
SECTION FOUR
Project Improvement
(Week 6 – 9)

SECTION OVERVIEW

In this section, you will make your designed USB powered audio amplifier prototype into a “product”.

PRE-LAB

Complete your project improvement proposal document (located on lab page). The proposal shall contain at minimum the following parts:

- A short paragraph describing how and why your improvement choice is important.
- A check-off list for your improvement. Be as specific as possible, including testing procedure.

PROCEDURE

Several options are listed below on improving your prototype USB powered audio amplifier.

- Printed circuit board
- Case
- More power
- Other innovative ideas (must be approved by course instructor or TA)

TURN-IN

Printed circuit board

- A printed copy of your schematic drawn with your PCB design tool
- A printed copy of your layout drawn with your PCB design tool
- A printed copy of your FreeDFM
- A written summary of your designed PCB
- A copy of your project improvement proposal with TA’s approval signature
- Check-off sheet

Case

- A printed copy of your case drawn with a 3D CAD tool
- A written summary of your designed case, include dimensions/sizes.
- A copy of your project improvement proposal with TA’s approval signature
- Check-off sheet

More power

- A printed copy of your schematic drawn with a CAD tool
- A written summary of your design. Include any reasoning, equations, calculations, references, etc.
- A copy of your project improvement proposal with TA's approval signature
- Check-off sheet

Other innovative ideas

- A written summary of your design
- A copy of your project improvement proposal with TA's approval signature
- Check-off sheet
- Other material that is required to receive credit. These requirements should be approved BEFORE the beginning of week 7.

FINAL CHECK-OFF SHEET

Please be sure to include your improvement check-off criteria

<u>Test (from Project Specification)</u>	<u>Measurements</u>	<u>TA signature</u>
7.1.1 – USB Powered		_____
7.1.2 – Components Used		_____
7.1.3 – Signal Source		_____
7.1.4 – Volume Control		_____
7.1.5 – Stereo Output		_____
7.1.6 – Current Consumption		_____
7.1.7 – System THD		_____
7.1.8 – Solid Construction		_____