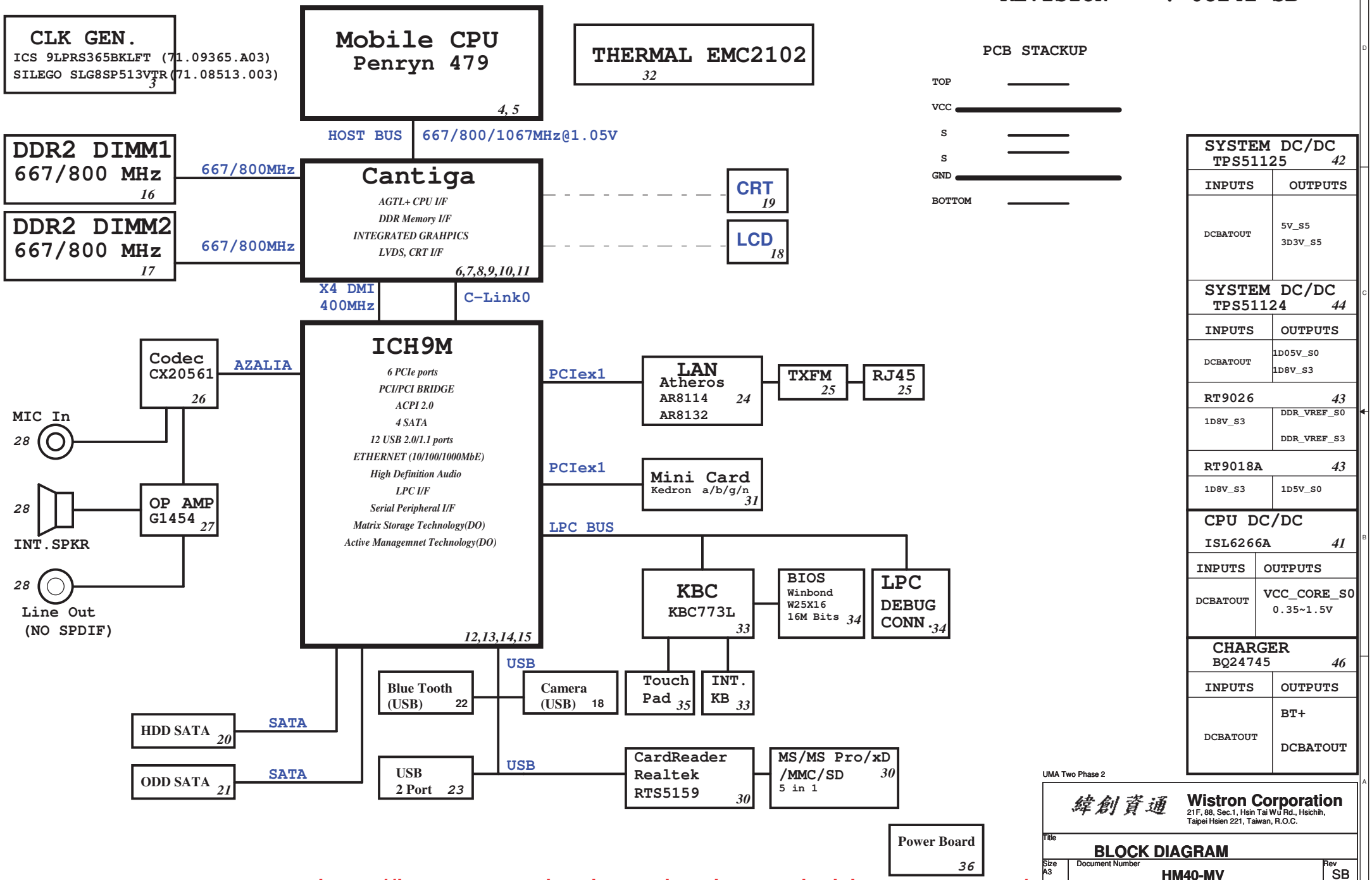
HM40-MV Block Diagram

Project code: 91.4BW01.001
PCB P/N : 48.4BW01.0SB
REVISION : 08242-SB



PCB STACKUP

SYSTEM DC/DC TPS51125 42	
INPUTS	OUTPUTS
DCBATOUT	5V_S5 3D3V_S5

SYSTEM DC/DC TPS51124 44	
INPUTS	OUTPUTS
DCBATOUT	1D05V_S0 1D8V_S3

RT9026 43	
1D8V_S3	DDR_VREF_S0 DDR_VREF_S3

RT9018A 43	
1D8V_S3	1D5V_S0

CPU DC/DC ISL6266A 41	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE_S0 0.35~1.5V

CHARGER BQ24745 46	
INPUTS	OUTPUTS
DCBATOUT	BT+ DCBATOUT

UMA Two Phase 2

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

Title: BLOCK DIAGRAM
Size: A3 | Document Number: HM40-MV | Rev: SB
Date: Monday, November 24, 2008 | Sheet 1 of 51

ICH9M Functional Strap Definitions

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

ICH9M Integrated Pull-up and Pull-down Resistors

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

Cantiga chipset and ICH9M I/O controller Hub strapping configuration

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

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

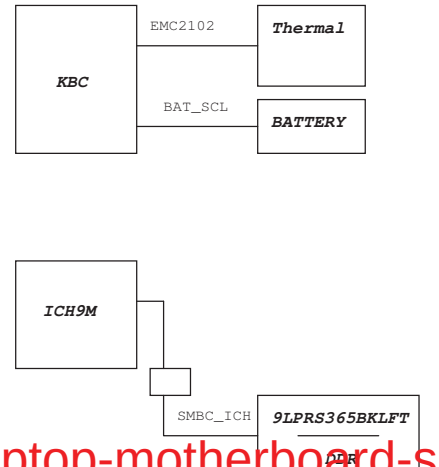
PCIE Routing

LANE1	LAN Atheros AR8114A
LANE2	MiniCard WLAN
LANE3	*NC*
LANE4	*NC*
LANE5	*NC*
LANE6	*NC*

USB Table

USB	
Pair	*Device*
0	*USB1*
1	*NC*
2	*NC*
3	*MINIC1*
4	*WEBCAM*
5	*NC*
6	*NC*
7	*Bluetooth*
8	*NC*
9	*USB2(High speed)*
10	*NC*
11	*CardReader*

SMBus



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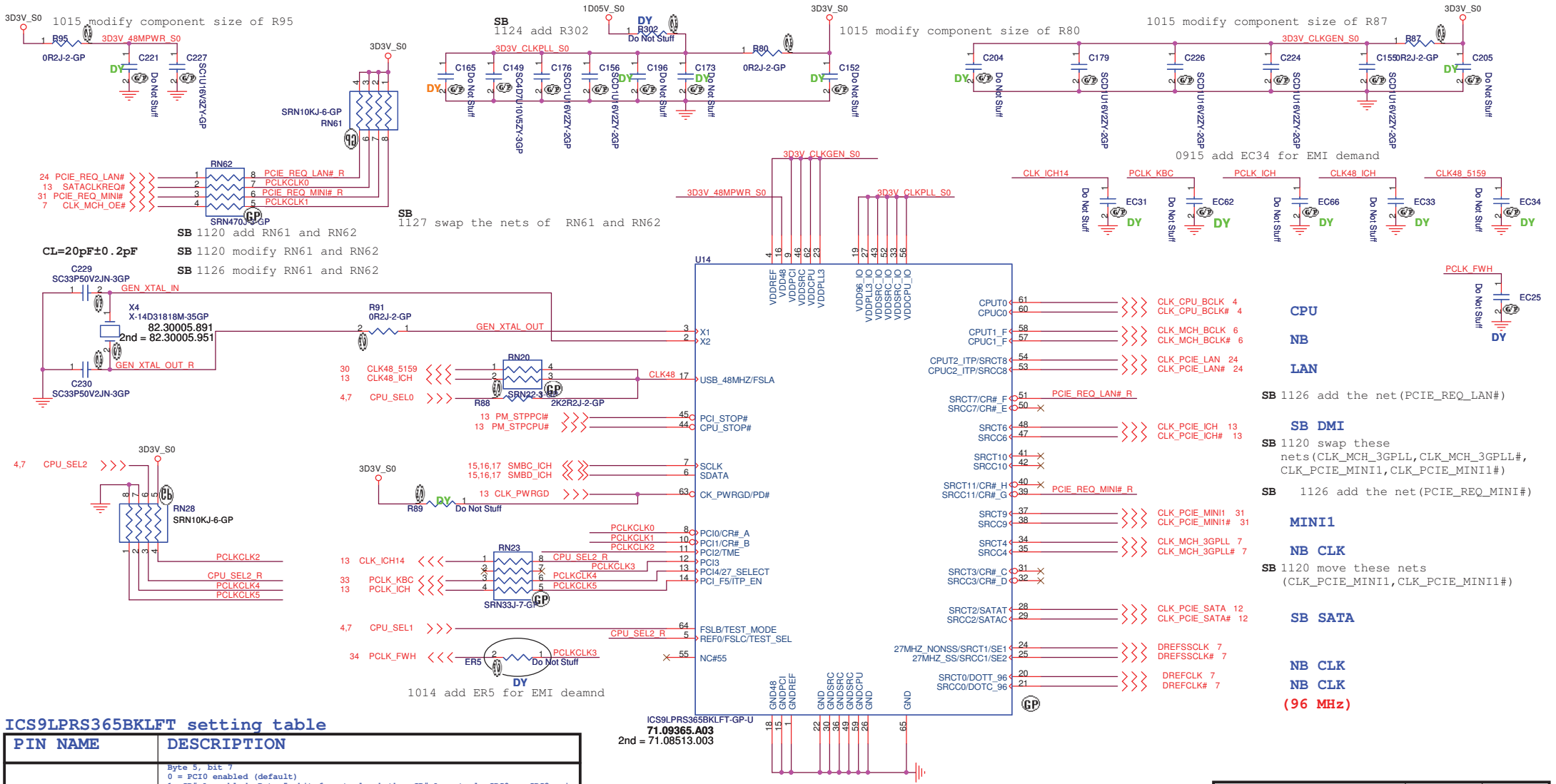
Title: **Reference**

Size	Document Number	Rev
A3	HM40-MV	SB

Date: Monday, November 24, 2008 Sheet 2 of 51



ICS9LPRS365BKLFT setting table

PIN NAME	DESCRIPTION
PCI0/CR#_A	Byte 5, bit 7 0 = PCI0 enabled (default) 1= CR#_A enabled. Byte 5, bit 6 controls whether CR#_A controls SRC0 or SRC2 pair Byte 5, bit 6 0 = CR#_A controls SRC0 pair (default), 1= CR#_A controls SRC2 pair
PCI1/CR#_B	Byte 5, bit 5 0 = PCI1 enabled (default) 1= CR#_B enabled. Byte 5, bit 6 controls whether CR#_B controls SRC1 or SRC4 pair Byte 5, bit 4 0 = CR#_B controls SRC1 pair (default) 1= CR#_B controls SRC4 pair
PCI2/TME	0 = Overclocking of CPU and SRC Allowed 1 = Overclocking of CPU and SRC NOT allowed
PCI3	3.3V PCI clock output
PCI4/27M_SEL	0 = Pin24 as SRC-1, Pin25 as SRC-1#, Pin20 as DOT96, Pin21 as DOT96# 1 = Pin24 as 27MHz, Pin25 as 27MHz_SS, Pin20 as SRC-0, Pin21 as SRC-0#
PCI_F5/ITP_EN	0 =SRC8/SRC8# 1 = ITP/ITP#
SRCT3/CR#_C	Byte 5, bit 3 0 = SRC3 enabled (default) 1= CR#_C enabled. Byte 5, bit 2 controls whether CR#_C controls SRC0 or SRC2 pair Byte 5, bit 2 0 = CR#_C controls SRC0 pair (default), 1= CR#_C controls SRC2 pair

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

SEL2 FSC	SEL1 FSB	SEL0 FSA	CPU	FSB
1	0	1	100M	X
0	0	1	133M	533M
0	1	1	166M	667M
0	1	0	200M	800M
0	0	0	266M	1066M

UMA Two Phase 2

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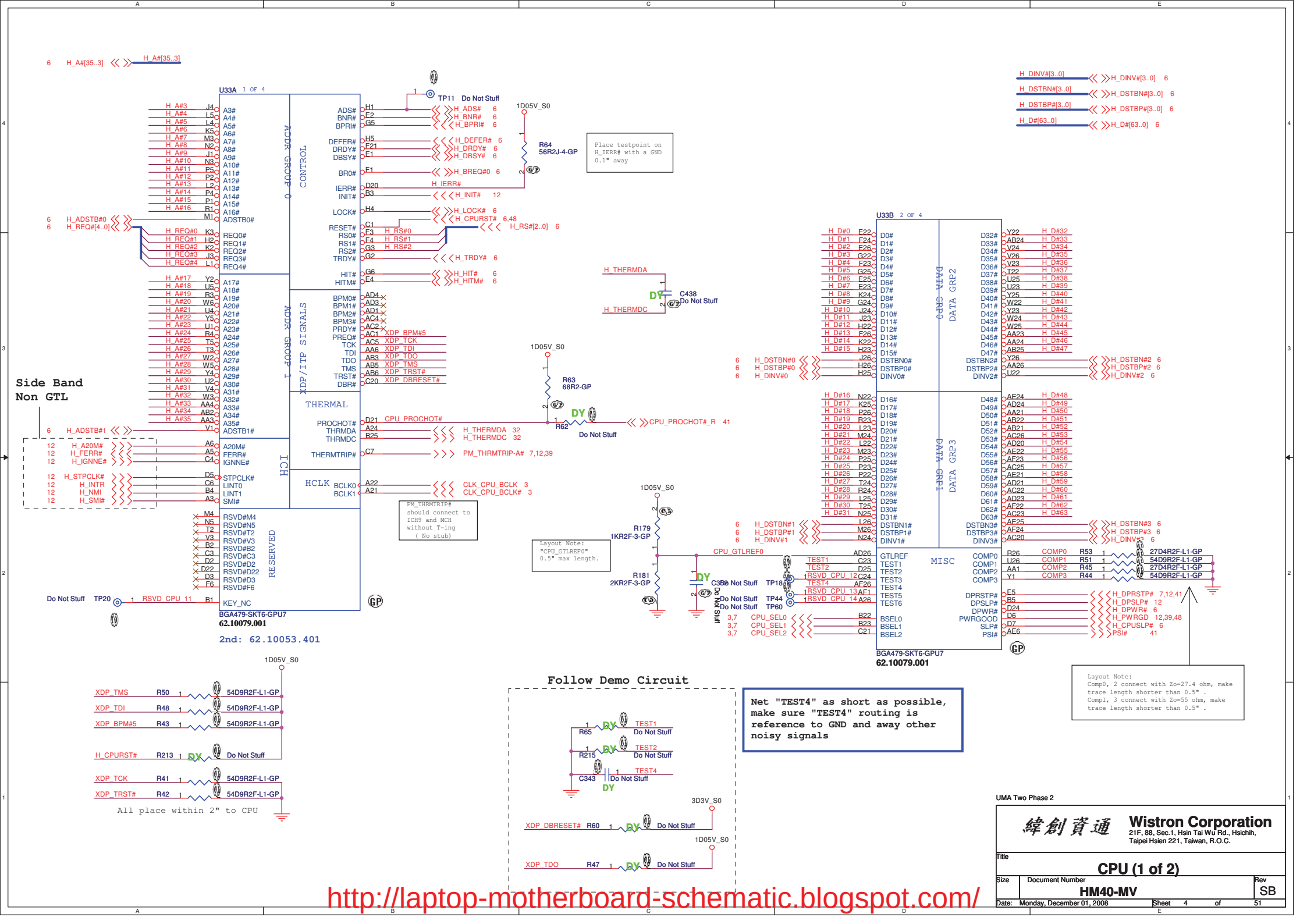
Title: Clock Generator

Size | Document Number: HM40-MV | Rev: SB

Date: Monday, December 01, 2008 | Sheet 3 of 51



UMA Two Phase 2

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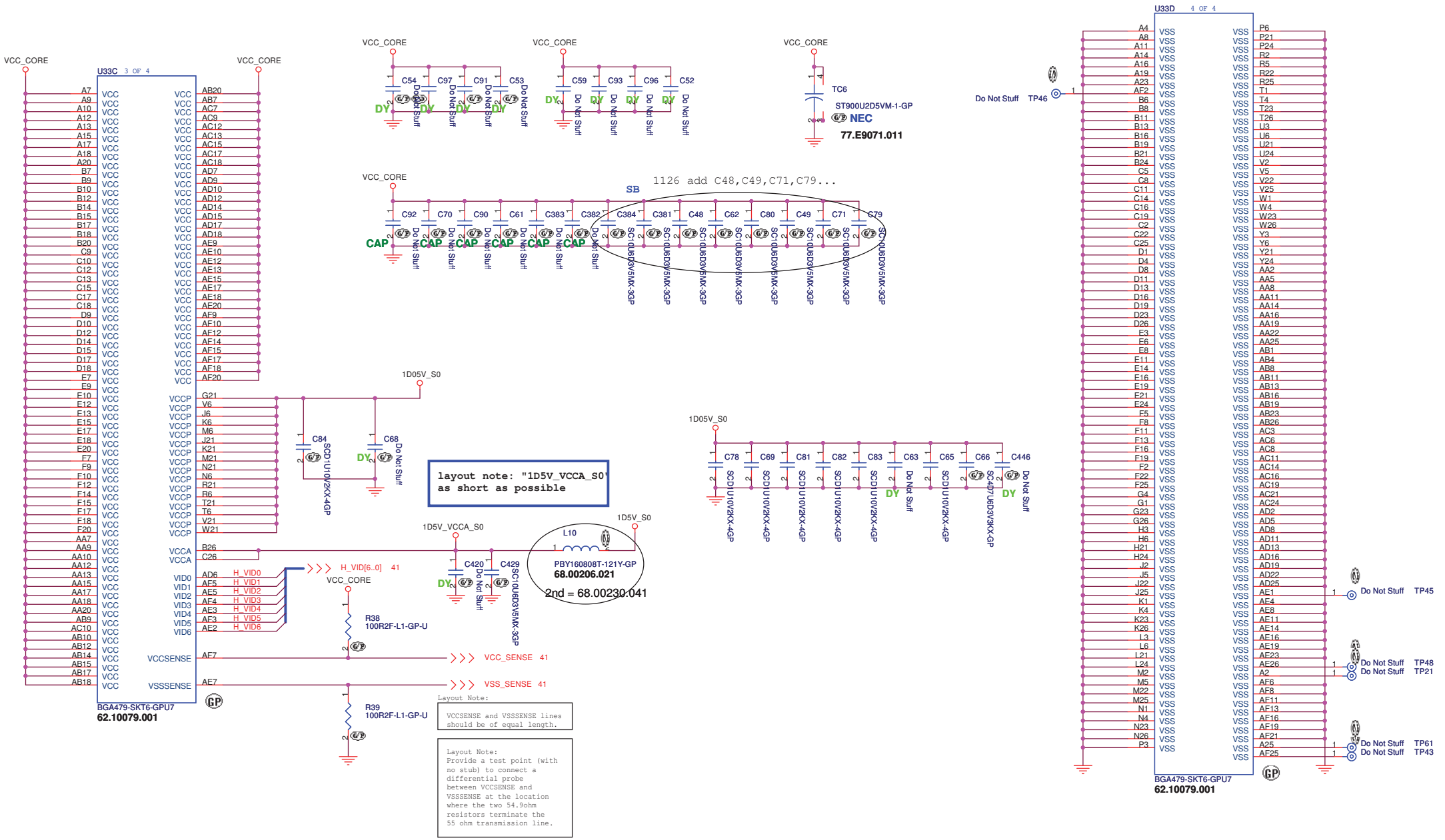
Title: **CPU (1 of 2)**

Size	Document Number	Rev
	HM40-MV	SB

Date: Monday, December 01, 2008 Sheet 4 of 51



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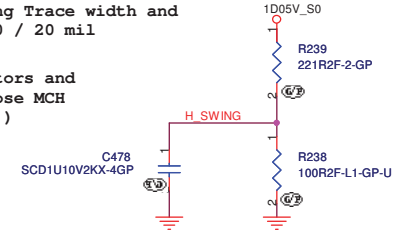
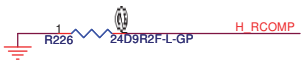
Title	CPU (2 of 2)	
Size	Document Number HM40-MV	Rev SB
Date: Monday, December 01, 2008	Sheet 5 of 51	

H_SWING routing Trace width and Spacing use 10 / 20 mil

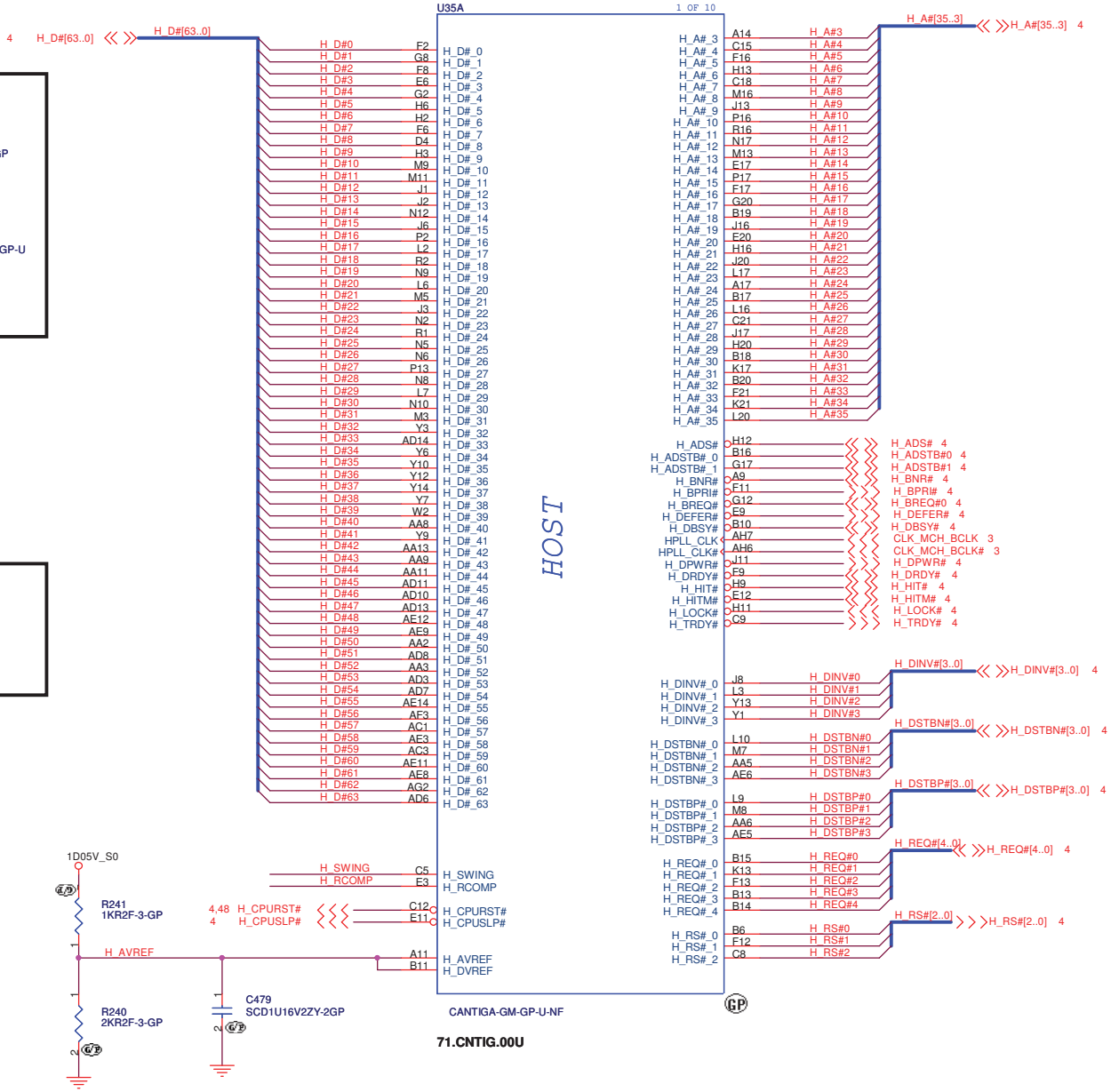
H_SWING Resistors and Capacitors close MCH 500 mil (MAX)



H_RCOMP routing Trace width and Spacing use 10 / 20 mil



Place them near to the chip (< 0.5")



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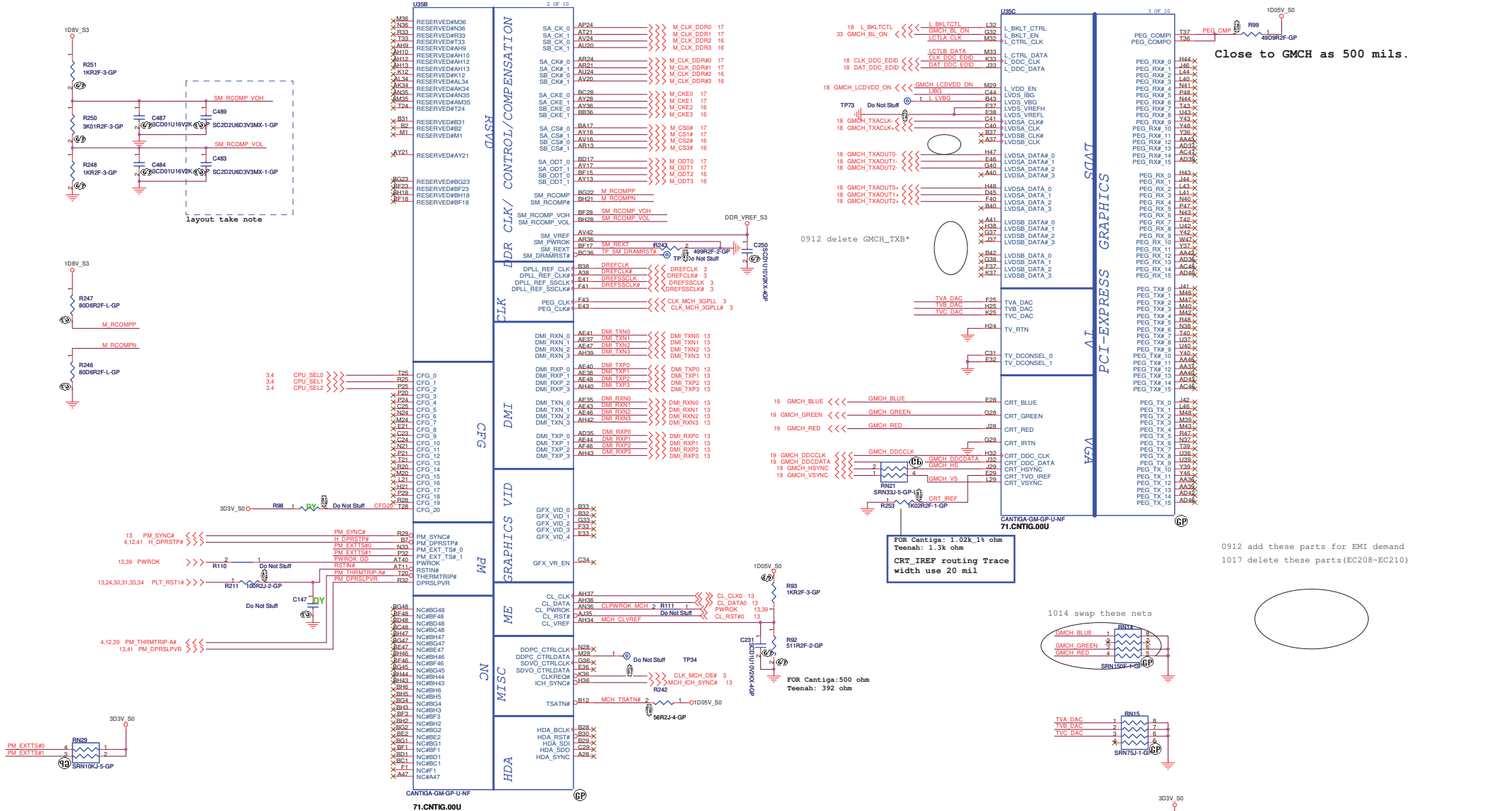
Title: Cantiga (1 of 6)_HOST

Size | Document Number: HM40-MV | Rev: SB

Date: Wednesday, November 26, 2008 | Sheet 6 of 51



Pin Name	Strap Description	Configuration
CFG20	Digital DisplayPort (SDVO/DP/HDMI) Concurrent with PCIE	Low = Only digital DisplayPort (SDVO/DP/HDMI) or PCIE is operational (default) High = Digital DisplayPort (SDVO/DP/HDMI) and PCIE are operating simultaneously via the PEG port

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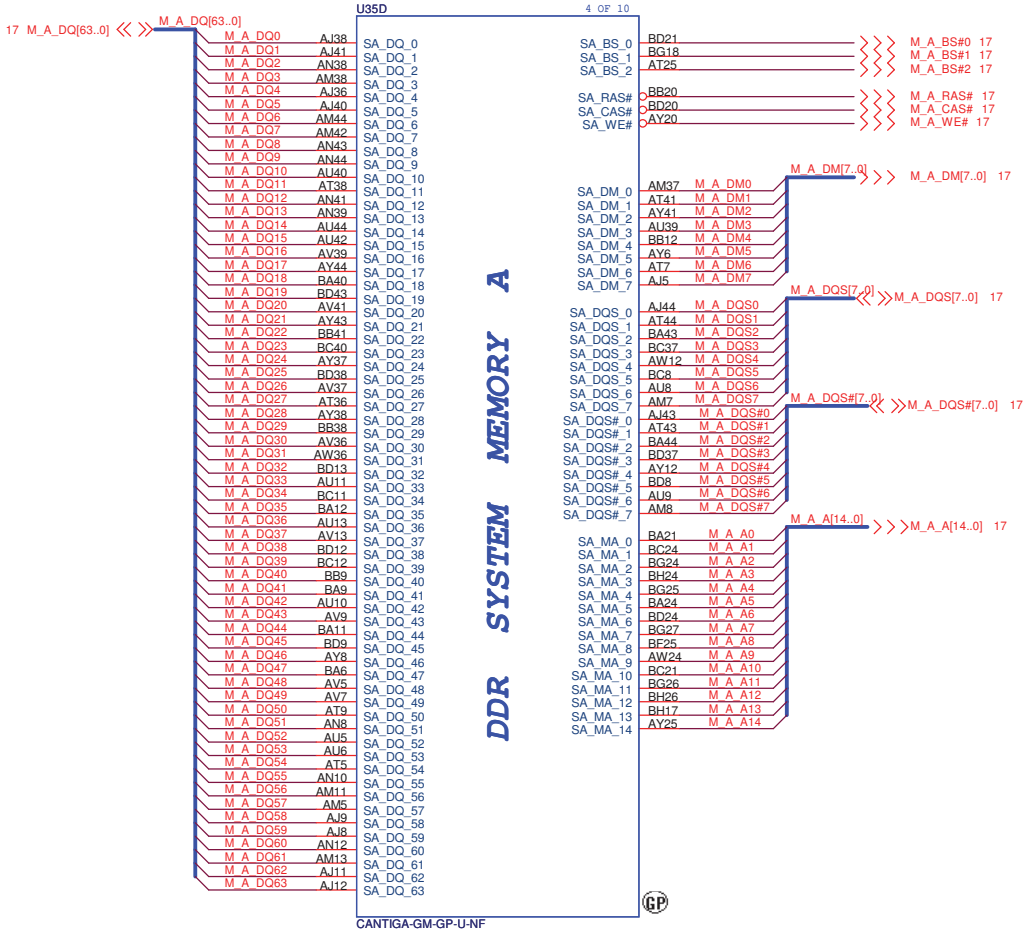
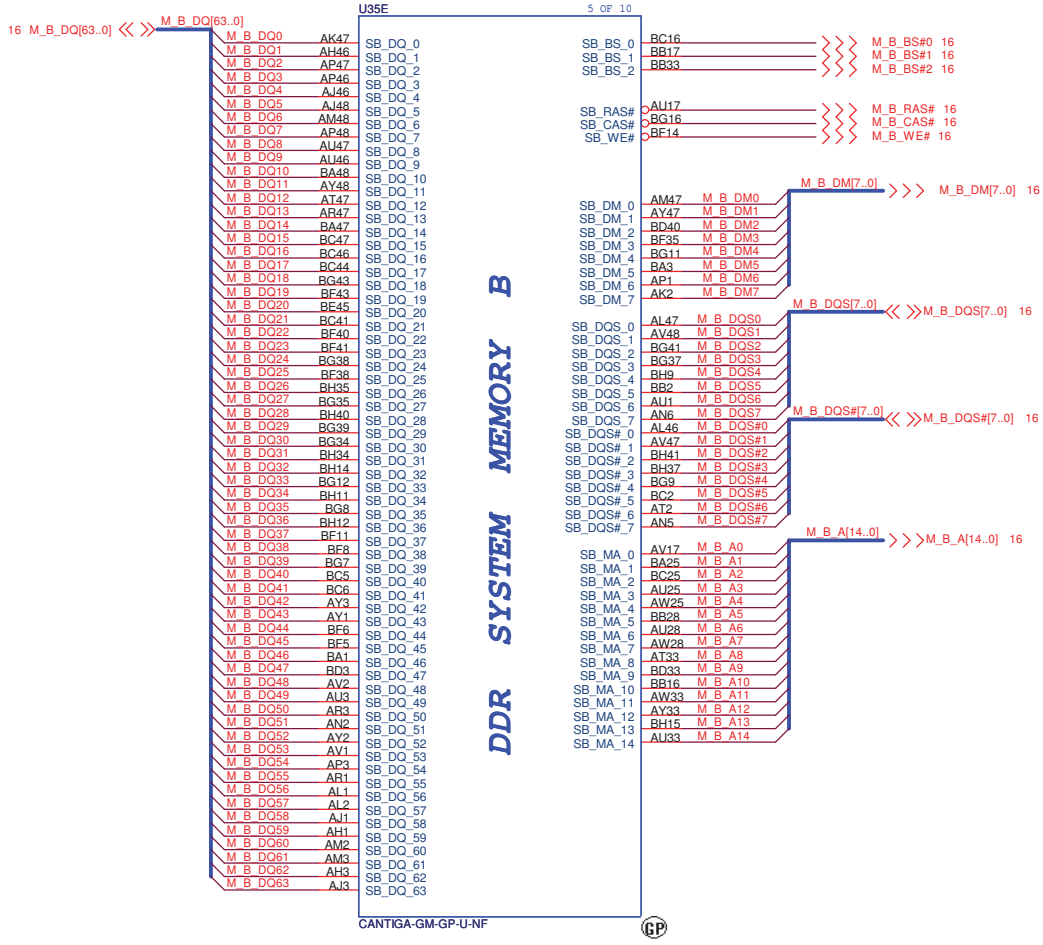
Title: Cantiga (2 of 6) DMI/PM/CFG
Size: Document Number: HM40-MV Rev: SB
Date: Monday, December 01, 2008 Sheet 7 of 51





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Title: **Cantiga (3 of 6)_DDR**

Size	Document Number	Rev
	HM40-MV	SB

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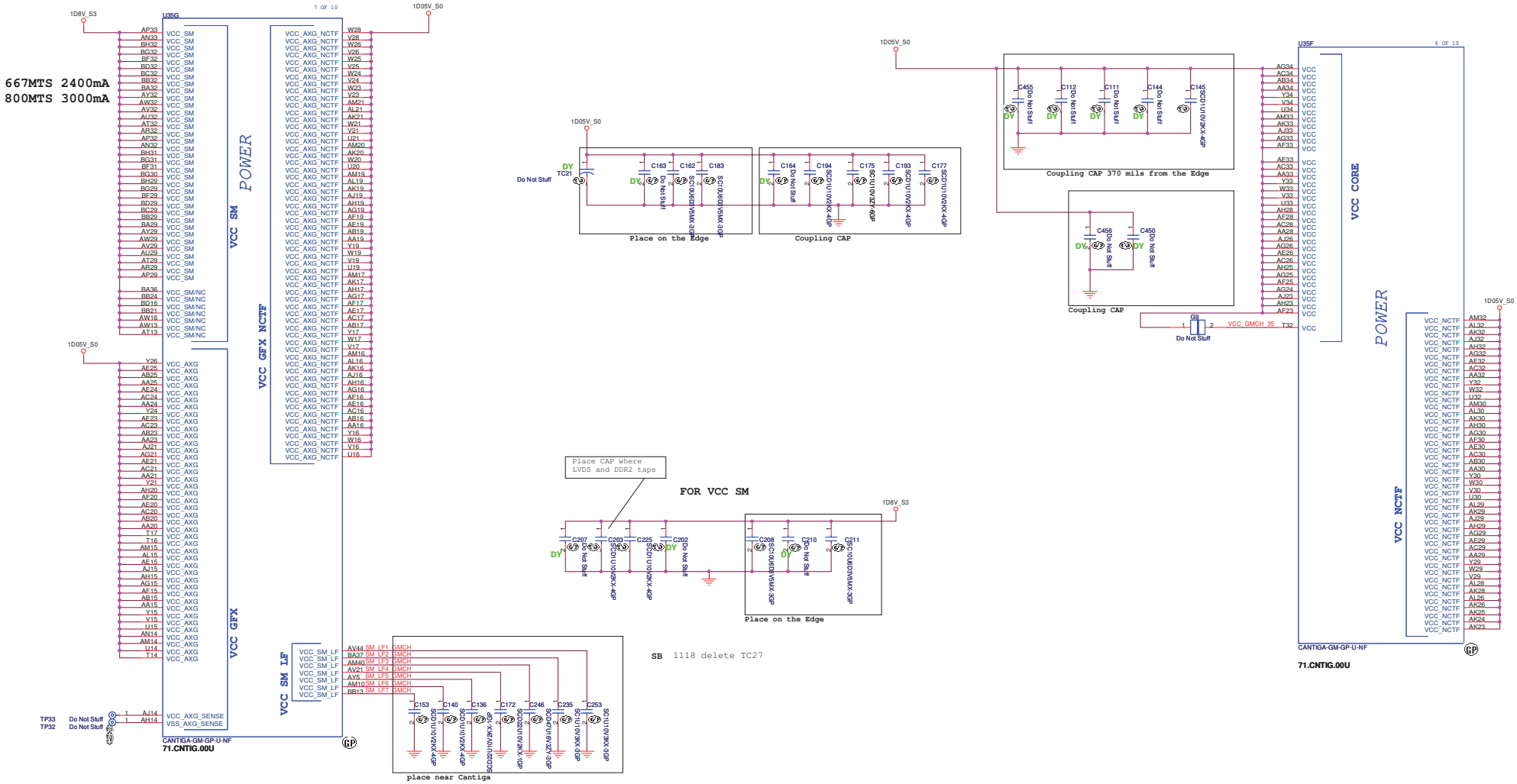

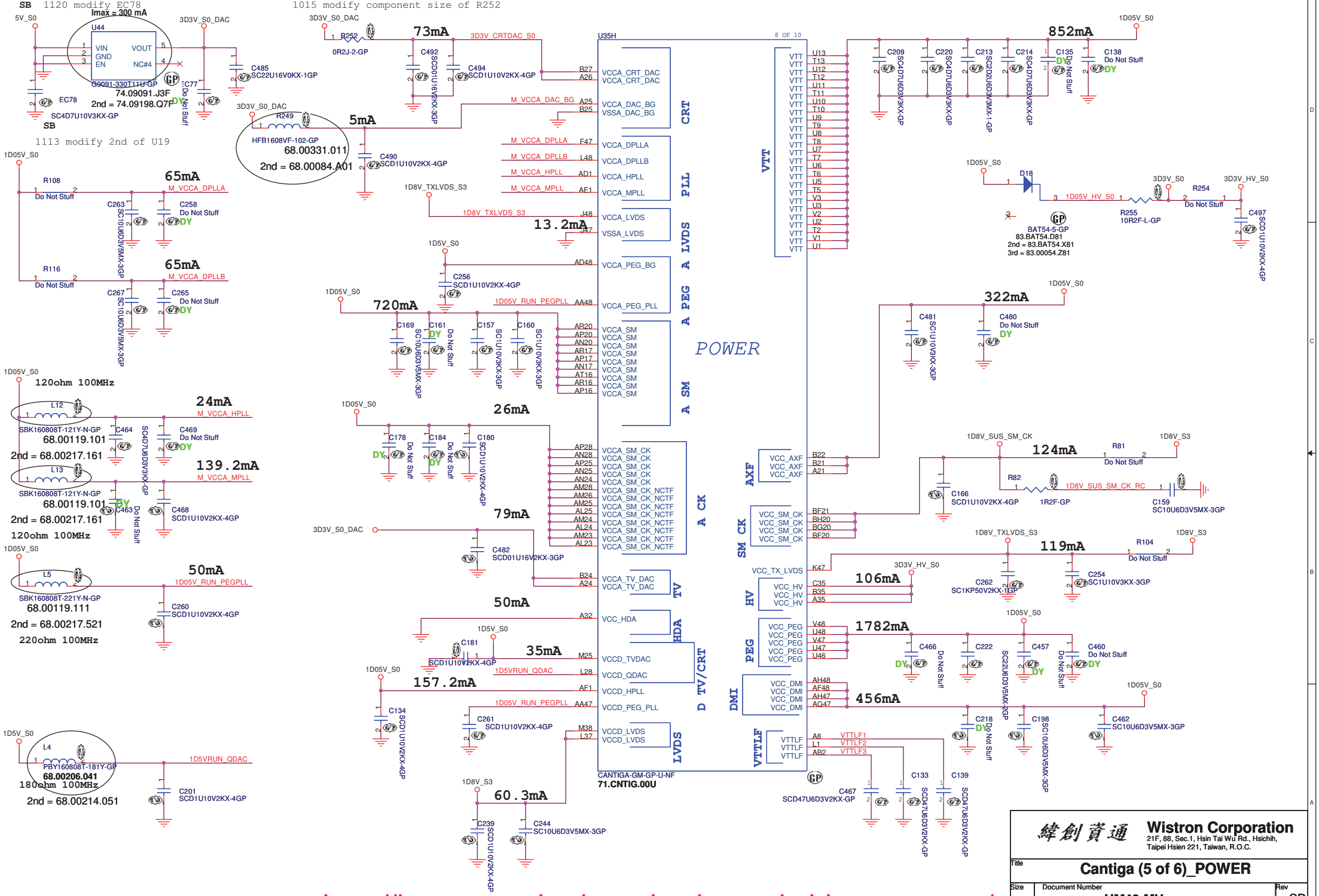

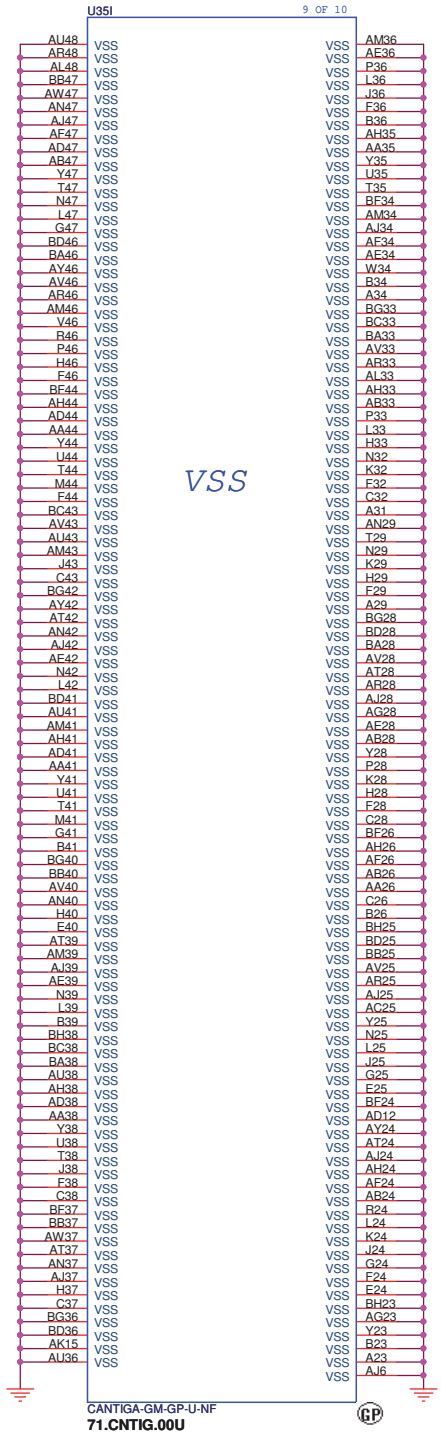

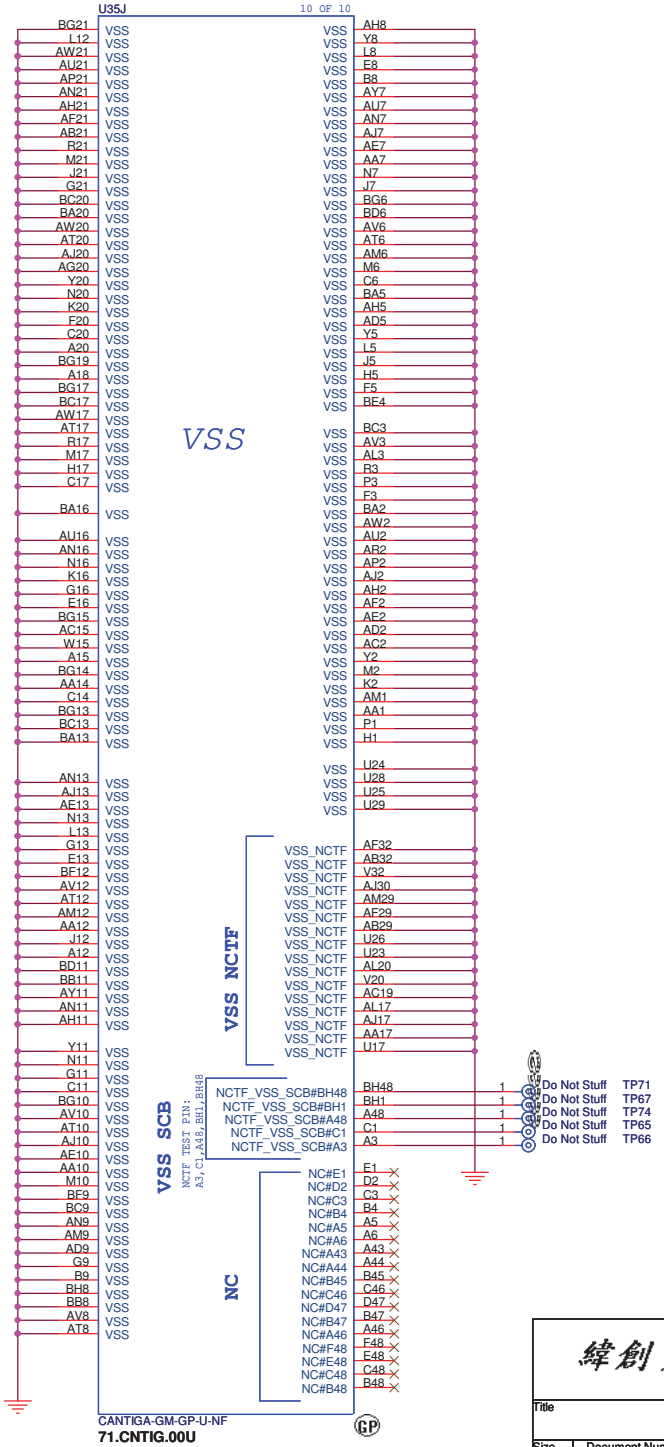

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Title: Cantiga (6 of 6)

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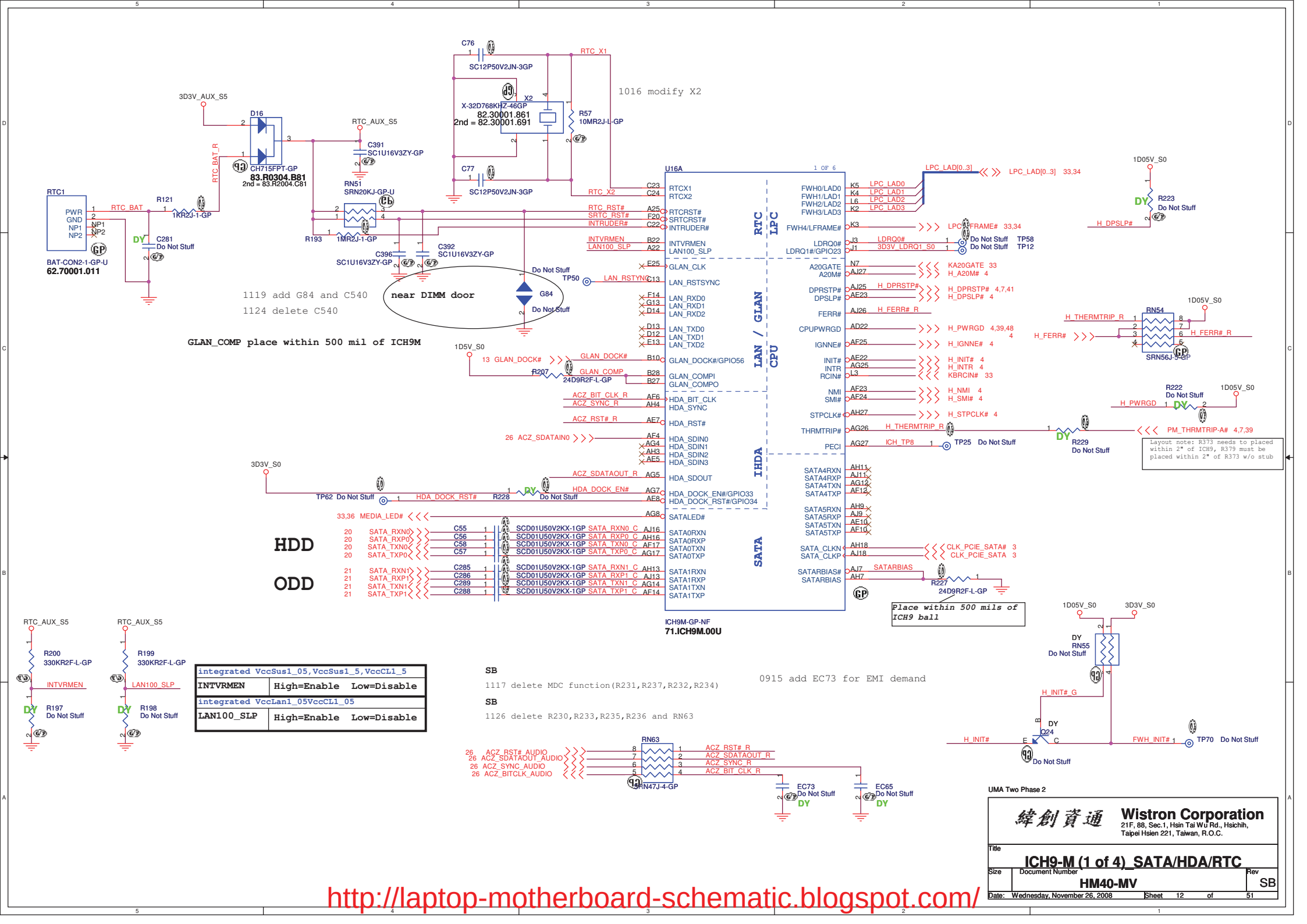
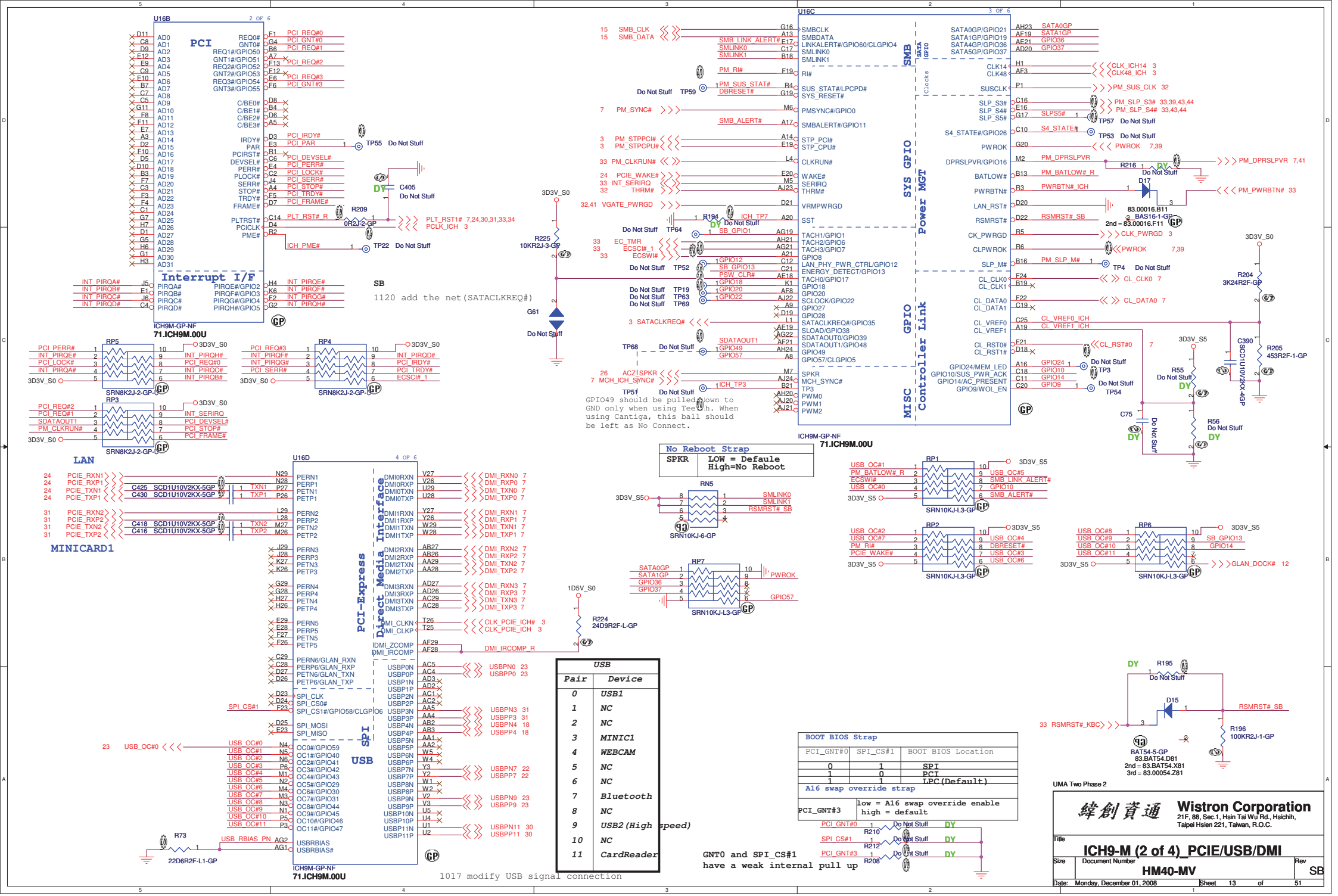
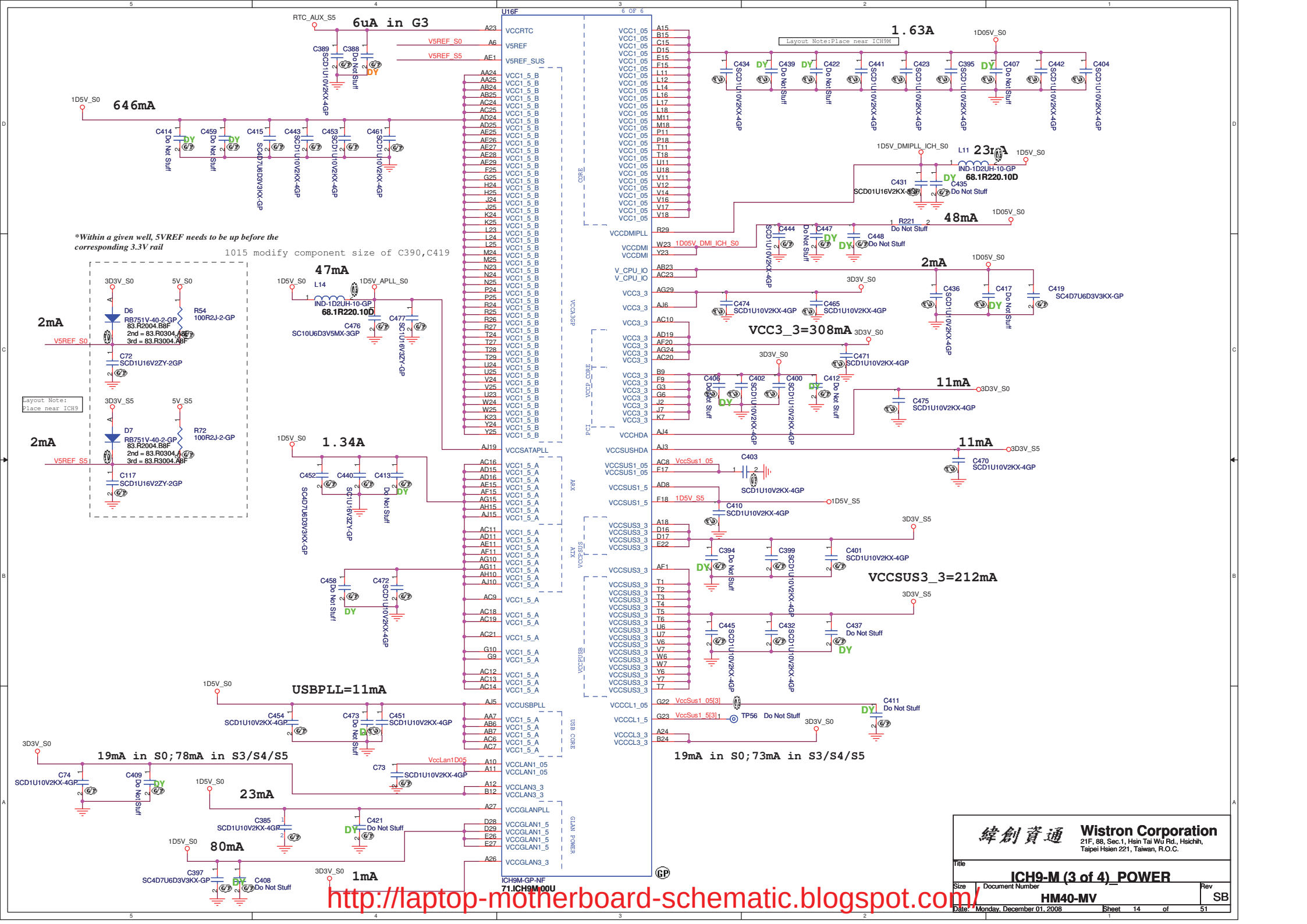
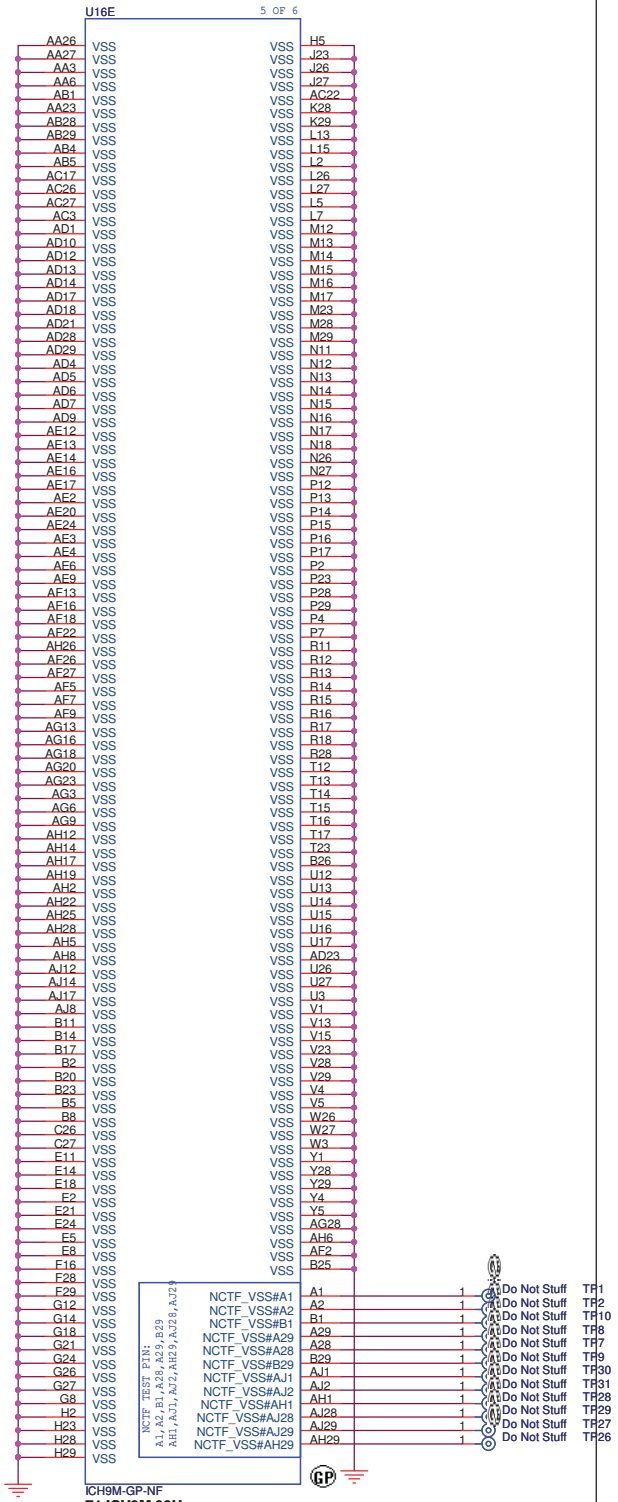
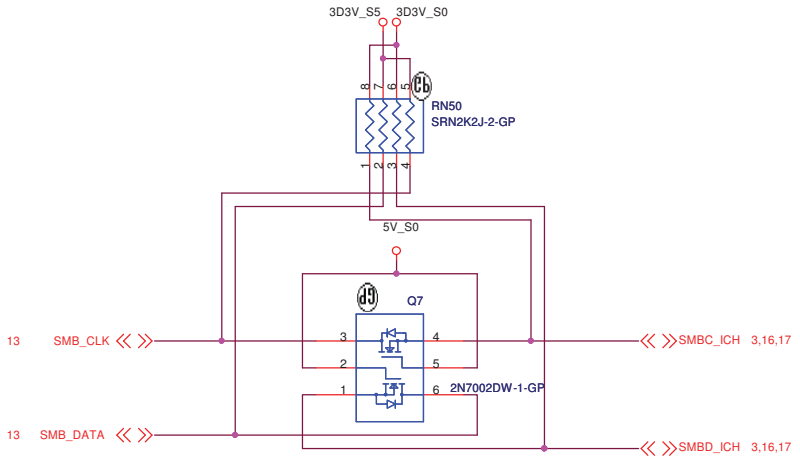
Date: Monday, December 01, 2008 | Sheet 11 of 51











SMBUS

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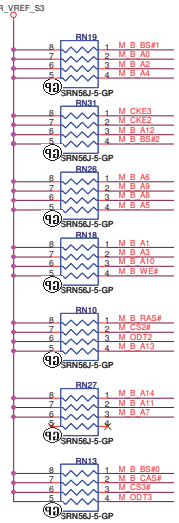
Title: ICH9-M (4 of 4)		
Size	Document Number: HM40-MV	Rev: SB
Date: Monday, December 01, 2008	Sheet 15 of 51	

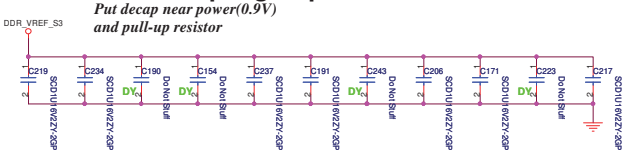
PARALLEL TERMINATION

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



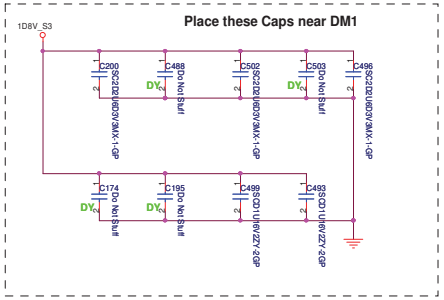
Decoupling Capacitor

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



High 9.2mm

62.10017.A71
2nd = 62.10017.B51
3rd = 62.10017.K51



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Title: **DDR2 Socket 0 (DM1)**

Size	Document Number	Rev
	HM40-MV	SB

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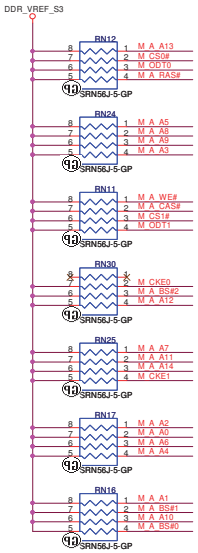
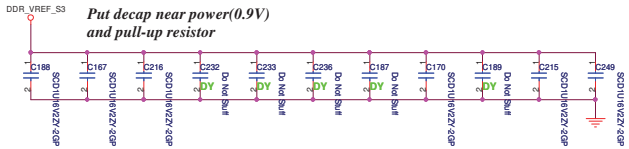
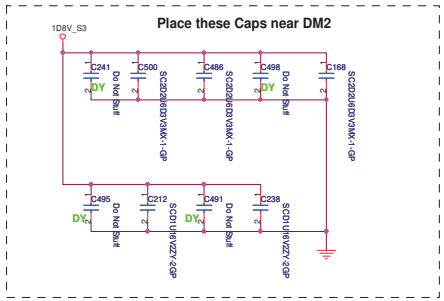
PARALLEL TERMINATION

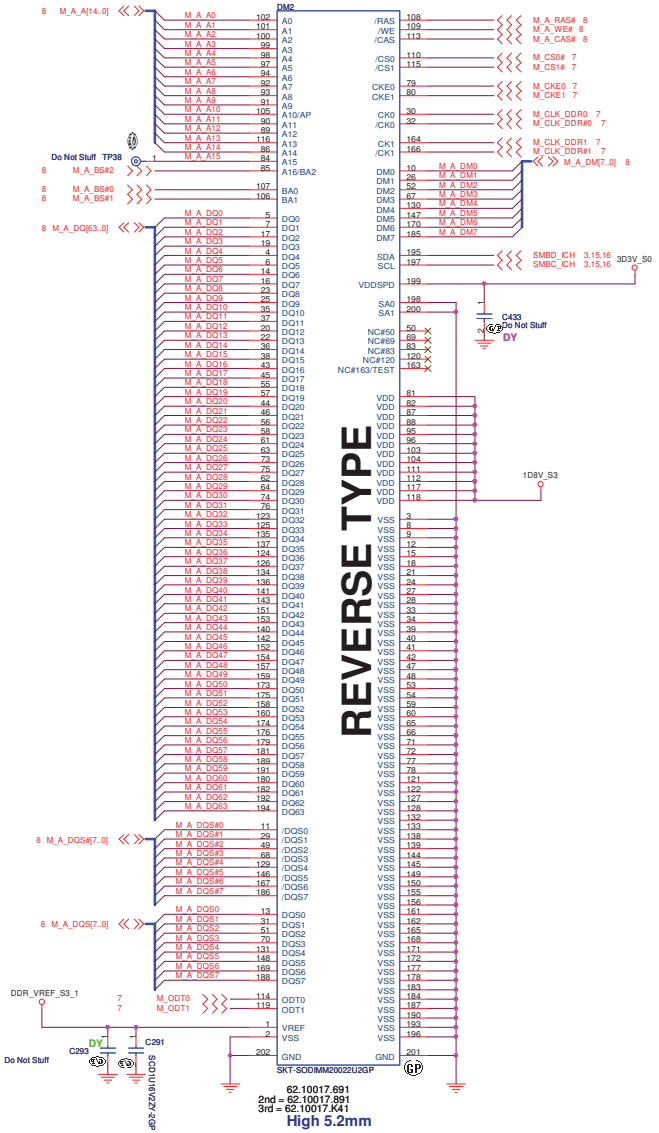
Put decap near power(0.9V) and pull-up resistor



Decoupling Capacitor







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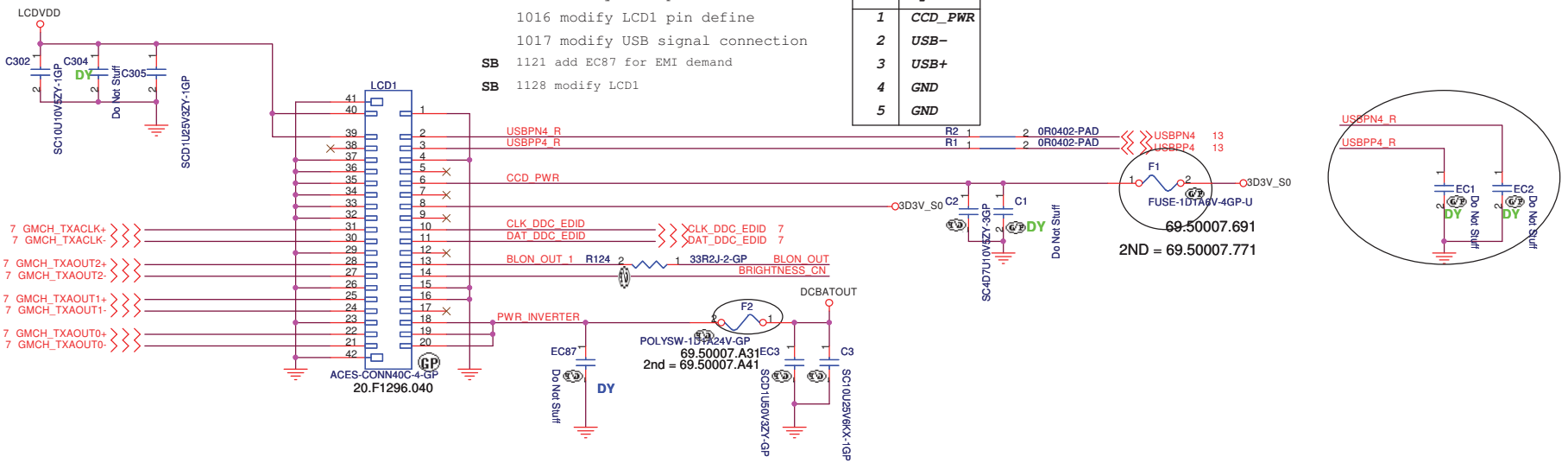
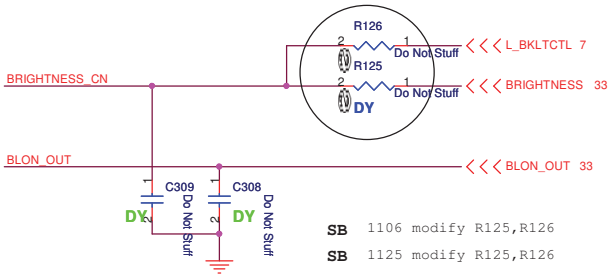
Title	DDR2 Socket 1 (DM2)	
Size	Document Number: HM40-MV	Rev: SB
Date: Monday, December 01, 2008	Sheet 17 of 51	

LCD/CCD CONN

1015 modify F1
1015 modify LCD1 pin define
1016 modify LCD1 pin define
1017 modify USB signal connection
SB 1121 add EC87 for EMI demand
SB 1128 modify LCD1

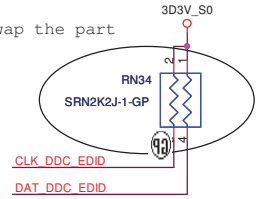
CCD Pin	
Pin	Symbol
1	CCD_PWR
2	USB-
3	USB+
4	GND
5	GND



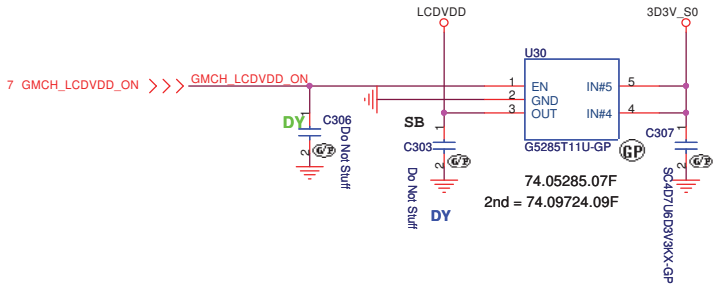


SB 1106 modify R125,R126
SB 1125 modify R125,R126

1014 swap the part



Layout 40 mil



1015 modify component size of C303,C307

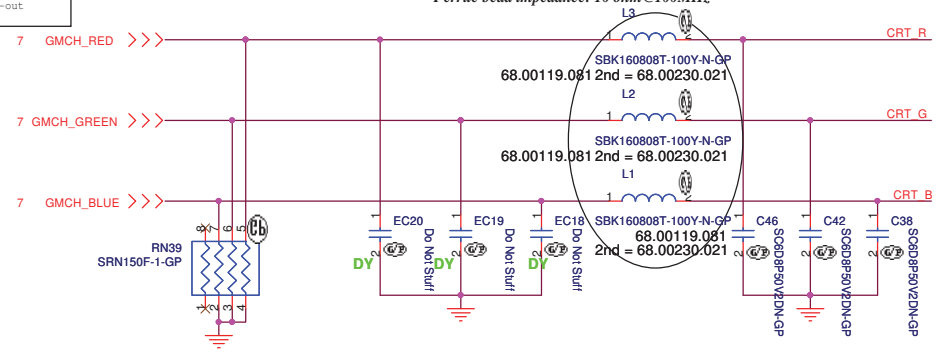
UMA Two Phase 2

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

Title: LCD CONN
Size: | Document Number: HM40-MV | Rev: SB
Date: Friday, November 28, 2008 | Sheet 18 of 51

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

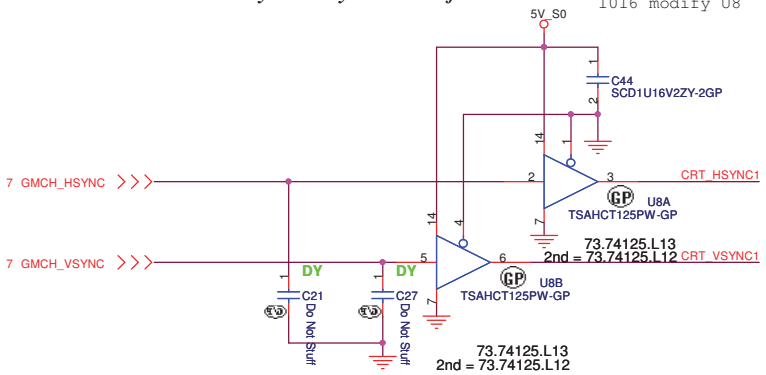
Ferrite bead impedance: 10 ohm@100MHz



1016 modify L1,L2 and L3

Hsync & Vsync level shift

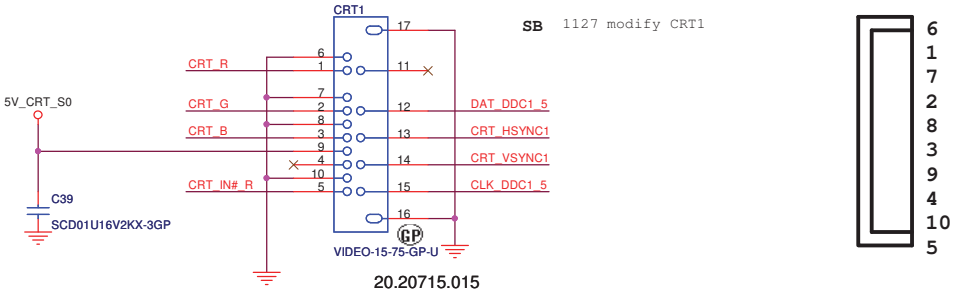
1016 modify U8

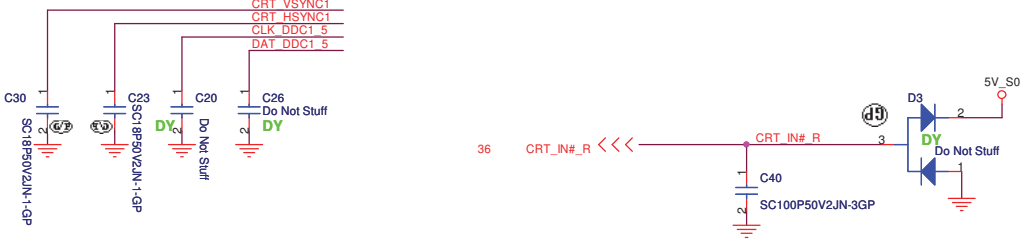


Layout Note:
**** Must be a ground return path between this ground and the ground on the VGA connector.***
Pi-filter & 150 Ohm pull-down resistors should be as close as to CRT CONN. RGB will hit 75 Ohm first, pi-filter, then CRT CONN.

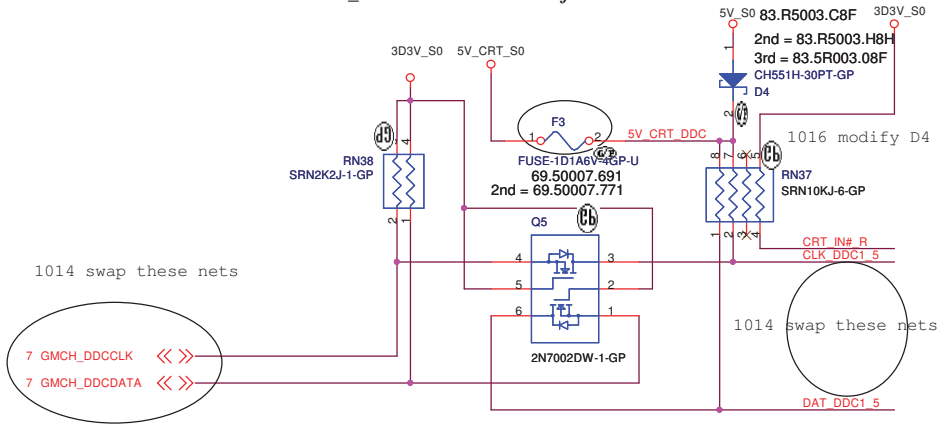
CRT I/F & CONNECTOR

SB 1127 modify CRT1





DDC_CLK & DATA level shift



UMA Two Phase 2

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

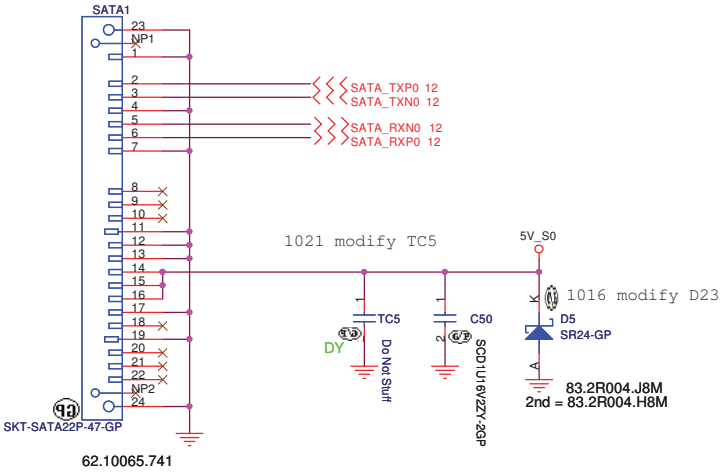
Title: **CRT Connector**

Size	Document Number	Rev
	HM40-MV	SB

Date: Monday, December 01, 2008 Sheet 19 of 51

SATA Connector

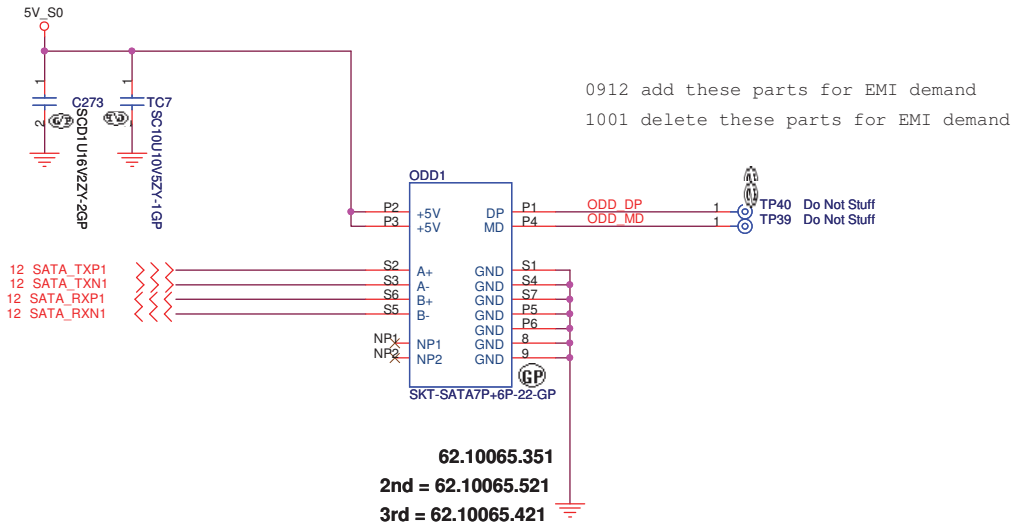
0912 add these parts for EMI demand
1001 delete these parts for EMI demand
1021 modify SATA1



UMA Two Phase 2

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: HDD		
Size	Document Number: HM40-MV	Rev: SB
Date: Monday, December 01, 2008	Sheet 20 of 51	

SATA ODD Connector



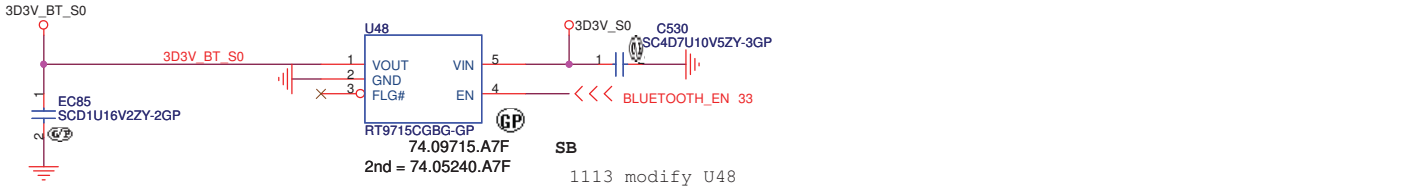
UMA Two Phase 2

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

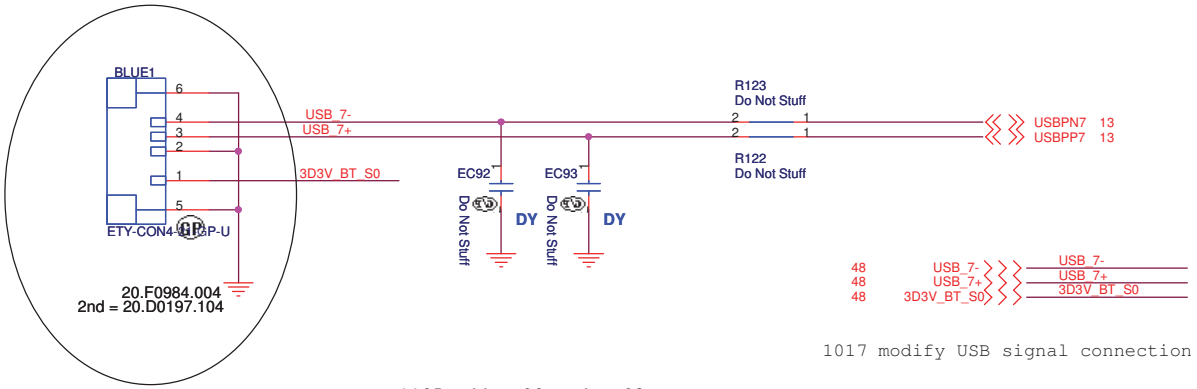
Title		
ODD		
Size	Document Number	Rev
	HM40-MV	SB
Date: Monday, December 01, 2008	Sheet 21 of 51	

BLUETOOTH MODULE

1.5A / High Active Voltage 2V



EC21 put near BLUE1 / all USB put one choke near connector by EMI request



SB 1125 add EC92 and EC93

0930 modify BLUE1

1017 modify BLUE1

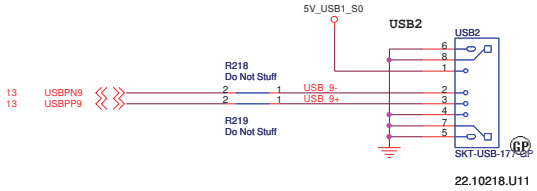
UMA Two Phase 2

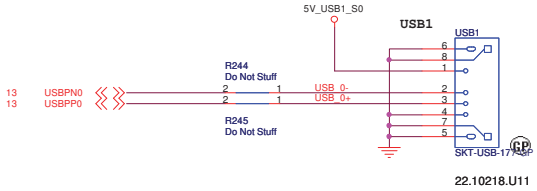
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

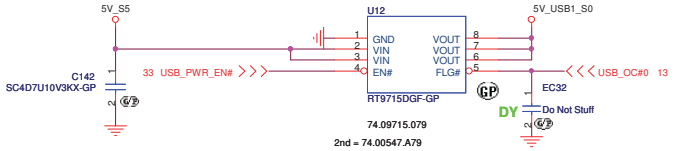
Title: **Bluetooth**		
Size	Document Number: **HM40-MV**	Rev: SB
Date: Wednesday, November 26, 2008	Sheet 22 of 51	

1017 modify USB signal connection

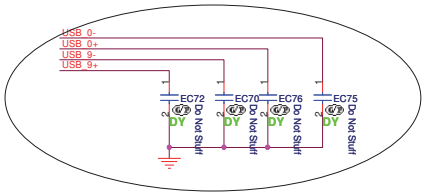
1021 modify and swap these parts(USB1 and USB2)



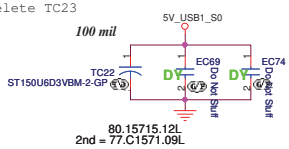




0912 add these parts for EMI demand



1021 delete TC23



UMA Two Phase 2

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: USB		
Size	Document Number: HM40-MV	Rev: SB
Date: Monday, December 01, 2008	Sheet 23 of 51	

1015 modify component size of R69

Close to AR8114 Pin2

AR8132 use 0 ohm resiter

AR8114A Atheros suggestion change to Bead
60 ohms/100Mhz 500mA (68.60090.0D1)

LAN_ACT_LED

FOR AR8114A LAN_ACT_LED is high enable pin

1016 modify RN53 and U10

Close to U13 Pin8

1001 modify RN9

1014 swap these nets

1126 add R303,R304

1113 modify C103 and C106

82.30020.791
2nd = 82.30020.851

72.24C08.I01
2nd = 72.24C08.J01

AR8114 use 0ohm resister
AR8132 Atheros suggest to change 4.7uH choke

1015 modify component size of R79

1016 modify Q8

84.00069.B1B
2nd = 84.DCP69.01B
3rd = 84.00069.A1B

1128 Add L19

Close to AR8114 Pin1

Close to AR8114 Pin28
Close to AR8114 Pin32
Close to AR8114 Pin45
Close to AR8114 Pin46

Close to AR8114 Pin8
Close to AR8114 Pin16
Close to AR8114 Pin22
Close to AR8114 Pin36
Close to AR8114 Pin39

Close to AR8114 Pin6
Close to AR8114 Pin15
Close to AR8114 Pin19
Close to AR8114 Pin25

Atheros suggestion change to Bead
60 ohms/100Mhz 500mA (68.60090.0D1)

Close to AR8114 Pin6

UMA Two Phase 2

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

Title: Atheros AR8114/8132

Size: A3 | Document Number: HM40-MV | Rev: SB

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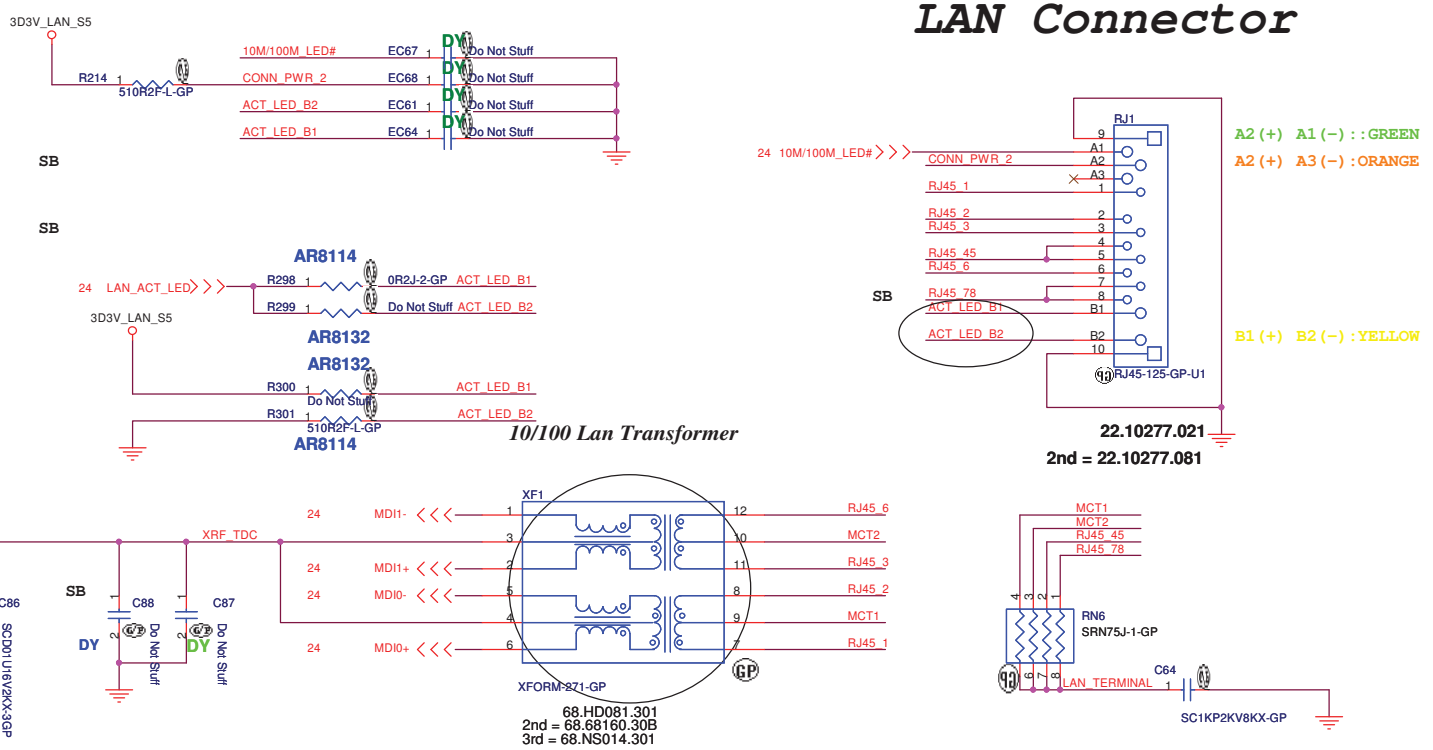
LAN Connector



1016 modify XF1

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

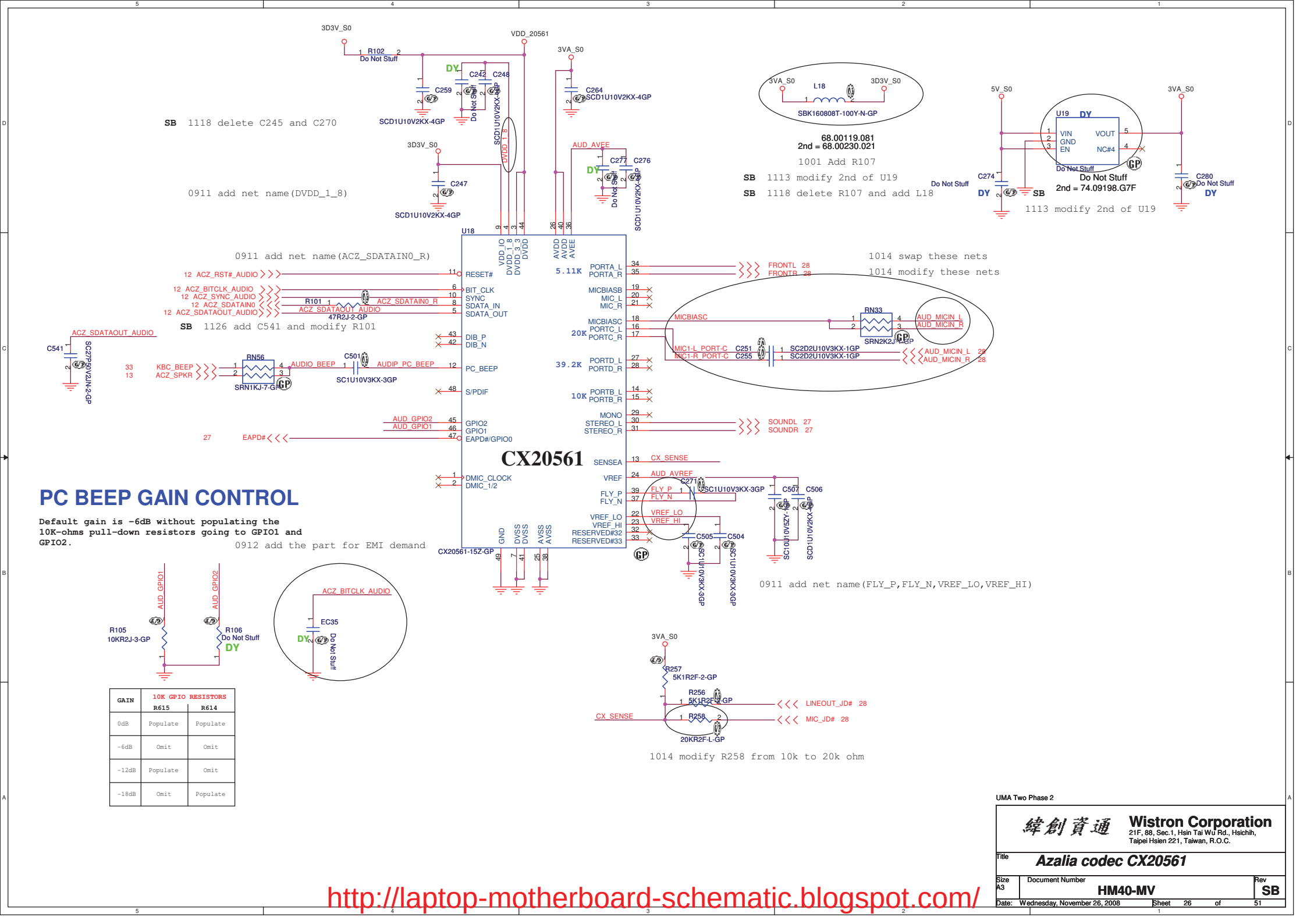
UMA Two Phase 2

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	HM40-MV	SB

Date: Monday, December 01, 2008 Sheet 25 of 51



GAIN	10K GPIO RESISTORS	
	R615	R614
0dB	Populate	Populate
-6dB	Omit	Omit
-12dB	Populate	Omit
-18dB	Omit	Populate

UMA Two Phase 2

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 CX20561

Size: A3 | Document Number: HM40-MV | Rev: SB

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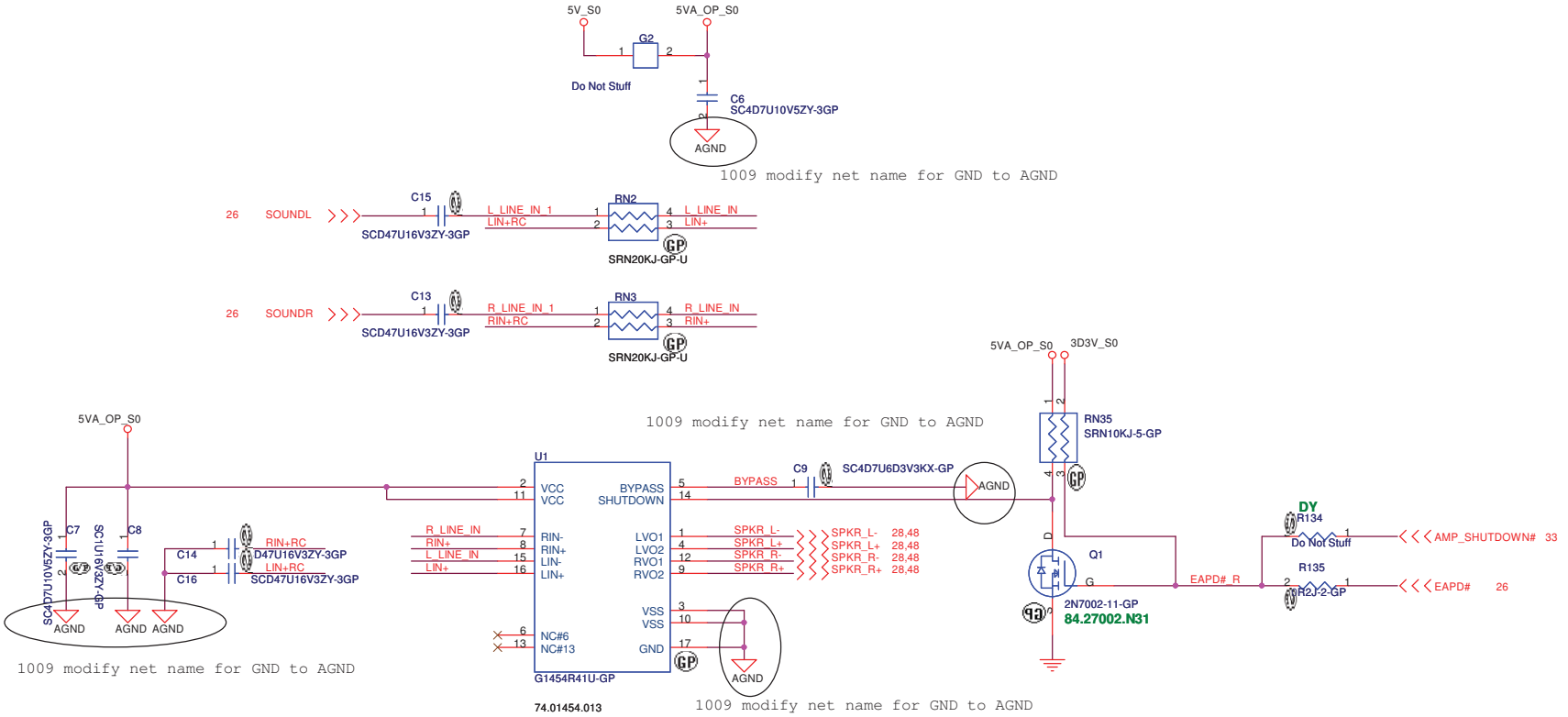
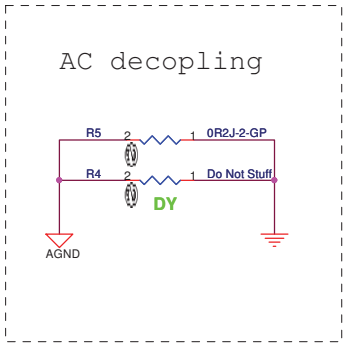
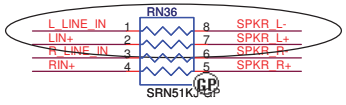
AUDIO OP AMPLIFIER





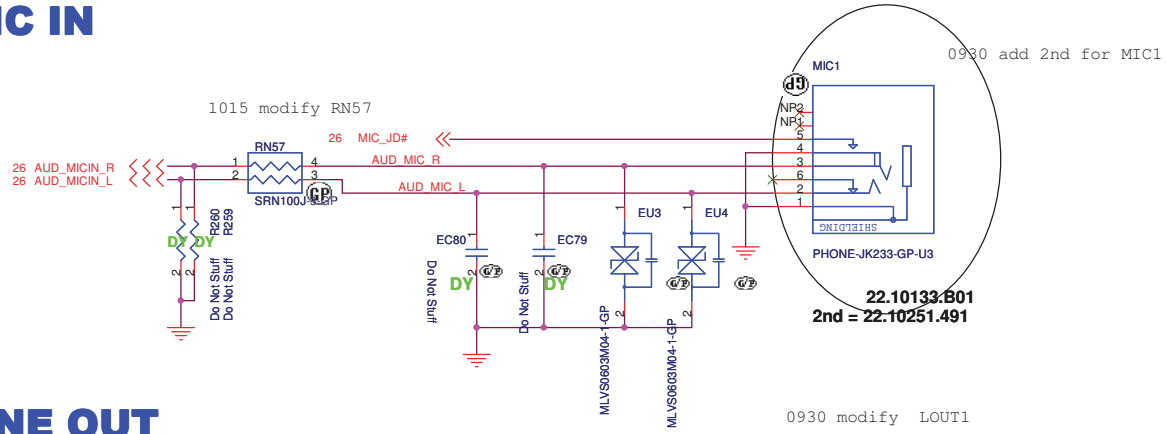
1014 swap these nets



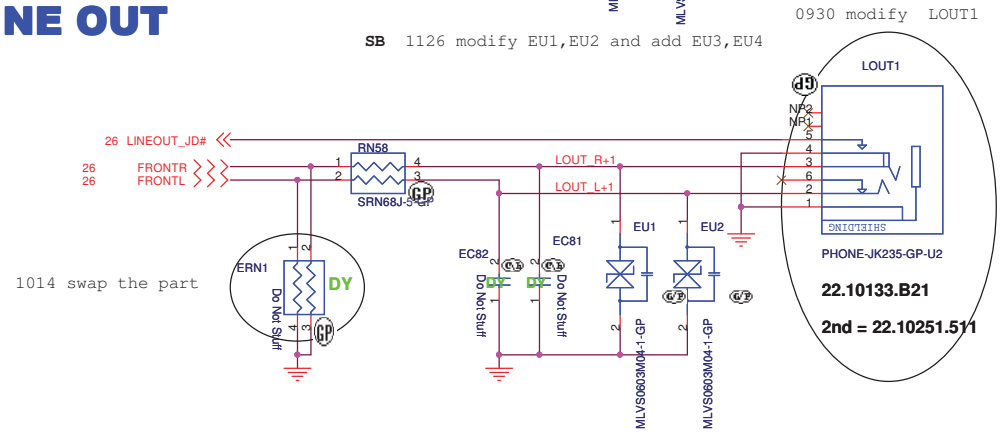
UMA Two Phase 2

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	Document Number: HM40-MV — Rev: SB
Date: Monday, December 01, 2008	Sheet 27 of 51

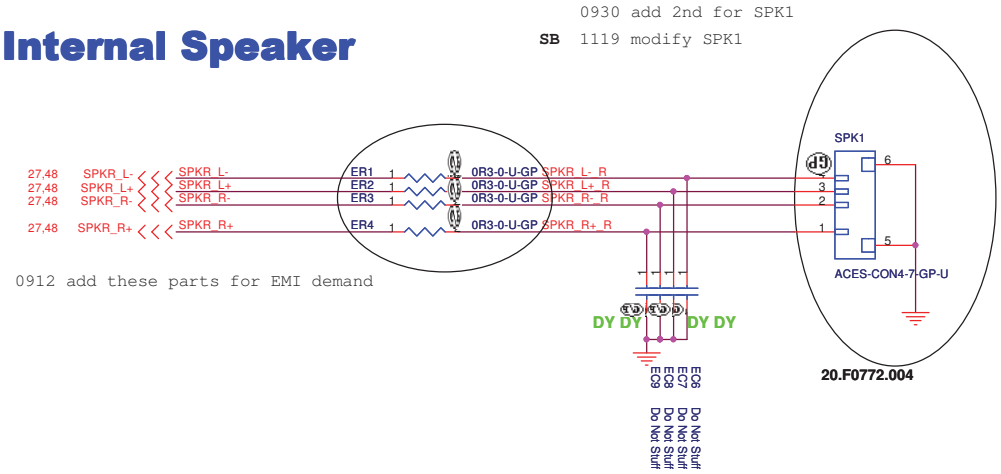
MIC IN



LINE OUT



Internal Speaker



UMA Two Phase 2

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

Title: AUDIO JACK

Size | Document Number: HM40-MV | Rev: SB

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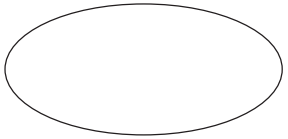
MDC 1.5 CONN

0912 add the part for EMI demand

1002 modify MDC1

SB

1112 delete MDC function



UMA Two Phase 2

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

Title		
MDC		
Size	Document Number	Rev
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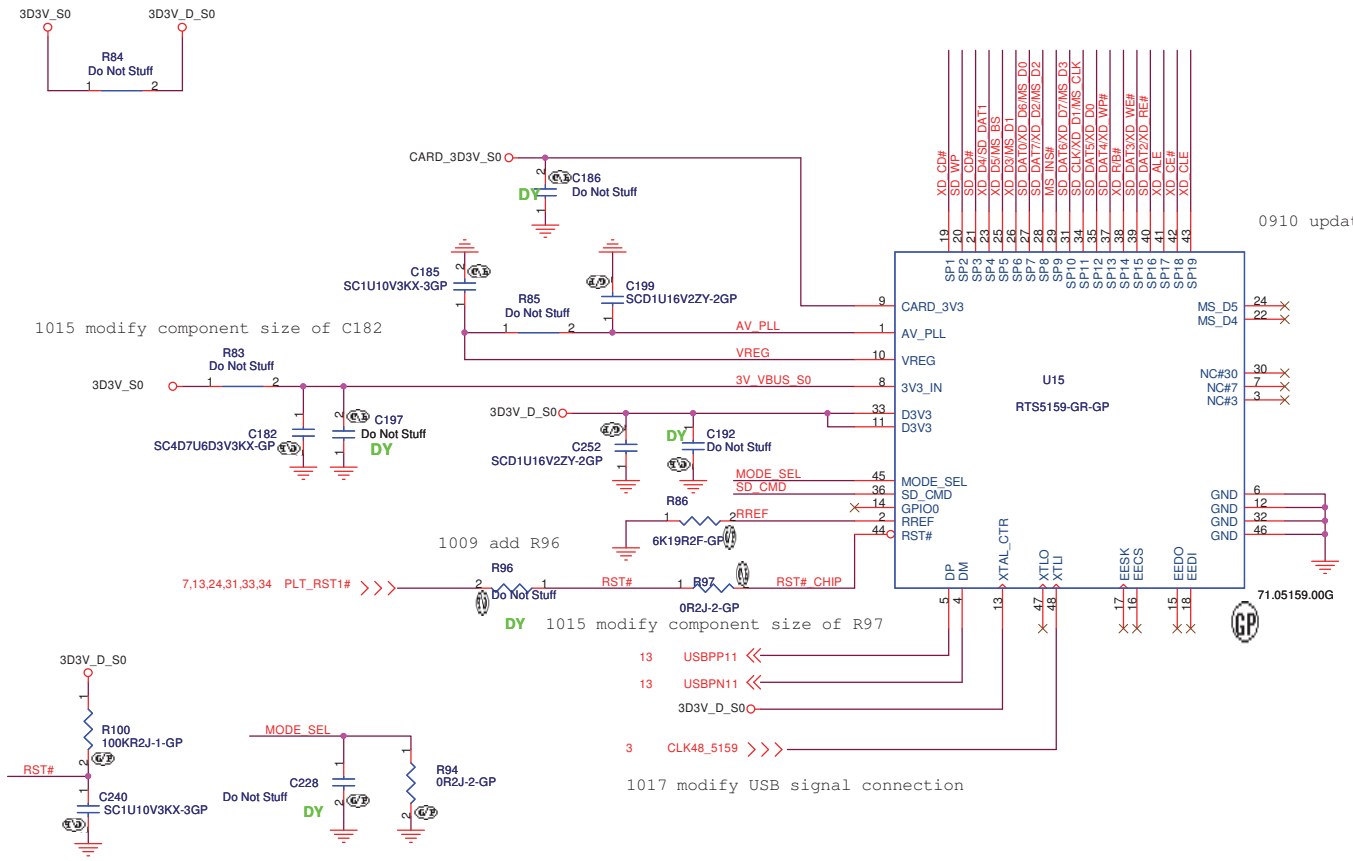
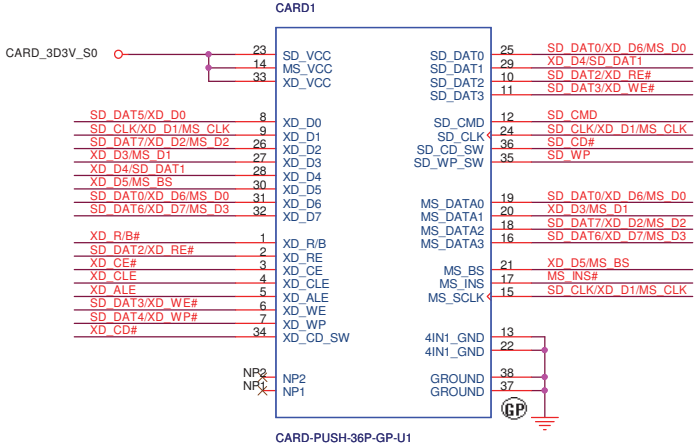
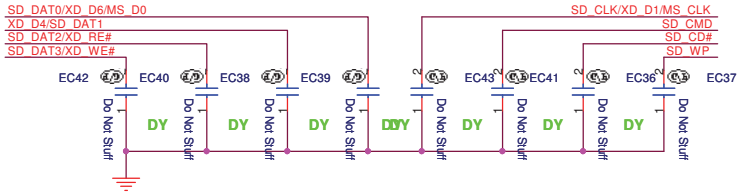
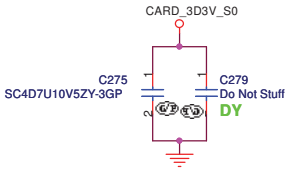


5 IN1 CARD-READER (SD/MMC/MS/MS PRO/XD)

1009 modify this net
1013 modify card1







UMA Two Phase 2

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

Title: CARD READER- RTS5159

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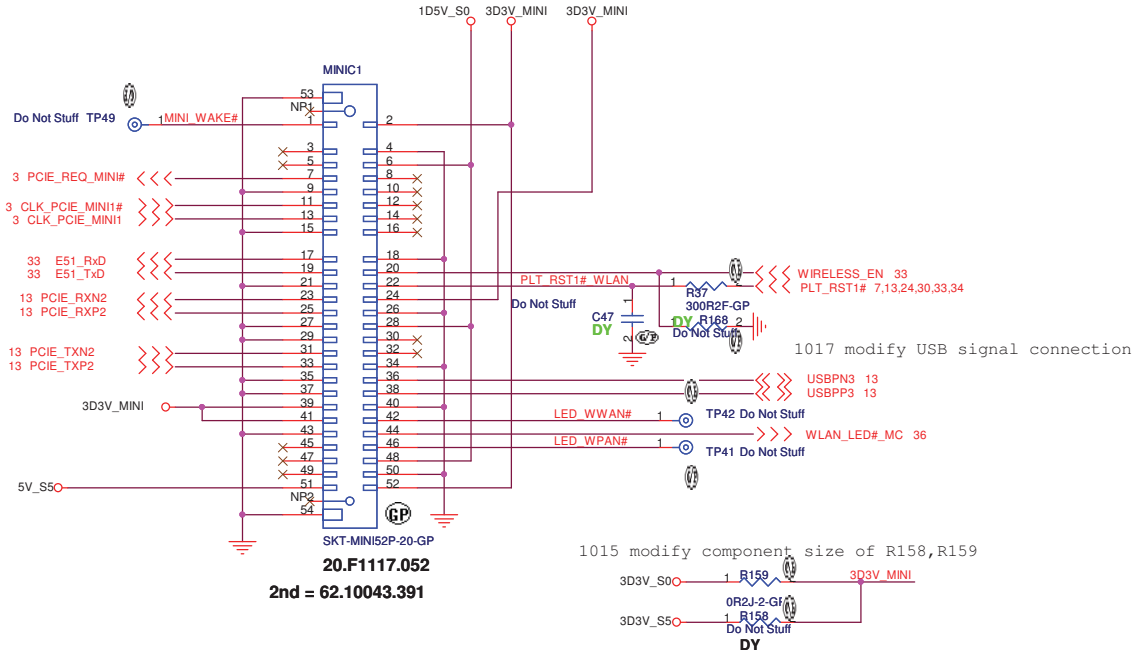
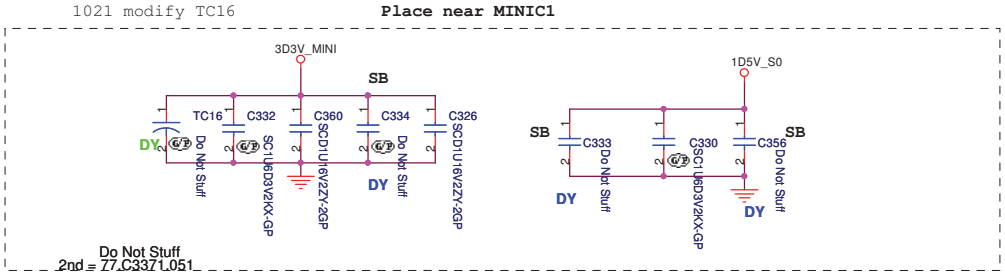
Mini Card Connector(WLAN)





UMA Two Phase 2

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: HM40-MV	Rev: SB
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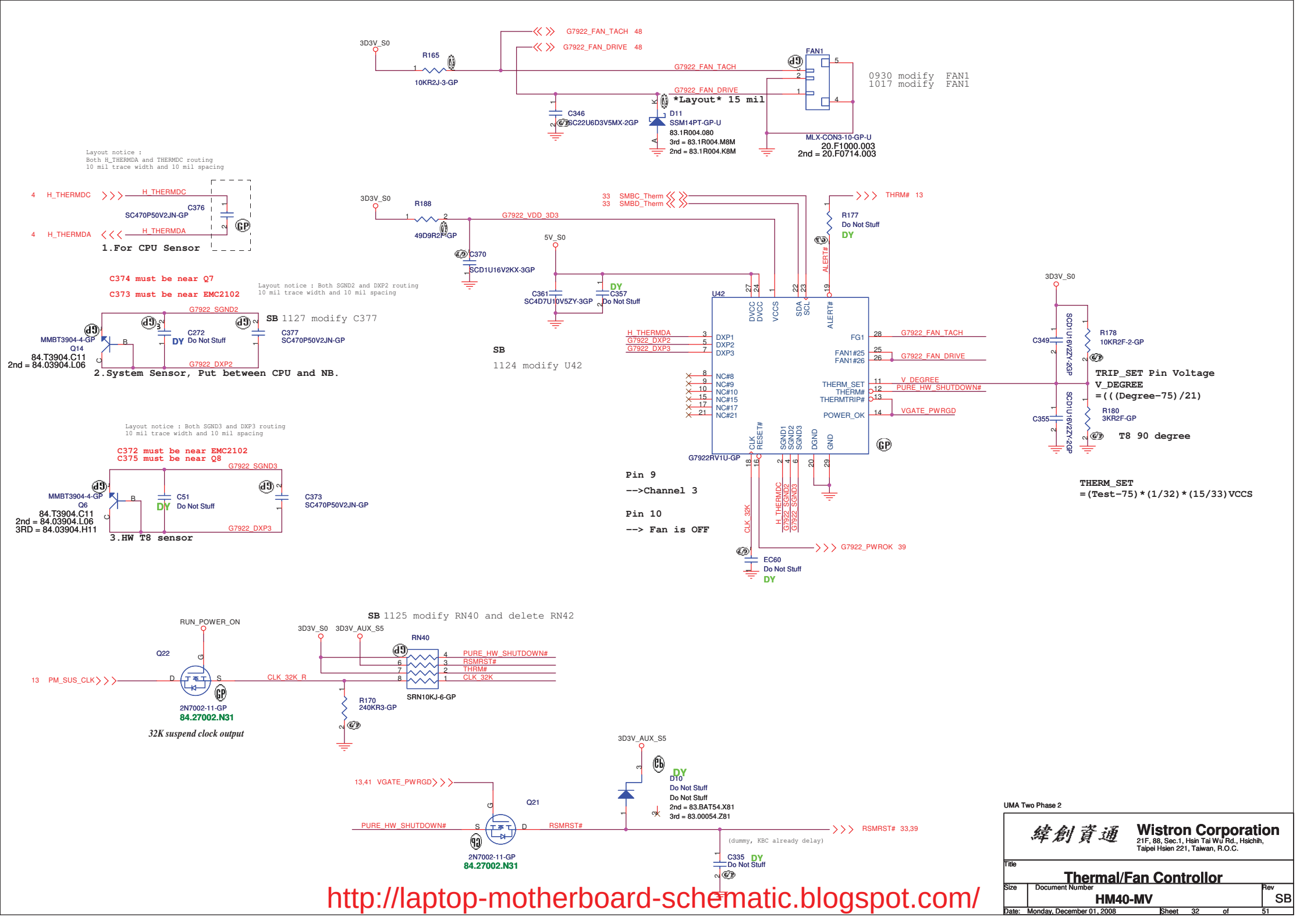

UMA Two Phase 2

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

Title: Thermal/Fan Controllor

Size	Document Number	Rev
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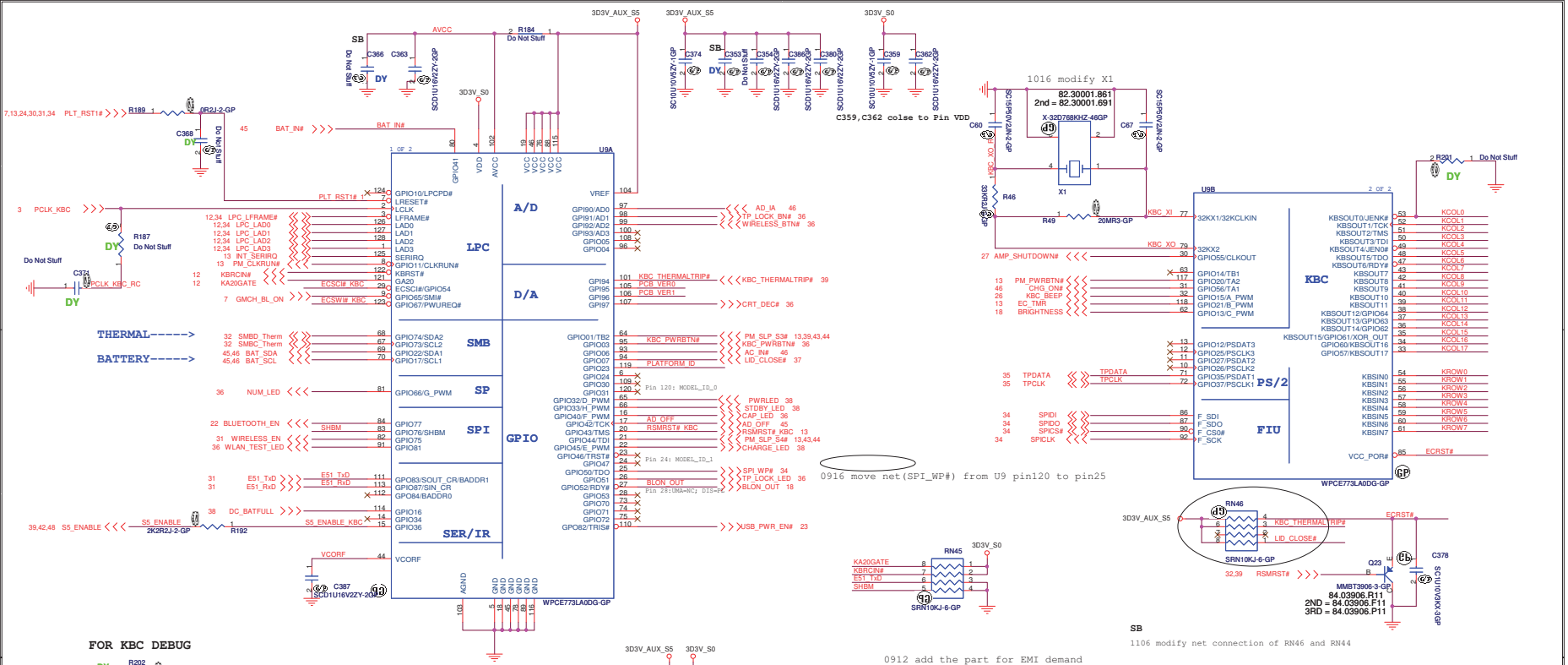
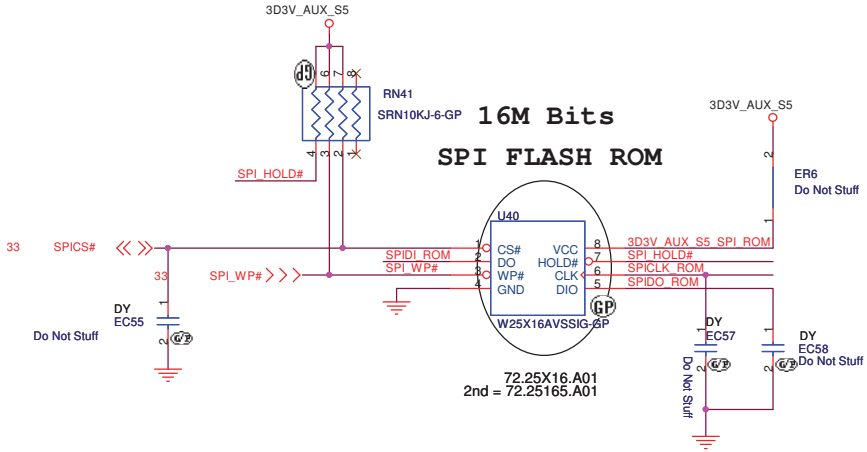
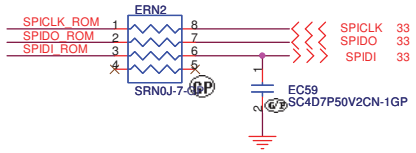


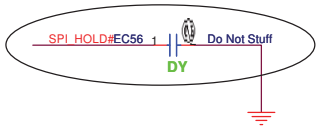


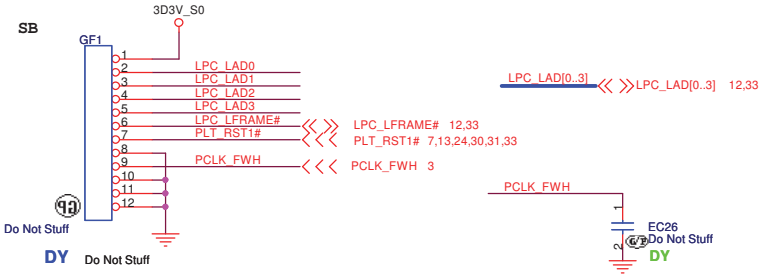


GOLDEN FINGER FOR DEBUG BOARD

1013 modify U40 from 72.25X16.001 to 72.25X16.A01

0912 add the part for EMI demand





UMA Two Phase 2

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

Title	BIOS/GOLDEN FINGER	
Size	Document Number HM40-MV	Rev SB
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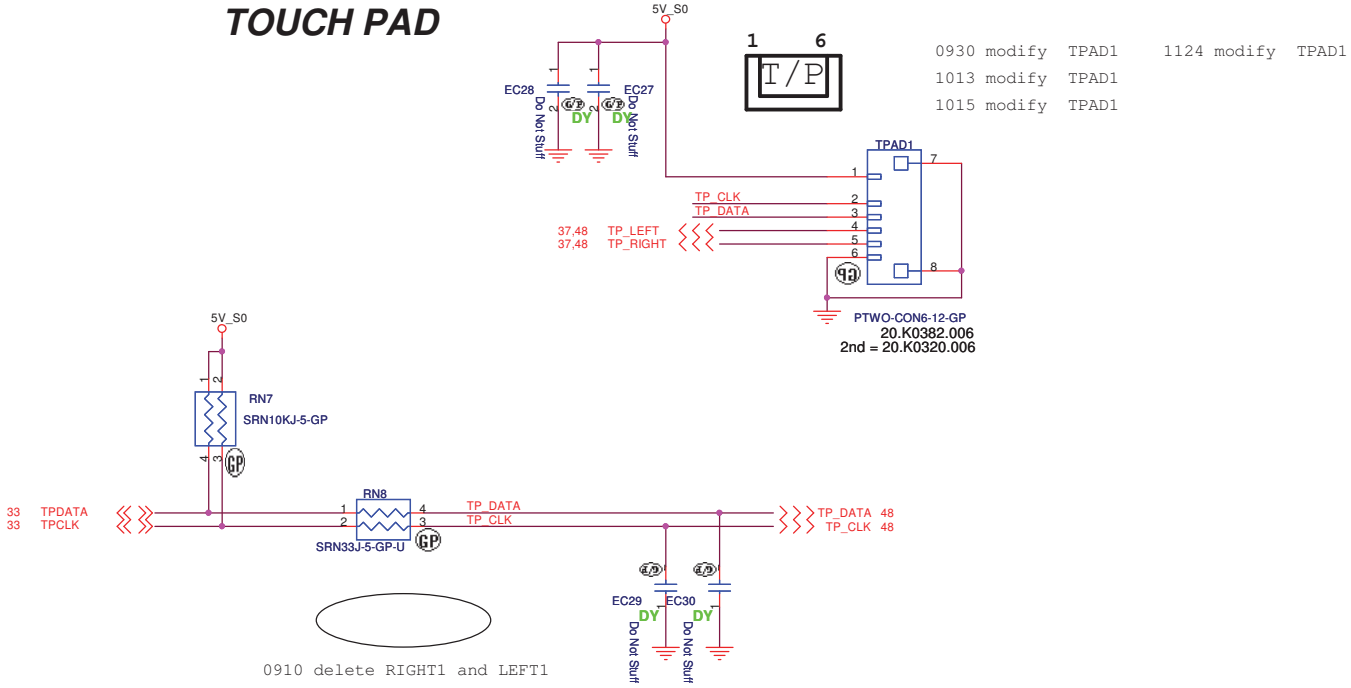
TOUCH PAD



0930 modify TPAD1 1124 modify TPAD1
1013 modify TPAD1
1015 modify TPAD1

UMA Two Phase 2

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: Touch pad		
Size	Document Number: HM40-MV	Rev: SB
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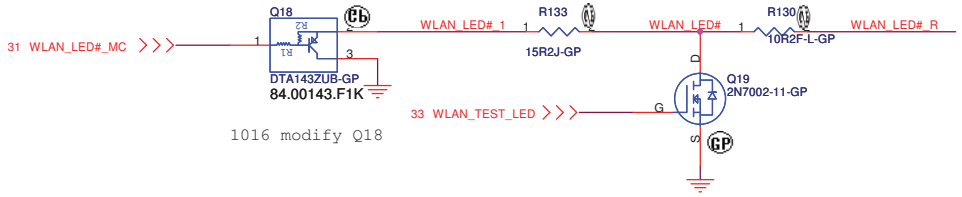
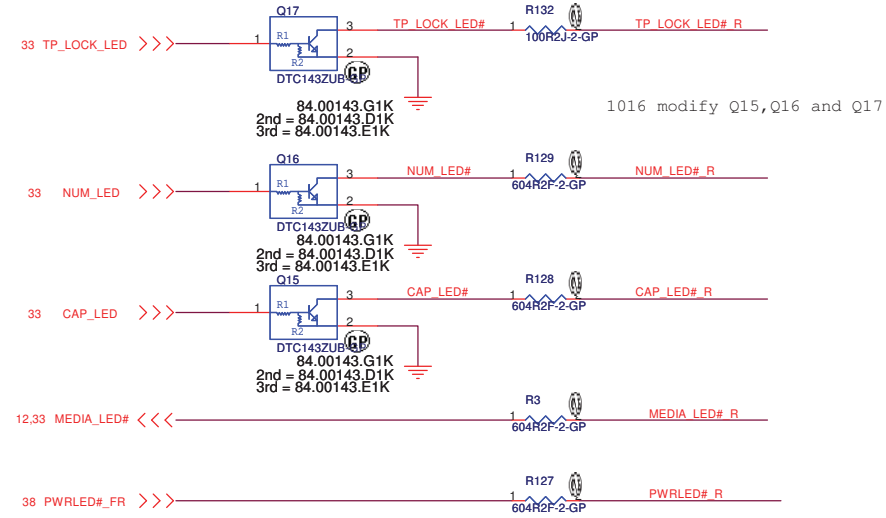
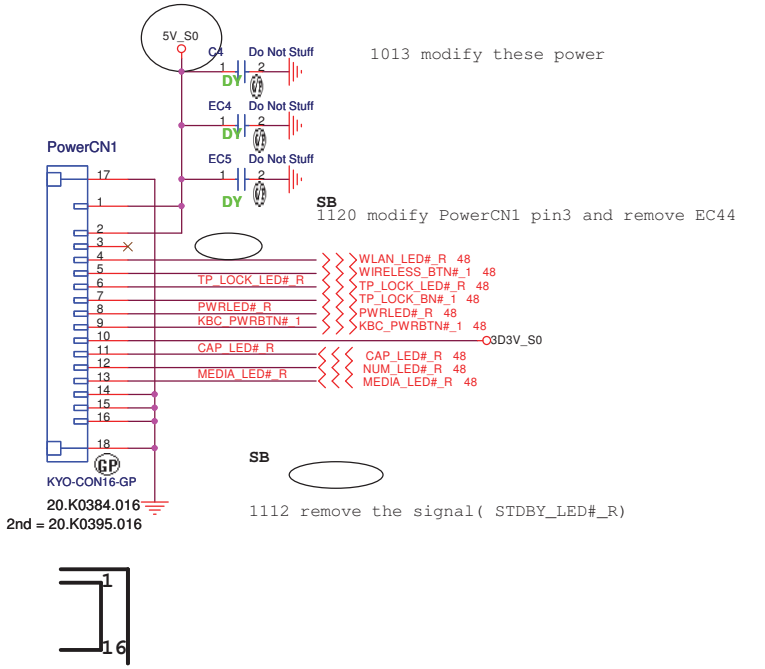
SB 1119 modify R130 and R133



1016 modify Q18



1016 modify Q15,Q16 and Q17



1013 modify these power

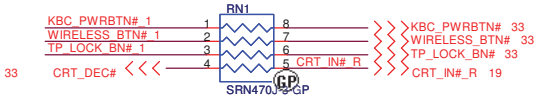
SB
1120 modify PowerCN1 pin3 and remove EC44

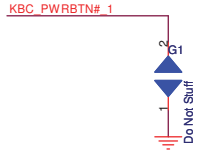
SB

1112 remove the signal(STDBY_LED#_R)

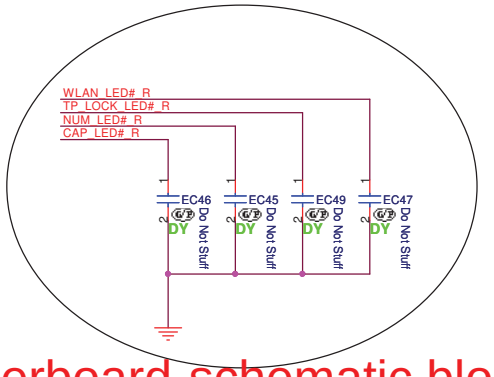
SB

1112 remove these signals(STDBY_LED#_FR and STDBY_LED#_R) and R131





0912 add these parts for EMI demand



UMA Two Phase 2

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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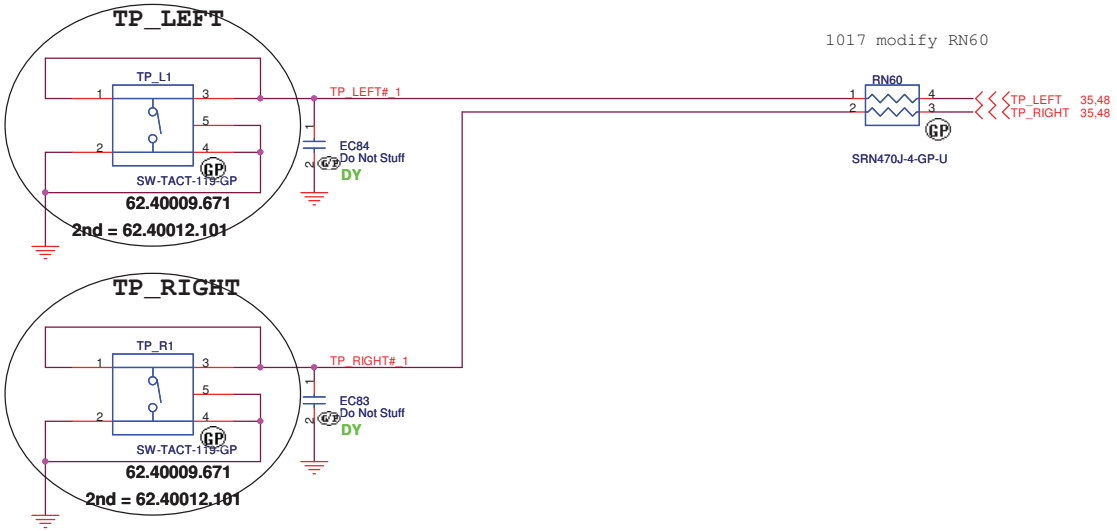
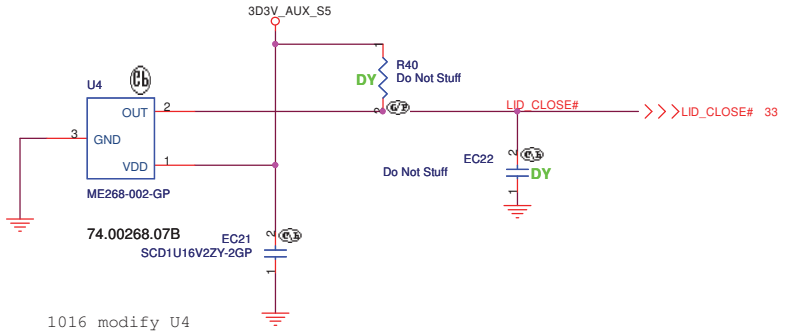
Title: Power Board

Size | Document Number: HM40-MV | Rev: SB

Date: Wednesday, November 26, 2008 Sheet 36 of 51



Cover Up Switch



1016 modify U4
1017 modify U4

1017 add U61,R52,EC24 and EC23
1020 delete U61,R52,EC24 and EC23

UMA Two Phase 2

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Title: SWITCHS		
Size	Document Number: HM40-MV	Rev: SB
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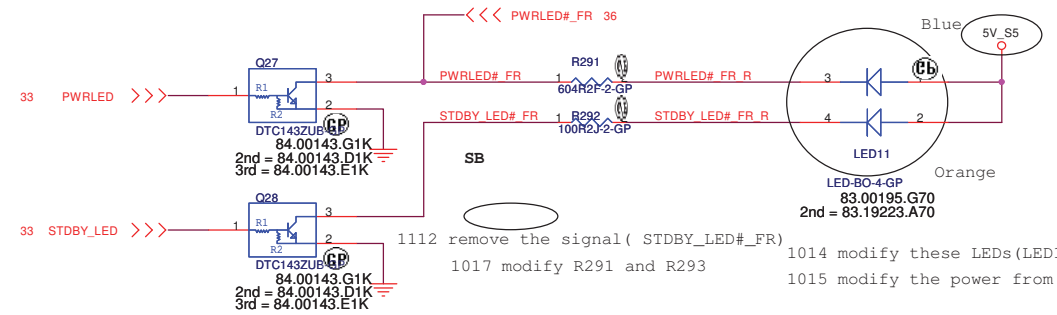
1015 modify the power from 3D3V_S5 to 5V_S5

SB 1106 modify LED11

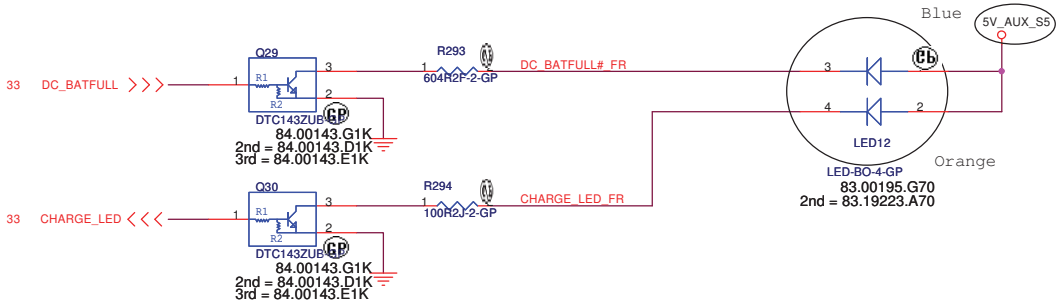


1112 remove the signal(STDBY_LED#_FR)

1017 modify R291 and R293

1014 modify these LEDs(LED11,LED12)

1015 modify the power from 3D3V_S5 to 5V_S5



SB 1106 modify LED12

1106 modify LED power from 5V_S5 to 5V_AUX_S5

1016 modify Q27~Q30

UMA Two Phase 2

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Title		
LED		
Size	Document Number	Rev
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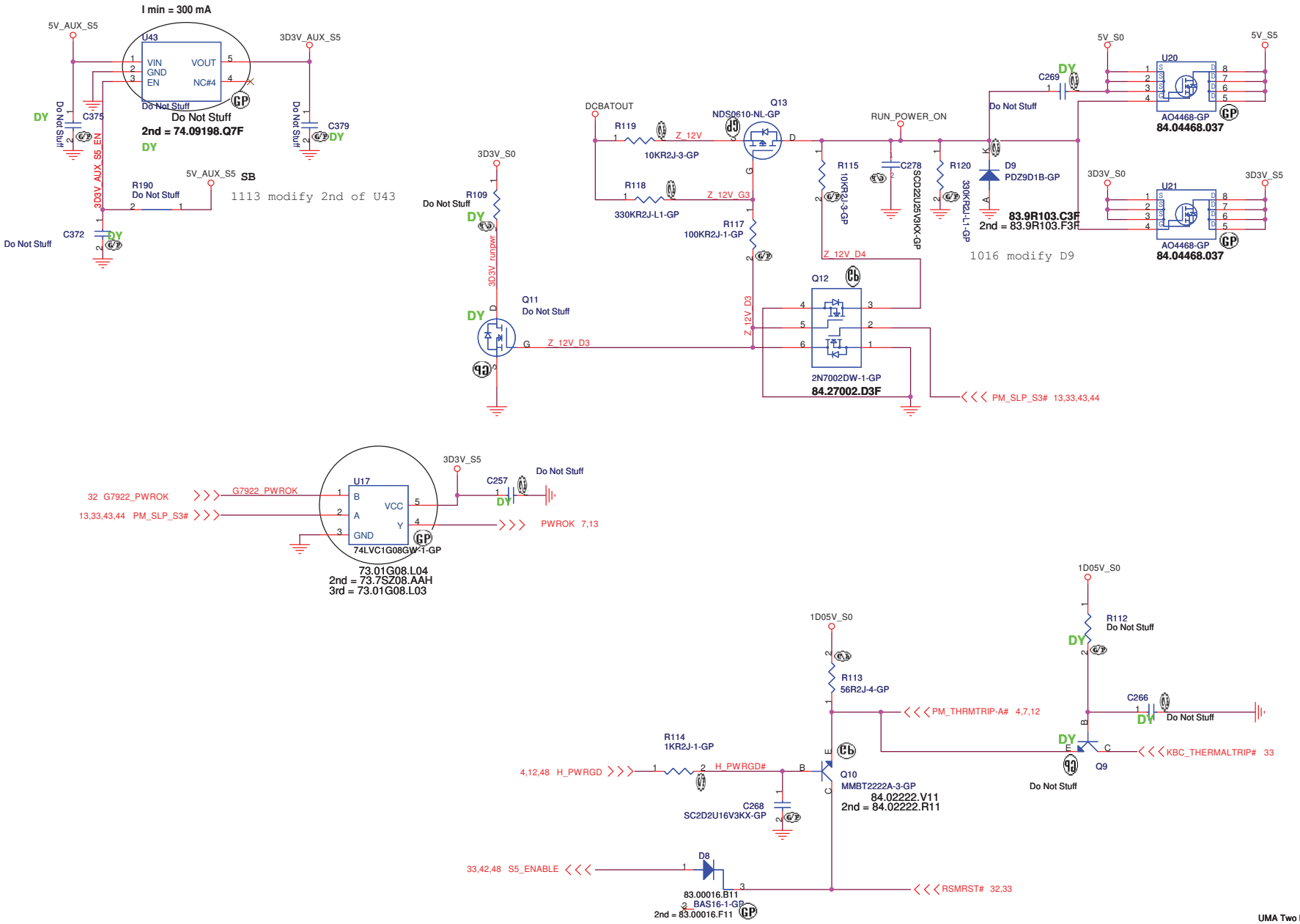
Aux Power 3D3V_AUX_S5

Run Power



UMA Two Phase 2

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Title: RUN POWER and 3D3V_AUX_S5

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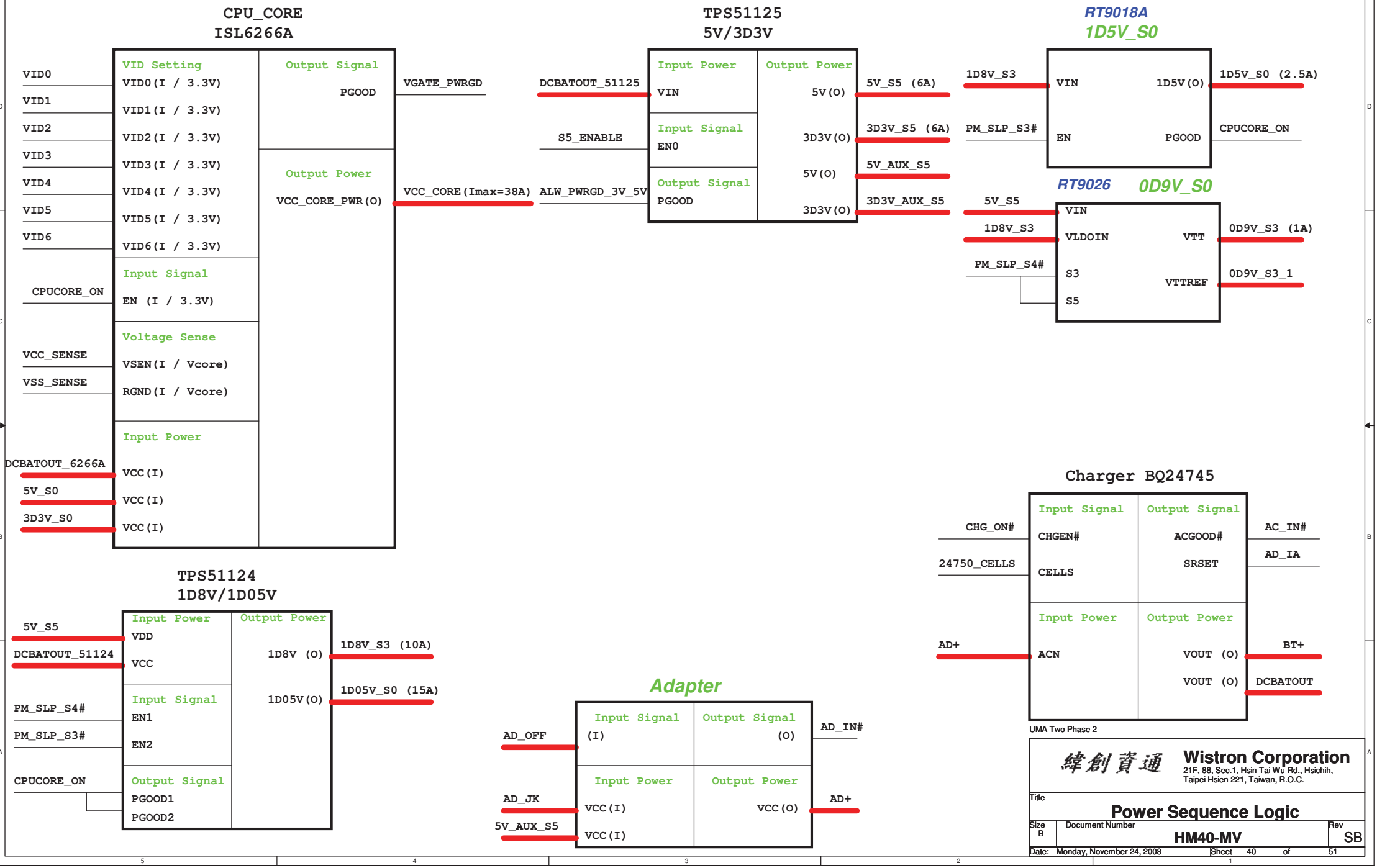
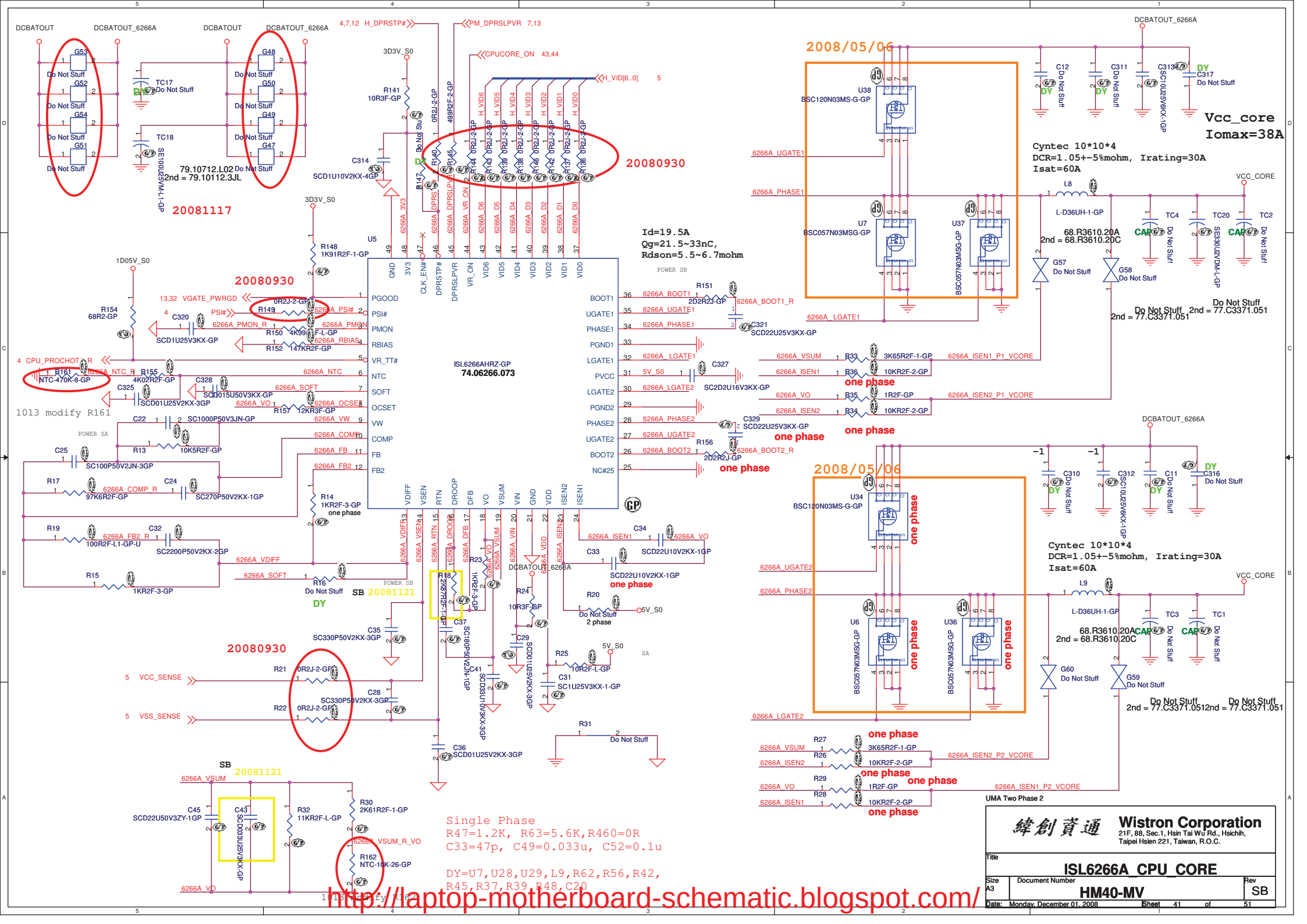
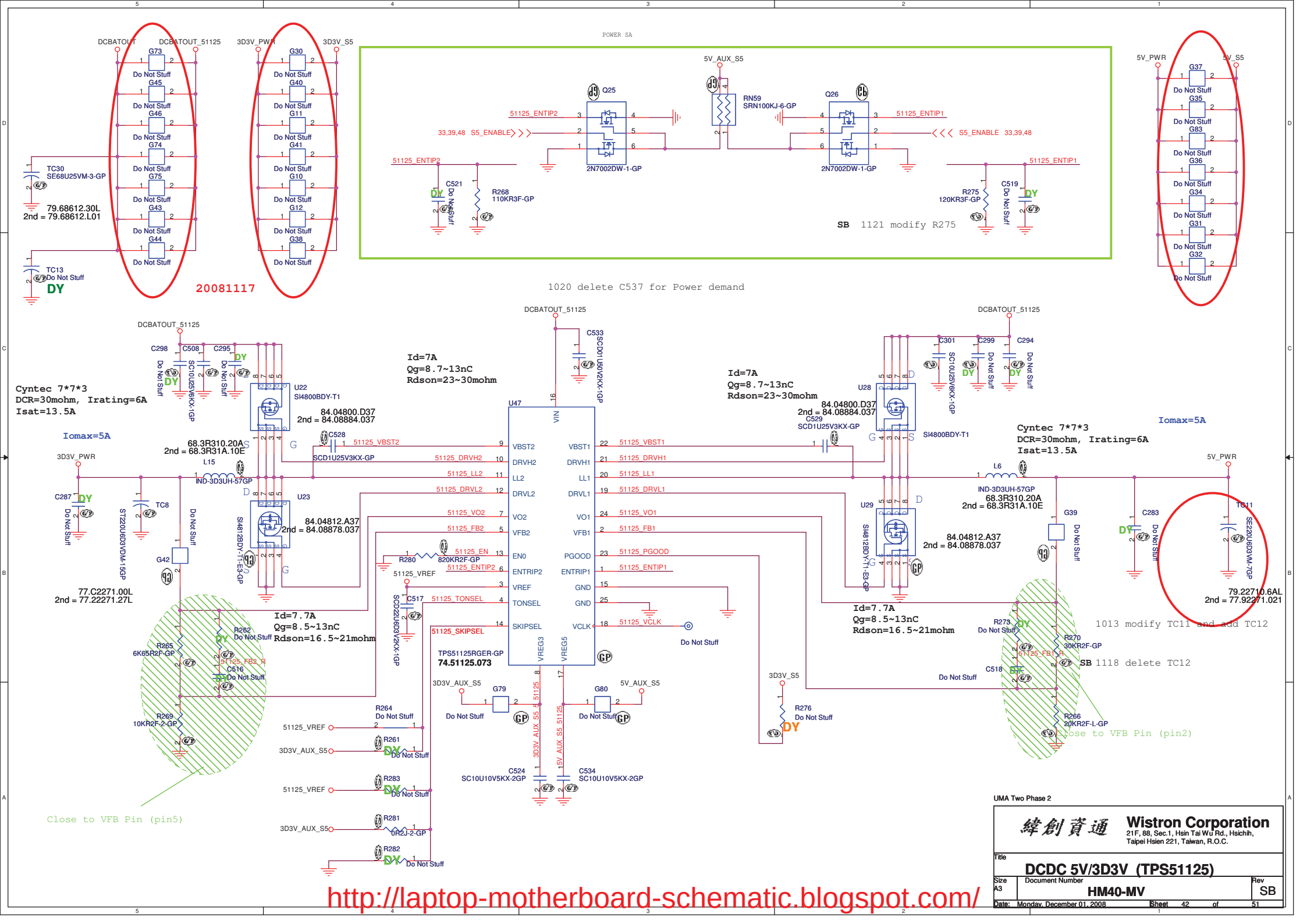
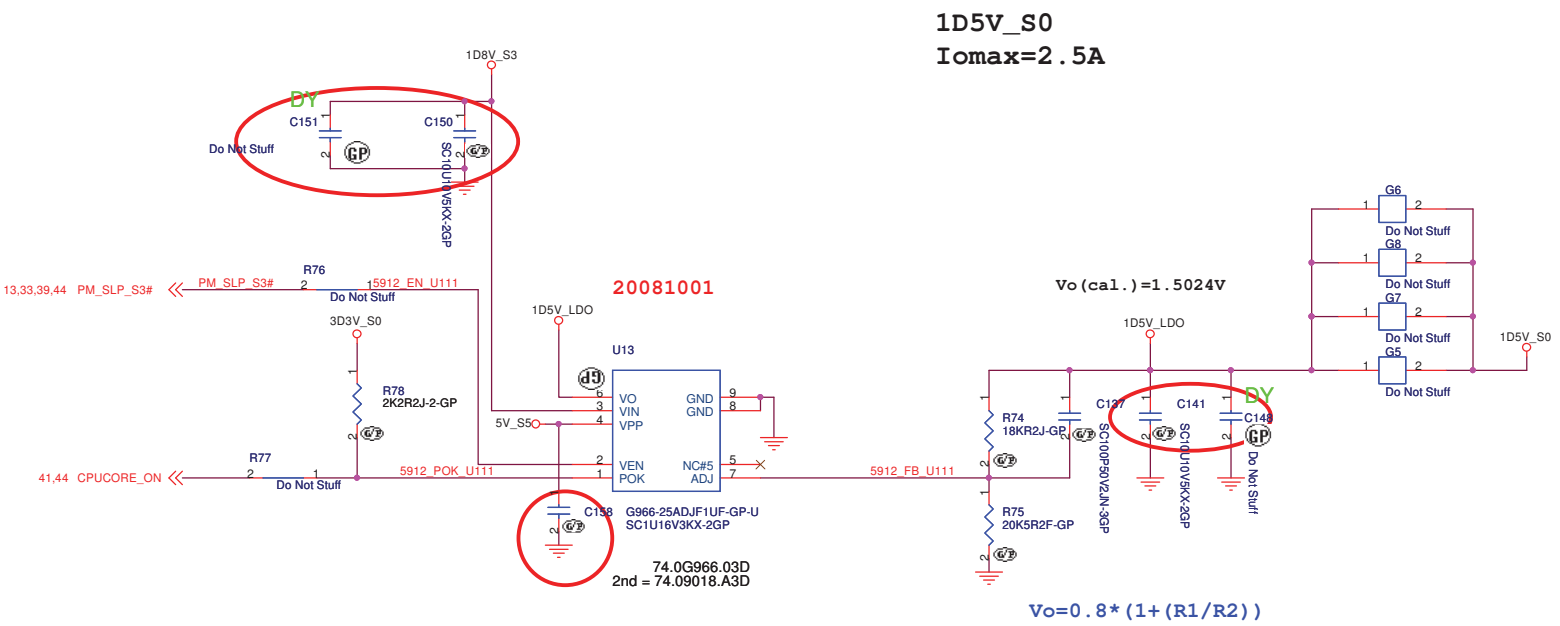
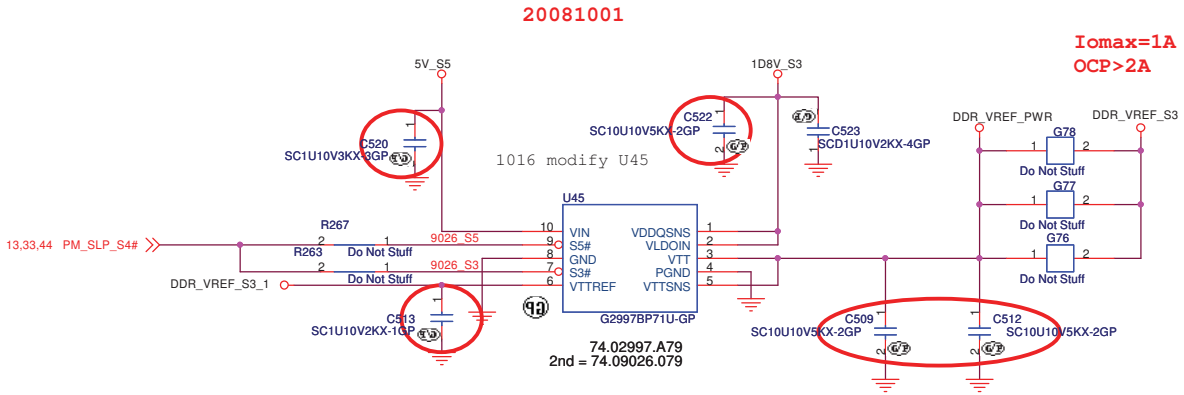



ISL6266AHRZ-GP
74.06266.073
Id=19.5A
Qg=21.5~33nC,
Rdson=5.5~6.7mohm
2008/05/06
Vcc_core
Iomax=38A
Cyntec 10*10*4
DCR=1.05+-5%mohm, Irating=30A
Isat=60A
20080930
20081117
20081121
SB
DY
one phase
2 phase
Do Not Stuff
1013 modify R161
Single Phase
R47=1.2K, R63=5.6K,R460=0R
C33=47p, C49=0.033u, C52=0.1u
DY=U7,U28,U29,L9,R62,R56,R42,
R45,R37,R39,R48,C20
UMA Two Phase 2
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
ISL6266A_CPU_CORE
HM40-MV
Monday, December 01, 2008
http://laptop-motherboard-schematic.blogspot.com/







UMA Two Phase 2

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Title: 1D5V & 0D9V		
Size: A3	Document Number: HM40-MV	Rev: SB
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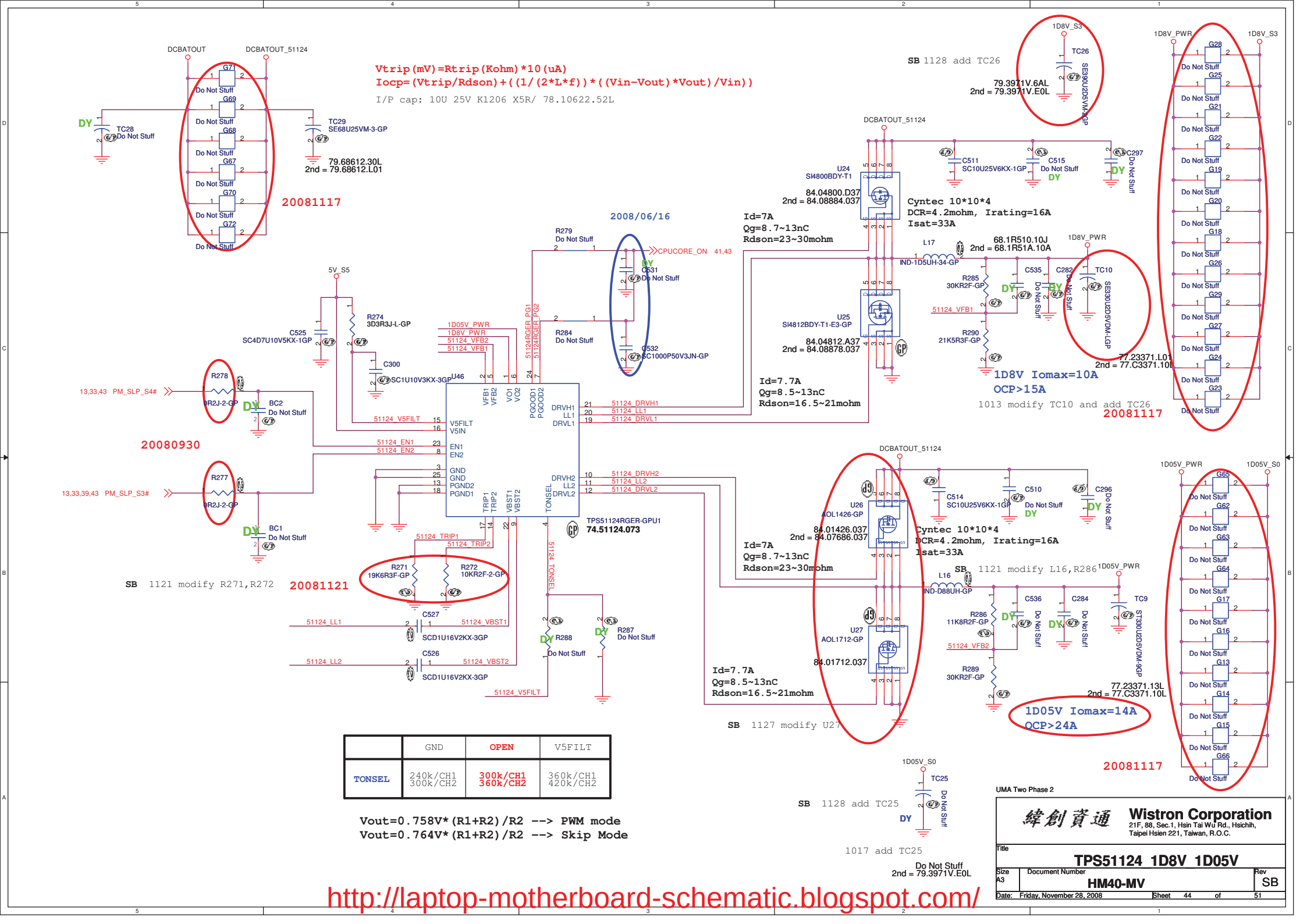
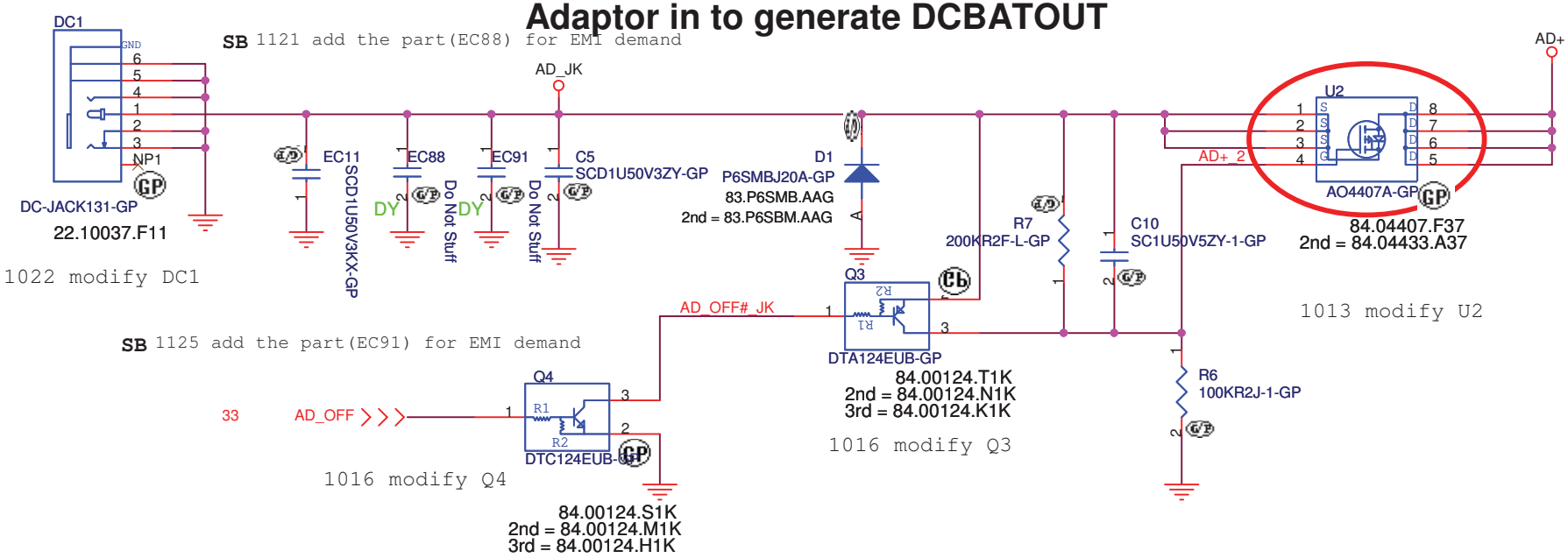
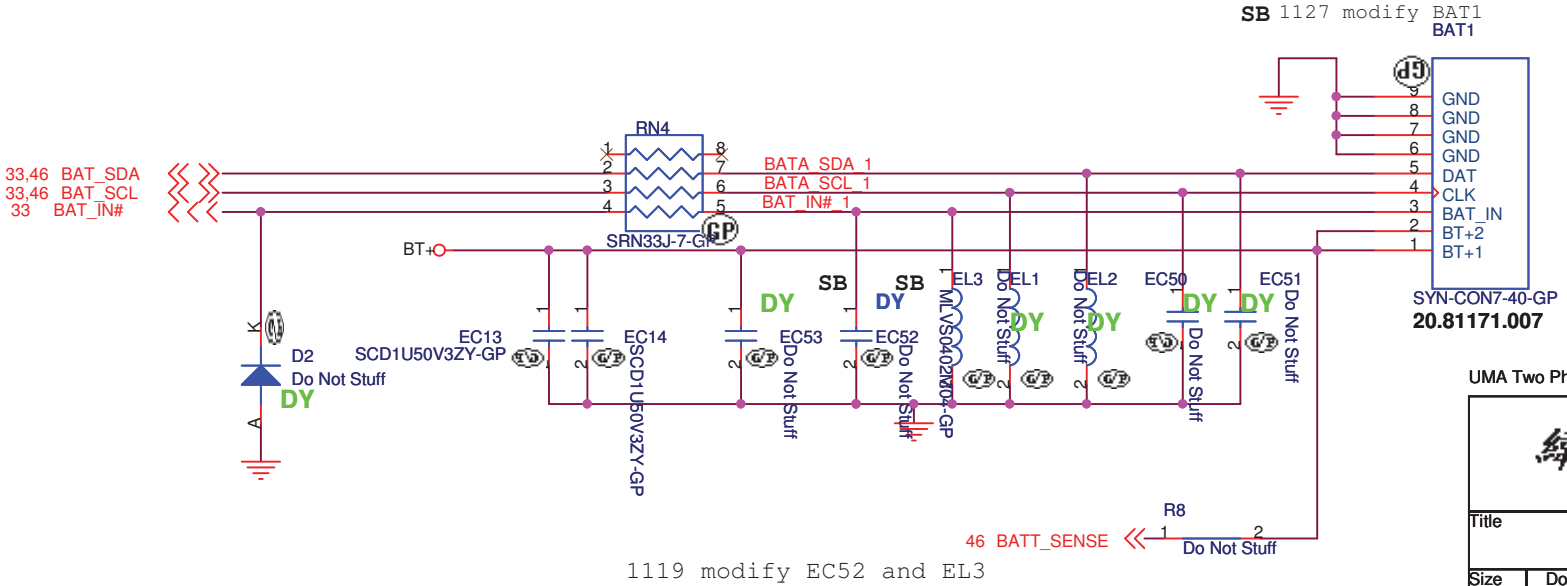


	GND	OPEN	V5FILT
TONSEL	240k/CH1 300k/CH2	300k/CH1 360k/CH2	360k/CH1 420k/CH2

Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



UMA Two Phase 2

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

Title: **AD/BATT CONN**

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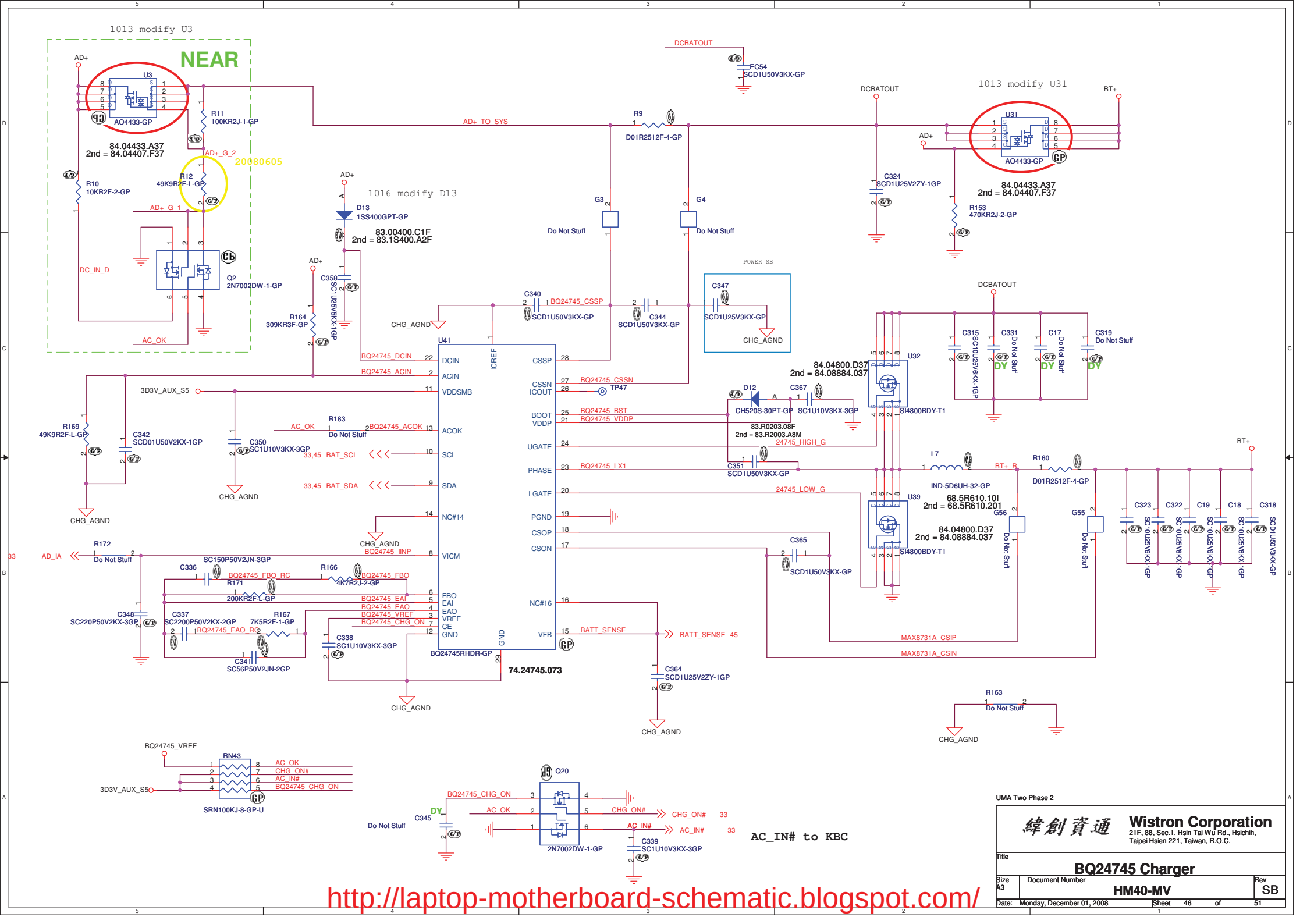
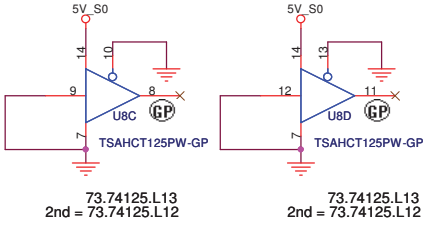
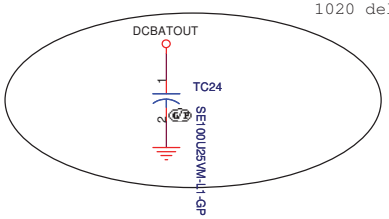




73.74125.L13
2nd = 73.74125.L12

73.74125.L13
2nd = 73.74125.L12

1020 delete TC14,TC15

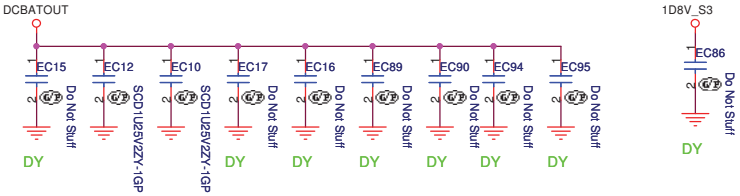


SB
1117 delete TC19

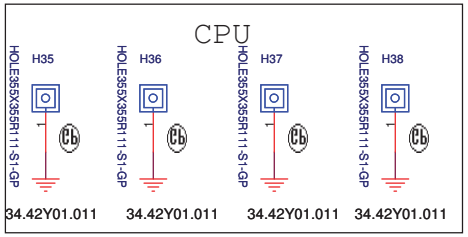
79.10712.L02
2nd = 79.10112.3JL

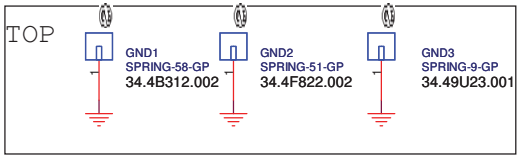
1016 modify U32

1017 add these parts(EC10,EC12,EC15~EC17,EC86) for EMI demand
1020 add the part(EC86) for EMI demand
1125 add the part(EC90) for EMI demand
SB 1121 add the part(EC89) for EMI demand
1128 add EC94,EC95 for EMI demand



1016 add GND1 and GND2 for EMI demand
1017 add GND3 and modify GND2 for EMI demand

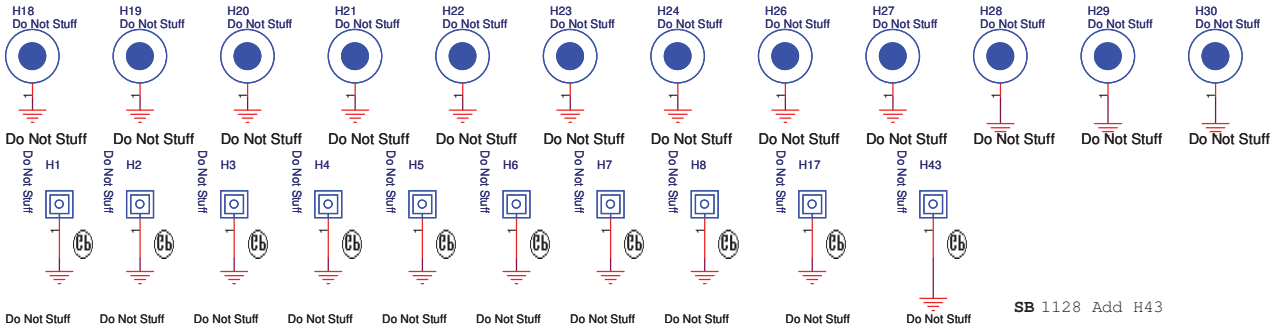




SB 1128 Add GND4,GND7,GND8

1016 modify H35~H38
1016 delete H9~H12

1016 modify H31 and H32
SB 1120 remove H31and H32



SB 1128 Add H43

UMA Two Phase 2

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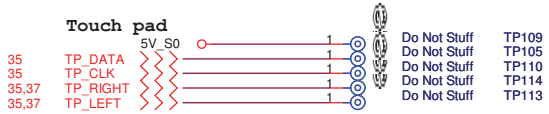
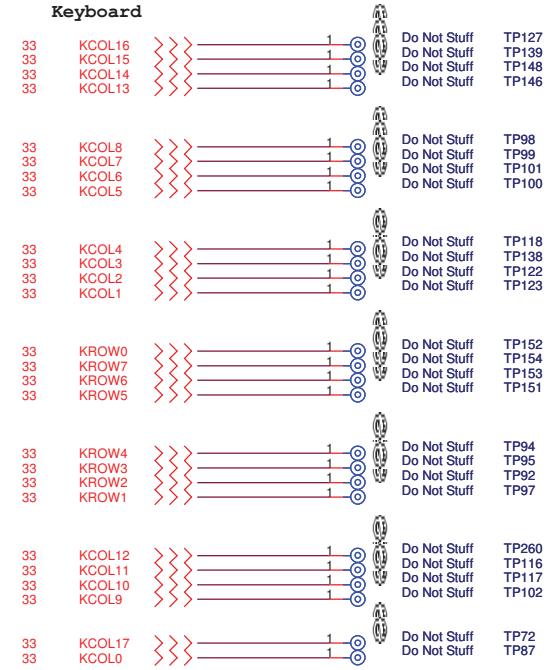
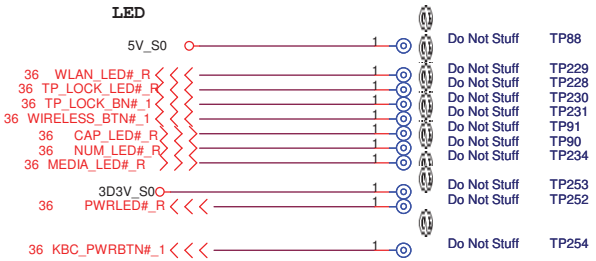
Taipei Hsien 221, Taiwan, R.O.C.

Title: EMI/Spring/Boss
Size | Document Number: HM40-MV | Rev: SB
Date: Friday, November 28, 2008 | Sheet 47 of 51



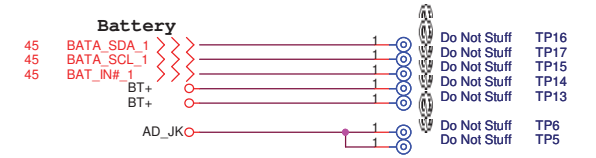


1017 modify USB signal connection

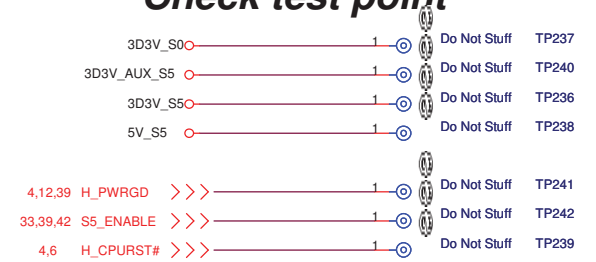


SB

1112 remove the signal(STDBY_LED#_R)



Check test point



Test Point放在Dimm Door打開可量測處

UMA Two Phase 2

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

Title: AFTE test point

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0910 delete F4(Page 18)
0910 update footprint of U15(Page 30)
0910 delete RIGHT1 and LEFT1(Page 33)
0910 modify net names of TP_LEFT and TP_RIGHT(Page 36)
0910 modify test points of AFTE and TPAD
0911 modify net name from LPC_RST to PLT_RST1#(Page 24)
0911 add net name(RBIAS,LED_DUPLEX#,SMDATA,SMCLK)(Page 24)
0911 add net name(DVDD_1_8,ACZ_SDATAIN0_R,FLY_P,FLY_N,VREF_LO,VREF_HI)(Page 26)
0911 add net name(EAPD#_R)(Page 27)
0912 modify the schematic of Page 33
0912 delete GMCH_TXB*(Page 7& 18)
0912 add these parts for EMI demand(page 7,18,20,21,23,26,28,29,30,32,33,34,35)
0915 modify net name from 10M/100M/1G_LED# to 10M/100M_LED#(page24,25)
0915 delete these parts for EMI demand(page 30)
0915 add EC34 for EMI demand(page3)
0915 add EC73 for EMI demand(page 12)
0915 modify LEDs port
0916 move net(SPI_WP#) from U9 pin120 to pin25(page33)
0930 modify BLUE1(page22)
0930 add 2nd for SPK1, MIC1 and modify LOUT1 (page28)
0930 modify FAN1(page32)
0930 modify TPAD1(page35)
0930 modify KB1(page33)
0930 modify net name for BIOS demand(page33)
1001 delete these parts for EMI demand(ED1~8)
1009 modify net name for GND to AGND(page27)
1009 add R4,R5 for AC decopling(page27)
1009 add R96(page30)
1013 modify TPAD1(page35)
1013 modify U40 from 72.25X16.001 to 72.25X16.A01(page 34)
1013 modify TC11 and add TC12(page42)
1013 modify TC10 and add TC26(page44)
1013 modify U2(page45)
1013 modify U3 and U31(page 46)
1013 modify R161 and R162(page41)
1013 modify card1(page 30)
1014 modify these LEDs(LED11,LED12)(page38)
1014 modify these nets(page 26)
1014 modify R258 from 10k to 20k ohm(page26)
1014 add ER5 for EMI deamnd(page3)
1015 modify LCD1 pin define(page 18)
1015 modify the power from 3D3V_S5 to 5V_S5(page38)
1015 modify TPAD1(page35)
1015 modify RN57(page28)
1015 modify F1(page18)

UMA Two Phase 2

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**Change List**	
Size	Document Number **HM40-MV**	Rev SB
Date: Monday, November 24, 2008	Sheet 49 of 51	

1016 modify L1,L2 and L3(page 19)
1016 modify XF1(page 25)
1016 modify RN53 and U10(page 24)
1016 modify U8(page19,47)
1016 modify U4(page 37)
1016 modify U23(page 43)
1016 modify X2(page12)
1016 modify X1(page 33)
1016 modify X3(page 3)
1016 modify D13(page 46)
1016 modify D23(page 20)
1016 modify D9(page 39)
1016 modify D4(page 19)
1016 modify Q3 and Q4(page45)
1016 modify Q18(page 36)
1016 modify Q15~Q17(page 36)
1016 modify Q27~Q30(page38)
1016 modify Q6 and Q14(page 32)
1016 modify Q8(PAGE 24)
1016 add GND1 nad GND2 for EMI demand(page 47)
1016 modify LCD1 pin define(page 18)
1016 delete H9~H12 and modify H35~H38,H31,H32(page 47)
1017 add these parts for EMI demand(page 47)
1017 delete these parts(EC208~EC210)(page 7)
1017 modify BLUE1(page 22)
1017 modify FAN1(page 32)
1017 modify R291 and R293(page 38)
1017 add U61,R52,EC23 and EC24(page 37)
1017 modify RN60(page37)
1017 add TC25(page 44)
1017 add GND3 and modify GND2 for EMI demand(page 47)
1017 modify USB signal connection(page13,18,22,23,30,31,48)
1020 delete C537 for Power demand(page42)
1020 add the part(EC86) for EMI demand(page 47)
1020 delete U61,R52,EC24 and EC23(page 37)
1020 delete TC14,TC15(page 47)
1021 modify TC16(page 31)
1021 delete TC23(page 23)
1021 modify TC5(page 20)
1021 modify and swap these parts(USB1 and USB2)(page 23)
1021 modify SATA1(page 20)
1022 modify DC1(page 45)

UMA Two Phase 2

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

Title: Change List

Size	Document Number	Rev
	HM40-MV	SB

Date: Monday, November 24, 2008 Sheet 50 of 51

SA to SB

1106 modify net connection of RN46 and RN44(page33) for layout demand
1106 modify LED11 and LED12(page38) for fixing issue
1106 modify LED power from 5V_S5 to 5V_AUX_S5(page38) for customer demand
1112 remove the signal(STDBY_LED#_FR)page38 for customer demand
1112 remove these signals(STDBY_LED#_FR and STDBY_LED#_R) and R131(page36) for customer demand
1112 remove the signal(STDBY_LED#_R)page36 for customer demand
1112 remove the signal(STDBY_LED#_R)and TP253(page48) for customer demand
1113 modify C103 and C106(page24) for crystal issue
1113 modify 2nd of U19(page26)
1113 modify 2nd of U43(page39)
1113 modify 2nd of U44(page10)
1113 modify U48(page22)
1117 delete MDC function(R231,R237,R232,R234)(page12)
1117 delete TC19(page 47) for ME deamnd
1118 modify PCB Ver. from SA to SB(page33)
1118 delete TC12(page42) for layout demand
1118 delete TC27(page9) for layout demand
1118 delete R107 and add L18 for cost down
1119 modify R130 and R133(page 36) for LED brightness
1119 modify EC52 and EL3(page45) for EMI demand
1119 modify SPK1(page 28) for ME deamnd
1119 add G84 for RTC reset demand
1120 modify EC78for EMI demand((page10)
1120 modify PowerCN1 pin3 and remove EC44(page36) fro LED function
1120 remove H31 and H32(page47)for ME demand
1120 add RN61 and RN62(page3) for layout demand
1120 swap these nets(CLK_MCH_3GPLL,CLK_MCH_3GPLL#, CLK_PCIE_MINI1,CLK_PCIE_MINI1#)(page3)for CLK REQ demand
1120 add the net(SATACLKREQ#)(page3,13)for CLK REQ demand
1120 move these nets (CLK_PCIE_MINI1,CLK_PCIE_MINI1#)(page3)for CLK REQ demand
1120 modify RN61 and RN62(page3)for CLK REQ demand
1121 add EC87 for EMI demand(page18)
1121 add the part(EC89) for EMI demand(page47)
1121 add the part(EC88) for EMI demand(page45)
1121 modify R18,C43(page41) for Power demand
1121 modify R275(page42)for Power demand
1121 modify R271,R272,R286 and L16(page44) for Power demand
1124 modify U42 and delete R182,R185 (page32) for thermal function
1124 modify these names of these nets(G7922_SGND2,G7922_SGND3...) (page32) for thermal function
1124 add R302(page3) for clock gen function
1125 add the part(EC90) for EMI demand(page47)
1125 add the part(EC91) for EMI demand(page45)
1125 modify R125,R126(page18) for LCD brightness control
1125 modify RN40 and delete RN42(page32) for layout demand
1125 add EC92 and EC93 for EMI demand(page 22)
1126 add these nets (PCIE_REQ_LAN#,PCIE_REQ_MINI#)(page3)for CLK REQ demand
1126 delete R230,R233,R235,R236 and RN63(page12) for removing MDC function
1126 add C541 and modify R101(page26) for codec function
1126 modify RN61 and RN62(page3) for layout demand
1126 modify EU1,EU2 and add EU3,EU4 for EMI demand(page28)
1127 modify CRT1(page19) for customer demand
1127 swap the nets of RN61 and RN62 for layout demand(page3)
1127 modify BAT1(page45) for ME demand
1127 modify U27(page44) for power demand
1127 modify C377(page32) for thermal function
1128 Add H43,GND4,GND7,GND8(page47) for EMI demand
1128 modify LCD1(page18) for cost down
1128 Add L19(page24) for vender demand
1128 add EC94,EC95 for EMI demand(page47)

UMA Two Phase 2

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Title: Change List

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