

MSP with Captivate™ Technology

Long Touch Algorithm

06/10/2020

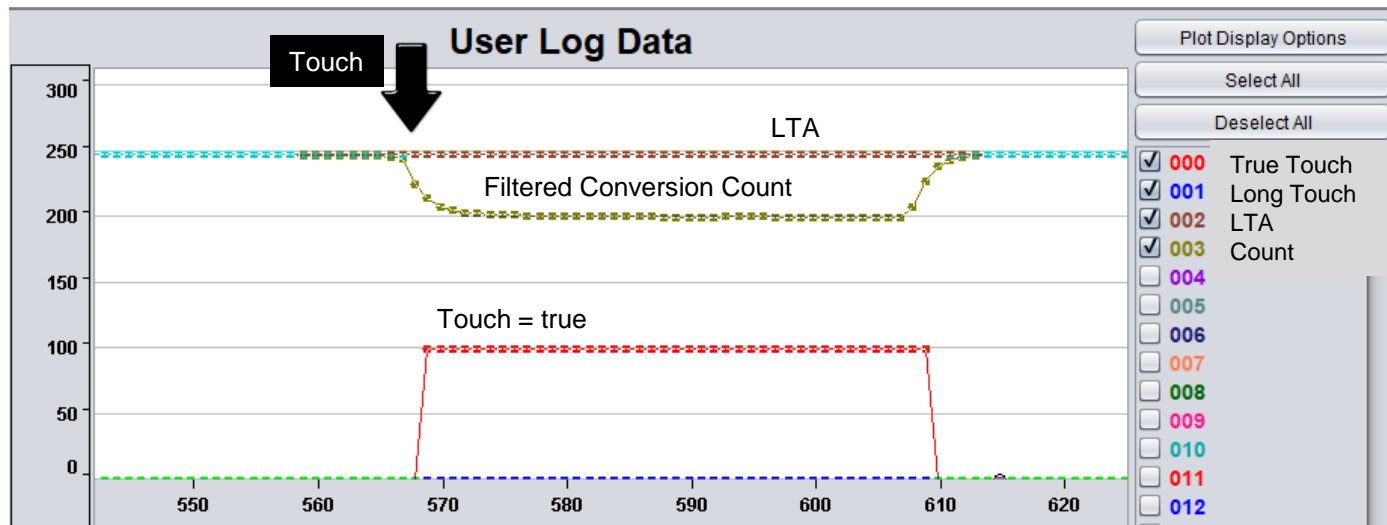
Dennis Lehman – MSP430 Applications

Introduction

- This is an example demonstrating how a “long-touch” algorithm works
- Allows LTA to track while sensor is touched for long periods of time
- Recalibrates on each transition to ensure proper LTA tracking
- The following example uses a single “self capacitive” button
- Same principle applies to mutual but DOI (direction of interest) is opposite

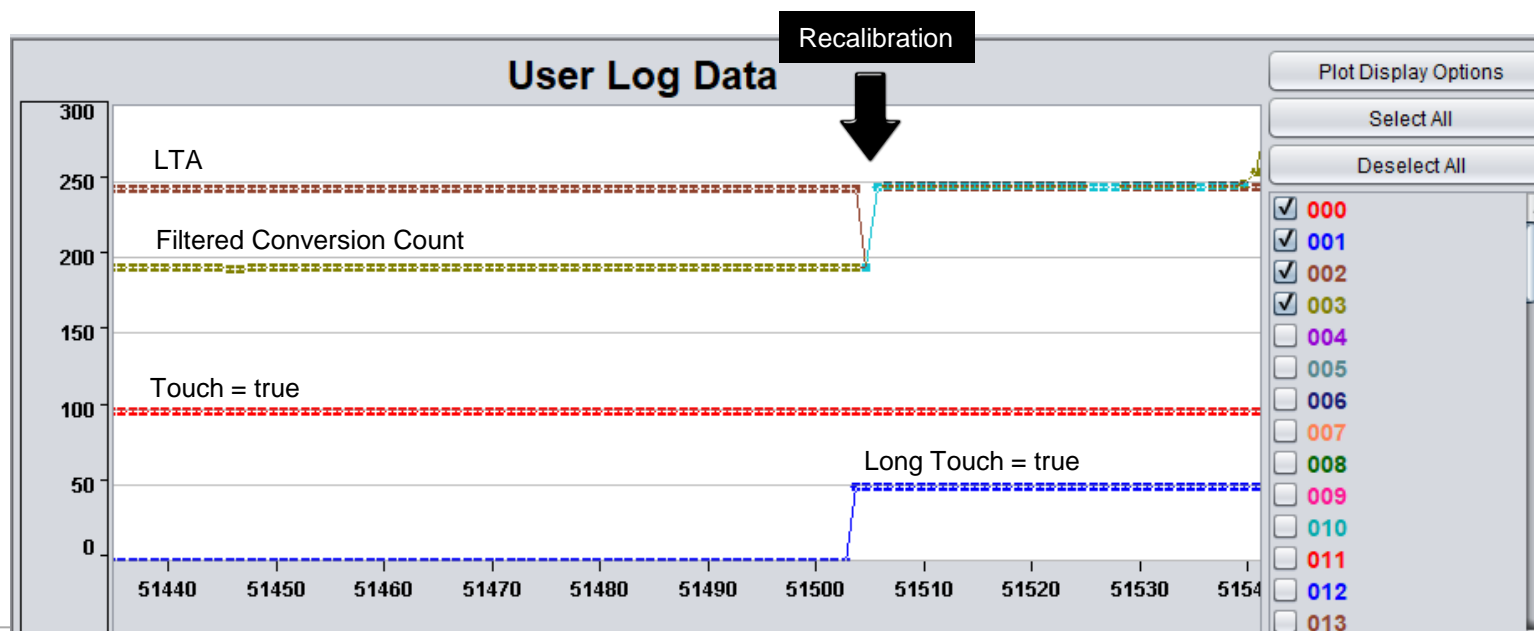
Normal Touch

- Self Capacitive Button #1 on BSWP demo panel
- Finger touch
 - DOI (direction of interest) is “down” for self cap
 - Count drops from 250 to 200 with finger touch
 - LTA locked at 250
- [0] = Touch status = true
- [1] = Long touch status = false



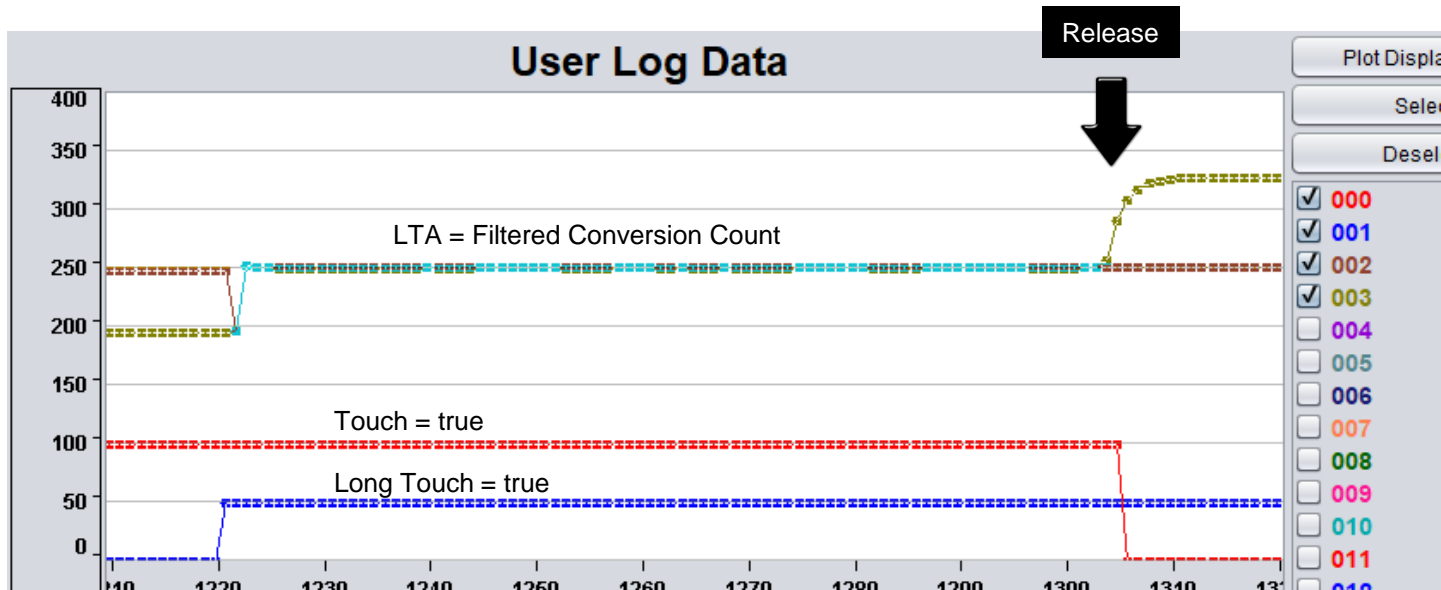
Transition to Long Touch

- After 5 seconds (programmable) of continuous touch
 - CapTlvate recalibrates with finger touching sensor
 - DOI (direction of interest) is now “up”
 - LTA tracks environmental changes as normal
- [0] = Touch status = true
- [1] = Long touch status = true



Finger Release during Long Touch

- After touch for long time, finger is released
 - Count goes up to 325
 - LTA is halted at 250
- [0] = Touch status = false
- [1] = Long touch status = true



Transition back to Normal Touch

- 5 seconds after finger released
 - CapTlvate recalibrates
 - DOI (direction of interest) is now “down”
 - LTA tracks environmental changes as normal
- [0] = Touch status = false
- [1] = Long touch status = false

