

Intel at CES to spring laptop cooling news?

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What does Intel have up its sleeve for CES 2020? One of the surprises, say a bunch of recent articles, might well be a thermal module solution for laptops. The new design could allow vendors to create fanless notebooks and can further shrink their thickness, [said DigiTimes](#).

Shawn Knight in [TechSpot](#) said that "Several partners will feature the new design in products shown off at CES."

The loudest whispers over what Intel may spring at the upcoming CES 2020 involve an advanced cooling solution, and it would be enhancing power dissipation—by 25 to 30 percent in laptops. Reports said the Intel idea leverages both vapor chamber design plus graphite.

The big deal is that the module addresses the weight problem of a cooling system in place when the end goal is a thin and light laptop. It has not been easy for vendors wanting to boost lightweight laptops but at the same time looking for more innovative cooling solutions.

DigiTimes had the much-quoted story about Intel, with reporting by Aaron Lee and Joseph Tsai. "At the upcoming CES 2020, Intel is planning to announce a thermal module design that is able to

enhance notebooks' heat dissipation by 25-30%." Who were the sources? The authors said the information was based on "sources from the upstream supply chain."

The new thermal design would be a combination of vapor chambers and graphite sheets, said *DigiTimes*.

What sets it apart from the usual design? *DigiTimes*: "Traditionally, thermal modules are placed in the compartment between the keyboard exterior part and the bottom shell as most key components that generate heat are located there. But Intel's design will replace the traditional thermal modules with a vapor chamber and attach it with a graphite sheet that is placed behind the screen area for stronger heat dissipation."

Vapor chambers? *DigiTimes* said these have seen an increase adoption in the past two years, largely linked to the requirement of gaming models needing stronger heat dissipation. Also, the article noted, "Compared to traditional heat pipe thermal module solutions, vapor chambers can be crafted into irregular shapes, allowing a broader coverage on hardware."

Nonetheless, *DigiTimes* spoke of one limitation. "At the moment, Intel's thermal module design is only suitable for notebooks that open at a maximum angle of 180 degrees and not models featuring 360-degree rotatable screen, "as the graphite sheet will expose from the hinge area and affect overall industrial design."

The topic of hinging came up; it apparently needs further attention with this design. *DigiTimes* said it's being worked on. "Some hinge makers pointed out that the issue is currently being fixed and will have a good chance to be resolved in the near future."

Joel Hruska in [ExtremeTech](#) will be especially curious to learn more when CES rolls around as to just how Intel's approach will work out. He described his reasons to be curious.

"I can absolutely believe that Intel has a new cooling module with a better vapor chamber design. The reference to fanless designs could be a reference to the k-Core cooler Boyd has built. How that cooler would interact with laptop hinges—and why anyone would ever want to seriously try to run a cooling solution through a laptop hinge... I'm willing to be convinced, but I don't understand it at first glance. Given that hinges are definitionally weak points of failure, the last thing I'd think any company would ever do is put part of the cooling solution in it."

This will not be the first time witnessing attempts by vendor brands to showcase clever cooling approaches.

[HEXUS](#) drilled down to marketplace activity beyond Intel over cooling technologies. Mark Tyson reported: There have been "Asus ROG Phone II, Aorus 17 gaming laptop, and Asus ProArt StudioBook One which leveraged vapour chamber cooling technology. Another product development that won big in the buzz word bingo was the Cryorig C7 G low profile cooler with graphene coating."

This [cooling](#) solution from Intel is said to be part of its Project Athena certification program, which Intel boasts is committed toward raising the bar on people's [laptop](#) experience, and they have set themselves on a mission to overcome engineering challenges.

Pocket-lint in August had a good overview of what the [project](#) is all about. The article said "Project Athena, at its purest form, is basically a set of standards that Intel wants for laptops. Intel said its engineers will work with companies like HP, Dell, and many more to create laptops that meets its standards. It'll even test them before they can become Project Athena-certified."

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