

GL530MG Firmware Upgrade User Guide

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TRACGL530MGUG001





Driving Smarter IoT

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| Document Title | GL530MG Firmware Upgrade User Guide | |
|---------------------|-------------------------------------|--|
| Version | 2.02 | |
| Date | November 17, 2022 | |
| Status | Release | |
| Document Control ID | TRACGL530MGUG001 | |

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History

| Revision | Date | Author | Description of Change |
|----------|--------------------|------------|---------------------------------|
| 1.00 | June 21, 2022 | Tammy Tian | Initial. |
| 2.00 | September 30, 2022 | Tammy Tian | Changed the MCU upgrade method. |
| 2.01 | October 26, 2022 | Tammy Tian | Added Firmware upgrade method. |
| 2.02 | November 17, 2022 | Mihoo Zhu | Revised some description. |



1. Tool Introduction

Queclink_Firmware_Upgrade_Tool_MDM is a PC tool which can be used to upgrade firmware provided by Queclink.

1.1. System Requirements

The tool can run directly on a PC with no installation required and can run on all Windows operating systems. You will receive a notification when there is an upgrade of this tool by Queclink.



2. Upgrade Preparation

Get the following list of items ready:

| Name | Picture | Use |
|-----------------|---------|--|
| GL530MG Locator | | |
| USB Cable 0.5M | | 1.Upgrade the firmware through USB Driver: Driver_qud.win.1.1_instal ler_x.x |
| UART Cable 0.5M | | 1.Configure the device; 2.Upgrade the firmware through UART Driver: PL2303_Prolific_DriverIn staller_Vxxxx or CH340G_Cable_Driver_I nstaller_V3.7 |

Table 1: Device List



3. Firmware Upgrade

3.1. Upgrade the firmware through USB

3.1.1. Prepare

| | Name |
|-------|--|
| Cable | GL530MG USB Data Cable |
| File | FULL package |
| Tools | Queclink_Firmware_Upgrade_Tool_MDM_Vx.xx |

Note: Please use Version 1.52 (and above).

3.1.2. Step

Install **Driver_qud.win.1.1_installer_x.x** for the USB cable before upgrading the firmware with the tool.



Figure 1: USB cable connect with device

Note: Make sure the USB cable is connected to the PC before the upgrade.

Step 1

Open Queclink_Firmware_Upgrade_Tool_MDM_Vx.xx.exe. Click Load FW Files and select qld.cfg file in GL530MGR00AxxVxxM512_FULL folder.

Step 2

For Option, you can choose whether to clear user data



Step 3

Select Start.

Step 4

Wait for the firmware upgrade to succeed.

| Help 1.Load the qld.cfg file | 2.Chc | bose whether to clear user | data |
|----------------------------------|--|--|-----------|
| Static | | | |
| Load FW Files Comm Method: | USB V Option: Upgra | de FW and Clear User Data 🗸 🗸 | |
| | | | |
| Reboot After Downloading No | ote: If load software with xqcn, th | is Item will not work. | |
| Name | Location | | ^ |
| 🗹 sbl1.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| partition_complete_p2K_b128K.mbr | n D:\GL530MG_Develop_Suit_R0(| 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| dsp6sw_paging.bin | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| dsp6sw.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| dsp6sw_2.mbn | | 0A05V19_Eng_(Firmware)\Firmware Image\ | |
| 🗹 tz.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| rpm.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| devcfg.mbn | | 0A05V19_Eng_(Firmware)\Firmware Image\ | |
| tz_devcfg_fota.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar |
| 🗹 apps.mbn | D:\GL530MG_Develop_Suit_R00 | 0A05V19_Eng_(Firmware)\Firmware Image\ | Firmwar 🗸 |
| < | | | > |
| | | | |
| Load Files Successfully! | | | 75 s |
| Load Files Successfully! | | | 75 s |
| Load Files Successfully! | | | 75 s |
| Load Files Successfully! | 3.Click start | Exit | 75 s |
| | 3.Click start | Exit | 75 s |
| | 3.Click start | Exit | 75 s |
| | 3.Click start Figure 2: Basic se | | 75 s |
| | | | 75 s |
| | | | 75 s |
| Start Name | | etting | 75 s |
| Start Name | Figure 2: Basic se | etting Date modified | 75 s |

Figure 3: Load Firmware File



| <u>H</u> elp | |
|--------------------------------|---|
| Static | |
| | |
| Load FW Files Comm Method: US | ISB V Option: Upgrade FW and Clear User Data V |
| | |
| Reboot After Downloading Note | te: If load software with xqcn, this Item will not work. |
| Name | Location |
| dsp6sw.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| dsp6sw_2.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| 🗹 tz.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| 🗹 rpm.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| devcfg.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| ✓ tz_devcfg_fota.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| apps.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| 🗹 multi_image.mbn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| ☑ sec.elf | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar |
| QLM100_FAC_2108_2111_diff.xqcn | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmwar v |
| < | > |
| | |
| PASS, FW upgrade success | sfully! 86 s |
| C | |
| | |
| 1 | |
| Start | Exit |
| L | |
| | |
| | |

Figure 4: Upgrade success

3.2. Upgrade the firmware through UART

3.2.1. Prepare

| | Name |
|-------|--|
| Cable | GL530MG UART Data Cable |
| File | UPD package |
| Tools | Queclink_Firmware_Upgrade_Tool_MDM_Vx.xx |

Note: Please use Version 1.52 (and above).

3.2.2. Step

Install the driver (PL2303_Prolific_DriverInstaller_Vxxxx or

CH340G_Cable_Driver_Installer_V3.7) for the UART cable before upgrading the firmware with the tool.





Figure 5: UART cable connect with device

Note: Make sure the UART cable is connected to the PC before the upgrade.

Step 1

Open Queclink_Firmware_Upgrade_Tool_MDM_Vx.xx.exe. Click Load FW Files, and select qld.urt file in GL530MGR00AxxVxxM512_UPD folder.

Step 2 Select the correct UART port for upgrading.

Step 3

For Clear Mode, you can choose whether to clear user data

Step 4 Select Start

Step 5

Wait for the firmware upgrade to succeed.



| ^p 1.Load the "qld.urt" | 2. Select the correct UART port |
|-----------------------------------|--|
| Static | COM Port: COM18 V UpdateType: APP Firmware |
| Load FW Files Comm Method: U | BaudRate: 115200 V Clear Mode: Don't clear user data |
| Name | Location 3.Choose whether to clear user data |
| GL530MGR00A05V19M512_upd.bin | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\Firmware Image\Firmware L |
| | |
| | |
| | |
| | |
| | |
| < | > |
| Load Files Successfully! | 86 s |
| Load Flies Successfully! | 00.3 |
| | |
| Start | 4. Click start Exit |
| | |
| | |
| A | Figure 6: Pasis setting |
| | Figure 6: Basic setting |
| Name | Figure 6: Basic setting Date modified Type |
| | Date modified Type |
| Name | |

Figure 7: Load Firmware File



| <u>H</u> elp | | | | | | | | |
|---|--------------------------|-----------|--------|--------|--------------|-------------|-----------|-------|
| Static Load FW Files Comm Method: U/ | ART 🗸 | COM Port: | | | odateType: | | | ~ |
| | | audRate: | 115200 | | lear Mode: | Don't clear | user data | ~ |
| Name GL530MGR00A05V19M512_upd.bin | Location D:\GL530MG_D | Develop C | | V10 F- | а (Гілланала | | | una l |
| < | | | | | | | 1 | > |
| | | | | | | | | |
| PASS, FW upgrade success | ifully! | | | | | | 6 | 67 s |
| Start | | | | | | Exit | | |

Figure 8: Upgrade success



4. MCU Firmware Upgrade

Install the driver (PL2303_Prolific_DriverInstaller_Vxxxx or

CH340G_Cable_Driver_Installer_V3.7) for the UART cable before upgrading the MCU firmware with the tool.

4.1. Prepare

| | Name |
|-------|--|
| Cable | GL530MG UART Data Cable |
| File | MCU Firmware Image |
| Tools | Queclink_Firmware_Upgrade_Tool_MDM_Vx.xx |

Note: Please use Version 1.52 (and above).

4.2. Step

Install the driver (PL2303_Prolific_DriverInstaller_Vxxxx or CH340G_Cable_Driver_Installer_V3.7) for the UART cable before upgrading the MCU firmware with tools.



Figure 9: UART cable connect with device

Note: Make sure the UART cable is connected to the PC before the upgrade.

Step 1

Open Queclink_Firmware_Upgrade_Tool_MDM_ Vx.xx.exe. Click Load FW Files and



select qld.urt file in MCU Firmware Image folder.

Step 2

Select the correct UART port for upgrading.

Step 3

Select Start.

Step 4

Wait for the upgrade to succeed.

| Load FW Files Comm Method: | BaudRate: 1150 | Clear Mode: Do | on't clear user data | \sim | | |
|---------------------------------|--|-----------------------|----------------------|--------|--|--|
| | 2. Select | the correct U | ART port | | | |
| ame GL530MGR00_McuR15V2.03.srec | D:\GL530MG_Develop_Suit_R00A05V19_Eng_(Firmware)\MCU Firmware Image\GL53 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | > | | |
| | 772 | | | - | | |
| | | | | | | |
| .oad Files Successfully! | | | | 67 s | | |
| oad Files Successfully! | | | | 67 s | | |
| oad Files Successfully! | | | | 67 s | | |
| oad Files Successfully! | 3. Click start | E | xit | 67 s | | |
| | 3. Click start | E | | 67 s | | |
| oad Files Successfully! | | | | 67 s | | |
| | 3. Click start Figure 10: Basic settir | | | 67 s | | |
| Start | Figure 10: Basic settir | ng | | 67 s | | |
| | Figure 10: Basic settir | | | 67 s | | |
| Start | Figure 10: Basic settir | ng | xit | | | |
| Start Name | Figure 10: Basic settir | 1g modified | xit Type | | | |
| Start Name | Figure 10: Basic settir | 1g modified | xit Type | | | |

Figure 11: Load FW files



| He | lp | | | | | | | | |
|----|---------------|-----------------|------------|------------|------------|--------|---------------|--------------------|-------------|
| | Static | | | | | | | | |
| | | _ | | COM Port: | COM18 | \sim | UpdateType: | MCU Firmware | \sim |
| | Load FW Files | Comm Method: UA | ART 🗸 🗸 | BaudRate: | 115200 | \sim | Clear Mode: | Don't clear user o | lata 🗸 |
| | | | | | | | | | |
| | Name | | Location | | | | | | |
| | GL530MGR00_Mc | uP15\/2.02 croc | | Dovelop C | | V10 | Eng (Eirmword | e)\MCU Firmware I | mage\C 521 |
| | | UK15V2.03.STEC | D:\GL330MG | _Develop_3 | ult_KUUAUS | v19_ | Eng_(Firmware | MCO Firmware 1 | mage (GL53) |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | < | | | | | | | | > |
| | × | | | | | | | | ~ |
| | | | | _ | | | | | |
| | PASS, FW up | grade success | fully! | | | | | | 55 s |
| | | | | | | | | | _ |
| | | | | | | | | | |
| | | Start | | | | | | Exit | |
| | | Start | | | | | | | |
| | | | | | | | | | |

Figure 12: Upgrade success



5. Troubleshooting

5.1. Port Error

| Help | |
|---|---|
| Static Load FW Files Comm Method: UA | ART V BaudRate: 115200 V Clear Mode: Don't clear user data V |
| Name | Location |
| GL530MGR00_McuR15V2.03.srec | D:\upgrade pack\GL530MG\R00\GL530MGR00_McuR15V2.03\GL530MGR00_McuR15V |
| < | > |
| Open Port:COM18 Fail! Start | 41 s Exit |
| | |

Figure 13: The USB port is not available

Note: We suggest to operate only one device for upgrade; when multiple devices are together, the serial port may not work.

5.2. Caution

- a) If the USB port keeps disconnecting while downloading the firmware, the upgrade tool will stop downloading and prompt Download Fail in seconds. In this case, please disconnect the external power supply, reconnect and try again.
- b) If the upgrade tool is closed while downloading the firmware, open the upgrade tool but an error message will appear. In this case, please disconnect the external power supply, reconnect and try again.
- c) If other unexpected errors occur, please disconnect the external power supply, reconnect and try again.
- d) Because the upgrade cable is charged, we recommend to turn off the internal battery switch during the upgrading.