Passive Tracking Device

Dallin Marshall -- Computer Engineering -- Dallin.Marshall@Outlook.com

Overview

The Passive Tracking Device (PTD) is a tracking solution that can be concealed inside an ATV that will periodically transmit its location to the user's cell phone via an SMS message.

The PTD was designed with three primary objectives:

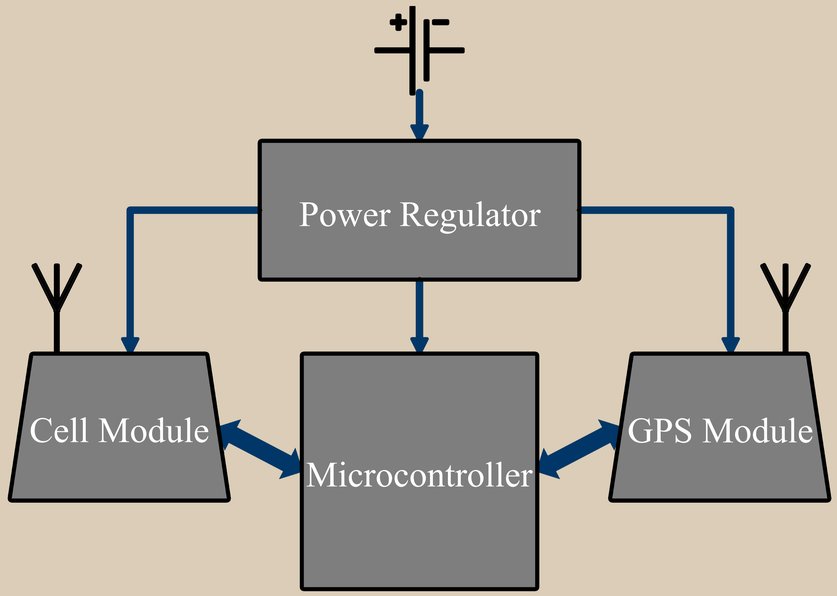
1. Function in low power environments
2. Use a passive tracking method
3. Provide low monthly service cost

Results

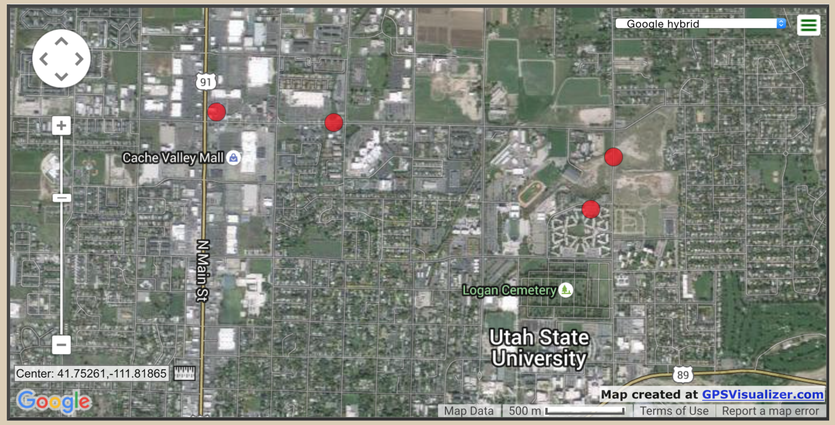
The PTD provides an accurate tracking solution to customers by using text messages to inform users of the location of their connected ATV or Vehicle.

The PTD completed all of the specifications defined in the Specifications Document and also withstood the various stress tests.

System Diagram



PTD in Action



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UtahStateUniversity

Materials

The PTD consists of 4 basic sub-systems:

1. Microcontroller
   - TI Tiva-C TM4C123G
2. Cell Module
   - Adafruit FONA 1946
3. GPS Module
   - Trimble Copernicas 2
4. Power Regulator
   - DROK Adjustable Regulator

The PTD also made use of two antennas, a GSM SIM card, and connecting wires to complete the design.

Conclusion

The PTD is a functioning proof-of-concept that shows that passive tracking solutions can be used in low-power low-cost situations. The PTD is a viable tracking solution for personal as well as business applications.

For more information about the PTD please visit

http://bluejarvis23.github.io/ptd/