

# BOARD SUPPORT PACKAGE

## For Connect Tech NVIDIA Jetson Xavier NX Carriers

BSP Version:           Xavier-NX-32.4.2 V005  
Last Updated:         2020/06/29

### Introduction

This Board Support Package adds support for Connect Tech Jetson Xavier NX family of carrier boards to Linux4Tegra. It includes any extra files required to use all the features of the carriers. Please check the "Product Specific Details" section for what features for your board is supported with this BSP release and the "Changes" section 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/>

### Requirements

- x86 based host machine running Ubuntu 16.04 or Ubuntu 18.04
- Jetpack 4.4 installed via Nvidia SDK Manager (from Nvidia Embedded Download Center)
- Xavier-nx module
- Connect Tech Xavier-NX Family Carrier
- USB Cable for flashing

\*L4T version can be found in `/etc/nv_tegra_release` and will look like this:

```
# R32 (release), REVISION: 2.0
```

### Installation (Preferred approach)

1. Before Installing the BSP you will need to install Jetpack 4.4 on the x86 host system using the Nvidia SDK Manager
2. Copy the CTI-L4T-XAVIER-NX-32.4.2-V005.tgz package into  
`~/nvidia/nvidia_sdk/JetPack_4.4_Linux_GA_P3448-0020/Linux_for_Tegra/`
3. Extract the BSP:  

```
tar -xzf CTI-L4T-XAVIER-NX-32.4.2-V005.tgz
```

  
Change into the CTI-L4T directory:  

```
cd ./CTI-L4T
```
4. Run the install script (as root or sudo) to automatically install the BSP files to the correct locations:  

```
sudo ./install.sh
```

```
cd ..
```
5. The CTI-L4T BSP is now installed on the host system and it should now be able to flash the Xavier NX.

6. To flash on the Xavier-NX use the following (do not add ".conf"):
7. CTI Assisted Flashing: `./cti-flash.sh`

Manual Flash: `./flash.sh cti/Xavier-NX/photon mmcblk0p1`

## Flashing Xavier NX

1. Connect the Xavier NX 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. Run `./flash.sh <board> mmcblk0p1` from `Linux_for_Tegra` directory
4. Once the flashing has completed, the Xavier-NX will reboot
5. To switch between different boards, you will need to repeat these steps. There is currently no run time support for switching profiles on the Xavier NX

## Product Specific Details

### NGX003 (Photon)

- USB 2.0 and 3.0 Support
- Camera Support
- Display (HDMI)
- Fan
- SD Card
- NVMe
- PoE
- Wireless Expansion (WiFi/LTE with SIM)

### NGX004 (Quark)

- USB 2.0 and 3.0 Support
- Camera Support
- SD Card
- CAN

### NGX004 (Rudi-NX)

- USB 2.0 and 3.0 Support
- Camera Support
- Display(HDMI)
- SD Card
- NVMe

- CAN

## Changes

Version Xavier-NX-32.4.2 V005, July 06, 2020

- Added PWM support for Rudi-NX and Quark

Version Xavier-NX-32.4.2 V004, June 29, 2020

- Added support for IMX390 and AR0330
- Added support for Quectel EM06 modem

Version Xavier-NX-32.4.2 V003, June 03, 2020

- Fixed issue with not being able to login when using SDK Manager
- Fixed an issue with nvpmoel not being configured correctly
- Rudi-NX carrier release

Version Xavier-NX-32.4.2 V001, May 07, 2020

- Initial Release for the Xavier NX

## 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	<p>Please go to the <a href="#">Connect Tech Resource Center</a> for product manuals, installation guides, device drivers, BSPs and technical tips.</p> <p>Submit your <b>technical support</b> 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.</p>
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