

Generic Circuit Board Rubric

通用电路板评分细则

Level	TASK DESCRIPTION	Score
5	<p>A circuit board at this level largely accomplishes all of the following:</p> <ul style="list-style-type: none"> • The circuit board works properly and performs all of the desired functions; • Customizations and improvements have been made to the initial circuits design (i.e the circuit board could have been miniaturized or improved functionality added, etc.), or a more complicated circuit has been attempted; • All of the components are logically laid out and all of the wires are accurately measured and placed on the circuit board where necessary; • The back of the circuit board is neat and is smooth to the touch (i.e. there are no sharp protrusions) and all the soldering points have been soldered and wire leads have been trimmed flush to the circuit board. 	
4	<p>A circuit board at this level largely accomplishes all of the following:</p> <ul style="list-style-type: none"> • The circuit board may not work properly but there are no visual indicators as to why it's not working as intended (i.e. the circuit may not work due to a defective component being used or being inadvertently damaged); • The initial circuit design has been completed to a high standard based on the provided schematics and/or basic customizations have been attempted; • All of the components are laid out logically on the circuit board and most of the wires are accurately measured and placed on the board where necessary; • The back of the circuit board is neat but may not be perfectly smooth to the touch (i.e. there may be some sharp wire leads left after trimming), but all of the soldering points have been soldered and trimmed. 	
3	<p>A circuit board at this level is marked by one or more of the following:</p> <ul style="list-style-type: none"> • The circuit board is unable to work as intended due to one or two minor design flaws that could be fixed easily with some additional effort; • The initial circuit design has been completed with several minor mistakes or ineffective customizations have been made (i.e. cutting corners to save time); • All of the components are laid out on the circuit board but wires may not be measured accurately and/or placed on the board where necessary; • The back of the circuit board is not smooth; some soldering points may have been missed, or there may be wire leads that could touch unintentionally. 	
2	<p>A circuit board at this level reveals the following weaknesses:</p> <ul style="list-style-type: none"> • The circuit board is unable to work as intended due to several design flaws; • The initial circuit design has been attempted with limited success; • The components may not be laid out logically on the circuit board, wires are not measured accurately or may not be placed on the board where needed; • The back of the circuit board is messy, soldering points have been missed, and/or there are wire leads or blobs of solder that result in short-circuits. 	
1	<p>A circuit board at this level is seriously flawed:</p> <ul style="list-style-type: none"> • The circuit board has an accumulation of errors that are beyond repair; • The initial circuit design has been attempted with very limited success; • The components have not been laid out properly, the wrong components have been used, there are a number of components completely missing and/or omitted, or wires are not measured and/or are missing completely; • The back of the circuit board is very messy, soldering points have been missed, and there are a large number of long and/or sharp wire leads. 	
0	<p>A circuit board at this level does not meet expectations:</p> <ul style="list-style-type: none"> • The circuit board has not been assembled and/or is far from being completed (i.e. there may be a few components loosely placed on the circuit board). 	
	Total Score:	/20

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级别	任务说明	分数
5	<p>此级别的电路板基本上完成以下所有任务：</p> <ul style="list-style-type: none"> • 电路板工作正常，执行所有所需的功能； • 对初始电路设计进行了定制和改进（如电路板缩小化或添加功能等），或尝试更复杂的电路； • 所有组件均按逻辑分布，所有电线均在必要时精确测量并放置在电路板上； • 电路板的背面整洁，触摸流畅（即没有尖锐的突起），所有焊接点都焊接过，电线导线修剪整齐。 	
4	<p>此级别的电路板基本上完成以下所有任务：</p> <ul style="list-style-type: none"> • 电路板可能不能正常工作，但无明显指标说明为什么它不能按预期工作（如电路可能由于使用有缺陷的组件或无意中损坏而无法工作）； • 初步电路设计已根据所提供的示意图和/或基本定制方案高标准完成； • 所有组件均按逻辑分布，大多数电线都得到精确测量，并在必要时放置在电路板上； • 电路板的背面整洁，但不完全光滑（即可能修剪过后还有一些凸起），但所有的焊接点已被焊接和修剪。 	
3	<p>此级别的电路板有以下一个或多个问题：</p> <ul style="list-style-type: none"> • 由于一两个小的设计缺陷导致电路板无法按预期工作，可以稍加努力即可修复； • 最初的电路设计已经完成，出现了几个小错误或无效的定制； • 所有部件都分不在电路板上，但电线可能无法准确测量和/或在必要时放置在电路板上； • 电路板的背面不太光滑，一些焊接点可能已丢失，或者有部分凸起。 	
2	<p>此级别的电路板有以下问题：</p> <ul style="list-style-type: none"> • 由于若干设计缺陷，电路板无法按预期工作； • 有但有限的电路设计尝试； • 部件可没有逻辑地分布在电路板上，电线无法准确测量，或可能在需要时无法放置在电路板上； • 电路板的背面是凌乱的，焊接点已丢失，和/或有电线引线或焊接器斑点，导致短路。 	
1	<p>此级别的电路板存在严重问题：</p> <ul style="list-style-type: none"> • 电路板存在无法修复的累积错误； • 有但有限的电路设计尝试； • 组件未正确分布，使用错误组件，有若干组件完全缺失和/或省略，或电线未测量和/或完全缺失； • 电路板的背面非常凌乱，焊接点已丢失，并有大量的长线和/或锋利的凸起。 	
0	<p>此级别的电路板不符合预期：</p> <ul style="list-style-type: none"> • 电路板尚未组装和/或远未完成（如电路板上仅林散放置了一些部件）。 	
	总分：	/20