Pixel Qi suggests low power tablets could be powered by 1W solar panels

by **BRAD LINDER**
06/03/2011
10 Comments

Pixel Qi's display technology allows you to seriously reduce power consumption when you cut off the backlight and use a tablet or notebook in high contrast, black and white mode. So while a 10 inch Pixel Qi screen uses around 2.5W of power in full color mode, it uses closer to 0.5W in black and white mode.

ARMDevices spoke with Pixel Qi founder Mary Lou Jepsen recently and she suggested that this means you could theoretically power a tablet computer with a small solar panel that generates just 1W of energy.

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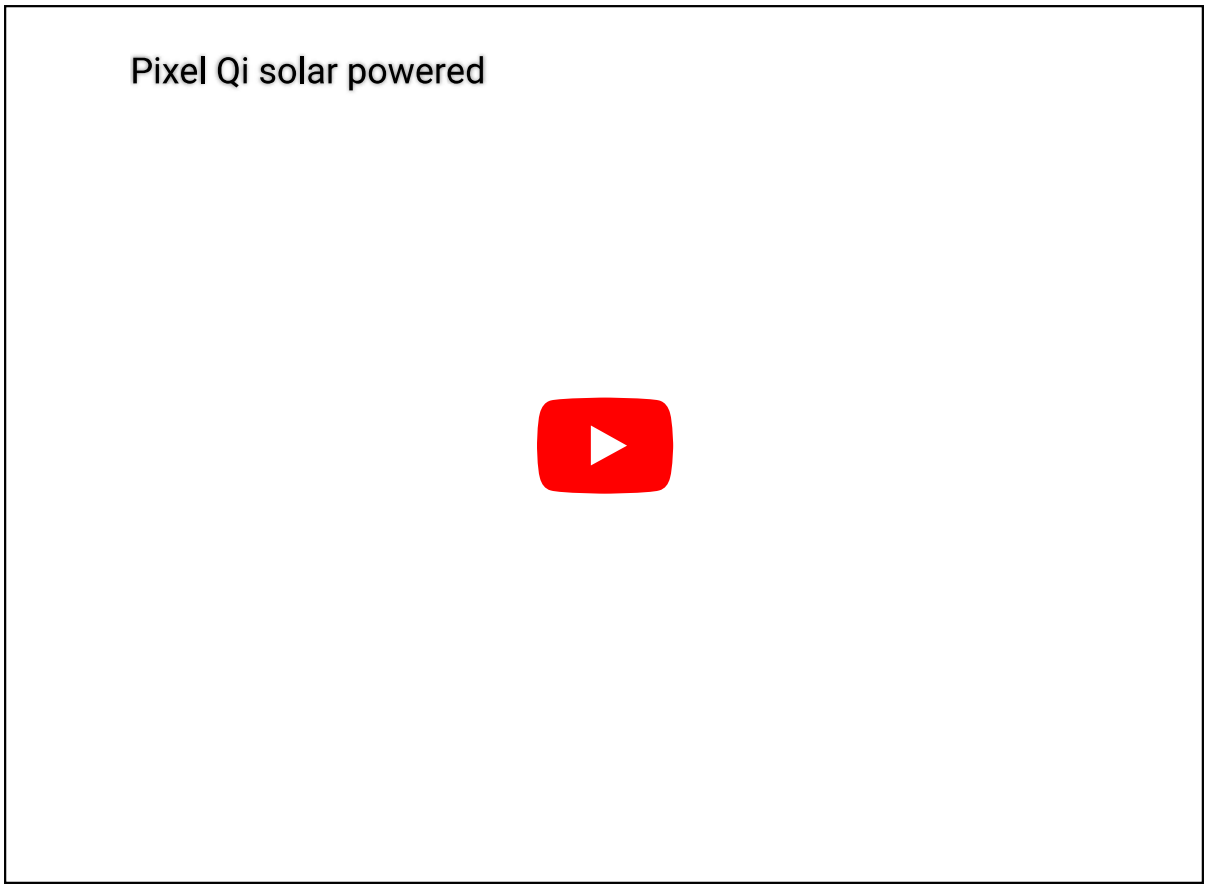
That’s because a low power ARM-based processor and all the rest of the components in a tablet could use as little as half a watt. The screen is typically one of the most power-hungry components of a mobile device.

The technology probably wouldn't make it into mainstream consumer products in the US, but I could see it filling certain niches. People who spend a lot of time camping or hiking would probably be in the market for this sort of device, as would anyone else who likes the idea of being able to run or charge a tablet without relying on fossil fuels — and who has ample access to sunlight.

But the biggest advantage would probably come if tablets were deployed in developing nations where access to electricity isn't reliable.

You can check out a short video after the break. Unfortunately there's no actual prototype of a solar powered Pixel Qi tablet yet, just a discussion of how it *could* work.


Pixel Qi solar powered

animatio says:
06/06/2011 at 3:00 AM

solarpanels able to drive netbooks / slates are already on the market – and working. no need to wait

A-Z says:
06/07/2011 at 2:18 AM

Yeah and they cost as much as cheap tablet and take up space and weight quite alot too. So were not there yet, but were coming closer 😉

metrogeo says:
06/07/2011 at 6:21 AM

https://techcrunch.com/2011/06/04/first-solar-powered-laptop/

Terroll3 says:

06/05/2011 at 12:41 PM

As much as I love Mary Lou Jepsen, I have to state my honest opinion on this theoretical demonstration. For pete's sake why only smoke and mirrors? Would it really have been that difficult for you guys to demonstrate a real Pixel Qi screen running directly from a 1W solar panel?

How much confidence do you expect one to have in a 'could be'?

And who do you expect to leave an expensive computing system out in the sun to charge? Honestly, has your team ever even been to a developing country? I'm from the U.S. and I wouldn't do such a thing there! But I've been living in Guatemala (an extremely poor country) for over a year and a half now and I can tell you that it would be just about out of the question in a place such as here! There are issues with thieves, the rainy seasons, etc.

By Guatemalan standards I am pretty well off! But guess what? Not even I could afford your Pixel Qi screen nor your OLPC laptop!! So how would you expect the poorest of poor to do so? Can you honestly answer such a question with a straight face? Or are you out to exploit them as well (in the name of selling them an expensive device supposedly designed to cure them — isn't this what your shareholder/investors want?)?

Developing nations aren't pressed for a need to save 5 watts of electricity so stop selling gullible people on such a ridiculous fallacy. Organized and educated access to computing does not demand the saving of a few blips electrical power. Nor is there any relation whatsoever. The problem is financial (due to incredible and outright slave-like exploitation of the population —

foreign and international manipulation of the currency for which all of the population “works” like an animal to receive, rampant corruption to a degree that sees almost 90% of all elected government officials working for corrupt causes against the interests of the general masses, etc. etc.). OLPC never sought to address the real issues causing developing nations to be “third world”. And the corporate startup Pixel Qi couldn’t be any better, I’m afraid.

In any case…

The power requirements of E-Ink are far more impressive — especially from an educational point of view! But, at the moment, how many examples are there of developing nations utilizing the technology to an impressive degree? None.

Technology is and will continue to be the greatest blessing to the developing world. But the real problem is the criminal exploitation of the people in general (even in the U.S., for example, where the people think that it is normal to work 30 years of their natural lives just for shelter — that they can then lose to medical bills just for becoming sick). What other species in the animal kingdom works half of its life just to provide shelter for its children?

Pixel Qi will not succeed because the narrow priorities of the company are not applicable nor particularly useful to the real world. I do not expect the company to be any more successful than the Notion Ink Adam — a device that, with great pleasure, I can say that I am ‘unable’ to afford.

I will continue to say such things until I am convinced! But I won’t be plunking down money for a Galaxy Tab 10.1 or an iphone 5 just because I want “access” to to techology. I’ve had that for over 15 years! It will be because I want something luxurious to call my own. A geek’s toy if you will.

And that is a world away from what poorer nations need. I’m sorry, Mary.

metrogeo says:

06/05/2011 at 6:00 PM

Terroll, it’s true that there are stark inequalities in labor conditions. The only manufacturing group I’ve found that is interested in truly affordable technology with a motto, “wealth without money” is the RepRap 3D printer group- all their designs are GPL(free). They aren’t at the stage of making semiconductors yet, but I’m actively working on a microbiology and bioenergy project for that. Their idea is to manufacture everything themselves rather than relying on imports. If they can soon print a toothbrush then a lot of people wouldn’t have to work in a dusty factory somewhere. For more info on Reprap, please check out: https://www.reprap.org/wiki/Main_Page
and if you want to read more about what I do:
https://openwetware.org/wiki/User:Giovanni_Lostumbo

Metrogeo says:

06/04/2011 at 12:15 PM

fantabulous- can't wait for quad-core arm snapdragons running at 200mW and a Pixel Qi B&W dual e-reader/color display sub 1 watt readily charged with a solar panel behind a 12″ widescreen netbook lid.

Shaun Brachmann says:

06/03/2011 at 4:14 PM

who has a 10″ tablet with a Pixel Qi screen available for sale now?? WANT!!!

CyberGusa says:

06/03/2011 at 5:01 PM

There's Notion Ink, and you can check Pixel Qi blog to see who else are coming out with products. They're already hinting at a couple with some of their latest vids showing those products…

arono says:

06/03/2011 at 1:30 PM

By the looooooooong time it takes for devices with Pixel Qi to reach market we'll all have pocket sized personal atomic power plants when this comes around, so it won't be needed…

CyberGusa says:

06/03/2011 at 5:00 PM

Technically they have already reached the market, just not wide spread yet.

Unlike the rest of the computer market, screen technology advancement is measured in years. Just look at how long other screen technology like OLEDS are taking and have been out longer.

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