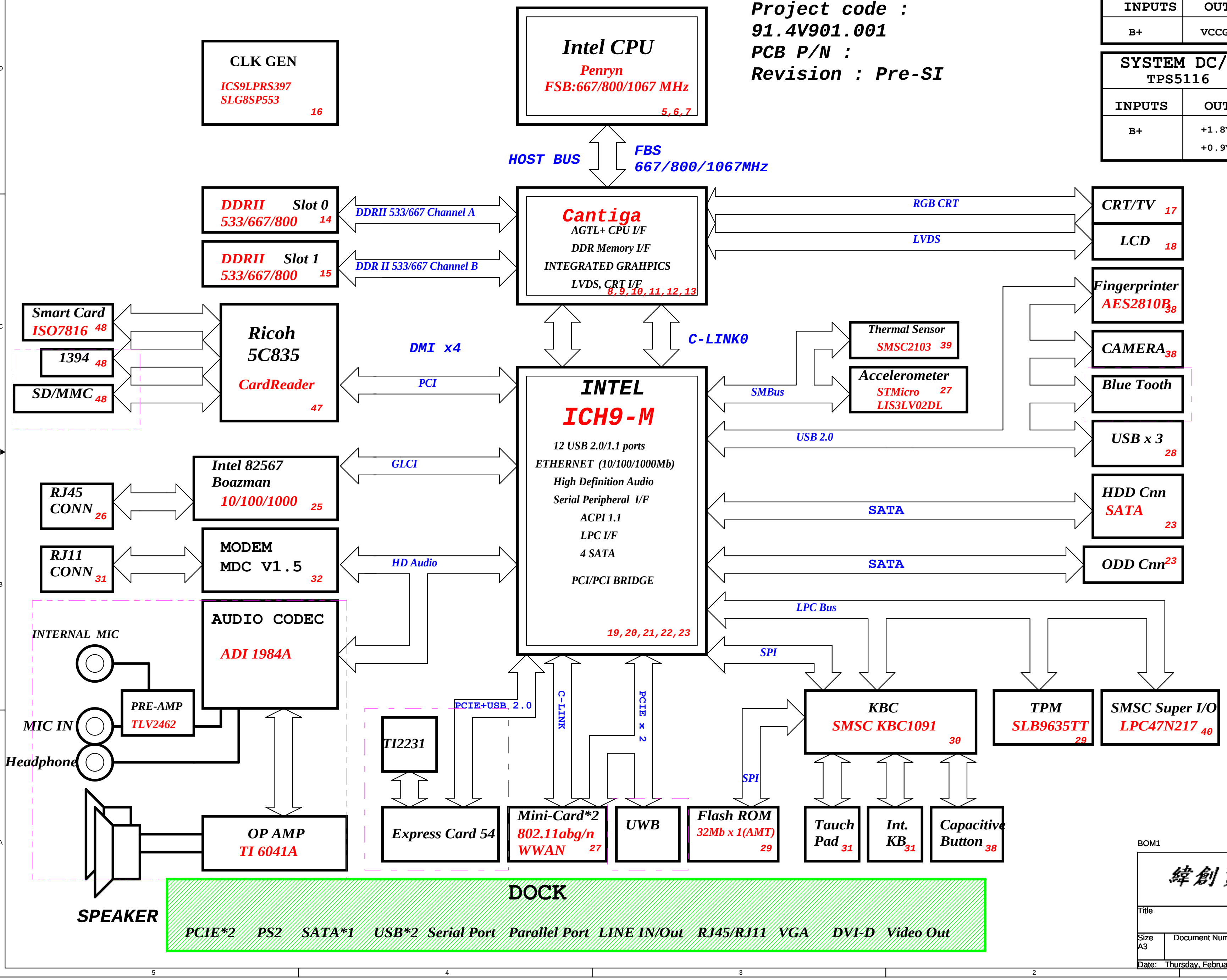
Wistron Confidential

MV-1

2008/05/23 **REV : -1**

Karia Block Diagram UMA

Project code :
91.4V901.001
PCB P/N :
Revision : Pre-SI



SYSTEM DC/DC
TPS6263A

INPUTS	OUTPUTS
B+	VCCGFX 45

SYSTEM DC/DC
TPS51120

INPUTS	OUTPUTS
B+	+5VALW 7A +3VALW 6A 46

SYSTEM DC/DC
TPS5116

INPUTS	OUTPUTS
B+	+1.8V 7A 47 +0.9V 1A

SYSTEM DC/DC
SC412A

INPUTS	OUTPUTS
B+	+1.5VS 3A 50 +1.05VM 13A 48

CHARGER
BQ27470

INPUTS	OUTPUTS
	BATT
BATT_A	18V 3.0A
BATT_B	5V 100mA
	51

CPU DC/DC
ISL6260A

INPUTS	OUTPUTS
B+	+VCC_CORE 0.844~1.3V 44A 43

PCB LAYER

L1: Signal 1
L2: GND
L3: Signal 2
L4: Signal 3
L5: VCC
L6: Signal 4
L7: GND
L8: Signal 5

BOM1

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Title	*Block Diagram*	
Size A3	Document Number KARIA	Rev SF
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3/12
1. Page 43 - Change R542.2 to +3VALW from +3VS to power U86.39 (3V3) 0303 OK
2. Page 45 - Change R480 to NO INSTALL 0303 OK
3. Page 30 - Remove D48, connect signal directly to ADP_PRES, and uninstall R506 0303 OK
4. Page 51 - Chage R15 to 22K from 10K NOT DONE ON 0303 0312 OK

3/13
1. Page 27 - Add a 0 ohm series resistor on MC1_DISALBE and MC2_DISALBE RL: Don't need to add; use the 0 ohm at KBC.
2. Page 27 - Reserve a 1u 0603 cap (NO INSTALL) on MC2_DISALBE (same as MC1_DISABLE) 0312 OK
3. Page 19 - Add a 0 ohm series on PLT_RST# at U106.4 RL: Change R185 to 0 ohm; May need to change for damping.
4. Page 33 - Add a 0 ohm series on PM_PWROK_R at R166.2 RL: Pad is ok but needs to be on PM_PWROK_R from U89.40 (It's ok to put it near R541.2 on page43)
7. Page 30 - Change R598 to INSTALL (KBC GPIO08 has no internal PU) 0312 OK
8. Page 39 - Change R78 (SHDN_SEL) to 22K 1% to use External Diode2 for H/W critical shutdown 0312 OK
10. Page 24 - OPEN: May need to change U84 to Paricom level shifter. RL: Investigating
11. Page 25 - May require a discharging FET for +3VM_LAN at Q37.D RL: Change R104 to 470 ohm and change Q55.G to LAN_PY1
12. Page 32 - OPEN: May need to change RGB q-switches power to +5VALW or +5VS (depending on wavy impact) RL: Investigating
13. Page 51 - Change R101 to 33K from 1.27K 0312 OK
14. Page 41 - Change DAUGTH1 pin 52 and pin 54 to +5VS from +5VALW 0312 OK
15. Page 41 - Remove ICH_SMB_CLK/DATA from DAUGTH1 pin 32 and 34 0312 OK

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Title
Change Notes List

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Voltage Rails

o MEANS ON x MEANS OFF

State \ power plane	+BB LDO3 LDO5	+5VALW +5VALW	+1.8V +5V +0.9V	+5VS +3VS +1.8VS +1.5VS +VGA_CORE +CPU_CORE +VCCP	+3VM +1.05VM	CLOCK
S0	O	O	O	O	O	O
S3/M1	O	O	O	x	O	O
S3	O	O	O	x	O	O
S5 S4/AC	O	O	x	x	O	O
S5 S4/Battery only	O	x	x	x	x	x
S5 S4/AC & Battery don't exist	x	x	x	x	x	x

PCI Devices

EXTERNAL	IDSEL#	REQ/GNT#	PIRQ
Cardreader&1394	AD25	2	G,E

PCIE Devices

DEVICE	NUMBER	CHANNEL
WWLAN	1	4
WLAN	1	2
UWB	1	1
Express Card	1	3

USB PORT	***Device***
0	***USB1***
1	***Free***
2	***EX-P***
3	***WLAN***
4	***USB2***
5	***USB3***
6	***BLUETOOTH***
7	***WWAN***
8	***FignerPrint***
9	***Dock1***
10	***WEBCAM***
11	***DOCK2***

Symbols	Description
DY/DUMMY	No install
1KR2J	Resistor 1K ohm ,Size 0402 ,5%
1KR3F	Resistor 1K ohm ,Size 0603 ,1%
GP	ROHS parts
NC	Pin no connect to anything
1U16V2ZY-2GP	Caps 1U ,Size 0402 Y5V
2D2U6D3V3MX	Caps 2.2U ,Size 0603 X5R

Fingerprint

IRQ	Device
0	System Timer
1	Keyboard
2	N/A
3	Serial port (COM2) ,LAN/Modem
4	Serial port (COM1)
5	Audio/VGA
6	~~Floppy~~
7	Parallel port
8	System CMOS/Real-time clock
9	Microsoft ACPI
10	N/A,Modem,LAN
11	Mass storage control/PCI simple communication control
12	synactic PS2 port GlidePAD
13	Numeric Data Process
14	Primary IDE interface ,HDD
15	Secondary IDE interface ,CD-ROM
16	Mobile Intel Crestline Express Chipset Family Microsoft UAA Bus Drive for High Definition Audio Intel 82801H (ICH9 Family) PCI Express Root Port -27D0 Broadcom NetXtreme Gigabit Ethernet
17	Intel 82801H (ICH9 Family) PCI Express Root Port -27D2 Broadcom 802.11b/g WLAN Intel 82801H (ICH9 Family) USB Universal Host Control
18	Intel 82801H (ICH9 Family) USB Universal Host Control Richo R5C835 Integrates FlashMedia Control Richo R5C835 Gemcore based SmartCard Control
19	Intel 82801H (ICH9 Family) PCI Express Root Port -27D6 Intel 82801H (ICH9 Family) USB Universal Host Control
20	Intel 82801H (ICH9 Family) USB Universal Host Control Intel 82801H (ICH9 Family) USB2 Enhanced Host Control
21	Intel 82801H (ICH9 Family) USB Universal Host Control
22	SDA Standard Compliant SD Host Control
23	HP Mobile Data Protection Sensor

BOM1

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Title: ***Karia List***

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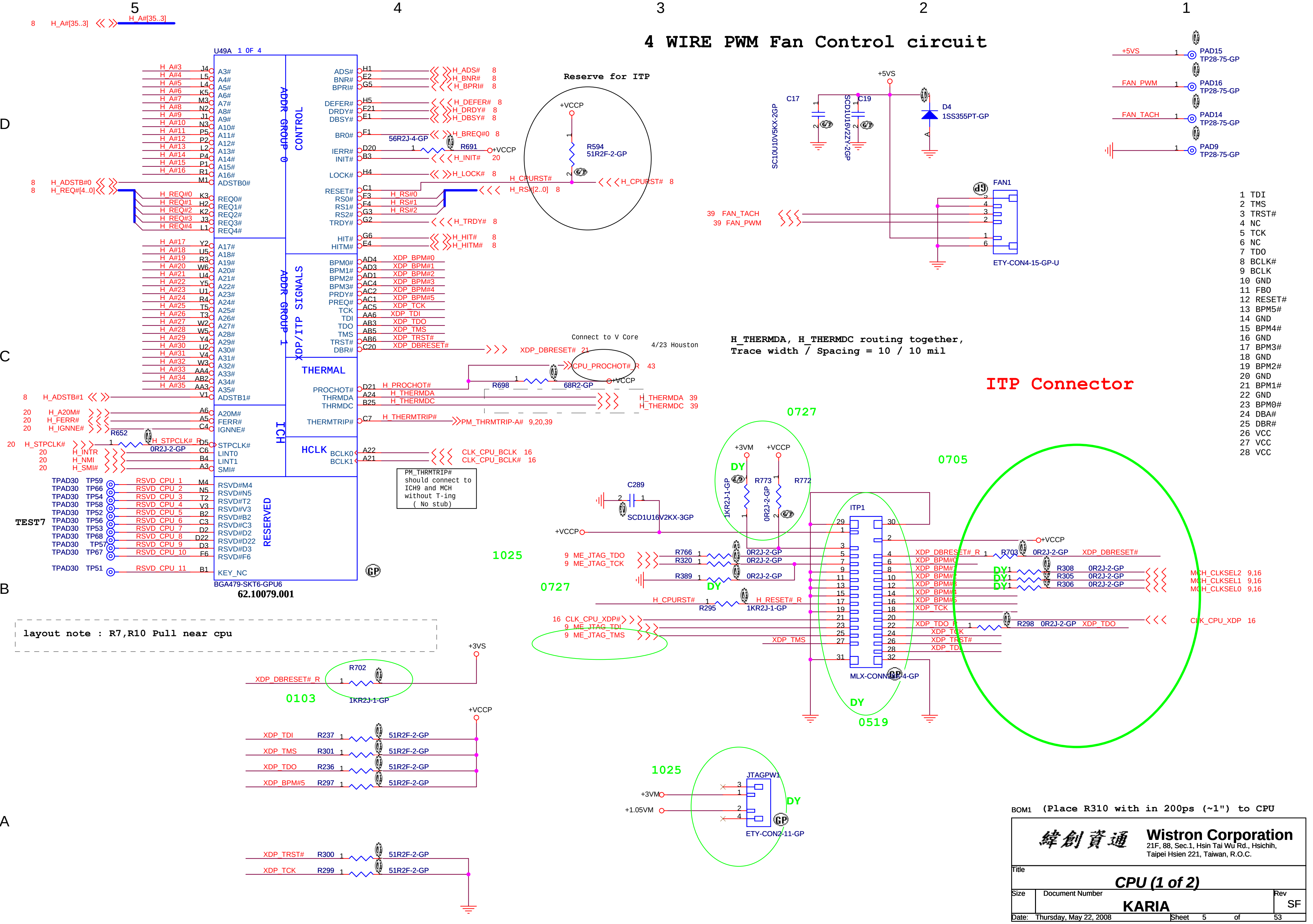
4 WIRE PWM Fan Control circuit



1 TDI
2 TMS
3 TRST#
4 NC
5 TCK
6 NC
7 TDO
8 BCLK#
9 BCLK
10 GND
11 FBO
12 RESET#
13 BPM5#
14 GND
15 BPM4#
16 GND
17 BPM3#
18 GND
19 BPM2#
20 GND
21 BPM1#
22 GND
23 BPM0#
24 DBA#
25 DBR#
26 VCC
27 VCC
28 VCC

layout note : R7,R10 Pull near cpu

BOM1 (Place R310 with in 200ps (~1") to CPU)

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Title		
CPU (1 of 2)		
Size	Document Number KARIA	Rev SF
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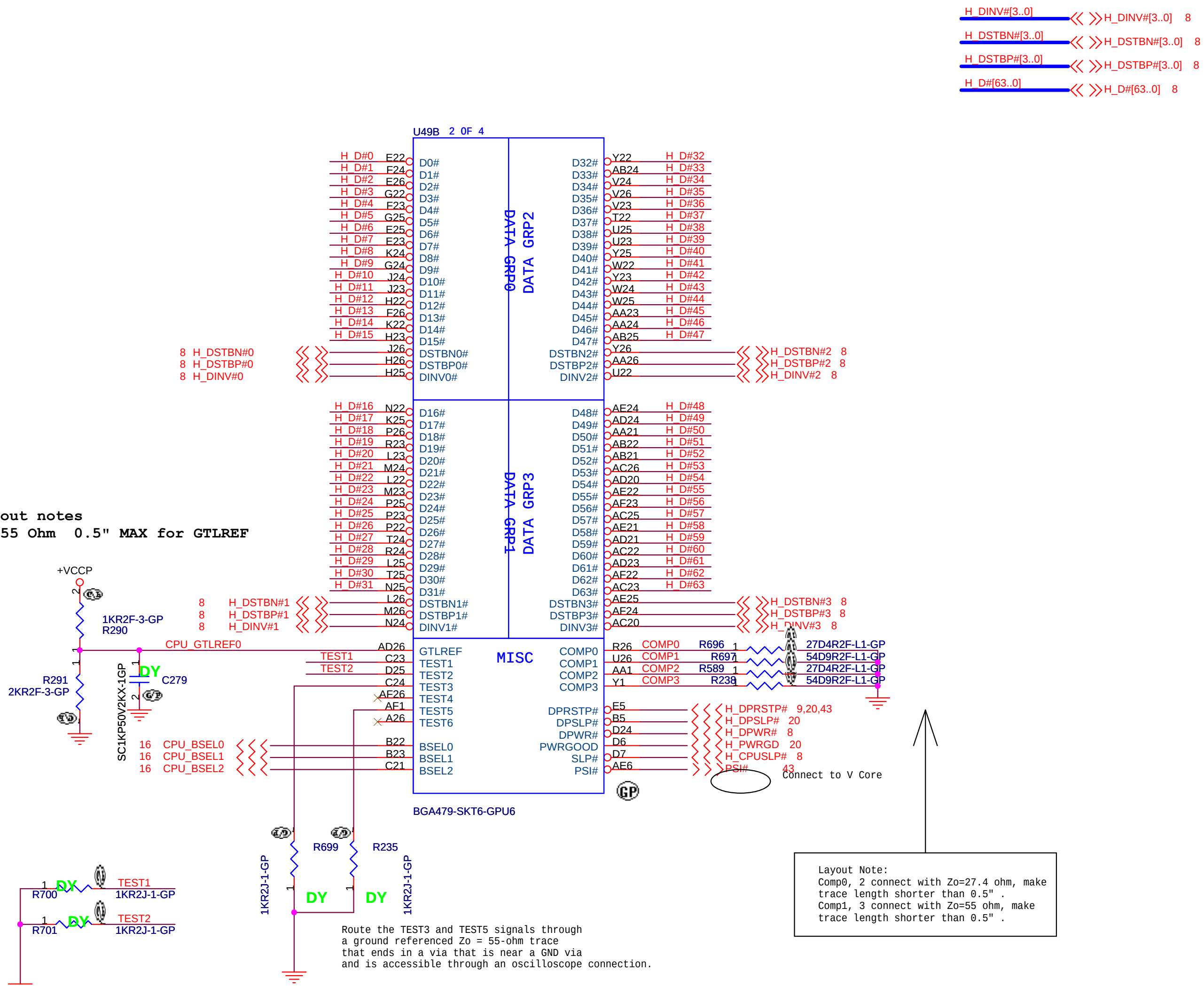

Layout notes
Z= 55 Ohm 0.5" MAX for GTLREF

Route the TEST3 and TEST5 signals through
a ground referenced Zo = 55-ohm trace
that ends in a via that is near a GND via
and is accessible through an oscilloscope connection.

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

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Title		
CPU (3 of 2)		
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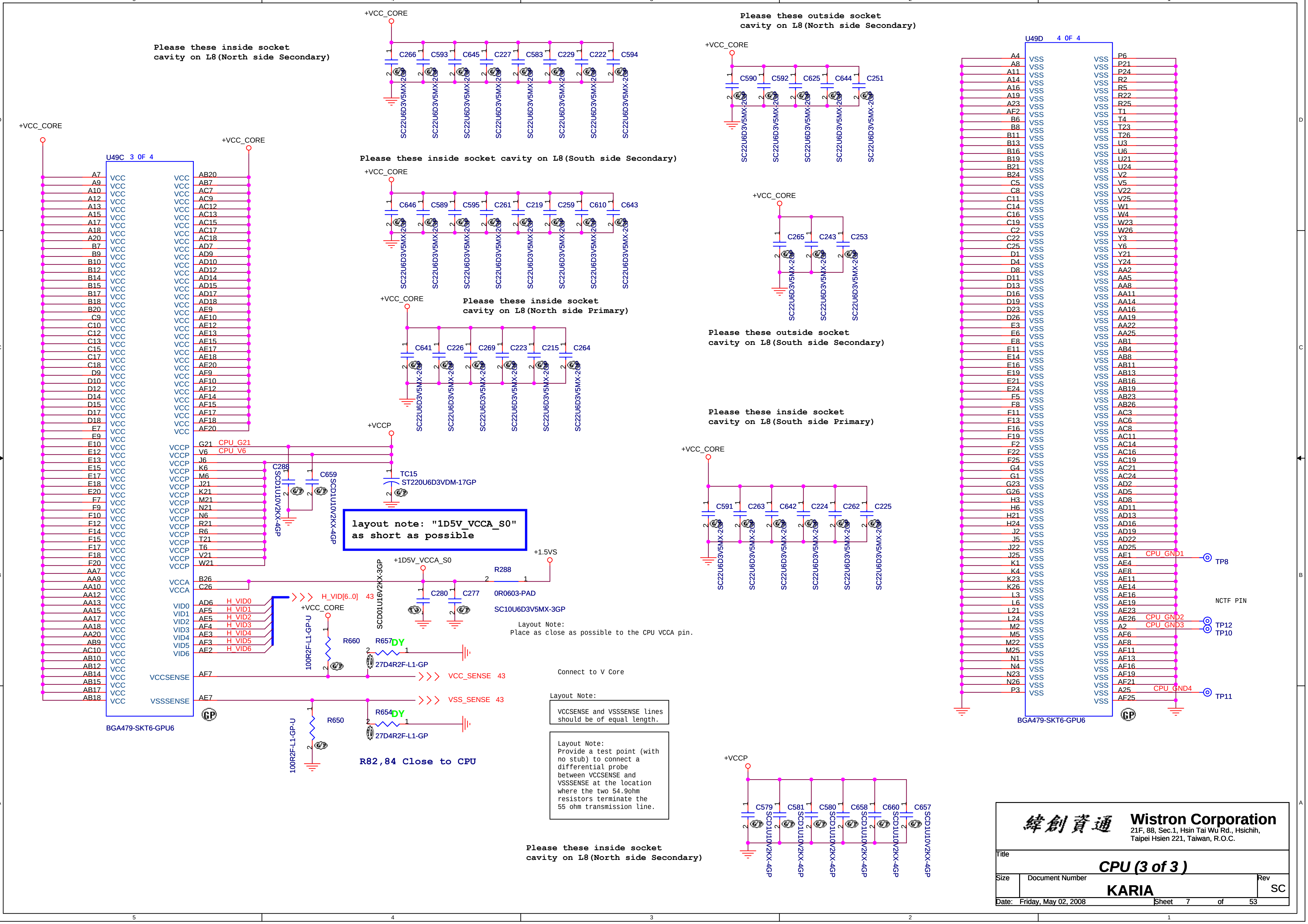

Please these inside socket cavity on L8(North side Secondary)

Please these outside socket cavity on L8(North side Secondary)

Please these inside socket cavity on L8(South side Secondary)

Please these inside socket cavity on L8(North side Primary)

Please these outside socket cavity on L8(South side Secondary)

Please these inside socket cavity on L8(South side Primary)

layout note: "1D5V_VCCA_S0" as short as possible

Layout Note:
Place as close as possible to the CPU VCCA pin.

Connect to V Core

Layout Note:

VCCSENSE and VSSSENSE lines should be of equal length.

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

R82,84 Close to CPU

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

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Title
CPU (3 of 3)
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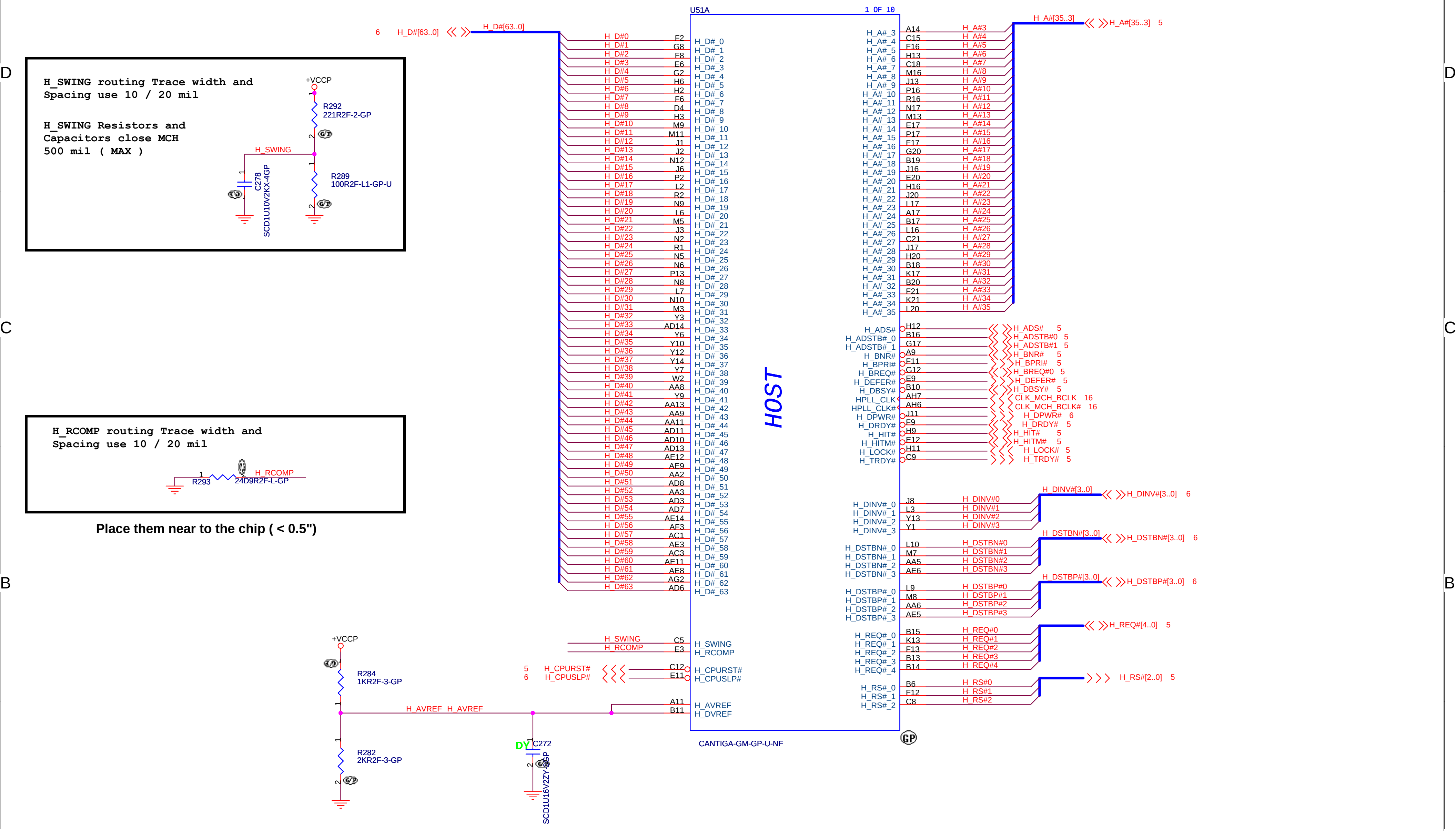

H_SWING routing Trace width and Spacing use 10 / 20 mil

H_SWING Resistors and Capacitors close MCH 500 mil (MAX)

H_RCOMP routing Trace width and Spacing use 10 / 20 mil

Place them near to the chip (< 0.5")

BOM1

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Title			
Cantiga (1 of 6)			
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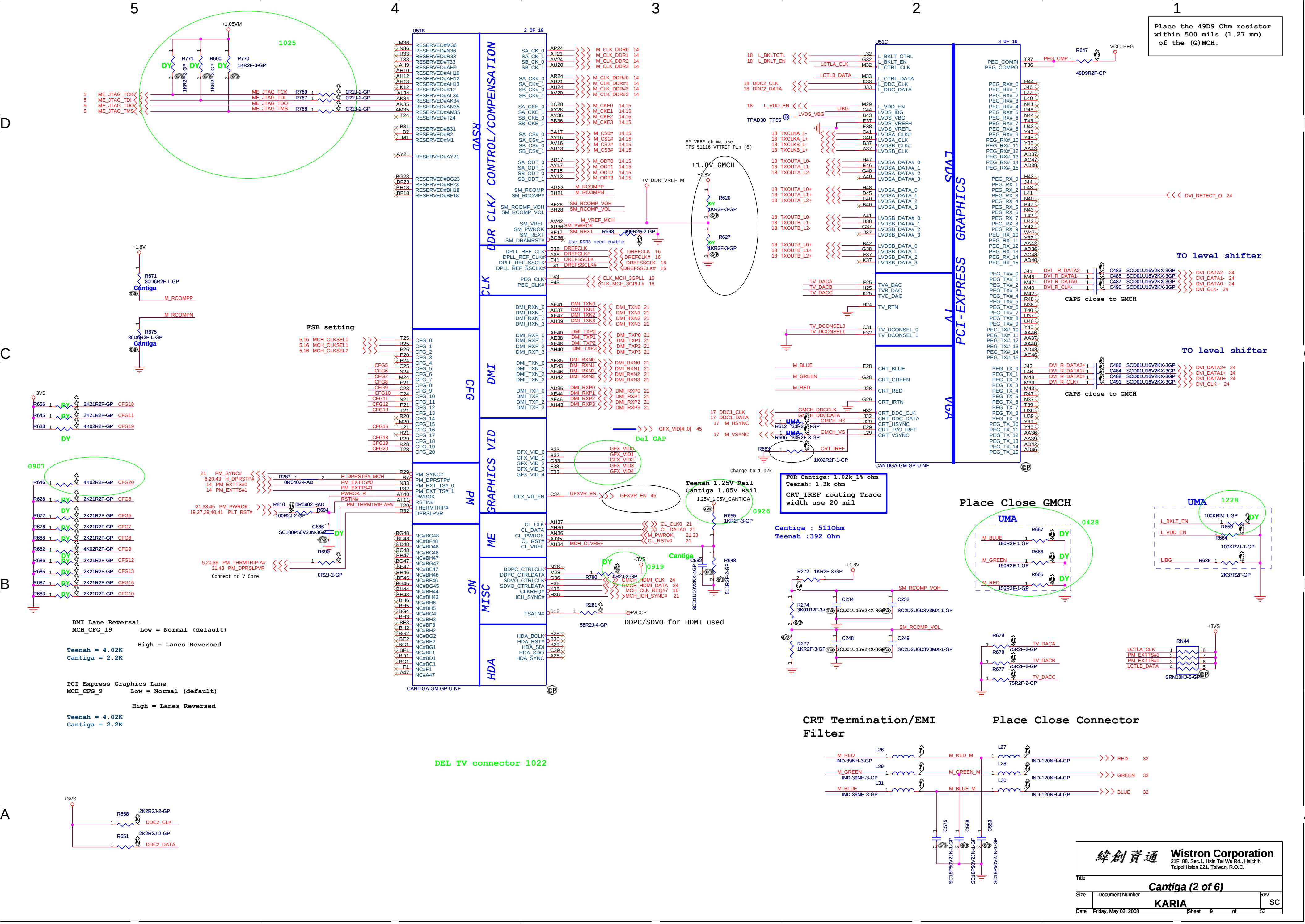

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Title	Cantiga (2 of 6)	
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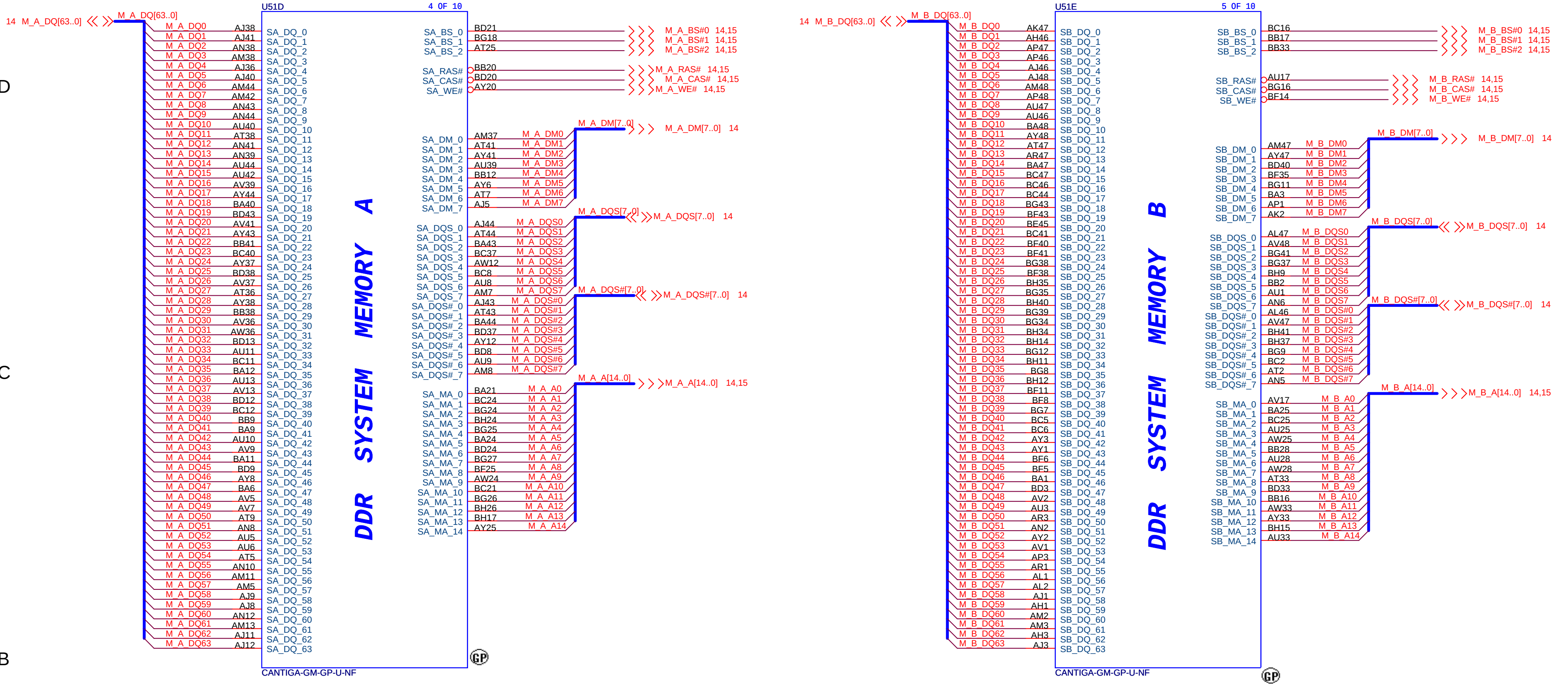

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Title	*Cantiga (3 of 6)*	
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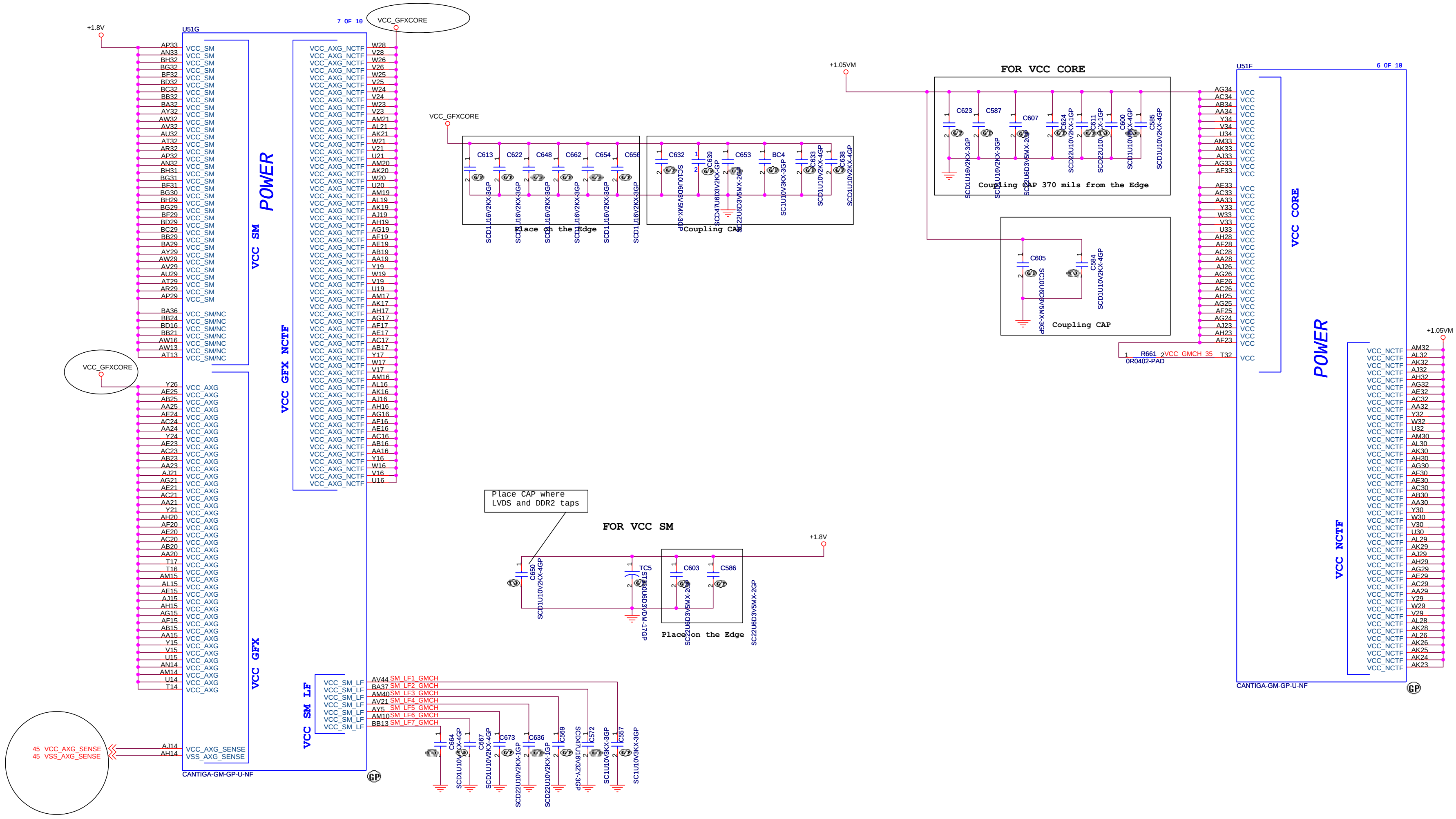

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Title	*Cantiga (4 of 6)*	
Size	Document Number KARIA	Rev SA
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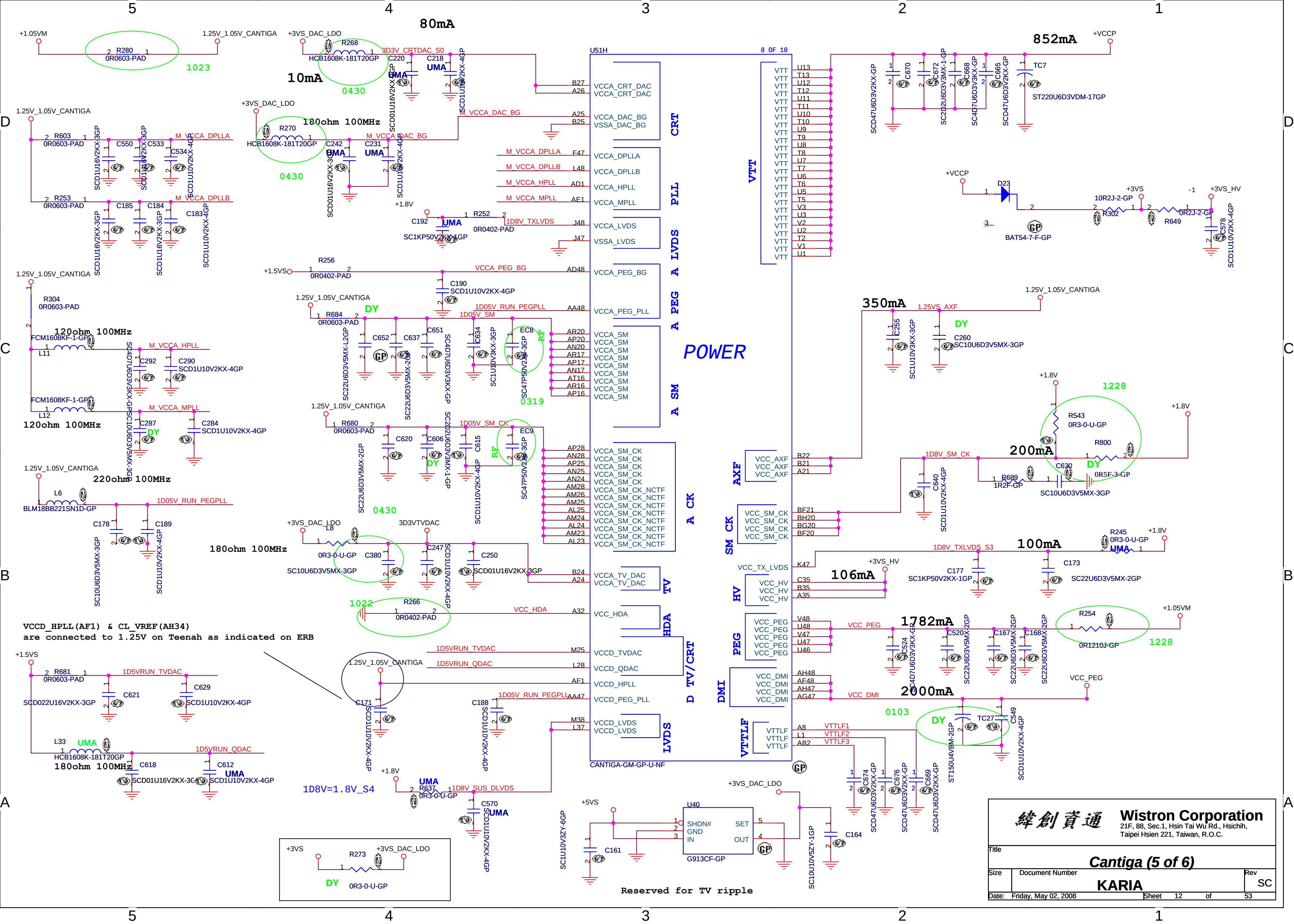

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Title	Cantiga (5 of 6)	
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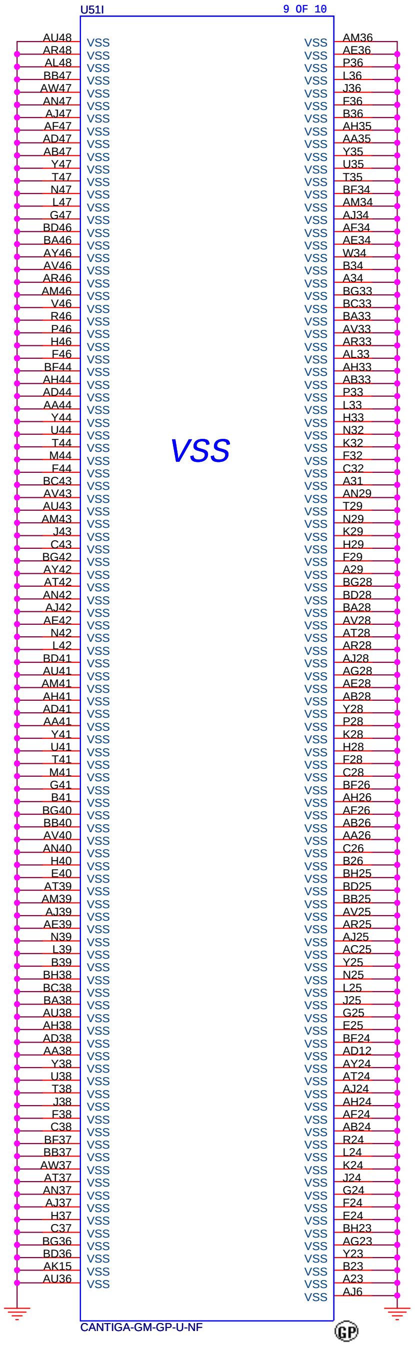

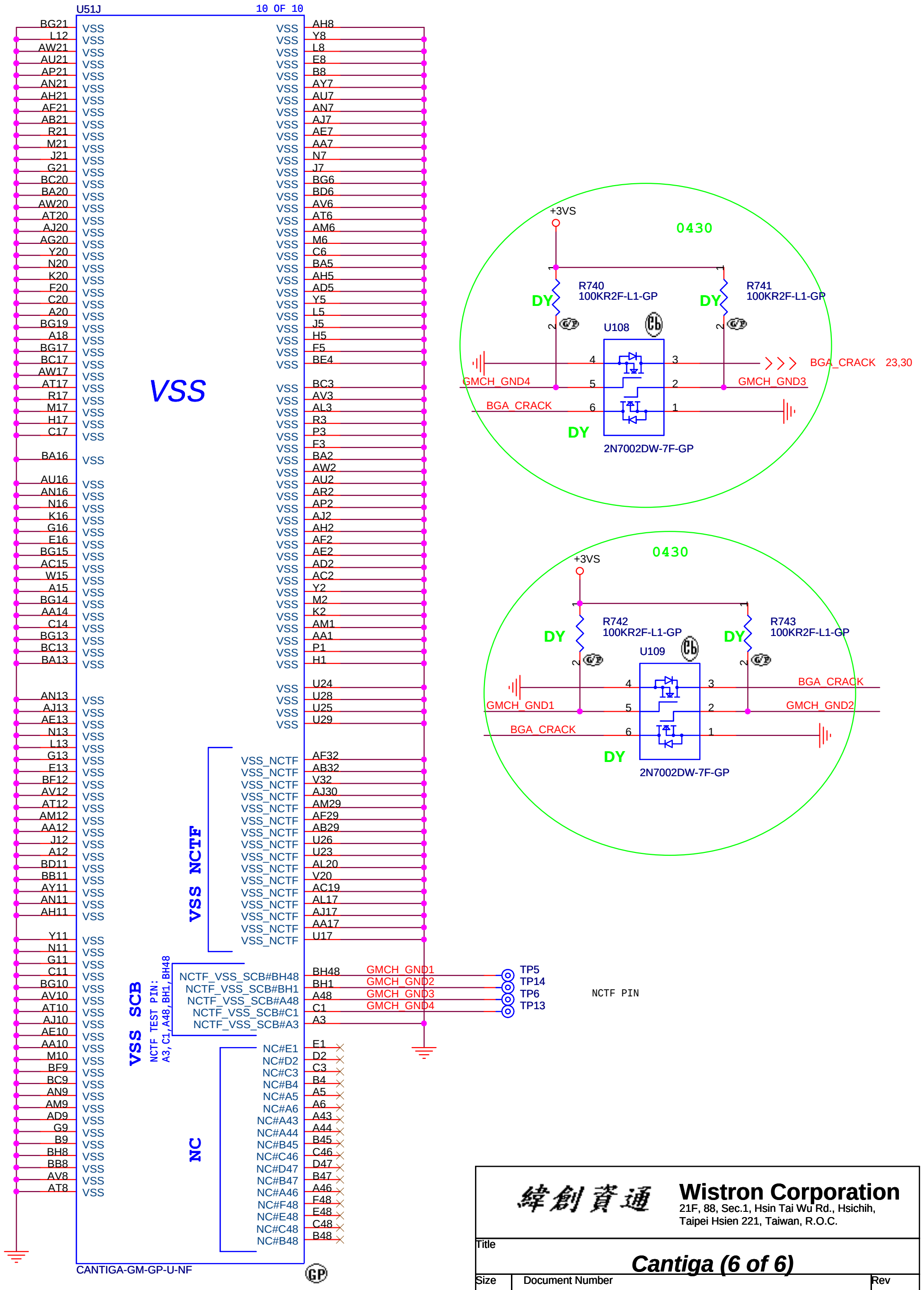

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Title	**Cantiga (6 of 6)**	
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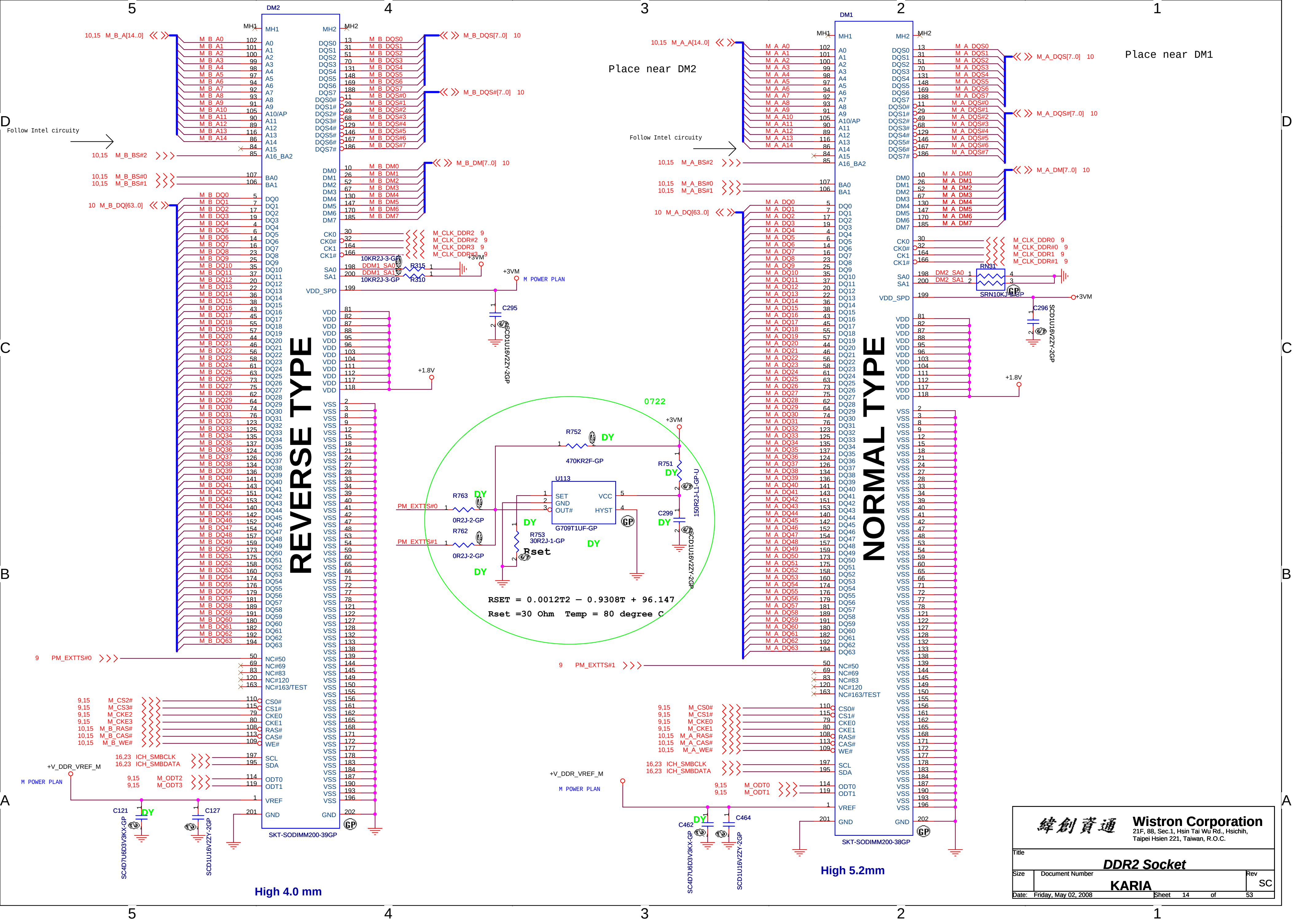

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Title
DDR2 Socket

Size
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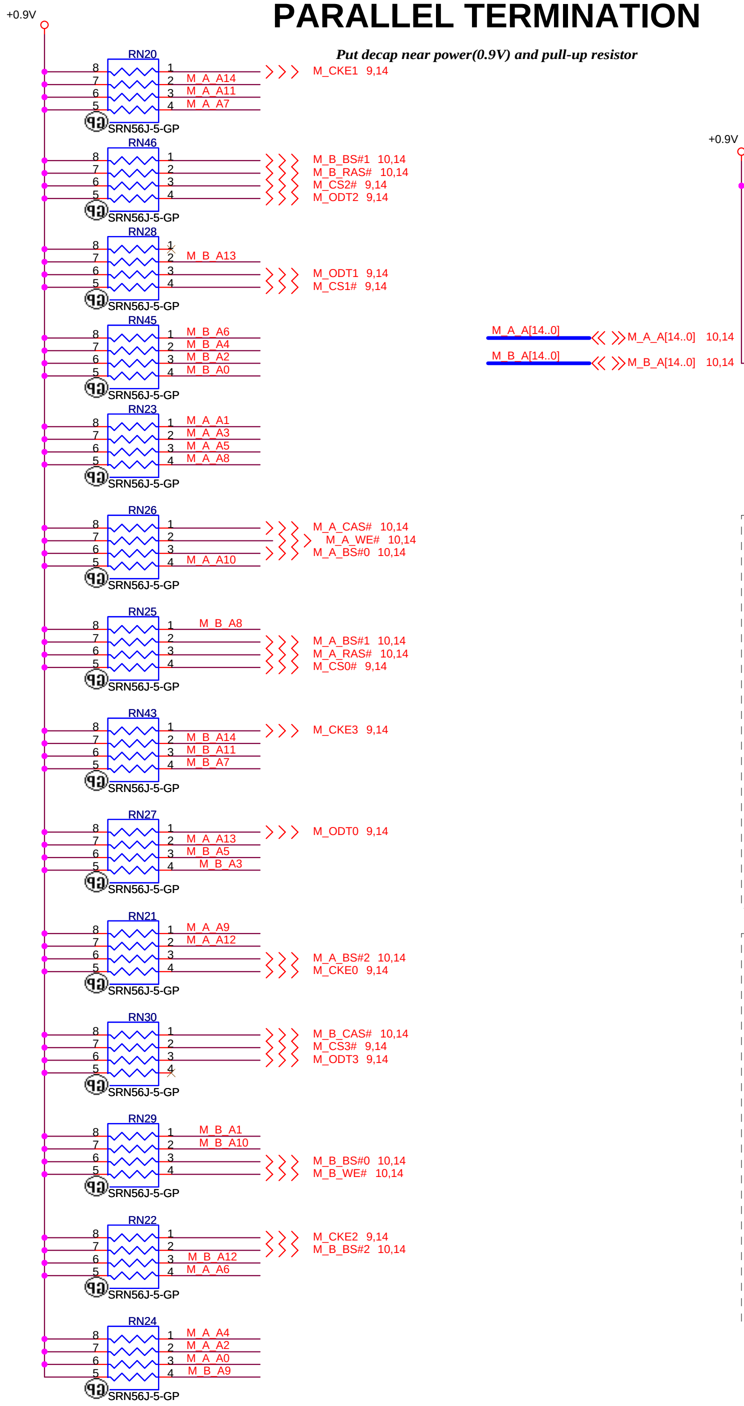
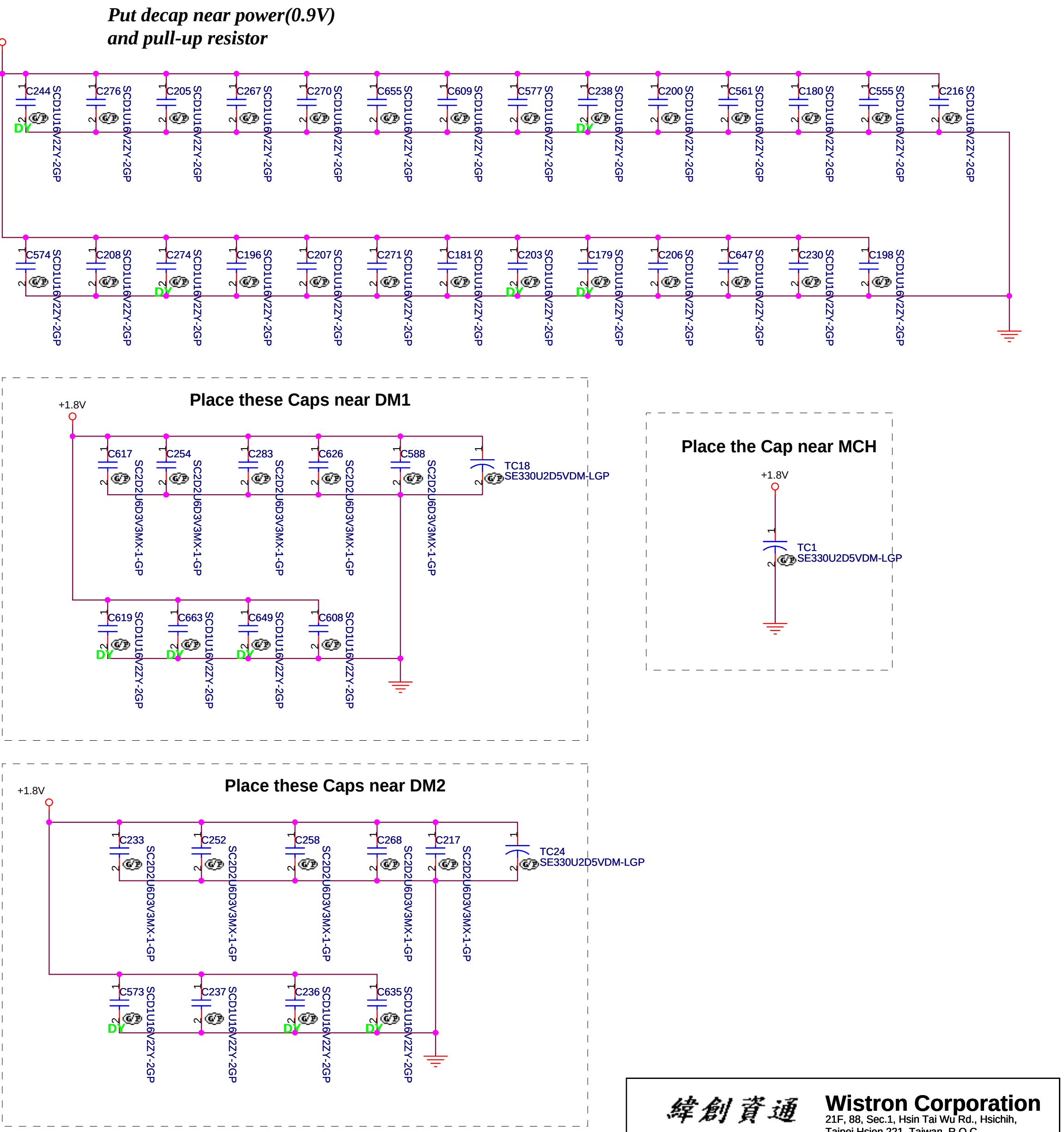
PARALLEL TERMINATION

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



Decoupling Capacitor

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



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Title	*DDR2 Termination Resistor*	
Size	Document Number KARIA	Rev SC
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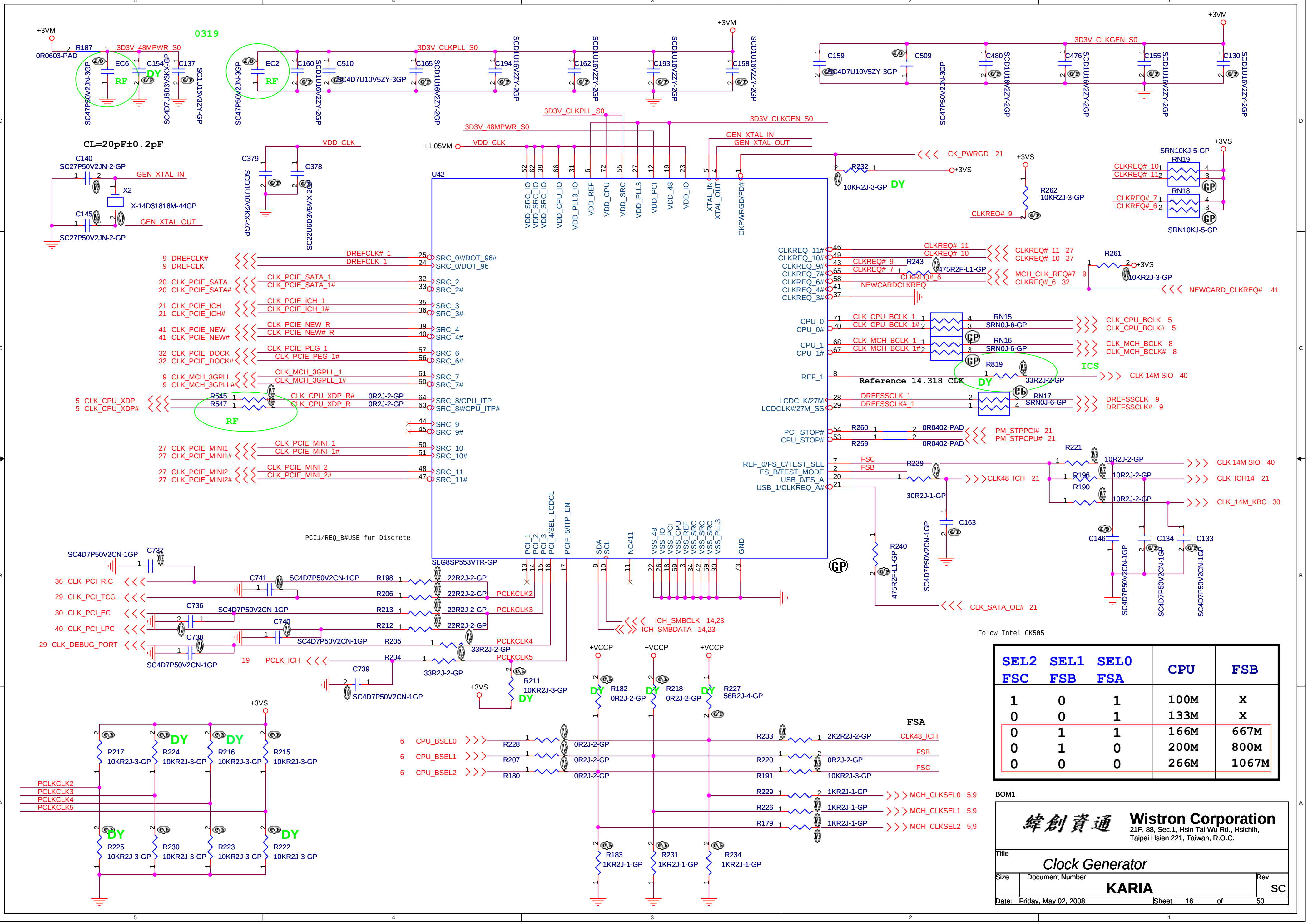

SEL2 FSC	SEL1 FSB	SEL0 FSA	CPU	FSB
1	0	1	100M	X
0	0	1	133M	X
0	1	1	166M	667M
0	1	0	200M	800M
0	0	0	266M	1067M

BOM1

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Title
Clock Generator

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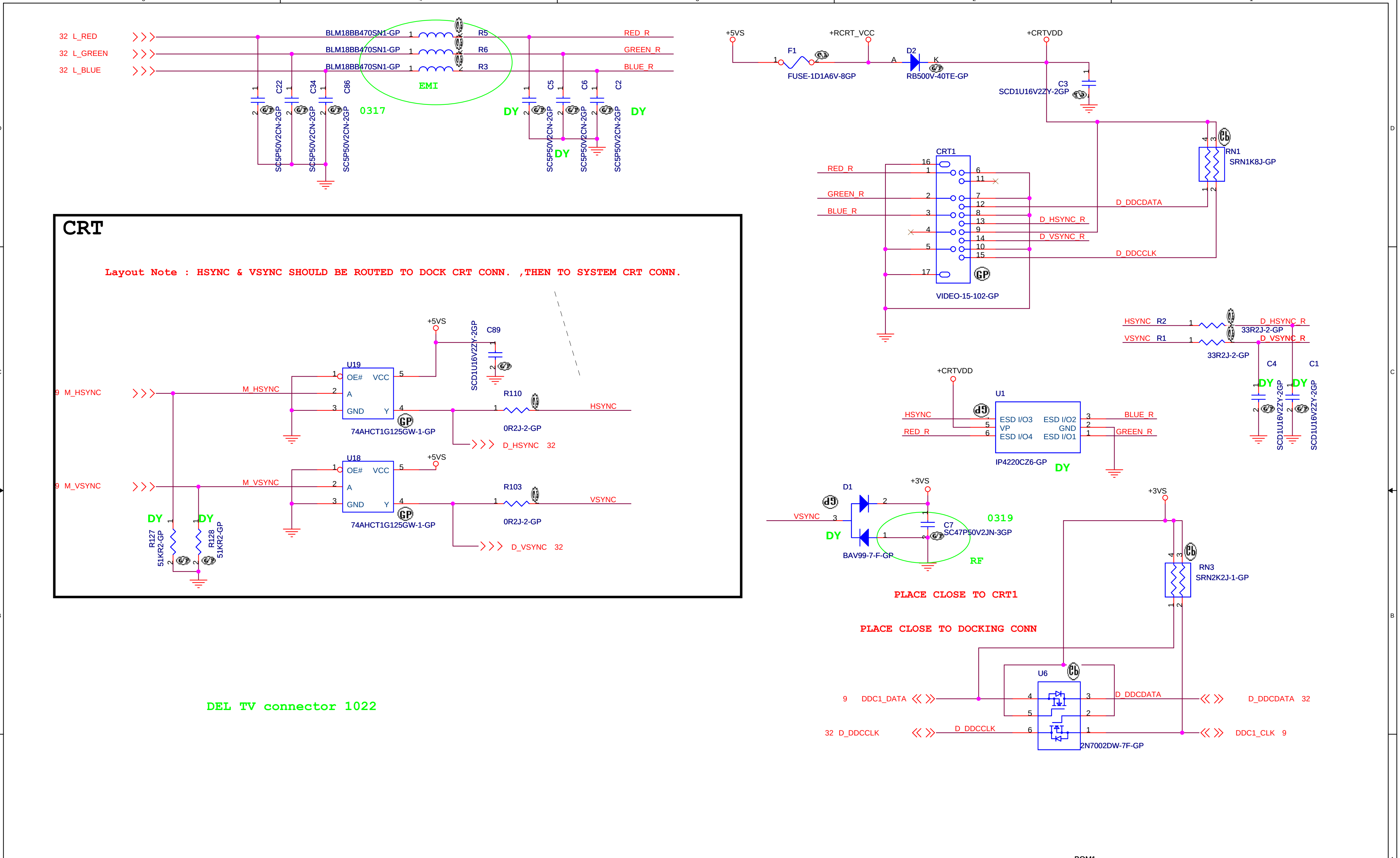

BOM1

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Title	CRT CONNECTOR	
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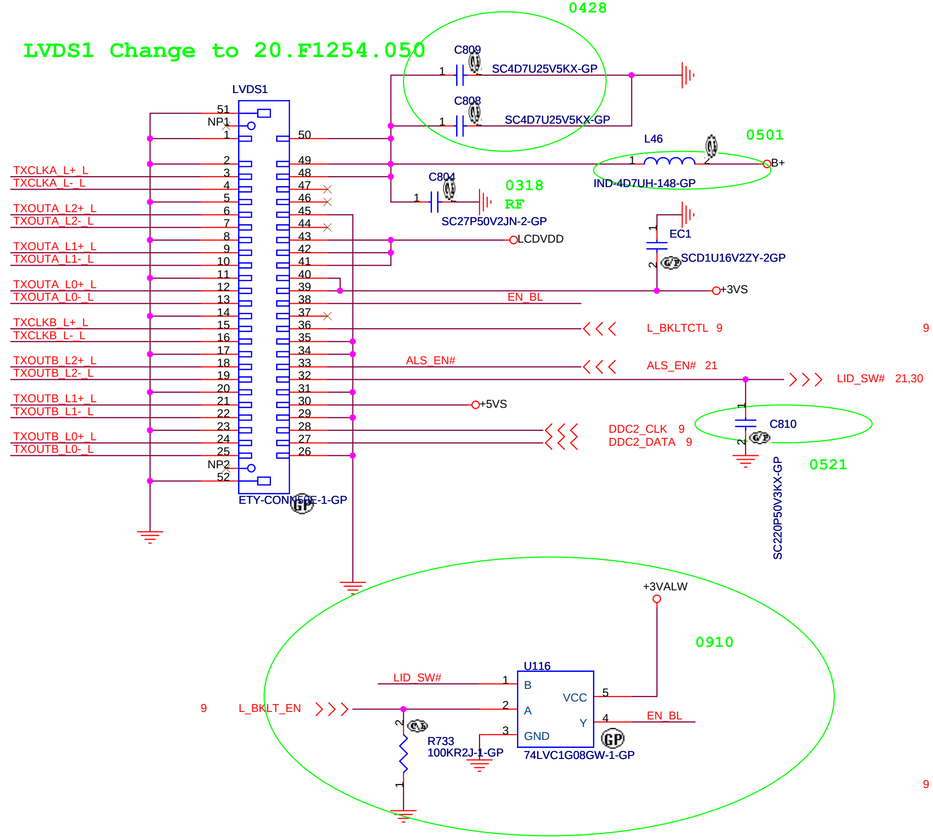
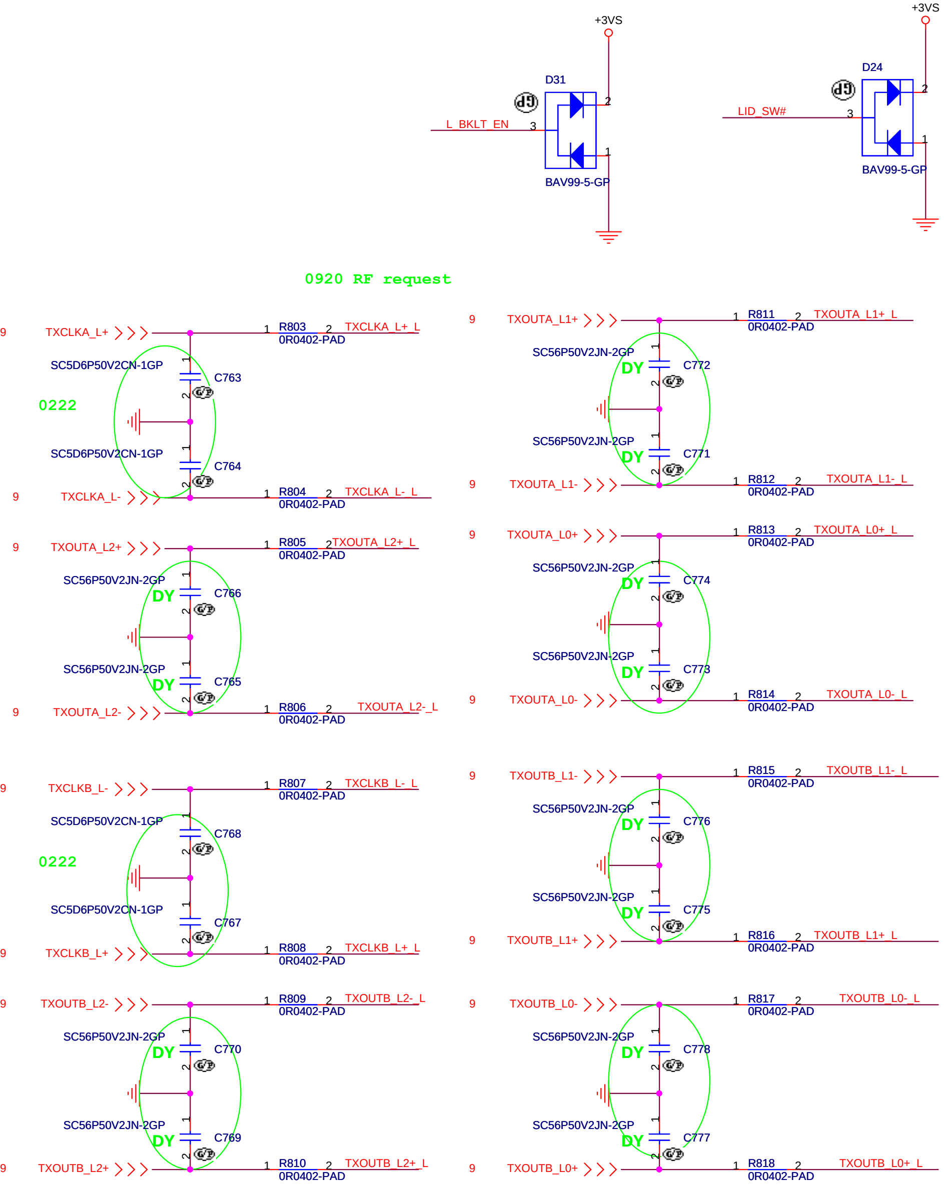
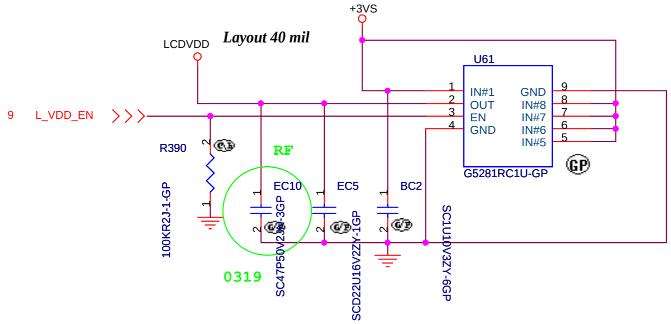
LVDS CONN





LCD POWER CIRCUIT



BOM1

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Title: LCD CONN.

Size: A3
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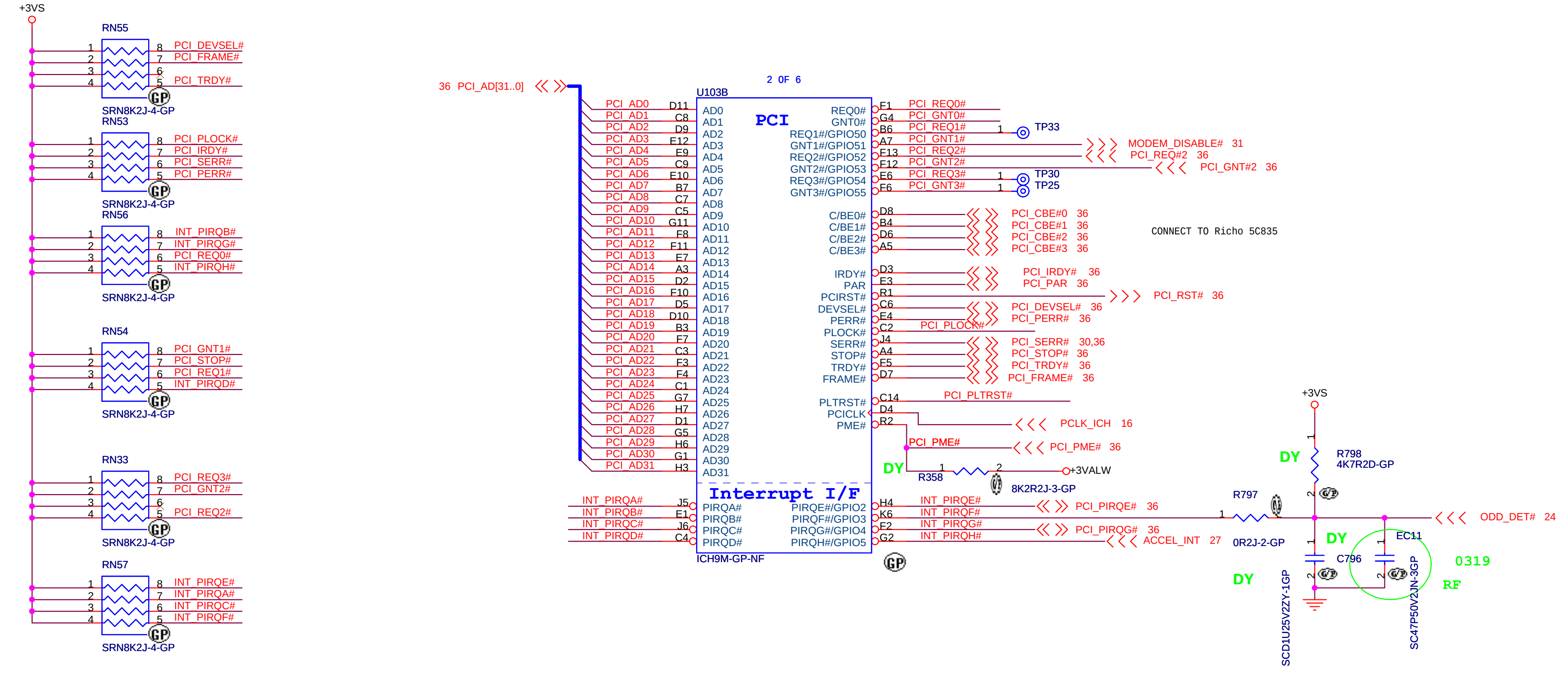

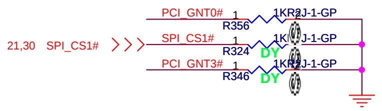

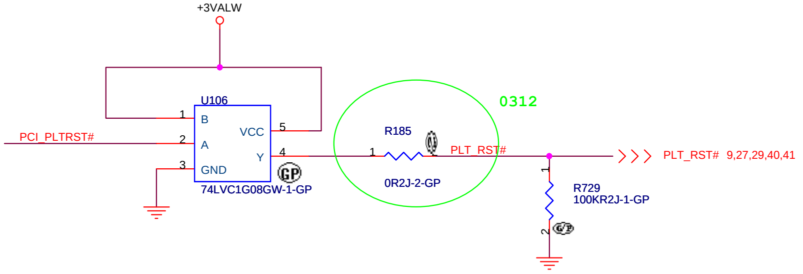

BOOT BIOS Strap

PCI_GNT#0	SPI_CS#1	BOOT BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC(Default)

A16 swap override strap

PCI_GNT#3	low = A16 swap override enable high = default

BOM1

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Title
ICH9-M (1 of 5)

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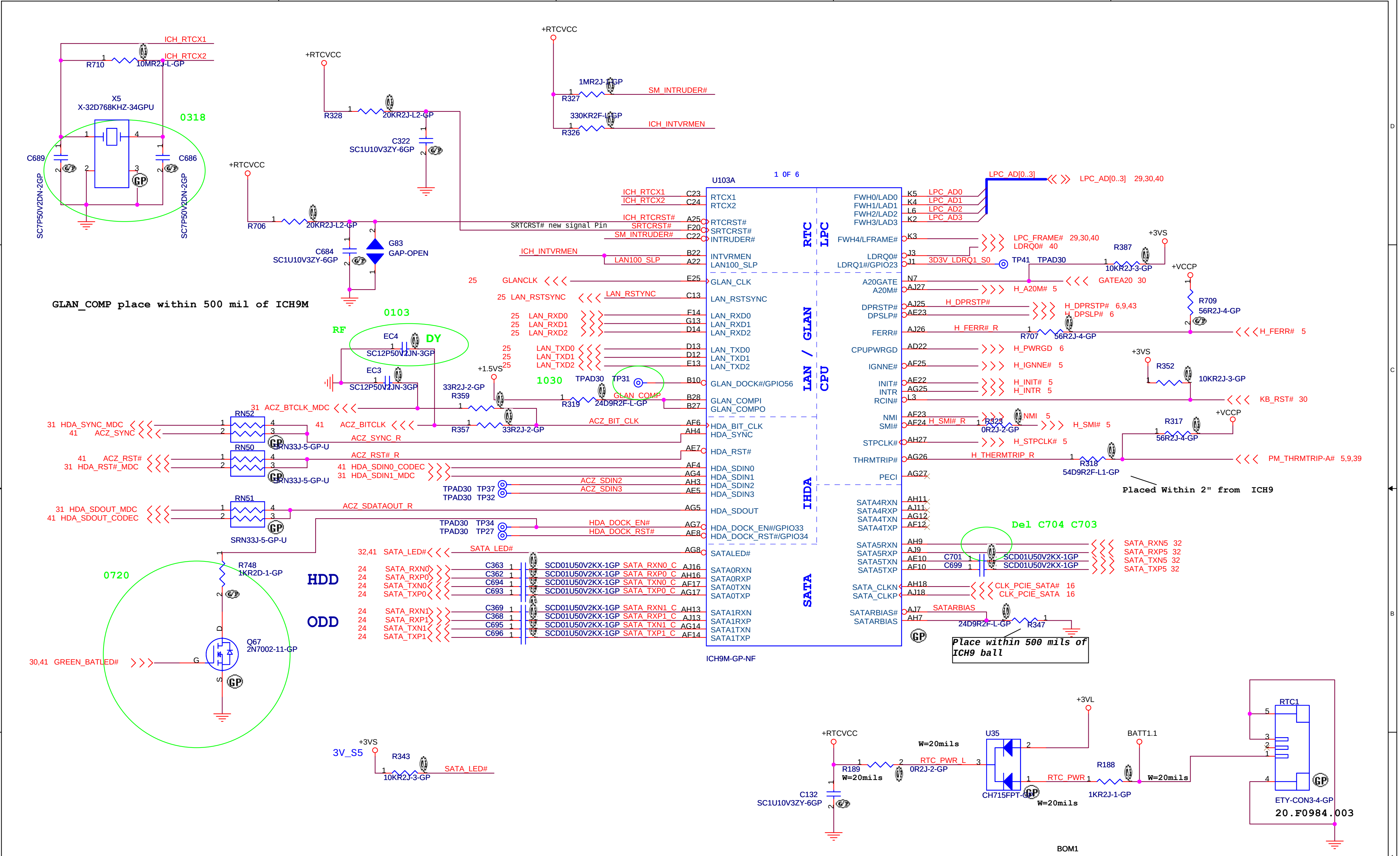

integrated VccSus1_05,VccSus1_5,VccCL1_5		
INTVRMEN	High=Enable	Low=Disable

integrated VccLan1_05VccCL1_05		
LAN100_SLP	High=Enable	Low=Disable

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Title
ICH9-M (2 of 5)

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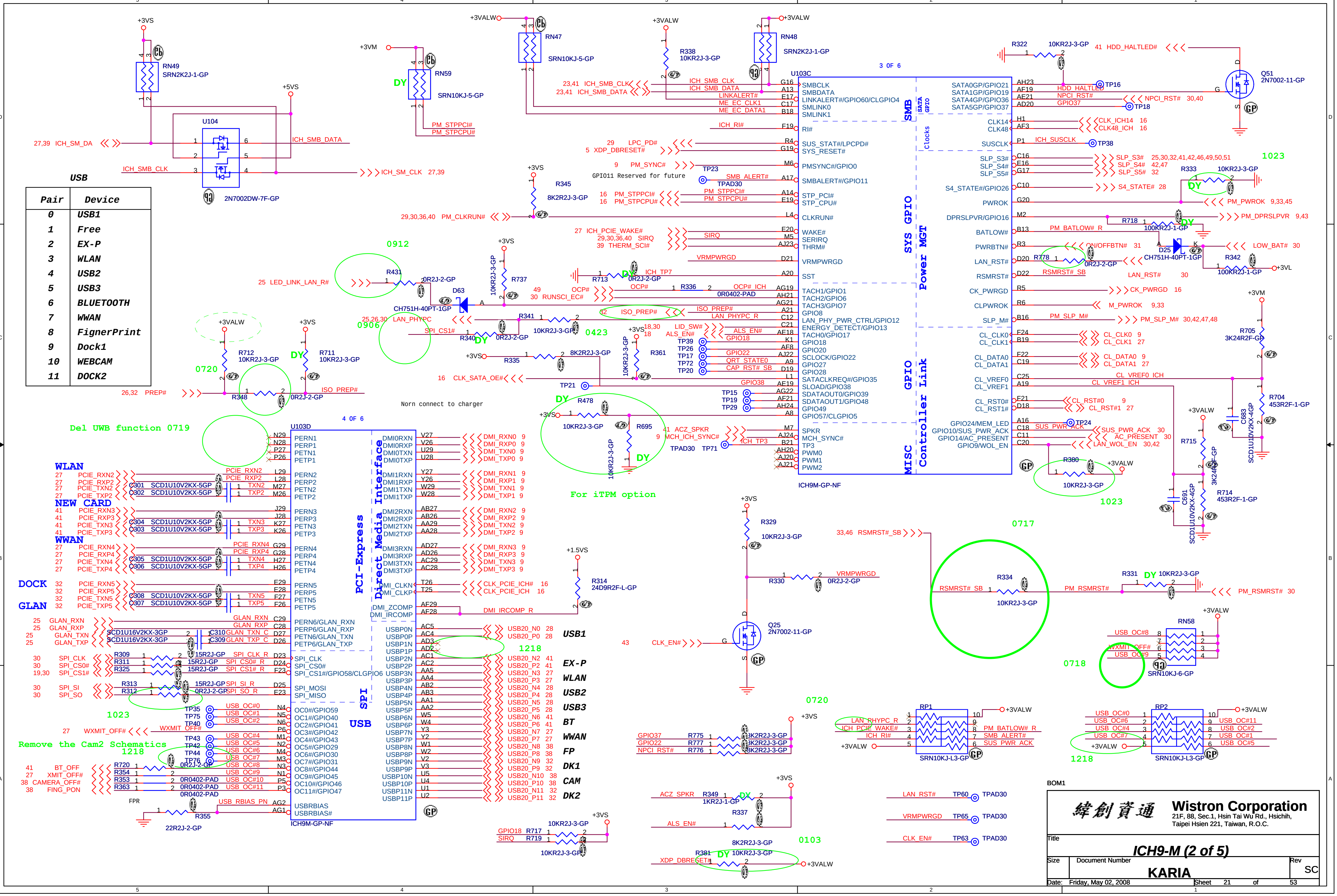

USB

Pair	Device
0	USB1
1	Free
2	EX-P
3	WLAN
4	USB2
5	USB3
6	BLUETOOTH
7	WWAN
8	FignerPrint
9	Dock1
10	WEBCAM
11	DOCK2

BOM1

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Title
ICH9-M (2 of 5)

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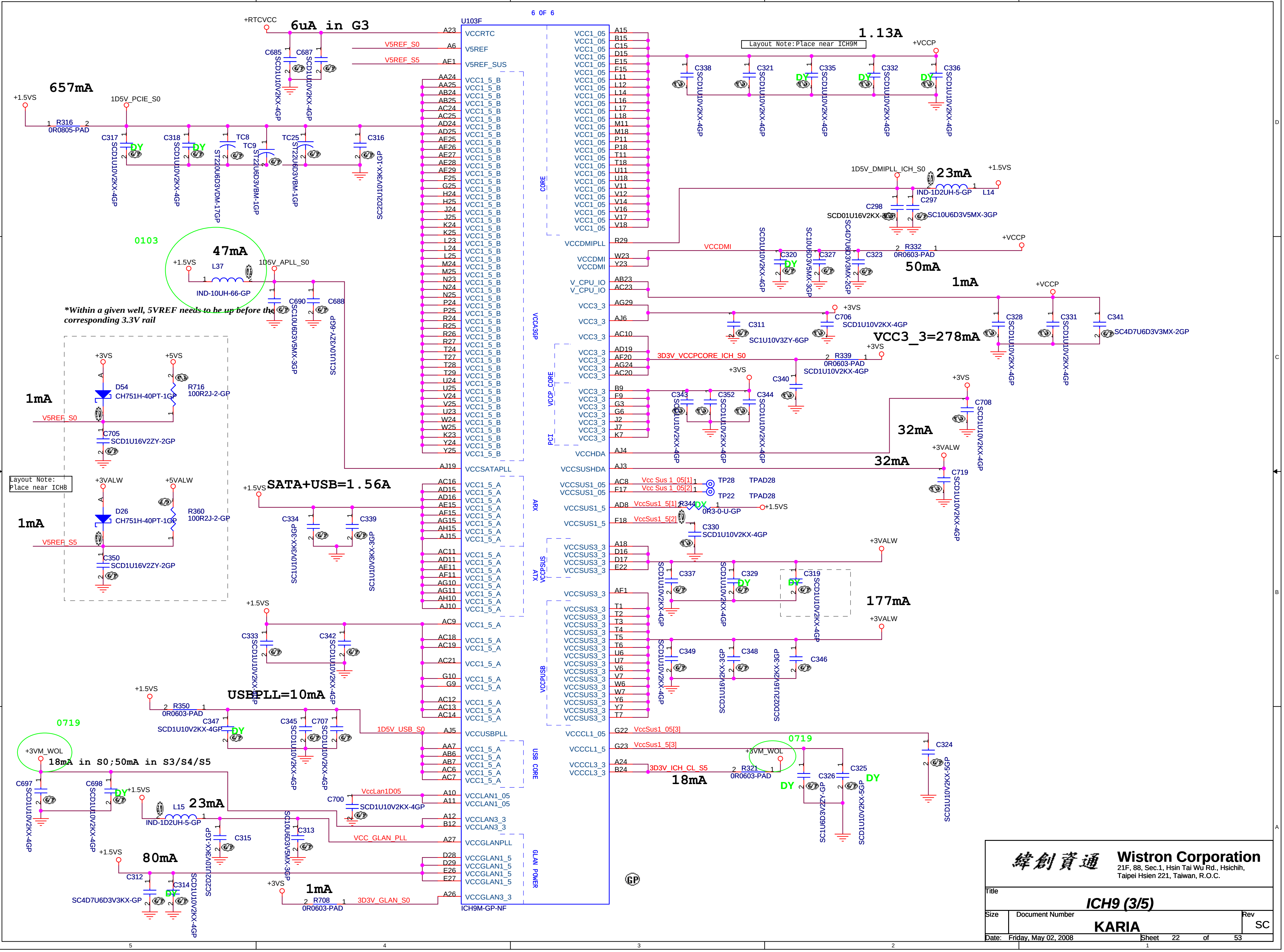

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Title	**ICH9 (3/5)**	
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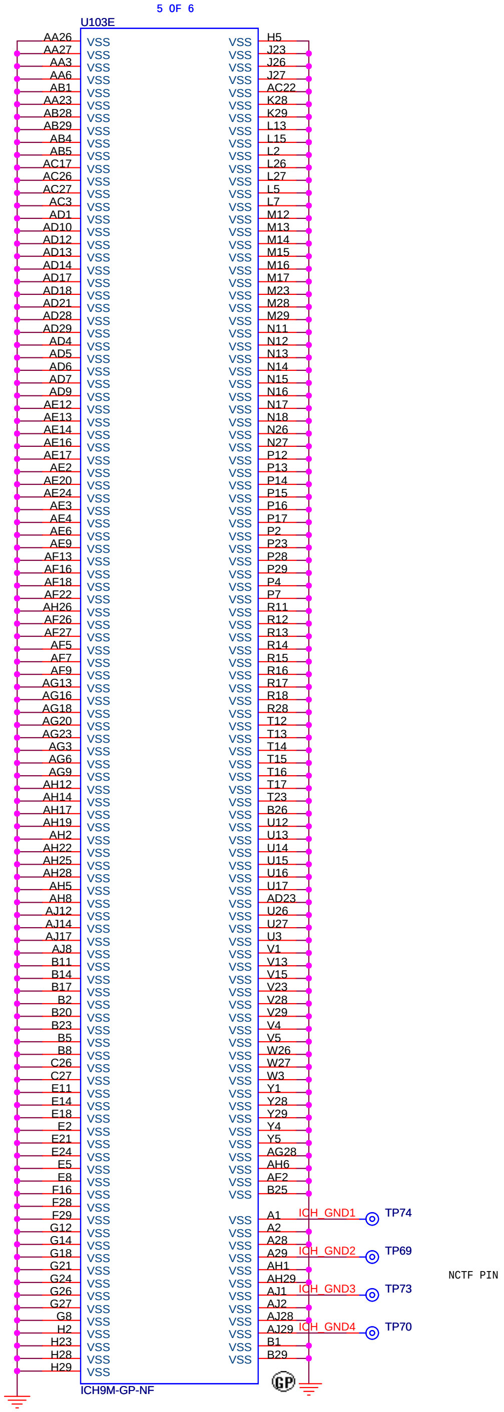
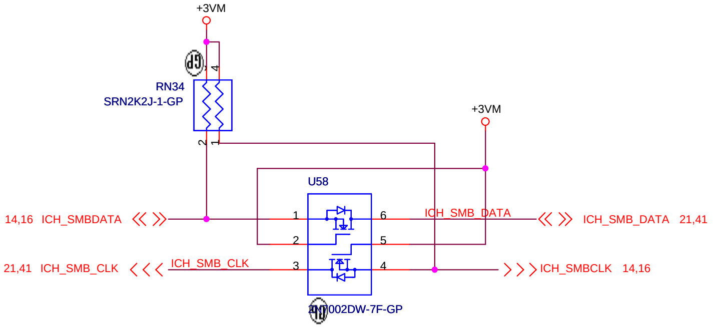
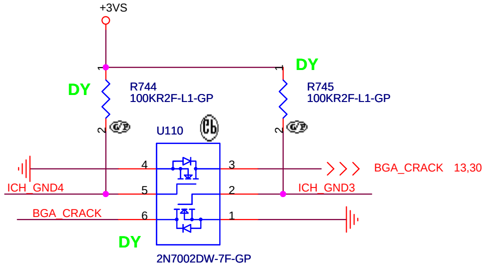
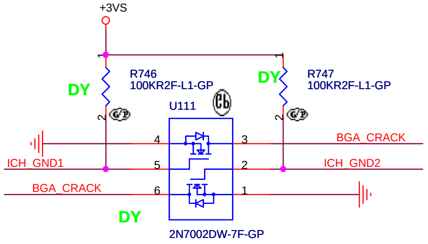




Q13 & Q14 connect SMLINK and SMBUS in S) for SMBus 2.0 compliance

SMBUS





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Title
ICH9-M (4 of 4)

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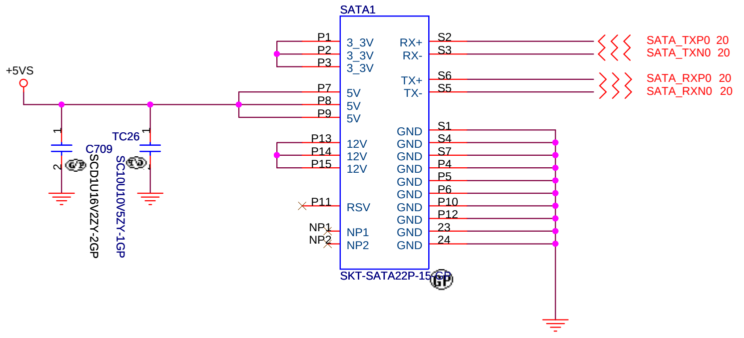
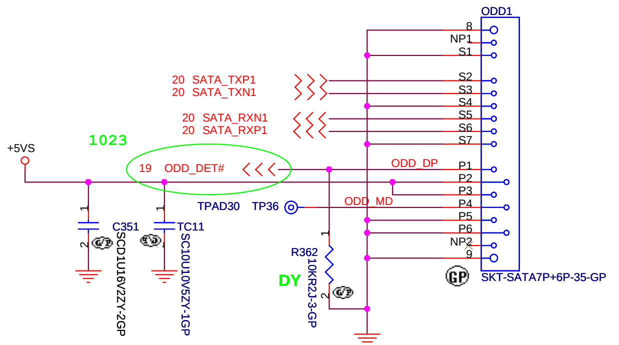
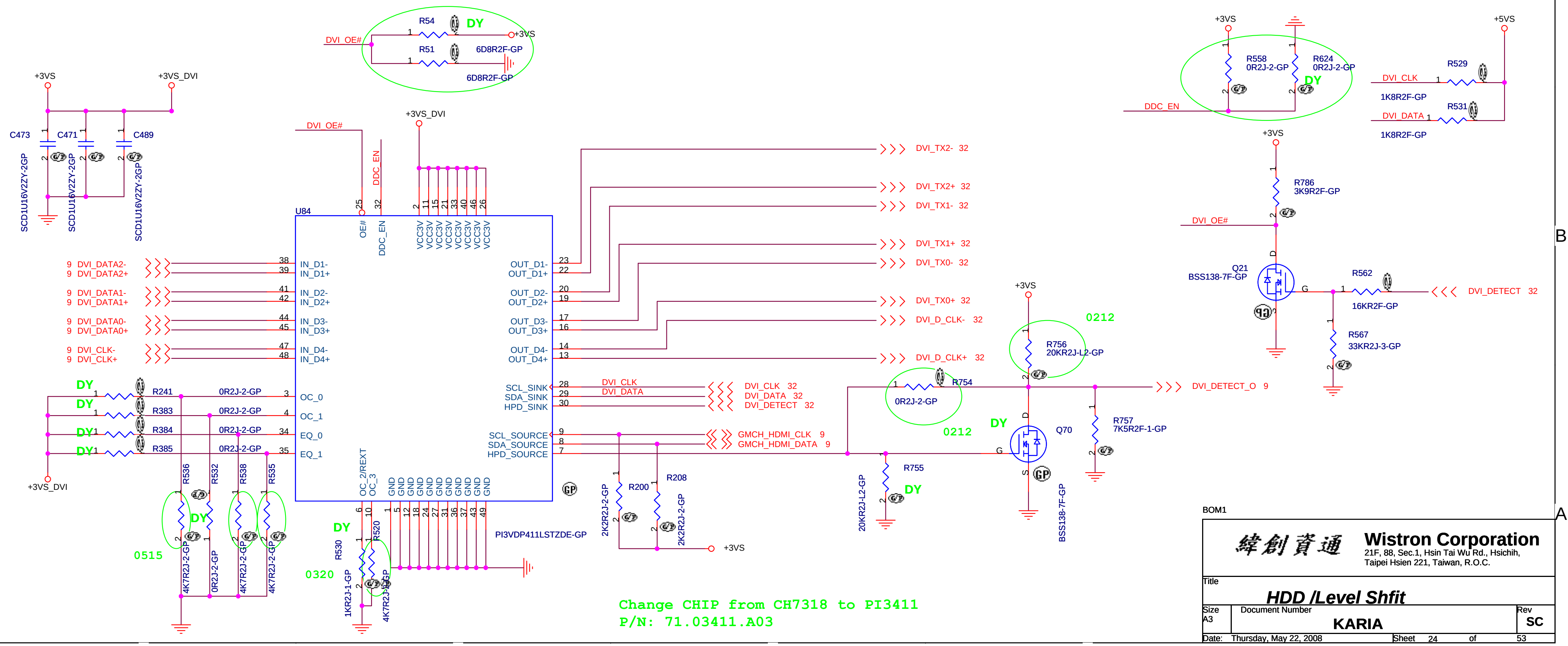
SATA HD Connector

ODD Connector

SATA1 Change to 22.10300.251







Change CHIP from CH7318 to PI3411
P/N: 71.03411.A03

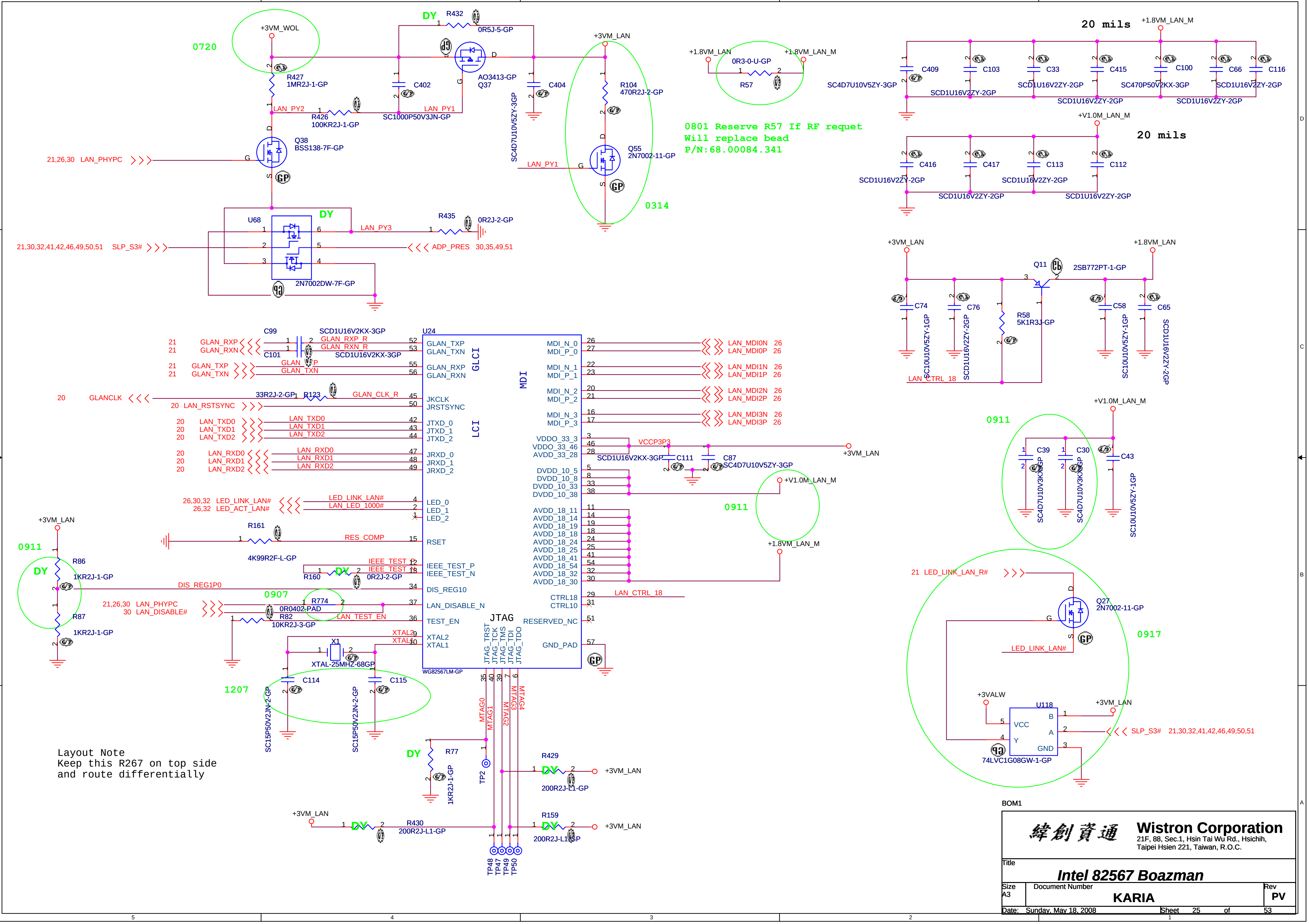
BOM1

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

Title
HDD /Level Shfit

Size A3
Document Number **KARIA**
Rev **SC**

Date: Thursday, May 22, 2008
Sheet 24 of 53



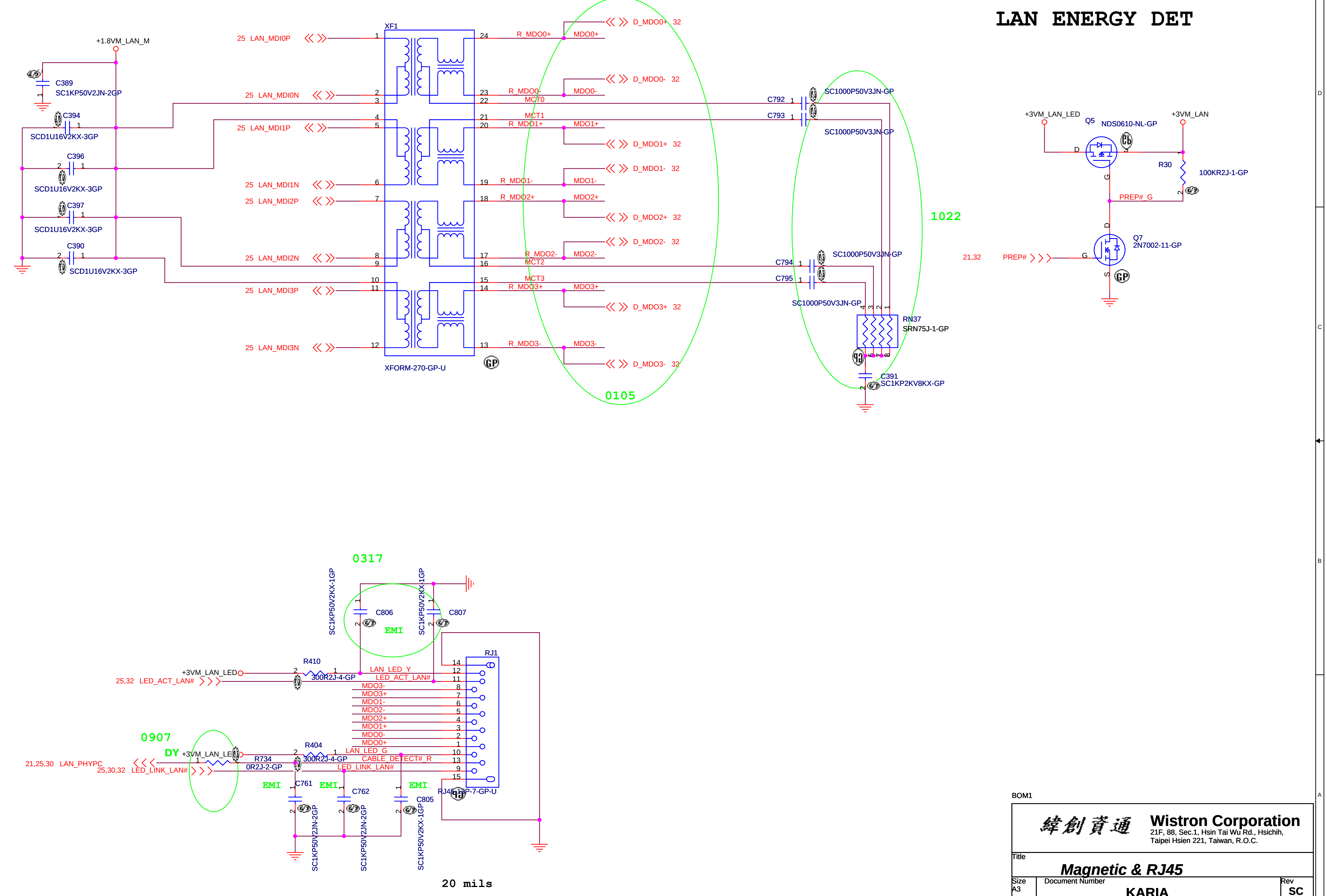
Layout Note
Keep this R267 on top side
and route differentially

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

Title	Intel 82567 Boazman	
Size A3	Document Number KARIA	Rev PV
Date: Sunday, May 18, 2008	Sheet 25 of 53	

Note : MDO[3..0]+- signals should route to RJ45 first then to DOCK CONN .

LAN ENERGY DET



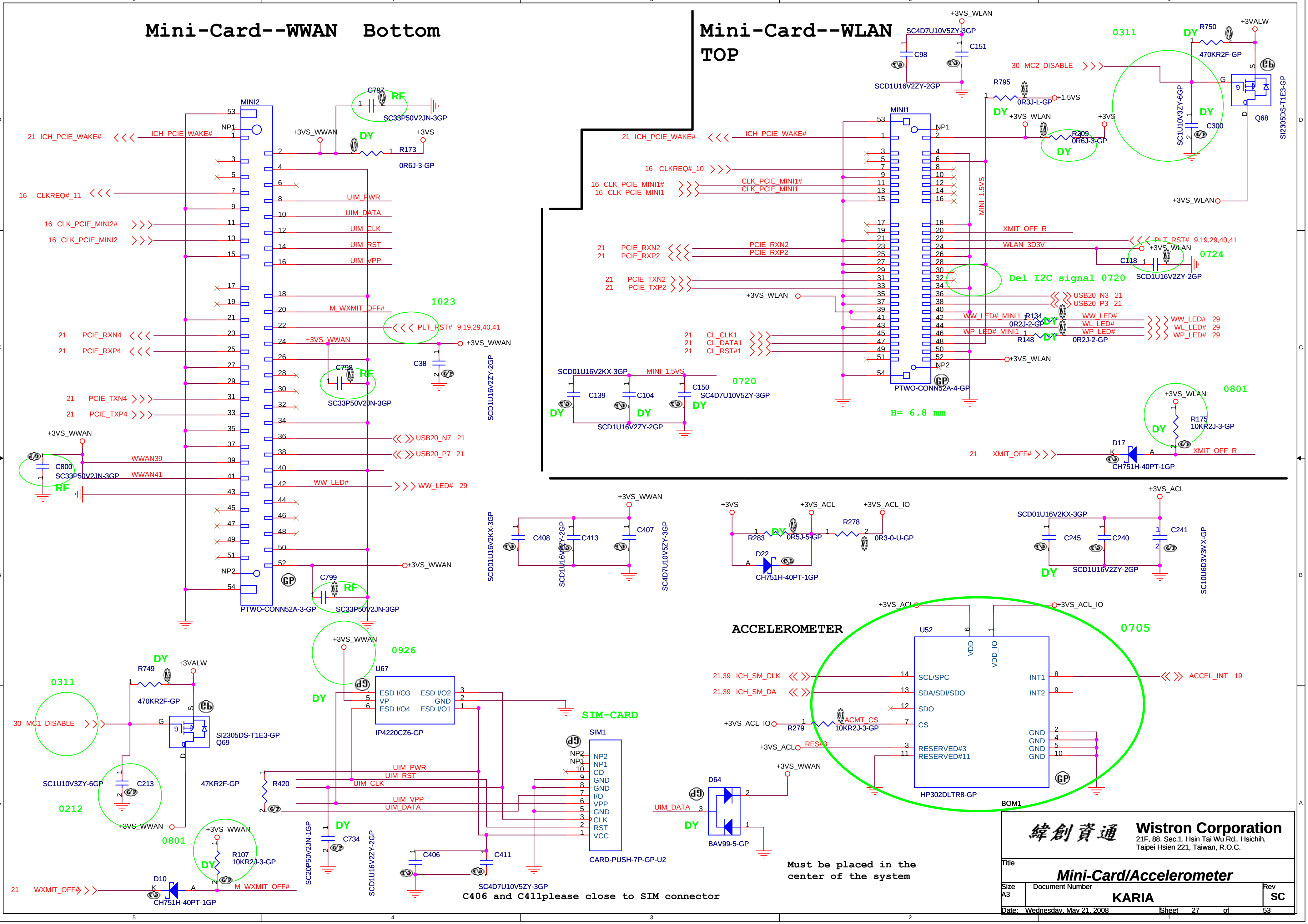
BOM1

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

Title	*Magnetic & RJ45*	
Size A3	Document Number KARIA	Rev SC
Date: Friday, May 02, 2008	Sheet 26 of 53	

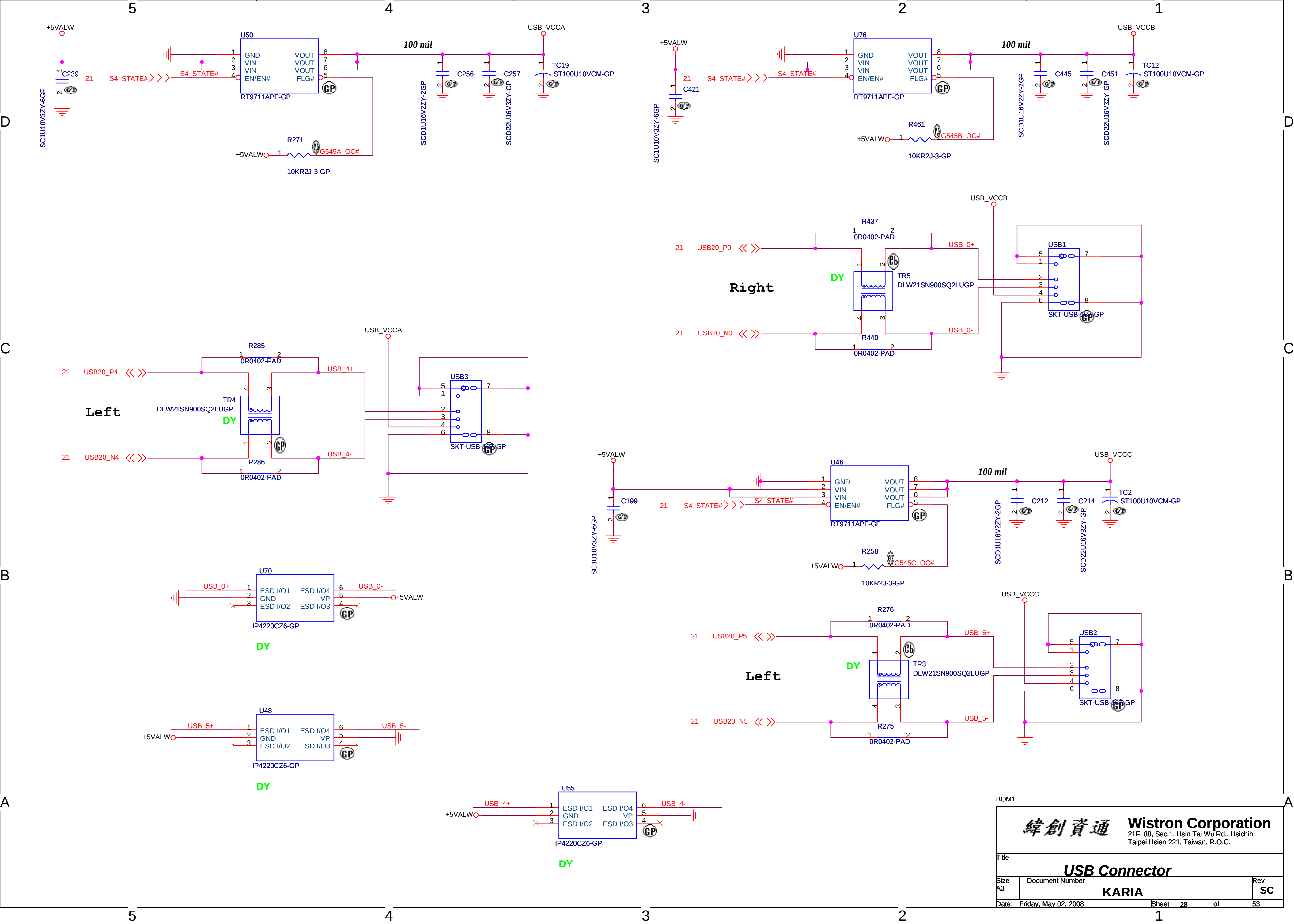
Mini-Card--WWAN Bottom

Mini-Card--WLAN TOP



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/Accelerometer	
Size A3	Document Number KARIA	Rev SC
Date: Wednesday, May 21, 2008	Sheet 27 of 53	

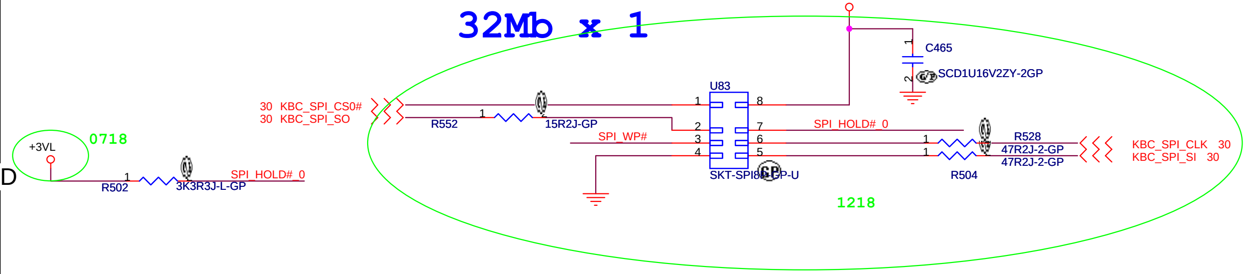


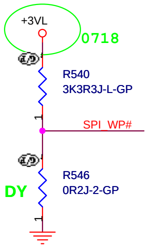
BOM1

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

Title	***USB Connector***	
Size A3	Document Number **KARIA**	Rev **SC**
Date: Friday, May 02, 2008	Sheet 28 of 53	

32Mb x 1

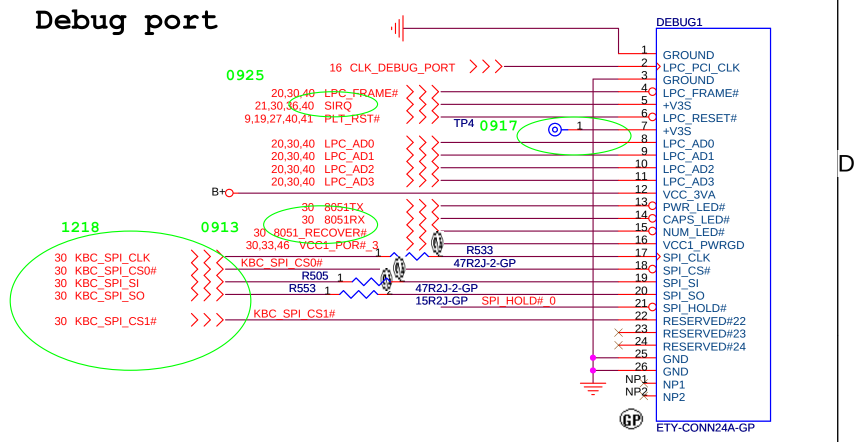




62.10076.011 & 62.10089.001
is SPI Socket part number

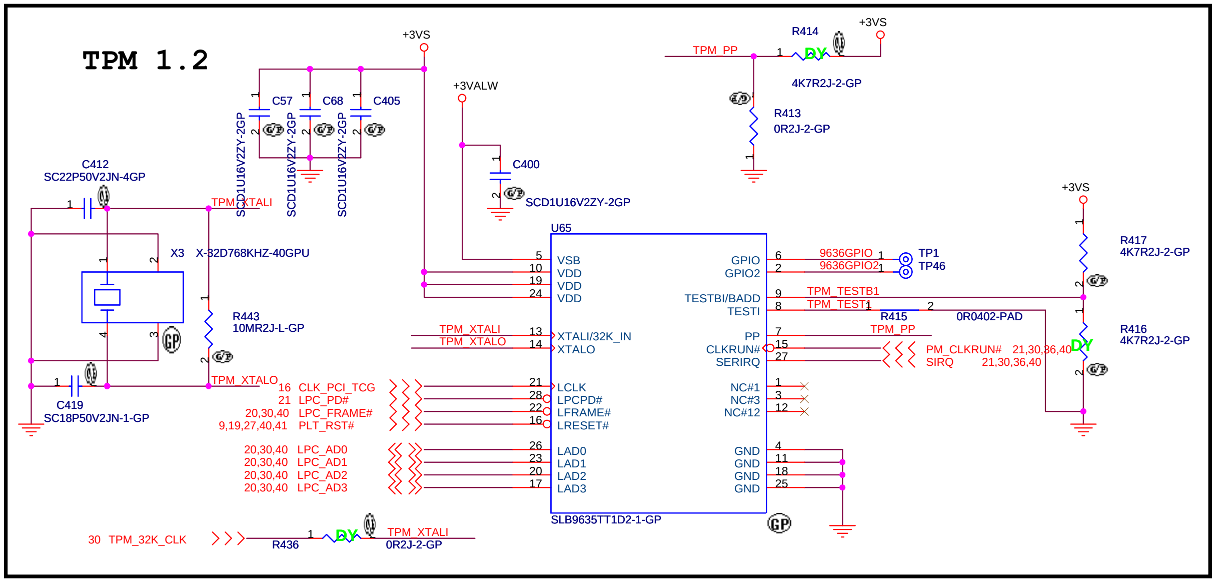
32M SPI
> 72.25325.A01 MXIC MX25L3205D
32M SPI
> 72.26321.A01 IC FEROM AT26DF321-SU, by Atmel

Debug port

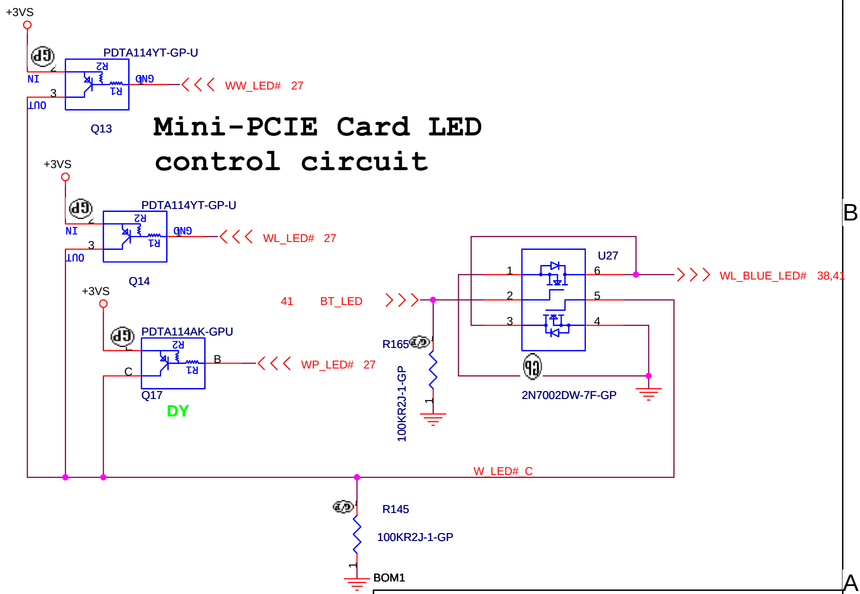


Keep traces of SPI as short as possible and keep trace spacing close to 7mils to any other signal (basically follow specs).

TPM 1.2

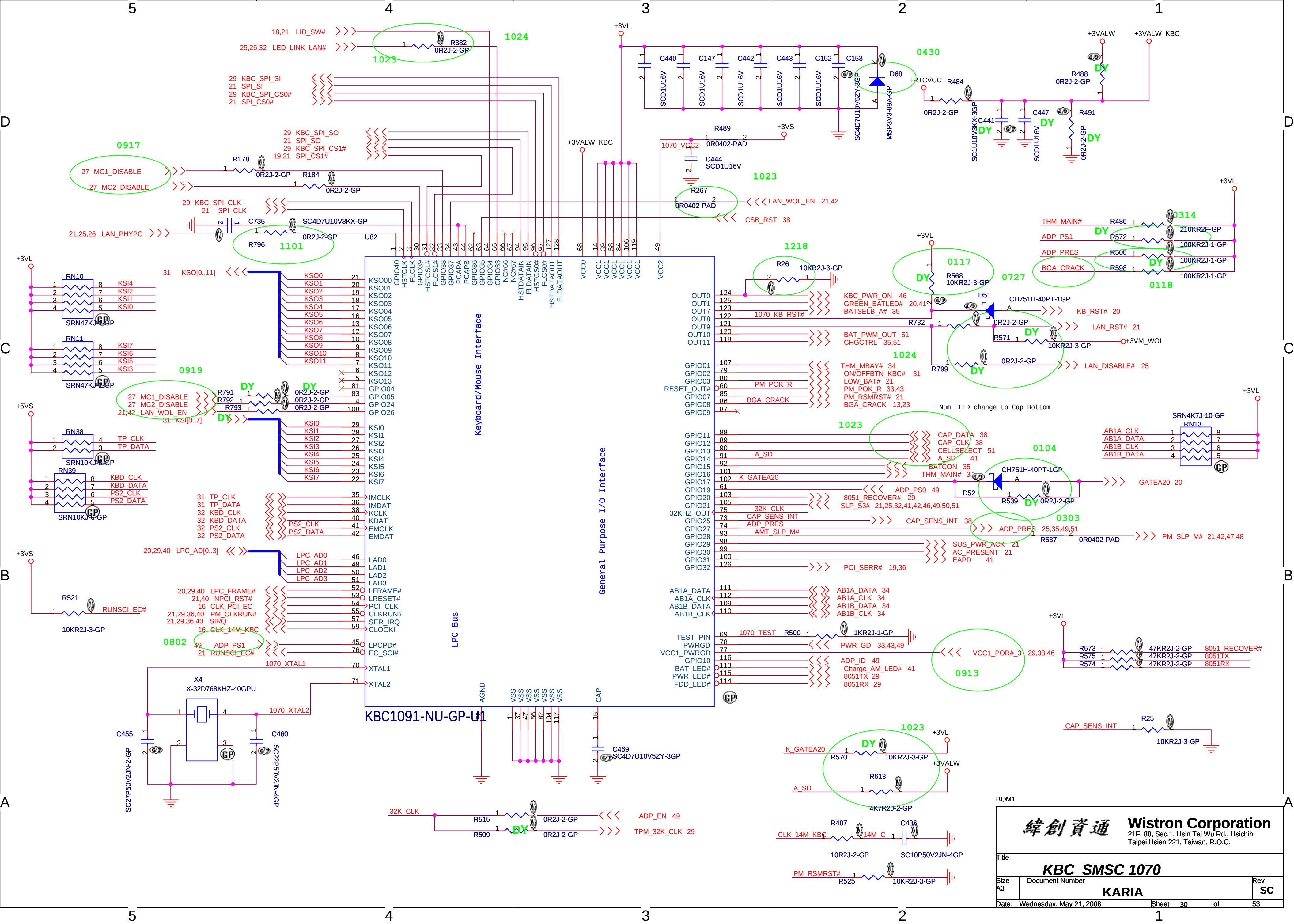


Mini-PCIE Card LED control circuit



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

Title		
TPM/BIOS/24 DEBUG PORT		
Size A3	Document Number KARIA	Rev SC
Date: Thursday, May 15, 2008	Sheet 29 of 53	



BOM1

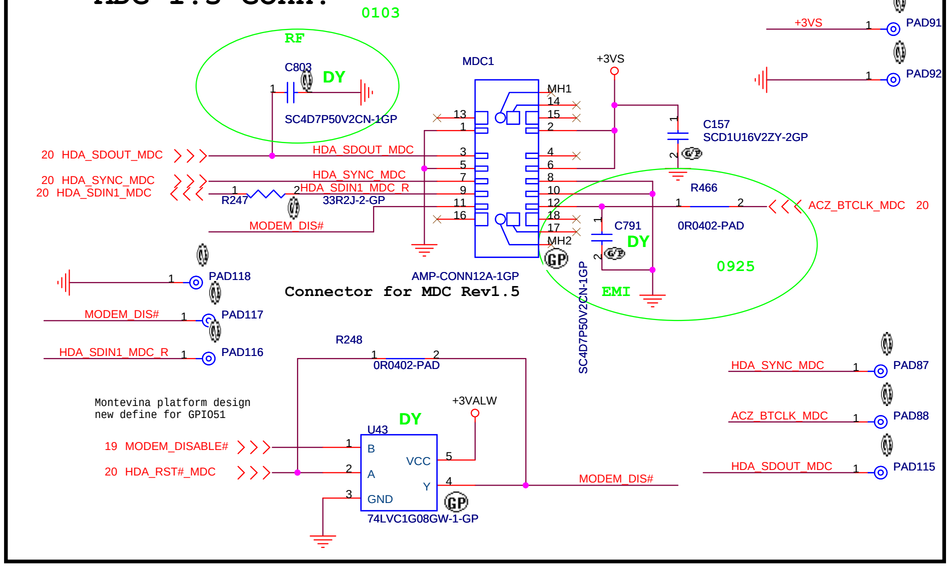
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title
KBC_SMSC 1070

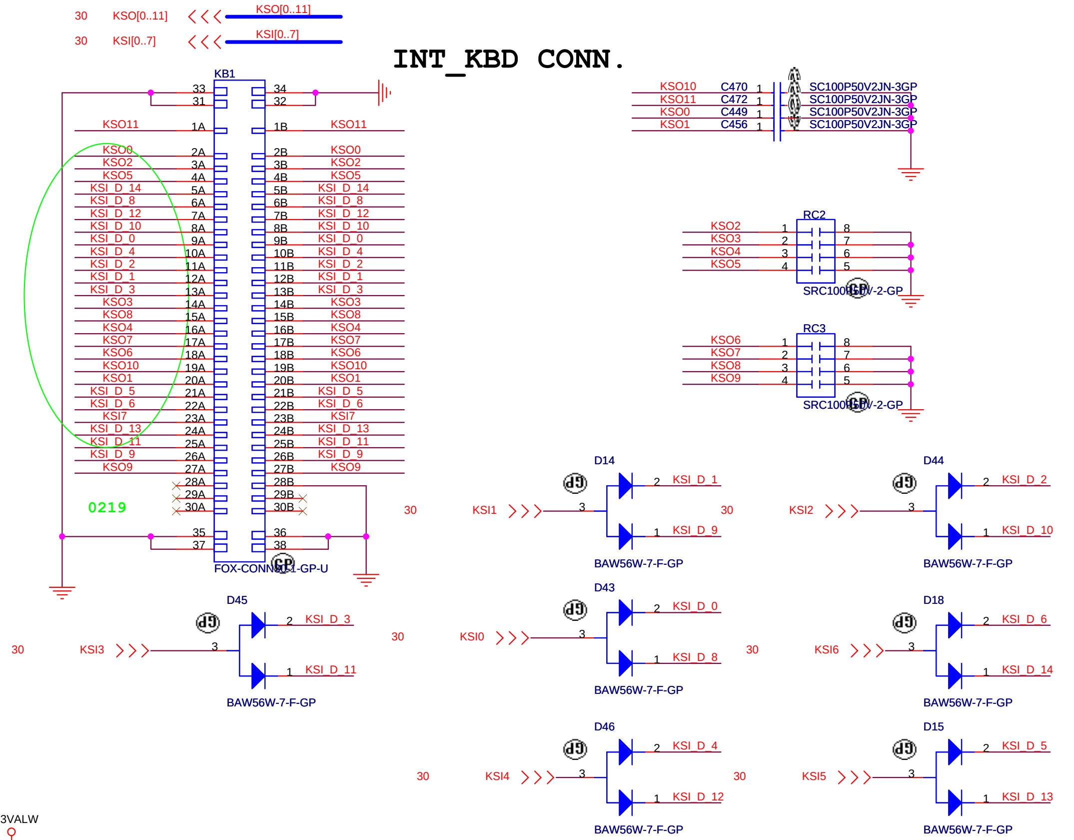
Size	Document Number	Rev
A3	KARIA	SC

Date: Wednesday, May 21, 2008 Sheet 30 of 53

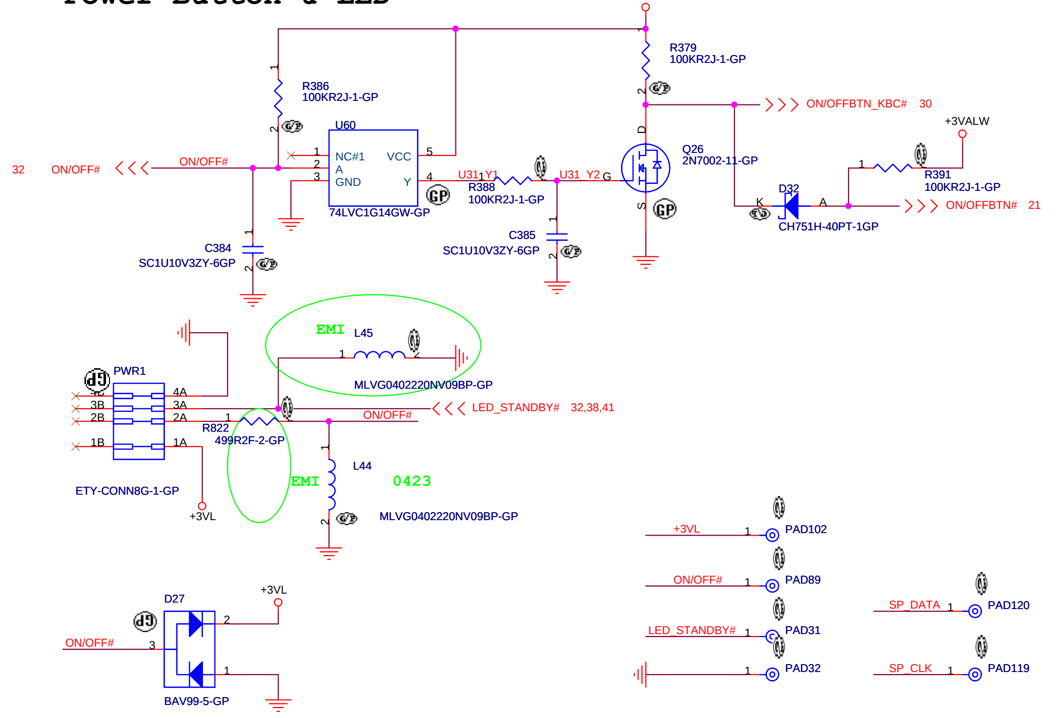
MDC 1.5 Conn.



INT_KBD CONN.

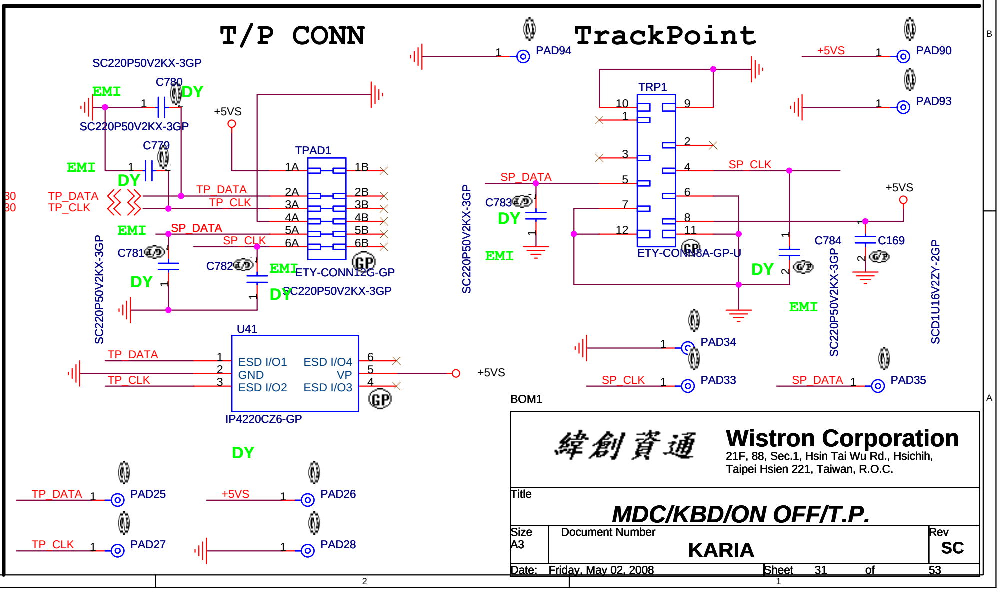


Power Button & LED



T/P CONN

TrackPoint



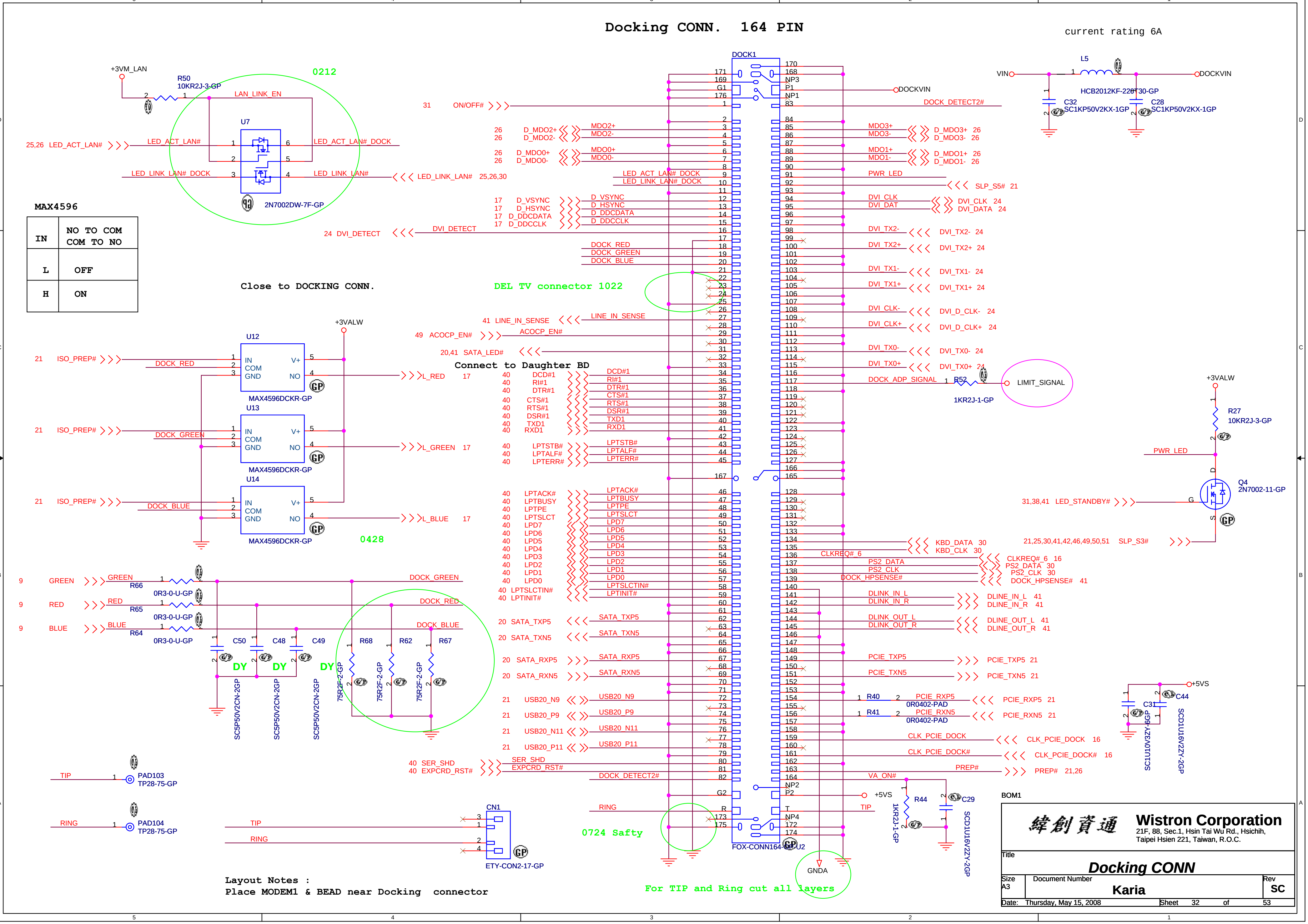
BOM1

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

Title		
MDC/KBD/ON OFF/T.P.		
Size A3	Document Number KARIA	Rev SC
Date: Friday, May 02, 2008	Sheet 31 of 53	

Docking CONN. 164 PIN

current rating 6A



MAX4596

IN	NO TO COM COM TO NO
L	OFF
H	ON

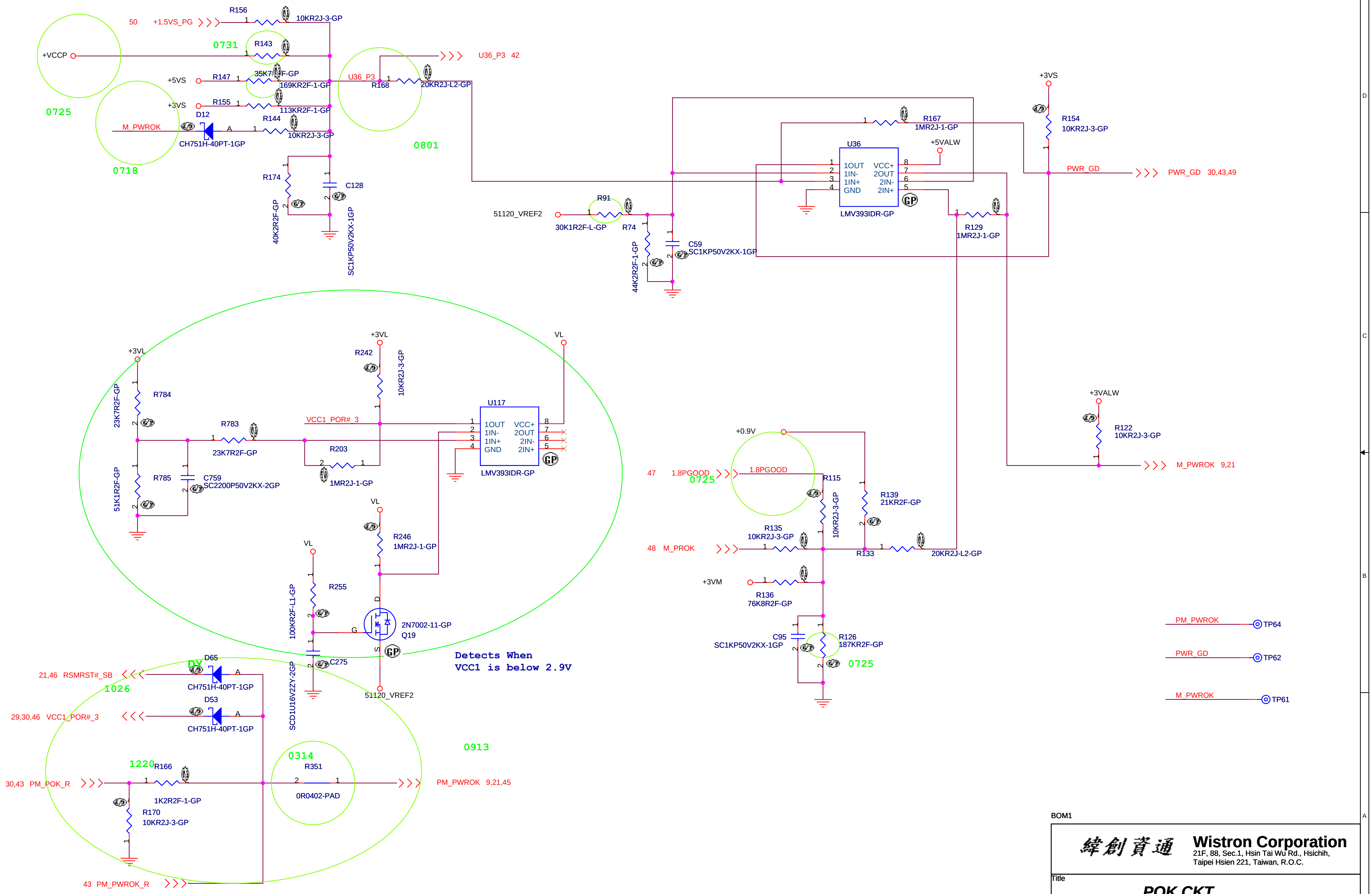
Close to DOCKING CONN.

Layout Notes :
Place MODEM1 & BEAD near Docking 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		
Docking CONN		
Size A3	Document Number **Karia**	Rev **SC**
Date: Thursday, May 15, 2008	Sheet 32 of 53	



BOM1

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

Title	**POK CKT**	
Size A3	Document Number **KARIA**	Rev **SC**
Date: Friday, May 02, 2008	Sheet 33 of 53	

Adaptor in to generate DCBATOUT

Current Rating 6 A

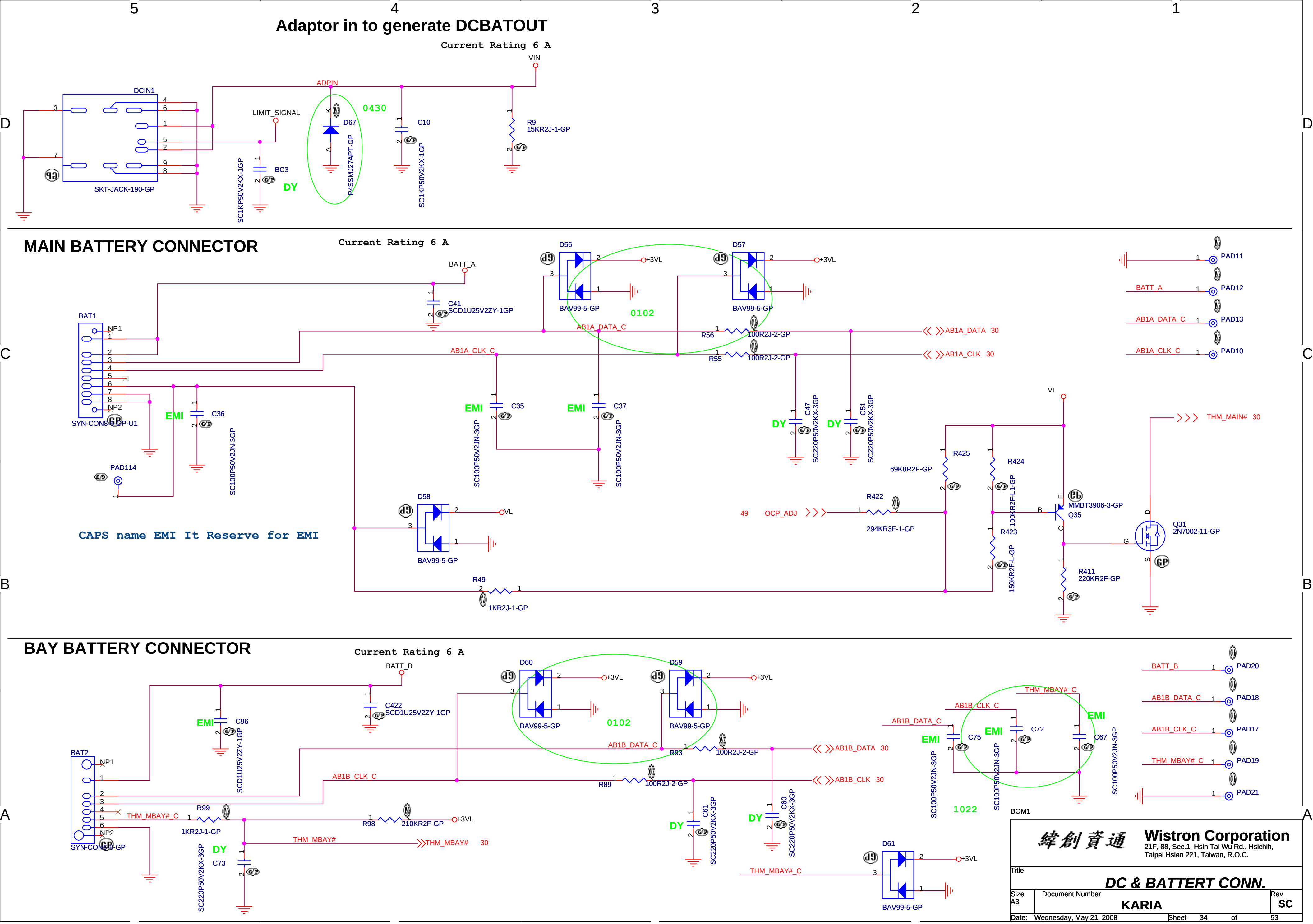
MAIN BATTERY CONNECTOR

Current Rating 6 A

CAPS name EMI It Reserve for EMI

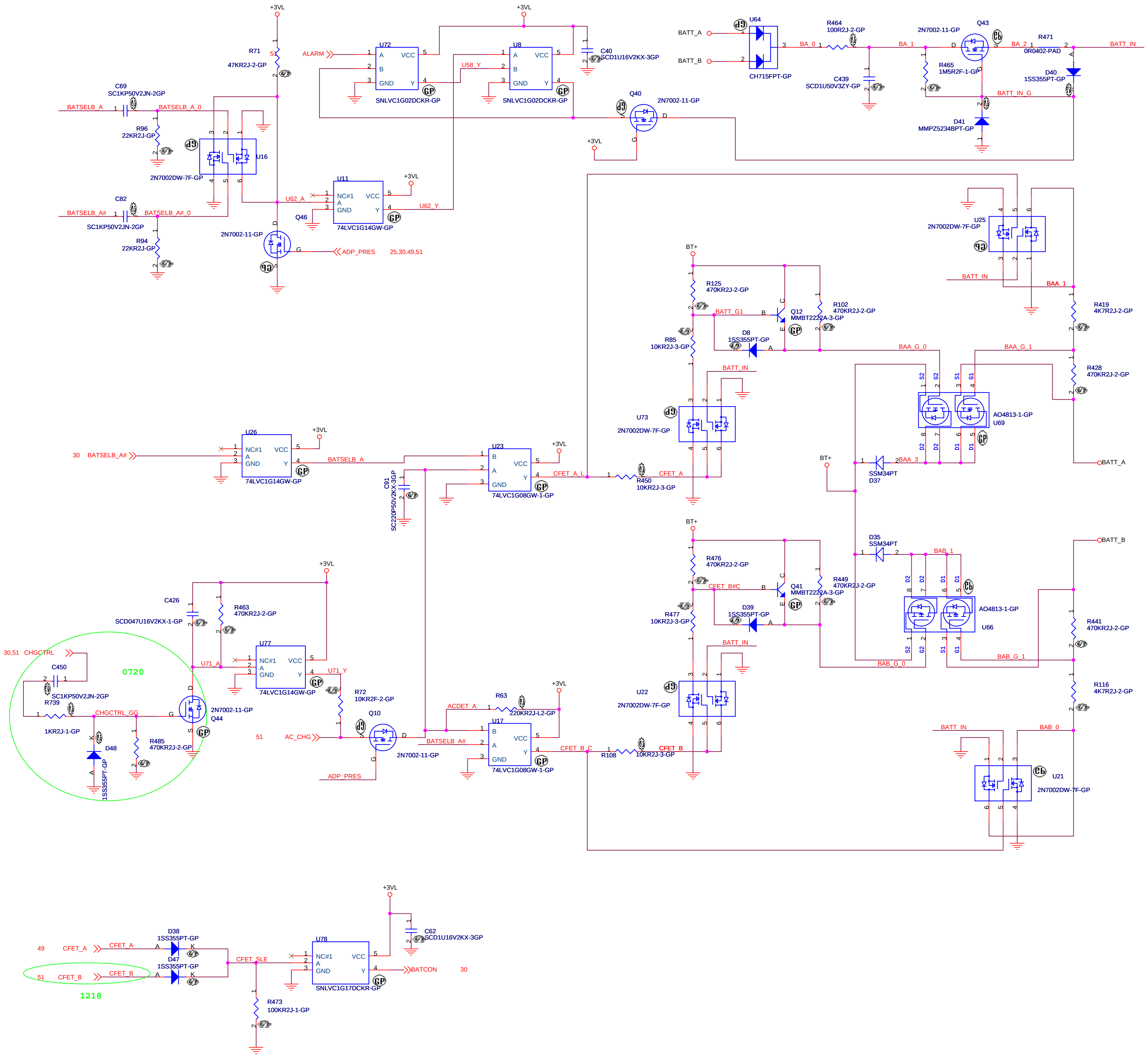
BAY BATTERY CONNECTOR

Current Rating 6 A



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

Title	**DC & BATTERT CONN.**	
Size A3	Document Number **KARIA**	Rev **SC**
Date: Wednesday, May 21, 2008	Sheet 34 of 53	



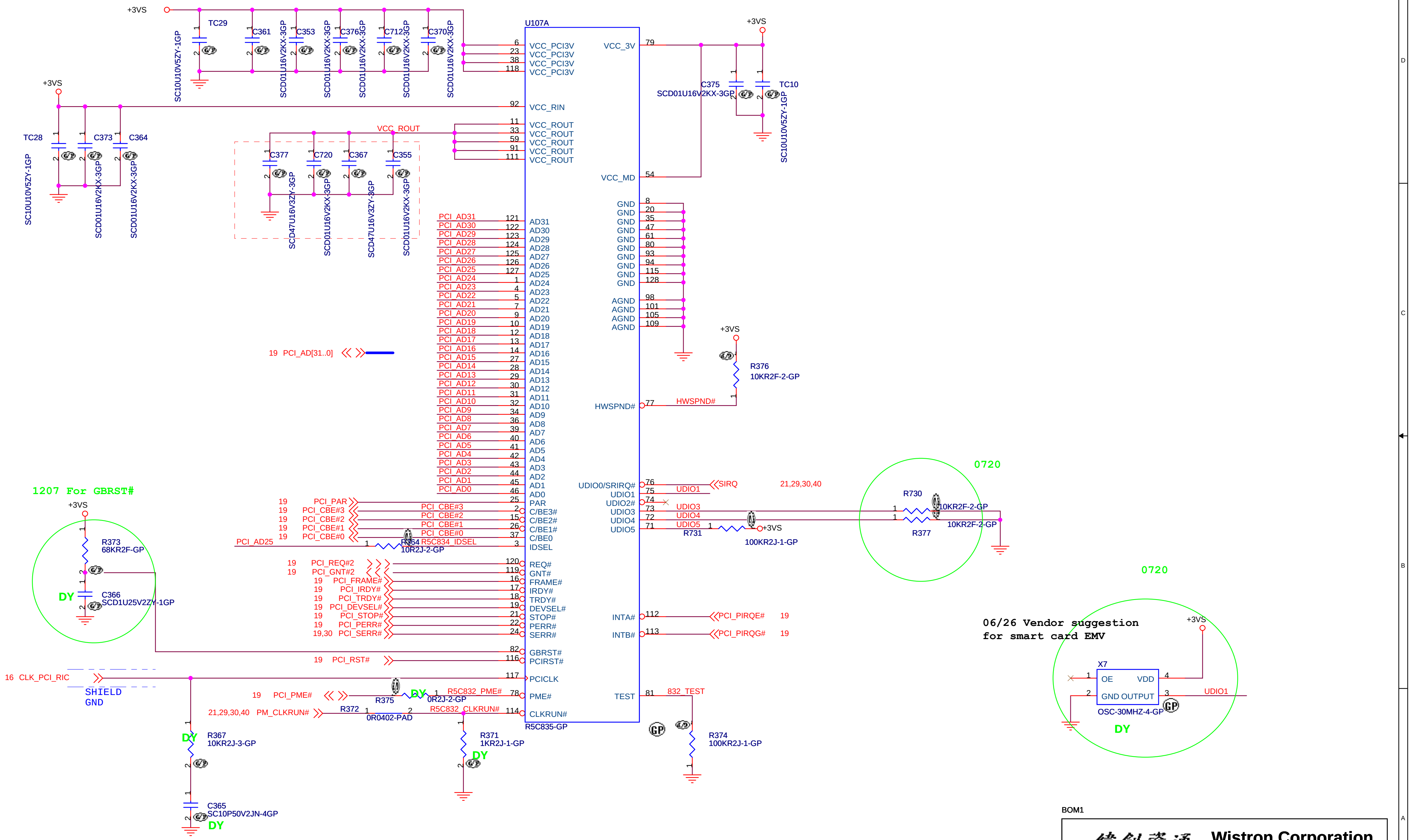
BOM1

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

Title
Battery Selector

Size	Document Number	Rev
A2	KARIA	PV

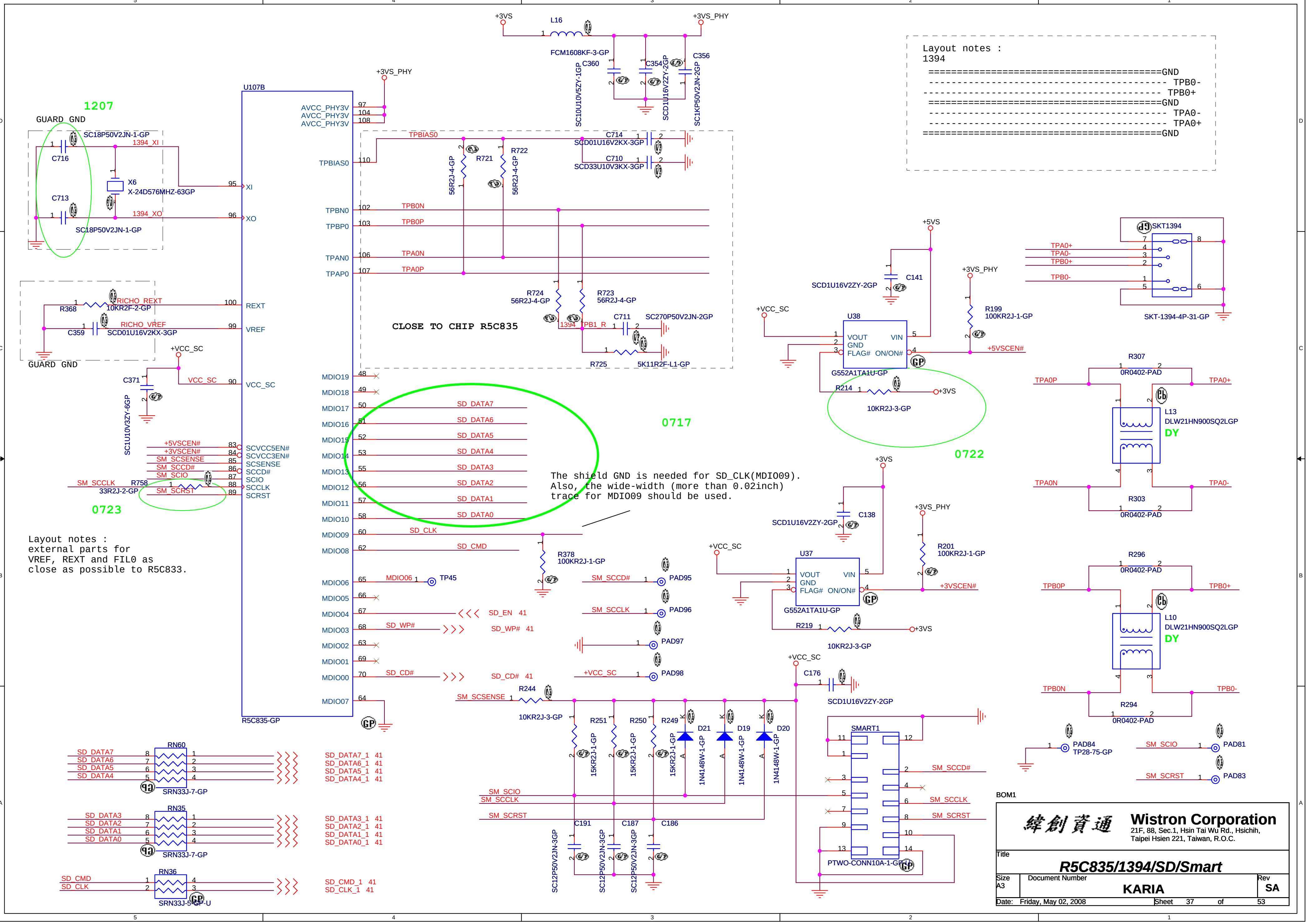
Date: Friday, May 02, 2008 Sheet 35 of 53



BOM1

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

Title		
R5C835/PCI		
Size A3	Document Number KARIA	Rev SC
Date: Friday, May 02, 2008	Sheet 36 of 53	



Layout notes :
1394

```
 ========================================GND
 ---------------------------------------- TPB0-
---------------------------------------- TPB0+
 ========================================GND
 ---------------------------------------- TPA0-
 ---------------------------------------- TPA0+
========================================GND
```

CLOSE TO CHIP R5C835

The shield GND is needed for SD_CLK(MDIO09).
Also, the wide-width (more than 0.02inch)
trace for MDIO09 should be used.

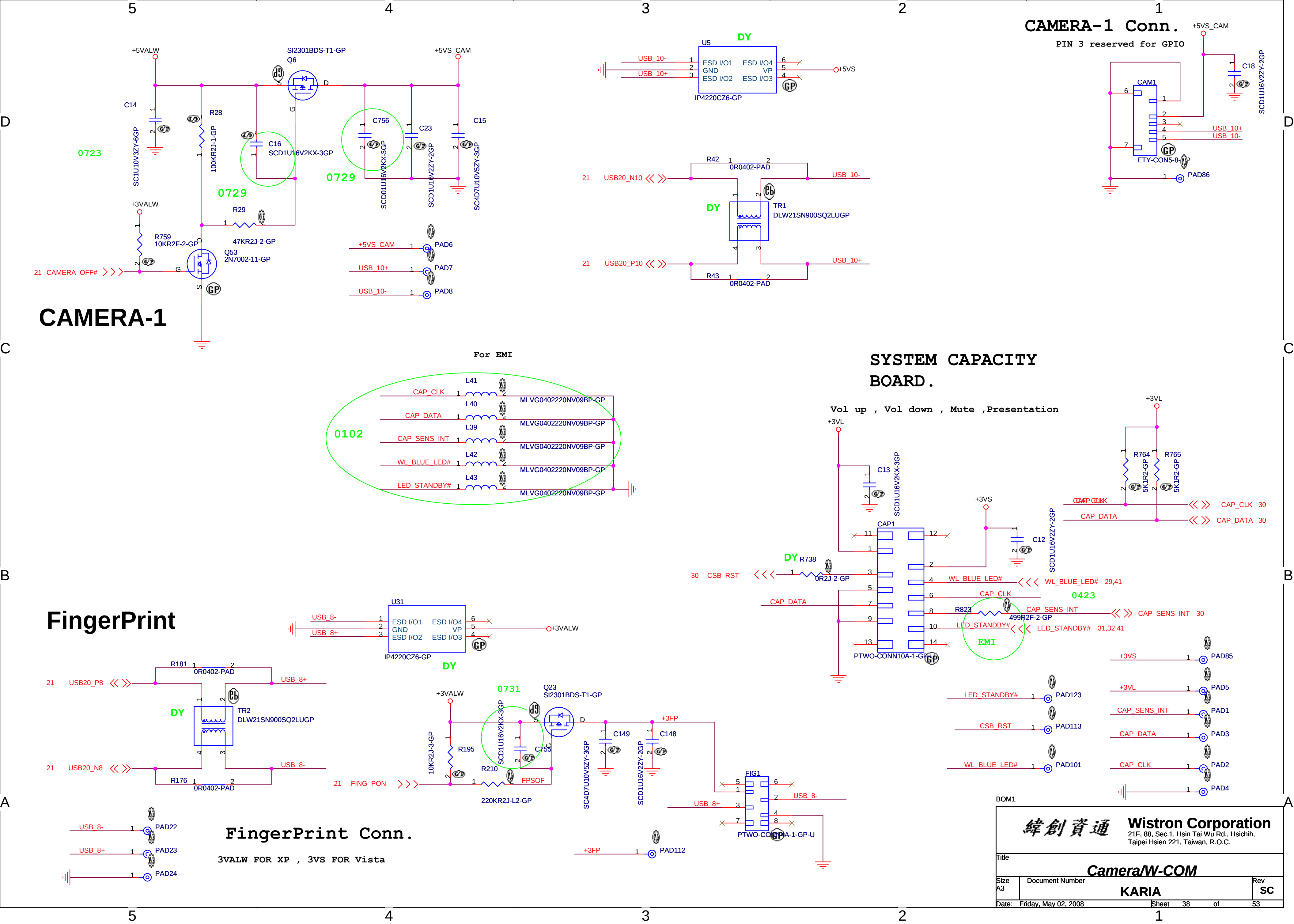
Layout notes :
external parts for
VREF, REXT and FIL0 as
close as possible to R5C833.

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

Title
R5C835/1394/SD/Smart

Size	Document Number	Rev
A3	KARIA	SA

Date: Friday, May 02, 2008 Sheet 37 of 53



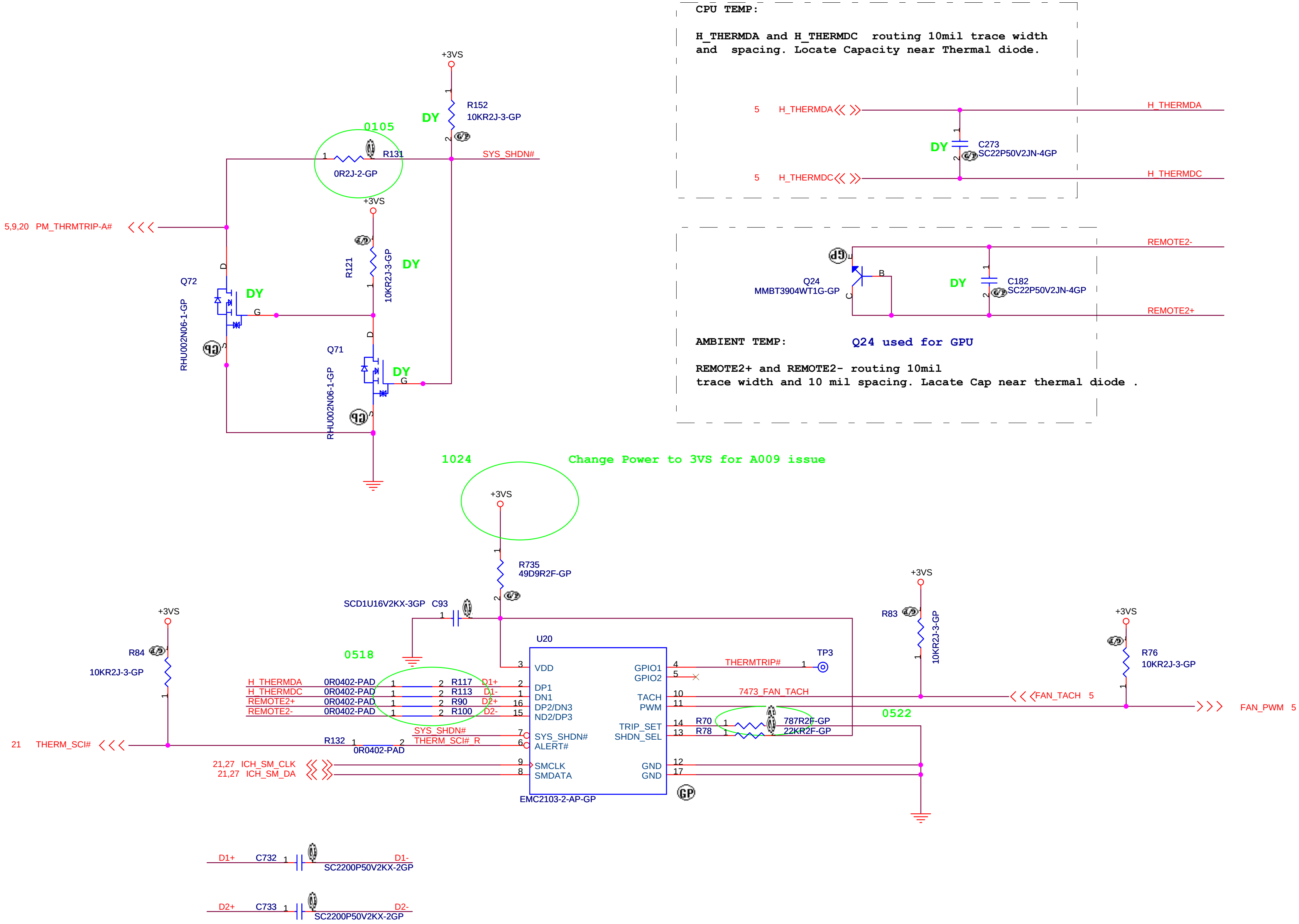
BOM1

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

Title
Camera/W-COM

Size	Document Number	Rev
A3	KARIA	SC

Date: Friday, May 02, 2008 Sheet 38 of 53


CPU TEMP:

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

AMBIENT TEMP:

Q24 used for GPU

REMOTE2+ and REMOTE2- routing 10mil trace width and 10 mil spacing. Lacate Cap near thermal diode .

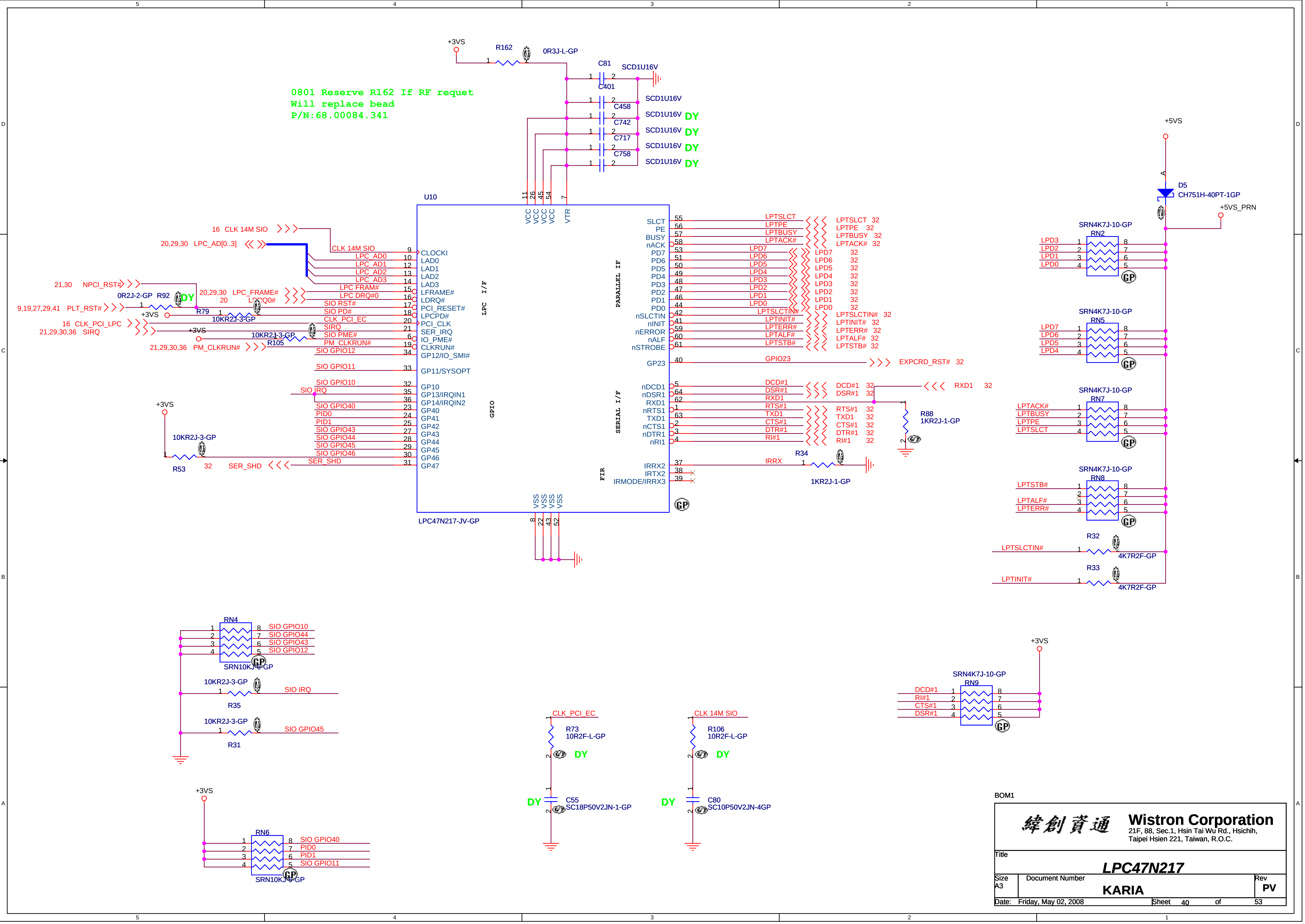
1024 Change Power to 3VS for A009 issue

BOM1

Wistron Corporation 緯創資通

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

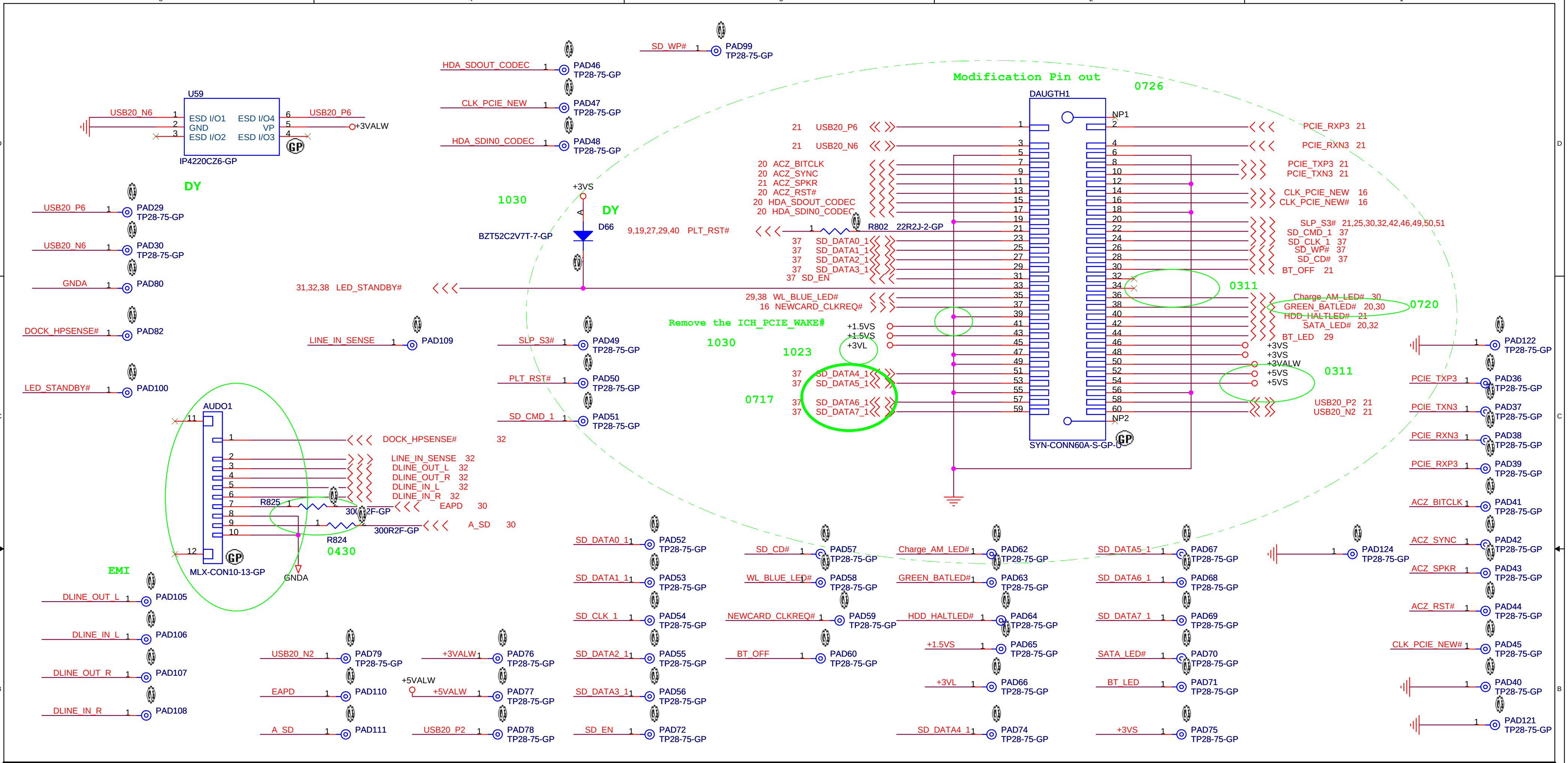
Title		
SMSC2103 Thermal Sensor		
Size A3	Document Number KARIA	Rev SC
Date: Thursday, May 22, 2008	Sheet 39 of 53	

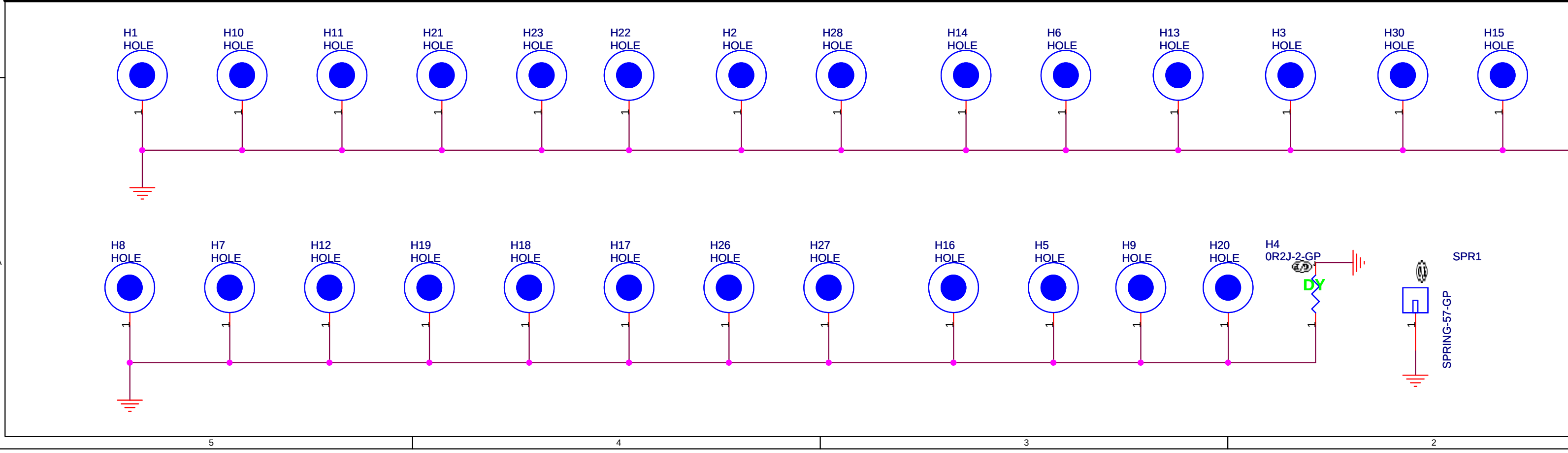


BOM1

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

Title		
	LPC47N217	
Size A3	Document Number **KARIA**	Rev **PV**
Date: Friday, May 02, 2008	Sheet 40 of 53	





H10,H5 P/N: 34.4V908.001
H26,H27 P/N: 34.4V909.001
H9,H13 P/N:34.4V907.001
H21 P/N:34.4V910.001

BOM1

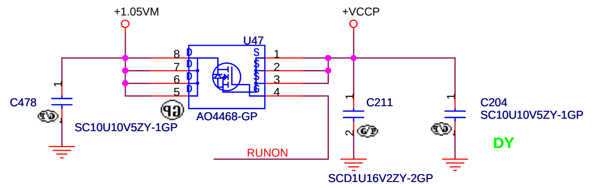
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title
AUDO/Daughter Connector

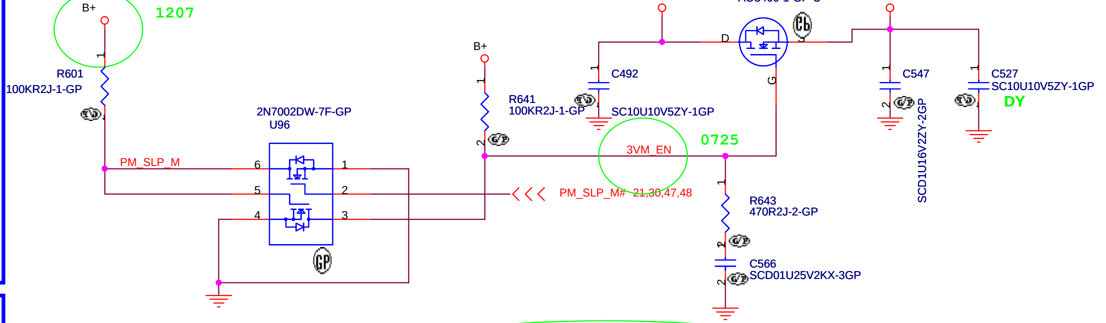
Size	Document Number	Rev
A3	KARIA	SC

Date: Thursday, May 22, 2008 Sheet 41 of 53

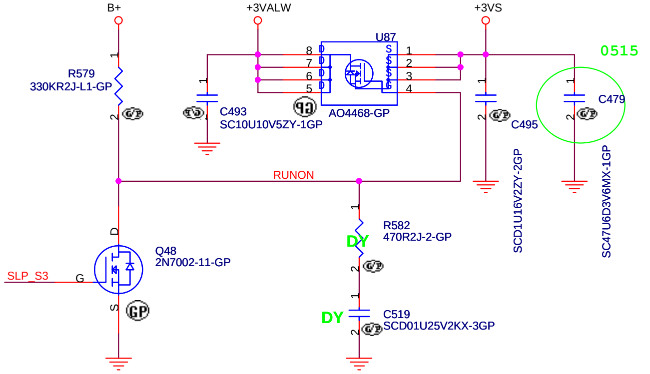
+1.05VM to +VCCP Transfer



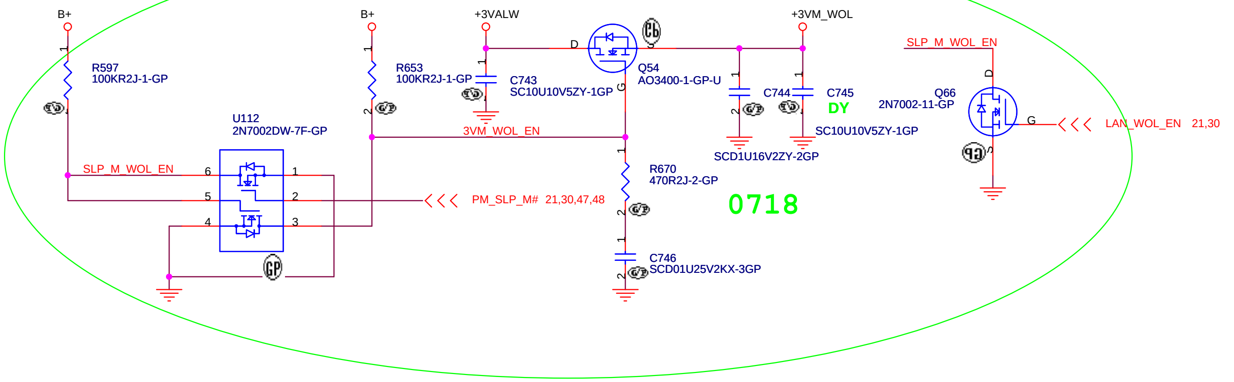
+3VALW to +3VM Transfer



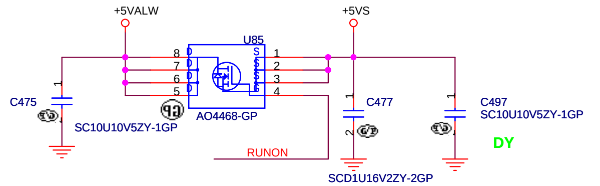
+3VALW to +3VS Transfer



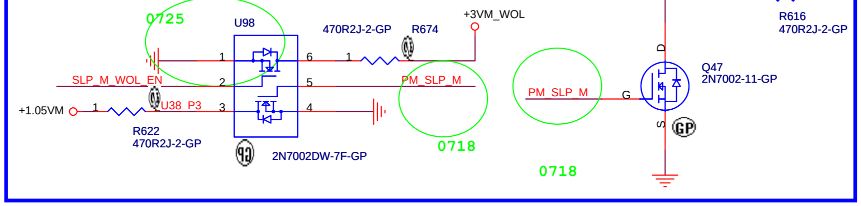
+3VALW to +3VM_WOL



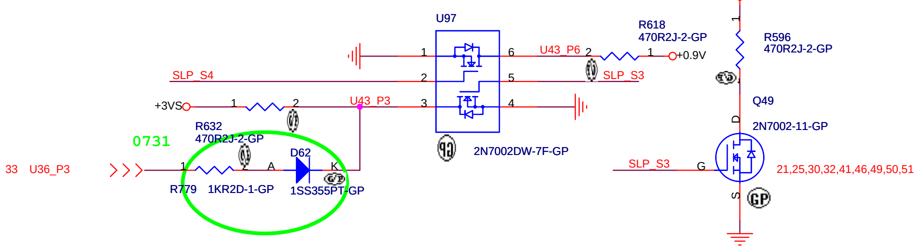
+5VALW to +5VS Transfer

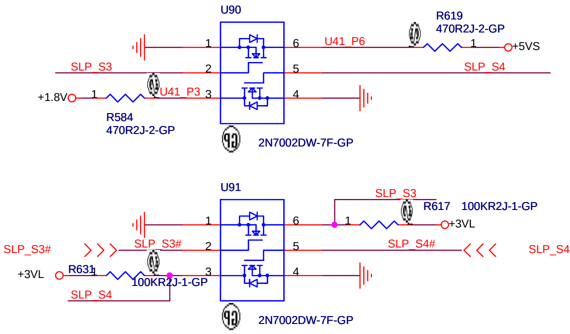


Discharge circuit-2 for V-M



Discharge circuit-1





PM_SLP_M#	LAN_WOL_EN	+3VM_WOL	+3VM	SYSTEM STATE
0	0	0V	0V	Moff / No WOL
0	1	3.3V	0V	Legacy WOL/ Moff
1	0	3.3V	3.3V	M1
1	1	3.3V	3.3V	M1

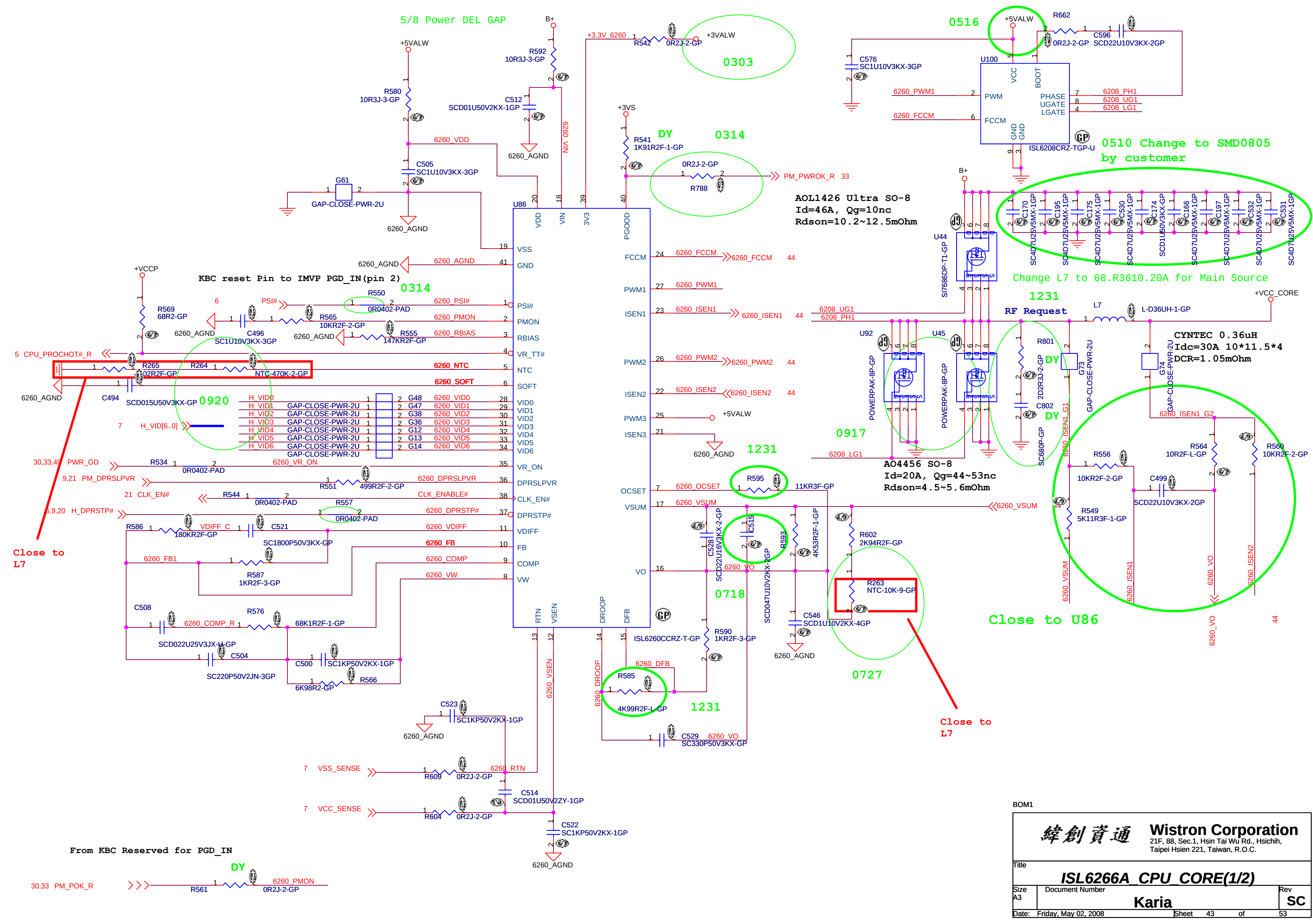
BOM1

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

Title
DC/DC Circuit

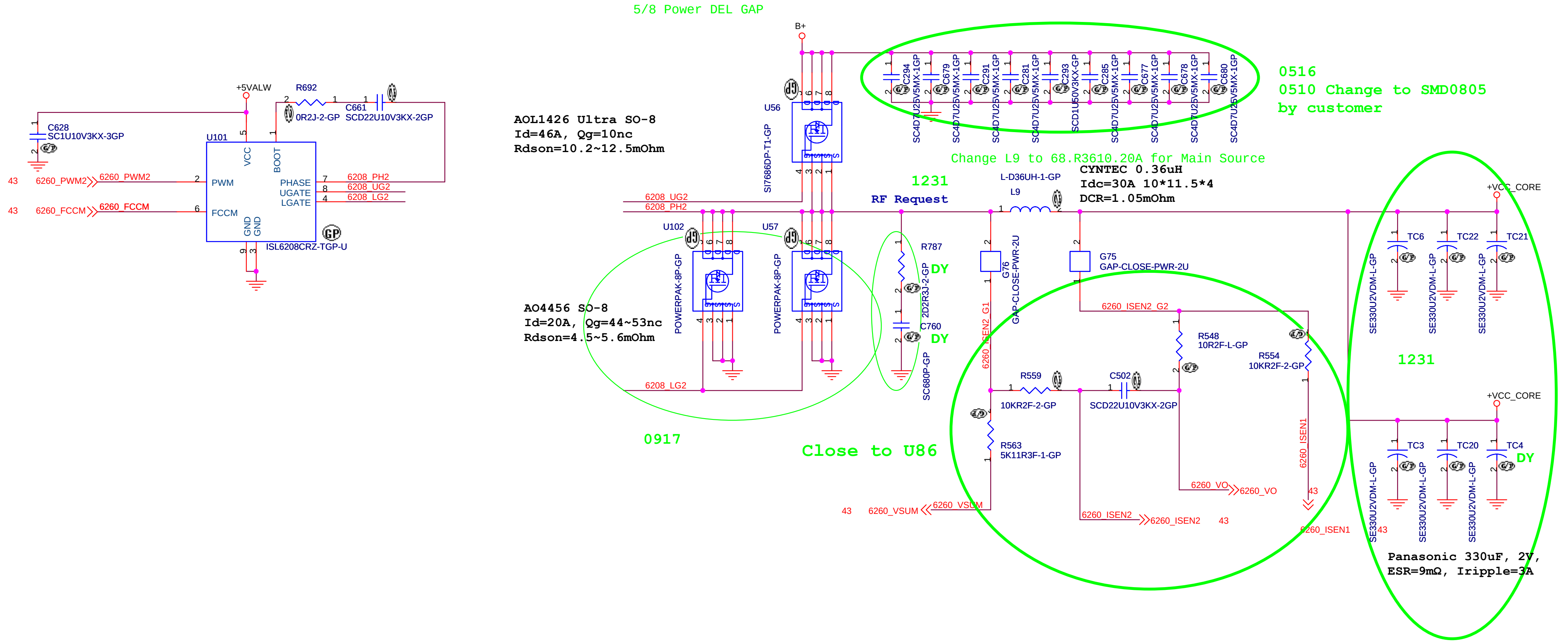
Size A3 | Document Number **KARIA** | Rev **SC**

Date: Thursday, May 15, 2008 | Sheet 42 of 53



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

Title			
ISL6266A_CPU_CORE(1/2)			
Size A3	Document Number Karia		Rev SC
Date: Friday, May 02, 2008	Sheet 43	of 53	



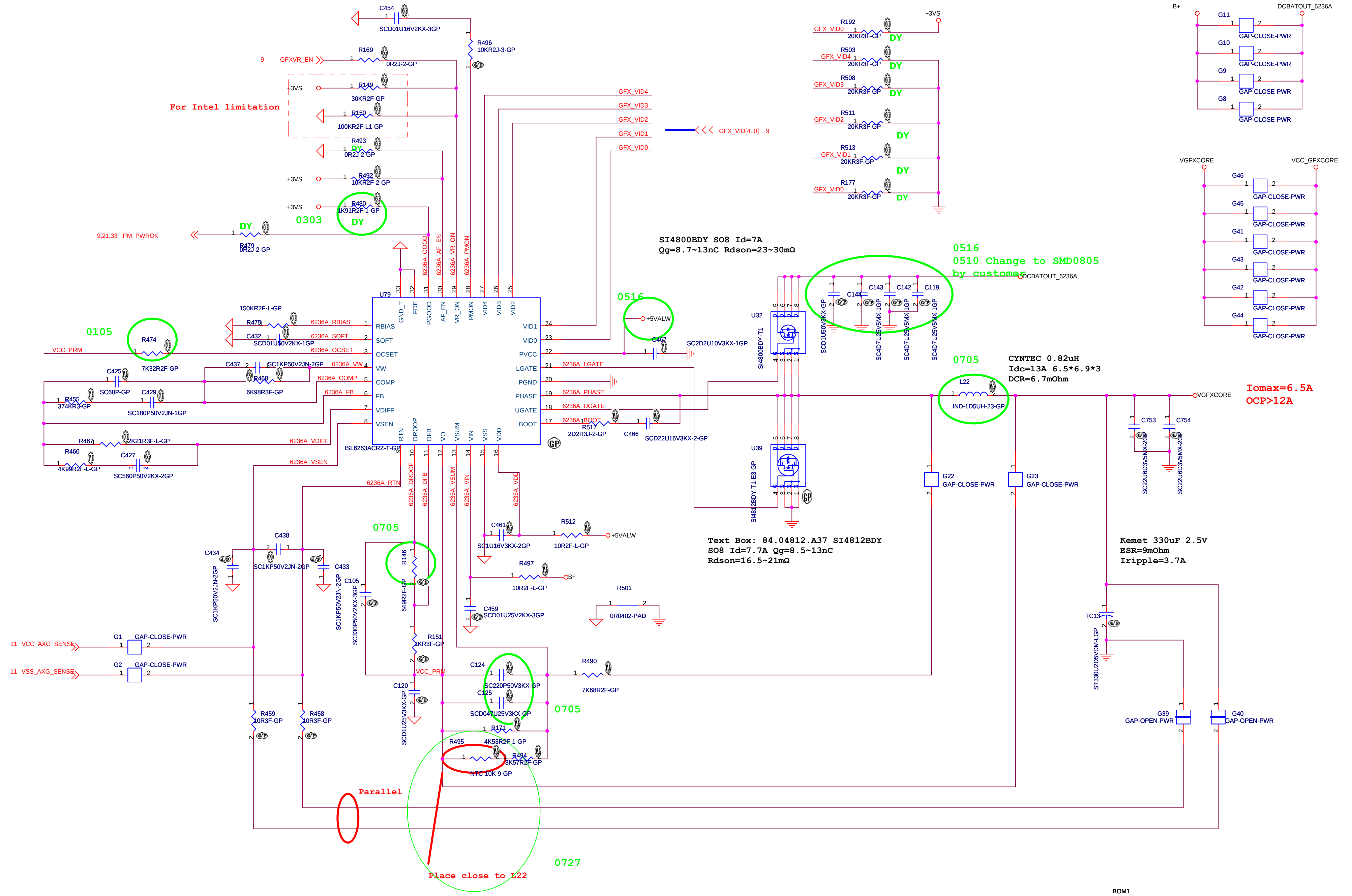
BOM1

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

Title
ISL6266A_CPU_CORE(2/2)

Size A3
Document Number
Karia
Rev **SC**

Date: Friday, May 02, 2008
Sheet 44 of 53



For Intel limitation

0303

DY

0105

0516

SI4800BDY SO8 Id=7A
Qg=8.7~13nC Rdson=23~30mΩ

0516
0510 Change to SMD0805
by customer

0705

CYNTEC 0.82uH
Idc=13A 6.5*6.9*3
DCR=6.7mOhm

Iomax=6.5A
OCP>12A

Text Box: 84.04812.A37 SI4812BDY
SO8 Id=7.7A Qg=8.5~13nC
Rdson=16.5~21mΩ

Kemet 330uF 2.5V
ESR=9mOhm
Iripple=3.7A

0705

0705

Parallel

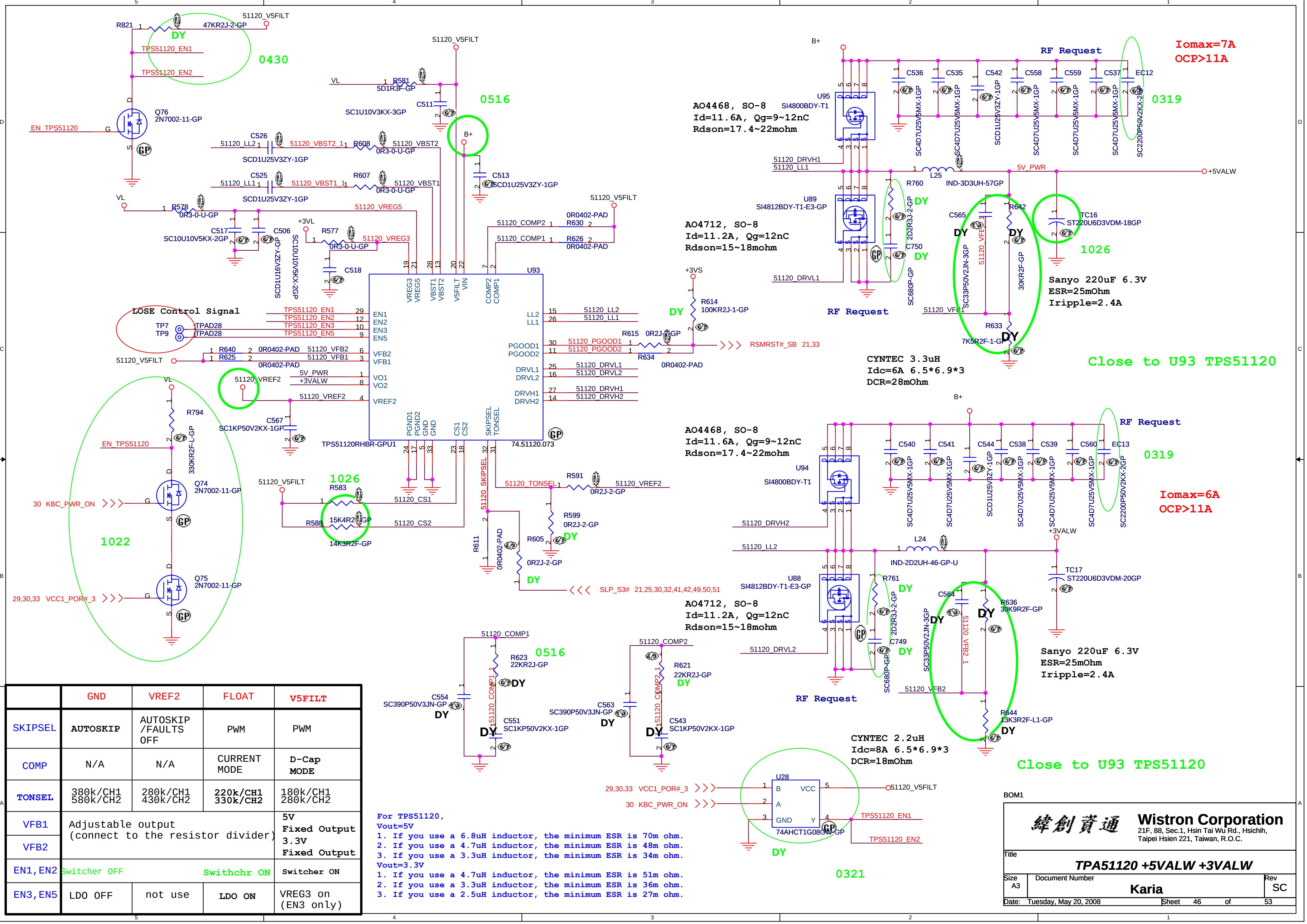
0727

Place close to L22

BOM1

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

Title		
ISL6263A_GFX CORE		
Size C	Document Number Karia	Rev SC
Date: Thursday, May 22, 2008	Sheet 45 of 53	



	GND	VREF2	FLOAT	V5FILT
SKIPSEL	AUTOSKIP	AUTOSKIP /FAULTS OFF	PWM	PWM
COMP	N/A	N/A	CURRENT MODE	D-Cap MODE
TONSEL	380k/CH1 580k/CH2	280k/CH1 430k/CH2	220k/CH1 330k/CH2	180k/CH1 280k/CH2
VFB1 VFB2	Adjustable output (connect to the resistor divider)			5V Fixed Output 3.3V Fixed Output
EN1,EN2	Switcher OFF		Swithchr ON	Switcher ON
EN3,EN5	LDO OFF	not use	LDO ON	VREG3 on (EN3 only)

For TPS51120,

Vout=5V

1. If you use a 6.8uH inductor, the minimum ESR is 70m ohm.
2. If you use a 4.7uH inductor, the minimum ESR is 48m ohm.
3. If you use a 3.3uH inductor, the minimum ESR is 34m ohm.

Vout=3.3V

1. If you use a 4.7uH inductor, the minimum ESR is 51m ohm.
2. If you use a 3.3uH inductor, the minimum ESR is 36m ohm.
3. If you use a 2.5uH inductor, the minimum ESR is 27m ohm.

BOM1

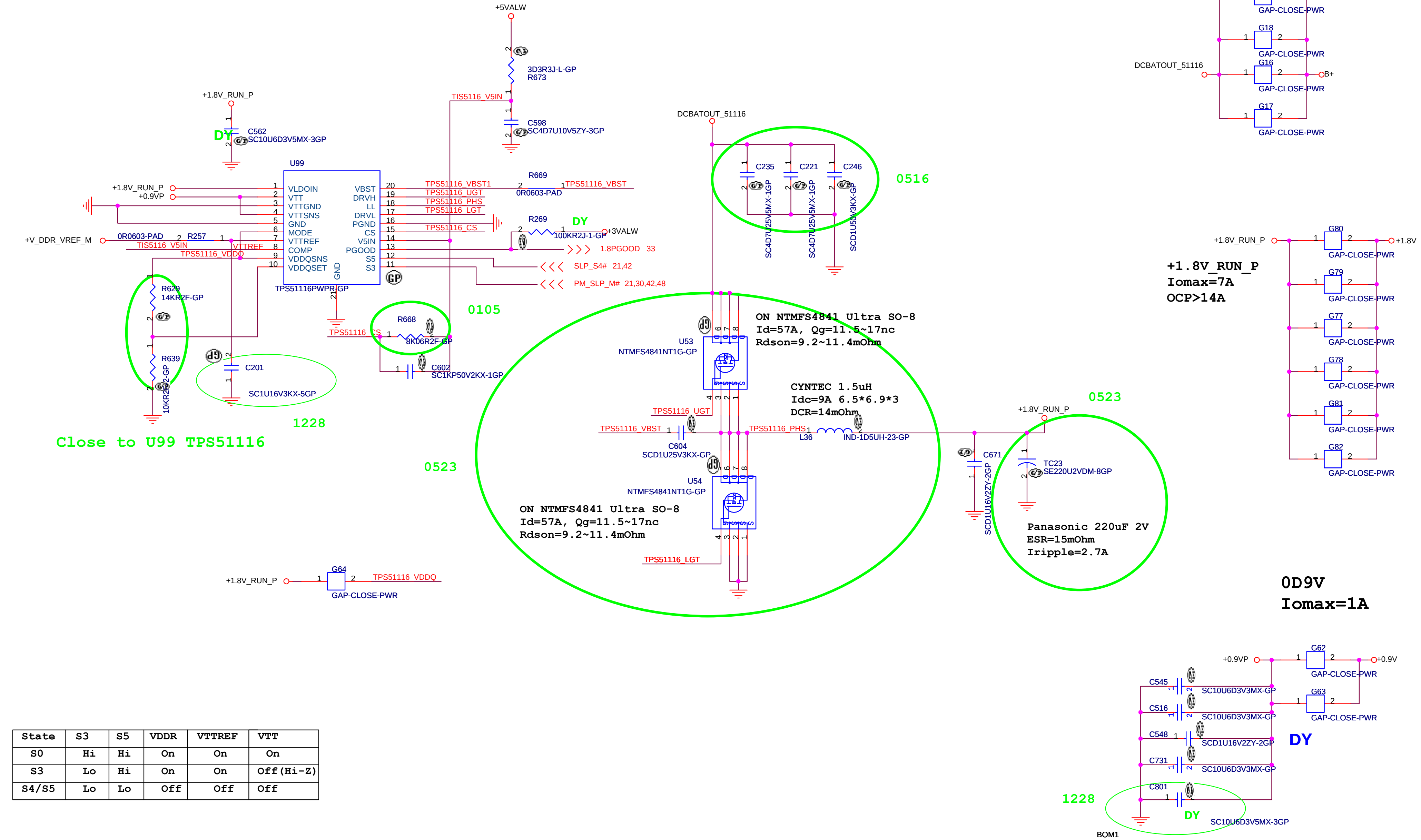
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title
TPA51120 +5VALW +3VALW

Size A3 | Document Number **Karia** | Rev SC

Date: Tuesday, May 20, 2008 | Sheet 46 of 53

TI TPS51116 for 1D8V and 0D9V



State	S3	S5	VDDR	VTTREF	VTT
S0	Hi	Hi	On	On	On
S3	Lo	Hi	On	On	Off(Hi-Z)
S4/S5	Lo	Lo	Off	Off	Off

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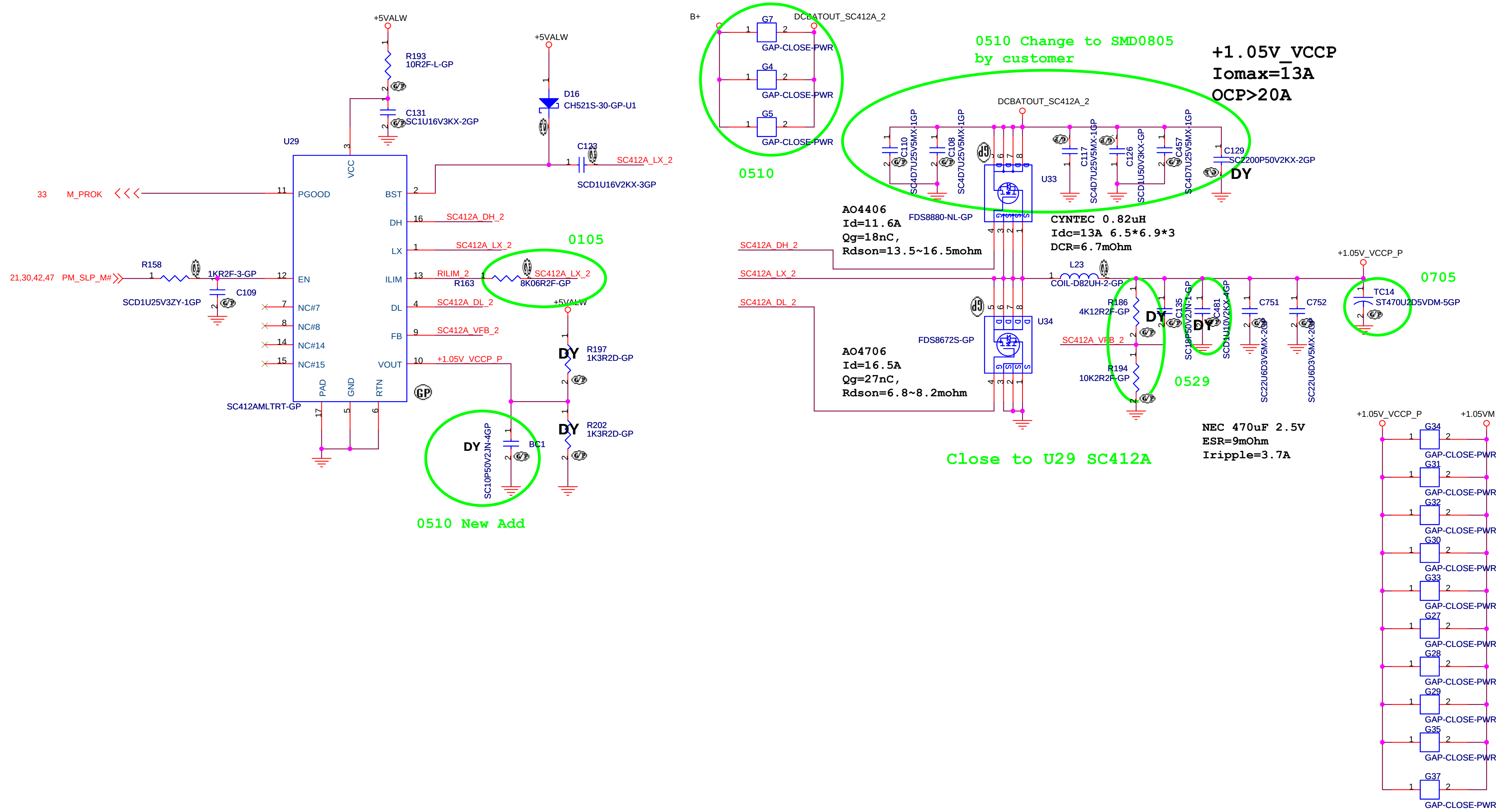
Title
TPS51116 1D8V/0D9V

Size A3 | Document Number Karia | Rev SC

Date: Friday, May 02, 2008 | Sheet 47 of 53



BOM1

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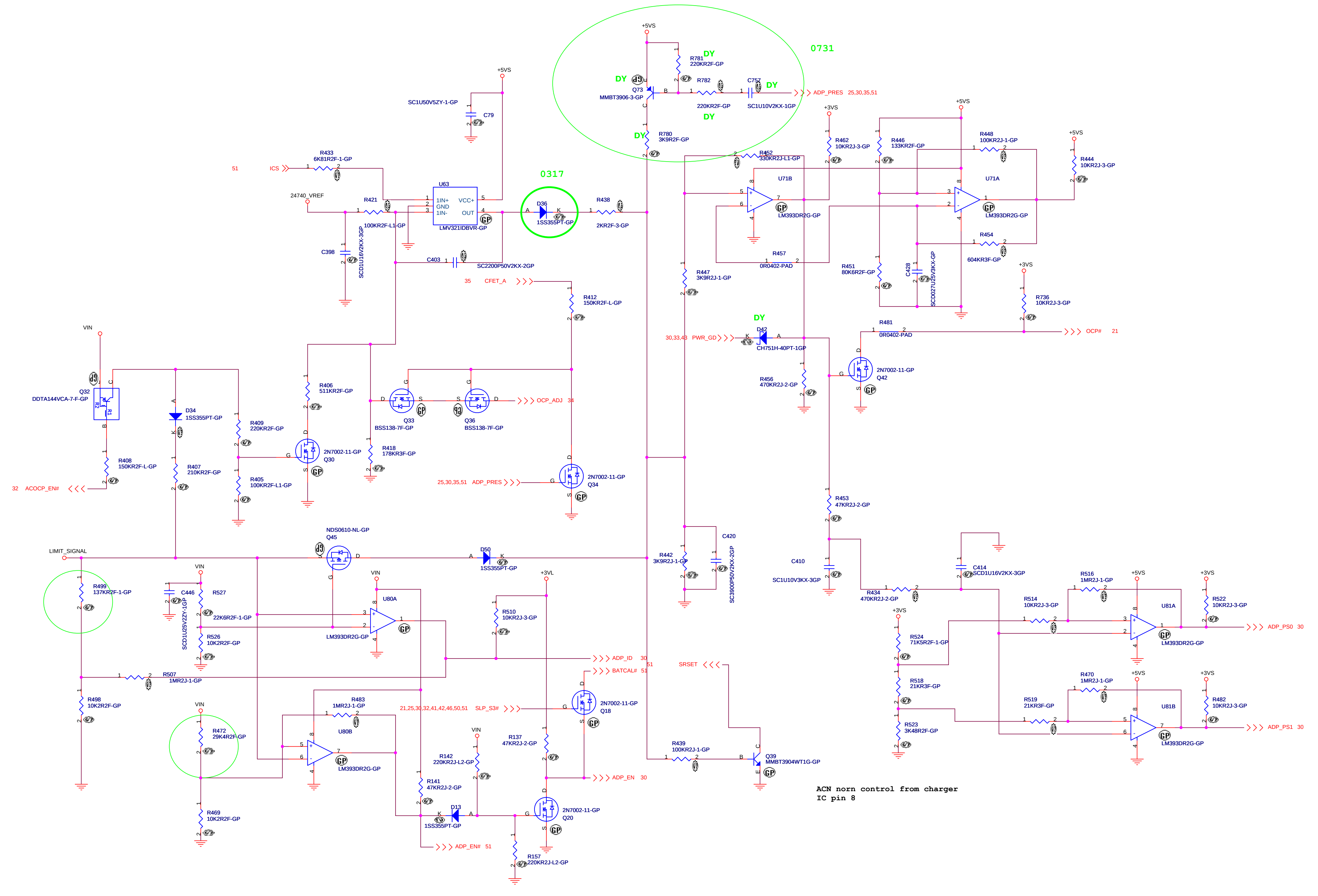
Title	SC412A +1.05VM
Size A3	Document Number: Karia
Rev	SC
Date: Friday, May 02, 2008	Sheet 48 of 53



BOM1

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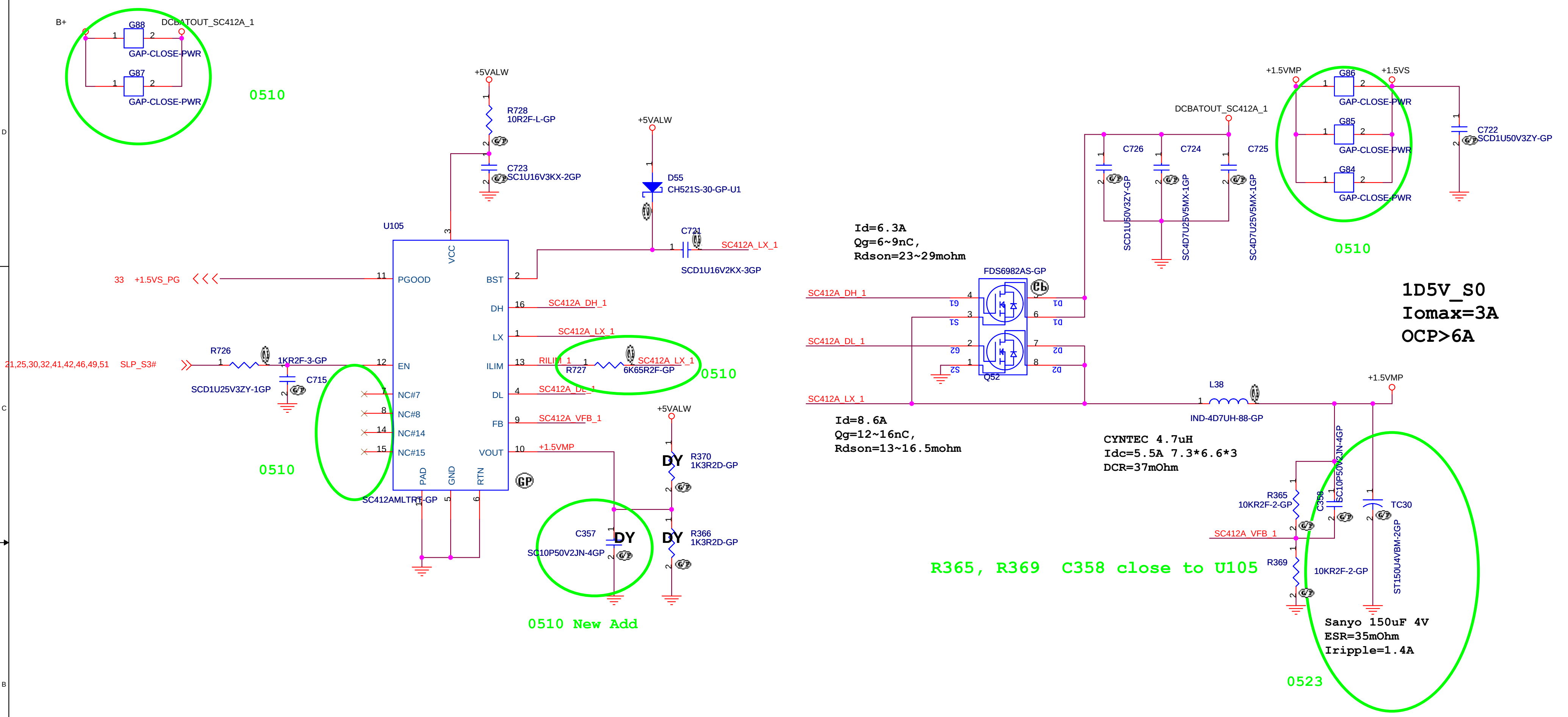
Title		
ADP OCP		
Size A2	Document Number **KARIA**	Rev **SC**
Date: Wednesday, May 21, 2008	Sheet 49 of 53	



0510

0510

0510

0510

0510 New Add

0510

Id=6.3A,
Qg=6~9nC,
Rdson=23~29mohm

Id=8.6A
Qg=12~16nC,
Rdson=13~16.5mohm

CYNTEC 4.7uH
Idc=5.5A 7.3*6.6*3
DCR=37mOhm

1D5V_S0
Iomax=3A
OCP>6A

R365, R369 C358 close to U105

Sanyo 150uF 4V
ESR=35mOhm
Iripple=1.4A

0523

BOM1

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Title
SC412A_+1.5VS

Size A3
Document Number
Karia
Rev **SC**

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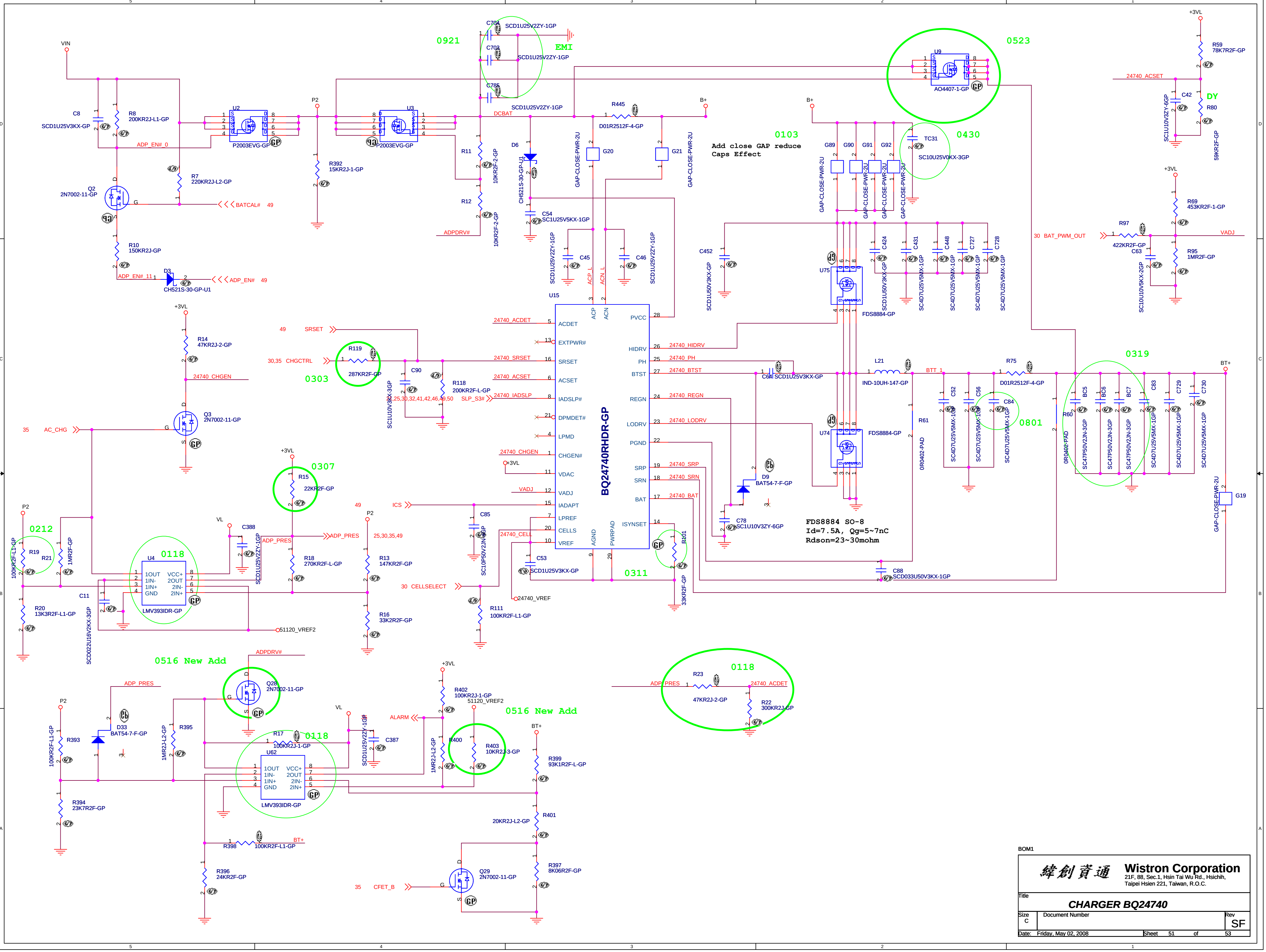

BOM1

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Title

CHARGER BQ24740

Size	Document Number	Rev
C		SF

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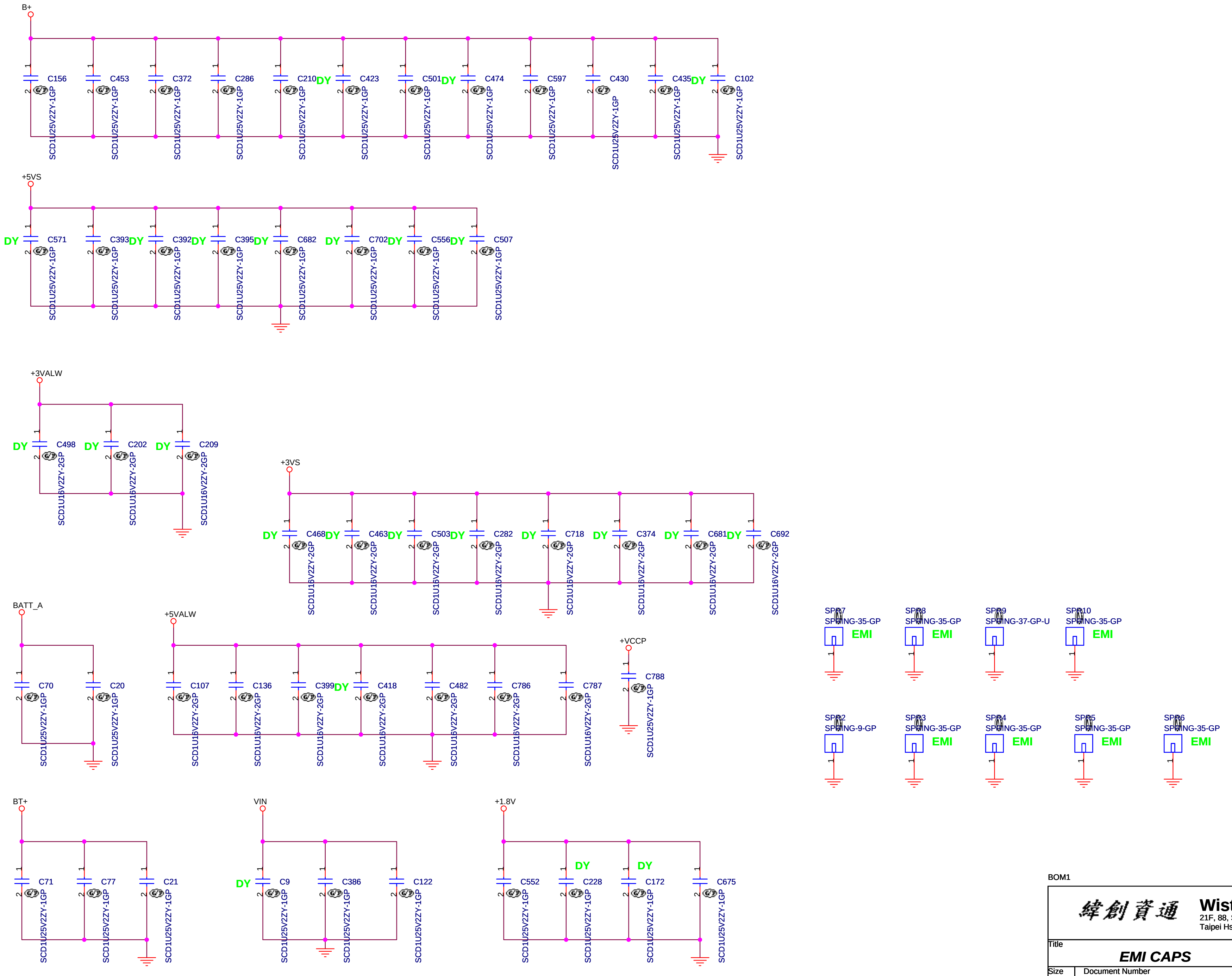

BOM1

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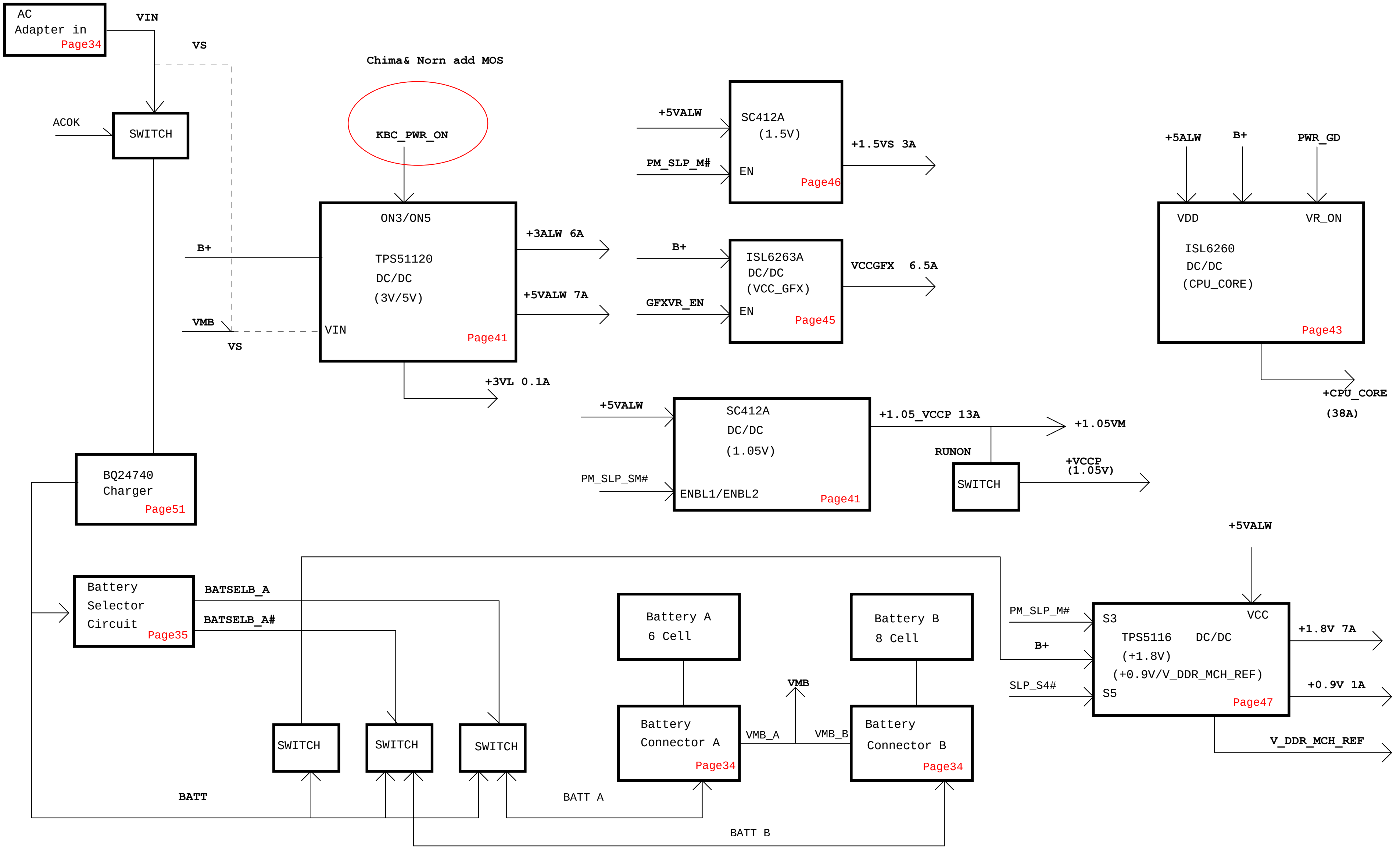
Title
EMI CAPS

Size	Document Number	Rev
A3		SF

Date: Friday, May 23, 2008 Sheet 52 of 53



BOM1

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Title
Power Block Diagram

Size A3
Document Number
KARIA
Rev **SC**

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