

Subject: Re: [IMPORTANT & URGENT] Need your help to get USB 3 & GbE port working on SR-HBP-v2.3 ASAP. Otherwise, I have to return 6 SR-HBP-v2.3 back to you.
From: Josua Mayer <josua@solid-run.com>
Date: 9/10/2020, 3:16 PM
To: johnkzao@nctu.edu.tw, 'Ilya Viten' <iya@solid-run.com>
CC: 'Tal Pilo' <tal.pilo@solid-run.com>, 'Jon Nettleton' <jon@solid-run.com>, 'Noam Weidenfeld' <noam.weidenfeld@solid-run.com>, 'Rabeeh Khoury' <rabeeh@solid-run.com>, 顏政廷 <tommya0942@nctu.edu.tw>, 'Kevin Ting' 丁國平 <KevinTing@aaeon.com.tw>, 'KenPan 潘孟楷' <KenPan@aaeon.com.tw>, 'Gary Gan' <gary.gan@pet.cs.nctu.edu.tw>, 'ericwliang' <ericwliang@nctu.edu.tw>, 'Raymond Yeung' <whyeyung@ie.cuhk.edu.hk>, 'Raymond Chan' <chanhw04@hotmail.com>, 'Atai Ziv' <atai@solid-run.com>

Hi John,
After a lengthy debugging session we have figured out where our Debian images diverged from the revision 2.3 carrier and were able to show both usb type A ports, both ethernet ports, and the mpic slot functional.
In order to resolve your USB and mPcie problems, please use the latest -preview image (<https://images.solid-build.xyz/IMX8/Debian/sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse.img.xz>) and install the attached dtb file to 2 locations on partition 1 of your microSD:
- boot/dtbs/4.19.35-imx8-sr/imx8mq-hummingboard-pulse.dtb
- etc/flash-kernel/dtbs/imx8mq-hummingboard-pulse.dtb
I will eventually be generating new images that address the problems around USB - mpic is problematic because right now we have to choose between enabling wifi on SoMs - or enabling the mpic slot. We hope to find a solution to automating this.

The Intel NIC on the Carrier was already functional by my tests. You do however need to explicitly configure the network interface yourself, since our images only come with default settings for one interface. Ideally you would refer to the Debian Manual on this- however as a shortcut you can create a textfile at etc/network/interfaces.d/eth1 with below content:
eth1 automatic configuration
allow-hotplug eth1
iface eth1 inet dhcp
iface eth1 inet6 auto
This will automatically enable the interface with dhcp for ipv4 and zeroconf for ipv6 on connecting to a switch or other network device.

Yours sincerely
Josua Mayer

Am 10.09.20 um 16:10 schrieb johnkzao@nctu.edu.tw:

THANKS A LOT, Ilya!

Look forward to hearing from you early next week.

Sabbath shalom!

John

From: Ilya Viten [mailto:iya@solid-run.com]
Sent: Thursday, September 10, 2020 8:24 PM
To: johnkzao <johnkzao@nctu.edu.tw>
Cc: Josua Mayer <josua@solid-run.com>, Tal Pilo <tal.pilo@solid-run.com>, Jon Nettleton <jon@solid-run.com>, Noam Weidenfeld <noam.weidenfeld@solid-run.com>, Rabeeh Khoury <rabeeh@solid-run.com>, 顏政廷 <tommya0942@nctu.edu.tw>, Kevin Ting 丁國平 <KevinTing@aaeon.com.tw>, KenPan 潘孟楷 <KenPan@aaeon.com.tw>, Gary Gan <gary.gan@pet.cs.nctu.edu.tw>, ericwliang <ericwliang@nctu.edu.tw>, Raymond Yeung <whyeyung@ie.cuhk.edu.hk>, Raymond Chan <chanhw04@hotmail.com>, Atai Ziv <atai@solid-run.com>
Subject: Re: [IMPORTANT & URGENT] Need your help to get USB 3 & GbE port working on SR-HBP-v2.3 ASAP. Otherwise, I have to return 6 SR-HBP-v2.3 back to you.

Hi John,

First of all we apologize for the delay in handling this, we had some SW staff changes and this issue has been escalated to our management and CTO who will look into it and get back to you shortly. We will provide you with an updated Debian image for Rev 2.3 of the HummingBoard asap as well.

BR,
Ilya



Ilya Viten | Sales & Marketing
+972-52-679606 | <http://www.solid-run.com>

On Thu, Sep 10, 2020 at 2:31 PM <johnkzao@nctu.edu.tw> wrote:

Shalom Ilya, Josua, Tal & Jon! Good morning!

I still haven't received a reply from any of you on a solution of our problem. Please help us to solve the problem before your Sabbath.

Otherwise, we have to return the six (6) HummingBoard Pulse v2.3 [SRHBCUE000CV23/1] we received back to you and ask you to pay the return postage since there is NO WAY for us to get these boards fully functioning.

I've been using SolidRun IMX8 & IMX8 products since 2017 and was a HAPPY customer. I can no longer say that these days. Unfortunately, NOW is the time I am working under a lot of pressure to meet the need of big customers. I can't afford to fail.

Please get back to me as soon as you can. I know your sabbath holidays are near. Please take care of us before then.

Sincerely,

John K Zao PhD (Harvard) SMIEEE
CTO, FiduciaEdge Technologies
Chair, IEEE 1934 & 1935 Working Group
Vice Chair, IEEE Standard Committee on Edge/Fog/Cloud Communications with IOT & Big Data
Co-Chair, IIC Distributed Computing & Security Working Groups

From: johnkzao@nctu.edu.tw [mailto:johnkzao@nctu.edu.tw]
Sent: Tuesday, September 8, 2020 9:15 AM
To: 'Ilya Viten' <iya@solid-run.com>, 'Josua Mayer' <josua@solid-run.com>, 'Tal Pilo' <tal.pilo@solid-run.com>, 'Jon Nettleton' <jon@solid-run.com>
Cc: 'Noam Weidenfeld' <noam.weidenfeld@solid-run.com>, 'Rabeeh Khoury' <rabeeh@solid-run.com>, 顏政廷 <tommya0942@nctu.edu.tw>, 'Kevin Ting' 丁國平 <KevinTing@aaeon.com.tw>, 'KenPan 潘孟楷' <KenPan@aaeon.com.tw>, 'Gary Gan' <gary.gan@pet.cs.nctu.edu.tw>, 'ericwliang' <ericwliang@nctu.edu.tw>, 'Raymond Yeung' <whyeyung@ie.cuhk.edu.hk>, 'Raymond Chan' <chanhw04@hotmail.com>, 'johnkzao@nctu.edu.tw' <johnkzao@nctu.edu.tw>
Subject: RE: Need your help to get USB 3 & GbE port working on SR-HBP-v2.3 ASAP. THANKS!
Importance: High

THANK YOU AGAIN, Ilya, for your swift response as always!
GREETINGS, Josua!

Josua:

Please review the attached slide deck for our test results. You can click on the WORD file icons on Slide 1 to see the complete boot log of each test. I think the problem we encountered was caused by a mismatched debian image or a mismatched device tree blob (DTB). Please provide us with the ones we shall install on our SR-HBP-v2.3 [SKU: SRHBCUE000CV23/1].

Would you please help us to solve this problem with the next two days? We need to ship these boards to our collaborators before this weekend. I copied this email exchange to them as well.

Please feel free to call me via Skype or FaceTime using the following contact information:

Skype ID: johnkzao
iPhone Number: +886-936-814849

THANK YOU IN ADVANCE!

Best,
John

From: Ilya Viten [mailto:iya@solid-run.com]
Sent: Tuesday, September 8, 2020 12:21 AM
To: johnkzao <johnkzao@nctu.edu.tw>, Josua Mayer <josua@solid-run.com>
Cc: Tal Pilo <tal.pilo@solid-run.com>, Jon Nettleton <jon@solid-run.com>, Noam Weidenfeld <noam.weidenfeld@solid-run.com>, Rabeeh Khoury <rabeeh@solid-run.com>, 顏政廷 <tommya0942@nctu.edu.tw>, Kevin Ting 丁國平 <KevinTing@aaeon.com.tw>, KenPan 潘孟楷 <KenPan@aaeon.com.tw>, Gary Gan <gary.gan@pet.cs.nctu.edu.tw>, ericwliang <ericwliang@nctu.edu.tw>
Subject: Re: Need your help to get USB 3 & GbE port working on SR-HBP-v2.3 ASAP. THANKS!

Hi John,

I'm adding Josua as well who maintains the debian images.
Ilya

On Mon, Sep 7, 2020, 18:27 <johnkzao@nctu.edu.tw> wrote:

Shalom, Tal, Jon & Ilya!

Hope you had a peaceful Sabbath.

My colleague Tommy finished a set of thorough tests on SR-HBP-v2.3 using the following four different build images:

[sr-imx8-debian-buster-20191120-cli-imx8mq-sdhc.img](#)
[sr-imx8-debian-buster-20200713-cli-imx8mq-sdhc.img](#)
[sr-imx8-debian-bullseye-20200713-cli-imx8mq-sdhc.img](#)
[sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse.img](#)

The following table summarized his findings.

HW SKU	Image name	HDMI	USB-1	USB-2	1GbE/PoE Ethernet	Ethernet	Ethernet (PCIe)
SKU: SRHBCUE000CV23/1	sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse.img	Pass	Pass	Fail	Pass	Fail	Fail
	sr-imx8-debian-buster-20191120-cli-imx8mq-sdhc.img	Pass	Fail	Fail	Pass	Fail	Fail
	sr-imx8-debian-buster-20200713-cli-imx8mq-sdhc.img	Pass	Fail	Fail	Pass	Fail	Fail
	sr-imx8-debian-bullseye-20200713-cli-imx8mq-sdhc.img	Pass	Fail	Fail	Pass	Fail	Fail
SKU: SRHBCUE000CV21/4 [with WiFi]	sr-imx8-debian-buster-20191120-cli-imx8mq-sdhc.img	Pass	Pass	Pass	Pass	N/A	N/A

In addition, the following list shows the status of PCI, USB and Ethernet ports extracted from the boot logs of SR-HBP-v2.3.

cmd

sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse.img

lsusb

Bus 002 Device 002: ID 04b4:6500 Cypress Semiconductor Corp.
Bus 002 Device 001: ID 168b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 002: ID 04b4:6502 Cypress Semiconductor Corp. C14609
Bus 001 Device 001: ID 168b:0002 Linux Foundation 2.0 root hub

lspci

0:00.0 PCI bridge: Synopsys, Inc. DWC_usb3 / PCIe bridge (rev 01)
01:00.0 Ethernet controller: Intel Corporation I210 Gigabit Network Connection (rev 03)

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host
valid_lft forever preferred_lft forever

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether d2:63:b4:47:a5:3c brd ff:ff:ff:ff:ff:ff
3: eth1: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether d0:63:b4:02:81:dc brd ff:ff:ff:ff:ff:ff

ip a

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state DOWN group default qlen 1000
link/ether d2:63:b4:47:a5:3c brd ff:ff:ff:ff:ff:ff
3: eth1: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
link/ether d0:63:b4:02:81:dc brd ff:ff:ff:ff:ff:ff

HDMI	USB-1	USB-2	1GbE/PoE Ethernet	Ethernet	Ethernet (PCIe)
Pass	Pass	Fail	Pass	Fail	Fail

HDMI	USB-1	USB-2	1GbE/PoE Ethernet	Ethernet	Ethernet (PCIe)
Pass	Fail	Fail	Pass	Fail	Fail

So, it seems the ports can be detected, but can't be used.

May I ask what build image we should use to boot a SR-HBP v2.3, which is without Wi-Fi but with a GbE module installed on the mPCIe slot? Also, we need the proper Device Tree Blobs that match with SR-HBP v2.3.

Please help us to get these HBP working ASAP. Our collaborators are waiting for them in order to trying out their software on them.

THANKS A LOT!

John

From: Jon Nettleton [mailto:jon@solid-run.com]

Sent: Monday, August 31, 2020 3:03 PM

To: johnkzao@nctu.edu.tw

Cc: Tal Pilo <tal.pilo@solid-run.com>; Ilya Viten <ilya@solid-run.com>; Noam Weidenfeld <noam.weidenfeld@solid-run.com>; Rabeeh Khoury <rabeeh@solid-run.com>; 周敦江 <tommyp0942@nctu.edu.tw>; KevinTing 丁國平 <KevinTing@aseon.com.tw>; KenPan 潘孟楷 <KenPan@aseon.com.tw>; Gary Gan <gary.gan@pet.cs.nctu.edu.tw>; ericywiliang <ericywiliang@nctu.edu.tw>; Ching <chenching.cs07@nctu.edu.tw>

Subject: Re: Need your help to get a USB 3 & a GbE port working. THX!

John,

The IMX8M SOC only supports 2 PCIe devices without the use of a PCIe switch. One of the PCIe root ports is used by the wifi module on the SOC. If this module is not assembled then this PCIe port can be used by the mini PCIe slot on the carrier, but this is an assembly option at manufacturing. The second PCIe port is used by the Intel NIC.

-Jon

From: johnkzao@nctu.edu.tw [mailto:johnkzao@nctu.edu.tw]

Sent: Monday, August 31, 2020 12:14 PM

To: 'Tal Pilo' <tal.pilo@solid-run.com>

Cc: Ilya Viten <ilya@solid-run.com>; Noam Weidenfeld <noam.weidenfeld@solid-run.com>; Jon Nettleton <jon@solid-run.com>; Rabeeh Khoury <rabeeh@solid-run.com>; 周敦江 <tommyp0942@nctu.edu.tw>; KevinTing 丁國平 <KevinTing@aseon.com.tw>; KenPan 潘孟楷 <KenPan@aseon.com.tw>; Gary Gan <gary.gan@pet.cs.nctu.edu.tw>; ericywiliang <ericywiliang@nctu.edu.tw>; Ching <chenching.cs07@nctu.edu.tw>

Subject: RE: Need your help to get a USB 3 & a GbE port working. THX!

THANK YOU, Tal, for your reply!

I'll ask my colleague, Tommy Wang, to check the status of PCI bus.

BTW, why you want us to check the PCI bus? FYI, we inserted a GbE module to the mPCIe slot on the HummingBoard Pulse. Would that interfere with the 2nd GbE port? We really want to have all three GbE ports working. Is there a way to do so?

THANKS AGAIN!

John

From: Tal Pilo [mailto:tal.pilo@solid-run.com]

Sent: Sunday, August 30, 2020 10:49 PM

To: johnkzao@nctu.edu.tw

Cc: Ilya Viten <ilya@solid-run.com>; Noam Weidenfeld <noam.weidenfeld@solid-run.com>; Jon Nettleton <jon@solid-run.com>; Rabeeh Khoury <rabeeh@solid-run.com>; 周敦江 <tommyp0942@nctu.edu.tw>; KevinTing 丁國平 <KevinTing@aseon.com.tw>; KenPan 潘孟楷 <KenPan@aseon.com.tw>; Gary Gan <gary.gan@pet.cs.nctu.edu.tw>; ericywiliang <ericywiliang@nctu.edu.tw>; Ching <chenching.cs07@nctu.edu.tw>

Subject: Re: Need your help to get a USB 3 & a GbE port working. THX!

Hi all,

I will test the USB 3.0 port and the ethernet tomorrow when I am at the office. In the meantime, can you please let me know if you see the pci bus? you can just use lspci to see if you have any output.

Best regards,

Tal

On Sat, Aug 29, 2020 at 11:13 AM <johnkzao@nctu.edu.tw> wrote:

Shabbat shalom, Tal and Ilya!

Hope you enjoy a peaceful day!

My colleagues Tommy Wang has completed our tests on the six (6) SolidRun HummingBoard Pulse modules [\[SKU-SRHBCEU000CV23/1\]](#) we ordered using the debian BSP downloaded from your website [\[sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse\]](#). As reported in the attached file, we cannot use the following ports:

§ The upper USB 3 port (marked as USB1) on the dual port USB connector;

§ The RJ45 Ethernet port next to the PoE Ethernet port.

Can you provide us with the proper BSP and the device tree so that we can use these I/O ports? Were we using a wrong BSP? Please advise.

May I also ask whether the two Ethernet ports (one of which is a PoE port) share their bandwidth? If so, can we install another Ethernet port by inserting a GbE module to the mPCIe slot on the HummingBoard Pulse? We would like to know whether that slot provides a fully functioning mPCIe interface.

THANK YOU IN ADVANCE for your help!

Best regards,

John K. Zao
CTO, FiduciaEdge Technologies

From: 周敦江 [mailto:tommyp0942@nctu.edu.tw]

Sent: Friday, August 28, 2020 4:26 PM

To: 逕啟陳_CTO郭家慶John <johnkzao@nctu.edu.tw>

Cc: Ilya Viten <ilya@solid-run.com>; Tal Pilo <tal.pilo@solid-run.com>; Noam Weidenfeld <noam.weidenfeld@solid-run.com>; KevinTing 丁國平 <KevinTing@aseon.com.tw>; KenPan 潘孟楷 <KenPan@aseon.com.tw>; Gary Gan <gary.gan@pet.cs.nctu.edu.tw>; ericywiliang <ericywiliang@nctu.edu.tw>; Ching <chenching.cs07@nctu.edu.tw>

Subject: Re: BSP for SolidRun HummingBoard Pulse v2.3 [SKU-SKU-SRHBCEU000CV23/1]

Dear Tal,

The attachment is the test result of Solidrun HummingBoard-Pulse, (with console log)

The image I use is [sr-imx8-debian-bullseye-20200804-preview-cli-imx8mq-sdhc-hummingboard-pulse](#)

Please help clarify the problem that USB and Ethernet are not functional, thank you!

Best Regard

<johnkzao@nctu.edu.tw> 於 2020年8月24日 週一 上午9:25寫道：

THANK YOU, Ilya, for your swift reply!

SHALOM, Tal! And, THANKS for your help!

The problem seems rather simple. We can't get the USB 3 ports working on the SolidRun HummingBoard Pulse v2.3 [SKU-SKU-SRHBCEU000CV23/1] when we use the BSP for v2.1. Would you inform us of the possible solution?

The Product Manager on my side, Tommy Wang, will work with you to resolve this problem. Please feel free to reach out to him.

Dear Tommy, would you tell Tal exactly what has happened?

THANKS A LOT for all your efforts!

Best,

John

From: Ilya Viten [mailto:ilya@solid-run.com]

Sent: Monday, August 24, 2020 12:29 AM

To: johnkzao@nctu.edu.tw; Tal Pilo <tal.pilo@solid-run.com>

Cc: Noam Weidenfeld <noam.weidenfeld@solid-run.com>; KevinTing 丁國平 <KevinTing@aseon.com.tw>; KenPan 潘孟楷 <KenPan@aseon.com.tw>; Gary Gan <gary.gan@pet.cs.nctu.edu.tw>; ericywiliang <ericywiliang@nctu.edu.tw>; tommyp0942@nctu.edu.tw

Subject: Re: BSP for SolidRun HummingBoard Pulse v2.3 [SKU-SKU-SRHBCEU000CV23/1]

Hi John,

I am adding Tal our lead SW engineer to help, Tal can you check the mail below and advise please?

...



Ilya Viten | Sales & Marketing
+972-52-5799206 | <https://www.solid-run.com>

On Sun, Aug 23, 2020 at 5:51 PM <johnkzao@nctu.edu.tw> wrote:

Shalom, Ilya & Noam!

Hope you had a peaceful Sabbath.

May I ask you to provide us with the BSP for SolidRun HummingBoard Pulse v2.3 [SKU-SKU-SRHBCEU000CV23/1]?

We ordered six of them and have used them on our POC prototype. However, although the BSP for HummingBoard Pulse v2.1 booted successfully on v2.3, we can't get the USB 3 port to work. We suspect that its I/O address has been changed.

2 of 3

9/10/2020, 11:31 PM

Would you please refer us to the BSP that's compatible to v2.3? In addition, please provide us with the I/O addresses of the USB 3.0 ports.

THANKS A LOT!

John



Tal Pilo, Software Team Manager
+972-52-7914866 <https://www.solid-run.com>

Attachments:

ima5mq-hummingboard-pulse.dtb

27 bytes