Thesis title: Pulse width modulated fan

Type: 15 hp.

Prerequisites: IP, C, Di or equivalent.


PDU RT is responsible for the IP based transmission solutions for Ericsson Radio Access Networks (LTE, WCDMA, CDMA and GSM).

PDU RT is also responsible for the Site Integration Unit (SIU) node. We are looking for a person interested to do this thesis in the SIU node.

The task:

The fan control used in the current SIU product is an on/off procedure. When the temperature reaches a certain limit, the fan control activates the fan to run full speed. When the temperature drops the fan control disables the fan.

The new approach for the fan control is to, with software; regulate the speed of the fan with a pulse width modulated (PWM) signal that continuously keeps the fan spinning at lower speed giving a constant temperature in the product.

Investigate and improve current implementation
- Create a PWM signal with software for new implementation
- Monitor the temperature of the product during high load and compare with old implementation
- Determine Min and Max speed of fan with PWM.
- Compare the usage of energy (Environmental issue)
- Will the new approach decrease or increase the lifespan of the fan
- Is it possible to add this to the Built-in self-test (BIST) used today

You need experience and interest in:
- Software implementation in C/C++ on embedded Linux
- Standard LINUX scripting
- HW and low level SW

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