

Contents [[hide](#)]

- [1 NVIDIA PCN211181 on Jetson Nano Module](#)
- [2 Specifications](#)
- [3 Product Usage Instructions](#)
- [4 FAQs](#)
- [5 Documents / Resources](#)
 - [5.1 References](#)



NVIDIA PCN211181 on Jetson Nano Module



Specifications

- Product Name: Jetson Nano Module with base WS
- Driver Package Version: Linux R32.7.5

- File Formats: tbz2
- Compatibility: NVIDIA Tegra Linux Driver package (L4T)

Product Usage Instructions

PCN211181 on Jetson Nano Module with base WS

- **Contact:** <https://thuypx.com/>
- Good luck to you!

Step 1: Download the overlay file PCN211181

- <https://developer.nvidia.com/embedded/linux-tegra-r3275>
- Scroll down to see the overlay file for PCN211181.

Additional Files

File	Supported hardware	Supported Software	Description
Overlay_PCN211181_r32.7.5.tbz2	Jetson Nano 4GB	JetPack 4.6.5 / Jetson Linux 32.7.5	This overlay supports new memory from PCN211181.

the name file: overlay_32.7.5_PCN211181.tbz2

Step 2: Download Driver Package (BSP) of Jetson Linux R32.7.5

- NVIDIA Tegra Linux Driver package (L4T)
- <https://developer.nvidia.com/embedded/linux-tegra-r3275>

Downloads and Links

	Jetson AGX Xavier series, Xavier NX series, and TX2 Series	Jetson Nano, Nano 2GB, and TX1
DRIVERS	Driver Package (BSP)	Driver Package (BSP)
	Sample Root Filesystem	Sample Root Filesystem
	NVIDIA Hardware Acceleration in the WebRTC Framework	
SOURCES	Driver Package (BSP) Sources	Driver Package (BSP) Sources
	Sample Root Filesystem Sources	

The name file: Jetson-210_Linux_R32.7.5_aarch64.tbz2

Step 3: Download Sample Root Filesystem

- <https://developer.nvidia.com/embedded/linux-tegra-r3275>

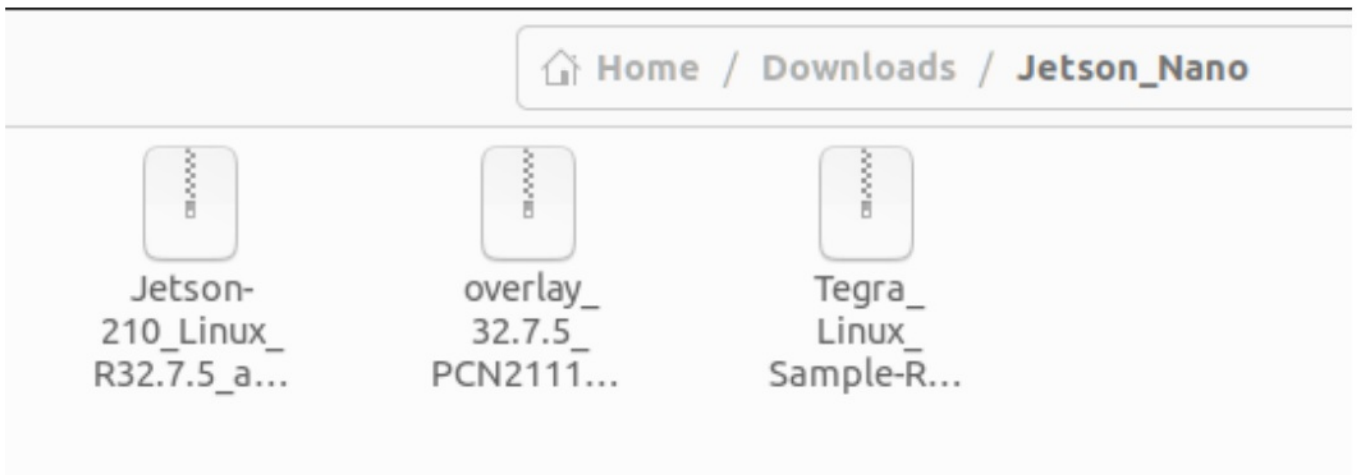
Downloads and Links

	Jetson AGX Xavier series, Xavier NX series, and TX2 Series	Jetson Nano, Nano 2GB, and TX1
DRIVERS	Driver Package (BSP)	Driver Package (BSP)
	Sample Root Filesystem	Sample Root Filesystem
	NVIDIA Hardware Acceleration in the WebRTC Framework	
SOURCES	Driver Package (BSP) Sources	Driver Package (BSP) Sources
	Sample Root Filesystem Sources	

The name file:

- Tegra_Linux_Sample-Root-Filesystem_R32.7.5_aarch64.tbz2

Step 4: Create a folder and put the 3 files downloaded in the 3 steps above into this folder.



Step 5: Untar the files and assemble the rootfs

1. \$ sudo tar xpf Jetson-210_Linux_R32.7.5_aarch64.tbz2



2. + Unzip the overlay_32.7.5_PCN211181.tbz2 file downloaded in Step 1

1. + Open folder:

/overlay_32.7.5_PCN211181/Linux_for_Tegra/bootloader/t210ref/BCT

2. Copy file P3448_A00_lpddr4_204Mhz_P987.cfg,

3. Paste to Linux_for_Tegra/bootloader/t210ref/BCT

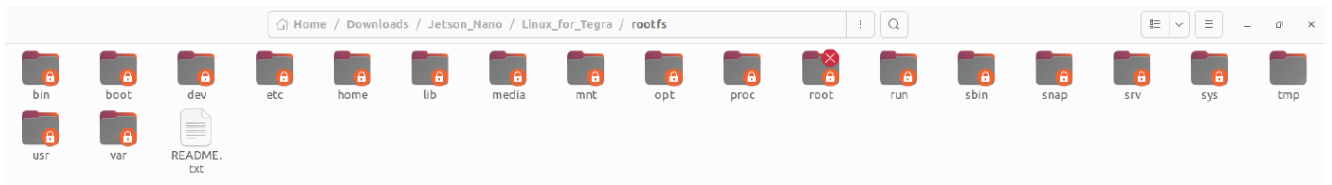
3. Open folder: overlay_32.7.5_PCN211181/Linux_for_Tegra/kernel/dtb

1. Copy all file for p3448,

2. Paste to Linux_for_Tegra/kernel/dtb



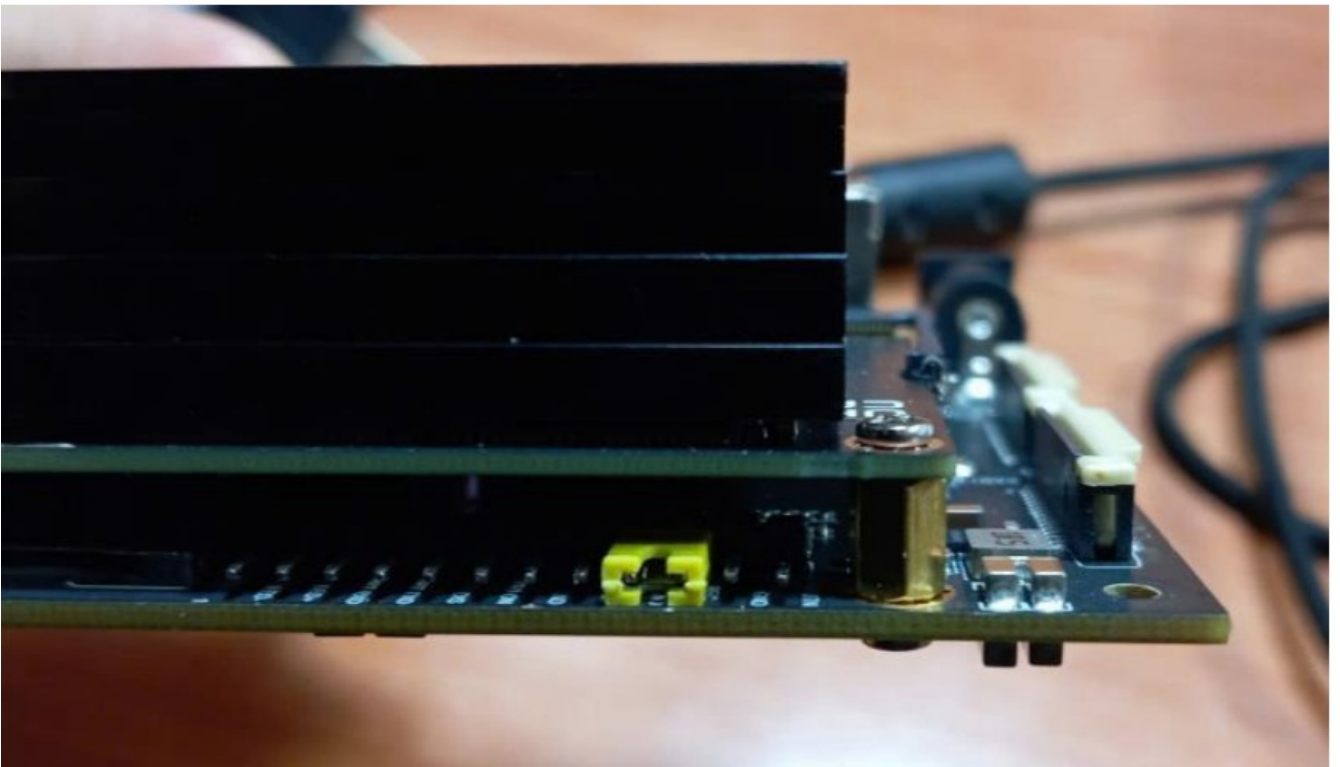
4. \$ cd Linux_for_Tegra/rootfs/ => Download and extract the sample filesystem to this directory. \$ sudo tar xpf ../../Tegra_Linux_Sample-Root-Filesystem_R32.7.5_aarch64.tbz2



- `$ cd ../`
- `$ sudo apt-get install qemu-user-static`
- `$ sudo ./apply_binaries.sh`
- `$ sudo tar xpf ../overlay_32.7.5_PCN211181.tbz2`

Step 6: Flash the rootfs onto the system's internal eMMC

1. + Setup Recovery mode FORCE_RECOVERY (FC REC) and GND are connected together



2. Connect the microUSB cable to the computer's USB port



3. Check if Jetson Nano is connected to the computer `$ lsusb | grep -i nvidia`

```
thuypx@thuypx-ASUS-TUF-Gaming-F15-FX507ZU4-FX507ZU4:~/Downloads/Jetson_Nano/Linux_for_Tegra$ lsusb | grep -i nvidia
Bus 003 Device 013: ID 0955:7f21 NVIDIA Corp. APX
thuypx@thuypx-ASUS-TUF-Gaming-F15-FX507ZU4-FX507ZU4:~/Downloads/Jetson_Nano/Linux_for_Tegra$
```

Bus 003 Device 013: ID 0955:7f21 NVIDIA Corp. APX ==> So Jetson Nano is connected to the computer in Recovery mode.

4. `$ sudo apt-get install libxml2-utils`
5. Image writing to eMMC
`$ sudo ./flash.sh -x 0x21 jetson-nano-emmc mmcblk0p1`


```

[ 4.5551 ] Writing partition WB0-1 with warmboot.bin.encrypt
[ 4.6209 ] [.....] 100%
[ 4.6382 ] Writing partition BPF-1 with sc7entry-firmware.bin.encrypt
[ 4.6983 ] [.....] 100%
[ 4.7154 ] Writing partition VER_b with emmc_bootblob_ver.txt
[ 4.7755 ] [.....] 100%
[ 4.7924 ] Writing partition VER with emmc_bootblob_ver.txt
[ 4.8428 ] [.....] 100%
[ 4.8606 ] Writing partition APP with system.img
[ 4.9100 ] [.....] 100%
[ 182.8480 ] Writing partition DTB with kernel_tegra210-p3448-0002-p3449-0000-b00.dtb.encrypt
[ 183.7365 ] [.....] 100%
[ 183.7529 ] Writing partition TOS with tos-mon-only.img.encrypt
[ 183.7929 ] [.....] 100%
[ 183.8059 ] Warning: EKS partition magic header mismatch!
[ 183.8430 ] Writing partition EKS with eks.img
[ 183.8433 ] [.....] 100%
[ 183.8537 ] Writing partition LNX with boot.img.encrypt
[ 183.8898 ] [.....] 100%
[ 183.9233 ] Writing partition DTB-1 with kernel_tegra210-p3448-0002-p3449-0000-b00.dtb.encrypt
[ 183.9665 ] [.....] 100%
[ 183.9860 ] Writing partition TOS-1 with tos-mon-only.img.encrypt
[ 184.0269 ] [.....] 100%
[ 184.0385 ] Writing partition EKS-1 with eks.img
[ 184.0762 ] [.....] 100%
[ 184.0879 ] Writing partition LNX-1 with boot.img.encrypt
[ 184.1237 ] [.....] 100%
[ 184.1561 ] Writing partition BMP with bmp.blob
[ 184.2043 ] [.....] 100%
[ 184.2216 ] Writing partition RP4 with rp4.blob
[ 184.2601 ] [.....] 100%
[ 184.3142 ]
[ 184.3178 ] tegradevflash --write BCT P3448_A00_lpddr4_204Mhz_P987.bct
[ 184.3192 ] Cboot version 00.01.0000
[ 184.5084 ] Writing partition BCT with P3448_A00_lpddr4_204Mhz_P987.bct
[ 184.5088 ] [.....] 100%
[ 184.9144 ]
[ 184.9145 ] Flashing completed

[ 184.9145 ] Coldbooting the device
[ 184.9168 ] tegradevflash --reboot coldboot
[ 184.9178 ] Cboot version 00.01.0000
[ 184.9688 ]
*** The target t210ref has been flashed successfully. ***
Reset the board to boot from internal eMMC.

```

thuypx@thuypx-ASUS-TUF-Gaming-F15-FX507ZU4-FX507ZU4:~/Downloads/Jetson_Nano/Linux_for_Tegra\$

Unplug the jumper to select Recovery mode in Step 6, and plug in the power, HDMI cable, and screen with Jetson Nano Module to test.

thuypx.com

FAQs

Q: How do I know if the Jetson Nano is connected in Recovery mode?

A: Use the lsusb command and look for “0955:7f21 NVIDIA Corp. APX” to confirm the connection in Recovery mode.

Q: What should I do after flashing the rootfs?

A: Unplug the jumper to exit Recovery mode, then connect the power, HDMI cable, and screen to test the Jetson Nano Module.

Documents / Resources



[NVIDIA PCN211181 on Jetson Nano Module \[pdf\]](#) Instruction Manual
PCN211181, PCN211181 on Jetson Nano Module, on Jetson Nano Modu
le, Jetson Nano Module, Nano Module, Module

References

- [User Manual](#)

📁 Nvidia

🔍 Jetson Nano Module, Module, Nano Module, Nvidia, on Jetson Nano Module, PCN211181, PCN211181 on Jetson Nano Module

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