Discontinuation and Migration of the Processor on the phyCORE-PXA270 (PCM-027)

The information in this document is relevant for deployment of the phyCORE-PXA270 System on Module with root part # PCM-027, as well as corresponding Rapid Development Kits with root part # KPCM-027.

Overview

The Marvel (formerly Intel) NHPXA270C5520 PXA270 processor used on the phyCORE-PXA270 has been discontinued and is replaced by the Marvell 88AP270MA2-BHE1C520 PXA270M device.

This product change impacts the following PHYTEC System on Modules:

PCM-027-xxx (phyCORE-PXA270)

In contrast to its NHPXA270C5520 predecessor, the 88AP270MA2-BHE1C520 is produced using a 65 nm process. This change in production process has resulted in changes to the SDRAM and LCD driver properties, as well as values of internal chip resistors.

Required Hardware and Software Modifications

- Depending on deployment of the phyCORE-PXA270 in end applications, the I/O pin drive strength of the SDRAM and LCD values could require reconfiguration via the registers LCDBSCNTR and BSCNTRx. For more information please refer to Specification Clarifications section S1 ("I/O Pin Drive Strength") in the “Marvell PXA270M Processor Specification Update.”

- The voltage levels and circuitry of peripheral devices connected to the phyCORE-PXA270 could also require modification due to the change of internal resistor values of the processor.
Please note that adjustment of the driver strength could also impact EMI characteristics of the phyCORE-PXA270 and its external circuitry.

In comparison to the NHPXA270C5520, the 88AP270MA2-BHE1C520 lacks a pull-up resistor at USBHPWR1 / GPIO88. This lack of a resistor can result in malfunction of the USB-Host interface.

Refer to the Marvell web site for additional Specification Updates in regards to the PXA270M processors.

Referenced Documents

Marvell® PXA270M Processor, Specification Update
Doc. No. MV-S900957-00 Rev. I, Public Release, April 19, 2010