TI Haptics Enabled Gaming Controller BoosterPack - Review

RoadTest: TI Haptics Enabled Gaming Controller BoosterPack

Author: gsgill112

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Evaluation Type: Independent Products

Did you receive all parts the manufacturer stated would be included in the package?: True

What other parts do you consider comparable to this product?: none

What were the biggest problems encountered?: The HAPTOUCH BoosterPack wont just work. Using the Kit was a pain.

Detailed Review:

HapTouch BoosterPack
Review

1. Introduction

This was a dream come true kit which I was supposed to include in my project "Wireless Gaming Controller using MSP430Launchpad" – I will blog about my project IDEA, Previous Attempts and what I am currently doing on this project later as I currently have other project deadlines coming up.

2. Product Details/Specifications

This Booster Pack includes

- - Immersion's Touchsense™ technology for full tactile feedback
- - MSP430 capacitive touch
- - 122 different haptic effects for alerts, gestures and notifications
- - Audio2haptics technology for Feeling the Audio
- - ERM and LRA actuators for testing different Haptic Feedbacks
- - MSP430TCH5E – Dedicated MSP430 based MCU for Haptic Technology

Element14 Product Page for HapTouch BoosterPack Module.
http://www.element14.com/community/docs/DOC-65011/l/texas-instruments-boostxl-haptouch-haptics-enabled-gaming-controller-boosterpack
Ti's Product Folder for Additional Information.
http://www.ti.com/devnet/docs/catalog/thirdpartydevtoolfolder.tsp?actionPerformed=productFolder&productId=17680

3. Initial Thoughts

The HapTouch Booster Pack looks really great. It is one of the sweetest and elegant looking BoosterPack designed so far, and to top it all, it is a real fun and enjoyable (NOTE: if u somehow get it working). I can't appreciate enough the quality and capability of the product, but, it made my life painful, really painful for a while. So, I thought it will be really cool to thoroughly test this kitIn my review I will be dealing with few of the tests I thought of and how well does this kit compare to traditional Touch interface (I will be using a custom build touch sensor – a piece of foil wrapped around a plastic case) and BOOST-SENSE BoosterPack from Ti.

Before beginning the Test, I want to lay the initial findings for this kit. First, you don't get any thins else rather than the BoosterPack itself, so what that means?? . That means we need additional H/W to get started with the BoosterPack.

Additional H/W needed:

1. MSP430 Launchpad with an MSP430G2553 MCU
2. USB-USB Mini cable
3. Audio Splitter (for Audio to Haptic Tech.)
4. MSP430UIF JTAG Prog/Debug (199$), if you ever want to reprogram the MSP430TCH5E MCU.

I had all except the MSP430UIF JTAG Prog/Debug which I borrowed from another Lab.

Programming the kit is straightforward, just click the .bat file in windows and follow the script. The Launchpad has to be prepared before using it with the kit, but I was having issues with that. After programming the kit and following all the steps, the kit wont connect to the HapTouch GUI (a part of HapTouch : http://www.ti.com/tool/MSP430-HAPTOUCH-SDK). I did manage to get it working on a WinXP VM but after my system got crashed I wasn't able to replicate that.

4. Testing

I originally intended to use this product in my project, but due to its annoying nature of simply stopping working I thought otherwise. Once I figure out how to make it work reliably maybe I will reconsider.

So, for the RoadTest Testing of the equipment I have 3 Tests in store

1. The Bath Test (Well Capacitive Touch is hydrophobic so let's see how this test holds against water)
2. The Failure Test (Just want to point out some Strange behaviors I found)
3. The Power Test (Ha I knew it's going to drain the battery)

The Bath Test:

You guys didn't thought that I actually will drop this kit to water!! So, I tested the kit by adding a drop of water on the touch surface to test whether it was still working?

RESULTS: This is not a Water resistant Board also it fails in presence of water as all other touch sensors fail. On adding few drops of water on the Select and Start button the BoosterPack Started of running random effects.

The Failure Test:

Well what's the point of testing a perfect product, if we don't push it so hard that it starts misbehaving? NOTE: By misbehaving I didn't meant I broke the kit off, Just testing its upper limits within the safety zone for the kit ;). IT was kina strange to notice that after adding even a slight thick (1mm) Acrylic sheet the kit no longer responds to anything.
The biggest failure I faced was getting the kit working with HAP TOUCH GUI, which I could achieve. I had to use a Terminal program to communicate with the kit, sending the Commands manually.

The Power Test:

So, I wanted to know the power requirement of the kit. Now as we are using an msp430 Launchpad to power it, I have tested the kit with/ without the Launch-Pad. To add to the bonus part, I tried powering the kit from the battery booster pack I got from a previous Roadtest. Also, I powered the kit up from a 3.7v Li-Ion cell I extracted from unused Battery Pack.
The HapTouch BoosterPack worked perfectly with both the FuelTank Battery Booster Pack as well as my custom Li-Ion setup.
I have summarized my findings below.

With MSP430 Launchpad:

With MSP430 LP	V(v)	I(mA)	Power(mw)
Ideal	3.30	43.5	143.55
LRA Actuator	3.30	63	207.1
ERM Actuator	3.30	163	537.9

Without MSP430 Launchpad:

Without MSP430 LP	V(v)	I(mA)	Power(mw)
Ideal	3.30	22	72.6
LRA Actuator	3.30	36	118.8
ERM Actuator	3.30	85	280.5

5. Product Support

The product has a series of Videos from TI explaining and demonstrating the capabilities of the kit. This is really helpful further the Design of this kit is OPEN Source, so all the PCB Design files and the Code is available for us to use. Both of these are available in the HAP Touch SDK.
The SDK also provides all the necessary API's and Guidelines for making your own design which is very helpful.

6. Product Usage

Except the Fun of using the games and playing hours on, this kit has an extremely good integration factor for various Applications, such as Gaming Controllers, Consumer electronics, and so on. My project was to make a Wireless Gaming Controller, but due to the issues of interfacing the kit and having no flexibility/access to the JATAG programmer, programming the kit was out of option.

Another fantastic usage of this kit is in replacing the tactile push buttons to a capacitive ones, with the Haptic feedback we can actually get to know the button press event making the capTouch interface more natural.

The included Audio to Haptic Technology is currently in beta phase but works fine. With a manual thresholds we can tune this feature for a better experience.

7. Summary

+'s

- - Awesome Kit
- - Fun to work With
- - JTAG Access
- - LRA & ERM Actuators for better Haptic Understanding and development
- - Audio2Haptic Technology
- - Sequence builder for building manual Haptic Sequences

-'s

- - Really Poor documentation regarding the Communication interface between MSP430 and BoosterPack
- - HApTouch GUI Just won't work for Me
- - Poor tolerance to external factors like water.

Scoring

Total Score
Product Performed to Expectations
Specifications were sufficient to design with
Demo Software was of good quality
Product was easy to use
Support materials were available
The price to performance ratio was good

Review - Details

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Seeking an Engineer to Evaluate Infineon's PSOC™ Control C3M5 System Motor Control Kit
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gsgill112 *over 11 years ago*
Hi Guys, I didn't had time to fill in the pic's in this review, I will do it as soon as possible.
If some one wants to know something more about this kit or my Project , feel free to ping me.
0 Reply

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