

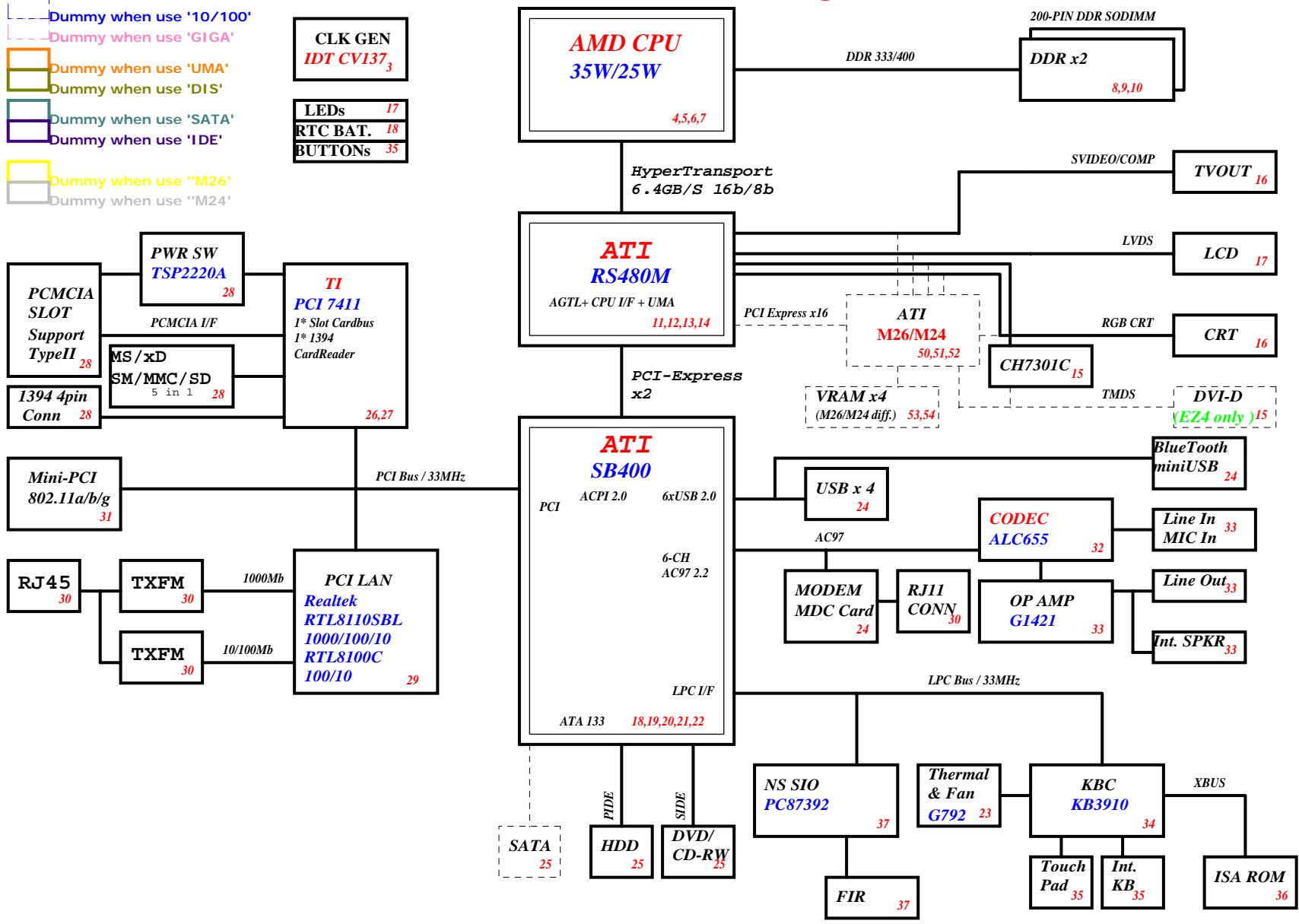
See 'TEXT' in 0MEMO or 1MEMO property in component

Bolsena Block Diagram

91.4C501.001 (04243)

- Dummy when 'USE EZ4'
- Dummy when 'NO EZ4'
- Dummy when use '10/100'
- Dummy when use 'GIGA'
- Dummy when use 'UMA'
- Dummy when use 'DIS'
- Dummy when use 'SATA'
- Dummy when use 'IDE'
- Dummy when use 'M26'
- Dummy when use 'M24'

CLK GEN <i>IDT CV137</i> ₃
LEDs <i>17</i>
RTC BAT. <i>18</i>
BUTTONs <i>35</i>



Power Block Diag -> Page 40

Port Replicator 4 (124 PIN)												
AC IN	RJ45-11	SEARIAL PORT	CRT	PRINTER	PS2	MIC	LINE IN	LINE OUT	TV OUT	DVI	PCIeX2	SMBUS

-<Variant Name>

緯創資通 Wistron Corporation	
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
BLOCK DIAGRAM	
Title	Rev
Size A3	Document Number
Bolsena	
Date: Tuesday, April 12, 2005	Sheet 1 of 58

PCI Routing

	IDSEL	IRQ	REQ/GNT
MiniPCI	21	F	0
LAN	23	H	2
7411	22	E (CardBus)	1
7411	22	G (1394)	1
7411	22	E (FlashMedia)	1

Ref. function schematic BOM

U81 cpu socket 62.10055.091 (DON'T CHANGE) (3mm high)
 U80 north bridge 71.RS48M.00U 71.RS48M.B0U (ver A22)
 U43 south bridge 71.SB400.B0U 71.SB400.D0U (ver A32)
 U32 clock gen. 71.00137.A0W 71.00137.B0W

 U70 VGA M24 71.0M26P.00U 71.00M24.C0U
 U64 VRAM FOR M24 72.55732.B0U 72.52832.E05
 U65 VRAM FOR M24 72.55732.B0U 72.52832.E05
 U69 VRAM FOR M24 72.55732.B0U 72.52832.E05
 U71 VRAM FOR M24 72.55732.B0U 72.52832.E05

 U70 VGA M26 71.0M26P.00U (DON'T CHANGE)
 U64 VRAM FOR M26 72.55732.B0U (DON'T CHANGE)
 U65 VRAM FOR M26 72.55732.B0U (DON'T CHANGE)
 U69 VRAM FOR M26 72.55732.B0U (DON'T CHANGE)
 U71 VRAM FOR M26 72.55732.B0U (DON'T CHANGE)

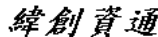
 U66 BIOS SOCKET 72.39040.G03 62.10002.032 (NO NEED WHEN PD)
 U66 BIOS IC 72.39040.G03 72.39040.H03 (DIP STAGE IN LAB, SMT IN PD)

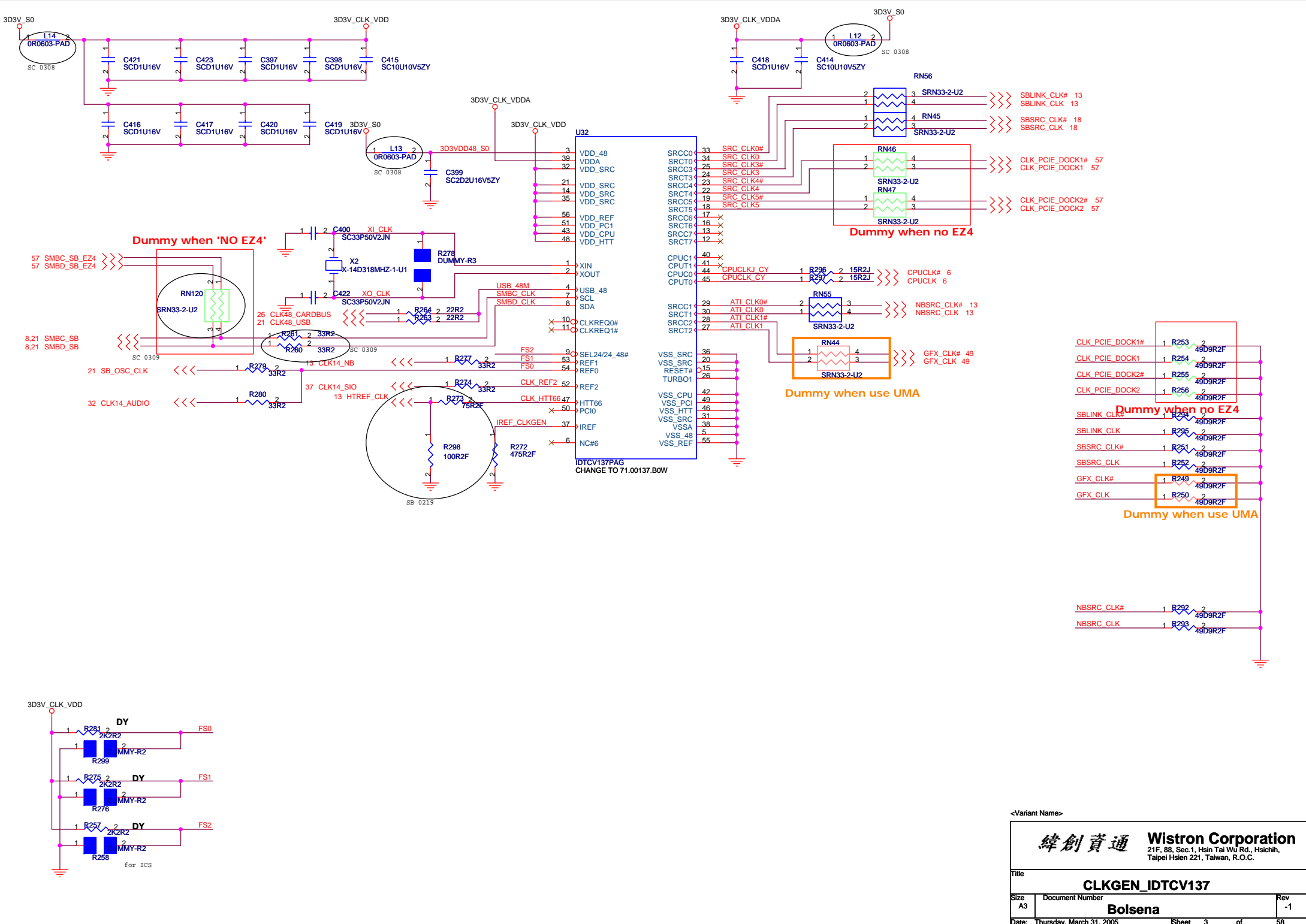
 LOUT1 AUDIO 22.10257.001 22.10147.031 (NO SPDIF)

 U75 GIGA LAN 71.08110.00G 71.08110.A0G
 U75 10/100 LAN 71.08110.00G 71.08100.C0G

 HDD1 20.80175.044 20.80592.044
 SATA1 20.F0614.022 20.F0665.022
 EZ4 20.80579.120 20.80591.120 (AFTER SB)

<Variant Name>

 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title CHANGE HISTORY	
Size A3	Document Number Bolsena
Date: Thursday, March 31, 2005	Sheet 2 of 58



<Variant Name>

緯創資通 Wistron Corporation
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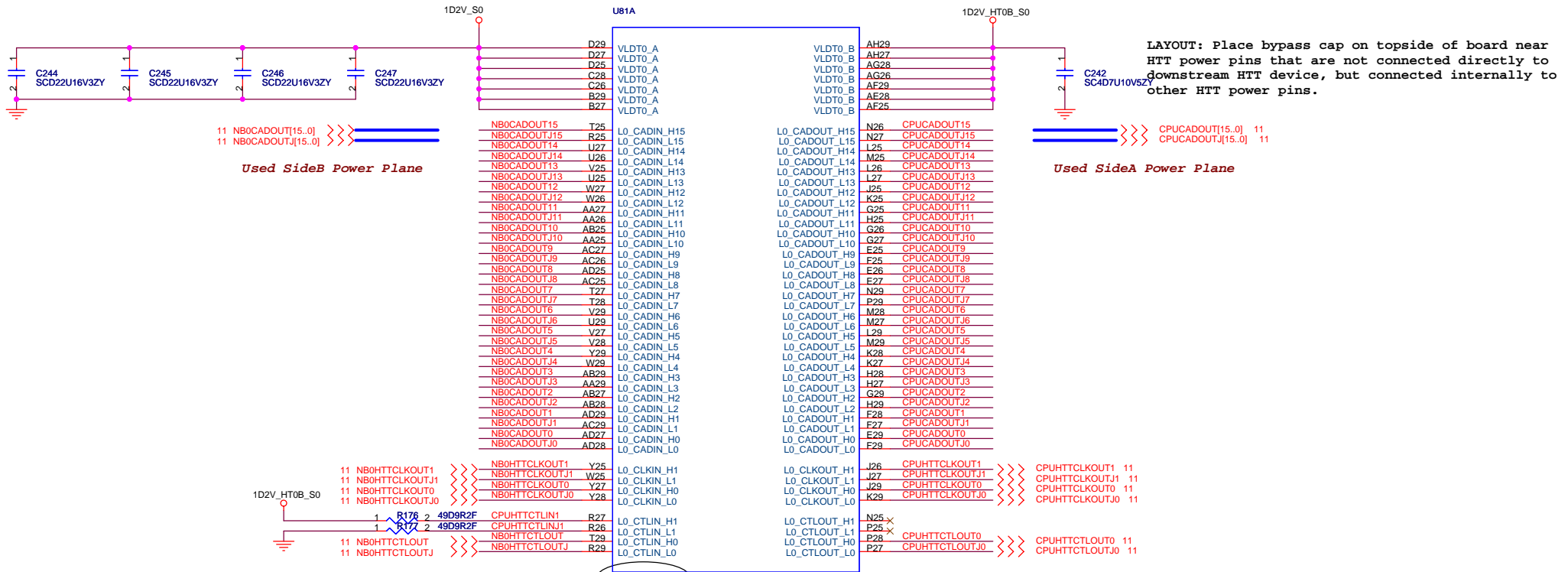
Title: **CLKGEN_IDTCV137**

Size: A3	Document Number: Bolsena	Rev: -1
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Date: Thursday, March 31, 2005 Sheet 3 of 58

HTT for CPU sideA
 Transmit power
 and NB sideA Receive
 power

HTT for CPU sideB
 Receive power
 and NB sideA
 Transmit power



62-10055.091
 SB 0127

ME : 60.10055.091
 (3MM HEIGHT)

<Variant Name>

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

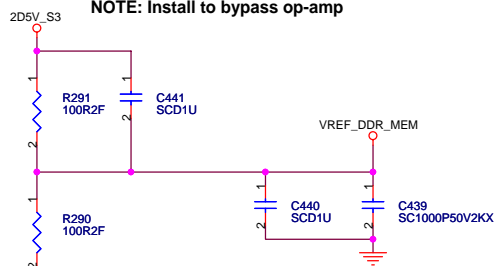
Title: **CPU(1/4) HyperTransport I/F**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet: 4 of 58

VREF_DDR_MEM

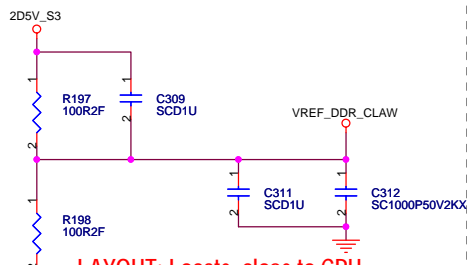
NOTE: Test with passive probes only.
NOTE: Install to bypass op-amp



LAYOUT: Locate close to DIMMs.

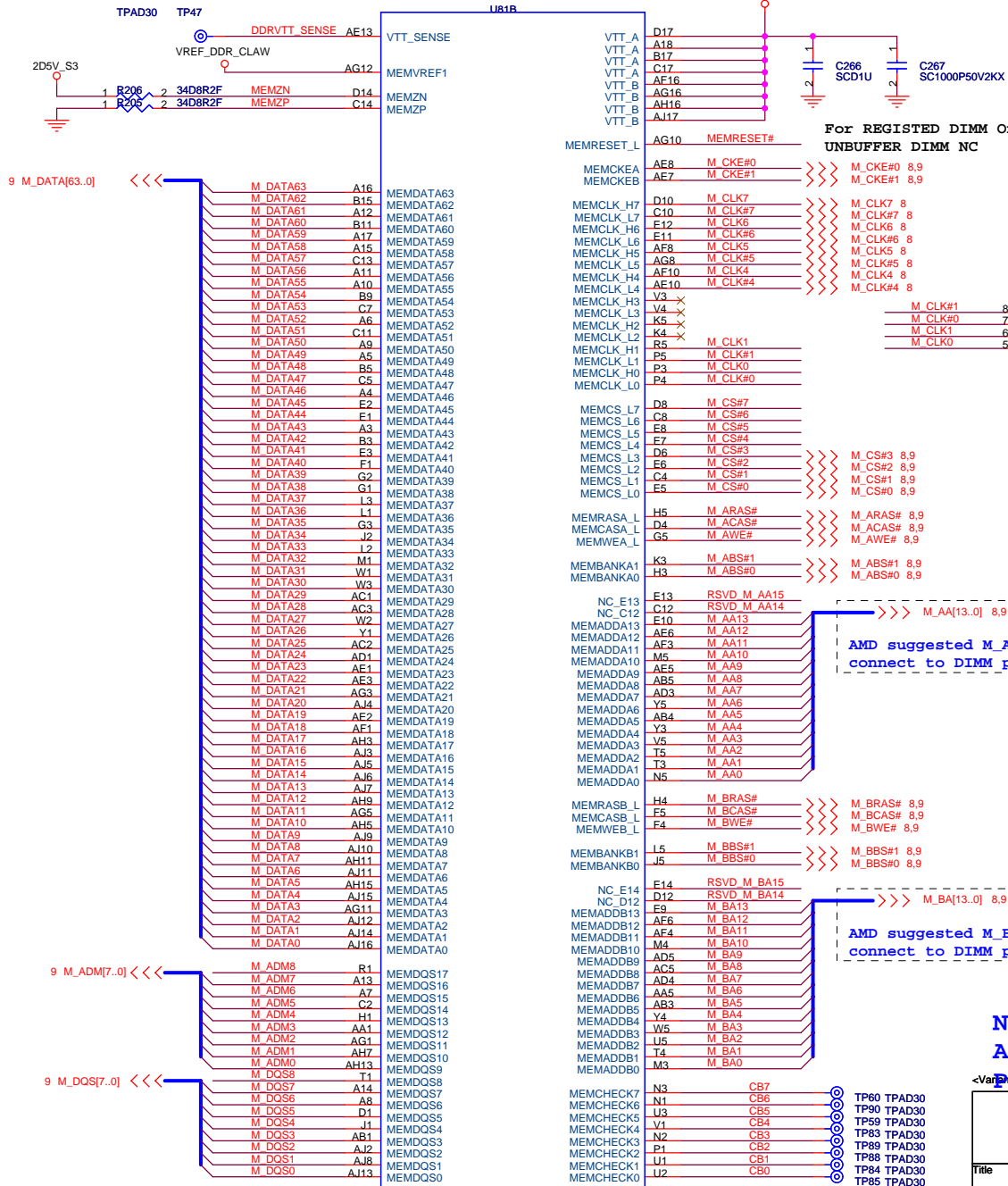
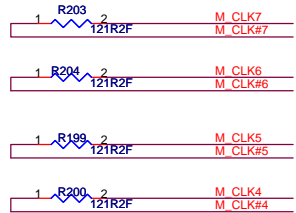
NOTE: Remove to bypass op-amp

VREF_DDR_CLAW



LAYOUT: Locate close to CPU.

Place it near CPU

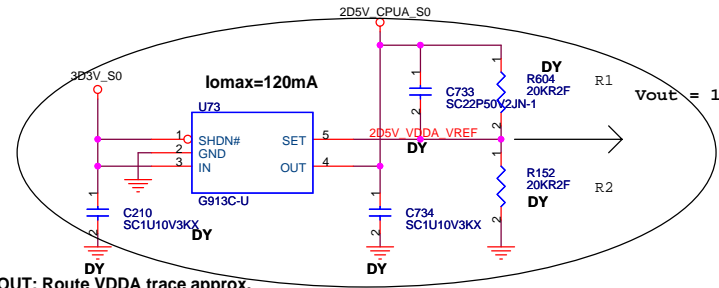
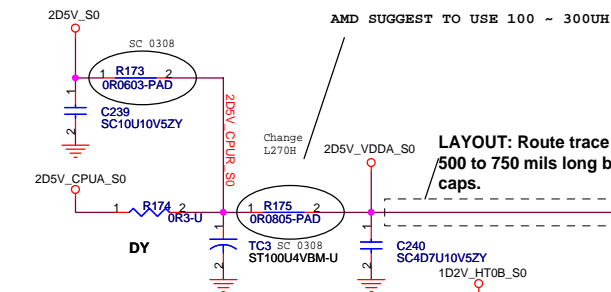


NOT SUPPORT ECC CHECK
AMD suggested remove CPU-HI resistor.

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Title		
CPU(2/4)_DDR		
Size	Document Number	Rev
A3	Bolsena	-1
Date:	Thursday, March 31, 2005	Sheet 5 of 58

2D5V_VDDA_S0



AMD SUGGEST TO USE 2D5V_CPUA_S0

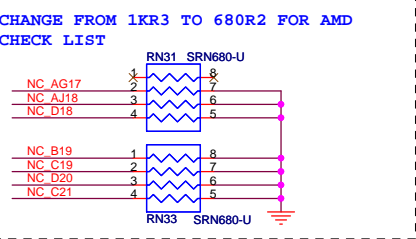
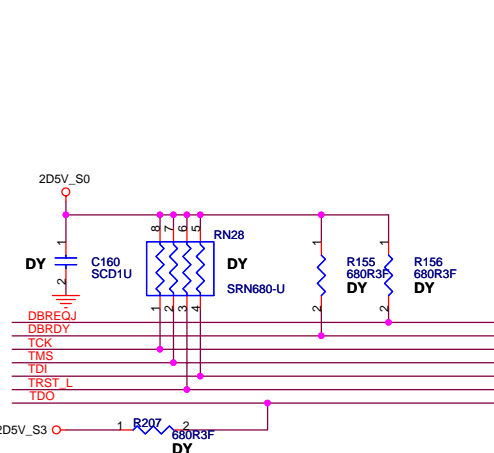
KEMET, NT: 5.7, B2 size
ST100U4VBM-1 (80.10716.321)
Iripple=1.1A, ESR=70mohm

SANYO, NT: 6.1
Iripple=1.1A, ESR=70mohm
3.5/2.8/2.0
77.21071.031

LAYOUT: Route trace 50 mils wide and 500 to 750 mils long between these caps.

LAYOUT: Route VDDA trace approx. 50 mils wide (use 2x25 mil traces to exit ball field) and 500 mils long.

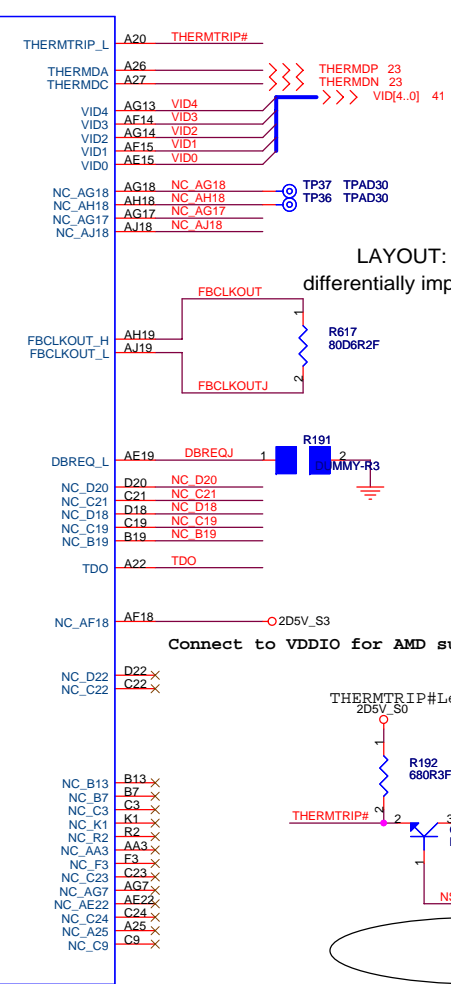
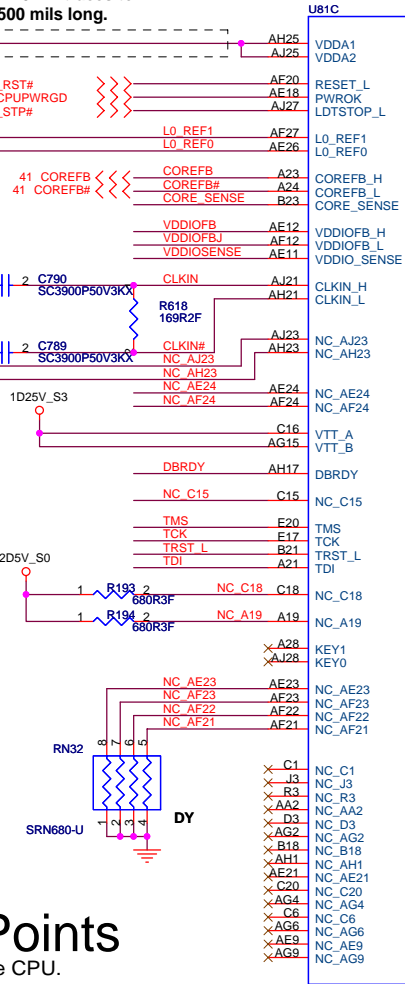
AMD suggest voltage from 2D5V_S0 to 2D5V_S3 differentially impedance 100



Validation Test Points

LAYOUT: Place close to the CPU.

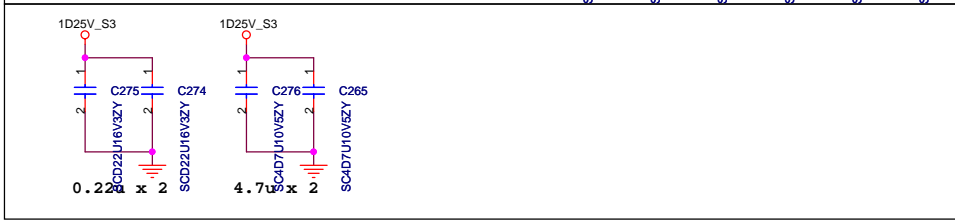
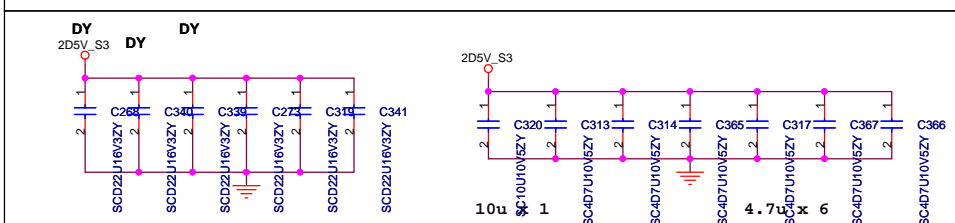
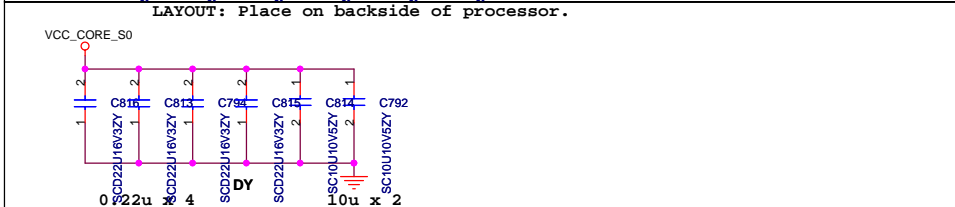
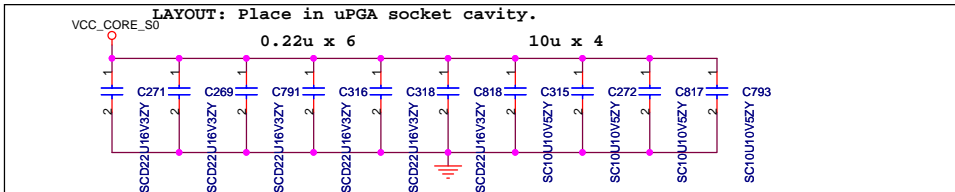
- | | | |
|------------|------|--------|
| NC C15 | TP56 | TPAD30 |
| NC AE23 | TP42 | TPAD30 |
| NC AF23 | TP39 | TPAD30 |
| NC AF22 | TP41 | TPAD30 |
| NC AF21 | TP40 | TPAD30 |
| LDT_RST# | TP38 | TPAD30 |
| CLKIN# | TP34 | TPAD30 |
| CORE_SENSE | TP35 | TPAD30 |
| VDDIOFB | TP43 | TPAD30 |
| VDDIOFB_J | TP46 | TPAD30 |
| VDDIOSENSE | TP45 | TPAD30 |
| NC AE24 | TP48 | TPAD30 |
| NC AF24 | TP27 | TPAD30 |
| | TP26 | TPAD30 |



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U81E	Y17	VSS	N20
	K17	VSS	L20
	H17	VSS	I20
	F17	VSS	AF19
	E18	VSS	AB19
	AJ26	VSS	Y19
	AE29	VSS	K19
	AC16	VSS	H19
	AA16	VSS	F19
	J16	VSS	D19
	G16	VSS	AC18
	E16	VSS	AA18
	AH14	VSS	G18
	AD15	VSS	R16
	AB15	VSS	AD17
	K15	VSS	AB17
	E15	VSS	H15
	D16	VSS	F15
	AE14	VSS	G28
	AC14	VSS	D28
	AA14	VSS	B28
	G14	VSS	C27
	AF17	VSS	AH26
	AD13	VSS	Y16
	AB13	VSS	AD26
	Y13	VSS	Y26
	X13	VSS	T26
	H13	VSS	M26
	F13	VSS	H26
	AH12	VSS	D26
	AC12	VSS	F18
	AA12	VSS	C25
	G12	VSS	B25
	AD11	VSS	AJ24
	AB11	VSS	AD18
	Y11	VSS	AG19
	K11	VSS	E19
	H11	VSS	G19
	AH10	VSS	U24
	AC10	VSS	R24
	W10	VSS	H19
	U10	VSS	J24
	R10	VSS	H20
	N10	VSS	K20
	L10	VSS	M20
	J10	VSS	P20
	G10	VSS	AB23
	B10	VSS	Y23
	AD9	VSS	Y20
	Y9	VSS	T23
	V9	VSS	AB20
	P9	VSS	AD20
	M9	VSS	G21
	K9	VSS	J21
	H9	VSS	F23
	AE8	VSS	L21
	AC8	VSS	N21
	W8	VSS	R21
	U8	VSS	U21
	R8	VSS	W21
	N8	VSS	AA21
	L8	VSS	AC21
	J8	VSS	AG28
	G8	VSS	K22
	B8	VSS	M22
	AD7	VSS	P22
	AB7	VSS	T22
	V7	VSS	Y22
	T7	VSS	G22
	M7	VSS	E22
	K7	VSS	AD22
	H7	VSS	E23
	AE6	VSS	G23
	AC6	VSS	L23
	AA6	VSS	Y21
	U6	VSS	Y21
	R6	VSS	R23
	N6	VSS	U23
	L6	VSS	W23
	J6	VSS	AA23
	G6	VSS	AC23
	B6	VSS	B24
	AH4	VSS	D24
	B4	VSS	F24
	AH2	VSS	AG20
	AD2	VSS	M24
	AB2	VSS	P24
	Y2	VSS	T24
	V2	VSS	V24
	T2	VSS	U20
	P2	VSS	R20
	M2	VSS	G20
	K2	VSS	J18
	H2	VSS	AH25
	F2	VSS	AE16
	C29	VSS	Y15
	AH28	VSS	B14
	AF28	VSS	P26
	AC28	VSS	J12
	W28	VSS	AA10
	R28	VSS	AB9
	L28	VSS	AA8
		VSS	Y7
		VSS	W6
		VSS	AE2
		VSS	D2
		VSS	AG27
		VSS	AG25
		VSS	L24
		VSS	M23
		VSS	W22
		VSS	AB21
		VSS	AH20
		VSS	B2

VCC_CORE_S0	L7	VDD	E4
	AC15	VDD	G4
	H18	VDD	J4
	B20	VDD	L4
	E21	VDD	N4
	H22	VDD	U4
	J23	VDD	W4
	H24	VDD	AA4
	F26	VDD	AC4
	N7	VDD	AE4
	I9	VDD	D5
	V10	VDD	AF5
	G13	VDD	H6
	K14	VDD	K6
	Y14	VDD	M6
	AB14	VDD	P6
	G15	VDD	T6
	J15	VDD	V6
	AH15	VDD	X6
	B28	VDD	AB6
	H16	VDD	AD6
	K16	VDD	D7
	Y16	VDD	G7
	AD26	VDD	J7
	G17	VDD	AA7
	J17	VDD	AC7
	AA17	VDD	AF7
	H18	VDD	F8
	C25	VDD	H8
	B25	VDD	AB8
	AJ24	VDD	AD8
	AD18	VDD	D8
	AG19	VDD	G9
	E19	VDD	AC9
	G19	VDD	AF9
	AC19	VDD	F10
	AA19	VDD	AD10
	H19	VDD	D11
	F20	VDD	AE11
	K20	VDD	F12
	M20	VDD	AD12
	P20	VDD	D13
	AB23	VDD	AE13
	Y23	VDD	F14
	Y20	VDD	AD14
	T23	VDD	F16
	AB20	VDD	AD16
	AD20	VDD	D15
	G21	VDD	R4
	J21	VDD	N28
	F23	VDD	L28
	L21	VDD	AA28
	N21	VDD	AE27
	R21	VDD	R7
	U21	VDD	U7
	W21	VDD	W7
	AA21	VDD	M8
	AC21	VDD	P8
	AG28	VDD	T8
	K22	VDD	V8
	M22	VDD	X8
	P22	VDD	Y8
	T22	VDD	J9
	Y22	VDD	K9
	E22	VDD	N9
	AD22	VDD	R9
	E23	VDD	U9
	G23	VDD	W9
	L23	VDD	AA9
	Y21	VDD	H10
	Y21	VDD	K10
	R23	VDD	M10
	U23	VDD	P10
	W23	VDD	T10
	AA23	VDD	Y10
	AC23	VDD	AB10
	B24	VDD	G11
	D24	VDD	H11
	F24	VDD	AA11
	K24	VDD	AC11
	M24	VDD	H12
	P24	VDD	K12
	T24	VDD	L12
	V24	VDD	AB12
	U20	VDD	J13
	AB24	VDD	AA13
	G20	VDD	AC13
	AH24	VDD	H14
	AE25	VDD	AB26
	AE16	VDD	E28
	Y15	VDD	J28
	B14	VDD	
	P26	VDD	
	J12	VDD	
	V26	VDD	



<Variant Name>

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

Title: **CPU(4/4)_Power**

Size A3 Document Number **Bolsena** Rev -1

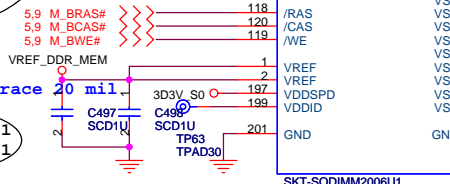
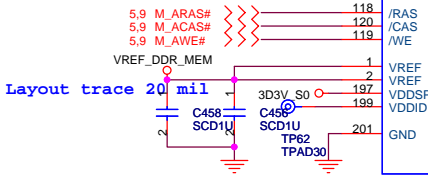
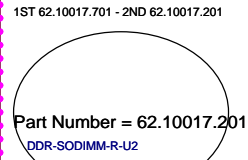
Date: Thursday, March 31, 2005 Sheet 7 of 58

M_AA0	112	A0
M_AA1	111	A1
M_AA2	110	A2
M_AA3	109	A3
M_AA4	108	A4
M_AA5	107	A5
M_AA6	106	A6
M_AA7	105	A7
M_AA8	102	A8
M_AA9	101	A9
M_AA10	115	A10 / AP
M_AA11	100	A11
M_AA12	99	A12
M_ABS#0	117	BA0
M_ABS#1	116	BA1
M_DATA R 0	5	DQ0
M_DATA R 1	7	DQ1
M_DATA R 2	13	DQ2
M_DATA R 3	17	DQ3
M_DATA R 4	6	DQ4
M_DATA R 5	8	DQ5
M_DATA R 6	14	DQ6
M_DATA R 7	18	DQ7
M_DATA R 8	19	DQ8
M_DATA R 9	23	DQ9
M_DATA R 10	29	DQ10
M_DATA R 11	31	DQ11
M_DATA R 12	20	DQ12
M_DATA R 13	24	DQ13
M_DATA R 14	30	DQ14
M_DATA R 15	32	DQ15
M_DATA R 16	41	DQ16
M_DATA R 17	43	DQ17
M_DATA R 18	49	DQ18
M_DATA R 19	53	DQ19
M_DATA R 20	42	DQ20
M_DATA R 21	44	DQ21
M_DATA R 22	50	DQ22
M_DATA R 23	54	DQ23
M_DATA R 24	55	DQ24
M_DATA R 25	59	DQ25
M_DATA R 26	65	DQ26
M_DATA R 27	67	DQ27
M_DATA R 28	56	DQ28
M_DATA R 29	60	DQ29
M_DATA R 30	66	DQ30
M_DATA R 31	68	DQ31
M_DATA R 32	127	DQ32
M_DATA R 33	129	DQ33
M_DATA R 34	135	DQ34
M_DATA R 35	139	DQ35
M_DATA R 36	128	DQ36
M_DATA R 37	130	DQ37
M_DATA R 38	136	DQ38
M_DATA R 39	140	DQ39
M_DATA R 40	141	DQ40
M_DATA R 41	145	DQ41
M_DATA R 42	151	DQ42
M_DATA R 43	153	DQ43
M_DATA R 44	142	DQ44
M_DATA R 45	146	DQ45
M_DATA R 46	152	DQ46
M_DATA R 47	154	DQ47
M_DATA R 48	165	DQ48
M_DATA R 49	163	DQ49
M_DATA R 50	171	DQ50
M_DATA R 51	175	DQ51
M_DATA R 52	164	DQ52
M_DATA R 53	166	DQ53
M_DATA R 54	172	DQ54
M_DATA R 55	176	DQ55
M_DATA R 56	177	DQ56
M_DATA R 57	181	DQ57
M_DATA R 58	187	DQ58
M_DATA R 59	189	DQ59
M_DATA R 60	178	DQ60
M_DATA R 61	182	DQ61
M_DATA R 62	188	DQ62
M_DATA R 63	190	DQ63

REVERSE TYPE 5.2MM

/CS0	121	M_CS#0 5.9
/CS1	122	M_CS#1 5.9
CKE0	96	M_CKE#0
CKE1	95	M_CKE#0 5.9
M_DQS R0	11	M_DQS R0
M_DQS R1	25	M_DQS R1
M_DQS R2	47	M_DQS R2
M_DQS R3	61	M_DQS R3
M_DQS R4	133	M_DQS R4
M_DQS R5	147	M_DQS R5
M_DQS R6	169	M_DQS R6
M_DQS R7	183	M_DQS R7
M_BBS#0	117	M_BBS#0
M_BBS#1	116	M_BBS#1
M_DATA R 0	5	M_DATA R 0
M_DATA R 1	7	M_DATA R 1
M_DATA R 2	13	M_DATA R 2
M_DATA R 3	17	M_DATA R 3
M_DATA R 4	6	M_DATA R 4
M_DATA R 5	8	M_DATA R 5
M_DATA R 6	14	M_DATA R 6
M_DATA R 7	18	M_DATA R 7
M_DATA R 8	19	M_DATA R 8
M_DATA R 9	23	M_DATA R 9
M_DATA R 10	29	M_DATA R 10
M_DATA R 11	31	M_DATA R 11
M_DATA R 12	20	M_DATA R 12
M_DATA R 13	24	M_DATA R 13
M_DATA R 14	30	M_DATA R 14
M_DATA R 15	32	M_DATA R 15
M_DATA R 16	41	M_DATA R 16
M_DATA R 17	43	M_DATA R 17
M_DATA R 18	49	M_DATA R 18
M_DATA R 19	53	M_DATA R 19
M_DATA R 20	42	M_DATA R 20
M_DATA R 21	44	M_DATA R 21
M_DATA R 22	50	M_DATA R 22
M_DATA R 23	54	M_DATA R 23
M_DATA R 24	55	M_DATA R 24
M_DATA R 25	59	M_DATA R 25
M_DATA R 26	65	M_DATA R 26
M_DATA R 27	67	M_DATA R 27
M_DATA R 28	56	M_DATA R 28
M_DATA R 29	60	M_DATA R 29
M_DATA R 30	66	M_DATA R 30
M_DATA R 31	68	M_DATA R 31
M_DATA R 32	127	M_DATA R 32
M_DATA R 33	129	M_DATA R 33
M_DATA R 34	135	M_DATA R 34
M_DATA R 35	139	M_DATA R 35
M_DATA R 36	128	M_DATA R 36
M_DATA R 37	130	M_DATA R 37
M_DATA R 38	136	M_DATA R 38
M_DATA R 39	140	M_DATA R 39
M_DATA R 40	141	M_DATA R 40
M_DATA R 41	145	M_DATA R 41
M_DATA R 42	151	M_DATA R 42
M_DATA R 43	153	M_DATA R 43
M_DATA R 44	142	M_DATA R 44
M_DATA R 45	146	M_DATA R 45
M_DATA R 46	152	M_DATA R 46
M_DATA R 47	154	M_DATA R 47
M_DATA R 48	165	M_DATA R 48
M_DATA R 49	163	M_DATA R 49
M_DATA R 50	171	M_DATA R 50
M_DATA R 51	175	M_DATA R 51
M_DATA R 52	164	M_DATA R 52
M_DATA R 53	166	M_DATA R 53
M_DATA R 54	172	M_DATA R 54
M_DATA R 55	176	M_DATA R 55
M_DATA R 56	177	M_DATA R 56
M_DATA R 57	181	M_DATA R 57
M_DATA R 58	187	M_DATA R 58
M_DATA R 59	189	M_DATA R 59
M_DATA R 60	178	M_DATA R 60
M_DATA R 61	182	M_DATA R 61
M_DATA R 62	188	M_DATA R 62
M_DATA R 63	190	M_DATA R 63

NOT SUPPORT ECC CHECK
AMD suggested pull-low



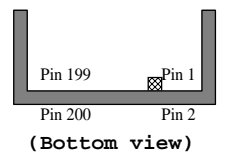
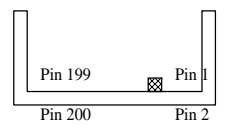
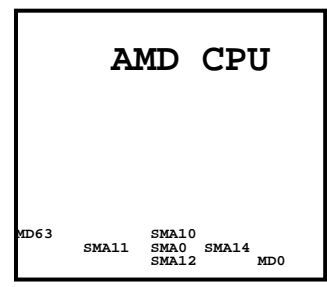
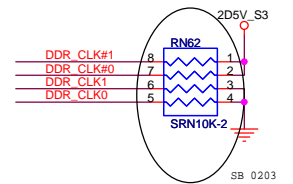
M_BA0	112	BA0
M_BA1	111	BA1
M_BA2	110	A2
M_BA3	109	A3
M_BA4	108	A4
M_BA5	107	A5
M_BA6	106	A6
M_BA7	105	A7
M_BA8	102	A8
M_BA9	101	A9
M_BA10	115	A10 / AP
M_BA11	100	A11
M_BA12	99	A12
M_BBS#0	117	BA0
M_BBS#1	116	BA1
M_DATA R 0	5	DQ0
M_DATA R 1	7	DQ1
M_DATA R 2	13	DQ2
M_DATA R 3	17	DQ3
M_DATA R 4	6	DQ4
M_DATA R 5	8	DQ5
M_DATA R 6	14	DQ6
M_DATA R 7	18	DQ7
M_DATA R 8	19	DQ8
M_DATA R 9	23	DQ9
M_DATA R 10	29	DQ10
M_DATA R 11	31	DQ11
M_DATA R 12	20	DQ12
M_DATA R 13	24	DQ13
M_DATA R 14	30	DQ14
M_DATA R 15	32	DQ15
M_DATA R 16	41	DQ16
M_DATA R 17	43	DQ17
M_DATA R 18	49	DQ18
M_DATA R 19	53	DQ19
M_DATA R 20	42	DQ20
M_DATA R 21	44	DQ21
M_DATA R 22	50	DQ22
M_DATA R 23	54	DQ23
M_DATA R 24	55	DQ24
M_DATA R 25	59	DQ25
M_DATA R 26	65	DQ26
M_DATA R 27	67	DQ27
M_DATA R 28	56	DQ28
M_DATA R 29	60	DQ29
M_DATA R 30	66	DQ30
M_DATA R 31	68	DQ31
M_DATA R 32	127	DQ32
M_DATA R 33	129	DQ33
M_DATA R 34	135	DQ34
M_DATA R 35	139	DQ35
M_DATA R 36	128	DQ36
M_DATA R 37	130	DQ37
M_DATA R 38	136	DQ38
M_DATA R 39	140	DQ39
M_DATA R 40	141	DQ40
M_DATA R 41	145	DQ41
M_DATA R 42	151	DQ42
M_DATA R 43	153	DQ43
M_DATA R 44	142	DQ44
M_DATA R 45	146	DQ45
M_DATA R 46	152	DQ46
M_DATA R 47	154	DQ47
M_DATA R 48	165	DQ48
M_DATA R 49	163	DQ49
M_DATA R 50	171	DQ50
M_DATA R 51	175	DQ51
M_DATA R 52	164	DQ52
M_DATA R 53	166	DQ53
M_DATA R 54	172	DQ54
M_DATA R 55	176	DQ55
M_DATA R 56	177	DQ56
M_DATA R 57	181	DQ57
M_DATA R 58	187	DQ58
M_DATA R 59	189	DQ59
M_DATA R 60	178	DQ60
M_DATA R 61	182	DQ61
M_DATA R 62	188	DQ62
M_DATA R 63	190	DQ63

REVERSE TYPE 9.2MM

/CS0	121	M_CS#2 5.9
/CS1	122	M_CS#3 5.9
CKE0	96	M_CKE#1 5.9
CKE1	95	M_CKE#1 5.9
M_DQS R0	11	M_DQS R0
M_DQS R1	25	M_DQS R1
M_DQS R2	47	M_DQS R2
M_DQS R3	61	M_DQS R3
M_DQS R4	133	M_DQS R4
M_DQS R5	147	M_DQS R5
M_DQS R6	169	M_DQS R6
M_DQS R7	183	M_DQS R7
M_BBS#0	117	M_BBS#0
M_BBS#1	116	M_BBS#1
M_DATA R 0	5	DQ0
M_DATA R 1	7	DQ1
M_DATA R 2	13	DQ2
M_DATA R 3	17	DQ3
M_DATA R 4	6	DQ4
M_DATA R 5	8	DQ5
M_DATA R 6	14	DQ6
M_DATA R 7	18	DQ7
M_DATA R 8	19	DQ8
M_DATA R 9	23	DQ9
M_DATA R 10	29	DQ10
M_DATA R 11	31	DQ11
M_DATA R 12	20	DQ12
M_DATA R 13	24	DQ13
M_DATA R 14	30	DQ14
M_DATA R 15	32	DQ15
M_DATA R 16	41	DQ16
M_DATA R 17	43	DQ17
M_DATA R 18	49	DQ18
M_DATA R 19	53	DQ19
M_DATA R 20	42	DQ20
M_DATA R 21	44	DQ21
M_DATA R 22	50	DQ22
M_DATA R 23	54	DQ23
M_DATA R 24	55	DQ24
M_DATA R 25	59	DQ25
M_DATA R 26	65	DQ26
M_DATA R 27	67	DQ27
M_DATA R 28	56	DQ28
M_DATA R 29	60	DQ29
M_DATA R 30	66	DQ30
M_DATA R 31	68	DQ31
M_DATA R 32	127	DQ32
M_DATA R 33	129	DQ33
M_DATA R 34	135	DQ34
M_DATA R 35	139	DQ35
M_DATA R 36	128	DQ36
M_DATA R 37	130	DQ37
M_DATA R 38	136	DQ38
M_DATA R 39	140	DQ39
M_DATA R 40	141	DQ40
M_DATA R 41	145	DQ41
M_DATA R 42	151	DQ42
M_DATA R 43	153	DQ43
M_DATA R 44	142	DQ44
M_DATA R 45	146	DQ45
M_DATA R 46	152	DQ46
M_DATA R 47	154	DQ47
M_DATA R 48	165	DQ48
M_DATA R 49	163	DQ49
M_DATA R 50	171	DQ50
M_DATA R 51	175	DQ51
M_DATA R 52	164	DQ52
M_DATA R 53	166	DQ53
M_DATA R 54	172	DQ54
M_DATA R 55	176	DQ55
M_DATA R 56	177	DQ56
M_DATA R 57	181	DQ57
M_DATA R 58	187	DQ58
M_DATA R 59	189	DQ59
M_DATA R 60	178	DQ60
M_DATA R 61	182	DQ61
M_DATA R 62	188	DQ62
M_DATA R 63	190	DQ63

! NOT THIS LIBRARY

- <<< M_ADM[R7..0] 9
- <<< M_DATA_R_[63..0] 9
- <<< M_DQS[R7..0] 9
- <<< M_AA[13..0] 5.9
- <<< M_ABS#[1..0] 5.9
- <<< M_BA[13..0] 5.9
- <<< M_BBS#[1..0] 5.9



DDR1(Reverse 5.2mm)

DDR2(Reverse 9.2mm)

62.10017.391
ME : 62.10017.391

<Variant Name>

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

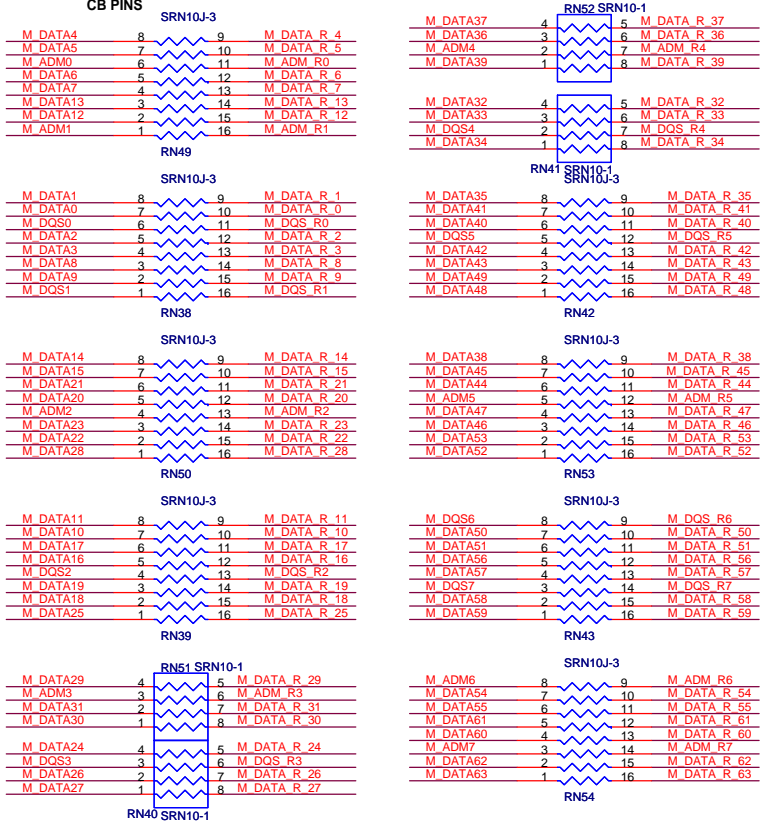
DDR SO-DIMM SKT

Size A3 Document Number **Bolsena** Rev -1

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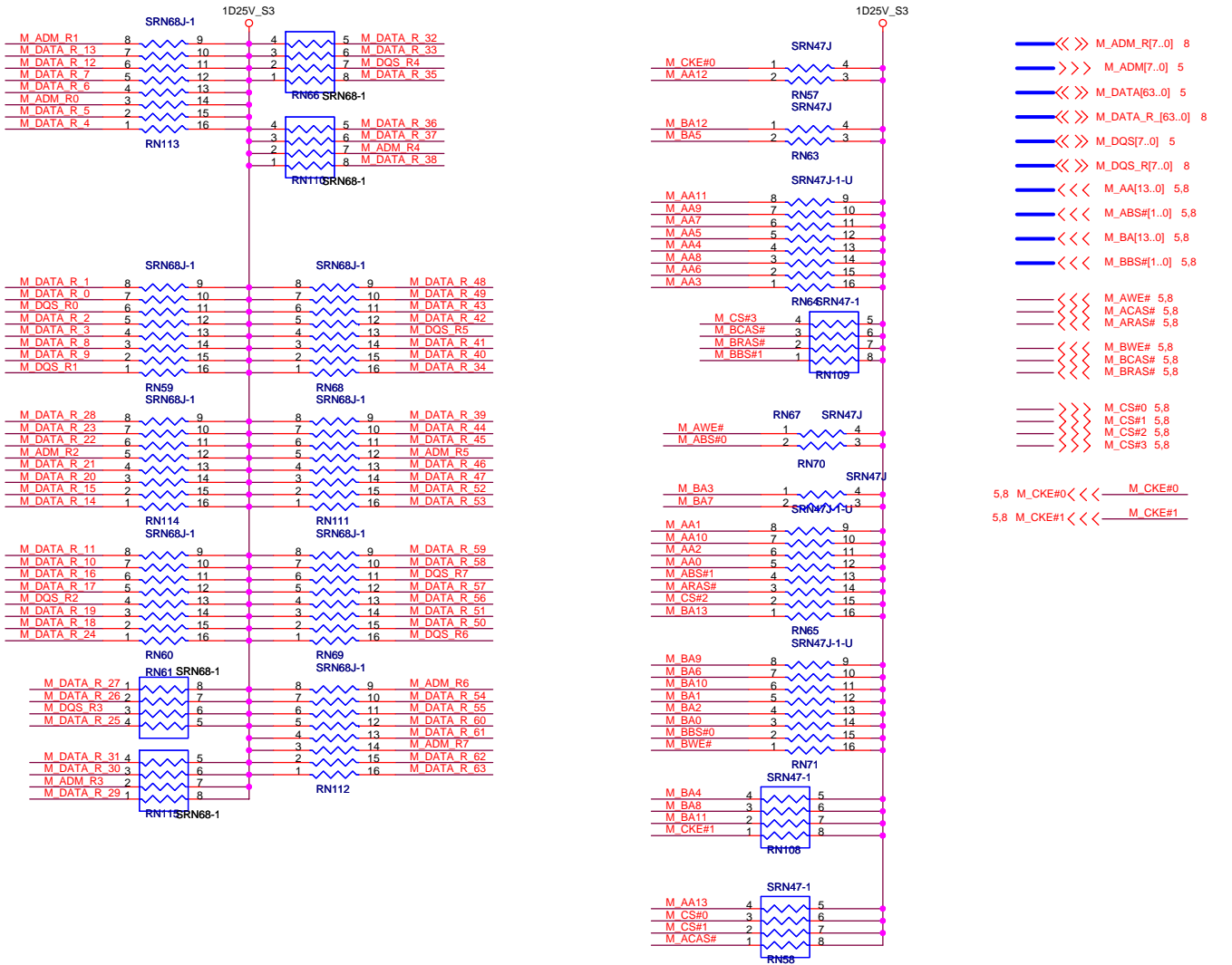
SERIES DAMPING

PLACE RnS CLOSE TO FIRST DIMM, < 0.75"
STRICT EQUAL LENGTH LIMITATION WITH DQS,
CB PINS



PARALLEL TERMINATION

PULL HIGH STUBS < 0.8", PLACE RPs CLOSE TO SECOND DM (DM2)
NO EQUAL LENGTH LIMITATION

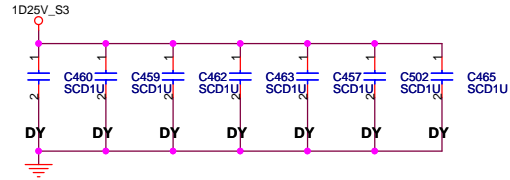
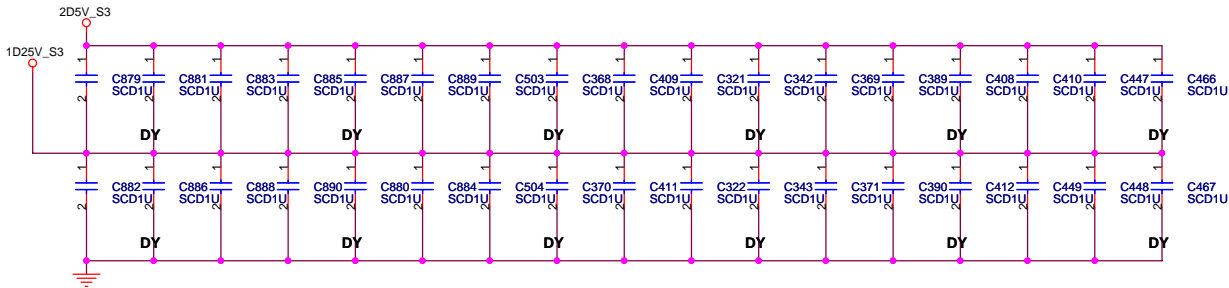
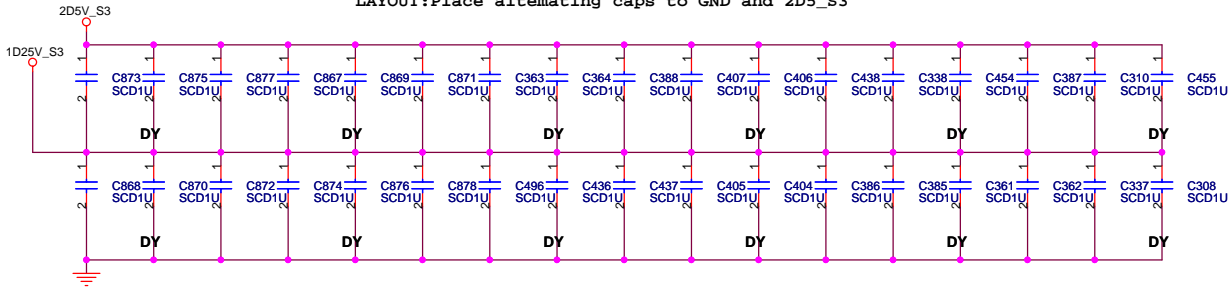


05/10
Remove the damping resistor for AMD suggest.

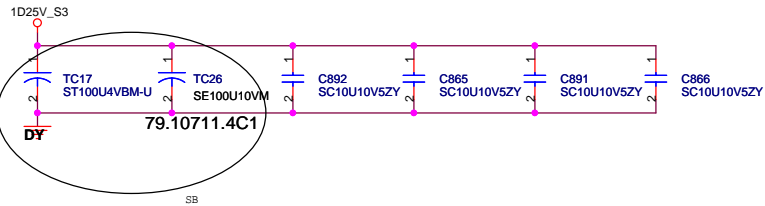
<Variant Name>

Title		Wistron Corporation 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
DDR DAMPING & TERMINATION			
Size A3	Document Number Bolsena		Rev -1
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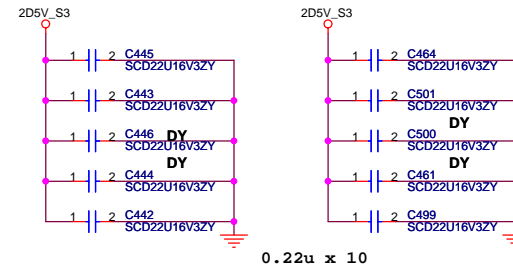
LAYOUT:Place alternating caps to GND and 2D5_S3



LAYOUT:Place at end of the DIMMs



LAYOUT:Place close to Power Pin of DDR socket.



<Variant Name>

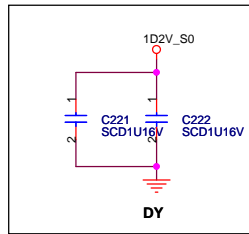
Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
DDR DECOUPLING	
Size A3	Document Number Bolsena
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CLAW HAMMER TO NB

NB TO CLAW HAMMER

4 CPUCADOUT[15..0] >>>
4 CPUCADOUTJ[15..0] >>>

>>> NB0CADOUT[15..0] 4
>>> NB0CADOUTJ[15..0] 4



AROUND NB

4 CPUHTCLKOUT1 >>> CPUHTCLKOUT1 Y26 HT_RXCLK1P
4 CPUHTCLKOUTJ1 >>> CPUHTCLKOUTJ1 W26 HT_RXCLK1N
4 CPUHTCLKOUT0 >>> CPUHTCLKOUT0 W28 HT_RXCLK0P
4 CPUHTCLKOUTJ0 >>> CPUHTCLKOUTJ0 W28 HT_RXCLK0N

4 CPUHTTCTLOUT0 >>> CPUHTTCTLOUT0 P29 HT_RXCTLP
4 CPUHTTCTLOUTJ0 >>> CPUHTTCTLOUTJ0 N29 HT_RXCTLN
1D2V_S0 1 R162 2 48D9R2F HT_RXCALN D27 HT_RXCALN
1 R161 2 48D9R2F HT_RXCALP E27 HT_RXCALP

U80A

PART 10F6

HYPER TRANSPORT CPU I/F

CPUCADOUT15	T26	HT_RXCAD15P
CPUCADOUTJ15	R26	HT_RXCAD15N
CPUCADOUT14	U25	HT_RXCAD14P
CPUCADOUTJ14	U24	HT_RXCAD14N
CPUCADOUT13	V26	HT_RXCAD13P
CPUCADOUTJ13	V26	HT_RXCAD13N
CPUCADOUT12	W25	HT_RXCAD12P
CPUCADOUTJ12	W24	HT_RXCAD12N
CPUCADOUT11	AA25	HT_RXCAD11P
CPUCADOUTJ11	AA24	HT_RXCAD11N
CPUCADOUT10	AB26	HT_RXCAD10P
CPUCADOUTJ10	AA26	HT_RXCAD10N
CPUCADOUT9	AC25	HT_RXCAD9P
CPUCADOUTJ9	AC24	HT_RXCAD9N
CPUCADOUT8	AD26	HT_RXCAD8P
CPUCADOUTJ8	AC26	HT_RXCAD8N
CPUCADOUT7	R29	HT_RXCAD7P
CPUCADOUTJ7	R28	HT_RXCAD7N
CPUCADOUT6	T30	HT_RXCAD6P
CPUCADOUTJ6	R30	HT_RXCAD6N
CPUCADOUT5	T28	HT_RXCAD5P
CPUCADOUTJ5	T29	HT_RXCAD5N
CPUCADOUT4	V29	HT_RXCAD4P
CPUCADOUTJ4	U29	HT_RXCAD4N
CPUCADOUT3	Y30	HT_RXCAD3P
CPUCADOUTJ3	Y30	HT_RXCAD3N
CPUCADOUT2	Y28	HT_RXCAD2P
CPUCADOUTJ2	Y29	HT_RXCAD2N
CPUCADOUT1	AB29	HT_RXCAD1P
CPUCADOUTJ1	AA29	HT_RXCAD1N
CPUCADOUT0	AC29	HT_RXCAD0P
CPUCADOUTJ0	AC28	HT_RXCAD0N

HT_TXCAD15P	R24	NB0CADOUT15
HT_TXCAD15N	R25	NB0CADOUTJ15
HT_TXCAD14P	N26	NB0CADOUT14
HT_TXCAD14N	P26	NB0CADOUTJ14
HT_TXCAD13P	N24	NB0CADOUT13
HT_TXCAD13N	N25	NB0CADOUTJ13
HT_TXCAD12P	L26	NB0CADOUT12
HT_TXCAD12N	M26	NB0CADOUTJ12
HT_TXCAD11P	J26	NB0CADOUT11
HT_TXCAD11N	K26	NB0CADOUTJ11
HT_TXCAD10P	J24	NB0CADOUT10
HT_TXCAD10N	J25	NB0CADOUTJ10
HT_TXCAD9P	G26	NB0CADOUT9
HT_TXCAD9N	H26	NB0CADOUTJ9
HT_TXCAD8P	G24	NB0CADOUT8
HT_TXCAD8N	G25	NB0CADOUTJ8
HT_TXCAD7P	L30	NB0CADOUT7
HT_TXCAD7N	M30	NB0CADOUTJ7
HT_TXCAD6P	L28	NB0CADOUT6
HT_TXCAD6N	L29	NB0CADOUTJ6
HT_TXCAD5P	J29	NB0CADOUT5
HT_TXCAD5N	K29	NB0CADOUTJ5
HT_TXCAD4P	H30	NB0CADOUT4
HT_TXCAD4N	H29	NB0CADOUTJ4
HT_TXCAD3P	E29	NB0CADOUT3
HT_TXCAD3N	E28	NB0CADOUTJ3
HT_TXCAD2P	D30	NB0CADOUT2
HT_TXCAD2N	E30	NB0CADOUTJ2
HT_TXCAD1P	D28	NB0CADOUT1
HT_TXCAD1N	D29	NB0CADOUTJ1
HT_TXCAD0P	B29	NB0CADOUT0
HT_TXCAD0N	C29	NB0CADOUTJ0

HT_TXCLK1P L24 NB0HTTCLKOUT1 >>> NB0HTTCLKOUT1 4
HT_TXCLK1N L25 NB0HTTCLKOUTJ1 >>> NB0HTTCLKOUTJ1 4
HT_TXCLK0P F29 NB0HTTCLKOUT0 >>> NB0HTTCLKOUT0 4
HT_TXCLK0N G29 NB0HTTCLKOUTJ0 >>> NB0HTTCLKOUTJ0 4
HT_TXCTLP M29 NB0HTTCTLOUT >>> NB0HTTCTLOUT 4
HT_TXCTLN M28 NB0HTTCTLOUTJ >>> NB0HTTCTLOUTJ 4

HT_TXCALP B28 HT_TXCALP 1 R583 2 HT_TXCALP
HT_TXCALN A28 HT_TXCALN 1 R583 2 100R2F

CHANGE TO 71.RS48M.B0U (VER A22)

<Variant Name>

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

Title: **ATI-RS480M (1 of 4) HT**

Size: A3 Document Number: **Bolsena** Rev: -1

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U80C

PART 3 OF 6

MEM_A0	MEM_D00	AE28
MEM_A1	MEM_D01	AE27
MEM_A2	MEM_D02	AG28
MEM_A3	MEM_D03	AE26
MEM_A4	MEM_D04	AE25
MEM_A5	MEM_D05	AE24
MEM_A6	MEM_D06	AG23
MEM_A7	MEM_D07	AE23
MEM_A8	MEM_D08	AE24
MEM_A9	MEM_D09	AE24
MEM_A10	MEM_D10	AG30
MEM_A11	MEM_D11	AG29
MEM_A12	MEM_D12	AH23
MEM_A13	MEM_D13	AH22
MEM_A14	MEM_D14	AH27
MEM_DM0	MEM_D15	AE23
MEM_DM1	MEM_D16	AG22
MEM_DM2	MEM_D17	AG22
MEM_DM3	MEM_D18	AF23
MEM_DM4	MEM_D19	AE24
MEM_DM5	MEM_D20	AG19
MEM_DM6	MEM_D21	AE20
MEM_DM7	MEM_D22	AF20
MEM_DOS0P	MEM_D23	AF19
MEM_DOS1P	MEM_D24	AH26
MEM_DOS2P	MEM_D25	AJ26
MEM_DOS3P	MEM_D26	AH25
MEM_DOS4P	MEM_D27	AJ24
MEM_DOS5P	MEM_D28	AH23
MEM_DOS6P	MEM_D29	AJ23
MEM_DOS7P	MEM_D30	AJ23
MEM_DOS8P	MEM_D31	AK14
MEM_DOS9P	MEM_D32	AK14
MEM_DOS10P	MEM_D33	AK13
MEM_DOS11P	MEM_D34	AK13
MEM_DOS12P	MEM_D35	AJ11
MEM_DOS13P	MEM_D36	AH11
MEM_DOS14P	MEM_D37	AH11
MEM_DOS15P	MEM_D38	AH10
MEM_DOS16P	MEM_D39	AE15
MEM_DOS17P	MEM_D40	AE15
MEM_DOS18P	MEM_D41	AG14
MEM_DOS19P	MEM_D42	AG14
MEM_DOS20P	MEM_D43	AE14
MEM_DOS21P	MEM_D44	AE12
MEM_DOS22P	MEM_D45	AG12
MEM_DOS23P	MEM_D46	AG11
MEM_DOS24P	MEM_D47	AE11
MEM_DOS25P	MEM_D48	AJ9
MEM_DOS26P	MEM_D49	AH9
MEM_DOS27P	MEM_D50	AJ8
MEM_DOS28P	MEM_D51	AK8
MEM_DOS29P	MEM_D52	AH7
MEM_DOS30P	MEM_D53	AJ6
MEM_DOS31P	MEM_D54	AH6
MEM_DOS32P	MEM_D55	AJ5
MEM_DOS33P	MEM_D56	AG10
MEM_DOS34P	MEM_D57	AF11
MEM_DOS35P	MEM_D58	AF10
MEM_DOS36P	MEM_D59	AG7
MEM_DOS37P	MEM_D60	AE8
MEM_DOS38P	MEM_D61	AE7
MEM_DOS39P	MEM_D62	AE7
MEM_DOS40P	MEM_D63	AE7

MEM_A I/F

MEM_CAP1
MEM_CAP2
MEM_VMODE
MEM_VREF
MEM_COMP
MEM_COMPN

U80B

PART 2 OF 6

D8	GFX_RX0P	GFX_TX0P	A7	PEG_RXP15_NB	C742	1	2	SCD1U16V	PEG_RXP15
D7	GFX_RX0N	GFX_TX0N	B7	PEG_RXN15_NB	C743	1	2	SCD1U16V	PEG_RXN15
D5	GFX_RX1P	GFX_TX1P	B6	PEG_RXP14_NB	C744	1	2	SCD1U16V	PEG_RXP14
D4	GFX_RX1N	GFX_TX1N	A5	PEG_RXN14_NB	C745	1	2	SCD1U16V	PEG_RXN14
F4	GFX_RX2P	GFX_TX2P	A4	PEG_RXP13_NB	C746	1	2	SCD1U16V	PEG_RXP13
F4	GFX_RX2N	GFX_TX2N	B3	PEG_RXN13_NB	C747	1	2	SCD1U16V	PEG_RXN13
G5	GFX_RX3P	GFX_TX3P	B2	PEG_RXP12_NB	C748	1	2	SCD1U16V	PEG_RXP12
G5	GFX_RX3N	GFX_TX3N	B2	PEG_RXN12_NB	C749	1	2	SCD1U16V	PEG_RXN12
H4	GFX_RX4P	GFX_TX4P	C1	PEG_RXP11_NB	C751	1	2	SCD1U16V	PEG_RXP11
H4	GFX_RX4N	GFX_TX4N	D1	PEG_RXN11_NB	C750	1	2	SCD1U16V	PEG_RXN11
H5	GFX_RX5P	GFX_TX5P	D2	PEG_RXP10_NB	C774	1	2	SCD1U16V	PEG_RXP10
H6	GFX_RX5N	GFX_TX5N	E2	PEG_RXN10_NB	C772	1	2	SCD1U16V	PEG_RXN10
C1	GFX_RX6P	GFX_TX6P	E2	PEG_RXP9_NB	C777	1	2	SCD1U16V	PEG_RXP9
G2	GFX_RX6N	GFX_TX6P	F1	PEG_RXN9_NB	C776	1	2	SCD1U16V	PEG_RXN9
K5	GFX_RX7P	GFX_TX6N	H2	PEG_RXP8_NB	C770	1	2	SCD1U16V	PEG_RXP8
K4	GFX_RX7N	GFX_TX7N	J1	PEG_RXN8_NB	C773	1	2	SCD1U16V	PEG_RXN8
L4	GFX_RX8P	GFX_TX8P	J1	PEG_RXP7_NB	C781	1	2	SCD1U16V	PEG_RXP7
M4	GFX_RX8N	GFX_TX8N	K1	PEG_RXN7_NB	C780	1	2	SCD1U16V	PEG_RXN7
N5	GFX_RX9P	GFX_TX8N	K2	PEG_RXP6_NB	C775	1	2	SCD1U16V	PEG_RXP6
N4	GFX_RX9N	GFX_TX9P	L2	PEG_RXN6_NB	C771	1	2	SCD1U16V	PEG_RXN6
P4	GFX_RX10P	GFX_TX9N	M2	PEG_RXP5_NB	C779	1	2	SCD1U16V	PEG_RXP5
R4	GFX_RX10N	GFX_TX10P	M1	PEG_RXN5_NB	C778	1	2	SCD1U16V	PEG_RXN5
P5	GFX_RX11P	GFX_TX11P	N1	PEG_RXP4_NB	C799	1	2	SCD1U16V	PEG_RXP4
P6	GFX_RX11N	GFX_TX11N	N2	PEG_RXN4_NB	C801	1	2	SCD1U16V	PEG_RXN4
P2	GFX_RX12P	GFX_TX12P	R1	PEG_RXP3_NB	C807	1	2	SCD1U16V	PEG_RXP3
T5	GFX_RX12N	GFX_TX12N	T2	PEG_RXN3_NB	C803	1	2	SCD1U16V	PEG_RXN3
T4	GFX_RX13P	GFX_TX13P	T2	PEG_RXP2_NB	C797	1	2	SCD1U16V	PEG_RXP2
U4	GFX_RX14P	GFX_TX14P	V2	PEG_RXN2_NB	C800	1	2	SCD1U16V	PEG_RXN2
V4	GFX_RX14N	GFX_TX14N	V1	PEG_RXN1_NB	C806	1	2	SCD1U16V	PEG_RXN1
W1	GFX_RX15P	GFX_TX15P	V2	PEG_RXP0_NB	C802	1	2	SCD1U16V	PEG_RXP0
W2	GFX_RX15N	GFX_TX15N	AA2	PEG_RXN0_NB	C798	1	2	SCD1U16V	PEG_RXN0

LANE REVERSE

MEM_A I/F

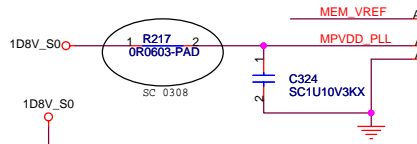
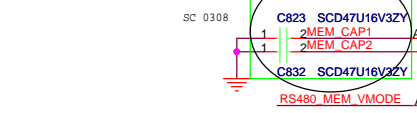
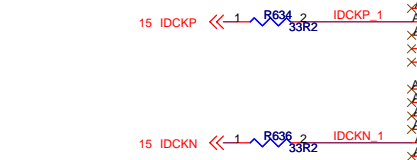
PCIE I/F TO VIDEO

PCIE I/F TO SLOT

PCIE I/F TO SB

Dummy when use UMA

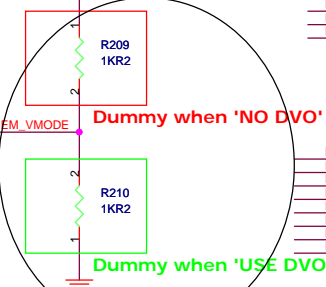
Dummy when no EZ4



NO DVO:
 MEM_COMP = NC
 MEM_COMPN = NC
 MEM_CAP1 = 470nF
 MEM_CAP2 = 470nF
 MEM_VMODE = GND (IF VDD_MEM = 2.5V)
 MEM_VREF = VDD_MEM / 2

CHANGE TO 71.RS48M.B0U (VER A22)

Dummy when 'NO DVO'



Dummy when 'NO DVO'

Dummy when 'USE DVO'

CHANGE TO 71.RS48M.B0U (VER A22)



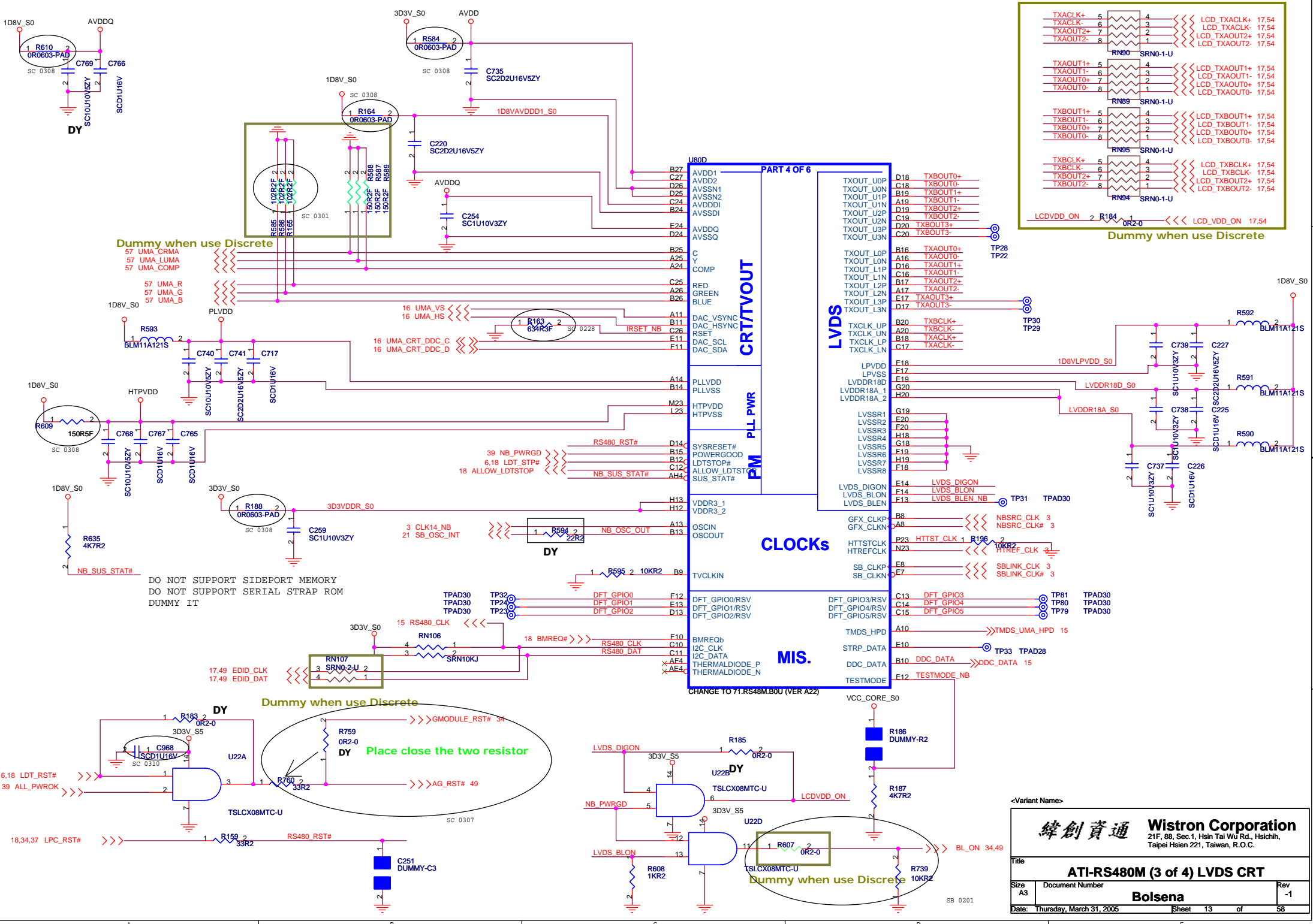
<-Variant Name->

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

Title: **ATI-RS480M (2 of 4) PCIE**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet: 12 of 58



TXCLK+	5	4	LCD_TXCLK+	17.54
TXCLK-	6	3	LCD_TXCLK-	17.54
TXAOUT2+	7	2	LCD_TXAOUT2+	17.54
TXAOUT2-	8	1	LCD_TXAOUT2-	17.54
RN90 SRN0-1-U				
TXAOUT1+	5	4	LCD_TXAOUT1+	17.54
TXAOUT1-	6	3	LCD_TXAOUT1-	17.54
TXAOUT0+	7	2	LCD_TXAOUT0+	17.54
TXAOUT0-	8	1	LCD_TXAOUT0-	17.54
RN89 SRN0-1-U				
TXBOUT1+	5	4	LCD_TXBOUT1+	17.54
TXBOUT1-	6	3	LCD_TXBOUT1-	17.54
TXBOUT0+	7	2	LCD_TXBOUT0+	17.54
TXBOUT0-	8	1	LCD_TXBOUT0-	17.54
RN95 SRN0-1-U				
TXBCLK+	5	4	LCD_TXBCLK+	17.54
TXBCLK-	6	3	LCD_TXBCLK-	17.54
TXBOUT2+	7	2	LCD_TXBOUT2+	17.54
TXBOUT2-	8	1	LCD_TXBOUT2-	17.54
RN94 SRN0-1-U				
LCDVDD_ON	2	R184 OR2-0	LCD_VDD_ON	17.54

Dummy when use Discrete

DO NOT SUPPORT SIDEPORT MEMORY
DO NOT SUPPORT SERIAL STRAP ROM
DUMMY IT

Dummy when use Discrete
Place close the two resistor

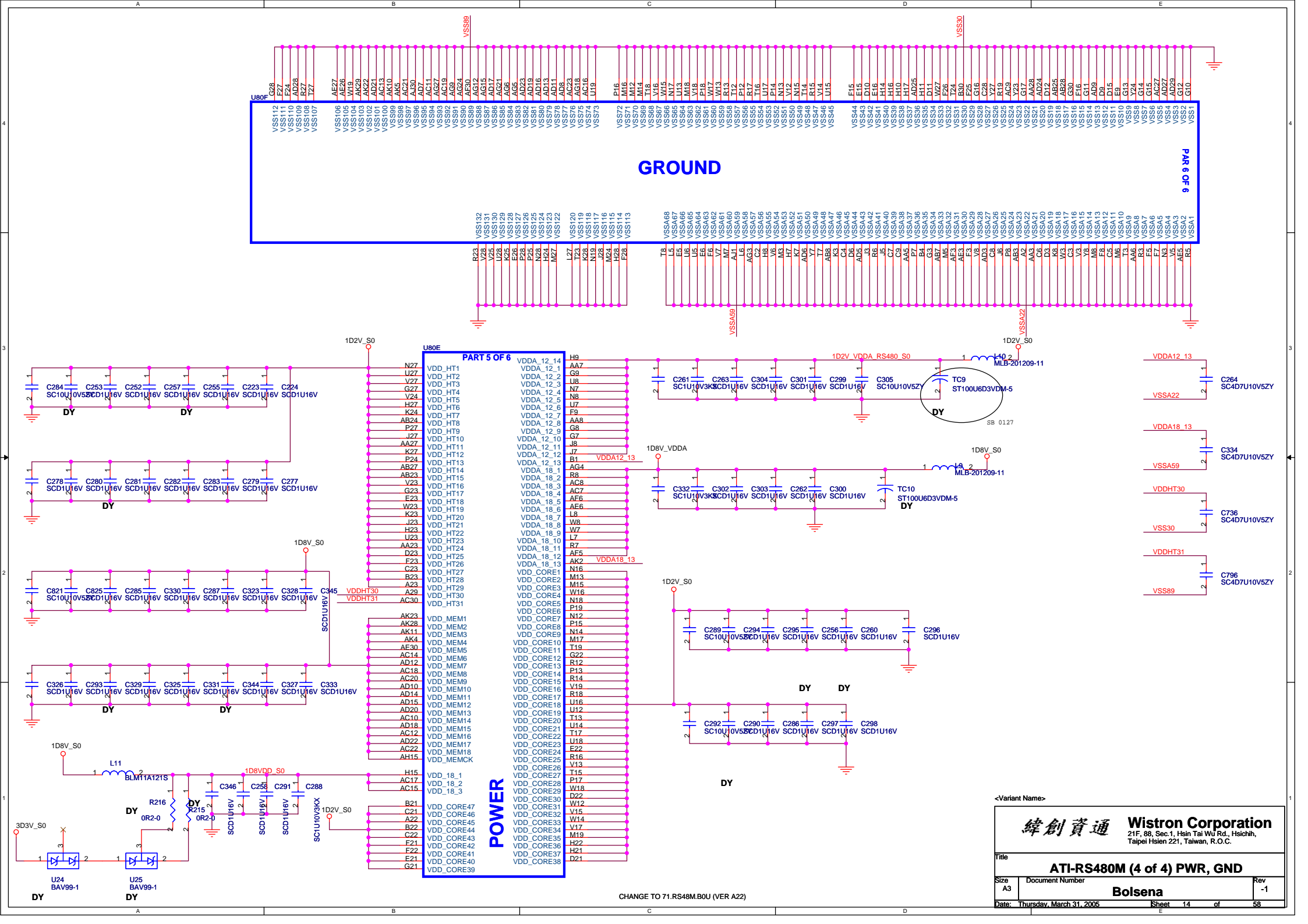
Dummy when use Discrete

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

Title: **ATI-RS480M (3 of 4) LVDS CRT**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet 13 of 58



GROUND

POWER

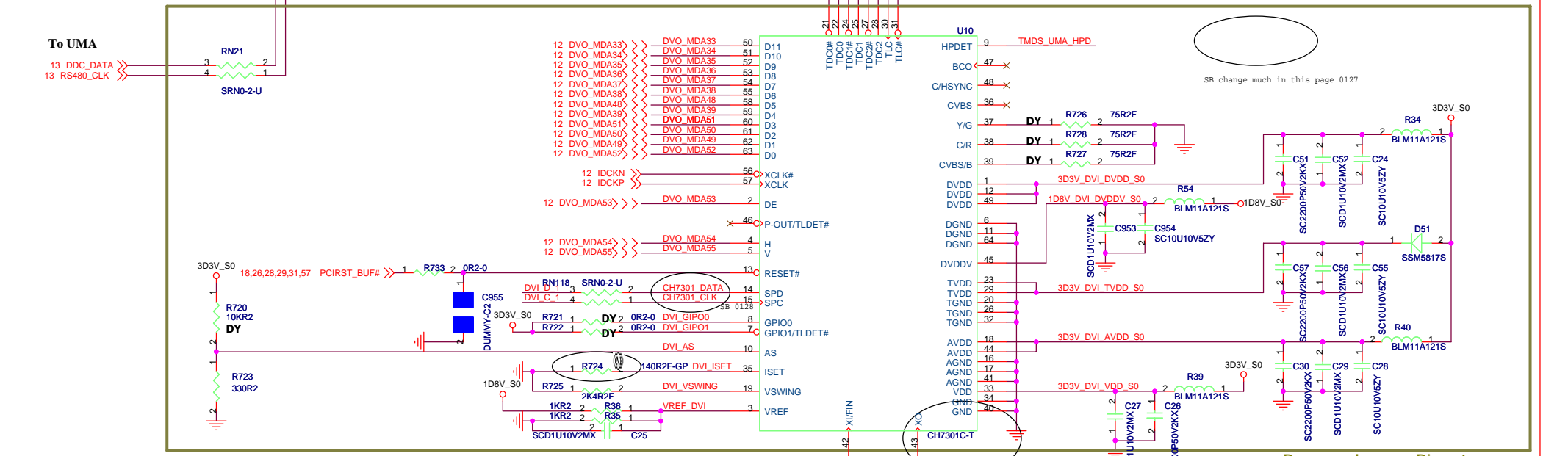
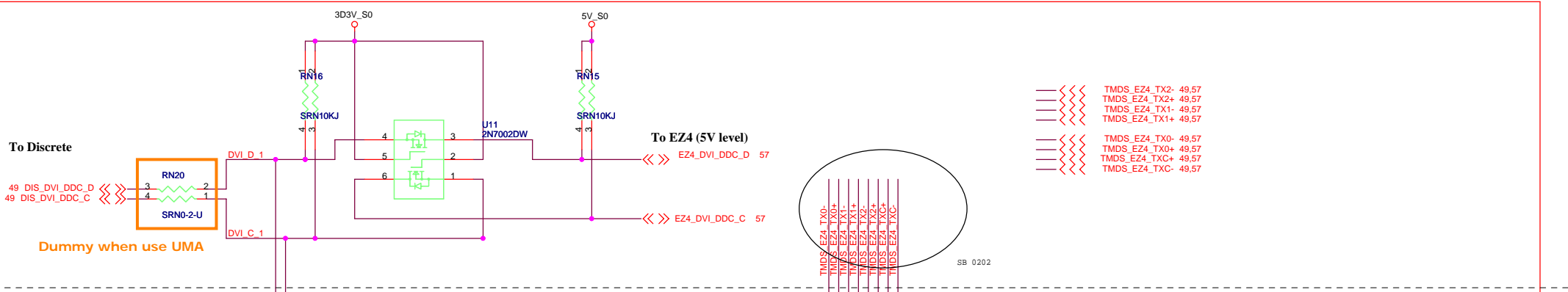
Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

ATI-RS480M (4 of 4) PWR, GND

Document Number: **Bolsena**

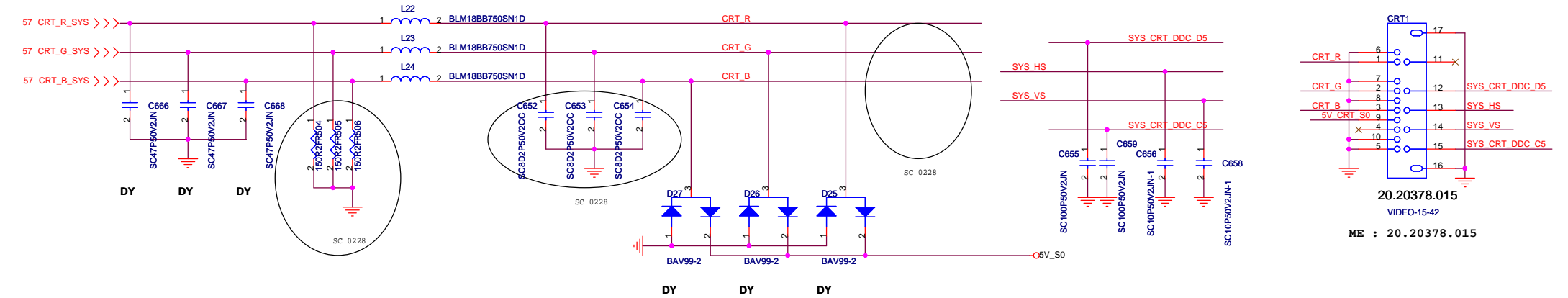
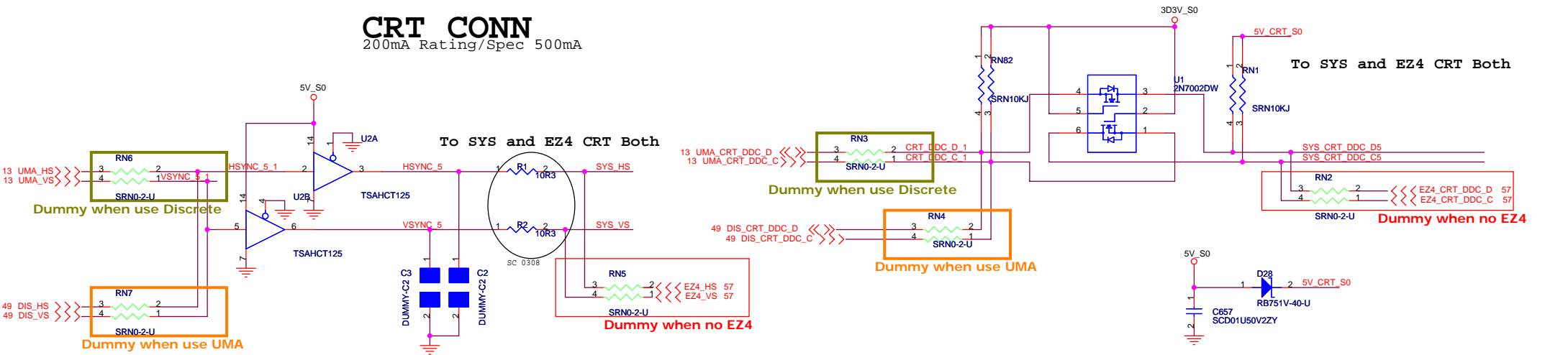
Date: Thursday, March 31, 2005 Sheet 14 of 58

CHANGE TO 71.RS48M.B0U (VER A22)



CRT CONN

200mA Rating/Spec 500mA



TV CONN

CHROMA

LUMA

COMPOSIT

Variant Name:

緯創資通 Wistron Corporation

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

Title: **CRT / TV**

Size: A3

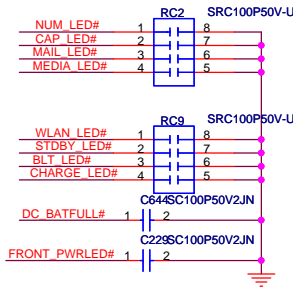
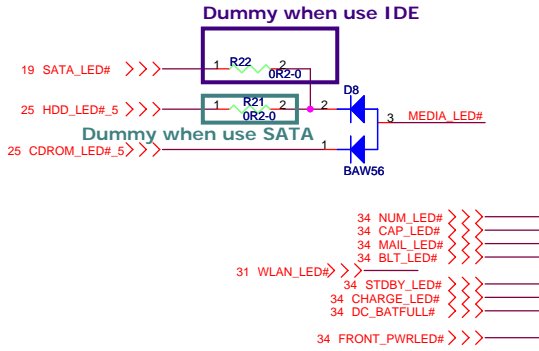
Document Number: **Bolsena**

Date: Thursday, March 31, 2005

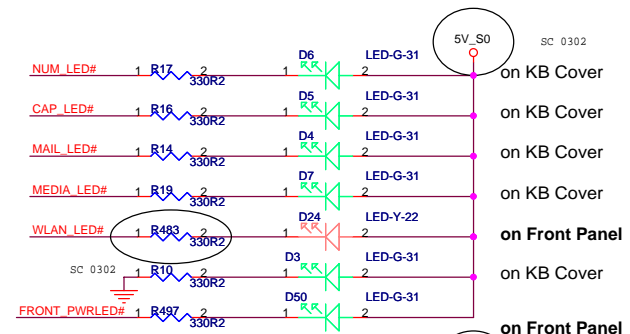
Rev: -1

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LEDs



?modify R
?half light



on KB cover

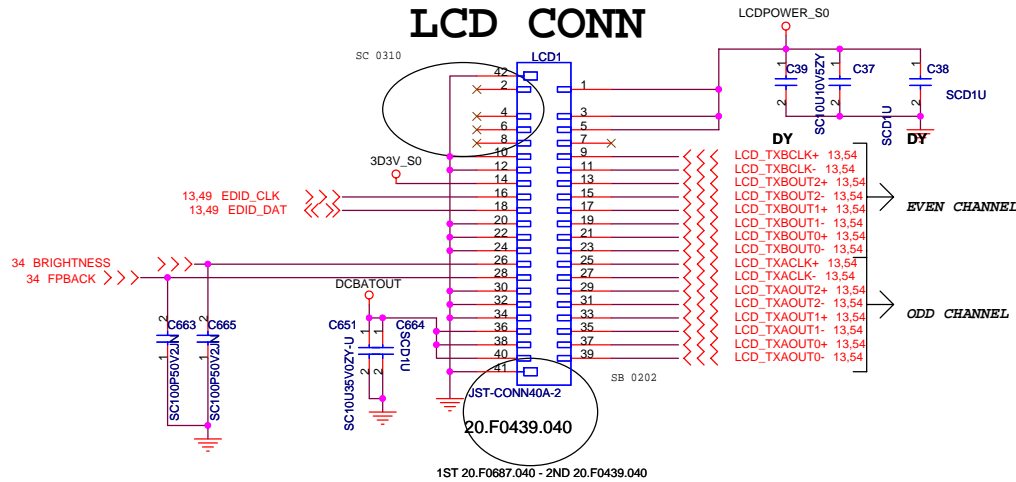
LED	V	V	V	V	V	V	V	V
Button	V	V	V	V	V	V	V	V
	POWER1	E-MAIL	INTERNET	e-BTN	PROGRAM	CAPS	NUM	HDD

Front panel

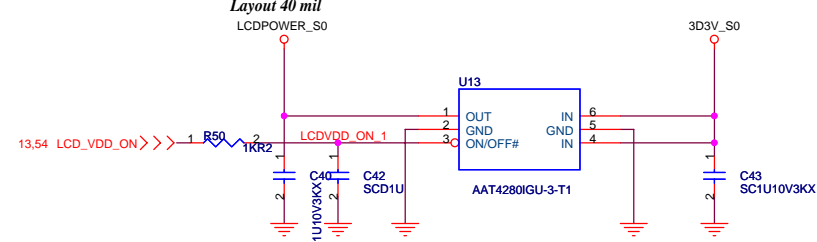
LED	V	V	V	V	Charger:	Power2:
Button	V	V	V	V	Green : DC only or Battery full with DC	Green : S0
	Bluetooth	Wireless	Charger	Power2	Orange : Charging	Orange : S3
					Orange Blink : Battery low	Orange Blinking : Enter S4

(Please See M.E. drawing LED position)

LCD CONN



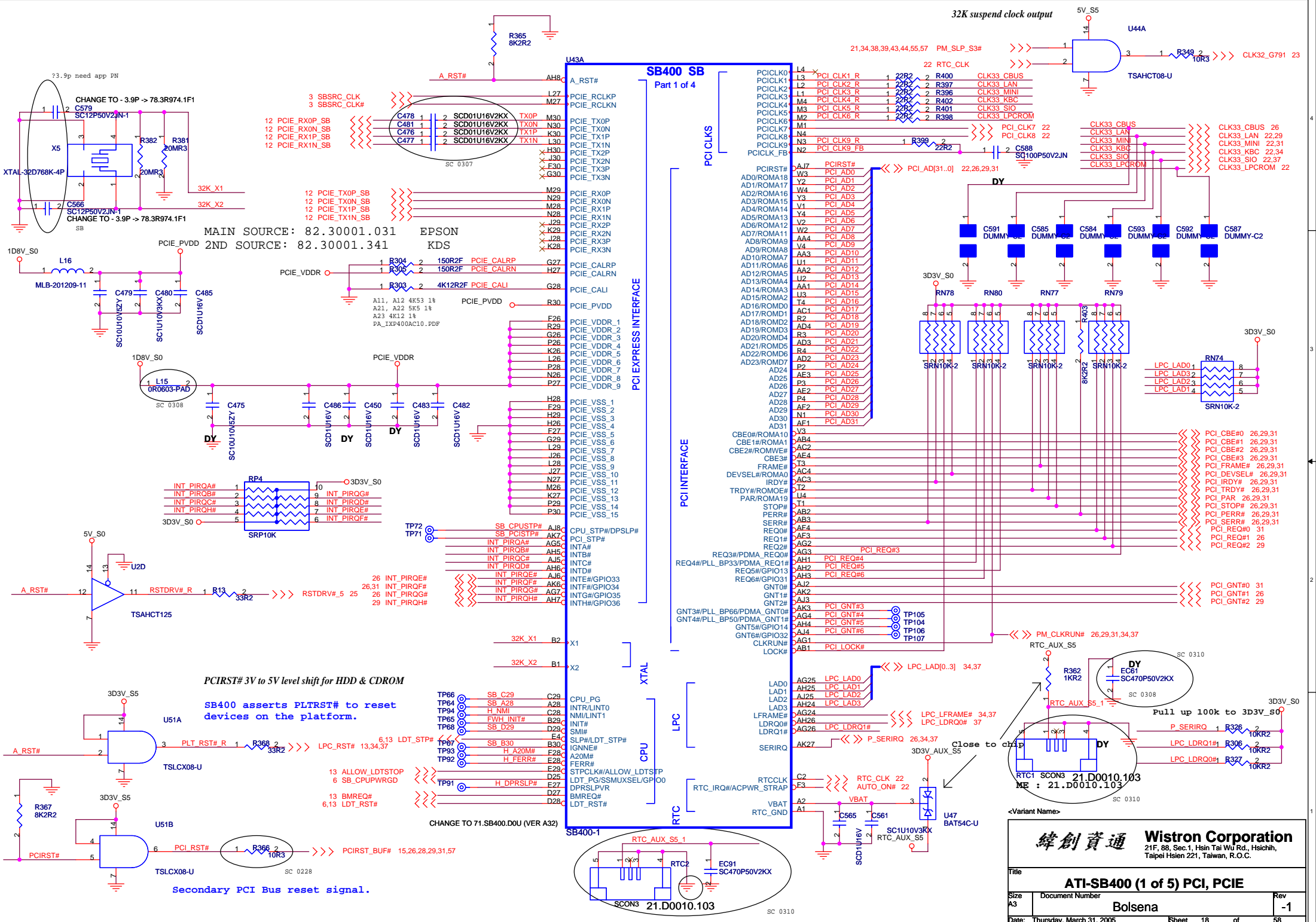
LCD POWER

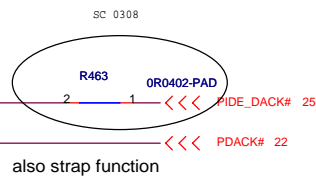
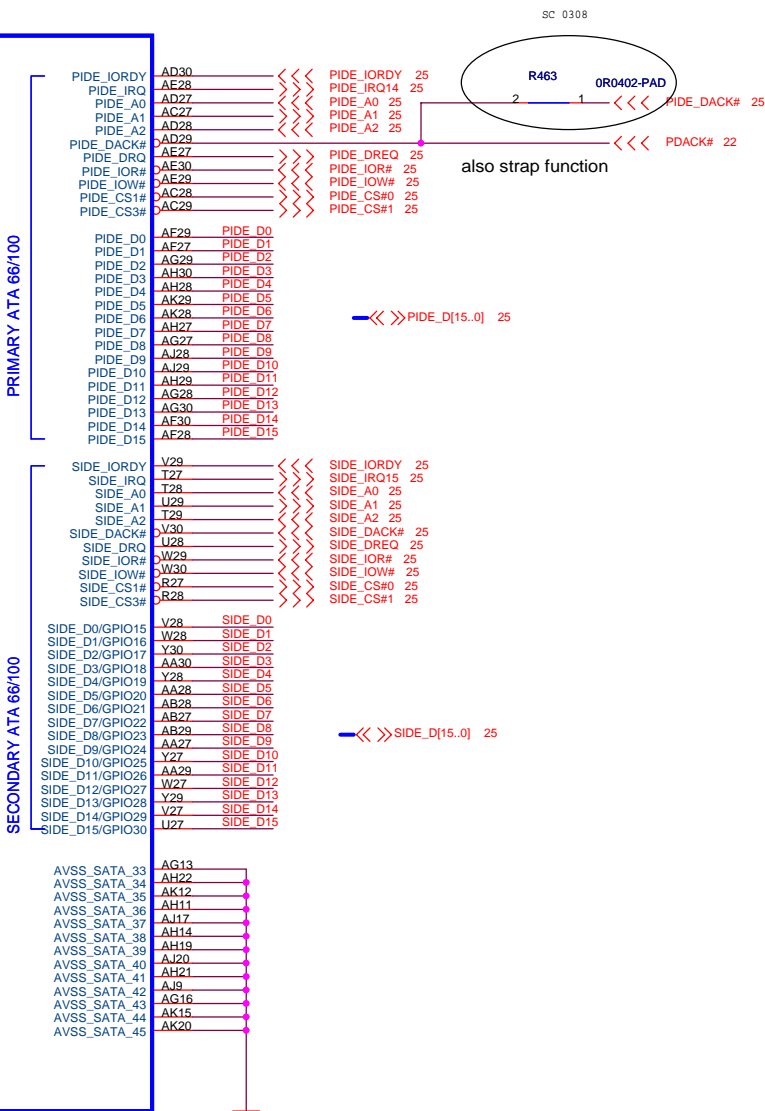
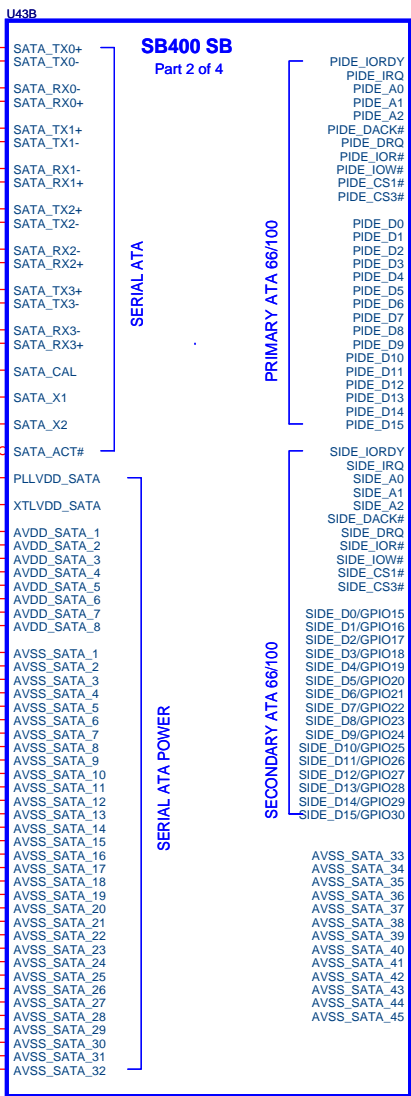
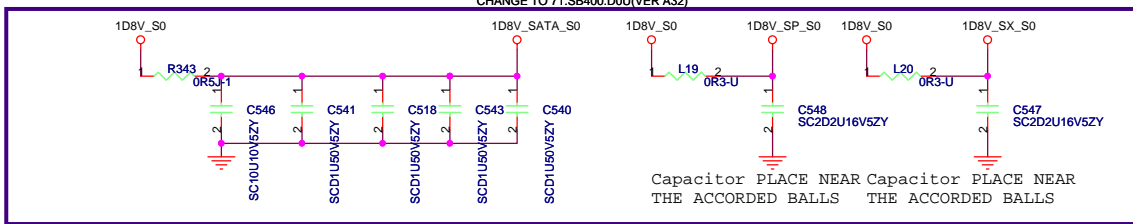
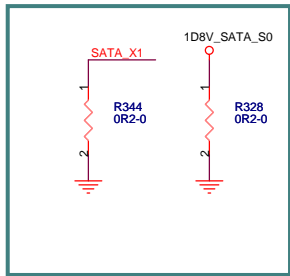
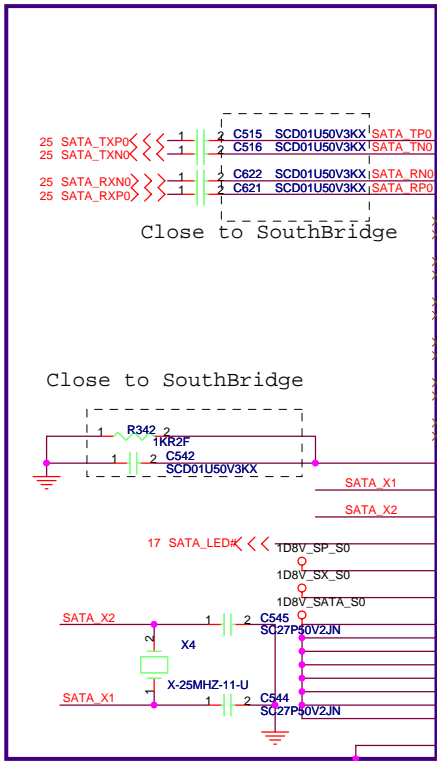


<Variant Name>

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

Title LCD / LEDs		
Size A3	Document Number Bolsena	Rev -1
Date: Thursday, March 31, 2005	Sheet 17	of 58





<<>>PIDE_D[15..0] 25

<<>>SIDE_D[15..0] 25

SB400-1
CHANGE TO 71.SB400.D0U(VER A32)

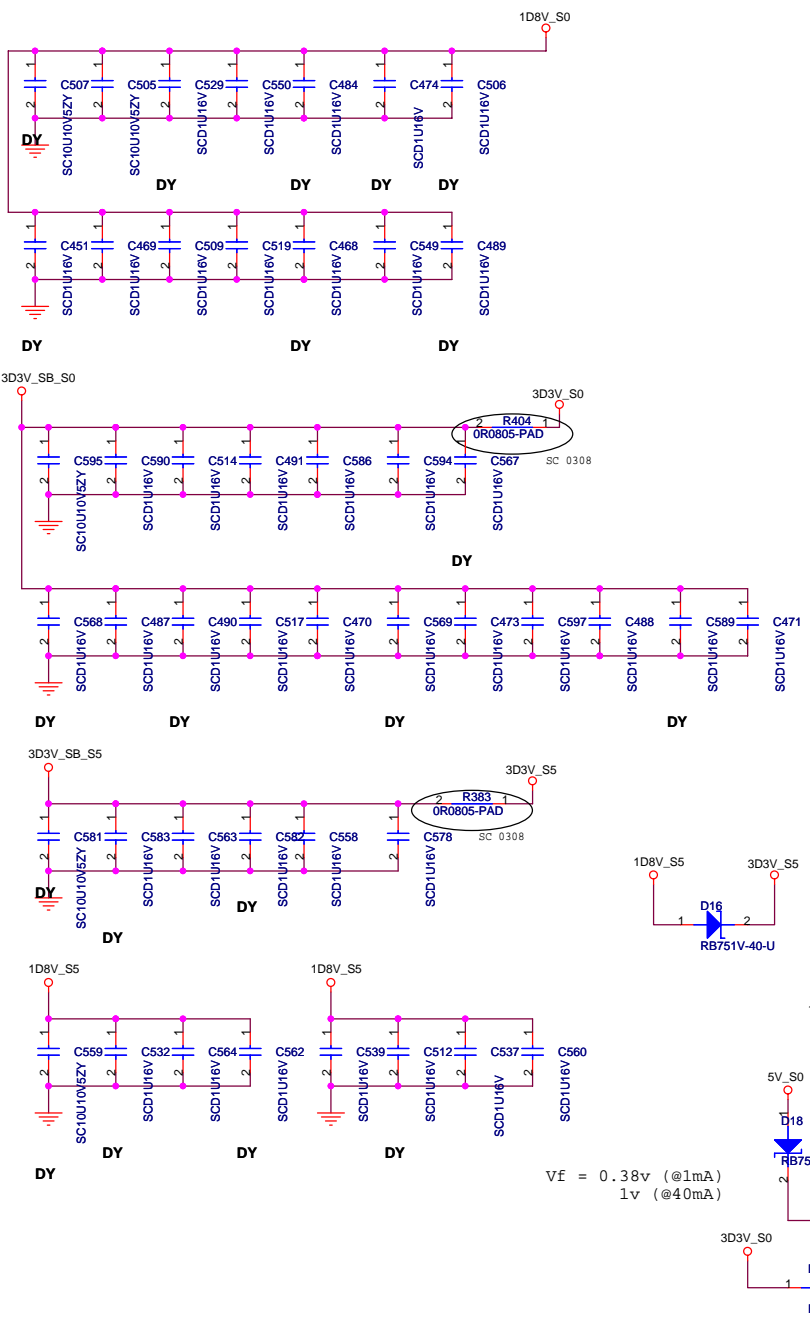
<Variant Name>

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

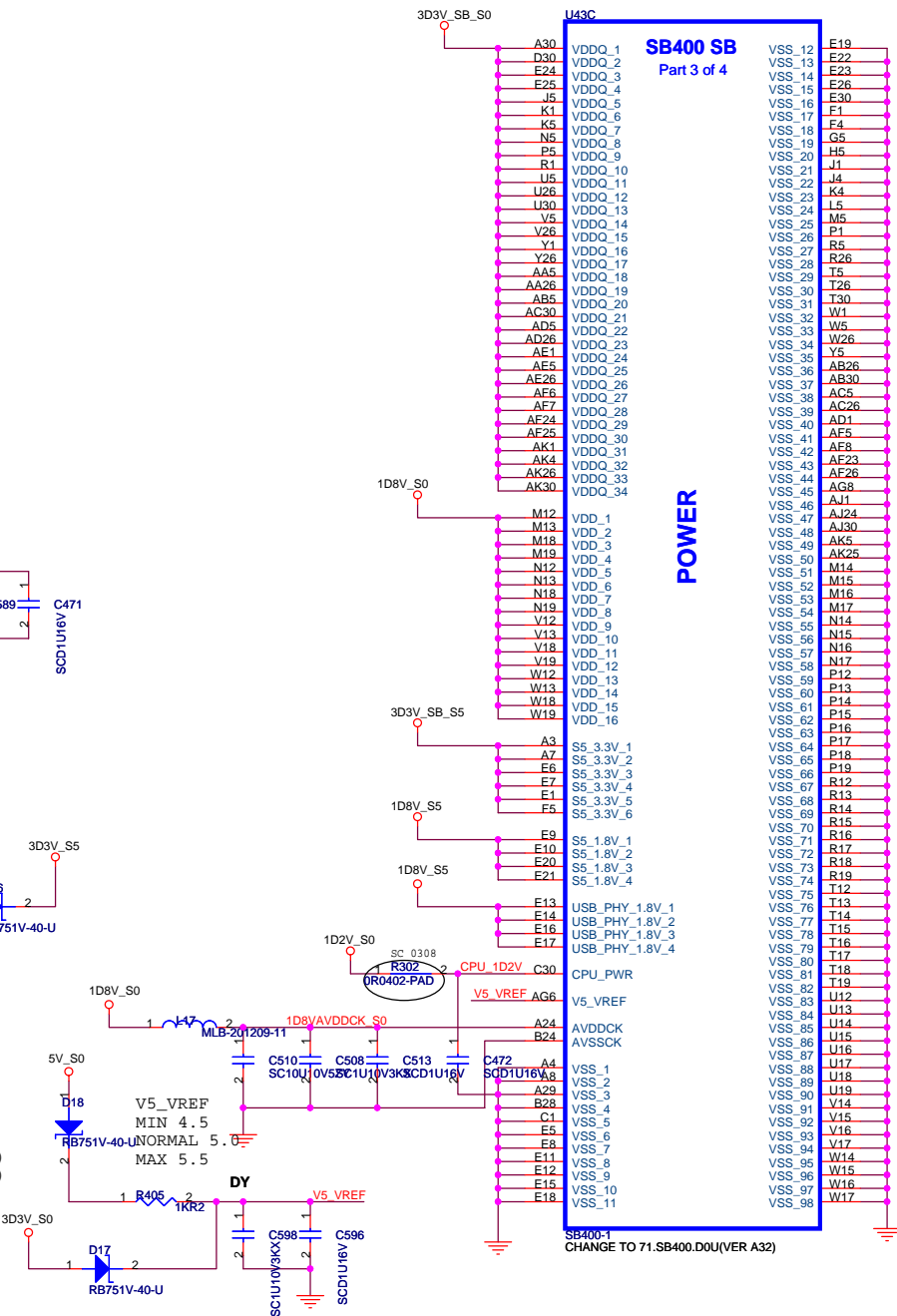
Title: **ATI-SB400 (2 of 5) IDE**

Size A3 Document Number **Bolsena** Rev -1

Date: Thursday, March 31, 2005 Sheet 19 of 58



VF = 0.38v (@1mA)
1v (@40mA)



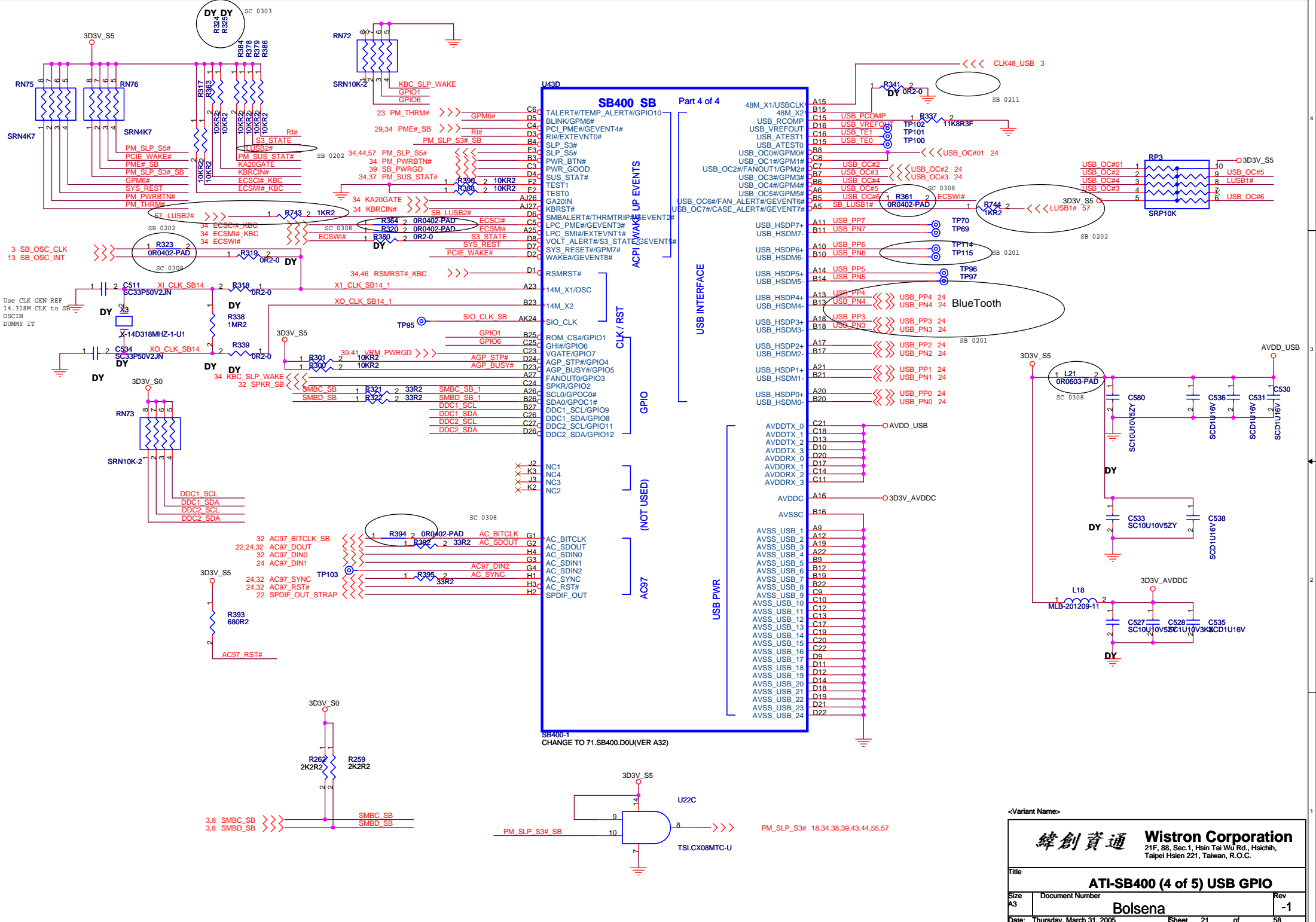
<Variant Name>

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

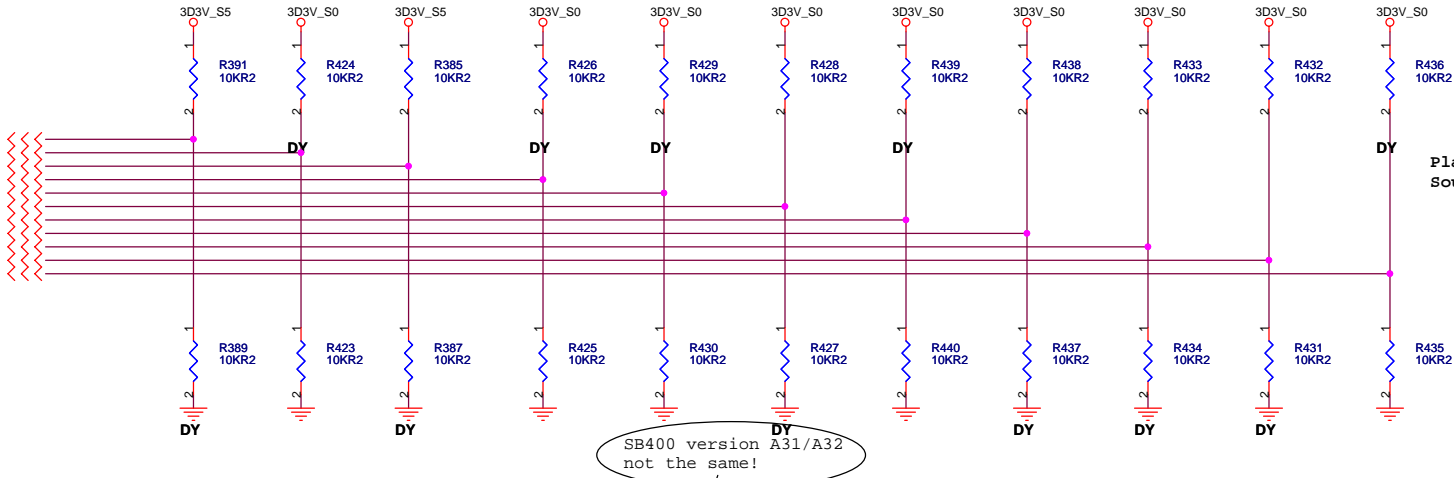
Title: **ATI-SB400 (3 of 5) POWER**

Size: A3 | Document Number: **Bolsena** | Rev: **-1**

Date: Thursday, March 31, 2005 | Sheet: 20 of 58



18 AUTO_ON#
 21,24,32 AC97_DOUT
 18 RTC_CLK
 21 SPDIF_OUT_STRAP
 18,29 CLK33_LAN
 18,31 CLK33_MINI
 18,34 CLK33_KBC
 18,37 CLK33_SIO
 18 CLK33_LPCROM
 18 PCI_CLK7
 18 PCI_CLK8



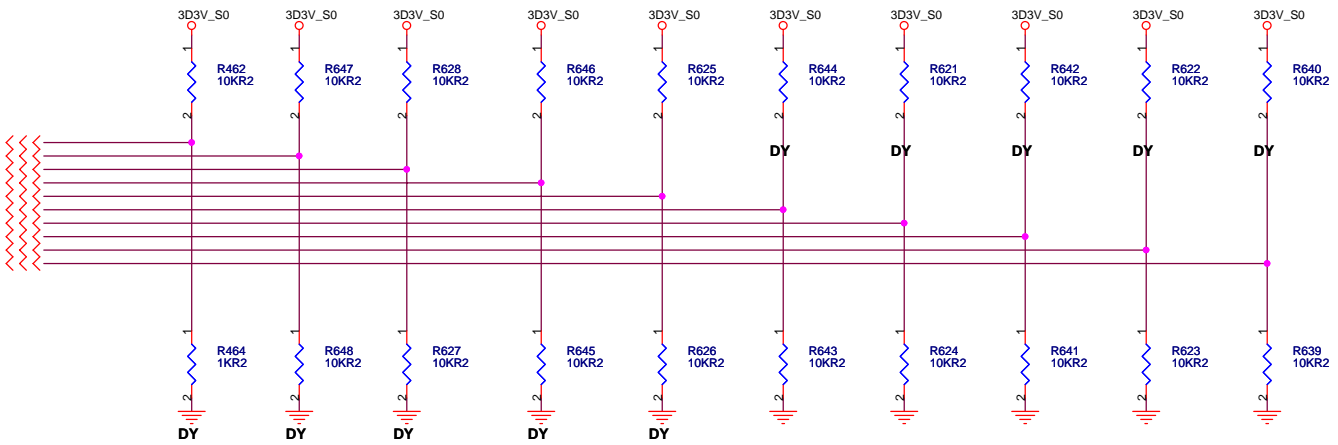
Place these R close to SouthBridge if possible

SB400 version A31/A32 not the same!

REQUIRED SYSTEM STRAPS

	ACPWON	AC_SDOUT	RTC_CLK	SPDIF_OUT	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	PCI_CLK6	PCI_CLK7	PCI_CLK8
STRAP HIGH	MANUAL PWR ON <i>DEFAULT</i>	USE DEBUG STRAPS	INTERNAL RTC <i>DEFAULT</i>	SIO 24MHz	48MHZ-Clock Input Buffer <i>DEFAULT</i>	USB PHY PWRDOWN DISABLE <i>DEFAULT</i>	USB INT PLL48 <i>DEFAULT</i>	14MHZ OSC MODE <i>DEFAULT</i>	CPU I/F=K8 <i>DEFAULT</i>	ROM TYPE H,H=PCI (X Bus) ROM H,L=LPC ROM I	
STRAP LOW	AUTO PWR ON	IGNORE DEBUG STRAPS <i>DEFAULT</i>	EXTENNAL RTC (NOT SUPPORTED W/IT8712)	SIO 48MHz <i>DEFAULT</i>	48MHZ -Crystal Pad	USB PHY PWRDOWN ENABLE	USB EXT. 48MHZ	14MHZ XTAL MODE	CPU I/F=P4	L,H=LPC ROM II L,L=Firmware Hub ROM	

19 PDAK#
 18,26,29,31 PCI_AD31
 18,26,29,31 PCI_AD30
 18,26,29,31 PCI_AD29
 18,26,29,31 PCI_AD28
 18,26,29,31 PCI_AD27
 18,26,29,31 PCI_AD26
 18,26,29,31 PCI_AD25
 18,26,29,31 PCI_AD24
 18,26,29,31 PCI_AD23



DEBUG STRAPS

	PDAK#	PCI_AD31	PCI_AD30	PCI_AD29	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
STRAP HIGH	USE LONG RESET <i>DEFAULT</i>	RESERVED	RESERVED	RESERVED	RESERVED	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	RESERVED
STRAP LOW	USE SHORT RESET					USE PCI PLL <i>DEFAULT</i>	USE ACPI BCLK <i>DEFAULT</i>	USE IDE PLL <i>DEFAULT</i>	USE DEFAULT PCIE STRAPS <i>DEFAULT</i>	

<Variant Name>

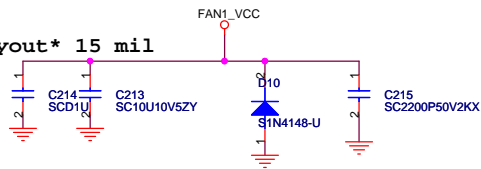
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

File: **ATI-SB400 STRAPPING(5 of 5)**

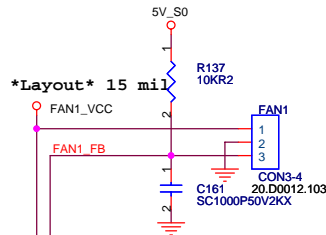
Size A3 Document Number **Bolsena** Rev -1

Date: Thursday, March 31, 2005 Sheet 22 of 58

Layout 15 mil

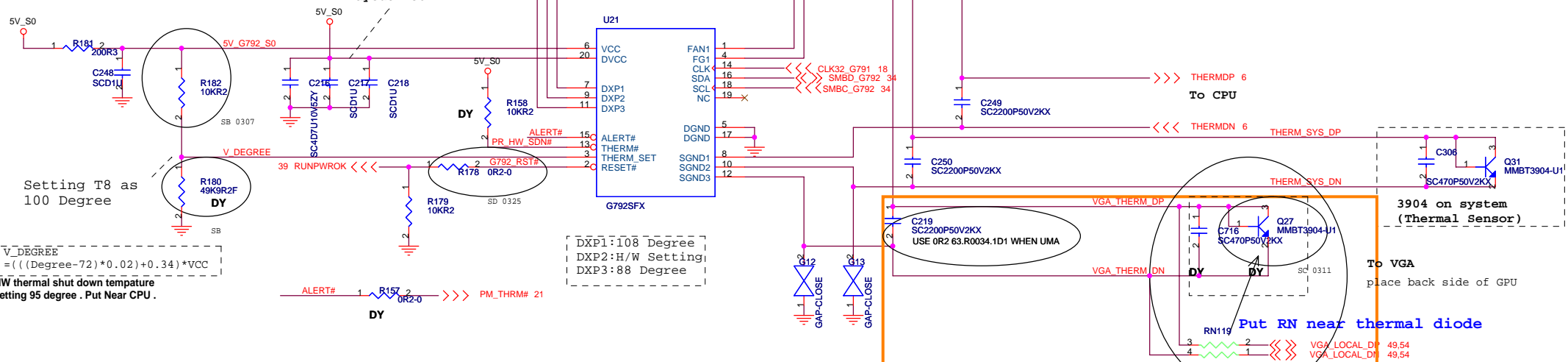


Layout 15 mil



ME : 20.D0012.103

Layout 30 mil



Setting T8 as 100 Degree

$$V_DEGREE = ((Degree - 72) * 0.02) + 0.34 * VCC$$

HW thermal shut down temperature setting 95 degree . Put Near CPU .

DXP1:108 Degree
DXP2:H/W Setting
DXP3:88 Degree

3904 on system (Thermal Sensor)

To VGA place back side of GPU

Put RN near thermal diode

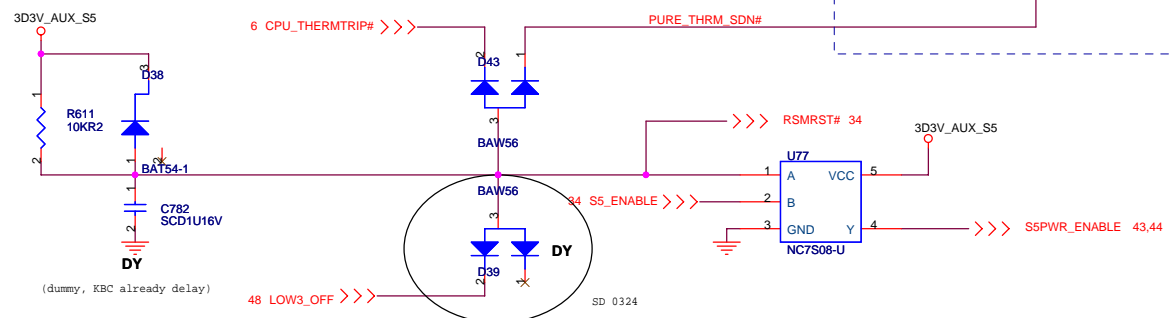
Dummy when G792 enhanced T8 function

T8_RSET:27K SET TO 80°C
T8_RSET:20K SET TO 90°C
T8_RSET:15K SET TO 100°C

By Sourcer request:
Main souce 74.00709.07F
Second souce 74.00710.03P
74.06509.07F
74.06510.A7P

Dummy when use UMA

Put under CPU Socket

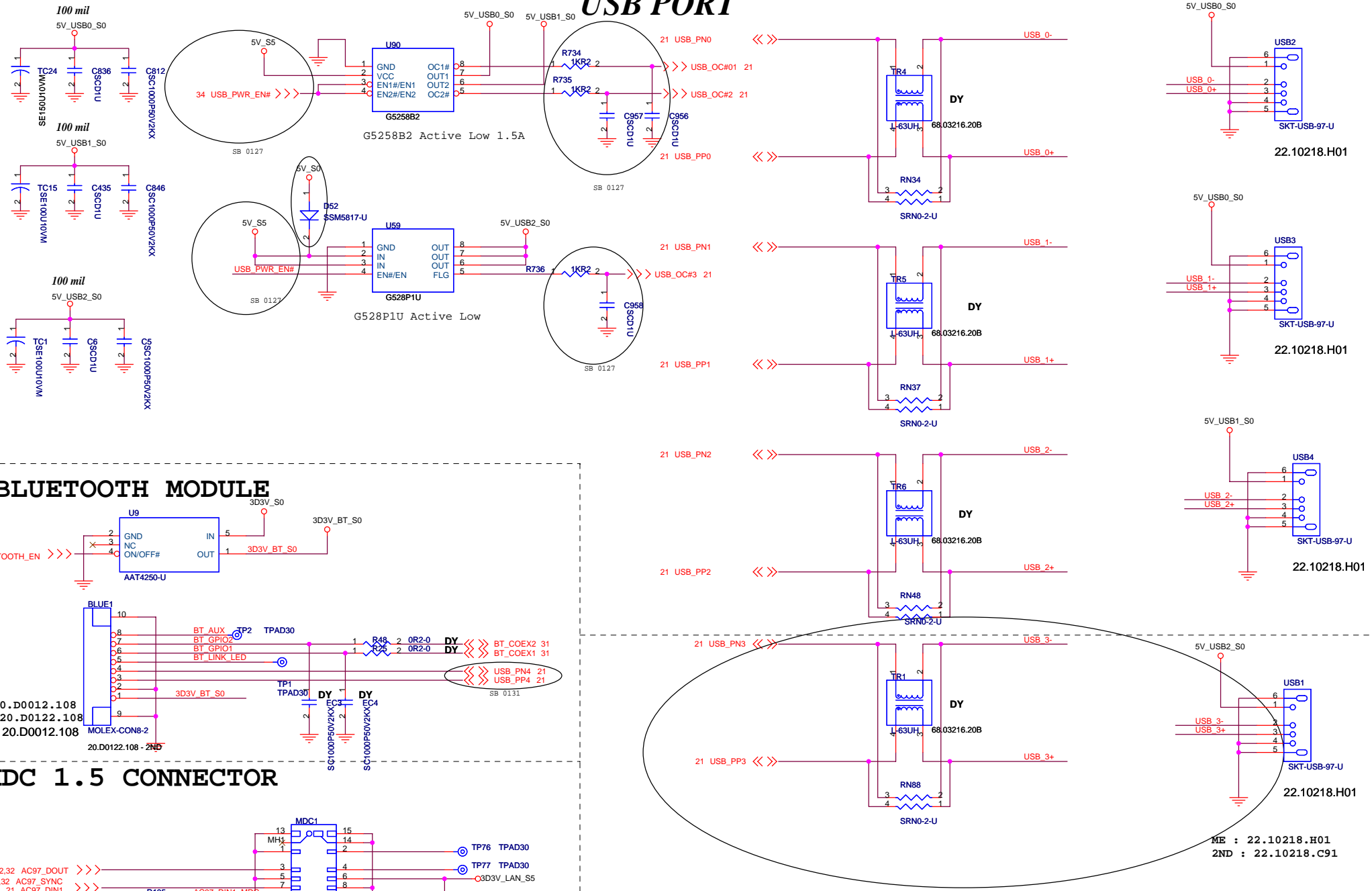


(dummy, KBC already delay)

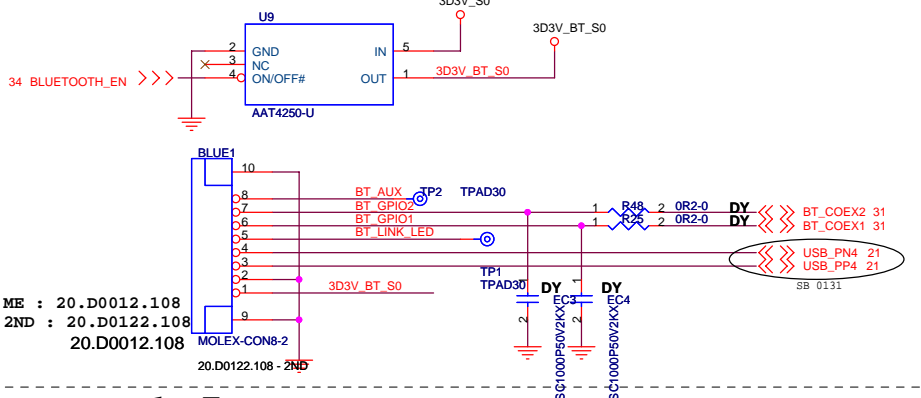
Title		THERMAL G792	
Size	Document Number	Rev	
Custom	Bolsena	-1	
Date: Thursday, March 31, 2005	Sheet 23 of	58	

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

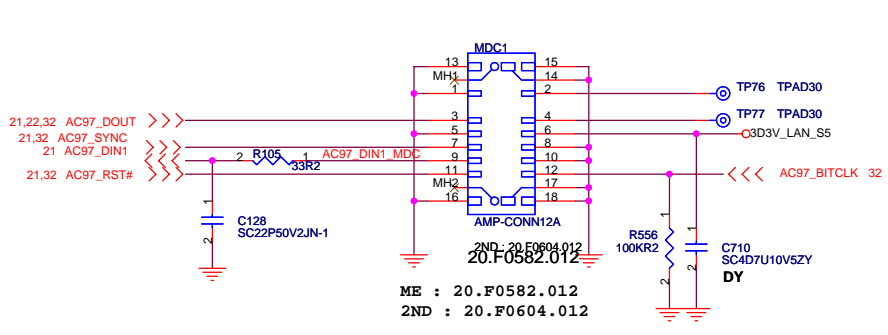
USB PORT



BLUETOOTH MODULE



MDC 1.5 CONNECTOR



ME : 22.10218.H01
2ND : 22.10218.C91

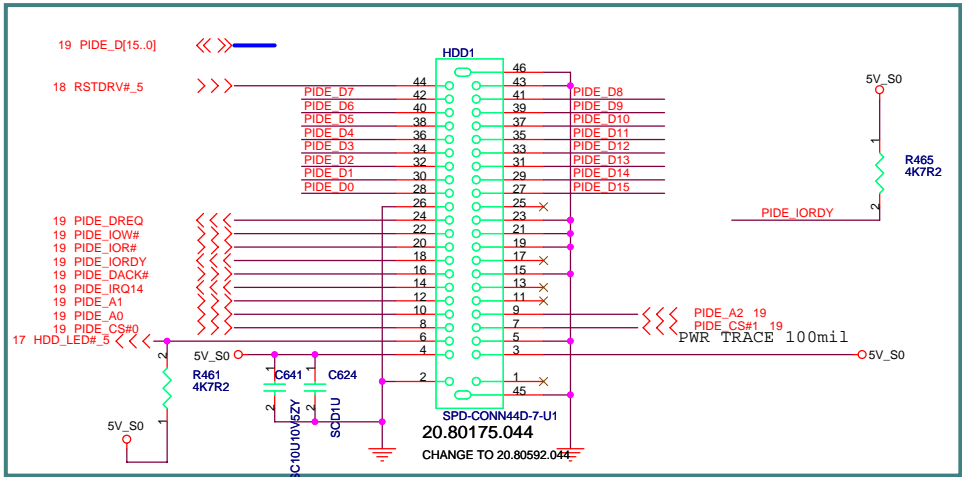
<Variant Name>

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

Title: **USB / MDC / BLUETOOTH**

Size A3	Document Number	Rev -1
Bolsena		
Date: Thursday, March 31, 2005	Sheet 24	of 58

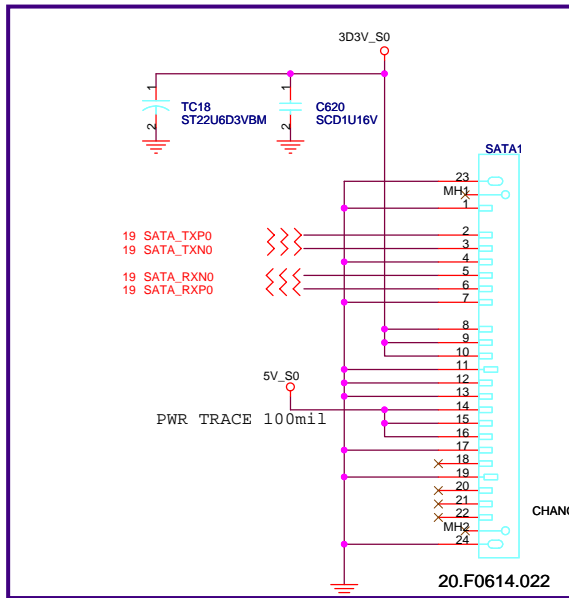
HDD



ME : 20.80592.044
(DIFFERENT FROM ORCAD P/N)

Dummy when use SATA

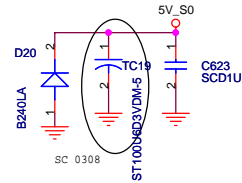
SATA Connector



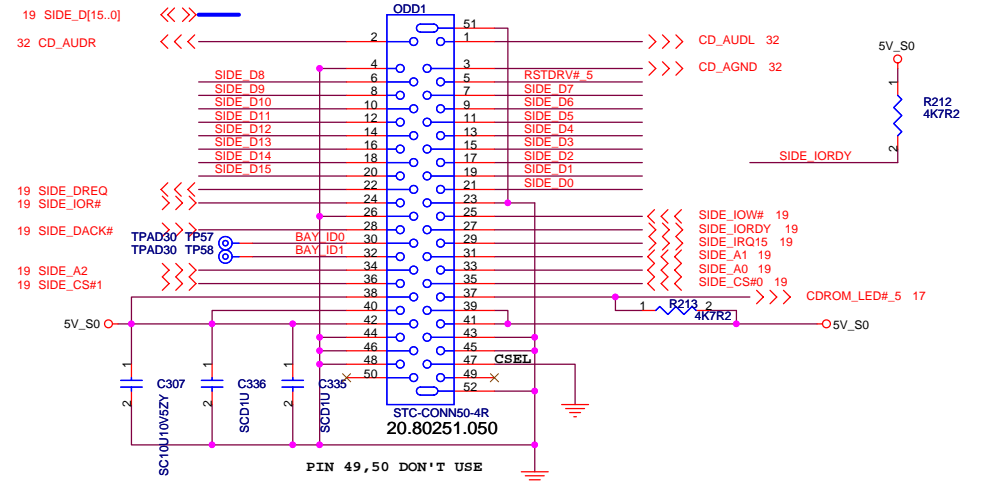
Dummy when use IDE

ME : 20.F0665.022
(DIFFERENT FROM ORCAD P/N)

For HDD & SATA both



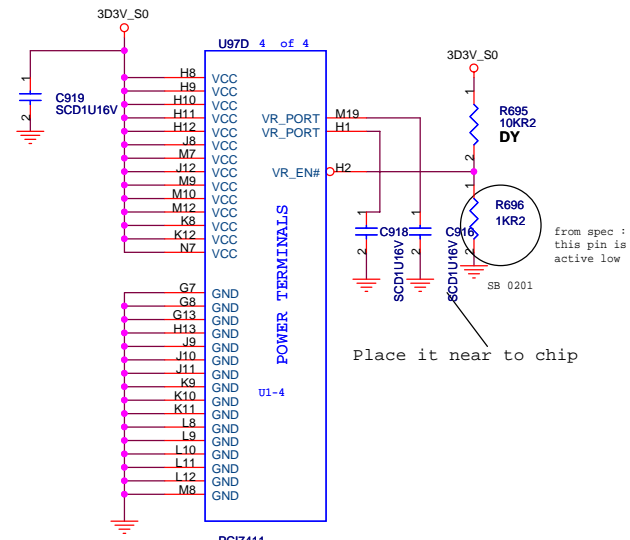
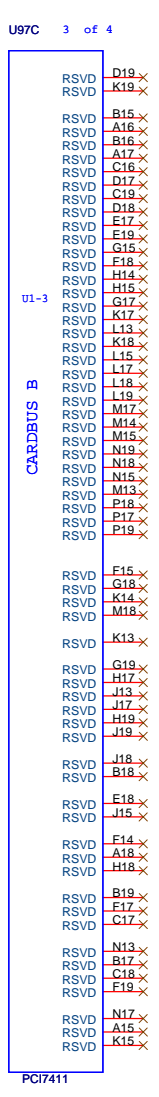
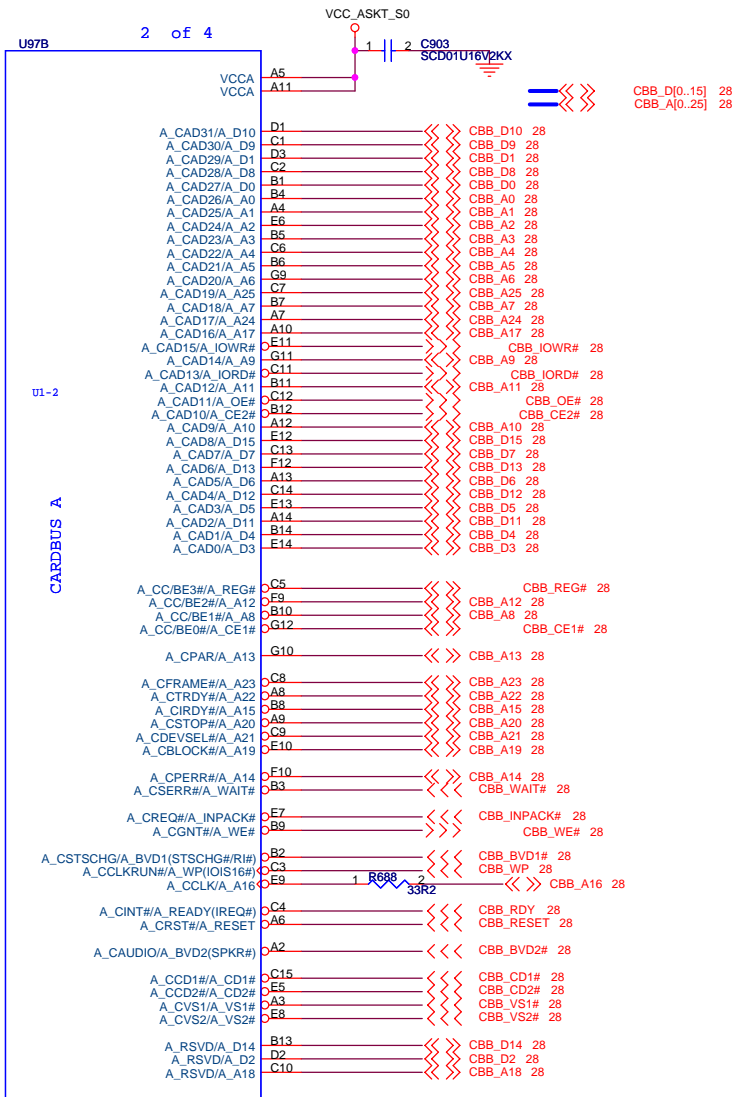
CDROM



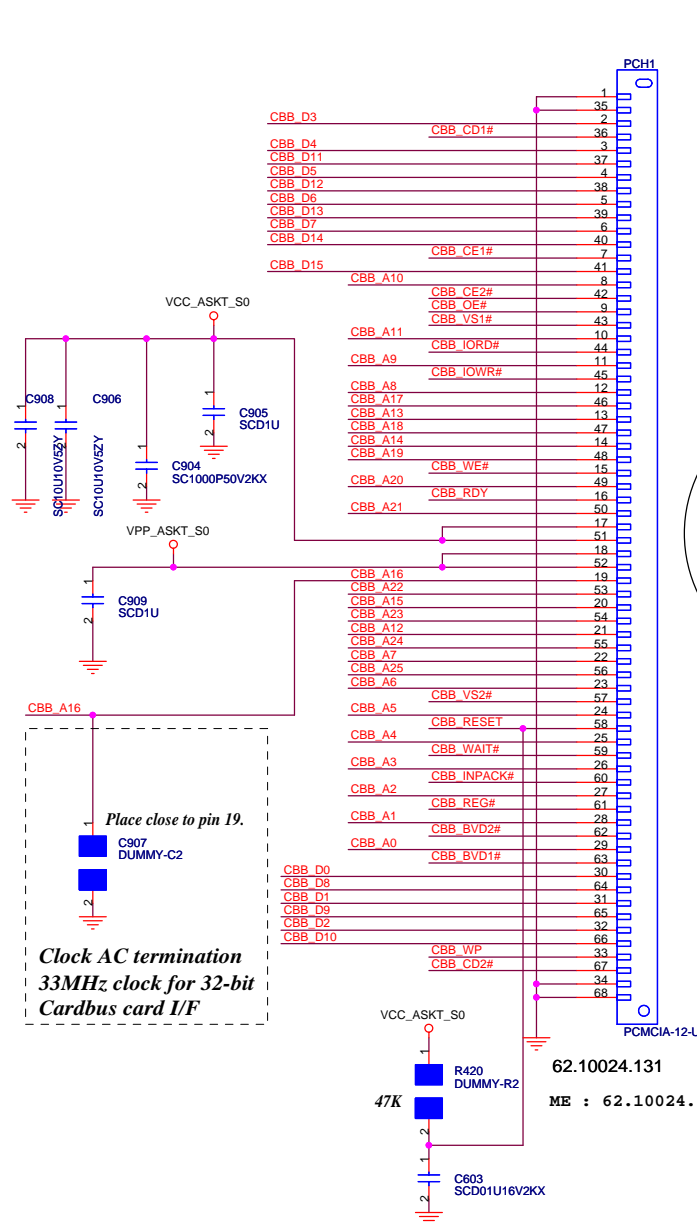
ME : 20.80251.050

<Variant Name>

Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
HDD / CDROM / SATA	
Title	
Size A3	Document Number
Bolsena	
Date: Thursday, March 31, 2005	Sheet 25 of 58

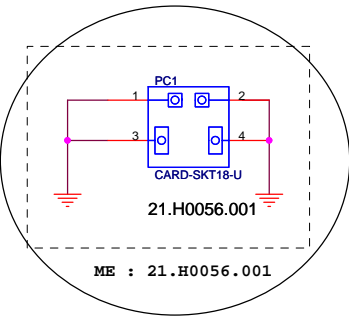
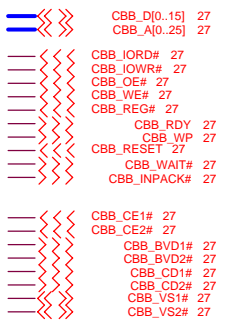


PCMCIA Socket



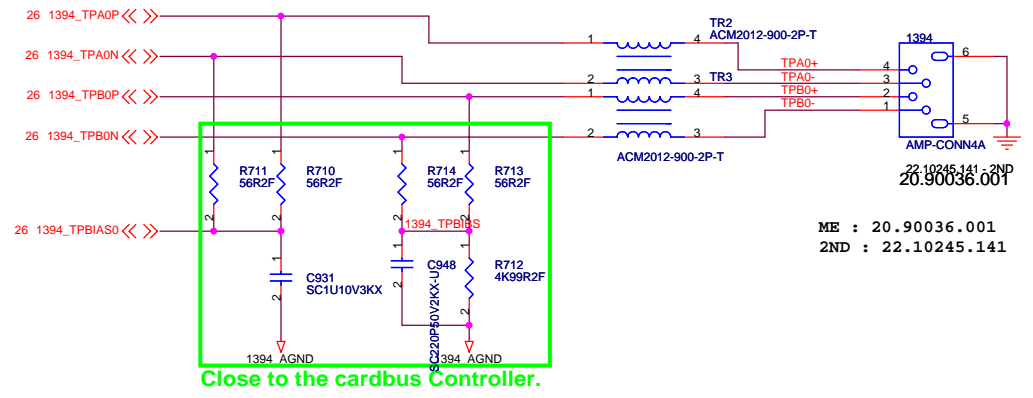
Clock AC termination
33MHz clock for 32-bit
Cardbus card I/F

Cardbus I/F



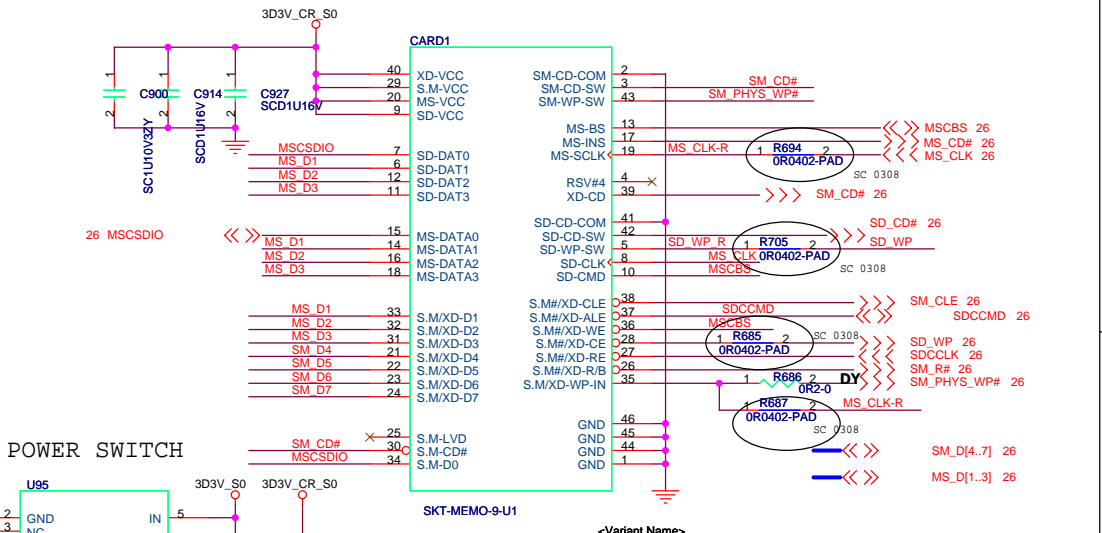
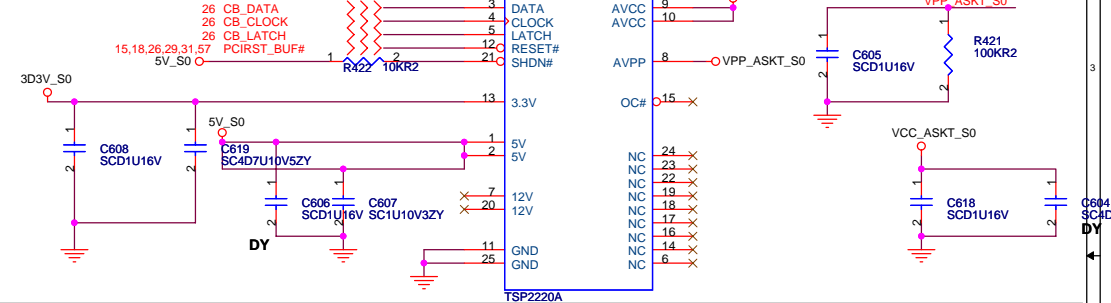
ME : 21.H0056.001

1394 Connector

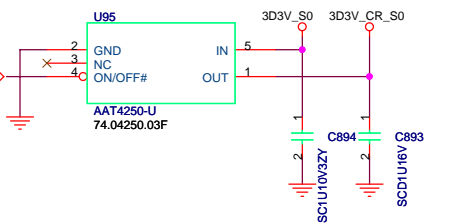


ME : 20.90036.001
2ND : 22.10245.141

Power switch



POWER SWITCH



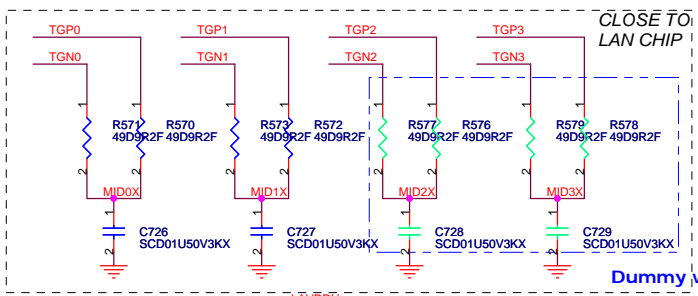
ME : 62.10051.331

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

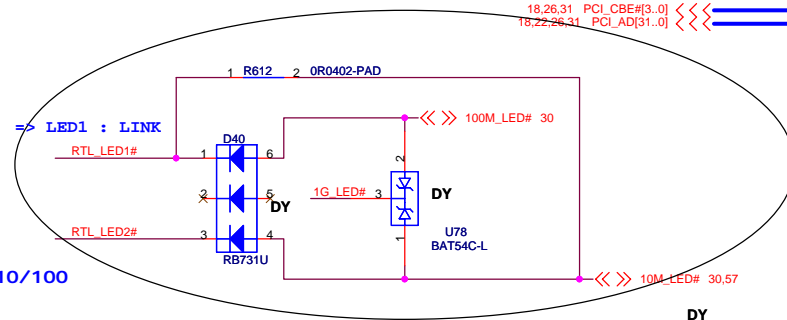
Title: **PCMCIA / 1394 / CARD READER**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet: 28 of 58



Dummy when use 10/100



LED1 : LINK

Dummy when use Giga

Dummy when use 10/100

Dummy when use 10/100

Dummy when use Giga

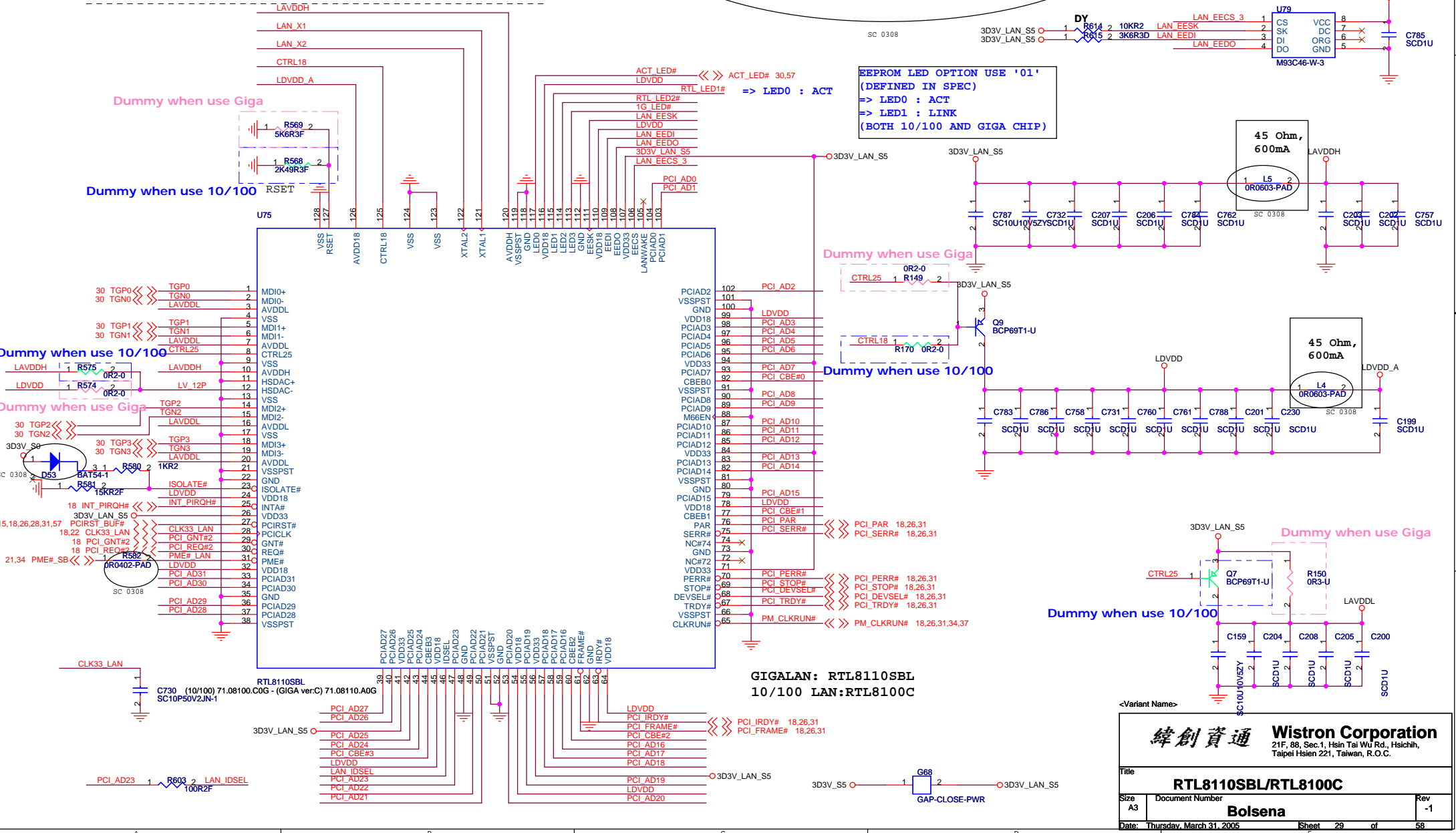
Dummy when use 10/100

Dummy when use Giga

Dummy when use 10/100

Dummy when use 10/100

Dummy when use Giga

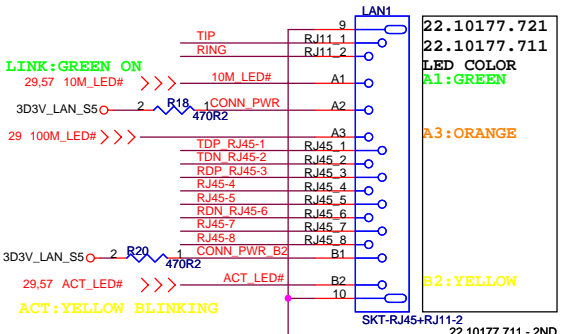


GIGALAN: RTL8110SBL
10/100 LAN: RTL8100C

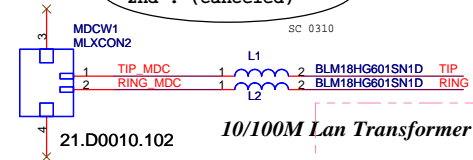
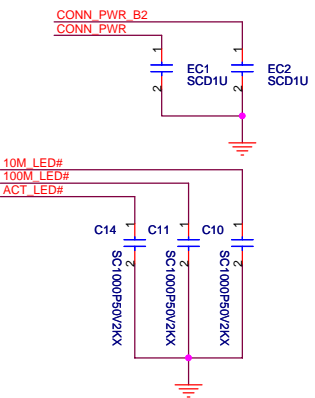
EEPROM LED OPTION USE '01'
(DEFINED IN SPEC)
=> LED0 : ACT
=> LED1 : LINK
(BOTH 10/100 AND GIGA CHIP)

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

Link: Green - 10Mbps/802.11b
 Orange - 100Mbps/802.11a
 Yellow - 1Gbps

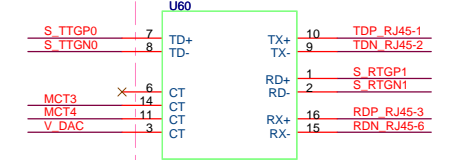


ME : 22.10177.721
 2nd : (canceled)



ME : 21.D0010.102

10/100 Lan Transformer



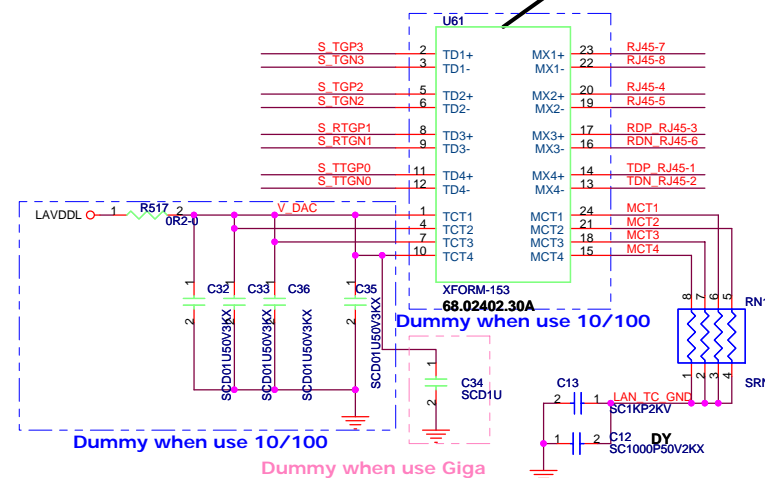
Dummy when use Giga

LANKOM 68.0H80P.301

GIGA Lan Transformer

LANKOM 68.02402.30A
 netsWAP 68.62401.301 (GIGA, Thick)

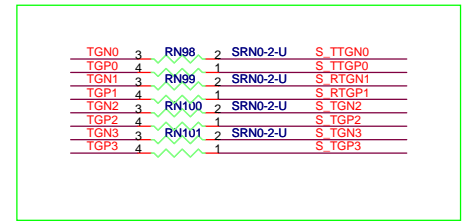
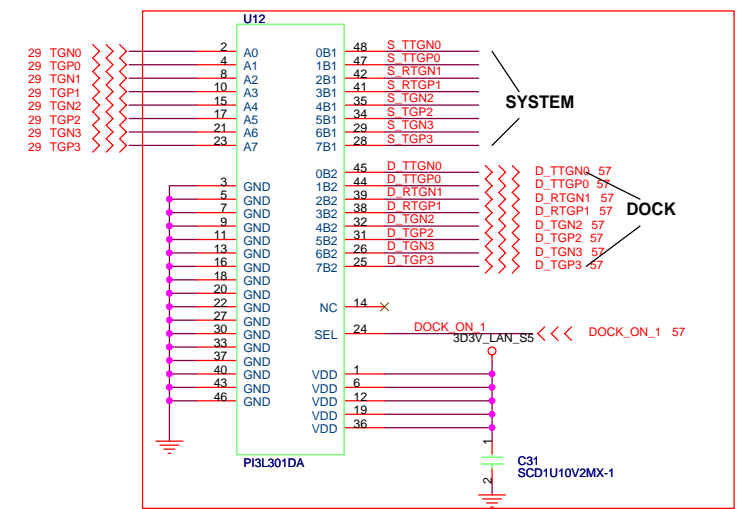
NETSWAP GIGA THICK PN IS 68.62401.301, DON'T USE NETSWAP THIN



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.

Function	SEL
An to nB1	L
An to nB2	H

LAN switch



Dummy when use EZ4

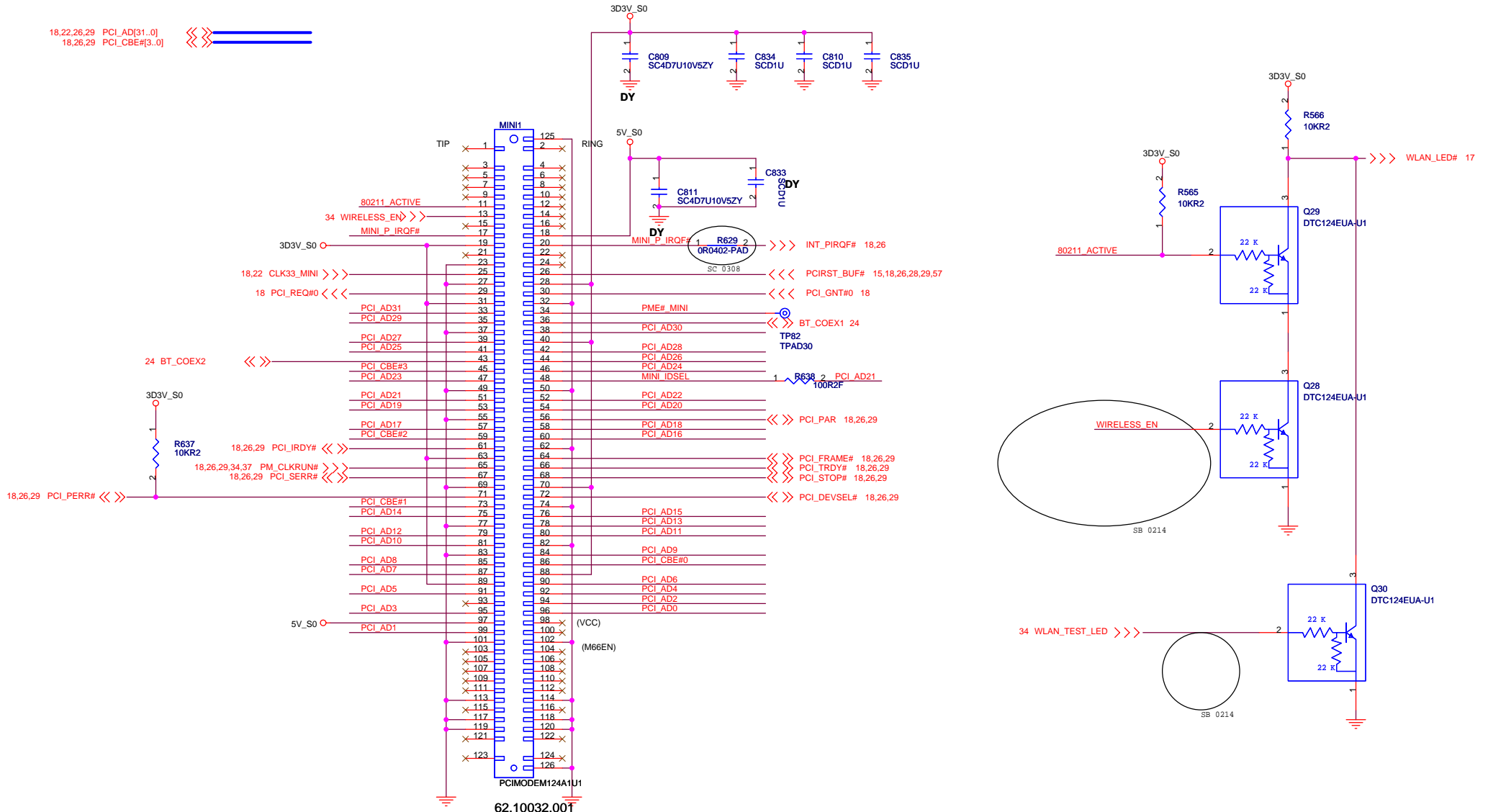
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **LAN CONN**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet: 30 of 58

MINI-PCI



ME : 62.10032.001
2ND : 62.10032.031

62.10032.031 - 2ND

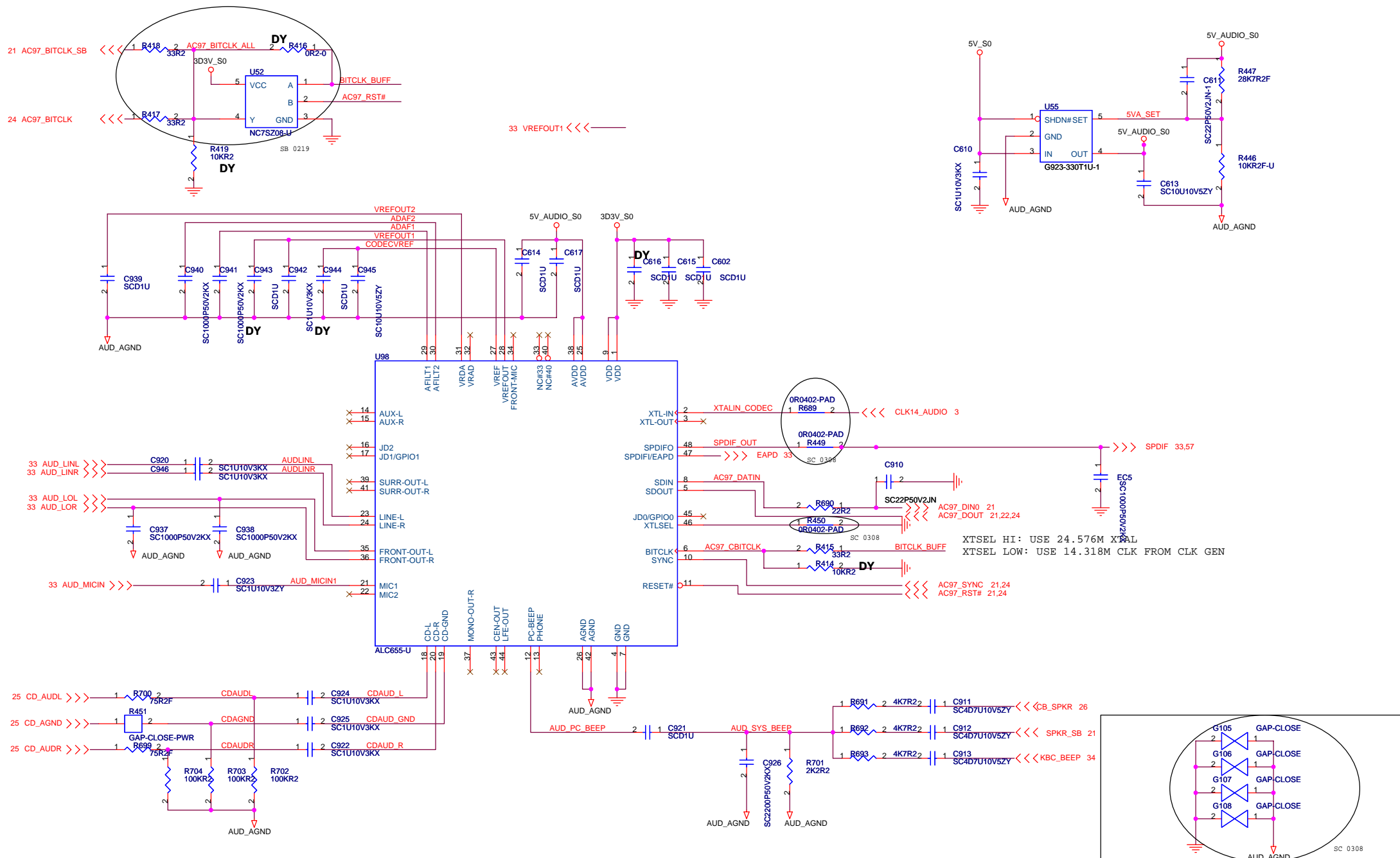
<Variant Name>

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

Title
MINI-PCI

Size A3	Document Number Bolsena	Rev -1
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Date: Thursday, March 31, 2005 Sheet 31 of 58



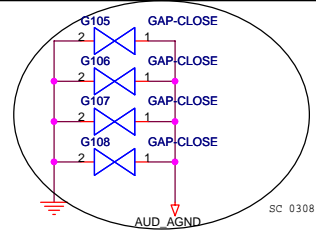
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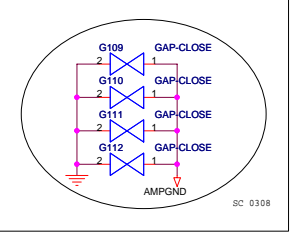
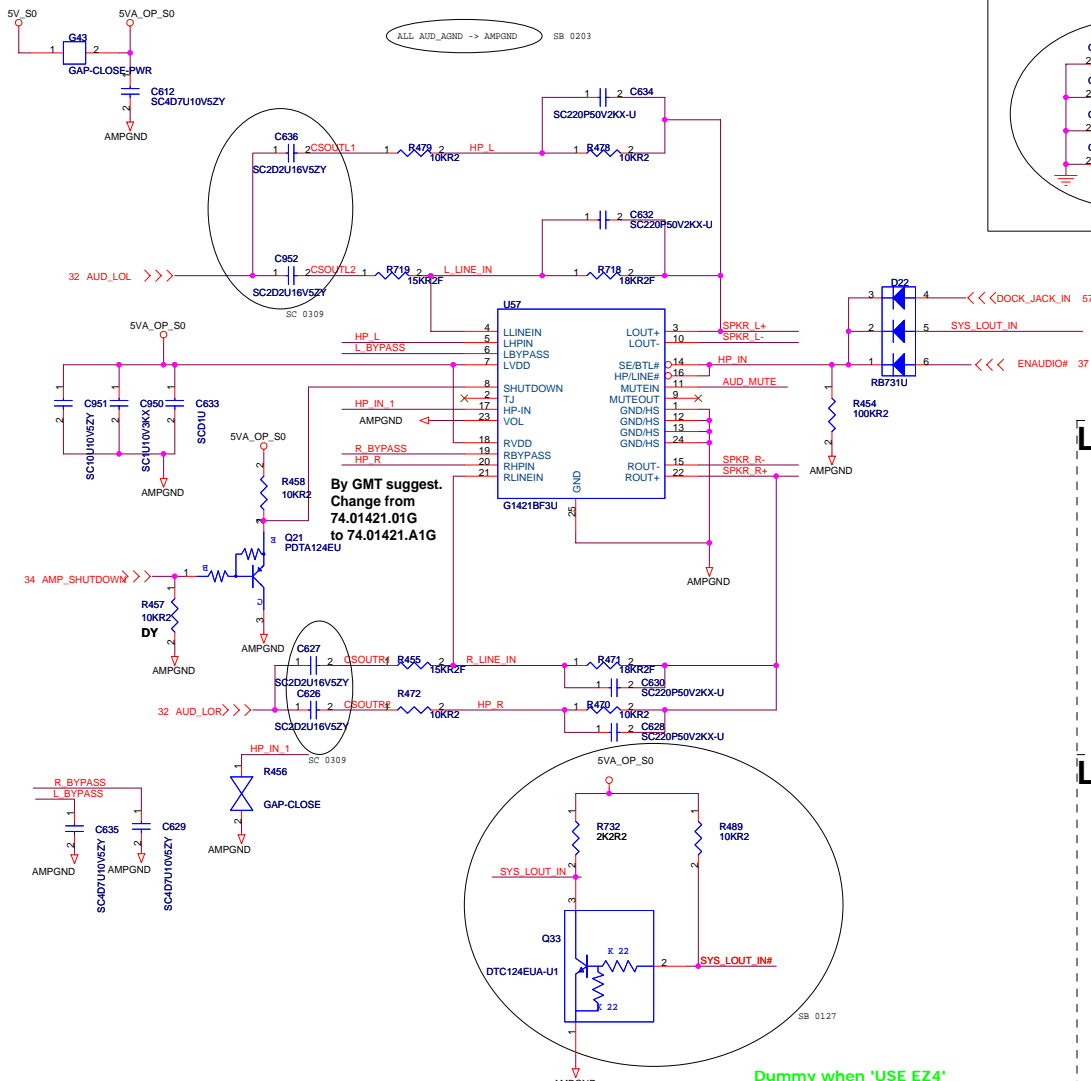
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsein 221, Taiwan, R.O.C.

Title
AUDIO (1/2) -- CODEC ALC655

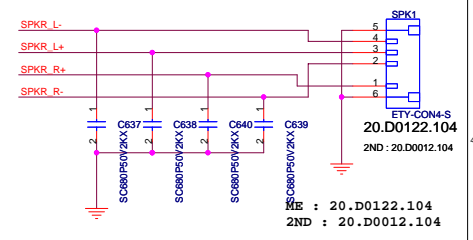
Size A3 Document Number **Bolsena** Rev -1

Date: Thursday, March 31, 2005 Sheet 32 of 58

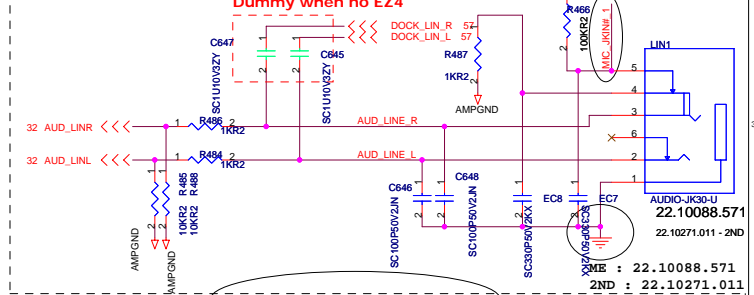




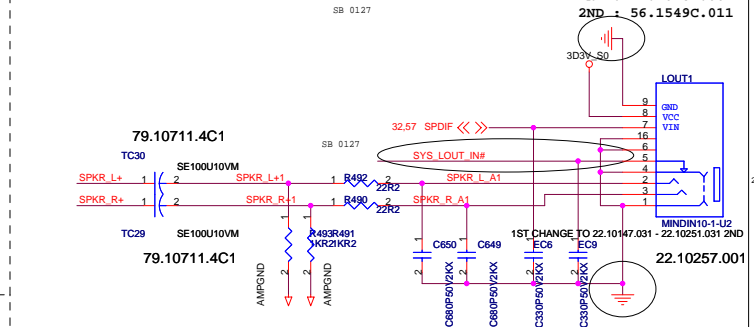
Internal Speaker



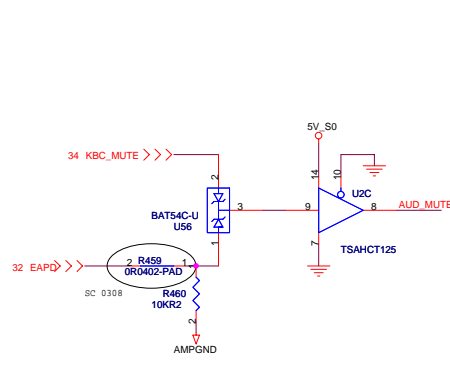
LINE IN/MIC IN



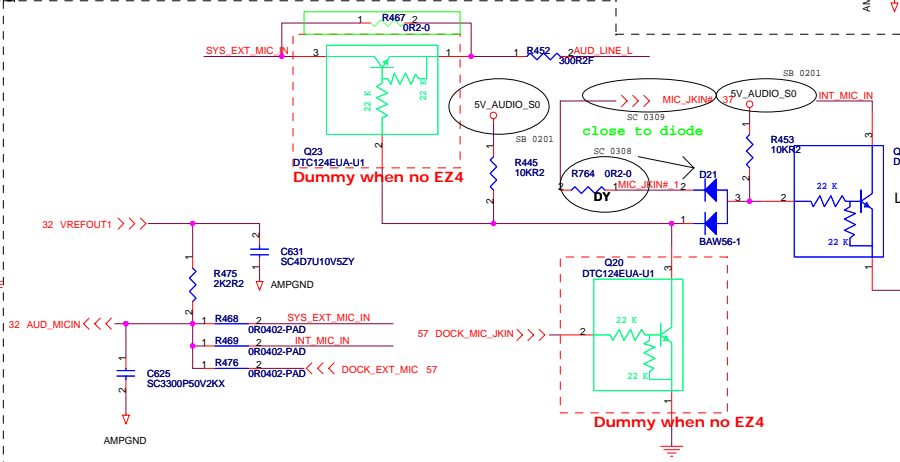
LINE OUT



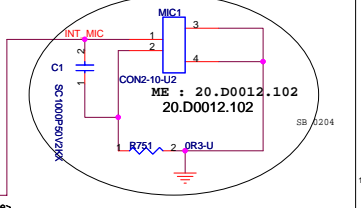
LEVEL SHIFT



Dummy when 'USE EZ4'



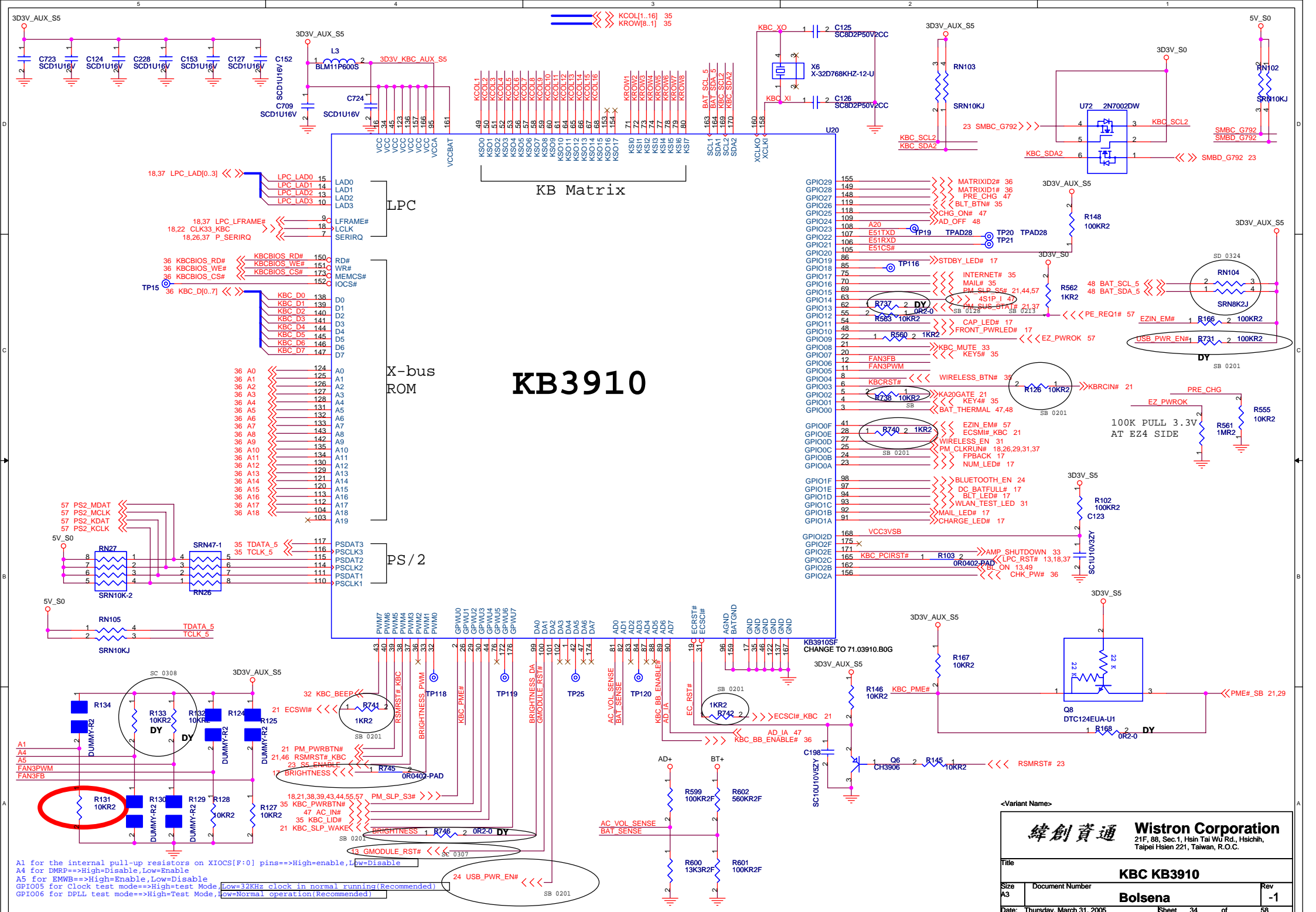
Internal Mic



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

File
AUDIO (2/2)

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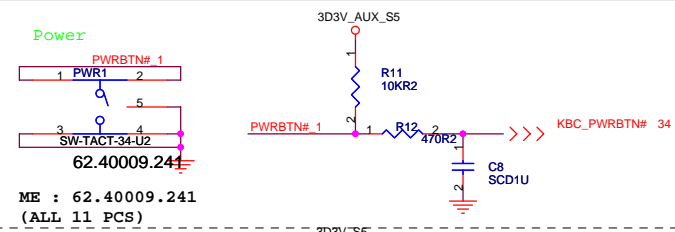
A1 for the internal pull-up resistors on XIOCS[F:0] pins==>High=enable,Low=Disable
 A4 for DMRP==>High=Disable,Low=Enable
 A5 for EMWB==>High=Enable,Low=Disable
 GPIO05 for Clock test mode==>High=test Mode,Low=32KHz clock in normal running(Recommended)
 GPIO06 for DPLL test mode==>High=Test Mode,Low=Normal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

<Variant Name>

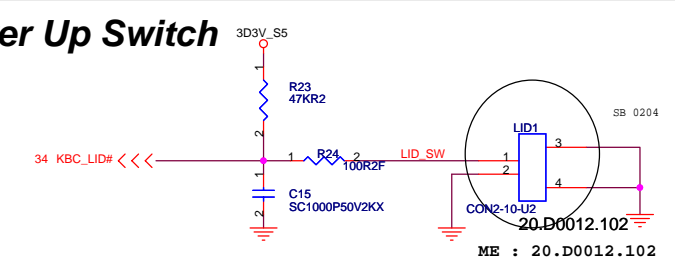
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

Title		KBC KB3910
Size	Document Number	Rev
A3		Bolsena
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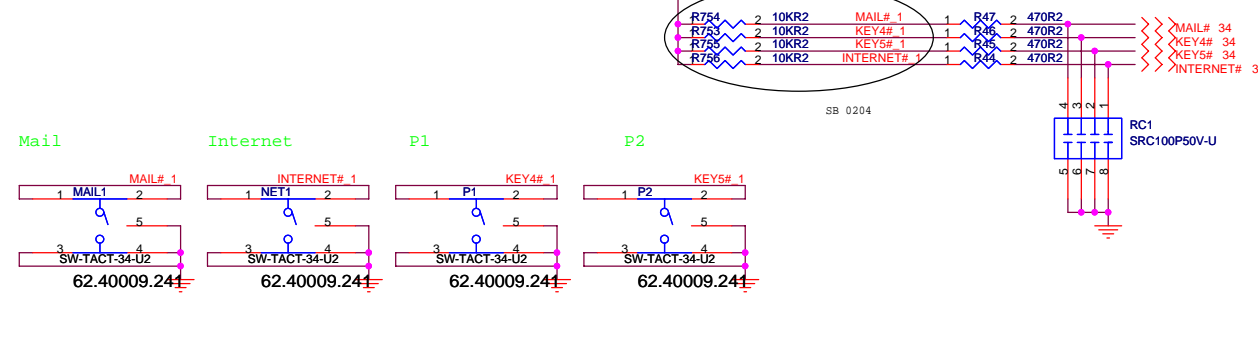
POWER BUTTON



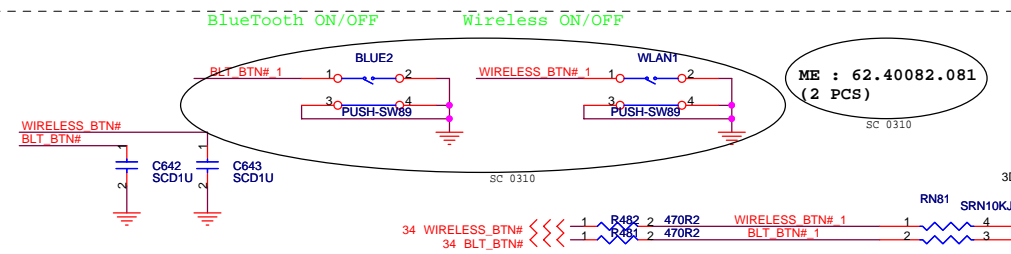
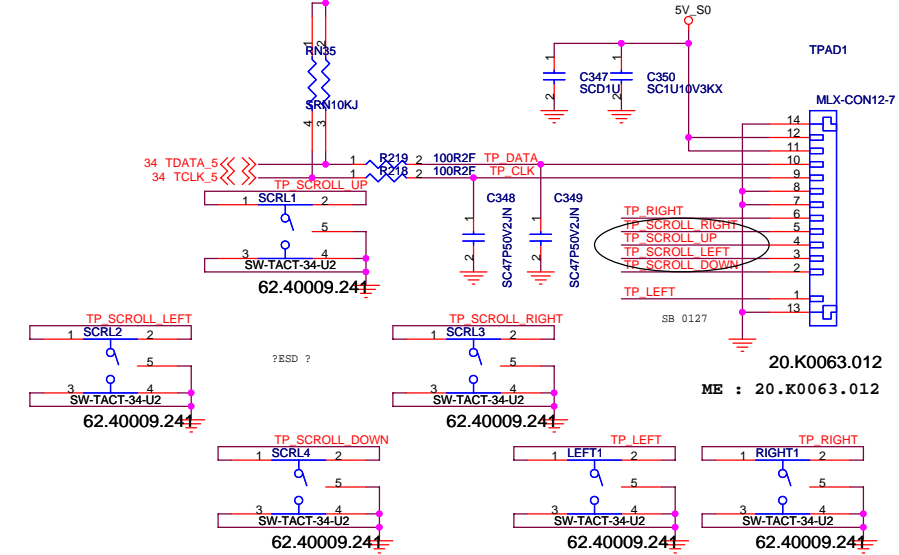
Cover Up Switch



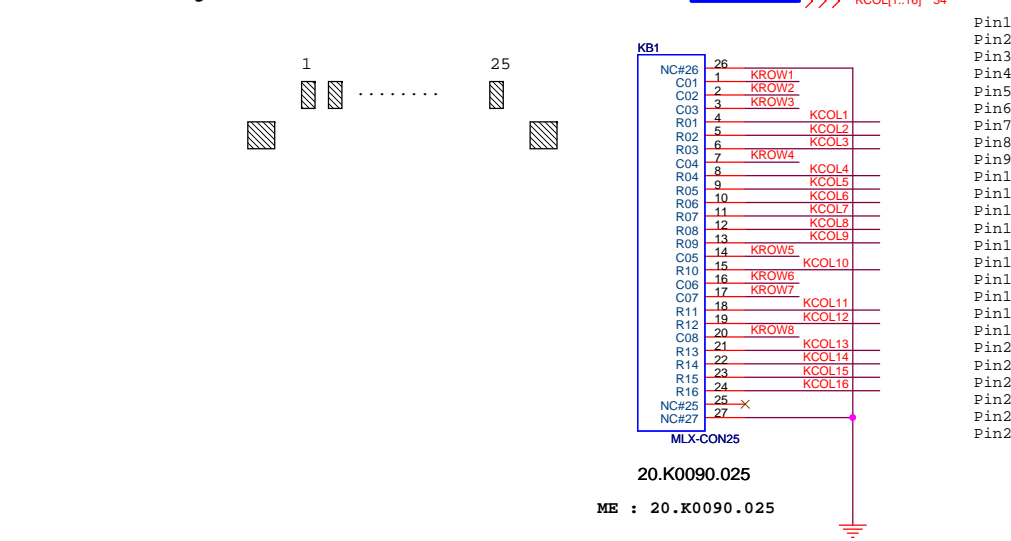
Buttons



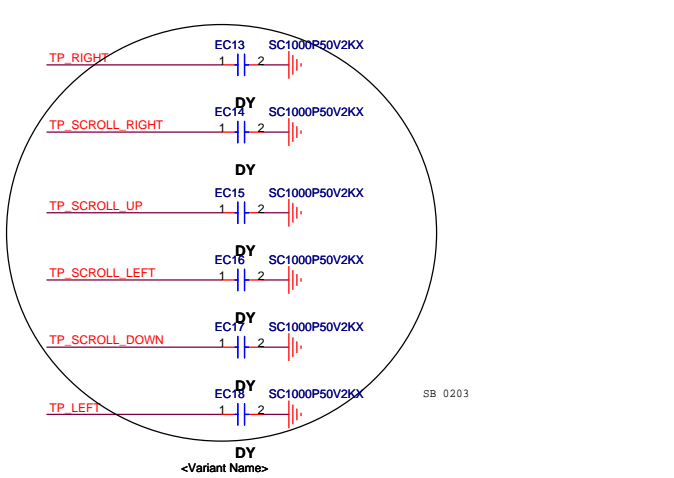
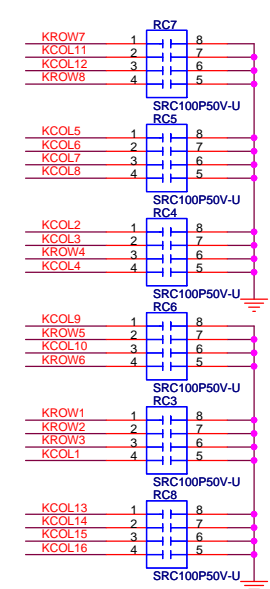
TOUCH PAD



Internal Keyboard CONN



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: **Bolsena** Rev: -1

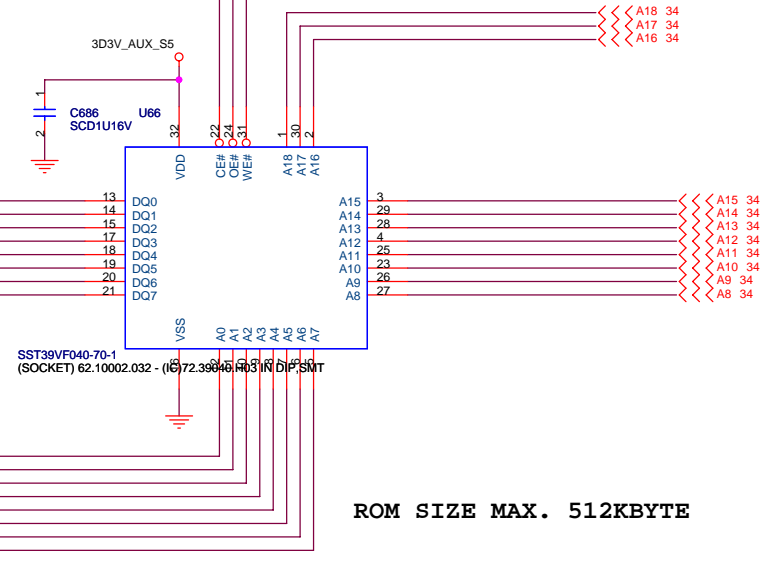
Date: Thursday, March 31, 2005 Sheet: 35 of 58

34 KBC_D[0..7] 34

34 KBCBIOS_WE#
34 KBCBIOS_RD#
34 KBCBIOS_CS#

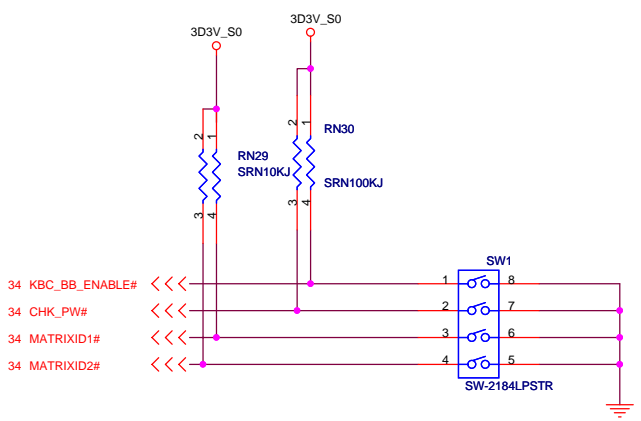
34 KBC_D0
34 KBC_D1
34 KBC_D2
34 KBC_D3
34 KBC_D4
34 KBC_D5
34 KBC_D6
34 KBC_D7

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



ROM SIZE MAX. 512KBYTE

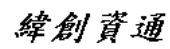
PLCC32 Socket P/N:
SSKT3262.10002.032
SSKT32 62.10005.032

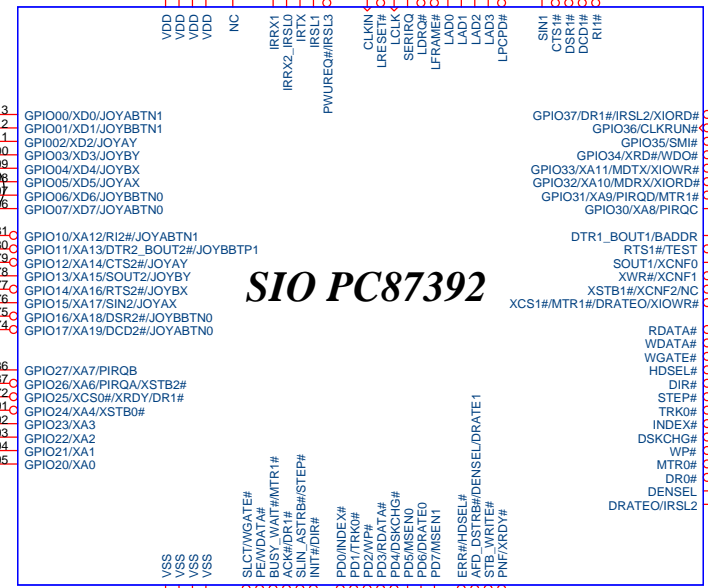
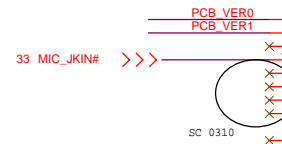
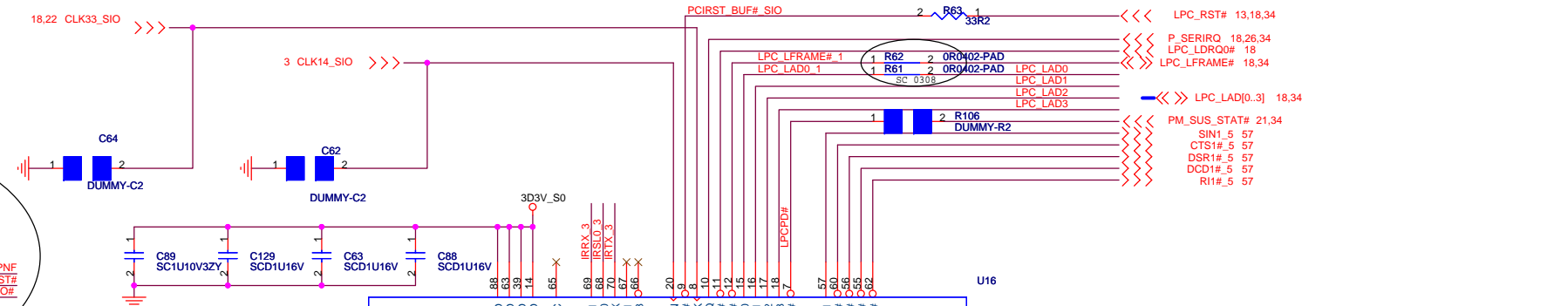
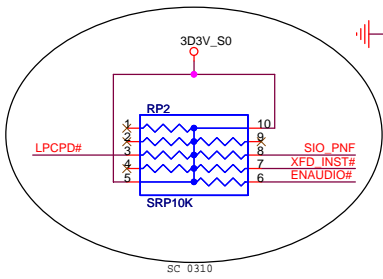


Keyboard matrix (from vendor)

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

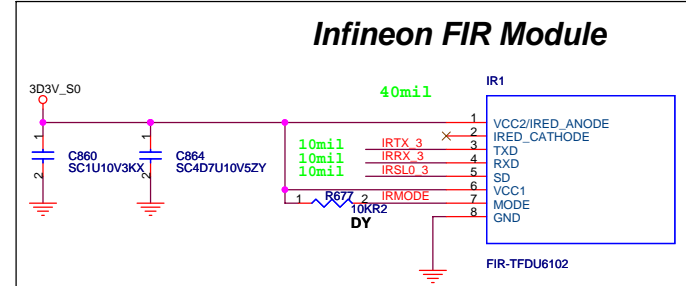
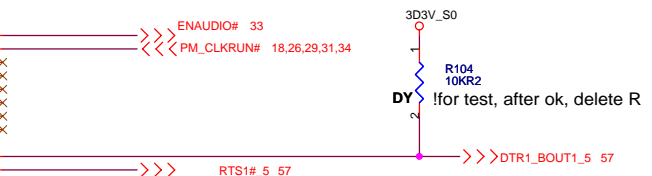
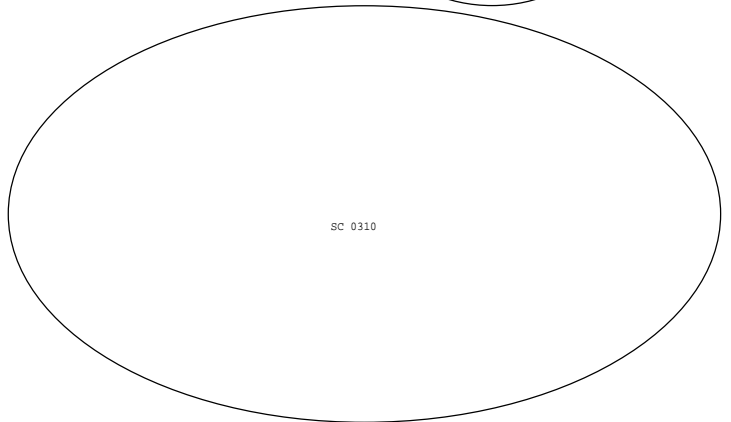
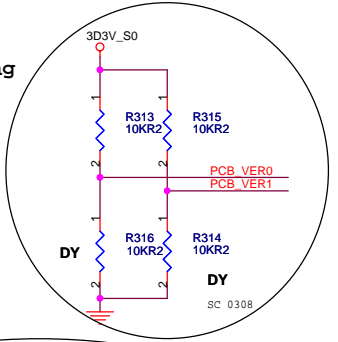
<Variant Name>

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

Ver	PCB_VER0	PCB_VER1
SA	0	0
SB	0	1
SC	1	0
1	1	1



<Variant Name>

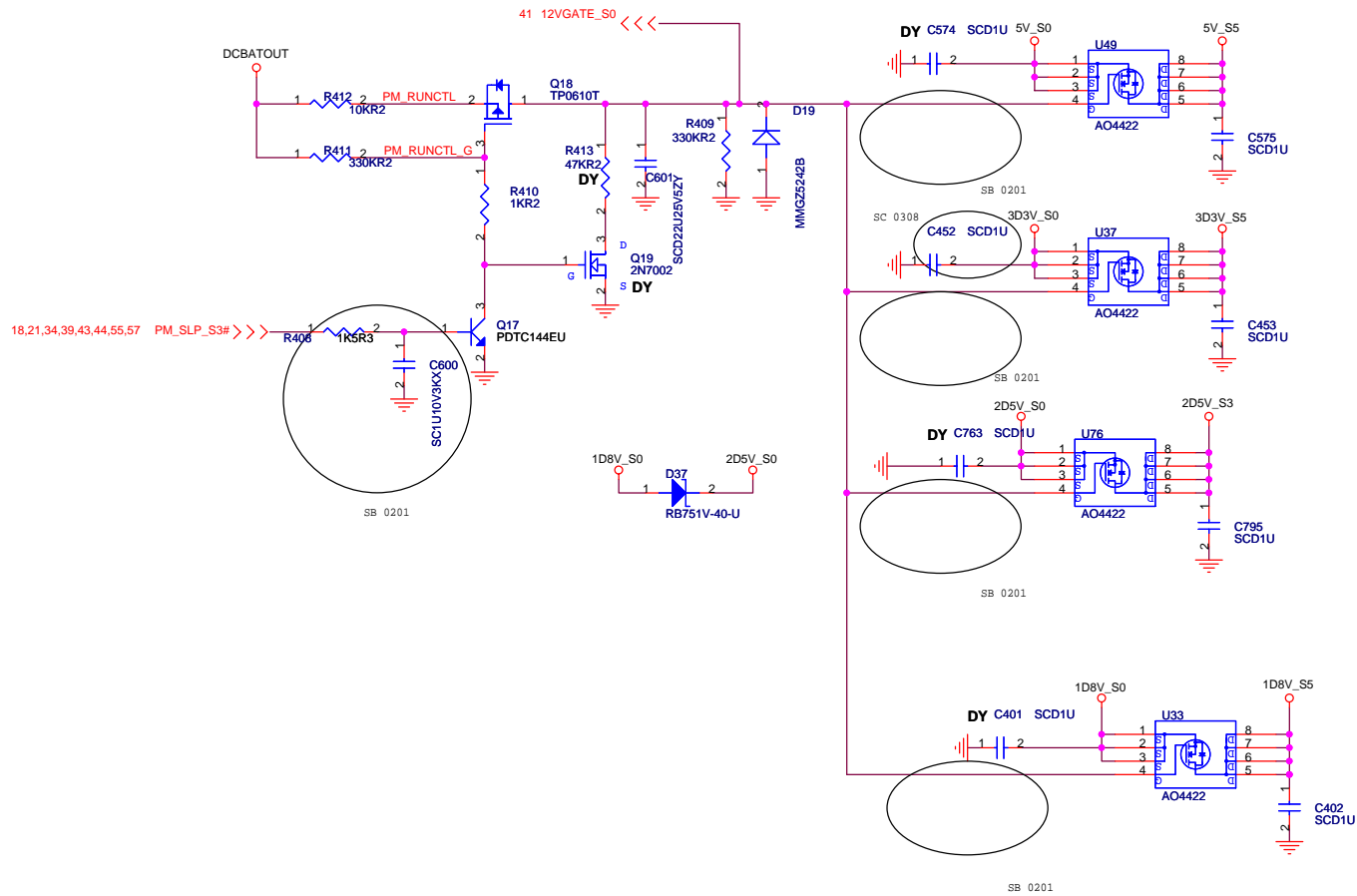
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

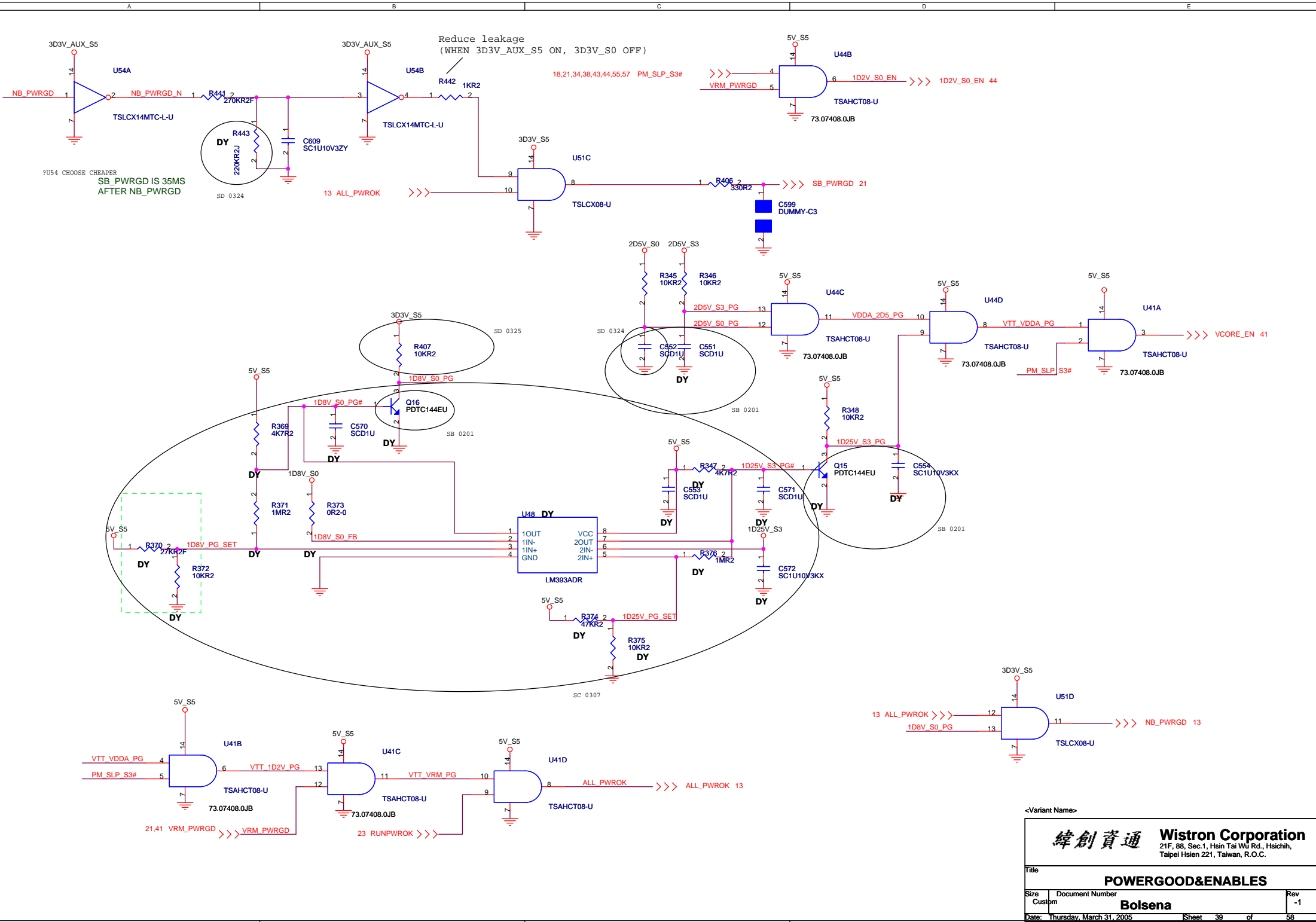
Title: **SUPER IO NC87392**

Size A3	Document Number	Rev -1
Bolsena		

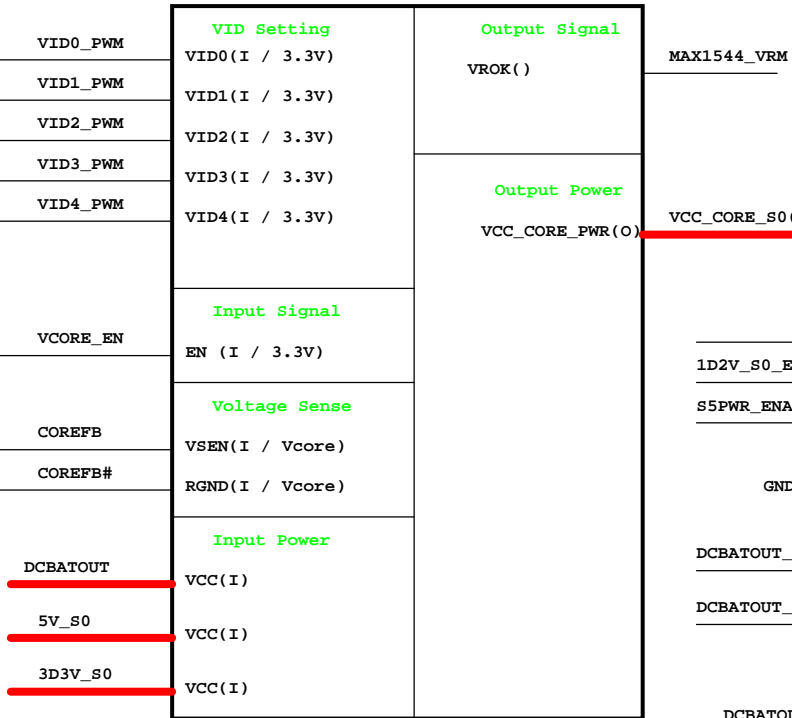
Date: Thursday, March 31, 2005 Sheet 37 of 58

Run Power

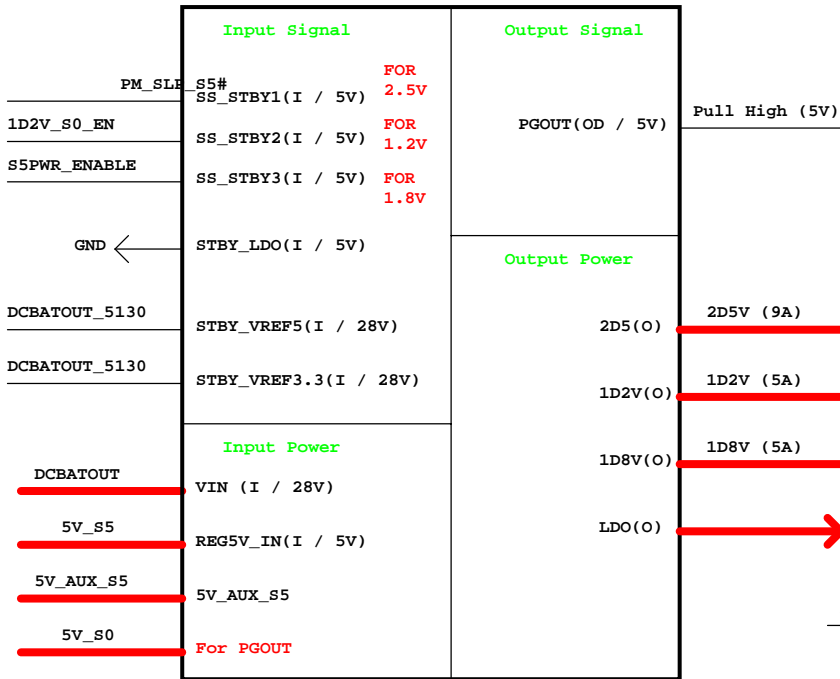




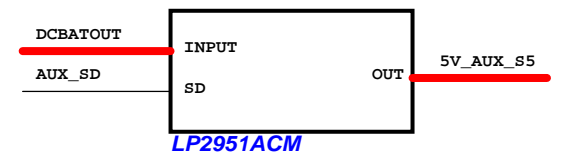
CPU_CORE
MAX1544ETL



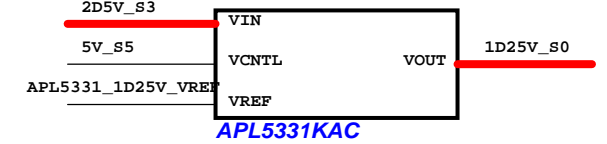
TI TPS5130
2D5V/1D2V/1D8V



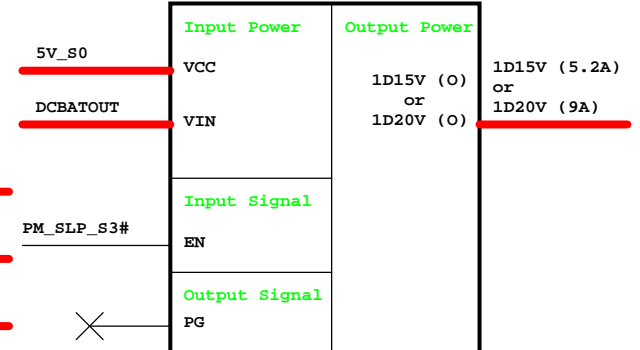
5V_AUX_S5



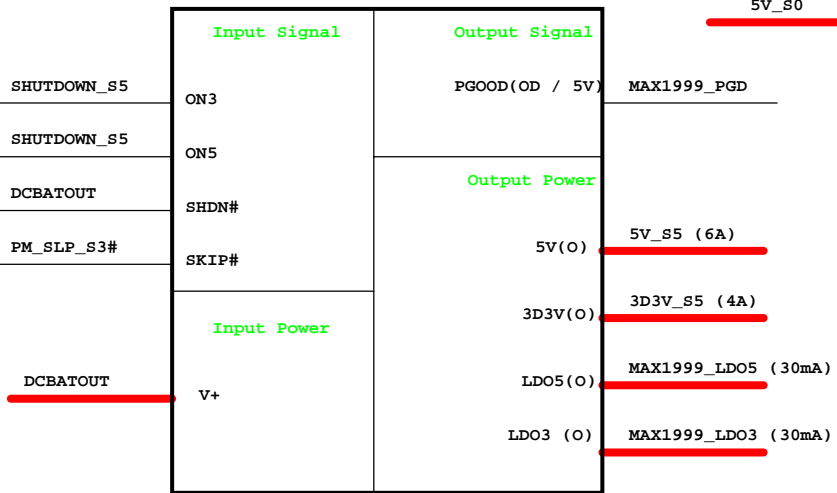
1D25V_S3



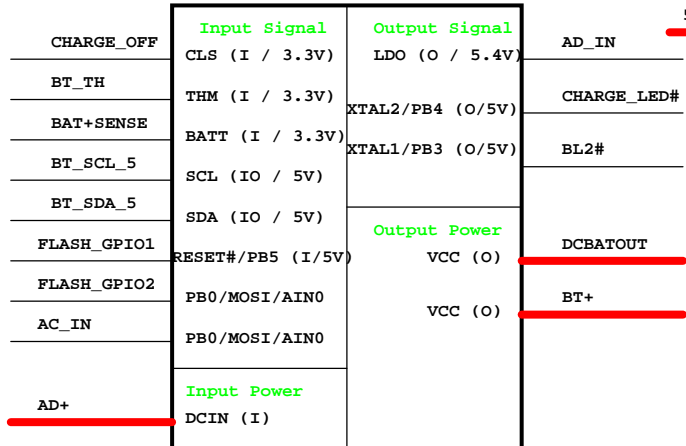
FAN5234_VGA_Core
1D15V or 1D20V



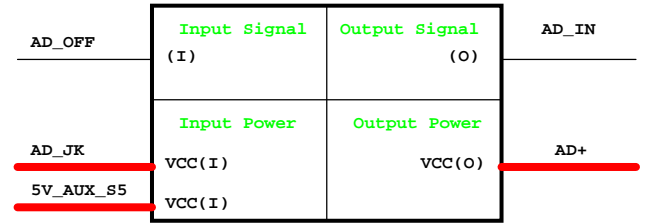
Max1999
5V/3D3V



Charger_Max8725



Adapter



(Power Team)

<Variant Name>

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

Title: **POWER BLOCK DIAGRAM**

Size: A3 Document Number: **Bolsena** Rev: -1

Date: Thursday, March 31, 2005 Sheet: 40 of 58

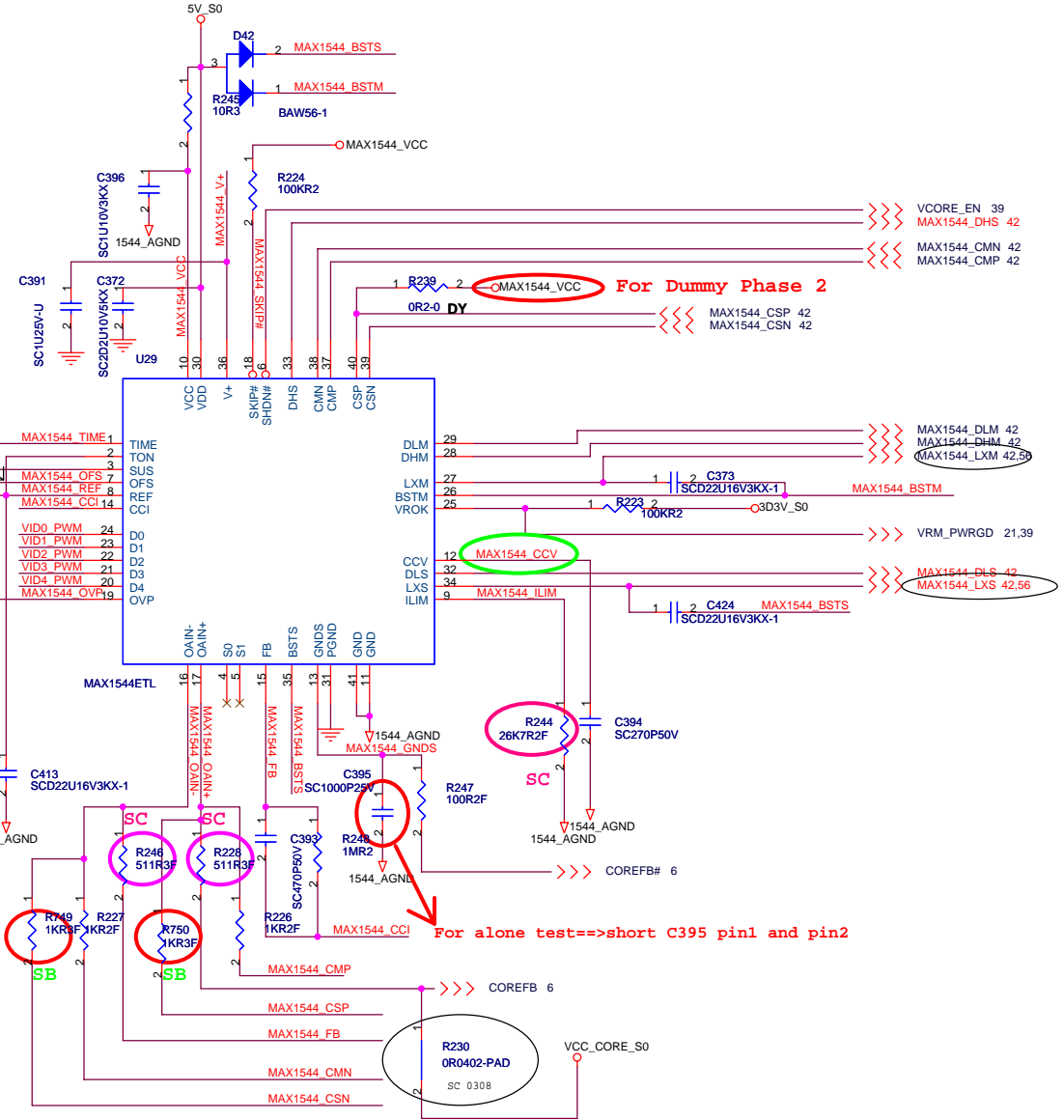
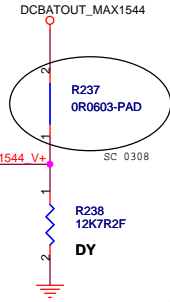
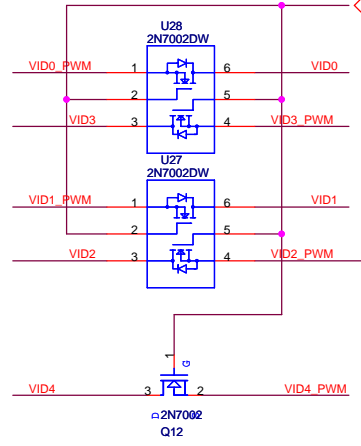
CPU_VCORE
 VID=1.20V
 I_{omax}=27.3A (35W)
 OCP=40A~45A

TABLE 1. VOLTAGE IDENTIFICATION CODES

VID4	VID3	VID2	VID1	VID0	DAC
0	0	0	0	0	1.550
0	0	0	0	1	1.525
0	0	0	1	0	1.500
0	0	0	1	1	1.475
0	0	1	0	0	1.450
0	0	1	0	1	1.425
0	0	1	1	0	1.400
0	0	1	1	1	1.375
0	1	0	0	0	1.350
0	1	0	0	1	1.325
0	1	0	1	0	1.300
0	1	0	1	1	1.275
0	1	1	0	0	1.250
0	1	1	0	1	1.225
0	1	1	1	0	1.200
0	1	1	1	1	1.175
1	0	0	0	0	1.150
1	0	0	0	1	1.125
1	0	0	1	0	1.100
1	0	0	1	1	1.075
1	0	1	0	0	1.050
1	0	1	0	1	1.025
1	0	1	1	0	1.000
1	0	1	1	1	0.975
1	1	0	0	0	0.950
1	1	0	0	1	0.925
1	1	0	1	0	0.900
1	1	0	1	1	0.875
1	1	1	0	0	0.850
1	1	1	0	1	0.825
1	1	1	1	0	0.800
1	1	1	1	1	Shutdown

TON: Frequency:
 GND 550KHz
 REF 300KHz
 OPEN 200KHz
 VCC 100KHz

From KBC



- SC:
1. Change R246 and R228 to 511R3F(64.51105.651).
 2. Change R224 to 26K7R2F(64.26725.6D1).
 3. Cut off a trace between pin7 and pin8 of U29.

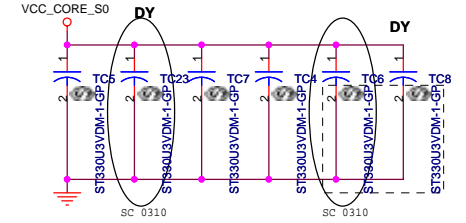
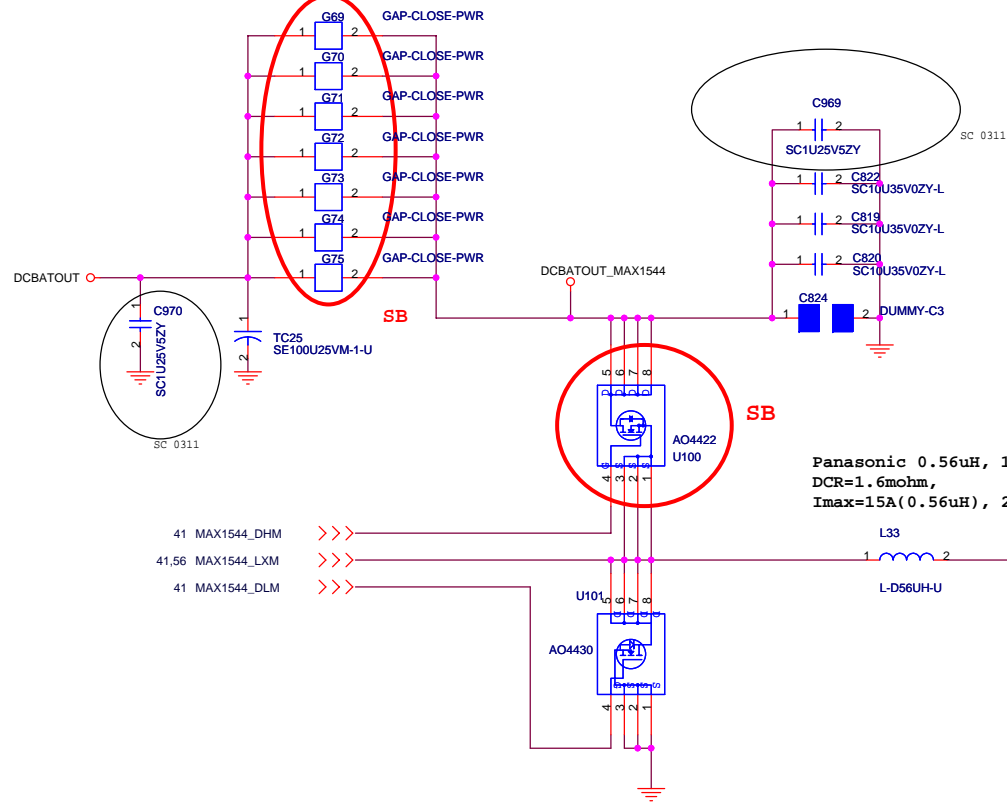
<Variant Name>

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

Title: **CPU Vcore 1**

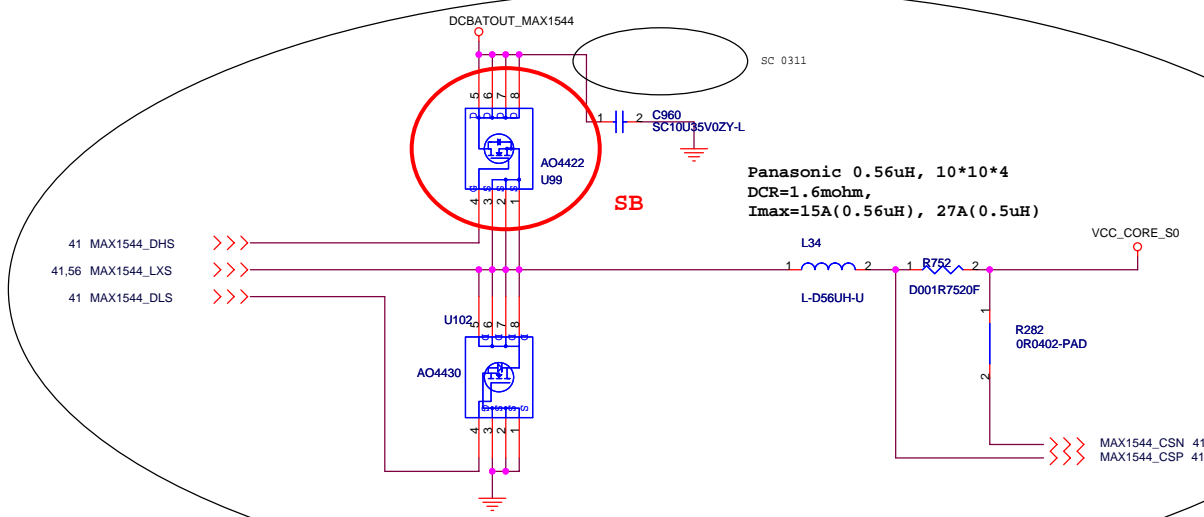
Size A3	Document Number	Rev -1
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(Power Team)



KEMET 330uF / 3V / 80.3371X.L02
ESR=9mohm / Irripple=3.7A
7.3/4.3/1.9, NT:9.0

R229
0R0402-PAD
Place 0R0402-PAD close to the resistor



<Variant Name>

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

Title
CPU Vcore 2

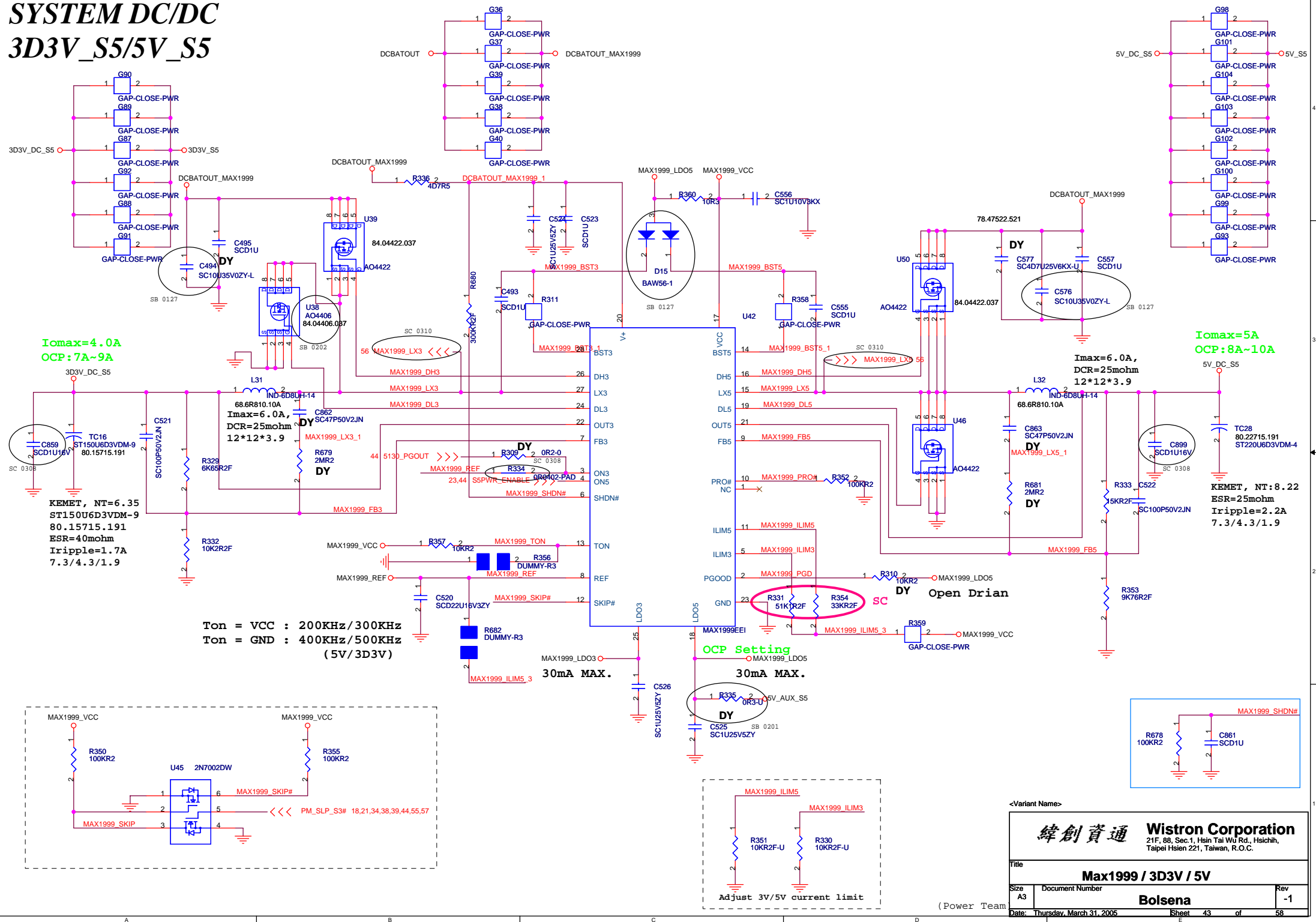
Size A3	Document Number Bolsena	Rev -1
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(Power Team)

SYSTEM DC/DC

3D3V_S5/5V_S5



I_{max}=4.0A
OCP: 7A~9A

I_{max}=5A
OCP: 8A~10A

T_{on} = VCC : 200KHz/300KHz
T_{on} = GND : 400KHz/500KHz
(5V/3D3V)

30mA MAX.

OCP Setting
30mA MAX.

KEMET, NT: 8.22
ESR=25mohm
Irripple=2.2A
7.3/4.3/1.9

<Variant Name>

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

Title: **Max1999 / 3D3V / 5V**

Size: A3	Document Number	Rev: -1
Date: Thursday, March 31, 2005		Sheet 43 of 58

(Power Team)

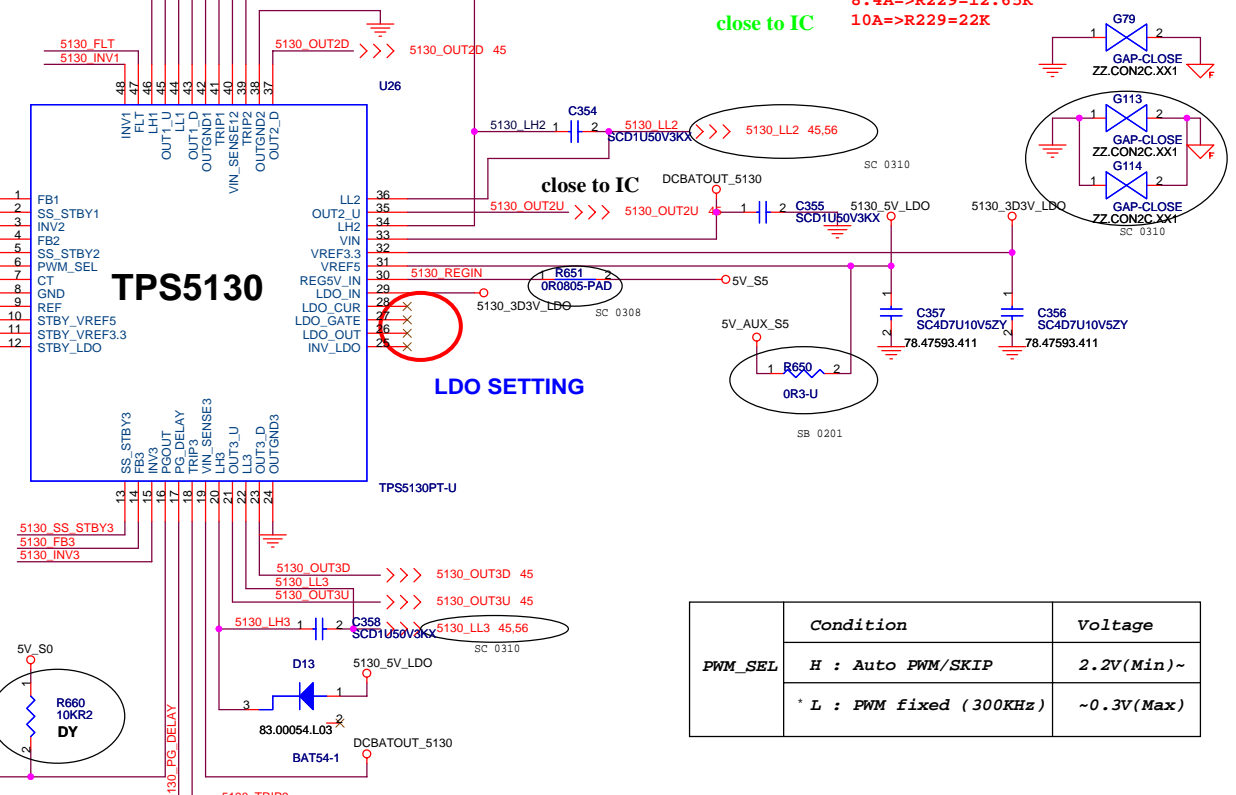
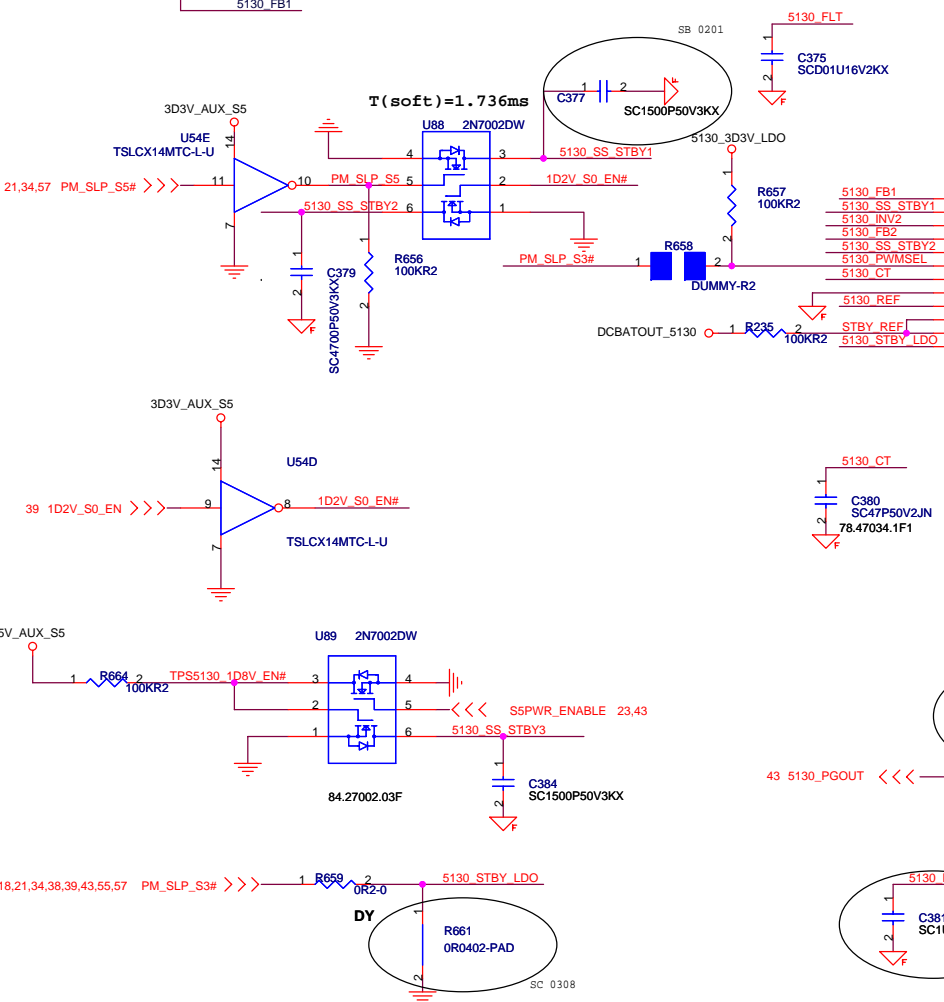
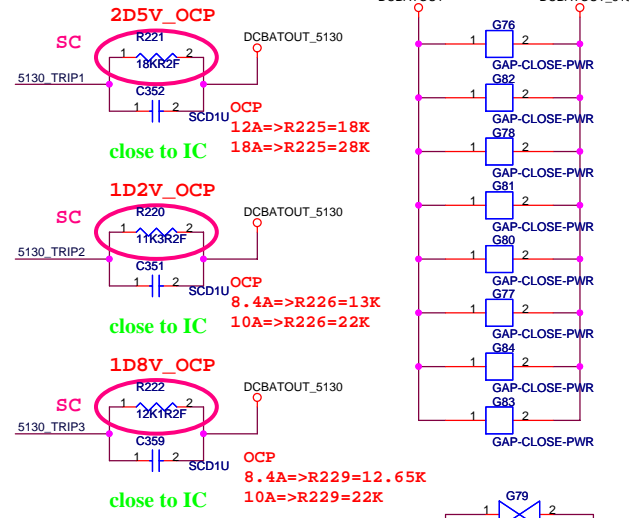
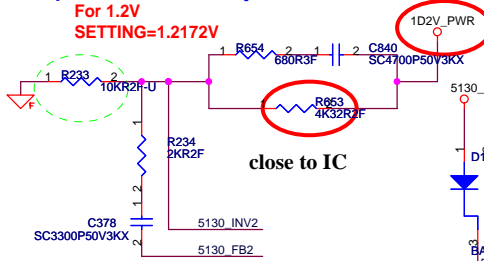
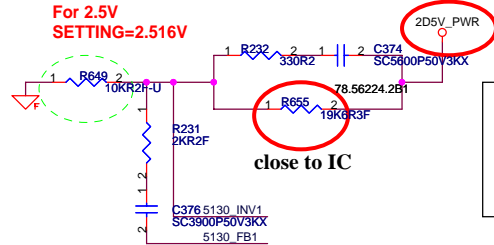
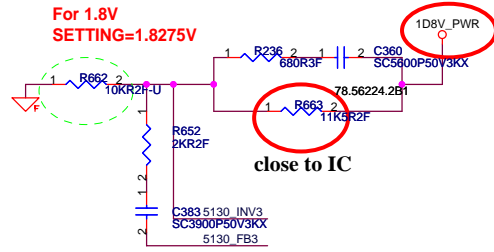
TI TPS5130 for 2.5V, 1.2V, 1.8V

$$V_o = (R1 * 0.85) / R2 + 0.85$$

(2D5V=>CH1, 1D2V=>CH2, 1D8V =>CH3)

For 1.2V
SETTING=1.2172V

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



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

<Variant Name>

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

Title: **TPS5130 1D2V/1D8V2D5V/ (1/2)**

Size: A3 Document Number: **Bolsena** Rev: **-1**

(Power Team)

Date: Thursday, March 31, 2005 Sheet 44 of 58

TI TPS5130 for 2D5V, 1D2V, 1D8V

(2D5V=>CH1 , 1D2V=>CH2 , 1D8V =>CH3)

D

44 5130_OUT1U
44.56 5130_LL1

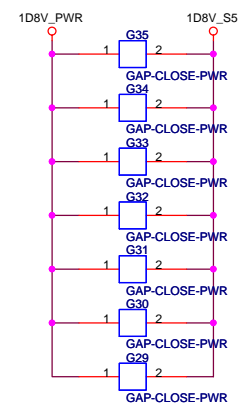
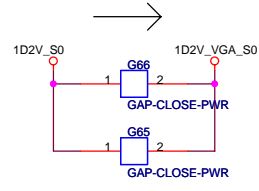
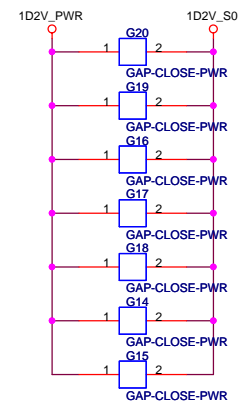
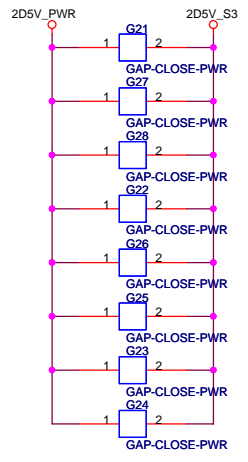
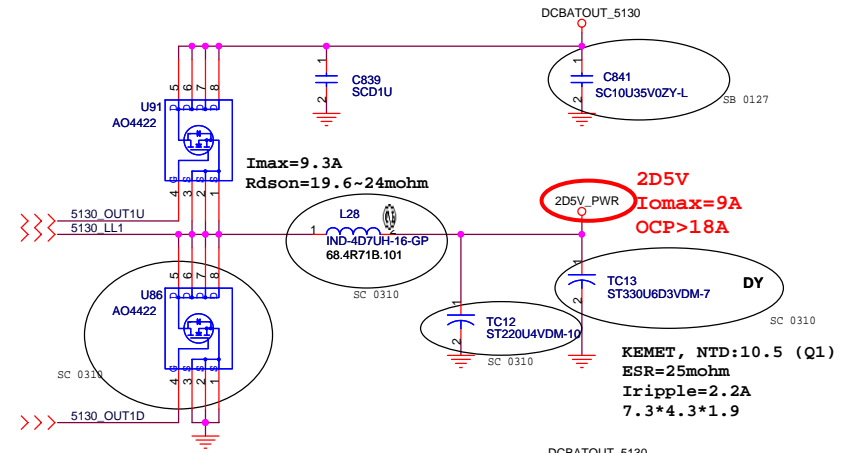
44 5130_OUT1D

44 5130_OUT2U
44.56 5130_LL2

44 5130_OUT2D

44 5130_OUT3U
44.56 5130_LL3

44 5130_OUT3D



C

B

A

D

C

B

A

(Power Team)

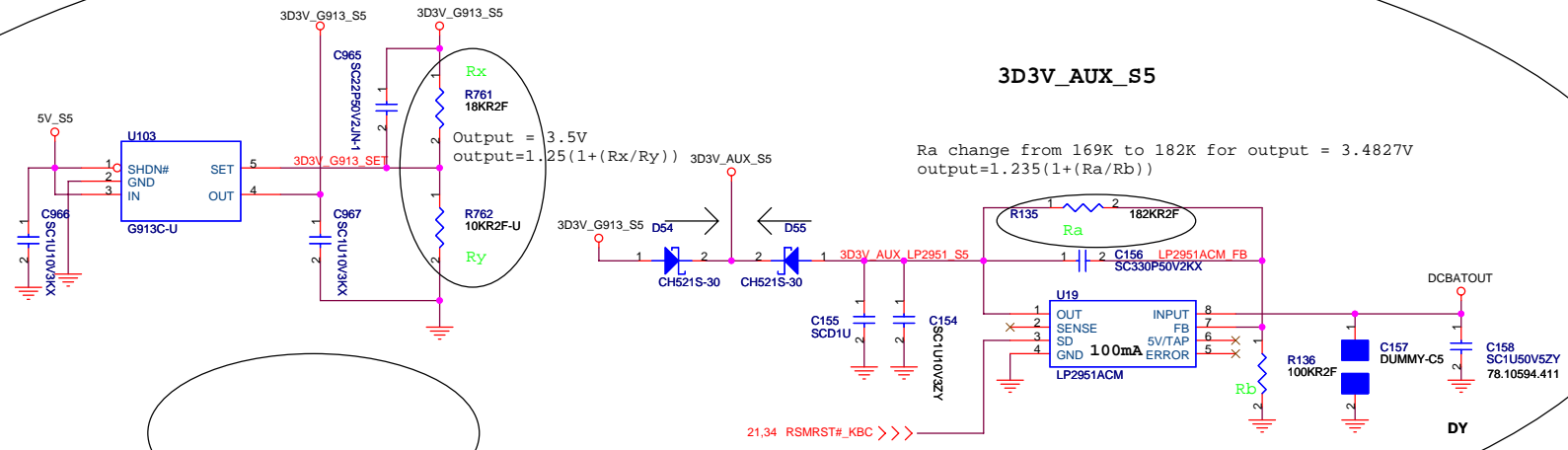
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緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsish Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

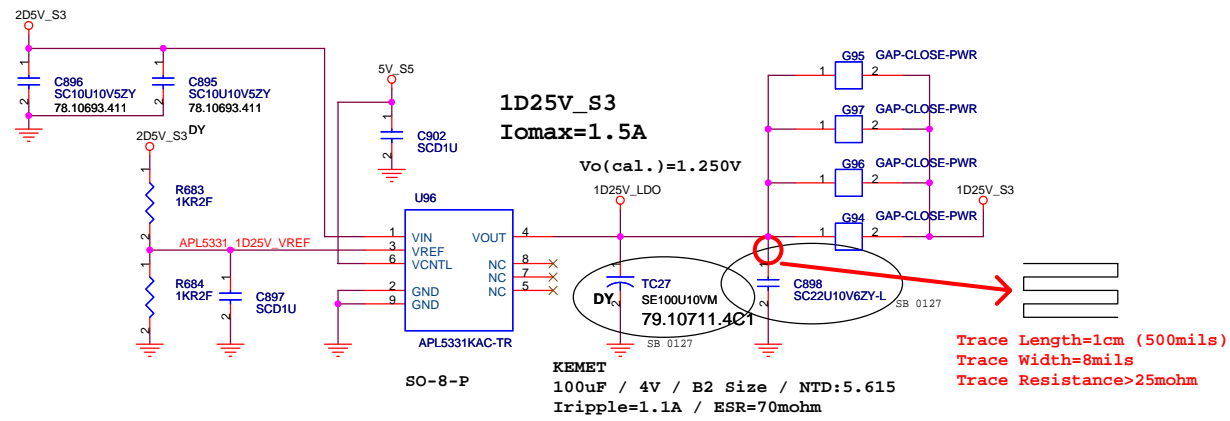
Title: **TPS5130 1D2V/1D8V2D5V/ (2/2)**

Size: A3 Document Number: **Bolsena** Rev: 1

Date: Thursday, March 31, 2005 Sheet 45 of 58



SD 0303



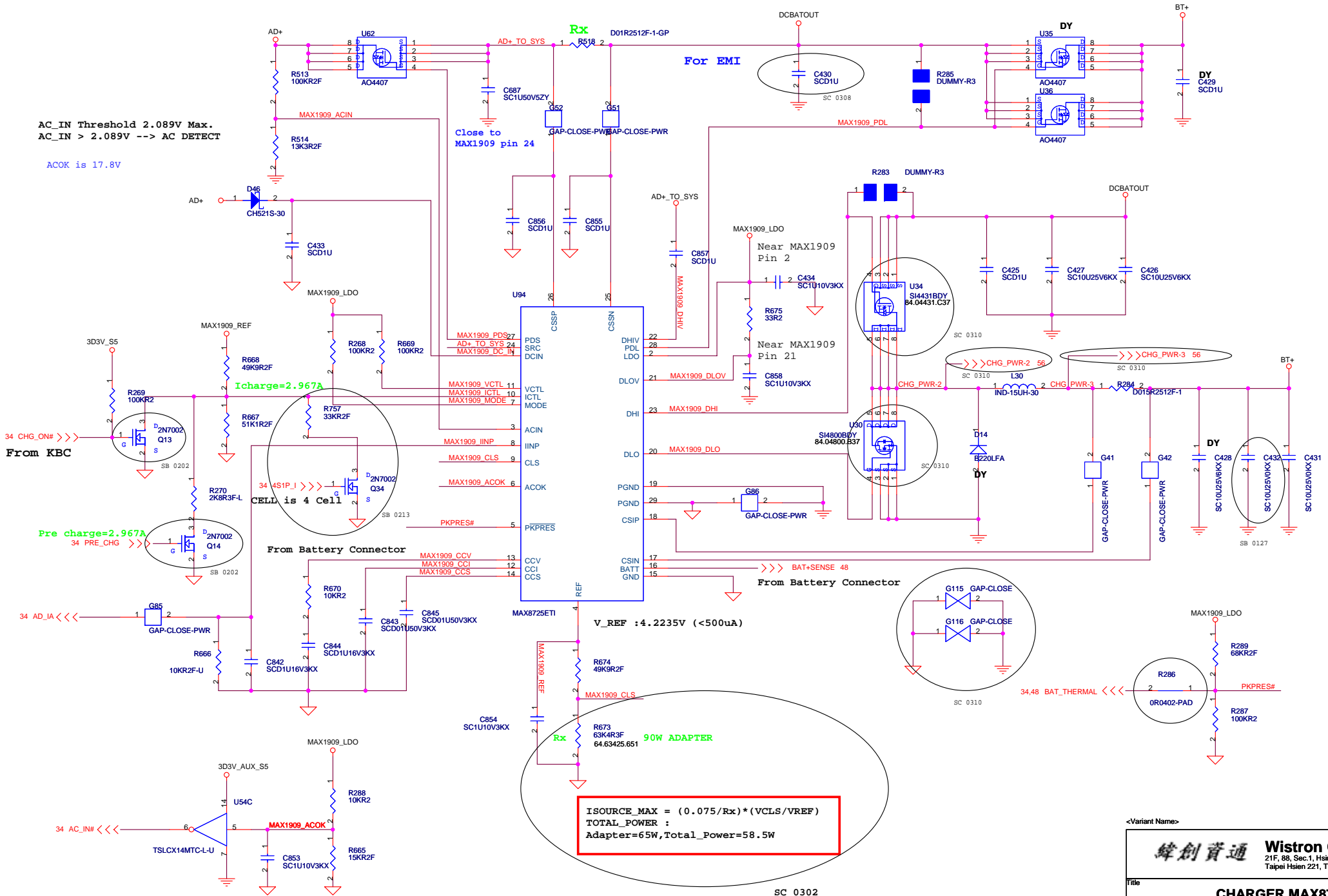
(Power Team)

<Variant Name>

緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
1D2V_S3 / 3D3V_AUX			
Size	Document Number	Rev	
A3		Bolsena	
Date: Thursday, March 31, 2005		Sheet 46	of 58

AC_IN Threshold 2.089V Max.
AC_IN > 2.089V --> AC DETECT

ACOK is 17.8V



ISOURCE_MAX = (0.075/Rx) * (VCLS/VREF)
TOTAL_POWER :
Adapter=65W, Total_Power=58.5W

SC 0302

<Variant Name>

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

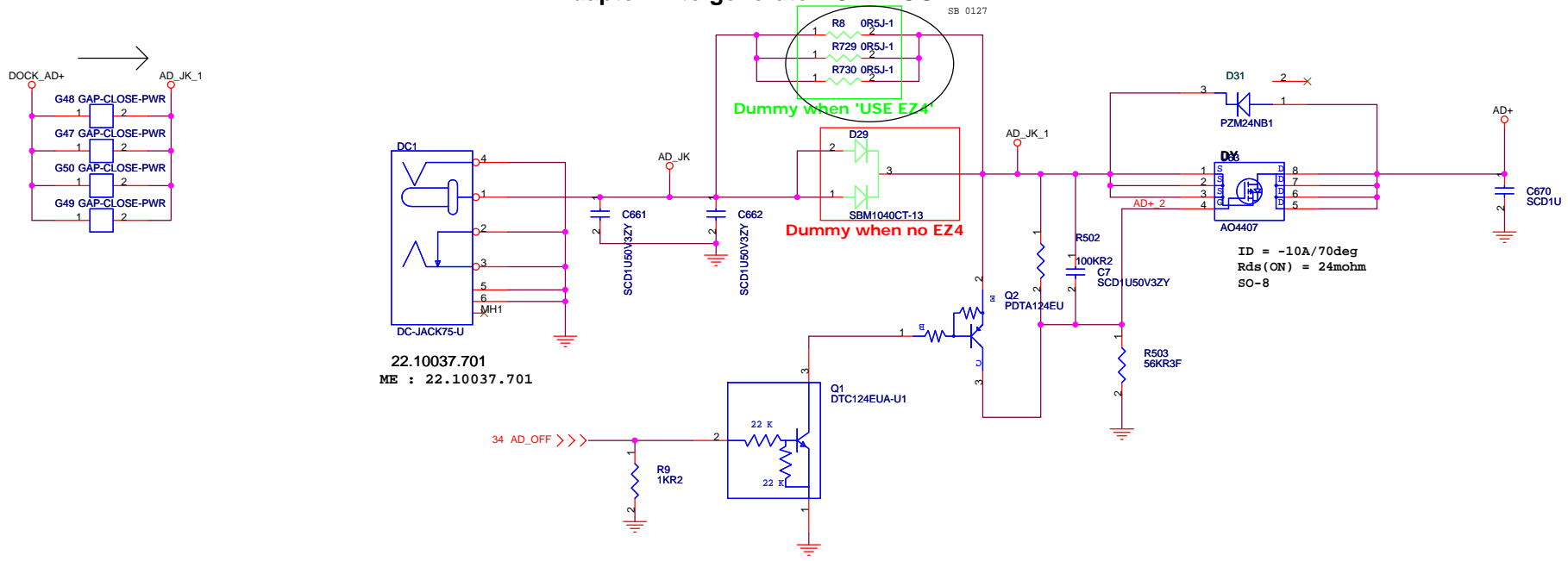
Title
CHARGER MAX8725

Size Custom Document Number
Bolsena Rev -1

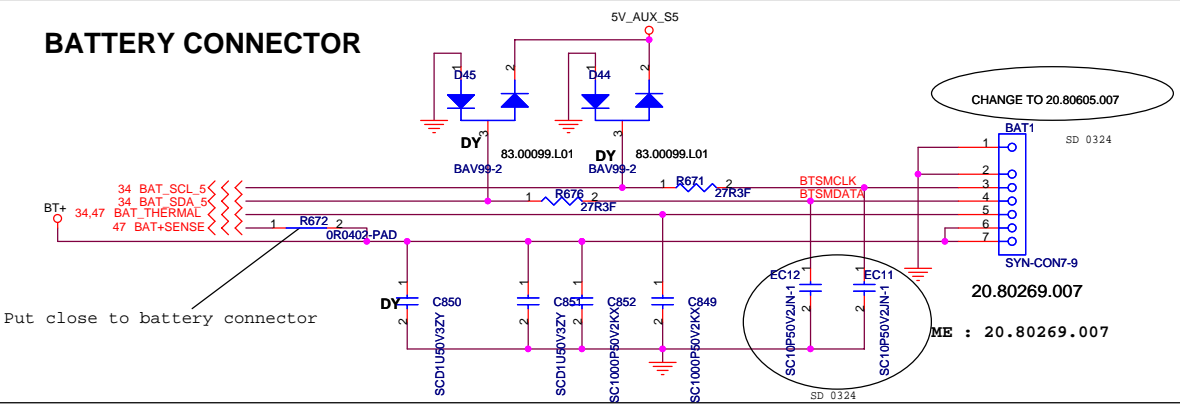
Date: Thursday, March 31, 2005 Sheet 47 of 58

(Power Team)

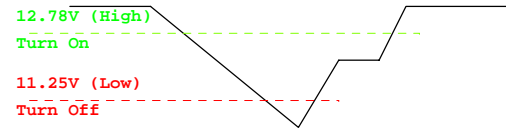
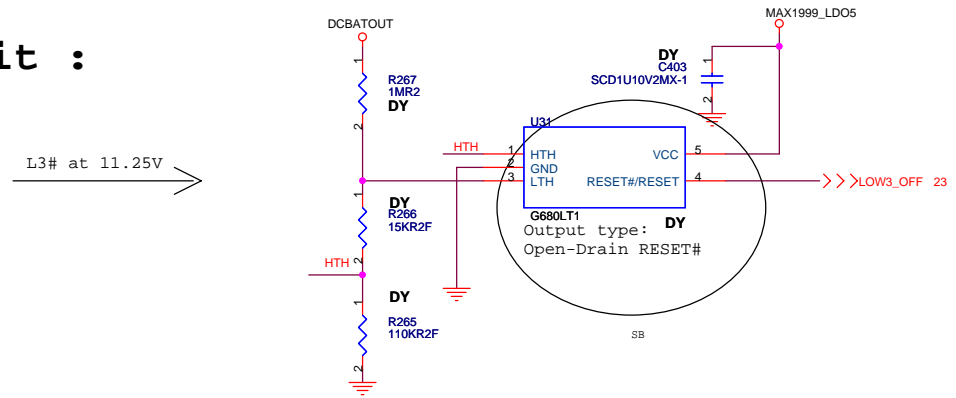
Adaptor in to generate DCBATOUT



BATTERY CONNECTOR



Low3 Circuit :



<Variant Name>

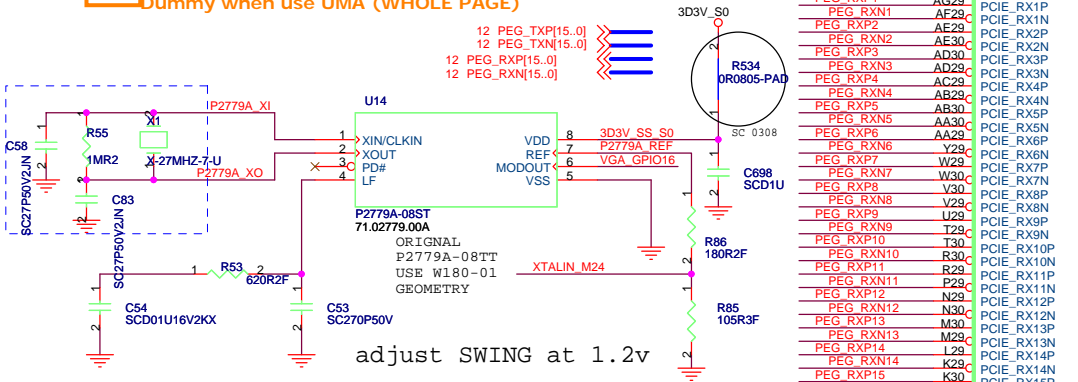
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **AD/BATT CONN**

Size: A3 Document Number: **Bolsena** Rev: -1

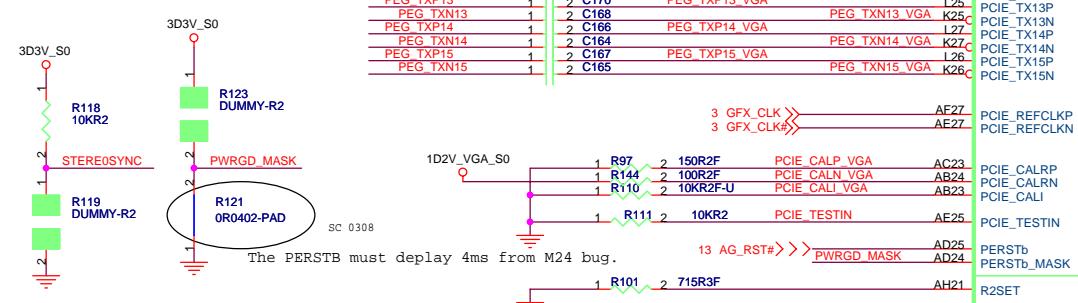
Date: Thursday, March 31, 2005 Sheet 48 of 58

Dummy when use UMA (WHOLE PAGE)

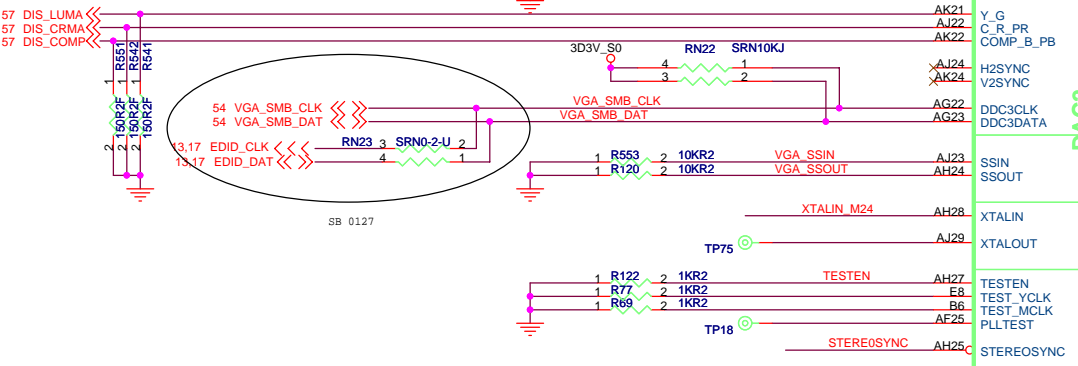


adjust SWING at 1.2v

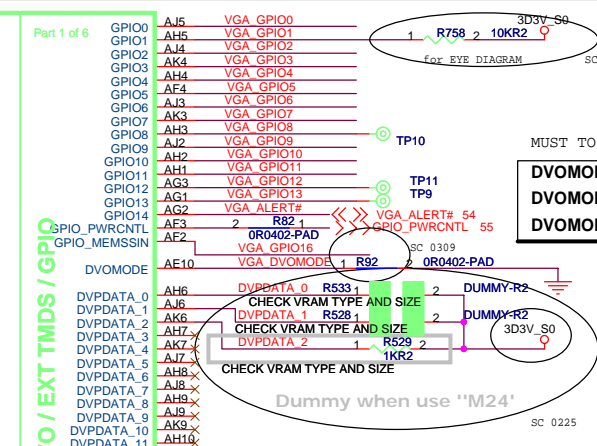
PEG TXP0	1	2	C195	PEG TXP0 VGA	AE26	PCIE_TX0P
PEG TXN0	1	2	C193	PEG TXN0 VGA	AE26	PCIE_TX0N
PEG TXP1	1	2	C194	PEG TXP1 VGA	AC25	PCIE_TX1P
PEG TXN1	1	2	C192	PEG TXN1 VGA	AC25	PCIE_TX1N
PEG TXP2	1	2	C190	PEG TXP2 VGA	AC27	PCIE_TX2P
PEG TXN2	1	2	C188	PEG TXN2 VGA	AC27	PCIE_TX2N
PEG TXP3	1	2	C191	PEG TXP3 VGA	AC26	PCIE_TX3P
PEG TXN3	1	2	C189	PEG TXN3 VGA	AC26	PCIE_TX3N
PEG TXP4	1	2	C187	PEG TXP4 VGA	Y25	PCIE_TX4P
PEG TXN4	1	2	C185	PEG TXN4 VGA	W25	PCIE_TX4N
PEG TXP5	1	2	C183	PEG TXP5 VGA	Y27	PCIE_TX5P
PEG TXN5	1	2	C181	PEG TXN5 VGA	W27	PCIE_TX5N
PEG TXP6	1	2	C186	PEG TXP6 VGA	Y26	PCIE_TX6P
PEG TXN6	1	2	C184	PEG TXN6 VGA	W26	PCIE_TX6N
PEG TXP7	1	2	C182	PEG TXP7 VGA	U25	PCIE_TX7P
PEG TXN7	1	2	C180	PEG TXN7 VGA	T25	PCIE_TX7N
PEG TXP8	1	2	C178	PEG TXP8 VGA	U27	PCIE_TX8P
PEG TXN8	1	2	C176	PEG TXN8 VGA	T27	PCIE_TX8N
PEG TXP9	1	2	C179	PEG TXP9 VGA	U26	PCIE_TX9P
PEG TXN9	1	2	C177	PEG TXN9 VGA	T26	PCIE_TX9N
PEG TXP10	1	2	C175	PEG TXP10 VGA	U25	PCIE_TX10P
PEG TXN10	1	2	C173	PEG TXN10 VGA	N25	PCIE_TX10N
PEG TXP11	1	2	C171	PEG TXP11 VGA	P27	PCIE_TX11P
PEG TXN11	1	2	C169	PEG TXN11 VGA	N27	PCIE_TX11N
PEG TXP12	1	2	C174	PEG TXP12 VGA	P26	PCIE_TX12P
PEG TXN12	1	2	C172	PEG TXN12 VGA	N26	PCIE_TX12N
PEG TXP13	1	2	C170	PEG TXP13 VGA	K25	PCIE_TX13P
PEG TXN13	1	2	C168	PEG TXN13 VGA	K27	PCIE_TX13N
PEG TXP14	1	2	C166	PEG TXP14 VGA	L27	PCIE_TX14P
PEG TXN14	1	2	C164	PEG TXN14 VGA	L27	PCIE_TX14N
PEG TXP15	1	2	C167	PEG TXP15 VGA	L27	PCIE_TX15P
PEG TXN15	1	2	C165	PEG TXN15 VGA	K26	PCIE_TX15N



The PERSTB must display 4ms from M24 bug.



PEG RXP0	AH30	PCIE_RX0P	VGA GPIO0
PEG RXN0	AG30	PCIE_RX0N	VGA GPIO1
PEG RXP1	AE29	PCIE_RX1P	VGA GPIO2
PEG RXN1	AE29	PCIE_RX1N	VGA GPIO3
PEG RXP2	AE29	PCIE_RX2P	VGA GPIO4
PEG RXN2	AE30	PCIE_RX2N	VGA GPIO5
PEG RXP3	AD30	PCIE_RX3P	VGA GPIO6
PEG RXN3	AD30	PCIE_RX3N	VGA GPIO7
PEG RXP4	AB29	PCIE_RX4P	VGA GPIO8
PEG RXN4	AB29	PCIE_RX4N	VGA GPIO9
PEG RXP5	AB30	PCIE_RX5P	VGA GPIO10
PEG RXN5	AA30	PCIE_RX5N	VGA GPIO11
PEG RXP6	AA29	PCIE_RX6P	VGA GPIO12
PEG RXN6	Y29	PCIE_RX6N	VGA GPIO13
PEG RXP7	W29	PCIE_RX7P	VGA GPIO14
PEG RXN7	W29	PCIE_RX7N	VGA GPIO15
PEG RXP8	V30	PCIE_RX8P	VGA GPIO16
PEG RXN8	V29	PCIE_RX8N	VGA GPIO17
PEG RXP9	U29	PCIE_RX9P	VGA GPIO18
PEG RXN9	T29	PCIE_RX9N	VGA GPIO19
PEG RXP10	T30	PCIE_RX10P	VGA GPIO20
PEG RXN10	R30	PCIE_RX10N	VGA GPIO21
PEG RXP11	R29	PCIE_RX11P	VGA GPIO22
PEG RXN11	P29	PCIE_RX11N	VGA GPIO23
PEG RXP12	N29	PCIE_RX12P	VGA GPIO24
PEG RXN12	N30	PCIE_RX12N	VGA GPIO25
PEG RXP13	M30	PCIE_RX13P	VGA GPIO26
PEG RXN13	L29	PCIE_RX13N	VGA GPIO27
PEG RXP14	K29	PCIE_RX14P	VGA GPIO28
PEG RXN14	K29	PCIE_RX14N	VGA GPIO29
PEG RXP15	K30	PCIE_RX15P	VGA GPIO30
PEG RXN15	J30	PCIE_RX15N	VGA GPIO31



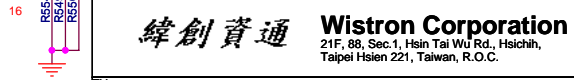
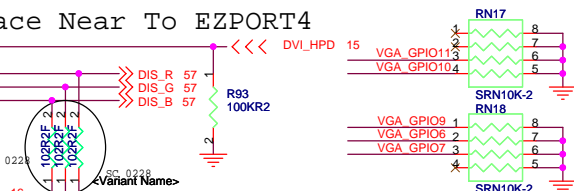
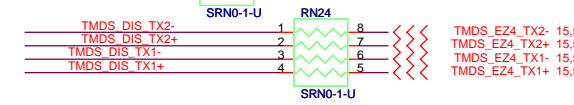
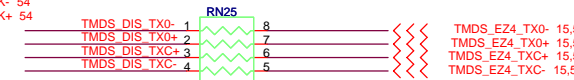
DVOMODE=VSS 3.3V MODE
DVOMODE=VDDC to 1.8V 1.8V MODE
DVOMODE=GND NO USE DVPPDATA

STRAPS	PIN	DEFAULT
CAL_BG_BACKUP	GPIO0	1
PLL_CAL_FORCE_EN	GPIO1	1
PCIE_MODE(1:0)	GPIO(3:2)	00 SE 0219
CAL_OFF	GPIO4	1
BYPASS_PLL	GPIO5	0 SE 0219
ICOMP	GPIO6	0
DEBUG_ACCESS	GPIO8	0
ROMIDCFG(3:0)	GPIO(9,13:11)	0000
MULTIFUNC(1:0)	LCDDATA(17:16)	00
VIP_DEVICE	LCDDATA(20)	0
DWNGRO	LCDDATA(21) (internal)	0 pull-down

ATI Ref. Datasheets (page 3-32)
 DOC.NO.: CHS-216M24-03
GPIO[0..13] are internal pull-down.

TMS DIS TX0-	1	R95	2	330R2	TMS DIS TX0+
TMS DIS TX1- <td>1</td> <td>R96</td> <td>2</td> <td>330R2</td> <td>TMS DIS TX1+</td>	1	R96	2	330R2	TMS DIS TX1+
TMS DIS TX2- <td>1</td> <td>R97</td> <td>2</td> <td>330R2</td> <td>TMS DIS TX2+</td>	1	R97	2	330R2	TMS DIS TX2+
TMS DIS TX3- <td>1</td> <td>R98</td> <td>2</td> <td>330R2</td> <td>TMS DIS TX3+</td>	1	R98	2	330R2	TMS DIS TX3+

DVPPDATA	2	1	0	
0	0	0	1	64MB Hynix
0	0	1	1	64MB Samsung
0	1	0	1	64MB X brand
0	1	1	1	64MB Y brand
1	0	0	1	128MB Hynix
1	0	1	1	128MB Samsung
1	1	0	1	128MB X brand
1	1	1	1	128MB Y brand



Place Near To EZPORT4

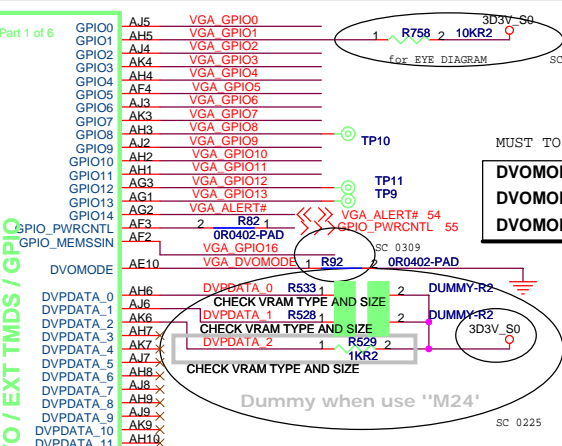
緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

ATI M26 PCIe LVDS (1/3)

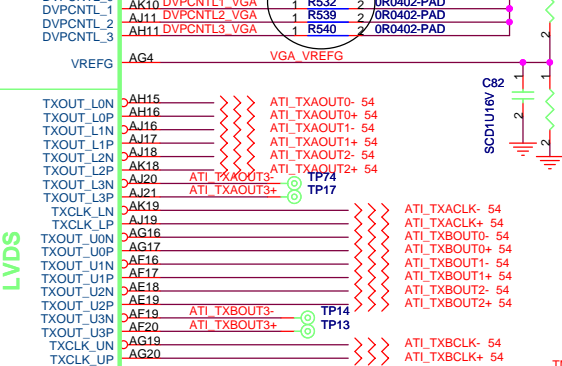
Size: A3 Document Number: **Bolsena** Rev: 1

Date: Thursday, March 31, 2005 Sheet: 49 of 58

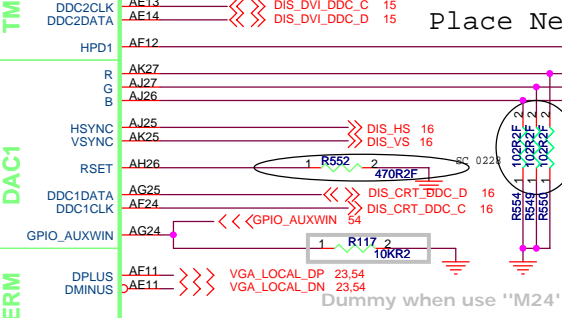
PCI EXPRESS



DVO / EXT TMS / GPIO

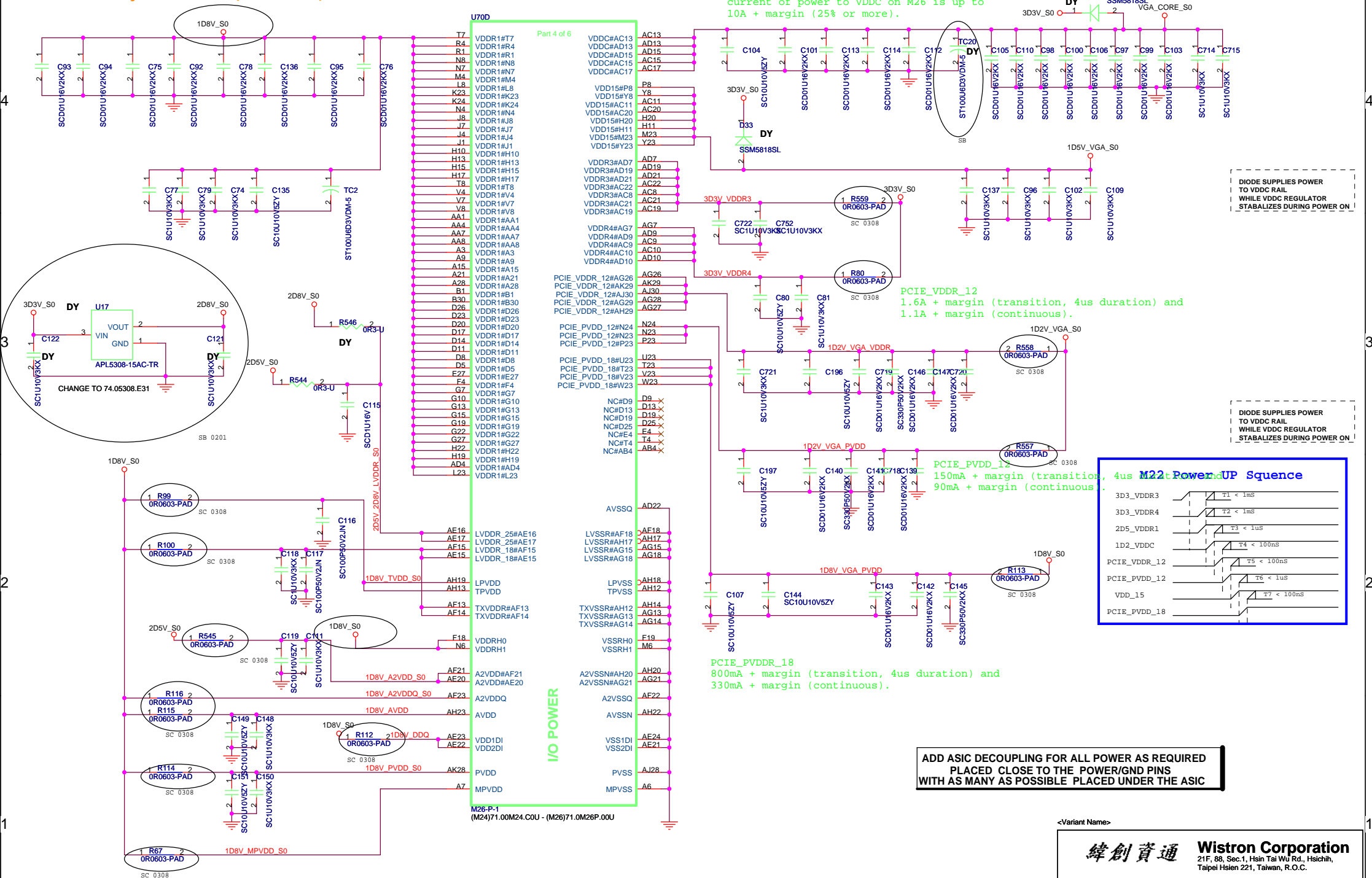


TMS



THERM

Dummy when use UMA (WHOLE PAGE)

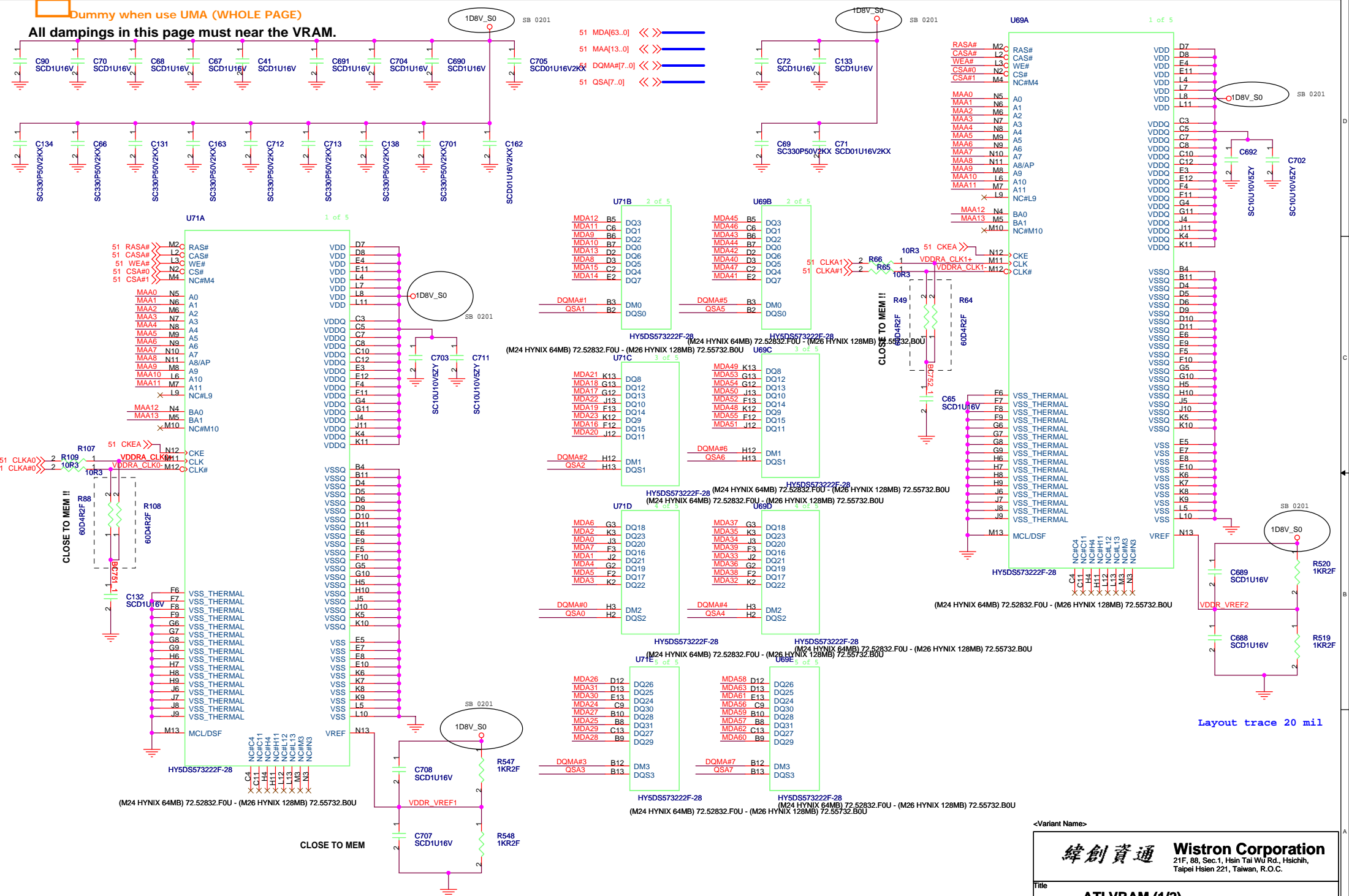


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緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsai Tai Wu Rd., Hsichin, Taipei Hsien 221, Taiwan, R.O.C.	
ATI M26 POWER (2/3)			
Size	Document Number	Rev	
A3	Bolsena	-1	
Date:	Thursday, March 31, 2005	Sheet	50 of 58

Dummy when use UMA (WHOLE PAGE)

All dampings in this page must near the VRAM.



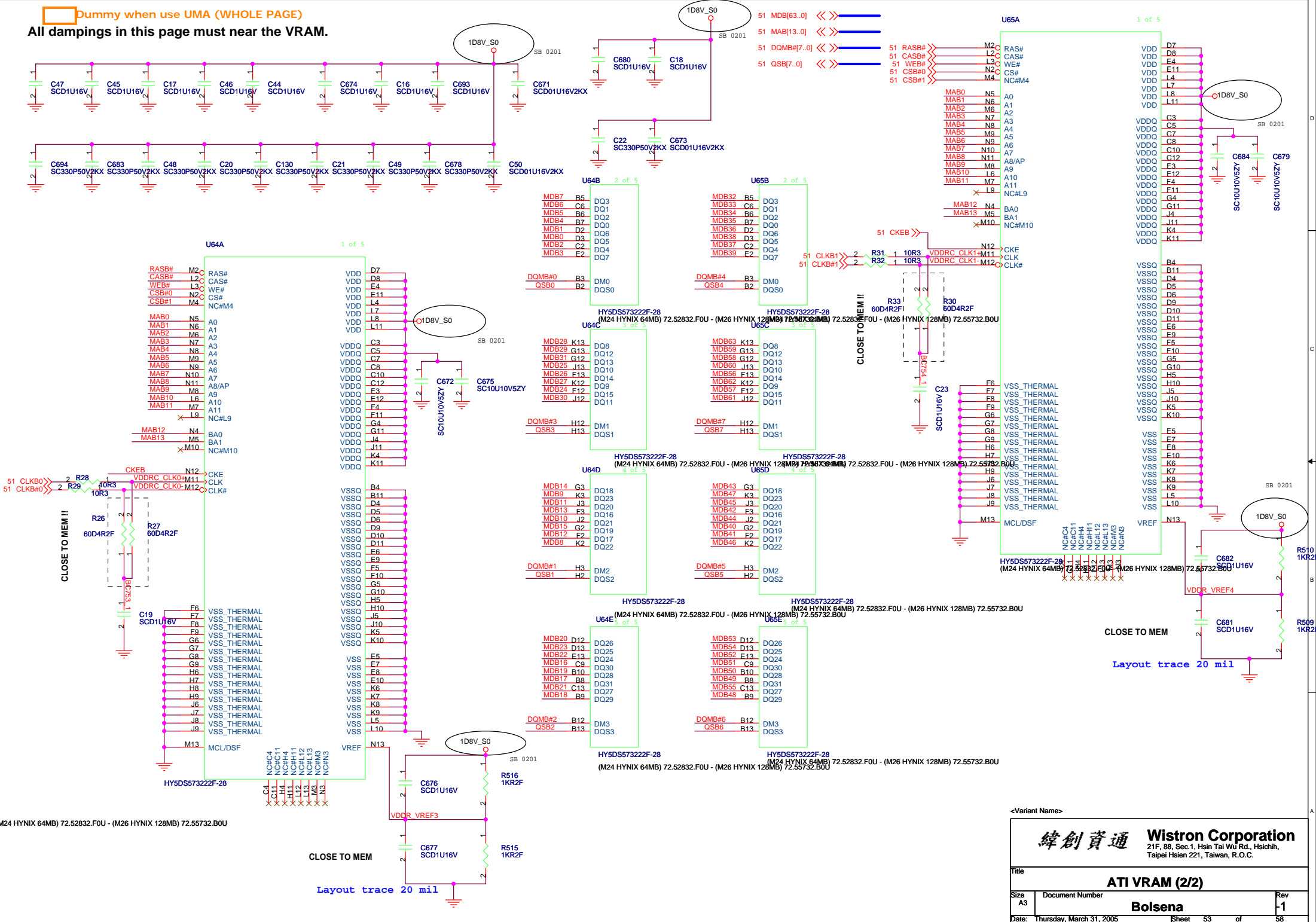
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緯創資通 **Nistron Corporation**
 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,
 Taipei Hsien 221, Taiwan, R.O.C.

Title	ATI VRAM (1/2)	
Size	Document Number	Rev
A3	Bolsena	-1
Date:	Thursday, March 31, 2005	Sheet 52 of 58

Dummy when use UMA (WHOLE PAGE)

All dampings in this page must near the VRAM.

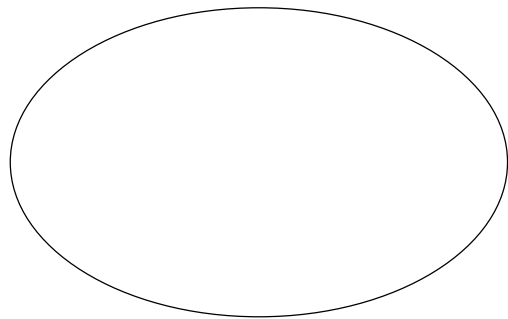


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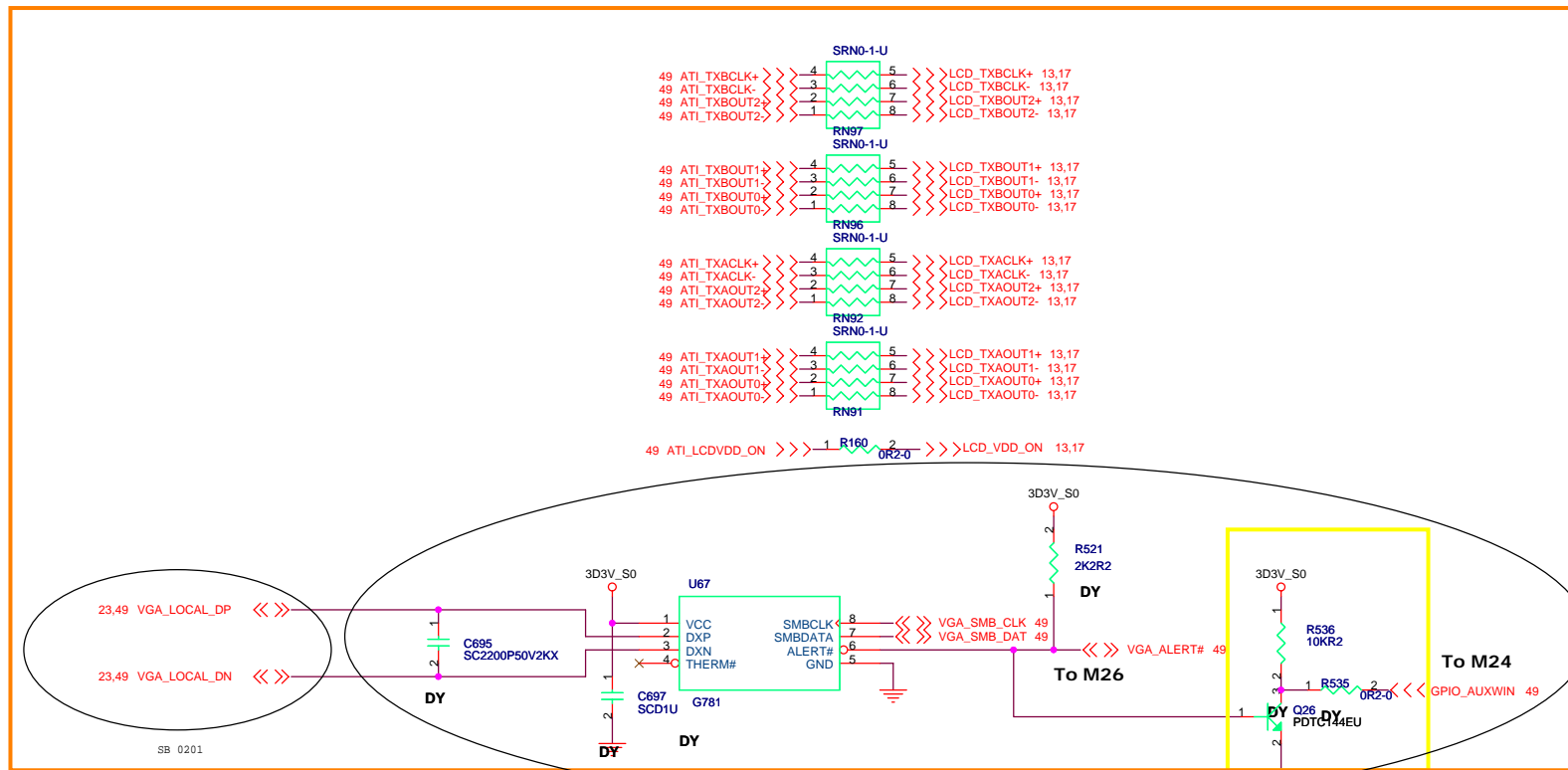
緯創資通 Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **ATI VRAM (2/2)**

Size: A3	Document Number: Bolsena	Rev: -1
Date: Thursday, March 31, 2005	Sheet: 53 of 58	



SB 0201



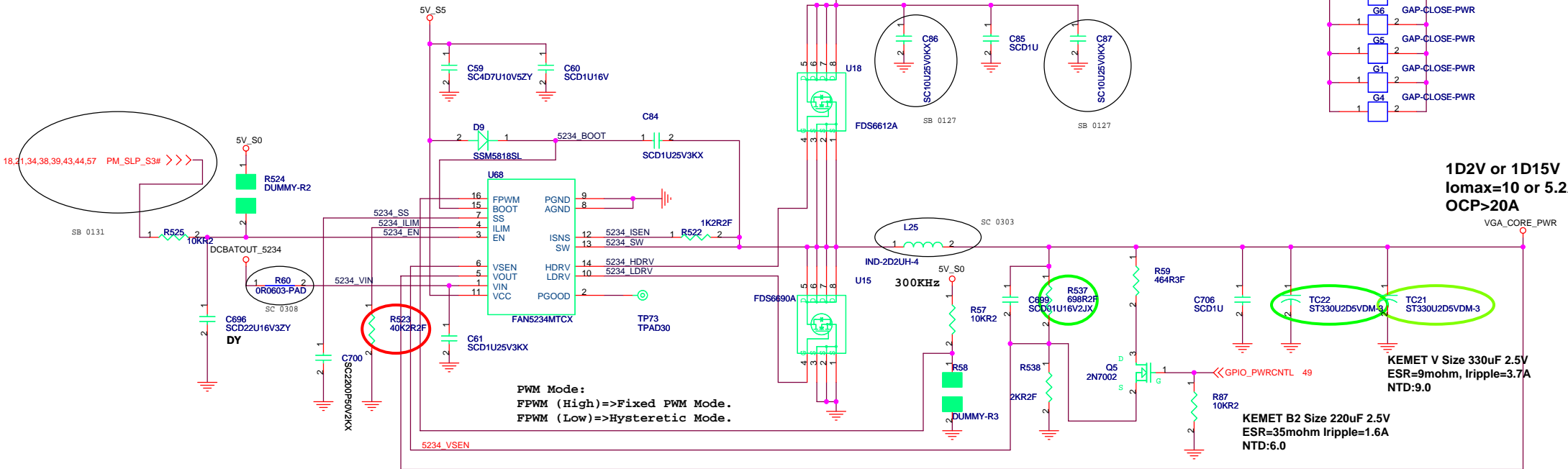
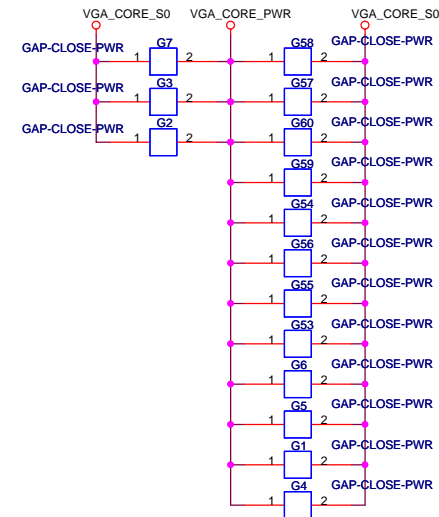
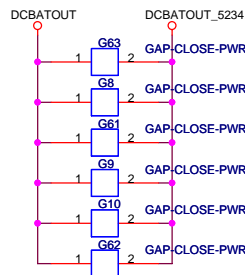
SB 0201

Dummy when use "M26"

		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
VGA SELECTOR			
Size A3	Document Number Bolsena	Rev 1	
Date: Thursday, March 31, 2005	Sheet 54	of	58

FAN5234 FOR VGA_Core

Dummy when use 'UMA' (whole page)



1D2V or 1D15V
Iomax=10 or 5.2A
OCP>20A

PWM Mode:
FPWM (High)=>Fixed PWM Mode.
FPWM (Low)=>Hysteretic Mode.

$$R_{ilim} = (11.2 / I_{ilim}) * ((100 + R_{sense}) / R_{dson})$$

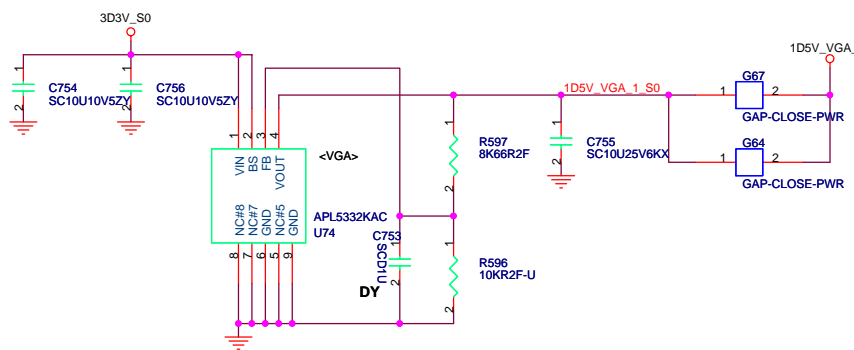
High (3.3V) => Vo=1.0V
Low (0V) => Vo=1.2V

Vout Setting:
0.9V / Rlow = (Vout - 0.9V) / Rhigh

M24/M26 POWER PLAY (GPIO_PWRCNTL)
high (3.3V) = set lower core voltage (VDDC = 1.0V)
low (0V) = set higher core voltage (VDDC = 1.2V)

KEMET V Size 330uF 2.5V
ESR=9mohm, Ripple=3.7A
NTD:9.0

KEMET B2 Size 220uF 2.5V
ESR=35mohm Ripple=1.6A
NTD:6.0

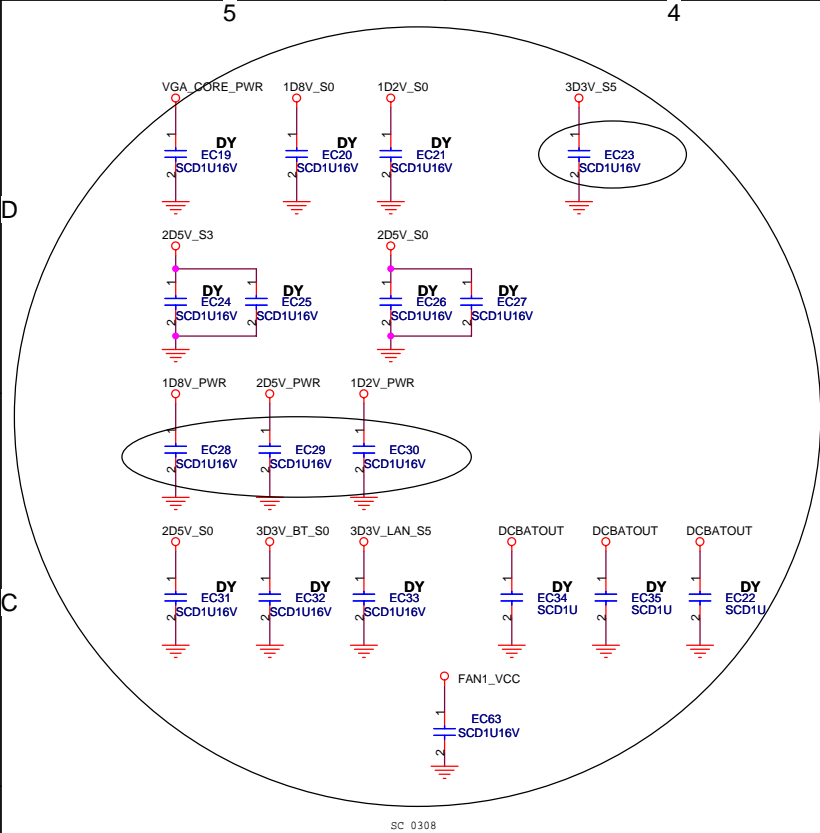


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緯創資通 Wistron Corporation
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

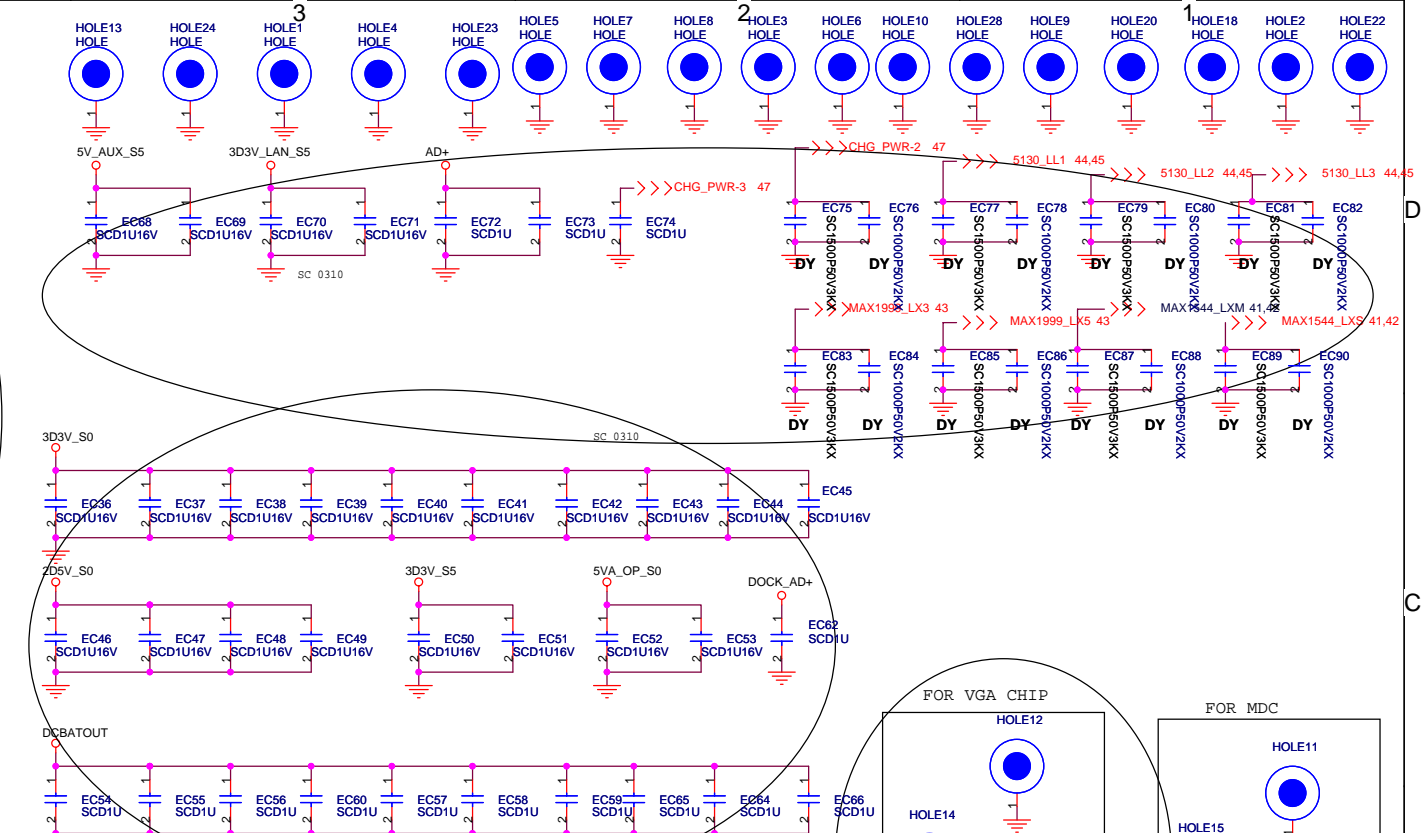
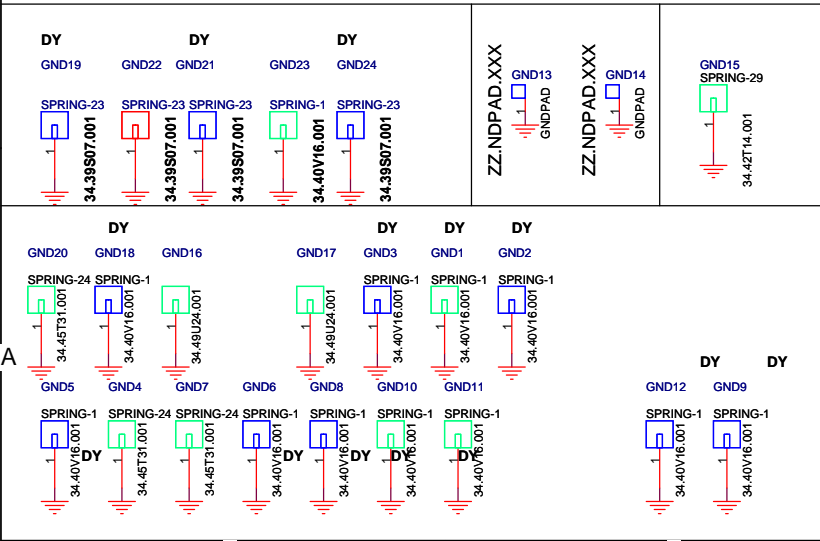
Title VGA CORE 1D2V or 1D0V		
Size A3	Document Number Bolsena	Rev -1
Date Thursday, March 31, 2005	Sheet 55	of 58

(Power Team)

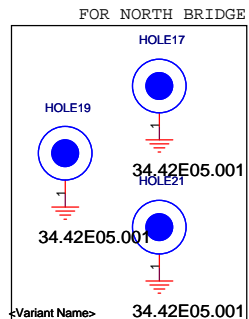
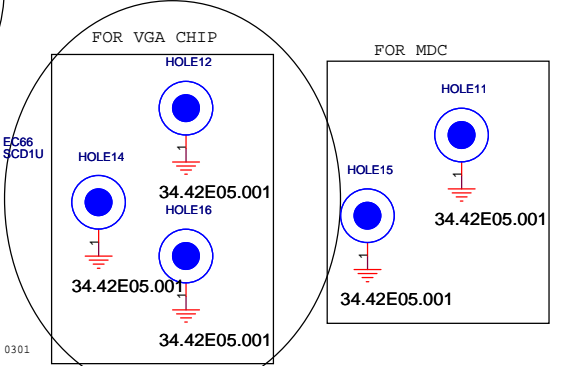
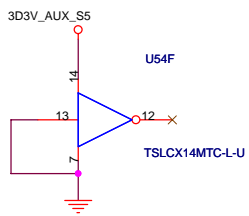
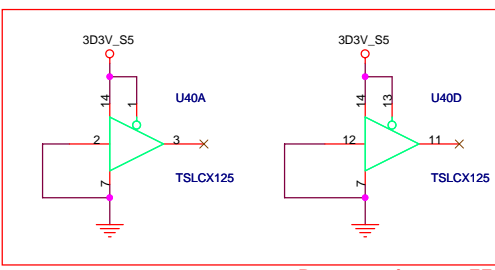
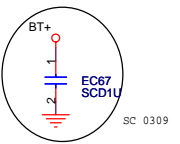


IMPORTANT:
 SCD1U => VOLTAGE 25V
 SCD1U16V => VOLTAGE 16V

GREEN COLOR FOR INSTALL



SCD1U => VOLTAGE 25V

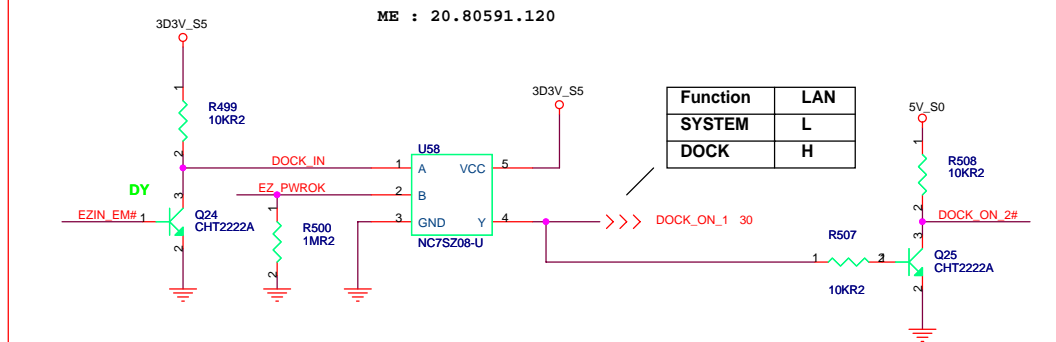
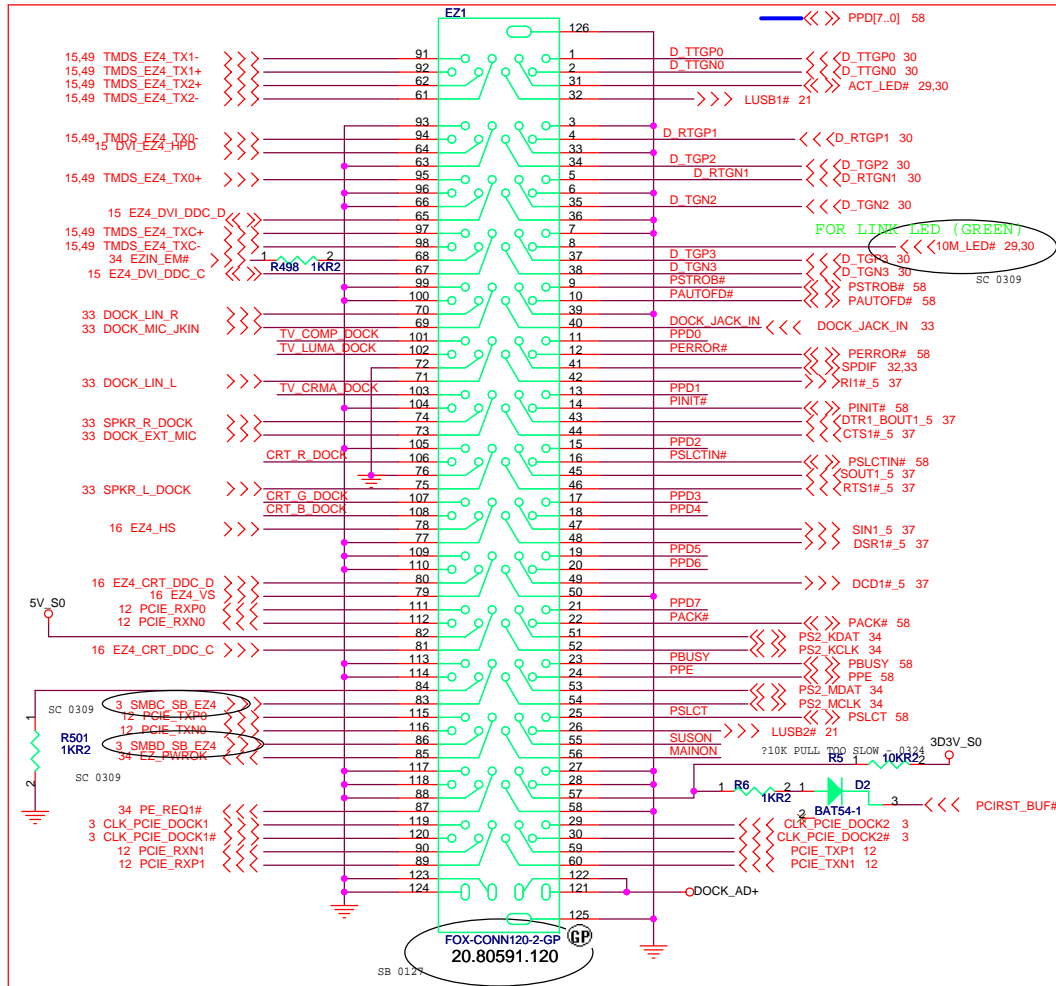


緯創資通 Wistron Corporation
 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: **EMI**

Size: A3 Document Number: **Bolsena** Rev: 1

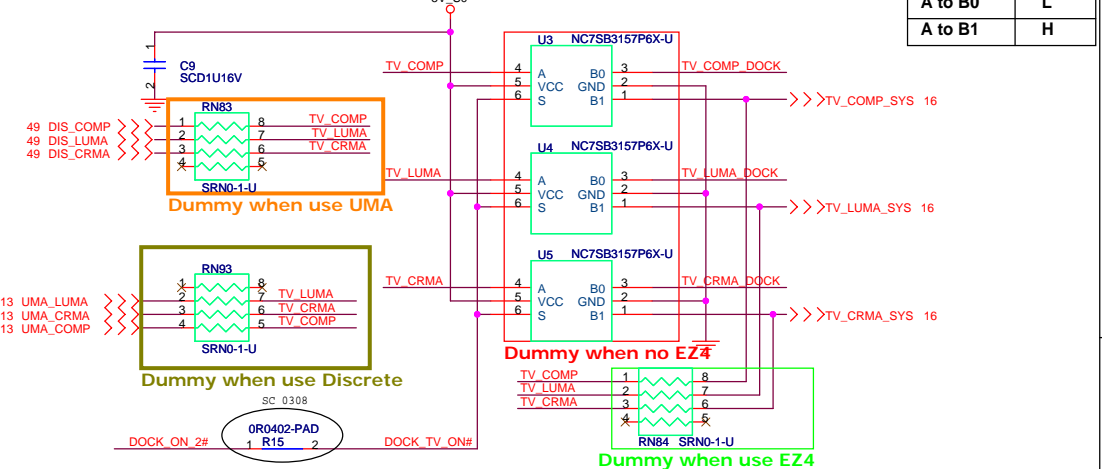
Date: Thursday, March 31, 2005 Sheet: 56 of 58



Dummy when no EZ4

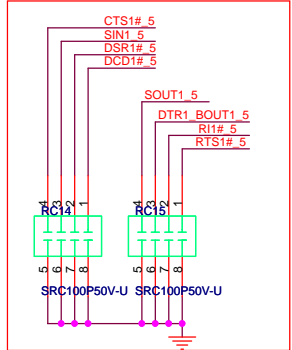
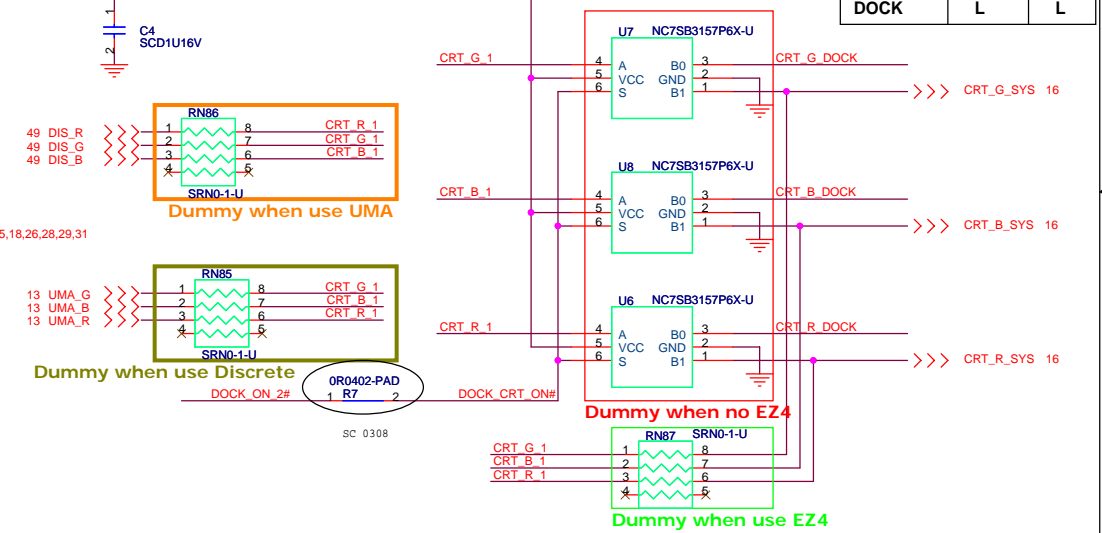
TV SWITCH

Function	S
A to B0	L
A to B1	H



CRT SWITCH

Function	CRT	TV
SYSTEM	H	H
DOCK	L	L



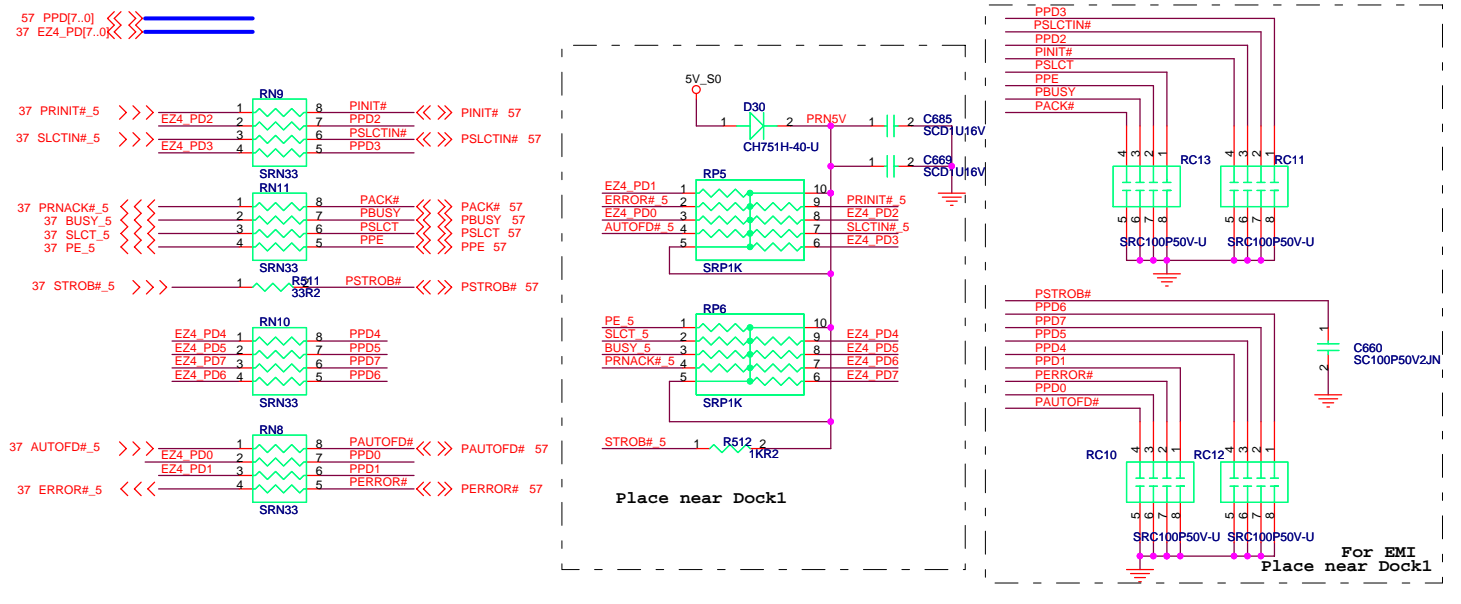
Dummy when no EZ4

<Variant Name>

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

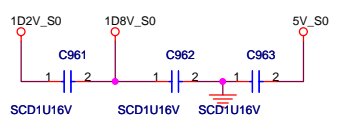
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PRINT PORT



Dummy when no EZ4

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(for UMA RGB signal)



SB 0213