MYS-7Z010/20-V2 Product Change Notes

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Version History

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FILE VERSION	AUTHOR	PARTICIPANT	DATE	DESCRIPTION
V1.0.0[DOC]	Luke gong	Fachang.zhang	2022-11-28	Hardware and Software Description For MYS-7Z010/20-V2.

CONTENTS

1 Overview

This document complements the Product Change Notice (Product Change Notice) PCN-MYS-2022-S02 to detail the hardware and software change information of MYS-7Z010/7020-V2 products, the change execution process and precautions to help customers smoothly complete the corresponding product changes and upgrades.

1.1. Impact of the Changes

This change has no impact on product function and performance, and the appearance of components is slightly different. It has no impact on the hardware design of the base board, and the software needs to be adjusted according to the guidance below.
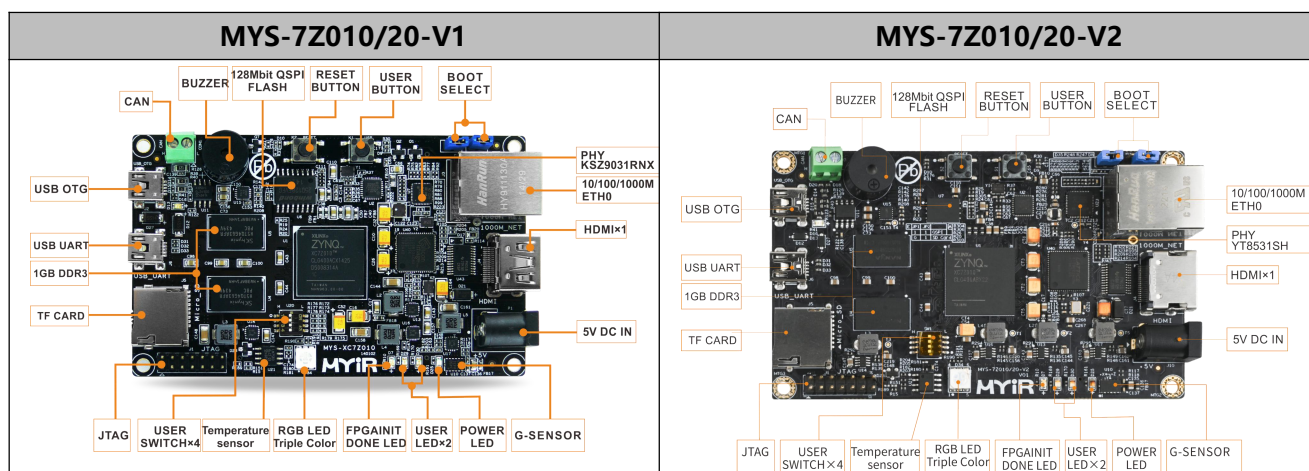
2. Change Content

2.1. Summary of Changes

This PCN is mainly used to solve the problem of material shortage. The products involved are MYS-7Z010/20 series boards.The product was upgraded from MYS-7Z010/20-V1 to MYS-7Z010/20-V2. There are a few changes in product appearance and software and hardware design. Specific changes are shown in the table below.

Table 2-1. Summary of MYS-7Z010/20-V2 Changes

Number	Changes	Reason for the change	Before the change	After the change
1	Gigabit Ethernet YT 8531SH instead of KSZ9031RNX	Shortage of chips	KSZ9031RNX (PHYIC)	YT8531SH
2	Power chip MP2143 DJ-LF-Z replaces the TLV62130RGTR	Shortage of chips	TLV62130RGTR (POWER IC)	MP2143DJ-LF-Z (POWER IC)
3	The EEPROM chip is added	Input factory MA X system into EE PROM	/	BL24C64A-PARC (EEPROM IC)
4	DDR chip NT5CC25 6M16ER-EK replaces MT41K256M16HA-125:E	Shortage of chips	MT41K256M16HA -125:E（DDR IC）	NT5CC256M16ER-E K（DDR IC）

2.2. Changes of the Product Appearance

Table 2-2. Product appearance comparison

2.3. Changes of the Product Hardware

Compared with MYS-7Z010/20-V1, the overall functions and interfaces of MYS-7Z 010/20-V2 have no major changes, which does not affect the functions of the MYS -7Z010/20 development board.The Ethernet PHY chip was changed from KSZ9031 RNX chip to YT8531SH chip.

Table 2-3. Details about the hardware changes

Label	MYS-7Z010/20-V1	MYS-7Z010/20-V2	Description
U44	KSZ9031RNX (PHY IC)	YT8531SH (PHY IC)	Gigabit Ethernet YT8531SH instead of KSZ9031RNX
U13,U14,U16,U17	TLV62130RGTR (POWER IC)	MP2143DJ-LF-Z (POWER IC)	The power chip MP2143DJ-LF-Z replaces the TLV62130RGTR
U50	/	BL24C64A-PARC (EEPROM IC)	The EEPROM chip is added
U4,U5	MT41K256M16HA-125:E (DDR IC)	NT5CC256M16ER-EK (DDR IC)	DDR chip NT5CC256M16ER-EK replaces MT41K256M16HA-125:E

2.4. Changes of the Product Software

The MYS-7Z010/20-V2 builds on the MYS-7Z010/20-V1 with the addition of the YT8531SH Ethernet PHY chip driver. The modified software is compatible with both MYS-7Z010/20-V1 and MYS-7Z010/20-V2. For different hardware versions (V1 and V2), we mainly made differences and additions in the following files.

Table 2-4. List of software code changes

Module	MYS-7Z010/20-V1	MYS-7Z010/20-V2	Description
Kernel driver	drivers/net/ethernet/cadence/macb_main.c	motorcomm.c motorcomm_phy.h yt8614-phy.c yt8614-phy.h	Path:/drivers/net/phy

3. Software Change Notes

For customers who used V1 before and want to continue to develop on V2, the following operations are recommended to achieve rapid software change.

3.1. Get the latest code

The user has two methods to update the code, and the two methods have the same final effect.

Method 1: Compile the latest project according to BSP

MYS-7z010 board please download BSP for MYS-7z010, MYS-7z020 board please download BSP for MYS-7z020. The following are the corresponding BSP file names.

> MYS-7z010 BSP:MYS-7Z010-HDMI.bsp
> MYS-7z020 BSP:MYS-7Z020-hdmi.bsp

There are two ways to obtain BSP:

Get the latest BSP package through github.com.

MYS-7z010 board please download BSP for 10,7z020 board please download BSP for 20.

BSP package download path: https://github.com/MYiR-Dev/myir-xilinx-petalinux
BRANCH: MYS-7Z010
COMMIT: 1a18f440a27d1d823a33b78a6dade0633ae7ac17

> A. Find the latest BSP package through the CD-ROM

CD material download page:http://d.myirtech.com/Z-turn-board
BSP Path:04-Linux_Source\Petalinux_bsp

Method 2: Install patches to update the kernel separately

Download page through myir information http://d.myirtech.com/Z-turn-board Get the Kernel source code, The upgrade patch *0001-FEAT-add-yt8531-driver.patch* is obtained after decompression.

3.2. Compiling the latest code

The code compilation methods obtained by the above two methods will be different, but the final effect is the same.

Method 1: Compile a new image (all updated) through BSP. This will compile the latest project.

> ➢ Create a new project directory

```
mkdir MYS-7Z010
cd MYS-7Z010
```

> ➢ Copy the downloaded BSP file of 7z010 or 7z020 to the created directory and execute the following compilation command

```
petalinux-create -t project -s xxx.bsp
cd zturn
petalinux-build
```

> ➢ After a successful compilation ,check if *motorcomm.c* and *motorcomm.o* files are generated .

```
motorcomm.c path：work/zturn/build/temp/work-share/kernel-source/drivers/net/phy/
motorcomm.o path：work/turn/build/tmp/work/plnx_zynq7-xilinx-linux-gnueabi/linux-xlnx/4.14-xilinx-v2018.3+gitAUTOINC+eeab73d120-r0/linux-plnx_zynq7-standard-build/drivers/net/phy/
```

If you have a *motorcomm.c* file but no *motorcomm.o* file, the drive is uncompiled, so you need to recompile the kernel.

> ➢ Create a *add-yt8531-driver.cfg* file under the *work/zturn/project-spec/meta-user/recipes-kernel/linux/linux-xlnx/* directory (the engineering path created by work for itself), and modify the file

```
CONFIG_MOTORCOMM_PHY=y
```

> ➢ Go back to the *work/zturn/project-spec/meta-user/recipes-kernel/linux/* directory, and modify the *linux-xlnx_%.bbappend* is as follows, adding the cfg file

```
SRC_URI_append = " \
    file://MYIR_ZYNQ7000_PetaLinux_Kernel_20183.patch \
```

```
    file://0001-FEAT-add-yt8531-driver.patch \
"

FILESEXTRAPATHS_prepend := "${THISDIR}/${PN}:"
SRC_URI += "file://add-yt8531-driver.cfg \
        "
```

> After you save your exit, you compile the kernel separately

```
petalinux-build -c kernel
```

Method 2: patching (using the existing project to update separately). The operation steps are as follows:

> Copy *0001-FEAT-add-yt8531-driver.patch* to *work/zturn/project-spec/meta-user/recipes-kernel/linux/linux-xlnx/* (The engineering path that the work creates for itself)

> Also create a *add-yt8531-driver.cfg* file under this path, and modify the file contents to:

```
CONFIG_MOTORCOMM_PHY=y
```

> Back to *work/zturn/project-spec/meta-user/recipes-kernel/linux/*, Modify the *linux-xlnx_%.bbappend* is as follows

```
SRC_URI_append = " \
    file://MYIR_ZYNQ7000_PetaLinux_Kernel_20183.patch \
    file://0001-FEAT-add-yt8531-driver.patch \
"

FILESEXTRAPATHS_prepend := "${THISDIR}/${PN}:"
SRC_URI += "file://add-yt8531-driver.cfg \
        "
```

> Save after exit，Separate compilation kernel

```
petalinux-build -c kernel
```

Build compile and see for *motorcomm.c* and *motorcomm.o* file generation.

3.3. Application Change Description

No impact on the application, and customers do not need to modify the application code.

Appendix A

Warranty & Technical Support Services

MYIR Electronics Limited is a global provider of ARM hardware and software tools, design solutions for embedded applications. We support our customers in a wide range of services to accelerate your time to market.

MYIR is an ARM Connected Community Member and work closely with ARM and many semiconductor vendors. We sell products ranging from board level products such as development boards, single board computers and CPU modules to help with your evaluation, prototype, and system integration or creating your own applications. Our products are used widely in industrial control, medical devices, consumer electronic, telecommunication systems, Human Machine Interface (HMI) and more other embedded applications. MYIR has an experienced team and provides custom design services based on ARM processors to help customers make your idea a reality.

The contents below introduce to customers the warranty and technical support services provided by MYIR as well as the matters needing attention in using MYIR's products.

Service Guarantee

MYIR regards the product quality as the life of an enterprise. We strictly check and control the core board design, the procurement of components, production control, product testing, packaging, shipping and other aspects and strive to provide products with best quality to customers. We believe that only quality products and excellent services can ensure the long-term cooperation and mutual benefit.

Price

MYIR insists on providing customers with the most valuable products. We do not pursue excess profits which we think only for short-time cooperation. Instead, we hope to establish

long-term cooperation and win-win business with customers. So we will offer reasonable prices in the hope of making the business greater with the customers together hand in hand.

Delivery Time

MYIR will always keep a certain stock for its regular products. If your order quantity is less than the amount of inventory, the delivery time would be within three days; if your order quantity is greater than the number of inventory, the delivery time would be always four to six weeks. If for any urgent delivery, we can negotiate with customer and try to supply the goods in advance.

Technical Support

MYIR has a professional technical support team. Customer can contact us by email (support@myirtech.com), we will try to reply you within 48 hours. For mass production and customized products, we will specify person to follow the case and ensure the smooth production.

After-sale Service

MYIR offers one year free technical support and after-sales maintenance service from the purchase date. The service covers:

Technical support service

MYIR offers technical support for the hardware and software materials which have provided to customers;

➢ To help customers compile and run the source code we offer;

➢ To help customers solve problems occurred during operations if users follow the user manual documents;

➢ To judge whether the failure exists;

➢ To provide free software upgrading service.

However, the following situations are not included in the scope of our free technical support service:

> Hardware or software problems occurred during customers' own development;

> Problems occurred when customers compile or run the OS which is tailored by themselves;

> Problems occurred during customers' own applications development;

> Problems occurred during the modification of MYIR's software source code.

After-sales maintenance service

The products except LCD, which are not used properly, will take the twelve months free maintenance service since the purchase date. But following situations are not included in the scope of our free maintenance service:

> The warranty period is expired;

> The customer cannot provide proof-of-purchase or the product has no serial number;

> The customer has not followed the instruction of the manual which has caused the damage the product;

> Due to the natural disasters (unexpected matters), or natural attrition of the components, or unexpected matters leads the defects of appearance/function;

> Due to the power supply, bump, leaking of the roof, pets, moist, impurities into the boards, all those reasons which have caused the damage of the products or defects of appearance;

> Due to unauthorized weld or dismantle parts or repair the products which has caused the damage of the products or defects of appearance;

> Due to unauthorized installation of the software, system or incorrect configuration or computer virus which has caused the damage of products.

Warm tips

1. MYIR does not supply maintenance service to LCD. We suggest the customer first check the LCD when receiving the goods. In case the LCD cannot run or no display, customer should contact MYIR within 7 business days from the moment get the goods.

2. Please do not use finger nails or hard sharp object to touch the surface of the LCD.

3. MYIR suggests user purchasing a piece of special wiper to wipe the LCD after long time use, please avoid clean the surface with fingers or hands to leave fingerprint.

4. Do not clean the surface of the screen with chemicals.

5. Please read through the product user manual before you using MYIR's products.

6. For any maintenance service, customers should communicate with MYIR to confirm the issue first. MYIR's support team will judge the failure to see if the goods need to be returned for repair service, we will issue you RMA number for return maintenance service after confirmation.

Maintenance period and charges

➢ MYIR will test the products within three days after receipt of the returned goods and inform customer the testing result. Then we will arrange shipment within one week for the repaired goods to the customer. For any special failure, we will negotiate with customers to confirm the maintenance period.

➢ For products within warranty period and caused by quality problem, MYIR offers free maintenance service; for products within warranty period but out of free maintenance service scope, MYIR provides maintenance service but shall charge some basic material cost; for products out of warranty period, MYIR provides maintenance service but shall charge some basic material cost and handling fee.

Shipping cost

During the warranty period, the shipping cost which delivered to MYIR should be responsible by user; MYIR will pay for the return shipping cost to users when the product is repaired. If the warranty period is expired, all the shipping cost will be responsible by users.

Products Life Cycle

MYIR will always select mainstream chips for our design, thus to ensure at least ten years continuous supply; if meeting some main chip stopping production, we will inform customers in time and assist customers with products updating and upgrading.

Value-added Services

1. MYIR provides services of driver development base on MYIR's products, like serial port, USB, Ethernet, LCD, etc.

2. MYIR provides the services of OS porting, BSP drivers' development, API software development, etc.

3. MYIR provides other products supporting services like power adapter, LCD panel, etc.

4. ODM/OEM services.

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