Amulet.kite.c Daughter Card Construction

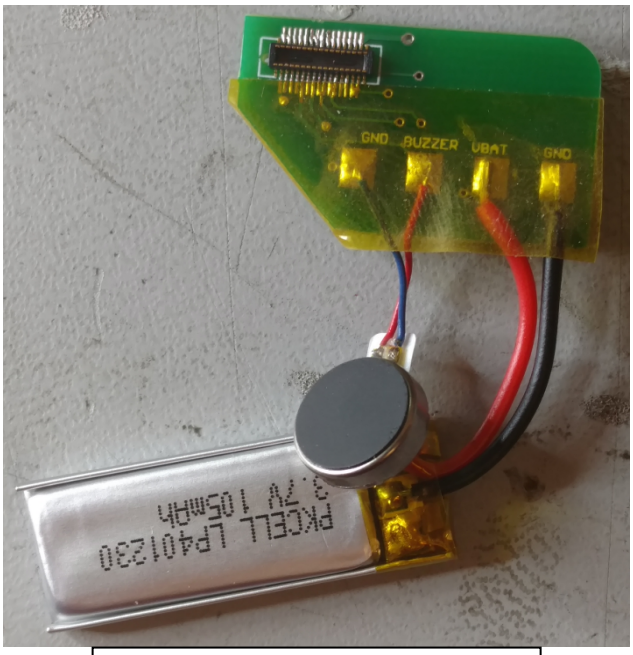

Fig 1. Completed Daughter Card

Supplies Needed:

1. Kite.c companion board
2. Small metal file
3. Soldering iron
4. Reflow gun
5. Fine tipped tweezers
6. Solder
7. Solder paste
8. Pan-vise
9. Microscope
10. Wire strippers
11. Solder wick
12. 1x-DF40C-30DP-0.4V(51) 30
13. 1x-101-00660-68-6 (SD Holder)
14. 1x-Li-Polymer 401230 105mAh 3.7V
15. 1x-Micro SD Card
16. 1x-Vibrating Mini Motor Disc
17. Kapton tape.

Step 1: Break apart the companion board.

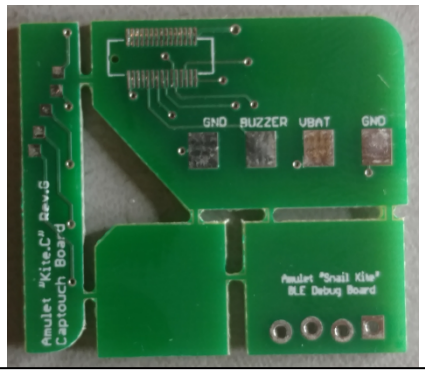

Fig 2. Companion Board Unsnapped

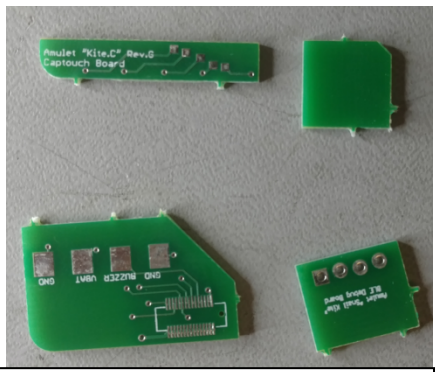

Fig 3. Companion Board snapped

Step 2: File down the tabs on the daughter card

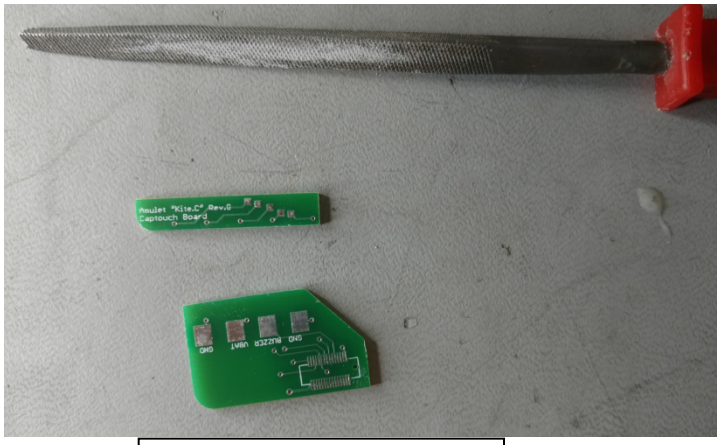

Fig 4. Daughter Board filed

Step 3: Attach the 30 pin connector.

I. Place the daughter card in the Pan-vice
II. Place solder paste on top and bottom rows of pads(Fig 5)
III. Center the connector so that the pins are within the silkscreen rectangle.
    a. There is an extra leg on the connector that cannot be soldered down as there are not enough pads for them. There will be four total legs that will not be soldered, one on each corner (Fig 6).
IV. Run the soldering iron across each side to solder the connector down.
V. Visually inspect solder joints under a microscope
    a. Use solder wick to remove any solder bridges.

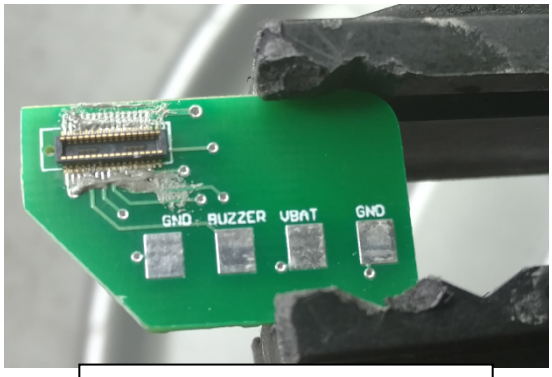

Fig 5, Solder pasted connector
Step 3 – I&II

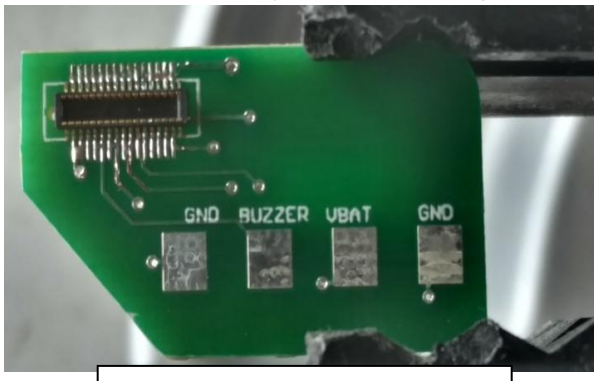

Fig 6, Soldered connector
Step 3 – III&IV

Step 4: Attach the micro SD card holder.

I. Flip the daughter card over and place it in the Pan-vice.
II. Place solder paste on all the pads (Fig 7).
III. Center the Micro SD holder on the pads (Fig 8).
IV. Use the reflow gun to solder down the SD card holder.
    a. Visually inspect solder joints under a microscope.
V. Test to ensure slot locks and unlocks (Fig 11, 12).

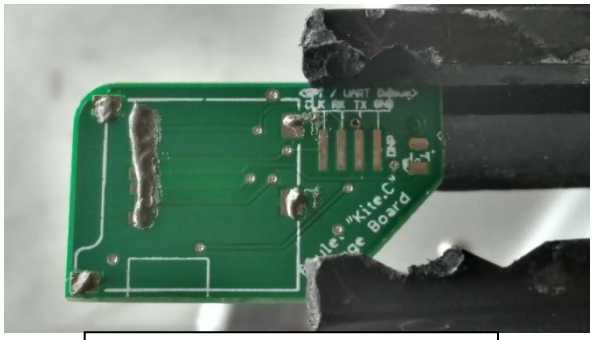

Fig 7, Solder pasted connector
Step 4 – I&II

Fig 8, Centered connector
Step 4 – III

Fig 9, Reflow Gun

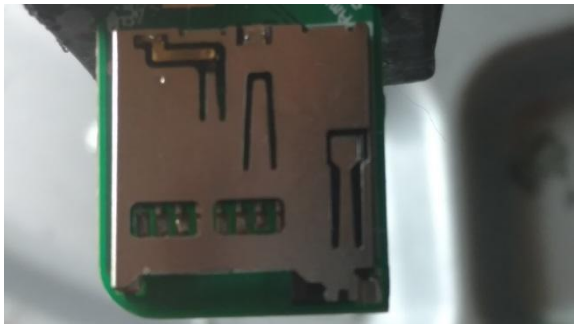

Fig 10, Soldered Micro SD card holder
Step 4 - IV

Fig 11, Micro SD card unlocked

Fig 12, Micro SD card locked

Step 5: Attach the battery and haptic buzzer.

I. Flip the daughter card over and place it in the Pan-vice.
II. Place solder in the four square pads.
III. Cut battery wires to ____ inches. Strip wires and tin them.
IV. Solder battery to daughter card as seen in Fig 16.
V. Cut buzzer wires to ___ inches. Strip wires and tin them.
VI. Solder buzzer to daughter card as seen in Fig 19.
VII. Place a strip of kapton tape over terminals (Fig 21).
VIII. Label the daughter card with a sharpie (Fig21).

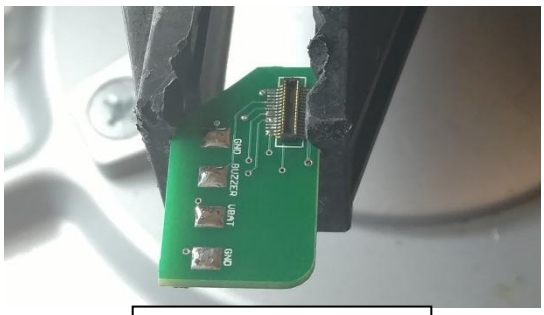

Fig 13, Soldered pads

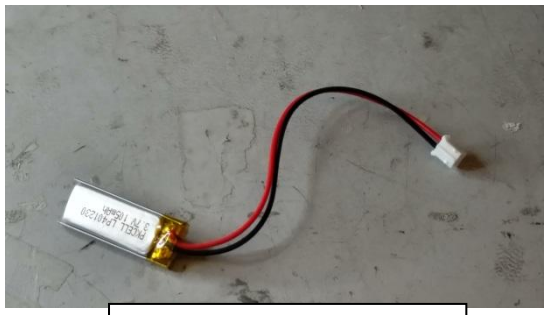

Fig 14, unaltered battery

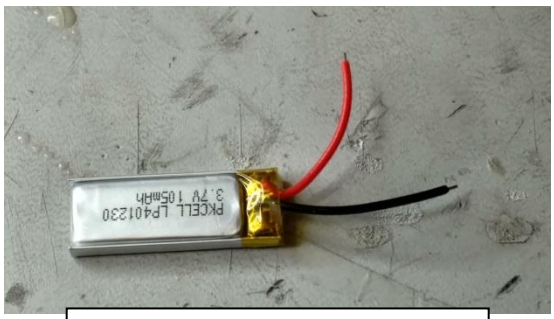

Fig 15, Trimmed battery wires

Step 5 – III

Fig 16, Battery soldered to daughter card

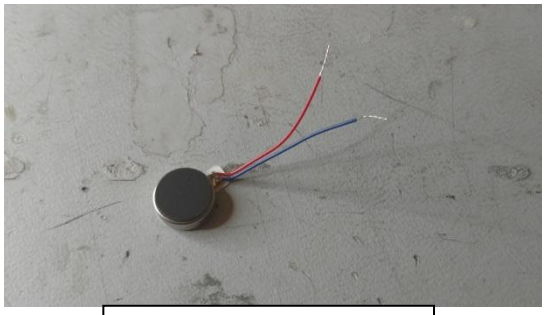

Fig 17, unaltered buzzer

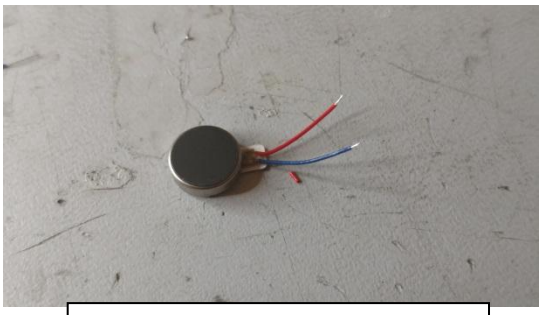

Fig 18, Trimmed battery wires

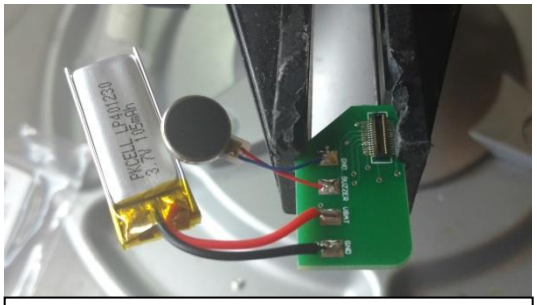

Fig 19, Buzzer soldered to daughter card

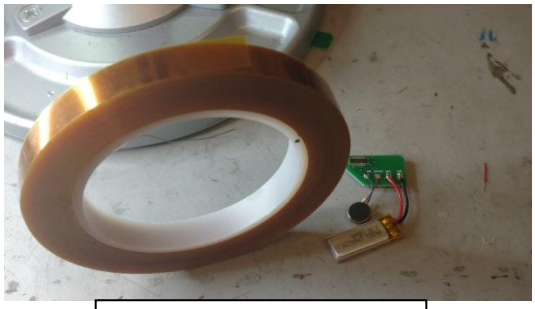

Fig 20, Kapton tape

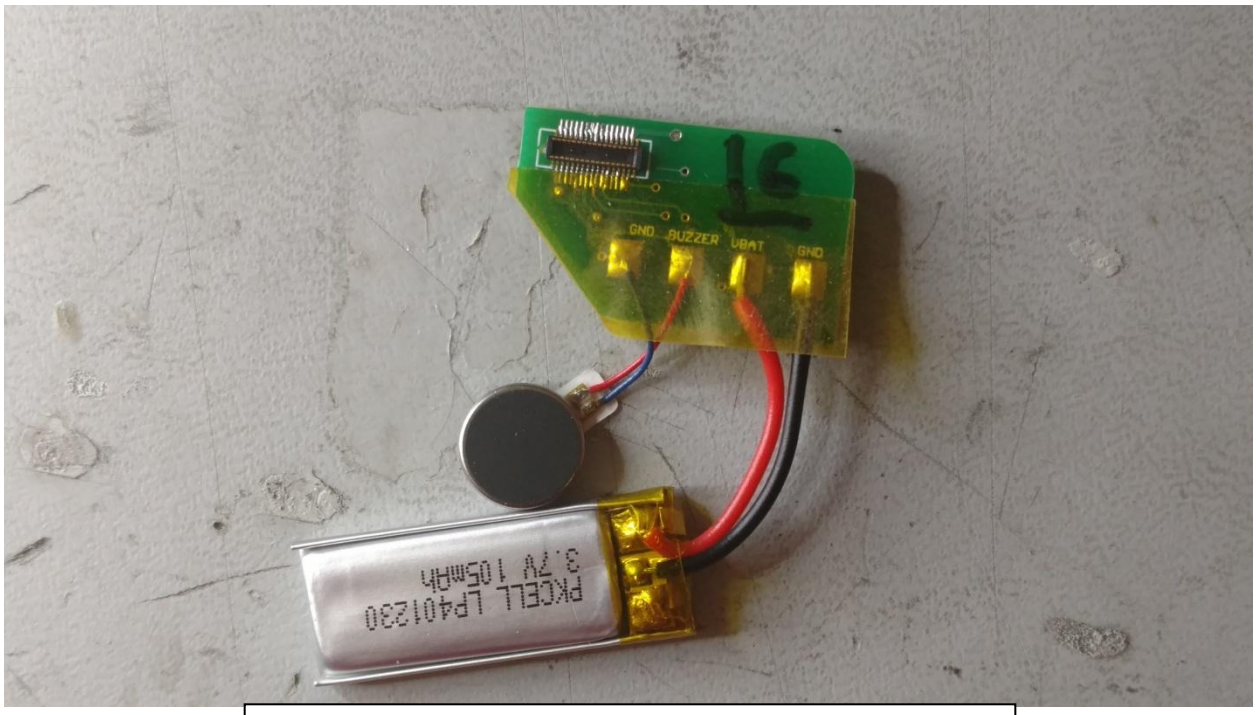

Fig 21, Finished Daughter card, labeled with kapton tape