To Our Valued Customers,

This PCN affects our iMX8M Mini uCOM board (product number: EAC00336 and EAC00349).

The Gigabit Ethernet Phy, AR8031 from Atheros, is not available on the market. We have replaced it with RTL8211FDI from Realtek. Although the update only has minimal software implications it is not 100% backward compatible.
The new replacement products are named EAC00432 (that matches the original EAC00349, i.e., extended temperature range) and EAC00437 (that matches the original EAC00336, i.e., commercial temperature range).

The latest Linux BSP ports available on imx.embeddedartists.com (and our associated github) have been updated to support the new RTL8211FDI Gigabit Phy. The updates are also backward compatible with the original Phy, meaning that EAC00336 and EAC00349 can run the new Linux BSP.
The status of the Linux BSP:s are as follows:

- V5.15.32 and V5.10.72 support the new RTL8211FDI Gigabit Phy, i.e., EAC00432 and EAC00437.
- V5.10.35 and earlier does not have support included.

If you are running an older Linux BSP version, the support must be manually added. Check the relevant commits in Github. Below is for the uBoot:
https://github.com/embeddedartists/uboot-imx/commit/a8af24caebec26bba1211eecbe310c64f98409d8#diff-4818bff6c812537dd6f75978a36ed097aedb0c2813832f4675bf8b7ecb654762
Specifically check the file board/embeddedartists/mx8mmea-ucom/mx8mmea-ucom.c where the chip initialization code for Atheros and Realtek has been separated. Also check the related defconfig-file.

The two commits below are for Linux:
https://github.com/embeddedartists/linux-imx/commit/eec9856d03724107abad05c5a892436f58645490#diff-8b1856316aa0f5745970d29e773371b3c50f9febc25c98ec2558de3312a2d2c4
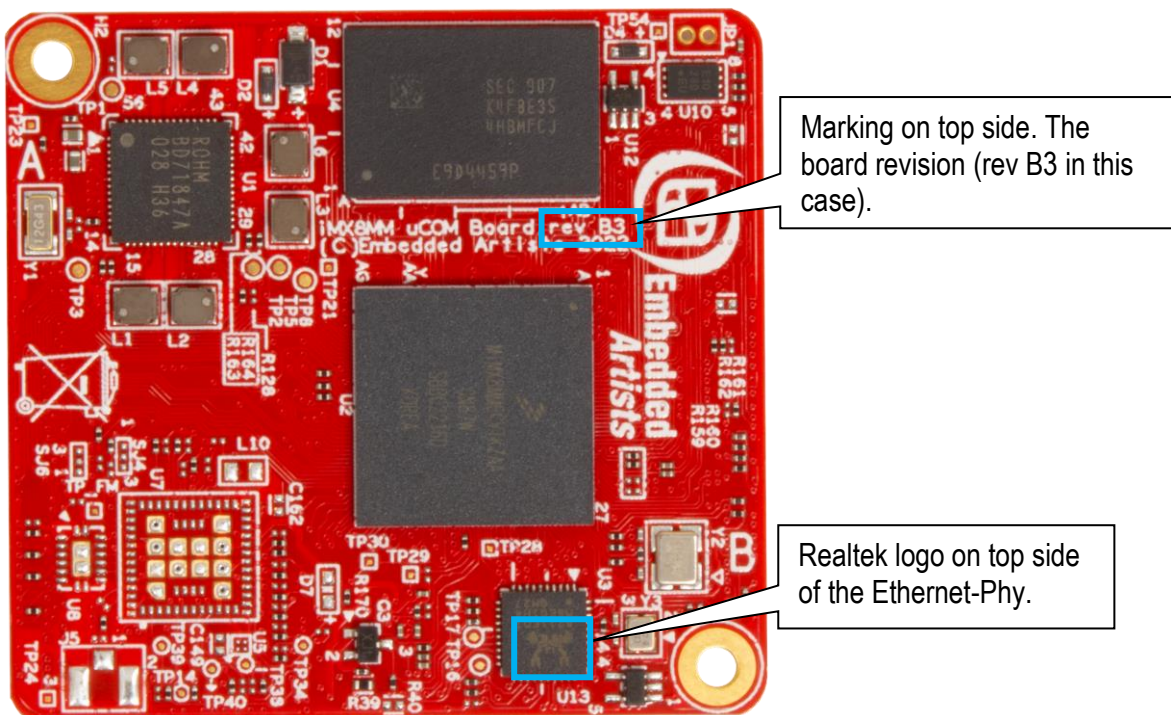https://github.com/embeddedartists/linux-imx/commit/102794d0cac76a861c063ba8c223410eebc10b5c
Specifically check the new dts-file properties and changed pin drive strengths. Also check the added support for the Realtek driver in the default configuration (CONFIG_REALTEK_PHY=y in defconfig, file: arch/arm/configs/ea_imx_defconfig).

Identification

The new Ethernet-Phy will be mounted on boards produced after January 2023. All boards from Embedded Artists have a marking: WO-XXXX-YYWW, where XXXX is the WO-number. YY is the year and WW is the week number when the board was produced.
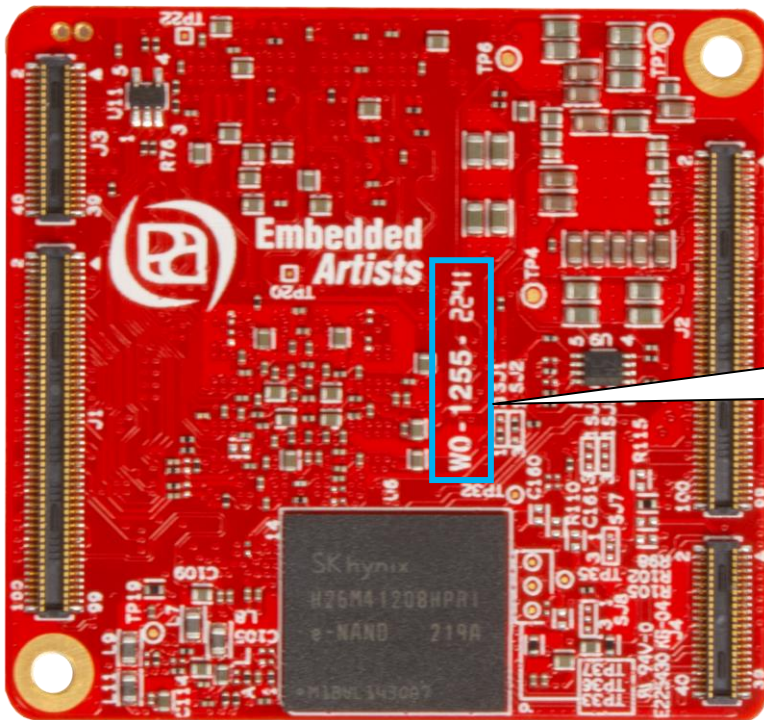
The affected boards will have a WO-number above or including: XXXX ≥ 1255.

Below is a picture of the new rev B3 board.

Marking on top side. The board revision (rev B3 in this case).

Realtek logo on top side of the Ethernet-Phy.

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Marking on bottom side. The WO-number is 1255 in this case.

Kind Regards,
Embedded Artists AB
March 24rd, 2023