

BOARD SUPPORT PACKAGE

For Connect Tech NVIDIA® Jetson Thor™ Carriers

BSP Version: THOR-38.2.1 V001-INTELRS
Last Updated: 2025/10/23

1. Introduction

This Board Support Package adds support for the Connect Tech Jetson Thor™ family of carrier boards to Linux4Tegra. It includes any extra files required to use all the features of Connect Tech carriers.

Please check Section 3 for supported features for your board and Section 8 for the changes made between versions. You can check which version of the BSP you have installed by running:

```
cat /etc/cti/CTI-L4T.version
```

Check for the Latest Version of the CTI-L4T BSP at:
<https://connecttech.com/resource-center/l4t-board-support-packages/>

2. Requirements

- x86/x64 based host machine running Ubuntu 22.04 or 24.04
- JetPack 7.0 / L4T 38.2.1 installed (see Section 4)
- Jetson Thor™ module
- Connect Tech Jetson Thor™ Carrier
- USB Cable for flashing

*L4T version can be found in /etc/nv_tegra_release and will look like this:
R38 (release), REVISION: 2.1

3. BSP Features

3.1 Supported Modules in BSP

- Jetson Thor™ T5000

3.2 Supported Cameras in BSP

- Intel Realsense

3.3 Product Specific Details

AGX301 (Gauntlet)

- 10G and 1G ethernet Support.
- CAN Support.
- Display Port Support.
- USB 3.2 Support.
- USB OTG Support.
- I2C Support.
- SPI Support.
- UART Support.
- RS232/485 Support.
- GPIO Support.
- M.2 pcie Support.
- Key E 2230 Wifi/BT.
- Key B 3042/3052 LTE/5G with micro SIM.
- JCB022 GMSL adapter support.

3.4 Limitations and Known Issues

1. It has been observed that OEM configuration using serial console has some issues displaying menu. Therefore, connect a display to setup OEM or other simple work around is setting a default username and password from Linux_for_Tegra before flashing. run `tools/l4t_create_default_user.sh -u <username> -p <password>` to achieve this.

4. Installation

4.1 Obtaining NVIDIA® Jetpack

Before Installing the BSP you will need to install JetPack 7.0 on the host system using NVIDIA® SDK Manager (section 4.1.1) or from the NVIDIA® Embedded Download Center (section 4.1.2)

4.1.1 Installing JetPack from SDK Manager

Please follow installation steps from kdb373 for Jetpack 4.2+ <https://connecttech.com/resource-center/kdb373/>

4.1.2 Installing JetPack from NVIDIA® Embedded Download Center

1. Create a new directory for installing the Jetpack. Referred to as <BSP_ROOT> in these instructions.
2. Go to <https://developer.nvidia.com/embedded/jetpack/downloads> and under "Jetson Linux Downloads and Documents" locate the table for "Jetson Linux 38.2.1".
3. Download the "L4T Driver Package (BSP)" and "Sample Root Filesystem" files.
4. Put the "L4T Driver Package (BSP)" and "Sample Root Filesystem" in <BSP_ROOT>. Afterwards, you should have the following files in <BSP_ROOT>
 - jetson_linux_r38.2.1_aarch64.tbz2
 - tegra_linux_sample-root-filesystem_r38.2.1_aarch64.tbz2
5. Extract the "L4T Driver Package" tarball:

```
cd <BSP_ROOT>
sudo tar -jxf jetson_linux_r38.2.1_aarch64.tbz2
```

6. You should now have a new directory called Linux_for_Tegra in your <BSP_ROOT> folder. Extract the "Sample Root Filesystem" into Linux_for_Tegra/rootfs.

```
sudo tar -C Linux_for_Tegra/rootfs/ -xjf tegra_linux_sample-root-filesystem_r38.2.1_aarch64.tbz2
```

4.2 CTI BSP Installation

1. Copy the CTI-L4T-THOR-38.2.1-V###-INTELRS.tgz package into <BSP_ROOT>/Linux_for_Tegra.

If you are using Nvidia's SDK manager then "<BSP_ROOT>" will be:
~/nvidia/nvidia_sdk/<JetPack_Version>_Linux_JETSON_AGX_THOR_TARGETS

Otherwise if manually installing from the NVIDIA® Embedded Download Center <BSP_ROOT> will be the folder created previously

```
cp CTI-L4T-THOR-38.2.1-V###-INTELRS.tgz <BSP_ROOT>/Linux_for_Tegra
```

2. Extract the BSP: `tar -xzf CTI-L4T-THOR-38.2.1-V###-INTELRS.tgz`
`cd <BSP_ROOT>/Linux_for_Tegra`
`sudo tar -xzf CTI-L4T-THOR-38.2.1-V###-INTELRS.tgz`

3. Change into the CTI-L4T directory:
`cd <BSP_ROOT>/Linux_for_Tegra/CTI-L4T`

4. Run the install script (as root or sudo) to automatically install the BSP files to the correct locations:

```
sudo ./install.sh
#return to Linux_for_Tegra
cd ..
```

5. The CTI-L4T BSP is now installed on the host system and it should now be able to flash the Jetson Thor™ module.

5. Flashing Jetson Thor™ Modules

1. Connect the Jetson Thor™ and Carrier to the computer via USB, following the instructions in the appropriate manual.

2. Put the system to be flashed into recovery mode, following the instructions in the appropriate manual

3. There are two options for flashing Jetson Thor™ modules:

Using CTI's automated script:

```
./cti-flash.sh
```

Follow the menu and select your desired configuration. Once selected,

the device will start to flash.

Using the Manual Method:

Note do not add the ".conf" file extension to the <config> parameter:

Manual Flash: `./l4t_initrd_flash.sh cti/<module>/<boardname>/<config> external`

<module> is thor

Example:

```
./l4t_initrd_flash.sh cti/thor/gauntlet/base external
```

4. Once the flashing has completed, the Jetson Thor™ will reboot

6. Upgrading to a New Package Release

Upgrading L4T or CTI-BSP versions without reflashing is not currently supported.

7. Switching Profiles on Jetson Thor™

1. Open a terminal on the Jetson Thor™
2. Run "sudo cti-thor-agx-fdt.sh"
3. Select the profile you wish to switch to from the menu
4. Restart the system

Note: This script updates the dtb by appending/replacing the FDT variable in extlinux.conf

8. Change Log

Version THOR-38.2.1-V001 Oct 23, 2025

- Initial evaluation release for Intel Realsense.

Contact Connect Tech

If you have any problems, questions or suggestions regarding the Board Support Package and hardware, please feel free to contact Connect Tech Inc.

Contact Information	
Support	Please go to the Connect Tech Resource Center for product manuals, installation guides, device drivers, BSPs and technical tips. Submit your technical support questions to our support engineers. Technical Support representatives are available Monday through Friday, from 8:30 a.m. to 5:00 p.m. Eastern Standard Time.
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