

MSP430TCH5E HAPTOUCH is available

MSP430TCH5E haptic msp430g

G

By GastonP,
December 10, 2013 in Booster Packs

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GastonP

Advanced Member

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Posted December 10, 2013

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Hi all,

I have seen that the MSP430TCH5E HAPTOUCH Boosterpack is already available. Through Element 14, and not from TI eStore, but it is what it is.

<http://www.ti.com/devnet/docs/catalog/thirdpartydevtoolfolder.tsp?actionPerformed=productFolder&productId=17680>

Sorry for not putting it in the blog but either I'm too stupid to get a simple sum, or the captcha code is not working.

Gast

+

Quote

cubeberg and bluehash

2

bluehash

Site Admin

Posted December 10, 2013

...

NP @ @GastonP . I just left a comment there. Thanks!



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rockets4kids

Level 3



Members

+204

491 posts

Posted December 10, 2013

...

So this is a booster pack with it's own msp430?

+ Quote

roadrunner84

Level 4



Members

+466

1,370 posts

LocationEindhoven, the

Netherlands

Posted December 11, 2013

...

I think it's a boosterpack that can only safely work with a single MSP430. Yes, it does have an MSP430 on it, and a boosterpack interface as well. I suppose the idea is that you use the TCH5E to interface your haptics and touch, and use a second MSP430 for the rest of the game control (video/actual game).

+ Quote

GastonP

Advanced Member

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40 posts

Posted December 11, 2013

Author

...

The TCH5E is an MSP430 in itself, optimized for haptics control and touch sensors. As @ @roadrunner84 says, the game and stuff should be handled by the MSP430G2 launchpad. At least that is the LP the documentation refers to, but it seems quite difficult that this puppy can't communicate with other launchpads. Most probably the SDK was made with the G2 LP in mind, but nothing bars one to change the target LP board.

+ Quote

rockets4kids

Level 3



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491 posts

Posted December 11, 2013

...

Does the boosterpack break out the SBW pins?

+ Quote

keithq

Noob Class



Members

+ 6

4 posts

LocationDallas, TX

Posted December 11, 2013

...

Hello all,

I had ownership of the design of this BoosterPack, software, and documentation this year at TI. You're correct, the G2 was chosen as a default option for a few reasons -- one is the concept defined for this BP included the whole thing fitting into a squared-off handheld package, and to accomplish that you kind of need to pick a LP to match up with. Another is that the software will be different for each BP, and we just didn't have time to port it to multiple LP's.

But we did talk about adding support for the F5529 LP, in which case we might have made the connection with the PC a true USB interface instead of using the backchannel. The F5529 LP should be physically/electrically compatible, with the only exception that with the plastic handles attached to the BP, the two boards don't quite slide all the way together. But, I think they made enough contact that it would work OK.

There's a section in the app note that discusses use of other LP's: <http://www.ti.com/mcu/docs/litabs/multiplefilelist.tsp?sectionId=96&tabId=1502&literatureNumber=slaa616&docCategoryId=1&familyId=1998>

I'd encourage the community to do the port to other LP's, if desired? I'd be happy to help advise.

Keith

+ Quote

roadrunner84



roadrunner84

Level 4



Members

+ 466

1,370 posts

LocationEindhoven, the Netherlands

Posted December 11, 2013

...

✓ On 12/11/2013 at 1:13 PM, rockets4kids said:

Does the boosterpack break out the SBW pins?

It has a JTAG port on the backside, it could bring out SbW, but I doubt it. Maybe SbW is available somewhere else on the board.

+ Quote

keithq

Noob Class



Members

+ 6

4 posts

LocationDallas, TX

Posted December 11, 2013

...

No, the SBW are not brought out to the BP interface, only the JTAG interface -- and here's the deal with that. Initially this BP was supposed to be emulated from the G2 LP's emulator. You'd remove the G2's target G2553 and attach the BP. Unfortunately the G2's emulator doesn't support the MSP430TCH5E, and there's no good way to change that. And so, the FET tool JTAG header got added.

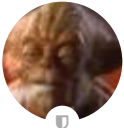
If you don't already have a FET tool, this is added expense for you. (Although the upside is that having dedicated, simultaneous emulators made things much easier to debug.)

If you don't want to buy a FET tool, what I would suggest is getting a F5529 LP to emulate it. Theoretically this is supposed to work. The EZ-FET Lite emulator on the F5529LP is open source, and thus expandable to the MSP430TCH5E (whereas the G2's is not). You can jumper wire from the emulator header block to the JTAG header. I wish I could give more specific guidance, but I haven't yet been through the exercise of modifying the F5529 LP emulator's software.

Or you can just drive haptics by sending serial commands to the MSP430TCH5E from the G2, treating it like a fixed-function device.

spirilis

Level 5



Members

1,265

3,399 posts

LocationBaltimore, MD

Github Repository

Posted December 11, 2013

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On 12/11/2013 at 1:19 PM, keithq said:

↩

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Keith

Can you comment on the TCH5E chip itself--What does it actually add over a G2553 PW28 to implement the haptics interface? Actual silicon changes to the pins/ports to interface with the haptics controller or is it a certification type of thing? Doesn't look any different from the G2553 PW28 based on the datasheets.

keithq

Noob Class



Members

6

4 posts

LocationDallas, TX

Posted December 17, 2013

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Yes, there's some similarity with the G2553 b/c the design was derived from it. The exact changes are proprietary, so I'm not allowed to go into detail... But they relate to the implementation of Immersion's technology into the device to enable the library.

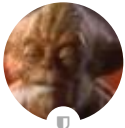
The net result is that the combination of the TCH5E and MSP430 Haptics Library lets you do haptics without patent infringement. We licensed Immersion's IP and built our library around it. Immersion approves of this combination, and an Immersion license for use on a given TCH5E is included with its purchase. You can't run the library on a different MSP430 derivative -- the library calls won't work.

The wide variety in haptics effects in the library are pretty cool. There's a lot of room for creativity -- you can chain effects together into complex sequences. For example, the default ones Immersion provided include "machine gun", "rolling dice", etc., and they feel pretty realistic.

To help people create their own sequences, we added the HapTouch GUI, so you can tweak sequences real-time without having to re-build the code each time (or need the FET tool). I'd wanted to even write an export/import feature to make it easy for people to share their sequences online, but we ran out of time. If there turns out to be a lot of interest, I may still end up doing this and push an update.

spirilis

Level 5



Members

+ 1,265

3,399 posts

LocationBaltimore, MD

Github Repository

Posted December 17, 2013



Thanks! I suspected it was something like that 😊 Very cool, and it does sound like a lot of fun!



Quote

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