

MTK - Project Baoshan

Ubuntu Server 24.04

genio-server EA Image Release Notes

Canonical Devices and IoT, Customer Engineering

Project: Baoshan

Milestone: Ubuntu Server 24.04 - genio-server24-ea-09-26 release

Release Date: Sep 26, 2025

Goal of Release and Delivery Summary

This image is an early access (EA) image on MediaTek Genio G350/G510/G700/G1200 EVK running with Ubuntu 24.04 Desktop image.

Image Release Deliverables

This is the genio-server EA release for the Mediatek Genio Ubuntu project.

Release image (For G350/G510/G700/G1200):

<https://oem-share.canonical.com/partners/baoshan/share/genio-server-24.04/genio-server24-ea-09-26/genio-classic-server-noble-emmc-20250926-1185.tar.xz>

Release image(UFS, For G720/G1200):

<https://oem-share.canonical.com/partners/baoshan/share/genio-server-24.04/genio-server24-ea-09-26/genio-classic-server-noble-ufs-20250926-1185.tar.xz>

Manifest:

<https://oem-share.canonical.com/partners/baoshan/share/genio-server-24.04/genio-server24-ea-09-26/filesystem.manifest>

Details published on oem-share:

<https://oem-share.canonical.com/partners/baoshan/share/genio-server-24.04/genio-server24-ea-09-26/>

Linux package

This release contains the following Linux package

Linux package	linux-mtk (6.8.0-9014.14)
GIT Repository	https://git.launchpad.net/~canonical-hwe-team/baoshan/+git/linux-mtk-6.8
Tag	Ubuntu-mtk-6.8.0-9014.14

Boot assets tarballs

Boot assets tarballs are built based on rity scarthgap release with this commit id:

[65ada5117d9ab2a47cc4a3d0651e80c497c4f5e2](#)

And the following commit id is used in this rity scarthgap release:

- trusted-firmware-a: [decacb88cfe882cb09ddd613ecaf1323d3fe6c22](#)
- optee-os: [ab5d0acf9447cb6b8ffc49917867c61265589ac1](#)
- u-boot: [40c563b0d2ba7e150085e195f23f4ed4adc81646](#)

Installation Instructions

Hardware and software requirements

1. A laptop with Ubuntu desktop image installed
2. A released Ubuntu Classic Server image from Canonical
3. A released Mediatek boot assets tarball
4. Mediatek Genio g350, g510, g700, g720, or g1200-evk board with power adapter
5. One USB Type-C to USB Type-A cable for flashing image and one micro USB to USB Type-A cable for UART Debug port (baudrate: 921600)

Flash the installation image to the MTK board

1. Plug the power adapter

Figure 2: Mediatek Genio g510/g700 EVK boards

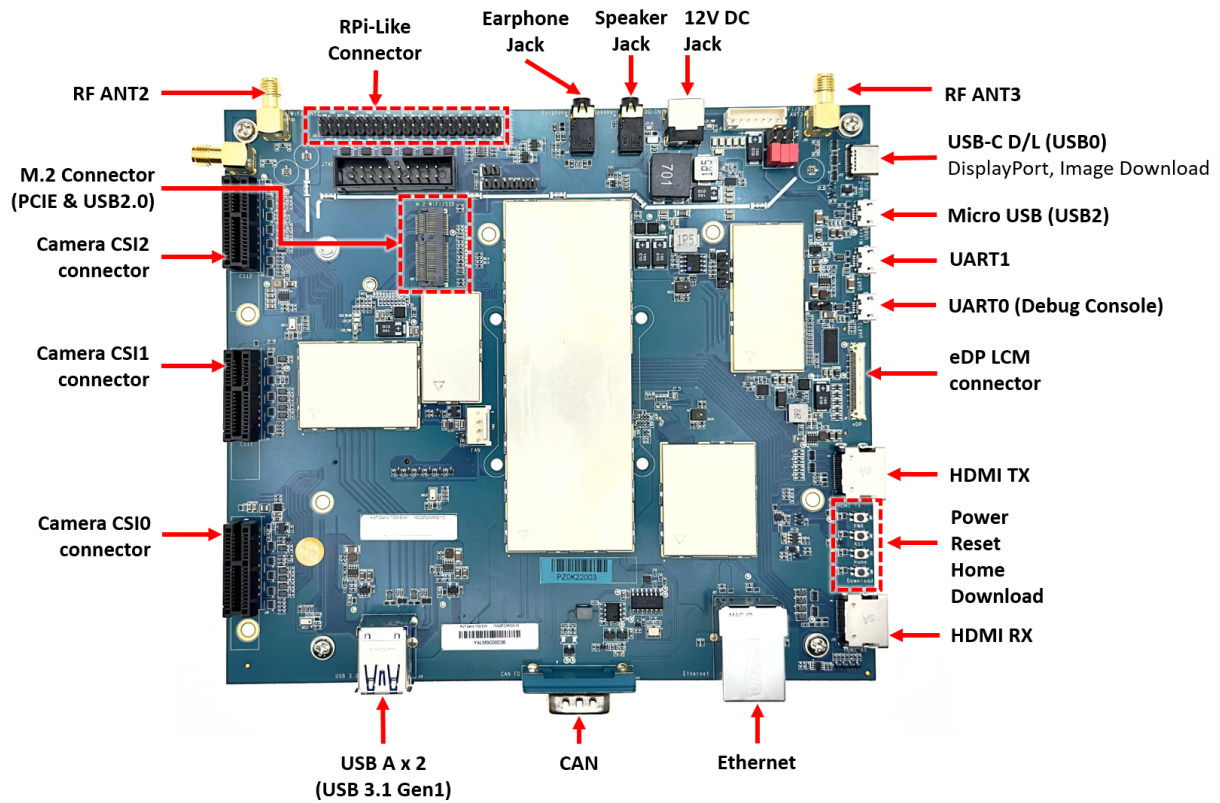


Figure 3: Mediatek Genio g1200-evk board

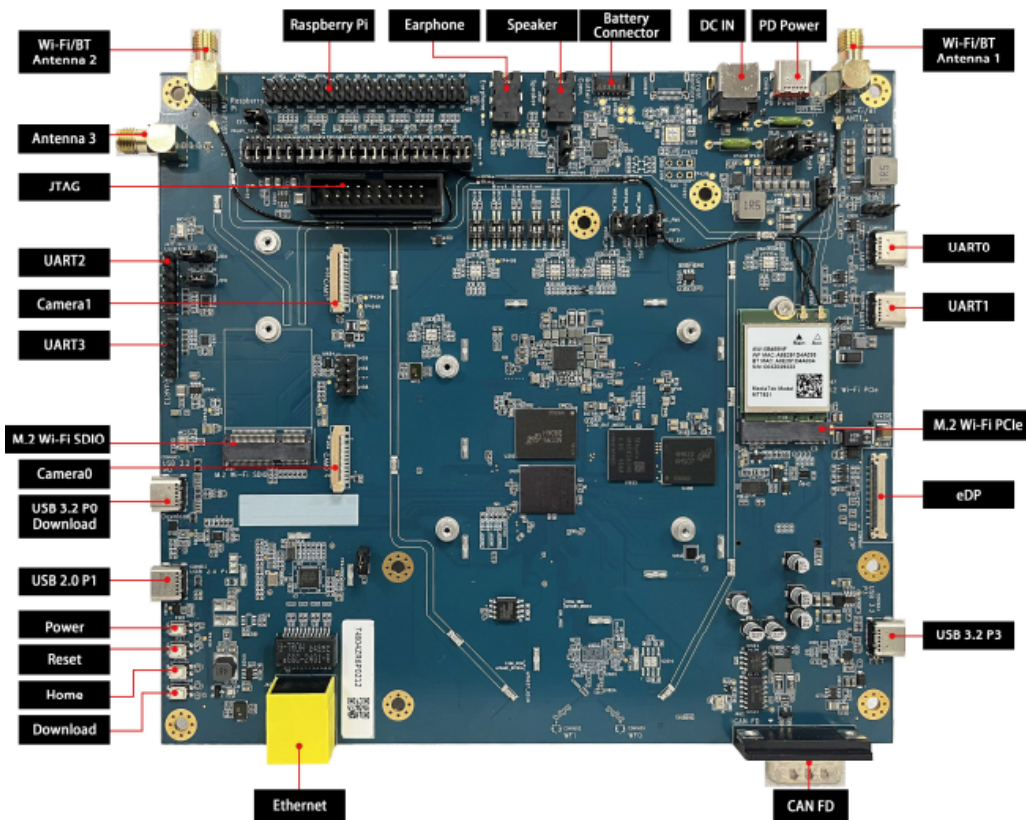


Figure 4: Mediatek Genio g520/g720-evk board

2. Connect your laptop to the Image Download port (USB Micro USB or Type-C port).
3. Connect your laptop to the USB-UART DEBUG port (micro-USB. Serial devices will be generated in your laptop after you connect your laptop to the debug port:

```
$ sudo minicom -D /dev/ttyUSB0
```

4. Open a terminal on your laptop by shortcut key: Ctrl + Alt + T.
5. Install the flash tool and run genio-config

```
$ sudo snap install genio-tools --edge --devmode
genio-tools (edge) 1.7.0a2 from Tzu-Hsien Kao (tzuhsien-kao) installed

$ eval "$(snap run genio-tools.udev-script)"
+ Adding user 'kxuan' to the 'dialout' group for USB device access...
+ Installing udev rules for Mediatek Genio devices...
+ Reloading udev rules...
✓ udev rules successfully installed.
```

🔌 Please ****reconnect your USB device**** to apply the new rules.
🗑️ Please ****log out and log back in**** (or open a new terminal) for group changes to take effect.

Then, log out the current user and log back in.

6. G1200-evk supports both eMMC and UFS as the boot device. But, eMMC is identified as the default boot device. So, please erase eMMC when you want to use UFS as the boot device.

```
# Erase eMMC with boot asserts of g1200-evk eMMC
$ tar -xvf genio-g1200-evk-boot-assets-X.tar.xz
$ cd genio-g1200-evk-boot-assets-X
$ genio-flash erase-emmc
AIoT Tools: v1.3.3
Ubuntu Image:
  edition: ubuntu classic/core images
  version: 24.04
  codename: noble

INFO:aiot:Try to automatically reset the board into DOWNLOAD mode...
WARNING:aiot:BoardControl.__init__() got an unexpected keyword argument 'serial'
WARNING:aiot:Board control failed. You could try manually put the board in DOWNLOAD mode.
INFO:aiot:Continue flashing...
Looking for MediaTek SoC matching USB device 0e8d:0003
```

Note:

The **"X"** needs to be replaced with the actual name of the boot assets tarball.
Press and hold the "Download" key and then press the "Reset" key.
Release the "Download" key after seeing the message "Connected to MediaTek SoC"

7. Extract the released tar file and then run genio-flash

```
$ tar -xvf genio-classic-server-noble-emmc-X.tar.xz
$ tar --strip-components=1 -xvf genio-BOARD-evk-boot-assets-X.tar.xz -C
genio-classic-server-noble-emmc-X/
$ cd genio-classic-server-noble-emmc-X
$ genio-tools.genio-flash
Genio Tools: v1.6.2
Ubuntu Image:
  edition: Ubuntu classic/core images
  version: 24.04
```

```
codename: noble
```

Note:

The “**X**” and “**BOARD**” need to be replaced with the actual name of the image and board.

8. Press and hold the “Download” key and then press the “Reset” key
9. Release the “Download” key after seeing the message “Connected to MediaTek SoC”
10. Wait for the flash process to complete.

```
$ genio-tools.genio-flash
Genio Tools: v1.6.2
Ubuntu Image:
...
Looking for MediaTek SoC matching USB device 0e8d:0003
Opening /dev/ttyACM4 using baudrate=115200
Connected to MediaTek SoC: hw_code[0x8168]
Sending bootstrap to address: 0x201000
Jumping to bootstrap at address 0x201000 in AArch64 mode
...
```

11. The system will auto reboot and boot to the login screen after flashing is complete.
12. The Default account/password: ubuntu/ubuntu
At first boot, Cloud-init will create the account and initialize the system.
Please stay tuned. It will take 2~3 minutes to finish the initialization.

Release Verification

Tested on the Hardware

G1200, G700, G510 only test the automatic and stress test plans because the manual part is already covered by the desktop image.

G350 will keep one SKU for full manual testing and another for partial.

- G1200-EVK
 - CID: [202307-31859](#)

- CID: [202404-33953](#)
- G700
 - CID: [202409-35342](#)
 - CID: [202412-36144](#)
- G510
 - CID: [202312-33205](#)
 - CID: [202405-34023](#)
- G350
 - CID: [202309-32029](#)
 - CID: [202405-34022](#)

Known Issues and Limitations

-

Image Changes and Bugs Fixed

- <https://launchpad.net/baoshan/+milestone/genio-server24-ea-09-26>

Reopened Bugs

-

New Bugs found during QA validation

Critical

- NA

High

- NA

Open Bugs

All open bugs can be found at: <https://bugs.launchpad.net/baoshan>

Appendix A: How To Add Device-Tree Overlays

1. Press any key to stop U-Boot autoboot

```
U-Boot 2022.10 (Jul 24 2023 - 09:23:45 +0000)
...
eth0: usb_ether
Hit any key to stop autoboot:  0
=>
```

2. Get the number of the firmware partition

```
=> part list mmc 0 (For eMMC)
=> part list scsi 2 (For g1200-evk-ufs)

Partition Map for MMC device 0  --  Partition Type: EFI

Part      Start LBA      End LBA      Name
      Attributes
      Type GUID
      Partition GUID
...
  3      0x00004400      0x000143ff      "firmware"
      attrs:  0x0000000000000000
      type:   384e979b-eb76-435a-a3a6-1a071dbad91d
              (384e979b-eb76-435a-a3a6-1a071dbad91d)
      guid:   31ed96c7-d17c-4cf4-aca4-755c0053fed4
...
```

3. Find all supported DTBO files

```
# BOARD: genio-350-evk, genio-510-evk, genio-700-evk, genio-720-evk-ufs,
genio-1200-evk, or genio-1200-evk-ufs
=> fatls mmc 0:3 FIRMWARE/mediatek/BOARD/
...
    3693  display-edphdmi.dtbo
    4252  display-edp.dtbo
   39069  camera-ar0830-ap1302-csi2.dtbo
    609   display-hdmi.dtbo
...
```

4. Add DTB files to list_dtbo

```
# Current list_dtbo
=> echo $list_dtbo
gpu-mali.dtbo video.dtbo
```

```
# Add a dtbo file to list_dtbo. Take display-hdmi.dtbo as an example:  
=> setenv list_dtbo "gpu-mali.dtbo video.dtbo display-hdmi.dtbo"  
=> saveenv  
# Reboot system to make new settings work  
=> reset
```

NOTE: Please make sure the name of dtbo exists. It might be different from the dtbos in jammy.