N9H26
NAND Loader
Reference Guide

V1.0

Publication Release Date: May 2018

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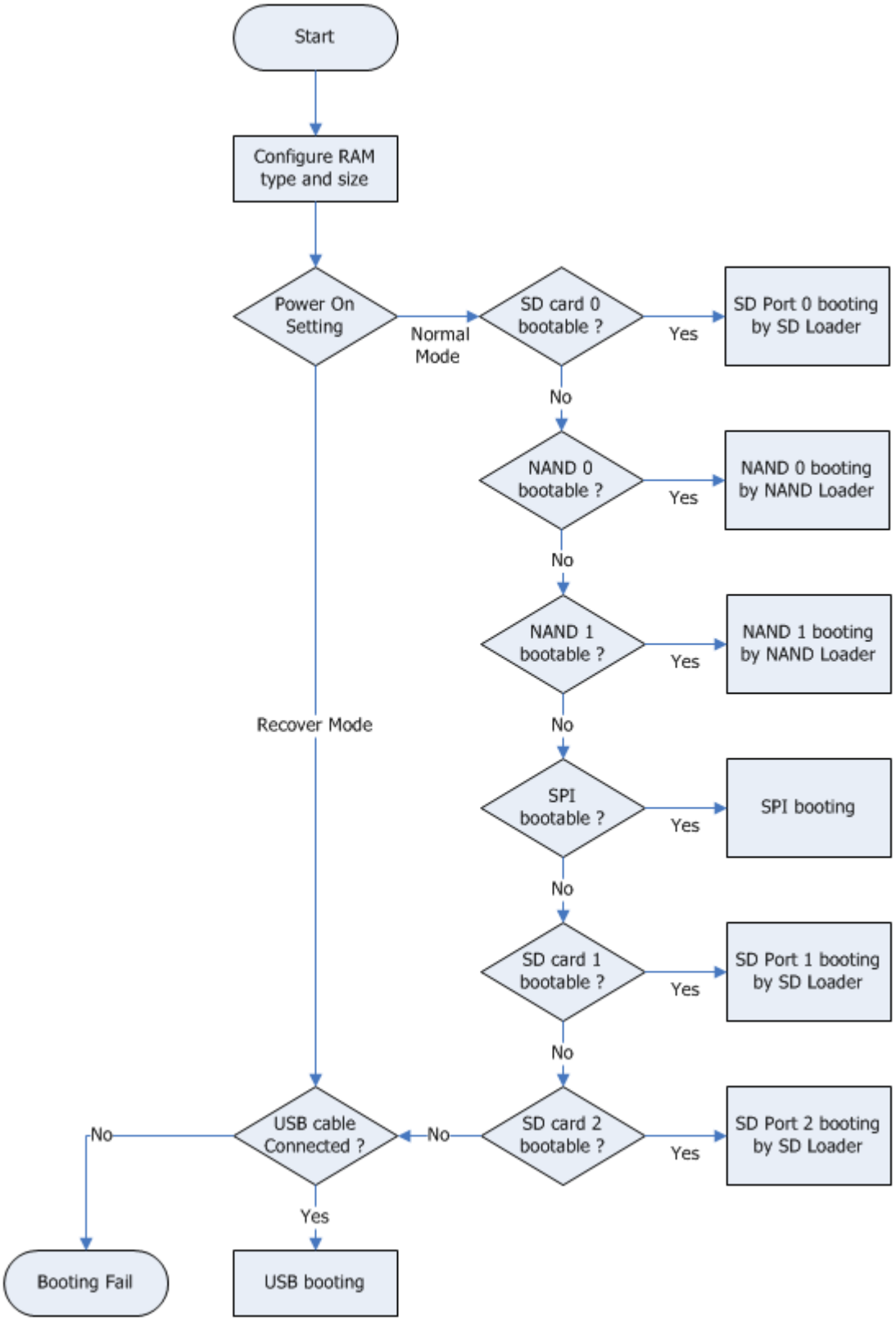
1. General Description

N9H26 Non-OS library consists of a sets of libraries. These libraries are built to access those on-chip functions such as VPOST, SPU, SIC, USBH, USBD, GPIO, I2C, SPI and UART, as well as File System (NVTFAT), USB MassStorage devices (UMAS) and NAND Flash devices (GNAND). This document describes the basic function of NAND Loader. With this introduction, user can quickly understand the NAND Loader on N9H26 microprocessor.

2. NAND Loader Overview

N9H26 built-in 16K bytes IBR (Internal Booting ROM) where stored the boot loader to initial chip basically when power on, and then try to find out the next stage boot loader from different type of storage. It could be SD card, NAND, SPI Flash, or USB storage. The search sequence by IBR as below


Start
Configure RAM type and size
Power On Setting
Normal Mode
SD card 0 bootable ?
Yes
SD Port 0 booting by SD Loader
No
NAND 0 bootable ?
Yes
NAND 0 booting by NAND Loader
No
NAND 1 bootable ?
Yes
NAND 1 booting by NAND Loader
No
Recover Mode
SPI bootable ?
Yes
SPI booting
No
SD card 1 bootable ?
Yes
SD Port 1 booting by SD Loader
No
SD card 2 bootable ?
Yes
SD Port 2 booting by SD Loader
No
USB cable Connected ?
No
Yes
Booting Fail
USB booting

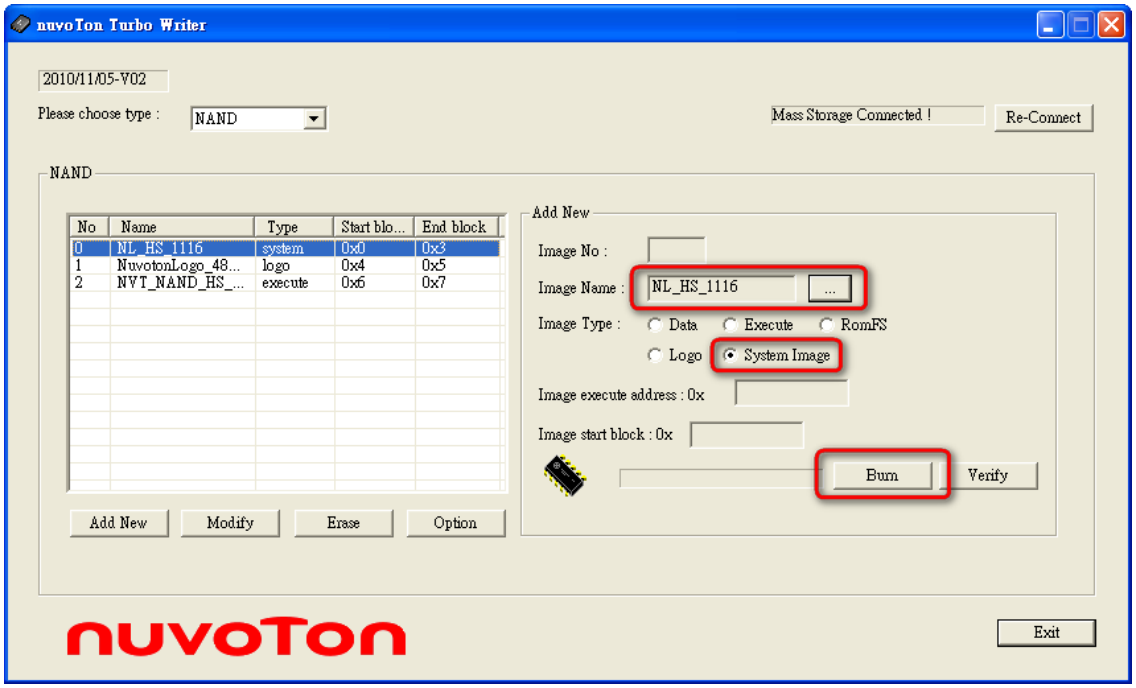
The boot loader in IBR will hand over the chip controlling to NAND Loader if SD card 0 is invalid. NAND Loader is a firmware stored at NAND chip block 0 ~ 3.

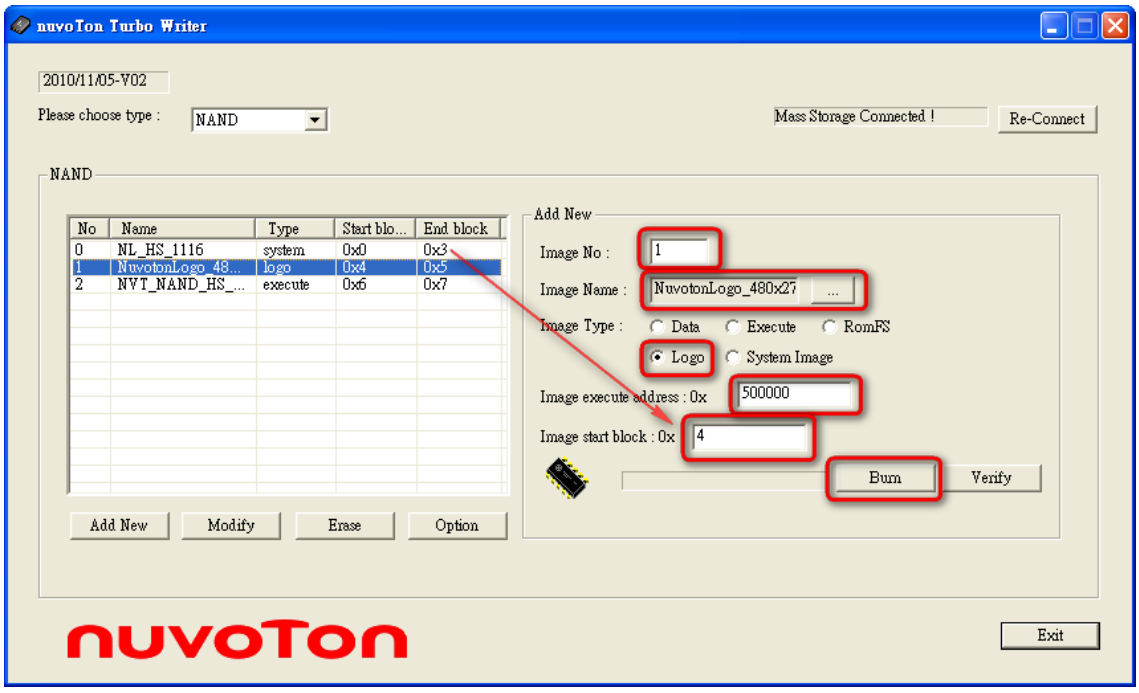
The NAND Loader has the following features:

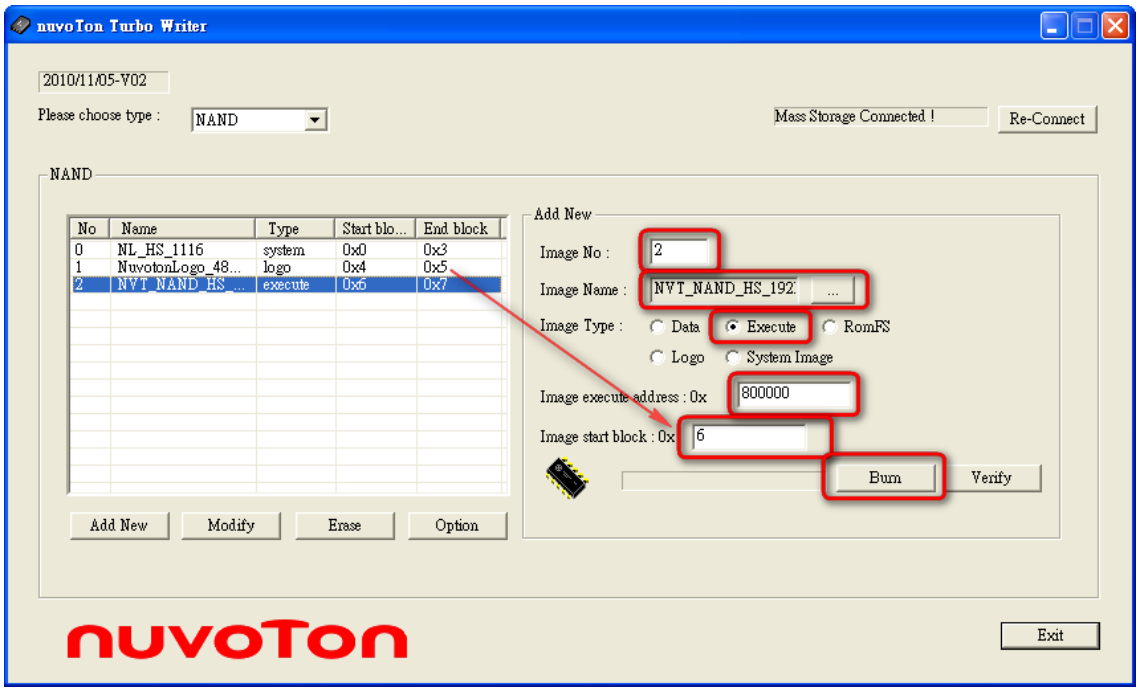
- Initial more modules such as SPU, VPOST and so on
- Check, load, and display Logo image if it existed at NAND
- Check and load next firmware if it existed at NAND
- Hand over chip controlling to next firmware. Normally, it should be NVT Loader

All image files have to located at top of NAND with correct parameters. You can add or modify them by TurboWrite utility. Please follow the configuration below to make sure the NAND Loader work fine.

	NAND Loader	**Logo Image**	**Next Firmware**
Image No.	0	1	2
Image Name	*File name for NAND Loader on host*	*File name for Logo image on host*	*File name for next firmware on host*
Image Type	System Image	Logo	Execute
Image execute address	*Default value*	**500000**	**800000**
Image start block	*Default value*	*Behind NAND Loader*	*Behind Logo Image*




nuvoTon Turbo Writer
2010/11/05-V02
Please choose type :
NAND
Mass Storage Connected !
Re-Connect
NAND
No
Name
Type
Start blo...
End block
0
NL_HS_1116
system
0x0
0x3
1
NuvotonLogo_48...
logo
0x4
0x5
2
NVT_NAND_HS_...
execute
0x6
0x7
Add New
Image No :
1
Image Name :
NuvotonLogo_480x27
Image Type :
Data
Execute
RomFS
Logo
System Image
Image execute address : 0x
500000
Image start block : 0x
4
Burn
Verify
Add New
Modify
Erase
Option
Exit


nuvoTon Turbo Writer
2010/11/05-V02
Please choose type :
NAND
Mass Storage Connected !
Re-Connect
NAND
No
Name
Type
Start blo...
End block
0
NL_HS_1116
system
0x0
0x3
1
NuvotonLogo_48...
logo
0x4
0x5
2
NVT_NAND_HS_...
execute
0x6
0x7
Add New
Image No :
2
Image Name :
NVT_NAND_HS_192
Image Type :
Data
Execute
RomFS
Logo
System Image
Image execute address : 0x
800000
Image start block : 0x
6
Burn
Verify
Add New
Modify
Erase
Option
Exit

3. Revision History

Version	Date	Description
V1.0	May,2018	● Created

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