A76XX A79XX Series Upgrade User Guide

1 About This Document

1.1 Purpose

This document describes the usage of the A76XX_A79XX_MADL tool.

1.2 Abbreviations and Acronyms

Table 1.1: Abbreviations and Acronyms

Acronym	Description
MADL	Multi ASR Downloader
UE	User Equipment

1.3 Hardware Requirements

- PC: More than 1 GB of memory

- Customize burning fixture or insert the USB directly
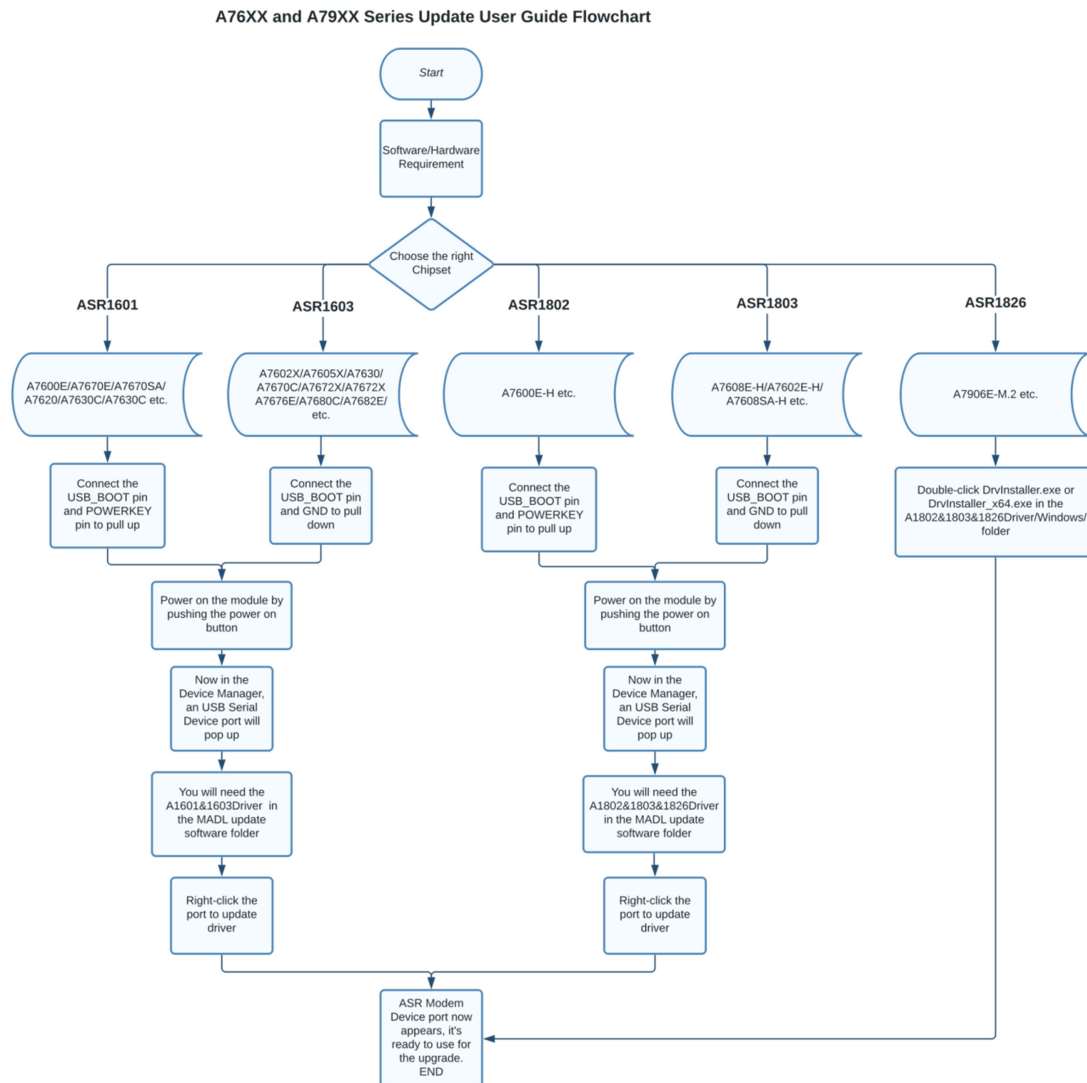
- DC Power supply

- USB cable

1.4 Software Requirements

- Windows 11

- Windows 10

- Windows 8

- Windows 7

- Windows XP SP3

1.5 MADL functions

- Module PCBA software download

- Support all ASR chipset based on modules

- Support multi-flash mode, up to eight modules

2 Installation

A76XX and A79XX Series Update User Guide Flowchart

```
                            ┌──────────┐
                            │  Start   │
                            └────┬─────┘
                                 │
                        ┌────────▼────────┐
                        │ Software/Hardware│
                        │   Requirement    │
                        └────────┬────────┘
                                 │
                          ┌──────▼──────┐
                          │ Choose the  │
                          │ right Chipset│
                          └─────────────┘
```

ASR1601	ASR1603	ASR1802	ASR1803	ASR1826
A7600E/A7670E/A7670SA/ A7620/A7630C/A7630C etc.	A7602X/A7605X/A7630/ A7670C/A7672X/A7672X A7676E/A7680C/A7682E/ etc.	A7600E-H etc.	A7608E-H/A7602E-H/ A7608SA-H etc.	A7906E-M.2 etc.

ASR1601:
- Connect the USB_BOOT pin and POWERKEY pin to pull up

ASR1603:
- Connect the USB_BOOT pin and GND to pull down

ASR1802:
- Connect the USB_BOOT pin and POWERKEY pin to pull up

ASR1803:
- Connect the USB_BOOT pin and GND to pull down

ASR1826:
- Double-click DrvInstaller.exe or DrvInstaller_x64.exe in the A1802&1803&1826Driver/Windows/ folder

(ASR1601/ASR1603 path)
- Power on the module by pushing the power on button
- Now in the Device Manager, an USB Serial Device port will pop up
- You will need the A1601&1603Driver in the MADL update software folder
- Right-click the port to update driver

(ASR1802/ASR1803 path)
- Power on the module by pushing the power on button
- Now in the Device Manager, an USB Serial Device port will pop up
- You will need the A1802&1803&1826Driver in the MADL update software folder
- Right-click the port to update driver

- ASR Modem Device port now appears, it's ready to use for the upgrade. END

2.1 Install the MADL

MADL is a program run directly without a setup process

Step1：Get A76XX_A79XX_MADL V1.xx Only for Update.rar package；

Step2：Unzip A76XX_A79XX_MADL V1.xx Only for Update.rar. The release package includes the drivers, MADL tool, and user guide document.
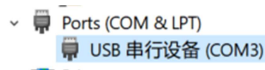
2.2 Install the drivers

Please reference the **Flowchart** or **Table 1** in **Section 3.1** to choose the right chipset, then install the driver corresponding.

1）ASR1601/ASR1603

The driver is located in the update tool folder: \A76XX_A79XX_MADL V1.XX Only for Update\A1601&1603Driver

1. Put the module enter USB boot mode for the first time. For the **ASR1601** and **ASR1603**, you need to connect the **USB_BOOT** pin to **GND** (Pull-down) or **PWR** pin (Pull-up) , respectively, before power on the module. (Please reference the detailed information about the **USB_BOOT interface** in the Hardware Design Document)

2. Power on the module and push the power on button to power up the module.

3. Now, an USB serial port pops up. Right-click it to update the driver.

4. Please select the driver files by choosing to *Browse my computer for drivers*.

5. Browse the directory of the MADL software folder, then select the **A1601&1603Driver** folder. Check the Include subfolders if needed.

← ▌ Update Drivers - USB 串行设备 (COM3)

Browse for drivers on your computer

Search for drivers in this location:

ktop\A76XX_A79XX_MADL V1.12 Only for Update\A1601&1603Driver ⌄   Browse...

☑ Include subfolders

→ **Let me pick from a list of available drivers on my computer**
This list will show available drivers compatible with the device, and all drivers in the same category as the device.

Next   Cancel

6. Click next to install the driver.

← ▌ Update Drivers - USB 串行设备 (COM3)

The best drivers for your device are already installed

Windows has determined that the best driver for this device is already installed. There may be better drivers on Windows Update or on the device manufacturer's website.

USB Serial Device

→ Search for updated drivers on Windows Update

Close

2）ASR1802/ASR1803

The driver is located in the update tool folder: \A76XX_A79XX_MADL V1.XX Only for Update\A1802&1803&1826Driver

1. Put the module enter USB boot mode for the first time. For the **ASR1802** and **ASR1803**, you need to connect the **USB_BOOT** pin to **GND** (Pull-down) or to **PWR** pin (Pull-up), respectively, before power on the module. (Please reference the detailed information about the **USB_BOOT interface** in the Hardware Design Document)

2. Power on the module and push the power on button to power up the module.
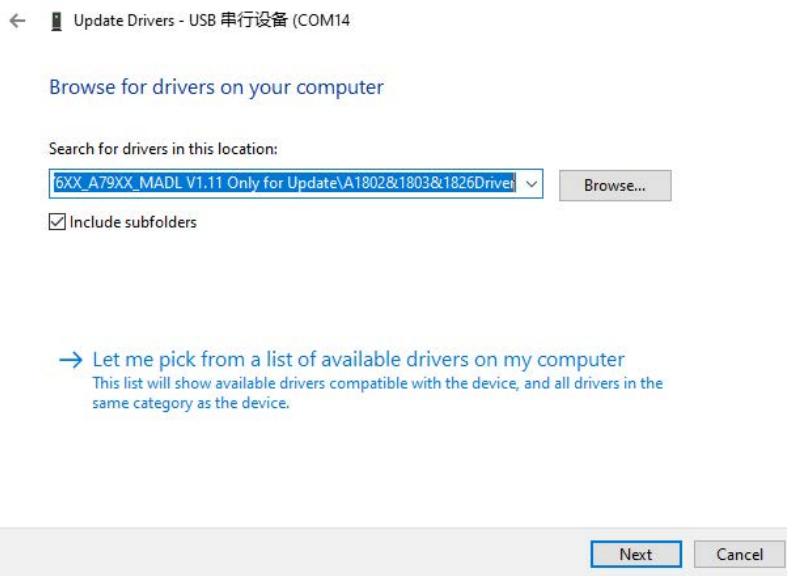
3. Now, an USB serial port pops up. Right-click it to update the driver.

4. Please select the driver files by choosing to *Browse my computer for drivers*.

5. Browse the directory of the MADL software folder, then select the **A1802&1803&1826Driver** folder. Check the Include subfolders if needed.

6. Click next to install the driver.

Update Drivers - ASR Modem Device (COM14)

Windows has successfully updated your drivers

Windows has finished installing the drivers for this device:

ASR Modem Device

Close

3）ASR1826

1. Open the A1802&1803&1826Driver folder in the MADL software folder, then open Windows folder, double-click DrvInstaller.exe or DrvInstaller_x64 depending on your Windows system 32-bit or 64-bit, follow the software process to install/update the driver.

Name	Date modified	Type	Size
Drv	10/18/2021 4:47 PM	File folder	
DrvInstaller.exe	12/29/2017 10:32 AM	Application	1,624 KB
DrvInstaller_x64.exe	12/29/2017 10:32 AM	Application	2,222 KB
README.txt	12/25/2018 11:05 AM	Text Document	1 KB

3 Run application

3.1 Preparations

MADL Only supports **.ZIP file** (ASR1601/ASR1603) or **.BLF file** (ASR1801/ASR1803/ASR1826).

	ASR1601/ASR1603	ASR1802/ASR1803/ASR1826
Module	A7600E/A7670E/A7670SA/A7672E/A7672S/A7682E/A7602E etc.	A7600E-H/A7608E-H/A7602E-H/A7608SA-H/A7906E-M2 etc.

Table 1: Module/Platform relevance

1. Double click A76XX_A79XX_MADL V1.xx Only for Update.exe. The interface is shown in figure 1.
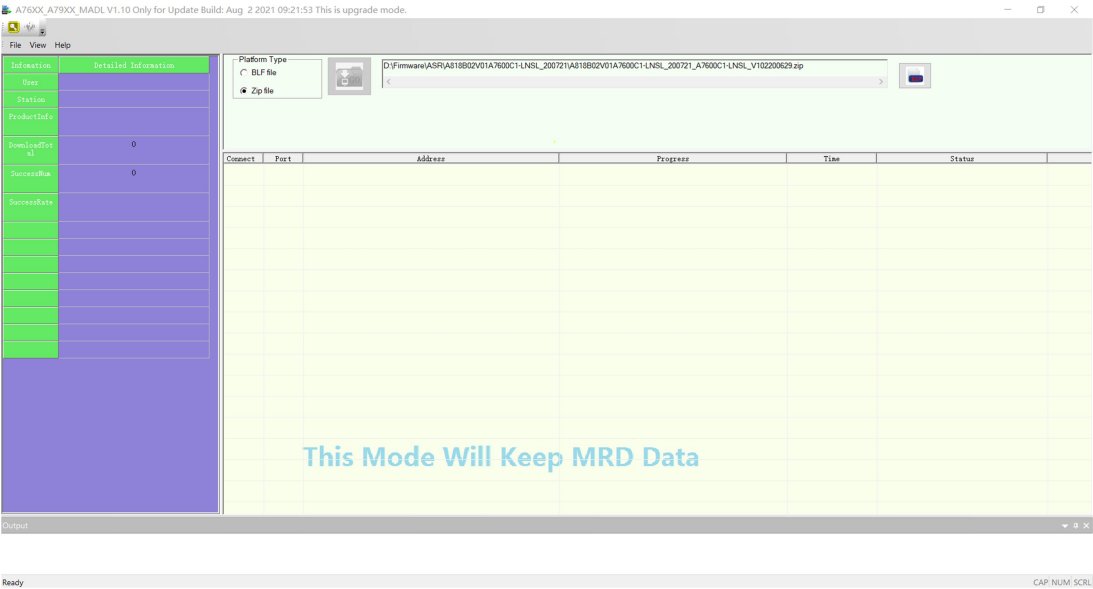

fig.1: The interface of MADL tool

2. In the Platform Type area, select **.BLF** or **.Zip** file depending on the module's platform in *table 1*. File directories should not have Chinese or non-ASCII characters.

3. Click [image] button, then choose the firmware file.

   – The **.zip** file is in the unzipped format, contained in the .rar folder. You need to unzip the original .rar file first. Shown as figure 2. *Demonstration only, file name could be varied.
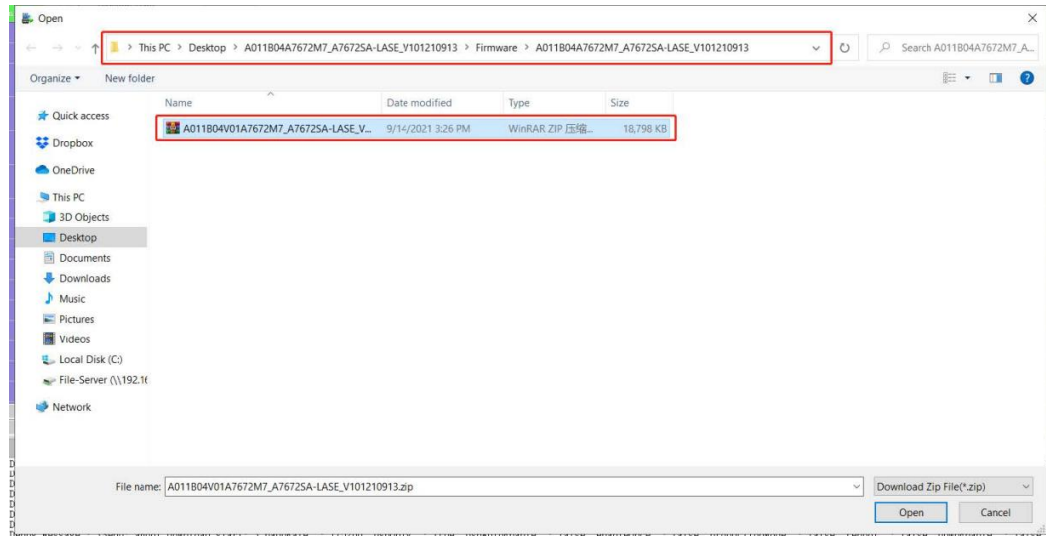
fig.2: .zip file directory

– **.BLF** file is contained in the unzipped firmware .rar folder [figure 3]). You need to unzip the original .rar file first. Shown as figure 3. *Demonstration only, file name could be varied.
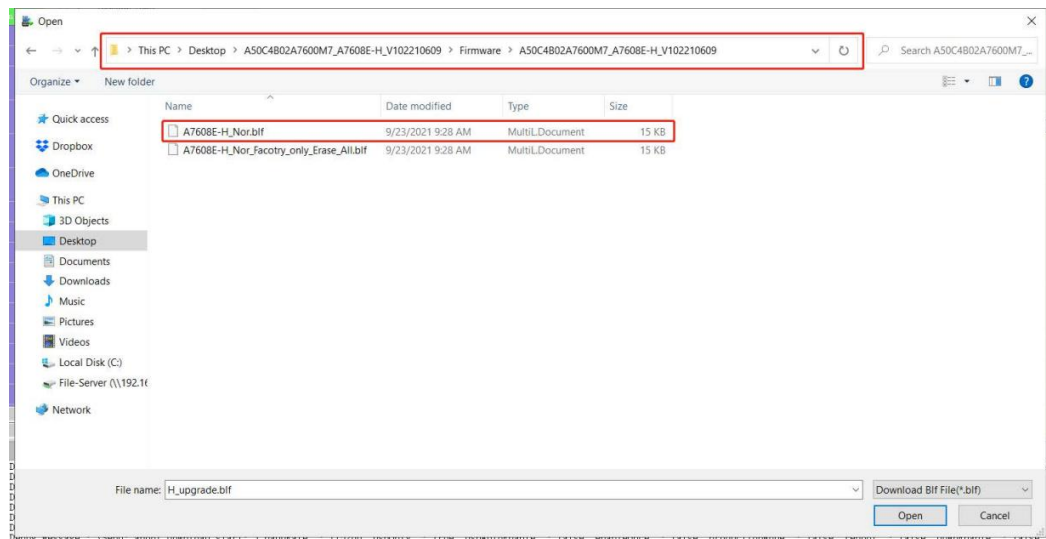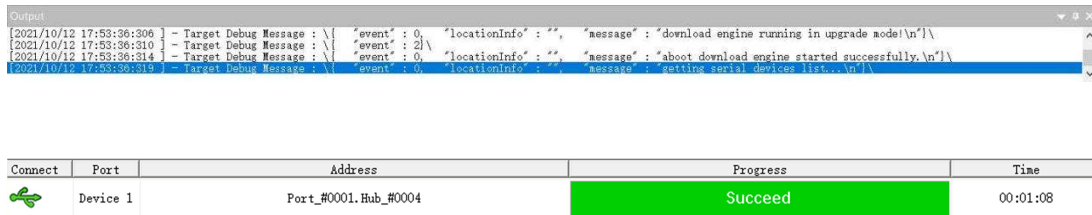

fig.3: .BLF file directory

4. At last, wait until the button turns green , click it to start the upgrade process.

5. Now, when the Output window appears "getting serial devices list...", shown in the figure below, please reboot the module and wait for it to download. If the process is finished, the progress bar will turn green, and the output window will show Succeed (Figure 4).

Output
```
[2021/10/12 17:53:36:306 ] — Target Debug Message : \{  "event" : 0,  "locationInfo" : "",  "message" : "download engine running in upgrade mode!\n"]\
[2021/10/12 17:53:36:310 ] — Target Debug Message : \{  "event" : 2]\
[2021/10/12 17:53:36:314 ] — Target Debug Message : \{  "event" : 0,  "locationInfo" : "",  "message" : "aboot download engine started successfully.\n"]\
[2021/10/12 17:53:36:319 ] — Target Debug Message : \{  "event" : 0,  "locationInfo" : "",  "message" : "getting serial devices list...\n"]\
```

Connect	Port	Address	Progress	Time
🔌	Device 1	Port_#0001.Hub_#0004	Succeed	00:01:08

fig.4: installation success

6.　Upgrade complete.

4 Appendix

4.1 Issues report

If you have found , please provide the log file and describe the bug to our

1. Where to find the .log file

    Please find the MPMDownloader.log file under MADL working directory

2. Bug report

    In order to help our developer can debug as quickly as possible, please provide us these information when you submit it.

    – System environment information

    – Operation steps

    – Actual results

    – Screen capture

4.2 Configure Normal Mode Upgrade

ASR1802, ASR1803 and ASR1826 support sending AT command in normal mode to upgrade firmware.

To use this function:

1. You must confirm that the modules support **AT+BOOTLDR** , so that module can enter download mode

2. You need to configure the AT port number in the MPMDownloader.ini file before the module enters the force download mode

For example, the first and second port numbers are respectively COM13 and COM15. You can configure as follows:

[ATPORT]

0_ATPORT=13

1_ATPORT=15

2_ATPORT=0

3_ATPORT=0

4_ATPORT=0

5_ATPORT=0

6_ATPORT=0

7_ATPORT=0

8_ATPORT=0

9_ATPORT=0

10_ATPORT=0

11_ATPORT=0

12_ATPORT=0

13_ATPORT=0

14_ATPORT=0

15_ATPORT=0

16_ATPORT=0

17_ATPORT=0

18_ATPORT=0

19_ATPORT=0

4.3 Other parameter description of the configuration file

You can configuration other parameter in MPMDownloader.ini file.

Following is the parameter description:

Reboot=0/1

ASR1601/ASR1603 platform when download success if need reboot.

PowerDown=0/1

ASR1601/ASR1603 platform when download success if need send power down AT command.

ExitFactoryMode=0/1

A1802&1803&1826 platform when download success if need send Exit Factory Mode AT command. When open this function you also need configuration AT port Refer to chapter 4.2.