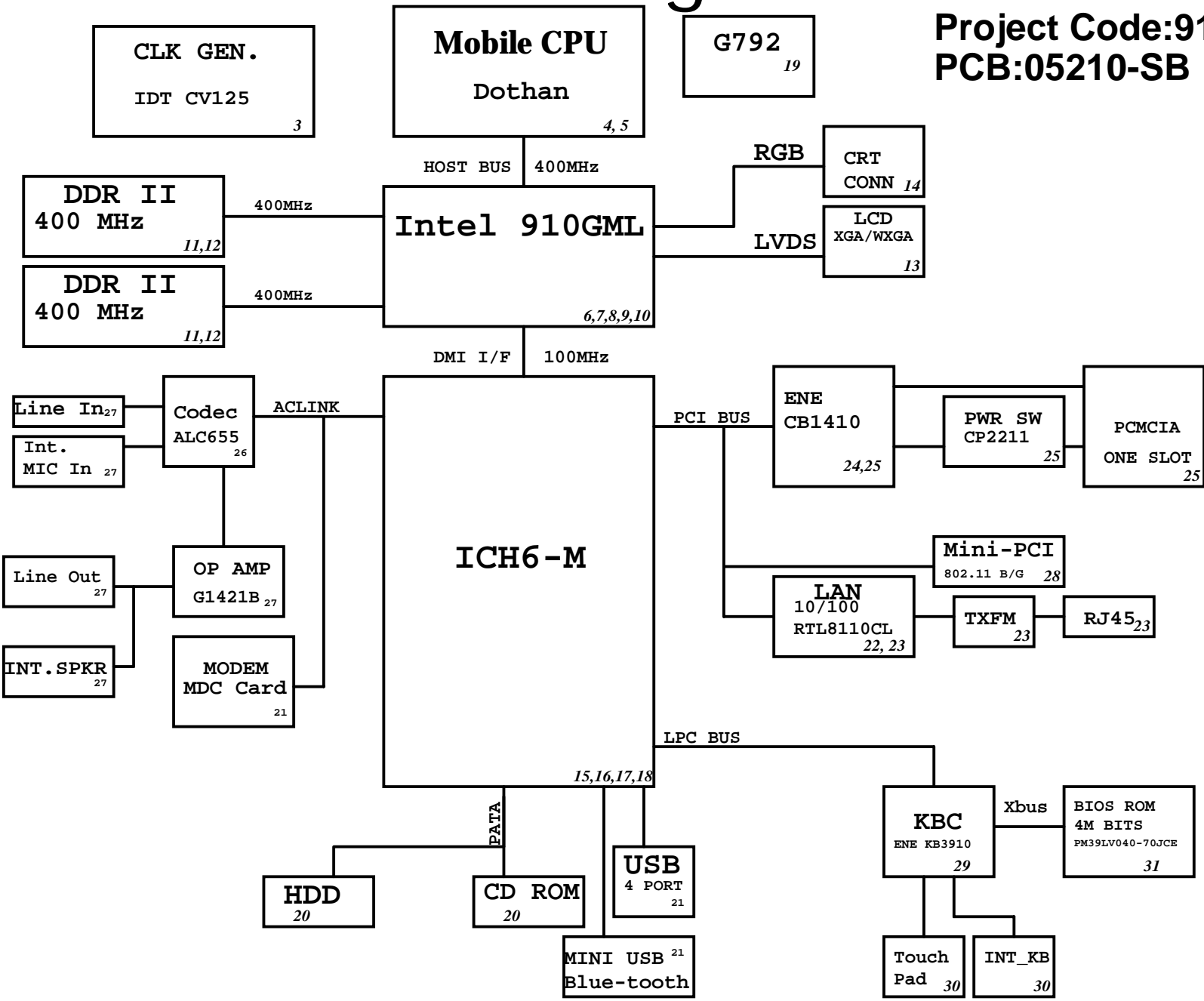


Morar Block Diagram 2005/05/28

Project Code:91.4E101.001
PCB:05210-SB



SYSTEM DC/DC TPS5130 35,36	
INPUTS	OUTPUTS
DCBATOUT	3D3V_S5 5V_S5 1D05V_S0 2D5V_S0 (LDO)
SYSTEM DC/DC ISL6227 37	
INPUTS	OUTPUTS
DCBATOUT	5V_S5 3D3V_S3
TPS51100DQO 37	
5V_S5	DDR_VREF DDR_VREF_S3
CHARGER ISL6255 38	
INPUTS	OUTPUTS
DCBATOUT	BT+ 16.8V 3A
CPU DC/DC ISL6218CV-T 34	
INPUTS	OUTPUTS
DCBATOUT	VCC_CORE 0.844~1.3V 27A

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: Custom Document Number: **MORAR** Rev: **SB**

Date: Thursday, June 09, 2005 Sheet 1 of 40

Alviso Strapping Signals and Configuration

page 7

Pin Name	Strap Description	Configuration
CFG[2:0]	FSB Frequency Select	000 = Reserved 001 = FSB533 010 = FSB800 011-111 = Reversed
CFG[3:4]	Reversed	
CFG5	DMI x2 Select	0 = DMI x2 1 = DMI x4 (Default)
CFG6	DDR I / DDR II	0 = DDR II 1 = DDR I
CFG7	CPU Strap	0 = Prescott 1 = Dothan (Default)
CFG[8:11]	Reversed	
CFG[12:13]	XOR/ALL Z test straps	00 = Reserved 01 = XOR mode enabled 10 = All Z mode enabled 11 = Normal Operation (Default)
CFG[14:15]	Reversed	
CFG16	FSB Dynamic ODT	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled (Default)
CFG17	Reversed	
CFG18	CPU core VCC Select	0 = 1.05V (Default) 1 = 1.5V
CFG19	CPU VTT Select	0 = 1.05V (Default) 1 = 1.2V
CFG20	Reversed	
SDVOCRTL_DATA	SDVO Present	0 = No SDVO device present (Default) 1 = SDVO device present

NOTE: All strap signals are sampled with respect to the leading edge of the Alviso GMCH FWORK In signal.

PCI Routing

	IDSEL	IRQ	REQ/GNT
7411	25	B.F.G	0
MiniPCI	21	F	1
LAN	23	E	2

ICH6-M Integrated Pull-up and Pull-down Resistors

ICH6-M EDS 14308 0.8V1

ACZ_BIT_CLK, DPRSLP#, EE_DIN, EE_DOUT, GNT[5]/GPO[17], GNT[6]/GPO[16], LDRQ[1]/GPI[41], LAD[3:0]/FB[3:0]#, LDRQ[0], PME#, PWRBTN#, TP[3]	ICH6 internal 20K pull-ups
LAN_RXD[2:0]	ICH6 internal 10K pull-ups
ACZ_RST#, ACZ_SDIN[2:0], ACZ_SYNC, ACZ_SDOUT, ACZ_BITCLK, DPRSLPVR, SPKR, EE_CS,	ICH6 internal 20K pull-downs
USB[7:0][P,N]	ICH6 internal 15K pull-downs
DD[7], SDDREQ	ICH6 internal 11.5K pull-downs
LAN_CLK	ICH6 internal 100K pull-downs

ICH6-M IDE Integrated Series Termination Resistors

DD[15:0], DIOW#, DIOR#, DREQ, DDACK#, IORDY, DA[2:0], DCS1#, DCS3#, IDEIRQ	approximately 33 ohm
--	----------------------

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Memo	
Size A3	Document Number
Date: Saturday, May 28, 2005	Sheet 2 of 40
MORAR	SB

6 H_A# [31..3]

6 H_ADSTB#0
6 H_REQ# [4..0]

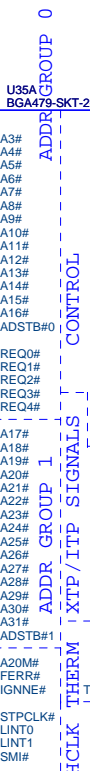
6 H_ADSTB#1

15 H_A20M#

15 H_FERR#

15 H_IGNNE#

H_STPCLK#

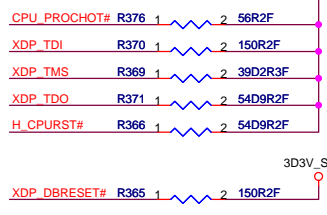


connector 62.10053.061

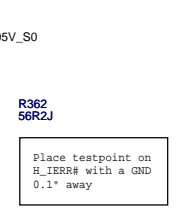
Morar_SA:62.10053.061

Morar_SB:62.10053.061

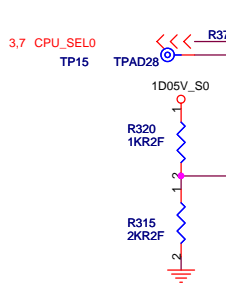
Morar_SB:62.10055.011 (2nd)



All place within 2" to CPU



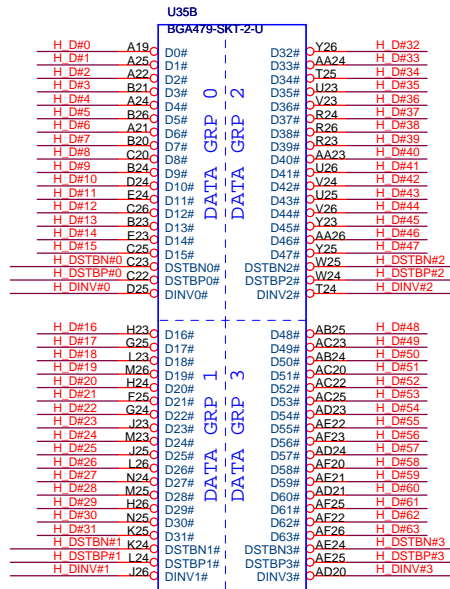
PM_THRMTRIP# should connect to ICH6 and Alviso without T-ing (No stub)



Layout Note: 0.5" max length.

BSEL[1:0] Freq.(MHz) (A Stepping)
L L 100
L H 133

BSEL[1:0] Freq.(MHz) (B Stepping)
L H 100
L L 133



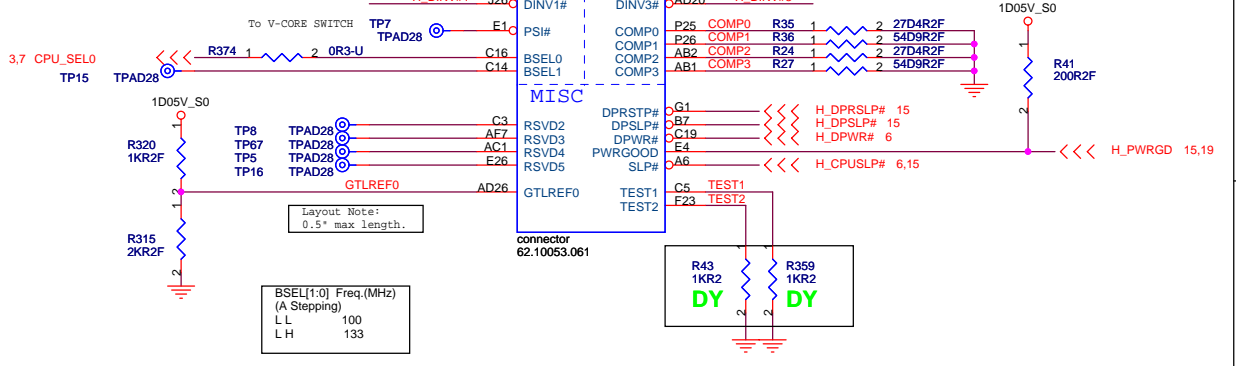
H_D# [63..0] 6

H_DINV# [3..0] 6

H_DSTBN# [3..0] 6

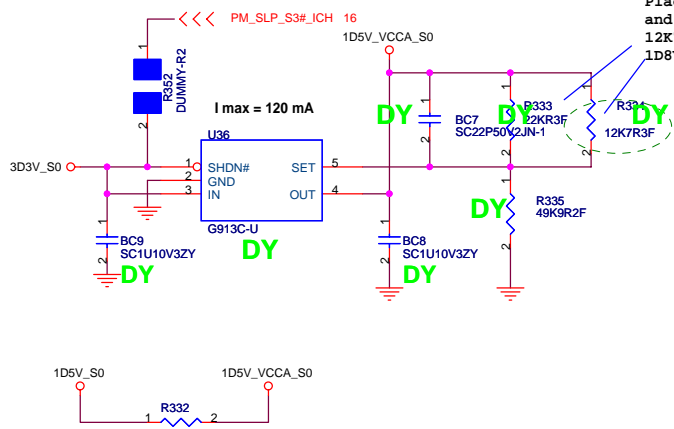
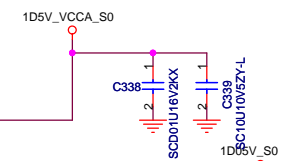
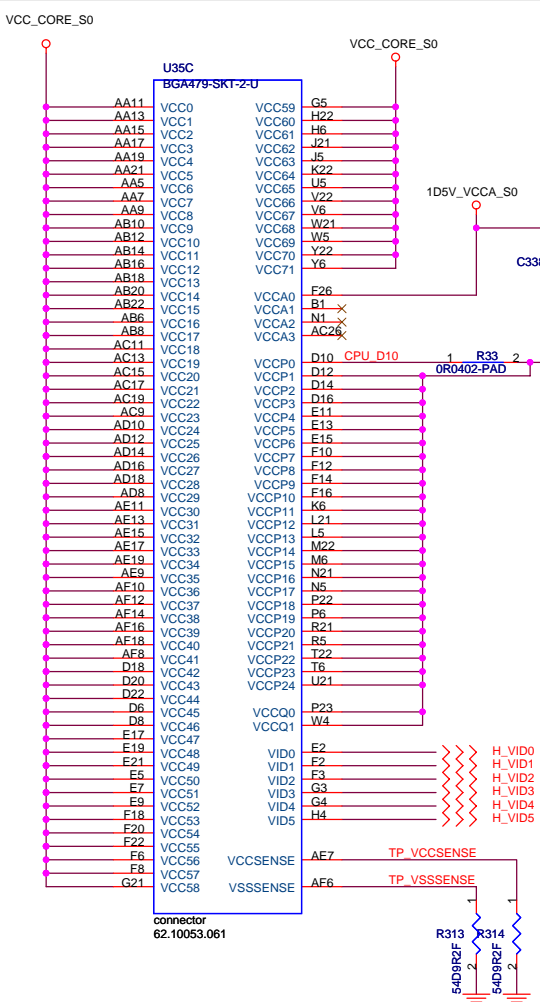
H_DSTBP# [3..0] 6

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".



connector 62.10053.061

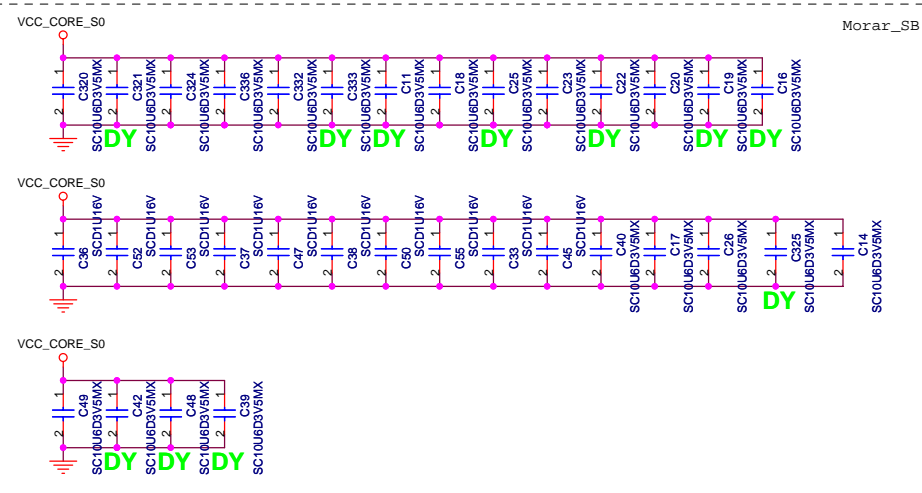
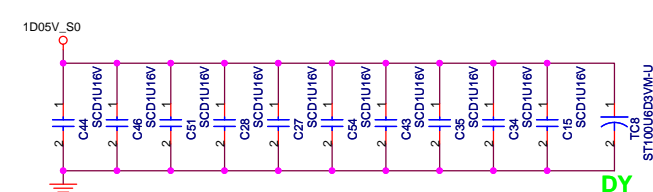
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.



Place these and dummy 12K7R3F for 1D8V_VCCA_S0

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.



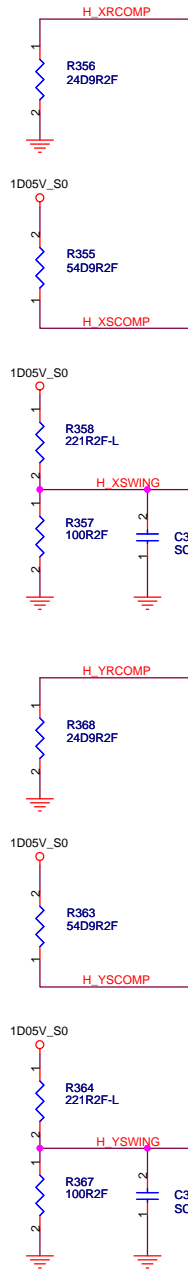
U35D	BGA479-SKT-2-U	D13
A2	VSS0	VSS97
A5	VSS1	VSS98
A8	VSS2	VSS99
A11	VSS3	VSS100
A14	VSS4	VSS101
A17	VSS5	VSS102
A20	VSS6	VSS103
A23	VSS7	VSS104
A26	VSS8	VSS105
AA1	VSS9	VSS106
AA4	VSS10	VSS107
AA6	VSS11	VSS108
AA8	VSS12	VSS109
AA10	VSS13	VSS110
AA12	VSS14	VSS111
AA14	VSS15	VSS112
AA16	VSS16	VSS113
AA18	VSS17	VSS114
AA20	VSS18	VSS115
AA22	VSS19	VSS116
AA25	VSS20	VSS117
AB5	VSS21	VSS118
AB7	VSS22	VSS119
AB9	VSS23	VSS120
AB11	VSS24	VSS121
AB13	VSS25	VSS122
AB15	VSS26	VSS123
AB17	VSS27	VSS124
AB19	VSS28	VSS125
AB21	VSS29	VSS126
AB23	VSS30	VSS127
AB26	VSS31	VSS128
AC3	VSS32	VSS129
AC5	VSS33	VSS130
AC8	VSS34	VSS131
AC10	VSS35	VSS132
AC12	VSS36	VSS133
AC14	VSS37	VSS134
AC16	VSS38	VSS135
AC18	VSS39	VSS136
AC21	VSS40	VSS137
AC24	VSS41	VSS138
AD1	VSS42	VSS139
AD4	VSS43	VSS140
AD7	VSS44	VSS141
AD9	VSS45	VSS142
AD11	VSS46	VSS143
AD13	VSS47	VSS144
AD15	VSS48	VSS145
AD17	VSS49	VSS146
AD19	VSS50	VSS147
AD22	VSS51	VSS148
AD25	VSS52	VSS149
AE3	VSS53	VSS150
AE6	VSS54	VSS151
AE8	VSS55	VSS152
AE10	VSS56	VSS153
AE12	VSS57	VSS154
AE14	VSS58	VSS155
AE16	VSS59	VSS156
AE18	VSS60	VSS157
AE20	VSS61	VSS158
AE23	VSS62	VSS159
AE26	VSS63	VSS160
AE2	VSS64	VSS161
AE5	VSS65	VSS162
AE9	VSS66	VSS163
AF11	VSS67	VSS164
AF13	VSS68	VSS165
AF15	VSS69	VSS166
AF17	VSS70	VSS167
AF19	VSS71	VSS168
AF21	VSS72	VSS169
AF24	VSS73	VSS170
B3	VSS74	VSS171
B6	VSS75	VSS172
B9	VSS76	VSS173
B12	VSS77	VSS174
B16	VSS78	VSS175
B19	VSS79	VSS176
B22	VSS80	VSS177
B25	VSS81	VSS178
C1	VSS82	VSS179
C4	VSS83	VSS180
C7	VSS84	VSS181
C10	VSS85	VSS182
C13	VSS86	VSS183
C15	VSS87	VSS184
C18	VSS88	VSS185
C21	VSS89	VSS186
C24	VSS90	VSS187
D2	VSS91	VSS188
D5	VSS92	VSS189
D7	VSS93	VSS190
D9	VSS94	VSS191
D11	VSS95	VSS192
	VSS96	

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 of 2)**

Size A3 Document Number **MORAR** Rev **SB**

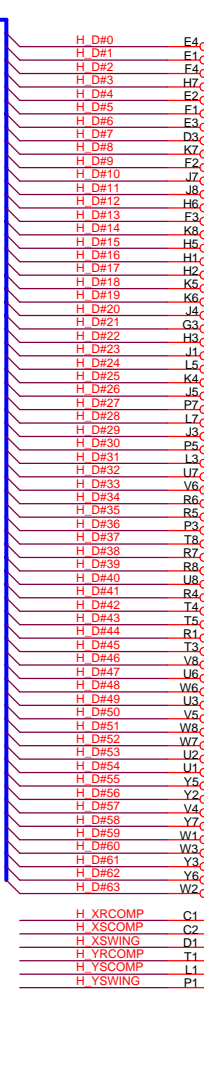
Date: Thursday, May 26, 2005 Sheet 5 of 40



Place them near to the chip

4 H_D#[63.0]

<<<>>

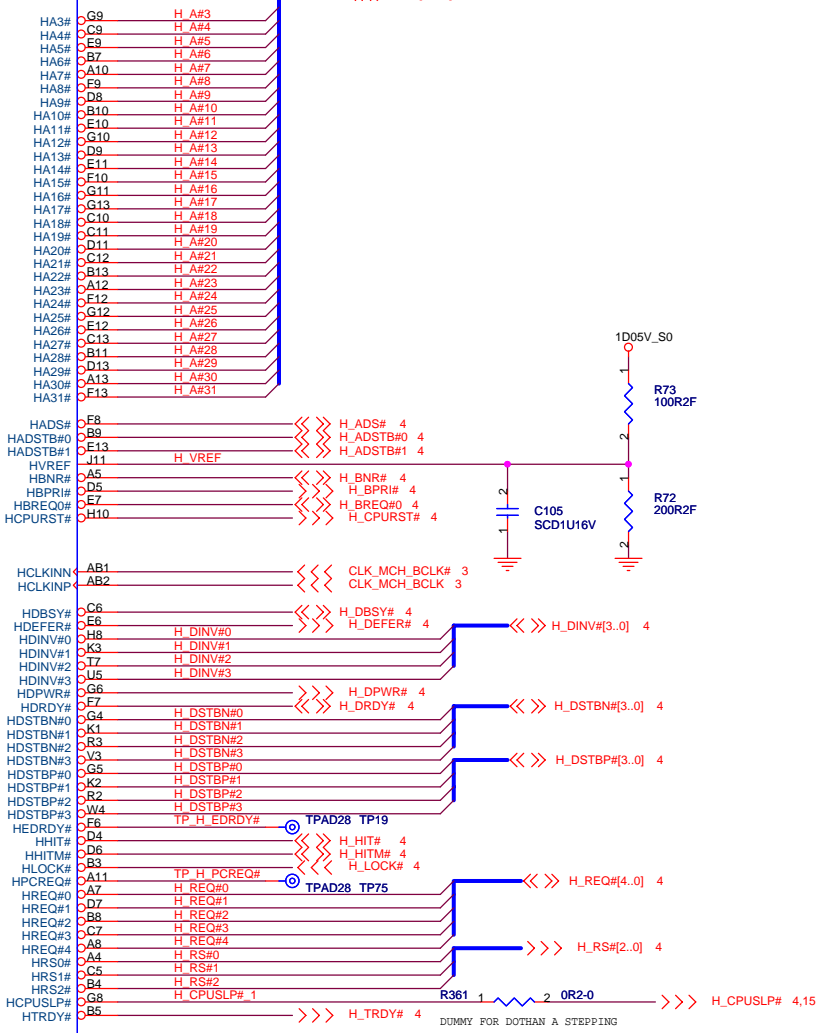


U45A

HOST

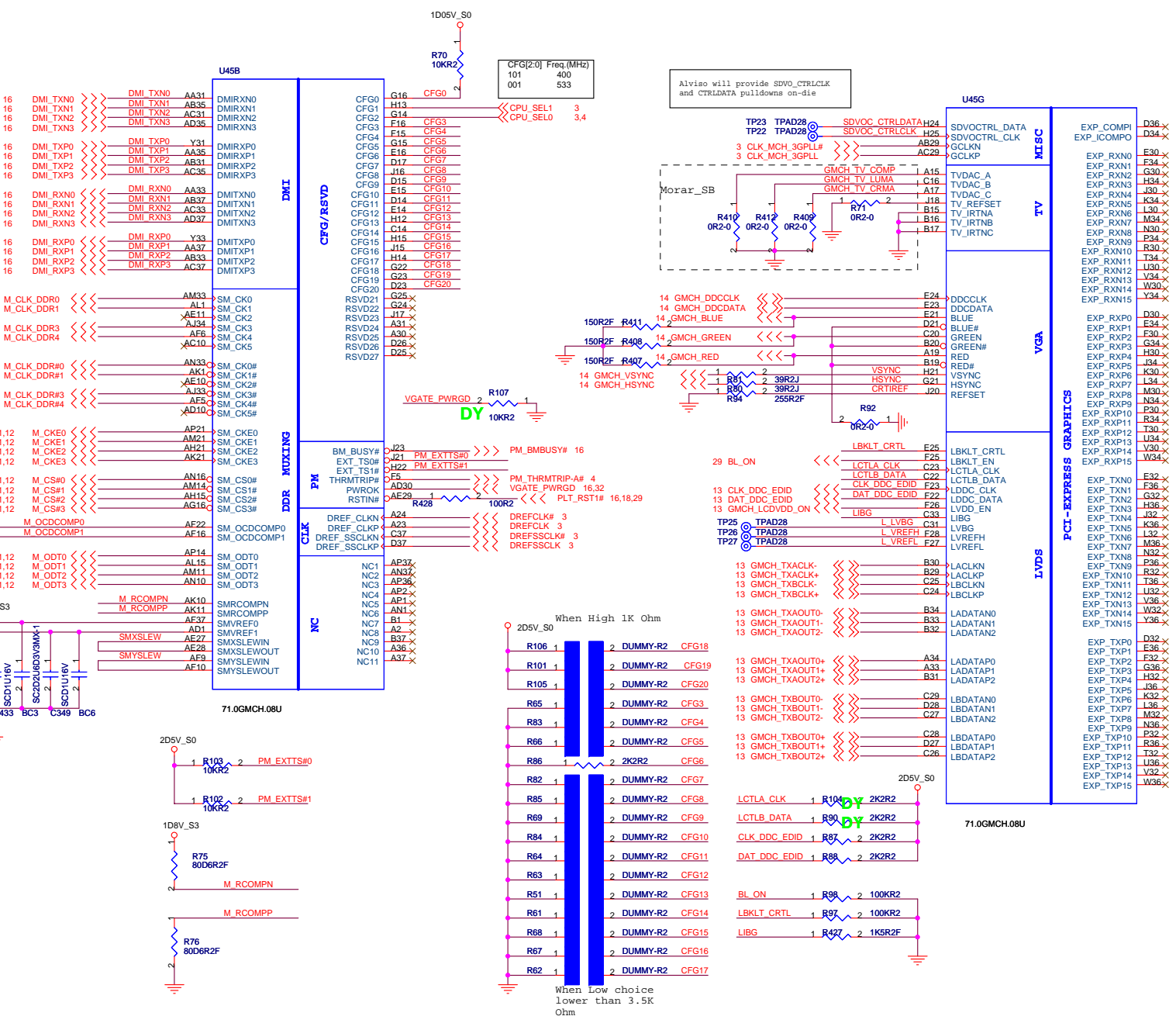
71.0GMCH.08U

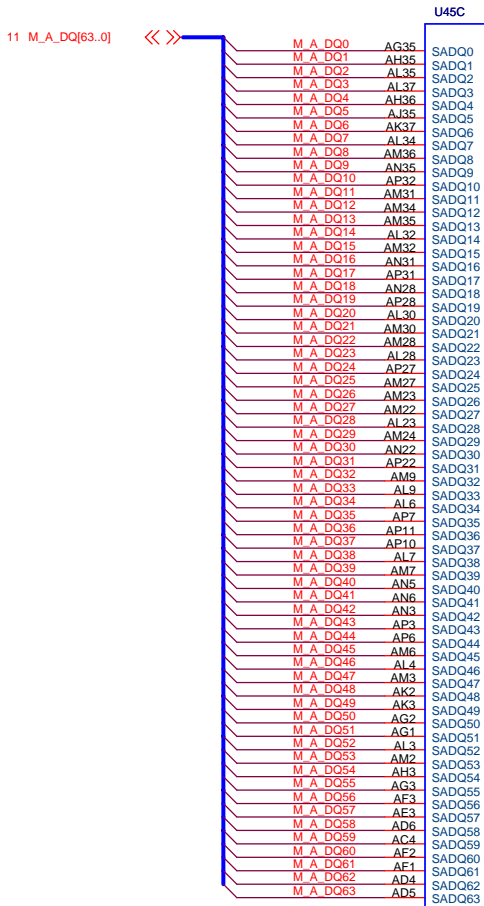
<<<>> H_A#[31..3] 4



<Core Design>

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title GMCH (1 of 5)	
Size A3	Document Number MORAR
Date: Friday, June 24, 2005	Rev SB
Sheet 6 of 40	

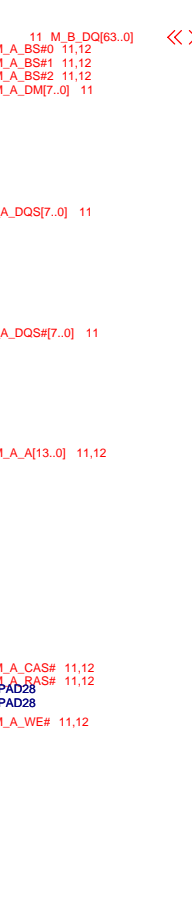




71.0GMCH.08U

DDR SYSTEM MEMORY A

Place Test PAD Near to Chip as could as possible



71.0GMCH.08U

DDR SYSTEM MEMORY B

Place Test PAD Near to Chip as could as possible

<Core Design>

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

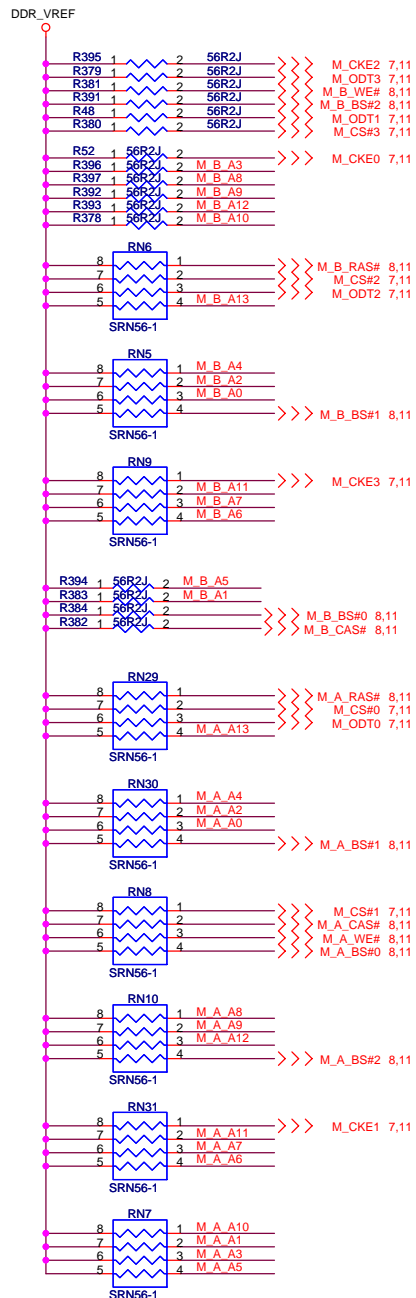
Title: **GMCH (3 of 5)**

Size A3	Document Number	Rev
	MORAR	SB

Date: Friday, June 24, 2005 Sheet 8 of 40

PARALLEL TERMINATION

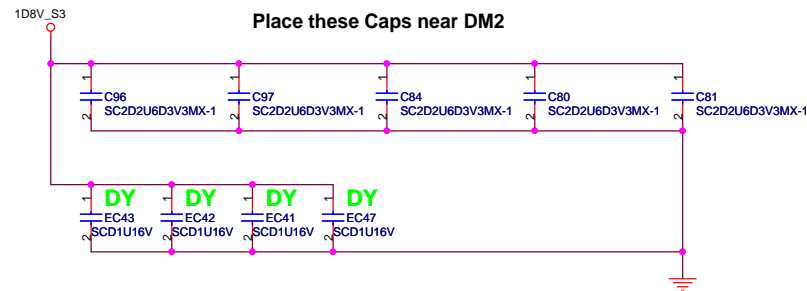
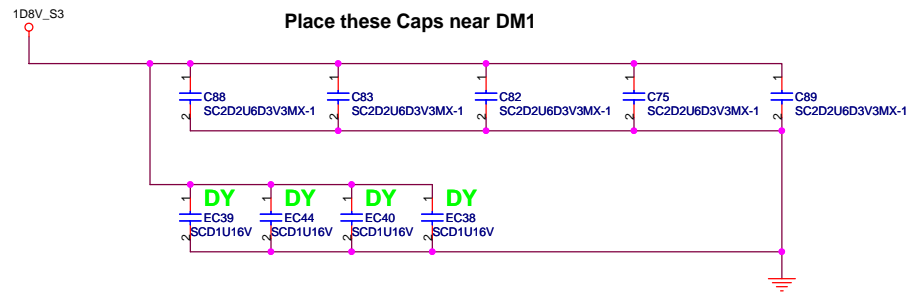
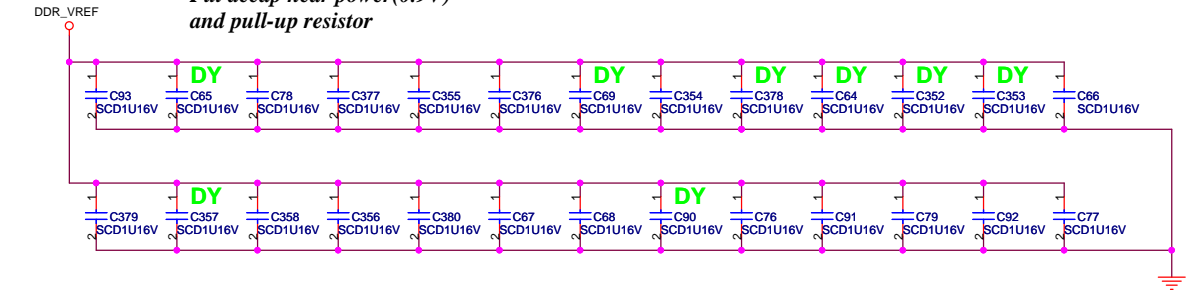
Put decap near power(0.9V) and pull-up resistor



>>> M_A_A[13..0] 8,11
>>> M_B_A[13..0] 8,11

Decoupling Capacitor

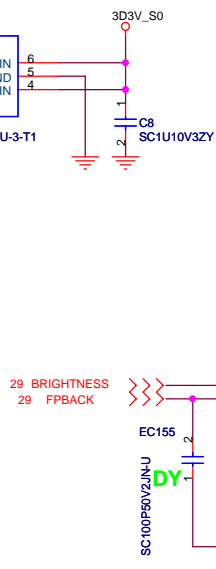
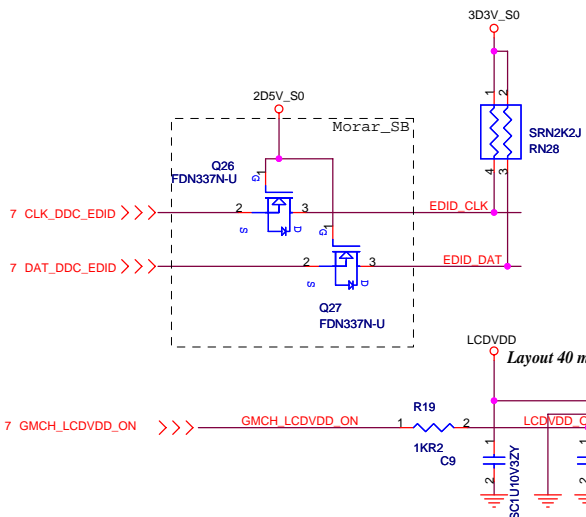
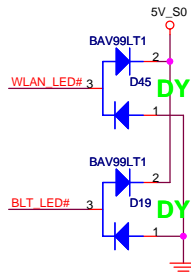
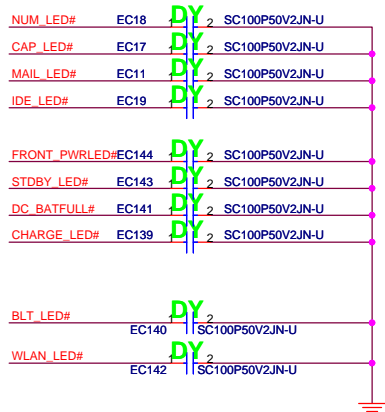
Put decap near power(0.9V) and pull-up resistor



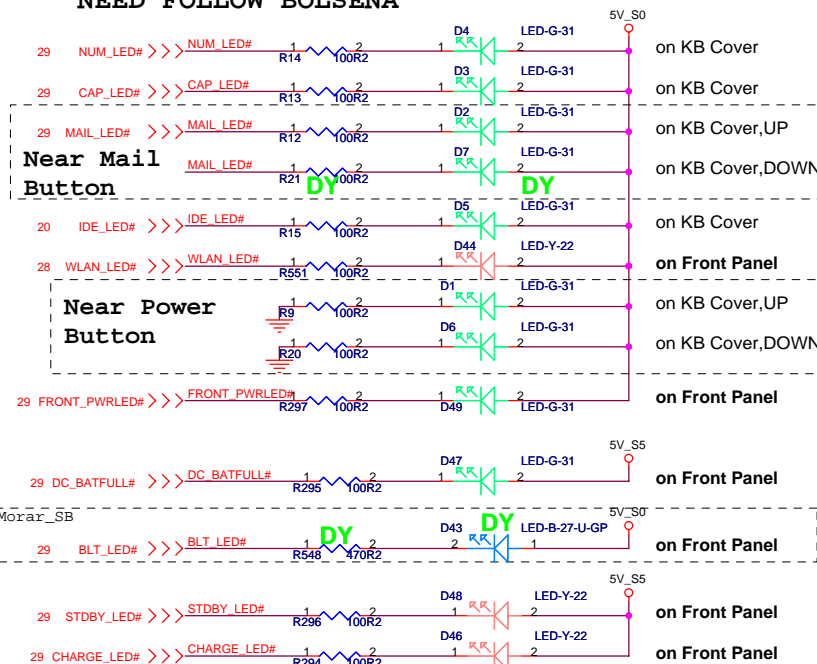
緯創資通 **Wistron Corporation**
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

Title		DDR2 Termination Resistor	
Size	Document Number	Rev	
A3			SB
Date:	Friday, June 24, 2005	Sheet	12 of 40

LED



NEED FOLLOW BOLSENA



on KB cover

LED	V	V	V	V	V	V
Button	V	V	V	V	V	V
	POWER1	E-MAIL	INTERNET	e-BTN	PROGRAM	CAPS
						NUM HDD

Front panel

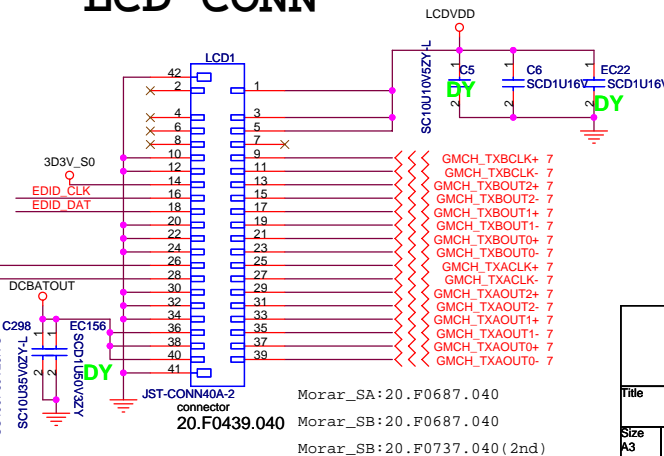
LED	V	V	V	V
Button	V	V	V	V
	Bluetooth	Wireless	Charger	Power2

Charger:
Green : DC only or Battery full with DC
Orange : Charging
Orange Blink : Battery low

Power2:
Green : S0
Orange : S3
Orange Blinking : Enter S4

(Please See M.E. drawing LED position)

LCD CONN

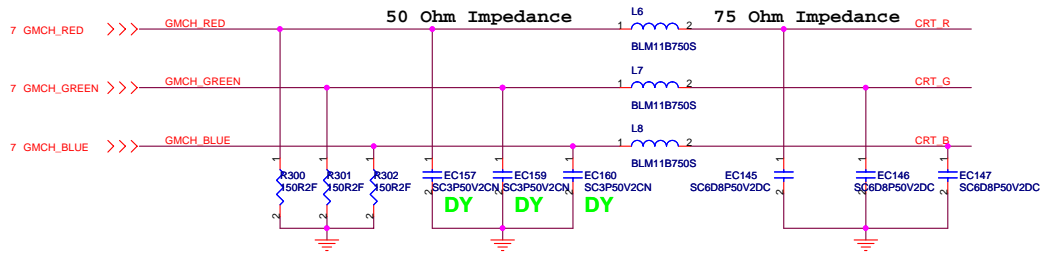


緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

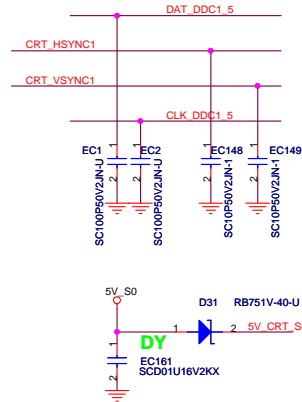
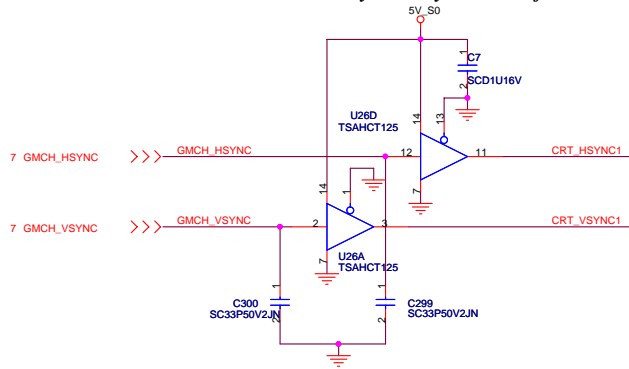
Title		
LCD CONN & LED		
Size	Document Number	Rev
A3	MORAR	SB
Date: Saturday, May 28, 2005		
Sheet 13		of 40

CRT CONNECTOR

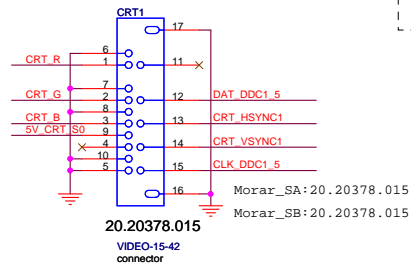
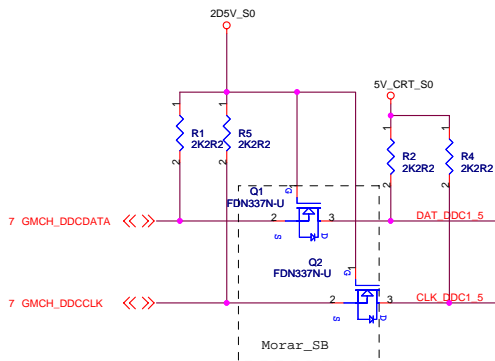
Ferrite bead impedance: 75ohm@100MHz



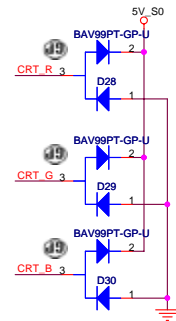
Hsync & Vsync level shift



DDC_CLK & DATA level shift



ESD Protection Diode



Morar_SA:20.20378.015

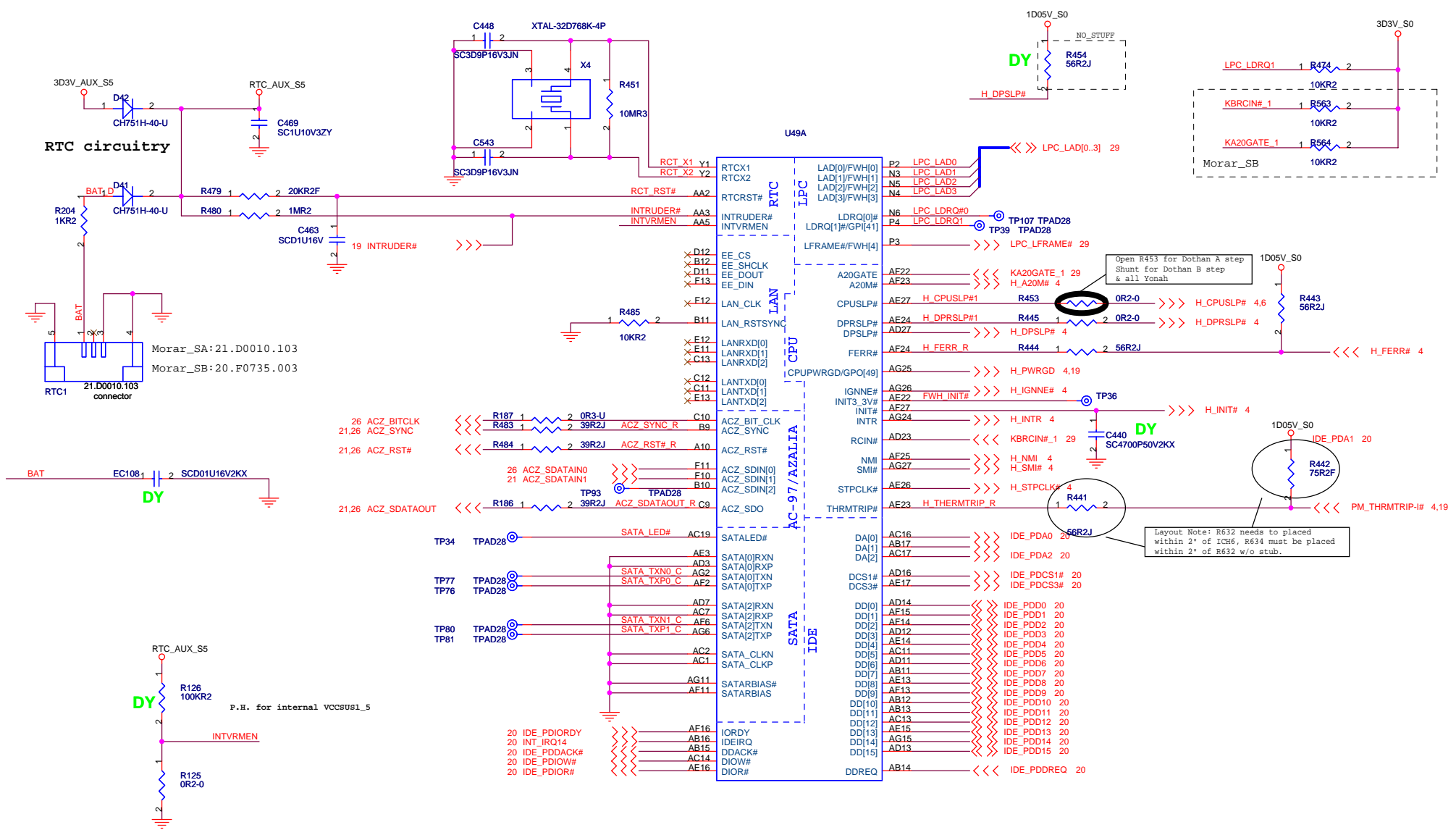
Morar_SB:20.20378.015

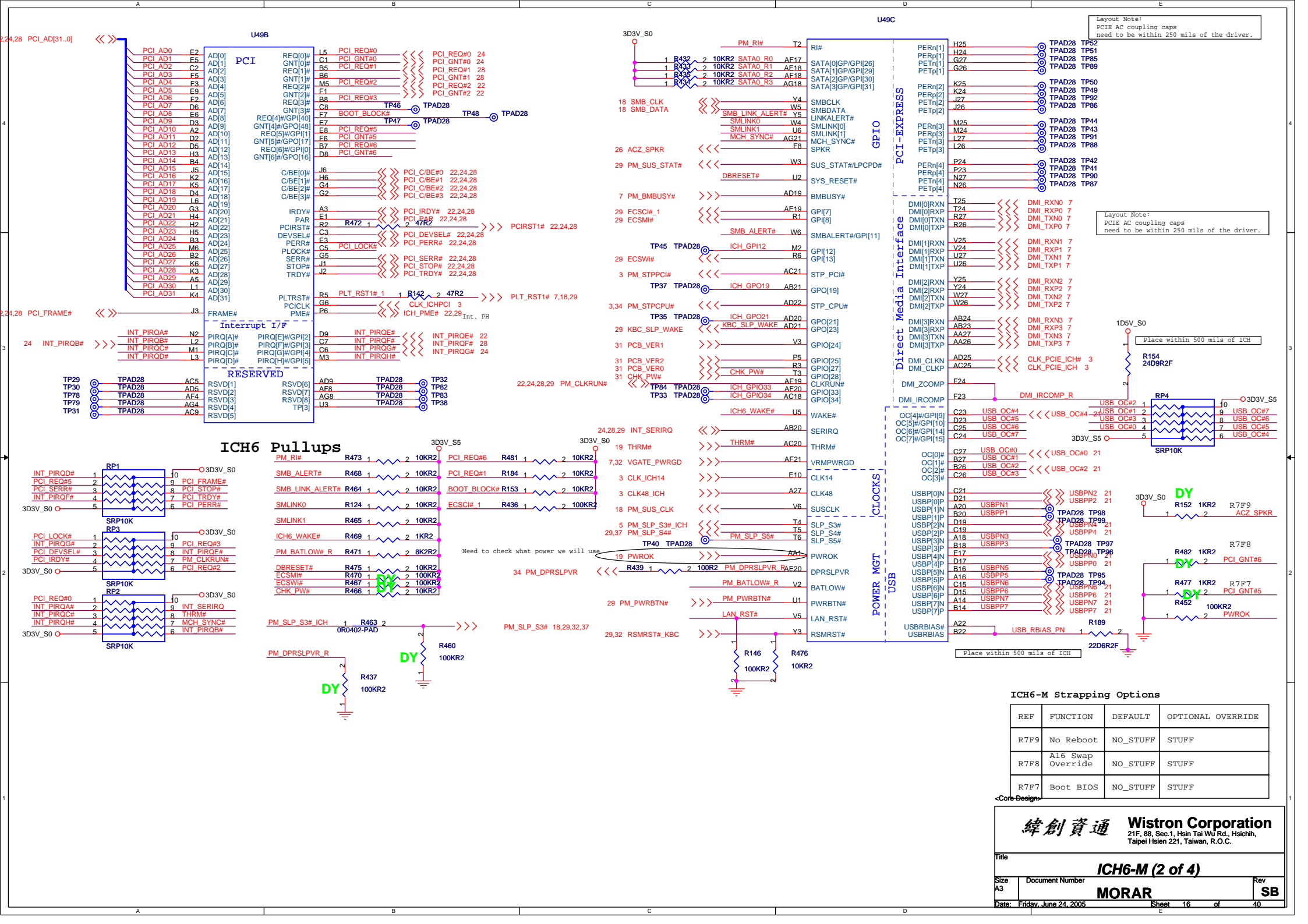
20.20378.015

VIDEO-15-42
connector

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 Custom	Document Number MORAR	Rev SB
Date: Saturday, May 28, 2005	Sheet 14 of 40	





Layout Note:
PCI AC coupling caps
need to be within 250 mils of the driver.

Layout Note:
PCI AC coupling caps
need to be within 250 mils of the driver.

Place within 500 mils of ICH

Place within 500 mils of ICH

ICH6-M Strapping Options

REF	FUNCTION	DEFAULT	OPTIONAL OVERRIDE
R7F9	No Reboot	NO_STUFF	STUFF
R7F8	Override	NO_STUFF	STUFF
R7F7	Boot BIOS	NO_STUFF	STUFF

<Core Design>

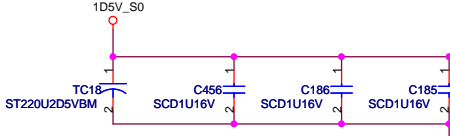
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: **ICH6-M (2 of 4)**

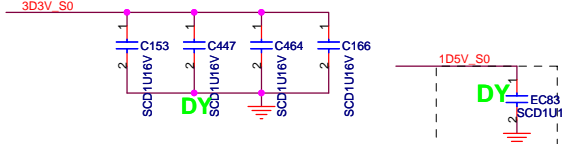
Size A3	Document Number	Rev
	MORAR	SB

Date: Friday, June 24, 2005 Sheet 16 of 40

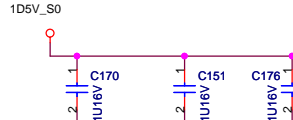
Layout Note:
Place above caps within
100 mils of ICH near F27, P27, AB27



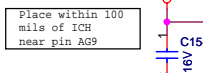
Layout Note:
IDE decoupling



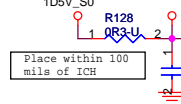
Layout Note:
PCI decoupling



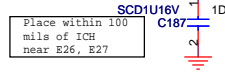
Place within 100
mils of ICH
near pin AG5



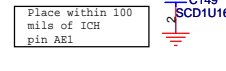
Place within 100
mils of ICH
near pin AG9



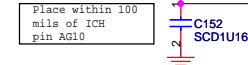
Place within 100
mils of ICH



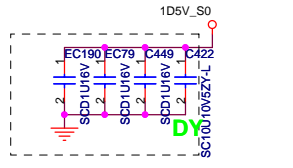
Place within 100
mils of ICH
near E26, E27



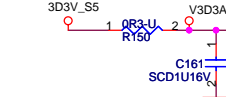
Place within 100
mils of ICH
pin AB1



Place within 100
mils of ICH
pin AG10



Place within 100
mils of ICH
pin A13



Place within 100
mils of ICH
pin V7

AA22	VCC1_5_B
AA23	VCC1_5_B
AA24	VCC1_5_B
AA25	VCC1_5_B
AB25	VCC1_5_B
AB26	VCC1_5_B
AB27	VCC1_5_B
F25	VCC1_5_B
F26	VCC1_5_B
F27	VCC1_5_B
G22	VCC1_5_B
G23	VCC1_5_B
G24	VCC1_5_B
G25	VCC1_5_B
H21	VCC1_5_B
H22	VCC1_5_B
J21	VCC1_5_B
J22	VCC1_5_B
K21	VCC1_5_B
K22	VCC1_5_B
L21	VCC1_5_B
L22	VCC1_5_B
M21	VCC1_5_B
M22	VCC1_5_B
N21	VCC1_5_B
N22	VCC1_5_B
N23	VCC1_5_B
N24	VCC1_5_B
N25	VCC1_5_B
P21	VCC1_5_B
P25	VCC1_5_B
P26	VCC1_5_B
P27	VCC1_5_B
R21	VCC1_5_B
R22	VCC1_5_B
T21	VCC1_5_B
T22	VCC1_5_B
U21	VCC1_5_B
U22	VCC1_5_B
V21	VCC1_5_B
V22	VCC1_5_B
W21	VCC1_5_B
W22	VCC1_5_B
Y21	VCC1_5_B
Y22	VCC1_5_B
AA6	VCC1_5_A
AB4	VCC1_5_A
AB5	VCC1_5_A
AB6	VCC1_5_A
AC4	VCC1_5_A
AD4	VCC1_5_A
AE4	VCC1_5_A
AE5	VCC1_5_A
AF5	VCC1_5_A
AG5	VCC1_5_A
AA7	VCC1_5_A
AA8	VCC1_5_A
AA9	VCC1_5_A
AB8	VCC1_5_A
AC8	VCC1_5_A
AD8	VCC1_5_A
AE8	VCC1_5_A
AE9	VCC1_5_A
AF9	VCC1_5_A
AG9	VCC1_5_A
AC27	VCDDMPLL
E26	VCC3_3
AE1	VCCSATAPLL
AG10	VCC3_3
A13	VCCLAN3_3/VCCSUS3_3
F14	VCCLAN3_3/VCCSUS3_3
G13	VCCLAN3_3/VCCSUS3_3
G14	VCCLAN3_3/VCCSUS3_3
A11	VCCSUS3_3
U4	VCCSUS3_3
V1	VCCSUS3_3
V7	VCCSUS3_3
V2	VCCSUS3_3
V7	VCCSUS3_3
A17	VCCSUS3_3
B17	VCCSUS3_3
C17	VCCSUS3_3
F18	VCCSUS3_3
G22	VCCSUS3_3
G18	VCCSUS3_3
V_CPU_IO	VCCSUS3_3
V_CPU_IO	VCCSUS3_3
V_CPU_IO	VCCSUS3_3
V_CPU_IO	VCCSUS3_3
G11	VCCLAN1_5/VCCSUS1_5
G10	VCCLAN1_5/VCCSUS1_5
AG23	V_CPU_IO
AD26	V_CPU_IO
AB22	V_CPU_IO
G15	VCCSUS3_3
G15	VCCSUS3_3
F16	VCCSUS3_3
F15	VCCSUS3_3
E16	VCCSUS3_3
D16	VCCSUS3_3
C16	VCCSUS3_3
AA10	VCC3_3
AG19	VCC3_3
AG16	VCC3_3
AG15	VCC3_3
AD17	VCC3_3
AC15	VCC3_3
AA17	VCC3_3
AA15	VCC3_3
AA14	VCC3_3
AA12	VCC3_3
P1	VCC3_3
M7	VCC3_3
L7	VCC3_3
L4	VCC3_3
J7	VCC3_3
H7	VCC3_3
H1	VCC3_3
E4	VCC3_3
B1	VCC3_3
A6	VCC3_3
U7	VCC3_3
R7	VCC3_3
G19	VCCSUS1_5
G20	VCC1_5_A
E20	VCC1_5_A
E24	VCC1_5_A
E23	VCC1_5_A
E22	VCC1_5_A
E21	VCC1_5_A
E20	VCC1_5_A
D27	VCC1_5_A
D26	VCC1_5_A
D25	VCC1_5_A
D24	VCC1_5_A
G8	VCC1_5_A
AB18	VCC2_5
P7	VCC2_5
AA18	V5REF
A8	V5REF
F21	V5REF_SUS
A25	VCCUSBPLL
A24	VCCSUS3_3
AB3	VCCRTC
G11	V_CPU_IO
G10	V_CPU_IO
AG23	V_CPU_IO
AD26	V_CPU_IO
AB22	V_CPU_IO
G15	VCCSUS3_3
G15	VCCSUS3_3
F16	VCCSUS3_3
F15	VCCSUS3_3
E16	VCCSUS3_3
D16	VCCSUS3_3
C16	VCCSUS3_3
AA18	V5REF
A8	V5REF
F21	V5REF_SUS
A25	VCCUSBPLL
A24	VCCSUS3_3
AB3	VCCRTC
G11	V_CPU_IO
G10	V_CPU_IO
AG23	V_CPU_IO
AD26	V_CPU_IO
AB22	V_CPU_IO
G15	VCCSUS3_3
G15	VCCSUS3_3
F16	VCCSUS3_3
F15	VCCSUS3_3
E16	VCCSUS3_3
D16	VCCSUS3_3
C16	VCCSUS3_3

U49E CORE IDE PCI USB CORE SATA PCI/IDE

CORE

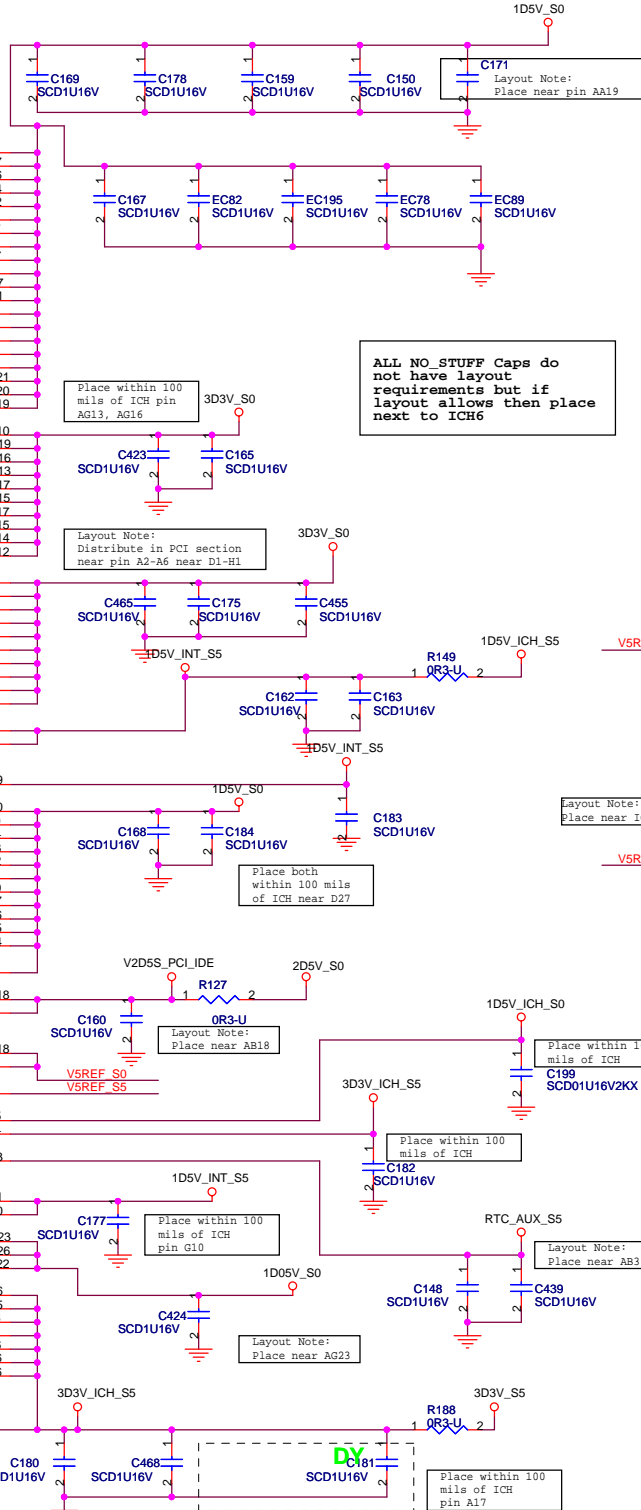
IDE

PCI

USB CORE

SATA

PCI/IDE



Place within 100
mils of ICH pin
AG13, AG16

ALL NO_STUFF Caps do
not have layout
requirements but if
layout allows then place
next to ICH6

Layout Note:
Distribute in PCI section
near pin A2-A6 near D1-H1

Place both
within 100 mils
of ICH near D27

Layout Note:
Place near ICH6

Layout Note:
Place near AB18

Place within 100
mils of ICH

Place within 100
mils of ICH

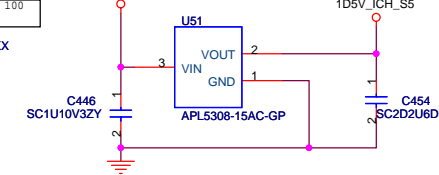
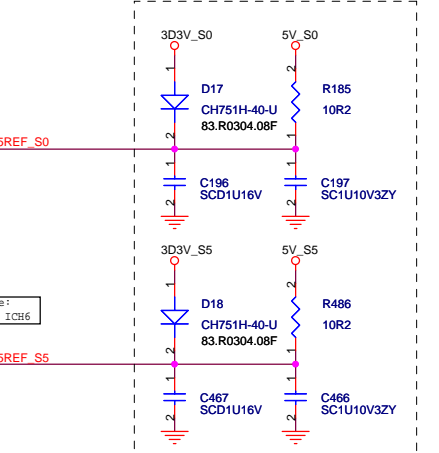
Place within 100
mils of ICH
pin G10

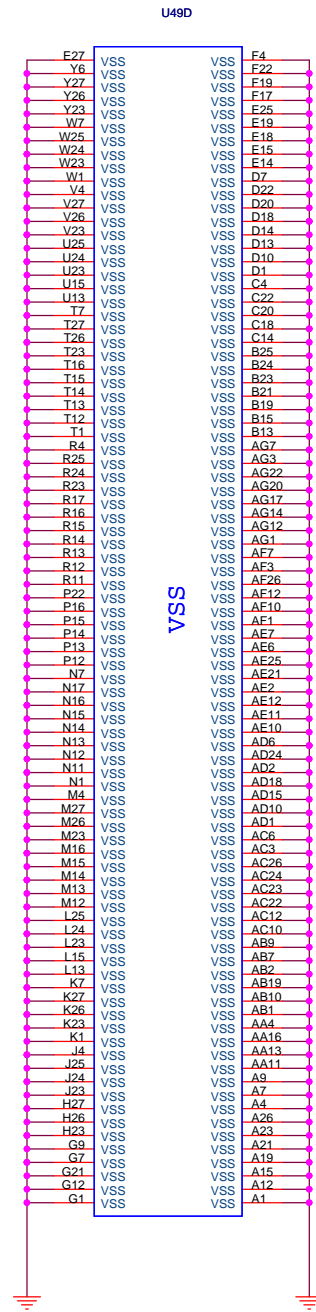
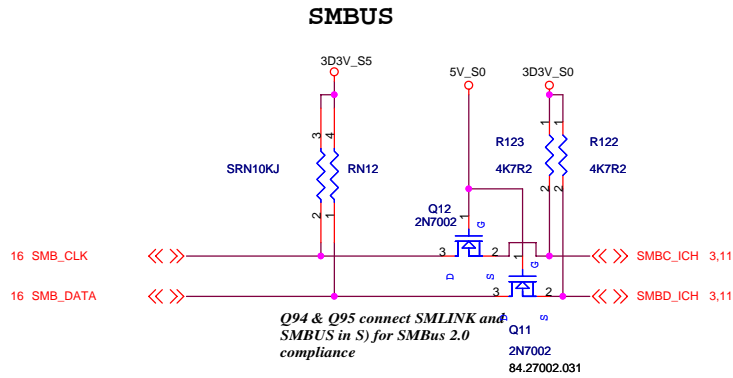
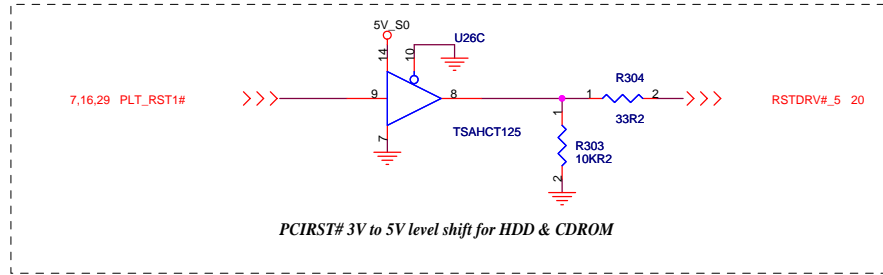
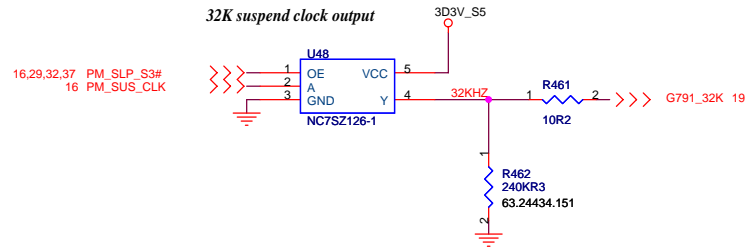
Layout Note:
Place near AB3

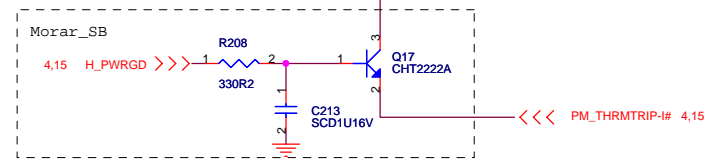
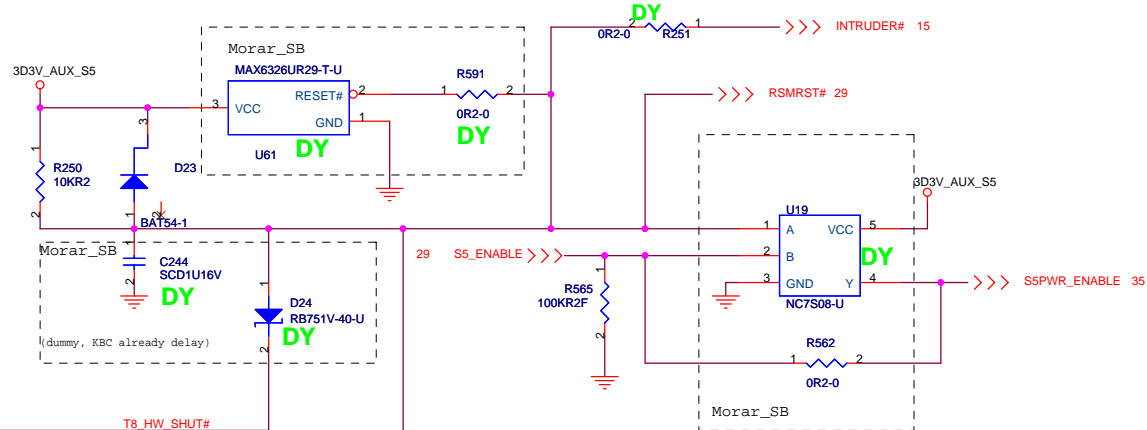
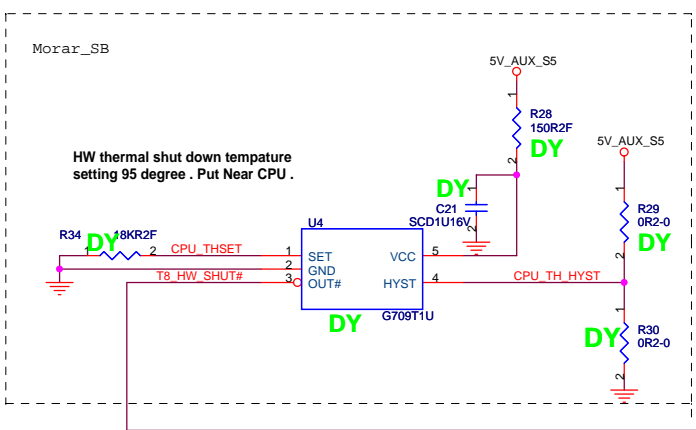
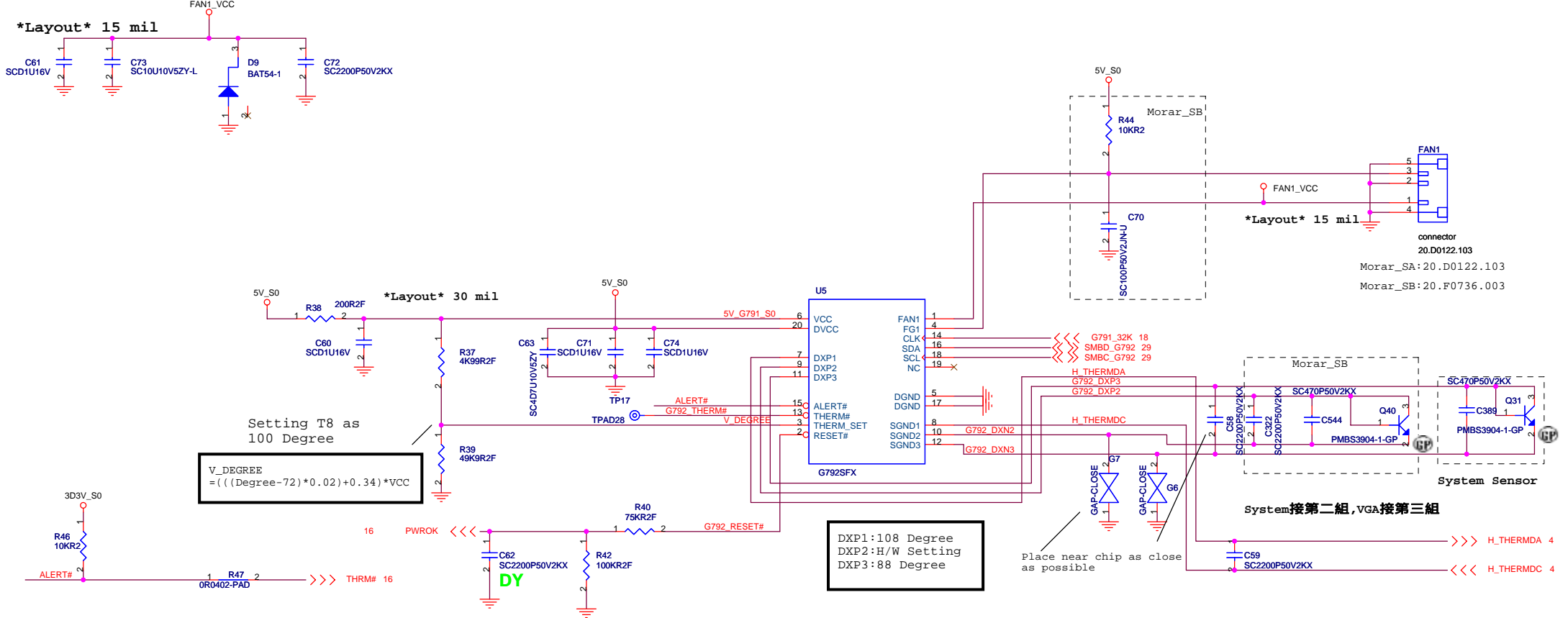
Layout Note:
Place near AG23

Place within 100
mils of ICH
pin A17

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







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

Title: **Thermal/Fan Controller**

Size Custom	Document Number	Rev
	MORAR	SB
Date: Saturday, May 28, 2005	Sheet 19 of	40

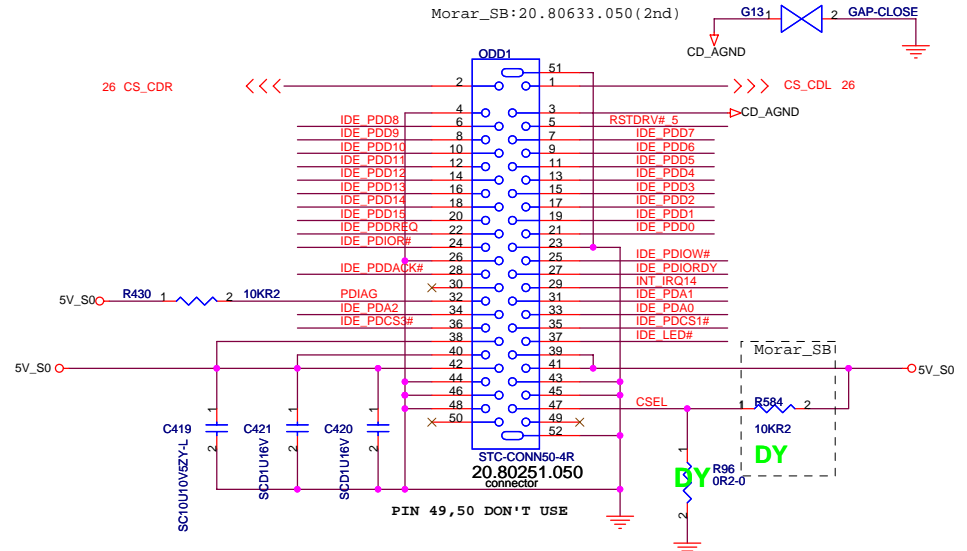
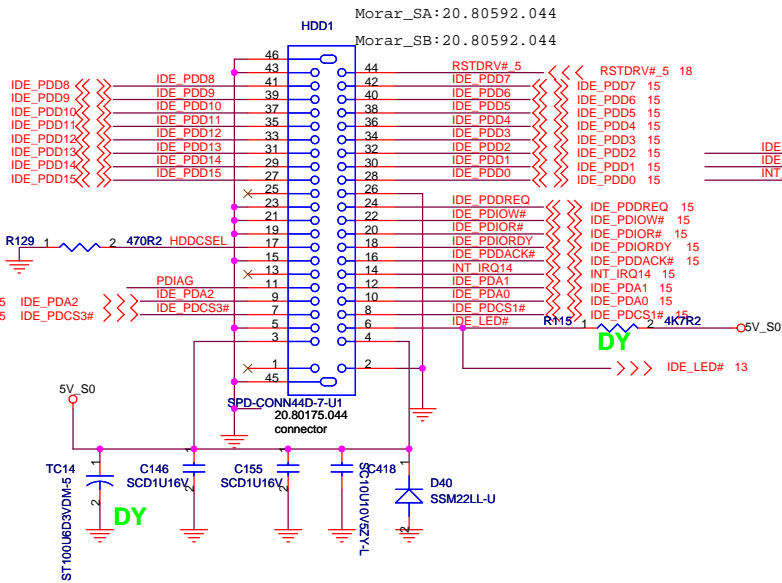
CD-ROM Connector

HDD Connector

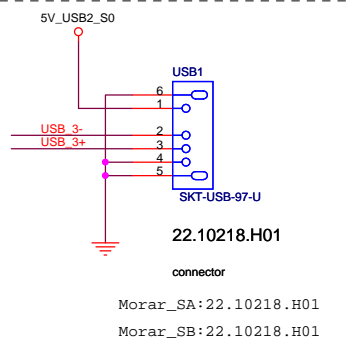
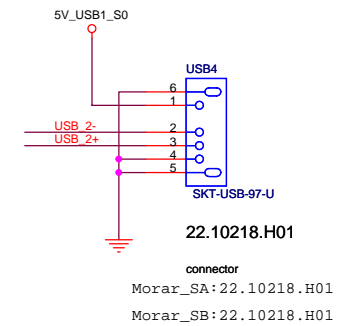
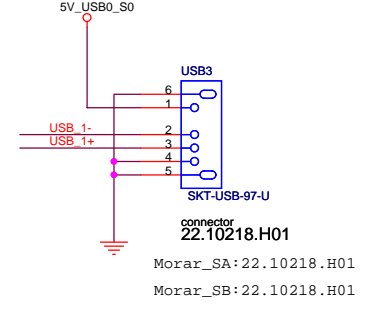
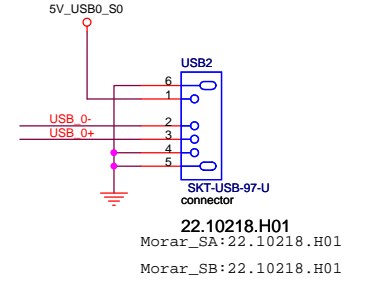
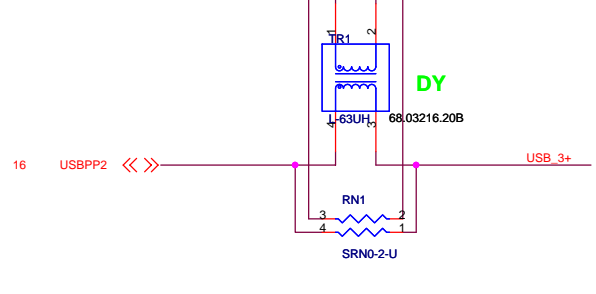
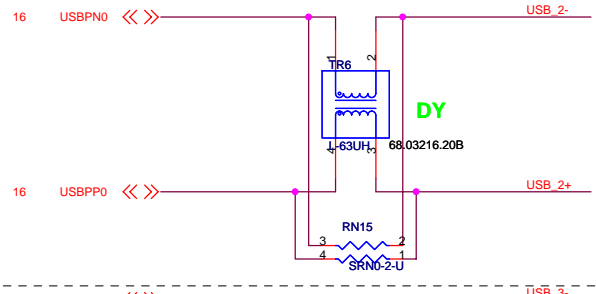
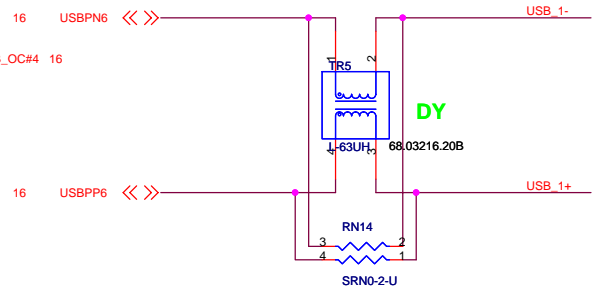
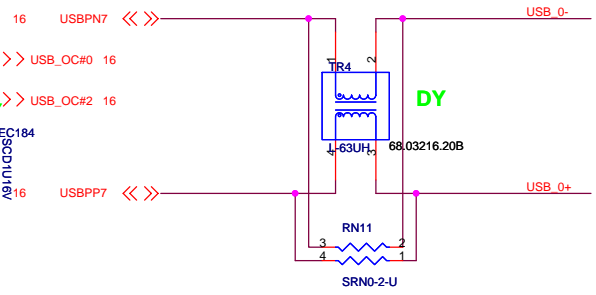
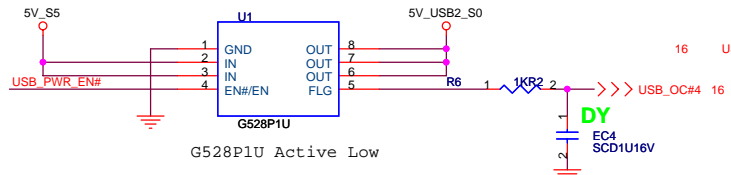
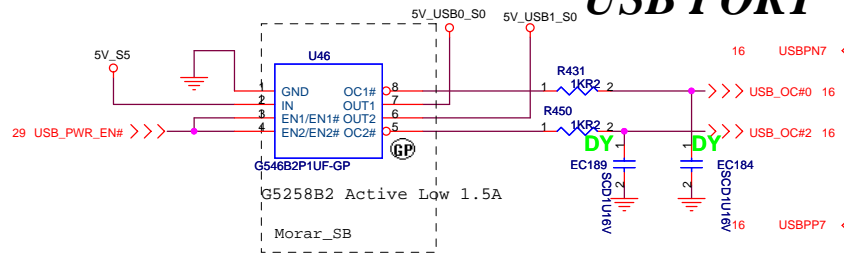
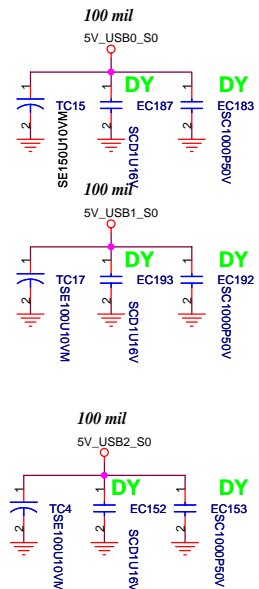
Morar_SA:20.80251.050

Morar_SB:20.80251.050

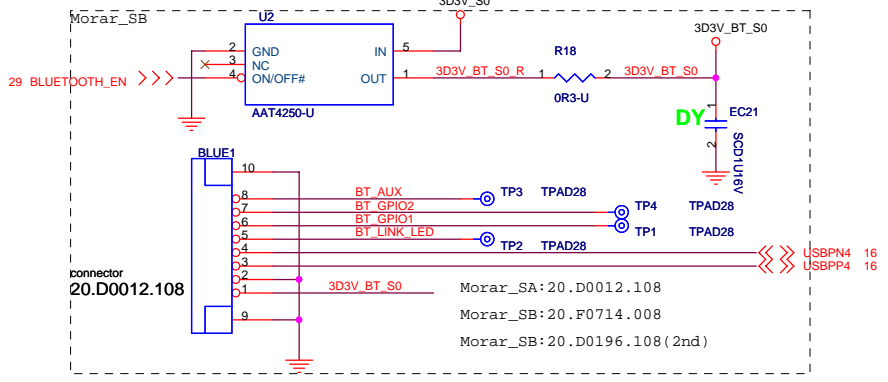
Morar_SB:20.80633.050 (2nd)



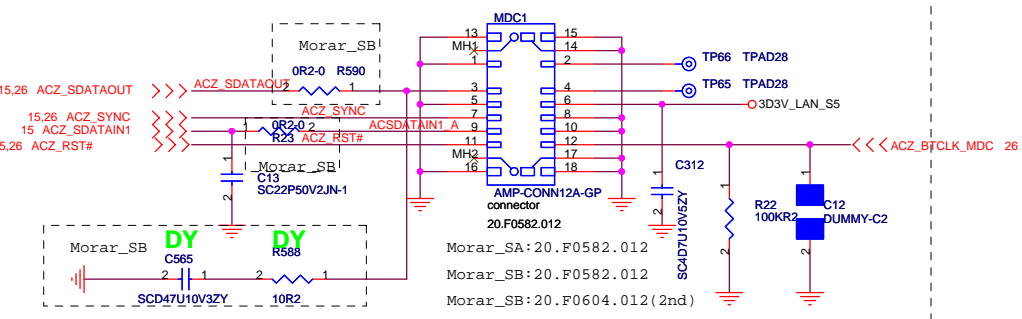
USB PORT



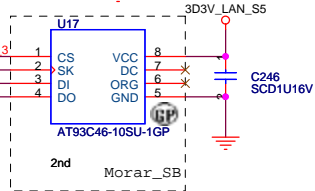
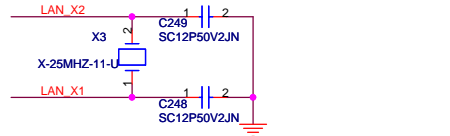
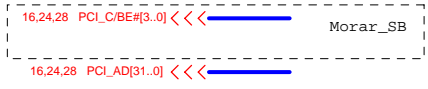
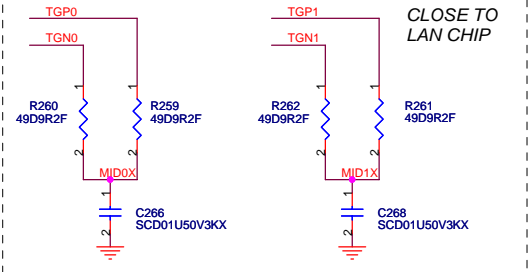
BLUETOOTH MODULE



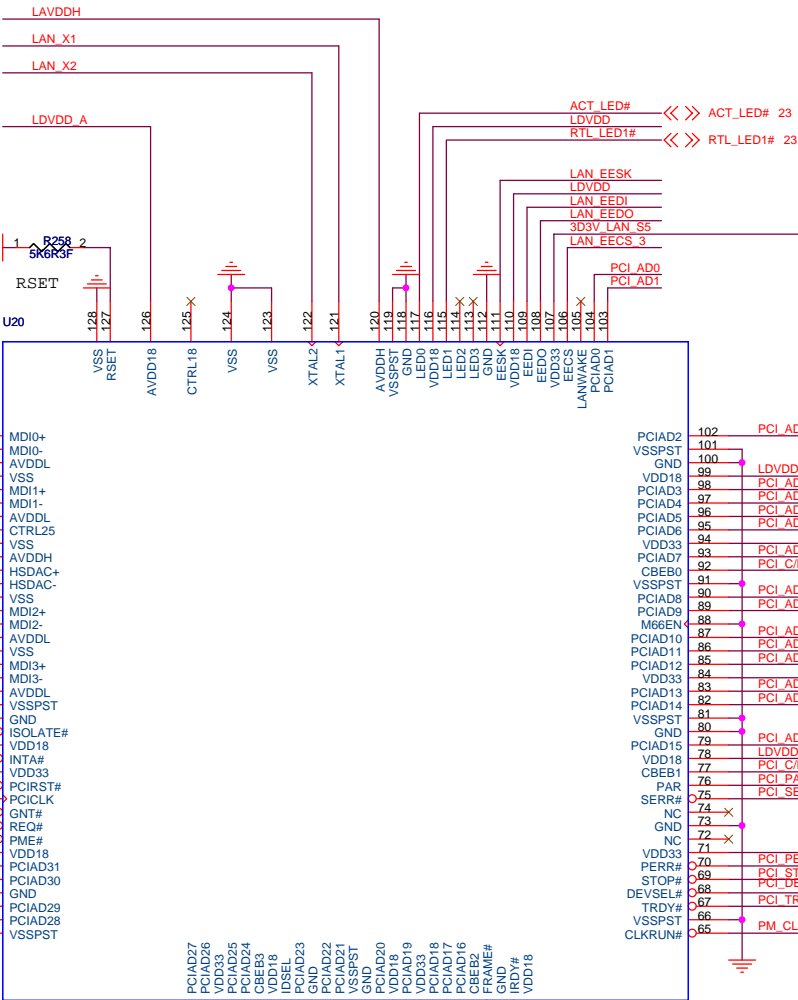
MDC 1.5 CONNECTOR



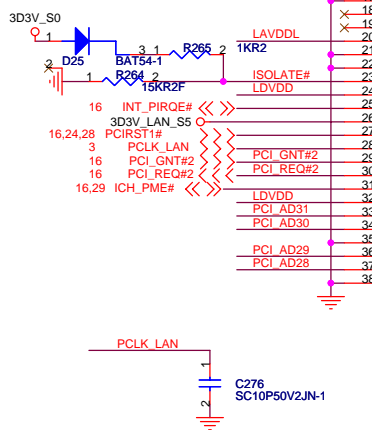
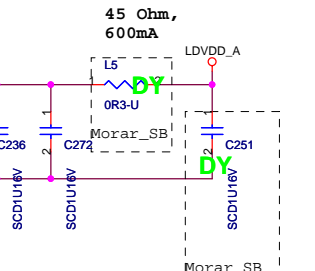
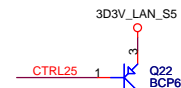
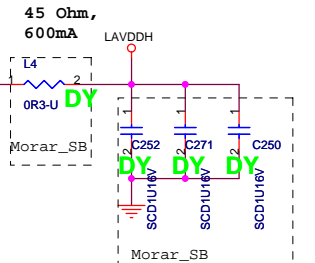
Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title		
USB / MDC / BLUETOOTH		
Size	Document Number	Rev
A3	MORAR	SB
Date: Saturday, May 28, 2005		
Sheet	21	of 40



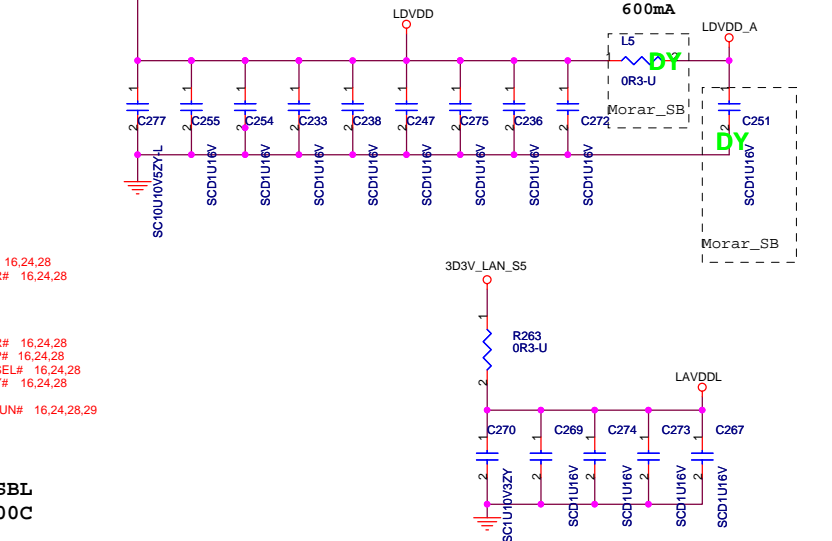
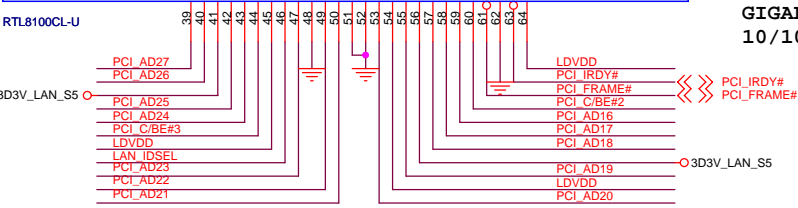
EEPROM LED OPTION USE '01'
(DEFINED IN SPEC)
=> LED0 : ACT
=> LED1 : LINK
(BOTH 10/100 AND GIGA CHIP)



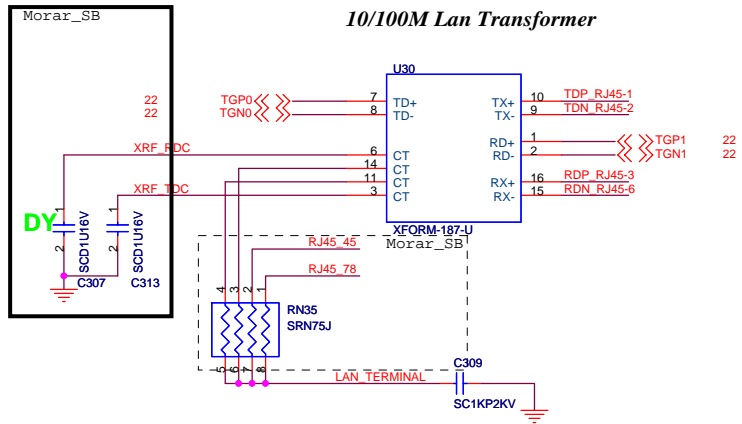
DY



GIGALAN: RTL810SBL
10/100 LAN: RTL8100C

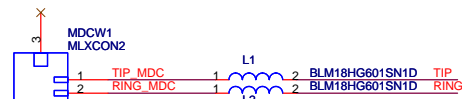
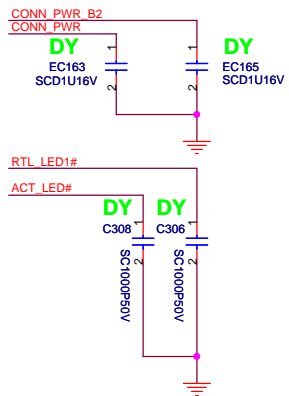


緯創資通 Wistron Corporation	
21F, 8B, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title: RTL8100CL	
Size: A3	Document Number: MORAR
Date: Saturday, May 28, 2005	Sheet: 22 of 40
Rev: SB	

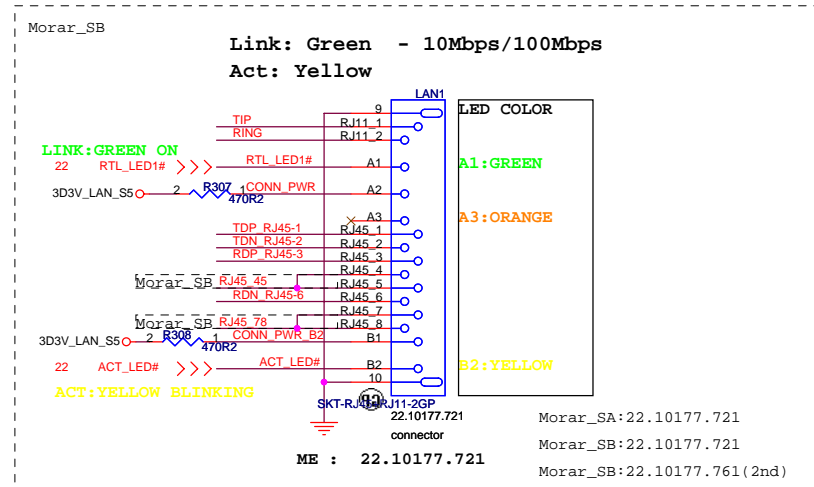


10/100M Lan Transformer

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.

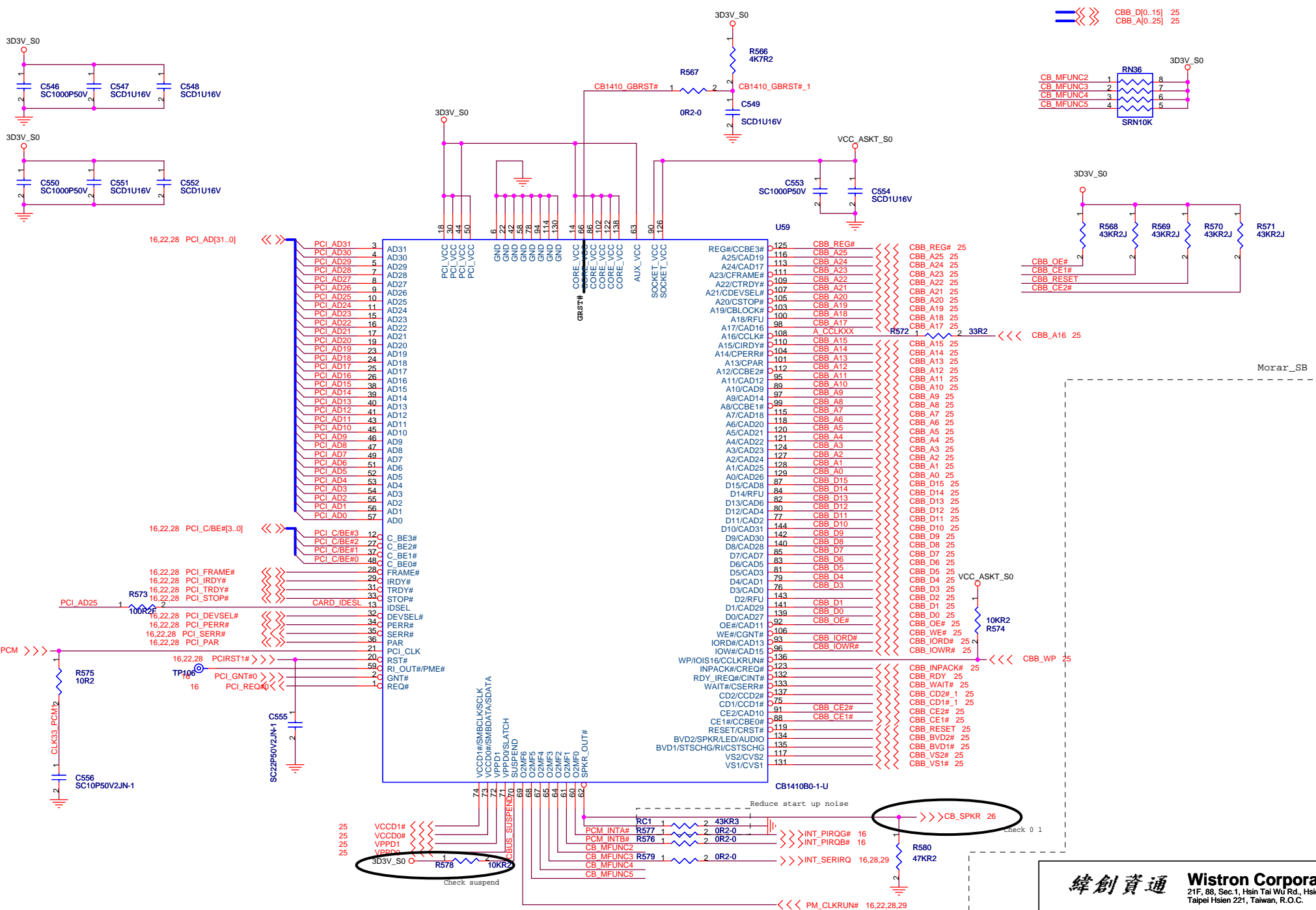


21.D0010.102
connector
Morar_SA:21.D0010.102
Morar_SB:20.F0714.002
Morar_SB:20.D0196.102(2nd)



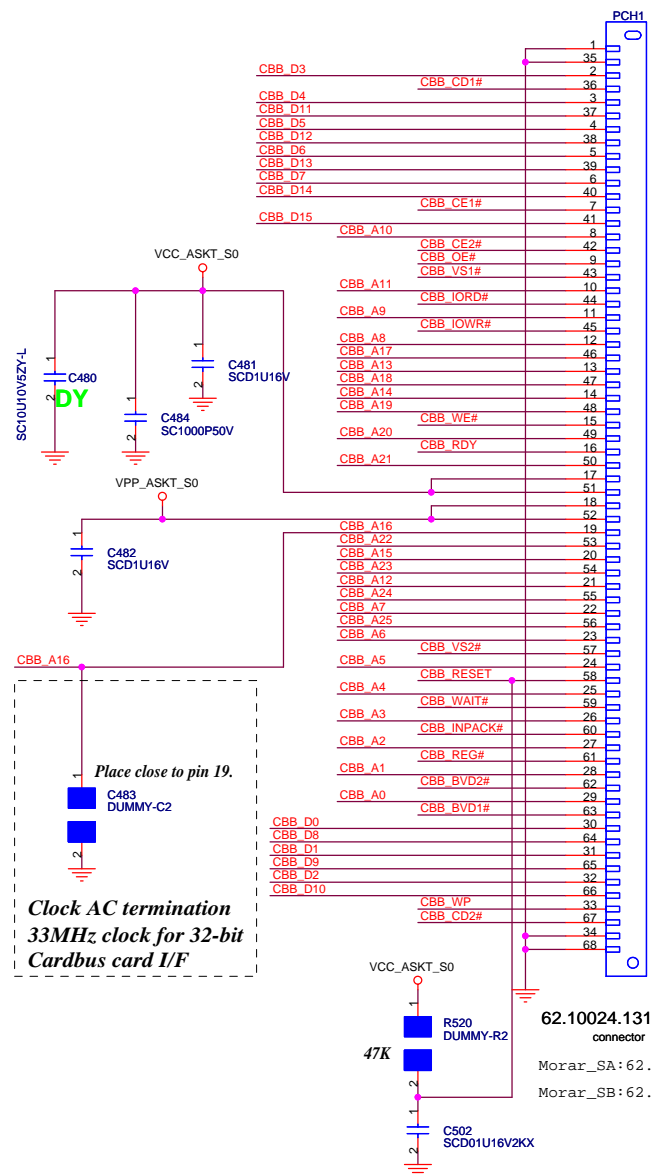
Morar_SA:22.10177.721
Morar_SB:22.10177.721
Morar_SB:22.10177.761(2nd)

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
LAN CONN	
MORAR	
Title Size A3 Date: Saturday, May 28, 2005	Document Number MORAR Sheet 23 of 40
Rev SB	

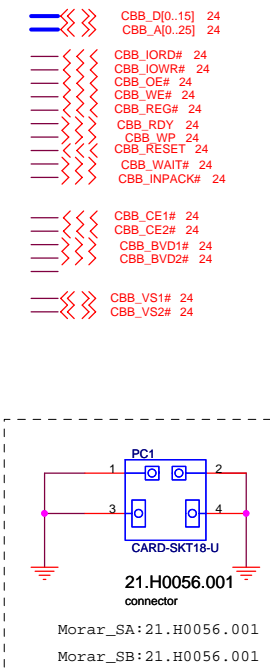


緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

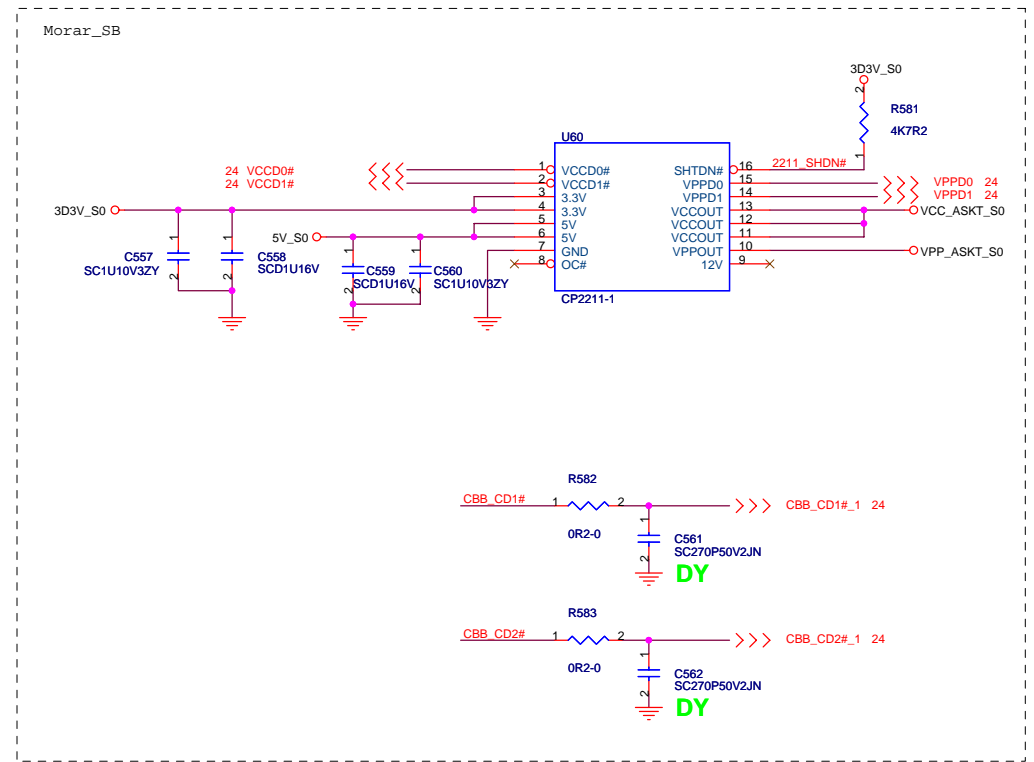
PCMCIA Socket



Cardbus I/F

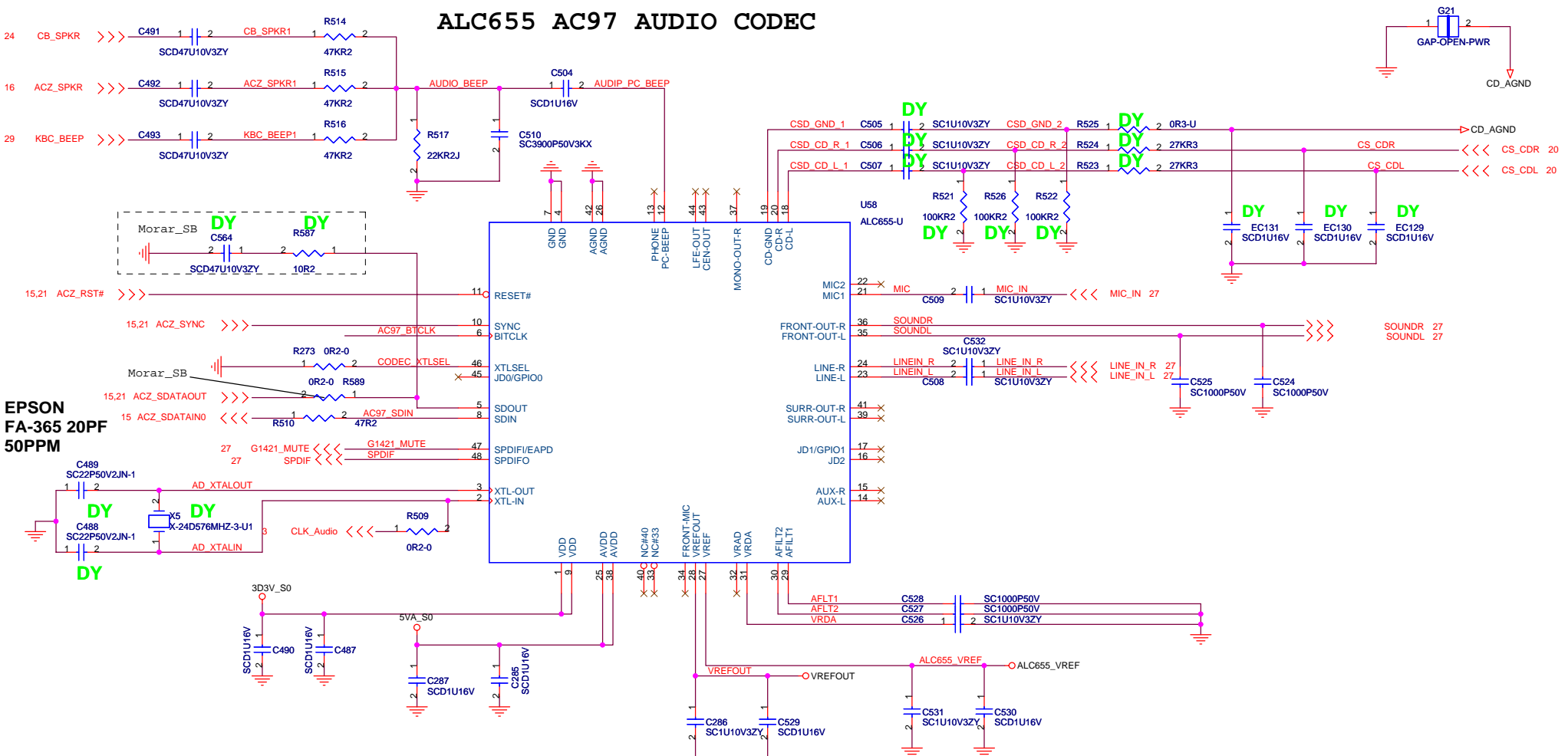


Power switch



緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	PCMCA
Size	Document Number
A3	MORAR
Date: Saturday, May 28, 2005	Sheet 25 of 40
Rev	SB

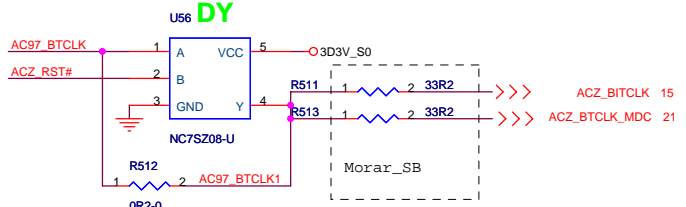
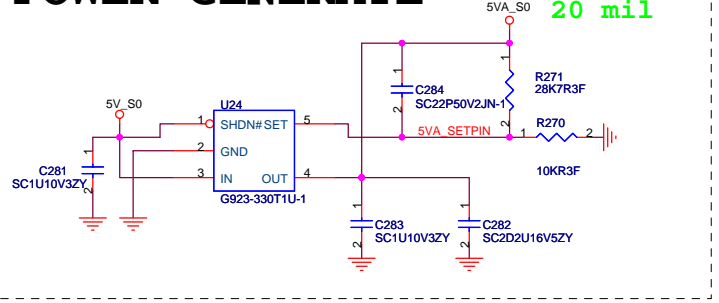
ALC655 AC97 AUDIO CODEC



EPSON
FA-365 20PF
50PPM

POWER GENERATE

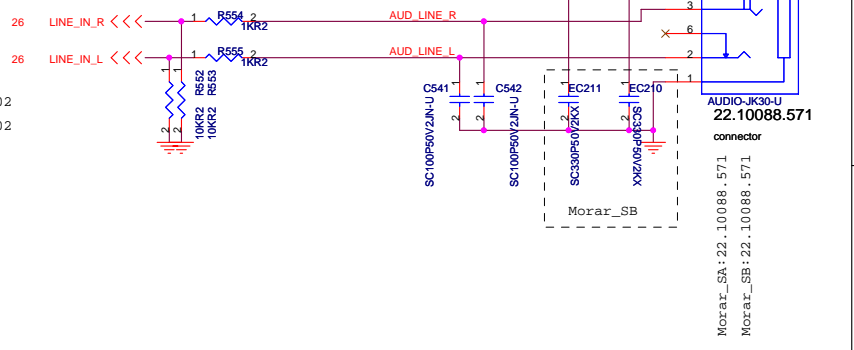
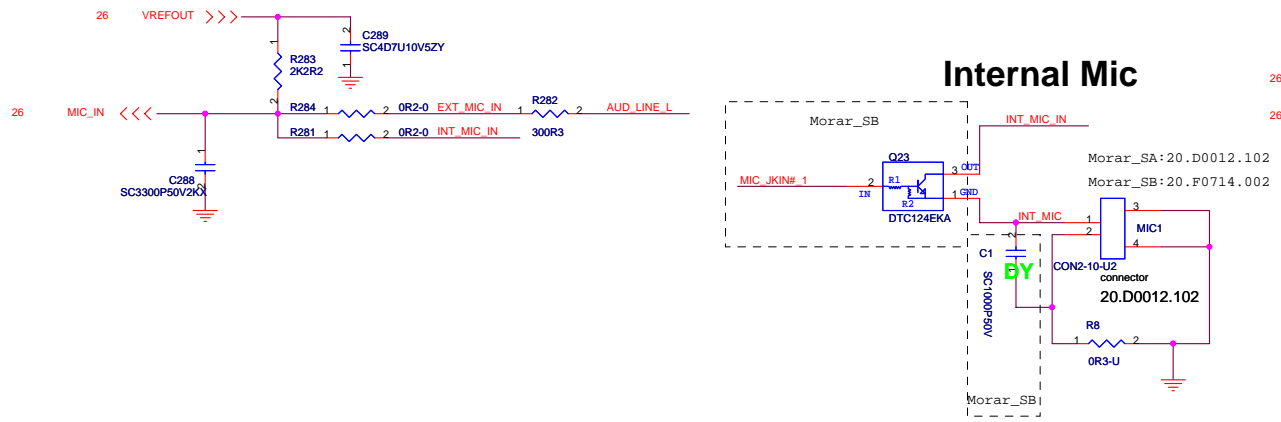
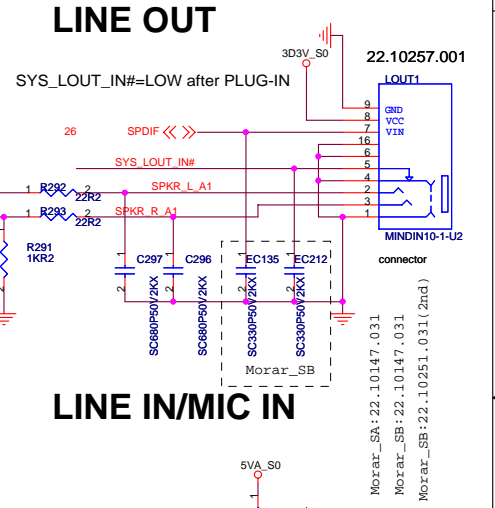
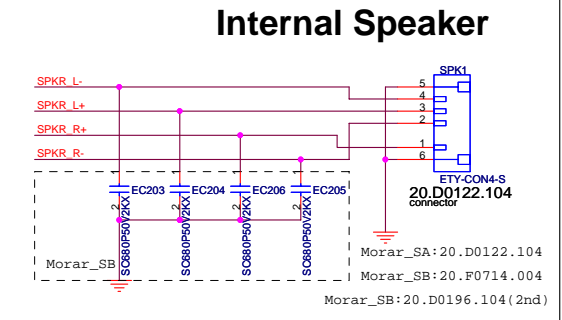
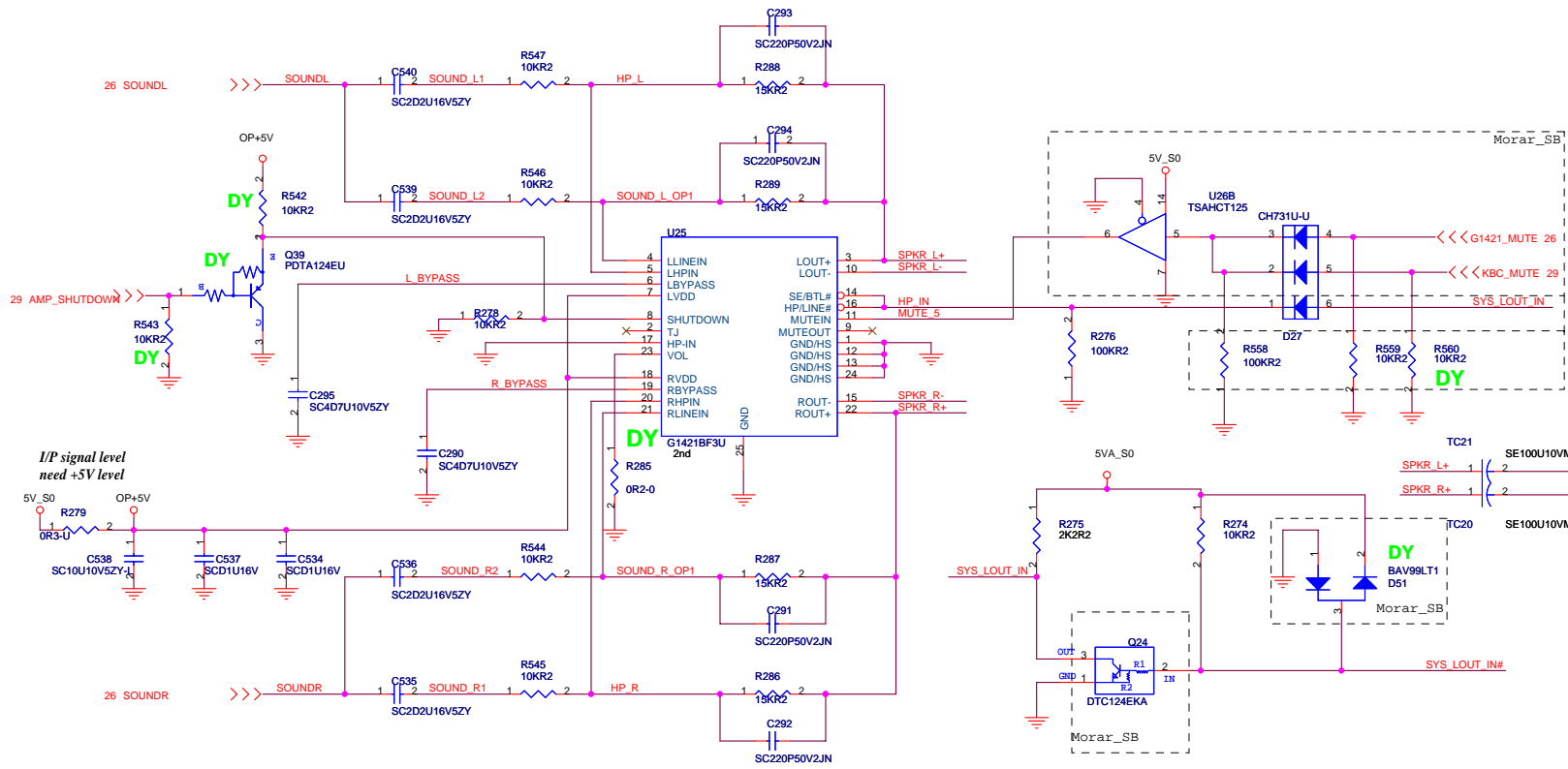
Layout
20 mil



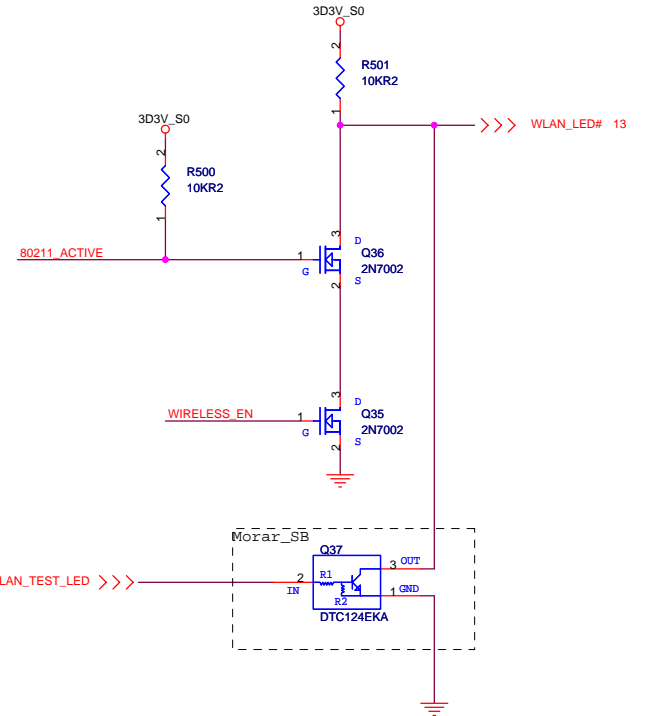
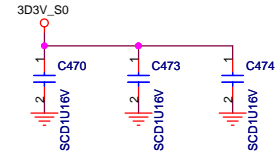
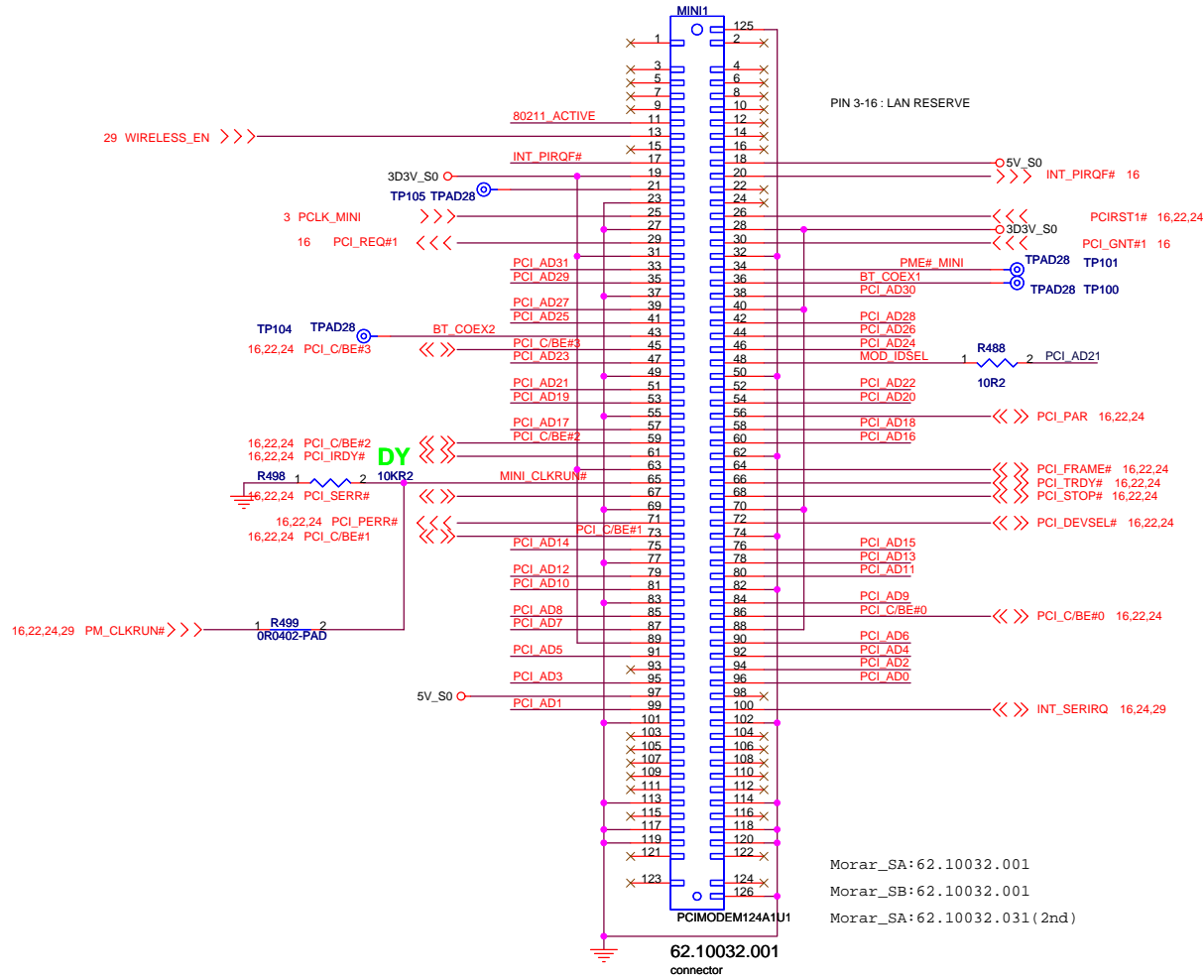
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title		
AC'97 CODEC - ALC655		
Size	Document Number	Rev
A3		
Date: Saturday, May 28, 2005		Sheet 26 of 40
MORAR		SB

AUDIO OP AMPLIFIER



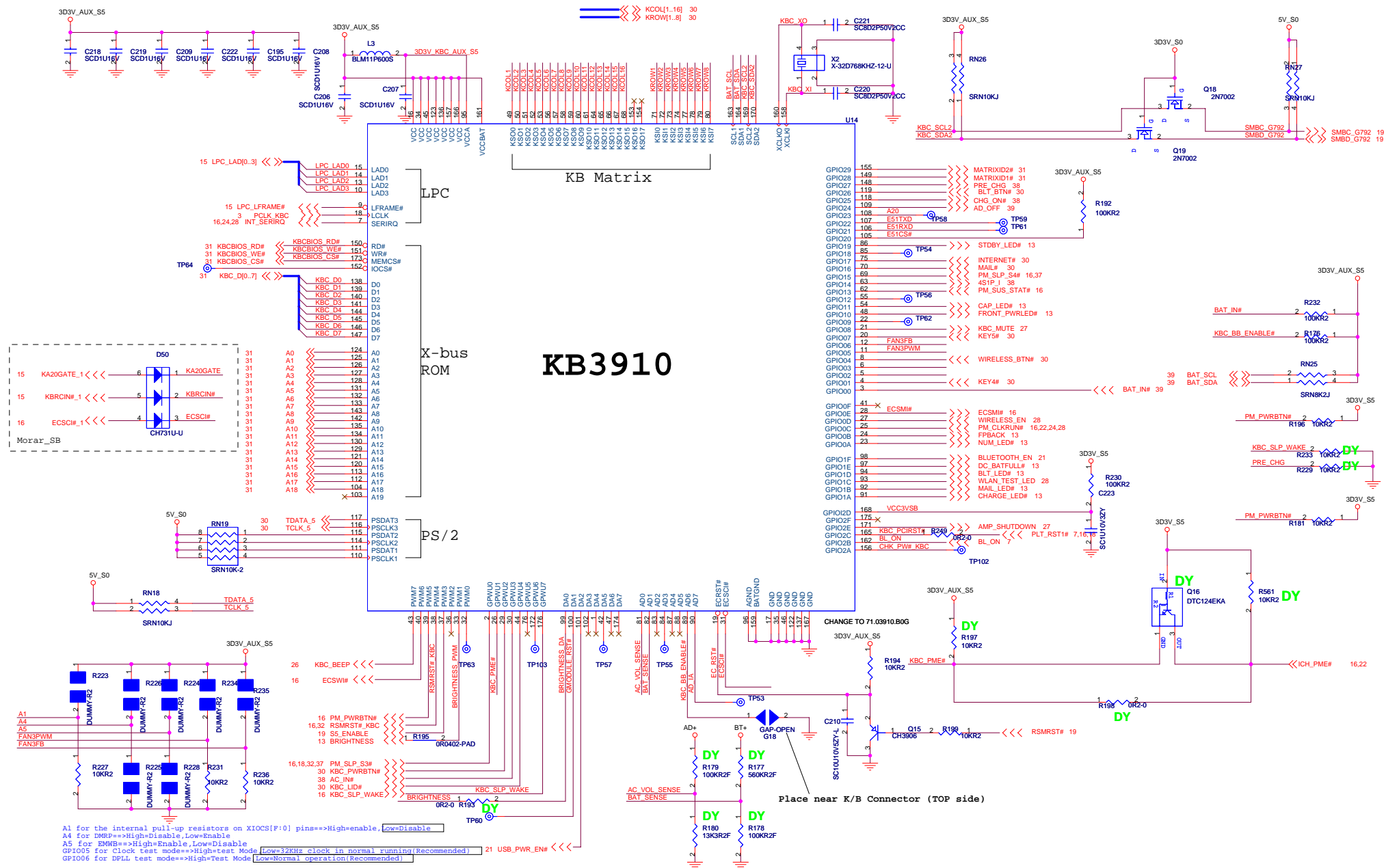
16,22,24 PCI_AD[31..0] <<<



Morar_SA:62.10032.001
Morar_SB:62.10032.001
Morar_SA:62.10032.031 (2nd)

Title		MINI-PCI	
Size A3	Document Number	MORAR	
Date: Saturday, May 28, 2005	Sheet 28	of	40
Title		SB	

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

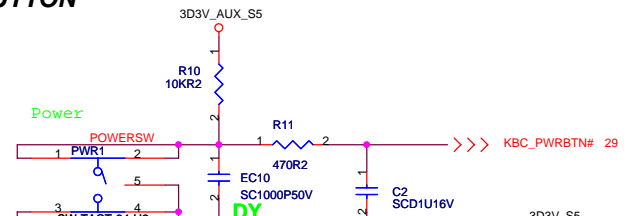


A1 for the internal pull-up resistors on XIOCS[F:0] pins==>High=enable, Low=Disable
 A4 for DMW==>High=Disable, Low=Enable
 A5 for EMWB==>High=Enable, Low=Disable
 GPIO05 for Clock test mode==>High=test Mode, Low=32KHz clock in normal running (Recommended)
 GPIO06 for DPLL test mode==>High=test Mode, Low=Normal operation (Recommended)

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

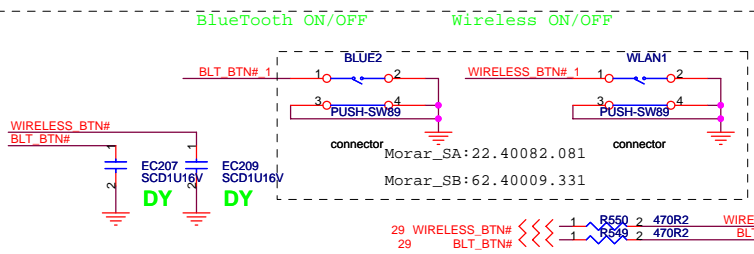
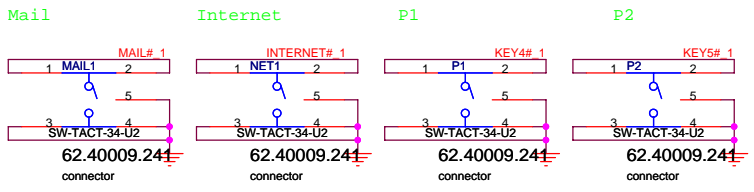
Title		KBC ENE	
Size	Document Number	Rev	
Custom	MORAR	SB	
Date:	Friday, June 24, 2005	Sheet	29 of 40

POWER BUTTON

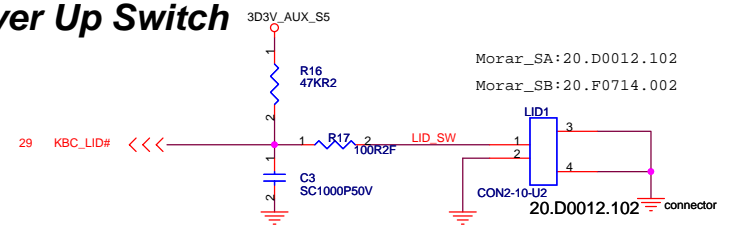


Buttons

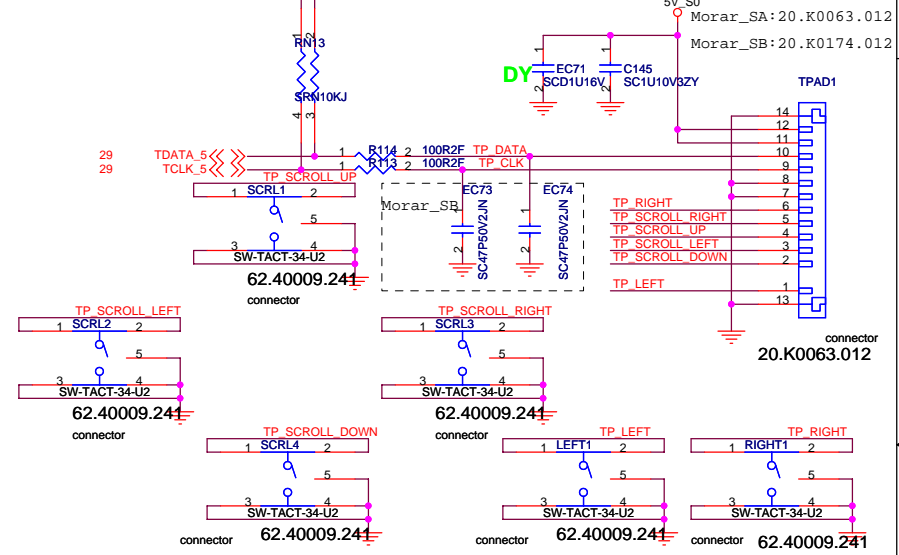
ME : 62.40009.241
(ALL 11 PCS)



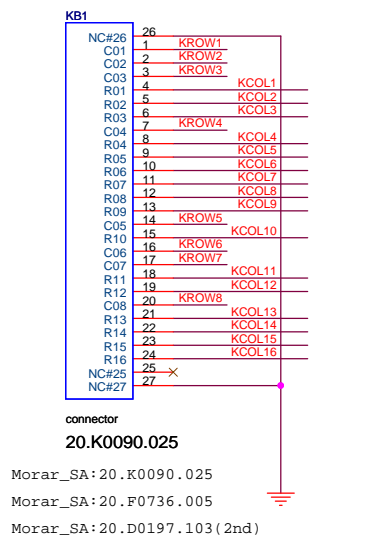
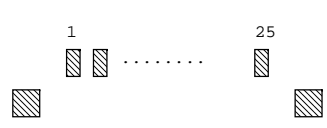
Cover Up Switch



TOUCH PAD

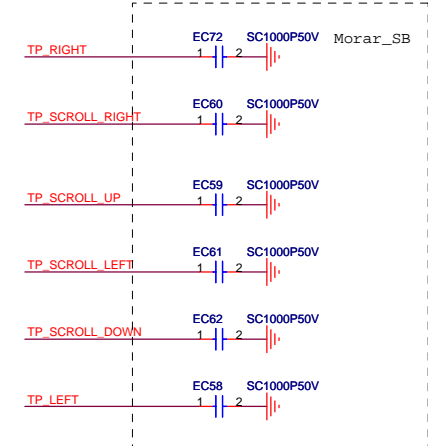
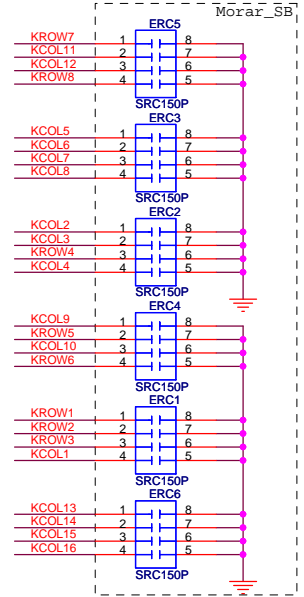


Internal KeyBoard CONN



- Pin1 ==>*R01
- Pin2 ==>*R02
- Pin3 ==>*R03
- Pin4 ==> C01
- Pin5 ==> C02
- Pin6 ==> C03
- Pin7 ==>*R04
- Pin8 ==> C04
- Pin9 ==> C05
- Pin10 ==> C06
- Pin11 ==> C07
- Pin12 ==> C08
- Pin13 ==> C09
- Pin14 ==>*R05
- Pin15 ==> C10
- Pin16 ==>*R06
- Pin17 ==>*R07
- Pin18 ==> C11
- Pin19 ==> C12
- Pin20 ==>*R08
- Pin21 ==> C13
- Pin22 ==> C14
- Pin23 ==> C15
- Pin24 ==> C16
- Pin25 ==> NC

EMI Bypass cap.



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

Title: **BUTTONS / KB / TOUCHPAD**

Size: A3 Document Number: **MORAR** Rev: **SB**

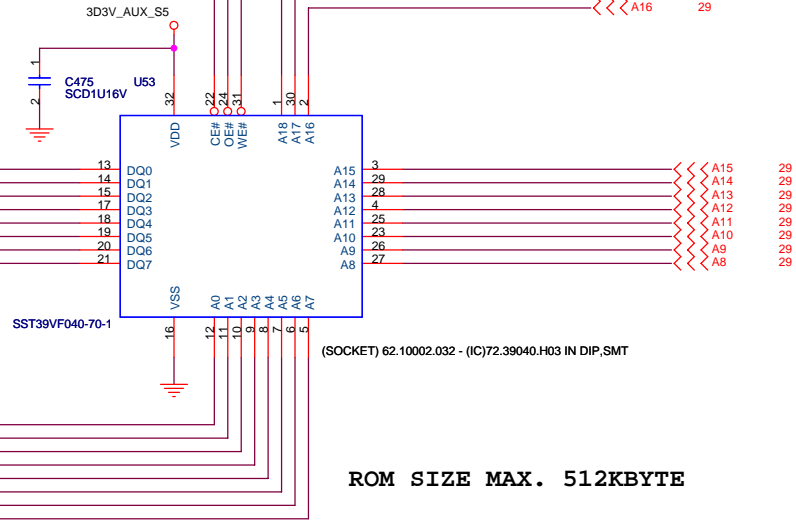
Date: Saturday, May 28, 2005 Sheet: 30 of 40

>>> KBC_D[0..7] 29

29 KBCBIOS_WE#
29 KBCBIOS_RD#
29 KBCBIOS_CS#

29 KBC_D0
29 KBC_D1
29 KBC_D2
29 KBC_D3
29 KBC_D4
29 KBC_D5
29 KBC_D6
29 KBC_D7

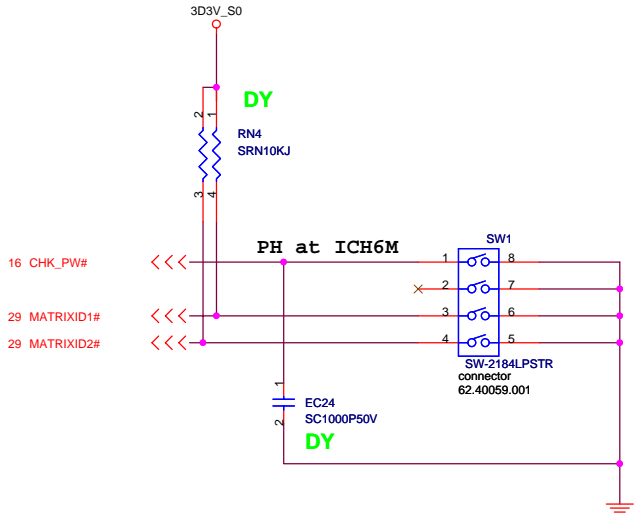
29 A0
29 A1
29 A2
29 A3
29 A4
29 A5
29 A6
29 A7



(SOCKET) 62.10002.032 - (IC)72.39040.H03 IN DIP,SMT

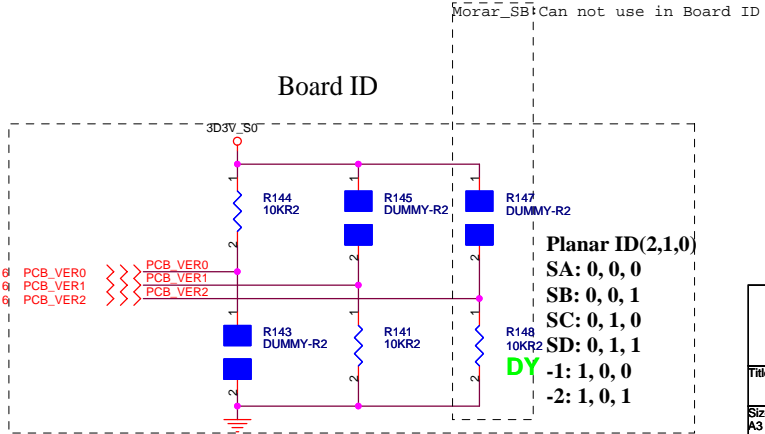
ROM SIZE MAX. 512KBYTE

PLCC32 Socket P/N:
SSKT3262.10002.032
SSKT32 62.10005.032



Keyboard matrix (from vendor)

	US	Jap	Eur	Other
Low Bit MATRIXID1#	1	1	0	0
High Bit MATRIXID2#	1	0	1	0



Morar_SB: Can not use in Board ID

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

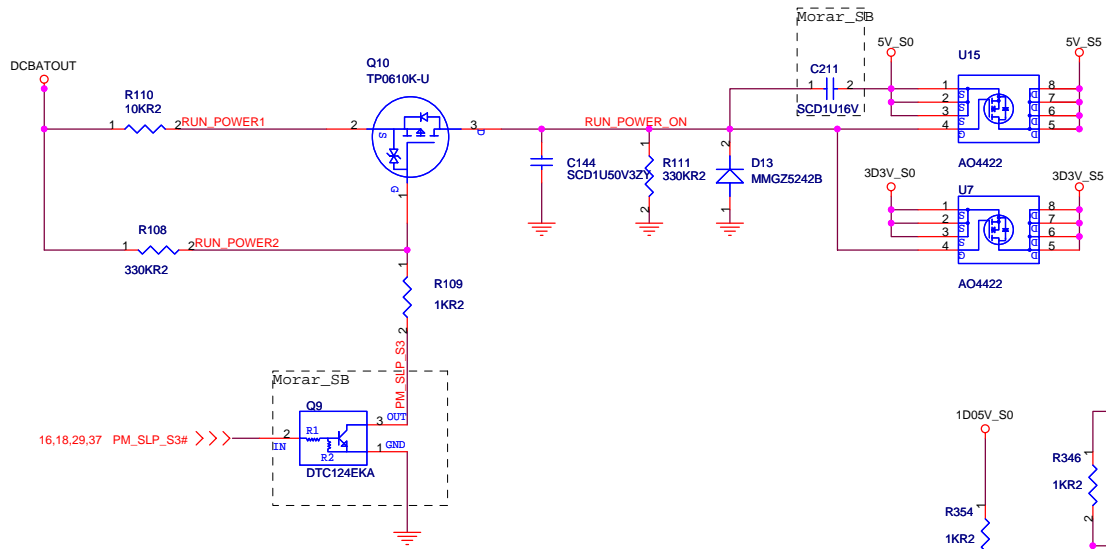
BIOS ROM

MORAR

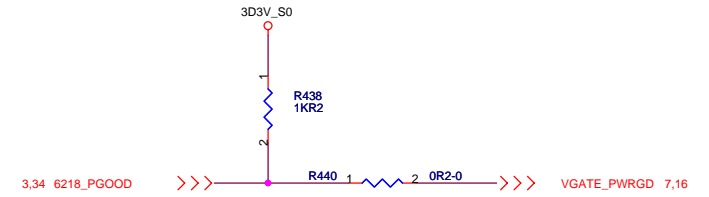
Date: Saturday, May 28, 2005 Sheet 31 of 40

Size A3 Document Number Rev SB

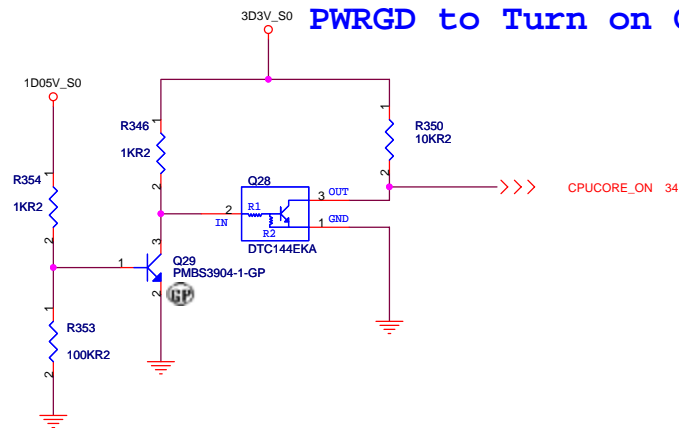
Run Power



PWRGD for NB and SB

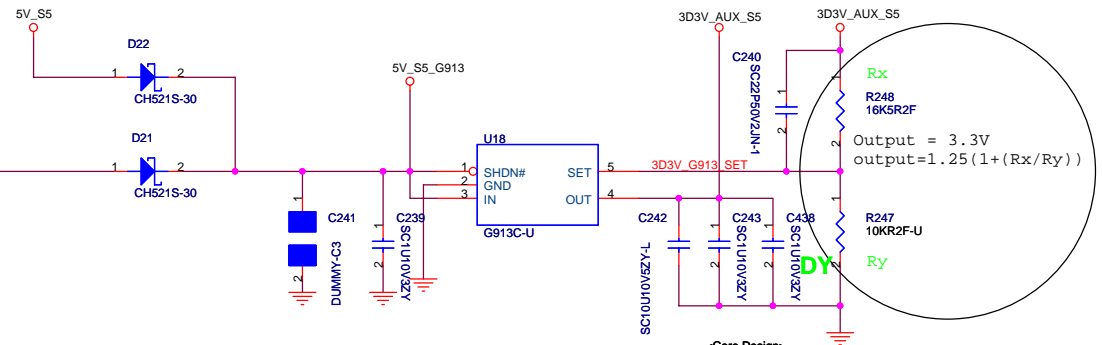
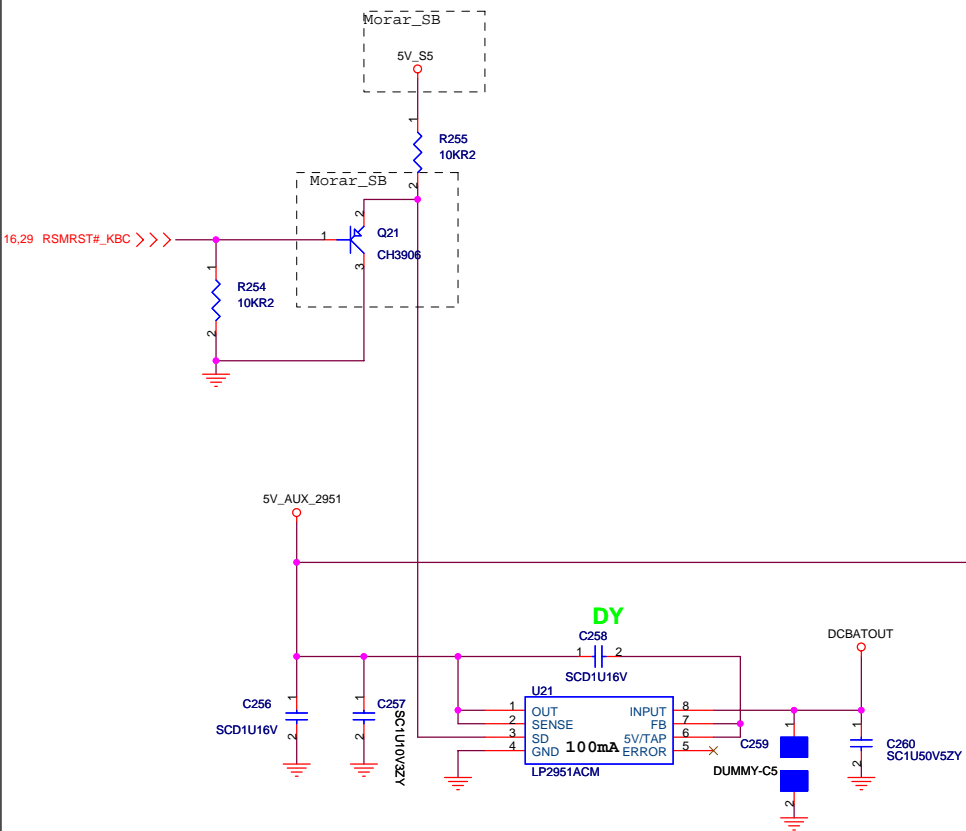


PWRGD to Turn on CPU_Core_Power

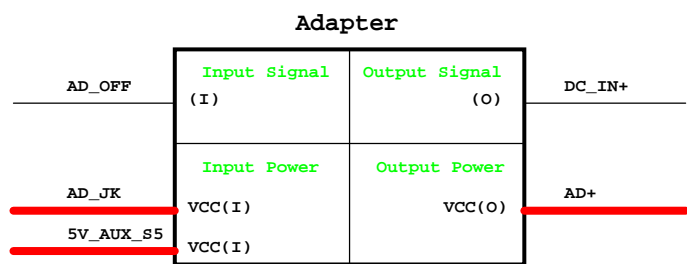
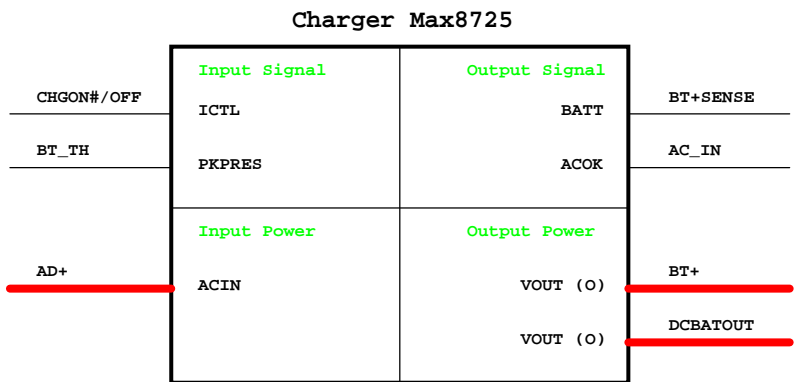
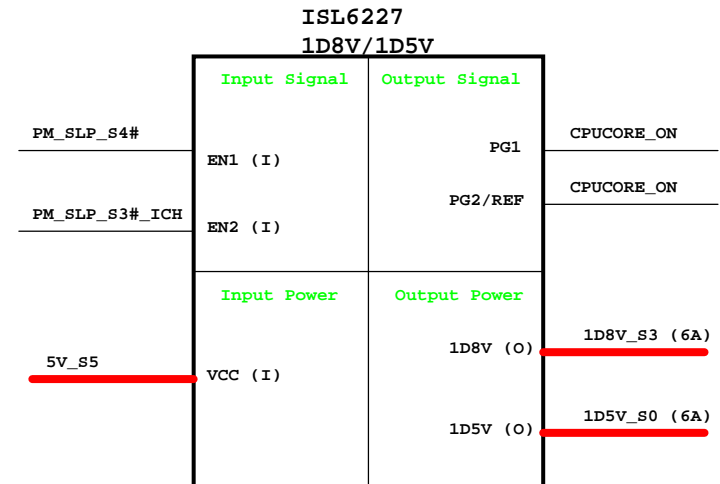
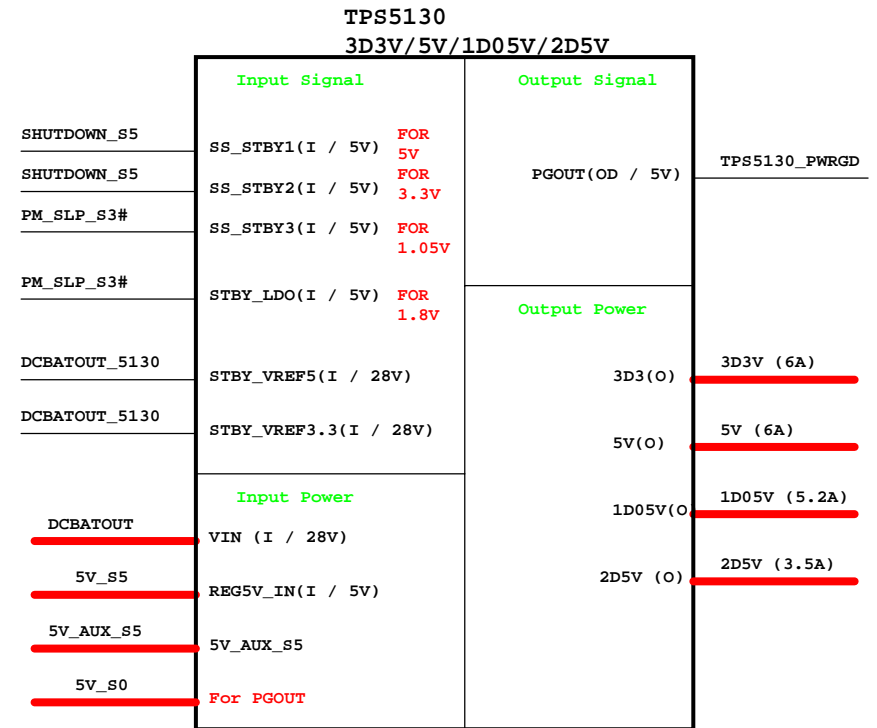
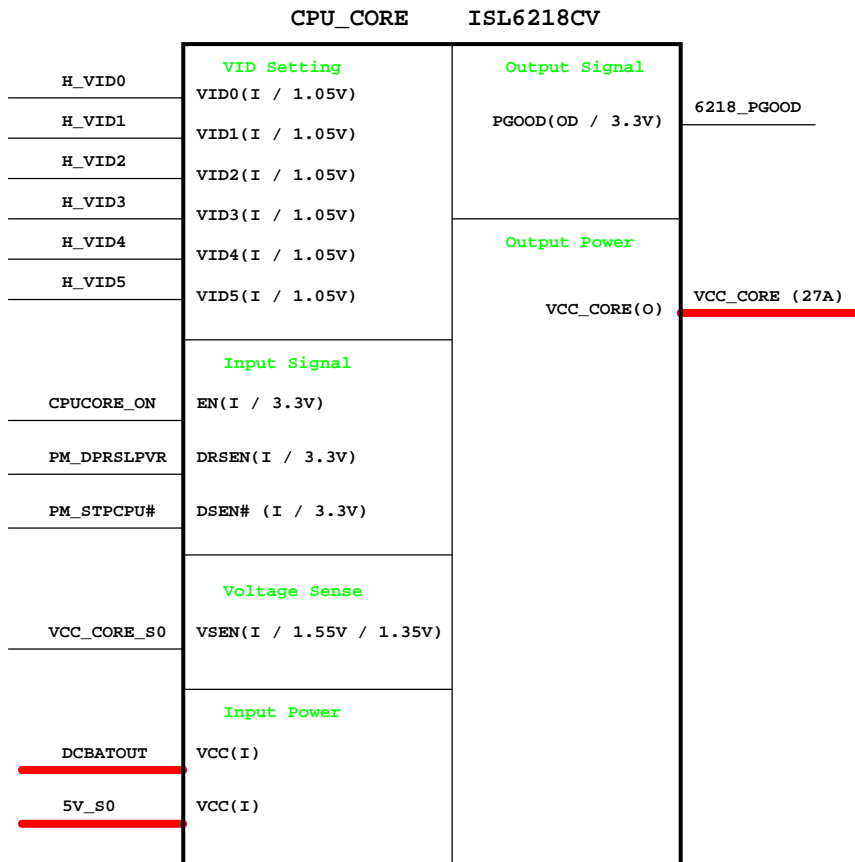


Aux Power

3D3V_AUX_S5



<Core Design>



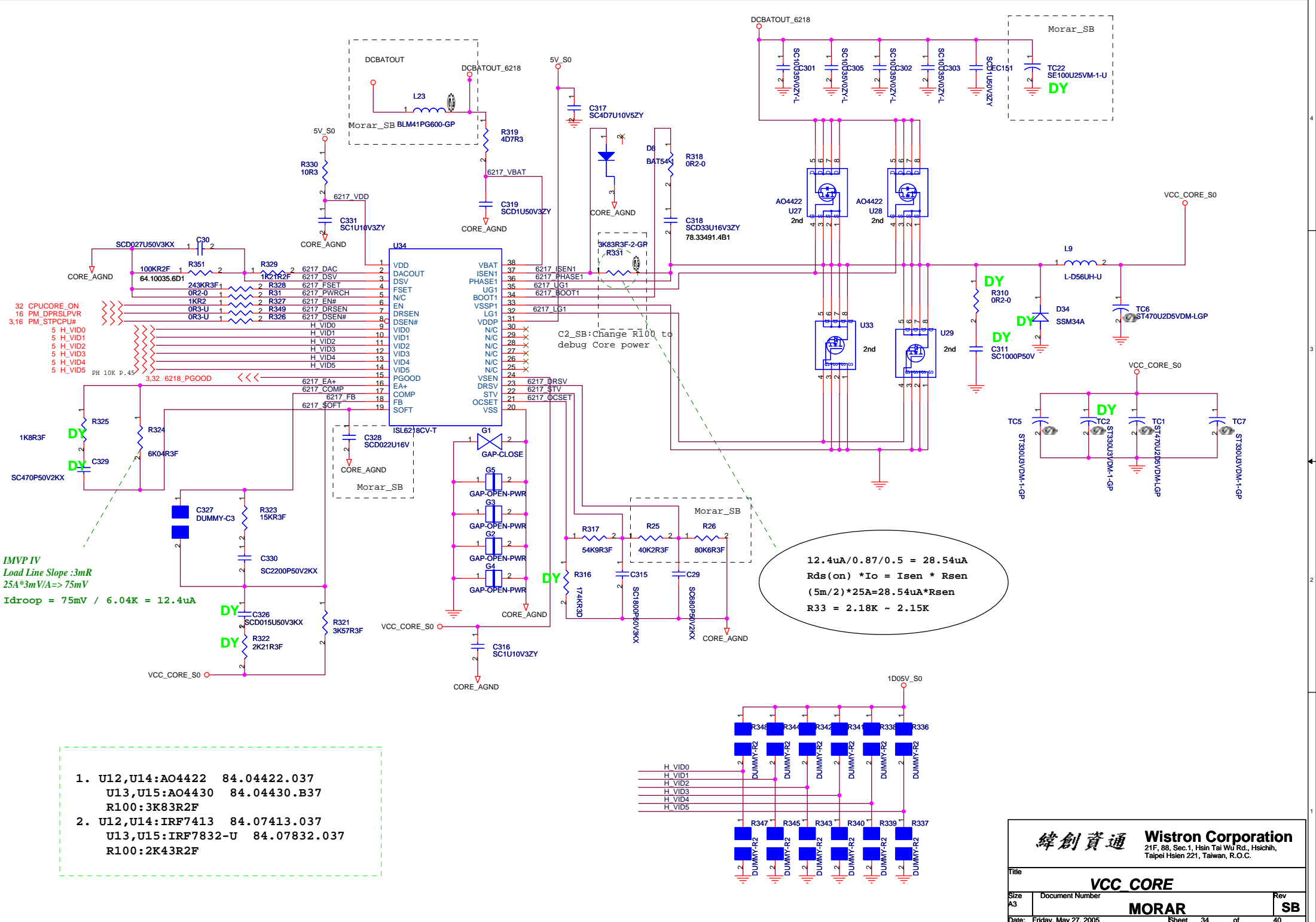
<Core Design>

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

Title: **Power Diagram**

Size: A3 Document Number: **MORAR** Rev: **SB**

Date: Friday, June 24, 2005 Sheet 33 of 40



32 CPU CORE_ON
 16 PM DPRSLPVR
 3,16 PM_STPCPU#
 5 H_VID0
 5 H_VID1
 5 H_VID2
 5 H_VID3
 5 H_VID4
 5 H_VID5

IMVP IV
 Load Line Slope :3mR
 25A*3mV/A=>75mV
 Idroop = 75mV / 6.04K = 12.4uA

$$12.4\mu\text{A} / 0.87 / 0.5 = 28.54\mu\text{A}$$

$$R_{ds(on)} * I_o = I_{sen} * R_{sen}$$

$$(5\text{m} / 2) * 25\text{A} = 28.54\mu\text{A} * R_{sen}$$

$$R_{33} = 2.18\text{K} \sim 2.15\text{K}$$

- U12,U14:AO4422 84.04422.037
 U13,U15:AO4430 84.04430.B37
 R100:3K83R2F
- U12,U14:IRF7413 84.07413.037
 U13,U15:IRF7832-U 84.07832.037
 R100:2K43R2F

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

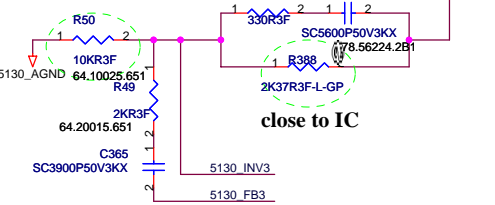
VCC CORE

Title	Document Number	Rev
Size A3	MORAR	SB
Date: Friday, May 27, 2005	Sheet 34	of 40

TI TPS5130 for 5V, 3.3V, 1.05V and 2.5V(LDO)

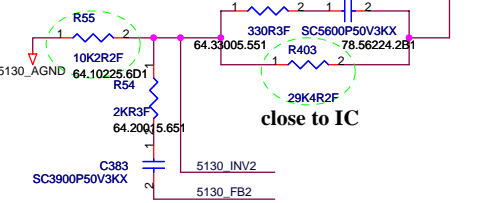
(5V=>CH1 , 3D3V=>CH2 , 1D05V =>CH3)

For 1.05V
SETTING=1.0515V



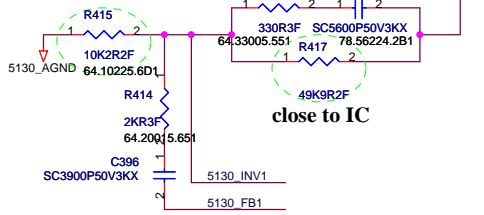
close to IC

For 3V
SETTING=3.3V

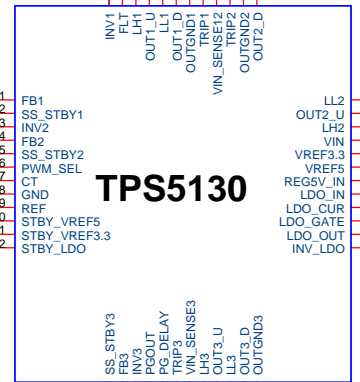


close to IC

For 5V
SETTING=5.008V

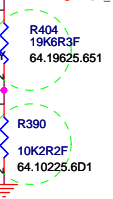


close to IC



TPS5130

LDO SETTING
For 2.5V
SETTING=2.516V

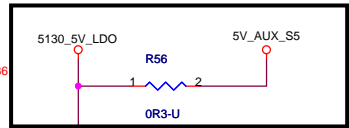
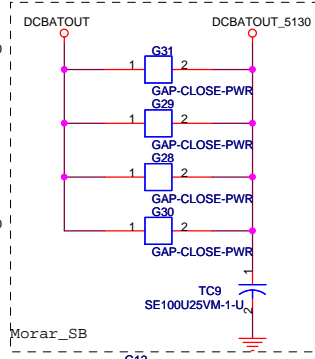


close to IC

OCP_1.05V

OCP_3.3V

OCP_5V



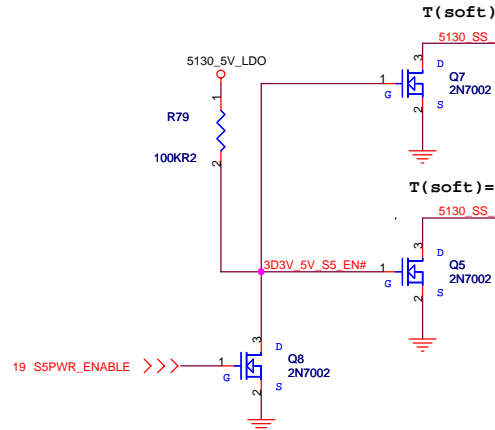
	Condition	Voltage
PWM_SEL	H : Auto PWM/SKIP	2.2V(Min)~
	* L : PWM fixed (300KHz)	~0.3V(Max)

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

Title: **TI TPS5130 --- 5V/3.3V/1.05V,2.5(LDO)**

Size: A3 Document Number: **MORAR** Rev: **SB**

Date: Friday, May 27, 2005 Sheet 35 of 40



T(soft)=1.736ms

T(soft)=1.736ms

T(soft)=1.736ms

19 S5PW_ENABLE >>>

37 EN_1D05V_S0 >>> EN_1D05V_S0

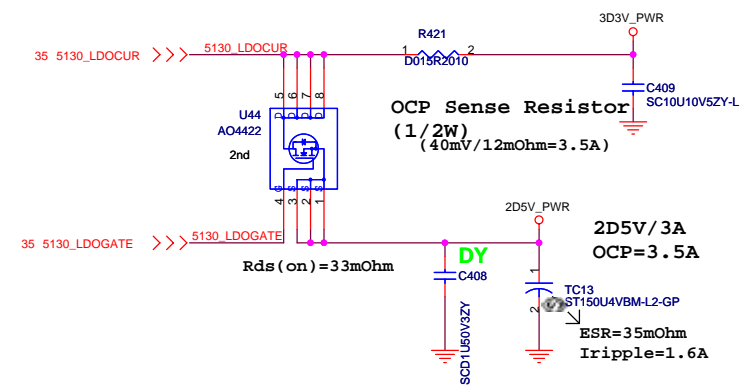
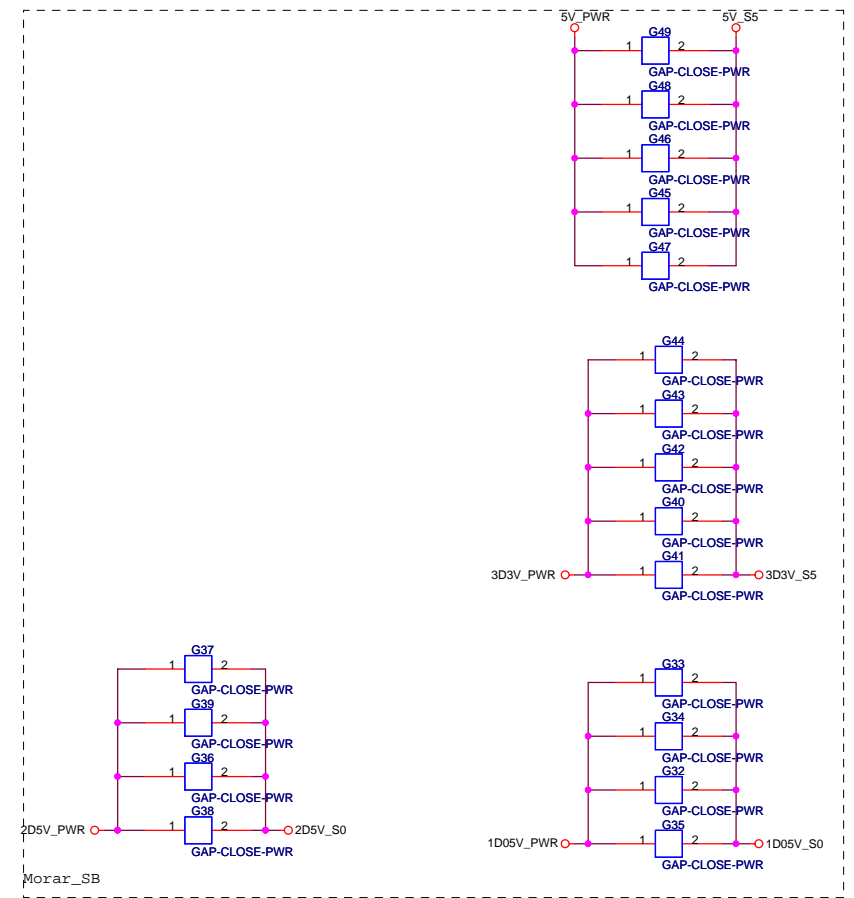
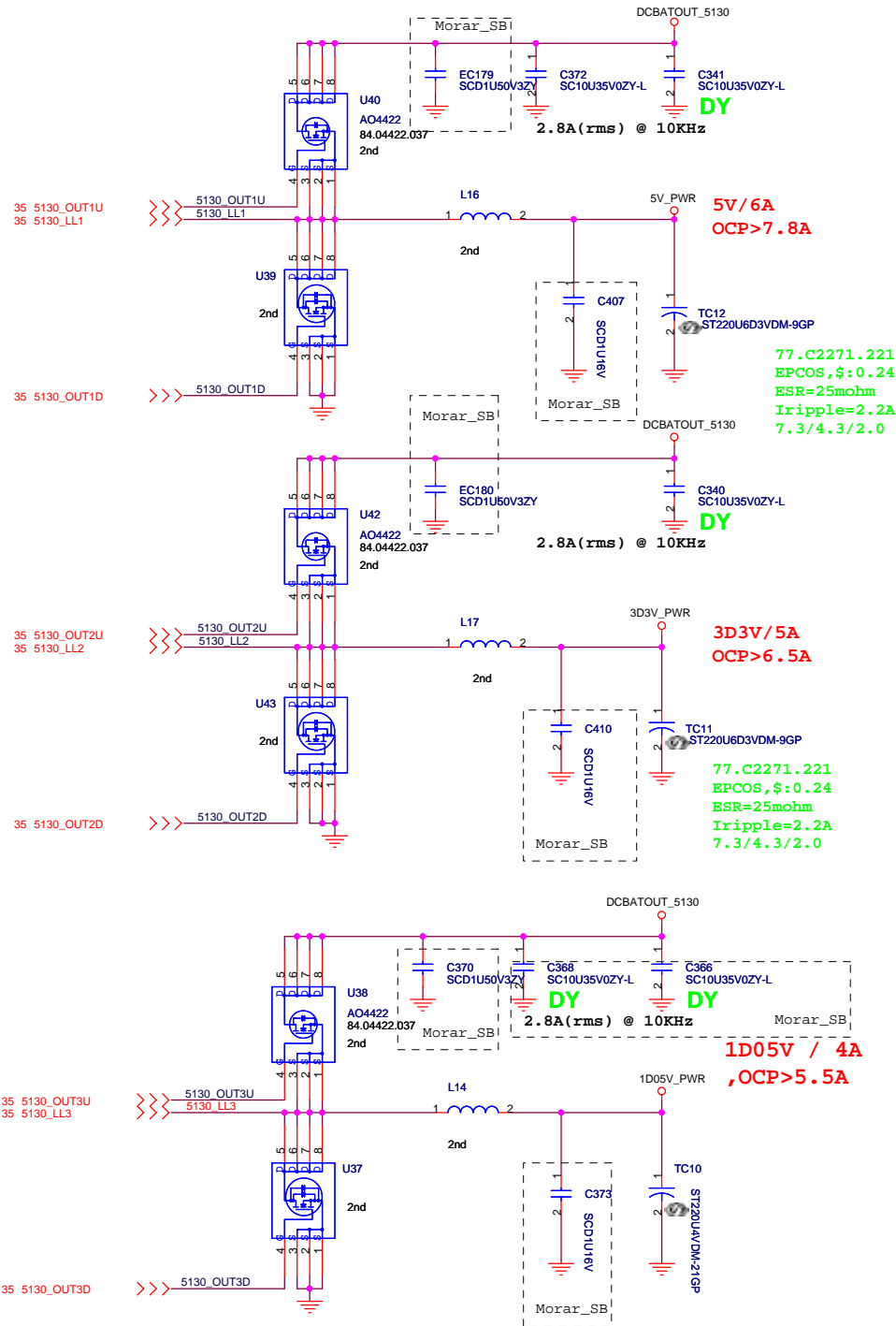
37 EN_1D05V_S0 >>>

TPS5130PT-U
74.05130.07T

DUMMY-C3
ZZ.DUMMY.XC3

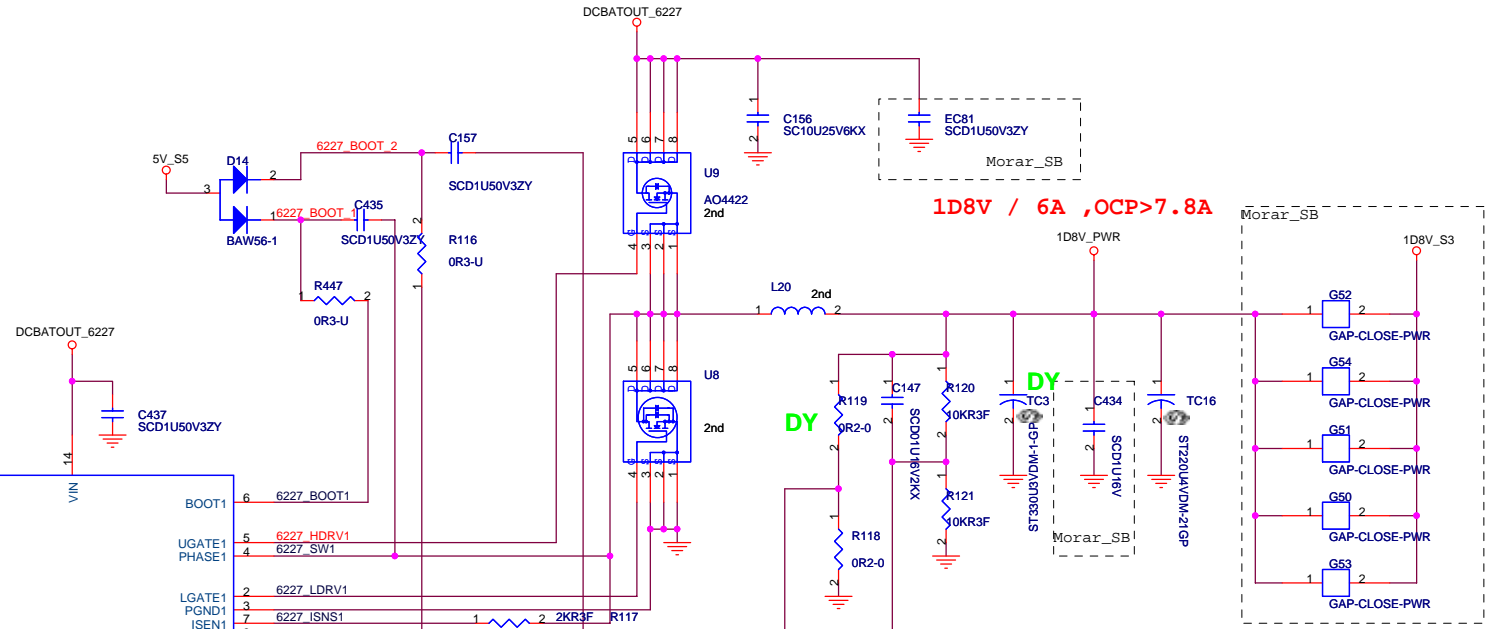
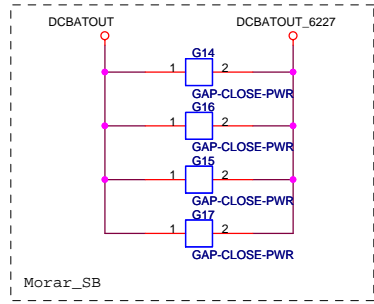
TI TPS5130 for 5V, 3.3V, 1.05V and 2.5V(LDO)

(5V=>CH1 , 3D3V=>CH2 , 1D05V =>CH3)

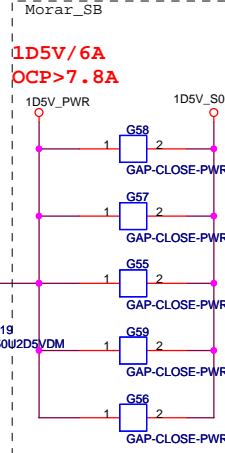
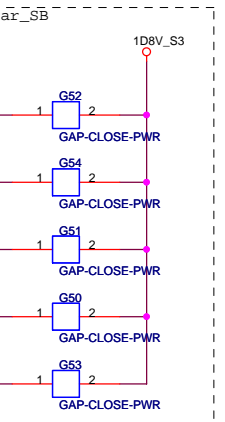


緯創資通 Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title TI TPS5130 --- 5V/3.3V/1.05V,2.5(LDO)		
Size A3	Document Number MORAR	Rev SB
Date: Friday, May 27, 2005		
Sheet 36 of 40		

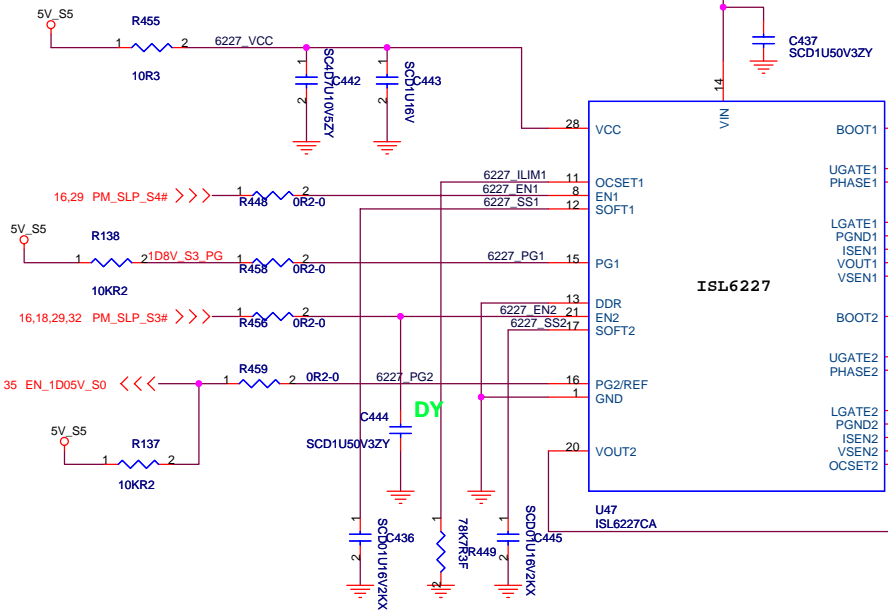


1D8V / 6A , OCP > 7.8A



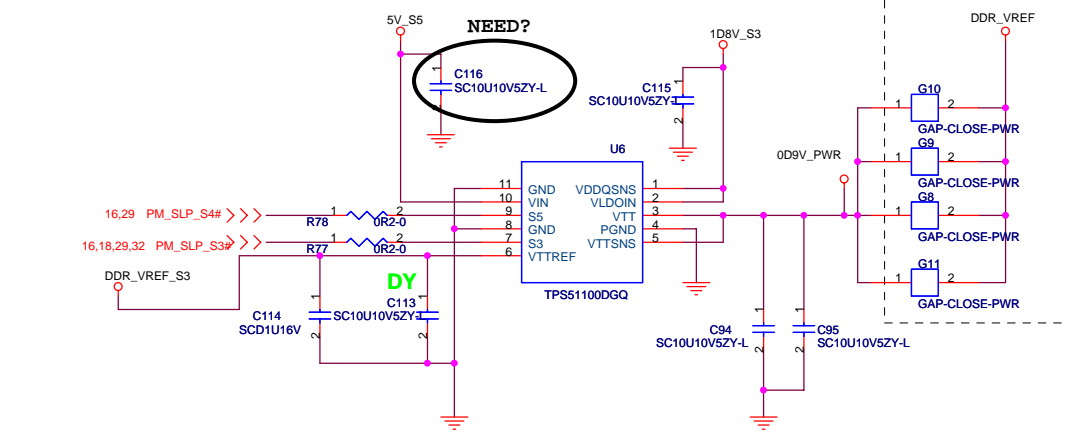
1D5V/6A
OCP > 7.8A

77.C2271.191
EPCOS, \$: 0.243
ESR=15mohm
Tripple=2.9A
7.3/4.3/2.0



OCP
7.8A=>R169=151K
9.0A=>R169=133K

0D9V



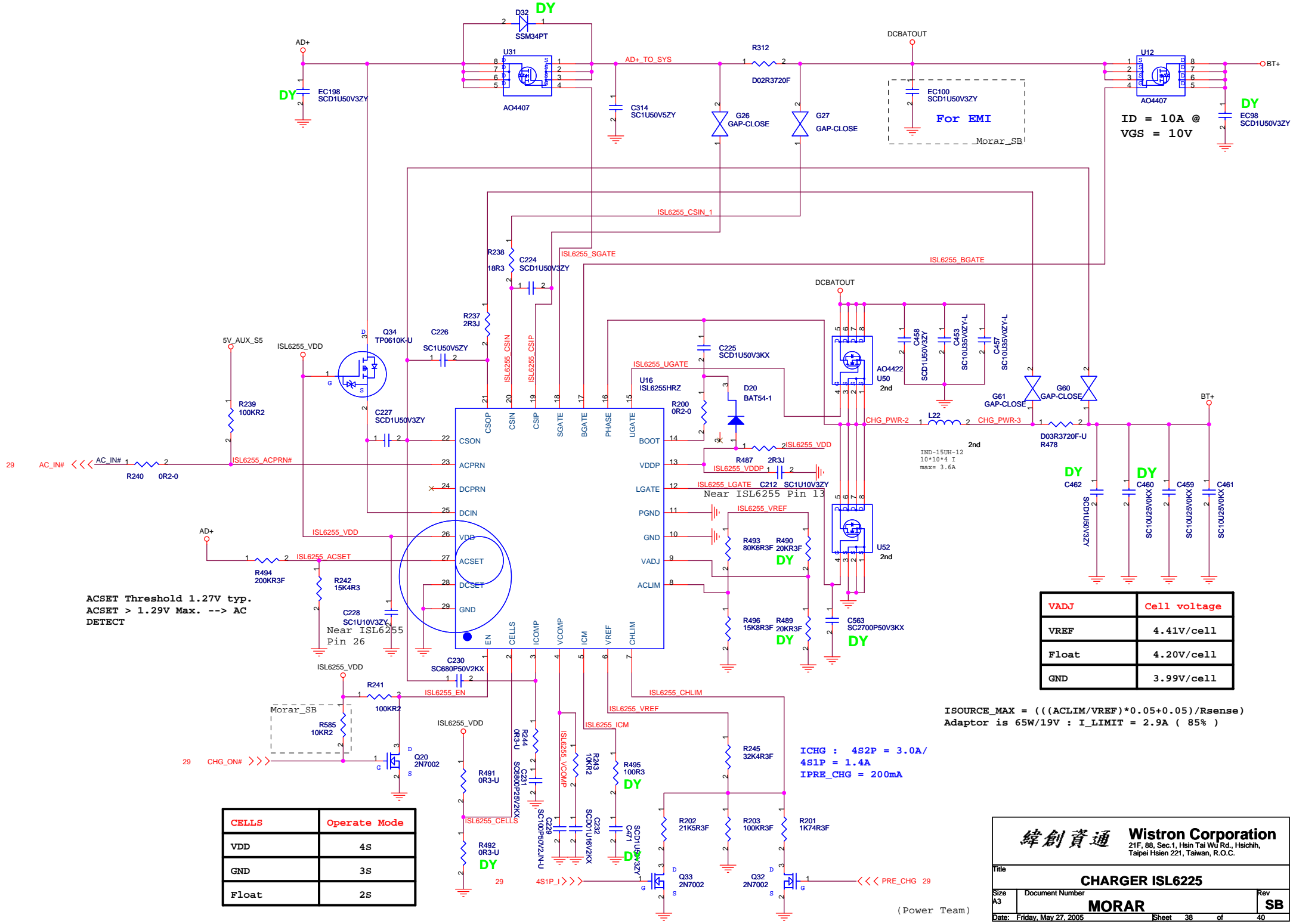
NEED?

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

Title: 1D8V/1D5V/0D9V

Size: A3 Document Number: MORAR Rev: SB

Date: Thursday, May 26, 2005 Sheet: 37 of 40



ACSET Threshold 1.27V typ.
 ACSET > 1.29V Max. --> AC
 DETECT

ICHG : 4S2P = 3.0A/
 4S1P = 1.4A
 IPRE_CHG = 200mA

ISOURCE_MAX = (((ACLIM/VREF)*0.05+0.05)/Rsense)
 Adaptor is 65W/19V : I_LIMIT = 2.9A (85%)

CELLS	Operate Mode
VDD	4S
GND	3S
Float	2S

VADJ	Cell voltage
VREF	4.41V/cell
Float	4.20V/cell
GND	3.99V/cell

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

Title: **CHARGER ISL6225**

Size A3 Document Number Rev **SB**

Date: Friday, May 27, 2005 Sheet 38 of 40

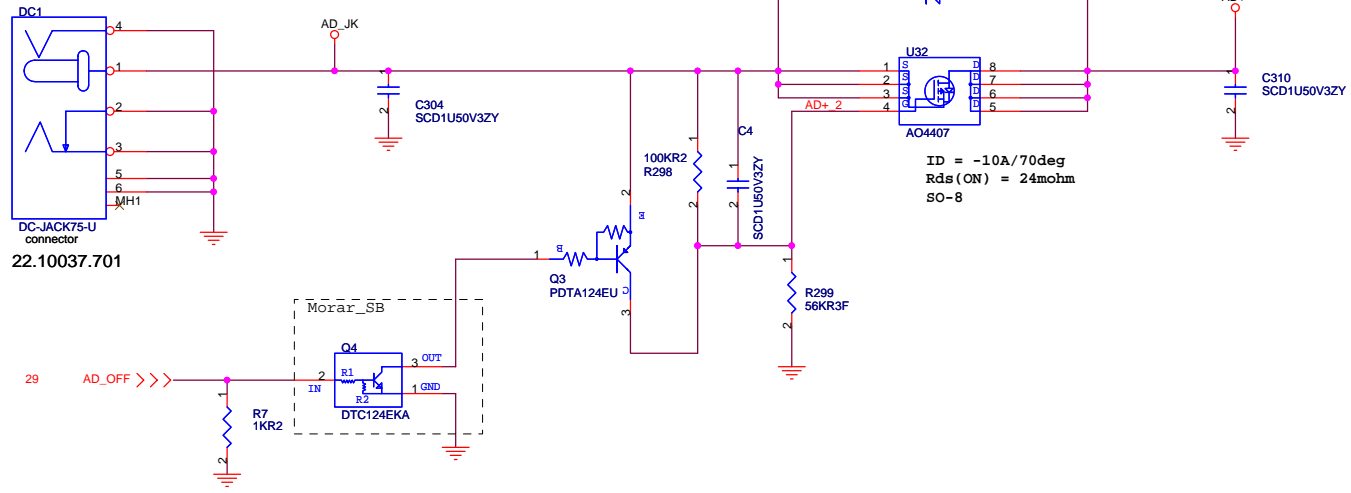
(Power Team)

Adaptor in to generate DCBATOUT

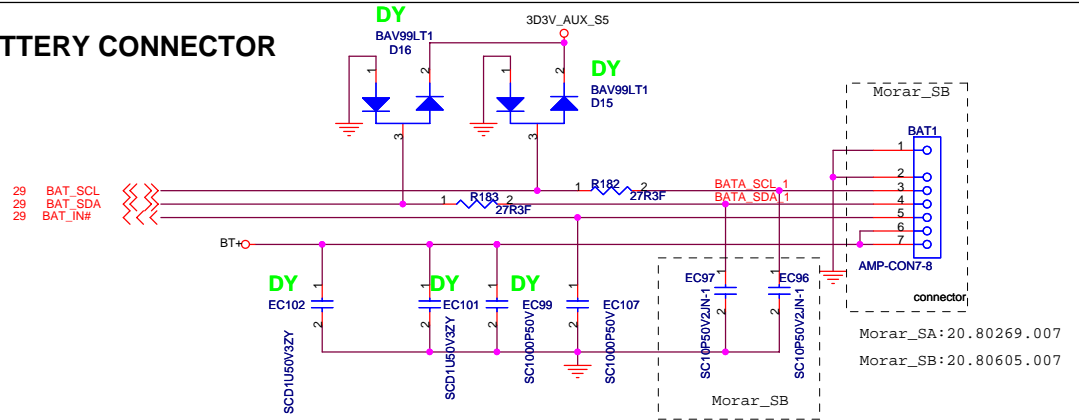
Morar_SA: 22.10037.701

Morar_SB: 22.10037.701

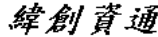
Morar_SB: 22.10037.B02(2nd)

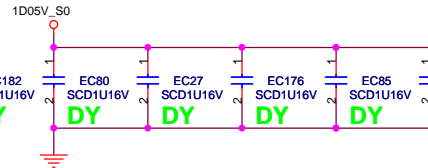
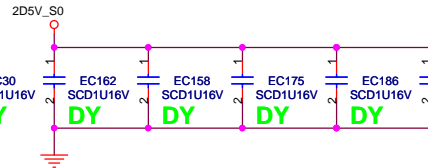
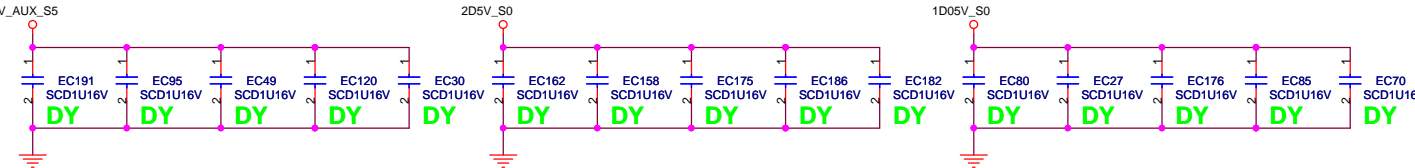
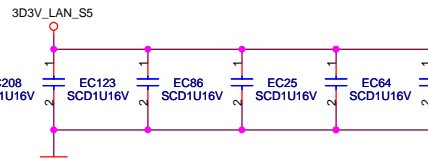
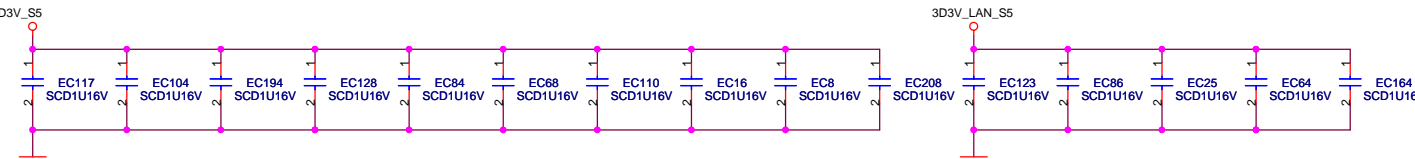
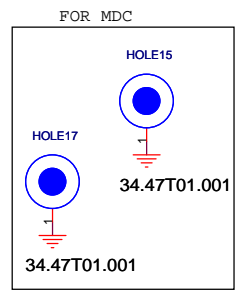
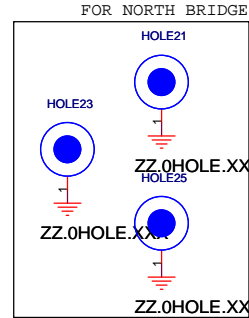
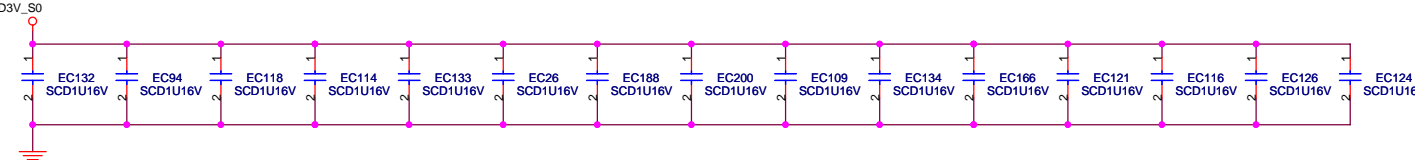
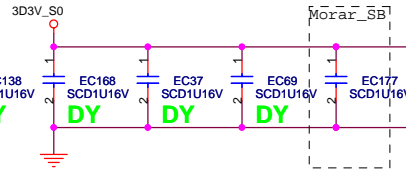
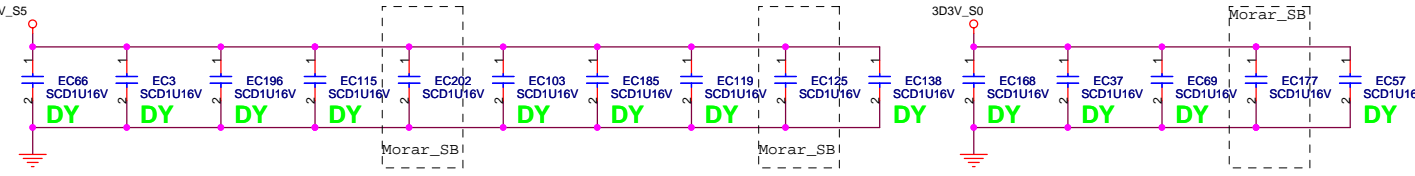
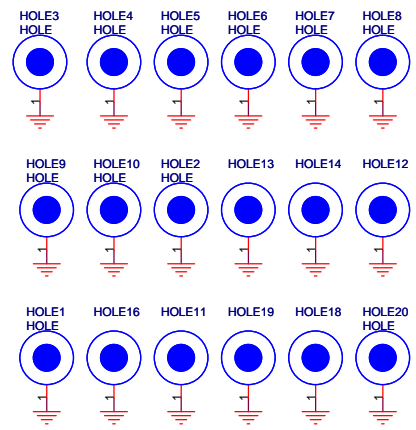
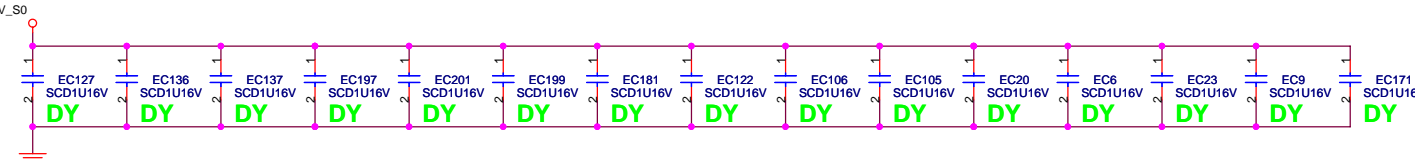
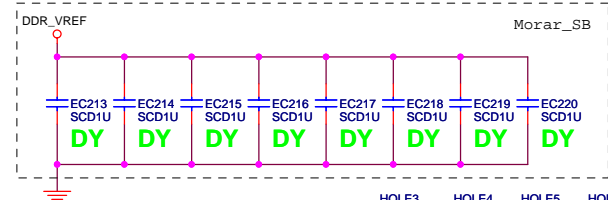
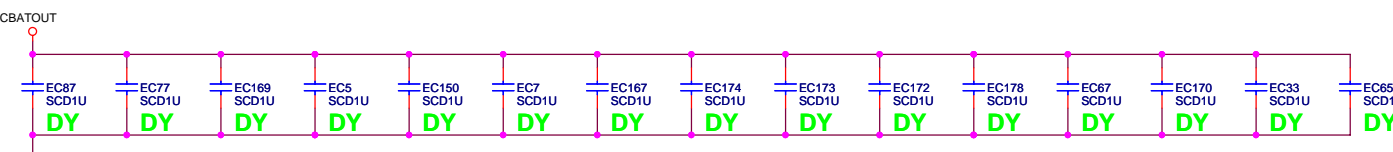
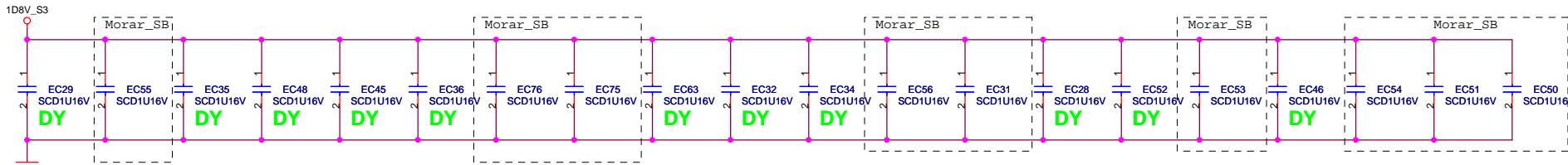
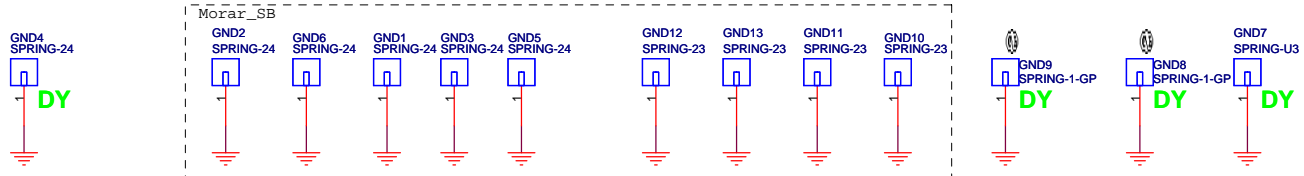
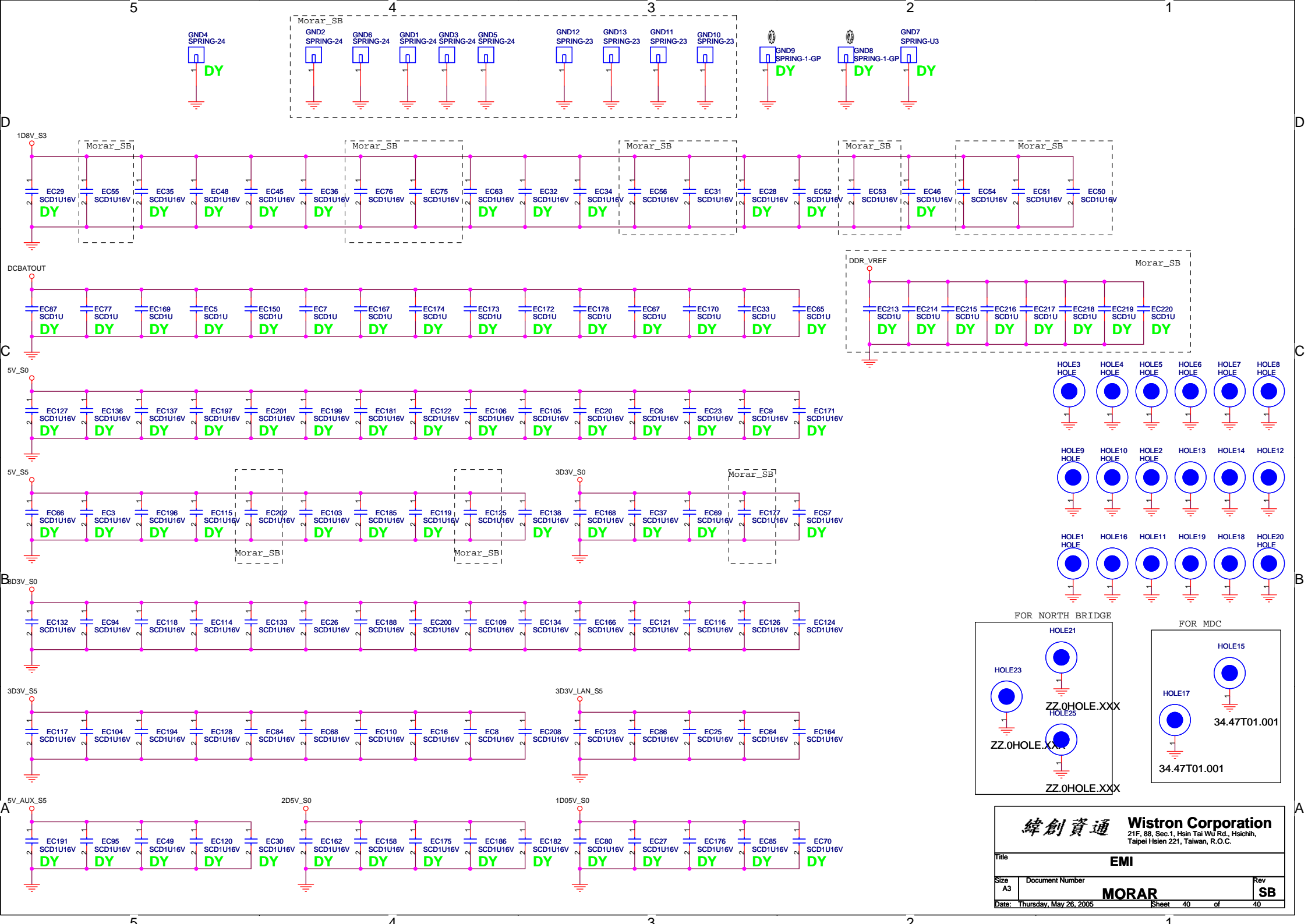


BATTERY CONNECTOR



<Variant Name>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
AD/BATT CONN		
Size A3	Document Number MORAR	Rev SB
Date: Saturday, May 28, 2005		Sheet 39 of 40



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

Title: **EMI**

Size: A3 Document Number: **MORAR** Rev: **SB**

Date: Thursday, May 26, 2005 Sheet 40 of 40

www.s-manuals.com