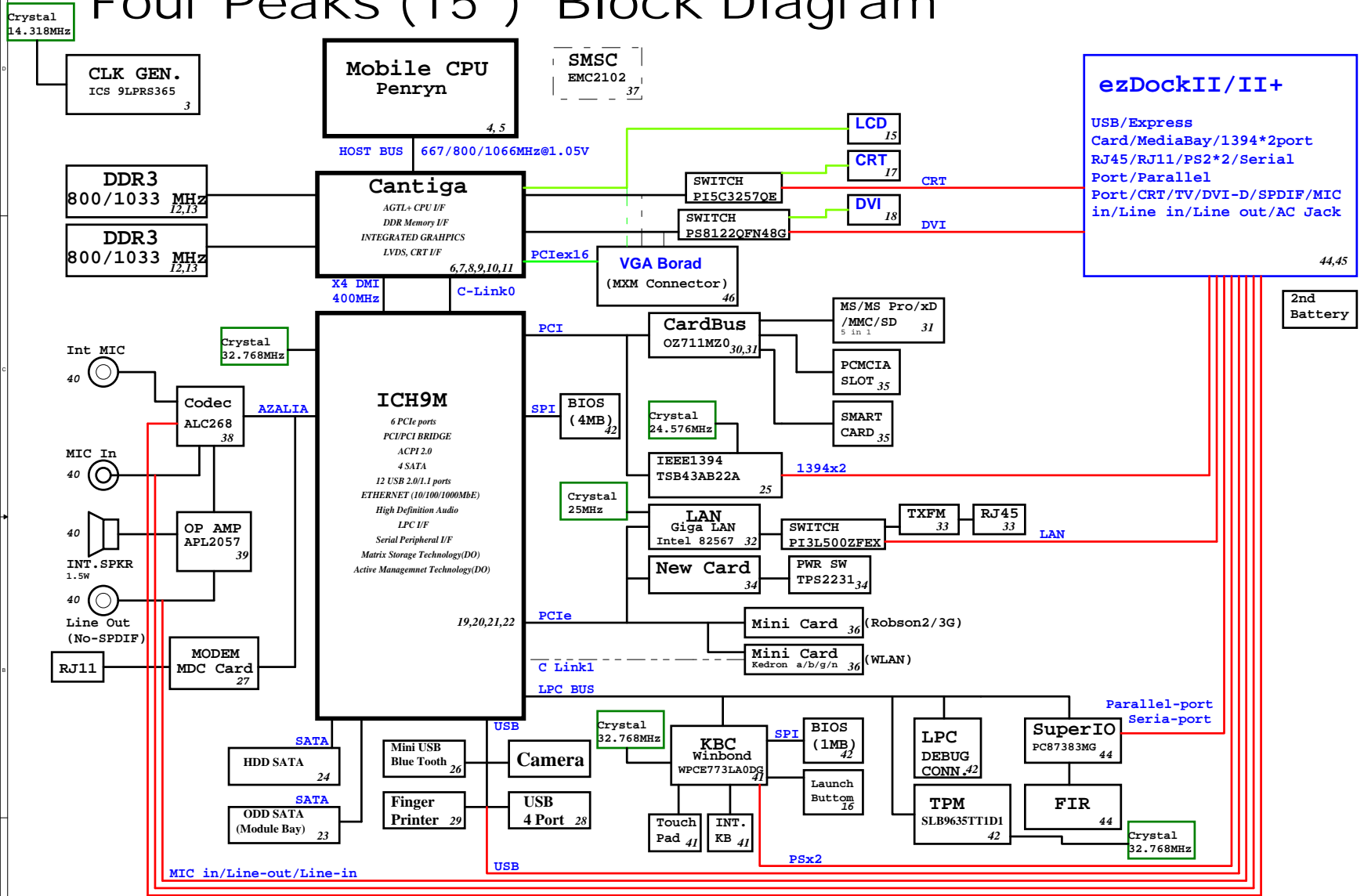
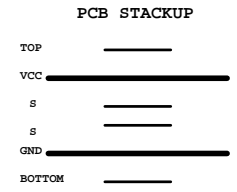


Four Peaks (15") Block Diagram



SYSTEM DC/DC	
TPS51125 50	
INPUTS	OUTPUTS
DCBATOUT	5V_S5(7A) 3D3V_S5(7A) 5V_AUX_S5 3D3V_AUX_S5
SYSTEM DC/DC	
TPS51124 51	
INPUTS	OUTPUTS
DCBATOUT	3D5V_M(1.6A) 3D5V_S3(1.2A)
RT9026 52	
1.5V_S3	DDR_VREF_S3 (1.2A)
G9131 52	
3D3V_S0	2D5V_S0 (300mA)
TPS51117 54	
DCBATOUT	1D8V_S0 (9.4A)
CHARGER	
BQ24750 55	
INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 1.8V 6.0A
CPU DC/DC	
ISL6266A 49	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE 0-1.3V 38A
GFX DC/DC	
ISL6263 53	
INPUTS	OUTPUTS
DCBATOUT	VCC_GFXCORE 0-1.3V 6.5A



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ICH9M Functional Strap Definitions

ICH9 EDS 642879 Rev.1.5 page 92

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 desktop 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 resistor.

ICH9M Integrated Pull-up and Pull-down Resistors

ICH9 EDS 642879 Rev.1.5

SIGNAL	Resistor Type/Value
CL_CLK[1:0]	PULL-UP 20K
CL_DATA[1:0]	PULL-UP 20K
CL_RST0#	PULL-UP 20K
DPRSPLVR/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

Montevina Platform Design guide 22339 0.5 page 218

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 disabled(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 operating simultaneously 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-descriptor section of the Firmware. This 'Soft-Strap' is activated only after enabling iTPM via CFG6.
Only one of the CFG10/CFG12/CFG13 straps can be enabled at any time.

PCI Routing

page 17

	IDSEL	INT	REQ	GNT
FI7412	AD22	G:CARDBUS B:1394 F:Flash Media G:SD Host	0	0

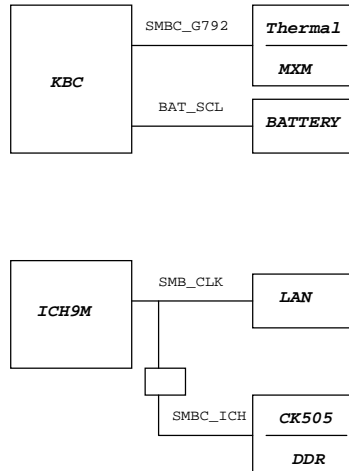
PCIe Routing

LANE1	LAN BCM5787M
LANE2	MiniCard WLAN
LANE3	NewCard WLAN

USB Table

USB	
Pair	Device
0	NC
1	NC
2	USB2
3	USB4
4	USB3
5	BLUETOOTH
6	WEBCAM
7	FT
8	MINICARD
9	NEW1

SMBus

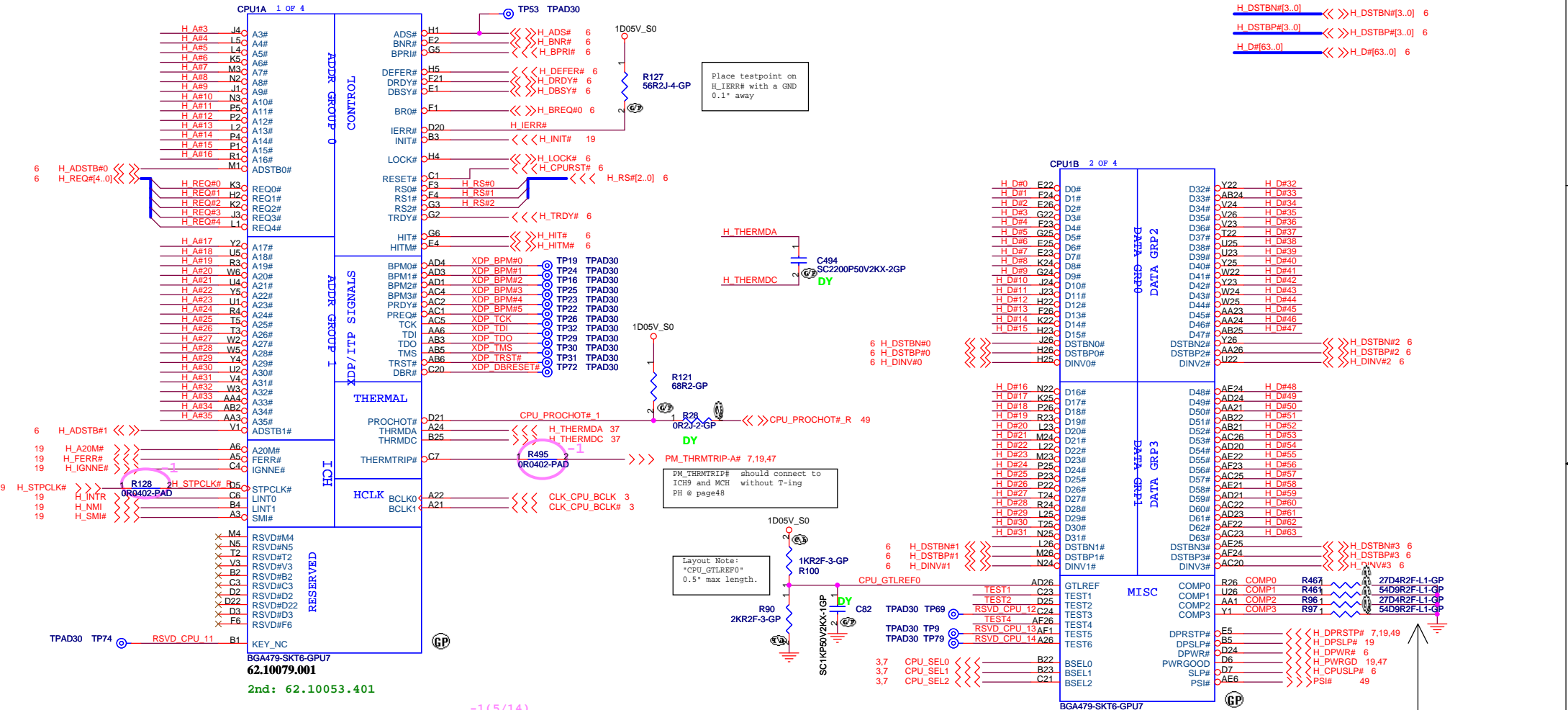


Four Peaks

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Reference			
Title	Document Number	Rev	
Size A3	Four Peaks	-1M	
Date: Friday, November 21, 2008	Sheet 2	of	57

6 H_A#(35..3) <<< H_A#(35..3)

H_DINV#(3..0) <<>> H_DINV#(3..0) 6
H_DSTBN#(3..0) <<>> H_DSTBN#(3..0) 6
H_DSTBP#(3..0) <<>> H_DSTBP#(3..0) 6
H_D#(63..0) <<>> H_D#(63..0) 6



PM_THRMTRIP-A# 7,19.47
PM_THRMTRIP# should connect to ICH9 and MCH without T-ing PH @ page48

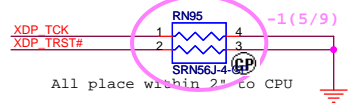
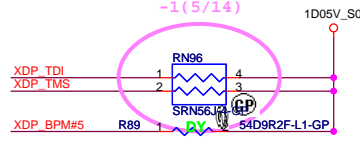
Layout Note:
"CPU_GTLREF0"
0.5" max length.

Layout Note:
Comp0, 2 connect with Zo=27.4 ohm, make trace length shorter than 0.5"
Comp1, 3 connect with Zo=55 ohm, make trace length shorter than 0.5"

Net "TEST4" as short as possible, make sure "TEST4" routing is reference to GND and away other noisy signals

H_DPRSTP# TP66 TPAD30
 H_DPUSLP# TP76 TPAD30
 H_DPWR# TP94 TPAD30
 H_PWRGD TP105 TPAD30
 H_CPUSLP# TP92 TPAD30
 H_INIT# TP187 TPAD30
 H_CPURST# TP71 TPAD30

Place these TP on button-side, easy to measure.



All place within 2" to CPU

Four Peaks

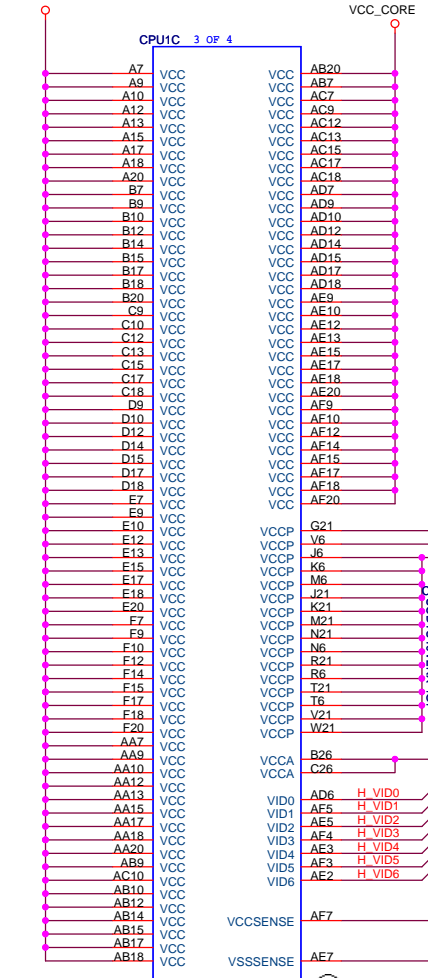
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Title: **CPU (1 of 2)**

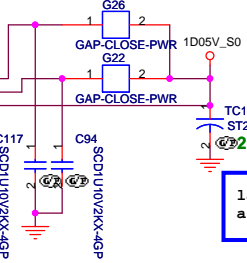
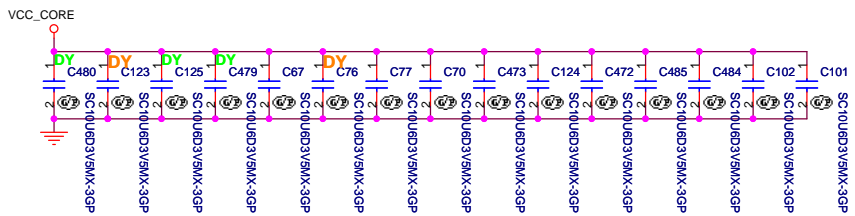
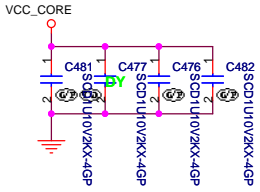
Size: Document Number: Rev: -1M

Date: Friday, November 21, 2008 Sheet: 4 of 57

VCC_CORE



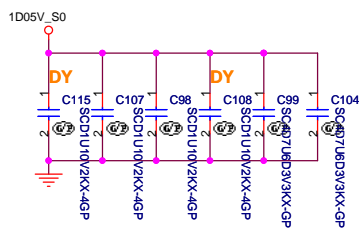
BGA479-SKT6-GPU7



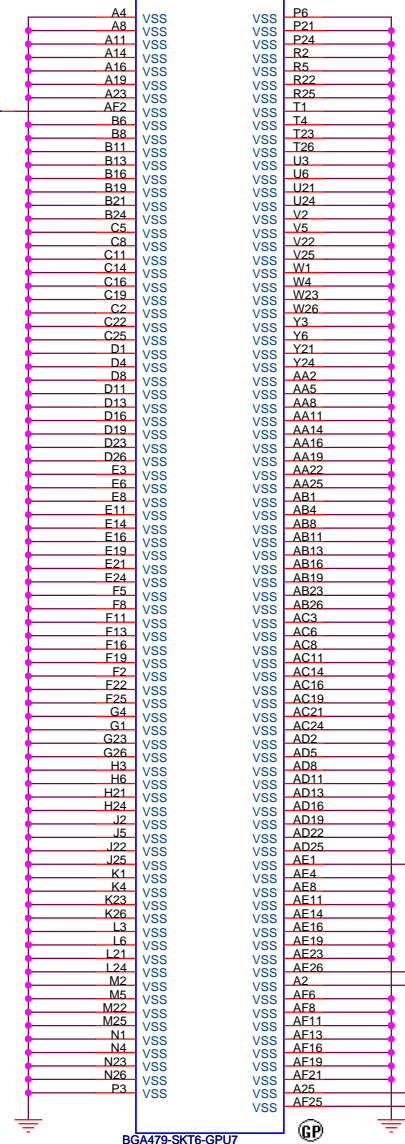
layout note: "1D5V_VCCA_S0" as short as possible

Layout Note:
VCCSENSE and VSSSENSE lines should be of equal length.

Layout Note:
Provide a test point (with no stub) to connect a differential probe between VCCSENSE and VSSSENSE at the location where the two 54.9ohm resistors terminate the 55 ohm transmission line.

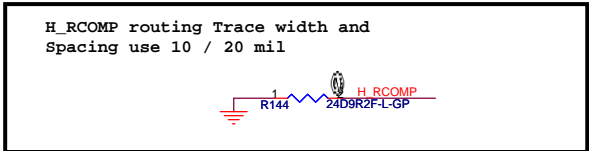
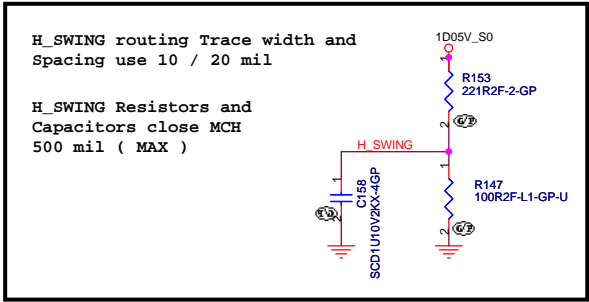


CPU1D 4 OF 4

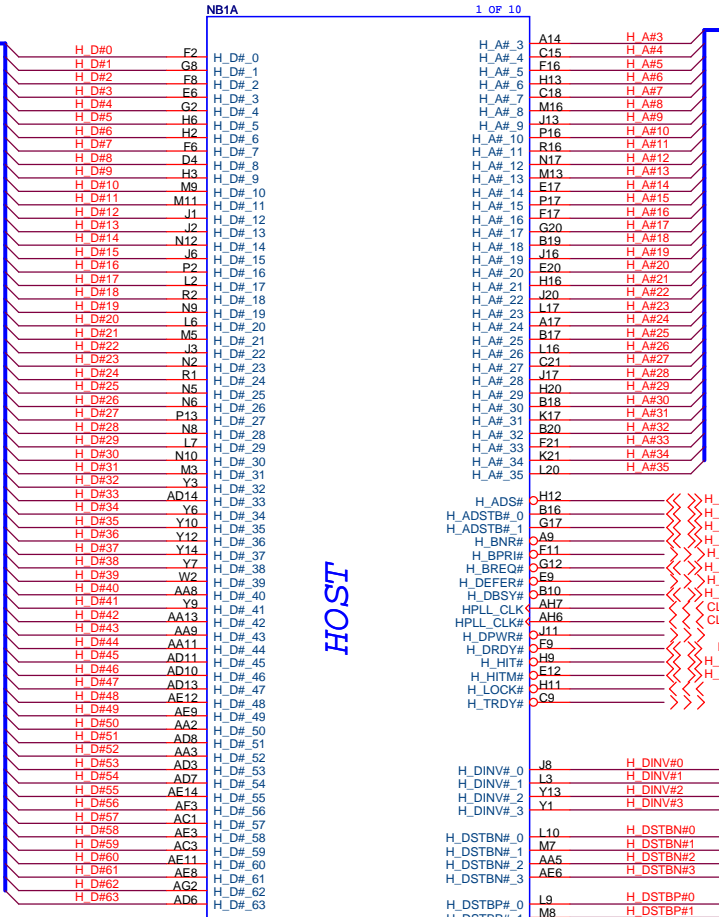
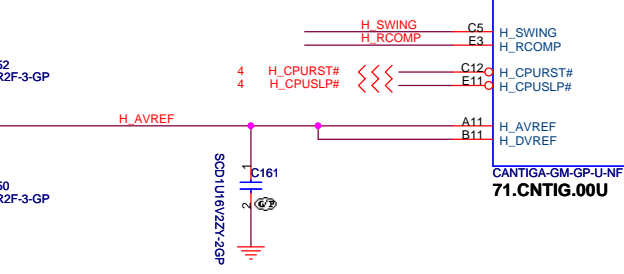


BGA479-SKT6-GPU7

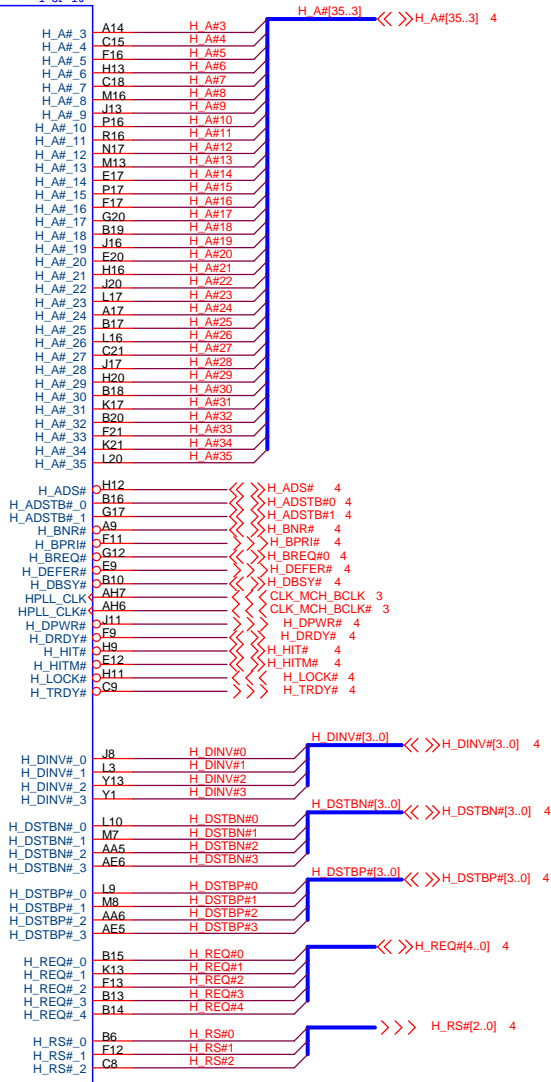
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Place them near to the chip (< 0.5")

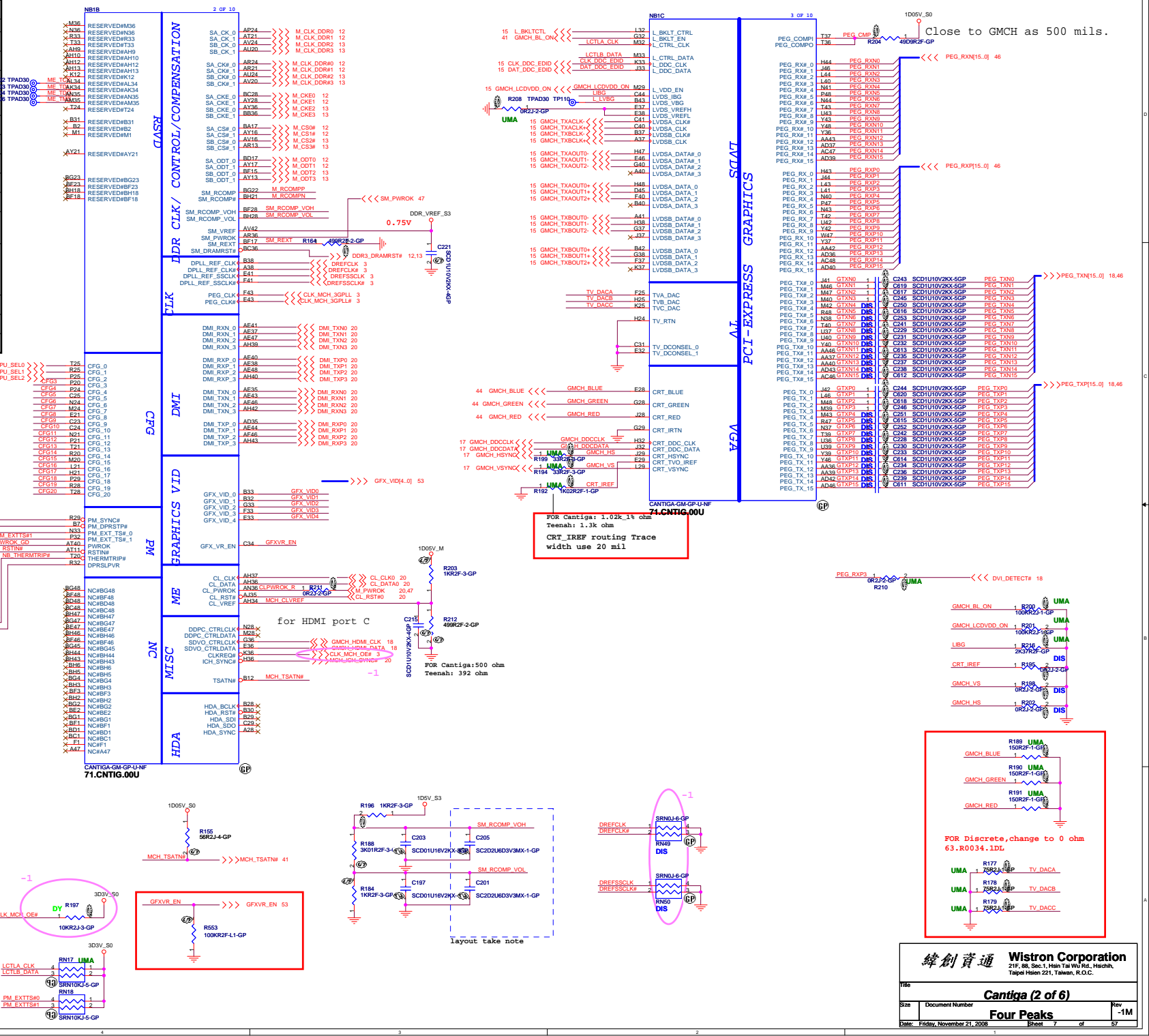


HOST



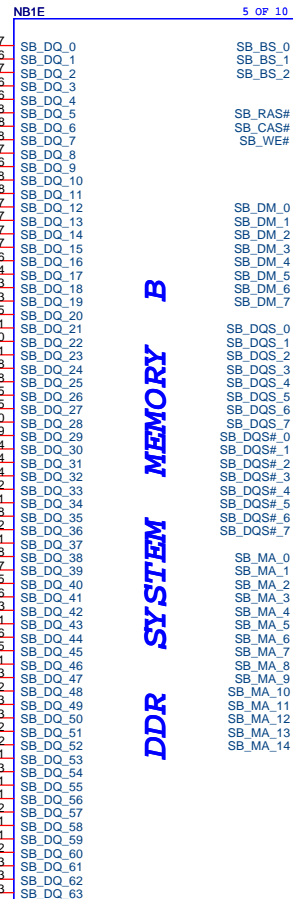
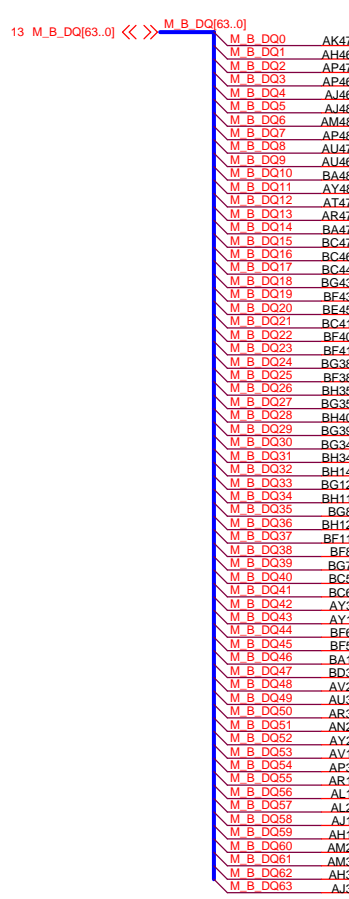
Strap Pin Table

CFG2(2) FSB Freq select	000 = FSB 1067MHz 010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG4;3; 8; 11; 14;15; 17; 18	Reserved
CFG5 (DMI select)	Low = DMI x 2 High = DMI x 4 *
CFG6 (ITPM Host Interface)	High = The ITPM Host Interface is disabled Low = The ITPM Host Interface is enabled *
CFG7 (Intel Management Engine Crypto Strap)	Low = Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality High = Intel Management Engine Crypto TLS Cipher suite with confidentiality
CFG9 (PCIe Graphics Lane)	Low = Reverse Lanes, 15->0, 14->1 etc... High = Normal operation; Lane Numbered in Order *
CFG10 (PCIe Loopback enable)	High = Enabled Low = Disabled *
CFG12 (ALLZ)	High = ALLZ mode Enabled Low = Disabled *
CFG13 (XOR)	Low = XOR mode Enabled High = Disabled *
CFG16 (FSB Dynamic ODT)	Low = Dynamic ODT Disabled High = Dynamic ODT Enabled *
CFG19 (DMI Lane Reverse)	Low = Normal operation; Lane Numbered in Order * High = Reverse Lanes DMI x 4 mode[MCH->ICH]: (0->3, 2->1, 1->2 and 0->3) DMI x 2 mode[MCH->ICH]: (3->0, 2->1)
CFG20 (Digital Display Port (SDVO)/DP /HDMI) Concurrent with PCIe)	Low = Only Digital Display Port (SDVO/HDMI) or PCIe is operational High = Digital Display Port (SDVO/DP/HDMI) and PCIe are operating simultaneously via the PEG port
SDVO_CTRLDATA (SDVO Present)	Low = No SDVO Card Present * High = SDVO Card Present
L_DDC_DATA (Local Flat Panel (LFP) Present)	Low = LFP Disabled * High = LFP Card Present; PCIe disabled
DDPC_CTRLDATA (Digital Display Present)	Low = DisplayPort Disabled * High = DisplayPort Device Present

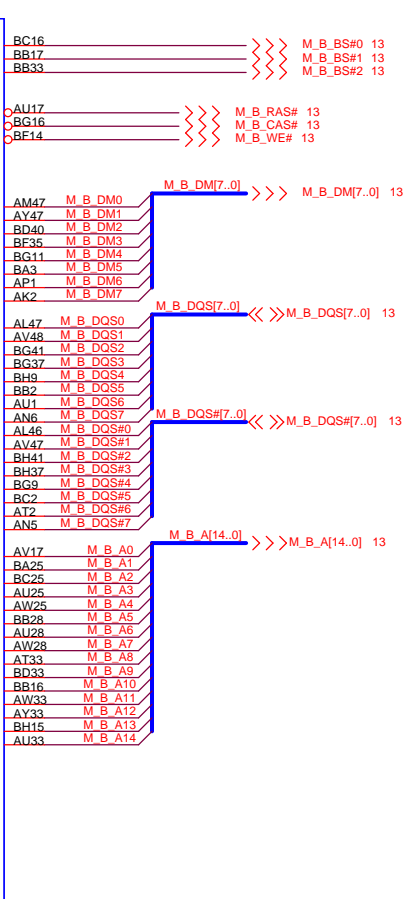




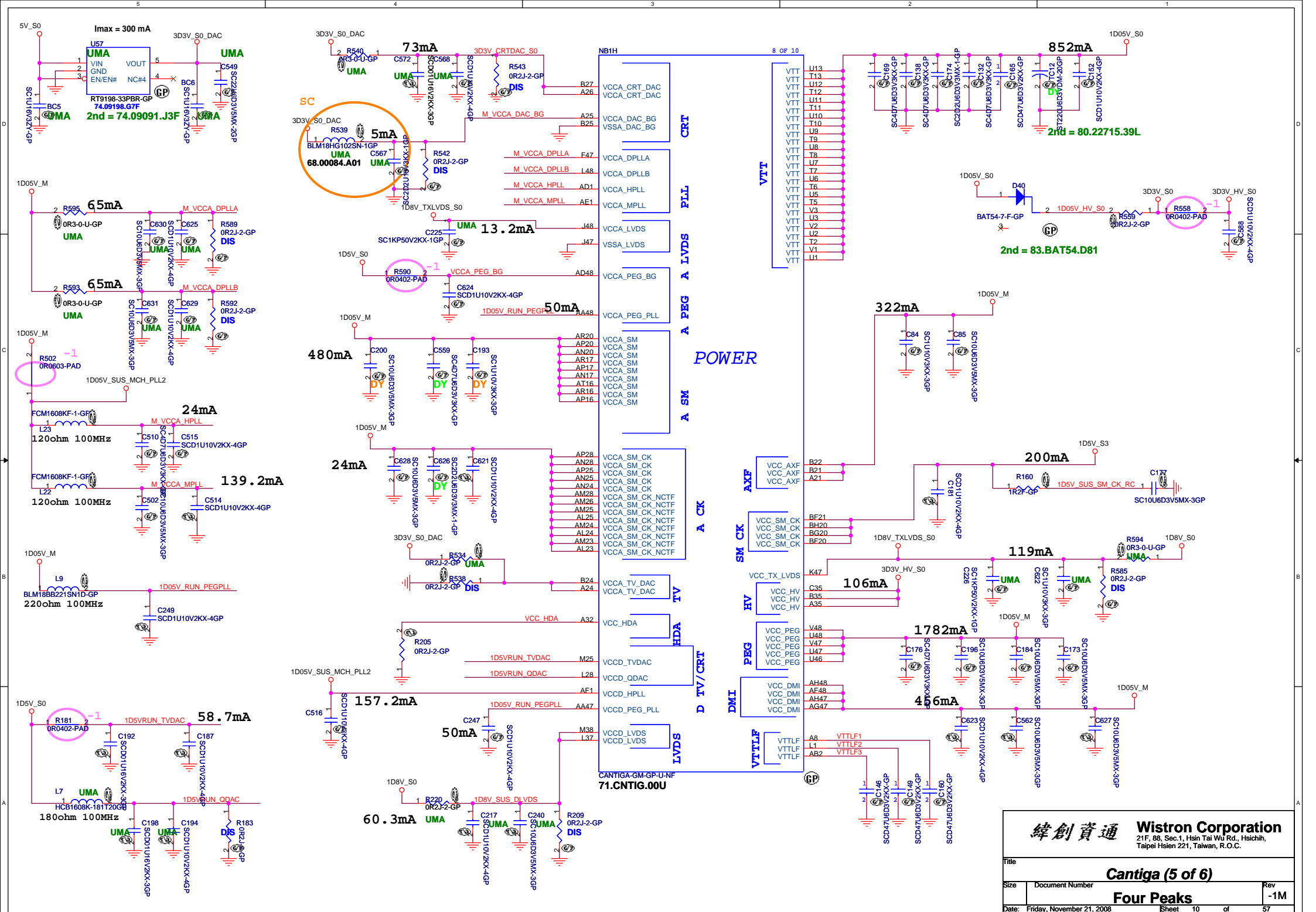
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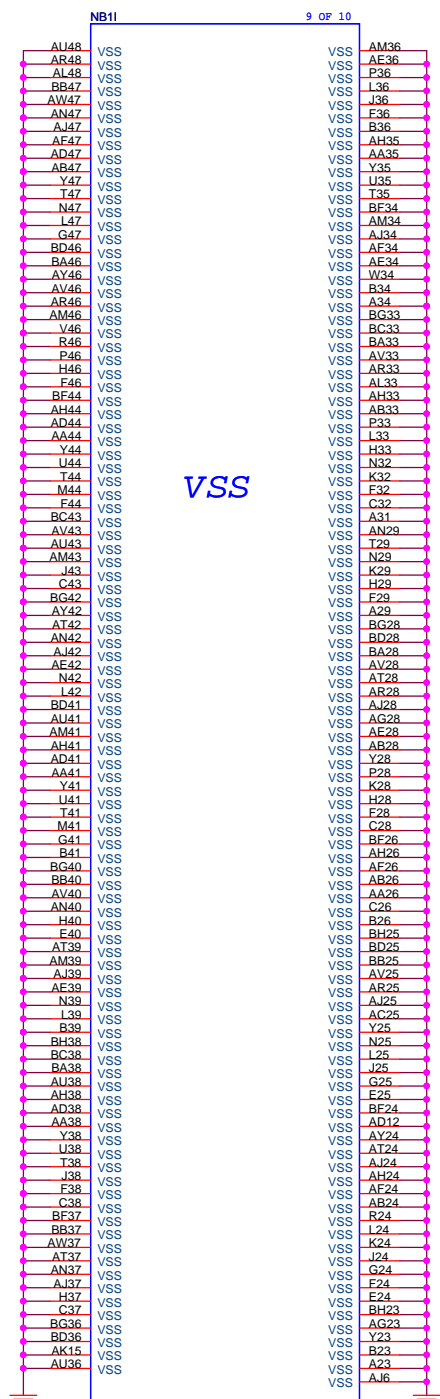


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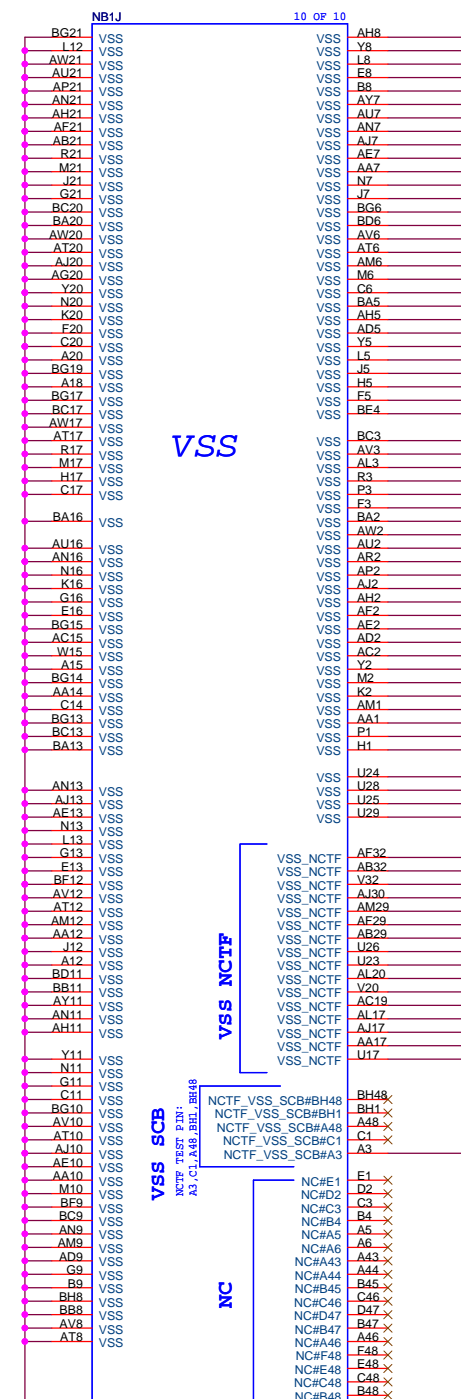


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 71.CNTIG.00U





CANTIGA-GM-GP-U-NF
71.CNTIG.00U

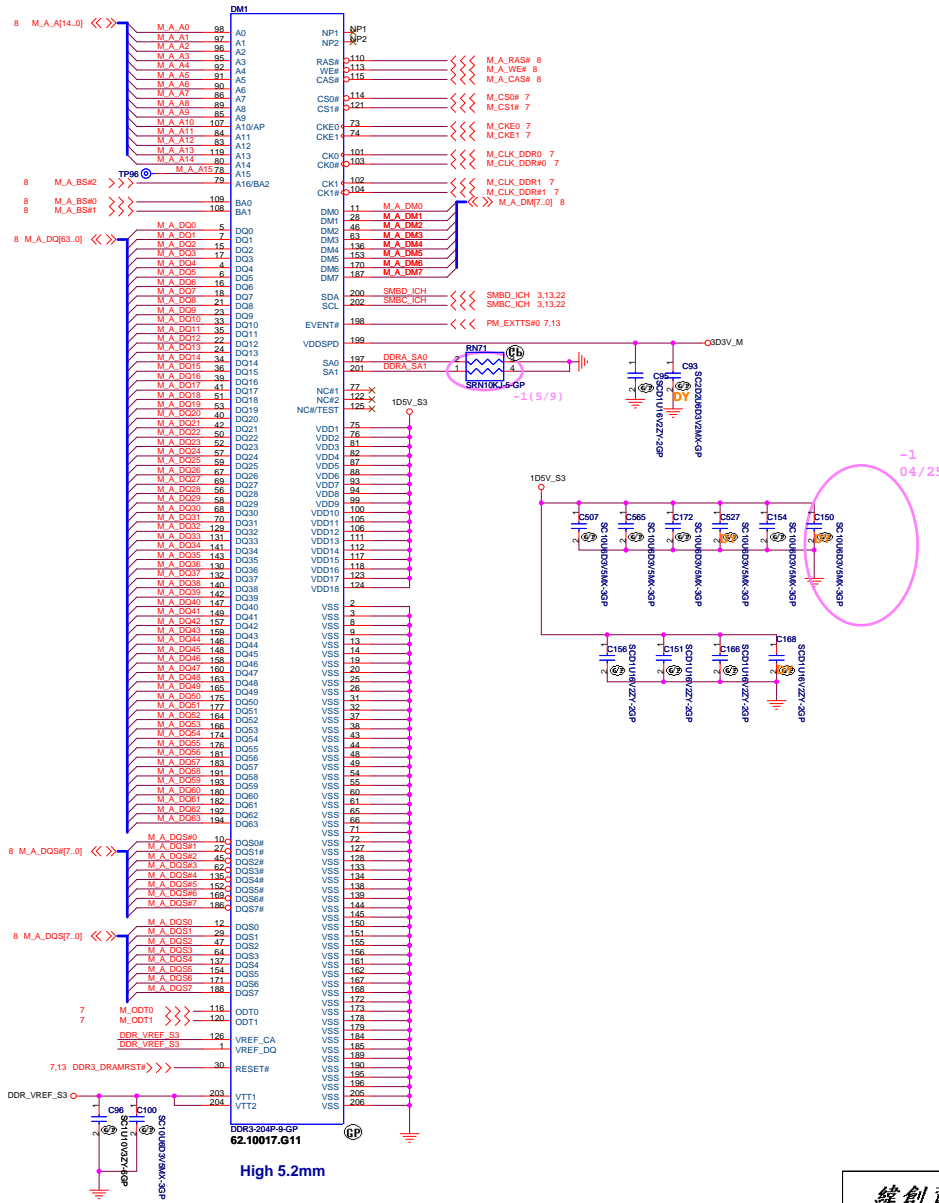


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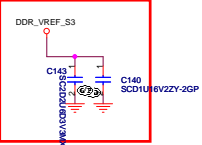


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Size	Document Number	Rev	
		-1M	
Date: Friday, November 21, 2008		Sheet	11 of 57

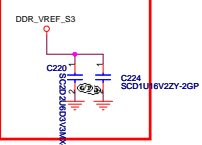
DDR3 SOCKET_1



Layout Note : Near Pin 126



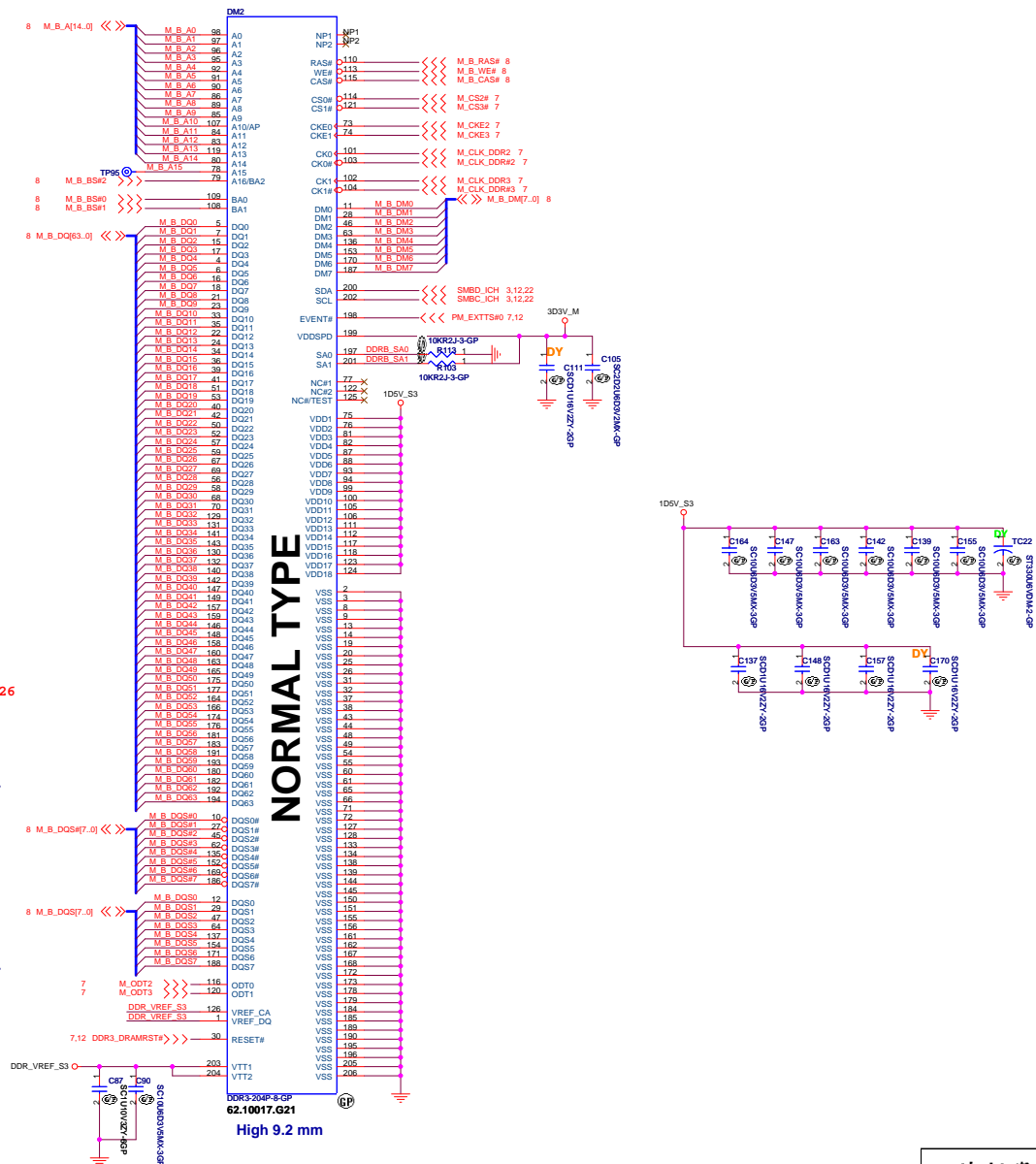
Layout Note : Near Pin 1



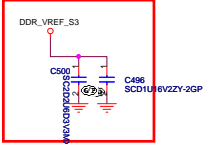
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File		DDR3 Socket	
Size	Document Number	Rev 1M	
Date: Friday, November 21, 2008		Four Peaks	
Sheet 12 of 57			

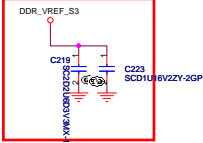
DDR3 SOCKET_2



Layout Note : Near Pin 126



Layout Note : Near Pin 1



NORMAL TYPE

High 9.2 mm

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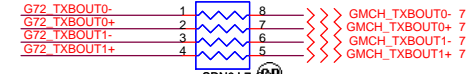
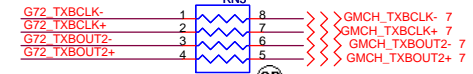
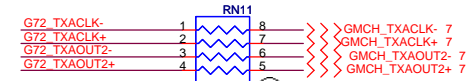
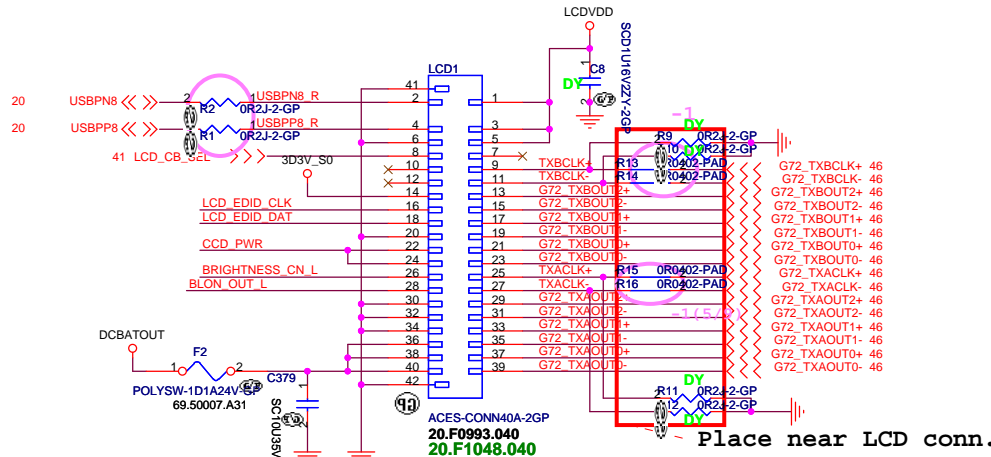
File: **DDR3 Termination Resistor**

Size: Document Number **Four Peaks** Rev: 1M

Date: Friday, November 21, 2008 Sheet: 13 of 57

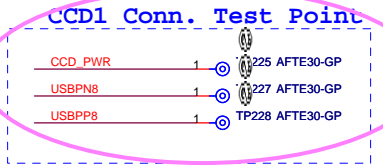
LCD/INVERTER/CCD CONN

-1
04/23

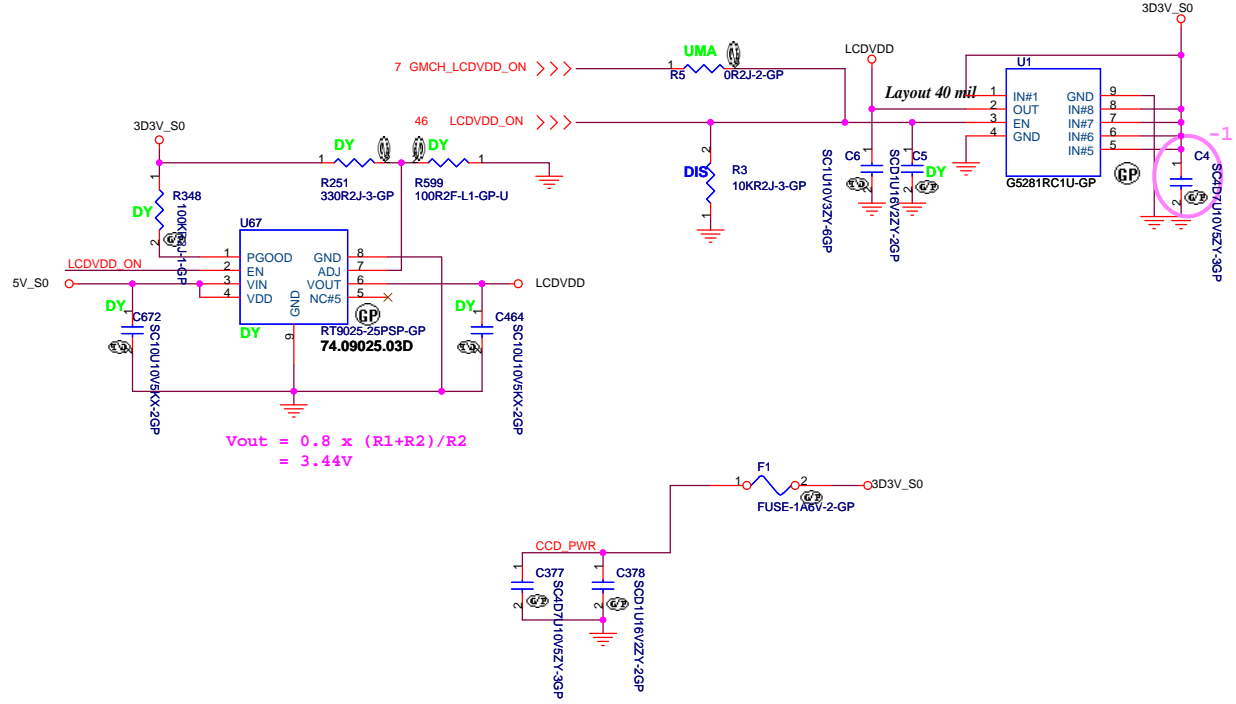


Inverter Pin	
Pin	Symbol
1	Vin
2	Vin
3	PWM
4	BLON
5	GND
6	GND

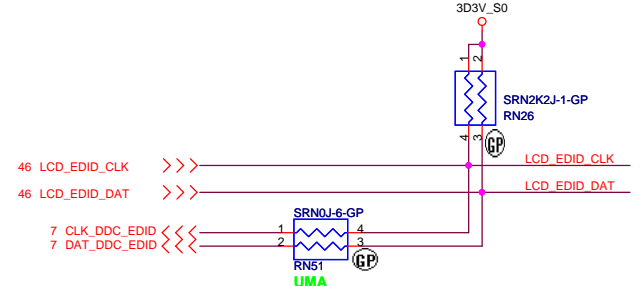
CCD Pin	
Pin	Symbol
1	GND
2	GND
3	5V
4	USB-
5	USB+



-1M(5/27)



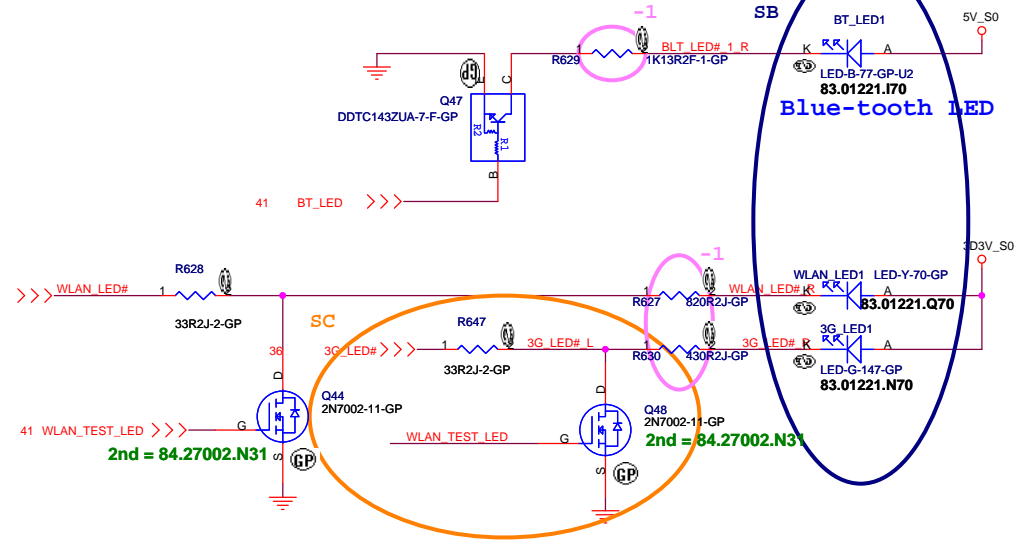
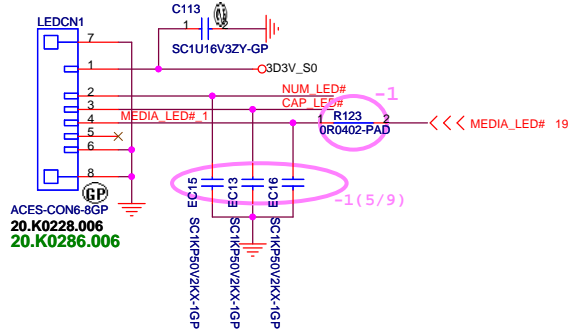
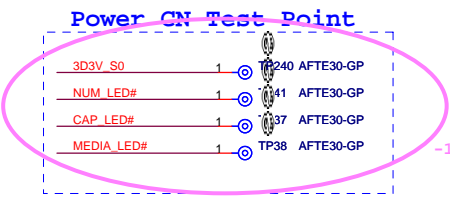
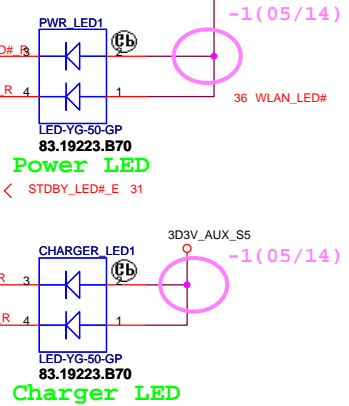
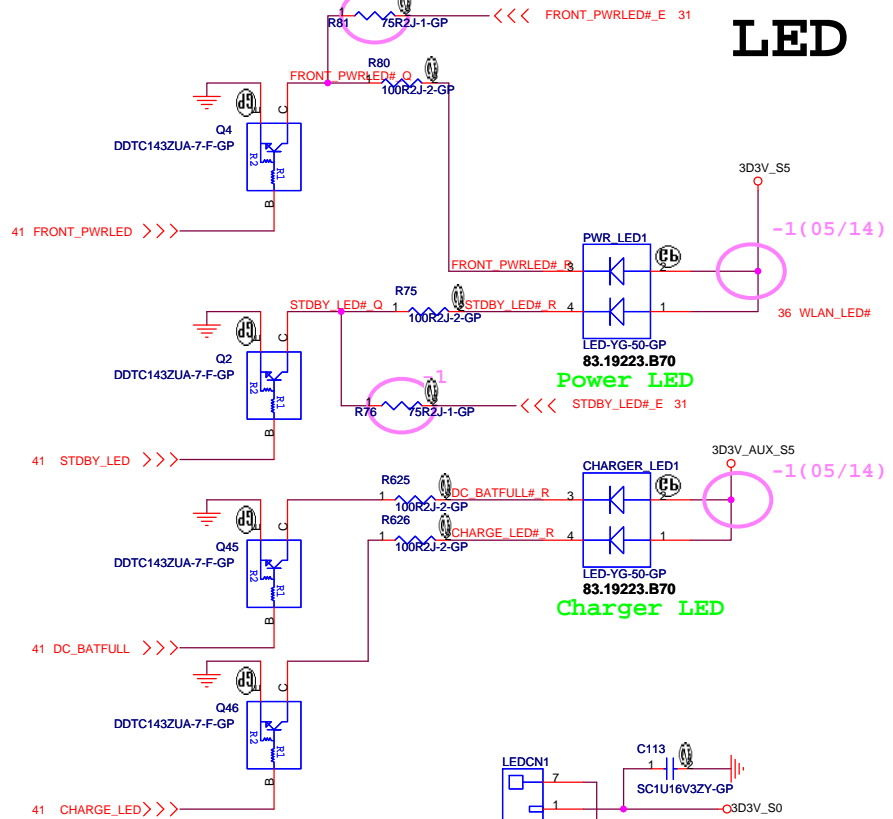
$V_{out} = 0.8 \times (R1+R2)/R2$
 $= 3.44V$



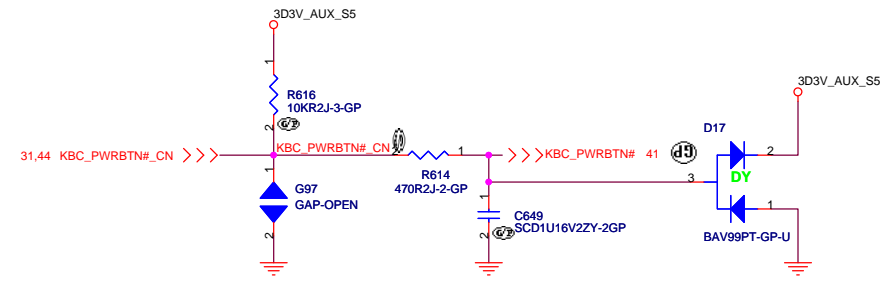
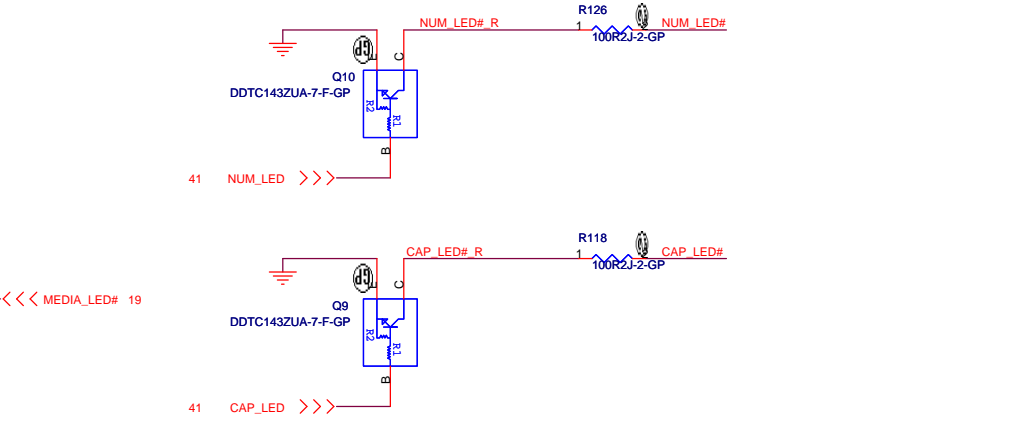
Four Peaks

緯創資通 Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
LCD CONN	
File	Document Number
Size	Rev -1M
Date: Friday, November 21, 2008	Sheet 15 of 57

LED



Blue-tooth LED



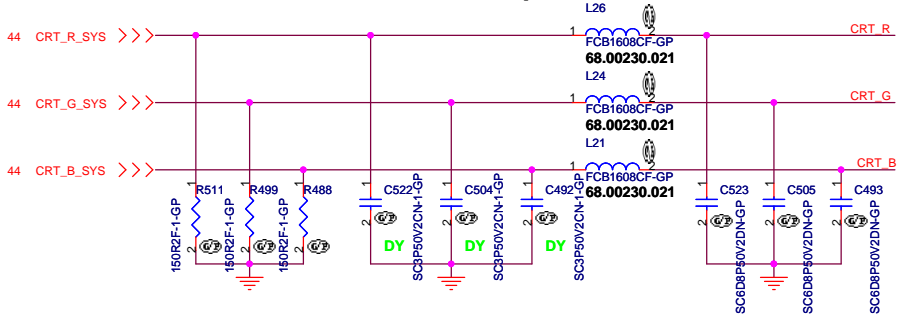
Four Peaks

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

Title: **LED&POWERBD CONN**
 Size: Document Number
 Date: Friday, November 21, 2008
 Sheet: 16 of 57
 Rev: -1M

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

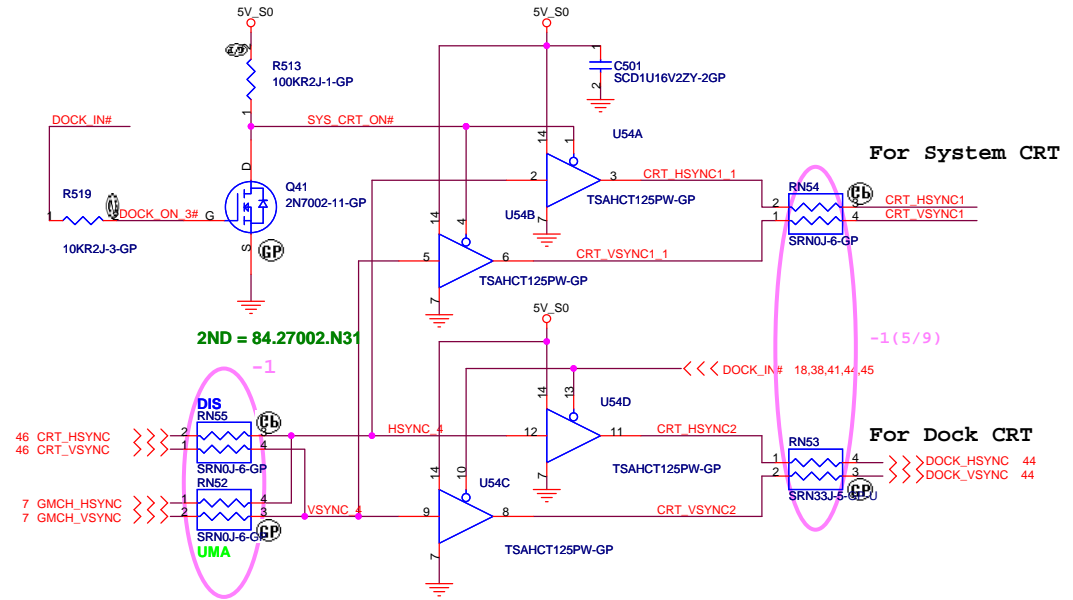
Ferrite bead impedance: 10 ohm@100MHz.



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.

Hsync & Vsync level shift



2ND = 84.27002.N31

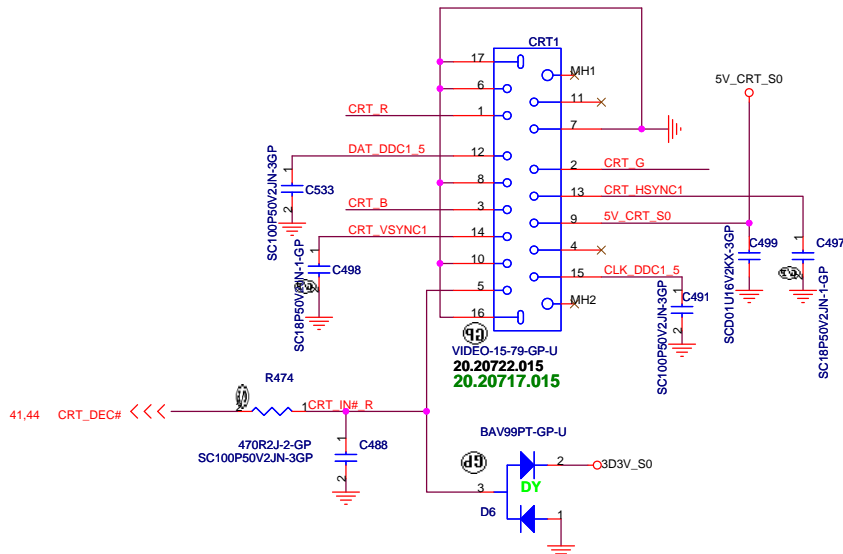
-1

For System CRT

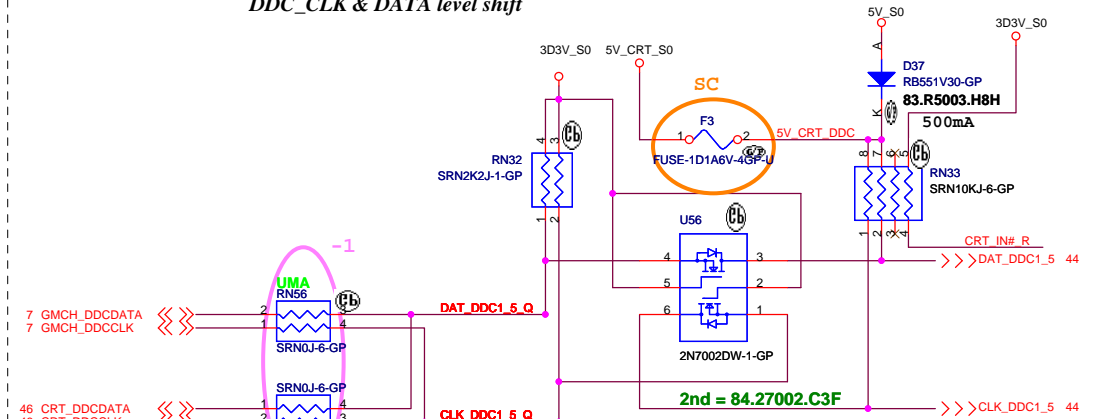
For Dock CRT

Function	DOCK_CRT_SEL#
SYSTEM	H
DOCK	L

CRT I/F & CONNECTOR



DDC_CLK & DATA level shift



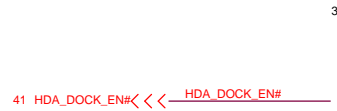
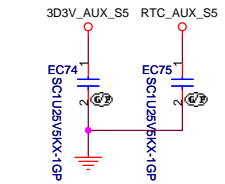
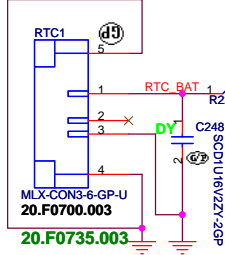
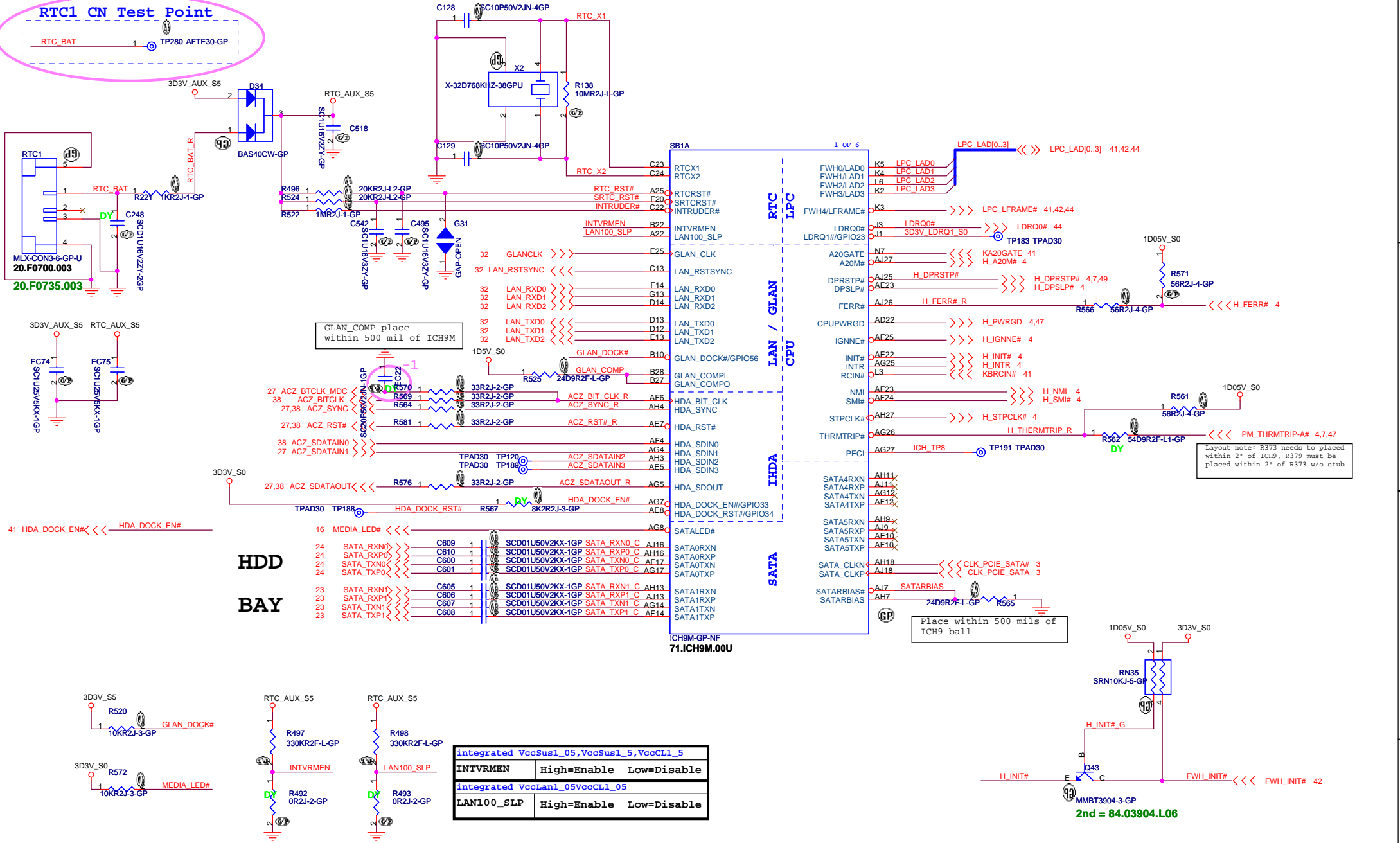
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Four Peaks

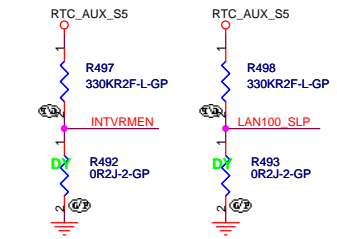
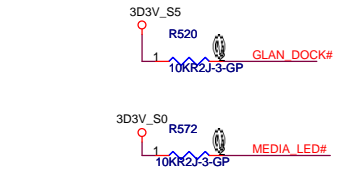
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title		CRT CONN	
Size	Document Number	Rev -1M	
Date: Friday, November 21, 2008	Sheet 17	of 57	

RTC1 CN Test Point



**HDD
BAY**



integrated VccSus1_05,VccSus1_5,VccCLI_5	
INTVRMEN	High=Enable Low=Disable
integrated VccLan1_05VccCLI_05	
LAN100_SLP	High=Enable Low=Disable

Place within 500 mils of ICH9 ball

Layout note: R373 needs to be placed within 2" of ICH9, R379 must be placed within 2" of R373 w/o stub

Four Peaks

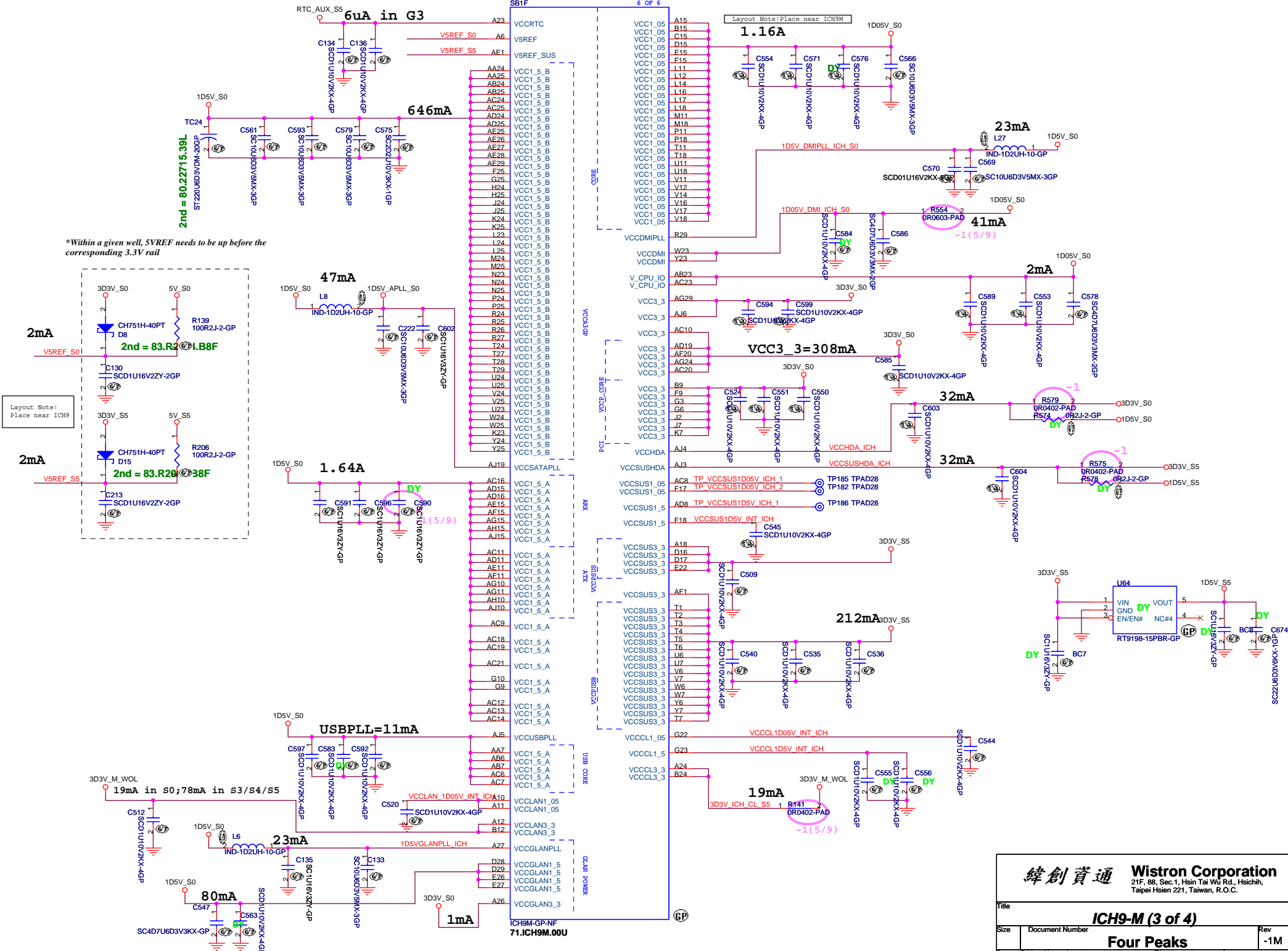
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

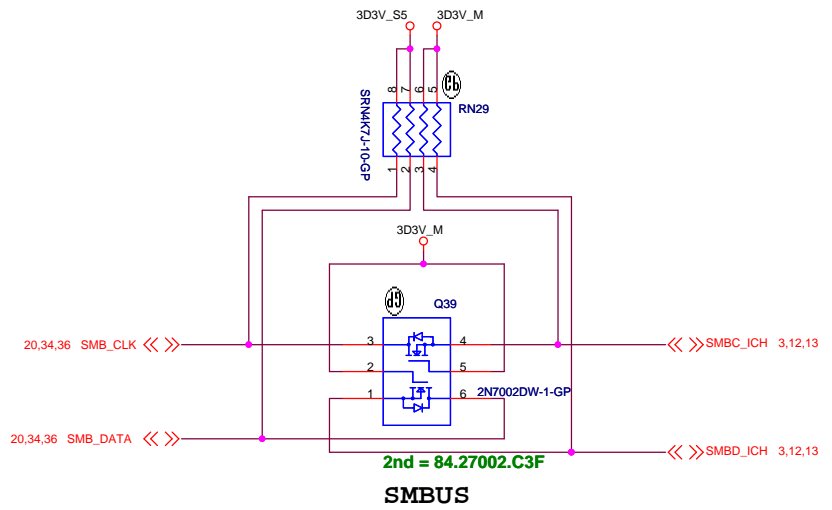
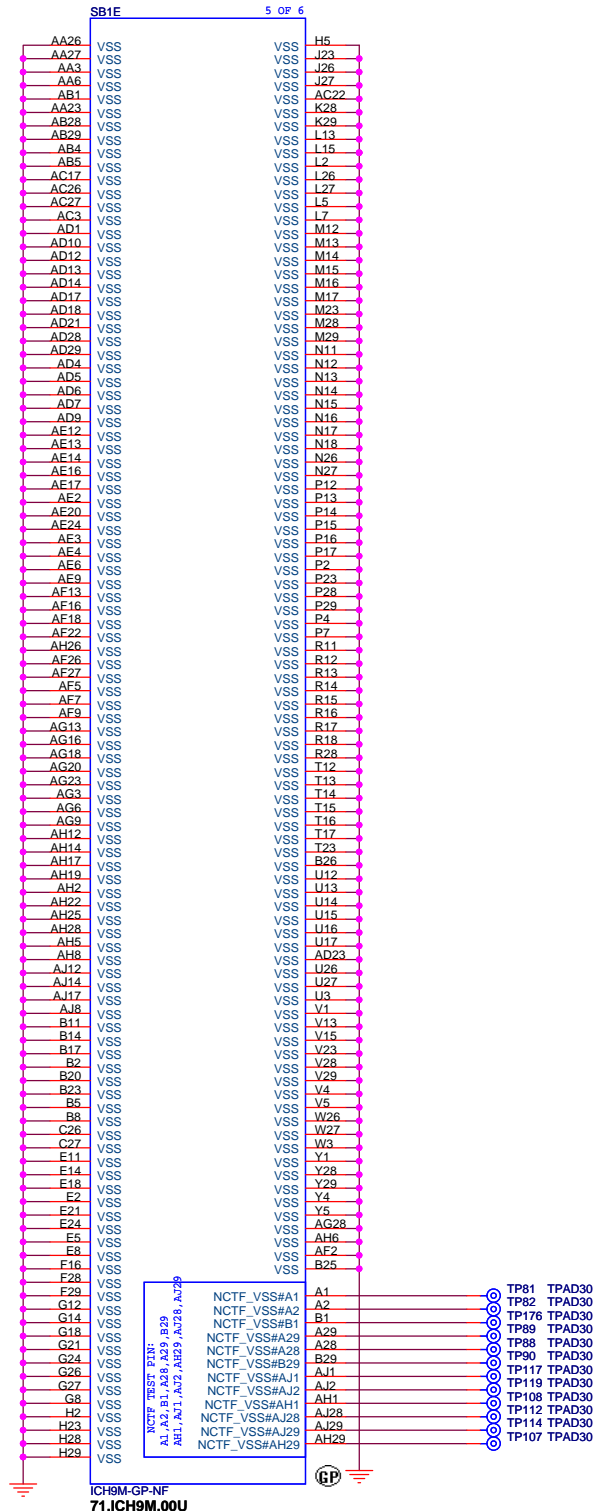
Title: **ICH9-M (1 of 4)**

Size	Document Number	Rev
		-1M

Date: Friday, November 21, 2008 Sheet 19 of 57

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





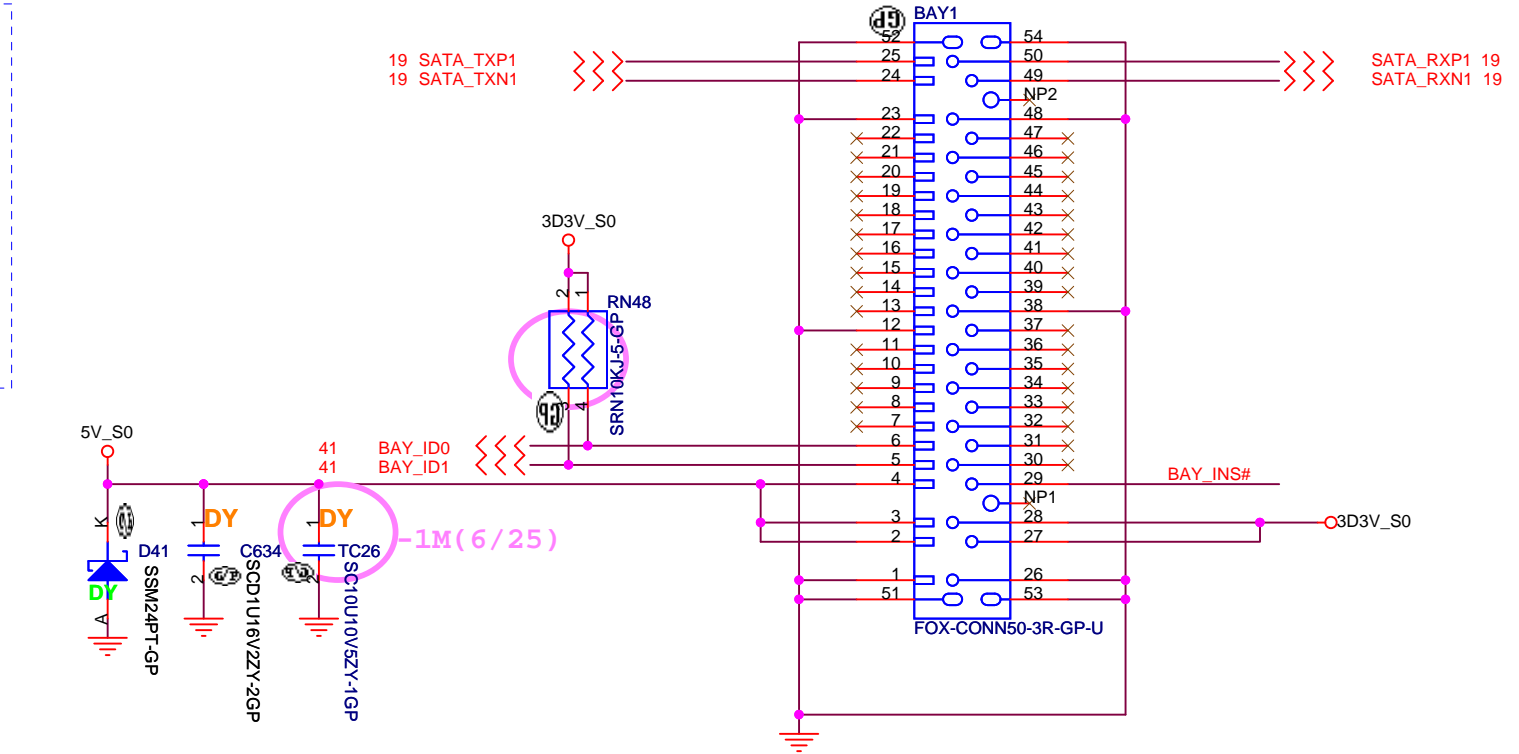
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

Title		ICH9-M (4 of 4)
Size	Document Number	Rev
		-1M
Date: Friday, November 21, 2008		Sheet 22 of 57

ODD Connector


ODD Conn. Test Point

SATA_TXP1	TP125 TPAD30
SATA_TXN1	TP124 TPAD30
SATA_RXP1	TP127 TPAD30
SATA_RXN1	TP126 TPAD30
BAY_ID0	TP194 TPAD30
BAY_ID1	TP195 TPAD30
BAY_INS#	TP193 TPAD30
3D3V_S0	TP277 TPAD30
5V_S0	TP278 TPAD30

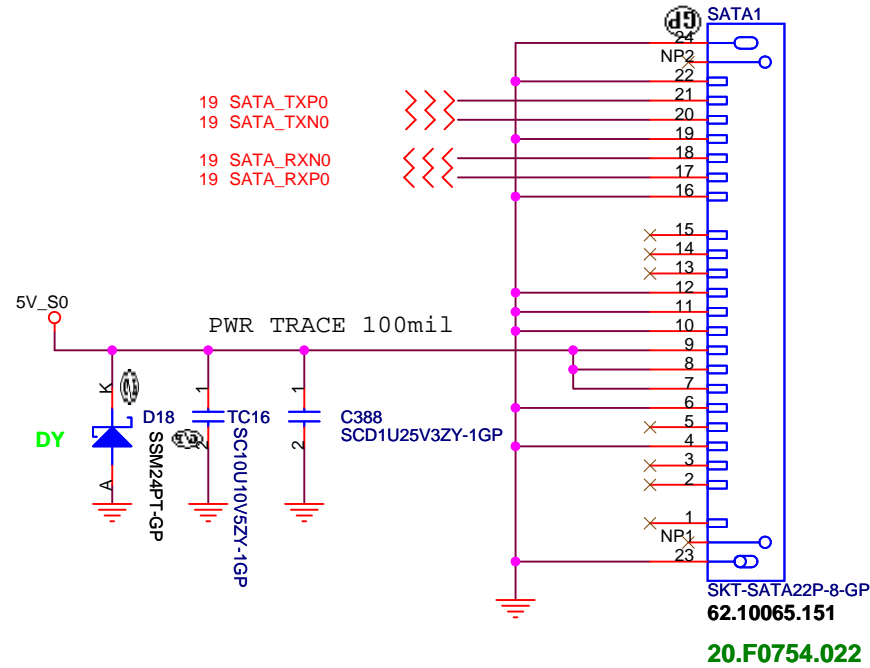


	BAY_ID0	BAY_ID1
SATA ODD	0	0
SATA HDD	1	1

Four Peaks

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
ODD		
Size	Document Number	Rev
Four Peaks		-1M
Date:	Friday, November 21, 2008	Sheet 23 of 57

SATA Connector



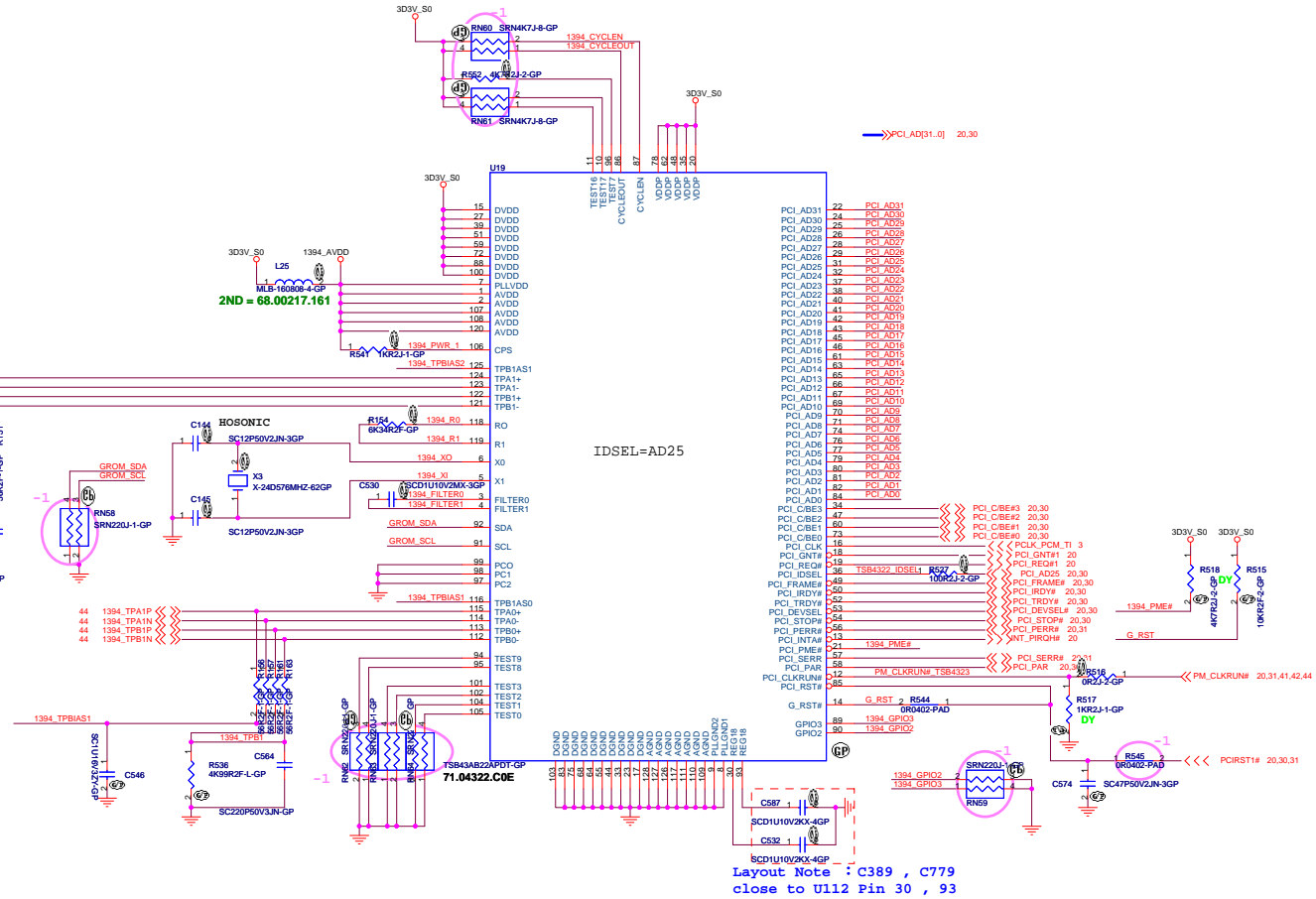
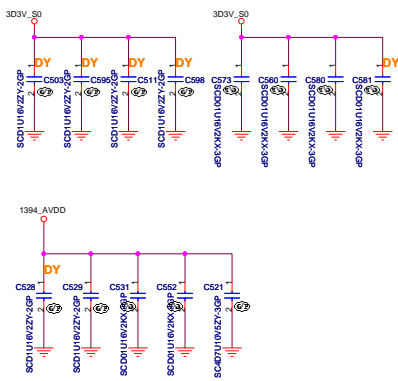
HDD Conn. Test Point

SATA_TXP0	TP132 TPAD30
SATA_TXN0	TP131 TPAD30
SATA_RXN0	TP130 TPAD30
SATA_RXP0	TP128 TPAD30
5V_S0	TP99 TPAD30

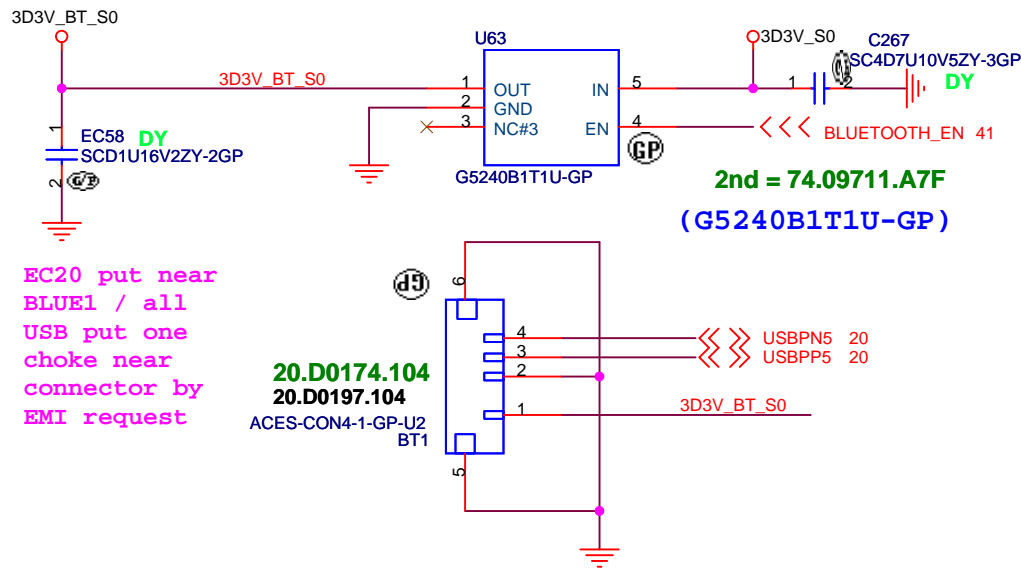
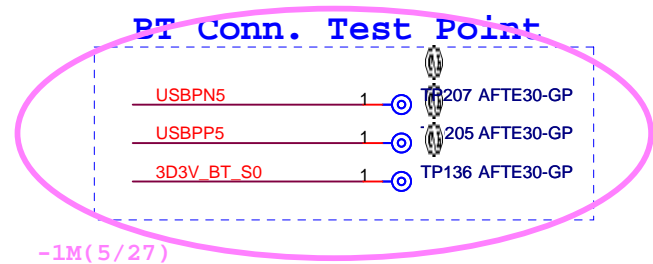
Four Peaks

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

Title		
HDD CONN		
Size	Document Number	Rev
	Four Peaks	-1M
Date:	Friday, November 21, 2008	Sheet 24 of 57

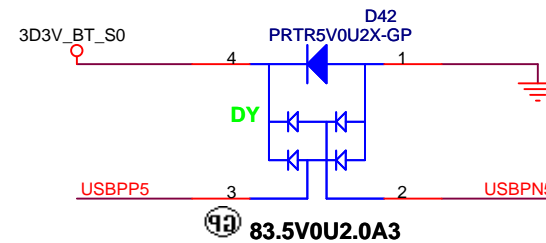


BLUETOOTH MODULE



EC20 put near
BLUE1 / all
USB put one
choke near
connector by
EMI request

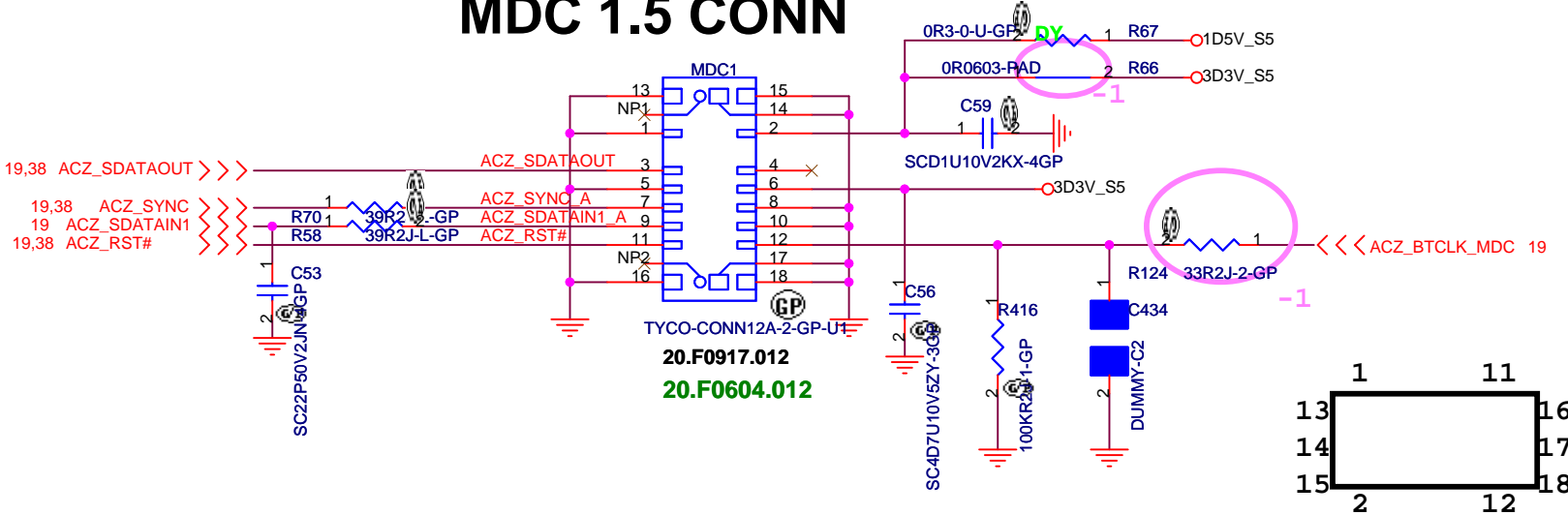
Need check conn.




Four Peaks

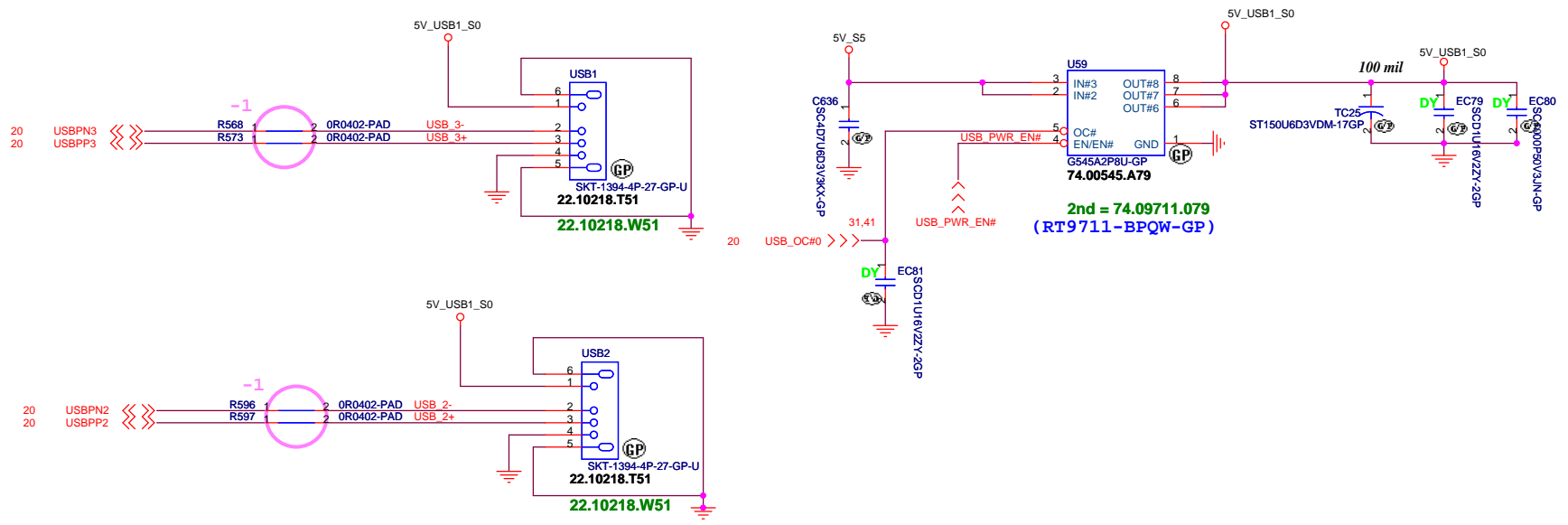
緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title BLUETOOTH			
Size	Document Number		Rev
	Four Peaks		-1M
Date:	Friday, November 21, 2008	Sheet 26	of 57

MDC 1.5 CONN

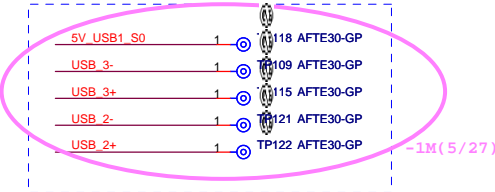


Four Peaks

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
MDC	
Size	Document Number
Four Peaks	
Date: Friday, November 21, 2008	Rev -1M



USB Conn. Test Point

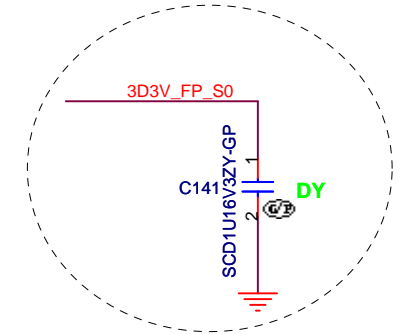
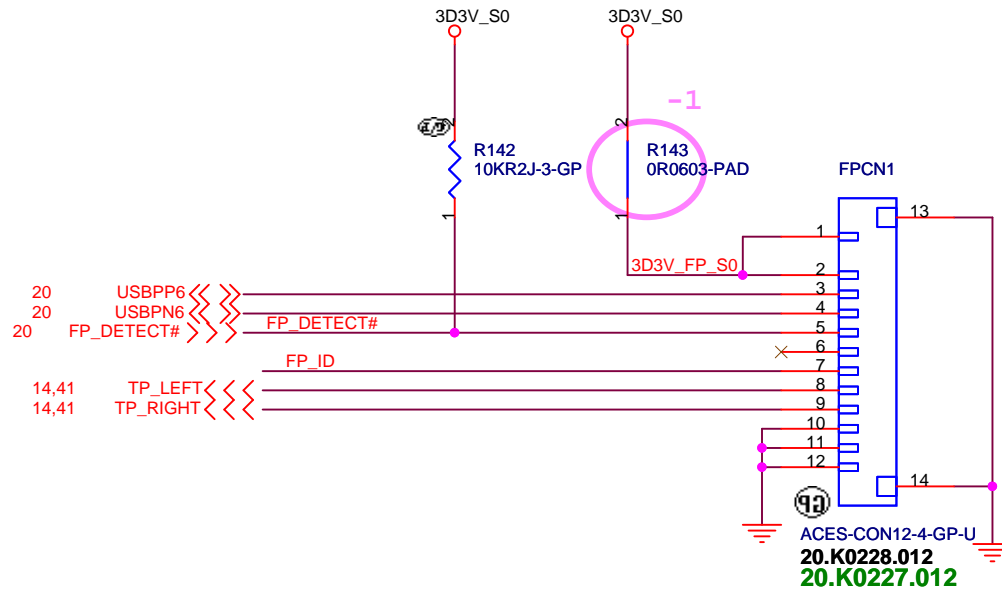


Finger printer

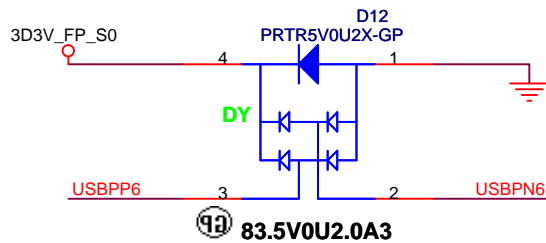
FP Conn. Test Point

3D3V_FP_S0	1	TP01	AFTE30-GP
USBPP6	1	TP00	AFTE30-GP
USBPN6	1	TP91	AFTE30-GP
FP_DETECT#	1	TP93	AFTE30-GP
FP_ID	1	TP84	AFTE30-GP
TP_LEFT	1	TP83	AFTE30-GP
TP_RIGHT	1	TP87	AFTE30-GP

-1M(5/27)



For EMI



Four Peaks

緯創資通

Wistron Corporation

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

Title

Finger Printer

Size

Document Number

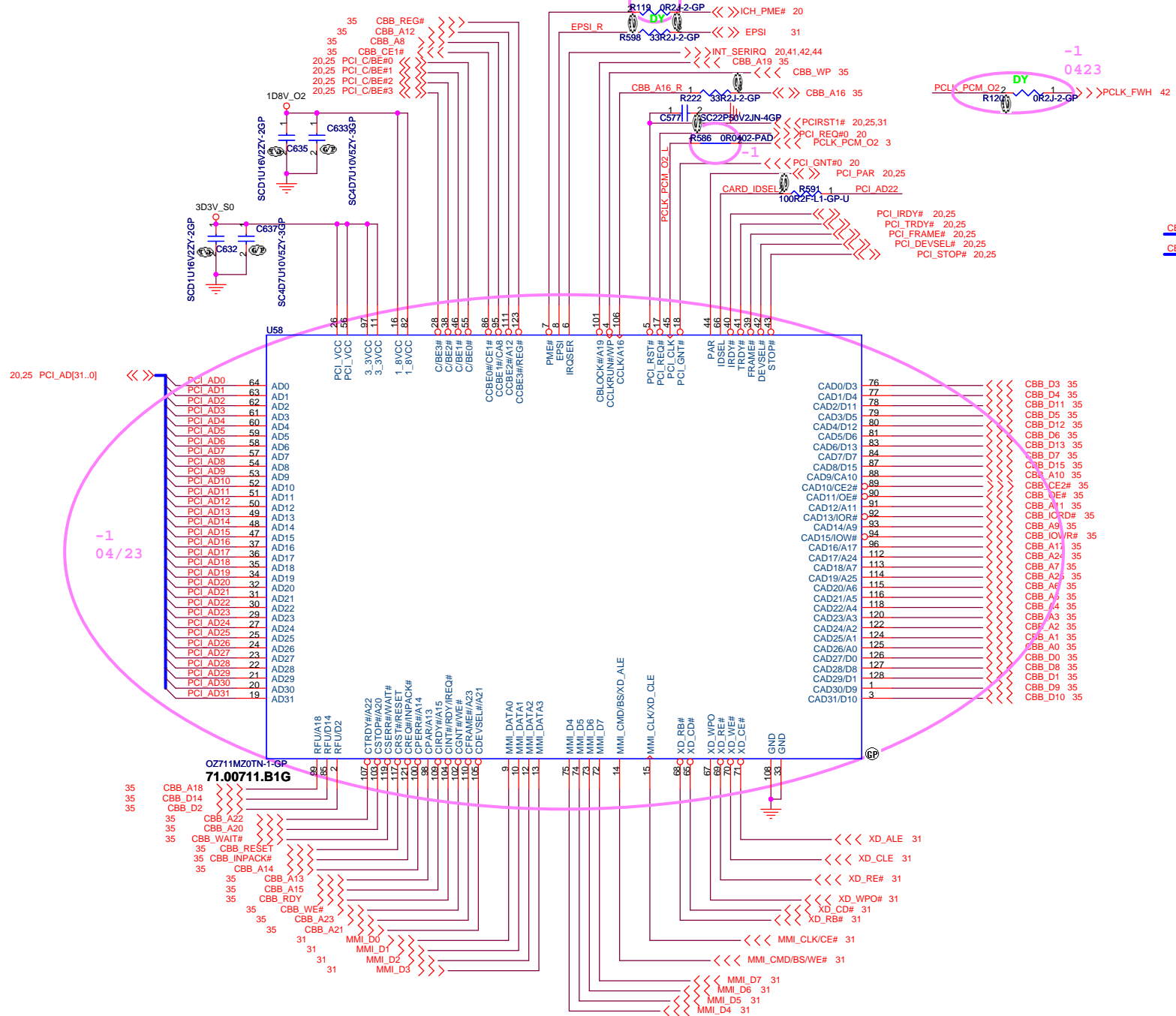
Rev

-1M

Four Peaks

Date: Friday, November 21, 2008

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CBB_D[15..0] <<>> CBB_D[15..0] 35
 CBB_A[25..0] <<>> CBB_A[25..0] 35

Four Peaks

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

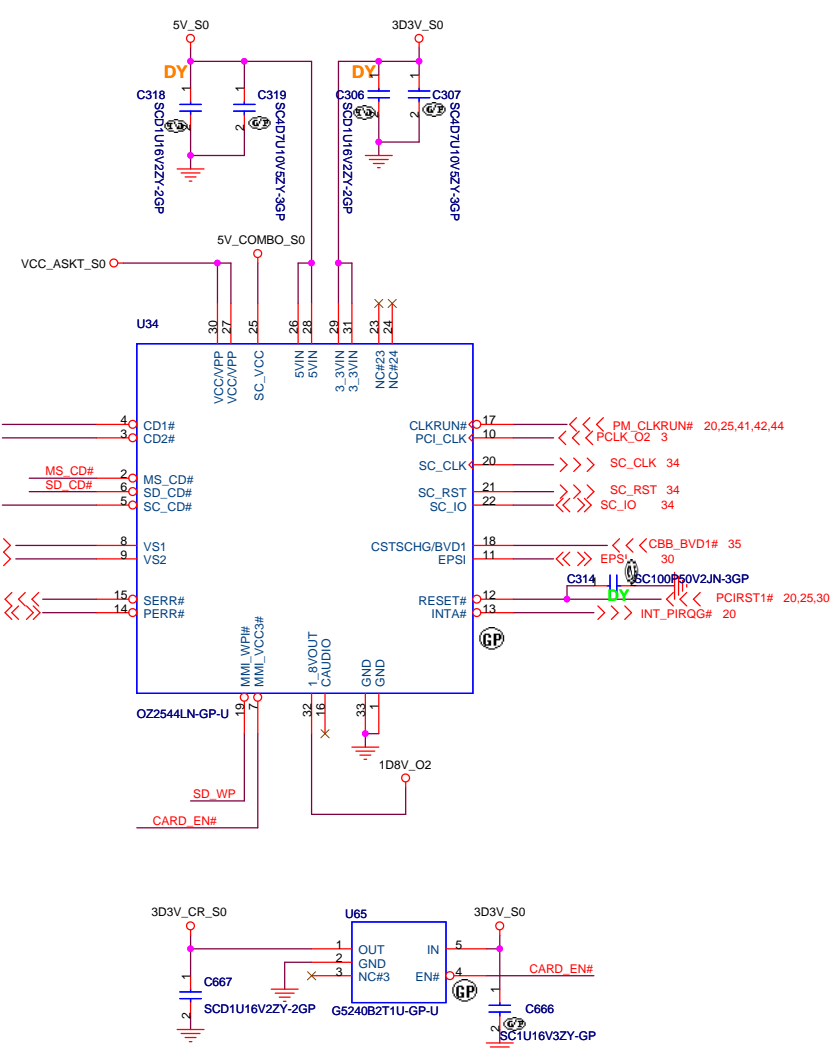
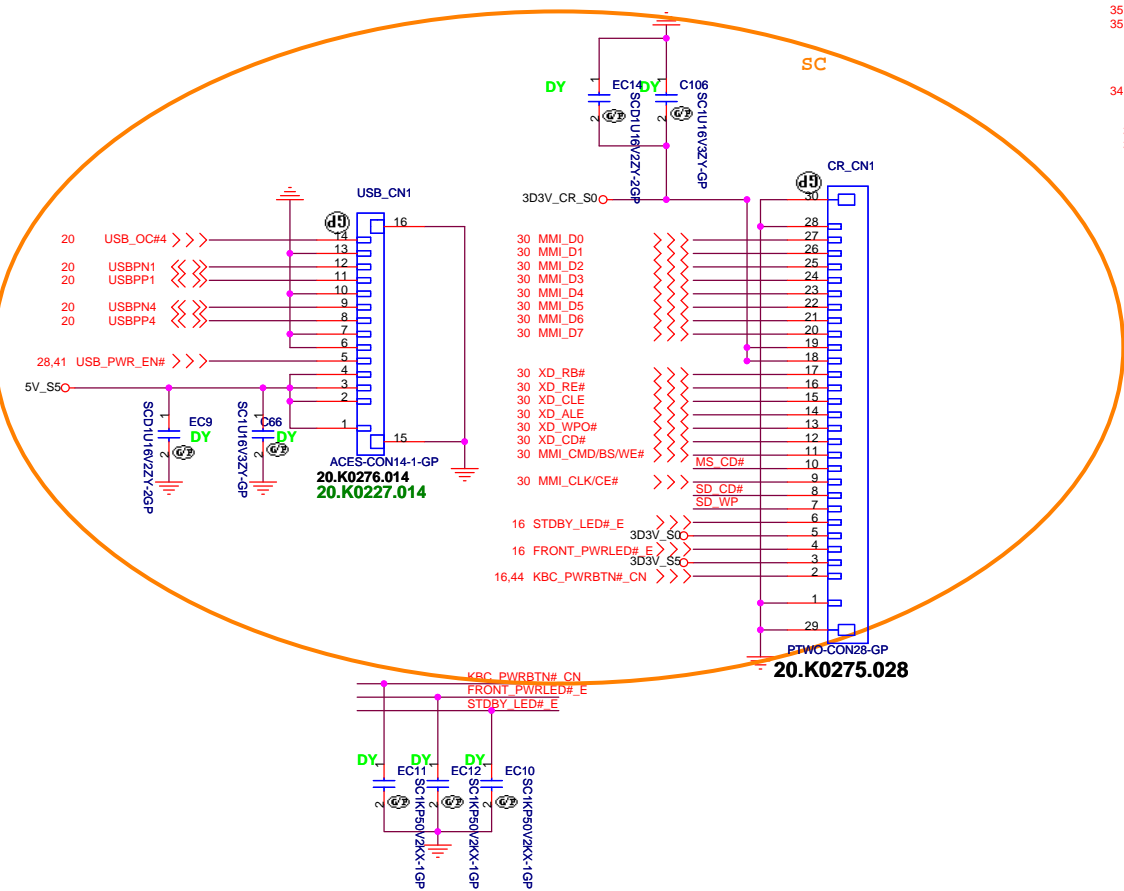
Title
Card Reader - OZ711MZ0

Size	Document Number	Rev
		-1M

Four Peaks

Date: Friday, November 21, 2008 Sheet 30 of 57

USB_CN1 & CR_CN1 Conn. Test Point



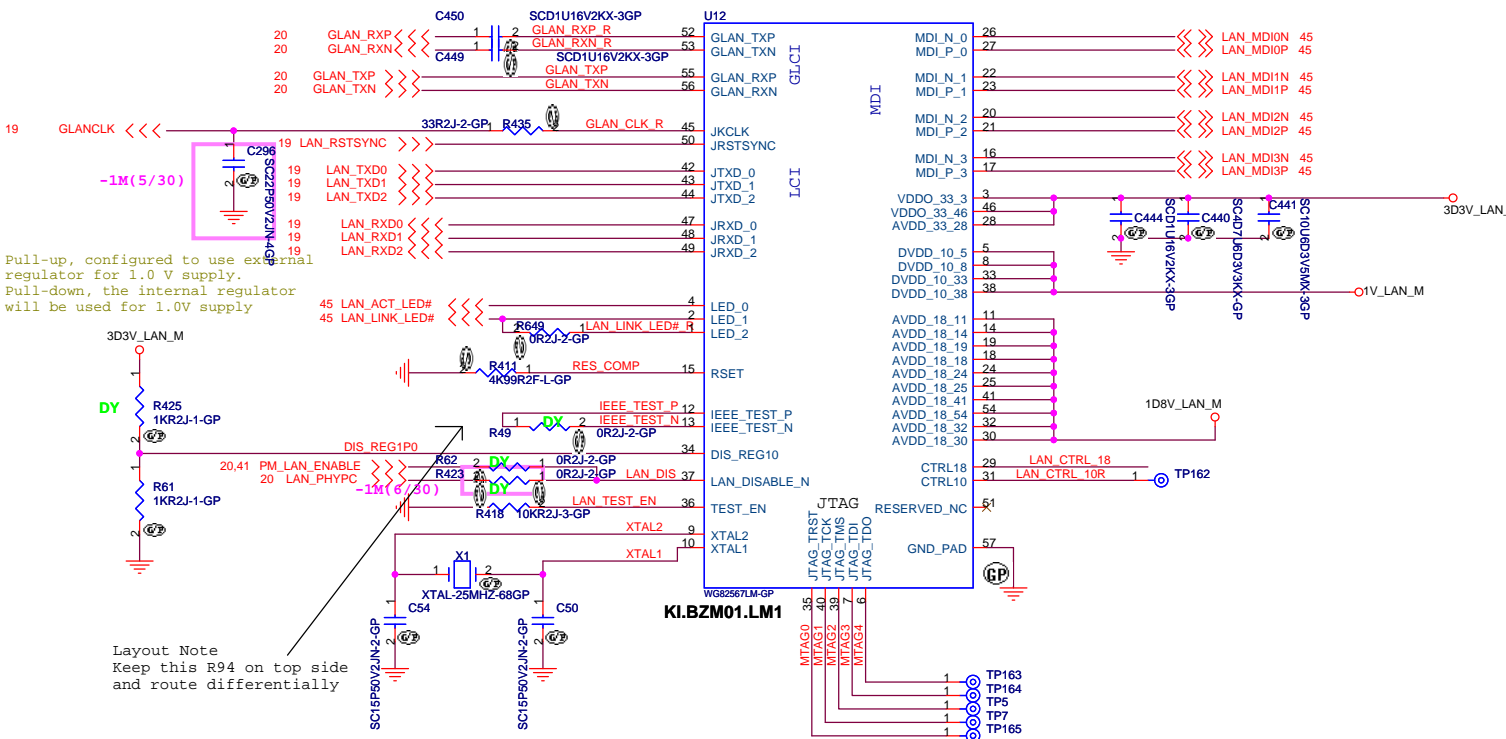
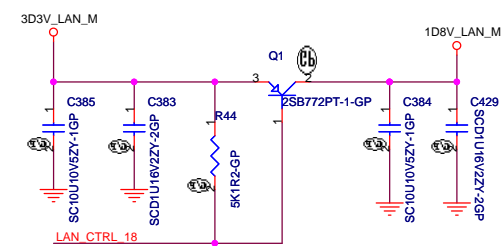
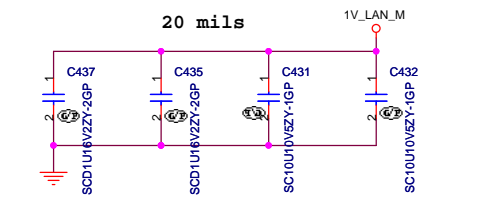
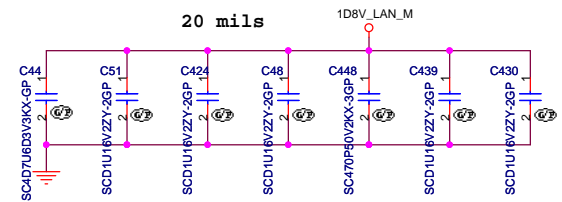
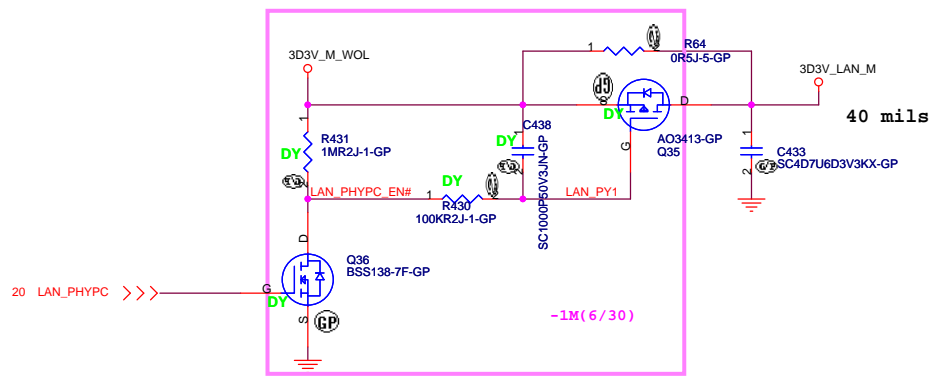
Four Peaks

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

Title: **Card Reader Connector**

Size	Document Number	Rev
		-1M

Date: Friday, November 21, 2008 Sheet 31 of 57



Pull-up, configured to use external regulator for 1.0 V supply. Pull-down, the internal regulator will be used for 1.0V supply

Layout Note
Keep this R94 on top side and route differentially

Four Peaks

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

Title
Intel 82567

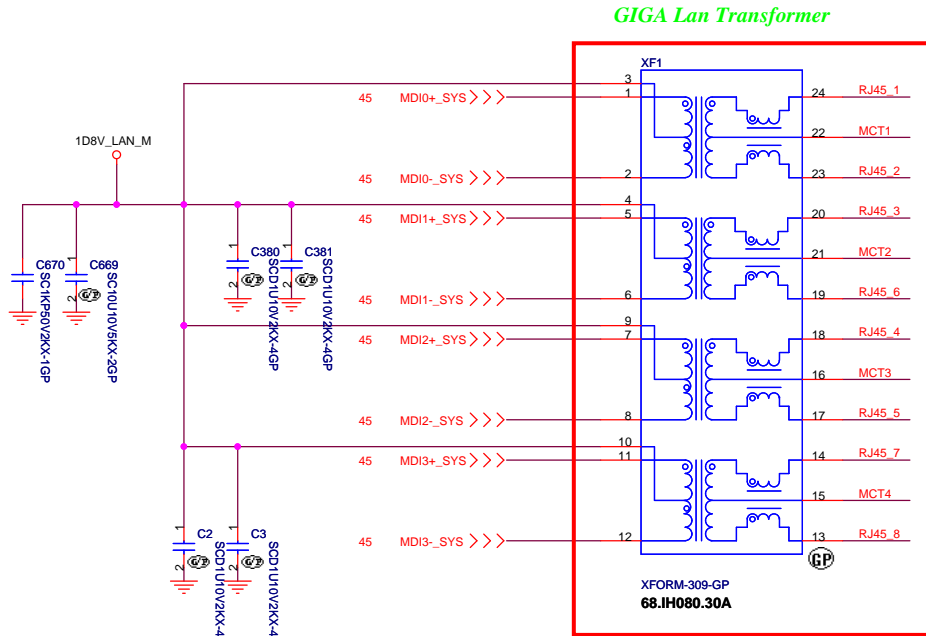
Size A3 Document Number
Four Peaks Rev **-1M**

Date: Friday, November 21, 2008 Sheet 32 of 57

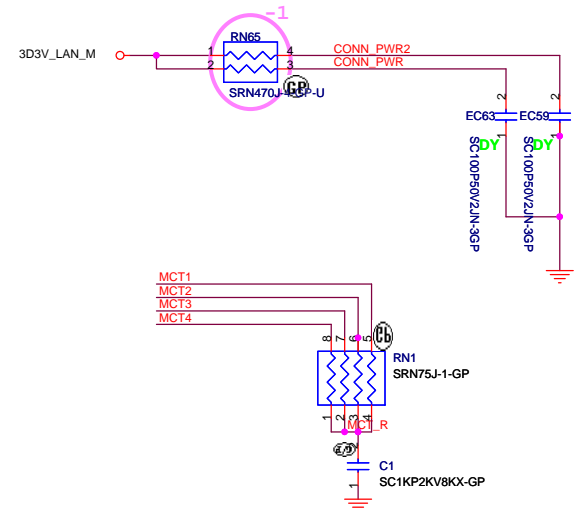
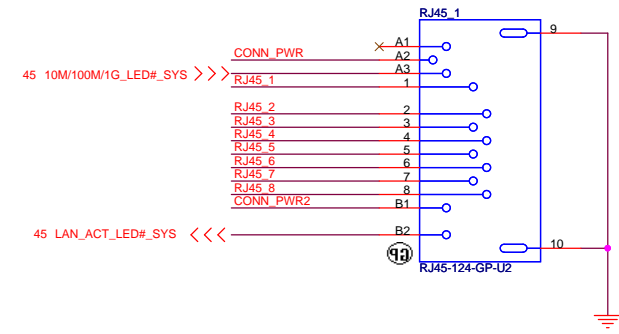
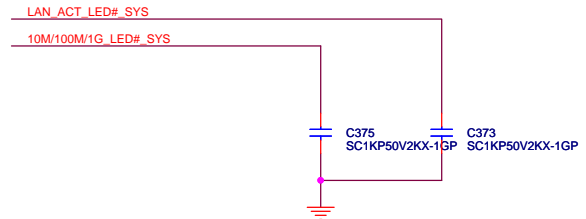
LAN Connector

LAN Connector

- 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.



20081121 SA
change to 68.IH080.30A

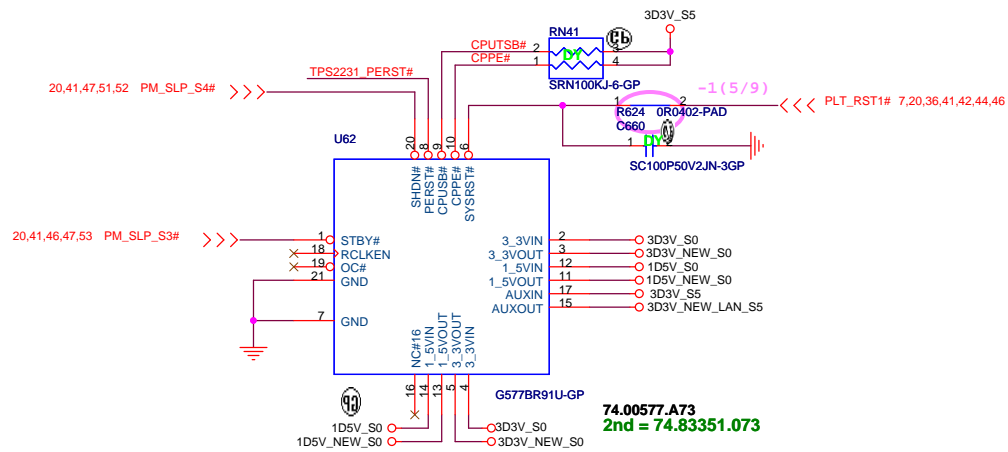
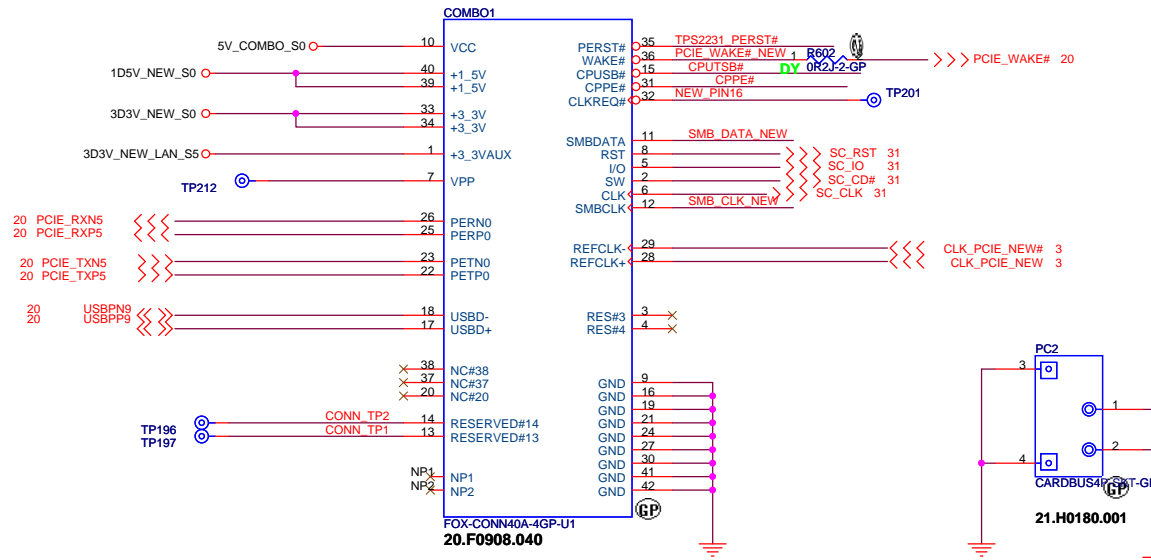


Four Peaks

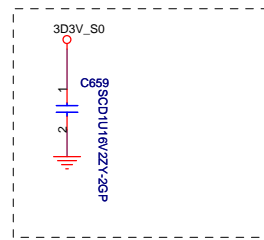
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **LAN CONN**

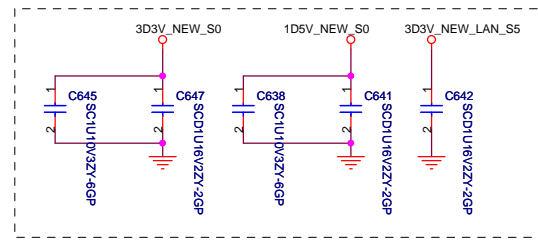
Size: A3	Document Number:	Rev: -1M
Date: Friday, November 21, 2008	Sheet 33 of 57	



Place them Near to Chip



Place them Near to Connector



Four Peaks

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
NEW CARD	
Size	Document Number
Four Peaks	
Date: Friday, November 21, 2008	Sheet 34 of 57
Rev -1M	

PCMCIA Socket

Cardbus I/F

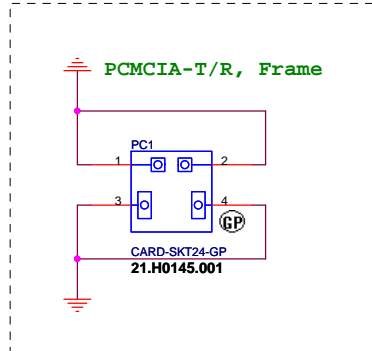
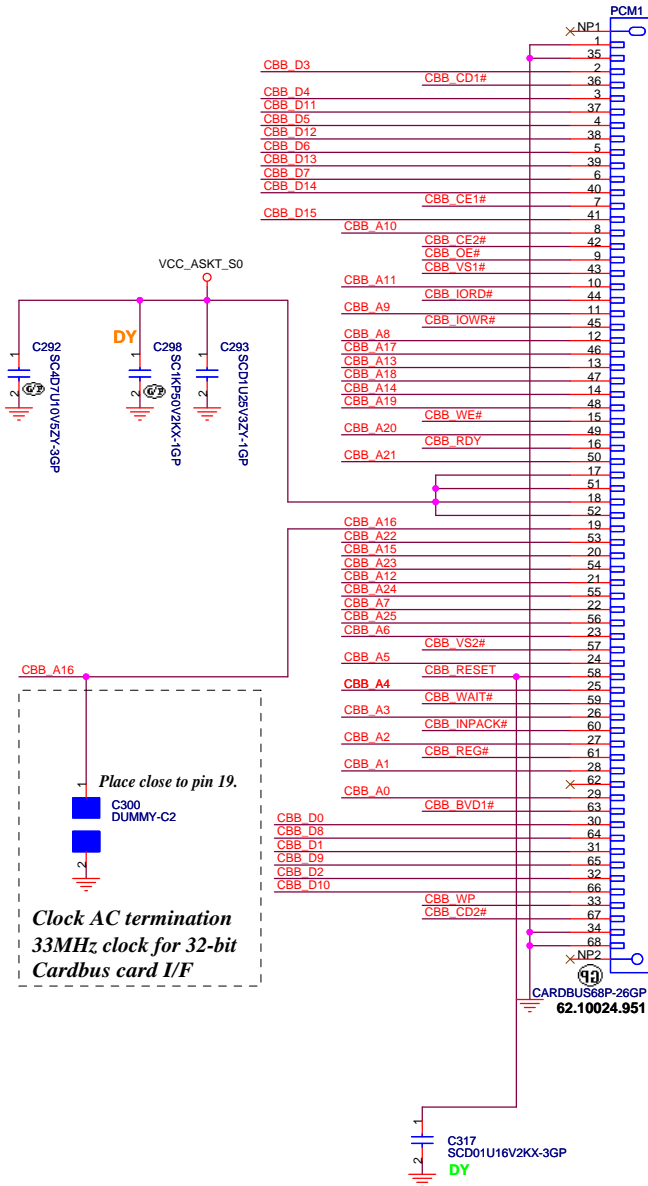
CBB_D[15..0] <<>> CBB_D[15..0] 30

CBB_A[25..0] <<>> CBB_A[25..0] 30

CBB_IORD# 30
 CBB_IOWR# 30
 CBB_OE# 30
 CBB_WE# 30
 CBB_REG# 30
 CBB_RDY 30
 CBB_WP 30
 CBB_RESET# 30
 CBB_WAIT# 30
 CBB_INPACK# 30

CBB_CE1# 30
 CBB_CE2# 30

CBB_CD1# 31
 CBB_CD2# 31
 CBB_VS1# 31
 CBB_VS2# 31
 CBB_BVD1# 31



Place close to pin 19.

C300 DUMMY-C2

Clock AC termination
33MHz clock for 32-bit Cardbus card I/F

Four Peaks

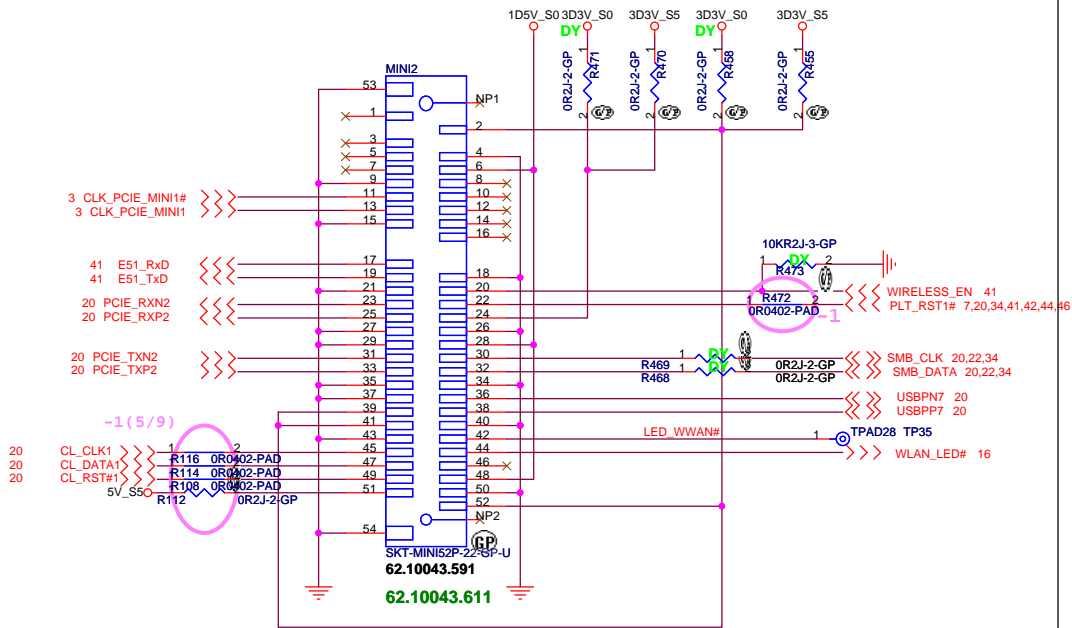
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **PCMCIA**

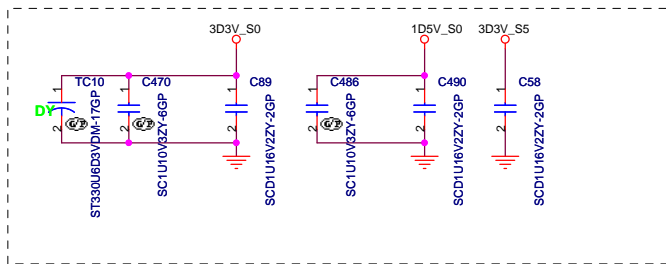
Size A3	Document Number	Rev
	Four Peaks	-1M

Date: Friday, November 21, 2008 Sheet 35 of 57

Mini Card Connector(WLAN)

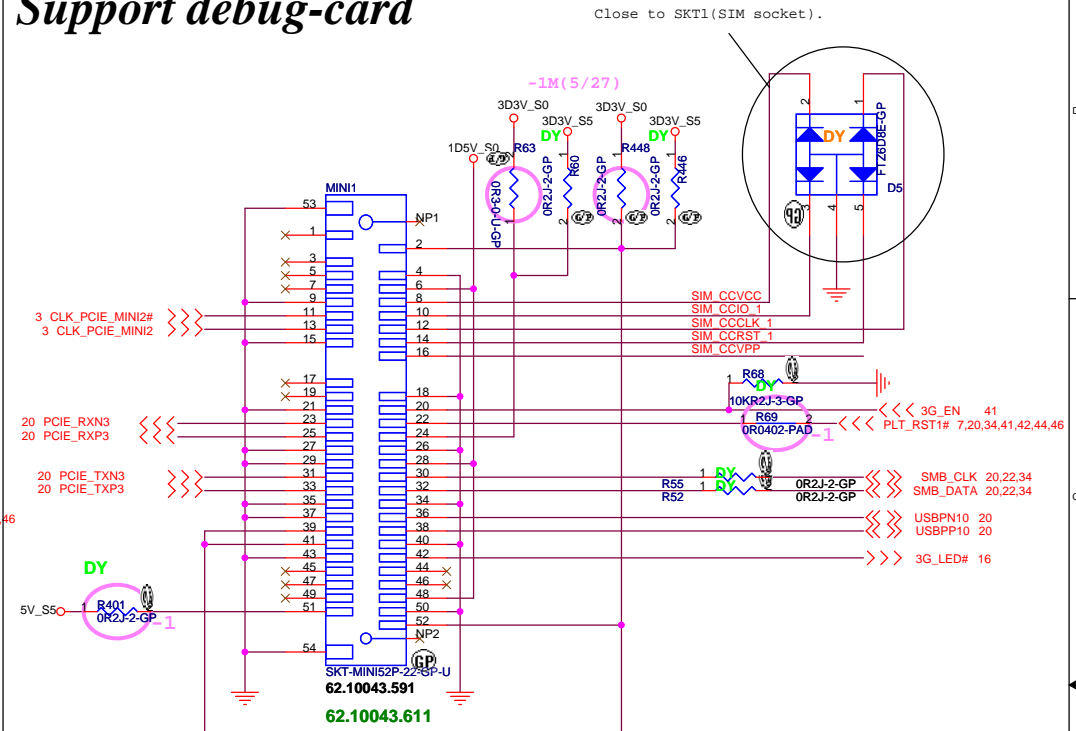


Place near MINIC1

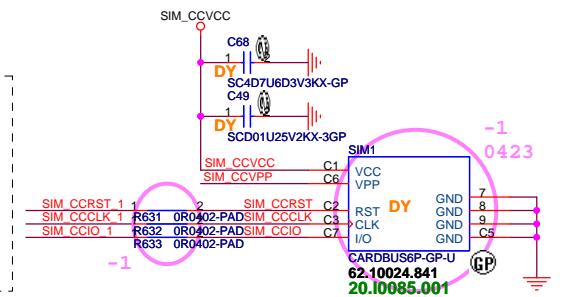
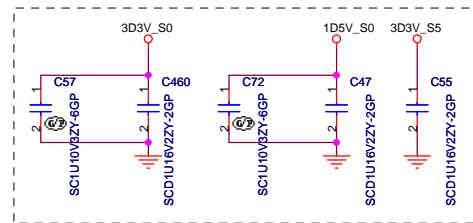


Mini Card Connector(Robson2 and 3G)

Support debug-card



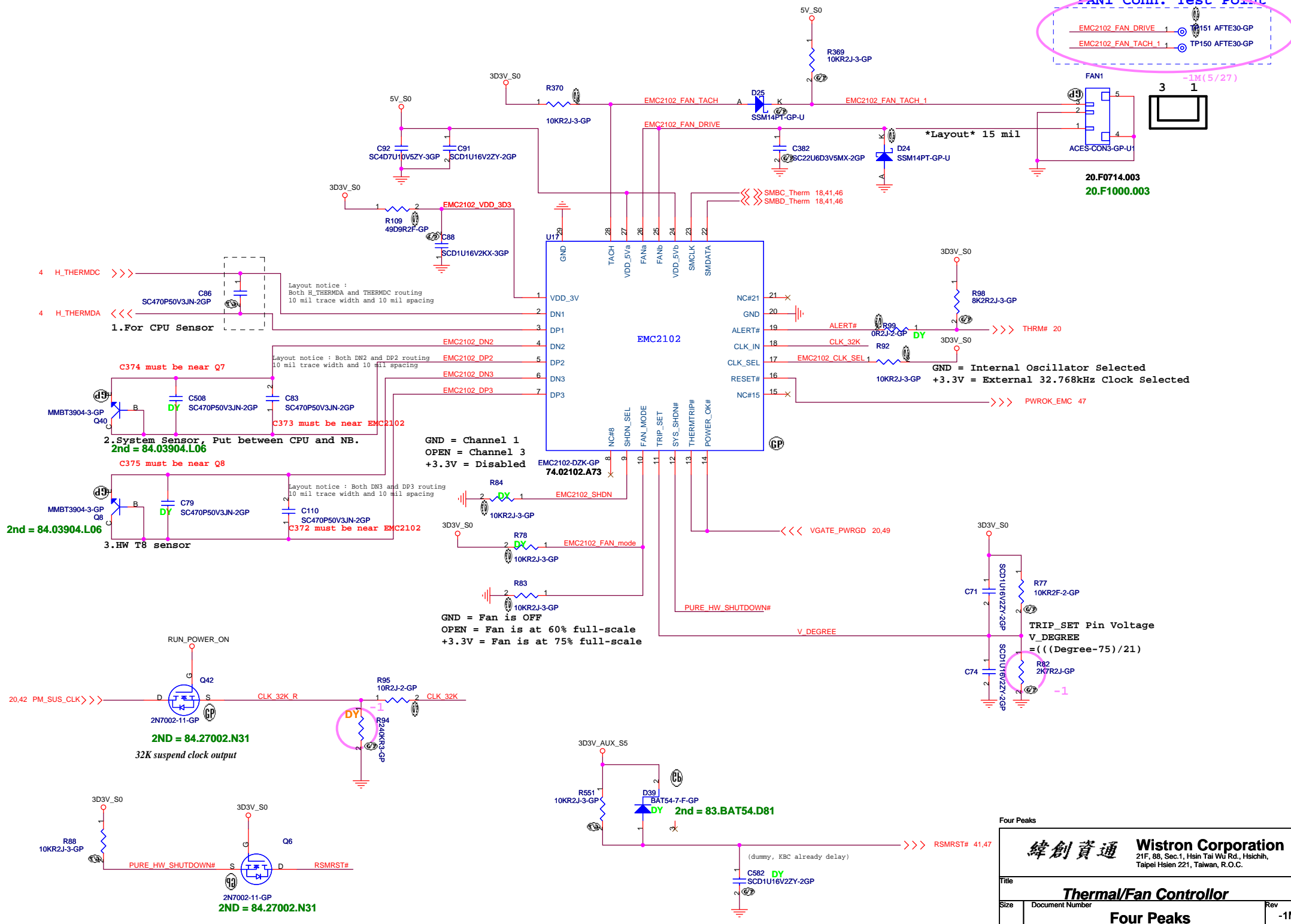
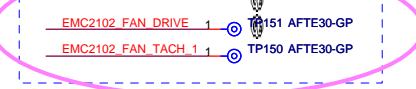
Place near MINIC2



Four Peaks

緯創資通 Wistron Corporation	
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
MINI CARD	
Title	Rev
Size A3	Document Number
Four Peaks	
Date: Friday, November 21, 2008	Sheet 36 of 57

FAN1 Conn. Test Point



4 H_THERMDC >>>
 4 H_THERMDA <<<
1. For CPU Sensor

2. System Sensor, Put between CPU and NB.
 2nd = 84.03904.L06
 C375 must be near Q8

3. HW T8 sensor

20.42 PM_SUS_CLK >>>
2ND = 84.27002.N31
 32K suspend clock output

2ND = 84.27002.N31

GND = Channel 1
 OPEN = Channel 3
 +3.3V = Disabled

GND = Fan is OFF
 OPEN = Fan is at 60% full-scale
 +3.3V = Fan is at 75% full-scale

Layout 15 mil
20.F0714.003
20.F1000.003

GND = Internal Oscillator Selected
 +3.3V = External 32.768kHz Clock Selected

TRIP_SET Pin Voltage
 $V_DEGREE = (((Degree-75)/21)$

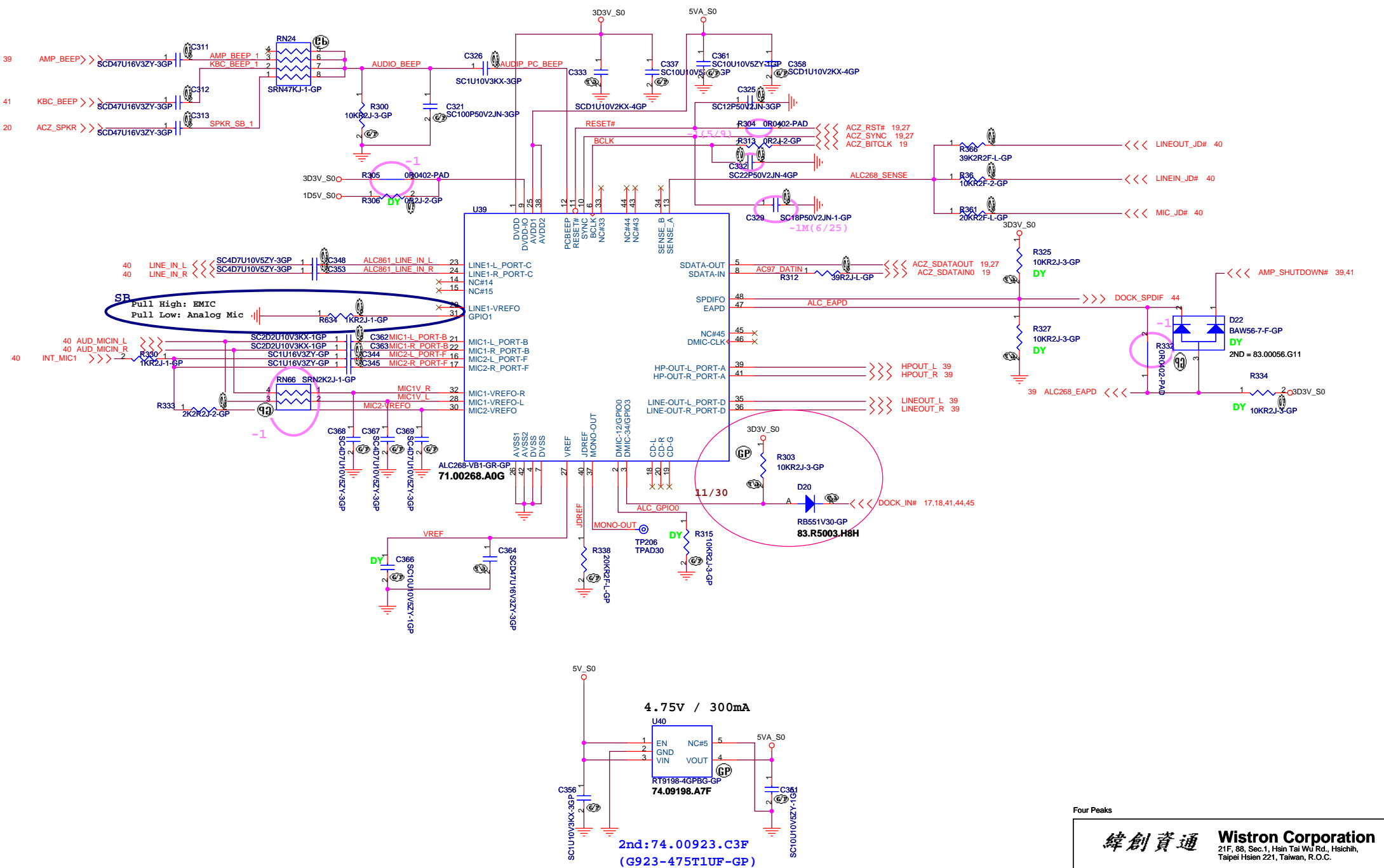
Four Peaks

緯創資通 Wistron Corporation
 21F, 8B, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

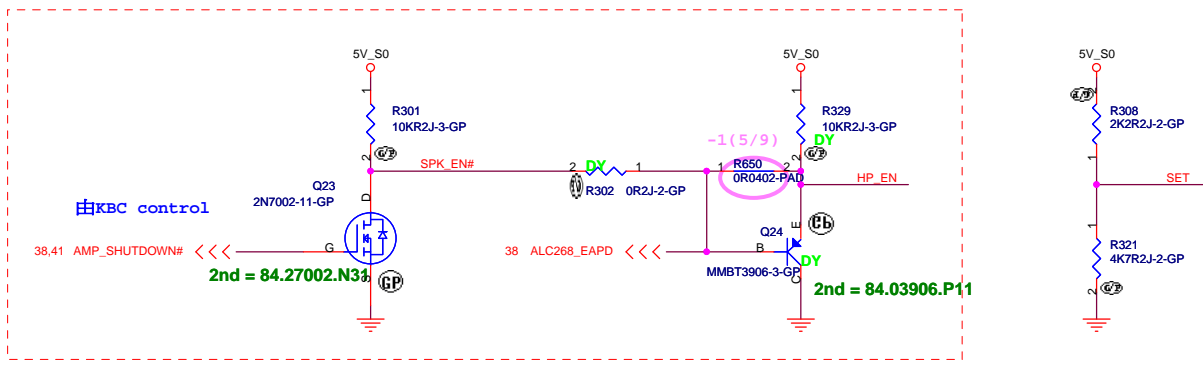
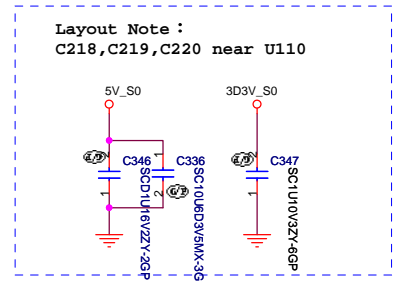
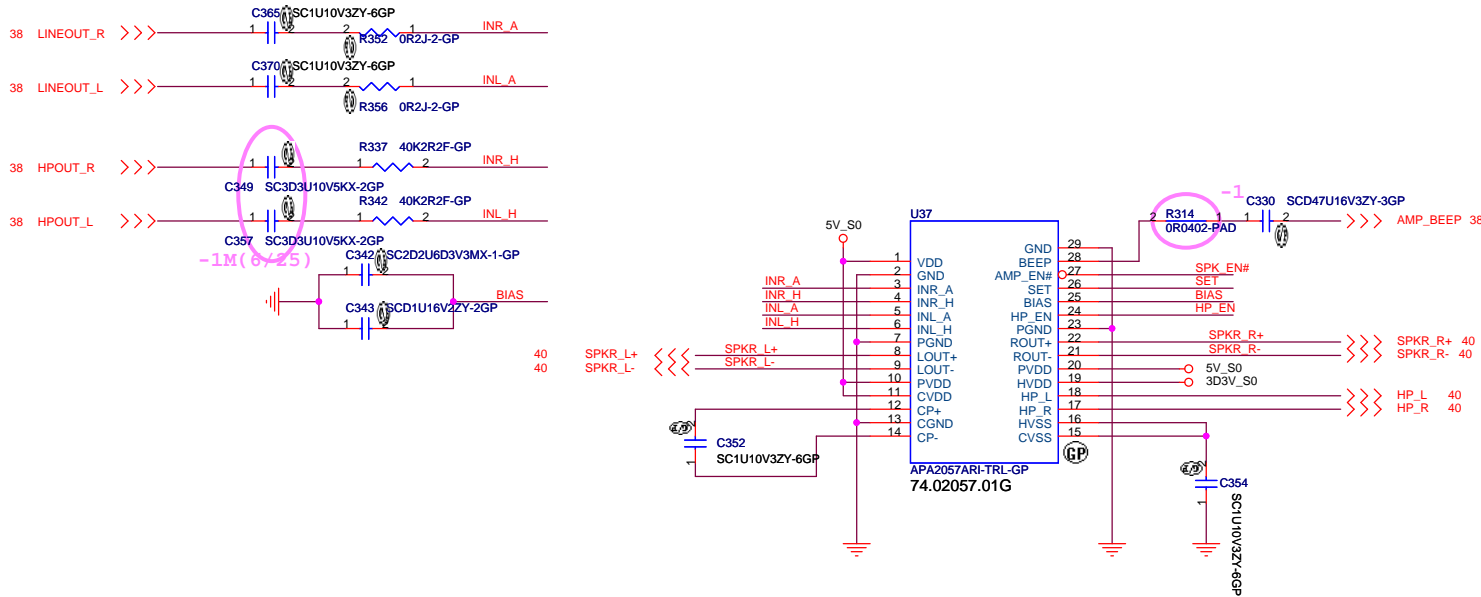
Title: **Thermal/Fan Controller**

Size: Document Number: **Four Peaks** Rev: -1M

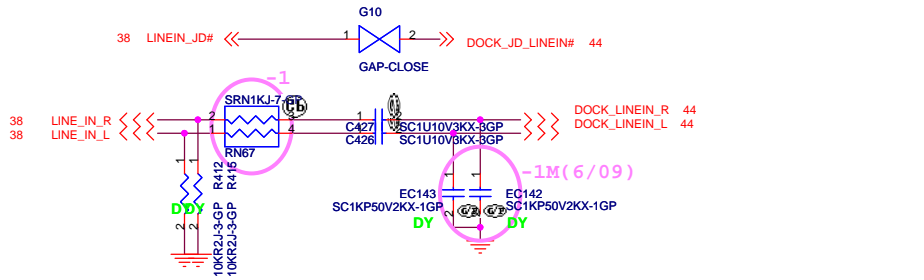
Date: Friday, November 21, 2008 Sheet 37 of 57



AUDIO OP AMPLIFIER

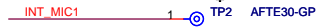


LINE IN

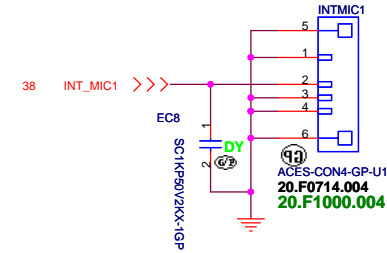


Internal Microphone

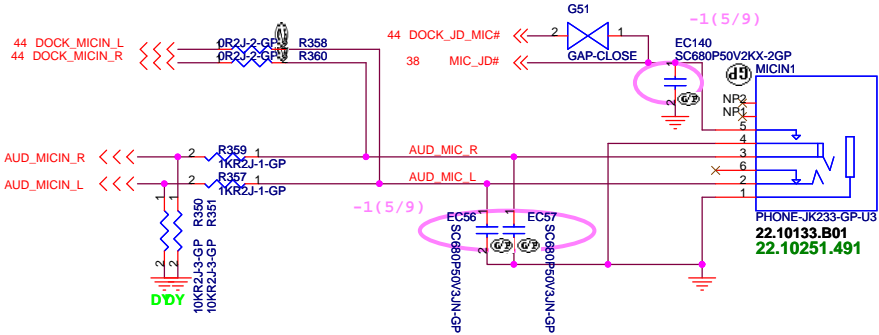
INTMIC1 Conn. Test Point



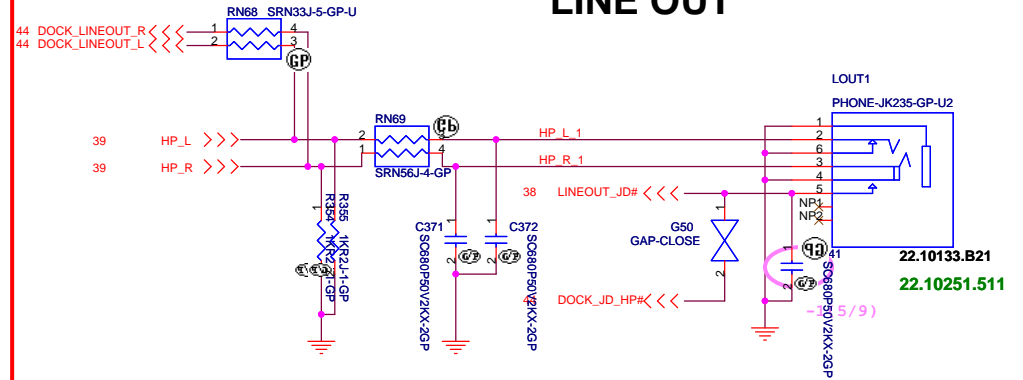
-1M(5/27)



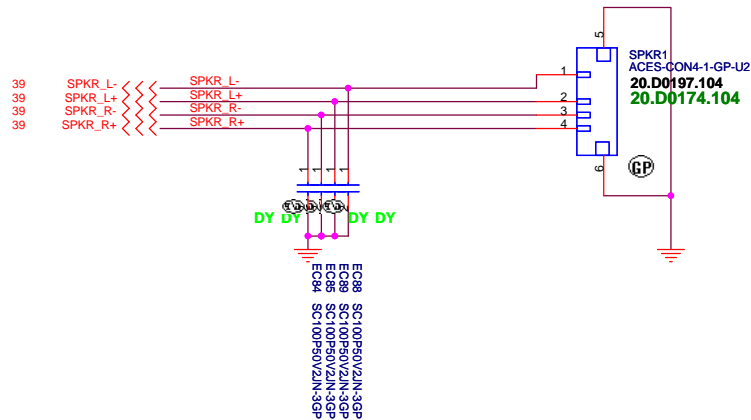
MIC IN



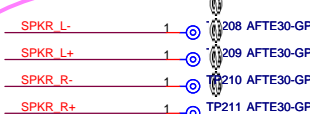
LINE OUT



Internal Speaker



SPKR1 Conn. Test Point



-1M(5/27)

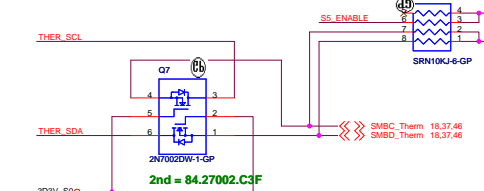
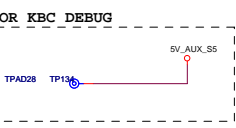
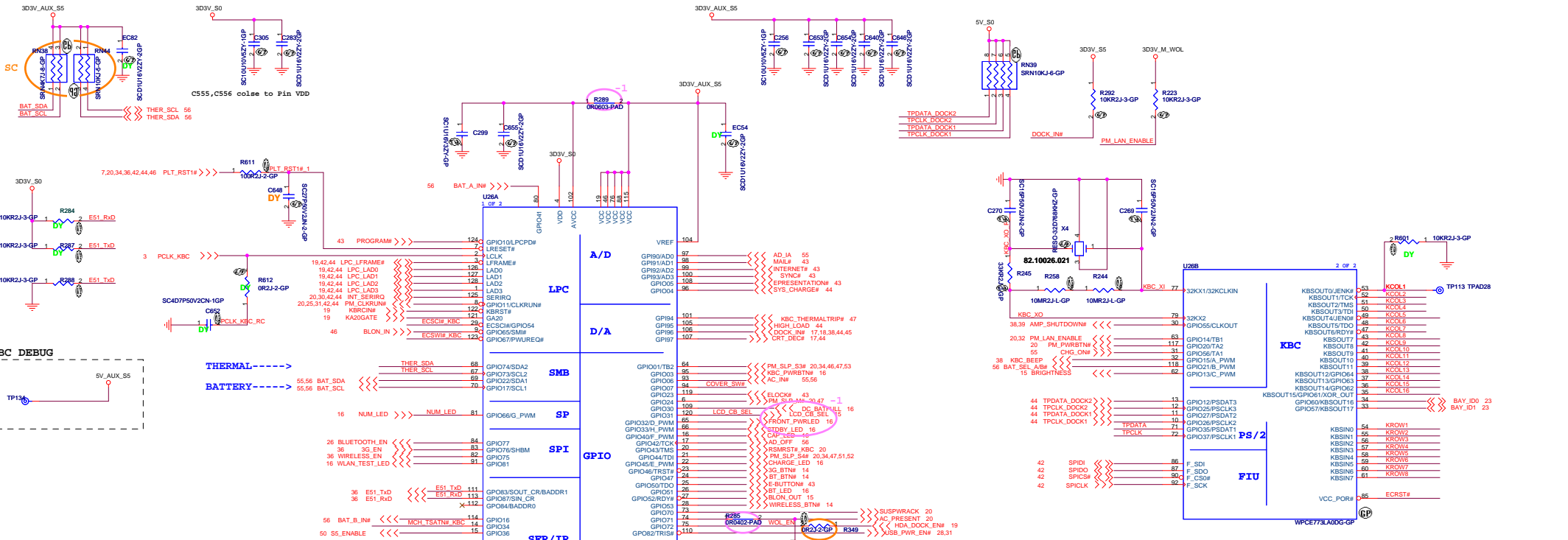
Four Peaks

緯創資通

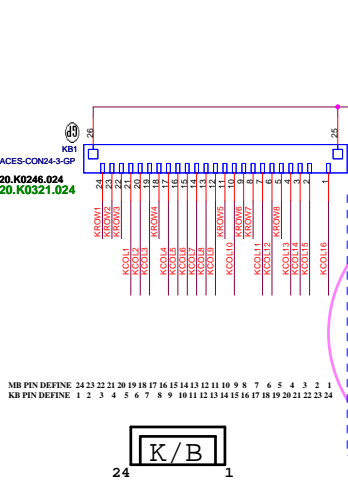
Wistron Corporation

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

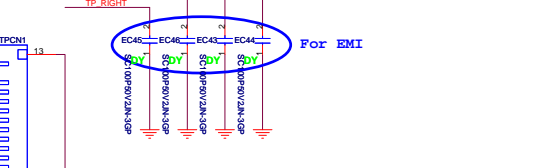
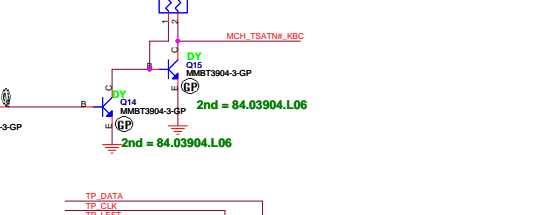
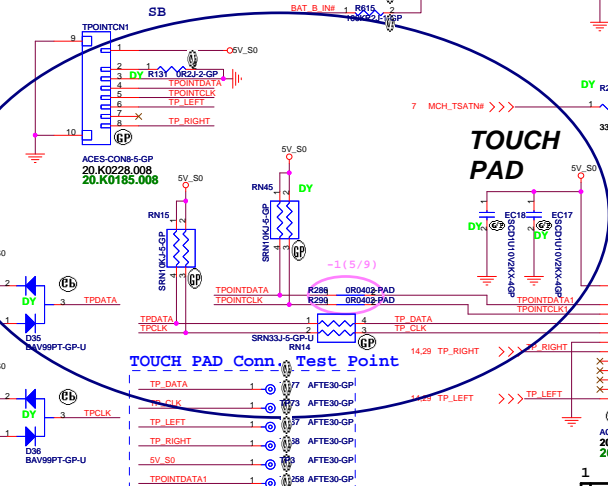
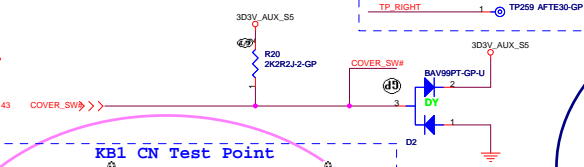
Title AUDIO JACK		
Size	Document Number	Rev -1M
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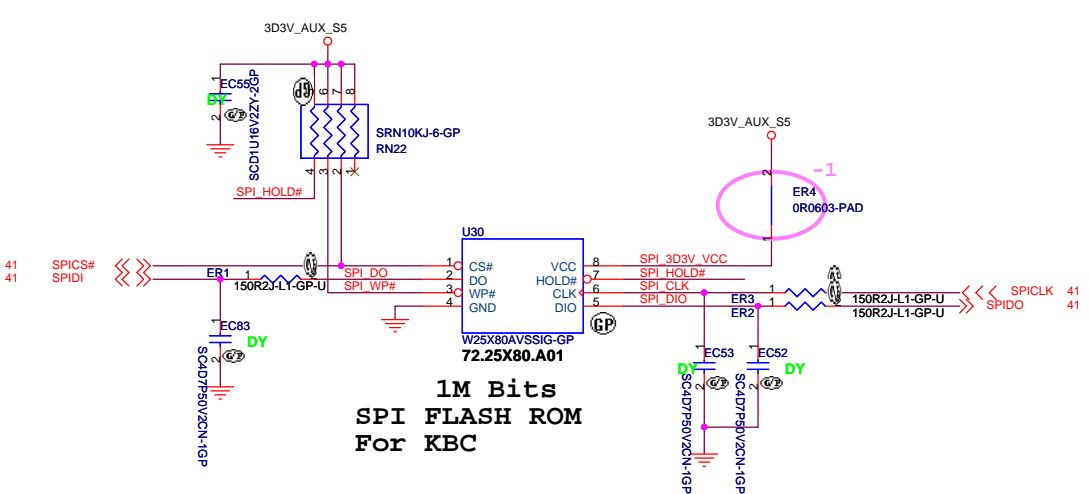


Internal KeyBoard Connector

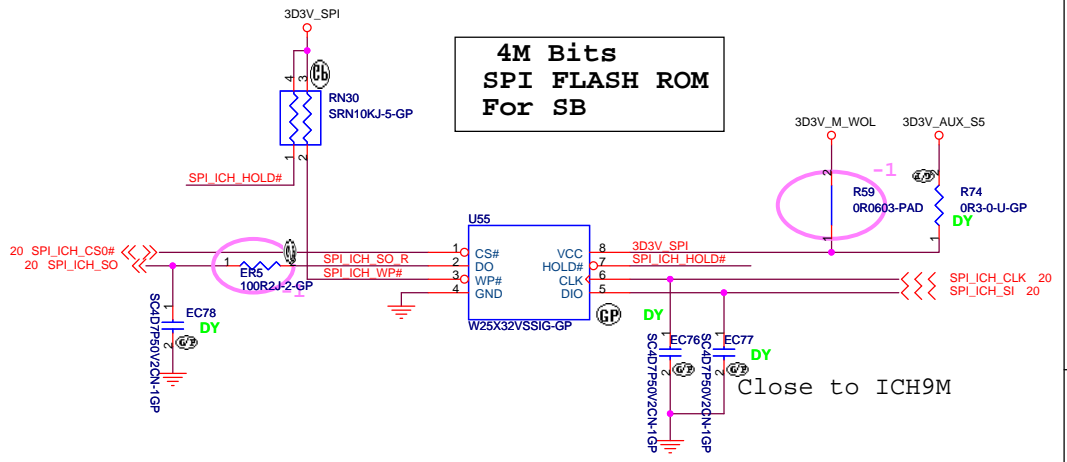


Cover Up Switch



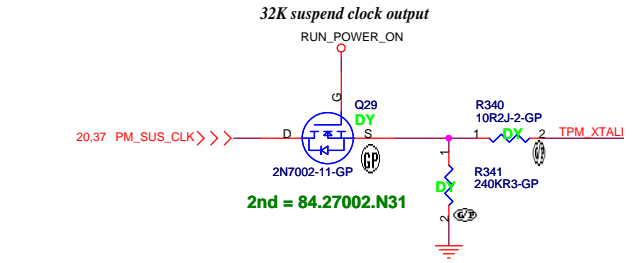


**1M Bits
SPI FLASH ROM
For KBC**



**4M Bits
SPI FLASH ROM
For SB**

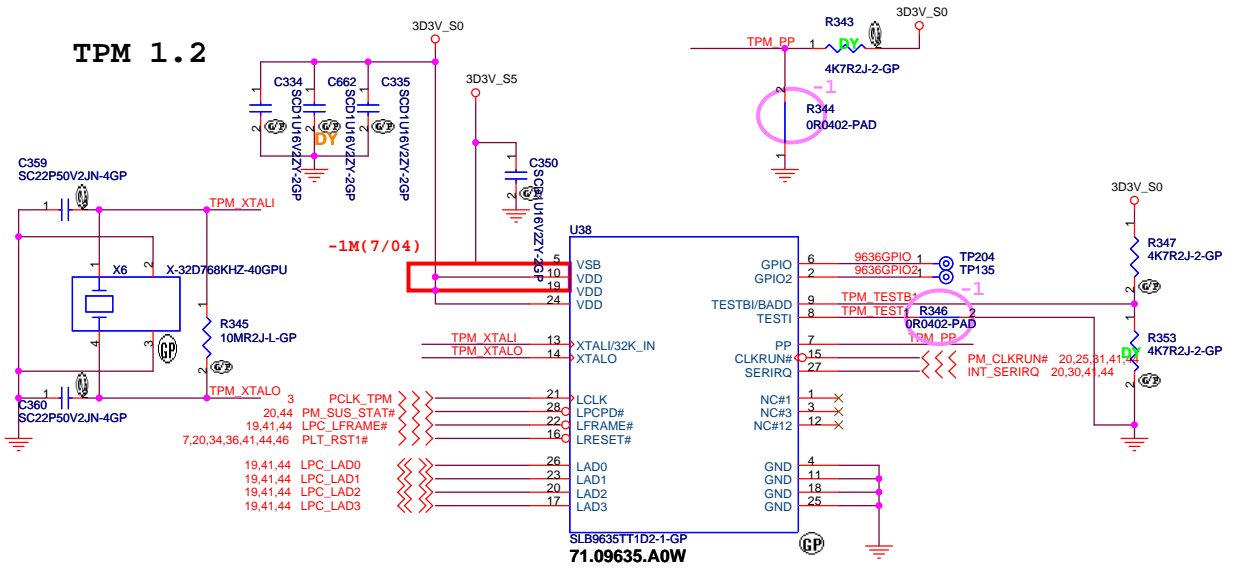
Close to ICH9M



32K suspend clock output

2nd = 84.27002.N31

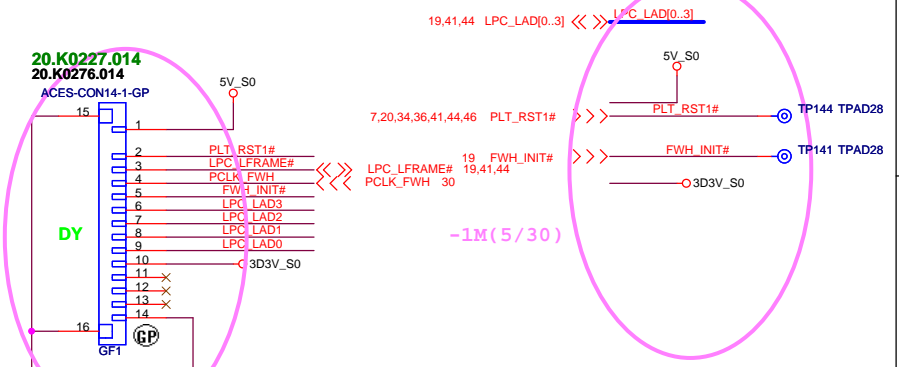
TPM 1.2



-1M(7/04)

-1(0509)

GOLDEN FINGER FOR DEBUG BOARD



TOP VIEW

- A15 (B1)
- A14 (B2)
- ...
- A2 (B14)
- A1 (B15)

(BOTTOM VIEW)

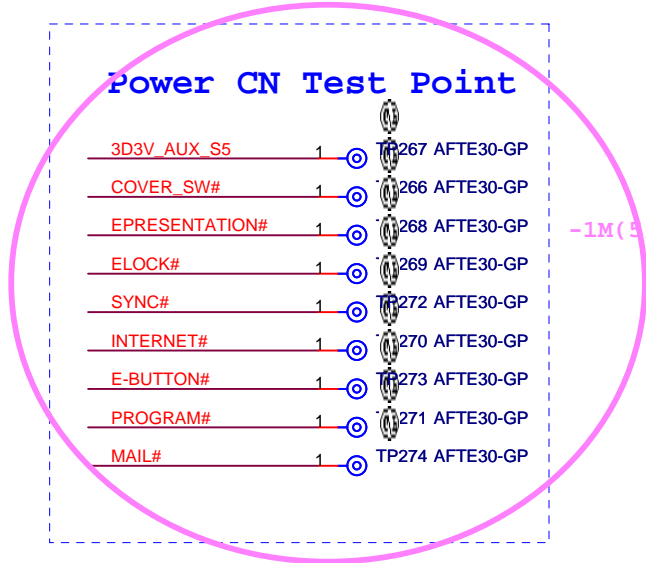
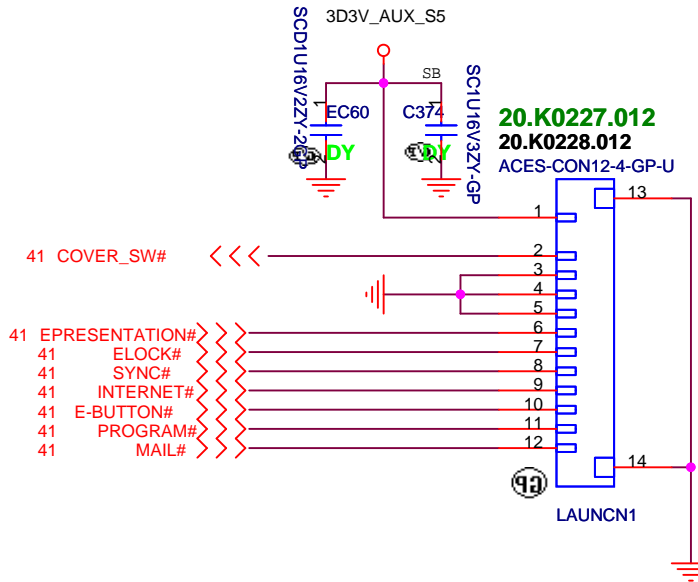
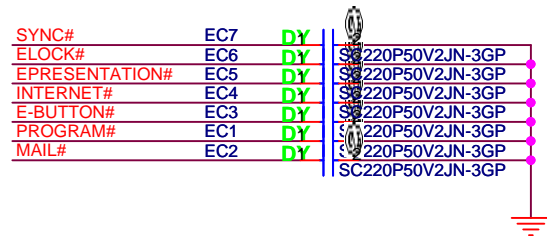
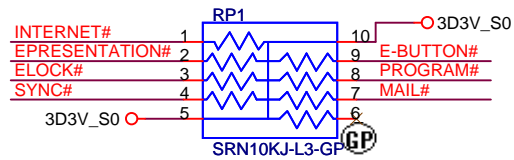
Four Peaks

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Title: **BIOS & TPM**

Size: Document Number: **Four Peaks** Rev: **-1M**

Date: Friday, November 21, 2008 Sheet 42 of 57



20.K0227.012
20.K0228.012

ACES-CON12-4-GP-U

LAUNCH1

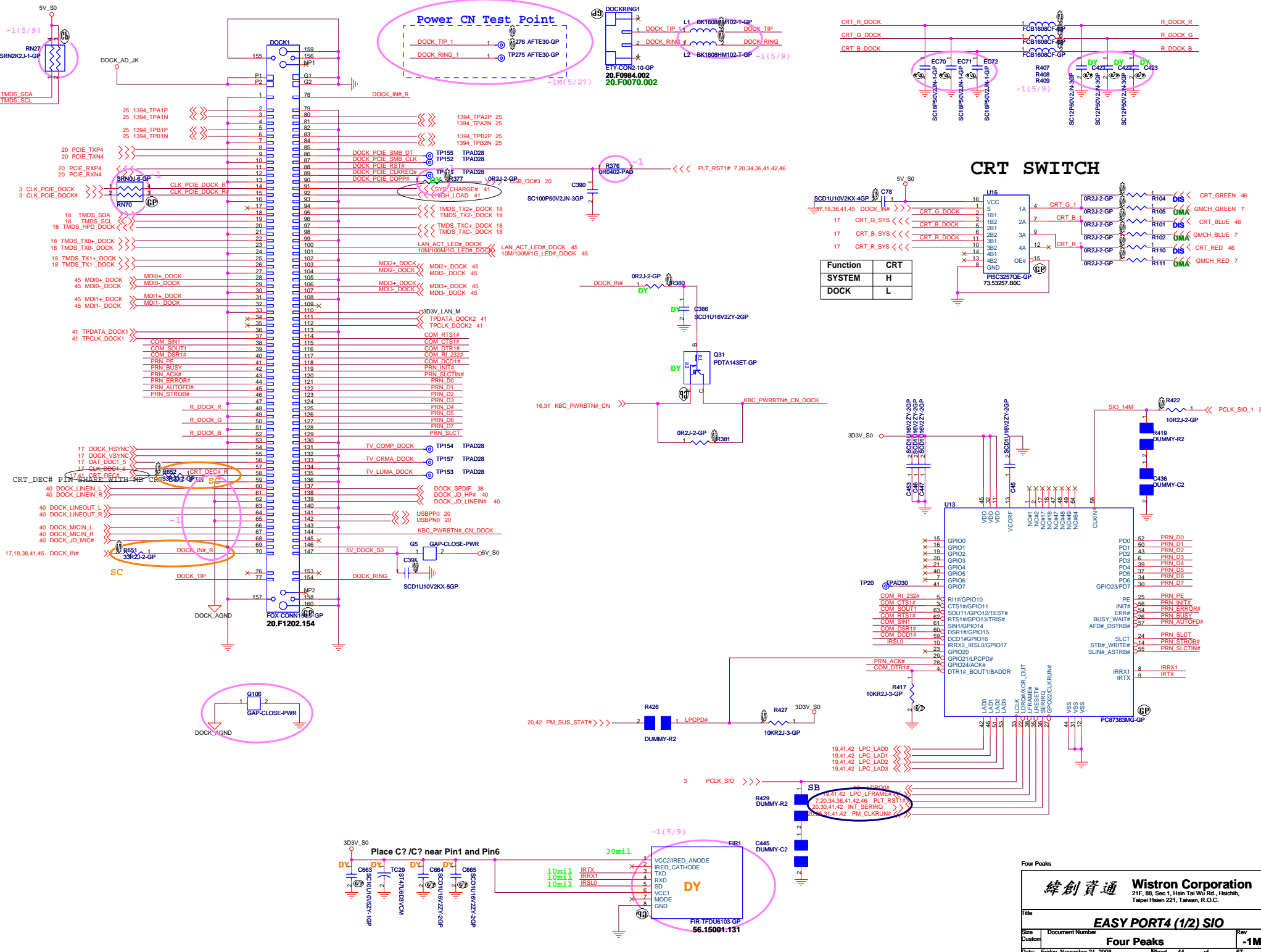
Four Peaks

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

Title **LAUNCH**

Size Document Number **Four Peaks** Rev **-1M**

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Four Peaks

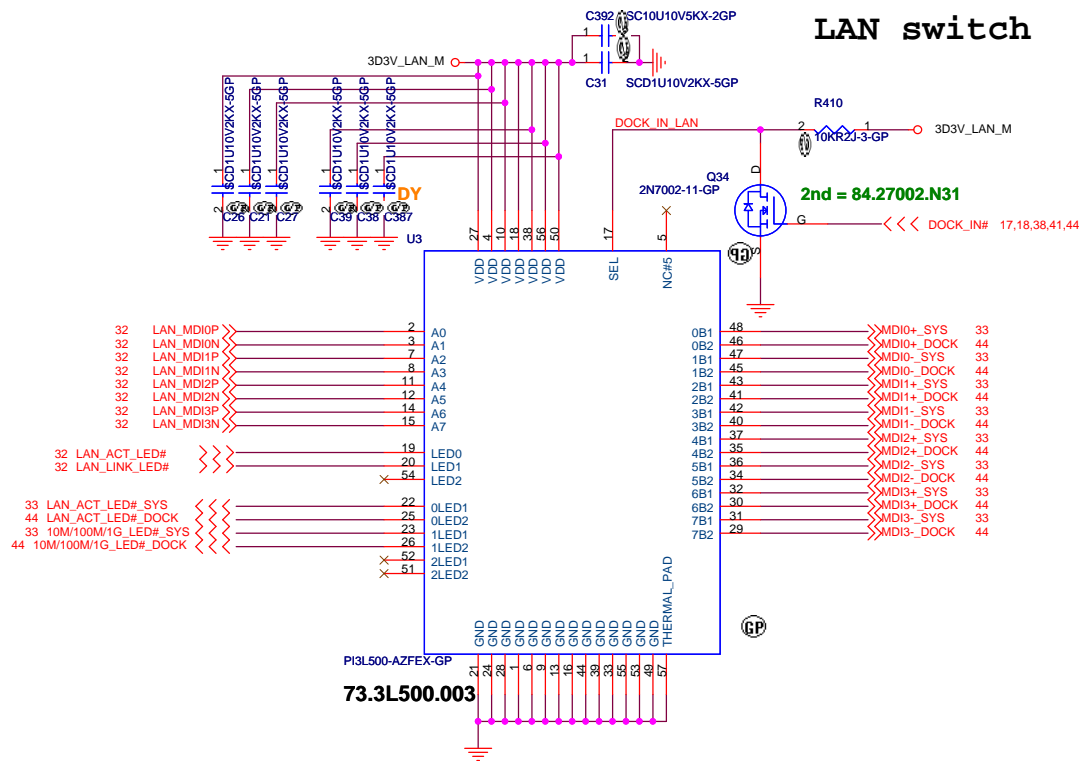
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsinchu, Taipei Hsien 221, Taiwan, R.O.C.

Title: **EASY PORT4 (1/2) SIO**

Size: Document Number: **Four Peaks** Rev: **-1M**


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LAN switch



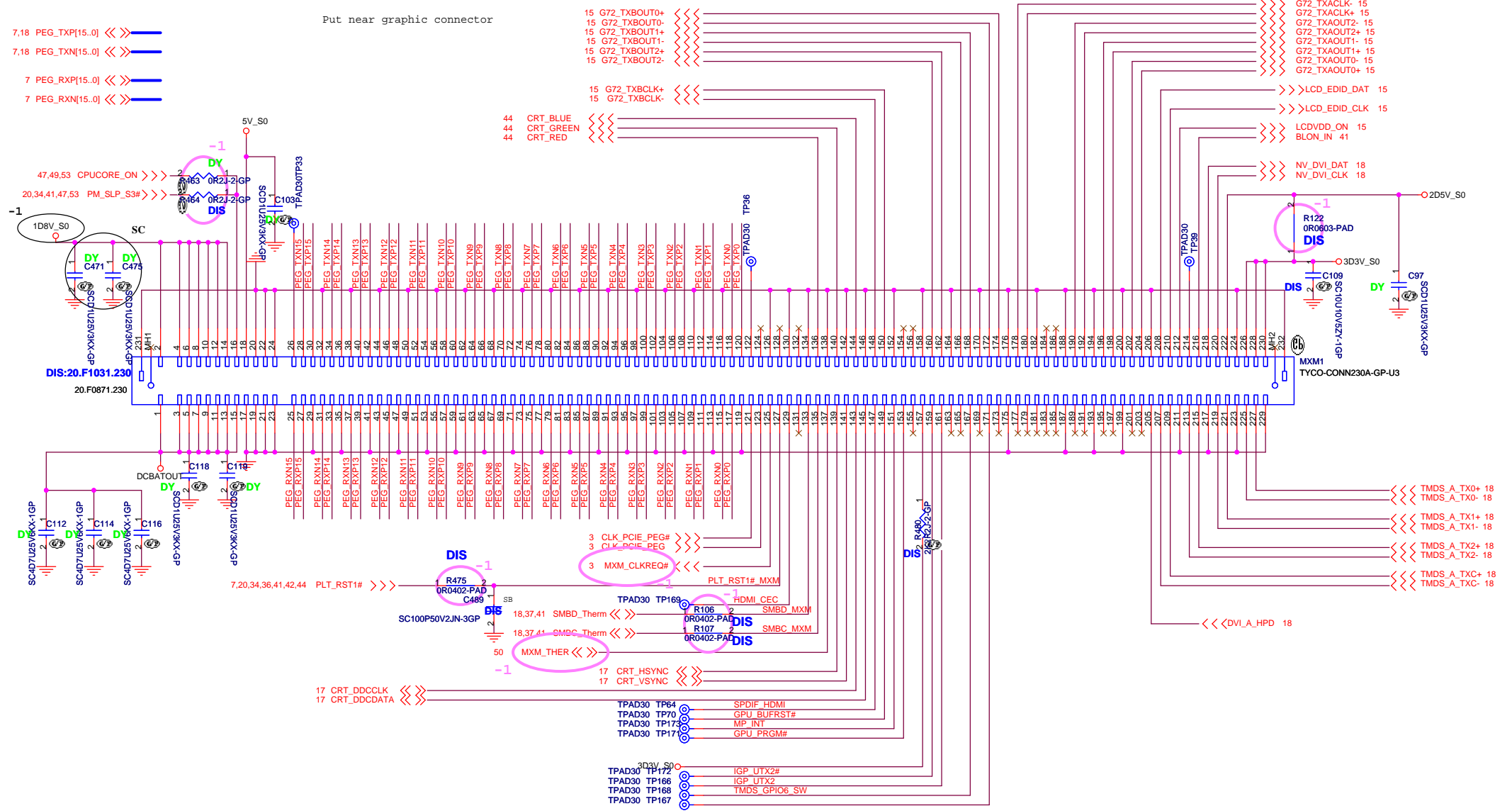
Function	SEL	
to An	L	DOCK
to Bn	H	SYSTEM

Four Peaks

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
EASY PORT4 (2/2)	
Size A3	Document Number Four Peaks
Date: Friday, November 21, 2008	Rev -1M
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NV SMBus
 A(pin143&145) : VGA(CRT) / DOCK
 B(pin218&220) : DVI
 C(pin208&210) : HDMI / TPI / LVDS

Put near graphic connector



Four Peaks

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

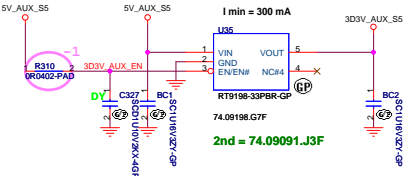
Title

Graphic MXM CONN

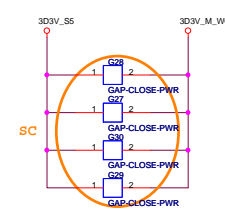
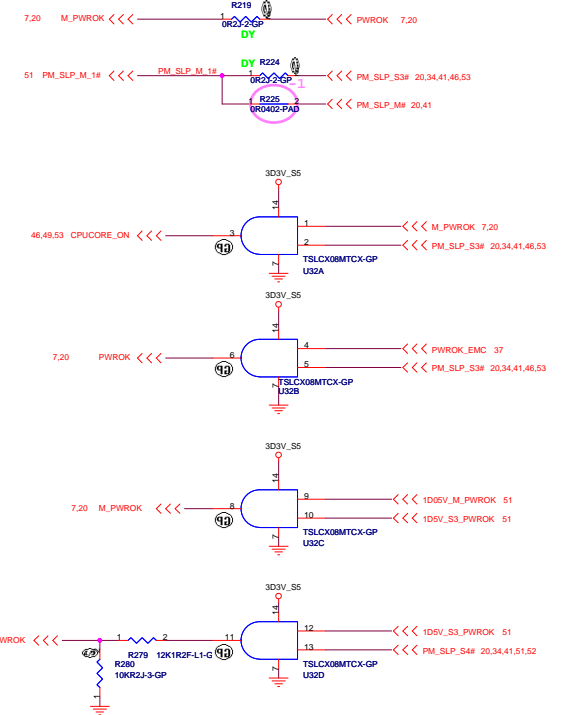
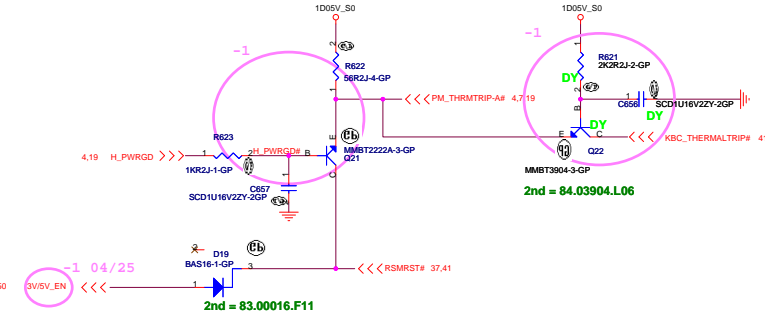
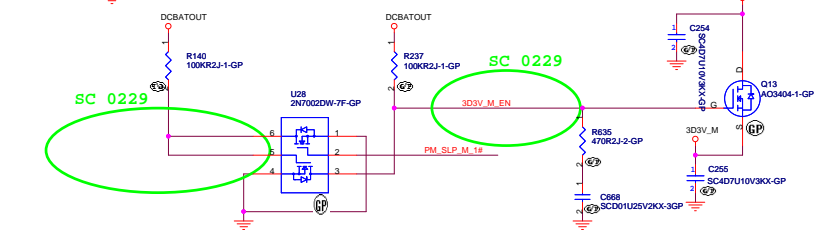
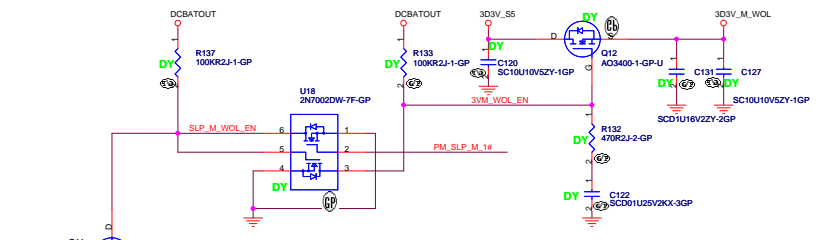
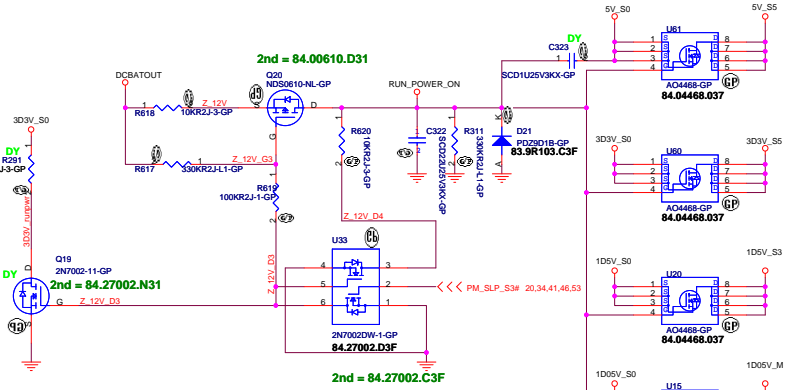
Size A3 Document Number Rev -1M

Date: Friday, November 21, 2008 Sheet 46 of 57

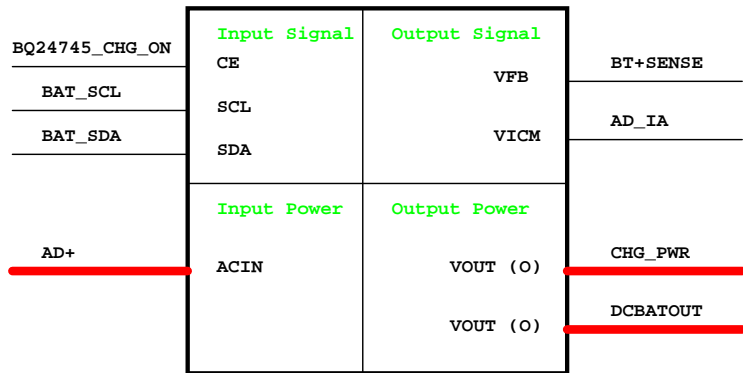
Aux Power 3D3V_AUX_S5



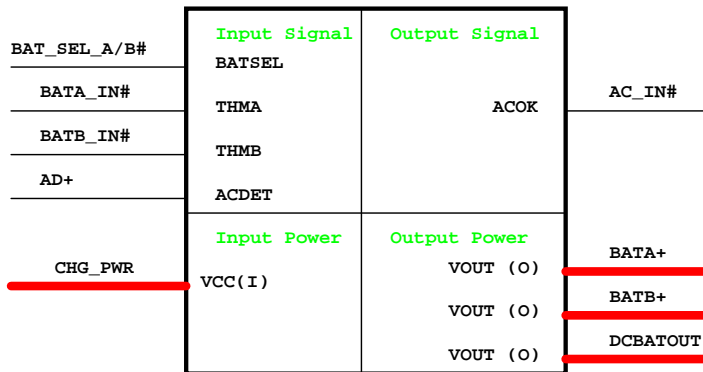
Run Power



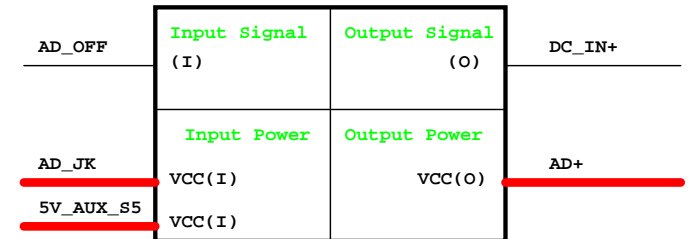
Charger BQ24745



Selector MAX1773



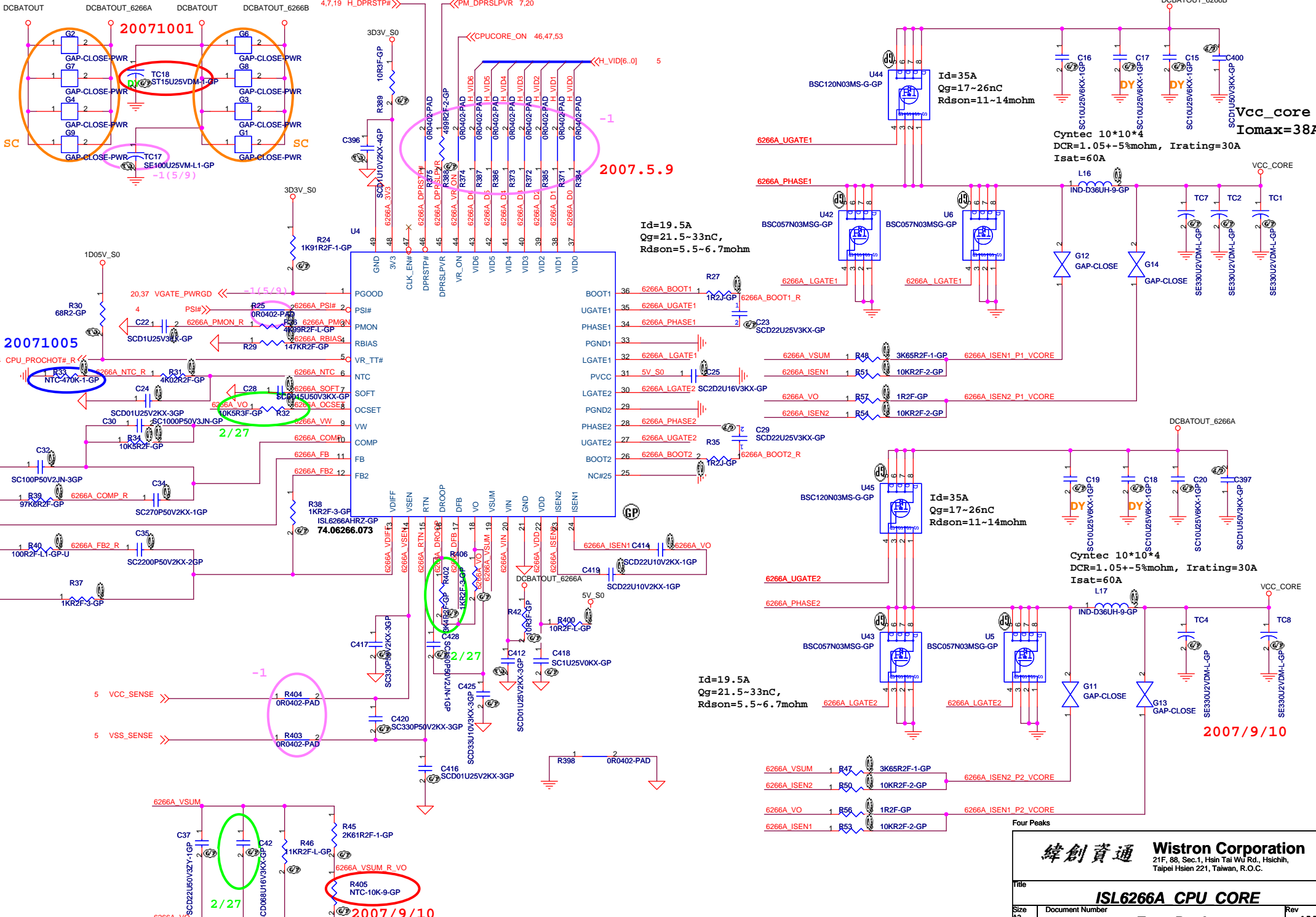
Adapter



Four Peaks

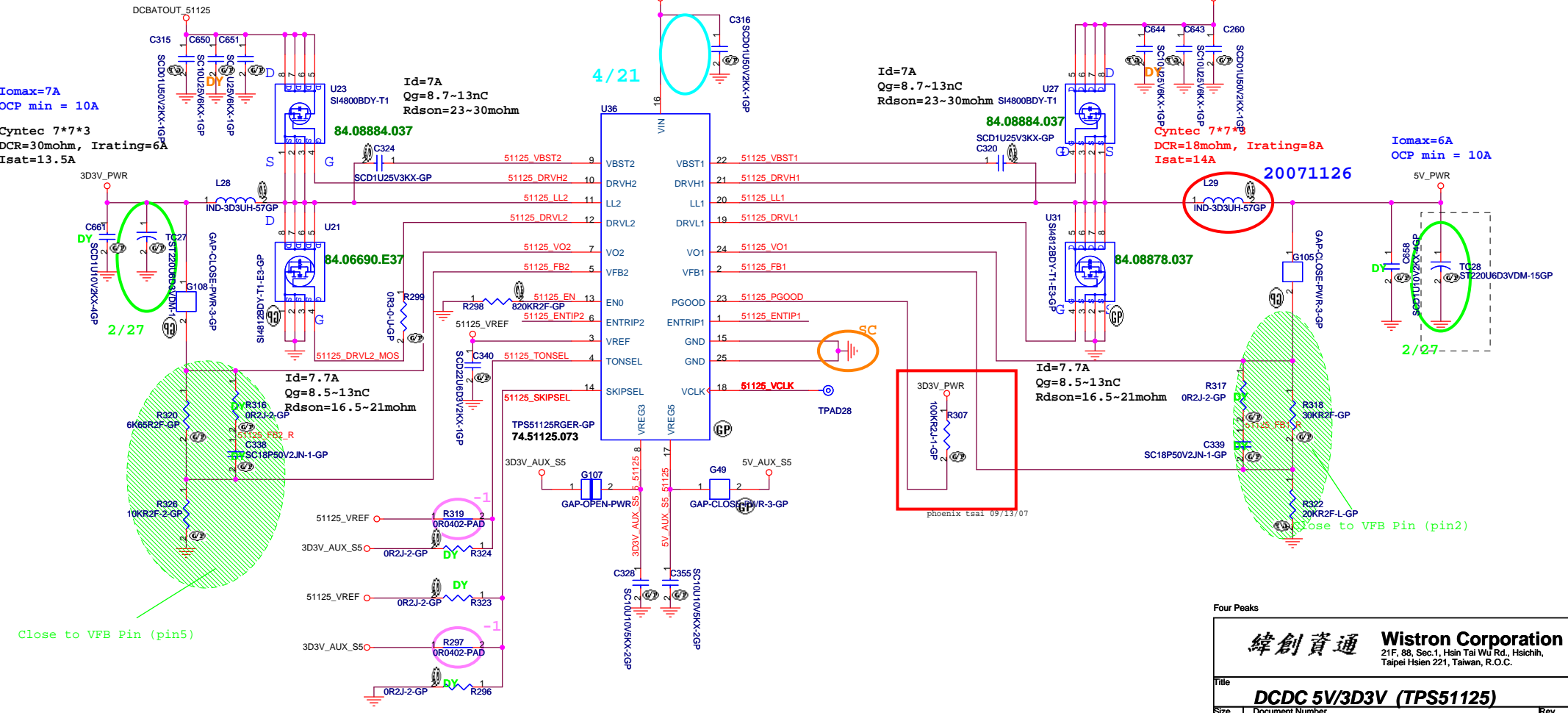
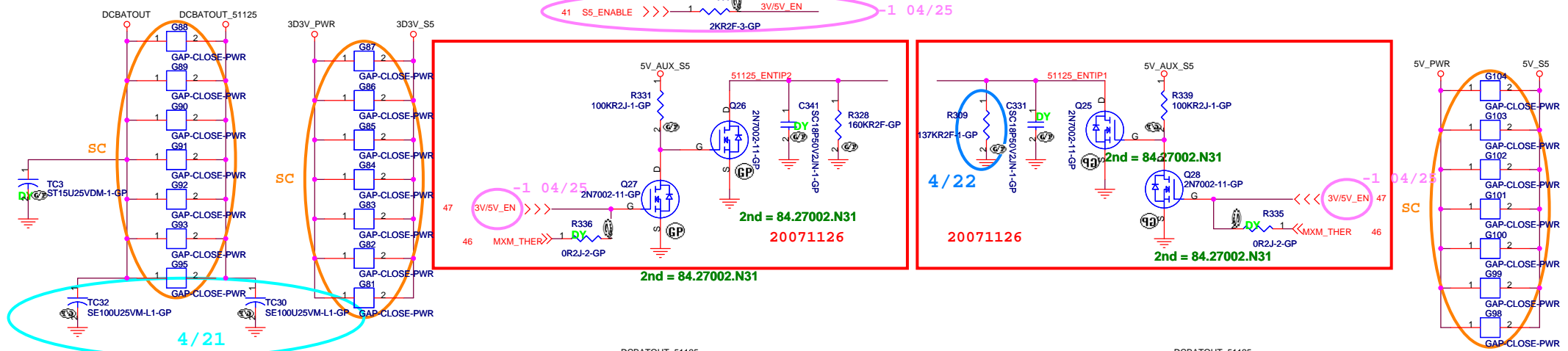
緯創資通 **Wistron Corporation**
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 Taipei Hsien 221, Taiwan, R.O.C.

Title		
Power Block Diagram		
Size B	Document Number	Rev
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 Taipei Hsien 221, Taiwan, R.O.C.

Title ISL6266A CPU CORE		
Size A3	Document Number Four Peaks	Rev -1M
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Four Peaks

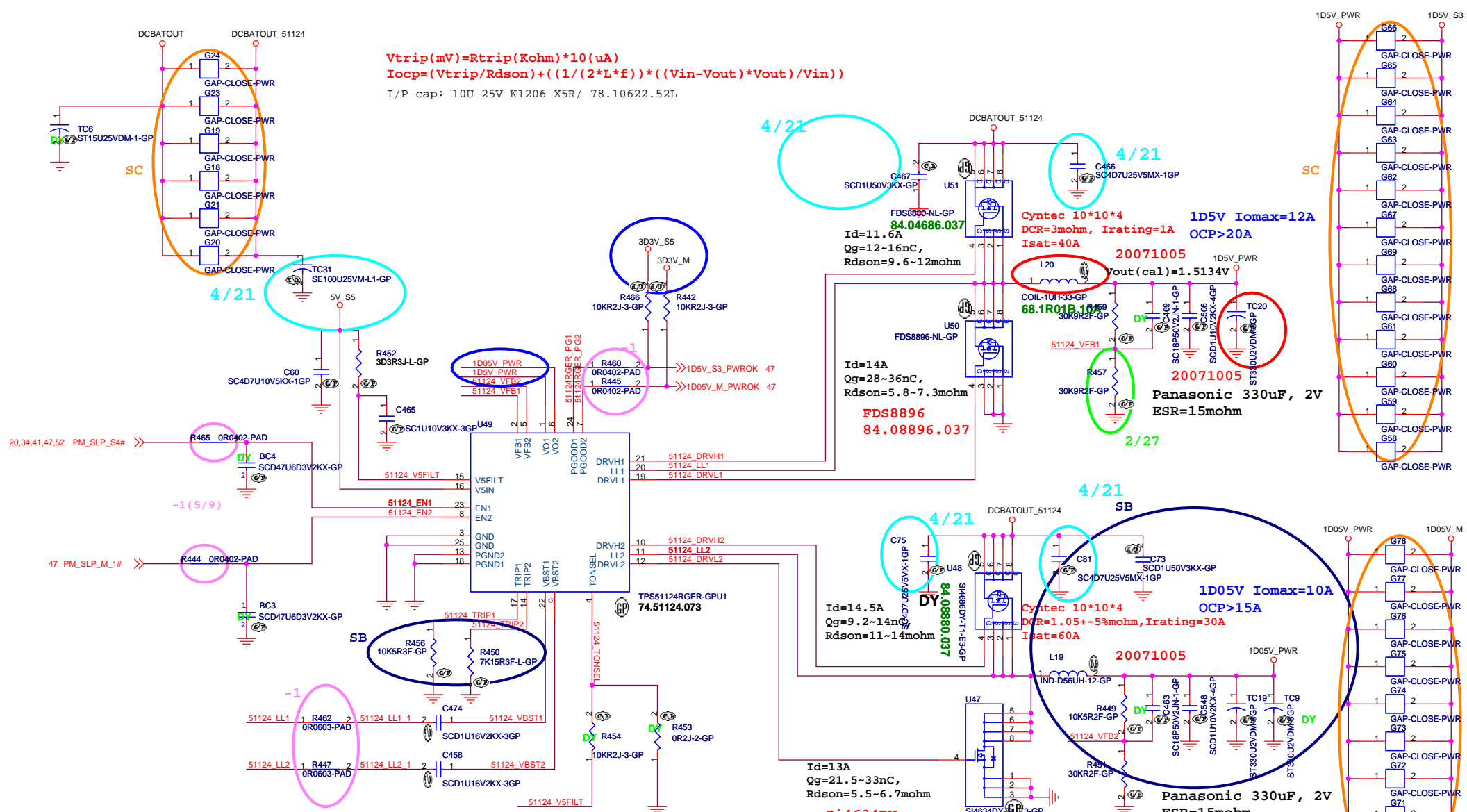
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **DCDC 5V/3D3V (TPS51125)**

Size A3 Document Number Rev -1M

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$V_{trip}(mV) = R_{trip}(Kohm) * 10(\mu A)$
 $I_{ocp} = (V_{trip}/R_{dson}) + ((1/(2*L*f)) * ((V_{in}-V_{out}) * V_{out}) / V_{in}))$
 I/P cap: 10U 25V K1206 X5R/ 78.10622.52L



	GND	OPEN	V5FILT
TONSEL	240k/CH1 300k/CH2	300k/CH1 360k/CH2	360k/CH1 420k/CH2

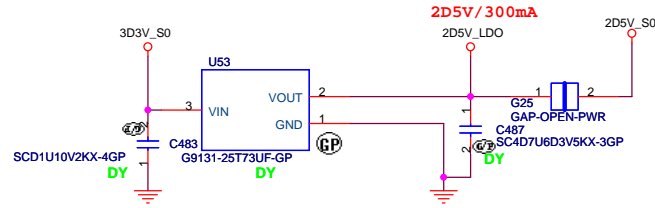
$V_{out} = 0.758V * (R1+R2)/R2$ --> PWM mode
 $V_{out} = 0.764V * (R1+R2)/R2$ --> Skip Mode

Four Peaks

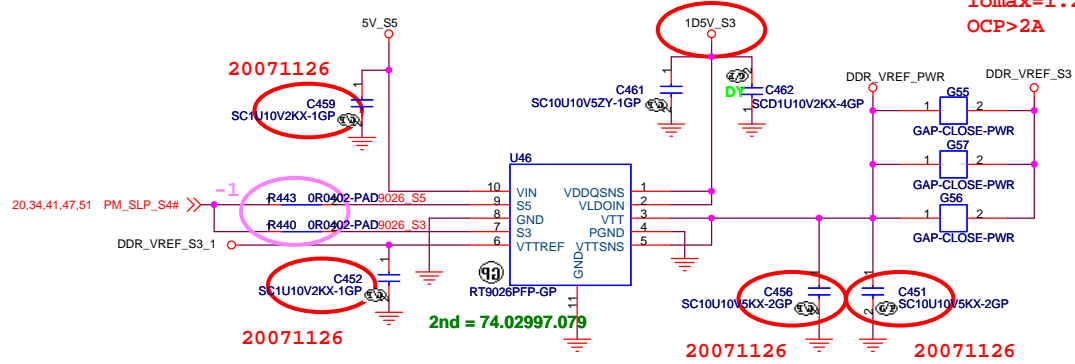
緯創資通 Wistron Corporation
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Title: **TPS51124 1D5V 1D05V**
 Size A3 Document Number **Four Peaks** Rev **-1M**
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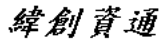
2D5V_S0
Iomax=0.3A

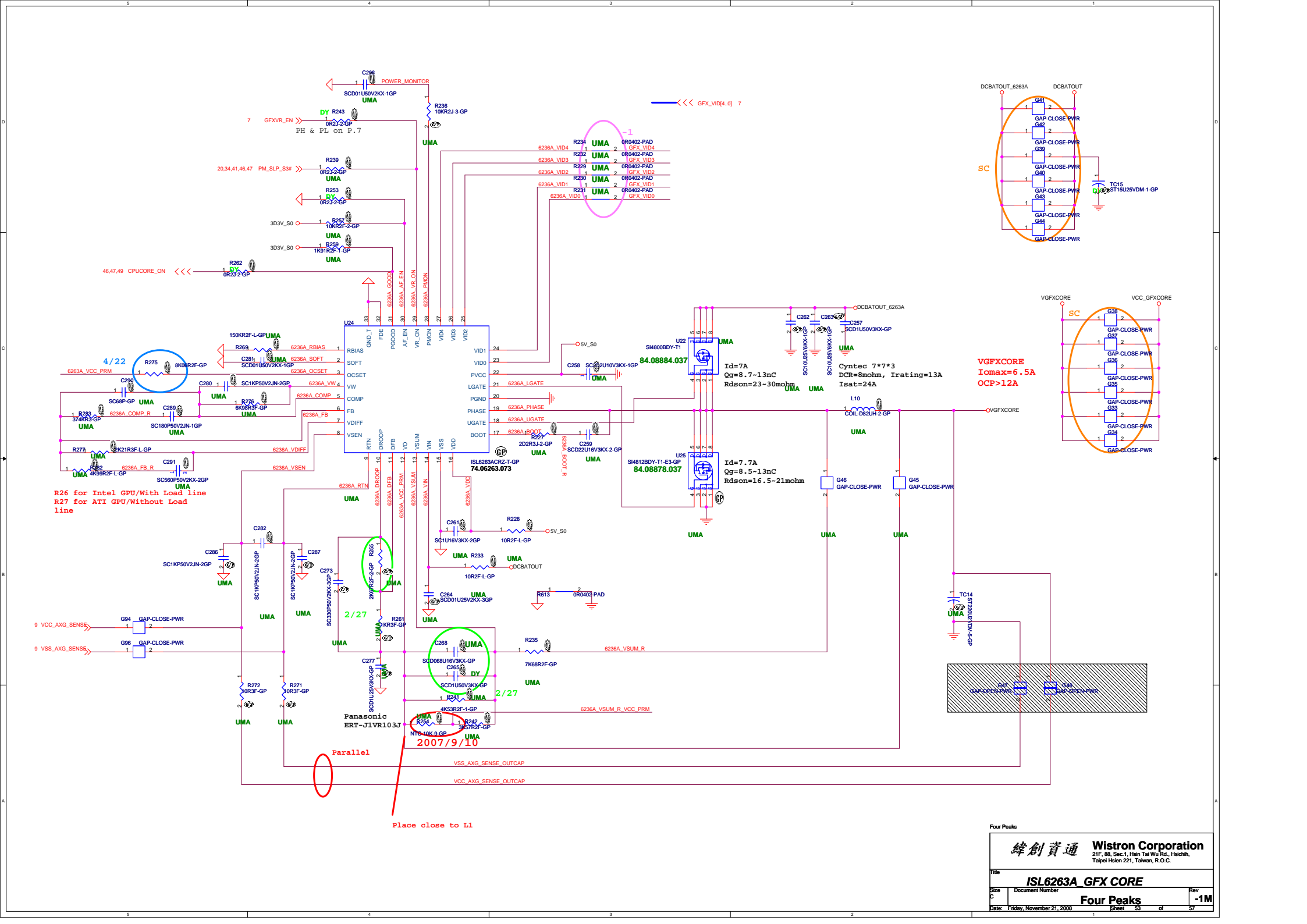


Iomax=1.2A
OCP>2A

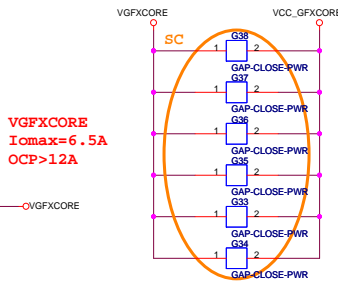
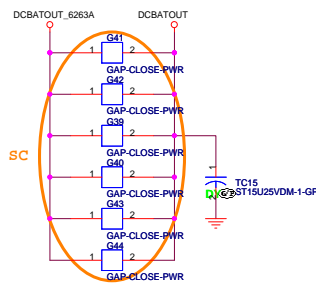


Four Peaks

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0D75V & 2D5V	
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←←← GFX_VID[4..7]



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R26 for Intel GPU/With Load line
R27 for ATI GPU/Without Load line

2/27

2/27

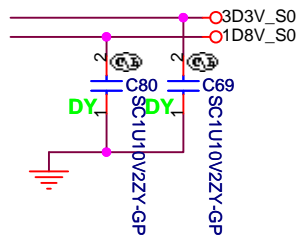
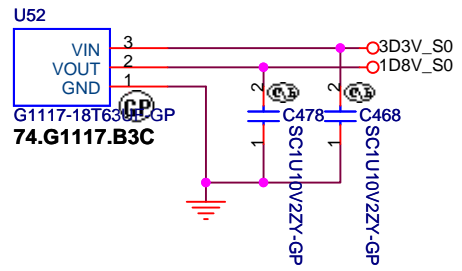
Parallel

Place close to L1

Four Peaks

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Title			
ISL6263A GFX CORE			
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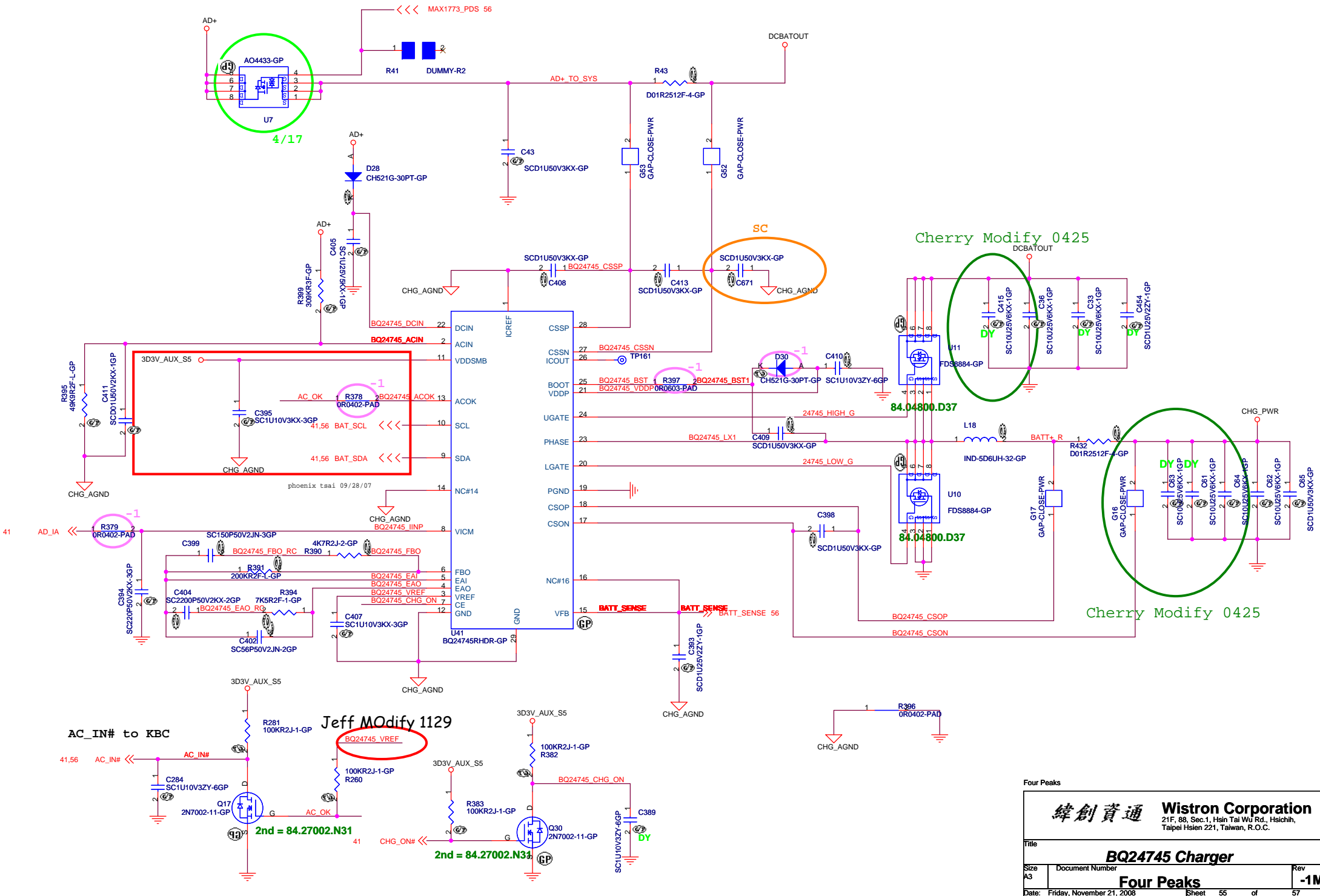


Four Peaks

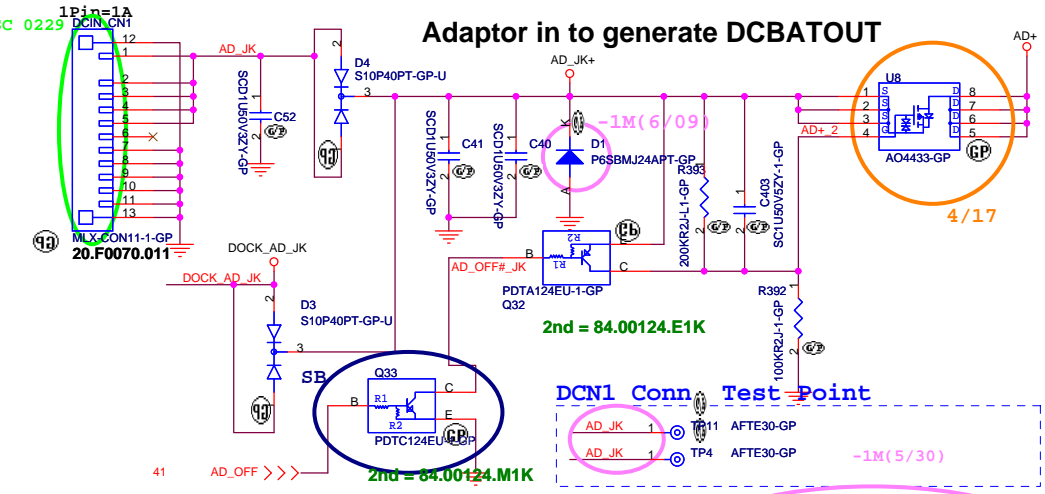
		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
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Title: **VGA CORE S0 (UMA)**

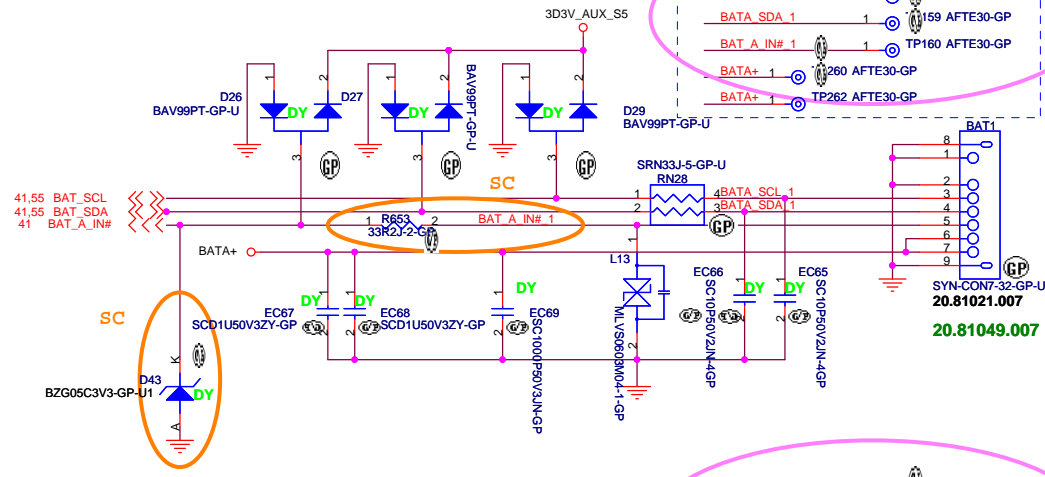
Size: A4	Document Number: Four Peaks	Rev: -1M
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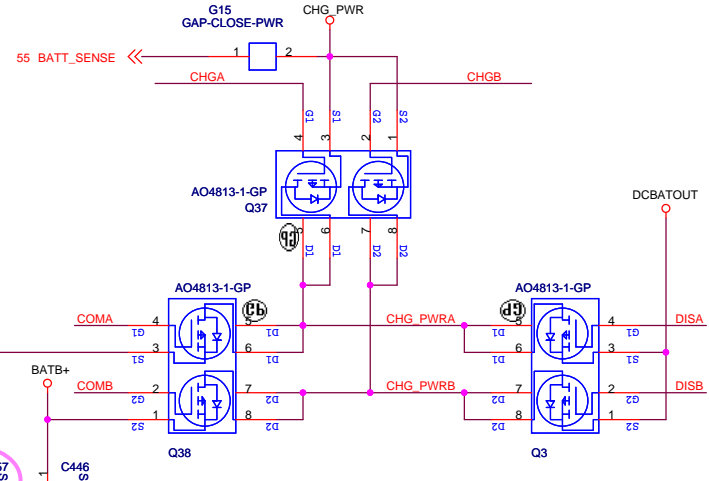
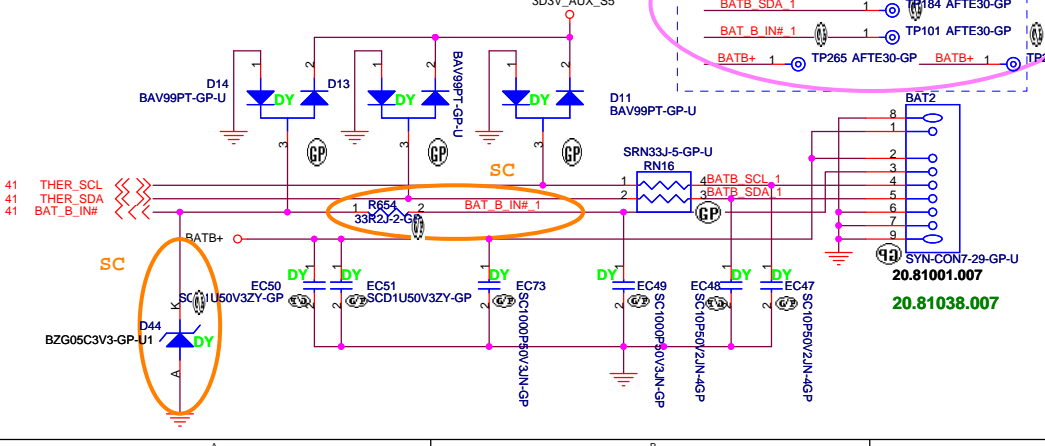
Adaptor in to generate DCBATOUT



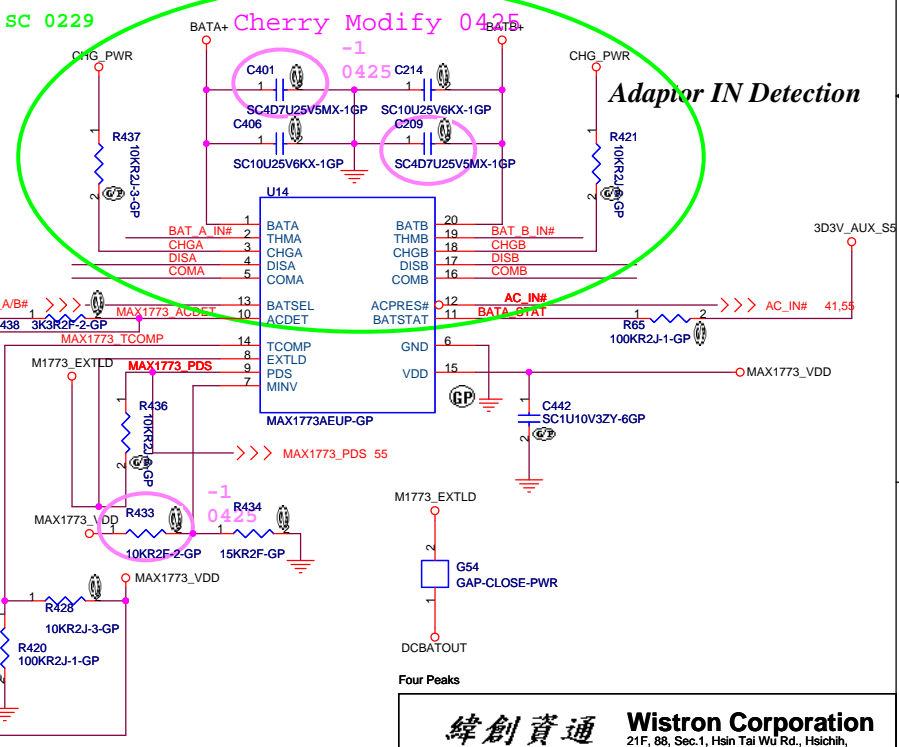
MAIN BATTERY CONNECTOR

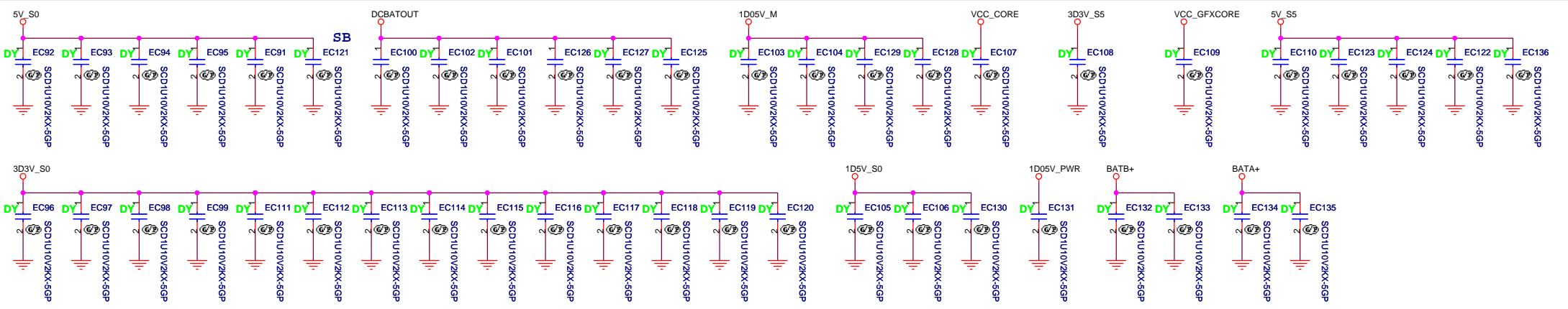


2D BATTERY CONNECTOR

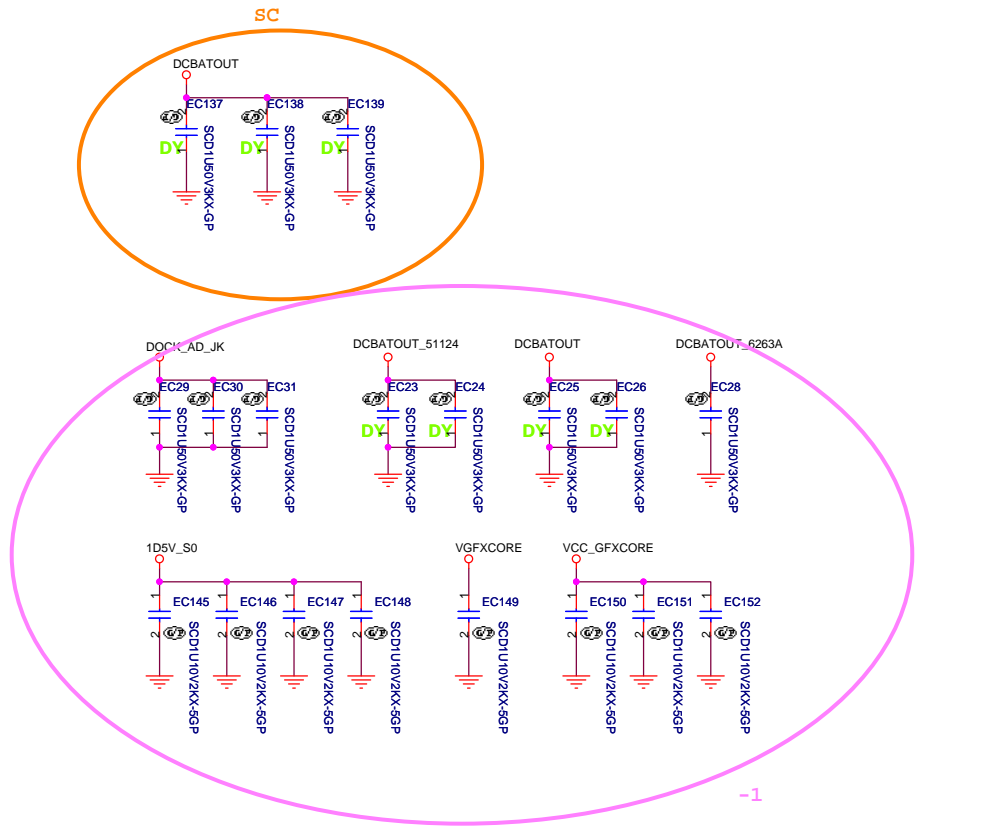
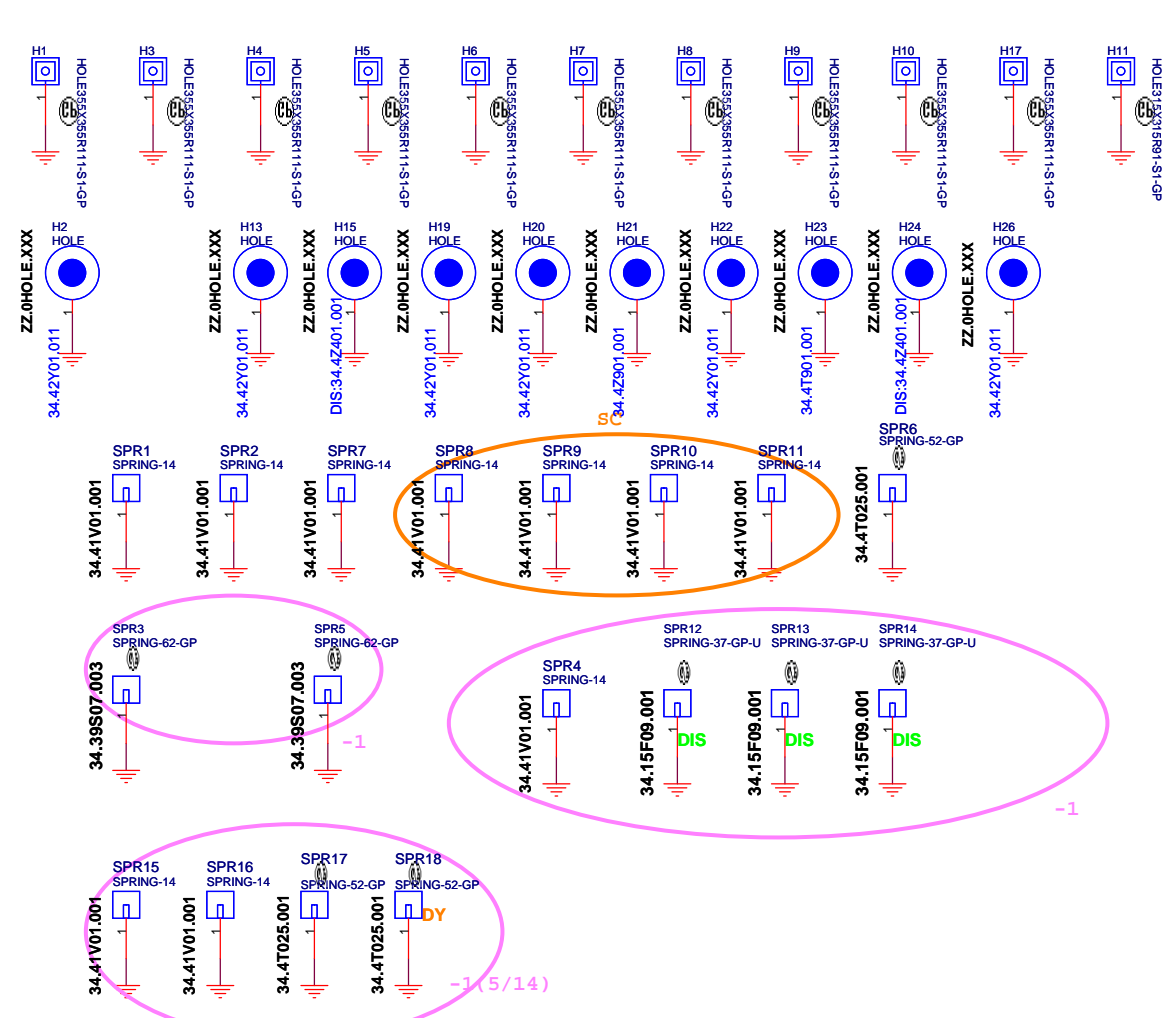


BATTERY SWITCH





Stand off Location



Four Peaks

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Title: **EMI/Spring/Boss**

Size: Document Number

Date: Friday, November 21, 2008

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Rev: **-1M**