



AmebaZ 1-10 MP Image Tool User Guide

This document introduces how to use AmebaZ 1-10 MP Image Tool to download Images for several boards simultaneously.

Version 1.0



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1. Introduction

This document introduces how to use AmebaZ 1-10 MP Image Tool to download Images for several boards simultaneously.

The UI of this tool is as following:

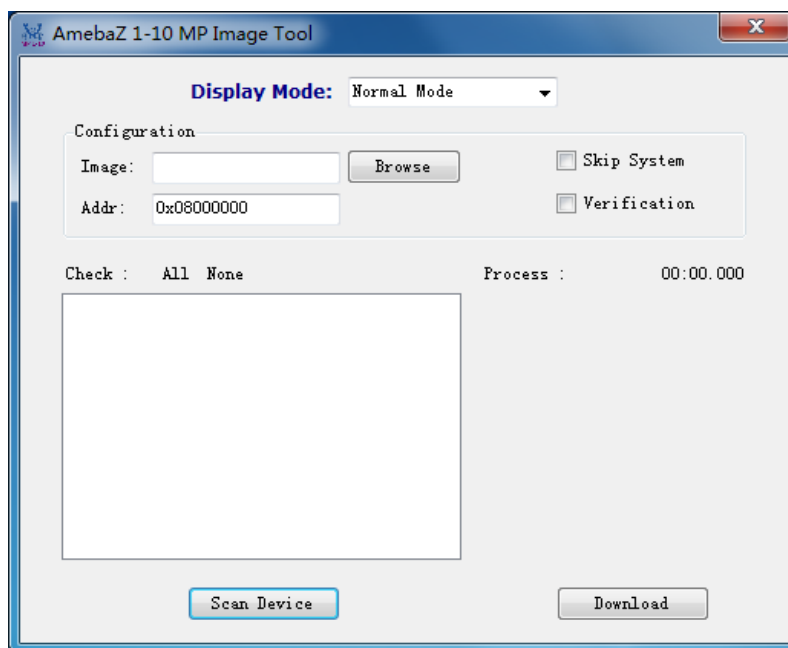


Figure 1- 1 AmebaZ 1-10 MP Image Tool

The tool will firstly download 3KB flash loader code into Ameba RAM. Then the flash loader will handle the subsequent image downloading to Ameba flash.



2. Environment Setup

2.1. Hardware Setup

To download images for several boards simultaneously, the following equipment is necessary:

- AmebaZ DEV
- USB hub
- micro USB cable

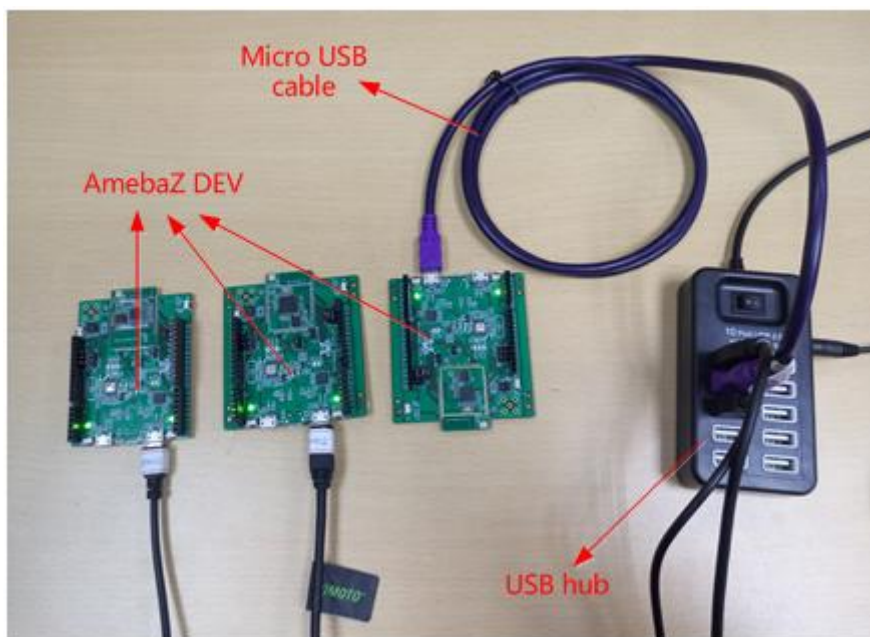


Figure 2- 1 Hardware Setup

The tool on PC sends images to AmebaZ through Log UART. As a result, the jumper cap is necessary to connect FT232 with AmebaZ Log UART pins.

- If GPIOA_29 and GPIOA_30 pins mux to Log UART, the pins in the red box marked with “1” on the figure should be connected by jumper caps.
- If GPIOA_16 and GPIOA_17 pins mux to Log UART, the pins in the red box marked with “2” should be connected by jumper caps.

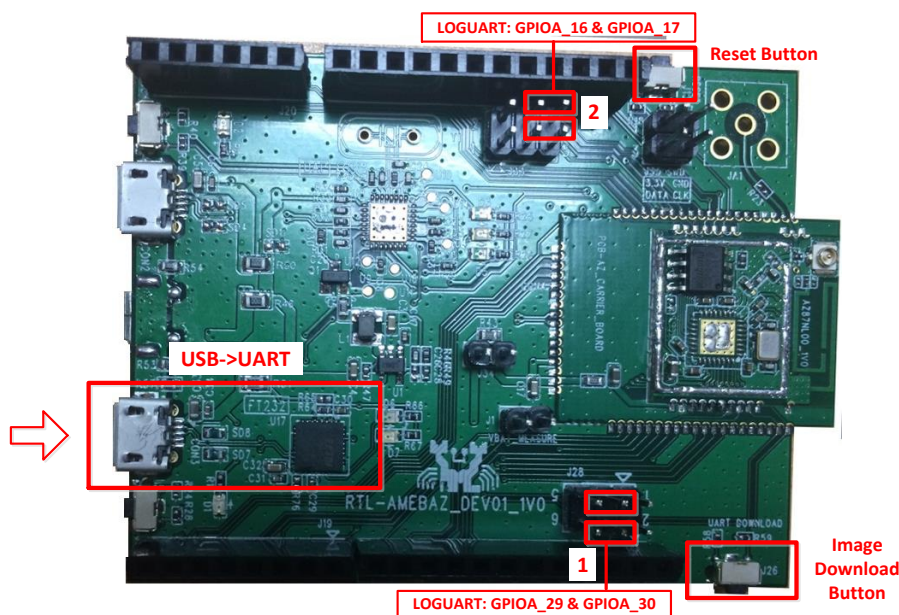


Figure 2- 2 AmebaZ DEV

2.2. Software Setup

Environment Requirements: EX. WinXP, Win 7 Above **Microsoft .NET Framework 3.5**

Tool Location: project\tools\AmebaZ\Image Tool\1-10\ AmebaZ_1-10_MP_Image_Tool.exe

log	2017/1/11 14:07	文件夹	
AmebaZ_1-10_MP_Image_Tool.exe	2017/1/11 10:53	应用程序	173 KB
AmebaZ_1-10_MP_Image_Tool.pdb	2017/1/11 10:53	Program Debug...	64 KB
AmebaZ_1-10_MP_Image_Tool.vshost.exe	2017/1/11 10:53	应用程序	14 KB
AmebaZ_1-10_MP_Image_Tool.vshost.exe.manifest	2009/6/11 5:14	MANIFEST 文件	1 KB
imgtool_flashloader_ram_1.bin	2017/1/10 14:26	BIN 文件	3 KB
Setting.ini	2017/1/11 13:39	配置设置	1 KB

Figure 2- 3 Tool Location

As imgtool_flashloader_ram_1.bin is the flash loader binary file, please don't try to modify or delete it! Otherwise, the tool will work incorrectly.

3. Image Download

3.1. Normal Mode

After finishing the preparation work, you can use the tool to download images now.

Steps to download images are as following:

- (1) Double click the AmebaZ_1-10_MP_Image_Tool.exe and the UI will show up. Select “Normal Mode” as the display mode.
- (2) Plug in target Ameba DEVs or restart them if they have already connected.
- (3) Click “Scan Device” button and the devices detected will be listed in the box.

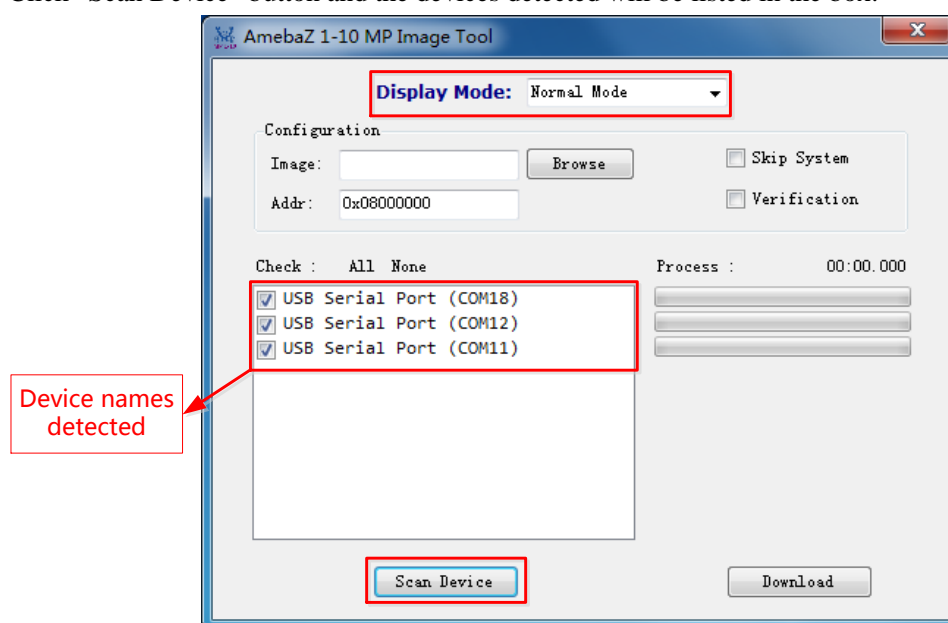


Figure 3- 1 Scan devices

Check if all the plugged-in devices are displayed or not.

If some devices are not present immediately after click scan button, please check if the driver is still installing and wait until the installation is finished. This situation is usually encountered when Ameba DEV is plugged into PC the first time.

- (4) Select the devices which you want to download images to.

Check in the checkbox in front of each target device name and uncheck the others.

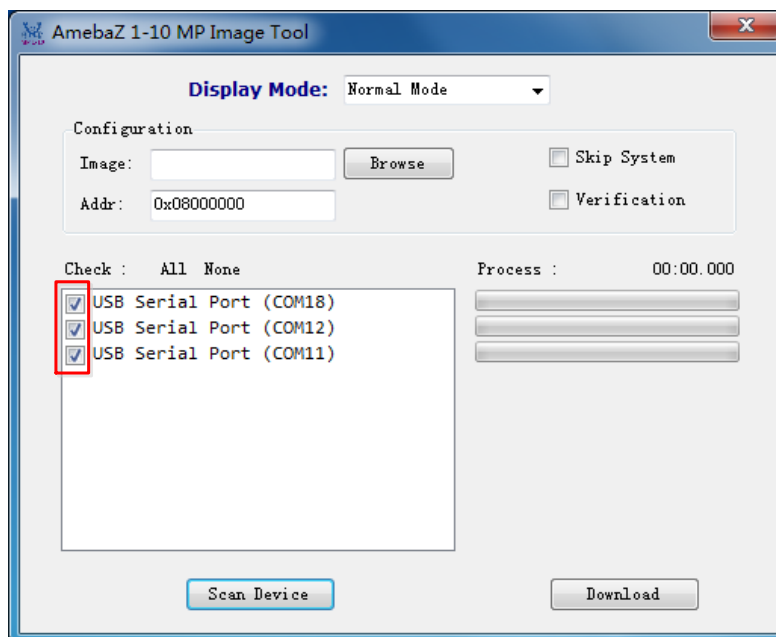


Figure 3- 2 Select target devices

- (5) Click “Browse” button to choose image file which you want to download.

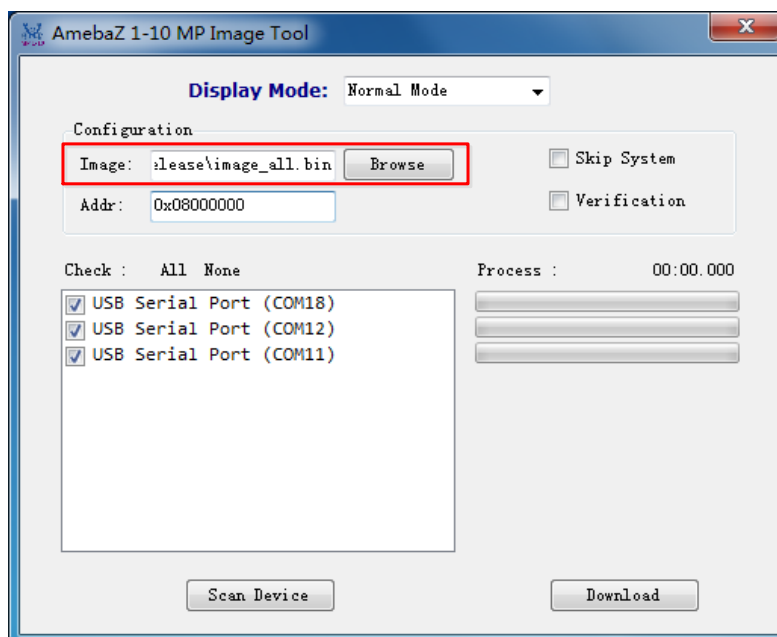


Figure 3- 3 Choose image file

- (6) Input the start address where you are going to load the image file to. The default value is the start address of flash, 0x08000000.

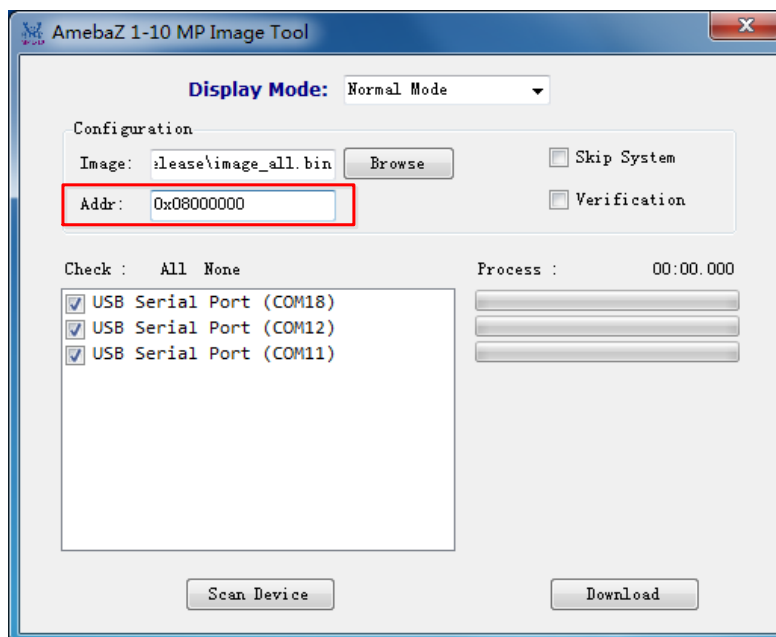


Figure 3- 4 Input start address

(7) Select the options

- Skip System
 - Select whether to skip system data area or not.
- Verification
 - Select whether to calculate or compare checksum after download is finished.
 - When selected, Ameba will calculate checksum for the read-back flash data after download is finished and send it to tool for comparison.

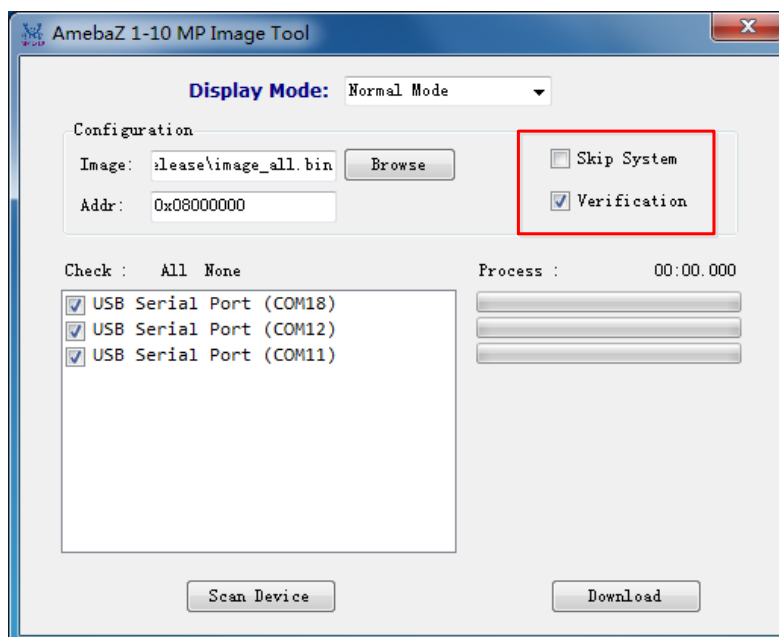


Figure 3- 5 Select options

(8) Click “Download” button.

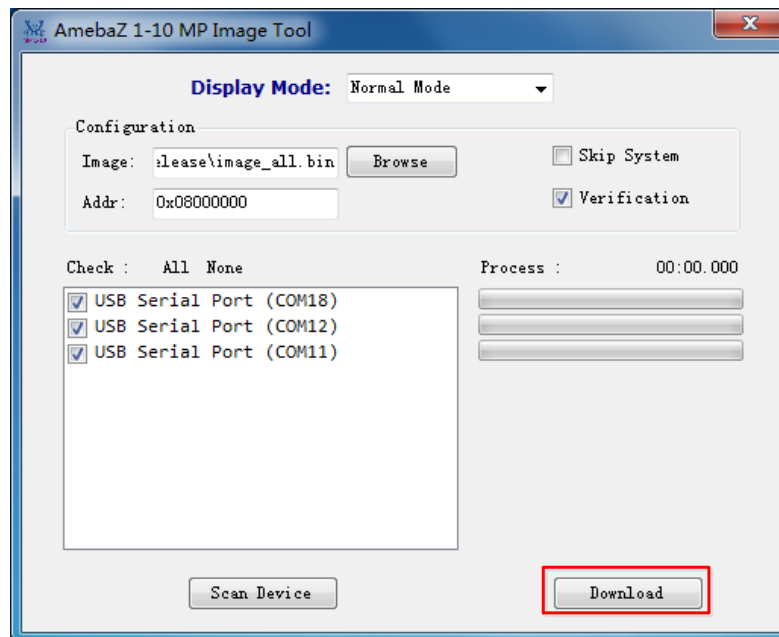


Figure 3- 6 Start to download

- While image downloading is in progress, a light bulb will show up at the end of each progress bar. And a stopwatch will measure the elapsed time.

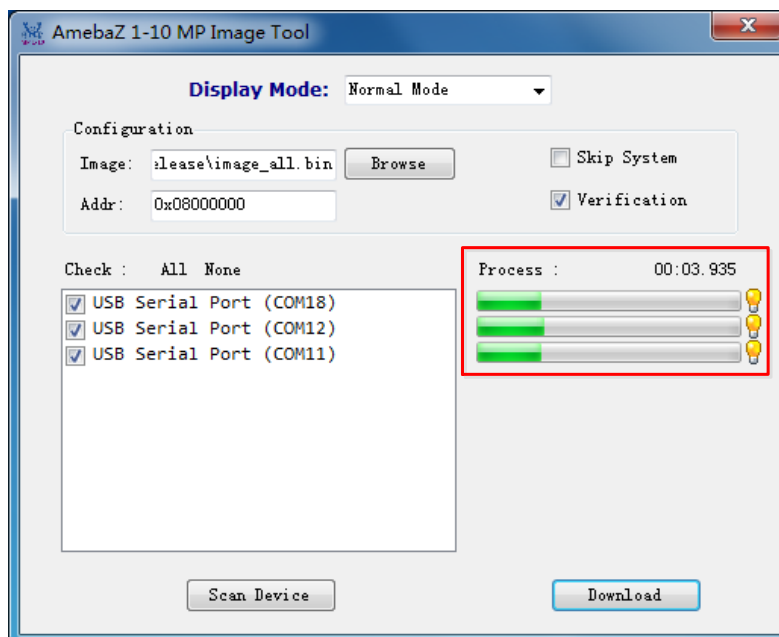


Figure 3- 7 Download is in progress

- When image downloading is finished and verification passes (don't check if Verification is not selected), a green tick will show up.

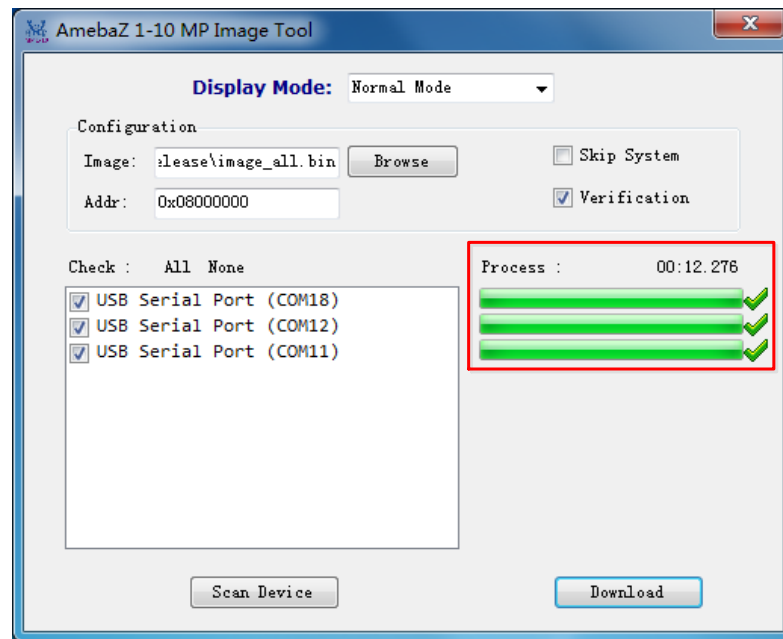


Figure 3- 8 Download ok

- If transmission interrupts or verification fails, a red error sign will show up, which means this downloading fails and you need to check the reason and retry.

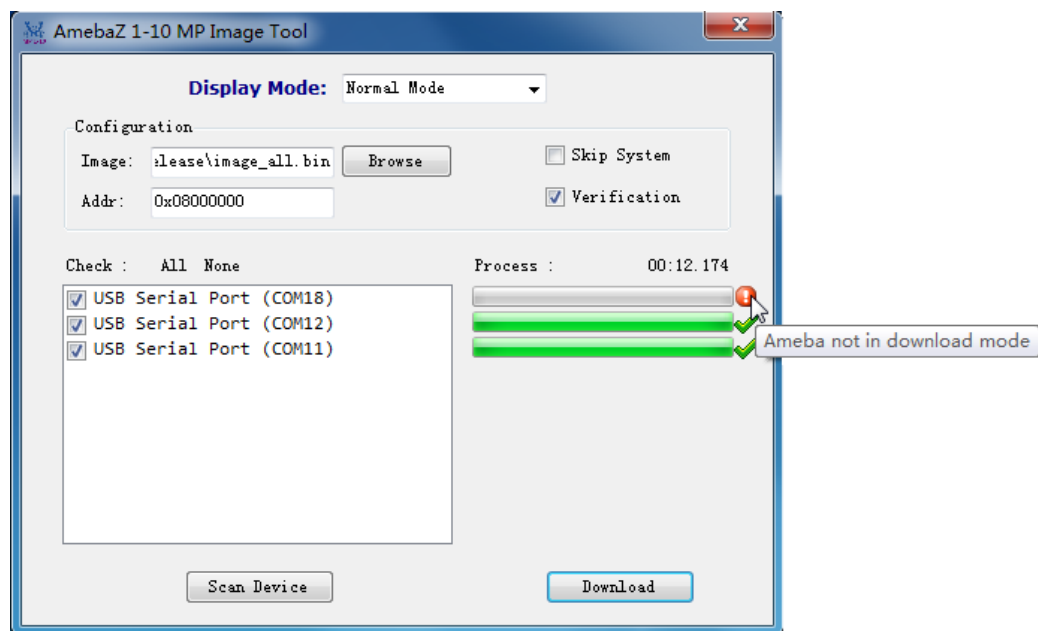


Figure 3- 9 Download fail

There are two ways to get the error messages:

- Hover the mouse cursor over the sign and the error message shows up.
- Check the log file which locates at ./log/ to get more detailed error messages.

```

2017/1/13 13:40:45 Scan Device Start...
2017/1/13 13:40:45 USB Serial Port (COM18) Inserted
2017/1/13 13:40:45 USB Serial Port (COM12) Inserted
2017/1/13 13:40:45 USB Serial Port (COM11) Inserted
2017/1/13 13:40:45 Scan Device End
2017/1/13 14:06:42 User click Download button
2017/1/13 14:06:42 COM11 downloads Flashloader done
2017/1/13 14:06:42 COM18 downloads Flashloader done
2017/1/13 14:06:42 COM12 downloads Flashloader done
2017/1/13 14:06:53 COM12 success
2017/1/13 14:06:53 COM18 success
2017/1/13 14:06:54 COM11 success
2017/1/13 14:20:42 User click Download button
2017/1/13 14:20:43 COM12 downloads Flashloader done
2017/1/13 14:20:43 COM11 downloads Flashloader done
2017/1/13 14:20:45 COM18 downloads Flashloader error
2017/1/13 14:20:45 COM18 not in download mode
2017/1/13 14:20:54 COM12 success
2017/1/13 14:20:55 COM11 success

```

Figure 3- 10 Log file

3.2. Factory Mode

If “Factory Mode” is the selected display mode, the UI will disable some functions. The configurations of these functions will be saved to Setting.ini and will be reloaded when the tool restarts next time.

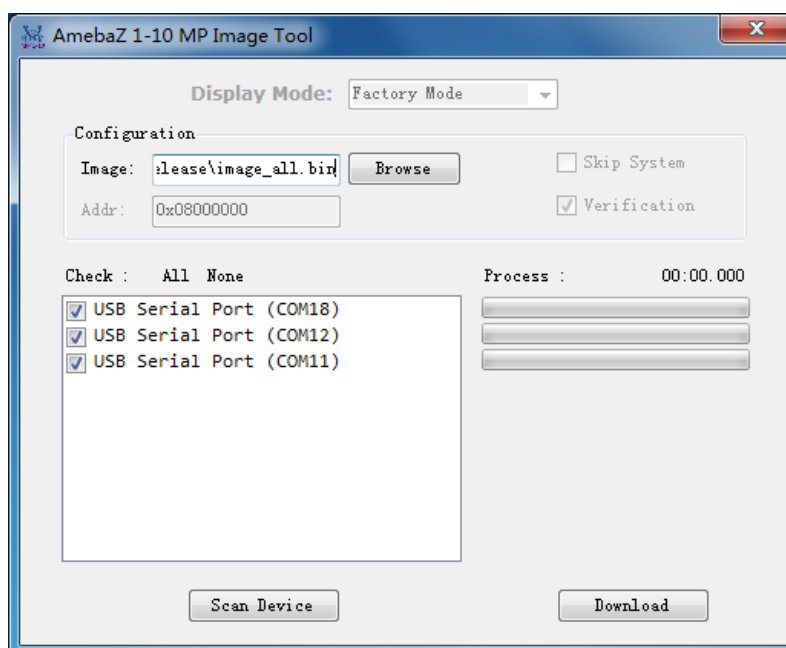


Figure 3- 11 Factory Mode

There are two ways to exit the factory mode:

- Delete Setting.ini
- Edit Setting.ini and modify “FactoryMode” parameter value to “False”

Then reopen the tool and it will be restored to Normal Mode.



Figure 3- 12 Modify Parameters

4. Trouble Shooting

- If download fails, you can re-power on the board and click “Download” button to retry.
 - If accidents happen when transmission is in progress such as AmebaZ DEVs power off by accident, which cause the download fail, you can try to re-power on the board and re-download to it.
- If you have tried several times to re-download and each time it ends up with failure, you can try the following way to get the board into download mode:
- (1) Long press the “Image Download Button” on AmebaZ DEV in Figure 2-2, and re-power on the board, and it enter the image download mode.
 - (2) Release the “Image Download Button”
 - (3) Select the target failed device on the tool and uncheck the others
 - (4) Click “Download” button on the tool and re-download will go on.