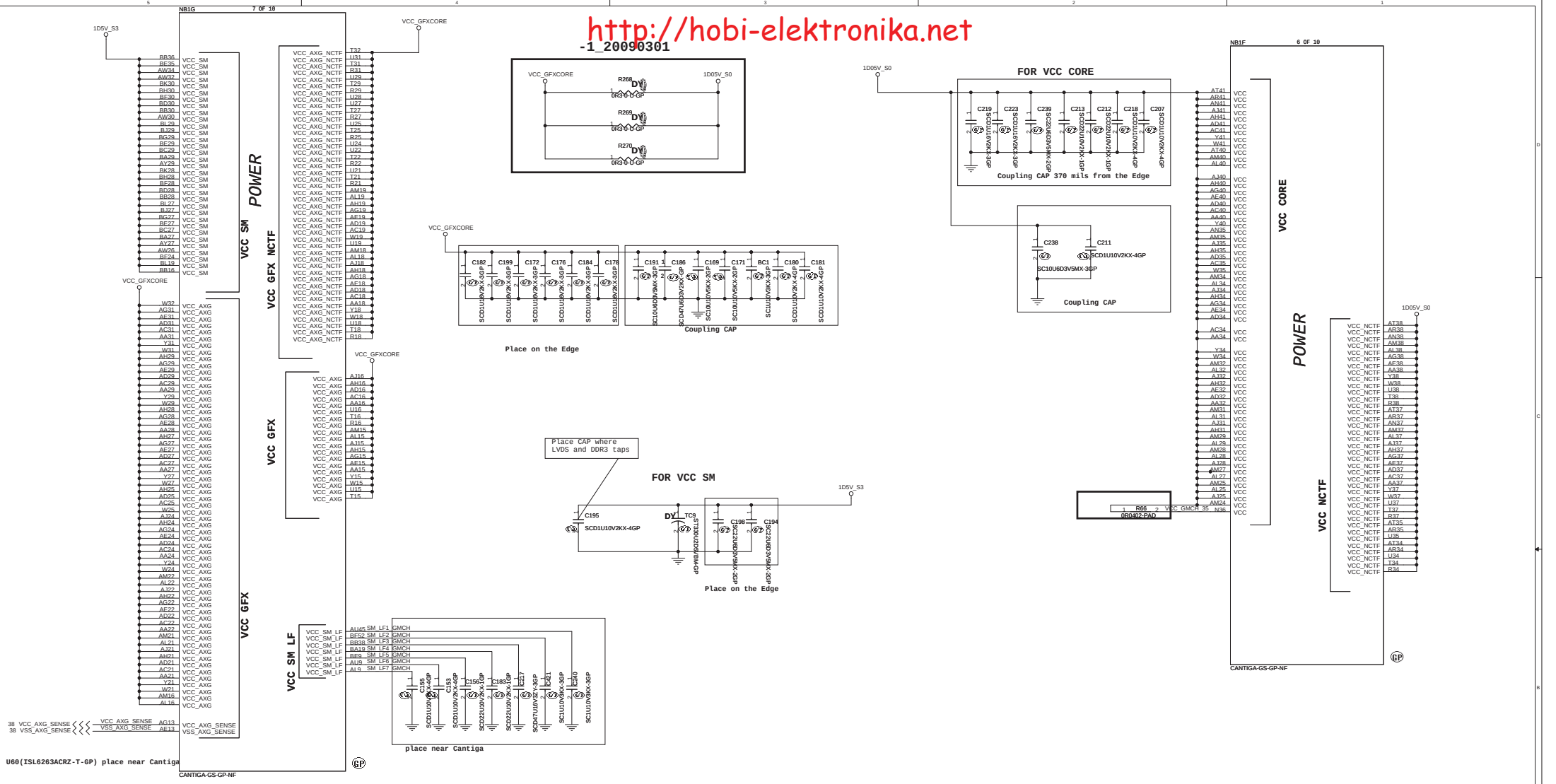
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Cantiga (3 of 6)

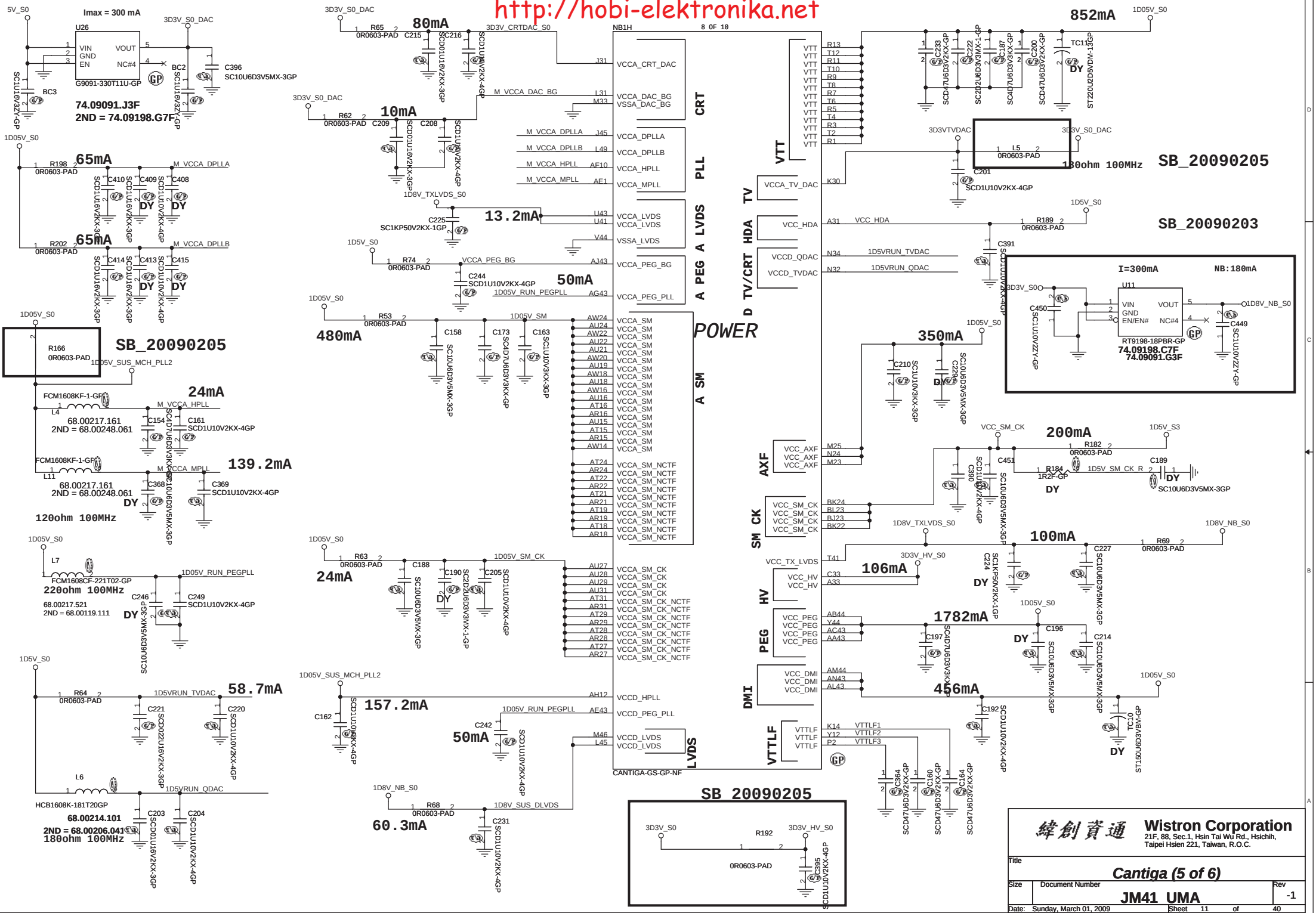
Size | Document Number: JM41 UMA | Rev: -1

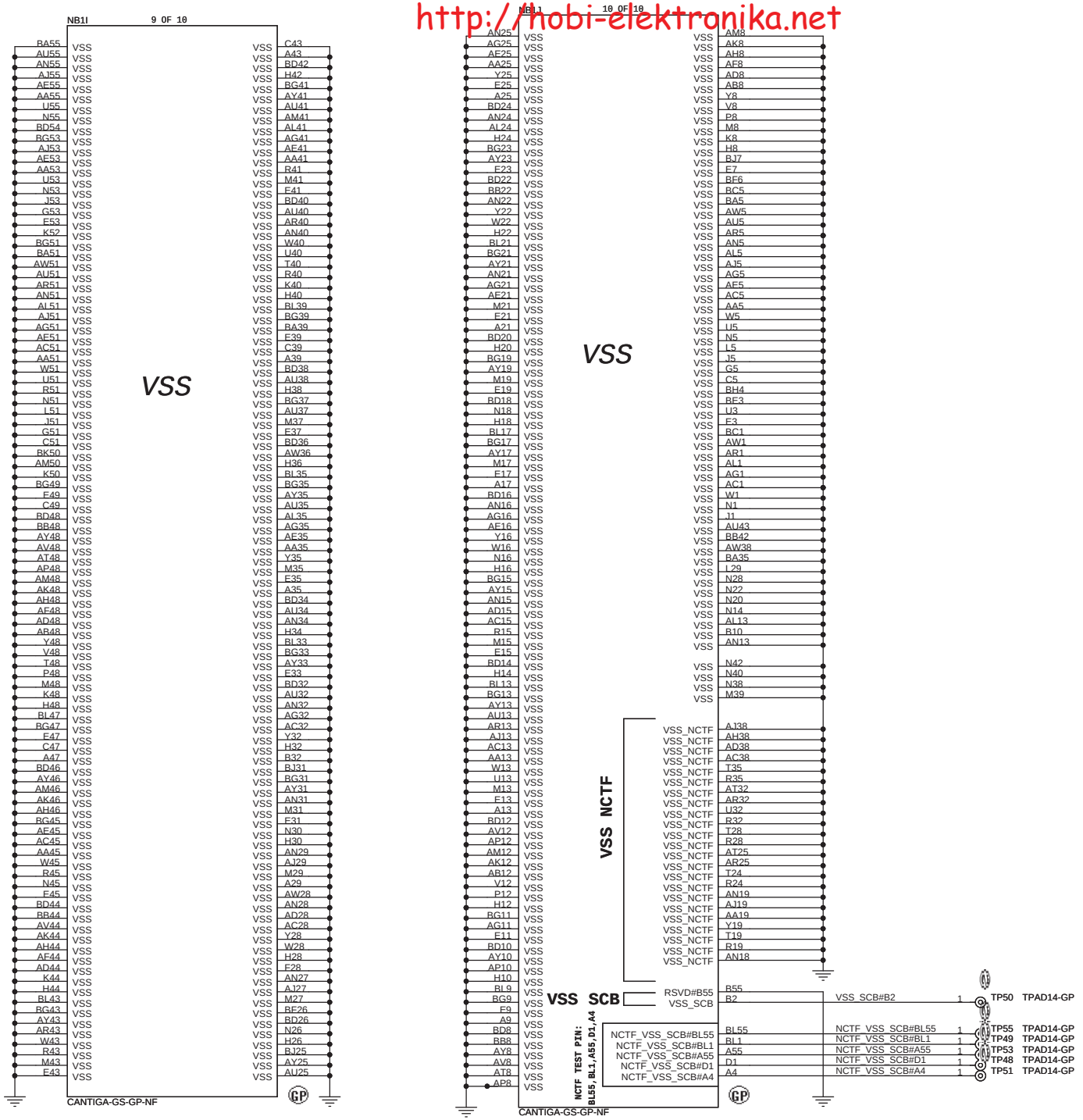
Date: Thursday, March 05, 2009 | Sheet 9 of 40

-1_20090301



Wistron Corporation	Title: Cantiga (4 of 6)	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	Size: Document Number: JM41_UMA	Rev: -1
	Date: Tuesday, March 17, 2009	Sheet 10 of 40



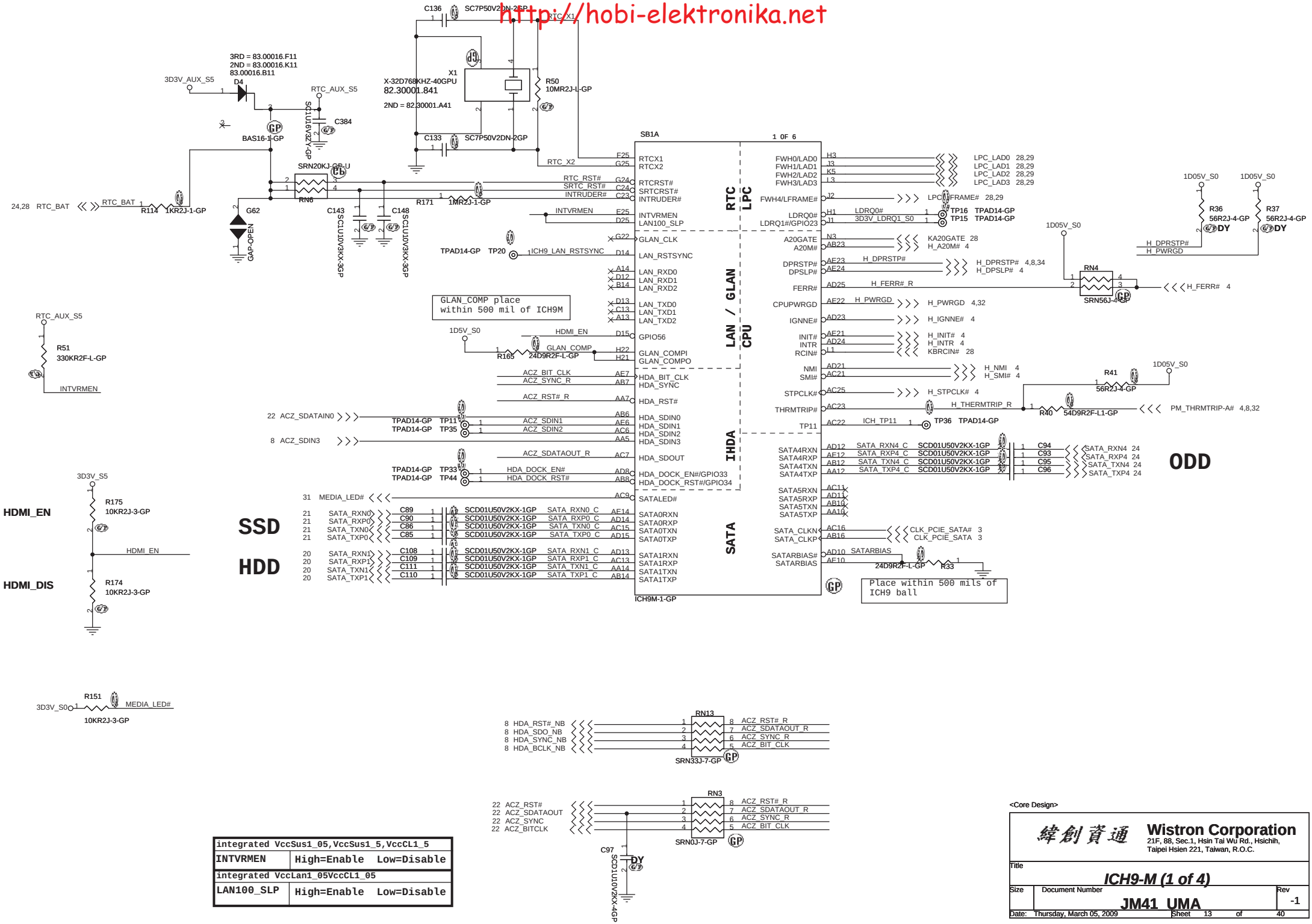


緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: ***Cantiga (6 of 6)***

Size	Document Number	Rev
	JM41 UMA	-1

Date: Sunday, March 01, 2009 Sheet 12 of 40



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

<Core Design>

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

Title: ICH9-M (1 of 4)

Size | Document Number: JM41 UMA | Rev: -1

Date: Thursday, March 05, 2009 | Sheet 13 of 40

PCI_GNT#0 and SPI_CS1# have weak internal Pull up

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

SB_20090205

GPIO049 should be pulled down to GND only when using Teenah. When using Cantiga, this ball should be left as No Connect.

No Reboot Strap	
SPKR	LOW = Defaule High=No Reboot

USB	
Pair	Device
0	USB2
1	USB3
2	USB4
3	WiMAX
4	WEBCAM
5	NC
6	NC
7	BLUETOOTH
8	NC
9	USB1
10	MINIC2
11	Cardreader

These R need close SB within 600 mils

-1 20090305

<Core Design>

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

Title: ICH9-M (2 of 4)
Size: Document Number: JM41_UMA
Rev: -1
Date: Thursday, March 05, 2009 Sheet 14 of 40

SB_20090205

6uA in G3

657mA

*Within a given well, 5VREF needs to be up before the corresponding 3.3V rail

2mA

2mA

47mA

SATA+USB=1.56A

USBPLL=10mA

19mA in S0;78mA in S3/S4/S5

23mA

80mA

1mA

1.13A

23mA

50mA

1mA

VCC3_3=278mA

32mA

32mA

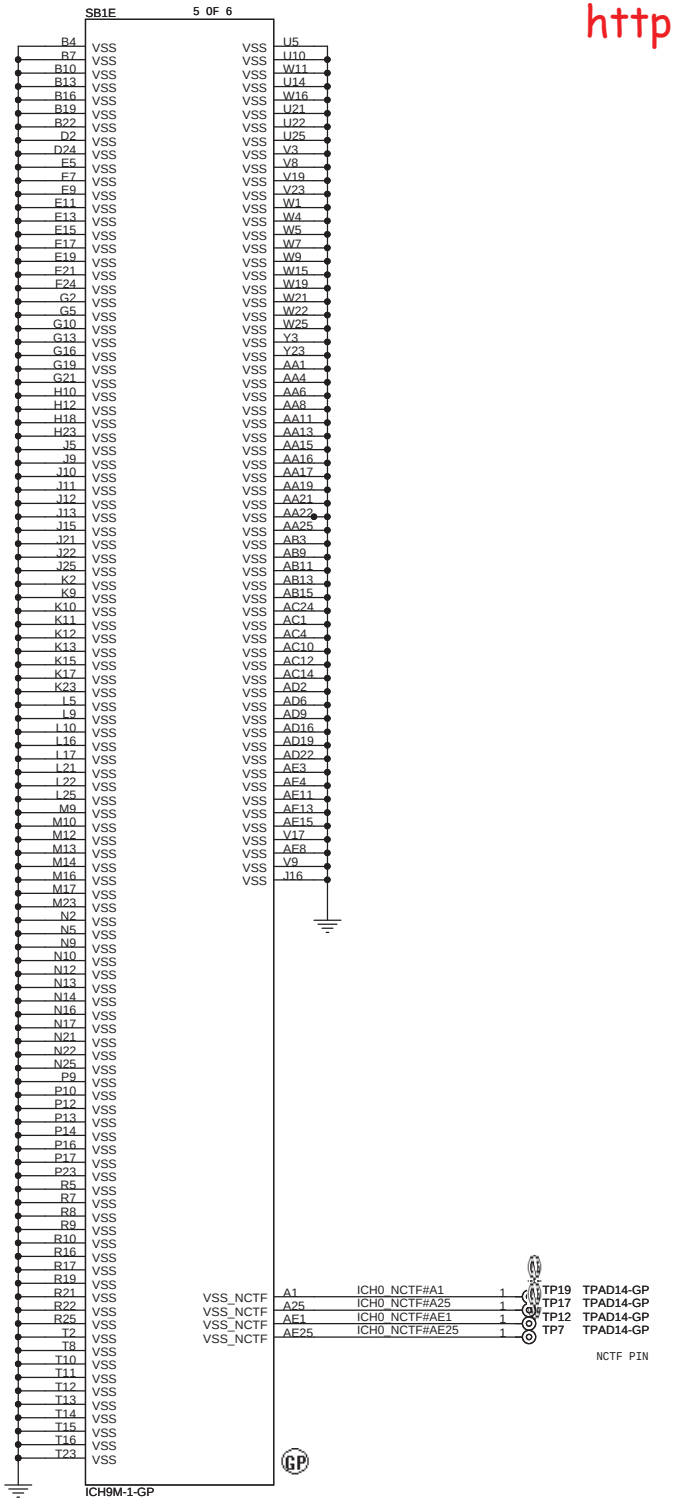
177mA

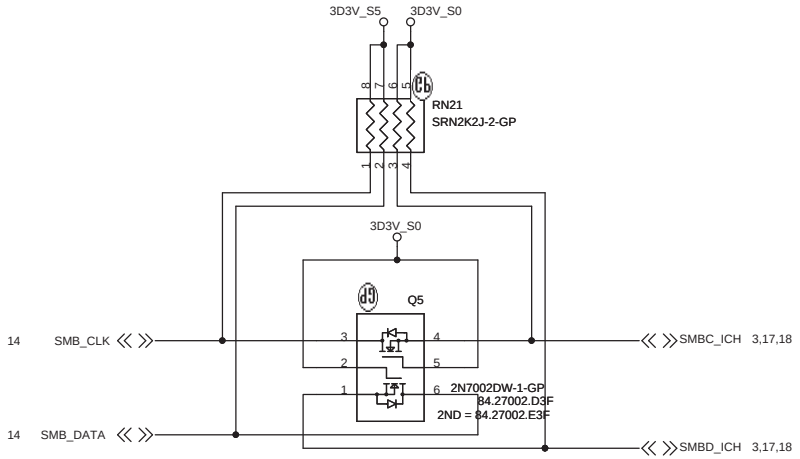
18mA

Layout Note: Place near ICH9

ICH9M-1-GP

Wistron Corporation	緯創資通
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: ICH9-M (3 of 4)	
Size	Document Number: JM41_UMA
Rev: -1	
Date: Saturday, March 07, 2009	Sheet 15 of 40





SMBUS

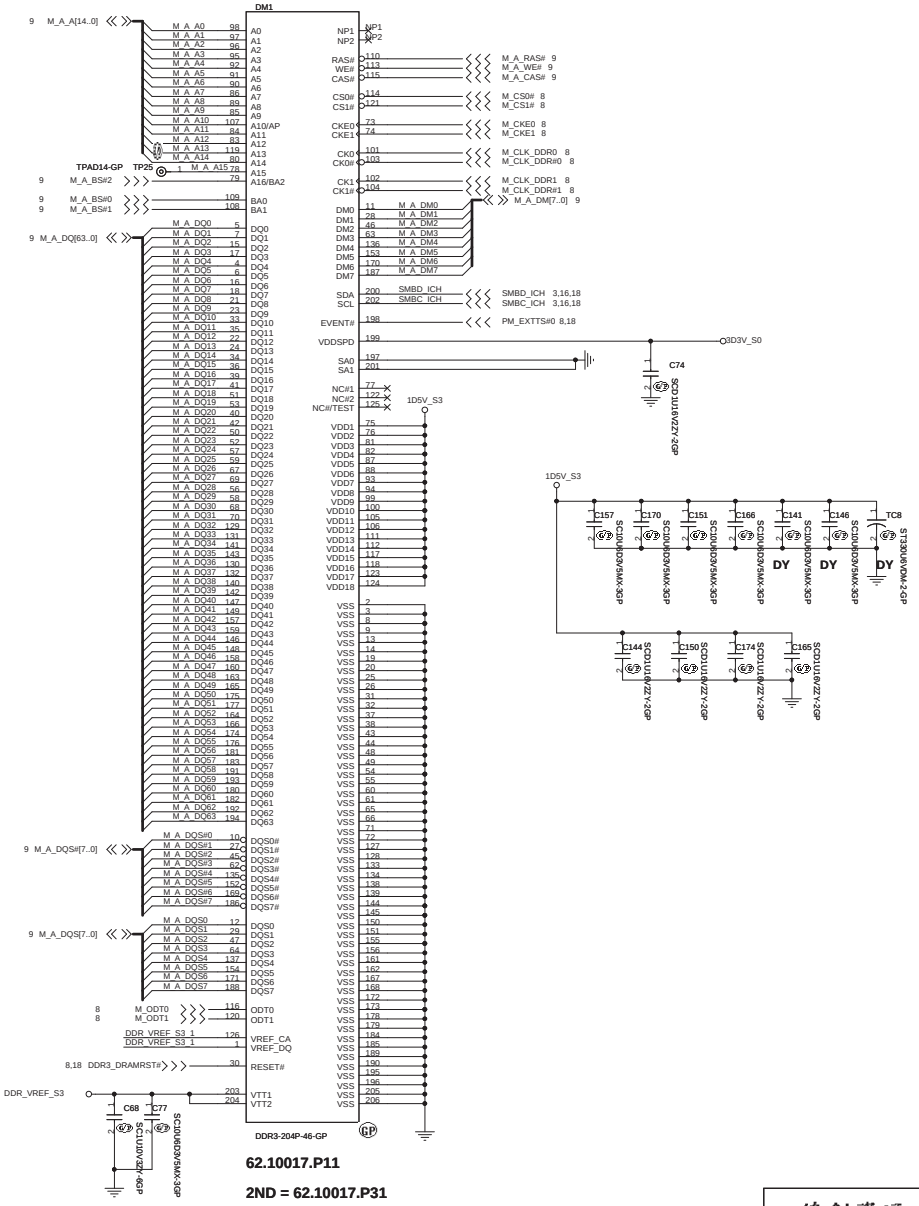
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: *ICH9-M (4 of 4)*

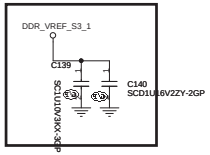
Size	Document Number	Rev
	JM41 UMA	-1

Date: Thursday, March 05, 2009 Sheet 16 of 40

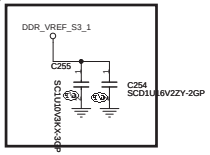
DDR3 SOCKET_1



Layout Note : Near Pin 126



Layout Note : Near Pin 1

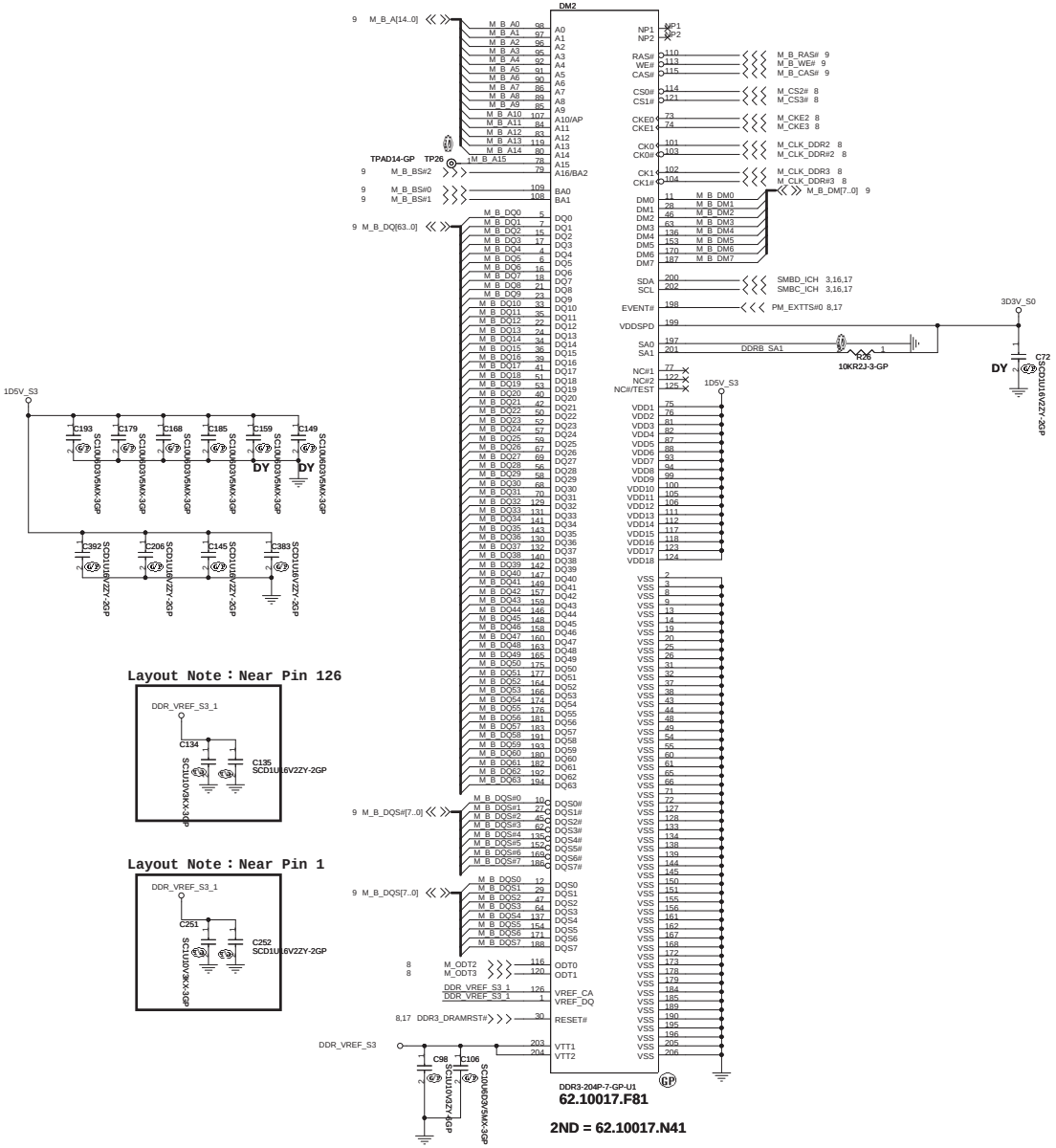


62.10017.P11

2ND = 62.10017.P31

Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	DDR3 Socket1
Size	Document Number: JM41_UMA
Rev	-1
Date: Thursday, March 05, 2009	Sheet 17 of 40

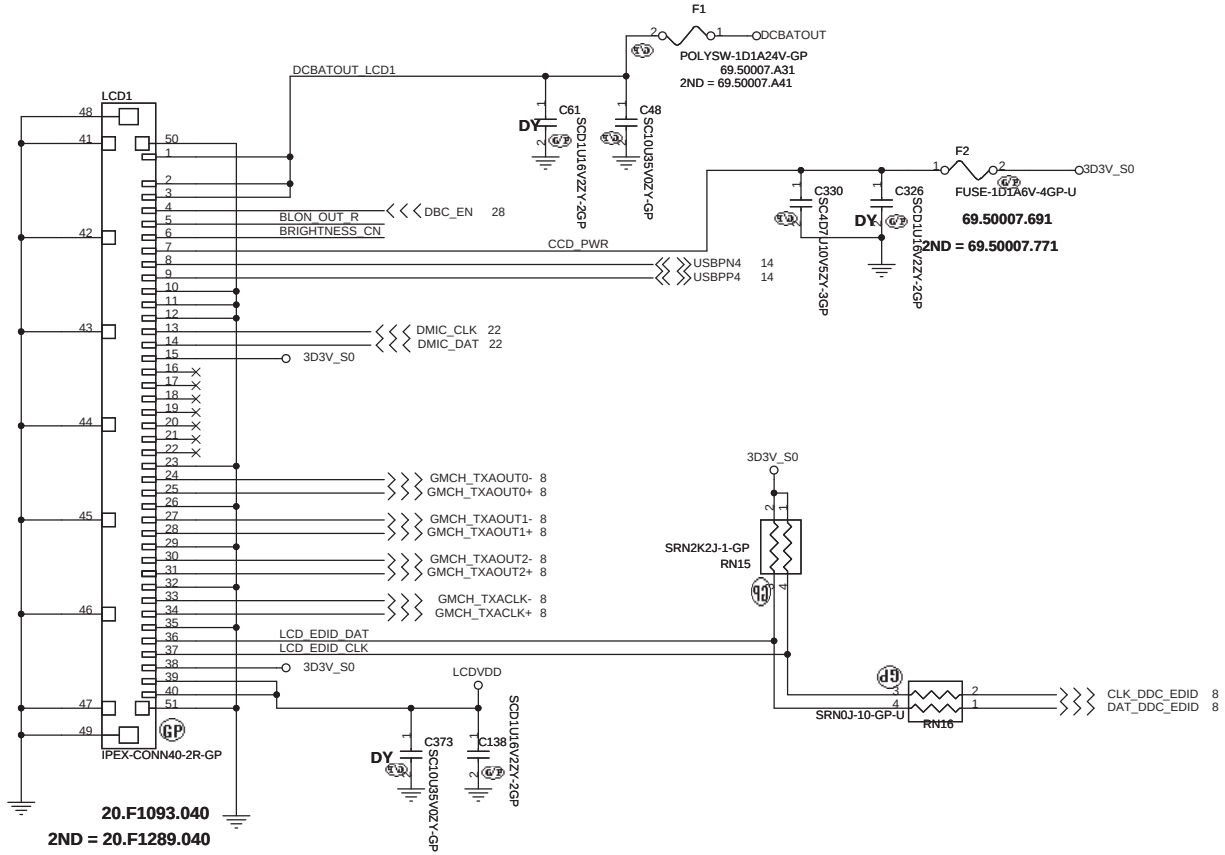
DDR3 SOCKET_2



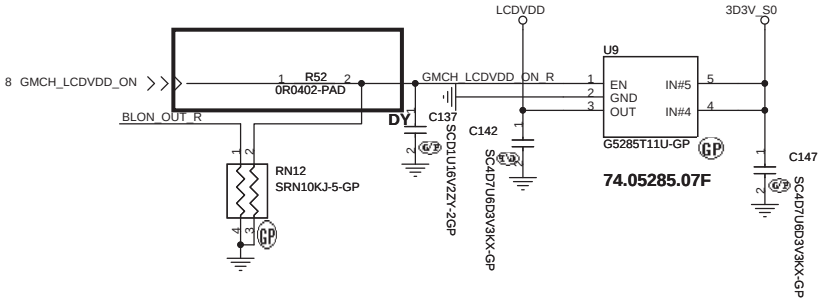
Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title	DDR3 Socket2		
Size	Document Number	JM41 UMA	Rev -1
Date: Thursday, March 05, 2009	Sheet 18 of 40		

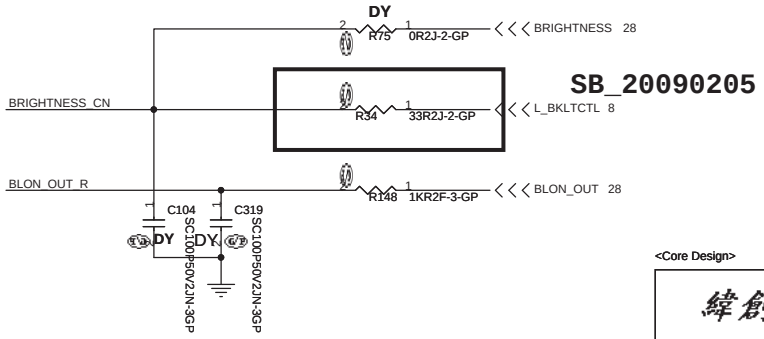
LCD/CCD CONN

Internal MIC



Layout 40 mil

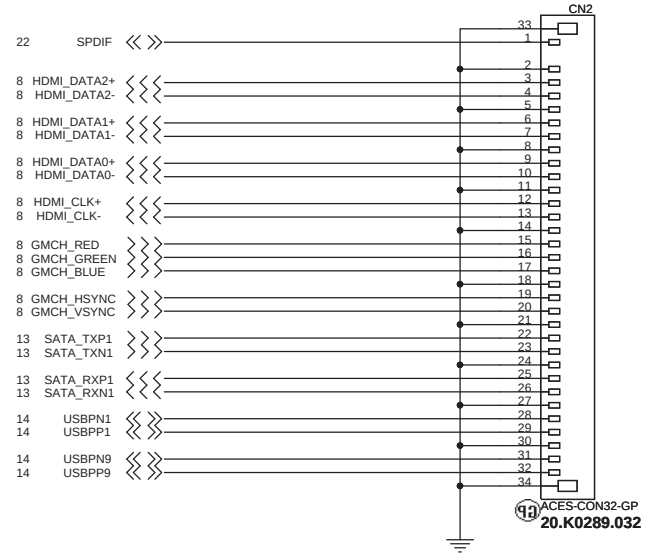


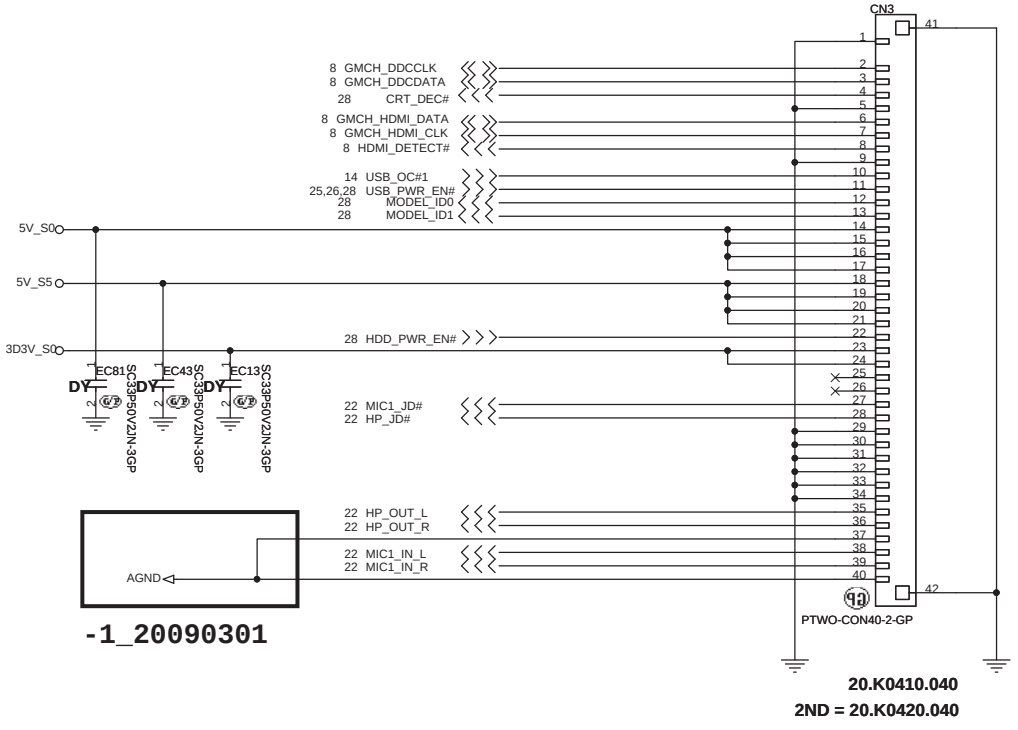


<Core Design>

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

Title		
LCD CONN		
Size	Document Number	Rev
	JM41_UMA	-1
Date: Thursday, March 05, 2009	Sheet 19 of 40	





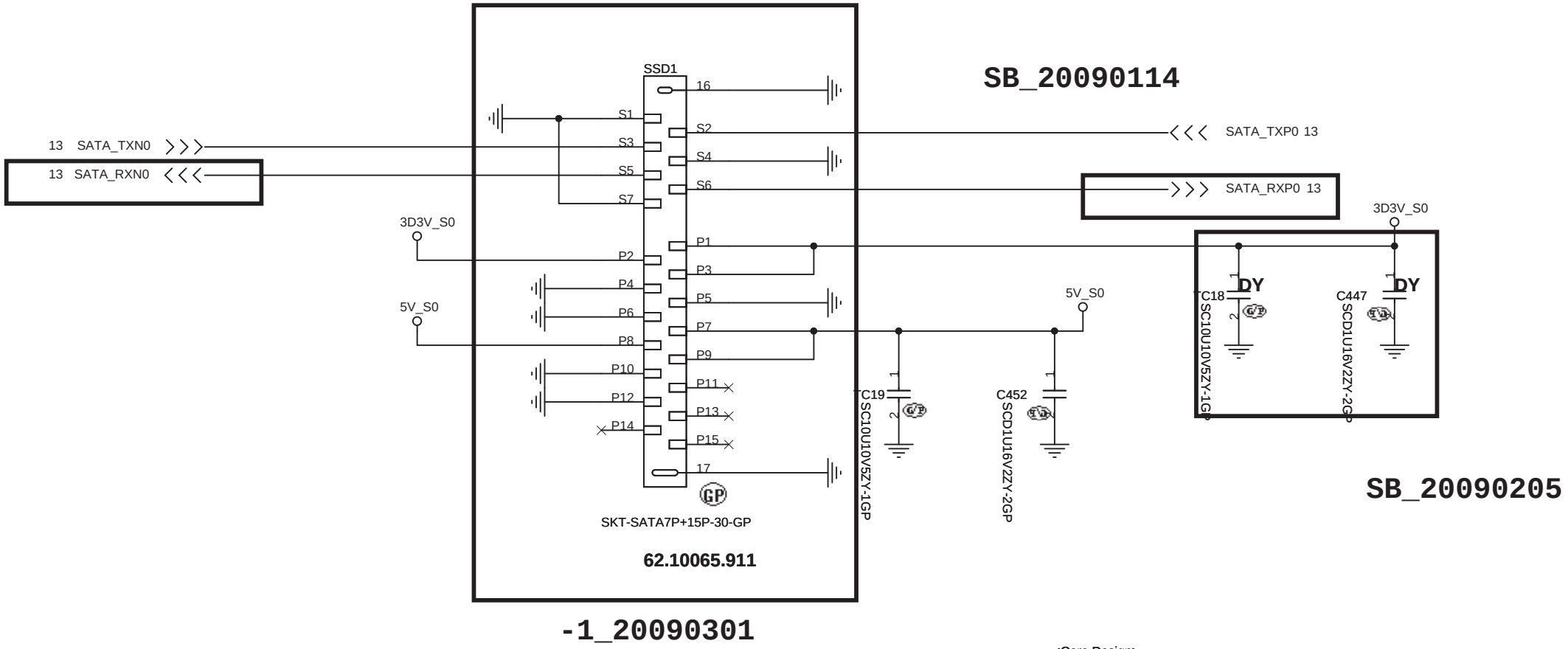
-1_20090301

<Core Design>

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

Title	CRT BD CONN	
Size	Document Number: JM41_UMA	Rev: -1
Date: Thursday, March 05, 2009	Sheet 20 of 40	

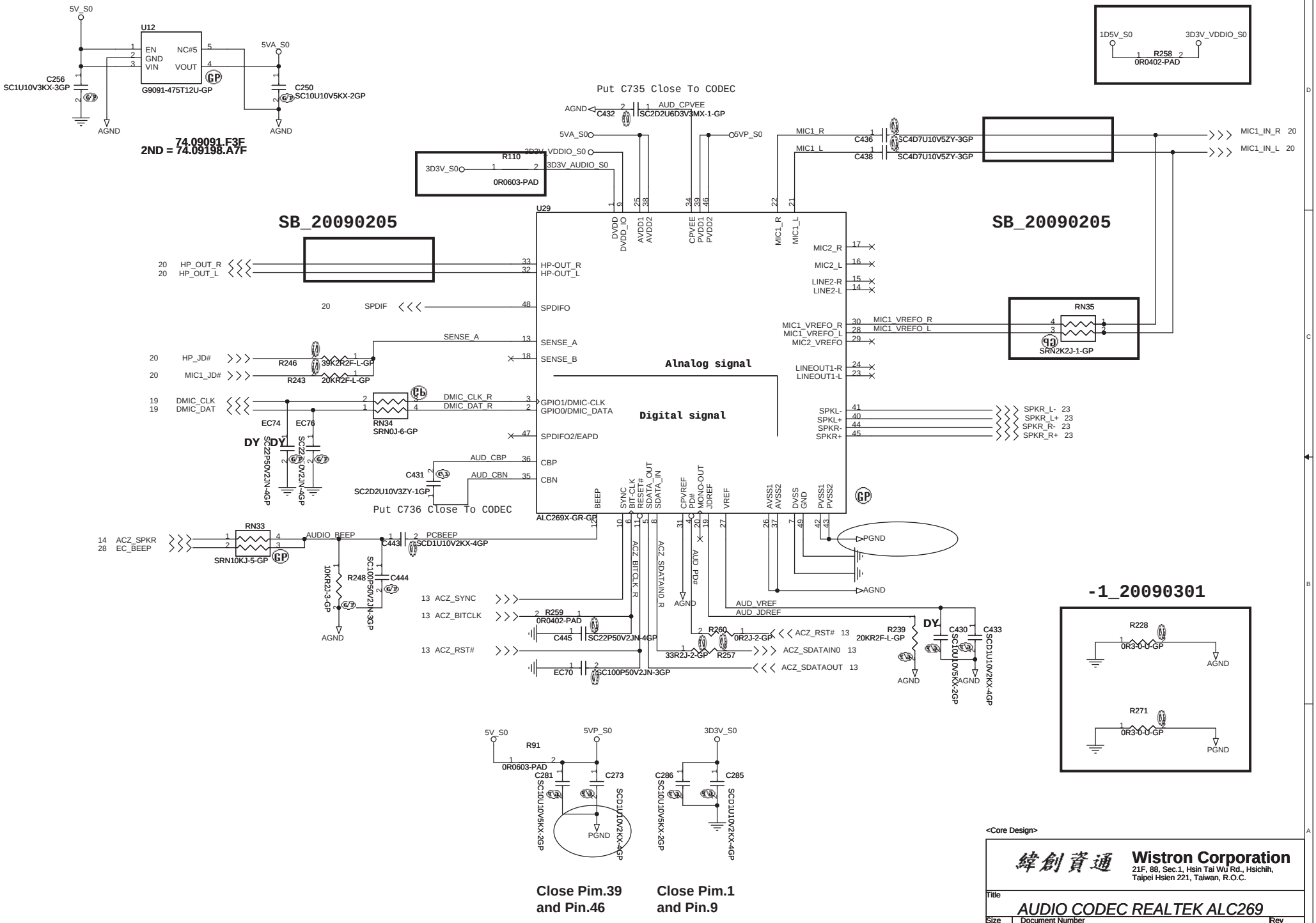
SSD SATA Connector



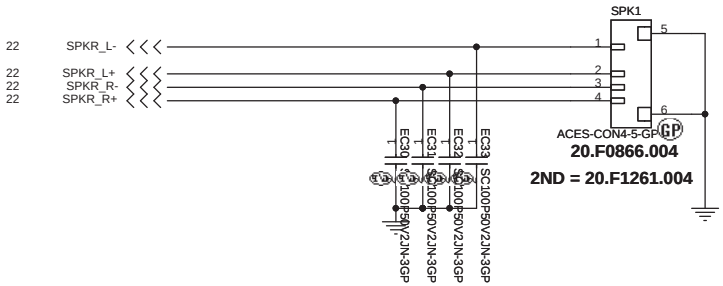
<Core Design>

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

Title	***HDD CONN***	
Size	Document Number **JM41_UMA**	Rev -1
Date: Thursday, March 05, 2009	Sheet 21 of 40	



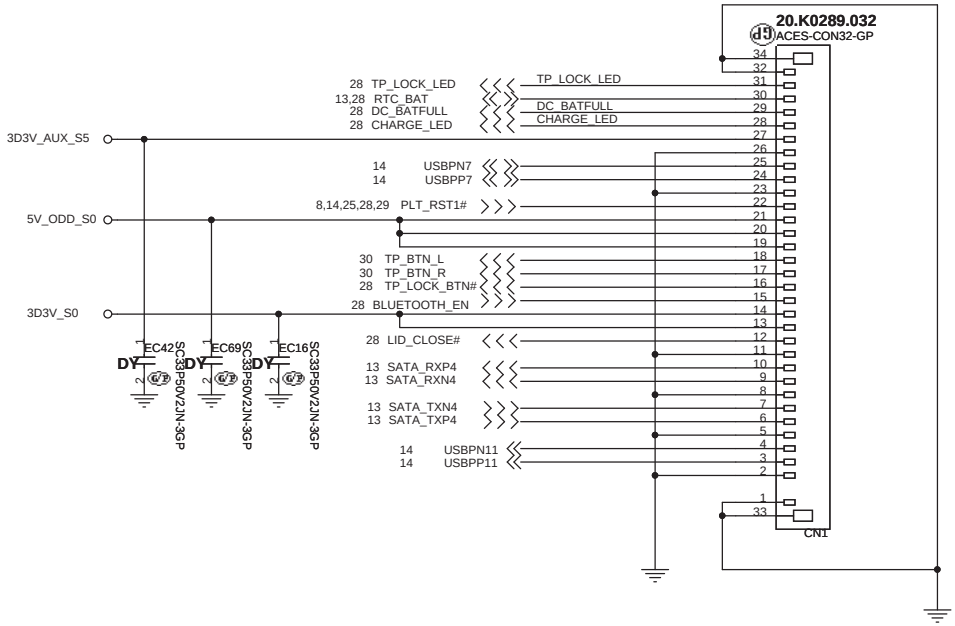
Internal Speaker



<Core Design>

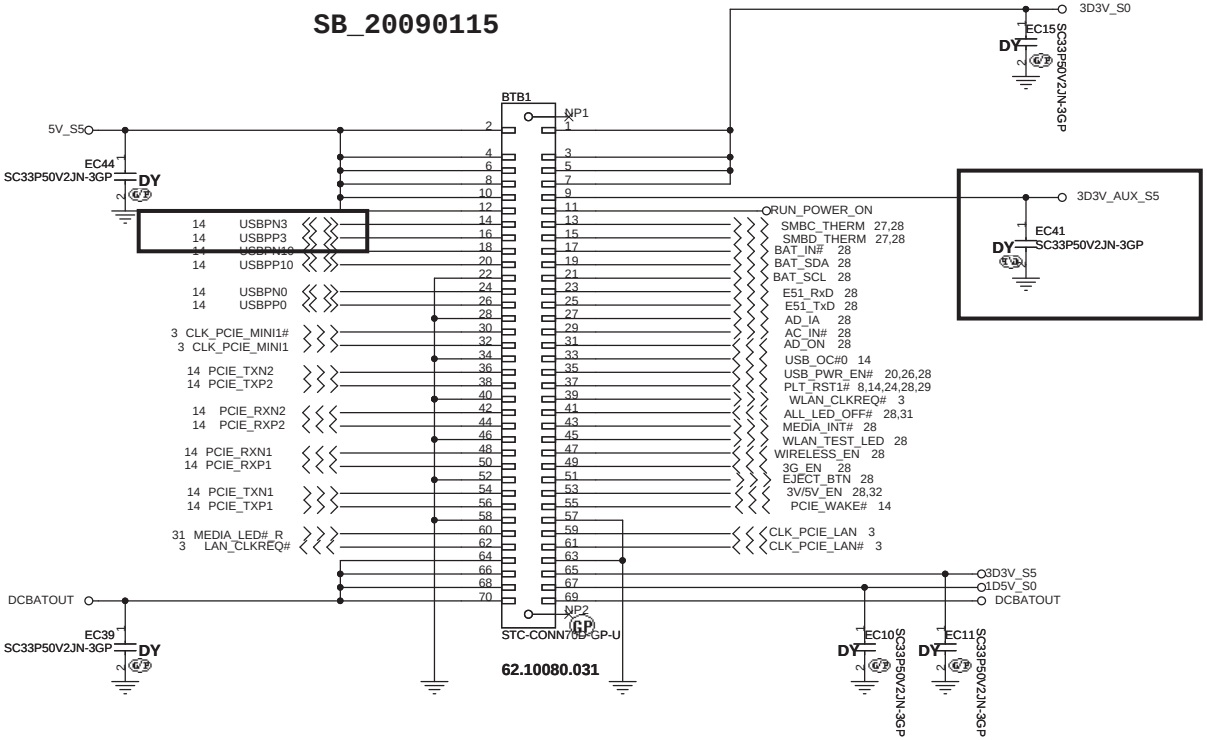
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	*AUDIO JACK*	
Size	Document Number: JM41_UMA	Rev: -1
Date: Thursday, March 05, 2009	Sheet 23 of 40	



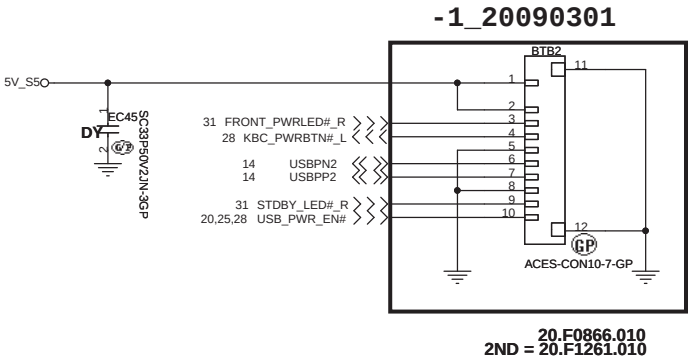
<Core Design>

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	*CARDREADER BD CONN*
Size / Document Number	JM41_UMA
Rev	-1
Date: Thursday, March 05, 2009	Sheet 24 of 40



<Core Design>

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***MINI BD CONN***
Size: A3	Document Number: **JM41_UMA**
Rev: **-1**	
Date: Thursday, March 05, 2009	Sheet 25 of 40



<Core Design>

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

Title: POWER BUTTON CONN

Size	Document Number	Rev
A3	JM41_UMA	-1

Date: Thursday, March 05, 2009 Sheet 26 of 40

CPU TEMP:

H_THERMDA and H_THERMDC routing 10mil trace width and spacing. Locate Capacity near thermal diode

for CPU thermal diode

C587 for EMI and solve acoustic noise

H_THERMDA C321 H_THERMDC SC100P50V2JN-3GP

EMC2102_DP2 C325 EMC2102_DN2 SC100P50V2JN-3GP

CLOSE TO EMC2103

for T8 thermal diode

for system thermal diode

20.F1396.004

2ND = 20.F0411.004

ps. FAN1 POWER TRACE WIDTH MAY BE IN 25 MIL

SB_20090205

SA

Channel 1: CPU
Channel 2: Palmrest
Channel 3: T8

SHDN SEL

PULL UP RESISTOR	MODE OF OPERATION
<=4.7K OHM	EXTERNAL DIODE 1 SIMPLE MODE-BETA COMPENSATION DISABLED,REC DISABLED
6.8K OHM	EXTERNAL DIODE 1 DIODE MODE-BETA COMPENSATION DISABLED,REC ENABLED
10K OHM	EXTERNAL DIODE 1 TRANSISTOR MODE-BETA COMPENSATION ENABLED,REC ENABLED
15K OHM	INTERNAL DIODE
22K OHM	EXTERNAL DIODE 2 TRANSISTOR MODE-BETA COMPENSATION ENABLED,REC ENABLED
>=33K OHM	EXTERNAL DIODE 1 TRANSISTOR MODE-BETA COMPENSATION ENABLED,REC ENABLED

TRIP SET

Ttrip(degree)	RSET(1%)
85	562
86	604
87	649
88	698
89	750
90	787
91	845
92	909
93	953
94	1020
95	1100

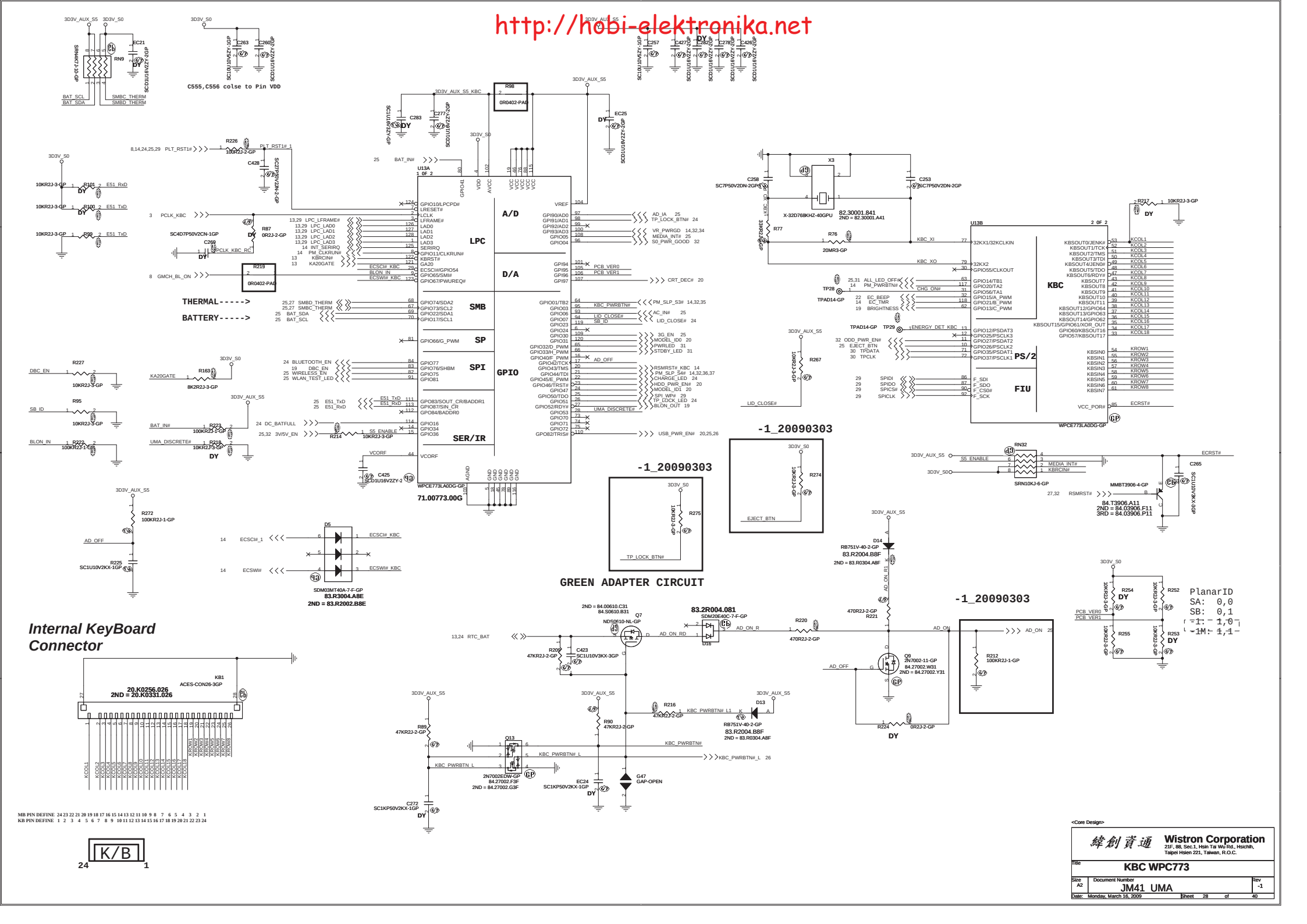
<Core Design>

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

Title: Thermal/Fan Controllor

Size | Document Number: JM41 UMA | Rev: -1

Date: Thursday, March 05, 2009 | Sheet 27 of 40

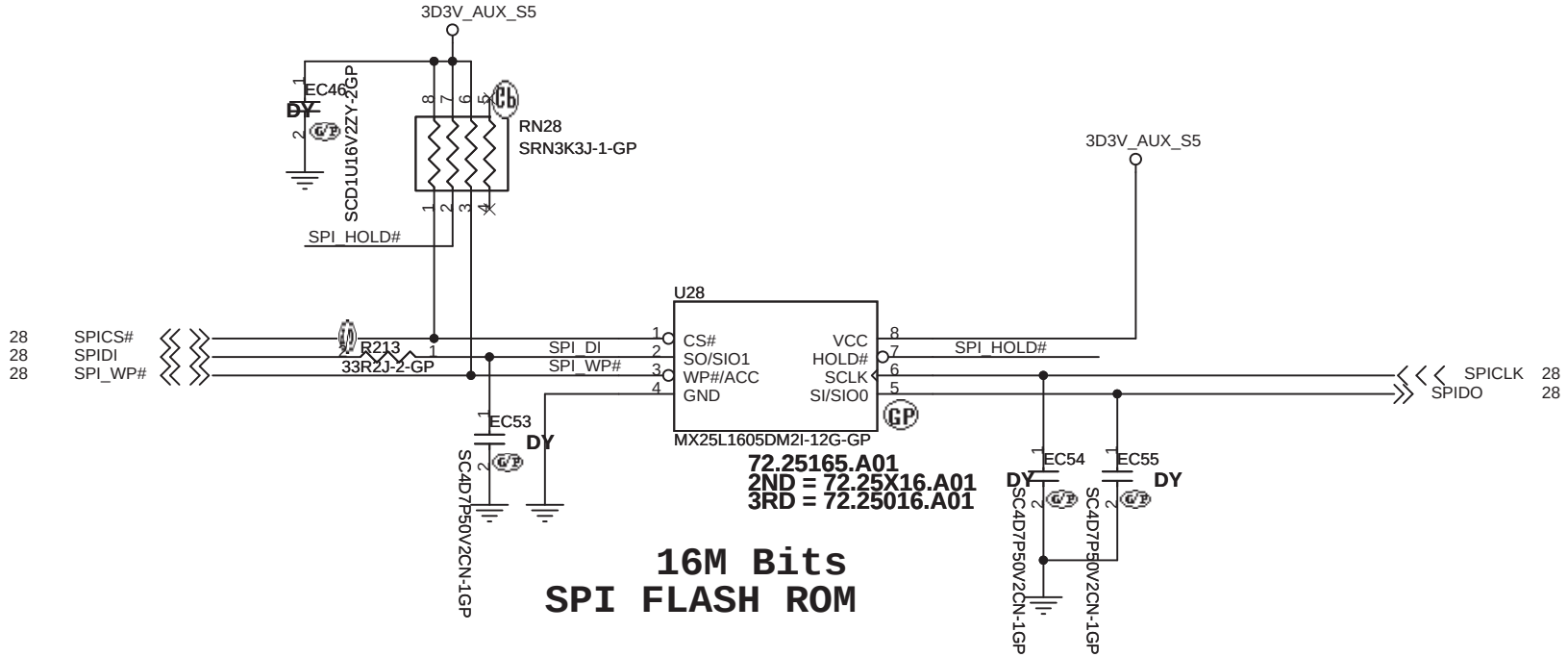


<Core Design>
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

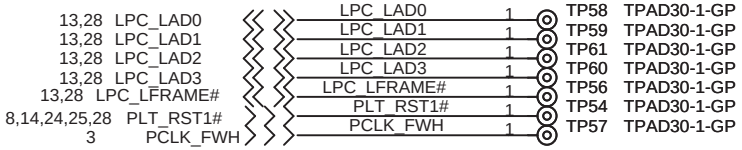
Title: KBC WPC773

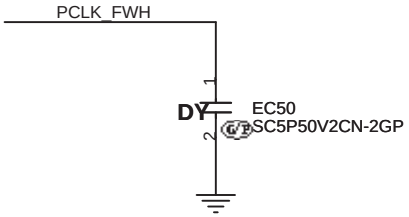
Size	Document Number	Rev
A2	JM41 UMA	-1

Date: Monday, March 16, 2009 Sheet 28 of 40



GOLDEN FINGER FOR DEBUG BOARD



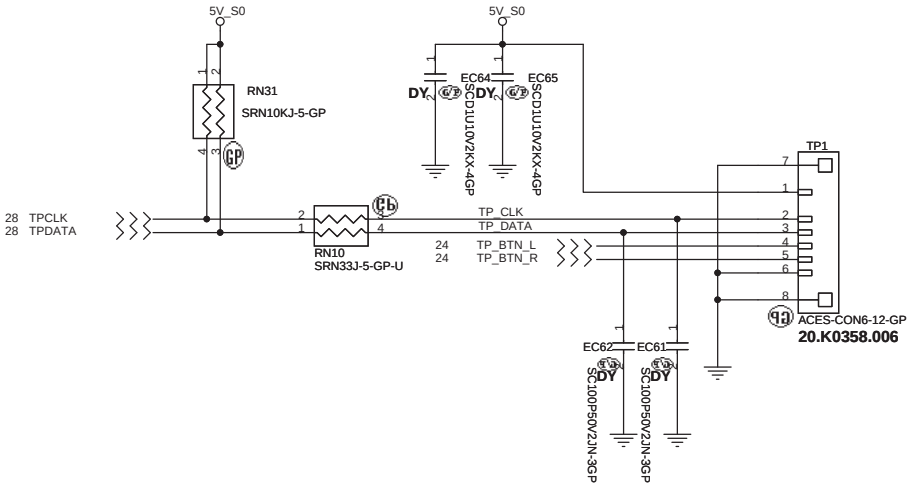


<Core Design>

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

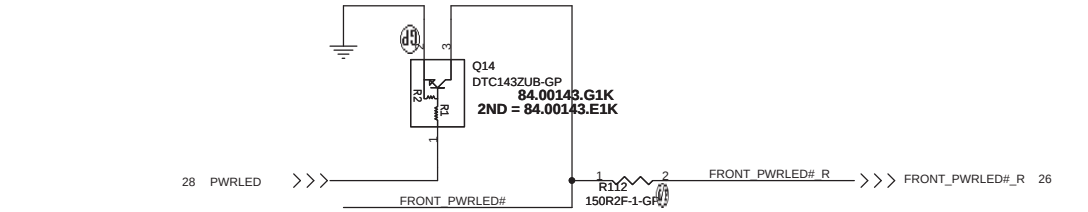
Title	***BIOS***	
Size	Document Number **JM41_UMA**	Rev -1
Date: Thursday, March 05, 2009	Sheet 29 of 40	

TOUCH PAD

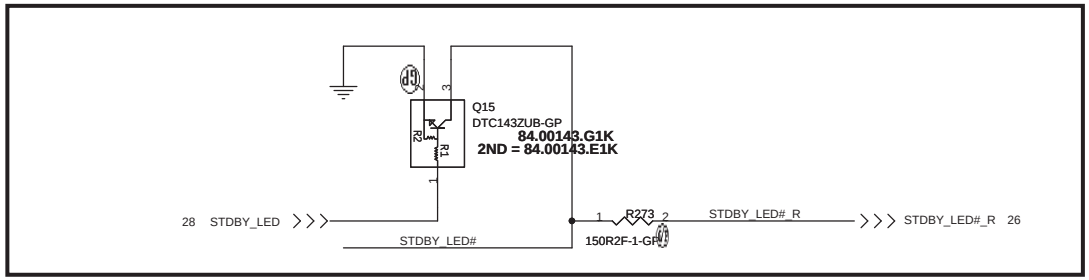


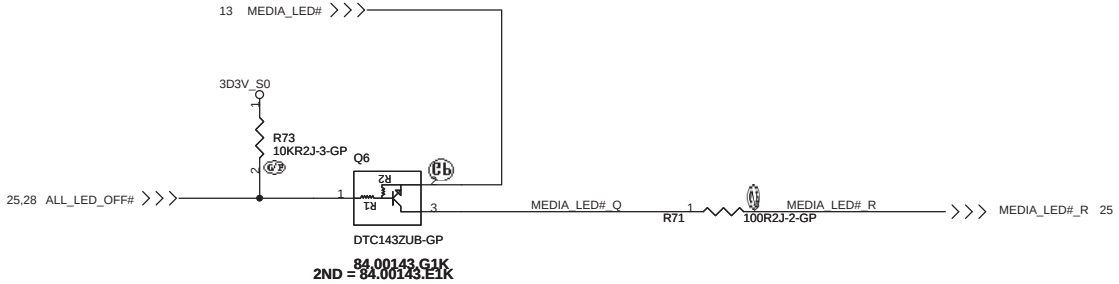
<Core Design>

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	*Touch PAD*
Size / Document Number	JM41_UMA
Rev	-1
Date: Thursday, March 05, 2009	Sheet 30 of 40



-1_20090301





<Core Design>

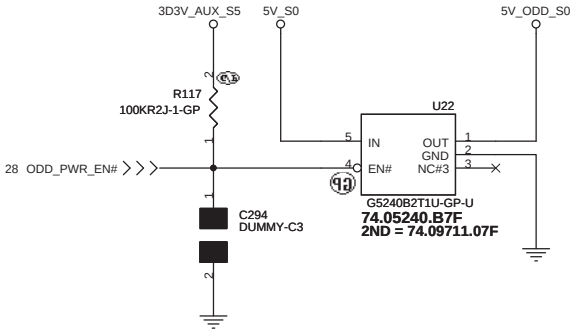
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: **LED**

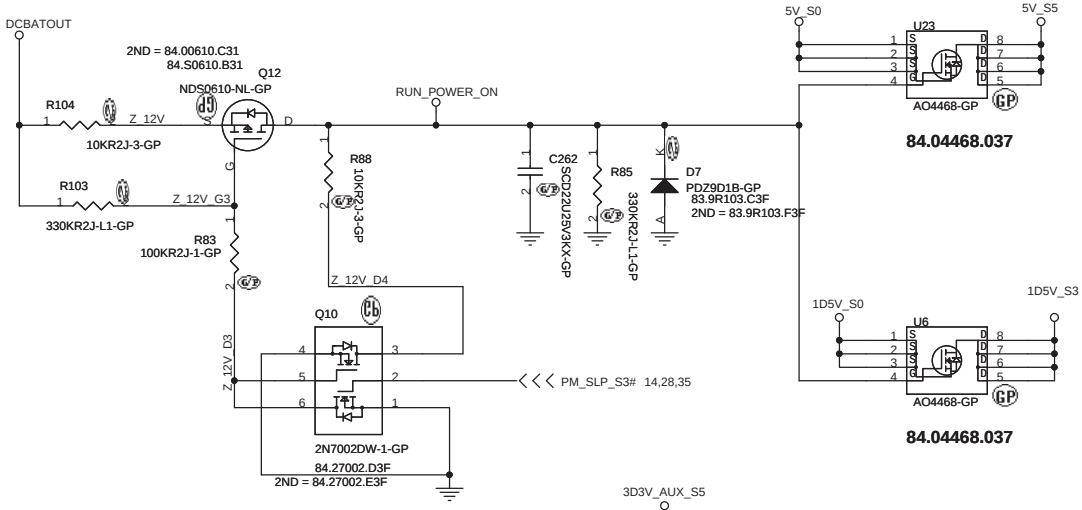
Size	Document Number	Rev
	JM41_UMA	-1

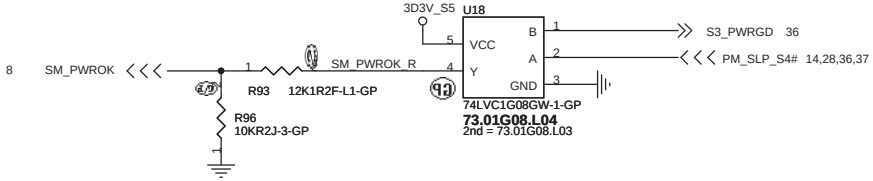
Date: Thursday, March 05, 2009 Sheet 31 of 40

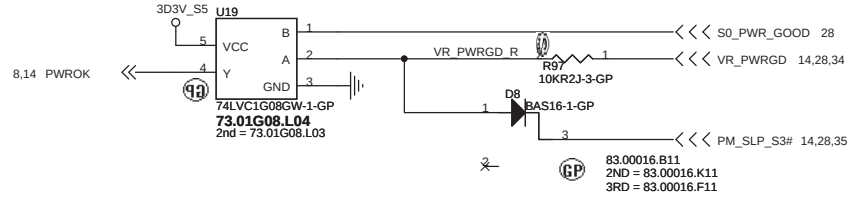
ODD Power

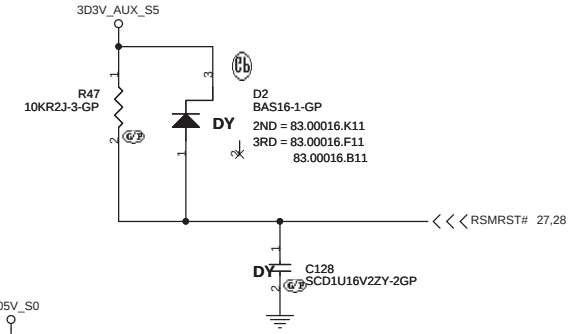


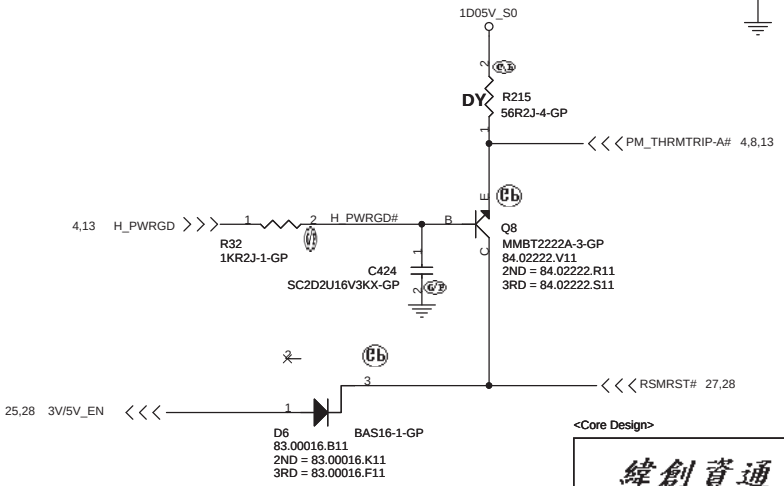
Run Power











<Core Design>

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

Title	RUN & ODD POWER	
Size	Document Number	Rev
	JM41_UMA	-1
Date: Tuesday, March 17, 2009	Sheet 32 of 40	

CPU_CORE
ISL6261A

VID0
VID1
VID2
VID3
VID4
VID5
VID6

VID Setting
VID0(I / 3.3V)
VID1(I / 3.3V)
VID2(I / 3.3V)
VID3(I / 3.3V)
VID4(I / 3.3V)
VID5(I / 3.3V)
VID6(I / 3.3V)

Output Signal
PGOOD

VR_PWROK

Output Power
VCC_CORE_PWR(O)

VCC_CORE(Imax=18A)

CPUCORE_ON

Input Signal
EN (I / 3.3V)

VCC_SENSE
VSS_SENSE

Voltage Sense
VSEN(I / Vcore)
RGND(I / Vcore)

DCBATOUT_6261A
5V_S0
3D3V_S0

Input Power
VCC(I)
VCC(I)
VCC(I)

RT8202 1D05V_S0

DCBATOUT_8202_1D05V
PM_SLP_S3#

VIN
EN
1D5V(O)
PGOOD

1D05V_S0 (10A)
CPUCORE_ON

RT8202 1D5V_S3

DCBATOUT_8202_1D5V
PM_SLP_S4#

VIN
EN
1D5V(O)
PGOOD

1D5V_S3 (11A)
CPUCORE_ON

GFX_CORE
ISL6263A

VID0
VID1
VID2
VID3
VID4

VID Setting
VID0(I / 3.3V)
VID1(I / 3.3V)
VID2(I / 3.3V)
VID3(I / 3.3V)
VID4(I / 3.3V)

Output Signal
PGOOD

CPUCORE_ON

5V_S0
DCBATOUT_6263A

Input Power
VDD
VIN

Output Power
VGFXCORE (O)

VCC_GFXCORE(7A)

PM_SLP_S3#
GFXVR_EN

Input Signal
VR_ON

VCC_AXG_SENSE
VSS_AXG_SENSE

Voltage Sense
VSEN(I / Vcore)
RGND(I / Vcore)

RT9026 0D9V_S0

5V_S5
1D5V_S3
PM_SLP_S4#

VIN
VLDOIN
S3
S5
VTT
VTTREF

0D75V_S3 (1.2A)
0D75V_S3_1

Charger MAX8731A

CHG_ON#
24750_CELLS
AD+

Input Signal
CHGEN#
CELLS

Output Signal
ACGOOD#
SRSET

Input Power
ACN

Output Power
VOUT (O)
VOUT (O)

AC_IN#
AD_IA
BT+
DCBATOUT

TPS51125
5V/3D3V

DCBATOUT_51125
S5_ENABLE
ALW_PWRGD_3V_5V

Input Power
VIN

Input Signal
EN0

Output Signal
PGOOD

Output Power
5V(O)
3D3V(O)
5V(O)
3D3V(O)

5V_S5 (6A)
3D3V_S5 (5A)
5V_AUX_S5
3D3V_AUX_S5

Adapter

AD_OFF
AD_JK
5V_AUX_S5

Input Signal
(I)

Output Signal
(O)

Input Power
VCC(I)
VCC(I)

Output Power
VCC(O)

AD_IN#
AD+

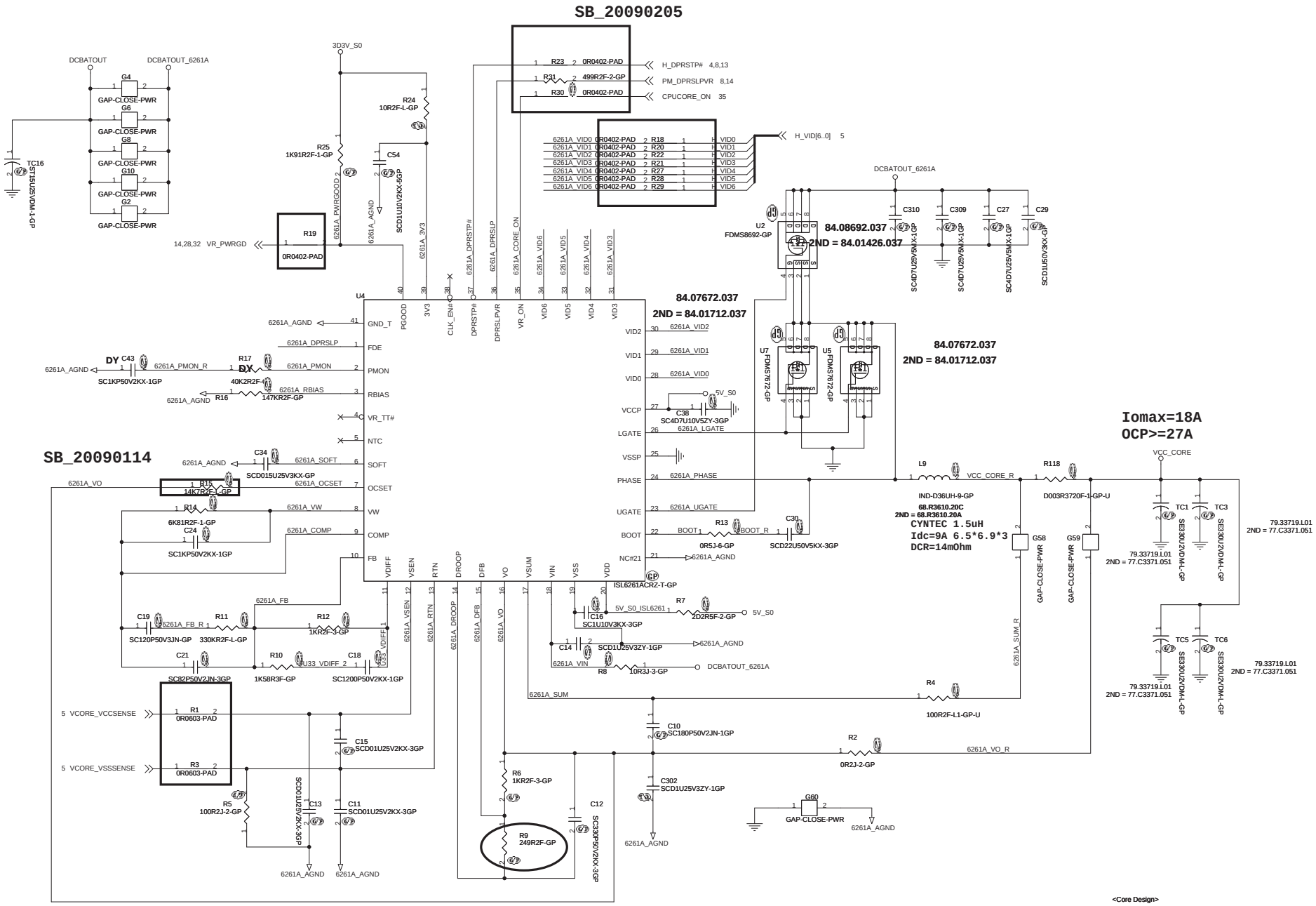
<Core Design>

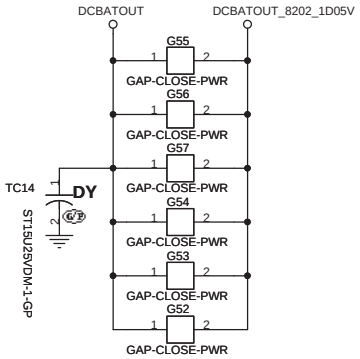
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

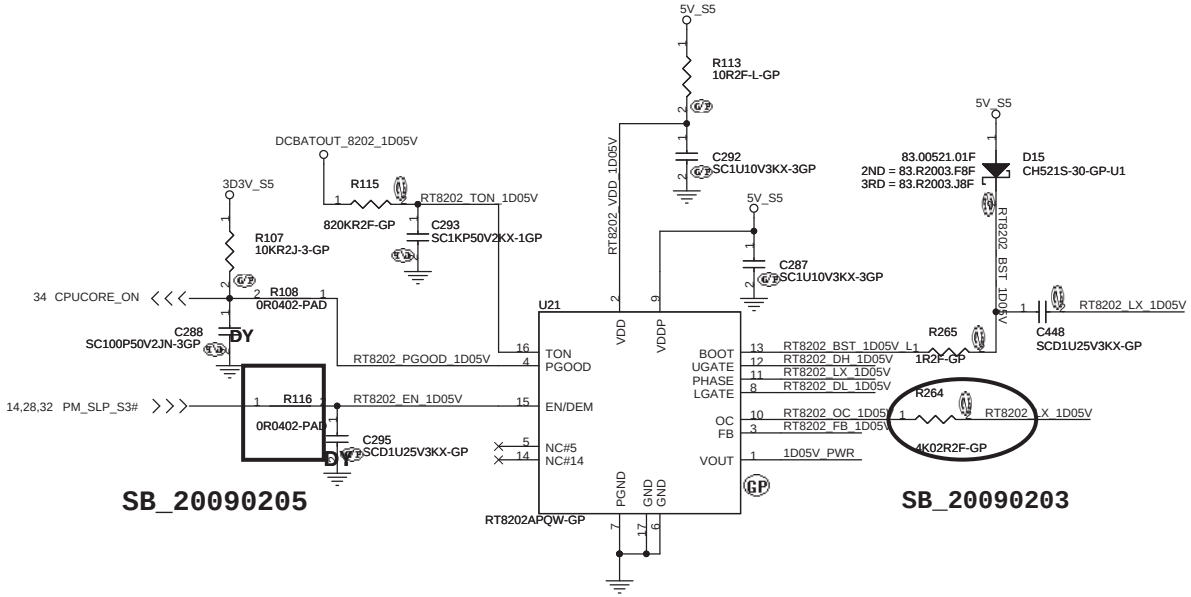
Title: Power Sequence Logic

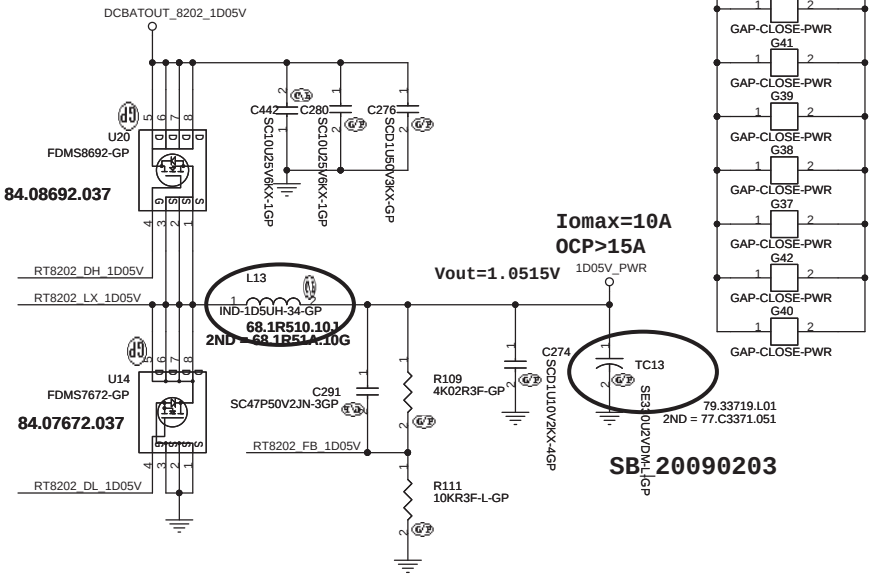
Size: B | Document Number: JM41_UMA | Rev: -1

Date: Sunday, March 01, 2009 | Sheet 33 of 40









Vout=0.75*(1+Rh/Rl)

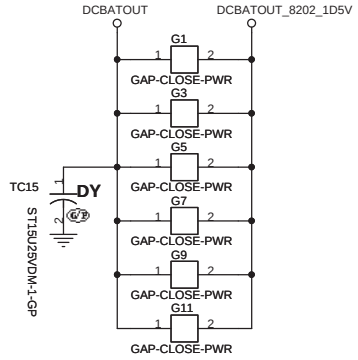
<Core Design>

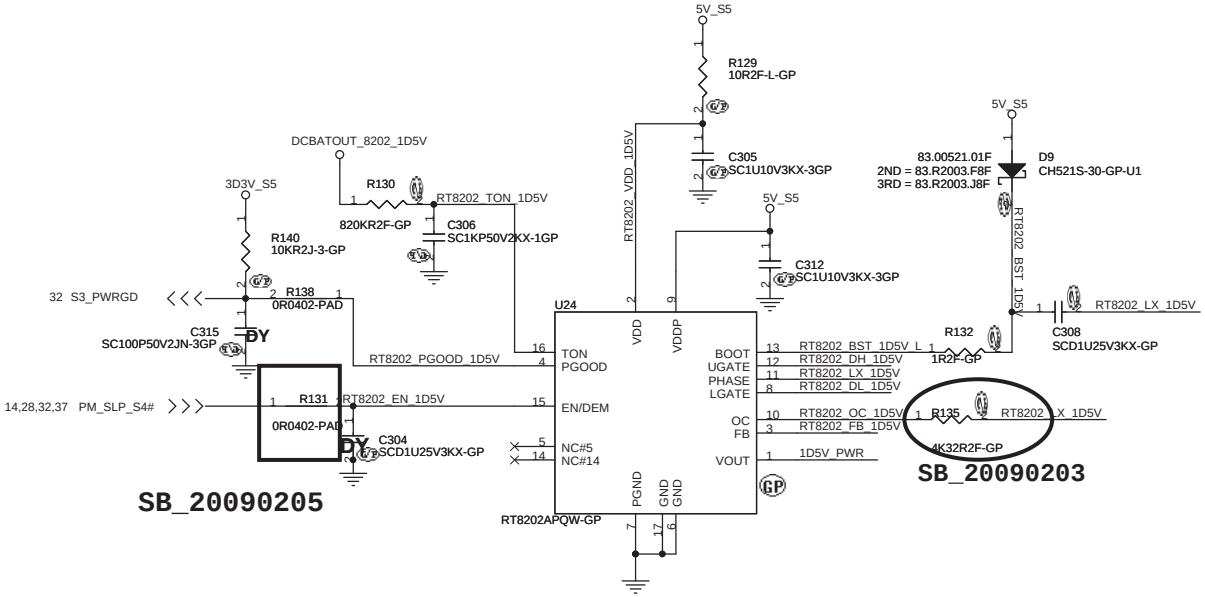
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

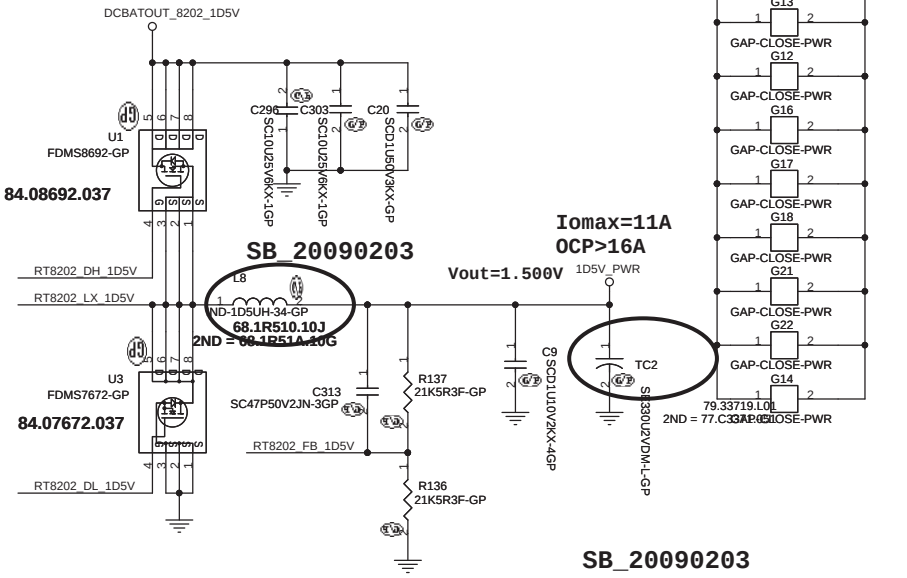
Title: ***RT8202_1D05V***

Size	Document Number	Rev
A3	JM41_UMA	-1

Date: Wednesday, March 11, 2009 Sheet 35 of 40







<Core Design>

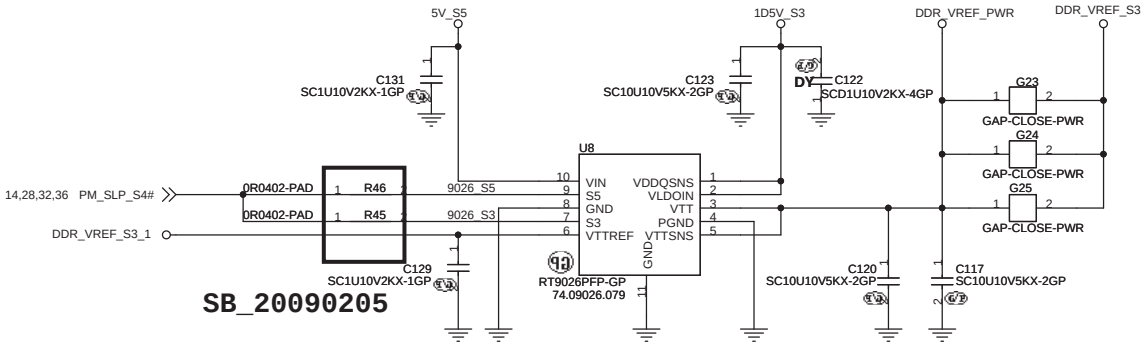
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: ***RT8202_1D5V***

Size	Document Number	Rev
A3	JM41_UMA	-1

Date: Wednesday, March 11, 2009 Sheet 36 of 40

Iomax=1.2A
OCP>2A



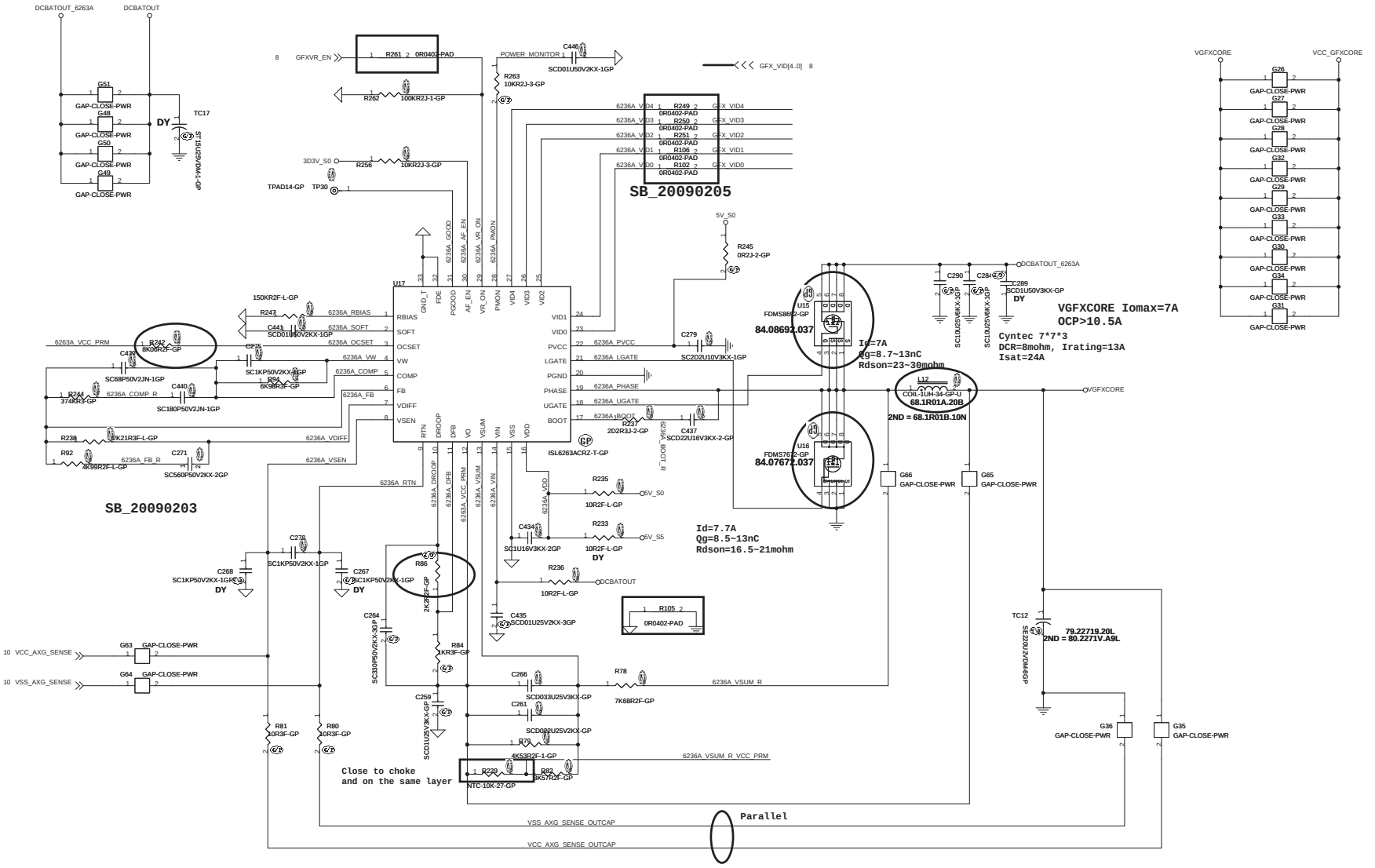
<Core Design>

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

Title: RT9026_0D75V

Size: A3 | Document Number: JM41_UMA | Rev: -1

Date: Thursday, March 05, 2009 | Sheet 37 of 40

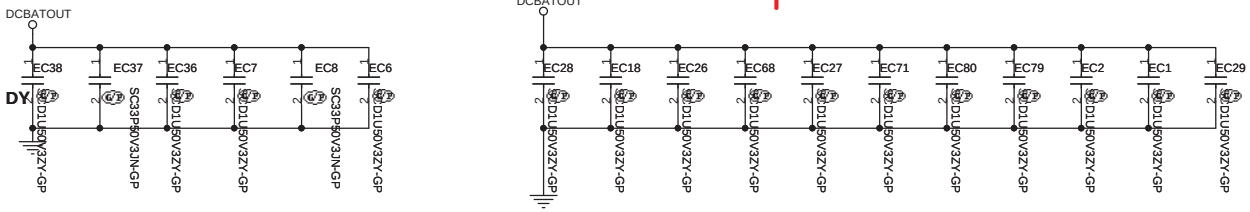


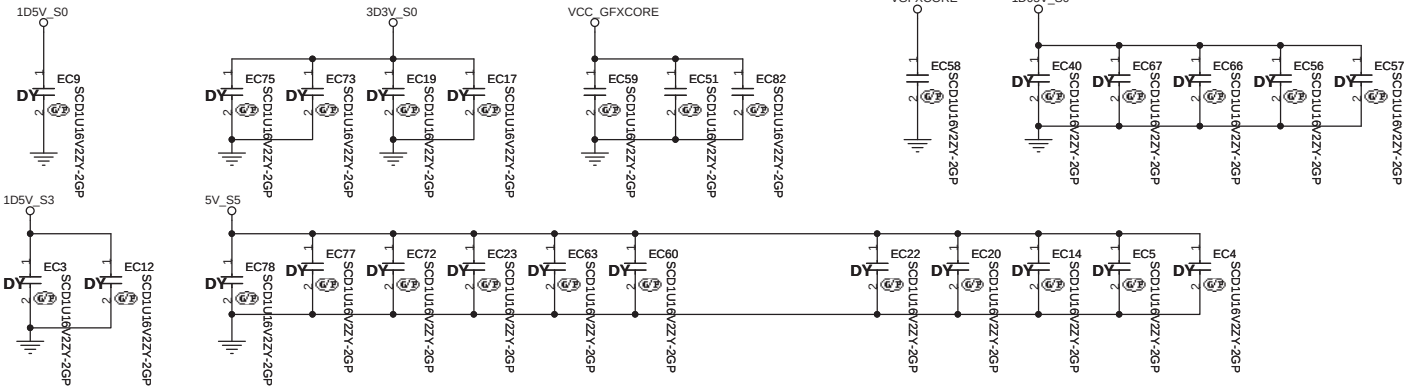
<Core Design>
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

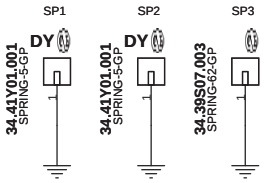
Title: ISL6263A_GFX CORE

Size	Document Number	Rev
A2	JM41_UMA	-1

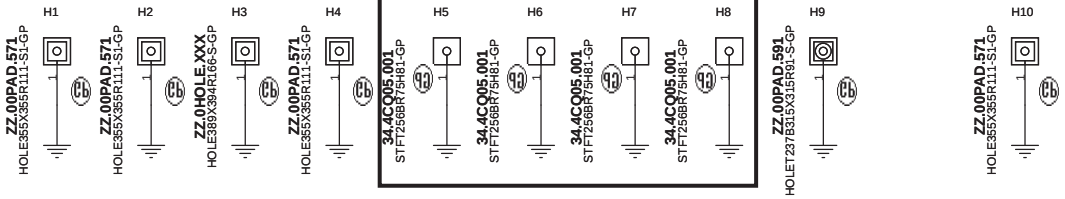
Date: Tuesday, March 17, 2009 Sheet 38 of 40







SB_20090115



<Core Design>

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

Title: ***EMI/Spring/Boss***

Size | Document Number: **JM41 UMA** | Rev: -1

Date: Saturday, March 07, 2009 | Sheet 39 of 40

<Core Design>

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

Title: ***HISTORY***

Size	Document Number	Rev
A2	JM41_UMA	-1

Date: Sunday, March 01, 2009 Sheet 40 of 40