Olan (TM15") Block Diagram

Project code: 91.4Z701.001
PCB P/N : 48.4Z701.001
REVISION : 07249-2M

DDR2 667/800 MHz 8,9
DDR2 667/800 MHz 8,9
667/800MHz
667/800MHz
AMD Giffin CPU S1G2 (35W)
638-Pin uFCPGA638
4,5,6,7
OUT
IN
16X16
G792 25
CLK GEN.
SILEGO SLG8SP628 3
North Bridge
AMD RS780M
CPU I/F LVDS, CRT I/F
INTEGRATED GRAHPICS
11,12,13
CRT 18
LCD 16
HDMI 19
PCIex16
VGA Borad 37
A-Link 4X4
South Bridge
AMD SB700
USB 2.0/1.1 ports
ETHERNET (10/100/1000Mb)
High Definition Audio
ATA 66/100
ACPI 1.1
LPC I/F
PCI/PCI BRIDGE
20,21,22,23,24
LAN Giga LAN BCM5764M 35
TXFM 36
RJ45 36
New card 38
PWR SW TPS2231 38
Mini Card Kedron a/b/g/n 39
PCIex1
Cardbus OZ711MZ 32
MS/MS Pro/xD /MMC/SD/SD IO 5 in 1 33
PCMCIA SLOT 34
PCI
LPC BUS
USB
SATA
Line In 42
Codec ALC268 40
AZALIA
MIC In 42
42
Line Out (No-SPDIF)
42
OP AMP G1454R 41
INT.SPKR
RJ11
MODEM MDC Card 29
HDD SATA 27
ODD SATA 26
Mini USB Blue Tooth 28
Finger Printer 31
Camera
USB 4 Port 30
KBC Winbond WPC775 43
Touch Pad 43
INT. KB 43
BIOS Winbond W25X80 44
Launch Buttom 15
LPC DEBUG CONN. 44
45,46
CRT
DVI
RJ45
USBX4
HP OUT
MIC IN
LINE IN
Port Replicator

PCB STACKUP

TOP
VCC
S
S
GND
BOTTOM

SYSTEM DC/DC TPS51125 51	
INPUTS	OUTPUTS
DCBATOUT	5V_S5(7A) 3D3V_S5(7A)

SYSTEM DC/DC TPS51124 52	
INPUTS	OUTPUTS
DCBATOUT	1D1V_S0(9A) 1D2V_S0(5A)

SYSTEM DC/DC TPS51117 53	
INPUTS	OUTPUTS
DCBATOUT	1D8V_S3(10A)

RT9026PFP 54	
5V_S5	DDR_VREF_S3 0D9V_S3

RT9166 54	
3D3V_S0	2D5V_S0 (300mA)

G957 54	
3D3V_S0	1D5V_S0 (1A)

G9161 54	
3D3V_S5	1D2V_S5 (400mA)

CHARGER BQ24745 55	
INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 6.0A UP+5V 5V 100mA

CPU DC/DC ISL6265HR 50	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE_S0_0 0~1.55V 18A VCC_CORE_S0_1 0~1.55V 18A VDDNB 0~1.55V 18A

UMA NODOCK

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

Title: BLOCK DIAGRAM
Size: A3 | Document Number: Olan | Rev: -2M
Date: Monday, May 05, 2008 | Sheet 1 of 58

5.Page 19: "HDMI1" add 2'nd source 62.10078.171.
6.Page 18: "F3" change to FUSE-1A6V-2-GP.
7.Page 30: "USBCN1" change to "20.F0765.020"
8.Page 26: ODD connector "SKT1" change to "62.10065.291"
9.Page 40: Add analog MIC schematic.
10.Page 46: Add "RN65" for NO duck LAN LED
11.Page All: Close PWR GAP
12.Page 03: Update "U18" foot print
13.Page 57: Add test point under Dimm Door
14.Page 55: "R32" pull hi from "3D3V_AUX_S5" to "BQ24745_VREF"
15.Page 41: Change audio AMP to G1454R41
16.Page 55: Change C34 size from 0402 to 0603
17.Page 57: Add EMI capacitor follow EMI recommend
18.Page 22: Add E-SATA schematic
==========
2007/12/20
1.Page 12: "R109" change to "768R2F-1-GP"
2.Page 46: Remove "RN19" "RN21" "RN22" "RN23" "RN53" "RN54" "RN55" "RN56"
3.Page 46" connect U12 HDMI switch to PEG_TX
4.Page 51 : Modify 5V & 3D3V 51125_ENTIP1 & 51125_ENTIP2 schematic.
5.Page 06: PH 300 ohmo on "CPU_DBREQ#"; PL 300 ohmo on "CPU_TEST21" & "CPU_TEST24"
6.Page 12: PH "SUS_STAT#" 10K ohmo to 3D3V_S0
7.Page 45: Add "DOCK1" PIN 51 "CRT_DEC#"
8.Page 46: Modify HDMI switch to "PS8122QFN48G-GP"
==========
2007/12/25
1.Page 46: Connect "3D3V_S0" to U12 remove "3D3V_S0_PI"
2.Page 45: Add "R497" "R498" "R499" for DIS CRT switch
3.Page 46: Add Pi filter before dock & C818 C819 for VSYNC_5 and HSYNC_5
4.Page 37: Add "R618" PU for "AC/BAT_DET"
==========
2007/12/26
1.Page 21: Swap USB port 8 and Port 10.
2.Page 45: Follow net swap report.
3.Page 41: Add "R633" DY PL "1451_SD"
4.Page 46: RN19~RN23, RN42~RN45 & RN65 change to SRN0J-10-GP
5.page 43: Add R634 ,U17 pin120 connect “SPI_WP_R#”
6.Page 30: Follow Homa modify "USBCN1"
==========
2007/12/27
1.Page 11: NEW CARD PCIE channel change to channel 3.
2.Page 21: "DOCK_DT1#" change to "GEVENT7#" and DY 0 ohmo resistor
3.Page 37: Add "R618" PU for "AC/BAT_DET" on MXM pin 157, Connect MXM SMB with "RN53"
4.Page 45: Add Pi filter before dock
5.Page 18: change R113, R114, R106 and R99 to 33ohm. change C471, C468 and C466 to 2.2pf.
6.Page 43: Change R186 to 150ohm for PLT_RST1#_1 (KBC U20A)
7.Page 35: Change C86 to 150pf LAN_RST (LAN U8)
8.Page 32: Change C631 to 150pf PLT_RST1#_MXM (U58 OZ711)
9.Page 37: Change C510 to 330pf for PLT_RST1#_MXM (MXM)
10.Page 33: Add C650 to 220pf for PCIRST1# (CR U67)
11.Page 38: Add C639 to 220pf for NEW_RST# (NEW U66)
12.Page 43: R181 change to 30KF for BOM integrate
13.Page 39: Change R226 to 470ohm for MINI_RST# (MINI MINIC1)
14.Page 12: Add 330pf C551 between R313 and ground for SYSREST# (NB U43C).
15.Page 40: Change C379 to 56pf for RESET# (AUDIO U24)
16.Page 06: Change R298 to 33ohm for LDT_RST#_CPU
17.Page 45: Change RN4 connect to "CRT_R_S" "CRT_G_S" "CRT_B_S"
18.Page 24: Change R89 to 10R2J-2-GP for BOM integrate
19.Page 46: Follow net swap report.
20.Page 57: Add Spring "GND1" "GND2"
==========
2007/12/28
1.Page 57: Add EMI capacitor follow EMI recommend.
2.Page 45: ADD EC191 EC192 EC193 follow EMI recommend.
==========
2007/12/28a
1.Page 40: Codec IC change to ALC268.
2.Page 41: ADD U69 G1412 AMP for Line out.
3.Page 33: Add EMI capacitor Follow EMI recommend
==========
2007/12/31
1.Page 22: Change PlanarID to SB and ADD CLK_ID to identify Clock Gen.
2.Page 42: Modify "INTMIC1: to MONO MIC
3.Page 40: Modify ALC_268 to MONO MIC schematic, Add "DOCK_DT1#" on "GPIO1"
==========
2008/01/02
1.Page 40: Change Speaker and Line-out channel.
2.Page 40: Chanhe "DOCK_DT1#" connect to GPIO3 U24 pin 3.
3.Page 40: Modify "MIC" and "Line_in" schematic.
4.Page 30: Modify "USBCN1" schematic follow Homa.
5.Page 43: Add "R654" 10K PU 3D3V_S0 for "FP_DETECT#".
6.Page 21: Add "R200" 10K PU 3D3V_S0 for "FP_ID"
7.Page 51: Add "R549" 0 ohm for "MXM_THER".
8.Page 40: Change R196 to 64.39225.6DL 39.2K.
9.Page 21: Remove "R397" "R489" R490" "R491", add "RN56" for component count.
==========
2008/01/03
1.Page 50: Change C4 to SC1U10V3KX-3GP for BOM integrate
2.Page 55: Change C296 form SC1U25V5KX-1GP (P/N 78.10522.21L) to SC1U25V0KX-GP (P/N 78.10522.5BL)
3.Page 43: Remove "R188" "R177" "R185" "R189", add "RN56" for component count.
4.Page 46: Swap U12 Pin 29 & Pin 28; add C394, C395 D01u.
5.Page 22: Add U41 E-STAT solution
6.Page 21: Add R326 for NB_PWRGD
7.Page 48: Add R498 for NB_PWRGD
==========
2008/01/03a
1.Page 46: Modify SM BUS PH resistor
2.Page 40: Add "R119" and "R177" for ALC268 GPIO1
==========
2008/01/04
1.Page 22: Swap RN68 net
==========
2008/01/04a
1.Page 57: Remove H23; H24.
2.Page 06: Remove R300, R301, change to "RN71"
==========
2008/01/07
1.Page All: Follow Net swap report.
==========
2008/01/07a
1.Page 22: Swap U41 Pin 3, 4 & Pin 17, 18.
==========
2008/01/07b
1.Page 57: Add H23 screw holl.
==========
2008/01/07c
1.Page All: Follow Net swap report.
==========
2008/01/01
1.Page 45: Change "DOCK1" to 20.F1257.001.
==========
2008/02/04
1.Page 40: Add R327, R328, EC200, EC201 for EMI solution.
==========
2008/02/05
1.Page 22: Add R397 follow caystal FAE recommend.
2.Page All: Short 0 ohm resistor with PAD.
3.Page 18: Remove "D2" "D3" "D4" for ME & Layout
==========
2008/02/13
1.Page 41 & 42: Modify Line-out jack connection.
==========
2008/02/13a
1.Page 06: Follow AMD recommend Add & Dummy "R503" to PU "CPU_LDT_REQ#".
==========
2008/02/13b
1.Page 06: Change "R503" to "R304" to PU "ALLOW_LDTSTOP".
2.Page 06 & 12: Remove net "CPU_LDT_REQ#" Replace with "ALLOW_LDTSTOP"
3.Page 21: Add "R134" & "R185" for "HDMI" on SB700 "GPIO0".
4.Page 42: Change "C400" "C401" to "R301" & "R218"
==========
2008/03/03
page3, remove RN31 (control by SW)
page12,merge R105,R107 to RN29
merge R309,R310,R311 to RN72 (R309 can use 3K)
page14 merge R477,R476 to RN73
page16 RN1 change to 2 pcs 0ohm PAD "R476" "R477"
merge R29,R30 to RN53
page18 merge R106,R99 to RN75
merge R113,R114 to RN74
merge R283,R284 to RN30
merge R275,R276 to RN32
merge R319,R98 to RN31
page20 change R165,R164,R404,R403 to 0 ohm PAD (only use for strap,don't need 22 ohm)
page21 merge R170,R159 to RN34
merge R162,R160 to RN33
R185 for Dock(input can't floating)
page22 Short R140,R138
C672,C671,C673,C674 for E-SATA only,need add DIS
check with SW to remove CLK_ID setting(use SMBus)
dummy all E-SATA re-driver
change RN67,RN68 to PAD
page24 merge R437,R421 to RN35
merge R344,R355 to RN36
del R360,R366,merge R361,R365 to RN37
page35 change R265,R263,R67,R87,R72,R269,R270,R79,R260,R58,R54,R56,R38,R44,R42,R46,R74,R83 TO 0ohm PAD
page37 change r456 to PAD
page39 check R224/R225,R222/R229, need confirm spec

page40 check R327,R328 with EMI
change RN55,R325 to PAD
Modify schematic for current leackage on "DOCK_DT1#"
R119 for Dock (input can't floating)
page42 merge R217,R220 to RN55
merge R214,R215 to RN67
merge R475,R479 to RN76 (need change to 48 ohm)
page44 change ER1, ER2,ER4 to PAD
dummy EC69
change ER3 to 33 ohm
page47 change R316 to PAD
page48 level shift for NB_PWRGD
page50 change R12,R13,R14,R3,R4,R7 to PAD
page53 change R261 to PAD
page54 change R317,R318 to PAD
page55 change R148,R147,R132,R131 to PAD
merge R28,R32,R31,R37 to RN77 (please take care R32 power)
==========
2008/03/04
1.Page 26: Modify "SKT1" ODD connector.
2.Page 45: Merge "R292" "R293" to "RN68".
3.Page 51: change R416,R441 to PAD for noise issue.
4.Page 16: "F2" change to "69.50007.A31".
==========
2008/03/04b
1.Page 51: change R416,R442 to PAD and DY "R441" for noise issue.
2.Page 17: "LED3" change to "3D3V_S5" "LED2" change to "3D3V_AUX_S5".
3.Page 30: Modify "USBCN1" pin define.
4.Page 40: Remove "C377" "C379" short them
5.Page 40: Remove "R177" for new INTMIC connector
6.Page 42: Modify "INTMIC" schematic.
7.Page 45: Merge R497, R498, R499 to RN68; R287, R286, R289 to RN78.
8.Page 16: Add RN79 for ESD.
9.Page 45: "DOCK1" "PIN S51" change to "CRT_IN#_R" for ESD.
10.Page 45: Add "RN80" for ESD
11.Page 56: Add "D30" on "BAT_IN#" for ESD, Change "RN59" to 8P4R for "BAT_IN#" ESD
==========
2008/03/05
1.Page 32: Add "R220" and Dummy for "PME" issue.
2.Page 39: Change "3D3V_S5_MINI1" to "3D3V_S5" and Change "3D3V_S0_MINI" to "3D3V_S5".
3.Page 17: Merge "R485" "R486" to "RN81"; Merge "R487" "R488" to "RN82".
4.Page 17: Change "R473" to "453R2F-1-GP"; Change "R480" to "150R2F-1-GP".
5.Page 14: Merge "R179" "R180" to "RN83".
6.Page All: Follow Swap report.
==========
2008/03/06
1.Page 30: "USBCN1" pin 15 change to GND.
2.Page 22: Remove "U41" relative schematic.
3.Page 40: "RN41" change to 4P2R
4.Page 42: Merge "R474" "R475" to "RN84".
5.Page 42: Change "EC6" "EC7" "EC8" "EC9" to 0603
6.Page 40: Change "EC200" "EC201" to 0603
7.Page 38: "U66" change to 74.00577.A73
8.Page 57: ADD EMI capacitor "EC203" ~ "EC220".
9.Page 40: Merge "R329" "R330" "R325" to "RN85" for ESD.
10.Page 42: Short "RN67" with PAD.
==========
2008/03/06a
1.Page 51: Change "TC17" "TC10" to 77.21561.00L & mount.
2.Page 50: Change "C7" "C8" to 77.21561.00L & mount.
3.Page 52: Change "TC19" to 79.10712.L02.
4.Page 55: Add "C826" for Vendor suggest added decoupling capacitor in CSSN to ground.
==========
2008/03/07
1.Page 55: Change "D9" to 83.R0203.08F & mount.
2.Page 57: Add Spring "GND5 and EMI capacitor "EC221" ~ "EC229".
==========
2008/03/10
1.Page 57: Add "GND11" for EMI, "GND8" "GND9" "GND10" change to "34.15F09.001".
2.Page 52: Change "TC21" to SE100U25VM-L1-GP.
3.Page All: Follow Swap net.
==========
2008/03/10a
1.Page 55: Change "TC21" to SE100U25VM-L1-GP.
2.Page 57: Remove "GND6" "GND7".
==========
2008/03/11
1.Page 57: Remove "EC204" "EC205".
==========
2008/03/11a
1.Page 40: "R194" change to "51R2J-2-GP".
2.Page 29: "R235" change to "15R2J-GP" & DY "C424".
3.Page 21: Change "RN33" to "R655" & "R656" with "27R2J-1-GP"; Change "RN34" to "SRN47J-7-GP"; UNdummy "EC61" "EC62".
4.Page 48: Add "U70" for "NB_PWRGD" level shift.
==========

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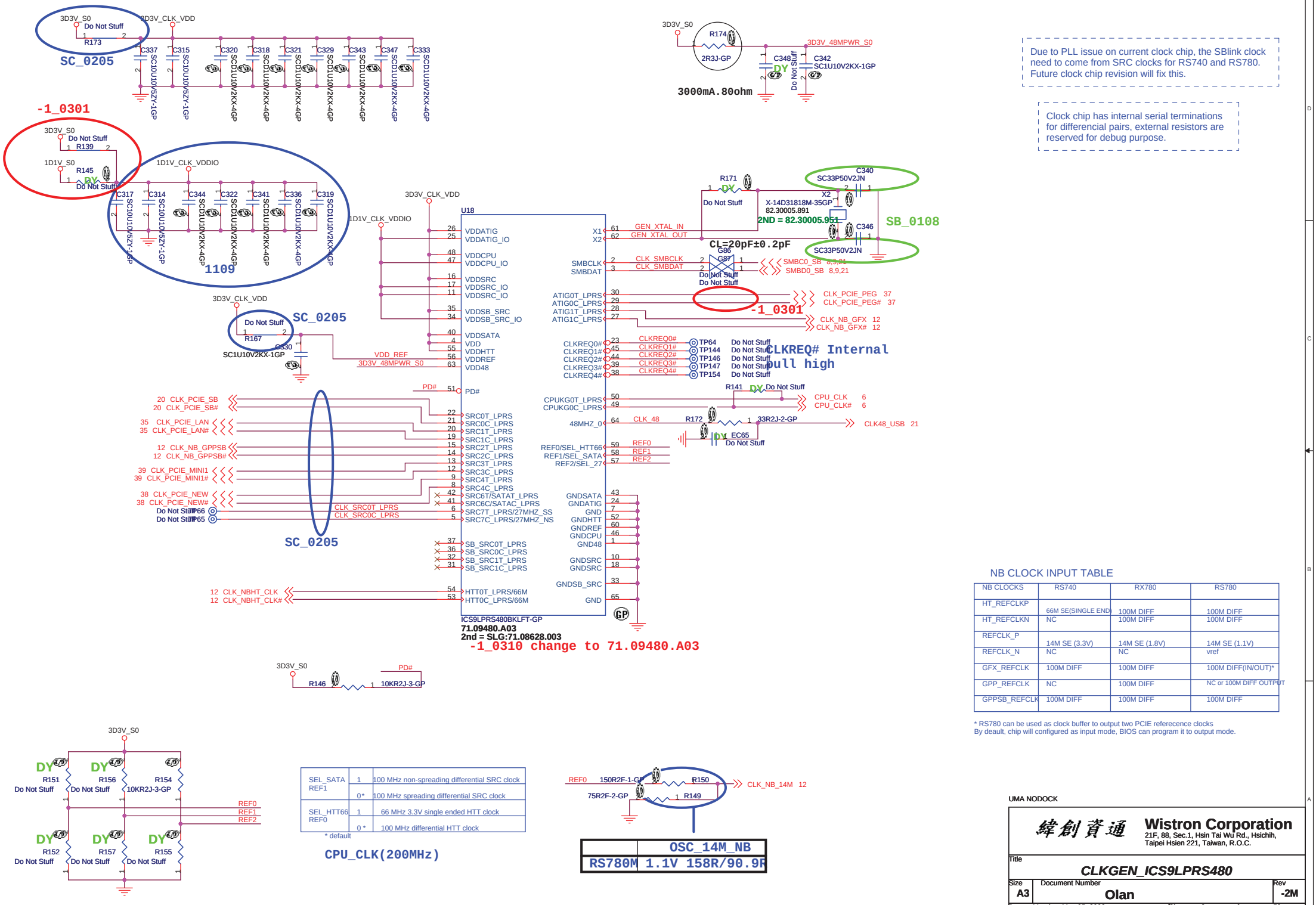
Title: **HISTORY**

Size	Document Number	Rev
A3	Olan	-1

Date: Friday, April 18, 2008 Sheet 2 of 58



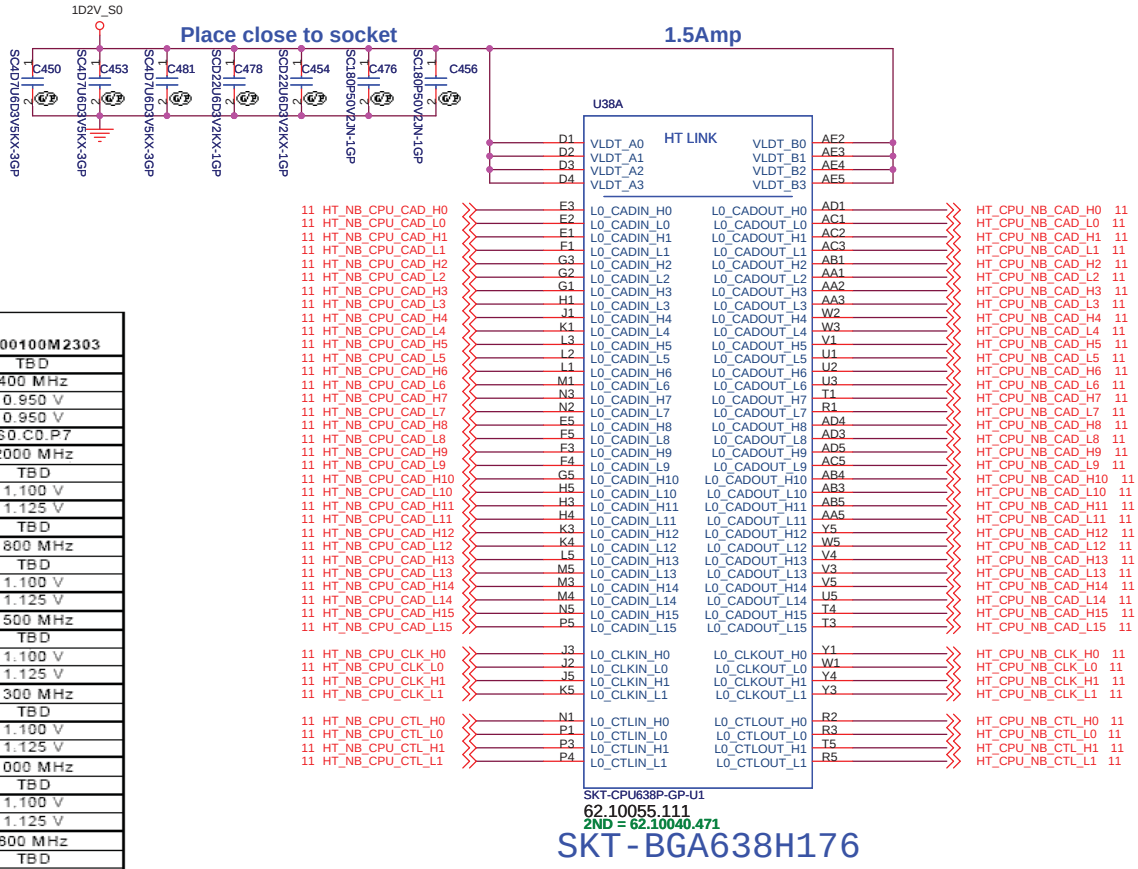
NB CLOCK INPUT TABLE

NB CLOCKS	RS740	RX780	RS780
HT_REFCLKP	66M SE(SINGLE END)	100M DIFF	100M DIFF
HT_REFCLKN	NC	100M DIFF	100M DIFF
REFCLK_P	14M SE (3.3V)	14M SE (1.8V)	14M SE (1.1V)
REFCLK_N	NC	NC	vref
GFX_REFCLK	100M DIFF	100M DIFF	100M DIFF(IN/OUT)*
GPP_REFCLK	NC	100M DIFF	NC or 100M DIFF OUTPUT
GPPSB_REFCLK	100M DIFF	100M DIFF	100M DIFF

* RS780 can be used as clock buffer to output two PCIE referecence clocks
By deault, chip will configured as input mode, BIOS can program it to output mode.

SEL_SATA REF1	1	100 MHz non-spreading differential SRC clock
	0*	100 MHz spreading differential SRC clock
SEL_HTT66 REF0	1	66 MHz 3.3V single ended HTT clock
	0 *	100 MHz differential HTT clock

* default



State	Specification	Notes	2M200100M2303
S0.C0.Px	Tcase Max	3	TBD
	NB COF	1	400 MHz
	VID_VDDNB Min	2	0.950 V
	VID_VDDNB Max	2	0.950 V
	Startup P-state		S0.C0.P7
S0.C0.P0	CPU COF	1	2000 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
	IDD Max	3	TBD
S0.C0.P1	CPU COF	1	1800 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P2	CPU COF	1	1500 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P3	CPU COF	1	1300 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P4	CPU COF	1	1000 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P5	CPU COF	1	800 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P6	CPU COF	1	500 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V
S0.C0.P7	CPU COF	1	300 MHz
	TDP	3	TBD
	VID_VDD Min	2	1.100 V
	VID_VDD Max	2	1.125 V

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Title: CPU_HT_LINK I/F_(1/4)

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

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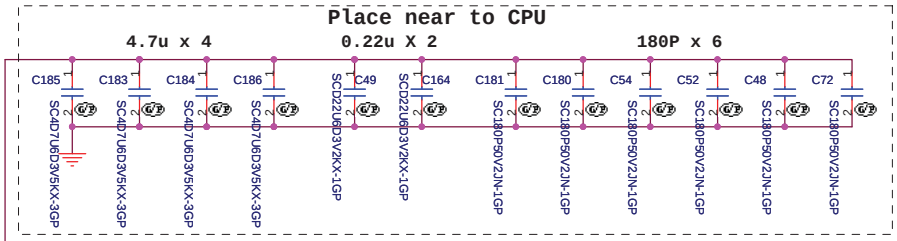

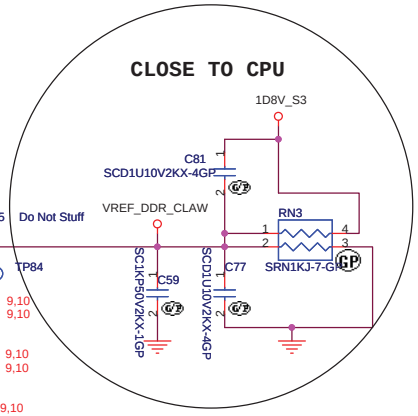

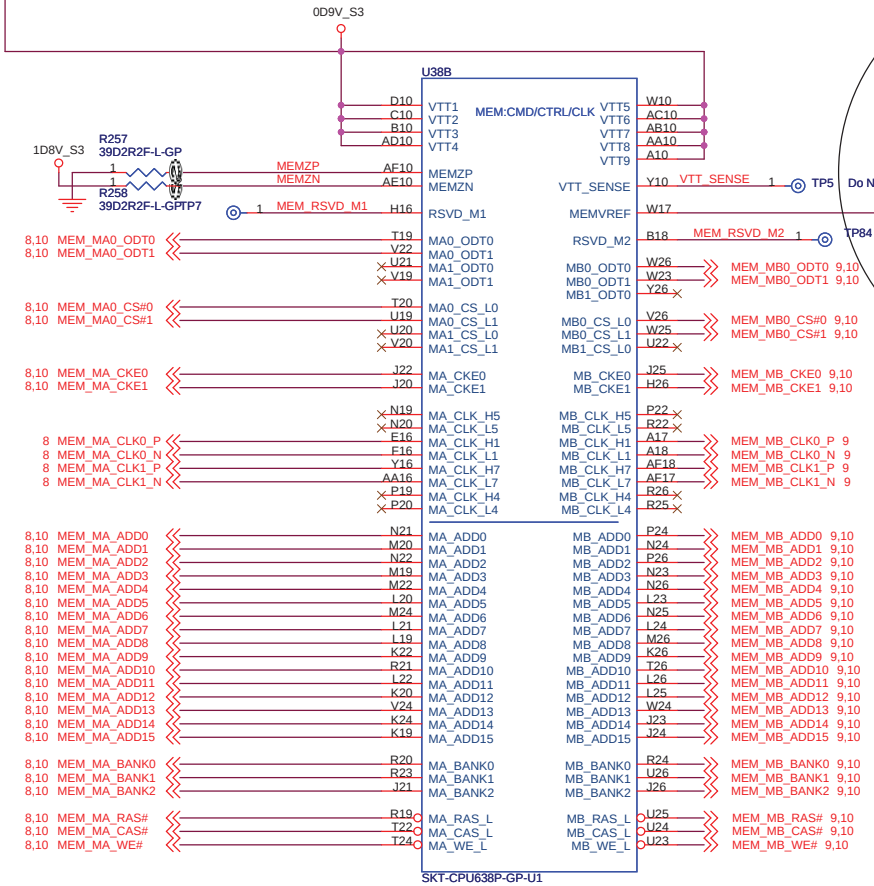

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Title: ***CPU_DDR_(2/4)***		
Size: A3	Document Number: **Olan**	Rev: -1
Date: Friday, April 18, 2008	Sheet 5 of 58	

The Processor has reached a preset maximum operating temperature. 100℃
I=Active HTC
O=FAN

SC_0213

SB

SB with 0402 PAD

IF 0 ohm IS NOT GOOD ENOUGH, TRY 68.00082.491

LYAOUT:ROUTE VDDA TRACE APPROX. 50mils WIDE(USE 2X25 mil TRACES TO EXIT BALL FIELD) AND 500 mils LONG.

SC_0205

Cloce To CPU

For HDT DBG

internal pull high 300 ohm

LAYOUT: Route FBCLKOUT_H/L differentially impedance 80

SB

SC_0205

Near CPU PIN

2ND = 84.03904.H11

CPU exceeds to 125℃

HDT Connectors

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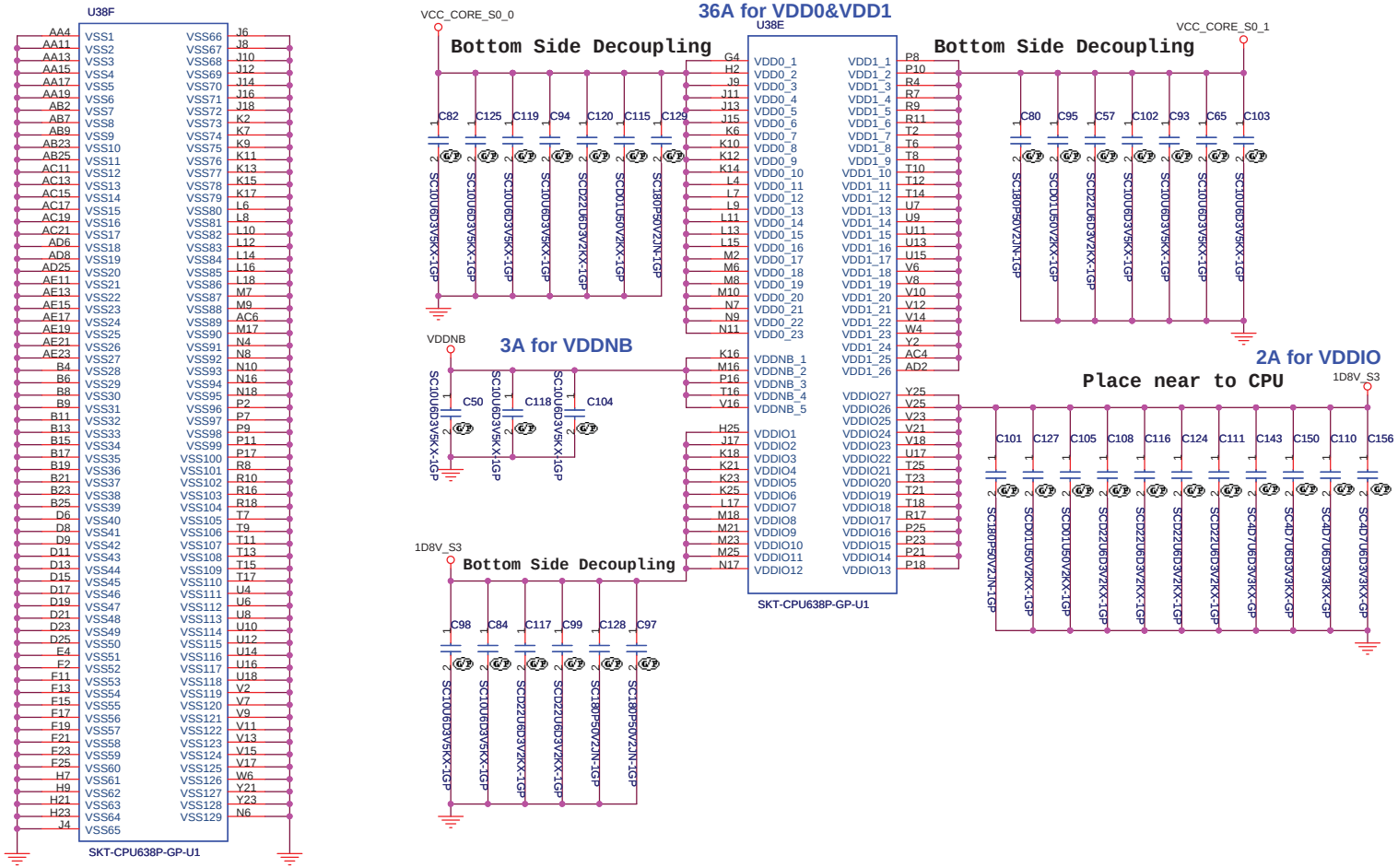
Title: CPU_Control&Debug_(3/4)

Size: A3 | Document Number: Olan | Rev: -2M

Date: Monday, May 05, 2008 | Sheet 6 of 58



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Title	CPU_Power_(4/4)	
Size: A3	Document Number: Olan	Rev: -1
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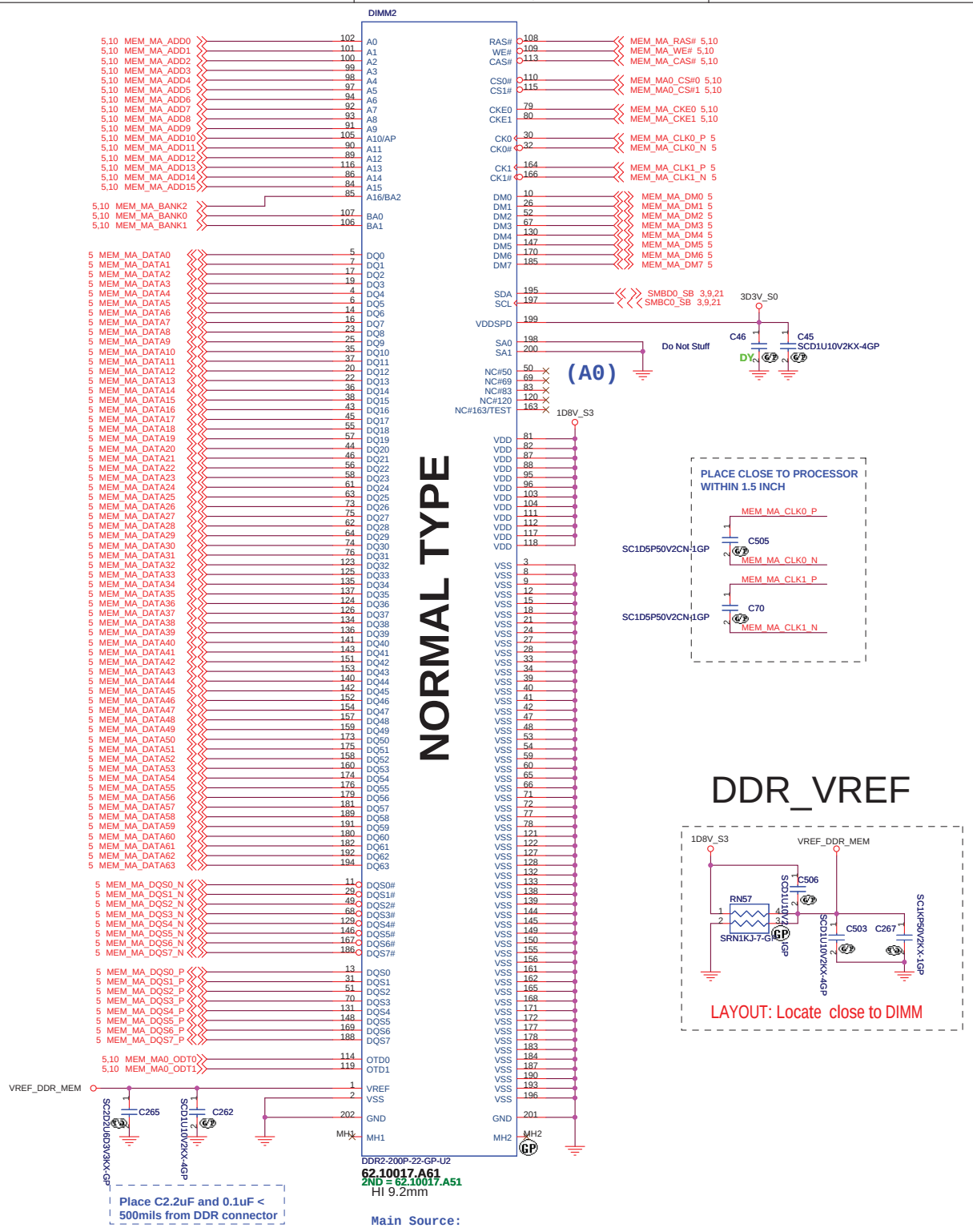

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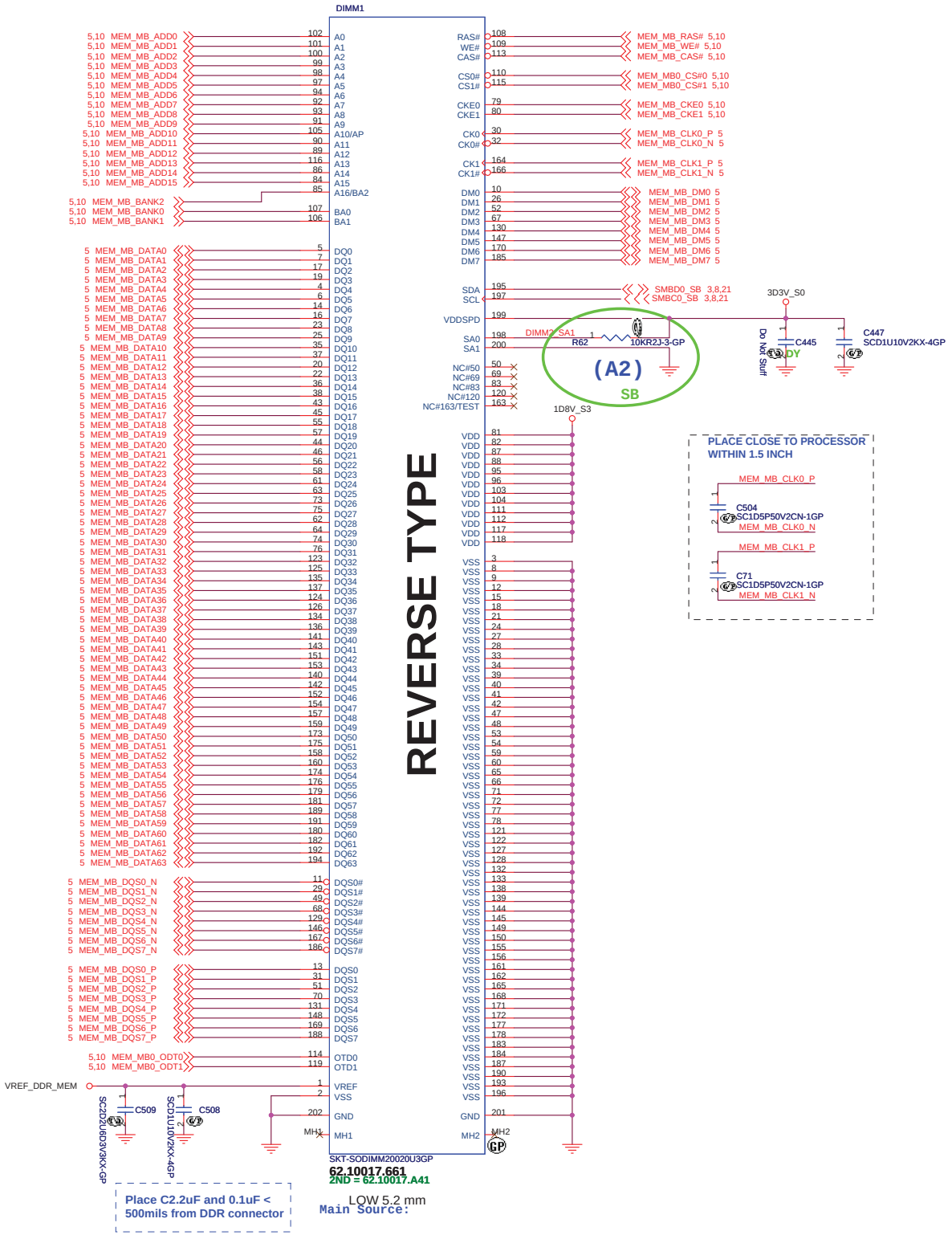
Title: DDR_SO-DIMM SKT_1

Size	Document Number	Rev
Custom	Olan	-1

Date: Friday, April 18, 2008 Sheet 8 of 58

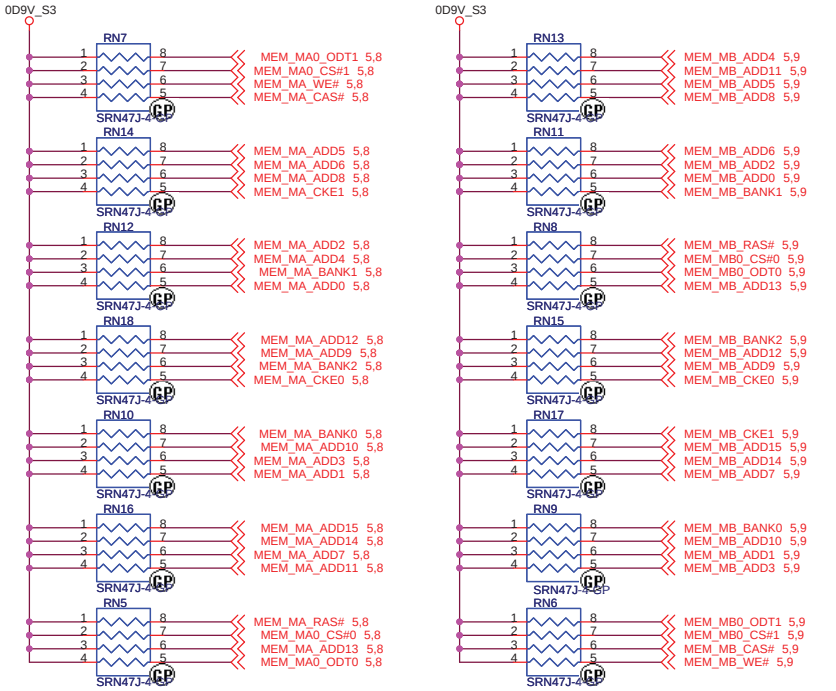


UMA NODOCK

Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	DDR_SO-DIMM SKT_2
Size: Custom	Document Number: Olan
Rev	-2M
Date: Monday, May 05, 2008	Sheet 9 of 58

PARALLEL TERMINATION

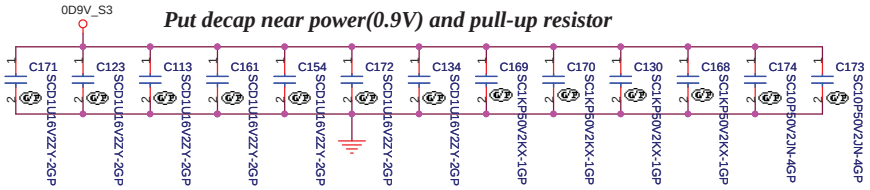
Put decap near power(0.9V) and pull-up resistor



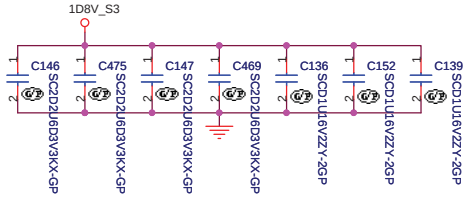
Do not share the Term resistor between the DDR addess and Control Signals.

Decoupling Capacitor

Put decap near power(0.9V) and pull-up resistor

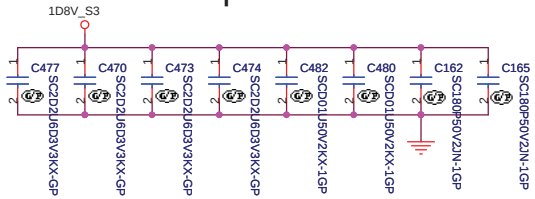


Place these Caps near DM1



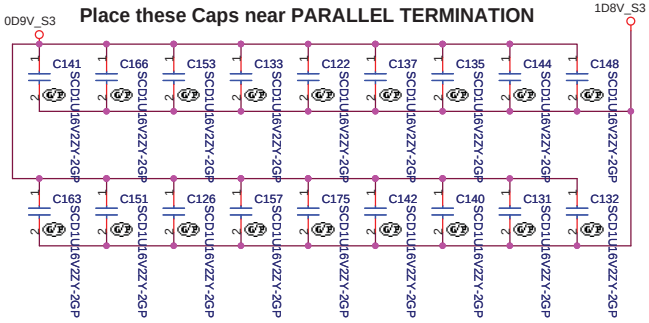
Layout Note:
Place one cap close to every 2 pullup resistors terminated to 0D9V_S3

Place these Caps near DM2



Layout Note:
Place one cap close to every 2 pullup resistors terminated to 0D9V_S3

Place these Caps near PARALLEL TERMINATION



UMA NODOCK

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

Title: ***DDR_DAMPING & TERMINATION***

Size	Document Number	Rev
A3	Olan	-1

Date: Friday, April 18, 2008 Sheet 10 of 58

U43A

PART 1 OF 6

HYPER TRANSPORT CPU I/F

RS780M-GP-U1

Place < 100mils from pin C23 and A24

Place < 100mils from pin B25 and B24

Placement: close RS780

U43B

PART 2 OF 6

PCIE I/F GFX

PCIE I/F GPP

PCIE I/F SB

RS780M-GP-U1

Place < 100mils from pin AC8 and AB8

SB

LAN

MINICARD

NEW CARD

A-LINK

RS780M Display Port Support(muxed on GFX)

DP0	GFX_TX0,TX1,TX2,TX3,AUX0,HPD0
DP1	GFX_TX4,TX5,TX6,TX7,AUX1,HPD1

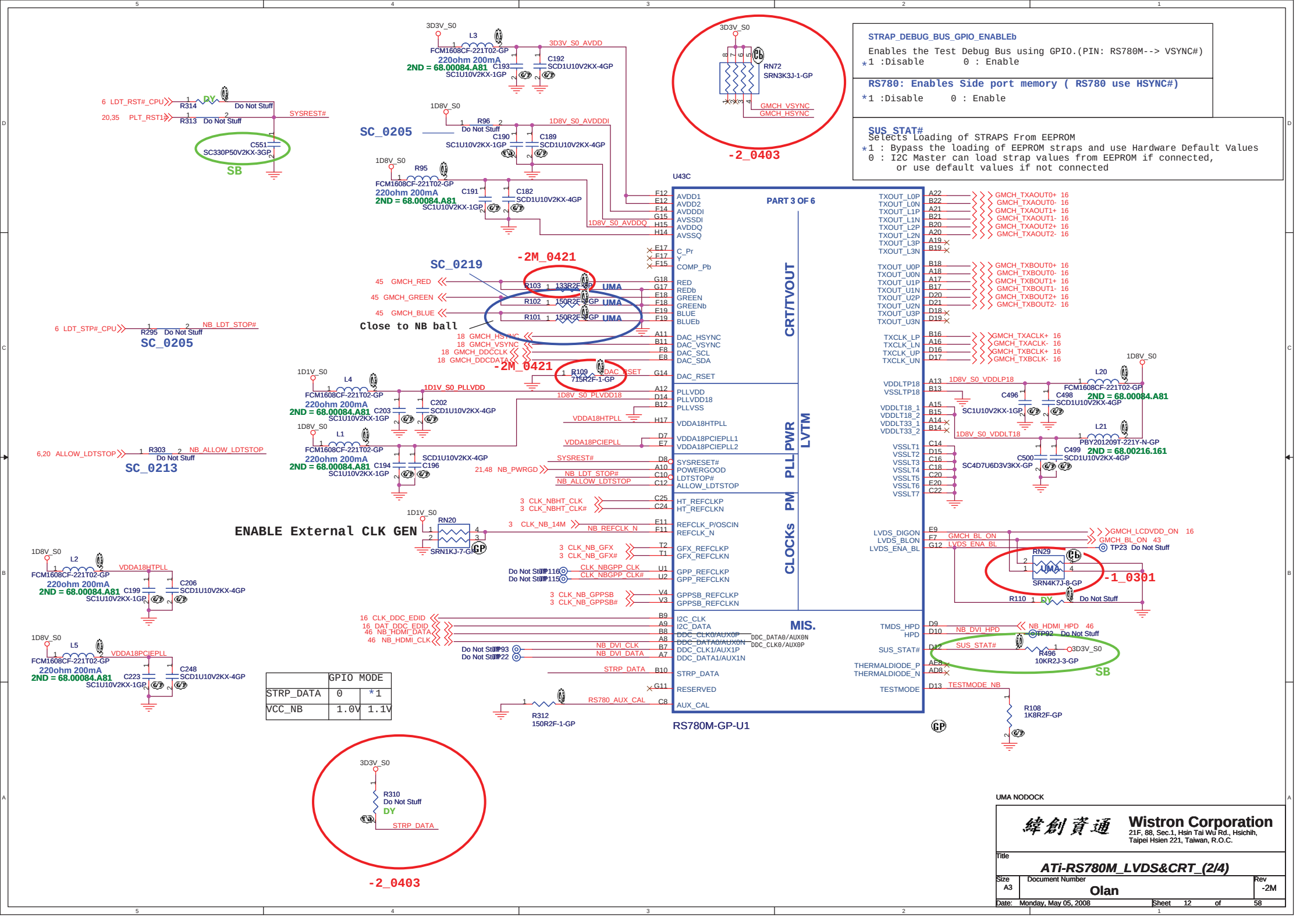
UMA NODOCK

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

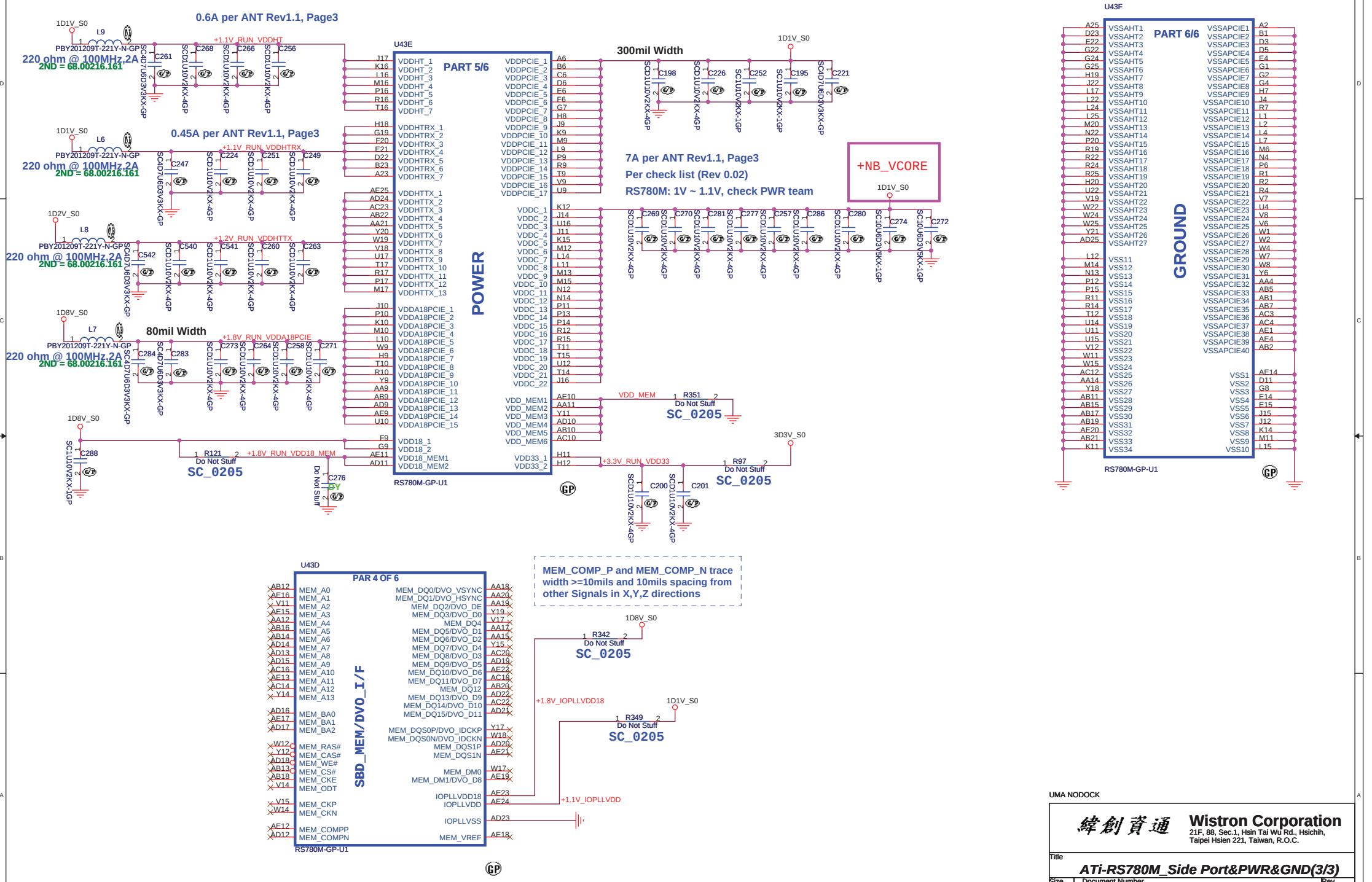
Title: ATi-RS780M_HT LINK&PCIe(1/3)

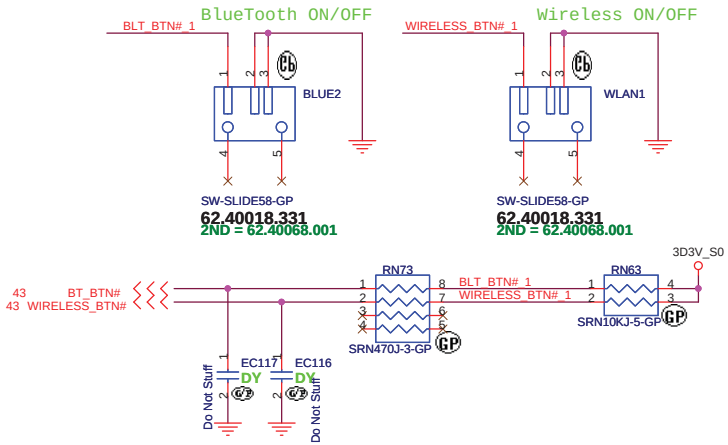
Size: A3 | Document Number: Olan | Rev: -1

Date: Monday, April 21, 2008 | Sheet 11 of 58



	GPIO MODE	
STRP_DATA	0	*1
VCC_NB	1.0V	1.1V

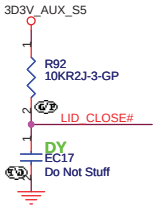

0.6A per ANT Rev1.1, Page3
0.45A per ANT Rev1.1, Page3
80mil Width
300mil Width
7A per ANT Rev1.1, Page3
Per check list (Rev 0.02)
RS780M: 1V ~ 1.1V, check PWR team
+NB_VCORE
220 ohm @ 100MHz,2A
2ND = 68.00216.161
U43E
PART 5/6
POWER
RS780M-GP-U1
U43F
PART 6/6
GROUND
U43D
PAR 4 OF 6
SBD_MEM/DVO_I/F
MEM_COMP_P and MEM_COMP_N trace width >=10mils and 10mils spacing from other Signals in X,Y,Z directions
Do Not Stuff
SC_0205
UMA NODOCK
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
ATi-RS780M_Side Port&PWR&GND(3/3)
Olan
Monday, April 21, 2008
Sheet 13 of 58

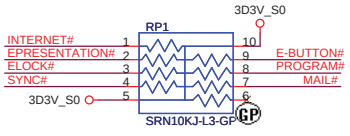


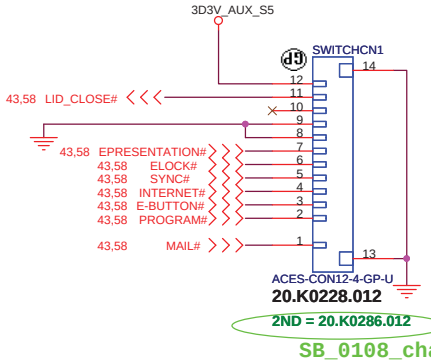
UMA NODOCK

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***SWITCH***
Size: A3	Document Number: **Olan**
Rev: -1	
Date: Friday, April 18, 2008	Sheet 14 of 58

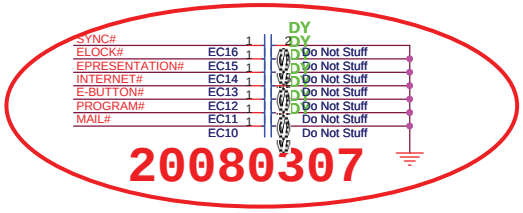
LAUNCH







SB_0108_change 2nd source

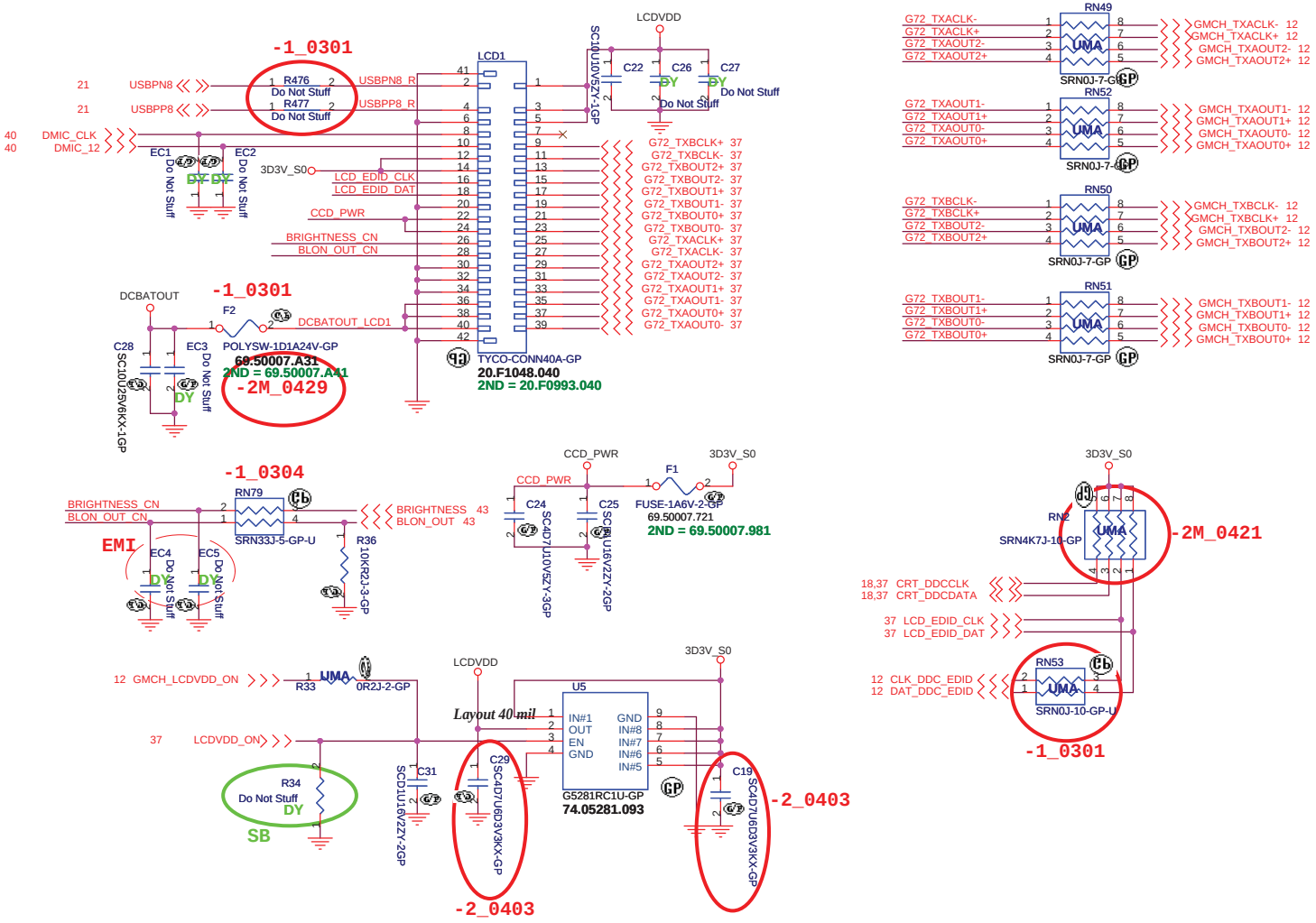


UMA NODOCK

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

Title	***LAUNCH***	
Size: A3	Document Number: **Olan**	Rev: -1
Date: Friday, April 18, 2008	Sheet 15 of 58	

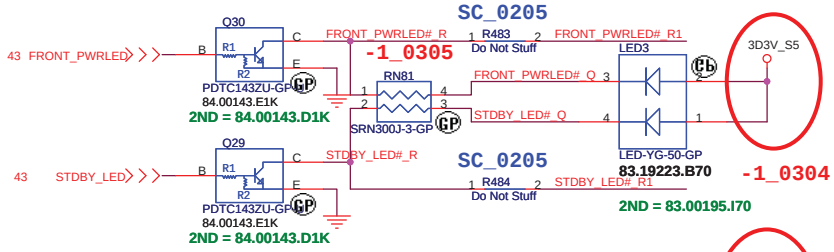
LCD/INVERTER/CCD CONN

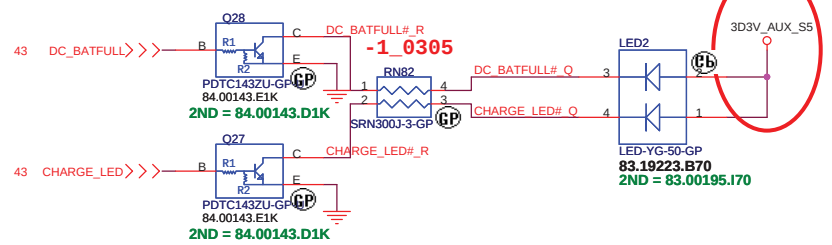


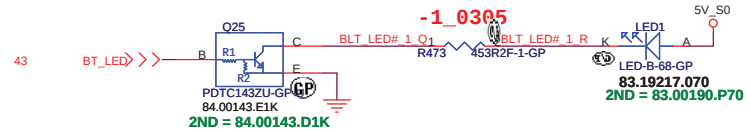
UMA NODOCK

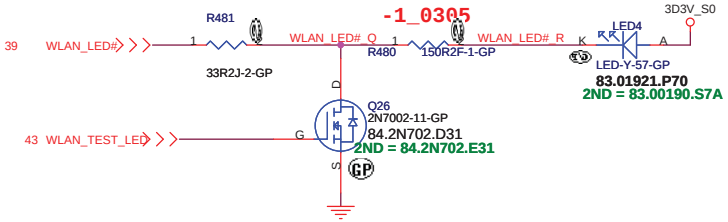
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***LCD CONN***
Size: A3	Document Number: Olan
Rev: -2M	
Date: Monday, May 05, 2008	Sheet 16 of 58

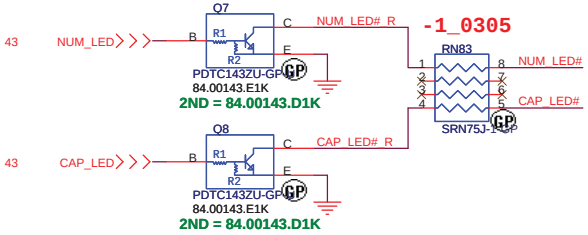
LED

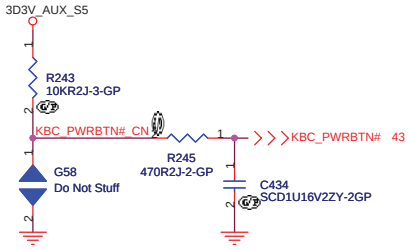


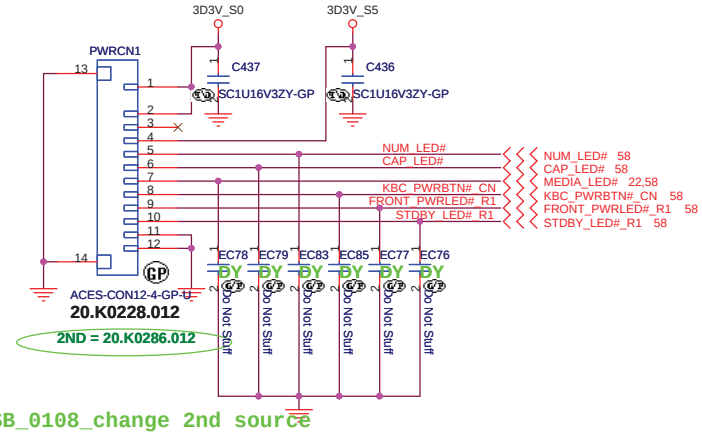








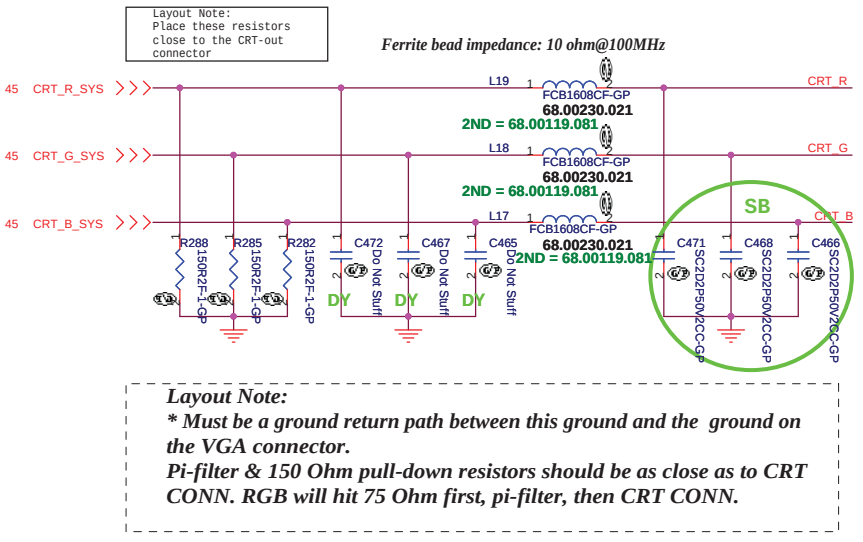




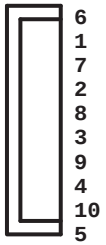
SB_0108_change 2nd source

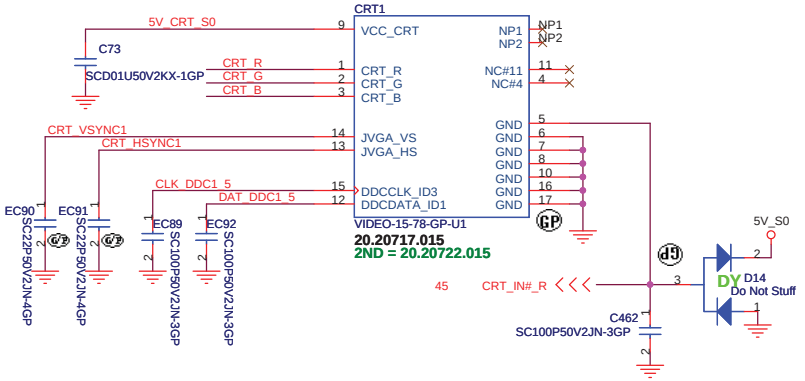
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	***LED & LAUNCH***	
Size: A3	Document Number: **Olan**	Rev: -2M
Date: Monday, May 05, 2008	Sheet 17 of 58	

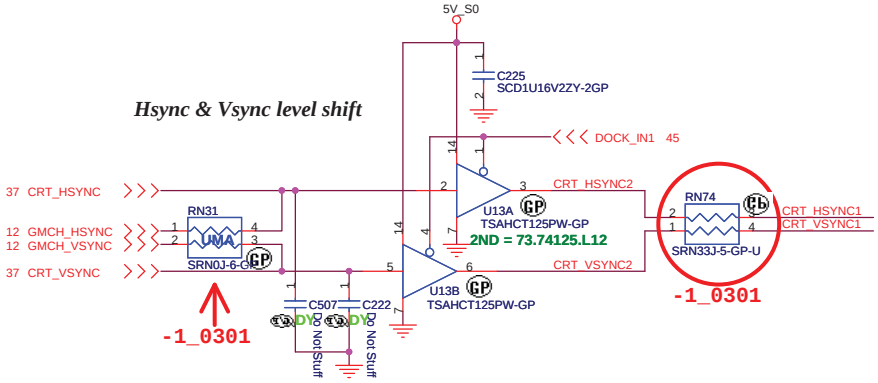
CRT I/F & CONNECTOR

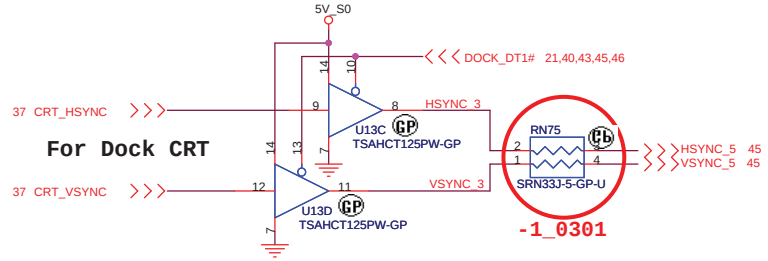


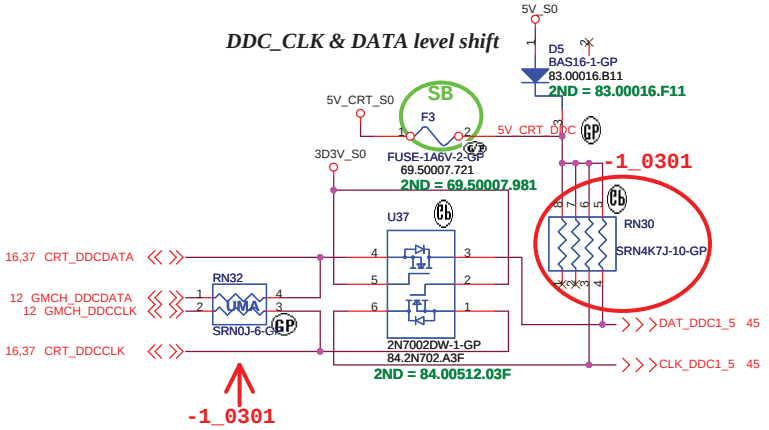
Layout Note:
** Must be a ground return path between this ground and the ground on the VGA connector.*
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.











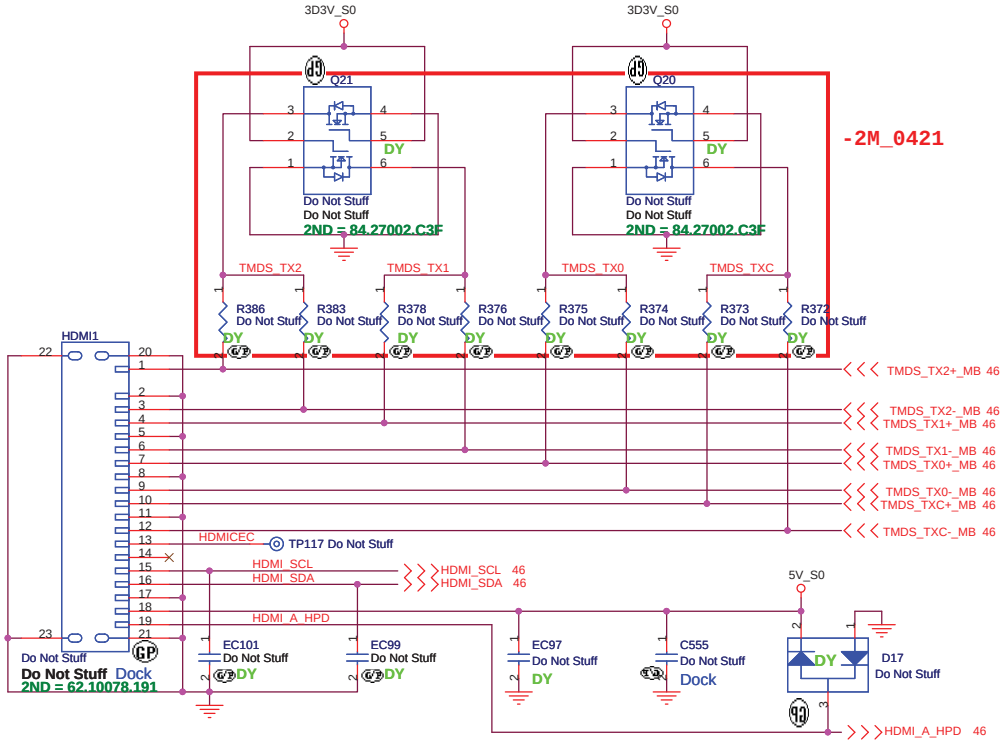
UMA NODOCK

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

Title: **CRT Connector**

Size	Document Number	Rev
	Olan	-2M

Date: Monday, May 05, 2008 Sheet 18 of 58



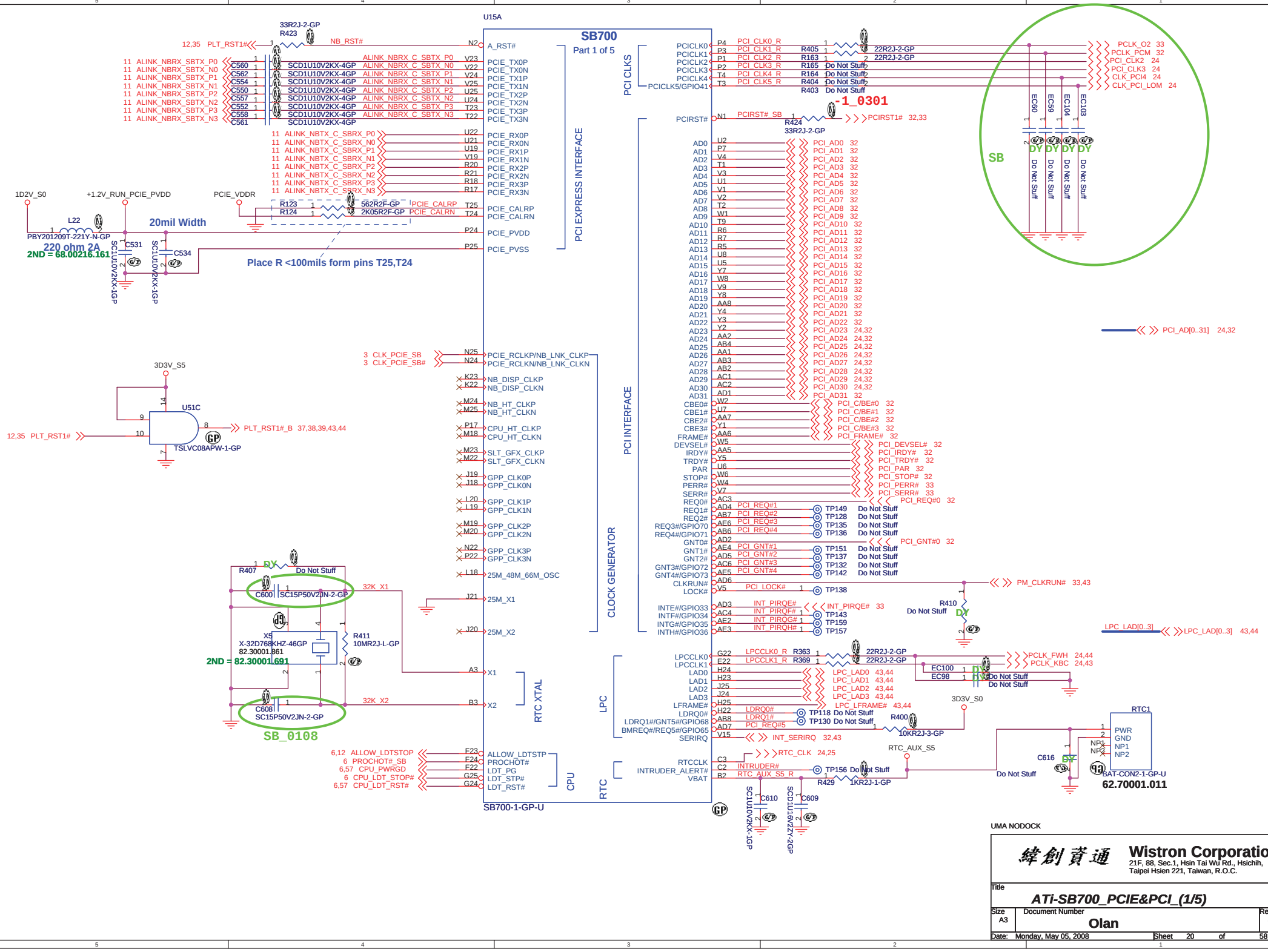
UMA NODOCK

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

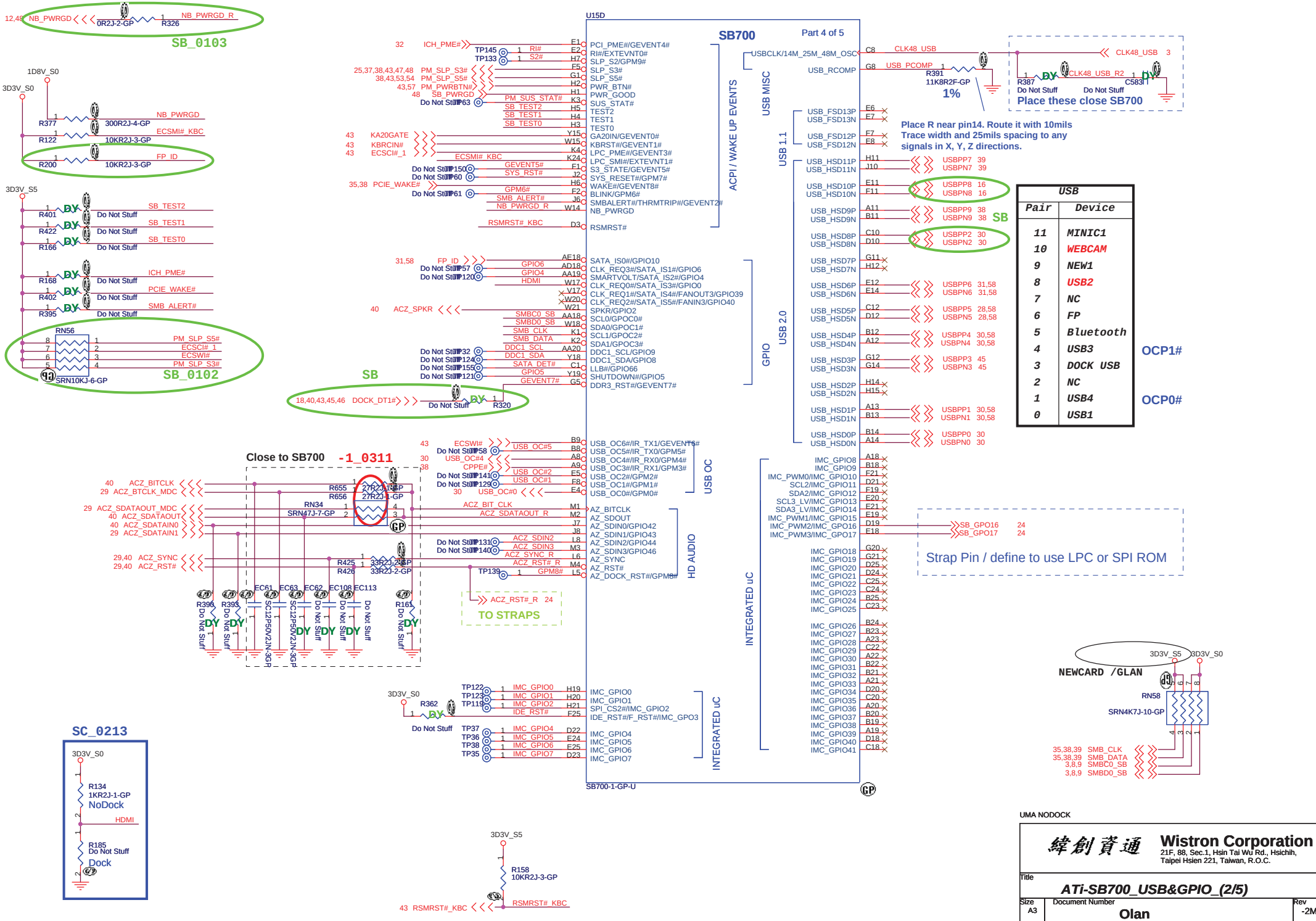
Title: HDMI CONNECTOR

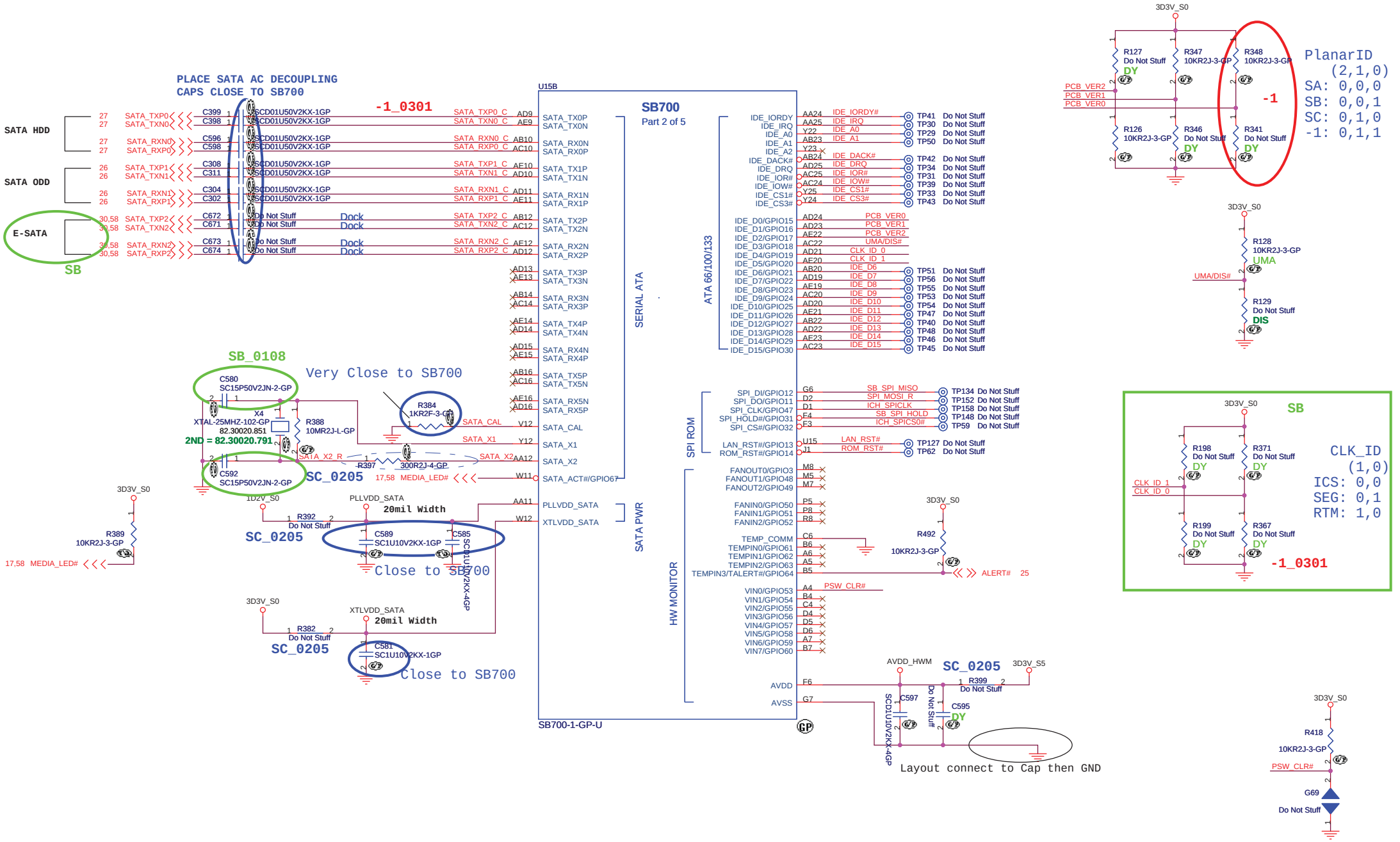
Size	Document Number	Rev
A3	Olan	-1

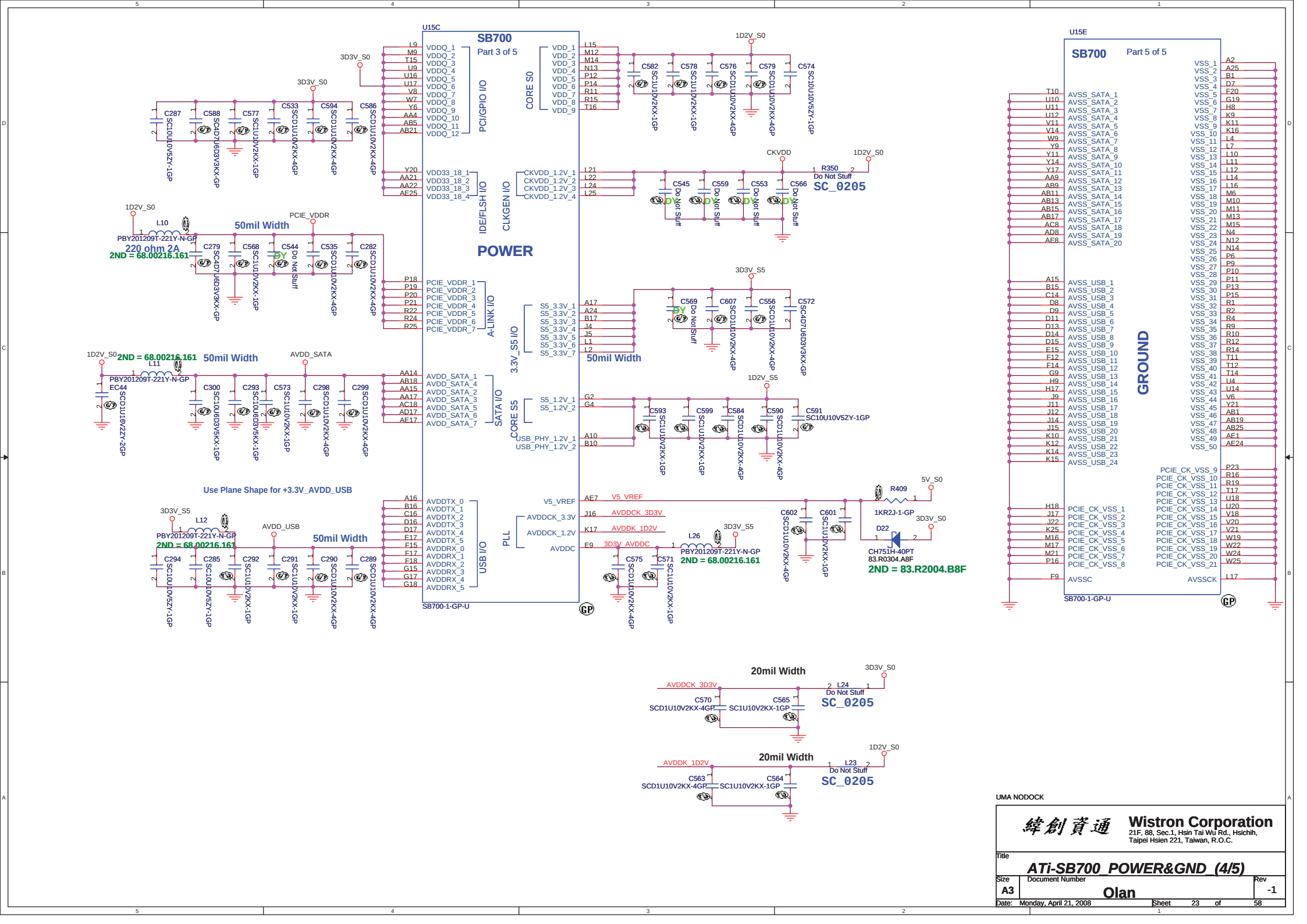
Date: Monday, April 21, 2008 Sheet 19 of 58



Company	Wistron Corporation
Address	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	ATi-SB700_PCIE&PCI_(1/5)
Size	A3
Document Number	Olan
Rev	-2M
Date	Monday, May 05, 2008
Sheet	20 of 58

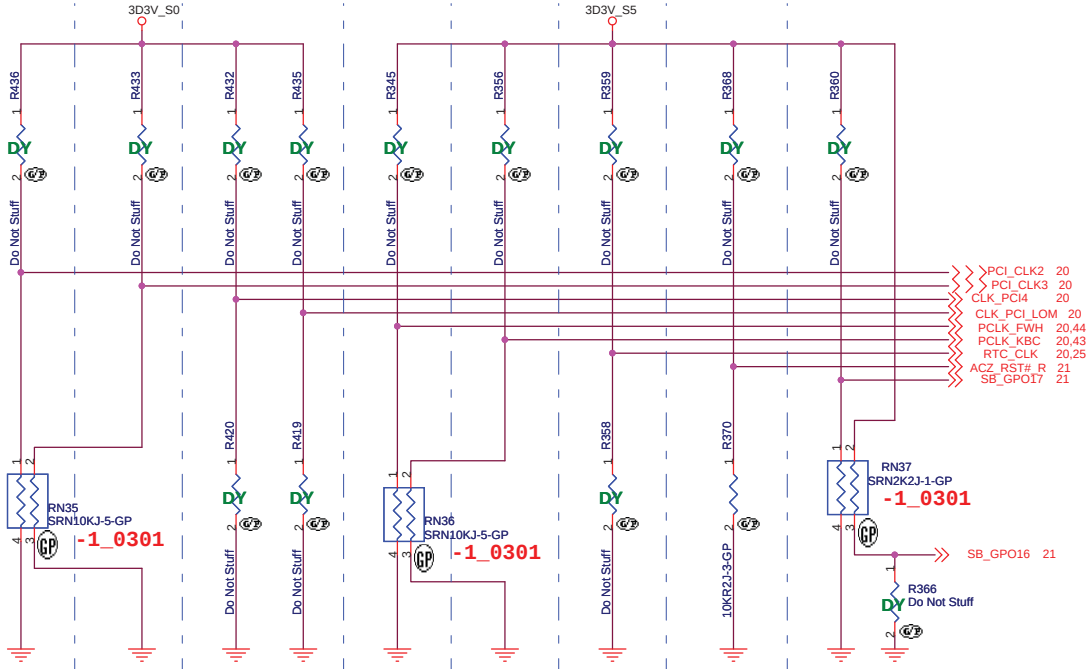

SB_0103
SB_0102
SB_0311
SC_0213
SB700
Part 4 of 5
U15D
SB700-1-GP-U
Close to SB700
Place these close SB700
Place R near pin14. Route it with 10mils Trace width and 25mils spacing to any signals in X, Y, Z directions.
Strap Pin / define to use LPC or SPI ROM
TO STRAPS
NEWCARD /GLAN
USB
Pair
Device
11 MINIC1
10 WEBCAM
9 NEW1
8 USB2
7 NC
6 FP
5 Bluetooth
4 USB3
3 DOCK USB
2 NC
1 USB4
0 USB1
OCP1#
OCP0#
ACPI / WAKE UP EVENTS
USB MISC
USB 1.1
USB 2.0
GPIO
USB OC
HD AUDIO
INTEGRATED uC
INTEGRATED uC
UMA NODOCK
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
ATi-SB700_USB&GPIO_(2/5)
Olan
Monday, May 05, 2008
Sheet 21 of 58


PLACE SATA AC DECOUPLING
CAPS CLOSE TO SB700
-1_0301
SATA HDD
SATA ODD
E-SATA
SB
SB700
Part 2 of 5
U15B
SERIAL ATA
ATA 66/100/133
SPI ROM
HW MONITOR
SATA PWR
SB700-1-GP-U
SB_0108
Very Close to SB700
SC_0205
Close to SB700
20mil Width
Do Not Stuff
Dock
PlanarID
(2,1,0)
SA: 0,0,0
SB: 0,0,1
SC: 0,1,0
-1: 0,1,1
UMA
DIS
CLK_ID
(1,0)
ICS: 0,0
SEG: 0,1
RTM: 1,0
Layout connect to Cap then GND
UMA NODOCK
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
ATi-SB700_SATA-IDE_(3/5)
Olan
A3
-1
Monday, April 21, 2008
Sheet 22 of 58


U15C
SB700
Part 3 of 5
POWER
PCI/GPIO I/O
CORE S0
IDE/FLSH I/O
CLKGEN I/O
A-LINK I/O
3.3V_S5 I/O
SATA I/O
CORE S5
USB I/O
PLL
SB700-1-GP-U
U15E
SB700
Part 5 of 5
GROUND
SB700-1-GP-U
3D3V_S0
1D2V_S0
3D3V_S5
1D2V_S5
5V_S0
PCIE_VDDR
AVDD_SATA
AVDD_USB
CKVDD
50mil Width
2ND = 68.00216.161
220 ohm 2A
Use Plane Shape for +3.3V_AVDD_USB
20mil Width
SC_0205
Do Not Stuff
UMA NODOCK
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
ATi-SB700_POWER&GND_(4/5)
Size
A3
Document Number
Olan
Rev
-1
Date: Monday, April 21, 2008
Sheet 23 of 58

REQUIRED STRAPS

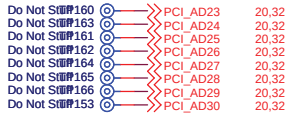
REQUIRED SYSTEM STRAPS



	PCI_CLK2	PCI_CLK3	CLK_PCI_LOM CLK_PCI4	PCLK_FWH	PCLK_KBC	RTCCLK	AZ_RST#	SB_GPO17 , SB_GPO16
PULL HIGH	WatchDOG (NB_PWRGD) ENABLED	USE DEBUG STRAPS	RESERVED	IMC ENABLED	CLKGEN ENABLED (Use Internal)	INTERNAL RTC DEFAULT	ENABLE PCI ROM BOOT	ROM TYPE: H, H = Reserved H, L = SPI ROM DEFAULT
PULL LOW	WatchDog (NB_PWRGD) DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT		IMC DISABLED DEFAULT	CLKGEN DISABLED (Use External) DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	DISABLE PCI ROM BOOT DEFAULT	L, H = LPC ROM L, L = FWH ROM

NOTE: SB700 HAS INTERNAL 15K PULL UP RESISTOR FOR RTCCLK

DEBUG STRAPS



	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23	PCI_AD30 PCI_AD29
PULL HIGH	USE LONG RESET (DEFAULT)	USE PCI PLL (DEFAULT)	USE ACPI BCLK (DEFAULT)	USE IDE PLL (DEFAULT)	USE DEFAULT PCIE STRAPS (DEFAULT)	Reserved (DEFAULT)	Reserved
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	Reserved	

Note: SB700 has 15K internal PU FOR PCI_AD[30:23]

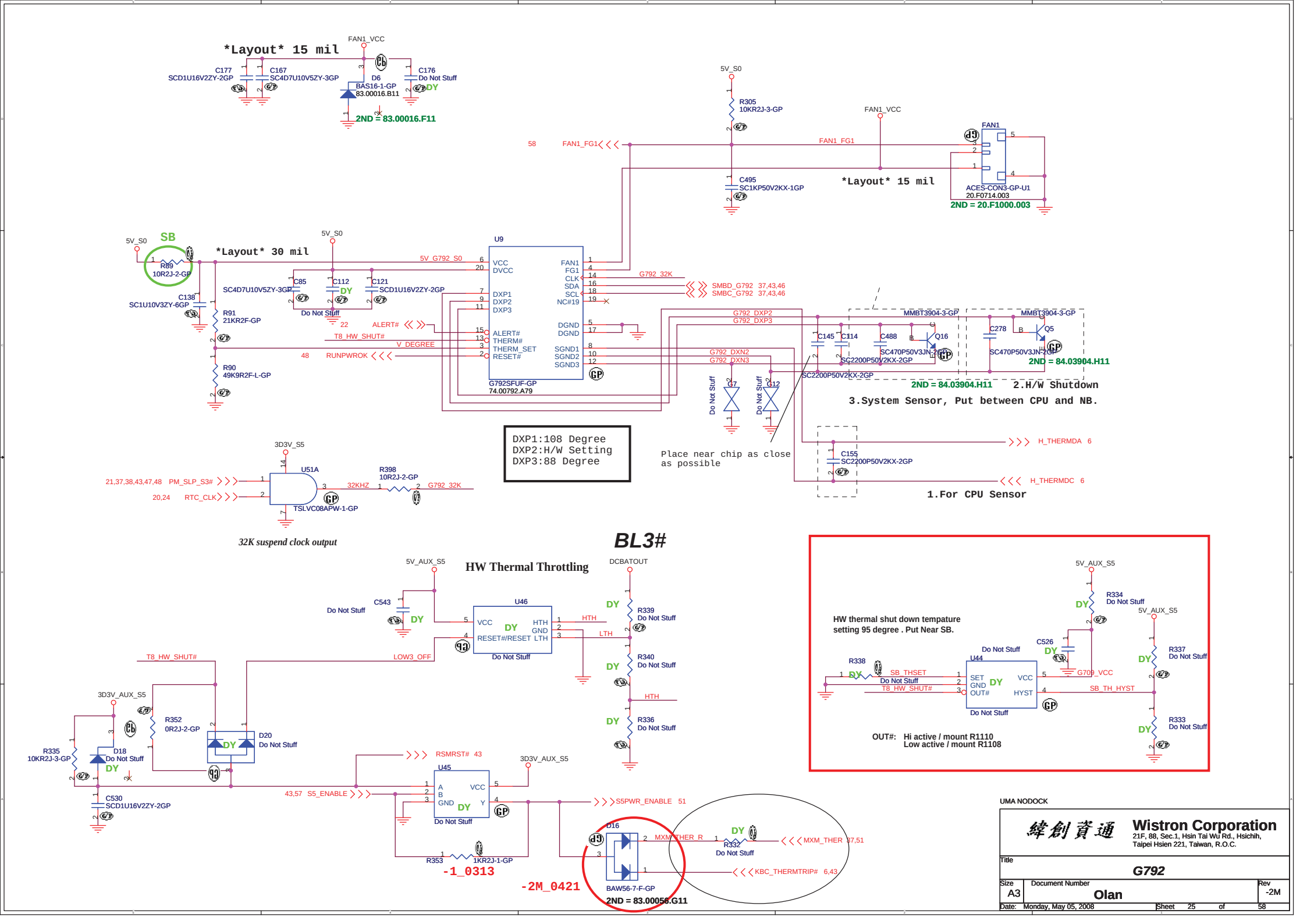
UMA NODOCK

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

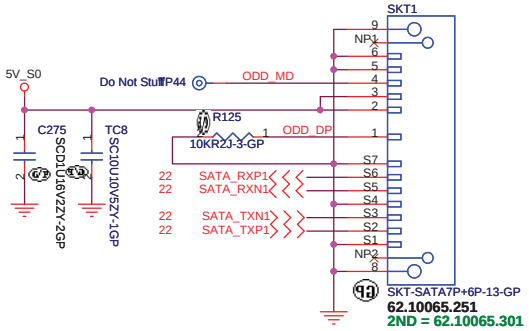
Title: ATi-SB700_STRAPPING_(5/5)

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

Date: Friday, April 18, 2008 | Sheet 24 of 58


Layout 15 mil
FAN1_VCC
C177
SCD1U16V2ZY-2GP
C167
SC4D7U10V5ZY-3GP
D6
BAS16-1-GP
83.00016.B11
C176
Do Not Stuff
DY
2ND = 83.00016.F11
5V_S0
R305
10KR2J-3-GP
FAN1_VCC
58
FAN1_FG1
FAN1_FG1
FAN1
C495
SC1KP50V2KX-1GP
Layout 15 mil
ACES-CON3-GP-U1
20.F0714.003
2ND = 20.F1000.003
5V_S0
SB
Layout 30 mil
R89
10R2J-2-GP
5V_S0
U9
5V_G792_S0
C85
SC4D7U10V5ZY-3GP
C112
DY
C121
SCD1U16V2ZY-2GP
Do Not Stuff
C138
SC1U10V3ZY-6GP
R91
21KR2F-GP
R90
49K9R2F-L-GP
22
ALERT#
T8_HW_SHUT#
V_DEGREE
48
RUNPWROK
VCC
DVCC
DXP1
DXP2
DXP3
ALERT#
THERM#
THERM_SET
RESET#
FAN1
FG1
CLK
SDA
SCL
NC#19
DGND
DGND
SGND1
SGND2
SGND3
G792_32K
SMBD_G792 37,43,46
SMBC_G792 37,43,46
G792SFUF-GP
74.00792.A79
G792_DXP2
G792_DXP3
G792_DXN2
G792_DXN3
MMBT3904-3-GP
MMBT3904-3-GP
C145
C114
C488
Q16
C278
Q5
SC470P50V3JN-2GP
SC2200P50V2KX-2GP
SC470P50V3JN-2GP
2ND = 84.03904.H11
SC2200P50V2KX-2GP
Do Not Stuff
G7
Do Not Stuff
G12
2ND = 84.03904.H11
2.H/W Shutdown
3.System Sensor, Put between CPU and NB.
DXP1:108 Degree
DXP2:H/W Setting
DXP3:88 Degree
Place near chip as close
as possible
C155
SC2200P50V2KX-2GP
H_THERMDA 6
H_THERMDC 6
1.For CPU Sensor
3D3V_S5
U51A
21,37,38,43,47,48 PM_SLP_S3#
20,24 RTC_CLK
32KHZ
R398
10R2J-2-GP
G792_32K
TSLVC08APW-1-GP
32K suspend clock output
BL3#
HW Thermal Throttling
5V_AUX_S5
DCBATOUT
C543
Do Not Stuff
DY
U46
VCC
DY
RESET#/RESET
HTH
GND
LTH
Do Not Stuff
R339
Do Not Stuff
R340
Do Not Stuff
R336
Do Not Stuff
HTH
LTH
T8_HW_SHUT#
LOW3_OFF
3D3V_AUX_S5
R352
0R2J-2-GP
D20
Do Not Stuff
R335
10KR2J-3-GP
D18
Do Not Stuff
DY
C530
SCD1U16V2ZY-2GP
RSMRST# 43
3D3V_AUX_S5
U45
A
B
GND
DY
VCC
Y
Do Not Stuff
43,57 S5_ENABLE
S5PWR_ENABLE 51
R353
1KR2J-1-GP
-1_0313
-2M_0421
D16
MXM_THER_R
R332
Do Not Stuff
MXM_THER 37,51
KBC_THERMTRIP# 6,43
BAW56-7-F-GP
2ND = 83.00056.G11
HW thermal shut down tempature
setting 95 degree . Put Near SB.
5V_AUX_S5
R334
Do Not Stuff
C526
DY
G709_VCC
R338
DY
SB_THSET
Do Not Stuff
T8_HW_SHUT#
U44
SET
GND
OUT#
DY
VCC
HYST
SB_TH_HYST
Do Not Stuff
R337
Do Not Stuff
R333
Do Not Stuff
OUT#: Hi active / mount R1110
Low active / mount R1108
UMA NODOCK
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
G792
Size
A3
Document Number
Olan
Rev
-2M
Date: Monday, May 05, 2008
Sheet 25 of 58

ODD Connector



-1_0305

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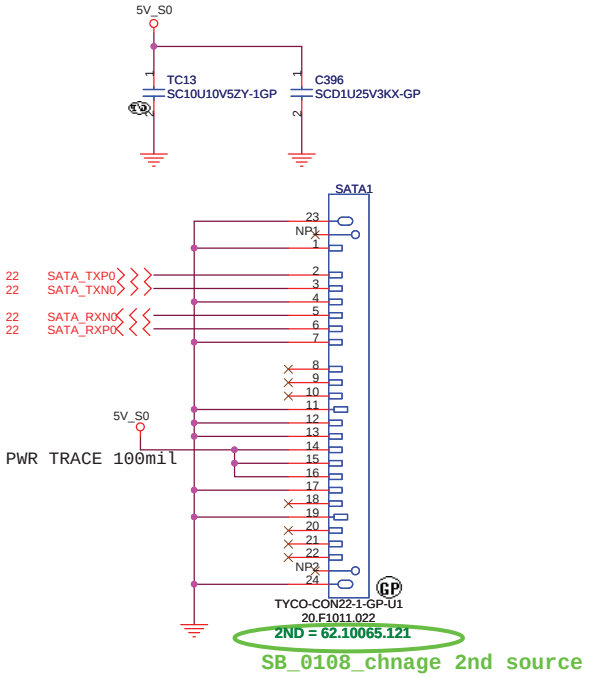
Title: ***CDROM***

Size | Document Number: **Olan** | Rev: -1

Date: Friday, April 18, 2008 | Sheet 26 of 58

SATA HDD Connector



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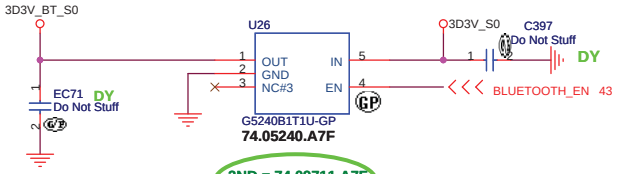
Title: HDD

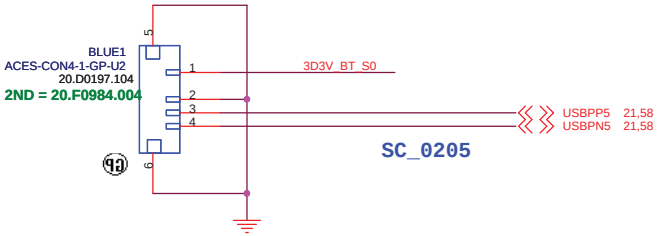
Size | Document Number: Olan | Rev: -1

Date: Friday, April 18, 2008 | Sheet 27 of 58

BLUETOOTH MODULE



EC40 put near BLUE1 / all USB put one choke near connector by EMI request



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Title	***BLUETOOTH***	
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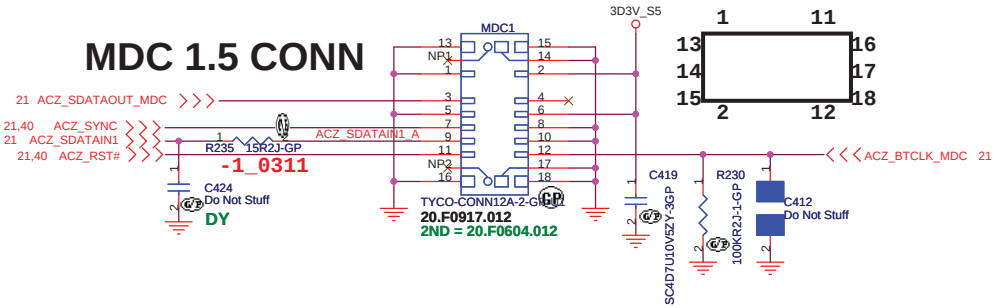
Date: Friday, April 18, 2008	Sheet 28 of 58	

MDC 1.5 CONN



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Title		
MDC		
Size	Document Number	Rev
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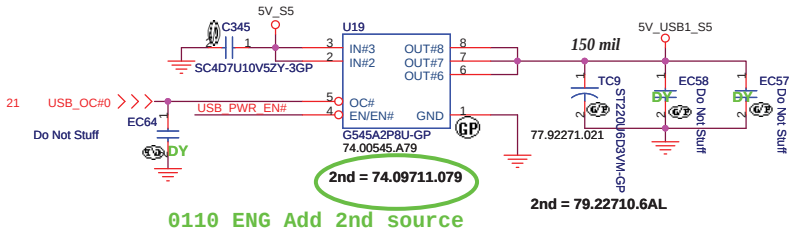

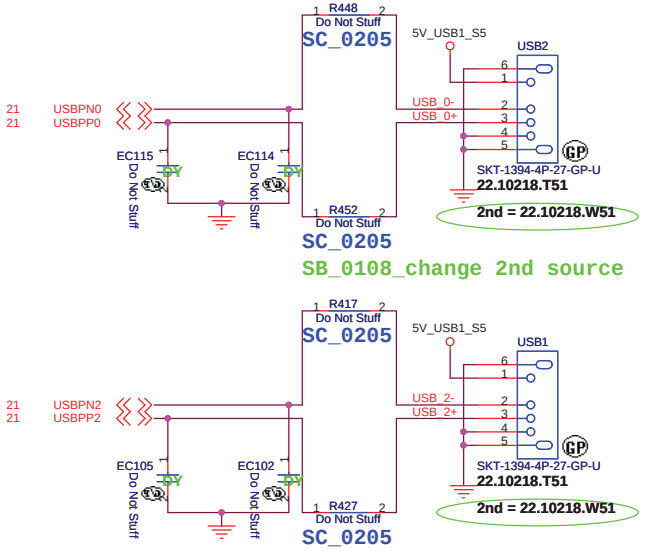

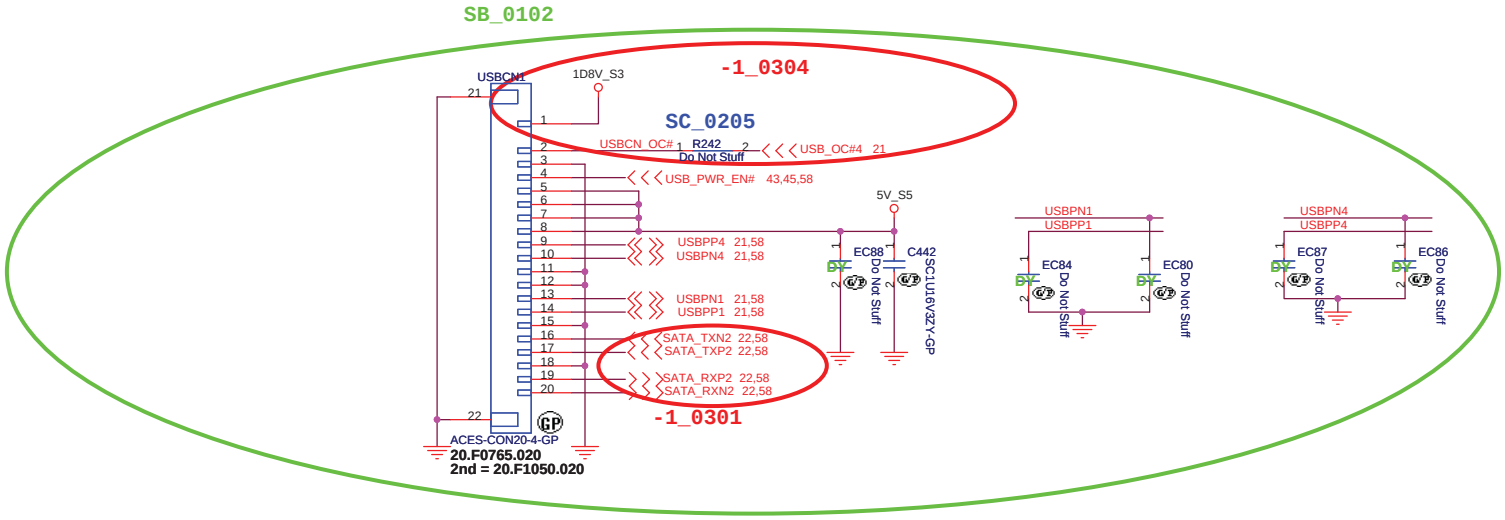

58 USBCN_OC# USBCN_OC#

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Title: **USB**

Size	Document Number	Rev
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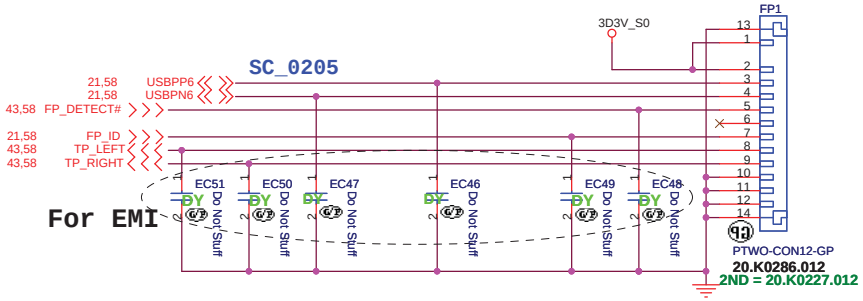
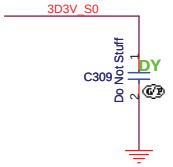
Finger printer





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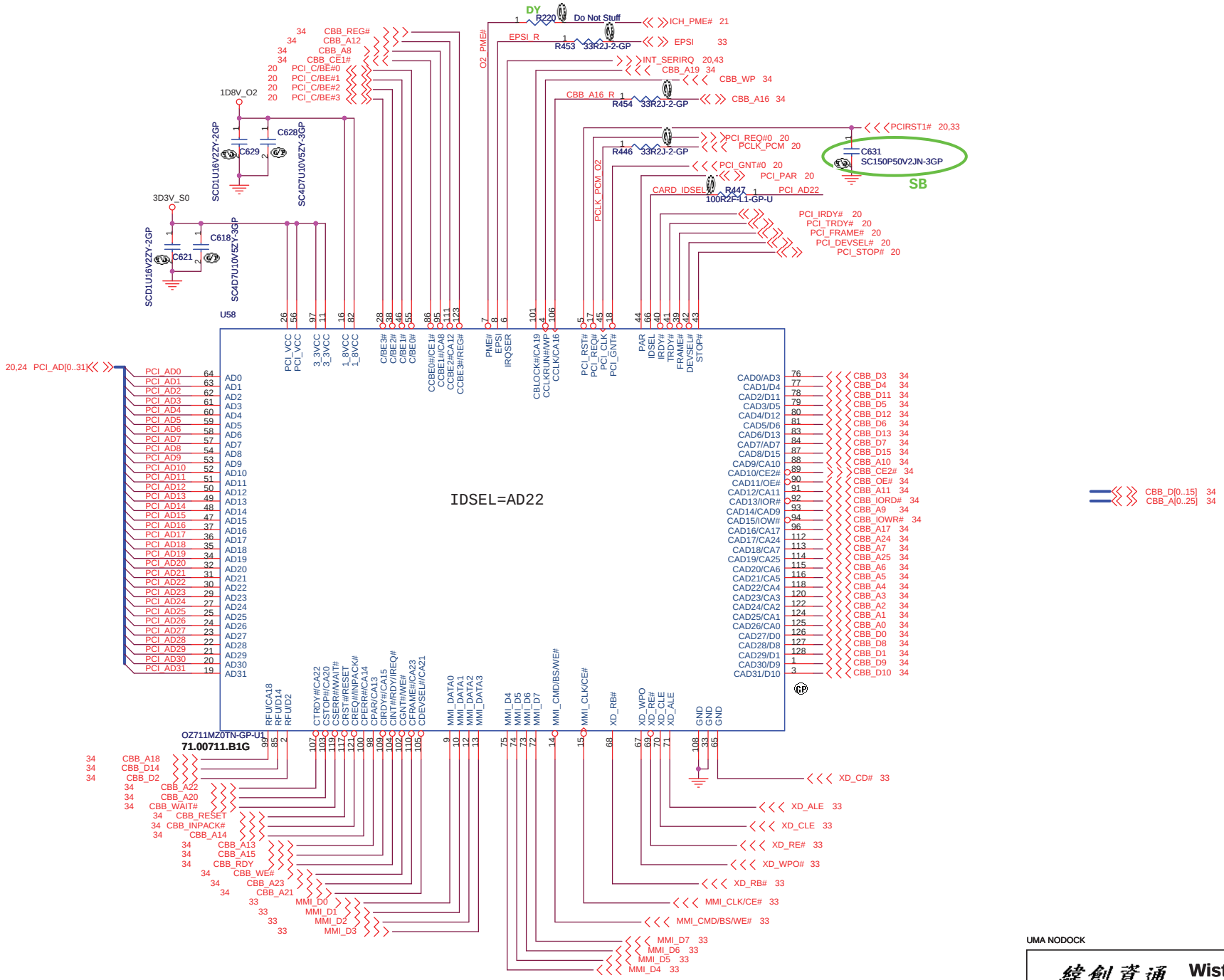
Title: ***Finger Printer***

Size	Document Number	Rev
	Olan	-1

Date: Friday, April 18, 2008 Sheet 31 of 58



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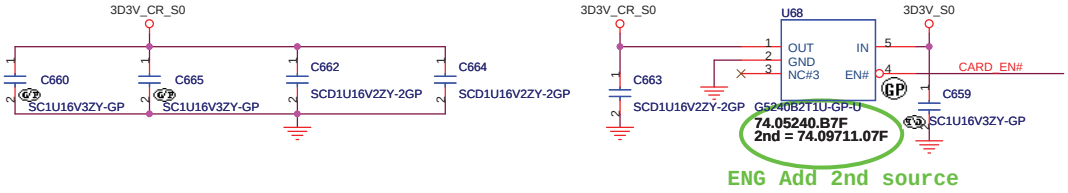
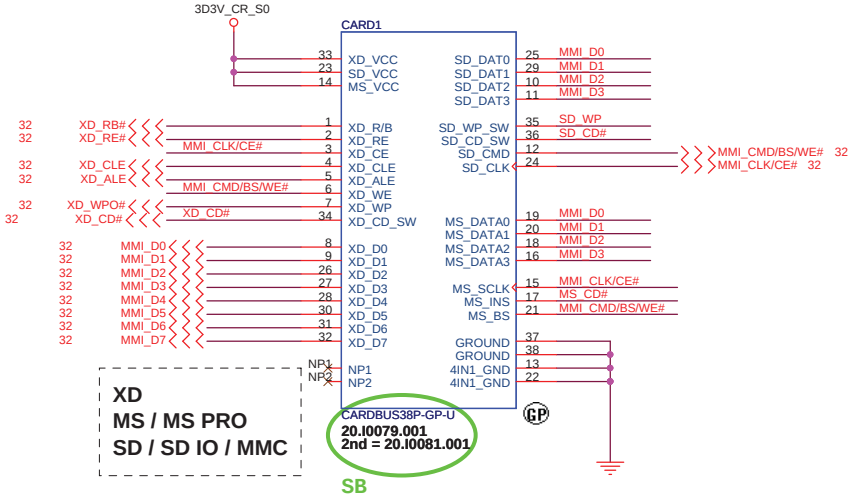
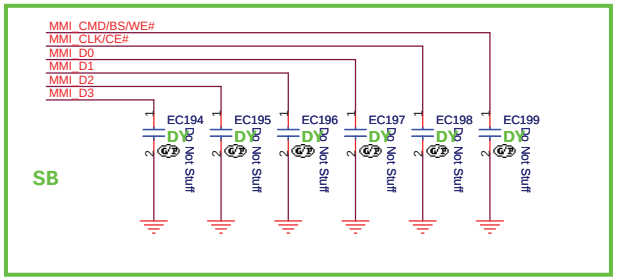
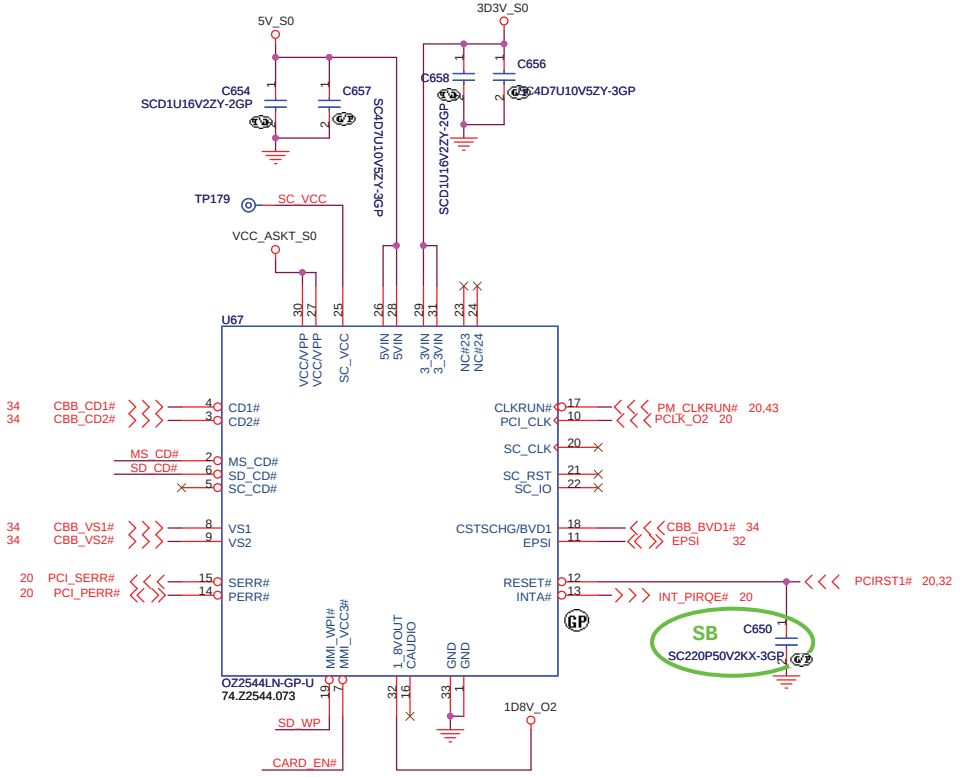
Title			
OZ711MZ0			
Size: A3	Document Number: Olan		Rev: -1
Date: Monday, April 21, 2008	Sheet 32 of 58		









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

Title: *Card Reader Connector*

Size	Document Number	Rev
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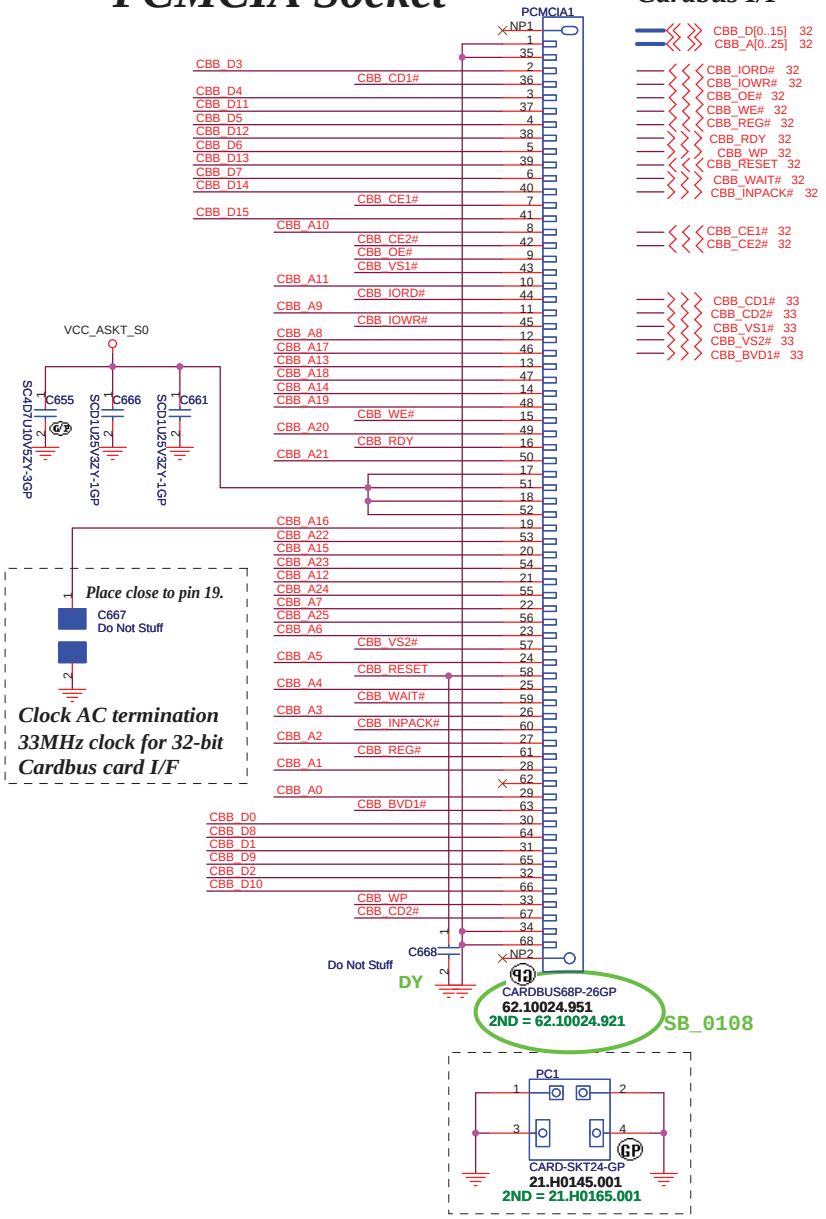
PCMCIA Socket



Cardbus I/F

CBB_D[0..15] 32
CBB_A[0..25] 32
CBB_IORD# 32
CBB_IOWR# 32
CBB_OE# 32
CBB_WE# 32
CBB_REG# 32
CBB_RDY 32
CBB_WP 32
CBB_RESET 32
CBB_WAIT# 32
CBB_INPACK# 32
CBB_CE1# 32
CBB_CE2# 32
CBB_CD1# 33
CBB_CD2# 33
CBB_VS1# 33
CBB_VS2# 33
CBB_BVD1# 33

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Title: PCMCIA

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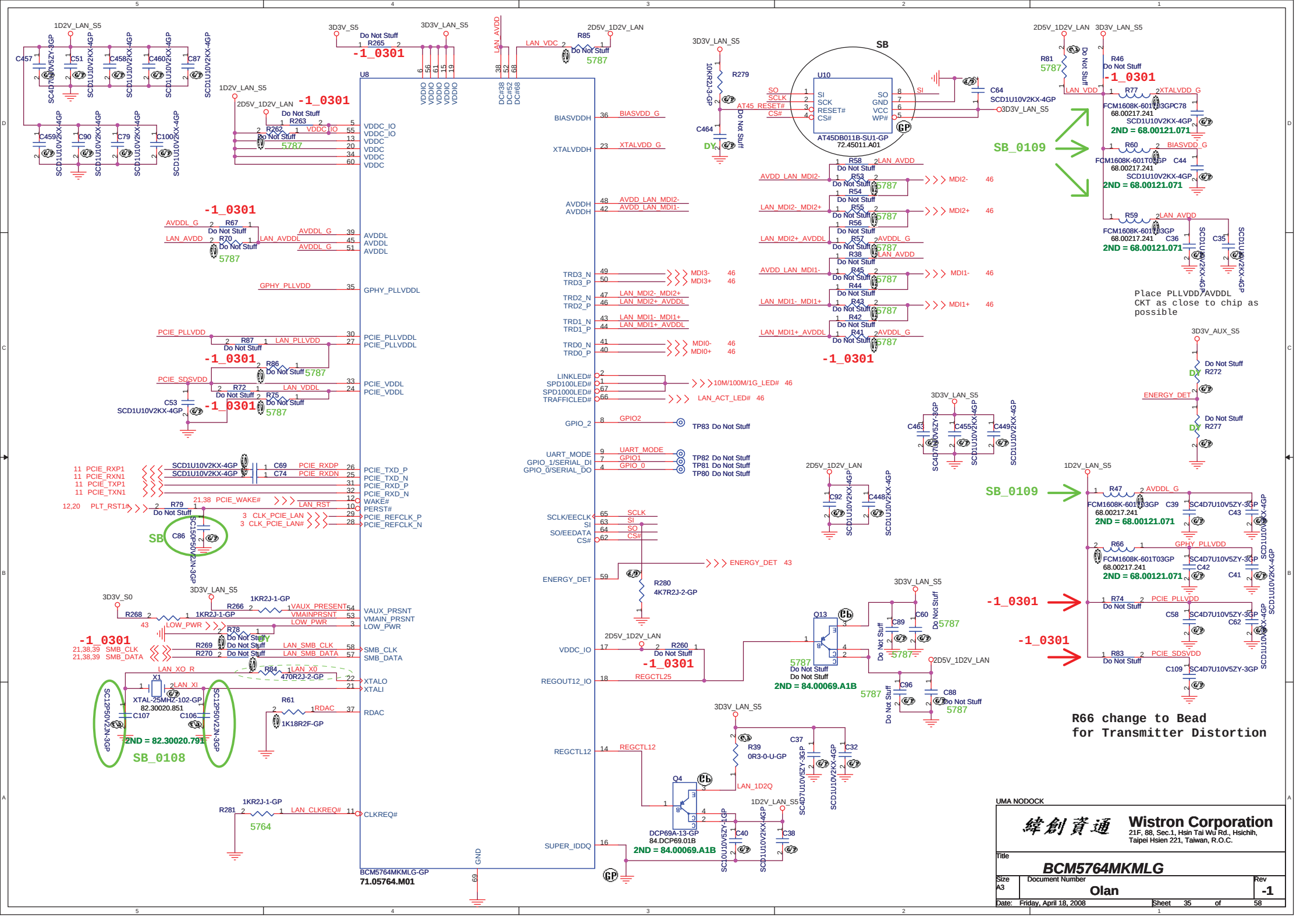
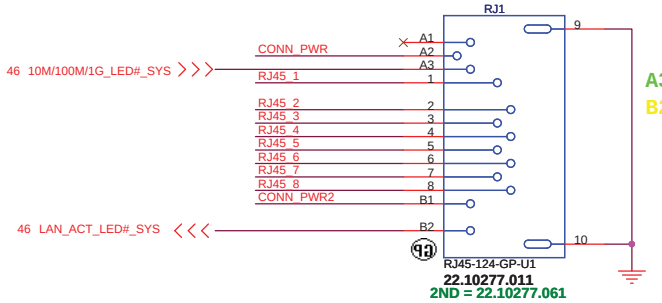

U8
BCM5764MKMLG-GP
71.05764.M01
SB
SB_0109
SB_0108
-1_0301
2ND = 68.00121.071
2ND = 84.00069.A1B
2ND = 82.30020.791
Place PLLVDD/AVDDL CKT as close to chip as possible
R66 change to Bead for Transmitter Distortion
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
BCM5764MKMLG
Olan
Friday, April 18, 2008

LAN Connector

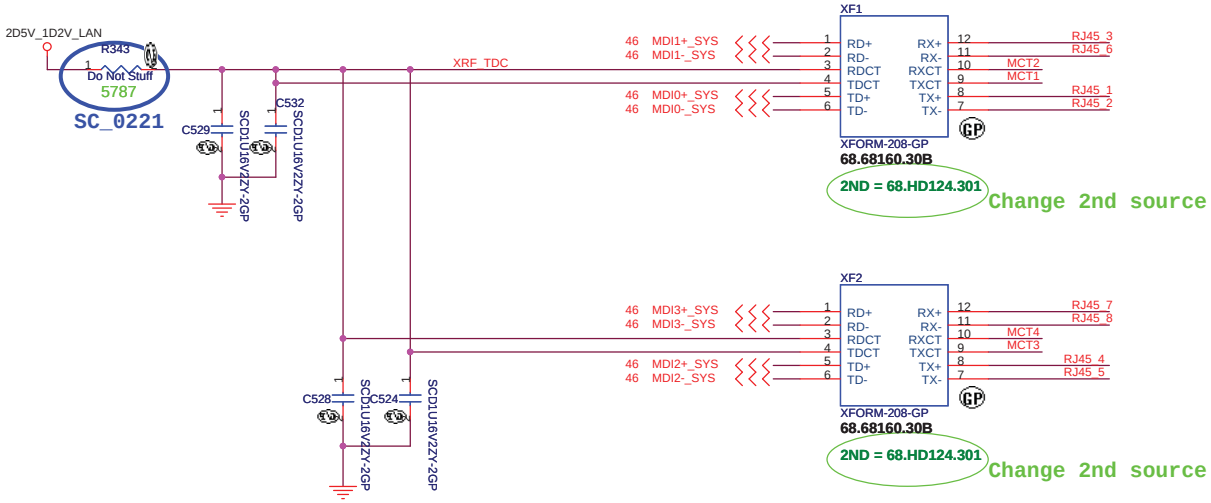
1.route on bottom as differential pairs.
2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
3.No vias, No 90 degree bends.
4.pairs must be equal lengths.
5.6mil trace width,12mil separation.
6.36mil between pairs and any other trace.
7.Must not cross ground moat,except
RJ-45 moat.

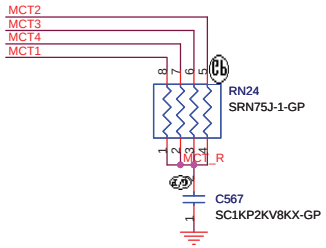


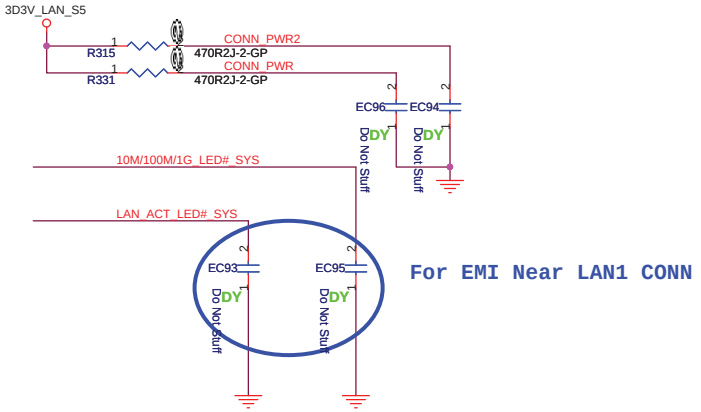
LAN Link: Green(A3), behavior is the same for 10/100/1000 bits

LAN Data: Yellow(B2), when LAN is transfering data.

GIGA Lan Transformer







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Title: LAN CONN		
Size: A3	Document Number: Olan	Rev: -1
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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

11 PEG_TXP[15..0]
11 PEG_TXN[15..0]
11 PEG_RXP[15..0]
11 PEG_RXN[15..0]

5V_S0
48,50,52 VCORE_EN
21,25,38,43,47,48 PM_SLP_S3#
R457 DY Do Not Stuff
R456 Do Not Stuff
C494 DY Do Not Stuff
TP85
1D8V_S0_MXM
-1_0301
? CHECK ATI NEED?
C492 DY Do Not Stuff
C493 DY Do Not Stuff
MXM_16
MXM_26

16 G72_TXBOUT0+
16 G72_TXBOUT0-
16 G72_TXBOUT1+
16 G72_TXBOUT1-
16 G72_TXBOUT2+
16 G72_TXBOUT2-
Do Not Stuff P91
MXM_SPDIF
16 G72_TXBCLK+
16 G72_TXBCLK-
45 CRT_BLUE
45 CRT_GREEN
45 CRT_RED
Do Not Stuff P90
MXM_ACZ_RST#

G72_TXACLK- 16
G72_TXACLK+ 16
G72_TXAOUT2- 16
G72_TXAOUT2+ 16
G72_TXAOUT1- 16
G72_TXAOUT1+ 16
G72_TXAOUT0- 16
G72_TXAOUT0+ 16
LCD_EDID_DAT 16
LCD_EDID_CLK 16
LCDVDD_ON 16
BLON_IN 43
NV_DVI_DAT 46
NV_DVI_CLK 46
2D5V_S0
R307 Do Not Stuff DY
3D3V_S0
DIS C491 Do Not Stuff
C497 DY Do Not Stuff

TP87 TP88 TP86 TP21 TP20 TP89 Do Not Stuff
MXM_122 MXM_154 MXM_156 MXM_184 MXM_186 MXM_214
MH1 MH2
MXM1 Do Not Stuff
DIS Do Not Stuff

DCBATOUT_MXM
C515 C514 C513 C511 C512 DY Do Not Stuff
PEG_RXN15 PEG_RXP15 PEG_RXN14 PEG_RXP14 PEG_RXN13 PEG_RXP13 PEG_RXN12 PEG_RXP12 PEG_RXN11 PEG_RXP11 PEG_RXN10 PEG_RXP10 PEG_RXN9 PEG_RXP9 PEG_RXN8 PEG_RXP8 PEG_RXN7 PEG_RXP7 PEG_RXN6 PEG_RXP6 PEG_RXN5 PEG_RXP5 PEG_RXN4 PEG_RXP4 PEG_RXN3 PEG_RXP3 PEG_RXN2 PEG_RXP2 PEG_RXN1 PEG_RXP1 PEG_RXN0 PEG_RXP0
MXM_125

3 CLK_PCIE_PEG#
3 CLK_PCIE_PEG
TP90 Do Not Stuff

SC_0205
20,38,39,43,44 PLT_RST1#_5
R324 Do Not Stuff
C510 Do Not Stuff DIS
SB
PLT_RST1#_MXM
Do Not Stuff P102 MXM_ACZ_SYNC
Do Not Stuff P99 MXM_ACZ_BITCLK
25,43,46 SMBD_G792
25,43,46 SMBC_G792
SC_0205

AC/DC_DET
R618 Do Not Stuff DY
3D3V_S0
SB

SB_remove TP

TMDS_A_TX0+ 46
TMDS_A_TX0- 46
TMDS_A_TX1+ 46
TMDS_A_TX1- 46
TMDS_A_TX2+ 46
TMDS_A_TX2- 46
TMDS_A_TXC+ 46
TMDS_A_TXC- 46
MXM_DVI_HPD 46

25,51 MXM_THER
18 CRT_HSYNC
18 CRT_VSYNC
16,18 CRT_DDCCLK
16,18 CRT_DDCDATA
Do Not Stuff P97 MXM_ACZ_SDIN2
Do Not Stuff P98 MXM_ACZ_SDATAOUT

Do Not Stuff P111 NV_HDMI_DAT
Do Not Stuff P109 NV_HDMI_CLK
Do Not Stuff P94 TMDS_GPIO6_SW
Do Not Stuff P95 MXM_171

DCBATOUT DCBATOUT_MXM
G24 Do Not Stuff
G22 Do Not Stuff
G23 Do Not Stuff
G25 Do Not Stuff
G105 Do Not Stuff
G106 Do Not Stuff

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Title: Graphic MXM CONN
Size: A3
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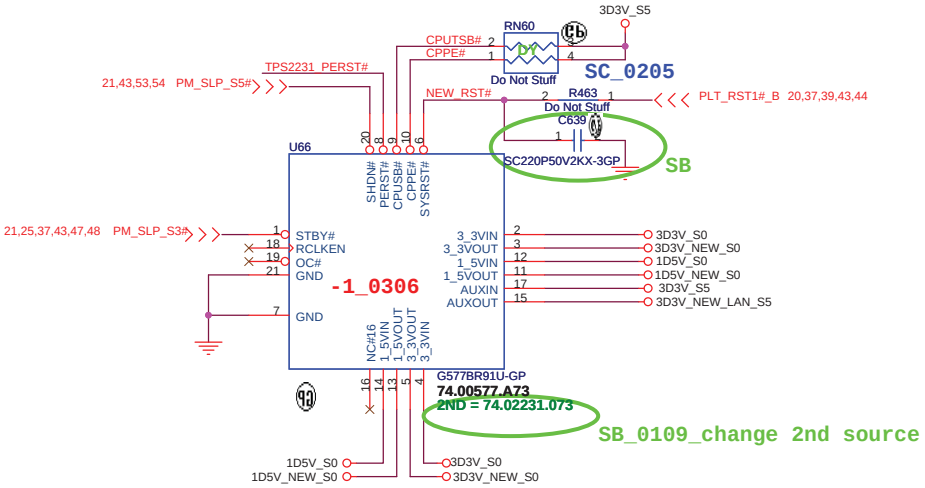
Sheet 37 of 58

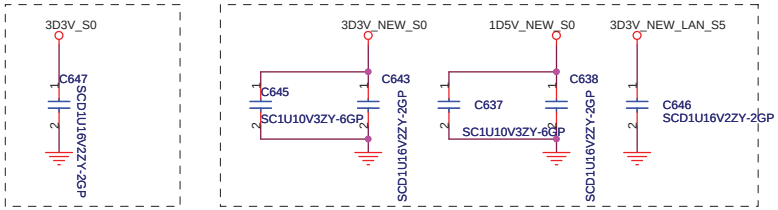
NEWCARD Connector

Reserve the symbol
for bottom side
connector

TOP VIEW



Place them Near to ChipPlace them Near to Connector



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Title: NEW CARD

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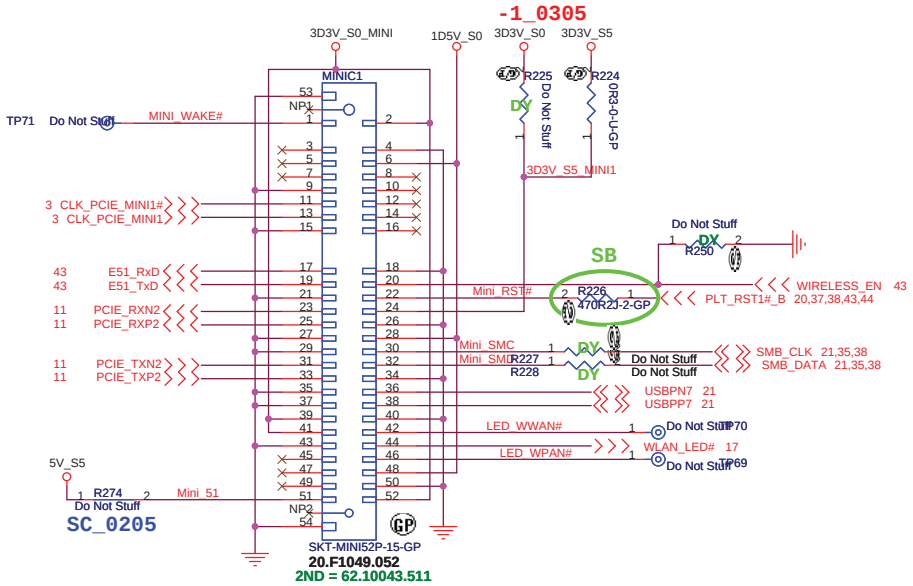
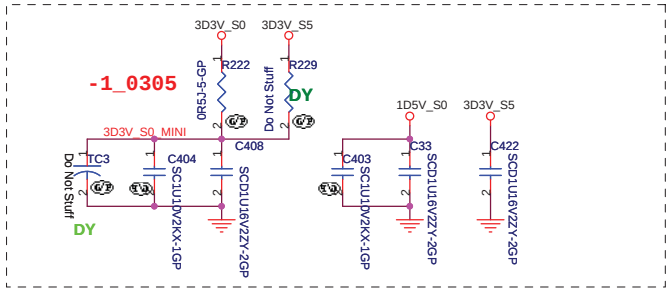
Mini Card Connector(WLAN)



Place near MINIC1



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Title	Mini Card	
Size: A3	Document Number: Olan	Rev: -1
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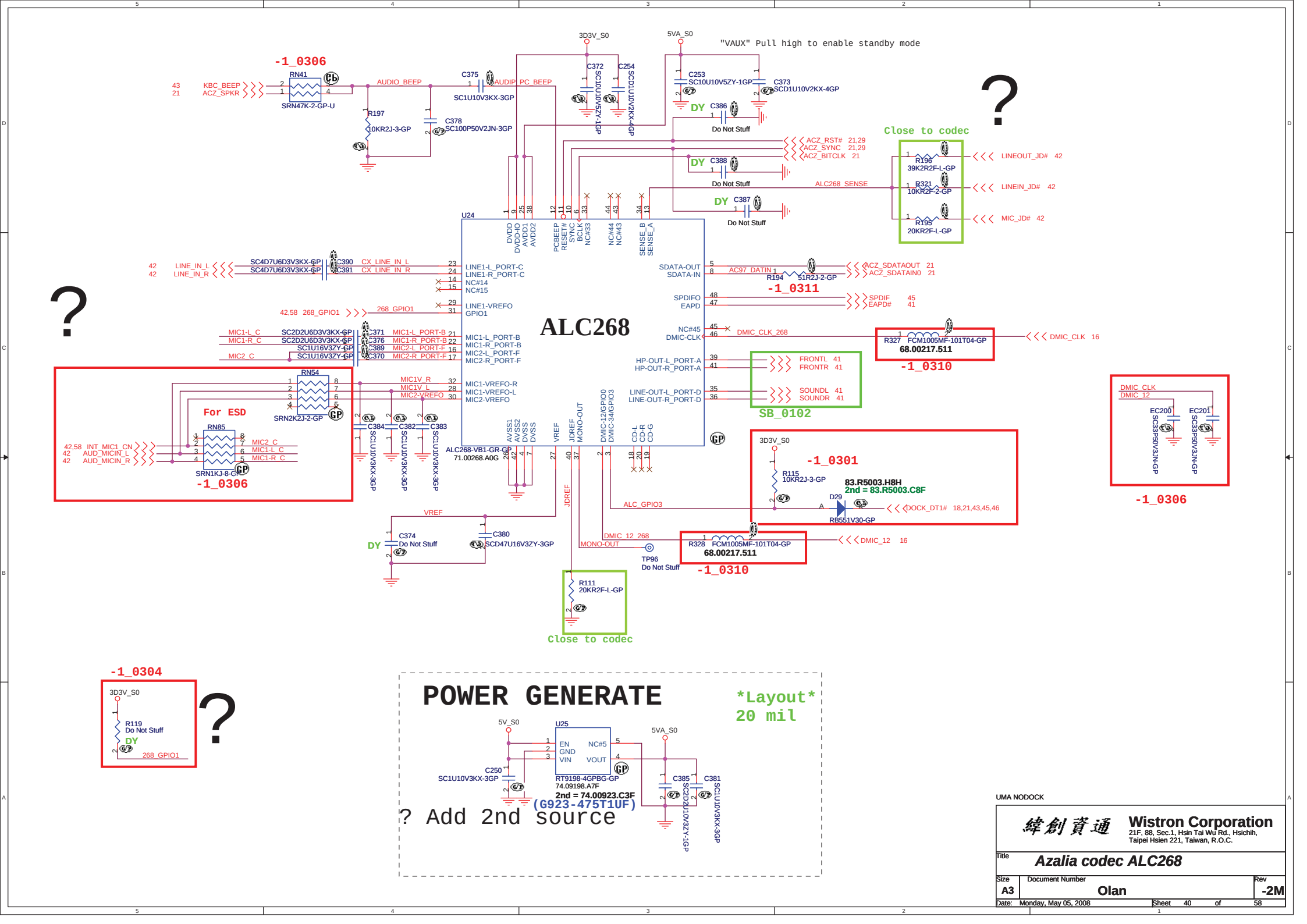
"VAUX" Pull high to enable standby mode
-1_0306
ALC268
Close to codec
-1_0311
-1_0310
SB_0102
-1_0301
-1_0304
For ESD
Close to codec
POWER GENERATE
Layout
20 mil
? Add 2nd source
UMA NODOCK
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Azalia codec ALC268
Size A3
Document Number Olan
Rev -2M
Date: Monday, May 05, 2008
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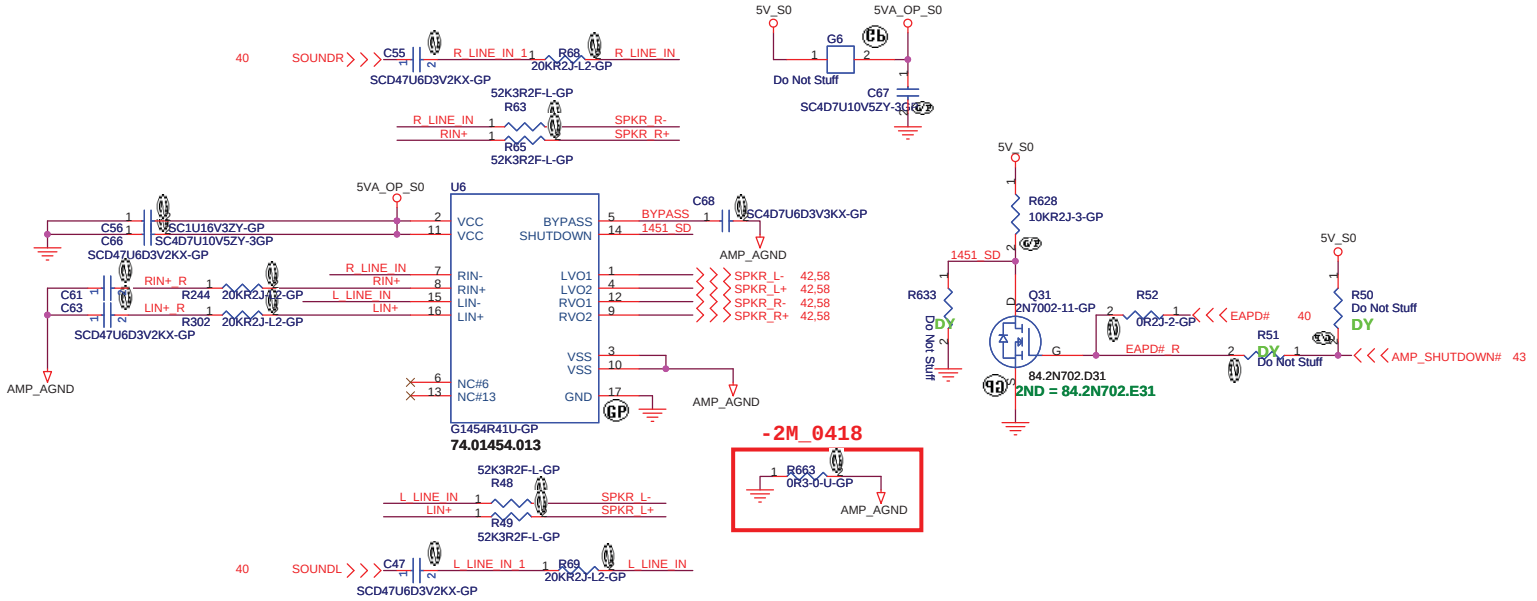
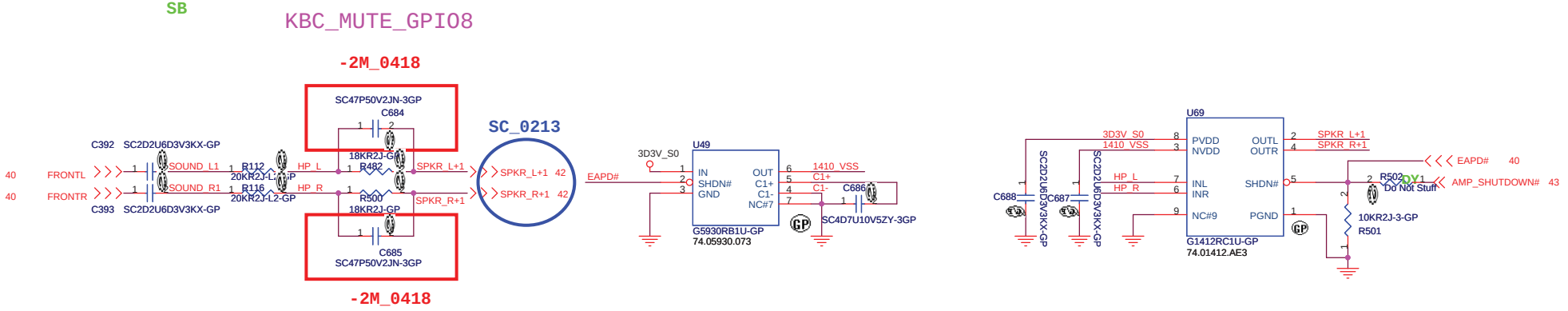
AUDIO OP AMPLIFIER



SB

KBC_MUTE_GPIO8



UMA NODOCK

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: *AUDIO AMP*		
Size: A3	Document Number: Olan	Rev: -2M
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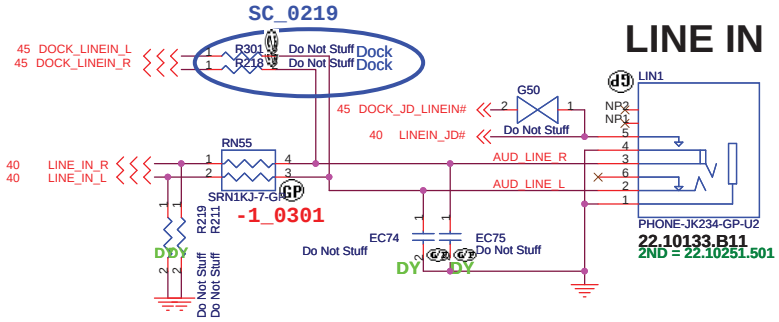
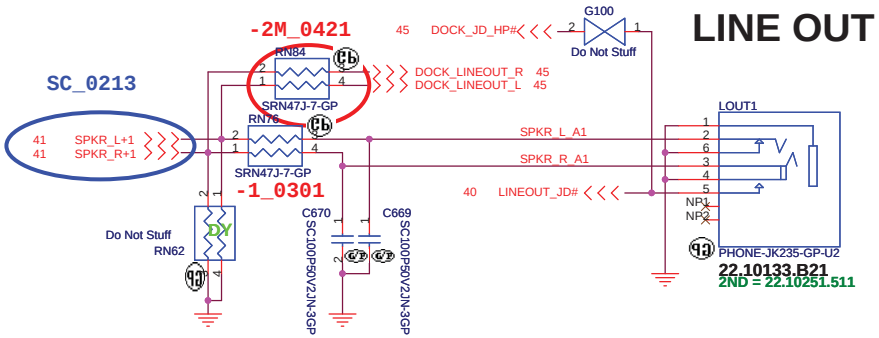
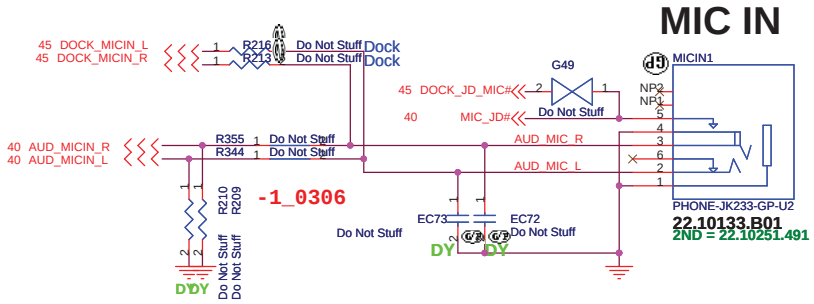
LINE IN



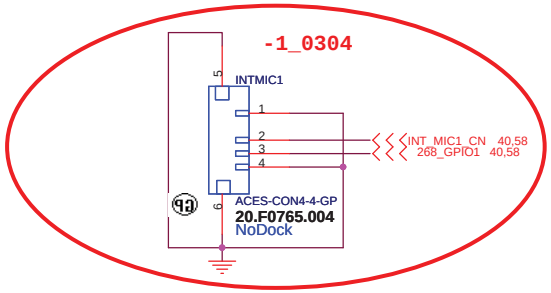
LINE OUT



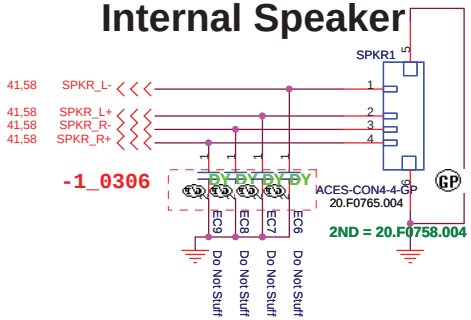
MIC IN



Internal MIC



Internal Speaker



UMA NODOCK

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: A3	Document Number: Olan	Rev: -1
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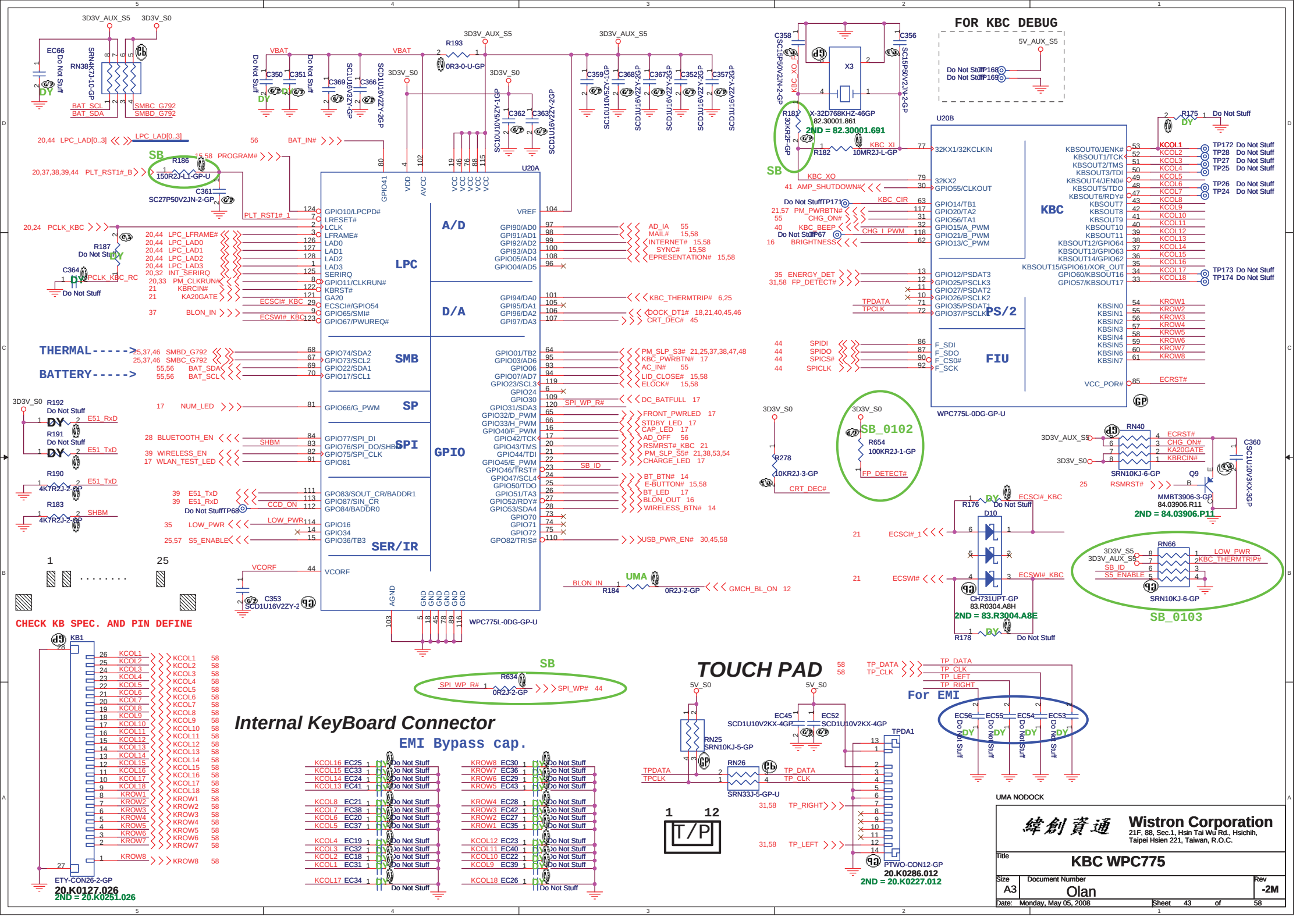
FOR KBC DEBUG
U20A
A/D
D/A
LPC
SMB
SP
SPI
GPIO
SER/IR
WPC775L-0DG-GP-U
U20B
KBC
PS/2
FIU
WPC775L-0DG-GP-U
THERMAL----->
BATTERY----->
CHECK KB SPEC. AND PIN DEFINE
Internal KeyBoard Connector
EMI Bypass cap.
TOUCH PAD
For EMI
SB
SB_0102
SB_0103
UMA
UMA NODOCK
ETY-CON26-2-GP
20.K0127.026
2ND = 20.K0251.026
PTWO-CON12-GP
20.K0286.012
2ND = 20.K0227.012
2ND = 82.30001.691
2ND = 84.03906.P11
2ND = 83.R3004.A8E
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
KBC WPC775
Olan
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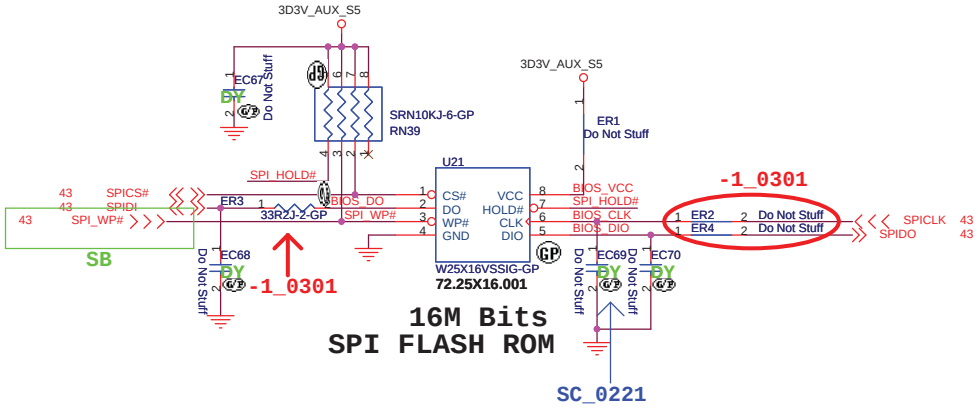

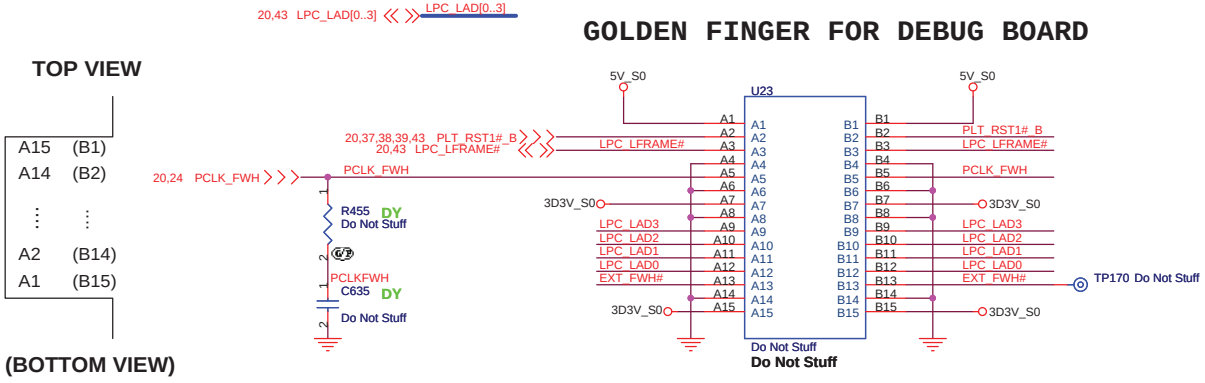

UMA NODOCK

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

Title: ***BIOS***

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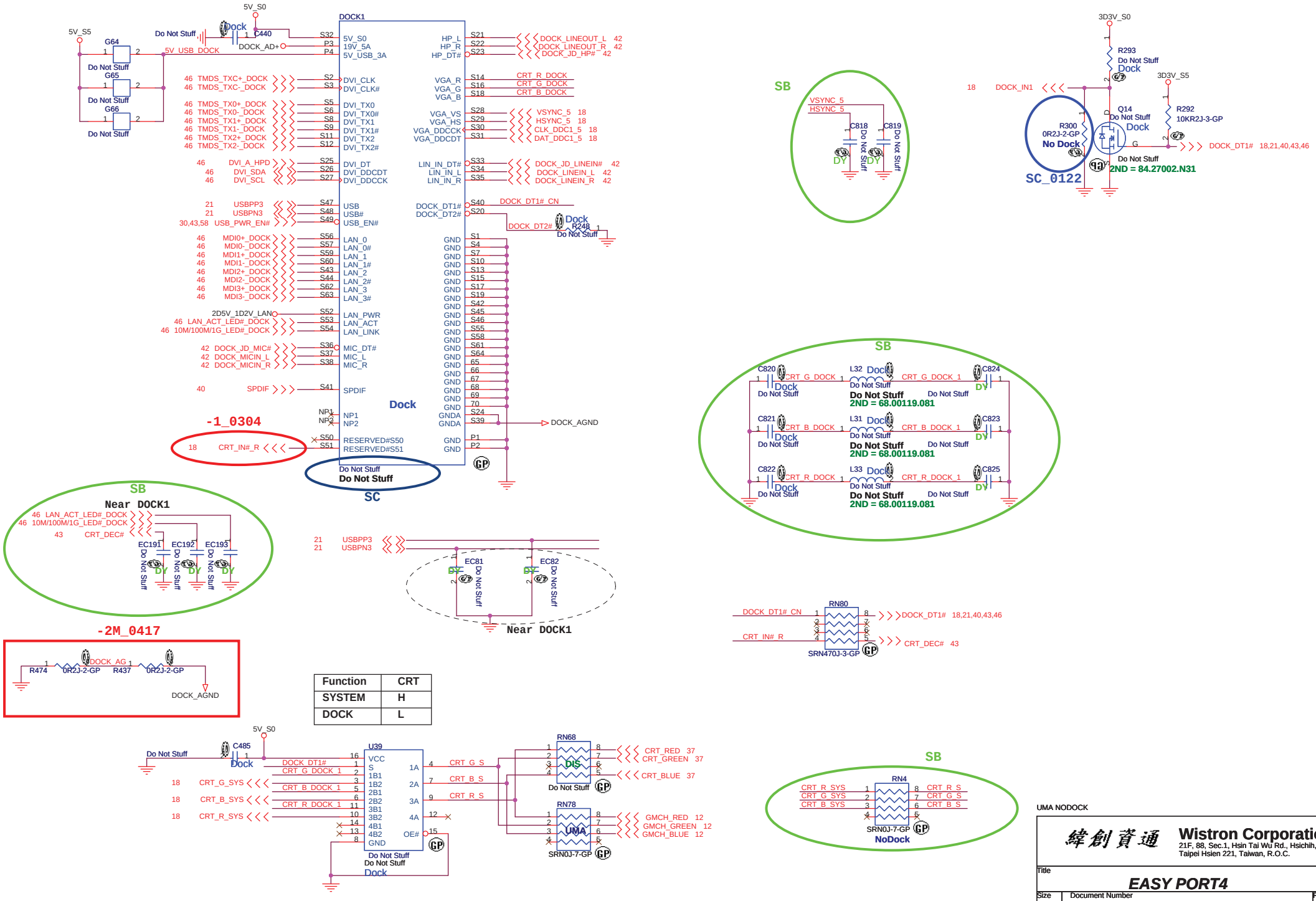
DOCK1
5V_S0
5V_S5
Dock
Do Not Stuff
G64
G65
G66
5V_USB_DOCK
DOCK_AD+
C440
DVI_CLK
DVI_CLK#
DVI_TX0
DVI_TX0#
DVI_TX1
DVI_TX1#
DVI_TX2
DVI_TX2#
DVI_DT
DVI_DDCDT
DVI_DDCCK
USB
USB#
USB_EN#
LAN_0
LAN_0#
LAN_1
LAN_1#
LAN_2
LAN_2#
LAN_3
LAN_3#
LAN_PWR
LAN_ACT
LAN_LINK
MIC_DT#
MIC_L
MIC_R
SPDIF
NP1
NP2
RESERVED#S50
RESERVED#S51
5V_S0
19V_5A
5V_USB_3A
HP_L
HP_R
HP_DT#
VGA_R
VGA_G
VGA_B
VGA_VS
VGA_HS
VGA_DDCCK
VGA_DDCDT
LIN_IN_DT#
LIN_IN_L
LIN_IN_R
DOCK_DT1#
DOCK_DT2#
GND
GNDA
DOCK_AGND
DOCK_LINEOUT_L 42
DOCK_LINEOUT_R 42
DOCK_JD_HP# 42
CRT_R_DOCK
CRT_G_DOCK
CRT_B_DOCK
VSYNC_5 18
HSYNC_5 18
CLK_DDC1_5 18
DAT_DDC1_5 18
DOCK_JD_LINEIN# 42
DOCK_LINEIN_L 42
DOCK_LINEIN_R 42
DOCK_DT1# CN
R248
Do Not Stuff
Dock
-1_0304
18 CRT_IN#_R
Do Not Stuff
Do Not Stuff
SC
SB
Near DOCK1
46 LAN_ACT_LED#_DOCK
46 10M/100M/1G_LED#_DOCK
43 CRT_DEC#
EC191
EC192
EC193
DY
-2M_0417
R474
0R2J-2-GP
R437
0R2J-2-GP
DOCK_AG
DOCK_AGND
21 USBPP3
21 USBPN3
EC81
EC82
Near DOCK1
SB
VSYNC_5
HSYNC_5
C818
C819
DY
3D3V_S0
R293
Do Not Stuff
Dock
3D3V_S5
18 DOCK_IN1
Q14
R300
0R2J-2-GP
No Dock
R292
10KR2J-3-GP
DOCK_DT1# 18,21,40,43,46
2ND = 84.27002.N31
SC_0122
SB
C820
C821
C822
C824
C825
C823
L32
L31
L33
CRT_G_DOCK_1
CRT_B_DOCK_1
CRT_R_DOCK_1
Do Not Stuff
2ND = 68.00119.081
RN80
DOCK_DT1# CN
CRT_IN#_R
SRN470J-3-GP
DOCK_DT1# 18,21,40,43,46
CRT_DEC# 43
Function
SYSTEM
DOCK
CRT
H
L
5V_S0
C485
U39
VCC
S
1B1
1B2
2B1
2B2
3B1
3B2
4B1
4B2
GND
1A
2A
3A
4A
OE#
DOCK_DT1#
CRT_G_DOCK_1
CRT_B_DOCK_1
CRT_R_DOCK_1
18 CRT_G_SYS
18 CRT_B_SYS
18 CRT_R_SYS
CRT_G_S
CRT_B_S
CRT_R_S
RN68
RN78
DIS
UMA
CRT_RED 37
CRT_GREEN 37
CRT_BLUE 37
GMCH_RED 12
GMCH_GREEN 12
GMCH_BLUE 12
SRN0J-7-GP
SB
RN4
CRT_R_SYS
CRT_G_SYS
CRT_B_SYS
SRN0J-7-GP
NoDock
UMA NODOCK
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
EASY PORT4
Size
A3
Document Number
Olan
Rev
-1
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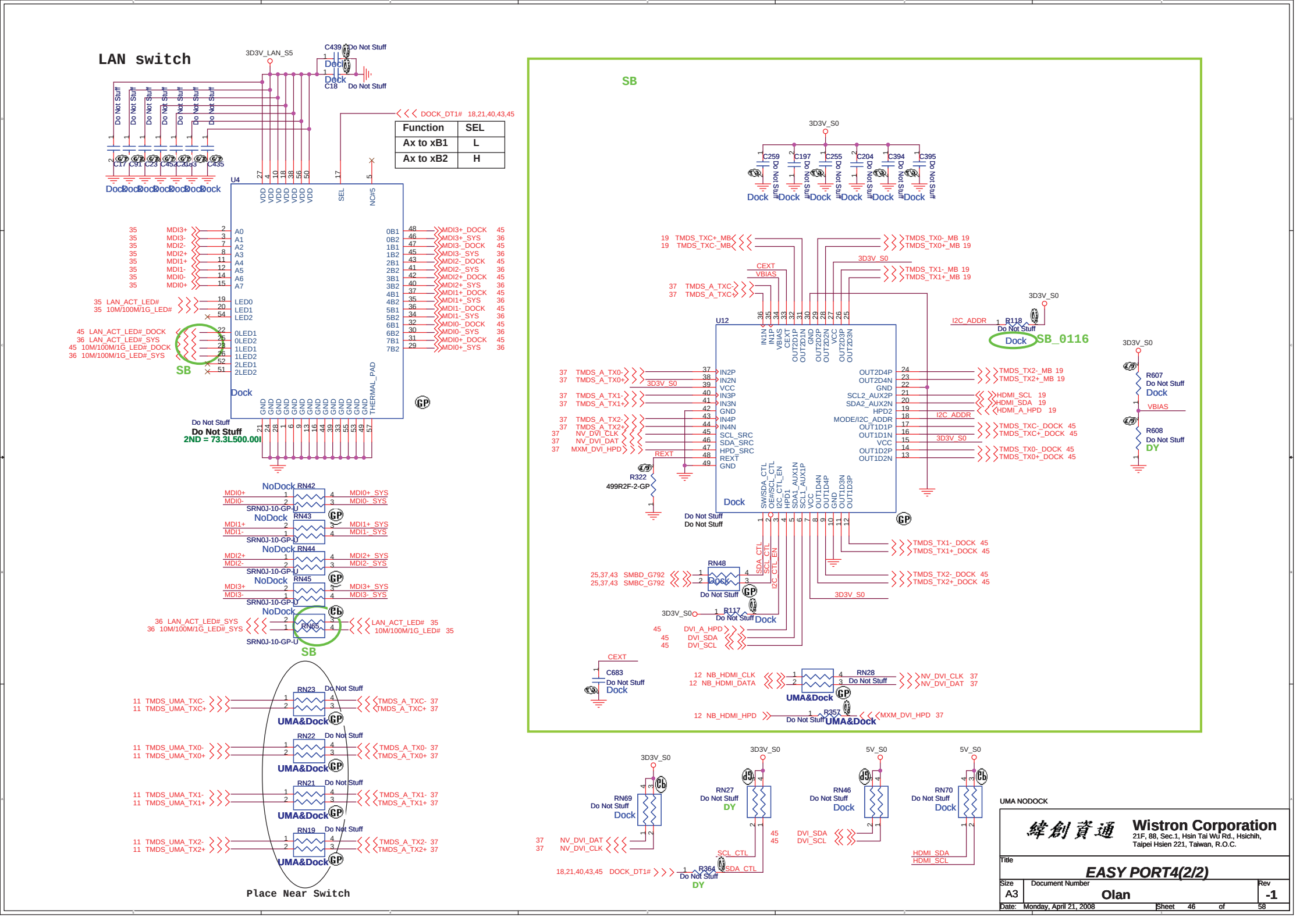
Sheet 45 of 58


LAN switch
SB
Dock
Do Not Stuff
Do Not Stuff
2ND = 73.3L500.001
NoDock RN42
NoDock RN43
NoDock RN44
NoDock RN45
NoDock
SRN0J-10-GP-U
SB
RN23
RN22
RN21
RN19
UMA&Dock
Place Near Switch
SB
Dock
SB_0116
DY
UMA&Dock
UMA NODOCK
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
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Olan
Rev
-1
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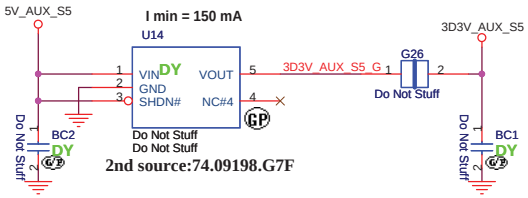
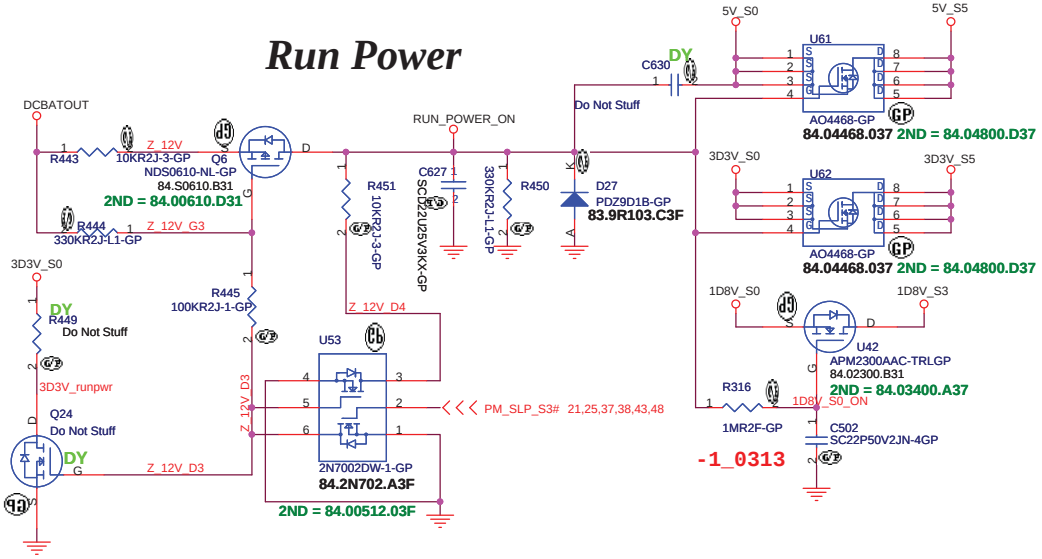
Aux Power 3D3V_AUX_S5



Run Power



UMA NODOCK

緯創資通 Wistron Corporation	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	RUN POWER and 3D3V_AUX_S5
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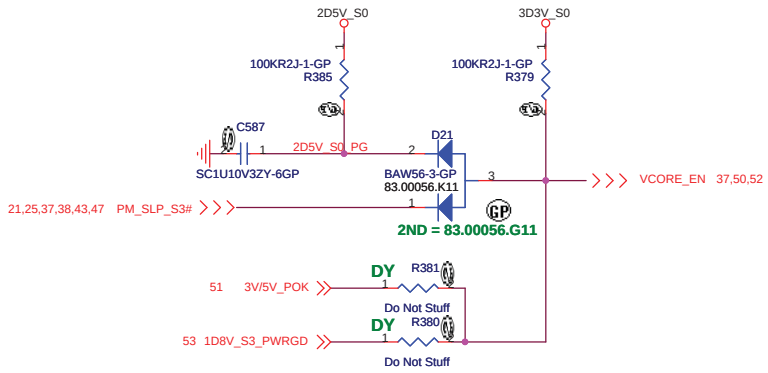
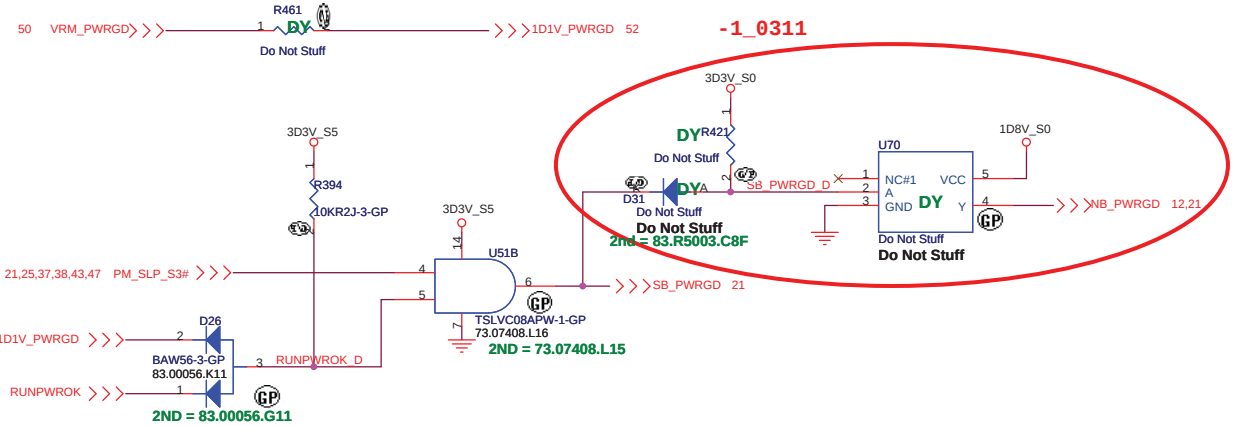


P/H @ 1D8V_S3 PAGE



UMA NODOCK

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

Title: **POWER ON LOGIC**

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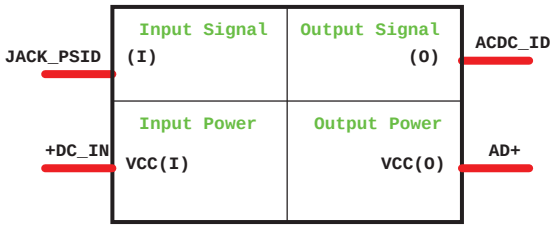
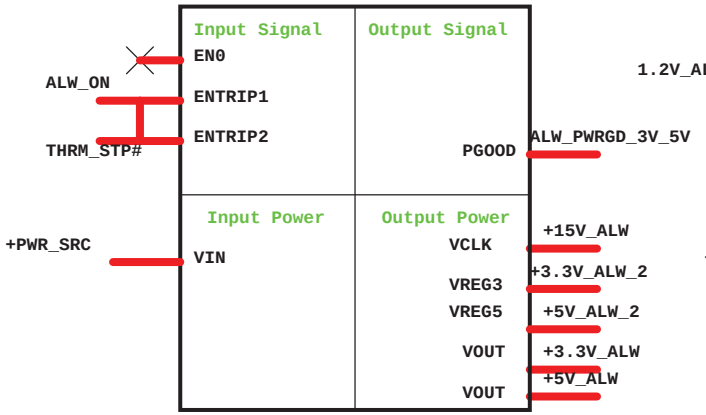
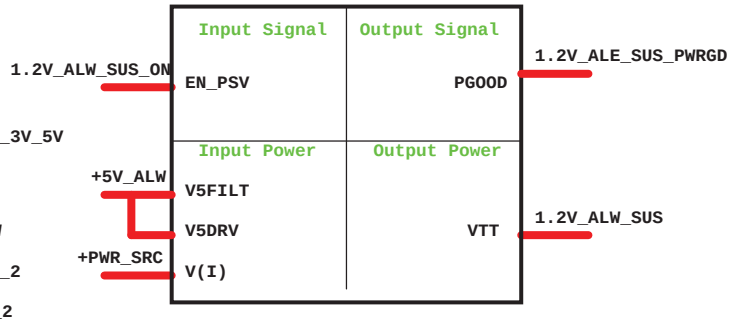
Adapter



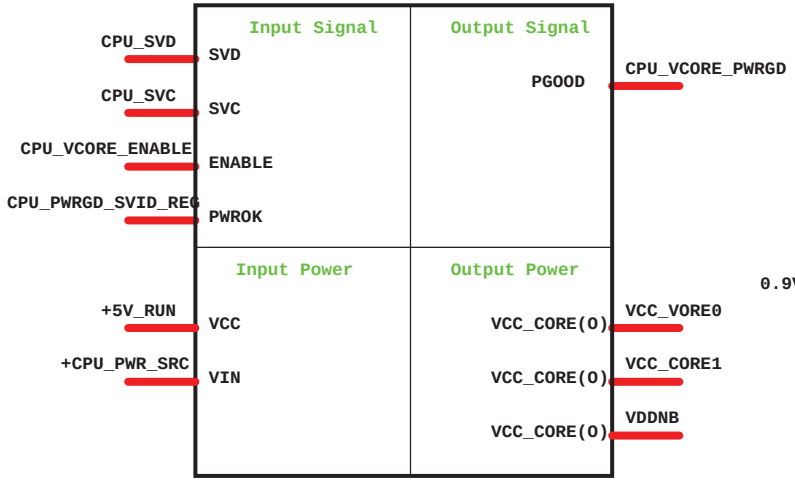
SN0608098



DCDC 1D2V(TPS5117)

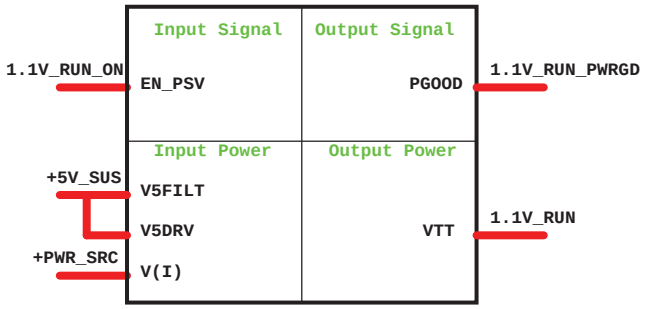


CPU_CORE
ISL6265HRTZ

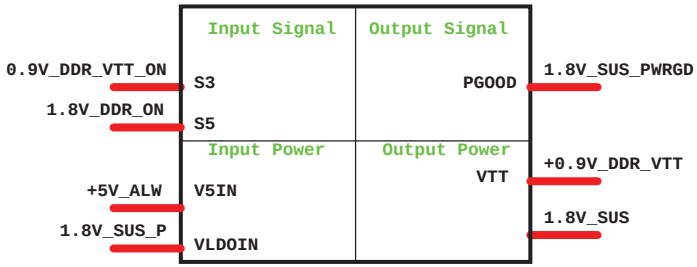


	S3	S5	VDDQ	VTTREF	VTT
S0 S3	1	1	1	1	1
S4 S5	0	0	0	0	0

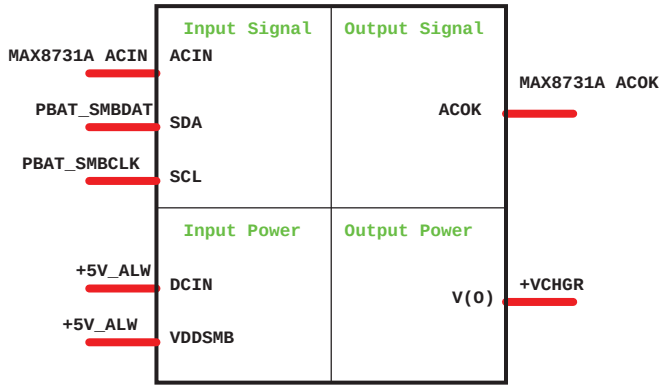
1D1V(TPS5117)



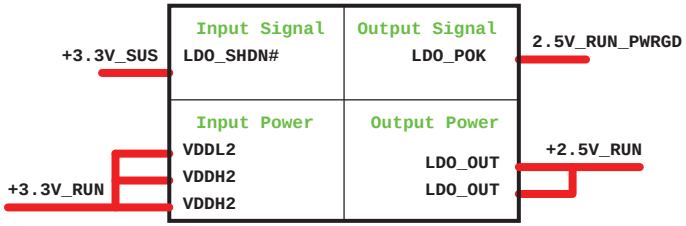
1D8V/0D9V(TPS5116)



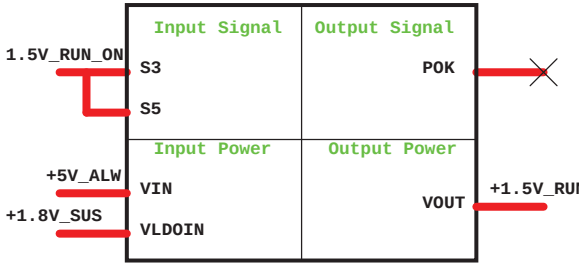
CHARGER BQ24745



2.5V LDO
EMC4002



1.5V_LDO



UMA NODOCK

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

Title: **Power Block Diagram**

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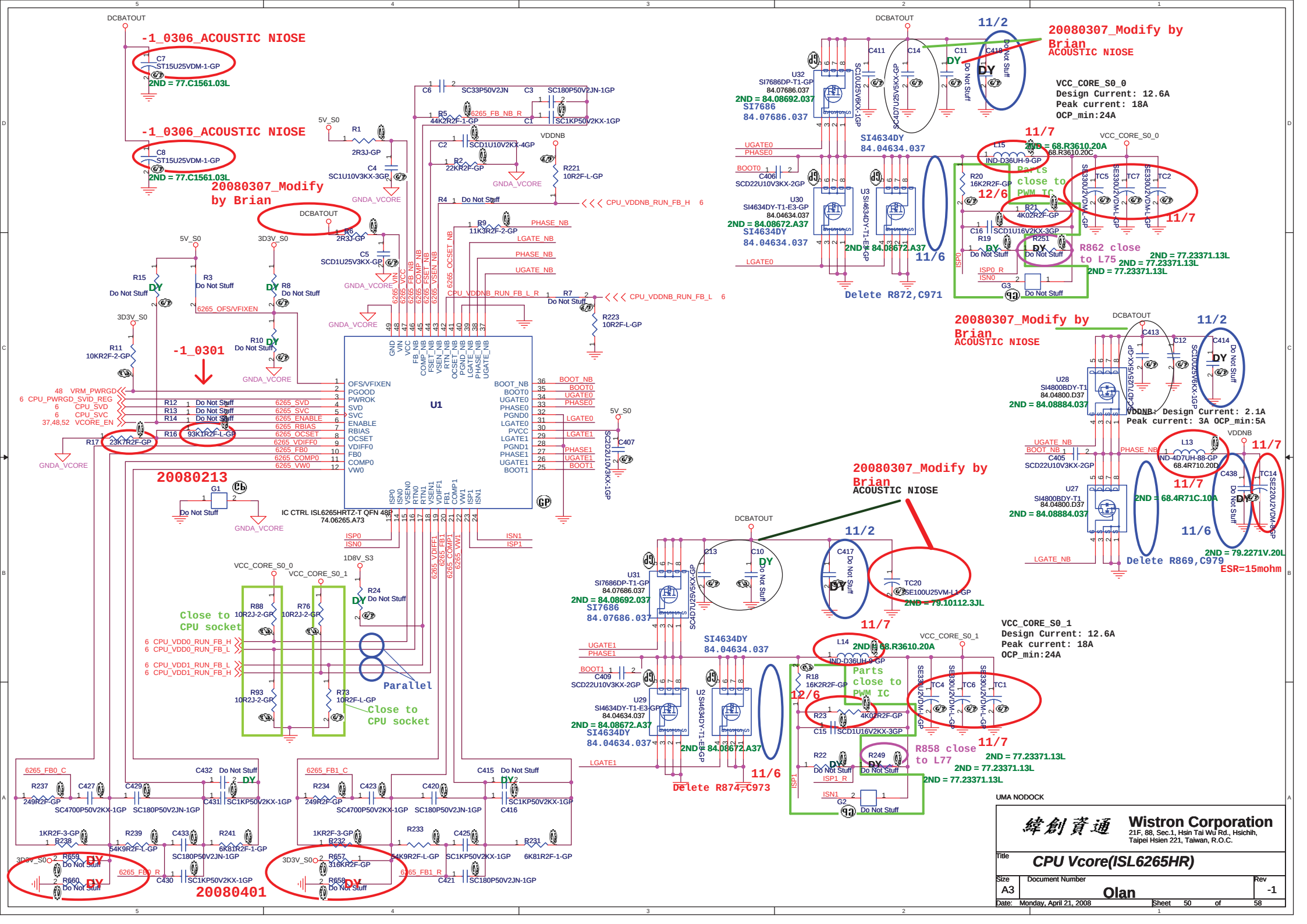
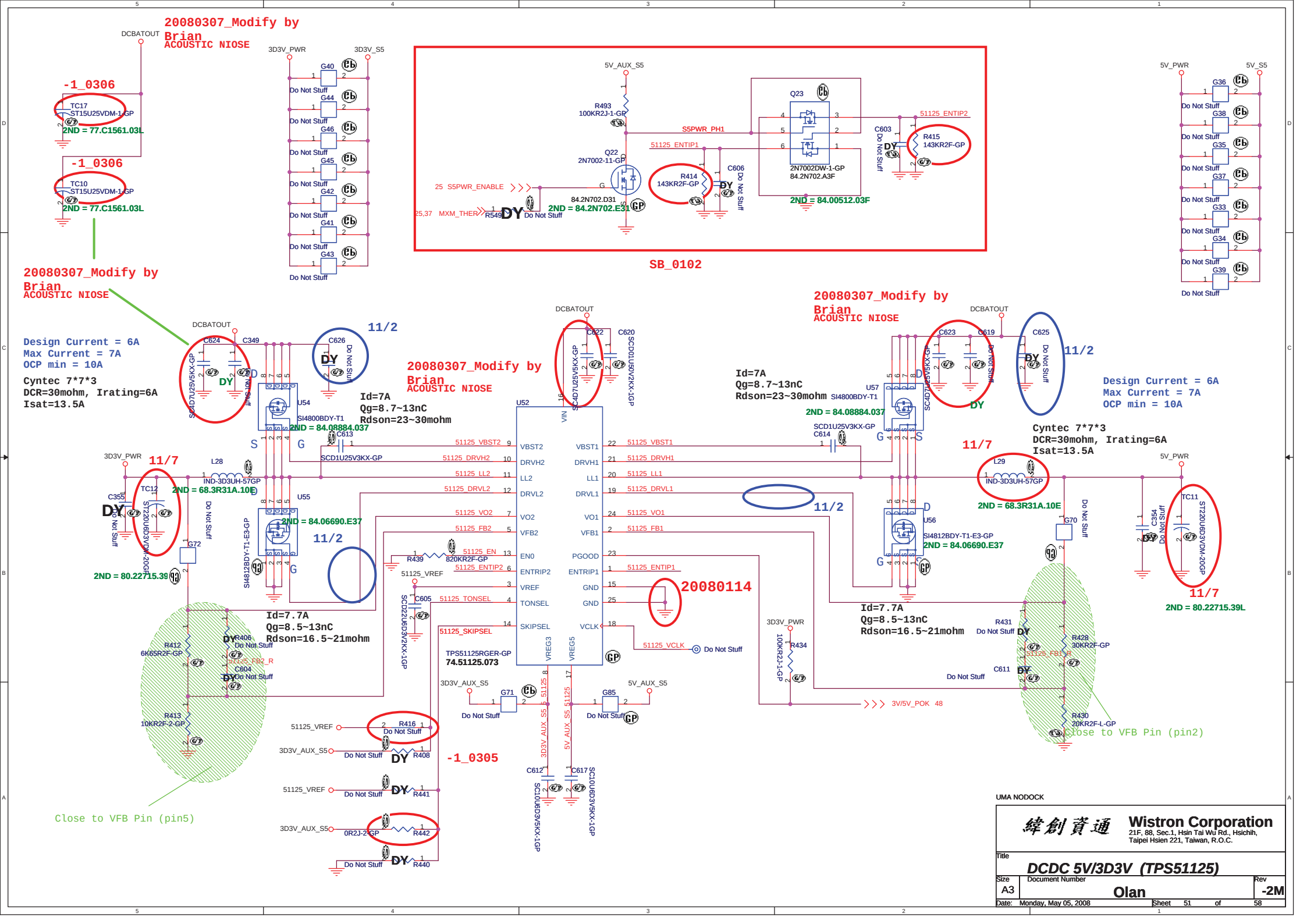

-1_0306_ACOUSTIC NIOSE
2ND = 77.C1561.03L
20080307_Modify by Brian
-1_0301
20080213
20080401
U1
IC CTRL ISL6265HRTZ-T QFN 48P
74.06265.A73
Close to CPU socket
Parallel
Delete R872,C971
Delete R874,C973
Delete R869,C979
20080307_Modify by Brian
ACOUSTIC NIOSE
VCC_CORE_S0_0
Design Current: 12.6A
Peak current: 18A
OCP_min:24A
VCC_CORE_S0_1
Design Current: 12.6A
Peak current: 18A
OCP_min:24A
VDDNB: Design Current: 2.1A
Peak current: 3A OCP_min:5A
R862 close to L75
R858 close to L77
Parts close to PWM IC
2ND = 77.23371.13L
2ND = 68.R3610.20A
2ND = 68.4R71C.10A
2ND = 79.2271V.20L
ESR=15mohm
UMA NODOCK
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
CPU Vcore(ISL6265HR)
Olan
Monday, April 21, 2008


20080307_Modify by Brian
ACOUSTIC NIOSE
-1_0306
TC17 ST15U25VDM-1-GP
2ND = 77.C1561.03L
TC10 ST15U25VDM-1-GP
2ND = 77.C1561.03L
SB_0102
Design Current = 6A
Max Current = 7A
OCP min = 10A
Cyntec 7*7*3
DCR=30mohm, Irating=6A
Isat=13.5A
Id=7A
Qg=8.7~13nC
Rdson=23~30mohm
SI4800BDY-T1
2ND = 84.08884.037
SI4812BDY-T1-E3-GP
2ND = 84.06690.E37
IND-3D3UH-57GP
2ND = 68.3R31A.10E
ST220U6D3VDM-20GP
2ND = 80.22715.39L
TPS51125RGER-GP
74.51125.073
Id=7.7A
Qg=8.5~13nC
Rdson=16.5~21mohm
20080114
-1_0305
Close to VFB Pin (pin5)
Close to VFB Pin (pin2)
UMA NODOCK
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
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DCDC 5V/3D3V (TPS51125)
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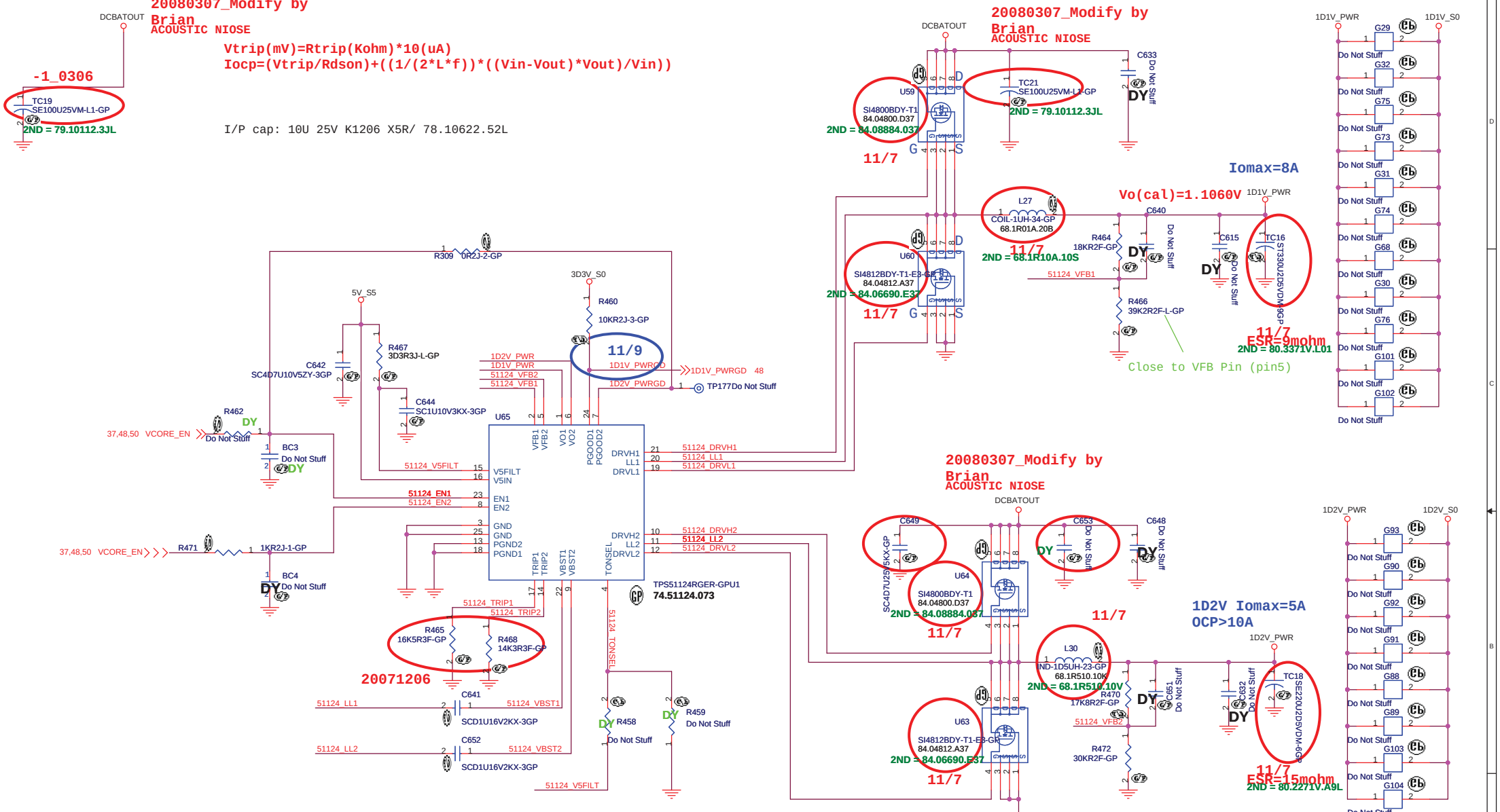
20080307_Modify by Brian
ACOUSTIC NIOSE

Vtrip(mV)=Rtrip(Kohm)*10(uA)
Iocp=(Vtrip/Rdson)+((1/(2*L*f))*((Vin-Vout)*Vout)/Vin))

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

Vout=0.758V*(R1+R2)/R2 --> PWM mode
Vout=0.764V*(R1+R2)/R2 --> Skip Mode

20080307_Modify by Brian
ACOUSTIC NIOSE

20080307_Modify by Brian
ACOUSTIC NIOSE

UMA NODOCK

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

Title	TPS51124_1D1V_1D2V	
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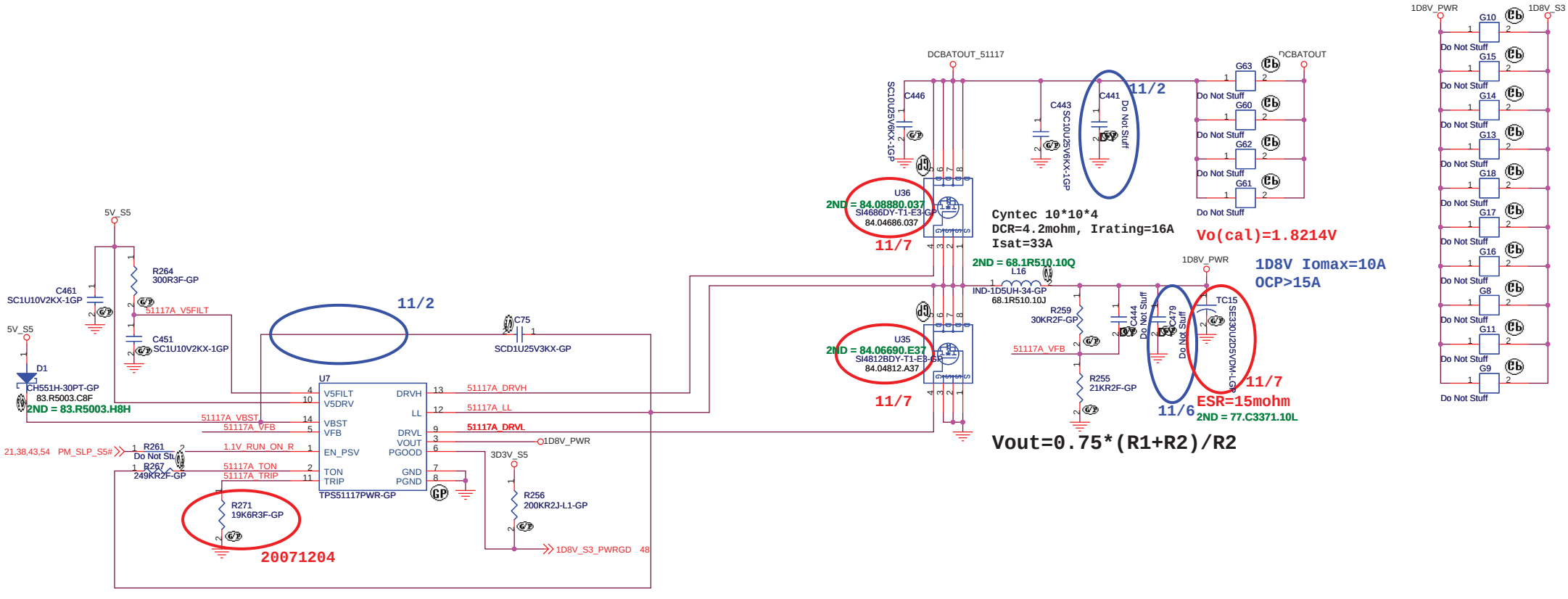

UMA NODOCK

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

Title	***1D8V(TPS5117)***	
Size: A3	Document Number: **Olan**	Rev: **-1**
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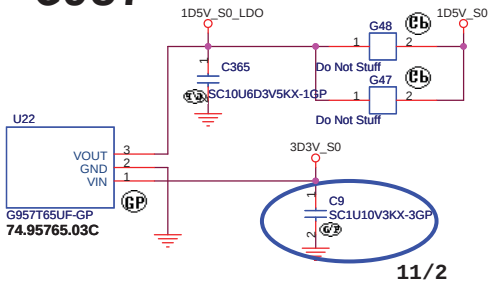
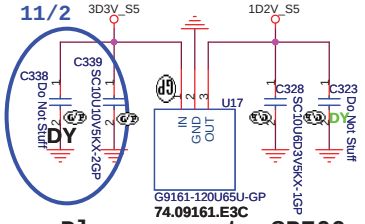
1D5V_S0
Iomax=1A

G957

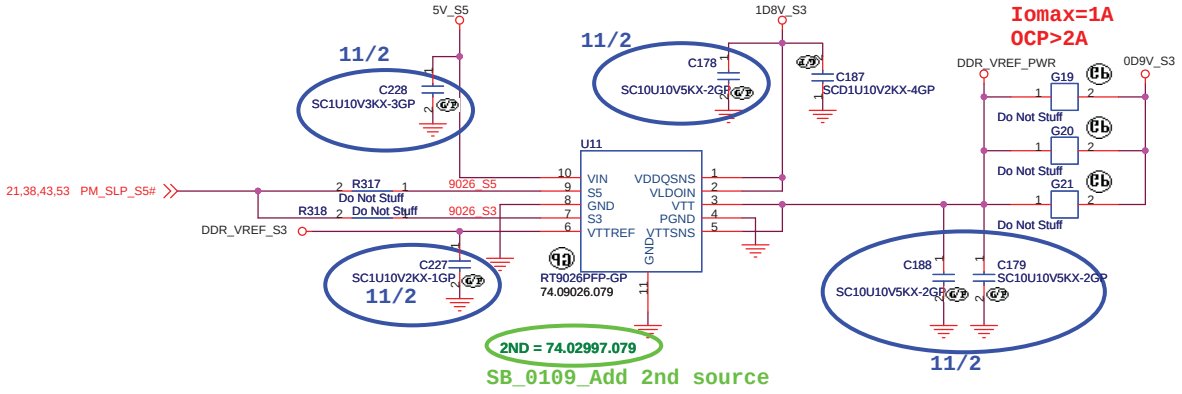


11/2

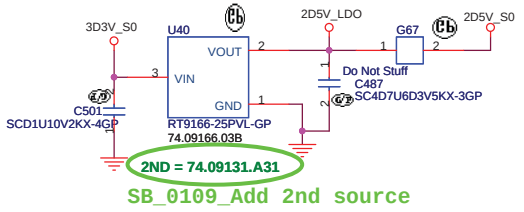
1D2V_S5
Iomax=400mA



Place near to SB700



2D5V_S0
Iomax=0.3A 2D5V/300mA



SB_0109_Add 2nd source

UMA NODOCK

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Title	***0D9V&2D5V&1D25V&1D5V***	
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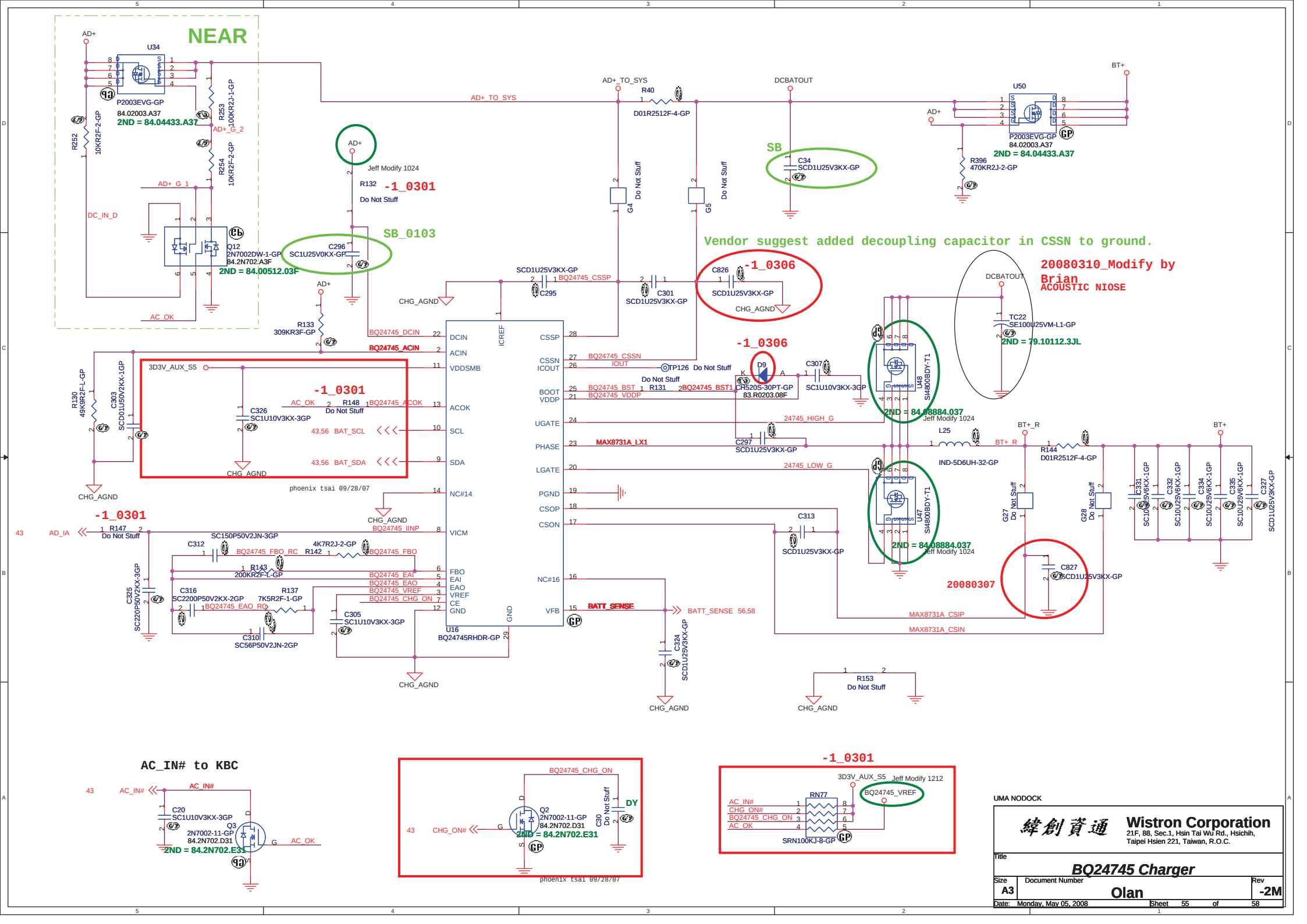
NEAR
U34
P2003EVG-GP
84.02003.A37
2ND = 84.04433.A37
R252 10K R2F-2-GP
R253 100KR2J-1-GP
R254 10KR2F-2-GP
AD+_G_2
AD+_G_1
DC_IN_D
Q12
2N7002DW-1-GP
84.2N702.A3F
2ND = 84.00512.03F
AC_OK
AD+
AD+_TO_SYS
R40
D01R2512F-4-GP
DCBATOUT
U50
BT+
R396
470KR2J-2-GP
SB
C34
SCD1U25V3KX-GP
G4 Do Not Stuff
G5 Do Not Stuff
Jeff Modify 1024
R132
-1_0301
Do Not Stuff
SB_0103
C296
SC1U25V0KX-GP
Vendor suggest added decoupling capacitor in CSSN to ground.
20080310_Modify by Brian
ACOUSTIC NIOSE
C826
-1_0306
SCD1U25V3KX-GP
C295
C301
BQ24745_CSSP
CHG_AGND
TC22
SE100U25VM-L1-GP
2ND = 79.10112.3JL
R133
309KR3F-GP
BQ24745_DCIN
BQ24745_ACIN
3D3V_AUX_S5
R130 49K9R2F-L-GP
C303 SCD01U50V2KX-1GP
C326 SC1U10V3KX-3GP
R148 Do Not Stuff
BQ24745_ACOK
AC_OK
43,56 BAT_SCL
43,56 BAT_SDA
phoenix tsai 09/28/07
-1_0301
R147 Do Not Stuff
AD_IA
SC150P50V2JN-3GP
C312
BQ24745_FBO_RC
R142 4K7R2J-2-GP
BQ24745_FBO
R143 200KR2F-L-GP
C325 SC220P50V2KX-3GP
C316 SC2200P50V2KX-2GP
R137 7K5R2F-1-GP
BQ24745_EAO_RC
C310 SC56P50V2JN-2GP
C305 SC1U10V3KX-3GP
BQ24745_EAI
BQ24745_EAO
BQ24745_VREF
BQ24745_CHG_ON
U16
BQ24745RHDR-GP
DCIN
ACIN
VDDSMB
ACOK
SCL
SDA
NC#14
VICM
FBO
EAI
EAO
VREF
CE
GND
CSSP
CSSN
ICOUT
BOOT
VDDP
UGATE
PHASE
LGATE
PGND
CSOP
CSON
NC#16
VFB
ICREF
BQ24745_CSSN
IOUT
TP126 Do Not Stuff
BQ24745_BST
BQ24745_VDDP
R131
BQ24745_BST1
D9
CH520S-30PT-GP
83.R0203.08F
C307
SC1U10V3KX-3GP
Do Not Stuff
24745_HIGH_G
24745_LOW_G
MAX8731A_LX1
C297
SCD1U25V3KX-GP
U48
SI4800BDY-T1
U47
SI4800BDY-T1
2ND = 84.08884.037
Jeff Modify 1024
L25
IND-5D6UH-32-GP
BT+_R
R144
D01R2512F-4-GP
C313
SCD1U25V3KX-GP
G27 Do Not Stuff
G28 Do Not Stuff
C331 SC10U25V6KX-1GP
C332 SC10U25V6KX-1GP
C334 SC10U25V6KX-1GP
C335 SC10U25V6KX-1GP
C327 SCD1U25V3KX-GP
20080307
C827
SCD1U25V3KX-GP
MAX8731A_CSIP
MAX8731A_CSIN
BATT_SENSE
BATT_SENSE 56,58
C324 SCD1U25V3KX-GP
R153
Do Not Stuff
AC_IN# to KBC
AC_IN#
C20 SC1U10V3KX-3GP
Q3
2N7002-11-GP
84.2N702.D31
2ND = 84.2N702.E31
CHG_ON#
Q2
2N7002-11-GP
84.2N702.D31
2ND = 84.2N702.E31
C30 Do Not Stuff
DY
-1_0301
3D3V_AUX_S5
Jeff Modify 1212
BQ24745_VREF
RN77
SRN100KJ-8-GP
UMA NODOCK
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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Title
BQ24745 Charger
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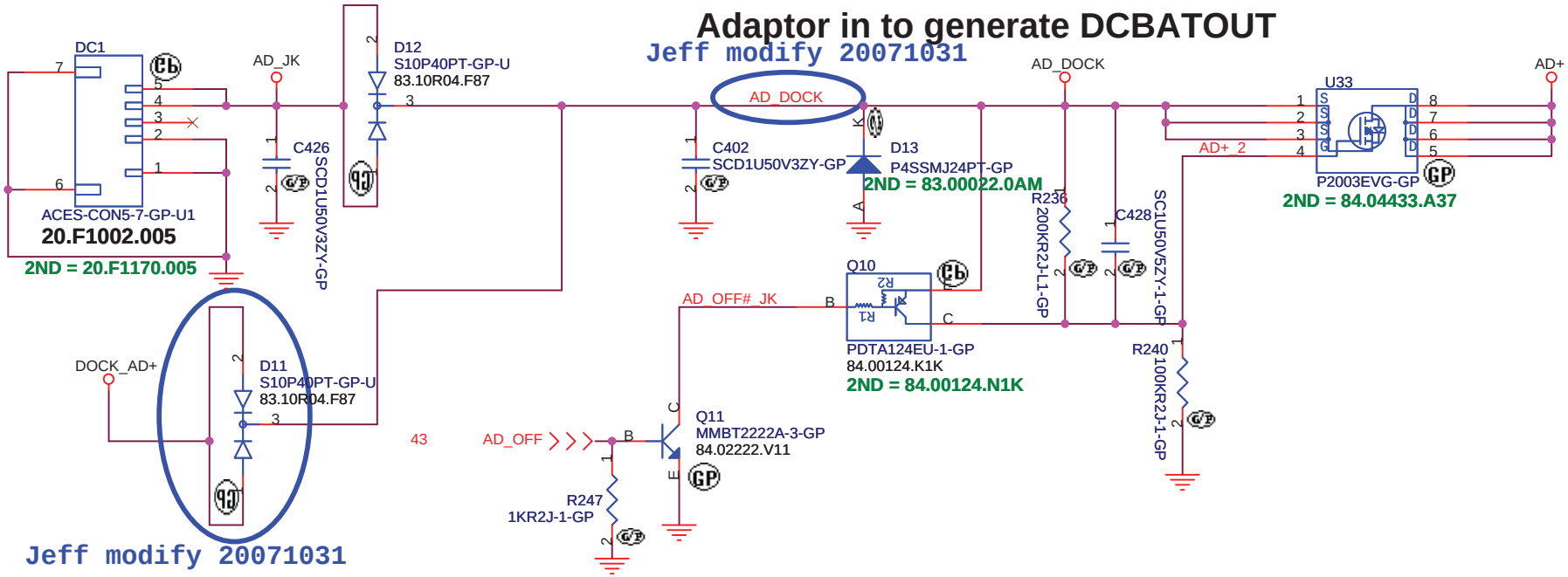
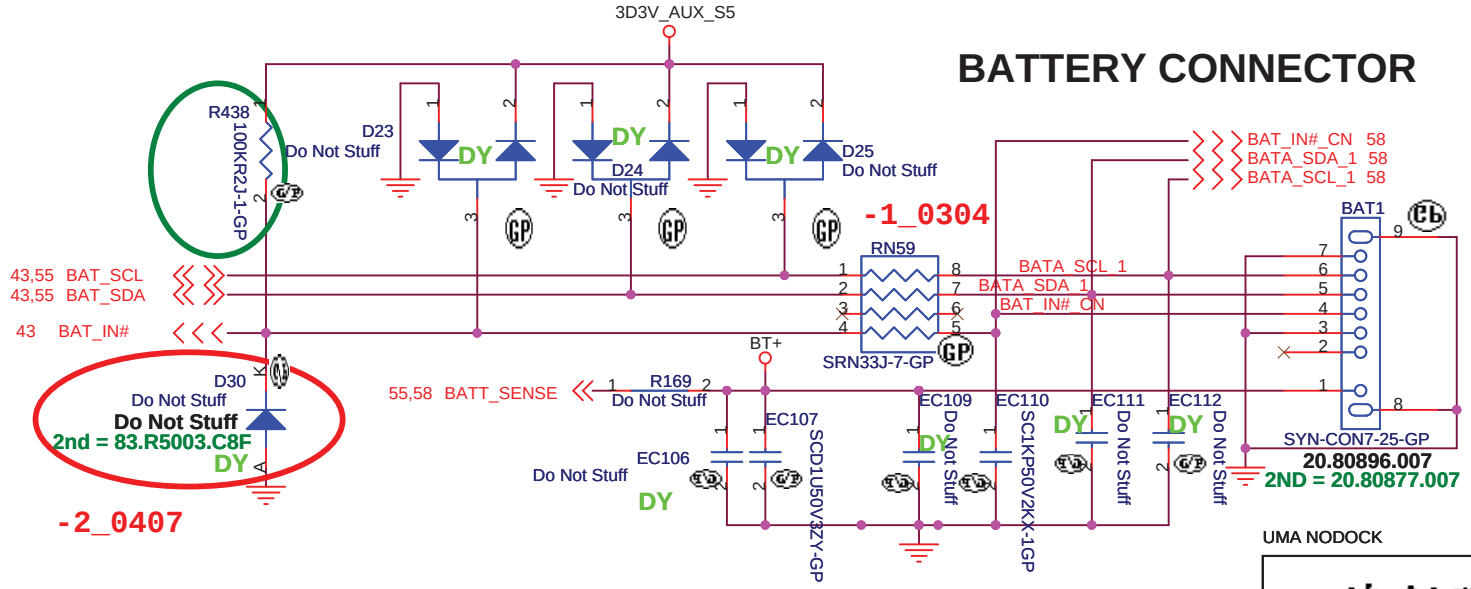
Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



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Title: ***AD/BATT CONN***

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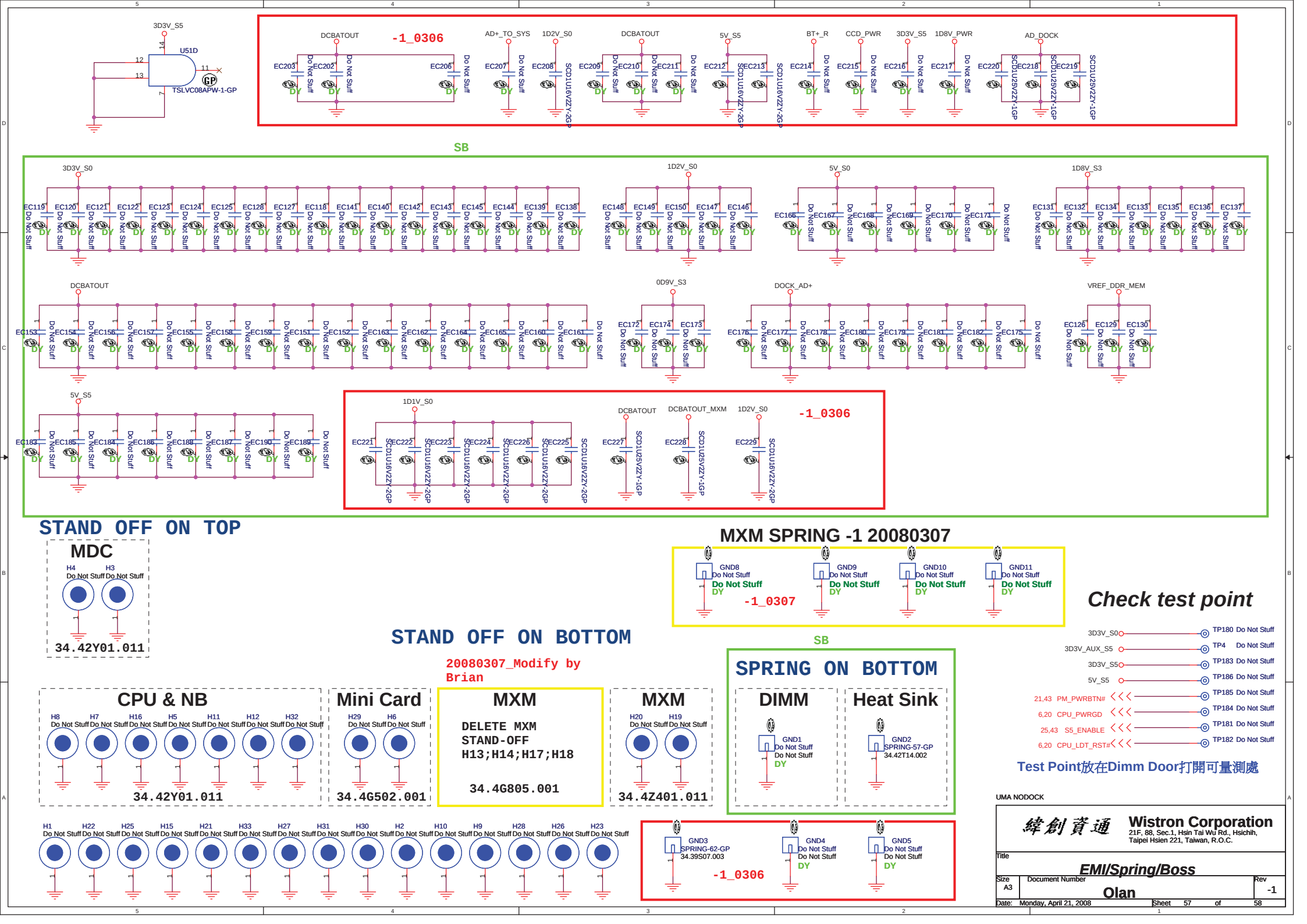
3D3V_S5
U51D
TSLVC08APW-1-GP
DCBATOUT
-1_0306
AD+_TO_SYS
1D2V_S0
5V_S5
BT+_R
CCD_PWR
3D3V_S5
1D8V_PWR
AD_DOCK
SB
3D3V_S0
1D2V_S0
5V_S0
1D8V_S3
DCBATOUT
0D9V_S3
DOCK_AD+
VREF_DDR_MEM
5V_S5
1D1V_S0
DCBATOUT
DCBATOUT_MXM
1D2V_S0
-1_0306
STAND OFF ON TOP
MDC
H4 H3
Do Not Stuff Do Not Stuff
34.42Y01.011
MXM SPRING -1 20080307
GND8 GND9 GND10 GND11
Do Not Stuff
DY
-1_0307
Check test point
3D3V_S0 TP180
3D3V_AUX_S5 TP4
3D3V_S5 TP183
5V_S5 TP186
21,43 PM_PWRBTN# TP185
6,20 CPU_PWRGD TP184
25,43 S5_ENABLE TP181
6,20 CPU_LDT_RST# TP182
Test Point放在Dimm Door打開可量測處
STAND OFF ON BOTTOM
20080307_Modify by Brian
CPU & NB
H8 H7 H16 H5 H11 H12 H32
34.42Y01.011
Mini Card
H29 H6
34.4G502.001
MXM
DELETE MXM
STAND-OFF
H13;H14;H17;H18
34.4G805.001
MXM
H20 H19
34.4Z401.011
SB
SPRING ON BOTTOM
DIMM
GND1
Do Not Stuff
Do Not Stuff
DY
Heat Sink
GND2
SPRING-57-GP
34.42T14.002
H1 H22 H25 H15 H21 H33 H27 H31 H30 H2 H10 H9 H28 H26 H23
GND3
SPRING-62-GP
34.39S07.003
GND4
GND5
-1_0306
UMA NODOCK
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 A3
Document Number
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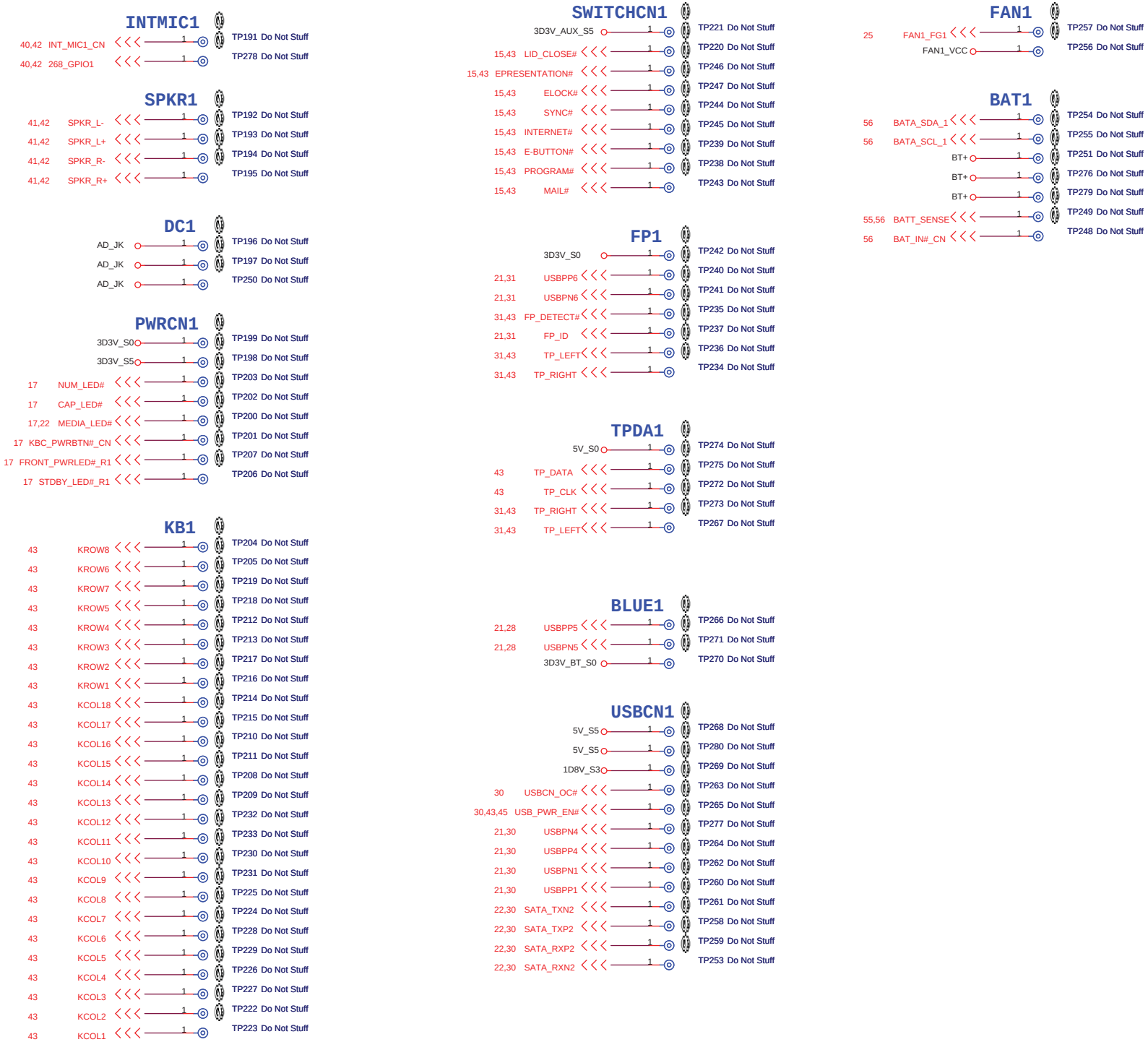

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Title: **AFTE TP**

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