











# PCB stack up request form

Project Nam	Wildcat-II		Part No	03248	
Stackup No.	10-1.6-1	Finish Thickness	1.6 +/- 0.14 mm	Date	
Notes	1. Impedance Control tolerance +/- 10% 2. Coupon 製作方式及 Impedance report 請依照 Wistron 規範製作 3. Differential Type - LVDS 100 ohm +/- 10%      mil 線寬在 L				

			Line Width / Impedance							
			Thickness	公差	4 mil		5 mil		6 mil	
L1	TOP		1.3	Min	<input type="checkbox"/>	55 Ω	<input checked="" type="checkbox"/>	50 Ω	<input type="checkbox"/>	45 Ω
			3.5	± 1mil						
L2	GND		1.2							
			6	± 1mil						
L3	Signal		1.2		<input checked="" type="checkbox"/>	55 Ω	<input type="checkbox"/>	50 Ω	<input type="checkbox"/>	45 Ω
			6	± 1mil						
L4	GND		1.2							
			6	± 1mil						
L5	Signal		1.2		<input checked="" type="checkbox"/>	55 Ω	<input type="checkbox"/>	50 Ω	<input type="checkbox"/>	45 Ω
			6	± 1mil						
L6	Vcc		1.2							
			6	± 1mil						
L7	GND		1.2							
			6	± 1mil						
L8	Signal		1.2		<input checked="" type="checkbox"/>	55 Ω	<input type="checkbox"/>	50 Ω	<input type="checkbox"/>	45 Ω
			6	± 1mil						
L9	GND		1.2							
			3.5	± 1mil						
L10	Signal		1.3	Min	<input type="checkbox"/>	55 Ω	<input checked="" type="checkbox"/>	50 Ω	<input type="checkbox"/>	45 Ω

## 10-Layers Board Special Traces

Wildcat2    10-1.6- 1    Trace width/Space ( mils )

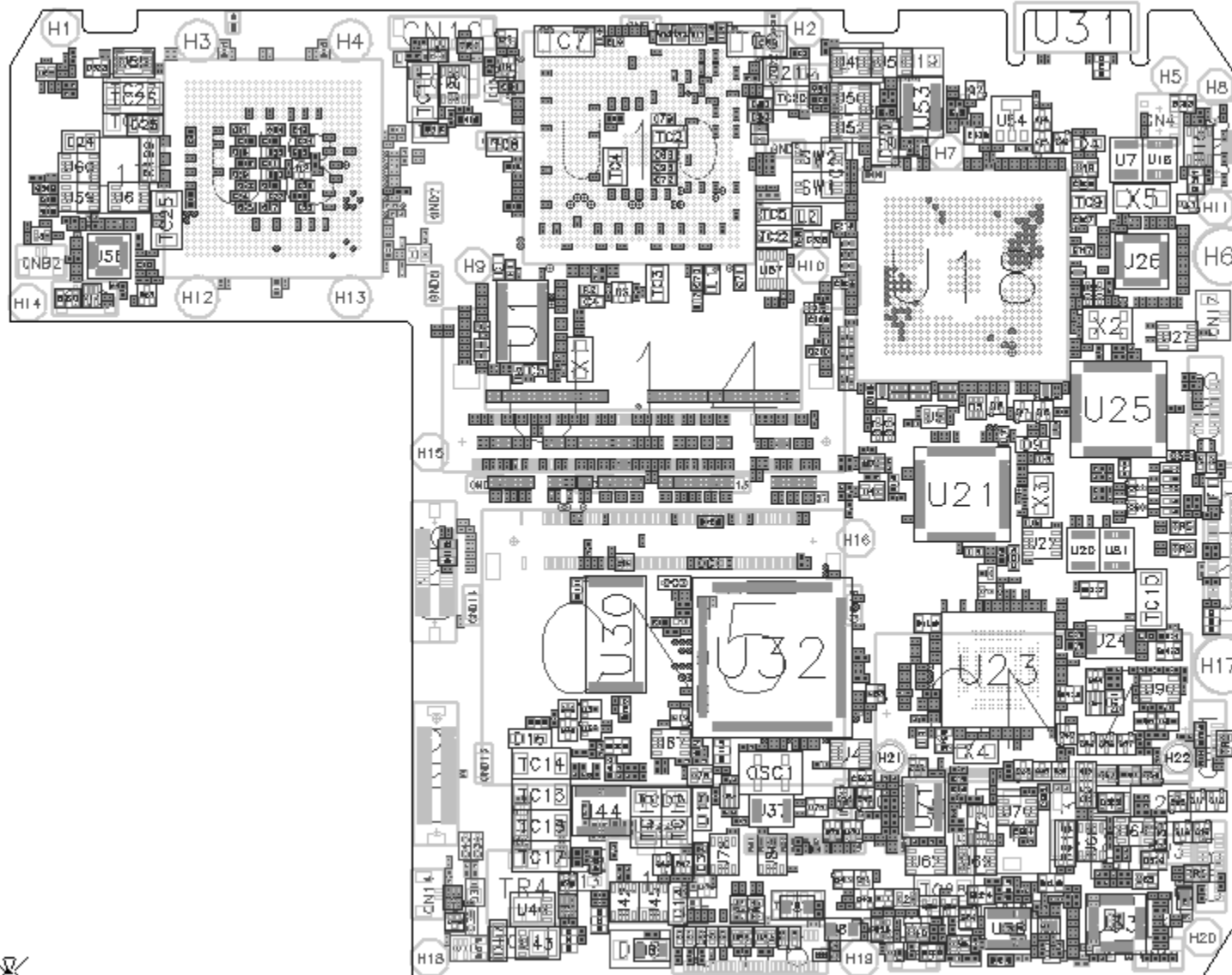
Layer Signal	L1	L3	L5	L8	L10	Remark (Spec.)
Host_CLK	5/8=99.2?	4/9=99.6?	4/9=99.6?	4/9=99.6?	5/8=99.2?	100?
LVDS	5/8=99.2?	4/9=99.6?	4/9=99.6?	4/9=99.6?	5/8=99.2?	100?
LAN	5/8=99.2?	4/9=99.6?	4/9=99.6?	4/9=99.6?	5/8=99.2?	100?
USB	5/5=91.2?	5/8=90.9?	5/8=90.9?	5/8=90.9?	5/5=91.2?	90?
1394	4/8=109.2?	X	X	X	4/8=109.2?	110?
DDR_CLK	8/4=70.9?	7/5=71.8?	7/5=71.8?	7/5=71.8?	8/4=70.9?	70?
CRT/TV	10/20=36.5?	8/18=38.2?	8/18=38.2?	8/18=38.2?	10/20=36.5?	37.5?

**\*Note: 1. Default high-speed signals to L3 ? L8 ? L5.**

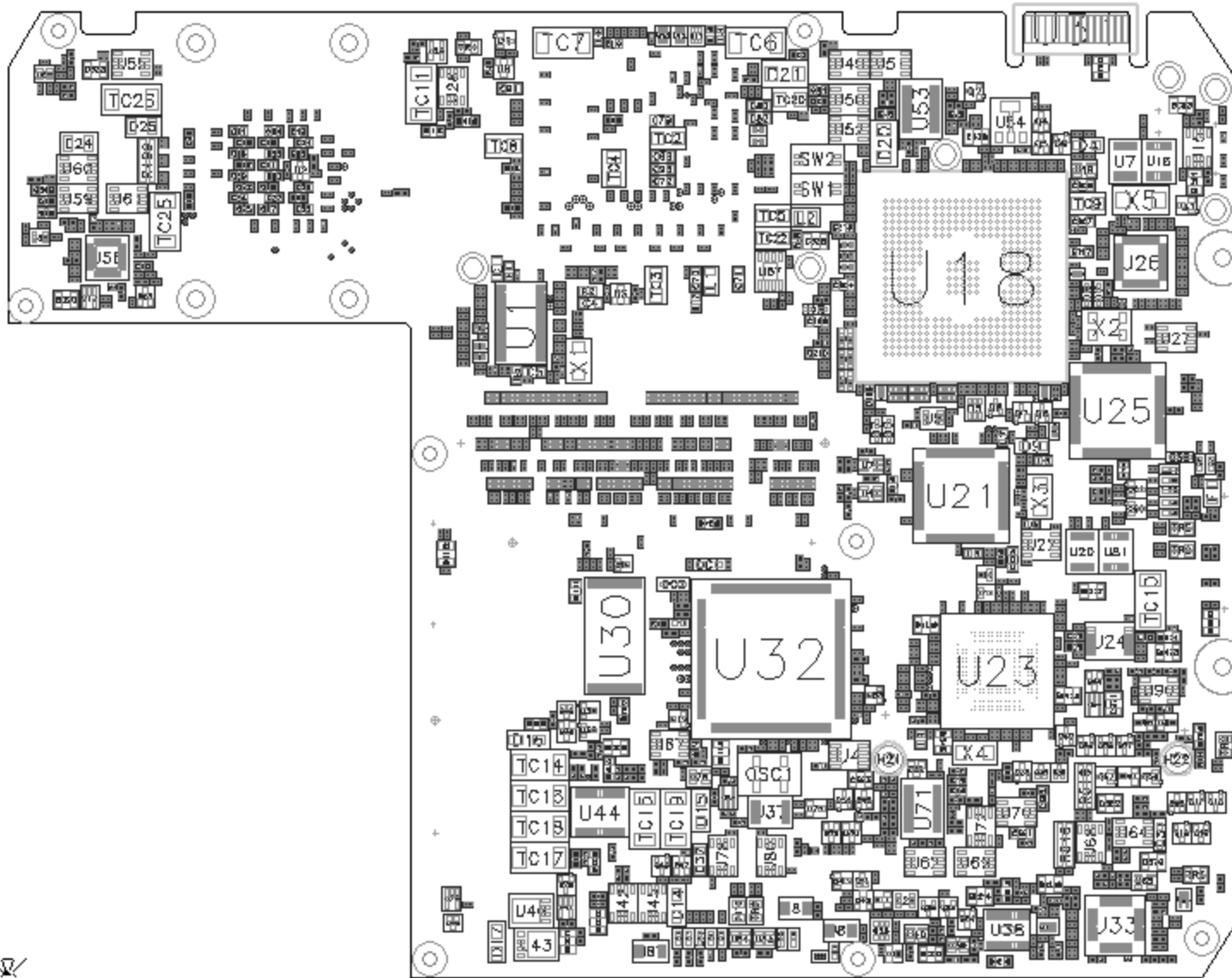
**2. VCC plane (L6) should be adjacent GND plane (L7) for EMI concern.**

**It will be lower power impedance between VCC & GND.**

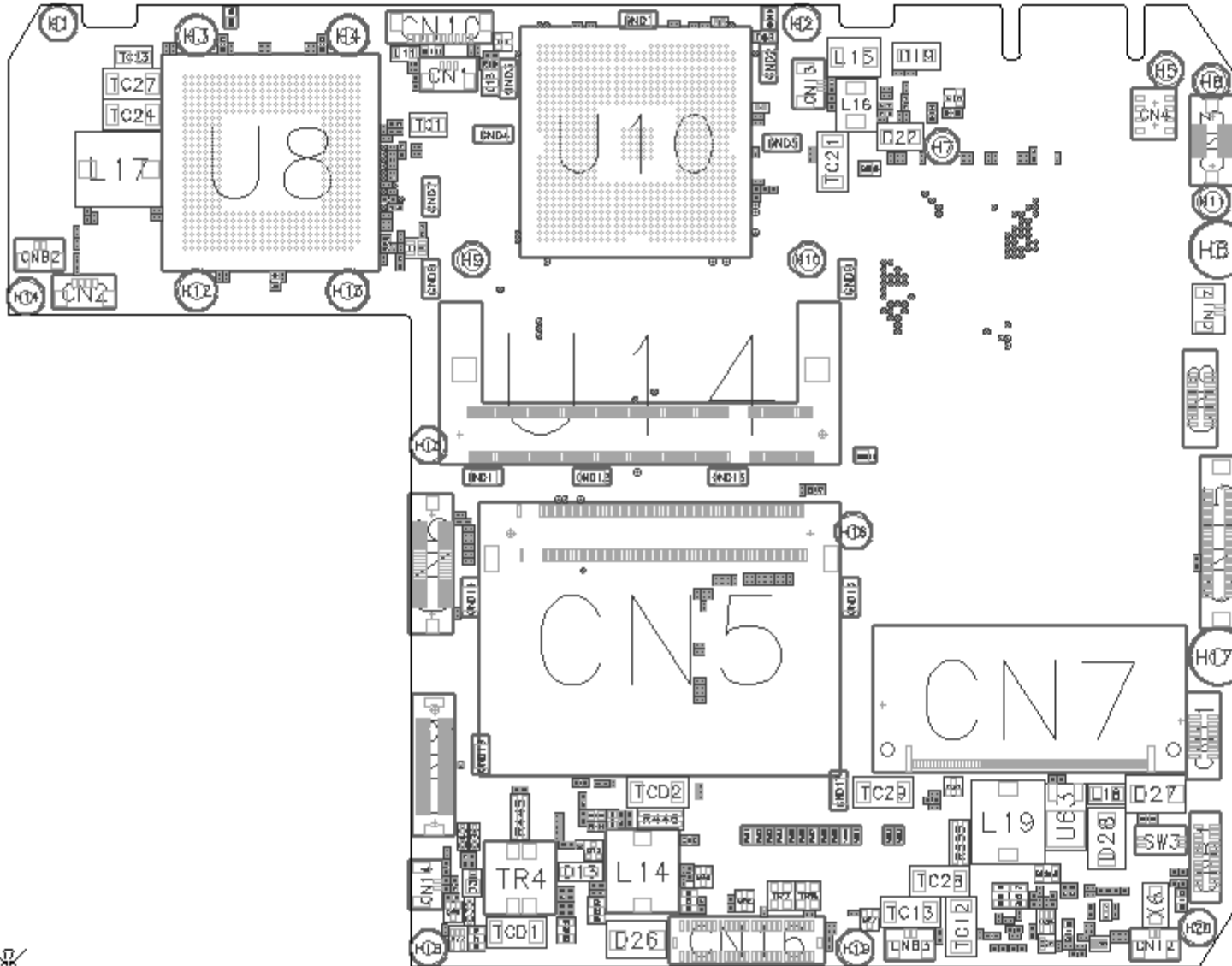
# Placement



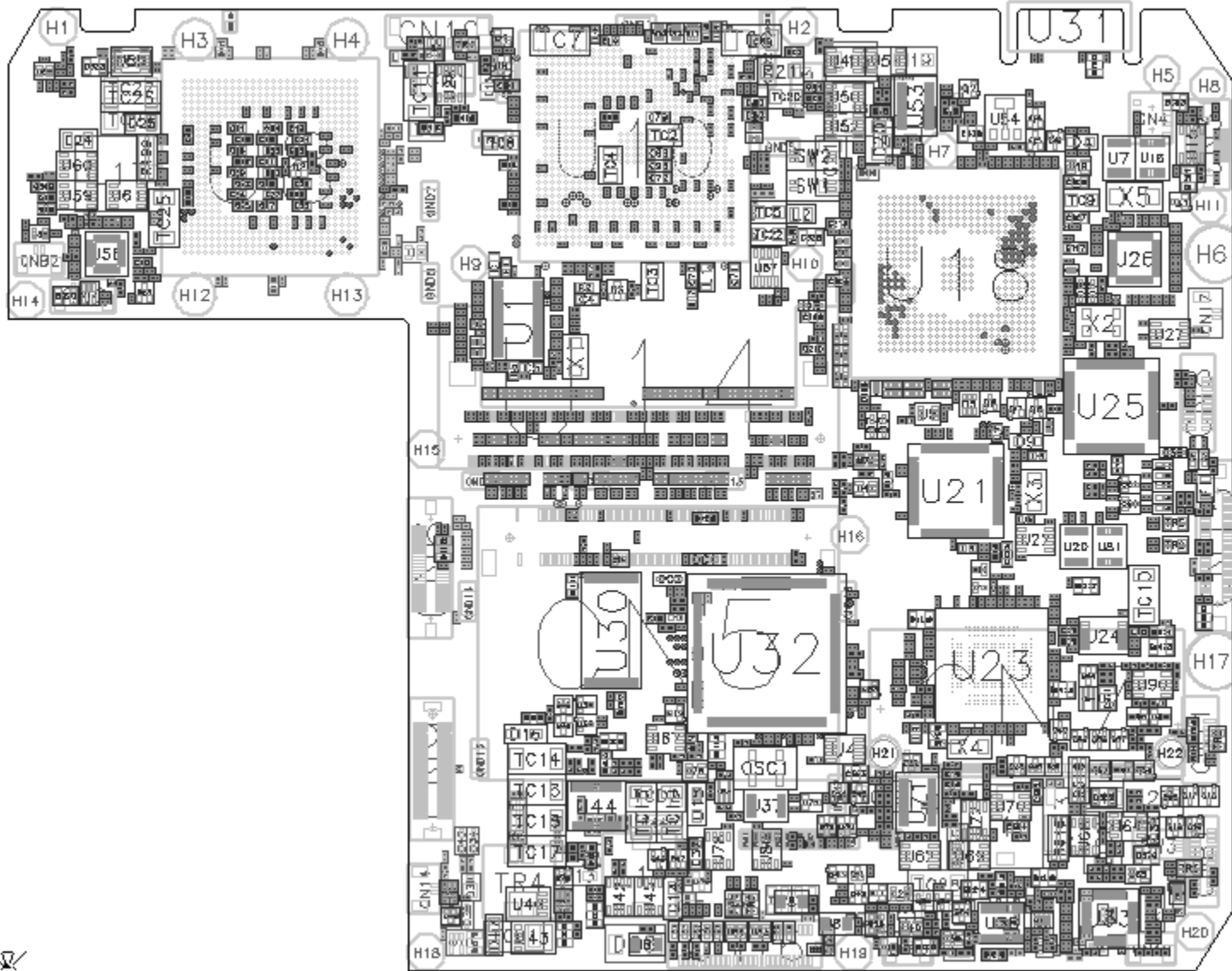
# Top Placement



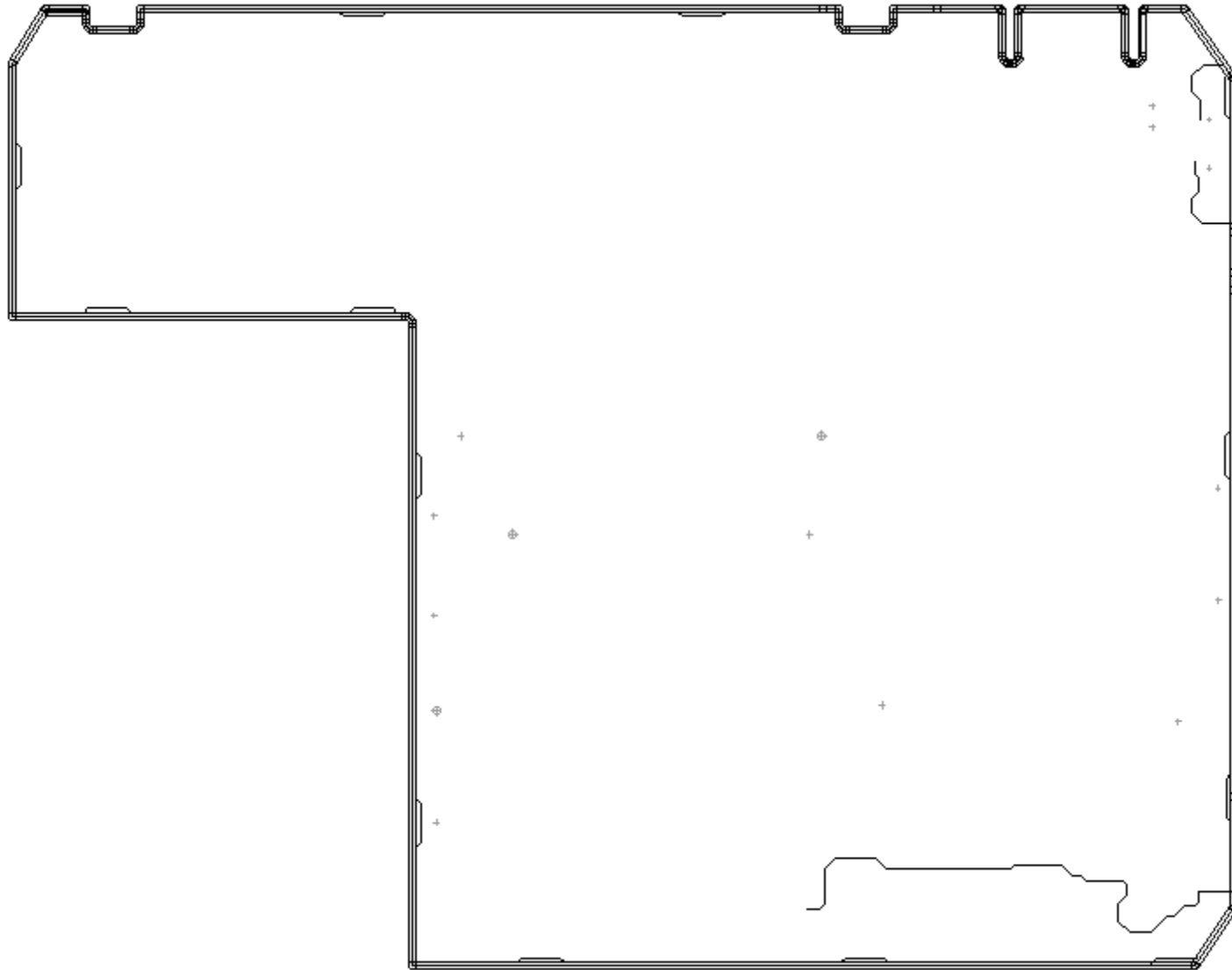
# Bottom Placement



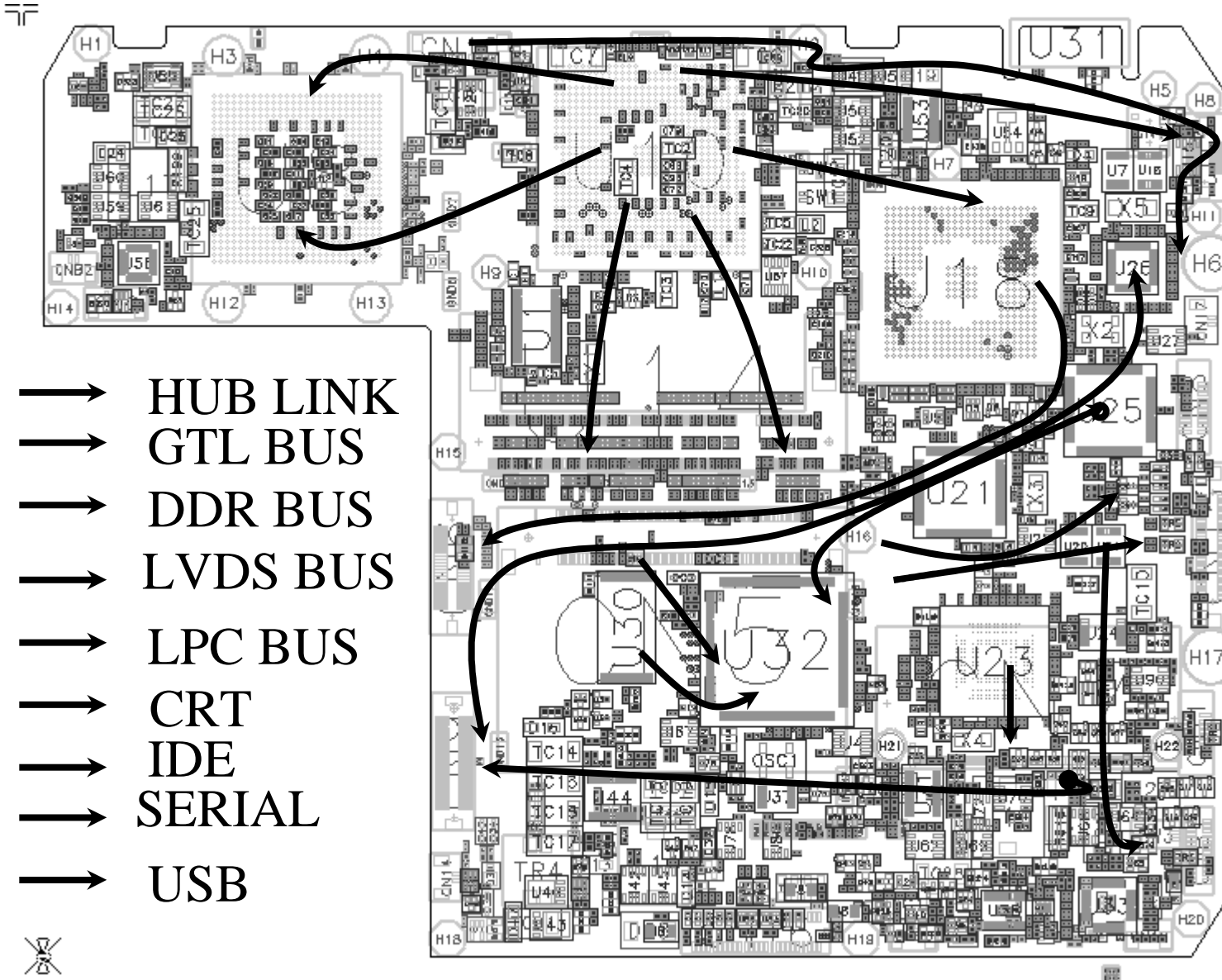
# L1



# L2GND



# L3

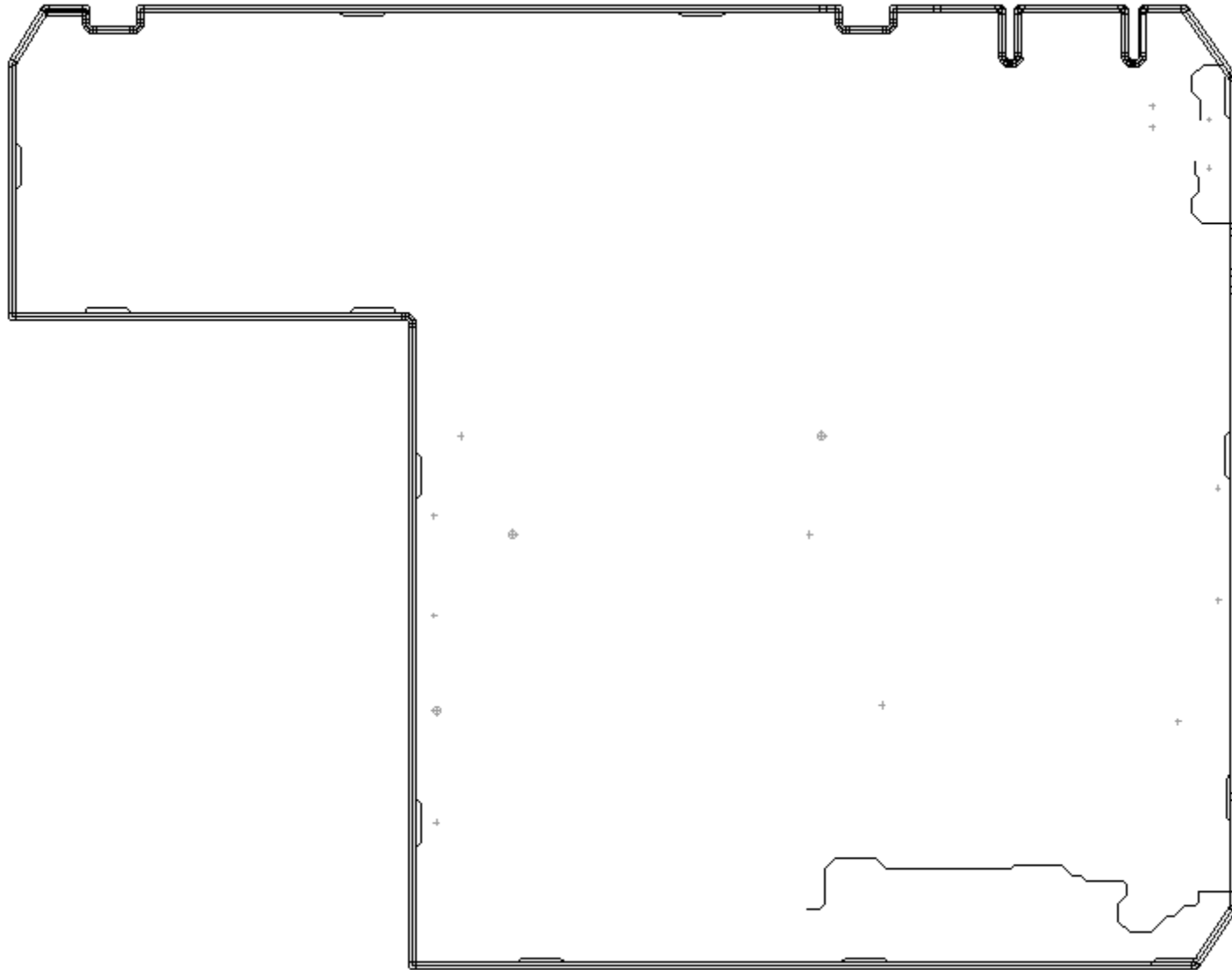


- HUB LINK
- GTL BUS
- DDR BUS
- LVDS BUS
- LPC BUS
- CRT
- IDE
- SERIAL
- USB

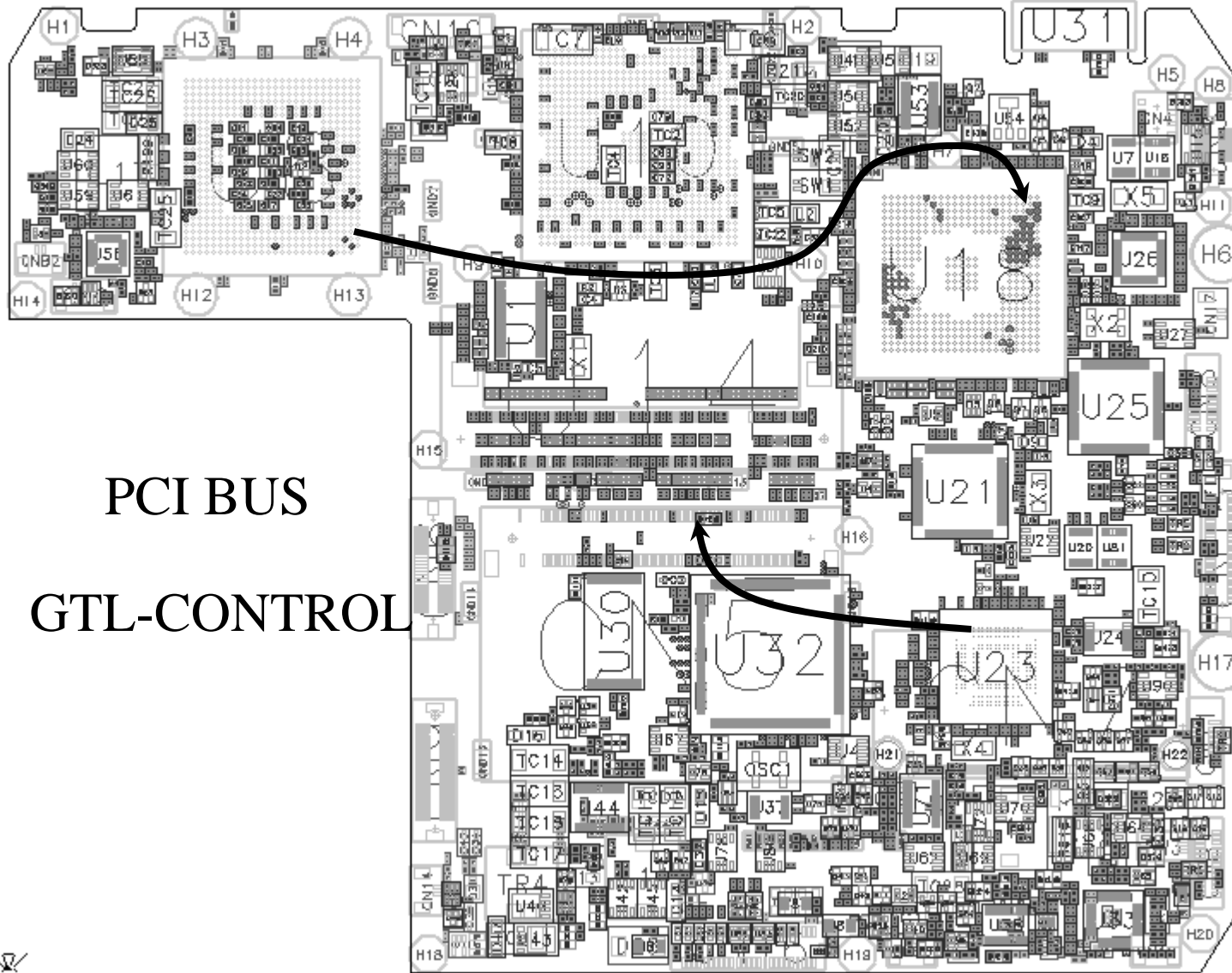




# L4GND



# L5

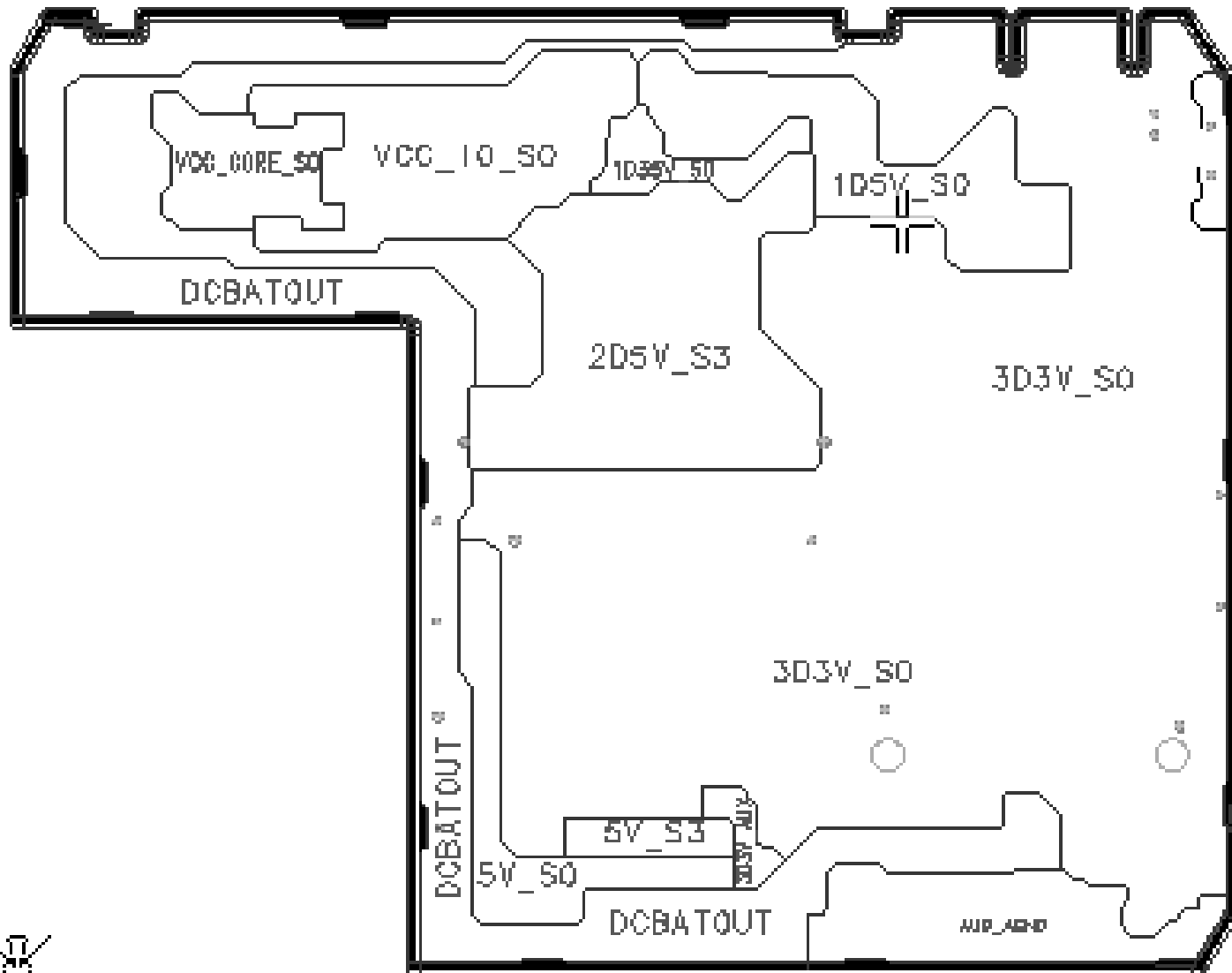


PCI BUS

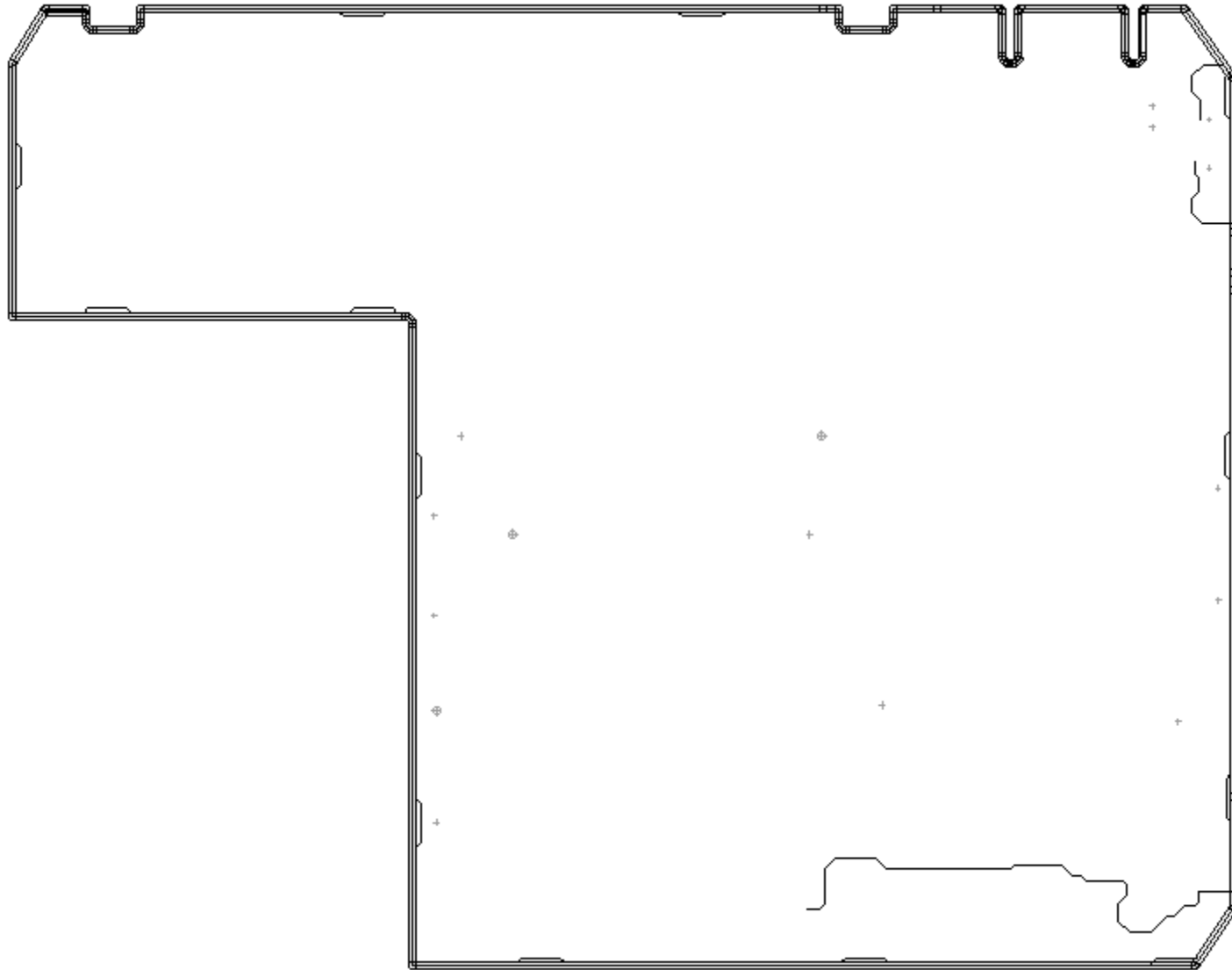
GTL-CONTROL



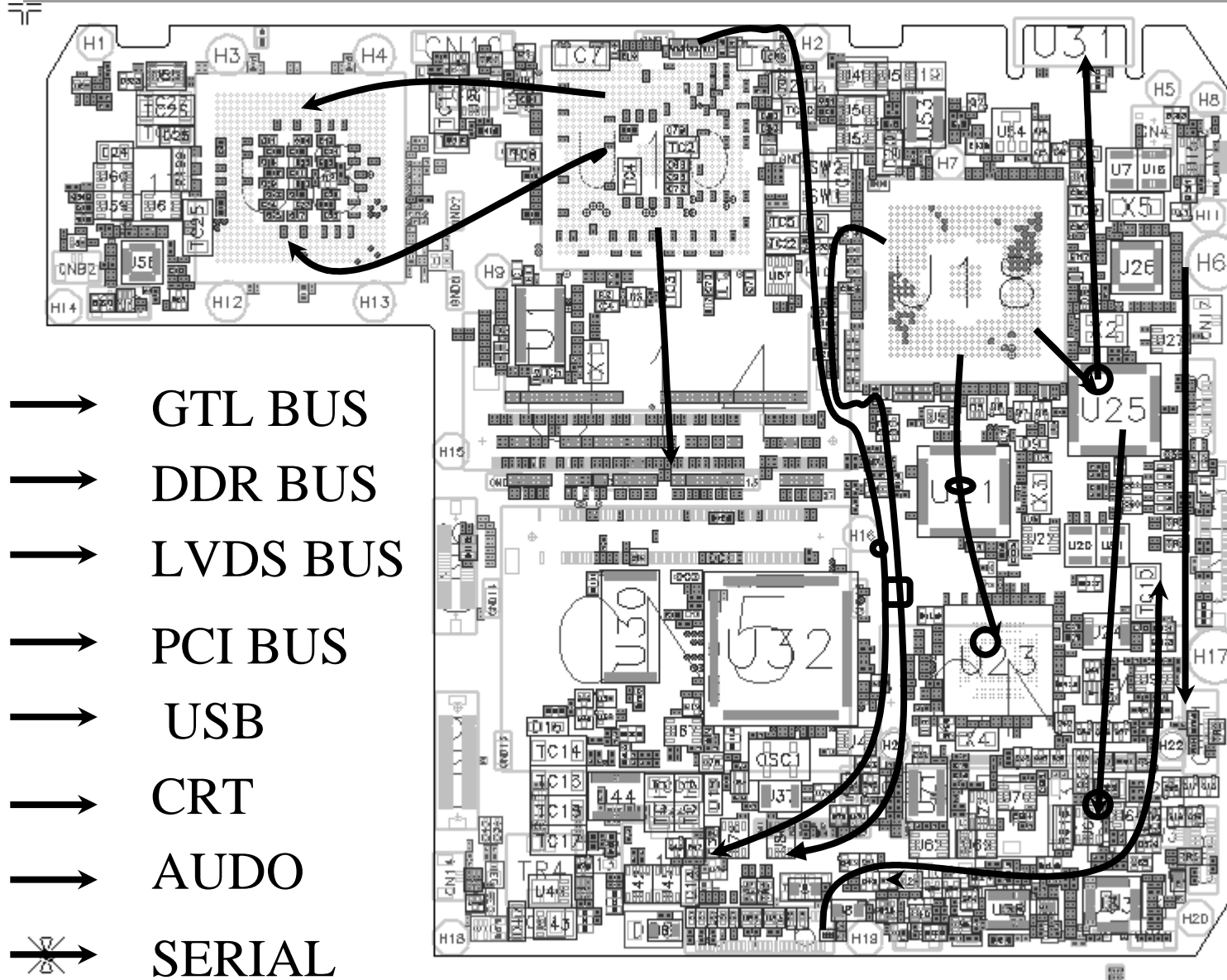
# L6VCC



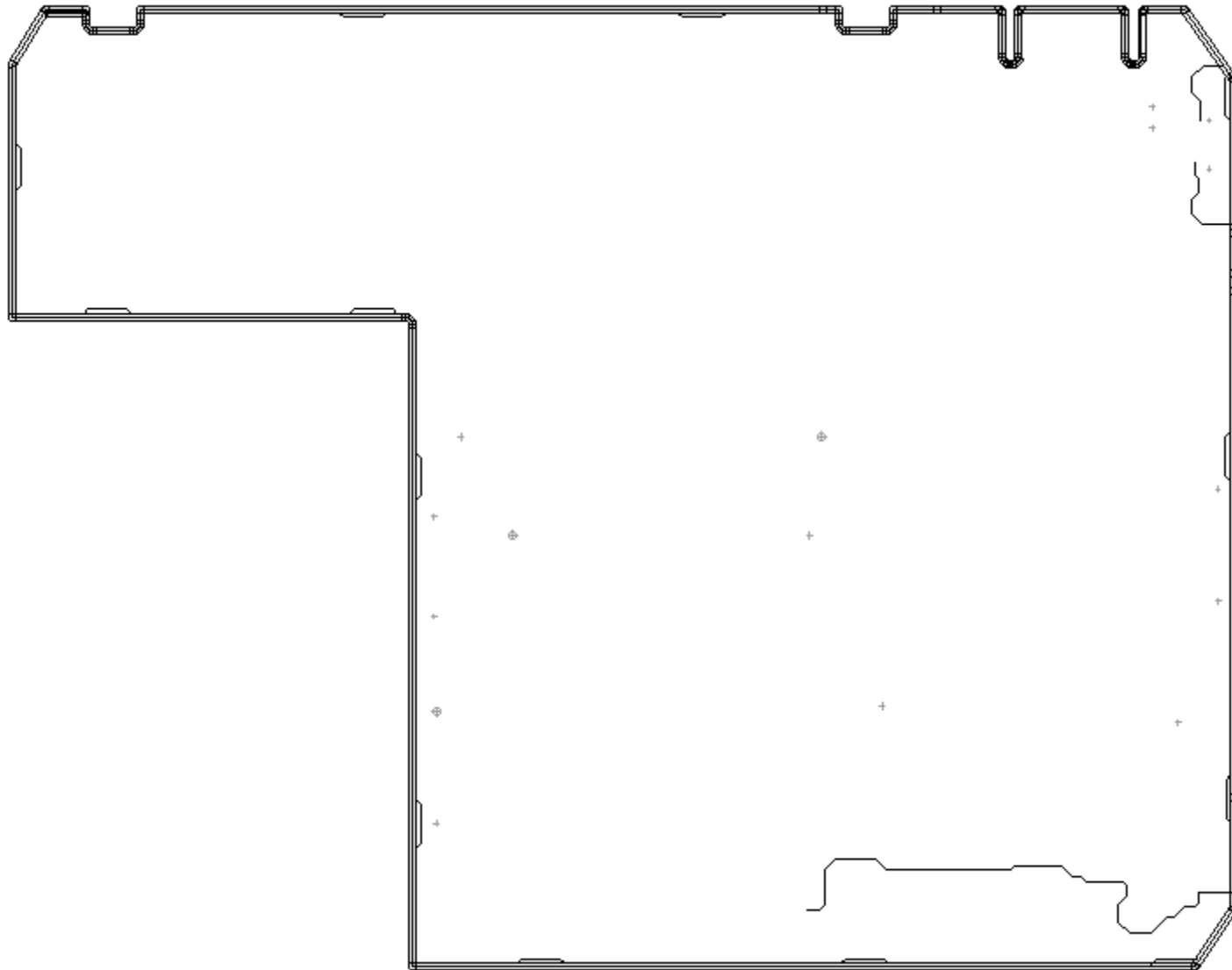
# L7GND



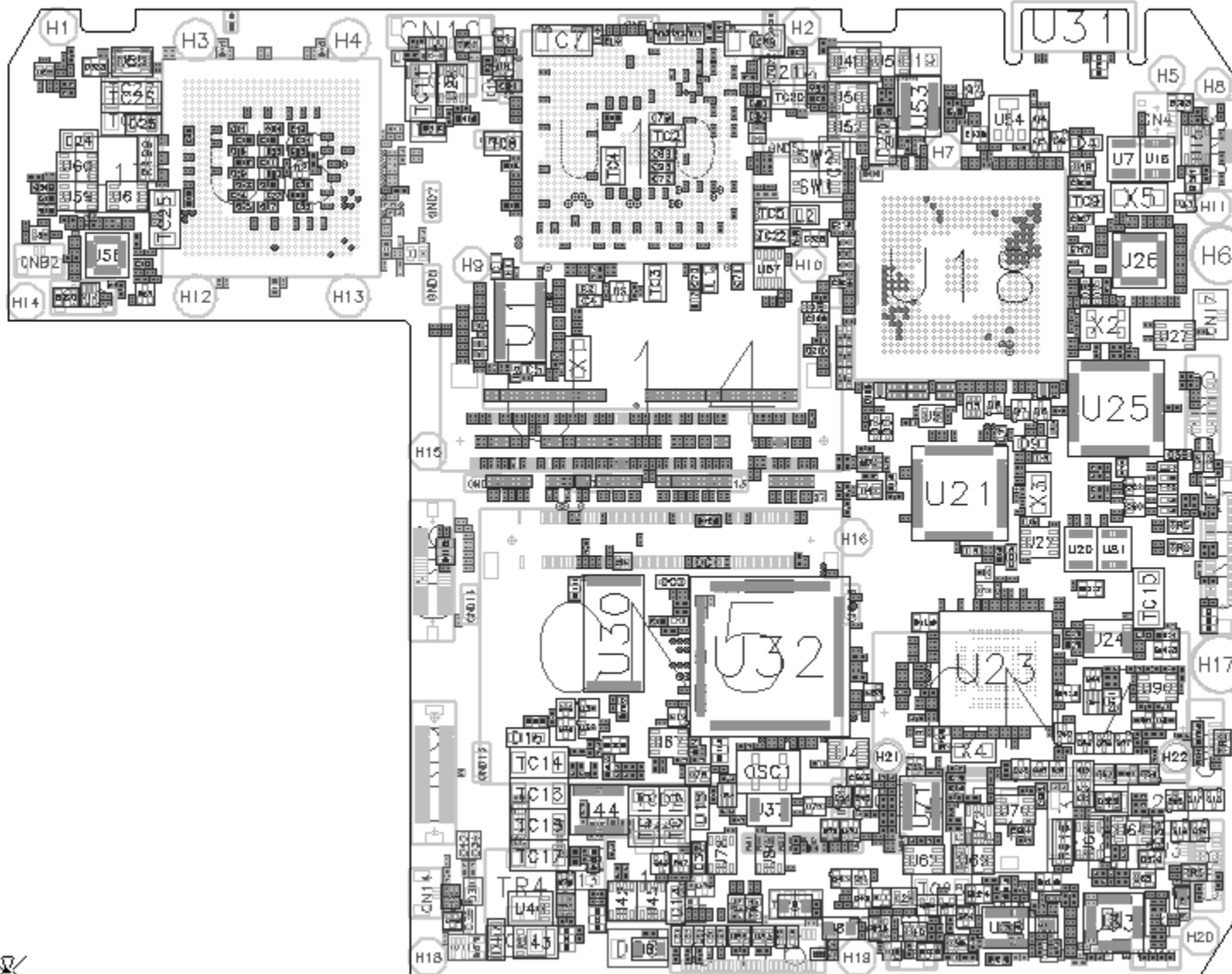
# L8



# L9GND

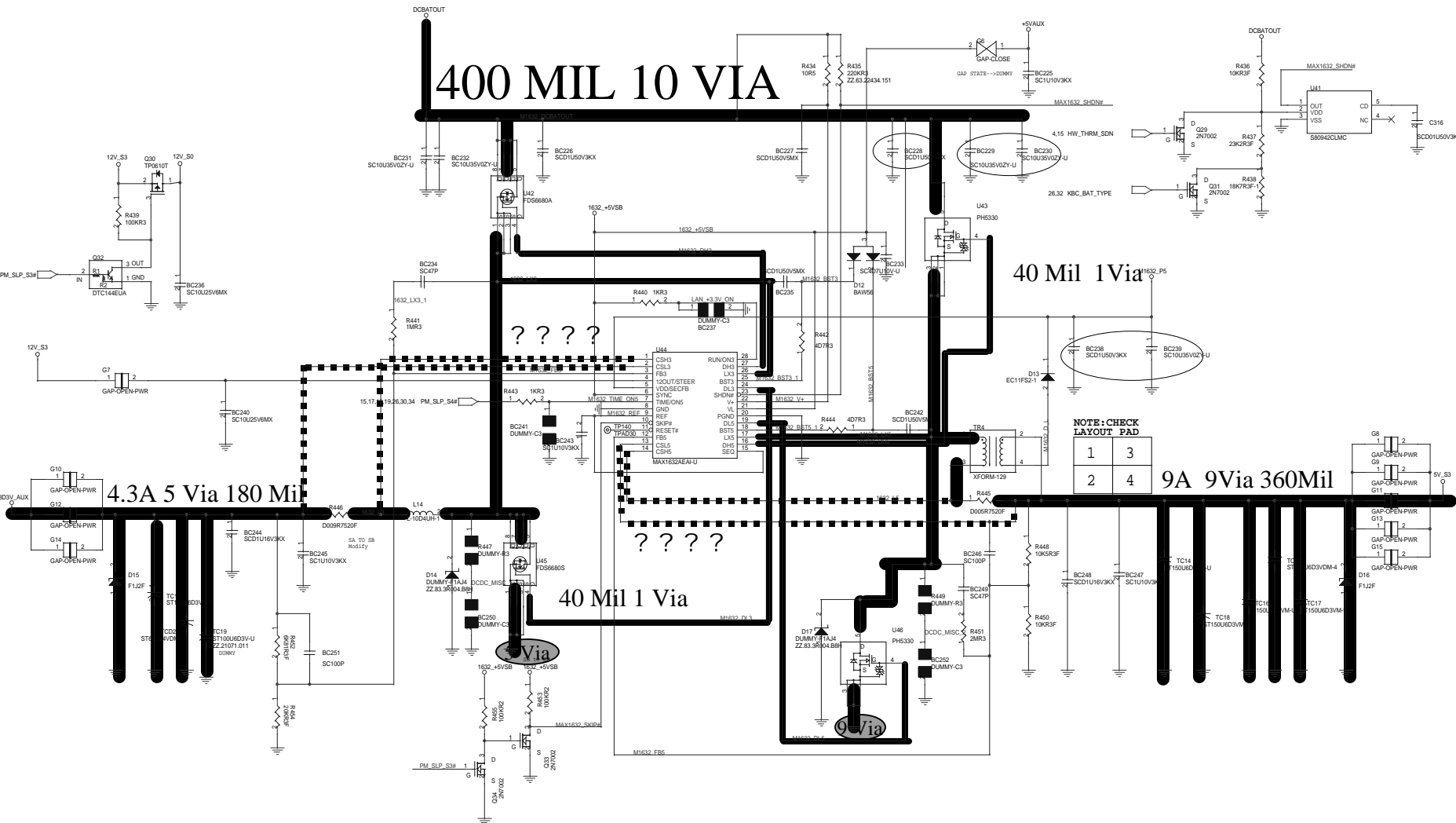


# L10



ESC_BAT_TYP	Battery_Type	ES4_Voltage
High	7.4V LiIon	6V
Low	2e9p_LiIon	5.2V

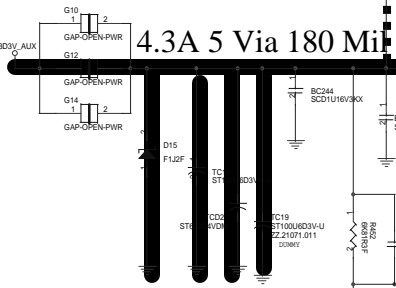
# 400 MIL 10 VIA



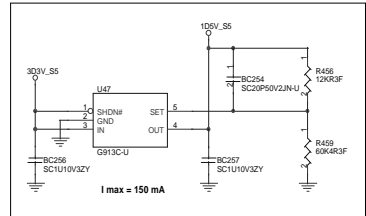
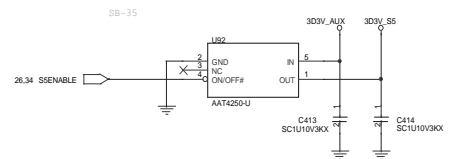
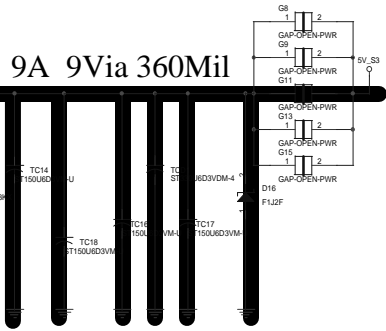
NOTE: CHECK LAYOUT PAD

1	3
2	4

## 4.3A 5 Via 180 Mil

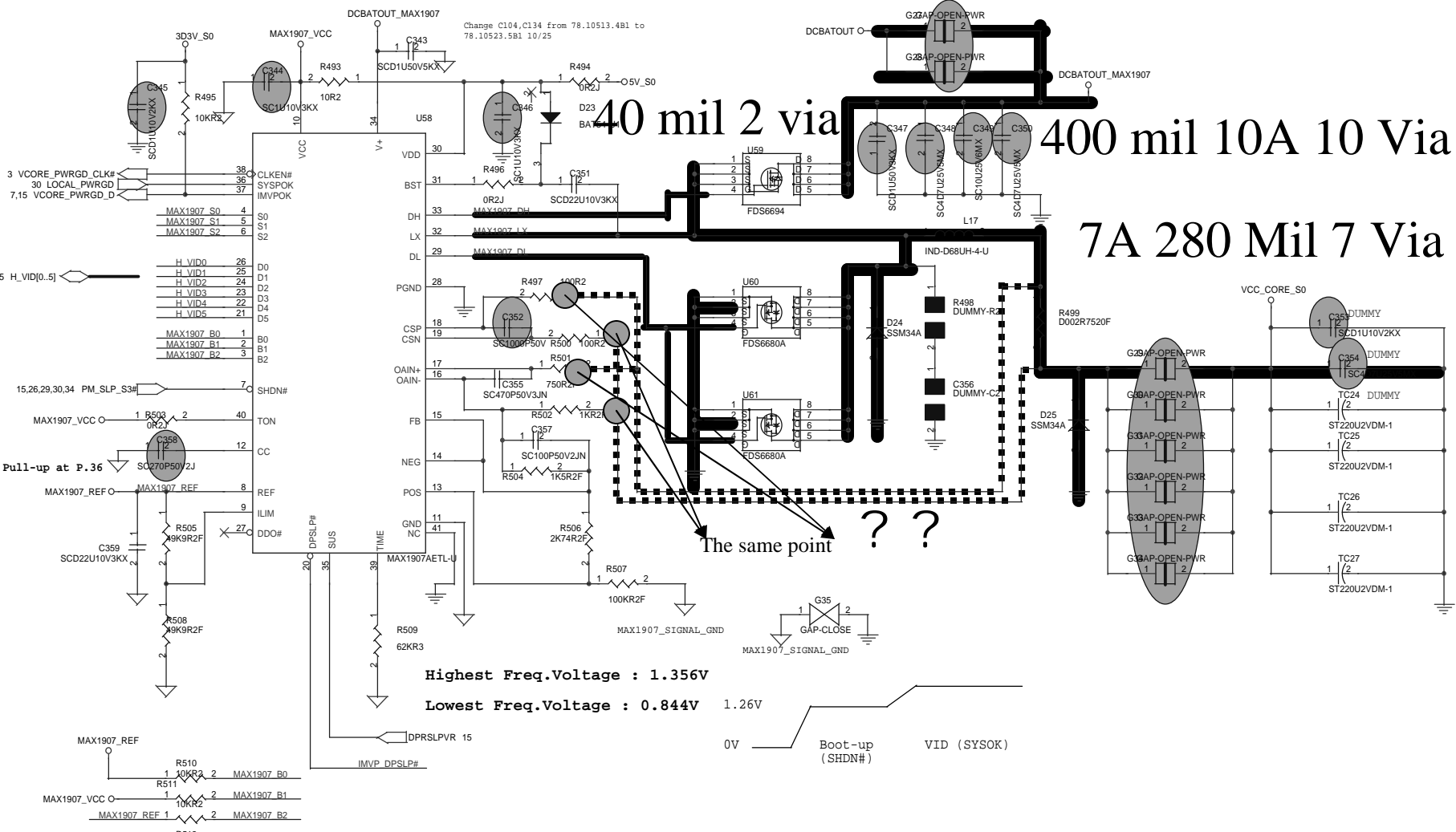


## 9A 9Via 360Mil



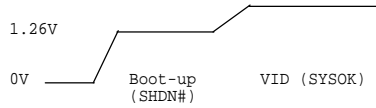




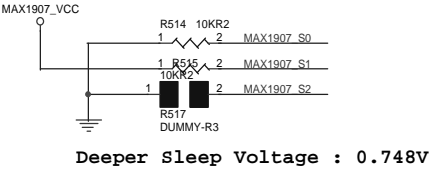


Highest Freq.Voltage : 1.356V

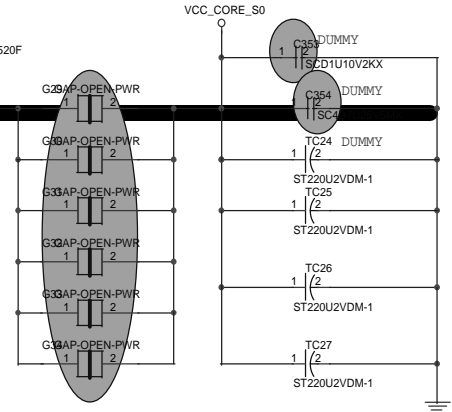
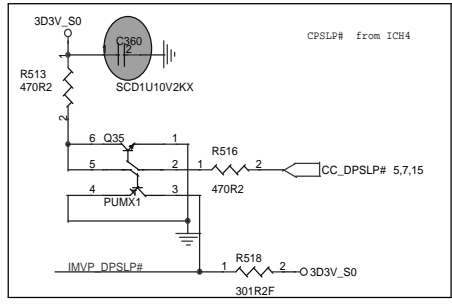
Lowest Freq.Voltage : 0.844V



Boot-up Voltage : 1.26V



Deeper Sleep Voltage : 0.748V

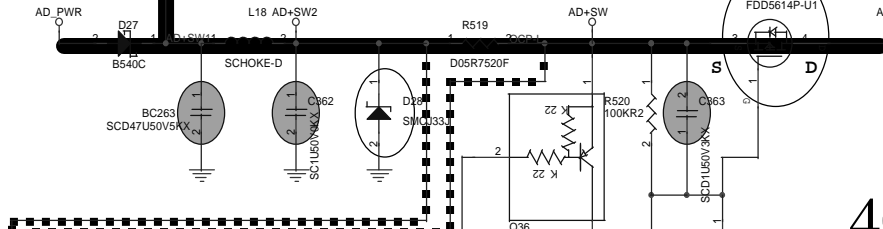


**DOCKING POWER**

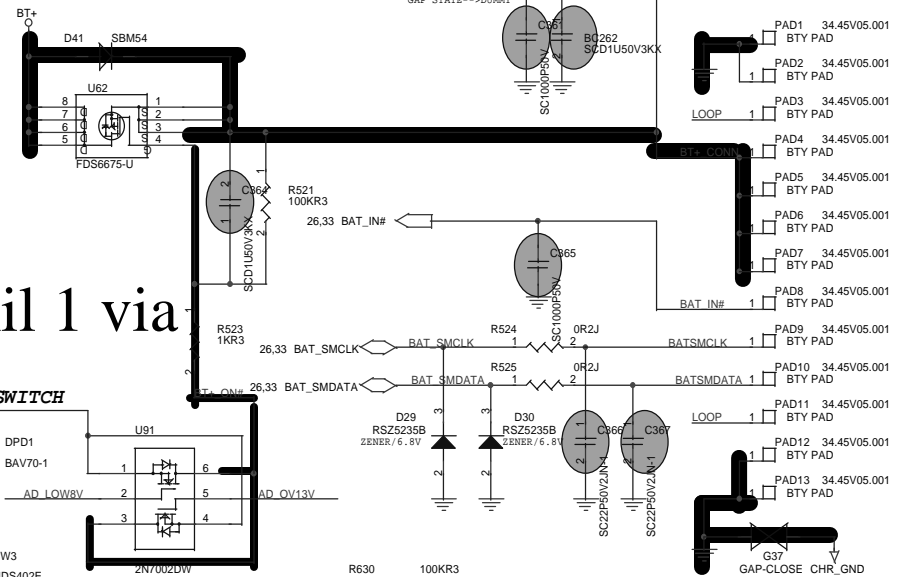


# 400 Mil 10A 10 Via

**ADAPTOR POWER**



# 40 mil 1 via



**MACHANICAL SWITCH**

	Disable	Enable
BOOTBLOCK(1-4)	OFF	ON
POWER SW(2-3)	OFF	ON

**NEAR BATTERY CONNECTOR**

Adaptor Voltage	BATTERY TYPE	BAT Vrange	BT+ ON#	CHARGE OFF#
>12.6V	3S3P	7.8V-12.6V	LOW	LOW
8-12.6V	3S3P	7.8V-12.6V	HIGH	HIGH
<8V	3S3P	7.8V-12.6V	LOW	HIGH
>12.6V	2S3P	5.2V-8.2V	LOW	LOW
8-12.6V	2S3P	5.2V-8.2V	LOW	LOW
<8V	2S3P	5.2V-8.2V	LOW	HIGH
Battery only	2S3P/3S3P		LOW	BT+_IN#
Adaptor only	2S3P/3S3P			BY BAT_IN#

?????

**OVP/LVP**  
OVP=26.40V  
LVP=9V

**OCV**  
OCV=3.85A

**H/W LVP=8V**

**H/W OVP=27V**

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

**CHARGER(1/2)**

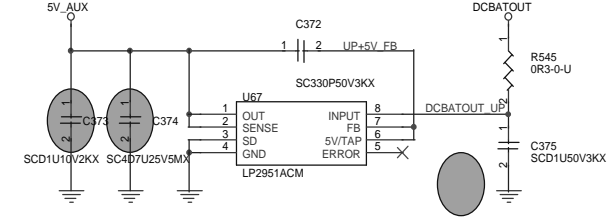
Size A3	Document Number	Rev SA
Xplore Wildcat II		
Date: Monday, February 09, 2004	Sheet 32	of 38

$$I_{max} = V_{cl}/(20 * R_{sense})$$

$$= V_{ref} * 124K / (75K + 124K) / (20 * R_{sense})$$

$$= 4.096V * 0.623 / (20 * 0.04)$$

$$= 3.2A$$

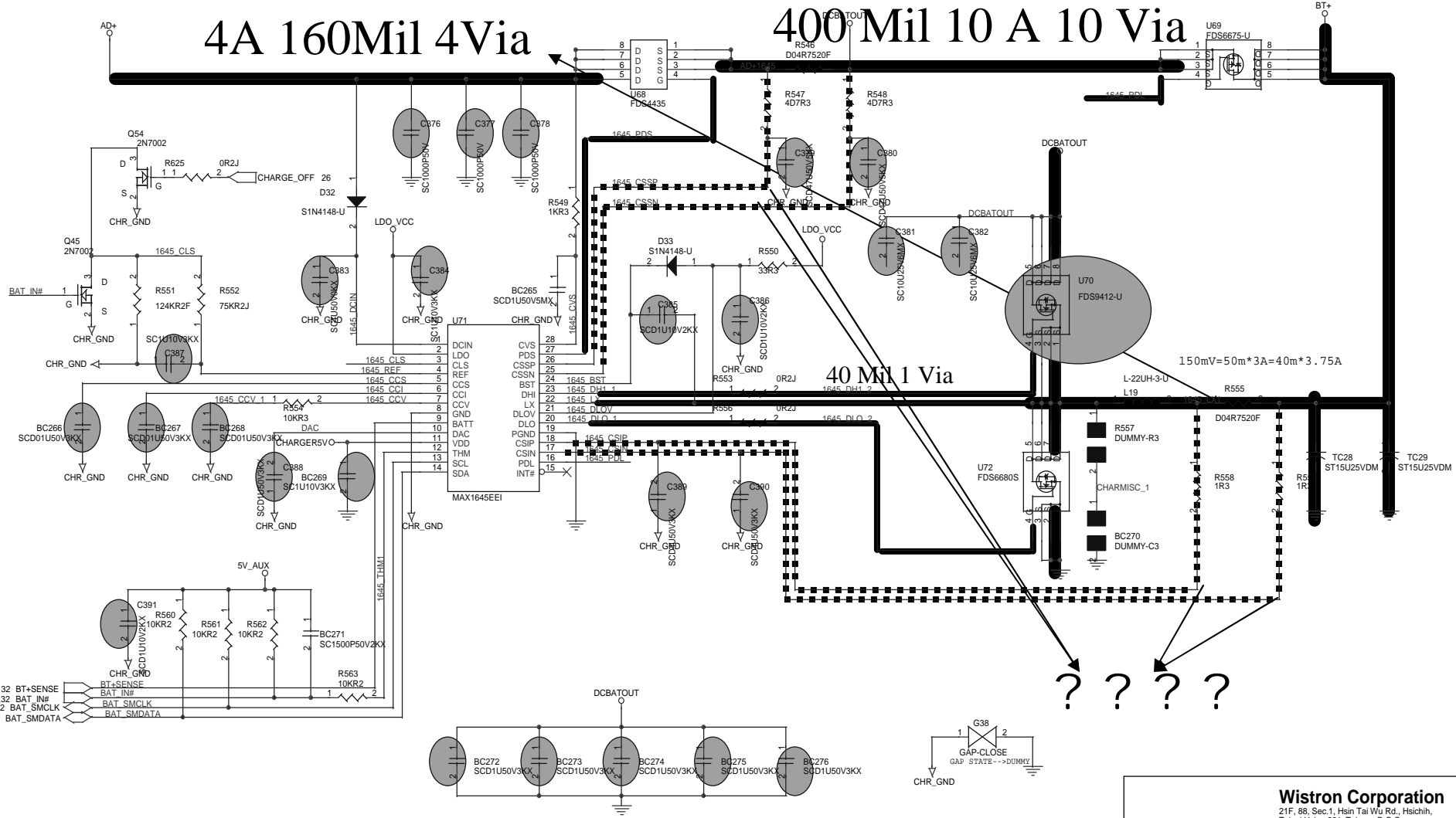


4A 160Mil 4Via

400 Mil 10 A 10 Via

40 Mil 1 Via

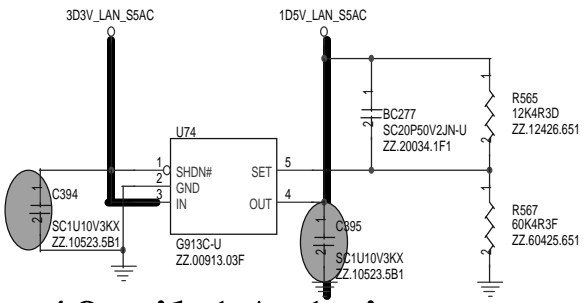
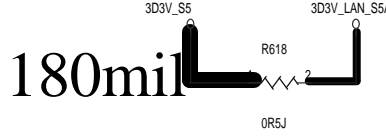
150mV=50m\*3A=40m\*3.75A



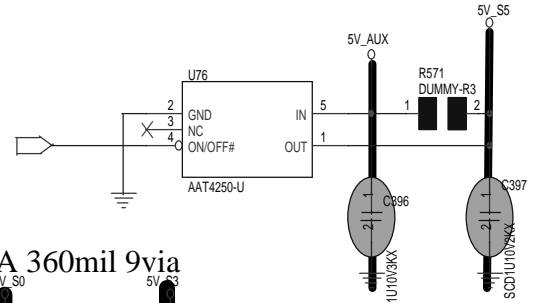
????

<b>Wistron Corporation</b>			
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.			
Title	CHARGER(2/2)		
Size	Document Number	Xplore Wildcat II	
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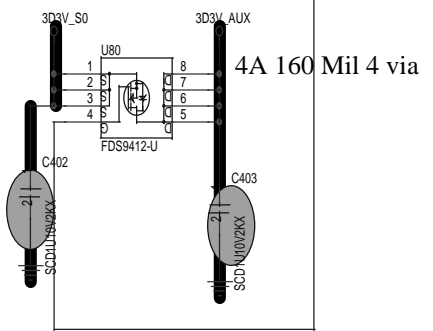
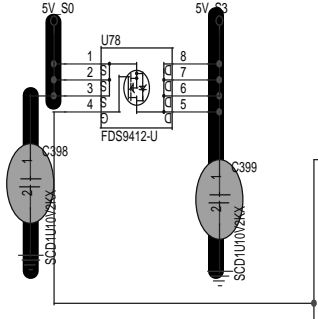
EMI



40mil 1A 1via

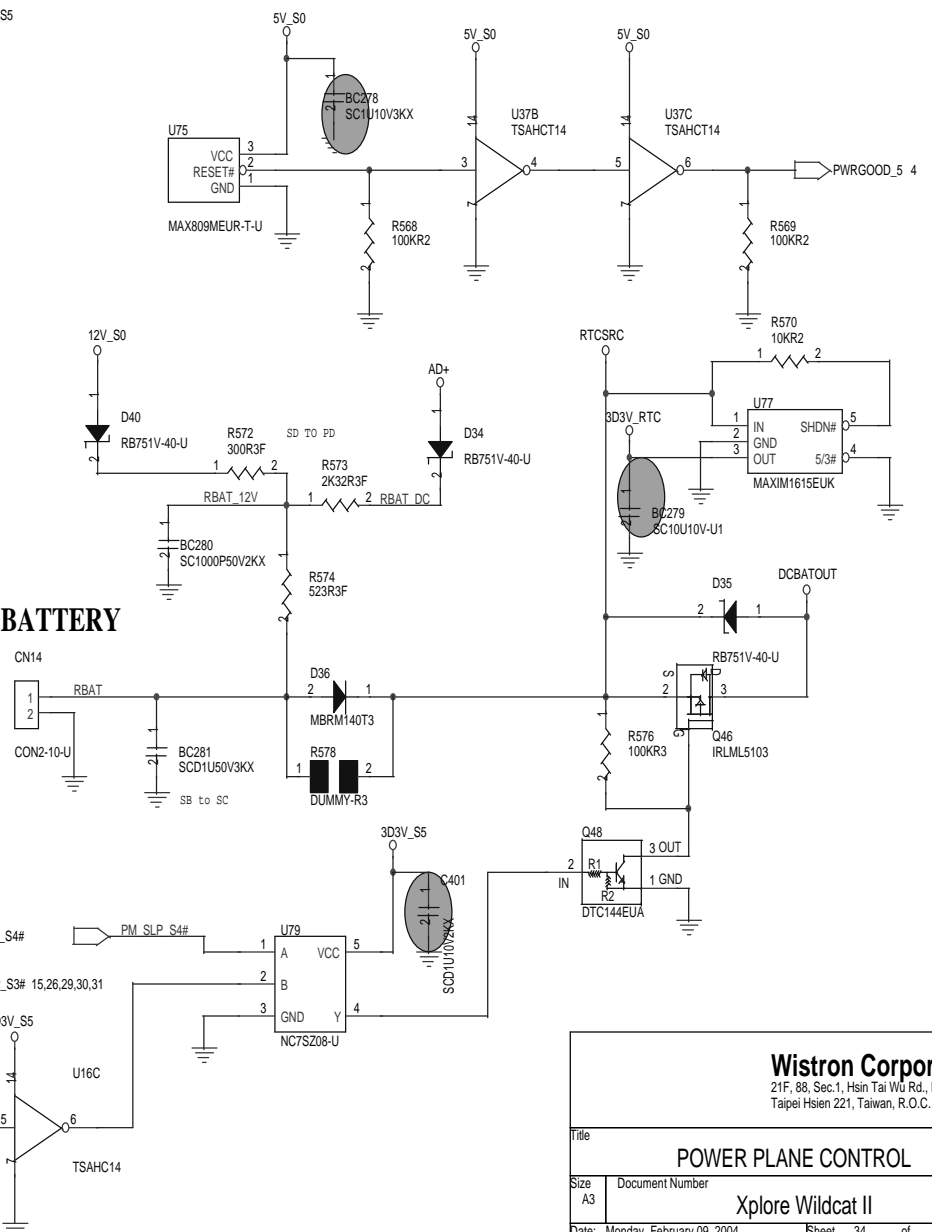


9A 360mil 9via



4A 160 Mil 4 via

BRIDGE BATTERY



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

Title: **POWER PLANE CONTROL**