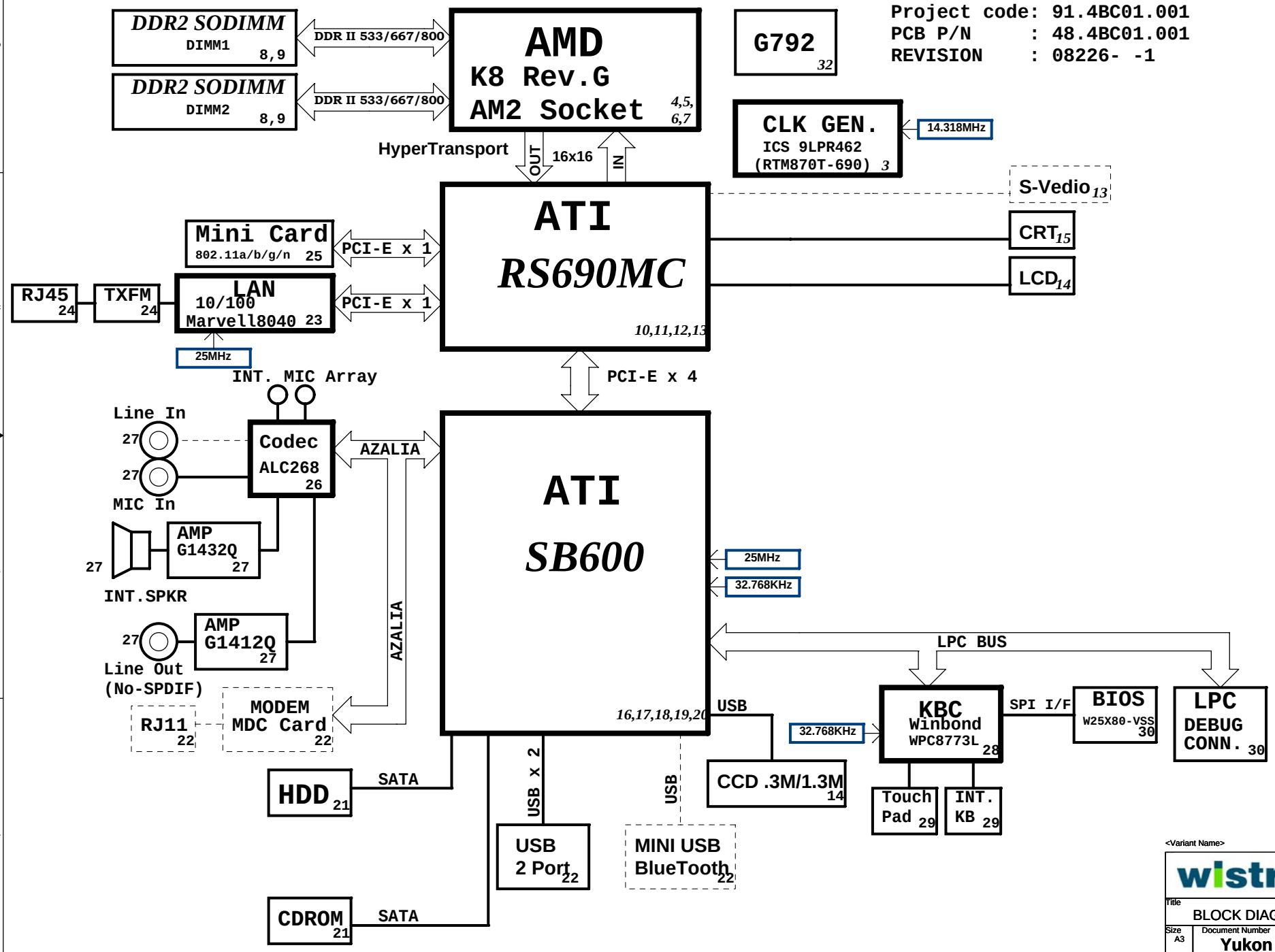
Yukon Block Diagram



Project code: 91.4BC01.001
PCB P/N : 48.4BC01.001
REVISION : 08226- -1

PCB Layer Stackup

L1: Signal 1
L2: VCC
L3: Inner Signal 2
L4: Inner Signal 3
L5: GND
L6: Signal 4

CPU V_CORE

INPUT	OUTPUT
DCBATOUT	VCC_CORE_S0

SYSTEM DC/DC

INPUT	OUTPUT
DCBATOUT	1D2V_S0 1D8V_S3

SYSTEM DC/DC

INPUT	OUTPUT
DCBATOUT	5V_S5 3D3V_S5

SYSTEM LDO

INPUT	OUTPUT
1D8V_S3	0D9V_S3

SYSTEM LDO

INPUT	OUTPUT
3D3V_S5 3D3V_S0 3D3V_S0	1D2V_S5 2D5V_S0 1D5V_S0

SYSTEM LDO

INPUT	OUTPUT
DCBATOUT	5V_AUX_S5 3D3V_AUX_S5

Battery Charger

INPUTS	OUTPUTS
AD+ BAT+	DCBATOUT

<Variant Name>

Wistron Incorporated
21F, 88, Hsin Tai Wu Rd
Hsichih, Taipei

Title: BLOCK DIAGRAM
Size: A3
Document Number: Yukon
Rev: -1
Date: Tuesday, August 12, 2008
Sheet 1 of 43

<Core Design>

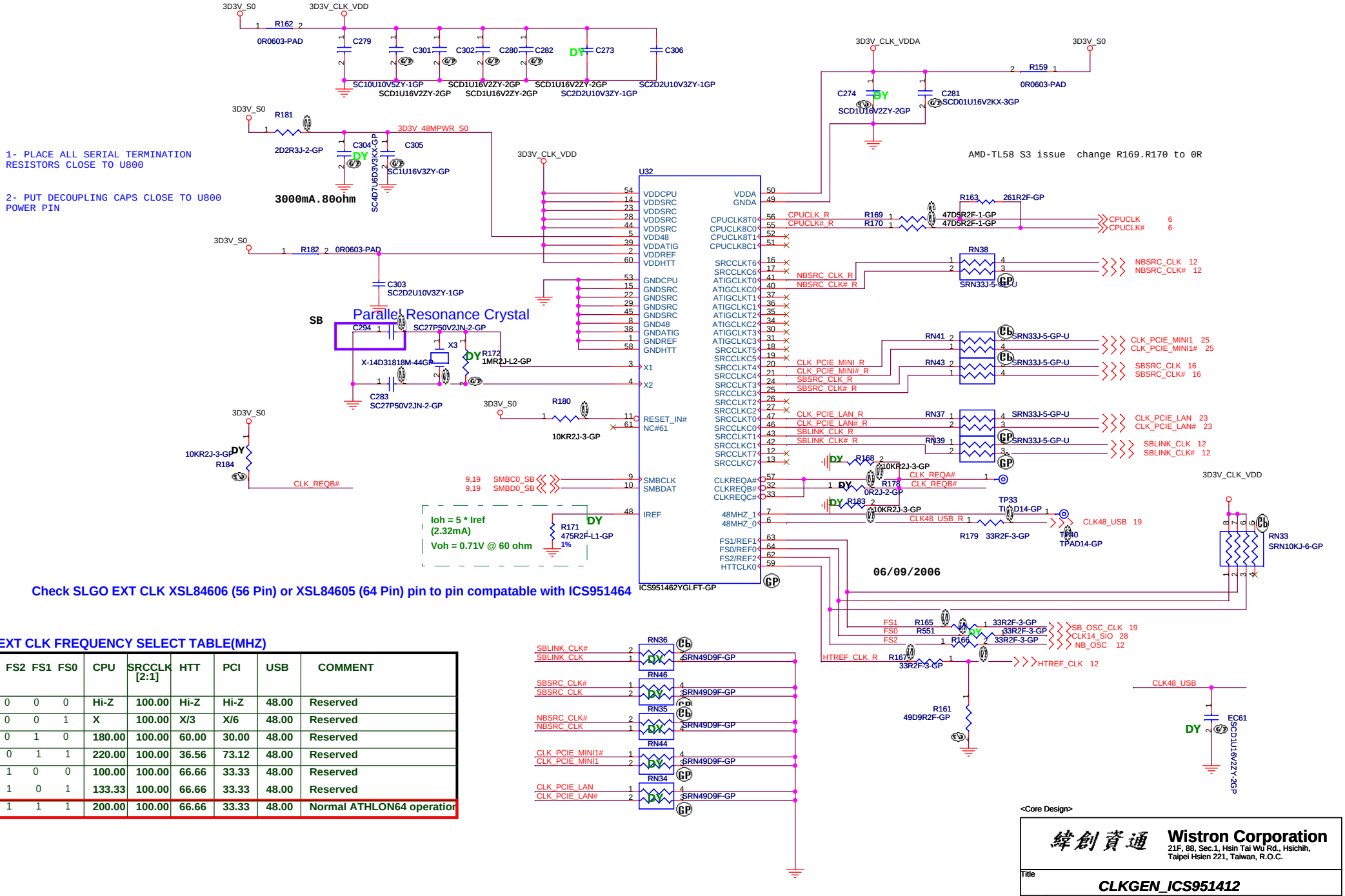
緯創資通

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

Title: **CHANGE HISTORY**

Size	Document Number	Rev
A3	Yukon	-1

Date: Wednesday, August 06, 2008 Sheet 2 of 43



EXT CLK FREQUENCY SELECT TABLE(MHZ)

FS2	FS1	FS0	CPU	SRCCLK [2:1]	HTT	PCI	USB	COMMENT
0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
0	0	1	X	100.00	X/3	X/6	48.00	Reserved
0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
1	0	1	133.33	100.00	66.66	33.33	48.00	Reserved
1	1	1	200.00	100.00	66.66	33.33	48.00	Normal ATHLON64 operation

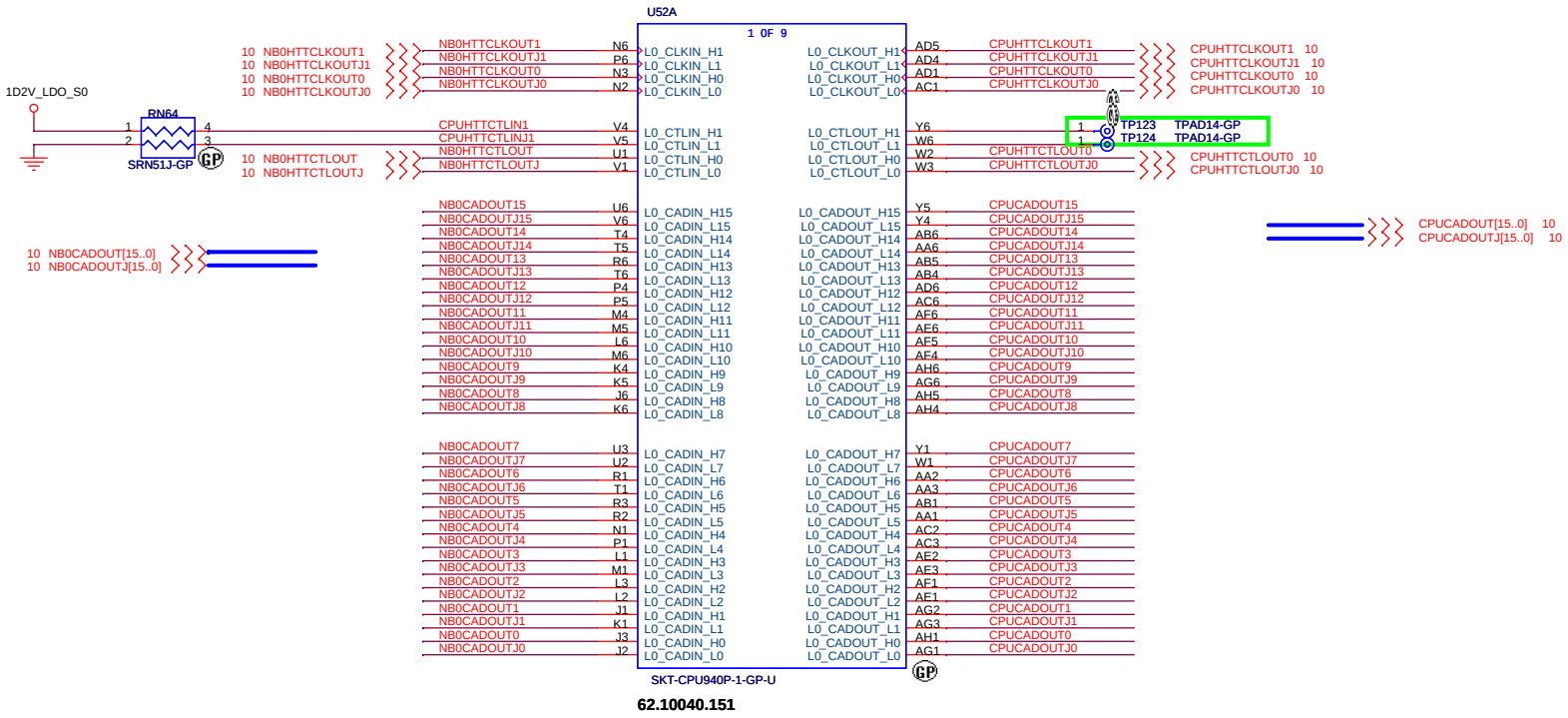
<Core Design>

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

Title: CLKGEN_ICS951412

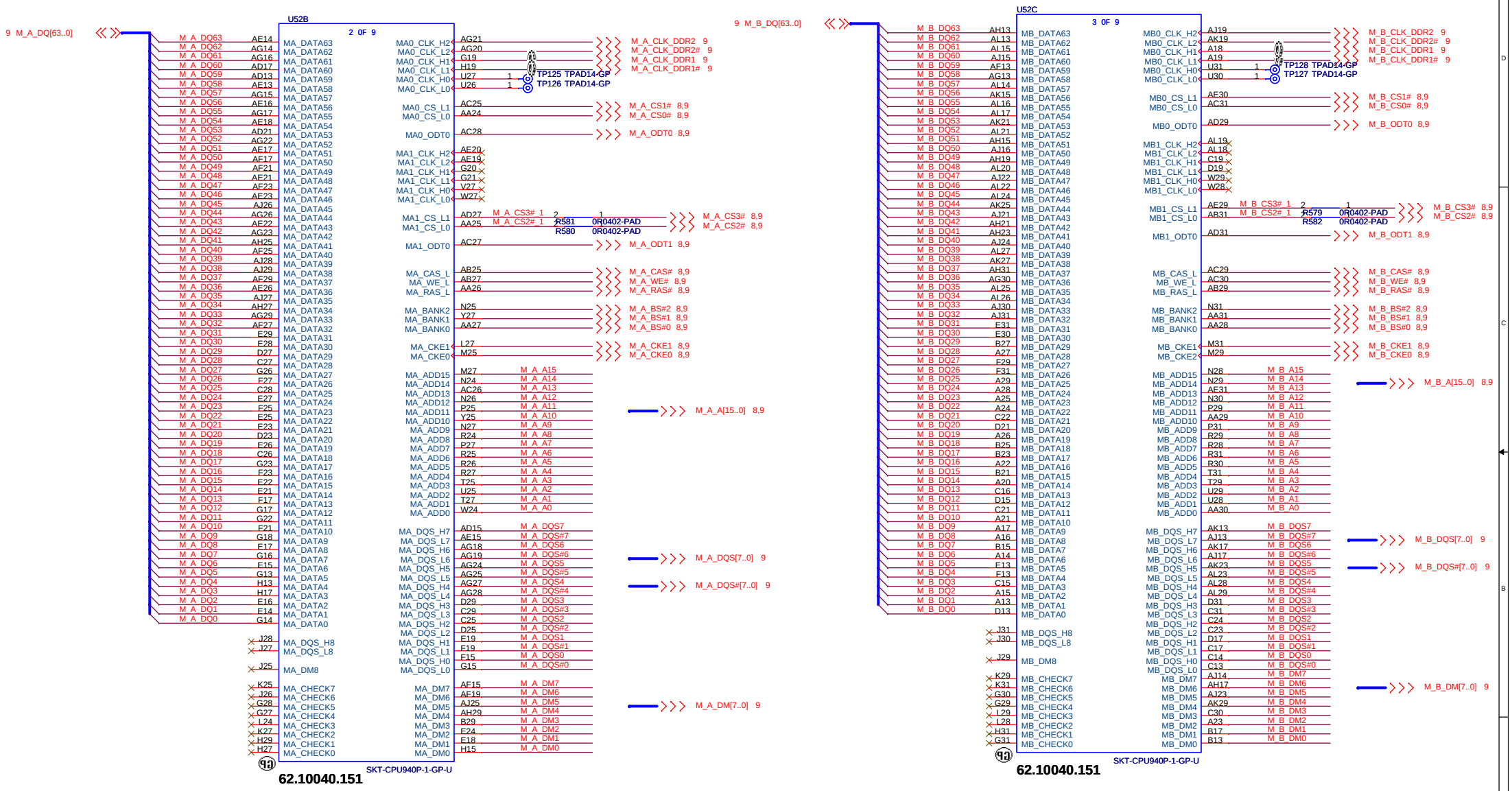
Size	Document Number	Rev
A3	Yukon	-1

Date: Thursday, August 14, 2008 Sheet 3 of 43



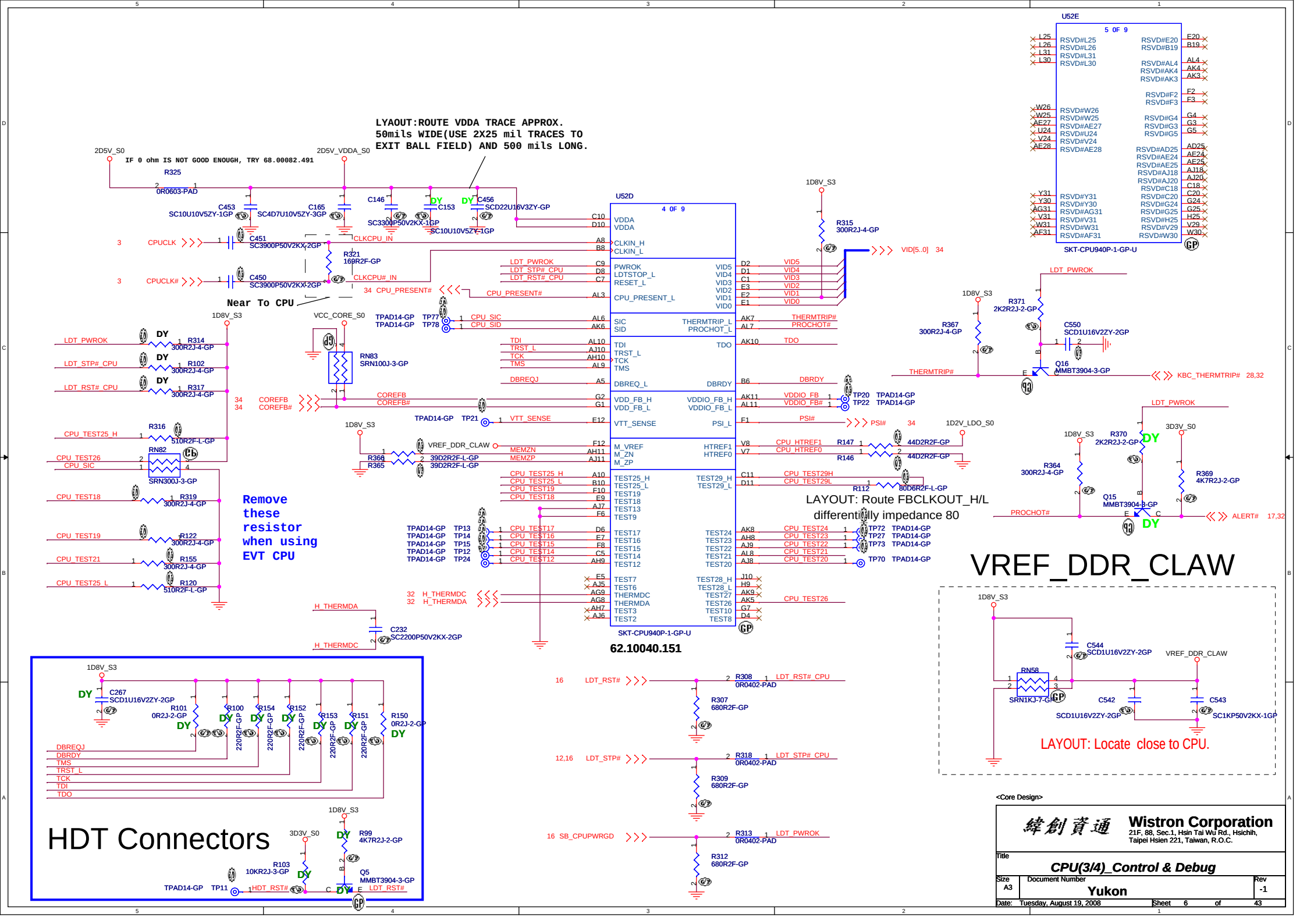
<Core Design>

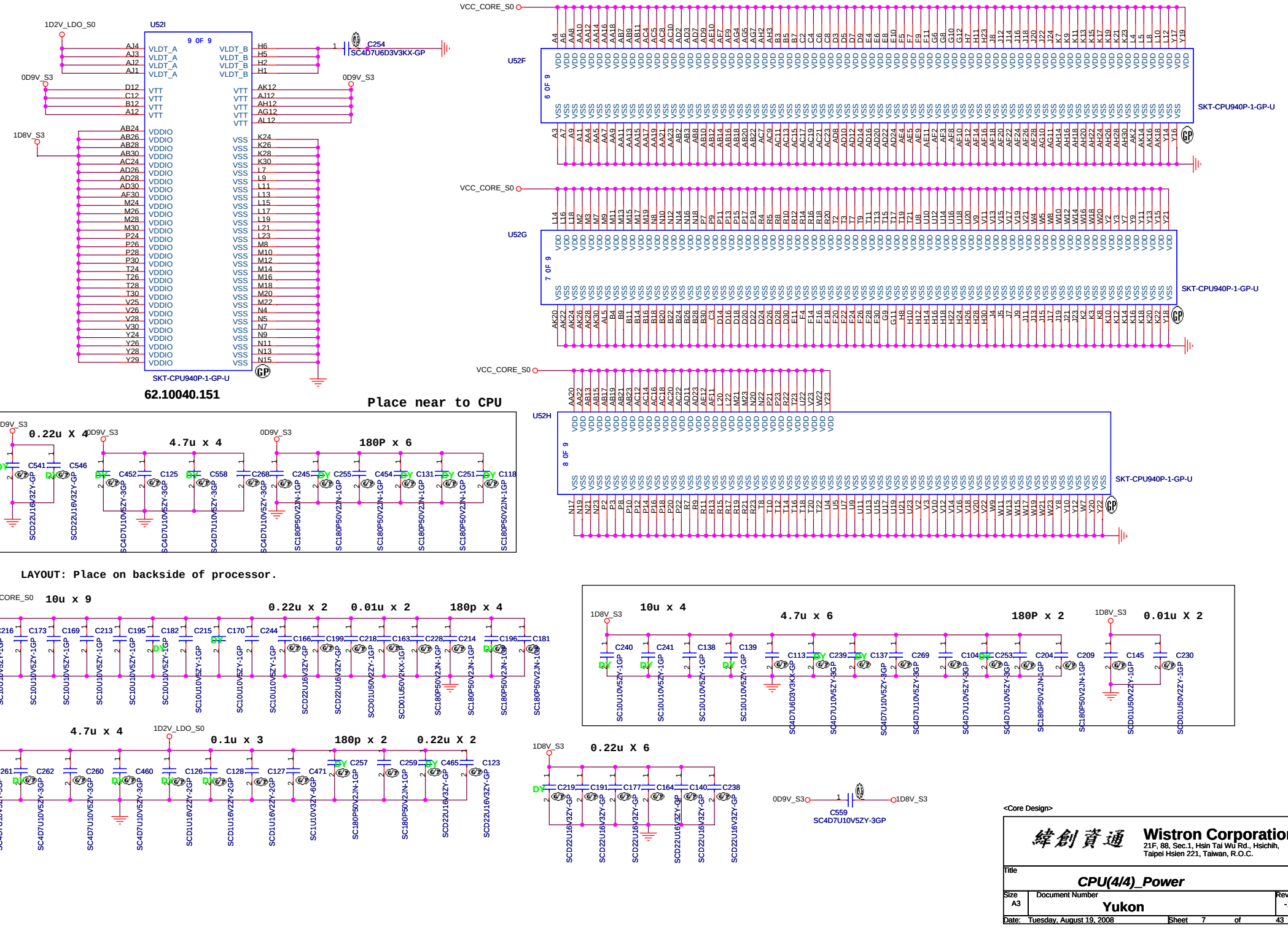
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***CPU(1/4)_HyperTransport I/F***
Size: A3	Document Number: **Yukon**
Rev: -1	
Date: Thursday, August 14, 2008	Sheet 4 of 43



<Core Design>

緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	CPU(2/4)_DDR	
Size A3	Document Number Yukon	Rev -1
Date: Thursday, August 14, 2008	Sheet 5 of 43	


LYAOUT:ROUTE VDDA TRACE APPROX.
50mils WIDE(USE 2X25 mil TRACES TO
EXIT BALL FIELD) AND 500 mils LONG.
IF 0 ohm IS NOT GOOD ENOUGH, TRY 68.00082.491
Near To CPU
Remove these resistor when using EVT CPU
LAYOUT: Route FBCLKOUT_H/L differentially impedance 80
VREF_DDR_CLAW
LAYOUT: Locate close to CPU.
HDT Connectors
62.10040.151
SKT-CPU940P-1-GP-U
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
CPU(3/4)_Control & Debug
Yukon
Tuesday, August 19, 2008



<Core Design>

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

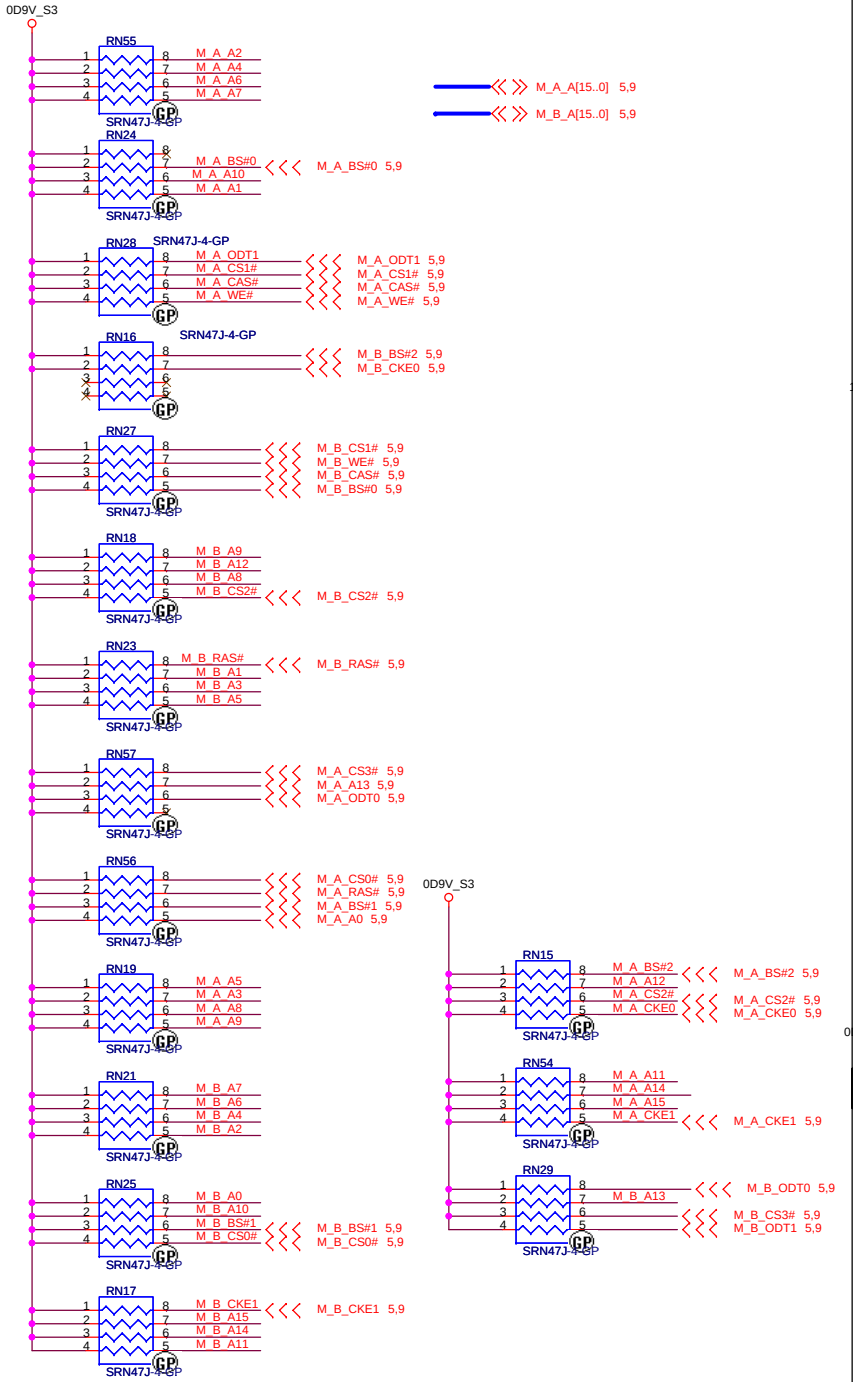
Title: CPU(4/4)_Power

Size	Document Number	Rev
A3	Yukon	-1

Date: Tuesday, August 19, 2008 Sheet 7 of 43

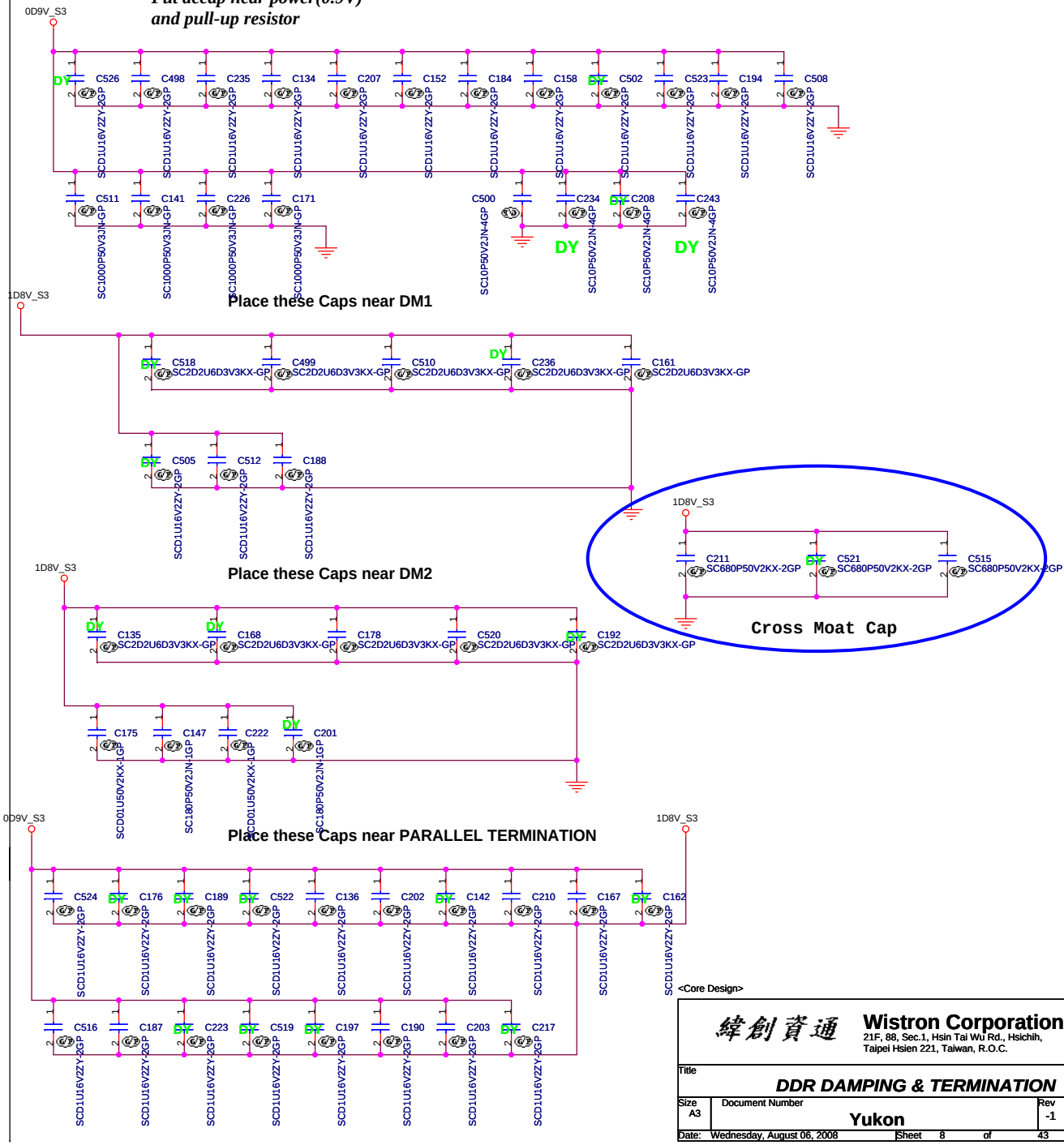
PARALLEL TERMINATION

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



Decoupling Capacitor

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



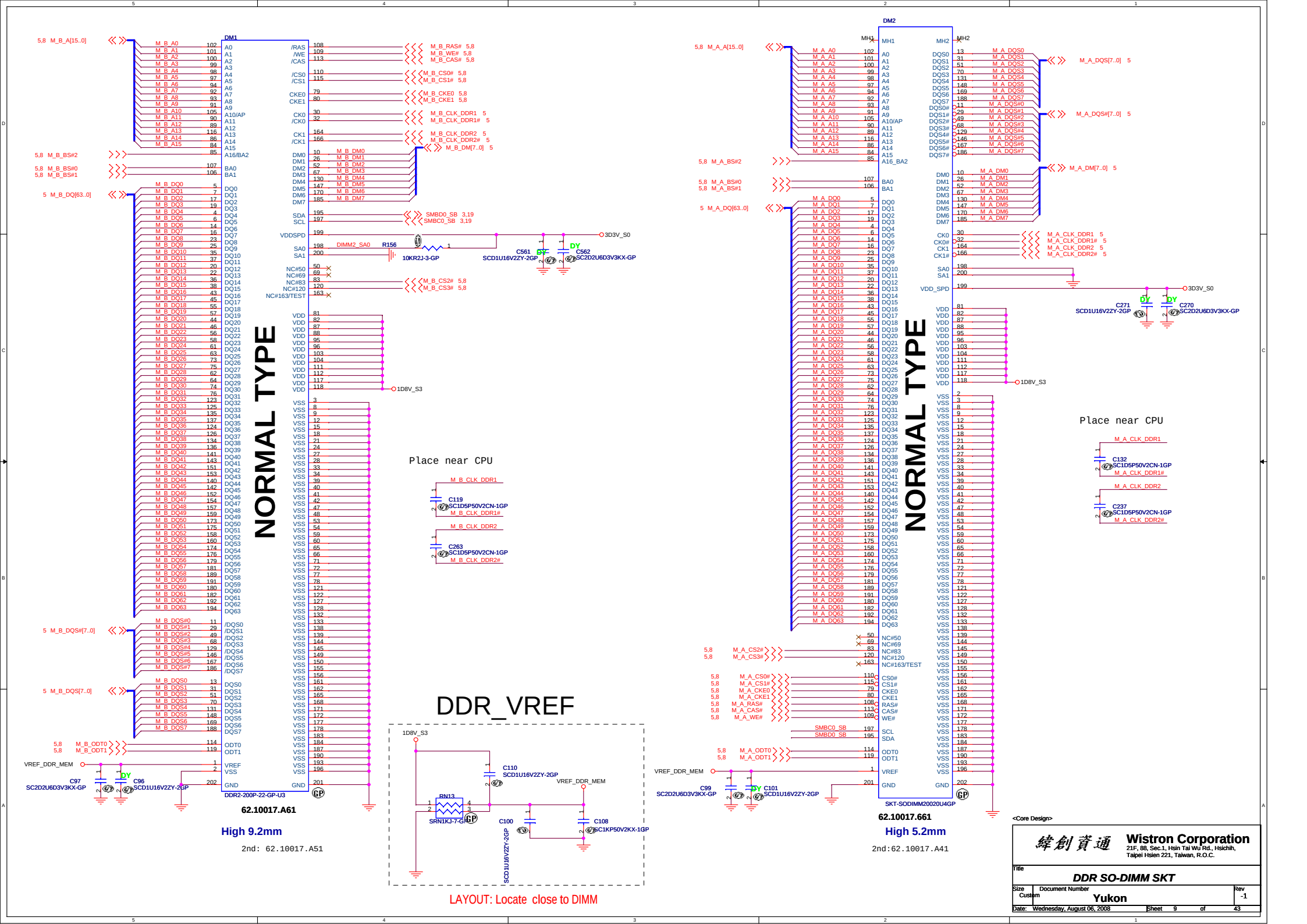
<Core Design>

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

Title: **DDR DAMPING & TERMINATION**

Size	Document Number	Rev
A3	Yukon	-1

Date: Wednesday, August 06, 2008 Sheet 8 of 43



<Core Design>

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

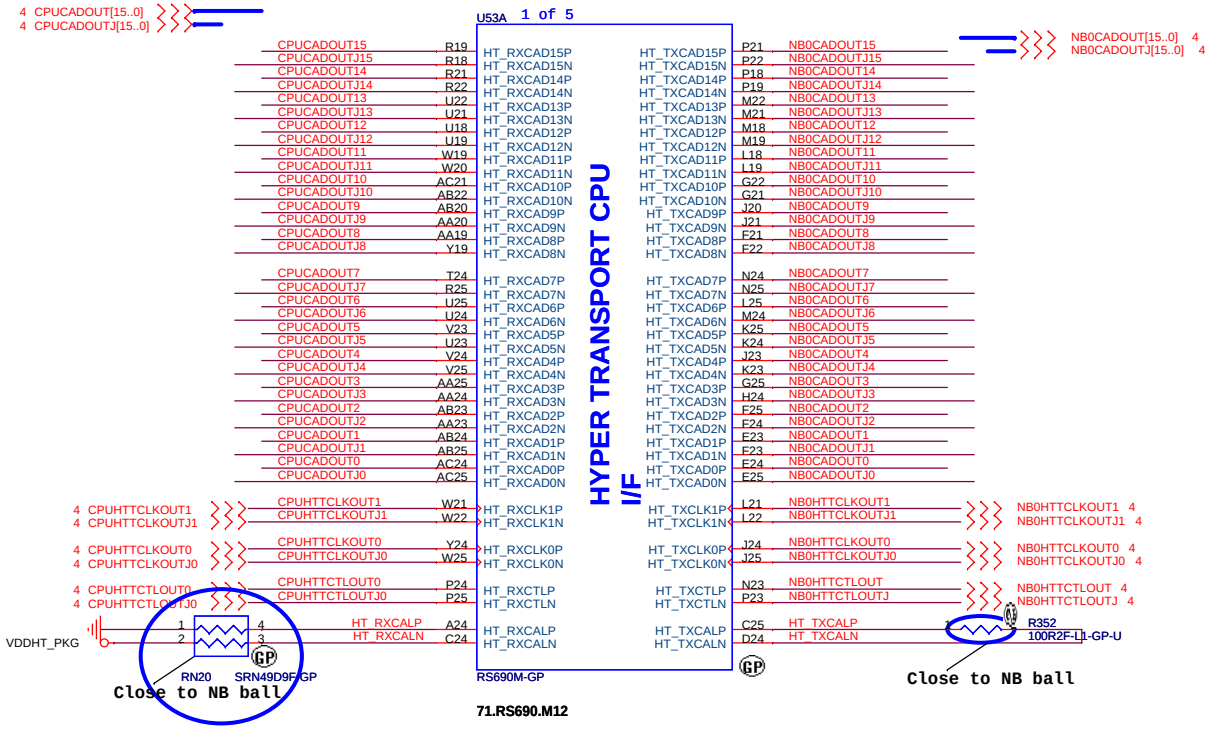
Title: **DDR SO-DIMM SKT**

Size	Document Number	Rev
Custom	Yukon	-1

Date: Wednesday, August 06, 2008 Sheet 9 of 43

CLAW HAMMER TO NB

NB TO CLAW HAMMER



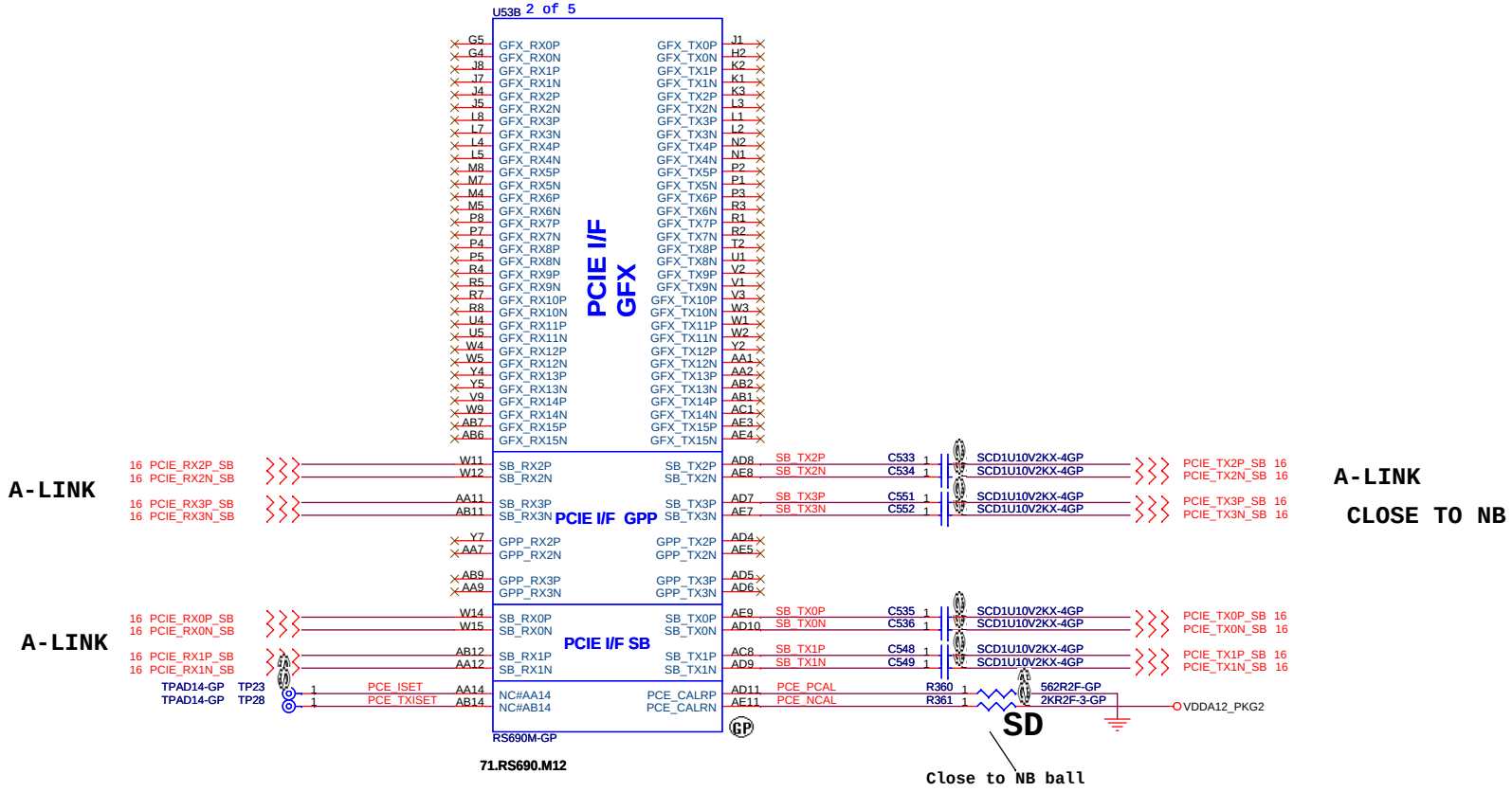
<Core Design>

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

Title: NB-RS690M_HT

Size	Document Number	Rev
A3	Yukon	-1

Date: Wednesday, August 06, 2008 Sheet 10 of 43



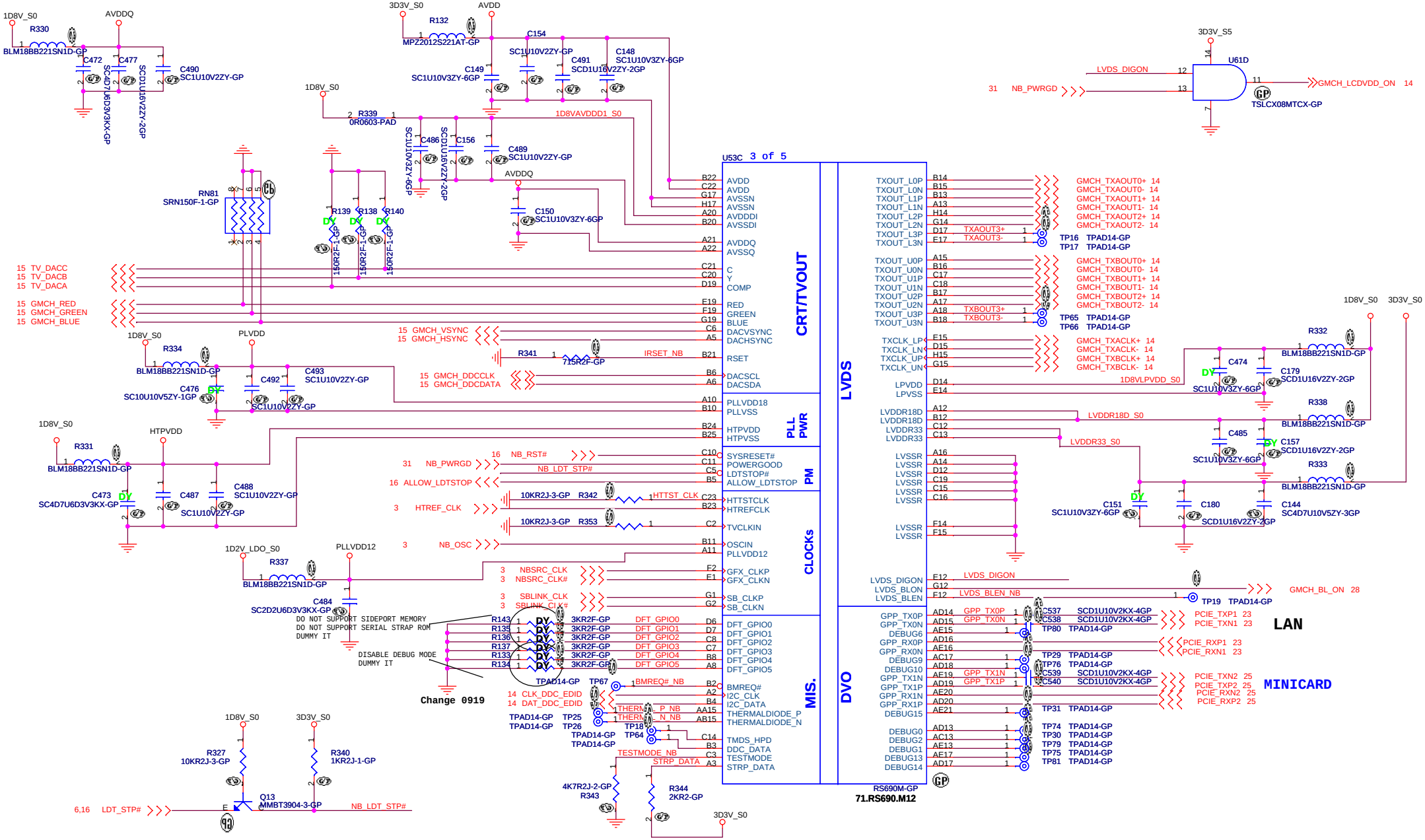
<Core Design>

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

Title: NB-RS690M_MEM/PCIE_LINK I/F

Size	Document Number	Rev
A3	Yukon	-1

Date: Thursday, August 14, 2008 Sheet 11 of 43



STRP_DATA	1D2V(VCC_NB)
0	1.0
1	1.2

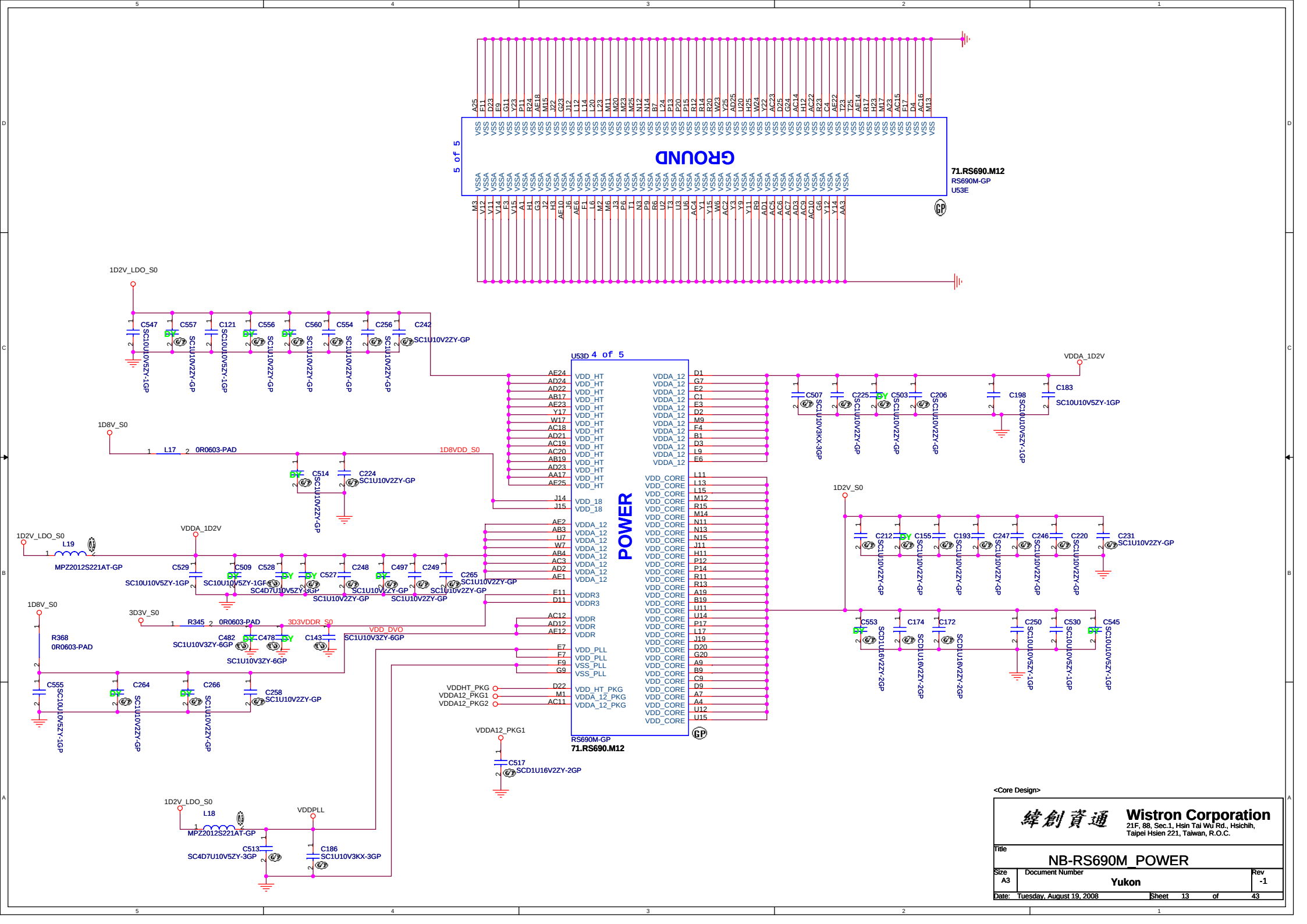
<Core Design>

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

Title: NB-RS690M_VIDEO/ CLOCK

Size	Document Number	Rev
A3	Yukon	-1

Date: Tuesday, August 19, 2008 Sheet 12 of 43



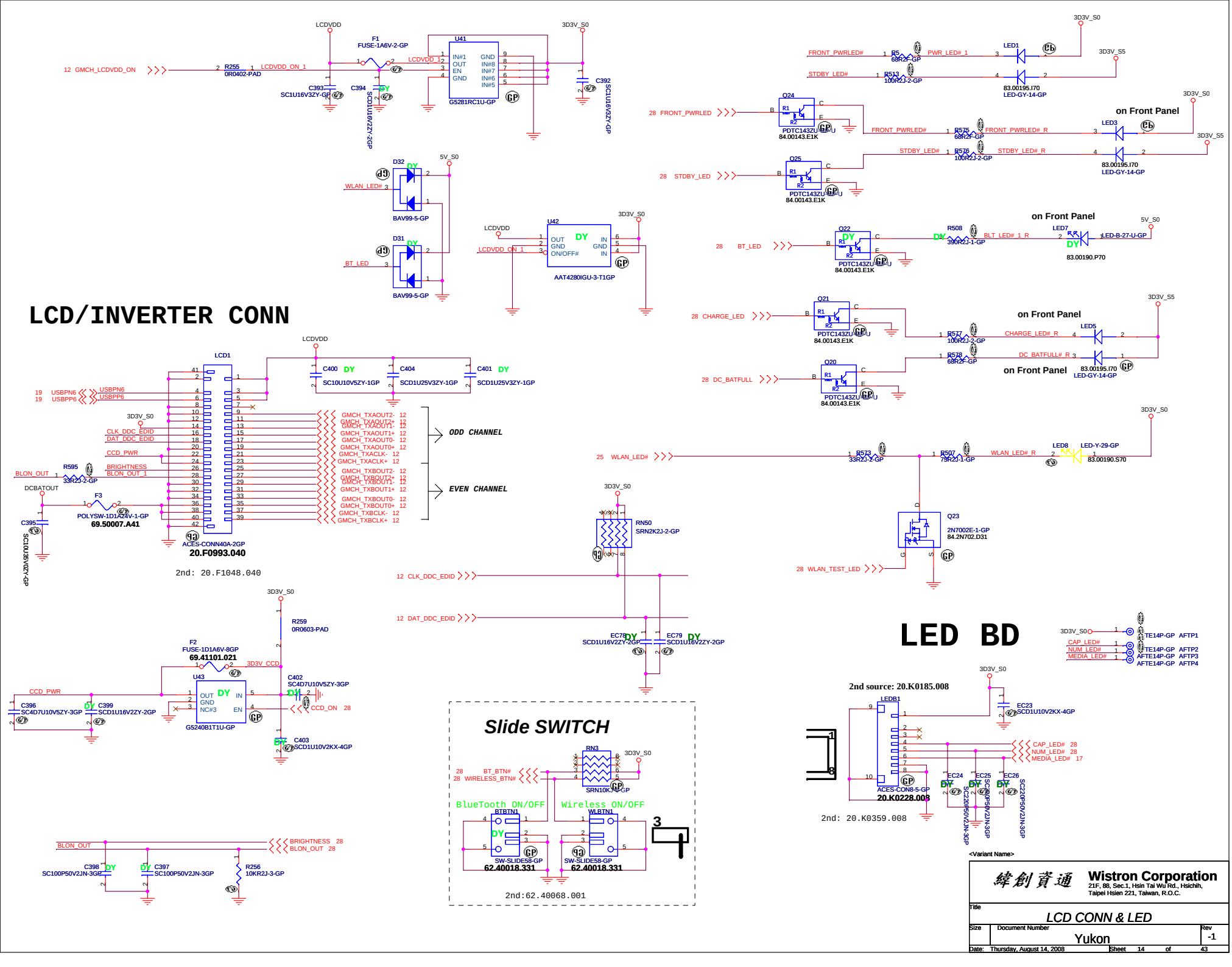
<Core Design>

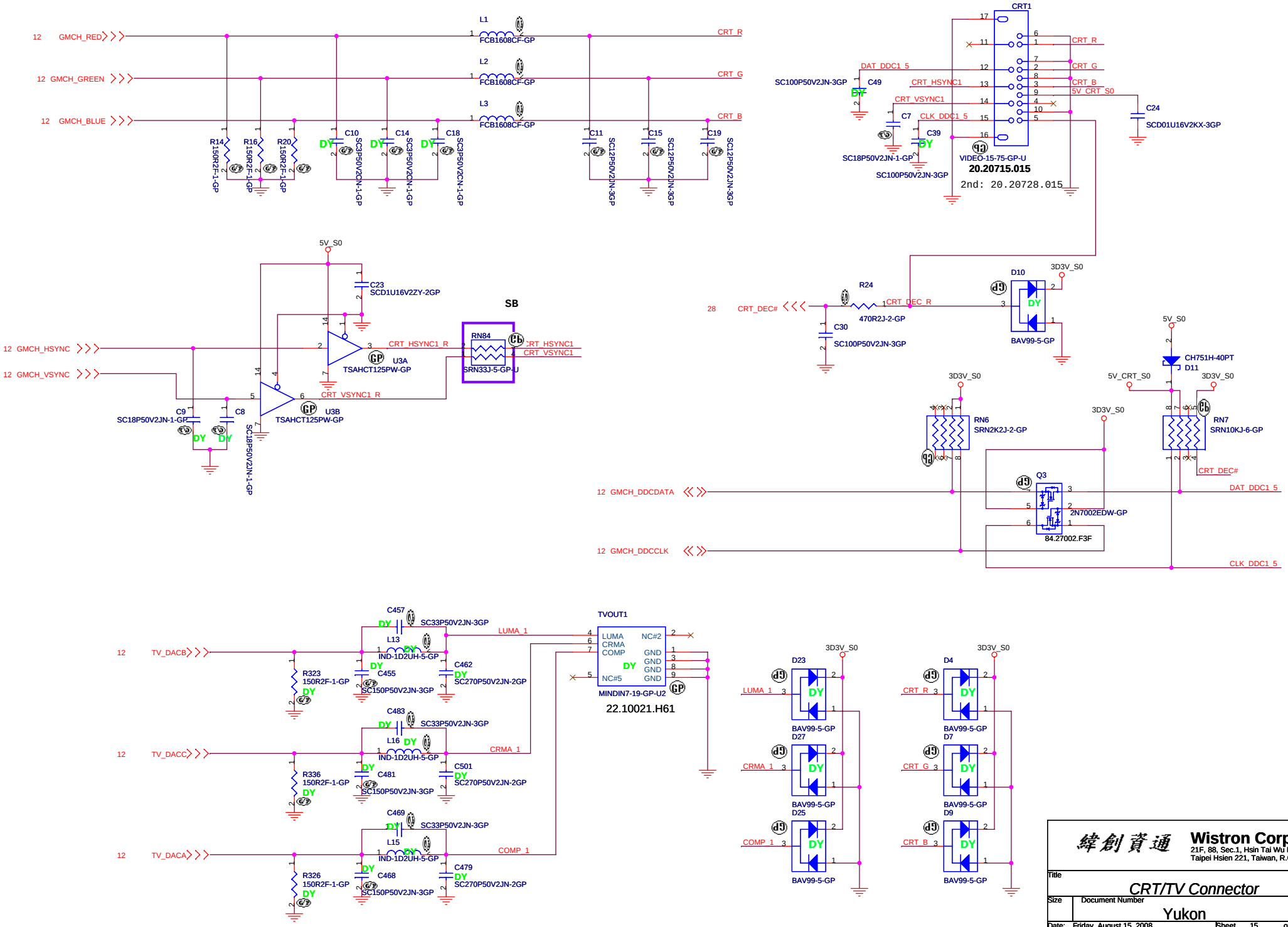
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: NB-RS690M_POWER

Size	Document Number	Rev
A3	Yukon	-1

Date: Tuesday, August 19, 2008 Sheet 13 of 43


LCD/INVERTER CONN
LED BD
Slide SWITCH
ODD CHANNEL
EVEN CHANNEL
on Front Panel
2nd: 20.F1048.040
2nd source: 20.K0185.008
2nd: 20.K0359.008
2nd:62.40068.001
BlueTooth ON/OFF
Wireless ON/OFF
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
LCD CONN & LED
Yukon
Thursday, August 14, 2008
Sheet 14 of 43



Company	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	CRT/TV Connector
Size	
Document Number	Yukon
Rev	-1
Date	Friday, August 15, 2008
Sheet	15 of 43

Place these components close to U13
and use groud guard for 32K_X1 and 32K_X2.

SB600 asserts PLTRST# to reset
devices on the platform.

U57A 1 of 4

SB600-GP

71.SB600.M03

62.70001.011

2nd source: 20.D0198.103

<Core Design>

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

Title: SB600 PCI/CPU/LPC/RTC (1 of 5)

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

Date: Friday, August 15, 2008 | Sheet 16 of 43

PLACE SATA AC DECOUPLING
CAPS CLOSE TO SB460

U57B 2 of 4

SATA_TXP0 / SATA_TXN0 → C586 / C587 (SCD01U50V2KX-1GP) → SATA_TXP0_SB / SATA_TXN0_SB → AH21 / AJ21
SATA_RXN0 / SATA_RXP0 → C590 / C593 (SCD01U50V2KX-1GP) → SATA_RXN0_SB / SATA_RXP0_SB → AH20 / AJ20
SATA_TXP1 / SATA_TXN1 → C710 / C712 (SCD01U50V2KX-1GP) → SATA_TXP1_SB / SATA_TXN1_SB → AH18 / AJ18
SATA_RXN1 / SATA_RXP1 → C713 / C711 (SCD01U50V2KX-1GP) → SATA_RXN1_SB / SATA_RXP1_SB → AH17 / AJ17

SERIAL ATA

SATA_TX0+ / SATA_TX0-
SATA_RX0- / SATA_RX0+
SATA_TX1+ / SATA_TX1-
SATA_RX1- / SATA_RX1+
AH13 SATA_TX2+ / AH14 SATA_TX2-
AH16 SATA_RX2- / AJ16 SATA_RX2+
AJ11 SATA_TX3+ / AH11 SATA_TX3-
AH12 SATA_RX3- / AJ13 SATA_RX3+

SATA

R397 1KR2F-3-GP

SATA_CAL → AF12 SATA_CAL
SATA_X1 → AD16 SATA_X1
SATA_X2 → AD18 SATA_X2
14 MEDIA_LED# → AC12 SATA_ACT#/GPIO67

PLLVDD_ATA → AD14 PLLVDD_SATA / AJ10 PLLVDD_SATA
XTLVDD_ATA → AC16 XTLVDD_SATA
AVDD_SATA → AE14, AE16, AE18, AE19, AF19, AF21, AG22, AG23, AH22, AH23, AJ12, AJ14, AJ19, AJ22, AJ23 AVDD_SATA

SATA

SATA

SATA_X1 — R381 1MR2J-2-GP — SATA_X2
X5 XTAL-25MHZ-67GP
C582 SC12P50V2JN-3GP
C576 SC12P50V2JN-3GP
SB

According to PA_IXP600AD9
Change C936 and C937 from 27P to 10P.

AB14, AB16, AB18, AC14, AC18, AC19, AD12, AD19, AD21, AE12, AE21, AF11, AF14, AF16, AF18, AG11, AG12, AG13, AG14, AG16, AG17, AG18, AG19, AG20, AG21, AH10, AH19 AVSS_SATA

SERIAL ATA POWER

SB600-GP

ATA 66/100

IDE_IORDY AB29
IDE_IRQ AA28
IDE_A0 AA29
IDE_A1 AB27
IDE_A2 Y28
IDE_DACK# AB28
IDE_DRQ AC27
IDE_IOR# AC29
IDE_IOW# AC28
IDE_CS1# W28
IDE_CS3# W27

IDE_D0/GPIO15 AD28
IDE_D1/GPIO16 AD26
IDE_D2/GPIO17 AE29
IDE_D3/GPIO18 AE27
IDE_D4/GPIO19 AG29
IDE_D5/GPIO20 AH28
IDE_D6/GPIO21 AJ28
IDE_D7/GPIO22 AJ27
IDE_D8/GPIO23 AH27
IDE_D9/GPIO24 AG27
IDE_D10/GPIO25 AG28
IDE_D11/GPIO26 AF28
IDE_D12/GPIO27 AE29
IDE_D13/GPIO28 AE28
IDE_D14/GPIO29 AD25
IDE_D15/GPIO30 AD29

3D3V_S0
RN79 SRN10KJ-5-GP
MEDIA_LED# PSW_CLR#

SPI ROM

SPI_DI/GPIO12 J3 — TP54 TPAD14-GP
SPI_DO/GPIO11 J6 — TP45 TPAD14-GP
SPI_CLK/GPIO47 G3 — TP50 TPAD14-GP
SPI_HOLD#/GPIO31 G2 — TP101 TPAD14-GP
SPI_CS#/GPIO32 G6 — TP46 TPAD14-GP

LAN_RST#/GPIO13 C23 — TP41 TPAD14-GP
ROM_RST#/GPIO14 G5 — TP47 TPAD14-GP

HW MONITOR

FANOUT0/GPIO3 M4
FANOUT1/GPIO48 T3
FANOUT2/GPIO49 V4

FANIN0/GPIO50 N3
FANIN1/GPIO51 P2
FANIN2/GPIO52 W4

TEMP_COMM P5
TEMPIN0/GPIO61 P7
TEMPIN1/GPIO62 P8
TEMPIN2/GPIO63 T8
TEMPIN3/TALERT#/GPIO64 T7 — ALERT# 6,32

VIN0/GPIO53 V5 — PSW_CLR#
VIN1/GPIO54 L7 — UMA_DIS — TP143 TPAD14-GP
VIN2/GPIO55 M8 — CLK_ID
VIN3/GPIO56 V6
VIN4/GPIO57 M6 — FP_ID — TP144 TPAD14-GP
VIN5/GPIO58 P4
VIN6/GPIO59 M7
VIN7/GPIO60 V7

PSW_CLR#
G41 GAP-OPEN

3D3V_S0
R197 10KR2J-3-GP RTL
CLK_ID
R206 10KR2J-3-GP ICS

AVDD N1
AVSS M1

AVDD_HWM
R432 0R0603-PAD
3D3V_S0
C613 SCD1U16V2ZY-2GP
C614 DY SC2D2U6D3V3KX-GP

71.SB600.M03

SATA

3D3V_S0 — R187 0R0603-PAD — XTLVDD_ATA
EC117 SCD1U16V2ZY-2GP
C318 SC2D2U6D3V3KX-GP

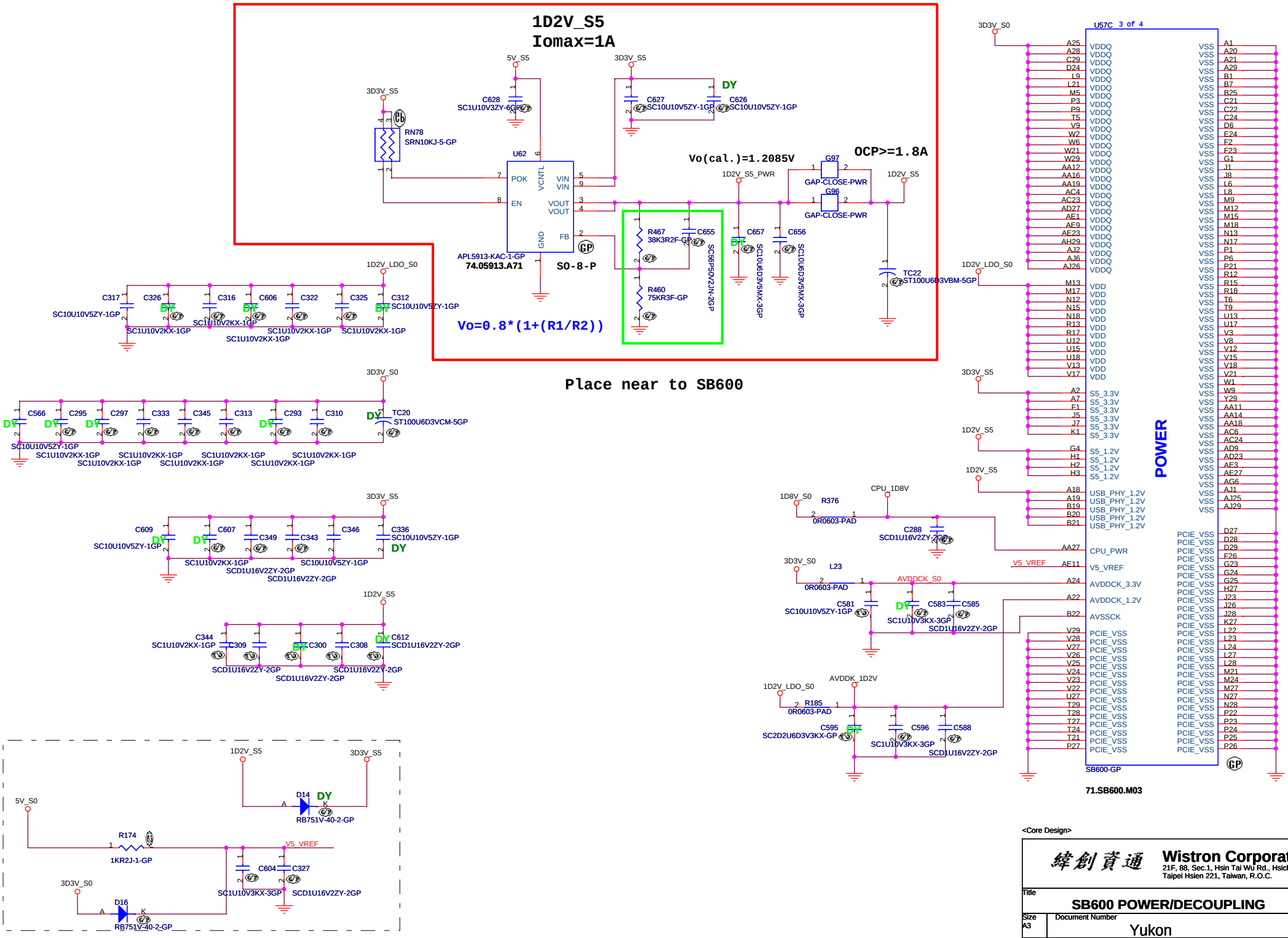
1D2V_LDO_S0 — R193 0R0603-PAD — PLLVDD_ATA
EC118 SCD1U16V2ZY-2GP
C320 SC2D2U6D3V3KX-GP

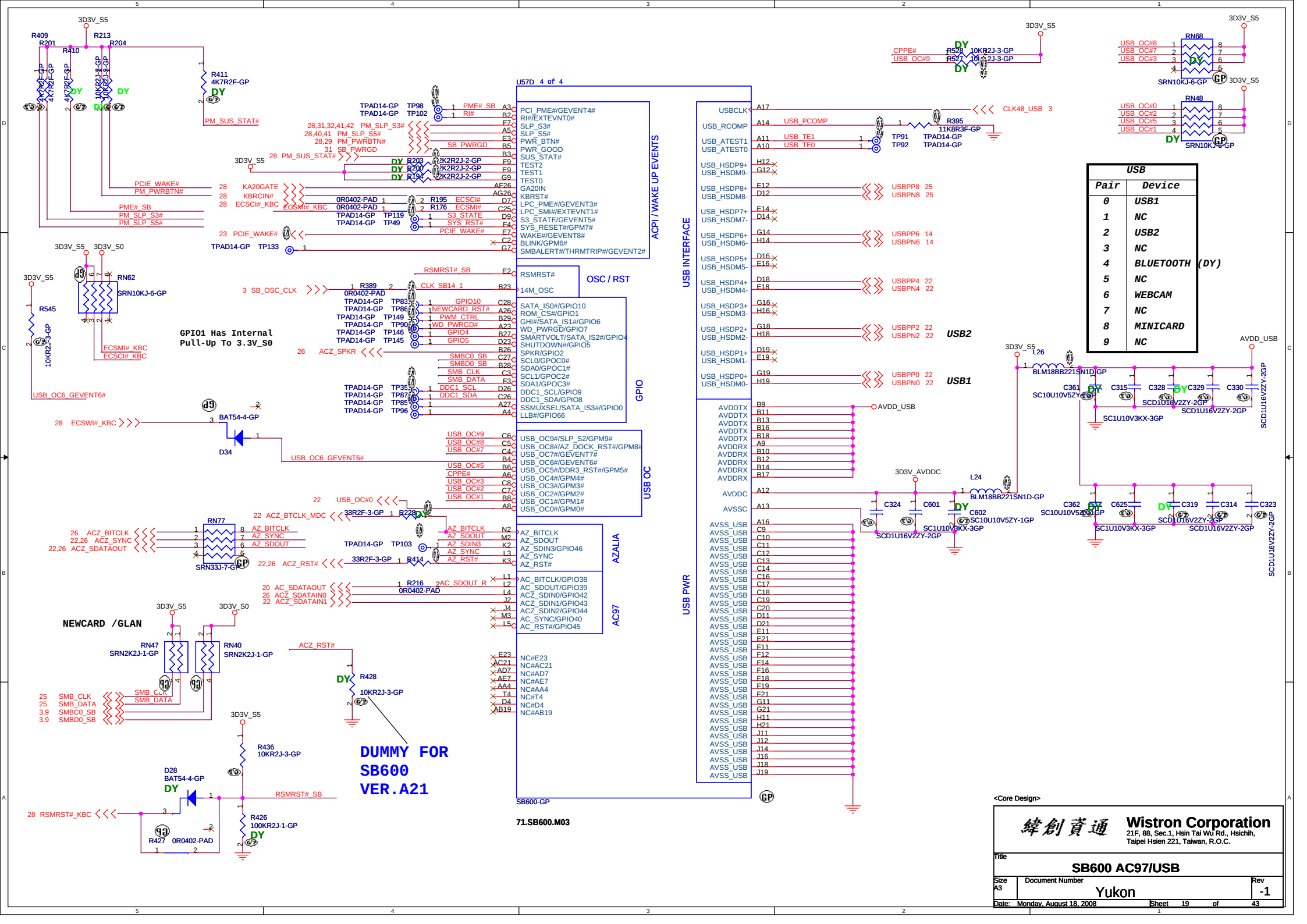
1D2V_LDO_S0 — R177 0R0603-PAD
EC114 SCD1U16V2ZY-2GP
C311 SCD10U6D3V5KX-1GP
AVDD_SATA
C307 SCD10U6D3V5KX-1GP
EC63 DY SCD1U16V2ZY-2GP
EC65 DY SCD1U16V2ZY-2GP
EC62 DY SCD1U16V2ZY-2GP
EC60 DY SCD1U16V2ZY-2GP
EC64 DY SCD1U16V2ZY-2GP

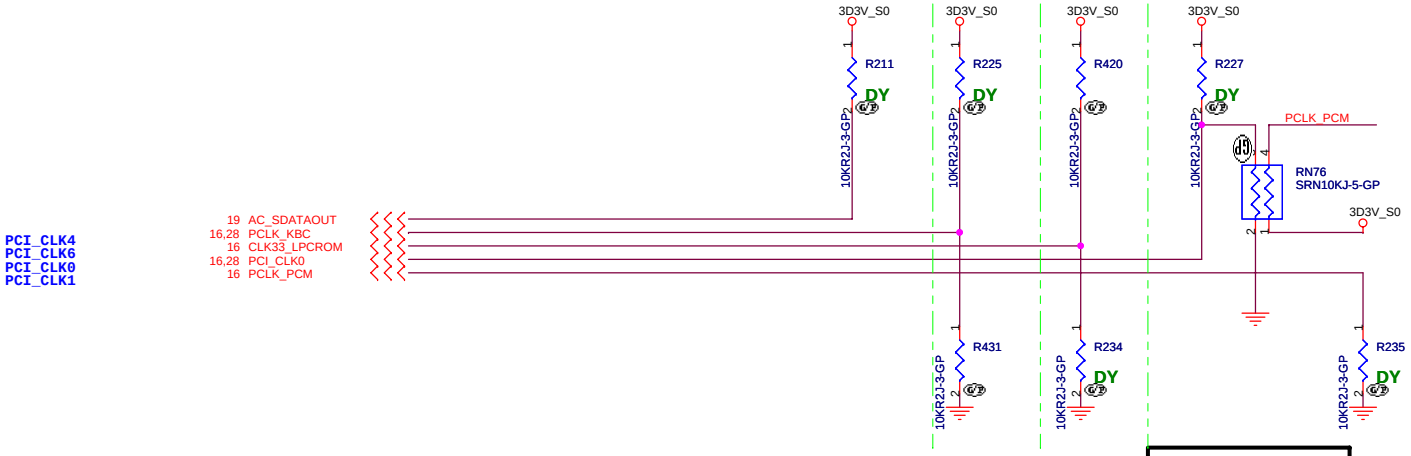
<Core Design>

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

Title: SB600 ACPI/GPIO/SATA/IDE (2 of 5)
Size: A3 | Document Number: Yukon | Rev: -1
Date: Friday, August 15, 2008 | Sheet 17 of 43


1D2V_S5
Iomax=1A
Vo(cal.)=1.2085V
OCP>=1.8A
Vo=0.8*(1+(R1/R2))
Place near to SB600
U62
APL5913-KAC-1-GP
74.05913.A71
SO-8-P
U57C 3 of 4
POWER
SB600-GP
71.SB600.M03
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
SB600 POWER/DECOUPLING
Yukon
Wednesday, August 13, 2008

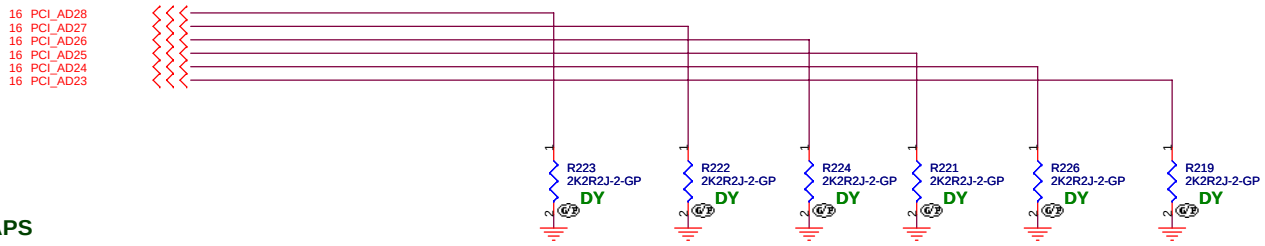

USB
Pair Device
0 USB1
1 NC
2 USB2
3 NC
4 BLUETOOTH (DY)
5 NC
6 WEBCAM
7 NC
8 MINICARD
9 NC
GPIO1 Has Internal Pull-Up To 3.3V_S0
NEWCARD /GLAN
DUMMY FOR SB600 VER.A21
SB600-GP
71.SB600.M03
<Core Design>
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
SB600 AC97/USB
Yukon
-1
Monday, August 18, 2008
19 of 43



REQUIRED SYSTEM STRAPS

				SB600	
	AC_SDOUT	PCI_CLK4	PCI_CLK6	PCI_CLK0	PCI_CLK1
PULL HIGH	USE DEBUG STRAPS	USE INT. PLL48	CPU IF=K8 DEFAULT	ROM TYPE: H, H = PCI ROM H, L = SPI ROM L, H = LPC ROM DEFAULT L, L = FWH ROM	
PULL LOW	IGNORE DEBUG STRAPS DEFAULT	USE EXT. 48MHZ DEFAULT	CPU IF=P4		

SB600 HAS 15K INTERNAL PU FOR PCI_AD[23..28]



DEBUG STRAPS

		PCI_AD31	PCI_AD30	PCI_AD29	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
STRAP HIGH		RESERVED	RESERVED	RESERVED	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	BOOT FAIL TIMER DISABLE DEFAULT
STRAP LOW					USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	BOOT FAIL TIMER ENABLE

<Core Design>

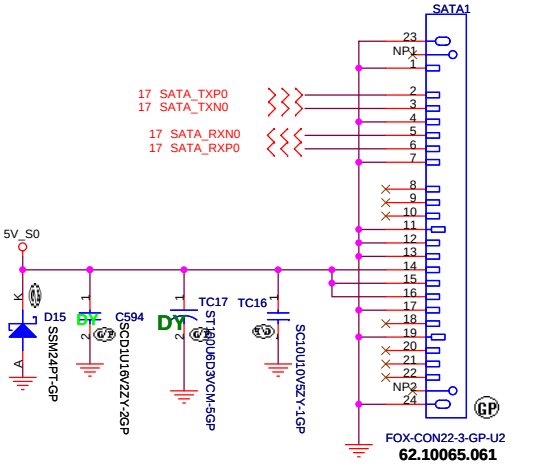
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: ***SB600 STRAPPING PIN***

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

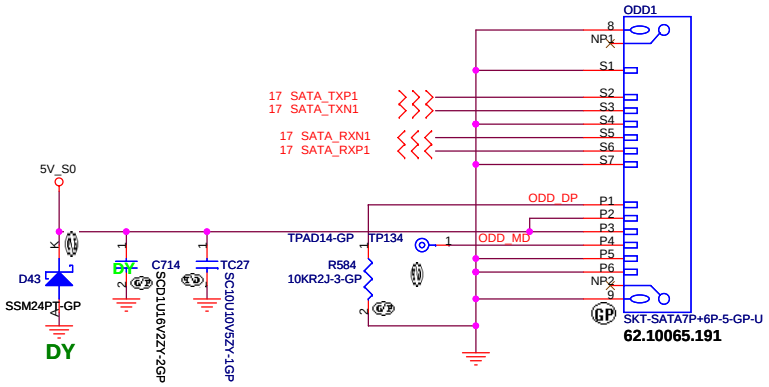
Date: Monday, August 18, 2008 | Sheet 20 of 43

SATA HD Connector



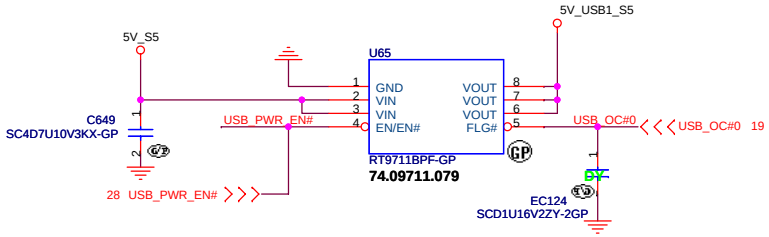
2nd: 62.10065.091

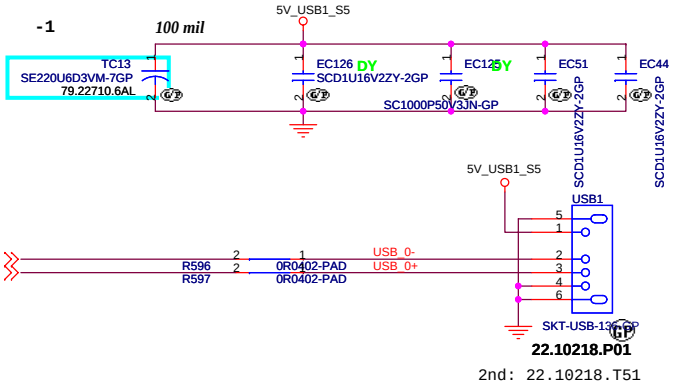
SATA ODD Connector



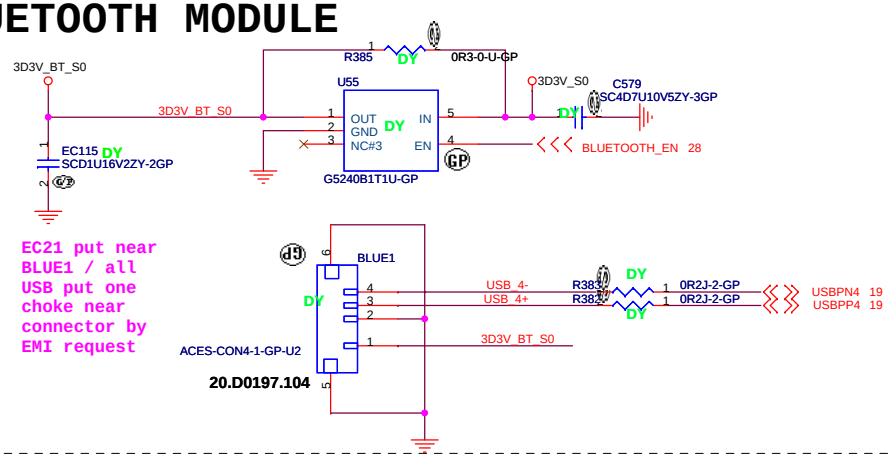
bom1

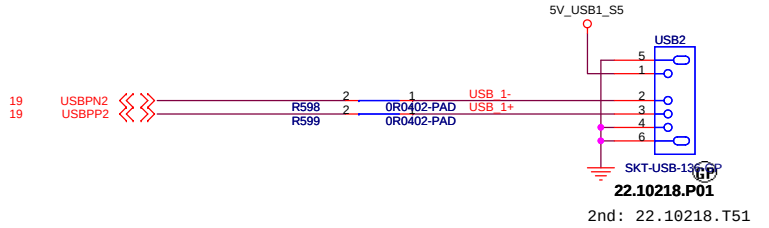
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: ***HDD and CDROM***		
Size	Document Number: **Yukon**	Rev: -1
Date: Thursday, August 14, 2008	Sheet 21 of 43	



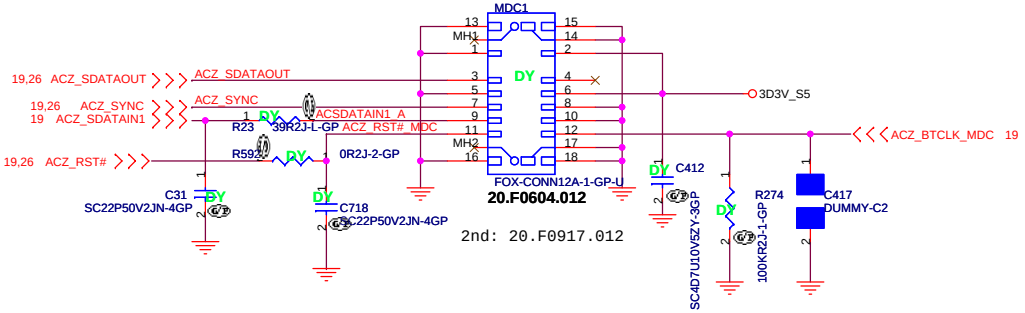


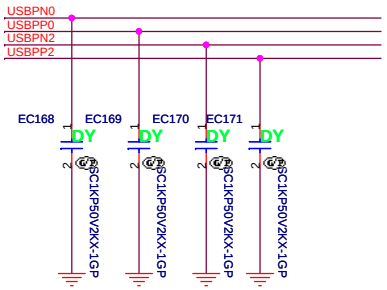
BLUETOOTH MODULE





MDC 1.5 CONN





bom1

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

Title: USB / MDC / BLUETOOTH

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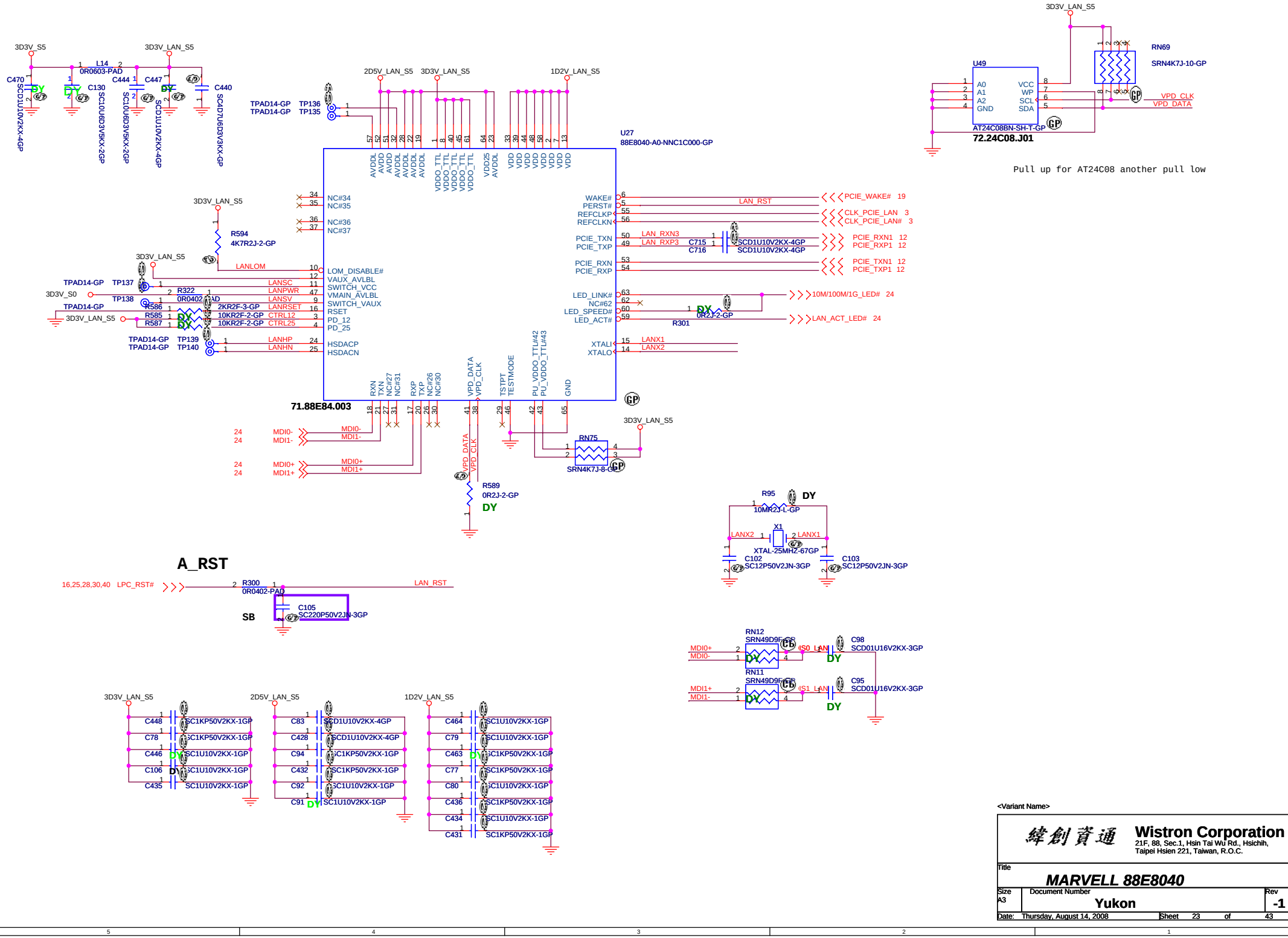
Date: Wednesday, August 13, 2008 Sheet 22 of 43



<variant_name>

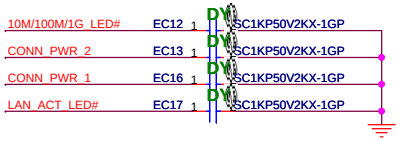
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

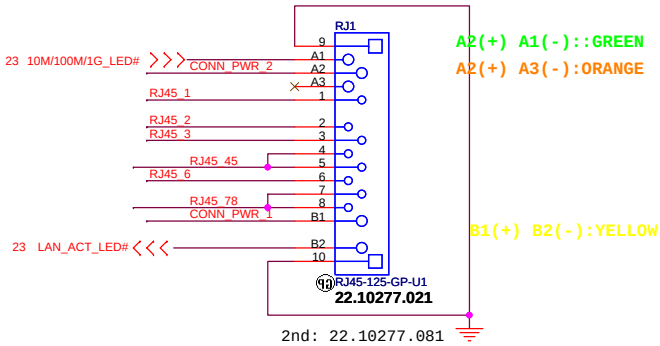
Title: MARVELL 88E8040

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

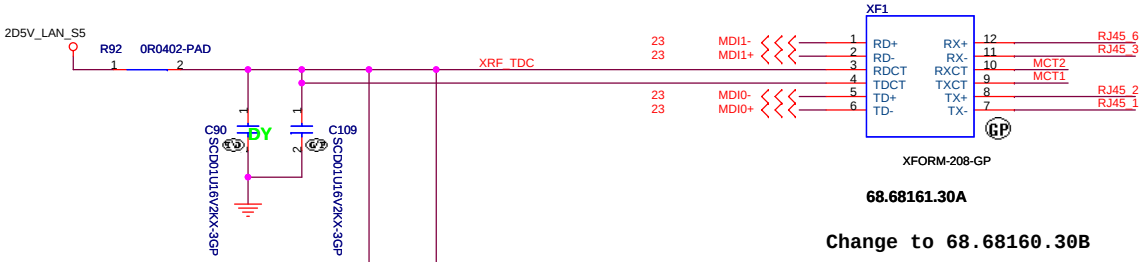
Date: Thursday, August 14, 2008 | Sheet 23 of 43

LAN Connector



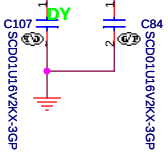


10/100 Lan Transformer



68.68161.30A

Change to 68.68160.30B

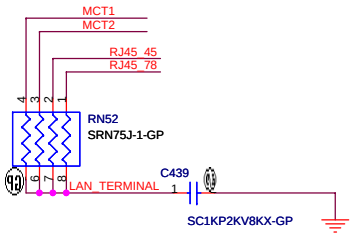


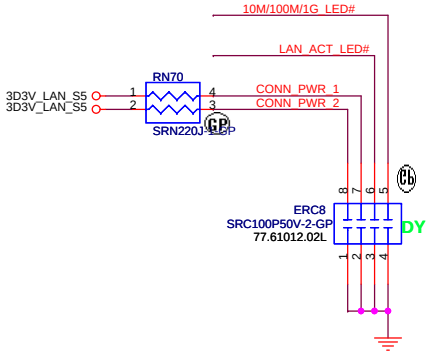
1.route on bottom as differential pairs.
2.Tx+/Tx- are pairs. Rx+/Rx- are pairs.
3.No vias, No 90 degree bends.
4.pairs must be equal lengths.
5.6mil trace width,12mil separation.
6.36mil between pairs and any other trace.
7.Must not cross ground moat,except RJ-45 moat.

RJ11 signal must leave the other signal or power plane 100mil.

DOC_TIP,DOC_RING,TIP,RING:
W/S : 10/100 @ Surface layers
10/20 @ Inner layers

10/100 LAN Transformer	RJ45 PIN
TD+ --> TX+	RJ45-1
TD- --> TX-	RJ45-2
RD+ --> RX+	RJ45-3
RD- --> RX-	RJ45-6





<Variant Name>

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

Title: **LAN Connector**

Size	Document Number	Rev
A3	Yukon	-1

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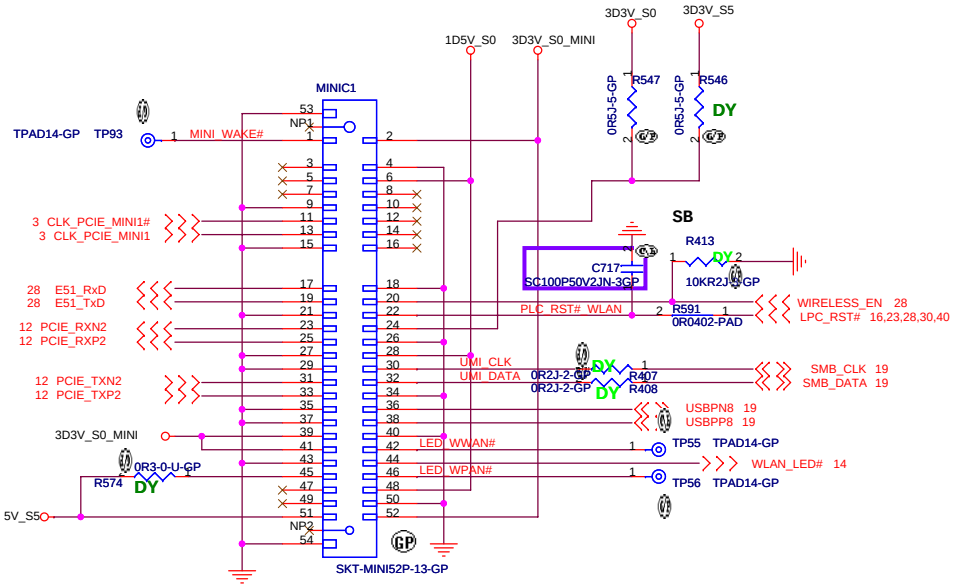
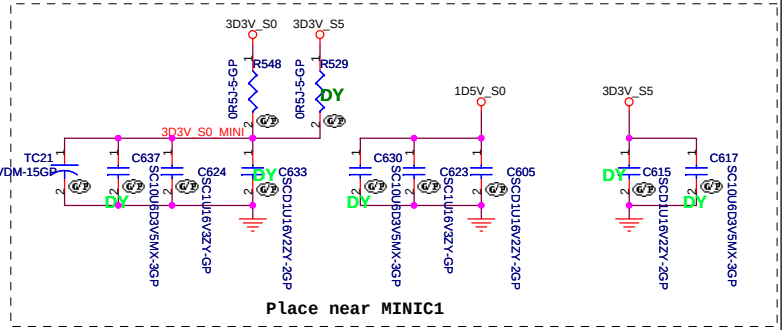
Mini Card Connector



62.10043.461

2nd:20.F1049.052



Place near MINIC1

bom1

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	***MINI CARD***	
Size	Document Number **Yukon**	Rev -1
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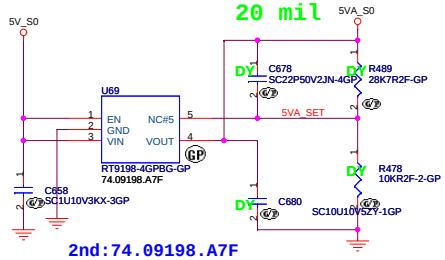
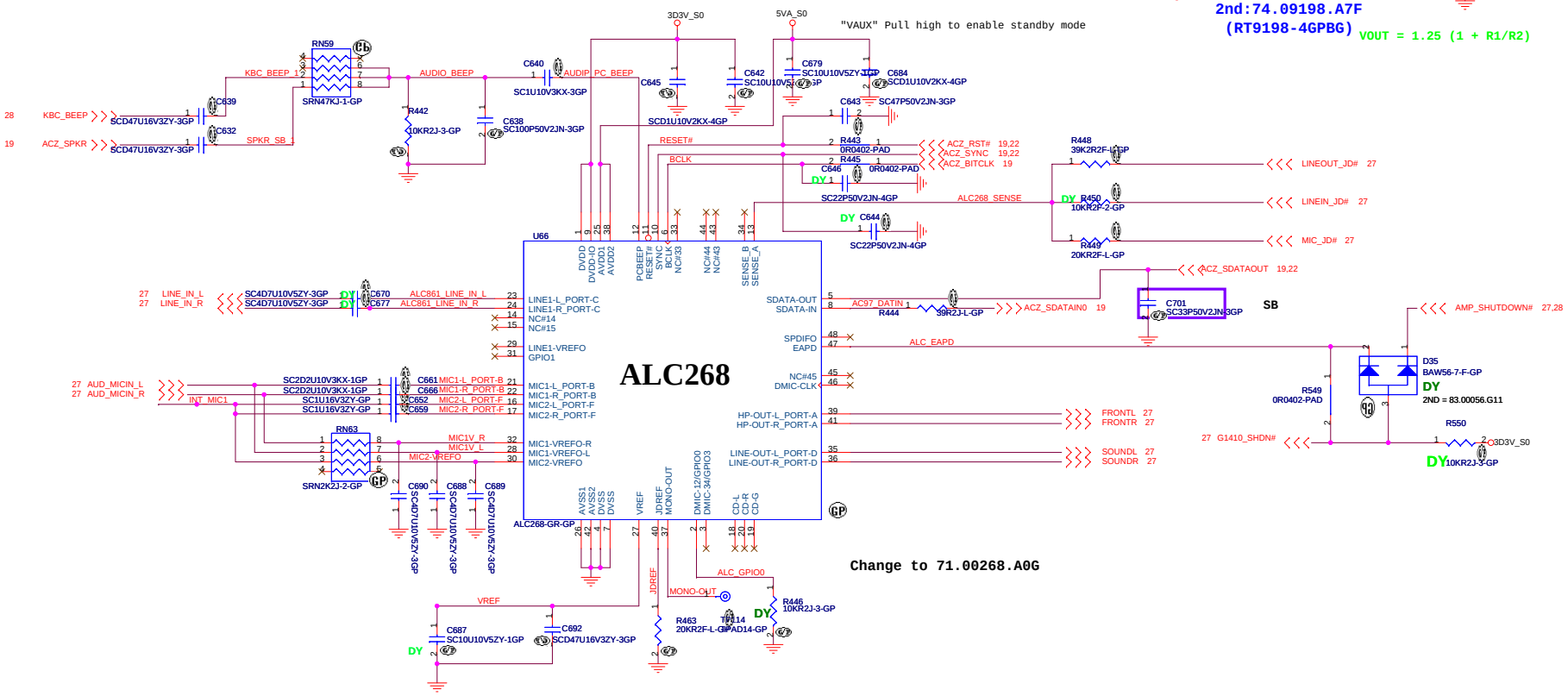
POWER GENERATE

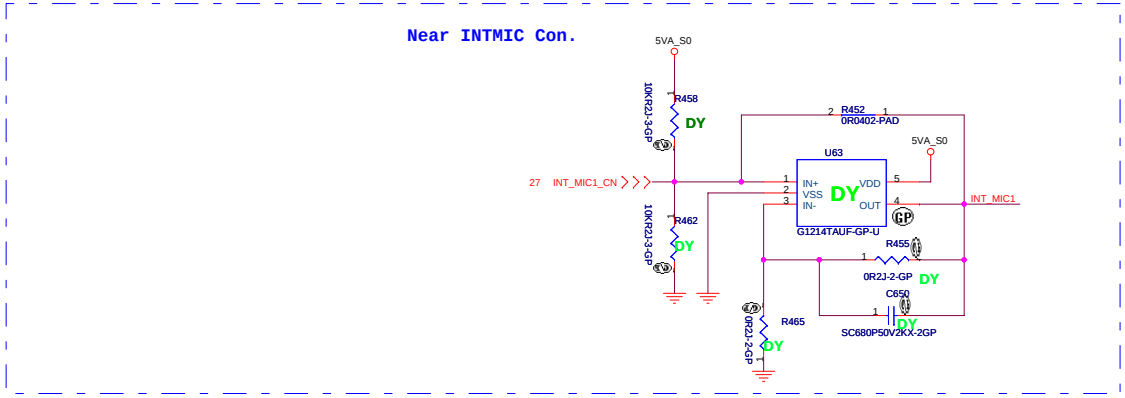
Layout
20 mil



2nd:74.09198.A7F
(RT9198-4GPBG)

VOUT = 1.25 (1 + R1/R2)



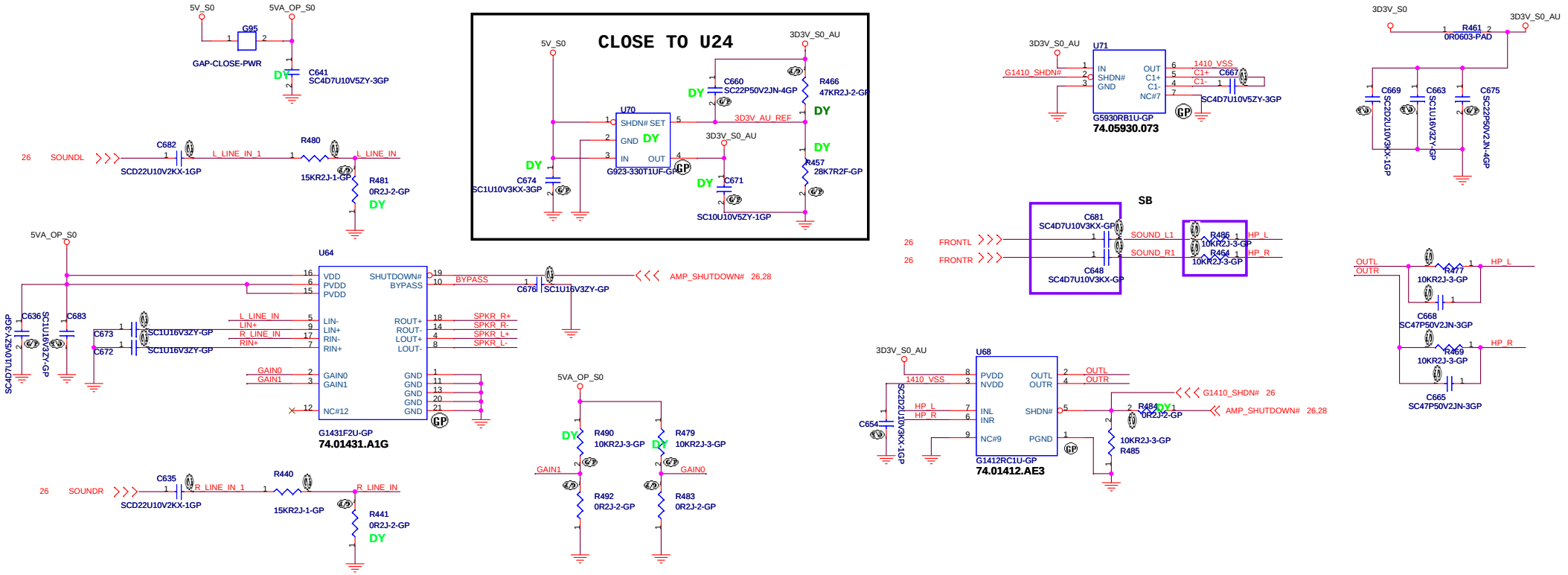


<Variant Name>

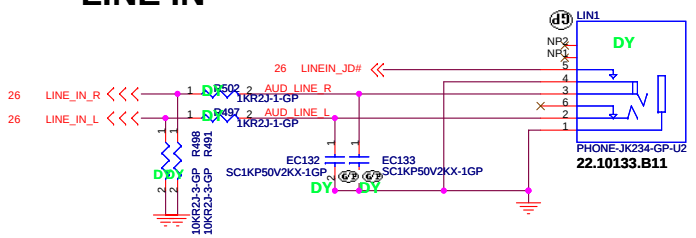
緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	AZALIA CODEC - ALC268	
Size	Document Number: Yukon	Rev: -1
Date: Thursday, August 14, 2008	Sheet 26 of 43	

AUDIO OP AMPLIFIER

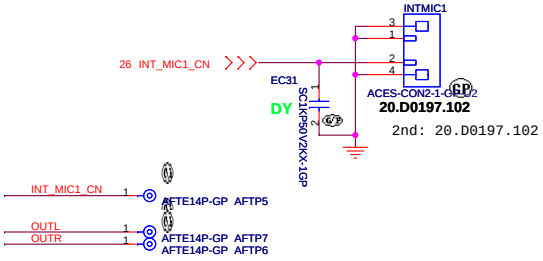
KBC_MUTE_GPIO8



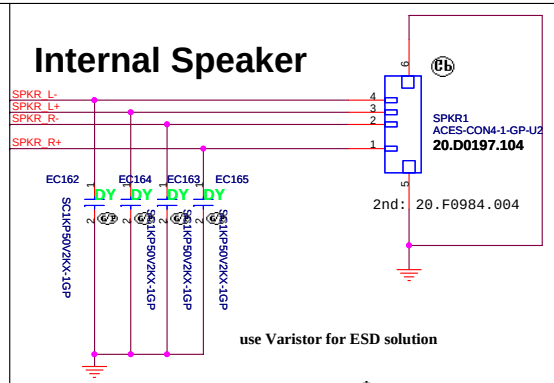
LINE IN



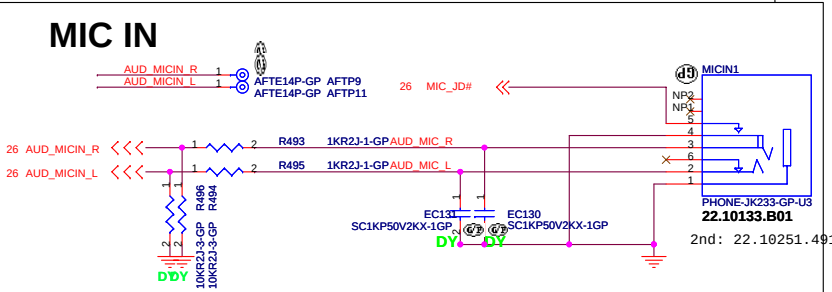
Internal Microphone



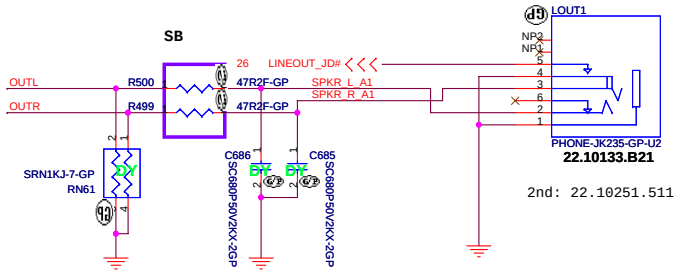
Internal Speaker



MIC IN



LINE OUT



<Variant Name>

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 AND JACK

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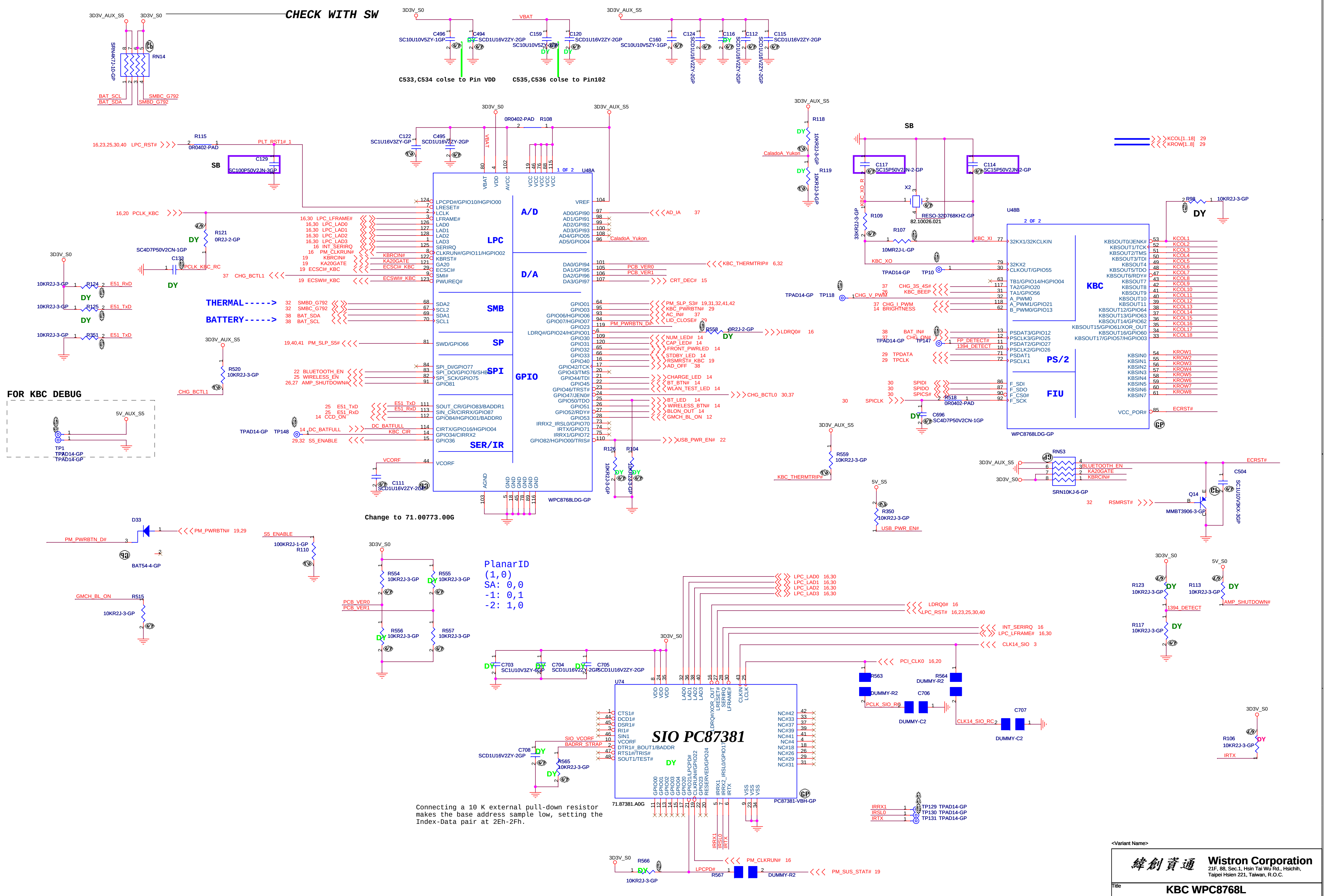

CHECK WITH SW
C533,C534 colse to Pin VDD
C535,C536 colse to Pin102
THERMAL----->
BATTERY----->
FOR KBC DEBUG
Change to 71.00773.00G
PlanarID
(1,0)
SA: 0,0
-1: 0,1
-2: 1,0
SIO PC87381
Connecting a 10 K external pull-down resistor
makes the base address sample low, setting the
Index-Data pair at 2Eh-2Fh.
LPC
A/D
D/A
SMB
SP
SPI
GPIO
SER/IR
KBC
PS/2
FIU
WPC8768LDG-GP
U48A
U48B
U74
PC87381-VBH-GP
71.87381.A0G
SB
DY

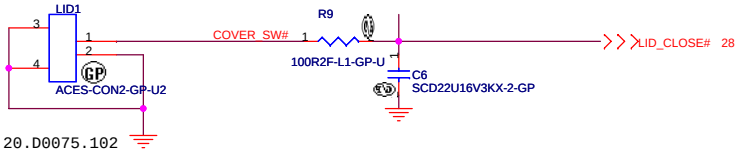
<Variant Name>

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

Title	KBC WPC8768L	
Size A2	Document Number Yukon	Rev -1
Date: Tuesday, August 19, 2008	Sheet 28 of 43	

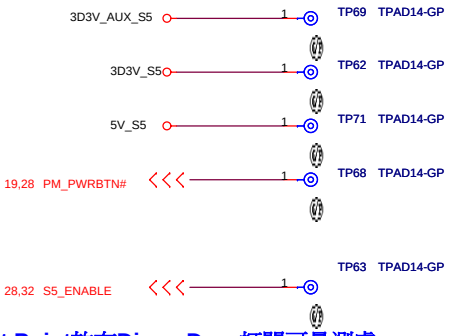
Cover Up Switch

2nd source:20.F00984.002

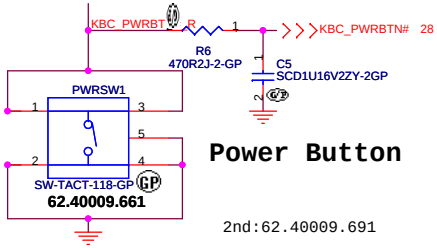


2nd: 20.D0075.102

Check test point

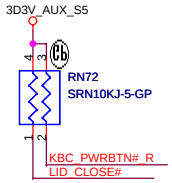


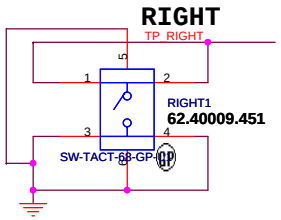
Test Point放在Dimm Door打開可量測處

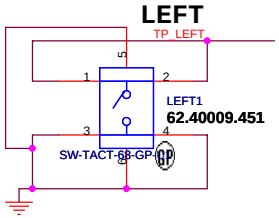


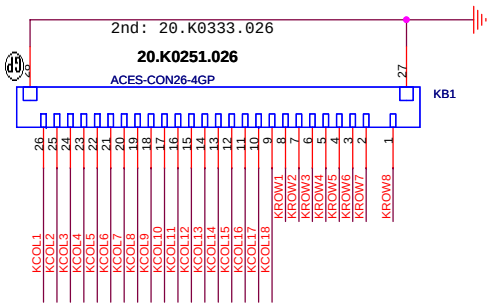
Power Button

2nd:62.40009.691

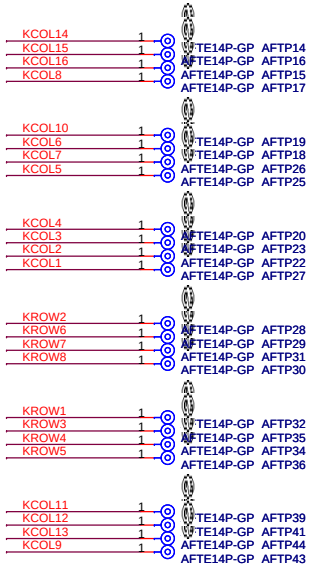


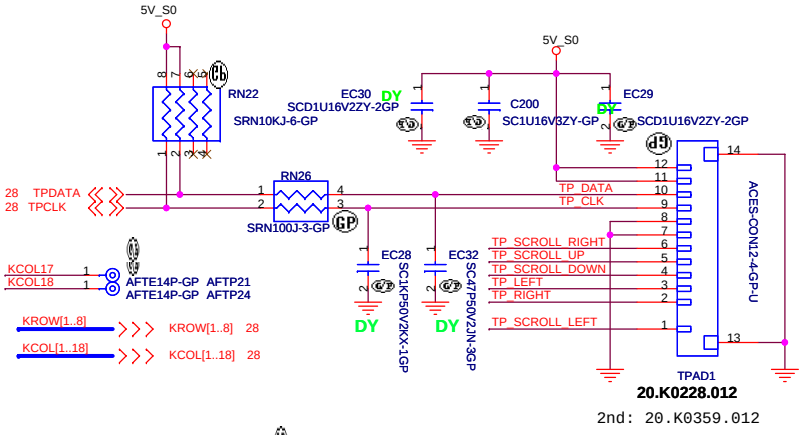




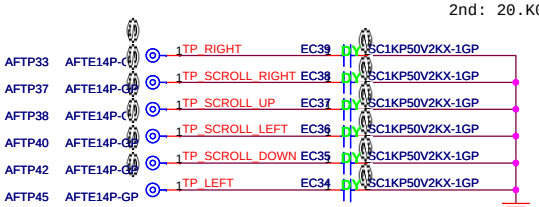


EMI Bypass cap.





2nd: 20.K0359.012



Internal KeyBoard CONN

1 25

CHECK KB SPEC. AND PIN DEFINE

bom1

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

Title: BUTTONs / KB / TOUCHPAD

Size | Document Number: Yukon | Rev: -1

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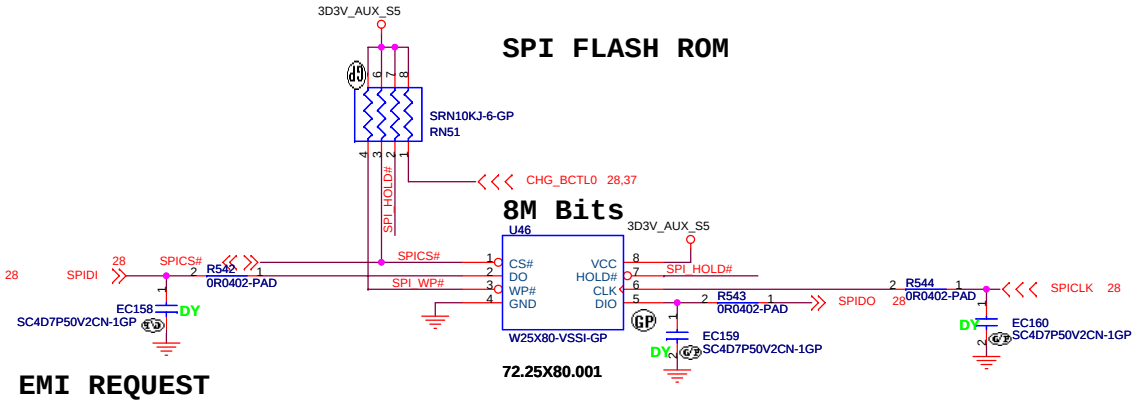
SPI FLASH ROM



change to 72.25X80.A01

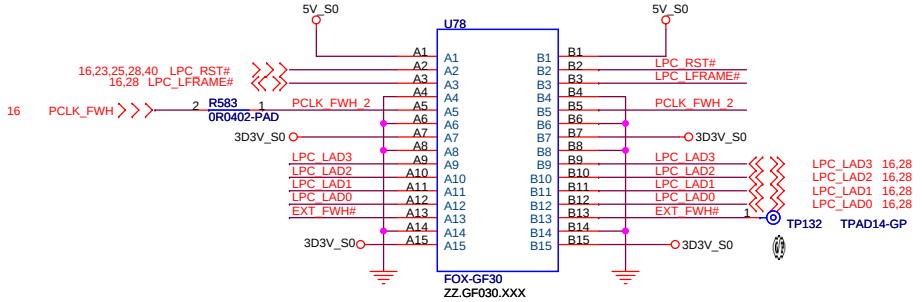
EMI REQUEST

TOP VIEW

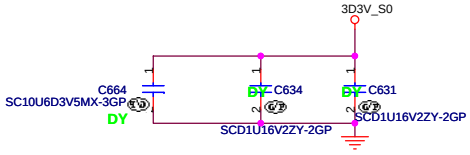
A15 (B1)
A14 (B2)
⋮ ⋮
A2 (B14)
A1 (B15)

(BOTTOM VIEW)

GOLDEN FINGER FOR DEBUG BOARD



Boot Device must have ID[3:0] = 0000
Has internal pull-down resistors
All may be left floated
FPET7 Elec. P3-46



<Core Design>

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

Title: BIOS

Size	Document Number	Rev
A3	Yukon	-1

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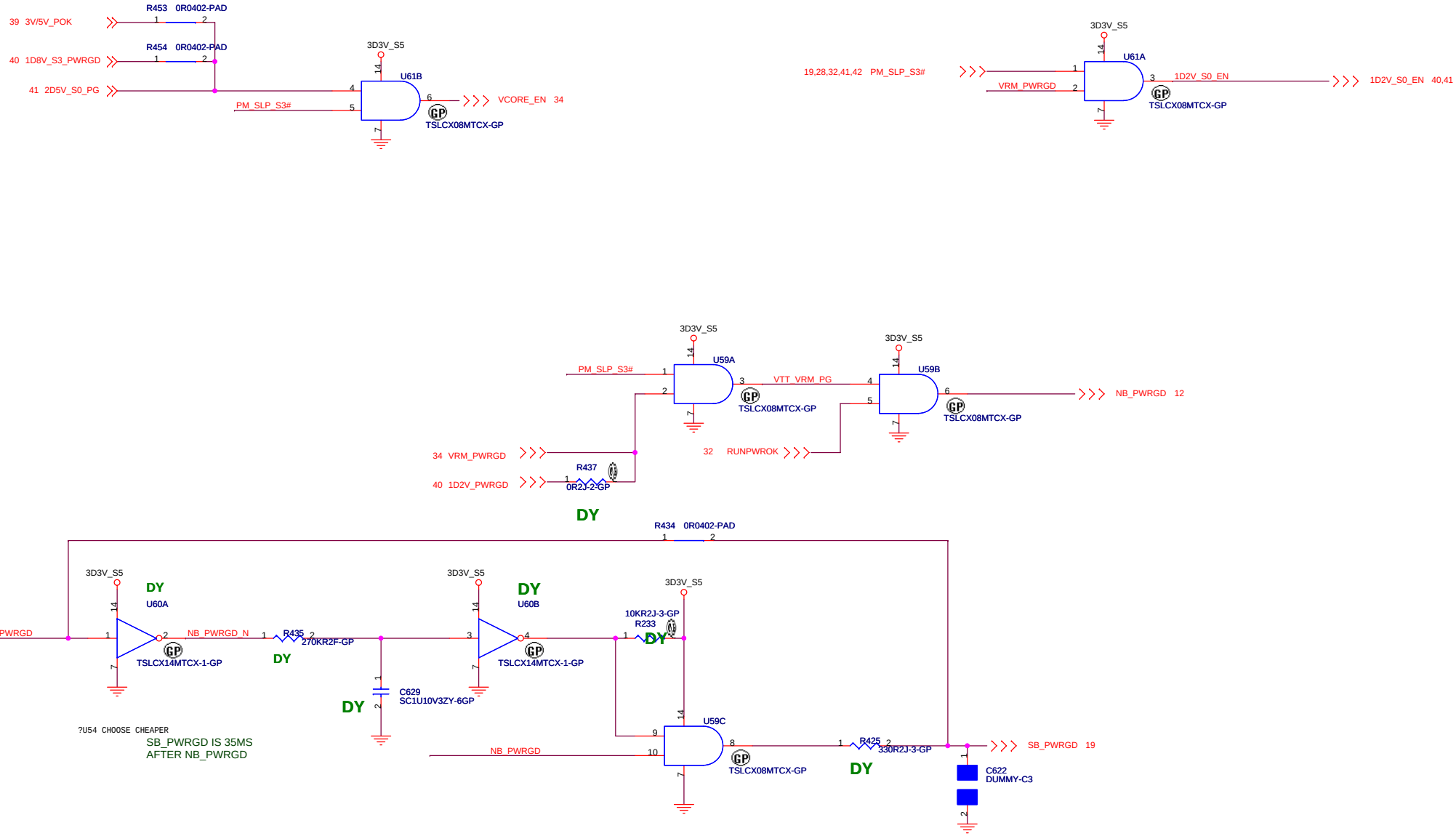

<Core Design>

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

Title: POWERGOOD&ENABLES(1/2)

Size	Document Number	Rev
A3	Yukon	-1

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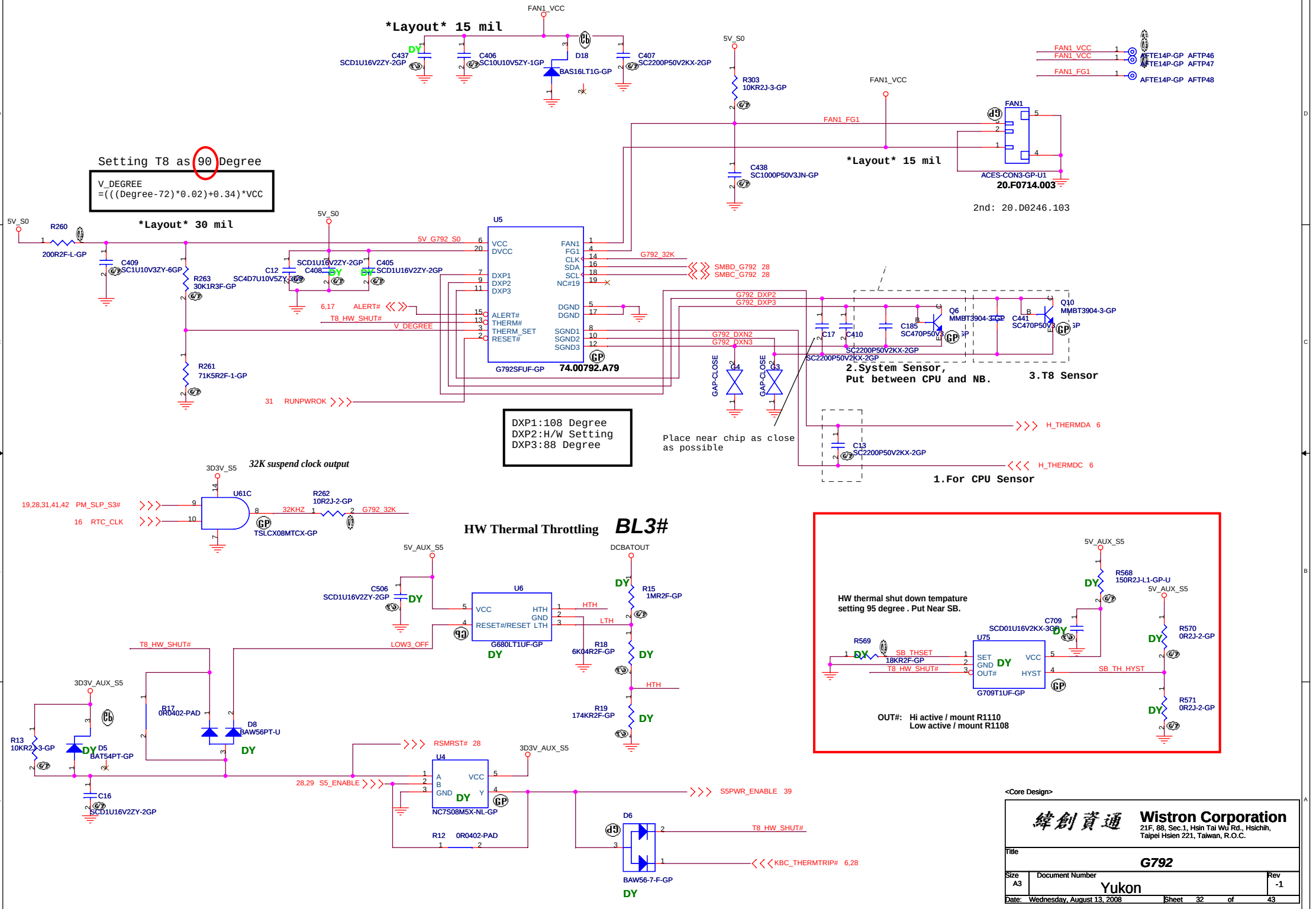

<Core Design>

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

Title	G792	
Size A3	Document Number Yukon	Rev -1
Date: Wednesday, August 13, 2008	Sheet 32 of 43	

CPU_CORE
ISL6264CRZ

VID0
VID1
VID2
VID3
VID4
VID5

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

Output Signal
VROK()

MAX8760_VRM

Output Power
VCC_CORE_PWR(O)

VCC_CORE_S0(Imax=35A)

VCORE_EN

Input Signal
EN (I / 3.3V)

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

COREFB
COREFB#

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

DCBATOUT
5V_S0
3D3V_S0

TI TPS51120
3D3V/5V

Input Signal
51120_EN2 FOR 3.3V
51120_EN1 FOR 5.0V
VIN

Output Signal
PGOUT(OD / 5V)

Pull High (3D3V)

DCBATOUT_51120

Input Power
VIN
REG5V_IN(I / 5V)

DCBATOUT_51120

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

5V_AUX_S5
3D3V_AUX_S5
5V_S5 (5.4A)
3D3V_S5 (4A)

2D5V_S0

3D3V_S0 → INPUT / OUT → 2D5V_S0

APL5913

1D8V_S5

3D3V_S5 → INPUT / OUT → 1D2V_S5

APL5332KAC-TRLGP

Adapter

Input Signal
AD_OFF
(I)

Output Signal
(O)
AD_IN

Input Power
AD_JK
VCC(I)
5V_AUX_S5
VCC(I)

Output Power
VCC(O)
AD+

Charger_ISL6255

CHARGE_OFF
BT_TH
BAT+SENSE
BT_SCL_5
BT_SDA_5
FLASH_GPIO1
FLASH_GPIO2
AC_IN

Input Signal
CLS (I / 3.3V)
THM (I / 3.3V)
BATT (I / 3.3V)
SCL (IO / 5V)
SDA (IO / 5V)
RESET#/PB5 (I/5V)
PB0/MOSI/AIN0
PB0/MOSI/AIN0

Output Signal
LDO (O / 5.4V)
XTAL2/PB4 (O/5V)
XTAL1/PB3 (O/5V)

AD_IN
CHARGE_LED#
BL2#

Output Power
VCC (O)
VCC (O)

DCBATOUT
BT+

Input Power
DCIN (I)

AD+

TI TPS51116
1.8V / 0.9V

PM_SLP_S5#

Input Signal
S5
S3

Output Signal
PGOOD(OD / 3.3V)

1D8V_S3_PG

Input Power
DCBATOUT
VCC(I)
5V_S5
VCC(I)

Output Power
VCC(O)
VCC(O)

1.8V_S3
0.9V_S3

ISL6268_1D2V

1D2V_S0_EN

Input Signal
SS_STBY1(I / 5V) FOR 1.2V

Output Power
1D2V_PWR

1D2V (6.5A)

5V_S5
DCBATOUT

Input Power
VCC
VIN

ISL6268_VGA_CORE

VGA_CORE_EN

Input Signal
SS_STBY1(I / 5V) FOR 1.2V

Output Power
1D2V_PWR

VGA_CORE_S0 (15A)

5V_S5
DCBATOUT

Input Power
VCC
VIN

<Core Design>

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

Title: **Power Block Diagram**

Size	Document Number	Rev
A3	Yukon	-1

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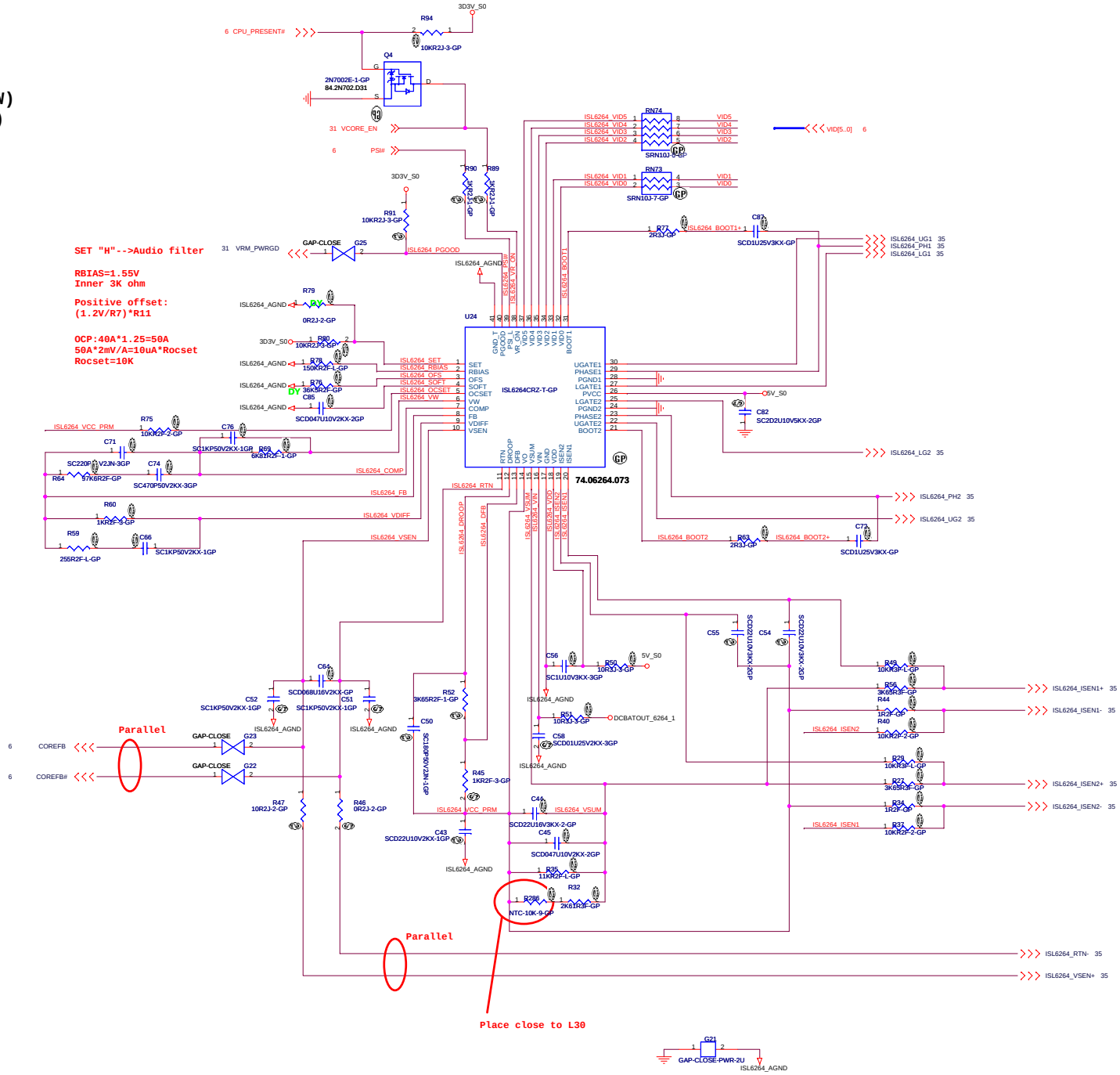
CPU_VCORE
VID=1.20V(25W)/1.15V(35W)
Iomax=21A(25W)/35A (35W)
OCP=40A~45A

TABLE 1. VOLTAGE IDENTIFICATION CODES

VID5	VID4	VID3	VID2	VID1	VID0	DAC
0	0	0	0	0	0	1.550
0	0	0	0	0	1	1.525
0	0	0	0	1	0	1.500
0	0	0	0	1	1	1.475
0	0	0	1	0	0	1.450
0	0	0	1	0	1	1.425
0	0	0	1	1	0	1.400
0	0	0	1	1	1	1.375
0	0	1	0	0	0	1.350
0	0	1	0	0	1	1.325
0	0	1	0	1	0	1.300
0	0	1	0	1	1	1.275
0	0	1	1	0	0	1.250
0	0	1	1	0	1	1.225
0	0	1	1	1	0	1.200
0	0	1	1	1	1	1.175
0	1	0	0	0	0	1.150
0	1	0	0	0	1	1.125
0	1	0	0	1	0	1.100
0	1	0	0	1	1	1.075
0	1	0	1	0	0	1.050
0	1	0	1	0	1	1.025
0	1	0	1	1	0	1.000
0	1	0	1	1	1	0.975
0	1	1	0	0	0	0.950
0	1	1	0	0	1	0.925
0	1	1	0	1	0	0.900
0	1	1	0	1	1	0.875
0	1	1	1	0	0	0.850
0	1	1	1	0	1	0.825
0	1	1	1	1	0	0.800
0	1	1	1	1	1	0.775
1	0	0	0	0	0	0.7625
1	0	0	0	0	1	0.75
1	0	0	0	1	0	0.7375
1	0	0	0	1	1	0.725
1	0	0	1	0	0	0.7125
1	0	0	1	0	1	0.7
1	1	1	1	1	1	0.375



<Core Design>

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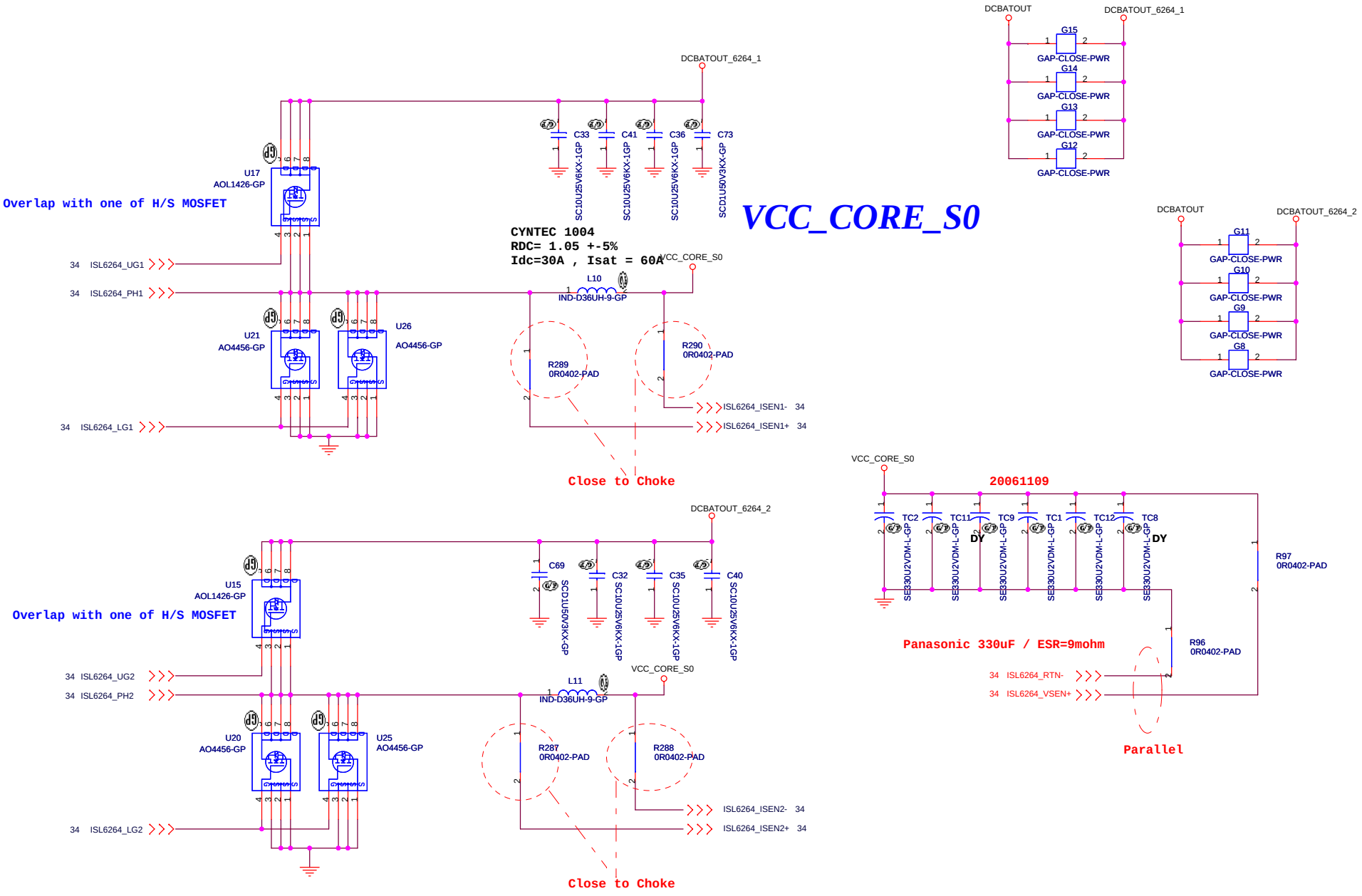
Title: CPU Vcore Power_1

Size: A2 | Document Number: Yukon | Rev: -1

Date: Wednesday, August 13, 2008 | Sheet 34 of 43



<Core Design>

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Title: *CPU Vcore Power_2*

Size	Document Number	Rev
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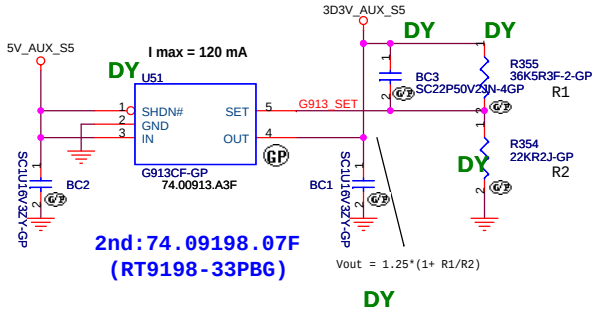
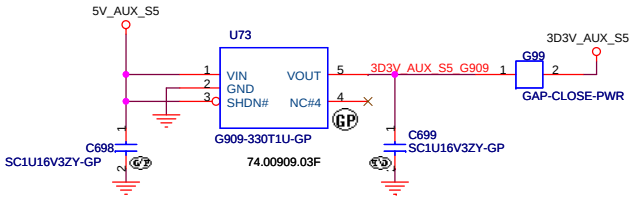
Aux Power

3D3V_AUX_S5

SB



Aux Power 3D3V_AUX_S5



<Core Design>

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Title		
3D3V_AUX		
Size: A3	Document Number: Yukon	Rev: -1
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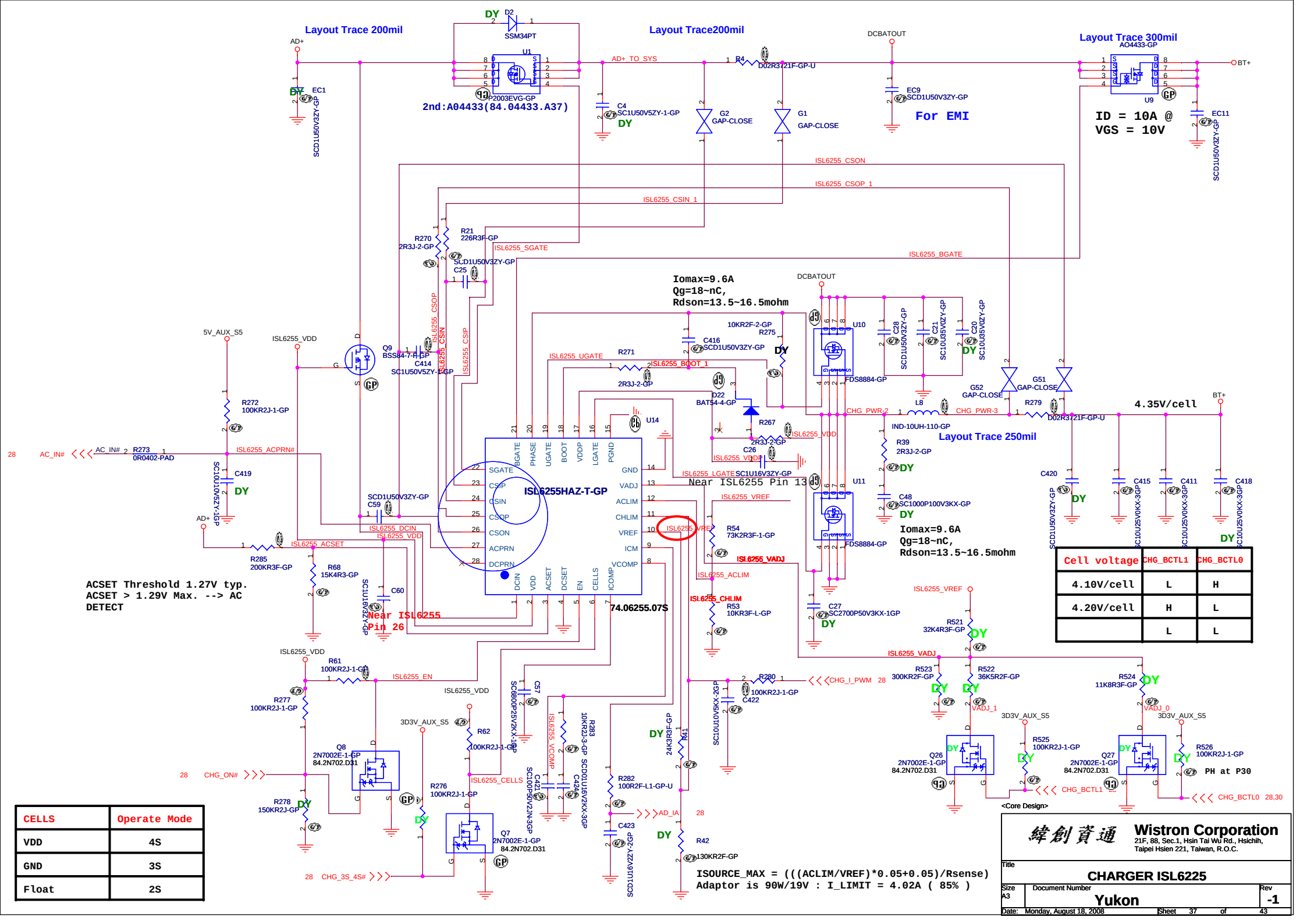
Layout Trace 200mil
Layout Trace200mil
Layout Trace 300mil
Layout Trace 250mil
2nd:A04433(84.04433.A37)
For EMI
ID = 10A @
VGS = 10V
Iomax=9.6A
Qg=18~nC,
Rdson=13.5~16.5mohm
4.35V/cell
ISL6255HAZ-T-GP
Near ISL6255 Pin 13
Near ISL6255
Pin 26
ACSET Threshold 1.27V typ.
ACSET > 1.29V Max. --> AC
DETECT
74.06255.07S
PH at P30
ISOURCE_MAX = (((ACLIM/VREF)*0.05+0.05)/Rsense)
Adaptor is 90W/19V : I_LIMIT = 4.02A (85%)
Cell voltage | CHG_BCTL1 | CHG_BCTL0
4.10V/cell | L | H
4.20V/cell | H | L
| L | L
CELLS | Operate Mode
VDD | 4S
GND | 3S
Float | 2S
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Title
CHARGER ISL6225
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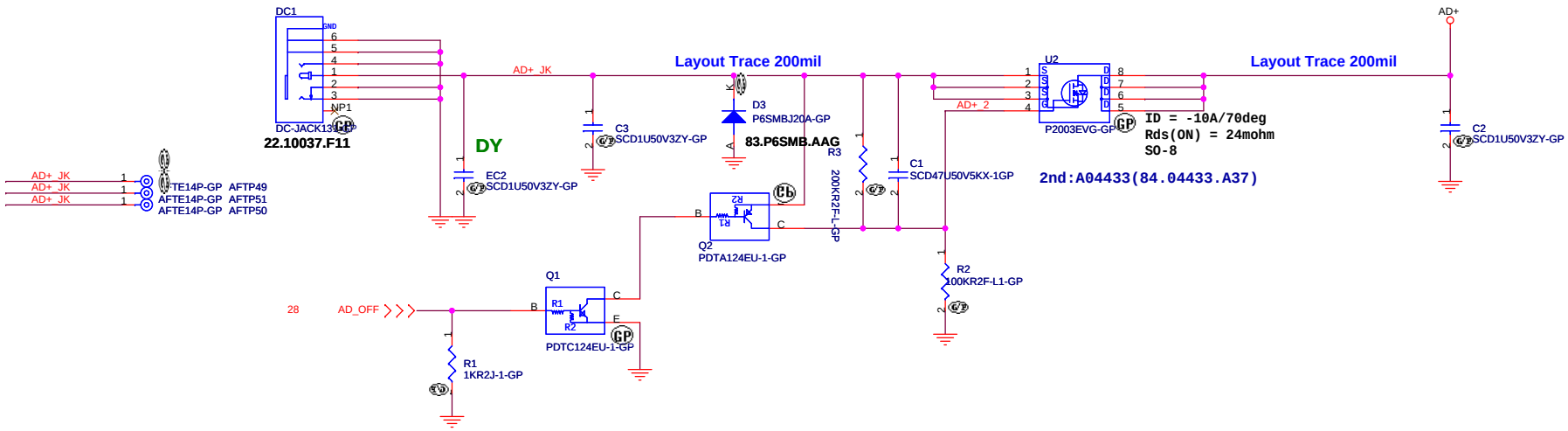
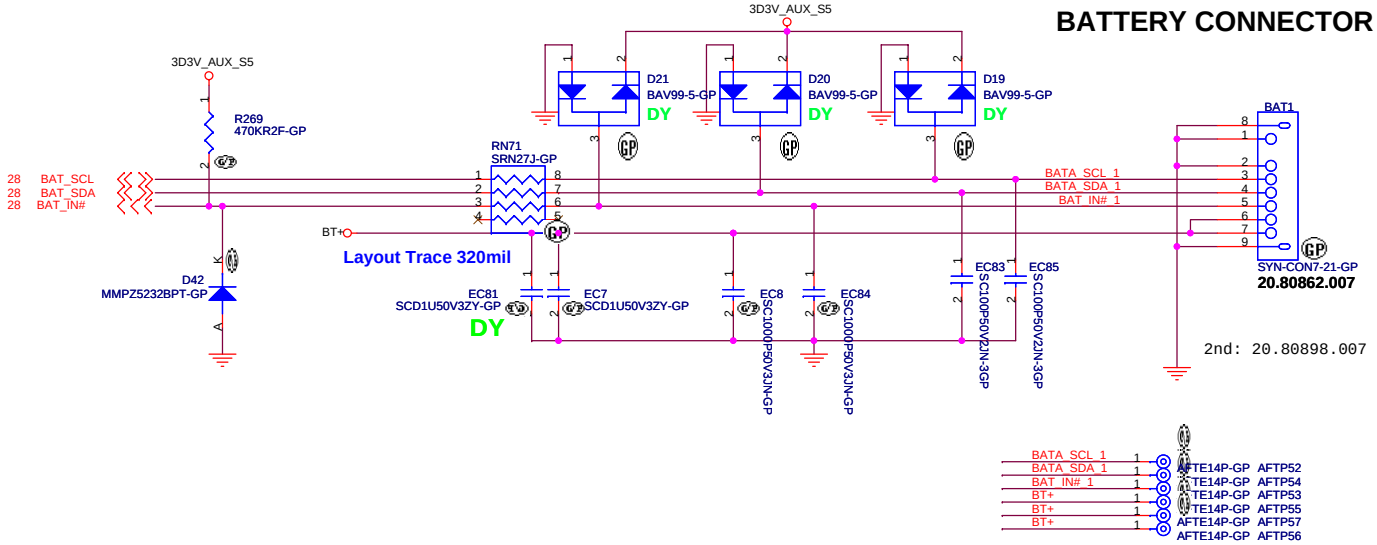
Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



<Variant Name>

緯創資通 **Wistron Corporation**
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Title	AD/BATT CONN	
Size A3	Document Number Yukon	Rev -1
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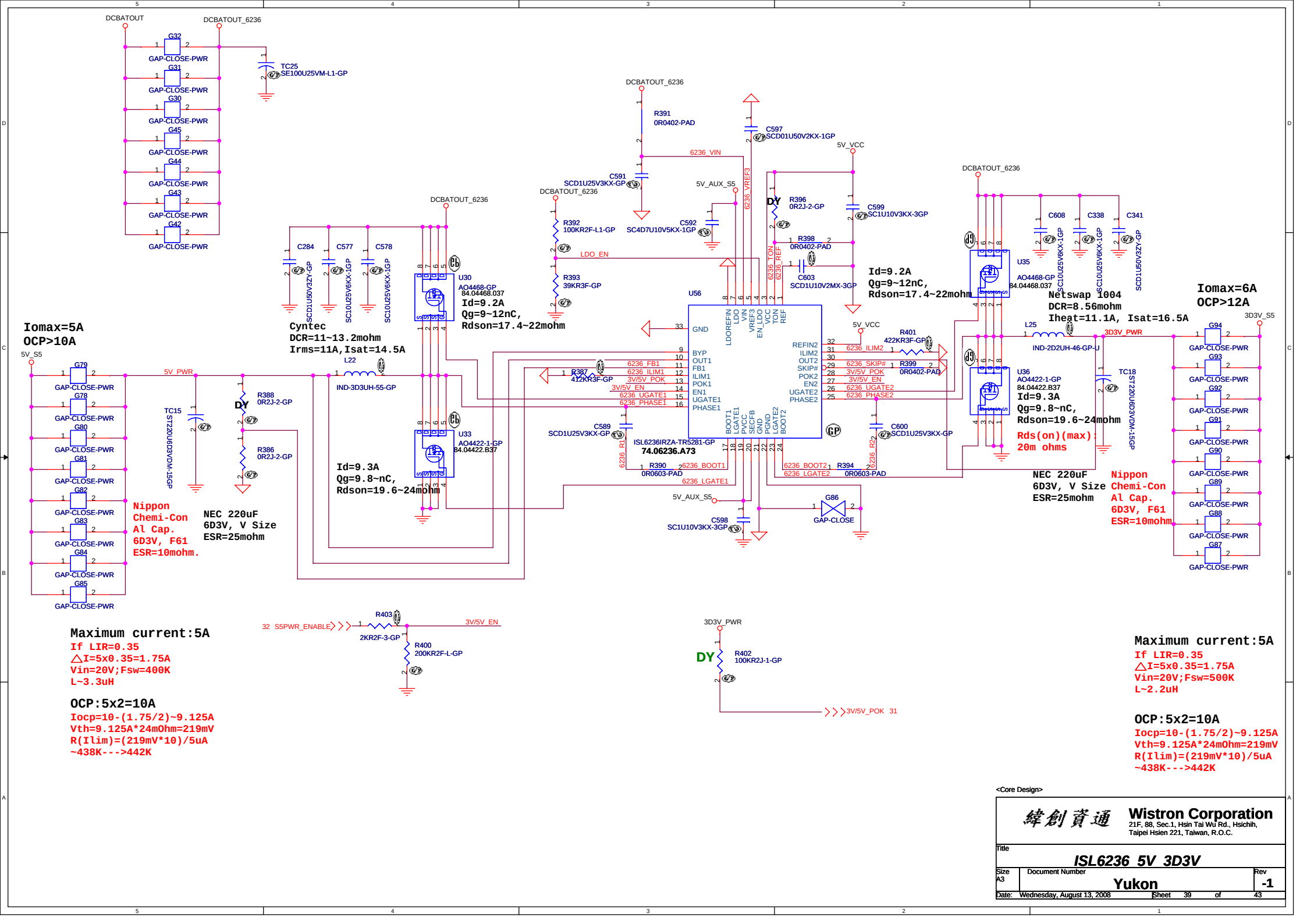

<Core Design>

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Title: ISL6236 5V 3D3V

Size	Document Number	Rev
A3	Yukon	-1

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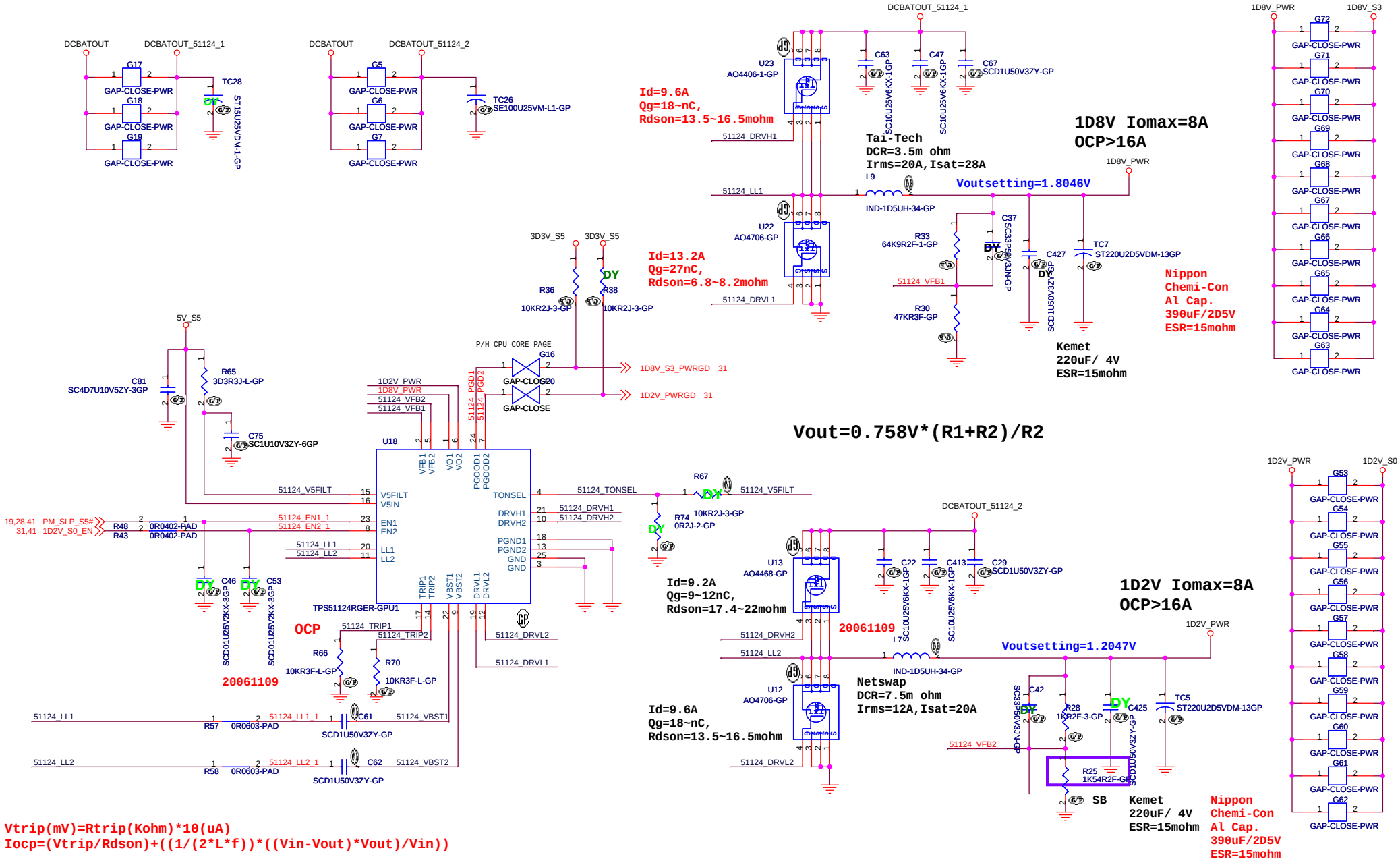

	GND	OPEN	V5FILT
TONSEL	230k/CH1 283k/CH2	283k/CH1 346k/CH2	346k/CH1 423k/CH2

STRP_DATA	1D2V(VCC_NB)
0	1.0
1	1.2

<Core Design>

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

Title: TPS51124 1D8V 1D2V

Size	Document Number	Rev
A3	Yukon	-1

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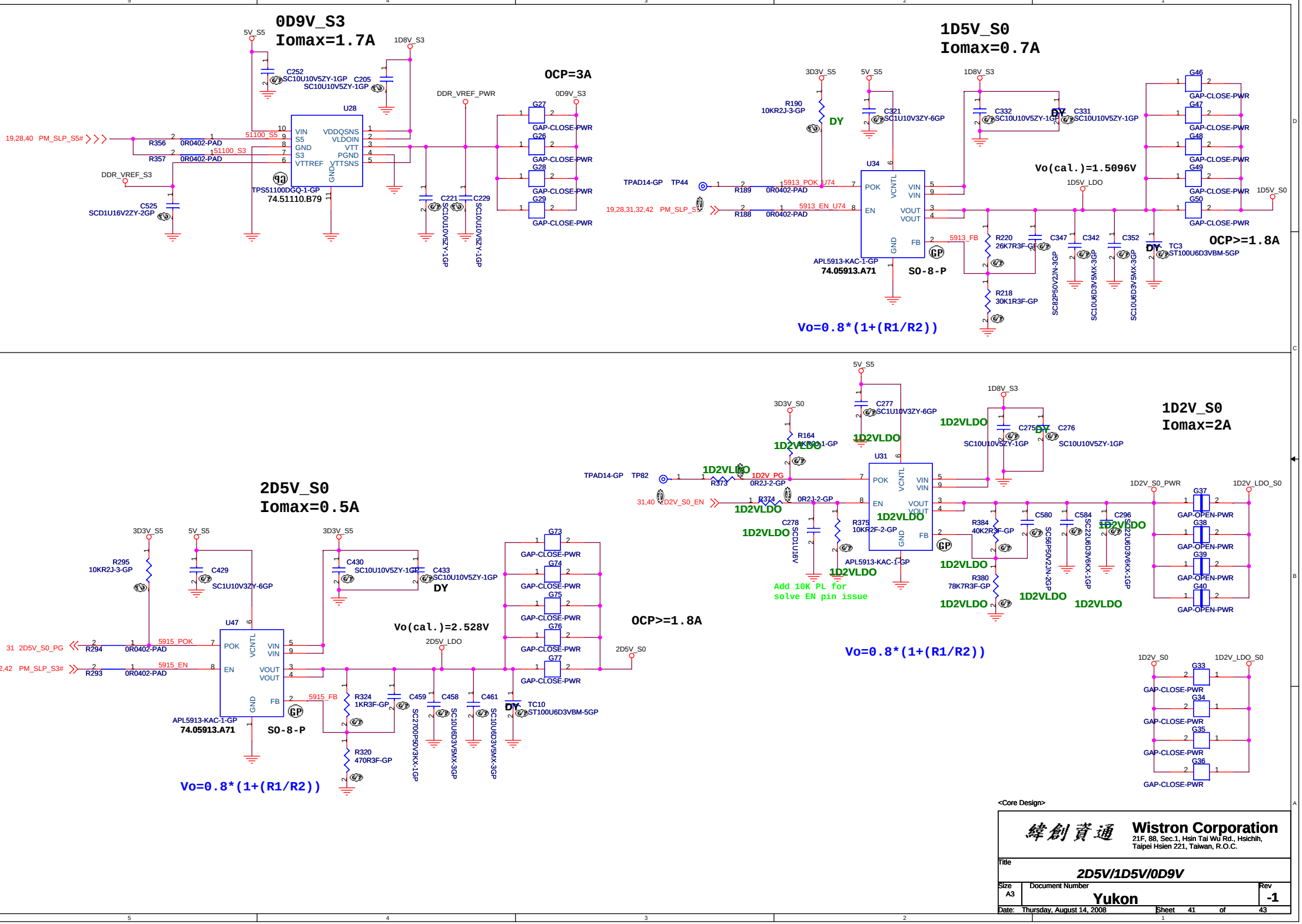
0D9V_S3
Iomax=1.7A
OCP=3A
5V_S5
1D8V_S3
C252
SC10U10V5ZY-1GP
C205
SC10U10V5ZY-1GP
U28
DDR_VREF_PWR
0D9V_S3
19,28,40 PM_SLP_S5#
R356
0R0402-PAD
R357
0R0402-PAD
51100_S5
51100_S3
VIN
S5
GND
S3
VTTREF
VDDQSNS
VLDOIN
VTT
PGND
VTTSNS
GND
DDR_VREF_S3
C525
SCD1U16V2ZY-2GP
TPS51100DGQ-1-GP
74.51110.B79
C221
SC10U10V5ZY-1GP
C229
SC10U10V5ZY-1GP
G27
G26
G28
G29
GAP-CLOSE-PWR
1D5V_S0
Iomax=0.7A
3D3V_S5
5V_S5
1D8V_S3
R190
10KR2J-3-GP
DY
C321
SC1U10V3ZY-6GP
C332
SC10U10V5ZY-1GP
DY
C331
SC10U10V5ZY-1GP
U34
Vo(cal.)=1.5096V
TPAD14-GP TP44
R189
0R0402-PAD
5913_POK_U74
19,28,31,32,42 PM_SLP_S5#
R188
0R0402-PAD
5913_EN_U74
POK
EN
VCNTL
VIN
VOUT
GND
FB
1D5V_LDO
1D5V_S0
5913_FB
R220
26K7R3F-GP
R218
30K1R3F-GP
C347
SC82P50V2JN-3GP
C342
SC10U6D3V5MX-3GP
C352
SC10U6D3V5MX-3GP
DY
TC3
ST100U6D3VBM-5GP
APL5913-KAC-1-GP
74.05913.A71
SO-8-P
OCP>=1.8A
Vo=0.8*(1+(R1/R2))
G46
G47
G48
G49
G50
2D5V_S0
Iomax=0.5A
3D3V_S5
5V_S5
R295
10KR2J-3-GP
C429
SC1U10V3ZY-6GP
C430
SC10U10V5ZY-1GP
C433
SC10U10V5ZY-1GP
DY
U47
Vo(cal.)=2.528V
OCP>=1.8A
31 2D5V_S0_PG
R294
0R0402-PAD
5915_POK
32,42 PM_SLP_S3#
R293
0R0402-PAD
5915_EN
POK
EN
VCNTL
VIN
VOUT
GND
FB
2D5V_LDO
2D5V_S0
5915_FB
R324
1KR3F-GP
R320
470R3F-GP
C459
SC2700P50V3KX-1GP
C458
SC10U6D3V5MX-3GP
C461
SC10U6D3V5MX-3GP
DY
TC10
ST100U6D3VBM-5GP
APL5913-KAC-1-GP
74.05913.A71
SO-8-P
Vo=0.8*(1+(R1/R2))
G73
G74
G75
G76
G77
1D2V_S0
Iomax=2A
5V_S5
3D3V_S0
1D8V_S3
C277
SC1U10V3ZY-6GP
R164
1KR2J-3-GP
1D2VLDO
C275
DY
C276
SC10U10V5ZY-1GP
SC10U10V5ZY-1GP
U31
TPAD14-GP TP82
R373
0R2J-2-GP
1D2V_PG
31,40 D2V_S0_EN
R374
0R2J-2-GP
POK
EN
VCNTL
VIN
VOUT
GND
FB
C278
SCD1U16V
R375
10KR2F-2-GP
APL5913-KAC-1-GP
Add 10K PL for
solve EN pin issue
R384
40K2R3F-GP
R380
78K7R3F-GP
C580
SC56P50V2JN-2GP
C584
SC22U6D3V6KX-1GP
C296
SC22U6D3V6KX-1GP
1D2V_S0_PWR
1D2V_LDO_S0
Vo=0.8*(1+(R1/R2))
G37
G38
G39
G40
G33
G34
G35
G36
GAP-OPEN-PWR
GAP-CLOSE-PWR
<Core Design>
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
2D5V/1D5V/0D9V
Size
A3
Document Number
Yukon
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-1
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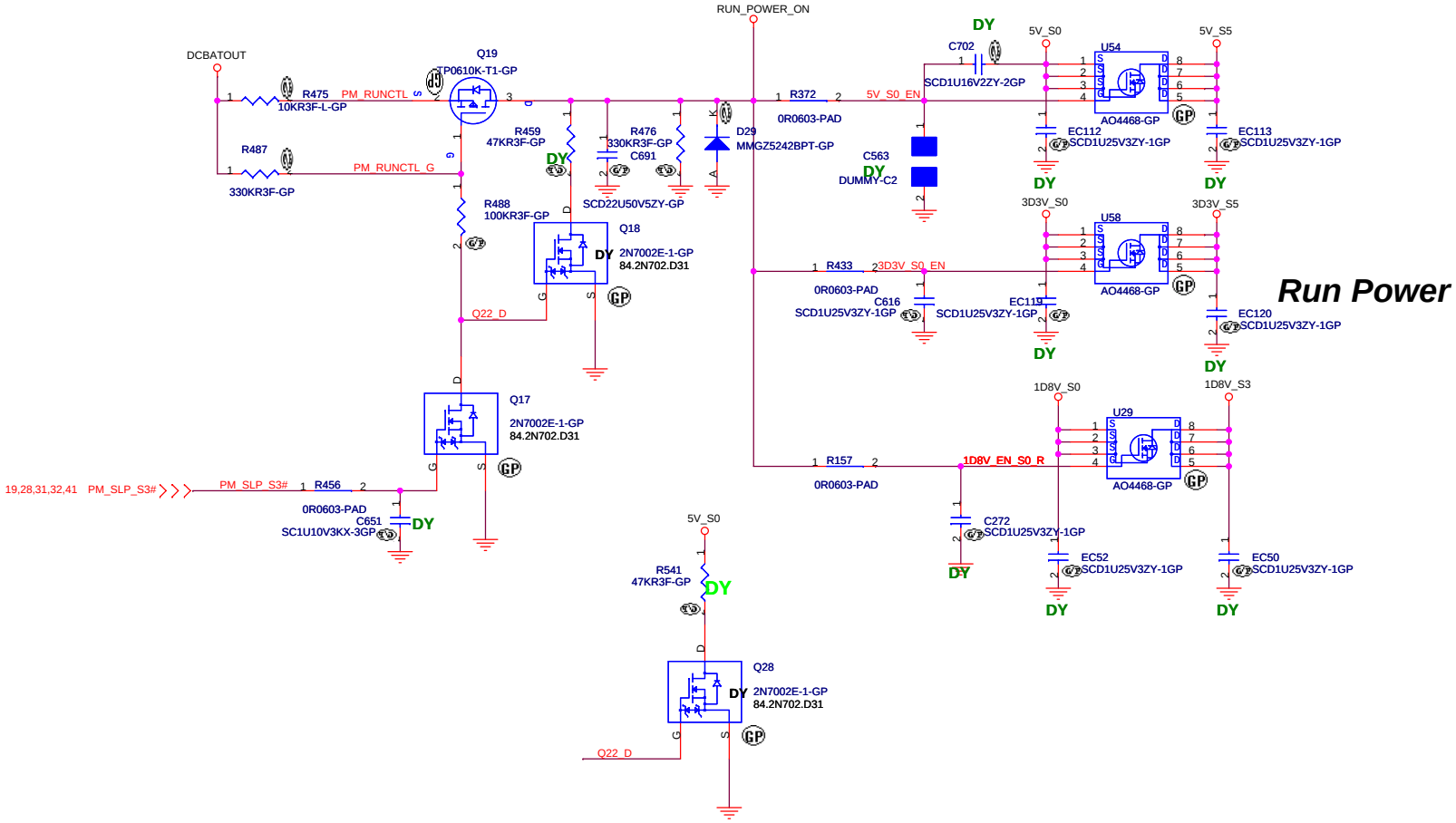
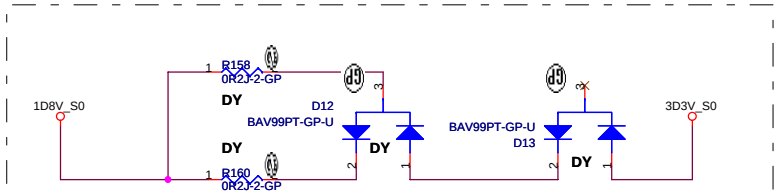


Run Power



Add as ATI suggestion

Power On Logic

<Core Design>

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***RUB POWER***
Size: A3	Document Number: Yukon
Rev: -1	
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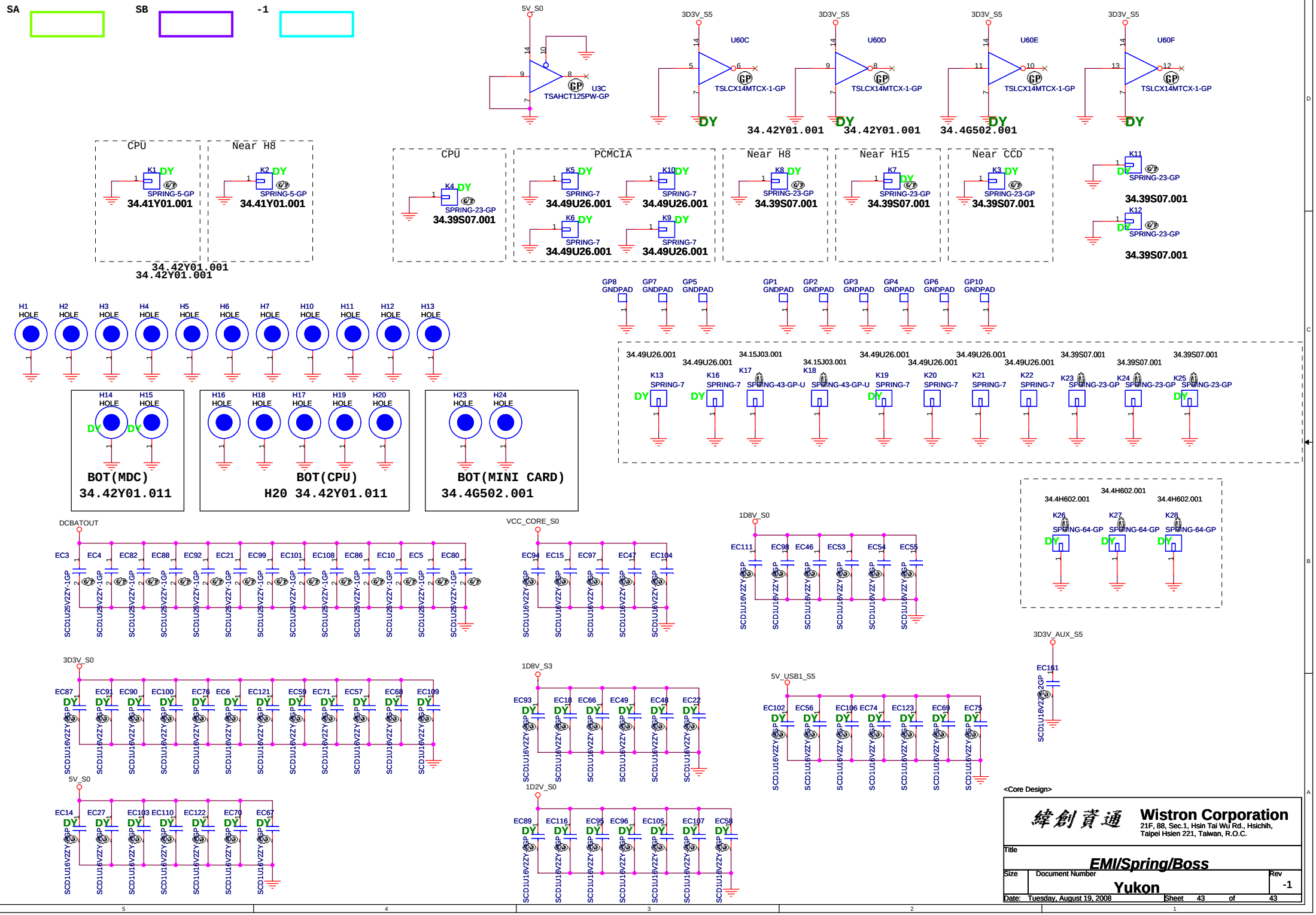
SA
SB
-1
5V_S0
U3C
TSAHCT125PW-GP
3D3V_S5
U60C
U60D
U60E
U60F
TSLCX14MTCX-1-GP
34.42Y01.001
34.42Y01.001
34.4G502.001
CPU
Near H8
PCMCIA
Near H15
Near CCD
K1 DY
SPRING-5-GP
34.41Y01.001
K2 DY
SPRING-5-GP
34.41Y01.001
34.42Y01.001
34.42Y01.001
K4 DY
SPRING-23-GP
34.39S07.001
K5 DY
SPRING-7
34.49U26.001
K10 DY
SPRING-7
34.49U26.001
K6 DY
SPRING-7
34.49U26.001
K9 DY
SPRING-7
34.49U26.001
K8 DY
SPRING-23-GP
34.39S07.001
K7
SPRING-23-GP
34.39S07.001
K3 DY
SPRING-23-GP
34.39S07.001
K11
SPRING-23-GP
34.39S07.001
K12
SPRING-23-GP
34.39S07.001
H1 HOLE
H2 HOLE
H3 HOLE
H4 HOLE
H5 HOLE
H6 HOLE
H7 HOLE
H10 HOLE
H11 HOLE
H12 HOLE
H13 HOLE
H14 HOLE
H15 HOLE
BOT(MDC)
34.42Y01.011
H16 HOLE
H18 HOLE
H17 HOLE
H19 HOLE
H20 HOLE
BOT(CPU)
H20 34.42Y01.011
H23 HOLE
H24 HOLE
BOT(MINI CARD)
34.4G502.001
GP8 GNDPAD
GP7 GNDPAD
GP5 GNDPAD
GP1 GNDPAD
GP2 GNDPAD
GP3 GNDPAD
GP4 GNDPAD
GP6 GNDPAD
GP10 GNDPAD
34.49U26.001
34.49U26.001
34.15J03.001
34.15J03.001
34.49U26.001
34.49U26.001
34.49U26.001
34.39S07.001
34.39S07.001
34.39S07.001
K13 SPRING-7
K16 SPRING-7
K17 SPRING-43-GP-U
K18 SPRING-43-GP-U
K19 SPRING-7
K20 SPRING-7
K21 SPRING-7
K22 SPRING-7
K23 SPRING-23-GP
K24 SPRING-23-GP
K25 SPRING-23-GP
34.4H602.001
34.4H602.001
34.4H602.001
K26 SPRING-64-GP
K27 SPRING-64-GP
K28 SPRING-64-GP
DCBATOUT
VCC_CORE_S0
1D8V_S0
3D3V_AUX_S5
EC161
3D3V_S0
1D8V_S3
5V_USB1_S5
5V_S0
1D2V_S0
SCD1U25V2ZY-1GP
SCD1U16V2ZY-1GP
<Core Design>
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
EMI/Spring/Boss
Size
Document Number
Yukon
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-1
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