

Technical Disclosure Commons

Defensive Publications Series

November 2021

TEMP SMART BOOT

HP INC

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

INC, HP, "TEMP SMART BOOT", Technical Disclosure Commons, (November 28, 2021)
https://www.tdcommons.org/dpubs_series/4744



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.

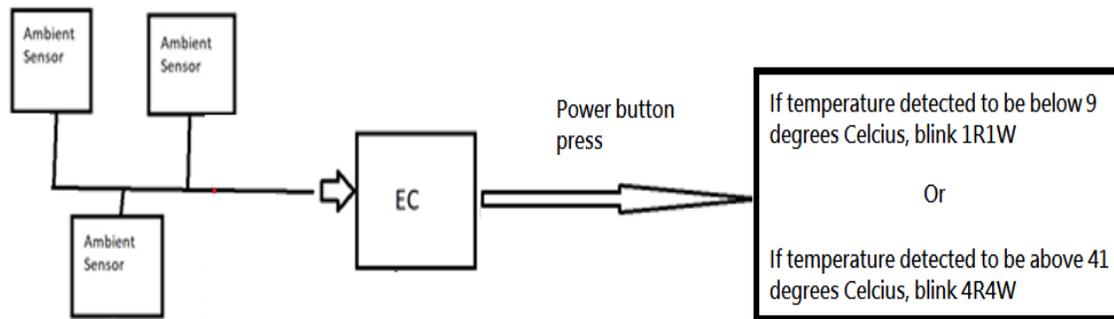
Temp Smart Boot

The idea comes from the real case:

We never got complaints from end users, complaining that the system boot-up didn't run successfully; for example, the power LED had become white colour, but no display; the phenomena looked pretty like the case that power sequence execution doesn't go through successfully. Following some experiments and debugging aftermath in the lab, we in the end finding the extreme low ambient temp was the culprit behind this issue; the extreme low ambient temp was already below the system low operation temp specs.

Solution and the simple flow chart to know how the solution works and why it can help end users quickly figure out the root cause and save much debug time of the customer service department:

Taking the real user case into account, we design a mechanism that will auto give end users warning sign or alert if, when the power button is pressed down, the system detects the ambient temp is not suitable for system to work normally. The temp range that is suitable for platforms usually is 10~40C degrees; given that, EC will read the temp provided by ambient sensors after the power button is pressed down to decide if it needs to make use of GPIO or circuit to get the warning or alert sent.



The alert mechanism is as follows:

When the temp detected from the ambient sensors is around 9C, the power LED will show 1R1W cycle after cycle to inform end users the ambient temp is below the system low temp specs 10C. On the contrary, when the temp detected is around 41C, the power LED will 4R4W cycle after cycle to inform end users the ambient temp is above the system high temp specs 40C.

What happens to the sensors and the EC once the system boots up?

We can continue using the EC and sensors to monitor system temperature after system boots up. For example, if temperature rises, can increase fan speed or throttle CPU.

Can the temperature threshold (9c) be changed by a user or the system?

Yes, we can let the user set their own threshold temperature to meet their requirement. We used 9c to 41c as an example only, since it is the recommend operating temperature range for many systems.

*Disclosed by Edsor Chen, Bing-Hao Cheng and Cheng-Yan Chiang,
HP Inc.*