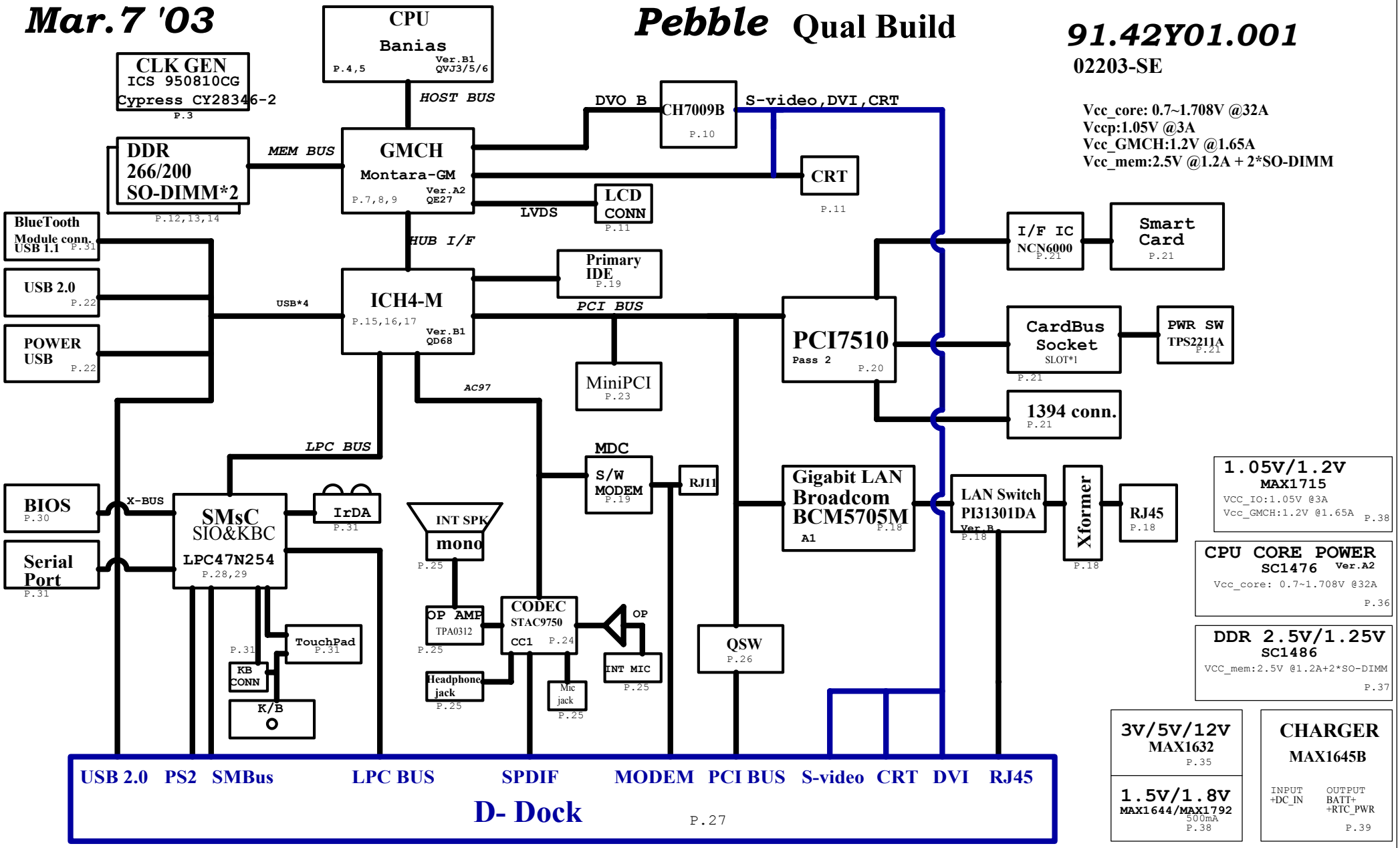
Mar.7 '03

Pebble Qual Build

91.42Y01.001

02203-SE

Vcc_core: 0.7~1.708V @32A
Vccp:1.05V @3A
Vcc_GMCH:1.2V @1.65A
Vcc_mem:2.5V @1.2A + 2*SO-DIMM



1.05V/1.2V
MAX1715
VCC_IO:1.05V @3A
Vcc_GMCH:1.2V @1.65A
P.38

CPU CORE POWER
SC1476 Ver.A2
Vcc_core: 0.7~1.708V @32A
P.36

DDR 2.5V/1.25V
SC1486
VCC_mem:2.5V @1.2A+2*SO-DIMM
P.37

3V/5V/12V
MAX1632
P.35

1.5V/1.8V
MAX1644/MAX1792
500mA
P.38

CHARGER
MAX1645B
INPUT +DC_IN
OUTPUT BATT+ +RTC_PWR
P.39

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Title: BLOCK DIAGRAM
Size: Custom | Document Number: PEBBLE--02203 | Rev: SE
Date: Thursday, March 13, 2003 | Sheet 1 of 40

CG_* : CPU GTL+
CC_* : CPU CMOS
M_* : MEMORY BUS
G_* : AGP BUS
P_* : PCI BUS
HL_* : HUB LINK I/F
LPC_* : LPC I/F
ICH_AC_* : AC'97 LINK I/F
IDE_* : IDE BUS

PCI TABLE

DEVICE	IDSEL	IRQ	REQ# / GNT#	DREQ/DGNT
PCMCIA PCI7510	AD17	PIRQD C#	REQB# / GNTB#	REQ#1 / GNT#1
LAN Broadcom BCM5705M	AD16	PIRQC#		REQ4# / GNT4#
MINIPCI SLOT	AD19	B PIRQD#		REQ3# / GNT3#
D-DOCK	AD24	PIRQB#		REQ0# / GNT0#

Montania to Montania+ changes

1.Changed VR resistor to generate 1.35V for MGM+ core(R529,R530)
2.Changed R112 from 27.4 to 37.4 Ohm (changes HLZCOMP for MGM+)
3.Put R612,R613,R614 1K ohm
4.Need Changed PSWING,HLVREF for MGM+ if use MGM core (For Pebble don't need change because we use +1.5VRUN)
5.Layour meet DDR333 require (For Pebble already done)

+DC_IN — +DC_IN 27,37,39
DOCK_DC_IN — DOCK_DC_IN 27
PWR_SRC — PWR_SRC 11,22,27,33,35,36,37,38,39
DOCK_PWR_SRC — DOCK_PWR_SRC 27
VCC_IO — VCC_IO 4,5,6,7,9,16,17,33,38
VCC_CORE — VCC_CORE 5,33,36
+1.5VRUN — +1.5VRUN 4,7,8,9,10,11,15,17,33
+1.8VRUN — +1.8VRUN 4,33,38
+1.2VRUN — +1.2VRUN 7,9,38

+3VRUN — +3VRUN 3,4,6,8,9,10,11,12,15,16,17,18,19,23,24,26,28,29,31,32,33,34,36,38,40
+3VSUS — +3VSUS 6,11,15,16,17,18,19,20,21,23,25,27,31,33,34,37,38,40
+3VALW — +3VALW 16,25,27,28,29,30,34,40
+3.3VRTC — +3.3VRTC 16,28,34,37
+5VRUN — +5VRUN 6,8,10,11,17,19,23,26,29,31,32,33,34,36,37,40

+5VSUS — +5VSUS 6,11,17,21,22,24,25,31,32,33,34,35,37,38,40
+5VALW — +5VALW 11,27,28,32,33,34,39
+5V_QDOCK — +5V_QDOCK 26
+3VAUX_LAN — +3VAUX_LAN 18,23,33
+1.2VAUX_LAN — +1.2VAUX_LAN 18
+2.5VAUX_LAN — +2.5VAUX_LAN 18,27
BATT+ — BATT+ 39
+5VHDD — +5VHDD 19,33

LCDVDD — LCDVDD 11

AC97_5V — AC97_5V 19
AC97_3V — AC97_3V 19
CRT_VCC — CRT_VCC 11
CBS_VCC — CBS_VCC 20,21
CBS_VPP — CBS_VPP 21
CBS_VCCF — CBS_VCCF 21
+1.25VRUN — +1.25VRUN 13,14,33,37
+2.5VSUS — +2.5VSUS 6,7,9,12,14,33,37
ICH_VBIAS — ICH_VBIAS 16
VCC_RTC — VCC_RTC 16
+RTCSRC — +RTCSRC 37
+RTC_PWR — +RTC_PWR 34,35,37,39,40

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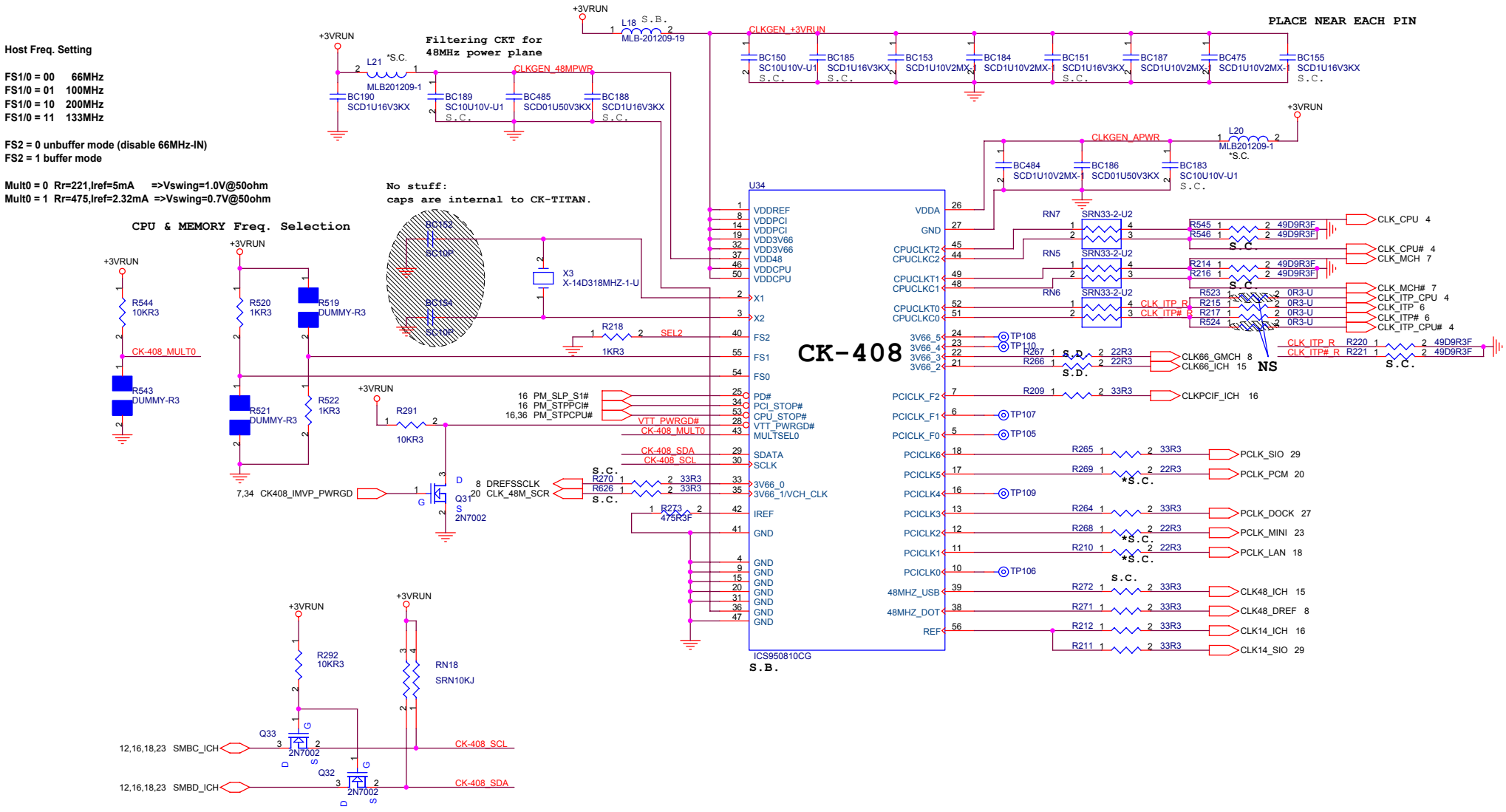
Title: ***Table of Content***

Size	Document Number	Rev
A3	PEBBLE--02203	SD

Date: Monday, February 24, 2003 Sheet 2 of 40


Host Freq. Setting
FS1/0 = 00 66MHz
FS1/0 = 01 100MHz
FS1/0 = 10 200MHz
FS1/0 = 11 133MHz
FS2 = 0 unbuffer mode (disable 66MHz-IN)
FS2 = 1 buffer mode
Mult0 = 0 Rr=221,Iref=5mA =>Vswing=1.0V@50ohm
Mult0 = 1 Rr=475,Iref=2.32mA =>Vswing=0.7V@50ohm
CPU & MEMORY Freq. Selection
Filtering CKT for 48MHz power plane
No stuff:
caps are internal to CK-TITAN.
PLACE NEAR EACH PIN
CK-408
ICS950810CG
S.B.
+3VRUN
CLKGEN_+3VRUN
CLKGEN_48MPWR
CLKGEN_APWR
CK-408_MULT0
CK-408_SCL
CK-408_SDA
VTT_PWRGD#
SMBC_ICH
SMBD_ICH
CLK_CPU
CLK_CPU#
CLK_MCH
CLK_MCH#
CLK_ITP
CLK_ITP#
CLK_ITP_CPU
CLK_ITP_CPU#
CLK66_GMCH
CLK66_ICH
CLKPCIF_ICH
PCLK_SIO
PCLK_PCM
PCLK_DOCK
PCLK_MINI
PCLK_LAN
CLK48_ICH
CLK48_DREF
CLK14_ICH
CLK14_SIO
Wistron Corporation
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Taipei Hsien 221, Taiwan, R.O.C.
Clock GEN.
PEBBLE--02203
Date: Thursday, March 13, 2003
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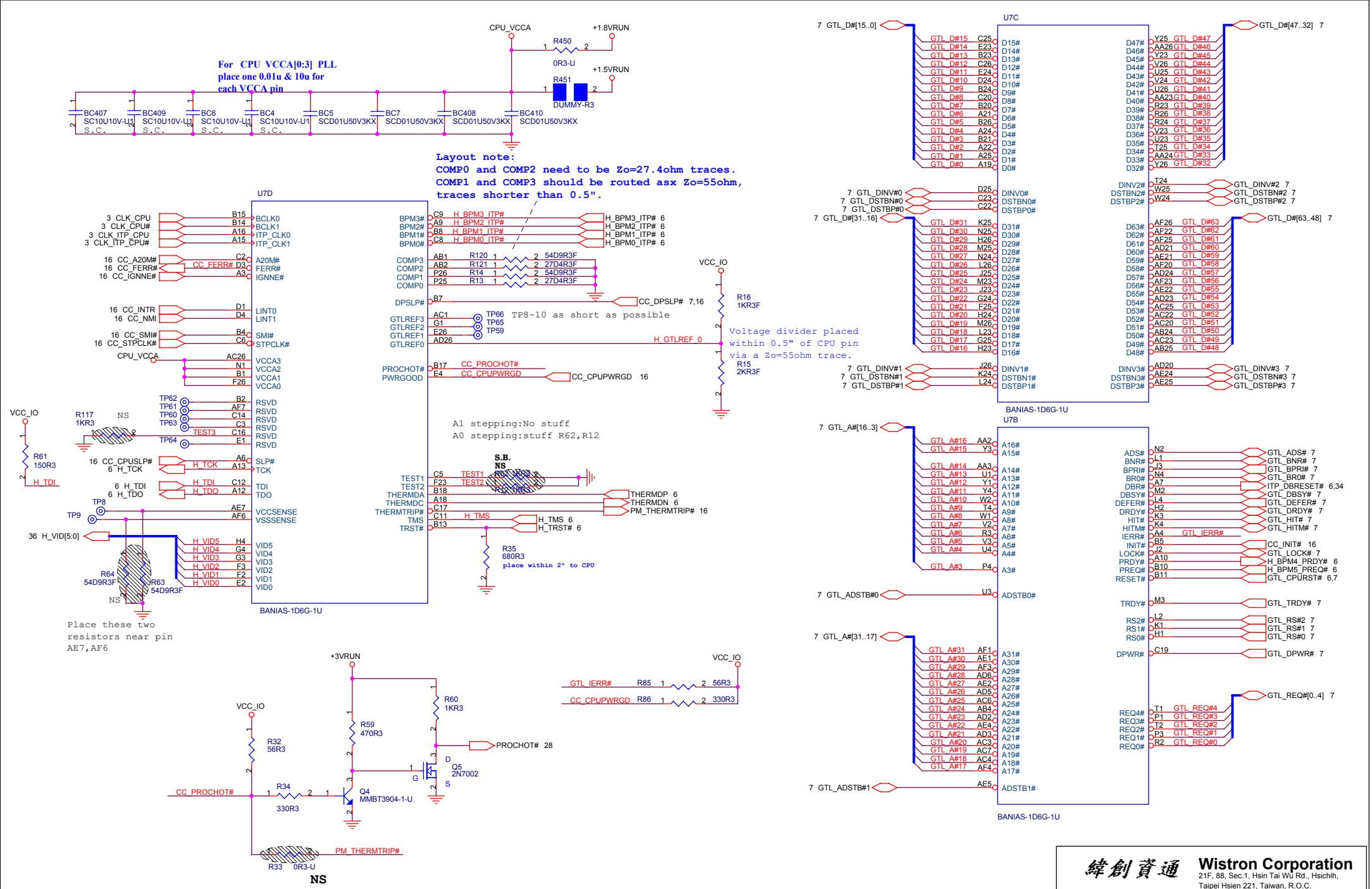

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Title: **Banias CPU (1 of 2)**

Size	Document Number	Rev
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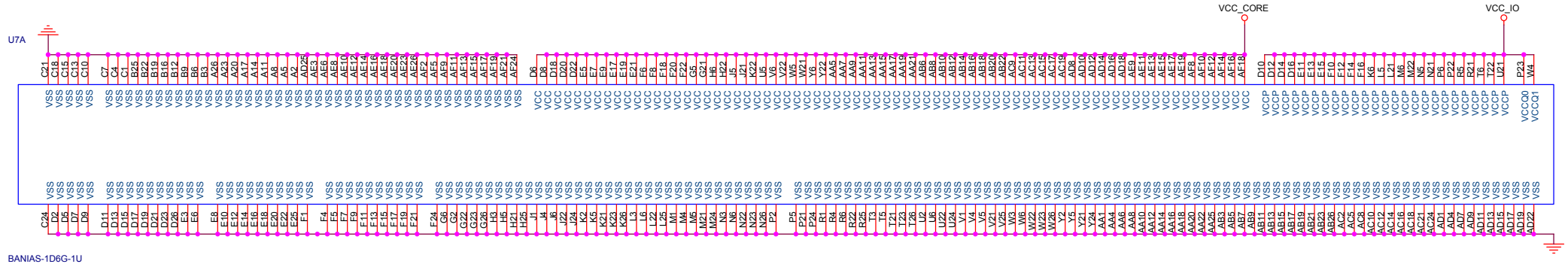
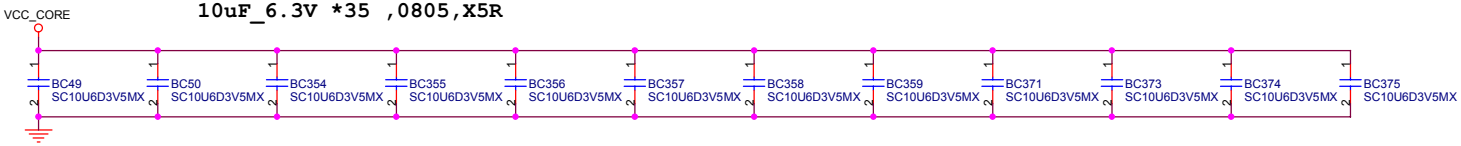
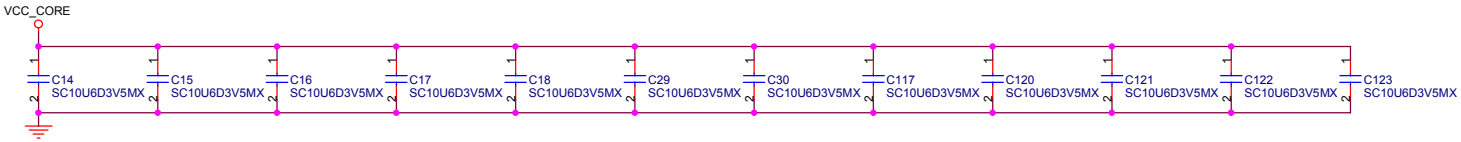
Date: Thursday, March 13, 2003 Sheet 4 of 40

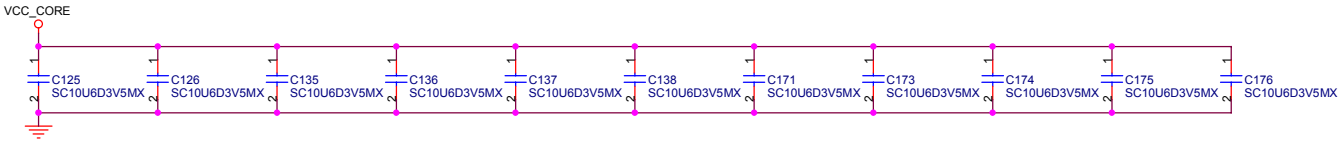
Ref 10598 EMTS
P69 need place
Decoupling
near between
VCCQ ???



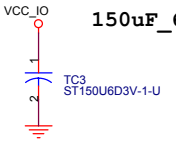
10uF_6.3V *35 ,0805,X5R



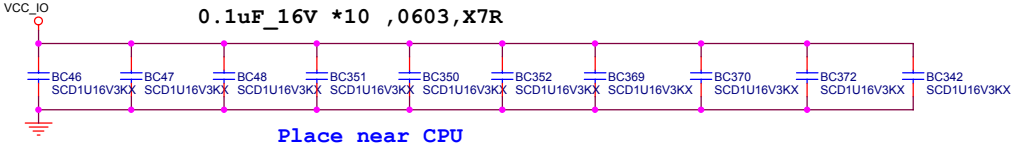




150uF_6.3V *1



0.1uF_16V *10 ,0603,X7R



Place near CPU

Banias CPU part number

B9.00016.001	IC CPU BANIAS1.7G UFCBGA
B9.00017.001	IC CPU BANIAS1.6G UFCBGA
B9.00018.001	IC CPU BANIAS1.5G UFCBGA
B9.00019.001	IC CPU BANIAS1.4G UFCBGA
B9.00020.001	IC CPU BANIAS1.3G UFCBGA

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Title: *Banias CPU (2 of 2)*

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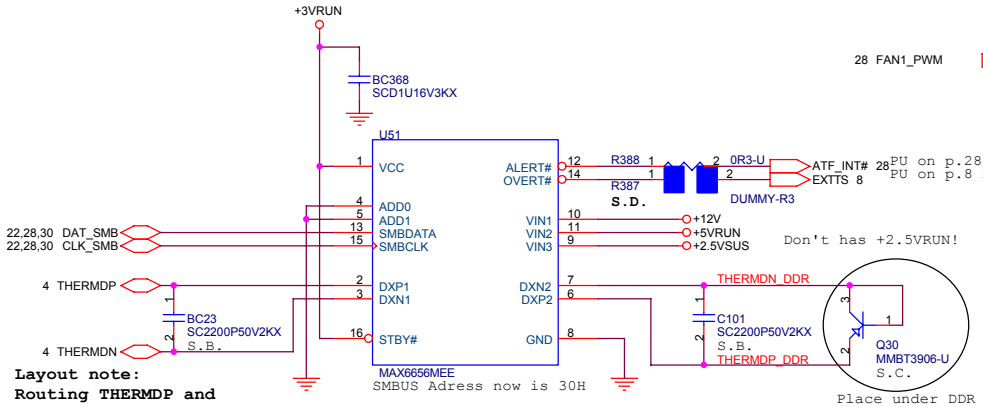
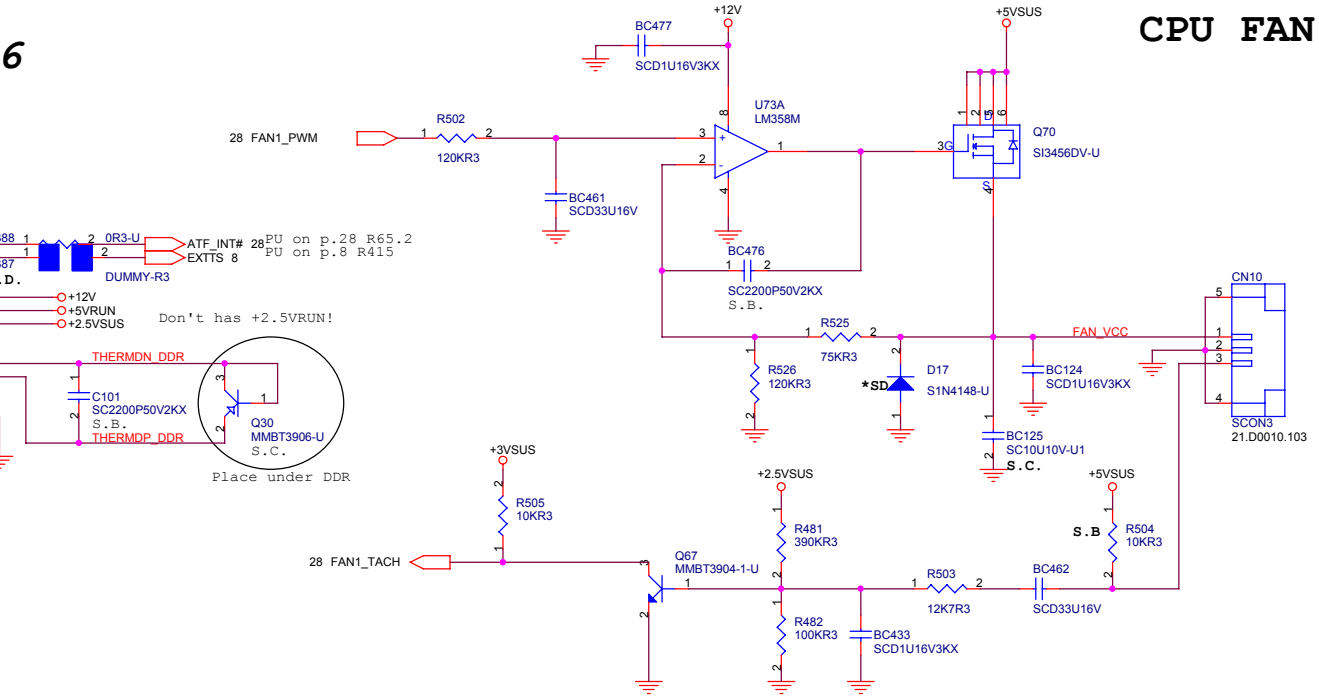
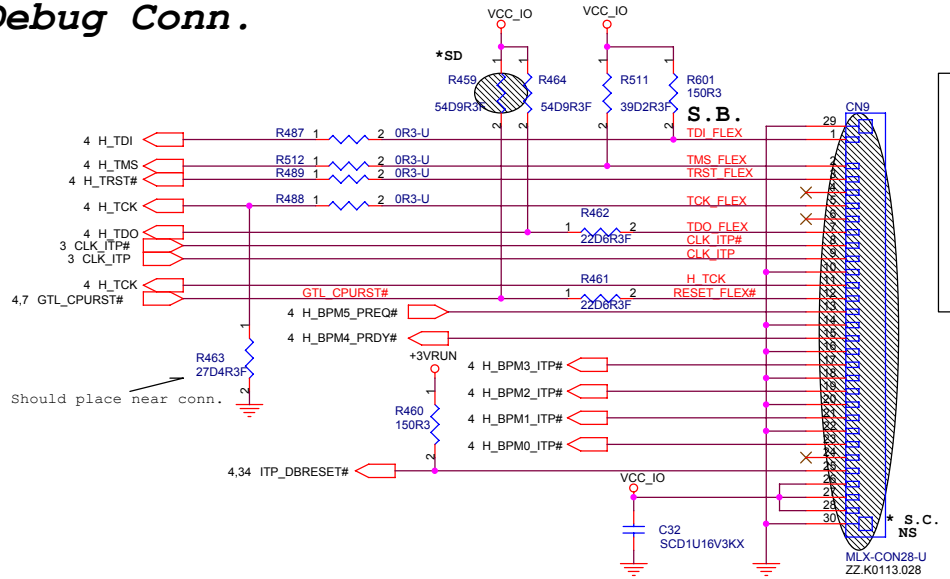
THERMAL SENSOR MAX6656

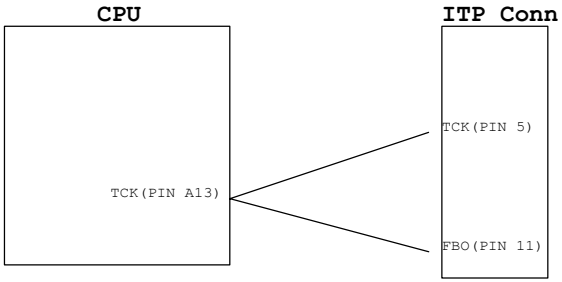


CPU FAN



ITP Debug Conn.





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Title	***MAX6656,Fan Control***	
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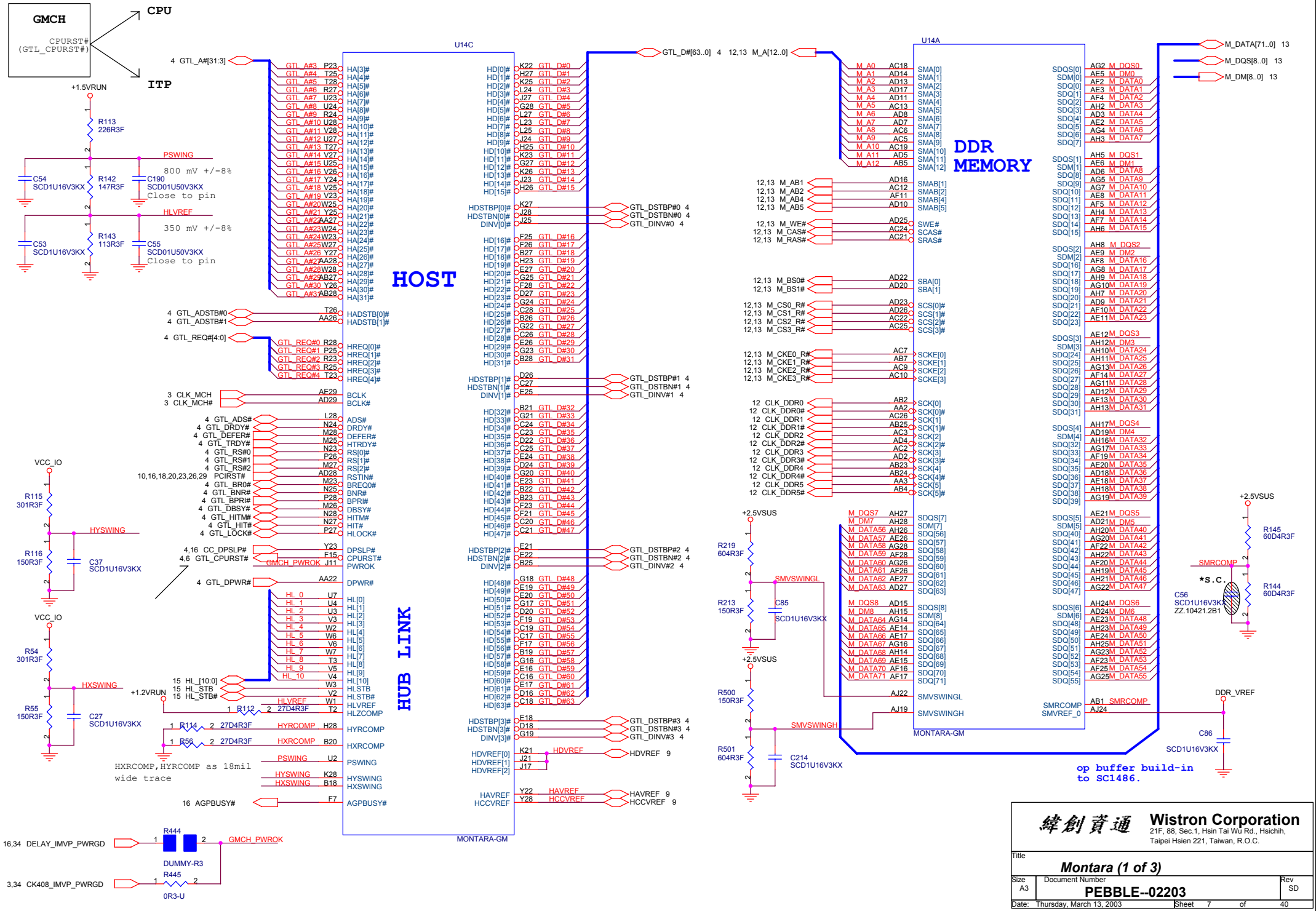

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Title: ***Montara (1 of 3)***

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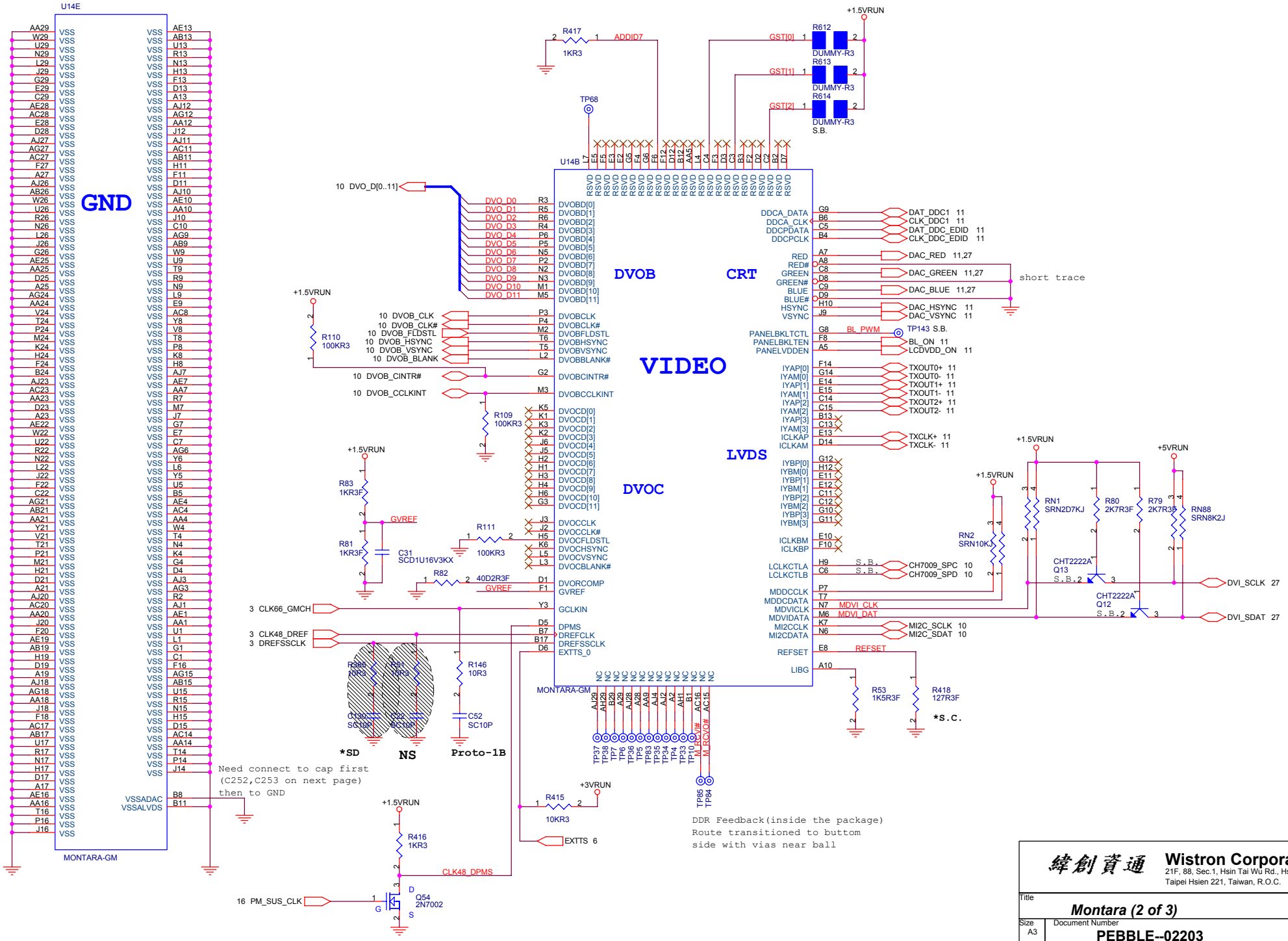

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	***Montara (2 of 3)***	
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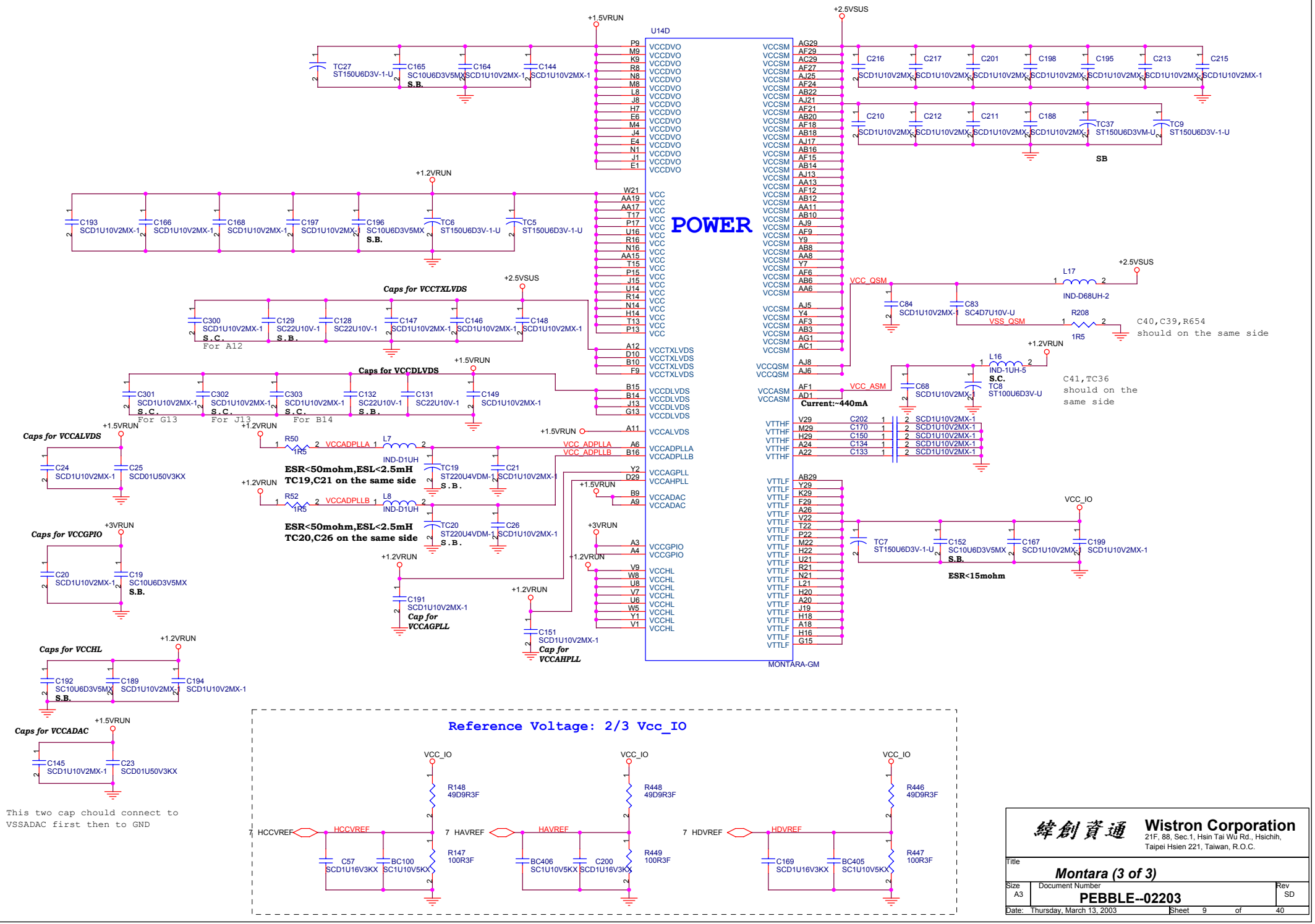
U14D
POWER
MONTARA-GM
+1.5VRUN
+2.5VSUS
+1.2VRUN
+3VRUN
VCCDVO
VCCSM
VCC
VCCTXLVDS
VCCDLVDS
VCCALVDS
VCCADPLLA
VCCADPLLB
VCCAGPLL
VCCAHPLL
VCCADAC
VCCGPIO
VCCHL
VTTHF
VTTLF
VCC_QSM
VSS_QSM
VCC_ASM
VCC_ADPLLA
VCC_ADPLLB
VCC_IO
Caps for VCCTXLVDS
Caps for VCCDLVDS
Caps for VCCALVDS
Caps for VCCGPIO
Caps for VCCHL
Caps for VCCADAC
ESR<50mohm,ESL<2.5mH
TC19,C21 on the same side
ESR<50mohm,ESL<2.5mH
TC20,C26 on the same side
Current:~440mA
ESR<15mohm
C40,C39,R654
should on the same side
C41,TC36
should on the
same side
SB
This two cap chould connect to
VSSADAC first then to GND
Reference Voltage: 2/3 Vcc_IO
HCCVREF
HAVREF
HDVREF
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Montara (3 of 3)
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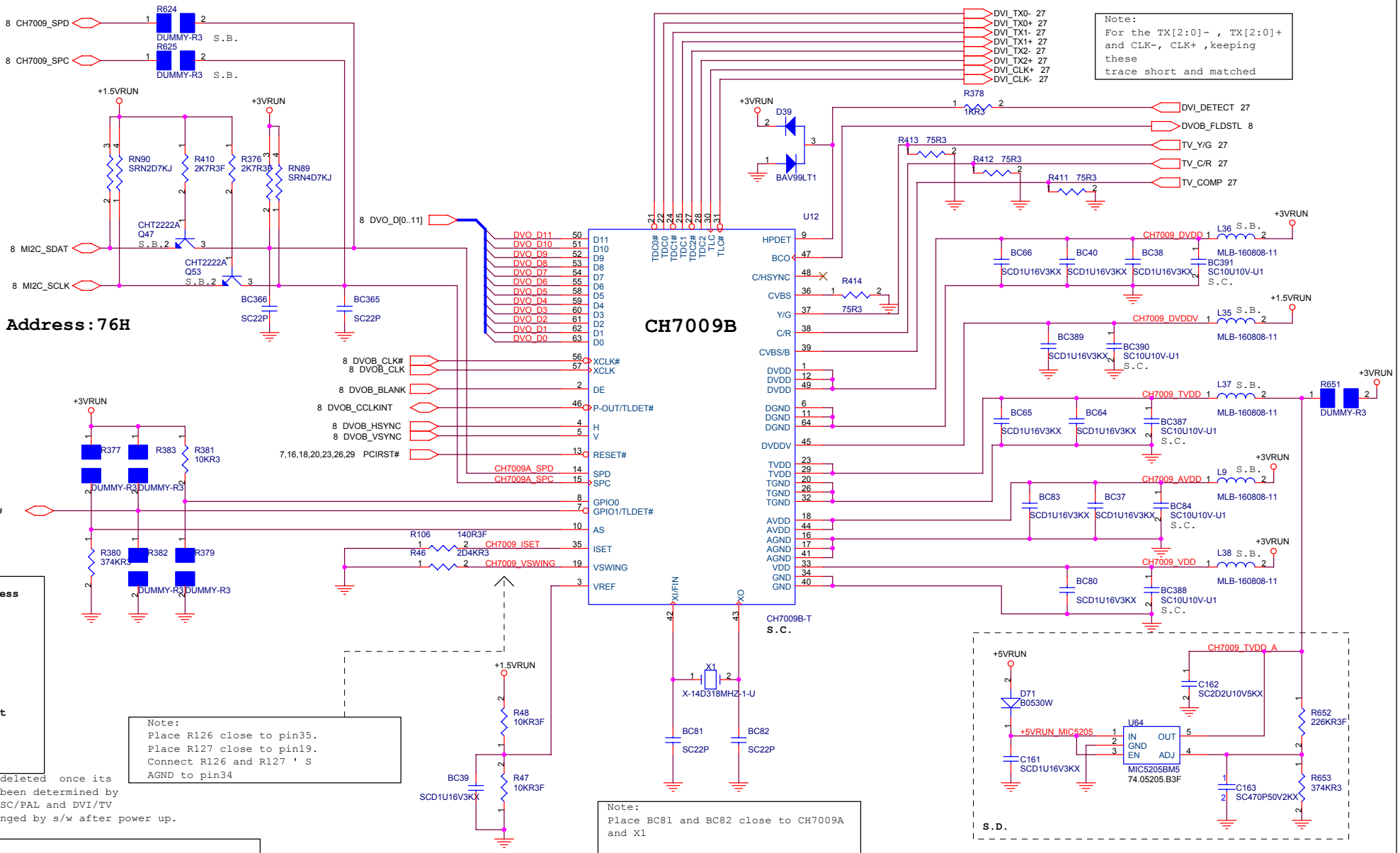

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Title: **S-VIDEO/DVI**

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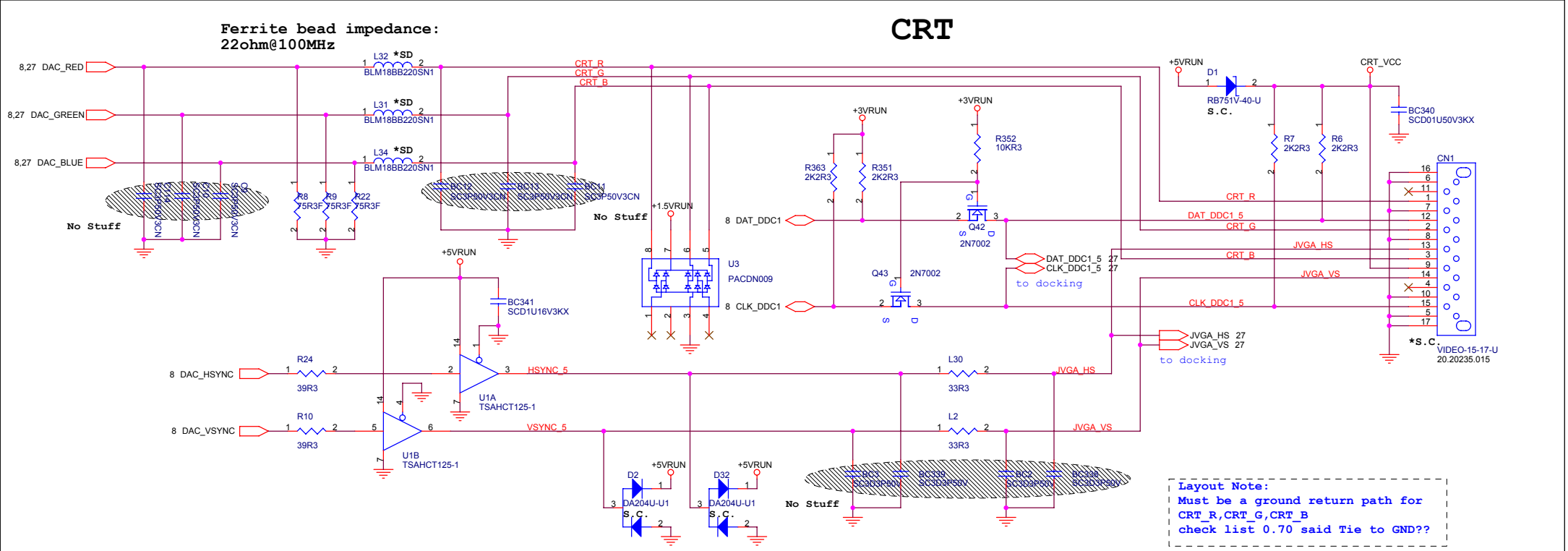
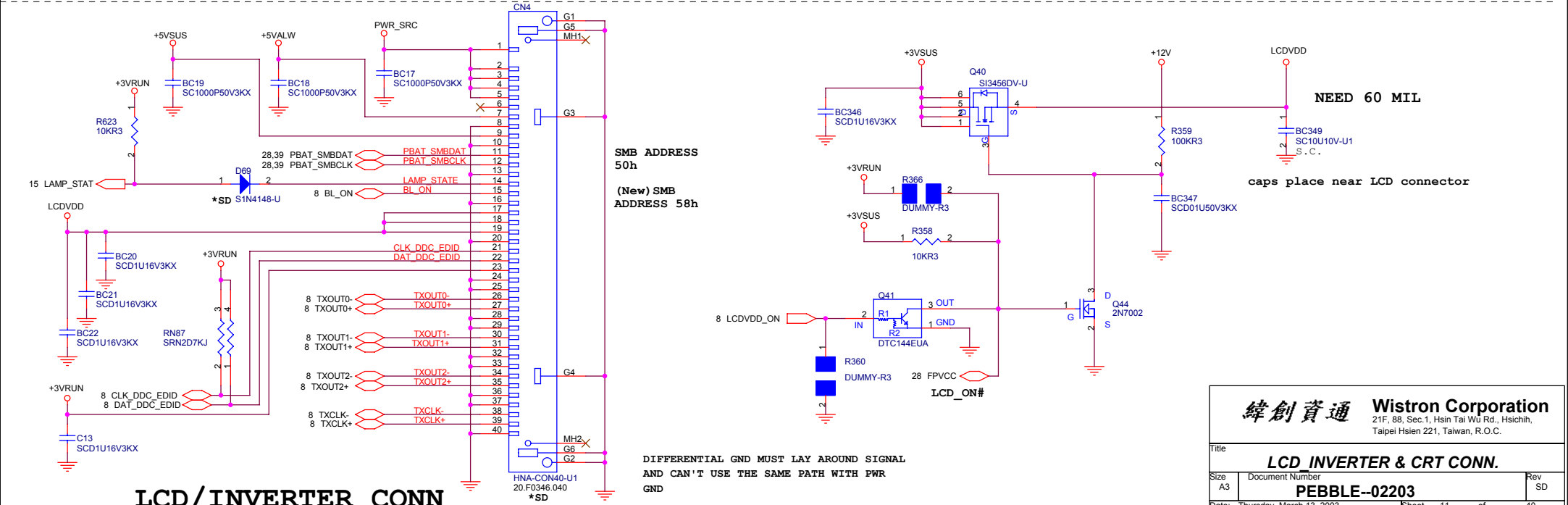
CRT





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Title	LCD_INVERTER & CRT CONN.	
Size A3	Document Number PEBBLE--02203	Rev SD
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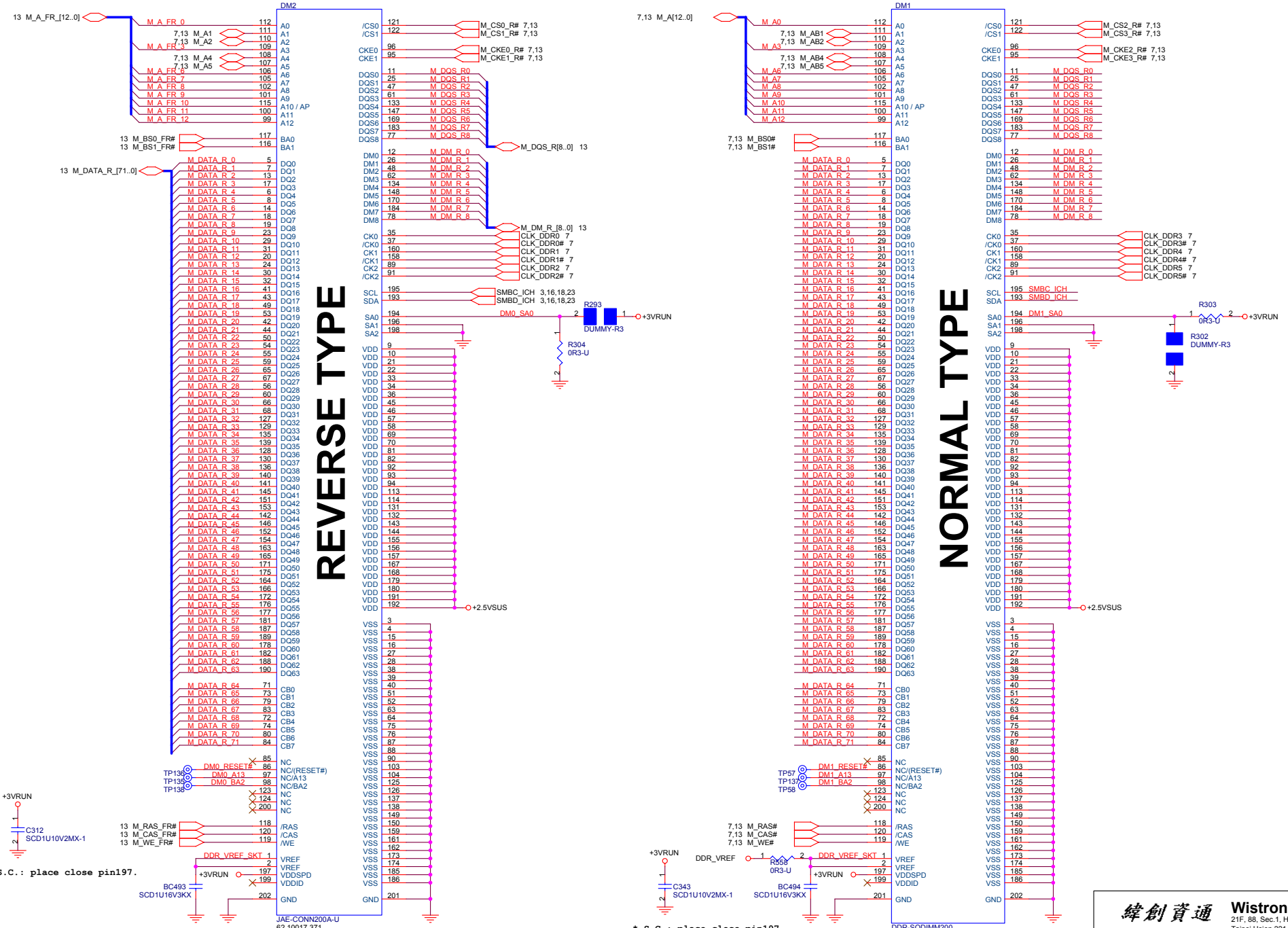

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Title: ***DDR Socket***

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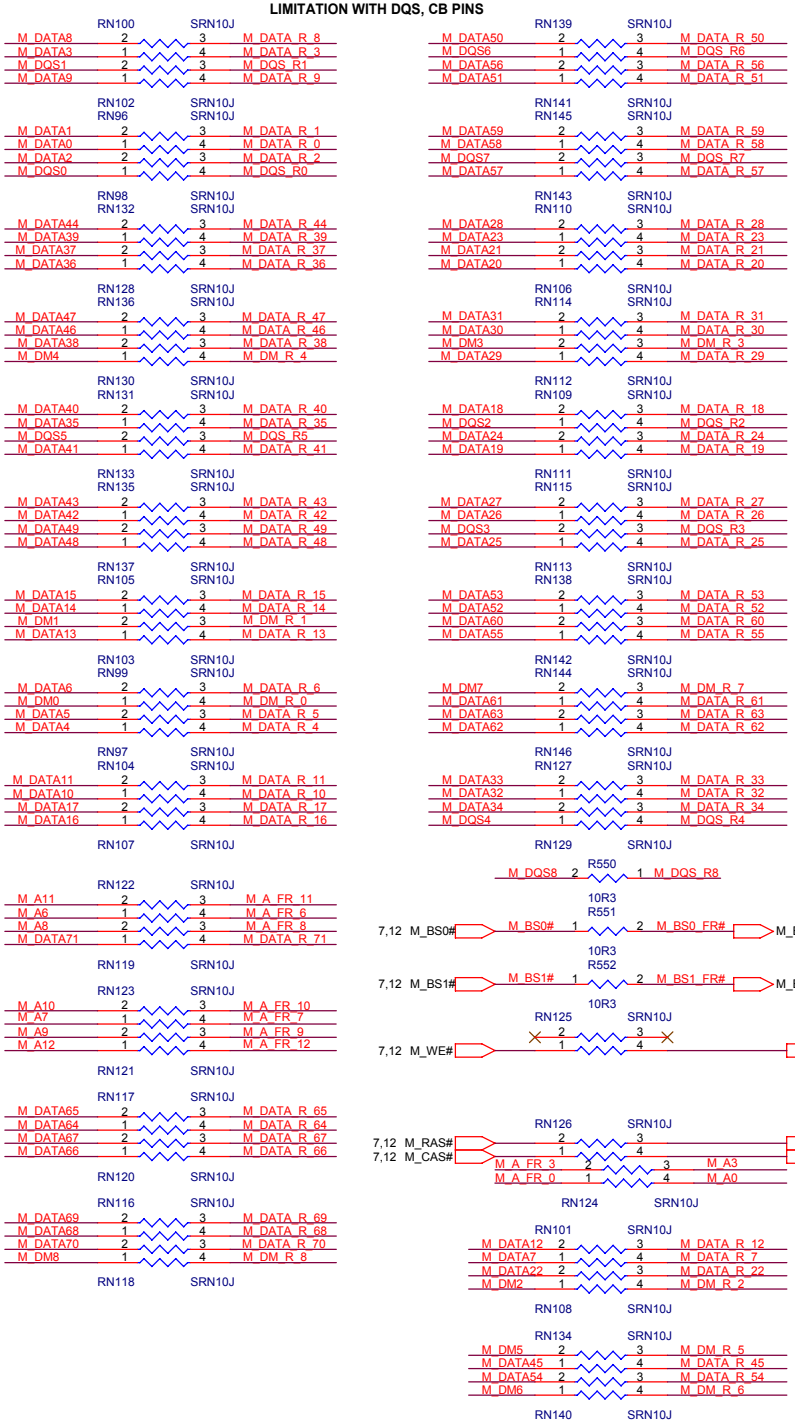
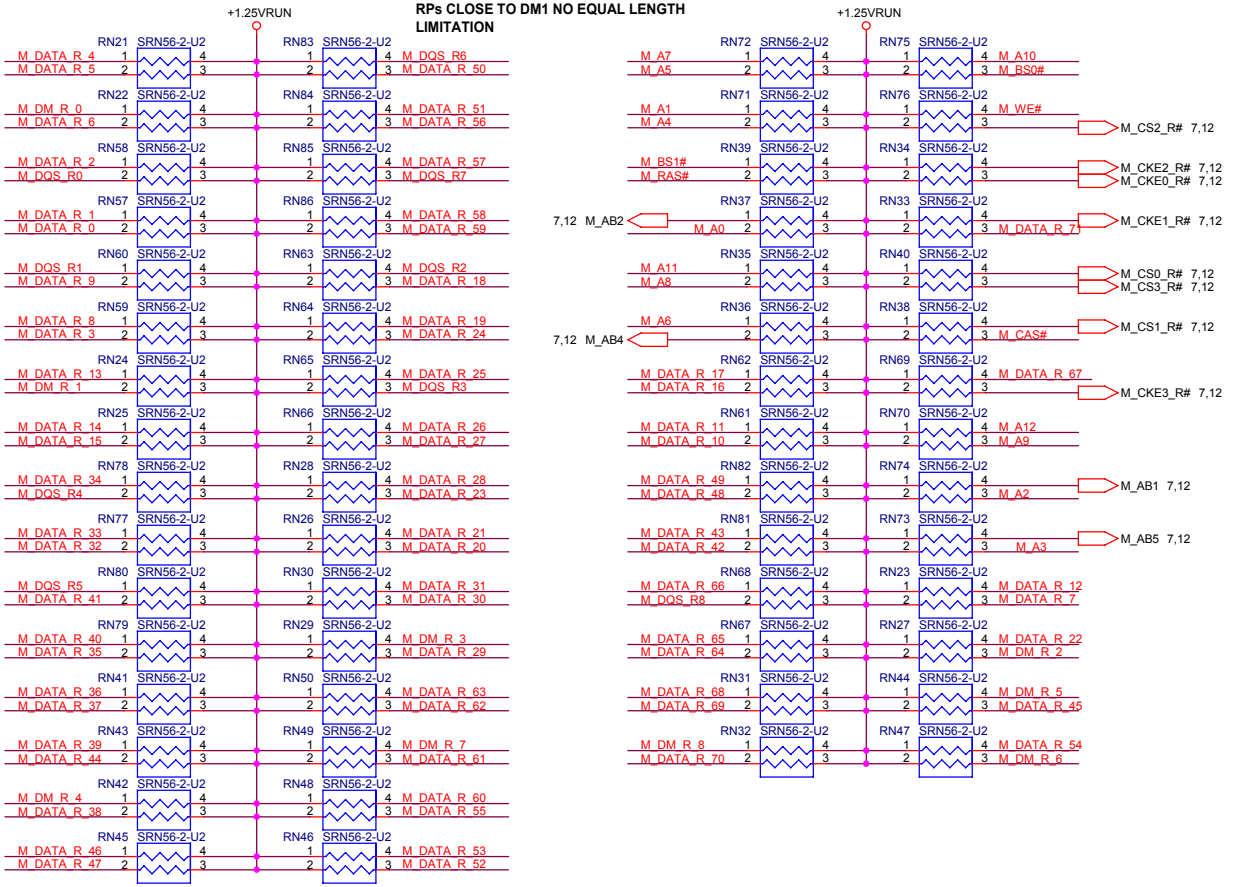
SERIES DAMPING

PLACE RNs CLOSE TO DM0, < 0.75"
STRICT EQUAL LENGTH
LIMITATION WITH DQS, CB PINS

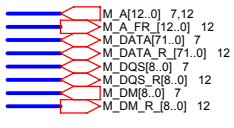


PARALLEL TERMINATION

PULL HIGH STUBS < 0.8", Command <0.25",PLACE
RPs CLOSE TO DM1 NO EQUAL LENGTH
LIMITATION



Control signals use Topology 2



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

Title: ***DDR Serial/Terminator Resistor***

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PLACE ONE 0.1 and ONE 0.01 CAP CLOSE TO EVERY 4
PULL-UP TERMINATION RESISTORS, CRB-P13
DATA(64)+ADD(13)+DQS(9)+CB(8)+CMD(13)=107
0.1UF 0402 X7R 59X

+1.25VRUN

BC227 SCD01U16V2KX
BC229 SCD01U16V2KX
BC231 SCD01U16V2KX
BC233 SCD01U16V2KX
BC235 SCD01U16V2KX
BC237 SCD01U16V2KX
BC239 SCD01U16V2KX
BC241 SCD01U16V2KX
BC243 SCD01U16V2KX
BC245 SCD01U16V2KX
BC247 SCD01U16V2KX
BC249 SCD01U16V2KX

BC251 SCD01U16V2KX
BC299 SCD01U16V2KX
BC301 SCD01U16V2KX
BC303 SCD01U16V2KX
BC305 SCD01U16V2KX
BC307 SCD01U16V2KX
BC309 SCD01U16V2KX
BC311 SCD01U16V2KX
BC313 SCD01U16V2KX
BC315 SCD01U16V2KX
BC317 SCD01U16V2KX
BC319 SCD01U16V2KX

BC321 SCD01U16V2KX
BC323 SCD01U16V2KX
BC325 SCD01U16V2KX
BC327 SCD01U16V2KX
BC329 SCD01U16V2KX
BC331 SCD01U16V2KX
BC226 SCD1U10V2MX-1
BC228 SCD1U10V2MX-1
BC230 SCD1U10V2MX-1
BC232 SCD1U10V2MX-1
BC234 SCD1U10V2MX-1

BC236 SCD1U10V2MX-1
BC238 SCD1U10V2MX-1
BC240 SCD1U10V2MX-1
BC242 SCD1U10V2MX-1
BC244 SCD1U10V2MX-1
BC246 SCD1U10V2MX-1
BC248 SCD1U10V2MX-1
BC250 SCD1U10V2MX-1
BC300 SCD1U10V2MX-1
BC302 SCD1U10V2MX-1
BC304 SCD1U10V2MX-1
BC306 SCD1U10V2MX-1

BC308 SCD1U10V2MX-1
BC310 SCD1U10V2MX-1
BC312 SCD1U10V2MX-1
BC314 SCD1U10V2MX-1
BC316 SCD1U10V2MX-1
BC318 SCD1U10V2MX-1
BC320 SCD1U10V2MX-1
BC322 SCD1U10V2MX-1
BC324 SCD1U10V2MX-1
BC326 SCD1U10V2MX-1
BC328 SCD1U10V2MX-1
BC330 SCD1U10V2MX-1

PLACE CAPS BETWEEN AND NEAR DDR SKTS
PLACE EACH 0.1UF CAP CLOSE TO POWER PIN

+2.5VSUS

BC495 SCD1U10V2MX-1
BC496 SCD1U10V2MX-1
BC497 SCD1U10V2MX-1
BC498 SCD1U10V2MX-1
BC499 SCD1U10V2MX-1
BC500 SCD1U10V2MX-1
BC501 SCD1U10V2MX-1
BC502 SCD1U10V2MX-1

BC276 SCD1U10V2MX-1
BC277 SCD1U10V2MX-1
BC278 SCD1U10V2MX-1
BC279 SCD1U10V2MX-1
BC280 SCD1U10V2MX-1
BC281 SCD1U10V2MX-1
BC282 SCD1U10V2MX-1
BC283 SCD1U10V2MX-1

BC284 SCD1U10V2MX-1
C242 SCD1U10V2MX-1
C243 SCD1U10V2MX-1
C244 SCD1U10V2MX-1
C245 SCD1U10V2MX-1
C246 SCD1U10V2MX-1
C247 SCD1U10V2MX-1
C248 SCD1U10V2MX-1

S.C.
C313 SCD1U10V2MX-1
C314 SCD1U10V2MX-1
C318 SCD1U10V2MX-1
C319 SCD1U10V2MX-1
C321 SCD1U10V2MX-1

C254 SCD1U10V2MX-1
C255 SCD1U10V2MX-1
C256 SCD1U10V2MX-1
C257 SCD1U10V2MX-1
C258 SCD1U10V2MX-1
C259 SCD1U10V2MX-1
C286 SCD1U10V2MX-1

S.B

BC213 SC10U10V-U1
TC10 ST150U6D3V-1-U
TC45 ST150U6D3V-1-U
S.C.

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

Title: ***DDR Decoupling CPA***

Size	Document Number	Rev
A3	**PEBBLE--02203**	SD

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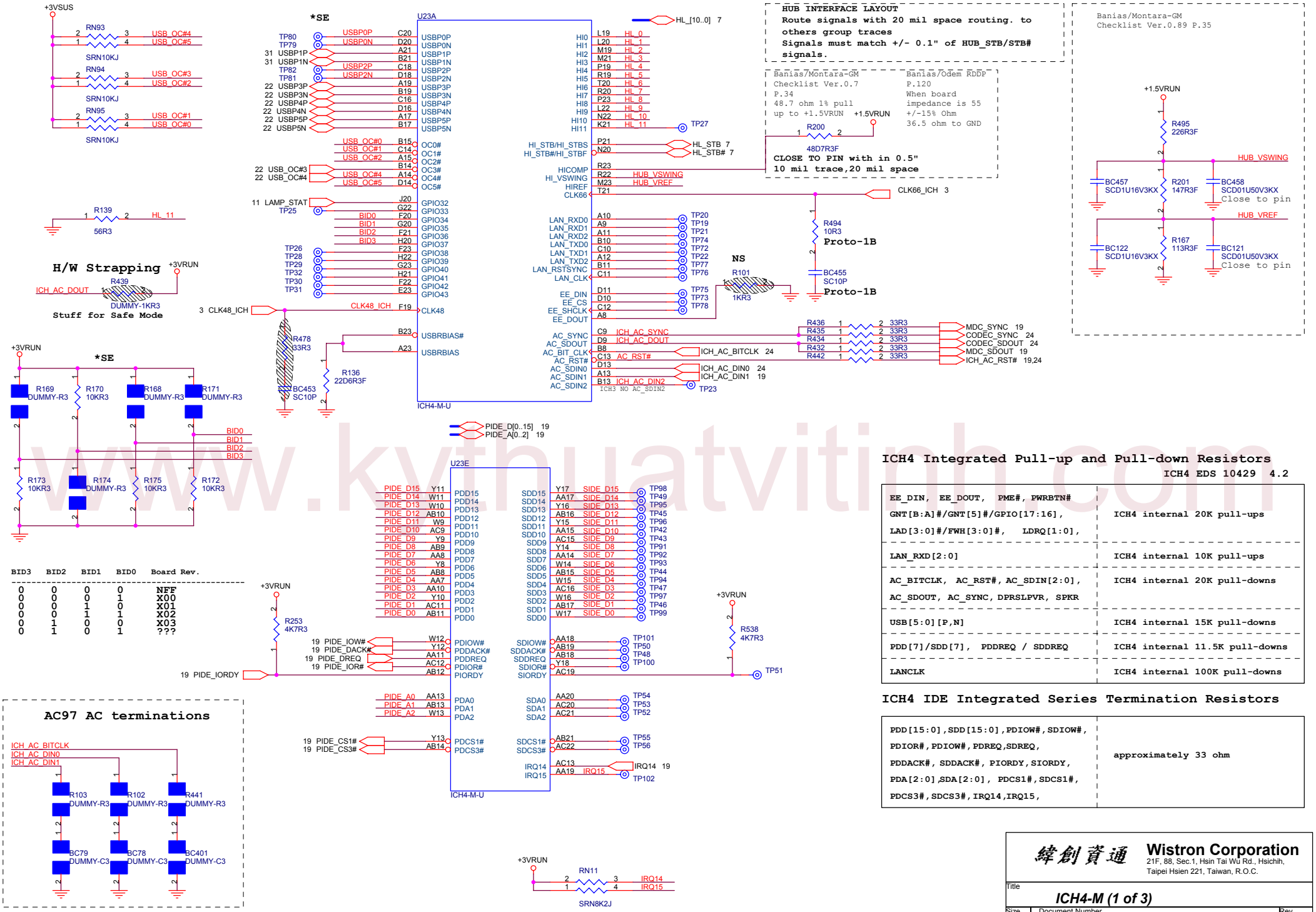

ICH4 Integrated Pull-up and Pull-down Resistors

ICH4 EDS 10429 4.2

EE_DIN, EE_DOUT, PME#, PWRBTN# GNT[B:A]#/GNT[5]#/GPIO[17:16], LAD[3:0]#/FWH[3:0]#, LDRQ[1:0],	ICH4 internal 20K pull-ups
LAN_RXD[2:0]	ICH4 internal 10K pull-ups
AC_BITCLK, AC_RST#, AC_SDIN[2:0], AC_SDOUT, AC_SYNC, DPRSLPVR, SPKR	ICH4 internal 20K pull-downs
USB[5:0][P,N]	ICH4 internal 15K pull-downs
PDD[7]/SDD[7], PDDREQ / SDDREQ	ICH4 internal 11.5K pull-downs
LANCLK	ICH4 internal 100K pull-downs

ICH4 IDE Integrated Series Termination Resistors

PDD[15:0],SDD[15:0],PDIOW#,SDIOW#, PDIOR#,PDIOW#,PDREQ,SDREQ, PDDACK#,SDDACK#,PIORDY,SIORDY, PDA[2:0],SDA[2:0], PDCS1#,SDCS1#, PDCS3#,SDCS3#,IRQ14,IRQ15,	approximately 33 ohm

BID3	BID2	BID1	BID0	Board Rev.
0	0	0	0	NFF
0	0	0	1	X00
0	0	1	0	X01
0	0	1	1	X02
0	1	0	0	X03
0	1	0	1	???

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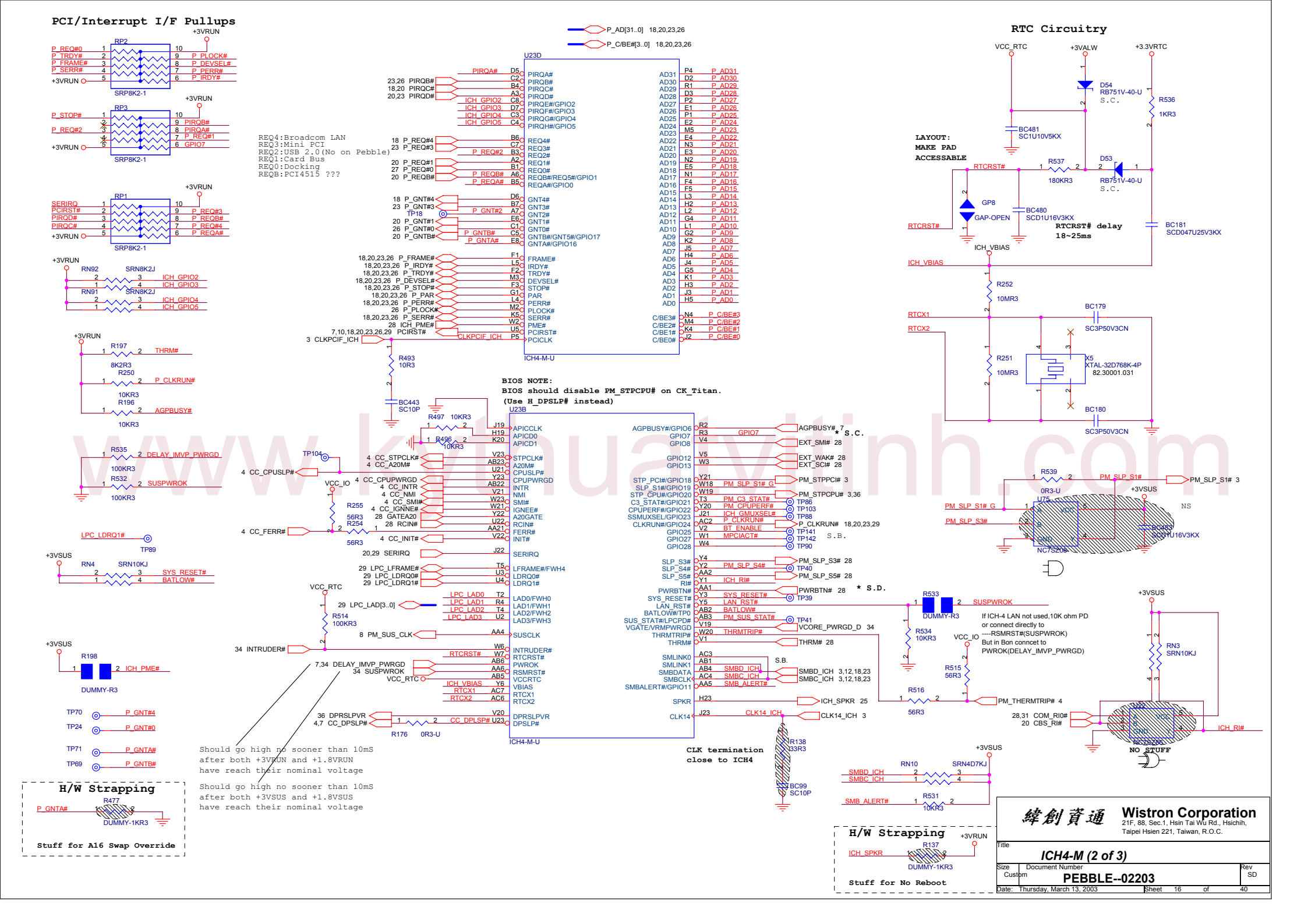
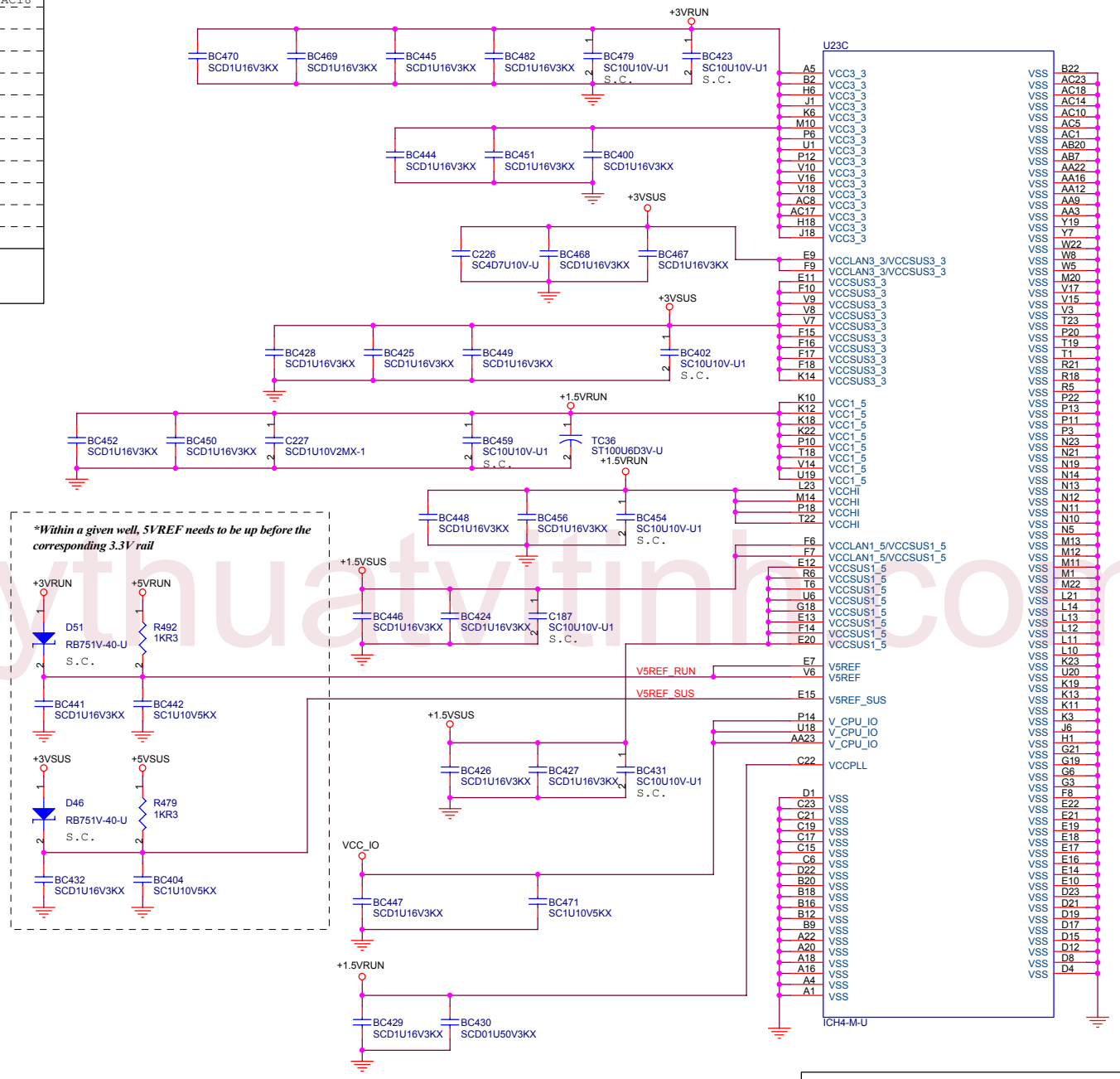
Title: ICH4-M (1 of 3)
Size: A3 | Document Number: PEBBLE--02203 | Rev: SE
Date: Thursday, March 13, 2003 | Sheet 15 of 40


PCI/Interrupt I/F Pullups
RTC Circuitry
U23D
ICH4-M-U
U23B
ICH4-M-U
BIOS NOTE:
BIOS should disable PM_STPCPU# on CK_Titan.
(Use H_DPSLP# instead)
REQ4:Broadcom LAN
REQ3:Mini PCI
REQ2:USB 2.0(No on Pebble)
REQ1:Card Bus
REQ0:Docking
REQB:PCI4515 ???
LAYOUT:
MAKE PAD
ACCESSABLE
RTCRST# delay
18~25ms
CLK termination
close to ICH4
Should go high no sooner than 10mS
after both +3VRUN and +1.8VRUN
have reach their nominal voltage
Should go high no sooner than 10mS
after both +3VSUS and +1.8VSUS
have reach their nominal voltage
If ICH-4 LAN not used,10K ohm PD
or connect directly to
----RSMRST#(SUSPWROK)
But in Bon conncet to
PWROK(DELAY_IMVP_PWRGD)
H/W Strapping
Stuff for A16 Swap Override
H/W Strapping
Stuff for No Reboot
NO STUFF
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
ICH4-M (2 of 3)
PEBBLE--02203
Thursday, March 13, 2003

		Near Balls	
3.3VRUN	22uF*2,0.1uF*9	0.1uF*6	A1,A4,H1,T1,AC10,AC18
1.5VRUN	100uF*1,22uF*1,0.1uF*4	0.1uF*2	K23,C23
3.3VSUS	22uF*1,0.1uF*4	0.1uF*2	A22,AC5
1.5VSUS	10uF*1,0.1uF*3	0.1uF*2	A16,AC1
1.8VRUN	22uF*1,0.1uF*2	0.1uF*2	T23,N23
VCC_IO	1uF*1,0.1uF*2	0.1uF*1	AA23
3.3VLAN	22uF*1,4.7uF*1,0.1uF*2	0.1uF*2	E9,F9
1.5VLAN	22uF*1,0.1uF*2	0.1uF*2	F6,F7
VCCPLL	0.1uF*1,0.01uF*1	0.1uF*1	C22
VCC5REF		0.1uF*1	E7
VCC5REFSUS		0.1uF*1	A16
VCCRTC		0.1uF*1	AB5
	Intel ERB Ver.0.5 p17	Intel MGM Checklist Ver.0.7 p41	



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

Title: *ICH4-M (3 of 3)*

Size	Document Number	Rev
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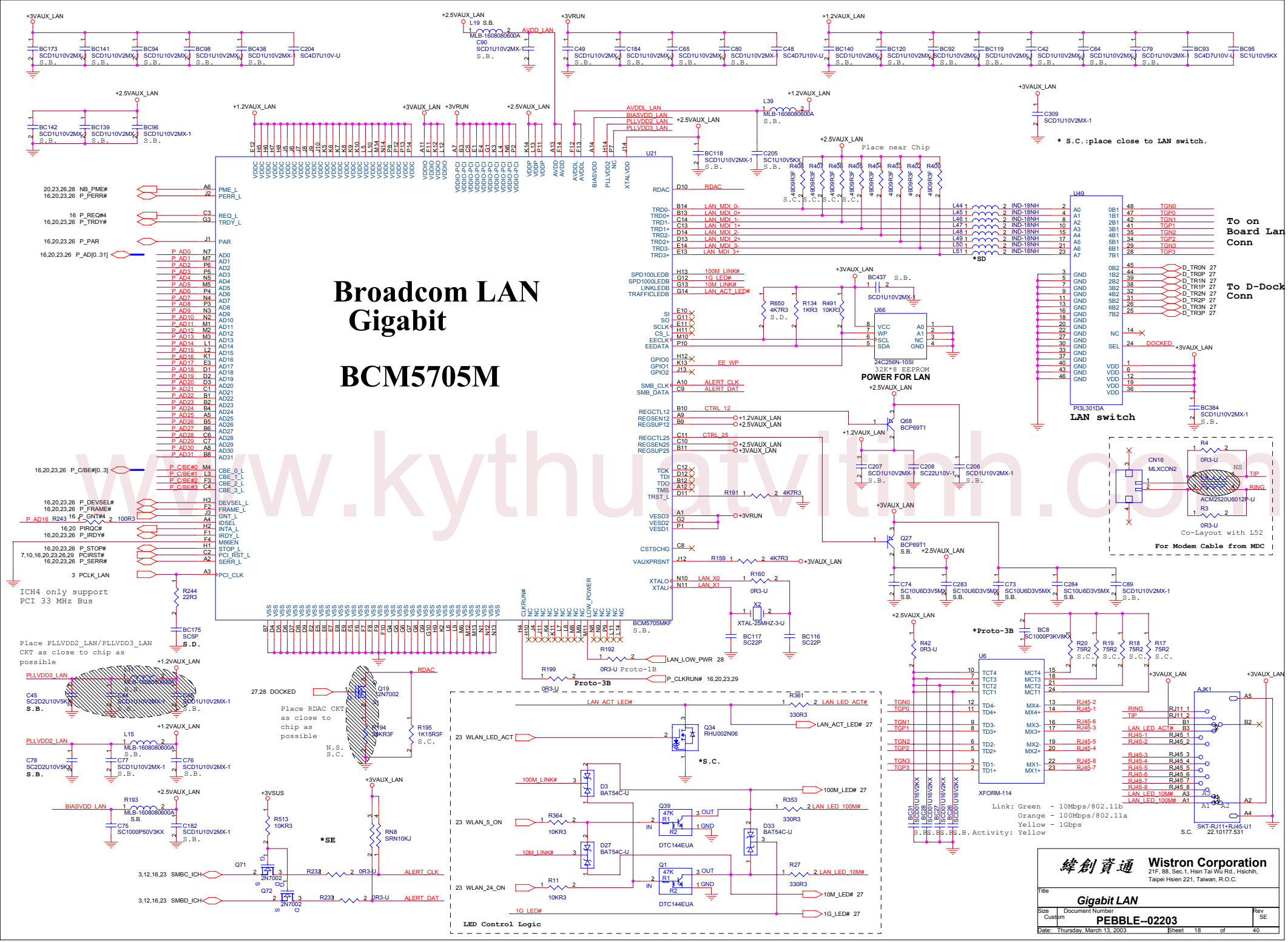
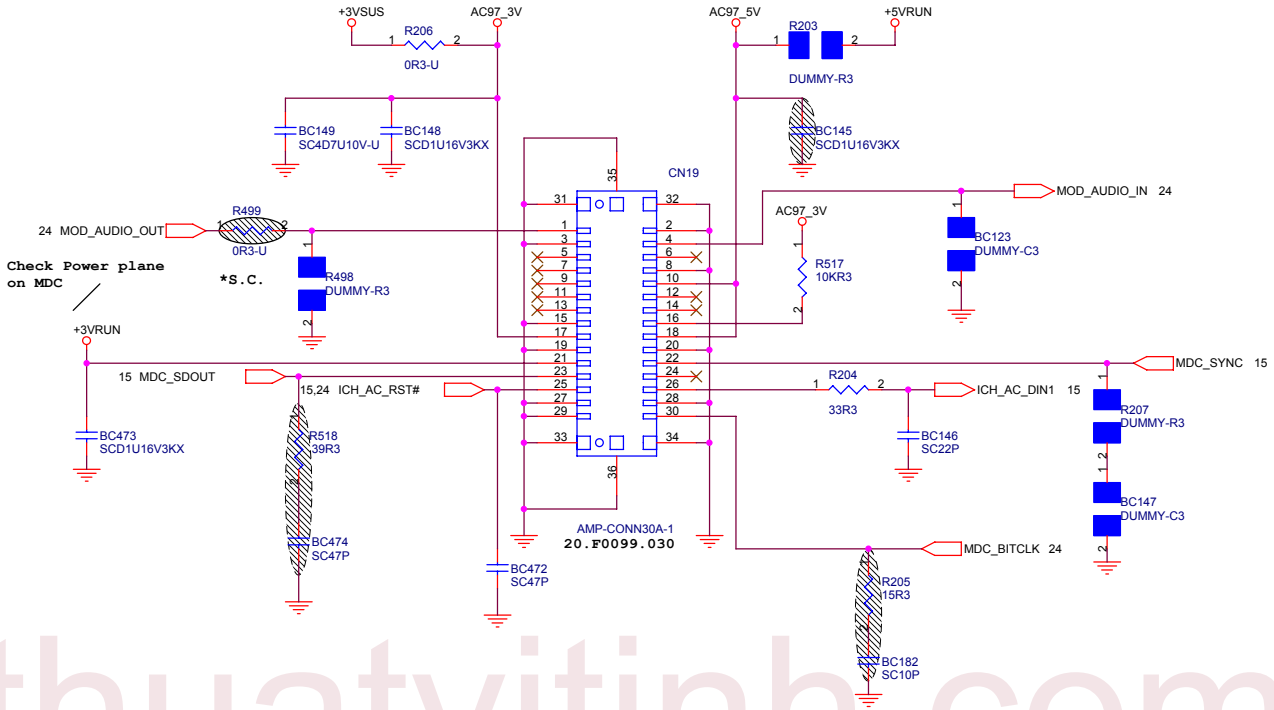
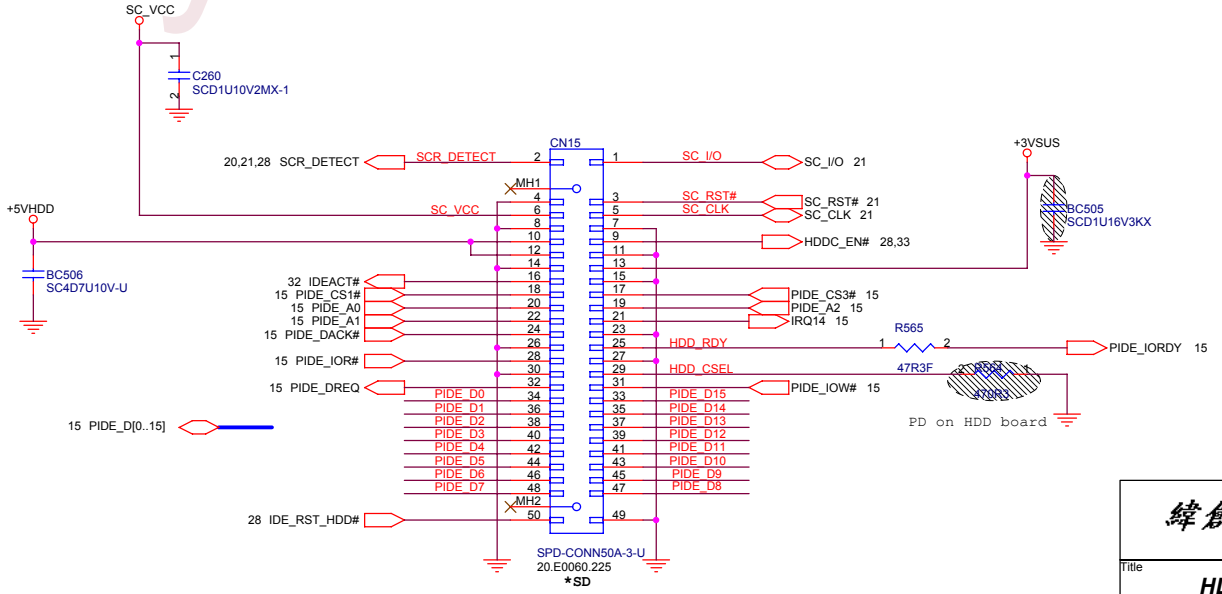


Modem Connector



HDD & SMART CARD CONNECTOR



緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	***HDD & MDC CONN.***	
Size A3	Document Number **PEBBLE--02203**	Rev SD
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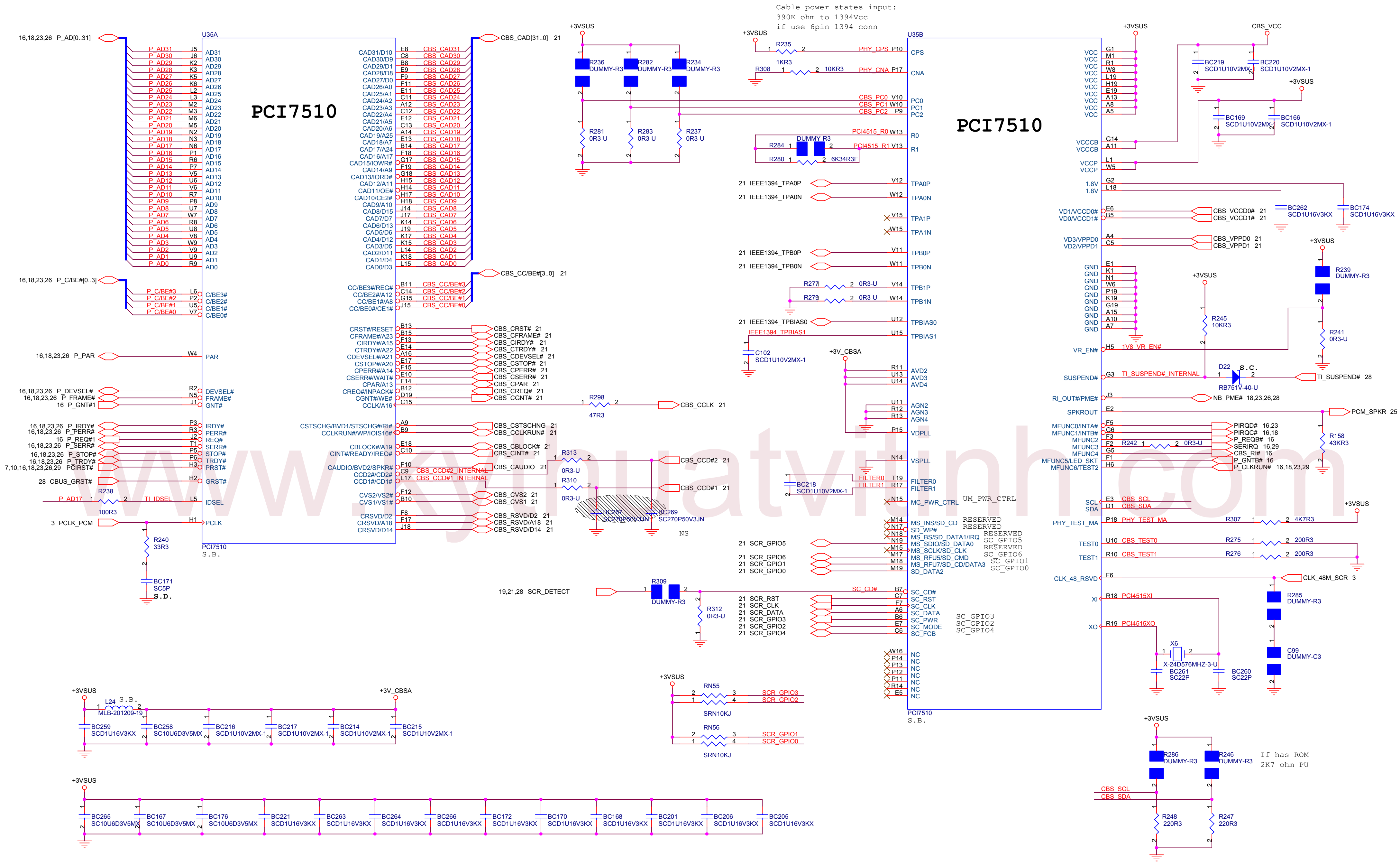

緯創資通 **Wistron Corporation**

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

Title			
CARDBUS CONTROLLER			
Size: Custom	Document Number: PEBBLE--02203		Rev: SD
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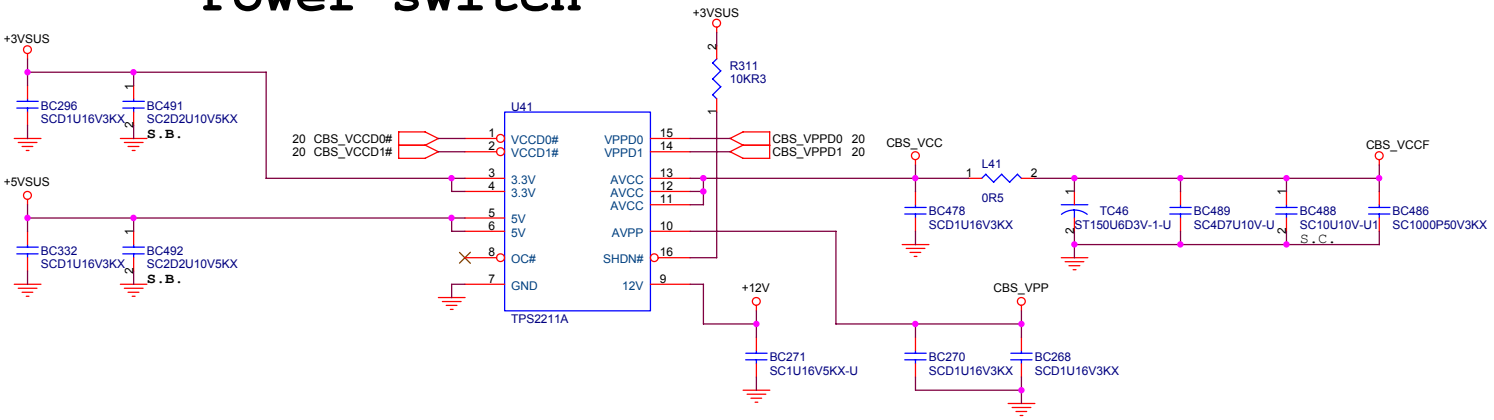
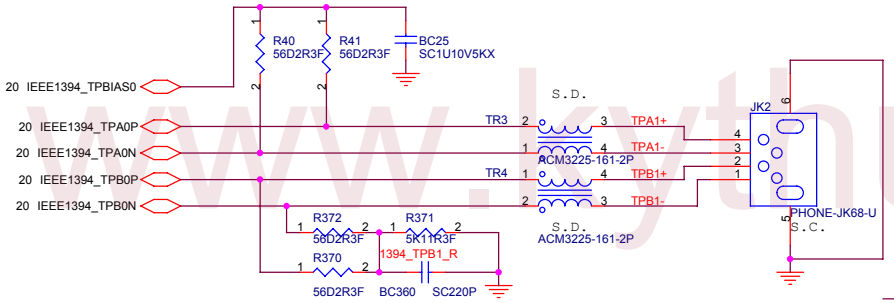
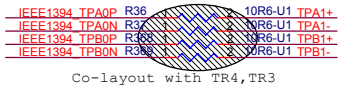
Power switch



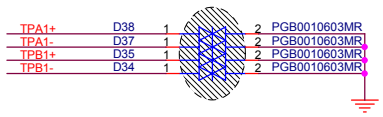
1394 conn.



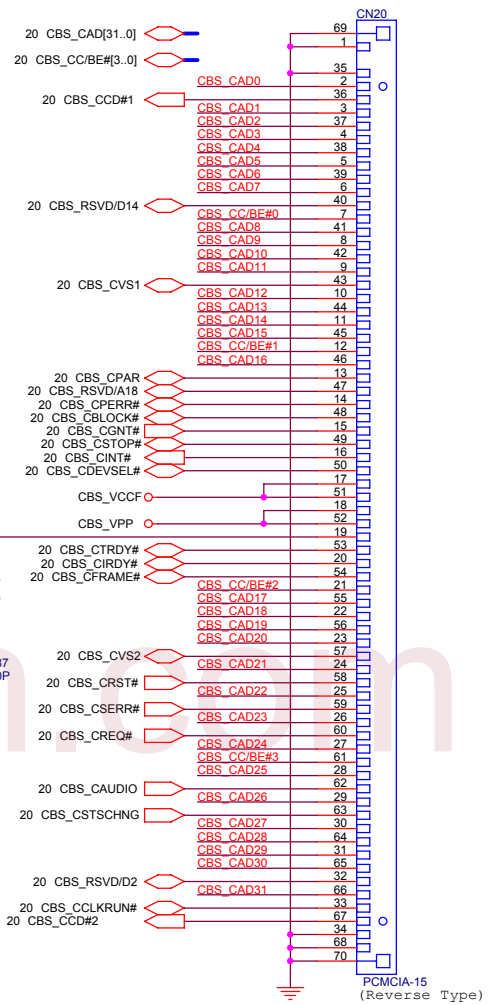
*S.D=>1206 size. NS



Co-layout with TR4,TR3



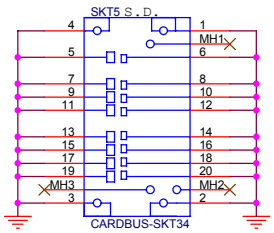
NS
ESD suppressor
Place near JK2



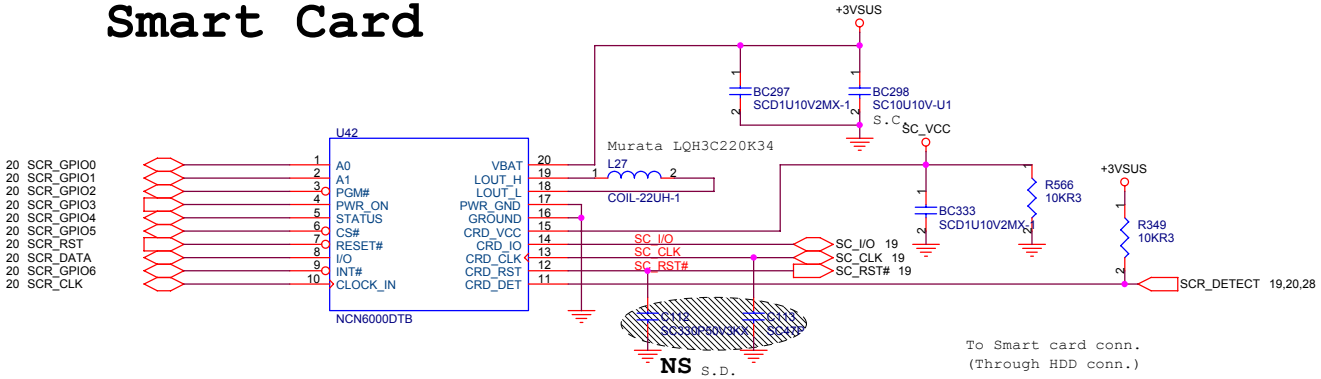
NS
R547 10R3
BC487 SC10P

CLK for 32-bit Cardbus PC Card I/F

Clock termination close to CONN



Smart Card



To Smart card conn.
(Through HDD conn.)

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

Title: ***CARDBUS CONNECTOR & POWER SWITCH***

Size	Document Number	Rev
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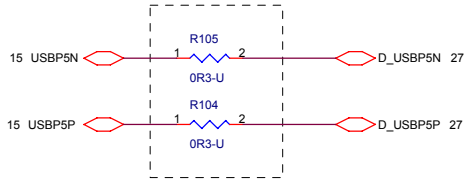
USB4

TO D DOCK

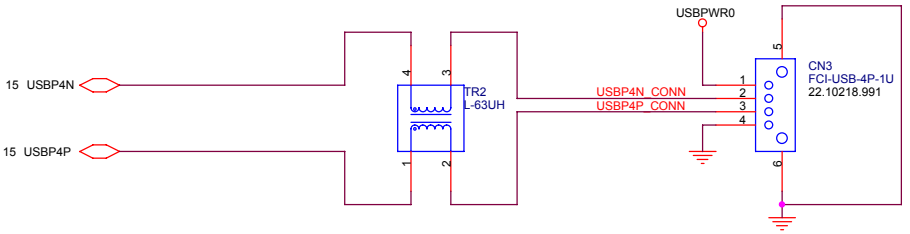


ICH4 provides an output driver impedance of 45 Ohm
and integrates 15K Ohm Pull-down R

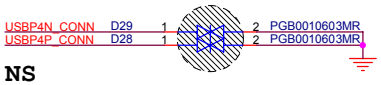
*SE

USB Port#	Destination
0	
1	BlueTooth
2	
3	Power USB
4	Rear
5	D-Dock

USB Common mode choke
MURATA PLW3216S900SQ2

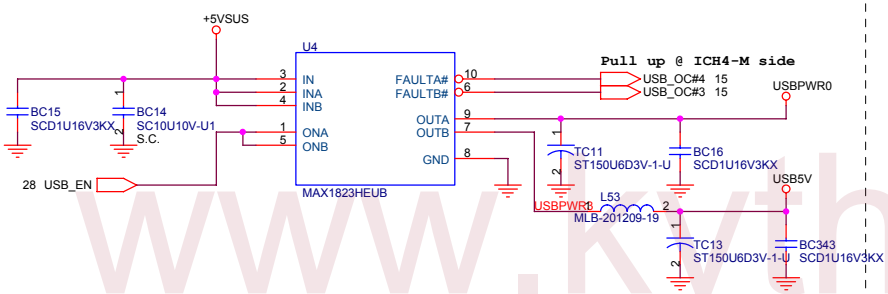


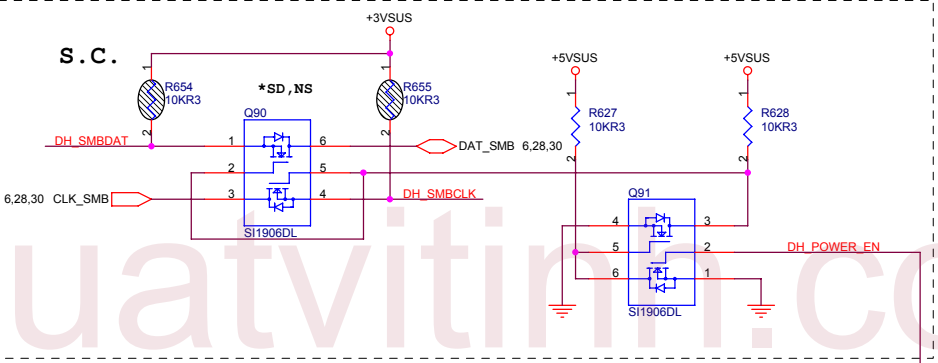
USB Common mode choke
MURATA PLW3216S900SQ2



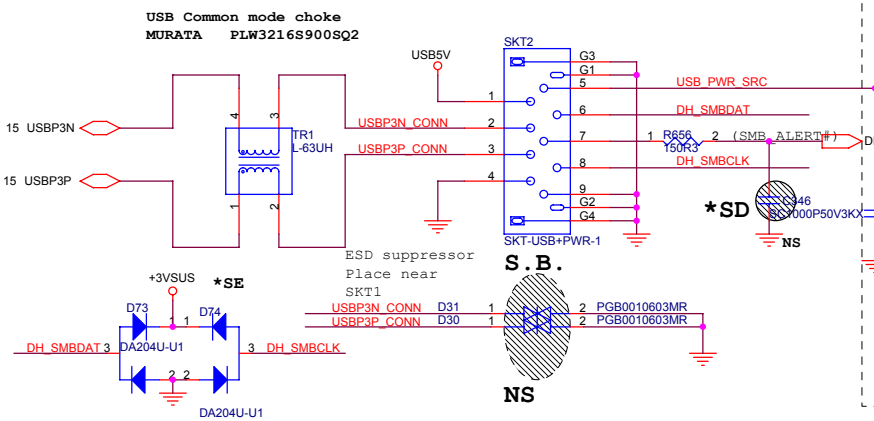
NS
ESD suppressor
Place near
CN9&10

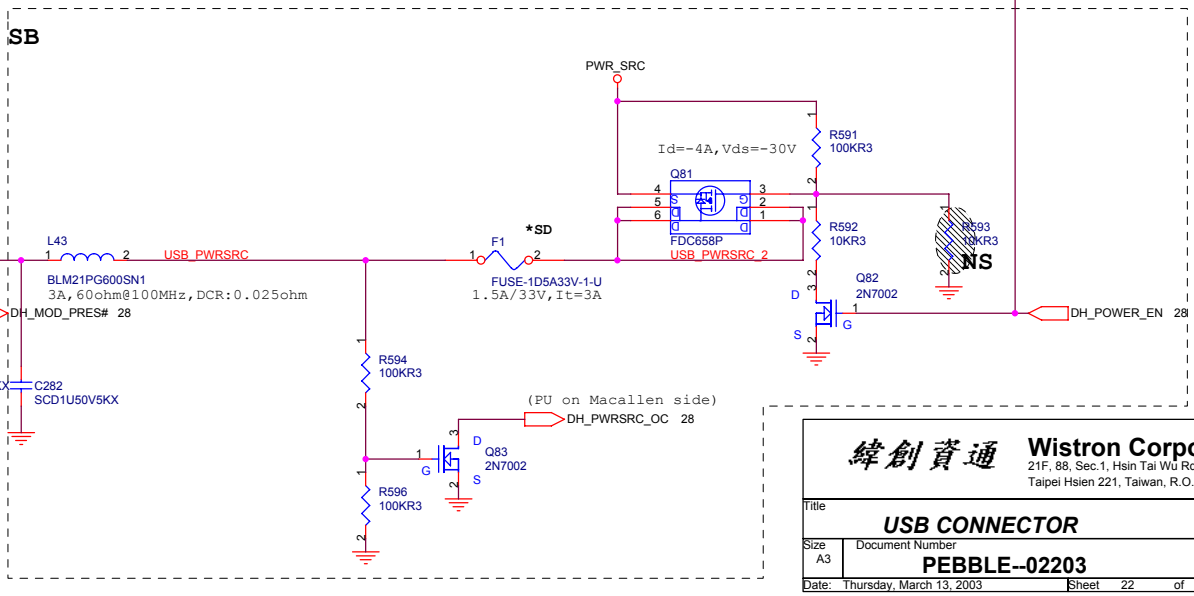
Dual USB switch for USB0/Power USB





POWER USB





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Title: USB CONNECTOR

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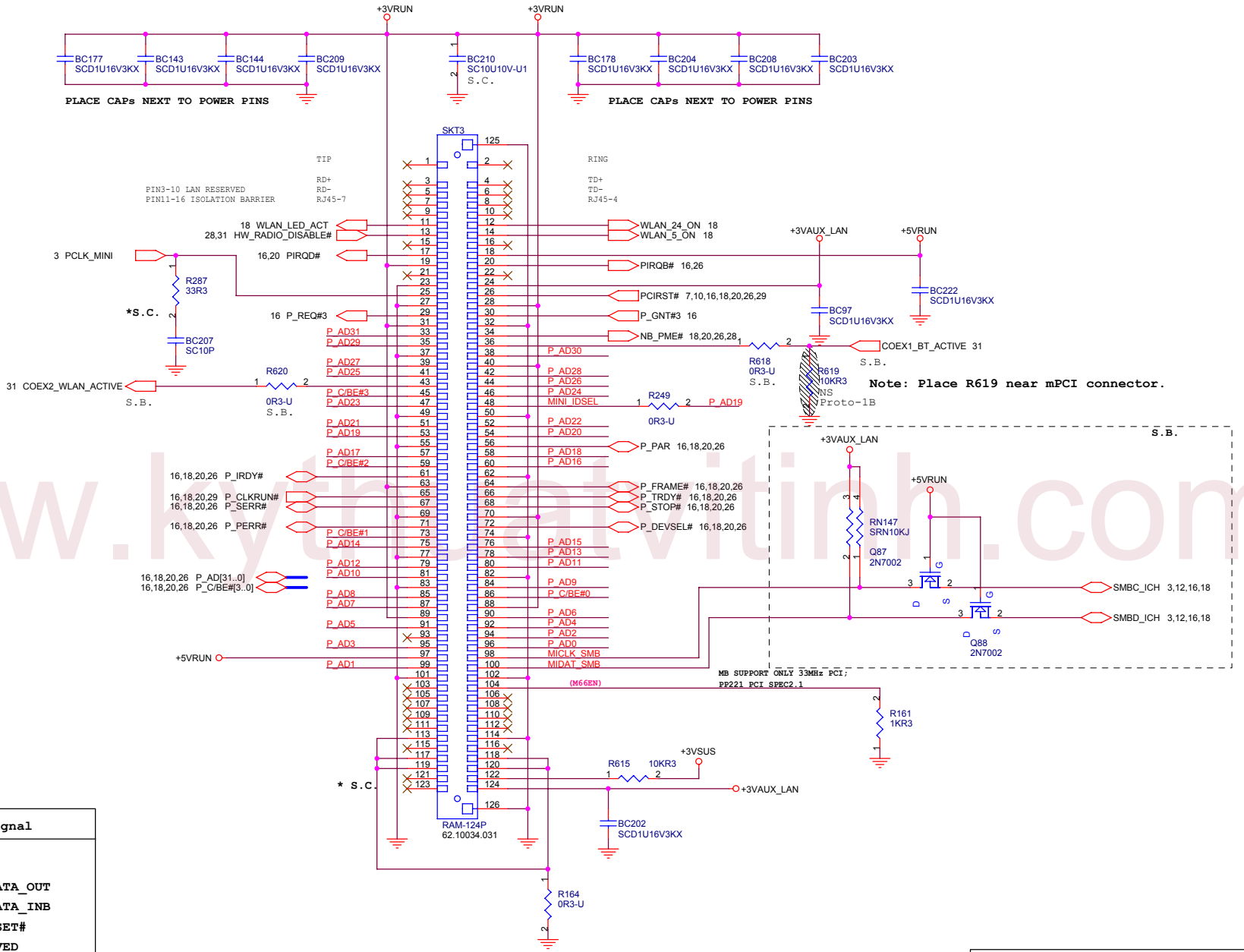
MINIPCI SLOT



MINIPCI SPEC.

Pin#	Signal	Pin#	Signal
101	GND	102	GND
103	AC_SYNC	104	M66EN
105	AC_SDATA_INA	106	AC_SDATA_OUT
107	AC_BIT_CLK	108	AC_SDATA_INB
109	AC_PRIMARY#	110	AC_RESET#
111	MOD_AUDIO_MON	112	RESERVED
113	AUDIO_GND	114	GND
115	SYS_AUDIO_OUT	116	SYS_AUDIO_IN
117	SYS_AUDIO_OUT_GND	118	SYS_AUDIO_IN_GND
119	AUDIO_GND	120	AUDIO_GND
121		122	MPCIACT#
123	VCC5A	124	3.3VAUX

POWER REQUIREMENT TOTAL = 2W
+5VRUN = 100 mA
+3VAUX = 375 mAMPMAX

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

Title: Mini-PCI CONNECTOR
Size: A3 | Document Number: PEBBLE--02203 | Rev: SD
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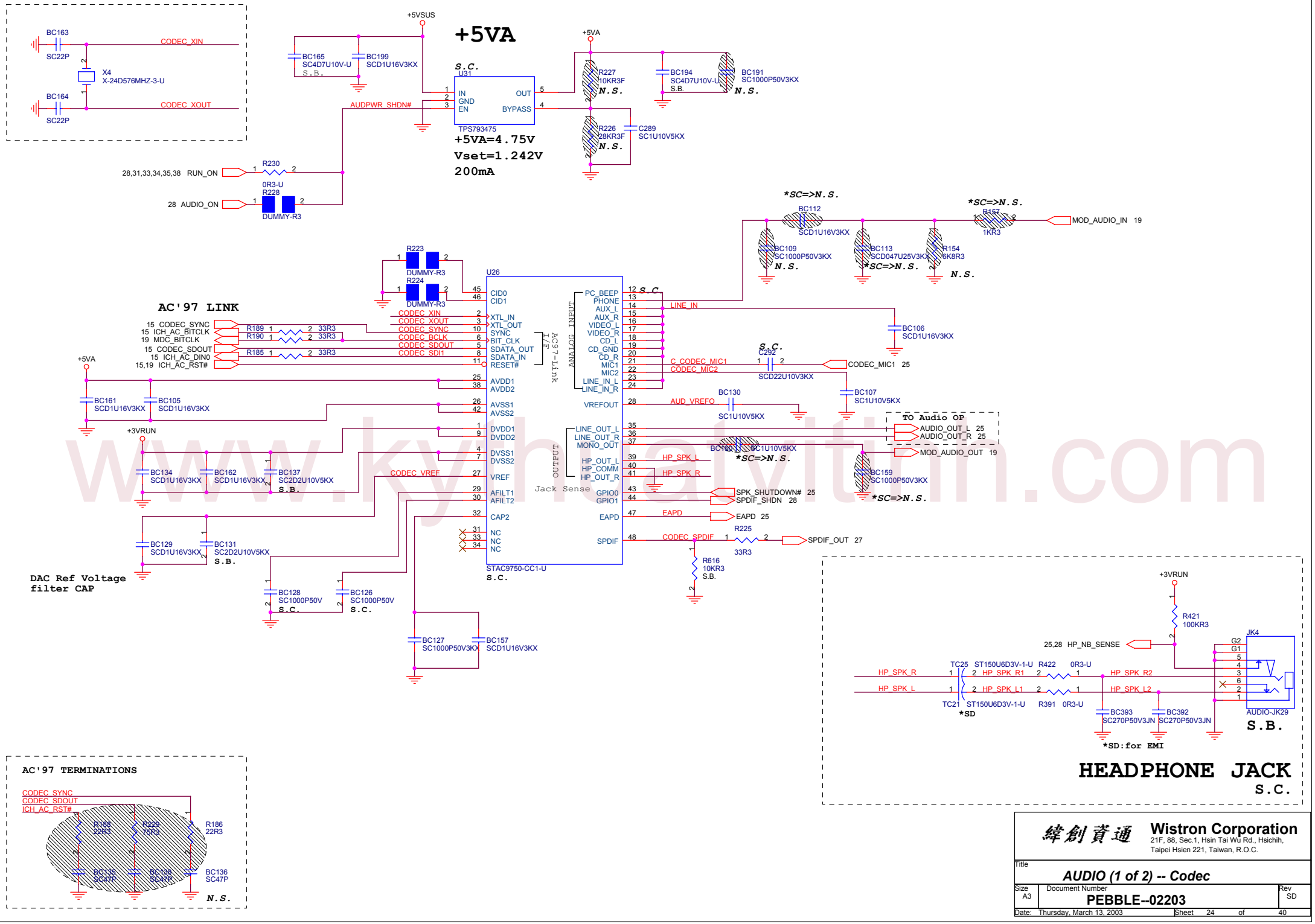
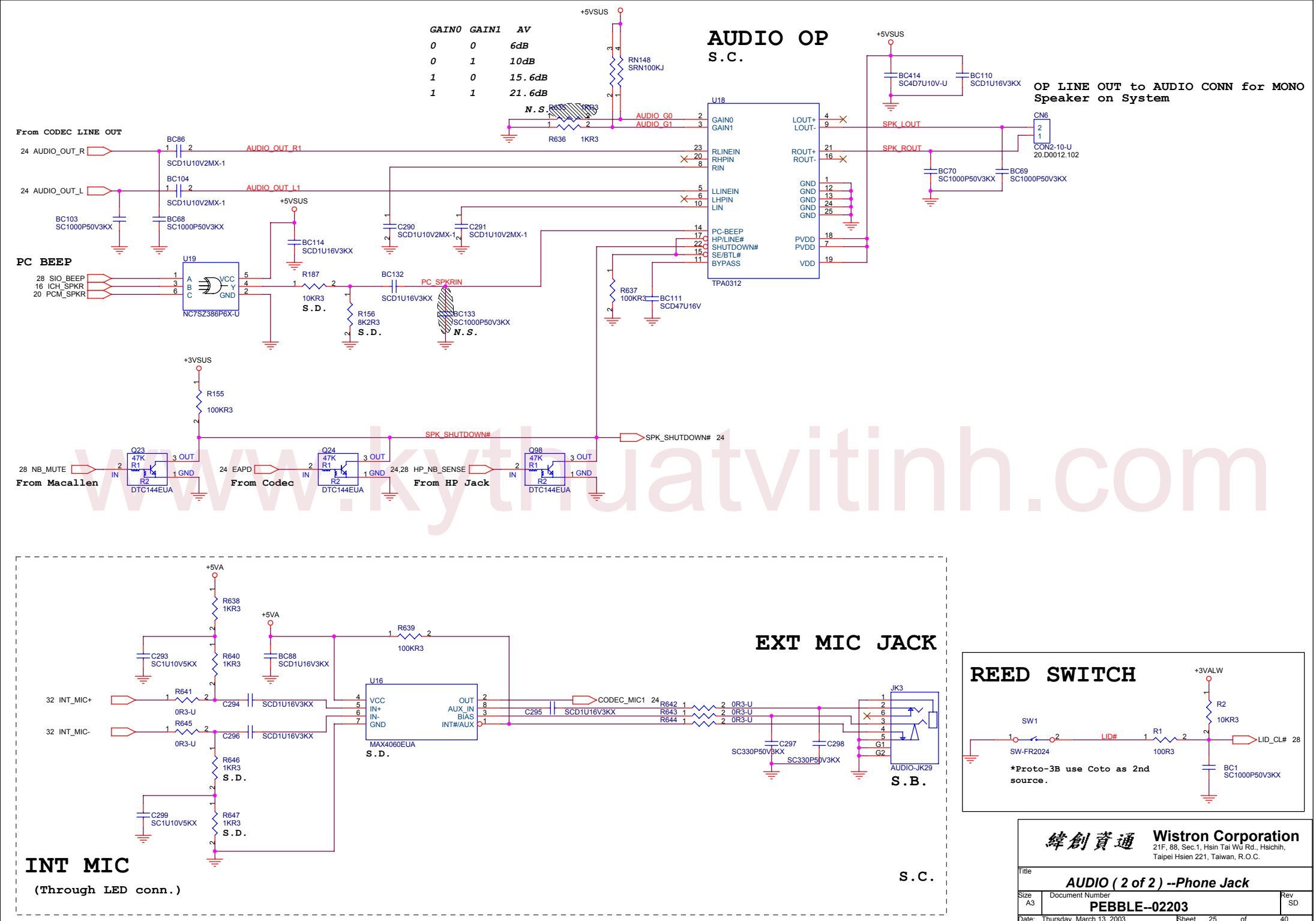

+5VA
AC'97 LINK
DAC Ref Voltage filter CAP
Jack Sense
HEADPHONE JACK
S.C.
AC'97 TERMINATIONS
N.S.
TO Audio OP
*SC=>N.S.
*SD:for EMI
+5VA=4.75V
Vset=1.242V
200mA
STAC9750-CC1-U
TPS793475
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
AUDIO (1 of 2) -- Codec
PEBBLE--02203
Thursday, March 13, 2003



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Title	AUDIO (2 of 2) --Phone Jack
Size A3	Document Number PEBBLE--02203
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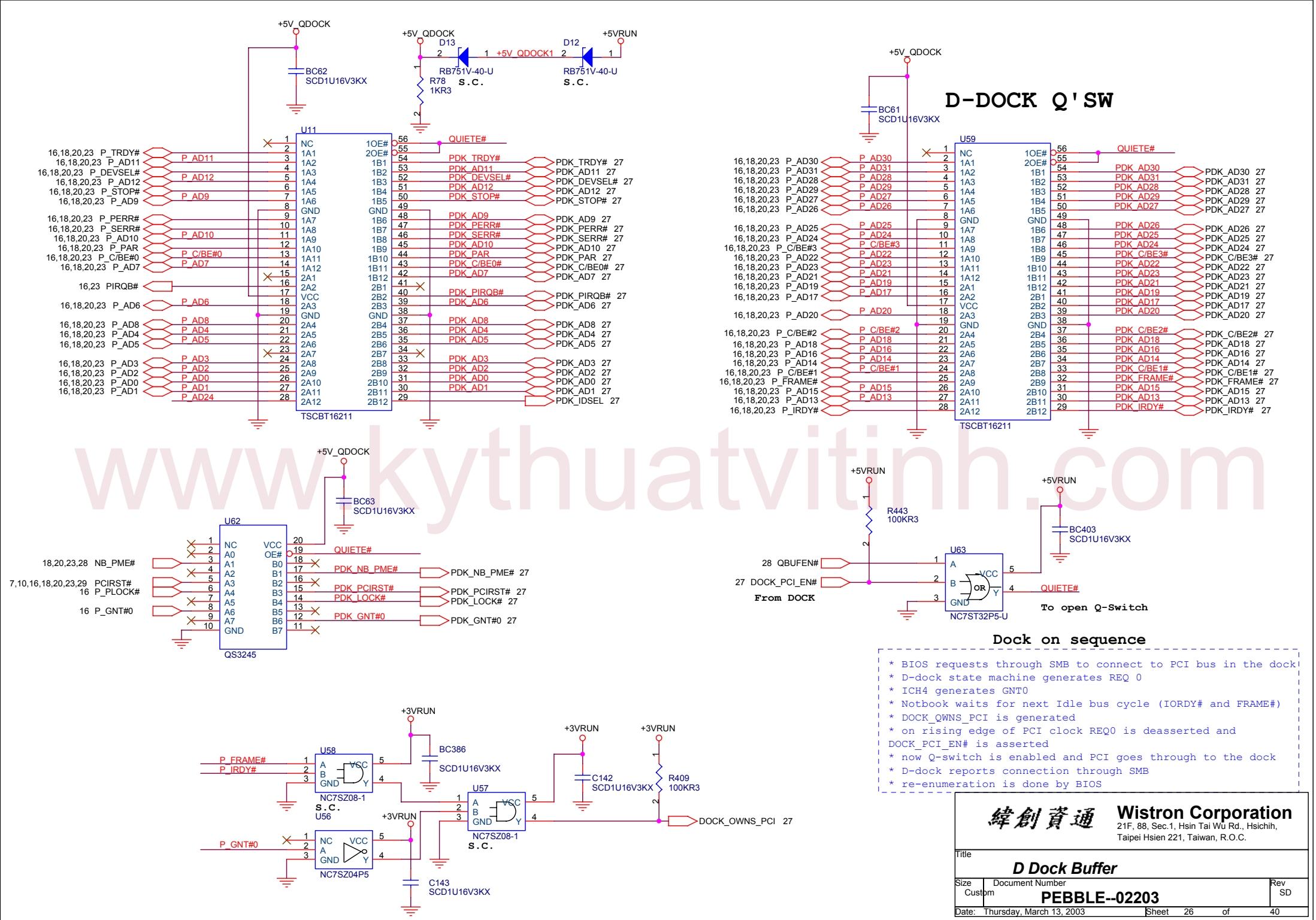
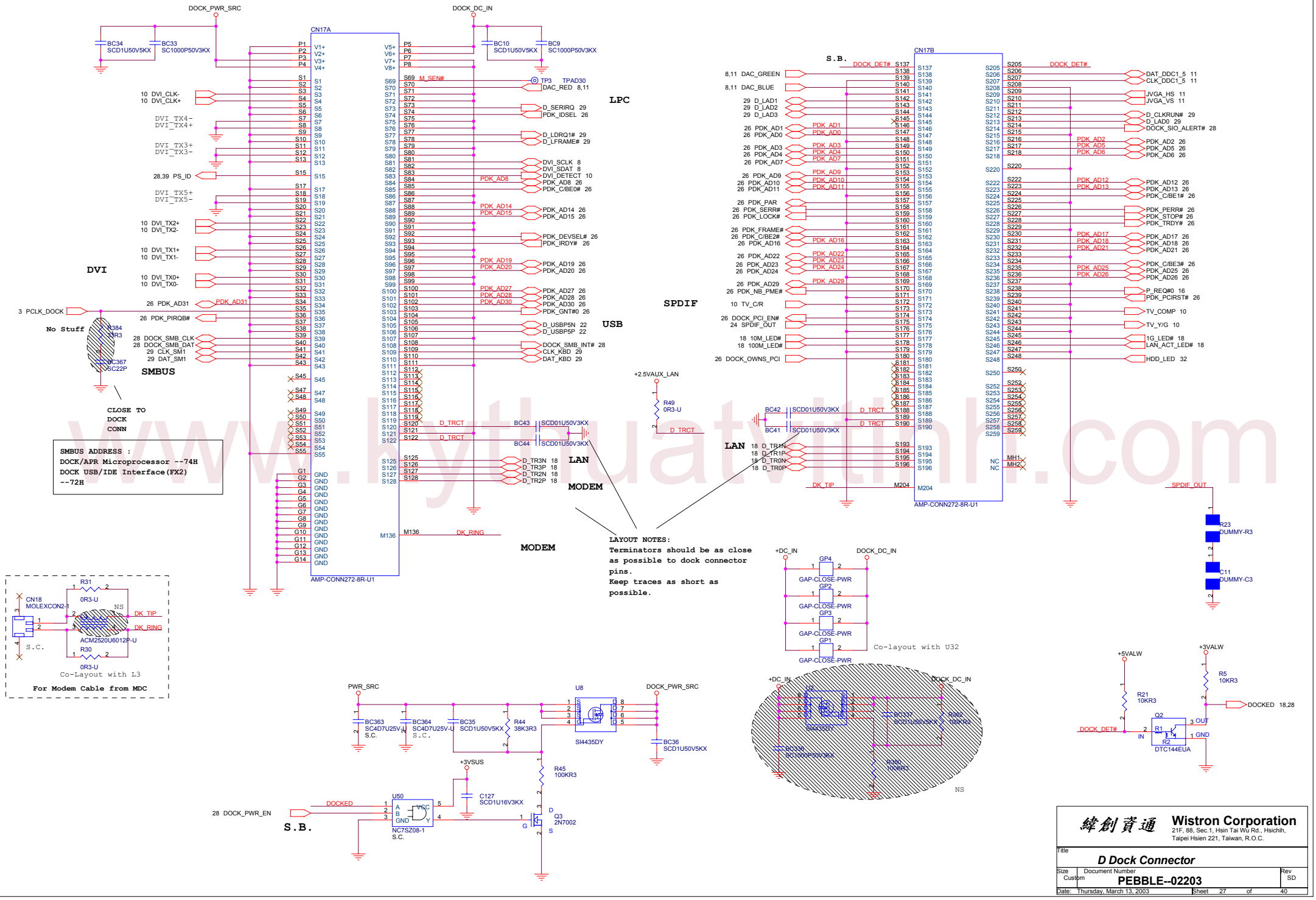
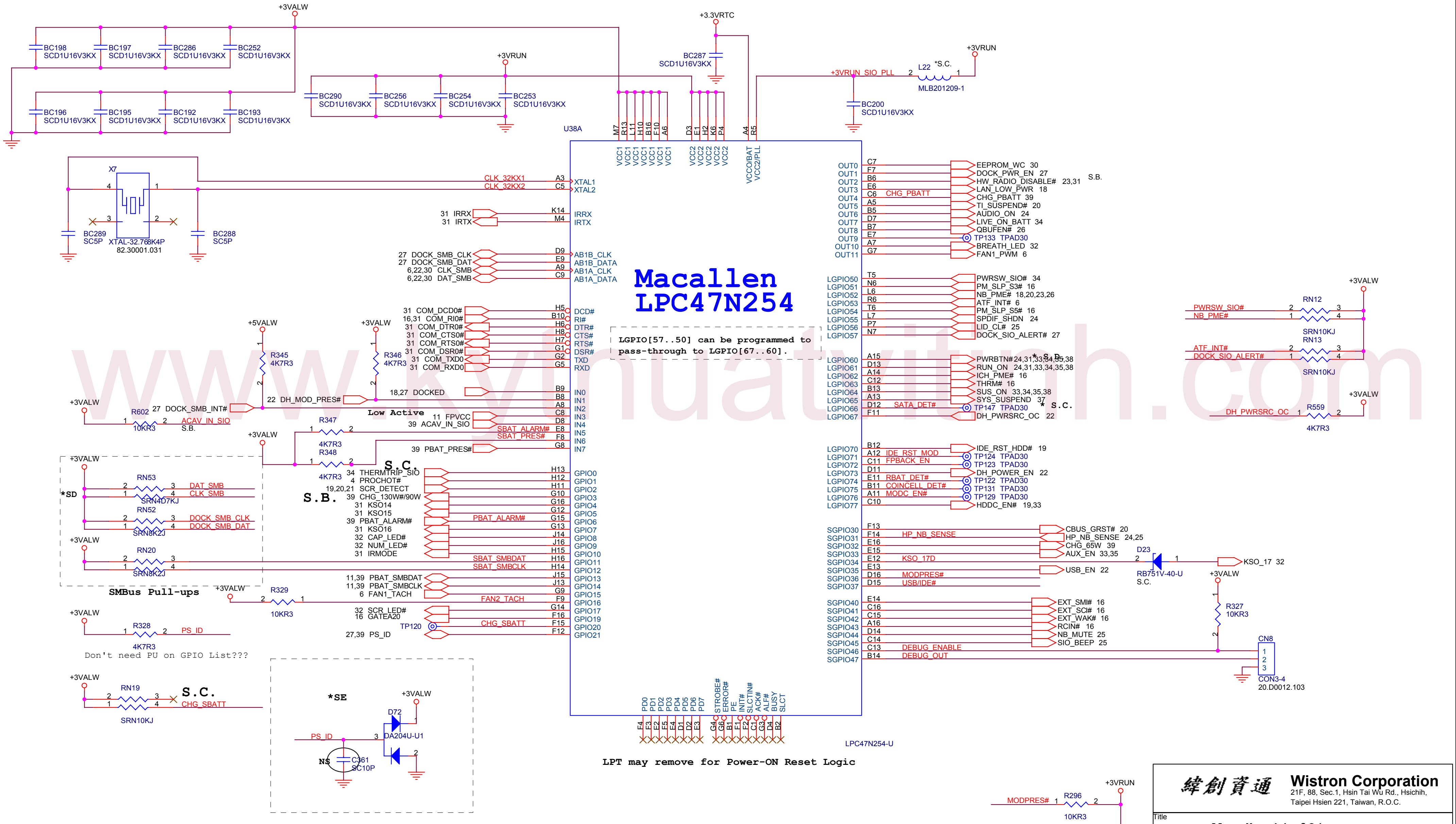
Date:	Thursday, March 13, 2003
Sheet	25 of 40




DOCK_PWR_SRC
DOCK_DC_IN
CN17A
AMP-CONN272-8R-U1
DVI
SMBUS
No Stuff
CLOSE TO DOCK CONN
SMBUS ADDRESS :
DOCK/APR Microprocessor --74H
DOCK USB/IDE Interface(FX2)
--72H
LPC
SPDIF
USB
LAN
MODEM
CN17B
S.B.
LAYOUT NOTES:
Terminators should be as close as possible to dock connector pins.
Keep traces as short as possible.
For Modem Cable from MDC
Co-Layout with L3
Co-layout with U32
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
D Dock Connector
PEBBLE--02203
Thursday, March 13, 2003



緯創資通 **Wistron Corporation**

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

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

Size: Custom | Document Number: **PEBBLE--02203** | Rev: SE

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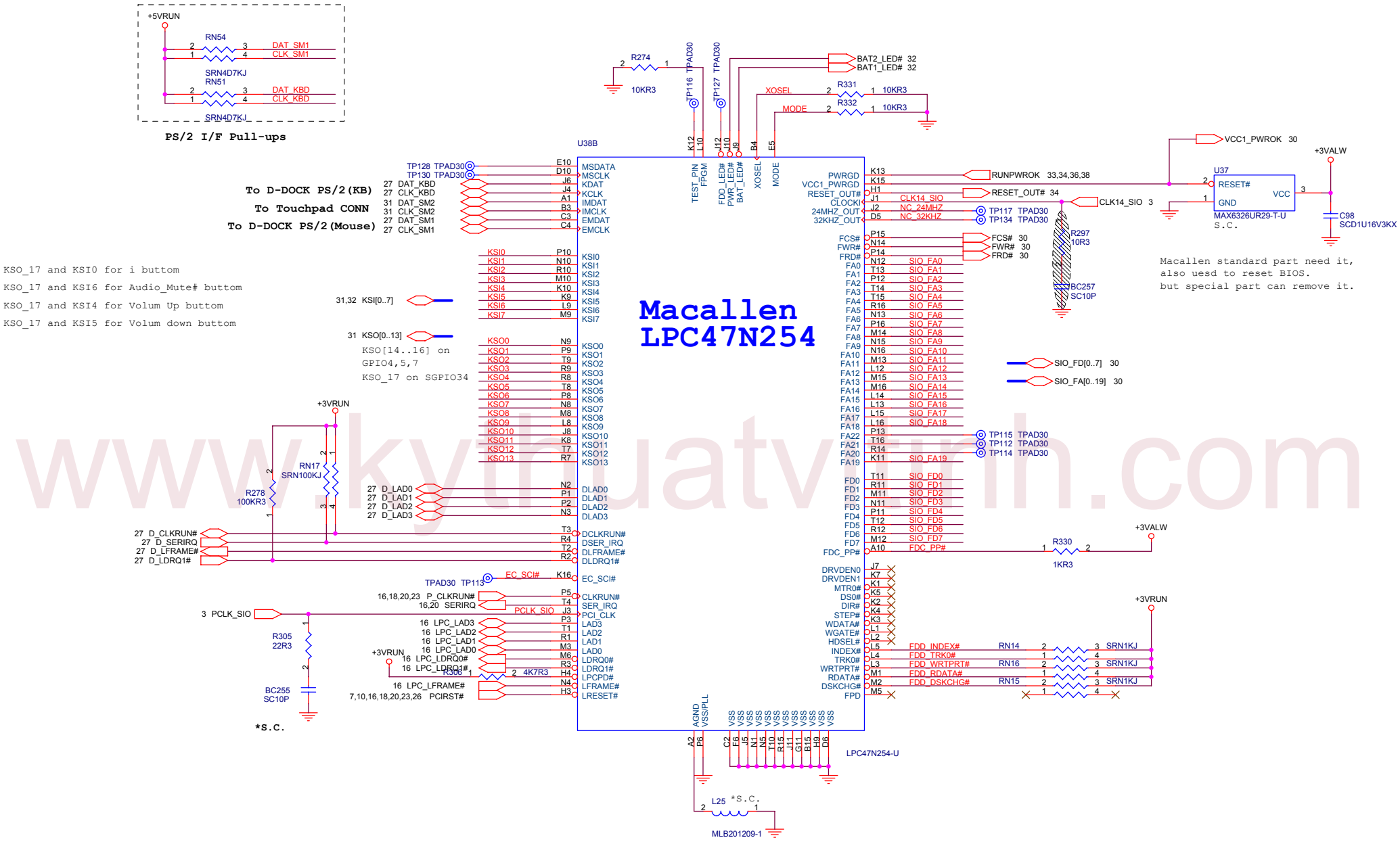
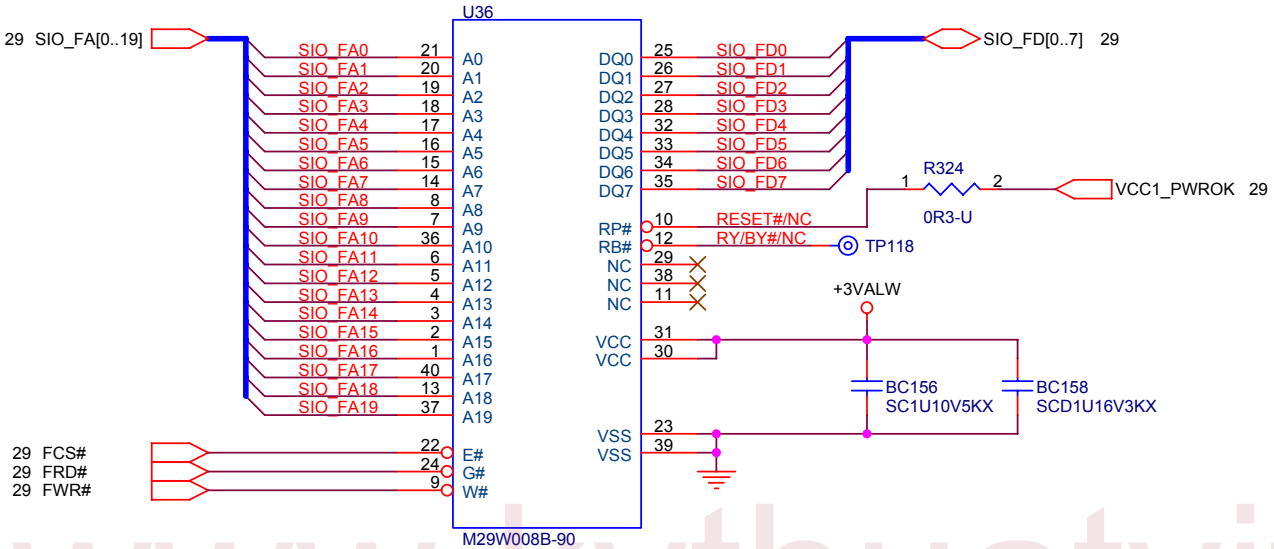


緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***Macallen (2 of 2)***
Size A3	Document Number **PEBBLE--02203** Rev SD
Date: Thursday, March 13, 2003	Sheet 29 of 40

8Mbit(1M Byte),No PLCC type

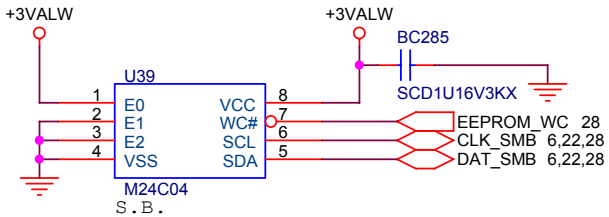


ST: M29W008AB-90 "72.29008.C09"

MXIC: 29LV008BTC-90 "72.29008.B09"

SMBus address A2

User Password



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

Title	BIOS	
Size A4	Document Number PEBBLE--02203	Rev SD
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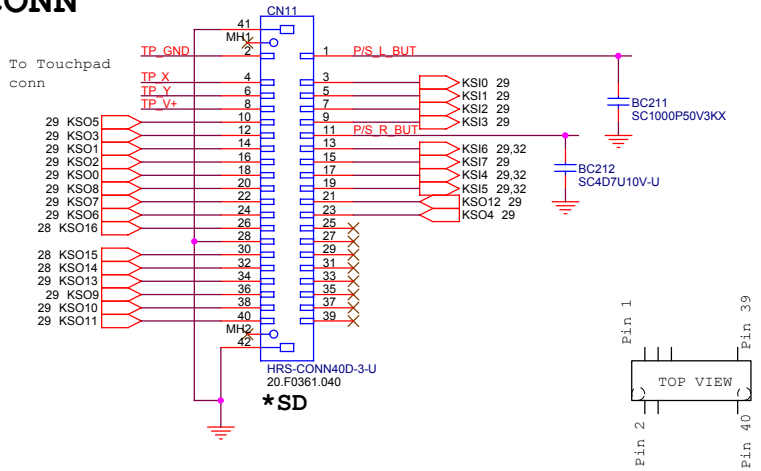
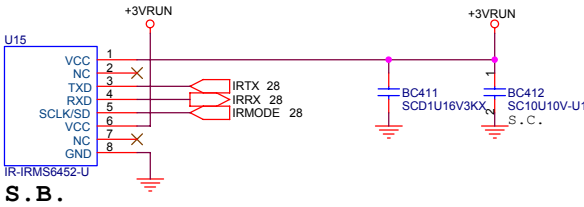
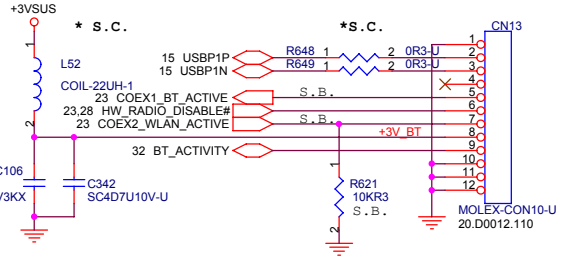
KB CONN



FIR

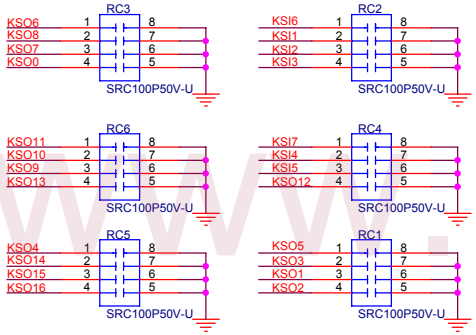


Bluetooth Module conn.

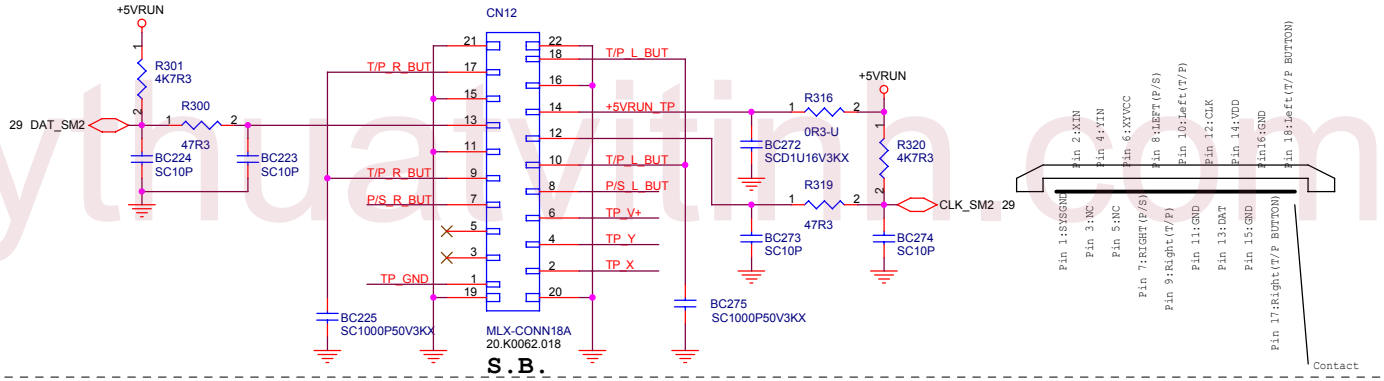


Note:Place R621 near CN13.

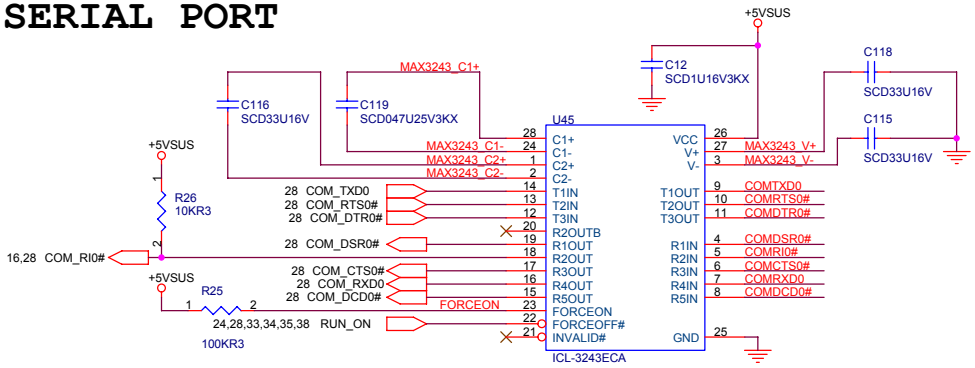
*SD:for EMI

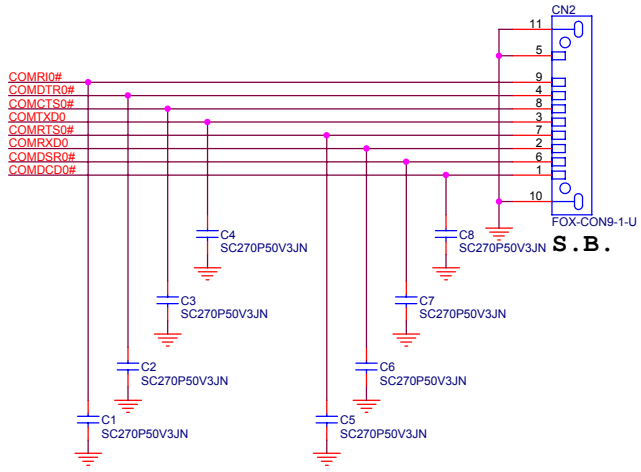


TOUCHPAD CONN



SERIAL PORT

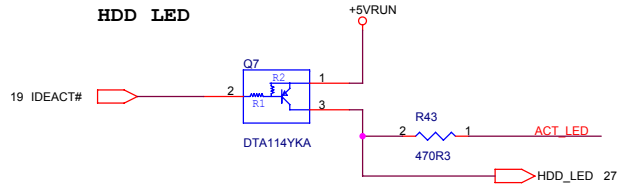




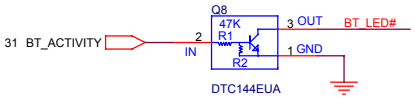
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	*T/P,KB Connector & IrDA*	
Size A3	Document Number **PEBBLE--02203**	Rev SD
Date: Thursday, March 13, 2003	Sheet 31 of 40	

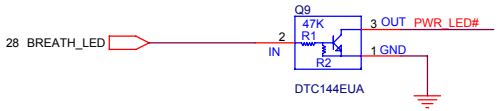
HDD LED



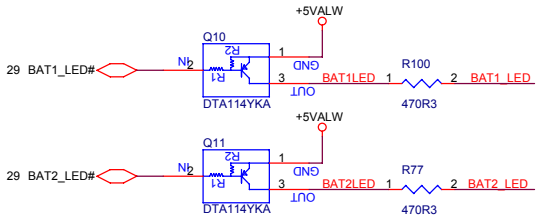
BLUETOOTH LED



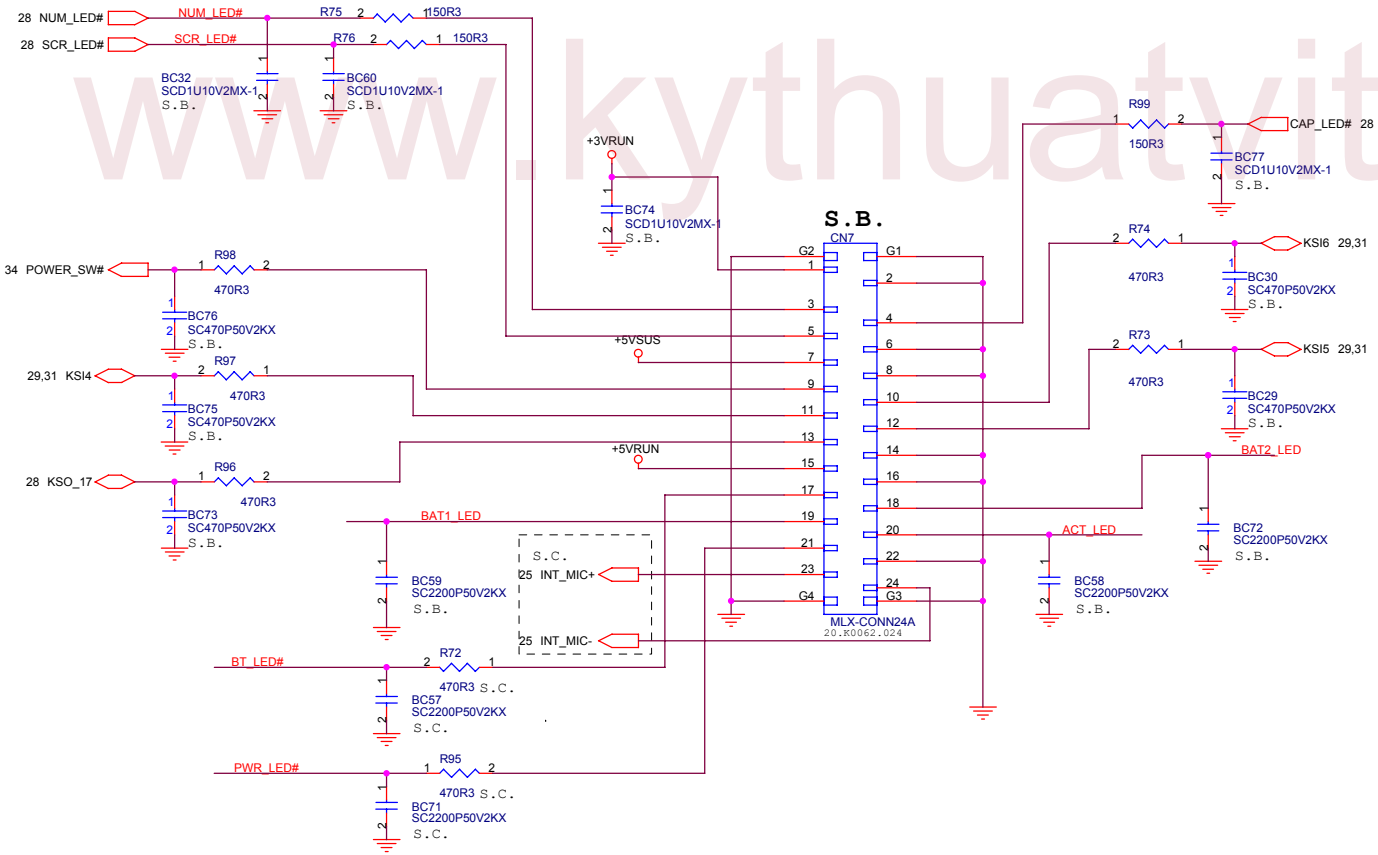
POWER LED

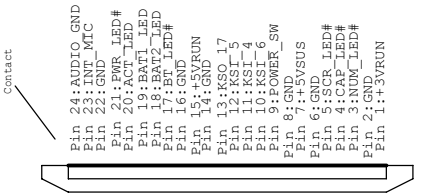


BATTERY LED



LED & BUTTON BD CONN





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

Title: ***LED Button FPC Connector***

Size	Document Number	Rev
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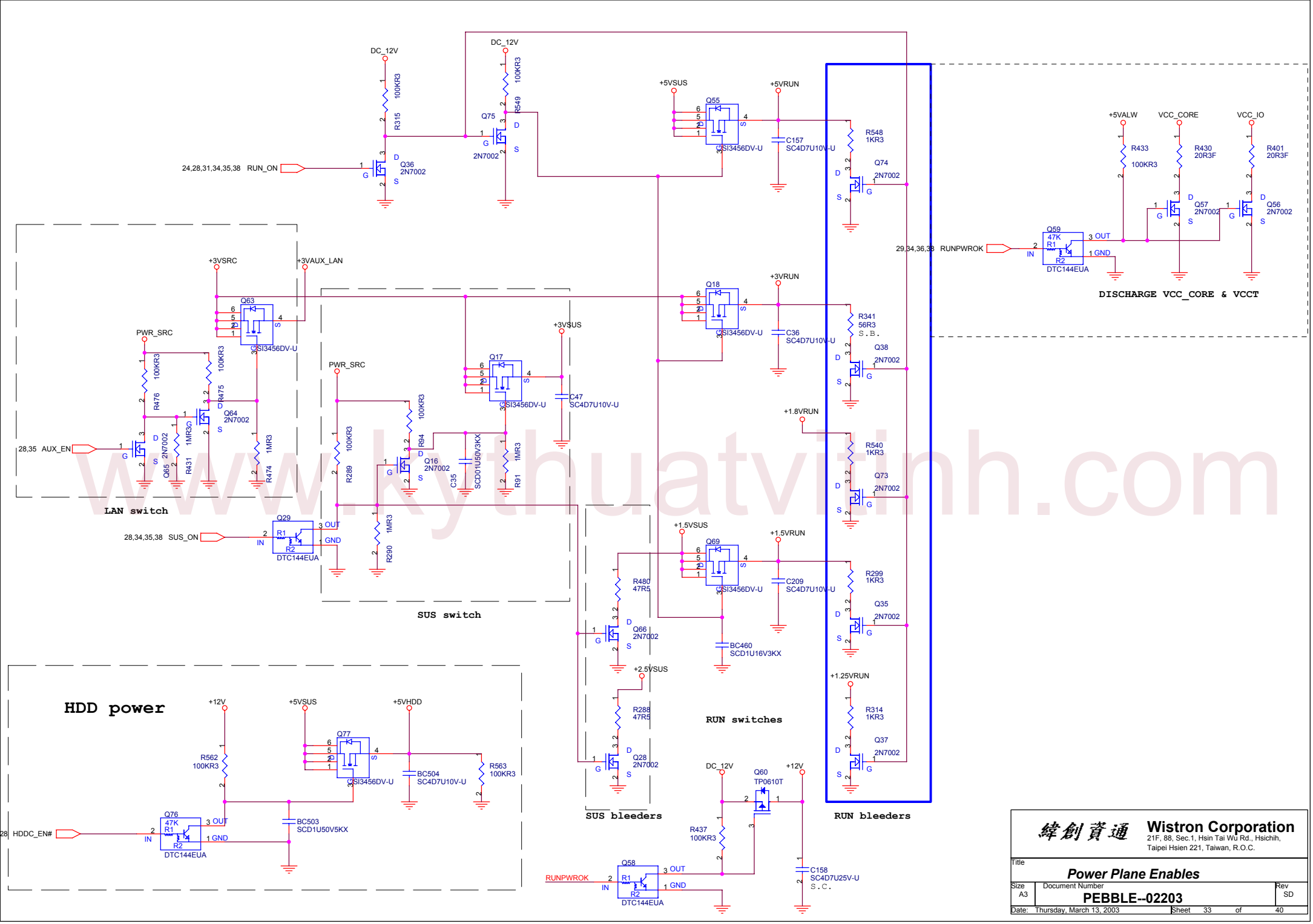
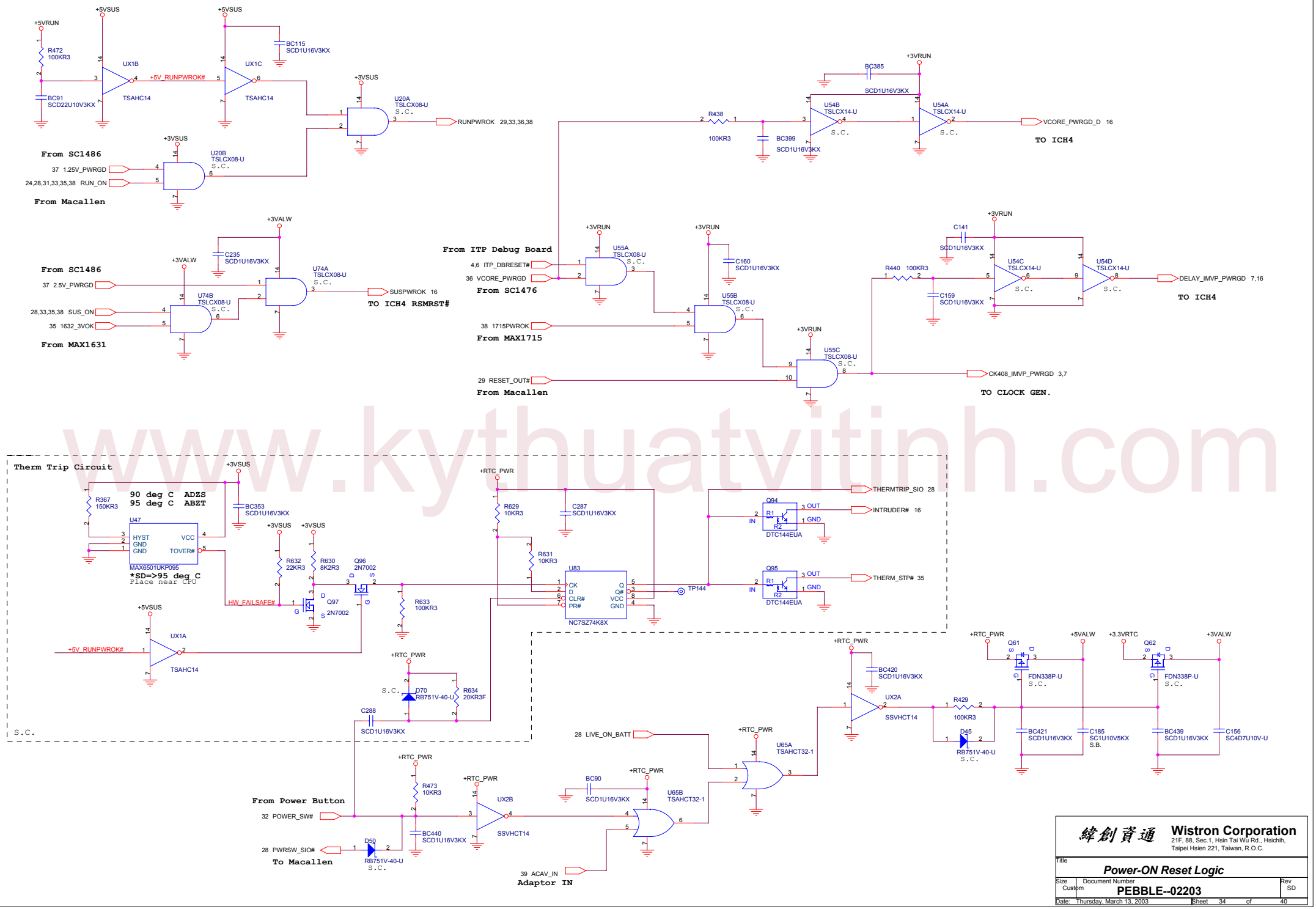


緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

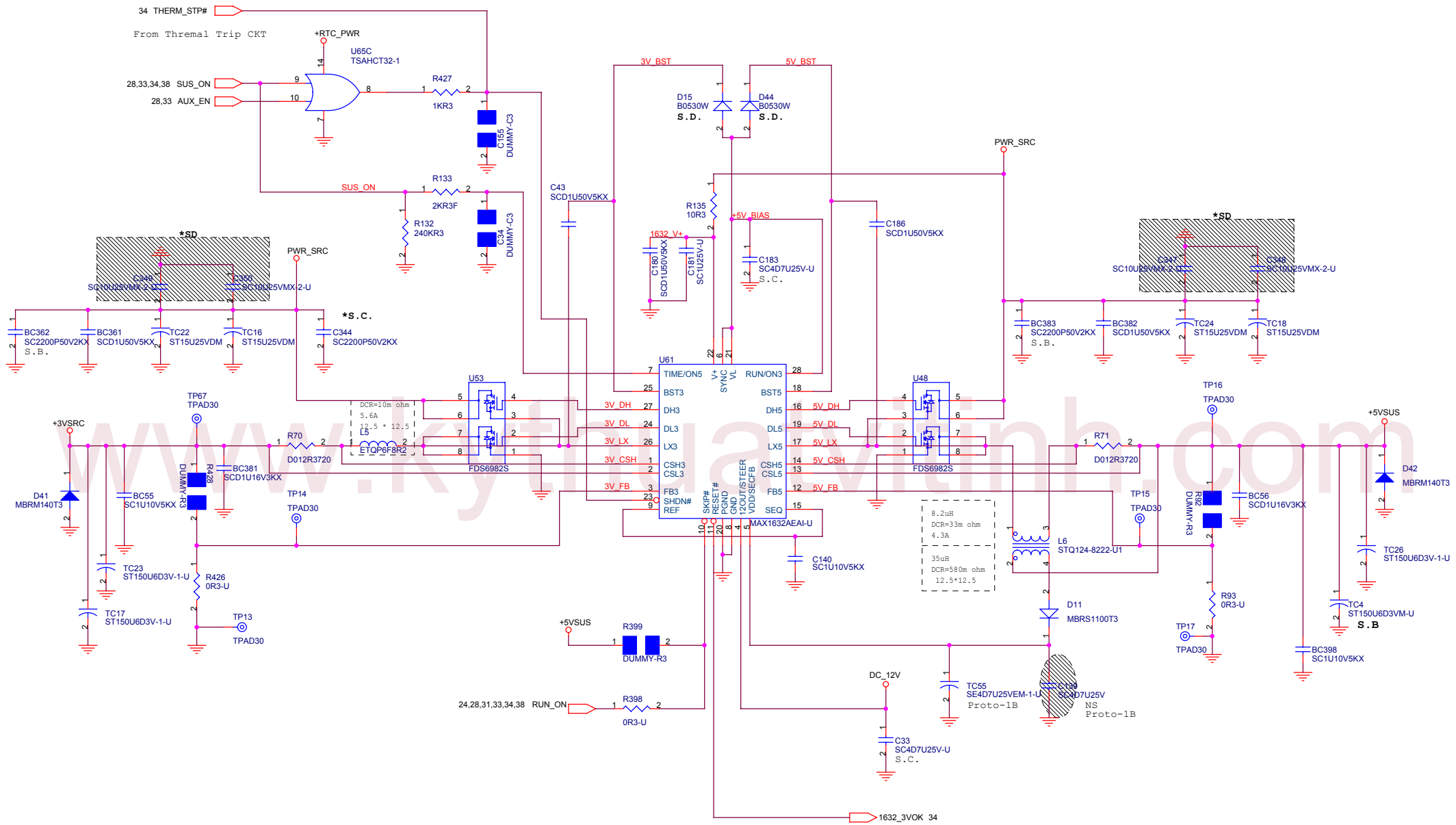
Title: ***Power Plane Enables***

Size	Document Number	Rev
A3	**PEBBLE--02203**	SD

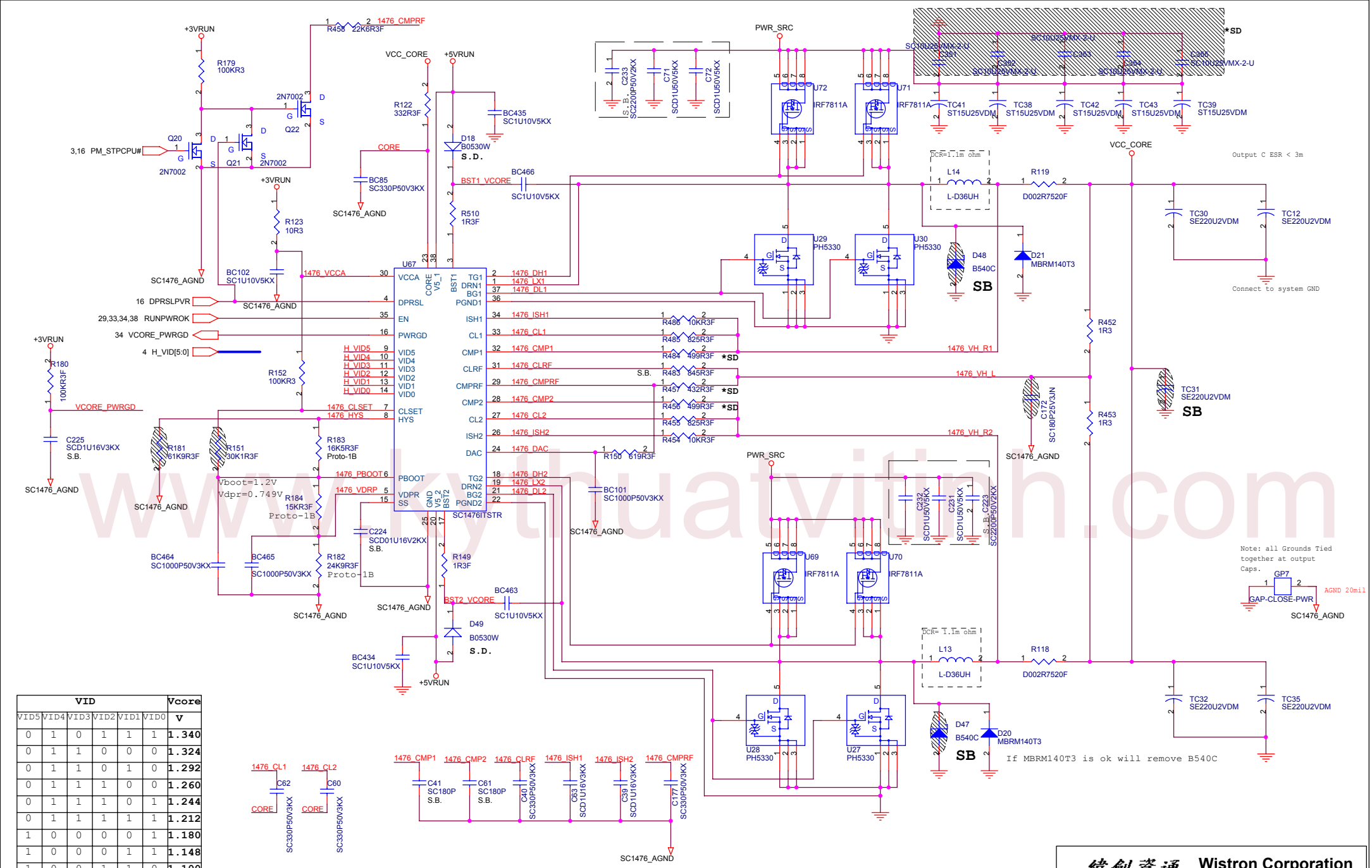
Date: Thursday, March 13, 2003 Sheet 33 of 40



緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***Power-ON Reset Logic***
Size: Custom	Document Number: **PEBBLE--02203** Rev: SD
Date: Thursday, March 13, 2003	Sheet 34 of 40



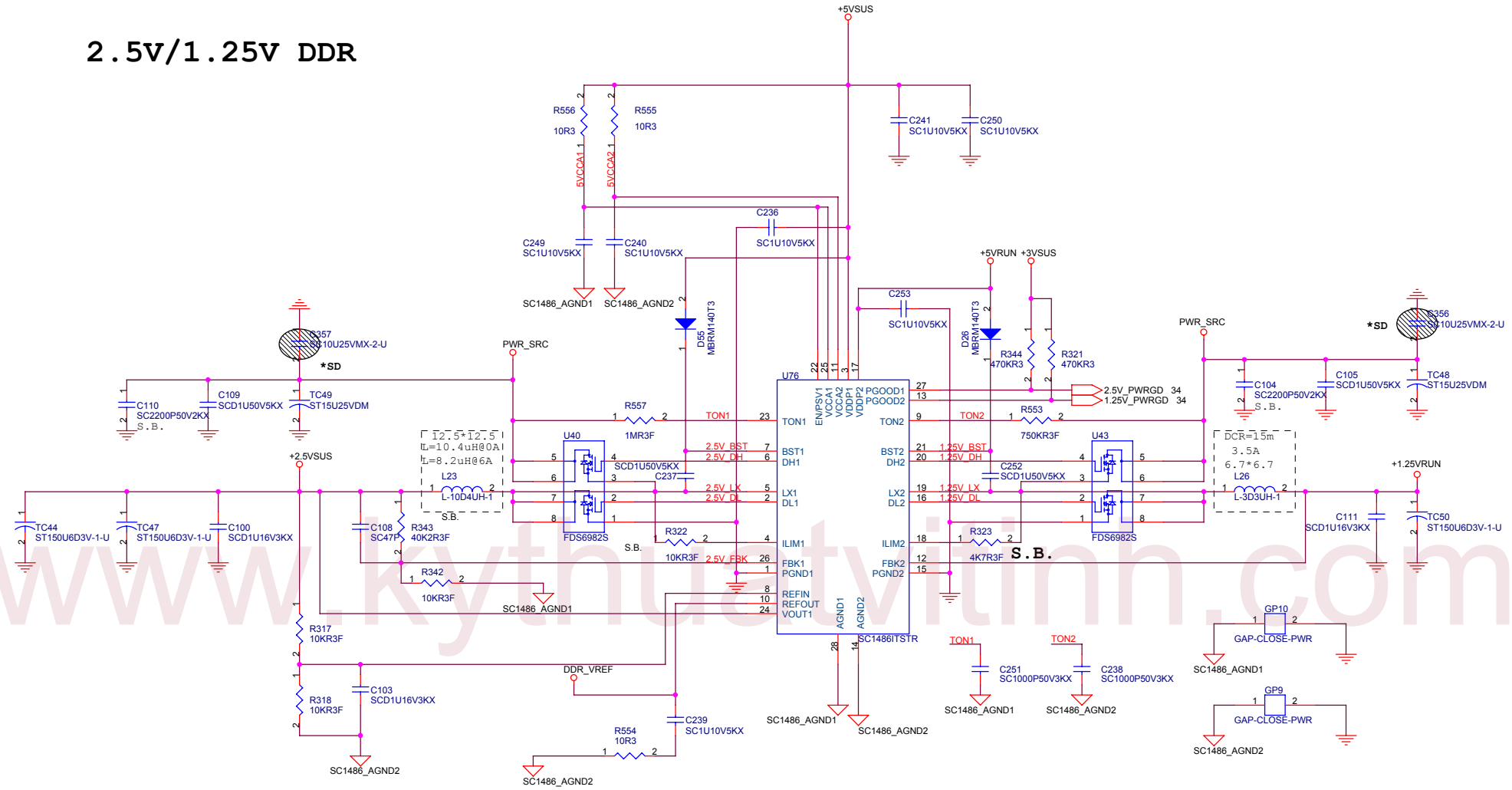
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***DC/DC 3V/5V/12V***
Size A3	Document Number **PEBBLE--02203** Rev SD
Date: Thursday, March 13, 2003	Sheet 35 of 40

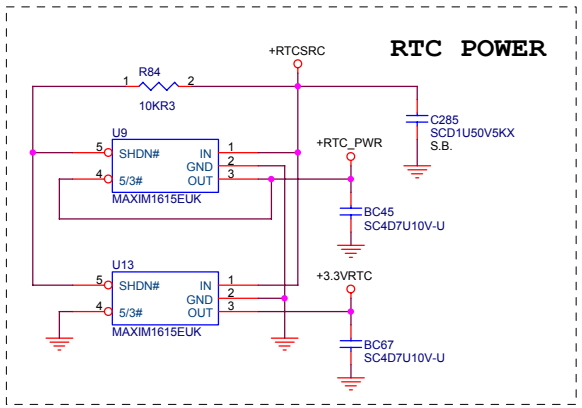


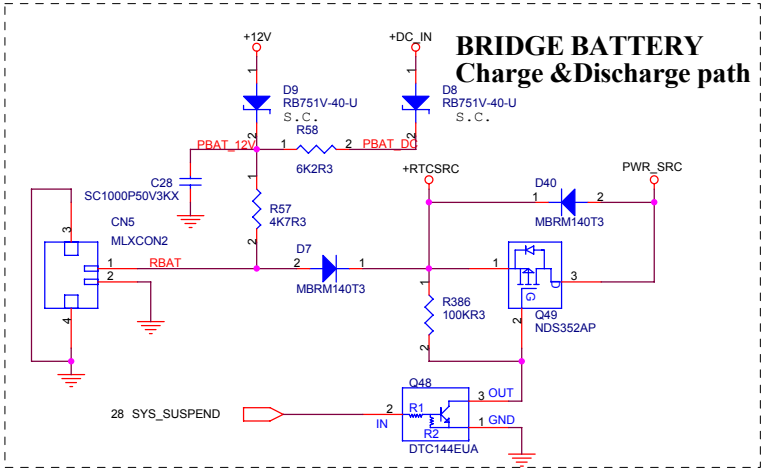
VID						Vcore
VID5	VID4	VID3	VID2	VID1	VID0	V
0	1	0	1	1	1	1.340
0	1	1	0	0	0	1.324
0	1	1	0	1	0	1.292
0	1	1	1	0	0	1.260
0	1	1	1	0	1	1.244
0	1	1	1	1	1	1.212
1	0	0	0	0	1	1.180
1	0	0	0	1	1	1.148
1	0	0	1	1	0	1.100
1	0	1	0	0	1	1.052
1	0	1	0	1	1	1.020
1	0	1	1	1	0	0.972
1	1	0	0	0	0	0.940

緯創資通	**Wistron Corporation**
	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	***CPU_CORE--IMVP4***
Size: A3	Document Number: **PEBBLE--02203**
Rev: SD	
Date: Thursday, March 13, 2003	Sheet 36 of 40

2.5V/1.25V DDR







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

Title: ***DDR 2.5V & 1.25V***

Size	Document Number	Rev
A3	**PEBBLE--02203**	SD

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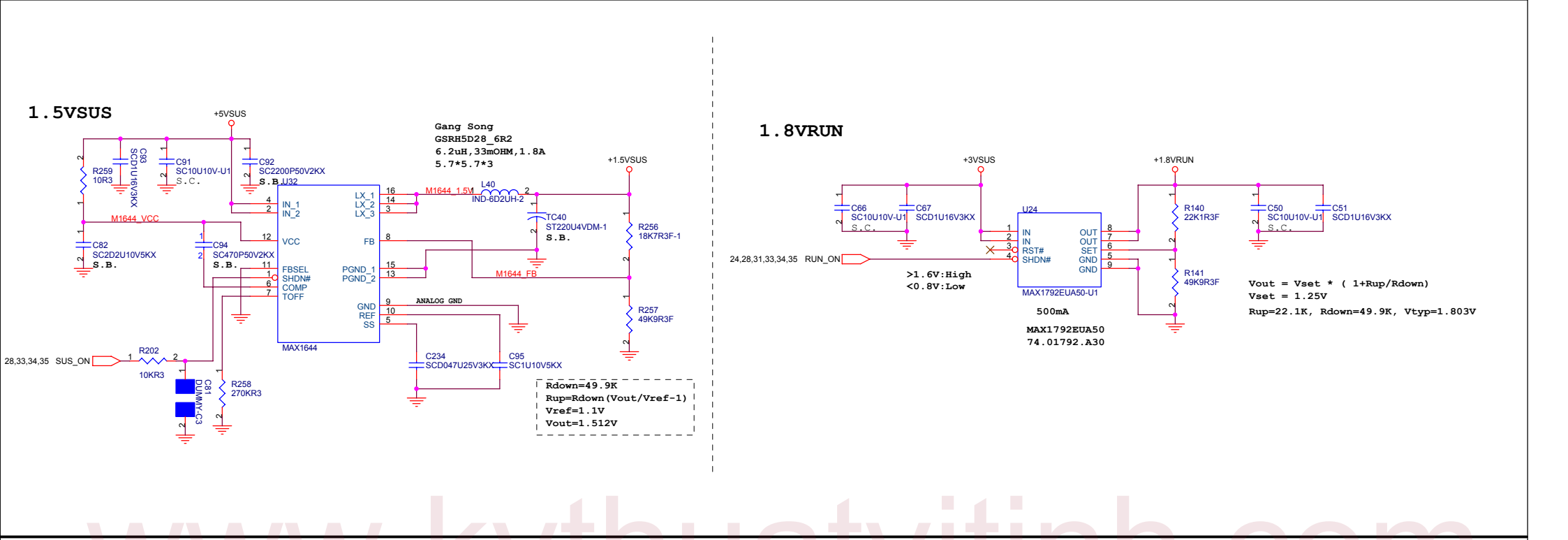

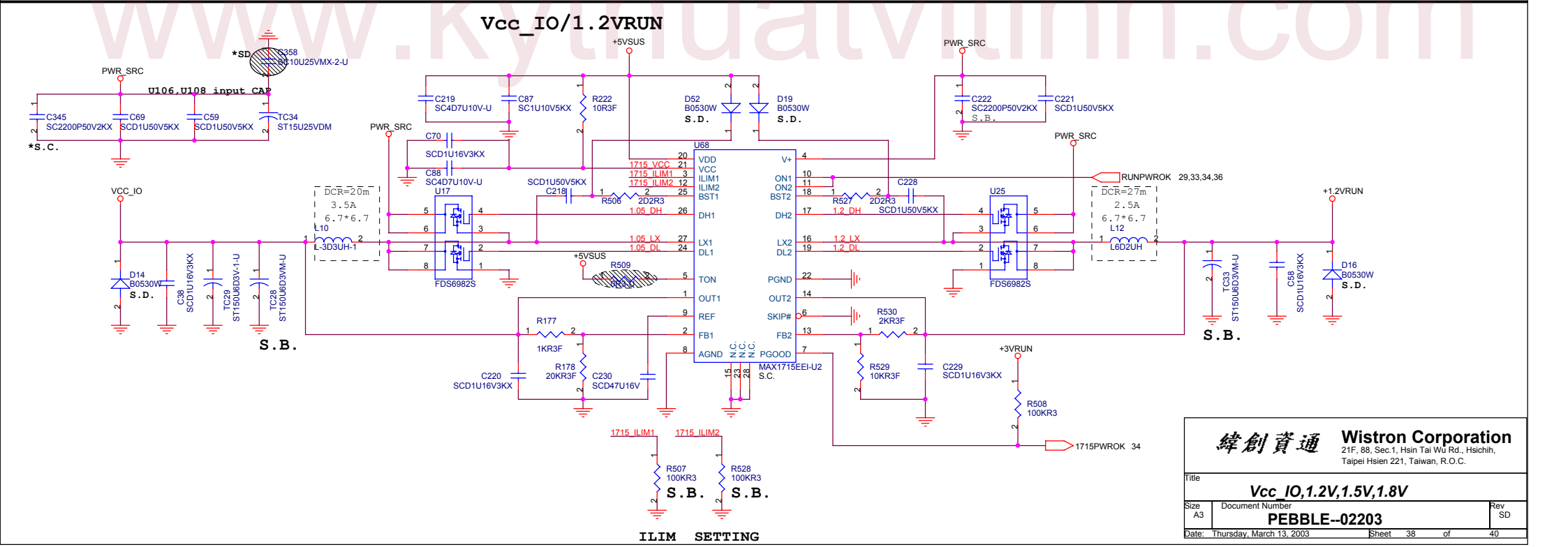

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	*Vcc_IO,1.2V,1.5V,1.8V*	
Size A3	Document Number **PEBBLE--02203**	Rev SD
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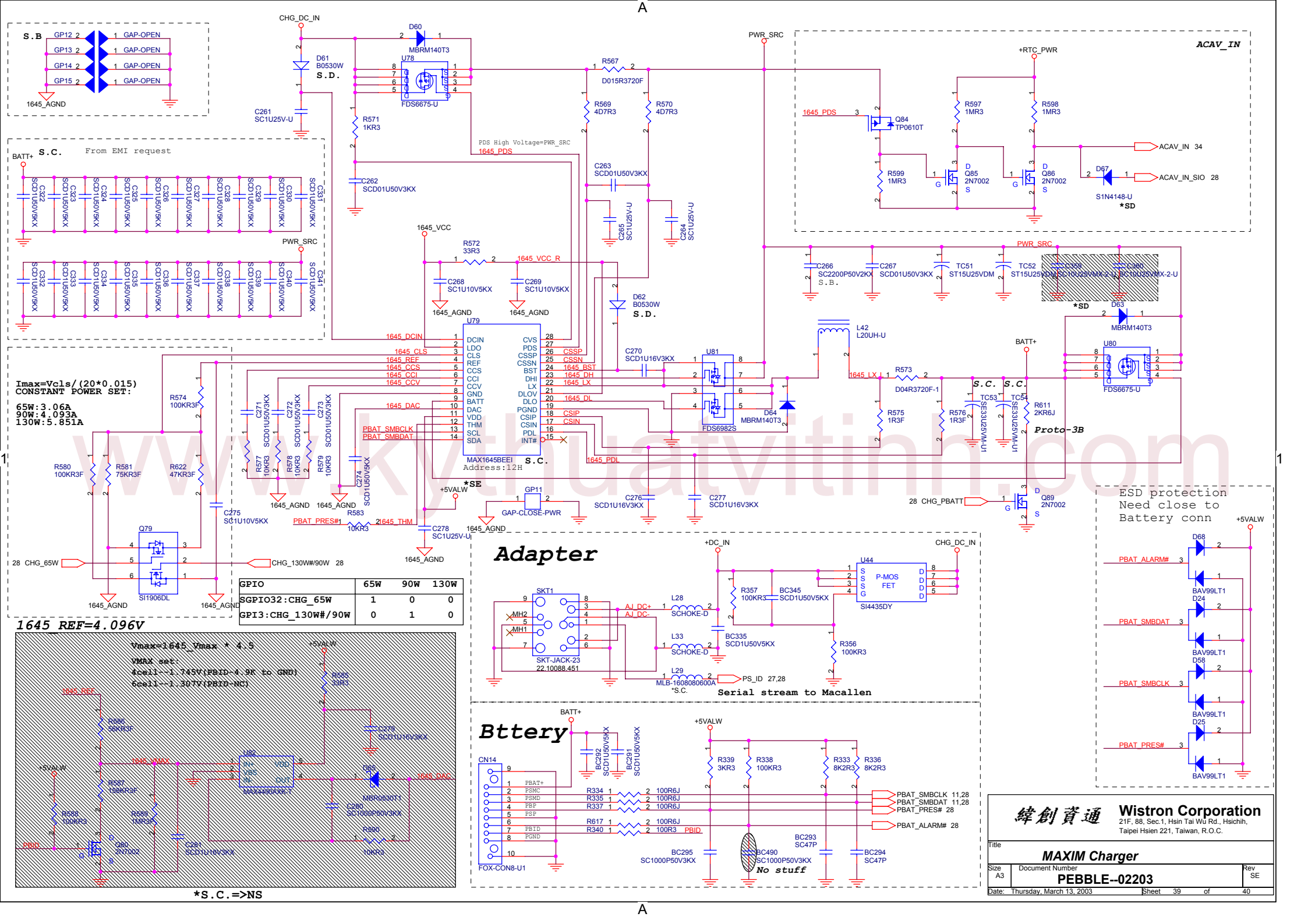
S.B
GP12
GP13
GP14
GP15
GAP-OPEN
1645_AGND
CHG_DC_IN
D60
MBRM140T3
D61
B0530W
S.D.
U78
FDS6675-U
C261
SC1U25V-U
R571
1KR3
R567
D015R3720F
R569
4D7R3
R570
4D7R3
PDS High Voltage=PWR_SRC
1645_PDS
C263
SCD01U50V3KX
C265
SC1U25V-U
C264
SC1U25V-U
C262
SCD01U50V3KX
PWR_SRC
ACAV_IN
+RTC_PWR
1645_PDS
Q84
TP0610T
R597
1MR3
R598
1MR3
R599
1MR3
Q85
2N7002
Q86
2N7002
D67
S1N4148-U
*SD
ACAV_IN 34
ACAV_IN_SIO 28
S.C.
From EMI request
BATT+
C322
C323
C324
C325
C326
C327
C328
C329
C330
C331
C332
C333
C334
C335
C336
C337
C338
C339
C340
C341
SCD1U50V5KX
1645_VCC
R572
33R3
1645_VCC_R
C268
SC1U10V5KX
C269
SC1U10V5KX
1645_AGND
D62
B0530W
S.D.
C266
SC2200P50V2KX
S.B.
C267
SCD01U50V3KX
TC51
ST15U25VDM
TC52
ST15U25VDM
C359
SC10U25VMX-2-U
C360
SC10U25VMX-2-U
*SD
D63
MBRM140T3
U79
MAX1645BEEI
Address:12H
S.C.
1645_DCIN
1645_CLS
1645_REF
1645_CCS
1645_CCI
1645_CCV
1645_DAC
PBAT_SMBCLK
PBAT_SMBDAT
DCIN
LDO
CLS
REF
CCS
CCI
CCV
GND
BATT
DAC
VDD
THM
SCL
SDA
CVS
PDS
CSSP
CSSN
BST
DHI
LX
DLOV
DLO
PGND
CSIP
CSIN
PDL
INT#
CSSP
CSSN
1645_BST
1645_DH
1645_LX
1645_DL
CSIP
CSIN
1645_PDL
C270
SCD1U16V3KX
U81
FDS6982S
L42
L20UH-U
1645_LX_1
R573
D04R3720F-1
R575
1R3F
R576
1R3F
TC53
SE33U25VM-U1
TC54
SE33U25VM-U1
R611
2KR6J
Proto-3B
BATT+
U80
FDS6675-U
D64
MBRM140T3
C271
C272
C273
SCD01U50V3KX
R577
10KR3
R578
10KR3
R579
10KR3
C274
SCD1U50V5KX
R574
100KR3F
R580
100KR3F
R581
75KR3F
R622
47KR3F
C275
SC1U10V5KX
*SE
+5VALW
GP11
GAP-CLOSE-PWR
C276
SCD1U16V3KX
C277
SCD1U16V3KX
28 CHG_PBATT
Q89
2N7002
R583
10KR3
PBAT_PRES#1
1645_THM
C278
SC1U25V-U
Q79
SI1906DL
28 CHG_65W
CHG_130W#/90W 28
Imax=Vcls/(20*0.015)
CONSTANT POWER SET:
65W:3.06A
90W:4.093A
130W:5.851A
1645 REF=4.096V
ESD protection
Need close to
Battery conn
D68
D24
D58
D25
BAV99LT1
PBAT_ALARM#
PBAT_SMBDAT
PBAT_SMBCLK
PBAT_PRES#
Adapter
+DC_IN
CHG_DC_IN
SKT1
SKT-JACK-23
22.10088.451
MH2
MH1
AJ_DC+
AJ_DC-
L28
SCHOKE-D
L33
SCHOKE-D
L29
MLB-1608080600A
*S.C.
R357
100KR3
BC345
SCD1U50V5KX
BC335
SCD1U50V5KX
R356
100KR3
U44
P-MOS
FET
SI4435DY
PS_ID 27,28
Serial stream to Macallen
Bttery
BATT+
CN14
FOX-CON8-U1
PBAT+
PSMC
PSMD
PBP
PSP
PBID
PGND
BC292
SCD1U50V5KX
BC291
SCD1U50V5KX
+5VALW
R339
3KR3
R338
100KR3
R333
8K2R3
R336
8K2R3
R334
R335
R337
R617
R340
100R6J
100R3
PBID
PBAT_SMBCLK 11,28
PBAT_SMBDAT 11,28
PBAT_PRES# 28
PBAT_ALARM# 28
BC295
SC1000P50V3KX
BC490
SC1000P50V3KX
No stuff
BC293
SC47P
BC294
SC47P
Vmax=1645_Vmax * 4.5
VMAX set:
4cell--1.745V(PBID-4.9K to GND)
6cell--4.307V(PBID-NC)
U82
MAX4380AAX+T
R585
33R3
R586
56KR3F
R587
169KF0F
R588
100KR3
R589
1MR3F
R590
10KR3
C279
SCD1U16V3KX
C280
SC1000P50V3KX
C281
SCD1U16V3KX
D65
MBR0530T1
Q80
2N7002
1645_VMAX
1645_VMID
1645_VDAC
PBID
*S.C.=>NS
GPIO
SGPIO32:CHG_65W
GPI3:CHG_130W#/90W
65W
90W
130W
1
0
0
0
1
0
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
MAXIM Charger
Size
A3
Document Number
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Rev
SE
Date: Thursday, March 13, 2003
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Impedance measurement coupon

Trace length >= 4 inches

Trace width / Spacing = 5 / 5 mil-----45 ohm

L1: R510 — R511

L10: R512 — R513

Trace width / Spacing = 4 / 5 mil----55 ohm

L3: R514 — R515

L4: R516 — R517

L7: R518 — R519

L8: R520 — R521

USB Diff. pair Twidth/Tspacing = 4/5 mil-----90 ohm

L8: R522 — R523; R524 — R525

Diff. pair for LVDS, LAN
Twidth/Tspacing = 4/8 mil-----100 ohm

L3: R526 — R527; R528 — R529

L8: R530 — R531; R532 — R533

1394 Diff. pair Twidth/Tspacing = 4/10 mil----110 ohm

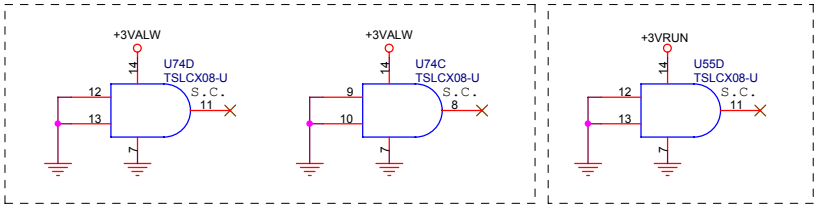
L8: R534 — R535; R536 — R537

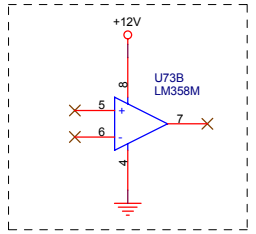
Host CLK signal Trace Twidth/Tspacing = 4/8 mil----100ohm

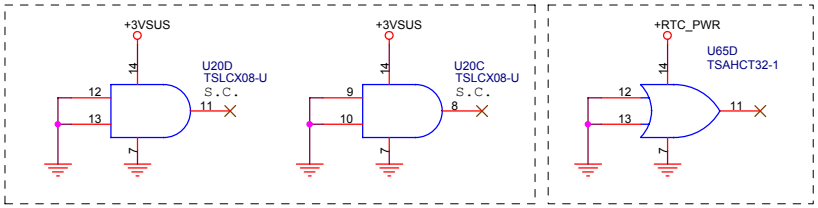
L4: R538 — R539; R540 — R541

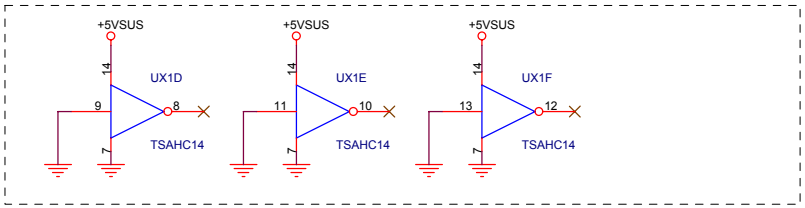
DDR CLK signal Trace Twidth/Tspacing = 7/4 mil----70ohm

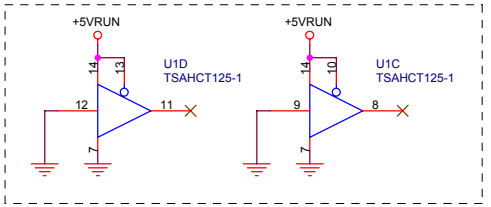
L8: R542 — R543; R544 — R545

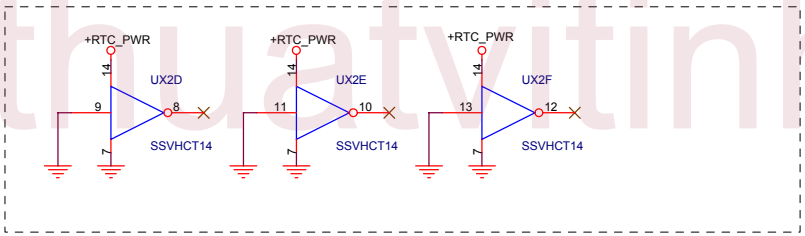


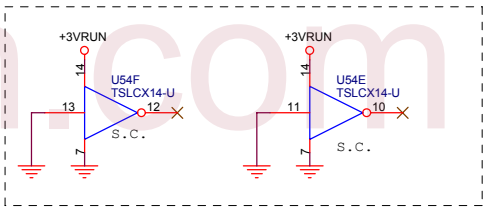


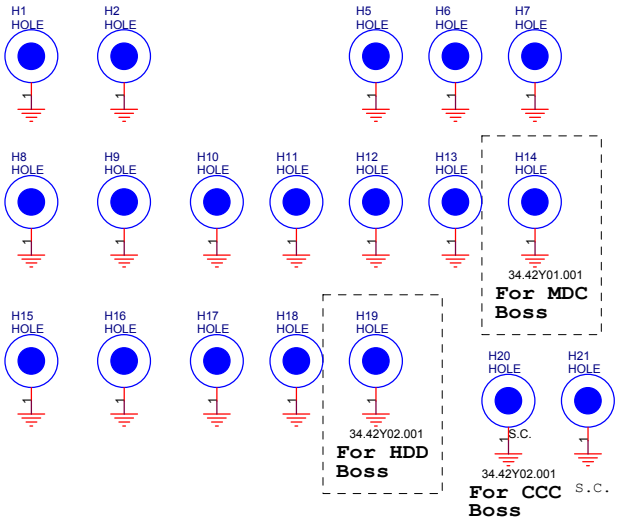


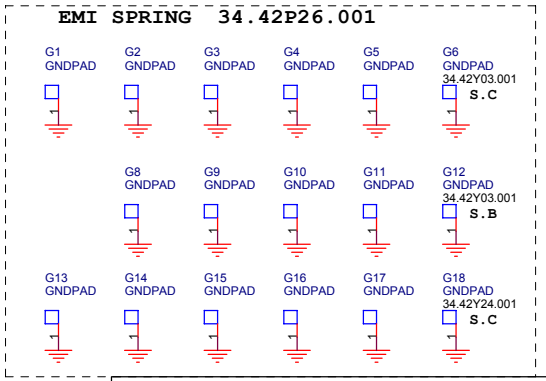












緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: ***Holes & GND PADS***

Size: A3 | Document Number: **PEBBLE--02203** | Rev: SD

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