

MA35 Family Programming Tool NuWriter

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| Agenda

- Overview
- Image Programming

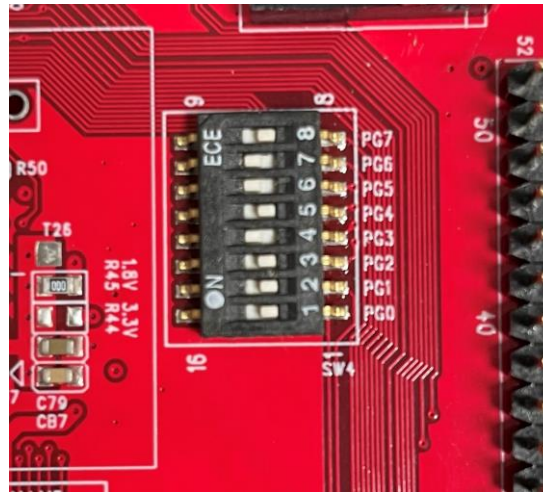
| Overview

Program Image to MA35D1

- The NuWriter is a programming tool for the MA35D1
- The MA35D1 supports the following four system boot-up storage media
 1. Boot from USB
 2. Boot from SD/eMMC
 3. Boot from NAND
 4. Boot from SPI Flash

| Power on Setting

- Power-on Setting DIP Switch (SW4): The GPIO PG0, PG1, PG2, PG3, PG4, PG5, PG6 and PG7 determine which storage to be boot from on the evaluation board
- The power on setting details can be referred to UM_NuMaker_MA35D1



| NuWriter – Tool Interface

- Command line interface
 - Windows
 - Linux
- GUI interface
 - Windows

| NuWriter – Attach

- This command is used to set up the connection and initialize the DDR
 1. Browse the right DDR image to initialize DDR parameter
 2. Attach



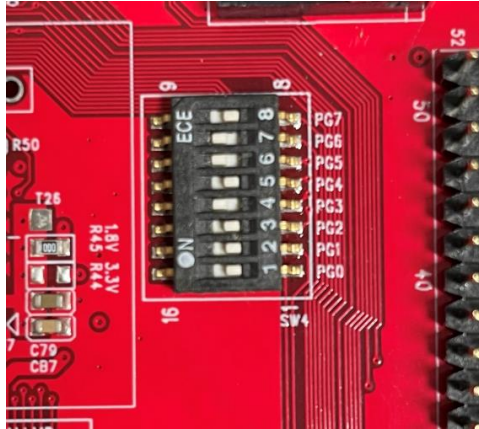
NuWriter - Download

- This command is used to write package file or single bin file to storage
 1. Choose storage media
 2. Browse the bin file
 3. Write



| System Boot

- Switch the power setting to boot from which storage have been written
- Push the reset button, and MA35D1 will boot from the storage media



```
Nuvoton Release Distro 5.5-dunfell numaker-som-ma35d16a81 ttyS0
numaker-som-ma35d16a81 login: root
```

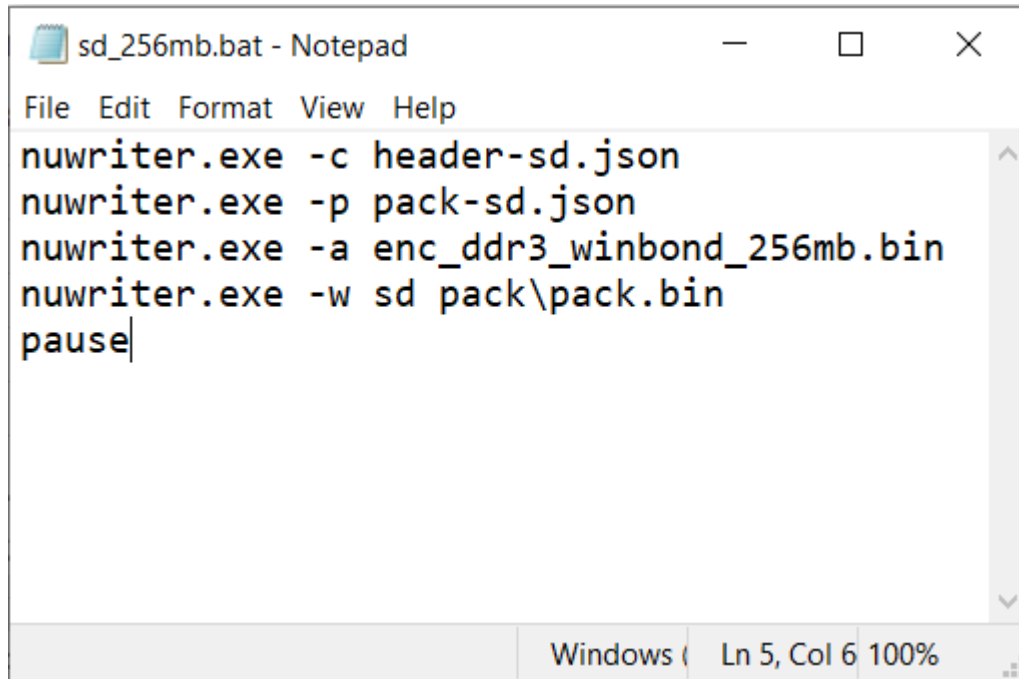

| NuWriter – Optional Mode

- Develop mode
 - Convert
 - Pack/Unpack
- OTP mode



| NuWriter – Command Line interface

- Support Linux and Windows

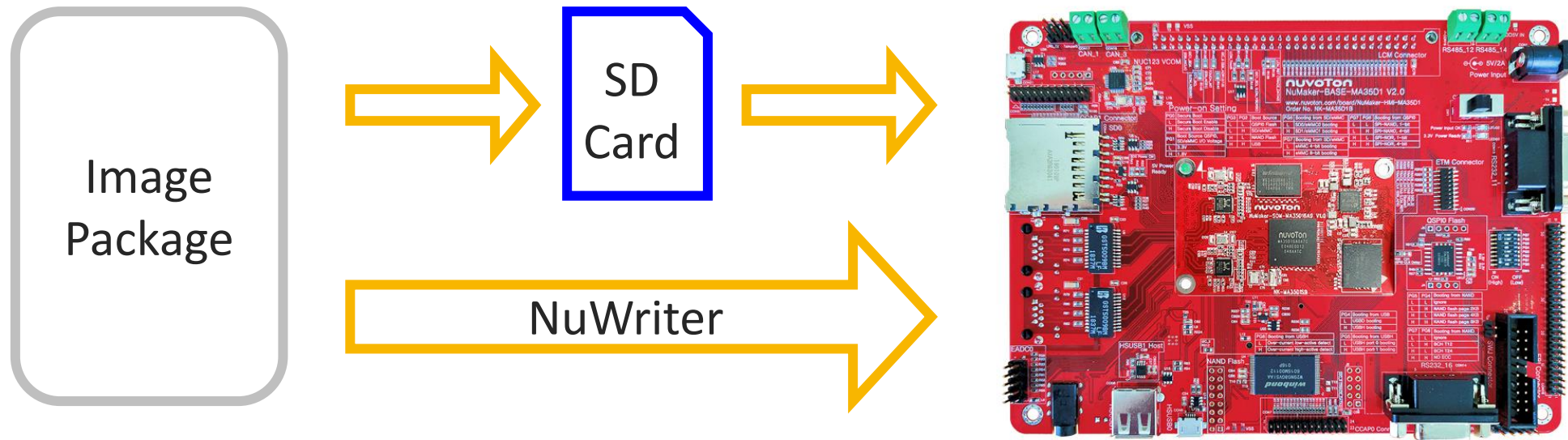


```
sd_256mb.bat - Notepad
File Edit Format View Help
nuwriter.exe -c header-sd.json
nuwriter.exe -p pack-sd.json
nuwriter.exe -a enc_ddr3_winbond_256mb.bin
nuwriter.exe -w sd pack\pack.bin
pause
```

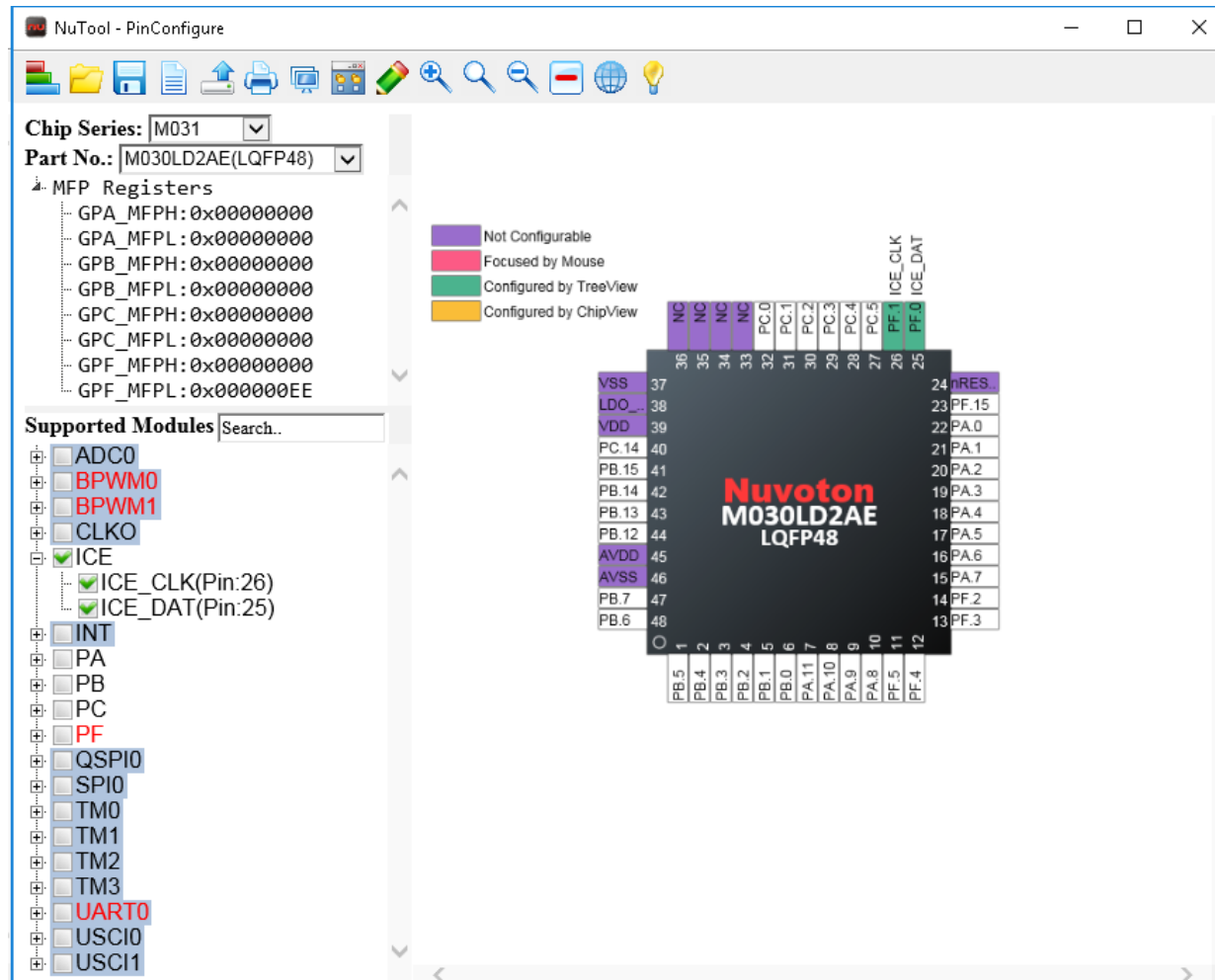
```
nuwriter.py [-h] [-a] [-o OPTION
[OPTION ...]]
[-c | -p | -r READ [READ ...] | -w WRITE
[WRITE ...] | -e
ERASE [ERASE ...] | -s STORAGE
[STORAGE ...]]
[CONFIG]
```

| Quick programming for development

- Except NuWriter, SD card booting is another quick way to develop applications
- The programming time is faster than NuWriter programming



NuTool - PinConfigure



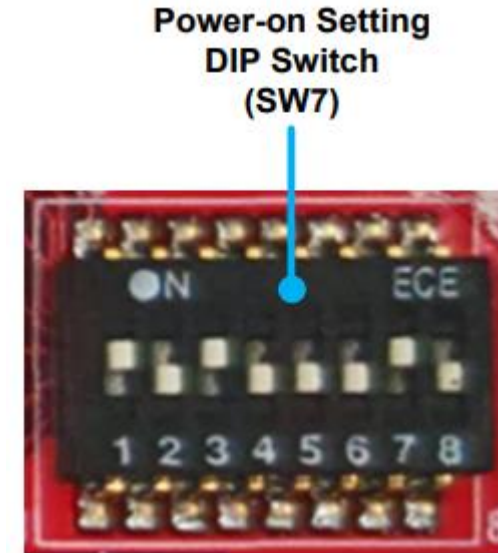
- ❑ Tree view configuration
- ❑ Configure individual pins through the chip map
- ❑ Configure by editing the register's value directly
- ❑ Generate program codes or reports
- ❑ Generate OrCAD or Protel library files
- ❑ Solve pin configuration clashes

[NuTool - PinConfigure \(opennuvoton.github.io\)](https://opennuvoton.github.io)

Power-on Setting

- Options for booting source selection:

SW7.4 / PG3*	SW7.3 / PG2*	Boot Source
Low	Low	QSPI0 Flash
Low (OFF)	High (ON)	SD/eMMC
High	Low	NAND Flash
High	High	USB
Note *: These GPIO PG2 and PG3 are internal weakly pull-down.		



- Options for booting from SD0/1 card or eMMC0/1 NAND Flash memory device:

SW7.7 / PG6*1	Boot from SD/eMMC
Low	SD0/eMMC0 Boot
High (ON)	SD1/eMMC1 Boot
Note *1: The GPIO PG6 is internal weakly pull-down.	

| NuWriter cmd

- `sudo python3 nuwriter.py -a ddrimg/MA35D16F987C.bin`
- `sudo python3 nuwriter.py -w sd ../pack-core-image-buildroot-ma35d1-iot-512m-sdcard.bin`

- **Install Python3:**
 - ✓ `sudo apt install python3 python3-pip`
 - ✓ `sudo pip3 install pyusb usb crypto ecdsa crcmod tqdm pycryptodome`
 - ✓ `pip3 install PyQt5`

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Thank You

Danke

Merci

ありがとう

Gracias

Kiitos

감사합니다

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