# Apple eyes device future with flexible display designs

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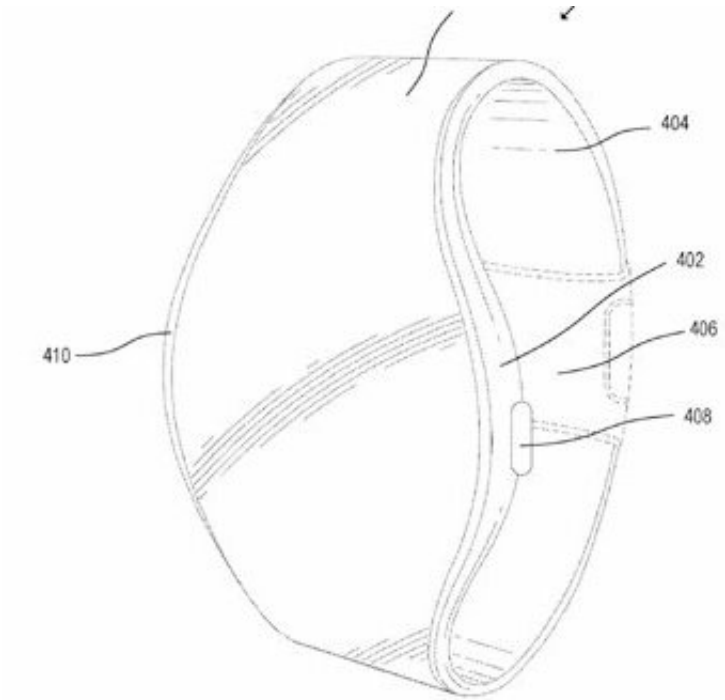


Et tu, Apple? Look who is joining the foldable and flexible and bendable brigade. Apple is another brand leader hoping to get a slice of the action in future sales. World Intellectual Property Organization (WIPO) published a patent for a flip-phone with flexible screen that bends in the middle, said Vincent Verweij in *Foldable News*.

The buzz is actually a folding-phone patent update: "The latest tweak to the patent was filed on February 14 and suggests that the company is still working on concepts for a foldable iPhone or iPad," said *Forbes*.

Tyler Lee in *Ubergizmo* also took a look at developments. Apple is showing interest in a foldable phone and "As it stands the concept shows a lot of promise, but whether or not it holds any practical use is still up to the public to decide," he added.

As the headline in *Wareable* stated, "Future Apple Watch could feature a flexible display that wraps around the wrist."

Well, it looks as if Ian Morris in *Forbes* has already thought about such things. "Time for a little personal opinion on this, because I don't think we'll see a folding iPhone soon. Why do I think that? Well because I don't actually think most of the folding phones that will arrive this year are going to be that useful, or sell especially well."

Foldable phones are not the only items in Apple patent talk this month. A future watch could get the flexible display treatment from Apple.

*MacRumors*' headline relayed flexible display designs for a future watch. Tim Hardwick, *MacRumors*, reported that Apple was awarded a patent for a potential Apple Watch design featuring a flexible microLED display that integrates with and encompasses almost the entire watch band.

*Foldable News* also said the patent for a smartwatch with flexible display was awarded to Apple; WIPO published the patent.

Where Apple's thinking gets especially interesting: Conor Allison in *Wareable* said, "The patent also hints at separating the screen from the watch bezel entirely and having it potentially act as a second display on

the watch band."

"The curved display spans the entire watch face and band, turning it into one large OLED or MicroLED surface, which can be used to display additional information." Now, that could be something to see.

Allison said that "instead of the screen ending at the watch face, it could drift onto the band itself and become an extension."

Note the description involves that "MicroLED" surface. The patent discussion included the thought that MicroLEDs could be used to change the design of the wristband.

Hardwick pointed out explorations of MicroLED displays has been alive and well at Apple for some time. This is not a new territory for them at all. Hardwick said Apple has been exploring MicroLED displays since at least 2014.

Apple's work on MicroLED is a known quantity, said Chris Davies in *SlashGear*, as are the display technology's potential benefits in clarity, outdoor visibility, power consumption, and more.

Like Lee, Hardwick said there was no sign that Apple intended "to bring devices with flexible screens to market anytime soon."

At this juncture, it may be helpful to look at what is so special about MicroLED. That is what Geoffrey Morrison did earlier this month in CNET. "MicroLED has the potential for the same perfect black levels as OLED with no danger of burn-in. It can deliver higher brightness than any current display technology, wide-gamut excellent color and doesn't suffer the viewing angle and uniformity issues of LCD."

Although "MicroLED is future tech," Morrison said that "Maybe we'll

see MicroLED in a phone or smartwatch in the same timeframe, since those don't require as many LEDs, don't need to be as bright, and are only expected to last a few years. We shall see."

In an article last year, Davies set out to describe MicroLED. He said basically it is "an array of LEDs, only much smaller than normal. Each pixel consists of red, green, and blue sub-pixels. As is the case with OLED, each of those individual sub-pixels is self-illuminating. There's no separate backlight required."



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