



Symbol name	Value	Tolerance (J: 5%, F: 1%, D: 0.5%, B: 0.1 %)	Rating 0402=> 1/16W, 25V 0603 => 1/16W, 75V 0805 => 1/10W, 100V	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210
10KR3	10K Ohm	If no letter, it means J: 5%	1/16W, 75V	0603
33D3R5	33.3 Ohm	If no letter, it means J: 5%	1/10W, 100V	0805
1KR3F	1K Ohm	F: 1%	1/16W, 75V	0603

Symbol name	Value	Tolerance (M: +/-20, K: +/-10, Z: +80/-20)	Rating	Size 2=>0402, 3=>0603, 5=>0805, 6=>1206, 0=>1210
SCD1U10V2MX-1	0.1uF	M/X5R	10V	0402
SC10U6D3V5MX	10uF	M/X5R	6.3V	0805
SC2D2U16V5ZY	2.2uF	Z/Y5V	16V	0805

PCH GPIOn	39	38	49	48	Planar ID Version	Planar PCB Version
PLANAR_IDn	3	2	1	0		
	0	0	0	1	SDV	SA
	0	0	1	1	FVT	SC
	0	1	0	0	SIT	SD
	0	1	0	1	SIT-R	SE

[illegible]

DEVICE	IDSEL	IRQ (Default)	REQ# / GNT#
MINIPCI SLOT	AD18	F, G	REQ# 3/ GNT#0
CARDBUS R5C811	AD16	SERIRQ	REQ#0 / GNT#0
USB UHCI	AD29	A, C, D	
USB 2.0 EHCI	AD29	H	
DMI-to-PCI/ AC97 Modem/ AC97 Audio	AD30	B B	
LPC Bridge IDE SATA SMBus	AD31	C C B	
PCI Express	AD28	A, B, C, D	

		<b>Wistron Corporation</b> 21F, 89, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b>EC HISTORY</b>			
Size A3	Document Number		Rev SA
<b>Kendo-4 UMA</b>			
Date: Wednesday, February 29, 2012	Sheet	2 of	103



Change is to S3 Wake up issue based on Intel White paper





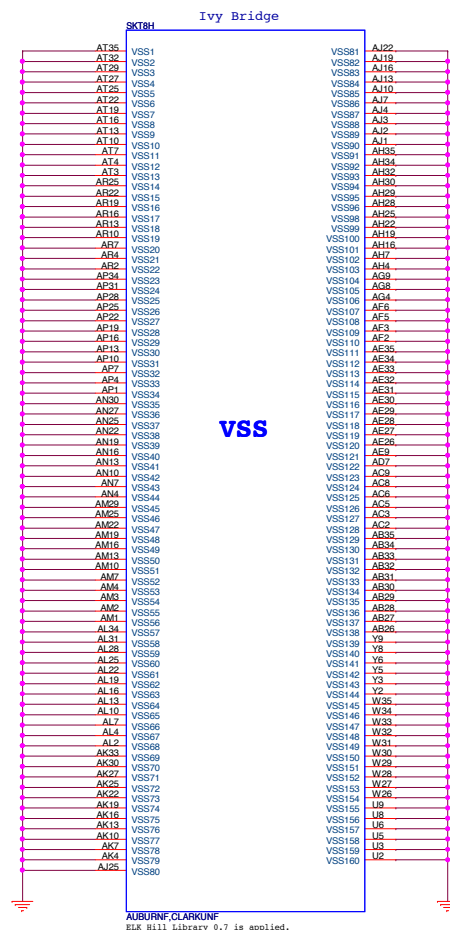
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BOM		
<div>緯創資通</div>		<div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>
Title		
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Size	Document Number	Rev
A4		SA
Date: Wednesday, February 29, 2012		Sheet 6 of 103

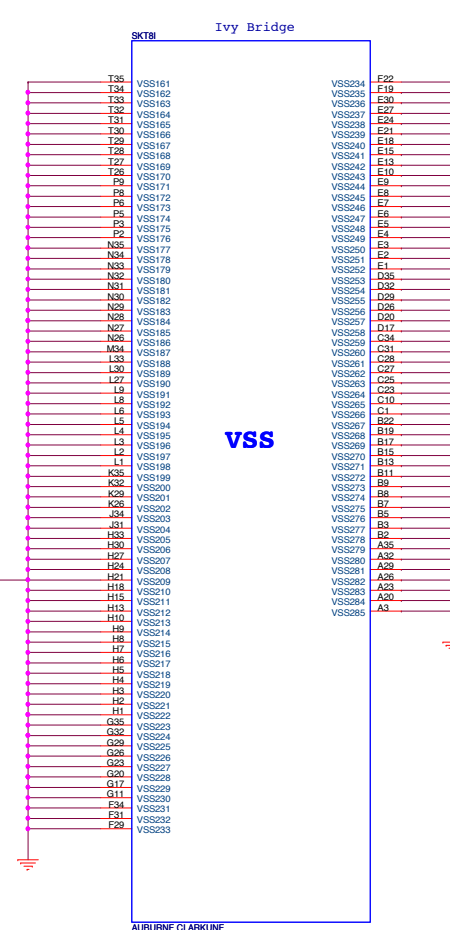








Do Not Stuff  
R52  
80 VSSSA\_SENSE <<



When PEG Lane reversible function is used, CFG2 should have pull down.

When PCIe Port Bifurcation function is used,  
CFG5 & 6 should have pull down.

Low/Low : x8 , x4 and x4  
Low/High : Reserved  
High/Low : x8 and x8  
High/High : x16

11 CFG0 TP145

Do Not Stuff

1 CFG1

1 CFG4

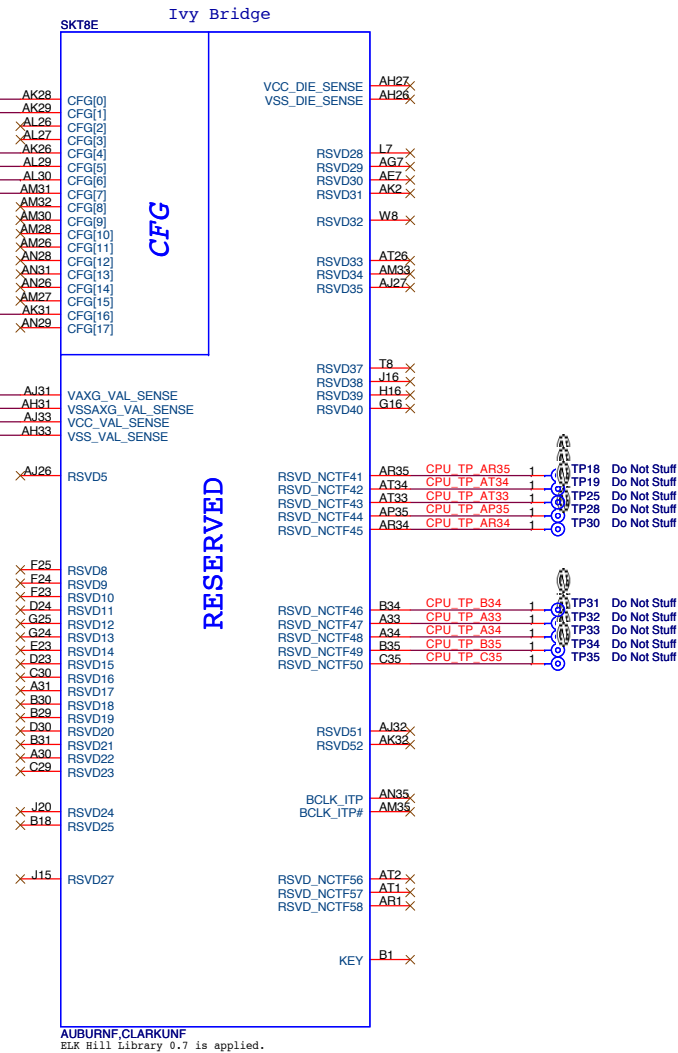
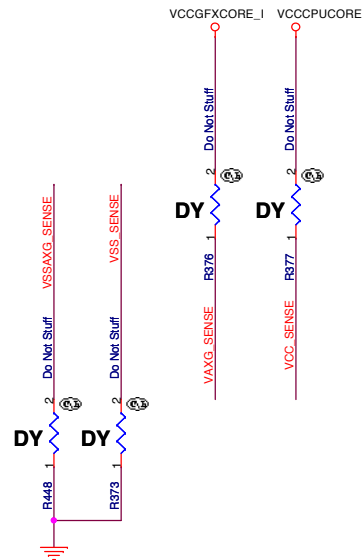
1 CFG5

1 CFG6

1 CFG7

1 CFG16 TP144

Do Not Stuff



AUBURNF,CLARKUNF  
ELK Hill Library 0.7 is applied

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

Sheet 10 of 103

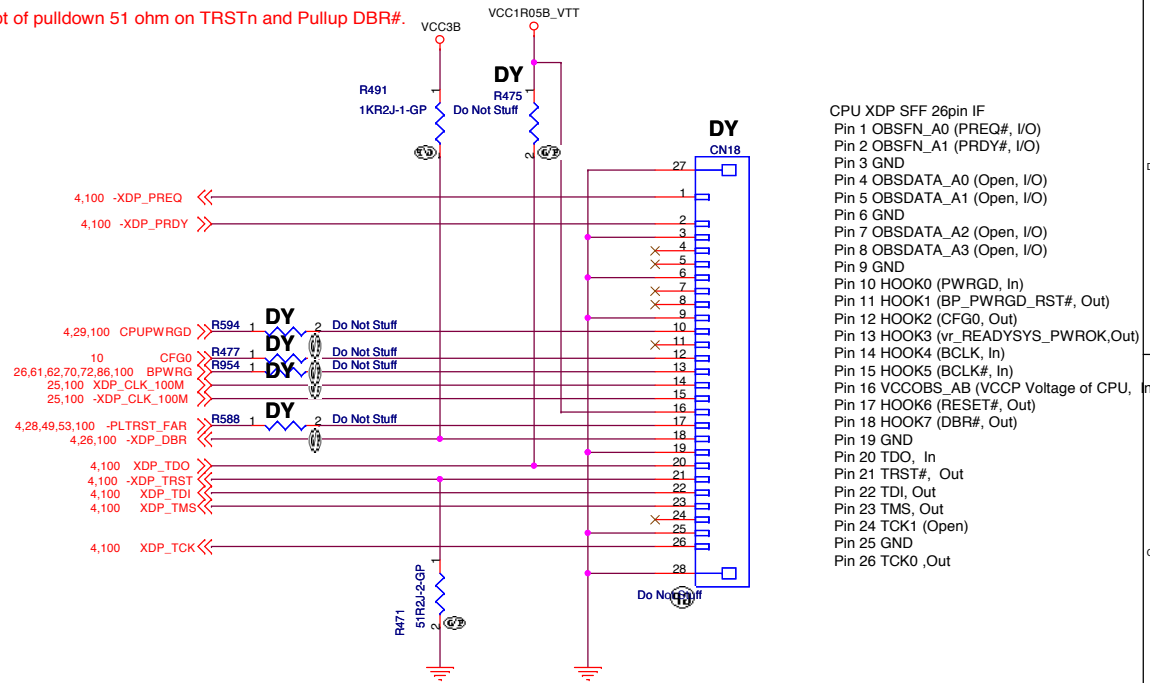
In production, All of parts should be not moounted except of pulldown 51 ohm on TRSTn and Pullup DBR#.

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R475	ASM	NOASM
TRST#	R471	ASM	ASM
DBRST#	R491	ASM	ASM
RESET#	R588	ASM	NOASM
CFG0	R477	ASM	NOASM
PWRGD	R594	ASM	NOASM
BPWRG	R954	ASM	NOASM
	CN20	ASM	NOASM

↑  
LOGIC

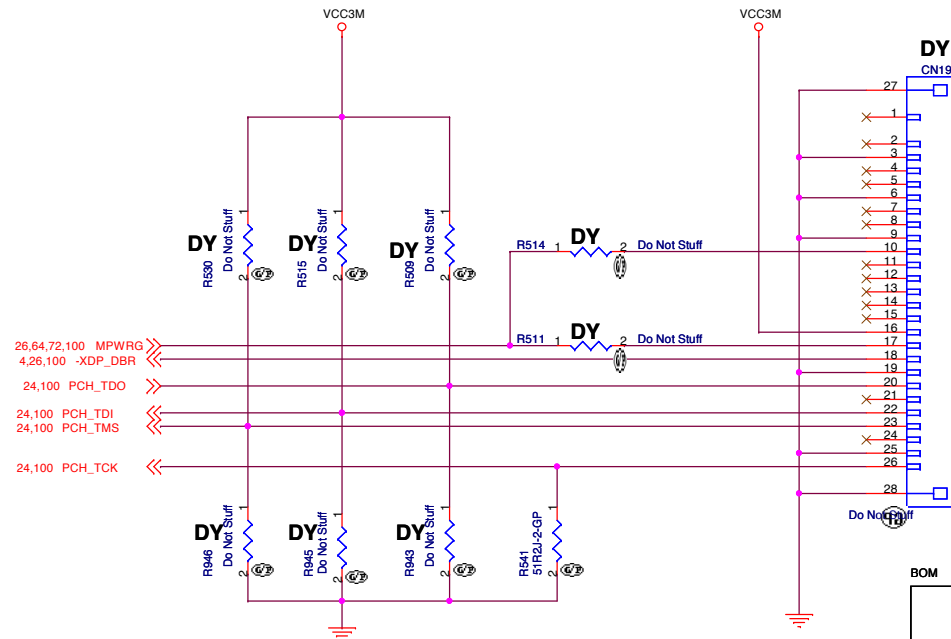
SIGNAL	REF DES	ENABLE	DISABLE
TDO	R509 R943	220 100	NOASM NOASM
TMS	R530 R946	220 100	NOASM NOASM
TDI	R515 R945	220 100	NOASM NOASM
TCK	R541	51	51
MPWRG	R511 R514	ASM ASM	NOASM NOASM
	CN5	ASM	NOASM

↑  
LOGIC



CPU XDP SFF 26pin IF  
Pin 1 OBSFN\_A0 (PREQ#, I/O)  
Pin 2 OBSFN\_A1 (PRDY#, I/O)  
Pin 3 GND  
Pin 4 OBSDATA\_A0 (Open, I/O)  
Pin 5 OBSDATA\_A1 (Open, I/O)  
Pin 6 GND  
Pin 7 OBSDATA\_A2 (Open, I/O)  
Pin 8 OBSDATA\_A3 (Open, I/O)  
Pin 9 GND  
Pin 10 HOOK0 (PWRGD, In)  
Pin 11 HOOK1 (BP\_PWRGD\_RST#, Out)  
Pin 12 HOOK2 (CFG0, Out)  
Pin 13 HOOK3 (vr\_READYSYS\_PWROK, Out)  
Pin 14 HOOK4 (BCLK#, In)  
Pin 15 HOOK5 (BCLK#, In)  
Pin 16 VCCOBS\_AB (VCCP Voltage of CPU, In)  
Pin 17 HOOK6 (RESET#, Out)  
Pin 18 HOOK7 (DBR#, Out)  
Pin 19 GND  
Pin 20 TDO, In  
Pin 21 TRST#, Out  
Pin 22 TDI, Out  
Pin 23 TMS, Out  
Pin 24 TCK1 (Open)  
Pin 25 GND  
Pin 26 TCK0 ,Out

In production, All of parts should be not moounted except of pulldown 51 ohm on TCK.



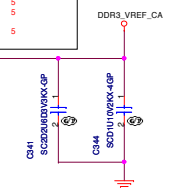
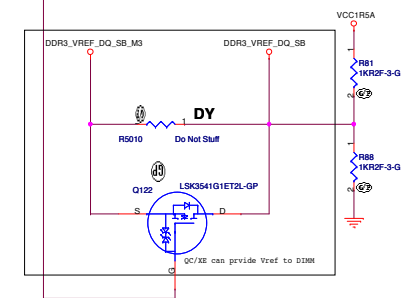
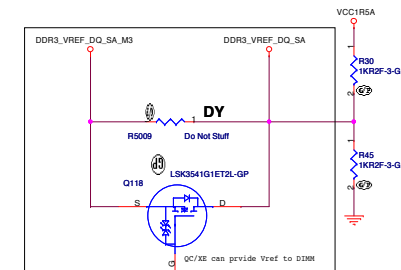
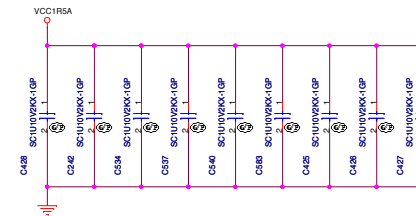
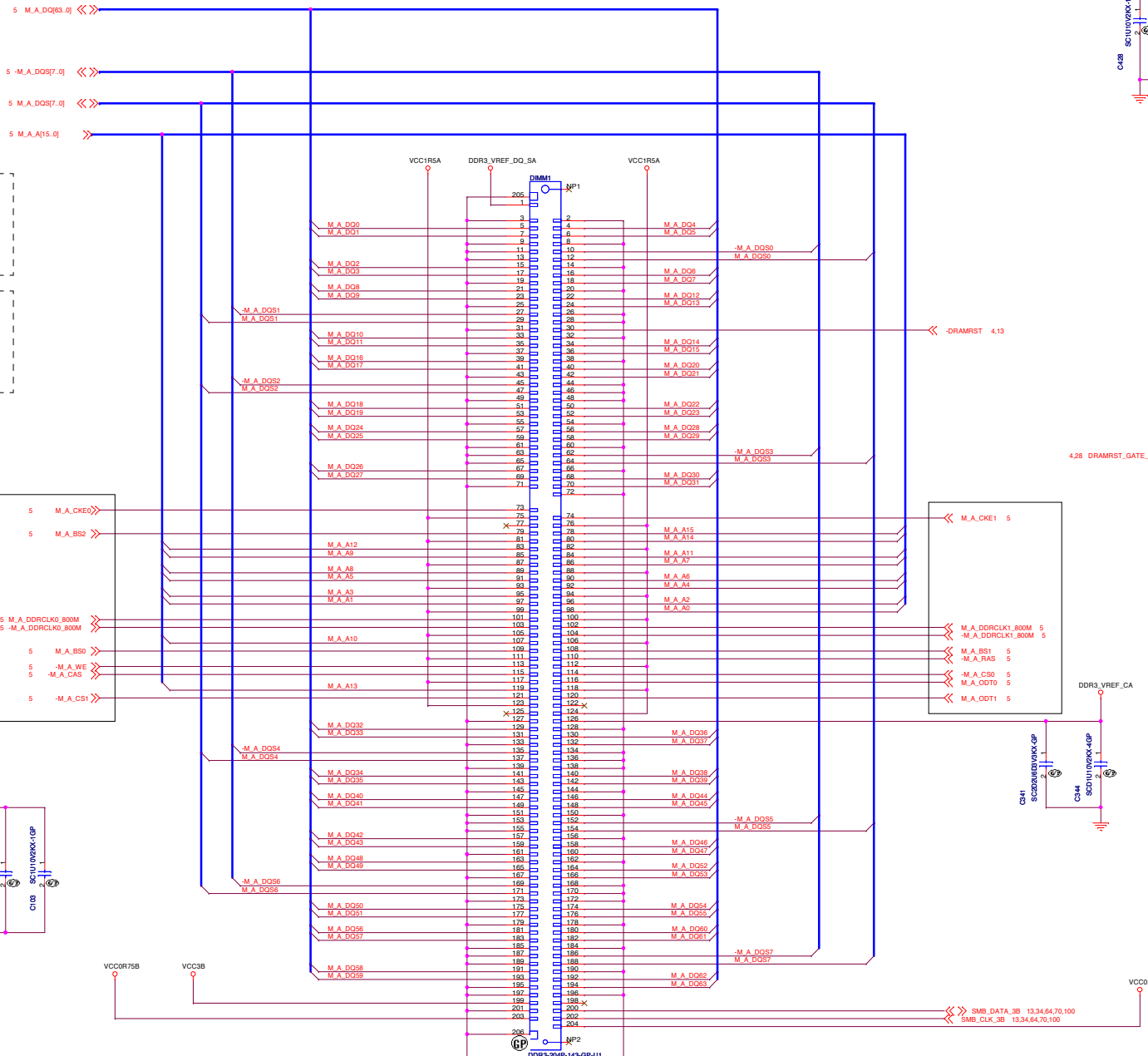
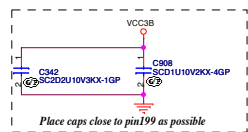
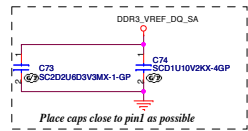
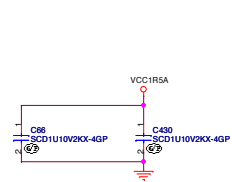
#### DEBUG Interface for PCH.

PCH XDP SFF 26pin IF  
Pin 1 OBSFN\_A0 (Open, I/O)  
Pin 2 OBSFN\_A1 (Open, I/O)  
Pin 3 GND  
Pin 4 OBSDATA\_A0 (Open, I/O)  
Pin 5 OBSDATA\_A1 (Open, I/O)  
Pin 6 GND  
Pin 7 OBSDATA\_A2 (Open, I/O)  
Pin 8 OBSDATA\_A3 (Open, I/O)  
Pin 9 GND  
Pin 10 HOOK0 (RSMRST#, In)  
Pin 11 HOOK1 (BP\_PWRGD\_RST#, Out)  
Pin 12 HOOK2 (Open)  
Pin 13 HOOK3 (Open)  
Pin 14 HOOK4 (Open)  
Pin 15 HOOK5 (Open)  
Pin 16 VCCOBS\_AB (3.3VSUS, In)  
Pin 17 HOOK6 (RSMRST#, Out)  
Pin 18 HOOK7 (DBR#, Out)  
Pin 19 GND  
Pin 20 TDO (JTAG, In)  
Pin 21 TRST# (Open)  
Pin 22 TDI (JTAG, Out)  
Pin 23 TMS (JTAG, Out)  
Pin 24 TCK1 (Open)  
Pin 25 GND  
Pin 26 TCK0 (JTAG, Out)

BOM

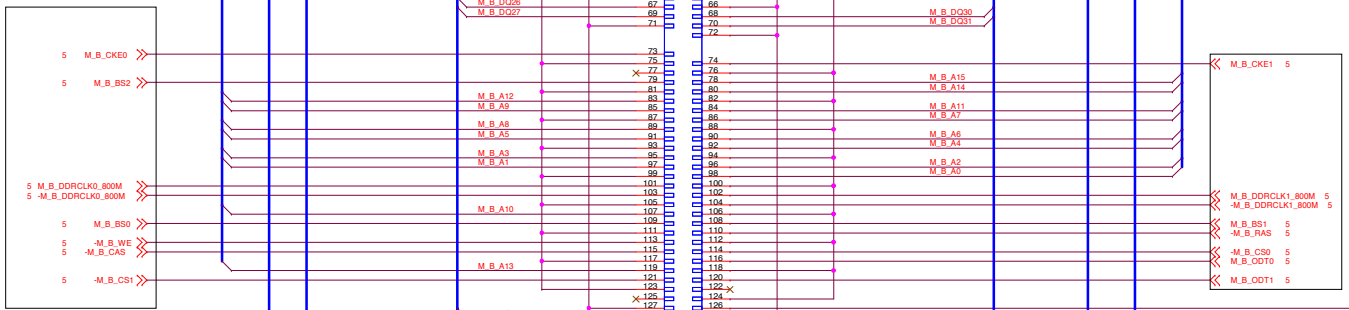
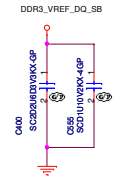
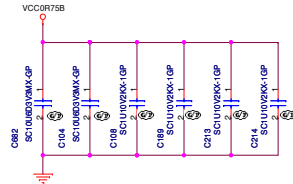
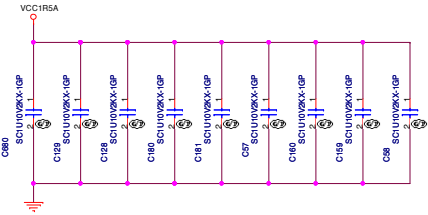
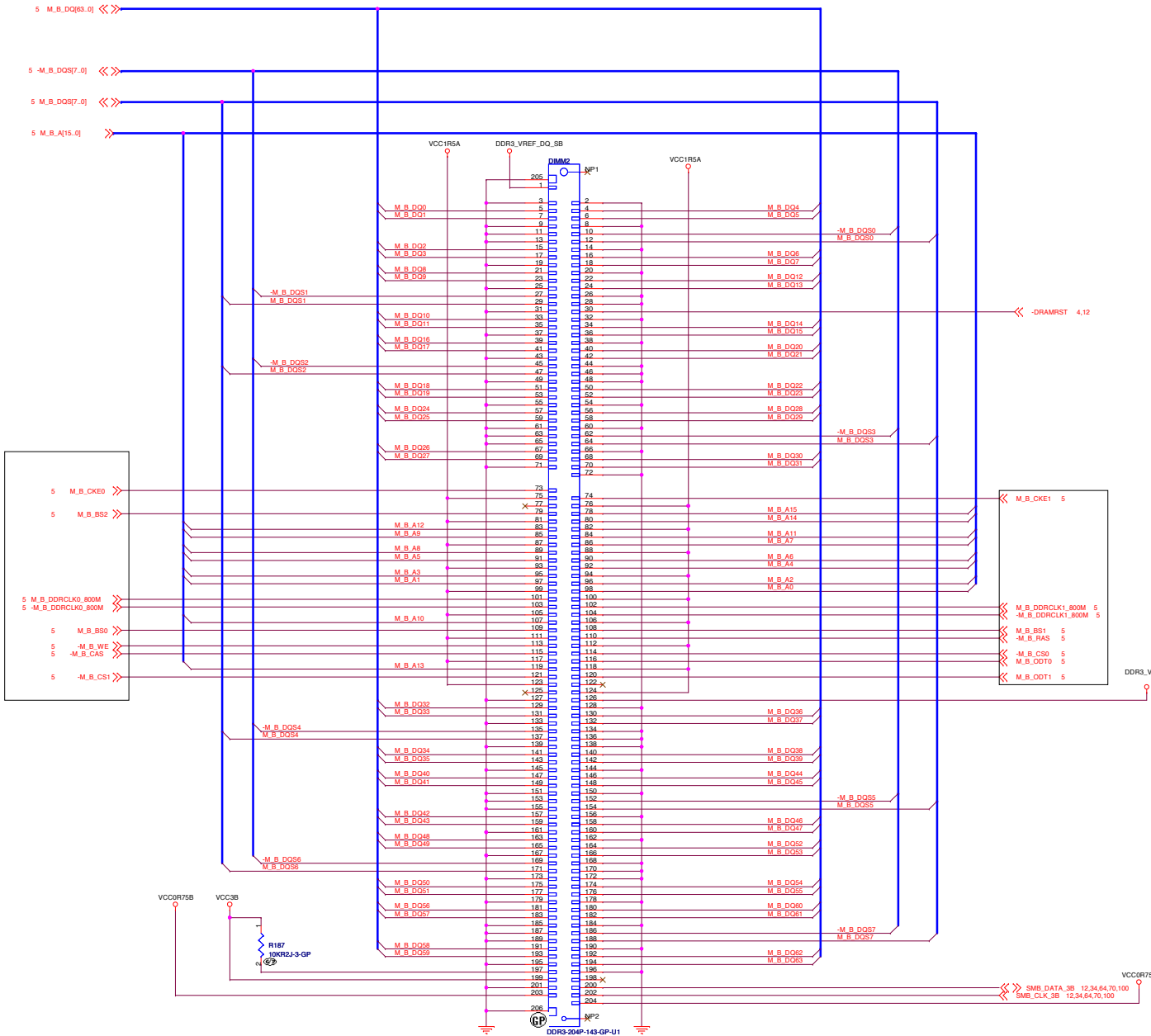
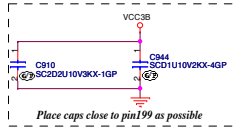
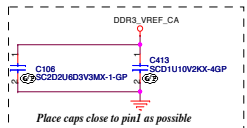
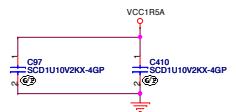
緯創資通 Wistron Corporation  
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

Title <b>XDP CONNECTOR</b>		
Size A3	Document Number <b>Kendo-4 UMA</b>	Rev <b>SA</b>
Date: Wednesday, February 29, 2012	Sheet 11	of 103



SPD Address : 50h

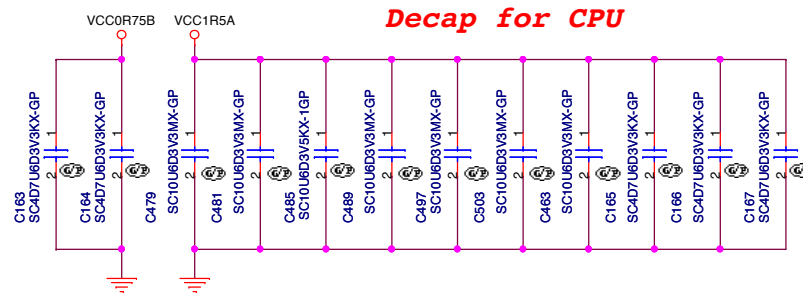
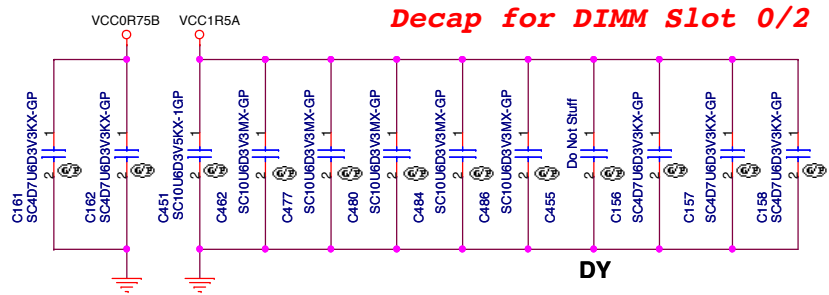
www.vinafix.vn



SPD Address : 51h

[www.vinafix.vn](http://www.vinafix.vn)

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				21F, 8B, Sec.1, Hsin Tai Wu Rd., Hsichia, Taipei Hsien 221, Taiwan, R.O.C.	
Title					
<b>DDR3 SODIMM CH-B Primary</b>					
Size A2		Document Number			Rev SA
		<b>Kendo-4 UMA</b>			
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Title <b>DECAP For DIMMs</b>			
Size B	Document Number <b>Kendo-4 UMA</b>		Rev <b>SA</b>
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Size A4	Document Number <b>Kendo-4 UMA</b>	Rev <b>SA</b>
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Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>
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<div>Date: Wednesday, February 29, 2012</div>		<div>Sheet</div> <div>18</div>	<div>of</div> <div>103</div>

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Date <div>Wednesday, February 29, 2012</div>	Rev <div>SA</div>
Date <div>Wednesday, February 29, 2012</div> Sheet <div>19</div> of <div>103</div>	

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Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>	Rev <div>SA</div>
Date: Wednesday, February 29, 2012	Sheet 20 of	103

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Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>	Rev <div>SA</div>
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<div>Date: Wednesday, February 29, 2012</div>		<div>Sheet</div> <div>22</div>	<div>of</div> <div>103</div>

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<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>		
Title		
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Size	Document Number	Rev
A4	Kendo-4 UMA	SA
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To MediaCard Reader

To Wireless LAN  
MiniCard Slot

To Express Card Slot

To Gigabit Ethernet  
Controller

To MediaCard Reader

To Wireless LAN  
MiniCard Slot

To Express Card Slot

To Gigabit Ethernet  
Controller

After Power rail for CLKREQ# interface is confirmed, these Transistors will be removed.

Supplier	Vendo P/N	WISTRON P/N
1 HARMONY	XTAL 25M 12P30PPM HSX321G SMD	82.30020.B61
2 TXC	XTAL 25M 12P30PPM 4P SMD	82.30020.D51

Default Output "0"  
Default Output nonfunctional  
Default output 14.318MHz  
Default output "0"  
CLKREQ# [3:0]/GPIO[67:64] has a weak internal pull down.

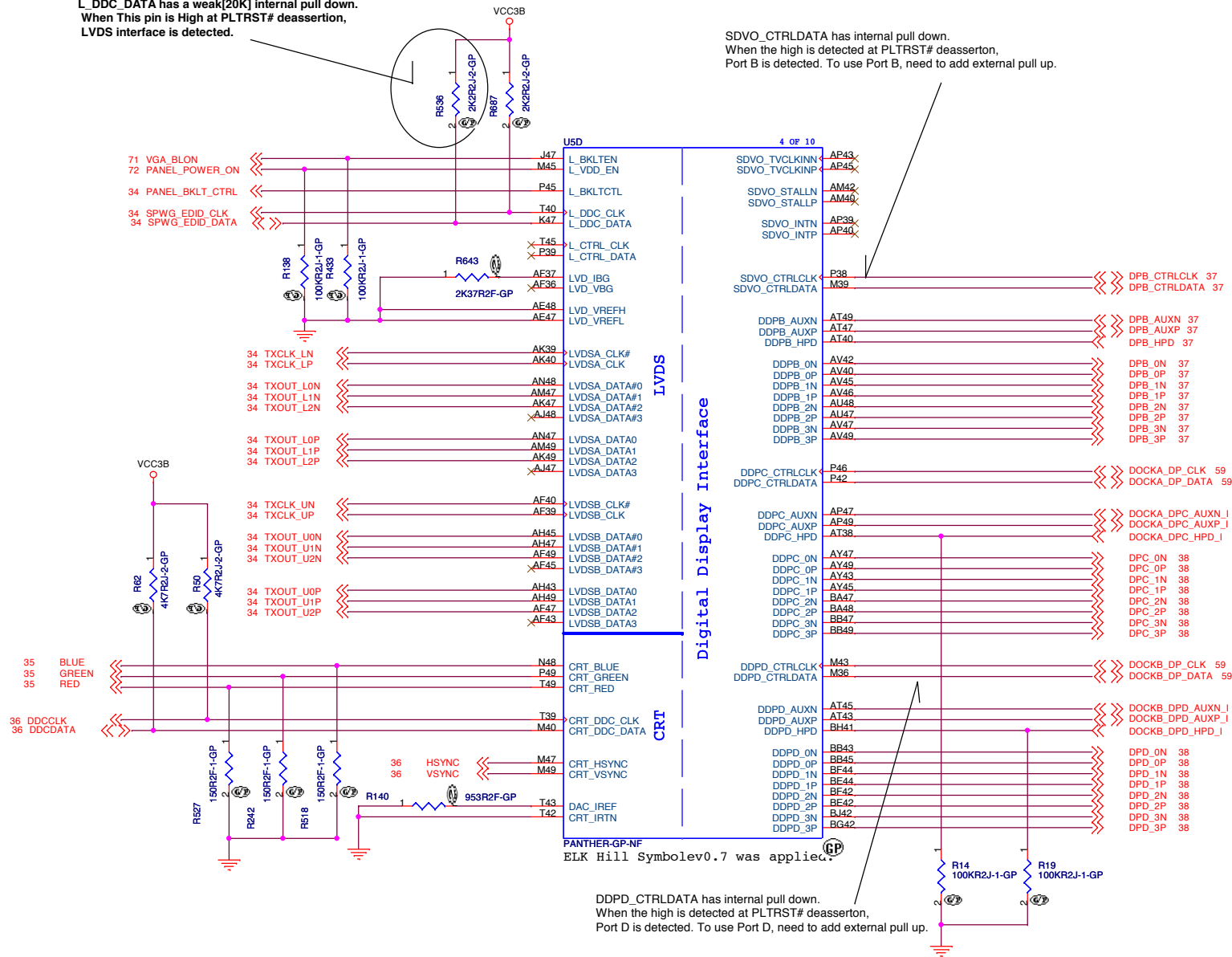
48M/24MHz Clock  
33MHz Clock  
27MHz(SS/nonSS) Clock  
14.318MHz Clock

BOM		緯創資通 Wistron Corporation	
21F, 8B, Sec 1, Hsin Tai Wu Rd., Hsichuan, Taipei Hsien 221, Taiwan, R.O.C.		Title	
Size		PCH(2B):PCIE/SMBUS/CLK	
A2		Document Number	
Date: Wednesday, February 29, 2012		Kendo-4 UMA	
Sheet		104	



L\_DDC\_DATA has a weak[20K] internal pull down.  
When This pin is High at PLTRST# deassertion,  
LVDS interface is detected.

SDVO\_CTRLDATA has internal pull down.  
When the high is detected at PLTRST# deassertion,  
Port B is detected. To use Port B, need to add external pull up.

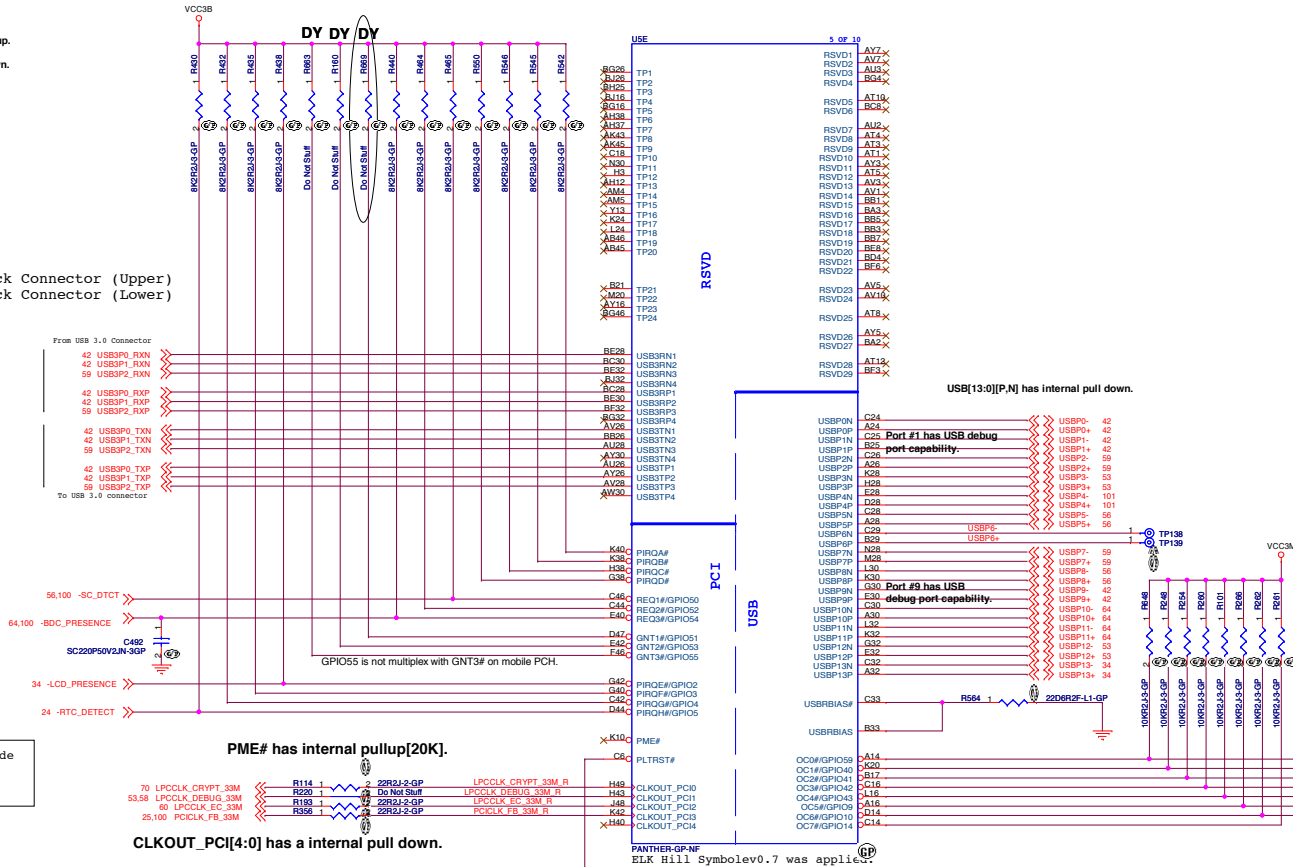


Because PCI IF is not used, ADx.C/BEx and GNTx are left as NC.

GNT0# has a weak(20K) internal pull up.  
GNT1#/GPIO51 has a weak(20K) internal pull up.  
To use SPI IF flash BIOS, GNT1#/GPIO51  
and GNT0# should not place external pull down.

GNT2#/GPIO53 has a weak(20K) internal pull up.  
This pin should not have external pull down.  
  
GNT3#/GPIO55 has a weak(20K) internal pull up.  
The internal pull up is disabled after PLTRST#.  
If external pull down is applied,  
PCH will be "topblock swap" mode.

USB 3.0 ports assignment :  
Port 0: Left Side Double Deck Connector (Upper)  
Port 1: Left Side Double Deck Connector (Lower)  
Port 2: Docking Connector



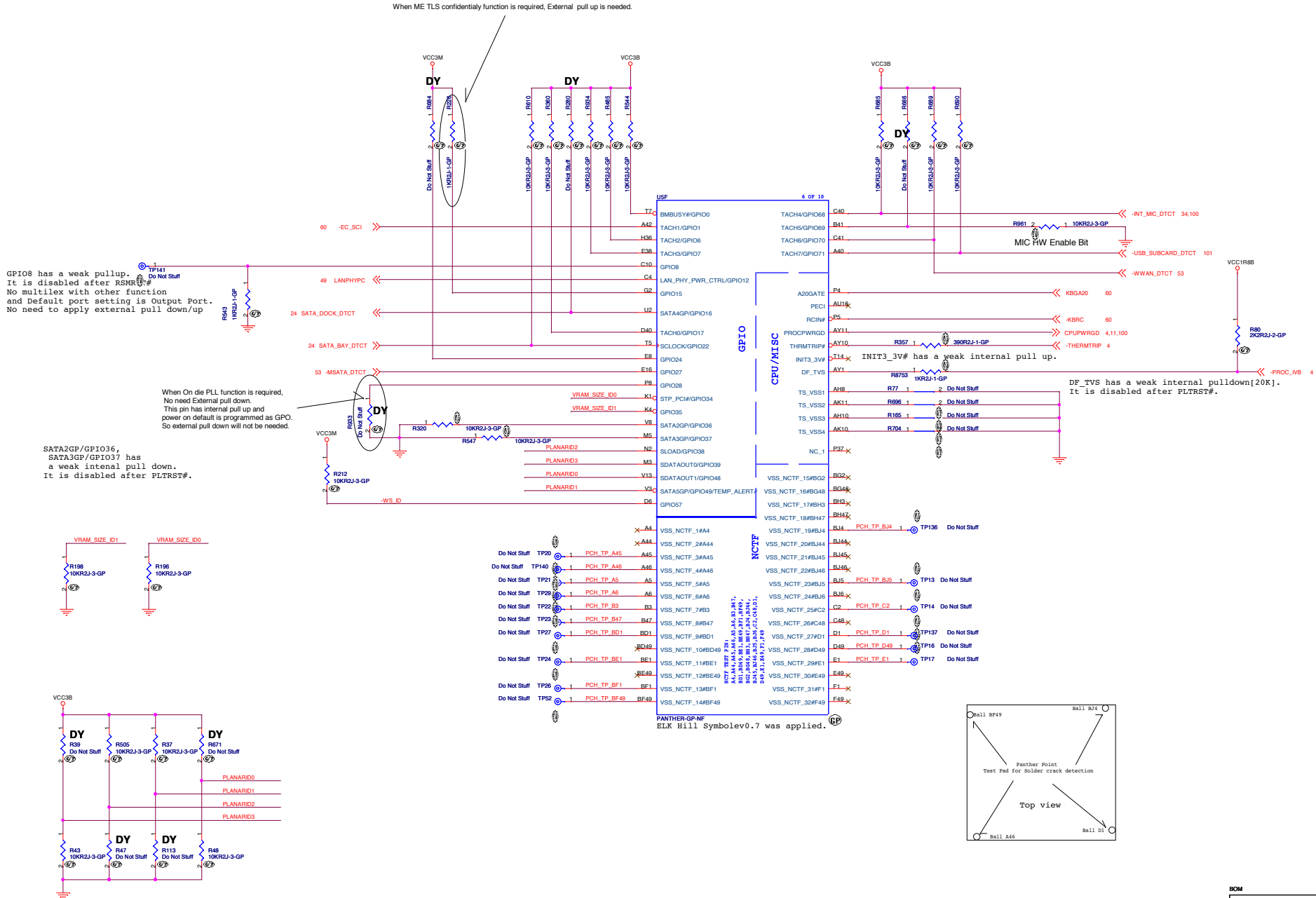
USB0 : To System USB Double Deck Port Upper (USB 3.0 capable)  
USB1 : To System USB Double Deck Port Lower (USB 3.0 capable)  
USB2 : To Docking USB Double Deck Port Lower (USB 3.0 capable)  
USB3 : To WWAN Mini Card Slot  
USB4 : To System USB Port (AOU Port on USB SubCard)  
USB5 : To Express Card Slot  
USB6 : Reserved (Color Sensor for WS)  
USB7 : To Docking  
USB8 : To SmartCard  
USB9 : To System USB Signle Port  
USB10 : To FPR  
USB11 : To Bluetooth  
USB12 : To WiMAX/WLAN Mini Card Slot  
USB13 : To Camera

PME# has internal pullup[20K].  
  
CLKOUT\_PCI[4:0] has a internal pull down.  
  
PANTHER-GP-NF  
ELK Hill Symbolv0.7 was applied.

PLTRST# distribution List  
FAR ->  
CPU Socket  
XDP [Connector]  
Multi Touch [LED Card IF]  
GBE [Chip]  
WWAN/msATA Slot  
WLAN Slot  
NEAR ->  
MediaCard Reader [Chip]  
Express Slot Power [Chip]  
Golden Finger [Card edge]  
Lenovo Debug port [Connector]  
Embedded Controller [Chip]  
Think Engine [chip]  
TPM [Chip]

USBP 0	LEFT DUAL CONN	USB_ON1	-USB_PORT0_OC0
USBP 1	LEFT DUAL CONN	USB_ON1	-USB_PORT1_OC1
USBP 9	LEFT SINGLE CONN	USB_ON1	-USB_PORT9_OC5
USBP 4	RIGHT SUB CARD	USB_ON2	-USB_PORT4_OC2

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Planar ID table is placed on page 2



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<div>Title</div> <div>BLANK</div>			
<div>Size</div> <div>A4</div>	<div>Document Number</div> <div>Kendo-4 UMA</div>		<div>Rev</div> <div>SA</div>
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US1	9 OF 10
AY4	VSS159
AY42	VSS160
AY46	VSS161
AY8	VSS162
B11	VSS163
B15	VSS164
B19	VSS165
B23	VSS166
B27	VSS167
B31	VSS168
B35	VSS169
B39	VSS170
B7	VSS171
F45	VSS172
BB12	VSS173
BB16	VSS174
BB20	VSS175
BB22	VSS176
BB24	VSS177
BB26	VSS178
BB30	VSS179
BB38	VSS180
BB4	VSS181
BB46	VSS182
BC14	VSS183
BC18	VSS184
BC2	VSS185
BC22	VSS186
BC26	VSS187
BC32	VSS188
BC34	VSS189
BC36	VSS190
BC40	VSS191
BC42	VSS192
BC48	VSS193
BD46	VSS194
BD5	VSS195
BE22	VSS196
BE26	VSS197
BE40	VSS198
BF10	VSS199
BF12	VSS200
BF16	VSS201
BF20	VSS202
BF22	VSS203
BF24	VSS204
BF26	VSS205
BF28	VSS206
BD3	VSS207
BF30	VSS208
BF38	VSS209
BF40	VSS210
BF8	VSS211
BG17	VSS212
BG21	VSS213
BG33	VSS214
BG44	VSS215
BG8	VSS216
BH11	VSS217
BH15	VSS218
BH17	VSS219
BH19	VSS220
H10	VSS221
BH27	VSS222
BH31	VSS223
BH33	VSS224
BH35	VSS225
BH39	VSS226
BH43	VSS227
BH7	VSS228
D3	VSS229
D12	VSS230
D16	VSS231
D18	VSS232
D22	VSS233
D24	VSS234
D26	VSS235
D30	VSS236
D32	VSS237
D34	VSS238
D38	VSS239
D42	VSS240
D8	VSS241
E18	VSS242
E26	VSS243
G18	VSS244
G20	VSS245
G26	VSS246
G28	VSS247
G36	VSS248
G48	VSS249
H12	VSS250
H18	VSS251
H22	VSS252
H24	VSS253
H26	VSS254
H30	VSS255
H32	VSS256
H34	VSS257
F3	VSS258

PANTHER-GP-NF  
ELK Hill Symbole v0.7 was applied.

USH	8 OF 10
H5	VSS0
AA17	VSS1
AA2	VSS2
AA3	VSS3
AA33	VSS4
AA34	VSS5
AB11	VSS6
AB14	VSS7
AB39	VSS8
AB4	VSS9
AB43	VSS10
AB5	VSS11
AB7	VSS12
AC19	VSS13
AC2	VSS14
AC21	VSS15
AC24	VSS16
AC33	VSS17
AC34	VSS18
AC48	VSS19
AD10	VSS20
AD11	VSS21
AD12	VSS22
AD13	VSS23
AD19	VSS24
AD24	VSS25
N18	VSS26
AD27	VSS27
AD33	VSS28
AD34	VSS29
AD36	VSS30
AD37	VSS31
P40	VSS32
AD38	VSS33
AD39	VSS34
AD4	VSS35
AD40	VSS36
AD42	VSS37
AD43	VSS38
AD45	VSS39
T31	VSS40
AD8	VSS41
AE2	VSS42
AE3	VSS43
AF10	VSS44
AF12	VSS45
T8	VSS46
AD14	VSS47
AD16	VSS48
AF16	VSS49
AF19	VSS50
AF24	VSS51
AF26	VSS52
AF27	VSS53
V36	VSS54
AF29	VSS55
AF31	VSS56
AF38	VSS57
AF4	VSS58
AF42	VSS59
AF46	VSS60
AF5	VSS61
W27	VSS62
AF7	VSS63
AF8	VSS64
AG19	VSS65
AG2	VSS66
AG31	VSS67
AG48	VSS68
AH11	VSS69
AH3	VSS70
AH36	VSS71
AH39	VSS72
AH40	VSS73
AD47	VSS74
B43	VSS75
AH7	VSS76
BG41	VSS77
AJ19	VSS78
AJ21	VSS79
AJ24	VSS80
H16	VSS81
T36	VSS82
BG22	VSS83
BG24	VSS84
C22	VSS85
AP13	VSS86
M14	VSS87
AP3	VSS88
AP1	VSS89
BE16	VSS90
BC16	VSS91
BG28	VSS92
BJ28	VSS93

PANTHER-GP-NF  
ELK Hill Symbole v0.7 was applied.

VSS80	AK38
VSS81	AK4
VSS82	AK42
VSS83	AK46
VSS84	AK8
VSS85	AL16
VSS86	AL17
VSS87	AL19
VSS88	AL2
VSS89	AL21
VSS90	AL23
VSS91	AL26
VSS92	AL27
VSS93	AL31
VSS94	AL33
VSS95	AL34
VSS96	AL48
VSS97	AM11
VSS98	AM14
VSS99	AM36
VSS100	AM39
VSS101	AM43
VSS102	AM45
VSS103	AM46
VSS104	AM7
VSS105	AN2
VSS106	AN29
VSS107	AN3
VSS108	AN31
VSS109	AP12
VSS110	AP19
VSS111	AP28
VSS112	AP32
VSS113	AP38
VSS114	AP4
VSS115	AP42
VSS116	AP46
VSS117	AP8
VSS118	AR2
VSS119	AR48
VSS120	AT1
VSS121	AT11
VSS122	AT13
VSS123	AT18
VSS124	AT22
VSS125	AT28
VSS126	AT30
VSS127	AT32
VSS128	AT34
VSS129	AT39
VSS130	AT42
VSS131	AT46
VSS132	AT7
VSS133	AU24
VSS134	AU30
VSS135	AV16
VSS136	AV20
VSS137	AV24
VSS138	AV30
VSS139	AV38
VSS140	AV4
VSS141	AV43
VSS142	AV8
VSS143	AW14
VSS144	AW18
VSS145	AW2
VSS146	AW22
VSS147	AW26
VSS148	AW28
VSS149	AW32
VSS150	AW34
VSS151	AW36
VSS152	AW40
VSS153	AW48
VSS154	AV11
VSS155	AY12
VSS156	AY22
VSS157	AY28
VSS158	

BOM

緯創資通		Wistron Corporation	
21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title PCH (8/8):GND			
Size A3	Document Number	Kendo-4 UMA	Rev SA
Date: Wednesday, February 29, 2012	Sheet 32	of	103

www.vinafix.vn

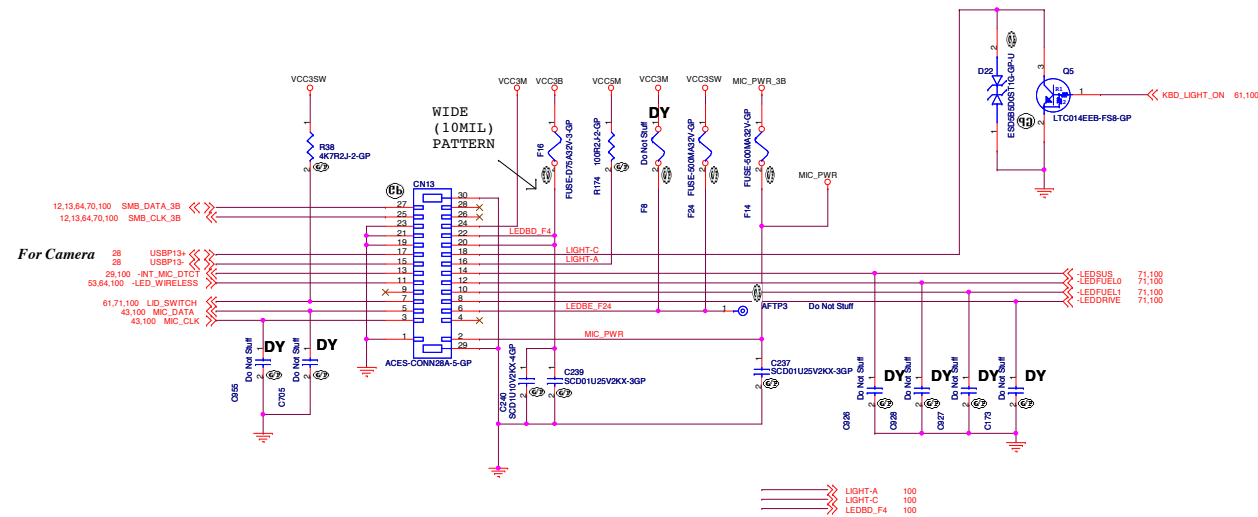
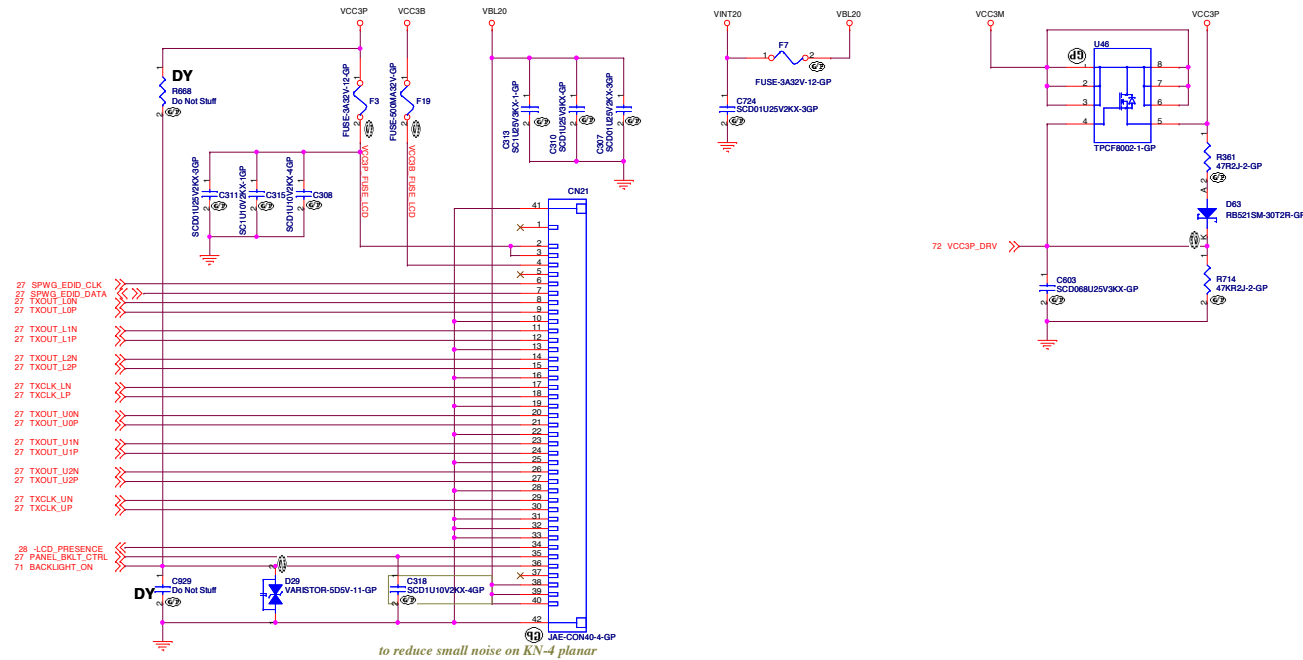


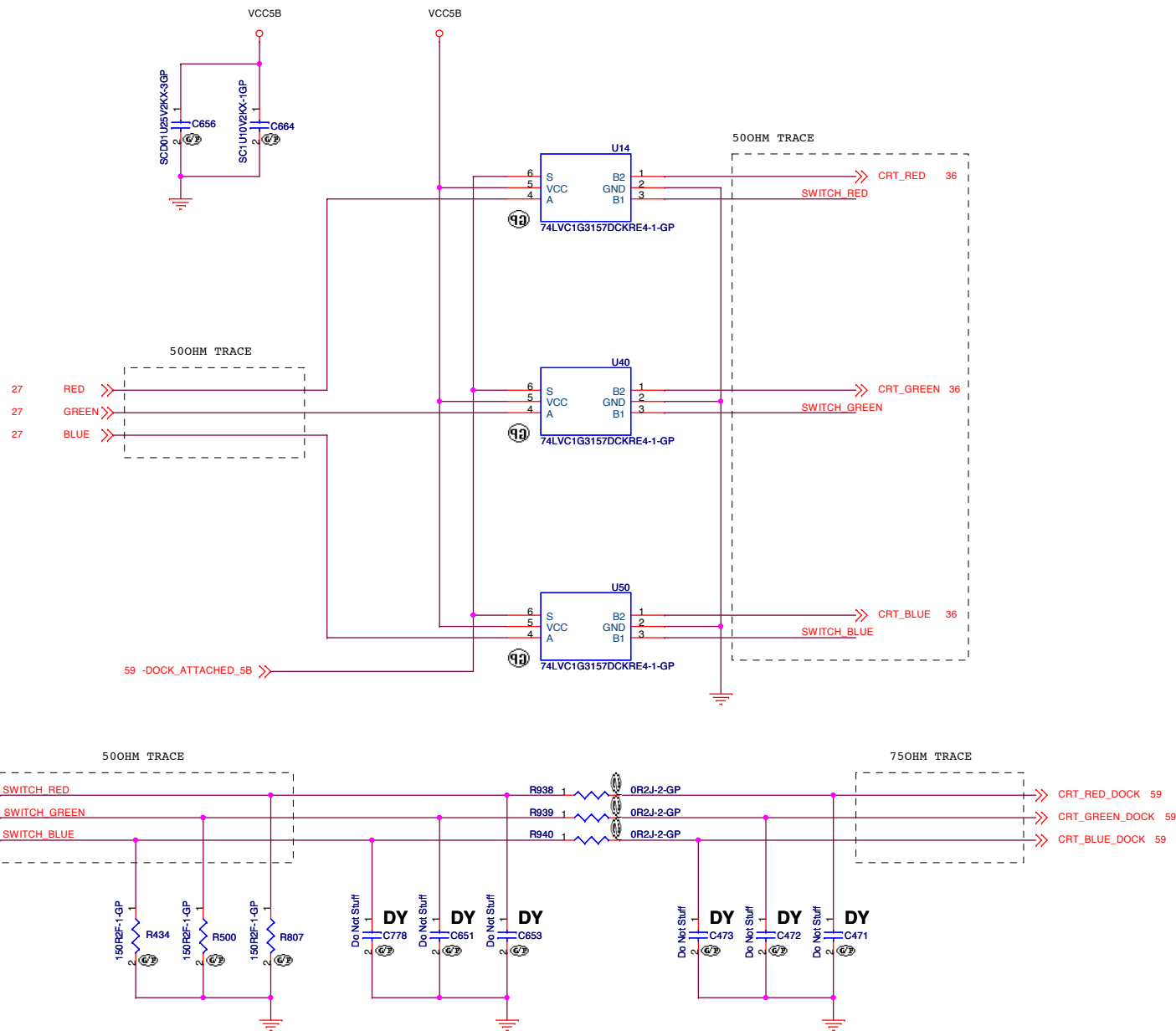
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<b>緯創資通</b>		<b>Wistron Corporation</b>	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b>BLANK</b>			
Size A4	Document Number <b>Kendo-4 UMA</b>		Rev <b>SA</b>
Date: Wednesday, February 29, 2012		Sheet 33 of	103

### LCD / Inverter Connector





BOM

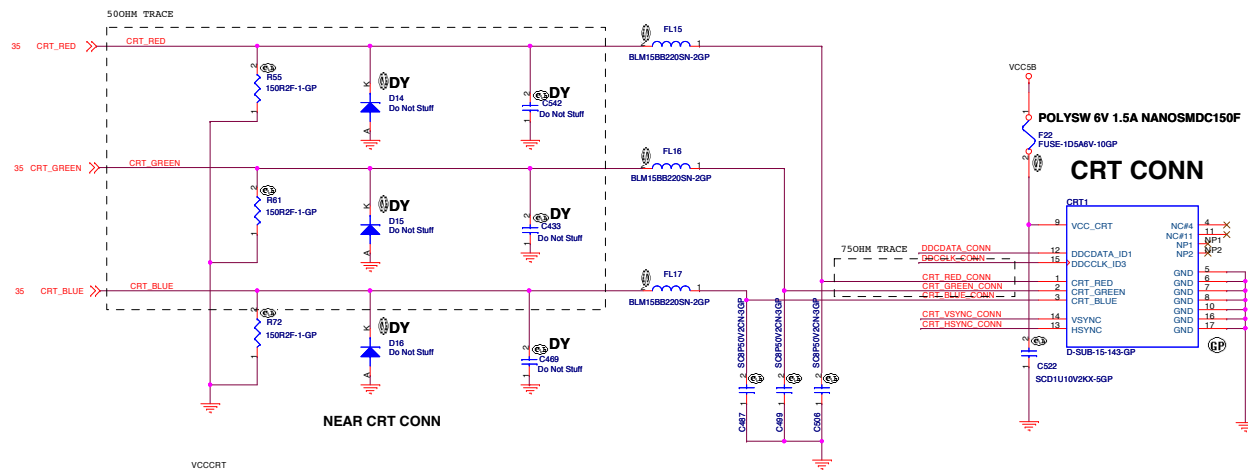
緯創資通 Wistron Corporation  
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,  
Taipei Hsien 221, Taiwan, R.O.C.

Title BLANK

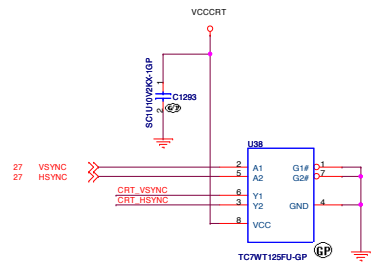
Size A3 Document Number Kendo-4 UMA Rev SA

Date: Wednesday, February 29, 2012 Sheet 35 of 103

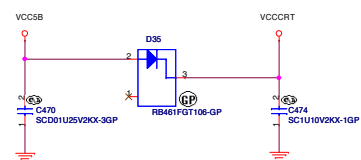
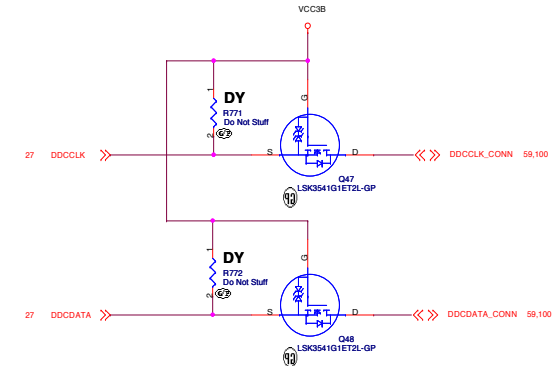
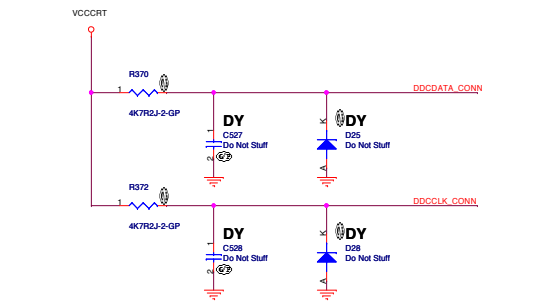
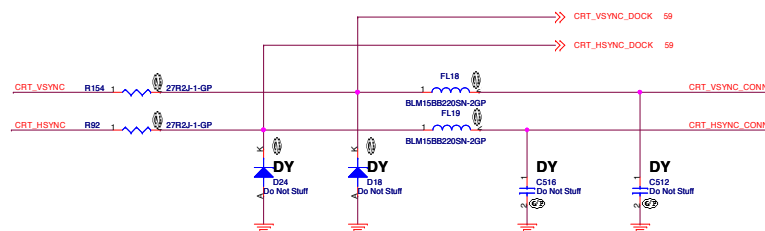
www.vinafix.vn

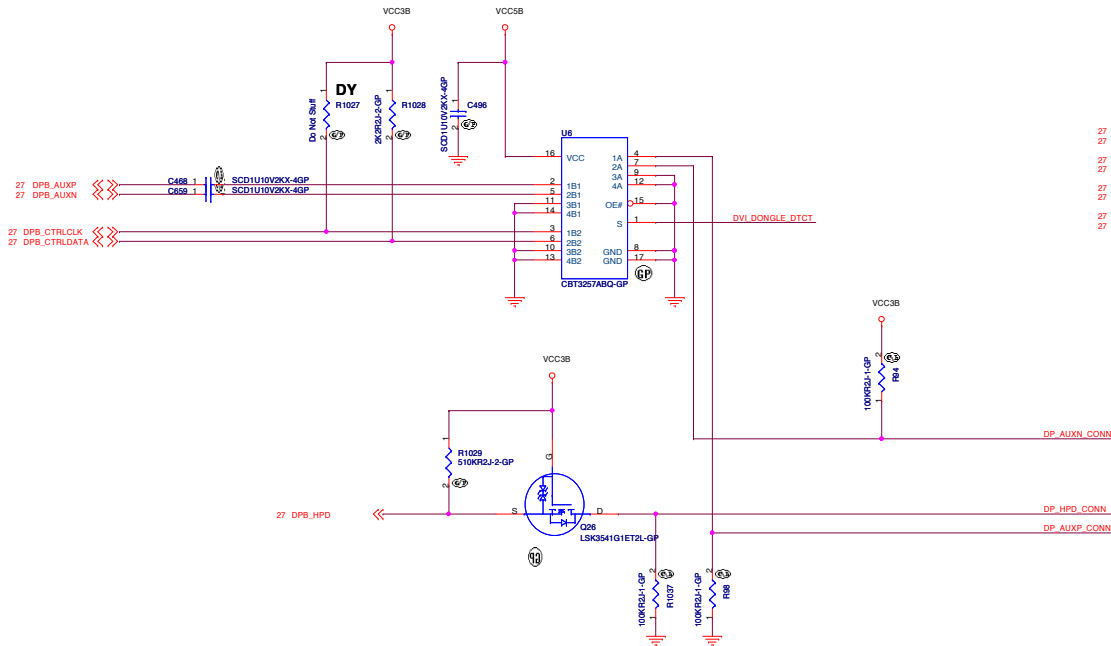


NEAR CRT CONN

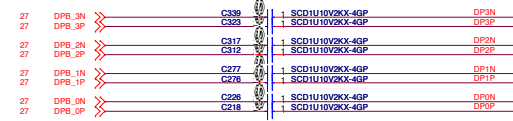


Supplier	Vendo P/N	WISTRON P/N
1 TOSHIBA	TC7WT125FU-GP	73.7W125.007 41R0542AA
2 NXP	74HCT2G125DP	73.2G125.A0B

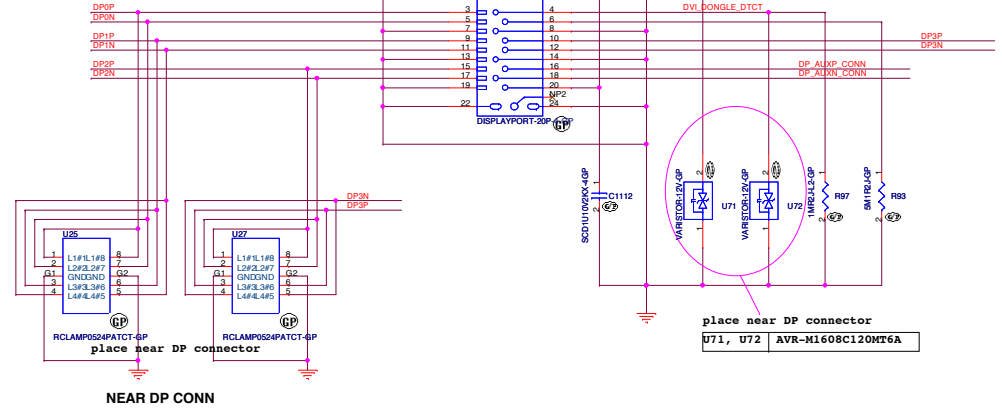
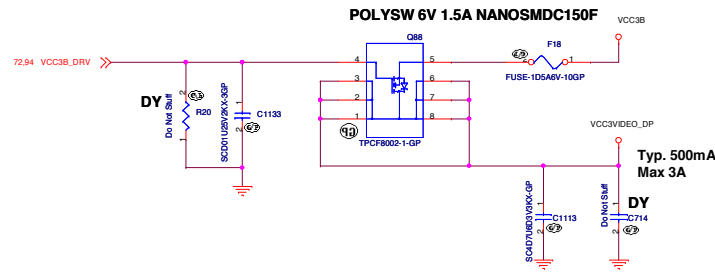




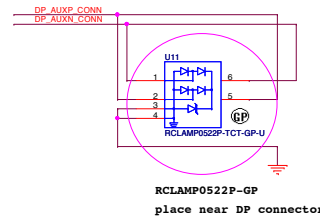
FOR SYSTEM DP NEAR DP CONN



DP CONN  
DisplayPort ver.1.1a  
2.7Gbps supported

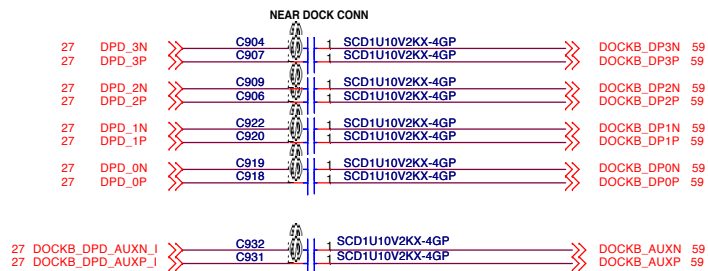
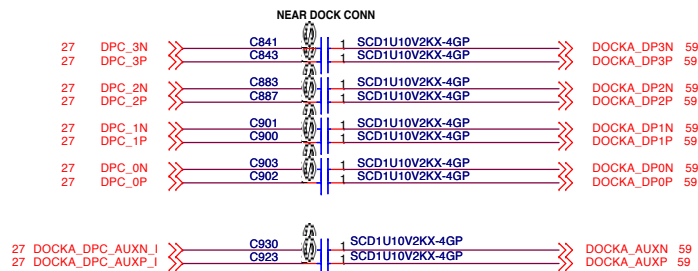


NEAR DP CONN



place near DP connector

place near DP connector  
U71, U72 AVR-M1608C120MT6A



BOM

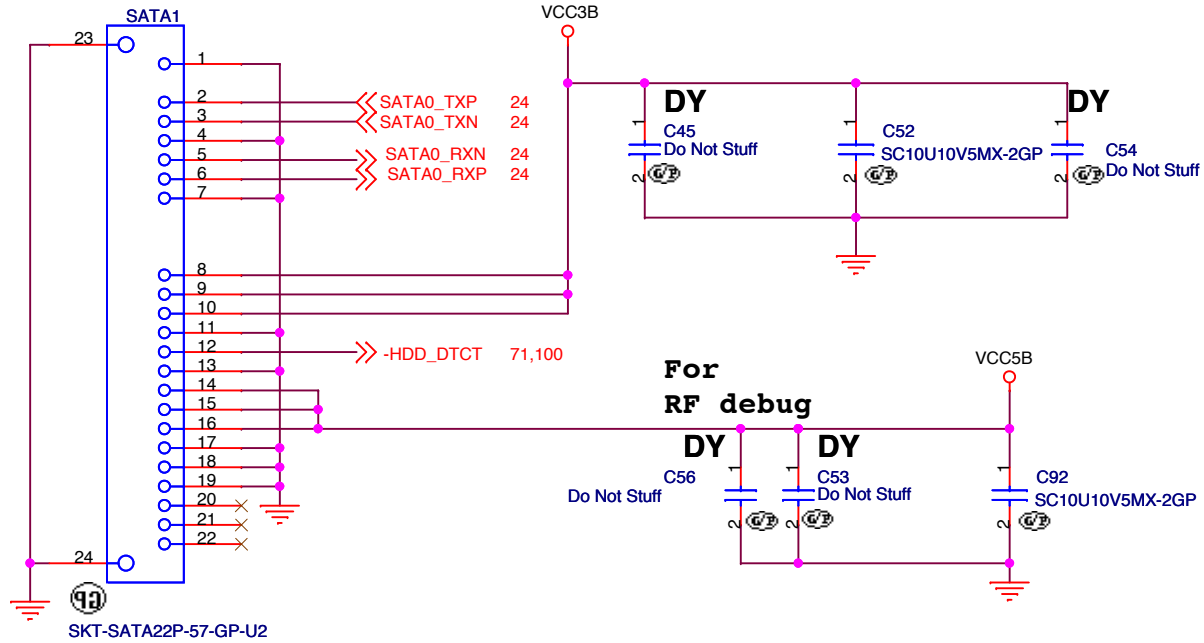
緯創資通		Wistron Corporation	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
DISPLAY PORT MUX			
Size	Document Number		Rev
A3	Kendo-4 UMA		SA
Date:	Wednesday, February 29, 2012	Sheet	38 of 103

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<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
Title <div>BLANK</div>	
Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>
Date <div>Wednesday, February 29, 2012</div>	Rev <div>SA</div>
Date <div>Wednesday, February 29, 2012</div> Sheet <div>39</div> of <div>103</div>	

# SATA CONN



BOM

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

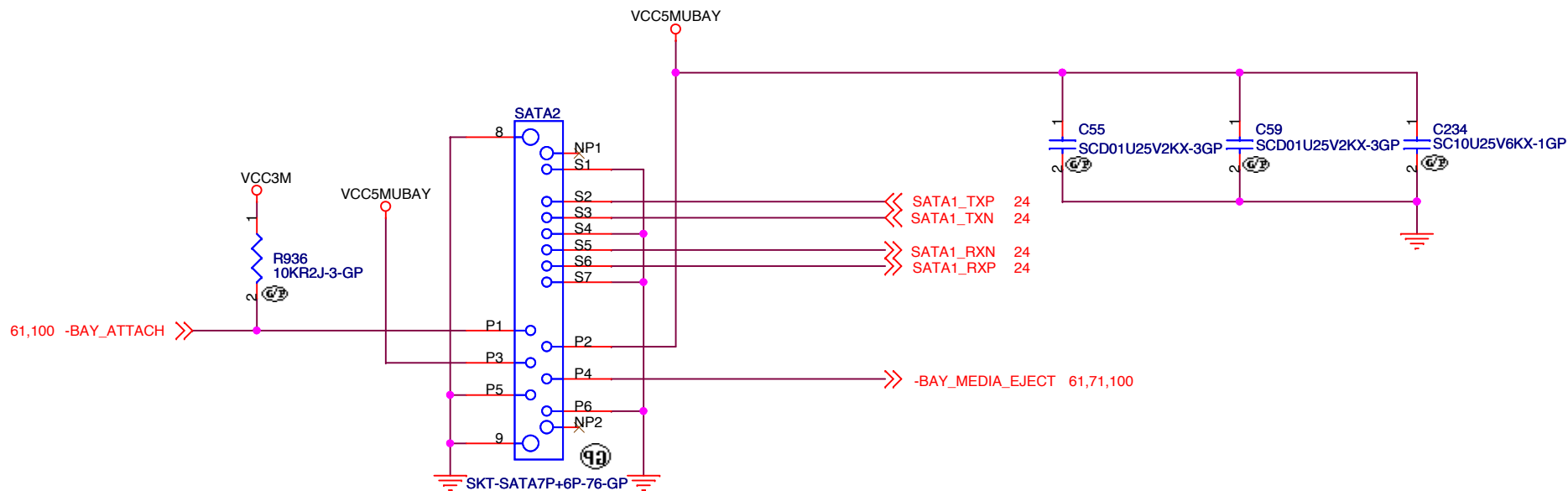
Title **SATA HDD CONN**

Size A4	Document Number <b>Kendo-4 UMA</b>	Rev <b>SA</b>
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Date: Wednesday, February 29, 2012 Sheet 40 of 103

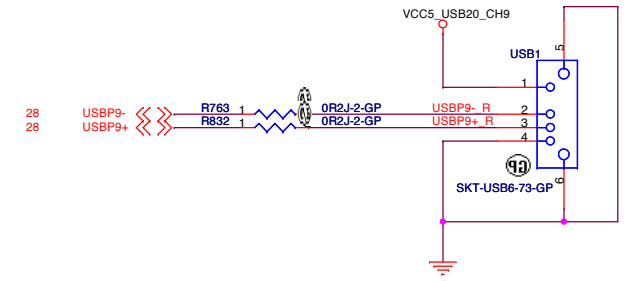
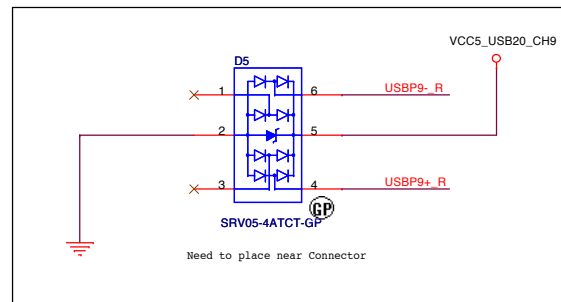
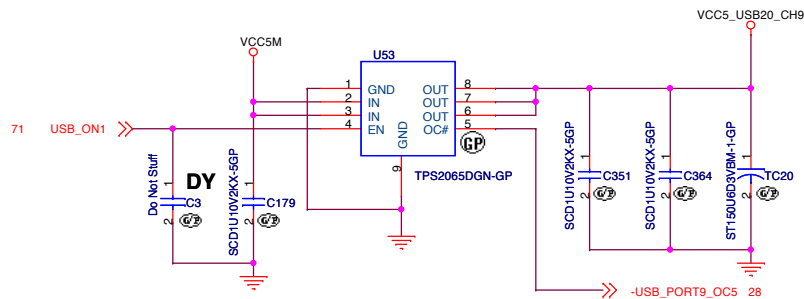
[www.vinafix.vn](http://www.vinafix.vn)





BOM

<b>緯創資通</b> <b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>Title</b> <b>SATA BAY I/F CONN</b>	
<b>Size</b> A4	<b>Document Number</b> <b>Kendo-4 UMA</b>
<b>Date:</b> Wednesday, February 29, 2012	<b>Rev</b> <b>SA</b>
<b>Sheet</b> 41 <b>of</b> 103	

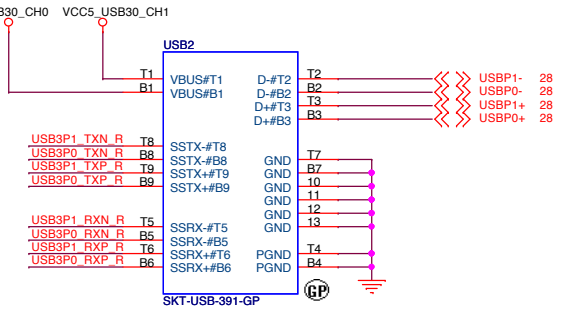
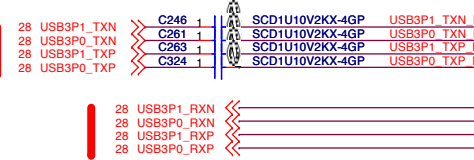
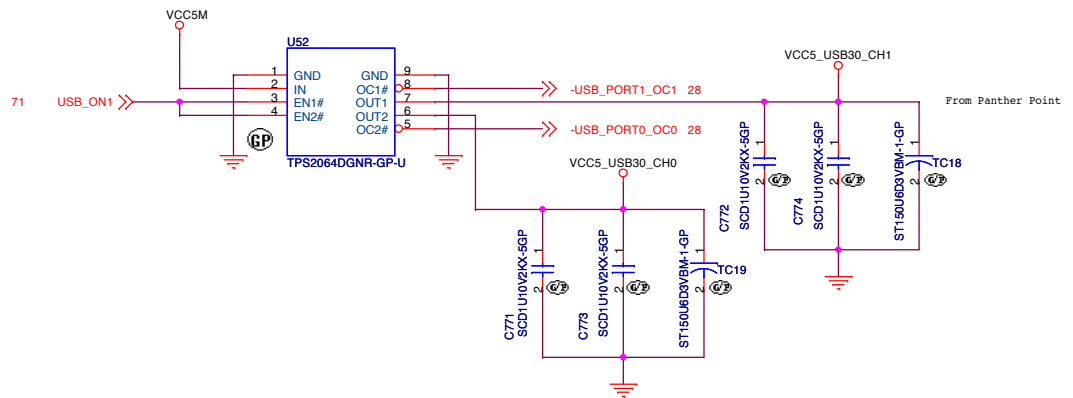


### 1CH USB Power Switch w/o Output Discharge Function

	Supplier	Vendo P/N	WISTRON P/N
U1	TI	TPS2065DGN-GP	74.02065.079 54Y9024BA

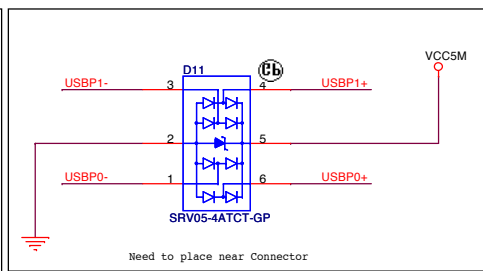
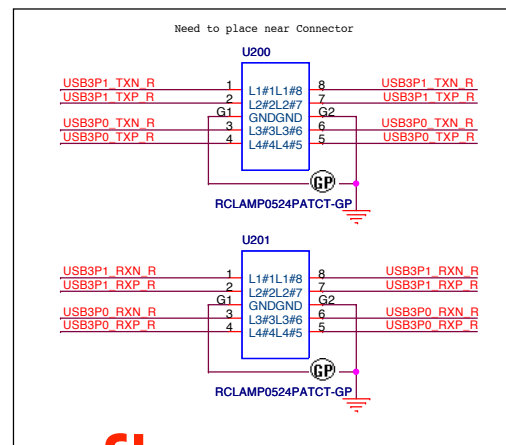
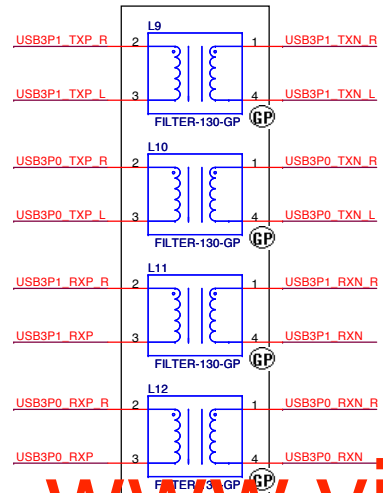
### 2CH USB Power Switch w/o Output Discharge Function

	Supplier	Vendo P/N	WISTRON P/N
U52	TI	TPS2064DGNR-GP	41R0511BA



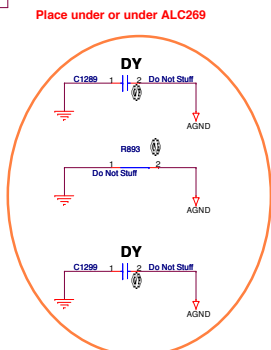
### USB3.0 CONNECTOR

Lower Slot is assigned to USB Port 0  
Upper Slot is assigned to USB Port 1

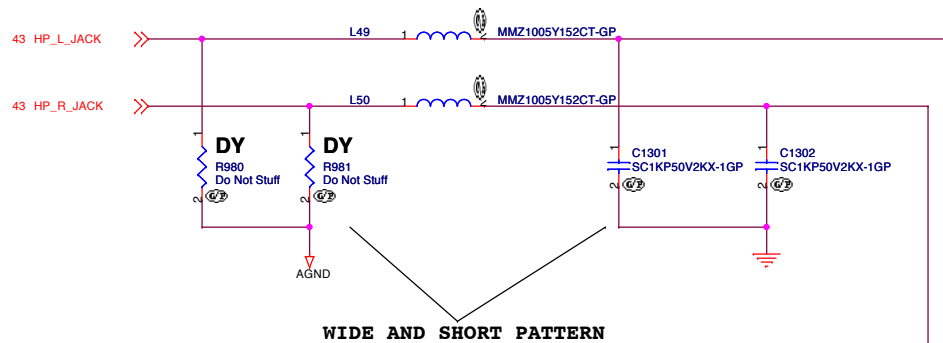


BOM			
<b>緯創資通 Wistron Corporation</b> 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title <b>USB POWER/ CONN</b>			
Size A3	Document Number	Rev SA	
Date: Wednesday, February 29, 2012	Sheet 42 of 103	Kendo-4 UMA	

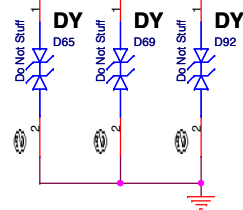
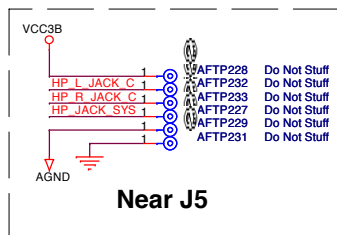
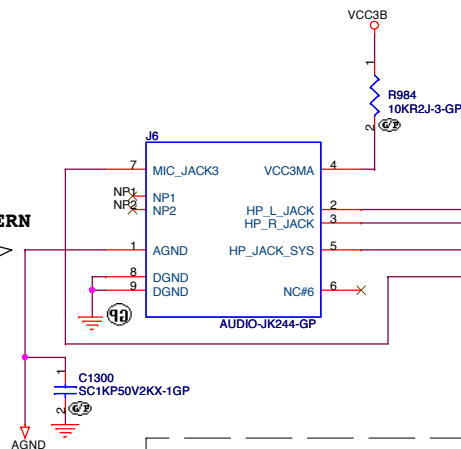
www.vinafix.vn



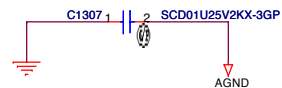
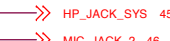
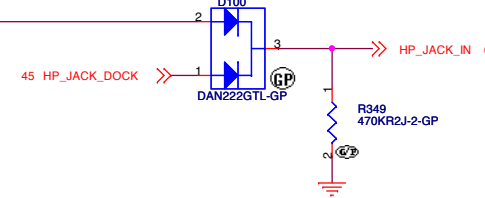
# NEAR HEADPHONE CONN



WIDE PATTERN



	Supplier	Vendo P/N	PART NUMBER
1	OnSemi	ESD5B5D0ST1G-GP	83.ESD5B.0AF 48Y9647BA
2	ROHM	RSB5.6SMT2R	83.RSB5.6BAF
3	IX	PES15VJS B1	83.1005V. AF



BOM

緯創資通

Wistron Corporation

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

Title

AUDIO CONNECTOR

Size A3

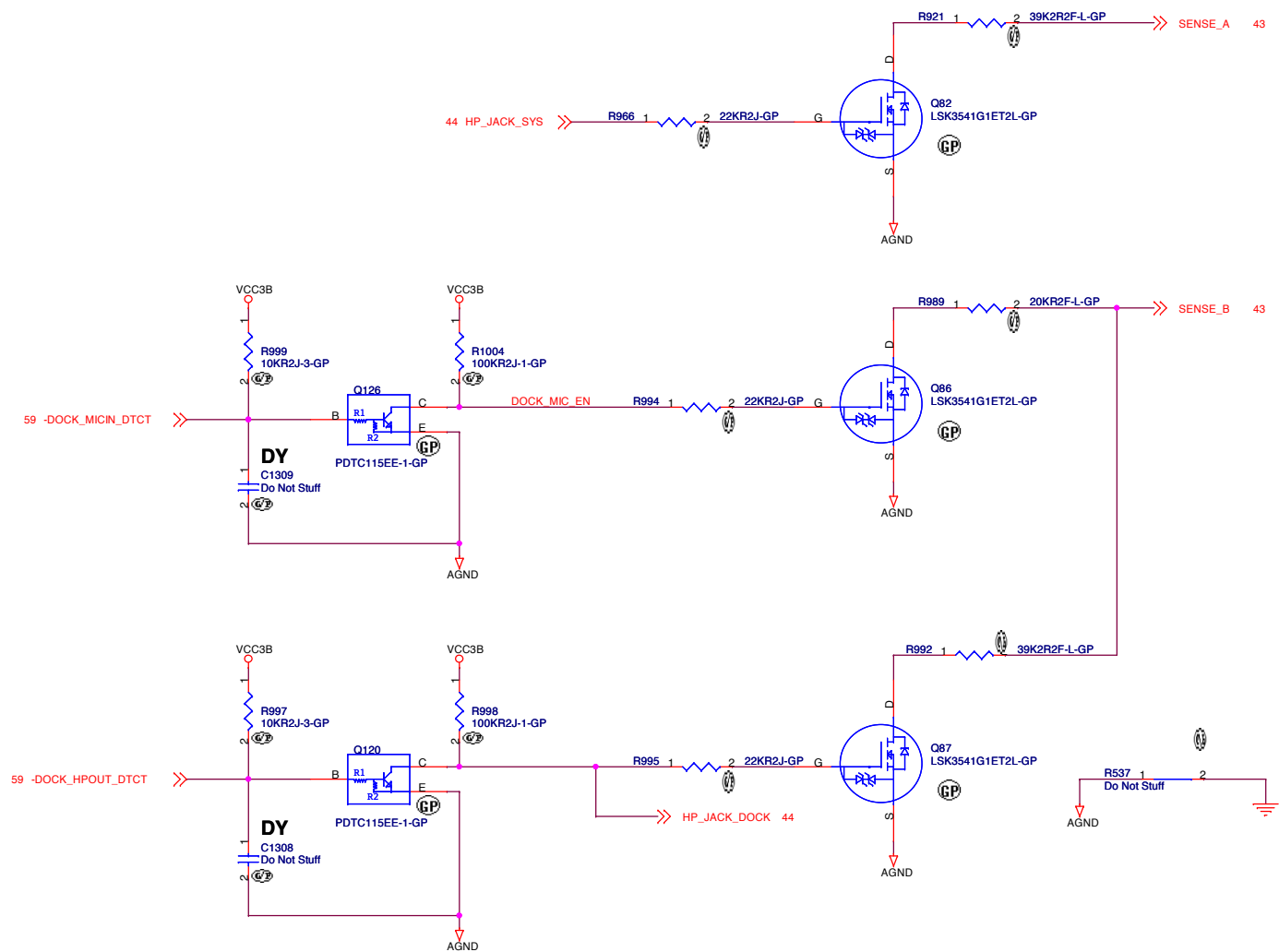
Document Number

Kendo-4 UMA

Rev SA

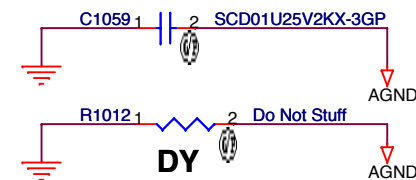
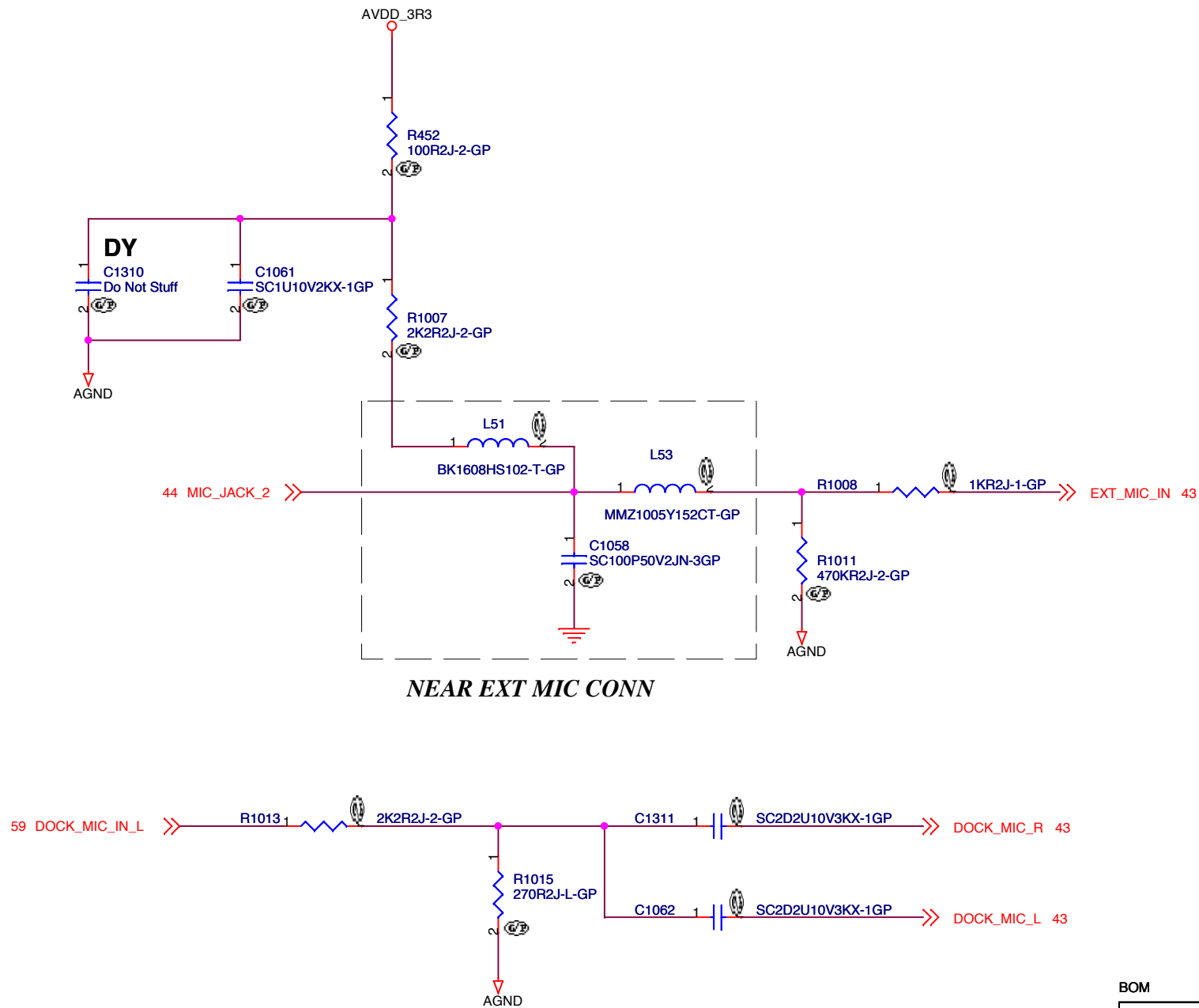
Date: Wednesday, February 29, 2012

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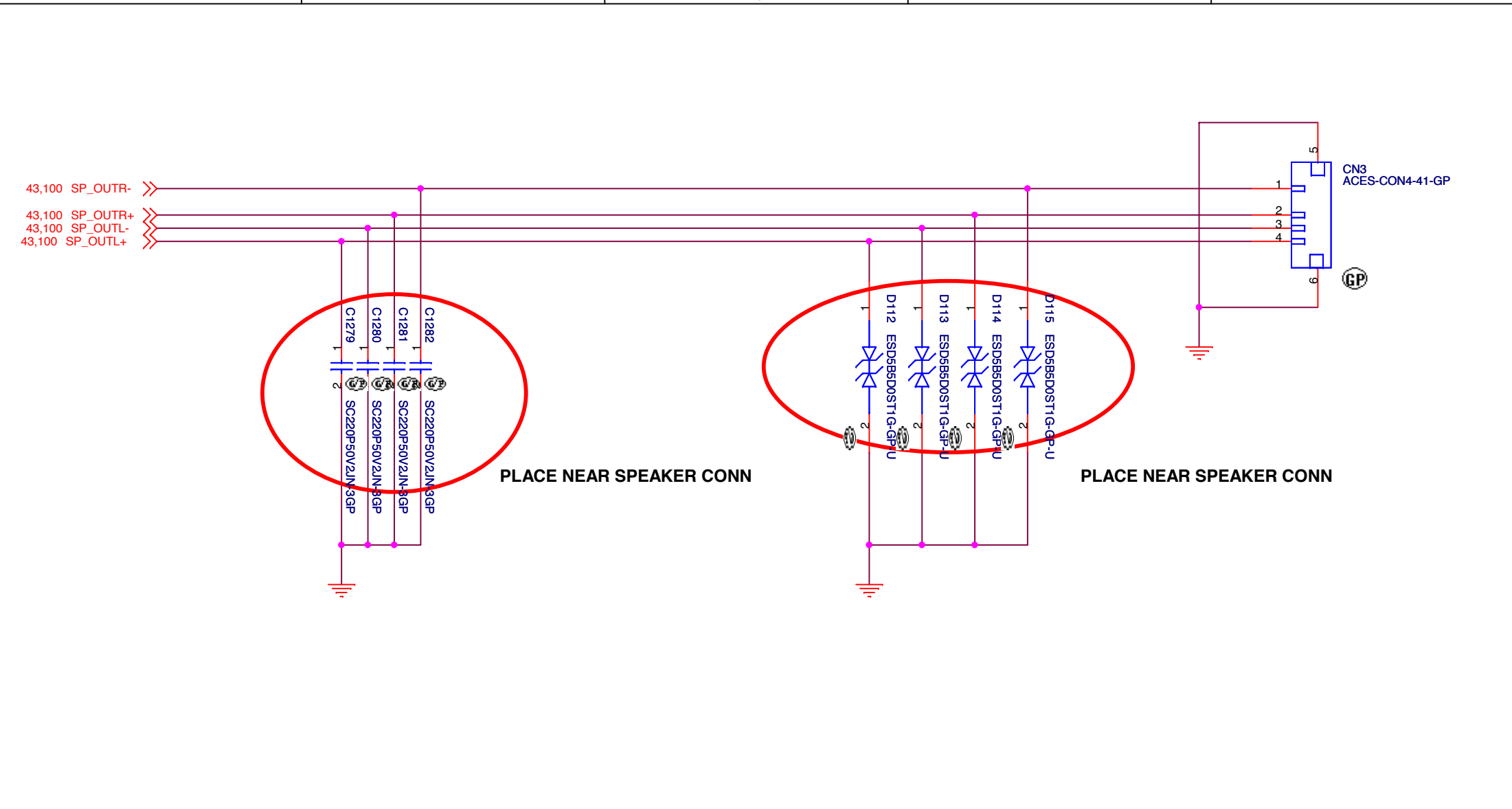
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<b>緯創資通</b>		<b>Wistron Corporation</b>	
		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b>AUDIO JACK SENSE</b>			
Size A3	Document Number	<b>Kendo-4 UMA</b>	Rev <b>SA</b>
Date: Wednesday, February 29, 2012	Sheet	45 of	103



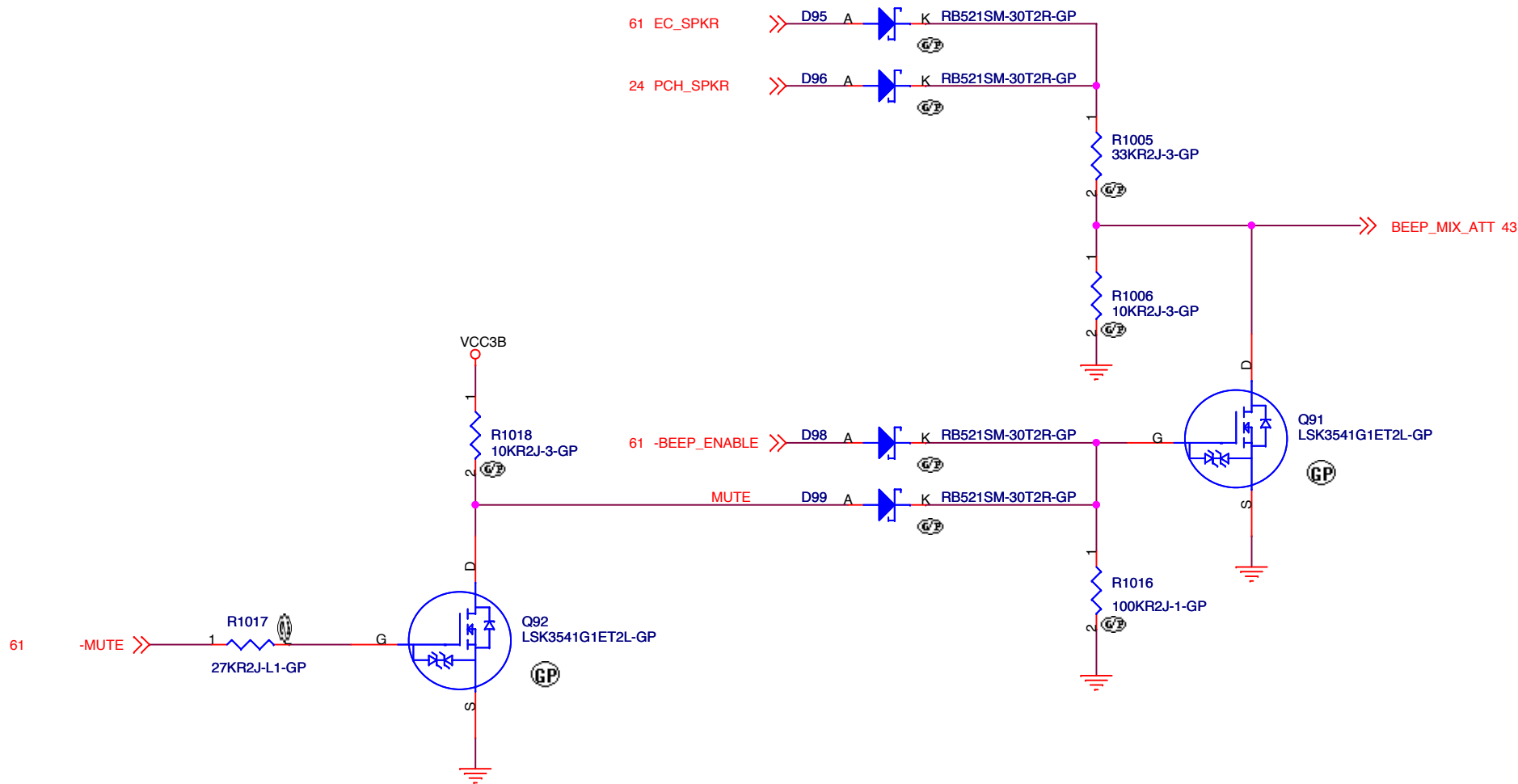
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<div>緯創資通</div>		<div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
<div>Title</div> <div>AUDIO EXT MIC I/F</div>			
<div>Size</div> <div>A4</div>	<div>Document Number</div> <div>Kendo-4 UMA</div>		<div>Rev</div> <div>SA</div>
<div>Date: Wednesday, February 29, 2012</div>		<div>Sheet 46</div>	<div>of 103</div>



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BOM			
緯創資通		Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title <b>AUDIO SPEAKER</b>			
Size A4	Document Number <b>Kendo-4 UMA</b>		Rev <b>SA</b>
Date:	Wednesday, February 29, 2012	Sheet 47 of	103



BOM

		<b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
<b>BEEP CONTROL</b>			
Size A4	Document Number	<b>Kendo-4 UMA</b>	Rev <b>SA</b>
Date: Wednesday, February 29, 2012	Sheet	48 of	103



PU is Placed on PCH page.

SMBUS DEVICE ADDRESSES 0XC8

HELE 25MHz  
18P 30PPM  
HSX321G

Supplier	Vendo P/N	WISTRON P/N
1 HARMONY	XTAL 25M 18P30PPM HSX321G SMD	82.30020.B21
2 TXC	XTAL 25M 18P30PPM 4P SMD	82.30020.D21

KDS Recommended Conditions:  
Normal Frequency: 25MHz.  
Frequency Tolerance: +/- 30ppm.  
Load Frequency: 18pF.  
Effective Series Resistance: 50-ohm.  
Effective Shunt Capacitance: 2pF.

HELE Recommended Conditions:  
Normal Frequency: 25MHz.  
Frequency Tolerance: +/- 30ppm.  
Load Frequency: 18pF.  
Effective Series Resistance: 50-ohm.  
Effective Shunt Capacitance: 2pF.

Intel Recommended Conditions:  
Normal Frequency: 25MHz.  
Frequency Tolerance: +/- 30ppm.  
Load Frequency: 18pF.  
Effective Series Resistance: 50-ohm.  
Effective Shunt Capacitance: 2pF.

PU should be VCC3LAN.

VCC1R05LAN\_GBE should be wide and short pattern

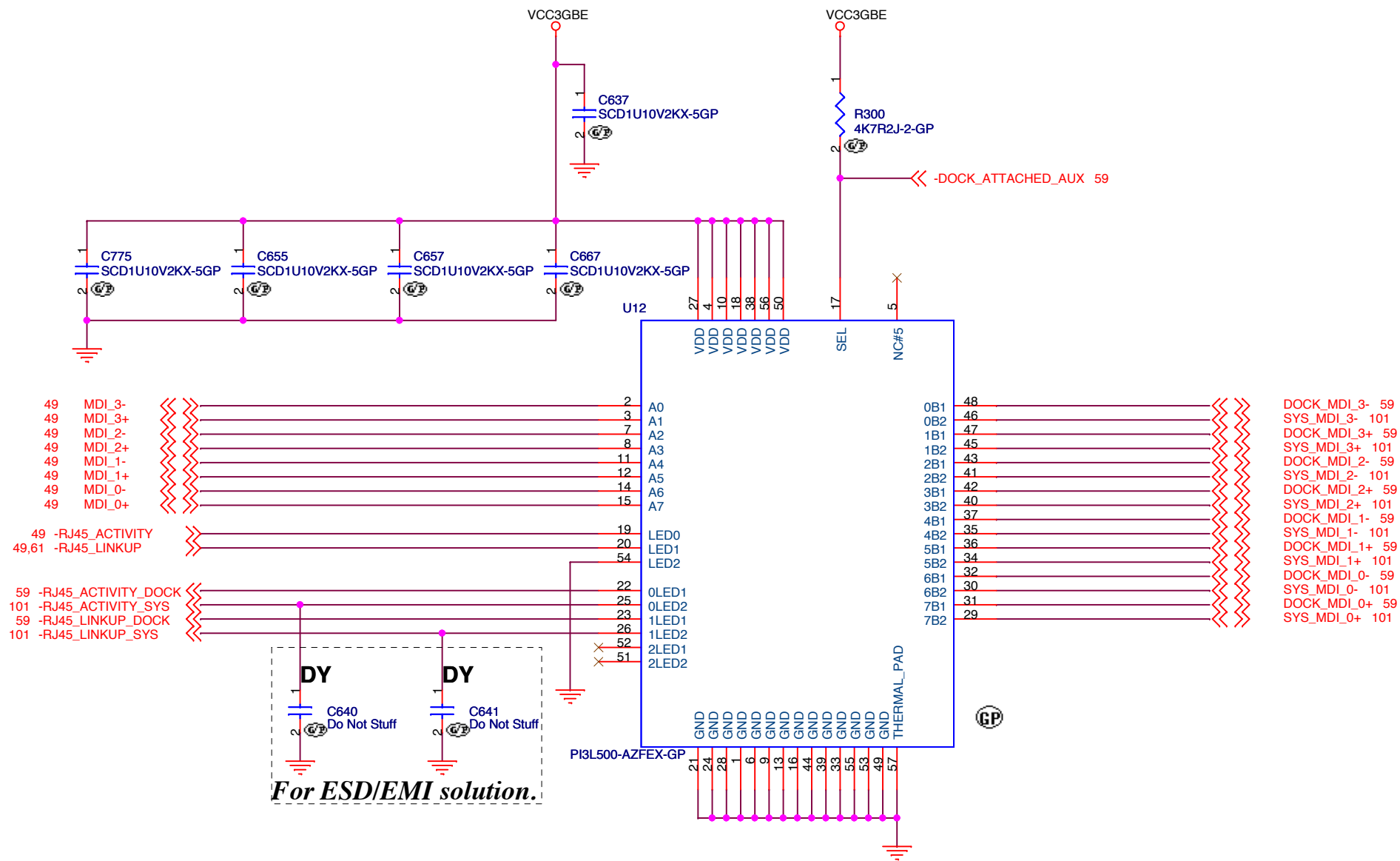
Change to  
0A70322AA @SVT

NOTE: VCC1R05LAN WILL WORK AT 0.95V TO 1.15V

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BOM

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title GBE LEWISVILLE		
Size A3	Document Number Kendo-4 UMA	Rev SA
Date: Wednesday, February 29, 2012	Sheet 49	of 103



[Source Cadidate]				
1st	Pericom	PI3L500AZFEX	73.3L500.003	41R0539AA
2nd	TI	TS3L500AERHUR	73.3L500.A0V	41R0539BA
3th	ONSEMI	NS3L500MTTWG	73.03500.003	

BOM

 <b>Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>Title</b> <b>GBE LAN SW</b>	
Size A4	Document Number <b>Kendo-4 UMA</b>
Date Wednesday, February 29, 2012	Sheet 50 of 103
Rev <b>SA</b>	

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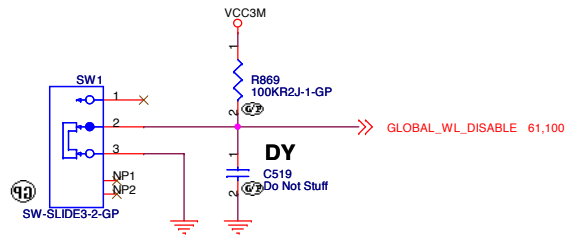
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Title <div>BLANK</div>	
Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>
Date <div>Wednesday, February 29, 2012</div>	Rev <div>SA</div>
Date <div>Wednesday, February 29, 2012</div> Sheet 51 of 103	

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<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>	
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Size <div>A4</div>	Document Number <div>Kendo-4 UMA</div>
Date <div>Wednesday, February 29, 2012</div>	Rev <div>SA</div>
Date <div>Wednesday, February 29, 2012</div> Sheet <div>52</div> of <div>103</div>	

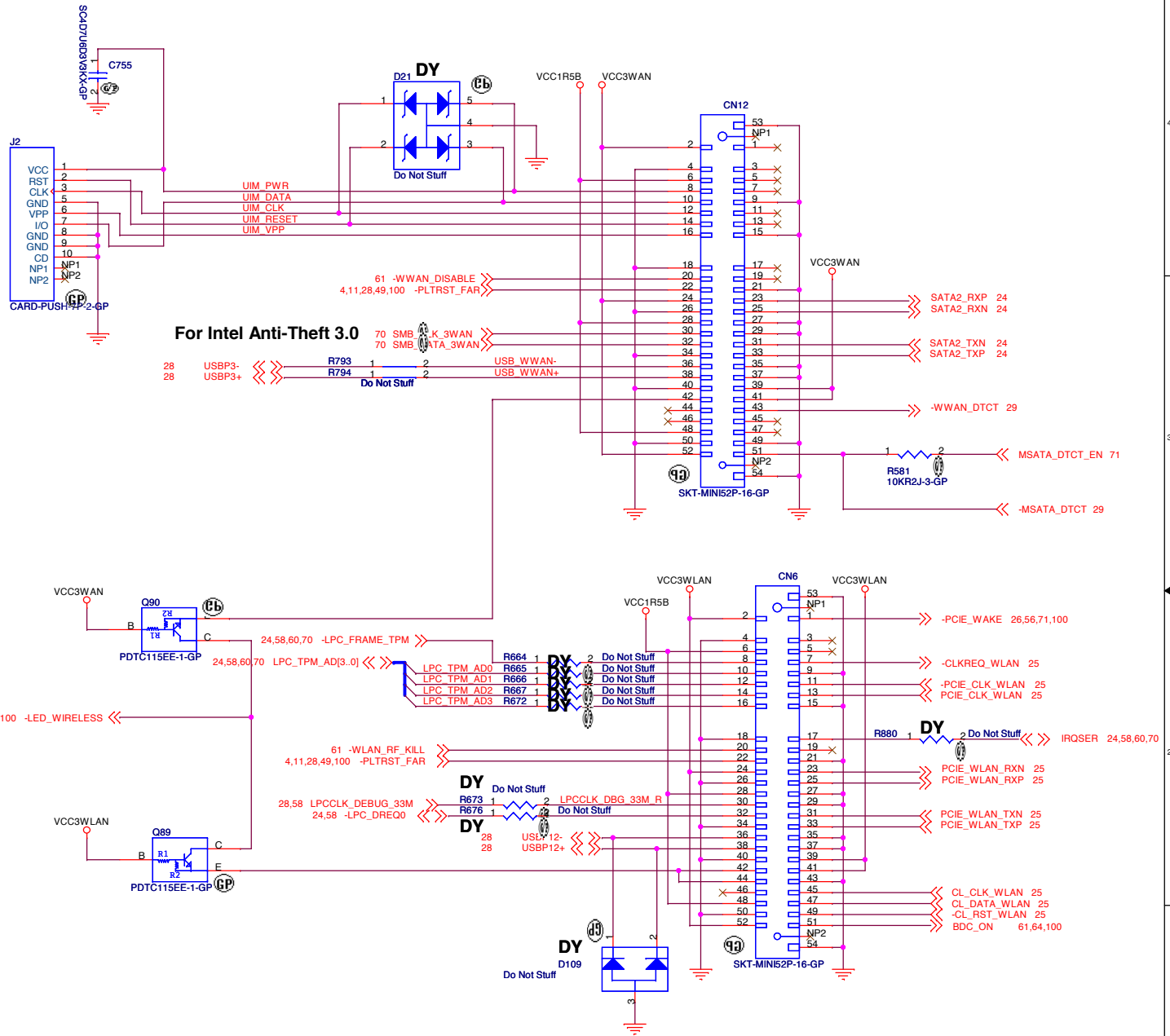
# WIRELESS DISABLE SWITCH



On WWAN Always on regular mode,  
This component have to be assembled,  
instead of above D+/D- jumper.

WWAN	YES	NO
CN12	ASM	No_ASM
J7	ASM	No_ASM
C567	ASM	No_ASM
C565	ASM	No_ASM
C568	ASM	No_ASM

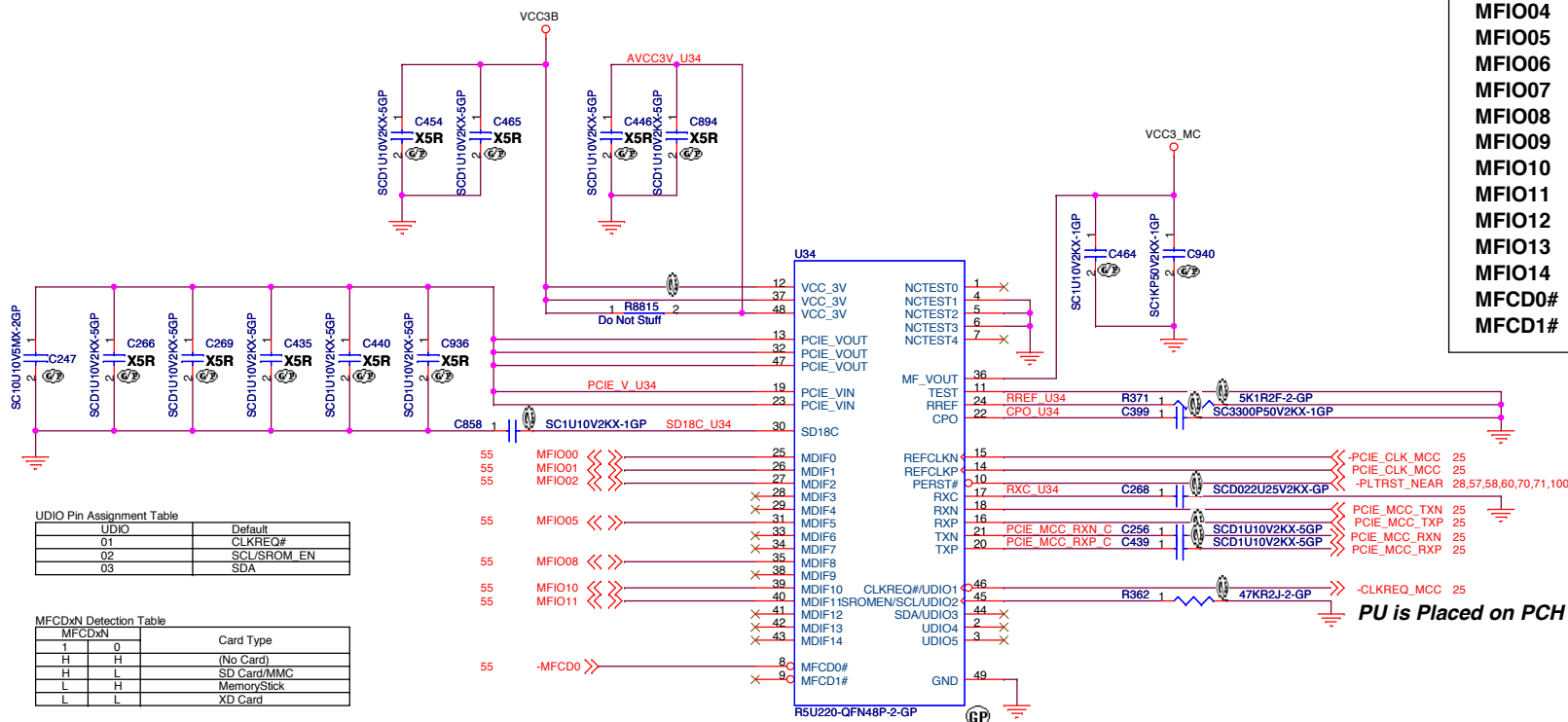
LOGIC



BOM

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

Title		
PCIE MINI CARD SLOT		
Size A3	Document Number	Rev SA
Date: Wednesday, February 29, 2012	Sheet 53 of 103	Kendo-4 UMA

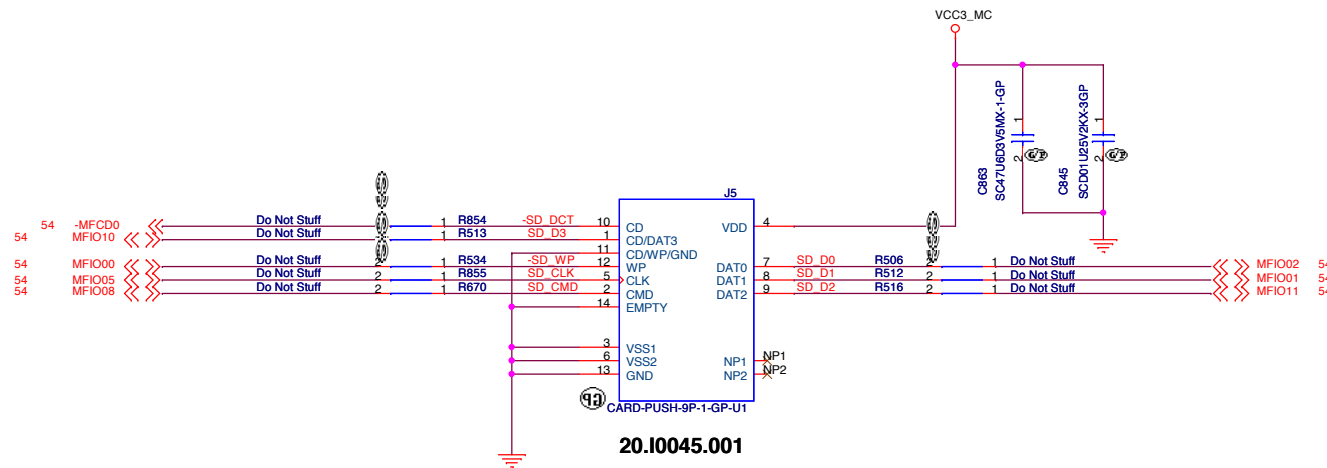


MEDIA I/F	SD/MMC	MEMORYSTICK	XD
MFIO00	SDWP#	MSBS	XD_D7
MFIO01	SD_D1		XD_D6
MFIO02	SD_D0	MS_D1	XD_D5
MFIO03	(SD_D7)		XD_D4
MFIO04	(SD_D6)	(MS_D5)	XD_D3
MFIO05	SD_CLK	MS_D0	XD_D2
MFIO06			XD_D1
MFIO07	(SD_D5)	(MS_D4)	XD_D0
MFIO08	SD_CMD	MS_D2	XD_WP#
MFIO09	(SD_D4)	(MS_D6)	XD_WE#
MFIO10	SD_D3	MS_D3	XD_ALE
MFIO11	SD_D2		XD_CLE
MFIO12		(MS_D7)	XD_CE#
MFIO13		MS_CLK	XD_RE#
MFIO14			XD_R/B
MFCD0#	SDCD#		XDCD0#
MFCD1#		MSINS#	XDCD1#

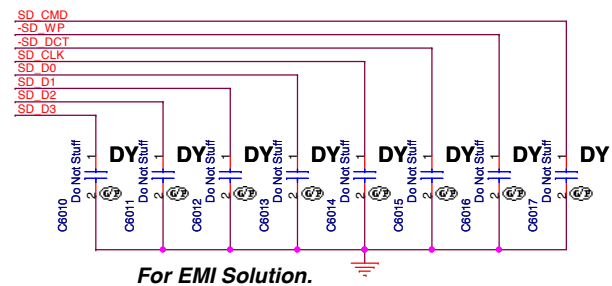
PU is Placed on PCH page.

BOM

# SD/MMC/MMC+ Card Reader



Close to CARDREADER connector



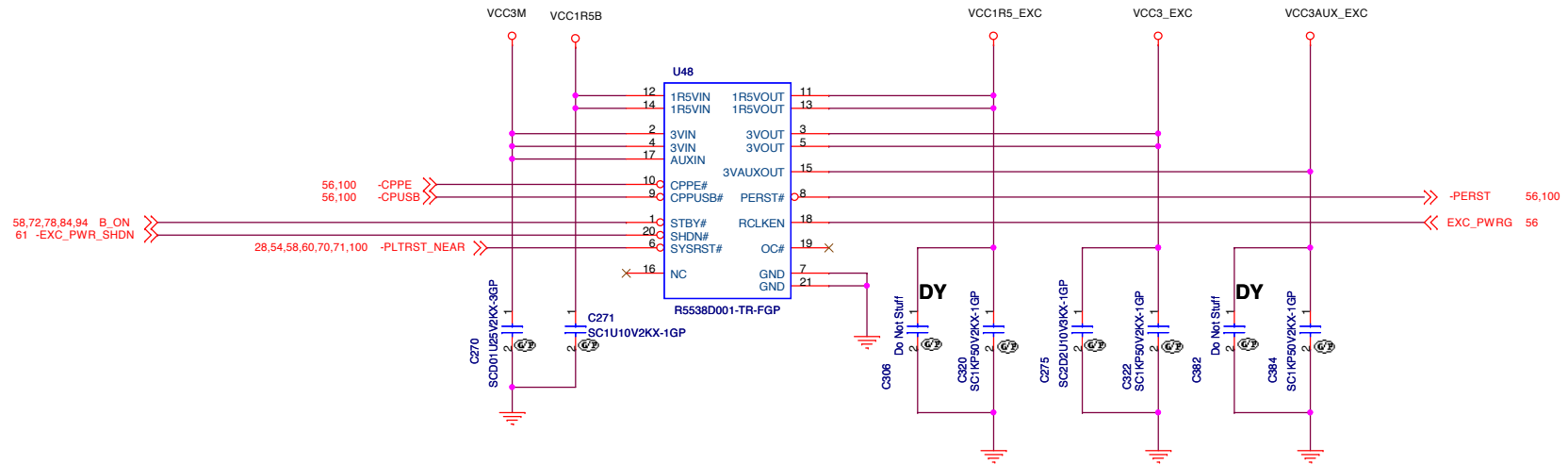
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Title			MEDIA CARD INTERFACE	
Size	Document Number	Rev		SA
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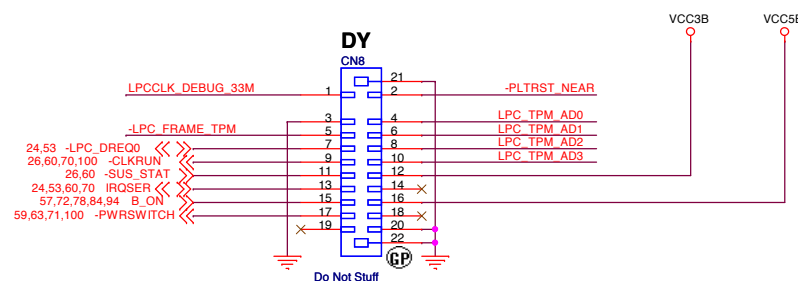


EXPRESS POWER SW table

		U38	Wistron part number
1	TI	TPS2231MRGPR-3	74.02231.D73 45K0234BA
2	NUVOTON	W83L351YG V.ASA	74.83351.A73
3	ROHM	BD4157MUV-GE2	74.04157.A73 (HF)
4	ROHM	BD4156MUV-GTR	74.04156.073

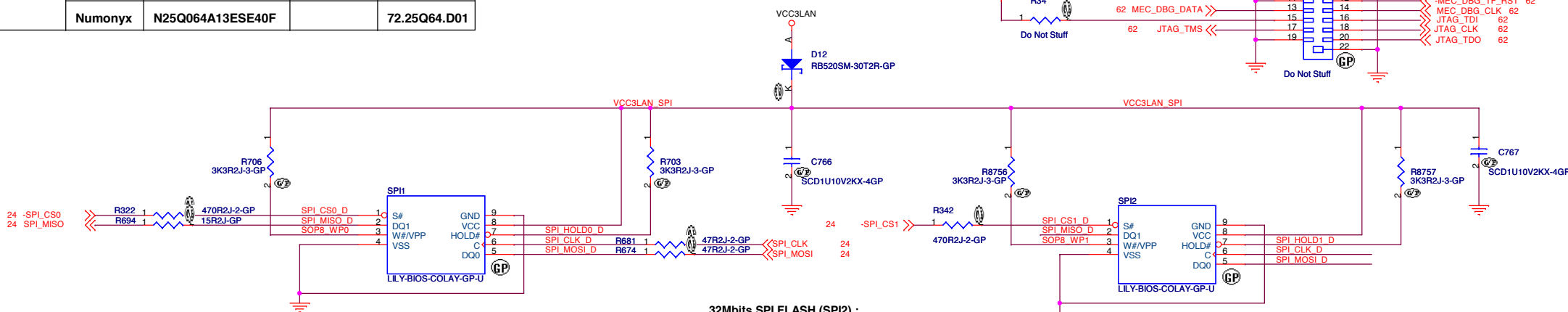
BOM

***Lenovo Debug Tool IF.***



trace FIFO debug port

	Enable	Disable
R34	ASM	NO ASM



**32Mbits SPI FLASH (SPI2) :**

Package	Supplier	Vendor P/N	Lenovo P/N	Wistron P/N
SO8	Macronix	MX25L3206EM2I-12G		72.25320.C0
	Winbond	W25Q32BVSSIG		72.25Q32.A0
	Numonyx	N25Q032A13ESE40F		72.25032.H0

BOM

**Wistron Corporation**  
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Taipei Hsien 221, Taiwan, R.O.C.

Title **SPI FLASH**Size  
A3

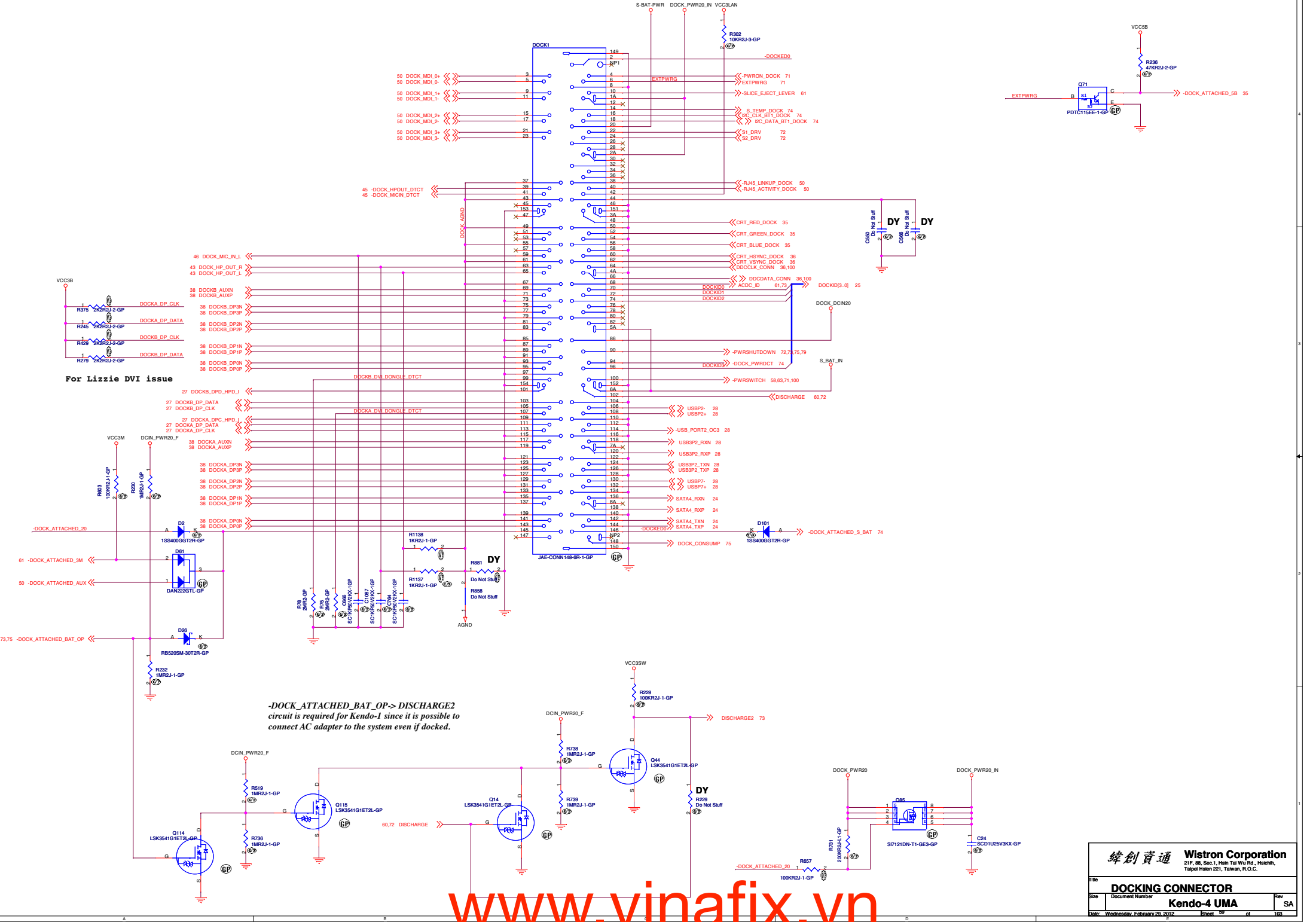
Document Number
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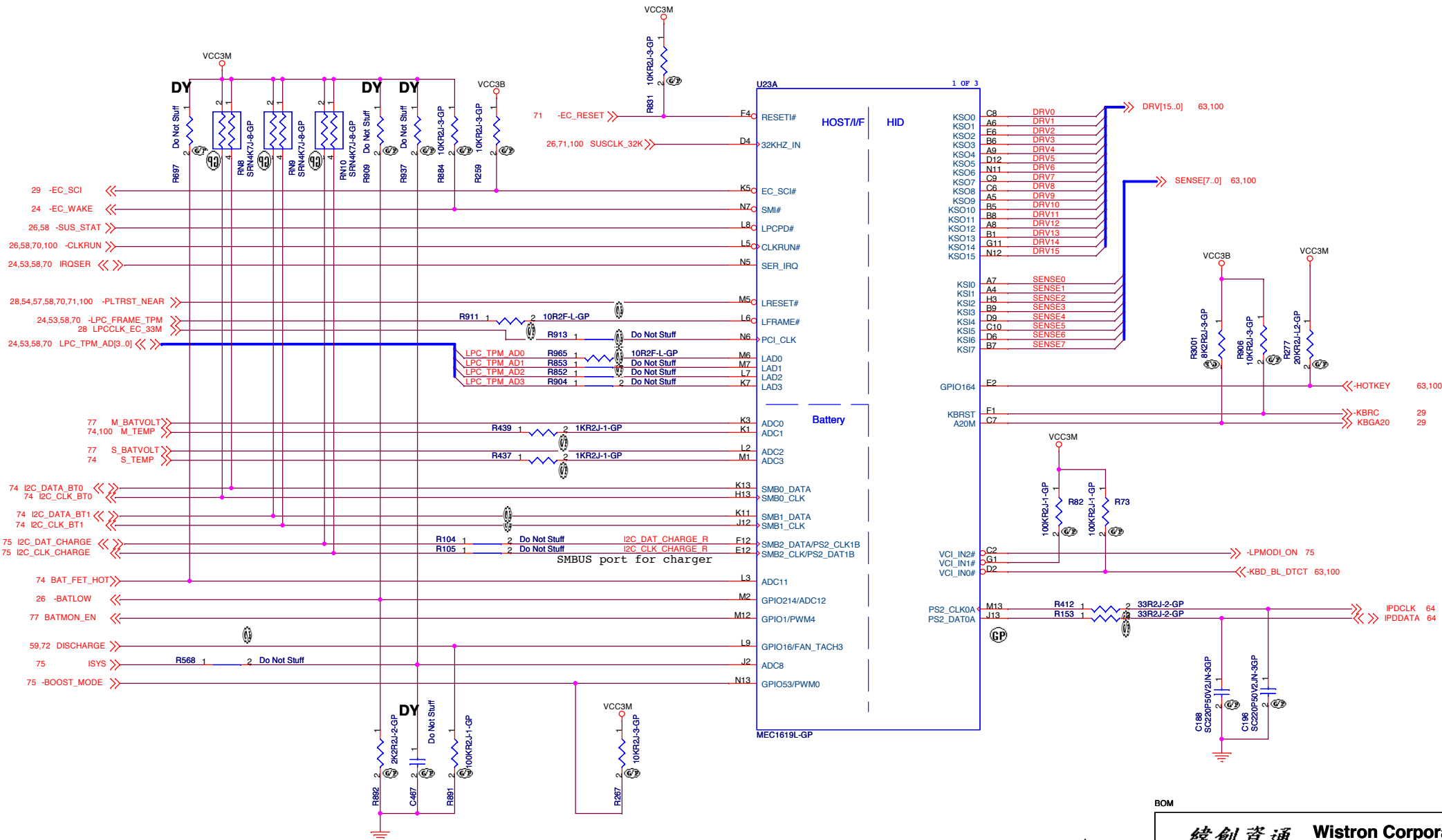
## Kendo-4 UMA

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SA

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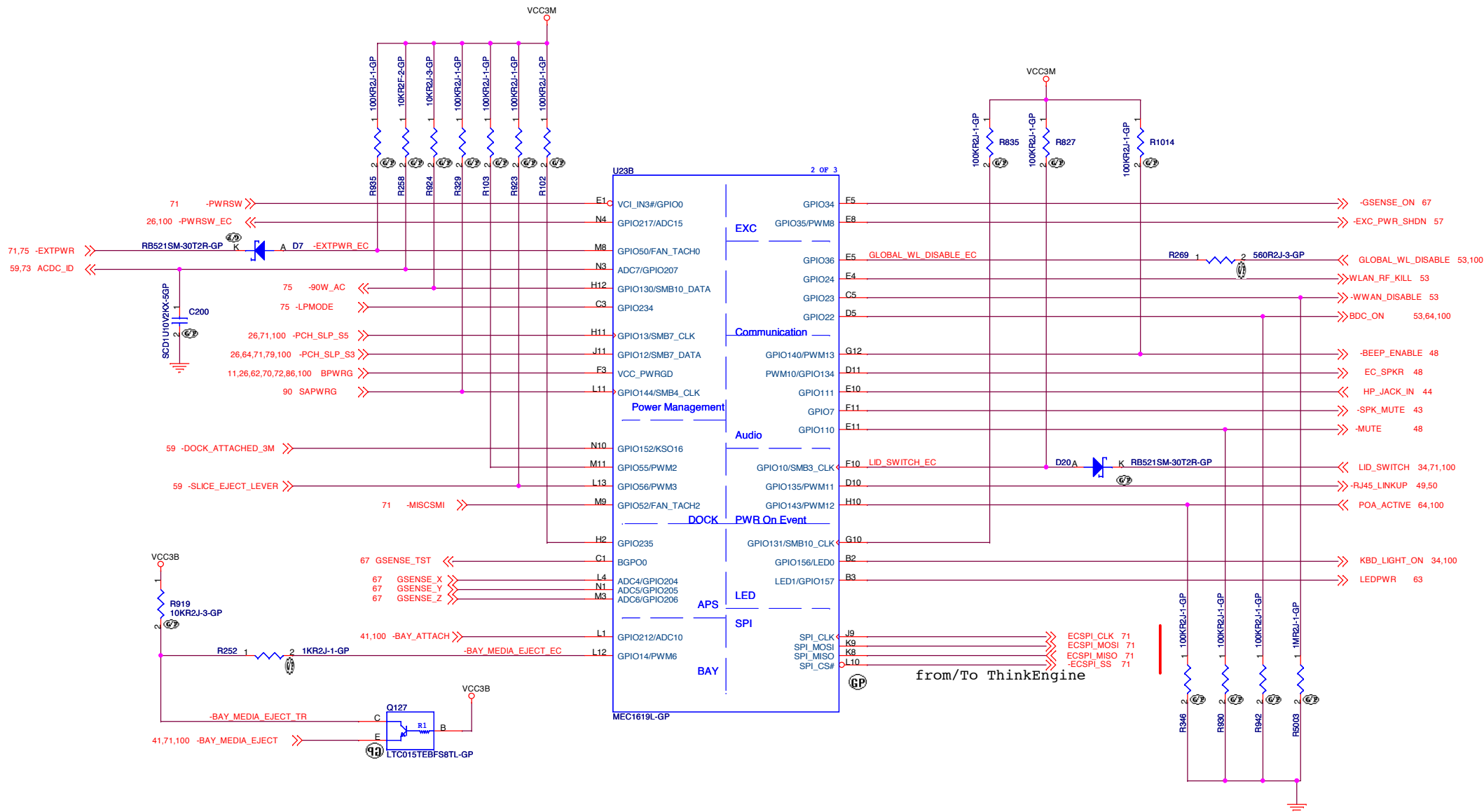


New EC (1/3)

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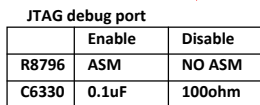
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<b>緯創資通 Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title		
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BOM	
<b>緯創資通 Wistron Corporation</b> 21F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	
New EC (2/3)	
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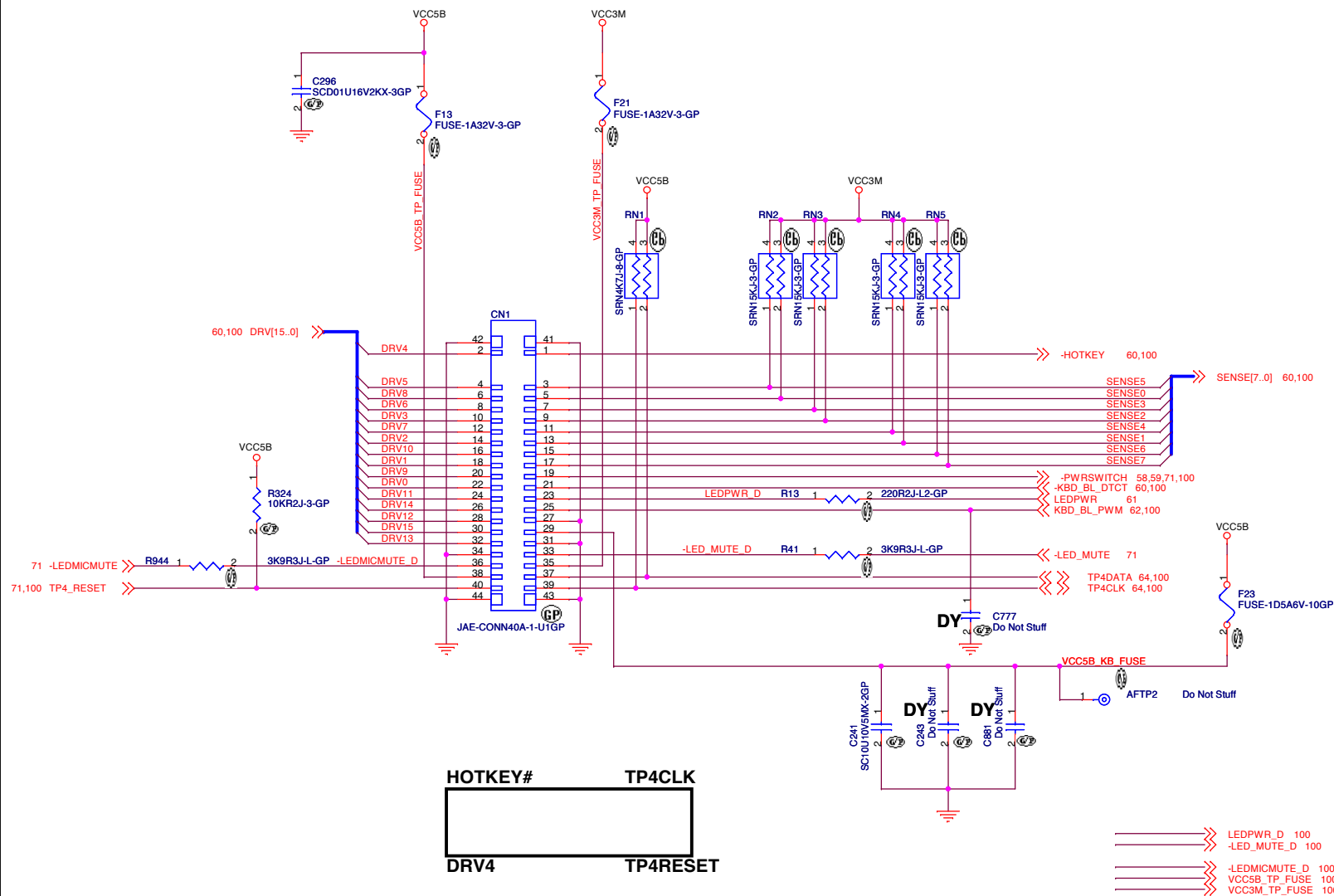
	UMA	SWG	WS
WS_ID [GPIO105]	L	L	H
VIDEO_ID [GPIO033]	L	H	H



	Enable	Disable
R8807	ASM	NO ASM
R8808	ASM	NO ASM
R8797	NO ASM	ASM

These thermistor and resistor should be placed near ExpressCard slot.

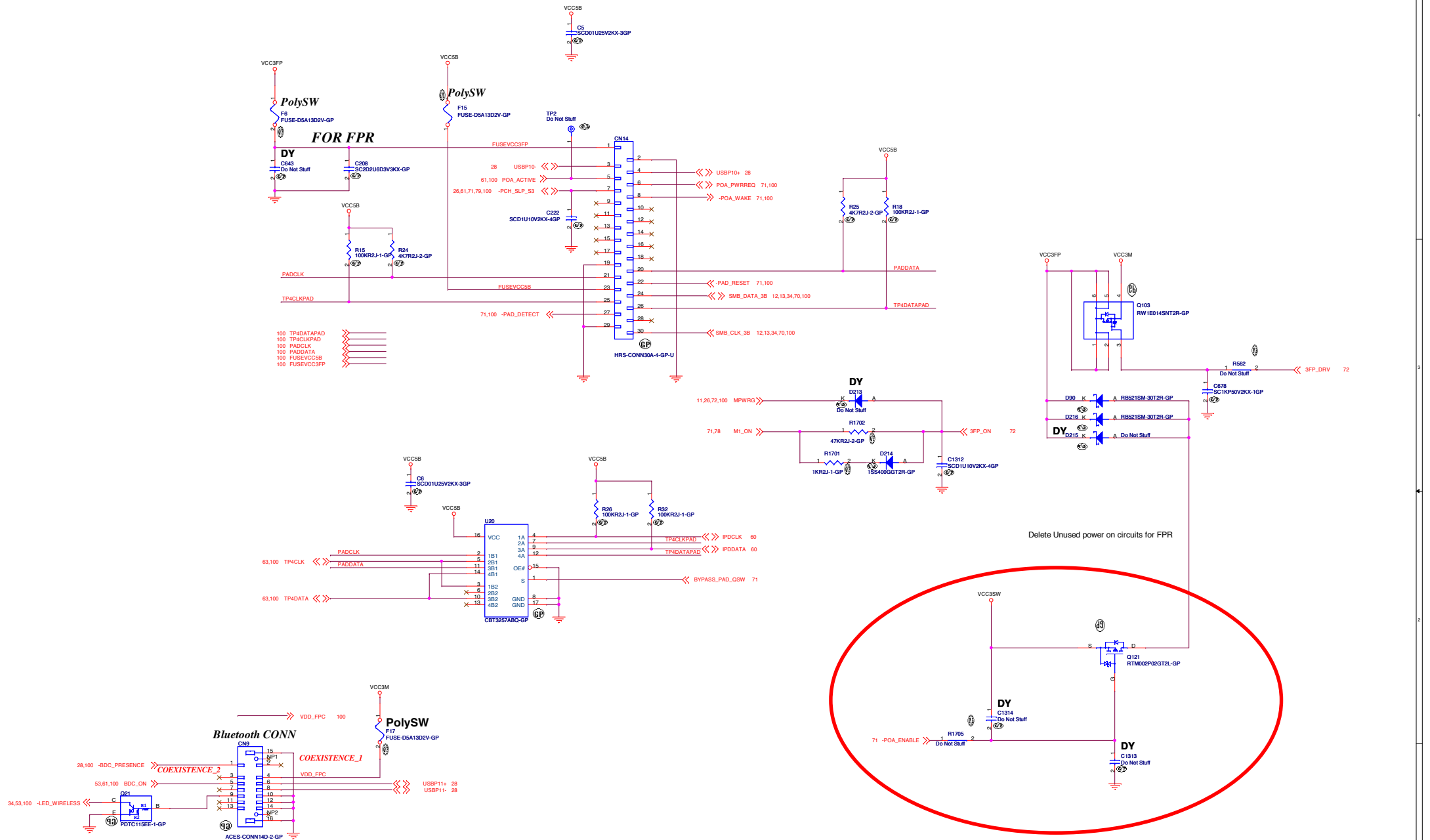
# Keyboard Connector



Keyboard Connector Top View

BOM

<b>緯創資通</b> Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>KEYBOARD CONN</b>	
Title Size A3 Date: Wednesday, February 29, 2012	Document Number <b>Kendo-4 UMA</b> Sheet 63 of 103
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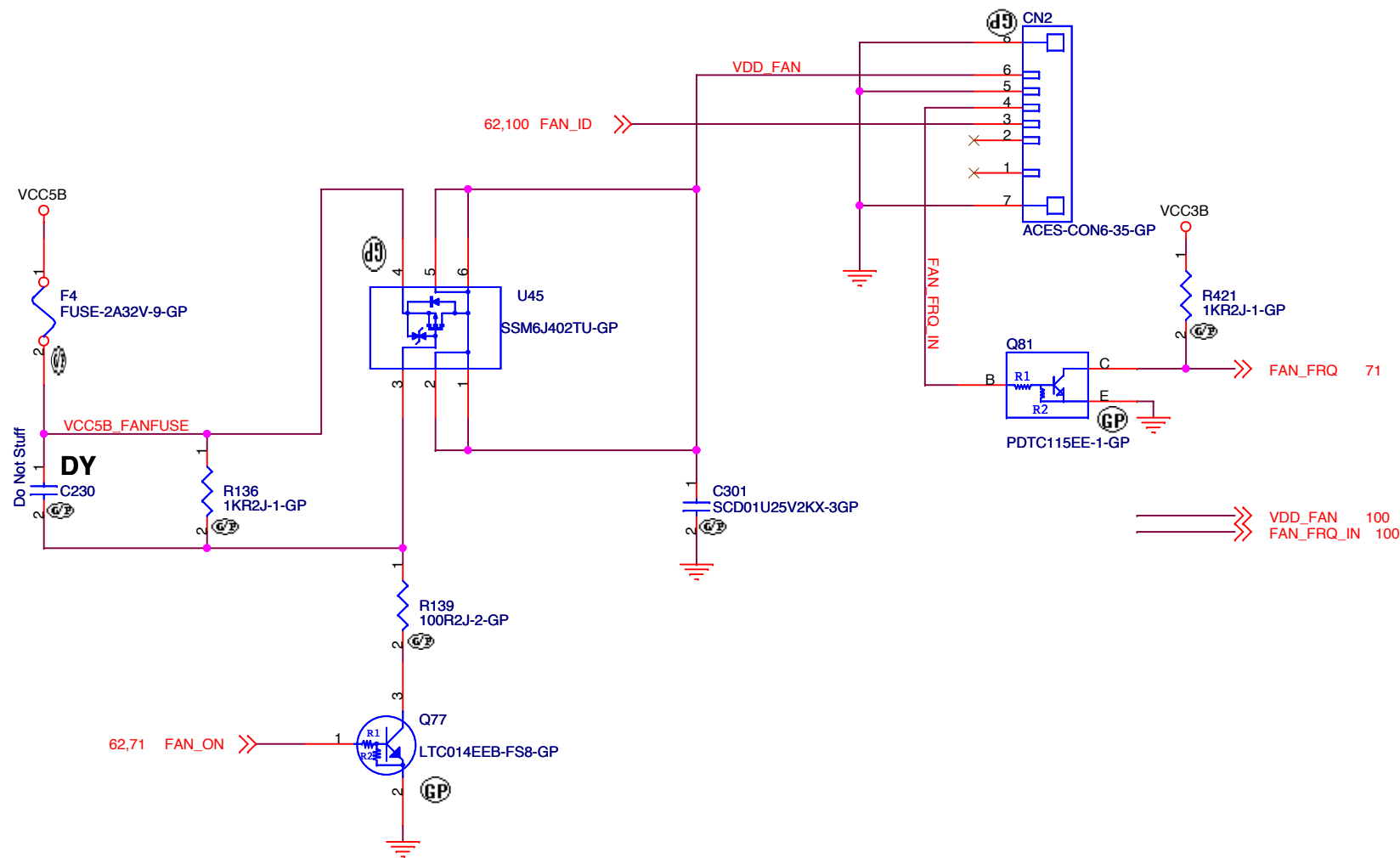




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<div>緯創資通</div> <div>Wistron Corporation</div> <div>21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.</div>		
Title		
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If Direct PWM FAN Module will be pick uped on this project, VCC Pin is needed to FAN Interface connector.

1. VCC5
2. PWM
3. FAN\_FRQ
4. GND
5. ~ ID

#### BOM

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Title			
FAN CONNECTOR			
Size A4	Document Number Kendo-4 UMA		Rev SA
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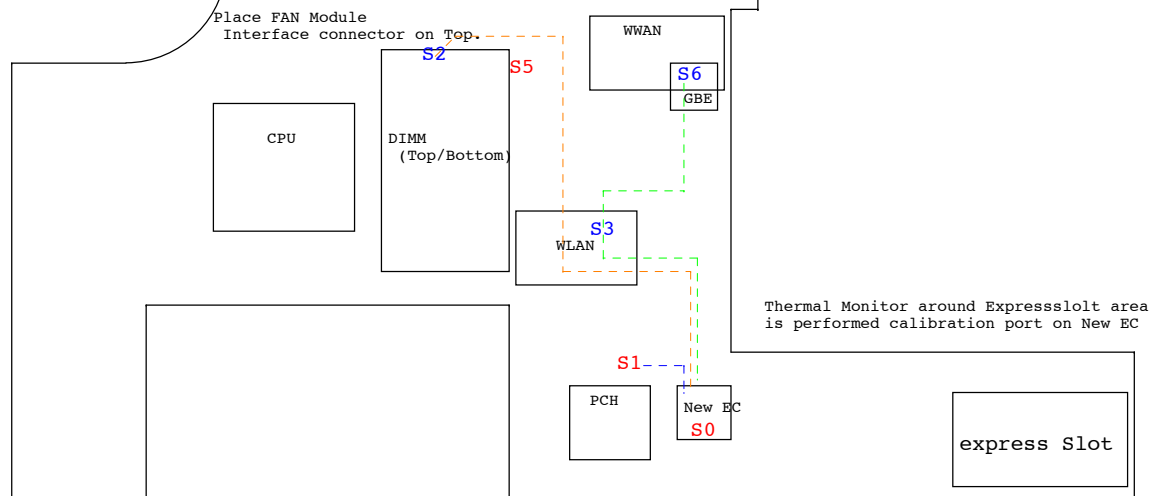
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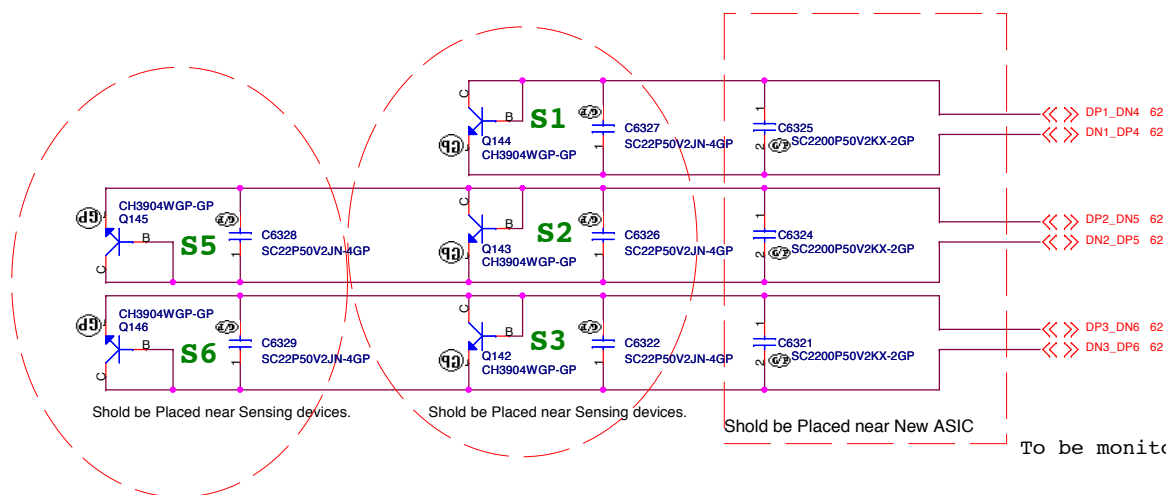
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		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title			
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# FAN Module Area

Place FAN Module  
Interface connector on Top.



Sensor	Device	Placed on
S0 (Body)	PCH/BASE COVER	Bottom
S1	Near PCH	Bottom
S2	DIMM (TOP)	Top
S3	WLAN	Top
S4	N/A	N/A
S5	DIMM (BOT)	Bottom
S6	GBE WAN	Top



From/To New EC

To be monitor S4/5/6 line, EC should enable the function with register.

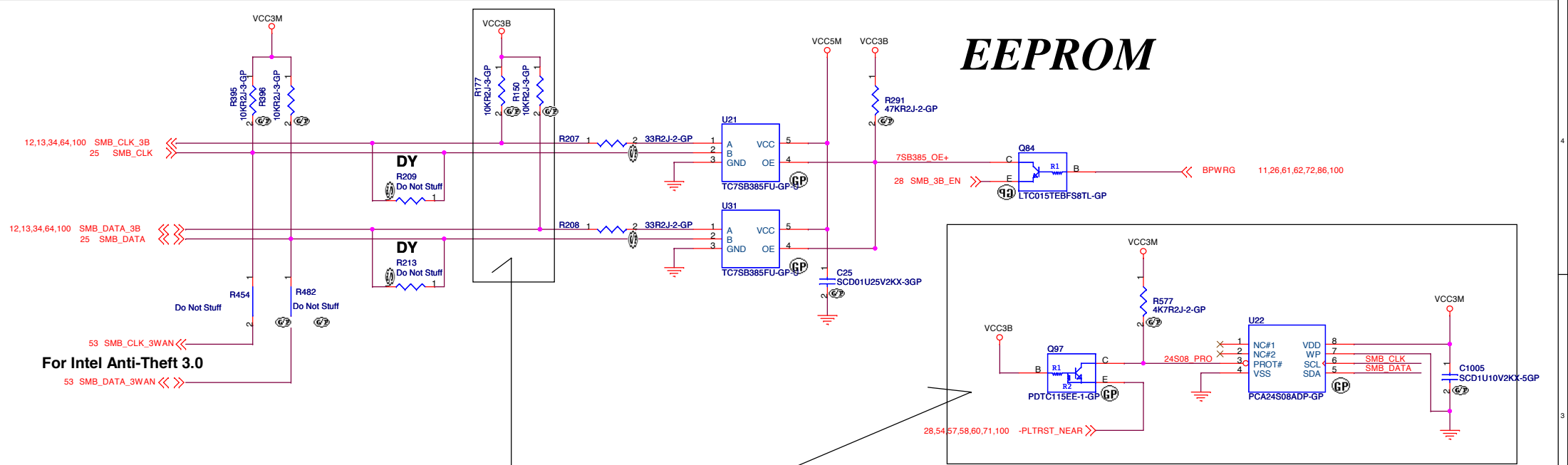
Sensor Location will be decided based on the placement.

## Layout Comment :

- (1) Thermal sensor trace lines should not be overlapped with other high frequency trace lines in other layers.
- (2) Also, it should not be overlapped with large amplitude trace lines either.

BOM

緯創資通 Wistron Corporation		21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title		THERMAL SENSOR	
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**For Intel Anti-Theft 3.0**  
53 SMB\_CLK\_3WAN  
53 SMB\_DATA\_3WAN

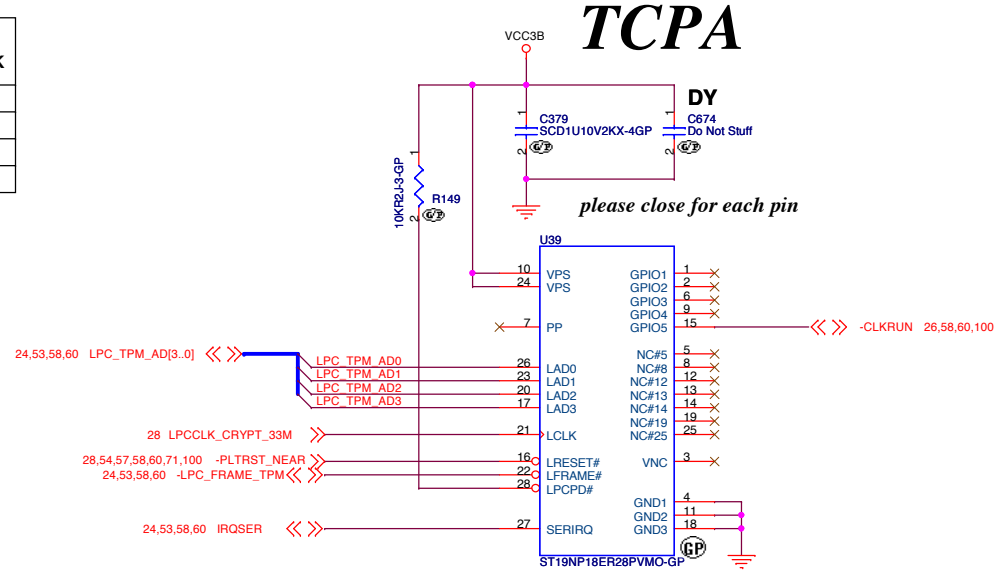
		U28, U29	Wistron part number
1	TOSHIBA	TC7SB385FU-GP	73.7S385.0AH 54Y9027AA
2	Pericom	PI5A121CEX	73.5A121.00H

When Asset ID function in new EC will be confirmed,  
These Asset ID and external pull up will be removed.  
As for Bus Sw, if the requirement is exsist, need to keep to prevent current leak.

		U30	Wistron part number
1	NXP	PCA24S08ADP	72.24S08.A0Q
2	ROHM	BUL08-1FVJ-W	54Y9016AA 72.BUL08.00Q

	NO TPM	ST Micro ST19NP18ER28PVMK
U39	NO_ASM	ASM
C379	NO_ASM	ASM
C674	NO_ASM	NO_ASM
R149	NO_ASM	ASM

↑  
**LOGIC**

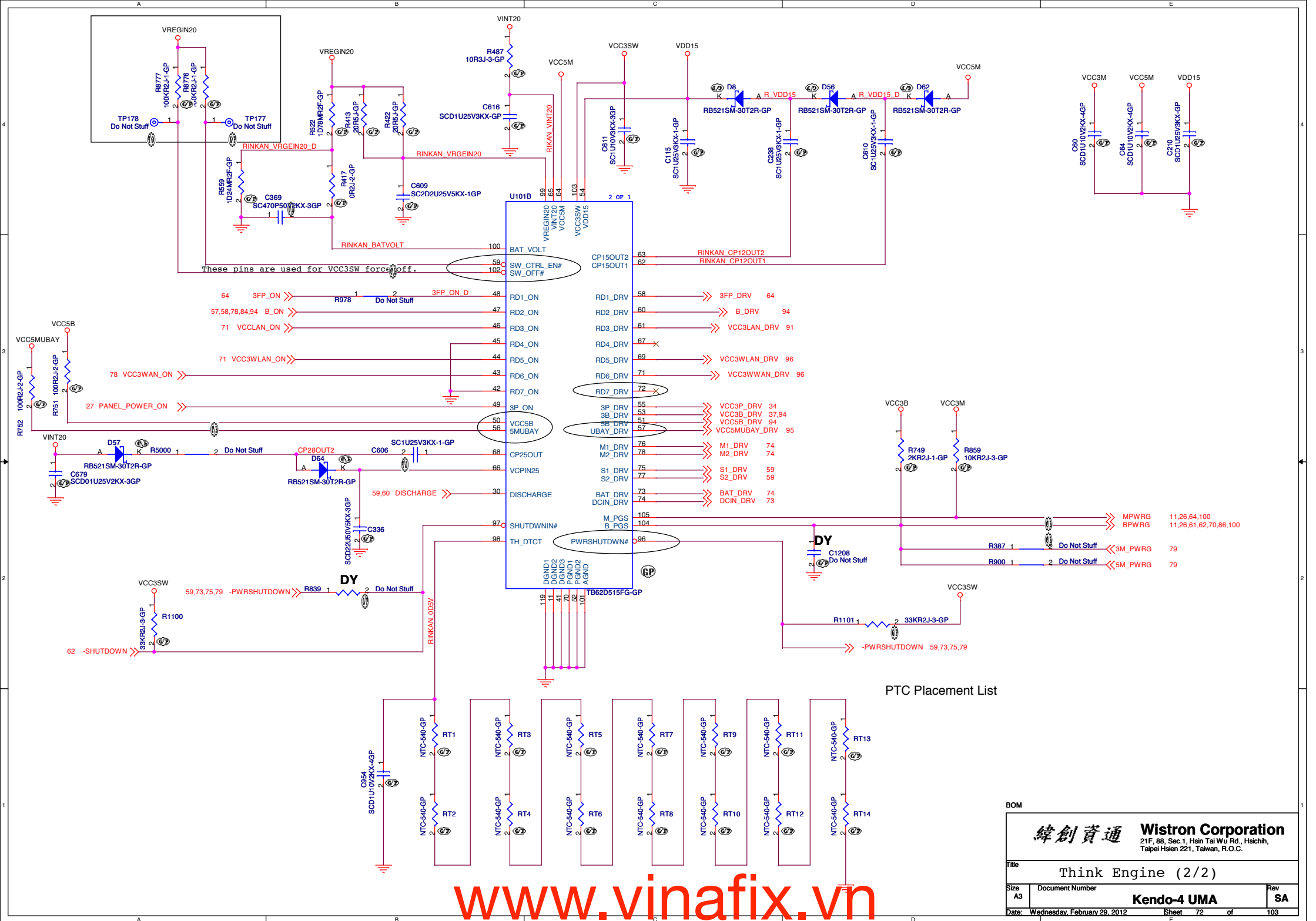


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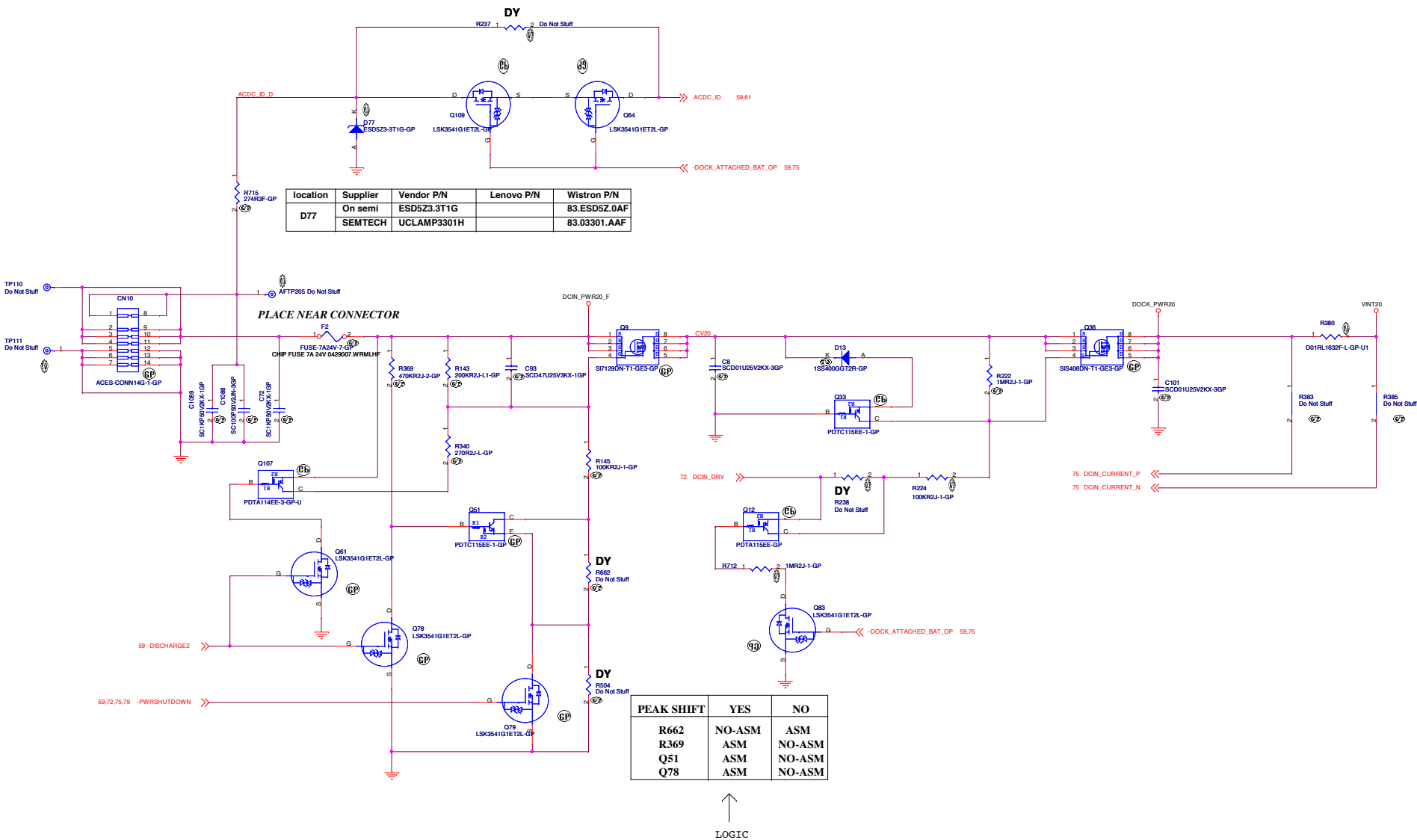
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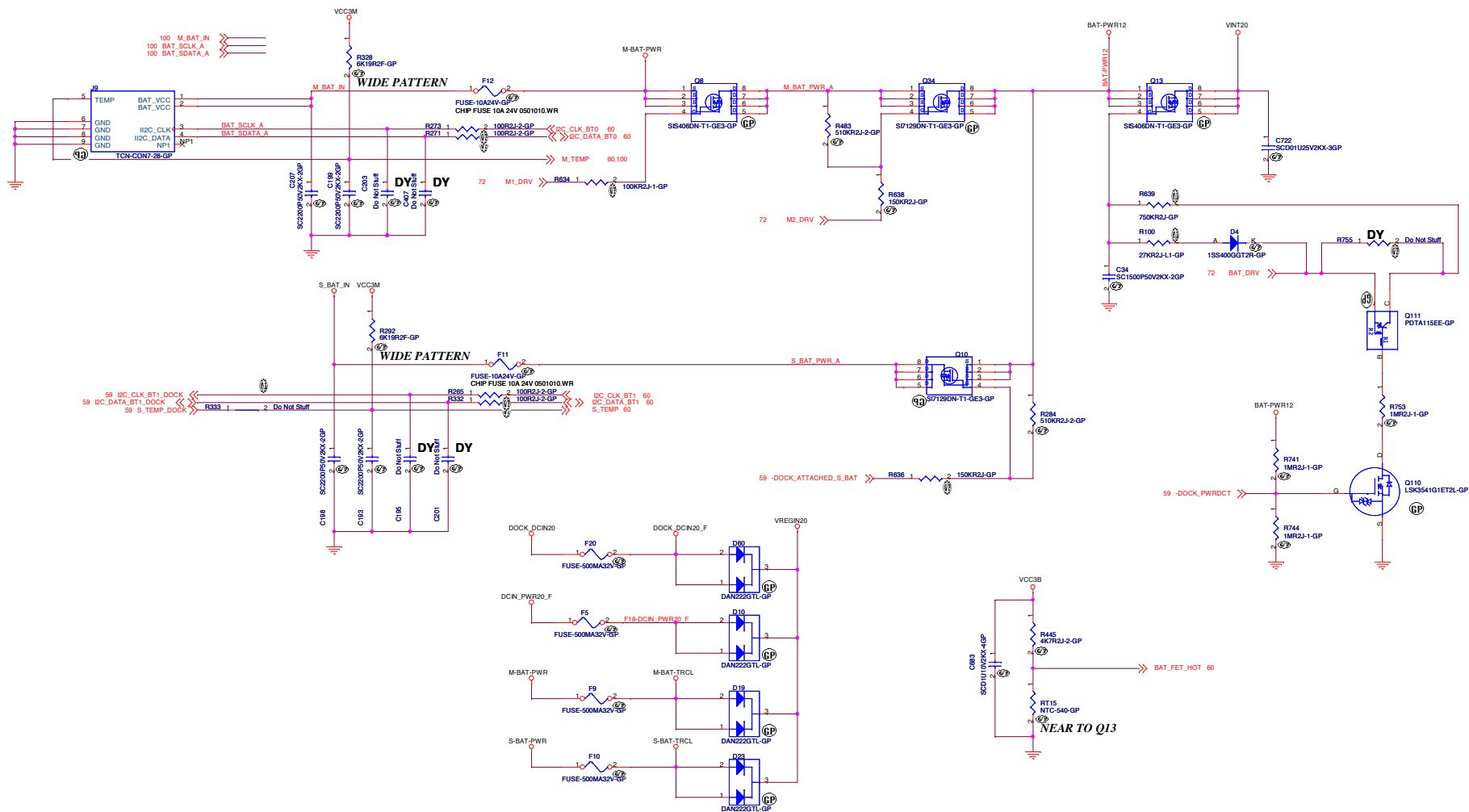
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Title: <b>EEEPROM/TCPA</b>		
Size A3	Document Number: <b>Kendo-4 UMA</b>	Rev: <b>SA</b>
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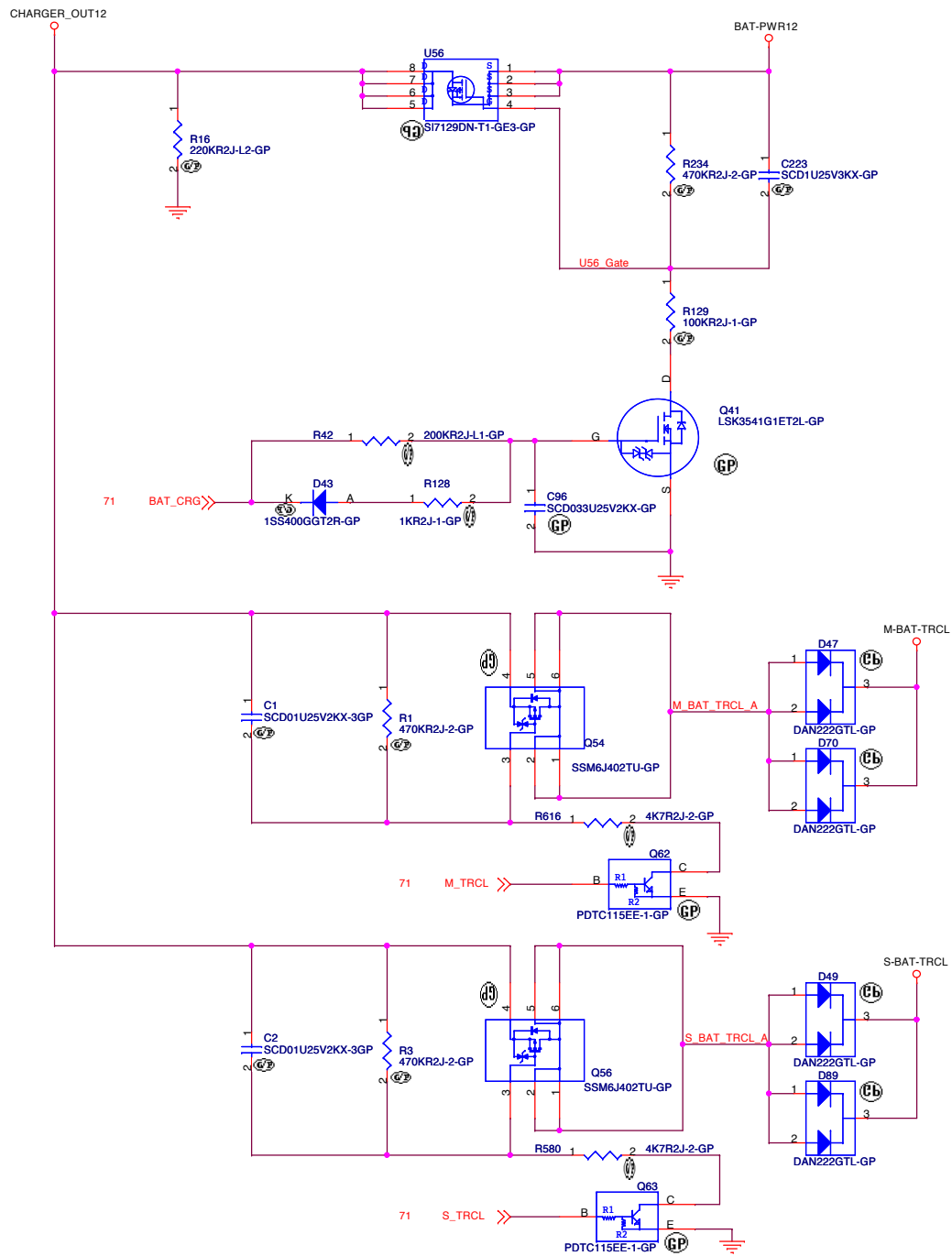








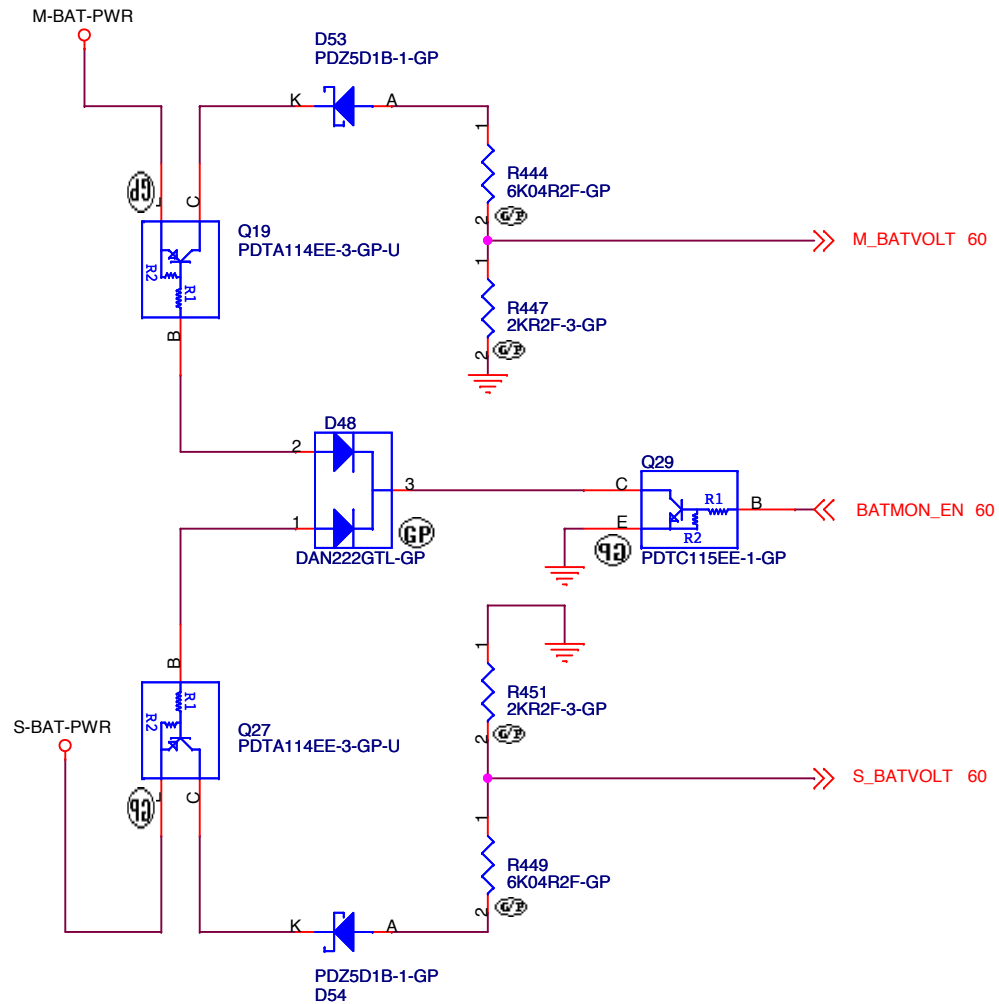




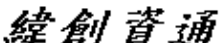
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<b>緯創資通 Wistron Corporation</b> 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
<b>CHARGER SELECT</b>	
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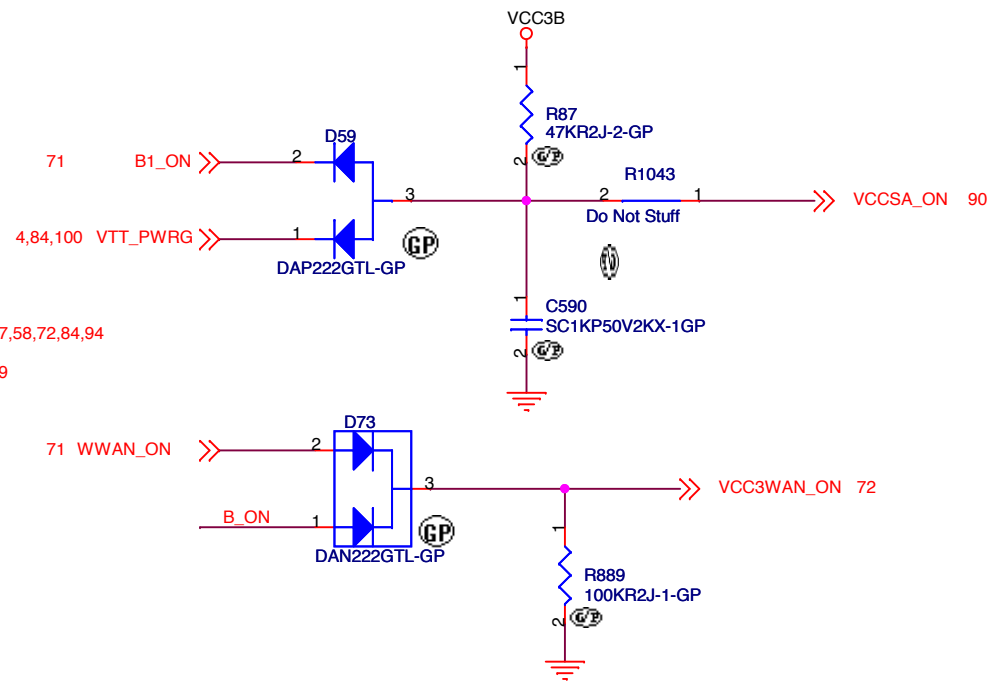
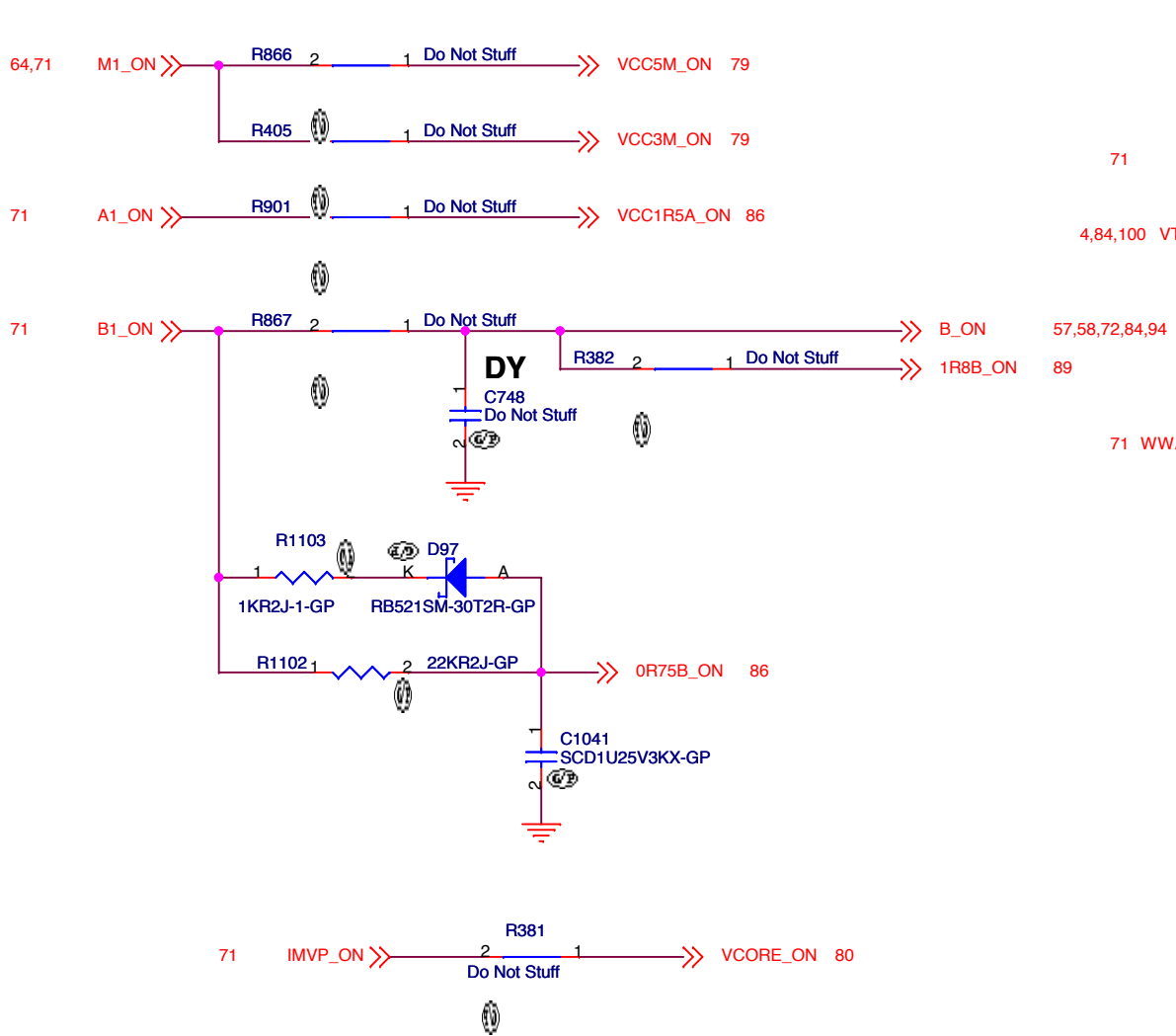
$$V_{OUT} = 0.249 (V_{BAT} - 5)$$



BOM

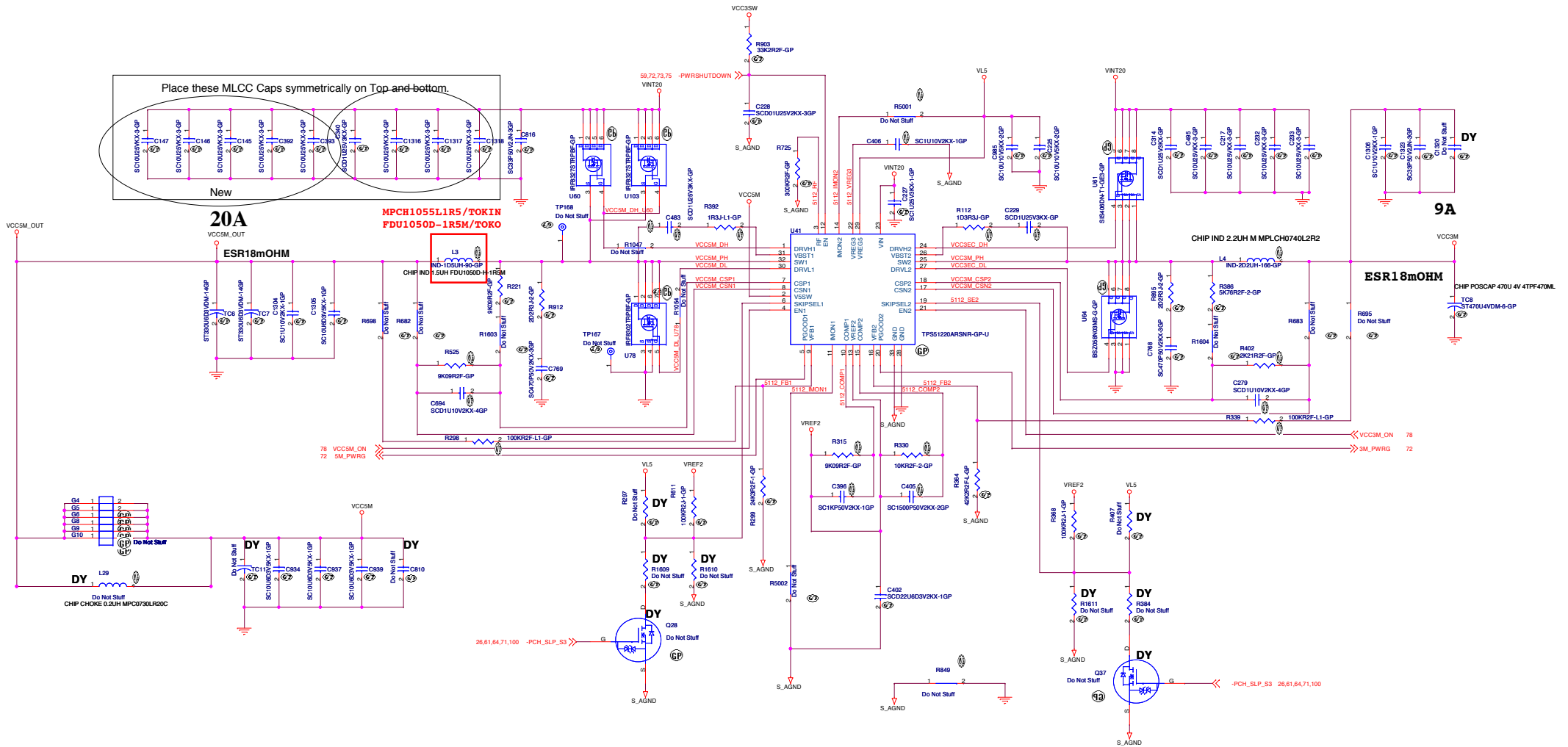
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Title			
<b>BATTERY MONITOR</b>			
Size A4	Document Number <b>Kendo-4 UMA</b>		Rev <b>SA</b>
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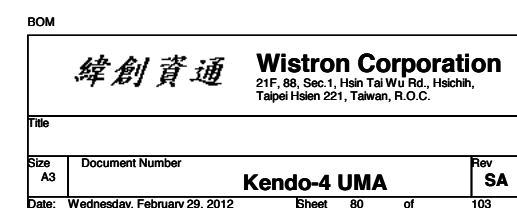
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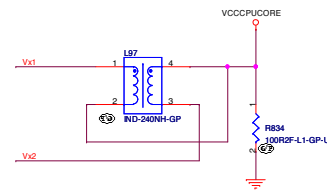
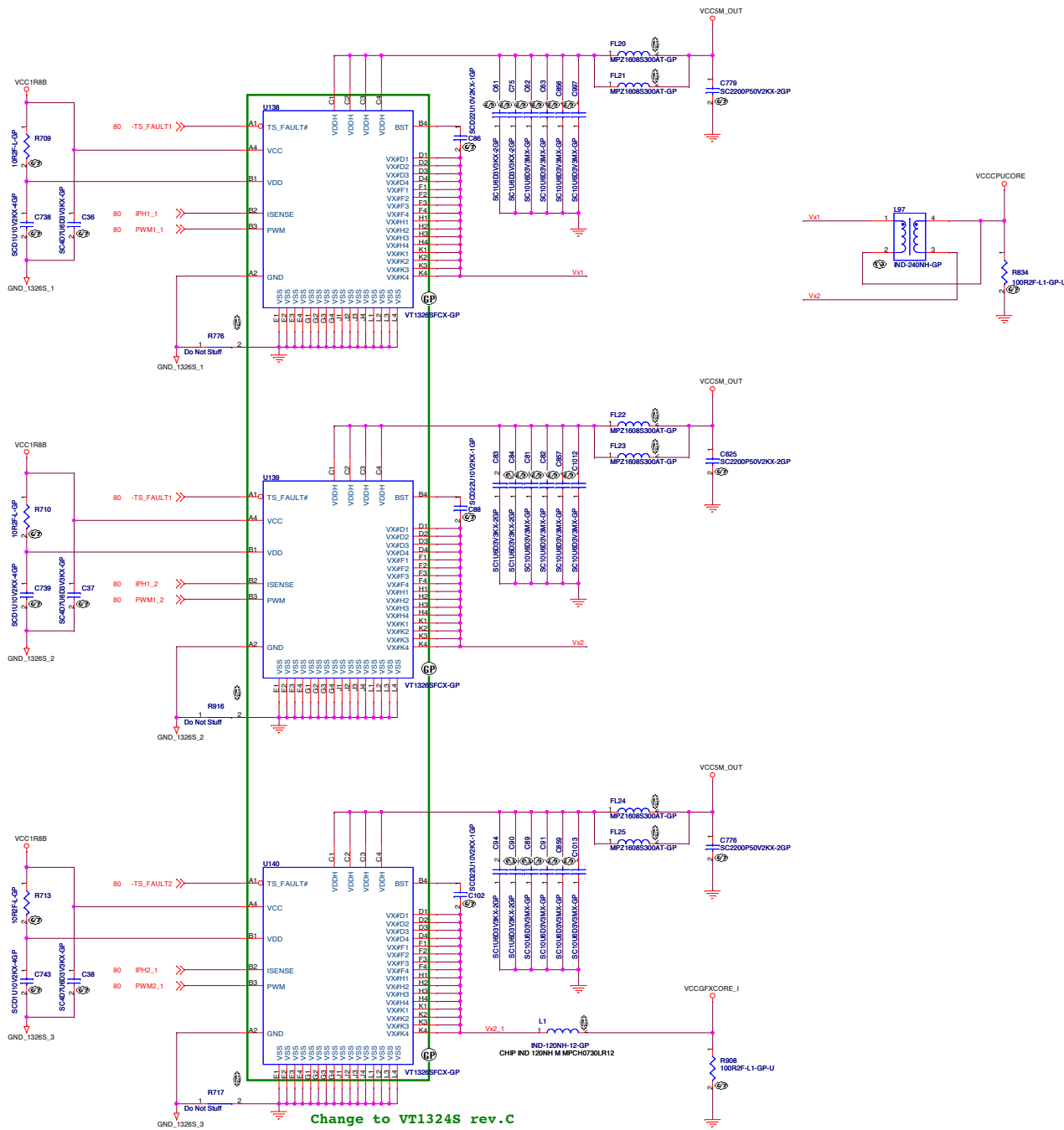
Table

AOAC	YES	NO
D73	ASM	NO_ASM
R889	100K	0 ohm

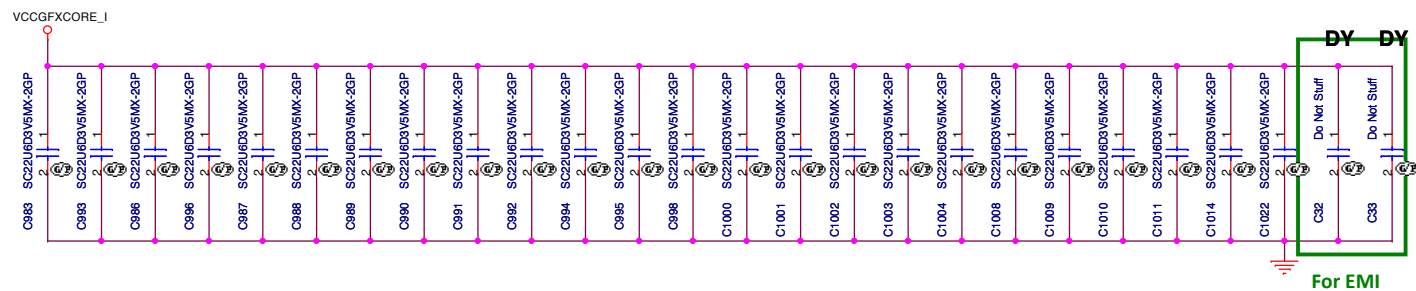
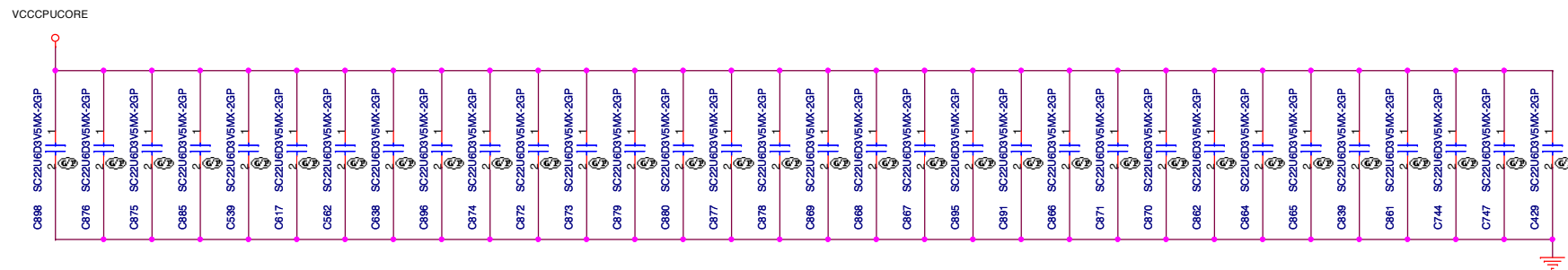








Change to VT1324S rev.C  
(Keep VT1326 pad)



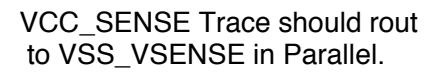
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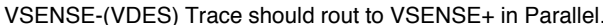
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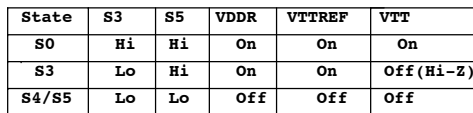
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VCC1R05B_VTT	R_VDES
1.00V (IVB ES1)	36.5K
1.05V (SNB, IVB ES2 later)	38.3K

BOM





	10	9	8	7	6	5	4	3	2	1	
H											H
G											G
F											F
E											E
D											D
C											C
B											B
A											A
	10	9	8	7	6	5	4	3	2	1	

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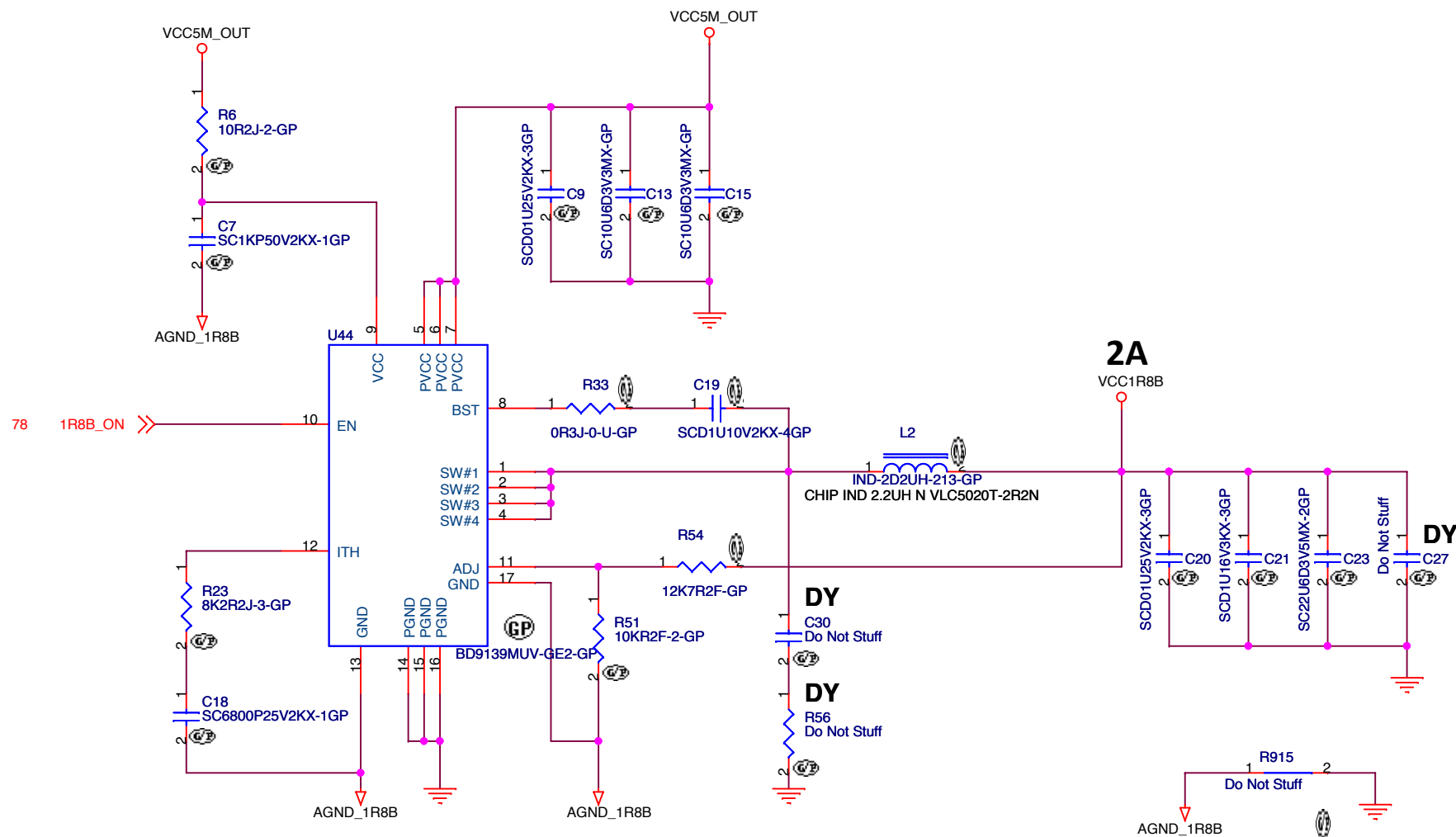
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<div> <div>Date:</div> <div>Wednesday, February 29, 2012</div> </div>	<div> <div>Sheet</div> <div>87</div> <div>of</div> <div>103</div> </div>
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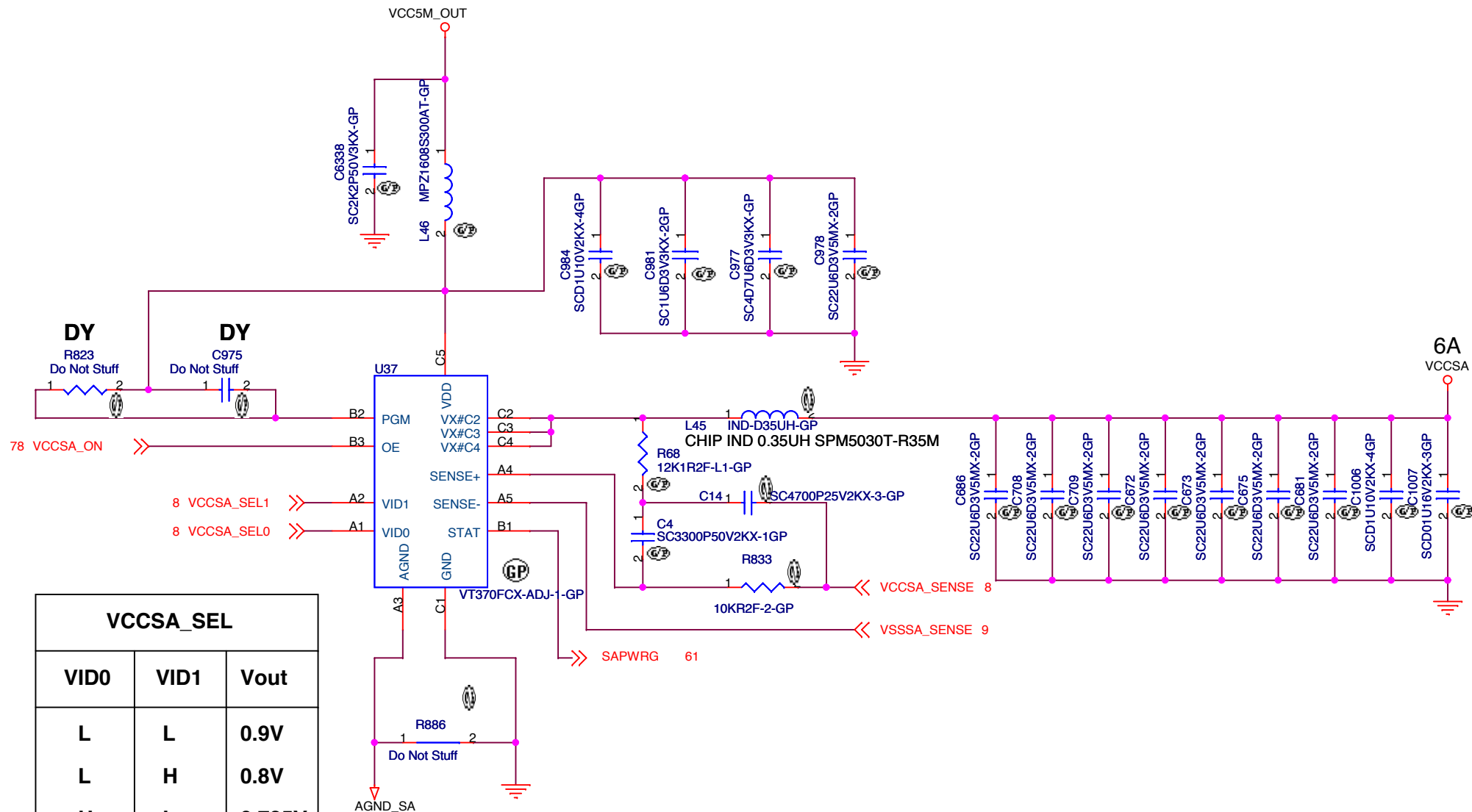




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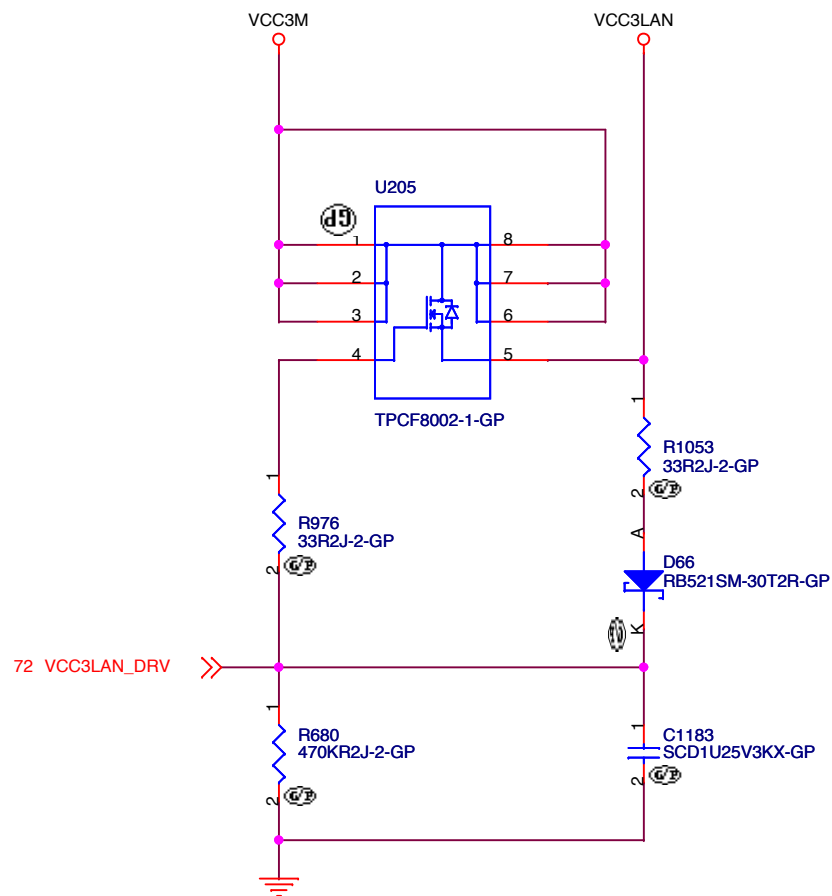
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<p>Date</p> <p>Wednesday, February 29, 2012</p>	<p>Rev</p> <p><b>SA</b></p>
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<b>DC/DC VCC_SA</b>	
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LOAD SW LAN & LANPWRG	
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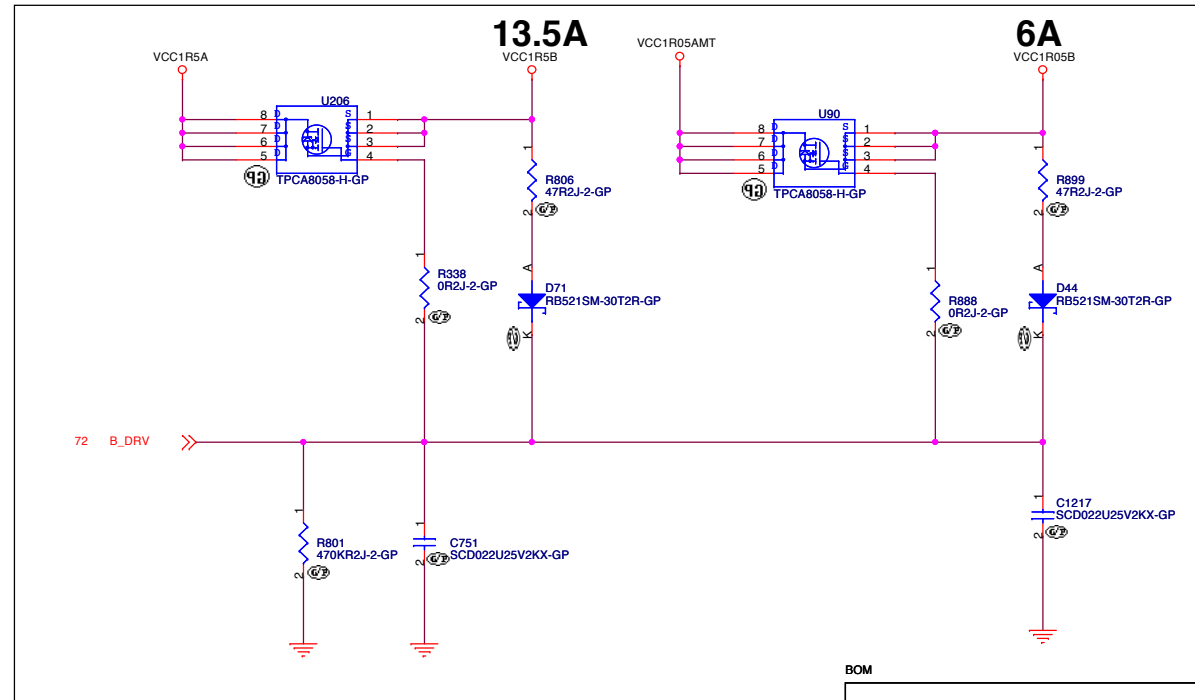
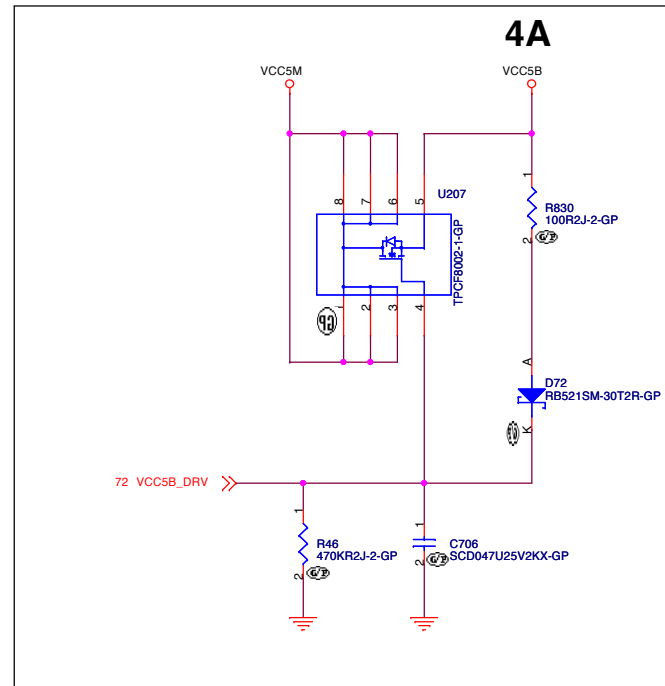
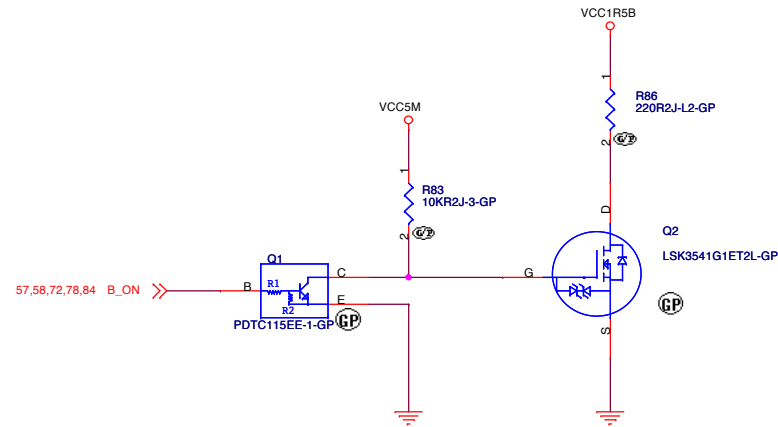
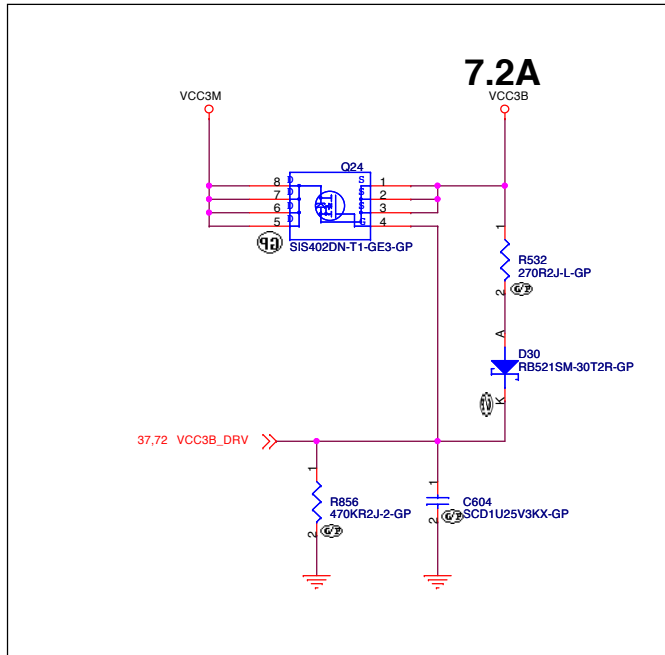
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Size A4	Document Number <b>Kendo-4 UMA</b>		Rev <b>SA</b>
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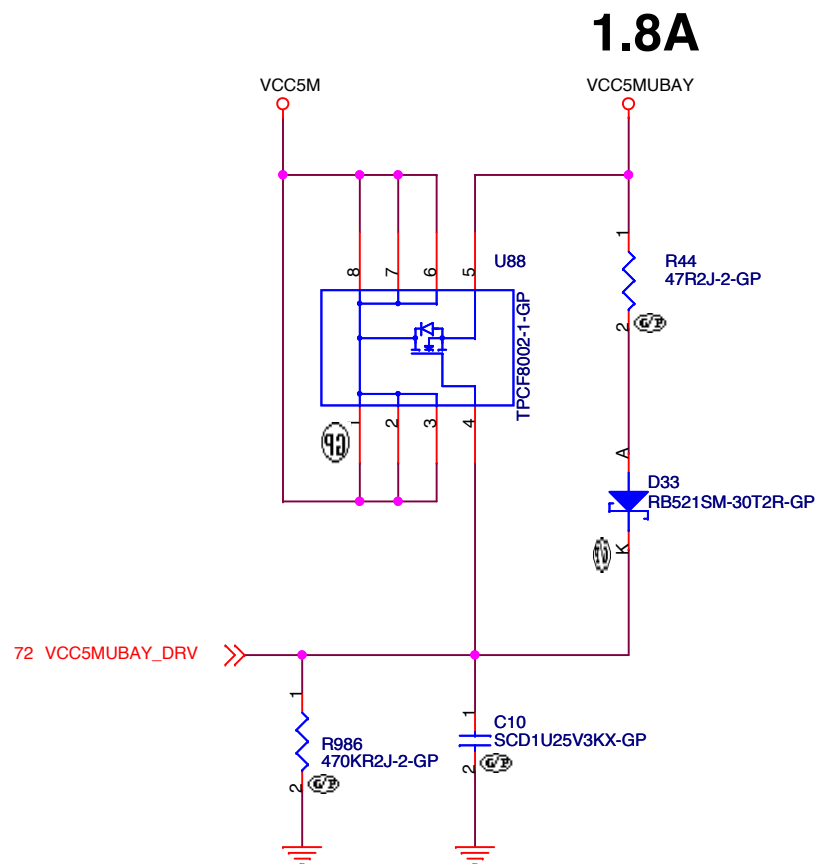
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Title			
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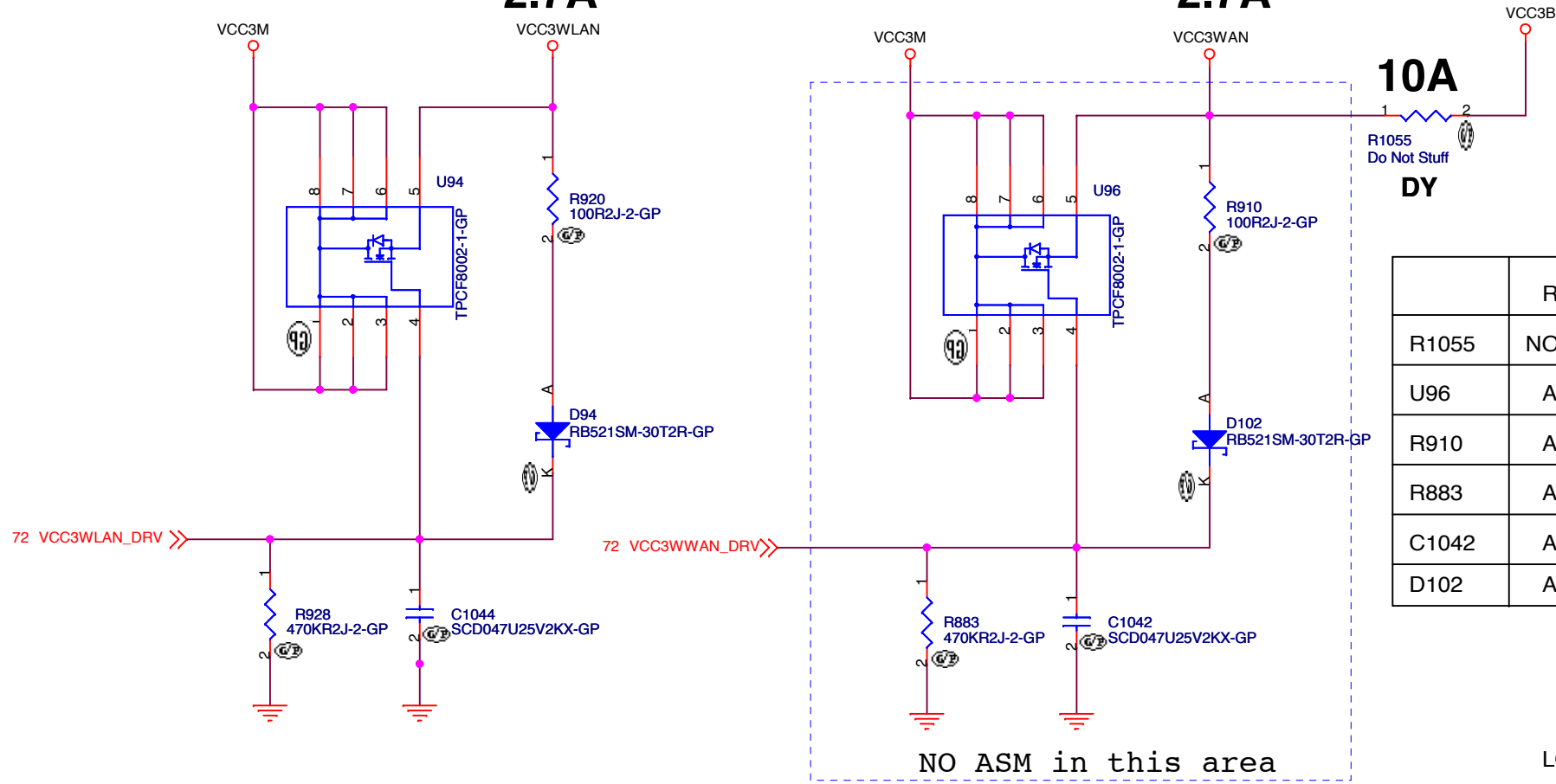
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Title	
LOAD SW VCC5MBAY	
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2.7A

2.7A

10A



	REG/LITE	BB/NO
R1055	NO-ASM	ASM
U96	ASM	NO-ASM
R910	ASM	NO-ASM
R883	ASM	NO-ASM
C1042	ASM	NO-ASM
D102	ASM	NO-ASM

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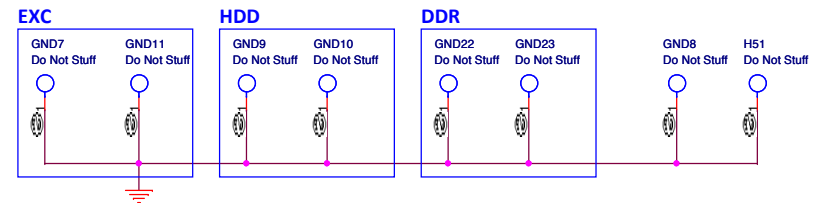
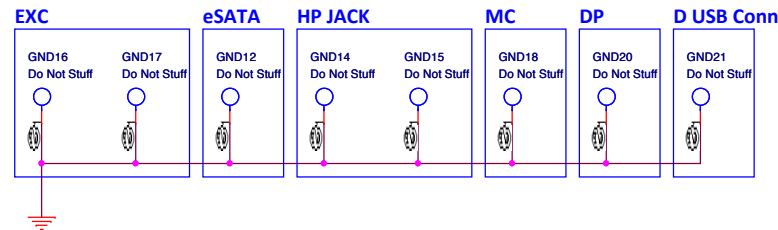
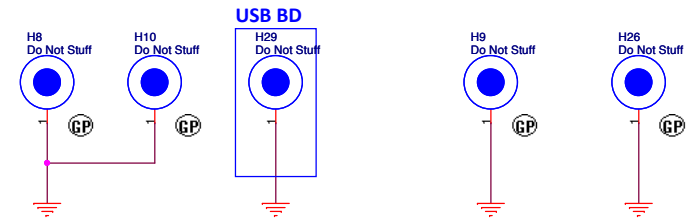
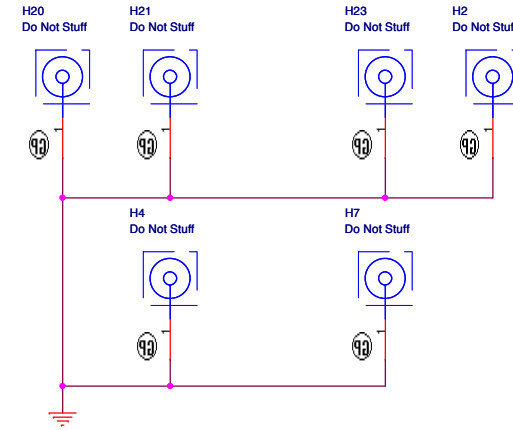
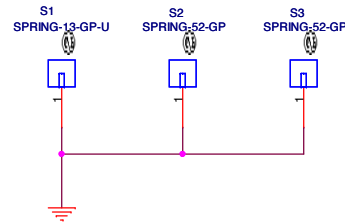
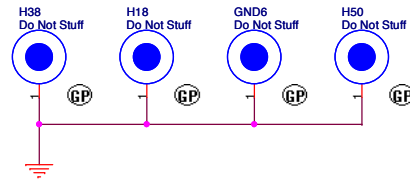
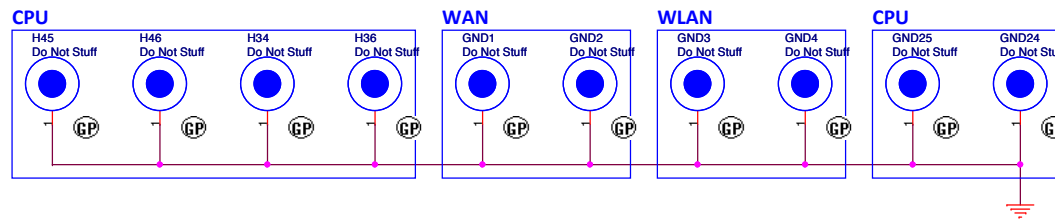
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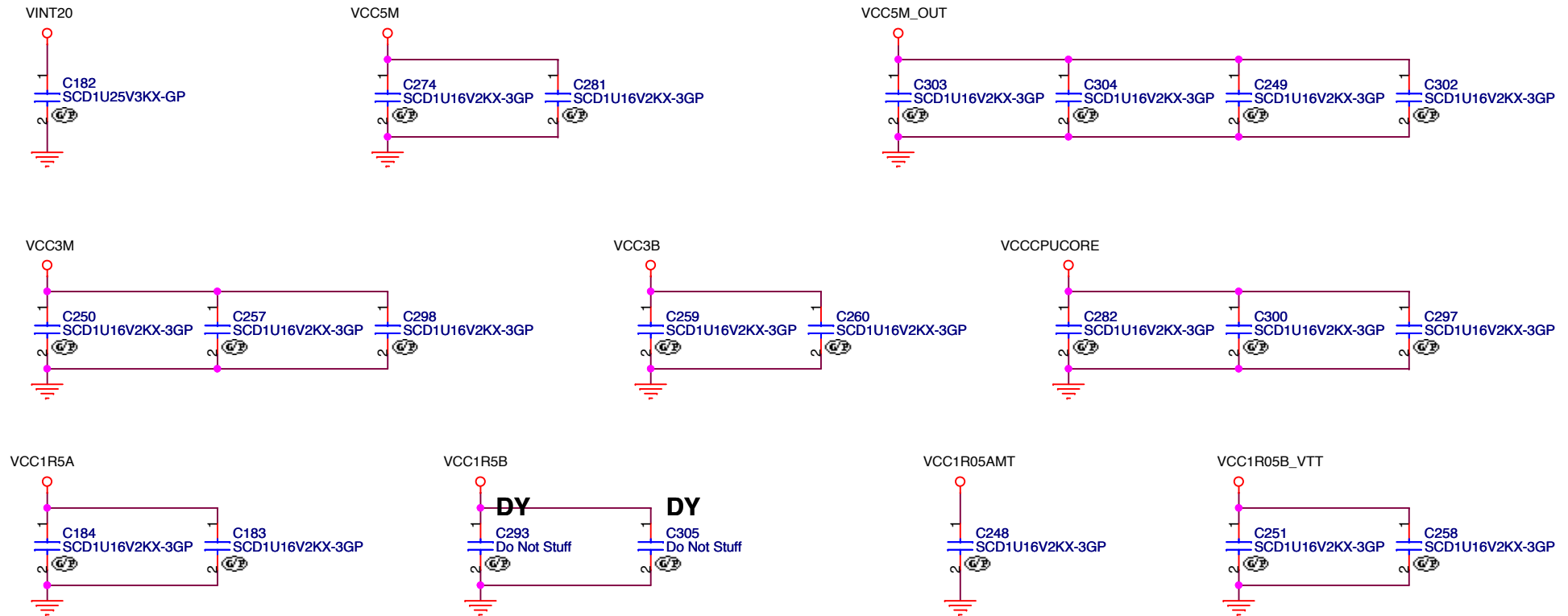


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Title <b>PTH FOR SCREW HOLES</b>		
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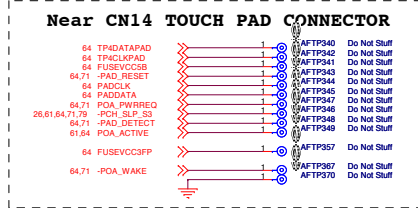
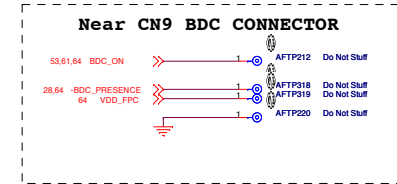
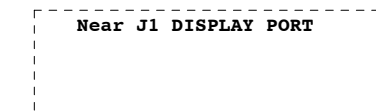
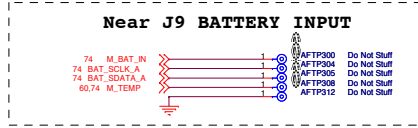
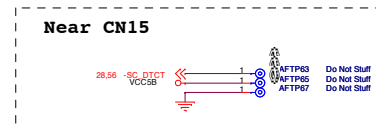
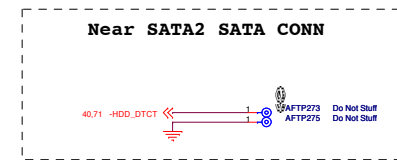
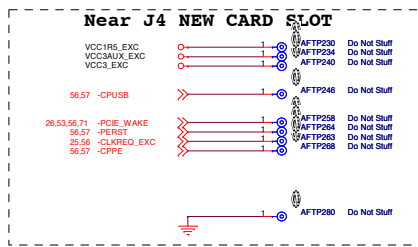
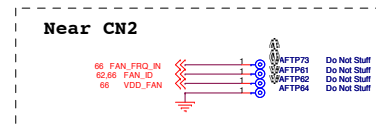
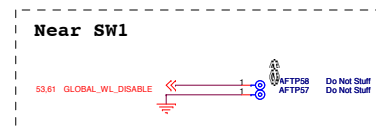
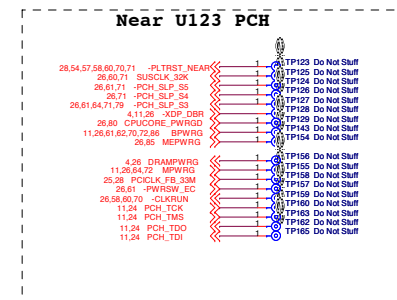
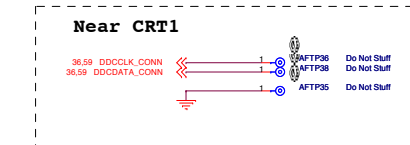
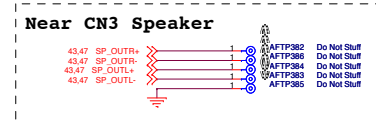
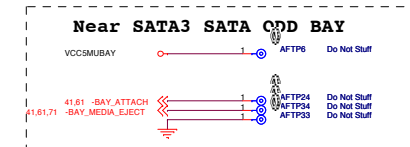
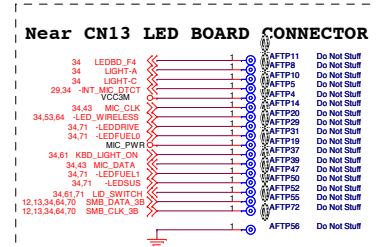
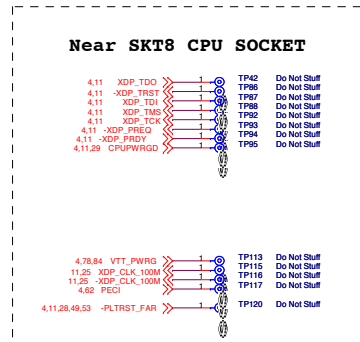
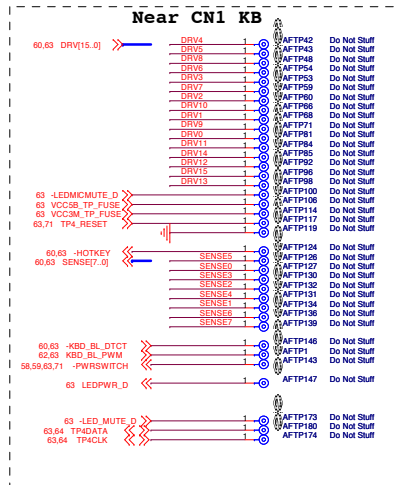
# Long power trace EMI decoupling caps

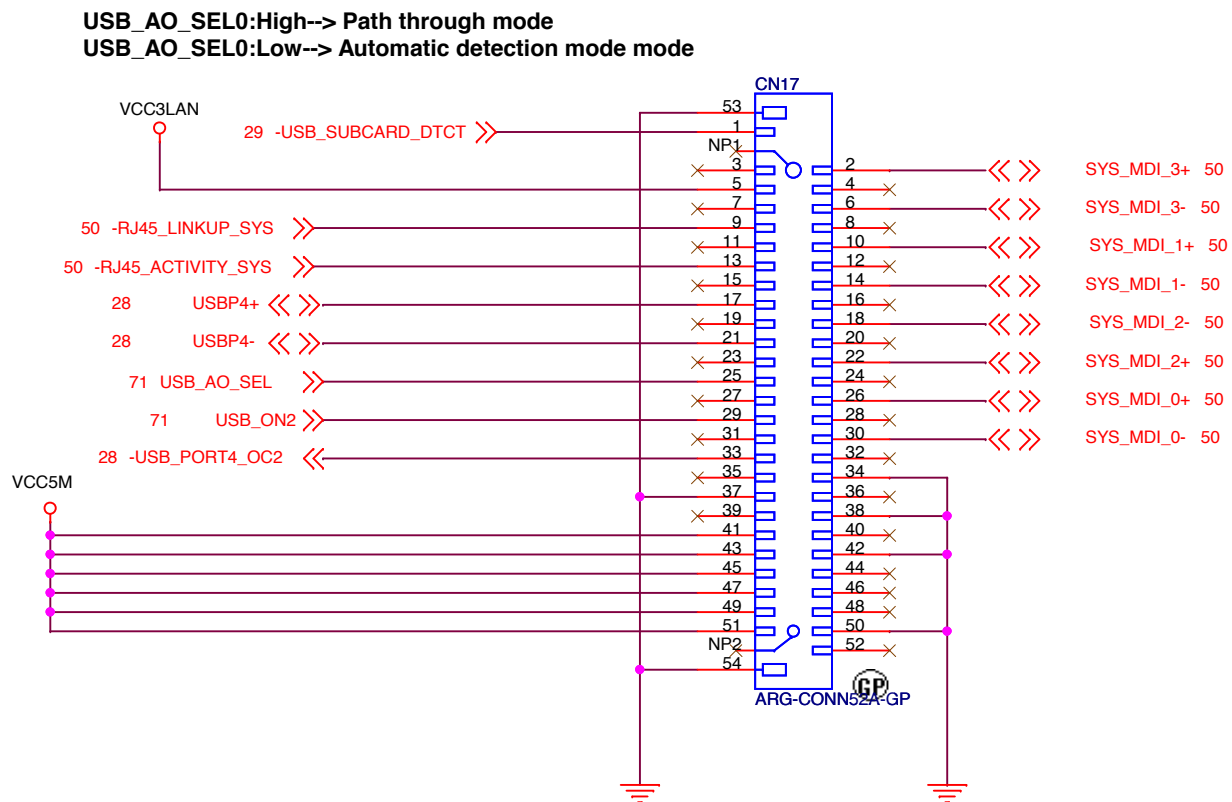


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Title			
EMI DECOUPLING			
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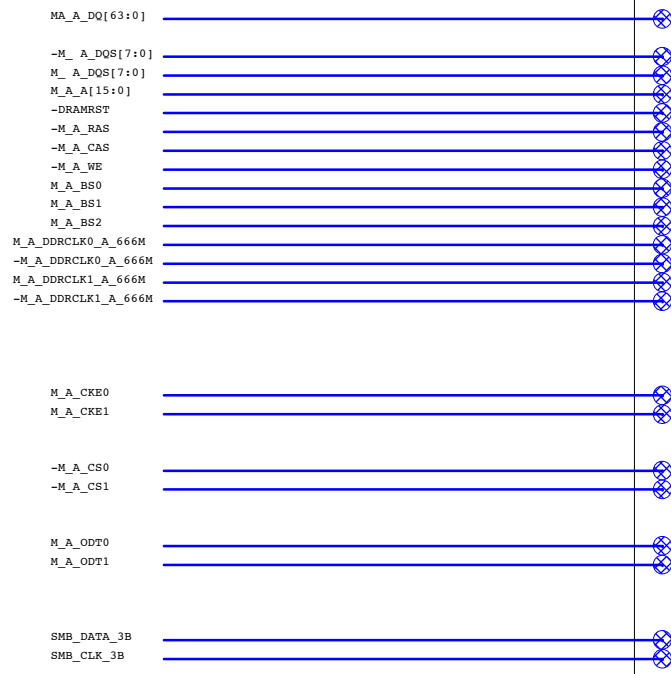


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Title <b>USB BOARD CONN</b>	
Size A4	Document Number <b>Kendo-4 UMA</b>
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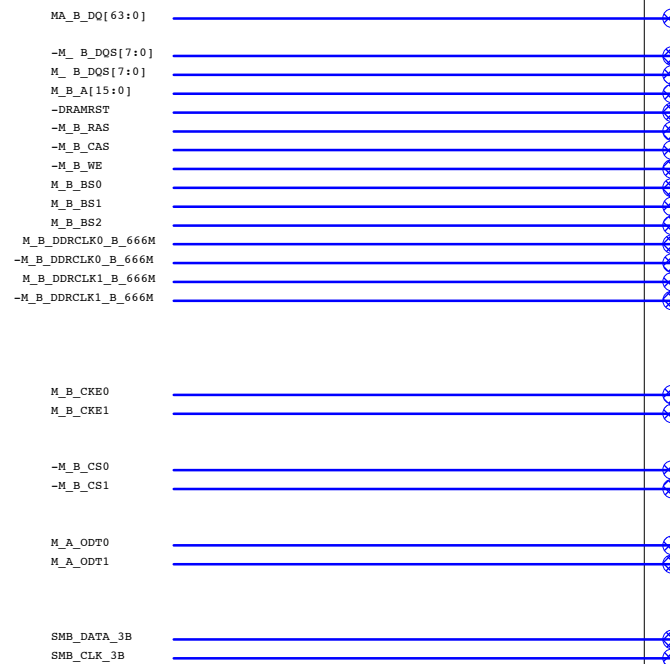
From IvyBridge/SandyBridge

SODIMM CH-A Primary



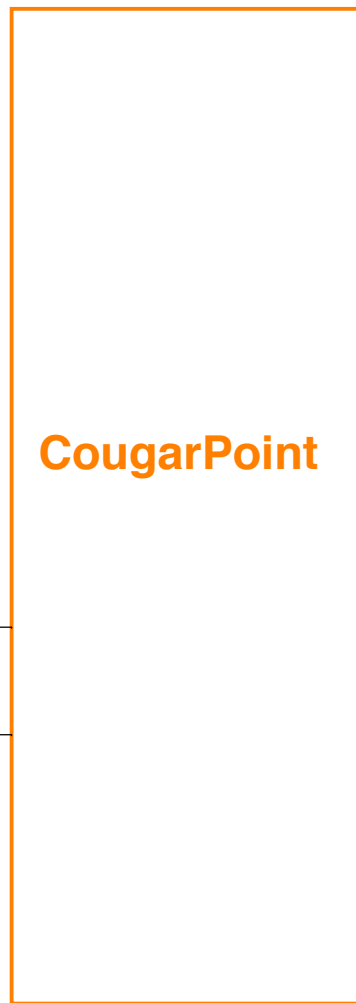
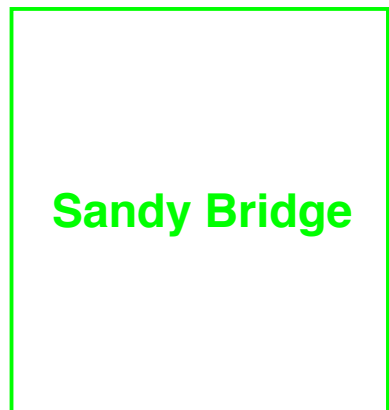
From IvyBridge/SandyBridge

SODIMM CH-B Primary



SODIMM IIC Address :  
CH-A Primary : 50h  
CH-B Primary : 51h

Pin1 on SODIM connector (VREF\_DQ) only connects to DDR Voltage divider.  
Clarksfield H17/J17 is left.



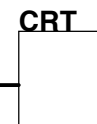
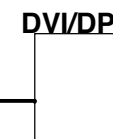
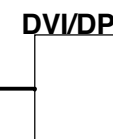
LVDS for LCD



Dock IF



Dock IF



Portreplicator

RGB SW



CRT



Display Port



FDI

DMI

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Title **GFX Block Diagram**

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