

## **Implemented workaround on the phyCORE-i.MX 6 SOM (PCM-058 and PCL-058) related to random PMIC regulator shutdown issue**

The information in this document is relevant for usage of the phyCORE-i.MX 6 System on Module with root part # PCM-058 and PCL-058, as well as corresponding SBCs with root part # PB-01501.

In rare cases the power management IC (PMIC) which is populated on the SOM to generate several needed power domains for the system is automatically shutting down one or more of its buck converters. This is caused by an automatic switching feature of the PMIC, which is foreseen for Switching from Synchronous (normal) operation to LOW load operation. Automatic shutdown is not required during normal operation. The above described behavior was first noticed in November 2016.

### **Workaround implemented:**

Automatic shutdown can be prevented by disabling the automatic mode for the affected buck converters. This can be accomplished by setting the appropriate register via I2C to SYNC mode. I2C address of PMIC is 0x58.

The affected buck converter register addresses are 0x9d, 0x9e, 0x9f and 0xa0 which have to be set to 0x80.

### **Recommended Measures:**

We recommend the Update of future systems and currently stocked units with new Barebox Bootloader and Linux Kernel containing the Patches listed below.

### **Available Barebox and Linux patches:**

The implementation for Barebox and Linux can be found in the corresponding git repositories:

Linux:

<https://git.phytec.de/linux-mainline/commit/?h=v4.1.35-phy&id=7c7a14fac0e37975f416f292fc82b3815f4abe44>

<https://git.phytec.de/linux-mainline/commit/?h=v4.1.35-phy&id=25592ab0dd3abf6900777dae02f546f429f7146f>

<https://git.phytec.de/linux-mainline/commit/?h=v4.1.35-phy&id=e21297ae5b2eb22620c9104ca1c3042ba0c48ed3>

<https://git.phytec.de/linux-mainline/commit/?h=v4.1.35-phy&id=4a1ed3e2e6af2dba761ab384924a59f098113210>

Barebox:

<https://git.phytec.de/barebox/commit/?h=v2016.11.0-phy&id=b4fa6c01e88a04cd6451fbf3656aa7fff0a917d>

Please contact our support if you need any further information.

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