

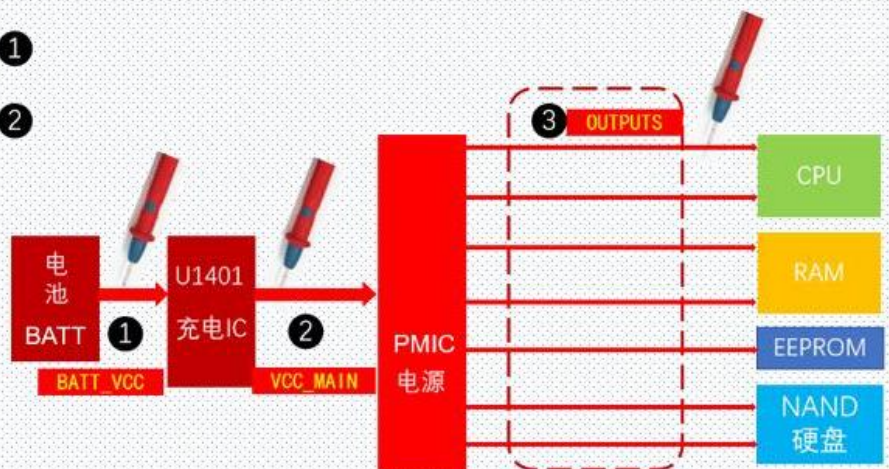


1, What's the functions of Shortkiller?

- 1) Shortkiller is a good tool for detecting all kinds of shortcircuit
- 2) It can detect shortcircuits in seconds
- 3) It can be used to detect shortcircuit on any cellphone and laptop

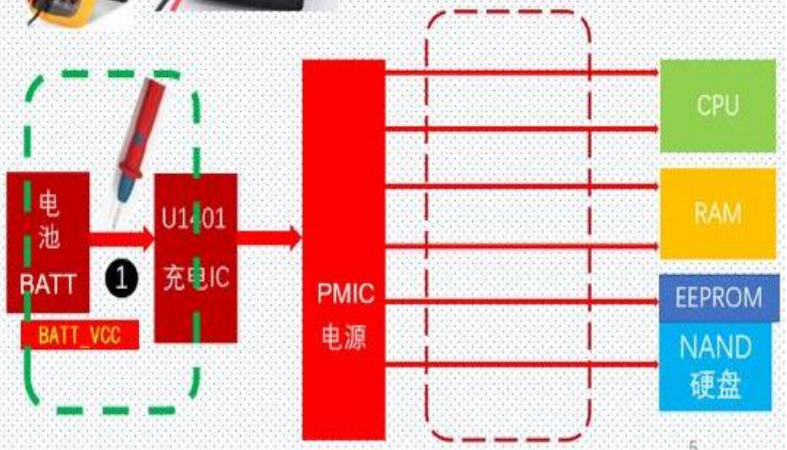
2, What kinds of short can be detected?

- 1) Batt_Vcc short ①
- 2) Vcc_main short ②
- 3) Output short ③



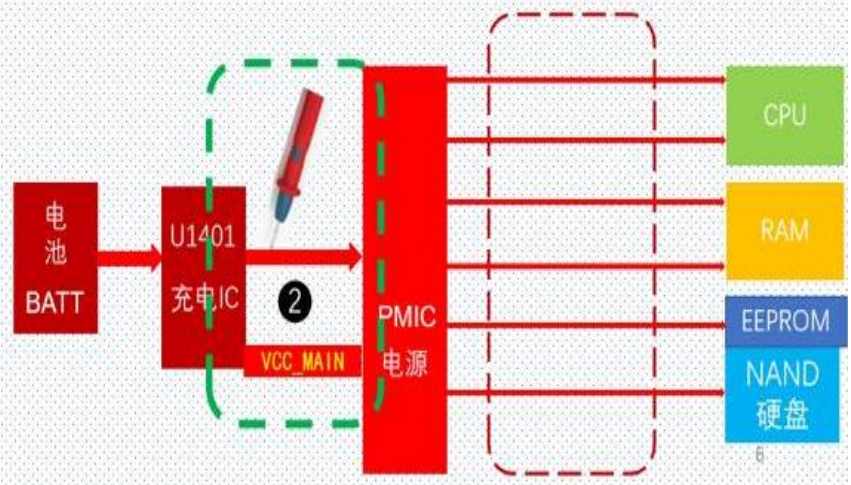
1)How to check Batt_Vcc short?

- **Step1:**Multimeter set diode mode,check Vcc_main short or not.
- **Step2:**Put resin smoke on pcb
- **Step3:**Set shortkiller voltage 1.5-2.0V,max=Batt_Vcc (Less than Batt_Vcc is safe voltage)
- **Step4:**Shortkiller negative connect to pcb,then shortkiller positive click Batt_Vcc,where the resin melts,it is short piont.



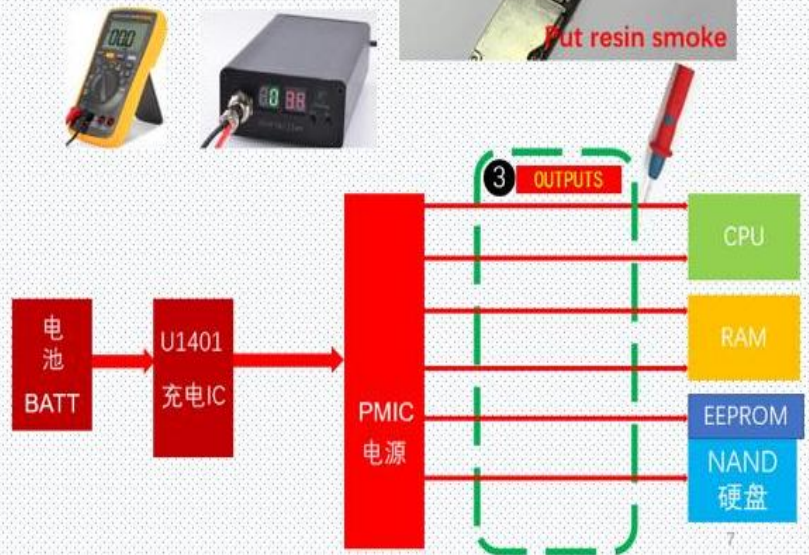
2)How to check Vcc_main short?

- **Step1:**Multimeter set diode mode,check Batt_Vcc short or not.
- **Step2:**Put resin smoke on pcb
- **Step3:**Set shortkiller voltage 1.5-2.0V,max=Vcc_main(Less than Vcc_main is safe voltage)
- **Step4:**Shortkiller negative connect to pcb,then shortkiller positive click Vcc_main,where the resin melts,it is short piont.



2)How to check output short?

- **Step1:**Multimeter set diode mode,check PMIC all outputs to make sure which line short.
- **Step2:**Put **resin smoke** on pcb
- **Step3:**Set shortkiller voltage less than output voltage,max=output voltage(Less than output is safe voltage)
- **Step4:**Shortkiller negative connect to pcb,then shortkiller positive **click output test point**,where the **resin melts**,it is short piont.
- **Note:**Output short will cause PMIC hot,but change PMIC no use.



3,Why Shortkiller is better than Thermal camera?

- 1)Thermal camera detect short by find heating,so if no heating,thermal camera can not detect
- 2)Two kinds of short will make no heating:lines short or BGA balls short.These two kinds of short make no heating,so thermal camera can do nothing on these two kinds of short.
- 3)But Shortkiller can detect these two kinds of short in seconds,because it will give big current on it. The big current can directly burn the short lines or make short balls hot,the short point will show in seconds.**This is really amazing!**
- 4)Price: Shortkiller price is only **1/10** of thermal camera,save big money but more functions.

4, Why shortkiller is safe with proper way?



- 1) What is the proper way to use shortkiller:
If the shortkiller voltage is less than normal voltage, it will be safe.
- 2) What is normal voltage:
For example, Batt_Vcc short or Vcc_main short, the normal voltage is 3.6-4.2V, shortkiller voltage must be less than 4.2V;
For example, if output normal voltage is 2V, shortkiller voltage must be less than 2V; if output normal voltage is 1V, shortkiller voltage must be less than 1V, and so on.

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Note: the machine must not be connected to the motherboard for more than 2 minutes, because the breakdown of the mobile phone motherboard cannot exceed 2 minutes. heat will be generated during use. if the breakdown exceeds 2 minutes, the heat will exceed the range of the motherboard and the machine. please note when using, we will not compensate for the loss caused by using for more than 2 minutes!!!!!!!!!!!!!!!!!!!!