MA35 Family Programming Tool NuWriter

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Agenda

- Overview
- Image Programming

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Overview

Program Image to MA35D1

- The NuWriter is a programing 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

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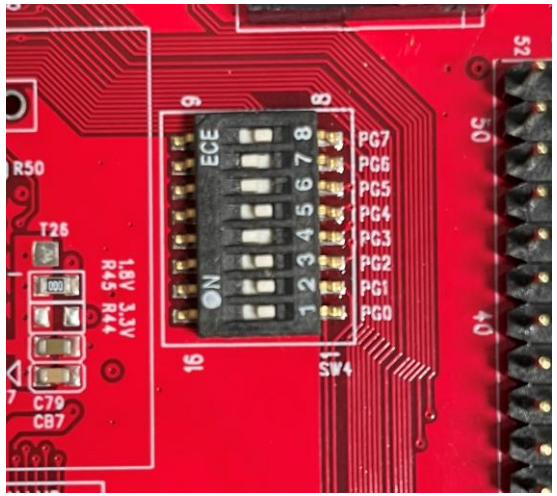
Power on Setting

- 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



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NuWriter – Tool Interface

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

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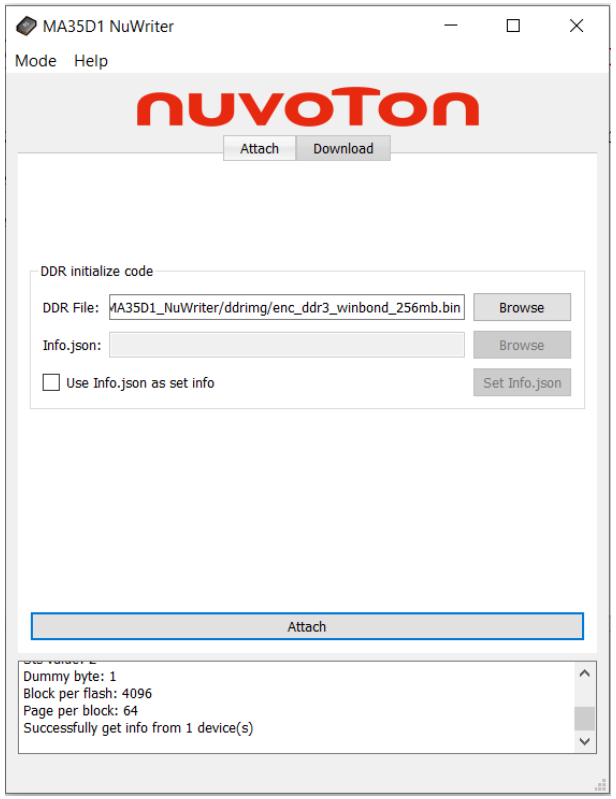
NuWriter – Attach

- 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



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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

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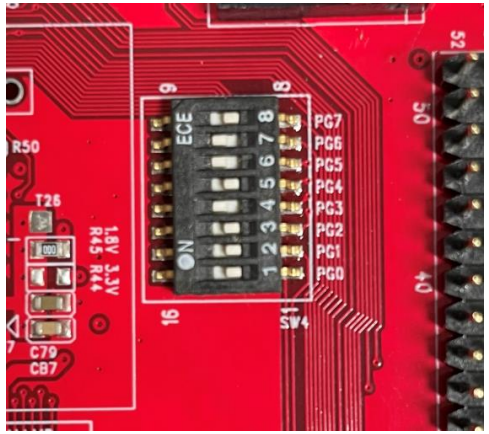
System Boot

- 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
```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NuWriter – Optional Mode

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

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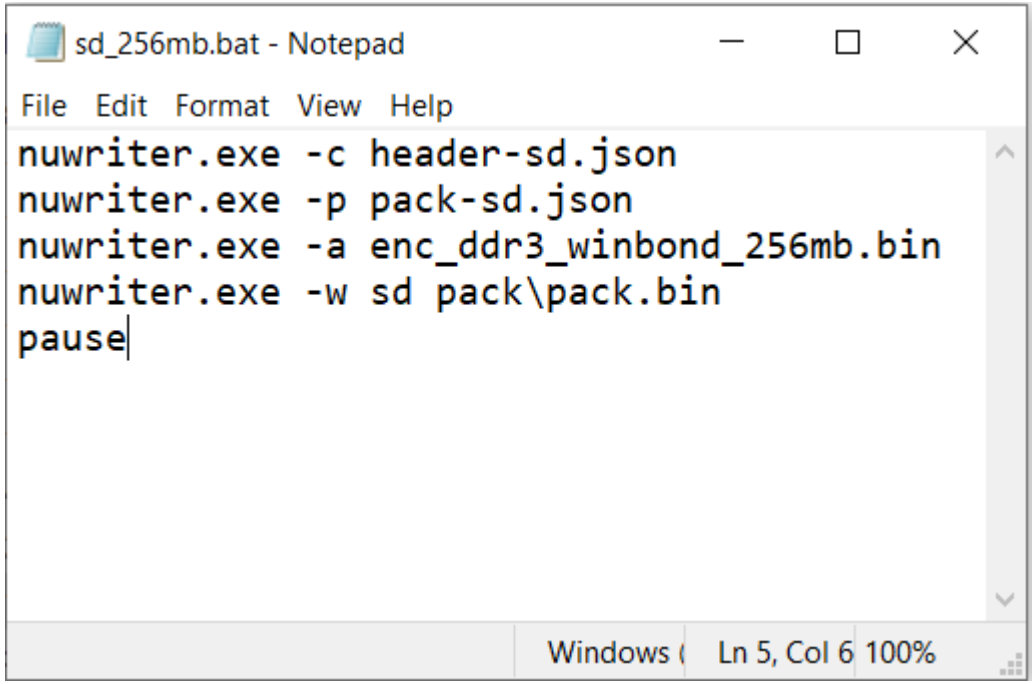
NuWriter – Command Line interface

- Support Linux and Windows




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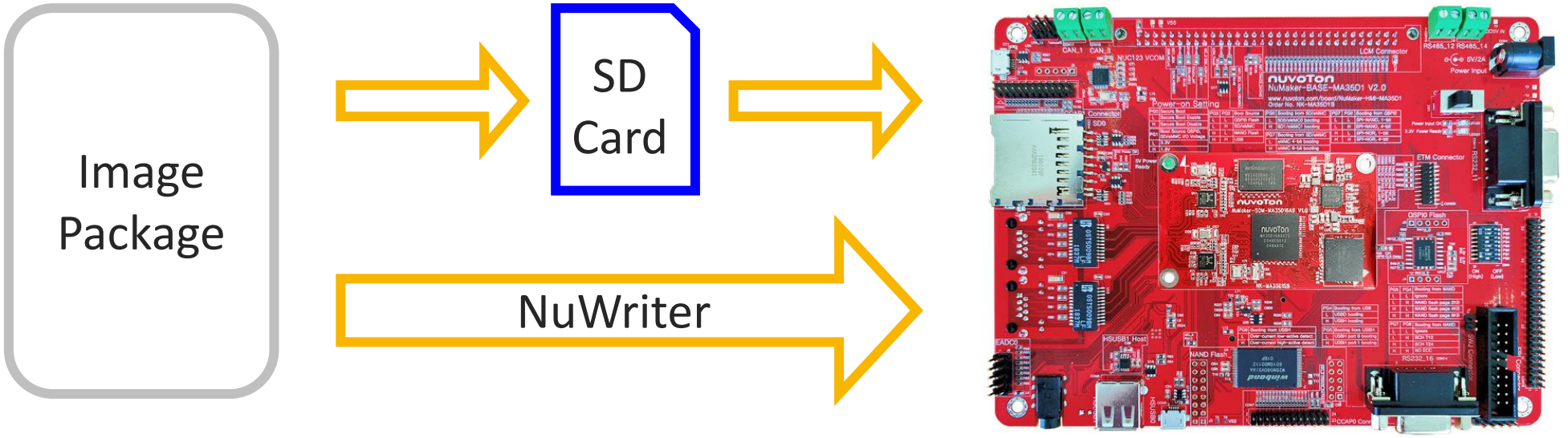
Quick programming for development

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



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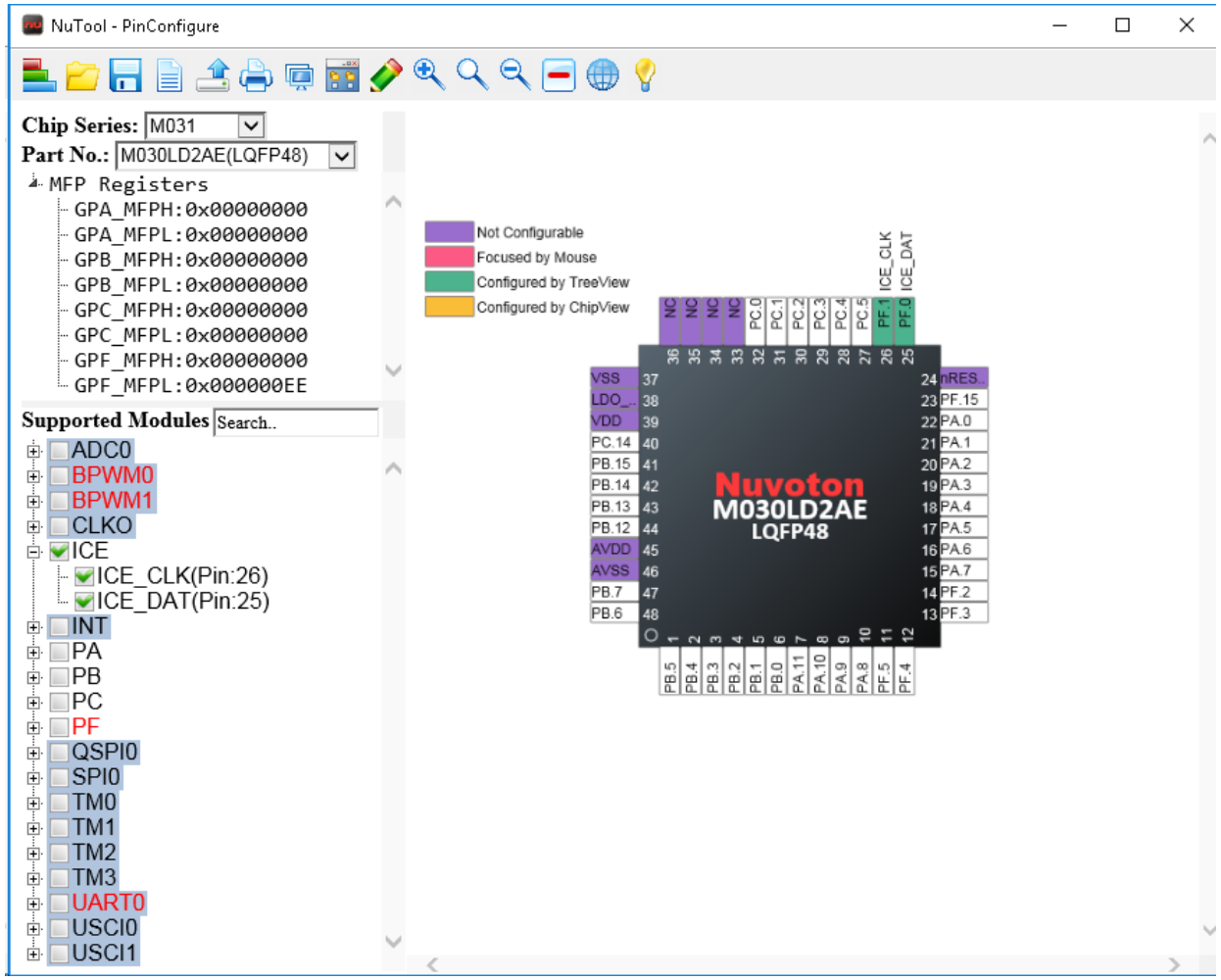
NuTool - **PinConfigure**



- 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)

NuTool - PinConfigure official download location
https://www.nuvoton.com/resource-download.jsp?tp_GUID=SW1320200319135912

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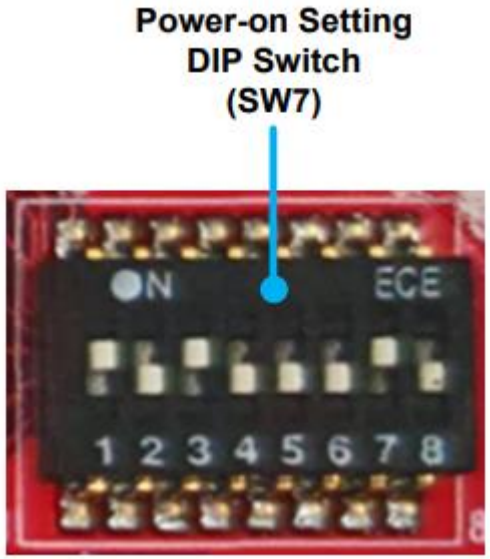
Power-on Setting

- 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.	

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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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Joy of innovation

NUVOTON

Thank You

Danke

Merci

ありがとう

Gracias

Kiitos

감사합니다

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شكرا لك

הדות