

Disney MagicBand

March 2017

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PennEngineering[®]

Disney MagicBand



Details & Findings

Pictures and Description of the
Disney MagicBand and our
disassembly process.

Disney MagicBand



MagicBand Strap



- Strap is adjustable (one time)
- At groove the strap can be broken into two pieces



MagicBand Strap



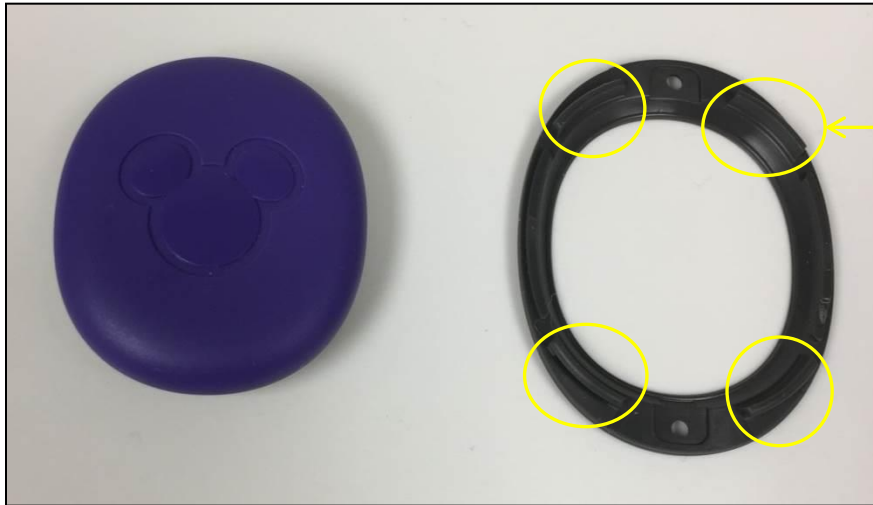
- Back of the strap
- 2x screws hold a plastic retaining ring and the main component to the strap

MagicBand Strap



- Strap after components are removed
- Retaining ring – snaps into the strap, then screwed down
- 2x screws – thread into holes in the strap

Main Component



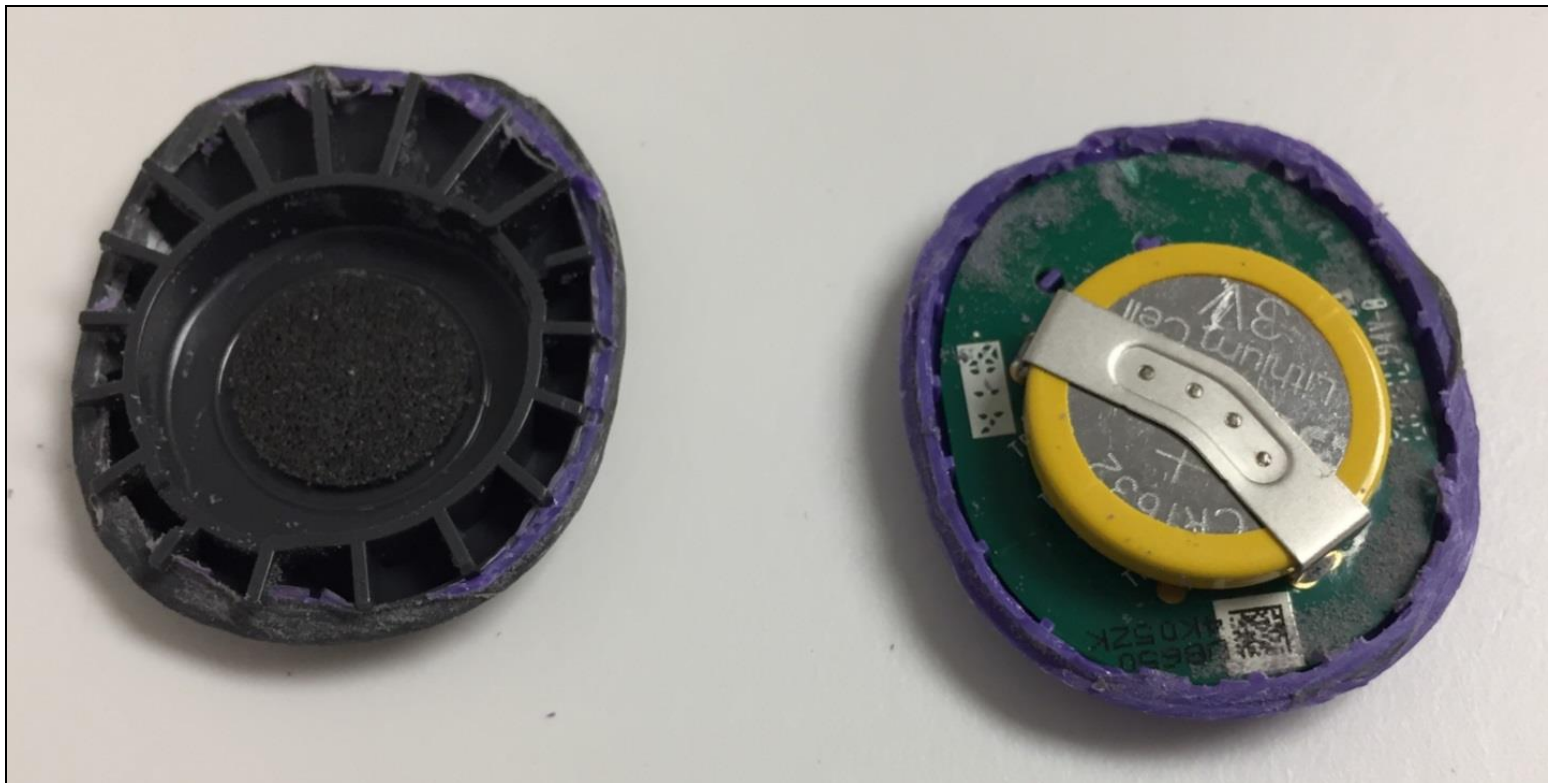
- Retaining ring
- 4 tabs snap into strap



- Main component
- Two halves snap together very tightly

PC Board

- Two halves of main unit after breaking it open
- All molded plastic

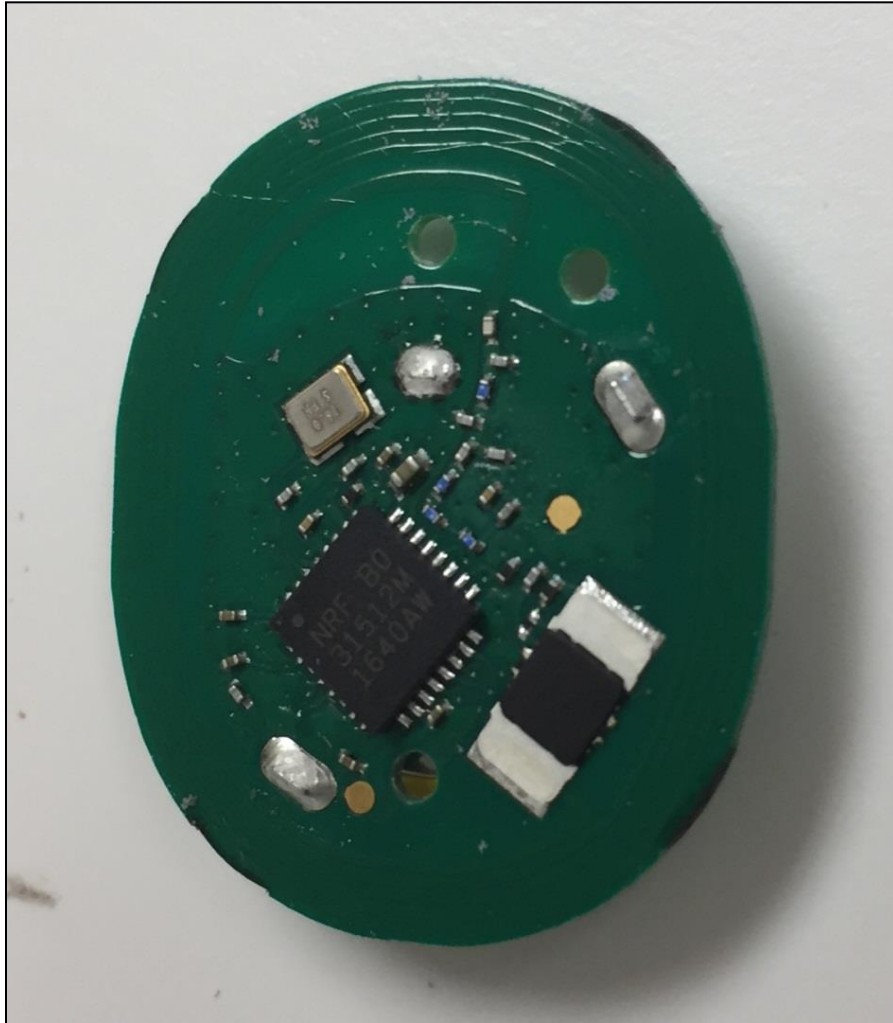


PC Board

- PC Board rests in front half of the unit.
- Lithium battery held in place by metal bracket that is soldered to the PCB
- 3x molded alignment points in case



PC Board



- Front side of PC Board
- High frequency RF transmitter is the main feature of the component



Disney MagicBand

- Disassembled view



Fastener Summary

A total of 2 fasteners were found
in the device

Fastener Summary



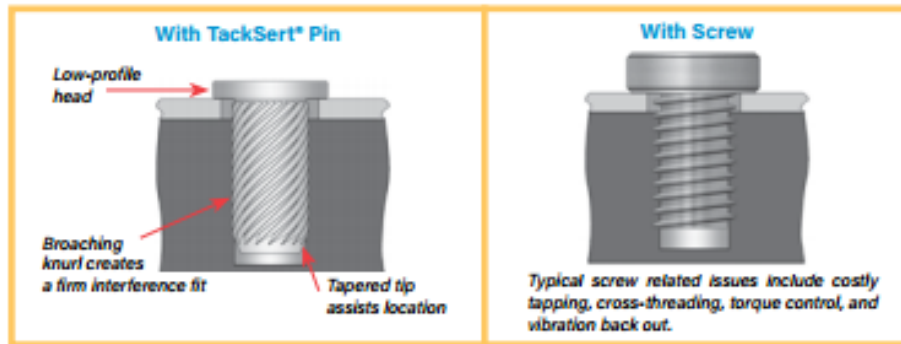
- 2x Flat Head Screws
 - [Slide 6](#), [Slide 7](#)
 - M1.4 Thread
 - P0 Phillips drive
 - 3mm Overall Length
 - 2.5mm Head Diameter

Alternate Solutions

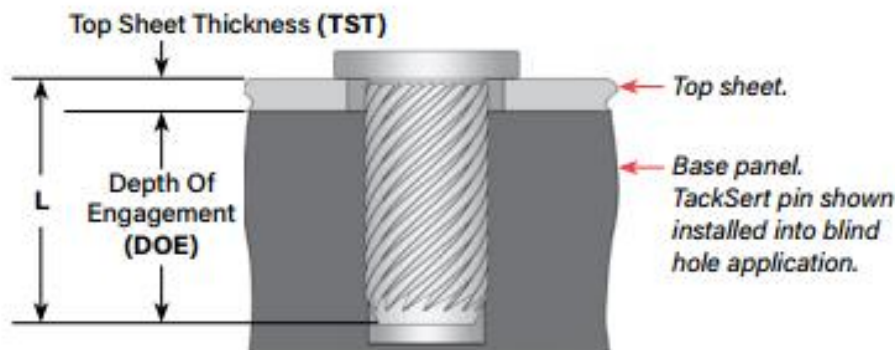
PennEngineering® recommendations of alternate hardware and cost savings opportunities.

TackSert Pin

Comparison of TackSert[®] pin to screw installation.



If the strap is never going to be taken apart, repaired, or modified the screws can be replaced. The TackSert pin would provide a fast way to permanently secure the components of the MagicBand.



Conclusions and Summary

Disney MagicBand

The Disney MagicBand is a simple strap with a radio transmitter and RFID sensor. It uses two screws to secure a molded plastic compartment containing the PC board to the strap. Everything is made of plastic and snaps together tightly.